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### Simple Type(s)

Table containing the following simple types:

- spase:Version
- spase:ResourceName
- spase:AlternateName
- spase:DOI
- spase:ReleaseDate
- spase:Note
- spase:ExpirationDate
- spase:Description
- spase:Acknowledgement
- spase:Authors
- spase:PublicationDate
- spase:PublishedBy
- spase:Agency
- spase:Project
- spase:AwardNumber
- spase:PersonID
- spase:Role
- spase:StartDate
- spase:StopDate
- spase:Name
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- spase:RepositoryID
- spase:Availability
- spase:AccessRights
- spase:Style
- spase:ProductKey
- spase:Format
- spase:Encoding
- spase:Quantity
- spase:Units
- spase:Per
- spase:ProviderName
- spase:ProviderResourceName
- spase:ProviderVersion
- spase:InstrumentID
- spase:PhenomenonType
- spase:RelativeStopDate
- spase:Caveats
- spase:Keyword
- spase:InputResourceID
- spase:Set
- spase:ParameterKey
- spase:UCD
- spase:Cadence
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Namespace: "http://www.spase-group.org/data/schema"

Schema(s)

Main schema spase-2_3_1.xsd

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<tr>
<th>Properties</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td>attribute form default</td>
<td>unqualified</td>
</tr>
<tr>
<td>element form default</td>
<td>qualified</td>
</tr>
<tr>
<td>version</td>
<td>2.3.1</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

Element(s)

Element spase:Spase

<table>
<thead>
<tr>
<th>Properties</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
</tbody>
</table>
### Element `spase:Spase` / `spase:Version`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**  
![Diagram](image)

**Type**  
`spase:Version`

**Properties**  
- `content`: simple
- `minOccurs`: 1
- `maxOccurs`: 1

**Facets**  
- `enumeration`: 2.3.1

**Source**  
<xsd:element name="Version" type="spase:Version" minOccurs="1" maxOccurs="1"/>

### Element `spase:Spase` / `spase:Catalog`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**  
![Diagram](image)

**Type**  
`spase:Catalog`

**Properties**  
- `content`: complex
### Model


### Children


### Instance

```xml
<spase:Catalog xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:ResourceID>{1,1}</spase:ResourceID>
  <spase:ResourceHeader>{1,1}</spase:ResourceHeader>
  <spase:AccessInformation>{1,unbounded}</spase:AccessInformation>
  <spase:ProviderName>{0,1}</spase:ProviderName>
  <spase:ProviderResourceName>{0,1}</spase:ProviderResourceName>
  <spase:ProviderVersion>{0,1}</spase:ProviderVersion>
  <spase:InstrumentID>{0,unbounded}</spase:InstrumentID>
  <spase:PhenomenonType>{1,unbounded}</spase:PhenomenonType>
  <spase:TimeSpan>{0,1}</spase:TimeSpan>
  <spase:Caveats>{0,1}</spase:Caveats>
  <spase:Keyword>{0,unbounded}</spase:Keyword>
  <spase:InputResourceID>{0,unbounded}</spase:InputResourceID>
  <spase:Parameter>{0,unbounded}</spase:Parameter>
  <spase:Extension>{0,unbounded}</spase:Extension>
</spase:Catalog>
```

### Source

```xml
<xsd:element name="Catalog" type="spase:Catalog"/>
```

### Element `spase:Catalog` / `spase:ResourceID`

- **Namespace**: `http://www.spase-group.org/data/schema`
- **Diagram**: ![Diagram](image)
- **Type**: `spase:ResourceID`
- **Properties**:
  - content: `simple`
  - minOccurs: `1`
  - maxOccurs: `1`
- **Source**: `<xsd:element name="ResourceID" type="spase:ResourceID" minOccurs="1" maxOccurs="1"/>
```
- **Schema location**: `file:///C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

### Element `spase:Catalog` / `spase:ResourceHeader`

- **Namespace**: `http://www.spase-group.org/data/schema`
Diagram

Type

spase:ResourceHeader

Properties

- content: complex
- minOccurs: 1
- maxOccurs: 1

Model

spase:ResourceName, spase:AlternateName*, spase:DOI{0,1}, spase:ReleaseDate, spase:RevisionHistory{0,1},
spase:ExpirationDate{0,1}, spase:Description, spase:Acknowledgement{0,1}, spase:PublicationInfo{0,1}, spase:Funding*,
spase:Contact+, spase:InformationURL*, spase:Association*, spase:PriorID*

Children

spase:Acknowledgement, spase:AlternateName, spase:Association, spase:Contact, spase:DOI, spase:Description,
spase:ExpirationDate, spase:Funding, spase:InformationURL, spase:PriorID, spase:PublicationInfo, spase:ReleaseDate,
spase:ResourceName, spase:RevisionHistory

Instance

```xml
<spase:ResourceHeader xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:ResourceName> {1,1} </spase:ResourceName>
  <spase:AlternateName> {0,unbounded} </spase:AlternateName>
  <spase:DOI> {0,1} </spase:DOI>
  <spase:ReleaseDate> {1,1} </spase:ReleaseDate>
  <spase:RevisionHistory> {0,1} </spase:RevisionHistory>
  <spase:ExpirationDate> {0,1} </spase:ExpirationDate>
  <spase:Description> {1,1} </spase:Description>
  <spase:Acknowledgement> {0,1} </spase:Acknowledgement>
  <spase:PublicationInfo> {0,1} </spase:PublicationInfo>
  <spase:Funding> {0,unbounded} </spase:Funding>
  <spase:Contact> {1,unbounded} </spase:Contact>
  <spase:InformationURL> {0,unbounded} </spase:InformationURL>
  <spase:Association> {0,unbounded} </spase:Association>
  <spase:PriorID> {0,unbounded} </spase:PriorID>
</spase:ResourceHeader>
```

Source

```xml
<xsd:element name="ResourceHeader" type="spase:ResourceHeader" minOccurs="1" maxOccurs="1"/>
```
### Element spase:ResourceHeader / spase:ResourceName

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram of spase:ResourceName" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:ResourceName</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple, minOccurs: 1, maxOccurs: 1</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;ResourceName&quot; type=&quot;spase:ResourceName&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

### Element spase:ResourceHeader / spase:AlternateName

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram of spase:AlternateName" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:AlternateName</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple, minOccurs: 0, maxOccurs: unbounded</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;AlternateName&quot; type=&quot;spase:AlternateName&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;unbounded&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

### Element spase:ResourceHeader / spase:DOI

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram of spase:DOI" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:DOI</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple, minOccurs: 0, maxOccurs: 1</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;DOI&quot; type=&quot;spase:DOI&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

### Element spase:ResourceHeader / spase:ReleaseDate

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram of spase:ReleaseDate" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:ReleaseDate</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple, minOccurs: 1, maxOccurs: 1</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;ReleaseDate&quot; type=&quot;spase:ReleaseDate&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>
Element `spase:ResourceHeader / spase:RevisionHistory`

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

```
    RevisionHistory
      Type: spase:RevisionHistory
      - RevisionEvent
        Type: spase:RevisionEvent
        - ReleaseDate
          Type: spase:ReleaseDate
          - Note
```

**Type**
spase:RevisionHistory

**Properties**
- **content:** complex
- **minOccurs:** 0
- **maxOccurs:** 1

**Model**
spase:RevisionEvent+

**Children**
spase:RevisionEvent

**Instance**

```xml
<spase:RevisionHistory xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:RevisionEvent>{1,unbounded}</spase:RevisionEvent>
</spase:RevisionHistory>
```

**Source**

```xml
<xsd:element name="RevisionHistory" type="spase:RevisionHistory" minOccurs="0" maxOccurs="1"/>
```

**Schema location**
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

Element `spase:RevisionHistory / spase:RevisionEvent`

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

```
    RevisionEvent
      Type: spase:RevisionEvent
      - ReleaseDate
        Type: spase:ReleaseDate
        - Note
```

**Type**
spase:RevisionEvent

**Properties**
- **content:** complex
- **minOccurs:** 1
- **maxOccurs:** unbounded

**Model**
spase:ReleaseDate , spase:Note

**Children**
spase:Note , spase:ReleaseDate

**Instance**

```xml
<spase:RevisionEvent xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:ReleaseDate>{1,1}</spase:ReleaseDate>
  <spase:Note>{1,1}</spase:Note>
</spase:RevisionEvent>
```

**Source**

```xml
<xsd:element name="RevisionEvent" type="spase:RevisionEvent" minOccurs="1" maxOccurs="unbounded"/>
```

**Schema location**
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

Element `spase:RevisionEvent / spase:ReleaseDate`

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

```
    ReleaseDate
      Type: spase:ReleaseDate
```

**Type**
spase:ReleaseDate

**Properties**
- **content:** simple
- **minOccurs:** 1
- **maxOccurs:** 1

**Source**

```xml
<xsd:element name="ReleaseDate" type="spase:ReleaseDate" minOccurs="1" maxOccurs="1"/>
```

**Schema location**
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
### Element `spase:RevisionEvent / spase:Note`

- **Namespace**: `http://www.spase-group.org/data/schema`
- **Diagram**
- **Type**: `spase:Note`
- **Properties**
  - content: `simple`
  - minOccurs: `1`
  - maxOccurs: `1`
- **Source**
  - `<xsd:element name="Note" type="spase:Note" minOccurs="1" maxOccurs="1"/>
  - Schema location: `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

### Element `spase:ResourceHeader / spase:ExpirationDate`

- **Namespace**: `http://www.spase-group.org/data/schema`
- **Diagram**
- **Type**: `spase:ExpirationDate`
- **Properties**
  - content: `simple`
  - minOccurs: `0`
  - maxOccurs: `1`
- **Source**
  - `<xsd:element name="ExpirationDate" type="spase:ExpirationDate" minOccurs="0" maxOccurs="1"/>
  - Schema location: `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

### Element `spase:ResourceHeader / spase:Description`

- **Namespace**: `http://www.spase-group.org/data/schema`
- **Diagram**
- **Type**: `spase:Description`
- **Properties**
  - content: `simple`
  - minOccurs: `1`
  - maxOccurs: `1`
- **Source**
  - `<xsd:element name="Description" type="spase:Description" minOccurs="1" maxOccurs="1"/>
  - Schema location: `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

### Element `spase:ResourceHeader / spase:Acknowledgement`

- **Namespace**: `http://www.spase-group.org/data/schema`
- **Diagram**
- **Type**: `spase:Acknowledgement`
- **Properties**
  - content: `simple`
  - minOccurs: `0`
  - maxOccurs: `1`
- **Source**
  - `<xsd:element name="Acknowledgement" type="spase:Acknowledgement" minOccurs="0" maxOccurs="1"/>
  - Schema location: `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`
**Element spase:ResourceHeader / spase:PublicationInfo**

Namespace: http://www.spase-group.org/data/schema

Diagram:

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:PublicationInfo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: complex</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 0</td>
</tr>
<tr>
<td></td>
<td>maxOccurs: 1</td>
</tr>
<tr>
<td>Model</td>
<td>spase:Authors, spase:PublicationDate, spase:PublishedBy</td>
</tr>
<tr>
<td>Children</td>
<td>spase:Authors, spase:PublicationDate, spase:PublishedBy</td>
</tr>
</tbody>
</table>

Instance:
```
<spase:PublicationInfo xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:Authors> {1,1} </spase:Authors>
  <spase:PublicationDate> {1,1} </spase:PublicationDate>
  <spase:PublishedBy> {1,1} </spase:PublishedBy>
</spase:PublicationInfo>
```

Source:
```
<xs:element name="PublicationInfo" type="spase:PublicationInfo" minOccurs="0" maxOccurs="1"/>
```

Schema location:
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:PublicationInfo / spase:Authors**

Namespace: http://www.spase-group.org/data/schema

Diagram:

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 1</td>
</tr>
<tr>
<td></td>
<td>maxOccurs: 1</td>
</tr>
</tbody>
</table>

Source:
```
<xs:element name="Authors" type="spase:Authors" minOccurs="1" maxOccurs="1"/>
```

Schema location:
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:PublicationInfo / spase:PublicationDate**

Namespace: http://www.spase-group.org/data/schema

Diagram:

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:PublicationDate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 1</td>
</tr>
<tr>
<td></td>
<td>maxOccurs: 1</td>
</tr>
</tbody>
</table>

Source:
```
<xs:element name="PublicationDate" type="spase:PublicationDate" minOccurs="1" maxOccurs="1"/>
```

Schema location:
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:PublicationInfo / spase:PublishedBy**

Namespace: http://www.spase-group.org/data/schema
### Element `spase:PublishedBy` / `spase:Funding`

**Type**
- spase:PublishedBy

**Properties**
- `content`: simple
- `minOccurs`: 1
- `maxOccurs`: 1

**Source**
- `<xsd:element name="PublishedBy" type="spase:PublishedBy" minOccurs="1" maxOccurs="1"/>

**Schema location**
- file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:ResourceHeader` / `spase:Funding`

**Namespace**
- `http://www.spase-group.org/data/schema`

**Diagram**

**Type**
- spase:Funding

**Properties**
- `content`: complex
- `minOccurs`: 0
- `maxOccurs`: unbounded

**Model**
- spase:Agency, spase:Project, spase:AwardNumber(0,1)

**Children**
- spase:Agency, spase:AwardNumber, spase:Project

**Instance**
- `<spase:Funding xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:Agency>{1,1}</spase:Agency>
  <spase:Project>{1,1}</spase:Project>
  <spase:AwardNumber>{0,1}</spase:AwardNumber>
</spase:Funding>

**Source**
- `<xsd:element name="Funding" type="spase:Funding" minOccurs="0" maxOccurs="unbounded"/>

**Schema location**
- file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Agency` / `spase:Funding`

**Namespace**
- `http://www.spase-group.org/data/schema`

**Diagram**

**Type**
- spase:Agency

**Properties**
- `content`: simple
- `minOccurs`: 1
- `maxOccurs`: 1

**Source**
- `<xsd:element name="Agency" type="spase:Agency" minOccurs="1" maxOccurs="1"/>

**Schema location**
- file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Project` / `spase:Funding`

**Namespace**
- `http://www.spase-group.org/data/schema`

**Diagram**

**Type**
- spase:Project

**Properties**
- `content`: simple
Schema documentation for spase-2_3_1.xsd

**Type** spase:Project

**Properties**
- content: simple
- minOccurs: 1
- maxOccurs: 1

**Source**
```xml
<xsd:element name="Project" type="spase:Project" minOccurs="1" maxOccurs="1"/>
```

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element** spase:Funding / spase:AwardNumber

**Namespace** http://www.spase-group.org/data/schema

**Diagram**

**Type** spase:AwardNumber

**Properties**
- content: simple
- minOccurs: 0
- maxOccurs: 1

**Source**
```xml
<xsd:element name="AwardNumber" type="spase:AwardNumber" minOccurs="0" maxOccurs="1"/>
```

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element** spase:ResourceHeader / spase:Contact

**Namespace** http://www.spase-group.org/data/schema

**Diagram**

**Type** spase:Contact

**Properties**
- content: complex
- minOccurs: 1
- maxOccurs: unbounded

**Model**
- spase:PersonID
- spase:Role+
- spase:StartDate{0,1}
- spase:StopDate{0,1}
- spase:Note{0,1}

**Children**
- spase:Note
- spase:PersonID
- spase:Role
- spase:StartDate
- spase:StopDate

**Instance**
```xml
<spase:Contact xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:PersonID > {1,1} </spase:PersonID>
  <spase:Role > {1,unbounded} </spase:Role>
  <spase:StartDate > {0,1} </spase:StartDate>
  <spase:StopDate > {0,1} </spase:StopDate>
  <spase:Note > {0,1} </spase:Note>
</spase:Contact>
```

**Source**
```xml
<xsd:element name="Contact" type="spase:Contact" minOccurs="1" maxOccurs="unbounded"/>
```

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element** spase:Contact / spase:PersonID

**Namespace** http://www.spase-group.org/data/schema
Element **spase:Contact** / **spase:Role**

### Namespace
http://www.spase-group.org/data/schema

### Type
spase:Role

### Properties
- content: simple
- minOccurs: 1
- maxOccurs: unbounded

### Facets
- **enumeration** ArchiveSpecialist: An individual who is an expert on a collection of resources and may also be knowledgeable of the phenomenon and related physics represented by the resources. This includes librarians, curators, archive scientists and other experts.
- **enumeration** CoInvestigator: An individual who is a scientific peer and major participant in an investigation.
- **enumeration** CoPI: An individual who is peer of a principal investigator and is an administrative and scientific lead for an investigation.
- **enumeration** Contributor: An entity responsible for making contributions to the content of the resource.
- **enumeration** DataProducer: An individual who generated the resource and is familiar with its provenance.
- **enumeration** DeputyPI: An individual who is an administrative or scientific leader for an investigation operating under the supervision of a Principal Investigator.
- **enumeration** Developer: The developer of a system to imitate a situation or process.
- **enumeration** FormerPI: An individual who had served as the administrative and scientific lead for an investigation, but no longer assumes that role.
- **enumeration** GeneralContact: An individual who can provide information on a range of subjects or who can direct you to a domain expert.
- **enumeration** HostContact: An individual who can provide specific information with regard the hosting of a resource or supporting software.
- **enumeration** MetadataContact: An individual who can affect a change in the metadata describing a resource.
- **enumeration** PrincipalInvestigator: An individual who is the administrative and scientific lead for an investigation.
- **enumeration** ProjectEngineer: An engineer tasked with the full suite of responsibilities as a project transitions through requirements derivation and preliminary design into controlled hardware development, assembly and environmental testing. The Project Engineer manages a team while developing the cadence of hardware manufacturing and assembly until instrument deployment and through the
### Schema documentation for spase-2_3_1.xsd

- **enumeration ProjectManager**
  An individual whose major task entails direction of project team members such that the full organization achieves the objectives and goals of the mission. The Project Manager is expected to provide clear guidance and resolve conflicts and issues while maintaining focus on achieving mission success.

- **enumeration ProjectScientist**
  An individual who is an expert in the phenomenon and related physics explored by the project. A project scientist may also have a managerial role within the project.

- **enumeration Publisher**
  An individual, organization, institution or government department responsible for the production and dissemination of a document.

- **enumeration Scientist**
  An individual who is an expert in the phenomenon and related physics represented by the resource.

- **enumeration TeamLeader**
  An individual who is the designated leader of an investigation.

- **enumeration TeamMember**
  An individual who is a major participant in an investigation.

- **enumeration TechnicalContact**
  An individual who can provide specific information with regard to the resource or supporting software.

- **enumeration User**
  An individual who utilizes a resource or service.

---

### Element `spase:Contact / spase:StartDate`

- **Namespace** http://www.spase-group.org/data/schema
- **Diagram**
  ![Diagram](#)
- **Type** `spase:StartDate`
- **Properties**
  - **content:** `simple`
  - **minOccurs:** `0`
  - **maxOccurs:** `1`
- **Source**
  `<xsd:element name="StartDate" type="spase:StartDate" minOccurs="0" maxOccurs="1"/>

---

### Element `spase:Contact / spase:StopDate`

- **Namespace** http://www.spase-group.org/data/schema
- **Diagram**
  ![Diagram](#)
- **Type** `spase:StopDate`
- **Properties**
  - **content:** `simple`
  - **minOccurs:** `0`
  - **maxOccurs:** `1`
- **Source**
  `<xsd:element name="StopDate" type="spase:StopDate" minOccurs="0" maxOccurs="1"/>

---

### Element `spase:Contact / spase:Note`

- **Namespace** http://www.spase-group.org/data/schema

Diagram | Type | Properties | Source
---|---|---|---
| | spase:Note | content: simple  
minOccurs: 0  
maxOccurs: 1 | `<xsd:element name="Note" type="spase:Note" minOccurs="0" maxOccurs="1"/>`

Schema location | file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element **spase:ResourceHeader**  /  **spase:InformationURL**

Namespace | http://www.spase-group.org/data/schema

Diagram | Type | Properties | Model | Children | Instance | Source | Schema location
---|---|---|---|---|---|---|---
| spase:InformationURL | content: complex  
minOccurs: 0  
maxOccurs: unbounded | spase:Name{0,1} , spase:URL , spase:Description{0,1} , spase:Language{0,1} | spase:Description , spase:Language, spase:Name , spase:URL | `<spase:InformationURL xmlns:spase= "http://www.spase-group.org/data/schema"> 
<spase:Name>{0,1}</spase:Name>  
<spase:URL>{1,1}</spase:URL>  
<spase:Description>{0,1}</spase:Description>  
<spase:Language>{0,1}</spase:Language>  
</spase:InformationURL>` | `<xsd:element name="InformationURL" type="spase:InformationURL" minOccurs="0" maxOccurs="unbounded"/>`
| file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element **spase:Name**

Namespace | http://www.spase-group.org/data/schema

Diagram | Type | Properties | Source | Schema location
---|---|---|---|---
| | spase:Name | content: simple  
minOccurs: 0  
maxOccurs: 1 | `<xsd:element name="Name" type="spase:Name" minOccurs="0" maxOccurs="1"/>`
| file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element **spase:URL**
### Element `spase:InformationURL` / `spase:Description`  
**Namespace**  
http://www.spase-group.org/data/schema  
**Diagram**  
![Diagram](attachment:image)  
**Type**  
`spase:Description`  
**Properties**  
- **content**: simple  
- **minOccurs**: 0  
- **maxOccurs**: 1  
**Source**  
```xml  
<xsd:element name="Description" type="spase:Description" minOccurs="0" maxOccurs="1"/>  
```  
**Schema location**  
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:InformationURL` / `spase:Language`  
**Namespace**  
http://www.spase-group.org/data/schema  
**Diagram**  
![Diagram](attachment:image)  
**Type**  
`spase:Language`  
**Properties**  
- **content**: simple  
- **minOccurs**: 0  
- **maxOccurs**: 1  
**Source**  
```xml  
<xsd:element name="Language" type="spase:Language" minOccurs="0" maxOccurs="1"/>  
```  
**Schema location**  
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:ResourceHeader` / `spase:Association`  
**Namespace**  
http://www.spase-group.org/data/schema  
**Diagram**  
![Diagram](attachment:image)  
**Type**  
`spase:Association`  
**Properties**  
- **content**: complex  
- **minOccurs**: 0  
- **maxOccurs**: unbounded  
**Model**  
`spase:AssociationID , spase:AssociationType , spase:Note[0,1]`
Children
spase:AssociationID, spase:AssociationType, spase:Note

Instance

```xml
<spase:Association xmlns:spase="http://www.spase-group.org/data/schema"
<spase:AssociationID>1,1</spase:AssociationID>
<spase:AssociationType>1,1</spase:AssociationType>
<spase:Note>0,1</spase:Note>
</spase:Association>
```

Source

```xml
<xsd:element name="Association" type="spase:Association" minOccurs="0" maxOccurs="unbounded"/>
```
**Element spase:ResourceHeader / spase:PriorID**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: [Diagram of PriorID]
- **Type**: spase:PriorID
- **Properties**:
  - content: simple
  - minOccurs: 0
  - maxOccurs: unbounded
- **Source**: `<xsd:element name="PriorID" type="spase:PriorID" minOccurs="0" maxOccurs="unbounded"/>

**Element spase:Catalog / spase:AccessInformation**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: [Diagram of AccessInformation]
- **Type**: spase:AccessInformation
- **Properties**:
  - content: complex
  - minOccurs: 1
  - maxOccurs: unbounded
- **Model**: spase:RepositoryID, spase:Availability[0,1], spase:AccessRights[0,1], spase:AccessURL+, spase:Format, spase:Encoding[0,1], spase:DataExtent[0,1], spase:Acknowledgement[0,1]
- **Instance**: `<xsd:element name="AccessInformation" type="spase:AccessInformation" minOccurs="1" maxOccurs="unbounded"/>

**Source**: `<xsd:element name="AccessInformation" type="spase:AccessInformation" minOccurs="1" maxOccurs="unbounded"/>

---

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Schema documentation for spase-2_3_1.xsd

**Element spase:AccessInformation / spase:RepositoryID**

Namespace http://www.spase-group.org/data/schema

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:RepositoryID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 1</td>
</tr>
<tr>
<td></td>
<td>maxOccurs: 1</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:element name="RepositoryID" type="spase:RepositoryID" minOccurs="1" maxOccurs="1"/>
```

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Element spase:AccessInformation / spase:Availability**

Namespace http://www.spase-group.org/data/schema

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 0</td>
</tr>
<tr>
<td></td>
<td>maxOccurs: 1</td>
</tr>
</tbody>
</table>

Facets

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Offline</th>
<th>Not directly accessible electronically. This includes resources which may to be moved to an on-line status in response to a given request.</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Online</td>
<td>Directly accessible electronically.</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:element name="Availability" type="spase:Availability" minOccurs="0" maxOccurs="1"/>
```

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Element spase:AccessInformation / spase:AccessRights**

Namespace http://www.spase-group.org/data/schema

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:AccessRights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 0</td>
</tr>
<tr>
<td></td>
<td>maxOccurs: 1</td>
</tr>
</tbody>
</table>

Facets

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Open</th>
<th>Access is granted to everyone.</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>PartiallyRestricted</td>
<td>Some portions of the resource have restricted access, the rest is open access. Typically this is for accumulating data collections where some data is under review before being publicly released.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Restricted</td>
<td>Access to the product is regulated and requires some form of identification.</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:element name="AccessRights" type="spase:AccessRights" minOccurs="0" maxOccurs="1"/>
```

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Element spase:AccessInformation / spase:AccessURL**

Namespace http://www.spase-group.org/data/schema
### Schema documentation for spase-2_3_1.xsd

#### Diagram

![Diagram](image)

#### Type `spase:AccessURL`
- **Properties**
  - **content**: complex
  - **minOccurs**: 1
  - **maxOccurs**: unbounded

#### Model
- `spase:Name[0,1]`, `spase:URL`, `spase:Style[0,1]`, `spase:ProductKey*`, `spase:Description[0,1]`, `spase:Language[0,1]`

#### Children
- `spase:Description`, `spase:Language`, `spase:Name`, `spase:ProductKey`, `spase:Style`, `spase:URL`

#### Instance
```xml
  <spase:Name>{0,1}</spase:Name>
  <spase:URL>{1,1}</spase:URL>
  <spase:Style>{0,1}</spase:Style>
  <spase:ProductKey>{0,unbounded}</spase:ProductKey>
  <spase:Description>{0,1}</spase:Description>
  <spase:Language>{0,1}</spase:Language>
</spase:AccessURL>
```

#### Source
- `<xsd:element name="AccessURL" type="spase:AccessURL" minOccurs="1" maxOccurs="unbounded"/>

#### Element `spase:AccessURL` / `spase:Name`
- **Namespace** `http://www.spase-group.org/data/schema`

#### Type `spase:Name`
- **Properties**
  - **content**: simple
  - **minOccurs**: 0
  - **maxOccurs**: 1

#### Source
- `<xsd:element name="Name" type="spase:Name" minOccurs="0" maxOccurs="1"/>

#### Schema location
- `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

#### Element `spase:AccessURL` / `spase:URL`
- **Namespace** `http://www.spase-group.org/data/schema`

#### Type `spase:URL`
- **Properties**
  - **content**: simple
  - **minOccurs**: 1
  - **maxOccurs**: 1
### Element `spase:AccessURL / spase:Style`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**

<table>
<thead>
<tr>
<th>Type</th>
<th><code>spase:Style</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td></td>
</tr>
<tr>
<td>content:</td>
<td>simple</td>
</tr>
<tr>
<td>minOccurs:</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs:</td>
<td>1</td>
</tr>
</tbody>
</table>

**Facets**

<table>
<thead>
<tr>
<th>enumeration</th>
<th>File</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Access to a file containing the data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>HAPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>A Heliophysics Application Programmer Interface (HAPI) specification compliant access point.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>A listing of files - either through FTP or HTTP.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>A web page that provides and overview of available data and links.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>A web search interface that requires additional input.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Template</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>WebService</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>A Web-based service that uses SOAP, WSDL or UDDI open standards.</td>
</tr>
</tbody>
</table>

**Source**

```xml
c<xsd:element name="Style" type="spase:Style" minOccurs="0" maxOccurs="1"/>
```

**Schema location**

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:AccessURL / spase:ProductKey`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**

<table>
<thead>
<tr>
<th>Type</th>
<th><code>spase:ProductKey</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td></td>
</tr>
<tr>
<td>content:</td>
<td>simple</td>
</tr>
<tr>
<td>minOccurs:</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs:</td>
<td>unbounded</td>
</tr>
</tbody>
</table>

**Source**

```xml
c<xsd:element name="ProductKey" type="spase:ProductKey" minOccurs="0" maxOccurs="unbounded"/>
```

**Schema location**

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:AccessURL / spase:Description`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**

<table>
<thead>
<tr>
<th>Type</th>
<th><code>spase:Description</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td></td>
</tr>
<tr>
<td>content:</td>
<td>simple</td>
</tr>
<tr>
<td>minOccurs:</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs:</td>
<td>1</td>
</tr>
</tbody>
</table>

**Source**

```xml
c<xsd:element name="Description" type="spase:Description" minOccurs="0" maxOccurs="1"/>
```
Schema documentation for spase-2_3_1.xsd

**Element spase:AccessURL / spase:Language**

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagram</td>
<td><img src="image_url" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:Language</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 0</td>
</tr>
<tr>
<td></td>
<td>maxOccurs: 1</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;Language&quot; type=&quot;spase:Language&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

**Element spase:AccessInformation / spase:Format**

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagram</td>
<td><img src="image_url" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:Format</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 1</td>
</tr>
<tr>
<td></td>
<td>maxOccurs: 1</td>
</tr>
<tr>
<td>Facets</td>
<td>enumeration AVI</td>
</tr>
<tr>
<td></td>
<td>Audio Video Interleave (AVI) a digital format for movies that conforms to the Microsoft Windows Resource Interchange File Format (RIFF).</td>
</tr>
<tr>
<td></td>
<td>enumeration Binary</td>
</tr>
<tr>
<td></td>
<td>A direct representation of the bits which may be stored in memory on a computer.</td>
</tr>
<tr>
<td></td>
<td>enumeration CDF</td>
</tr>
<tr>
<td></td>
<td>Common Data Format (CDF). A binary storage format developed at Goddard Space Flight Center (GSFC).</td>
</tr>
<tr>
<td></td>
<td>enumeration CEF</td>
</tr>
<tr>
<td></td>
<td>Cluster Exchange Format (CEF) is a self-documenting ASCII format designed for the exchange of data. There are two versions of CEF which are not totally compatible.</td>
</tr>
<tr>
<td></td>
<td>enumeration CEF1</td>
</tr>
<tr>
<td></td>
<td>Cluster Exchange Format (CEF), version 1, is a self-documenting ASCII format designed for the exchange of data. The metadata contains information compatible with the ISTP recommendations for CDF.</td>
</tr>
<tr>
<td></td>
<td>enumeration CEF2</td>
</tr>
<tr>
<td></td>
<td>Cluster Exchange Format (CEF), version 2, is a self-documenting ASCII format designed for the exchange of data and introduced for Cluster Active Archive. Compared to version 1, the metadata description of vectors and tensors is different.</td>
</tr>
<tr>
<td></td>
<td>enumeration CSV</td>
</tr>
<tr>
<td></td>
<td>Comma Separated Value - A data exchange format defined by RFC 4180.</td>
</tr>
<tr>
<td></td>
<td>enumeration Excel</td>
</tr>
<tr>
<td></td>
<td>A Microsoft spreadsheet format used to hold a variety of data in tables which can include calculations.</td>
</tr>
<tr>
<td></td>
<td>enumeration FITS</td>
</tr>
<tr>
<td></td>
<td>Flexible Image Transport System (FITS) is a digital format primarily designed to store scientific data sets consisting of multi-dimensional arrays (1-D spectra, 2-D images or 3-D data cubes) and 2-dimensional tables containing rows and columns of data.</td>
</tr>
<tr>
<td></td>
<td>enumeration GIF</td>
</tr>
<tr>
<td></td>
<td>Graphic Interchange Format (GIF) first introduced in 1987 by CompuServe. GIF uses LZW compression</td>
</tr>
</tbody>
</table>
and images are limited to 256 colours.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDF</td>
<td>Hierarchical Data Format</td>
</tr>
<tr>
<td>HDF4</td>
<td>Hierarchical Data Format, Version 4</td>
</tr>
<tr>
<td>HDF5</td>
<td>Hierarchical Data Format, Version 5</td>
</tr>
<tr>
<td>HTML</td>
<td>A text file containing structured information represented in the HyperText Mark-up Language (HTML). See <a href="http://www.w3.org/MarkUp/">http://www.w3.org/MarkUp/</a></td>
</tr>
<tr>
<td>Hardcopy</td>
<td>A permanent reproduction, or copy in the form of a physical object, of any media suitable for direct use by a person.</td>
</tr>
<tr>
<td>Hardcopy.Film</td>
<td>An image recording medium on which usually a &quot;negative&quot; analog image is registered. A &quot;positive&quot; image can be recovered or reproduced from film, which is usually made of flexible materials for ease of storage and transportation.</td>
</tr>
<tr>
<td>Hardcopy.Microfiche</td>
<td>A sheet of microfilm on which many pages of material have been photographed; a magnification system is used to read the material.</td>
</tr>
<tr>
<td>Hardcopy.Microfilm</td>
<td>Film rolls on which materials have been photographed at greatly reduced size; a magnification system is used to read the material.</td>
</tr>
<tr>
<td>Hardcopy.Photograph</td>
<td>An image (positive or negative) registered on a piece of photo-sensitive paper</td>
</tr>
<tr>
<td>Hardcopy.PhotographicPlate</td>
<td>A rigid (typically glass) medium that functions like film. Its rigidity is for guarding against image distortion due to medium deformation (caused by heat and humidity). Photographic plates are often used for astronomical photography.</td>
</tr>
<tr>
<td>Hardcopy.Print</td>
<td>A sheet of any written or printed material which may include notes or graphics. Multiple printed pages may be bound into a manuscript or book.</td>
</tr>
<tr>
<td>IDFS</td>
<td>Instrument Data File Set (IDFS) is a set of files written in a prescribed format which contain data, timing data, and meta-data. IDFS was developed at Southwest Research Institute (SwRI).</td>
</tr>
<tr>
<td>IDL</td>
<td>Interactive Data Language (IDL) save set. IDL is a proprietary format.</td>
</tr>
<tr>
<td>JPEG</td>
<td>A binary format for still images defined by the Joint Photographic Experts Group</td>
</tr>
<tr>
<td>JSON</td>
<td>Javascript Object Notation - A lightweight data-interchange format.</td>
</tr>
<tr>
<td>MATLAB_4</td>
<td>MATLAB Workspace save set, version 4. MAT-files are double-precision, binary, MATLAB format files. MATLAB is a proprietary product of The MathWorks.</td>
</tr>
<tr>
<td>MATLAB_6</td>
<td>MATLAB Workspace save set, version 6. MAT-files are double-precision, binary, MATLAB format files. MATLAB is a proprietary product of The MathWorks.</td>
</tr>
<tr>
<td>MATLAB_7</td>
<td>MATLAB Workspace save set, version 7. MAT-files are double-precision, binary, MATLAB format files. Version 7 includes data compression and Unicode encoding. MATLAB is a proprietary product of The MathWorks.</td>
</tr>
<tr>
<td>MPEG</td>
<td>A digital format for movies defined by the Motion Picture Experts Group</td>
</tr>
<tr>
<td>NetCDF</td>
<td>Unidata Program Center's Network Common Data Form (NetCDF). A self-describing portable data format for array-oriented data access.</td>
</tr>
</tbody>
</table>
Source
<xsd:element name="Format" type="spase:Format" minOccurs="1" maxOccurs="1"/>

Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element spase:AccessInformation / spase:Encoding

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**
![Diagram](encoding.png)

**Type**
spase:Encoding

**Properties**
- content: simple
- minOccurs: 0
- maxOccurs: 1

**Facets**

- **enumeration**
  - **ASCII**
    - A sequence of characters that adheres to American Standard Code for Information Interchange (ASCII) which is an 7-bit character-coding scheme.
  - **BZIP2**
  - **Base64**
    - A data encoding scheme whereby binary-encoded data is converted to printable ASCII characters. It is defined as a MIME content transfer encoding for use in Internet e-mail. The only characters used are the upper- and lower-case Roman alphabet characters (A-Z, a-z), the numerals (0-9), and the "*" and "/" symbols, with the "=" symbol as a special suffix (padding) code.
  - **GZIP**
A lack or absence of anything.

A container of objects that comply with the Amazon Simple Storage Service (S3) specifications. A bucket has a unique, user-assigned key (name). A bucket can contain any number of objects with an aggregate size of 5 gigabytes. A bucket may be accompanied by up to 2 kilobytes of metadata.

A file format used to collate collections of files into one larger file, for distribution or archiving, while preserving file system information such as user and group permissions, dates, and directory structures. The format was standardized by POSIX.1-1988 and later POSIX.1-2001.

Text in multi-byte Unicode format.

An open standard for compression which is a variation of the LZW method and was originally used in the PKZIP utility.

Source
<xmlns:xsd":encoding" xmlns:spase="Encoding" minOccurs="0" maxOccurs="1"/>

Schema location file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:AccessInformation / spase:DataExtent

Namespace http://www.spase-group.org/data/schema

Diagram

Type spase:DataExtent

Properties
content: complex
minOccurs: 0
maxOccurs: 1

Model spase:Quantity , spase:Units{0,1} , spase:Per{0,1}

Children spase:Per , spase:Quantity , spase:Units

Instance
<spase:DataExtent xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:Quantity>{1,1}</spase:Quantity>
  <spase:Units>{0,1}</spase:Units>
  <spase:Per>{0,1}</spase:Per>
</spase:DataExtent>

Source
<xmlns:xsd":element" xmlns:spase="DataExtent" minOccurs="0" maxOccurs="1"/>

Schema location file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:DataExtent / spase:Quantity

Namespace http://www.spase-group.org/data/schema

Diagram

Type spase:Quantity

Properties
content: simple
minOccurs: 1
maxOccurs: 1

Source
<xmlns:xsd":element" xmlns:spase="Quantity" minOccurs="1" maxOccurs="1"/>
Schema documentation for spase-2_3_1.xsd

### Element `spase:DataExtent / spase:Units`
- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**
  - ```xml
  <Units type="spase:Units"/>
  ```
- **Type**: `spase:Units`
- **Properties**
  - `content`: `simple`
  - `minOccurs`: `0`
  - `maxOccurs`: `1`
- **Source**: ```xml
  <xsd:element name="Units" type="spase:Units" minOccurs="0" maxOccurs="1"/>
  ```
- **Schema location**: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:DataExtent / spase:Per`
- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**
  - ```xml
  <Per type="spase:Per"/>
  ```
- **Type**: `spase:Per`
- **Properties**
  - `content`: `simple`
  - `minOccurs`: `0`
  - `maxOccurs`: `1`
- **Source**: ```xml
  <xsd:element name="Per" type="spase:Per" minOccurs="0" maxOccurs="1"/>
  ```
- **Schema location**: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:AccessInformation / spase:Acknowledgement`
- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**
  - ```xml
  <Acknowledgement type="spase:Acknowledgement"/>
  ```
- **Type**: `spase:Acknowledgement`
- **Properties**
  - `content`: `simple`
  - `minOccurs`: `0`
  - `maxOccurs`: `1`
- **Source**: ```xml
  <xsd:element name="Acknowledgement" type="spase:Acknowledgement" minOccurs="0" maxOccurs="1"/>
  ```
- **Schema location**: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Catalog / spase:ProviderName`
- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**
  - ```xml
  <ProviderName type="spase:ProviderName"/>
  ```
- **Type**: `spase:ProviderName`
- **Properties**
  - `content`: `simple`
  - `minOccurs`: `0`
  - `maxOccurs`: `1`
- **Source**: ```xml
  <xsd:element name="ProviderName" type="spase:ProviderName" minOccurs="0" maxOccurs="1"/>
  ```
- **Schema location**: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
Element `spase:Catalog / spase:ProviderResourceName`

Namespace: http://www.spase-group.org/data/schema

Diagram: [Diagram of ProviderResourceName]

Type: `spase:ProviderResourceName`

Properties:
- content: simple
- minOccurs: 0
- maxOccurs: 1

Source:
```xml
<xsd:element name="ProviderResourceName" type="spase:ProviderResourceName" minOccurs="0" maxOccurs="1" />
```

Schema location:
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Catalog / spase:ProviderVersion`

Namespace: http://www.spase-group.org/data/schema

Diagram: [Diagram of ProviderVersion]

Type: `spase:ProviderVersion`

Properties:
- content: simple
- minOccurs: 0
- maxOccurs: 1

Source:
```xml
<xsd:element name="ProviderVersion" type="spase:ProviderVersion" minOccurs="0" maxOccurs="1" />
```

Schema location:
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Catalog / spase:InstrumentID`

Namespace: http://www.spase-group.org/data/schema

Diagram: [Diagram of InstrumentID]

Type: `spase:InstrumentID`

Properties:
- content: simple
- minOccurs: 0
- maxOccurs: unbounded

Source:
```xml
<xsd:element name="InstrumentID" type="spase:InstrumentID" minOccurs="0" maxOccurs="unbounded" />
```

Schema location:
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Catalog / spase:PhenomenonType`

Namespace: http://www.spase-group.org/data/schema

Diagram: [Diagram of PhenomenonType]

Type: `spase:PhenomenonType`

Properties:
- content: simple
- minOccurs: 1
- maxOccurs: unbounded

Facets:
- `ActiveRegion`: A localized, transient volume of the solar atmosphere in which PLAGES, SUNSPOTS, FACULAE, FLARES, etc. may be observed.
- `Aurora`: An atmospheric phenomenon consisting of bands of light caused by charged solar particles following the earth’s magnetic lines of force.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BowShockCrossing</strong></td>
<td>A crossing of the boundary between the undisturbed (except for foreshock effects) solar wind and the shocked, decelerated solar wind of the magnetosheath.</td>
</tr>
<tr>
<td><strong>CoronalHole</strong></td>
<td>An extended region of the corona, exceptionally low in density and associated with unipolar photospheric regions. A coronal hole can be an &quot;open&quot; magnetic field in the corona and (perhaps) inner heliosphere which has a faster than average outflow (wind); A region of lower than <em>quiet</em> ion and electron density in the corona; or a region of lower peak electron temperature in the corona than in the <em>quiet</em> corona.</td>
</tr>
<tr>
<td><strong>CoronalMassEjection</strong></td>
<td>A solar event (CME) that involves a burst of plasma ejected into the interplanetary medium. CME's may be observed remotely relatively near the sun or in situ in the interplanetary medium. The latter type of observations are often referred to as Interplanetary CME's (ICME's).</td>
</tr>
<tr>
<td><strong>EITWave</strong></td>
<td>A wave in the corona of the Sun which produce shock waves on the Sun's chromosphere (Moreton Waves). EIT Waves are produced by large solar flare and expand outward at about 1,000 km/s. It usually appears as a slowly moving diffuse arc of brightening in H-alpha, and may travel for several hundred thousand km.</td>
</tr>
<tr>
<td><strong>EnergeticSolarParticleEvent</strong></td>
<td>An enhancement of interplanetary fluxes of energetic ions accelerated by interplanetary shocks and/or solar flares.</td>
</tr>
<tr>
<td><strong>ForbushDecrease</strong></td>
<td>A rapid decrease in the observed galactic cosmic ray intensity following the passage of an outwardly connecting interplanetary magnetic field disturbance, such as those associated with large CME's, that sweep some galactic cosmic rays away from Earth.</td>
</tr>
<tr>
<td><strong>GeomagneticStorm</strong></td>
<td>A magnetospheric disturbance typically defined by variations in the horizontal component of the Earth’s surface magnetic field. The variation typically starts with a field enhancement associated with a solar wind pressure pulse and continues with a field depression associated with an enhancement of the diamagnetic magnetospheric ring current.</td>
</tr>
<tr>
<td><strong>InterplanetaryShock</strong></td>
<td>A shock propagating generally anti-sunward through the slower solar wind, often seen in front of CME-associated plasma clouds.</td>
</tr>
<tr>
<td><strong>MagneticCloud</strong></td>
<td>A transient event observed in the solar wind characterized as a region of enhanced magnetic field strength, smooth rotation of the magnetic field vector and low proton density and temperature.</td>
</tr>
<tr>
<td><strong>MagnetopauseCrossing</strong></td>
<td>A crossing of the interface between the shocked solar wind in the magnetosheath and the magnetic field and plasma in the magnetosphere.</td>
</tr>
<tr>
<td><strong>RadioBurst</strong></td>
<td>Emissions of the sun in radio wavelengths from centimeters to dekameters, under both quiet and disturbed conditions. Radio Bursts can be <em>Type I</em> consisting of many short, narrow-band bursts in the metric range (300 - 50 MHz); <em>Type II</em> consisting of narrow-band emission that begins in the meter range (300 MHz) and sweeps slowly (tens of minutes) toward dekameter wavelengths (10 MHz); <em>Type III</em> consisting of narrow-band bursts that sweep rapidly (seconds) from decimeter to dekameter wavelengths (500 - 0.5 MHz); and <em>Type IV</em> consisting of a smooth continuum of broad-band bursts primarily in the meter range (300 - 30 MHz).</td>
</tr>
<tr>
<td><strong>SectorBoundaryCrossing</strong></td>
<td>A sector boundary crossing is a transit by a spacecraft across the heliospheric current.</td>
</tr>
</tbody>
</table>
sheet separating the dominantly outward (away-from-the-sun) interplanetary magnetic field of one hemisphere of the heliosphere from the dominantly inward (toward-the-sun) polarity of the other hemisphere. Such crossings have multi-day intervals of opposite IMF dominant polarities on either side.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SolarFlare</strong></td>
<td>An explosive event in the Sun’s atmosphere which produces electromagnetic radiation across the electromagnetic spectrum at multiple wavelengths from long-wave radio to the shortest wavelength gamma rays.</td>
</tr>
<tr>
<td><strong>SolarWindExtreme</strong></td>
<td>Intervals of unusually large or small values of solar wind attributes such as flow speed and ion density.</td>
</tr>
<tr>
<td><strong>StreamInteractionRegion</strong></td>
<td>The region (SIR) where two solar wind streams, typically having differing characteristics and solar sources, abut up against (and possibly partially interpenetrate) each other.</td>
</tr>
<tr>
<td><strong>Substorm</strong></td>
<td>A process by which plasma in the magnetotail becomes energized at a fast rate.</td>
</tr>
</tbody>
</table>

**Source**
<xs:element name="PhenomenonType" type="spase:PhenomenonType" minOccurs="1" maxOccurs="unbounded"/>

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:Catalog / spase:TimeSpan**

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

```xml
<spase:TimeSpan xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:StartDate >{1,1} </spase:StartDate>
  <spase:StopDate >{1,1} </spase:StopDate>
  <spase:RelativeStopDate >{1,1} </spase:RelativeStopDate>
  <spase:Note >{0,unbounded} </spase:Note>
</spase:TimeSpan>
```

**Type**
spase:TimeSpan

**Properties**
- content: complex
- minOccurs: 0
- maxOccurs: 1

**Model**
spase:StartDate , (spase:StopDate | spase:RelativeStopDate) , spase:Note*

**Children**
spase:Note, spase:RelativeStopDate, spase:StartDate, spase:StopDate

**Instance**
<spase:TimeSpan xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:StartDate>[1,1]</spase:StartDate>
  <spase:StopDate>[1,1]</spase:StopDate>
  <spase:RelativeStopDate>[1,1]</spase:RelativeStopDate>
  <spase:Note>[0,unbounded]</spase:Note>
</spase:TimeSpan>

**Source**
<xs:element name="TimeSpan" type="spase:TimeSpan" minOccurs="0" maxOccurs="1"/>

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:TimeSpan / spase:StartDate**

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

```xml
<spase:StartDate xmlns:spase= "http://www.spase-group.org/data/schema"/>
```

**Type**
spase:StartDate

**Properties**
- Content: complex

**Model**
spase:StartDate

**Children**
spase:Date

**Instance**
<spase:StartDate xmlns:spase="http://www.spase-group.org/data/schema"/>

**Source**
<xs:element name="StartDate" type="spase:StartDate" minOccurs="0" maxOccurs="1"/>

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
### Element `spase:StartDate` / `spase:StopDate`

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**
![Diagram of `spase:StartDate` and `spase:StopDate`](image)

**Type**
`spase:StopDate`

**Properties**
- content: `simple`
- minOccurs: `1`
- maxOccurs: `1`

**Source**
```xml
<xsd:element name="StartDate" type="spase:StartDate" minOccurs="1" maxOccurs="1"/>
```

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:TimeSpan` / `spase:RelativeStopDate`

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**
![Diagram of `spase:TimeSpan` and `spase:RelativeStopDate`](image)

**Type**
`spase:RelativeStopDate`

**Properties**
- content: `simple`

**Source**
```xml
<xsd:element name="RelativeStopDate" type="spase:RelativeStopDate"/>
```

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:TimeSpan` / `spase:Note`

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**
![Diagram of `spase:TimeSpan` and `spase:Note`](image)

**Type**
`spase:Note`

**Properties**
- content: `simple`
- minOccurs: `0`
- maxOccurs: `unbounded`

**Source**
```xml
<xsd:element name="Note" type="spase:Note" minOccurs="0" maxOccurs="unbounded"/>
```

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Catalog` / `spase:Caveats`

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**
![Diagram of `spase:Catalog` and `spase:Caveats`](image)

**Type**
`spase:Caveats`

**Properties**
- content: `simple`
Schema documentation for spase-2_3_1.xsd

| minOccurs: | 0 |
| maxOccurs: | 1 |

Source: `<xsd:element name="Caveats" type="spase:Caveats" minOccurs="0" maxOccurs="1"/>

Schema location: file:C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Catalog` / `spase:Keyword`

| Namespace | http://www.spase-group.org/data/schema |
| Diagram |  |
| Type | `spase:Keyword` |
| Properties | content: simple, minOccurs: 0, maxOccurs: unbounded |

Source: `<xsd:element name="Keyword" type="spase:Keyword" minOccurs="0" maxOccurs="unbounded"/>

Schema location: file:C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Catalog` / `spase:InputResourceID`

| Namespace | http://www.spase-group.org/data/schema |
| Diagram |  |
| Type | `spase:InputResourceID` |
| Properties | content: simple, minOccurs: 0, maxOccurs: unbounded |

Source: `<xsd:element name="InputResourceID" type="spase:InputResourceID" minOccurs="0" maxOccurs="unbounded"/>

Schema location: file:C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Catalog` / `spase:Parameter`

| Namespace | http://www.spase-group.org/data/schema |
Type: `spase:Parameter`

Properties:
- `content`: complex
- `minOccurs`: 0
- `maxOccurs`: unbounded
Model

- spase:Name
- spase:Cadence
- spase:CadenceMin
- spase:CadenceMax
- spase:Caveats
- spase:CadenceMin
- spase:CadenceMax
- spase:Description
- spase:Field
- spase:FillValue
- spase:Field
- spase:Particle
- spase:Wave
- spase:Mixed
- spase:Structure
- spase:ValidMin
- spase:ValidMax

Children

- spase:Cadence
- spase:CadenceMax
- spase:CadenceMin
- spase:Caveats
- spase:Cadence
- spase:CadenceMin
- spase:CadenceMax
- spase:Description
- spase:Field
- spase:FillValue
- spase:Mixed
- spase:Structure
- spase:ValidMin
- spase:ValidMax

Instance

```xml
<spase:Parameter xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:Name>{1,1}</spase:Name>
  <spase:Set>{0,unbounded}</spase:Set>
  <spase:ParameterKey>{0,1}</spase:ParameterKey>
  <spase:Description>{0,1}</spase:Description>
  <spase:UCD>{0,1}</spase:UCD>
  <spase:Caveats>{0,1}</spase:Caveats>
  <spase:Cadence>{0,1}</spase:Cadence>
  <spase:CadenceMin>{0,1}</spase:CadenceMin>
  <spase:CadenceMax>{0,1}</spase:CadenceMax>
  <spase:Units>{0,1}</spase:Units>
  <spase:UnitsConversion>{0,1}</spase:UnitsConversion>
  <spase:CoordinateSystem>{0,1}</spase:CoordinateSystem>
  <spase:RenderingHints>{0,unbounded}</spase:RenderingHints>
  <spase:Structure>{0,1}</spase:Structure>
  <spase:ValidMin>{0,1}</spase:ValidMin>
  <spase:ValidMax>{0,1}</spase:ValidMax>
  <spase:FillValue>{0,1}</spase:FillValue>
  <spase:Field>{1,1}</spase:Field>
  <spase:Particle>{1,1}</spase:Particle>
  <spase:Mixed>{1,1}</spase:Mixed>
  <spase:Support>{1,1}</spase:Support>
</spase:Parameter>
```

Source

```xml
<xsd:element name="Parameter" type="spase:Parameter" minOccurs="0" maxOccurs="unbounded"/>
```

Element spase:Parameter / spase:Name

Namespace  http://www.spase-group.org/data/schema

Diagram

```
+----------------+    +----------------+
|                |    |                |
|  Name           |    |  (spase:Name)  |
+----------------+    +----------------+
```

Type  spase:Name

Properties

- content: simple
- minOccurs: 1
- maxOccurs: 1

Source

```xml
<xsd:element name="Name" type="spase:Name" minOccurs="1" maxOccurs="1"/>
```

Element spase:Parameter / spase:Set

Namespace  http://www.spase-group.org/data/schema

Diagram

```
+----------------+    +----------------+
|                |    |                |
|  Set           |    |  (spase:Set)   |
+----------------+    +----------------+
```

Type  spase:Set

Properties

- content: simple
- minOccurs: 0
- maxOccurs: unbounded

Source

```xml
<xsd:element name="Set" type="spase:Set" minOccurs="0" maxOccurs="unbounded"/>
```

Element spase:Parameter / spase:ParameterKey

Namespace  http://www.spase-group.org/data/schema
### Element `spase:Parameter` / `spase:Description`

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**
```
  Description
  Type spase:Description
```

**Type**
`spase:Description`

**Properties**
- **content:** `simple`
- **minOccurs:** 0
- **maxOccurs:** 1

**Source**
```
<xs:element name="Description" type="spase:Description" minOccurs="0" maxOccurs="1"/>
```

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Parameter` / `spase:UCD`

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**
```
  UCD
  Type spase:UCD
```

**Type**
`spase:UCD`

**Properties**
- **content:** `simple`
- **minOccurs:** 0
- **maxOccurs:** 1

**Source**
```
<xs:element name="UCD" type="spase:UCD" minOccurs="0" maxOccurs="1"/>
```

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Parameter` / `spase:Caveats`

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**
```
  Caveats
  Type spase:Caveats
```

**Type**
`spase:Caveats`

**Properties**
- **content:** `simple`
- **minOccurs:** 0
- **maxOccurs:** 1

**Source**
```
<xs:element name="Caveats" type="spase:Caveats" minOccurs="0" maxOccurs="1"/>
```

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Parameter` / `spase:Cadence`

**Namespace**
http://www.spase-group.org/data/schema
Element `spase:Parameter / spase:CadenceMin`

Namespace: http://www.spase-group.org/data/schema

Type: spase:CadenceMin

Properties:
- content: simple
- minOccurs: 0
- maxOccurs: 1

Source:

```xml
<xsd:element name="CadenceMin" type="spase:CadenceMin" minOccurs="0" maxOccurs="1"/>
```

Schema location: file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Parameter / spase:CadenceMax`

Namespace: http://www.spase-group.org/data/schema

Type: spase:CadenceMax

Properties:
- content: simple
- minOccurs: 0
- maxOccurs: 1

Source:

```xml
<xsd:element name="CadenceMax" type="spase:CadenceMax" minOccurs="0" maxOccurs="1"/>
```

Schema location: file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Parameter / spase:Units`

Namespace: http://www.spase-group.org/data/schema

Type: spase:Units

Properties:
- content: simple
- minOccurs: 0
- maxOccurs: 1

Source:

```xml
<xsd:element name="Units" type="spase:Units" minOccurs="0" maxOccurs="1"/>
```

Schema location: file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Parameter / spase:UnitsConversion`
Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:UnitsConversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td></td>
</tr>
<tr>
<td>content</td>
<td>simple</td>
</tr>
<tr>
<td>minOccurs</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>1</td>
</tr>
<tr>
<td>Source</td>
<td>&lt;xsd:element name=&quot;UnitsConversion&quot; type=&quot;spase:UnitsConversion&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot; /&gt;</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

**Element spase:Parameter / spase:CoordinateSystem**

Namespace | http://www.spase-group.org/data/schema |
Diagram    |                                     |
| Type      | spase:CoordinateSystem              |
| Properties|                                       |
| content   | complex                              |
| minOccurs  | 0                                    |
| maxOccurs | 1                                    |
| Model     | spase:CoordinateRepresentation, spase:CoordinateSystemName |
| Children  | spase:CoordinateRepresentation, spase:CoordinateSystemName |
| Instance  | <spase:CoordinateSystem xmlns:spase="http://www.spase-group.org/data/schema" >
|           | <spase:CoordinateRepresentation>[1,1] </spase:CoordinateRepresentation>
|           | <spase:CoordinateSystemName>[1,1] </spase:CoordinateSystemName>
| Source    | <xsd:element name="CoordinateSystem" type="spase:CoordinateSystem" minOccurs="0" maxOccurs="1" /> |
| Schema location | file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd |

**Element spase:CoordinateSystem / spase:CoordinateRepresentation**

Namespace | http://www.spase-group.org/data/schema |
Diagram    |                                     |
| Type      | spase:CoordinateRepresentation      |
| Properties|                                       |
| content   | simple                               |
| minOccurs  | 1                                    |
| maxOccurs | 1                                    |
| Facets    |                                       |
| enumeration | Cartesian                      |
|           | A representation in which a position vector or a measured vector (e.g., field or flow) is specified by its components along the base axes of the coordinate system. |
| enumeration | Cylindrical                     |
|           | A coordinate representation of a position vector or measured vector (field or flow) by its k-component, the magnitude of its projection into the i-j plane, and the azimuthal angle of the i-j plane projection. |
| enumeration | Spherical                       |
|           | A coordinate representation of a position vector or of a measured vector by its magnitude and two direction angles. The angles are relative to the base axes of the coordinate system used. Typically the angles are phi [azimuth angle, \( \arctan (j/i) \)] and theta, where theta |
may be a polar angle, arctan \(\frac{\sqrt{i^2+j^2}}{k}\),
or an elevation angle, arctan \(\frac{k}{\sqrt{i^2+j^2}}\).

```xml
<xsd:element name="CoordinateRepresentation" type="spase:CoordinateRepresentation" minOccurs="1"
maxOccurs="1"/>
```

**Element** `spase:CoordinateSystem` / `spase:CoordinateSystemName`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: [Diagram](#)
- **Type**: `spase:CoordinateSystem`
- **Properties**:
  - content: `simple`
  - minOccurs: 1
  - maxOccurs: 1
- **Facets**:
  - **enumeration** `CGM`
    - Corrected Geomagnetic - A coordinate system from a spatial point with GEO radial distance and geomagnetic latitude and longitude, follow the epoch-appropriate IGRF/DGRF model field vector through to the point where the field line crosses the geomagnetic dipole equatorial plane. Then trace the dipole magnetic field vector Earthward from that point on the equatorial plane, in the same hemisphere as the original point, until the initial radial distance is reached. Designate the dipole latitude and longitude at that point as the CGM latitude and longitude of the original point. See [http://nssdc.gsfc.nasa.gov/space/cgm/cgmm_des.html](http://nssdc.gsfc.nasa.gov/space/cgm/cgmm_des.html)
  - **enumeration** `CSO`
    - Corrected Solar Orbital - A coordinate system related to Earth where X is anti-sunward, Y along the orbital velocity direction.
  - **enumeration** `Carrington`
    - A coordinate system which is centered at the Sun and is "fixed" with respect to the synodic rotation rate; the mean synodic value is about 27.2753 days. The Astronomical Almanac gives a value for Carrington longitude of 349.03 degrees at 0000 UT on 1 January 1995.
  - **enumeration** `DM`
    - Dipole Meridian - A coordinate system centered at the observation point. Z axis is parallel to the Earth's dipole axis, positive northward. X is in the plane defined by Z and the line linking the observation point with the Earth's center. Y is positive eastward. See [http://cdpp.cnes.fr/00428.pdf](http://cdpp.cnes.fr/00428.pdf)
  - **enumeration** `ECD`
    - Eccentric Dipole (ECD) coordinate system that aligns with a dipole whose origin and orientation may be different from the physical center and spin axis of the containing body. The IGRF-12 coefficients for 2015 are used to determine the origin for the earth. The 2015 positions are North dip pole: latitude: 86.29, longitude: -160.06. South dip pole latitude: -64.28, longitude: 136.59, North geographic pole latitude: 80.37, longitude: 107.37ECD is defined in doi:10.1186/s40623-015-0228-9.
  - **enumeration** `ECEF`
    - The Earth-Centered, Earth-Fixed (ECEF) coordinate system has point \( (0,0,0) \) defined as the center of mass of the Earth. Its axes are aligned with the International Reference Pole (IRP) and International Reference Meridian (IRM). The x-axis intersects the sphere of the Earth at 0 degree latitude (Equator) and 0 degree longitude (Greenwich). The z-axis points north. The y-axis completes the right handed coordinate system.
  - **enumeration** `ENP`
    - ENP (also called PEN) - The F vector component points northward, perpendicular to orbit plane...
which for a zero degree inclination orbit is parallel to Earth’s spin axis. The $E$ vector component is perpendicular to $P$ and $N$ and points earthward. The $N$ component is perpendicular to $P$ and $E$ and is positive eastward.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GEI</strong></td>
<td>Geocentric Equatorial Inertial - A coordinate system where the $Z$ axis is along Earth's spin vector, positive northward. $X$ axis points towards the first point of Aries (from the Earth towards the Sun at the vernal equinox). See Russell, 1971. When the $X$ axis is the direction of the mean vernal equinox of J2000, the coordinate system is also called GCI. Then the $Z$ axis is also defined as being normal to the mean Earth equator of J2000.</td>
</tr>
<tr>
<td><strong>GEO</strong></td>
<td>Geographic - geocentric corotating - A coordinate system where the $Z$ axis is along Earth's spin vector, positive northward. $X$ axis lies in Greenwich meridian, positive towards Greenwich. See Russell, 1971.</td>
</tr>
<tr>
<td><strong>GPHIO</strong></td>
<td>Kronian Solar Orbital - A coordinate system related to Saturn where $X$ is anti-sunward, $Y$ along the orbital velocity direction.</td>
</tr>
<tr>
<td><strong>GSE</strong></td>
<td>Geocentric Solar Ecliptic - A coordinate system where the $X$ axis is from Earth to Sun. $Z$ axis is normal to the ecliptic, positive northward. See Russell, 1971.</td>
</tr>
<tr>
<td><strong>GSEQ</strong></td>
<td>Geocentric Solar Equatorial - A coordinate system where the $X$ axis is from Earth to Sun. $Y$ axis is parallel to solar equatorial plane. $Z$ axis is positive northward. See Russell, 1971.</td>
</tr>
<tr>
<td><strong>GSM</strong></td>
<td>Geocentric Solar Magnetospheric - A coordinate system where the $X$ axis is from Earth to Sun, $Z$ axis is northward in a plane containing the $X$ axis and the geomagnetic dipole axis. See Russell, 1971.</td>
</tr>
<tr>
<td><strong>HAE</strong></td>
<td>Heliocentric Aries Ecliptic - A coordinate system where the $Z$ axis is normal to the ecliptic plane, positive northward. $X$ axis is positive towards the first point of Aries (from Earth to Sun at vernal equinox). Same as SE below. See Hapgood, 1992.</td>
</tr>
<tr>
<td><strong>HCC</strong></td>
<td>Heliocentric Cartesian - A 3-D orthonormal coordinate system that is primarily intended to specify with two dimensions a point on the solar disk. The $Z$ axis points toward the observer. The $Y$ axis lies in the plane defined by the solar spin vector and the $Z$ axis, positive northward. The $X$ axis is perpendicular to the $Y$ and $Z$ axes, positive toward solar west. Standard representation for this system is via the point’s $x$ and $y$ values, expressed either as physical distances or as fractions of the solar disk radius.</td>
</tr>
<tr>
<td><strong>HCI</strong></td>
<td>Heliographic Carrington Inertial.</td>
</tr>
<tr>
<td><strong>HCR</strong></td>
<td>Heliocentric Radial - A 3-D orthonormal coordinate system that is primarily intended to specify with two dimensions a point on the solar disk. The $Z$ axis points toward the observer. The $Y$ axis lies in the plane defined by the solar spin vector and the $Z$ axis, positive northward. The $X$ axis is perpendicular to the $Y$ and $Z$ axes, positive toward solar west. Standard representation for this system is via the point’s distance $\rho$ from the $Z$ axis [$\rho = \sqrt{x^2 + y^2}$] and its phase angle $\psi$ measured counterclockwise from the $+Y$ axis [$\psi = \arctan(-y/x)$].</td>
</tr>
<tr>
<td><strong>HEE</strong></td>
<td>Heliocentric Earth Ecliptic - A coordinate system where the $Z$ axis is normal to the ecliptic plane, positive northward. $X$ axis points from Sun to Earth. See Hapgood, 1992.</td>
</tr>
<tr>
<td><strong>HEEQ</strong></td>
<td>Heliocentric Earth Equatorial - A coordinate system...</td>
</tr>
</tbody>
</table>
system where the Z axis is normal to the solar equatorial plane, positive northward. X axis is generally Earthward in the plane defined by the Z axis and the Sun-Earth direction. See Hapgood, 1992.

** enumeration HERTN ** Helio-Eclipitic Radial Tangential Normal coordinate system. Typically centered at a spacecraft. The X axis (radial) is set as the primary axis, and is defined as the axis pointing from the spacecraft to the Sun. The Z axis (tangential) is set as the secondary axis, and is defined as that portion of the ecliptic rotational axis which is perpendicular to the primary axis. The Y axis (Normal) is defined as Z cross X.

** enumeration HG ** Heliographic - A heliocentric rotating coordinate system where the Z axis is normal to the solar equatorial plane, positive northward. X, Y axes rotate with a 25.38 day period. The zero longitude (X axis) is defined as the longitude that passed through the ascending node of the solar equator on the ecliptic plane on 1 January, 1854 at 12 UT. See <http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html>

** enumeration HGI ** Heliographic Inertial - A heliocentric coordinate system where the Z axis is normal to the solar equatorial plane, positive northward. X axis is along the intersection line between solar equatorial and ecliptic planes. The X axis was positive at SE longitude of 74.367 deg on Jan 1, 1900. (See SE below.) See <http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html>

** enumeration HGRTN ** Heliocentric Radial Tangential Normal coordinate system (aka RTN). Typically centered at a spacecraft. Used for IMF and plasma V vectors. The X axis (radial) is set as the primary axis, and is defined as the axis pointing from the spacecraft to the Sun. The Z axis (tangential) is set as the secondary axis, and is defined as that portion of the solar North rotational axis which is perpendicular to the primary axis. The Y axis (normal) is defined as Z cross X.

** enumeration HPC ** Helioprojective Cartesian = A 3-D orthonormal (left-handed) coordinate system that is primarily intended to specify with two dimensions a point on the solar disk. The Z axis points from the observer to the center of the solar disk. The Y axis lies in the plane defined by the solar spin vector and the Z axis, positive northward. The X axis is perpendicular to the Y and Z axes, positive toward solar west. Given as the distance between the observer and the center of the solar disk, the standard representation of an (x,y) point on the solar disk is via the point's longitude angle [arctan (x/d)] and latitude angle [arctan y/d].

** enumeration HPR ** Helioprojective Radial - A 3-D orthonormal (left-handed) coordinate system that is primarily intended to specify with two dimensions a point on the solar disk. The Z axis points from the observer to the center of the solar disk. The Y axis lies in the plane defined by the solar spin vector and the Z axis, positive northward. The X axis is perpendicular to the Y and Z axes, positive toward solar west. Given as the distance between the observer and the center of the solar disk, the standard representation for this system of an (x,y) point on the solar disk is via the point's latitude angle theta (= arctan [SQRT(x**2 + y**2)/d]) or equivalent declination parameter delta (= theta - 30 deg), and its phase angle psi as measured counter-clockwise from the +Y axis [psi = arctan (-y/x)].

** enumeration HSM ** Heliospheric Solar Magnetospheric - A coordinate system where the X axis is from Earth to Sun, Z axis is northward in a plane containing
the X axis and the geomagnetic dipole axis.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>J2000</td>
<td>An astronomical coordinate system which uses the mean equator and equinox of Julian date 2451545.0 TT (Terrestrial Time), or January 1, 2005, noon TT. (aka J2000) to define a celestial reference frame.</td>
</tr>
<tr>
<td>JSM</td>
<td>Jovian Solar Magnetospheric - A coordinate system related to Jupiter where the X axis is from Jupiter to Sun, Z axis is northward in a plane containing the X axis and the Jovian dipole axis.</td>
</tr>
<tr>
<td>JSO</td>
<td>Jovian Solar Orbital - A coordinate system related to Jupiter where X anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>KSM</td>
<td>Kronian Solar Magnetospheric - A coordinate system related to Saturn where the X axis is anti-sunward, Z axis is northward in a plane containing the X axis and the Kronian dipole axis.</td>
</tr>
<tr>
<td>KSO</td>
<td>Kronian Solar Orbital - A coordinate system related to Saturn where X is anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>LGM</td>
<td>Local Geomagnetic - A coordinate system used mainly for Earth surface or near Earth surface magnetic field data. X axis northward from observation point in a geographic meridian. Z axis downward towards Earth's center. In this system, H (total horizontal component) = SQRT (Bx^2 + By^2) and D (declination angle) = arctan (By/Bx)</td>
</tr>
<tr>
<td>MAG</td>
<td>Geomagnetic - geocentric. Z axis is parallel to the geomagnetic dipole axis, positive north. X is in the plane defined by the Z axis and the Earth's rotation axis. If N is a unit vector from the Earth's center to the north geographic pole, the signs of the X and Y axes are given by Y = N x Z, X = Y x Z. See Russell, 1971, and <a href="http://cdpp.cnes.fr/00428.pdf">http://cdpp.cnes.fr/00428.pdf</a></td>
</tr>
<tr>
<td>MFA</td>
<td>Magnetic Field Aligned - A coordinate system spacecraft-centered system with Z in the direction of the ambient magnetic field vector. X is in the plane defined by Z and the spacecraft-Sun line, positive sunward. See <a href="http://cdpp.cnes.fr/00428.pdf">http://cdpp.cnes.fr/00428.pdf</a></td>
</tr>
<tr>
<td>MSO</td>
<td>Mars/Mercury Solar Orbital A coordinate system related to Mars or Mercury. A coordinate system where, depending on the body (Mars or Mercury), X is anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>RTN</td>
<td>Radial Tangential Normal. Typically centered at a spacecraft. Used for IMF and plasma V vectors. The X axis (radial) is set as the primary axis, and is defined as the axis pointing from the spacecraft to the Sun. The Z axis (tangential) is set as the secondary axis, and is defined as that portion of the solar North rotational axis which is perpendicular to the primary axis. The Y axis (normal) is defined as Z cross X.</td>
</tr>
<tr>
<td>SC</td>
<td>Spacecraft - A coordinate system defined by the spacecraft geometry and/or spin. Often has Z axis parallel to spacecraft spin vector. X and Y axes may or may not corotate with the spacecraft. See SR and SR2 below.</td>
</tr>
<tr>
<td>SE</td>
<td>Solar Ecliptic - A heliocentric coordinate system where the Z axis is normal to the ecliptic plane, positive northward. X axis is positive towards the first point of Aries (from Earth to Sun at vernal equinox). Same as HAE above. See <a href="http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html">http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html</a></td>
</tr>
<tr>
<td>SM</td>
<td>Solar Magnetic - A geocentric coordinate system where the Z axis is northward along Earth's dipole axis, X axis is in plane of z axis</td>
</tr>
</tbody>
</table>
### Schema documentation for spase-2_3_1.xsd

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR</td>
<td>Spin Reference - A special case of a Spacecraft (SC) coordinate system for a spinning spacecraft. Z is parallel to the spacecraft spin vector. X and Y rotate with the spacecraft. See <a href="http://cdpp.cnes.fr/00428.pdf">http://cdpp.cnes.fr/00428.pdf</a></td>
</tr>
<tr>
<td>SR2</td>
<td>Spin Reference 2 - A special case of a Spacecraft (SC) coordinate system for a spinning spacecraft. Z is parallel to the spacecraft spin vector. X is in the plane defined by Z and the spacecraft-Sun line, positive sunward. See <a href="http://cdpp.cnes.fr/00428.pdf">http://cdpp.cnes.fr/00428.pdf</a></td>
</tr>
<tr>
<td>SSE</td>
<td>Spacecraft Solar Ecliptic - A coordinate system used for deep space spacecraft, for example Helios. - X axis from spacecraft to Sun. Z axis normal to ecliptic plane, positive northward. Note: Angle between normals to ecliptic and to Helios orbit plane ~ 0.25 deg.</td>
</tr>
<tr>
<td>SSE_L</td>
<td>Selenocentric Solar Ecliptic. The X axis points from the center of the Earth's moon to the sun, the Z axis is normal to the ecliptic plane, positive northward. And the Y axis completes the right-handed set of axes.</td>
</tr>
<tr>
<td>SpacecraftOrbitPlane</td>
<td>A coordinate system where X lies in the plane normal to and in the direction of motion of the spacecraft, Z is normal to this plane and Y completes the triad in a right-handed coordinate system.</td>
</tr>
<tr>
<td>TIIS</td>
<td>Kronian Solar Orbital - A coordinate system related to Saturn where X is anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>VSO</td>
<td>Venus Solar Orbital - A coordinate system related to Venus where X is anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>WGS84</td>
<td>The World Geodetic System (WGS) defines a reference frame for the earth, for use in geodesy and navigation. The WGS84 uses the zero meridian as defined by the Bureau International de l'Heure.</td>
</tr>
</tbody>
</table>

**Source**

```xml
<xsd:element name="CoordinateSystemName" type="spase:CoordinateSystemName" minOccurs="1" maxOccurs="1"/>
```

**Schema location**

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:Parameter / spase:RenderingHints**

**Namespace**

http://www.spase-group.org/data/schema
Element `spase:RenderingHints / spase:DisplayType`

### Diagram
![Diagram](https://example.com/diagram.png)

### Type
spase:RenderingHints

#### Properties
- **content:** complex
- **minOccurs:** 0
- **maxOccurs:** unbounded

#### Model
spase:DisplayType{0,1} , spase:AxisLabel{0,1} , spase:RenderingAxis{0,1} , spase:Index{0,1} , spase:ValueFormat{0,1} , spase:ScaleMin{0,1} , spase:ScaleMax{0,1} , spase:ScaleType{0,1}

#### Children
spase:AxisLabel , spase:DisplayType , spase:Index , spase:RenderingAxis , spase:ScaleMax , spase:ScaleMin , spase:ScaleType , spase:ValueFormat

#### Instance
```xml
<spase:RenderingHints xmlns:spase= "http://www.spase-group.org/data/schema" >
  <spase:DisplayType >{0,1}</spase:DisplayType>
  <spase:AxisLabel >{0,1}</spase:AxisLabel>
  <spase:RenderingAxis >{0,1}</spase:RenderingAxis>
  <spase:Index >{0,1}</spase:Index>
  <spase:ValueFormat >{0,1}</spase:ValueFormat>
  <spase:ScaleMin >{0,1}</spase:ScaleMin>
  <spase:ScaleMax >{0,1}</spase:ScaleMax>
  <spase:ScaleType >{0,1}</spase:ScaleType>
</spase:RenderingHints>
```

### Source
```xml
<xsd:element  name= "RenderingHints"  type= "spase:RenderingHints"  minOccurs= "0"  maxOccurs= "unbounded"/>
```

### Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:DisplayType` / `spase:DisplayType`

- **Type**
  spase:DisplayType

- **Properties**
  - **content:** simple
  - **minOccurs:** 0
  - **maxOccurs:** 1

- **Facets**
  - **enumeration** Image
    - A two-dimensional representation of data with values at each element of the array related to an intensity or a color.
  - **enumeration** Plasmagram
    - The characterization of signal strengths in active sounding measurements as a function of virtual range or signal delay time and sounding frequency. A Plasmagram is also referred to as an Ionogram.
  - **enumeration** Spectrogram
    - The characterization of signal strengths as
a function of frequency (or energy) and time.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>StackPlot</td>
<td>A representation of data showing multiple sets of observations on a single plot, possibly offsetting each plot by some uniform amount.</td>
</tr>
<tr>
<td>TimeSeries</td>
<td>A representation of data showing a set of observations taken at different points in time and charted as a time series.</td>
</tr>
<tr>
<td>WaveForm</td>
<td>Spatial or temporal variations of wave amplitude over wave-period timescales.</td>
</tr>
</tbody>
</table>

```xml
<xsd:element name="DisplayType" type="spase:DisplayType" minOccurs="0" maxOccurs="1"/>
```

**Element spase:RenderingHints / spase:AxisLabel**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**:
- **Type**: spase:AxisLabel
- **Properties**: content: simple, minOccurs: 0, maxOccurs: 1
- **Source**:
  ```xml
  <xsd:element name="AxisLabel" type="spase:AxisLabel" minOccurs="0" maxOccurs="1"/>
  ```

**Element spase:RenderingHints / spase:RenderingAxis**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**:
- **Type**: spase:RenderingAxis
- **Properties**: content: simple, minOccurs: 0, maxOccurs: 1
- **Facets**:
  - enumeration ColorBar: A spectrum or set of colors used to represent data values.
  - enumeration Horizontal: Parallel to or in the plane of the horizon or a base line.
  - enumeration Vertical: Perpendicular to the plane of the horizon or a base line.
- **Source**:
  ```xml
  <xsd:element name="RenderingAxis" type="spase:RenderingAxis" minOccurs="0" maxOccurs="1"/>
  ```

**Element spase:RenderingHints / spase:Index**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**:
- **Type**: spase:Index
- **Type hierarchy**: xsd:integer, spase:typeSequence, spase:Index
- **Properties**: content: simple, minOccurs: 0
Element `spase:RenderingHints / spase:ValueFormat`  

Namespace: `http://www.spase-group.org/data/schema`  
Diagram: 
```
  ValueFormat  
  Type spase:ValueFormat  
```
Type: `spase:ValueFormat`  
Properties:  
- content: `simple`  
- minOccurs: 0  
- maxOccurs: 1  
Source: `<xsd:element name="ValueFormat" type="spase:ValueFormat" minOccurs="0" maxOccurs="1"/>`  
Schema location: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:RenderingHints / spase:ScaleMin`  

Namespace: `http://www.spase-group.org/data/schema`  
Diagram: 
```
  ScaleMin  
  Type spase:ScaleMin  
```
Type: `spase:ScaleMin`  
Properties:  
- content: `simple`  
- minOccurs: 0  
- maxOccurs: 1  
Source: `<xsd:element name="ScaleMin" type="spase:ScaleMin" minOccurs="0" maxOccurs="1"/>`  
Schema location: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:RenderingHints / spase:ScaleMax`  

Namespace: `http://www.spase-group.org/data/schema`  
Diagram: 
```
  ScaleMax  
  Type spase:ScaleMax  
```
Type: `spase:ScaleMax`  
Properties:  
- content: `simple`  
- minOccurs: 0  
- maxOccurs: 1  
Source: `<xsd:element name="ScaleMax" type="spase:ScaleMax" minOccurs="0" maxOccurs="1"/>`  
Schema location: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:RenderingHints / spase:ScaleType`  

Namespace: `http://www.spase-group.org/data/schema`  
Diagram: 
```
  ScaleType  
  Type spase:ScaleType  
```
Type: `spase:ScaleType`  
Properties:  
- content: `simple`  
- minOccurs: 0  
- maxOccurs: 1
Facets

<table>
<thead>
<tr>
<th>Facet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LinearScale</td>
<td>Intervals which are equally spaced.</td>
</tr>
<tr>
<td>LogScale</td>
<td>Intervals which are spaced proportionally to the logarithms of the values being represented.</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:element name="ScaleType" type="spase:ScaleType" minOccurs="0" maxOccurs="1"/>
```

Schema location

file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Element spase:Parameter / spase:Structure**

Namespace

http://www.spase-group.org/data/schema

Diagram

```
Structure
  Type spase:Structure
    Size
      Type spase:Size
    Description
      Type spase:Description
    Element
      Type spase:Element
```

Type

spase:Structure

Properties

- content: complex
- minOccurs: 0
- maxOccurs: 1

Model

spase:Size , spase:Description[0,1] , spase:Element*

Children

spase:Description, spase:Element, spase:Size

Instance

```xml
<spase:Structure xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:Size>1</spase:Size>
  <spase:Description>1</spase:Description>
  <spase:Element>1</spase:Element>
</spase:Structure>
```

Source

```xml
<xsd:element name="Structure" type="spase:Structure" minOccurs="0" maxOccurs="1"/>
```

Schema location

file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Element spase:Structure / spase:Size**

Namespace

http://www.spase-group.org/data/schema

Diagram

```
Size
  Type spase:Size
```

Type

spase:Size

Type hierarchy

- xsd:integer
- spase:typeSequence
- spase:Size

Properties

- content: simple
- minOccurs: 1
- maxOccurs: 1

Source

```xml
<xsd:element name="Size" type="spase:Size" minOccurs="1" maxOccurs="1"/>
```

Schema location

file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Element spase:Structure / spase:Description**

Namespace

http://www.spase-group.org/data/schema

Diagram

```
Description
  Type spase:Description
```

Source

```xml
<xsd:element name="Description" type="spase:Description" minOccurs="0" maxOccurs="1"/>
```

Schema location

file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
<table>
<thead>
<tr>
<th>Type</th>
<th>spase:Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td></td>
</tr>
<tr>
<td>content</td>
<td>simple</td>
</tr>
<tr>
<td>minOccurs</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>1</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:element name="Description" type="spase:Description" minOccurs="0" maxOccurs="1"/>
```

**Element** `spase:Structure` / `spase:Element`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
</table>

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:Element</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td></td>
</tr>
<tr>
<td>content</td>
<td>complex</td>
</tr>
<tr>
<td>minOccurs</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>unbounded</td>
</tr>
</tbody>
</table>

Model

- `spase:Name`<sup>+</sup>, `spase:Qualifier`<sup>*</sup>, `spase:Index`, `spase:ParameterKey`<sup>0,1</sup>, `spase:Units`<sup>0,1</sup>, `spase:UnitsConversion`<sup>0,1</sup>, `spase:ValidMin`<sup>0,1</sup>, `spase:ValidMax`<sup>0,1</sup>, `spase:FillValue`<sup>0,1</sup>, `spase:RenderingHints`<sup>0,1</sup>

Children

- `spase:FillValue`, `spase:Index`, `spase:Name`, `spase:ParameterKey`, `spase:Qualifier`, `spase:RenderingHints`, `spase:Units`, `spase:UnitsConversion`, `spase:ValidMax`, `spase:ValidMin`

Instance

```xml
<spase:Element xmlns:spase="http://www.spase-group.org/data/schema">
    <spase:Name>{1,1}</spase:Name>
    <spase:Qualifier>[0,unbounded]</spase:Qualifier>
    <spase:Index>{1,1}</spase:Index>
    <spase:ParameterKey>{0,1}</spase:ParameterKey>
    <spase:Units>{0,1}</spase:Units>
    <spase:UnitsConversion>{0,1}</spase:UnitsConversion>
    <spase:ValidMin>{0,1}</spase:ValidMin>
    <spase:ValidMax>{0,1}</spase:ValidMax>
    <spase:FillValue>[0,1]</spase:FillValue>
    <spase:RenderingHints>{0,1}</spase:RenderingHints>
</spase:Element>
```

Source

```xml
<xsd:element name="Element" type="spase:Element" minOccurs="0" maxOccurs="unbounded"/>
```
### Element `spase:Element / spase:Name`

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>spase:Name</code></td>
</tr>
<tr>
<td>Properties</td>
<td></td>
</tr>
<tr>
<td>content</td>
<td><code>simple</code></td>
</tr>
<tr>
<td>minOccurs</td>
<td>1</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Source
```xml
<xsd:element name="Name" type="spase:Name" minOccurs="1" maxOccurs="1"/>
```

#### Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Element / spase:Qualifier`

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>spase:Qualifier</code></td>
</tr>
<tr>
<td>Properties</td>
<td></td>
</tr>
<tr>
<td>content</td>
<td><code>simple</code></td>
</tr>
<tr>
<td>minOccurs</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>unbounded</td>
</tr>
</tbody>
</table>

#### Facets
- **enumeration** `Anisotropy`: Direction-dependent property.
- **enumeration** `Array`: A sequence of values corresponding to the elements in a rectilinear, n-dimension matrix. Each value can be referenced by a unique index.
- **enumeration** `Average`: The statistical mean; the sum of a set of values divided by the number of values in the set.
- **enumeration** `Characteristic`: A quantity which can be easily identified and measured in a given environment.
- **enumeration** `Circular`: Relative to polarization, right-hand circularly polarized light is defined such that the electric field is rotating clockwise as seen by an observer towards whom the wave is moving. Left-hand circularly polarized light is defined such that the electric field is rotating counterclockwise as seen by an observer towards whom the wave is moving. The polarization of magnetohydrodynamic waves is specified with respect to the ambient mean magnetic field: right-hand polarized waves have a transverse electric field component which turns in a right-handed sense (that of the gyrating electrons) around the magnetic field.
- **enumeration** `Column`: A two-dimensional measure of a quantity. The column is the area over which the quantity is measured.
- **enumeration** `Component`: Projection of a vector along one of the base axes of a coordinate system.
- **enumeration** `Component.I`: Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.
- **enumeration** `Component.J`: Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.
- **enumeration** `Component.K`: Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Confidence</td>
<td>An expression of how certain that a quantity is valid or accurate.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Core</td>
<td>The central or main part of an object or calculated distribution. For example, the part of a distribution of particles at low energies that is a thermal (Maxwellian) population.</td>
</tr>
<tr>
<td>enumeration</td>
<td>CrossSpectrum</td>
<td>The Fourier transform of the cross correlation of two physical or empirical observations.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Deviation</td>
<td>The difference between an observed value and the expected value of a quantity.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Differential</td>
<td>A measurement within a narrow range of energy and/or solid angle.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Direction</td>
<td>The spatial relation between an object and another object, the orientation of the object or the course along which the object points or moves.</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionAngle</td>
<td>The angle between a position vector or measured vector (or one of its projections onto a plane) and one of the base axes of the coordinate system.</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionAngle.AzimuthAngle</td>
<td>The angle between the projection into the i-j plane of a position or measured vector and the i-axis of the coordinate system. Mathematically defined as ( \arctan(j/i) ). This term could also be applied to angles measured in different planes, for example the IMF clock angle defined as ( \arctan(</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionAngle.ElevationAngle</td>
<td>The angle between the position or measured vector and the i-j plane of the coordinate system. Mathematically defined as ( \arctan(k/\sqrt{i^2+j^2}) ).</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionAngle.PolarAngle</td>
<td>The angle between the position or measured vector and the k-axis of the coordinate system. Mathematically defined as ( \arctan(\sqrt{i^2+j^2}/k) ). This term could be also applied to angles between the vector and other components, for example the IMF cone angle defined as ( \arccos(Bx/Bt) ).</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionCosine</td>
<td>The cosine of the angle between two vectors usually between a vector and one of the basis axes defining a Cartesian coordinate system. Three angles and thus three direction cosines are required to define a vector direction in a three dimensional Euclidean space.</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionCosine.I</td>
<td>Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionCosine.J</td>
<td>Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionCosine.K</td>
<td>Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>enumeration</td>
<td>FieldAligned</td>
<td>A measurement within a narrow range of solid angle.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Fit</td>
<td>Values that make an model agree with the data.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Group</td>
<td>An assemblage of values that a certain relation or common characteristic.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Halo</td>
<td>The part of an object or distribution surrounding some central body or distribution. For example, the particles above the core energies that show enhancements above the thermal population. Typically, a &quot;power law tail&quot; shows a break from the core Maxwellian at a particular energy.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Integral</td>
<td>A flux measurement in a broad range of energy and solid angle.</td>
<td></td>
</tr>
<tr>
<td>Integral.Area</td>
<td>Integration over the extent of a planar region, or of the surface of a solid.</td>
<td></td>
</tr>
<tr>
<td>Integral.Bandwidth</td>
<td>Integration over the width a frequency band.</td>
<td></td>
</tr>
<tr>
<td>Integral.SolidAngle</td>
<td>Integration over the angle in three-dimensional space that an object subtends at a point.</td>
<td></td>
</tr>
<tr>
<td>LineOfSight</td>
<td>The line of sight is the line that connects the observer with the observed object. This expression is often used with measurements of Doppler velocity and magnetic field in magnetograms, where only the component of the vector field directed along the line of sight is measured.</td>
<td></td>
</tr>
<tr>
<td>Linear</td>
<td>Polarization where the E-field vector is confined to a given plane</td>
<td></td>
</tr>
<tr>
<td>Magnitude</td>
<td>A measure of the strength of a vector quantity or length of its representational vector.</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>The largest value of a batch or sample or the upper bound of a probability distribution.</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>The measure of central tendency of a set of n. values computed by ordering the values and taking the value at position (n. + 1) / 2 when n. is odd or the arithmetic mean of the values at positions n. / 2 and (n. / 2) + 1 when n. is even.</td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td>The smallest value of a batch or sample or the lower bound of a probability distribution.</td>
<td></td>
</tr>
<tr>
<td>Moment</td>
<td>Parameters determined by integration over a distribution function convolved with a power of velocity.</td>
<td></td>
</tr>
<tr>
<td>Parallel</td>
<td>Having the same direction as a given direction</td>
<td></td>
</tr>
<tr>
<td>Peak</td>
<td>The maximum value for the quantity in question, over a period of time which is usually equal to the cadence.</td>
<td></td>
</tr>
<tr>
<td>Perpendicular</td>
<td>At right angles to a given direction.</td>
<td></td>
</tr>
<tr>
<td>Perturbation</td>
<td>Variations in the state of a system.</td>
<td></td>
</tr>
<tr>
<td>Phase</td>
<td>A point or portion in a recurring series of changes.</td>
<td></td>
</tr>
<tr>
<td>PhaseAngle</td>
<td>Phase difference between two or more waves, normally expressed in degrees.</td>
<td></td>
</tr>
<tr>
<td>Projection</td>
<td>A measure of the length of a position or measured vector as projected into a plane of the coordinate system.</td>
<td></td>
</tr>
<tr>
<td>Projection.IJ</td>
<td>A measure of the length of a position or measured vector projected into the i-j (typically X-Y) plane of the coordinate system.</td>
<td></td>
</tr>
<tr>
<td>Projection.IK</td>
<td>A measure of the length of a position or measured vector projected into the i-k (typically X-Z) plane of the coordinate system.</td>
<td></td>
</tr>
<tr>
<td>Projection.JK</td>
<td>A measure of the length of a position or measured vector projected into the j-k (typically Y-Z) plane of the coordinate system.</td>
<td></td>
</tr>
<tr>
<td>Pseudo</td>
<td>Similar to or having the appearance of something else. Can be used to indicate an estimation or approximation of a particular quantity.</td>
<td></td>
</tr>
<tr>
<td>Ratio</td>
<td>The relative magnitudes of two quantities.</td>
<td></td>
</tr>
<tr>
<td>Scalar</td>
<td>A quantity that is completely specified by its magnitude and has no direction.</td>
<td></td>
</tr>
<tr>
<td>Spectral</td>
<td>Characterized as a range or continuum of frequencies.</td>
<td></td>
</tr>
<tr>
<td>StandardDeviation</td>
<td>The square root of the average of the squares of deviations about the mean of a set of data. Standard deviation is a statistical measure of spread or variability.</td>
<td></td>
</tr>
<tr>
<td>StokesParameters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>Strahl</td>
<td>A distribution of particles concentrated in a narrow energy band. The band may be may be aligned with a secondary feature. For example, it may occur in a narrow cone aligned with the mean magnetic field direction.</td>
<td></td>
</tr>
<tr>
<td>Superhalo</td>
<td>The part of an object or distribution surrounding some central body or distribution evident in a second break in the distribution function (e.g., a different power law). It consists of a population at a higher energies than for a halo.</td>
<td></td>
</tr>
<tr>
<td>Symmetric</td>
<td>Equal distribution about one or more axes.</td>
<td></td>
</tr>
<tr>
<td>Tensor</td>
<td>A generalized linear &quot;quantity&quot; or &quot;geometrical entity&quot; that can be expressed as a multi-dimensional array relative to a choice of basis of the particular space on which it is defined.</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>The summation of quantities over all possible species.</td>
<td></td>
</tr>
<tr>
<td>Trace</td>
<td>The sum of the elements on the main diagonal (the diagonal from the upper left to the lower right) of a square matrix.</td>
<td></td>
</tr>
<tr>
<td>Uncertainty</td>
<td>A statistically defined discrepancy between a measured quantity and the true value of that quantity that cannot be corrected by calculation or calibration.</td>
<td></td>
</tr>
<tr>
<td>Variance</td>
<td>A measure of dispersion of a set of data points around their mean value. The expectation value of the squared deviations from the mean.</td>
<td></td>
</tr>
<tr>
<td>Vector</td>
<td>A set of parameter values each along some independent variable (e.g., components of a field in three orthogonal spatial directions; atmospheric temperature values at several altitudes, or at a given latitude and longitude).</td>
<td></td>
</tr>
</tbody>
</table>

Source:

```xml
<paper_documentation>
  <xsd:element name="Qualifier" type="spase:Qualifier" minOccurs="0" maxOccurs="unbounded"/>
  <xsd:element name="Index" type="spase:Index" minOccurs="1" maxOccurs="1"/>
</paper_documentation>
```

```
Source:
<schema_documentation>
  <xsd:element name="Element" type="spase:Element" minOccurs="0" maxOccurs="unbounded"/>
</schema_documentation>
```

```
Source:
<parameter_documentation>
  <xsd:element name="ParameterKey" type="spase:ParameterKey" minOccurs="0" maxOccurs="unbounded"/>
</parameter_documentation>
```

```
Source:
<source_documentation>
  file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
</source_documentation>
```
<table>
<thead>
<tr>
<th>Element</th>
<th>spase:Element / spase:Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="Units.png" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:Units</td>
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<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td>minOccurs</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>1</td>
</tr>
<tr>
<td>Source</td>
<td>&lt;xsd:element name=&quot;Units&quot; type=&quot;spase:Units&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot; /&gt;&gt;</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Element</th>
<th>spase:Element / spase:UnitsConversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="UnitsConversion.png" alt="Diagram" /></td>
</tr>
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<td>Type</td>
<td>spase:UnitsConversion</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td>minOccurs</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>1</td>
</tr>
<tr>
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<td>&lt;xsd:element name=&quot;UnitsConversion&quot; type=&quot;spase:UnitsConversion&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot; /&gt;&gt;</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Element</th>
<th>spase:Element / spase:ValidMin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="ValidMin.png" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:ValidMin</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td>minOccurs</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>1</td>
</tr>
<tr>
<td>Source</td>
<td>&lt;xsd:element name=&quot;ValidMin&quot; type=&quot;spase:ValidMin&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot; /&gt;&gt;</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Element</th>
<th>spase:Element / spase:ValidMax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="ValidMax.png" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:ValidMax</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td>minOccurs</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>1</td>
</tr>
<tr>
<td>Source</td>
<td>&lt;xsd:element name=&quot;ValidMax&quot; type=&quot;spase:ValidMax&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot; /&gt;&gt;</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>
### Element `spase:Element / spase:FillValue`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**

**Type**  
`spase:FillValue`

**Properties**

- **content:** `simple`
- **minOccurs:** 0
- **maxOccurs:** 1

**Source**

```xml
<xsd:element name="ValidMax" type="spase:ValidMax" minOccurs="0" maxOccurs="1"/>
```

**Schema location**

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Element / spase:RenderingHints`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**

**Type**  
`spase:RenderingHints`

**Properties**

- **content:** `complex`
- **minOccurs:** 0
- **maxOccurs:** 1

**Model**

- `spase:DisplayType[0,1]`, `spase:AxisLabel[0,1]`, `spase:RenderingAxis[0,1]`, `spase:Index[0,1]`, `spase:ValueFormat[0,1]`, `spase:ScaleMin[0,1]`, `spase:ScaleMax[0,1]`, `spase:ScaleType[0,1]`

**Children**

- `spase:AxisLabel`, `spase:DisplayType`, `spase:Index`, `spase:RenderingAxis`, `spase:ScaleMax`, `spase:ScaleMin`, `spase:ScaleType`, `spase:ValueFormat`

**Instance**

```xml
<sparc:RenderingHints xmlns:spase= "http://www.spase-group.org/data/schema"   
  <spase:DisplayType>[0,1]</sparc:DisplayType>   
  <spase:AxisLabel>[0,1]</sparc:AxisLabel>   
  <spase:RenderingAxis>[0,1]</sparc:RenderingAxis>   
  <spase:Index>[0,1]</sparc:Index>   
  <spase:ValueFormat>[0,1]</sparc:ValueFormat>   
  <sparc:ScaleMin>[0,1]</sparc:ScaleMin>   
  <sparc:ScaleMax>[0,1]</sparc:ScaleMax>   
  <sparc:ScaleType>[0,1]</sparc:ScaleType>
</sparc:RenderingHints>
```

**Source**

```xml
<xsd:element name="RenderingHints" type="spase:RenderingHints" minOccurs="0" maxOccurs="1"/>
```
**Element spase:Parameter / spase:ValidMin**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**:
  ![Diagram of spase:ValidMin]
- **Type**: spase:ValidMin
- **Properties**:
  - content: simple
  - minOccurs: 0
  - maxOccurs: 1
- **Source**:
  ```xml
  <xsd:element name="ValidMin" type="spase:ValidMin" minOccurs="0" maxOccurs="1"/>
  ```

**Element spase:Parameter / spase:ValidMax**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**:
  ![Diagram of spase:ValidMax]
- **Type**: spase:ValidMax
- **Properties**:
  - content: simple
  - minOccurs: 0
  - maxOccurs: 1
- **Source**:
  ```xml
  <xsd:element name="ValidMax" type="spase:ValidMax" minOccurs="0" maxOccurs="1"/>
  ```

**Element spase:Parameter / spase:FillValue**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**:
  ![Diagram of spase:FillValue]
- **Type**: spase:FillValue
- **Properties**:
  - content: simple
  - minOccurs: 0
  - maxOccurs: 1
- **Source**:
  ```xml
  <xsd:element name="FillValue" type="spase:FillValue" minOccurs="0" maxOccurs="1"/>
  ```

**Element spase:Parameter / spase:Field**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**:
  ![Diagram of spase:Field]
- **Type**: spase:Field
Schema documentation for spase-2_3_1.xsd

<table>
<thead>
<tr>
<th>Properties</th>
<th>content: complex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>spase:Qualifier*, spase:FieldQuantity, spase:FrequencyRange{0,1}</td>
</tr>
<tr>
<td>Children</td>
<td>spase:FieldQuantity, spase:FrequencyRange, spase:Qualifier</td>
</tr>
</tbody>
</table>

Instance

```xml
<spase:Field xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:Qualifier>[0,unbounded]</spase:Qualifier>
  <spase:FieldQuantity>[1,1]</spase:FieldQuantity>
  <spase:FrequencyRange>[0,1]</spase:FrequencyRange>
</spase:Field>
```

Source

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Field / spase:Qualifier`

Namespace

http://www.spase-group.org/data/schema

Diagram

```
0 0
---
<table>
<thead>
<tr>
<th>0</th>
</tr>
</thead>
</table>
```

Type

spase:Qualifier

Properties

- content: simple
- minOccurs: 0
- maxOccurs: unbounded

Facets

- Anisotropy
  - Direction-dependent property.
- Array
  - A sequence of values corresponding to the elements in a rectilinear, n-dimension matrix. Each value can be referenced by a unique index.
- Average
  - The statistical mean; the sum of a set of values divided by the number of values in the set.
- Characteristic
  - A quantity which can be easily identified and measured in a given environment.
- Circular
  - Relative to polarization, right-hand circularly polarized light is defined such that the electric field is rotating clockwise as seen by an observer towards whom the wave is moving. Left-hand circularly polarized light is defined such that the electric field is rotating counterclockwise as seen by an observer towards whom the wave is moving. The polarization of magnetohydrodynamic waves is specified with respect to the ambient mean magnetic field: right-hand polarized waves have a transverse electric field component which turns in a right-handed sense (that of the gyrating electrons) around the magnetic field.
- Column
  - A two-dimensional measure of a quantity. The column is the area over which the quantity is measured.
- Component
  - Projection of a vector along one of the base axes of a coordinate system.
- Component.I
  - Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.
- Component.J
  - Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.
- Component.K
  - Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.
- Confidence
  - An expression of how certain that a quantity is valid or accurate.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>The central or main part of an object or calculated distribution. For example, the part of a distribution of particles at low energies that is a thermal (Maxwellian) population.</td>
</tr>
<tr>
<td>CrossSpectrum</td>
<td>The Fourier transform of the cross correlation of two physical or empirical observations.</td>
</tr>
<tr>
<td>Deviation</td>
<td>The difference between an observed value and the expected value of a quantity.</td>
</tr>
<tr>
<td>Differential</td>
<td>A measurement within a narrow range of energy and/or solid angle.</td>
</tr>
<tr>
<td>Direction</td>
<td>The spatial relation between an object and another object, the orientation of the object or the course along which the object points or moves.</td>
</tr>
<tr>
<td>DirectionAngle</td>
<td>The angle between a position vector or measured vector (or one of its projections onto a plane) and one of the base axes of the coordinate system.</td>
</tr>
<tr>
<td>DirectionAngle.AzimuthAngle</td>
<td>The angle between the projection into the i-j plane of a position or measured vector and the i-axis of the coordinate system. Mathematically defined as arctan(j/i). This term could also be applied to angles measured in different planes, for example the IMF clock angle defined as arctan(</td>
</tr>
<tr>
<td>DirectionAngle.ElevationAngle</td>
<td>The angle between the position or measured vector and the i-j plane of the coordinate system. Mathematically defined as arctan(k/\sqrt{i^2+j^2}).</td>
</tr>
<tr>
<td>DirectionAngle.PolarAngle</td>
<td>The angle between the position or measured vector and the k-axis of the coordinate system. Mathematically defined as arctan(\sqrt{i^2+j^2}/k). This term could also be applied to angles between the vector and other components, for example the IMF cone angle defined as arccos(Bx/Bt).</td>
</tr>
<tr>
<td>DirectionCosine</td>
<td>The cosine of the angle between two vectors usually between a vector and one of the basis axes defining a Cartesian coordinate system. Three angles and thus three direction cosines are required to define a vector direction in a three dimensional Euclidean space.</td>
</tr>
<tr>
<td>DirectionCosine.I</td>
<td>Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>DirectionCosine.J</td>
<td>Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>DirectionCosine.K</td>
<td>Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>Directional</td>
<td>A measurement within a narrow range of solid angle.</td>
</tr>
<tr>
<td>FieldAligned</td>
<td>Values that make an model agree with the data.</td>
</tr>
<tr>
<td>Fit</td>
<td>An assemblage of values that a certain relation or common characteristic.</td>
</tr>
<tr>
<td>Halo</td>
<td>The part of an object or distribution surrounding some central body or distribution. For example, the particles above the core energies that show enhancements above the thermal population. Typically, a &quot;power law tail&quot; shows a break from the core Maxwellian at a particular energy.</td>
</tr>
<tr>
<td>Integral</td>
<td>A flux measurement in a broad range of energy and solid angle.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<td><strong>Integral.Area</strong></td>
<td>Integration over the extent of a planar region, or of the surface of a solid.</td>
</tr>
<tr>
<td><strong>Integral.Bandwidth</strong></td>
<td>Integration over the width a frequency band.</td>
</tr>
<tr>
<td><strong>Integral.SolidAngle</strong></td>
<td>Integration over the angle in three-dimensional space that an object subtends at a point.</td>
</tr>
<tr>
<td><strong>LineOfSight</strong></td>
<td>The line of sight is the line that connects the observer with the observed object. This expression is often used with measurements of Doppler velocity and magnetic field in magnetograms, where only the component of the vector field directed along the line of sight is measured.</td>
</tr>
<tr>
<td><strong>Linear</strong></td>
<td>Polarization where the E-field vector is confined to a given plane.</td>
</tr>
<tr>
<td><strong>Magnitude</strong></td>
<td>A measure of the strength of a vector quantity or length of its representational vector.</td>
</tr>
<tr>
<td><strong>Maximum</strong></td>
<td>The largest value of a batch or sample or the upper bound of a probability distribution.</td>
</tr>
<tr>
<td><strong>Median</strong></td>
<td>The measure of central tendency of a set of n. values computed by ordering the values and taking the value at position (n. + 1) / 2 when n. is odd or the arithmetic mean of the values at positions n. / 2 and (n. / 2) + 1 when n. is even.</td>
</tr>
<tr>
<td><strong>Minimum</strong></td>
<td>The smallest value of a batch or sample or the lower bound of a probability distribution.</td>
</tr>
<tr>
<td><strong>Moment</strong></td>
<td>Parameters determined by integration over a distribution function convolved with a power of velocity.</td>
</tr>
<tr>
<td><strong>Parallel</strong></td>
<td>Having the same direction as a given direction.</td>
</tr>
<tr>
<td><strong>Peak</strong></td>
<td>The maximum value for the quantity in question, over a period of time which is usually equal to the cadence.</td>
</tr>
<tr>
<td><strong>Perpendicular</strong></td>
<td>At right angles to a given direction.</td>
</tr>
<tr>
<td><strong>Perturbation</strong></td>
<td>Variations in the state of a system.</td>
</tr>
<tr>
<td><strong>Phase</strong></td>
<td>A point or portion in a recurring series of changes.</td>
</tr>
<tr>
<td><strong>PhaseAngle</strong></td>
<td>Phase difference between two or more waves, normally expressed in degrees.</td>
</tr>
<tr>
<td><strong>Projection</strong></td>
<td>A measure of the length of a position or measured vector as projected into a plane of the coordinate system.</td>
</tr>
<tr>
<td><strong>Projection.IJ</strong></td>
<td>A measure of the length of a position or measured vector projected into the i-j (typically X-Y) plane of the coordinate system.</td>
</tr>
<tr>
<td><strong>Projection.IK</strong></td>
<td>A measure of the length of a position or measured vector projected into the i-k (typically X-Z) plane of the coordinate system.</td>
</tr>
<tr>
<td><strong>Projection.JK</strong></td>
<td>A measure of the length of a position or measured vector projected into the j-k (typically Y-Z) plane of the coordinate system.</td>
</tr>
<tr>
<td><strong>Pseudo</strong></td>
<td>Similar to or having the appearance of something else. Can be used to indicate an estimation or approximation of a particular quantity.</td>
</tr>
<tr>
<td><strong>Ratio</strong></td>
<td>The relative magnitudes of two quantities.</td>
</tr>
<tr>
<td><strong>Scalar</strong></td>
<td>A quantity that is completely specified by its magnitude and has no direction.</td>
</tr>
<tr>
<td><strong>Spectral</strong></td>
<td>Characterized as a range or continuum of frequencies.</td>
</tr>
<tr>
<td><strong>StandardDeviation</strong></td>
<td>The square root of the average of the squares of deviations about the mean of a set of data. Standard deviation is a statistical measure of spread or variability.</td>
</tr>
<tr>
<td><strong>StokesParameters</strong></td>
<td>A distribution of particles concentrated in a narrow energy band. The band may be may be aligned with a secondary feature. For example,</td>
</tr>
</tbody>
</table>
it may occur in a narrow cone aligned with the mean magnetic field direction.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Superhalo</strong></td>
<td>The part of an object or distribution surrounding some central body or distribution evident in a second break in the distribution function (e.g., a different power law). It consists of a population at higher energies than for a halo.</td>
</tr>
<tr>
<td><strong>Symmetric</strong></td>
<td>Equal distribution about one or more axes.</td>
</tr>
<tr>
<td><strong>Tensor</strong></td>
<td>A generalized linear &quot;quantity&quot; or &quot;geometrical entity&quot; that can be expressed as a multi-dimensional array relative to a choice of basis of the particular space on which it is defined.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>The summation of quantities over all possible species.</td>
</tr>
<tr>
<td><strong>Trace</strong></td>
<td>The sum of the elements on the main diagonal (the diagonal from the upper left to the lower right) of a square matrix.</td>
</tr>
<tr>
<td><strong>Uncertainty</strong></td>
<td>A statistically defined discrepancy between a measured quantity and the true value of that quantity that cannot be corrected by calculation or calibration.</td>
</tr>
<tr>
<td><strong>Variance</strong></td>
<td>A measure of dispersion of a set of data points around their mean value. The expectation value of the squared deviations from the mean.</td>
</tr>
<tr>
<td><strong>Vector</strong></td>
<td>A set of parameter values each along some independent variable (e.g., components of a field in three orthogonal spatial directions; atmospheric temperature values at several altitudes, or at a given latitude and longitude).</td>
</tr>
</tbody>
</table>

Source: <xsd:element name="Qualifier" type="spase:Qualifier" minOccurs="0" maxOccurs="unbounded"/>

Schema location: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Element spase:Field / spase:FieldQuantity**

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:FieldQuantity</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple, minOccurs: 1, maxOccurs: 1</td>
</tr>
<tr>
<td>Facets</td>
<td>enumeration Current, Electric, Electromagnetic, Gyrofrequency, Magnetic, PlasmaFrequency, Potential</td>
</tr>
</tbody>
</table>

- **Current**: The flow of electrons through a conductor caused by a potential difference.
- **Electric**: The physical attribute that exerts an electrical force.
- **Electromagnetic**: Electric and magnetic field variations in time and space that propagate through a medium or a vacuum with the wave's propagation, electric field, and magnetic field vectors forming an orthogonal triad. Waves in this category are detected by having their field quantities measured.
- **Gyrofrequency**: The number of gyrations around a magnetic guiding center (field line) a charged particle makes per unit time due to the Lorentz force.
- **Magnetic**: The physical attribute attributed to a magnet or its equivalent.
- **PlasmaFrequency**: A number-density-dependent characteristic frequency of a plasma.
- **Potential**: The work required per unit charge to move a charge from a reference point to a point at infinity (electric potential is defined...
The electric potential of a spacecraft is often referred to as the "spacecraft potential". The spacecraft potential is the electric potential of the spacecraft relative to the potential of the nearby plasma. The spacecraft potential is non-zero because the spacecraft charges to the level that the emitted photoelectron flux going to infinity is balanced by the plasma electron flux to the spacecraft.

<table>
<thead>
<tr>
<th>Schema documentation for spase-2_3_1.xsd</th>
</tr>
</thead>
<tbody>
<tr>
<td>to be zero). The electric potential of a spacecraft is often referred to as the &quot;spacecraft potential&quot;. The spacecraft potential is the electric potential of the spacecraft relative to the potential of the nearby plasma. The spacecraft potential is non-zero because the spacecraft charges to the level that the emitted photoelectron flux going to infinity is balanced by the plasma electron flux to the spacecraft.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;xsd:element name=&quot;FieldQuantity&quot; type=&quot;spase:FieldQuantity&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Schema location</th>
</tr>
</thead>
<tbody>
<tr>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

**Element spase:Field / spase:FrequencyRange**

<table>
<thead>
<tr>
<th>Namespace</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Diagram" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>spase:FrequencyRange</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>content: complex</td>
</tr>
<tr>
<td>minOccurs: 0</td>
</tr>
<tr>
<td>maxOccurs: 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>spase:SpectralRange[0,1], spase:Low, spase:High, spase:Units, spase:Bin*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>spase:Bin, spase:High, spase:Low, spase:SpectralRange, spase:Units</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instance</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;spase:FrequencyRange xmlns:spase=&quot;<a href="http://www.spase-group.org/data/schema%22%3E">http://www.spase-group.org/data/schema&quot;&gt;</a> <a href="">spase:SpectralRange</a>{0,1}&lt;/spase:SpectralRange&gt; <a href="">spase:Low</a>{1,1}&lt;/spase:Low&gt; <a href="">spase:High</a>{1,1}&lt;/spase:High&gt; <a href="">spase:Units</a>{1,1}&lt;/spase:Units&gt; <a href="">spase:Bin</a>{0,unbounded}&lt;/spase:Bin&gt; &lt;/spase:FrequencyRange&gt;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;xsd:element name=&quot;FrequencyRange&quot; type=&quot;spase:FrequencyRange&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Schema location</th>
</tr>
</thead>
<tbody>
<tr>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

**Element spase:FrequencyRange / spase:SpectralRange**

<table>
<thead>
<tr>
<th>Namespace</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Diagram" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>spase:SpectralRange</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>content: simple</td>
</tr>
<tr>
<td>minOccurs: 0</td>
</tr>
<tr>
<td>maxOccurs: 1</td>
</tr>
</tbody>
</table>
Facets

<table>
<thead>
<tr>
<th>Facet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CaK</td>
<td>A spectrum with a wavelength range centered near 393.5 nm. VSO nickname: Ca-K image with a range of 391.9 nm to 395.2 nm.</td>
</tr>
<tr>
<td>ExtremeUltraviolet</td>
<td>A spectrum with a wavelength range of 0.0 nm to 125.0 nm. VSO nickname: EUV image with a range of 0.0 nm to 125.0 nm.</td>
</tr>
<tr>
<td>FarUltraviolet</td>
<td>A spectrum with a wavelength range of 122 nm to 200.0 nm. VSO nickname: FUV image with a range of 122.0 nm to 200 nm.</td>
</tr>
<tr>
<td>GammaRays</td>
<td>Photons with a wavelength range: 0.0001 to 0.001 nm.</td>
</tr>
<tr>
<td>HalAlpha</td>
<td>A spectrum with a wavelength range centered at 656.3 nm. VSO nickname: H-alpha image with a range of 655.8 nm to 656.8 nm.</td>
</tr>
<tr>
<td>HardXrays</td>
<td>Photons with a wavelength range: 0.01 to 0.1 nm and an energy range of 12 keV to 120 keV.</td>
</tr>
<tr>
<td>He10830</td>
<td>A spectrum with a wavelength range centered at 1082.9 nm. VSO nickname: He 10830 image with a range of 1082.5 nm to 1083.3 nm.</td>
</tr>
<tr>
<td>He304</td>
<td>A spectrum centered around the resonance line of ionised helium at 304 Angstrom (30.4 nm).</td>
</tr>
<tr>
<td>Infrared</td>
<td>Photons with a wavelength range: 760 to 1.00x10^6 nm.</td>
</tr>
<tr>
<td>K7699</td>
<td>A spectrum with a wavelength range centered at 769.9 nm. VSO nickname: K-7699 dopplergram with a range of 769.8 nm to 770.0 nm.</td>
</tr>
<tr>
<td>LBHBand</td>
<td>Lyman-Birge-Hopfield band in the far ultraviolet range with wavelength range of 140nm to 170 nm.</td>
</tr>
<tr>
<td>Microwave</td>
<td>Photons with a wavelength range: 1.00x10^6 to 1.50x10^7 nm.</td>
</tr>
<tr>
<td>NaD</td>
<td>A spectrum with a wavelength range of centered at 589.3 nm. VSO nickname: Na-D image with a range of 588.8 nm to 589.8 nm.</td>
</tr>
<tr>
<td>Ni6768</td>
<td>A spectrum with a wavelength range centered at 676.8 nm. VSO nickname: Ni-6768 dopplergram with a range of 676.7 nm to 676.9 nm.</td>
</tr>
<tr>
<td>Optical</td>
<td>Photons with a wavelength range: 380 to 760 nm.</td>
</tr>
<tr>
<td>RadioFrequency</td>
<td>Photons with a wavelength range: 100,000 to 1.00x10^11 nm.</td>
</tr>
<tr>
<td>SoftXrays</td>
<td>X-Rays with an energy range of 0.12 keV to 12 keV.</td>
</tr>
<tr>
<td>Ultraviolet</td>
<td>Photons with a wavelength range: 10 to 400 nm.</td>
</tr>
<tr>
<td>WhiteLight</td>
<td>Photons with a wavelength in the visible range for humans.</td>
</tr>
<tr>
<td>XRays</td>
<td>Photons with a wavelength range: 0.001 &lt;= ( x ) &lt; 10 nm.</td>
</tr>
</tbody>
</table>

Source: `<xsd:element name="SpectralRange" type="spase:SpectralRange" minOccurs="0" maxOccurs="1"/>`

Schema location: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Element spase:FrequencyRange** / spase:Low

**Namespace** http://www.spase-group.org/data/schema

**Diagram**

![Diagram](image)

**Type** spase:Low

**Properties**

- content: simple
- minOccurs: 1
- maxOccurs: 1

Source: `<xsd:element name="Low" type="spase:Low" minOccurs="1" maxOccurs="1"/>`
### Schema documentation for spase-2_3_1.xsd

| Schema location | file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd |

### Element `spase:FrequencyRange` / `spase:High`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: ![Diagram](image1)
- **Type**: `spase:High`
- **Properties**:
  - content: simple
  - minOccurs: 1
  - maxOccurs: 1
- **Source**: `<xsd:element name="High" type="spase:High" minOccurs="1" maxOccurs="1"/>

### Element `spase:FrequencyRange` / `spase:Units`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: ![Diagram](image2)
- **Type**: `spase:Units`
- **Properties**:
  - content: simple
  - minOccurs: 1
  - maxOccurs: 1
- **Source**: `<xsd:element name="Units" type="spase:Units" minOccurs="1" maxOccurs="1"/>

### Element `spase:FrequencyRange` / `spase:Bin`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: ![Diagram](image3)
- **Type**: `spase:Bin`
- **Properties**:
  - content: complex
  - minOccurs: 0
  - maxOccurs: unbounded
- **Model**: `spase:BandName[0,1], spase:Low, spase:High`
- **Children**: `spase:BandName, spase:High, spase:Low`
- **Instance**: `<spase:Bin xmlns:spase= "http://www.spase-group.org/data/schema">  
  <spase:BandName>{0,1}</spase:BandName>  
  <spase:Low>{1,1}</spase:Low>  
  <spase:High>{1,1}</spase:High>  
</spase:Bin>`
- **Source**: `<xsd:element name="Bin" type="spase:Bin" minOccurs="0" maxOccurrence="unbounded"/>

### Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
Element `spase:Bin / spase:BandName`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>spase:BandName</code></td>
</tr>
<tr>
<td>Properties</td>
<td>content: <code>simple</code></td>
</tr>
<tr>
<td></td>
<td>minOccurs: <code>0</code></td>
</tr>
<tr>
<td></td>
<td>maxOccurs: <code>1</code></td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;BandName&quot; type=&quot;spase:BandName&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td><code>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</code></td>
</tr>
</tbody>
</table>

Element `spase:Bin / spase:Low`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>spase:Low</code></td>
</tr>
<tr>
<td>Properties</td>
<td>content: <code>simple</code></td>
</tr>
<tr>
<td></td>
<td>minOccurs: <code>1</code></td>
</tr>
<tr>
<td></td>
<td>maxOccurs: <code>1</code></td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;Low&quot; type=&quot;spase:Low&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td><code>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</code></td>
</tr>
</tbody>
</table>

Element `spase:Bin / spase:High`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>spase:High</code></td>
</tr>
<tr>
<td>Properties</td>
<td>content: <code>simple</code></td>
</tr>
<tr>
<td></td>
<td>minOccurs: <code>1</code></td>
</tr>
<tr>
<td></td>
<td>maxOccurs: <code>1</code></td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;High&quot; type=&quot;spase:High&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td><code>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</code></td>
</tr>
</tbody>
</table>

Element `spase:Parameter / spase:Particle`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
</table>

67
Diagram

Type
spase:Particle

Properties
content: complex

Model
spase:ParticleType* , spase:Qualifier* , spase:ParticleQuantity , spase:AtomicNumber* , spase:EnergyRange{0,1} , spase:AzimuthalAngleRange{0,1} , spase:PolarAngleRange{0,1} , spase:MassRange{0,1} , spase:PitchAngleRange{0,1}

Children

Instance
<spase:Particle xmlns:spase= "http://www.spase-group.org/data/schema" >
  <spase:ParticleType > {0,unbounded} </spase:ParticleType>
  <spase:Qualifier > {0,unbounded} </spase:Qualifier>
  <spase:ParticleQuantity > {1,1} </spase:ParticleQuantity>
  <spase:AtomicNumber > {0,unbounded} </spase:AtomicNumber>
  <spase:EnergyRange > {0,1} </spase:EnergyRange>
  <spase:AzimuthalAngleRange > {0,1} </spase:AzimuthalAngleRange>
  <spase:PolarAngleRange > {0,1} </spase:PolarAngleRange>
  <spase:MassRange > {0,1} </spase:MassRange>
  <spase:PitchAngleRange > {0,1} </spase:PitchAngleRange>
</spase:Particle>

Source
<xsd:element name="Particle" type="spase:Particle" />

Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:Particle / spase:ParticleType

Namespace http://www.spase-group.org/data/schema

Diagram

Type
spase:ParticleType

Properties
content: simple
minOccurs: 0
maxOccurs: unbounded

Facets
enumeration Aerosol A suspension of fine solid or liquid particles in a gas.
enumeration AlphaParticle A positively charged nuclear particle that consists of two protons and two neutrons.
enumeration Atom Matter consisting of a nucleus surrounded by electrons which has no net charge.
enumeration Dust Free microscopic particles of solid material.
enumeration Electron
An elementary particle consisting of a charge of negative electricity equal to about 1.602 \times 10^{-19} \text{ Coulomb} and having a mass when at rest of about 9.10934 \times 10^{-28} \text{ gram.}

enumeration Ion
An atom that has acquired a net electric charge by gaining or losing one or more electrons. (Note: \text{Z}>2)

enumeration Molecule
A group of atoms so united and combined by chemical affinity that they form a complete, integrated whole, being the smallest portion of any particular compound that can exist in a free state.

enumeration Neutron
An elementary particle that has no net charge and is a constituent of atomic nuclei, and that has a mass slightly larger than a proton (1.673 \times 10^{-24} \text{ gram.})

enumeration Positron
An elementary particle consisting of a charge of positive electricity equal to about 1.602 \times 10^{-19} \text{ Coulomb} and having a mass when at rest of about 9.10934 \times 10^{-28} \text{ gram.}

enumeration Proton
An elementary particle that is a constituent of all atomic nuclei, that carries a positive charge numerically equal to the charge of an electron, and that has a mass of 1.673 \times 10^{-24} \text{ gram.}

Source
<xs:element name="ParticleType" type="spase:ParticleType" minOccurs="0" maxOccurs="unbounded"/>

Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:Particle / spase:Qualifier

Namespace
http://www.spase-group.org/data/schema

Diagram

Type
spase:Qualifier

Properties
content: simple
minOccurs: 0
maxOccurs: unbounded

Facets
enumeration Anisotropy
Direction-dependent property.

enumeration Array
A sequence of values corresponding to the elements in a rectilinear, n-dimension matrix. Each value can be referenced by a unique index.

enumeration Average
The statistical mean; the sum of a set of values divided by the number of values in the set.

enumeration Characteristic
A quantity which can be easily identified and measured in a given environment.

enumeration Circular
Relative to polarization, right-hand circularly polarized light is defined such that the electric field is rotating clockwise as seen by an observer towards whom the wave is moving. Left-hand circularly polarized light is defined such that the electric field is rotating counterclockwise as seen by an observer towards whom the wave is moving. The polarization of magnetohydrodynamic waves is specified with respect to the ambient mean magnetic field: right-hand polarized waves have a transverse electric field component which turns in a right-handed sense (that of the gyrating electrons) around the magnetic field.

enumeration Column
A two-dimensional measure of a quantity. The column is the area over which the quantity is measured.

enumeration Component
Projection of a vector along one of the base axes of a coordinate system.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component.I</td>
<td>Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>Component.J</td>
<td>Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>Component.K</td>
<td>Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>Confidence</td>
<td>An expression of how certain that a quantity is valid or accurate.</td>
</tr>
<tr>
<td>Core</td>
<td>The central or main part of an object or calculated distribution. For example, the part of a distribution of particles at low energies that is a thermal (Maxwellian) population.</td>
</tr>
<tr>
<td>CrossSpectrum</td>
<td>The Fourier transform of the cross correlation of two physical or empirical observations.</td>
</tr>
<tr>
<td>Deviation</td>
<td>The difference between an observed value and the expected value of a quantity.</td>
</tr>
<tr>
<td>Differential</td>
<td>A measurement within a narrow range of energy and/or solid angle.</td>
</tr>
<tr>
<td>Direction</td>
<td>The spatial relation between an object and another object, the orientation of the object or the course along which the object points or moves.</td>
</tr>
<tr>
<td>DirectionAngle</td>
<td>The angle between a position vector or measured vector (or one of its projections onto a plane) and one of the base axes of the coordinate system.</td>
</tr>
<tr>
<td>DirectionAngle.AzimuthAngle</td>
<td>The angle between the projection into the i-j plane of a position or measured vector and the i-axis of the coordinate system. Mathematically defined as $\arctan(j/i)$. This term could be also applied to angles measured in different planes, for example the IMF clock angle defined as $\arctan(</td>
</tr>
<tr>
<td>DirectionAngle.ElevationAngle</td>
<td>The angle between the position or measured vector and the i-j plane of the coordinate system. Mathematically defined as $\arctan(k/\sqrt{i^2+j^2})$. This term could be also applied to angles between the vector and other components, for example the IMF cone angle defined as $\arccos(Bx/Bt)$.</td>
</tr>
<tr>
<td>DirectionAngle.PolarAngle</td>
<td>The angle between a position or measured vector and the k-axis of the coordinate system. Mathematically defined as $\arctan(</td>
</tr>
<tr>
<td>DirectionCosine</td>
<td>The cosine of the angle between two vectors usually between a vector and one of the basis axes defining a Cartesian coordinate system. Three angles and thus three direction cosines are required to define a vector direction in a three dimensional Euclidean space.</td>
</tr>
<tr>
<td>DirectionCosine.I</td>
<td>Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>DirectionCosine.J</td>
<td>Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>DirectionCosine.K</td>
<td>Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.</td>
</tr>
</tbody>
</table>
| Directional | A measurement within a narrow range of solid angle of a coordinate system.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FieldAligned</td>
<td>Values that make a model agree with the data.</td>
</tr>
<tr>
<td>Fit</td>
<td>An assemblage of values that a certain relation or common characteristic.</td>
</tr>
<tr>
<td>Group</td>
<td>The part of an object or distribution surrounding some central body or distribution. For example, the particles above the core energies that show enhancements above the thermal population. Typically, a &quot;power law tail&quot; shows a break from the core Maxwellian at a particular energy.</td>
</tr>
<tr>
<td>Halo</td>
<td>The part of an object or distribution surrounding some central body or distribution. For example, the particles above the core energies that show enhancements above the thermal population. Typically, a &quot;power law tail&quot; shows a break from the core Maxwellian at a particular energy.</td>
</tr>
<tr>
<td>Integral</td>
<td>A flux measurement in a broad range of energy and solid angle.</td>
</tr>
<tr>
<td>Integral.Area</td>
<td>Integration over the extent of a planar region, or of the surface of a solid.</td>
</tr>
<tr>
<td>Integral.Bandwidth</td>
<td>Integration over the width a frequency band.</td>
</tr>
<tr>
<td>Integral.SolidAngle</td>
<td>Integration over the angle in three-dimensional space that an object subtends at a point.</td>
</tr>
<tr>
<td>LineOfSight</td>
<td>The line of sight is the line that connects the observer with the observed object. This expression is often used with measurements of Doppler velocity and magnetic field in magnetograms, where only the component of the vector field directed along the line of sight is measured.</td>
</tr>
<tr>
<td>Linear</td>
<td>Polarization where the E-field vector is confined to a given plane.</td>
</tr>
<tr>
<td>Magnitude</td>
<td>A measure of the strength of a vector quantity or length of its representational vector.</td>
</tr>
<tr>
<td>Maximum</td>
<td>The largest value of a batch or sample or the upper bound of a probability distribution.</td>
</tr>
<tr>
<td>Median</td>
<td>The measure of central tendency of a set of n. values computed by ordering the values and taking the value at position (n. + 1) / 2 when n. is odd or the arithmetic mean of the values at positions n. / 2 and (n. / 2) + 1 when n. is even.</td>
</tr>
<tr>
<td>Minimum</td>
<td>The smallest value of a batch or sample or the lower bound of a probability distribution.</td>
</tr>
<tr>
<td>Moment</td>
<td>Parameters determined by integration over a distribution function convolved with a power of velocity.</td>
</tr>
<tr>
<td>Parallel</td>
<td>Having the same direction as a given direction.</td>
</tr>
<tr>
<td>Peak</td>
<td>The maximum value for the quantity in question, over a period of time which is usually equal to the cadence.</td>
</tr>
<tr>
<td>Perpendicular</td>
<td>At right angles to a given direction.</td>
</tr>
<tr>
<td>Perturbation</td>
<td>Variations in the state of a system.</td>
</tr>
<tr>
<td>Phase</td>
<td>A point or portion in a recurring series of changes.</td>
</tr>
<tr>
<td>PhaseAngle</td>
<td>Phase difference between two or more waves, normally expressed in degrees.</td>
</tr>
<tr>
<td>Projection</td>
<td>A measure of the length of a position or measured vector as projected into a plane of the coordinate system.</td>
</tr>
<tr>
<td>Projection.IJ</td>
<td>A measure of the length of a position or measured vector projected into the i-j (typically X-Y) plane of the coordinate system.</td>
</tr>
<tr>
<td>Projection.IK</td>
<td>A measure of the length of a position or measured vector projected into the i-k (typically X-Z) plane of the coordinate system.</td>
</tr>
<tr>
<td>Projection.JK</td>
<td>A measure of the length of a position or measured vector projected into the j-k (typically Y-Z) plane of the coordinate system.</td>
</tr>
<tr>
<td>Pseudo</td>
<td>Similar to or having the appearance of something else. Can be used to indicate an estimation or approximation of a particular quantity.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Ratio</td>
<td>The relative magnitudes of two quantities.</td>
</tr>
<tr>
<td>Scalar</td>
<td>A quantity that is completely specified by its magnitude and has no direction.</td>
</tr>
<tr>
<td>Spectral</td>
<td>Characterized as a range or continuum of frequencies.</td>
</tr>
<tr>
<td>StandardDeviation</td>
<td>The square root of the average of the squares of deviations about the mean of a set of data. Standard deviation is a statistical measure of spread or variability.</td>
</tr>
<tr>
<td>StokesParameters</td>
<td>A distribution of particles concentrated in a narrow energy band. The band may be aligned with a secondary feature. For example, it may occur in a narrow cone aligned with the mean magnetic field direction.</td>
</tr>
<tr>
<td>Strahl</td>
<td>A quantity that is completely specified by its magnitude and has no direction.</td>
</tr>
<tr>
<td>Superhalo</td>
<td>The part of an object or distribution surrounding some central body or distribution evident in a second break in the distribution function (e.g., a different power law). It consists of a population at a higher energies than for a halo.</td>
</tr>
<tr>
<td>Symmetric</td>
<td>Equal distribution about one or more axes.</td>
</tr>
<tr>
<td>Tensor</td>
<td>A generalized linear &quot;quantity&quot; or &quot;geometrical entity&quot; that can be expressed as a multi-dimensional array relative to a choice of basis of the particular space on which it is defined.</td>
</tr>
<tr>
<td>Total</td>
<td>The summation of quantities over all possible species.</td>
</tr>
<tr>
<td>Trace</td>
<td>The sum of the elements on the main diagonal (the diagonal from the upper left to the lower right) of a square matrix.</td>
</tr>
<tr>
<td>Uncertainty</td>
<td>A statistically defined discrepancy between a measured quantity and the true value of that quantity that cannot be corrected by calculation or calibration.</td>
</tr>
<tr>
<td>Variance</td>
<td>A measure of dispersion of a set of data points around their mean value. The expectation value of the squared deviations from the mean.</td>
</tr>
<tr>
<td>Vector</td>
<td>A set of parameter values each along some independent variable (e.g., components of a field in three orthogonal spatial directions; atmospheric temperature values at several altitudes, or at a given latitude and longitude).</td>
</tr>
</tbody>
</table>

Source:
```xml
<xsd:element name="Qualifier" type="spase:Qualifier" minOccurs="0" maxOccurs="unbounded"/>
```

Schema location:
`file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

**Element spase:Particle / spase:ParticleQuantity**

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

```
ParticleQuantity
Type: spase:ParticleQuantity
```

**Type**
spase:ParticleQuantity

**Properties**
- content: simple
- minOccurs: 1
- maxOccurs: 1

**Facets**
- enumeration AdiabaticInvariant
  - A property of a physical system usually related to periodic phenomena that remains constant under slowly varying conditions.
- enumeration AdiabaticInvariant.BounceMotion
  - The second adiabatic invariant is associated with periodic bounce motion of charged particles trapped between two magnetic mirrors on a magnetic field line. The second invariant, termed J, is defined by using the integral $J = m \int v || * ds$ where m is the mass.
of the charged particle, $v_||$ is the particle velocity along the field line, and $ds$ represents elemental arc lengths along the field line. The second adiabatic invariant is conserved as long as changes in the background magnetic field occur at time scales much longer than the bounce time of the charged particles.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>AdiabaticInvariant.DriftMotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The third invariant for charged particle motion in a dipolar magnetic field is associated with drift of its guiding center in the equatorial plane. The conserved quantity, $J_2 = q \Phi$, where $q$ is the particle charge and $\Phi$ is the magnetic flux enclosed within the particle drift path.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>AdiabaticInvariant.MagneticMoment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>A constant of motion related to the gyromotion of a particle in a magnetic field that is either static or slowly varying with respect to the gyroperiod. The magnetic moment is usually denoted by using the lower case Greek letter for $\mu$, $\mu$, and can be calculated by using $\mu = m^2/2B$ where $m$ is the particle mass, $u$ is the velocity of the particle perpendicular to the constant or average magnetic field direction, and $B$ is the magnitude of the magnetic field strength.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>ArrivalDirection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>An angular measure of the direction from which an energetic particle or photon was incident on a detector. The angles may be measured in any coordinate system.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>AtomicNumberDetected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The number of protons in the nucleus of an atom as determined by a detector.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>AverageChargeState</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>A measure of the composite deficit (positive) or excess (negative) of electrons with respect to protons.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>ChargeState</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Charge of a fully or partially stripped ion, in units of the charge of a proton. Charge state of a bare proton = 1.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>CountRate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The number of events per unit time.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Counts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The number of detection events occurring in a detector over the detector accumulation time.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>EnergyDensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The amount of energy per unit volume.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>EnergyFlux</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The amount of energy passing through a unit area in a unit time.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Entropy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>A function of thermodynamic quantity, such as temperature, pressure, or composition, that is a measure of the energy that is not available for work during a thermodynamic process. It is often interpreted as the degree of disorder or randomness in the system.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>FlowSpeed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The rate at which particles or energy is passing through a unit area in a unit time.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>FlowVelocity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The volume of matter passing through a unit area perpendicular to the direction of flow in a unit of time.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Fluence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The time integral of a flux. A fluence does not have any &quot;per unit time&quot; in its units.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>GeometricFactor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>A measure of the gathering power of a particle detector. The geometric factor can be used to correct particle measurements by accounting for the fact that only a fraction of source particles are able to gain entry through the aperture of a detector. For an isotropic source distribution, the geometric factor corresponds to the solid angle subtended by the aperture. In practice, determination of the geometric factor requires numerical modeling and depends on detector design and the characteristics of the source.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Name</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Gyrofrequency</td>
</tr>
<tr>
<td>Enumeration</td>
<td>HeatFlux</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Mass</td>
</tr>
<tr>
<td>Enumeration</td>
<td>MassDensity</td>
</tr>
<tr>
<td>Enumeration</td>
<td>MassNumber</td>
</tr>
<tr>
<td>Enumeration</td>
<td>NumberDensity</td>
</tr>
<tr>
<td>Enumeration</td>
<td>NumberFlux</td>
</tr>
<tr>
<td>Enumeration</td>
<td>ParticleRadius</td>
</tr>
<tr>
<td>Enumeration</td>
<td>PhaseSpaceDensity</td>
</tr>
<tr>
<td>Enumeration</td>
<td>PlasmaFrequency</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Pressure</td>
</tr>
<tr>
<td>Enumeration</td>
<td>SonicMachNumber</td>
</tr>
<tr>
<td>Enumeration</td>
<td>SoundSpeed</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Temperature</td>
</tr>
<tr>
<td>Enumeration</td>
<td>ThermalSpeed</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Velocity</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:element name="ParticleQuantity" type="spase:ParticleQuantity" minOccurs="1" maxOccurs="1"/>
```

**Element spase:Particle / spase:AtomicNumber**

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagram</td>
<td><img src="AtomicNumber" alt="" /> ![maxAtomicNumber]</td>
</tr>
<tr>
<td>Type</td>
<td>spase:AtomicNumber</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 0</td>
</tr>
<tr>
<td></td>
<td>maxOccurs: unbounded</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:element name="AtomicNumber" type="spase:AtomicNumber" minOccurs="0" maxOccurs="unbounded"/>
```

**Element spase:Particle / spase:EnergyRange**

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
</table>
Diagram

Type `spase:EnergyRange`

Properties
- `content`: complex
  - minOccurs: 0
  - maxOccurs: 1

Model
- `spase:Low`, `spase:High`, `spase:Units`, `spase:Bin*`

Children
- `spase:Bin`, `spase:High`, `spase:Low`, `spase:Units`

Instance
```xml
<spase:EnergyRange xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:Low>
    {1,1}
  </spase:Low>
  <spase:High>
    {1,1}
  </spase:High>
  <spase:Units>
    {1,1}
  </spase:Units>
  <spase:Bin>
    {0,unbounded}
  </spase:Bin>
</spase:EnergyRange>
```

Source
```xml
<xsd:element  name= "EnergyRange"  type= "spase:EnergyRange"  minOccurs= "0"  maxOccurs= "1" />
```

Schema location
- `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

---

**Element `spase:EnergyRange` / `spase:Low`**

Namespace
- `http://www.spase-group.org/data/schema`

Diagram

Type `spase:Low`

Properties
- `content`: simple
  - minOccurs: 1
  - maxOccurs: 1

Source
```xml
<xsd:element  name= "Low"  type= "spase:Low"  minOccurs= "1"  maxOccurs= "1" />
```

Schema location
- `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

---

**Element `spase:EnergyRange` / `spase:High`**

Namespace
- `http://www.spase-group.org/data/schema`

Diagram

Type `spase:High`

Properties
- `content`: simple
  - minOccurs: 1
  - maxOccurs: 1

Source
```xml
<xsd:element  name= "High"  type= "spase:High"  minOccurs= "1"  maxOccurs= "1" />
```

Schema location
- `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

---

**Element `spase:EnergyRange` / `spase:Units`**

Namespace
- `http://www.spase-group.org/data/schema`
### Element `spase:EnergyRange` / `spase:Bin`

**Namespace**  
`http://www.spase-group.org/data/schema`

**Diagram**

- **Type** `spase:Bin`
- **Properties**
  - *content: complex*
  - `minOccurs: 0`
  - `maxOccurs: unbounded`
- **Model**
  - `spase:BandName(0,1)`, `spase:Low`, `spase:High`
- **Children**
  - `spase:BandName`, `spase:High`, `spase:Low`

**Instance**

```xml
<spase:Bin xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:BandName>{0,1}</spase:BandName>
  <spase:Low>{1,1}</spase:Low>
  <spase:High>{1,1}</spase:High>
</spase:Bin>
```

**Source**

- `<xsd:element name="Bin" type="spase:Bin" minOccurs="0" maxOccurs="unbounded"/>
``
- `file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

### Element `spase:Particle` / `spase:AzimuthalAngleRange`

**Namespace**  
`http://www.spase-group.org/data/schema`

**Diagram**

- **Type** `spase:AzimuthalAngleRange`
- **Properties**
  - *content: complex*
  - `minOccurs: 0`
  - `maxOccurs: 1`

**Source**

- `<xsd:element name="AzimuthalAngleRange" type="spase:AzimuthalAngleRange" minOccurs="0" maxOccurs="1"/>
``
- `file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`
Model | spase:Low, spase:High, spase:Units, spase:Bin
---|---
Children | spase:Bin, spase:High, spase:Low, spase:Units

Instance
```
<spase:AzimuthalAngleRange xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:Low> {1,1} </spase:Low>
  <spase:High> {1,1} </spase:High>
  <spase:Units> {1,1} </spase:Units>
  <spase:Bin> [0, unbounded] </spase:Bin>
</spase:AzimuthalAngleRange>
```

Source
```
<xsd:element name= "AzimuthalAngleRange" type= "spase:AzimuthalAngleRange" minOccurs= "0" maxOccurs= "1" />
```

Source
```
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
```

---

**Element spase:AzimuthalAngleRange / spase:Low**

Namespace | http://www.spase-group.org/data/schema
Diagram | ![Diagram](image1)
Type | spase:Low
Properties | content: simple
| minOccurs: 1
| maxOccurs: 1
Source
```
<xsd:element name= "Low" type= "spase:Low" minOccurs= "1" maxOccurs= "1" />
```

Source
```
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
```

---

**Element spase:AzimuthalAngleRange / spase:High**

Namespace | http://www.spase-group.org/data/schema
Diagram | ![Diagram](image2)
Type | spase:High
Properties | content: simple
| minOccurs: 1
| maxOccurs: 1
Source
```
<xsd:element name= "High" type= "spase:High" minOccurs= "1" maxOccurs= "1" />
```

Source
```
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
```

---

**Element spase:AzimuthalAngleRange / spase:Units**

Namespace | http://www.spase-group.org/data/schema
Diagram | ![Diagram](image3)
Type | spase:Units
Properties | content: simple
| minOccurs: 1
| maxOccurs: 1
Source
```
<xsd:element name= "Units" type= "spase:Units" minOccurs= "1" maxOccurs= "1" />
```

Source
```
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
```

---

**Element spase:AzimuthalAngleRange / spase:Bin**

Namespace | http://www.spase-group.org/data/schema
## Element `spase:Bin` / `spase:PolarAngleRange`

**Namespace**  
http://www.spase-group.org/data/schema

### Diagram

![Diagram of `spase:Bin` / `spase:PolarAngleRange`]

### Type
`spase:Bin`

### Properties
- **content**: complex
- **minOccurs**: 0
- **maxOccurs**: unbounded

### Model
`spase:BandName{0,1}` , `spase:Low` , `spase:High`

### Children
`spase:BandName` , `spase:High` , `spase:Low`

### Instance
```xml
<spase:Bin xmlns:spase= "http://www.spase-group.org/data/schema" >
  <spase:BandName > {0,1} </spase:BandName>
  <spase:Low > {1,1} </spase:Low>
  <spase:High > {1,1} </spase:High>
</spase:Bin>
```

### Source
`<xsd:element  name= "Bin"  type= "spase:Bin"  minOccurs= "0"  maxOccurs= "unbounded" />`

### Schema Location
`file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

## Element `spase:Particle` / `spase:PolarAngleRange`

**Namespace**  
http://www.spase-group.org/data/schema

### Diagram

![Diagram of `spase:Particle` / `spase:PolarAngleRange`]

### Type
`spase:PolarAngleRange`

### Properties
- **content**: complex
- **minOccurs**: 0
- **maxOccurs**: 1

### Model
`spase:Low` , `spase:High` , `spase:Units` , `spase:Bin*`

### Children
`spase:Bin` , `spase:High` , `spase:Low` , `spase:Units`

### Instance
```xml
<spase:PolarAngleRange xmlns:spase= "http://www.spase-group.org/data/schema" >
  <spase:Low > {1,1} </spase:Low>
  <spase:High > {1,1} </spase:High>
  <spase:Units > {1,1} </spase:Units>
  <spase:Bin > {0,unbounded} </spase:Bin>
</spase:PolarAngleRange>
```

### Source
`<xsd:element  name= "PolarAngleRange"  type= "spase:PolarAngleRange"  minOccurs= "0"  maxOccurs= "1" />`

### Schema Location
`file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

## Element `spase:PolarAngleRange` / `spase:Low`

**Namespace**  
http://www.spase-group.org/data/schema
## Element `spase:PolarAngleRange` / `spase:Low`

### Properties
- **content**: simple
- **minOccurs**: 1
- **maxOccurs**: 1

### Source
```xml
<xsd:element name="Low" type="spase:Low" minOccurs="1" maxOccurs="1"/>
```

### Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

## Element `spase:PolarAngleRange` / `spase:High`

### Properties
- **content**: simple
- **minOccurs**: 1
- **maxOccurs**: 1

### Source
```xml
<xsd:element name="High" type="spase:High" minOccurs="1" maxOccurs="1"/>
```

### Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

## Element `spase:PolarAngleRange` / `spase:Units`

### Properties
- **content**: simple
- **minOccurs**: 1
- **maxOccurs**: 1

### Source
```xml
<xsd:element name="Units" type="spase:Units" minOccurs="1" maxOccurs="1"/>
```

### Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

## Element `spase:PolarAngleRange` / `spase:Bin`

### Properties
- **content**: complex
- **minOccurs**: 0
- **maxOccurs**: unbounded
<table>
<thead>
<tr>
<th>Model</th>
<th>spase:BandName{0,1} , spase:Low , spase:High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>spase:BandName, spase:High, spase:Low</td>
</tr>
</tbody>
</table>

**Instance**

```xml
<spase:Bin xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:BandName>{0,1}</spase:BandName>
  <spase:Low>{1,1}</spase:Low>
  <spase:High>{1,1}</spase:High>
</spase:Bin>
```

**Source**

`<xsd:element name="Bin" type="spase:Bin" minOccurs="0" maxOccurs="unbounded"/>`

---

**Element spase:Particle / spase:MassRange**

**Namespace**

http://www.spase-group.org/data/schema

**Diagram**

![Diagram of MassRange]

**Type**

spase:MassRange

**Properties**

<table>
<thead>
<tr>
<th>content</th>
<th>complex</th>
</tr>
</thead>
<tbody>
<tr>
<td>minOccurs</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>1</td>
</tr>
</tbody>
</table>

**Model**

spase:Low , spase:High , spase:Units , spase:Bin*

**Children**

spase:Bin , spase:High , spase:Low , spase:Units

**Instance**

```xml
<spase:MassRange xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:Low>{1,1}</spase:Low>
  <spase:High>{1,1}</spase:High>
  <spase:Units>{1,1}</spase:Units>
  <spase:Bin>{0,unbounded}</spase:Bin>
</spase:MassRange>
```

**Source**

`<xsd:element name="MassRange" type="spase:MassRange" minOccurs="0" maxOccurs="1"/>`

**Schema location**

file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:MassRange / spase:Low**

**Namespace**

http://www.spase-group.org/data/schema

**Diagram**

![Diagram of Low]

**Type**

spase:Low

**Properties**

<table>
<thead>
<tr>
<th>content</th>
<th>simple</th>
</tr>
</thead>
<tbody>
<tr>
<td>minOccurs</td>
<td>1</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>1</td>
</tr>
</tbody>
</table>

**Source**

`<xsd:element name="Low" type="spase:Low" minOccurs="1" maxOccurs="1"/>`

**Schema location**

file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:MassRange / spase:High**

**Namespace**

http://www.spase-group.org/data/schema
### Element `spase:MassRange / spase:Units`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**

![Diagram](attachment:image.png)

**Type**  
`spase:Units`

**Properties**

- **content:** `simple`
- **minOccurs:** `1`
- **maxOccurs:** `1`

**Source**

```xml
<xsd:element name="Units" type="spase:Units" minOccurs="1" maxOccurs="1"/>
```

**Schema location**  
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:MassRange / spase:Bin`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**

![Diagram](attachment:image.png)

**Type**  
`spase:Bin`

**Properties**

- **content:** `complex`
- **minOccurs:** `0`
- **maxOccurs:** `unbounded`

**Model**  
`spase:BandName{0,1} , spase:Low , spase:High`

**Children**  
`spase:BandName`, `spase:High`, `spase:Low`

**Instance**

```xml
<spase:Bin xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:BandName>{0,1}</spase:BandName>
  <spase:Low>{1,1}</spase:Low>
  <spase:High>{1,1}</spase:High>
</spase:Bin>
```

**Source**

```xml
<xsd:element name="Bin" type="spase:Bin" minOccurs="0" maxOccurs="unbounded"/>
```

**Schema location**  
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Particle / spase:PitchAngleRange`

**Namespace**  
http://www.spase-group.org/data/schema
Diagram

```
Type  spase:PitchAngleRange
Properties
- content: complex
  minOccurs: 0
  maxOccurs: 1
Model
  spase:Low, spase:High, spase:Units, spase:Bin*
Children
  spase:Bin, spase:High, spase:Low, spase:Units
Instance
<spase:PitchAngleRange xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:Low>{1,1}</spase:Low>
  <spase:High>{1,1}</spase:High>
  <spase:Units>{1,1}</spase:Units>
  <spase:Bin>{0,unbounded}</spase:Bin>
</spase:PitchAngleRange>
Source
<xsd:element name="PitchAngleRange" type="spase:PitchAngleRange" minOccurs="0" maxOccurs="1"/>
Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
```

---

**Element spase:PitchAngleRange / spase:Low**

Namespace http://www.spase-group.org/data/schema

```
Type  spase:Low
Properties
- content: simple
  minOccurs: 1
  maxOccurs: 1
Source
<xsd:element name="Low" type="spase:Low" minOccurs="1" maxOccurs="1"/>
Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
```

---

**Element spase:PitchAngleRange / spase:High**

Namespace http://www.spase-group.org/data/schema

```
Type  spase:High
Properties
- content: simple
  minOccurs: 1
  maxOccurs: 1
Source
<xsd:element name="High" type="spase:High" minOccurs="1" maxOccurs="1"/>
Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
```

---

**Element spase:PitchAngleRange / spase:Units**

Namespace http://www.spase-group.org/data/schema

```
```
Diagram

**Type**

spase:Units

**Properties**

- content: simple
- minOccurs: 1
- maxOccurs: 1

**Source**

```xml
<xsd:element name="Units" type="spase:Units" minOccurs="1" maxOccurs="1"/>
```

**Schema location**

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element** spase:PitchAngleRange / spase:Bin

**Namespace**

http://www.spase-group.org/data/schema

**Diagram**

**Type**

spase:Bin

**Properties**

- content: complex
- minOccurs: 0
- maxOccurs: unbounded

**Model**

spase:BandName{0,1} , spase:Low , spase:High

**Children**

spase:BandName, spase:High, spase:Low

**Instance**

```xml
<spase:Bin xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:BandName > {0,1} </spase:BandName>
  <spase:Low > {1,1} </spase:Low>
  <spase:High > {1,1} </spase:High>
</spase:Bin>
```

**Source**

```xml
<xsd:element name="Bin" type="spase:Bin" minOccurs="0" maxOccurs="unbounded"/>
```

**Schema location**

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element** spase:Parameter / spase:Wave

**Namespace**

http://www.spase-group.org/data/schema

**Diagram**

**Type**

spase:Wave

---

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Properties

| content: | complex |

Model

spase:WaveType\{0,1\}, spase:Qualifier*, spase:WaveQuantity, spase:EnergyRange\{0,1\}, spase:FrequencyRange\{0,1\}, spase:WavelengthRange\{0,1\}

Children


Instance

```xml
<spase:Wave xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:WaveType> {0,1} </spase:WaveType>
  <spase:Qualifier> {0,unbounded} </spase:Qualifier>
  <spase:WaveQuantity> {1,1} </spase:WaveQuantity>
  <spase:EnergyRange> {0,1} </spase:EnergyRange>
  <spase:FrequencyRange> {0,1} </spase:FrequencyRange>
  <spase:WavelengthRange> {0,1} </spase:WavelengthRange>
</spase:Wave>
```

Source

```xml
<xsd:element name="Wave" type="spase:Wave"/>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:Wave / spase:WaveType**

Namespace

http://www.spase-group.org/data/schema

Diagram

```
WaveType
  Type spase:WaveType
```

Type

spase:WaveType

Properties

- content: simple
- minOccurs: 0
- maxOccurs: 1

Facets

- enumeration Electromagnetic: Electric and magnetic field variations in time and space that propagate through a medium or a vacuum with the wave's propagation, electric field, and magnetic field vectors forming an orthogonal triad. Waves in this category are detected by having their field quantities measured.
- enumeration Electrostatic: Collective longitudinal electric-field and plasma oscillations trapped within a body of plasma.
- enumeration Hydrodynamic: Periodic or quasi-periodic oscillations of fluid quantities.
- enumeration MHD: Hydrodynamic waves in a magnetized plasma in which the background magnetic field plays a key role in controlling the wave propagation characteristics.
- enumeration Photon: Electromagnetic waves detected by techniques that utilize their corpuscular character (e.g., CCD, CMOS, photomultipliers).
- enumeration PlasmaWaves: Self-consistent collective oscillations of particles and fields (electric and magnetic) in a plasma.

Source

```xml
<xsd:element name="WaveType" type="spase:WaveType" minOccurs="0" maxOccurs="1"/>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:Wave / spase:Qualifier**

Namespace

http://www.spase-group.org/data/schema

Diagram

```
Qualifier
  Type spase:Qualifier
```

Type

spase:Qualifier

Properties

- content: simple
- minOccurs: 0
- maxOccurs: unbounded

Facets

- enumeration Anisotropy: Direction-dependent property.
### Schema documentation for spase-2_3_1.xsd

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Array</strong></td>
<td>A sequence of values corresponding to the elements in a rectilinear, n-dimension matrix. Each value can be referenced by a unique index.</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>The statistical mean; the sum of a set of values divided by the number of values in the set.</td>
</tr>
<tr>
<td><strong>Characteristic</strong></td>
<td>A quantity which can be easily identified and measured in a given environment.</td>
</tr>
<tr>
<td><strong>Circular</strong></td>
<td>Relative to polarization, right-hand circularly polarized light is defined such that the electric field is rotating clockwise as seen by an observer towards whom the wave is moving. Left-hand circularly polarized light is defined such that the electric field is rotating counterclockwise as seen by an observer towards whom the wave is moving. The polarization of magnetohydrodynamic waves is specified with respect to the ambient mean magnetic field: right-hand polarized waves have a transverse electric field component which turns in a right-handed sense (that of the gyrating electrons) around the magnetic field.</td>
</tr>
<tr>
<td><strong>Column</strong></td>
<td>A two-dimensional measure of a quantity. The column is the area over which the quantity is measured.</td>
</tr>
<tr>
<td><strong>Component</strong></td>
<td>Projection of a vector along one of the base axes of a coordinate system.</td>
</tr>
<tr>
<td><strong>Component.I</strong></td>
<td>Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.</td>
</tr>
<tr>
<td><strong>Component.J</strong></td>
<td>Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.</td>
</tr>
<tr>
<td><strong>Component.K</strong></td>
<td>Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.</td>
</tr>
<tr>
<td><strong>Confidence</strong></td>
<td>An expression of how certain that a quantity is valid or accurate.</td>
</tr>
<tr>
<td><strong>Core</strong></td>
<td>The central or main part of an object or calculated distribution. For example, the part of a distribution of particles at low energies that is a thermal (Maxwellian) population.</td>
</tr>
<tr>
<td><strong>CrossSpectrum</strong></td>
<td>The Fourier transform of the cross correlation of two physical or empirical observations.</td>
</tr>
<tr>
<td><strong>Deviation</strong></td>
<td>The difference between an observed value and the expected value of a quantity.</td>
</tr>
<tr>
<td><strong>Differential</strong></td>
<td>A measurement within a narrow range of energy and/or solid angle.</td>
</tr>
<tr>
<td><strong>Direction</strong></td>
<td>The spatial relation between an object and another object, the orientation of the object or the course along which the object points or moves.</td>
</tr>
<tr>
<td><strong>DirectionAngle</strong></td>
<td>The angle between a position vector or measured vector (or one of its projections onto a plane) and one of the base axes of the coordinate system.</td>
</tr>
<tr>
<td><strong>DirectionAngle.AzimuthAngle</strong></td>
<td>The angle between the projection into the i-j plane of a position or measured vector and the i-axis of the coordinate system. Mathematically defined as $\arctan(j/i)$. This term could be also applied to angles measured in different planes, for example the IMF clock angle defined as $\arctan(</td>
</tr>
<tr>
<td><strong>DirectionAngle.ElevationAngle</strong></td>
<td>The angle between the position or measured vector and the i-j plane of the coordinate system.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>DirectionAngle.PolarAngle</strong></td>
<td>The angle between the position or measured vector and the k-axis of the coordinate system. Mathematically defined as arctan(k/√(i^2+j^2)). This term could be also applied to angles between the vector and other components, for example the IMF cone angle defined as arccos(Bx/By)</td>
</tr>
<tr>
<td><strong>DirectionCosine</strong></td>
<td>The cosine of the angle between two vectors usually between a vector and one of the basis axes defining a Cartesian coordinate system. Three angles and thus three direction cosines are required to define a vector direction in a three dimensional Euclidean space.</td>
</tr>
<tr>
<td><strong>DirectionCosine.I</strong></td>
<td>Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.</td>
</tr>
<tr>
<td><strong>DirectionCosine.J</strong></td>
<td>Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.</td>
</tr>
<tr>
<td><strong>DirectionCosine.K</strong></td>
<td>Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.</td>
</tr>
<tr>
<td><strong>Directional</strong></td>
<td>A measurement within a narrow range of solid angle.</td>
</tr>
<tr>
<td><strong>FieldAligned</strong></td>
<td>Values that make an model agree with the data.</td>
</tr>
<tr>
<td><strong>Group</strong></td>
<td>An assemblage of values that a certain relation or common characteristic.</td>
</tr>
<tr>
<td><strong>Halo</strong></td>
<td>The part of an object or distribution surrounding some central body or distribution. For example, the particles above the core energies that show enhancements above the thermal population. Typically, a &quot;power law tail&quot; shows a break from the core Maxwellian at a particular energy.</td>
</tr>
<tr>
<td><strong>Integral</strong></td>
<td>A flux measurement in a broad range of energy and solid angle.</td>
</tr>
<tr>
<td><strong>Integral.Area</strong></td>
<td>Integration over the extent of a planar region, or of the surface of a solid.</td>
</tr>
<tr>
<td><strong>Integral.Bandwidth</strong></td>
<td>Integration over the width a frequency band.</td>
</tr>
<tr>
<td><strong>Integral.SolidAngle</strong></td>
<td>Integration over the angle in three-dimensional space that an object subtends at a point.</td>
</tr>
<tr>
<td><strong>LineOfSight</strong></td>
<td>The line of sight is the line that connects the observer with the observed object. This expression is often used with measurements of Doppler velocity and magnetic field in magnetograms, where only the component of the vector field directed along the line of sight is measured.</td>
</tr>
<tr>
<td><strong>Linear</strong></td>
<td>Polarization where the E-field vector is confined to a given plane.</td>
</tr>
<tr>
<td><strong>Magnitude</strong></td>
<td>A measure of the strength of a vector quantity or length of its representational vector.</td>
</tr>
<tr>
<td><strong>Maximum</strong></td>
<td>The largest value of a batch or sample or the upper bound of a probability distribution.</td>
</tr>
<tr>
<td><strong>Median</strong></td>
<td>The measure of central tendency of a set of n. values computed by ordering the values and taking the value at position (n. + 1) / 2 when n. is odd or the arithmetic mean of the values at positions n. / 2 and (n. / 2) + 1 when n. is even.</td>
</tr>
<tr>
<td><strong>Minimum</strong></td>
<td>The smallest value of a batch or sample or the lower bound of a probability distribution.</td>
</tr>
<tr>
<td><strong>Moment</strong></td>
<td>Parameters determined by integration over a distribution function convolved with a power of velocity.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Term</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>enumeration</td>
<td>Parallel</td>
</tr>
<tr>
<td>enumeration</td>
<td>Peak</td>
</tr>
<tr>
<td>enumeration</td>
<td>Perpendicular</td>
</tr>
<tr>
<td>enumeration</td>
<td>Perturbation</td>
</tr>
<tr>
<td>enumeration</td>
<td>Phase</td>
</tr>
<tr>
<td>enumeration</td>
<td>PhaseAngle</td>
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<tr>
<td>enumeration</td>
<td>Projection</td>
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<td>enumeration</td>
<td>Projection.IJ</td>
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<td>Projection.JK</td>
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<td>Pseudo</td>
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<td>enumeration</td>
<td>Ratio</td>
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<tr>
<td>enumeration</td>
<td>Scalar</td>
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<td>enumeration</td>
<td>Spectral</td>
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<tr>
<td>enumeration</td>
<td>StandardDeviation</td>
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<tr>
<td>enumeration</td>
<td>StokesParameters</td>
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<td>Strahl</td>
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<td>enumeration</td>
<td>Superhalo</td>
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<td>Symmetric</td>
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<tr>
<td>enumeration</td>
<td>Tensor</td>
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<tr>
<td>enumeration</td>
<td>Total</td>
</tr>
<tr>
<td>enumeration</td>
<td>Trace</td>
</tr>
<tr>
<td>enumeration</td>
<td>Uncertainty</td>
</tr>
<tr>
<td>enumeration</td>
<td>Variance</td>
</tr>
<tr>
<td>enumeration</td>
<td>Vector</td>
</tr>
<tr>
<td>Facets</td>
<td>Enumeration</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>content:</td>
<td>simple</td>
</tr>
<tr>
<td>minOccurs</td>
<td>1</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>1</td>
</tr>
</tbody>
</table>

**Diagram**
![Diagram](image)

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

---

**Type**
spase:WaveQuantity

**Properties**
- **spase:Wave / spase:WaveQuantity**

**Facets**

- **enumeration**
  - **ACElectricField**
    - Alternating electric field component of a wave.
  - **ACMagneticField**
    - Alternating magnetic field component of a wave.
  - **Absorption**
    - Decrease of radiant energy (relative to the background continuum spectrum).
  - **Albedo**
    - The ratio of reflected radiation from the surface to incident radiation upon it.
  - **DopplerFrequency**
    - Change in the frequency of a propagating wave due to motion of the source, the observer, the reflector, or the propagation medium.
  - **Emissivity**
    - The energy emitted spontaneously per unit bandwidth (typically frequency) per unit time per unit mass of source. Emissivity is usually integrated over all directions/solid angles.
  - **EnergyFlux**
    - The amount of energy passing through a unit area in a unit time.
  - **EquivalentWidth**
    - The spectral width of a total absorption line having the amount of absorbed radiant energy being equivalent to that in an observed absorption line.
  - **Frequency**
    - The number of occurrences of a repeating event per unit time.
  - **Gyrofrequency**
    - The number of gyrations around a magnetic guiding center (field line) a charged particle makes per unit time due to the Lorentz force.
  - **Intensity**
    - The measurement of radiant or wave energy per unit detector area per unit bandwidth per unit solid angle per unit time.
  - **LineDepth**
    - The measure of the amount of absorption below the continuum (depth) in a particular wavelength or frequency in an absorption spectrum.
  - **LowerHybridFrequency**
    - Lower hybrid oscillations involve longitudinal motions of electrons and ions in a magnetized plasma. The propagation of lower hybrid waves must be close to perpendicular to the background magnetic field so that electrons cannot move along field lines thus preventing wave growth. The lower hybrid frequency, &Phi;<sub>LH</sub>, can be calculated by using &Phi;<sub>LH</sub> = \((\Omega<sub>ce</sub>\Omega<sub>ci</sub>)^{-1/2}\) where &Omega;<sub>ce</sub> and &Omega;<sub>ci</sub> are the electron and ion cyclotron frequencies, respectively, and Phi;<sub>LH</sub> is the ion plasma frequency.
  - **MagneticField**
    - A region of space near a magnetized body where magnetic forces can be detected (as measured by altitudes, or at a given latitude and longitude).
by methods such as Zeeman splitting, etc.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ModeAmplitude</td>
<td>In helioseismology the magnitude of oscillation of waves of a particular geometry.</td>
</tr>
<tr>
<td>PlasmaFrequency</td>
<td>A number-density-dependent characteristic frequency of a plasma.</td>
</tr>
<tr>
<td>Polarization</td>
<td>Direction of the electric vector of an electromagnetic wave. The wave can be linearly polarized in any direction perpendicular to the direction of travel, circularly polarized (clockwise or counterclockwise), unpolarized, or mixtures of the above.</td>
</tr>
<tr>
<td>PoyntingFlux</td>
<td>Electromagnetic energy flux transported by a wave characterized as the rate of energy transport per unit area per steradian.</td>
</tr>
<tr>
<td>PropagationTime</td>
<td>Time difference between transmission and reception of a wave in an active wave experiment.</td>
</tr>
<tr>
<td>StokesParameters</td>
<td></td>
</tr>
<tr>
<td>UpperHybridFrequency</td>
<td>Upper hybrid oscillations involve longitudinal motions of electrons perpendicular to the magnetic field. The upper hybrid frequency, (\Phi_{UH}), is governed by the relationship (\Phi_{UH}^2 = \Phi_{pe}^2 + \Phi_{ce}^2) where (\Phi_{pe}) is electron plasma frequency and (\Phi_{ce}) is the electron cyclotron frequency.</td>
</tr>
<tr>
<td>Velocity</td>
<td>Rate of change of position. Also used for the average velocity of a collection of particles, also referred to as &quot;bulk velocity&quot;.</td>
</tr>
<tr>
<td>Wavelength</td>
<td>The peak-to-peak distance over one wave period.</td>
</tr>
</tbody>
</table>

Source: `<xsd:element name="WaveQuantity" type="spase:WaveQuantity" minOccurs="1" maxOccurs="1"/>`

Schema location: `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

### Element `spase:Wave / spase:EnergyRange`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**
- **Type**: `spase:EnergyRange`
- **Properties**
  - content: `complex`
  - minOccurs: `0`
  - maxOccurs: `1`
- **Model**: `spase:Low`, `spase:High`, `spase:Units`, `spase:Bin`
- **Children**: `spase:Bin`, `spase:High`, `spase:Low`, `spase:Units`
- **Instance**
  ```xml```
  `<spase:EnergyRange xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:Low>{1,1}</spase:Low>
  <spase:High>{1,1}</spase:High>
  <spase:Units>{1,1}</spase:Units>
  <spase:Bin>{0,unbounded}</spase:Bin>
  </spase:EnergyRange>`
  ```
- **Source**
  ```xml```
  `<xsd:element name="EnergyRange" type="spase:EnergyRange" minOccurs="0" maxOccurs="1"/>`
  ```
### Element `spase:Wave` / `spase:FrequencyRange`

<table>
<thead>
<tr>
<th>Location</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
</table>

#### Type
`spase:FrequencyRange`

#### Properties
- **content**: complex
- **minOccurs**: 0
- **maxOccurs**: 1

#### Model
- `spase:SpectralRange[0,1]`, `spase:Low`, `spase:High`, `spase:Units`, `spase:Bin`

#### Children
- `spase:Bin`, `spase:High`, `spase:Low`, `spase:SpectralRange`, `spase:Units`

#### Instance
```xml
<spase:FrequencyRange xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:SpectralRange> {0,1} </spase:SpectralRange>
  <spase:Low> {1,1} </spase:Low>
  <spase:High> {1,1} </spase:High>
  <spase:Units> {1,1} </spase:Units>
  <spase:Bin> {0,unbounded} </spase:Bin>
</spase:FrequencyRange>
```

#### Source
```xml
<xsd:element  name= "FrequencyRange"  type= "spase:FrequencyRange"  minOccurs= "0"  maxOccurs= "1" />
```

### Element `spase:Wave` / `spase:WavelengthRange`

<table>
<thead>
<tr>
<th>Location</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
</table>

#### Type
`spase:WavelengthRange`

#### Properties
- **content**: complex
- **minOccurs**: 0
- **maxOccurs**: 1

#### Model
- `spase:SpectralRange[0,1]`, `spase:Low`, `spase:High`, `spase:Units`, `spase:Bin`

#### Children
- `spase:Bin`, `spase:High`, `spase:Low`, `spase:SpectralRange`, `spase:Units`

#### Instance
```xml
<spase:WavelengthRange xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:SpectralRange> {0,1} </spase:SpectralRange>
  <spase:Low> {1,1} </spase:Low>
  <spase:High> {1,1} </spase:High>
  <spase:Units> {1,1} </spase:Units>
  <spase:Bin> {0,unbounded} </spase:Bin>
</spase:WavelengthRange>
```

#### Source
```xml
<xsd:element  name= "WavelengthRange"  type= "spase:WavelengthRange"  minOccurs= "0"  maxOccurs= "1" />
```
### Model

<table>
<thead>
<tr>
<th>Model</th>
<th>spase:SpectralRange{0,1} , spase:Low , spase:High , spase:Units , spase:Bin*</th>
</tr>
</thead>
</table>

### Children

<table>
<thead>
<tr>
<th>Children</th>
<th>spase:Bin, spase:High, spase:Low, spase:SpectralRange, spase:Units</th>
</tr>
</thead>
</table>

### Instance

```
<spase:WavelengthRange xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:SpectralRange>{0,1}</spase:SpectralRange>
  <spase:Low>{1,1}</spase:Low>
  <spase:High>{1,1}</spase:High>
  <spase:Units>{1,1}</spase:Units>
  <spase:Bin>10,unbounded</spase:Bin>
</spase:WavelengthRange>
```

### Source

```
<xsd:element name="WavelengthRange" type="spase:WavelengthRange" minOccurs="0" maxOccurs="1"/>
```

### Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element spase:WavelengthRange / spase:SpectralRange

#### Namespace

http://www.spase-group.org/data/schema

#### Diagram

```
Diagram: SpectralRange
```

#### Type

spase:SpectralRange

#### Properties

<table>
<thead>
<tr>
<th>Properties</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>content:</td>
<td>simple</td>
</tr>
<tr>
<td>minOccurs:</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs:</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Facets

<table>
<thead>
<tr>
<th>Facets</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>CaK</td>
</tr>
<tr>
<td></td>
<td>A spectrum with a wavelength of range centered near 393.5 nm. VSO nickname: Ca-K image with range of 391.9 nm to 395.2 nm.</td>
</tr>
<tr>
<td>enumeration</td>
<td>ExtremeUltraviolet</td>
</tr>
<tr>
<td></td>
<td>A spectrum with a wavelength range of 10.0 nm to 125.0 nm. VSO nickname: EUV image with range of 10.0 nm to 125.0 nm.</td>
</tr>
<tr>
<td>enumeration</td>
<td>FarUltraviolet</td>
</tr>
<tr>
<td></td>
<td>A spectrum with a wavelength range of 122 nm to 200 nm. VSO nickname: FUV image with range of 122.0 nm to 200 nm.</td>
</tr>
<tr>
<td>enumeration</td>
<td>GammaRays</td>
</tr>
<tr>
<td></td>
<td>Photons with a wavelength range: 0.00001 to 0.001 nm</td>
</tr>
<tr>
<td>enumeration</td>
<td>Halpha</td>
</tr>
<tr>
<td></td>
<td>A spectrum with a wavelength range centered at 656.3 nm. VSO nickname: H-alpha image with a spectrum range of of 655.8 nm to 656.8 nm.</td>
</tr>
<tr>
<td>enumeration</td>
<td>HardXrays</td>
</tr>
<tr>
<td></td>
<td>Photons with a wavelength range: 0.001 to 0.1 nm and an energy range of 12 keV to 120 keV</td>
</tr>
<tr>
<td>enumeration</td>
<td>He10830</td>
</tr>
<tr>
<td></td>
<td>A spectrum with a wavelength range centered at 1082.9 nm. VSO nickname: He 10830 image with range of 1082.5 nm to 1083.3 nm.</td>
</tr>
<tr>
<td>enumeration</td>
<td>He304</td>
</tr>
<tr>
<td></td>
<td>A spectrum centered around the resonance line of ionised helium at 304 Angstrom (30.4 nm).</td>
</tr>
<tr>
<td>enumeration</td>
<td>Infrared</td>
</tr>
<tr>
<td></td>
<td>Photons with a wavelength range: 760 to 1.00x10^6 nm</td>
</tr>
<tr>
<td>enumeration</td>
<td>K7699</td>
</tr>
<tr>
<td></td>
<td>A spectrum with a wavelength range centred at 769.9 nm. VSO nickname: K-7699 dopplergram with range of 769.8 nm to 770.0 nm.</td>
</tr>
<tr>
<td>enumeration</td>
<td>LBHBand</td>
</tr>
<tr>
<td></td>
<td>Lyman-Birge-Hopfield band in the far ultraviolet range with wavelength range of 140nm to 170 nm.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Microwave</td>
</tr>
<tr>
<td></td>
<td>Photons with a wavelength range: 1.00x10^6 to 1.50x10^7 nm</td>
</tr>
<tr>
<td>enumeration</td>
<td>NaD</td>
</tr>
<tr>
<td></td>
<td>A spectrum with a wavelength range of centered at 589.3 nm. VSO nickname: Na-D image with range of 588.8 nm to 589.8 nm.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Ni6768</td>
</tr>
<tr>
<td></td>
<td>A spectrum with a wavelength range centered at 676.8 nm. VSO nickname: Ni-6768 dopplergram with range of of 676.7 nm to 676.9 nm.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Optical</td>
</tr>
<tr>
<td></td>
<td>Photons with a wavelength range: 380 to 760 nm</td>
</tr>
<tr>
<td>enumeration</td>
<td>RadioFrequency</td>
</tr>
<tr>
<td></td>
<td>Photons with a wavelength range: 100,000 to 1.00x10^11 nm</td>
</tr>
</tbody>
</table>
## Element `spase:SpectralRange` / `spase:Low`

- **Namespace:** `http://www.spase-group.org/data/schema`
- **Diagram:**
  - `spase:Low`
- **Properties:**
  - `content`: `simple`
  - `minOccurs`: `1`
  - `maxOccurs`: `1`
- **Source:**
  ```xml
  <xsd:element name="Low" type="spase:Low" minOccurs="1" maxOccurs="1"/>
  ```
  
  *Schema location:* `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

## Element `spase:SpectralRange` / `spase:High`

- **Namespace:** `http://www.spase-group.org/data/schema`
- **Diagram:**
  - `spase:High`
- **Properties:**
  - `content`: `simple`
  - `minOccurs`: `1`
  - `maxOccurs`: `1`
- **Source:**
  ```xml
  <xsd:element name="High" type="spase:High" minOccurs="1" maxOccurs="1"/>
  ```
  
  *Schema location:* `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

## Element `spase:SpectralRange` / `spase:Units`

- **Namespace:** `http://www.spase-group.org/data/schema`
- **Diagram:**
  - `spase:Units`
- **Properties:**
  - `content`: `simple`
  - `minOccurs`: `1`
  - `maxOccurs`: `1`
- **Source:**
  ```xml
  <xsd:element name="Units" type="spase:Units" minOccurs="1" maxOccurs="1"/>
  ```
  
  *Schema location:* `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

## Element `spase:SpectralRange` / `spase:Bin`

- **Namespace:** `http://www.spase-group.org/data/schema`
Schema documentation for spase-2_3_1.xsd

**Type**
spase:Bin

**Properties**
- content: complex
- minOccurs: 0
- maxOccurs: unbounded

**Model**
spase:BandName[0,1], spase:Low, spase:High

**Children**
spase:BandName, spase:High, spase:Low

**Instance**
```xml
<spase:Bin xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:BandName>{0,1}</spase:BandName>
  <spase:Low>{1,1}</spase:Low>
  <spase:High>{1,1}</spase:High>
</spase:Bin>
```

**Source**
```xml
<xsd:element  name= "Bin"  type= "spase:Bin"  minOccurs= "0"  maxOccurs= "unbounded"/>
```

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:Parameter / spase:Mixed**

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

**Type**
spase:Mixed

**Properties**
- content: complex

**Model**
spase:MixedQuantity, spase:ParticleType*, spase:Qualifier*

**Children**
spase:MixedQuantity, spase:ParticleType, spase:Qualifier

**Instance**
```xml
<spase:Mixed xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:MixedQuantity>{1,1}</spase:MixedQuantity>
  <spase:ParticleType>[0,unbounded]</spase:ParticleType>
  <spase:Qualifier>[0,unbounded]</spase:Qualifier>
</spase:Mixed>
```

**Source**
```xml
<xsd:element name="Mixed" type="spase:Mixed"/>
```

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:Mixed / spase:MixedQuantity**

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

**Type**
spase:MixedQuantity

**Properties**
- content: simple
- minOccurs: 1
Facets

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AkasofuEpsilon</td>
<td>A measure of the magnetopause energy flux and an indicator of the solar wind power available for subsequent magnetospheric energization. Defined as: ( V^2 B^2 l^2 \sin^4(\theta/2) ) where ( B ) is the IMF, ( l ) is an empirical scaling parameter equal to 7 RE, and ( \theta = \tan(BY/BR) ) to the IMF clock angle.</td>
</tr>
<tr>
<td>AlfvenMachNumber</td>
<td>The ratio of the bulk flow speed to the Alfven speed.</td>
</tr>
<tr>
<td>AlfvenVelocity</td>
<td>Phase velocity of the Alfven wave; In SI units it is the velocity of the magnetic field divided by the square root of the mass density times the permeability of free space (( \mu )).</td>
</tr>
<tr>
<td>FrequencyToGyrofrequencyRatio</td>
<td>The ratio of the characteristic frequency of a medium to gyrofrequency of a particle.</td>
</tr>
<tr>
<td>IMFClockAngle</td>
<td>The clockwise angle of the direction of interplanetary magnetic field (IMF) measured in the plane of the body pole perpendicular to the line between the body and the Sun.</td>
</tr>
<tr>
<td>MagnetosonicMachNumber</td>
<td>The ratio of the velocity of fast mode waves to the Alfven velocity.</td>
</tr>
<tr>
<td>PlasmaBeta</td>
<td>The ratio of the plasma pressure ( (nKT) ) to the magnetic pressure ( (B^2/2\mu_0) ) of the SUM( (nKT)/(B^2/2\mu_0) ).</td>
</tr>
<tr>
<td>SolarUVFlux</td>
<td>The amount of Ultraviolet energy originating from the Sun passing through a unit area in a unit time.</td>
</tr>
<tr>
<td>TotalPressure</td>
<td>In an MHD fluid it is the number density ( (N) ) times Boltzmann constant times the temperature in Kelvin.</td>
</tr>
<tr>
<td>VCrossB</td>
<td>The cross product of the charge velocity ( (V) ) and the magnetic field ( (B) ). It is the electric field exerted on a point charge by a magnetic field.</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:element name="MixedQuantity" type="spase:MixedQuantity" minOccurs="1" maxOccurs="1"/>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Mixed / spase:ParticleType`

Namespace

http://www.spase-group.org/data/schema

Diagram

```
ParticleType
  type: spase:ParticleType
  ```

Type

spase:ParticleType

Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>content</td>
<td>simple</td>
</tr>
<tr>
<td>minOccurs</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>unbounded</td>
</tr>
</tbody>
</table>

Facets

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerosol</td>
<td>A suspension of fine solid or liquid particles in a gas.</td>
</tr>
<tr>
<td>AlphaParticle</td>
<td>A positively charged nuclear particle that consists of two protons and two neutrons.</td>
</tr>
<tr>
<td>Atom</td>
<td>Matter consisting of a nucleus surrounded by electrons which has no net charge.</td>
</tr>
<tr>
<td>Dust</td>
<td>Free microscopic particles of solid material.</td>
</tr>
<tr>
<td>Electron</td>
<td>An elementary particle consisting of a charge of negative electricity equal to about 1.602 ( \times 10^{-19} ) Coulomb and having a mass when at rest of about 9.109534 ( \times 10^{-28} ) gram.</td>
</tr>
<tr>
<td>Ion</td>
<td>An atom that has acquired a net electric charge</td>
</tr>
</tbody>
</table>
by gaining or losing one or more electrons. (Note: Z > 2)

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecule</td>
<td>A group of atoms so united and combined by chemical affinity that they form a complete, integrated whole, being the smallest portion of any particular compound that can exist in a free state</td>
</tr>
<tr>
<td>Neutron</td>
<td>An elementary particle that has no net charge and is a constituent of atomic nuclei, and that has a mass slightly larger than a proton (1.673 x 10^{-24} gram.)</td>
</tr>
<tr>
<td>Positron</td>
<td>An elementary particle consisting of a charge of positive electricity equal to about 1.602 x 10^{-19} Coulomb and having a mass when at rest of about 9.10935 x 10^{-28} gram.</td>
</tr>
<tr>
<td>Proton</td>
<td>An elementary particle that is a constituent of all atomic nuclei, that carries a positive charge numerically equal to the charge of an electron, and that has a mass of 1.673 x 10^{-24} gram.</td>
</tr>
</tbody>
</table>

Source

<xs:element name="ParticleType" type="spase:ParticleType" minOccurs="0" maxOccurs="unbounded"/>

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Mixed / spase:Qualifier`

<table>
<thead>
<tr>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>content: simple</td>
</tr>
<tr>
<td>minOccurs: 0</td>
</tr>
<tr>
<td>maxOccurs: unbounded</td>
</tr>
</tbody>
</table>

### Facets

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anisotropy</td>
<td>Direction-dependent property.</td>
</tr>
<tr>
<td>Array</td>
<td>A sequence of values corresponding to the elements in a rectilinear, n-dimension matrix. Each value can be referenced by a unique index.</td>
</tr>
<tr>
<td>Average</td>
<td>The statistical mean; the sum of a set of values divided by the number of values in the set.</td>
</tr>
<tr>
<td>Characteristic</td>
<td>A quantity which can be easily identified and measured in a given environment.</td>
</tr>
<tr>
<td>Circular</td>
<td>Relative to polarization, right-hand circularly polarized light is defined such that the electric field is rotating clockwise as seen by an observer towards whom the wave is moving. Left-hand circularly polarized light is defined such that the electric field is rotating counterclockwise as seen by an observer towards whom the wave is moving. The polarization of magnetohydrodynamic waves is specified with respect to the ambient mean magnetic field: right-hand polarized waves have a transverse electric field component which turns in a right-handed sense (that of the gyrating electrons) around the magnetic field.</td>
</tr>
<tr>
<td>Column</td>
<td>A two-dimensional measure of a quantity. The column is the area over which the quantity is measured.</td>
</tr>
<tr>
<td>Component</td>
<td>Projection of a vector along one of the base axes of a coordinate system.</td>
</tr>
<tr>
<td>Component.I</td>
<td>Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.</td>
</tr>
</tbody>
</table>
| Component.J | Projection of a vector along the second named
<table>
<thead>
<tr>
<th>enumeration</th>
<th>Component.K</th>
<th>Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Confidence</td>
<td>An expression of how certain that a quantity is valid or accurate.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Core</td>
<td>The central or main part of an object or calculated distribution. For example, the part of a distribution of particles at low energies that is a thermal (Maxwellian) population.</td>
</tr>
<tr>
<td>enumeration</td>
<td>CrossSpectrum</td>
<td>The Fourier transform of the cross correlation of two physical or empirical observations.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Deviation</td>
<td>The difference between an observed value and the expected value of a quantity.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Differential</td>
<td>A measurement within a narrow range of energy and/or solid angle.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Direction</td>
<td>The spatial relation between an object and another object, the orientation of the object or the course along which the object points or moves.</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionAngle</td>
<td>The angle between a position vector or measured vector (or one of its projections onto a plane) and one of the base axes of the coordinate system.</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionAngle.AzimuthAngle</td>
<td>The angle between the projection into the i-j plane of a position or measured vector and the i-axis of the coordinate system. Mathematically defined as $\arctan(\frac{j}{i})$. This term could be also applied to angles measured in different planes, for example the IMF clock angle defined as $\arctan(\frac{</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionAngle.ElevationAngle</td>
<td>The angle between the position or measured vector and the i-j plane of the coordinate system. Mathematically defined as $\arctan(\frac{k}{\sqrt{i^2+j^2}})$.</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionAngle.PolarAngle</td>
<td>The angle between the position or measured vector and the k-axis of the coordinate system. Mathematically defined as $\arctan(\sqrt{1+(\frac{k}{\sqrt{i^2+j^2}})^2})$. This term could be also applied to angles between the vector and other components, for example the IMF cone angle defined as $\arccos(\frac{B_x}{B_t})$.</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionCosine</td>
<td>The cosine of the angle between two vectors usually between a vector and one of the basis axes defining a Cartesian coordinate system. Three angles and thus three direction cosines are required to define a vector direction in a three dimensional Euclidean space.</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionCosine.I</td>
<td>Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionCosine.J</td>
<td>Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionCosine.K</td>
<td>Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Directional</td>
<td>A measurement within a narrow range of solid angle.</td>
</tr>
<tr>
<td>enumeration</td>
<td>FieldAligned</td>
<td>Values that make an model agree with the data.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Fit</td>
<td>An assemblage of values that a certain relation</td>
</tr>
<tr>
<td>enumeration</td>
<td>Group</td>
<td></td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Halo</td>
<td>The part of an object or distribution surrounding some central body or distribution. For example, the particles above the core energies that show enhancements above the thermal population. Typically, a &quot;power law tail&quot; shows a break from the core Maxwellian at a particular energy.</td>
<td></td>
</tr>
<tr>
<td>Integral</td>
<td>A flux measurement in a broad range of energy and solid angle.</td>
<td></td>
</tr>
<tr>
<td>Integral.Area</td>
<td>Integration over the extent of a planar region, or of the surface of a solid.</td>
<td></td>
</tr>
<tr>
<td>Integral.Bandwidth</td>
<td>Integration over the width a frequency band.</td>
<td></td>
</tr>
<tr>
<td>Integral.SolidAngle</td>
<td>Integration over the angle in three-dimensional space that an object subtends at a point.</td>
<td></td>
</tr>
<tr>
<td>LineOfSight</td>
<td>The line of sight is the line that connects the observer with the observed object. This expression is often used with measurements of Doppler velocity and magnetic field in magnetograms, where only the component of the vector field directed along the line of sight is measured.</td>
<td></td>
</tr>
<tr>
<td>Linear</td>
<td>Polarization where the E-field vector is confined to a given plane.</td>
<td></td>
</tr>
<tr>
<td>Magnitude</td>
<td>A measure of the strength of a vector quantity or length of its representational vector.</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>The largest value of a batch or sample or the upper bound of a probability distribution.</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>The measure of central tendency of a set of n. values computed by ordering the values and taking the value at position (n. + 1) / 2 when n. is odd or the arithmetic mean of the values at positions n. / 2 and (n. / 2) + 1 when n. is even.</td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td>The smallest value of a batch or sample or the lower bound of a probability distribution.</td>
<td></td>
</tr>
<tr>
<td>Moment</td>
<td>Parameters determined by integration over a distribution function convolved with a power of velocity.</td>
<td></td>
</tr>
<tr>
<td>Parallel</td>
<td>Having the same direction as a given direction.</td>
<td></td>
</tr>
<tr>
<td>Peak</td>
<td>The maximum value for the quantity in question, over a period of time which is usually equal to the cadence.</td>
<td></td>
</tr>
<tr>
<td>Perpendicular</td>
<td>At right angles to a given direction.</td>
<td></td>
</tr>
<tr>
<td>Perturbation</td>
<td>Variations in the state of a system.</td>
<td></td>
</tr>
<tr>
<td>Phase</td>
<td>A point or portion in a recurring series of changes.</td>
<td></td>
</tr>
<tr>
<td>PhaseAngle</td>
<td>Phase difference between two or more waves, normally expressed in degrees.</td>
<td></td>
</tr>
<tr>
<td>Projection</td>
<td>A measure of the length of a position or measured vector as projected into a plane of the coordinate system.</td>
<td></td>
</tr>
<tr>
<td>Projection.IJ</td>
<td>A measure of the length of a position or measured vector projected into the i-j (typically X-Y) plane of the coordinate system.</td>
<td></td>
</tr>
<tr>
<td>Projection.IK</td>
<td>A measure of the length of a position or measured vector projected into the i-k (typically X-Z) plane of the coordinate system.</td>
<td></td>
</tr>
<tr>
<td>Projection.JK</td>
<td>A measure of the length of a position or measured vector projected into the j-k (typically Y-Z) plane of the coordinate system.</td>
<td></td>
</tr>
<tr>
<td>Pseudo</td>
<td>Similar to or having the appearance of something else. Can be used to indicate an estimation or approximation of a particular quantity.</td>
<td></td>
</tr>
<tr>
<td>Ratio</td>
<td>The relative magnitudes of two quantities.</td>
<td></td>
</tr>
<tr>
<td>Scalar</td>
<td>A quantity that is completely specified by its magnitude and has no direction.</td>
<td></td>
</tr>
<tr>
<td>enumeration</td>
<td>Spectral</td>
<td>Characterized as a range or continuum of frequencies.</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>enumeration</td>
<td>StandardDeviation</td>
<td>The square root of the average of the squares of deviations about the mean of a set of data. Standard deviation is a statistical measure of spread or variability.</td>
</tr>
<tr>
<td>enumeration</td>
<td>StokesParameters</td>
<td>A statistical measure of spread or variability.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Strahl</td>
<td>A distribution of particles concentrated in a narrow energy band. The band may be may be aligned with a secondary feature. For example, it may occur in a narrow cone aligned with the mean magnetic field direction.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Superhalo</td>
<td>The part of an object or distribution surrounding some central body or distribution evident in a second break in the distribution function (e.g., a different power law). It consists of a population at a higher energies than for a halo.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Symmetric</td>
<td>Equal distribution about one or more axes.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Tensor</td>
<td>A generalized linear &quot;quantity&quot; or &quot;geometrical entity&quot; that can be expressed as a multi-dimensional array relative to a choice of basis of the particular space on which it is defined.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Total</td>
<td>The summation of quantities over all possible species.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Trace</td>
<td>The sum of the elements on the main diagonal (the diagonal from the upper left to the lower right) of a square matrix.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Uncertainty</td>
<td>A statistically defined discrepancy between a measured quantity and the true value of that quantity that cannot be corrected by calculation or calibration.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Variance</td>
<td>A measure of dispersion of a set of data points around their mean value. The expectation value of the squared deviations from the mean.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Vector</td>
<td>A set of parameter values each along some independent variable (e.g., components of a field in three orthogonal spatial directions; atmospheric temperature values at several altitudes, or at a given latitude and longitude).</td>
</tr>
</tbody>
</table>

Source: `file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

### Element `spase:Parameter` / `spase:Support`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**  
![Diagram](image)

**Type**  
`spase:Support`

**Properties**  
- `content`: `complex`
- `Model`: `spase:Qualifier`, `spase:SupportQuantity`
- `Children`: `spase:Qualifier`, `spase:SupportQuantity`

**Instance**  
```xml
<spase:Support xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:Qualifier>[0,unbounded]</spase:Qualifier>
  <spase:SupportQuantity>[1,1]</spase:SupportQuantity>
</spase:Support>
```

**Source**  
`<xsd:element name="Support" type="spase:Support"/>`
## Element `spase:Support / spase:Qualifier`

<table>
<thead>
<tr>
<th>Properties</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>content</td>
<td>simple</td>
</tr>
<tr>
<td>minOccurs</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>unbounded</td>
</tr>
</tbody>
</table>

### Facets

<table>
<thead>
<tr>
<th>Facet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anisotropy</td>
<td>A sequence of values corresponding to the elements in a rectilinear, n-dimension matrix. Each value can be referenced by a unique index.</td>
</tr>
<tr>
<td>Array</td>
<td>A direction-dependent property.</td>
</tr>
<tr>
<td>Average</td>
<td>The statistical mean; the sum of a set of values divided by the number of values in the set.</td>
</tr>
<tr>
<td>Characteristic</td>
<td>A quantity which can be easily identified and measured in a given environment.</td>
</tr>
<tr>
<td>Circular</td>
<td>Relative to polarization, right-hand circularly polarized light is defined such that the electric field is rotating clockwise as seen by an observer towards whom the wave is moving. Left-hand circularly polarized light is defined such that the electric field is rotating counterclockwise as seen by an observer towards whom the wave is moving. The polarization of magnetohydrodynamic waves is specified with respect to the ambient mean magnetic field: right-hand polarized waves have a transverse electric field component which turns in a right-handed sense (that of the gyrating electrons) around the magnetic field.</td>
</tr>
<tr>
<td>Column</td>
<td>A two-dimensional measure of a quantity. The column is the area over which the quantity is measured.</td>
</tr>
<tr>
<td>Component</td>
<td>Projection of a vector along one of the base axes of a coordinate system.</td>
</tr>
<tr>
<td>Component.I</td>
<td>Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>Component.J</td>
<td>Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>Component.K</td>
<td>Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>Confidence</td>
<td>An expression of how certain that a quantity is valid or accurate.</td>
</tr>
<tr>
<td>Core</td>
<td>The central or main part of an object or calculated distribution. For example, the part of a distribution of particles at low energies that is a thermal (Maxwellian) population.</td>
</tr>
<tr>
<td>CrossSpectrum</td>
<td>The Fourier transform of the cross correlation of two physical or empirical observations.</td>
</tr>
<tr>
<td>Deviation</td>
<td>The difference between an observed value and the expected value of a quantity.</td>
</tr>
<tr>
<td>Differential</td>
<td>A measurement within a narrow range of energy and/or solid angle.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>Direction</strong></td>
<td>The spatial relation between an object and another object, the orientation of the object or the course along which the object points or moves.</td>
</tr>
<tr>
<td><strong>DirectionAngle</strong></td>
<td>The angle between a position vector or measured vector (or one of its projections onto a plane) and one of the base axes of the coordinate system.</td>
</tr>
<tr>
<td><strong>DirectionAngle.AzimuthAngle</strong></td>
<td>The angle between the projection into the i-j plane of a position or measured vector and the i-axis of the coordinate system. Mathematically defined as $arctan(j/i)$. This term could be also applied to angles measured in different planes, for example the IMF clock angle defined as $arctan(</td>
</tr>
<tr>
<td><strong>DirectionAngle.ElevationAngle</strong></td>
<td>The angle between the position or measured vector and the i-j plane of the coordinate system. Mathematically defined as $arctan(k/\sqrt{i^2+j^2})$.</td>
</tr>
<tr>
<td><strong>DirectionAngle.PolarAngle</strong></td>
<td>The angle between the position or measured vector and the k-axis of the coordinate system. Mathematically defined as $arctan(\sqrt{i^2+j^2}/k)$. This term could be also applied to angles between the vector and other components, for example the IMF cone angle defined as $arccos(Bx/Bt)$.</td>
</tr>
<tr>
<td><strong>DirectionCosine</strong></td>
<td>The cosine of the angle between two vectors usually between a vector and one of the basis axes defining a Cartesian coordinate system. Three angles and thus three direction cosines are required to define a vector direction in a three dimensional Euclidean space.</td>
</tr>
<tr>
<td><strong>DirectionCosine.I</strong></td>
<td>Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.</td>
</tr>
<tr>
<td><strong>DirectionCosine.J</strong></td>
<td>Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.</td>
</tr>
<tr>
<td><strong>DirectionCosine.K</strong></td>
<td>Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.</td>
</tr>
<tr>
<td><strong>Directional</strong></td>
<td>A measurement within a narrow range of solid angle.</td>
</tr>
<tr>
<td><strong>FieldAligned</strong></td>
<td>Values that make a model agree with the data.</td>
</tr>
<tr>
<td><strong>Fit</strong></td>
<td>An assemblage of values that a certain relation or common characteristic.</td>
</tr>
<tr>
<td><strong>Halo</strong></td>
<td>The part of an object or distribution surrounding some central body or distribution. For example, the particles above the core energies that show enhancements above the thermal population. Typically, a &quot;power law tail&quot; shows a break from the core Maxwellian at a particular energy.</td>
</tr>
<tr>
<td><strong>Integral</strong></td>
<td>A flux measurement in a broad range of energy and solid angle.</td>
</tr>
<tr>
<td><strong>Integral.Area</strong></td>
<td>Integration over the extent of a planar region, or of the surface of a solid.</td>
</tr>
<tr>
<td><strong>Integral.Bandwidth</strong></td>
<td>Integration over the width a frequency band.</td>
</tr>
<tr>
<td><strong>Integral.SolidAngle</strong></td>
<td>Integration over the angle in three-dimensional space that an object subtends at a point.</td>
</tr>
<tr>
<td><strong>LineOfSight</strong></td>
<td>The line of sight is the line that connects the observer with the observed object. This expression is often used with measurements of Doppler velocity and magnetic field in magnetograms, where only the component of the vector field directed along the line of sight is measured.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Linear</td>
</tr>
<tr>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>enumeration</td>
<td>Magnitude</td>
</tr>
<tr>
<td>enumeration</td>
<td>Maximum</td>
</tr>
<tr>
<td>enumeration</td>
<td>Median</td>
</tr>
<tr>
<td>enumeration</td>
<td>Minimum</td>
</tr>
<tr>
<td>enumeration</td>
<td>Moment</td>
</tr>
<tr>
<td>enumeration</td>
<td>Parallel</td>
</tr>
<tr>
<td>enumeration</td>
<td>Peak</td>
</tr>
<tr>
<td>enumeration</td>
<td>Perpendicular</td>
</tr>
<tr>
<td>enumeration</td>
<td>Perturbation</td>
</tr>
<tr>
<td>enumeration</td>
<td>Phase</td>
</tr>
<tr>
<td>enumeration</td>
<td>PhaseAngle</td>
</tr>
<tr>
<td>enumeration</td>
<td>Projection</td>
</tr>
<tr>
<td>enumeration</td>
<td>Projection.IJ</td>
</tr>
<tr>
<td>enumeration</td>
<td>Projection.IK</td>
</tr>
<tr>
<td>enumeration</td>
<td>Projection.JK</td>
</tr>
<tr>
<td>enumeration</td>
<td>Pseudo</td>
</tr>
<tr>
<td>enumeration</td>
<td>Ratio</td>
</tr>
<tr>
<td>enumeration</td>
<td>Scalar</td>
</tr>
<tr>
<td>enumeration</td>
<td>Spectral</td>
</tr>
<tr>
<td>enumeration</td>
<td>StandardDeviation</td>
</tr>
<tr>
<td>enumeration</td>
<td>StokesParameters</td>
</tr>
<tr>
<td>enumeration</td>
<td>Strahl</td>
</tr>
<tr>
<td>enumeration</td>
<td>Superhalo</td>
</tr>
<tr>
<td>enumeration</td>
<td>Symmetric</td>
</tr>
</tbody>
</table>
### Enumeration:

- **Total**: The summation of quantities over all possible species.
- **Trace**: The sum of the elements on the main diagonal (the diagonal from the upper left to the lower right) of a square matrix.
- **Uncertainty**: A statistically defined discrepancy between a measured quantity and the true value of that quantity that cannot be corrected by calculation or calibration.
- **Variance**: A measure of dispersion of a set of data points around their mean value. The expectation value of the squared deviations from the mean.
- **Vector**: A set of parameter values each along some independent variable (e.g., components of a field in three orthogonal spatial directions; atmospheric temperature values at several altitudes, or at a given latitude and longitude).

### Source:

```
<xs:element name="Qualifier" type="spase:Qualifier" minOccurs="0" maxOccurs="unbounded"/>
```

### Schema Location:

file:\C:\Projects\work\spase\data-model\spase-model-tools\build\bin\spase-2_3_1.xsd

---

**Element `spase:Support` / `spase:SupportQuantity`**

**Namespace**: http://www.spase-group.org/data/schema

**Diagram**:

```
  * spase:SupportQuantity — spase:SupportQuantity
```

**Type**: spase:SupportQuantity

**Properties**:

- **content**: simple
- **minOccurs**: 1
- **maxOccurs**: 1

**Facets**:

- **DataQuality**: An ancillary parameter that denotes the standard or degree of accuracy, trustworthiness, or usefulness of another parameter.
- **InstrumentMode**: An indication of a state (mode) in which the instrument is operating. How a mode influences the interpretation and representation of data is described in instrument related documentation.
- **Orientation**: The specification of the directional alignment of an object or measurement in a reference coordinate system. The orientation such as a spacecraft spin axis attitude is usually expressed as one or more angles relative to the basis axes of some specified physical space usually together with the date/time of the observation.
- **Other**: Not classified with more specific terms. The context of its usage may be described in related text.
- **Positional**: The specification of the location of an object or measurement within a reference coordinate system. The position is usually expressed as a set of values corresponding to the location along a set of orthogonal axes together with the date/time of the observation.
- **SpinPeriod**: The time required for an object such as a spacecraft or planet to perform one full rotation in a given frame of reference.
- **SpinPhase**: An angular based or normalized parameter that specifies the spin state of an object such as a spacecraft or planet in a specific coordinate system usually together with the date/time of the observation.
- **SpinRate**: The angular rate of change of the spin angle.
of an object such as a spacecraft or planet.

- **Spatial**: Pertaining to position.
- **Temporal**: Pertaining to time.
- **Velocity**: Rate of change of position. Also used for the average velocity of a collection of particles, also referred to as "bulk velocity".

**Source**

```xml
<xsd:element name="SupportQuantity" type="spase:SupportQuantity" minOccurs="1" maxOccurs="1"/>
```

**Schema location**

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Catalog` / `spase:Extension`

**Namespace**

http://www.spase-group.org/data/schema

**Diagram**

![Diagram](image)

**Type**

spase:Extension

**Properties**

- **content**: complex
- **minOccurs**: 0
- **maxOccurs**: unbounded

**Model**

ANY element from ANY namespace OTHER than 'http://www.spase-group.org/data/schema'

**Source**

```xml
<xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
```

**Schema location**

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Spase` / `spase:DisplayData`

**Namespace**

http://www.spase-group.org/data/schema
Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:DisplayData</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: complex</td>
</tr>
</tbody>
</table>

| Model | spase:ResourceID, spase:ResourceHeader, spase:AccessInformation+, spase:ProcessingLevel[0,1], spase:ProviderName[0,1], spase:ProviderResourceManager[0,1], spase:ProviderProcessingLevel[0,1], spase:ProviderVersion[0,1], spase:InstrumentID+, spase:MeasurementType+, spase:TemporalDescription[0,1], spase:SpectralRange*, spase:DisplayCadence[0,1], spase:ObservedRegion*, spase:Caveats[0,1], spase:Keyword*, spase:InputResourceID*, spase:Parameter*, spase:Extension* |


| Instance | <spase:DisplayData xmlns:spase="http://www.spase-group.org/data/schema">
<spase:ResourceID>[1,1]</spase:ResourceID>
<spase:ResourceHeader>[1,1]</spase:ResourceHeader>
<spase:AccessInformation>[1,unbounded]</spase:AccessInformation>
<spase:ProcessingLevel> {0,1} </spase:ProcessingLevel>
<spase:ProviderName> {0,1} </spase:ProviderName>
<spase:ProviderResourceName> {0,1} </spase:ProviderResourceName>
<spase:ProviderProcessingLevel> {0,1} </spase:ProviderProcessingLevel>
<spase:ProviderVersion> {0,1} </spase:ProviderVersion>
<spase:InstrumentID> {0, unbounded} </spase:InstrumentID>
<spase:MeasurementType> {1, unbounded} </spase:MeasurementType>
<spase:TemporalDescription> {0,1} </spase:TemporalDescription>
<spase:SpectralRange> {0, unbounded} </spase:SpectralRange>
<spase:DisplayCadence> {0,1} </spase:DisplayCadence>
<spase:ObservedRegion> {0, unbounded} </spase:ObservedRegion>
<spase:Caveats> {0,1} </spase:Caveats>
<spase:Keyword> {0, unbounded} </spase:Keyword>
<spase:InputResourceID> {0, unbounded} </spase:InputResourceID>
<spase:Parameter> {0, unbounded} </spase:Parameter>
<spase:Extension> {0, unbounded} </spase:Extension>
</spase:DisplayData>

Source
<xsd:element name="DisplayData" type="spase:DisplayData"/>

Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:DisplayData / spase:ResourceID

Namespace http://www.spase-group.org/data/schema

Diagram

Type
spase:ResourceID

Properties
content: simple
minOccurs: 1
maxOccurs: 1

Source
<xsd:element name="ResourceID" type="spase:ResourceID" minOccurs="1" maxOccurs="1"/>

Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:DisplayData / spase:ResourceHeader

Namespace http://www.spase-group.org/data/schema
**Diagram**

```
<spase:ResourceHeader xmlns:spase= "http://www.spase-group.org/data/schema" >
<spase:ResourceName > {1,1} </spase:ResourceName>
<spase:AlternateName > {0,unbounded} </spase:AlternateName>
<spase:DOI > {0,1} </spase:DOI>
<spase:ReleaseDate > {1,1} </spase:ReleaseDate>
<spase:RevisionHistory > {0,1} </spase:RevisionHistory>
<spase:ExpirationDate > {0,1} </spase:ExpirationDate>
<spase:Description > {1,1} </spase:Description>
<spase:Acknowledgement > {0,1} </spase:Acknowledgement>
<spase:PublicationInfo > {0,1} </spase:PublicationInfo>
<spase:Funding > {0,unbounded} </spase:Funding>
<spase:Contact > {1,unbounded} </spase:Contact>
<spase:InformationURL > {0,unbounded} </spase:InformationURL>
<spase:Association > {0,unbounded} </spase:Association>
<spase:PriorID > {0,unbounded} </spase:PriorID>
</spase:ResourceHeader>
```

**Type**

- `spase:ResourceHeader`  
  - `spase:ResourceHeader`  
    - complex  
    - minOccurs: 1  
    - maxOccurs: 1  

**Model**

- `spase:ResourceName`  
- `spase:AlternateName*`  
- `spase:DOI{0,1}`  
- `spase:ReleaseDate`  
- `spase:RevisionHistory{0,1}`  
- `spase:ExpirationDate{0,1}`  
- `spase:Description`  
- `spase:Acknowledgement{0,1}`  
- `spase:PublicationInfo{0,1}`  
- `spase:Funding*`  
- `spase:Contact+`  
- `spase:InformationURL*`  
- `spase:Association*`  
- `spase:PriorID*`  

**Children**

- `spase:Acknowledgement`  
- `spase:AlternateName`  
- `spase:Association`  
- `spase:Contact`  
- `spase:DOI`  
- `spase:Description`  
- `spase:ExpirationDate`  
- `spase:Funding`  
- `spase:InformationURL`  
- `spase:PublicationInfo`  
- `spase:ReleaseDate`  
- `spase:ResourceName`  
- `spase:RevisionHistory`  

**Source**

```xml
<xsd:element name="ResourceHeader" type="spase:ResourceHeader" minOccurs="1" maxOccurs="1"/>
```
Element `spase:DisplayData / spase:AccessInformation`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**
![Diagram of spase:AccessInformation](image)

**Type**  
`spase:AccessInformation`

**Properties**
- `content`: complex
- `minOccurs`: 1
- `maxOccurs`: unbounded

**Model**

**Children**

**Instance**
```
  <spase:RepositoryID>{1,1}</spase:RepositoryID>
  <spase:Availability>{0,1}</spase:Availability>
  <spase:AccessRights>{0,1}</spase:AccessRights>
  <spase:Format>{1,1}</spase:Format>
  <spase:Encoding>{0,1}</spase:Encoding>
  <spase:DataExtent>{0,1}</spase:DataExtent>
  <spase:Acknowledgement>{0,1}</spase:Acknowledgement>
</spase:AccessInformation>
```

**Source**
```
<xsd:element name="AccessInformation" type="spase:AccessInformation" minOccurs="1" maxOccurs="unbounded"/>
```

Element `spase:DisplayData / spase:ProcessingLevel`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**
![Diagram of spase:ProcessingLevel](image)

**Type**  
`spase:ProcessingLevel`

**Properties**
- `content`: simple
- `minOccurs`: 0
- `maxOccurs`: 1

**Facets**
- `enumeration`  
  - Calibrated  
  - Data wherein sensor outputs have been convolved
with instrument response function, often
irreversibly,
to yield data in physical units.

<table>
<thead>
<tr>
<th>Type</th>
<th>Content</th>
<th>Description</th>
</tr>
</thead>
</table>
| Raw  | Data in its original state with no processing
to account for calibration!!! |
| Uncalibrated | Duplicate data are removed from the data stream and data are time ordered. Values are not adjusted for any potential biases or external factors. |

Source

```
<xsd:element name="ProcessingLevel" type="spase:ProcessingLevel" minOccurs="0" maxOccurs="1"/>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Element spase:DisplayData / spase:ProviderName**

Namespace

http://www.spase-group.org/data/schema

Diagram

```
ProviderName
```

Type

spase:ProviderName

Properties

- content: simple
- minOccurs: 0
- maxOccurs: 1

Source

```
<xsd:element name="ProviderName" type="spase:ProviderName" minOccurs="0" maxOccurs="1"/>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Element spase:DisplayData / spase:ProviderResourceName**

Namespace

http://www.spase-group.org/data/schema

Diagram

```
ProviderResourceName
```

Type

spase:ProviderResourceName

Properties

- content: simple
- minOccurs: 0
- maxOccurs: 1

Source

```
<xsd:element name="ProviderResourceName" type="spase:ProviderResourceName" minOccurs="0" maxOccurs="1"/>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Element spase:DisplayData / spase:ProviderProcessingLevel**

Namespace

http://www.spase-group.org/data/schema

Diagram

```
ProviderProcessingLevel
```

Type

spase:ProviderProcessingLevel

Properties

- content: simple
- minOccurs: 0
- maxOccurs: 1

Source

```
<xsd:element name="ProviderProcessingLevel" type="spase:ProviderProcessingLevel" minOccurs="0" maxOccurs="1"/>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Element spase:DisplayData / spase:ProviderVersion**

Namespace

http://www.spase-group.org/data/schema
### Element `spase:DisplayData` / `spase:MeasurementType`

<table>
<thead>
<tr>
<th>Facets</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration <code>ActivityIndex</code></td>
<td>An indication, derived from one or more measurements, of the level of activity of an object or region, such as sunspot number, F10.7 flux, Dst, or the Polar Cap Indices.</td>
</tr>
<tr>
<td>enumeration <code>Dopplergram</code></td>
<td>A map or image depicting the spatial distribution of line-of-sight velocities of the observed object.</td>
</tr>
<tr>
<td>enumeration <code>Dust</code></td>
<td>Free microscopic particles of solid material.</td>
</tr>
<tr>
<td>enumeration <code>ElectricField</code></td>
<td>A region of space around a charged particle, or between two voltages within which a force is exerted on charged objects in its vicinity. An electric field is the electric force per unit charge.</td>
</tr>
<tr>
<td>enumeration <code>EnergeticParticles</code></td>
<td>Pieces of matter that are moving very fast. Energetic particles include protons, electrons, neutrons, neutrinos, the nuclei of atoms, and other sub-atomic particles.</td>
</tr>
<tr>
<td>enumeration <code>Ephemeris</code></td>
<td>The spatial coordinates of a body as a function of time. When used as an Instrument Type it represents the process or methods used to generate spatial coordinates.</td>
</tr>
<tr>
<td>enumeration <code>ImageIntensity</code></td>
<td>Measurements of the two-dimensional distribution of the intensity of photons from some region or object such as the Sun or the polar auroral regions; can be in any wavelength band, and polarized, etc.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>InstrumentStatus</td>
<td>A quantity directly related to the operation or function of an instrument.</td>
</tr>
<tr>
<td>IonComposition</td>
<td>In situ measurements of the relative flux or density of electrically charged particles in the space environment. May give simple fluxes, but full distribution functions are sometimes measured.</td>
</tr>
<tr>
<td>Irradiance</td>
<td>Irradiance - A radiometric term for the power of electromagnetic radiation at a surface, per unit area. &quot;Irradiance&quot; is used when the electromagnetic radiation is incident on the surface. Irradiance data may be reported in any units (i.e. counts/s) due to, for example, being at a particular wavelength, or to being a not-fully-calibrated relative measurement.</td>
</tr>
<tr>
<td>MagneticField</td>
<td>A region of space near a magnetized body where magnetic forces can be detected (as measured by methods such as Zeeman splitting, etc.).</td>
</tr>
<tr>
<td>Magnetogram</td>
<td>Measurements of the vector or line-of-sight magnetic field determined from remote sensing measurements of the detailed structure of spectral lines, including their splitting and polarization. (&quot;Magnetogram.&quot;)</td>
</tr>
<tr>
<td>NeutralAtomImages</td>
<td>Measurements of neutral atom fluxes as a function of look direction; often related to remote energetic charged particles that lose their charge through charge-exchange and then reach the detector on a line-of-sight trajectory.</td>
</tr>
<tr>
<td>NeutralGas</td>
<td>Measurements of neutral atomic and molecular components of a gas.</td>
</tr>
<tr>
<td>Profile</td>
<td>Measurements of a quantity as a function of height above an object such as the limb of a body.</td>
</tr>
<tr>
<td>Radiance</td>
<td>A radiometric measurement that describes the amount of electromagnetic radiation that passes through or is emitted from a particular area, and falls within a given solid angle in a specified direction. They are used to characterize both emission from diffuse sources and reflection from diffuse surfaces.</td>
</tr>
<tr>
<td>Spectrum</td>
<td>The distribution of a characteristic of a physical system or phenomenon, such as the energy emitted by a radiant source, arranged in the order of wavelengths.</td>
</tr>
<tr>
<td>ThermalPlasma</td>
<td>Measurements of the plasma in the energy regime where the most of the plasma occurs. May be the basic fluxes in the form of distribution functions or the derived bulk parameters (density, flow velocity, etc.).</td>
</tr>
<tr>
<td>Waves</td>
<td>Data resulting from observations of wave experiments and natural wave phenomena. Wave experiments are typically active and natural wave phenomena are passive. Examples of wave experiments include coherent/incoherent scatter radars, radio soundings, VLF propagation studies, ionospheric scintillation of beacon satellite signals, etc. Examples of natural wave phenomena include micropulsations, mesospheric gravity waves, auroral/plasmaspheric hiss, Langmuir waves, AKR, Jovian decametric radiation, solar radio bursts, etc.</td>
</tr>
<tr>
<td>Waves.Active</td>
<td>Exerting an influence or producing a change or effect. An active measurement is one which produces a transmission or excitation as a part of the measurement cycle.</td>
</tr>
<tr>
<td>Waves.Passive</td>
<td>Movement or effect produced by outside influence. A passive measurement is one which does not produce a transmission or excitation as a part of the measurement cycle.</td>
</tr>
</tbody>
</table>

Source: `<xsd:element name="MeasurementType" type="spase:MeasurementType" minOccurs="1" maxOccurs="unbounded"/>`
Schema documentation for spase-2.3.1.xsd

Element `spase:DisplayData / spase:TemporalDescription`

Namespace `http://www.spase-group.org/data/schema`

Diagram

Type `spase:TemporalDescription`

Properties
- content: complex
- minOccurs: 0
- maxOccurs: 1

Model `spase:TimeSpan`, `spase:Cadence`, `spase:CadenceMin`, `spase:CadenceMax`, `spase:Exposure`, `spase:ExposureMin`, `spase:ExposureMax`

Children `spase:Cadence`, `spase:CadenceMax`, `spase:CadenceMin`, `spase:Exposure`, `spase:ExposureMax`, `spase:ExposureMin`, `spase:TimeSpan`

Instance
```xml
<spase:TemporalDescription xmlns:spase= "http://www.spase-group.org/data/schema">
    <spase:TimeSpan >{1,1} </spase:TimeSpan>
    <spase:Cadence >{0,1} </spase:Cadence>
    <spase:CadenceMin >{0,1} </spase:CadenceMin>
    <spase:CadenceMax >{0,1} </spase:CadenceMax>
    <spase:Exposure >{0,1} </spase:Exposure>
    <spase:ExposureMin >{0,1} </spase:ExposureMin>
    <spase:ExposureMax >{0,1} </spase:ExposureMax>
</spase:TemporalDescription>
```

Source
```xml
<xsd:element name="TemporalDescription" type="spase:TemporalDescription" minOccurs="0" maxOccurs="1"/>
```

Schema location `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2.3.1.xsd`

Element `spase:TemporalDescription / spase:TimeSpan`

Namespace `http://www.spase-group.org/data/schema`

Diagram

Type `spase:TimeSpan`
### Schema documentation for spase-2_3_1.xsd

<table>
<thead>
<tr>
<th>Properties</th>
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</tr>
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<tr>
<td></td>
<td>maxOccurs: 1</td>
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</table>

<table>
<thead>
<tr>
<th>Model</th>
<th><code>spase:StartDate</code> , <code>spase:StopDate</code></th>
<th><code>spase:RelativeStopDate</code> , <code>spase:Note*</code></th>
</tr>
</thead>
</table>

| Children | `spase:Note` , `spase:RelativeStopDate` , `spase:StartDate` , `spase:StopDate` |
|----------|---------------------------------|----------------------------------|

<table>
<thead>
<tr>
<th>Instance</th>
<th><code>&lt;spase:TimeSpan xmlns:spase= &quot;http://www.spase-group.org/data/schema&quot;&gt;</code></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><code>&lt;spase:StartDate&gt;{1,1}&lt;/spase:StartDate&gt;</code></td>
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<tr>
<td></td>
<td><code>&lt;spase:StopDate&gt;{1,1}&lt;/spase:StopDate&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;spase:RelativeStopDate&gt;{1,1}&lt;/spase:RelativeStopDate&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;spase:Note&gt;{0,unbounded}&lt;/spase:Note&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;/spase:TimeSpan&gt;</code></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th><code>&lt;xsd:element name=&quot;TimeSpan&quot; type=&quot;spase:TimeSpan&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></th>
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</thead>
<tbody>
<tr>
<td></td>
<td><code>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</code></td>
</tr>
</tbody>
</table>

#### Element `spase:TemporalDescription` / `spase:Cadence`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><code>http://www.spase-group.org/data/schema</code></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Diagram</th>
<th><code>spase:TemporalDescription</code> / <code>spase:Cadence</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td><code>spase:Cadence</code></td>
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<table>
<thead>
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<table>
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<tr>
<th>Source</th>
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</thead>
<tbody>
<tr>
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<td><code>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</code></td>
</tr>
</tbody>
</table>

#### Element `spase:TemporalDescription` / `spase:CadenceMin`

<table>
<thead>
<tr>
<th>Namespace</th>
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</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Diagram</th>
<th><code>spase:TemporalDescription</code> / <code>spase:CadenceMin</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td><code>spase:CadenceMin</code></td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Properties</th>
<th>content: simple</th>
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<tbody>
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<table>
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<tr>
<th>Source</th>
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<td></td>
<td><code>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</code></td>
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</table>

#### Element `spase:TemporalDescription` / `spase:CadenceMax`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><code>http://www.spase-group.org/data/schema</code></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Diagram</th>
<th><code>spase:TemporalDescription</code> / <code>spase:CadenceMax</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td><code>spase:CadenceMax</code></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Properties</th>
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</tr>
<tr>
<td></td>
<td>maxOccurs: 1</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Source</th>
<th><code>&lt;xsd:element name=&quot;CadenceMax&quot; type=&quot;spase:CadenceMax&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><code>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</code></td>
</tr>
</tbody>
</table>

112
Element `spase:TemporalDescription / spase:Exposure`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**
- **Type**: `spase:Exposure`
- **Properties**
  - content: `simple`
  - minOccurs: `0`
  - maxOccurs: `1`
- **Source**
  - `<xsd:element name="Exposure" type="spase:Exposure" minOccurs="0" maxOccurs="1"/>
  - **Schema location**: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:TemporalDescription / spase:ExposureMin`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**
- **Type**: `spase:ExposureMin`
- **Properties**
  - content: `simple`
  - minOccurs: `0`
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- **Source**
  - `<xsd:element name="ExposureMin" type="spase:ExposureMin" minOccurs="0" maxOccurs="1"/>
  - **Schema location**: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:TemporalDescription / spase:ExposureMax`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**
- **Type**: `spase:ExposureMax`
- **Properties**
  - content: `simple`
  - minOccurs: `0`
  - maxOccurs: `1`
- **Source**
  - `<xsd:element name="ExposureMax" type="spase:ExposureMax" minOccurs="0" maxOccurs="1"/>
  - **Schema location**: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:DisplayData / spase:SpectralRange`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**
- **Type**: `spase:SpectralRange`
- **Properties**
  - content: `simple`
  - minOccurs: `0`
  - maxOccurs: `unbounded`
- **Facets**
  - enumeration: CaK
  - A spectrum with a wavelength of range centered near 393.5 nm. VSO nickname: Ca-K image with range of 391.9 nm to 395.2 nm.
enumeration ExtremeUltraviolet A spectrum with a wavelength range of 10.0 nm to 125.0 nm. VSO nickname: EUV image with a range of 10.0 nm to 125.0 nm

enumeration FarUltraviolet A spectrum with a wavelength range of 122 nm to 200.0 nm. VSO nickname: FUV image with a range of 122.0 nm to 200 nm

enumeration GammaRays Photons with a wavelength range: 0.00001 to 0.001 nm

enumeration Halpha A spectrum with a wavelength range centered at 656.3 nm. VSO nickname: H-alpha image with a spectrum range of 655.8 nm to 656.8 nm.

enumeration HardXrays Photons with a wavelength range: 0.001 to 0.1 nm and an energy range of 12 keV to 120 keV

enumeration He10830 A spectrum with a wavelength range centered at 1082.9 nm. VSO nickname: He 10830 image with a range of 1082.5 nm to 1083.3 nm.

enumeration He304 A spectrum centered around the resonance line of ionised helium at 304 Angstrom (38.4 nm).

enumeration Infrared Photons with a wavelength range: 760 to 1.00x10^6 nm

enumeration K7699 A spectrum with a wavelength range centred at 769.9 nm. VSO nickname: K-7699 dopplergram with a range of 769.8 nm to 770.0 nm.

enumeration LBHBand Lyman-Birge-Hopfield band in the far ultraviolet range with wavelength range of 140nm to 170 nm.

enumeration Microwave Photons with a wavelength range: 1.00x10^-6 to 1.50x10^-7 nm

enumeration NaD A spectrum with a wavelength range of centered at 589.3 nm. VSO nickname: Na-D image with a range of 588.8 nm to 589.8 nm.

enumeration Ni6768 A spectrum with a wavelength range centered at 676.8 nm. VSO nickname: Ni-6768 dopplergram with a range of 676.7 nm to 676.9 nm.

enumeration Optical Photons with a wavelength range: 380 to 760 nm

enumeration RadioFrequency Photons with a wavelength range: 100,000 to 1.00x10^11 nm

enumeration SoftXrays X-Rays with an energy range of 0.12 keV to 12 keV.

enumeration Ultraviolet Photons with a wavelength range: 10 to 400 nm.

enumeration WhiteLight Photons with a wavelength in the visible range for humans.

enumeration Xrays Photons with a wavelength range: 0.001 <= x < 10 nm

Source <xsd:element name="SpectralRange" type="spase:SpectralRange" minOccurs="0" maxOccurs="unbounded"/>

Schema location file:C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:DisplayData / spase:DisplayCadence

Namespace http://www.spase-group.org/data/schema

Diagram

Type spase:DisplayCadence

Properties content: simple
minOccurs: 0
maxOccurs: 1

Source <xsd:element name="DisplayCadence" type="spase:DisplayCadence" minOccurs="0" maxOccurs="1"/>

Schema location file:C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
### Element `spase:DisplayData / spase:ObservedRegion`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>spase:Region</code></td>
</tr>
<tr>
<td>Properties</td>
<td></td>
</tr>
<tr>
<td></td>
<td>content: <code>simple</code></td>
</tr>
<tr>
<td></td>
<td>minOccurs: <code>0</code></td>
</tr>
<tr>
<td></td>
<td>maxOccurs: <code>unbounded</code></td>
</tr>
<tr>
<td>Facets</td>
<td></td>
</tr>
<tr>
<td></td>
<td>enumeration <code>Asteroid</code></td>
</tr>
<tr>
<td></td>
<td>A small extraterrestrial body consisting mostly of rock and metal that is in orbit around the sun.</td>
</tr>
<tr>
<td></td>
<td>enumeration <code>Comet</code></td>
</tr>
<tr>
<td></td>
<td>A relatively small extraterrestrial body consisting of a frozen mass that travels around the sun in a highly elliptical orbit.</td>
</tr>
<tr>
<td></td>
<td>enumeration <code>Earth</code></td>
</tr>
<tr>
<td></td>
<td>The third planet from the sun in our solar system.</td>
</tr>
<tr>
<td></td>
<td>enumeration <code>Earth.Magnetosheath</code></td>
</tr>
<tr>
<td></td>
<td>The region between the bow shock and the magnetopause, characterized by very turbulent plasma.</td>
</tr>
<tr>
<td></td>
<td>enumeration <code>Earth.Magnetosphere</code></td>
</tr>
<tr>
<td></td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td></td>
<td>enumeration <code>Earth.Magnetosphere.Magnetosheath</code></td>
</tr>
<tr>
<td></td>
<td>The region on the right side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetosheath begins at a right-side radial distance of 10 Re (R &gt; -10Re).</td>
</tr>
<tr>
<td></td>
<td>enumeration <code>Earth.Magnetosphere.Main</code></td>
</tr>
<tr>
<td></td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td></td>
<td>enumeration <code>Earth.Magnetosphere.Plasmopause</code></td>
</tr>
<tr>
<td></td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmapause is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td></td>
<td>enumeration <code>Earth.Magnetosphere.Polar</code></td>
</tr>
<tr>
<td></td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td></td>
<td>enumeration <code>Earth.Magnetosphere.RadiationBelts</code></td>
</tr>
<tr>
<td></td>
<td>A region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td></td>
<td>enumeration <code>Earth.Magnetosphere.RingCurrent</code></td>
</tr>
<tr>
<td></td>
<td>One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</td>
</tr>
<tr>
<td></td>
<td>enumeration <code>Earth.Moon</code></td>
</tr>
<tr>
<td></td>
<td>The only natural satellite of the Earth.</td>
</tr>
<tr>
<td></td>
<td>enumeration <code>Earth.NearSurface</code></td>
</tr>
<tr>
<td></td>
<td>The gaseous and possibly ionized environment of a body extending from the surface to some specified altitude. For the Earth, this altitude is 2000 km.</td>
</tr>
<tr>
<td></td>
<td>enumeration <code>Earth.NearSurface.Atmosphere</code></td>
</tr>
<tr>
<td></td>
<td>Neutral gases surrounding a body that extends from the surface and is bound to the body by virtue of the gravitational attraction.</td>
</tr>
<tr>
<td>Schema Id</td>
<td>Definition</td>
</tr>
<tr>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>Earth.NearSurface.AuroralRegion</td>
<td>A region in the atmosphere where electrically-charged particles bombarding the upper atmosphere of a planet in the presence of a magnetic field produce an optical phenomenon.</td>
</tr>
<tr>
<td>Earth.NearSurface.EquatorialRegion</td>
<td>Centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere</td>
<td>Charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.DRegion</td>
<td>The ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.ERegion</td>
<td>Ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.FRegion</td>
<td>A layer that contains ionized gases at a height of around 150-800 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1- and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.Topside</td>
<td>The region at the upper most areas of the ionosphere.</td>
</tr>
<tr>
<td>Earth.NearSurface.Mesosphere</td>
<td>A layer of the atmosphere that extends from the Stratosphere to a range of 80 km to 85 km, temperature decreasing with height.</td>
</tr>
<tr>
<td>Earth.NearSurface.MidLatitudeRegion</td>
<td>The mid-latitude region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 23 degrees to 50 degrees. The concept of mid-latitude regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The mid-latitude regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at mid latitude on the Earth are well positioned to measure magnetic storm-time ring current variations.</td>
</tr>
<tr>
<td>Earth.NearSurface.Plasmasphere</td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td>Earth.NearSurface.PolarCap</td>
<td>The areas of the globe surrounding the poles and consisting of the region north of 60 degrees north latitude an the region south of 60 degrees south latitude.</td>
</tr>
<tr>
<td>Earth.NearSurface.SouthAtlanticAnomalyRegion</td>
<td>Earth's inner van Allen radiation belt makes its closest approach to the planet's surface. The result is that, for a given altitude, the radiation intensity is higher over this region than elsewhere.</td>
</tr>
<tr>
<td>Earth.NearSurface.Stratosphere</td>
<td>A layer of the atmosphere that extends from the troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.</td>
</tr>
<tr>
<td>Earth.NearSurface.SubAuroralRegion</td>
<td>When considering the case of the Earth, the sub-auroral region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending</td>
</tr>
</tbody>
</table>
from about 50 degrees to low 60 degrees. The concept sub-auroral regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The sub-auroral regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at sub-auroral latitudes on the Earth measure a mixture of activity driven by auroral zone currents and the ring current.

**Earth.NearSurface.Thermosphere**

The layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height.

**Earth.NearSurface.Troposphere**

The lowest layer of the atmosphere which begins at the surface and extends to between 7 km (4.4 mi) at the poles and 17 km (10.6 mi) at the equator, with some variation due to weather factors.

**Earth.Surface**

The outermost area of a solid object.

**Heliosphere**

The solar atmosphere extending roughly from the outer corona to the edge of the solar plasma at the heliopause separating primarily solar plasma from interstellar plasma.

**Heliosphere.Heliosheath**

The region extending radially outward from the heliospheric termination shock and in which the decelerated solar wind plasma is still significant.

**Heliosphere.Inner**

The region of the heliosphere extending radially outward from the solar coronal base to just inside 1 AU.

**Heliosphere.NearEarth**

The heliospheric region near the Earth which extends to and includes the area near the L1 and L2 Lagrange point.

**Heliosphere.Outer**

The region of the heliosphere extending radially outward from just outside 1 AU to the heliospheric termination shock.

**Heliosphere.Remote1AU**

A roughly toroidal region that includes the Earth's orbit, but exclusive of the region near the Earth.

**Interstellar**

The region between stars outside of the star's heliopause.

**Jupiter**

The fifth planet from the sun in our solar system.

**Jupiter.Callisto**

A second largest moon of Jupiter and the third-largest moon in the solar system.

**Jupiter.Europa**

The sixth-closest round moon of Jupiter.

**Jupiter.Ganymede**

The biggest moon of Jupiter and in the solar system.

**Jupiter.Io**

The innermost of the four round moons of the planet Jupiter.

**Jupiter.Magnetosphere**

The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.

**Jupiter.Magnetosphere.Magnetotail**

The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re).

**Jupiter.Magnetosphere.Main**

The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.

**Jupiter.Magnetosphere.Plasmasphere**

A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude
<table>
<thead>
<tr>
<th>Schema documentation for spase-2_3_1.xsd</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>enumeration</strong> Jupiter.Magnetosphere.Polar</td>
</tr>
<tr>
<td><strong>enumeration</strong> Jupiter.Magnetosphere.RadiationBelt</td>
</tr>
<tr>
<td><strong>enumeration</strong> Jupiter.Magnetosphere.RingCurrent</td>
</tr>
<tr>
<td><strong>enumeration</strong> Mars</td>
</tr>
<tr>
<td><strong>enumeration</strong> Mars.Deimos</td>
</tr>
<tr>
<td><strong>enumeration</strong> Mars.Magnetosphere</td>
</tr>
<tr>
<td><strong>enumeration</strong> Mars.Magnetosphere.Magnetotail</td>
</tr>
<tr>
<td><strong>enumeration</strong> Mars.Magnetosphere.Main</td>
</tr>
<tr>
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</tr>
<tr>
<td><strong>enumeration</strong> Mars.Phobos</td>
</tr>
<tr>
<td><strong>enumeration</strong> Mercury</td>
</tr>
<tr>
<td><strong>enumeration</strong> Mercury.Magnetosphere</td>
</tr>
<tr>
<td><strong>enumeration</strong> Mercury.Magnetosphere.Magnetotail</td>
</tr>
</tbody>
</table>

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by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re).

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury.Magnetosphere.Main</td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>Mercury.Magnetosphere.Plasmasphere</td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td>Mercury.Magnetosphere.Polar</td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>Mercury.Magnetosphere.RadiationBelt</td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>Mercury.Magnetosphere.RingCurrent</td>
<td>The major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</td>
</tr>
<tr>
<td>Neptune</td>
<td>The seventh planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Pluto</td>
<td>The ninth (sub)planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Saturn</td>
<td>The sixth planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Saturn.Dione</td>
<td>The forth-largest moon of Saturn.</td>
</tr>
<tr>
<td>Saturn.Enceladus</td>
<td>The sixth-largest moon of Saturn. It is currently endogenously active. The smallest known body in the Solar System that is geologically active today.</td>
</tr>
<tr>
<td>Saturn.Iapetus</td>
<td>The third-largest moon of Saturn and the eleventh-largest in the Solar System.</td>
</tr>
<tr>
<td>Saturn.Magnetosphere</td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td>Saturn.Magnetosphere.Magnetotail</td>
<td>The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td>Saturn.Magnetosphere.Main</td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>Saturn.Magnetosphere.Plasmasphere</td>
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</tr>
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</tr>
</tbody>
</table>
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<tr>
<th>Enumeration</th>
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<tbody>
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<td><strong>Saturn.Magnetosphere.RingCurrent</strong></td>
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</tr>
<tr>
<td><strong>Saturn.Mimas</strong></td>
<td>The smallest and least massive of the round moons of Saturn.</td>
</tr>
<tr>
<td><strong>Saturn.Rhea</strong></td>
<td>The second-largest moon of Saturn and the ninth-largest moon in the Solar System.</td>
</tr>
<tr>
<td><strong>Saturn.Tethys</strong></td>
<td>The third largest moon of Saturn.</td>
</tr>
<tr>
<td><strong>Saturn.Titan</strong></td>
<td>The largest moon of Saturn and the second-largest moon in the Solar System.</td>
</tr>
<tr>
<td><strong>Sun</strong></td>
<td>The star upon which our solar system is centered.</td>
</tr>
<tr>
<td><strong>Sun.Chromosphere</strong></td>
<td>The region of the Sun's (or a star's) atmosphere above the temperature minimum and below the Transition Region. The solar chromosphere is approximately 400 km to 2100 km above the photosphere, and characterized by temperatures from 4500 – 28000 K.</td>
</tr>
<tr>
<td><strong>Sun.Corona</strong></td>
<td>The outermost atmospheric region of the Sun or a star, characterized by ionization temperatures above 10^5 K. The solar corona starts at about 2100 km above the photosphere; there is no generally defined upper limit.</td>
</tr>
<tr>
<td><strong>Sun.Interior</strong></td>
<td>The region inside the body which is not visible from outside the body.</td>
</tr>
<tr>
<td><strong>Sun.Photosphere</strong></td>
<td>The atmospheric layer of the Sun or a star from which continuum radiation, especially optical, is emitted to space. For the Sun, the photosphere is about 500 km thick.</td>
</tr>
<tr>
<td><strong>Sun.TransitionRegion</strong></td>
<td>A very narrow (&lt;100 km) layer between the chromosphere and the corona where the temperature rises abruptly from about 8000 to about 500,000 K.</td>
</tr>
<tr>
<td><strong>Uranus</strong></td>
<td>The eighth planet from the sun in our solar system.</td>
</tr>
<tr>
<td><strong>Uranus.Ariel</strong></td>
<td>The fourth-largest moon of Uranus.</td>
</tr>
<tr>
<td><strong>Uranus.Magnetosphere</strong></td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td><strong>Uranus.Magnetosphere.Main</strong></td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td><strong>Uranus.Magnetosphere.Plasmasphere</strong></td>
<td>Of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td><strong>Uranus.Magnetosphere.Polar</strong></td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
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</tr>
<tr>
<td>Uranus.Magnetosphere.RadiationBelt</td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
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<td>Uranus.Magnetosphere.RingCurrent</td>
<td>The major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H andDst Indices of magnetic storm activity at the Earth.</td>
</tr>
<tr>
<td>Uranus.Miranda</td>
<td>The smallest and innermost round moon of Uranus.</td>
</tr>
<tr>
<td>Uranus.Oberon</td>
<td>The second-largest and second most massive moon of Uranus, and the ninth most massive moon in the Solar System.</td>
</tr>
<tr>
<td>Uranus.Puck</td>
<td>The largest inner spherical moon of Uranus.</td>
</tr>
<tr>
<td>Uranus.Titania</td>
<td>The largest moon of Uranus and the eighth largest moon in the Solar System.</td>
</tr>
<tr>
<td>Uranus.Umbriel</td>
<td>The third largest and fourth most massive moon of Uranus.</td>
</tr>
<tr>
<td>Venus</td>
<td>The second planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Venus.Magnetosphere</td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td>Venus.Magnetosphere.Magnetotail</td>
<td>The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td>Venus.Magnetosphere.Main</td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>Venus.Magnetosphere.RadiationBelt</td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>Venus.Magnetosphere.RingCurrent</td>
<td>The major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H andDst Indices of magnetic storm activity at the Earth.</td>
</tr>
</tbody>
</table>

Source: `<xsd:element name="ObservedRegion" type="spase:Region" minOccurs="0" maxOccurs="unbounded"/>

Schema location: `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`
Element `spase:DisplayData / spase:Caveats`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>spase:Caveats</code></td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 0</td>
</tr>
<tr>
<td></td>
<td>maxOccurs: 1</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;Caveats&quot; type=&quot;spase:Caveats&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

Element `spase:DisplayData / spase:Keyword`

<table>
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<tr>
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<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
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<tbody>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>spase:Keyword</code></td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 0</td>
</tr>
<tr>
<td></td>
<td>maxOccurs: unbounded</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;Keyword&quot; type=&quot;spase:Keyword&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;unbounded&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

Element `spase:DisplayData / spase:InputResourceID`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
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<tr>
<td>Type</td>
<td><code>spase:InputResourceID</code></td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 0</td>
</tr>
<tr>
<td></td>
<td>maxOccurs: unbounded</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;InputResourceID&quot; type=&quot;spase:InputResourceID&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;unbounded&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

Element `spase:DisplayData / spase:Parameter`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
</table>
Diagram

Diagram of spase:Parameter

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: complex</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 0</td>
</tr>
<tr>
<td></td>
<td>maxOccurs: unbounded</td>
</tr>
</tbody>
</table>
Model

| spase:Name       | spase:Set*        | spase:ParameterKey{0,1} | spase:Description{0,1} | spase:UCD{0,1} | spase:Caveats{0,1} | spase:Cadence{0,1} | spase:CadenceMin{0,1} | spase:CadenceMax{0,1} | spase:Units{0,1} | spase:UnitsConversion{0,1} | spase:CoordinateSystem{0,1} | spase:RenderingHints* | spase:Structure{0,1} | spase:ValidMin{0,1} | spase:ValidMax{0,1} | spase:FillValue{0,1} | (spase:Field | spase:Particle | spase:Wave | spase:Mixed | spase:Support |
|------------------|------------------|-------------------------|------------------------|---------------|-------------------|-------------------|---------------------|----------------------|----------------|-----------------------------|--------------------------|----------------|---------------------|----------------|----------------|----------------|------------------|------------------|

Children

- spase:Cadence
- spase:CadenceMax
- spase:CadenceMin
- spase:Caveats
- spase:CoordinateSystem
- spase:Description
- spase:Field
- spase:FillValue
- spase:Mixed
- spase:Name
- spase:ParameterKey
- spase:Particle
- spase:RenderingHints
- spase:Set
- spase:Structure
- spase:Support
- spase:UCD
- spase:Units
- spase:UnitsConversion
- spase:ValidMin
- spase:ValidMax
- spase:Wave

Instance

```xml
<spase:Parameter xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:Name>{1,1}</spase:Name>
  <spase:Set>{0,unbounded}</spase:Set>
  <spase:ParameterKey>{0,1}</spase:ParameterKey>
  <spase:Description>{0,1}</spase:Description>
  <spase:UCD>{0,1}</spase:UCD>
  <spase:Caveats>{0,1}</spase:Caveats>
  <spase:Cadence>{0,1}</spase:Cadence>
  <spase:CadenceMin>{0,1}</spase:CadenceMin>
  <spase:CadenceMax>{0,1}</spase:CadenceMax>
  <spase:Units>{0,1}</spase:Units>
  <spase:UnitsConversion>{0,1}</spase:UnitsConversion>
  <spase:CoordinateSystem>{0,1}</spase:CoordinateSystem>
  <spase:RenderingHints>{0,unbounded}</spase:RenderingHints>
  <spase:ValidMin>{0,1}</spase:ValidMin>
  <spase:ValidMax>{0,1}</spase:ValidMax>
  <spase:FillValue>{0,1}</spase:FillValue>
  <spase:Particle>{1,1}</spase:Particle>
  <spase:Wave>{1,1}</spase:Wave>
  <spase:Mixed>{1,1}</spase:Mixed>
  <spase:Support>{1,1}</spase:Support>
</spase:Parameter>
```

Source

```xml
<xsd:element name="Parameter" type="spase:Parameter" minOccurs="0" maxOccurs="unbounded"/>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

Element spase:DisplayData / spase:Extension

Namespace http://www.spase-group.org/data/schema

Diagram

Type spase:Extension

Properties

- content: complex
- minOccurs: 0
- maxOccurs: unbounded

Model

ANY element from ANY namespace OTHER than 'http://www.spase-group.org/data/schema'

Source

```xml
<xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

Element spase:Spase / spase:NumericalData

Namespace http://www.spase-group.org/data/schema
Type: spase:NumericalData

Properties:
- content: complex

Model:
- spase:ResourceID
- spase:ResourceHeader
- spase:AccessInformation
- spase:ProcessingLevel
- spase:ProviderName
- spase:ProviderResourceName
- spase:ProviderProcessingLevel
- spase:ProviderVersion
- spase:InstrumentID
- spase:MeasurementType
- spase:TemporalDescription
- spase:SpectralRange
- spase:ObservedRegion
- spase:Caveats
- spase:Keyword
- spase:InputResourceID
- spase:Parameter
- spase:Extension

Children:
- spase:AccessInformation
- spase:Caveats
- spase:Extension
- spase:InputResourceID
- spase:InstrumentID
- spase:Keyword
- spase:MeasurementType
- spase:ObservedRegion
- spase:Parameter
- spase:ProcessingLevel
- spase:ProviderName
- spase:ProviderProcessingLevel
- spase:ProviderResourceName
- spase:ProviderVersion
- spase:ResourceHeader
- spase:ResourceID
- spase:SpectralRange
- spase:TemporalDescription

Instance:
<spase:NumericalData xmlns:spase="http://www.spase-group.org/data/schema">
    <spase:ResourceID>1,1</spase:ResourceID>
    <spase:ResourceHeader>1,1</spase:ResourceHeader>
    <spase:AccessInformation>1,unbounded</spase:AccessInformation>
    <spase:ProcessingLevel>0,1</spase:ProcessingLevel>
    <spase:ProviderName>0,1</spase:ProviderName>
    <spase:ProviderResourceName>0,1</spase:ProviderResourceName>
</spase:NumericalData>
<spase:ProviderProcessingLevel>{0,1}</spase:ProviderProcessingLevel>
<spase:ProviderVersion>{0,1}</spase:ProviderVersion>
<spase:InstrumentID>{0,unbounded}</spase:InstrumentID>
<spase:MeasurementType>{1,unbounded}</spase:MeasurementType>
<spase:TemporalDescription>{0,1}</spase:TemporalDescription>
<spase:SpectralRange>{0,unbounded}</spase:SpectralRange>
<spase:ObservedRegion>{0,unbounded}</spase:ObservedRegion>
<spase:Caveats>{0,1}</spase:Caveats>
<spase:Keyword>{0,unbounded}</spase:Keyword>
<spase:InputResourceId>{0,unbounded}</spase:InputResourceId>
<spase:Parameter>{0,unbounded}</spase:Parameter>
<spase:Extension>{0,unbounded}</spase:Extension>
</spase:NumericalData>

Source
<xsdelement name="NumericalData" type="spase:NumericalData"/>

Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:NumericalData / spase:ResourceId

Namespace http://www.spase-group.org/data/schema

Diagram

Type spase:ResourceId

Properties

content: simple
minOccurs: 1
maxOccurs: 1

Source
<xsdelement name="ResourceId" type="spase:ResourceId" minOccurs="1" maxOccurs="1"/>

Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:NumericalData / spase:ResourceHeader

Namespace http://www.spase-group.org/data/schema
Schema documentation for spase-2_3_1.xsd

Diagram

Type
- spase:ResourceHeader

Properties
- content: complex
  - minOccurs: 1
  - maxOccurs: 1

Model
- spase:ResourceName , spase:AlternateName*, spase:DOI{0,1} , spase:ReleaseDate , spase:RevisionHistory{0,1} , spase:ExpirationDate{0,1} , spase:Description , spase:Acknowledgement{0,1} , spase:PublicationInfo{0,1} , spase:Funding* , spase:Contact+ , spase:InformationURL* , spase:Association* , spase:PriorID*

Children

Instance
```xml
<spase:ResourceHeader xmlns:spase= "http://www.spase-group.org/data/schema" >
<spase:ResourceName>{1,1}</spase:ResourceName>
<spase:AlternateName>{0,unbounded}</spase:AlternateName>
<spase:DOI>{0,1}</spase:DOI>
<spase:ReleaseDate>{1,1}</spase:ReleaseDate>
<spase:RevisionHistory>{0,1}</spase:RevisionHistory>
<spase:ExpirationDate>{0,1}</spase:ExpirationDate>
<spase:Description>{1,1}</spase:Description>
<spase:Acknowledgement>{0,1}</spase:Acknowledgement>
<spase:PublicationInfo>{0,1}</spase:PublicationInfo>
<spase:Funding>{0,unbounded}</spase:Funding>
<spase:Contact>{1,unbounded}</spase:Contact>
<spase:InformationURL>{0,unbounded}</spase:InformationURL>
<spase:Association>{0,unbounded}</spase:Association>
<spase:PriorID>{0,unbounded}</spase:PriorID>
</spase:ResourceHeader>
```

Source
```
<xsd:element name="ResourceHeader" type="spase:ResourceHeader" minOccurs="1" maxOccurs="1"/>
```
Element `spase:NumericalData / spase:AccessInformation`

Namespace `http://www.spase-group.org/data/schema`

Diagram

Type `spase:AccessInformation`

Properties
- content: complex
- minOccurs: 1
- maxOccurs: unbounded

Model
- `spase:RepositoryID`
- `spase:Availability{0,1}`
- `spase:AccessRights{0,1}`
- `spase:AccessURL{1,unbounded}`
- `spase:Format{1,1}`
- `spase:Encoding{0,1}`
- `spase:DataExtent{0,1}`
- `spase:Acknowledgement{0,1}`

Children
- `spase:AccessRights`
- `spase:AccessURL`
- `spase:Acknowledgement`
- `spase:Availability`
- `spase:DataExtent`
- `spase:Encoding`
- `spase:Format`
- `spase:RepositoryID`

Instance

```
  <spase:RepositoryID >{1,1}</spase:RepositoryID>
  <spase:Availability >{0,1}</spase:Availability>
  <spase:AccessRights >{0,1}</spase:AccessRights>
  <spase:AccessURL >{1,unbounded}</spase:AccessURL>
  <spase:Format>({1,1}</spase:Format>
  <spase:Encoding>({0,1}</spase:Encoding>
  <spase:DataExtent>({0,1}</spase:DataExtent>
  <spase:Acknowledgement>({0,1}</spase:Acknowledgement>
</spase:AccessInformation>
```

Source

```
<xsd:element name="AccessInformation" type="spase:AccessInformation" minOccurs="1" maxOccurs="unbounded"/>
```

Schema location `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

Element `spase:NumericalData / spase:ProcessingLevel`

Namespace `http://www.spase-group.org/data/schema`

Diagram

Type `spase:ProcessingLevel`

Properties
- content: simple
- minOccurs: 0
- maxOccurs: 1

Facets
- `enumeration`

```
Calibrated
```

Data wherein sensor outputs have been convolved
with instrument response function, often irreversibly, to yield data in physical units.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw</td>
<td>Data in its original state with no processing to account for calibration!!!</td>
</tr>
<tr>
<td>Uncalibrated</td>
<td>Duplicate data are removed from the data stream and data are time ordered. Values are not adjusted for any potential biases or external factors.</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:element name="ProcessingLevel" type="spase:ProcessingLevel" minOccurs="0" maxOccurs="1"/>
```

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:NumericalData / spase:ProviderName`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**
- **Type**: spase:ProviderName
- **Properties**
  - content: simple
  - minOccurs: 0
  - maxOccurs: 1
- **Source**
  ```xml
  <xsd:element name="ProviderName" type="spase:ProviderName" minOccurs="0" maxOccurs="1"/>
  ```
- **Schema location**: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:NumericalData / spase:ProviderResourceName`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**
- **Type**: spase:ProviderResourceName
- **Properties**
  - content: simple
  - minOccurs: 0
  - maxOccurs: 1
- **Source**
  ```xml
  <xsd:element name="ProviderResourceName" type="spase:ProviderResourceName" minOccurs="0" maxOccurs="1"/>
  ```
- **Schema location**: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:NumericalData / spase:ProviderProcessingLevel`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**
- **Type**: spase:ProviderProcessingLevel
- **Properties**
  - content: simple
  - minOccurs: 0
  - maxOccurs: 1
- **Source**
  ```xml
  <xsd:element name="ProviderProcessingLevel" type="spase:ProviderProcessingLevel" minOccurs="0" maxOccurs="1"/>
  ```
- **Schema location**: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:NumericalData / spase:ProviderVersion`

- **Namespace**: http://www.spase-group.org/data/schema

---

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### Schema documentation for spase-2_3_1.xsd

<table>
<thead>
<tr>
<th>Diagram</th>
<th>ProviderVersion → [space:ProviderVersion] → 0</th>
</tr>
</thead>
</table>

**Type** spase:ProviderVersion

**Properties**
- content: simple
- minOccurs: 0
- maxOccurs: 1

**Source**
```xml
<xsd:element name="ProviderVersion" type="spase:ProviderVersion" minOccurs="0" maxOccurs="1"/>
```

**Schema location** file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element** spase:NumericalData / spase:InstrumentID

**Namespace** http://www.spase-group.org/data/schema

<table>
<thead>
<tr>
<th>Diagram</th>
<th>InstrumentID → [space:InstrumentID] → 0</th>
</tr>
</thead>
</table>

**Type** spase:InstrumentID

**Properties**
- content: simple
- minOccurs: 0
- maxOccurs: unbounded

**Source**
```xml
<xsd:element name="InstrumentID" type="spase:InstrumentID" minOccurs="0" maxOccurs="unbounded"/>
```

**Schema location** file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element** spase:NumericalData / spase:MeasurementType

**Namespace** http://www.spase-group.org/data/schema

<table>
<thead>
<tr>
<th>Diagram</th>
<th>MeasurementType → [space:MeasurementType] → 0</th>
</tr>
</thead>
</table>

**Type** spase:MeasurementType

**Properties**
- content: simple
- minOccurs: 1
- maxOccurs: unbounded

**Facets**
- enumeration ActivityIndex
  - An indication, derived from one or more measurements, of the level of activity of an object or region, such as sunspot number, F10.7 flux, Dst, or the Polar Cap Indices.

- enumeration Dopplergram
  - A map or image depicting the spatial distribution of line-of-sight velocities of the observed object.

- enumeration Dust
  - Free microscopic particles of solid material.

- enumeration ElectricField
  - A region of space around a charged particle, or between two voltages within which a force is exerted on charged objects in its vicinity. An electric field is the electric force per unit charge.

- enumeration EnergeticParticles
  - Pieces of matter that are moving very fast. Energetic particles include protons, electrons, neutrons, neutrinos, the nuclei of atoms, and other sub-atomic particles.

- enumeration Ephemeris
  - The spatial coordinates of a body as a function of time. When used as an Instrument Type it represents the process or methods used to generate spatial coordinates.

- enumeration ImageIntensity
  - Measurements of the two-dimensional distribution of the intensity of photons from some region or object such as the Sun or the polar auroral regions; can be in any wavelength band, and polarized, etc.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>InstrumentStatus</td>
<td>A quantity directly related to the operation or function of an instrument.</td>
</tr>
<tr>
<td>IonComposition</td>
<td>In situ measurements of the relative flux or density of electrically charged particles in the space environment. May give simple fluxes, but full distribution functions are sometimes measured.</td>
</tr>
<tr>
<td>Irradiance</td>
<td>Irradiance - A radiometric term for the power of electromagnetic radiation at a surface, per unit area. <em>Irradiance</em> is used when the electromagnetic radiation is incident on the surface. Irradiance data may be reported in any units (i.e. counts/s) due to, for example, being at a particular wavelength, or to being a not-fully-calibrated relative measurement.</td>
</tr>
<tr>
<td>MagneticField</td>
<td>A region of space near a magnetized body where magnetic forces can be detected (as measured by methods such as Zeeman splitting, etc.).</td>
</tr>
<tr>
<td>Magnetogram</td>
<td>Measurements of the vector or line-of-sight magnetic field determined from remote sensing measurements of the detailed structure of spectral lines, including their splitting and polarization. (<em>Magnetogram.</em>)</td>
</tr>
<tr>
<td>NeutralAtomImages</td>
<td>Measurements of neutral atom fluxes as a function of look direction; often related to remote energetic charged particles that lose their charge through charge-exchange and then reach the detector on a line-of-sight trajectory.</td>
</tr>
<tr>
<td>NeutralGas</td>
<td>Measurements of neutral atomic and molecular components of a gas.</td>
</tr>
<tr>
<td>Profile</td>
<td>Measurements of a quantity as a function of height above an object such as the limb of a body.</td>
</tr>
<tr>
<td>Radiance</td>
<td>A radiometric measurement that describes the amount of electromagnetic radiation that passes through or is emitted from a particular area, and falls within a given solid angle in a specified direction. They are used to characterize both emission from diffuse sources and reflection from diffuse surfaces.</td>
</tr>
<tr>
<td>Spectrum</td>
<td>The distribution of a characteristic of a physical system or phenomenon, such as the energy emitted by a radiant source, arranged in the order of wavelengths.</td>
</tr>
<tr>
<td>ThermalPlasma</td>
<td>Measurements of the plasma in the energy regime where the most of the plasma occurs. May be the basic fluxes in the form of distribution functions or the derived bulk parameters (density, flow velocity, etc.).</td>
</tr>
<tr>
<td>Waves</td>
<td>Data resulting from observations of wave experiments and natural wave phenomena. Wave experiments are typically active and natural wave phenomena are passive. Examples of wave experiments include coherent/incoherent scatter radars, radio soundings, VLF propagation studies, ionospheric scintillation of beacon satellite signals, etc. Examples of natural wave phenomena include micropulsations, mesospheric gravity waves, auroral/plasmaspheric hiss, Langmuir waves, AKR, Jovian decametric radiation, solar radio bursts, etc.</td>
</tr>
<tr>
<td>Waves.Active</td>
<td>Exerting an influence or producing a change or effect. An active measurement is one which produces a transmission or excitation as a part of the measurement cycle.</td>
</tr>
<tr>
<td>Waves.Passive</td>
<td>Movement or effect produced by outside influence. A passive measurement is one which does not produce a transmission or excitation as a part of the measurement cycle.</td>
</tr>
</tbody>
</table>

Source: `<xsd:element name="MeasurementType" type="spase:MeasurementType" minOccurs="1" maxOccurs="unbounded"/>`
Element spase:NumericalData / spase:TemporalDescription

Namespace http://www.spase-group.org/data/schema

Diagram

Type spase:TemporalDescription

Properties
- content: complex
- minOccurs: 0
- maxOccurs: 1

Model
spase:TimeSpan, spase:Cadence[0,1], spase:CadenceMin[0,1], spase:CadenceMax[0,1], spase:Exposure[0,1], spase:ExposureMin[0,1], spase:ExposureMax[0,1]

Children
spase:Cadence, spase:CadenceMax, spase:CadenceMin, spase:Exposure, spase:ExposureMax, spase:ExposureMin, spase:TimeSpan

Instance
```xml
<spase:TemporalDescription xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:TimeSpan>{1,1}</spase:TimeSpan>
  <spase:Cadence>{0,1}</spase:Cadence>
  <spase:CadenceMin>{0,1}</spase:CadenceMin>
  <spase:CadenceMax>{0,1}</spase:CadenceMax>
  <spase:Exposure>{0,1}</spase:Exposure>
  <spase:ExposureMin>{0,1}</spase:ExposureMin>
  <spase:ExposureMax>{0,1}</spase:ExposureMax>
</spase:TemporalDescription>
```

Source
```xml
<xsd:element name="TemporalDescription" type="spase:TemporalDescription" minOccurs="0" maxOccurs="1"/>
```

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:NumericalData / spase:SpectralRange

Namespace http://www.spase-group.org/data/schema

Diagram

Type spase:SpectralRange

Properties
- content: simple
- minOccurs: 0
- maxOccurs: unbounded

Facets
- enumeration CaK
  A spectrum with a wavelength of range centered near 393.5 nm. VSO nickname: Ca-K image with range of 391.9 nm to 395.2 nm.
- enumeration ExtremeUltraviolet
  A spectrum with a wavelength range of 10.0 nm to 125.0 nm. VSO nickname: EUV image with a range of 10.0 nm to 125.0 nm.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FarUltraviolet</td>
<td>A spectrum with a wavelength range of 122 nm to 200.0 nm. VSO nickname: FUV image with a range of 122.0 nm to 200 nm.</td>
</tr>
<tr>
<td>GammaRays</td>
<td>Photons with a wavelength range: 0.00001 to 0.001 nm.</td>
</tr>
<tr>
<td>Halpha</td>
<td>A spectrum with a wavelength range centered at 656.3 nm. VSO nickname: H-alpha image with a spectrum range of 655.8 nm to 656.8 nm.</td>
</tr>
<tr>
<td>HardXrays</td>
<td>Photons with a wavelength range: 0.001 to 0.1 nm and an energy range of 12 keV to 120 keV.</td>
</tr>
<tr>
<td>He10830</td>
<td>A spectrum with a wavelength range centered at 1082.9 nm. VSO nickname: He 10830 image with a range of 1082.5 nm to 1083.3 nm.</td>
</tr>
<tr>
<td>He304</td>
<td>A spectrum centered around the resonance line of ionised helium at 304 Angstrom (30.4 nm).</td>
</tr>
<tr>
<td>Infrared</td>
<td>Photons with a wavelength range: 760 to 1.00x10^6 nm.</td>
</tr>
<tr>
<td>K7699</td>
<td>A spectrum with a wavelength range centered at 769.9 nm. VSO nickname: K-7699 dopplergram with a range of 769.8 nm to 770.0 nm.</td>
</tr>
<tr>
<td>LBHBand</td>
<td>Lyman-Birge-Hopfield band in the far ultraviolet range with wavelength range of 140nm to 170 nm.</td>
</tr>
<tr>
<td>Microwave</td>
<td>Photons with a wavelength range: 1.00x10^6 to 1.50x10^7 nm.</td>
</tr>
<tr>
<td>NaD</td>
<td>A spectrum with a wavelength range of centered at 589.3 nm. VSO nickname: Na-D image with a range of 588.8 nm to 589.8 nm.</td>
</tr>
<tr>
<td>Ni6768</td>
<td>A spectrum with a wavelength range centered at 676.8 nm. VSO nickname: Ni-6768 dopplergram with a range of 676.7 nm to 676.9 nm.</td>
</tr>
<tr>
<td>Optical</td>
<td>Photons with a wavelength range: 380 to 760 nm.</td>
</tr>
<tr>
<td>RadioFrequency</td>
<td>Photons with a wavelength range: 100,000 to 1.00x10^11 nm.</td>
</tr>
<tr>
<td>SoftXrays</td>
<td>X-Rays with an energy range of 0.12 keV to 12 keV.</td>
</tr>
<tr>
<td>Ultraviolet</td>
<td>Photons with a wavelength range: 10 to 400 nm.</td>
</tr>
<tr>
<td>WhiteLight</td>
<td>Photons with a wavelength in the visible range for humans.</td>
</tr>
<tr>
<td>Xrays</td>
<td>Photons with a wavelength range: 0.001 &lt;= x &lt; 10 nm.</td>
</tr>
</tbody>
</table>

**Element** `spase:NumericalData` / `spase:ObservedRegion`
<table>
<thead>
<tr>
<th>Schema</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth</td>
<td>The third planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Earth.Magnetosheath</td>
<td>The region between the bow shock and the magnetopause, characterized by very turbulent plasma.</td>
</tr>
<tr>
<td>Earth.Magnetosphere</td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td>Earth.Magnetosphere.Magnetotail</td>
<td>The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a right-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td>Earth.Magnetosphere.Main</td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>Earth.Magnetosphere.Plasmasphere</td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td>Earth.Magnetosphere.Polar</td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>Earth.Magnetosphere.RadiationBelt</td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>Earth.Magnetosphere.RingCurrent</td>
<td>One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</td>
</tr>
<tr>
<td>Earth.Moon</td>
<td>The only natural satellite of the Earth.</td>
</tr>
<tr>
<td>Earth.NearSurface</td>
<td>The gaseous and possibly ionized environment of a body extending from the surface to some specified altitude. For the Earth, this altitude is 2000 km.</td>
</tr>
<tr>
<td>Earth.NearSurface.Atmosphere</td>
<td>Neutral gases surrounding a body that extends from the surface and is bound to the body by virtue of the gravitational attraction.</td>
</tr>
<tr>
<td>Earth.NearSurface.AuroralRegion</td>
<td>A region in the atmosphere where electrically-charged particles bombarding the upper atmosphere of a planet in the presence of a magnetic field produce an optical phenomenon.</td>
</tr>
<tr>
<td>Earth.NearSurface.EquatorialRegion</td>
<td>Centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere</td>
<td>Charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.Region</td>
<td>The ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.Region.1</td>
<td>Ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Ionosphere.FRegion</strong></td>
<td>Contains ionized gases at a height of around 150-800 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1- and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Ionosphere.Topside</strong></td>
<td>The uppermost layer of the atmosphere.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Mesosphere</strong></td>
<td>The layer of the atmosphere that extends from the Stratosphere to a range of 80 km to 85 km, temperature decreasing with height.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.MidLatitudeRegion</strong></td>
<td>For the case of the Earth, the mid-latitude region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 23 degrees to 50 degrees. The concept of mid-latitude regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The mid-latitude regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at mid latitude on the Earth are well positioned to measure magnetic storm-time ring current variations.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Plasmasphere</strong></td>
<td>Region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.PolarCap</strong></td>
<td>The areas of the globe surrounding the poles and consisting of the region north of 60 degrees north latitude and the region south of 60 degrees south latitude.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.SouthAtlanticAnomalyRegion</strong></td>
<td>Earth's inner van Allen radiation belt makes its closest approach to the planet's surface. The result is that, for a given altitude, the radiation intensity is higher over this region than elsewhere.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Stratosphere</strong></td>
<td>Layer of the atmosphere that extends from the Troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.SubAuroralRegion</strong></td>
<td>For the case of the Earth, the sub-auroral region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 50 degrees to low 60 degrees. The concept sub-auroral regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The sub-auroral regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at sub-auroral latitudes on the Earth measure a mixture of activity driven by auroral zone currents and the ring current.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Thermosphere</strong></td>
<td>Layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Troposphere</strong></td>
<td>Lowest layer of the atmosphere which begins at the surface and extends to between 7 km (4.4 mi) at the poles and 17 km (10.6 mi) at the equator, with some variation due to weather factors.</td>
</tr>
<tr>
<td><strong>Earth.Surface</strong></td>
<td>The outermost area of a solid object.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Heliosphere</td>
</tr>
<tr>
<td>enumeration</td>
<td>Heliosphere.Heliosheath</td>
</tr>
<tr>
<td>enumeration</td>
<td>Heliosphere.Inner</td>
</tr>
<tr>
<td>enumeration</td>
<td>Heliosphere.NearEarth</td>
</tr>
<tr>
<td>enumeration</td>
<td>Heliosphere.Outer</td>
</tr>
<tr>
<td>enumeration</td>
<td>Heliosphere.Remote1AU</td>
</tr>
<tr>
<td>enumeration</td>
<td>Interstellar</td>
</tr>
<tr>
<td>enumeration</td>
<td>Jupiter</td>
</tr>
<tr>
<td>enumeration</td>
<td>Jupiter.Callisto</td>
</tr>
<tr>
<td>enumeration</td>
<td>Jupiter.Europa</td>
</tr>
<tr>
<td>enumeration</td>
<td>Jupiter.Ganymede</td>
</tr>
<tr>
<td>enumeration</td>
<td>Jupiter.Io</td>
</tr>
<tr>
<td>enumeration</td>
<td>Jupiter.Magnetosphere</td>
</tr>
<tr>
<td>enumeration</td>
<td>Jupiter.Magnetosphere.Magnetotail</td>
</tr>
<tr>
<td>enumeration</td>
<td>Jupiter.Magnetosphere.Main</td>
</tr>
<tr>
<td>enumeration</td>
<td>Jupiter.Magnetosphere.Plasmasphere</td>
</tr>
<tr>
<td>enumeration</td>
<td>Jupiter.Magnetosphere.Polar</td>
</tr>
<tr>
<td>enumeration</td>
<td>Jupiter.Magnetosphere.RingCurrent</td>
</tr>
</tbody>
</table>
activity at the Earth.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mars</td>
<td>The forth planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Mars.Deimos</td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td>Mars.Magnetosphere</td>
<td>The region on the night side of the body where the magnetic filed is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td>Mars.Magnetosphere.Main</td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>Mars.Magnetosphere.Plasmasphere</td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td>Mars.Magnetosphere.Polar</td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>Mars.Magnetosphere.RadiationBelt</td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>Mars.Phobos</td>
<td>The larger and inner most moon of Mars.</td>
</tr>
<tr>
<td>Mercury</td>
<td>The first planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Mercury.Magnetosphere</td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td>Mercury.Magnetosphere.Magnetotail</td>
<td>The region on the night side of the body where the magnetic filed is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td>Mercury.Magnetosphere.Main</td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>Mercury.Magnetosphere.Plasmasphere</td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td>Mercury.Magnetosphere.Polar</td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
</tbody>
</table>
| Mercury.Magnetosphere.RadiationBelt | The region within a magnetosphere where high-energy particles could potentially be trapped in.
The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.

The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.

The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re).

The region where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.

The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.

The major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.

The smallest and least massive of the round moons of Saturn.

The second-largest moon of Saturn and the ninth-largest moon in the Solar System.

The third largest moon of Saturn.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturn.Titan</td>
<td>The largest moon of Saturn and the second-largest moon in the Solar System.</td>
</tr>
<tr>
<td>Sun</td>
<td>The star upon which our solar system is centered.</td>
</tr>
<tr>
<td>Sun.Chromosphere</td>
<td>The region of the Sun's (or a star's) atmosphere above the temperature minimum and below the Transition Region. The solar chromosphere is approximately 400 km to 2100 km above the photosphere, and characterized by temperatures from 4500 - 28000 K.</td>
</tr>
<tr>
<td>Sun.Corona</td>
<td>The outermost atmospheric region of the Sun or a star, characterized by ionization temperatures above 10^-5 K. The solar corona starts at about 2100 km above the photosphere; there is no generally defined upper limit.</td>
</tr>
<tr>
<td>Sun.Interior</td>
<td>The region inside the body which is not visible from outside the body.</td>
</tr>
<tr>
<td>Sun.Photosphere</td>
<td>The atmospheric layer of the Sun or a star from which continuum radiation, especially optical, is emitted to space. For the Sun, the photosphere is about 500 km thick.</td>
</tr>
<tr>
<td>Sun.TransitionRegion</td>
<td>A very narrow (&lt;100 km) layer between the chromosphere and the corona where the temperature rises abruptly from about 8000 to about 500,000 K.</td>
</tr>
<tr>
<td>Uranus</td>
<td>The eighth planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Uranus.Ariel</td>
<td>The fourth-largest moon of Uranus.</td>
</tr>
<tr>
<td>Uranus.Magnetosphere</td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td>Uranus.Magnetosphere.Magnetotail</td>
<td>The region on the night side of the body where the magnetic filed is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td>Uranus.Magnetosphere.Main</td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>Uranus.Magnetosphere.Plasmasphere</td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td>Uranus.Magnetosphere.Polar</td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>Uranus.Magnetosphere.RadiationBelt</td>
<td>A region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>Uranus.Magnetosphere.RingCurrent</td>
<td>The major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</td>
</tr>
<tr>
<td>Uranus.Miranda</td>
<td>The smallest and innermost round moon of Uranus.</td>
</tr>
<tr>
<td>Uranus.Oberon</td>
<td>The second-largest and second most massive mon of Uranus, and the ninth most massive moon in the Solar System.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Uranus.Puck</td>
</tr>
<tr>
<td>enumeration</td>
<td>Uranus.Titania</td>
</tr>
<tr>
<td>enumeration</td>
<td>Uranus.Umbriel</td>
</tr>
<tr>
<td>enumeration</td>
<td>Venus</td>
</tr>
<tr>
<td>enumeration</td>
<td>Venus.Magnetosphere</td>
</tr>
<tr>
<td>enumeration</td>
<td>Venus.Magnetosphere.Magnetotail</td>
</tr>
<tr>
<td>enumeration</td>
<td>Venus.Magnetosphere.Main</td>
</tr>
<tr>
<td>enumeration</td>
<td>Venus.Magnetosphere.Plasmasphere</td>
</tr>
<tr>
<td>enumeration</td>
<td>Venus.Magnetosphere.Polar</td>
</tr>
<tr>
<td>enumeration</td>
<td>Venus.Magnetosphere.RadiationBelt</td>
</tr>
<tr>
<td>enumeration</td>
<td>Venus.Magnetosphere.RingCurrent</td>
</tr>
</tbody>
</table>

Source: `<xsd:element name="ObservedRegion" type="spase:Region" minOccurs="0" maxOccurs="unbounded"/>`
### Element `spase:Keyword`

<table>
<thead>
<tr>
<th>Diagram</th>
<th>spase:Keyword</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td><code>spase:Keyword</code></td>
</tr>
</tbody>
</table>
| Properties | content: simple  
minOccurs: 0  
maxOccurs: unbounded |
| Source | `<xsd:element name="Keyword" type="spase:Keyword" minOccurs="0" maxOccurs="unbounded"/>` |
| Schema location | file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd |

### Element `spase:InputResourceID`

<table>
<thead>
<tr>
<th>Diagram</th>
<th>spase:InputResourceID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td><code>spase:InputResourceID</code></td>
</tr>
</tbody>
</table>
| Properties | content: simple  
minOccurs: 0  
maxOccurs: unbounded |
| Source | `<xsd:element name="InputResourceID" type="spase:InputResourceID" minOccurs="0" maxOccurs="unbounded"/>` |
| Schema location | file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd |

### Element `spase:NumericalData / spase:Parameter`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagram</td>
<td></td>
</tr>
</tbody>
</table>
| Type | spase:NumericalData  
spase:Parameter |
| Properties | | |
| Source | | |
| Schema location | | |
Schema documentation for spase-2_3_1.xsd

Diagram

Type: spase:Parameter

Properties:
- content: complex
- minOccurs: 0
- maxOccurs: unbounded
Model

<table>
<thead>
<tr>
<th>Element</th>
</tr>
</thead>
</table>
| spase:Name, spase:Set*, spase:ParameterKey{0,1}, spase:Description{0,1}, spase:UCD{0,1}, spase:Caveats{0,1}, spase:Cadence{0,1}, spase:CadenceMin{0,1}, spase:CadenceMax{0,1}, spase:Units{0,1}, spase:UnitsConversion{0,1}, spase:CoordinateSystem{0,1}, spase:RenderingHints*, spase:Structure{0,1}, spase:ValidMin{0,1}, spase:ValidMax{0,1}, spase:FillValue{0,1}, (spase:Field | spase:Particle | spase:Wave | spase:Mixed | spase:Support).

Children

<table>
<thead>
<tr>
<th>Element</th>
</tr>
</thead>
</table>

Instance

```xml
<spase:Parameter xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:Name > {1,1} </spase:Name>
  <spase:Set > {0,unbounded} </spase:Set>
  <spase:ParameterKey > {0,1} </spase:ParameterKey>
  <spase:Description > {0,1} </spase:Description>
  <spase:UCD > {0,1} </spase:UCD>
  <spase:Caveats > {0,1} </spase:Caveats>
  <spase:Cadence > {0,1} </spase:Cadence>
  <spase:CadenceMin > {0,1} </spase:CadenceMin>
  <spase:CadenceMax > {0,1} </spase:CadenceMax>
  <spase:Units > {0,1} </spase:Units>
  <spase:UnitsConversion > {0,1} </spase:UnitsConversion>
  <spase:CoordinateSystem > {0,1} </spase:CoordinateSystem>
  <spase:RenderingHints > {0,unbounded} </spase:RenderingHints>
  <spase:ValidMin > {0,1} </spase:ValidMin>
  <spase:ValidMax > {0,1} </spase:ValidMax>
  <spase:FillValue > {0,1} </spase:FillValue>
  <spase:Field > {1,1} </spase:Field>
  <spase:Particle > {1,1} </spase:Particle>
  <spase:Wave > {1,1} </spase:Wave>
  <spase:Mixed > {1,1} </spase:Mixed>
  <spase:Support > {1,1} </spase:Support>
</spase:Parameter>
```

Source

```xml
<xsd:element  name= "Parameter"  type= "spase:Parameter"  minOccurs= "0"  maxOccurs= "unbounded"/>
```

Schema

<table>
<thead>
<tr>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>file:C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

**Element spase:NumericalData / spase:Extension**

<table>
<thead>
<tr>
<th>Namespace</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Diagram" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>spase:Extension</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>content: complex</td>
</tr>
<tr>
<td>minOccurs: 0</td>
</tr>
<tr>
<td>maxOccurs: unbounded</td>
</tr>
</tbody>
</table>

Model

ANY element from ANY namespace OTHER than 'http://www.spase-group.org/data/schema'.

Source

```xml
<xsd:element  name= "Extension"  type= "spase:Extension"  minOccurs= "0"  maxOccurs= "unbounded"/>
```

Schema

<table>
<thead>
<tr>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>file:C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

**Element spase:Spase / spase:Document**

<table>
<thead>
<tr>
<th>Namespace</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Diagram" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>spase:Spase / spase:Document</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>namespace: content</td>
</tr>
<tr>
<td>minOccurs: 0</td>
</tr>
<tr>
<td>maxOccurs: unbounded</td>
</tr>
</tbody>
</table>
Diagram

```
  <spase:ResourceID > {1,1} </spase:ResourceID>
  <spase:ResourceHeader > {1,1} </spase:ResourceHeader>
  <spase:AccessInformation > {1,unbounded} </spase:AccessInformation>
  <spase:Keyword > {0,unbounded} </spase:Keyword>
  <spase:DocumentType > {1,1} </spase:DocumentType>
  <spase:MIMEType > {1,1} </spase:MIMEType>
  <spase:InputResourceID > {0,unbounded} </spase:InputResourceID>
</spase:Document>
```

### Element spase:Document / spase:ResourceId

- **Namespace**: `http://www.spase-group.org/data/schema`
- **Diagram**
  - ResourceId
    - Type: spase:ResourceId
    - Properties:
      - content: simple
      - minOccurs: 1
      - maxOccurs: 1
- **Source**
  - `<xsd:element name="ResourceId" type="spase:ResourceId" minOccurs="1" maxOccurs="1"/>

### Element spase:Document / spase:ResourceHeader

- **Namespace**: `http://www.spase-group.org/data/schema`
- **Diagram**
  - ResourceHeader
- **Source**
  - file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
Diagram

```xml
Type spase:ResourceHeader

Properties
    content: complex
    minOccurs: 1
    maxOccurs: 1

Model
    spase:ResourceName, spase:AlternateName*, spase:DOI[0,1], spase:ReleaseDate, spase:RevisionHistory[0,1],
    spase:ExpirationDate[0,1], spase:Description, spase:Acknowledgement[0,1], spase:PublicationInfo[0,1], spase:Funding*,
    spase:Contact+, spase:InformationURL*, spase:Association*, spase:PriorID*

Children
    spase:Acknowledgement, spase:AlternateName, spase:Association, spase:Contact, spase:DOI, spase:Description,
    spase:ExpirationDate, spase:Funding, spase:InformationURL, spase:PriorID, spase:PublicationInfo, spase:ReleaseDate,
    spase:ResourceName, spase:RevisionHistory

Instance
    <spase:ResourceHeader xmlns:spase= "http://www.spase-group.org/data/schema">
    <spase:ResourceName>{1,1}</spase:ResourceName>
    <spase:AlternateName>[0,unbounded]</spase:AlternateName>
    <spase:DOI>[0,1]</spase:DOI>
    <spase:ReleaseDate>[1,1]</spase:ReleaseDate>
    <spase:RevisionHistory>[0,1]</spase:RevisionHistory>
    <spase:ExpirationDate>[0,1]</spase:ExpirationDate>
    <spase:Description>[1,1]</spase:Description>
    <spase:Acknowledgement>[0,1]</spase:Acknowledgement>
    <spase:PublicationInfo>[0,1]</spase:PublicationInfo>
    <spase:Funding>[0,unbounded]</spase:Funding>
    <spase:Contact>[1,unbounded]</spase:Contact>
    <spase:InformationURL>[0,unbounded]</spase:InformationURL>
    <spase:Association>[0,unbounded]</spase:Association>
    <spase:PriorID>[0,unbounded]</spase:PriorID>
</spase:ResourceHeader>
```

Source

```xml
<xsd:element name="ResourceHeader" type="spase:ResourceHeader" minOccurs="1" maxOccurs="1"/>
```
Schema documentation for spase-2_3_1.xsd

Element `spase:Document / spase:AccessInformation`

Namespace http://www.spase-group.org/data/schema

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th><code>spase:AccessInformation</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: complex</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 1 maxOccurs: unbounded</td>
</tr>
</tbody>
</table>

Model

- `spase:RepositoryID`
- `spase:Availability[0,1]`
- `spase:AccessRights[0,1]`
- `spase:AccessURL+`
- `spase:Format`
- `spase:Encoding[0,1]`
- `spase:DataExtent[0,1]`
- `spase:Acknowledgement[0,1]`

Children

- `spase:AccessRights`
- `spase:AccessURL`
- `spase:Acknowledgement`
- `spase:Availability`
- `spase:DataExtent`
- `spase:Encoding`
- `spase:Format`
- `spase:RepositoryID`

Instance

```xml
  <spase:RepositoryID>(1,1)</spase:RepositoryID>
  <spase:Availability>(0,1)</spase:Availability>
  <spase:AccessRights>(0,1)</spase:AccessRights>
  <spase:AccessURL>(1,unbounded)</spase:AccessURL>
  <spase:Format>(1,1)</spase:Format>
  <spase:Encoding>(0,1)</spase:Encoding>
  <spase:DataExtent>(0,1)</spase:DataExtent>
  <spase:Acknowledgement>(0,1)</spase:Acknowledgement>
</spase:AccessInformation>
```

Source

```xml
<xsd:element name="AccessInformation" type="spase:AccessInformation" minOccurs="1" maxOccurs="unbounded"/>
```

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Document / spase:Keyword`

Namespace http://www.spase-group.org/data/schema

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th><code>spase:Keyword</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 0 maxOccurs: unbounded</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:element name="Keyword" type="spase:Keyword" minOccurs="0" maxOccurs="unbounded"/>
```
Schema documentation for spase-2_3_1.xsd

**Element spase:Document / spase:DocumentType**

Namespace  http://www.spase-group.org/data/schema

Diagram  

Type  spase:DocumentType

Properties  

- content: simple
- minOccurs: 1
- maxOccurs: 1

Facets  

- enumeration Other  Not classified with more specific terms. The context of its usage may be described in related text.
- enumeration Poster  A set of information arranged on a single page or sheet, typically in a large format.
- enumeration Presentation  A set of information that is used when communicating to an audience.
- enumeration Report  A document which describes the findings of some individual or group.
- enumeration Specification  A detailed description of the requirements and other aspects of an object or component that may be used to develop an implementation.
- enumeration TechnicalNote  A document summarizing the performance and other technical characteristics of a product, machine, component, subsystem or software in sufficient detail to be used by an engineer or researcher.
- enumeration WhitePaper  An authoritative report giving information or proposals on an issue.

Source  

```xml
<xsd:element name="DocumentType" type="spase:DocumentType" minOccurs="1" maxOccurs="1"/>
```

**Element spase:Document / spase:MIMEType**

Namespace  http://www.spase-group.org/data/schema

Diagram  

Type  spase:MIMEType

Properties  

- content: simple
- minOccurs: 1
- maxOccurs: 1

Source  

```xml
<xsd:element name="MIMEType" type="spase:MIMEType" minOccurs="1" maxOccurs="1"/>
```

**Element spase:Document / spase:InputResourceID**

Namespace  http://www.spase-group.org/data/schema

Diagram  

Type  spase:InputResourceID

Properties  

- content: simple
- minOccurs: 0

Source  

```xml
<xsd:element name="InputResourceID" type="spase:InputResourceID" minOccurs="0" maxOccurs="1"/>
```
Schema documentation for spase-2_3_1.xsd

**Source**

```xml
<xs:element name="InputResourceID" type="spase:InputResourceID" minOccurs="0" maxOccurs="unbounded" />
```

**Schema location**

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Spase` / `spase:Granule`

**Namespace**

http://www.spase-group.org/data/schema

**Diagram**

![Diagram of spase:Spase / spase:Granule](image)

**Type**

spase:Granule

**Properties**

- content: complex

**Model**

spase:ResourceId, spase:ReleaseDate, spase:ExpirationDate[0,1], spase:ParentID, spase:PriorID*, spase:StartDate, spase:StopDate, spase:Source+

**Children**

spase:ExpirationDate, spase:ParentID, spase:PriorID, spase:ReleaseDate, spase:ResourceId, spase:Source, spase:StartDate, spase:StopDate

**Instance**

```xml
<spase:Granule xmlns="http://www.spase-group.org/data/schema">
  <spase:ResourceId> {1,1} </spase:ResourceId>
  <spase:ReleaseDate> {1,1} </spase:ReleaseDate>
  <spase:ExpirationDate> {0,1} </spase:ExpirationDate>
  <spase:ParentID> {1,1} </spase:ParentID>
  <spase:PriorID> {0,unbounded} </spase:PriorID>
  <spase:StartDate> {1,1} </spase:StartDate>
  <spase:StopDate> {1,1} </spase:StopDate>
  <spase:Source> {1,unbounded} </spase:Source>
</spase:Granule>
```

**Source**

```xml
<xsd:element name="Granule" type="spase:Granule"/>
```

### Element `spase:Granule` / `spase:ResourceID`

**Namespace**

http://www.spase-group.org/data/schema

**Diagram**

![Diagram of spase:Granule / spase:ResourceID](image)

**Type**

spase:ResourceId

**Properties**

- content: simple

- minOccurs: 1

- maxOccurs: 1

**Source**

```xml
<xsd:element name="ResourceId" type="spase:ResourceId" minOccurs="1" maxOccurs="1"/>
```
### Element `spase:Granule / spase:ReleaseDate`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**

```
spase:ReleaseDate
```

**Type**  
`spase:ReleaseDate`

**Properties**

- **content:** `simple`
- **minOccurs:** `1`
- **maxOccurs:** `1`

**Source**

```
<xsd:element name="ReleaseDate" type="spase:ReleaseDate" minOccurs="1" maxOccurs="1"/>
```

**Schema location**  
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

### Element `spase:Granule / spase:ExpirationDate`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**

```
spase:ExpirationDate
```

**Type**  
`spase:ExpirationDate`

**Properties**

- **content:** `simple`
- **minOccurs:** `0`
- **maxOccurs:** `1`

**Source**

```
<xsd:element name="ExpirationDate" type="spase:ExpirationDate" minOccurs="0" maxOccurs="1"/>
```

**Schema location**  
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

### Element `spase:Granule / spase:ParentID`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**

```
spase:ParentID
```

**Type**  
`spase:ParentID`

**Properties**

- **content:** `simple`
- **minOccurs:** `1`
- **maxOccurs:** `1`

**Source**

```
<xsd:element name="ParentID" type="spase:ParentID" minOccurs="1" maxOccurs="1"/>
```

**Schema location**  
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

### Element `spase:Granule / spase:PriorID`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**

```
spase:PriorID
```

**Type**  
`spase:PriorID`

**Properties**

- **content:** `simple`
- **minOccurs:** `0`
- **maxOccurs:** `unbounded`

**Source**

```
<xsd:element name="PriorID" type="spase:PriorID" minOccurs="0" maxOccurs="unbounded"/>
```

**Schema location**  
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
**Element spase:Granule / spase:StartDate**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: 
- **Type**: spase:StartDate
- **Properties**:
  - content: simple
  - minOccurs: 1
  - maxOccurs: 1
- **Source**: `<xsd:element name="StartDate" type="spase:StartDate" minOccurs="1" maxOccurs="1"/>

**Element spase:Granule / spase:StopDate**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: 
- **Type**: spase:StopDate
- **Properties**:
  - content: simple
  - minOccurs: 1
  - maxOccurs: 1
- **Source**: `<xsd:element name="StopDate" type="spase:StopDate" minOccurs="1" maxOccurs="1"/>

**Element spase:Granule / spase:Source**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: 
- **Type**: spase:Source
- **Properties**:
  - content: complex
  - minOccurs: 1
  - maxOccurs: unbounded
- **Model**: spase:SourceType, spase:URL, spase:MirrorURL*, spase:Checksum{0,1}, spase:DataExtent{0,1}
- **Children**: spase:Checksum, spase:DataExtent, spase:MirrorURL, spase:SourceType, spase:URL
- **Instance**: 
  - `<spase:Source xmlns:spase="http://www.spase-group.org/data/schema">
  - `<spase:SourceType>{1,1}</spase:SourceType>
  - `<spase:URL>{1,1}</spase:URL>
  - `<spase:MirrorURL>{0,unbounded}</spase:MirrorURL>
  - `<spase:Checksum>{0,1}</spase:Checksum>
  - `<spase:DataExtent>{0,1}</spase:DataExtent>
  - '</spase:Source>'
### Source

```xml
<xsd:element name="Source" type="spase:Source" minOccurs="1" maxOccurs="unbounded"/>
```

| Schema location | file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd |

#### Element `spase:Source` / `spase:SourceType`

<table>
<thead>
<tr>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>content: <strong>simple</strong></td>
</tr>
<tr>
<td>minOccurs: <strong>1</strong></td>
</tr>
<tr>
<td>maxOccurs: <strong>1</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facets</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration <strong>Ancillary</strong></td>
</tr>
<tr>
<td>A complementary item which can be subordinate, subsidiary, auxiliary, supplementary to the primary item.</td>
</tr>
</tbody>
</table>

| enumeration **Browse** |
| A representation of an image which is suitable to reveal most or all of the details of the image. |

| enumeration **Data** |
| A collection of organized information, usually the results of experience, observation or experiment, or a set of premises. This may consist of numbers, words, or images, particularly as measurements or observations of a set of variables. |

| enumeration **Layout** |
| The structured arrangement of items in a collection. |

| enumeration **Thumbnail** |
| A small representation of an image which is suitable to infer what the full-sized imaged is like. |

### Source

```xml
<xsd:element name="SourceType" type="spase:SourceType" minOccurs="1" maxOccurs="1"/>
```

| Schema location | file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd |

#### Element `spase:Source` / `spase:URL`

<table>
<thead>
<tr>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>content: <strong>simple</strong></td>
</tr>
<tr>
<td>minOccurs: <strong>1</strong></td>
</tr>
<tr>
<td>maxOccurs: <strong>1</strong></td>
</tr>
</tbody>
</table>

### Source

```xml
<xsd:element name="URL" type="spase:URL" minOccurs="1" maxOccurs="1"/>
```

| Schema location | file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd |

#### Element `spase:Source` / `spase:MirrorURL`

<table>
<thead>
<tr>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>content: <strong>simple</strong></td>
</tr>
<tr>
<td>minOccurs: <strong>0</strong></td>
</tr>
<tr>
<td>maxOccurs: <strong>unbounded</strong></td>
</tr>
</tbody>
</table>
### Element `spase:Source / spase:Checksum`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**

![Diagram of spase:Source / spase:Checksum](image)

**Type**  
spase:Checksum

**Properties**

- content: complex
- minOccurs: 0
- maxOccurs: 1

**Model**  
spase:HashValue, spase:HashFunction

**Children**

- spase:HashFunction
- spase:HashValue

**Instance**

```xml
<spase:Checksum xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:HashValue> {1,1} </spase:HashValue>
  <spase:HashFunction> {1,1} </spase:HashFunction>
</spase:Checksum>
```

**Source**

`<xsd:element name="Checksum" type="spase:Checksum" minOccurs="0" maxOccurs="1"/>`

**Schema location**

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Checksum / spase:HashValue`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**

![Diagram of spase:Checksum / spase:HashValue](image)

**Type**  
spase:HashValue

**Properties**

- content: simple
- minOccurs: 1
- maxOccurs: 1

**Source**

`<xsd:element name="HashValue" type="spase:HashValue" minOccurs="1" maxOccurs="1"/>`

**Schema location**

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:Checksum / spase:HashFunction`

**Namespace**  
http://www.spase-group.org/data/schema

**Diagram**

![Diagram of spase:Checksum / spase:HashFunction](image)

**Type**  
spase:HashFunction

**Properties**

- content: simple
- minOccurs: 1
- maxOccurs: 1

**Facets**

- enumeration: MD5  
  Message Digest 5 (MD5) is a 128-bit message digest algorithm created in 1991 by Professor Ronald Rivest.

- enumeration: SHA1  
  Secure Hash Algorithm (SHA), a 160-bit message digest algorithm developed by the NSA and described in Federal Information Processing
Standard (FIPS) publication 180-1.

Secure Hash Algorithm (SHA), a 256-bit message digest algorithm developed by the NSA and described in Federal Information Processing Standard (FIPS) publication 180-1.

Source
<xs:element name="HashFunction" type="spase:HashFunction" minOccurs="1" maxOccurs="1"/>

Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:Source / spase:DataExtent

Namespace
http://www.spase-group.org/data/schema

Diagram

Type
spase:DataExtent

Properties
content: complex
minOccurs: 0
maxOccurs: 1

Model
spase:Quantity, spase:Units[0,1], spase:Per[0,1]

Children
spase:Per, spase:Quantity, spase:Units

Instance
<spase:DataExtent xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:Quantity>{1,1}</spase:Quantity>
  <spase:Units>{0,1}</spase:Units>
  <spase:Per>{0,1}</spase:Per>
</spase:DataExtent>

Source
<xs:element name="DataExtent" type="spase:DataExtent" minOccurs="0" maxOccurs="1"/>

Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:Spase / spase:Instrument

Namespace
http://www.spase-group.org/data/schema

Diagram

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Schema documentation for spase-2_3_1.xsd

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>spase:ResourceID, spase:ResourceHeader, spase:InstrumentType+, spase:InvestigationName+, spase:OperatingSpan{0,1}, spase:ObservatoryID, spase:Caveats{0,1}, spase:Extension*</td>
</tr>
<tr>
<td>Instance</td>
<td></td>
</tr>
<tr>
<td>Source</td>
<td></td>
</tr>
</tbody>
</table>

**Element spase:Instrument / spase:ResourceID**

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagram</td>
<td><a href="#">Diagram</a></td>
</tr>
<tr>
<td>Type</td>
<td>spase:ResourceID</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple, minOccurs: 1, maxOccurs: 1</td>
</tr>
<tr>
<td>Source</td>
<td><a href="#">Source</a></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

**Element spase:Instrument / spase:ResourceHeader**

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td><a href="#">Source</a></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>
Diagram

Type: spase:ResourceHeader

Properties:
- content: complex
- minOccurs: 1
- maxOccurs: 1

Model:
- spase:ResourceName
- spase:AlternateName*
- spase:DOI{0,1}
- spase:ReleaseDate
- spase:RevisionHistory{0,1}
- spase:ExpirationDate{0,1}
- spase:Description
- spase:Acknowledgement{0,1}
- spase:PublicationInfo{0,1}
- spase:Funding*
- spase:Contact+
- spase:InformationURL*
- spase:Association*
- spase:PriorID*

Children:
- spase:Acknowledgement
- spase:AlternateName
- spase:Association
- spase:Contact
- spase:DOI
- spase:Description
- spase:ExpirationDate
- spase:Funding
- spase:InformationURL
- spase:PublicationInfo
- spase:ReleaseDate
- spase:ResourceName
- spase:RevisionHistory

Instance:
```xml
<spase:ResourceHeader xmlns:spase="http://www.spase-group.org/data/schema">
    <spase:ResourceName />
    <spase:AlternateName />
    <spase:DOI />
    <spase:ReleaseDate />
    <spase:RevisionHistory />
    <spase:ExpirationDate />
    <spase:Description />
    <spase:Acknowledgement />
    <spase:PublicationInfo />
    <spase:Funding />
    <spase:Contact />
    <spase:InformationURL />
</spase:ResourceHeader>
```

Source:
```xml
<xsd:element name="ResourceHeader" type="spase:ResourceHeader" minOccurs="1" maxOccurs="1"/>
```
### Element `spase:Instrument / spase:InstrumentType`

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

![Diagram](image)

**Type**
`spase:InstrumentType`

**Properties**
- content: `simple`
- minOccurs: `1`
- maxOccurs: `unbounded`

**Facets**

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>Antenna</code></td>
<td>A sensor used to measure electric potential.</td>
</tr>
<tr>
<td><code>Channeltron</code></td>
<td>An instrument that detects electrons, ions, and UV-radiation, according to the principle of a secondary emission multiplier. It is typically used in electron spectroscopy and mass spectrometry.</td>
</tr>
<tr>
<td><code>Coronograph</code></td>
<td>An instrument which can image things very close to the Sun by using a disk to block the Sun's bright surface which reveals the faint solar corona and other celestial objects.</td>
</tr>
<tr>
<td><code>DoubleSphere</code></td>
<td>A dipole antenna of which the active (sensor) elements are small spheres located at the ends of two wires deployed in the equatorial plane, on opposite sides of a spinning spacecraft.</td>
</tr>
<tr>
<td><code>DustDetector</code></td>
<td>An instrument which determines the mass and speed of ambient dust particles.</td>
</tr>
<tr>
<td><code>ElectronDriftInstrument</code></td>
<td>An active experiment to measure the electron drift velocity based on sensing the displacement of a weak beam of electrons after one gyration in the ambient magnetic field.</td>
</tr>
<tr>
<td><code>ElectrostaticAnalyzer</code></td>
<td>An instrument which uses charged plates to analyze the mass, charge and kinetic energies of charged particles which enter the instrument.</td>
</tr>
<tr>
<td><code>EnergeticParticleInstrument</code></td>
<td>An instrument that measures fluxes of charged particles as a function of time, direction of motion, mass, charge and/or species.</td>
</tr>
<tr>
<td><code>FaradayCup</code></td>
<td>An instrument consisting of an electrode from which electrical current is measured while a charged particle beam (electrons or ions) impinges on it. Used to determine energy spectrum and sometimes ion composition of the impinging particles.</td>
</tr>
<tr>
<td><code>FluxFeedback</code></td>
<td>A search coil whose bandwidth and signal/noise ratio are increased by the application of negative feedback at the sensor (flux) level by driving a collocated coil with a signal from the preamplifier.</td>
</tr>
<tr>
<td><code>FourierTransformSpectrograph</code></td>
<td>An instrument that determines the spectra of a radiative source, using time-domain measurements and a Fourier transform.</td>
</tr>
<tr>
<td><code>GeigerMuellerTube</code></td>
<td>An instrument which samples the radiation from an area at one or more spectral ranges emitted or reflected by an object.</td>
</tr>
<tr>
<td><code>Imager</code></td>
<td>An instrument which is a multispectral scanner with a very large number of channels (64-256 channels) with very narrow band widths.</td>
</tr>
<tr>
<td><code>ImagingSpectrometer</code></td>
<td>An instrument to study the properties of two or more waves from the pattern of interference created by their superposition.</td>
</tr>
</tbody>
</table>
| `Interferometer`  | A device in which the collected electrical charge from ionization in a gas-filled cavity is taken to be the proportion to some parameter
(e.g. dose or exposure) of radiation field

**enumeration** IonDrift
A device which measures the current produced by the displacement of ambient ions on a grid, thereby allowing the determination of the ion trajectory and velocity.

**enumeration** IonGauge
A device which measures low-pressure or vacuum neutral gas with pressures ranging from 10^-8 Torr to 10^-10 Torr. An ion gauge is an electronic amplifying vacuum tube consisting of three electrodes inside an evacuated glass envelope, with the filament being the cathode.

**enumeration** LangmuirProbe
A monopole antenna associated with an instrument. The instrument applies a potential to the antenna which is swept to determine the voltage/current characteristic. This provides information about the plasma surrounding the probe and spacecraft.

**enumeration** LongWire
A dipole antenna whose active (sensor) elements are two wires deployed in the equatorial plane on opposite sides of a spinning spacecraft, and whose length is several times greater than the spacecraft diameter.

**enumeration** Magnetograph
A special type of magnetometer that records a time plot of the local magnetic field near the instrument; or a telescope capable of determining the magnetic field strength and/or direction on a distant object such as the Sun, using the Zeeman splitting or other spectral signatures of magnetization.

**enumeration** Magnetometer
An instrument which measures the ambient magnetic field.

**enumeration** MassSpectrometer
An instrument which distinguishes chemical species in terms of their different isotopic masses.

**enumeration** MicrochannelPlate
An instrument used for the detection of elementary particles, ions, ultraviolet rays and soft X-rays constructed from very thin conductive glass capillaries.

**enumeration** MultispectralImager
An instrument which captures images at multiple spectral ranges.

**enumeration** NeutralAtomImager
An instrument which measures the quantity and properties of neutral particles over a range of angles. Measured properties can include mass and energy.

**enumeration** NeutralParticleDetector
An instrument which measures the quantity and properties of neutral particles. Measured properties can include mass and plasma bulk densities.

**enumeration** ParticleCorrelator
An instrument which correlates particle flux to help identify wave/particle interactions.

**enumeration** ParticleDetector
An instrument which detects particle flux!!!

**enumeration** Photometer
An instrument which measures the strength of electromagnetic radiation within a spectral band which can range from ultraviolet to infrared and includes the visible spectrum.

**enumeration** PhotomultiplierTube
A vacuum phototube that is an extremely sensitive detector of light in the ultraviolet, visible, and near-infrared ranges of the electromagnetic spectrum.

**enumeration** Photopolarimeter
An instrument which measures the intensity and polarization or radiant energy. A photopolarimeter is a combination of a photometer and a polarimeter.

**enumeration** Platform
A collection of components which can be positioned and oriented as a single unit. A platform may contain other platforms. For example, a spacecraft is a platform which may have components that can be articulated and are
also considered platforms.

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProportionalCounter</td>
<td>An instrument which measures energy of ionization radiation based on interactions with a gas.</td>
</tr>
<tr>
<td>QuadrisphericalAnalyser</td>
<td>An instrument used for the 3-D detection of plasma, energetic electrons and ions, and for positive-ion composition measurements.</td>
</tr>
<tr>
<td>Radar</td>
<td>An instrument that uses directional properties of returned power to infer spatial and/or other characteristics of a remote object.</td>
</tr>
<tr>
<td>Radiometer</td>
<td>An instrument for detecting or measuring radiant energy. Radiometers are commonly limited to infrared radiation.</td>
</tr>
<tr>
<td>ResonanceSounder</td>
<td>A combination of a radio receiver and a pulsed transmitter used to study the plasma surrounding a spacecraft by identifying resonances or cut-offs (of the wave dispersion relation), whose frequencies are related to the ambient plasma density and magnetic field. When the transmitter is off it is essentially a high frequency-resolution spectral power receiver.</td>
</tr>
<tr>
<td>RetardingPotentialAnalyser</td>
<td>An instrument which measures ion temperatures and ion concentrations using a planar ion trap.</td>
</tr>
<tr>
<td>Riometer</td>
<td>An instrument which measure the signal strength in various directions of the galactic radio signals. Variations in these signals are influenced by solar flare activity and geomagnetic storm and substorm processes.</td>
</tr>
<tr>
<td>ScintillationDetector</td>
<td>An instrument which detects fluoresences of a material which is excited by high energy (ionizing) electromagnetic or charged particle radiation.</td>
</tr>
<tr>
<td>SearchCoil</td>
<td>An instrument which measures the time variation of the magnetic flux threading a loop by measurement of the electric potential difference induced between the ends of the wire.</td>
</tr>
<tr>
<td>SolidStateDetector</td>
<td>A detector of the charge carriers (electrons and holes) generated in semiconductors by energy deposited by gamma ray photons. Also known as a &quot;semiconductor detector&quot;.</td>
</tr>
<tr>
<td>Sounder</td>
<td>An instrument which measures the radiances from an object. A sounder may measure radiances at multiple spectral ranges.</td>
</tr>
<tr>
<td>SpacecraftPotentialControl</td>
<td>An instrument to control the electric potential of a spacecraft with respect to the ambient plasma by emitting a variable current of positive ions.</td>
</tr>
<tr>
<td>SpectralPowerReceiver</td>
<td>A radio receiver which determines the power spectral density of the electric or magnetic field, or both, at one or more frequencies.</td>
</tr>
<tr>
<td>Spectrometer</td>
<td>An instrument that measures the component wavelengths of light (or other electromagnetic radiation) by splitting the light up into its component wavelengths.</td>
</tr>
<tr>
<td>TimeOfFlight</td>
<td>An instrument which measures the time it takes for a particle to travel between two detectors.</td>
</tr>
<tr>
<td>Unspecified</td>
<td>A value which is not provided.</td>
</tr>
<tr>
<td>WaveformReceiver</td>
<td>A radio receiver which outputs the value of one or more components of the electric and/or magnetic field as a function of time.</td>
</tr>
</tbody>
</table>

Source: `<xsd:element name= "InstrumentType" type= "spase:InstrumentType" minOccurs= "1" maxOccurs= "unbounded"/>`

Schema location: `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

**Element** spase:Instrument / spase:InvestigationName

**Namespace**: http://www.spase-group.org/data/schema
### Element `spase:InvestigationName` / `spase:OperatingSpan`

**Namespace**  
http://www.spase-group.org/data/schema

**Type**  
`spase:OperatingSpan`

**Properties**  
- **content:** complex  
- **minOccurs:** 0  
- **maxOccurs:** 1

**Model**  
`spase:StartDate`, `spase:StopDate{0,1}`, `spase:Note*`

**Children**  
`spase:Note`, `spase:StartDate`, `spase:StopDate`

**Instance**  
```xml  
<spase:OperatingSpan xmlns:spase= "http://www.spase-group.org/data/schema">  
<spase:StartDate> {1,1} </spase:StartDate>  
<spase:StopDate> {0,1} </spase:StopDate>  
<spase:Note> {0,unbounded} </spase:Note>  
</spase:OperatingSpan>
```

**Source**  
`<xsd:element name="OperatingSpan" type="spase:OperatingSpan" minOccurs="0" maxOccurs="1"/>`

**Schema location**  
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:OperatingSpan` / `spase:StartDate`

**Namespace**  
http://www.spase-group.org/data/schema

**Type**  
`spase:StartDate`

**Properties**  
- **content:** simple  
- **minOccurs:** 1  
- **maxOccurs:** 1

**Source**  
`<xsd:element name="StartDate" type="spase:StartDate" minOccurs="1" maxOccurs="1"/>`

**Schema location**  
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element `spase:OperatingSpan` / `spase:StopDate`

**Namespace**  
http://www.spase-group.org/data/schema

**Type**  
`spase:StopDate`

**Properties**  
- **content:** simple  
- **minOccurs:** 1  
- **maxOccurs:** 1

**Source**  
`<xsd:element name="StopDate" type="spase:StopDate" minOccurs="1" maxOccurs="1"/>`

**Schema location**  
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
Schema documentation for spase-2_3_1.xsd

Diagram

Type
spase:StopDate

Properties
- content: simple
- minOccurs: 0
- maxOccurs: 1

Source
```
<xsd:element name="StopDate" type="spase:StopDate" minOccurs="0" maxOccurs="1"/>
```

Schema Location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:OperatingSpan / spase:Note

Namespace
http://www.spase-group.org/data/schema

Diagram

Type
spase:Note

Properties
- content: simple
- minOccurs: 0
- maxOccurs: unbounded

Source
```
<xsd:element name="Note" type="spase:Note" minOccurs="0" maxOccurs="unbounded"/>
```

Schema Location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:Instrument / spase:ObservatoryID

Namespace
http://www.spase-group.org/data/schema

Diagram

Type
spase:ObservatoryID

Properties
- content: simple
- minOccurs: 1
- maxOccurs: 1

Source
```
<xsd:element name="ObservatoryID" type="spase:ObservatoryID" minOccurs="1" maxOccurs="1"/>
```

Schema Location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:Instrument / spase:Caveats

Namespace
http://www.spase-group.org/data/schema

Diagram

Type
spase:Caveats

Properties
- content: simple
- minOccurs: 0
- maxOccurs: 1

Source
```
<xsd:element name="Caveats" type="spase:Caveats" minOccurs="0" maxOccurs="1"/>
```

Schema Location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:Instrument / spase:Extension

Namespace
http://www.spase-group.org/data/schema
Schema documentation for spase-2_3_1.xsd

<table>
<thead>
<tr>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Diagram" /></td>
</tr>
</tbody>
</table>

**Type**
spase:Extension

**Properties**
- content: complex
- minOccurs: 0
- maxOccurs: unbounded

**Model**
ANY element from ANY namespace OTHER than 'http://www.spase-group.org/data/schema'

**Source**
```xml
<xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
```

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:Spase / spase:Observatory**

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**
![Diagram](image)

**Type**
spase:Observatory

**Properties**
- content: complex

**Model**
spase:ResourceId, spase:ResourceHeader, spase:ObservatoryGroupID*, spase:Location, spase:OperatingSpan+, spase:Extension*

**Children**
spase:Extension, spase:Location, spase:ObservatoryGroupID, spase:OperatingSpan, spase:ResourceId

**Instance**
```xml
<spase:Observatory xmlns:spase= "http://www.spase-group.org/data/schema">
    <spase:ResourceId >{1,1}</spase:ResourceId>
    <spase:ResourceHeader >{1,1}</spase:ResourceHeader>
    <spase:ObservatoryGroupID >{0,unbounded}</spase:ObservatoryGroupID>
    <spase:Location >{1,1}</spase:Location>
    <spase:OperatingSpan >{1,unbounded}</spase:OperatingSpan>
    <spase:Extension >{0,unbounded}</spase:Extension>
</spase:Observatory>
```

**Source**
```xml
<xsd:element name="Observatory" type="spase:Observatory"/>
```

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:Observatory / spase:ResourceId**

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**
![Diagram](image)

**Type**
spase:ResourceId

**Properties**
- content: simple
- minOccurs: 1

---

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Element spase:Observatory / spase:ResourceHeader

Namespace http://www.spase-group.org/data/schema

Diagram

Type spase:ResourceHeader

Properties
content: complex
minOccurs: 1
maxOccurs: 1

Model
spase:ResourceName, spase:AlternateName*, spase:DOI[0,1], spase:ReleaseDate, spase:RevisionHistory[0,1], spase:ExpirationDate[0,1], spase:Description, spase:Acknowledgement[0,1], spase:PublicationInfo[0,1], spase:Funding*, spase:Contact+, spase:InformationURL*, spase:Association*, spase:PriorID*

Children

Instance
<spase:ResourceHeader xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:ResourceName>{1,1}</spase:ResourceName>
  <spase:AlternateName>{0,unbounded}</spase:AlternateName>
  <spase:DOI>[0,1]</spase:DOI>
  <spase:ReleaseDate>[1,1]</spase:ReleaseDate>
  <spase:RevisionHistory>[0,1]</spase:RevisionHistory>
  <spase:ExpirationDate>[0,1]</spase:ExpirationDate>
  <spase:Description>[1,1]</spase:Description>
</spase:ResourceHeader>
**Element spase:Observatory / spase:ObservatoryGroupID**

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

**Type**
spase:ObservatoryGroupID

**Properties**
- content: simple
- minOccurs: 0
- maxOccurs: unbounded

**Source**
<xsd:element name="ObservatoryGroupID" type="spase:ObservatoryGroupID" minOccurs="0" maxOccurs="unbounded"/>

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Element spase:Observatory / spase:Location**

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

**Type**
spase:Location

**Properties**
- content: complex
- minOccurs: 1
- maxOccurs: 1

**Model**
spase:ObservatoryRegion+, spase:CoordinateSystemName{0,1}, spase:Latitude{0,1}, spase:Longitude{0,1}, spase:Elevation{0,1}

**Children**
spase:CoordinateSystemName, spase:Elevation, spase:Latitude, spase:Longitude, spase:ObservatoryRegion

**Instance**

```
<spase:Location xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:ObservatoryRegion>{1,unbounded}</spase:ObservatoryRegion>
  <spase:CoordinateSystemName>{0,1}</spase:CoordinateSystemName>
  <spase:Latitude>{0,1}</spase:Latitude>
  <spase:Longitude>{0,1}</spase:Longitude>
  <spase:Elevation>{0,1}</spase:Elevation>
</spase:Location>
```

**Source**
<xsd:element name="Location" type="spase:Location" minOccurs="1" maxOccurs="1"/>

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
Element `spase:Location / spase:ObservatoryRegion`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>spase:Region</code></td>
</tr>
<tr>
<td>Properties</td>
<td></td>
</tr>
<tr>
<td>content</td>
<td><code>simple</code></td>
</tr>
<tr>
<td>minOccurs</td>
<td>1</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>unbounded</td>
</tr>
<tr>
<td>Facets</td>
<td></td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Asteroid</code></td>
</tr>
<tr>
<td></td>
<td>A small extraterrestrial body consisting of rock and metal that is in orbit around the sun.</td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Comet</code></td>
</tr>
<tr>
<td></td>
<td>A relatively small extraterrestrial body consisting of a frozen mass that travels around the sun in a highly elliptical orbit.</td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Earth</code></td>
</tr>
<tr>
<td></td>
<td>The third planet from the sun in our solar system.</td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Earth.Magnetosheath</code></td>
</tr>
<tr>
<td></td>
<td>The region between the bow shock and the magnetopause, characterized by very turbulent plasma.</td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Earth.Magnetosphere</code></td>
</tr>
<tr>
<td></td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Earth.Magnetosphere.Magnetosheath</code></td>
</tr>
<tr>
<td></td>
<td>Region on the right side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetosheath begins at a right-side radial distance of 10 Re (R &gt; 10Re).</td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Earth.Magnetosphere.Main</code></td>
</tr>
<tr>
<td></td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Earth.Magnetosphere.Plasmasphere</code></td>
</tr>
<tr>
<td></td>
<td>Region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Earth.Magnetosphere.Polar</code></td>
</tr>
<tr>
<td></td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Earth.Magnetosphere.RadiationBelt</code></td>
</tr>
<tr>
<td></td>
<td>Region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Earth.Magnetosphere.RingCurrent</code></td>
</tr>
<tr>
<td></td>
<td>One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Earth.Moon</code></td>
</tr>
<tr>
<td></td>
<td>The only natural satellite of the Earth.</td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Earth.NearSurface</code></td>
</tr>
<tr>
<td></td>
<td>The gaseous and possibly ionized environment of a body extending from the surface to some specified altitude. For the Earth, this altitude is 2000 km.</td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Earth.NearSurface.Atmosphere</code></td>
</tr>
<tr>
<td></td>
<td>Neutral gases surrounding a body that extends from the surface and is bound to the body by virtue of the gravitational attraction.</td>
</tr>
<tr>
<td>Schema documentation for spase-2_3_1.xsd</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> Earth.NearSurface.AuroralRegion</td>
<td>A region in the atmosphere where electrically-charged particles bombarding the upper atmosphere of a planet in the presence of a magnetic field produce an optical phenomenon.</td>
</tr>
<tr>
<td><strong>enumeration</strong> Earth.NearSurface.EquatorialRegion</td>
<td>Centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.</td>
</tr>
<tr>
<td><strong>enumeration</strong> Earth.NearSurface.Ionosphere</td>
<td>Charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.</td>
</tr>
<tr>
<td><strong>enumeration</strong> Earth.NearSurface.Ionosphere.DRegion</td>
<td>The ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.</td>
</tr>
<tr>
<td><strong>enumeration</strong> Earth.NearSurface.Ionosphere.FRegion</td>
<td>Ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.</td>
</tr>
<tr>
<td><strong>enumeration</strong> Earth.NearSurface.Ionosphere.FRegion</td>
<td>Contains ionized gases at a height of around 150-800 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1- and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.</td>
</tr>
<tr>
<td><strong>enumeration</strong> Earth.NearSurface.Ionosphere.FRegion</td>
<td>At the upper most areas of the ionosphere.</td>
</tr>
<tr>
<td><strong>enumeration</strong> Earth.NearSurface.Ionosphere.FRegion</td>
<td>The layer of the atmosphere that extends from the Stratosphere to a range of 80 km to 85 km, temperature decreasing with height.</td>
</tr>
<tr>
<td><strong>enumeration</strong> Earth.NearSurface.MidLatitudeRegion</td>
<td>When considering the case of the Earth, the mid-latitude region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 23 degrees to 50 degrees. The concept of mid-latitude regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The mid-latitude regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at mid latitude on the Earth are well positioned to measure magnetic storm-time ring current variations.</td>
</tr>
<tr>
<td><strong>enumeration</strong> Earth.NearSurface.Plasmasphere</td>
<td>Region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td><strong>enumeration</strong> Earth.NearSurface.PolarCap</td>
<td>The areas of the globe surrounding the poles and consisting of the region north of 60 degrees north latitude an the region south of 60 degrees south latitude.</td>
</tr>
<tr>
<td><strong>enumeration</strong> Earth.NearSurface.SouthAtlanticAnomalyRegion</td>
<td>Earth's inner van Allen radiation belt makes its closest approach to the planet's surface. The result is that, for a given altitude, the radiation intensity is higher over this region than elsewhere.</td>
</tr>
<tr>
<td><strong>enumeration</strong> Earth.NearSurface.Stratosphere</td>
<td>Layer of the atmosphere that extends from the troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.</td>
</tr>
<tr>
<td><strong>enumeration</strong> Earth.NearSurface.SubAuroralRegion</td>
<td>Considering the case of the Earth, the sub-auroral region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending</td>
</tr>
</tbody>
</table>
from about 50 degrees to low 60 degrees. The concept sub-auroral regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The sub-auroral regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at sub-auroral latitudes on the Earth measure a mixture of activity driven by auroral zone currents and the ring current.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth.NearSurface.Thermosphere</td>
<td>layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height.</td>
</tr>
<tr>
<td>Earth.NearSurface.Troposphere</td>
<td>lowest layer of the atmosphere which begins at the surface and extends to between 7 km (4.4 mi) at the poles and 17 km (10.6 mi) at the equator, with some variation due to weather factors.</td>
</tr>
<tr>
<td>Earth.Surface</td>
<td>The outermost area of a solid object.</td>
</tr>
<tr>
<td>Heliosphere</td>
<td>The solar atmosphere extending roughly from the outer corona to the edge of the solar plasma at the heliopause separating primarily solar plasma from interstellar plasma.</td>
</tr>
<tr>
<td>Heliosphere.Heliosheath</td>
<td>The region extending radially outward from the heliospheric termination shock and in which the decelerated solar wind plasma is still significant.</td>
</tr>
<tr>
<td>Heliosphere.Inner</td>
<td>The region of the heliosphere extending radially outward from the solar coronal base to just inside 1 AU.</td>
</tr>
<tr>
<td>Heliosphere.NearEarth</td>
<td>The heliospheric region near the Earth which extends to and includes the area near the L1 and L2 Lagrange point.</td>
</tr>
<tr>
<td>Heliosphere.Outer</td>
<td>The region of the heliosphere extending radially outward from just outside 1 AU to the heliospheric termination shock.</td>
</tr>
<tr>
<td>Heliosphere.Remote1AU</td>
<td>A roughly toroidal region that includes the Earth’s orbit, but exclusive of the region near the Earth.</td>
</tr>
<tr>
<td>Interstellar</td>
<td>The region between stars outside of the star’s heliopause.</td>
</tr>
<tr>
<td>Jupiter</td>
<td>The fifth planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Jupiter.Callisto</td>
<td>A second largest moon of Jupiter and the third-largest moon in the solar system.</td>
</tr>
<tr>
<td>Jupiter.Europa</td>
<td>The sixth-closest round moon of Jupiter.</td>
</tr>
<tr>
<td>Jupiter.Ganymede</td>
<td>The biggest moon of Jupiter and in the solar system.</td>
</tr>
<tr>
<td>Jupiter.Io</td>
<td>The innermost of the four round moons of the planet Jupiter.</td>
</tr>
<tr>
<td>Jupiter.Magnetosphere</td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet’s magnetic field.</td>
</tr>
<tr>
<td>Jupiter.Magnetosphere.Magnetotail</td>
<td>A region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td>Jupiter.Magnetosphere.Main</td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>Jupiter.Magnetosphere.Plasmasphere</td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude...</td>
</tr>
</tbody>
</table>
### Jupiter Magnetosphere
- **Polar**: The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.
- **Radiation Belt**: Within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.
- **Ring Current**: One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.

### Mars Magnetosphere
- **Polar**: The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.
- **Radiation Belt**: Within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.
- **Ring Current**: One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.

### Mars Phobos
- **Deimos**: The larger and inner most moon of Mars.

### Mercury Magnetosphere
- **Polar**: The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.
- **Radiation Belt**: Within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.
- **Ring Current**: One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.

### Mars Phobos
- **Deimos**: The larger and inner most moon of Mars.
by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re).

| enumeration | Mercury.Magnetosphere.Main | The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body. |
| enumeration | Mercury.Magnetosphere.Plasmasphere | A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density. |
| enumeration | Mercury.Magnetosphere.Polar | The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone. |
| enumeration | Mercury.Magnetosphere.RadiationBelt | The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field. |
| enumeration | Mercury.Magnetosphere.RingCurrent | One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth. |
| enumeration | Neptune | The seventh planet from the sun in our solar system. |
| enumeration | Pluto | The ninth (sub)planet from the sun in our solar system. |
| enumeration | Saturn | The sixth planet from the sun in our solar system. |
| enumeration | Saturn.Dione | The forth-largest moon of Saturn. |
| enumeration | Saturn.Enceladus | The sixth-largest moon of Saturn. It is currently endogenously active. The smallest known body in the Solar System that is geologically active today. |
| enumeration | Saturn.Iapetus | The third-largest moon of Saturn and the eleventh-largest in the Solar System. |
| enumeration | Saturn.Magnetosphere | The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field. |
| enumeration | Saturn.Magnetosphere.Magnetotail | The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re). |
| enumeration | Saturn.Magnetosphere.Main | The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body. |
| enumeration | Saturn.Magnetosphere.Plasmasphere | A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density. |
| enumeration | Saturn.Magnetosphere.Polar | The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone. |
| enumeration | Saturn.Magnetosphere.RadiationBelt | The region within a magnetosphere where high-energy... |
particles could potentially be trapped in a magnetic field.

**Enumeration**: **Saturn.Magnetosphere.RingCurrent**

The major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H andDst Indices of magnetic storm activity at the Earth.

**Enumeration**: **Saturn.Mimas**
The smallest and least massive of the round moons of Saturn.

**Enumeration**: **Saturn.Rhea**
The second-largest moon of Saturn and the ninth-largest moon in the Solar System.

**Enumeration**: **Saturn.Tethys**
The third largest moon of Saturn.

**Enumeration**: **Saturn.Titan**
The largest moon of Saturn and the second-largest moon in the Solar System.

**Enumeration**: **Sun**
The star upon which our solar system is centered.

**Enumeration**: **Sun.Chromosphere**
The region of the Sun's (or a star's) atmosphere above the temperature minimum and below the Transition Region. The solar chromosphere is approximately 400 km to 2100 km above the photosphere, and characterized by temperatures from 4500 – 28000 K.

**Enumeration**: **Sun.Corona**
The outermost atmospheric region of the Sun or a star, characterized by ionization temperatures above $10^5$ K. The solar corona starts at about 2100 km above the photosphere; there is no generally defined upper limit.

**Enumeration**: **Sun.Interior**
The region inside the body which is not visible from outside the body.

**Enumeration**: **Sun.Photosphere**
The atmospheric layer of the Sun or a star from which continuum radiation, especially optical, is emitted to space. For the Sun, the photosphere is about 500 km thick.

**Enumeration**: **Sun.TransitionRegion**
A very narrow (<100 km) layer between the chromosphere and the corona where the temperature rises abruptly from about 6000 to about 500,000 K.

**Enumeration**: **Uranus**
The eighth planet from the sun in our solar system.

**Enumeration**: **Uranus.Ariel**
The fourth-largest moon of Uranus.

**Enumeration**: **Uranus.Magnetosphere**
The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.

**Enumeration**: **Uranus.Magnetosphere.Magnetotail**
The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re ($X > -10Re$).

**Enumeration**: **Uranus.Magnetosphere.Main**
The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.

**Enumeration**: **Uranus.Magnetosphere.Plasmasphere**
The region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.

**Enumeration**: **Uranus.Magnetosphere.Polar**
The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uranus.Magnetosphere.RadiationBelt</td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>Uranus.Magnetosphere.RingCurrent</td>
<td>One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</td>
</tr>
<tr>
<td>Uranus.Miranda</td>
<td>The smallest and innermost round moon of Uranus.</td>
</tr>
<tr>
<td>Uranus.Oberon</td>
<td>The second-largest and second most massive moon of Uranus, and the ninth most massive moon in the Solar System.</td>
</tr>
<tr>
<td>Uranus.Puck</td>
<td>The largest inner spherical moon of Uranus.</td>
</tr>
<tr>
<td>Uranus.Titania</td>
<td>The largest moon of Uranus and the eighth largest moon in the Solar System.</td>
</tr>
<tr>
<td>Uranus.Umbriel</td>
<td>The third largest and fourth most massive moon of Uranus.</td>
</tr>
<tr>
<td>Venus</td>
<td>The second planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Venus.Magnetosphere</td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td>Venus.Magnetosphere.Main</td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>Venus.Magnetosphere.Plasmasphere</td>
<td>The plasmasphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td>Venus.Magnetosphere.Polar</td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>Venus.Magnetosphere.RadiationBelt</td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>Venus.Magnetosphere.RingCurrent</td>
<td>One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</td>
</tr>
</tbody>
</table>

Source: `<xsd:element name="ObservatoryRegion" type="spase:Region" minOccurs="1" maxOccurs="unbounded"/>`

Schema location: `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`
<table>
<thead>
<tr>
<th>Facets</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>enumeration</strong></td>
<td>CGM</td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td>CSO</td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td>Carrington</td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td>DM</td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td>ECD</td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td>ECEF</td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td>ENP</td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td>GEI</td>
</tr>
</tbody>
</table>
vector, positive northward. X axis points towards the first point of Aries (from the Earth towards the Sun at the vernal equinox). See Russell, 1971. When the X axis is the direction of the mean vernal equinox of J2000, the coordinate system is also called GCI. Then the Z axis is also defined as being normal to the mean Earth equator of J2000.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO</td>
<td>Geographic - geocentric corotating - A coordinate system where the Z axis is along Earth's spin vector, positive northward. X axis lies in Greenwich meridian, positive towards Greenwich. See Russell, 1971.</td>
</tr>
<tr>
<td>GPHIO</td>
<td>Kronian Solar Orbital - A coordinate system related to Saturn where X is anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>GSE</td>
<td>Geocentric Solar Elliptic - A coordinate system where the X axis is from Earth to Sun. Z axis is normal to the ecliptic, positive northward. See Russell, 1971.</td>
</tr>
<tr>
<td>GSEQ</td>
<td>Geocentric Solar Equatorial - A coordinate system where the X axis is from Earth to Sun. Y axis is parallel to solar equatorial plane. Z axis is positive northward. See Russell, 1971.</td>
</tr>
<tr>
<td>GSM</td>
<td>Geocentric Solar Magnetospheric - A coordinate system where the X axis is from Earth to Sun. Z axis is northward in a plane containing the X axis and the geomagnetic dipole axis. See Russell, 1971.</td>
</tr>
<tr>
<td>HAE</td>
<td>Heliocentric Aries Ecliptic - A coordinate system where the Z axis is normal to the ecliptic plane, positive northward. X axis is positive towards the first point of Aries (from Earth to Sun at vernal equinox). Same as SE below. See Hapgood, 1992.</td>
</tr>
<tr>
<td>HCC</td>
<td>Heliocentric Cartesian - A 3-D orthonormal coordinate system that is primarily intended to specify with two dimensions a point on the solar disk. The Z axis points toward the observer. The X axis is perpendicular to the Y and Z axes, positive toward solar west. Standard representation for this system is via the point's x and y values, expressed either as physical distances or as fractions of the solar disk radius.</td>
</tr>
<tr>
<td>HCI</td>
<td>Heliographic Carrington Inertial.</td>
</tr>
<tr>
<td>HCR</td>
<td>Heliocentric Radial - A 3-D orthonormal coordinate system that is primarily intended to specify with two dimensions a point on the solar disk. The Z axis points toward the observer. The Y axis lies in the plane defined by the solar spin vector and the Z axis, positive northward. The X axis is parallel to the Y and Z axes, positive toward solar west. Standard representation for this system is via the point's x and y values, expressed as physical distances or as fractions of the solar disk radius.</td>
</tr>
<tr>
<td>HEE</td>
<td>Heliocentric Earth Elliptic - A coordinate system where the Z axis is normal to the ecliptic plane, positive northward. X axis points from Sun to Earth. See Hapgood, 1992.</td>
</tr>
<tr>
<td>HEEQ</td>
<td>Heliocentric Earth Equatorial - A coordinate system where the Z axis is normal to the solar equatorial plane, positive northward. X axis is generally Earthward in the plane defined by the Z axis and the Sun-Earth direction. See Hapgood, 1992.</td>
</tr>
<tr>
<td>HERTN</td>
<td>Hello-Ecliptic Radial Tangential Normal coordinate system. Typically centered at a spacecraft.</td>
</tr>
</tbody>
</table>
The X axis (radial) is set as the primary axis, and is defined as the axis pointing from the spacecraft to the Sun. The Z axis (tangential) is set as the secondary axis, and is defined as that portion of the ecliptic rotational axis which is perpendicular to the primary axis. The Y axis (Normal) is defined as Z cross X.

**Enumeration HG**

Heliographic - A heliocentric rotating coordinate system where the Z axis is normal to the solar equatorial plane, positive northward. X, Y axes rotate with a 25.38 day period. The zero longitude (X axis) is defined as the longitude that passed through the ascending node of the solar equator on the ecliptic plane on 1 January, 1854 at 12 UT. See [http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html](http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html)

**Enumeration HGI**

Heliographic Inertial - A heliocentric coordinate system where the Z axis is normal to the solar equatorial plane, positive northward. X axis is along the intersection line between solar equatorial and ecliptic planes. The X axis was positive at SE longitude of 74.367 deg on Jan 1, 1900. (See SE below.) See [http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html](http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html)

**Enumeration HGRTN**

Heliocentric Radial Tangential Normal coordinate system (aka RTN). Typically centered at a spacecraft. Used for IMF and plasma V vectors. The X axis (radial) is set as the primary axis, and is defined as the axis pointing from the spacecraft to the Sun. The Z axis (tangential) is set as the secondary axis, and is defined as that portion of the solar North rotational axis which is perpendicular to the primary axis. The Y axis (normal) is defined as Z cross X.

**Enumeration HPC**

Helioprojective Cartesian = A 3-D orthonormal (left-handed) coordinate system that is primarily intended to specify with two dimensions a point on the solar disk. The Z axis points from the observer to the center of the solar disk. The Y axis lies in the plane defined by the solar spin vector and the Z axis, positive northward. The X axis is perpendicular to the Y and Z axes, positive toward solar west. Given as the distance between the observer and the center of the solar disk, the standard representation of an (x,y) point on the solar disk is via the point's longitude angle \([\arctan(x/d)]\) and latitude angle \([\arctan(y/d)]\).

**Enumeration HPR**

Helioprojective Radial - A 3-D orthonormal (left-handed) coordinate system that is primarily intended to specify with two dimensions a point on the solar disk. The Z axis points from the observer to the center of the solar disk. The Y axis lies in the plane defined by the solar spin vector and the Z axis, positive northward. The X axis is perpendicular to the Y and Z axes, positive toward solar west. Given as the distance between the observer and the center of the solar disk, the standard representation for this system of an (x,y) point on the solar disk is via the point's latitude angle \(\theta = \arctan(\sqrt{x^2+y^2}/d)\) or equivalent declination parameter delta \(\theta = 90 - \theta\) deg, and its phase angle \(\psi = \arctan(-y/x)\).

**Enumeration HSM**

Heliospheric Solar Magnetospheric - A coordinate system where the X axis is from Earth to Sun, Z axis is northward in a plane containing the X axis and the geomagnetic dipole axis.

**Enumeration J2000**

An astronomical coordinate system which uses the mean equator and equinox of Julian date 2451455.0 TT (Terrestrial Time), or January 1, 2000, noon TT. (aka J2000) to define a celestial reference frame.

**Enumeration JSM**

Jovian Solar Magnetospheric - A coordinate
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>System</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSO</td>
<td>Jovian Solar Orbital</td>
<td>A coordinate system related to Jupiter where X anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>KSM</td>
<td>Kronian Solar Magnetospheric</td>
<td>A coordinate system related to Saturn where the X axis is anti-sunward, Z axis is northward in a plane containing the X axis and the Kronian dipole axis.</td>
</tr>
<tr>
<td>KSO</td>
<td>Kronian Solar Orbital</td>
<td>A coordinate system related to Saturn where X is anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>LGM</td>
<td>Local Geomagnetic</td>
<td>A coordinate system used mainly for Earth surface or near Earth surface magnetic field data. X axis northward from observation point in a geographic meridian. Z axis downward towards Earth's center. In this system, H (total horizontal component) = SQRT (Bx^2 + By^2) and D (declination angle) = arctan (By/Bx)</td>
</tr>
<tr>
<td>MAG</td>
<td>Geomagnetic</td>
<td>Geocentric. Z axis is parallel to the geomagnetic dipole axis, positive north. X is in the plane defined by the Z axis and the Earth's rotation axis. If N is a unit vector from the Earth's center to the north geographic pole, the signs of the X and Y axes are given by Y = N x Z, X = Y x Z. See Russell, 1971.</td>
</tr>
<tr>
<td>MFA</td>
<td>Magnetic Field Aligned</td>
<td>A coordinate system spacecraft-centered system with Z in the direction of the ambient magnetic field vector. X is in the plane defined by Z and the spacecraft-Sun line, positive sunward.</td>
</tr>
<tr>
<td>MSO</td>
<td>Mars/Mercury Solar Orbital</td>
<td>A coordinate system related to Mars or Mercury. A coordinate system where, depending on the body (Mars or Mercury), X is anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>RTN</td>
<td>Radial Tangential Normal</td>
<td>Typically centered at a spacecraft. Used for IMF and plasma V vectors. The X axis (radial) is set as the primary axis, and is defined as the axis pointing from the spacecraft to the Sun. The Z axis (tangential) is set as the secondary axis, and is defined as that portion of the solar North rotational axis which is perpendicular to the primary axis. The Y axis (normal) is defined as Z cross X.</td>
</tr>
<tr>
<td>SC</td>
<td>Spacecraft</td>
<td>A coordinate system defined by the spacecraft geometry and/or spin. Often has Z axis parallel to spacecraft spin vector. X and Y axes may or may not corotate with the spacecraft. See SR and SR2 below.</td>
</tr>
<tr>
<td>SE</td>
<td>Solar Ecliptic</td>
<td>A heliocentric coordinate system where the Z axis is normal to the ecliptic plane, positive northward. X axis is positive towards the first point of Aries (from Earth to Sun at vernal equinox). Same as HAE above. See <a href="http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html">http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html</a></td>
</tr>
<tr>
<td>SM</td>
<td>Solar Magnetic</td>
<td>A geocentric coordinate system where the Z axis is northward along Earth's dipole axis, X axis is in plane of Z axis and Earth-Sun line, positive sunward. See Russell, 1971.</td>
</tr>
<tr>
<td>SR</td>
<td>Spin Reference</td>
<td>A special case of a Spacecraft (SC) coordinate system for a spinning spacecraft. Z is parallel to the spacecraft spin vector. X and Y rotate with the spacecraft. See <a href="http://cdpp.cnes.fr/00428.pdf">http://cdpp.cnes.fr/00428.pdf</a></td>
</tr>
</tbody>
</table>
## Schema documentation for spase-2_3_1.xsd

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR2</td>
<td>Spin Reference 2 - A special case of a Spacecraft (SC) coordinate system for a spinning spacecraft. Z is parallel to the spacecraft spin vector. X is in the plane defined by Z and the spacecraft-Sun line, positive sunward. See <a href="http://cdpp.cnes.fr/00428.pdf">http://cdpp.cnes.fr/00428.pdf</a></td>
</tr>
<tr>
<td>SSE</td>
<td>Spacecraft Solar Ecliptic - A coordinate system used for deep space spacecraft, for example Helios. X axis from spacecraft to Sun. Z axis normal to ecliptic plane, positive northward. Note: Angle between normals to ecliptic and to Helios orbit plane ~ 0.25 deg.</td>
</tr>
<tr>
<td>SSE_L</td>
<td>Selenocentric Solar Ecliptic. The X axis points from the center of the Earth's moon to the sun, the Z axis is normal to the ecliptic plane, positive northward. And the Y axis completes the right-handed set of axes.</td>
</tr>
<tr>
<td>SpacecraftOrbitPlane</td>
<td>A coordinate system where X lies in the plane normal to and in the direction of motion of the spacecraft, Z is normal to this plane and Y completes the triad in a right-handed coordinate system.</td>
</tr>
<tr>
<td>TIIS</td>
<td>Kronian Solar Orbital - A coordinate system related to Saturn where X is anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>VSO</td>
<td>Venus Solar Orbital - A coordinate system related to Venus where X is anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>WGS84</td>
<td>The World Geodetic System (WGS) defines a reference frame for the earth, for use in geodesy and navigation. The WGS84 uses the zero meridian as defined by the Bureau International de l'Heure.</td>
</tr>
</tbody>
</table>

### Source

<xsd:element name="CoordinateSystemName" type="spase:CoordinateSystemName" minOccurs="0" maxOccurs="1"/>

### Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

### Element `spase:Location` / `spase:Longitude`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: ![Diagram](#)
- **Type**: `spase:Longitude`
- **Properties**:
  - **content**: `simple`
  - **minOccurs**: 0
  - **maxOccurs**: 1
- **Source**: `<xsd:element name="Longitude" type="spase:Longitude" minOccurs="0" maxOccurs="1"/>`
- **Schema location**: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

### Element `spase:Location` / `spase:Latitude`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: ![Diagram](#)
- **Type**: `spase:Latitude`
- **Properties**:
  - **content**: `simple`
  - **minOccurs**: 0
  - **maxOccurs**: 1
- **Source**: `<xsd:element name="Latitude" type="spase:Latitude" minOccurs="0" maxOccurs="1"/>`
- **Schema location**: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
Schema documentation for spase-2_3_1.xsd

### Element spase:Location / spase:Elevation

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

```
  +-- Elevation
    |   Type: spase:Elevation
```

**Type**
spase:Elevation

**Properties**
- **content:** `simple`
- **minOccurs:** `0`
- **maxOccurs:** `1`

**Source**

```
<xsd:element name="Elevation" type="spase:Elevation" minOccurs="0" maxOccurs="1"/>
```

### Element spase:Observatory / spase:OperatingSpan

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

```
  +-- OperatingSpan
    |   Type: spase:OperatingSpan
```

**Type**
spase:OperatingSpan

**Properties**
- **content:** `complex`
- **minOccurs:** `1`
- **maxOccurs:** `unbounded`

**Model**
spase:StartDate , spase:StopDate{0,1} , spase:Note*

**Children**
spase:Note , spase:StartDate , spase:StopDate

**Instance**

```
<spase:OperatingSpan xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:StartDate > {1,1} </spase:StartDate>
  <spase:StopDate > {0,1} </spase:StopDate>
  <spase:Note > {0,unbounded} </spase:Note>
</spase:OperatingSpan>
```

**Source**

```
<xsd:element name="OperatingSpan" type="spase:OperatingSpan" minOccurs="1" maxOccurs="unbounded"/>
```

### Element spase:Observatory / spase:Extension

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

```
  +-- Extension
    |   Type: spase:Extension
```

**Type**
spase:Extension

**Properties**
- **content:** `complex`
- **minOccurs:** `0`
- **maxOccurs:** `unbounded`

**Model**
ANY element from ANY namespace OTHER than 'http://www.spase-group.org/data/schema'

**Source**

```
<xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
```
**Schema documentation for spase-2_3_1.xsd**

**Element spase:Spase / spase:Person**

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

![Diagram of spase:Person]

**Type**
spase:Person

**Properties**
content: complex

**Model**
spase:ResourceID , spase:ReleaseDate[0,1] , spase:PersonName[0,1] , spase:OrganizationName , spase:Address[0,1] , spase:Email* , spase:PhoneNumber* , spase:FaxNumber[0,1] , spase:ORCIdentifier[0,1] , spase:Note[0,1] , spase:Extension*

**Children**
spase:Address , spase:Email , spase:Extension , spase:FaxNumber , spase:Note , spase:ORCIdentifier , spase:OrganizationName , spase:PersonName , spase:PhoneNumber , spase:ReleaseDate , spase:ResourceID

**Instance**
<spase:Person xmlns:spase="http://www.spase-group.org/data/schema"
<spase:ResourceID>[1,1]</spase:ResourceID>
<spase:ReleaseDate>[0,1]</spase:ReleaseDate>
<spase:PersonName>[0,1]</spase:PersonName>
<spase:OrganizationName>[0,1]</spase:OrganizationName>
<spase:Address>[0,1]</spase:Address>
<spase:Email>[0,unbounded]</spase:Email>
<spase:PhoneNumber>[0,unbounded]</spase:PhoneNumber>
<spase:FaxNumber>[0,1]</spase:FaxNumber>
<spase:ORCIdentifier>[0,1]</spase:ORCIdentifier>
<spase:Note>[0,1]</spase:Note>
<spase:Extension>[0,unbounded]</spase:Extension></spase:Person>

**Source**
<xsd:element name="Person" type="spase:Person"/>

**Element spase:Person / spase:ResourceId**

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

![Diagram of spase:ResourceId]

**Type**
spase:ResourceId

**Properties**

**Model**

**Children**

**Instance**

**Source**

**Schema location**
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
### Type: spase:ResourceID

**Properties**
- **content:** simple
- **minOccurs:** 1
- **maxOccurs:** 1

**Source**
- `<xsd:element name="ResourceID" type="spase:ResourceID" minOccurs="1" maxOccurs="1"/>

**Schema location**
- file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element spase:Person / spase:ReleaseDate

**Namespace**
- http://www.spase-group.org/data/schema

**Diagram**
- ![Diagram of spase:ReleaseDate](image)

**Type**
- spase:ReleaseDate

**Properties**
- **content:** simple
- **minOccurs:** 0
- **maxOccurs:** 1

**Source**
- `<xsd:element name="ReleaseDate" type="spase:ReleaseDate" minOccurs="0" maxOccurs="1"/>

**Schema location**
- file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element spase:Person / spase:PersonName

**Namespace**
- http://www.spase-group.org/data/schema

**Diagram**
- ![Diagram of spase:PersonName](image)

**Type**
- spase:PersonName

**Properties**
- **content:** simple
- **minOccurs:** 0
- **maxOccurs:** 1

**Source**
- `<xsd:element name="PersonName" type="spase:PersonName" minOccurs="0" maxOccurs="1"/>

**Schema location**
- file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element spase:Person / spase:OrganizationName

**Namespace**
- http://www.spase-group.org/data/schema

**Diagram**
- ![Diagram of spase:OrganizationName](image)

**Type**
- spase:OrganizationName

**Properties**
- **content:** simple
- **minOccurs:** 1
- **maxOccurs:** 1

**Source**
- `<xsd:element name="OrganizationName" type="spase:OrganizationName" minOccurs="1" maxOccurs="1"/>

**Schema location**
- file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Element spase:Person / spase:Address

**Namespace**
- http://www.spase-group.org/data/schema

**Diagram**
- ![Diagram of spase:Address](image)

**Type**
- spase:Address
Element `spase:Person / spase:Email`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**:
  - `Email`
    - Type: `spase:Email`
  - `spase:Email`
- **Properties**:
  - content: simple
  - minOccurs: 0
  - maxOccurs: unbounded
- **Source**:
  - `<xsd:element name="Email" type="spase:Email" minOccurs="0" maxOccurs="unbounded" />
  - Schema location: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Person / spase:PhoneNumber`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**:
  - `PhoneNumber`
    - Type: `spase:PhoneNumber`
  - `spase:PhoneNumber`
- **Properties**:
  - content: simple
  - minOccurs: 0
  - maxOccurs: unbounded
- **Source**:
  - `<xsd:element name="PhoneNumber" type="spase:PhoneNumber" minOccurs="0" maxOccurs="unbounded" />
  - Schema location: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Person / spase:FaxNumber`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**:
  - `FaxNumber`
    - Type: `spase:FaxNumber`
  - `spase:FaxNumber`
- **Properties**:
  - content: simple
  - minOccurs: 0
  - maxOccurs: 1
- **Source**:
  - `<xsd:element name="FaxNumber" type="spase:FaxNumber" minOccurs="0" maxOccurs="1" />
  - Schema location: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Person / spase:ORCIdentifier`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**:
  - `ORCIdentifier`
    - Type: `spase:ORCIdentifier`
  - `spase:ORCIdentifier`
- **Properties**:
  - content: simple
Element `spase:Person / spase:Note`

Namespace: http://www.spase-group.org/data/schema

Diagram:

Type: `spase:Note`

Properties:
- content: `simple`
- minOccurs: 0
- maxOccurs: 1

Source: `<xsd:element name="Note" type="spase:Note" minOccurs="0" maxOccurs="1"/>

Element `spase:Person / spase:Extension`

Namespace: http://www.spase-group.org/data/schema

Diagram:

Type: `spase:Extension`

Properties:
- content: `complex`
- minOccurs: 0
- maxOccurs: unbounded

Model: ANY element from ANY namespace OTHER than 'http://www.spase-group.org/data/schema'

Source: `<xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>

Element `spase:Spase / spase:Registry`

Namespace: http://www.spase-group.org/data/schema

Diagram:

Type: `spase:Registry`

Properties:
- content: `complex`


Instance:
```
<spase:Registry xmlns:spase= "http://www.spase-group.org/data/schema">
    <spase:ResourceID >{1,1} </spase:ResourceID>
```

Source:
```
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
```
Element `spase:Registry` / `spase:ResourceID`  

<table>
<thead>
<tr>
<th>Source</th>
<th><code>&lt;xsd:element name=&quot;Registry&quot; type=&quot;spase:Registry&quot;/&gt;</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

**Diagram**

```
ResourceID
Type spase:ResourceID
```

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:ResourceID</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>content:</td>
<td>simple</td>
</tr>
<tr>
<td>minOccurs:</td>
<td>1</td>
</tr>
<tr>
<td>maxOccurs:</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th><code>&lt;xsd:element name=&quot;ResourceID&quot; type=&quot;spase:ResourceID&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

Element `spase:Registry` / `spase:ResourceHeader`  

<table>
<thead>
<tr>
<th>Source</th>
<th><code>&lt;spase:ResourceHeader&gt;{1,1}&lt;/spase:ResourceHeader&gt;</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

**Diagram**

```
ResourceHeader
Type spase:ResourceHeader
```

```
ResourceName
Type spase:ResourceName
```

```
AlternativeName
Type spase:AlternativeName
```

```
DOI
Type spase:DOI
```

```
ReleasedDate
Type spase:ReleasedDate
```

```
RevisionHistory
Type spase:RevisionHistory
```

```
ExpirationDate
Type spase:ExpirationDate
```

```
Description
Type spase:Description
```

```
Acknowledgment
Type spase:Acknowledgment
```

```
PublicationInfo
Type spase:PublicationInfo
```

```
Funding
Type spase:Funding
```

```
Contact
Type spase:Contact
```

```
InformationURL
Type spase:InformationURL
```

```
Association
Type spase:Association
```

```
PriorID
Type spase:PriorID
```
Element `spase:Registry / spase:AccessURL`

Namespace  
http://www.spase-group.org/data/schema

Diagram

Type `spase:AccessURL`

Properties
- content: complex
  - minOccurs: 1
  - maxOccurs: 1

Model
- `spase:Name{0,1}`
- `spase:URL{1,1}`
- `spase:Style{0,1}`
- `spase:ProductKey*`
- `spase:Description{0,1}`
- `spase:Language{0,1}`

Children
- `spase:Description`
- `spase:Language`
- `spase:Name`
- `spase:ProductKey`
- `spase:Style`
- `spase:URL`

Instance

```
  <spase:Name>{0,1}</spase:Name>
  <spase:URL>{1,1}</spase:URL>
  <spase:Style>{0,1}</spase:Style>
  <spase:ProductKey>{0,unbounded}</spase:ProductKey>
  <spase:Description>{0,1}</spase:Description>
  <spase:Language>{0,1}</spase:Language>
</spase:AccessURL>
```
### Element `spase:Registry / spase:Extension`

<table>
<thead>
<tr>
<th>Source</th>
<th><code>&lt;xsd:element name=&quot;AccessURL&quot; type=&quot;spase:AccessURL&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

#### Namespace
http://www.spase-group.org/data/schema

#### Diagram
![Diagram of `spase:Registry / spase:Extension`]

#### Type
`spase:Extension`

#### Properties
- content: `complex`
- minOccurs: `0`
- maxOccurs: `unbounded`

#### Model
ANY element from ANY namespace OTHER than 'http://www.spase-group.org/data/schema'

#### Source
`<xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>`

### Element `spase:Repository`

<table>
<thead>
<tr>
<th>Source</th>
<th><code>&lt;xsd:element name=&quot;Repository&quot; type=&quot;spase:Repository&quot;/&gt;</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

#### Namespace
http://www.spase-group.org/data/schema

#### Diagram
![Diagram of `spase:Repository`]

#### Type
`spase:Repository`

#### Properties
- content: `complex`

#### Model
`spase:ResourceID` ,  `spase:ResourceHeader` ,  `spase:AccessURL` ,  `spase:Extension*`

#### Children

#### Instance
```xml
<spase:Repository xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:ResourceID> {1,1} </spase:ResourceID>
  <spase:ResourceHeader> {1,1} </spase:ResourceHeader>
  <spase:AccessURL> {1,1} </spase:AccessURL>
  <spase:Extension> {0,unbounded} </spase:Extension>
</spase:Repository>
```

#### Source
`<xsd:element name="Repository" type="spase:Repository"/>`

### Element `spase:Repository / spase:ResourceID`

<table>
<thead>
<tr>
<th>Source</th>
<th><code>&lt;xsd:element name=&quot;ResourceID&quot; type=&quot;spase:ResourceID&quot;/&gt;</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

#### Namespace
http://www.spase-group.org/data/schema

#### Diagram
![Diagram of `spase:Repository / spase:ResourceID`]

#### Type
`spase:ResourceID`

#### Properties
- content: `simple`
Element `spase:Repository / spase:ResourceHeader`

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

- **Type**: `spase:ResourceHeader`
- **Properties**
  - `content`: complex
  - minOccurs: 1
  - maxOccurs: 1
- **Model**
  - `spase:ResourceName`, `spase:AlternateName*`, `spase:DOI{0,1}`, `spase:ReleaseDate`, `spase:RevisionHistory{0,1}`, `spase:ExpirationDate{0,1}`, `spase:Description`, `spase:Acknowledgement{0,1}`, `spase:PublicationInfo{0,1}`, `spase:Funding*`, `spase:Contact+`, `spase:InformationURL*`, `spase:Association*`, `spase:PriorID*`
- **Children**

**Instance**

```xml
<spase:ResourceHeader xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:ResourceName>[1,1]</spase:ResourceName>
  <spase:AlternateName>[0,unbounded]</spase:AlternateName>
  <spase:DOI>[0,1]</spase:DOI>
  <spase:ReleaseDate>[1,1]</spase:ReleaseDate>
  <spase:RevisionHistory>[0,1]</spase:RevisionHistory>
</spase:ResourceHeader>
```
Schema documentation for spase-2_3_1.xsd

Element `spase:Repository` / `spase:AccessURL`

Namespace: http://www.spase-group.org/data/schema

Diagram:

```
Source
<xs:element name="AccessURL" type="spase:AccessURL" minOccurs="1" maxOccurs="1"/>
```

Type: `spase:AccessURL`

Properties:
- content: complex
- minOccurs: 1
- maxOccurs: 1

Model:
- `spase:Name`{0,1} , `spase:URL`{0,1} , `spase:Style`{0,1} , `spase:ProductKey`{0,unbounded} , `spase:Description`{0,1} , `spase:Language`{0,1}

Children:
- `spase:Description` , `spase:Language` , `spase:Name` , `spase:ProductKey` , `spase:Style` , `spase:URL`

Instance:
```
  <spase:Name>{0,1}</spase:Name>
  <spase:URL>{1,1}</spase:URL>
  <spase:Style>{0,1}</spase:Style>
  <spase:ProductKey>{0,unbounded}</spase:ProductKey>
  <spase:Description>{0,1}</spase:Description>
  <spase:Language>{0,1}</spase:Language>
</spase:AccessURL>
```

Source:
```
<xs:element name="AccessURL" type="spase:AccessURL" minOccurs="1" maxOccurs="1"/>
```

Schema location:
file:///C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element `spase:Repository` / `spase:Extension`

Namespace: http://www.spase-group.org/data/schema

Diagram:

```
Source
<xs:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
```

Type: `spase:Extension`

Properties:
- content: complex
- minOccurs: 0
**Element `spase:Service / spase:Service`**

**Namespace**
http://www.spase-group.org/data/schema

**Type**
spase:Service

**Properties**
- content: complex

**Model**

**Children**

**Instance**

```xml
<spase:Service xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:ResourceID >{1,1}</spase:ResourceID>
  <spase:ResourceHeader >{1,1}</spase:ResourceHeader>
  <spase:AccessURL >{1,1}</spase:AccessURL>
  <spase:Extension >{0,unbounded} </spase:Extension>
</spase:Service>
```

**Source**

```
<xsd:element  name= "Service"  type= "spase:Service" />
```

**Schema location**
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element `spase:Service / spase:ResourceID`**

**Namespace**
http://www.spase-group.org/data/schema

**Type**
spase:ResourceID

**Properties**
- content: simple
  - minOccurs: 1
  - maxOccurs: 1

**Source**

```
<xsd:element  name= "ResourceID"  type= "spase:ResourceID"  minOccurs= "1"  maxOccurs= "1" />
```

**Schema location**
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element `spase:Service / spase:ResourceHeader`**

**Namespace**
http://www.spase-group.org/data/schema
Diagram

Type: spase:ResourceHeader

Properties:
- content: complex
- minOccurs: 1
- maxOccurs: 1

Model:
- spase:ResourceName
- spase:AlternateName*
- spase:DOI{0,1}
- spase:ReleaseDate
- spase:RevisionHistory{0,1}
- spase:ExpirationDate{0,1}
- spase:Description
- spase:Acknowledgement{0,1}
- spase:PublicationInfo{0,1}
- spase:Funding*
- spase:Contact+
- spase:InformationURL*
- spase:Association*
- spase:PriorID*

Children:
- spase:Acknowledgement
- spase:AlternateName
- spase:Association
- spase:Contact
- spase:DOI
- spase:Description
- spase:ExpirationDate
- spase:Funding
- spase:InformationURL
- spase:PublicationInfo
- spase:PriorID
- spase:ReleaseDate
- spase:ResourceName
- spase:RevisionHistory

Instance:

```xml
<spase:ResourceHeader xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:ResourceName>[1,1]</spase:ResourceName>
  <spase:AlternateName>[0,unbounded]</spase:AlternateName>
  <spase:DOI>[0,1]</spase:DOI>
  <spase:ReleaseDate>[1,1]</spase:ReleaseDate>
  <spase:RevisionHistory>[0,1]</spase:RevisionHistory>
  <spase:ExpirationDate>[0,1]</spase:ExpirationDate>
  <spase:Description>[1,1]</spase:Description>
  <spase:Acknowledgement>[0,1]</spase:Acknowledgement>
  <spase:PublicationInfo>[0,1]</spase:PublicationInfo>
  <spase:Funding>[0,unbounded]</spase:Funding>
  <spase:Contact>[1,unbounded]</spase:Contact>
  <spase:InformationURL>[0,unbounded]</spase:InformationURL>
  <spase:Association>[0,unbounded]</spase:Association>
  <spase:PriorID>[0,unbounded]</spase:PriorID>
</spase:ResourceHeader>
```

Source:

```xml
<xsd:element name="ResourceHeader" type="spase:ResourceHeader" minOccurs="1" maxOccurs="1"/>
```
Element spase:Service / spase:AccessURL

Namespace http://www.spase-group.org/data/schema

Diagram

Type spase:AccessURL
Properties
- content: complex
- minOccurs: 1
- maxOccurs: 1

Model
- spase:Name{0,1}
- spase:URL{1,1}
- spase:Style{0,1}
- spase:ProductKey{0,unbounded}
- spase:Description{0,1}
- spase:Language{0,1}

Children
- spase:Description
- spase:Language
- spase:Name
- spase:ProductKey
- spase:Style
- spase:URL

Instance
  <spase:Name>{0,1}</spase:Name>
  <spase:URL>{1,1}</spase:URL>
  <spase:Style>{0,1}</spase:Style>
  <spase:ProductKey>{0,unbounded}</spase:ProductKey>
  <spase:Description>{0,1}</spase:Description>
  <spase:Language>{0,1}</spase:Language>
</spase:AccessURL>

Source
<xsd:element name="AccessURL" type="spase:AccessURL" minOccurs="1" maxOccurs="1"/>

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:Service / spase:Extension

Namespace http://www.spase-group.org/data/schema

Diagram

Type spase:Extension
Properties
- content: complex
- minOccurs: 0
- maxOccurs: unbounded

Model
ANY element from ANY namespace OTHER than 'http://www.spase-group.org/data/schema'

Source
<xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:Spase / spase:Annotation

Namespace http://www.spase-group.org/data/schema
Schema documentation for spase-2_3_1.xsd

Diagram

```
<spase:Annotation xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:ResourceID > {1,1} </spase:ResourceID>
  <spase:ResourceHeader > {1,1} </spase:ResourceHeader>
  <spase:ImageURL > {0,1} </spase:ImageURL>
  <spase:AnnotationType > {1,1} </spase:AnnotationType>
  <spase:PhenomenonType > {0,1} </spase:PhenomenonType>
  <spase:ClassificationMethod > {0,1} </spase:ClassificationMethod>
  <spase:ConfidenceRating > {0,1} </spase:ConfidenceRating>
  <spase:TimeSpan > {0,unbounded} </spase:TimeSpan>
  <spase:ObservationExtent > {0,unbounded} </spase:ObservationExtent>
  <spase:Extension > {0,unbounded} </spase:Extension>
</spase:Annotation>
```

Source
<xsd:element  name= "Annotation"  type= "spase:Annotation"  minOccurs= "1"  maxOccurs= "1"/>

Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Element spase:Annotation / spase:ResourceId

Namespace
http://www.spase-group.org/data/schema

Diagram

```
<ResourceID > Type spase:ResourceId

```

Type spase:ResourceId

Properties
content:  simple
minOccurs:  1
maxOccurs:  1

Source
<xsd:element name="ResourceId" type="spase:ResourceId" minOccurs="1" maxOccurs="1"/>
**Element spase:Annotation / spase:ResourceHeader**

**Namespace**
http://www.spase-group.org/data/schema

**Diagram**

```
<spase:ResourceHeader xmlns:spase= "http://www.spase-group.org/data/schema">
  <spase:ResourceName> {1,1} </spase:ResourceName>
  <spase:AlternateName> {0,unbounded} </spase:AlternateName>
  <spase:DOI> {0,1} </spase:DOI>
  <spase:ReleaseDate> {1,1} </spase:ReleaseDate>
  <spase:RevisionHistory> {0,1} </spase:RevisionHistory>
  <spase:ExpirationDate> {0,1} </spase:ExpirationDate>
  <spase:Description> {1,1} </spase:Description>
  <spase:Acknowledgement> {0,1} </spase:Acknowledgement>
  <spase:PublicationInfo> {0,1} </spase:PublicationInfo>
  <spase:Funding> {0,unbounded} </spase:Funding>
  <spase:Contact> {1,unbounded} </spase:Contact>
  <spase:InformationURL> {0,unbounded} </spase:InformationURL>
  <spase:Association> {0,unbounded} </spase:Association>
  <spase:PriorID> {0,unbounded} </spase:PriorID>
</spase:ResourceHeader>
```
Element `spase:Annotation` / `spase:ImageURL`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: ![ImageURL Diagram](image)
- **Type**: `spase:ImageURL`
- **Properties**:
  - **content**: `simple`
  - **minOccurs**: 0
  - **maxOccurs**: 1
- **Source**: `<xsd:element name="ImageURL" type="spase:ImageURL" minOccurs="0" maxOccurs="1"/>

Element `spase:Annotation` / `spase:AnnotationType`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: ![AnnotationType Diagram](image)
- **Type**: `spase:AnnotationType`
- **Properties**:
  - **content**: `simple`
  - **minOccurs**: 1
  - **maxOccurs**: 1
- **Facets**:
  - **enumeration** `Anomaly` - An interval where measurements or observations may be adversely affected.
  - **enumeration** `Event` - An action or observation which occurs at a point in time.
  - **enumeration** `Feature` - A prominent or distinctive characteristic that occurs at a location or persists over a period of time.
- **Source**: `<xsd:element name="AnnotationType" type="spase:AnnotationType" minOccurs="1" maxOccurs="1"/>

Element `spase:Annotation` / `spase:PhenomenonType`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: ![PhenomenonType Diagram](image)
- **Type**: `spase:PhenomenonType`
- **Properties**:
  - **content**: `simple`
  - **minOccurs**: 0
  - **maxOccurs**: 1
- **Facets**:
  - **enumeration** `ActiveRegion` - A localized, transient volume of the solar atmosphere in which PLAGEs, SUNSPOTS, FACULAe, FLAREs, etc. may be observed.
  - **enumeration** `Aurora` - An atmospheric phenomenon consisting of bands of light caused by charged solar particles following the earth's magnetic lines of force.
  - **enumeration** `BowShockCrossing` - A crossing of the boundary between the undisturbed (except for foreshock effects) solar wind and the shocked, decelerated solar wind of the magnetosheath.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>CoronalHole</td>
<td>An extended region of the corona, exceptionally low in density and associated with unipolar photospheric regions. A coronal hole can be an &quot;open&quot; magnetic field in the corona and (perhaps) inner heliosphere which has a faster than average outflow (wind); A region of lower than &quot;quiet&quot; ion and electron density in the corona; or a region of lower peak electron temperature in the corona than in the &quot;quiet&quot; corona.</td>
</tr>
<tr>
<td>CoronalMassEjection</td>
<td>A solar event (CME) that involves a burst of plasma ejected into the interplanetary medium. CME's may be observed remotely relatively near the sun or in situ in the interplanetary medium. The latter type of observations are often referred to as Interplanetary CME's (ICME's).</td>
</tr>
<tr>
<td>EITWave</td>
<td>A wave in the corona of the Sun which produce shock waves on the Sun's chromosphere (Moreton Waves). EIT Waves are produced by large solar flare and expand outward at about 1,000 km/s. It usually appears as a slowly moving diffuse arc of brightening in H-alpha, and may travel for several hundred thousand km.</td>
</tr>
<tr>
<td>EnergeticSolarParticleEvent</td>
<td>An enhancement of interplanetary fluxes of energetic ions accelerated by interplanetary shocks and/or solar flares.</td>
</tr>
<tr>
<td>ForbushDecrease</td>
<td>A rapid decrease in the observed galactic cosmic ray intensity following the passage of an outwardly convecting interplanetary magnetic field disturbance, such as those associated with large CME's, that sweep some galactic cosmic rays away from Earth.</td>
</tr>
<tr>
<td>GeomagneticStorm</td>
<td>A magnetospheric disturbance typically defined by variations in the horizontal component of the Earth's surface magnetic field. The variation typically starts with a field enhancement associated with a solar wind pressure pulse and continues with a field depression associated with an enhancement of the diamagnetic magnetospheric ring current.</td>
</tr>
<tr>
<td>InterplanetaryShock</td>
<td>A shock propagating generally anti-sunward through the slower solar wind, often seen in front of CME-associated plasma clouds.</td>
</tr>
<tr>
<td>MagneticCloud</td>
<td>A transient event observed in the solar wind characterized as a region of enhanced magnetic field strength, smooth rotation of the magnetic field vector and low proton density and temperature.</td>
</tr>
<tr>
<td>MagnetopauseCrossing</td>
<td>A crossing of the interface between the shocked solar wind in the magnetosheath and the magnetic field and plasma in the magnetosphere.</td>
</tr>
<tr>
<td>RadioBurst</td>
<td>Emissions of the sun in radio wavelengths from centimeters to dekameters, under both quiet and disturbed conditions. Radio Bursts can be &quot;Type I&quot; consisting of many short, narrow-band bursts in the metric range (300 - 50 MHz); &quot;Type II&quot; consisting of narrow-band emission that begins in the meter range (300 MHz) and sweeps slowly (tens of minutes) toward dekameter wavelengths (10 MHz); &quot;Type III&quot; consisting of narrow-band bursts that sweep rapidly (seconds) from decimeter to dekameter wavelengths (500 - 0.5 MHz); and &quot;Type IV&quot; consisting of a smooth continuum of broad-band bursts primarily in the meter range (300 - 30 MHz).</td>
</tr>
<tr>
<td>SectorBoundaryCrossing</td>
<td>A sector boundary crossing is a transit by a spacecraft across the heliospheric current sheet separating the dominantly outward (away-from-the-sun) interplanetary magnetic field of one hemisphere of the heliosphere from the dominantly inward (toward-the-sun) polarity of the other hemisphere.</td>
</tr>
</tbody>
</table>

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Such crossings have multi-day intervals of opposite IMF dominant polarities on either side.

**enumeration** SolarFlare
An explosive event in the Sun's atmosphere which produces electromagnetic radiation across the electromagnetic spectrum at multiple wavelengths from long-wave radio to the shortest wavelength gamma rays.

**enumeration** SolarWindExtreme
Intervals of unusually large or small values of solar wind attributes such as flow speed and ion density.

**enumeration** StreamInteractionRegion
The region (SIR) where two solar wind streams, typically having differing characteristics and solar sources, abut up against (and possibly partially interpenetrate) each other.

**enumeration** Substorm
A process by which plasma in the magnetotail becomes energized at a fast rate.

---

### Source

```xml
<xs:element name="PhenomenonType" type="spase:PhenomenonType" minOccurs="0" maxOccurs="1"/>
```

### Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

### Element `spase:ClassificationMethod`

**Namespace** http://www.spase-group.org/data/schema

**Diagram**

```
```

**Type** `spase:ClassificationMethod`

**Properties**

- **content:** simple
- **minOccurs:** 0
- **maxOccurs:** 1

**Facets**

- **enumeration** Automatic
  Determined by the analysis or assessment performed by a program or server.

- **enumeration** Inferred
  Determined by the analysis of other information or resources.

- **enumeration** Inspection
  Determined by the analysis or assessment performed by a person.

---

### Source

```xml
<xs:element name="ClassificationMethod" type="spase:ClassificationMethod" minOccurs="0" maxOccurs="1"/>
```

### Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

### Element `spase:ConfidenceRating`

**Namespace** http://www.spase-group.org/data/schema

**Diagram**

```
```

**Type** `spase:ConfidenceRating`

**Properties**

- **content:** simple
- **minOccurs:** 0
- **maxOccurs:** 1

**Facets**

- **enumeration** Probable
  Likely given the available evidence. Considered in the range of 4-7 on a scale of 0-10.

- **enumeration** Strong
  Highly likely given the available evidence. Considered in the range of 7-10 on a scale of 0-10.

- **enumeration** Unlikely
  Not likely given the available evidence. Considered in the range of 0 on a scale of 0-10.

- **enumeration** Weak
  Slightly likely given the available evidence.
Considered in the range of 1-4 on a scale of 0-10.

Source

```
<xs:element name="ConfidenceRating" type="spase:ConfidenceRating" minOccurs="0" maxOccurs="1"/>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:Annotation / spase:TimeSpan**

Namespace

http://www.spase-group.org/data/schema

Diagram

Type spase:TimeSpan

Properties

- content: complex
- minOccurs: 0
- maxOccurs: unbounded

Model

spase:StartDate, (spase:StopDate | spase:RelativeStopDate), spase:Note*

Children

spase:Note, spase:RelativeStopDate, spase:StartDate, spase:StopDate

Instance

```
<spase:TimeSpan xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:StartDate>{1,1}</spase:StartDate>
  <spase:StopDate>{1,1}</spase:StopDate>
  <spase:RelativeStopDate>{1,1}</spase:RelativeStopDate>
  <spase:Note>{0,unbounded}</spase:Note>
</spase:TimeSpan>
```

Source

```
<xs:element name="TimeSpan" type="spase:TimeSpan" minOccurs="0" maxOccurs="unbounded"/>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Element spase:Annotation / spase:ObservationExtent**

Namespace

http://www.spase-group.org/data/schema

Diagram

Type spase:ObservationExtent

Properties

- content: complex
- minOccurs: 0
- maxOccurs: unbounded

Model

spase:ObservedRegion{0,1}, spase:StartLocation, spase:StopLocation, spase:Note*

Children

spase:Note, spase:ObservedRegion, spase:StartLocation, spase:StopLocation

Instance

```
<spase:ObservationExtent xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:ObservedRegion/>
  <spase:StartLocation/>
  <spase:StopLocation/>
  <spase:Note>{0,unbounded}</spase:Note>
</spase:ObservationExtent>
```

Source

```
<xs:element name="ObservationExtent" type="spase:ObservationExtent" minOccurs="0" maxOccurs="unbounded"/>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
**Element** spase:ObservationExtent / spase:ObservedRegion

**Namespace** http://www.spase-group.org/data/schema

**Diagram**

```
<spase:ObservedRegion > {0,1} </spase:ObservedRegion>
<spase:StartLocation > {1,1} </spase:StartLocation>
<spase:StopLocation > {1,1} </spase:StopLocation>
<spase:Note> {0,unbounded} </spase:Note>
</spase:ObservationExtent>
```

**Source**

```
<xs:element name="ObservationExtent" type="spase:ObservationExtent" minOccurs="0" maxOccurs="unbounded"/>
```

**Facets**

- **enumeration** Asteroid: A small extraterrestrial body consisting mostly of rock and metal that is in orbit around the sun.
- **enumeration** Comet: A relatively small extraterrestrial body consisting of a frozen mass that travels around the sun in a highly elliptical orbit.
- **enumeration** Earth: The third planet from the sun in our solar system.
- **enumeration** Earth.Magnetosheath: The region between the bow shock and the magnetopause, characterized by very turbulent plasma.
- **enumeration** Earth.Magnetosphere: The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.
- **enumeration** Earth.Magnetosphere.Magnetotail: The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re).
- **enumeration** Earth.Magnetosphere.Main: The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.
- **enumeration** Earth.Magnetosphere.Plasmasphere: The region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.
- **enumeration** Earth.Magnetosphere.Polar: The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.
- **enumeration** Earth.Magnetosphere.RadiationBelt: The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.
- **enumeration** Earth.Magnetosphere.RingCurrent: The major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth.Moon</td>
<td>The only natural satellite of the Earth.</td>
</tr>
<tr>
<td>Earth.NearSurface</td>
<td>The gaseous and possibly ionized environment of a body extending from the surface to some specified altitude. For the Earth, this altitude is 2000 km.</td>
</tr>
<tr>
<td>Earth.NearSurface.Atmosphere</td>
<td>The neutral gases surrounding a body that extends from the surface and is bound to the body by virtue of the gravitational attraction.</td>
</tr>
<tr>
<td>Earth.NearSurface.AuroralRegion</td>
<td>A region in the atmosphere where electrically-charged particles bombarding the upper atmosphere of a planet in the presence of a magnetic field produce an optical phenomenon.</td>
</tr>
<tr>
<td>Earth.NearSurface.EquatorialRegion</td>
<td>A region centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere</td>
<td>Charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.DRegion</td>
<td>The layer of the ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.ERegion</td>
<td>Ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.FRegion</td>
<td>A layer that contains ionized gases at a height of around 150-800 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1- and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.Topside</td>
<td>The region at the upper most areas of the ionosphere.</td>
</tr>
<tr>
<td>Earth.NearSurface.Mesosphere</td>
<td>A layer of the atmosphere that extends from the Stratosphere to a range of 80 km to 85 km, temperature decreasing with height.</td>
</tr>
<tr>
<td>Earth.NearSurface.MidLatitudeRegion</td>
<td>The mid-latitude region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 23 degrees to 50 degrees. The concept of mid-latitude regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The mid-latitude regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at mid latitude on the Earth are well positioned to measure magnetic storm-time ring current variations.</td>
</tr>
<tr>
<td>Earth.NearSurface.Plasmasphere</td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td>Earth.NearSurface.PolarCap</td>
<td>The areas of the globe surrounding the poles and consisting of the region north of 60 degrees north latitude and the region south of 60 degrees south latitude.</td>
</tr>
<tr>
<td>Earth.NearSurface.SouthAtlanticAnomalyRegion</td>
<td>Earth's inner van Allen radiation belt makes its closest approach to the planet's surface. The result is that, for a given altitude, the radiation intensity</td>
</tr>
</tbody>
</table>
The layer of the atmosphere that extends from the troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.

The layer of the atmosphere which begins at the surface and extends to between 7 km (4.4 mi) at the poles and 17 km (10.6 mi) at the equator, with some variation due to weather factors.

The outermost area of a solid object.

The solar atmosphere extending roughly from the outer corona to the edge of the solar plasma at the heliopause separating primarily solar plasma from interstellar plasma.

The region extending radially outward from the heliospheric termination shock and in which the decelerated solar wind plasma is still significant.

The region of the heliosphere extending radially outward from the solar coronal base to just inside 1 AU.

The heliospheric region near the Earth which extends to and includes the area near the L1 and L2 Lagrange point.

The region of the heliosphere extending radially outward from just outside 1 AU to the heliospheric termination shock.

A roughly toroidal region that includes the Earth’s orbit, but exclusive of the region near the Earth.

The region between stars outside of the star’s heliopause.

The fifth planet from the sun in our solar system.

A second largest moon of Jupiter and the third-largest moon in the solar system.

The sixth-closest round moon of Jupiter.

The biggest moon of Jupiter and in the solar system.

The innermost of the four round moons of the planet Jupiter.

The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet’s magnetic field.

A roughly toroidal region that includes the Earth’s orbit, but exclusive of the region near the Earth.
<p>| enumeration | Jupiter.Magnetosphere.Main | The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body. |
| enumeration | Jupiter.Magnetosphere.Plasmasphere | A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density. |
| enumeration | Jupiter.Magnetosphere.Polar | The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone. |
| enumeration | Jupiter.Magnetosphere.RadiationBelt | The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field. |
| enumeration | Jupiter.Magnetosphere.RingCurrent | One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth. |
| enumeration | Mars | The forth planet from the sun in our solar system. |
| enumeration | Mars.Deimos | |
| enumeration | Mars.Magnetosphere | The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field. |
| enumeration | Mars.Magnetosphere.Magnetotail | The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re). |
| enumeration | Mars.Magnetosphere.Main | The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body. |
| enumeration | Mars.Magnetosphere.Plasmasphere | A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density. |
| enumeration | Mars.Magnetosphere.Polar | The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone. |
| enumeration | Mars.Magnetosphere.RadiationBelt | The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field. |
| enumeration | Mars.Magnetosphere.RingCurrent | One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth. |</p>
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mars.Phobos</td>
<td>The larger and inner most moon of Mars.</td>
</tr>
<tr>
<td>Mercury</td>
<td>The first planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Mercury.Magnetosphere</td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td>Mercury.Magnetosphere.Magnetotail</td>
<td>The region on the night side of the body where the magnetic filed is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td>Mercury.Magnetosphere.Main</td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>Mercury.Magnetosphere.Plasmasphere</td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td>Mercury.Magnetosphere.Polar</td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>Mercury.Magnetosphere.RadiationBelt</td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>Mercury.Magnetosphere.RingCurrent</td>
<td>One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H andDst Indices of magnetic storm activity at the Earth.</td>
</tr>
<tr>
<td>Neptune</td>
<td>The seventh planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Pluto</td>
<td>The ninth (sub)planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Saturn</td>
<td>The sixth planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Saturn.Dione</td>
<td>The fourth-largest moon of Saturn.</td>
</tr>
<tr>
<td>Saturn.Enceladus</td>
<td>The sixth-largest moon of Saturn. It is currently endogenously active. The smallest known body in the Solar System that is geologically active today.</td>
</tr>
<tr>
<td>Saturn.Iapetus</td>
<td>The third-largest moon of Saturn and the eleventh-largest in the Solar System.</td>
</tr>
<tr>
<td>Saturn.Magnetosphere</td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td>Saturn.Magnetosphere.Magnetotail</td>
<td>The region on the night side of the body where the magnetic filed is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td>Saturn.Magnetosphere.Main</td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>Saturn.Magnetosphere.Plasmasphere</td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above</td>
</tr>
</tbody>
</table>
the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturn.Magnetosphere.Polar</td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>Saturn.Magnetosphere.RadiationBelt</td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>Saturn.Magnetosphere.RingCurrent</td>
<td>One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</td>
</tr>
<tr>
<td>Saturn.Mimas</td>
<td>The smallest and least massive of the round moons of Saturn.</td>
</tr>
<tr>
<td>Saturn.Tethys</td>
<td>The third largest moon of Saturn.</td>
</tr>
<tr>
<td>Saturn.Titan</td>
<td>The largest moon of Saturn and the second-largest moon in the Solar System.</td>
</tr>
<tr>
<td>Sun.Chromosphere</td>
<td>The region of the Sun's (or a star's) atmosphere above the temperature minimum and below the Transition Region. The solar chromosphere is approximately 400 km to 2100 km above the photosphere, and characterized by temperatures from 4500 - 28000 K.</td>
</tr>
<tr>
<td>Sun.Corona</td>
<td>The outermost atmospheric region of the Sun or a star, characterized by ionization temperatures above $10^5$ K. The solar corona starts at about 2100 km above the photosphere; there is no generally defined upper limit.</td>
</tr>
<tr>
<td>Sun.Interior</td>
<td>The region inside the body which is not visible from outside the body.</td>
</tr>
<tr>
<td>Sun.Photosphere</td>
<td>The atmospheric layer of the Sun or a star from which continuum radiation, especially optical, is emitted to space. For the Sun, the photosphere is about 500 km thick.</td>
</tr>
<tr>
<td>Sun.TransitionRegion</td>
<td>A very narrow (&lt;100 km) layer between the chromosphere and the corona where the temperature rises abruptly from about 8000 to about 500,000 K.</td>
</tr>
<tr>
<td>Uranus</td>
<td>The eighth planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Uranus.Ariel</td>
<td>The fourth-largest moon of Uranus.</td>
</tr>
<tr>
<td>Uranus.Magnetosphere</td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td>Uranus.Magnetosphere.Magnetotail</td>
<td>A region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td>Uranus.Magnetosphere.Main</td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>Uranus.Magnetosphere.Plasmasphere</td>
<td>A region of the magnetosphere consisting of...</td>
</tr>
</tbody>
</table>
low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uranus.Magnetosphere.Polar</td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>Uranus.Magnetosphere.RadiationBelt</td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>Uranus.Magnetosphere.RingCurrent</td>
<td>One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</td>
</tr>
<tr>
<td>Uranus.Miranda</td>
<td>The smallest and innermost round moon of Uranus.</td>
</tr>
<tr>
<td>Uranus.Oberon</td>
<td>The second-largest and second most massive mon of Uranus, and the ninth most massive moon in the Solar System.</td>
</tr>
<tr>
<td>Uranus.Puck</td>
<td>The largest inner spherical moon of Uranus.</td>
</tr>
<tr>
<td>Uranus.Titania</td>
<td>The largest moon of Uranus and the eighth largest moon in the Solar System.</td>
</tr>
<tr>
<td>Uranus.Umbriel</td>
<td>The third largest and fourth most massive moon of Uranus.</td>
</tr>
<tr>
<td>Venus</td>
<td>The second planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Venus.Magnetosphere</td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td>Venus.Magnetosphere.Magnetotail</td>
<td>The region on the night side of the body where the magnetic filed is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td>Venus.Magnetosphere.Main</td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>Venus.Magnetosphere.Plasmasphere</td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td>Venus.Magnetosphere.Polar</td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>Venus.Magnetosphere.RadiationBelt</td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
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<td>Venus.Magnetosphere.RingCurrent</td>
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</tr>
</tbody>
</table>
6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.

**Element spase:ObservationExtent / spase:StartLocation**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: [Diagram of StartLocation]
- **Type**: spase:StartLocation
- **Properties**:
  - content: simple
  - minOccurs: 1
  - maxOccurs: 1
- **Source**: `<xsd:element name="StartLocation" type="spase:StartLocation" minOccurs="1" maxOccurs="1"/>

**Element spase:ObservationExtent / spase:StopLocation**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: [Diagram of StopLocation]
- **Type**: spase:StopLocation
- **Properties**:
  - content: simple
  - minOccurs: 1
  - maxOccurs: 1
- **Source**: `<xsd:element name="StopLocation" type="spase:StopLocation" minOccurs="1" maxOccurs="1"/>

**Element spase:ObservationExtent / spase:Note**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: [Diagram of Note]
- **Type**: spase:Note
- **Properties**:
  - content: simple
  - minOccurs: 0
  - maxOccurs: unbounded
- **Source**: `<xsd:element name="Note" type="spase:Note" minOccurs="0" maxOccurs="unbounded"/>

**Element spase:Annotation / spase:Extension**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: [Diagram of Extension]
- **Type**: spase:Extension

---

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Schema documentation for spase-2_3_1.xsd

Type | spase:Extension
---|---
Properties | content: complex
| minOccurs: 0
| maxOccurs: unbounded
Model | ANY element from ANY namespace OTHER than 'http://www.spase-group.org/data/schema'
Source | `<xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>

Complex Type(s)

Complex Type spase:Spase

Namespace | http://www.spase-group.org/data/schema
Annotations | Space Physics Archive Search and Extract (SPASE). The outermost container or envelope for SPASE metadata. This indicates the start of the SPASE metadata.

Diagram

Used by | Element | spase:Spase
---|---|---

Source location | file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
Attributes

<table>
<thead>
<tr>
<th>QName</th>
<th>Type</th>
<th>Default</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>lang</td>
<td>xsd:string</td>
<td>en</td>
<td>optional</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:complexType name="Spase">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Space Physics Archive Search and Extract (SPASE). The outermost container or envelope for SPASE metadata. This indicates the start of the SPASE metadata.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="Version" type="spase:Version" minOccurs="1" maxOccurs="1"/>
    <xsd:choice minOccurs="1" maxOccurs="unbounded">
      <xsd:element name="Catalog" type="spase:Catalog"/>
      <xsd:element name="DisplayData" type="spase:DisplayData"/>
      <xsd:element name="NumericalData" type="spase:NumericalData"/>
      <xsd:element name="Document" type="spase:Document"/>
      <xsd:element name="Granule" type="spase:Granule"/>
      <xsd:element name="Instrument" type="spase:Instrument"/>
      <xsd:element name="Observatory" type="spase:Observatory"/>
      <xsd:element name="Person" type="spase:Person"/>
      <xsd:element name="Registry" type="spase:Registry"/>
      <xsd:element name="Repository" type="spase:Repository"/>
      <xsd:element name="Service" type="spase:Service"/>
      <xsd:element name="Annotation" type="spase:Annotation"/>
    </xsd:choice>
  </xsd:sequence>
  <xsd:attribute name="lang" type="xsd:string" default="en"/>
</xsd:complexType>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Complex Type spase:Catalog**

**Namespace**

http://www.spase-group.org/data/schema

**Annotations**

A tabular listing of events or observational notes, especially those that have utility in aiding a user in locating data. Catalogs include lists of events, files in a product, and data availability. A Catalog resource is a type of "data product" which is a set of data that is uniformly processed and formatted, from one or more instruments, typically spanning the full duration of the observations of the relevant instrument(s). A data product may consist of a collection of granules of successive time spans, but may be a single high-level entity.
Complex Type `spase:ResourceHeader`

Namespace [http://www.spase-group.org/data/schema](http://www.spase-group.org/data/schema)

Annotations Attributes of a resource which pertain to the provider of the resource and descriptive information about the resource.

Diagram

Used by

- Model: `spase:ResourceName`, `spase:AlternateName*`, `spase:DOI{0,1}`, `spase:ReleaseDate`, `spase:RevisionHistory{0,1}`, `spase:ExpirationDate{0,1}`, `spase:Description`, `spase:Acknowledgement{0,1}`, `spase:PublicationInfo{0,1}`, `spase:Funding*`, `spase:Contact+`, `spase:InformationURL*`, `spase:Association+`, `spase:PriorID*`  

Source

```xml
<xsd:complexType name="ResourceHeader">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Attributes of a resource which pertain to the provider of the resource and descriptive information about the resource.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="ResourceName" type="spase:ResourceName" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```
<xsd:element name="AlternateName" type="spase:AlternateName" minOccurs="0" maxOccurs="unbounded" />
<xsd:element name="DOI" type="spase:DOI" minOccurs="0" maxOccurs="1" />
<xsd:element name="ReleaseDate" type="spase:ReleaseDate" minOccurs="1" maxOccurs="1" />
<xsd:element name="ExpirationDate" type="spase:ExpirationDate" minOccurs="0" maxOccurs="1" />
<xsd:element name="Description" type="spase:Description" minOccurs="1" maxOccurs="1" />
<xsd:element name="Acknowledgement" type="spase:Acknowledgement" minOccurs="0" maxOccurs="1" />
<xsd:element name="PublicationInfo" type="spase:PublicationInfo" minOccurs="0" maxOccurs="1" />
<xsd:element name="Funding" type="spase:Funding" minOccurs="0" maxOccurs="unbounded" />
<xsd:element name="Contact" type="spase:Contact" minOccurs="0" maxOccurs="unbounded" />
<xsd:element name="InformationURL" type="spase:InformationURL" minOccurs="0" maxOccurs="unbounded" />
<xsd:element name="Association" type="spase:Association" minOccurs="0" maxOccurs="unbounded" />
</xsd:sequence>
</xsd:complexType>

Complex Type spase:RevisionHistory

Namespace http://www.spase-group.org/data/schema
Annotations A history of changes that improve or upgrade.

Diagram

Used by Element spase:ResourceHeader/spase:RevisionHistory
Model spase:RevisionEvent+
Children spase:RevisionEvent

Source
<xsd:complexType name="RevisionHistory">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A history of changes that improve or upgrade.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="RevisionEvent" type="spase:RevisionEvent" minOccurs="1" maxOccurs="unbounded" />
  </xsd:sequence>
</xsd:complexType>

Complex Type spase:RevisionEvent

Namespace http://www.spase-group.org/data/schema
Annotations A specific change that improves or upgrades.

Diagram

Used by Element spase:RevisionHistory/spase:RevisionEvent
Model spase:ReleaseDate , spase:Note
Children spase:Note, spase:ReleaseDate

Source
<xsd:complexType name="RevisionEvent">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A specific change that improves or upgrades.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="ReleaseDate" type="spase:ReleaseDate" minOccurs="1" maxOccurs="1" />
    <xsd:element name="Note" type="spase:Note" minOccurs="1" maxOccurs="1" />
  </xsd:sequence>
</xsd:complexType>
Complex Type `spase:PublicationInfo`

Namespace  http://www.spase-group.org/data/schema

Annotations  Information related to the issuing of a book, journal, piece of music, or other work.

Diagram

Used by  Element  `spase:ResourceHeader/spase:PublicationInfo`

Model  `spase:Authors , spase:PublicationDate , spase:PublishedBy`

Children  `spase:Authors , spase:PublicationDate , spase:PublishedBy`

Source

Complex Type `spase:Funding`

Namespace  http://www.spase-group.org/data/schema

Annotations  The source of financial support (funding) for the resource.

Diagram

Used by  Element  `spase:ResourceHeader/spase:Funding`

Model  `spase:Agency , spase:Project , spase:AwardNumber{0,1}`

Children  `spase:Agency , spase:AwardNumber , spase:Project`

Source

Complex Type `spase:Contact`

Namespace  http://www.spase-group.org/data/schema

Annotations  The person or organization who may be able to provide special assistance or serve as a channel for communication for additional
Diagram

Used by

Model

Children

Source

Complex Type `spase:InformationURL`

Namespace

Annotations

Diagram

Used by

Model

Children

Source

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
Complex Type `spase:Association`

Namespace | http://www.spase-group.org/data/schema
---|---
Annotations | Attributes of a relationship a resource has with another resource.

Model | `spase:AssociationID`, `spase:AssociationType`, `spase:Note{0,1}`

Source | `<xsd:complexType name="Association">`<xsd:annotation><xsd:documentation xml:lang="en">Attributes of a relationship a resource has with another resource.</xsd:documentation></xsd:annotation><xsd:sequence><xsd:element name="AssociationID" type="spase:AssociationID" minOccurs="1" maxOccurs="1"/></xsd:sequence></xsd:complexType>`

Complex Type `spase:AccessInformation`

Namespace | http://www.spase-group.org/data/schema
---|---
Annotations | Attributes of the resource which pertain to how to accessing the resource, availability and storage format.

Model | `spase:RepositoryID`, `spase:Availability{0,1}`, `spase:AccessRights{0,1}`, `spase:AccessURL`, `spase:Format`, `spase:Encoding{0,1}`, `spase:DataExtent{0,1}`, `spase:Acknowledgement{0,1}`

Source | `<xsd:complexType name="AccessInformation">`<xsd:annotation>
<xsd:documentation xml:lang="en">Attributes of the resource which pertain to how to accessing the resource, availability and storage format.</xsd:documentation>
</xsd:annotation>
<xsd:sequence>
<xsd:element name="RepositoryID" type="spase:RepositoryID" minOccurs="1" maxOccurs="1"/>
<xsd:element name="Availability" type="spase:Availability" minOccurs="0" maxOccurs="1"/>
<xsd:element name="AccessRights" type="spase:AccessRights" minOccurs="0" maxOccurs="1"/>
<xsd:element name="AccessURL" type="spase:AccessURL" minOccurs="1" maxOccurs="unbounded"/>
<xsd:element name="Format" type="spase:Format" minOccurs="1" maxOccurs="1"/>
<xsd:element name="Encoding" type="spase:Encoding" minOccurs="0" maxOccurs="1"/>
<xsd:element name="DataExtent" type="spase:DataExtent" minOccurs="0" maxOccurs="1"/>
<xsd:element name="Acknowledgement" type="spase:Acknowledgement" minOccurs="0" maxOccurs="1"/>
</xsd:sequence>
</xsd:complexType>

Complex Type spase:AccessURL

Namespace http://www.spase-group.org/data/schema
Annotations Attributes of the method for accessing a resource including a URL, name and description.

Diagram

Model spase:Name[0,1], spase:URL, spase:Style[0,1], spase:ProductKey*, spase:Description[0,1], spase:Language[0,1]
Children spase:Description, spase:Language, spase:Name, spase:ProductKey, spase:Style, spase:URL

Source
<xsd:complexType name="AccessURL">
<xsd:annotation>
<xsd:documentation xml:lang="en">Attributes of the method for accessing a resource including a URL, name and description.</xsd:documentation>
</xsd:annotation>
<xsd:sequence>
<xsd:element name="Name" type="spase:Name" minOccurs="0" maxOccurs="1"/>
<xsd:element name="URL" type="spase:URL" minOccurs="1" maxOccurs="1"/>
<xsd:element name="Style" type="spase:Style" minOccurs="0" maxOccurs="1"/>
<xsd:element name="ProductKey" type="spase:ProductKey" minOccurs="0" maxOccurs="unbounded"/>
<xsd:element name="Description" type="spase:Description" minOccurs="0" maxOccurs="1"/>
<xsd:element name="Language" type="spase:Language" minOccurs="0" maxOccurs="1"/>
</xsd:sequence>
</xsd:complexType>

Complex Type spase:DataExtent

Namespace http://www.spase-group.org/data/schema
Annotations The area of storage in a file system required to store the contents of a resource. The default units for data extent is bytes.
Diagram

Used by
Elements
spase:AccessInformation/spase:DataExtent, spase:Source/spase:DataExtent

Model
spase:Quantity, spase:Units\{0,1\}, spase:Per\{1\}

Children
spase:Per, spase:Quantity, spase:Units

Source

Complex Type spase:TimeSpan

Namespace http://www.spase-group.org/data/schema

Annotations
The duration of an interval in time.

Diagram

Used by
Elements

Model
spase:StartDate, (spase:StopDate | spase:RelativeStopDate), spase:Note*

Children
spase:Note, spase:RelativeStopDate, spase:StartDate, spase:StopDate

Source

Complex Type spase:Parameter

Namespace http://www.spase-group.org/data/schema

Annotations
A container of information regarding a parameter whose values are part of the product. Every product contains or can be related to one or more parameters.
Diagram

Used by

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>spase:Name, spase:Set*, spase:ParameterKey{0,1}, spase:Description{0,1}, spase:UCD{0,1}, spase:Caveats{0,1}, spase:Cadence{0,1}, spase:CadenceMin{0,1}, spase:CadenceMax{0,1}, spase:Units{0,1}, spase:UnitsConversion{0,1}, spase:CoordinateSystem{0,1}, spase:RenderingHints*, spase:Structure{0,1}, spase:ValidMin{0,1}, spase:ValidMax{0,1}, spase:FillValue{0,1}, (spase:Field</td>
</tr>
</tbody>
</table>
Children


Source

```xml
<xsd:complexType name="Parameter">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A container of information regarding a parameter whose values are part of the product. Every product contains or can be related to one or more parameters.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="Name" type="spase:Name" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="Set" type="spase:Set" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="ParameterKey" type="spase:ParameterKey" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="Description" type="spase:Description" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="UCD" type="spase:UCD" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="Caveats" type="spase:Caveats" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="Cadence" type="spase:Cadence" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="CadenceMin" type="spase:CadenceMin" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="CadenceMax" type="spase:CadenceMax" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="Units" type="spase:Units" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="UnitsConversion" type="spase:UnitsConversion" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="CoordinateSystem" type="spase:CoordinateSystem" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="RenderingHints" type="spase:RenderingHints" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="Structure" type="spase:Structure" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="ValidMin" type="spase:ValidMin" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="ValidMax" type="spase:ValidMax" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="FillValue" type="spase:FillValue" minOccurs="0" maxOccurs="1"/>
    <xsd:choice minOccurs="1" maxOccurs="1">
      <xsd:element name="Field" type="spase:Field"/>
      <xsd:element name="Particle" type="spase:Particle"/>
      <xsd:element name="Wave" type="spase:Wave"/>
      <xsd:element name="Mixed" type="spase:Mixed"/>
      <xsd:element name="Support" type="spase:Support"/>
    </xsd:choice>
  </xsd:sequence>
</xsd:complexType>
```

Complex Type spase:CoordinateSystem

Namespace http://www.spase-group.org/data/schema

Annotations The specification of the orientation of a set of (typically) orthogonal base axes.

Diagram

```
  CoordinateSystem
    CoordinateRepresentation
    CoordinateSystemName
```

Used by Element spase:Parameter/spase:CoordinateSystem

Model spase:CoordinateRepresentation, spase:CoordinateSystemName

Children spase:CoordinateRepresentation, spase:CoordinateSystemName

Source

```xml
<xsd:complexType name="CoordinateSystem">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The specification of the orientation of a set of (typically) orthogonal base axes.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="CoordinateRepresentation" type="spase:CoordinateRepresentation" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="CoordinateSystemName" type="spase:CoordinateSystemName" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

Complex Type spase:RenderingHints

Namespace http://www.spase-group.org/data/schema

Annotations Attributes to aid in the rendering of parameter.
Schema documentation for spase-2_3_1.xsd

Diagram

Used by

Elements  
spase:Element/spase:RenderingHints, spase:Parameter/spase:RenderingHints

Model

spase:DisplayType{0,1} , spase:AxisLabel{0,1} , spase:RenderingAxis{0,1} , spase:Index{0,1} , spase:ValueFormat{0,1} , 
spase:ScaleMin{0,1} , spase:ScaleMax{0,1} , spase:ScaleType{0,1}

Children

spase:AxisLabel, spase:DisplayType, spase:Index, spase:RenderingAxis, spase:ScaleMax, spase:ScaleMin, spase:ScaleType, 
spase:ValueFormat

Source

<xsd:complexType name="RenderingHints">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Attributes to aid in the rendering of parameter.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="DisplayType" type="spase:DisplayType" minOccurs="0" maxOccurs="1" />
    <xsd:element name="AxisLabel" type="spase:AxisLabel" minOccurs="0" maxOccurs="1" />
    <xsd:element name="RenderingAxis" type="spase:RenderingAxis" minOccurs="0" maxOccurs="1" />
    <xsd:element name="Index" type="spase:Index" minOccurs="0" maxOccurs="1" />
    <xsd:element name="ValueFormat" type="spase:ValueFormat" minOccurs="0" maxOccurs="1" />
    <xsd:element name="ScaleMin" type="spase:ScaleMin" minOccurs="0" maxOccurs="1" />
    <xsd:element name="ScaleMax" type="spase:ScaleMax" minOccurs="0" maxOccurs="1" />
    <xsd:element name="ScaleType" type="spase:ScaleType" minOccurs="0" maxOccurs="1" />
  </xsd:sequence>
</xsd:complexType>

Schema location

file:C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Complex Type spase:Structure

Namespace  
http://www.spase-group.org/data/schema

Annotations  
The organization and relationship of individual values within a quantity.

Diagram

Used by

Element  
spase:Parameter/spase:Structure

Model

spase:Size , spase:Description{0,1} , spase:Element*

Children

spase:Description, spase:Element, spase:Size

Source

<xsd:complexType name="Structure">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The organization and relationship of individual values within a quantity.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="Structure" type="spase:Size" minOccurs="0" maxOccurs="1" />
    <xsd:element name="Description" type="spase:Description" minOccurs="0" maxOccurs="1" />
    <xsd:element name="Element" type="spase:Element" minOccurs="0" maxOccurs="*" />
  </xsd:sequence>
</xsd:complexType>
Complex Type `spase:Element`

**Namespace**  
http://www.spase-group.org/data/schema

**Annotations**  
A component or individual unit of a multiple value quantity such as an array or vector.

**Diagram**

```
<complexType name="Element">
  <annotation>
    <documentation xml:lang="en">A component or individual unit of a multiple value quantity such as an array or vector.</documentation>
  </annotation>
  <sequence>
    <element name="Name" type="spase:Name" minOccurs="1" maxOccurs="1"/>
    <element name="Qualifier" type="spase:Qualifier" minOccurs="0" maxOccurs="unbounded"/>
    <element name="Index" type="spase:Index" minOccurs="1" maxOccurs="1"/>
    <element name="ParameterKey" type="spase:ParameterKey" minOccurs="0" maxOccurs="1"/>
    <element name="Units" type="spase:Units" minOccurs="0" maxOccurs="1"/>
    <element name="UnitsConversion" type="spase:UnitsConversion" minOccurs="0" maxOccurs="1"/>
    <element name="ValidMin" type="spase:ValidMin" minOccurs="0" maxOccurs="1"/>
    <element name="ValidMax" type="spase:ValidMax" minOccurs="0" maxOccurs="1"/>
    <element name="FillValue" type="spase:FillValue" minOccurs="0" maxOccurs="1"/>
    <element name="RenderingHints" type="spase:RenderingHints" minOccurs="0" maxOccurs="1"/>
  </sequence>
</complexType>
```

**Used by**  
`spase:Structure/spase:Element`

**Model**  
`spase:Name`, `spase:Qualifier*`, `spase:Index`, `spase:ParameterKey{0,1}`, `spase:Units{0,1}`, `spase:UnitsConversion{0,1}`, `spase:ValidMin{0,1}`, `spase:ValidMax{0,1}`, `spase:FillValue{0,1}`, `spase:RenderingHints{0,1}`

**Children**  
`spase:FillValue`, `spase:Index`, `spase:Name`, `spase:ParameterKey`, `spase:Qualifier`, `spase:RenderingHints`, `spase:Units`, `spase:UnitsConversion`, `spase:ValidMax`, `spase:ValidMin`

**Source**

```
<xsd:complexType name="Element">
  <annotation>
    <documentation xml:lang="en">A component or individual unit of a multiple value quantity such as an array or vector.</documentation>
  </annotation>
  <sequence>
    <element name="Name" type="spase:Name" minOccurs="1" maxOccurs="1"/>
    <element name="Qualifier" type="spase:Qualifier" minOccurs="0" maxOccurs="unbounded"/>
    <element name="Index" type="spase:Index" minOccurs="1" maxOccurs="1"/>
    <element name="ParameterKey" type="spase:ParameterKey" minOccurs="0" maxOccurs="1"/>
    <element name="Units" type="spase:Units" minOccurs="0" maxOccurs="1"/>
    <element name="UnitsConversion" type="spase:UnitsConversion" minOccurs="0" maxOccurs="1"/>
    <element name="ValidMin" type="spase:ValidMin" minOccurs="0" maxOccurs="1"/>
    <element name="ValidMax" type="spase:ValidMax" minOccurs="0" maxOccurs="1"/>
    <element name="FillValue" type="spase:FillValue" minOccurs="0" maxOccurs="1"/>
    <element name="RenderingHints" type="spase:RenderingHints" minOccurs="0" maxOccurs="1"/>
  </sequence>
</xsd:complexType>
```
Annotations
The space around a radiating body within which its electromagnetic attributes can exert force on another similar body that is not in direct contact.

Diagram

Used by
Element
spase:Parameter/spase:Field

Model
spase:Qualifier*, spase:FieldQuantity, spase:FrequencyRange{0,1}

Children
spase:FieldQuantity, spase:FrequencyRange, spase:Qualifier

Source
<xsd:complexType name="Field">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The space around a radiating body within which its electromagnetic attributes can exert force on another similar body that is not in direct contact.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="Qualifier" type="spase:Qualifier" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="FieldQuantity" type="spase:FieldQuantity" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="FrequencyRange" type="spase:FrequencyRange" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>

Complex Type spase:FrequencyRange

Namespace
http://www.spase-group.org/data/schema

Annotations
The range of possible values for the observed frequency.

Diagram

Used by
Elements

Model
spase:SpectralRange{0,1}, spase:Low, spase:High, spase:Units, spase:Bin*

Children
spase:Bin, spase:High, spase:Low, spase:SpectralRange, spase:Units

Source
<xsd:complexType name="FrequencyRange">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The range of possible values for the observed frequency.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="SpectralRange" type="spase:SpectralRange" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="Low" type="spase:Low" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="High" type="spase:High" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="Units" type="spase:Units" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="Bin" type="spase:Bin" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>

Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
Complex Type spase:Bin

Annotations
A grouping of observations according to a band or window of a common attribute.

Diagram

Used by Elements

Model
spase:BandName{0,1} , spase:Low , spase:High

Children
spase:BandName , spase:Low , spase:High

Source

Complex Type spase:Particle

Annotations
A description of the types of particles observed in the measurement. This includes both direct observations and inferred observations.

Diagram

Used by Element
spase:Parameter/spase:Particle

Model
spase:ParticleType* , spase:Qualifier* , spase:ParticleQuantity , spase:AtomicNumber* , spase:EnergyRange{0,1} , spase:AzimuthalAngleRange{0,1} , spase:PitchAngleRange{0,1}
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Source**

```xml
<xs:complexType name="Particle">
  <xs:documentation xml:lang="en">A description of the types of particles observed in the measurement. This includes both direct observations and inferred observations.</xs:documentation>
  <xs:sequence>
    <xs:element name="ParticleType" type="spase:ParticleType" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element name="Qualifier" type="spase:Qualifier" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element name="ParticleQuantity" type="spase:ParticleQuantity" minOccurs="1" maxOccurs="1"/>
    <xs:element name="AtomicNumber" type="spase:AtomicNumber" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element name="EnergyRange" type="spase:EnergyRange" minOccurs="0" maxOccurs="1"/>
    <xs:element name="AzimuthalAngleRange" type="spase:AzimuthalAngleRange" minOccurs="0" maxOccurs="1"/>
    <xs:element name="PolarAngleRange" type="spase:PolarAngleRange" minOccurs="0" maxOccurs="1"/>
    <xs:element name="MassRange" type="spase:MassRange" minOccurs="0" maxOccurs="1"/>
    <xs:element name="PitchAngleRange" type="spase:PitchAngleRange" minOccurs="0" maxOccurs="1"/>
  </xs:sequence>
</xs:complexType>
```

**Complex Type** spase:EnergyRange

**Namespace** http://www.spase-group.org/data/schema

**Annotations** The minimum and maximum energy values of the particles represented by a given "physical parameter" description.

**Diagram**

```
EnergyRange
  └── Low
        └── Type: spase:Low
  └── High
        └── Type: spase:High
  └── Units
        └── Type: spase:Units
  └── Bin
        └── Type: spase:Bin
```

**Used by** Elements


**Model**

- spase:Low, spase:High, spase:Units, spase:Bin*

**Children** spase:Bin, spase:High, spase:Low, spase:Units

**Source**

```xml
<xs:complexType name="EnergyRange">
  <xs:documentation xml:lang="en">The minimum and maximum energy values of the particles represented by a given "physical parameter" description.</xs:documentation>
  <xs:sequence>
    <xs:element name="Low" type="spase:Low" minOccurs="1" maxOccurs="1"/>
    <xs:element name="High" type="spase:High" minOccurs="1" maxOccurs="1"/>
    <xs:element name="Units" type="spase:Units" minOccurs="1" maxOccurs="1"/>
    <xs:element name="Bin" type="spase:Bin" minOccurs="0" maxOccurs="unbounded"/>
  </xs:sequence>
</xs:complexType>
```

**Complex Type** spase:AzimuthalAngleRange

**Namespace** http://www.spase-group.org/data/schema

**Annotations** The range of possible azimuthal angles for a group of energy observations. Default units are degrees.
**Complex Type** `spase:AzimuthalAngleRange`

**Namespace** `http://www.spase-group.org/data/schema`

**Annotations**
The range of possible azimuthal angles for a group of energy observations. Default units are degrees.

**Diagram**

**Used by**
- Element `spase:Particle/spase:AzimuthalAngleRange`
- Model `spase:Low, spase:High, spase:Units, spase:Bin*`
- Children `spase:Bin, spase:High, spase:Low, spase:Units`

**Source**
```xml
<xs:complexType name="AzimuthalAngleRange">
  <xs:annotation>
    <xs:documentation xml:lang="en">The range of possible azimuthal angles for a group of energy observations. Default units are degrees.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="Low" type="spase:Low" minOccurs="1" maxOccurs="1"/>
    <xs:element name="High" type="spase:High" minOccurs="1" maxOccurs="1"/>
    <xs:element name="Units" type="spase:Units" minOccurs="1" maxOccurs="1"/>
    <xs:element name="Bin" type="spase:Bin" minOccurs="0" maxOccurs="unbounded"/>
  </xs:sequence>
</xs:complexType>
```

**Complex Type** `spase:PolarAngleRange`

**Namespace** `http://www.spase-group.org/data/schema`

**Annotations**
The range of possible polar angles for a group of energy observations. Default units are degrees.

**Diagram**

**Used by**
- Element `spase:Particle/spase:PolarAngleRange`
- Model `spase:Low, spase:High, spase:Units, spase:Bin*`
- Children `spase:Bin, spase:High, spase:Low, spase:Units`

**Source**
```xml
<xs:complexType name="PolarAngleRange">
  <xs:annotation>
    <xs:documentation xml:lang="en">The range of possible polar angles for a group of energy observations. Default units are degrees.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="Low" type="spase:Low" minOccurs="1" maxOccurs="1"/>
    <xs:element name="High" type="spase:High" minOccurs="1" maxOccurs="1"/>
    <xs:element name="Units" type="spase:Units" minOccurs="1" maxOccurs="1"/>
    <xs:element name="Bin" type="spase:Bin" minOccurs="0" maxOccurs="unbounded"/>
  </xs:sequence>
</xs:complexType>
```

**Complex Type** `spase:MassRange`

**Namespace** `http://www.spase-group.org/data/schema`

**Annotations**
The range of possible mass for a group of
particle observations.

Diagram

Used by

Model

Children

Source

Complex Type `spase:PitchAngleRange`

Namespace `http://www.spase-group.org/data/schema`

Annotations The range of possible pitch angles for a group of particle observations.

Diagram

Used by

Model

Children

Source

Complex Type `spase:Wave`

Namespace `http://www.spase-group.org/data/schema`
Annotations
Periodic or quasi-periodic (AC) variations of physical quantities in time and space, capable of propagating or being trapped within particular regimes.

Diagram

Used by
Element spase:Parameter/spase:Wave

Model
spase:WaveType{0,1}, spase:Qualifier*, spase:WaveQuantity, spase:EnergyRange{0,1}, spase:FrequencyRange{0,1}, spase:WavelengthRange{0,1}

Children

Source
<xs:complexType name="Wave">
   <xs:annotation>
      <xs:documentation xml:lang="en">Periodic or quasi-periodic (AC) variations of physical quantities in time and space, capable of propagating or being trapped within particular regimes.</xs:documentation>
   </xs:annotation>
   <xs:sequence>
      <xs:element name="WaveType" type="spase:WaveType" minOccurs="0" maxOccurs="1"/>
      <xs:element name="Qualifier" type="spase:Qualifier" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element name="WaveQuantity" type="spase:WaveQuantity" minOccurs="1" maxOccurs="1"/>
      <xs:element name="EnergyRange" type="spase:EnergyRange" minOccurs="0" maxOccurs="1"/>
      <xs:element name="FrequencyRange" type="spase:FrequencyRange" minOccurs="0" maxOccurs="1"/>
      <xs:element name="WavelengthRange" type="spase:WavelengthRange" minOccurs="0" maxOccurs="1"/>
   </xs:sequence>
</xs:complexType>

Complex Type spase:WavelengthRange

Namespace http://www.spase-group.org/data/schema

Annotations
The range of possible values for the observed wavelength.

Diagram

Used by
Element spase:Wave/spase:WavelengthRange

Model
spase:SpectralRange{0,1}, spase:Low, spase:High, spase:Units, spase:Bin*

Children
spase:Bin, spase:High, spase:Low, spase:SpectralRange, spase:Units

Source
<xs:complexType name="WavelengthRange">
   <xs:annotation>
      <xs:documentation xml:lang="en">The range of possible values for the observed wavelength.</xs:documentation>
   </xs:annotation>
</xs:complexType>
**Complex Type spase:Mixed**

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
A parameter derived from more than one of the type of parameter. For example, plasma beta, the ratio of plasma particle energy density to the energy density of the magnetic field permeating the plasma, is "mixed."

**Source**
```
<xs:complexType name="Mixed">
  <xs:annotation>
    <xs:documentation xml:lang="en">A parameter derived from more than one of the type of parameter. For example, plasma beta, the ratio of plasma particle energy density to the energy density of the magnetic field permeating the plasma, is "mixed."</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="MixedQuantity" type="spase:MixedQuantity" minOccurs="1" maxOccurs="1"/>
    <xs:element name="ParticleType" type="spase:ParticleType" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element name="Qualifier" type="spase:Qualifier" minOccurs="0" maxOccurs="unbounded"/>
  </xs:sequence>
</xs:complexType>
```

**Complex Type spase:Support**

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
Information useful in understanding the context of an observation, typically observed or measured coincidently with a physical observation.

**Source**
```
<xs:complexType name="Support">
  <xs:annotation>
    <xs:documentation xml:lang="en">Information useful in understanding the context of an observation, typically observed or measured coincidently with a physical observation.</xs:documentation>
  </xs:annotation>
</xs:complexType>
```
Complex Type `spase:Extension`

Namespace | http://www.spase-group.org/data/schema
---|---
Annotations | A container of other metadata which is not part of the SPASE data model. The contents of this element are defined by individual usage. The organization and content are constrained by the implementation. For example, in an XML representation of the SPASE metadata the content must conform to the XML specifications.

Diagram | ![Diagram](Diagram.png)

Used by | Elements
---|---

Model | ANY element from ANY namespace OTHER than 'http://www.spase-group.org/data/schema'

Source | *
---|---
| `<xsd:complexType name="Extension">`
| `<xsd:annotation>`
| `| `xsd:documentation` `xml:lang="en">A container of other metadata which is not part of the SPASE data model. The contents of this element are defined by individual usage. The organization and content are constrained by the implementation. For example, in an XML representation of the SPASE metadata the content must conform to the XML specifications.</xsd:documentation>`
| `</xsd:annotation>`
| `| `xsd:sequence>`
| `| `<xsd:element>`
| `| `<xsd:sequence>`
| `| `</xsd:complexType>`

Complex Type `spase:DisplayData`

Namespace | http://www.spase-group.org/data/schema
---|---
Annotations | A graphical representation of data wherein the underlying numeric values are not (readily) accessible for analysis. Examples are line plots and spectrograms. A Display Data resource is a type of "data product" which is a set of data that is uniformly processed and formatted, from one or more instruments, typically spanning the full duration of the observations of the relevant instrument(s). A data product may consist of a collection of granules of successive time spans, but may be a single high-level entity.

Diagram | ![Diagram](Diagram.png)

Used by | Elements
---|---

Model | ANY element from ANY namespace OTHER than 'http://www.spase-group.org/data/schema'
A graphical representation of data wherein the underlying numeric values are not (readily) accessible for analysis. Examples are line plots and spectrograms. A Display Data resource is a type of "data product" which is a set of data that is uniformly processed and formatted, from one or more instruments, typically spanning the full duration of the observations of the relevant instrument(s). A data product may consist of...
of a collection of granules of successive time spans, but may be a single high-level entity.

<xsd:documentation xml:lang="en">A characterization of the time over which the measurement was taken.</xsd:documentation>

<xsd:sequence>
  <xsd:element name="TimeSpan" type="spase:TimeSpan" minOccurs="1" maxOccurs="1"/>
  <xsd:element name="Cadence" type="spase:Cadence" minOccurs="0" maxOccurs="1"/>
  <xsd:element name="CadenceMin" type="spase:CadenceMin" minOccurs="0" maxOccurs="1"/>
  <xsd:element name="CadenceMax" type="spase:CadenceMax" minOccurs="0" maxOccurs="1"/>
  <xsd:element name="Exposure" type="spase:Exposure" minOccurs="0" maxOccurs="1"/>
  <xsd:element name="ExposureMin" type="spase:ExposureMin" minOccurs="0" maxOccurs="1"/>
  <xsd:element name="ExposureMax" type="spase:ExposureMax" minOccurs="0" maxOccurs="1"/>
</xsd:sequence>

Complex Type spase:TemporalDescription

Namespace http://www.spase-group.org/data/schema

Annotations A characterization of the time over which the measurement was taken.

Diagram

Used by Elements spase:DisplayData/spase:TemporalDescription, spase:NumericalData/spase:TemporalDescription

Model spase:TimeSpan, spase:Cadence[0,1], spase:CadenceMin[0,1], spase:CadenceMax[0,1], spase:Exposure[0,1], spase:ExposureMin[0,1], spase:ExposureMax[0,1]

Children spase:Cadence, spase:CadenceMax, spase:CadenceMin, spase:Exposure, spase:ExposureMax, spase:ExposureMin, spase:TimeSpan

Source

<xsd:complexType name="TemporalDescription">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A characterization of the time over which the measurement was taken.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="TimeSpan" type="spase:TimeSpan" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="Cadence" type="spase:Cadence" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="CadenceMin" type="spase:CadenceMin" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="CadenceMax" type="spase:CadenceMax" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="Exposure" type="spase:Exposure" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="ExposureMin" type="spase:ExposureMin" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="ExposureMax" type="spase:ExposureMax" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
Complex Type `spase:NumericalData`

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
Data stored as numerical values in one or more specified formats. A Numerical Data resource is a type of "data product" which is a set of data that is uniformly processed and formatted, from one or more instruments, typically spanning the full duration of the observations of the relevant instrument(s). A data product may consist of Parameters stored in a collection of granules of successive time spans or a single data granule.

**Diagram**

[Diagram of NumericalData schema]
<table>
<thead>
<tr>
<th>Used by</th>
<th>Element</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>spase:ResourceID , spase:ResourceHeader , spase:AccessInformation+ , spase:ProcessingLevel{0,1} , spase:ProviderName{0,1} , spase:ProviderResourceName{0,1} , spase:ProviderProcessingLevel{0,1} , spase:ProviderVersion{0,1} , spase:InstrumentID* , spase:MeasurementType+ , spase:TemporalDescription{0,1} , spase:SpectralRange* , spase:ObservedRegion* , spase:Caveats{0,1} , spase:Keyword+ , spase:InputResourceID* , spase:Parameter+ , spase:Extension*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>spase:Spase/spase:NumericalData</th>
</tr>
</thead>
</table>

Source

```xml
<xsd:complexType name="NumericalData">
  <xsd:complexContent>
    <xsd:restriction base="spase:Document">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Data stored as numerical values in one or more specified formats. A Numerical Data resource is a type of "data product" which is a set of data that is uniformly processed and formatted, from one or more instruments, typically spanning the full duration of the observations of the relevant instrument(s). A data product may consist of Parameters stored in a collection of granules of successive time spans or a single data granule.</xsd:documentation>
      </xsd:annotation>
      <xsd:sequence>
        <xsd:element name="ResourceID" type="spase:ResourceID" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="ResourceHeader" type="spase:ResourceHeader" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="AccessInformation" type="spase:AccessInformation" minOccurs="1" maxOccurs="unbounded"/>
        <xsd:element name="ProcessingLevel" type="spase:ProcessingLevel" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="ProviderName" type="spase:ProviderName" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="ProviderResourceName" type="spase:ProviderResourceName" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="ProviderProcessingLevel" type="spase:ProviderProcessingLevel" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="ProviderVersion" type="spase:ProviderVersion" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="InstrumentID" type="spase:InstrumentID" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="MeasurementType" type="spase:MeasurementType" minOccurs="1" maxOccurs="unbounded"/>
        <xsd:element name="TemporalDescription" type="spase:TemporalDescription" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="SpectralRange" type="spase:SpectralRange" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="ObservedRegion" type="spase:Region" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="Caveats" type="spase:Caveats" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="Keyword" type="spase:Keyword" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="InputResourceID" type="spase:InputResourceID" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="Parameter" type="spase:Parameter" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:restriction>
  </xsd:complexContent>
</xsd:complexType>
```

Complex Type spase:Document

Namespace

http://www.spase-group.org/data/schema

Annotations

A set of information designed and presented as an individual entity. A document may contain plain or formatted text, in-line graphics, sound, other multimedia data, or hypermedia references. A Document resource is intended for use on digital objects that have no other identifier (e.g., DOI or ISBN).
Diagram

Used by
Element  spase:Spase/spase:Document

Model

Children

Source
<xsd:complexType name="Document">
  <xsd:documentation xml:lang="en">A set of information designed and presented as an individual entity. A document may contain plain or formatted text, in-line graphics, sound, other multimedia data, or hypermedia references. A Document resource is intended for use on digital objects that have no other identifier (e.g., DOI or ISBN).</xsd:documentation>
  <xsd:sequence>
    <xsd:element name="ResourceID" type="spase:ResourceID" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="ResourceHeader" type="spase:ResourceHeader" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="AccessInformation" type="spase:AccessInformation" minOccurs="1" maxOccurs="unbounded"/>
    <xsd:element name="Keyword" type="spase:Keyword" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="DocumentType" type="spase:DocumentType" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="MIMEType" type="spase:MIMEType" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="InputResourceID" type="spase:InputResourceID" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>

Schema location
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Complex Type spase:Granule

Namespace
http://www.spase-group.org/data/schema

Annotations
An accessible portion of another resource. A Granule may be composed of one or more physical pieces (files) which are considered inseparable. For example, a data storage format that maintains metadata and binary data in separate, but tightly coupled files. Granules should not be used to group files that have simple relationships or which are associated through a parent resource. For example, each file containing a time interval data for a Numerical Data resource would each be considered a Granule. The ParentID of a Granule resource must be a NumericalData resource. The attributes of a Granule supersede the corresponding attributes in the NumericalData resource.
Diagram

```
Source
<xs:complexType name="Granule">
  <xs:annotation>
    <xs:documentation xml:lang="en"> An accessible portion of another resource. A Granule may be composed of one or more physical pieces (files) which are considered inseparable. For example, a data storage format that maintains metadata and binary data in separate, but tightly coupled files. Granules should not be used to group files that have simple relationships or which are associated through a parent resource. For example, each file containing a time interval data for a Numerical Data resource would each be considered a Granule. The ParentID of a Granule resource must be a NumericalData resource. The attributes of a Granule supersede the corresponding attributes in the NumericalData resource. </xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="ResourceID" type="spase:ResourceID" minOccurs="1" maxOccurs="1"/>
    <xs:element name="ReleaseDate" type="spase:ReleaseDate" minOccurs="1" maxOccurs="1"/>
    <xs:element name="ExpirationDate" type="spase:ExpirationDate" minOccurs="0" maxOccurs="1"/>
    <xs:element name="ParentID" type="spase:ParentID" minOccurs="1" maxOccurs="1"/>
    <xs:element name="PriorID" type="spase:PriorID" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element name="StartDate" type="spase:StartDate" minOccurs="1" maxOccurs="1"/>
    <xs:element name="StopDate" type="spase:StopDate" minOccurs="1" maxOccurs="1"/>
    <xs:element name="Source" type="spase:Source" minOccurs="1" maxOccurs="unbounded"/>
  </xs:sequence>
</xs:complexType>
```

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Complex Type spase:Source

Namespace http://www.spase-group.org/data/schema

Annotations The location and attributes of an object.
### Complex Type spase:Source

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>A device that makes measurements used to characterize a physical phenomenon, or a family of like devices.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Used by</td>
<td>Element</td>
</tr>
<tr>
<td></td>
<td>spase:Source/spase:Checksum</td>
</tr>
<tr>
<td>Model</td>
<td>spase:HashValue, spase:HashFunction</td>
</tr>
<tr>
<td>Children</td>
<td>spase:HashFunction, spase:HashValue</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:complexType name=&quot;Source&quot;&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>  &lt;xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>    &lt;xsd:documentation xml:lang=&quot;en&quot;&gt;The location and attributes of an object.&lt;/xsd:documentation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>  &lt;/xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>  &lt;xsd:sequence&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>    &lt;xsd:element name=&quot;SourceType&quot; type=&quot;spase:SourceType&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>    &lt;xsd:element name=&quot;URL&quot; type=&quot;spase:URL&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>    &lt;xsd:element name=&quot;MirrorURL&quot; type=&quot;spase:MirrorURL&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;unbounded&quot;/&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>    &lt;xsd:element name=&quot;Checksum&quot; type=&quot;spase:Checksum&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>    &lt;xsd:element name=&quot;DataExtent&quot; type=&quot;spase:DataExtent&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>  &lt;/xsd:sequence&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;/xsd:complexType&gt;</code></td>
</tr>
</tbody>
</table>

### Complex Type spase:Checksum

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>A computed value that is dependent upon the contents of a digital data object. Primarily used to check whether errors or alterations have occurred during the transmission or storage of a data object.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Used by</td>
<td>Element</td>
</tr>
<tr>
<td></td>
<td>spase:Source/spase:Checksum</td>
</tr>
<tr>
<td>Model</td>
<td>spase:HashValue, spase:HashFunction</td>
</tr>
<tr>
<td>Children</td>
<td>spase:HashFunction, spase:HashValue</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:complexType name=&quot;Checksum&quot;&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>  &lt;xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>    &lt;xsd:documentation xml:lang=&quot;en&quot;&gt;A computed value that is dependent upon the contents of a digital data object. Primarily used to check whether errors or alterations have occurred during the transmission or storage of a data object.&lt;/xsd:documentation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>  &lt;/xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>  &lt;xsd:sequence&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>    &lt;xsd:element name=&quot;HashValue&quot; type=&quot;spase:HashValue&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>    &lt;xsd:element name=&quot;HashFunction&quot; type=&quot;spase:HashFunction&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>  &lt;/xsd:sequence&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;/xsd:complexType&gt;</code></td>
</tr>
</tbody>
</table>

### Complex Type spase:Instrument

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>A device that makes measurements used to characterize a physical phenomenon, or a family of like devices.</td>
</tr>
<tr>
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<td><img src="image" alt="Diagram" /></td>
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<tr>
<td>Used by</td>
<td>Element</td>
</tr>
<tr>
<td></td>
<td>spase:Source/spase:Checksum</td>
</tr>
<tr>
<td>Model</td>
<td>spase:HashValue, spase:HashFunction</td>
</tr>
<tr>
<td>Children</td>
<td>spase:HashFunction, spase:HashValue</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:complexType name=&quot;Instrument&quot;&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>  &lt;xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>    &lt;xsd:documentation xml:lang=&quot;en&quot;&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>  &lt;/xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>  &lt;xsd:sequence&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>    &lt;xsd:element name=&quot;Instrument&quot; type=&quot;spase:Instrument&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>  &lt;/xsd:sequence&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;/xsd:complexType&gt;</code></td>
</tr>
</tbody>
</table>
Schema documentation for spase-2_3_1.xsd

Diagram

Used by
- Element
  - spase:Spase/spase:Instrument

Model
- spase:ResourceID , spase:ResourceHeader , spase:InstrumentType+ , spase:InvestigationName+ , spase:OperatingSpan{0,1} , spase:ObservatoryID , spase:Caveats{0,1} , spase:Extension*

Children

Source

Complex Type spase:OperatingSpan

Namespace
- http://www.spase-group.org/data/schema

Annotations
- The interval in time from the first point at which an instrument or spacecraft was producing and sending data until the last such time, ignoring possible gaps.

Diagram

Used by
- Elements

Model
- spase:StartDate , spase:StopDate{0,1} , spase:Note*

Children
- spase:Note , spase:StartDate , spase:StopDate

Source

<xs:complexType name="OperatingSpan">
  <xs:annotation>
    <xs:documentation xml:lang="en">The interval in time from the first point at which an instrument or spacecraft was producing and sending data until the last such time, ignoring possible gaps.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="StartDate" type="spase:StartDate" minOccurs="1" maxOccurs="1" />
    <xs:element name="StopDate" type="spase:StopDate" minOccurs="0" maxOccurs="1" />
    <xs:element name="Note" type="spase:Note" minOccurs="0" maxOccurs="unbounded" />
  </xs:sequence>
</xs:complexType>
The interval in time from the first point at which an instrument or spacecraft was producing and sending data until the last such time, ignoring possible gaps.

Complex Type **spase:Observatory**

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
The host (spacecraft, network, facility) for instruments making observations, or a family of closely related hosts.

**Diagram**

Used by
- **Element**
  - spase:Spase/spase:Observatory

**Model**
- spase:ResourceId
- spase:ResourceHeader
- spase:ObservatoryGroupID
- spase:Location
- spase:OperatingSpan
- spase:Extension

**Children**
- spase:Extension
- spase:Location
- spase:ObservatoryGroupID
- spase:OperatingSpan
- spase:ResourceHeader
- spase:ResourceId

**Source**

Complex Type **spase:Location**

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
A position in space definable by a regional referencing system and geographic coordinates.
Schema documentation for spase-2_3_1.xsd

Diagram

Used by
Element
spase:Observatory/spase:Location

Model
spase:ObservatoryRegion{+} , spase:CoordinateSystemName{0,1} , spase:Latitude{0,1} , spase:Longitude{0,1} , spase:Elevation{0,1}

Children
spase:CoordinateSystemName , spase:Elevation , spase:Latitude , spase:Longitude , spase:ObservatoryRegion

Source
<xsd:complexType name="Location">
  <xsd:annotation>
    <xsd:documentation xml:lang="en"> A position in space definable by a regional referencing system and geographic coordinates. </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="ObservatoryRegion" type="spase:Region" minOccurs="1" maxOccurs="unbounded" />
    <xsd:element name="CoordinateSystemName" type="spase:CoordinateSystemName" minOccurs="0" maxOccurs="1" />
    <xsd:element name="Latitude" type="spase:Latitude" minOccurs="0" maxOccurs="1" />
    <xsd:element name="Longitude" type="spase:Longitude" minOccurs="0" maxOccurs="1" />
    <xsd:element name="Elevation" type="spase:Elevation" minOccurs="0" maxOccurs="1" />
  </xsd:sequence>
</xsd:complexType>

Complex Type spase:Person

Namespace
http://www.spase-group.org/data/schema

Annotations
An individual human being.

Diagram
Schema documentation for spase-2_3_1.xsd

Used by | Element  
-------|----------
        | spase:Spase/spase:Person

Model  
spase:ResourceID , spase:ReleaseDate[0,1] , spase:PersonName[0,1] , spase:OrganizationName , spase:Address[0,1] , spase:Email* , spase:PhoneNumber* , spase:FaxNumber[0,1] , spase:ORCIDIdentifier[0,1] , spase:Note[0,1] , spase:Extension*

Children  
spase:Address , spase:Email , spase:Extension , spase:FaxNumber , spase:Note , spase:ORCIdentifier , spase:OrganizationName , spase:PersonName , spase:PhoneNumber , spase:ReleaseDate , spase:ResourceID

Source  

```
<xsd:complexType name="Person">
  <xsd:annotation>
    <xsd:documentation xml:lang= "en">An individual human being.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="ResourceID" type="spase:ResourceID" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="ReleaseDate" type="spase:ReleaseDate" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="PersonName" type="spase:PersonName" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="OrganizationName" type="spase:OrganizationName" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="Address" type="spase:Address" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="Email" type="spase:Email" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="PhoneNumber" type="spase:PhoneNumber" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="FaxNumber" type="spase:FaxNumber" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="ORCIDIdentifier" type="spase:ORCIDIdentifier" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="Note" type="spase:Note" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

Complex Type spase:Registry

Namespace  
http://www.spase-group.org/data/schema

Annotations  
A location or facility where resources are cataloged.

Diagram

```
<xsd:complexType name="Registry">
  <xsd:annotation>
    <xsd:documentation xml:lang= "en">A location or facility where resources are cataloged.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="ResourceID" type="spase:ResourceID" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="ResourceHeader" type="spase:ResourceHeader" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="AccessURL" type="spase:AccessURL" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

Used by | Element  
-------|----------
        | spase:Spase/spase:Registry

Model  
spase:ResourceID , spase:ResourceHeader , spase:AccessURL , spase:Extension*

Children  

Source  

```
<xsd:complexType name="Registry">
  <xsd:annotation>
    <xsd:documentation xml:lang= "en">A location or facility where resources are cataloged.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="ResourceID" type="spase:ResourceID" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="ResourceHeader" type="spase:ResourceHeader" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="AccessURL" type="spase:AccessURL" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

Complex Type spase:Repository

Namespace  
http://www.spase-group.org/data/schema

Annotations  
A location or facility where resources are stored.

```
<xsd:complexType name="Repository">
  <xsd:annotation>
    <xsd:documentation xml:lang= "en">A location or facility where resources are stored.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="ResourceID" type="spase:ResourceID" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="ResourceHeader" type="spase:ResourceHeader" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="AccessURL" type="spase:AccessURL" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```
**Schema documentation for spase-2_3_1.xsd**

### Complex Type `spase:Repository`

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
A location or facility where resources are stored.

**Diagram**
![Diagram of spase:Repository]

**Used by Element**
spase:Spase/spase:Repository

**Model**
spase:ResourceID, spase:ResourceHeader, spase:AccessURL, spase:Extension*

**Children**

**Source**
```xml
<xs:complexType name="Repository">
    <xs:documentation xml:lang="en">A location or facility where resources are stored.</xs:documentation>
    <xs:sequence>
        <xs:element name="ResourceID" type="spase:ResourceID" minOccurs="1" maxOccurs="1"/>
        <xs:element name="ResourceHeader" type="spase:ResourceHeader" minOccurs="1" maxOccurs="1"/>
        <xs:element name="AccessURL" type="spase:AccessURL" minOccurs="1" maxOccurs="1"/>
        <xs:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
    </xs:sequence>
</xs:complexType>
```

**Schema location**
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Complex Type `spase:Service`

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
A location or facility that can perform a well defined task.

**Diagram**
![Diagram of spase:Service]

**Used by Element**
spase:Spase/spase:Service

**Model**
spase:ResourceID, spase:ResourceHeader, spase:AccessURL, spase:Extension*

**Children**

**Source**
```xml
<xs:complexType name="Service">
    <xs:documentation xml:lang="en">A location or facility that can perform a well defined task.</xs:documentation>
    <xs:sequence>
        <xs:element name="ResourceID" type="spase:ResourceID" minOccurs="1" maxOccurs="1"/>
        <xs:element name="ResourceHeader" type="spase:ResourceHeader" minOccurs="1" maxOccurs="1"/>
        <xs:element name="AccessURL" type="spase:AccessURL" minOccurs="1" maxOccurs="1"/>
        <xs:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
    </xs:sequence>
</xs:complexType>
```

**Schema location**
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Complex Type `spase:Annotation`

**Namespace**
http://www.spase-group.org/data/schema
Annotations

Information which is explanatory or descriptive which is associated with another resource.

Diagram

Used by
Element
spase:Spase/spase:Annotation

Model
spase:ResourceID , spase:ResourceHeader , spase:ImageURL{0,1} , spase:AnnotationType , spase:PhenomenonType{0,1} ,
spase:ClassificationMethod{0,1} , spase:ConfidenceRating{0,1} , spase:TimeSpan* , spase:ObservationExtent* , spase:Extension*

Children
spase:AnnotationType , spase:ClassificationMethod , spase:ConfidenceRating , spase:Extension , spase:ImageURL,
spase:ObservationExtent , spase:PhenomenonType , spase:ResourceHeader , spase:ResourceID , spase:TimeSpan

Source

Complex Type spase:ObservationExtent

Namespace http://www.spase-group.org/data/schema

Annotations The spatial area encompassed by an observation.
Diagram

Used by
Element  
spase:Annotation/spase:ObservationExtent

Model
spase:ObservedRegion{0,1} , spase:StartLocation , spase:StopLocation , spase:Note*

Children
spase:Note , spase:ObservedRegion , spase:StartLocation , spase:StopLocation

Source
<xsd:complexType name= "ObservationExtent" >
  <xsd:annotation>
    <xsd:documentation xml:lang= "en" > The spatial area encompassed by an observation. </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name= "ObservedRegion" type= "spase:Region" minOccurs= "0" maxOccurs= "1" />
    <xsd:element name= "StartLocation" type= "spase:StartLocation" minOccurs= "1" maxOccurs= "1" />
    <xsd:element name= "StopLocation" type= "spase:StopLocation" minOccurs= "1" maxOccurs= "1" />
    <xsd:element name= "Note" type= "spase:Note" minOccurs= "0" maxOccurs= "unbounded" />
  </xsd:sequence>
</xsd:complexType>

Complex Type spase:typeValue

Namespace
http://www.spase-group.org/data/schema

Annotations
<xsd:annotation>
  <xsd:documentation xml:lang= "en" > A description of the standardized measurement increments in which a value is specified. The description is represented as a mathematical phrase. Units should be represented by widely accepted representation. For example, units should conform to the International System of Units (SI) which is maintained by BIPM (Bureau International des Poids et Mesures (see <http://www.bipm.fr/> ) when appropriate or use tokens like "Re" to represent units of the Radius of the Earth. Within a phrase the circumflex (^) is used to indicate a power, a star (*) is used to indicate multiplication and a slash (/) division. When symbols are not separated by a mathematical operator, multiplication is assumed. Symbols for base units can be found at: <http://www.bipm.fr/en/si/si_brochure/chapter2/2-1/#symbols> and those for common derived units can be found at: <http://www.bipm.fr/en/si/derived_units/2-2-2.html></xsd:documentation>
</xsd:annotation>

Diagram

Type  
extension of xsd:double

Attributes
QName  
type: string
Use  
optional

Units  
 xsd:string
optional

UnitsConversion  
 xsd:string
optional

The multiplicative factor for converting a unit into International System of Units (SI) units. The factor is expressed in the form "number > x", where "number" is a
QName | Type | Use
--- | --- | ---
numerical value and "x" is the appropriate SI units. The basic SI units are enumerated: m (meter), N (newton), kg (kilogram), Pa (pascal), s (second), Hz (hertz), A (ampere), V (volt), K (kelvin), W (watt), rad (radian), J (joule), sr (steradian), C (coulomb), T (tesla), ohm (ohm), mho (mho or seimens), H (henry), and F (farad). Two useful units which are not SI units are: degree (angle), and unitless (no units). An example is: "1.0E-9>T" which converts the units, presumable nT, to Tesla. Another example is: "1.0e+3>m/s" which converts a velocity expressed in kilometers per second to meters per second. </xsd:documentation>
Simple Type(s)

Simple Type spase:Version

Namespace http://www.spase-group.org/data/schema

Annotations
Version number.

Diagram

Type
restriction of xsd:string

Facets
enumeration 2.3.1

Used by
Element
spase:Spase/spase:Version

Source

Simple Type spase:ResourceID

Namespace http://www.spase-group.org/data/schema

Annotations
A Resource ID is a URI that has the form "scheme://authority/path" where "scheme" is "spase" for those resources administered through the SPASE framework, "authority" is the unique identifier for the resource provider registered within the SPASE framework and "path" is the unique identifier of the resource within the context of the "authority". The resource ID must be unique within the SPASE framework.

Diagram

Type
xsd:string

Used by
Elements

Source

Simple Type spase:ResourceName

Namespace http://www.spase-group.org/data/schema

Annotations
A short textual description of a resource which may be useful when read by a person.

Diagram

Type
xsd:string
<table>
<thead>
<tr>
<th>Simple Type</th>
<th>spase:AlternateName</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td>Annotations</td>
<td>An alternative or shortened name used to refer to a resource. This includes acronyms, expanded names or a synonym for a resource.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="AltName.png" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>xsd:string</td>
</tr>
<tr>
<td>Used by</td>
<td>Element spase:ResourceHeader/spase:AlternateName</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:simpleType name=&quot;AlternateName&quot;&gt;</code><a href="">xsd:annotation</a>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;An alternative or shortened name used to refer to a resource. This includes acronyms, expanded names or a synonym for a resource.&lt;/xsd:documentation&gt;&lt;/xsd:annotation&gt;&lt;xsd:restriction base=&quot;xsd:string&quot;/&gt;`<a href="">xsd:simpleType</a></td>
</tr>
<tr>
<td>Schema location</td>
<td>file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Simple Type</th>
<th>spase:DOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td>Annotations</td>
<td>A digital object identifier (DOI) is a unique alphanumeric string assigned by a registration agency (the International DOI Foundation) to identify content and provide a persistent link to its location on the Internet.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="DOI.png" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>xsd:string</td>
</tr>
<tr>
<td>Used by</td>
<td>Element spase:ResourceHeader/spase:DOI</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:simpleType name=&quot;DOI&quot;&gt;</code><a href="">xsd:annotation</a>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;A digital object identifier (DOI) is a unique alphanumeric string assigned by a registration agency (the International DOI Foundation) to identify content and provide a persistent link to its location on the Internet.&lt;/xsd:documentation&gt;&lt;/xsd:annotation&gt;&lt;xsd:restriction base=&quot;xsd:string&quot;/&gt;`<a href="">xsd:simpleType</a></td>
</tr>
<tr>
<td>Schema location</td>
<td>file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Simple Type</th>
<th>spase:ReleaseDate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td>Annotations</td>
<td>The date and time when a resource is made available. The availability of a resource coincides with the release of a resource description. If the Release Date is specified as a future date then it indicates that resource should not be made available until that time. However, this is only advisory and in practice the Release date should be the actual date the resource description was published.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="ReleaseDate.png" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>xsd:dateTime</td>
</tr>
<tr>
<td>Used by</td>
<td>Element spase:ResourceHeader/spase:ReleaseDate</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:simpleType name=&quot;ReleaseDate&quot;&gt;</code><a href="">xsd:annotation</a>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;The date and time when a resource is made available. The availability of a resource coincides with the release of a resource description. If the Release Date is specified as a future date then it indicates that resource should not be made available until that time. However, this is only advisory and in practice the Release date should be the actual date the resource description was published.&lt;/xsd:documentation&gt;&lt;/xsd:annotation&gt;&lt;xsd:restriction base=&quot;xsd:dateTime&quot;/&gt;`<a href="">xsd:simpleType</a></td>
</tr>
<tr>
<td>Schema location</td>
<td>file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>
Schema documentation for spase-2_3_1.xsd

<table>
<thead>
<tr>
<th>Type</th>
<th>xsd:dateTime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used by</td>
<td>Elements</td>
</tr>
<tr>
<td></td>
<td>spase:Granule/spase:ReleaseDate, spase:Person/spase:ReleaseDate, spase:ResourceHeader/spase:ReleaseDate, spase:RevisionEvent/spase:ReleaseDate</td>
</tr>
<tr>
<td>Source</td>
<td>&lt;xsd:simpleType name=&quot;ReleaseDate&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;The date and time when a resource is made available. The availability of a resource coincides with the release of a resource description. If the Release Date is specified as a future date then it indicates that resource should not be made available until that time. However, this is only advisory and in practice the Release Date should be the actual date the resource description was published.&lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:restriction base=&quot;xsd:dateTime&quot;/&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:simpleType&gt;</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

Simple Type spase:Note

| Namespace | http://www.spase-group.org/data/schema |
| Annotations | Information which is useful or important for the understanding of a value or parameter. |
| Diagram | ![Diagram](note-diagram.png) |
| Type | xsd:string |
| Used by | Elements |
| Source | <xsd:simpleType name="Note"> |
|            | <xsd:annotation> |
|            | <xsd:documentation xml:lang="en">Information which is useful or important for the understanding of a value or parameter.</xsd:documentation> |
|            | </xsd:annotation> |
|            | <xsd:restriction base="xsd:string"/> |
|            | </xsd:simpleType> |
| Schema location | file:C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd |

Simple Type spase:ExpirationDate

| Namespace | http://www.spase-group.org/data/schema |
| Annotations | The date and time when a resource is no longer available. If the Expiration Date is specified then it indicates that resource should not be made available after that time. However, this is only advisory and in practice a resource description should be unpublished to eliminate access to a resource. |
| Diagram | ![Diagram](expiration-diagram.png) |
| Type | xsd:dateTime |
| Used by | Elements |
|            | spase:Granule/spase:ExpirationDate, spase:ResourceHeader/spase:ExpirationDate |
| Source | <xsd:simpleType name="ExpirationDate"> |
|            | <xsd:annotation> |
|            | <xsd:documentation xml:lang="en">The date and time when a resource is no longer available. If the Expiration Date is specified then it indicates that resource should not be made available after that time. However, this is only advisory and in practice a resource description should be unpublished to eliminate access to a resource.</xsd:documentation> |
|            | </xsd:annotation> |
|            | <xsd:restriction base="xsd:dateTime"/> |
|            | </xsd:simpleType> |
| Schema location | file:C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd |

Simple Type spase:Description

| Namespace | http://www.spase-group.org/data/schema |
| Annotations | A narrative explanation with detail appropriate |
for the item it describes. For example a description of data resource should include discussions of the main quantities in the resource, possible uses and search terms. A description should also include whether any corrections (i.e., geometry, inertial) have been applied to the resource.

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>xsd:string</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used by</td>
<td>Elements</td>
</tr>
</tbody>
</table>

Source

```xml
<xs:simpleType name="Description">
  <xs:annotation>
    <xs:documentation xml:lang="en">A narrative explanation with detail appropriate for the item it describes. For example a description of data resource should include discussions of the main quantities in the resource, possible uses and search terms. A description should also include whether any corrections (i.e., geometry, inertial) have been applied to the resource.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string"/>
</xs:simpleType>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Simple Type spase:Acknowledgement**

Namespace

http://www.spase-group.org/data/schema

Annotations

The individual, group or organization which should be acknowledged when the data is used in or contributes to a presentation or publication.

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>xsd:string</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used by</td>
<td>Elements</td>
</tr>
</tbody>
</table>

Source

```xml
<xs:simpleType name="Acknowledgement">
  <xs:annotation>
    <xs:documentation xml:lang="en">The individual, group or organization which should be acknowledged when the data is used in or contributes to a presentation or publication.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string"/>
</xs:simpleType>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Simple Type spase:Authors**

Namespace

http://www.spase-group.org/data/schema

Annotations

A list of individuals or organizations who prepared a work for publication. Separate multiple names with ";". When an author is a person use "last,first[,middle]" format. Including a middle name is optional.

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>xsd:string</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used by</td>
<td>Element</td>
</tr>
<tr>
<td></td>
<td>spase:PublicationInfo/spase:Authors</td>
</tr>
</tbody>
</table>

Source

```xml
<xs:simpleType name="Authors">
  <xs:annotation>
    <xs:documentation xml:lang="en">A list of individuals or organizations who prepared a work for publication. Separate multiple names with ";". When an author is a person use "last,first[,middle]" format. Including a middle name is optional.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string"/>
</xs:simpleType>
```

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
Simple Type `spase:PublicationDate`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>The date that the work was first published.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>xsd:dateTime</td>
</tr>
<tr>
<td>Used by</td>
<td>Element <code>spase:PublicationInfo/spase:PublicationDate</code></td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:simpleType name=&quot;PublicationDate&quot;&gt;</code><a href="">xsd:annotation</a>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;The date that the work was first published.&lt;/xsd:documentation&gt;&lt;xsd:restriction base=&quot;xsd:dateTime&quot;/&gt;&lt;/xsd:simpleType&gt;`</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

Simple Type `spase:PublishedBy`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>The name or the company, organization or individual that published the work.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>xsd:string</td>
</tr>
<tr>
<td>Used by</td>
<td>Element <code>spase:PublicationInfo/spase:PublishedBy</code></td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:simpleType name=&quot;PublishedBy&quot;&gt;</code><a href="">xsd:annotation</a>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;The name or the company, organization or individual that published the work.&lt;/xsd:documentation&gt;&lt;xsd:restriction base=&quot;xsd:string&quot;/&gt;&lt;/xsd:simpleType&gt;`</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

Simple Type `spase:Agency`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>The name of an organization that provides a service or funding for specific projects.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>xsd:string</td>
</tr>
<tr>
<td>Used by</td>
<td>Element <code>spase:Funding/spase:Agency</code></td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:simpleType name=&quot;Agency&quot;&gt;</code><a href="">xsd:annotation</a>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;The name of an organization that provides a service or funding for specific projects.&lt;/xsd:documentation&gt;&lt;xsd:restriction base=&quot;xsd:string&quot;/&gt;&lt;/xsd:simpleType&gt;`</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

Simple Type `spase:Project`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>The name of an organized activity with a stated goal or objective.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>xsd:string</td>
</tr>
<tr>
<td>Used by</td>
<td>Element <code>spase:Funding/spase:Project</code></td>
</tr>
</tbody>
</table>
### Simple Type `spase:AwardNumber`

**Namespace**  
http://www.spase-group.org/data/schema

**Annotations**  
The identifying information assigned to the financial support (funding) of a project.

**Diagram**

![Diagram](image)

**Type**  
`xsd:string`

**Used by**  
Element `spase:Funding/spase:AwardNumber`

**Source**

```xml
<xs:simpleType name="AwardNumber">
  <xs:annotation>
    <xs:documentation xml:lang="en">The identifying information assigned to the financial support (funding) of a project.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string"/>
</xs:simpleType>
```

**Schema Location**  
file://C:/Projects/work/spase-data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Simple Type `spase:PersonID`

**Namespace**  
http://www.spase-group.org/data/schema

**Annotations**  
The identifier assigned to a Person description.

**Diagram**

![Diagram](image)

**Type**  
`xsd:string`

**Used by**  
Element `spase:Contact/spase:PersonID`

**Source**

```xml
<xs:simpleType name="PersonID">
  <xs:annotation>
    <xs:documentation xml:lang="en">The identifier assigned to a Person description.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string"/>
</xs:simpleType>
```

**Schema Location**  
file://C:/Projects/work/spase-data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Simple Type `spase:Role`

**Namespace**  
http://www.spase-group.org/data/schema

**Annotations**  
Identifiers for the assigned or assumed function or position of an individual.

**Diagram**

![Diagram](image)

**Type**  
restriction of `xsd:string`

**Facets**

- **enumeration**  
  **ArchiveSpecialist**  
  An individual who is an expert on a collection of resources and may also be knowledgeable of the phenomenon and related physics represented by the resources. This includes librarians, curators, archive scientists and other experts.

- **enumeration**  
  **CoInvestigator**  
  An individual who is a scientific peer and major participant in an investigation.

- **enumeration**  
  **CoPI**  
  An individual who is peer of a principal investigator and is an administrative and scientific lead for an investigation.

- **enumeration**  
  **Contributor**  
  An entity responsible for making contributions
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DataProducer</td>
<td>An individual who generated the resource and is familiar with its provenance.</td>
</tr>
<tr>
<td>DeputyPI</td>
<td>An individual who is an administrative or scientific leader for an investigation operating under the supervision of a Principal Investigator.</td>
</tr>
<tr>
<td>Developer</td>
<td>The developer of a system to imitate a situation or process.</td>
</tr>
<tr>
<td>FormerPI</td>
<td>An individual who had served as the administrative and scientific lead for an investigation, but no longer assumes that role.</td>
</tr>
<tr>
<td>GeneralContact</td>
<td>An individual who can provide information on a range of subjects or who can direct you to a domain expert.</td>
</tr>
<tr>
<td>HostContact</td>
<td>An individual who can provide specific information with regard to the hosting of a resource or supporting software.</td>
</tr>
<tr>
<td>MetadataContact</td>
<td>An individual who can affect a change in the metadata describing a resource.</td>
</tr>
<tr>
<td>PrincipalInvestigator</td>
<td>An individual who is the administrative and scientific lead for an investigation.</td>
</tr>
<tr>
<td>ProjectEngineer</td>
<td>An engineer tasked with the full suite of responsibilities as a project transitions through requirements derivation and preliminary design into controlled hardware development, assembly and environmental testing. The Project Engineer manages a team while developing the cadence of hardware manufacturing and assembly until instrument deployment and through the end of the mission.</td>
</tr>
<tr>
<td>ProjectManager</td>
<td>An individual whose major task entails direction of project team members such that the full organization achieves the objectives and goals of the mission. The Project Manager is expected to provide clear guidance and resolve conflicts and issues while maintaining focus on achieving mission success.</td>
</tr>
<tr>
<td>ProjectScientist</td>
<td>An individual who is an expert in the phenomenon and related physics explored by the project. A project scientist may also have a managerial role within the project.</td>
</tr>
<tr>
<td>Publisher</td>
<td>An individual, organization, institution or government department responsible for the production and dissemination of a document.</td>
</tr>
<tr>
<td>Scientist</td>
<td>An individual who is an expert in the phenomenon and related physics represented by the resource.</td>
</tr>
<tr>
<td>TeamLeader</td>
<td>An individual who is the designated leader of an investigation.</td>
</tr>
<tr>
<td>TeamMember</td>
<td>An individual who is a major participant in an investigation.</td>
</tr>
<tr>
<td>TechnicalContact</td>
<td>An individual who can provide specific information with regard to the resource or supporting software.</td>
</tr>
<tr>
<td>User</td>
<td>An individual who utilizes a resource or service.</td>
</tr>
</tbody>
</table>

Used by Element: spase:Contact/spase:Role

Source:
```xml
<xsd:simpleType name="Role">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for the assigned or assumed function or position of an individual.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="ArchiveSpecialist">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual who is an expert on a collection of resources and may also be knowledgeable of the phenomenon and related physics represented by the resources. This includes librarians, curators, archive scientists and other experts.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="DataProducer">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual who generated the resource and is familiar with its provenance.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="DeputyPI">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual who is an administrative or scientific leader for an investigation operating under the supervision of a Principal Investigator.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Developer">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The developer of a system to imitate a situation or process.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="FormerPI">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual who had served as the administrative and scientific lead for an investigation, but no longer assumes that role.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="GeneralContact">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual who can provide information on a range of subjects or who can direct you to a domain expert.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="HostContact">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual who can provide specific information with regard to the hosting of a resource or supporting software.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="MetadataContact">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual who can affect a change in the metadata describing a resource.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="PrincipalInvestigator">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual who is the administrative and scientific lead for an investigation.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="ProjectEngineer">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An engineer tasked with the full suite of responsibilities as a project transitions through requirements derivation and preliminary design into controlled hardware development, assembly and environmental testing. The Project Engineer manages a team while developing the cadence of hardware manufacturing and assembly until instrument deployment and through the end of the mission.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="ProjectManager">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual whose major task entails direction of project team members such that the full organization achieves the objectives and goals of the mission. The Project Manager is expected to provide clear guidance and resolve conflicts and issues while maintaining focus on achieving mission success.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="ProjectScientist">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual who is an expert in the phenomenon and related physics explored by the project. A project scientist may also have a managerial role within the project.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Publisher">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual, organization, institution or government department responsible for the production and dissemination of a document.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Scientist">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual who is an expert in the phenomenon and related physics represented by the resource.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="TeamLeader">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual who is the designated leader of an investigation.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="TeamMember">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual who is a major participant in an investigation.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="TechnicalContact">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual who can provide specific information with regard to the resource or supporting software.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="User">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual who utilizes a resource or service.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```
<xsd:enumeration value="CoInvestigator">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who is a scientific peer and major participant in an investigation.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="CoPI">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who is peer of a principal investigator and is an administrative and scientific lead for an investigation.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Contributor">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An entity responsible for making contributions to the content of the resource.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="DataProducer">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who generated the resource and is familiar with its provenance.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="DeputyPI">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who is an administrative or scientific leader for an investigation operating under the supervision of a Principal Investigator.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Developer">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The developer of a system to imitate a situation or process.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="FormerPI">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who had served as the administrative and scientific lead for an investigation, but no longer assumes that role.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="GeneralContact">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who can provide information on a range of subjects or who can direct you to a domain expert.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="HostContact">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who can provide specific information with regard the hosting of a resource or supporting software.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="MetadataContact">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who can affect a change in the metadata describing a resource.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="PrincipalInvestigator">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who is the administrative and scientific lead for an investigation.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="ProjectEngineer">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An engineer tasked with the full suite of responsibilities as a project transitions through requirements derivation and preliminary design into controlled hardware development, assembly and environmental testing. The Project Engineer manages a team while developing the cadence of hardware manufacturing and assembly until instrument deployment and through the end of the mission.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="ProjectManager">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual whose major task entails direction of project team members such that the full organization achieves the objectives and goals of the mission.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
The Project Manager is expected to provide clear guidance and resolve conflicts and issues while maintaining focus on achieving mission success.

```
<xs:annotation>
  <xs:documentation xml:lang="en">An individual who is an expert in the phenomenon and related physics explored by the project. A project scientist may also have a managerial role within the project.</xs:documentation>
</xs:annotation>
```

```
<xs:annotation>
  <xs:documentation xml:lang="en">An individual, organization, institution or government department responsible for the production and dissemination of a document.</xs:documentation>
</xs:annotation>
```

```
<xs:annotation>
  <xs:documentation xml:lang="en">An individual who is an expert in the phenomenon and related physics represented by the resource.</xs:documentation>
</xs:annotation>
```

```
<xs:annotation>
  <xs:documentation xml:lang="en">An individual who is the designated leader of an investigation.</xs:documentation>
</xs:annotation>
```

```
<xs:annotation>
  <xs:documentation xml:lang="en">An individual who is a major participant in an investigation.</xs:documentation>
</xs:annotation>
```

```
<xs:annotation>
  <xs:documentation xml:lang="en">An individual who can provide specific information with regard to the resource or supporting software.</xs:documentation>
</xs:annotation>
```

```
<xs:annotation>
  <xs:documentation xml:lang="en">An individual who utilizes a resource or service.</xs:documentation>
</xs:annotation>
```

```
<xs:simpleType name="StartDate">
  <xs:annotation>
    <xs:documentation xml:lang="en">The specification of a starting point in time.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:dateTime"/>
</xs:simpleType>
```

```
<xs:simpleType name="StopDate">
  <xs:annotation>
    <xs:documentation xml:lang="en">The specification of a starting point in time.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:dateTime"/>
</xs:simpleType>
```
Annotations | The specification of a stopping point in time.
---|---
Diagram | ![Diagram](image.png)
Type | `xsd:dateTime`
Used by Elements | `spase:Contact/spase:StopDate, spase:Granule/spase:StopDate, spase:OperatingSpan/spase:StopDate, spase:TimeSpan/spase:StopDate`
Source | `<xsd:simpleType name="StopDate">  
<xsd:annotation>  
<xsd:documentation xml:lang="en">The specification of a stopping point in time.</xsd:documentation>  
</xsd:annotation>  
<xsd:restriction base="xsd:dateTime"/>  
</xsd:simpleType>`
Schema location | `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

**Simple Type `spase:Name`**

Namespace | `http://www.spase-group.org/data/schema`
Annotations | A language unit by which a person or thing is known.
Diagram | ![Diagram](image.png)
Type | `xsd:string`
Source | `<xsd:simpleType name="Name">  
<xsd:annotation>  
<xsd:documentation xml:lang="en">A language unit by which a person or thing is known.</xsd:documentation>  
</xsd:annotation>  
<xsd:restriction base="xsd:string"/>  
</xsd:simpleType>`
Schema location | `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

**Simple Type `spase:URL`**

Namespace | `http://www.spase-group.org/data/schema`
Annotations | Uniform Resource Locator (URL) is the global address of documents and other resources on the World Wide Web. The first part of the address indicates what protocol to use, and the second part specifies the IP address or the domain name where the resource is located followed by the pathname of the resource. A URL is specified in the form protocol://server.domain.name:port/pathname. Example protocols are HTTP or FTP, server domain name is the Internet name.
Diagram | ![Diagram](image.png)
Type | `xsd:string`
Source | `<xsd:simpleType name="URL">  
<xsd:annotation>  
<xsd:documentation xml:lang="en">Uniform Resource Locator (URL) is the global address of documents and other resources on the World Wide Web. The first part of the address indicates what protocol to use, and the second part specifies the IP address or the domain name where the resource is located followed by the pathname of the resource. A URL is specified in the form protocol://server.domain.name:port/pathname. Example protocols are HTTP or FTP, server domain name is the Internet name.</xsd:documentation>  
</xsd:annotation>  
<xsd:restriction base="xsd:string"/>  
</xsd:simpleType>`
Schema location | `file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`
### Simple Type `spase:Language`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>The two character indicator of language selected from the ISO 639-1 codes for the representation of names of languages.</td>
</tr>
</tbody>
</table>

#### Diagram

- Language
- `xsd:string`

#### Used by
- Elements
  - `spase:AccessURL/spase:Language`
  - `spase:InformationURL/spase:Language`

#### Source

```xml
<xsd:simpleType name="Language">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The two character indicator of language selected from the ISO 639-1 codes for the representation of names of languages.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

### Simple Type `spase:AssociationID`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>The resource identifier for a resource with which this resource is closely associated.</td>
</tr>
</tbody>
</table>

#### Diagram

- AssociationID
- `xsd:string`

#### Used by
- Element
  - `spase:Association/spase:AssociationID`

#### Source

```xml
<xsd:simpleType name="AssociationID">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The resource identifier for a resource with which this resource is closely associated.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

### Simple Type `spase:AssociationType`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>Identifiers for resource associations.</td>
</tr>
</tbody>
</table>

#### Diagram

- AssociationType
- `xsd:string`

#### Facets

- `enumeration` ChildEventOf: A descendant or caused by another resource.
- `enumeration` DerivedFrom: A transformed or altered version of a resource instance.
- `enumeration` ObservedBy: Detected or originating from another resource.
- `enumeration` Other: Not classified with more specific terms. The context of its usage may be described in related text.
- `enumeration` PartOf: A portion of a larger resource.
- `enumeration` RevisionOf: A modified version of a resource instance.

#### Used by
- Element
  - `spase:Association/spase:AssociationType`

#### Source

```xml
<xsd:simpleType name="AssociationType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for resource associations.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="ChildEventOf">A descendant or caused by another resource.</xsd:enumeration>
    <xsd:enumeration value="DerivedFrom">A transformed or altered version of a resource instance.</xsd:enumeration>
    <xsd:enumeration value="ObservedBy">Detected or originating from another resource.</xsd:enumeration>
    <xsd:enumeration value="Other">Not classified with more specific terms. The context of its usage may be described in related text.</xsd:enumeration>
    <xsd:enumeration value="PartOf">A portion of a larger resource.</xsd:enumeration>
    <xsd:enumeration value="RevisionOf">A modified version of a resource instance.</xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```
Simple Type spase:PriorID

Namespace http://www.spase-group.org/data/schema

Annotations The resource identifier for a resource that is superseded or replaced by a resource.

Diagram

Type xsd:string

Used by Elements spase:Granule/spase:PriorID, spase:ResourceHeader/spase:PriorID

Source

```xml
<xsd:simpleType name="PriorID">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The resource identifier for a resource that is superseded or replaced by a resource.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Simple Type spase:RepositoryID

Namespace http://www.spase-group.org/data/schema

Annotations The identifier of a Repository resource.

Diagram

Type xsd:string

Used by Element spase:AccessInformation/spase:RepositoryID

Source

```xml
<xsd:simpleType name="RepositoryID">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The identifier of a Repository resource.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
**Simple Type spase:Availability**

**Namespace** http://www.spase-group.org/data/schema

**Annotations** Identifiers for indicating the method or service which may be used to access the resource.

**Diagram**

**Type** restriction of xsd:string

**Facets**

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offline</td>
<td>Not directly accessible electronically. This includes resources which may be moved to an on-line status in response to a given request.</td>
</tr>
<tr>
<td>Online</td>
<td>Directly accessible electronically.</td>
</tr>
</tbody>
</table>

**Used by**

Element

spase:AccessInformation/spase:Availability

**Source**

```xml
<xsd:simpleType name="Availability">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for indicating the method or service which may be used to access the resource. </xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="Offline">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Not directly accessible electronically. This includes resources which may be moved to an on-line status in response to a given request.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Online">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Directly accessible electronically.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```

**Schema location**

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Simple Type spase:AccessRights**

**Namespace** http://www.spase-group.org/data/schema

**Annotations** Identifiers for permissions granted or denied by the host of a product to allow other users to access and use the resource.

**Diagram**

**Type** restriction of xsd:string

**Facets**

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>Access is granted to everyone.</td>
</tr>
<tr>
<td>PartiallyRestricted</td>
<td>Some portions of the resource have restricted access, the rest is open access. Typically this is for accumulating data collections where some data is under review before being publicly released.</td>
</tr>
<tr>
<td>Restricted</td>
<td>Access to the product is regulated and requires some form of identification.</td>
</tr>
</tbody>
</table>

**Used by**

Element

spase:AccessInformation/spase:AccessRights

**Source**

```xml
<xsd:simpleType name="AccessRights">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for permissions granted or denied by the host of a product to allow other users to access and use the resource. </xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="Open">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Access is granted to everyone.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="PartiallyRestricted">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Some portions of the resource have restricted access, the rest is open access. Typically this is for accumulating data collections where some data is under review before being publicly released.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Restricted">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Access to the product is regulated and requires some form of identification.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```
**Simple Type spase:Style**

**Namespace**  http://www.spase-group.org/data/schema  

**Annotations**  Identifiers for the manner in which a response from a URL is presented.

**Diagram**  

**Type**  restriction of xsd:string

**Facets**

- **enumeration**  File  
  Access to a file containing the data.

- **enumeration**  HAPI  
  A Heliophysics Application Programmer Interface (HAPI) specification compliant access point.

- **enumeration**  Listing  
  A listing of files - either through FTP or HTTP.

- **enumeration**  Overview  
  A web page that provides and overview of available data and links.

- **enumeration**  Search  
  A web search interface that requires additional input.

- **enumeration**  Template  
  A URI template that contains special fields as defined in URI Template specification <http://tsds.org/uri_templates>.

- **enumeration**  WebService  
  A Web-based service that uses SOAP, WSDL or UDDI open standards.

**Source**

```xml
<xsd:simpleType name="Style">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for the manner in which a response from a URL is presented.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="File">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Access to a file containing the data.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="HAPI">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A Heliophysics Application Programmer Interface (HAPI) specification compliant access point.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Listing">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A listing of files - either through FTP or HTTP.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Overview">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A web page that provides and overview of available data and links.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Search">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A web search interface that requires additional input.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Template">
      <xsd:annotation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```
<xsd:annotation>
  <xsd:documentation xml:lang="en">A URI template that contains special fields as defined in URI Template specification <http://tsds.org/uri_templates>.</xsd:documentation>
</xsd:annotation>

<xsd:enumeration value="WebService">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A Web-based service that uses SOAP, WSDL or UDDI open standards.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
</xsd:simpleType>

**Simple Type** **spase:ProductKey**

*Namespace* | http://www.spase-group.org/data/schema
---|---
*Annotations* | The key (identifier) of the resource within a Repository. This is a local identifier which can be used to retrieve or locate the resource.
*Diagram* | ![Diagram](#)
*Type* | xsd:string
*Used by* | Element
*Source* | `<xsd:simpleType name="ProductKey">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The key (identifier) of the resource within a Repository. This is a local identifier which can be used to retrieve or locate the resource.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>`

**Simple Type** **spase:Format**

*Namespace* | http://www.spase-group.org/data/schema
---|---
*Annotations* | Identifiers for data organized according to preset specifications.
*Diagram* | ![Diagram](#)
*Type* | restriction of xsd:string
*Facets* | 
<p>| enumeration | AVI | Audio Video Interleave (AVI) a digital format for movies that conforms to the Microsoft Windows Resource Interchange File Format (RIFF). |
| enumeration | Binary | A direct representation of the bits which may be stored in memory on a computer. |
| enumeration | CDF | Common Data Format (CDF). A binary storage format developed at Goddard Space Flight Center (GSFC). |
| enumeration | CEF | Cluster Exchange Format (CEF) is a self-documenting ASCII format designed for the exchange of data. There are two versions of CEF which are not totally compatible. |
| enumeration | CEF1 | Cluster Exchange Format (CEF), version 1, is a self-documenting ASCII format designed for the exchange of data and introduced for Cluster Active Archive. Compared to version 1, the metadata description of vectors and tensors is different. |
| enumeration | CEF2 | Cluster Exchange Format (CEF), version 2, is a self-documenting ASCII format designed for the exchange of data and introduced for Cluster Active Archive. |
| enumeration | CSV | Comma Separated Value - A data exchange format |</p>
<table>
<thead>
<tr>
<th>enumeration</th>
<th>Excel</th>
<th>A Microsoft spreadsheet format used to hold a variety of data in tables which can include calculations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>FITS</td>
<td>Flexible Image Transport System (FITS) is a digital format primarily designed to store scientific data sets consisting of multi-dimensional arrays (1-D spectra, 2-D images or 3-D data cubes) and 2-dimensional tables containing rows and columns of data.</td>
</tr>
<tr>
<td>enumeration</td>
<td>GIF</td>
<td>Graphic Interchange Format (GIF) first introduced in 1987 by CompuServe. GIF uses LZW compression and images are limited to 256 colours.</td>
</tr>
<tr>
<td>enumeration</td>
<td>HDF</td>
<td>Hierarchical Data Format</td>
</tr>
<tr>
<td>enumeration</td>
<td>HDF4</td>
<td>Hierarchical Data Format, Version 4</td>
</tr>
<tr>
<td>enumeration</td>
<td>HDF5</td>
<td>Hierarchical Data Format, Version 5</td>
</tr>
<tr>
<td>enumeration</td>
<td>HTML</td>
<td>A text file containing structured information represented in the HyperText Mark-up Language (HTML). See <a href="http://www.w3.org/MarkUp/">http://www.w3.org/MarkUp/</a></td>
</tr>
<tr>
<td>enumeration</td>
<td>Hardcopy</td>
<td>A permanent reproduction, or copy in the form of a physical object, of any media suitable for direct use by a person.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Hardcopy.Film</td>
<td>An image recording medium on which usually a &quot;negative&quot; analog image is registered. A &quot;positive&quot; image can be recovered or reproduced from film, which is usually made of flexible materials for ease of storage and transportation.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Hardcopy.Microfiche</td>
<td>A sheet of microfilm on which many pages of material have been photographed; a magnification system is used to read the material.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Hardcopy.Microfilm</td>
<td>Film rolls on which materials are photographed at greatly reduced size; a magnification system is used to read the material.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Hardcopy.Photograph</td>
<td>An image (positive or negative) registered on a piece of photo-sensitive paper</td>
</tr>
<tr>
<td>enumeration</td>
<td>Hardcopy.PhotographicPlate</td>
<td>A rigid (typically glass) medium that functions like film. Its rigidity is for guarding against image distortion due to medium deformation (caused by heat and humidity). Photographic plates are often used for astronomical photography.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Hardcopy.Print</td>
<td>A sheet of any written or printed material which may include notes or graphics. Multiple printed pages may be bound into a manuscript or book.</td>
</tr>
<tr>
<td>enumeration</td>
<td>IDFS</td>
<td>Instrument Data File Set (IDFS) is a set of files written in a prescribed format which contain data, timing data, and meta-data. IDFS was developed at Southwest Research Institute (SwRI).</td>
</tr>
<tr>
<td>enumeration</td>
<td>IDL</td>
<td>Interactive Data Language (IDL) save set. IDL is a proprietary format.</td>
</tr>
<tr>
<td>enumeration</td>
<td>JPEG</td>
<td>A binary format for still images defined by the Joint Photographic Experts Group</td>
</tr>
<tr>
<td>enumeration</td>
<td>JSON</td>
<td>Javascript Object Notation - A Lightweight data-interchange format.</td>
</tr>
<tr>
<td>enumeration</td>
<td>MATLAB_4</td>
<td>MATLAB Workspace save set, version 4. MAT-files are double-precision, binary, MATLAB format files. MATLAB is a proprietary product of The MathWorks.</td>
</tr>
<tr>
<td>enumeration</td>
<td>MATLAB_6</td>
<td>MATLAB Workspace save set, version 6. MAT-files are double-precision, binary, MATLAB format files. MATLAB is a proprietary product of The MathWorks.</td>
</tr>
<tr>
<td>enumeration</td>
<td>MATLAB_7</td>
<td>MATLAB Workspace save set, version 7. MAT-files are double-precision, binary, MATLAB format files. Version 7 includes data compression and Unicode encoding. MATLAB is a proprietary product of The MathWorks.</td>
</tr>
</tbody>
</table>
### Enums

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPEG</td>
<td>A digital format for movies defined by the Motion Picture Experts Group</td>
</tr>
<tr>
<td>NetCDF</td>
<td>Unidata Program Center's Network Common Data Form (NetCDF). A self-describing portable data format for array-oriented data access. See <a href="http://my.unidata.ucar.edu/content/software/netcdf">http://my.unidata.ucar.edu/content/software/netcdf</a></td>
</tr>
<tr>
<td>PDF</td>
<td>A document expressed in the Portable Document Format (PDF) as defined by Adobe.</td>
</tr>
<tr>
<td>PNG</td>
<td>A digital format for still images. Portable Network Graphics (PNG)</td>
</tr>
<tr>
<td>Postscript</td>
<td>A page description programming language created by Adobe Systems Inc. that is a device-independent industry standard for representing text and graphics.</td>
</tr>
<tr>
<td>TIFF</td>
<td>A binary format for still pictures. Tagged Image Format File (TIFF). Originally developed by Aldus and now controlled by Adobe.</td>
</tr>
<tr>
<td>Text</td>
<td>A sequence of characters which may have an imposed structure or organization.</td>
</tr>
<tr>
<td>Text.ASCII</td>
<td>Text in American Standard Code for Information Interchange (ASCII) which is an 7-bit character-coding scheme.</td>
</tr>
<tr>
<td>Text.Unicode</td>
<td>Text in multi-byte Unicode format.</td>
</tr>
<tr>
<td>VOTable</td>
<td>A proposed IVOA standard designed as a flexible storage and exchange format for tabular data.</td>
</tr>
<tr>
<td>XML</td>
<td>eXtensible Mark-up Language (XML). A structured format for representing information. See <a href="http://www.w3.org/XML/">http://www.w3.org/XML/</a></td>
</tr>
</tbody>
</table>

### Used by

```xml
<xsd:element name="Format">
  <xsd:documentation xml:lang="en">Identifiers for data organized according to preset specifications.</xsd:documentation>
</xsd:element>
```

```xml
<xsd:element name="audiovideo"/>
<xsd:element name="binary"/>
<xsd:element name="cdf"/>
<xsd:element name="cef"/>
```
Cluster Exchange Format (CEF) is a self-documenting ASCII format designed for the exchange of data. There are two versions of CEF which are not totally compatible.

CEF1: Cluster Exchange Format (CEF), version 1, is a self-documenting ASCII format designed for the exchange of data. The metadata contains information compatible with the ISTP recommendations for CDF.

CEF2: Cluster Exchange Format (CEF), version 2, is a self-documenting ASCII format designed for the exchange of data and introduced for Cluster Active Archive. Compared to version 1, the metadata description of vectors and tensors is different.

Comma Separated Value (CSV): A data exchange format defined by RFC 4180.

Microsoft Excel: A Microsoft spreadsheet format used to hold a variety of data in tables which can include calculations.

Flexible Image Transport System (FITS): A digital format primarily designed to store scientific data sets consisting of multi-dimensional arrays (1-D spectra, 2-D images or 3-D data cubes) and 2-dimensional tables containing rows and columns of data.

Hierarchical Data Format (HDF): A permanent reproduction, or copy in the form of a physical object, of any media suitable for direct use by a person.

Graphic Interchange Format (GIF): A compact image recording medium on which usually a "negative" analog image is registered. A "positive" image can be recovered or reproduced from film, which is usually made of flexible materials for ease of storage and transportation.

HyperText Markup Language (HTML): A text file containing structured information represented in the HyperText Mark-up Language (HTML). See http://www.w3.org/MarkUp/.

A negative image is a photographic image that is processed so that the image appears as a positive image. The negative is made by exposing film with an image, then processing it using chemical developers that develop the image. A positive image is a photograph or other image that has the same appearance as the negative but is a positive representation of the subject. This is in contrast to a negative, which is a negative representation of the subject.
<xsd:documentation xml:lang="en">A sheet of microfilm on which many pages of material have been photographed; a magnification system is used to read the material.</xsd:documentation>

<xsd:enumeration value="Hardcopy.Microfilm"/>

<xsd:documentation xml:lang="en">Film rolls on which materials are photographed at greatly reduced size; a magnification system is used to read the material.</xsd:documentation>

<xsd:enumeration value="Hardcopy.Photograph"/>

<xsd:documentation xml:lang="en">An image (positive or negative) registered on a piece of photo-sensitive paper</xsd:documentation>

<xsd:enumeration value="Hardcopy.PhotographicPlate"/>

<xsd:documentation xml:lang="en">A rigid (typically glass) medium that functions like film. Its rigidity is for guarding against image distortion due to medium deformation (caused by heat and humidity). Photographic plates are often used for astronomical photography.</xsd:documentation>

<xsd:enumeration value="Hardcopy.Print"/>

<xsd:documentation xml:lang="en">A sheet of any written or printed material which may include notes or graphics. Multiple printed pages may be bound into a manuscript or book.</xsd:documentation>

<xsd:enumeration value="IDFS"/>

<xsd:documentation xml:lang="en">Instrument Data File Set (IDFS) is a set of files written in a prescribed format which contain data, timing data, and meta-data. IDFS was developed at Southwest Research Institute (SwRI).</xsd:documentation>

<xsd:enumeration value="IDL"/>

<xsd:documentation xml:lang="en">Interactive Data Language (IDL) save set. IDL is a proprietary format.</xsd:documentation>

<xsd:enumeration value="JPEG"/>

<xsd:documentation xml:lang="en">A binary format for still images defined by the Joint Photographic Experts Group</xsd:documentation>

<xsd:enumeration value="JSON"/>

<xsd:documentation xml:lang="en">Javascript Object Notation - A lightweight data-interchange format.</xsd:documentation>

<xsd:enumeration value="MATLAB_4"/>

<xsd:documentation xml:lang="en">MATLAB Workspace save set, version 4. MAT-files are double-precision, binary, MATLAB format files. MATLAB is a proprietary product of The MathWorks.</xsd:documentation>

<xsd:enumeration value="MATLAB_6"/>

<xsd:documentation xml:lang="en">MATLAB Workspace save set, version 6. MAT-files are double-precision, binary, MATLAB format files. MATLAB is a proprietary product of The MathWorks.</xsd:documentation>

<xsd:enumeration value="MATLAB_7"/>

<xsd:documentation xml:lang="en">MATLAB Workspace save set, version 7. MAT-files are double-precision, binary, MATLAB format files. Version 7 includes data compression and Unicode encoding. MATLAB is a proprietary product of The MathWorks.</xsd:documentation>

<xsd:enumeration value="MPEG"/>

<xsd:documentation xml:lang="en">A digital format for movies defined by the Motion Picture Experts Group</xsd:documentation>

<xsd:enumeration value="NCAR"/>

Unidata Program Center's Network Common Data Form (NetCDF). A self-describing portable data format for array-oriented data access. See <http://my.unidata.ucar.edu/content/software/netcdf>

A page description programming language created by Adobe Systems Inc. that is a device-independent industry standard for representing text and graphics.

A digital format for still images. Portable Network Graphics (PNG)

A binary format for still pictures. Tagged Image File (TIFF). Originally developed by Aldus and now controlled by Adobe.

A sequence of characters which may have an imposed structure or organization.

A sequence of characters that adheres to American Standard Code for Information Interchange (ASCII) which is an 7-bit character-coding scheme.

Text in multi-byte Unicode format.


A proposed IVOA standard designed as a flexible storage and exchange format for tabular data.

eXtensible Mark-up Language (XML). A structured format for representing information. See <http://www.w3.org/XML/>
Simple Type spase:Encoding

Namespace http://www.spase-group.org/data/schema

Annotations Identifiers for unambiguous rules that establishes the representation of information within a file.

Diagram

Type restriction of xsd:string

Facets

- **enumeration** ASCII
  
  A sequence of characters that adheres to American Standard Code for Information Interchange (ASCII) which is an 7-bit character-coding scheme.

- **enumeration** BZIP2
  

- **enumeration** Base64
  
  A data encoding scheme whereby binary-encoded data is converted to printable ASCII characters. It is defined as a MIME content transfer encoding for use in Internet e-mail. The only characters used are the upper- and lower-case Roman alphabet characters (A-Z, a-z), the numerals (0-9), and the "+" and "+" symbols, with the "=" symbol as a special suffix (padding) code.

- **enumeration** GZIP
  

- **enumeration** None
  
  A lack or absence of anything.

- **enumeration** S3_BUCKET
  
  A container of objects that comply with the Amazon Simple Storage Service (S3) specifications. A bucket has a unique, user-assigned key (name). A bucket can contain any number of objects with an aggregate size of 5 gigabytes. A bucket may be accompanied by up to 2 kilobytes of metadata.

- **enumeration** TAR
  
  A file format used to collate collections of files into one larger file, for distribution or archiving, while preserving file system information such as user and group permissions, dates, and directory structures. The format was standardized by POSIX.1-1988 and later POSIX.1-2001.

- **enumeration** Unicode
  
  Text in multi-byte Unicode format.

- **enumeration** ZIP
  
  An open standard for compression which is a variation of the LZW method and was originally used in the PKZIP utility.

Used by

- **Element** spase:AccessInformation/spase:Encoding

Source

```xml
<xs:simpleType name="Encoding">
  <xs:annotation>
    <xs:documentation xml:lang="en">Identifiers for unambiguous rules that establishes the representation of information within a file.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string">
    <xs:enumeration value="ASCII">
      <xs:annotation>
        <xs:documentation xml:lang="en">A sequence of characters that adheres to American Standard Code for Information Interchange (ASCII) which is an 7-bit character-coding scheme.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="BZIP2">
      <xs:annotation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Base64">
      <xs:annotation>
        <xs:documentation xml:lang="en">A data encoding scheme whereby binary-encoded data is converted to printable ASCII characters. It is defined as a MIME content transfer encoding for use in Internet e-mail. The only characters used are the upper- and lower-case Roman alphabet characters (A-Z, a-z), the numerals (0-9), and the "+" and "+" symbols, with the "=" symbol as a special suffix (padding) code.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="GZIP">
      <xs:annotation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="None">
      <xs:annotation>
        <xs:documentation xml:lang="en">A lack or absence of anything.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="S3_BUCKET">
      <xs:annotation>
        <xs:documentation xml:lang="en">A container of objects that comply with the Amazon Simple Storage Service (S3) specifications. A bucket has a unique, user-assigned key (name). A bucket can contain any number of objects with an aggregate size of 5 gigabytes. A bucket may be accompanied by up to 2 kilobytes of metadata.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="TAR">
      <xs:annotation>
        <xs:documentation xml:lang="en">A file format used to collate collections of files into one larger file, for distribution or archiving, while preserving file system information such as user and group permissions, dates, and directory structures. The format was standardized by POSIX.1-1988 and later POSIX.1-2001.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Unicode">
      <xs:annotation>
        <xs:documentation xml:lang="en">Text in multi-byte Unicode format.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="ZIP">
      <xs:annotation>
        <xs:documentation xml:lang="en">An open standard for compression which is a variation of the LZW method and was originally used in the PKZIP utility.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```
| Schema documentation for spase-2_3_1.xsd |

```xml
<xsd:enumeration value="Base64">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A data encoding scheme whereby binary-encoded data is converted to printable ASCII characters. It is defined as a MIME content transfer encoding for use in Internet e-mail. The only characters used are the upper- and lower-case Roman alphabet characters (A-Z, a-z), the numerals (0-9), and the "*" and "/" symbols, with the "=" symbol as a special suffix (padding) code.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="GZIP">
  <xsd:annotation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="None">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A lack or absence of anything.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="S3_BUCKET">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A container of objects that comply with the Amazon Simple Storage Service (S3) specifications. A bucket has a unique, user-assigned key (name). A bucket can contain any number of objects with an aggregate size of 5 gigabytes. A bucket may be accompanied by up to 2 kilobytes of metadata.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="TAR">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A file format used to collate collections of files into one larger file, for distribution or archiving, while preserving file system information such as user and group permissions, dates, and directory structures. The format was standardized by POSIX.1-1988 and later POSIX.1-2001.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Unicode">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Text in multi-byte Unicode format.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="ZIP">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An open standard for compression which is a variation of the LZW method and was originally used in the PKZIP utility.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
```

### Simple Type `spase:Quantity`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>A value that describes a characteristic of a system.</td>
</tr>
<tr>
<td>Diagram</td>
<td>![Quantity]</td>
</tr>
<tr>
<td>Type</td>
<td><code>xsd:double</code></td>
</tr>
<tr>
<td>Used by</td>
<td><code>spase:DataExtent/spase:Quantity</code></td>
</tr>
</tbody>
</table>

### Simple Type `spase:Units`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>A description of the standardized measurement</td>
</tr>
</tbody>
</table>
increments in which a value is specified. The description is represented as a mathematical phrase. Units should be represented by widely accepted representation. For example, units should conform to the International System of Units (SI) which is maintained by BIPM (Bureau International des Poids et Mesures (see <http://www.bipm.fr/> ) when appropriate or use tokens like "Re" to represent units of the Radius of the Earth. Within a phrase the circumflex (^) is used to indicate a power, a star (*) is used to indicate multiplication and a slash (/) division. When symbols are not separated by a mathematical operator, multiplication is assumed. Symbols for base units can be found at: <http://www.bipm.fr/en/si/si_brochure/chapter2/2-1/#symbols> and those for common derived units can be found at: <http://www.bipm.fr/en/si/derived_units/2-2-2.html>

Diagram

Type xsd:string

Used by Elements


Source

<xsd:simpleType name="Units">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A description of the standardized measurement increments in which a value is specified. The description is represented as a mathematical phrase. Units should be represented by widely accepted representation. For example, units should conform to the International System of Units (SI) which is maintained by BIPM (Bureau International des Poids et Mesures (see <http://www.bipm.fr/> ) when appropriate or use tokens like "Re" to represent units of the Radius of the Earth. Within a phrase the circumflex (^) is used to indicate a power, a star (*) is used to indicate multiplication and a slash (/) division. When symbols are not separated by a mathematical operator, multiplication is assumed. Symbols for base units can be found at: <http://www.bipm.fr/en/si/si_brochure/chapter2/2-1/#symbols> and those for common derived units can be found at: <http://www.bipm.fr/en/si/derived_units/2-2-2.html></xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base= "xsd:string" />
</xsd:simpleType>

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Simple Type spase:Per

Namespace http://www.spase-group.org/data/schema

Annotations The time interval over which a characterization applies. For example, the number of bytes generated each day.

Diagram

Type xsd:duration

Used by Element spase:DataExtent/spase:Per

Source

<xsd:simpleType name="Per">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The time interval over which a characterization applies. For example, the number of bytes generated each day.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base= "xsd:duration" />
</xsd:simpleType>

Schema location

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Simple Type spase:ProviderName

Namespace http://www.spase-group.org/data/schema

Annotations The source, or original provider, of the data (for example, PDS PPI).

Diagram

Type xsd:string
### Simple Type `spase:ProviderName`

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
A short textual description of the source, or original provider, of the data (for example, PDS, PPI).

**Diagram**
![Diagram](https://example.com/diagram.png)

**Type**
`xsd:string`

**Used by**
- `spase:Catalog/spase:ProviderName`, `spase:DisplayData/spase:ProviderName`, `spase:NumericalData/spase:ProviderName`

**Source**
```xml
<xsd:simpleType name="ProviderName">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The source, or original provider, of the data (for example, PDS, PPI).</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

**Schema location**
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Simple Type `spase:ProviderResourceName`

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
A short textual description of a resource used by the provider which may be used to identify a resource.

**Diagram**
![Diagram](https://example.com/diagram.png)

**Type**
`xsd:string`

**Used by**
- `spase:Catalog/spase:ProviderResourceName`, `spase:DisplayData/spase:ProviderResourceName`, `spase:NumericalData/spase:ProviderResourceName`

**Source**
```xml
<xsd:simpleType name="ProviderResourceName">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A short textual description of a resource used by the provider which may be used to identify a resource.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

**Schema location**
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Simple Type `spase:ProviderVersion`

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
Describes the release or edition of the product used by the provider. The formation rule may vary between providers. It is intended to aid in queries to the provider regarding the product.

**Diagram**
![Diagram](https://example.com/diagram.png)

**Type**
`xsd:string`

**Used by**

**Source**
```xml
<xsd:simpleType name="ProviderVersion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Describes the release or edition of the product used by the provider. The formation rule may vary between providers. It is intended to aid in queries to the provider regarding the product.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

**Schema location**
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Simple Type `spase:InstrumentID`

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
The identifier of an Instrument resource.

**Diagram**
![Diagram](https://example.com/diagram.png)

**Type**
`xsd:string`

**Used by**

**Source**
```xml
<xsd:simpleType name="InstrumentID">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The identifier of an Instrument resource.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

**Schema location**
file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
Source: "<xsd:simpleType name="InstrumentID">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The identifier of an Instrument resource.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>"

Schema location: "file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd"

Simple Type: spase:PhenomenonType

Annotations: "Identifiers for the characteristics or categorization of an observation. Note: Joe King to provide."

Type: "restriction of xsd:string"

Facets:

- **enumeration** ActiveRegion: An extended region of the corona, exceptionally low in density and associated with unipolar photospheric regions. A coronal hole can be an "open" magnetic field in the corona and (perhaps) inner heliosphere which has a faster than average outflow (wind); A region of lower than "quiet" ion and electron density in the corona; or a region of lower peak electron temperature in the corona than in the "quiet" corona.

- **enumeration** CoronalMassEjection: A solar event (CME) that involves a burst of plasma ejected into the interplanetary medium. CME's may be observed remotely relatively near the sun or in situ in the interplanetary medium. The latter type of observations are often referred to as Interplanetary CME’s (ICME's).

- **enumeration** EnergeticSolarParticleEvent: An enhancement of interplanetary fluxes of energetic ions accelerated by interplanetary shocks and/or solar flares.

- **enumeration** ForbushDecrease: A rapid decrease in the observed galactic cosmic ray intensity following the passage of an outwardly convecting interplanetary magnetic field disturbance, such as those associated with large CME's, that sweep some galactic cosmic rays away from Earth.

- **enumeration** GeomagneticStorm: A magnetospheric disturbance typically defined by variations in the horizontal component of the Earth's surface magnetic field. The variation typically starts with a field enhancement associated with a solar wind pressure pulse and continues with a field depression associated with an enhancement of the diamagnetic magnetospheric ring current.

- **enumeration** InterplanetaryShock: A shock propagating generally anti-sunward through the slower solar wind, often seen..."
in front of CMR-associated plasma clouds.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MagneticCloud</td>
<td>A transient event observed in the solar wind characterized as a region of enhanced magnetic field strength, smooth rotation of the magnetic field vector and low proton density and temperature.</td>
</tr>
<tr>
<td>MagnetopauseCrossing</td>
<td>A crossing of the interface between the shocked solar wind in the magnetosheath and the magnetic field and plasma in the magnetosphere.</td>
</tr>
<tr>
<td>RadioBurst</td>
<td>Emissions of the sun in radio wavelengths from centimeters to dekameters, under both quiet and disturbed conditions. Radio Bursts can be &quot;Type I&quot; consisting of many short, narrow-band bursts in the metric range (300 - 50 MHz); &quot;Type II&quot; consisting of narrow-band emission that begins in the meter range (300 MHz) and sweeps slowly (tens of minutes) toward dekameter wavelengths (10 MHz); &quot;Type III&quot; consisting of narrow-band bursts that sweep rapidly (seconds) from decimeter to dekameter wavelengths (500 - 0.5 MHz); and &quot;Type IV&quot; consisting of a smooth continuum of broad-band bursts primarily in the meter range (300 - 30 MHz).</td>
</tr>
<tr>
<td>SectorBoundaryCrossing</td>
<td>A sector boundary crossing is a transit by a spacecraft across the heliospheric current sheet separating the dominantly outward (away-from-the-sun) interplanetary magnetic field of one hemisphere of the heliosphere from the dominantly inward (toward-the-sun) polarity of the other hemisphere. Such crossings have multi-day intervals of opposite IMF dominant polarities on either side.</td>
</tr>
<tr>
<td>SolarFlare</td>
<td>An explosive event in the Sun's atmosphere which produces electromagnetic radiation across the electromagnetic spectrum at multiple wavelengths from long-wave radio to the shortest wavelength gamma rays.</td>
</tr>
<tr>
<td>SolarWindExtreme</td>
<td>Intervals of unusually large or small values of solar wind attributes such as flow speed and ion density.</td>
</tr>
<tr>
<td>StreamInteractionRegion</td>
<td>The region (SIR) where two solar wind streams, typically having differing characteristics and solar sources, abut up against (and possibly partially interpenetrate) each other.</td>
</tr>
<tr>
<td>Substorm</td>
<td>A process by which plasma in the magnetotail becomes energized at a fast rate.</td>
</tr>
</tbody>
</table>
<xsd:enumeration value="CoronalHole">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An extended region of the corona, exceptionally low in density and associated with unipolar photospheric regions. A coronal hole can be an "open" magnetic field in the corona and (perhaps) inner heliosphere which has a faster than average outflow (wind); A region of lower than "quiet" ion and electron density in the corona; or a region of lower peak electron temperature in the corona than in the "quiet" corona.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="CoronalMassEjection">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A solar event (CME) that involves a burst of plasma ejected into the interplanetary medium. CME’s may be observed remotely relatively near the sun or in situ in the interplanetary medium. The latter type of observations are often referred to as Interplanetary CME’s (ICMe’s).</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="EITWave">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A wave in the corona of the Sun which produce shock waves on the Sun’s chromosphere (Moreton Waves). EIT Waves are produced by large solar flare and expand outward at about 1,000 km/s. It usually appears as a slowly moving diffuse arc of brightening in H-alpha, and may travel for several hundred thousand km.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="EnergeticSolarParticleEvent">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An enhancement of interplanetary fluxes of energetic ions accelerated by interplanetary shocks and/or solar flares.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="ForbushDecrease">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A rapid decrease in the observed galactic cosmic ray intensity following the passage of an outwardly convecting interplanetary magnetic field disturbance, such as those associated with large CME’s, that sweep some galactic cosmic rays away from Earth.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="GeomagneticStorm">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A magnetospheric disturbance typically defined by variations in the horizontal component of the Earth’s surface magnetic field. The variation typically starts with a field enhancement associated with a solar wind pressure pulse and continues with a field depression associated with an enhancement of the diamagnetic magnetospheric ring current.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="InterplanetaryShock">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A shock propagating generally anti-sunward through the slower solar wind, often seen in front of CME-associated plasma clouds.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="MagneticCloud">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A transient event observed in the solar wind characterized as a region of enhanced magnetic field strength, smooth rotation of the magnetic field vector and low proton density and temperature.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="MagnetopauseCrossing">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A crossing of the interface between the shocked solar wind in the magnetosheath and the magnetic field and plasma in the magnetosphere.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="RadioBurst">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Emissions of the sun in radio wavelengths from centimeters to dekameters, under both quiet and disturbed conditions. Radio Bursts can be "Type I" consisting of many short, narrow-band bursts in the meter range (300 - 50 MHz); "Type II" consisting of narrow-band emission that begins in the meter range (300 - 50 MHz); "Type III" consisting of narrow-band bursts that sweep rapidly (seconds) from decimeter to dekameter wavelengths (500 - 0.5 MHz); and "Type IV" consisting of a smooth continuum of broad-band bursts primarily in the meter range (300 - 30 MHz).</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="SectorBoundaryCrossing">
  <xsd:annotation>
    <!-- Additional documentation can be added here if needed -->
  </xsd:annotation>
</xsd:enumeration>
A sector boundary crossing is a transit by a spacecraft across the heliospheric current sheet separating the dominantly outward (away-from-the-sun) interplanetary magnetic field of one hemisphere of the heliosphere from the dominantly inward (toward-the-sun) polarity of the other hemisphere. Such crossings have multi-day intervals of opposite IMF dominant polarities on either side.
### Simple Type `spase:Keyword`

**Namespace**: http://www.spase-group.org/data/schema  

**Annotations**: A word or phrase that is relevant to the resource but does not exist in other documentary information.  

**Diagram**: ![Keyword Diagram](Image)

**Type**: xsd:string

**Used by**: Elements  

```
spase:Catalog/spase:Keyword , spase:DisplayData/spase:Keyword , spase:Document/spase:Keyword ,
spase:NumericalData/spase:Keyword
```

**Source**:  

```xml
<xsd:simpleType name="Keyword">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A word or phrase that is relevant to the resource but does not exist in other documentary information.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

**Schema location**: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Simple Type `spase:InputResourceID`

**Namespace**: http://www.spase-group.org/data/schema  

**Annotations**: The resource identifier for a resource which was used to generate this resource.  

**Diagram**: ![InputResourceID Diagram](Image)

**Type**: xsd:string

**Used by**: Elements  

```
spase:NumericalData/spase:InputResourceID
```

**Source**:  

```xml
<xsd:simpleType name="InputResourceID">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The resource identifier for a resource which was used to generate this resource.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

**Schema location**: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Simple Type `spase:Set`

**Namespace**: http://www.spase-group.org/data/schema  

**Annotations**: A collection of items for a particular purpose.  

**Diagram**: ![Set Diagram](Image)

**Type**: xsd:string

**Used by**: Element  

```
spase:Parameter/spase:Set
```

**Source**:  

```xml
<xsd:simpleType name="Set">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A collection of items for a particular purpose.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

**Schema location**: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
Simple Type `spase:ParameterKey`

Namespace: http://www.spase-group.org/data/schema

Annotations: The name or identifier which can be used to access the parameter in the resource. The associated value is dependent on the service used to access the resource. For columnar ASCII data, use "Column_X" for a single-element parameter and "Column_X-Column_Y" for a multi-element parameter, where X and Y are the relevant column index. The first column index is 1.

Diagram:
```
ParameterKey --> xsd:string
```

Type: xsd:string

Used by: Elements `spase:Element/spase:ParameterKey`, `spase:Parameter/spase:ParameterKey`

Source:
```
<xsd:simpleType name="ParameterKey">
   <xsd:annotation>
      <xsd:documentation xml:lang="en">The name or identifier which can be used to access the parameter in the resource. The associated value is dependent on the service used to access the resource. For columnar ASCII data, use "Column_X" for a single-element parameter and "Column_X-Column_Y" for a multi-element parameter, where X and Y are the relevant column index. The first column index is 1.</xsd:documentation>
   </xsd:annotation>
   <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

Schema location: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Simple Type `spase:UCD`

Namespace: http://www.spase-group.org/data/schema

Annotations: The nature of a physical parameter expressed using the IVOA UCD1+ controlled vocabulary.

Diagram:
```
UCD --> xsd:string
```

Type: xsd:string

Used by: Element `spase:Parameter/spase:UCD`

Source:
```
<xsd:simpleType name="UCD">
   <xsd:annotation>
      <xsd:documentation xml:lang="en">The nature of a physical parameter expressed using the IVOA UCD1+ controlled vocabulary.</xsd:documentation>
   </xsd:annotation>
   <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

Schema location: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Simple Type `spase:Cadence`

Namespace: http://www.spase-group.org/data/schema

Annotations: The nominal or most common time interval between the start of successive measurements.

Diagram:
```
Cadence --> xsd:duration
```

Type: xsd:duration

Used by: Elements `spase:Parameter/spase:Cadence`, `spase:TemporalDescription/spase:Cadence`

Source:
```
<xsd:simpleType name="Cadence">
   <xsd:annotation>
      <xsd:documentation xml:lang="en">The nominal or most common time interval between the start of successive measurements.</xsd:documentation>
   </xsd:annotation>
   <xsd:restriction base="xsd:duration"/>
</xsd:simpleType>
```

Schema location: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
Simple Type `spase:CadenceMin`

**Namespace**  
http://www.spase-group.org/data/schema

**Annotations**  
The smallest time interval between the start of successive measurements.

**Diagram**

**Type**  
`xsd:duration`

**Used by**  
Elements `spase:Parameter/spase:CadenceMin`, `spase:TemporalDescription/spase:CadenceMin`

**Source**

```xml
<xsd:simpleType name="CadenceMin">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The smallest time interval between the start of successive measurements.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:duration"/>
</xsd:simpleType>
```

---

Simple Type `spase:CadenceMax`

**Namespace**  
http://www.spase-group.org/data/schema

**Annotations**  
The largest time interval between the start of successive measurements.

**Diagram**

**Type**  
`xsd:duration`

**Used by**  
Elements `spase:Parameter/spase:CadenceMax`, `spase:TemporalDescription/spase:CadenceMax`

**Source**

```xml
<xsd:simpleType name="CadenceMax">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The largest time interval between the start of successive measurements.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:duration"/>
</xsd:simpleType>
```

---

Simple Type `spase:UnitsConversion`

**Namespace**  
http://www.spase-group.org/data/schema

**Annotations**  
The multiplicative factor for converting a unit into International System of Units (SI) units. The factor is expressed in the form "number > x", where "number" is a numerical value and "x" is the appropriate SI units. The basic SI units are Enumerated: m (meter), N (newton), kg (kilogram), Pa (pascal), s (second), Hz (hertz), A (ampere), V (volt), K (kelvin), W (watt), rad (radian), J (joule), sr (steradian), C (coulomb), T (tesla), ohm, mho (mho or seimens), H (henry), and F (farad). Two useful units which are not SI units are: degree (angle), and unitless (no units). An example is: "1.0E-9>T" which converts the units, presumably nT, to Tesla. Another example is: "1.0e+3>m/s" which converts a velocity expressed in kilometers per second to meters per second.

**Diagram**

**Type**  
`xsd:string`

**Used by**  
Elements `spase:Element/spase:UnitsConversion`, `spase:Parameter/spase:UnitsConversion`

**Source**

```xml
<xsd:simpleType name="UnitsConversion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The multiplicative factor for converting a unit into International System of Units (SI) units. The factor is expressed in the form "number > x",
```
where "number" is a numerical value and "x" is the appropriate SI units. The basic SI units are
Enumerated: m (meter), N (newton), kg (kilogram), Pa (pascal), s (second), Hz (hertz), A (ampere),
V (volt), K (kelvin), W (watt), rad (radian), J (joule), sr (steradian), C (coulomb), T (tesla),
ohm (ohm), mho (mho or seimens), H (henry), and F (farad). Two useful units which are not SI units are:
degree (angle), and unitless (no units). An example is: "1.0E-9>T" which converts the units,
presumably nT, to Tesla. Another example is: "1.0e+3>m/s" which converts a velocity expressed in
kilometers per second to meters per second.</xsd:documentation>
</xsd:annotation>
<xsd:restriction base="xsd:string"/>
</xsd:simpleType>

Schema documentation for spase-2_3_1.xsd

Simple Type spase:CoordinateRepresentation

Namespace http://www.spase-group.org/data/schema

Annotations Identifiers of the method or form for specifying a given point or vector in a given coordinate system.

Diagram

Type restriction of xsd:string

Facets

enumeration Cartesian
A representation in which a position vector or a measured vector (e.g., field or flow) is specified by its components along the base axes of the coordinate system.

enumeration Cylindrical
A coordinate representation of a position vector or measured vector (field or flow) by its k-component, the magnitude of its projection into the i-j plane, and the azimuthal angle of the i-j plane projection.

enumeration Spherical
A coordinate representation of a position vector or of a measured vector by its magnitude and two direction angles. The angles are relative to the base axes of the coordinate system used. Typically the angles are phi [azimuth angle, =arctan (j/i)] and theta, where theta may be a polar angle, arctan [(SQRT(i^2+j^2))/k], or an elevation angle, arctan (k/SQRT (i^2+j^2)).

Used by Element spase:CoordinateSystem/spase:CoordinateRepresentation

Source

<xsd:simpleType name="CoordinateRepresentation">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers of the method or form for specifying a given point or vector in a given coordinate system.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
  <xsd:enumeration value="Cartesian">
    <xsd:documentation xml:lang="en">A representation in which a position vector or a measured vector (e.g., field or flow) is specified by its components along the base axes of the coordinate system.</xsd:documentation>
  </xsd:enumeration>
  <xsd:enumeration value="Cylindrical">
    <xsd:documentation xml:lang="en">A coordinate representation of a position vector or measured vector (field or flow) by its k-component, the magnitude of its projection into the i-j plane, and the azimuthal angle of the i-j plane projection.</xsd:documentation>
  </xsd:enumeration>
  <xsd:enumeration value="Spherical">
    <xsd:documentation xml:lang="en">A coordinate representation of a position vector or of a measured vector by its magnitude and two direction angles. The angles are relative to the base axes of the coordinate system used. Typically the angles are phi [azimuth angle, =arctan (j/i)] and theta, where theta may be a polar angle, arctan [(SQRT(i^2+j^2))/k], or an elevation angle, arctan (k/SQRT (i^2+j^2)).</xsd:documentation>
  </xsd:enumeration>
</xsd:simpleType>

Schema location file:C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

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## Simple Type `spase:CoordinateSystemName`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>Identifiers of the origin and orientation of a set of typically orthogonal axes.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="CoordinateSystemName" alt="Diagram" /> <img src="xsdstring" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>restriction of xsd:string</td>
</tr>
</tbody>
</table>

### Facets

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGM</td>
<td>Corrected Geomagnetic - A coordinate system from a spatial point with GEO radial distance and geomagnetic latitude and longitude, follow the epoch-appropriate IGRF/DGRF model field vector through to the point where the field line crosses the geomagnetic dipole equatorial plane. Then trace the dipole magnetic field vector Earthward from that point on the equatorial plane, in the same hemisphere as the original point, until the initial radial distance is reached. Designate the dipole latitude and longitude at that point as the CGM latitude and longitude of the original point. See <a href="http://nssdc.gsfc.nasa.gov/space/cgm/cgmm_des.html">http://nssdc.gsfc.nasa.gov/space/cgm/cgmm_des.html</a></td>
</tr>
<tr>
<td>CSO</td>
<td>Corrected Solar Orbital - A coordinate system related to Earth where X is anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>Carrington</td>
<td>A coordinate system which is centered at the Sun and is &quot;fixed&quot; with respect to the synodic rotation rate; the mean synodic value is about 27.2753 days. The Astronomical Almanac gives a value for Carrington longitude of 349.03 degrees at 0000 UT on 1 January 1995.</td>
</tr>
<tr>
<td>DM</td>
<td>Dipole Meridian - A coordinate system centered at the observation point. Z axis is parallel to the Earth’s dipole axis, positive northward. X is in the plane defined by Z and the line linking the observation point with the Earth’s center. Y is positive eastward. See <a href="http://cdpp.cnes.fr/00428.pdf">http://cdpp.cnes.fr/00428.pdf</a></td>
</tr>
<tr>
<td>ECD</td>
<td>Eccentric Dipole (ECD) coordinate system that aligns with a dipole whose origin and orientation may be different from the physical center and spin axis of the containing body. The IGRF-12 coefficients for 2015 are used to determine the origin for the earth. The 2015 positions are North dip pole: latitude: 86.28, longitude: -160.06. South dip pole latitude: -64.28, longitude: 136.59. North geometric pole latitude: 80.37, longitude: -72.63, South geometric pole latitude: -80.37, longitude: 107.37. ECD is defined in doi:10.1186/s40623-015-0228-9.</td>
</tr>
<tr>
<td>ECEF</td>
<td>The Earth-Centered, Earth-Fixed (ECEF) coordinate system has point (0,0,0) defined as the center of mass of the Earth. Its axes are aligned with the International Reference Pole (IRP) and International Reference Meridian (IRM). The x-axis intersects the sphere of the Earth at 0 degree latitude (Equator) and 0 degree longitude (Greenwich). The z-axis points north. The y-axis completes the right handed coordinate system.</td>
</tr>
<tr>
<td>ENP</td>
<td>ENP (also called FEN) - The F vector component points northward, perpendicular to orbit plane which for a zero degree inclination orbit is parallel to Earth’s spin axis. The E vector component is perpendicular to F and N and points earthward. The N component is perpendicular to P and E and is positive eastward.</td>
</tr>
</tbody>
</table>
| GEI         | Geocentric Equatorial Inertial - A coordinate system where the Z axis is along Earth’s spin vector, positive northward. X axis points towards the first point of Aries (from the Earth towards the Sun at the vernal equinox). See Russell, 1971. When the X axis is the
direction of the mean vernal equinox of J2000, the coordinate system is also called GCI.
Then the Z axis is also defined as being normal to the mean Earth equator of J2000.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO</td>
<td>Geographic - geocentric corotating - A coordinate system where the Z axis is along Earth's spin vector, positive northward. X axis lies in Greenwich meridian, positive towards Greenwich. See Russell, 1971.</td>
</tr>
<tr>
<td>GPHIO</td>
<td>Kronian Solar Orbital - A coordinate system related to Saturn where X is anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>GSE</td>
<td>Geocentric Solar Ecliptic - A coordinate system where the X axis is from Earth to Sun. Z axis is normal to the ecliptic, positive northward. See Russell, 1971.</td>
</tr>
<tr>
<td>GSEQ</td>
<td>Geocentric Solar Equatorial - A coordinate system where the X axis is normal to the solar equatorial plane. Y axis is parallel to solar equatorial plane. Z axis is positive northward. See Russell, 1971.</td>
</tr>
<tr>
<td>GSM</td>
<td>Geocentric Solar Magnetospheric - A coordinate system where the X axis is from Earth to Sun. Z axis is northward in a plane containing the X axis and the geomagnetic dipole axis. See Russell, 1971.</td>
</tr>
<tr>
<td>HAE</td>
<td>Heliocentric Aries Ecliptic - A coordinate system where the X axis is normal to the ecliptic plane, positive northward. X axis is positive towards the first point of Aries (from Earth to Sun at vernal equinox). Same as SK below. See Hapgood, 1992.</td>
</tr>
<tr>
<td>HCC</td>
<td>Heliocentric Cartesian - A 3-D orthonormal coordinate system that is primarily intended to specify with two dimensions a point on the solar disk. The Z axis points toward the observer. The Y axis lies in the plane defined by the solar spin vector and the Z axis, positive northward. The X axis is perpendicular to the Y and Z axes, positive toward solar west. Standard representation for this system is via the point's x and y values, expressed either as physical distances or as fractions of the solar disk radius.</td>
</tr>
<tr>
<td>HCI</td>
<td>Heliographic Carrington Inertial.</td>
</tr>
<tr>
<td>HCR</td>
<td>Heliocentric Radial - A 3-D orthonormal coordinate system that is primarily intended to specify with two dimensions a point on the solar disk. The Z axis points toward the observer. The Y axis lies in the plane defined by the solar spin vector and the Z axis, positive northward. The X axis is perpendicular to the Y and Z axes, positive toward solar west. Standard representation for this system is via the point's distance rho from the Z axis ( \rho = \sqrt{x^2 + y^2} ) and its phase angle psi measured counterclockwise from the +Y axis ( \psi = \arctan \left( -\frac{y}{x} \right) ).</td>
</tr>
<tr>
<td>HEE</td>
<td>Heliocentric Earth Ecliptic - A coordinate system where the Z axis is normal to the ecliptic plane, positive northward. X axis points from Sun to Earth. See Hapgood, 1992.</td>
</tr>
<tr>
<td>HEEQ</td>
<td>Heliocentric Earth Equatorial - A coordinate system where the Z axis is normal to the solar equatorial plane, positive northward. X axis is generally Earthward in the plane defined by the Z axis and the Sun-Earth direction. See Hapgood, 1992.</td>
</tr>
<tr>
<td>HERTN</td>
<td>Heliocentric Radial Tangential Normal coordinate system. Typically centered at a spacecraft. The X axis (radial) is set as the primary axis, and is defined as the axis pointing from the spacecraft to the Sun. The Z axis (tangential) is set as the secondary axis,</td>
</tr>
<tr>
<td>Schema documentation for spase-2.3.1.xsd</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td></td>
</tr>
<tr>
<td>and is defined as that portion of the ecliptic rotational axis which is perpendicular to the primary axis. The Y axis (Normal) is defined as Z cross X.</td>
<td></td>
</tr>
<tr>
<td>enumeration HG</td>
<td>Heliographic - A heliocentric rotating coordinate system where the Z axis is normal to the solar equatorial plane, positive northward. X, Y axes rotate with a 25.38 day period. The zero longitude (X axis) is defined as the longitude that passed through the ascending node of the solar equator on the ecliptic plane on 1 January, 1854 at 12 UT. See <a href="http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html">http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html</a></td>
</tr>
<tr>
<td>enumeration HGI</td>
<td>Heliographic Inertial - A heliocentric coordinate system where the Z axis is normal to the solar equatorial plane, positive northward. X axis is along the intersection line between solar equatorial and ecliptic planes. The X axis was positive at SE longitude of 74.367 deg on Jan 1, 1900. (See SE below.) See <a href="http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html">http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html</a></td>
</tr>
<tr>
<td>enumeration HGRTN</td>
<td>Heliocentric Radial Tangential Normal coordinate system (aka RTN). Typically centered at a spacecraft. Used for IMF and plasma V vectors. The X axis (radial) is set as the primary axis, and is defined as the axis pointing from the spacecraft to the Sun. The Z axis (tangential) is set as the secondary axis, and is defined as that portion of the solar North rotational axis which is perpendicular to the primary axis. The Y axis (normal) is defined as Z cross X.</td>
</tr>
<tr>
<td>enumeration HPC</td>
<td>Helioprojective Cartesian = A 3-D orthonormal (left-handed) coordinate system that is primarily intended to specify with two dimensions a point on the solar disk. The Z axis points from the observer to the center of the solar disk. The Y axis lies in the plane defined by the solar spin vector and the Z axis, positive northward. The X axis is perpendicular to the Y and Z axes, positive toward solar west. Given as the distance between the observer and the center of the solar disk, the standard representation for this system of an (x,y) point on the solar disk is via the point’s longitude angle [\arctan\left[\frac{x}{d}\right]] and latitude angle [\arctan\left[\frac{y}{d}\right]].</td>
</tr>
<tr>
<td>enumeration HPR</td>
<td>Helioprojective Radial - A 3-D orthonormal (left-handed) coordinate system that is primarily intended to specify with two dimensions a point on the solar disk. The Z axis points from the observer to the center of the solar disk. The Y axis lies in the plane defined by the solar spin vector and the Z axis, positive northward. The X axis is perpendicular to the Y and Z axes, positive toward solar west. Given as the distance between the observer and the center of the solar disk, the standard representation for this system of an (x,y) point on the solar disk is via the point’s latitude angle [\arctan\left[\frac{\sqrt{x^2 + y^2}}{d}\right]] or equivalent declination parameter delta (= [\arctan\left[\frac{x}{y}\right]]), and its phase angle psi as measured counter- clockwise from the +Y axis [\psi = \arctan\left[\frac{-y}{x}\right]].</td>
</tr>
<tr>
<td>enumeration HSM</td>
<td>Heliospheric Solar Magnetospheric - A coordinate system where the X axis is from Earth to Sun, Z axis is northward in a plane containing the X axis and the geomagnetic dipole axis.</td>
</tr>
<tr>
<td>enumeration J2000</td>
<td>An astronomical coordinate system which uses the mean equator and equinox of Julian date 2451545.0 TT (Terrestrial Time), or January 1, 2000, noon TT. (aka J2000) to define a celestial reference frame.</td>
</tr>
<tr>
<td>enumeration JSM</td>
<td>Jovian Solar Magnetospheric - A coordinate system related to Jupiter where the X axis is from Jupiter to Sun, Z axis is northward in a plane containing the X axis and the Jovian dipole axis.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<td>JSO</td>
<td>Jovian Solar Orbital - A coordinate system related to Jupiter where X anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>KSM</td>
<td>Kronian Solar Magnetospheric - A coordinate system related to Saturn where the X axis is anti-sunward, Z axis is northward in a plane containing the X axis and the Kronian dipole axis.</td>
</tr>
<tr>
<td>KSO</td>
<td>Kronian Solar Orbital - A coordinate system related to Saturn where X is anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>LGM</td>
<td>Local Geomagnetic - A coordinate system used mainly for Earth surface or near Earth surface magnetic field data. X axis northward from observation point in a geographic meridian. Z axis downward towards Earth's center. In this system, H (total horizontal component) = ( \sqrt{B_x^2 + B_y^2} ) and D (declination angle) = arctan ( \frac{B_y}{B_x} ).</td>
</tr>
<tr>
<td>MAG</td>
<td>Geomagnetic - geocentric. Z axis is parallel to the geomagnetic dipole axis, positive north. X is in the plane defined by the Z axis and the Earth's rotation axis. If ( N ) is a unit vector from the Earth's center to the north geographic pole, the signs of the X and Y axes are given by ( Y = N \times Z ), X = Y x Z. See Russell, 1971, and <a href="http://cdpp.cnes.fr/00428.pdf">http://cdpp.cnes.fr/00428.pdf</a></td>
</tr>
<tr>
<td>MFA</td>
<td>Magnetic Field Aligned - A coordinate system spacecraft-centered system with Z in the direction of the ambient magnetic field vector. X is in the plane defined by Z and the spacecraft-Sun line, positive sunward. See <a href="http://cdpp.cnes.fr/00428.pdf">http://cdpp.cnes.fr/00428.pdf</a></td>
</tr>
<tr>
<td>MSO</td>
<td>Mars/Mercury Solar Orbital - A coordinate system related to Mars or Mercury. A coordinate system where, depending on the body (Mars or Mercury), X is anti-sunward, Y along the orbital velocity direction.</td>
</tr>
<tr>
<td>RTN</td>
<td>Radial Tangential Normal. Typically centered at a spacecraft. Used for IMF and plasma V vectors. The X axis (radial) is set as the primary axis, and is defined as the axis pointing from the spacecraft to the Sun. The Z axis (tangential) is set as the secondary axis, and is defined as that portion of the solar North rotational axis which is perpendicular to the primary axis. The Y axis (normal) is defined as Z cross X.</td>
</tr>
<tr>
<td>SC</td>
<td>Spacecraft - A coordinate system defined by the spacecraft geometry and/or spin. Often has Z axis parallel to spacecraft spin vector. X and Y axes may or may not corotate with the spacecraft. See SR and SR2 below.</td>
</tr>
<tr>
<td>SE</td>
<td>Solar Ecliptic - A heliocentric coordinate system where the Z axis is normal to the ecliptic plane, positive northward. X axis is positive towards the first point of Aries (from Earth to Sun at vernal equinox). Same as HAE above. See <a href="http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html">http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html</a></td>
</tr>
<tr>
<td>SM</td>
<td>Solar Magnetic - A geocentric coordinate system where the Z axis is northward along Earth's dipole axis, X axis is in plane of z axis and Earth-Sun line, positive sunward. See Russell, 1971.</td>
</tr>
<tr>
<td>SR</td>
<td>Spin Reference - A special case of a Spacecraft (SC) coordinate system for a spinning spacecraft. Z is parallel to the spacecraft spin vector. X and Y rotate with the spacecraft. See <a href="http://cdpp.cnes.fr/00428.pdf">http://cdpp.cnes.fr/00428.pdf</a></td>
</tr>
<tr>
<td>SR2</td>
<td>Spin Reference 2 - A special case of a Spacecraft (SC) coordinate system for a spinning spacecraft. Z is parallel to the spacecraft spin vector.</td>
</tr>
</tbody>
</table>
X is in the plane defined by Z and the spacecraft-Sun line, positive sunward. See <http://cdpp.cnes.fr/00428.pdf>

**Enumeration SSE**

Spacecraft Solar Ecliptic - A coordinate system used for deep space spacecraft, for example Helios. - X axis from spacecraft to Sun. Z axis normal to ecliptic plane, positive northward.

Note: Angle between normals to ecliptic and to Helios orbit plane ~ 0.25 deg.

**Enumeration SSE_L**

Selenocentric Solar Ecliptic. The X axis points from the center of the Earth's moon to the sun, the Z axis is normal to the ecliptic plane, positive northward. And the Y axis completes the right-handed set of axes.

**Enumeration SpacecraftOrbitPlane**

A coordinate system where X lies in the plane normal to and in the direction of motion of the spacecraft, Z is normal to this plane and Y completes the triad in a right-handed coordinate system.

**Enumeration TIIS**

Kronian Solar Orbital - A coordinate system related to Saturn where X is anti-sunward, Y along the orbital velocity direction.

**Enumeration VSO**

Venus Solar Orbital - A coordinate system related to Venus where X is anti-sunward, Y along the orbital velocity direction.

**Enumeration WGS84**

The World Geodetic System (WGS) defines a reference frame for the earth, for use in geodesy and navigation. The WGS84 uses the zero meridian as defined by the Bureau International de l'Heure.
Eccentric Dipole (ECD) coordinate system that aligns with a dipole whose origin and orientation may be different from the physical center and spin axis of the containing body. The IGRF-12 coefficients for 2015 are used to determine the origin for the earth. The 2015 positions are North dip pole latitude: 86.29, longitude: -160.06. South dip pole latitude: -72.63, South geomagnetic pole latitude: -80.37, longitude: 107.37. ECD is defined in doi:10.1186/s40623-015-0228-9.

The Earth-Centered, Earth-Fixed (ECEF) coordinate system has point (0,0,0) defined as the center of mass of the Earth. Its axes are aligned with the International Reference Pole (IRP) and International Reference Meridian (IRM). The x-axis intersects the sphere of the Earth at 0 degree latitude (Equator) and 0 degree longitude (Greenwich). The z-axis points north. The y-axis completes the right handed coordinate system.

ENP (also called PEN) - The P vector component points northward, perpendicular to orbit plane which for a zero degree inclination orbit is parallel to Earth's spin axis. The E vector component is perpendicular to P and N and points earthward. The N component is perpendicular to P and E and is positive eastward.

GEI Geocentric Equatorial Inertial - A coordinate system where the Z axis is along Earth's spin vector, positive northward. X axis points towards the first point of Aries (from the Earth towards the Sun at the vernal equinox). See Russell, 1971. When the X axis is the direction of the mean vernal equinox of J2000, the coordinate system is also called GCI. Then the Z axis is also defined as being normal to the mean Earth equator of J2000.

GEO Geographic - geocentric corotating - A coordinate system where the Z axis is along Earth's spin vector, positive northward. X axis lies in Greenwich meridian, positive towards Greenwich. See Russell, 1971.

GPHIO Kronian Solar Orbital - A coordinate system related to Saturn where X is anti-sunward, Y along the orbital velocity direction.

GSE Geocentric Solar Ecliptic - A coordinate system where the X axis is from Earth to Sun. Z axis is normal to the ecliptic, positive northward. See Russell, 1971.

GSEQ Geocentric Solar Equatorial - A coordinate system where the X axis is from Earth to Sun. Y axis is parallel to solar equatorial plane. Z axis is positive northward. See Russell, 1971.

GSM Geocentric Solar Magnetospheric - A coordinate system where the X axis is from Earth to Sun, Z axis is northward in a plane containing the X axis and the geomagnetic dipole axis. See Russell, 1971.

HAE Heliocentric Aries Ecliptic - A coordinate system where the Z axis is normal to the ecliptic plane, positive northward. X axis is positive towards the first point of Aries (from Earth to Sun at vernal equinox). Same as SE below. See Hapgood, 1992.

HCC Heliocentric Cartesian - A 3-D orthonormal coordinate system that is primarily intended to specify with two dimensions a point on the solar disk. The Z
axis points toward the observer. The Y axis lies in the plane defined by the solar spin vector and the Z axis, positive northward. The X axis is perpendicular to the Y and Z axes, positive toward solar west. Standard representation for this system is via the point's X and Y values, expressed either as physical distances or as fractions of the solar disk radius. 

**Heliographic Carrington Inertial**

Heliographic Carrington Inertial is a heliocentric coordinate system where the Z axis is normal to the solar equatorial plane, positive northward. X axis is along the intersection line between solar equatorial and ecliptic planes. The X axis was positive at SE longitude of 74.367 deg on Jan 1, 1900. (See SE below.) See <http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html>

**Heliocentric Radial**

Heliocentric Radial is a 3-D orthonormal coordinate system that is primarily intended to specify with two dimensions a point on the solar disk. The Z axis points toward the observer. The Y axis is perpendicular to the Y and Z axes, positive toward solar west. Standard representation for this system is via the point's distance rho from the Z axis (Rho = SQRT(x**2 + y**2)) and its phase angle psi measured counterclockwise from the +Y axis (psi = arctan (-y/x)).

**Heliocentric Radial Tangential Normal**

Heliocentric Radial Tangential Normal coordinate system is typically centered at a spacecraft. The X axis (radial) is set as the primary axis, and is defined as the axis pointing from the spacecraft to the Sun. The Z axis (tangential) is set as the secondary axis, and is defined as that portion of the ecliptic rotational axis which is perpendicular to the primary axis. The Y axis (normal) is defined as Z cross X.

**Heliocentric Earth Ecliptic**

Heliocentric Earth Ecliptic is a coordinate system where the Z axis is normal to the ecliptic plane, positive northward. X axis points from Sun to Earth. See Hapgood, 1992.

**Heliocentric Earth Equatorial**

Heliocentric Earth Equatorial is a coordinate system where the Z axis is normal to the solar equatorial plane, positive northward. X axis is generally Earthward in the plane defined by the Z axis and the Sun-Earth direction. See Hapgood, 1992.

**Helio-Eclipitic Radial Tangential Normal**

Helio-Eclipitic Radial Tangential Normal coordinate system is typically centered at a spacecraft. The X axis (radial) is set as the primary axis, and is defined as the axis pointing from the spacecraft to the Sun. The Z axis (tangential) is set as the secondary axis, and is defined as that portion of the ecliptic rotational axis which is perpendicular to the primary axis. The Y axis (normal) is defined as Z cross X.

**Heliographic**

Heliographic is a heliocentric rotating coordinate system where the Z axis is normal to the solar equatorial plane, positive northward. X, Y axes rotate with a 25.38 day period. The zero longitude (X axis) is defined as the longitude that passed through the ascending node of the solar equator on the ecliptic plane on 1 January, 1854 at 12 UT. See <http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html>
solar disk is via the point's longitude angle \[\arctan \left( \frac{x}{d} \right)\] and latitude angle \[\arctan \left( \frac{y}{d} \right)\].
Schema documentation for spase-2_3_1.xsd

<xsd:annotation>
    <xsd:documentation xml:lang="en">Mars/Mercury Solar Orbital A coordinate system related to Mars or Mercury. A coordinate system where, depending on the body (Mars or Mercury), X is anti-sunward, Y along the orbital velocity direction.</xsd:documentation>
</xsd:annotation>

<xsd:enumeration>
    <xsd:documentation xml:lang="en">Radial Tangential Normal. Typically centered at a spacecraft. Used for IMF and plasma V vectors. The X axis (radial) is set as the primary axis, and is defined as the axis pointing from the spacecraft to the Sun. The Z axis (tangential) is set as the secondary axis, and is defined as that portion of the solar North rotational axis which is perpendicular to the primary axis. The Y axis (normal) is defined as Z cross X.</xsd:documentation>
</xsd:enumeration>

<xsd:enumeration>
    <xsd:documentation xml:lang="en">Spacecraft - A coordinate system defined by the spacecraft geometry and/or spin. Often has Z axis parallel to spacecraft spin vector. X and Y axes may or may not corotate with the spacecraft. See SR and SR2 below.</xsd:documentation>
</xsd:enumeration>

<xsd:enumeration>
    <xsd:documentation xml:lang="en">Solar Ecliptic - A heliocentric coordinate system where the Z axis is normal to the ecliptic plane, positive northward. X axis is positive towards the first point of Aries (from Earth to Sun at vernal equinox). Same as RAJ above. See http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html</xsd:documentation>
</xsd:enumeration>

<xsd:enumeration>
    <xsd:documentation xml:lang="en">Solar Magnetic - A geocentric coordinate system where the Z axis is northward along Earth's dipole axis, X axis is in plane of Z axis and Earth-Sun line, positive sunward. See Russell, 1971.</xsd:documentation>
</xsd:enumeration>

<xsd:enumeration>
</xsd:enumeration>

<xsd:enumeration>
    <xsd:documentation xml:lang="en">Spin Reference 2 - A special case of a Spacecraft [SC] coordinate system for a spinning spacecraft. Z is parallel to the spacecraft spin vector. X is in the plane defined by Z and the spacecraft-Sun line, positive sunward. See http://cdpp.cnes.fr/00428.pdf</xsd:documentation>
</xsd:enumeration>

<xsd:enumeration>
    <xsd:documentation xml:lang="en">Spacecraft Solar Ecliptic - A coordinate system used for deep space spacecraft, for example Helios. - X axis from spacecraft to Sun. Z axis normal to ecliptic plane, positive northward. Note: Angle between normals to ecliptic and to Helios orbit plane ~ 0.25 deg.</xsd:documentation>
</xsd:enumeration>

<xsd:enumeration>
    <xsd:documentation xml:lang="en">Selenocentric Solar Ecliptic. The X axis points from the center of the Earth's moon to the sun, the Z axis is normal to the ecliptic plane, positive northward. And the Y axis completes the right-handed set of axes.</xsd:documentation>
</xsd:enumeration>

<xsd:enumeration>
    <xsd:documentation xml:lang="en">Spacecraft Orbit Plane - A coordinate system where Z lies in the plane normal to and in the direction of motion of the spacecraft, Z is normal to this plane and Y completes the triad in a right-handed coordinate system.</xsd:documentation>
</xsd:enumeration>

<xsd:enumeration>
    <xsd:documentation xml:lang="en">Kronian Solar Orbital - A coordinate system related to Saturn where X is anti-sunward, Y along the orbital velocity direction.</xsd:documentation>
</xsd:enumeration>
### Simple Type \texttt{spase:DisplayType}

<table>
<thead>
<tr>
<th><strong>Facets</strong></th>
<th><strong>Diagram</strong></th>
<th><strong>Source</strong></th>
</tr>
</thead>
</table>

**Annotations**

- Identifiers for types or classes of rendered data.

**Namespace**

http://www.spase-group.org/data/schema

**Type**

restriction of \texttt{xsd:string}

**Used by**

Element \texttt{spase:RenderingHints/spase:DisplayType}
**Simple Type spase:AxisLabel**

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>A short character string (approximately 10 characters, but preferably 6 characters – more only if absolutely required for clarity) which can be used to label a y-axis for a plot or to provide a heading for a data listing.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>xsd:string</td>
</tr>
<tr>
<td>Used by</td>
<td>Element spase:RenderingHints/spase:AxisLabel</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:simpleType name=&quot;AxisLabel&quot;&gt;</code><a href="">xsd:annotation</a> &lt;xsd:documentation xml:lang=&quot;en&quot;&gt;A short character string (approximately 10 characters, but preferably 6 characters – more only if absolutely required for clarity) which can be used to label a y-axis for a plot or to provide a heading for a data listing.&lt;/xsd:documentation&gt; &lt;/xsd:annotation&gt; &lt;xsd:restriction base=&quot;xsd:string&quot;/&gt;`<a href="">xsd:simpleType</a></td>
</tr>
</tbody>
</table>

**Simple Type spase:RenderingAxis**

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>Identifiers for the reference component of a plot or rendering of data.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>restriction of xsd:string</td>
</tr>
<tr>
<td>Facets</td>
<td>enumeration ColorBar A spectrum or set of colors used to represent data values.</td>
</tr>
<tr>
<td></td>
<td>enumeration Horizontal Parallel to or in the plane of the horizon or a base line.</td>
</tr>
<tr>
<td></td>
<td>enumeration Vertical Perpendicular to the plane of the horizon or a base line.</td>
</tr>
<tr>
<td>Used by</td>
<td>Element spase:RenderingHints/spase:RenderingAxis</td>
</tr>
</tbody>
</table>
Parallel to or in the plane of the horizon or a base line.

Perpendicular to the plane of the horizon or a base line.

### Simple Type `spase:Index`

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
The location of an item in an array or vector. An index can be multivalued to represent the location in a multidimensional object. The index of the first item is "1". A value of "0" is a wild card for all elements at the location in an array. A value of "-1" is a reference to the dimension at the location in the array. A "-1" is used when describing the attributes of the dimension, whereas "0" or a positive integer is used to describe attributes of individual elements.

**Diagram**

![Diagram of Index](image)

**Type**
`spase:typeSequence`

**Type hierarchy**
- `xsd:integer`
- `spase:typeSequence`
- `spase:Index`

**Used by**
Elements: `spase:Element/spase:Index, spase:RenderingHints/spase:Index`

**Source**
```xml
<xsd:simpleType name="Index">
  <xsd:documentation xml:lang="en">The location of an item in an array or vector. An index can be multivalued to represent the location in a multidimensional object. The index of the first item is "1". A value of "0" is a wild card for all elements at the location in an array. A value of "-1" is a reference to the dimension at the location in the array. A "-1" is used when describing the attributes of the dimension, whereas "0" or a positive integer is used to describe attributes of individual elements.</xsd:documentation>
  <xsd:restriction base="spase:typeSequence"/>
</xsd:simpleType>
```

### Simple Type `spase:typeSequence`

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
A list of whole number values where the order of the values is fixed. A space separates each value. For example, "1 2 3".

**Diagram**

![Diagram of Type Sequence](image)

**Type**
List of `xsd:integer`

**Used by**
Simple Types: `spase:Index, spase:Size`

**Source**
```xml
<xsd:simpleType name="typeSequence">
  <xsd:documentation xml:lang="en">A list of whole number values where the order of the values is fixed. A space separates each value. For example, "1 2 3".</xsd:documentation>
</xsd:simpleType>
```
Simple Type `spase:ValueFormat`

Namespace: http://www.spase-group.org/data/schema

Annotations: A string defining the output format used when extracting data values out to a file or screen. The magnitude and the number of significant figures needed should be carefully considered. The output format string can be in either Fortran or C syntax.

Diagram: □ [ValueFormat] □ [xsd:string]

Type: xsd:string

Used by: Element `spase:RenderingHints/spase:ValueFormat`

Source:
```
<xsd:simpleType name="ValueFormat">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A string defining the output format used when extracting data values out to a file or screen. The magnitude and the number of significant figures needed should be carefully considered. The output format string can be in either Fortran or C syntax.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

Schema location: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Simple Type `spase:ScaleMin`

Namespace: http://www.spase-group.org/data/schema

Annotations: The minimum value that the variable is expected to attain. Used, for example, by automated plotting software.

Diagram: □ [ScaleMin] □ [xsd:double]

Type: xsd:double

Used by: Element `spase:RenderingHints/spase:ScaleMin`

Source:
```
<xsd:simpleType name="ScaleMin">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The minimum value that the variable is expected to attain. Used, for example, by automated plotting software.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:double"/>
</xsd:simpleType>
```

Schema location: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Simple Type `spase:ScaleMax`

Namespace: http://www.spase-group.org/data/schema

Annotations: The maximum value that the variable is expected to attain. Used, for example, by automated plotting software.

Diagram: □ [ScaleMax] □ [xsd:double]

Type: xsd:double

Used by: Element `spase:RenderingHints/spase:ScaleMax`

Source:
```
<xsd:simpleType name="ScaleMax">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The maximum value that the variable is expected to attain. Used, for example, by automated plotting software.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:double"/>
</xsd:simpleType>
```

Schema location: file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
### Simple Type `spase:ScaleType`

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
Identifiers for scaling applied to a set of numbers.

**Facets**
- **LinearScale**: Intervals which are equally spaced.
- **LogScale**: Intervals which are spaced proportionally to the logarithms of the values being represented.

**Diagram**
- `spase:ScaleType` is a restriction of `xsd:string`.

**Used by**
- Element: `spase:RenderingHints/spase:ScaleType`

**Source**
```xml
<xsd:simpleType name="ScaleType">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">Identifiers for scaling applied to a set of numbers.</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="LinearScale">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">Intervals which are equally spaced.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="LogScale">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">Intervals which are spaced proportionally to the logarithms of the values being represented.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
    </xsd:restriction>
</xsd:simpleType>
```

### Simple Type `spase:Size`

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
The number of elements in each dimension of a multi-dimensional array. A scalar has a size of 1. A multi-dimensional vector will have a size for each dimension. Note that the number of elements in the size of an N-dimensional array conveys the array's dimensionality while the product of those numbers conveys the total number of elements in the array. When size is used to describe a tensor it is the number of elements in the tensor. As such it has a limited set of values. A tensor of rank 1 has a size of 3, rank 2 a size of 9, rank 3 a size of 27 and rank n a size of $3^n$.

**Diagram**
- `spase:Size` is a `spase:typeSequence`.

**Type hierarchy**
- `xsd:integer`
- `spase:typeSequence`
- `spase:Size`

**Used by**
- Element: `spase:Structure/spase:Size`

**Source**
```xml
<xsd:simpleType name="Size">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">The number of elements in each dimension of a multi-dimensional array. A scalar has a size of 1. A multi-dimensional vector will have a size for each dimension. Note that the number of elements in the size of an N-dimensional array conveys the array’s dimensionality while the product of those numbers conveys the total number of elements in the array. When size is used to describe a tensor it is the number of elements in the tensor. As such</xsd:documentation>
    </xsd:annotation>
</xsd:simpleType>
```
it has a limited set of values. A tensor of rank 1 has a size of 3, rank 2 a size of 9, rank 3 a size of 27 and rank n a size of 3^n. </xsd:documentation>
</xsd:annotation>
<xsd:restriction base="spase:typeSequence"/>
</xsd:simpleType>

Schema documentation for spase-2_3_1.xsd

Simple Type spase:Qualifier

<table>
<thead>
<tr>
<th>Facets</th>
<th>enumeration</th>
<th>Anisotropy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Array</td>
<td></td>
<td>A sequence of values corresponding to the elements in a rectilinear, n-dimension matrix. Each value can be referenced by a unique index.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Average</td>
<td></td>
<td>The statistical mean; the sum of a set of values divided by the number of values in the set.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Characteristic</td>
<td></td>
<td>A quantity which can be easily identified and measured in a given environment.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Circular</td>
<td></td>
<td>Relative to polarization, right-hand circularly polarized light is defined such that the electric field is rotating clockwise as seen by an observer towards whom the wave is moving. Left-hand circularly polarized light is defined such that the electric field is rotating counterclockwise as seen by an observer towards whom the wave is moving. The polarization of magnetohydrodynamic waves is specified with respect to the ambient mean magnetic field: right-hand polarized waves have a transverse electric field component which turns in a right-handed sense (that of the gyrating electrons) around the magnetic field.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Column</td>
<td></td>
<td>A two-dimensional measure of a quantity. The column is the area over which the quantity is measured.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Component</td>
<td></td>
<td>Projection of a vector along one of the base axes of a coordinate system.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Component.I</td>
<td></td>
<td>Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Component.J</td>
<td></td>
<td>Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Component.K</td>
<td></td>
<td>Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Confidence</td>
<td></td>
<td>An expression of how certain that a quantity is valid or accurate.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Core</td>
<td></td>
<td>The central or main part of an object or calculated distribution. For example, the part of a distribution of particles at low energies that is a thermal (Maxwellian) population.</td>
</tr>
<tr>
<td>enumeration</td>
<td>CrossSpectrum</td>
<td></td>
<td>The Fourier transform of the cross correlation of two physical or empirical observations.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Deviation</td>
<td></td>
<td>The difference between an observed value and the expected value of a quantity.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Differential</td>
<td></td>
<td>A measurement within a narrow range of energy</td>
</tr>
</tbody>
</table>
Table of enumerations:

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direction</td>
<td>The spatial relation between an object and another object, the orientation of the object or the course along which the object points or moves.</td>
</tr>
<tr>
<td>DirectionAngle</td>
<td>The angle between a position vector or measured vector (or one of its projections onto a plane) and one of the base axes of the coordinate system.</td>
</tr>
<tr>
<td>DirectionAngle.AzimuthAngle</td>
<td>The angle between the projection into the i-j plane of a position or measured vector and the i-axis of the coordinate system. Mathematically defined as arctan(j/i). This term could be also applied to angles measured in different planes, for example the IMF clock angle defined as arctan(</td>
</tr>
<tr>
<td>DirectionAngle.ElevationAngle</td>
<td>The angle between the position or measured vector and the i-j plane of the coordinate system. Mathematically defined as arctan(k/\sqrt(i^2+j^2)).</td>
</tr>
<tr>
<td>DirectionAngle.PolarAngle</td>
<td>The angle between the position or measured vector and the k-axis of the coordinate system. Mathematically defined as arctan(\sqrt(i^2+j^2)/k). This term could be also applied to angles between the vector and other components, for example the IMF cone angle defined as arccos(Bx/Bt).</td>
</tr>
<tr>
<td>DirectionCosine</td>
<td>The cosine of the angle between two vectors usually between a vector and one of the basis axes defining a Cartesian coordinate system. Three angles and thus three direction cosines are required to define a vector direction in a three dimensional Euclidean space.</td>
</tr>
<tr>
<td>DirectionCosine.I</td>
<td>Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the X axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>DirectionCosine.J</td>
<td>Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the Y axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>DirectionCosine.K</td>
<td>Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the Z axis for an RTN coordinate system.</td>
</tr>
<tr>
<td>Directional</td>
<td>A measurement within a narrow range of solid angle.</td>
</tr>
<tr>
<td>FieldAligned</td>
<td>Values that make an model agree with the data.</td>
</tr>
<tr>
<td>Fit</td>
<td>An assemblage of values that a certain relation or common characteristic.</td>
</tr>
<tr>
<td>Halo</td>
<td>The part of an object or distribution surrounding some central body or distribution. For example, the particles above the core energies that show enhancements above the thermal population. Typically, a &quot;power law tail&quot; shows a break from the core Maxwellian at a particular energy.</td>
</tr>
<tr>
<td>Integral</td>
<td>A flux measurement in a broad range of energy and solid angle.</td>
</tr>
<tr>
<td>Integral.Area</td>
<td>Integration over the extent of a planar region, or of the surface of a solid.</td>
</tr>
<tr>
<td>Integral.Bandwidth</td>
<td>Integration over the width a frequency band.</td>
</tr>
<tr>
<td>Integral.SolidAngle</td>
<td>Integration over the angle in three-dimensional space that an object subtends at a point.</td>
</tr>
</tbody>
</table>
| LineOfSight                  | The line of sight is the line that connects the observer with the observed object. This expression is often used with measurements of Doppler velocity and magnetic field in magnetograms, where only the component of the vector field directed along the line of
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear</td>
<td>Polarization where the E-field vector is confined to a given plane</td>
</tr>
<tr>
<td>Magnitude</td>
<td>A measure of the strength of a vector quantity or length of its representational vector.</td>
</tr>
<tr>
<td>Maximum</td>
<td>The largest value of a batch or sample or the upper bound of a probability distribution.</td>
</tr>
<tr>
<td>Median</td>
<td>The measure of central tendency of a set of n. values computed by ordering the values and taking the value at position (n. + 1) / 2 when n. is odd or the arithmetic mean of the values at positions n. / 2 and (n. / 2) + 1 when n. is even.</td>
</tr>
<tr>
<td>Minimum</td>
<td>The smallest value of a batch or sample or the lower bound of a probability distribution.</td>
</tr>
<tr>
<td>Moment</td>
<td>Parameters determined by integration over a distribution function convolved with a power of velocity.</td>
</tr>
<tr>
<td>Parallel</td>
<td>Having the same direction as a given direction</td>
</tr>
<tr>
<td>Peak</td>
<td>The maximum value for the quantity in question, over a period of time which is usually equal to the cadence.</td>
</tr>
<tr>
<td>Perpendicular</td>
<td>At right angles to a given direction.</td>
</tr>
<tr>
<td>Perturbation</td>
<td>Variations in the state of a system.</td>
</tr>
<tr>
<td>Phase</td>
<td>A point or portion in a recurring series of changes.</td>
</tr>
<tr>
<td>PhaseAngle</td>
<td>Phase difference between two or more waves, normally expressed in degrees.</td>
</tr>
<tr>
<td>Projection</td>
<td>A measure of the length of a position or measured vector as projected into a plane of the coordinate system.</td>
</tr>
<tr>
<td>Projection.IJ</td>
<td>A measure of the length of a position or measured vector projected into the i-j (typically X-Y) plane of the coordinate system.</td>
</tr>
<tr>
<td>Projection.IK</td>
<td>A measure of the length of a position or measured vector projected into the i-k (typically X-Z) plane of the coordinate system.</td>
</tr>
<tr>
<td>Projection.JK</td>
<td>A measure of the length of a position or measured vector projected into the j-k (typically Y-Z) plane of the coordinate system.</td>
</tr>
<tr>
<td>Pseudo</td>
<td>Similar to or having the appearance of something else. Can be used to indicate an estimation or approximation of a particular quantity.</td>
</tr>
<tr>
<td>Ratio</td>
<td>The relative magnitudes of two quantities.</td>
</tr>
<tr>
<td>Scalar</td>
<td>A quantity that is completely specified by its magnitude and has no direction.</td>
</tr>
<tr>
<td>Spectral</td>
<td>Characterized as a range or continuum of frequencies.</td>
</tr>
<tr>
<td>StandardDeviation</td>
<td>The square root of the average of the squares of deviations about the mean of a set of data. Standard deviation is a statistical measure of spread or variability.</td>
</tr>
<tr>
<td>StokesParameters</td>
<td>A distribution of particles concentrated in a narrow energy band. The band may be may be aligned with a secondary feature. For example, it may occur in a narrow cone aligned with the mean magnetic field direction.</td>
</tr>
<tr>
<td>Superhalo</td>
<td>The part of an object or distribution surrounding some central body or distribution evident in a second break in the distribution function (e.g., a different power law). It consists of a population at a higher energies than for a halo.</td>
</tr>
<tr>
<td>Symmetric</td>
<td>Equal distribution about one or more axes.</td>
</tr>
</tbody>
</table>
| Tensor        | A generalized linear "quantity" or "geometrical
**Schema documentation for spase-2_3_1.xsd**

<table>
<thead>
<tr>
<th>Schema Documentation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>entity</strong> that can be expressed as a multi-dimensional array relative to a choice of basis of the particular space on which it is defined.</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>The summation of quantities over all possible species.</td>
</tr>
<tr>
<td><strong>Trace</strong></td>
<td>The sum of the elements on the main diagonal (the diagonal from the upper left to the lower right) of a square matrix.</td>
</tr>
<tr>
<td><strong>Uncertainty</strong></td>
<td>A statistically defined discrepancy between a measured quantity and the true value of that quantity that cannot be corrected by calculation or calibration.</td>
</tr>
<tr>
<td><strong>Variance</strong></td>
<td>A measure of dispersion of a set of data points around their mean value. The expectation value of the squared deviations from the mean.</td>
</tr>
<tr>
<td><strong>Vector</strong></td>
<td>A set of parameter values each along some independent variable (e.g., components of a field in three orthogonal spatial directions; atmospheric temperature values at several altitudes, or at a given latitude and longitude).</td>
</tr>
</tbody>
</table>

**Used by**

- **Elements**
  - spase:Element/spase:Qualifier
  - spase:Field/spase:Qualifier
  - spase:Mix/spase:Qualifier
  - spase:Particle/spase:Qualifier
  - spase:Support/spase:Qualifier
  - spase:Wave/spase:Qualifier

**Source**

```xml
<xs:simpleType name="Qualifier">
  <xs:annotation>
    <xs:documentation xml:lang="en">Identifiers for terms which refine the type or attribute of a quantity.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string">
    <xs:enumeration value="Anisotropy">
      <xs:annotation>
        <xs:documentation xml:lang="en">Direction-dependent property.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Array">
      <xs:annotation>
        <xs:documentation xml:lang="en">A sequence of values corresponding to the elements in a rectilinear, n-dimension matrix. Each value can be referenced by a unique index.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Average">
      <xs:annotation>
        <xs:documentation xml:lang="en">The statistical mean; the sum of a set of values divided by the number of values in the set.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Characteristic">
      <xs:annotation>
        <xs:documentation xml:lang="en">A quantity which can be easily identified and measured in a given environment.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Circular">
      <xs:annotation>
        <xs:documentation xml:lang="en">Relative to polarization, right-hand circularly polarized light is defined such that the electric field is rotating clockwise as seen by an observer towards whom the wave is moving. Left-hand circularly polarized light is defined such that the electric field is rotating counterclockwise as seen by an observer towards whom the wave is moving. The polarization of magnetohydrodynamic waves is specified with respect to the ambient mean magnetic field: right-hand polarized waves have a transverse electric field component which turns in a right-handed sense (that of the gyrating electrons) around the magnetic field.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Column">
      <xs:annotation>
        <xs:documentation xml:lang="en">A two-dimensional measure of a quantity. The column is the area over which the quantity is measured.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Component">
      <xs:annotation>
        <xs:documentation xml:lang="en">Projection of a vector along one of the base axes of a coordinate system.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```
<xsd:annotation>
  <xsd:documentation xml:lang="en">Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.</xsd:documentation>
</xsd:annotation>

<xsd:enumeration value="Component.J">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Component.K">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Confidence">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An expression of how certain that a quantity is valid or accurate.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Core">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The central or main part of an object or calculated distribution. For example, the part of a distribution of particles at low energies that is a thermal (Maxwellian) population.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="CrossSpectrum">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The Fourier transform of the cross correlation of two physical or empirical observations.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Deviation">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The difference between an observed value and the expected value of a quantity.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Differential">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A measurement within a narrow range of energy and/or solid angle.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Direction">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The spatial relation between an object and another object, the orientation of the object or the course along which the object points or moves.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="DirectionAngle">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The angle between a position vector or measured vector (or one of its projections onto a plane) and one of the base axes of the coordinate system.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="DirectionAngle.AzimuthAngle">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The angle between the projection into the i-j plane of a position or measured vector and the i-axis of the coordinate system. Mathematically defined as arctan(j/i). This term could be also applied to angles measured in different planes, for example the IMF clock angle defined as arctan(|By|/Bz).</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="DirectionAngle.ElevationAngle">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The angle between the position or measured vector and the i-j plane of the coordinate system. Mathematically defined as arctan(k/SQRT(i^2+j^2)).</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="DirectionAngle.PolarAngle">
  <xsd:annotation>

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The angle between the position or measured vector and the k-axis of the coordinate system. Mathematically defined as arctan(\sqrt{i^2+j^2}/k). This term could be also applied to angles between the vector and other components, for example the IMF cone angle defined as arccos(Bx/Bt).

The cosine of the angle between two vectors usually between a vector and one of the basis axes defining a Cartesian coordinate system. Three angles and thus three direction cosines are required to define a vector direction in a three dimensional Euclidean space.

Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.

Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.

Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.

A measurement within a narrow range of solid angle.

Values that make a model agree with the data.

An assemblage of values that a certain relation or common characteristic.

The part of an object or distribution surrounding some central body or distribution. For example, the particles above the core energies that show enhancements above the thermal population. Typically, a "power law tail" shows a break from the core Maxwellian at a particular energy.

A flux measurement in a broad range of energy and solid angle.

Integration over the extent of a planar region, or of the surface of a solid.

Integration over the width a frequency band.
<xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Integral.SolidAngle"/>
<xsd:annotation>
<xsd:documentation xml:lang="en">Integration over the angle in three-dimensional space that an object subtends at a point.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="LineOfSight"/>
<xsd:annotation>
<xsd:documentation xml:lang="en">The line of sight is the line that connects the observer with the observed object. This expression is often used with measurements of Doppler velocity and magnetic field in magnetograms, where only the component of the vector field directed along the line of sight is measured.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Linear"/>
<xsd:annotation>
<xsd:documentation xml:lang="en">Polarization where the E-field vector is confined to a given plane</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Magnitude"/>
<xsd:annotation>
<xsd:documentation xml:lang="en">A measure of the strength of a vector quantity or length of its representational vector.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Maximum"/>
<xsd:annotation>
<xsd:documentation xml:lang="en">The largest value of a batch or sample or the upper bound of a probability distribution.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Median"/>
<xsd:annotation>
<xsd:documentation xml:lang="en">The measure of central tendency of a set of n. values computed by ordering the values and taking the value at position n / 2 and (n / 2) + 1 when n. is even.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Minimum"/>
<xsd:annotation>
<xsd:documentation xml:lang="en">The smallest value of a batch or sample or the lower bound of a probability distribution.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Moment"/>
<xsd:annotation>
<xsd:documentation xml:lang="en">Parameters determined by integration over a distribution function convolved with a power of velocity.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Parallel"/>
<xsd:annotation>
<xsd:documentation xml:lang="en">Having the same direction as a given direction</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Peak"/>
<xsd:annotation>
<xsd:documentation xml:lang="en">The maximum value for the quantity in question, over a period of time which is usually equal to the cadence.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Perpendicular"/>
<xsd:annotation>
<xsd:documentation xml:lang="en">At right angles to a given direction</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Perturbation"/>
<xsd:annotation>
<xsd:documentation xml:lang="en">Variations in the state of a system.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Phase"/>
<xsd:annotation>
<xsd:documentation xml:lang="en">A point or portion in a recurring series of changes.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="PhaseAngle"/>
Phase difference between two or more waves, normally expressed in degrees.

A measure of the length of a position or measured vector as projected into a plane of the coordinate system.

A measure of the length of a position or measured vector projected into the i-j (typically X-Y) plane of the coordinate system.

A measure of the length of a position or measured vector projected into the i-k (typically X-Z) plane of the coordinate system.

A measure of the length of a position or measured vector projected into the j-k (typically Y-Z) plane of the coordinate system.

Similar to or having the appearance of something else. Can be used to indicate an estimation or approximation of a particular quantity.

The relative magnitudes of two quantities.

A quantity that is completely specified by its magnitude and has no direction.

Characterized as a range or continuum of frequencies.

The square root of the average of the squares of deviations about the mean of a set of data. Standard deviation is a statistical measure of spread or variability.

A distribution of particles concentrated in a narrow energy band. The band may be may be aligned with a secondary feature. For example, it may occur in a narrow cone aligned with the mean magnetic field direction.

The part of an object or distribution surrounding some central body or distribution evident in a second break in the distribution function (e.g., a different power law). It consists of a population at a higher energies than for a halo.
<xsd:simpleType name="ValidMin">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The smallest legitimate value.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>

Schema location file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Simple Type spase:ValidMin**

**Namespace** http://www.spase-group.org/data/schema

**Annotations** The smallest legitimate value.

**Diagram**

**Type** xsd:string

**Used by** Elements spase:Element/spase:ValidMin, spase:Parameter/spase:ValidMin

**Source**

```xml
<sxsd:simpleType name="ValidMin">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The smallest legitimate value.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

Schema location file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Simple Type spase:ValidMax**

**Namespace** http://www.spase-group.org/data/schema

**Annotations** The largest legitimate value.

**Diagram**

**Type** xsd:string

```xml
<sxsd:simpleType name="ValidMax">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The smallest legitimate value.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```
<table>
<thead>
<tr>
<th>Used by</th>
<th>Elements</th>
<th>spase:Element/spase:ValidMax, spase:Parameter/spase:ValidMax</th>
</tr>
</thead>
</table>

**Source**

```xml
<xsd:simpleType name="ValidMax">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The largest legitimate value.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

**Schema location**

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Simple Type spase:FillValue**

**Namespace**

http://www.spase-group.org/data/schema

**Annotations**

A value that indicates that a quantity is undefined.

**Diagram**

![Diagram](image)

**Type**

xsd:string

**Used by**


**Source**

```xml
<xsd:simpleType name="FillValue">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A value that indicates that a quantity is undefined.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

**Schema location**

file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

**Simple Type spase:FieldQuantity**

**Namespace**

http://www.spase-group.org/data/schema

**Annotations**

Identifiers for the physical attribute of the field.

**Diagram**

![Diagram](image)

**Type**

restriction of xsd:string

**Facets**

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Current</th>
<th>The flow of electrons through a conductor caused by a potential difference.</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Electric</td>
<td>The physical attribute that exerts an electrical force.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Electromagnetic</td>
<td>Electric and magnetic field variations in time and space that propagate through a medium or a vacuum with the wave’s propagation, electric field, and magnetic field vectors forming an orthogonal triad. Waves in this category are detected by having their field quantities measured.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Gyrofrequency</td>
<td>The number of gyrations around a magnetic guiding center (field line) a charged particle makes per unit time due to the Lorentz force.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Magnetic</td>
<td>The physical attribute attributed to a magnet or its equivalent.</td>
</tr>
<tr>
<td>enumeration</td>
<td>PlasmaFrequency</td>
<td>A number-density-dependent characteristic frequency of a plasma.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Potential</td>
<td>The work required per unit charge to move a charge from a reference point to a point at infinity (electric potential is defined to be zero). The electric potential of a spacecraft is often referred to as the &quot;spacecraft potential&quot;. The spacecraft potential is the electric potential of the spacecraft relative to the potential of the nearby plasma. The spacecraft potential is non-zero because the spacecraft charges to the level that the emitted photoelectron flux going to infinity is balanced by the</td>
</tr>
</tbody>
</table>

---

295
plasma electron flux to the spacecraft.

**PoyntingFlux**
Electromagnetic energy flux transported by a wave characterized as the rate of energy transport per unit area per steradian.

Used by

<table>
<thead>
<tr>
<th>Source</th>
<th>Element</th>
<th>spase:Field/spase:FieldQuantity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;xsd:simpleType name=&quot;FieldQuantity&quot;&gt;</td>
<td>&lt;/xsd:simpleType&gt;</td>
</tr>
</tbody>
</table>

**Source**

| <xsd:restriction base="xsd:string"> | 
| <xsd:enumeration value="Current"> | 
| <xsd:annotation> | 
| <xsd:documentation xml:lang="en"> | 
| The flow of electrons through a conductor caused by a potential difference. | </xsd:documentation> |
| </xsd:annotation> | 
| </xsd:enumeration> | 
| <xsd:enumeration value="Electric"> | 
| <xsd:annotation> | 
| <xsd:documentation xml:lang="en"> | 
| The physical attribute that exerts an electrical force. | </xsd:documentation> |
| </xsd:annotation> | 
| </xsd:enumeration> | 
| <xsd:enumeration value="Electromagnetic"> | 
| <xsd:annotation> | 
| <xsd:documentation xml:lang="en"> | 
| Electric and magnetic field variations in time and space that propagate through a medium or a vacuum with the wave's propagation, electric field, and magnetic field vectors forming an orthogonal triad. Waves in this category are detected by having their field quantities measured. | </xsd:documentation> |
| </xsd:annotation> | 
| </xsd:enumeration> | 
| <xsd:enumeration value="Gyrofrequency"> | 
| <xsd:annotation> | 
| <xsd:documentation xml:lang="en"> | 
| The number of gyrations around a magnetic guiding center (field line) a charged particle makes per unit time due to the Lorentz force. | </xsd:documentation> |
| </xsd:annotation> | 
| </xsd:enumeration> | 
| <xsd:enumeration value="Magnetic"> | 
| <xsd:annotation> | 
| <xsd:documentation xml:lang="en"> | 
| The physical attribute attributed to a magnet or its equivalent. | </xsd:documentation> |
| </xsd:annotation> | 
| </xsd:enumeration> | 
| <xsd:enumeration value="PlasmaFrequency"> | 
| <xsd:annotation> | 
| <xsd:documentation xml:lang="en"> | 
| A number-density-dependent characteristic frequency of a plasma. | </xsd:documentation> |
| </xsd:annotation> | 
| </xsd:enumeration> | 
| <xsd:enumeration value="Potential"> | 
| <xsd:annotation> | 
| <xsd:documentation xml:lang="en"> | 
| The work required per unit charge to move a charge from a reference point to a point at infinity (electric potential is defined to be zero). The electric potential of a spacecraft is often referred to as the "spacecraft potential". The spacecraft potential is the electric potential of the spacecraft relative to the potential of the nearby plasma. The spacecraft potential is non-zero because the spacecraft charges to the level that the emitted photoelectron flux going to infinity is balanced by the plasma electron flux to the spacecraft. | </xsd:documentation> |
| </xsd:annotation> | 
| </xsd:enumeration> | 
| <xsd:enumeration value="PoyntingFlux"> | 
| <xsd:annotation> | 
| <xsd:documentation xml:lang="en"> | 
| Electromagnetic energy flux transported by a wave characterized as the rate of energy transport per unit area per steradian. | </xsd:documentation> |
| </xsd:annotation> | 
| </xsd:enumeration> | 
| </xsd:restriction> | 

**Simple Type** spase:SpectralRange

**Namespace** | http://www.spase-group.org/data/schema

**Annotations**

Identifiers for names associated with wavelengths. Based on the ISO 21348 Solar Irradiance Standard. Additions have been made to extend the frequency ranges to include those used in space physics.
Those additions are indicated in blue text.
The "Total Solar Irradiance" category has not been included since it is a type of measurement and not a specific spectral range. See Appendix A - Comparison of Spectrum Domains for a comparison of the spectral ranges with other systems.

Diagram

Type

restriction of xsd:string

Facets

enumeration CaK A spectrum with a wavelength range centered near 393.5 nm. VSO nickname: Ca-K image with range of 391.9 nm to 395.2 nm.

enumeration ExtremeUltraviolet A spectrum with a wavelength range of 10.0 nm to 125.0 nm. VSO nickname: EUV image with a range of 10.0 nm to 125.8 nm.

enumeration FarUltraviolet A spectrum with a wavelength range of 122 nm to 200.0 nm. VSO nickname: FUV image with a range of 122.0 nm to 200 nm.

enumeration Gamma Rays Photons with a wavelength range: 0.00001 to 0.001 nm

enumeration Halpha A spectrum with a wavelength range centered at 656.3 nm. VSO nickname: H-alpha image with a range of 655.8 nm to 656.8 nm.

enumeration HardXrays Photons with a wavelength range: 0.001 to 0.1 nm and an energy range of 12 keV to 120 keV

enumeration He10830 A spectrum with a wavelength range centered at 1082.9 nm. VSO nickname: He 10830 image with range of 1082.5 nm to 1083.3 nm.

enumeration He304 A spectrum centered around the resonance line of ionised helium at 304 Angstrom (30.4 nm).

enumeration Infrared Photons with a wavelength range: 760 to 1.00x10^6 nm

enumeration K7699 A spectrum with a wavelength range centered at 769.3 nm. VSO nickname: K-769 dopplergram with a range of 768.8 nm to 770.8 nm.

enumeration LBHBand Lyman-Birge-Hopfield band in the far ultraviolet range with wavelength range of 140nm to 170 nm.

enumeration Microwave Photons with a wavelength range: 1.00x10^6 to 1.50x10^7 nm

enumeration NaD A spectrum with a wavelength range centered at 589.3 nm. VSO nickname: Na-D image with a range of 588.8 nm to 589.8 nm.

enumeration Ni6768 A spectrum with a wavelength range centered at 676.8 nm. VSO nickname: Ni-6768 dopplergram with a range of 676.7 nm to 676.9 nm.

enumeration Optical Photons with a wavelength range: 380 to 760 nm

enumeration RadioFrequency Photons with a wavelength range: 100,000 to 1.00x10^11 nm

enumeration SoftXRays X-Rays with an energy range of 0.12 keV to 12 keV.

enumeration Ultraviolet Photons with a wavelength range: 10 to 400 nm.

enumeration WhiteLight Photons with a wavelength in the visible range for humans.

enumeration Xrays Photons with a wavelength range: 0.001 <= x < 10 nm

Used by Elements


Source

<xsd:simpleType name="SpectralRange">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for names associated with wavelengths. Based on the ISO 21348 Solar Irradiance Standard. Additions have been made to extend the frequency ranges to include those used in space physics. Those additions are indicated in blue text. The "Total Solar Irradiance" category has not been included since it is a type of measurement and not a specific</xsd:documentation>
  </xsd:annotation>
</xsd:simpleType>
spectral range. See Appendix A - Comparison of Spectrum Domains for a comparison of the spectral ranges with other systems.

- CaK: A spectrum with a wavelength centered near 393.5 nm. VSO nickname: Ca-K image with range of 393.9 nm to 393.2 nm.
- EUV: A spectrum with a wavelength range of 10.0 nm to 125.0 nm. VSO nickname: EUV image with a range of 10.0 nm to 125.0 nm.
- FUV: A spectrum with a wavelength range of 122.0 nm to 200.0 nm. VSO nickname: FUV image with a range of 122.0 nm to 200.0 nm.
- Gamma Rays: Photons with a wavelength range: 0.00001 to 0.001 nm.
- H-alpha: A spectrum with a wavelength range centered at 656.3 nm. VSO nickname: H-alpha image with a spectrum range of 655.8 nm to 656.8 nm.
- He 10830: A spectrum with a wavelength range centered at 1082.9 nm. VSO nickname: He 10830 image with a range of 1082.5 nm to 1083.3 nm.
- LBH Band: Lyman-Birge-Hopfield band in the far ultraviolet range with wavelength range of 140 nm to 170 nm.
- Microwave: Photons with a wavelength range: 1.00x10^6 to 1.50x10^7 nm.
- NaD: A spectrum with a wavelength range of centered at 589.3 nm. VSO nickname: Na-D image with a range of 588.8 nm to 589.8 nm.
A spectrum with a wavelength range centered at 676.8 nm.
VSO nickname: Ni-6768 dopplergram with a range of of 676.7 nm to 676.9 nm.

Photons with a wavelength range: 380 to 760 nm.

Photons with a wavelength range: 100,000 to 1.00x10^11 nm.

X-Rays with an energy range of 0.12 keV to 12 keV.

Photons with a wavelength range: 10 to 400 nm.

Photons with a wavelength in the visible range for humans.

Photons with a wavelength range: 0.001 <= x < 10 nm.

The smallest value within a range of possible values.

The largest value within a range of possible values.
**Simple Type spase:BandName**

**Namespace**  http://www.spase-group.org/data/schema

**Annotations** A common or provider assigned name for a range of values.

**Diagram**

![Diagram](BandName.png)

**Type**  xsd:string

**Used by**  Element  spase:Bin/spase:BandName

**Source**

```xml
<xs:simpleType name="BandName">
  <xs:annotation>
    <xs:documentation xml:lang="en">A common or provider assigned name for a range of values.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string"/>
</xs:simpleType>
```

**Schema location** file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Simple Type spase:ParticleType**

**Namespace**  http://www.spase-group.org/data/schema

**Annotations** Identifiers for the characterization of the kind of particle observed by the measurement.

**Diagram**

![Diagram](ParticleType.png)

**Type**  restriction of xsd:string

**Facets**

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerosol</td>
<td>A suspension of fine solid or liquid particles in a gas.</td>
</tr>
<tr>
<td>AlphaParticle</td>
<td>A positively charged nuclear particle that consists of two protons and two neutrons.</td>
</tr>
<tr>
<td>Atom</td>
<td>Matter consisting of a nucleus surrounded by electrons which has no net charge.</td>
</tr>
<tr>
<td>Dust</td>
<td>Free microscopic particles of solid material.</td>
</tr>
<tr>
<td>Electron</td>
<td>An elementary particle consisting of a charge of negative electricity equal to about 1.602 x 10^-19 Coulomb and having a mass when at rest of about 9.109534 x 10^-28 gram.</td>
</tr>
<tr>
<td>Ion</td>
<td>An atom that has acquired a net electric charge by gaining or losing one or more electrons. (Note: Z&gt;2)</td>
</tr>
<tr>
<td>Molecule</td>
<td>A group of atoms so united and combined by chemical affinity that they form a complete, integrated whole, being the smallest portion of any particular compound that can exist in a free state</td>
</tr>
<tr>
<td>Neutron</td>
<td>An elementary particle that has no net charge and is a constituent of atomic nuclei, and that has a mass slightly larger than a proton (1.673 x 10^-24 gram.)</td>
</tr>
<tr>
<td>Positron</td>
<td>An elementary particle consisting of a charge of positive electricity equal to about 1.602 x 10^-19 Coulomb and having a mass when</td>
</tr>
</tbody>
</table>

---

**Type**  xsd:double


**Source**

```xml
<xs:simpleType name="High">
  <xs:annotation>
    <xs:documentation xml:lang="en">The largest value within a range of possible values.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:double"/>
</xs:simpleType>
```

**Schema location** file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

300
An elementary particle that is a constituent of all atomic nuclei, that carries a positive charge numerically equal to the charge of an electron, and that has a mass of $1.673 \times 10^{-24}$ gram.

A suspension of fine solid or liquid particles in a gas.

Matter consisting of a nucleus surrounded by electrons which has no net charge.

Free microscopic particles of solid material.

An elementary particle consisting of a charge of negative electricity equal to about $1.602 \times 10^{-19}$ Coulomb and having a mass when at rest of about $9.109534 \times 10^{-28}$ gram.

An atom that has acquired a net electric charge by gaining or losing one or more electrons. (Note: $Z>2$)

A group of atoms so united and combined by chemical affinity that they form a complete, integrated whole, being the smallest portion of any particular compound that can exist in a free state.

An elementary particle that has no net charge and is a constituent of atomic nuclei, and that has a mass slightly larger than a proton ($1.673 \times 10^{-24}$ gram.).

An elementary particle consisting of a charge of positive electricity equal to about $1.603 \times 10^{-19}$ Coulomb and having a mass when at rest of about $9.109534 \times 10^{-28}$ gram.
Simple Type `spase:ParticleQuantity`

<table>
<thead>
<tr>
<th>Facets</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration AdiabaticInvariant</td>
<td>A property of a physical system usually related to periodic phenomena that remains constant under slowly varying conditions.</td>
</tr>
<tr>
<td>enumeration AdiabaticInvariant.BounceMotion</td>
<td>The second adiabatic invariant is associated with periodic bounce motion of charged particles trapped between two magnetic mirrors on a magnetic field line. The second invariant, termed $J$, is defined by using the integral $J = m \int \mathbf{v} \cdot ds$ where $m$ is the mass of the charged particle, $\mathbf{v}$ is the particle velocity along the field line, and $ds$ represents elemental arc lengths along the field line. The second adiabatic invariant is conserved as long as changes in the background magnetic field occur at time scales much longer than the bounce time of the charged particles.</td>
</tr>
<tr>
<td>enumeration AdiabaticInvariant.DriftMotion</td>
<td>The third invariant for charged particle motion in a dipolar magnetic field is associated with drift of its guiding center in the equatorial plane. The conserved quantity, $J &lt;phi&gt;^2/sub&gt;, is equal to qPhi; where q is the particle charge and $\Phi$ is the magnetic flux enclosed within the particle drift path.</td>
</tr>
<tr>
<td>enumeration AdiabaticInvariant.MagneticMoment</td>
<td>A constant of motion related to the gyromotion of a particle in a magnetic field that is either static or slowly varying with respect to the gyroperiod. The magnetic moment is usually denoted by using the lower case Greek letter for mu, $\mu$, and can be calculated by using $\mu = m u^2/2B$ where $m$ is the particle mass, $u$ is the velocity of the particle perpendicular to the constant or average magnetic field direction, and $B$ is the magnitude of the magnetic field strength.</td>
</tr>
<tr>
<td>enumeration ArrivalDirection</td>
<td>An angular measure of the direction from which an energetic particle or photon was incident on a detector. The angles may be measured in any coordinate system.</td>
</tr>
<tr>
<td>enumeration AtomicNumberDetected</td>
<td>The number of protons in the nucleus of an atom as determined by a detector.</td>
</tr>
<tr>
<td>enumeration AverageChargeState</td>
<td>A measure of the composite deficit (positive) or excess (negative) of electrons with respect to protons.</td>
</tr>
<tr>
<td>enumeration ChargeState</td>
<td>Charge of a fully or partially stripped ion, in units of the charge of a proton. Charge state of a bare proton = 1.</td>
</tr>
<tr>
<td>enumeration CountRate</td>
<td>The number of events per unit time.</td>
</tr>
<tr>
<td>enumeration Counts</td>
<td>The number of detection events occurring in a detector over the detector accumulation time.</td>
</tr>
<tr>
<td>enumeration Energy</td>
<td>The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy).</td>
</tr>
<tr>
<td>enumeration EnergyDensity</td>
<td>The amount of energy per unit volume.</td>
</tr>
<tr>
<td>enumeration EnergyFlux</td>
<td>The amount of energy passing through a unit area in a unit time.</td>
</tr>
<tr>
<td>enumeration Entropy</td>
<td>A function of thermodynamic quantity, such as temperature, pressure, or composition.</td>
</tr>
</tbody>
</table>
that is a measure of the energy that is not available for work during a thermodynamic process. It is often interpreted as the degree of disorder or randomness in the system.

- **FlowSpeed**
  - The rate at which particles or energy is passing through a unit area in a unit time.

- **FlowVelocity**
  - The volume of matter passing through a unit area perpendicular to the direction of flow in a unit of time.

- **Fluence**
  - The time integral of a flux. A fluence does not have any "per unit time" in its units.

- **GeometricFactor**
  - A measure of the gathering power of a particle detector. The geometric factor can be used to correct particle measurements by accounting for the fact that only a fraction of source particles are able to gain entry through the aperture of a detector. For an isotropic source distribution, the geometric factor corresponds to the solid angle subtended by the aperture. In practice, determination of the geometric factor requires numerical modeling and depends on detector design and the characteristics of the source.

- **Gyrofrequency**
  - The number of gyrations around a magnetic guiding center (field line) a charged particle makes per unit time due to the Lorentz force.

- **HeatFlux**
  - Flow of thermal energy through a gas or plasma; typically computed as third moment of a distribution function.

- **Mass**
  - The measure of inertia (mass) of individual objects (e.g., aerosols).

- **MassDensity**
  - The mass of particles per unit volume.

- **MassNumber**
  - The total number of protons and neutrons (together known as nucleons) in an atomic nucleus.

- **NumberDensity**
  - The number of particles per unit volume.

- **NumberFlux**
  - The number of particles passing a unit area in unit time, possibly also per unit energy (or equivalent) and/or per unit look direction.

- **ParticleRadius**
  - The mean radius for a Gaussian distribution of particles with an axial ratio of 2 and a distribution width that varies as 0.5 radius. A value of zero means no cloud was detected.

- **PhaseSpaceDensity**

- **PlasmaFrequency**
  - A number-density-dependent characteristic frequency of a plasma.

- **Pressure**
  - The force per unit area exerted by a particle distribution or field.

- **SonicMachNumber**
  - The ratio of the bulk flow speed to the speed of sound in the medium.

- **SoundSpeed**
  - The speed at which sound travels through a medium.

- **Temperature**
  - A measure of the kinetic energy of random motion with respect to the average. Temperature is properly defined only for an equilibrium particle distribution (Maxwellian distribution).

- **ThermalSpeed**
  - For a Maxwellian distribution, the difference between the mean speed and the speed within which ~69% (one sigma) of all the members of the speed distribution occur.

- **Velocity**
  - Rate of change of position. Also used for the average velocity of a collection of particles, also referred to as "bulk velocity".
AdiabaticInvariant

A property of a physical system usually related to periodic phenomena that remains constant under slowly varying conditions.

AdiabaticInvariant.BounceMotion

The second adiabatic invariant is associated with periodic bounce motion of charged particles trapped between two magnetic mirrors on a magnetic field line. The second invariant, termed \( J \), is defined by using the integral \( J = m \int \text{v}|| \, ds \) where \( m \) is the mass of the charged particle, \( \text{v}|| \) is the particle velocity along the field line, and \( ds \) represents elemental arc lengths along the field line. The adiabatic invariant is conserved as long as changes in the background magnetic field occur at time scales much longer than the bounce time of the charged particles.

AdiabaticInvariant.DriftMotion

The third invariant for charged particle motion in a dipolar magnetic field is associated with drift of its guiding center in the equatorial plane. The conserved quantity, \( J^2 \), is equal to \( q\Phi \) where \( q \) is the particle charge and \( \Phi \) is the magnetic flux enclosed within the particle drift path.

AdiabaticInvariant.MagneticMoment

A constant of motion related to the gyromotion of a particle in a magnetic field that is either static or slowly varying with respect to the gyroperiod. The magnetic moment is usually denoted by using the lower case Greek letter for mu, \( \mu \), and can be calculated by using \( \mu = m \text{u}^2/2B \) where \( m \) is the particle mass, \( \text{u} \) is the velocity of the particle perpendicular to the constant or average magnetic field direction, and \( B \) is the magnitude of the magnetic field strength.

ArrivalDirection

An angular measure of the direction from which an energetic particle or photon was incident on a detector. The angles may be measured in any coordinate system.

AtomicNumberDetected

The number of protons in the nucleus of an atom as determined by a detector.

AverageChargeState

A measure of the composite deficit (positive) or excess (negative) of electrons with respect to protons.

ChargeState

Charge of a fully or partially stripped ion, in units of the charge of a proton. Charge state of a bare proton = 1.

CountRate

The number of events per unit time.

Counts

The number of detection events occurring in a detector over the detector accumulation time.

Energy

The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy).

EnergyDensity

The amount of energy per unit volume.
The amount of energy passing through a unit area in a unit time.

A function of thermodynamic quantity, such as temperature, pressure, or composition, that is a measure of the energy that is not available for work during a thermodynamic process. It is often interpreted as the degree of disorder or randomness in the system.

The rate at which particles or energy is passing through a unit area in a unit time.

The volume of matter passing through a unit area perpendicular to the direction of flow in a unit of time. The time integral of a flux. A fluence does not have any "per unit time" in its units.

A measure of the gathering power of a particle detector. The geometric factor can be used to correct particle measurements by accounting for the fact that only a fraction of source particles are able to gain entry through the aperture of a detector. For an isotropic source distribution, the geometric factor corresponds to the solid angle subtended by the aperture. In practice, determination of the geometric factor requires numerical modeling and depends on detector design and the characteristics of the source.

The number of gyrations around a magnetic guiding center (field line) a charged particle makes per unit time due to the Lorentz force.

Flow of thermal energy through a gas or plasma; typically computed as third moment of a distribution function.

The measure of inertia (mass) of individual objects (e.g., aerosols). The mass of particles per unit volume.

The total number of protons and neutrons (together known as nucleons) in an atomic nucleus.

The number of particles per unit volume. The number of particles passing a unit area in unit time, possibly also per unit energy (or equivalent) and/or per unit look direction.
### Simple Type `spase:AtomicNumber`

<table>
<thead>
<tr>
<th><strong>Namespace</strong></th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annotations</strong></td>
<td>The number of protons in the nucleus of an atom.</td>
</tr>
<tr>
<td><strong>Diagram</strong></td>
<td><img src="AtomicNumber.png" alt="Diagram" /></td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td><code>xsd:double</code></td>
</tr>
<tr>
<td><strong>Used by</strong></td>
<td><code>spase:Particle/spase:AtomicNumber</code></td>
</tr>
</tbody>
</table>
| **Source** | `<xsd:simpleType name="AtomicNumber">  
<xsd:annotation>  
<xsd:documentation xml:lang="en">The number of protons in the nucleus of an atom.</xsd:annotation>  
<xsd:restriction>` |
### Simple Type `spase:WaveType`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>Identifiers for the carrier or phenomenon of wave information observed by the measurement.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>restriction of xsd:string</td>
</tr>
<tr>
<td>Facets</td>
<td></td>
</tr>
<tr>
<td></td>
<td>enumeration</td>
</tr>
<tr>
<td></td>
<td>enumeration</td>
</tr>
<tr>
<td></td>
<td>enumeration</td>
</tr>
<tr>
<td></td>
<td>enumeration</td>
</tr>
<tr>
<td></td>
<td>enumeration</td>
</tr>
<tr>
<td></td>
<td>enumeration</td>
</tr>
</tbody>
</table>

### Source
```xml
<xsd:simpleType name="WaveType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for the carrier or phenomenon of wave information observed by the measurement.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="Electromagnetic">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Electric and magnetic field variations in time and space that propagate through a medium or a vacuum with the wave's propagation, electric field, and magnetic field vectors forming an orthogonal triad. Waves in this category are detected by having their field quantities measured.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Electrostatic">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Collective longitudinal electric-field and plasma oscillations trapped within a body of plasma.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Hydrodynamic">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Periodic or quasi-periodic oscillations of fluid quantities.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="MHD">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Hydrodynamic waves in a magnetized plasma in which the background magnetic field plays a key role in controlling the wave propagation characteristics.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Photon">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Electromagnetic waves detected by techniques that utilize their corpuscular character (e.g., CCD, CMOS, photomultipliers).</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="PlasmaWaves">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Self-consistent collective oscillations of particles and fields (electric and magnetic) in a plasma.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```
Schema documentation for spase-2_3_1.xsd

Simple Type spase:WaveQuantity

Namespace http://www.spase-group.org/data/schema

Annotations Identifiers for the characterization of the physical properties of a wave.

Diagram

Type

restriction of xsd:string

Facets

table

<table>
<thead>
<tr>
<th>Facet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enumeration</td>
<td>ACElectricField</td>
</tr>
<tr>
<td>Enumeration</td>
<td>ACMagneticField</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Absorption</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Albedo</td>
</tr>
<tr>
<td>Enumeration</td>
<td>DopplerFrequency</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Emissivity</td>
</tr>
<tr>
<td>Enumeration</td>
<td>EnergyFlux</td>
</tr>
<tr>
<td>Enumeration</td>
<td>EquivalentWidth</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Frequency</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Gyrofrequency</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Intensity</td>
</tr>
<tr>
<td>Enumeration</td>
<td>LineDepth</td>
</tr>
<tr>
<td>Enumeration</td>
<td>LowerHybridFrequency</td>
</tr>
<tr>
<td>Enumeration</td>
<td>MagneticField</td>
</tr>
</tbody>
</table>
by methods such as Zeeman splitting, etc.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ModeAmplitude</td>
<td>In helioseismology the magnitude of oscillation of waves of a particular geometry.</td>
</tr>
<tr>
<td>PlasmaFrequency</td>
<td>A number-density-dependent characteristic frequency of a plasma.</td>
</tr>
<tr>
<td>Polarization</td>
<td>Direction of the electric vector of an electromagnetic wave. The wave can be linearly polarized in any direction perpendicular to the direction of travel, circularly polarized (clockwise or counterclockwise), unpolarized, or mixtures of the above.</td>
</tr>
<tr>
<td>PoyntingFlux</td>
<td>Electromagnetic energy flux transported by a wave characterized as the rate of energy transport per unit area per steradian.</td>
</tr>
<tr>
<td>PropagationTime</td>
<td>Time difference between transmission and reception of a wave in an active wave experiment.</td>
</tr>
<tr>
<td>StokesParameters</td>
<td></td>
</tr>
<tr>
<td>UpperHybridFrequency</td>
<td>Upper hybrid oscillations involve longitudinal motions of electrons perpendicular to the magnetic field. The upper hybrid frequency, $\Phi_{UH}$, is governed by the relationship $\Phi_{UH}^2 = \Phi_{pe}^2 + \Theta_{ce}^2$ where $\Phi_{pe}$ is electron plasma frequency and $\Theta_{ce}$ is the electron cyclotron frequency.</td>
</tr>
<tr>
<td>Velocity</td>
<td>Rate of change of position. Also used for the average velocity of a collection of particles, also referred to as &quot;bulk velocity&quot;.</td>
</tr>
<tr>
<td>Wavelength</td>
<td>The peak-to-peak distance over one wave period.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Element</th>
<th>spase:Wave/spase:WaveQuantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>&lt;xsd:simpleType name=&quot;WaveQuantity&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Identifiers for the characterization of the physical properties of a wave.&lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:restriction base=&quot;xsd:string&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;ACElectricField&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Alternating electric field component of a wave.</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:enumeration&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;ACMagneticField&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Alternating magnetic field component of a wave.</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;Absorption&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Decrease of radiant energy (relative to the background continuum spectrum).</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;Albedo&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;The ratio of reflected radiation from the surface to incident radiation upon it.</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;DopplerFrequency&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Change in the frequency of a propagating wave due to motion of the source, the observer, the reflector, or the propagation medium.</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;Emissivity&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;The energy emitted spontaneously per unit bandwidth (typically frequency) per unit time per unit mass of source. Emissivity is usually integrated over all directions/solid angles.</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:documentation&gt;</td>
</tr>
</tbody>
</table>

309
<xsd:enumeration value="EnergyFlux">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The amount of energy passing through a unit area in a unit time.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="EquivalentWidth">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The spectral width of a total absorption line having the amount of absorbed radiant energy being equivalent to that in an observed absorption line.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Frequency">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The number of occurrences of a repeating event per unit time.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Gyrofrequency">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The number of gyrations around a magnetic guiding center (field line) a charged particle makes per unit time due to the Lorentz force.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Intensity">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The measurement of radiant or wave energy per unit detector area per unit bandwidth per unit solid angle per unit time.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="LineDepth">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The measure of the amount of absorption below the continuum (depth) in a particular wavelength or frequency in an absorption spectrum.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="LowerHybridFrequency">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Lower hybrid oscillations involve longitudinal motions of electrons and ions in a magnetized plasma. The propagation of lower hybrid waves must be close to perpendicular to the background magnetic field in so that electrons cannot move along field lines thus preventing wave growth. The lower hybrid frequency, &Phi;<sub>LH</sub>, can be calculated by using &Phi;<sub>LH</sub> = \([&Omega;<sub>ce</sub>&Omega;<sub>ci</sub>)<sup>-1</sup> + &Phi;<sub>pi</sub><sup>-2</sup>\]<sup>-1/2</sup> where &Omega;<sub>ce</sub> and &Omega;<sub>ci</sub> are the electron and ion cyclotron frequencies, respectively, and Phi;<sub>LH</sub> is the ion plasma frequency.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="MagneticField">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A region of space near a magnetized body where magnetic forces can be detected (as measured by methods such as Zeeman splitting, etc.).</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="ModeAmplitude">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">In helioseismology the magnitude of oscillation of waves of a particular geometry.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="PlasmaFrequency">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A number-density-dependent characteristic frequency of a plasma.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Polarization">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Direction of the electric vector of an electromagnetic wave. The wave can be linearly polarized in any direction perpendicular to the direction of travel, circularly polarized (clockwise or counterclockwise), unpolarized, or mixtures of the above.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="PoyntingFlux">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Electromagnetic energy flux transported by a wave characterized as the rate of energy transport per unit area per steradian.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="PropagationTime">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The amount of energy passing through a unit area in a unit time.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:annotation>
  <xsd:documentation xml:lang="en">Time difference between transmission and reception of a wave in an active wave experiment.</xsd:documentation>
</xsd:annotation>

<xsd:enumeration value="StokesParameters">  
  <xsd:annotation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="UpperHybridFrequency"> 
  <xsd:annotation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Velocity"> 
  <xsd:annotation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Wavelength"> 
  <xsd:annotation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:restriction>
</xsd:simpleType>

Simple Type spase:MixedQuantity

Namespace http://www.spase-group.org/data/schema

Annotations Identifiers for the combined attributes of a mixed parameter quantity.

Diagram

Type restriction of xsd:string

Facets

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AkasofuEpsilon</td>
<td>A measure of the magnetopause energy flux and an indicator of the solar wind power available for subsequent magnetospheric energization. Defined as: (V^2B^2/2\sin^4(\theta/2)) where (B) is the IMF, (f) is an empirical scaling parameter equal to 7 RE, and (\theta = \tan(B_\parallel/B_\perp)^{-1}) the IMF clock angle.</td>
</tr>
<tr>
<td>AlfvenMachNumber</td>
<td>The ratio of the bulk flow speed to the Alfven speed.</td>
</tr>
<tr>
<td>AlfvenVelocity</td>
<td>Phase velocity of the Alfven wave; in SI units it is the velocity of the magnetic field divided by the square root of the mass density times the permeability of free space ((mu)).</td>
</tr>
<tr>
<td>FrequencyToGyrofrequencyRatio</td>
<td>Ratio of the characteristic frequency of a medium to gyrofrequency of a particle.</td>
</tr>
<tr>
<td>IMFClockAngle</td>
<td>The clockwise angle of the direction of interplanetary magnetic field (IMF) measured in the plane of the body pole perpendicular to the line between the body and the Sun.</td>
</tr>
<tr>
<td>MagnetosonicMachNumber</td>
<td>The ratio of the velocity of fast mode waves to the Alfven velocity.</td>
</tr>
<tr>
<td>Other</td>
<td>Not classified with more specific terms. The context of its usage may be described in related text.</td>
</tr>
<tr>
<td>PlasmaBeta</td>
<td>The ratio of the plasma pressure (nkT) to the magnetic pressure (B^2/2mu0) of the SUM(nkT)/(B^2/2mu0).</td>
</tr>
</tbody>
</table>
Table:

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SolarUVFlux</td>
<td>The amount of Ultraviolet energy originating from the Sun passing through a unit area in a unit time.</td>
</tr>
<tr>
<td>TotalPressure</td>
<td>In an MHD fluid it is the number density (N) times Boltzmann constant times the temperature in Kelvin.</td>
</tr>
<tr>
<td>VCrossB</td>
<td>The cross product of the charge velocity (V) and the magnetic field (B). It is the electric field exerted on a point charge by a magnetic field.</td>
</tr>
</tbody>
</table>

Source:

```xml
<xs:simpleType name="MixedQuantity">
  <xs:annotation>
    <xs:documentation xml:lang="en">Identifiers for the combined attributes of a mixed parameter quantity.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string">
    <xs:enumeration value="AkasofuEpsilon">
      <xs:annotation>
        <xs:documentation xml:lang="en">A measure of the magnetopause energy flux and an indicator of the solar-wind power available for subsequent magnetospheric energization. Defined as: V*B^2*l^2*sin(theta/2)^4 where B is the IMF, l is an empirical scaling parameter equal to 7 RE, and theta = tan(BY /BZ)^-1 the IMF clock angle. </xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="AlfvenMachNumber">
      <xs:annotation>
        <xs:documentation xml:lang="en">The ratio of the bulk flow speed to the Alfven speed.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="AlfvenVelocity">
      <xs:annotation>
        <xs:documentation xml:lang="en">Phase velocity of the Alfven wave; In SI units it is the velocity of the magnetic field divided by the square root of the mass density times the permeability of free space (mu). </xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="FrequencyToGyrofrequencyRatio">
      <xs:annotation>
        <xs:documentation xml:lang="en">The ratio of the characteristic frequency of a medium to gyrofrequency of a particle. </xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="IMFClockAngle">
      <xs:annotation>
        <xs:documentation xml:lang="en">The clockwise angle of the direction of interplanetary magnetic field (IMF) measured in the plane of the body pole perpendicular to the line between the body and the Sun. </xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="MagnetosonicMachNumber">
      <xs:annotation>
        <xs:documentation xml:lang="en">The ratio of the velocity of fast mode waves to the Alfven velocity. </xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Other">
      <xs:annotation>
        <xs:documentation xml:lang="en">Not classified with more specific terms. The context of its usage may be described in related text. </xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="PlasmaBeta">
      <xs:annotation>
        <xs:documentation xml:lang="en">The ratio of the plasma pressure (nkT) to the magnetic pressure (B^2/2mu0) of the SUM(nkT)/(B^2/2mu0). </xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="SolarUVFlux">
      <xs:annotation>
        <xs:documentation xml:lang="en">The amount of Ultraviolet energy originating from the Sun passing through a unit area in a unit time. </xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="TotalPressure">
      <xs:annotation>
        <xs:documentation xml:lang="en">In an MHD fluid it is the number density (N) times Boltzmann constant times the temperature in Kelvin. </xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```
Simple Type `spase:SupportQuantity`

**Namespace**
http://www.spase-group.org/data/schema

**Annotations**
Identifiers for the information useful in understanding the context of an observation, typically observed or measured coincidentally with a physical observation.

**Diagram**

[Diagram of `SupportQuantity` and `xsd:string`]

**Type**
restriction of `xsd:string`

**Facets**

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>DataQuality</th>
<th>An ancillary parameter that denotes the standard or degree of accuracy, trustworthiness, or usefulness of another parameter.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enumeration</td>
<td>InstrumentMode</td>
<td>An indication of a state (mode) in which the instrument is operating. How a mode influences the interpretation and representation of data is described in instrument related documentation.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Orientation</td>
<td>The specification of the directional alignment of an object or measurement in a reference coordinate system. The position is usually expressed as a set of values corresponding to the location along a set of orthogonal axes together with the date/time of the observation.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Other</td>
<td>Not classified with more specific terms. The context of its usage may be described in related text.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Positional</td>
<td>The specification of the location of an object or measurement within a reference coordinate system. The position is usually expressed as a set of values corresponding to the location along a set of orthogonal axes together with the date/time of the observation.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>SpinPeriod</td>
<td>The time required for an object such as a spacecraft or planet to perform one full rotation in a given frame of reference.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>SpinPhase</td>
<td>An angular based or normalized parameter that specifies the spin state of an object such as a spacecraft or planet in a specific coordinate system usually together with the date/time of the observation.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>SpinRate</td>
<td>The angular rate of change of the spin angle of an object such as a spacecraft or planet.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Temporal</td>
<td>Pertaining to time.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Velocity</td>
<td>Rate of change of position. Also used for the average velocity of a collection of particles, also referred to as &quot;bulk velocity&quot;.</td>
</tr>
</tbody>
</table>

**Used by**

Element
`spase:Support/spase:SupportQuantity`

**Source**

```
<xs:simpleType name="SupportQuantity">
  <xs:annotation>
    <xs:documentation xml:lang="en">Identifiers for the information useful in understanding the context of an observation, typically observed or measured coincidentally with a physical observation.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string">
    <!-- Restriction to be defined here -->
  </xs:restriction>
</xs:simpleType>
```
<xsd:enumeration value="DataQuality">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An ancillary parameter that denotes the standard or degree of accuracy, trustworthiness, or usefulness of another parameter.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="InstrumentMode">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An indication of a state (mode) in which the instrument is operating. How a mode influences the interpretation and representation of data is described in instrument related documentation.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Orientation">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The specification of the directional alignment of an object or measurement in a reference coordinate system. The orientation such as a spacecraft spin axis attitude is usually expressed as one or more angles relative to the basis axes of some specified physical space usually together with the date/time of the observation.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Other">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Not classified with more specific terms. The context of its usage may be described in related text.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Positional">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The specification of the location of an object or measurement within a reference coordinate system. The position is usually expressed as a set of values corresponding to the location along a set of orthogonal axes together with the date/time of the observation.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="SpinPeriod">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The time required for an object such as a spacecraft or planet to perform one full rotation in a given frame of reference.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="SpinPhase">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An angular based or normalized parameter that specifies the spin state of an object such as a spacecraft or planet in a specific coordinate system usually together with the date/time of the observation.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="SpinRate">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The angular rate of change of the spin angle of an object such as a spacecraft or planet.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Temporal">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Pertaining to time.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Velocity">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Rate of change of position. Also used for the average velocity of a collection of particles, also referred to as "bulk velocity".</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
### Facets

<table>
<thead>
<tr>
<th>Facets</th>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Calibrated</td>
<td>Data wherein sensor outputs have been convolved with instrument response function, often irreversibly, to yield data in physical units.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Raw</td>
<td>Data in its original state with no processing to account for calibration.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Uncalibrated</td>
<td>Duplicate data are removed from the data stream and data are time ordered. Values are not adjusted for any potential biases or external factors.</td>
</tr>
</tbody>
</table>

### Used by

| Elements                  | spase:DisplayData/spase:ProcessingLevel, spase:NumericalData/spase:ProcessingLevel |

### Source

| Source | `<xsd:simpleType name="ProcessingLevel">`<xsd:annotation><xsd:documentation xml:lang="en">Identifiers to characterize the amount and type of manipulation which has been applied to the sampled data.</xsd:documentation></xsd:annotation><xsd:restriction base="xsd:string"><xsd:enumeration value="Calibrated"><xsd:annotation><xsd:documentation xml:lang="en">Data wherein sensor outputs have been convolved with instrument response function, often irreversibly, to yield data in physical units.</xsd:documentation></xsd:annotation></xsd:enumeration><xsd:enumeration value="Raw"><xsd:annotation><xsd:documentation xml:lang="en">Data in its original state with no processing to account for calibration!!!</xsd:documentation></xsd:annotation></xsd:enumeration><xsd:enumeration value="Uncalibrated"><xsd:annotation><xsd:documentation xml:lang="en">Duplicate data are removed from the data stream and data are time ordered. Values are not adjusted for any potential biases or external factors.</xsd:documentation></xsd:annotation></xsd:enumeration></xsd:restriction></xsd:simpleType>` |

### Simple Type spase:ProviderProcessingLevel

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>The provider specific classification of the processing performed on the product.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="#" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>xsd:string</td>
</tr>
<tr>
<td>Used by</td>
<td>Elements spase:DisplayData/spase:ProviderProcessingLevel, spase:NumericalData/spase:ProviderProcessingLevel</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:simpleType name=&quot;ProviderProcessingLevel&quot;&gt;</code><a href="">xsd:annotation</a>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;The provider specific classification of the processing performed on the product.&lt;/xsd:documentation&gt;&lt;/xsd:annotation&gt;&lt;xsd:restriction base=&quot;xsd:string&quot;/&gt;`</td>
</tr>
<tr>
<td>Schema location</td>
<td>file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

### Simple Type spase:MeasurementType

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>Identifiers for the method of making an estimated value of a quantity that forms the basis of an observation.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="#" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>restriction of xsd:string</td>
</tr>
</tbody>
</table>

315
<table>
<thead>
<tr>
<th>Facets</th>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>ActivityIndex</td>
<td>An indication, derived from one or more measurements, of the level of activity of an object or region, such as sunspot number, F10.7 flux, Dst, or the Polar Cap Indices.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Dopplergram</td>
<td>A map or image depicting the spatial distribution of line-of-sight velocities of the observed object.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Dust</td>
<td>Free microscopic particles of solid material.</td>
</tr>
<tr>
<td>enumeration</td>
<td>ElectricField</td>
<td>A region of space around a charged particle, or between two voltages within which a force is exerted on charged objects in its vicinity. An electric field is the electric force per unit charge.</td>
</tr>
<tr>
<td>enumeration</td>
<td>EnergeticParticles</td>
<td>Pieces of matter that are moving very fast. Energetic particles include protons, electrons, neutrons, neutrinos, the nuclei of atoms, and other sub-atomic particles.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Ephemeris</td>
<td>The spatial coordinates of a body as a function of time. When used as an Instrument Type it represents the process or methods used to generate spatial coordinates.</td>
</tr>
<tr>
<td>enumeration</td>
<td>ImageIntensity</td>
<td>Measurements of the two-dimensional distribution of the intensity of photons from some region or object such as the Sun or the polar auroral regions; can be in any wavelength band, and polarized, etc.</td>
</tr>
<tr>
<td>enumeration</td>
<td>InstrumentStatus</td>
<td>A quantity directly related to the operation or function of an instrument.</td>
</tr>
<tr>
<td>enumeration</td>
<td>IonComposition</td>
<td>In situ measurements of the relative flux or density of electrically charged particles in the space environment. May give simple fluxes, but full distribution functions are sometimes measured.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Irradiance</td>
<td>Irradiance - A radiometric term for the power of electromagnetic radiation at a surface, per unit area. &quot;Irradiance&quot; is used when the electromagnetic radiation is incident on the surface. Irradiance data may be reported in any units (i.e. counts/s) due to, for example, being at a particular wavelength, or to being a not-fully-calibrated relative measurement.</td>
</tr>
<tr>
<td>enumeration</td>
<td>MagneticField</td>
<td>A region of space near a magnetized body where magnetic forces can be detected (as measured by methods such as Zeeman splitting, etc.).</td>
</tr>
<tr>
<td>enumeration</td>
<td>Magnetogram</td>
<td>Measurements of the vector or line-of-sight magnetic field determined from remote sensing measurements of the detailed structure of spectral lines, including their splitting and polarization. (&quot;Magnetogram.&quot;)</td>
</tr>
<tr>
<td>enumeration</td>
<td>NeutralAtomImages</td>
<td>Measurements of neutral atom fluxes as a function of look direction; often related to remote energetic charged particles that lose their charge through charge-exchange and then reach the detector on a line-of-sight trajectory.</td>
</tr>
<tr>
<td>enumeration</td>
<td>NeutralGas</td>
<td>Measurements of neutral atomic and molecular components of a gas.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Profile</td>
<td>Measurements of a quantity as a function of height above an object such as the limb of a body.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Radiance</td>
<td>A radiometric measurement that describes the amount of electromagnetic radiation that passes through or is emitted from a particular area, and falls within a given solid angle in a specified direction. They are used to characterize both emission from diffuse sources and reflection from diffuse surfaces.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Spectrum</td>
<td>The distribution of a characteristic of a physical system or phenomenon, such as the energy emitted by a radiant source, arranged in the order of wavelengths.</td>
</tr>
<tr>
<td>enumeration</td>
<td>ThermalPlasma</td>
<td>Measurements of the plasma in the energy regime.</td>
</tr>
</tbody>
</table>
where the most of the plasma occurs. May be the basic fluxes in the form of distribution functions or the derived bulk parameters (density, flow velocity, etc.).

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Waves</th>
<th>Data resulting from observations of wave experiments and natural wave phenomena. Wave experiments are typically active and natural wave phenomena are passive. Examples of wave experiments include coherent/incoherent scatter radars, radio soundings, VLF propagation studies, ionospheric scintillation of beacon satellite signals, etc. Examples of natural wave phenomena include micropulsations, mesospheric gravity waves, auroral/plasmaspheric hiss, Langmuir waves, AKR, Jovian decametric radiation, solar radio bursts, etc.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Waves.Active</th>
<th>Exerting an influence or producing a change or effect. An active measurement is one which produces a transmission or excitation as a part of the measurement cycle.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Waves.Passive</th>
<th>Movement or effect produced by outside influence. A passive measurement is one which does not produce a transmission or excitation as a part of the measurement cycle.</th>
</tr>
</thead>
</table>

Used by | Elements | spase:DisplayData/spase:MeasurementType, spase:NumericalData/spase:MeasurementType |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>&lt;xsd:simpleType name=&quot;MeasurementType&quot;&gt;</td>
<td>Identifiers for the method of making an estimated value of a quantity that forms the basis of an observation.&lt;/xsd:simpleType&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xmlns:lang=&quot;en&quot;&gt;</td>
<td>Identifiers for the method of making an estimated value of a quantity that forms the basis of an observation. &lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;ActivityIndex&quot;&gt;</td>
<td>An indication, derived from one or more measurements, of the level of activity of an object or region, such as sunspot number, F10.7 flux, Dst, or the Polar Cap Indices. &lt;/xsd:enumeration&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;Dopplergram&quot;&gt;</td>
<td>A map or image depicting the spatial distribution of line-of-sight velocities of the observed object. &lt;/xsd:enumeration&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;Dust&quot;&gt;</td>
<td>Free microscopic particles of solid material. &lt;/xsd:enumeration&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;ElectricField&quot;&gt;</td>
<td>A region of space around a charged particle, or between two voltages within which a force is exerted on charged objects in its vicinity. An electric field is the electric force per unit charge. &lt;/xsd:enumeration&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;EnergeticParticles&quot;&gt;</td>
<td>Pieces of matter that are moving very fast. Energetic particles include protons, electrons, neutrons, neutrinos, the nuclei of atoms, and other subatomic particles. &lt;/xsd:enumeration&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;Ephemeris&quot;&gt;</td>
<td>The spatial coordinates of a body as a function of time. When used as an Instrument Type it represents the process or methods used to generate spatial coordinates. &lt;/xsd:enumeration&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;ImageIntensity&quot;&gt;</td>
<td>Measurements of the two-dimensional distribution of the intensity of photons from some region or object such as the Sun or the polar auroral regions; can be in any wavelength band, and polarized, etc. &lt;/xsd:enumeration&gt;</td>
</tr>
</tbody>
</table>
<xsd:enumeration value="InstrumentStatus">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A quantity directly related to the operation or function of an instrument.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="IonComposition">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">In situ measurements of the relative flux or density of electrically charged particles in the space environment. May give simple fluxes, but full distribution functions are sometimes measured.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Irradiance">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Irradiance – A radiometric term for the power of electromagnetic radiation at a surface, per unit area. "Irradiance" is used when the electromagnetic radiation is incident on the surface. Irradiance data may be reported in any units (i.e. counts/s) due to, for example, being at a particular wavelength, or to being a not-fully-calibrated relative measurement.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="MagneticField">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A region of space near a magnetized body where magnetic forces can be detected (as measured by methods such as Zeeman splitting, etc.).</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Magnetogram">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Measurements of the vector or line-of-sight magnetic field determined from remote sensing measurements of the detailed structure of spectral lines, including their splitting and polarization. (Magnetogram.)</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NeutralAtomImages">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Measurements of neutral atom fluxes as a function of look direction; often related to remote energetic charged particles that lose their charge through charge-exchange and then reach the detector on a line-of-sight trajectory.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NeutralGas">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Measurements of neutral atomic and molecular components of a gas.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Profile">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Measurements of a quantity as a function of height above an object such as the limb of a body.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Radiance">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A radiometric measurement that describes the amount of electromagnetic radiation that passes through or is emitted from a particular area, and falls within a given solid angle in a specified direction. They are used to characterize both emission from diffuse sources and reflection from diffuse surfaces.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Spectrum">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The distribution of a characteristic of a physical system or phenomenon, such as the energy emitted by a radiant source, arranged in the order of wavelengths.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Thermal Plasma">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Measurements of the plasma in the energy regime where most of the plasma occurs. May be the basic fluxes in the form of distribution functions or the derived bulk parameters [density, flow velocity, etc.].</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Waves">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Data resulting from observations of wave experiments and natural wave phenomena. Wave experiments are typically active and natural wave phenomena are passive. Examples of wave experiments include coherent/incoherent scatter radars, radio soundings, VLF propagation studies, ionospheric scintillation of beacon satellite signals, etc.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
Examples of natural wave phenomena include micropulsations, mesospheric gravity waves, auroral/plasmaspheric hiss, Langmuir waves, AKR, Jovian decametric radiation, solar radio bursts, etc.

Exerting an influence or producing a change or effect. An active measurement is one which produces a transmission or excitation as a part of the measurement cycle.

Movement or effect produced by outside influence. A passive measurement is one which does not produce a transmission or excitation as a part of the measurement cycle.
### Simple Type `spase:DisplayCadence`

**Namespace**  
http://www.spase-group.org/data/schema

**Annotations**  
The time interval between the successive display elements.

**Diagram**  
![Diagram](attachment://display_cadence.png)

**Type**  
`xsd:duration`

**Used by**  
Element `spase:DisplayData/spase:DisplayCadence`

**Source**  
```
<xsd:simpleType name="DisplayCadence">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The time interval between the successive display elements.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:duration"/>
</xsd:simpleType>
```

**Schema location**  
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

### Simple Type `spase:Region`

**Namespace**  
http://www.spase-group.org/data/schema

**Annotations**  
Identifiers for areas of the physical world which may be occupied or observed.

**Diagram**  
![Diagram](attachment://region.png)

**Type**  
restriction of `xsd:string`

**Facets**  

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Identifier</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>Asteroid</code></td>
<td>A small extraterrestrial body consisting mostly of rock and metal that is in orbit around the sun.</td>
<td></td>
</tr>
<tr>
<td><code>Comet</code></td>
<td>A relatively small extraterrestrial body consisting of a frozen mass that travels around the sun in a highly elliptical orbit.</td>
<td></td>
</tr>
<tr>
<td><code>Earth</code></td>
<td>The third planet from the sun in our solar system.</td>
<td></td>
</tr>
<tr>
<td><code>Earth.Magnetosheath</code></td>
<td>The region between the bow shock and the magnetopause, characterized by very turbulent plasma.</td>
<td></td>
</tr>
<tr>
<td><code>Earth.Magnetosphere</code></td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
<td></td>
</tr>
<tr>
<td><code>Earth.Magnetosphere.Magnetotail</code></td>
<td>The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
<td></td>
</tr>
<tr>
<td><code>Earth.Magnetosphere.Main</code></td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
<td></td>
</tr>
<tr>
<td><code>Earth.Magnetosphere.Plasmasphere</code></td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude</td>
<td></td>
</tr>
</tbody>
</table>
drop in plasma density.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth.Magnetosphere.Polar</td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>Earth.Magnetosphere.RadiationBelt</td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>Earth.Magnetosphere.RingCurrent</td>
<td>One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</td>
</tr>
<tr>
<td>Earth.Moon</td>
<td>The only natural satellite of the Earth.</td>
</tr>
<tr>
<td>Earth.NearSurface</td>
<td>The gaseous and possibly ionized environment of a body extending from the surface to some specified altitude. For the Earth, this altitude is 2000 km.</td>
</tr>
<tr>
<td>Earth.NearSurface.Atmosphere</td>
<td>The neutral gases surrounding a body that extends from the surface and is bound to the body by virtue of the gravitational attraction.</td>
</tr>
<tr>
<td>Earth.NearSurface.AuroralRegion</td>
<td>A region in the atmospheric where electrically-charged particles bombarding the upper atmosphere of a planet in the presence of a magnetic field produce an optical phenomenon.</td>
</tr>
<tr>
<td>Earth.NearSurface.EquatorialRegion</td>
<td>A region centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere</td>
<td>Charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.DRegion</td>
<td>The layer of the ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.ERegion</td>
<td>Ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.FRegion</td>
<td>A layer that contains ionized gases at a height of around 150-800 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1-and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.Topside</td>
<td>The region at the uppermost areas of the ionosphere.</td>
</tr>
<tr>
<td>Earth.NearSurface.Mesosphere</td>
<td>The layer of the atmosphere that extends from the Stratosphere to a range of 80 km to 85 km, temperature decreasing with height.</td>
</tr>
<tr>
<td>Earth.NearSurface.MidLatitudeRegion</td>
<td>The mid-latitude region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 23 degrees to 50 degrees. The concept of mid-latitude regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The mid-latitude regions may</td>
</tr>
</tbody>
</table>
be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at mid latitude on the Earth are well positioned to measure magnetic storm-time ring current variations.

enumeration  Earth.NearSurface.Plasmasphere  region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.

enumeration  Earth.NearSurface.PolarCap  The areas of the globe surrounding the poles and consisting of the region north of 60 degrees north latitude an the region south of 60 degrees south latitude.

enumeration  Earth.NearSurface.SouthAtlanticAnomalyRegion  Earth's inner van Allen radiation belt makes its closest approach to the planet's surface. The result is that, for a given altitude, the radiation intensity is higher over this region than elsewhere.

enumeration  Earth.NearSurface.Stratosphere  layer of the atmosphere that extends from the troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.

enumeration  Earth.NearSurface.SubAuroralRegion  When considering the case of the Earth, the sub-auroral region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 50 degrees to low 60 degrees. The concept sub-auroral regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The sub-auroral regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at sub-auroral latitudes on the Earth measure a mixture of activity driven by auroral zone currents and the ring current.

enumeration  Earth.NearSurface.Thermosphere  layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height.

enumeration  Earth.NearSurface.Troposphere  lowest layer of the atmosphere which begins at the surface and extends to between 7 km (4.4 mi) at the poles and 17 km (10.6 mi) at the equator, with some variation due to weather factors.

enumeration  Earth.Surface  The outermost area of a solid object.

enumeration  Heliosphere  The solar atmosphere extending roughly from the outer corona to the edge of the solar plasma at the heliopause separating primarily solar plasma from interstellar plasma.

enumeration  Heliosphere.Heliosheath  The region extending radially outward from the heliospheric termination shock and in which the decelerated solar wind plasma is still significant.

enumeration  Heliosphere.Inner  The region of the heliosphere extending radially outward from the solar coronal base to just inside 1 AU.

enumeration  Heliosphere.NearEarth  The heliospheric region near the Earth which extends to and includes the area near the L1 and L2 Lagrange point.

enumeration  Heliosphere.Outer  The region of the heliosphere extending radially outward from just outside 1 AU to the heliospheric termination shock.

enumeration  Heliosphere.Remote1AU  A roughly toroidal region that includes the Earth's orbit, but exclusive of the region near the Earth.

enumeration  Interstellar  The region between stars outside of the star's
| enumeration | Jupiter | The fifth planet from the sun in our solar system. |
| enumeration | Jupiter.Callisto | A second largest moon of Jupiter and the third-largest moon in the solar system. |
| enumeration | Jupiter.Europa | The sixth-closest round moon of Jupiter. |
| enumeration | Jupiter.Ganymede | The biggest moon of Jupiter and in the solar system. |
| enumeration | Jupiter.Io | The innermost of the four round moons of the planet Jupiter. |
| enumeration | Jupiter.Magnetosphere | The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field. |
| enumeration | Jupiter.Magnetosphere.Magnetotail | The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re). |
| enumeration | Jupiter.Magnetosphere.Main | The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body. |
| enumeration | Jupiter.Magnetosphere.Plasmasphere | A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density. |
| enumeration | Jupiter.Magnetosphere.Polar | The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone. |
| enumeration | Jupiter.Magnetosphere.RadiationBelt | The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field. |
| enumeration | Jupiter.Magnetosphere.RingCurrent | The major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth. |
| enumeration | Mars | The forth planet from the sun in our solar system. |
| enumeration | Mars.Deimos | The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field. |
| enumeration | Mars.Magnetosphere | The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field. |
| enumeration | Mars.Magnetosphere.Magnetotail | The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re). |
| enumeration | Mars.Magnetosphere.Main | The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body. |
| enumeration | Mars.Magnetosphere.Plasmasphere | A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density. |
The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.

The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.

One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.

The larger and inner most moon of Mars.

The first planet from the sun in our solar system.

The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.

The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re).

The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.

A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.

The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.

Within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.

One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.

The seventh planet from the sun in our solar system.

The ninth (sub)planet from the sun in our solar system.

The sixth planet from the sun in our solar system.

The forth-largest moon of Saturn.

The sixth-largest moon of Saturn. It is currently
endogenously active. The smallest known body in the Solar System that is geologically active today.

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Saturn.Iapetus</th>
<th>The third-largest moon of Saturn and the eleventh-largest in the Solar System.</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Saturn.Magnetosphere</td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Saturn.Magnetosphere.Magnetotail</td>
<td>A region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td>enumeration</td>
<td>Saturn.Magnetosphere.Main</td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Saturn.Magnetosphere.Plasmasphere</td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Saturn.Magnetosphere.Polar</td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
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<tr>
<td>enumeration</td>
<td>Saturn.Magnetosphere.RadiationBelt</td>
<td>A region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Saturn.Magnetosphere.RingCurrent</td>
<td>The major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Saturn.Mimas</td>
<td>The smallest and least massive of the round moons of Saturn.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Saturn.Rhea</td>
<td>The second-largest moon of Saturn and the ninth-largest moon in the Solar System.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Saturn.Tethys</td>
<td>The third largest moon of Saturn.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Saturn.Titan</td>
<td>The largest moon of Saturn and the second-largest moon in the Solar System.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Sun</td>
<td>The star upon which our solar system is centered.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Sun.Chromosphere</td>
<td>The region of the Sun's (or a star's) atmosphere above the temperature minimum and below the Transition Region. The solar chromosphere is approximately 400 km to 2100 km above the photosphere, and characterized by temperatures from 4500 – 28000 K.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Sun.Corona</td>
<td>The outermost atmospheric region of the Sun or a star, characterized by ionization temperatures above 10^5 K. The solar corona starts at about 2100 km above the photosphere; there is no generally defined upper limit.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Sun.Interior</td>
<td>The region inside the body which is not visible from outside the body.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Sun.Photosphere</td>
<td>The atmospheric layer of the Sun or a star from which continuum radiation, especially optical, is emitted to space. For the Sun, the photosphere is about 500 km thick.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Sun-transitionRegion</td>
<td>A very narrow (&lt;100 km) layer between the</td>
</tr>
</tbody>
</table>
chromosphere and the corona where the temperature rises abruptly from about 8000 to about 500,000 K.

**Uranus**
The eighth planet from the sun in our solar system.

**Uranus.Ariel**
The fourth-largest moon of Uranus.

**Uranus.Magnetosphere**
The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.

**Uranus.Magnetosphere.Magnetotail**
The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re).

**Uranus.Magnetosphere.Main**
The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.

**Uranus.Magnetosphere.Plasmasphere**
A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.

**Uranus.Magnetosphere.Polar**
The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.

**Uranus.Magnetosphere.RadiationBelt**
The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.

**Uranus.Magnetosphere.RingCurrent**
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**Uranus.Miranda**
The smallest and innermost round moon of Uranus.

**Uranus.Oberon**
The second-largest and second most massive moon of Uranus, and the ninth most massive moon in the Solar System.

**Uranus.Puck**
The largest inner spherical moon of Uranus.

**Uranus.Titania**
The largest moon of Uranus and the eighth largest moon in the Solar System.

**Uranus.Umbriel**
The third largest and fourth most massive moon of Uranus.

**Venus**
The second planet from the sun in our solar system.

**Venus.Magnetosphere**
The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.

**Venus.Magnetosphere.Magnetotail**
The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re).

**Venus.Magnetosphere.Main**
The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.

**Venus.Magnetosphere.Plasmasphere**
A region of the magnetosphere consisting of low energy (cool) plasma. It is located above...
the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.

| enumeration | Venus.Magnetosphere.Polar | The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone. |
| enumeration | Venus.Magnetosphere.RadiationBelt | The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field. |
| enumeration | Venus.Magnetosphere.RingCurrent | One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth. |

Used by Elements

- spase:DisplayData/spase:ObservedRegion
- spase:Location/spase:ObservatoryRegion
- spase:NumericalData/spase:ObservedRegion
- spase:ObservationExtent/spase:ObservedRegion

Source

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  </xsd:annotation>
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      </xsd:annotation>
    </xsd:enumeration>
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      <xsd:annotation>
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        <xsd:documentation xml:lang="en">The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re).</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Earth.Magnetosphere.Main">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Earth.Magnetosphere.Plasmasphere">
  ```
A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.

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The only natural satellite of the Earth.

The gaseous and possibly ionized environment of a body extending from the surface to some specified altitude. For the Earth, this altitude is 2000 km.

The neutral gases surrounding a body that extends from the surface and is bound to the body by virtue of the gravitational attraction.

The region in the atmospheric where electrically-charged particles bombarding the upper atmosphere of a planet in the presence of a magnetic field produce an optical phenomenon.

A region centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.

The charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.

The layer of the ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.

A layer of ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.
A layer that contains ionized gases at a height of around 150–800 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1- and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.

The region at the upper most areas of the ionosphere.

The layer of the atmosphere that extends from the Stratosphere to a range of 80 km to 85 km, temperature decreasing with height.

When considering the case of the Earth, the mid-latitude region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 23 degrees to 50 degrees. The concept of mid-latitude regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The mid-latitude regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at mid latitude on the Earth are well positioned to measure magnetic storm-time ring current variations.

A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.

The areas of the globe surrounding the poles and consisting of the region north of 60 degrees north latitude and the region south of 60 degrees south latitude.

The region where the Earth's inner van Allen radiation belt makes its closest approach to the planet's surface. The result is that, for a given altitude, the radiation intensity is higher over this region than elsewhere.

The layer of the atmosphere that extends from the troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.

When considering the case of the Earth, the sub-auroral region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 50 degrees to low 60 degrees. The concept sub-auroral regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The sub-auroral regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at sub-auroral latitudes on the Earth measure a mixture of activity driven by auroral zone currents and the ring current.

The layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height.

The lowest layer of the atmosphere which begins at the surface and extends to between 7 km (4.4 mi) at the poles and 17 km (10.6 mi) at the equator, with some variation due to weather factors.
<xsd:enumeration value="Earth.Surface">
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</xsd:enumeration>

<xsd:enumeration value="Heliosphere">
    <xsd:documentation xml:lang="en">The solar atmosphere extending roughly from the outer corona to the edge of the solar plasma at the heliopause separating primarily solar plasma from interstellar plasma.</xsd:documentation>
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<xsd:enumeration value="Heliosphere.Remote1AU">
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<xsd:enumeration value="Interstellar">
    <xsd:documentation xml:lang="en">The region between stars outside of the star's heliopause.</xsd:documentation>
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<xsd:enumeration value="Jupiter">
    <xsd:documentation xml:lang="en">The fifth planet from the sun in our solar system.</xsd:documentation>
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    <xsd:documentation xml:lang="en">A second largest moon of Jupiter and the third-largest moon in the solar system.</xsd:documentation>
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<xsd:enumeration value="Jupiter.Io">
    <xsd:documentation xml:lang="en">The innermost of the four round moons of the planet Jupiter.</xsd:documentation>
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<xsd:enumeration value="Jupiter.Magnetosphere">
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<xsd:enumeration value="Jupiter.RandomSurface">
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</xsd:enumeration>
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The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re).

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The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.

The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.

One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.
<xsd:enumeration value="Mars.Magnetosphere.Plasmasphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Mars.Magnetosphere.Polar">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Mars.Magnetosphere.RadiationBelt">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Mars.Magnetosphere.RingCurrent">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Mars.Phobos">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The larger and inner most moon of Mars. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Mercury">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The first planet from the sun in our solar system. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Mercury.Magnetosphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Mercury.Magnetosphere.Magnetotail">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 15 Re (K > -108). </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Mercury.Magnetosphere.Main">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Mercury.Magnetosphere.Plasmasphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Mercury.Magnetosphere.Polar">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Mercury.Magnetosphere.RadiationBelt">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.

The seventh planet from the sun in our solar system.

The sixth planet from the sun in our solar system.

The forth-largest moon of Saturn.

The sixth-largest moon of Saturn. It is currently endogenously active. The smallest known body in the Solar System that is geologically active today.

The third-largest moon of Saturn and the eleventh-largest in the Solar System.

The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.

The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re).

The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.

A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.

The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.
<xsd:enumeration value="Saturn.Magnetosphere.RadiationBelt">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Saturn.Magnetosphere.RingCurrent">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Saturn.Mimas">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The smallest and least massive of the round moons of Saturn.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Saturn.Rhea">
  <xsd:annotation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Saturn.Tethys">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The third largest moon of Saturn.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Saturn.Titan">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The largest moon of Saturn and the second-largest moon in the Solar System.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Sun">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The star upon which our solar system is centered.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Sun.Chromosphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region of the Sun's (or a star's) atmosphere above the temperature minimum and below the Transition Region. The solar chromosphere is approximately 400 km to 2100 km above the photosphere, and characterized by temperatures from 4500 - 28000 K.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Sun.Corona">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The outermost atmospheric region of the Sun or a star, characterized by ionization temperatures above 10^5 K. The solar corona starts at about 2100 km above the photosphere; there is no generally defined upper limit.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Sun.Interior">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region inside the body which is not visible from outside the body.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Sun.Photosphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The atmospheric layer of the Sun or a star from which continuum radiation, especially optical, is emitted to space. For the Sun, the photosphere is about 500 km thick.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Sun.TransitionRegion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A very narrow (<100 km) layer between the chromosphere and the corona where the temperature rises abruptly from about 8000 to about 500,000 K.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:documentation xml:lang="en">The eighth planet from the sun in our solar system.</xsd:documentation>

<xsd:enumeration value="Uranus.Ariel">The fourth-largest moon of Uranus.</xsd:enumeration>

<xsd:enumeration value="Uranus.Magnetosphere">The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</xsd:enumeration>

<xsd:enumeration value="Uranus.Magnetosphere.Magnetotail">The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re).</xsd:enumeration>

<xsd:enumeration value="Uranus.Magnetosphere.Main">The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</xsd:enumeration>

<xsd:enumeration value="Uranus.Magnetosphere.Plasmasphere">A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</xsd:enumeration>

<xsd:enumeration value="Uranus.Magnetosphere.Polar">The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</xsd:enumeration>

<xsd:enumeration value="Uranus.Magnetosphere.RadiationBelt">The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</xsd:enumeration>

<xsd:enumeration value="Uranus.Magnetosphere.RingCurrent">One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</xsd:enumeration>

<xsd:enumeration value="Uranus.Miranda">The smallest and innermost round moon of Uranus.</xsd:enumeration>

<xsd:enumeration value="Uranus.Oberon">The second-largest and second most massive mon of Uranus, and the ninth most massive moon in the Solar System.</xsd:enumeration>

<xsd:enumeration value="Uranus.Puck">The largest inner spherical moon of Uranus.</xsd:enumeration>

<xsd:enumeration value="Uranus.Titania">The largest moon of Uranus and the eighth largest moon in the Solar System.</xsd:enumeration>
Schema documentation for spase-2_3_1.xsd

<xsd:annotation>
  <xsd:documentation xml:lang="en">The third largest and fourth most massive moon of Uranus.</xsd:documentation>
</xsd:annotation>

<xsd:enumeration value="Uranus.Umbriel">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The third largest and fourth most massive moon of Uranus.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Venus">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The second planet from the sun in our solar system.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Venus.Magnetosphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region of space above the atmosphere or surface of
the planet, and bounded by the magnetopause, that is under the direct influence of the planet's
magnetic field.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Venus.Magnetosphere.Magnetotail">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region on the night side of the body where the magnetic
filed is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at
a night-side radial distance of 10 Re (X > -10Re).</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Venus.Magnetosphere.Main">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region of the magnetosphere where the magnetic field
lines are closed, but does not include the gaseous region gravitationally bound to the body.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Venus.Magnetosphere.Plasmasphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A region of the magnetosphere consisting of low energy
(cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is
known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Venus.Magnetosphere.Polar">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region near the pole of a body. For a magnetosphere
the polar region is the area where magnetic field lines are open and includes the auroral zone.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Venus.Magnetosphere.RadiationBelt">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region within a magnetosphere where high-energy
particles could potentially be trapped in a magnetic field.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Venus.Magnetosphere.RingCurrent">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">One of the major current systems confined within planetary
magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It
is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-
like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged
particles typically located at L-shells between 3 and 6. The ring current is also the primary
driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

Schema location file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Simple Type `spase:DocumentType`

Namespace http://www.spase-group.org/data/schema

Annotations Identifiers for the characterization of the content or purpose of a document.

Diagram

Type restriction of xsd:string
### Facets

<table>
<thead>
<tr>
<th>Facet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>Not classified with more specific terms. The context of its usage may be described in related text.</td>
</tr>
<tr>
<td>Poster</td>
<td>A set of information arranged on a single page or sheet, typically in a large format.</td>
</tr>
<tr>
<td>Presentation</td>
<td>A set of information that is used when communicating to an audience.</td>
</tr>
<tr>
<td>Report</td>
<td>A document which describes the findings of some individual or group.</td>
</tr>
<tr>
<td>Specification</td>
<td>A detailed description of the requirements and other aspects of an object or component that may be used to develop an implementation.</td>
</tr>
<tr>
<td>TechnicalNote</td>
<td>A document summarizing the performance and other technical characteristics of a product, machine, component, subsystem or software in sufficient detail to be used by an engineer or researcher.</td>
</tr>
<tr>
<td>WhitePaper</td>
<td>An authoritative report giving information or proposals on an issue.</td>
</tr>
</tbody>
</table>

### Used by

| Element          | spase:Document/spase:DocumentType |

### Source

```
<xs:complexType name="DocumentType">
  <xs:annotation>
    <xs:documentation xml:lang="en">Identifiers for the characterization of the content or purpose of a document.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string">
    <xs:enumeration value="Other">
      <xs:annotation>
        <xs:documentation xml:lang="en">Not classified with more specific terms. The context of its usage may be described in related text.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Poster">
      <xs:annotation>
        <xs:documentation xml:lang="en">A set of information arranged on a single page or sheet, typically in a large format.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Presentation">
      <xs:annotation>
        <xs:documentation xml:lang="en">A set of information that is used when communicating to an audience.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Report">
      <xs:annotation>
        <xs:documentation xml:lang="en">A document which describes the findings of some individual or group.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Specification">
      <xs:annotation>
        <xs:documentation xml:lang="en">A detailed description of the requirements and other aspects of an object or component that may be used to develop an implementation.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="TechnicalNote">
      <xs:annotation>
        <xs:documentation xml:lang="en">A document summarizing the performance and other technical characteristics of a product, machine, component, subsystem or software in sufficient detail to be used by an engineer or researcher.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="WhitePaper">
      <xs:annotation>
        <xs:documentation xml:lang="en">An authoritative report giving information or proposals on an issue.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```
Simple Type **spase:MIMEType**

**Namespace**  http://www.spase-group.org/data/schema

**Annotations**  
Multipurpose Internet Mail Extensions (MIME) type and sub-type which characterizes the format of a file. MIME media types are defined in RFC memorandum RFC 2046. Current MIME types are maintained by Internet Assigned Numbers Authority (IANA) at http://www.iana.org/assignments/media-types/index.html. Commonly used MIME types are: application/vnd.ms-powerpoint (ppt, pptx), application/vnd.ms-excel (xls, xlsx), text/rich-text (rtx), application/postscript (eps, ps), application/pdf (pdf), application/xml-dtd (dtd), text/html (htm, html), text/xml (xsl, xml, xsd), application/x-dvi (dvi). If a document is compressed the specified MIME type should be for the uncompressed document.

**Diagram**

![Diagram](image)

**Type**  xsd:string

**Used by**  Element  
spase:Document/spase:MIMEType

**Source**

```xml
<xsd:simpleType name="MIMEType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Multipurpose Internet Mail Extensions (MIME) type and sub-type which characterizes the format of a file. MIME media types are defined in RFC memorandum RFC 2046. Current MIME types are maintained by Internet Assigned Numbers Authority (IANA) at http://www.iana.org/assignments/media-types/index.html. Commonly used MIME types are: application/vnd.ms-powerpoint (ppt, pptx), application/vnd.ms-excel (xls, xlsx), text/rich-text (rtx), application/postscript (eps, ps), application/pdf (pdf), application/xml-dtd (dtd), text/html (htm, html), text/xml (xsl, xml, xsd), application/x-dvi (dvi). If a document is compressed the specified MIME type should be for the uncompressed document.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

**Schema location**  file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

Simple Type **spase:ParentID**

**Namespace**  http://www.spase-group.org/data/schema

**Annotations**  
The resource identifier for a resource that a resource is a part of. The resource inherits the attributes of the referenced resource. Attributes defined in the resource override attributes of the parent in the manner prescribed by the containing resource.

**Diagram**

![Diagram](image)

**Type**  xsd:string

**Used by**  Element  
spase:Granule/spase:ParentID

**Source**

```xml
<xsd:simpleType name="ParentID">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The resource identifier for a resource that a resource is a part of. The resource inherits the attributes of the referenced resource. Attributes defined in the resource override attributes of the parent in the manner prescribed by the containing resource.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

**Schema location**  file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

Simple Type **spase:SourceType**

**Namespace**  http://www.spase-group.org/data/schema

**Annotations**  
Identifiers for the characterization of the function or purpose of a source.

**Diagram**

![Diagram](image)
## Schema documentation for spase-2_3_1.xsd

<table>
<thead>
<tr>
<th>Type</th>
<th>restriction of xsd:string</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facets</td>
<td></td>
</tr>
<tr>
<td>enumeration</td>
<td>Ancillary</td>
</tr>
<tr>
<td>enumeration</td>
<td>Browse</td>
</tr>
<tr>
<td>enumeration</td>
<td>Data</td>
</tr>
<tr>
<td>enumeration</td>
<td>Layout</td>
</tr>
<tr>
<td>enumeration</td>
<td>Thumbnail</td>
</tr>
</tbody>
</table>

| Used by        | Element spase:Source/spase:SourceType |

**Source**

```xml
<xs:simpleType name="SourceType">
  <xs:annotation>
    <xs:documentation xml:lang="en">Identifiers for the characterization of the function or purpose of a source.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string">
    <xs:enumeration value="Ancillary">
      <xs:annotation>
        <xs:documentation xml:lang="en">A complementary item which can be subordinate, subsidiary, auxiliary, supplementary to the primary item.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Browse">
      <xs:annotation>
        <xs:documentation xml:lang="en">A representation of an image which is suitable to reveal most or all of the details of the image.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Data">
      <xs:annotation>
        <xs:documentation xml:lang="en">A collection of organized information, usually the results of experience, observation or experiment, or a set of premises. This may consist of numbers, words, or images, particularly as measurements or observations of a set of variables.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Layout">
      <xs:annotation>
        <xs:documentation xml:lang="en">The structured arrangement of items in a collection.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Thumbnail">
      <xs:annotation>
        <xs:documentation xml:lang="en">A small representation of an image which is suitable to infer what the full-sized imaged is like.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```

**Simple Type spase:MirrorURL**

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>A Uniform Resource Locator (URL) to an alternate location of a resource.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="MirrorURL Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>xsd:anyURI</td>
</tr>
<tr>
<td>Used by</td>
<td>Element spase:Source/spase:MirrorURL</td>
</tr>
</tbody>
</table>

**Source**

```xml
<xs:simpleType name="MirrorURL">
  <xs:annotation>
    <xs:documentation xml:lang="en">Identifiers for the characterization of a resource.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:anyURI">
    <xs:annotation>
      <xs:documentation xml:lang="en">A Uniform Resource Locator (URL) to an alternate location of a resource.</xs:documentation>
    </xs:annotation>
  </xs:restriction>
</xs:simpleType>
```
Schema documentation for spase-2_3_1.xsd

Simple Type spase:HashValue

Namespace http://www.spase-group.org/data/schema
Annotations The value calculated by a hash function, e.g. the message digest of a digital data object.

Diagram

Type xsd:string

Source

Used by Element spase:Checksum/spase:HashValue

Simple Type spase:HashFunction

Namespace http://www.spase-group.org/data/schema
Annotations Identifiers for functions or algorithms that convert a digital data object into a hash value.

Diagram

Type restriction of xsd:string

Facets

enumeration MD5 Message Digest 5 (MD5) is a 128-bit message digest algorithm created in 1991 by Professor Ronald Rivest.

enumeration SHA1 Secure Hash Algorithm (SHA), a 160-bit message digest algorithm developed by the NSA and described in Federal Information Processing Standard (FIPS) publication 180-1.

enumeration SHA256 Secure Hash Algorithm (SHA), a 256-bit message digest algorithm developed by the NSA and described in Federal Information Processing Standard (FIPS) publication 180-1.

Source

Used by Element spase:Checksum/spase:HashFunction
Secure Hash Algorithm (SHA), a 256-bit message digest algorithm developed by the NSA and described in Federal Information Processing Standard (FIPS) publication 180-1.

Identifiers for the type of experiment the instrument performs. This is the technique of observation.

<table>
<thead>
<tr>
<th>Facet</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Antenna</td>
<td>A sensor used to measure electric potential.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Channeltron</td>
<td>An instrument that detects electrons, ions, and UV-radiation, according to the principle of a secondary emission multiplier. It is typically used in electron spectroscopy and mass spectrometry.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Coronograph</td>
<td>An instrument which can image things very close to the Sun by using a disk to block the Sun's bright surface which reveals the faint solar corona and other celestial objects.</td>
</tr>
<tr>
<td>enumeration</td>
<td>DoubleSphere</td>
<td>A dipole antenna of which the active (sensor) elements are small spheres located at the ends of two wires deployed in the equatorial plane, on opposite sides of a spinning spacecraft.</td>
</tr>
<tr>
<td>enumeration</td>
<td>DustDetector</td>
<td>An instrument which determines the mass and speed of ambient dust particles.</td>
</tr>
<tr>
<td>enumeration</td>
<td>ElectronDriftInstrument</td>
<td>An active experiment to measure the electron drift velocity based on sensing the displacement of a weak beam of electrons after one gyration in the ambient magnetic field.</td>
</tr>
<tr>
<td>enumeration</td>
<td>ElectrostaticAnalyser</td>
<td>An instrument which uses charged plates to analyze the mass, charge and kinetic energies of charged particles which enter the instrument.</td>
</tr>
<tr>
<td>enumeration</td>
<td>EnergeticParticleInstrument</td>
<td>An instrument that measures fluxes of charged particles as a function of time, direction of motion, mass, charge and/or species.</td>
</tr>
<tr>
<td>enumeration</td>
<td>FaradayCup</td>
<td>An instrument consisting of an electrode from which electrical current is measured while a charged particle beam (electrons or ions) impinges on it. Used to determine energy spectrum and sometimes ion composition of the impinging particles.</td>
</tr>
<tr>
<td>enumeration</td>
<td>FluxFeedback</td>
<td>A search coil whose bandwidth and signal/noise ratio are increased by the application of negative feedback at the sensor (flux) level by driving a collocated coil with a signal from the preamplifier.</td>
</tr>
<tr>
<td>enumeration</td>
<td>FourierTransformSpectrograph</td>
<td>An instrument that determines the spectra of a radiative source, using time-domain measurements and a Fourier transform.</td>
</tr>
<tr>
<td>enumeration</td>
<td>GeigerMuellerTube</td>
<td>An instrument which samples the radiation from an area at one or more spectral ranges emitted or reflected by an object.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Imager</td>
<td>An instrument which is a multispectral scanner with a very large number of channels (64-256 channels) with very narrow band widths.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Interferometer</td>
<td>An instrument to study the properties of two or more waves from the pattern of interference created by their superposition.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>IonChamber</td>
<td>A device in which the collected electrical charge from ionization in a gas-filled cavity is taken to be the proportion to some parameter (e.g. dose or exposure) of radiation field.</td>
<td></td>
</tr>
<tr>
<td>IonDrift</td>
<td>A device which measures the current produced by the displacement of ambient ions on a grid, thereby allowing the determination of the ion trajectory and velocity.</td>
<td></td>
</tr>
<tr>
<td>IonGauge</td>
<td>A device which measures low-pressure or vacuum neutral gas with pressures ranging from 10^-3 Torr to 10^-10 Torr. An ion gauge is an electronic amplifying vacuum tube consisting of three electrodes inside an evacuated glass envelope, with the filament being the cathode.</td>
<td></td>
</tr>
<tr>
<td>LangmuirProbe</td>
<td>A monopole antenna associated with an instrument. The instrument applies a potential to the antenna which is swept to determine the voltage/current characteristic. This provides information about the plasma surrounding the probe and spacecraft.</td>
<td></td>
</tr>
<tr>
<td>LongWire</td>
<td>A dipole antenna whose active (sensor) elements are two wires deployed in the equatorial plane on opposite sides of a spinning spacecraft, and whose length is several times greater than the spacecraft diameter.</td>
<td></td>
</tr>
<tr>
<td>Magnetograph</td>
<td>A special type of magnetometer that records a time plot of the local magnetic field near the instrument; or a telescope capable of determining the magnetic field strength and/or direction on a distant object such as the Sun, using the Zeeman splitting or other spectral signatures of magnetization.</td>
<td></td>
</tr>
<tr>
<td>Magnetometer</td>
<td>An instrument which measures the ambient magnetic field.</td>
<td></td>
</tr>
<tr>
<td>MassSpectrometer</td>
<td>An instrument which distinguishes chemical species in terms of their different isotopic masses.</td>
<td></td>
</tr>
<tr>
<td>MicrochannelPlate</td>
<td>An instrument used for the detection of elementary particles, ions, ultraviolet rays and soft X-rays constructed from very thin conductive glass capillaries.</td>
<td></td>
</tr>
<tr>
<td>MultispectralImager</td>
<td>An instrument which captures images at multiple spectral ranges.</td>
<td></td>
</tr>
<tr>
<td>NeutralAtomImager</td>
<td>An instrument which measures the quantity and properties of neutral particles over a range of angles. Measured properties can include mass and energy.</td>
<td></td>
</tr>
<tr>
<td>NeutralParticleDetector</td>
<td>An instrument which measures the quantity and properties of neutral particles. Measured properties can include mass and plasma bulk densities.</td>
<td></td>
</tr>
<tr>
<td>ParticleCorrelator</td>
<td>An instrument which correlates particle flux to help identify wave/particle interactions.</td>
<td></td>
</tr>
<tr>
<td>ParticleDetector</td>
<td>An instrument which detects particle flux!!!</td>
<td></td>
</tr>
<tr>
<td>Photometer</td>
<td>An instrument which measures the strength of electromagnetic radiation within a spectral band which can range from ultraviolet to infrared and includes the visible spectrum.</td>
<td></td>
</tr>
<tr>
<td>PhotomultiplierTube</td>
<td>A vacuum phototube that is an extremely sensitive detector of light in the ultraviolet, visible, and near-infrared ranges of the electromagnetic spectrum.</td>
<td></td>
</tr>
<tr>
<td>Photopolarimeter</td>
<td>An instrument which measures the intensity and polarization or radiant energy. A photopolarimeter is a combination of a photometer and a polarimeter.</td>
<td></td>
</tr>
<tr>
<td>Platform</td>
<td>A collection of components which can be positioned and oriented as a single unit. A platform</td>
<td></td>
</tr>
</tbody>
</table>
may contain other platforms. For example, a spacecraft is a platform which may have components that can be articulated and are also considered platforms.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProportionalCounter</td>
<td>An instrument which measures energy of ionization radiation based on interactions with a gas.</td>
</tr>
<tr>
<td>QuadrupoleAnalyser</td>
<td>An instrument used for the 3-D detection of plasma, energetic electrons and ions, and for positive-ion composition measurements.</td>
</tr>
<tr>
<td>Radar</td>
<td>An instrument that uses directional properties of returned power to infer spatial and/or other characteristics of a remote object.</td>
</tr>
<tr>
<td>Radiometer</td>
<td>An instrument for detecting or measuring radiant energy. Radiometers are commonly limited to infrared radiation.</td>
</tr>
<tr>
<td>ResonanceAnalyser</td>
<td>A combination of a radio receiver and a pulsed transmitter used to study the plasma surrounding a spacecraft by identifying resonances or cut-offs (of the wave dispersion relation); whose frequencies are related to the ambient plasma density and magnetic field. When the transmitter is off it is essentially a high frequency-resolution spectral power receiver.</td>
</tr>
<tr>
<td>RetardingPotentialAnalyser</td>
<td>An instrument which measures ion temperatures and ion concentrations using a planar ion trap.</td>
</tr>
<tr>
<td>Riometer</td>
<td>An instrument which measures the signal strength in various directions of the galactic radio signals. Variations in these signals are influenced by solar flare activity and geomagnetic storm and substorm processes.</td>
</tr>
<tr>
<td>ScintillationDetector</td>
<td>An instrument which detects fluoresences of a material which is excited by high energy (ionizing) electromagnetic or charged particle radiation.</td>
</tr>
<tr>
<td>SearchCoil</td>
<td>An instrument which measures the time variation of the magnetic flux threading a loop by measurement of the electric potential difference induced between the ends of the wire.</td>
</tr>
<tr>
<td>SolidStateDetector</td>
<td>A detector of the charge carriers (electrons and holes) generated in semiconductors by energy deposited by gamma ray photons. Also known as a &quot;semiconductor detector&quot;.</td>
</tr>
<tr>
<td>Sounder</td>
<td>An instrument which measures the radiances from an object. A sounder may measure radiances at multiple spectral ranges.</td>
</tr>
<tr>
<td>SpacecraftPotentialControl</td>
<td>An instrument to control the electric potential of a spacecraft with respect to the ambient plasma by emitting a variable current of positive ions.</td>
</tr>
<tr>
<td>SpectralPowerReceiver</td>
<td>A radio receiver which determines the power spectral density of the electric or magnetic field, or both, at one or more frequencies.</td>
</tr>
<tr>
<td>Spectrometer</td>
<td>An instrument that measures the component wavelengths of light (or other electromagnetic radiation) by splitting the light up into its component wavelengths.</td>
</tr>
<tr>
<td>TimeOfFlight</td>
<td>An instrument which measures the time it takes for a particle to travel between two detectors.</td>
</tr>
<tr>
<td>Unspecified</td>
<td>A value which is not provided.</td>
</tr>
<tr>
<td>WaveformReceiver</td>
<td>A radio receiver which outputs the value of one or more components of the electric and/or magnetic field as a function of time.</td>
</tr>
</tbody>
</table>

Used by:

```
<xsd:simpleType name="InstrumentType">
  <xsd:documentation xml:lang="en">Identifiers for the type of experiment the instrument performs. This is the technique of observation.</xsd:documentation>
</xsd:simpleType>
```
<xsd:restriction base="xsd:string">
  <xsd:enumeration value="Antenna">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">A sensor used to measure electric potential.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="Channeltron">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">An instrument that detects electrons, ions, and UV-radiation, according to the principle of a secondary emission multiplier. It is typically used in electron spectroscopy and mass spectrometry.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="Coronograph">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">An instrument which can image things very close to the Sun by using a disk to block the Sun’s bright surface which reveals the faint solar corona and other celestial objects.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="DoubleSphere">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">A dipole antenna of which the active (sensor) elements are small spheres located at the ends of two wires deployed in the equatorial plane, on opposite sides of a spinning spacecraft.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="DustDetector">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">An instrument which determines the mass and speed of ambient dust particles.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="ElectronDriftInstrument">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">An active experiment to measure the electron drift velocity based on sensing the displacement of a weak beam of electrons after one gyration in the ambient magnetic field.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="ElectrostaticAnalyser">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">An instrument which uses charged plates to analyze the mass, charge and kinetic energies of charged particles which enter the instrument.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="EnergeticParticleInstrument">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">An instrument that measures fluxes of charged particles as a function of time, direction of motion, mass, charge and/or species.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="FaradayCup">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">An instrument consisting of an electrode from which electrical current is measured while a charged particle beam (electrons or ions) impinges on it. Used to determine energy spectrum and sometimes ion composition of the impinging particles.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="FluxFeedback">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">A search coil whose bandwidth and signal/noise ratio are increased by the application of negative feedback at the sensor (flux) level by driving a collocated coil with a signal from the preamplifier.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="FourierTransformSpectrograph">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">An instrument that determines the spectra of a radiative source, using time-domain measurements and a Fourier transform.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="GeigerMuellerTube">
    <xsd:annotation>
      <xsd:documentation xml:lang="en"></xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="Imager">
    <xsd:annotation>
      <xsd:documentation xml:lang="en"></xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
</xsd:restriction>
An instrument which samples the radiation from an area at one or more spectral ranges emitted or reflected by an object.

An instrument which is a multispectral scanner with a very large number of channels (64–256 channels) with very narrow band widths.

An instrument to study the properties of two or more waves from the pattern of interference created by their superposition.

A device which is a multispectral scanner with a very large number of channels (64–256 channels) with very narrow band widths.

A device in which the collected electrical charge from ionization in a gas-filled cavity is taken to be the proportion to some parameter (e.g. dose or exposure) of radiation field.

A device which measures the current produced by the displacement of ambient ions on a grid, thereby allowing the determination of the ion trajectory and velocity.

A device which measures low-pressure or vacuum neutral gas with pressures ranging from 10e-3 Torr to 10e-10 Torr. An ion gauge is an electronic amplifying vacuum tube consisting of three electrodes inside an evacuated glass envelope, with the filament being the cathode.

A monopole antenna associated with an instrument. The instrument applies a potential to the antenna which is swept to determine the voltage/current characteristic. This provides information about the plasma surrounding the probe and spacecraft.

A dipole antenna whose active (sensor) elements are two wires deployed in the equatorial plane on opposite sides of a spinning spacecraft, and whose length is several times greater than the spacecraft diameter.

A special type of magnetometer that records a time plot of the local magnetic field near the instrument; or a telescope capable of determining the magnetic field strength and/or direction on a distant object such as the Sun, using the Zeeman splitting or other spectral signatures of magnetization.

An instrument which measures the ambient magnetic field.

An instrument which distinguishes chemical species in terms of their different isotopic masses.

An instrument used for the detection of elementary particles, ions, ultraviolet rays and soft X-rays constructed from very thin conductive glass capillaries.
<xsd:documentation xml:lang="en">An instrument which captures images at multiple spectral ranges.</xsd:documentation>
</xsd:enumeration>
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument which measures the quantity and properties of neutral particles over a range of angles. Measured properties can include mass and energy.</xsd:documentation>
</xsd:enumeration>
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument which measures the quantity and properties of neutral particles. Measured properties can include mass and plasma bulk densities.</xsd:documentation>
</xsd:enumeration>
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument which correlates particle flux to help identify wave/particle interactions.</xsd:documentation>
</xsd:enumeration>
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument which detects particle flux!!!</xsd:documentation>
</xsd:enumeration>
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument which measures the strength of electromagnetic radiation within a spectral band which can range from ultraviolet to infrared and includes the visible spectrum.</xsd:documentation>
</xsd:enumeration>
<xsd:annotation>
<xsd:documentation xml:lang="en">A vacuum phototube that is an extremely sensitive detector of light in the ultraviolet, visible, and near-infrared ranges of the electromagnetic spectrum.</xsd:documentation>
</xsd:enumeration>
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument which measures the intensity and polarization or radiant energy. A photopolarimeter is a combination of a photometer and a polarimeter.</xsd:documentation>
</xsd:enumeration>
<xsd:annotation>
<xsd:documentation xml:lang="en">A collection of components which can be positioned and oriented as a single unit. A platform may contain other platforms. For example, a spacecraft is a platform which may have components that can be articulated and are also considered platforms.</xsd:documentation>
</xsd:enumeration>
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument which measures energy of ionization radiation based on interactions with a gas.</xsd:documentation>
</xsd:enumeration>
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument used for the 3-D detection of plasma, energetic electrons and ions, and for positive-ion composition measurements.</xsd:documentation>
</xsd:enumeration>
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument that uses directional properties of returned power to infer spatial and/or other characteristics of a remote object.</xsd:documentation>
</xsd:enumeration>
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument for detecting or measuring radiant energy. Radiometers are commonly limited to infrared radiation.</xsd:documentation>
</xsd:enumeration>
<xsd:enumeration value="ResonanceSounder">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A combination of a radio receiver and a pulsed transmitter used to study the plasma surrounding a spacecraft by identifying resonances or cut-offs (of the wave dispersion relation), whose frequencies are related to the ambient plasma density and magnetic field. When the transmitter is off it is essentially a high frequency-resolution spectral power receiver.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="RetardingPotentialAnalyser">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An instrument which measures ion temperatures and ion concentrations using a planar ion trap.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Riometer">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An instrument which measures the signal strength in various directions of the galactic radio signals. Variations in these signals are influenced by solar flare activity and geomagnetic storm and substorm processes.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="ScintillationDetector">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An instrument which detects flouresences of a material which is excited by high energy (ionizing) electromagnetic or charged particle radiation.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="SearchCoil">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An instrument which measures the time variation of the magnetic flux threading a loop by measurement of the electric potential difference induced between the ends of the wire.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="SolidStateDetector">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A detector of the charge carriers (electrons and holes) generated in semiconductors by energy deposited by gamma ray photons. Also known as a "semiconductor detector".</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Sounder">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An instrument which measures the radiances from an object. A sounder may measure radiances at multiple spectral ranges.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="SpacecraftPotentialControl">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An instrument to control the electric potential of a spacecraft with respect to the ambient plasma by emitting a variable current of positive ions.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="SpectralPowerReceiver">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A radio receiver which determines the power spectral density of the electric or magnetic field, or both, at one or more frequencies.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Spectrometer">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An instrument that measures the component wavelengths of light (or other electromagnetic radiation) by splitting the light up into its component wavelengths.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="TimeOfFlight">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An instrument which measures the time it takes for a particle to travel between two detectors.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Unspecified">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A value which is not provided.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="WaveformReceiver">
  <xsd:annotation>
  </xsd:annotation>
</xsd:enumeration>
A radio receiver which outputs the value of one or more components of the electric and/or magnetic field as a function of time.
### Simple Type `spase:Latitude`

**Namespace** http://www.spase-group.org/data/schema  
**Annotations** The angular distance north (positive) or south (negative) from the equator, measured along the meridian passing through the point.  
**Diagram** ![Latitude Diagram](image)  
**Type** xsd:double  
**Used by** Element `spase:Location/spase:Latitude`  
**Source**  
```xml  
<xsd:simpleType name="Latitude">  
  <xsd:annotation>  
    <xsd:documentation xml:lang="en">The angular distance north (positive) or south (negative) from the equator, measured along the meridian passing through the point.</xsd:documentation>  
  </xsd:annotation>  
  <xsd:restriction base="xsd:double"/>  
</xsd:simpleType>  
```

### Simple Type `spase:Longitude`

**Namespace** http://www.spase-group.org/data/schema  
**Annotations** The angular distance measured west (positive) or east (negative) from a north-south line called the Prime Meridian.  
**Diagram** ![Longitude Diagram](image)  
**Type** xsd:double  
**Used by** Element `spase:Location/spase:Longitude`  
**Source**  
```xml  
<xsd:simpleType name="Longitude">  
  <xsd:annotation>  
    <xsd:documentation xml:lang="en">The angular distance measured west (positive) or east (negative) from a north-south line called the Prime Meridian.</xsd:documentation>  
  </xsd:annotation>  
  <xsd:restriction base="xsd:double"/>  
</xsd:simpleType>  
```

### Simple Type `spase:Elevation`

**Namespace** http://www.spase-group.org/data/schema  
**Annotations** The distance in meters above (positive) or below (negative) the "zero elevation" defined by the World Geodetic System reference frame (WGS84).  
**Diagram** ![Elevation Diagram](image)  
**Type** xsd:double  
**Used by** Element `spase:Location/spase:Elevation`  
**Source**  
```xml  
<xsd:simpleType name="Elevation">  
  <xsd:annotation>  
    <xsd:documentation xml:lang="en">The distance in meters above (positive) or below (negative) the "zero elevation" defined by the World Geodetic System reference frame (WGS84).</xsd:documentation>  
  </xsd:annotation>  
  <xsd:restriction base="xsd:double"/>  
</xsd:simpleType>  
```
Simple Type spase:PersonName

Namespace http://www.spase-group.org/data/schema

Annotations The words used to address an individual.

Diagram

Type xsd:string

Used by Element spase:Person/spase:PersonName

Source

```
<xsd:simpleType name="PersonName">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The words used to address an individual.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Simple Type spase:OrganizationName

Namespace http://www.spase-group.org/data/schema

Annotations A unit within a company or other entity (e.g., Government agency or branch of service) within which many projects are managed as a whole.

Diagram

Type xsd:string

Used by Element spase:Person/spase:OrganizationName

Source

```
<xsd:simpleType name="OrganizationName">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A unit within a company or other entity (e.g., Government agency or branch of service) within which many projects are managed as a whole.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Simple Type spase:Address

Namespace http://www.spase-group.org/data/schema

Annotations Directions for finding some location; written on letters or packages that are to be delivered to that location.

Diagram

Type xsd:string

Used by Element spase:Person/spase:Address

Source

```
<xsd:simpleType name="Address">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Directions for finding some location; written on letters or packages that are to be delivered to that location.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Simple Type spase:Email

Namespace http://www.spase-group.org/data/schema

Annotations The electronic address at which the individual may be contacted expressed in the form "local-part@domain".

Diagram

Type xsd:string
### Simple Type spase:Email

**Namespace**: http://www.spase-group.org/data/schema

**Annotations**: The electronic address at which the individual may be contacted expressed in the form "local-part@domain".

**Diagram**: ![Email Diagram]

**Type**: xsd:string

**Used by**: Element `spase:Person/spase:Email`

**Source**: `file:///C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

---

### Simple Type spase:PhoneNumber

**Namespace**: http://www.spase-group.org/data/schema

**Annotations**: The symbols and numerals required to contact an individual by telephone. The string may contain punctuation marks such as dash (-) or dot (.) to separate fields within the string.

**Diagram**: ![PhoneNumber Diagram]

**Type**: xsd:string

**Used by**: Element `spase:Person/spase:PhoneNumber`

**Source**: `file:///C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

---

### Simple Type spase:FaxNumber

**Namespace**: http://www.spase-group.org/data/schema

**Annotations**: The symbols and numerals required to send a facsimile (FAX) to an individual by telephone. The string may contain punctuation marks such as dash (-) or dot (.) to separate fields within the string.

**Diagram**: ![FaxNumber Diagram]

**Type**: xsd:string

**Used by**: Element `spase:Person/spase:FaxNumber`

**Source**: `file:///C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`

---

### Simple Type spase:ORCIdentifier

**Namespace**: http://www.spase-group.org/data/schema

**Annotations**: A Open Researcher Contributor (ORC) identifier which is a unique alphanumeric string assigned by a registration agency (https://orcid.org/) to identify an individual. It has the format xxxx-xxxx-xxxx-xxxx

**Diagram**: ![ORCIdentifier Diagram]

**Type**: xsd:string
### Simple Type `spase:ImageURL`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>A URL to graphic, image or movie.</td>
</tr>
<tr>
<td>Diagram</td>
<td>![ImageURL Diagram]</td>
</tr>
<tr>
<td>Type</td>
<td>xsd:anyURI</td>
</tr>
<tr>
<td>Used by Element</td>
<td><code>spase:Annotation/spase:ImageURL</code></td>
</tr>
<tr>
<td>Source</td>
<td>`&lt;xsd:simpleType name=&quot;ImageURL&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td>A URL to graphic, image or movie.</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:restriction base=&quot;xsd:anyURI&quot; /&gt;</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

### Simple Type `spase:AnnotationType`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>Identifiers for a classification of an annotation.</td>
</tr>
<tr>
<td>Diagram</td>
<td>![AnnotationType Diagram]</td>
</tr>
<tr>
<td>Type</td>
<td>restriction of xsd:string</td>
</tr>
<tr>
<td>Facets</td>
<td></td>
</tr>
<tr>
<td></td>
<td>enumeration Anomaly</td>
</tr>
<tr>
<td></td>
<td>An interval where measurements or observations may be adversely affected.</td>
</tr>
<tr>
<td></td>
<td>enumeration Event</td>
</tr>
<tr>
<td></td>
<td>An action or observation which occurs at a point in time.</td>
</tr>
<tr>
<td></td>
<td>enumeration Feature</td>
</tr>
<tr>
<td></td>
<td>A prominent or distinctive characteristic that occurs at a location or persists over a period of time.</td>
</tr>
<tr>
<td>Used by Element</td>
<td><code>spase:Annotation/spase:AnnotationType</code></td>
</tr>
<tr>
<td>Source</td>
<td>`&lt;xsd:simpleType name=&quot;AnnotationType&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;</td>
</tr>
</tbody>
</table>
|                           |  Identifiers for a classification of an annotation. </xsd:documentation>
|                           |  </xsd:annotation>                    |
|                           |  <xsd:restriction base="xsd:string">  |
|                           |  <xsd:enumeration value="Anomaly">    |
|                           |  An interval where measurements or observations may be adversely affected. </xsd:enumeration>
|                           |  </xsd:annotation>                    |
|                           |  <xsd:enumeration value="Event">      |
|                           |  An action or observation which occurs at a point in time. </xsd:enumeration>
|                           |  </xsd:annotation>                    |
|                           |  <xsd:enumeration value="Feature">    |
|                           |  A prominent or distinctive characteristic that occurs at a location or persists over a period of time. </xsd:enumeration>
|                           |  </xsd:annotation>                    |
|                           |  </xsd:restriction>                   |
### Simple Type `spase:ClassificationMethod`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>Identifiers for the technique used to determine the characteristics of an object.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>restriction of xsd:string</td>
</tr>
<tr>
<td>Facets</td>
<td></td>
</tr>
<tr>
<td>enumeration</td>
<td><strong>Automatic</strong></td>
</tr>
<tr>
<td>enumeration</td>
<td><strong>Inferred</strong></td>
</tr>
<tr>
<td>enumeration</td>
<td><strong>Inspection</strong></td>
</tr>
<tr>
<td>Used by</td>
<td>Element</td>
</tr>
<tr>
<td></td>
<td><code>spase:Annotation/spase:ClassificationMethod</code></td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:simpleType name=&quot;ClassificationMethod&quot;&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Identifiers for the technique used to determine the characteristics of an object.&lt;/xsd:documentation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:restriction base=&quot;xsd:string&quot;&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:enumeration value=&quot;Automatic&quot;&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Determined by the analysis or assessment performed by a program or server.&lt;/xsd:documentation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:enumeration value=&quot;Inferred&quot;&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Determined by the analysis of other information or resources.&lt;/xsd:documentation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:enumeration value=&quot;Inspection&quot;&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Determined by the analysis or assessment performed by a person.&lt;/xsd:documentation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:restriction&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:simpleType&gt;</code></td>
</tr>
</tbody>
</table>

### Simple Type `spase:ConfidenceRating`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>Identifiers for the classification of the certainty of an assertion.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>restriction of xsd:string</td>
</tr>
<tr>
<td>Facets</td>
<td></td>
</tr>
<tr>
<td>enumeration</td>
<td><strong>Probable</strong></td>
</tr>
<tr>
<td>enumeration</td>
<td><strong>Strong</strong></td>
</tr>
<tr>
<td>enumeration</td>
<td><strong>Unlikely</strong></td>
</tr>
<tr>
<td>enumeration</td>
<td><strong>Weak</strong></td>
</tr>
</tbody>
</table>

---

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Schema documentation for spase-2_3_1.xsd

<table>
<thead>
<tr>
<th>Used by</th>
<th>Element</th>
<th>spase:Annotation/spase:ConfidenceRating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>&lt;xsd:simpleType name=&quot;ConfidenceRating&quot;&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Identifiers for the classification of the certainty of an assertion.&lt;/xsd:documentation&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:restriction base=&quot;xsd:string&quot;&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;Probable&quot;&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Likely given the available evidence. Considered in the range of 4-7 on a scale of 0-10.&lt;/xsd:documentation&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;Strong&quot;&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Highly likely given the available evidence. Considered in the range of 7-10 on a scale of 0-10.&lt;/xsd:documentation&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;Unlikely&quot;&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Not likely given the available evidence. Considered in the range of 0 on a scale of 0-10.&lt;/xsd:documentation&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;Weak&quot;&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Slightly likely given the available evidence. Considered in the range of 1-4 on a scale of 0-10.&lt;/xsd:documentation&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:restriction&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:simpleType&gt;</td>
<td></td>
</tr>
</tbody>
</table>

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Simple Type spase:StartLocation

Namespace http://www.spase-group.org/data/schema

Annotations The initial position in space.

Diagram

Type xsd:string

Used by Element spase:ObservationExtent/spase:StartLocation

Source <xsd:simpleType name="StartLocation">
         <xsd:annotation>  
         <xsd:documentation xml:lang="en">The initial position in space.</xsd:documentation>
         </xsd:annotation>  
         <xsd:restriction base="xsd:string"/>
         </xsd:simpleType>

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Simple Type spase:StopLocation

Namespace http://www.spase-group.org/data/schema

Annotations The final position in space.

Diagram

Type xsd:string

Used by Element spase:ObservationExtent/spase:StopLocation

Source <xsd:simpleType name="StopLocation">
         <xsd:annotation>  
         <xsd:documentation xml:lang="en">The final position in space.</xsd:documentation>
         </xsd:annotation>  
         <xsd:restriction base="xsd:string"/>
         </xsd:simpleType>

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd
Simple Type `spase:AdiabaticInvariant`

Namespace | http://www.spase-group.org/data/schema
--- | ---
Annotations | Identifiers for properties of a physical system related to periodic phenomena that remains constant under slowly varying conditions.

Diagram | ![Diagram](image)

Type | restriction of xsd:string

Facets

| enumeration | BounceMotion | The second adiabatic invariant is associated with periodic bounce motion of charged particles trapped between two magnetic mirrors on a magnetic field line. The second invariant, termed J, is defined by using the integral \( J = m \int v_|| \, ds \) where m is the mass of the charged particle, \( v_|| \) is the particle velocity along the field line, and ds represents elemental arc lengths along the field line. The second adiabatic invariant is conserved as long as changes in the background magnetic field occur at time scales much longer than the bounce time of the charged particles.

| enumeration | DriftMotion | The third invariant for charged particle motion in a dipolar magnetic field is associated with drift of its guiding center in the equatorial plane. The conserved quantity, \( J_2 \), is equal to \( q\Phi \) where q is the particle charge and \( \Phi \) is the magnetic flux enclosed within the particle drift path.

| enumeration | MagneticMoment | A constant of motion related to the gyromotion of a particle in a magnetic field that is either static or slowly varying with respect to the gyroperiod. The magnetic moment is usually denoted by using the lower case Greek letter for mu, \( \mu \), and can be calculated by using \( \mu = m u^2/2B \) where m is the particle mass, u is the velocity of the particle perpendicular to the constant or average magnetic field direction, and B is the magnitude of the magnetic field strength.

Source

```xml
<xsd:simpleType name="AdiabaticInvariant">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">Identifiers for properties of a physical system related to periodic phenomena that remains constant under slowly varying conditions.</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="BounceMotion">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">The second adiabatic invariant is associated with periodic bounce motion of charged particles trapped between two magnetic mirrors on a magnetic field line. The second invariant, termed J, is defined by using the integral \( J = m \int v_|| \, ds \) where m is the mass of the charged particle, \( v_|| \) is the particle velocity along the field line, and ds represents elemental arc lengths along the field line. The second adiabatic invariant is conserved as long as changes in the background magnetic field occur at time scales much longer than the bounce time of the charged particles.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="DriftMotion">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">The third invariant for charged particle motion in a dipolar magnetic field is associated with drift of its guiding center in the equatorial plane. The conserved quantity, \( J_2 \), is equal to \( q\Phi \) where q is the particle charge and \( \Phi \) is the magnetic flux enclosed within the particle drift path.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="MagneticMoment">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">A constant of motion related to the gyromotion of a particle in a magnetic field that is either static or slowly varying with respect to the gyroperiod. The magnetic moment is usually denoted by using the lower case Greek letter for mu, \( \mu \), and can be calculated by using \( \mu = m u^2/2B \) where m is the particle mass, u is the velocity of the particle perpendicular to the constant or average magnetic field direction, and B is the magnitude of the magnetic field strength.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
    </xsd:restriction>
</xsd:simpleType>
```
Simple Type `spase:Component`

Namespace: http://www.spase-group.org/data/schema

Annotations: Identifiers for the axis of coordinate systems.

Diagram: [Diagram](#)

Type: restriction of xsd:string

Facets:
- **enumeration I**
  - Description: Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.

- **enumeration J**
  - Description: Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.

- **enumeration K**
  - Description: Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.

Source:
```xml
<xsd:simpleType name="Component">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for the axis of coordinate systems.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="I">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="J">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="K">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```

Simple Type `spase:DirectionAngle`

Namespace: http://www.spase-group.org/data/schema

Annotations: Identifiers for the angle between a vector and a base axis.

Diagram: [Diagram](#)

Type: restriction of xsd:string

Facets:
- **enumeration AzimuthAngle**
  - Description: The angle between the projection into the i-j plane of a position or measured vector and the i-axis of the coordinate system. Mathematically defined as \( \arctan(j/i) \). This term could be also applied to angles measured in different planes, for example the IMF clock angle defined as \( \arctan(|By|/Bz) \).
Schema documentation for spase-2_3_1.xsd

| enumeration | ElevationAngle | The angle between the position or measured vector and the i-j plane of the coordinate system. Mathematically defined as \( \arctan\left(\frac{k}{\sqrt{i^2+j^2}}\right) \).

| enumeration | PolarAngle | The angle between the position or measured vector and the k-axis of the coordinate system. Mathematically defined as \( \arctan\left(\frac{\sqrt{i^2+j^2}}{k}\right) \). This term could be also applied to angles between the vector and other components, for example the IMF cone angle defined as \( \arccos\left(\frac{B_x}{B_t}\right) \).

Source

```xml
<xsd:simpleType name="DirectionAngle">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">Identifiers for the angle between a vector and a base axis.</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="AzimuthAngle">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">The angle between the projection into the i-j plane of a position or measured vector and the i-axis of the coordinate system. Mathematically defined as \( \arctan\left(\frac{j}{i}\right) \). This term could be also applied to angles measured in different planes, for example the IMF clock angle defined as \( \arctan\left(\frac{|By|}{Bz}\right) \).</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="ElevationAngle">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">The angle between the position or measured vector and the i-j plane of the coordinate system. Mathematically defined as \( \arctan\left(\frac{k}{\sqrt{i^2+j^2}}\right) \).</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="PolarAngle">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">The angle between the position or measured vector and the k-axis of the coordinate system. Mathematically defined as \( \arctan\left(\frac{\sqrt{i^2+j^2}}{k}\right) \). This term could be also applied to angles between the vector and other components, for example the IMF cone angle defined as \( \arccos\left(\frac{B_x}{B_t}\right) \).</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
    </xsd:restriction>
</xsd:simpleType>
```

Simple Type `spase:DirectionCosine`

**Namespace** http://www.spase-group.org/data/schema

**Annotations** Identifiers for the cosine of the angle between two vectors in a three dimensional Euclidean space.

**Diagram**

- DirectionCosine
- xsd:string

**Type** restriction of xsd:string

**Facets**

| enumeration | I | Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.

| enumeration | J | Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.

| enumeration | K | Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.

Source

```xml
<xsd:simpleType name="DirectionCosine">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">Identifiers for the cosine of the angle between two vectors in a three dimensional Euclidean space.</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="I"/>
        <xsd:annotation/>
    </xsd:restriction>
</xsd:simpleType>
```
<xsd:documentation xml:lang="en">Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.</xsd:documentation>
</xsd:annotation>
<xsd:enumeration value="J">
<xsd:annotation>
<xsd:documentation xml:lang="en">Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="K">
<xsd:annotation>
<xsd:documentation xml:lang="en">Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
</xsd:restriction>
</xsd:simpleType>

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

**Simple Type spase:Earth**

**Namespace** [http://www.spase-group.org/data/schema](http://www.spase-group.org/data/schema)

**Annotations** Identifiers for the regions surrounding the Earth.

**Diagram**

**Type** restriction of xsd:string

**Facets**

<table>
<thead>
<tr>
<th>Facet</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Magnetosheath</td>
<td>The region between the bow shock and the magnetopause, characterized by very turbulent plasma.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Magnetosphere</td>
<td>The region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of the planet's magnetic field.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Magnetosphere.Magnetotail</td>
<td>The region on the night side of the body where the magnetic filed is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td>enumeration</td>
<td>Magnetosphere.Main</td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Magnetosphere.Plasmasphere</td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Magnetosphere.Polar</td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Magnetosphere.RadiationBel</td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Magnetosphere.RingCurrent</td>
<td>One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Moon</td>
<td>The only natural satellite of the Earth.</td>
<td></td>
</tr>
<tr>
<td>NearSurface</td>
<td>The gaseous and possibly ionized environment of a body extending from the surface to some specified altitude. For the Earth, this altitude is 2000 km.</td>
<td></td>
</tr>
<tr>
<td>NearSurface.Atmosphere</td>
<td>The neutral gases surrounding a body that extends from the surface and is bound to the body by virtue of the gravitational attraction.</td>
<td></td>
</tr>
<tr>
<td>NearSurface.AuroralRegion</td>
<td>The region in the atmosphere where electrically-charged particles bombarding the upper atmosphere of a planet in the presence of a magnetic field produce an optical phenomenon.</td>
<td></td>
</tr>
<tr>
<td>NearSurface.EquatorialRegion</td>
<td>A region centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.</td>
<td></td>
</tr>
<tr>
<td>NearSurface.Ionosphere</td>
<td>The charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.</td>
<td></td>
</tr>
<tr>
<td>NearSurface.Ionosphere.DRegion</td>
<td>One of several layers in the ionosphere.</td>
<td></td>
</tr>
<tr>
<td>NearSurface.Ionosphere.ERegion</td>
<td>A layer of ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.</td>
<td></td>
</tr>
<tr>
<td>NearSurface.Ionosphere.FRegion</td>
<td>A layer that contains ionized gases at a height of around 150-800 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1-and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.</td>
<td></td>
</tr>
<tr>
<td>NearSurface.Ionosphere.Topside</td>
<td>The region at the upper most areas of the ionosphere.</td>
<td></td>
</tr>
<tr>
<td>NearSurface.Mesosphere</td>
<td>The layer of the atmosphere that extends from the Stratosphere to a range of 80 km to 85 km, temperature decreasing with height.</td>
<td></td>
</tr>
<tr>
<td>NearSurface.MidLatitudeRegion</td>
<td>In considering the case of the Earth, the mid-latitude region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 23 degrees to 50 degrees. The concept of mid-latitude regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The mid-latitude regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at mid latitude on the Earth are well positioned to measure magnetic storm-time ring current variations.</td>
<td></td>
</tr>
<tr>
<td>NearSurface.Plasmasphere</td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
<td></td>
</tr>
<tr>
<td>NearSurface.PolarCap</td>
<td>The areas of the globe surrounding the poles and consisting of the region north of 60 degrees north latitude an the region south of 60 degrees south latitude.</td>
<td></td>
</tr>
<tr>
<td>NearSurface.SouthAtlanticAnomalyRegion</td>
<td>The Earth's inner van Allen radiation belt makes its closest approach to the planet's surface. The result is that, for a given altitude, the radiation intensity is higher over this region than elsewhere.</td>
<td></td>
</tr>
</tbody>
</table>
**NearSurface.Stratosphere**
The layer of the atmosphere that extends from the troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.

**NearSurface.SubAuroralRegion**
When considering the case of the Earth, the sub-auroral region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 50 degrees to low 60 degrees. The concept sub-auroral regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The sub-auroral regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at sub-auroral latitudes on the Earth measure a mixture of activity driven by auroral zone currents and the ring current.

**NearSurface.Thermosphere**
The layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height.

**NearSurface.Troposphere**
The lowest layer of the atmosphere which begins at the surface and extends to between 7 km (4.4 mi) at the poles and 17 km (10.6 mi) at the equator, with some variation due to weather factors.

**Surface**
The outermost area of a solid object.
<xsd:enumeration value="Magnetosphere.RingCurrent">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">One of the major current systems confined within planetary magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth. </xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Moon">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">The only natural satellite of the Earth.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">The gaseous and possibly ionized environment of a body extending from the surface to some specified altitude. For the Earth, this altitude is 2000 km.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.Atmosphere">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">The neutral gases surrounding a body that extends from the surface and is bound to the body by virtue of the gravitational attraction.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.AuroralRegion">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">The region in the atmospheric where electrically-charged particles bombarding the upper atmosphere of a planet in the presence of a magnetic field produce an optical phenomenon.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.EquatorialRegion">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">A region centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.Ionosphere">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">The charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.Ionosphere.DRegion">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">The layer of the ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.Ionosphere.ERegion">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">A layer of ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.Ionosphere.FRegion">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">A layer that contains ionized gases at a height of around 150–800 km above sea level, placing it in the thermosphere. the F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1-and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.Ionosphere.Topside">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">The region at the upper most areas of the ionosphere.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.Mesosphere">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
The layer of the atmosphere that extends from the Stratosphere to a range of 80 km to 85 km, temperature decreasing with height.

When considering the case of the Earth, the mid-latitude region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 23 degrees to 50 degrees. The concept of mid-latitude regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The mid-latitude regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at mid latitude on the Earth are well positioned to measure magnetic storm-time ring current variations.

A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.

The areas of the globe surrounding the poles and consisting of the region north of 60 degrees north latitude and the region south of 60 degrees south latitude.

The region where the Earth’s inner van Allen radiation belt makes its closest approach to the planet’s surface. The result is that, for a given altitude, the radiation intensity is higher over this region than elsewhere.

The layer of the atmosphere that extends from the troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.

When considering the case of the Earth, the sub-auroral region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 50 degrees to low 60 degrees. The concept sub-auroral regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The sub-auroral regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at sub-auroral latitudes on the Earth measure a mixture of activity driven by auroral zone currents and the ring current.

The layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height.

The lowest layer of the atmosphere which begins at the surface and extends to between 7 km (4.4 mi) at the poles and 17 km (10.6 mi) at the equator, with some variation due to weather factors.

The outermost area of a solid object.

| Schema location | file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd |
**Simple Type spase:Hardcopy**

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>Identifiers for permanent reproductions, or copy in the form of a physical object, of any media suitable for direct use by a person.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>restriction of xsd:string</td>
</tr>
</tbody>
</table>

### Facets

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Film</strong></td>
<td>An image recording medium on which usually a &quot;negative&quot; analog image is registered. A &quot;positive&quot; image can be recovered or reproduced from film, which is usually made of flexible materials for ease of storage and transportation.</td>
</tr>
<tr>
<td><strong>Microfiche</strong></td>
<td>A sheet of microfilm on which many pages of material have been photographed; a magnification system is used to read the material.</td>
</tr>
<tr>
<td><strong>Microfilm</strong></td>
<td>Film rolls on which materials are photographed at greatly reduced size; a magnification system is used to read the material.</td>
</tr>
<tr>
<td><strong>Photograph</strong></td>
<td>An image (positive or negative) registered on a piece of photo-sensitive paper</td>
</tr>
<tr>
<td><strong>PhotographicPlate</strong></td>
<td>A rigid (typically glass) medium that functions like film. Its rigidity is for guarding against image distortion due to medium deformation (caused by heat and humidity). Photographic plates are often used for astronomical photography.</td>
</tr>
<tr>
<td><strong>Print</strong></td>
<td>A sheet of any written or printed material which may include notes or graphics. Multiple printed pages may be bound into a manuscript or book.</td>
</tr>
</tbody>
</table>

### Source

```xml
<xsd:simpleType name="Hardcopy">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for permanent reproductions, or copy in the form of a physical object, of any media suitable for direct use by a person.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="Film">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An image recording medium on which usually a "negative" analog image is registered. A "positive" image can be recovered or reproduced from film, which is usually made of flexible materials for ease of storage and transportation.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Microfiche">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A sheet of microfilm on which many pages of material have been photographed; a magnification system is used to read the material.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Microfilm">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Film rolls on which materials are photographed at greatly reduced size; a magnification system is used to read the material.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Photograph">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An image (positive or negative) registered on a piece of photo-sensitive paper.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="PhotographicPlate">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A rigid (typically glass) medium that functions like film. Its rigidity is for guarding against image distortion due to medium deformation (caused by heat and humidity). Photographic plates are often used for astronomical photography.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Print">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A sheet of any written or printed material which may include notes or graphics. Multiple printed pages may be bound into a manuscript or book.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```
Simple Type `spase:Heliosphere`

**Namespace**  http://www.spase-group.org/data/schema

**Annotations**  Identifiers for regions of the solar atmosphere which extends roughly from the inner corona to the edge of the solar plasma at the heliopause separating primarily solar plasma from interstellar plasma.

**Diagram**

- `Heliosheath`
- `Inner`
- `NearEarth`
- `Outer`
- `Remote1AU`

**Facets**

- **enumeration** `Heliosheath`  The region extending radially outward from the heliospheric termination shock and in which the decelerated solar wind plasma is still significant.
- **enumeration** `Inner`  The region of the heliosphere extending radially outward from the solar coronal base to just inside 1 AU.
- **enumeration** `NearEarth`  The heliospheric region near the Earth which extends to and includes the area near the L1 and L2 Lagrange point.
- **enumeration** `Outer`  The region of the heliosphere extending radially outward from just outside 1 AU to the heliospheric termination shock.
- **enumeration** `Remote1AU`  A roughly toroidal region that includes the Earth’s orbit, but exclusive of the region near the Earth.

**Source**

```xml
<xsd:simpleType name="Heliosphere"/>
<xsd:annotation>
  <xsd:documentation xml:lang="en">Identifiers for regions of the solar atmosphere which extends roughly from the inner corona to the edge of the solar plasma at the heliopause separating primarily solar plasma from interstellar plasma.</xsd:documentation>
</xsd:annotation>
<xsd:restriction base="xsd:string">
  <xsd:enumeration value="Heliosheath">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">The region extending radially outward from the heliospheric termination shock and in which the decelerated solar wind plasma is still significant.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="Inner">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">The region of the heliosphere extending radially outward from the solar coronal base to just inside 1 AU.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="NearEarth">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">The heliospheric region near the Earth which extends to and includes the area near the L1 and L2 Lagrange point.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="Outer">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">The region of the heliosphere extending radially outward from just outside 1 AU to the heliospheric termination shock.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="Remote1AU">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">A roughly toroidal region that includes the Earth’s orbit, but exclusive of the region near the Earth.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
</xsd:restriction>
</xsd:simpleType>
```
Simple Type `spase:Integral`

**Namespace**  
http://www.spase-group.org/data/schema

**Annotations**  
Identifiers for values above a given threshold and over area or solid-angle range.

**Diagram**

```
restriction of xsd:string
```

**Facets**

- **Area**
  Integration over the extent of a planar region, or of the surface of a solid.

- **Bandwidth**
  Integration over the width a frequency band.

- **SolidAngle**
  Integration over the angle in three-dimensional space that an object subtends at a point.

**Source**

```xml
<xsd:simpleType name="Integral">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for values above a given threshold and over area or solid-angle range.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="Area">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Integration over the extent of a planar region, or of the surface of a solid.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Bandwidth">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Integration over the width a frequency band.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="SolidAngle">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Integration over the angle in three-dimensional space that an object subtends at a point.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```

Simple Type `spase:Ionosphere`

**Namespace**  
http://www.spase-group.org/data/schema

**Annotations**  
Identifiers for ionospheric regions.

**Diagram**

```
restriction of xsd:string
```

**Facets**

- **DRegion**
  The layer of the ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.

- **ERegion**
  A layer of ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.

- **FRegion**
  A layer that contains ionized gases at a height of around 150–800 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1-and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.

- **Topside**
  The region at the upper most areas of the ionosphere.
### Source

```xml
<xsd:simpleType name="Ionosphere">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">Identifiers for ionospheric regions.</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="DRegion">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">The layer of the ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="ERegion">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">A layer of ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="FRegion">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">A layer that contains ionized gases at a height of around 150-800 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1- and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="Topside">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">The region at the upper most areas of the ionosphere.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
    </xsd:restriction>
</xsd:simpleType>
```

### Simple Type `spase:Magnetosphere`

**Namespace**

http://www.spase-group.org/data/schema

**Annotations**

Identifiers for the region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of planet's magnetic field.

**Diagram**

![Diagram](Magnetosphere.png)

**Type**

restriction of xsd:string

<table>
<thead>
<tr>
<th>Facets</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Magnetotail</td>
</tr>
<tr>
<td></td>
<td>The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td>enumeration</td>
<td>Main</td>
</tr>
<tr>
<td></td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Plasmasphere</td>
</tr>
<tr>
<td></td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Polar</td>
</tr>
<tr>
<td></td>
<td>The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>enumeration</td>
<td>RadiationBelt</td>
</tr>
<tr>
<td></td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>enumeration</td>
<td>RingCurrent</td>
</tr>
<tr>
<td></td>
<td>One of the major current systems confined within planetary magnetospheres. The ring</td>
</tr>
</tbody>
</table>
current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitu-
dinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.

Schema documentation for spase-2_3_1.xsd

Source

```xml
<xsd:simpleType name="Magnetosphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for the region of space above the atmosphere or surface of the planet, and bounded by the magnetopause, that is under the direct influence of planet’s magnetic field.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="Magnetotail">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re).</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Main">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Plasmasphere">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Polar">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="RadiationBelt">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="RingCurrent">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">One of the major current systems confined within planetary magnetospheres. The ring current circles in the magnetic equatorial plane of magnetospheres. It is generated by the longitudinal drift of energetic charged particles trapped on inner, dipole-like magnetospheric field lines. At the Earth, the ring current is carried by 10 to 200 keV charged particles typically located at L-shells between 3 and 6. The ring current is also the primary driver of the Sym H and Dst Indices of magnetic storm activity at the Earth.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```

Schema location file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

Simple Type `spase:NearSurface`

Namespace http://www.spase-group.org/data/schema

Annotations Identifiers for regions of the gaseous and possibly ionized environment of a body extending from the surface to some specified altitude.

Type restriction of xsd:string

Facets

- `enumeration`
- `Atmosphere` - The neutral gases surrounding a body that
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AuroralRegion</strong></td>
<td>The region in the atmosphere where electrically-charged particles bombarding the upper atmosphere of a planet in the presence of a magnetic field produce an optical phenomenon.</td>
</tr>
<tr>
<td><strong>EquatorialRegion</strong></td>
<td>A region centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.</td>
</tr>
<tr>
<td><strong>Ionosphere</strong></td>
<td>The charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.</td>
</tr>
<tr>
<td><strong>Ionosphere.DRegion</strong></td>
<td>The layer of the ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.</td>
</tr>
<tr>
<td><strong>Ionosphere.ERegion</strong></td>
<td>A layer of ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.</td>
</tr>
<tr>
<td><strong>Ionosphere.FRegion</strong></td>
<td>A layer that contains ionized gases at a height of around 150-800 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1- and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.</td>
</tr>
<tr>
<td><strong>Ionosphere.Topside</strong></td>
<td>The region at the upper most areas of the ionosphere.</td>
</tr>
<tr>
<td><strong>Mesosphere</strong></td>
<td>The layer of the atmosphere that extends from the Stratosphere to a range of 80 km to 85 km, temperature decreasing with height.</td>
</tr>
<tr>
<td><strong>MidLatitudeRegion</strong></td>
<td>When considering the case of the Earth, the mid-latitude region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 23 degrees to 50 degrees. The concept of mid-latitude regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The mid-latitude regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at mid latitude on the Earth are well positioned to measure magnetic storm-time ring current variations.</td>
</tr>
<tr>
<td><strong>Plasmasphere</strong></td>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td><strong>PolarCap</strong></td>
<td>The areas of the globe surrounding the poles and consisting of the region north of 60 degrees north latitude and the region south of 60 degrees south latitude.</td>
</tr>
<tr>
<td><strong>SouthAtlanticAnomalyRegion</strong></td>
<td>The region where the Earth's inner van Allen radiation belt makes its closest approach to the planet's surface. The result is that, for a given altitude, the radiation intensity is higher over this region than elsewhere.</td>
</tr>
<tr>
<td><strong>Stratosphere</strong></td>
<td>The layer of the atmosphere that extends from the troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.</td>
</tr>
<tr>
<td><strong>SubAuroralRegion</strong></td>
<td>When considering the case of the Earth, the sub-auroral region typically refers to two latitudinal bands, one in the northern hemisphere.</td>
</tr>
</tbody>
</table>
and the other in the southern hemisphere extending from about 50 degrees to low 60 degrees. The concept sub-auroral regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The sub-auroral regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at sub-auroral latitudes on the Earth measure a mixture of activity driven by auroral zone currents and the ring current.

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Thermosphere</th>
<th>The layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height.</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Troposphere</td>
<td>The lowest layer of the atmosphere which begins at the surface and extends to between 7 km (4.4 mi) at the poles and 17 km (10.6 mi) at the equator, with some variation due to weather factors.</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:simpleType name="NearSurface">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for regions of the gaseous and possibly ionized environment of a body extending from the surface to some specified altitude.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="Atmosphere">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The neutral gases surrounding a body that extends from the surface and is bound to the body by virtue of the gravitational attraction.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="AuroralRegion">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The region in the atmospheric where electrically-charged particles bombarding the upper atmosphere of a planet in the presence of a magnetic field produce an optical phenomenon.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="EquatorialRegion">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A region centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Ionosphere">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Ionosphere.DRegion">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The layer of the ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Ionosphere.ERegion">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A layer of ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called The Kennelly-Heaviside layer.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Ionosphere.FRegion">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A layer that contains ionized gases at a height of around 150-800 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1-and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Ionosphere.Topside">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The region at the upper most areas of the ionosphere.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```
<xsd:enumeration value="Mesosphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The layer of the atmosphere that extends from the Stratosphere to a range of 80 km to 85 km, temperature decreasing with height.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="MidLatitudeRegion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">When considering the case of the Earth, the mid-latitude region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 23 degrees to 50 degrees. The concept of mid-latitude regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The mid-latitude regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at mid latitude on the Earth are well positioned to measure magnetic storm-time ring current variations.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Plasmasphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="PolarCap">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The areas of the globe surrounding the poles and consisting of the region north of 60 degrees north latitude an the region south of 60 degrees south latitude.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="SouthAtlanticAnomalyRegion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region where the Earth's inner van Allen radiation belt makes its closest approach to the planet's surface. The result is that, for a given altitude, the radiation intensity is higher over this region than elsewhere.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Stratosphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The layer of the atmosphere that extends from the troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="SubAuroralRegion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">When considering the case of the Earth, the sub-auroral region typically refers to two latitudinal bands, one in the northern hemisphere and the other in the southern hemisphere extending from about 50 degrees to low 60 degrees. The concept sub-auroral regions does not apply to all bodies in the solar system and different latitudinal ranges would apply for each body case by case. The sub-auroral regions may be defined by using either planetographic or magnetic coordinates if the magnetic dipole is closely aligned with the spin axis of a magnetized body. Ground magnetometers located at sub-auroral latitudes on the Earth measure a mixture of activity driven by auroral zone currents and the ring current.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Thermosphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Troposphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The lowest layer of the atmosphere which begins at the surface and extends to between 7 km (4.4 mi) at the poles and 17 km (10.6 mi) at the equator, with some variation due to weather factors.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:restriction>
  <xsd:simpleType>
    <xsd:annotation>
      <xsd:documentation xml:lang="en">Simple Type spase:Projection</xsd:documentation>
    </xsd:annotation>
  </xsd:simpleType>
</xsd:restriction>
### Schema documentation for spase-2_3_1.xsd

#### Annotations
Identifiers to projections into a coordinate system.

#### Diagram
![Diagram](image)

#### Type
restriction of xsd:string

#### Facets

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IJ</td>
<td>A measure of the length of a position or measured vector projected into the i-j (typically X-Y) plane of the coordinate system.</td>
</tr>
<tr>
<td>IK</td>
<td>A measure of the length of a position or measured vector projected into the i-k (typically X-Z) plane of the coordinate system.</td>
</tr>
<tr>
<td>JK</td>
<td>A measure of the length of a position or measured vector projected into the j-k (typically Y-Z) plane of the coordinate system.</td>
</tr>
</tbody>
</table>

#### Source
```xml
<xsd:simpleType name="Projection">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers to projections into a coordinate system.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="IJ">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A measure of the length of a position or measured vector projected into the i-j (typically X-Y) plane of the coordinate system.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="IK">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A measure of the length of a position or measured vector projected into the i-k (typically X-Z) plane of the coordinate system.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="JK">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A measure of the length of a position or measured vector projected into the j-k (typically Y-Z) plane of the coordinate system.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```

#### Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd

---

### Simple Type spase:Sun

#### Namespace
http://www.spase-group.org/data/schema

#### Annotations
Identifiers for regions of the star upon which our solar system is centered.

#### Diagram
![Diagram](image)

#### Type
restriction of xsd:string

#### Facets

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromosphere</td>
<td>The region of the Sun's (or a star's) atmosphere above the temperature minimum and below the Transition Region. The solar chromosphere is approximately 400 km to 2100 km above the photosphere, and characterized by temperatures from 4500 - 28000 K.</td>
</tr>
<tr>
<td>Corona</td>
<td>The outermost atmospheric region of the Sun or a star, characterized by ionization temperatures above 10^5 K. The solar corona starts at about 2100 km above the photosphere; there is no generally defined upper limit.</td>
</tr>
<tr>
<td>Interior</td>
<td>The region inside the body which is not visible from outside the body.</td>
</tr>
<tr>
<td>Photosphere</td>
<td>The atmospheric layer of the Sun or a star from which continuum radiation, especially optical, is emitted to space. For the Sun, the photosphere is about 500 km thick.</td>
</tr>
<tr>
<td>TransitionRegion</td>
<td>A very narrow (&lt;100 km) layer between the chromosphere and the corona where the temperature rises abruptly from about 8000 to about 500,000 K.</td>
</tr>
</tbody>
</table>

---

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Identifiers for regions of the star upon which our solar system is centered.

- **Chromosphere**:
  - The region of the Sun's (or a star's) atmosphere above the temperature minimum and below the Transition Region. The solar chromosphere is approximately 400 km to 2100 km above the photosphere, and characterized by temperatures from 4500 – 28000 K.

- **Corona**:
  - The outermost atmospheric region of the Sun or a star, characterized by ionization temperatures above 10^5 K. The solar corona starts at about 2100 km above the photosphere; there is no generally defined upper limit.

- **Photosphere**:
  - The atmospheric layer of the Sun or a star from which continuum radiation, especially optical, is emitted to space. For the Sun, the photosphere is about 500 km thick.

- **Transition Region**:
  - A very narrow (<100 km) layer between the chromosphere and the corona where the temperature rises abruptly from about 8000 to about 500,000 K.

**Source**

- `<xsd:simpleType name="Sun">
  - `<xsd:annotation>`
    - `<xsd:documentation xml:lang="en">Identifiers for regions of the star upon which our solar system is centered.</xsd:documentation>`
  - `<xsd:restriction base="xsd:string">
    - `<xsd:enumeration value="Chromosphere">
      - `<xsd:annotation>`
        - `<xsd:documentation xml:lang="en">The region of the Sun's (or a star's) atmosphere above the temperature minimum and below the Transition Region. The solar chromosphere is approximately 400 km to 2100 km above the photosphere, and characterized by temperatures from 4500 – 28000 K.</xsd:documentation>`
    - `<xsd:enumeration value="Corona">
      - `<xsd:annotation>`
        - `<xsd:documentation xml:lang="en">The outermost atmospheric region of the Sun or a star, characterized by ionization temperatures above 10^5 K. The solar corona starts at about 2100 km above the photosphere; there is no generally defined upper limit.</xsd:documentation>`
    - `<xsd:enumeration value="Interior">
      - `<xsd:annotation>`
        - `<xsd:documentation xml:lang="en">The region inside the body which is not visible from outside the body.</xsd:documentation>`
    - `<xsd:enumeration value="Photosphere">
      - `<xsd:annotation>`
        - `<xsd:documentation xml:lang="en">The atmospheric layer of the Sun or a star from which continuum radiation, especially optical, is emitted to space. For the Sun, the photosphere is about 500 km thick.</xsd:documentation>`
    - `<xsd:enumeration value="TransitionRegion">
      - `<xsd:annotation>`
        - `<xsd:documentation xml:lang="en">A very narrow (<100 km) layer between the chromosphere and the corona where the temperature rises abruptly from about 8000 to about 500,000 K.</xsd:documentation>`
  - `<xsd:annotation>`
    - `<xsd:documentation xml:lang="en">Identifiers for the encoding of sequences of characters.</xsd:documentation>`
  - `<xsd:restriction base="xsd:string">
    - `<xsd:enumeration value="ASCII">
      - `<xsd:annotation>`
        - `<xsd:documentation xml:lang="en">A sequence of characters that adheres to American Standard Code for Information Interchange (ASCII) which is an 7-bit character-coding scheme.</xsd:documentation>`
    - `<xsd:enumeration value="Unicode">
      - `<xsd:annotation>`
        - `<xsd:documentation xml:lang="en">Text in multi-byte Unicode format.</xsd:documentation>`
  - `<xsd:xml:lang="en">Text in multi-byte Unicode format.</xsd:documentation>`
</xsd:simpleType>`
### Simple Type `spase:Waves`

- **Namespace**: `http://www.spase-group.org/data/schema`
- **Annotations**: Identifiers for experimental and natural wave phenomena.
- **Diagram**:
  - ![Diagram](image)
- **Type**: restriction of `xsd:string`
- **Facets**:
  - **enumeration** `Active`
    - Exerting an influence or producing a change or effect. An active measurement is one which produces a transmission or excitation as a part of the measurement cycle.
  - **enumeration** `Passive`
    - Movement or effect produced by outside influence. A passive measurement is one which does not produce a transmission or excitation as a part of the measurement cycle.
- **Source**:
  ```xml
  <xsd:simpleType name="Waves">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">Identifiers for experimental and natural wave phenomena.</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
      <xsd:enumeration value="Active">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">Exerting an influence or producing a change or effect. An active measurement is one which produces a transmission or excitation as a part of the measurement cycle.</xsd:documentation>
        </xsd:annotation>
      </xsd:enumeration>
      <xsd:enumeration value="Passive">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">Movement or effect produced by outside influence. A passive measurement is one which does not produce a transmission or excitation as a part of the measurement cycle.</xsd:documentation>
        </xsd:annotation>
      </xsd:enumeration>
    </xsd:restriction>
  </xsd:simpleType>
  ```

---

### Simple Type `spase:typeStringSequence`

- **Namespace**: `http://www.spase-group.org/data/schema`
- **Annotations**:
  ```xml
  <xsd:annotation>
    <xsd:documentation xml:lang="en"></xsd:documentation>
  </xsd:annotation>
  ```
- **Diagram**:
  - ![Diagram](image)
- **Type**: list of `xsd:string`
- **Source**:
  ```xml
  <xsd:simpleType name="typeStringSequence">
    <xsd:list itemType="xsd:string"/>
  </xsd:simpleType>
  ```

---

**Schema location**:
- `file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd`
### Simple Type `spase:typeFloatSequence`

<table>
<thead>
<tr>
<th><strong>Namespace</strong></th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
</table>
| **Annotations** | `<xsd:annotation>
    <xsd:documentation xml:lang="en">
    SPASE Identifier
    </xsd:documentation>
</xsd:annotation>` |
| **Diagram** | ![Diagram](image) |
| **Type** | list of `xsd:float` |
| **Source** | `<xsd:simpleType name="typeFloatSequence">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="[^:/]+://[^/]+/.+"/>
    </xsd:restriction>
</xsd:simpleType>` |
| **Schema location** | file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd |

### Simple Type `spase:typeID`

<table>
<thead>
<tr>
<th><strong>Namespace</strong></th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
</table>
| **Annotations** | `<xsd:annotation>
    <xsd:documentation xml:lang="en">
    SPASE Identifier
    </xsd:documentation>
</xsd:annotation>` |
| **Diagram** | ![Diagram](image) |
| **Type** | restriction of `xsd:string` |
| **Facets** | `pattern` |
| **Source** | `<xsd:simpleType name="typeID">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="[^:/]+://[^/]+/.+"/>
    </xsd:restriction>
</xsd:simpleType>` |
| **Schema location** | file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd |

### Namespace: ""

### Attribute(s)

#### Attribute `spase:Spase` / @lang

<table>
<thead>
<tr>
<th><strong>Namespace</strong></th>
<th>No namespace</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td><code>xsd:string</code></td>
</tr>
<tr>
<td><strong>Properties</strong></td>
<td><code>default: en</code></td>
</tr>
<tr>
<td><strong>Used by</strong></td>
<td>Complex Type <code>spase:Spase</code></td>
</tr>
<tr>
<td><strong>Source</strong></td>
<td><code>&lt;xsd:attribute name=&quot;lang&quot; type=&quot;xsd:string&quot; default=&quot;en&quot;/&gt;</code></td>
</tr>
<tr>
<td><strong>Schema location</strong></td>
<td>file://C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd</td>
</tr>
</tbody>
</table>

#### Attribute `spase:typeValue` / @Units

<table>
<thead>
<tr>
<th><strong>Namespace</strong></th>
<th>No namespace</th>
</tr>
</thead>
</table>
Annotations

<xsd:annotation>
  <xsd:documentation xml:lang="en">
    A description of the standardized measurement increments in which a value is specified. The description is represented as a mathematical phrase. Units should be represented by widely accepted representation. For example, units should conform to the International System of Units (SI) which is maintained by BIPM (Bureau International des Poids et Mesures) when appropriate or use tokens like "Re" to represent units of the Radius of the Earth. Within a phrase the circumflex (^) is used to indicate a power, a star (*) is used to indicate multiplication and a slash (/) division. When symbols are not separated by a mathematical operator, multiplication is assumed. Symbols for base units can be found at: <http://www.bipm.fr/en/si/si_brochure/chapter2/2-1/#symbols> and those for common derived units can be found at: <http://www.bipm.fr/en/si/derived_units/2-2-2.html>
  </xsd:documentation>
</xsd:annotation>

Type
xsd:string

Properties
content: simple

Used by
Complex Type spase:typeValue

Source
<xsd:attribute name="Units" type="xsd:string">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A description of the standardized measurement increments in which a value is specified. The description is represented as a mathematical phrase. Units should be represented by widely accepted representation. For example, units should conform to the International System of Units (SI) which is maintained by BIPM (Bureau International des Poids et Mesures) when appropriate or use tokens like "Re" to represent units of the Radius of the Earth. Within a phrase the circumflex (^) is used to indicate a power, a star (*) is used to indicate multiplication and a slash (/) division. When symbols are not separated by a mathematical operator, multiplication is assumed. Symbols for base units can be found at: <http://www.bipm.fr/en/si/si_brochure/chapter2/2-1/#symbols> and those for common derived units can be found at: <http://www.bipm.fr/en/si/derived_units/2-2-2.html>
    </xsd:documentation>
  </xsd:annotation>
</xsd:attribute>

Attribute spase:typeValue / @UnitsConversion

Namespace
No namespace

Annotations

<xsd:annotation>
  <xsd:documentation xml:lang="en">
    The multiplicative factor for converting a unit into International System of Units (SI) units. The factor is expressed in the form "number > x", where "number" is a numerical value and "x" is the appropriate SI units. The basic SI units are Enumerated: m (meter), N (newton), kg (kilogram), Pa (pascal), s (second), Hz (hertz), A (ampere), V (volt), K (kelvin), W (watt), rad (radian), J (joule), Hz (hertz), C (coulomb), T (tesla), ohm (ohm), mho (mho or seimens), H (henry), and F (farad). Two useful units which are not SI units are: degree (angle), and unitless (no units). An example is: "1.0E-9>T" which converts the units, presumable nT, to Tesla. Another example is: "1.0e+3>m/s" which converts a velocity expressed in kilometers per second to meters per second.
  </xsd:documentation>
</xsd:annotation>

Type
xsd:string

Properties
content: simple

Used by
Complex Type spase:typeValue

Source
<xsd:attribute name="UnitsConversion" type="xsd:string">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The multiplicative factor for converting a unit into International System of Units (SI) units. The factor is expressed in the form "number > x", where "number" is a numerical value and "x" is the appropriate SI units. The basic SI units are Enumerated: m (meter), N (newton), kg (kilogram), Pa (pascal), s (second), Hz (hertz), A (ampere), V (volt), K (kelvin), W (watt), rad (radian), J (joule), Hz (hertz), C (coulomb), T (tesla), ohm (ohm), mho (mho or seimens), H (henry), and F (farad). Two useful units which are not SI units are: degree (angle), and unitless (no units). An example is: "1.0E-9>T" which converts the units, presumable nT, to Tesla. Another example is: "1.0e+3>m/s" which converts a velocity expressed in kilometers per second to meters per second.
    </xsd:documentation>
  </xsd:annotation>
</xsd:attribute>

Schema location
file:/C:/Projects/work/spase/data-model/spase-model-tools/build/bin/spase-2_3_1.xsd