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

Schema(s)

Main schema spase-2_2_6.xsd

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<td>unqualified</td>
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| Schema location | file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd |

Element(s)

Element spase:Spase

<table>
<thead>
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</tr>
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</tr>
</tbody>
</table>
Schema documentation for spase-2_2_6.xsd

Diagram

Type

spase:Spase

Properties

ccontent: complex

Model


Children


Instance

<spase:Spase lang="en" xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:Version>{1,1}</spase:Version>
  <spase:Catalog>{1,1}</spase:Catalog>
  <spase:DisplayData>{1,1}</spase:DisplayData>
  <spase:NumericalData>{1,1}</spase:NumericalData>
  <spase:Document>{1,1}</spase:Document>
  <spase:Granule>{1,1}</spase:Granule>
  <spase:Instrument>{1,1}</spase:Instrument>
  <spase:Observatory>{1,1}</spase:Observatory>
  <spase:Person>{1,1}</spase:Person>
  <spase:Registry>{1,1}</spase:Registry>
  <spase:Repository>{1,1}</spase:Repository>
  <spase:Service>{1,1}</spase:Service>
  <spase:Annotation>{1,1}</spase:Annotation>
</spase:Spase>

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

<xsd:element name="spase" type="spase:Spase"/>
Schema documentation for spase-2_2_6.xsd

Element spase:Spase / spase:Version

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

Diagram:

Type: spase:Version

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

Facets:
- enumeration 2.2.6

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

Schema location: file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:Spase / spase:Catalog

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

Diagram:

Type: spase:Catalog

Properties:
- content: complex

Model:
- spase:ResourceID
- spase:ResourceHeader
- spase:AccessInformation*
- spase:ProviderResourceName{0,1}
- spase:ProviderVersion{0,1}
- spase:InstrumentID*
- spase:PhenomenonType+
- spase:TimeSpan{0,1}
- spase:Caveats{0,1}
- spase:Keyword*
- spase:InputResourceID*
- spase:Parameter*
- spase:Extension*

Schema location: file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
## Children

<table>
<thead>
<tr>
<th>Children</th>
</tr>
</thead>
</table>

## 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: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"/>
```

## Schema location

file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

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

<table>
<thead>
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<th>Namespace</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:ResourceID</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>Source</td>
<td><code>&lt;xsd:element name=&quot;ResourceID&quot; type=&quot;spase:ResourceID&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

### Element `spase:Catalog` / `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>
</table>
Schema documentation for spase-2_2_6.xsd

Diagram

```
Type  spase:ResourceHeader

Properties
content:  complex
minOccurs:  1
maxOccurs:  1

Model
spase:ResourceName, spase:AlternateName* , spase:ReleaseDate, spase:ExpirationDate{0..1}, spase:Description, spase:Acknowledgement{0..1}, spase:Contact+, spase:InformationURL*, spase:Association*, spase:PriorID*

Children
spase:Acknowledgement, spase:AlternateName, spase:Association, spase:Contact, spase:Description, spase:ExpirationDate, spase:InformationURL, spase:PriorID, spase:ReleaseDate, spase:ResourceName

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:ReleaseDate>{1,1}</spase:ReleaseDate>
  <spase:ExpirationDate>{0,1}</spase:ExpirationDate>
  <spase:Description>{1,1}</spase:Description>
  <spase:Acknowledgement>{0,1}</spase:Acknowledgement>
  <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"/>

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:ResourceHeader / spase:ResourceName

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

Diagram

```
Type  spase:ResourceName

Properties
content:  simple
minOccurs:  1
maxOccurs:  1

Source
<xsd:element name="ResourceName" type= "spase:ResourceName" minOccurs="1" maxOccurs="1"/>
<table>
<thead>
<tr>
<th><strong>Element</strong></th>
<th><strong>spase:ResourceHeader</strong> / <strong>spase:AlternateName</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Namespace</strong></td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td><strong>Diagram</strong></td>
<td><img src="spase-AlternateName" alt="Diagram" /></td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>spase:AlternateName</td>
</tr>
<tr>
<td><strong>Properties</strong></td>
<td>content: simple, minOccurs: 0, maxOccurs: unbounded</td>
</tr>
<tr>
<td><strong>Source</strong></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><strong>Schema location</strong></td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Element</strong></th>
<th><strong>spase:ResourceHeader</strong> / <strong>spase:ReleaseDate</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Namespace</strong></td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td><strong>Diagram</strong></td>
<td><img src="" alt="Diagram" /></td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>spase:ReleaseDate</td>
</tr>
<tr>
<td><strong>Properties</strong></td>
<td>content: simple, minOccurs: 1, maxOccurs: 1</td>
</tr>
<tr>
<td><strong>Source</strong></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><strong>Schema location</strong></td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Element</strong></th>
<th><strong>spase:ResourceHeader</strong> / <strong>spase:ExpirationDate</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Namespace</strong></td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td><strong>Diagram</strong></td>
<td><img src="" alt="Diagram" /></td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>spase:ExpirationDate</td>
</tr>
<tr>
<td><strong>Properties</strong></td>
<td>content: simple, minOccurs: 0, maxOccurs: 1</td>
</tr>
<tr>
<td><strong>Source</strong></td>
<td><code>&lt;xsd:element name=&quot;ExpirationDate&quot; type=&quot;spase:ExpirationDate&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td><strong>Schema location</strong></td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Element</strong></th>
<th><strong>spase:ResourceHeader</strong> / <strong>spase:Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Namespace</strong></td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
</tr>
<tr>
<td><strong>Diagram</strong></td>
<td><img src="" alt="Diagram" /></td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>spase:Description</td>
</tr>
<tr>
<td><strong>Properties</strong></td>
<td>content: simple, minOccurs: 1, maxOccurs: 1</td>
</tr>
<tr>
<td><strong>Source</strong></td>
<td><code>&lt;xsd:element name=&quot;Description&quot; type=&quot;spase:Description&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td><strong>Schema location</strong></td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>
### Element `spase:ResourceHeader / spase:Acknowledgement`

<table>
<thead>
<tr>
<th>Property</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="image1.png" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:Acknowledgement</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;Acknowledgement&quot; type=&quot;spase:Acknowledgement&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

### Element `spase:ResourceHeader / spase:Contact`

<table>
<thead>
<tr>
<th>Property</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="image2.png" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:Contact</td>
</tr>
<tr>
<td>Properties</td>
<td>content: complex</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 1</td>
</tr>
<tr>
<td></td>
<td>maxOccurs: unbounded</td>
</tr>
<tr>
<td>Model</td>
<td>spase:PersonID, spase:Role+</td>
</tr>
<tr>
<td>Children</td>
<td>spase:PersonID, spase:Role</td>
</tr>
<tr>
<td>Instance</td>
<td><code>&lt;spase:Contact xmlns:spase=&quot;http://www.spase-group.org/data/schema&quot;&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;spase:PersonID&gt;{1,1}&lt;/spase:PersonID&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;spase:Role&gt;{1,unbounded}&lt;/spase:Role&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;/spase:Contact&gt;</code></td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;Contact&quot; type=&quot;spase:Contact&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;unbounded&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

### Element `spase:Contact / spase:PersonID`

<table>
<thead>
<tr>
<th>Property</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="image3.png" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:PersonID</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>Source</td>
<td><code>&lt;xsd:element name=&quot;PersonID&quot; type=&quot;spase:PersonID&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

### Element `spase:Contact / spase:Role`

<table>
<thead>
<tr>
<th>Property</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>
</tbody>
</table>

13
Diagram

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

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

enumeration FormerPI

enumeration GeneralContact
An individual who can provide information on a range of subjects or who can direct you to a domain expert.

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 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.

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

Schema location
file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:ResourceHeader / spase:InformationURL

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

Diagram

Type
spase:InformationURL
### Element `spase:InformationURL` / `spase:Name`

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

**Diagram**
![Diagram for spase:InformationURL / spase:Name]

**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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:InformationURL` / `spase:URL`

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

**Diagram**
![Diagram for spase:InformationURL / spase:URL]

**Type**
`spase:URL`

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

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

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:InformationURL` / `spase:Description`

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

**Diagram**
![Diagram for spase:InformationURL / spase:Description]

**Type**
`spase:Description`

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

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

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
Element `spase:InformationURL` / `spase:Language`

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

Diagram:

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/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

---

Element `spase:ResourceHeader` / `spase:Association`

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

Diagram:

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"/>
```

Schema location:
`file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

---

Element `spase:Association` / `spase:AssociationID`

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

Diagram:

Type: `spase:AssociationID`

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

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

Schema location:
`file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

---

Element `spase:Association` / `spase:AssociationType`
### Element `spase:Association` / `spase:Note`

<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:Note</code></td>
</tr>
<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><code>&lt;xsd:element name=&quot;Note&quot; type=&quot;spase:Note&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

### Element `spase:ResourceHeader` / `spase:PriorID`

<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:PriorID</code></td>
</tr>
<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>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;PriorID&quot; type=&quot;spase:PriorID&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;unbounded&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

### Element `spase:Catalog` / `spase:AccessInformation`

<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></td>
<td></td>
</tr>
</tbody>
</table>
**Schema documentation for spase-2_2_6.xsd**

**Diagram**

```
<AccessInformation xmlns:spase="http://www.spase-group.org/data/schema">
  <RepositoryID>{1,1}</RepositoryID>
  <Availability>{0,1}</Availability>
  <AccessRights>{0,1}</AccessRights>
  <AccessURL>{1,unbounded}</AccessURL>
  <Format>{1,1}</Format>
  <Encoding>{0,1}</Encoding>
  <DataExtent>{0,1}</DataExtent>
  <Acknowledgement>{0,1}</Acknowledgement>
</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**

```
  <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**

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

**Schema location** file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element spase:AccessInformation / spase:RepositoryID

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

```
<RepositoryID xmlns:spase="http://www.spase-group.org/data/schema">
<spase:RepositoryID '{1,1}'/>
```

**Type** spase:RepositoryID

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

**Source**

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

**Schema location** file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element spase:AccessInformation / spase:Availability

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

**Type** `spase:Availability`

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

**Facets**
- `enumeration` `Offline` (Not directly accessible electronically. This includes resources which may to be moved to an on-line status in response to a given request.)
- `enumeration` `Online` (Directly accessible electronically.)

**Source**

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

**Schema location** `file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

### Element `spase:AccessRights`

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

**Type** `spase:AccessRights`

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

**Facets**
- `enumeration` `Open` (Access is granted to everyone.)
- `enumeration` `Restricted` (Access to the product is regulated and requires some form of identification.)

**Source**

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

**Schema location** `file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

### Element `spase:AccessURL`

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

**Type** `spase:AccessURL`

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

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

**Children**
- `spase:Description`, `spase:Language`, `spase:Name`, `spase:ProductKey`, `spase:URL`

**Instance**

```xml
  <spase:Name>{0,1}</spase:Name>
</spase:AccessURL>
```
<table>
<thead>
<tr>
<th>Element</th>
<th>Name</th>
<th>Namespace</th>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>spase:Name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>spase:URL</td>
<td></td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
<td></td>
</tr>
<tr>
<td>spase:ProductKey</td>
<td></td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
<td></td>
</tr>
<tr>
<td>spase:Description</td>
<td></td>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
<td></td>
</tr>
</tbody>
</table>

**Element spase:URL**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: ![URL Diagram](image)
- **Type**: spase:URL
- **Properties**:
  - content: simple
  - minOccurs: 1
  - maxOccurs: 1
- **Source**: file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

**Element spase:ProductKey**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: ![ProductKey Diagram](image)
- **Type**: spase:ProductKey
- **Properties**:
  - content: simple
  - minOccurs: 0
  - maxOccurs: unbounded
- **Source**: file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

**Element spase:Description**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: ![Description Diagram](image)
- **Type**: spase:Description
- **Properties**:
  - content: simple
  - minOccurs: 0

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

Schema documentation for spase-2_2_6.xsd

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

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

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:Language</th>
</tr>
</thead>
</table>

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

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

Schema location file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

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

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

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:Format</th>
</tr>
</thead>
</table>

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

<table>
<thead>
<tr>
<th>Facets</th>
<th>enumeration AVI Audio Video Interleave (AVI) a digital format for movies that conforms to the Microsoft Windows Resource Interchange File Format (RIFF).</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration Binary A direct representation of the bits which may be stored in memory on a computer.</td>
<td></td>
</tr>
<tr>
<td>enumeration CDF Common Data Format (CDF). A binary storage format developed at Goddard Space Flight Center (GSFC).</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>enumeration 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.</td>
<td></td>
</tr>
<tr>
<td>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. Compared to version 1, the metadata description of vectors and tensors is different.</td>
<td></td>
</tr>
<tr>
<td>enumeration Excel A Microsoft spreadsheet format used to hold a variety of data in tables which can include calculations.</td>
<td></td>
</tr>
<tr>
<td>enumeration FITS 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>
<td></td>
</tr>
<tr>
<td>enumeration GIF Graphic Interchange Format (GIF) first introduced</td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<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 are 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>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. See <a href="http://my.unidata.ucar.edu/content/software/netcdf">http://my.unidata.ucar.edu/content/software/netcdf</a></td>
</tr>
</tbody>
</table>
enumeration PDF A document expressed in the Portable Document Format (PDF) as defined by Adobe.

enumeration PNG A digital format for still images. Portable Network Graphics (PNG)

enumeration Postscript A page description programming language created by Adobe Systems Inc. that is a device-independent industry standard for representing text and graphics.

enumeration QuickTime A format for digital movies, as defined by Apple Computer. See <http://developer.apple.com/quicktime/>

enumeration TIFF A binary format for still pictures. Tagged Image Format File (TIFF). Originally developed by Aldus and now controlled by Adobe.

enumeration Text A sequence of characters which may have an imposed structure or organization.

enumeration Text.ASCII A sequence of characters that adheres to American Standard Code for Information Interchange (ASCII) which is an 7-bit character-coding scheme.

enumeration Text.Unicode Text in multi-byte Unicode format.


enumeration VOTable A proposed IVOA standard designed as a flexible storage and exchange format for tabular data.

enumeration XML eXtensible Mark-up Language (XML). A structured format for representing information. See <http://www.w3.org/XML/>
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.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
</table>
| 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
| Unicode     | Text in multi-byte Unicode format. |
| ZIP         | An open standard for compression which is
             a variation of the LZW method and was originally
             used in the PKZIP utility. |

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

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.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
<xs:element name="DataExtent" type="spase:DataExtent" minOccurs="0" maxOccurs="1"/>

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.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
<xs:element name="Quantity" type="spase:Quantity" minOccurs="1" maxOccurs="1"/>

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
## Element `spase:DataExtent` / `spase:Units`

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

**Diagram**

![Diagram](image)

**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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

## Element `spase:DataExtent` / `spase:Per`

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

**Diagram**

![Diagram](image)

**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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

## Element `spase:AccessInformation` / `spase:Acknowledgement`

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

**Diagram**

![Diagram](image)

**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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

## Element `spase:Catalog` / `spase:ProviderResourceName`

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

**Diagram**

![Diagram](image)

**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/spase/java/model-tools/build/bin/spase-2_2_6.xsd
### Element `spase:Catalog / spase:ProviderVersion`

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

**Diagram**

```
<complexType name="ProviderVersion">
  <simpleContent>
    <extension base="spase:ProviderVersion"/>
  </simpleContent>
</complexType>
```

**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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:Catalog / spase:InstrumentID`

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

**Diagram**

```
<complexType name="InstrumentID">
  <simpleContent>
    <extension base="spase:InstrumentID"/>
  </simpleContent>
</complexType>
```

**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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:Catalog / spase:PhenomenonType`

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

**Diagram**

```
<complexType name="PhenomenonType">
  <simpleContent>
    <extension base="spase:PhenomenonType"/>
  </simpleContent>
</complexType>
```

**Type** `spase:PhenomenonType`

**Properties**

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

**Facets**

- **enumeration** `ActiveRegion`: A localized, transient volume of the solar atmosphere in which FLAREs, 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.
- **enumeration** `CoronalHole`: 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
| enumeration | EITWave | A wave in the corona of the Sun which produces shock waves on the Sun's chromosphere (Moreton Waves). EIT Waves are produced by large solar flares 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. |
| 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 CME-associated plasma clouds. |
| enumeration | MagneticCloud | 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. |
| enumeration | MagnetopauseCrossing | A crossing of the interface between the shocked solar wind in the magnetosheath and the magnetic field and plasma in the magnetosphere. |
| enumeration | RadioBurst | 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 metric range (300 - 50 MHz); "Type II" consisting of narrow-band emission that begins in the meter range (300 MHz) and sweeps slowly (tens of minutes) toward dekameter wavelengths (10 MHz); "Type III" consisting of narrow-band bursts that sweep rapidly (seconds) from decimeter to dekameter wavelengths (500 - 5 MHz); and "Type IV" consisting of a smooth continuum of broad-band bursts primarily in the meter range (300 - 30 MHz). |
| enumeration | SectorBoundaryCrossing | 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. |
| 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.

**Substorm**
A process by which plasma in the magnetotail becomes energized at a fast rate.

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

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

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

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

**Diagram**

**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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

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

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

**Diagram**

**Type**
spase:StartDate

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

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

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Element spase:TimeSpan / spase:StopDate**

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

**Diagram**

---
Type | spase:StopDate
---|---
Properties | content: simple
Source | `<xsd:element name="StopDate" type="spase:StopDate"/>

Element spase:TimeSpan / spase:RelativeStopDate

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

Element spase:TimeSpan / spase:Note

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

Element spase:Catalog / spase:Caveats

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

Element spase:Catalog / spase:Keyword

Namespace | http://www.spase-group.org/data/schema
Diagram | ![Diagram](Diagram.png)
Type | spase:Keyword
Properties | content: simple
<table>
<thead>
<tr>
<th>Source</th>
<th>&lt;xsd:element name=&quot;Keyword&quot; type=&quot;spase:Keyword&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;unbounded&quot;/&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

**Element `spase:Catalog` / `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>
</tr>
</thead>
<tbody>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>spase:InputResourceID</code></td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple, minOccurs: 0, maxOccurs: unbounded</td>
</tr>
<tr>
<td>Source</td>
<td>&lt;xsd:element name=&quot;InputResourceID&quot; type=&quot;spase:InputResourceID&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;unbounded&quot;/&gt;</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

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

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

Type

Parameter

Properties

content: complex
minOccurs: 0
maxOccurs: unbounded

Model

spase:Name , spase:Set* , spase:ParameterKey{0,1} , spase:Description{0,1} , spase:Caveats{0,1} , spase:Cadence{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


Instance

<spase:Parameter xmlns:spase="http://www.spase-group.org/data/schema">
    <spase:Name>(1,1)</spase:Name>
</spase:Parameter>
Source

<xs:element name="ParameterKey" type="spase:ParameterKey" minOccurs="0" maxOccurs="1"/>

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:Parameter / spase:Name

Namespace

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

Diagram

Type spase:Name

Properties

content: simple

minOccurs: 1

maxOccurs: 1

Source

<xs:element name="Name" type="spase:Name" minOccurs="1" maxOccurs="1"/>

Element spase:Parameter / spase:Set

Namespace

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

Diagram

Type spase:Set

Properties

content: simple

minOccurs: 0

maxOccurs: unbounded

Source

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

Element spase:Parameter / spase:ParameterKey

Namespace

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

Diagram

Type spase:ParameterKey

Properties

content: simple

minOccurs: 0

maxOccurs: 1

Source

<xs:element name="ParameterKey" type="spase:ParameterKey" minOccurs="0" maxOccurs="1"/>
<table>
<thead>
<tr>
<th>Element</th>
<th>spase:Parameter / spase: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>spase:Description</td>
</tr>
<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>
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</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;Description&quot; type=&quot;spase:Description&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
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<td>Schema location</td>
<td>file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Element</th>
<th>spase:Parameter / spase:Caveats</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>spase:Caveats</td>
</tr>
<tr>
<td>Properties</td>
<td></td>
</tr>
<tr>
<td>content</td>
<td>simple</td>
</tr>
<tr>
<td>minOccurs</td>
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</tr>
<tr>
<td>maxOccurs</td>
<td>1</td>
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<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>
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<tr>
<td>Schema location</td>
<td>file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Element</th>
<th>spase:Parameter / spase:Cadence</th>
</tr>
</thead>
<tbody>
<tr>
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<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>spase:Cadence</td>
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<tr>
<td>Properties</td>
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<tr>
<td>content</td>
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<tr>
<td>minOccurs</td>
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</tr>
<tr>
<td>maxOccurs</td>
<td>1</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;Cadence&quot; type=&quot;spase:Cadence&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
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<tr>
<td>Schema location</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Element</th>
<th>spase:Parameter / 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="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
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<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><code>&lt;xsd:element name=&quot;Units&quot; type=&quot;spase:Units&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>
**Element `spase:Parameter / spase:UnitsConversion`**

<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="image1" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>spase:UnitsConversion</code></td>
</tr>
<tr>
<td>Properties</td>
<td></td>
</tr>
<tr>
<td>content</td>
<td><code>simple</code></td>
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<tr>
<td>minOccurs</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>1</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;UnitsConversion&quot; type=&quot;spase:UnitsConversion&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

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

<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="image2" alt="Diagram" /></td>
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<tr>
<td>Type</td>
<td><code>spase:CoordinateSystem</code></td>
</tr>
<tr>
<td>Properties</td>
<td></td>
</tr>
<tr>
<td>content</td>
<td><code>complex</code></td>
</tr>
<tr>
<td>minOccurs</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>1</td>
</tr>
<tr>
<td>Model</td>
<td><code>spase:CoordinateRepresentation</code>, <code>spase:CoordinateSystemName</code></td>
</tr>
<tr>
<td>Children</td>
<td><code>spase:CoordinateRepresentation</code>, <code>spase:CoordinateSystemName</code></td>
</tr>
<tr>
<td>Instance</td>
<td><code>&lt;spase:CoordinateSystem xmlns:spase= &quot;http://www.spase-group.org/data/schema&quot;&gt;</code> <code>&lt;spase:CoordinateRepresentation&gt;{1,1}&lt;/spase:CoordinateRepresentation&gt;</code> <code>&lt;spase:CoordinateSystemName&gt;{1,1}&lt;/spase:CoordinateSystemName&gt;</code> &lt;/spase:CoordinateSystem&gt;</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;CoordinateSystem&quot; type=&quot;spase:CoordinateSystem&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

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

<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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</thead>
<tbody>
<tr>
<td>Diagram</td>
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<tr>
<td>Type</td>
<td><code>spase:CoordinateRepresentation</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>
<tr>
<td>Facets</td>
<td></td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Cartesian</code></td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Cylindrical</code></td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Spherical</code></td>
</tr>
<tr>
<td></td>
<td>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 i-j plane.</td>
</tr>
</tbody>
</table>
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, \( \arctan (k/\sqrt{i^2+j^2}) \).

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

### Element `spase:CoordinateSystem` / `spase:CoordinateSystemName`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**:
  - `CoordinateSystemName`
  - `spase:CoordinateSystemName`
- **Type**: `spase:CoordinateSystemName`
- **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)
    - CSO: Corrected Solar Orbital - A coordinate system related to Earth where X is anti-sunward, Y along the orbital velocity direction.
    - 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.
    - 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)
    - 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.
    - ENP: 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: 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
<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 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 Happgood, 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 (-y/x)]</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 Happgood, 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 Happgood, 1992.</td>
</tr>
<tr>
<td>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 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>
</tbody>
</table>
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>

tenumeration 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>

tenumeration 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 \(\arctan(y/d)\).

tenumeration 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 \(\delta = (\theta - 90 \text{ deg})\), and its phase angle \(\psi\) as measured counter-clockwise from the \(+Y\) axis \([\psi = \arctan(-y/x)]\).

tenumeration 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.

tenumeration J2000

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.

tenumeration JSM

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.

tenumeration JSO

Jovian Solar Orbital - A coordinate system related to Jupiter where X anti-sunward, Y along the orbital velocity direction.

tenumeration KSM

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.

tenumeration KSO

Kronian Solar Orbital - A coordinate system related to Saturn where X is anti-sunward, Y along the orbital velocity direction.

tenumeration LGM

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) = \(\arctan(B_y/B_x)\)
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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. R (radial) axis is radially away from the Sun, T (tangential) axis is normal to the plane formed by R and the Sun’s spin vector, positive in the direction of planetary motion. N (normal) is R x T.</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. 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>
</tbody>
</table>
| 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.

Source
<xs:element name="CoordinateSystemName" type="sp:CoordinateSystemName" minOccurs="1" maxOccurs="1"/>

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:Parameter / spase:RenderingHints

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

Diagram

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:ScaleMin, spase:ScaleMax, spase:ScaleType, spase:ValueFormat

Instance
<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
<xs:element name="RenderingHints" type="sp:RenderingHints" minOccurs="0" maxOccurs="unbounded"/>

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:RenderingHints / spase:DisplayType

Namespace http://www.spase-group.org/data/schema
Schema documentation for spase-2_2_6.xsd

Diagram

Type `spase:DisplayType`

Properties

<table>
<thead>
<tr>
<th>content</th>
<th>simple</th>
</tr>
</thead>
<tbody>
<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>Image</th>
<th>A two-dimensional representation of data with values at each element of the array related to an intensity or a color.</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Planagram</td>
<td>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.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Spectrogram</td>
<td>The characterization of signal strengths as a function of frequency (or energy) and time.</td>
</tr>
<tr>
<td>enumeration</td>
<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>enumeration</td>
<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>enumeration</td>
<td>WaveForm</td>
<td>Spatial or temporal variations of wave amplitude over wave-period timescales.</td>
</tr>
</tbody>
</table>

Source

```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

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

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

<table>
<thead>
<tr>
<th>content</th>
<th>simple</th>
</tr>
</thead>
<tbody>
<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>ColorBar</th>
<th>A spectrum or set of colors used to represent data values.</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Horizontal</td>
<td>Parallel to or in the plane of the horizon or a base line.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Vertical</td>
<td>Perpendicular to the plane of the horizon or a base line.</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:element name="RenderingAxis" type="spase:RenderingAxis" minOccurs="0" maxOccurs="1"/>
```
Schema documentation for spase-2.2.6.xsd

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

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

**Diagram**

![Diagram](image)

**Type** spase:Index

**Type hierarchy**
- xsd:integer
- spase:typeSequence
- spase:Index

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

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

**Schema location** file:/C:/projects/spase/java/model-tools/build/bin/spase-2.2.6.xsd

**Element spase:RenderingHints / spase:ValueFormat**

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

**Diagram**

![Diagram](image)

**Type** spase:ValueFormat

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

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

**Schema location** file:/C:/projects/spase/java/model-tools/build/bin/spase-2.2.6.xsd

**Element spase:RenderingHints / spase:ScaleMin**

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

**Diagram**

![Diagram](image)

**Type** spase:ScaleMin

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

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

**Schema location** file:/C:/projects/spase/java/model-tools/build/bin/spase-2.2.6.xsd

**Element spase:RenderingHints / spase:ScaleMax**

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

**Diagram**

![Diagram](image)

**Type** spase:ScaleMax

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

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

**Schema location** file:/C:/projects/spase/java/model-tools/build/bin/spase-2.2.6.xsd
maxOccurs: 1

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

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:RenderingHints / spase:ScaleType

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

Diagram

Type spase:ScaleType

Properties
content: simple
minOccurs: 0
maxOccurs: 1

Facets
enumeration LinearScale Intervals which are equally spaced.
enumeration LogScale Intervals which are spaced proportionally to the logarithms of the values being represented.

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

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:Parameter / spase:Structure

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

Diagram

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
<spase:Structure xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:Size>{1,1}</spase:Size>
  <spase:Description>{0,1}</spase:Description>
  <spase:Element>{0,unbounded}</spase:Element>
</spase:Structure>

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

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:Structure / spase:Size

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

Diagram

Type spase:Size

Type hierarchy
• xsd:integer
### 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/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

---

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

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

**Diagram**

![Diagram](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/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

---

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

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

**Diagram**

![Diagram](image)

**Type** `spase:Element`

**Properties**

**content:** complex

**minOccurs:** 0

**maxOccurs:** unbounded
Model

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

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"/>
```

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Element spase:Element / spase:Name**

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

Diagram

```
   Name
      Type
         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"/>
```

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Element spase:Element / 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.
- 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.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<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>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(B_x/B_t) ).</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) ).</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 a model agree with the data.</td>
</tr>
<tr>
<td>Group</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>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</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>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></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>
<tr>
<td>enumeration</td>
<td>Tensor</td>
</tr>
<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>
</tbody>
</table>

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

Schema location:
```xml
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
```

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

- Namespace: http://www.spase-group.org/data/schema
- Diagram: [Diagram](#)
- Type: spase:Index
- Type hierarchy:
  - xsd:integer
  - spase:typeSequence
  - spase:Index
- Properties:
  - content: simple
  - minOccurs: 1
  - maxOccurs: 1
- Source:
  ```xml
  <xsd:element name="Index" type="spase:Index" minOccurs="1" maxOccurs="1"/>
  ```
- Schema location:
  ```xml
  file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
  ```

**Element spase:Element / spase:ParameterKey**

- Namespace: http://www.spase-group.org/data/schema
- Diagram: [Diagram](#)
- Type: spase:ParameterKey
- Properties:
  - content: simple
<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="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:Units</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td>minOccurs: 0</td>
<td>maxOccurs: 1</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;ParameterKey&quot; type=&quot;spase:ParameterKey&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</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="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:UnitsConversion</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td>minOccurs: 0</td>
<td>maxOccurs: 1</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;Units&quot; type=&quot;spase:Units&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Element</th>
<th>spase:Element / spase:ValidMin</th>
</tr>
</thead>
<tbody>
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<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
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<td>spase:ValidMin</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td>minOccurs: 0</td>
<td>maxOccurs: 1</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;ValidMin&quot; type=&quot;spase:ValidMin&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
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<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
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</tbody>
</table>

<table>
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<tr>
<th>Element</th>
<th>spase:Element / spase:ValidMax</th>
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</thead>
<tbody>
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<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
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<tr>
<td>Diagram</td>
<td><img src="image" 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: 0</td>
<td>maxOccurs: 1</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;ValidMax&quot; type=&quot;spase:ValidMax&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>
Schema documentation for spase-2_2_6.xsd

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

<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](image)

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

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

<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](image)

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:RenderingHints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: complex, minOccurs: 0, maxOccurs: 1</td>
</tr>
<tr>
<td>Model</td>
<td>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]</td>
</tr>
<tr>
<td>Children</td>
<td>spase:AxisLabel, spase:DisplayType, spase:Index, spase:RenderingAxis, spase:ScaleMax, spase:ScaleMin, spase:ScaleType, spase:ValueFormat</td>
</tr>
</tbody>
</table>

**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="ValidMax" type="spase:ValidMax" minOccurs="0" maxOccurs="1"/>
```

**Schema location**

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
Element `spase:Parameter / spase:ValidMin`

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

Type `spase:ValidMin`

Properties

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

Source

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

Schema location `file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

---

Element `spase:Parameter / spase:ValidMax`

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

Type `spase:ValidMax`

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/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

---

Element `spase:Parameter / spase:FillValue`

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

Type `spase:FillValue`

Properties

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

Source

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

Schema location `file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

---

Element `spase:Parameter / spase:Field`

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

Type `spase:Field`
### Properties
- **content:** complex

### Model
- `spase:Qualifier*`, `spase:FieldQuantity`, `spase:FrequencyRange{0,1}`

### Children
- `spase:FieldQuantity`, `spase:FrequencyRange`, `spase:Qualifier`

### 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/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

---

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

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

#### Diagram
![Diagram of spase:Qualifier](image)

#### 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.
- **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.
- **enumeration** Core: 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.

**CrossSpectrum**
The Fourier transform of the cross correlation of two physical or empirical observations.

**Deviation**
The difference between an observed value and the expected value of a quantity.

**Differential**
A measurement within a narrow range of energy and/or solid angle.

**Direction**
The spatial relationship between an object and another object, the orientation of the object or the course along which the object points or moves.

**DirectionAngle**
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.

**DirectionAngle.AzimuthAngle**
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(|By|/Bz).

**DirectionAngle.ElevationAngle**
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}).

**DirectionAngle.PolarAngle**
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).

**FieldAligned**
Values that make a model agree with the data.

**Group**
An assemblage of values that a certain relation or common characteristic.

**Halo**
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.

**Integral**
A flux measurement in a broad range of energy and solid angle.

**Integral.Area**
Integration over the extent of a planar region, or of the surface of a solid.

**Integral.Bandwidth**
Integration over the width of a frequency band.

**Integral.SolidAngle**
Integration over the angle in three-dimensional space that an object subtends at a point.

**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 sight is measured.

**Linear**
Polarization where the E-field vector is confined to a given plane.

**Magnitude**
A measure of the strength of a vector quantity or length of its representational vector.

**Maximum**
The largest value of a batch or sample or the upper bound of a probability distribution.

**Median**
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.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enumeration</td>
<td>Minimum</td>
<td>The smallest value of a batch or sample or the lower bound of a probability distribution.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Moment</td>
<td>Parameters determined by integration over a distribution function convolved with a power of velocity.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Parallel</td>
<td>Having the same direction as a given direction.</td>
</tr>
<tr>
<td>Enumeration</td>
<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>Enumeration</td>
<td>Perpendicular</td>
<td>At right angles to a given direction.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Phase</td>
<td>Variations in the state of a system.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>PhaseAngle</td>
<td>Phase difference between two or more waves, normally expressed in degrees.</td>
</tr>
<tr>
<td>Enumeration</td>
<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>Enumeration</td>
<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>Enumeration</td>
<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>Enumeration</td>
<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>Enumeration</td>
<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>Ratio</td>
<td>The relative magnitudes of two quantities.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Scalar</td>
<td>A quantity that is completely specified by its magnitude and has no direction.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Spectral</td>
<td>Characterized as a range or continuum of frequencies.</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 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</td>
</tr>
</tbody>
</table>
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**
<xsd:element name="Qualifier" type="spase:Qualifier" minOccurs="0" maxOccurs="unbounded"/>

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

## Element `spase:Field` / `spase:FieldQuantity`

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

**Diagram**

```
<complexType name="FieldQuantity">
  <complexContent>
    <restriction base="simpleType">
      <simpleContent>
        <extension>
          <attribute name="content" type="string"/>
        </extension>
      </simpleContent>
    </restriction>
  </complexContent>
</complexType>
```

**Type**
`spase:FieldQuantity`

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

**Facets**

- **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 to be zero). The spacecraft potential 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.
- **PoyntingFlux**: Electromagnetic energy flux transported by a wave characterized as the rate of energy transport per unit area per steradian.

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

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
Element `spase:Field / spase:FrequencyRange`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**
- **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"/>
  ```
- **Schema location**
  file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element `spase:FrequencyRange / spase:SpectralRange`

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**
- **Type**: `spase:SpectralRange`
- **Properties**
  - Content: `simple`
  - minOccurs: `0`
  - maxOccurs: `1`
- **Facets**
  - **enumeration**: CaK
    - A spectrum with a wavelength of range centered near 393.5 nm. VSO nickname: Ca-K image with a 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**: 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 spectrum range of 655.8 nm to 656.8 nm.
  - **enumeration**: Hard X-rays
    - Photons with a wavelength range: 0.001 to 0.1 nm and an energy range of 12 keV to 120 keV
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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 (3.04 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 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:
```xml
<xs:element name="SpectralRange" type="spase:SpectralRange" minOccurs="0" maxOccurs="1"/>
```

Schema Location:
- File: `file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`
### Element spase:FrequencyRange / 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>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:Units</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>Source</td>
<td><code>&lt;xsd:element name=&quot;Units&quot; type=&quot;spase:Units&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
</tbody>
</table>

### Element spase:FrequencyRange / spase:Bin

<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:Bin</td>
</tr>
<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>
<tr>
<td>Model</td>
<td>spase:BandName[0,1] , spase:Low , spase:High</td>
</tr>
<tr>
<td>Children</td>
<td>spase:BandName, spase:High, spase:Low</td>
</tr>
</tbody>
</table>
| 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" maxOccurs="unbounded"/>` |

### 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>spase:BandName</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;BandName&quot; type=&quot;spase:BandName&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
</tbody>
</table>

---

Schema documentation for spase-2_2_6.xsd

| Source | file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd |

---

57
Element `spase:Bin` / `spase:Low`

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

### Diagram

```
Low
```

**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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

Element `spase:Bin` / `spase:High`

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

### Diagram

```
High
```

**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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

Element `spase:Parameter` / `spase:Particle`

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

### Diagram

```
Particle
```

**Type**: `spase:Particle`

**Properties**
- **content**: complex

**Model**

**Children**

**Instance**

```
<spase:Particle xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:ParticleType> {1,unbounded} </spase:ParticleType>
  <spase:Qualifier> {0,unbounded} </spase:Qualifier>
  <spase:ParticleQuantity> {1,1} </spase:ParticleQuantity>
</spase:Particle>
```
### Element spase:Particle / spase:ParticleType

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

**Type**
spase:ParticleType

**Properties**
- content: simple
- minOccurs: 1
- 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 x 10^-19 Coulomb and having a mass when at rest of about 9.109384 x 10^-28 gram.

- enumeration Ion
  
  An atom that has acquired a net electric charge by gaining or losing one or more electrons. (Note: 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 x 10^-24 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 x 10^-24 gram.

### Element spase:Particle / spase:Qualifier

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

**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.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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 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>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>Direction.Angle</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>Direction.Angle.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 $\text{arctan}(j/i)$. This term could be also applied to angles measured in different planes, for example the IMF clock angle defined as $\text{arctan}(</td>
</tr>
<tr>
<td>Direction.Angle.ElevationAngle</td>
<td>The angle between the position or measured vector and the i-j plane of the coordinate system. Mathematically defined as $\text{arctan}(i/(j^2+i^2))$.</td>
</tr>
<tr>
<td>Direction.Angle.PolarAngle</td>
<td>The angle between the position or measured vector and the k-axis of the coordinate system.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------</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 a model agree with the data.</td>
</tr>
<tr>
<td>Group</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>
<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>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</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 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></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>
</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: `<xsd:element name="Qualifier" type="spase:Qualifier" minOccurs="0" maxOccurs="unbounded"/>

Schema location: file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element `spase:Particle` / `spase:ParticleQuantity`
an energetic particle or photon was incident on a detector. The angles may be measured in any coordinate system.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AtomicNumberDetected</td>
<td>The number of protons in the nucleus of an atom as determined by a detector.</td>
</tr>
<tr>
<td>AverageChargeState</td>
<td>A measure of the composite deficit (positive) or excess (negative) of electrons with respect to protons.</td>
</tr>
<tr>
<td>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>CountRate</td>
<td>The number of events per unit time.</td>
</tr>
<tr>
<td>Counts</td>
<td>The number of detection events occurring in a detector over the detector accumulation time.</td>
</tr>
<tr>
<td>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>EnergyDensity</td>
<td>The amount of energy per unit volume.</td>
</tr>
<tr>
<td>EnergyFlux</td>
<td>The amount of energy passing through a unit area in a unit time.</td>
</tr>
<tr>
<td>FlowSpeed</td>
<td>The rate at which particles or energy is passing through a unit area in a unit time.</td>
</tr>
<tr>
<td>FlowVelocity</td>
<td>The volume of matter passing through a unit area perpendicular to the direction of flow in a unit of time.</td>
</tr>
<tr>
<td>Fluence</td>
<td>The time integral of a flux. A fluence does not have any &quot;per unit time&quot; in its units.</td>
</tr>
<tr>
<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>HeatFlux</td>
<td>Flow of thermal energy through a gas or plasma; typically computed as third moment of a distribution function.</td>
</tr>
<tr>
<td>Mass</td>
<td>The measure of inertia (mass) of individual objects (e.g., aerosols).</td>
</tr>
<tr>
<td>MassDensity</td>
<td>The mass of particles per unit volume.</td>
</tr>
<tr>
<td>MassNumber</td>
<td>The total number of protons and neutrons (together known as nucleons) in an atomic nucleus.</td>
</tr>
<tr>
<td>NumberDensity</td>
<td>The number of particles per unit volume.</td>
</tr>
<tr>
<td>NumberFlux</td>
<td>The number of particles passing a unit area in unit time, possibly also per unit energy (or equivalent) and/or per unit look direction.</td>
</tr>
<tr>
<td>ParticleRadius</td>
<td>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.</td>
</tr>
<tr>
<td>PhaseSpaceDensity</td>
<td></td>
</tr>
<tr>
<td>PlasmaFrequency</td>
<td>A number-density-dependent characteristic frequency of a plasma.</td>
</tr>
<tr>
<td>Pressure</td>
<td>The force per unit area exerted by a particle distribution or field.</td>
</tr>
<tr>
<td>SonicMachNumber</td>
<td>The ratio of the bulk flow speed to the speed of sound in the medium.</td>
</tr>
<tr>
<td>SoundSpeed</td>
<td>The speed at which sound travels through a medium.</td>
</tr>
<tr>
<td>Temperature</td>
<td>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).</td>
</tr>
<tr>
<td>ThermalSpeed</td>
<td>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.</td>
</tr>
</tbody>
</table>
Source

<xs:element name="ParticleQuantity" type="spase:ParticleQuantity" minOccurs="1" maxOccurs="1"/>

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

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

Namespace

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

Diagram

Type

spase:AtomicNumber

Properties

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

Source

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

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Element spase:Particle / 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

<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

<xs:element name="EnergyRange" type="spase:EnergyRange" minOccurs="0" maxOccurs="1"/>

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

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

Namespace

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

Diagram
<table>
<thead>
<tr>
<th>Type</th>
<th>spase:Low</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>
<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>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

**Element spase:EnergyRange / 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>spase:High</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>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>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

**Element spase:EnergyRange / 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>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:Units</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>Source</td>
<td><code>&lt;xsd:element name=&quot;Units&quot; type=&quot;spase:Units&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

**Element spase:EnergyRange / spase:Bin**

<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:Bin</td>
</tr>
<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>
<tr>
<td>Model</td>
<td>spase:BandName[0,1], spase:Low, spase:High</td>
</tr>
</tbody>
</table>

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Schema documentation for spase-2_2_6.xsd

**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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Element spase:Particle / spase:AzimuthalAngleRange**

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

**Diagram**

![Diagram of AzimuthalAngleRange](image)

**Type**
spase:AzimuthalAngleRange

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

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

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

**Diagram**

![Diagram of Low](image)

**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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

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

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

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

**Diagram**

```
```

**Type**  
`spase:Units`

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

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

**Schema location**  
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:AzimuthalAngleRange` / `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**
```
<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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

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

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

Diagram

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 version="1.0" encoding="UTF-8"?>
<spase:Low xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:Low>{1,1}</spase:Low>
</spase:Low>

<?xml version="1.0" encoding="UTF-8"?>
<spase:High xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:High>{1,1}</spase:High>
</spase:High>

<?xml version="1.0" encoding="UTF-8"?>
<spase:Units xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:Units>{1,1}</spase:Units>
</spase:Units>

<?xml version="1.0" encoding="UTF-8"?>
<spase:Bin xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:Bin>{0,unbounded}</spase:Bin>
</spase:Bin>

<?xml version="1.0" encoding="UTF-8"?>
<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

<xs:element name="PolarAngleRange" type="spase:PolarAngleRange" minOccurs="0" maxOccurs="1"/>

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:PolarAngleRange / spase:Low

Namespace

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

Diagram

Diagram

Type

spase:Low

Properties

content: simple

minOccurs: 1

maxOccurs: 1

Source

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

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:PolarAngleRange / spase:High

Namespace

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

Diagram

Diagram

Type

spase:High

Properties

content: simple

minOccurs: 1

maxOccurs: 1

Source

<xs:element name="High" type="spase:High" minOccurs="1" maxOccurs="1"/>

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:PolarAngleRange / spase:Units

Namespace

http://www.spase-group.org/data/schema
Schema documentation for spase-2_2_6.xsd

**Diagram**

Type: `spase:Units`

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

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

**Element spase:PolarAngleRange / 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:
```
<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:Parameter / spase:Wave**

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

Diagram

Type: `spase:Wave`

Source:
```
```

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Properties

<table>
<thead>
<tr>
<th>Model</th>
<th>spase:WaveType, spase:Qualifier*, spase:WaveQuantity, spase:EnergyRange[0,1], spase:FrequencyRange[0,1], spase:WavelengthRange[0,1]</th>
</tr>
</thead>
</table>

Instance

```
<spase:Wave xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:WaveType>[1,1]</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

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

Element spase:Wave / spase:WaveType

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

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Properties

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

Facets

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Electromagnetic</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Electrostatic</td>
<td>Collective longitudinal electric-field and plasma oscillations trapped within a body of plasma.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Hydrodynamic</td>
<td>Periodic or quasi-periodic oscillations of fluid quantities.</td>
</tr>
<tr>
<td>enumeration</td>
<td>MHD</td>
<td>Hydrodynamic waves in a magnetized plasma in which the background magnetic field plays a key role in controlling the wave propagation characteristics.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Photon</td>
<td>Electromagnetic waves detected by techniques that utilize their corpuscular character (e.g., CCD, CMOS, photomultipliers).</td>
</tr>
<tr>
<td>enumeration</td>
<td>PlasmaWaves</td>
<td>Self-consistent collective oscillations of particles and fields (electric and magnetic) in a plasma.</td>
</tr>
</tbody>
</table>

Element spase:Wave / spase:Qualifier

```
<xs:element name="Qualifier" type="spase:Qualifier"/>
```

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Properties

<table>
<thead>
<tr>
<th>Facets</th>
<th>content: simple</th>
</tr>
</thead>
<tbody>
<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>Anisotropy</th>
<th>Direction-dependent property.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enumeration</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
<td></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>
<td></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>
<td></td>
</tr>
<tr>
<td>Characteristic</td>
<td>A quantity which can be easily identified and measured in a given environment.</td>
<td></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>
<td></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>
<td></td>
</tr>
<tr>
<td>Component</td>
<td>Projection of a vector along one of the base axes of a coordinate system.</td>
<td></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>
<td></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>
<td></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>
<td></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>
<td></td>
</tr>
<tr>
<td>CrossSpectrum</td>
<td>The Fourier transform of the cross correlation of two physical or empirical observations.</td>
<td></td>
</tr>
<tr>
<td>Deviation</td>
<td>The difference between an observed value and the expected value of a quantity.</td>
<td></td>
</tr>
<tr>
<td>Differential</td>
<td>A measurement within a narrow range of energy and/or solid angle.</td>
<td></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>
<td></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>
<td></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>
<td>By</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>
<td></td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<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 $\arctan(\sqrt{(i^2+j^2)}/k)$. This term could be also applied to angles between the vector and other components, for example the IMF cone angle defined as $\arccos(B_x/B_t)$.</td>
<td></td>
</tr>
<tr>
<td><strong>Directional</strong></td>
<td>A measurement within a narrow range of solid angle.</td>
<td></td>
</tr>
<tr>
<td><strong>FieldAligned</strong></td>
<td>Values that make an model agree with the data.</td>
<td></td>
</tr>
<tr>
<td><strong>Fit</strong></td>
<td>An assemblage of values that a certain relation or common characteristic.</td>
<td></td>
</tr>
<tr>
<td><strong>Group</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>
<td></td>
</tr>
<tr>
<td><strong>Integral</strong></td>
<td>A flux measurement in a broad range of energy and solid angle.</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>
<td></td>
</tr>
<tr>
<td><strong>Integral.Bandwidth</strong></td>
<td>Integration over the width a frequency band.</td>
<td></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>
<td></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>
<td></td>
</tr>
<tr>
<td><strong>Linear</strong></td>
<td>Polarization where the E-field vector is confined to a given plane.</td>
<td></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>
<td></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>
<td></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>
<td></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>
<td></td>
</tr>
<tr>
<td><strong>Moment</strong></td>
<td>Parameters determined by integration over a distribution function convolved with a power of velocity.</td>
<td></td>
</tr>
<tr>
<td><strong>Parallel</strong></td>
<td>Having the same direction as a given direction.</td>
<td></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>
<td></td>
</tr>
<tr>
<td><strong>Perpendicular</strong></td>
<td>At right angles to a given direction.</td>
<td></td>
</tr>
<tr>
<td><strong>Perturbation</strong></td>
<td>Variations in the state of a system.</td>
<td></td>
</tr>
<tr>
<td><strong>Phase</strong></td>
<td>A point or portion in a recurring series of changes.</td>
<td></td>
</tr>
<tr>
<td><strong>PhaseAngle</strong></td>
<td>Phase difference between two or more waves, normally expressed in degrees.</td>
<td></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>
<td></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>
<td></td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>------------------------------------------------------------------------------</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>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: `<xsd:element name="Qualifier" type="spase:Qualifier" minOccurs="0" maxOccurs="unbounded"/>`

Schema location: file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

**Element spase:Wave / spase:WaveQuantity**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**
- **Type**: spase:WaveQuantity
- **Properties**
  - content: simple
  - minOccurs: 1

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<table>
<thead>
<tr>
<th>Facets</th>
<th>maxOccurs:</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>ACElectricField</td>
<td>Alternating electric field component of a wave.</td>
</tr>
<tr>
<td>enumeration</td>
<td>ACMagneticField</td>
<td>Alternating magnetic field component of a wave.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Absorption</td>
<td>Decrease of radiant energy (relative to the background continuum spectrum).</td>
</tr>
<tr>
<td>enumeration</td>
<td>Albedo</td>
<td>The ratio of reflected radiation from the surface to incident radiation upon it.</td>
</tr>
<tr>
<td>enumeration</td>
<td>DopplerFrequency</td>
<td>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>enumeration</td>
<td>Emissivity</td>
<td>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>enumeration</td>
<td>EnergyFlux</td>
<td>The amount of energy passing through a unit area in a unit time.</td>
</tr>
<tr>
<td>enumeration</td>
<td>EquivalentWidth</td>
<td>The spectral width of a total absorption line having the amount of absorbed radiant energy being equivalent to that in an observed absorption line.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Frequency</td>
<td>The number of occurrences of a repeating event per unit time.</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>Intensity</td>
<td>The measurement of radiant or wave energy per unit detector area per unit bandwidth per unit solid angle per unit time.</td>
</tr>
<tr>
<td>enumeration</td>
<td>LineDepth</td>
<td>The measure of the amount of absorption below the continuum (depth) in a particular wavelength or frequency in an absorption spectrum.</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>ModeAmplitude</td>
<td>In helioseismology the magnitude of oscillation of waves of a particular geometry.</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>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>enumeration</td>
<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>enumeration</td>
<td>PropagationTime</td>
<td>Time difference between transmission and reception of a wave in an active wave experiment.</td>
</tr>
<tr>
<td>enumeration</td>
<td>StokesParameters</td>
<td></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>
<tr>
<td>enumeration</td>
<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/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

Element **spase:Wave** / **spase:EnergyRange**

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>spase:EnergyRange</td>
</tr>
<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:Low, spase:High, spase:Units, spase:Bin*</td>
</tr>
<tr>
<td>Children</td>
<td>spase:Bin, spase:High, spase:Low, spase:Units</td>
</tr>
</tbody>
</table>
| Instance     | `<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       | `<xsd:element name="EnergyRange" type="spase:EnergyRange" minOccurs="0" maxOccurs="1"/>` |
| Schema Location | file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd |

**Element spase:Wave / spase:FrequencyRange**

<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:FrequencyRange</td>
</tr>
<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:SpectralRange[0,1], spase:Low, spase:High, spase:Units, spase:Bin*</td>
</tr>
<tr>
<td>Children</td>
<td>spase:Bin, spase:High, spase:Low, spase:SpectralRange, spase:Units</td>
</tr>
</tbody>
</table>
| Instance        | `<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          | `<xsd:element name="FrequencyRange" type="spase:FrequencyRange" minOccurs="0" maxOccurs="1"/>` |
Element `spase:Wave` / `spase:WavelengthRange`  

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

Diagram:  

- 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"/>  
```

Schema location: file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd  

---

Element `spase:WavelengthRange` / `spase:SpectralRange`  

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

Diagram:  

- Type: `spase:SpectralRange`  
- Properties:  
  - content: `simple`  
  - minOccurs: 0  
  - maxOccurs: 1  

Facets:  

- **enumeration CaK**: A spectrum with a wavelength of range centered near 393.5 nm. VSO nickname: Ca-K image with a 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 of 655.8 nm to 656.8 nm.  

---
<table>
<thead>
<tr>
<th>enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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>

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

**Element spase:WavelengthRange / spase:Low**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: ![Diagram](spase:SpectralRange)
- **Type**: spase:Low
- **Properties**:
  - content: simple
  - minOccurs: 1
  - maxOccurs: 1

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

**Element spase:WavelengthRange / spase:High**

- **Namespace**: http://www.spase-group.org/data/schema
- **Diagram**: ![Diagram](spase:SpectralRange)
- **Type**: spase:High
- **Properties**:
  - content: simple
  - minOccurs: 1
### Element `spase:WavelengthRange / spase:Units`

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

  ![Diagram](image)

- **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/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

### Element `spase:WavelengthRange / spase:Bin`

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

  ![Diagram](image)

- **Type**: `spase:Bin`
- **Properties**
  - **content**: *complex*
  - **minOccurs**: 0
  - **maxOccurs**: unbounded

- **Model**

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

- **Children**

  `spase:BandName , spase:Low , spase:High`

- **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/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

### Element `spase:Parameter / spase:Mixed`

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

  ![Diagram](image)

- **Type**: `spase:Mixed`
- **Properties**
  - **content**: *mixed*
  - **minOccurs**: 0
  - **maxOccurs**: 0

- **Source**

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

- **Schema location**

  `file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`
**Element spase:Mixed / spase:MixedQuantity**

<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**

```
< MixedQuantity type="spase:MixedQuantity"/>
```

**Facets**

- **AkasofuEpsilon**: A measure of the magnetopause energy flux and an indicator of the solar wind power available for subsequent magnetospheric energization. Defined as: \( V^2 \cdot B^2 \cdot \sin(\theta/2)^4 \) where \( B \) is the IMF, \( \theta \) is an empirical scaling parameter equal to 7 RE, and \( \theta = \tan(B_Y/B_Z)^{-1} \) the IMF clock angle.

- **AlfvenMachNumber**: The ratio of the bulk flow speed to the Alfven speed.

- **AlfvenVelocity**: 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 (\( \mu_0 \)).

- **FrequencyToGyrofrequencyRatio**: The ratio of the characteristic frequency of a medium to gyrofrequency of a particle.

- **IMFClockAngle**: 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.

- **MagnetosonicMachNumber**: The ratio of the velocity of fast mode waves to the Alfven velocity.

- **Other**: Not classified with more specific terms. The context of its usage may be described in related text.

- **PlasmaBeta**: The ratio of the plasma pressure \( (nkT) \) to the magnetic pressure \( (B^2/2\mu_0) \) of the \( \text{SUM}(nkT)/(B^2/2\mu_0) \).

- **SolarUVFlux**: The amount of Ultraviolet energy originating from the Sun passing through a unit area in a unit time.

- **TotalPressure**: In an MHD fluid it is the number density (N) times Boltzmann constant times the temperature in Kelvin.

- **VCrossB**: 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.
Element `spase:Mixed / 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 x 10^-19 Coulomb and having a mass when at rest of about 9.10935 x 10^-28 gram.
- `enumeration` `Ion`: An atom that has acquired a net electric charge by gaining or losing one or more electrons. (Note: 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 x 10^-24 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 x 10^-24 gram.

Source

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

Schema location `file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

Element `spase:Mixed / 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.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Column</td>
</tr>
<tr>
<td>Description</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>
</tr>
<tr>
<td>Description</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>
</tr>
<tr>
<td>Description</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>
</tr>
<tr>
<td>Description</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>
</tr>
<tr>
<td>Description</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>Core</td>
</tr>
<tr>
<td>Description</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>
</tr>
<tr>
<td>Description</td>
<td>The Fourier transform of the cross correlation of two physical or empirical observations.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Deviation</td>
</tr>
<tr>
<td>Description</td>
<td>The difference between an observed value and the expected value of a quantity.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Differential</td>
</tr>
<tr>
<td>Description</td>
<td>A measurement within a narrow range of energy and/or solid angle.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Direction</td>
</tr>
<tr>
<td>Description</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>
</tr>
<tr>
<td>Description</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>
</tr>
<tr>
<td>Description</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>enumeration</td>
<td>DirectionAngle.ElevationAngle</td>
</tr>
<tr>
<td>Description</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>
</tr>
<tr>
<td>Description</td>
<td>The angle between the position or measured vector and the k-axis of the coordinate system. Mathematically defined as arctan(</td>
</tr>
<tr>
<td>enumeration</td>
<td>Directional</td>
</tr>
<tr>
<td>Description</td>
<td>A measurement within a narrow range of solid angle.</td>
</tr>
<tr>
<td>enumeration</td>
<td>FieldAligned</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th><strong>enumeration</strong></th>
<th><strong>Fit</strong></th>
<th><strong>Group</strong></th>
<th><strong>Halo</strong></th>
<th><strong>Integral</strong></th>
<th><strong>Integral.Area</strong></th>
<th><strong>Integral.Bandwidth</strong></th>
<th><strong>Integral.SolidAngle</strong></th>
<th><strong>LineOfSight</strong></th>
<th><strong>Linear</strong></th>
<th><strong>Magnitude</strong></th>
<th><strong>Maximum</strong></th>
<th><strong>Median</strong></th>
<th><strong>Minimum</strong></th>
<th><strong>Moment</strong></th>
<th><strong>Parallel</strong></th>
<th><strong>Peak</strong></th>
<th><strong>Perpendicular</strong></th>
<th><strong>Perturbation</strong></th>
<th><strong>Phase</strong></th>
<th><strong>PhaseAngle</strong></th>
<th><strong>Projection</strong></th>
<th><strong>Projection.IJ</strong></th>
<th><strong>Projection.IK</strong></th>
<th><strong>Projection.JK</strong></th>
<th><strong>Pseudo</strong></th>
<th><strong>Ratio</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Values that make a model agree with the data.</td>
<td>An assemblage of values that a certain relation or common characteristic.</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>A flux measurement in a broad range of energy and solid angle.</td>
<td>Integration over the extent of a planar region, or of the surface of a solid.</td>
<td>Integration over the width a frequency band.</td>
<td>Integration over the angle in three-dimensional space that an object subtends at a point.</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>Polarization where the E-field vector is confined to a given plane</td>
<td>A measure of the strength of a vector quantity or length of its representational vector.</td>
<td>The largest value of a batch or sample or the upper bound of a probability distribution.</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>The smallest value of a batch or sample or the lower bound of a probability distribution.</td>
<td>Parameters determined by integration over a distribution function convolved with a power of velocity.</td>
<td>Having the same direction as a given direction</td>
<td>The maximum value for the quantity in question, over a period of time which is usually equal to the cadence.</td>
<td>At right angles to a given direction.</td>
<td>Variations in the state of a system.</td>
<td>A point or portion in a recurring series of changes.</td>
<td>Phase difference between two or more waves, normally expressed in degrees.</td>
<td>A measure of the length of a position or measured vector as projected into a plane of the coordinate system.</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>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>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>Similar to or having the appearance of something else. Can be used to indicate an estimation or approximation of a particular quantity.</td>
<td>The relative magnitudes of two quantities.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
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<tr>
<td>Scalar</td>
<td>A quantity that is completely specified by its magnitude and has no direction.</td>
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<tr>
<td>Spectral</td>
<td>Characterized as a range or continuum of frequencies.</td>
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<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>
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<td>StokesParameters</td>
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<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>
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<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>
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<tr>
<td>Symmetric</td>
<td>Equal distribution about one or more axes.</td>
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<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>
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<tr>
<td>Total</td>
<td>The summation of quantities over all possible species.</td>
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<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>
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<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>
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<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>
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<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>
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</tbody>
</table>

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

Schema location: file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

**Element spase:Parameter / spase:Support**

<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:Support</td>
</tr>
<tr>
<td>Properties</td>
<td>content: complex</td>
</tr>
<tr>
<td>Model</td>
<td>spase:Qualifier*, spase:SupportQuantity</td>
</tr>
<tr>
<td>Children</td>
<td>spase:Qualifier, spase:SupportQuantity</td>
</tr>
</tbody>
</table>
| Instance               | `<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>` |

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### Schema documentation for spase-2_2_6.xsd

#### Source

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

#### Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

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

#### Namespace

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

#### Diagram

```
[Diagram Image]
```

#### Type

spase:Qualifier

#### Properties

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

#### Facets

<table>
<thead>
<tr>
<th>facet</th>
<th>value</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Anisotropy</td>
<td>Direction-dependent property.</td>
</tr>
<tr>
<td>enumeration</td>
<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>enumeration</td>
<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>enumeration</td>
<td>Characteristic</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>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>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>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>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>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>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>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>
</tbody>
</table>
The spatial relation between an object and another object, the orientation of the object or the course along which the object points or moves.

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.

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).

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}).

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).

A measurement within a narrow range of solid angle.

Values that make an 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.

Integration over the angle in three-dimensional space that an object subtends at a point.

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.

Polarization where the E-field vector is confined to a given plane.

A measure of the strength of a vector quantity or length of its representational vector.

The largest value of a batch or sample or the upper bound of a probability distribution.

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.

The smallest value of a batch or sample or the lower bound of a probability distribution.

Parameters determined by integration over a distribution function convolved with a power of velocity.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
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</thead>
<tbody>
<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></td>
</tr>
<tr>
<td>Strahl</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>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...</td>
</tr>
</tbody>
</table>
Schema documentation for spase-2_2_6.xsd

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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:Support / spase:SupportQuantity

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

Diagram

Type
spase:SupportQuantity

Properties
content: simple
minOccurs: 1
maxOccurs: 1

Facets
enumeration 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.

enumeration Other
Not classified with more specific terms. The context of its usage may be described in related text.

enumeration 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.

enumeration Temporal
Pertaining to time.

enumeration Velocity
Rate of change of position. Also used for the average velocity of a collection of particles, also referred to as "bulk velocity".

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

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:Catalog / 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

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

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:Spase / spase:DisplayData

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

```
<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:ProviderResourceName > {0,1} </spase:ProviderResourceName>
    <spase:ProviderProcessingLevel > {0,1} </spase:ProviderProcessingLevel>
    <spase:ProviderVersion > {0,1} </spase:ProviderVersion>
    <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*>
```

Type  spase:DisplayData
Properties  content: complex
Model  spase:ResourceId, spase:ResourceHeader, spase:AccessInformation+, spase:ProcessingLevel[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:DisplayCadence[0,1],
spase:ObservedRegion*, spase:Caveats[0,1], spase:Keyword*, spase:InputResourceId*, spase:Parameter*, spase:Extension*
Children  spase:AccessInformation, spase:Caveats, spase:DisplayCadence, spase:Extension, spase:InputResourceId, spase:InstrumentId,
spase:Keyword, spase:MeasurementType, spase:ObservedRegion, spase:Parameter, spase:ProcessingLevel,
spase:ProviderProcessingLevel, spase:ProviderResourceName, spase:ProviderVersion, spase:ResourceHeader, spase:ResourceId,
spase:SpectralRange, spase:TemporalDescription
Instance
```xml
<spase:DisplayData xmlns:spase="http://www.spase-group.org/data/schema">
    <spase:ResourceId> {1,1} </spase:ResourceId>
    <spase:ResourceHeader> {1} </spase:ResourceHeader>
    <spase:AccessInformation> {1,unbounded} </spase:AccessInformation>
    <spase:ProcessingLevel> {0,1} </spase:ProcessingLevel>
    <spase:ProviderResourceName> {0,1} </spase:ProviderResourceName>
    <spase:ProviderProcessingLevel> {0,1} </spase:ProviderProcessingLevel>
```
<spase:DisplayData/>

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
<xsdelement name="ResourceID" type="spase:ResourceID" minOccurs="1" maxOccurs="1"/>

Schema location file:///C:/projects/spase/java/model-tools/build/bin/spase-2.2.6.xsd

Element spase:DisplayData / spase:ResourceHeader

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

Diagram

Type spase:ResourceHeader
Properties
content: complex
### Element `spase:DisplayData / spase:ProcessingLevel`

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

**Diagram**

```
+-----------------+     +-----------------+
| ProcessingLevel | --> | space:ProcessingLevel |
```

**Type**

`spase:ProcessingLevel`

**Properties**

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

**Facets**

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

- **enumeration** `Raw`
  - Data in its original state with no processing to account for calibration!!

- **enumeration** `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**

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

**Schema location**

`file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

---

### Element `spase:DisplayData / spase:ProviderResourceName`

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

**Diagram**

```
+-----------------+     +-----------------+
| ProviderResourceName | --> | space:ProviderResourceName |
```

**Type**

`spase:ProviderResourceName`

**Properties**

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

**Source**

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

**Schema location**

`file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

---

### Element `spase:DisplayData / spase:ProviderProcessingLevel`

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

**Diagram**

```
+-----------------+     +-----------------+
| ProviderProcessingLevel | --> | space:ProviderProcessingLevel |
```

**Type**

`spase:ProviderProcessingLevel`

**Properties**

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

**Source**

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

**Schema location**

`file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`
**Element spase:DisplayData / spase:ProviderVersion**

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

Diagram  

<table>
<thead>
<tr>
<th>Type</th>
<th>Properties</th>
<th>Source</th>
</tr>
</thead>
</table>
| spase:ProviderVersion | content: simple  
minOccurs: 0  
maxOccurs: 1 | `<xsd:element name="ProviderVersion" type="spase:ProviderVersion" minOccurs="0" maxOccurs="1"/>` |

**Element spase:DisplayData / spase:InstrumentID**

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

Diagram  

<table>
<thead>
<tr>
<th>Type</th>
<th>Properties</th>
<th>Source</th>
</tr>
</thead>
</table>
| spase:InstrumentID | content: simple  
minOccurs: 0  
maxOccurs: unbounded | `<xsd:element name="InstrumentID" type="spase:InstrumentID" minOccurs="0" maxOccurs="unbounded"/>` |

**Element spase:DisplayData / spase:MeasurementType**

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

Diagram  

<table>
<thead>
<tr>
<th>Type</th>
<th>Properties</th>
<th>Facets</th>
</tr>
</thead>
</table>
| spase:MeasurementType | content: simple  
minOccurs: 1  
maxOccurs: unbounded | 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. &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. (<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>Thermal Plasma</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>
### Element `spase:DisplayData` / `spase:TemporalDescription`

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

**Diagram**
![Diagram of `spase:TemporalDescription`]

**Type**  
`spase:TemporalDescription`

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

**Model**
- `spase:TimeSpan`
- `spase:Cadence{0,1}`
- `spase:Exposure{0,1}`

**Children**
- `spase:Cadence`
- `spase:Exposure`
- `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:Exposure > {0,1} </spase:Exposure>
</spase:TemporalDescription>
```

### Element `spase:TemporalDescription` / `spase:TimeSpan`

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

**Diagram**
![Diagram of `spase:TimeSpan`]

**Type**  
`spase:TimeSpan`

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

**Model**
- `spase:StartDate`
- `(spase:StopDate | spase:RelativeStopDate)`
- `spase:Note*`

**Children**
- `spase:Note`
- `spase:RelativeStopDate`
- `spase:StartDate`
- `spase:StopDate`

**Instance**
```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>
```
Schema documentation for spase-2_2_6.xsd

Source: file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element `spase:TemporalDescription / spase:Cadence`

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

Diagram:

Type: `spase:Cadence`

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

Source: file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

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: file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.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 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 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
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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="unbounded"/>`

**Element spase:DisplayData / spase:DisplayCadence**

<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:DisplayCadence</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>
</tbody>
</table>

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

**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><a href="#">Diagram</a></td>
</tr>
<tr>
<td>Type</td>
<td>spase:Region</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>Facets</td>
<td>enumeration Asteroid</td>
</tr>
</tbody>
</table>

A small extraterrestrial body consisting mostly of rock and metal that is in orbit around the sun.
| enumeration | Earth.NearSurface. | 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. |
| enumeration | Earth.NearSurface.Ionosphere. | The region of the near surface where the charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction. |
| enumeration | Earth.NearSurface.Ionosphere.FRegion | A layer that contains ionized gases at a height of around 150–300 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.
| enumeration | Earth.NearSurface.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.
| enumeration | Earth.NearSurface.Ionosphere.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. |
| enumeration | Earth.NearSurface.Ionosphere.Topside | The region at the upper most areas of the ionosphere. |
| enumeration | Earth.NearSurface.Mesosphere | The layer of the atmosphere that extends from the Stratosphere to a range of 80 km to 85 km, temperature decreasing with height. |
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 and the region south of 60 degrees south latitude.

enumeration Earth.NearSurface.SouthAtlanticAnomalyRegion
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.

enumeration Earth.NearSurface.Stratosphere
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.

enumeration Earth.NearSurface.Thermosphere
The layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height.

enumeration Earth.NearSurface.Troposphere
The layer of the atmosphere that extends from the tropopause to about 30 km, temperature increasing with height. The stratosphere contains the ozone layer.

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 heliopause.

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.Main
The region of the magnetosphere 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.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).
magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.

**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** Mars
The forth planet from the sun in our solar system.

**enumeration** Mars.Deimos
The smaller and outer most moon of Mars.

**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.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.Phobos
The larger and inner most moon of Mars.

**enumeration** Mercury
The first planet from the sun in our solar system.

**enumeration** Mercury.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** Mercury.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** 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.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** 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.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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.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.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</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;120 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>
</tbody>
</table>
**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.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.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.

**Venus.Magnetosphere.RadiationBelt**
The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.

---

**Source**
<br>
**Schema location**
<br>

---

**Element** spase:DisplayData / spase:Caveats

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

**Diagram**

**Type** spase:Caveats

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

**Source**
<br>
**Schema location**
<br>

---

**Element** spase:DisplayData / spase:Keyword

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

**Diagram**

**Type** spase:Keyword

**Source**
<br>
**Schema location**
<br>
Properties
content: simple
minOccurs: 0
maxOccurs: unbounded

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

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:DisplayData / 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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:DisplayData / spase:Parameter

Namespace http://www.spase-group.org/data/schema
Diagram for spase-2.2.6.xsd

**Type**: spase:Parameter

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

**Model**
- spase:Name
- spase:Set*
- spase:ParameterKey{0,1}
- spase:Description{0,1}
- spase:Caveats{0,1}
- spase:Cadence{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}

**Children**
- spase:Cadence
- 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:Units
- spase:UnitsConversion
- spase:ValidMax
- spase:ValidMin
- spase:Wave

**Instance**

```xml
<spase:Parameter xmlns:spase="http://www.spase-group.org/data/schema">
  <spase:Name>{1,1}</spase:Name>
</spase:Parameter>
```
<spase:Set>[0,unbounded]</spase:Set>
<spase:ParameterKey>[0,1]</spase:ParameterKey>
<spase:Description>[0,1]</spase:Description>
<spase:Caveats>[0,1]</spase:Caveats>
<spase:Cadence>[0,1]</spase:Cadence>
<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:FileNotFoundException>[0,1]</spase:FileNotFoundException>
<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

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

Schema

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.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

Source

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

Schema

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:Spase / spase:NumericalData

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

Type

spase:NumericalData

Properties

complex

Model


Children


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: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:NumericalData>
<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

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

Element spase:NumericalData / spase:ResourceHeader

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

Diagram

Type spase:ResourceHeader
Properties
  content: complex
  minOccurs: 1
  maxOccurs: 1
Model

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>spase:ResourceName</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:AlternateName*</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:ReleaseDate</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:ExpirationDate{0,1}</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:Description</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:Acknowledgement{0,1}</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:Contact+</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:InformationURL*</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:Association*</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:PriorID*</td>
<td>Model element</td>
</tr>
</tbody>
</table>

Children

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>spase:Acknowledgement,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:AlternateName,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:Association,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:Contact,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:Description,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:ExpirationDate,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:InformationURL,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:PriorID,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:ReleaseDate,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:ResourceName</td>
<td>Model element</td>
</tr>
</tbody>
</table>

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:ReleaseDate>{1,1}</spase:ReleaseDate>
  <spase:ExpirationDate>{0,1}</spase:ExpirationDate>
  <spase:Description>{1,1}</spase:Description>
  <spase:Acknowledgement>{0,1}</spase:Acknowledgement>
  <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"/>

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:NumericalData / spase:AccessInformation

Namespace

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

Diagram

Type

spase:AccessInformation

Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>content</td>
<td>complex</td>
</tr>
<tr>
<td>minOccurs</td>
<td>1</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>unbounded</td>
</tr>
</tbody>
</table>

Model

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>spase:RepositoryID</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:Availability{0,1}</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:AccessRights{0,1}</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:AccessURL+</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:Format</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:Encoding{0,1}</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:DataExtent{0,1}</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:Acknowledgement</td>
<td>Model element</td>
</tr>
</tbody>
</table>

Children

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>spase:AccessRights,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:AccessURL,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:Acknowledgement,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:Availability,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:DataExtent,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:Encoding,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:Format,</td>
<td>Model element</td>
</tr>
<tr>
<td>spase:RepositoryID</td>
<td>Model element</td>
</tr>
</tbody>
</table>

Instance

  <spase:RepositoryID>{1,1}</spase:RepositoryID>
  <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"/>
### Element `spase:NumericalData` / `spase:ProcessingLevel`

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

**Diagram**

![Diagram](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.

- `enumeration`  
  - Raw  
  Data in its original state with no processing to account for calibration!!!

- `enumeration`  
  - 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**

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

### Element `spase:NumericalData` / `spase:ProviderResourceName`

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

**Diagram**

![Diagram](image)

**Type**  
`spase:ProviderResourceName`

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

**Source**

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

### Element `spase:NumericalData` / `spase:ProviderProcessingLevel`

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

**Diagram**

![Diagram](image)

**Type**  
`spase:ProviderProcessingLevel`

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

**Source**

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

### Element `spase:NumericalData` / `spase:ProviderVersion`

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

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:ProviderVersion</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><code>&lt;xsd:element name=&quot;ProviderVersion&quot; type=&quot;spase:ProviderVersion&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

**Element spase:NumericalData / spase:InstrumentID**

<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>
<tr>
<td>Type</td>
<td>spase:InstrumentID</td>
</tr>
<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>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;InstrumentID&quot; type=&quot;spase:InstrumentID&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;unbounded&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

**Element spase:NumericalData / 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>Diagram</td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>spase:MeasurementType</td>
</tr>
<tr>
<td>Properties</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>unbounded</td>
</tr>
<tr>
<td>Facets</td>
<td></td>
</tr>
<tr>
<td>enumeration</td>
<td>ActivityIndex</td>
</tr>
<tr>
<td>description</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>
</tr>
<tr>
<td>description</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>
</tr>
<tr>
<td>description</td>
<td>Free microscopic particles of solid material.</td>
</tr>
<tr>
<td>enumeration</td>
<td>ElectricField</td>
</tr>
<tr>
<td>description</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>
</tr>
<tr>
<td>description</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>
</tr>
<tr>
<td>description</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>
</tr>
<tr>
<td>description</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>Thermal Plasma</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 micro pulsations, 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>

```xml
<xs: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:Exposure\{0,1\}`

Children:
- `spase:Cadence`
- `spase:Exposure`
- `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:Exposure> {0,1} </spase:Exposure>
</spase:TemporalDescription>
```

**Source**

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

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.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 range centered near 393.5 nm. VSO nickname: Ca-K image with a 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.

- **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.

---

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
of ionised helium at 304 Angstrom (30.4 nm).

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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 768.8 nm to 770.0 nm.</td>
</tr>
<tr>
<td>LHBand</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 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="unbounded"/>

Schema location: `file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

Element `spase:NumericalData / spase:ObservedRegion`

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

Diagram: `ObservedRegion` (Type `spase:Region`) ⊑ `space:Region`

Type: `spase:Region`

Properties:
- content: `simple`
- 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` (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 coincide with the region inside the magnetopause.)
not include the gaseous region gravitationally bound to the body.

<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.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>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.FRegion</td>
<td>One of several layers in the ionosphere. Also called the Kennelly-Heaviside layer.</td>
</tr>
<tr>
<td>Earth.NearSurface.IONosphere.DRegion</td>
<td>One of several layers in the ionosphere. Also known as the Appleton layer.</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.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 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.Thermosphere</td>
<td>A layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Earth.NearSurface.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>
<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>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>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.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>Jupiter.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</td>
<td>The fourth planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Mars.Deimos</td>
<td>The smaller and outer most moon of Mars.</td>
</tr>
<tr>
<td>Mars.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>Mars.Magnetosphere.Magnetotail</td>
<td>The region on the night side of the body where the magnetic field is stretched backwards.</td>
</tr>
</tbody>
</table>
### Schema documentation for spase-2_2_6.xsd

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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.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.RadiationBelts</td>
<td>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 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>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.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.RadiationBelts</td>
<td>Region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</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.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>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</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.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</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>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.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.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>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</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 (R &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.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>
</tbody>
</table>

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

Schema location: file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

Element `spase:NumericalData / 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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

Element `spase:NumericalData / 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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

Element `spase:NumericalData / spase:InputResourceID`  
Namespace: http://www.spase-group.org/data/schema  
Diagram:  
Type: `spase:InputResourceID`  
Properties:  
- content: `simple`  
- minOccurs: 0  

---

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maxOccurs: unbounded

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

Schema location: file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:NumericalData / spase:Parameter

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

Diagram:

Type: spase:Parameter
Properties:
- content: complex
- minOccurs: 0
Schema documentation for spase-2_2_6.xsd

maxOccurs: unbounded

Model
spase:Name , spase:Set*, spase:ParameterKey{0,1} , spase:Description{0,1} , spase:Caveats{0,1} , spase:Cadence{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

Instance
<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:Caveats>{0,1}</spase:Caveats>
  <spase:Cadence>{0,1}</spase:Cadence>
  <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:Wave>{1,1}</spase:Wave>
  <spase:Mixed>{1,1}</spase:Mixed>
  <spase:Support>{1,1}</spase:Support>
</spase:Parameter>

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

Element spase:NumericalData / 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

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

Schema location file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:Spase / spase:Document

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

Source

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

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

Element `spase:Document` / `spase:ResourceID`

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

Diagram

```
<spase: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"/>
```

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

Element `spase:Document` / `spase:ResourceHeader`

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

---
Schema documentation for spase-2.2.6.xsd

Diagram

Type `spase:ResourceHeader`  
Properties
- content: complex
- minOccurs: 1
- maxOccurs: 1

Model `spase:ResourceName`, `spase:AlternateName*`, `spase:ReleaseDate`, `spase:ExpirationDate{0,1}`, `spase:Description`, `spase:Acknowledgement{0,1}`, `spase:Contact+`, `spase:InformationURL*`, `spase:Association*`, `spase:PriorID*`

Children `spase:Acknowledgement`, `spase:AlternateName`, `spase:Association`, `spase:Contact`, `spase:Description`, `spase:ExpirationDate`, `spase:InformationURL`, `spase:PriorID`, `spase:ReleaseDate`, `spase:ResourceName`

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:ReleaseDate>[1,1]</spase:ReleaseDate>
    <spase:ExpirationDate>{0,1}</spase:ExpirationDate>
    <spase:Description>[1,1]</spase:Description>
    <spase:Acknowledgement>(0,1)</spase:Acknowledgement>
    <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
```
<xs:element name="ResourceHeader" type="spase:ResourceHeader" minOccurs="1" maxOccurs="1"/>
```

Schema location `file://C:/projects/spase/java/model-tools/build/bin/spase-2.2.6.xsd`

**Element** `spase:Document / spase:AccessInformation`

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

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

**Diagram**

```
  <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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

**Element spase:Document / spase:Keyword**

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

**Diagram**

```
<spase:Keyword   xmlns:spase= "http://www.spase-group.org/data/schema"
```
## Diagram

**Type**

<table>
<thead>
<tr>
<th>spase:DocumentType</th>
</tr>
</thead>
</table>

**Properties**

<table>
<thead>
<tr>
<th>content:</th>
<th>simple</th>
</tr>
</thead>
</table>

**Facets**

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not classified with more specific terms. The context of its usage may be described in related text.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Poster</th>
</tr>
</thead>
<tbody>
<tr>
<td>A set of information arranged on a single page or sheet, typically in a large format.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A set of information that is used when communicating to an audience.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>A document which describes the findings of some individual or group.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>A detailed description of the requirements and other aspects of an object or component that may be used to develop an implementation.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>TechnicalNote</th>
</tr>
</thead>
<tbody>
<tr>
<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>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>WhitePaper</th>
</tr>
</thead>
<tbody>
<tr>
<td>An authoritative report giving information or proposals on an issue.</td>
<td></td>
</tr>
</tbody>
</table>

**Source**

```xml
<xs: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**

<table>
<thead>
<tr>
<th>spase:MIMEType</th>
</tr>
</thead>
</table>

**Properties**

<table>
<thead>
<tr>
<th>content:</th>
<th>simple</th>
</tr>
</thead>
</table>

**Source**

```xml
<xs: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**

<table>
<thead>
<tr>
<th>spase:InputResourceID</th>
</tr>
</thead>
</table>

**Properties**

<table>
<thead>
<tr>
<th>content:</th>
<th>simple</th>
</tr>
</thead>
</table>

**Source**

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

**Schema location**

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
## Element spase:Spase / spase:Granule

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

**Diagram**

![Diagram](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:spase= "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"/>
```

**Schema location**

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

## Element spase:Granule / spase:ResourceId

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

**Diagram**

![Diagram](image)

**Type**  
spase:ResourceId

**Properties**  
content: simple

minOccurs: 1

maxOccurs: 1

**Source**

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

**Schema location**

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

## Element spase:Granule / spase:ReleaseDate

**Namespace**  
http://www.spase-group.org/data/schema
### Element `spase:ReleaseDate` in `spase:Granule`

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

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

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:ExpirationDate` in `spase:Granule`

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

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

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:ParentID` in `spase:Granule`

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

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

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:PriorID` in `spase:Granule`

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

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

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:StartDate` in `spase:Granule`

**Properties**

**Source**

**Schema location**

---

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Diagram

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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

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"/>

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

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

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

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
### Element `spase:Source` / `spase:SourceType`

<table>
<thead>
<tr>
<th>Field</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" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>spase:SourceType</code></td>
</tr>
<tr>
<td>Properties</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>
<tr>
<td>Source</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>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

### Facets
- **Ancillary**: A complementary item which can be subordinate, subsidiary, auxiliary, supplementary to the primary item.
- **Browse**: A representation of an image which is suitable to reveal most or all of the details of the image.
- **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.
- **Layout**: The structured arrangement of items in a collection.
- **Thumbnail**: A small representation of an image which is suitable to infer what the full-sized image is like.

### Element `spase:Source` / `spase:URL`

<table>
<thead>
<tr>
<th>Field</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" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>spase:URL</code></td>
</tr>
<tr>
<td>Properties</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>
<tr>
<td>Source</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>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

### Element `spase:Source` / `spase:MirrorURL`

<table>
<thead>
<tr>
<th>Field</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" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>spase:MirrorURL</code></td>
</tr>
<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>
<tr>
<td>Source</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>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>
### Element `spase:Source` / `spase:Checksum`

**Namespace**

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

**Diagram**

![Diagram of `spase:Source` / `spase:Checksum`]

**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**

<xs:element name="Checksum" type="spase:Checksum" minOccurs="0" maxOccurs="1"/>

**Schema location**

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:Checksum` / `spase:HashValue`

**Namespace**

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

**Diagram**

![Diagram of `spase:Checksum` / `spase:HashValue`]

**Type**

`spase:HashValue`

**Properties**

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

**Source**

<xs:element name="HashValue" type="spase:HashValue" minOccurs="1" maxOccurs="1"/>

**Schema location**

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:Checksum` / `spase:HashFunction`

**Namespace**

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

**Diagram**

![Diagram of `spase:Checksum` / `spase:HashFunction`]

**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.
- 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.
### Element `spase:Source` / `spase:DataExtent`

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

**Diagram**

```
<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>
```

**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

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

**Schema location**  file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:Spase` / `spase:Instrument`

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

**Diagram**

```
Instrument>
InstrumentType>
InvestigationName>
```

**Type**  spase:Instrument

**Properties**  
- `content`: complex

**Model**  spase:ResourceId , spase:ResourceHeader , spase:InstrumentType+ , spase:InvestigationName+ , spase:OperatingSpan{0,1} , spase:ObservatoryID , spase:Caveats(0,1) , spase:Extension*

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

**Schema location**  file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
Children

<table>
<thead>
<tr>
<th>Children</th>
</tr>
</thead>
</table>

Instance

```xml
  <spase:ResourceId > {1,1} </spase:ResourceId>
  <spase:ResourceHeader > {1,1} </spase:ResourceHeader>
  <spase:InstrumentType > {1,unbounded} </spase:InstrumentType>
  <spase:InvestigationName > {1,unbounded} </spase:InvestigationName>
  <spase:OperatingSpan> {0,1} </spase:OperatingSpan>
  <spase:ObservatoryID > {1,1} </spase:ObservatoryID>
  <spase:Caveats> {0,1} </spase:Caveats>
  <spase:Extension> {0,unbounded} </spase:Extension>
</spase:Instrument>
```

Source

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

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Element spase:Instrument / 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

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

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Element spase:Instrument / spase:ResourceHeader**

Namespace

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

Diagram

```
ResourceHeader
  Type: spase:ResourceHeader
```

Type

spase:ResourceHeader

Properties

- content: complex
- minOccurs: 1
<table>
<thead>
<tr>
<th>Model</th>
<th>spase:ResourceName, spase:AlternateName*, spase:ReleaseDate, spase:ExpirationDate{0,1}, spase:Description, spase:Acknowledgement{0,1}, spase:Contact+, spase:InformationURL*, spase:Association*, spase:PriorID*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>spase:Acknowledgement, spase:AlternateName, spase:Association, spase:Contact, spase:Description, spase:ExpirationDate, spase:InformationURL, spase:PriorID, spase:ReleaseDate, spase:ResourceName</td>
</tr>
</tbody>
</table>

### 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:ReleaseDate>{1,1}</spase:ReleaseDate>
  <spase:ExpirationDate>{0,1}</spase:ExpirationDate>
  <spase:Description>{1,1}</spase:Description>
  <spase:Acknowledgement>{0,1}</spase:Acknowledgement>
  <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:Instrument / spase:InstrumentType

### Namespace

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

### Diagram

```
InstrumentType
   Type: spase:InstrumentType

    |---|---
    |   |   
    |   | spase:InstrumentType
```

### Type

spase:InstrumentType

### Properties

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

### Facets

- **enumeration** Antenna
  A sensor used to measure electric potential.

- **enumeration** Channeltron
  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.

- **enumeration** Coronograph
  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.

- **enumeration** DoubleSphere
  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.

- **enumeration** DustDetector
  An instrument which determines the mass and speed of ambient dust particles.

- **enumeration** ElectronDriftInstrument
  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.

- **enumeration** ElectrostaticAnalyser
  An instrument which uses charged plates to analyze the mass, charge and kinetic energies of charged particles which enter the instrument.

- **enumeration** EnergeticParticleInstrument
  An instrument that measures fluxes of charged particles as a function of time, direction of motion, mass, charge and/or species.

- **enumeration** FaradayCup
  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.

- **enumeration** FluxFeedback
  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.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<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>GeigerMuellerTube</td>
<td></td>
</tr>
<tr>
<td>Imager</td>
<td>An instrument that samples the radiation from an area at one or more spectral ranges emitted or reflected by an object.</td>
</tr>
<tr>
<td>ImagingSpectrometer</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>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>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>
</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>
</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>
</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>
</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>
</tr>
<tr>
<td>Magnetometer</td>
<td>An instrument which measures the ambient magnetic field.</td>
</tr>
<tr>
<td>MassSpectrometer</td>
<td>An instrument which distinguishes chemical species in terms of their different isotopic masses.</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>
</tr>
<tr>
<td>MultispectralImager</td>
<td>An instrument which captures images at multiple spectral ranges.</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>
</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>
</tr>
<tr>
<td>ParticleCorrelator</td>
<td>An instrument which correlates particle flux to help identify wave/particle interactions.</td>
</tr>
<tr>
<td>ParticleDetector</td>
<td>An instrument which detects particle flux.</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>
</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>
</tr>
<tr>
<td>enumeration</td>
<td>Photopolarimeter</td>
</tr>
<tr>
<td>enumeration</td>
<td>Platform</td>
</tr>
<tr>
<td>enumeration</td>
<td>ProportionalCounter</td>
</tr>
<tr>
<td>enumeration</td>
<td>QuadrisphericalAnalyser</td>
</tr>
<tr>
<td>enumeration</td>
<td>Radar</td>
</tr>
<tr>
<td>enumeration</td>
<td>Radiometer</td>
</tr>
<tr>
<td>enumeration</td>
<td>ResonanceSounder</td>
</tr>
<tr>
<td>enumeration</td>
<td>RetardingPotentialAnalyser</td>
</tr>
<tr>
<td>enumeration</td>
<td>Riometer</td>
</tr>
<tr>
<td>enumeration</td>
<td>ScintillationDetector</td>
</tr>
<tr>
<td>enumeration</td>
<td>SearchCoil</td>
</tr>
<tr>
<td>enumeration</td>
<td>SolidStateDetector</td>
</tr>
<tr>
<td>enumeration</td>
<td>Sounder</td>
</tr>
<tr>
<td>enumeration</td>
<td>SpacecraftPotentialControl</td>
</tr>
<tr>
<td>enumeration</td>
<td>SpectralPowerReceiver</td>
</tr>
<tr>
<td>enumeration</td>
<td>Spectrometer</td>
</tr>
<tr>
<td>enumeration</td>
<td>TimeOfFlight</td>
</tr>
<tr>
<td>enumeration</td>
<td>Unspecified</td>
</tr>
<tr>
<td>enumeration</td>
<td>WaveformReceiver</td>
</tr>
</tbody>
</table>
one or more components of the electric and/or magnetic field as a function of time.

Element `spase:Instrument / spase:InvestigationName`

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

Diagram

**Type** `spase:InvestigationName`

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

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

Element `spase:Instrument / spase:OperatingSpan`

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

Diagram

**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 `<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"/>

Element `spase:OperatingSpan / 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"/>
<table>
<thead>
<tr>
<th><strong>Element spase:OperatingSpan / spase:StopDate</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Namespace</strong></td>
</tr>
<tr>
<td><strong>Diagram</strong></td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td><strong>Properties</strong></td>
</tr>
<tr>
<td>content:</td>
</tr>
<tr>
<td>minOccurs:</td>
</tr>
<tr>
<td>maxOccurs:</td>
</tr>
<tr>
<td><strong>Source</strong></td>
</tr>
<tr>
<td><strong>Schema location</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Element spase:OperatingSpan / spase:Note</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Namespace</strong></td>
</tr>
<tr>
<td><strong>Diagram</strong></td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td><strong>Properties</strong></td>
</tr>
<tr>
<td>content:</td>
</tr>
<tr>
<td>minOccurs:</td>
</tr>
<tr>
<td>maxOccurs:</td>
</tr>
<tr>
<td><strong>Source</strong></td>
</tr>
<tr>
<td><strong>Schema location</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Element spase:Instrument / spase:ObservatoryID</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Namespace</strong></td>
</tr>
<tr>
<td><strong>Diagram</strong></td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td><strong>Properties</strong></td>
</tr>
<tr>
<td>content:</td>
</tr>
<tr>
<td>minOccurs:</td>
</tr>
<tr>
<td>maxOccurs:</td>
</tr>
<tr>
<td><strong>Source</strong></td>
</tr>
<tr>
<td><strong>Schema location</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Element spase:Instrument / spase:Caveats</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Namespace</strong></td>
</tr>
<tr>
<td><strong>Diagram</strong></td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td><strong>Properties</strong></td>
</tr>
<tr>
<td>content:</td>
</tr>
<tr>
<td>minOccurs:</td>
</tr>
<tr>
<td>maxOccurs:</td>
</tr>
<tr>
<td><strong>Source</strong></td>
</tr>
<tr>
<td><strong>Schema location</strong></td>
</tr>
</tbody>
</table>
**Element spase:Instrument / spase:Extension**

<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="image1" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:Extension</td>
</tr>
<tr>
<td>Properties</td>
<td>content: complex</td>
</tr>
<tr>
<td>minOccurs</td>
<td>0</td>
</tr>
<tr>
<td>maxOccurs</td>
<td>unbounded</td>
</tr>
<tr>
<td>Model</td>
<td>ANY element from ANY namespace</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;Extension&quot; type=&quot;spase:Extension&quot; minOccurs=&quot;0&quot; maxOccurs=&quot;unbounded&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

**Element spase:Spase / spase:Observatory**

<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="image2" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:Observatory</td>
</tr>
<tr>
<td>Properties</td>
<td>content: complex</td>
</tr>
</tbody>
</table>
| Instance | `<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>{0,1}</spase:OperatingSpan>  
  <spase:Extension>{0,unbounded}</spase:Extension>  
</spase:Observatory>` |
| Source | `<xsd:element name="Observatory" type="spase:Observatory"/>` |
| Schema location | file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd |

**Element spase:Observatory / 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><img src="image3" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:ResourceID</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
</tbody>
</table>

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### Element `spase:Observatory / spase:ResourceHeader`

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

**Diagram**

![Diagram of `spase:ResourceHeader`]

- **Type**
  - `spase:ResourceHeader`

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

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

- **Children**
  - `spase:Acknowledgement`, `spase:AlternateName`, `spase:Association`, `spase:Contact`, `spase:Description`, `spase:ExpirationDate`, `spase:InformationURL`, `spase:PriorID`, `spase:ReleaseDate`, `spase:ResourceName`

- **Instance**
    <spase:ResourceName>[1,1]</spase:ResourceName>  
    <spase:AlternateName>[0,unbounded]</spase:AlternateName>  
    <spase:ReleaseDate>[1,1]</spase:ReleaseDate>  
    <spase:ExpirationDate>[0,1]</spase:ExpirationDate>  
    <spase:Description>[1,1]</spase:Description>  
    <spase:Acknowledgement>[0,1]</spase:Acknowledgement>  
    <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:ObservatoryGroupID`

**Type**
`spase:ObservatoryGroupID`

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

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

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

### Element `spase:ObservatoryRegion`

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

**Diagram**

**Type**
`spase:Region`

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

**Facets**
- **enumeration**
  - **Asteroid**
    - A small extraterrestrial body consisting mostly of rock and metal that is in orbit around the sun.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comet</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>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 night-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.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>A region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</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.Atkmosphere</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>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.</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.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.Region</td>
<td>The region of the ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.Region</td>
<td>The ionized gas occurring at 80-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.Region</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>Earth.NearSurface.Ionosphere.Region</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>
</tbody>
</table>
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.

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.

Earth.NearSurface.SouthAtlanticAnomalyRegion
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.

Earth.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.

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.Main
The region of the magnetosphere 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).
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Jupiter.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><strong>Jupiter.Magnetosphere.RadiationBelt</strong></td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td><strong>Mars</strong></td>
<td>The fourth planet from the sun in our solar system.</td>
</tr>
<tr>
<td><strong>Mars.Deimos</strong></td>
<td>The smaller and outermost moon of Mars.</td>
</tr>
<tr>
<td><strong>Mars.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>Mars.Magnetosphere.Magnetotail</strong></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><strong>Mars.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>Mars.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><strong>Mars.Magnetosphere.RadiationBelt</strong></td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td><strong>Mars.Phobos</strong></td>
<td>The larger and innermost moon of Mars.</td>
</tr>
<tr>
<td><strong>Mercury</strong></td>
<td>The first planet from the sun in our solar system.</td>
</tr>
<tr>
<td><strong>Mercury.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>Mercury.Magnetosphere.Magnetotail</strong></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><strong>Mercury.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>Mercury.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><strong>Mercury.Magnetosphere.RadiationBelt</strong></td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td><strong>Neptune</strong></td>
<td>The seventh planet from the sun in our solar system.</td>
</tr>
<tr>
<td><strong>Pluto</strong></td>
<td>The ninth (sub)planet from the sun in our solar system.</td>
</tr>
<tr>
<td><strong>Saturn</strong></td>
<td>The sixth planet from the sun in our solar system.</td>
</tr>
<tr>
<td><strong>Saturn.Dione</strong></td>
<td>The fourth-largest moon of Saturn.</td>
</tr>
<tr>
<td><strong>Saturn.Enceladus</strong></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>Schema documentation for spase-2_2_6.xsd</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> Saturn.Iapetus The third-largest moon of Saturn and the eleventh-largest in the Solar System.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> 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.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> 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 &gt; -10Re).</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> 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.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> 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.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> Saturn.Mass The smallest and least massive of the round moons of Saturn.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> Saturn.Mimas The second-largest moon of Saturn and the ninth-largest moon in the Solar System.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> Saturn.Rhea The third largest moon of Saturn.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> Saturn.Tethys The largest moon of Saturn and the second-largest moon in the Solar System.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> Saturn.Titan The star upon which our solar system is centered.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> Saturn.Magnetosphere.RadiationBelt The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> 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.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> Sun.Corona The outermost atmospheric region of the Sun or a star, characterized by ionization temperatures above 10⁷ K. The solar corona starts at about 2100 km above the photosphere; there is no generally defined upper limit.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> Sun.Interior The region inside the body which is not visible from outside the body.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> 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.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> Sun.TransitionRegion A very narrow (&lt;120 km) layer between the chromosphere and the corona where the temperature rises abruptly from about 8000 to about 500,000 K.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> Uranus The eighth planet from the sun in our solar system.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> Uranus.Ariel The fourth-largest moon of Uranus.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> 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.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> 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 &gt; -10Re).</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration</strong> 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.</td>
<td></td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</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>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</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.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>
</tbody>
</table>

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

Schema location: `file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

**Element** `spase:Location / spase:CoordinateSystemName`

<table>
<thead>
<tr>
<th>Properties</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>spase:CoordinateSystemName</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>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.</td>
</tr>
<tr>
<td>Schema documentation for spase-2_2_6.xsd</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>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>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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 “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.</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>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 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 F and N and points earthward. The N component is perpendicular to F and E and is positive eastward.</td>
</tr>
<tr>
<td>GEI</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 GCT. Then the Z axis is also defined as being normal to the mean Earth equator of J2000.</td>
</tr>
<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 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 Happgood, 1992.</td>
</tr>
<tr>
<td>HCC</td>
<td>Heliocentric Cartesian - A 3-D orthonormal coordinate system that is primarily intended</td>
</tr>
</tbody>
</table>

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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.

### Enumeration

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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 ρ 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>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>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>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>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 of an (x,y) point on the solar disk is via the point’s longitude angle $[\arctan (x/d)]$ and latitude angle $[\arctan y/d]$.</td>
</tr>
<tr>
<td>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)</td>
</tr>
</tbody>
</table>
point on the solar disk is via the point's latitude angle \( \theta = \arctan \left( \frac{\sqrt{x^2 + y^2}}{d} \right) \) or equivalent declination parameter \( \delta = \theta - 90 \, \text{deg} \), and its phase angle \( \psi \) as measured counter-clockwise from the \(+Y\) axis \( \psi = \arctan \left( -\frac{y}{x} \right) \).

### 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.

**J2000**
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.

**JSM**
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.

**JSO**
Jovian Solar Orbital — A coordinate system related to Jupiter where X anti-sunward, Y along the orbital velocity direction.

**KSM**
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.

**KSO**
Kronian Solar Orbital — A coordinate system related to Saturn where X is anti-sunward, Y along the orbital velocity direction.

**LGM**
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) = \( \arctan \left( \frac{B_y}{B_x} \right) \)

**MAG**
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 \( Y = N \times Z, X = Y \times Z \). See Russell, 1971, and [http://cdpp.cnes.fr/00428.pdf](http://cdpp.cnes.fr/00428.pdf)

**MFA**
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 [http://cdpp.cnes.fr/00428.pdf](http://cdpp.cnes.fr/00428.pdf)

**MSO**
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.

**RTN**
Radial Tangential Normal. Typically centered at a spacecraft. Used for IMF and plasma \( \mathbf{v} \) vectors. R (radial) axis is radially away from the Sun, T (tangential) axis is normal to the plane formed by R and the Sun’s spin vector, positive in the direction of planetary motion, N (normal) is \( R \times T \).

**SC**
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.

**SE**
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
## Schema documentation for spase-2_2_6.xsd

### CoordinateSystemName

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SM</strong></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><strong>SR</strong></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><strong>SR2</strong></td>
<td>Spin Reference 2 - A special case of a Spacecraft (SC) coordinate system for a spinning spacecraft. Z 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><strong>SSE</strong></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><strong>SSE_L</strong></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><strong>SpacecraftOrbitPlane</strong></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><strong>TIIS</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>VSO</strong></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><strong>WGS84</strong></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>

### Element `spase:Location` / `spase:Latitude`

#### Namespace

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

#### Diagram

![Diagram](http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html)

#### Type

`spase:Latitude`

#### Properties

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

#### Source

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

#### Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
### Element `spase:Location / spase:Longitude`

<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>

<table>
<thead>
<tr>
<th>Diagram</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th><code>spase:Longitude</code></th>
</tr>
</thead>
</table>

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

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

<table>
<thead>
<tr>
<th>Schema location</th>
</tr>
</thead>
<tbody>
<tr>
<td>file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

### Element `spase:Location / spase:Elevation`

<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>

<table>
<thead>
<tr>
<th>Diagram</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th><code>spase:Elevation</code></th>
</tr>
</thead>
</table>

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

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

<table>
<thead>
<tr>
<th>Schema location</th>
</tr>
</thead>
<tbody>
<tr>
<td>file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

### Element `spase:Observatory / spase:OperatingSpan`

<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>

<table>
<thead>
<tr>
<th>Diagram</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th><code>spase:OperatingSpan</code></th>
</tr>
</thead>
</table>

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

<table>
<thead>
<tr>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>spase:StartDate , spase:StopDate[0,1] , spase:Note*</code></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>spase:Note , spase:StartDate , spase:StopDate</code></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instance</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;spase:OperatingSpan xmlns:spase=&quot;http://www.spase-group.org/data/schema&quot;&gt; &lt;spase:StartDate&gt;(0,1)&lt;/spase:StartDate&gt; &lt;spase:StopDate&gt;(0,1)&lt;/spase:StopDate&gt; &lt;spase:Note&gt;(0,unbounded)&lt;/spase:Note&gt; &lt;/spase:OperatingSpan&gt;</code></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Schema location</th>
</tr>
</thead>
<tbody>
<tr>
<td>file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

### Element `spase:Observatory / spase:Extension`
### Type

**spase:Extension**

### Properties

**content:** complex

**minOccurs:** 0

**maxOccurs:** unbounded

### Model

ANY element from ANY namespace

### Source

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

### Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

### Element **spase:Spase** / **spase:Person**

#### Namespace

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

#### Diagram

```xml
<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>{1,1}</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:Note>{0,1}</spase:Note>
    <spase:Extension>{0,unbounded}</spase:Extension>
</spase:Person>
```

#### Type

**spase:Person**

#### Properties

**content:** complex

#### Model

**spase:ResourceID** , **spase:ReleaseDate** , **spase:PersonName** , **spase:OrganizationName** , **spase:Address** , **spase:Email** , **spase:PhoneNumber** , **spase:FaxNumber** , **spase:Note** , **spase:Extension**

#### Children

**spase:Address** , **spase:Email** , **spase:Extension** , **spase:FaxNumber** , **spase:Note** , **spase:OrganizationName** , **spase:PersonName** , **spase:PhoneNumber** , **spase:ReleaseDate** , **spase:ResourceID**

#### Instance

```xml
<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>{1,1}</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:Note>{0,1}</spase:Note>
    <spase:Extension>{0,unbounded}</spase:Extension>
</spase:Person>
```

#### Source

```xml
<xsd:element name="Person" type="spase:Person"/>
```
### Element `spase:Person / spase:ResourceID`

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

**Diagram**

![Diagram](image)

**Type**  
`spase:ResourceID`

**Properties**

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

**Source**

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

**Schema location**  
file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:Person / spase:ReleaseDate`

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

**Diagram**

![Diagram](image)

**Type**  
`spase:ReleaseDate`

**Properties**

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

**Source**

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

**Schema location**  
file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:Person / spase:PersonName`

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

**Diagram**

![Diagram](image)

**Type**  
`spase:PersonName`

**Properties**

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

**Source**

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

**Schema location**  
file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:Person / spase:OrganizationName`

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

**Diagram**

![Diagram](image)

**Type**  
`spase:OrganizationName`

**Properties**

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

**Source**

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

**Schema location**  
file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
**Element spase:Person / spase:Address**

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

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:Address</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>

Source

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

Schema location  file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Element spase:Person / spase:Email**

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

Diagram

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

Source

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

Schema location  file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Element spase:Person / spase:PhoneNumber**

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

Diagram

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

Source

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

Schema location  file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Element spase:Person / spase:FaxNumber**

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

Diagram

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

Source

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

Schema location  file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Element spase:Person / spase:Note**

Namespace  http://www.spase-group.org/data/schema
### Schema documentation for spase-2_2_6.xsd

#### Element `spase:Person` / `spase:Extension`

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

**Diagram**

```
<Diagram>
  <Extension>
    <Type type="spase:Extension"/>
    <spase:Extension/>
  </Extension>
</Diagram>
```

**Type**
`spase:Extension`

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

**Model**
ANY element from ANY namespace

**Instance**
```
```

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

**Schema location**
file:C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

#### Element `spase:Spase` / `spase:Registry`

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

**Diagram**

```
<Diagram>
  <Registry>
    <Type type="spase:Registry"/>
    <spase:Registry/>
  </Registry>
</Diagram>
```

**Type**
`spase:Registry`

**Properties**
- **content**: complex
- **Model**
- `spase:ResourceId` , `spase:ResourceHeader` , `spase:AccessURL` , `spase:Extension*`
- **Children**
  - `spase:AccessURL` , `spase:Extension` , `spase:ResourceHeader` , `spase:ResourceId`

**Instance**
```
<spase:Registry 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:Registry>
```

**Source**
```
<xs:element name="Registry" type="spase:Registry"/>
```

**Schema location**
file:C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

#### Element `spase:Registry` / `spase:ResourceId`

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

Type  spase:ResourceId

Properties
content:  simple
minOccurs:  1
maxOccurs:  1

Source  

Element  spase:Registry / 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:ReleaseDate , spase:ExpirationDate[0,1] , spase:Description , spase:Acknowledgement[0,1] , spase:Contact+ , spase:InformationURL* , spase:Association* , spase:PriorID*

Children  spase:Acknowledgement , spase:AlternateName , spase:Association , spase:Contact , spase:Description , spase:ExpirationDate , spase:InformationURL , spase:PriorID , spase:ReleaseDate , spase:ResourceName

Instance  

Source  

153
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, spase:ProductKey*, spase:Description{0,1}, spase:Language{0,1}`

Children `spase:Description, spase:Language, spase:Name, spase:ProductKey, spase:URL`

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

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

Element `spase:Registry / 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

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

Element `spase:Spase / spase:Repository`

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

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:Repository</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: complex</td>
</tr>
<tr>
<td>Model</td>
<td>spase:ResourceId, spase:ResourceHeader, spase:AccessURL, spase:Extension*</td>
</tr>
<tr>
<td>Children</td>
<td>spase:AccessURL, spase:Extension, spase:ResourceHeader, spase:ResourceId</td>
</tr>
</tbody>
</table>
| Instance     | `<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"/>` |
| Schema location | file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd |

Element spase:Repository / 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><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>spase:ResourceId</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>Source</td>
<td><code>&lt;xsd:element name=&quot;ResourceId&quot; type=&quot;spase:ResourceId&quot; minOccurs=&quot;1&quot; maxOccurs=&quot;1&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

Element spase:Repository / spase:ResourceHeader

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

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:ResourceHeader</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: complex</td>
</tr>
<tr>
<td></td>
<td>minOccurs: 1</td>
</tr>
<tr>
<td></td>
<td>maxOccurs: 1</td>
</tr>
<tr>
<td>Model</td>
<td>spase:ResourceName, spase:AlternateName*, spase:ReleaseDate, spase:ExpirationDate{0,1}, spase:Description, spase:Acknowledgement{0,1}, spase:Contact+, spase:InformationURL*, spase:Association*, spase:PriorID*</td>
</tr>
<tr>
<td>Children</td>
<td>spase:Acknowledgement, spase:AlternateName, spase:Association, spase:Contact, spase:Description, spase:ExpirationDate, spase:InformationURL, spase:PriorID, spase:ReleaseDate, spase:ResourceName</td>
</tr>
<tr>
<td>Instance</td>
<td></td>
</tr>
<tr>
<td>Source</td>
<td></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

**Element spase:Repository / spase:AccessURL**

| Namespace | http://www.spase-group.org/data/schema |
**Element spase:Repository / 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
- **Source**
  ```xml
  <xs:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
  ```
- **Schema location**: file:C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

**Element spase:Spase / spase:Service**

- **Namespace**: http://www.spase-group.org/data/schema
Schema documentation for spase-2_2_6.xsd

### Element `spase:Service` / `spase:ResourceID`

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

**Diagram**

![Diagram of `spase:Service` and `spase:ResourceID`]

**Type**  
`spase:ResourceID`

**Properties**

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

**Source**

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

**Schema location**

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Element `spase:Service` / `spase:ResourceHeader`

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

**Diagram**

![Diagram of `spase:Service` and `spase:ResourceHeader`]

**Type**  
`spase:ResourceHeader`

**Properties**

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

**Source**

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

**Schema location**

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
### Type

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

### Model

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

### Children

- `spase:Acknowledgement`, `spase:AlternateName`, `spase:Association`, `spase:Contact`, `spase:Description`, `spase:ExpirationDate`, `spase:InformationURL`, `spase:PriorID`, `spase:ReleaseDate`, `spase:ResourceName`  

### 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:ReleaseDate>{1,1}</spase:ReleaseDate>
    <spase:ExpirationDate>{0,1}</spase:ExpirationDate>
    <spase:Description>{1,1}</spase:Description>
    <spase:Acknowledgement>{0,1}</spase:Acknowledgement>
    <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 location

`file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

---

**Element** `spase:Service` / `spase:AccessURL`

### Namespace

`http://www.spase-group.org/data/schema`
Schema documentation for spase-2_2_6.xsd

Diagram

Type

spase:AccessURL

Properties

| content: | complex |
| minOccurs: | 1 |
| maxOccurs: | 1 |

Model

spase:Name[0,1], spase:URL, spase:ProductKey*, spase:Description[0,1], spase:Language[0,1]

Children

spase:Description, spase:Language, spase:Name, spase:ProductKey, spase:URL

Instance

```xml
                  xmlns:xsi= "http://www.w3.org/2001/XMLSchema-instance"
                  xsi:schemaLocation="file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd">
  <spase:Name> {0,1} </spase:Name>
  <spase:URL> {1,1} </spase:URL>
  <spase:ProductKey> {0,unbounded} </spase:ProductKey>
  <spase:Description> {0,1} </spase:Description>
  <spase:Language> {0,1} </spase:Language>
</spase:AccessURL>
```

Source

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

Schema location

file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.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

Source

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

Schema location

file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:Spase / spase:Annotation

Namespace

http://www.spase-group.org/data/schema
Schema documentation for spase-2_2_6.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" />

Schema location file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

**Element spase:Annotation** / **spase:ResourceID**

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

Diagram

```
<spase: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"/>

Schema location file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
Element `spase:Annotation` / `spase:ResourceHeader`

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

Diagram

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

Model

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

Children

spase:Acknowledgement, spase:AlternateName, spase:Association, spase:Contact, spase:Description, spase:ExpirationDate, spase:InformationURL, spase:PriorID, spase:ReleaseDate, spase:ResourceName

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:ReleaseDate> [1,1] </spase:ReleaseDate>
  <spase:ExpirationDate> [0,1] </spase:ExpirationDate>
  <spase:Description> [1,1] </spase:Description>
  <spase:Acknowledgement> [0,1] </spase:Acknowledgement>
  <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

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

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element `spase:Annotation` / `spase:ImageURL`

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

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>spase:ImageURL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties content:</td>
<td>simple</td>
</tr>
<tr>
<td>minOccurs:</td>
<td>0</td>
</tr>
</tbody>
</table>
### Element `spase:Annotation` / `spase:AnnotationType`

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

### 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.

### Element `spase:Annotation` / `spase:PhenomenonType`

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

### 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.
- **enumeration** CoronalHole: 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** EITWave: 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 flares 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.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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 “Type I” consisting of many short, narrow-band bursts in the metric range (300 - 50 MHz); “Type II” consisting of narrow-band emission that begins in the meter range (300 MHz) and sweeps slowly (tens of minutes) toward dekameter wavelengths (10 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).</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...</td>
</tr>
</tbody>
</table>
becomes energized at a fast rate.

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

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:Annotation / 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
<xsd:element name="ClassificationMethod" type="spase:ClassificationMethod" minOccurs="0" maxOccurs="1"/>

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:Annotation / 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
<xsd:element name="ConfidenceRating" type="spase:ConfidenceRating" minOccurs="0" maxOccurs="1"/>

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Element spase:Annotation / spase:TimeSpan

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

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

**Diagram**

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

**Type**
spase:Annotation

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

**Model**
- spase:ObservedRegion:[0,1]
- spase:StartLocation
- spase:StopLocation
- spase:Note

**Children**
- spase:ObservedRegion
- spase:StartLocation
- spase:StopLocation
- spase:Note

**Instance**

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

**Source**

```xml
g:element name="Annotation" types="spase:Annotation" minOccurs="0" maxOccurs="unbounded"/>
```

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
### Element `spase:ObservationExtent / spase:ObservedRegion`

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

#### Facets

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asteroid</td>
<td>A small extraterrestrial body consisting mostly of rock and metal that is in orbit around the sun.</td>
</tr>
<tr>
<td>Comet</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>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>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>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.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.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.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.ERegion</td>
<td>Ionised gas occurring at 90-150km above the ground. One of several layers in</td>
</tr>
<tr>
<td>Schema documentation for spase-2.2.6.xsd</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------</td>
<td></td>
</tr>
</tbody>
</table>

1. **Earth.NearSurface.Ionosphere.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.

2. **Earth.NearSurface.Ionosphere.FRegion**
   - The region at the upper most areas of the ionosphere.

3. **Earth.NearSurface.Mesosphere**
   - The layer of the atmosphere that extends from the Stratosphere to about 30 km, temperature decreasing with height.

4. **Earth.NearSurface.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.

5. **Earth.NearSurface.PolarCap**
   - 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.

6. **Earth.NearSurface.SouthAtlanticAnomalyRegion**
   - 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.

7. **Earth.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.

8. **Earth.NearSurface.Thermosphere**
   - The layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height.

9. **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.

10. **Earth.Surface**
    - The outermost area of a solid object.

11. **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.

12. **Heliosphere.Heliosheath**
    - The region extending radially outward from the heliospheric termination shock and in which the decelerated solar wind plasma is still significant.

13. **Heliosphere.Inner**
    - The region of the heliosphere extending radially outward from the solar coronal base to just inside 1 AU.

14. **Heliosphere.NearEarth**
    - The heliospheric region near the Earth which extends to and includes the area near the L1 and L2 Lagrange point.

15. **Heliosphere.Outer**
    - The region of the heliosphere extending radially outward from just outside 1 AU to the heliospheric termination shock.

16. **Heliosphere.Remote1AU**
    - A roughly toroidal region that includes the Earth's orbit, but exclusive of the region near the Earth.

17. **Interstellar**
    - The region between stars outside of the star's heliopause.

18. **Jupiter**
    - The fifth planet from the sun in our solar system.

19. **Jupiter.Callisto**
    - A second largest moon of Jupiter and the third-largest
<table>
<thead>
<tr>
<th>Schema documentation for spase-2.2.6.xsd</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>enumeration</strong> Jupiter.Europa</td>
</tr>
<tr>
<td><strong>enumeration</strong> Jupiter.Ganymede</td>
</tr>
<tr>
<td><strong>enumeration</strong> Jupiter.Io</td>
</tr>
<tr>
<td><strong>enumeration</strong> Jupiter.Magnetosphere</td>
</tr>
<tr>
<td><strong>enumeration</strong> Jupiter.Magnetosphere.Magnetotail</td>
</tr>
<tr>
<td><strong>enumeration</strong> Jupiter.Magnetosphere.Main</td>
</tr>
<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> 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>
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<tr>
<td><strong>enumeration</strong> Mars.Magnetosphere.Main</td>
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<tr>
<td><strong>enumeration</strong> Mars.Magnetosphere.Polar</td>
</tr>
<tr>
<td><strong>enumeration</strong> Mars.Magnetosphere.RadiationBelt</td>
</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>
<tr>
<td><strong>enumeration</strong> Mercury.Magnetosphere.Main</td>
</tr>
<tr>
<td><strong>enumeration</strong> Mercury.Magnetosphere.Polar</td>
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<tr>
<td>enumeration</td>
</tr>
</tbody>
</table>
### Element `spase:ObservationExtent` / `spase:StopLocation`

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

**Diagram**

**Type**
`spase:StopLocation`

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

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

**Schema location**
file://C:/projects/spase/java/model-tools/build/bin/spase-2.2.6.xsd

### Element `spase:ObservationExtent` / `spase:Note`

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

**Diagram**

**Type**
`spase:Note`

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

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

**Schema location**
file://C:/projects/spase/java/model-tools/build/bin/spase-2.2.6.xsd

### Element `spase:Annotation` / `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

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

**Schema location**
file://C:/projects/spase/java/model-tools/build/bin/spase-2.2.6.xsd

### 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

```
<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: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:sequence>
</xsd:complexType>
```

<table>
<thead>
<tr>
<th>Used by</th>
<th>Element</th>
<th>spase:Spase</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Attributes</th>
<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>
<td></td>
</tr>
</tbody>
</table>
Complex Type `spase:Catalog`
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.</xsd:documentation>
</xsd:annotation>
</xsd:sequence>
</xsd:complexType>

Schema
location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Complex Type spase:ResourceHeader

Namespace
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
Elements
spase:Annotation/spase:ResourceHeader, spase:Catalog/spase:ResourceHeader, spase:DisplayData/
spase:ResourceHeader, spase:NumericalData/spase:ResourceHeader, spase:Observatory/
spase:ResourceHeader, spase:Registry/spase:ResourceHeader, spase:Repository/spase:ResourceHeader,
spase:Service/spase:ResourceHeader

Model
spase:ResourceId, spase:AlternateName*, spase:Name*, spase:ReleaseDate, spase:ExpirationDate{0,1}, spase:Description,
spase:Acknowledgement{0,1}, spase:Contact+, spase:InformationURL*, spase:Association*, spase:PriorID*

Children
spase:Acknowledgement, spase:AlternateName, spase:Association, spase:Contact, spase:Description, spase:ExpirationDate,
spase:InformationURL, spase:PriorID, spase:ReleaseDate, spase:ResourceId
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:element name="AlternateName" type="spase:AlternateName" minOccurs="0" maxOccurs="unbounded"/>
    <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="Acknowledgement" type="spase:Acknowledgement" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="Contact" type="spase:Contact" minOccurs="1" 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:element name="PriorID" type="spase:PriorID" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

**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 information about a resource.

Diagram

```
PersonID
  Type spase:PersonID

Role
  Type spase:Role

used by

Element

spase:ResourceHeader/spase:Contact

Model

spase:PersonID , spase:Role+

Children

spase:PersonID , spase:Role

Source

```xml
<xsd:complexType name="Contact">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The person or organization who may be able to provide special assistance or serve as a channel for communication for additional information about a resource.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="PersonID" type="spase:PersonID" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="Role" type="spase:Role" minOccurs="1" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

Schema location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

**Complex Type spase:InformationURL**

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

Annotations Attributes of the method of acquiring additional information.

Diagram

```
InformationURL
  Type spase:InformationURL

Name
  Type spase:Name

URL
  Type spase:URL

Description
  Type spase:Description

Language
  Type spase:Language

```
Complex Type spase:Association

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

Annotations Attributes of a relationship a resource has with another resource.

Diagram

Used by Element spase:ResourceHeader/spase:Association

Model spase:AssociationID , spase:AssociationType , spase:Note{0,1}

Children spase:AssociationID , spase:AssociationType , spase:Note

Source

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.
Schema documentation for spase-2_2_6.xsd

Diagram

Used by
Elements

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

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

Used by
Elements
**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**

```plaintext
Diagram 

DataExtent 

<table>
<thead>
<tr>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type: spase:Quantity</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Units</td>
</tr>
<tr>
<td>Type: spase:Units</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Per</td>
</tr>
<tr>
<td>Type: spase:Per</td>
</tr>
</tbody>
</table>
```

**Used by**
Elements
spase:AccessInformation/spase:DataExtent, spase:Source/spase:DataExtent

**Model**
spase:Quantity, spase:Units[0,1], spase:Per[0,1]

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

**Source**

```xml
<xsd:complexType name="DataExtent">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The area of storage in a file system required to store the contents of a resource. The default units for data extent is bytes.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="Quantity" type="spase:Quantity" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="Units" type="spase:Units" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="Per" type="spase:Per" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Complex Type spase:TimeSpan**

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

**Annotations**
The duration of an interval in time.

**Diagram**

```plaintext
Diagram 

TimeSpan 

| 0 * n |
| Type: spase:Nest |
| 
| StartDate |
| Type: spase:StartDate |
| 
| StopDate |
| Type: spase:StopDate |
| 
| RelativeStopDate |
| Type: spase:RelativeStopDate |
```

**Used by**
Elements
### Model

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>spase:StartDate</td>
<td></td>
</tr>
<tr>
<td>spase:StopDate</td>
<td>(spase:RelativeStopDate)</td>
</tr>
<tr>
<td>spase:Note*</td>
<td></td>
</tr>
</tbody>
</table>

### Children

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>spase:Note</td>
<td></td>
</tr>
<tr>
<td>spase:RelativeStopDate</td>
<td></td>
</tr>
<tr>
<td>spase:StartDate</td>
<td></td>
</tr>
<tr>
<td>spase:StopDate</td>
<td></td>
</tr>
</tbody>
</table>

### Source

```xml
<xsd:complexType name="TimeSpan">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The duration of an interval in time.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="StartDate" type="spase:StartDate" minOccurs="1" maxOccurs="1"/>
    <xsd:choice minOccurs="1" maxOccurs="1">
      <xsd:element name="StopDate" type="spase:StopDate"/>
      <xsd:element name="RelativeStopDate" type="spase:RelativeStopDate"/>
    </xsd:choice>
    <xsd:element name="Note" type="spase:Note" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

### Schema Location

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Complex Type `spase:Parameter`

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

<table>
<thead>
<tr>
<th>Annotations</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>
Diagram

Used by
- `spase:Catalog/spase:Parameter`
- `spase:DisplayData/spase:Parameter`
- `spase:NumericalData/spase:Parameter`

Model
- `spase:Name`
- `spase:Set`
- `spase:ParameterKey{0,1}`
- `spase:Description{0,1}`
- `spase:Caveats{0,1}`
- `spase:Cadence{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}`

Children
- `spase:Cadence`
- `spase:Caveats`
- `spase:CoordinateSystem`
- `spase:Description`
- `spase:Field`
- `spase:Mixed`
- `spase:Name`
- `spase:ParameterKey`
- `spase:Particle`
- `spase:RenderingHints`
- `spase:Set`
- `spase:Structure`
- `spase:Support`
- `spase:Units`
- `spase:UnitsConversion`
- `spase:ValidMax`
- `spase:ValidMin`
- `spase:Wave`

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="ParameterKey" type="spase:ParameterKey" 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:element name="Field" type="spase:Field" minOccurs="0" maxOccurs="1"/>
    ...<xsd:element name="Particle" type="spase:Particle" minOccurs="0" maxOccurs="1"/>
    ...<xsd:element name="Wave" type="spase:Wave" minOccurs="0" maxOccurs="1"/>
    ...<xsd:element name="Milled" type="spase:Milled" minOccurs="0" maxOccurs="1"/>
    ...<xsd:element name="Support" type="spase:Support" minOccurs="0" maxOccurs="1"/>
  </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
      Type: spase:CoordinateRepresentation
    CoordinateSystemName
      Type: spase:CoordinateSystemName
```

**Used by**
Element `spase:Parameter/spase:CoordinateSystem`

**Model**
`spase:CoordinateRepresentation`, `spase:CoordinateSystemName`

**Children**
`spase:CoordinateRepresentation`, `spase:CoordinateSystemName`

**Source**
```
<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>
```

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

Complex Type `spase:RenderingHints`

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

**Annotations**
Attributes to aid in the rendering of parameter.
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>

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="Size" type="spase:Size"/>
    <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>
Schema documentation for spase-2_2_6.xsd

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

Used by

- `Element`
- `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

```xml
<xsd:complexType name="Element">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A component or individual unit of a multiple value quantity such as an array or vector.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="Name" type="spase:Name" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="Qualifier" type="spase:Qualifier" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="Index" type="spase:Index" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="ParameterKey" type="spase:ParameterKey" 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="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:element name="RenderingHints" type="spase:RenderingHints" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

Schema location `file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

Complex Type `spase:Field`

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

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/spase/java/model-tools/build/bin/spase-2_2_6.xsd
Complex Type `spase:Bin`

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

Annotations: A grouping of observations according to a band or window of a common attribute.

Diagram


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

Source:
```xml
<xsd:complexType name="Bin">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A grouping of observations according to a band or window of a common attribute.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="BandName" type="spase:BandName" 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:sequence>
</xsd:complexType>
```

Complex Type `spase:Particle`

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

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:PolarAngleRange{0,1}`


Source:
```xml
<xsd:complexType name="Particle">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A description of the types of particles observed in the measurement. This includes both direct observations and inferred observations.</xsd:documentation>
  </xsd:annotation>
</xsd:complexType>
```
Complex Type `spase:EnergyRange`

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


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:annotation>
    <xs:documentation xml:lang="en">The minimum and maximum energy values of the particles represented by a given "physical parameter" description.</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:AzimuthalAngleRange`

Namespace [http://www.spase-group.org/data/schema](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`
### 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**  
![Diagram](image)

**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="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>
```

**Schema location**  
file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

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

**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>
```

**Schema location**  
file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### 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, 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="1" 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>

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

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:sequence>
    <xs:element name="SpectralRange" type="spase:SpectralRange" minOccurs="0" maxOccurs="1"/>
    <xs:element name="Low" type="spase:Low" minOccurs="1" maxOccurs="1"/>
  </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 coincidentally with a physical observation.

Diagram

Used by | Element | spase:Parameter/spase:Support
Model | spase:Qualifier*, spase:SupportQuantity
Children | spase:Qualifier, spase:SupportQuantity

Source

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."

Diagram

Used by | Element | spase:Parameter/spase:Mixed
Model | spase:MixedQuantity, spase:ParticleType*, spase:Qualifier*
Children | spase:MixedQuantity, spase:ParticleType, spase:Qualifier

Source
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<br>

Used by | Elements

Model | ANY element from ANY namespace
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:any minOccurs="0"/>  
  </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.
Schema documentation for spase-2_2_6.xsd

Diagram

Used by
- Element: spase:Spase/spase:DisplayData

Model
- spase:ResourceID, spase:ResourceHeader, spase:AccessInformation+, spase:ProcessingLevel[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:DisplayCadence[0,1],
  spase:ObservedRegion*, spase:Caveats(0,1), spase:Keyword*, spase:Parameter*, spase:InputResourceID*, spase:Extension*

Children
  spase:Keyword, spase:MeasurementType, spase:ObservedRegion, spase:Parameter, spase:ProcessingLevel,
  spase:ProviderProcessingLevel, spase:ProviderResourceName, spase:ProviderVersion, spase:ResourceHeader, spase:ResourceID,
  spase:SpectralRange, spase:TemporalDescription

Source
```xml
<xsd:complexType name="DisplayData">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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.</xsd:documentation>
  </xsd:annotation>
</xsd:complexType>
```
<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="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="0" maxOccurs="1" />
<xsd:element name="TemporalDescription" type="spase:TemporalDescription" minOccurs="0" maxOccurs="1" />
<xsd:element name="SpectralRange" type="spase:SpectralRange" minOccurs="0" maxOccurs="unbounded" />
<xsd:element name="DisplayCadence" type="spase:DisplayCadence" 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="unbounded" />
<xsd:element name="InputResourceID" type="spase:InputResourceID" minOccurs="0" maxOccurs="unbounded" />
<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:complexType>

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 spase:DisplayData/spase:TemporalDescription, spase:NumericalData/spase:TemporalDescription

Model spase:TimeSpan, spase:Cadence{0,1}, spase:Exposure{0,1}

Children spase:Cadence, spase:Exposure, spase:TimeSpan

Source

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.
Source

```xml
<xsd:complexType name="NumericalData">
  <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="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="1"/>
    <xsd:element name="MeasurementType" type="spase:MeasurementType" minOccurs="0" maxOccurs="1"/>
    <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:ObservedRegion" minOccurs="0" maxOccurs="1"/>
    <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="1"/>
    <xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</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

<table>
<thead>
<tr>
<th>Used by</th>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td><code>spase:ResourceId</code>, <code>spase:ResourceHeader</code>, <code>spase:AccessInformation+</code>, <code>spase:Keyword*</code>, <code>spase:DocumentType</code>, <code>spase:MIMEType</code>, <code>spase:InputResourceID*</code></td>
<td></td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:complexType name="Document">
  <xsd:annotation>
    <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: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="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>
```
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

Used by
Element | spase:Spase/spase:Granule

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

Source
<xsd:complexType name="Granule">
  <xsd: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.</xsd:documentation>
  <xsd:annotation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="ResourceId" type="spase:ResourceId" minOccurs="1" 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="ParentID" type="spase:ParentID" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="PriorID" type="spase:PriorID" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="StartDate" type="spase:StartDate" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="StopDate" type="spase:StopDate" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="Source" type="spase:Source" minOccurs="1" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
Complex Type `spase:Source`

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

Annotations: The location and attributes of an object.

Diagram:

- SourceType
- URL
- MirrorURL
- Checksum
- DataExtent

Used by:
- Element `spase:Granule/spase:Source`

Model:
- spase:SourceType
- spase:URL
- spase:MirrorURL
- spase:Checksum
- spase:DataExtent

Children:
- spase:Checksum
- spase:DataExtent
- spase:MirrorURL
- spase:SourceType
- spase:URL

Source:

```xml
<xsd:complexType name="Source">
  <xsd:documentation xml:lang="en">The location and attributes of an object.</xsd:documentation>
  <xsd:sequence>
    <xsd:element name="SourceType" type="spase:SourceType" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="URL" type="spase:URL" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="MirrorURL" type="spase:MirrorURL" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="Checksum" type="spase:Checksum" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="DataExtent" type="spase:DataExtent" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

Complex Type `spase:Checksum`

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

Annotations: 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.

Diagram:

- HashValue
- HashFunction

Used by:
- Element `spase:Source/spase:Checksum`

Model:
- spase:HashValue
- spase:HashFunction

Children:
- spase:HashValue
- spase:HashFunction

Source:

```xml
<xsd:complexType name="Checksum">
  <xsd:documentation xml:lang="en">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.</xsd:documentation>
  <xsd:sequence>
    <xsd:element name="HashValue" type="spase:HashValue" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="HashFunction" type="spase:HashFunction" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```
### Complex Type `spase:Instrument`

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

**Annotations**  
A device that makes measurements used to characterize a physical phenomenon, or a family of like devices.

**Diagram**

![Diagram of `spase:Instrument` complex type]

**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**

```xml
<xs:complexType name="Instrument">
    <xs:annotation>
        <xs:documentation xml:lang="en">A device that makes measurements used to characterize a physical phenomenon, or a family of like devices.</xs:documentation>
    </xs:annotation>
    <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="InstrumentType" type="spase:InstrumentType" minOccurs="1" maxOccurs="unbounded"/>
        <xs:element name="InvestigationName" type="spase:InvestigationName" minOccurs="1" maxOccurs="unbounded"/>
        <xs:element name="OperatingSpan" type="spase:OperatingSpan" minOccurs="0" maxOccurs="1"/>
        <xs:element name="ObservatoryID" type="spase:ObservatoryID" minOccurs="1" maxOccurs="1"/>
        <xs:element name="Caveats" type="spase:Caveats" minOccurs="0" maxOccurs="1"/>
        <xs:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
    </xs:sequence>
</xs:complexType>
```

### 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.
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.

Source

The host (spacecraft, network, facility) for instruments making observations, or a family of closely related hosts.

Used by

Elements

Model
spase:StartDate, spase:StopDate{0,1}, spase:Note*

Children
spase:Note, spase:StartDate, spase:StopDate

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.

Used by

Element
spase:Spase/spase:Observatory

Model
spase:ResourceID, spase:ResourceHeader, spase:ObservatoryGroupID*, spase:Location, spase:OperatingSpan{0,1}, spase:Extension*

Children

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.

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.
Schema documentation for spase-2_2_6.xsd

Diagram

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:Note{0,1} , spase:Extension*

Children spase:Address , spase:Email , spase:Extension , spase:FaxNumber , spase:Note , 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="Note" type="spase:Note" minOccurs="0" maxOccurs="unbounded"/>
    <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.
Used by | Element | spase:Spase/spase:Registry
---|---|---
Model | spase:ResourceID , spase:ResourceHeader , spase:AccessURL , spase:Extension*  
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>
Schema location | file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Complex Type spase:Repository
Namespace | http://www.spase-group.org/data/schema
Annotations | A location or facility where resources are stored.
Diagram
Used by | Element | spase:Spase/spase:Repository
---|---|---
Model | spase:ResourceID , spase:ResourceHeader , spase:AccessURL , spase:Extension*  
Source | <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 location | file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.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
Used by | Element | spase:Spase/spase:Service
--- | --- | ---
Model | spase:ResourceID , spase:ResourceHeader , spase:AccessURL , spase:Extension* |

Source:
```
<xsd:complexType name="Service">
  <xsd:annotation>
    <xsd:documentation xml:lang= "en">A location or facility that can perform a well defined task.</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 location: file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.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:
```
<xsd:complexType name="Annotation">
  <xsd:annotation>
    <xsd:documentation xml:lang= "en">Information which is explanatory or descriptive which is associated with another resource.</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="ImageURL" type="spase:ImageURL" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="AnnotationType" type="spase:AnnotationType" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="PhenomenonType" type="spase:PhenomenonType" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="ClassificationMethod" type="spase:ClassificationMethod" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="ConfidenceRating" type="spase:ConfidenceRating" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="TimeSpan" type="spase:TimeSpan" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="ObservationExtent" type="spase:ObservationExtent" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

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* |

Source:
```
<xsd:complexType name="Annotation">
  <xsd:annotation>
    <xsd:documentation xml:lang= "en">Information which is explanatory or descriptive which is associated with another resource.</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="ImageURL" type="spase:ImageURL" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="AnnotationType" type="spase:AnnotationType" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="PhenomenonType" type="spase:PhenomenonType" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="ClassificationMethod" type="spase:ClassificationMethod" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="ConfidenceRating" type="spase:ConfidenceRating" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="TimeSpan" type="spase:TimeSpan" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="ObservationExtent" type="spase:ObservationExtent" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

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<xsd:element name="TimeSpan" type="spase:TimeSpan" minOccurs="0" maxOccurs="unbounded" />
<xsd:element name="ObservationExtent" type="spase:ObservationExtent" minOccurs="0" maxOccurs="unbounded" />
<xsd:element name="Extension" type="spase:Extension" minOccurs="0" maxOccurs="unbounded" />
</xsd:sequence>
</xsd:complexType>

Complex Type spase:ObservationExtent

<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 spatial area encompassed by an observation.</td>
</tr>
</tbody>
</table>

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

Complex Type spase:typeValue

<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></td>
</tr>
</tbody>
</table>

Diagram

Type
- extension of xsd:double

Attributes

<table>
<thead>
<tr>
<th>QName</th>
<th>Type</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units</td>
<td>xsd:string</td>
<td>optional</td>
</tr>
</tbody>
</table>

<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:complexType>

<xs:complexType name="typeValue">

<xs:annotation>
<xs: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>
</xs:annotation>
</xsd:complexType>

<xs:complexType name="typeValue">

<xs:annotation>
<xs: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, 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>
</xs:annotation>
</xsd:complexType>

<xs:complexType name="typeValue">

<xs: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, 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:complexType>

Source

<xs:complexType name="typeValue">

<xs: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:complexType>

<xs:complexType name="typeValue">

<xs: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, 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:complexType>
Complex Type `spase:typeElementBoundary`

<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></td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="typeElementBoundary" /></td>
</tr>
<tr>
<td>Model</td>
<td></td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:complexType name=&quot;typeElementBoundary&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: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:complexType&gt;</code></td>
</tr>
</tbody>
</table>

Schema location `file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

Simple Type(s)

Simple Type `spase:Version`

<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>Version number.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Version" /></td>
</tr>
<tr>
<td>Type</td>
<td>restriction of xsd:string</td>
</tr>
<tr>
<td>Facets</td>
<td>enumeration 2.2.6</td>
</tr>
<tr>
<td>Used by</td>
<td>Element <code>spase:Version</code></td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:simpleType name=&quot;Version&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>Version number.&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;2.2.6&quot;/&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>

Schema location `file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

Simple Type `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>Annotations</td>
<td>A Resource ID is a URI that has the form &quot;scheme://authority/path&quot; where &quot;scheme&quot; is &quot;spase&quot; for those resources administered through the SPASE framework, &quot;authority&quot; is the unique identifier for the resource provider registered within the SPASE framework and &quot;path&quot; is the unique identifier of the resource within the context of the &quot;authority&quot;. The resource ID must be unique within the SPASE framework.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="ResourceID" /></td>
</tr>
<tr>
<td>Type</td>
<td>xsd:string</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:simpleType name=&quot;ResourceID&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>A Resource ID is a URI that has the form &quot;scheme://authority/path&quot; where &quot;scheme&quot; is &quot;spase&quot; for those resources administered through the SPASE framework, &quot;authority&quot; is the unique identifier for the resource provider registered within the SPASE framework and &quot;path&quot; is the unique identifier of the resource within the context of the &quot;authority&quot;. The resource ID must be unique within the SPASE framework.&lt;/xsd:documentation&gt;</code></td>
</tr>
</tbody>
</table>
### Simple Type `spase:ResourceName`

<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>A short textual description of a resource which may be useful when read by a person.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td><code>xsd:string</code></td>
</tr>
</tbody>
</table>

#### Source

```xml
<?xml version='1.0' encoding='UTF-8'?>
<xs:simpleType name="ResourceName">
  <xs:annotation>
    <xs:documentation xml:lang="en">A short textual description of a resource which may be useful when read by a person.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string"/>
</xs:simpleType>
```

### Simple Type `spase:AlternateName`

<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>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><strong>Type</strong></td>
<td><code>xsd:string</code></td>
</tr>
</tbody>
</table>

#### Source

```xml
<?xml version='1.0' encoding='UTF-8'?>
<xs:simpleType name="AlternateName">
  <xs:annotation>
    <xs:documentation xml:lang="en">An alternative or shortened name used to refer to a resource. This includes acronyms, expanded names or a synonym for a resource.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string"/>
</xs:simpleType>
```

### Simple Type `spase:ReleaseDate`

<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 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><strong>Type</strong></td>
<td><code>xsd:dateTime</code></td>
</tr>
</tbody>
</table>

#### Source

```xml
<?xml version='1.0' encoding='UTF-8'?>
<xs:simpleType name="ReleaseDate">
  <xs:annotation>
    <xs:documentation xml:lang="en">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.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:dateTime"/>
</xs:simpleType>
```
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.

Type `xsd:dateTime`

Used by
- `spase:Granule/spase:ExpirationDate`
- `spase:ResourceHeader/spase:ExpirationDate`

Source
```xml
<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/spase/java/model-tools/build/bin/spase-2_2_6.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.

Type `xsd:string`

Used by
- `spase:AccessURL/spase:Description`
- `spase:InformationURL/spase:Description`
- `spase:Parameter/spase:Description`
- `spase:ResourceHeader/spase:Description`
- `spase:Structure/spase:Description`

Source
```xml
<xsd:simpleType name="Description">
  <xsd:annotation>
    <xsd: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.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

Schema location `file:C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.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.

Source
```xml
<xsd:simpleType name="Acknowledgement">
  <xsd:annotation>
    <xsd: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.</xsd:documentation>
  </xsd:annotation>
</xsd:simpleType>
```

Schema location `file:C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`
Diagram

| Acknowledgment | xsd:string |

Type xsd:string


Source

```xml
<xsd:simpleType name="Acknowledgement">
  <xsd:annotation>
    <xsd: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.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

Schema location file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Simple Type spase:PersonID

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

Annotations The identifier assigned to a Person description.

Diagram

| Person | xsd:string |

Type xsd:string

Used by Element spase:Contact/spase:PersonID

Source

```xml
<xsd:simpleType name="PersonID">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The identifier assigned to a Person description.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

Schema location file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.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

| Role | xsd:string |

Type restriction of xsd:string

Facets

<p>| 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 |
| 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 |
| enumeration | FormerPI |
| enumeration | GeneralContact | An individual who can provide information on a range of subjects or who can direct you to a domain expert. |
| 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 | 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 |</p>
<table>
<thead>
<tr>
<th>Schema documentation for spase-2_2_6.xsd</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>enumeration</strong> Scientist</td>
</tr>
<tr>
<td>An individual who is an expert in the phenomenon and related physics represented by the resource.</td>
</tr>
<tr>
<td><strong>enumeration</strong> TeamLeader</td>
</tr>
<tr>
<td>An individual who is the designated leader of an investigation.</td>
</tr>
<tr>
<td><strong>enumeration</strong> TeamMember</td>
</tr>
<tr>
<td>An individual who is a major participant in an investigation.</td>
</tr>
<tr>
<td><strong>enumeration</strong> TechnicalContact</td>
</tr>
<tr>
<td>An individual who can provide specific information with regard to the resource or supporting software</td>
</tr>
</tbody>
</table>

**Used by**

<table>
<thead>
<tr>
<th>Element</th>
<th>spase:Contact/spase:Role</th>
</tr>
</thead>
</table>

**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="CoInvestigator">
      <xsd:annotation>
        <xsd:documentation xml:lang="en"></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"></xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="FormerPI">
      <xsd:annotation>
        <xsd:documentation xml:lang="en"></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="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="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:restriction>
</xsd:simpleType>
```
### 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](xsd:string)

**Type**  
`xsd:string`

**Used by**  

**Source**  
```xml
<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>
```

---

### 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](xsd:string)

**Type**  
`xsd:string`
### Simple Type spase:URL

**Namespace** http://www.spase-group.org/data/schema  
**Annotations** The 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**  
**Source**  
```xml  
<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>  
```

### Simple Type spase:Language

**Namespace** http://www.spase-group.org/data/schema  
**Annotations** The two character indicator of language selected from the ISO 630-1 codes for the representation of names of languages.  
**Diagram**  
**Source**  
```xml  
<xsd:simpleType name="Language">  
  <xsd:annotation>  
    <xsd:documentation xml:lang="en">The two character indicator of language selected from the ISO 630-1 codes for the representation of names of languages.</xsd:documentation>  
  </xsd:annotation>  
  <xsd:restriction base="xsd:string"/>  
</xsd:simpleType>  
```

### Simple Type spase:AssociationID

**Namespace** http://www.spase-group.org/data/schema  
**Annotations** The resource identifier for a resource with which this resource is closely associated.  
**Diagram**  
**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

**Namespace** http://www.spase-group.org/data/schema  
**Annotations** Identifiers for resource associations.  
**Diagram**  
**Facets**  
- **enumeration** `ChildEventOf` A descendant or caused by another resource.  
- **enumeration** `DerivedFrom` A transformed or altered version of a resource
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ObservedBy</td>
<td>Detected or originating from another resource.</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>PartOf</td>
<td>A portion of a larger resource.</td>
</tr>
<tr>
<td>RevisionOf</td>
<td>A modified version of a resource instance.</td>
</tr>
</tbody>
</table>

**Used by**

- Element: `spase:Association/spase:AssociationType`

**Source**

```xml
<xs:simpleType name="AssociationType">
   <xs:annotation>
      <xs:documentation xml:lang="en">Identifiers for resource associations.</xs:documentation>
   </xs:annotation>
   <xs:restriction base="xsd:string">
      <xs:enumeration value="ChildEventOf">
         <xs:annotation>
            <xs:documentation xml:lang="en">A descendant or caused by another resource.</xs:documentation>
         </xs:annotation>
      </xs:enumeration>
      <xs:enumeration value="DerivedFrom">
         <xs:annotation>
            <xs:documentation xml:lang="en">A transformed or altered version of a resource instance.</xs:documentation>
         </xs:annotation>
      </xs:enumeration>
      <xs:enumeration value="ObservedBy">
         <xs:annotation>
            <xs:documentation xml:lang="en">Detected or originating from another resource.</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="PartOf">
         <xs:annotation>
            <xs:documentation xml:lang="en">A portion of a larger resource.</xs:documentation>
         </xs:annotation>
      </xs:enumeration>
      <xs:enumeration value="RevisionOf">
         <xs:annotation>
            <xs:documentation xml:lang="en">A modified version of a resource instance.</xs:documentation>
         </xs:annotation>
      </xs:enumeration>
   </xs:restriction>
</xs:simpleType>
```

**Schema location**

`file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

---

**Simple Type spase:Note**

- **Namespace**: [http://www.spase-group.org/data/schema](http://www.spase-group.org/data/schema)
- **Annotations**: Information which is useful or important for the understanding of a value or parameter.
- **Diagram**: ![Note](#) ![xsd:string](#)
- **Type**: `xsd:string`

**Source**

```xml
<xs:simpleType name="Note">
   <xs:annotation>
      <xs:documentation xml:lang="en">Information which is useful or important for the understanding of a value or parameter.</xs:documentation>
   </xs:annotation>
   <xs:restriction base="xsd:string"/>
</xs:simpleType>
```

**Schema location**

`file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`
### 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**
![Diagram](image)

**Type**
`xsd:string`

**Used by**

**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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Simple Type `spase:RepositoryID`

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

**Annotations**
The identifier of a Repository resource.

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

**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/spase/java/model-tools/build/bin/spase-2_2_6.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**
![Diagram](image)

**Type**
restriction of `xsd:string`

**Facets**
- **enumeration** `Offline`
  - Not directly accessible electronically. This includes resources which may be moved to an on-line status in response to a given request.
- **enumeration** `Online`
  - Directly accessible electronically.

**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>
```
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>Facet</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td></td>
<td>Access is granted to everyone.</td>
</tr>
<tr>
<td>Restricted</td>
<td></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="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: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
Type xsd:string
Used by
- Element spase:AccessURL/spase:ProductKey
Source

```xml
<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:simpleType>
```

Simple Type spase:Format

Namespace http://www.spase-group.org/data/schema
Annotations Identifiers for data organized according to preset specifications.
Diagram
Type restriction of xsd:string
<table>
<thead>
<tr>
<th>Facets</th>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AVI</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>Binary</td>
<td>A direct representation of the bits which may be stored in memory on a computer.</td>
</tr>
<tr>
<td></td>
<td>CDF</td>
<td>Common Data Format (CDF). A binary storage format developed at Goddard Space Flight Center (GSFC).</td>
</tr>
<tr>
<td></td>
<td>CEF</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>CEF1</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>CEF2</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>Excel</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>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></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></td>
<td>HDF</td>
<td>Hierarchical Data Format</td>
</tr>
<tr>
<td></td>
<td>HDF4</td>
<td>Hierarchical Data Format, Version 4</td>
</tr>
<tr>
<td></td>
<td>HDF5</td>
<td>Hierarchical Data Format, Version 5</td>
</tr>
<tr>
<td></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></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></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></td>
<td>Hardcopy.Film</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></td>
<td>Hardcopy.Microfiche</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></td>
<td>Hardcopy.Microfilm</td>
<td>An image (positive or negative) registered on a piece of photo-sensitive paper</td>
</tr>
<tr>
<td></td>
<td>Hardcopy.Photograph</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></td>
<td>Hardcopy.PhotographicPlate</td>
<td>A rigidly (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></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></td>
<td>IDFS</td>
<td>Instrument Data File Set (IDFS) is a set of</td>
</tr>
</tbody>
</table>
files written in a prescribed format which contain data, timing data, and meta-data. IDFS was developed at Southwest Research Institute (SwRI).

d| Enumeration | Description |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IDL</td>
<td>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>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. 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>QuickTime</td>
<td>A format for digital movies, as defined by Apple Computer. See <a href="http://developer.apple.com/quicktime/">http://developer.apple.com/quicktime/</a></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>A sequence of characters that adheres to 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: Element spase:AccessInformation/spase:Format

Source: `<xsd:simpleType name="Format">`
Identifiers for data organized according to preset specifications.

Audio Video Interleave (AVI) a digital format for movies that conforms to the Microsoft Windows Resource Interchange File Format (RIFF).

A direct representation of the bits which may be stored in memory on a computer.

Common Data Format (CDF). A binary storage format developed at Goddard Space Flight Center (GSFC).

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.

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.

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.

A Microsoft spreadsheet format used to hold a variety of data in tables which can include calculations.

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.

Graphic Interchange Format (GIF) first introduced in 1987 by CompuServe. GIF uses LZW compression and images are limited to 256 colours.
A text file containing structured information represented in the HyperText Mark-up Language (HTML). See <http://www.w3.org/MarkUp/>.

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.

A permanent reproduction, or copy in the form of a physical object, of any media suitable for direct use by a person.

A sheet of microfilm on which many pages of material have been photographed; a magnification system is used to read the material.

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.

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.

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).

Interactive Data Language (IDL) save set. IDL is a proprietary format.

A binary format for still images defined by the Joint Photographic Experts Group.

MATLAB Workspace save set, version 4. MAT-files are double-precision, binary, MATLAB format files. MATLAB is a proprietary product of The MathWorks.

MATLAB Workspace save set, version 6. MAT-files are double-precision, binary, MATLAB format files. MATLAB is a proprietary product of The MathWorks.
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.
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 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 An open standard algorithm distributed by GNU based on LZ77 and Huffman coding. See <http://www.gnu.org/software/gzip/gzip.html> or <http://www.gzip.org/>

- 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
<xsd:simpleType name="Encoding">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for unambiguous rules that establishes the representation of information within a file.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
```
<xsd:simpleType name="Quantity">
  <xsd:restriction base="xsd:double">
    <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:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="BZIP2">
      <xsd:annotation>
      </xsd:annotation>
    </xsd:enumeration>
    <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>
  </xsd:restriction>
</xsd:simpleType>

Schema location file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Simple Type spase:Quantity

Namespace http://www.spase-group.org/data/schema
Annotations A value that describes a characteristic of a system.
Diagram
Type xsd:double
Used by spase:DataExtent/spase:Quantity
Source <xsd:simpleType name="Quantity"/>
**Schema documentation for spase-2_2_6.xsd**

**Simple Type spase:Units**

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

**Annotations**  
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/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**

![Diagram of spase:Units]

**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/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>

**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**

![Diagram of spase:Per]

**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>

---

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### 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**

**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>
```

### 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**

**Type** `xsd:string`

**Used by**
- `spase:Catalog/spase:ProviderVersion`
- `spase:DisplayData/spase:ProviderVersion`
- `spase:NumericalData/spase:ProviderVersion`

**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>
```

### Simple Type `spase:InstrumentID`

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

**Annotations**
The identifier of an Instrument resource.

**Diagram**

**Type** `xsd:string`

**Used by**
- `spase:Catalog/spase:InstrumentID`
- `spase:DisplayData/spase:InstrumentID`
- `spase:NumericalData/spase:InstrumentID`

**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>
```
### Simple Type `spase:PhenomenonType`

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

**Annotations**  
Identifiers for the characteristics or categorization of an observation. Note: Joe King to provide.

**Diagram**  
![PhenomenonType](attachment:image)

**Type**  
restriction of xsd:string

<table>
<thead>
<tr>
<th>Facets</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>ActiveRegion</td>
</tr>
<tr>
<td></td>
<td>A localized, transient volume of the solar atmosphere in which PLAGES, SUNSPOTS, FACULAe, FLAREs, etc. may be observed.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Aurora</td>
</tr>
<tr>
<td></td>
<td>An atmospheric phenomenon consisting of bands of light caused by charged solar particles following the earth's magnetic lines of force.</td>
</tr>
<tr>
<td>enumeration</td>
<td>BowShockCrossing</td>
</tr>
<tr>
<td></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>enumeration</td>
<td>CoronalHole</td>
</tr>
<tr>
<td></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>enumeration</td>
<td>CoronalMassEjection</td>
</tr>
<tr>
<td></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>enumeration</td>
<td>EITWave</td>
</tr>
<tr>
<td></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>enumeration</td>
<td>EnergeticSolarParticleEvent</td>
</tr>
<tr>
<td></td>
<td>An enhancement of interplanetary fluxes of energetic ions accelerated by interplanetary shocks and/or solar flares.</td>
</tr>
<tr>
<td>enumeration</td>
<td>ForbushDecrease</td>
</tr>
<tr>
<td></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>enumeration</td>
<td>GeomagneticStorm</td>
</tr>
<tr>
<td></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>enumeration</td>
<td>InterplanetaryShock</td>
</tr>
<tr>
<td></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>enumeration</td>
<td>MagneticCloud</td>
</tr>
<tr>
<td></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>enumeration</td>
<td>MagnetopauseCrossing</td>
</tr>
<tr>
<td></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>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</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>

Source

```xml
<xsd:simpleType name="PhenomenonType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for the characteristics or categorization of an observation. Note: Joe King to provide.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="ActiveRegion">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A localized, transient volume of the solar atmosphere in which PLAGEs, SUNSPOTS, FACULAe, FLAREs, etc. may be observed.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Aurora">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An atmospheric phenomenon consisting of bands of light caused by charged solar particles following the earth's magnetic lines of force.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="BowShockCrossing">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A crossing of the boundary between the undisturbed (except for foreshock effects) solar wind and the shocked, decelerated solar wind of the magnetosheath.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <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">An atmospheric phenomenon consisting of bands of light caused by charged solar particles following the earth's magnetic lines of force.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>```
<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:enumeration>
    <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:enumeration>

<xsd:enumeration>
    <xsd:documentation xml:lang="en">An enhancement of interplanetary fluxes of energetic ions accelerated by interplanetary shocks and/or solar flares.</xsd:documentation>
</xsd:enumeration>

<xsd:enumeration>
    <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:enumeration>

<xsd:enumeration>
    <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:enumeration>

<xsd:enumeration>
    <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:enumeration>

<xsd:enumeration>
    <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:enumeration>

<xsd:enumeration>
    <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:enumeration>

<xsd:enumeration>
    <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 metric range (300 - 50 MHz); "Type II" consisting of narrow-band emission that begins in the meter range (300 MHz) and sweeps slowly (tens of minutes) toward dekameter wavelengths (10 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:enumeration>

<xsd:enumeration>
    <xsd:documentation xml:lang="en">A solar 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.</xsd:documentation>
</xsd:enumeration>
### Simple Type `spase:StartDate`

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

**Annotations**  
The specification of a starting point in time.

**Diagram**  
![Diagram](#)

**Type**  
xsd:dateTime

**Used by**  
Elements  
spase:Granule/spase:StartDate, spase:OperatingSpan/spase:StartDate, spase:TimeSpan/spase:StartDate

**Source**  
```xml
<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>
```

**Schema location**  
file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Simple Type `spase:StopDate`

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

**Annotations**  
The specification of a stopping point in time.

**Diagram**  
![Diagram](#)

**Type**  
xsd:dateTime

**Used by**  
Elements  
spase:Granule/spase:StopDate, spase:OperatingSpan/spase:StopDate, spase:TimeSpan/spase:StopDate

**Source**  
```xml
<xs:simpleType name="StopDate">
  <xs:annotation>
    <xs:documentation xml:lang="en">The specification of a stopping point in time.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:dateTime"/>
</xs:simpleType>
```

**Schema location**  
file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Simple Type `spase:RelativeStopDate`

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

**Annotations**  
An indication of the nominal end date relative to the present.

**Diagram**  
![Diagram](#)

**Source**  
```xml
<xs:simpleType name="RelativeStopDate">
  <xs:annotation>
    <xs:documentation xml:lang="en">An indication of the nominal end date relative to the present.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:duration"/>
</xs:simpleType>
```
<table>
<thead>
<tr>
<th>Type</th>
<th>xsd:duration</th>
<th>xsd:string</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used by</td>
<td>Element</td>
<td>Element</td>
</tr>
<tr>
<td></td>
<td>spase:TimeSpan/spase:RelativeStopDate</td>
<td>spase:Caveats</td>
</tr>
<tr>
<td>Source</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:simpleType name=&quot;RelativeStopDate&quot;&gt;</td>
<td>&lt;xsd:simpleType name=&quot;Caveats&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
<td><a href="">xsd:annotation</a></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;An indication of the nominal end date relative to the</td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Information which may be important in the</td>
</tr>
<tr>
<td></td>
<td>present.&lt;/xsd:documentation&gt;</td>
<td>avoidance of the misuse of the resource, for</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
<td>instance instrument maladies, corruption or</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:restriction base=&quot;xsd:duration&quot;/&gt;</td>
<td>contamination.</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:simpleType&gt;</td>
<td>&lt;/xsd:simpleType&gt;</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

**Simple Type 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>Annotations</td>
<td>Information which may be important in the avoidance of the misuse of the resource, for instance instrument maladies, corruption or contamination.</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>Elements</td>
</tr>
<tr>
<td>Source</td>
<td>&lt;xsd:simpleType name=&quot;Caveats&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;Information which may be important in the avoidance of the misuse of the resource, for instance instrument maladies, corruption or contamination.&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:simpleType&gt;</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

**Simple Type spase:Keyword**

<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 word or phrase that is relevant to the resource but does not exist in other documentary information.</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>Elements</td>
</tr>
<tr>
<td>Source</td>
<td>&lt;xsd:simpleType name=&quot;Keyword&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;A word or phrase that is relevant to the resource but does not exist in other documentary information.&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:simpleType&gt;</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>

**Simple Type 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>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>The resource identifier for a resource which was used to generate this resource.</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>Elements</td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd</td>
</tr>
</tbody>
</table>
Schema documentation for spase-2_2_6.xsd

**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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Simple Type spase:Set**

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

**Annotations**
A collection of items for a particular purpose.

**Diagram**

**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/spase/java/model-tools/build/bin/spase-2_2_6.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**

**Type**
`xsd:string`

**Used by**
Elements `spase:Element/spase:ParameterKey`, `spase:Parameter/spase:ParameterKey`

**Source**
```xml
<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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Simple Type spase:Cadence**

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

**Annotations**
The time interval between the start of successive measurements.

**Diagram**

**Type**
`xsd:duration`

**Used by**
Elements `spase:Parameter/spase:Cadence`, `spase:TemporalDescription/spase:Cadence`

**Source**
```xml
<xsd:simpleType name="Cadence">
    <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>
```
**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 (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.

**Diagram**
- [ ] `UnitsConversion`
- [ ] `xsd:string`

**Type**
`xsd:string`

**Used by**

**Source**
```
<xs:simpleType name="UnitsConversion">
  <xs:annotation>
    <xs: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, 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.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string"/>
</xs:simpleType>
```

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.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**
- [ ] `CoordinateRepresentation`
- [ ] `xsd:string`

**Type**
`restriction of xsd:string`

**Facets**
- `enumeration` Cartesian
- `enumeration` Cylindrical
- `enumeration` Spherical

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.

A coordinate representation of a position vector or of a 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.

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.

**Schema location**
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
used. Typically the angles are phi [azimuth angle, \( \arctan (j/i) \)] and theta, where theta may be a polar angle, \( \arctan \left( \sqrt{i^2+j^2} \right) / k \), or an elevation angle, \( \arctan \left( k / \sqrt{i^2+j^2} \right) \).

**Simple Type** `spase:CoordinateSystemName`

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

**Annotations** Identifiers of the origin and orientation of a set of typically orthogonal axes.

**Diagram**

```
  CoordinateSystemName — spase
```

**Type** restriction of `xsd:string`

**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...
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ECEF</strong></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><strong>ENP</strong></td>
<td>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 F and N and points earthward. The N component is perpendicular to P and E and is positive eastward.</td>
</tr>
<tr>
<td><strong>GEI</strong></td>
<td>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.</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.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Coordinate System</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------</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 Happgood, 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 Happgood, 1992.</td>
</tr>
<tr>
<td>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>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>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 (x/d)) and latitude angle (\arctan y/d).</td>
</tr>
<tr>
<td>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 longitude angle (\arctan (x<strong>2 + y</strong>2)/d) or equivalent declination parameter delta (= theta - 90 deg), and its phase angle psi as measured counterclockwise from the +Y axis [psi = arctan (-y/x)].</td>
</tr>
<tr>
<td>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>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</td>
<td>JSM</td>
</tr>
<tr>
<td>------------</td>
<td>-----</td>
</tr>
<tr>
<td>enumeration</td>
<td>JSO</td>
</tr>
<tr>
<td>enumeration</td>
<td>KSM</td>
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<tr>
<td>enumeration</td>
<td>KSO</td>
</tr>
<tr>
<td>enumeration</td>
<td>LGM</td>
</tr>
<tr>
<td>enumeration</td>
<td>MAG</td>
</tr>
<tr>
<td>enumeration</td>
<td>MFA</td>
</tr>
<tr>
<td>enumeration</td>
<td>MSO</td>
</tr>
<tr>
<td>enumeration</td>
<td>RTN</td>
</tr>
<tr>
<td>enumeration</td>
<td>SC</td>
</tr>
<tr>
<td>enumeration</td>
<td>SE</td>
</tr>
<tr>
<td>enumeration</td>
<td>SM</td>
</tr>
<tr>
<td>enumeration</td>
<td>SR</td>
</tr>
<tr>
<td>enumeration</td>
<td>SR2</td>
</tr>
</tbody>
</table>
(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>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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
<xs:complexType name="CoordinateSystemName">
  <xs:documentation xml:lang="en">Identifiers of the origin and orientation of a set of typically orthogonal axes.</xs:documentation>
  <xs:restriction base="xs:string">
    <xs:enumeration value="CGM">
      <xs:documentation xml:lang="en">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></xs:documentation>
    </xs:enumeration>
    <xs:enumeration value="CSO">
      <xs:documentation xml:lang="en">Corrected Solar Orbital - A coordinate system related to Earth where X is anti-sunward, Y along the orbital velocity direction.</xs:documentation>
    </xs:enumeration>
    <xs:enumeration value="Carrington">
      <xs:documentation xml:lang="en">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.</xs:documentation>
    </xs:enumeration>
    <xs:enumeration value="DM">
      <xs:documentation xml:lang="en">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></xs:documentation>
    </xs:enumeration>
  </xs:restriction>
</xs:complexType>
```
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.

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.

Geocentric Equatorial - 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.

Kronian Solar Orbital - A coordinate system related to Saturn where X is anti-sunward, Y along the orbital velocity direction.

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.

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.

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.

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.

Heliocentric Aries - A coordinate system where the Z axis is parallel to solar equatorial plane, positive northward, X axis points toward the first point of Aries (from Earth to Sun at vernal equinox). Use as SE below. See Hapgood, 1992.

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.
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 \(\text{rho} = \sqrt{x^2 + y^2}\) and its phase angle psi measured counterclockwise from the +Y axis \(\text{psi} = \arctan (-y/x)\).

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.

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.

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>.

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>.

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 \(\arctan (x/d)\) and latitude angle \(\arctan y/d\).

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 longitude angle \(\theta = \arctan (\sqrt{x^2 + y^2})/d\) or equivalent declination parameter delta (= \(\theta - 90\) deg), and its phase angle psi as measured counterclockwise from the +Y axis \(\text{psi} = \arctan (-y/x)\).
<xsd:enumeration value="JSM">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.</xsd:enumeration>

<xsd:enumeration value="JSO">Jovian Solar Orbital - A coordinate system related to Jupiter where X anti-sunward, Y along the orbital velocity direction.</xsd:enumeration>

<xsd:enumeration value="KSM">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.</xsd:enumeration>

<xsd:enumeration value="KSO">Kronian Solar Orbital - A coordinate system related to Saturn where X is anti-sunward, Y along the orbital velocity direction.</xsd:enumeration>

<xsd:enumeration value="LGM">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).</xsd:enumeration>

<xsd:enumeration value="MAG">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 http://cdpp.cnes.fr/00428.pdf.</xsd:enumeration>

<xsd:enumeration value="MFA">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 http://cdpp.cnes.fr/00428.pdf.</xsd:enumeration>

<xsd:enumeration value="MSO">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:enumeration>

<xsd:enumeration value="RTN">Radial Tangential Normal. Typically centered at a spacecraft. Used for IMF and plasma V vectors. R (radial) axis is radially away from the Sun, T (tangential) axis is normal to the plane formed by R and the Sun’s spin vector, positive in the direction of planetary motion. N (normal) is R x T.</xsd:enumeration>

<xsd:enumeration value="SC">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:enumeration>

<xsd:enumeration value="SE">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 http://nssdc.gsfc.nasa.gov/planetary/helios/coor_des.html.</xsd:enumeration>

<xsd:enumeration value="SM">
<xsd:annotation>
  <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:annotation>

<xsd:enumeration value="SR">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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 <http://cdpp.cnes.fr/00428.pdf></xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="SR2">
  <xsd:annotation>
    <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:annotation>
</xsd:enumeration>

<xsd:enumeration value="SSE">
  <xsd:annotation>
    <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 ~ 0.2 deg.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="SSE_L">
  <xsd:annotation>
    <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:annotation>
</xsd:enumeration>

<xsd:enumeration value="SpacecraftOrbitPlane">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="TIIS">
  <xsd:annotation>
    <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:annotation>
</xsd:enumeration>

<xsd:enumeration value="VSO">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Venus Solar Orbital - A coordinate system related to Venus where X is anti-sunward, Y along the orbital velocity direction.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="WGS84">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

</xsd:restriction>
</xsd:simpleType>

<table>
<thead>
<tr>
<th>Simple Type spase:DisplayType</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Namespace</strong></td>
</tr>
<tr>
<td><strong>Annotations</strong></td>
</tr>
<tr>
<td><strong>Diagram</strong></td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td><strong>Facets</strong></td>
</tr>
<tr>
<td>enumeration</td>
</tr>
<tr>
<td>enumeration</td>
</tr>
<tr>
<td>enumeration</td>
</tr>
<tr>
<td>enumeration</td>
</tr>
<tr>
<td>enumeration</td>
</tr>
</tbody>
</table>

**Used by**

| Element | spase:RenderingHints/spase:DisplayType |

**Source**

```xml
<xs:complexType name="DisplayType">
  <xs:annotation>
    <xs:documentation xml:lang="en">Identifiers for types or classes of rendered data.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string">
    <xs:enumeration value="Image">
      <xs:annotation>
        <xs:documentation xml:lang="en">A two-dimensional representation of data with values at each element of the array related to an intensity or a color.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Plasmagram">
      <xs:annotation>
        <xs:documentation xml:lang="en">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.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Spectrogram">
      <xs:annotation>
        <xs:documentation xml:lang="en">The characterization of signal strengths as a function of frequency (or energy) and time.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="StackPlot">
      <xs:annotation>
        <xs:documentation xml:lang="en">A representation of data showing multiple sets of observations on a single plot, possibly offsetting each plot by some uniform amount.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="TimeSeries">
      <xs:annotation>
        <xs:documentation xml:lang="en">A representation of data showing a set of observations taken at different points in time and charted as a time series.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="WaveForm">
      <xs:annotation>
        <xs:documentation xml:lang="en">Spatial or temporal variations of wave amplitude over wave-period timescales.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:complexType>
```

**Simple Type spase:AxisLabel**

- **Namespace**: http://www.spase-group.org/data/schema
- **Annotations**: 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.
<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:RenderingHints/spase:AxisLabel</td>
</tr>
</tbody>
</table>

**Source**

```xml
<xsd:simpleType name="AxisLabel">
   <xsd:annotation>
      <xsd:documentation xml:lang="en">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.</xsd:documentation>
   </xsd:annotation>
   <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

**Schema location**

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Simple Type spase:RenderingAxis**

**Namespace**

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

**Annotations**

Identifiers for the reference component of a plot or rendering of data.

**Diagram**

Type: restriction of xsd:string

<table>
<thead>
<tr>
<th>Facets</th>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ColorBar</td>
<td>A spectrum or set of colors used to represent data values.</td>
</tr>
<tr>
<td></td>
<td>Horizontal</td>
<td>Parallel to or in the plane of the horizon or a base line.</td>
</tr>
<tr>
<td></td>
<td>Vertical</td>
<td>Perpendicular to the plane of the horizon or a base line.</td>
</tr>
</tbody>
</table>

**Used by**

Element

spase:RenderingHints/spase:RenderingAxis

**Source**

```xml
<xsd:simpleType name="RenderingAxis">
   <xsd:restriction base="xsd:string">
      <xsd:enumeration value="ColorBar">
         <xsd:annotation>
            <xsd:documentation xml:lang="en">A spectrum or set of colors used to represent data values.</xsd:documentation>
         </xsd:annotation>
      </xsd:enumeration>
      <xsd:enumeration value="Horizontal">
         <xsd:annotation>
            <xsd:documentation xml:lang="en">Parallel to or in the plane of the horizon or a base line.</xsd:documentation>
         </xsd:annotation>
      </xsd:enumeration>
      <xsd:enumeration value="Vertical">
         <xsd:annotation>
            <xsd:documentation xml:lang="en">Perpendicular to the plane of the horizon or a base line.</xsd:documentation>
         </xsd:annotation>
      </xsd:enumeration>
   </xsd:restriction>
</xsd:simpleType>
```

**Schema location**

file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**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, where as "0" or a positive integer is used to describe attributes of individual elements.
<table>
<thead>
<tr>
<th>Diagram</th>
<th>spase:Index — spase:typeSequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>spase:typeSequence</td>
</tr>
<tr>
<td>Type hierarchy</td>
<td></td>
</tr>
</tbody>
</table>
  - xsd:integer  
  - spase:typeSequence  
  - spase:Index |
| Used by | Elements             
  - spase:Element/spase:Index, spase:RenderingHints/spase:Index |
| Source  | <xsd:simpleType name="Index">  
  <xsd:annotation>  
    <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, where as "0" or a positive integer is used to describe attributes of individual elements.</xsd:documentation>  
  </xsd:annotation>  
  <xsd:restriction base="spase:typeSequence"/>  
</xsd:simpleType> |

**Simple Type spase:typeSequence**

<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>
| Annotations | <xsd:annotation>  
  <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:annotation> |
| Diagram    | list of xsd:integer                   |
| Used by    | Simple Types             
  - spase:Index, spase:Size |
| Source     | <xsd:simpleType name="typeSequence">  
  <xsd:annotation>  
    <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:annotation>  
  <xsd:list itemType="xsd:integer"/>  
</xsd:simpleType> |

**Simple Type spase:ValueFormat**

<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 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.</td>
</tr>
<tr>
<td>Diagram</td>
<td>xsd:string</td>
</tr>
</tbody>
</table>
| 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> |
### 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**  
![Diagram of ScaleMin]

**Type**  
`xsd:double`

**Used by**  
Element `spase:RenderingHints/spase:ScaleMin`

**Source**  
```xml
<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>
```

### 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**  
![Diagram of ScaleMax]

**Type**  
`xsd:double`

**Used by**  
Element `spase:RenderingHints/spase:ScaleMax`

**Source**  
```xml
<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>
```

### Simple Type `spase:ScaleType`

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

**Annotations**  
Identifiers for scaling applied to a set of numbers.

**Diagram**  
![Diagram of ScaleType]

**Type**  
`restriction of xsd:string`

**Facets**

<table>
<thead>
<tr>
<th>Enumeration</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>

**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:enumeration value="LogScale"/>
    </xsd:restriction>
</xsd:simpleType>
```

---

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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**
- `size` of `spase:typeSequence`

**Type**
- `spase:Size`

**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 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>
```

Simple Type **spase:Qualifier**

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

**Annotations**
Identifiers for terms which refine the type or attribute of a quantity.

**Diagram**
- `Qualifier`

**Type**
- `restriction of xsd:string`

**Facets**
<table>
<thead>
<tr>
<th>enumeration</th>
<th>Anisotropy</th>
<th>Direction-dependent property.</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<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>enumeration</td>
<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>enumeration</td>
<td>Characteristic</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>Relative to polarization, right-hand circularly</td>
</tr>
</tbody>
</table>
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.
- **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.
- **Core**: 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.
- **CrossSpectrum**: The Fourier transform of the cross correlation of two physical or empirical observations.
- **Deviation**: The difference between an observed value and the expected value of a quantity.
- **Differential**: A measurement within a narrow range of energy and/or solid angle.
- **Direction**: The spatial relation between an object and another object, the orientation of the object or the course along which the object points or moves.
- **DirectionAngle**: 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.
- **DirectionAngle.AzimuthAngle**: 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).
- **DirectionAngle.ElevationAngle**: 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).
- **DirectionAngle.PolarAngle**: 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).
- **Directional**: A measurement within a narrow range of solid angle.
<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>A flux measurement in a broad range of energy and solid angle.</td>
</tr>
<tr>
<td>Integration</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>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:simpleType name="Qualifier">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for terms which refine the type or attribute of a quantity.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="Anisotropy">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Direction-dependent property.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Array">
      <xsd:annotation>
        <xsd: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.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Average">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The statistical mean; the sum of a set of values divided by the number of values in the set.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Characteristic">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A statistically defined discrepancy between a measured quantity and the true value of that quantity that cannot be corrected by calculation or calibration. A measure of dispersion of a set of data points around their mean value. The expectation value of the squared deviations from the mean. 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).</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Anisotropic">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Direction-dependent property.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Array">
      <xsd:annotation>
        <xsd: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.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Average">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The statistical mean; the sum of a set of values divided by the number of values in the set.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Characteristic">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">A statistically defined discrepancy between a measured quantity and the true value of that quantity that cannot be corrected by calculation or calibration. A measure of dispersion of a set of data points around their mean value. The expectation value of the squared deviations from the mean. 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).</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```
A quantity which can be easily identified and measured in a given environment.

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.

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

Projection of a vector along one of the base axes of a coordinate system.

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.

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.

The Fourier transform of the cross correlation of two physical or empirical observations.

The difference between an observed value and the expected value of a quantity.

A measurement within a narrow range of energy and/or solid angle.

The spatial relation between an object and another object, the orientation of the object or the course along which the object points or moves.
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.

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).

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)).

A measurement within a narrow range of solid angle.

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.

Integration over the angle in three-dimensional space that an object subtends at a point.
<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. + 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.</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">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Phase difference between two or more waves, normally expressed in degrees.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Projection">
  <xsd:annotation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:documentation xml:lang="en">A measure of the length of a position or measured vector as projected into a plane of the coordinate system.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Projection.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="Projection.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="Projection.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:enumeration value="Pseudo">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Similar to or having the appearance of something else. Can be used to indicate an estimation or approximation of a particular quantity.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Ratio">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The relative magnitudes of two quantities.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Scalar">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A quantity that is completely specified by its magnitude and has no direction.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Spectral">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Characterized as a range or continuum of frequencies</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="StandardDeviation">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="StokesParameters">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Superhalo">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Symmetric">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Equal distribution about one or more axes.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Tensor">
  <xsd:annotation>
    <xsd:documentation xml:lang="en"></xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:documentation xml:lang="en">A generalized linear "quantity" or "geometrical entity" that can be expressed as a multi-dimensional array relative to a choice of basis of the particular space on which it is defined.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
</xsd:restriction>
</xsd:simpleType>

**Schema location** file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

**Simple Type spase:ValidMin**

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

**Annotations** The smallest legitimate value.

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

**Type** xsd:string

**Used by** Elements spase:Element/spase:ValidMin, spase:Parameter/spase:ValidMin

**Source**

```xml
<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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

**Simple Type spase:ValidMax**

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

**Annotations** The largest legitimate value.

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

**Type** xsd:string

**Used by** Elements spase:Element/spase:ValidMax, spase:Parameter/spase:ValidMax

**Source**

```xml
<xsd:simpleType name="ValidMax">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The largest legitimate value.</xsd:documentation>
  </xsd:annotation>
</xsd:simpleType>
```
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`


Source | `<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>`

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 | enumeration `Current` | The flow of electrons through a conductor caused by a potential difference.
| enumeration `Electric` | The physical attribute that exerts an electrical force.
| 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 `Gyrofrequency` | The number of gyrations around a magnetic guiding center (field line) a charged particle makes per unit time due to the Lorentz force.
| enumeration `Magnetic` | The physical attribute attributed to a magnet or its equivalent.
| enumeration `PlasmaFrequency` | A number-density-dependent characteristic frequency of a plasma.
| enumeration `Potential` | 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.
| enumeration `PoyntingFlux` | Electromagnetic energy flux transported by a wave characterized as the rate of energy transport per unit area per steradian.
Used by | Element | spase:Field/spase:FieldQuantity
---|---|---
Source

```xml
<xsd:simpleType name="FieldQuantity">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for the physical attribute of the field.</xsd:documentation>
  </xsd:annotation>
  <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>
</xsd:simpleType>
```

**Schema location**
file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

**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.
Diagram

<table>
<thead>
<tr>
<th>Facets</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>CaK</td>
<td>A spectrum with a wavelength range centered near 393.3 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 10.0 nm to 125.0 nm. VSO nickname: EUV image with a range of 10.0 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: 0.00001 to 0.001 nm</td>
</tr>
<tr>
<td>Halphaline</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 (38.4 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 centred 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: 1.05x10^-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 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; 30 nm</td>
</tr>
</tbody>
</table>

**Source**

```xml
<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 spectral range. See Appendix A - Comparison of Spectrum Domains for a comparison of the spectral ranges with other systems.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="CaK"/>
  </xsd:restriction>
</xsd:simpleType>
```
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.

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.

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.

Photons with a wavelength range: 0.00001 to 0.001 nm.

Photons with a wavelength range: 0.001 to 0.1 nm and an energy range of 12 keV to 120 keV.

A spectrum centered around the resonance line of ionised helium at 304 Angstrom (30.4 nm).

Photons with a wavelength range: 760 to 1.00x10^-6 nm.

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.

Lyman-Birge-Hopfield band in the far ultraviolet range with wavelength range of 140nm to 170 nm.

Lyman-Birge-Hopfield band in the far ultraviolet range with wavelength range of 140nm to 170 nm.

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Lyman-Birge-Hopfield band in the far ultraviolet range with wavelength range of 140nm to 170 nm.

Lyman-Birge-Hopfield band in the far ultraviolet range with wavelength range of 140nm to 170 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

Simple Type `spase:Low`

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

Annotations: The smallest value within a range of possible values.

Diagram: `xsd:double`

Type: `xsd:double`


Source: `<xsd:simpleType name="Low"> <xsd:annotation> <xsd:documentation xml:lang="en">The smallest value within a range of possible values.</xsd:documentation> </xsd:annotation> <xsd:restriction base="xsd:double"/> </xsd:simpleType>`

Schema location: file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Simple Type `spase:High`

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

Annotations: The largest value within a range of possible values.

Diagram: `xsd:double`

Type: `xsd:double`

Source

```xml
<xsd:simpleType name="High">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The largest value within a range of possible values.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:double"/>
</xsd:simpleType>
```

Schema location
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

**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

Type xsd:string

Used by Element spase:Bin/spase:BandName

Source

```xml
<xsd:simpleType name="BandName">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A common or provider assigned name for a range of values.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

Schema location file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.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

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 \times 10^{-19} \text{ Coulomb} and having a mass when at rest of about 9.109534 \times 10^{-28} \text{ 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 \times 10^{-24} \text{ 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 \times 10^{-24} \text{ gram}.</td>
</tr>
</tbody>
</table>

Used by Elements spase:Mixed/spase:ParticleType, spase:Particle/spase:ParticleType

Source

```xml
<xsd:simpleType name="ParticleType"/>
```
<xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for the characterization of the kind of particle observed by the measurement.</xsd:documentation>
</xsd:annotation>
<xsd:restriction base="xsd:string">
    <xsd:enumeration value="Aerosol">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">A suspension of fine solid or liquid particles in a gas.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="AlphaParticle">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">A positively charged nuclear particle that consists of two protons and two neutrons.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Atom">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">Matter consisting of a nucleus surrounded by electrons which has no net charge.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Dust">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">Free microscopic particles of solid material.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Electron">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">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 9.108534 x 10^-28 gram.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Ion">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">An atom that has acquired a net electric charge by gaining or losing one or more electrons. (Note: Z>2)</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Molecule">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">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.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Neutron">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">An elementary particle that has no net charge and is a constituent of atomic nuclei, and that has a mass slightly large than a proton (1.673 x 10^-24 gram).</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Proton">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">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). An angular measure of the direction from which an energetic particle or photon was incident on a detector. The angles may be measured.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
</xsd:restriction>
</xsd:simpleType>

**Simple Type** `spase:ParticleQuantity`

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

**Annotations** Identifiers for the characterization of the kind of particle.

**Diagram**

<table>
<thead>
<tr>
<th>Diagram 1</th>
<th>Diagram 2</th>
</tr>
</thead>
</table>

**Type** restriction of xsd:string

**Facets**

<table>
<thead>
<tr>
<th>Facets</th>
<th>ArrivalDirection</th>
</tr>
</thead>
<tbody>
<tr>
<td></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.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>AtomicNumberDetected</td>
<td>The number of protons in the nucleus of an atom as determined by a detector.</td>
</tr>
<tr>
<td>AverageChargeState</td>
<td>A measure of the composite deficit (positive) or excess (negative) of electrons with respect to protons.</td>
</tr>
<tr>
<td>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>CountRate</td>
<td>The number of events per unit time.</td>
</tr>
<tr>
<td>Counts</td>
<td>The number of detection events occurring in a detector over the detector accumulation time.</td>
</tr>
<tr>
<td>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>EnergyDensity</td>
<td>The amount of energy per unit volume.</td>
</tr>
<tr>
<td>EnergyFlux</td>
<td>The amount of energy passing through a unit area in a unit time.</td>
</tr>
<tr>
<td>FlowSpeed</td>
<td>The rate at which particles or energy is passing through a unit area in a unit time.</td>
</tr>
<tr>
<td>FlowVelocity</td>
<td>The volume of matter passing through a unit area perpendicular to the direction of flow in a unit of time.</td>
</tr>
<tr>
<td>Fluence</td>
<td>The time integral of a flux. A fluence does not have any &quot;per unit time&quot; in its units.</td>
</tr>
<tr>
<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>HeatFlux</td>
<td>Flow of thermal energy through a gas or plasma; typically computed as third moment of a distribution function.</td>
</tr>
<tr>
<td>Mass</td>
<td>The measure of inertia (mass) of individual objects (e.g., aerosols).</td>
</tr>
<tr>
<td>MassDensity</td>
<td>The mass of particles per unit volume.</td>
</tr>
<tr>
<td>MassNumber</td>
<td>The total number of protons and neutrons (together known as nucleons) in an atomic nucleus.</td>
</tr>
<tr>
<td>NumberDensity</td>
<td>The number of particles per unit volume.</td>
</tr>
<tr>
<td>NumberFlux</td>
<td>The number of particles passing a unit area in unit time, possibly also per unit energy (or equivalent) and/or per unit look direction.</td>
</tr>
<tr>
<td>ParticleRadius</td>
<td>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.</td>
</tr>
<tr>
<td>PhaseSpaceDensity</td>
<td></td>
</tr>
<tr>
<td>PlasmaFrequency</td>
<td>A number-density-dependent characteristic frequency of a plasma.</td>
</tr>
<tr>
<td>Pressure</td>
<td>The force per unit area exerted by a particle distribution or field.</td>
</tr>
<tr>
<td>SonicMachNumber</td>
<td>The ratio of the bulk flow speed to the speed of sound in the medium.</td>
</tr>
<tr>
<td>SoundSpeed</td>
<td>The speed at which sound travels through a medium.</td>
</tr>
<tr>
<td>Temperature</td>
<td>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).</td>
</tr>
<tr>
<td>ThermalSpeed</td>
<td>For a Maxwellian distribution, the difference between the mean speed and the speed within which ~68% (one sigma) of all the members of the speed distribution occur.</td>
</tr>
<tr>
<td>Velocity</td>
<td>Rate of change of position. Also used for</td>
</tr>
</tbody>
</table>
the average velocity of a collection of particles, also referred to as "bulk velocity".

<table>
<thead>
<tr>
<th>Used by</th>
<th>Element spase:Particle/spase:ParticleQuantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>&lt;xsd:simpleType name=&quot;ParticleQuantity&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Identifiers for the characterization of the physical properties of the particle.&lt;/xsd:documentation&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;ArrivalDirection&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;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.&lt;/xsd:documentation&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 number of protons in the nucleus of an atom as determined by a detector.&lt;/xsd:documentation&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;A measure of the composite deficit (positive) or excess (negative) of electrons with respect to protons.&lt;/xsd:documentation&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;Charge of a fully or partially stripped ion, in units of the charge of a proton. Charge state of a bare proton = 1.&lt;/xsd:documentation&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 number of events per unit time.&lt;/xsd:documentation&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 number of detection events occurring in a detector over the detector accumulation time.&lt;/xsd:documentation&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 capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy)&lt;/xsd:documentation&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 amount of energy per unit volume.&lt;/xsd:documentation&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 amount of energy passing through a unit area in a unit time.&lt;/xsd:documentation&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 rate at which particles or energy is passing through a unit area in a unit time.&lt;/xsd:documentation&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 volume of matter passing through a unit area perpendicular to the direction of flow in a unit of time.&lt;/xsd:documentation&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 time integral of a flux. A fluence does not have any &quot;per unit time&quot; in its units.&lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:enumeration value=&quot;ChargeState&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:documentation xml:lang=&quot;en&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:documentation xml:lang=&quot;en&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:documentation xml:lang=&quot;en&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/xsd:documentation xml:lang=&quot;en&quot;&gt;</td>
</tr>
</tbody>
</table>
<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="HeatFlux">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Flow of thermal energy through a gas or plasma; typically computed as third moment of a distribution function.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Mass">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The measure of inertia (mass) of individual objects (e.g., aerosols).</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="MassDensity">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The mass of particles per unit volume.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="MassNumber">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The total number of protons and neutrons (together known as nucleons) in an atomic nucleus.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NumberDensity">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The number of particles per unit volume.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NumberFlux">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The number of particles passing a unit area in unit time, possibly also per unit energy (or equivalent) and/or per unit look direction.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="ParticleRadius">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The mean radius for a Gaussian distribution of particles with an axial ratio of 1 and a distribution width that varies as 0.5 radius. A value of zero means no cloud was detected.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="PhaseSpaceDensity">
  <xsd:annotation>
    <xsd:documentation xml:lang="en"></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="Pressure">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The force per unit area exerted by a particle distribution or field.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="SonicMachNumber">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The ratio of the bulk flow speed to the speed of sound in the medium.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="SoundSpeed">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The speed at which sound travels through a medium.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Temperature">
  <xsd:annotation>
    <xsd:documentation xml:lang="en"></xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
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).

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.

Rate of change of position. Also used for the average velocity of a collection of particles, also referred to as "bulk velocity".

The number of protons in the nucleus of an atom.

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.

Collective longitudinal electric-field and plasma oscillations trapped within a body of plasma.

Periodic or quasi-periodic oscillations of fluid quantities.

Hydrodynamic waves in a magnetized plasma in which the background magnetic field plays a key role in controlling the wave propagation characteristics.

Electromagnetic waves detected by techniques that utilize their corpuscular character (e.g., CCD, CMOS, photomultipliers).

Self-consistent collective oscillations of particles and fields (electric and magnetic).
in a plasma.

**Source**

```
<xs:complexType name="WaveType">
  <xs:annotation>
    <xs:documentation xml:lang="en">Identifiers for the carrier or phenomenon of wave information observed by the measurement.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string">
    <xs:enumeration value="Electromagnetic">
      <xs: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.</xs:documentation>
    </xs:enumeration>
    <xs:enumeration value="Electrostatic">
      <xs:documentation xml:lang="en">Collective longitudinal electric-field and plasma oscillations trapped within a body of plasma.</xs:documentation>
    </xs:enumeration>
    <xs:enumeration value="Hydrodynamic">
      <xs:documentation xml:lang="en">Periodic or quasi-periodic oscillations of fluid quantities.</xs:documentation>
    </xs:enumeration>
    <xs:enumeration value="MHD">
      <xs: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.</xs:documentation>
    </xs:enumeration>
    <xs:enumeration value="Photon">
      <xs:documentation xml:lang="en">Electromagnetic waves detected by techniques that utilize their corpuscular character (e.g., CCD, CMOS, photomultipliers).</xs:documentation>
    </xs:enumeration>
    <xs:enumeration value="PlasmaWaves">
      <xs:documentation xml:lang="en">Self-consistent collective oscillations of particles and fields (electric and magnetic) in a plasma.</xs:documentation>
    </xs:enumeration>
  </xs:restriction>
</xs:complexType>
```

**Simple Type spase:WaveQuantity**

<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 characterization of the physical properties of a wave.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="WaveQuantity" /> <img src="image" alt="xsd:string" /></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>Description</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>EnergyFlux</td>
<td>The amount of energy passing through a unit area in a unit time.</td>
</tr>
<tr>
<td>EquivalentWidth</td>
<td>The spectral width of a total absorption line having the amount of absorbed</td>
</tr>
<tr>
<td></td>
<td>radiant energy being equivalent to that in an observed absorption line.</td>
</tr>
<tr>
<td>Frequency</td>
<td>The number of occurrences of a repeating event per unit time.</td>
</tr>
<tr>
<td>Gyrofrequency</td>
<td>The number of gyrations around a magnetic guiding center (field line) a</td>
</tr>
<tr>
<td></td>
<td>charged particle makes per unit time due to the Lorentz force.</td>
</tr>
<tr>
<td>Intensity</td>
<td>The measurement of radiant or wave energy per unit detector area per unit</td>
</tr>
<tr>
<td></td>
<td>bandwidth per unit solid angle per unit time.</td>
</tr>
<tr>
<td>LineDepth</td>
<td>The measure of the amount of absorption below the continuum (depth) in a</td>
</tr>
<tr>
<td></td>
<td>particular wavelength or frequency in an absorption spectrum.</td>
</tr>
<tr>
<td>MagneticField</td>
<td>A region of space near a magnetized body where magnetic forces can be</td>
</tr>
<tr>
<td></td>
<td>detected (as measured by methods such as Zeeman splitting, etc.).</td>
</tr>
<tr>
<td>ModeAmplitude</td>
<td>In helioseismology the magnitude of oscillation of waves of a particular</td>
</tr>
<tr>
<td></td>
<td>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</td>
</tr>
<tr>
<td></td>
<td>be linearly polarized in any direction perpendicular to the direction of</td>
</tr>
<tr>
<td></td>
<td>travel, circularly polarized (clockwise or counterclockwise), unpolarized,</td>
</tr>
<tr>
<td></td>
<td>or mixtures of the above.</td>
</tr>
<tr>
<td>PoyntingFlux</td>
<td>Electromagnetic energy flux transported by a wave characterized as the</td>
</tr>
<tr>
<td></td>
<td>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</td>
</tr>
<tr>
<td></td>
<td>wave experiment.</td>
</tr>
<tr>
<td>StokesParameters</td>
<td></td>
</tr>
<tr>
<td>Velocity</td>
<td>Rate of change of position. Also used for the average velocity of a</td>
</tr>
<tr>
<td></td>
<td>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**

```xml
<xsd:element name="WaveQuantity">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation xml:lang="en">Identifiers for the characterization of the physical properties of a wave.</xsd:documentation>
    </xsd:annotation>
    <xsd:simpleContent>
      <xsd:restriction base="xsd:string">
        <xsd:enumeration value="ACElectricField">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">Alternating electric field component of a wave.</xsd:documentation>
          </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="ACMagneticField">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">Alternating magnetic field component of a wave.</xsd:documentation>
          </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="Absorption">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">Decrease of radiant energy (relative to the background continuum spectrum).</xsd:documentation>
          </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="Albedo">
          <xsd:annotation>
          </xsd:annotation>
        </xsd:enumeration>
      </xsd:restriction>
    </xsd:simpleContent>
  </xsd:complexType>
</xsd:element>
```
The ratio of reflected radiation from the surface to incident radiation upon it.
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.
The amount of energy passing through a unit area in a unit time.
The spectral width of a total absorption line having the amount of absorbed radiant energy being equivalent to that in an observed absorption line.
The number of occurrences of a repeating event per unit time.
The number of gyrations around a magnetic guiding center (field line) a charged particle makes per unit time due to the Lorentz force.
The measurement of radiant or wave energy per unit detector area per unit bandwidth per unit solid angle per unit time.
The measure of the amount of absorption below the continuum (depth) in a particular wavelength or frequency in an absorption spectrum.
In helioseismology the magnitude of oscillation of waves of a particular geometry.
A number-density-dependent characteristic frequency of a plasma.
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 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:documentation xml:lang="en">Time difference between transmission and reception of a wave in an active wave experiment.</xsd:documentation>
</xsd:annotation>

<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:annotation>
  <xsd:documentation xml:lang="en">The peak-to-peak distance over one wave period.</xsd:documentation>
</xsd:annotation>

<xsd:enumeration value="PropagationTime">
  <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>

<xsd:enumeration value="StokesParameters">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The combination of Stokes parameters is used to describe the state of polarization of electromagnetic waves. They define the state of polarization of an electromagnetic wave in terms of its intensity and the orientation of its direction of propagation. The four parameters are: E, B, I, and Q. E represents the electric field strength, B represents the magnetic field strength, I represents the intensity of the light, and Q represents the phase difference between the electric and magnetic fields.</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>

<xsd:enumeration value="Wavelength">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The peak-to-peak distance over one wave period.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:simpleType name="MixedQuantity">

  <xsd:restriction base="xsd:string">
    <xsd:enumeration name="AkasofuEpsilon">
      <xsd:annotation>
        <xsd: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^2B^2/i^2sin(theta/2)^4 where V is the IMF, i is an empirical scaling parameter equal to 7 RE, and theta = tan(BY /BZ)^-1 the IMF clock angle.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>

    <xsd:enumeration name="AlfvenMachNumber">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The ratio of the bulk flow speed to the Alfven speed.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>

    <xsd:enumeration name="AlfvenVelocity">
      <xsd:annotation>
        <xsd: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 (μ0).</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>

    <xsd:enumeration name="FrequencyToGyrofrequencyRatio">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Ratio of the characteristic frequency of a medium to gyrofrequency of a particle.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>

    <xsd:enumeration name="IMFClockAngle">
      <xsd:annotation>
        <xsd: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.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>

    <xsd:enumeration name="MagnetosonicMachNumber">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The ratio of the velocity of fast mode waves to the Alfven velocity.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>

    <xsd:enumeration name="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 name="PlasmaBeta">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The ratio of the plasma pressure (nkT) to the magnetic pressure (B^2/2μ0) of the SUN(nkT)/(B^2/2μ0).</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>

    <xsd:enumeration name="SolarUVFlux">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The amount of Ultraviolet energy originating from the Sun passing through a unit area in a unit time.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>

    <xsd:enumeration name="TotalPressure">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">In an MHD fluid it is the number density (N) times the thermal energy per unit volume (nU/kT), which is equivalent to the pressure multiplied by the speed of sound squared (Pc^2). It represents the total pressure due to the motion of the fluid, independent of magnetic effects.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>

</xsd:simpleType>
times Boltzmann constant times the temperature in Kelvin.

| enumeration | VCrossB | 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. |

| Used by | Element | spase:Mixed/spase:MixedQuantity |

Source

```xml
<xsd:simpleType name="MixedQuantity">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for the combined attributes of a mixed parameter quantity.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="AkasofuEpsilon">
      <xsd:annotation>
        <xsd: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: \( V^2 B^2 \sin(\theta/2)^4 \) where B is the IMF, 1 is an empirical scaling parameter equal to 7 RE, and \( \theta = \tan^{-1}(BY/|BZ|) \) the IMF clock angle.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
    <xsd:enumeration value="AlfvenMachNumber">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The ratio of the bulk flow speed to the Alfven speed.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
    <xsd:enumeration value="AlfvenVelocity">
      <xsd:annotation>
        <xsd: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 (\( \mu_0 \)).</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
    <xsd:enumeration value="FrequencyToGyrofrequencyRatio">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The ratio of the characteristic frequency of a medium to gyrofrequency of a particle.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
    <xsd:enumeration value="IMFClockAngle">
      <xsd:annotation>
        <xsd: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.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
    <xsd:enumeration value="MagnetosonicMachNumber">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The ratio of the velocity of fast mode waves to the Alfven velocity.</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="PlasmaBeta">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The ratio of the plasma pressure (nkT) to the magnetic pressure (B^2/2\( \mu_0 \)) of the \( \sum(nkT)/(B^2/2\mu_0) \).</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
    <xsd:enumeration value="SolarUVFlux">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The amount of Ultraviolet energy originating from the Sun passing through a unit area in a unit time.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
    <xsd:enumeration value="TotalPressure">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">In an MHD fluid it is the number density (N) times Boltzmann constant times the temperature in Kelvin.</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
    <xsd:enumeration value="VCrossB">
      <xsd:annotation>
        <xsd:documentation xml:lang="en"></xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
</xsd:simpleType>
```
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.

**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**

- InstrumentMode
- Other
- Positional
- Temporal
- Velocity

**Facets**

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<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>Other</td>
<td>Not classified with more specific terms. The context of its usage may be described in related text.</td>
</tr>
<tr>
<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>Temporal</td>
<td>Pertaining to time.</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>
</tbody>
</table>

**Used by** Element spase:Support/spase:SupportQuantity

**Source**

```xml
<xsd:complexType name="SupportQuantity">
  <xsd:annotation>
    <xsd: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.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <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="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="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>
  </xsd:restriction>
</xsd:complexType>
```
**Simple Type spase:ProcessingLevel**

<table>
<thead>
<tr>
<th>Facets</th>
<th>Diagram</th>
<th>Type</th>
<th>Used by</th>
<th>Source</th>
</tr>
</thead>
</table>
| enumeration | ![ProcessingLevel](diagram.png) | restriction of xsd:string | spase:DisplayData/spase:ProcessingLevel, spase:NumericalData/spase:ProcessingLevel | `<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>` | file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd |

**Simple Type spase:ProviderProcessingLevel**

<table>
<thead>
<tr>
<th>Facets</th>
<th>Diagram</th>
<th>Type</th>
<th>Used by</th>
<th>Source</th>
</tr>
</thead>
</table>
| xsd:string | ![ProviderProcessingLevel](diagram.png) | xsd:string | spase:DisplayData/spase:ProviderProcessingLevel, spase:NumericalData/spase:ProviderProcessingLevel | `<xsd:simpleType name="ProviderProcessingLevel">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The provider specific classification of the processing performed on the product.</xsd:documentation>
  </xsd:annotation>
  <xsd:simpleType>
    <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>` | file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd |

Rate of change of position. Also used for the average velocity of a collection of particles, also referred to as "bulk velocity". Rate of change of position. Also used for the average velocity of a collection of particles, also referred to as "bulk velocity".
### Simple Type spase:MeasurementType

<table>
<thead>
<tr>
<th>Facets</th>
<th>Enumerations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ActivityIndex</td>
</tr>
<tr>
<td></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></td>
<td>Dopplergram</td>
</tr>
<tr>
<td></td>
<td>A map or image depicting the spatial distribution of line-of-sight velocities of the observed object.</td>
</tr>
<tr>
<td></td>
<td>Dust</td>
</tr>
<tr>
<td></td>
<td>Free microscopic particles of solid material.</td>
</tr>
<tr>
<td></td>
<td>ElectricField</td>
</tr>
<tr>
<td></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></td>
<td>EnergeticParticles</td>
</tr>
<tr>
<td></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></td>
<td>Ephemeris</td>
</tr>
<tr>
<td></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></td>
<td>ImageIntensity</td>
</tr>
<tr>
<td></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></td>
<td>InstrumentStatus</td>
</tr>
<tr>
<td></td>
<td>A quantity directly related to the operation or function of an instrument.</td>
</tr>
<tr>
<td></td>
<td>IonComposition</td>
</tr>
<tr>
<td></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></td>
<td>Irradiance</td>
</tr>
<tr>
<td></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></td>
<td>MagneticField</td>
</tr>
<tr>
<td></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></td>
<td>Magnetogram</td>
</tr>
<tr>
<td></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></td>
<td>NeutralAtomImages</td>
</tr>
<tr>
<td></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...</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------------------------------------</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>

Used by:
- spase:DisplayData/spase:MeasurementType
- spase:NumericalData/spase:MeasurementType

Source:
```
<xs:complexType name="MeasurementType">
  <xs:annotation>
    <xs:documentation xml:lang="en">Identifiers for the method of making an estimated value of a quantity that forms the basis of an observation.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string">
    <xs:enumeration value="ActivityIndex">
      <xs:annotation>
        <xs:documentation xml:lang="en">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.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Dopplergram">
      <xs:annotation>
        <xs:documentation xml:lang="en">A map or image depicting the spatial distribution of line-of-sight velocities of the observed object.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Dust">
      <xs:annotation>
        <xs:documentation xml:lang="en">Free microscopic particles of solid material.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="ElectricField">
      <xs:annotation>
        <xs:documentation xml:lang="en">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.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:complexType>
```
<xsd:enumeration value="EnergeticParticles">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Pieces of matter that are moving very fast. Energetic particles include protons, electrons, neutrons, neutrinos, the nuclei of atoms, and other sub-atomic particles.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Ephemeris">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="ImageIntensity">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<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>
The time interval over which an individual measurement is taken.

**Diagram**
![Exposure](Exposure)

**Type**
`xsd:duration`

**Source**
```xml
<xs:simpleType name="Exposure">
  <xs:annotation>
    <xs:documentation xml:lang="en">The time interval over which an individual measurement is taken.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:duration"/>
</xs:simpleType>
```

**Schema Location**
`file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`

---

**Simple Type** `spase:DisplayCadence`

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

**Annotations**
The time interval between the successive display elements.

**Diagram**
![DisplayCadence](DisplayCadence)

**Type**
`xsd:duration`

**Source**
```xml
<xs:simpleType name="DisplayCadence">
  <xs:annotation>
    <xs:documentation xml:lang="en">The time interval between the successive display elements.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:duration"/>
</xs:simpleType>
```

**Schema Location**
`file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd`
Schema documentation for spase-2.2.6.xsd

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/spase/java/model-tools/build/bin/spase-2.2.6.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

Facets
equation

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asteroid</td>
<td>A small extraterrestrial body consisting mostly of rock and metal that is in orbit around the sun.</td>
</tr>
<tr>
<td>Comet</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>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 night-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.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>A region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</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 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.</td>
</tr>
</tbody>
</table>
by virtue of the gravitational attraction.

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Earth.NearSurface.Ionosphere.DRegion</th>
<th>The ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Earth.NearSurface.Ionosphere.ERegion</td>
<td>Ionized 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>enumeration</td>
<td>Earth.NearSurface.Ionosphere.FRegion</td>
<td>Contains ionized gases at a height of around 150–400 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>enumeration</td>
<td>Earth.NearSurface.Ionosphere.Topside</td>
<td>The uppermost areas of the ionosphere.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Earth.NearSurface.Mesosphere</td>
<td>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>enumeration</td>
<td>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>enumeration</td>
<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>enumeration</td>
<td>Earth.NearSurface.SouthAtlanticVanAllenRegion</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>enumeration</td>
<td>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>enumeration</td>
<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>enumeration</td>
<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>enumeration</td>
<td>Earth.Surface</td>
<td>The outermost area of a solid object.</td>
</tr>
<tr>
<td>enumeration</td>
<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>enumeration</td>
<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>enumeration</td>
<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>enumeration</td>
<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>enumeration</td>
<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>enumeration</td>
<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>Enumeration</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>Interstellar</td>
<td>The region between stars outside of the star's heliopause.</td>
<td></td>
</tr>
<tr>
<td>Jupiter</td>
<td>The fifth planet from the sun in our solar system.</td>
<td></td>
</tr>
<tr>
<td>Jupiter.Callisto</td>
<td>A second largest moon of Jupiter and the third-largest moon in the solar system.</td>
<td></td>
</tr>
<tr>
<td>Jupiter.Europa</td>
<td>The sixth-closest round moon of Jupiter.</td>
<td></td>
</tr>
<tr>
<td>Jupiter.Ganymede</td>
<td>The biggest moon of Jupiter and in the solar system.</td>
<td></td>
</tr>
<tr>
<td>Jupiter.Io</td>
<td>The innermost of the four round moons of the planet Jupiter.</td>
<td></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>
<td></td>
</tr>
<tr>
<td>Jupiter.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>
<td></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>
<td></td>
</tr>
<tr>
<td>Jupiter.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>
<td></td>
</tr>
<tr>
<td>Jupiter.Magnetosphere.RadiationBelt</td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
<td></td>
</tr>
<tr>
<td>Mars</td>
<td>The forth planet from the sun in our solar system.</td>
<td></td>
</tr>
<tr>
<td>Mars.Deimos</td>
<td>The smaller and outer most moon of Mars.</td>
<td></td>
</tr>
<tr>
<td>Mars.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>
<td></td>
</tr>
<tr>
<td>Mars.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>
<td></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>
<td></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>
<td></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>
<td></td>
</tr>
<tr>
<td>Mars.Phobos</td>
<td>The larger and inner most moon of Mars.</td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td>The first planet from the sun in our solar system.</td>
<td></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>
<td></td>
</tr>
<tr>
<td>Mercury.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>
<td></td>
</tr>
</tbody>
</table>
| Mercury.Magnetosphere.Main | The region of the magnetosphere where the
<table>
<thead>
<tr>
<th>Schema documentation for spase-2_2_6.xsd</th>
</tr>
</thead>
<tbody>
<tr>
<td>magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
</tbody>
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<thead>
<tr>
<th>enumeration</th>
<th>Mercury.Magnetosphere.Polar</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</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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<th>enumeration</th>
<th>Mercury.Magnetosphere.RadiationBelt</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td>Within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Neptune</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td>The seventh planet from the sun in our solar system.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Pluto</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td>The ninth (sub)planet from the sun in our solar system.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Saturn</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td>The sixth planet from the sun in our solar system.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Saturn.Dione</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td>The forth-largest moon of Saturn.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Saturn.Enceladus</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Saturn.Iapetus</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td>The third-largest moon of Saturn and the eleventh-largest in the Solar System.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Saturn.Magnetosphere</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</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>
</tbody>
</table>

<table>
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<tr>
<th>enumeration</th>
<th>Saturn.Magnetosphere.Magnetotail</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</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>
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<tr>
<td>description</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>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Saturn.Mimas</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td>The smallest and least massive of the round moons of Saturn.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Saturn.Rhea</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td>The second-largest moon of Saturn and the ninth-largest moon in the Solar System.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Saturn.Tethys</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td>The third largest moon of Saturn.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Saturn.Titan</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td>The largest moon of Saturn and the second-largest moon in the Solar System.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td>The star upon which our solar system is centered.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Sun.Chromosphere</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Sun.Corona</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Sun.Interior</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td>The region inside the body which is not visible from outside the body.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Sun.Photosphere</th>
</tr>
</thead>
</table>
| description | 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
- **Definition:** 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.

**Enumeration:** Uranus
- **Definition:** The eighth planet from the sun in our solar system.

**Enumeration:** Uranus.Ariel
- **Definition:** The fourth-largest moon of Uranus.

**Enumeration:** Uranus.Magnetosphere
- **Definition:** 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
- **Definition:** 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
- **Definition:** 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.Polar
- **Definition:** 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:** Uranus.Magnetosphere.RadiationBelt
- **Definition:** The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.

**Enumeration:** Uranus.Miranda
- **Definition:** The smallest and innermost round moon of Uranus.

**Enumeration:** Uranus.Oberon
- **Definition:** The second-largest and second most massive moon of Uranus, and the ninth most massive moon in the Solar System.

**Enumeration:** Uranus.Puck
- **Definition:** The largest inner spherical moon of Uranus.

**Enumeration:** Uranus.Titania
- **Definition:** The largest moon of Uranus and the eighth largest moon in the Solar System.

**Enumeration:** Uranus.Umbriel
- **Definition:** The third largest and fourth most massive moon of Uranus.

**Enumeration:** Venus
- **Definition:** The second planet from the sun in our solar system.

**Enumeration:** Venus.Magnetosphere
- **Definition:** 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:** Venus.Magnetosphere.Magnetotail
- **Definition:** 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:** Venus.Magnetosphere.Main
- **Definition:** 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:** Venus.Magnetosphere.Polar
- **Definition:** 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
- **Definition:** The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.

**Elements Used by:**

**Source:**
```xml
<xsd:simpleType name="Region">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for areas of the physical world which may be occupied or observed.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
```


<xsd:enumeration value="Asteroid">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A small extraterrestrial body consisting mostly of rock and metal that is in orbit around the sun.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Comet">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A relatively small extraterrestrial body consisting of a frozen mass that travels around the sun in a highly elliptical orbit.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Earth">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The third planet from the sun in our solar system.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Earth.Magnetosheath">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region between the bow shock and the magnetopause, characterized by very turbulent plasma.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Earth.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="Earth.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 10 Re (X > -10Re).</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Earth.Magnetosphere.Main">
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    <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>
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<xsd:enumeration value="Earth.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="Earth.Moon">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The only natural satellite of the Earth.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Earth.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="Earth.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="Earth.NearSurface.AuroralRegion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Earth.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="Earth.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="Earth.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="Earth.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="Earth.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="Earth.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="Earth.NearSurface.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="Earth.NearSurface.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="Earth.NearSurface.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="Earth.NearSurface.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="Earth.NearSurface.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="Earth.NearSurface.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="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.

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 heliospheric region near the Earth which extends to and includes the area near the L1 and L2 Lagrange point.

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.
<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 value="Jupiter.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 10 Re (X > -10Re).</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Jupiter.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="Jupiter.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="Jupiter.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">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The forth planet from the sun in our solar system.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Mars.Deimos">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The smaller and outer most moon of Mars.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Mars.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="Mars.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 10 Re (X > -10Re).</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Mars.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="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.Phobos"
<xsd:annotation>
    <xsd:documentation xml:lang="en">The larger and inner most moon of Mars.</xsd:documentation>
</xsd:annotation>
<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 10 Re (X > -10Re).</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.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>
<xsd:enumeration value="Neptune">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">The seventh planet from the sun in our solar system.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Pluto">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">The ninth (sub)planet from the sun in our solar system.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Saturn">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">The sixth planet from the sun in our solar system.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Saturn.Dione">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">The forth-largest moon of Saturn.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Saturn.Enceladus">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">The sixth-largest moon of Saturn. It is currently endogenously active. The smallest known body in the Solar System that is geologically active today.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Saturn.Iapetus">
    <xsd:annotation>
    </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Saturn.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>
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.

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 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.

The largest moon of Saturn and the second-largest moon in the Solar System.

The star upon which our solar system is centered.

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.

The outermost atmospheric region of the Sun or a star, characterized by ionization temperatures above 10⁶ K. The solar corona starts at about 2100 km above the photosphere; there is no generally defined upper limit.
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.

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.

The eighth planet from the sun in our solar system.

The fourth-largest moon of Uranus.

The largest inner spherical moon of Uranus.

The largest moon of Uranus and the eighth largest moon in the Solar System.
<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 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 > -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.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:restriction>
</xsd:simpleType>

Simple Type: spase:DocumentType

<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 characterization of the content or purpose of a document.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="documentType" alt="Diagram" /> <img src="" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>restriction of xsd:string</td>
</tr>
<tr>
<td>Facets</td>
<td>enumeration, Other, Not classified with more specific terms. The context of its usage may be described in related text.</td>
</tr>
<tr>
<td></td>
<td>enumeration, Poster, A set of information arranged on a single page or sheet, typically in a large format.</td>
</tr>
<tr>
<td></td>
<td>enumeration, Presentation, A set of information that is used when communicating to an audience.</td>
</tr>
<tr>
<td></td>
<td>enumeration, Report, A document which describes the findings of some individual or group.</td>
</tr>
<tr>
<td></td>
<td>enumeration, Specification, 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></td>
<td>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.</td>
</tr>
</tbody>
</table>
enumeration WhitePaper An authoritative report giving information or proposals on an issue.

Used by

Element spase:Document/spase:DocumentType

Source

```xml
<xs:simpleType 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>
```

Schema location file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

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/richtext (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.
### Simple Type `spase:MIMEType`

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

**Annotations**
The Multipurpose Internet Mail Extensions (MIME) type and subtype which characterizes the format of a file. MIME media types are defined in RFC memorandum RFC 2046. Current MIME types are maintained by the 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/richtext (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**

<table>
<thead>
<tr>
<th>Facet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Ancillary</td>
</tr>
<tr>
<td></td>
<td>A complementary item which can be subordinate, subsidiary, auxiliary, supplementary to the primary item.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Browse</td>
</tr>
<tr>
<td></td>
<td>A representation of an image which is suitable to reveal most or all of the details of the image.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Data</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Layout</td>
</tr>
<tr>
<td></td>
<td>The structured arrangement of items in a collection.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Thumbnail</td>
</tr>
<tr>
<td></td>
<td>A small representation of an image which is suitable to infer what the full-sized image is like.</td>
</tr>
</tbody>
</table>

**Source**

```xml
<xs:simpleType name="MIMEType">
  <xs:annotation>
    <xs:documentation xml:lang="en">Multipurpose Internet Mail Extensions (MIME) type and subtype which characterizes the format of a file. MIME media types are defined in RFC memorandum RFC 2046. Current MIME types are maintained by the 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/richtext (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.</xs:documentation>
  </xs:annotation>
</xs:simpleType>
```

**Schema location**
file:C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
Schema documentation for spase-2_2_6.xsd

**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

- **Namespace**: http://www.spase-group.org/data/schema
- **Annotations**: A Uniform Resource Locator (URL) to an alternate location of a resource.
- **Diagram**: ![MirrorURL Diagram]
- **Type**: xsd:anyURI
- **Used by**: Element spase:Source/spase:MirrorURL

**Source**

```xml
<xs:simpleType name="MirrorURL">
  <xs:annotation>
    <xs:documentation xml:lang="en">A Uniform Resource Locator (URL) to an alternate location of a resource.</xs:documentation>
  </xs:annotation>
</xs:simpleType>
```

**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**: ![HashValue Diagram]
- **Type**: xsd:string
- **Used by**: Element spase:Checksum/spase:HashValue

---

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**Schema documentation for spase-2_2_6.xsd**

**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**

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>MD5</td>
<td>Message Digest 5 (MD5) is a 128-bit message digest algorithm created in 1991 by Professor Ronald Rivest.</td>
</tr>
<tr>
<td>enumeration</td>
<td>SHA1</td>
<td>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.</td>
</tr>
<tr>
<td>enumeration</td>
<td>SHA256</td>
<td>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.</td>
</tr>
</tbody>
</table>

**Used by**

**Element**
spase:Checksum/spase:HashFunction

---

**Simple Type** `spase:InstrumentType`

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

**Annotations**
Identifiers for the type of experiment the instrument performs. This is the technique of observation.

**Diagram**

**Type**
restriction of xsd:string
<table>
<thead>
<tr>
<th>Facets</th>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenna</td>
<td>A sensor used to measure electric potential.</td>
<td></td>
</tr>
<tr>
<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>
<td></td>
</tr>
<tr>
<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>
<td></td>
</tr>
<tr>
<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>
<td></td>
</tr>
<tr>
<td>DustDetector</td>
<td>An instrument which determines the mass and speed of ambient dust particles.</td>
<td></td>
</tr>
<tr>
<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>
<td></td>
</tr>
<tr>
<td>ElectrostaticAnalyzer</td>
<td>An instrument which uses charged plates to analyze the mass, charge and kinetic energies of charged particles which enter the instrument.</td>
<td></td>
</tr>
<tr>
<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>
<td></td>
</tr>
<tr>
<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>
<td></td>
</tr>
<tr>
<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>
<td></td>
</tr>
<tr>
<td>FourierTransformSpectrograph</td>
<td>An instrument that determines the spectra of a radiative source, using time-domain measurements and a Fourier transform.</td>
<td></td>
</tr>
<tr>
<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>
<td></td>
</tr>
<tr>
<td>Imager</td>
<td>An instrument which samples the radiation from an area at one or more spectral ranges emitted or reflected by an object.</td>
<td></td>
</tr>
<tr>
<td>ImagingSpectrometer</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>
<td></td>
</tr>
<tr>
<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>
<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>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>Enumeration</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------</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>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 may contain other platforms. For example, a spacecraft is a platform which may have components that can be articulated and are also considered platforms.</td>
<td></td>
</tr>
<tr>
<td>ProportionalCounter</td>
<td>An instrument which measures energy of ionization radiation based on interactions with a gas.</td>
<td></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>
<td></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>
<td></td>
</tr>
<tr>
<td>Radiometer</td>
<td>An instrument for detecting or measuring radiant energy. Radiometers are commonly limited to infrared radiation.</td>
<td></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>
<td></td>
</tr>
<tr>
<td>RetardingPotentialAnalyser</td>
<td>An instrument which measures ion temperatures and ion concentrations using a planar ion trap.</td>
<td></td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></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>
<td></td>
</tr>
<tr>
<td>ScintillationDetector</td>
<td>An instrument which detects fluorences of a material which is excited by high energy (ionizing) electromagnetic or charged particle radiation.</td>
<td></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>
<td></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>
<td></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>
<td></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>
<td></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>
<td></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>
<td></td>
</tr>
<tr>
<td>TimeOfFlight</td>
<td>An instrument which measures the time it takes for a particle to travel between two detectors.</td>
<td></td>
</tr>
<tr>
<td>Unspecified</td>
<td>A value which is not provided.</td>
<td></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>
<td></td>
</tr>
</tbody>
</table>

**Source**

```
<xsd:simpleType name="InstrumentType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for the type of experiment the instrument performs. This is the technique of observation.</xsd:documentation>
  </xsd:annotation>
  <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:restriction>
</xsd:simpleType>
```
An instrument which determines the mass and speed of ambient dust particles.

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.

An instrument which uses charged plates to analyze the mass, charge and kinetic energies of charged particles which enter the instrument.

An instrument that measures fluxes of charged particles as a function of time, direction of motion, mass, charge and/or species.

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.

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.

An instrument that determines the spectra of a radiative source, using time-domain measurements and a Fourier transform.

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 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.
<xsd:enumeration value="LangmuirProbe">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="LongWire">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Magnetograph">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Magnetometer">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An instrument which measures the ambient magnetic field.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="MassSpectrometer">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An instrument which distinguishes chemical species in terms of their different isotopic masses.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="MicrochannelPlate">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="MultispectralImager">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An instrument which captures images at multiple spectral ranges.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NeutralAtomImager">
  <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:annotation>
</xsd:enumeration>

<xsd:enumeration value="NeutralParticleDetector">
  <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:annotation>
</xsd:enumeration>

<xsd:enumeration value="ParticleCorrelator">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An instrument which correlates particle flux to help identify wave/particle interactions.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="ParticleDetector">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An instrument which detects particle flux!!!</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Photometer">
  <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:annotation>
</xsd:enumeration>

<xsd:enumeration value="PhotomultiplierTube">
  <xsd:annotation>
  </xsd:annotation>
</xsd:enumeration>
A vacuum phototube that is an extremely sensitive detector of light in the ultraviolet, visible, and near-infrared ranges of the electromagnetic spectrum.

An instrument which measures the intensity and polarization or radiant energy. A photopolarimeter is a combination of a photometer and a polarimeter.

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.

An instrument which measures energy of ionization radiation based on interactions with a gas.

An instrument which measures energy of ionization radiation 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.

An instrument which measures ion temperatures and ion concentrations using a planar ion trap.

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.

An instrument which detects flourescences of a material which is excited by high energy (ionizing) electromagnetic or charged particle radiation.

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.
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".

A sounder may measure radiances at multiple spectral ranges.

An instrument to control the electric potential of a spacecraft with respect to the ambient plasma by emitting a variable current of positive ions.

A radio receiver which determines the power spectral density of the electric or magnetic field, or both, at one or more frequencies.

An instrument that measures the component wavelengths of light (or other electromagnetic radiation) by splitting the light up into its component wavelengths.

An instrument which measures the time it takes for a particle to travel between two detectors.

A value which is not provided.

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:ObservatoryID`

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

**Annotations**  
The identifier of an Observatory resource.

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

**Type**  
xsd:string

**Used by**  
Element  
`spase:Instrument/spase:ObservatoryID`

**Source**  
```xml
<xsd:simpleType name="ObservatoryID">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The identifier of an Observatory resource.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

**Schema location**  
file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### Simple Type `spase:ObservatoryGroupID`

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

**Annotations**  
The identifier of an Observatory resource which the referring resource is a member of.

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

**Type**  
xsd:string

**Used by**  
Element  
`spase:Observatory/spase:ObservatoryGroupID`

**Source**  
```xml
<xsd:simpleType name="ObservatoryGroupID">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The identifier of an Observatory resource which the referring resource is a member of.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

**Schema location**  
file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

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

**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>
```

**Schema location**  
file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

### 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

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

**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</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:double"/>
</xsd:simpleType>
```

**Schema location**  
file://C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
called the Prime Meridian.

<table>
<thead>
<tr>
<th>Diagram</th>
<th>Type</th>
<th>Used by</th>
<th>Source</th>
</tr>
</thead>
</table>
|         | xsd:double | Element spase:Location/spase:Longitude | `<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**

<table>
<thead>
<tr>
<th>Namespace</th>
<th>Annotations</th>
<th>Source</th>
</tr>
</thead>
</table>
| http://www.spase-group.org/data/schema | The distance in meters above (positive) or below (negative) the "zero elevation" defined by the World Geodetic System reference frame (WGS84). | `<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**

<table>
<thead>
<tr>
<th>Namespace</th>
<th>Annotations</th>
<th>Source</th>
</tr>
</thead>
</table>
| http://www.spase-group.org/data/schema | The words used to address an individual. | `<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"/>` |

**Simple Type spase:OrganizationName**

<table>
<thead>
<tr>
<th>Namespace</th>
<th>Annotations</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></td>
<td>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.</td>
<td><code>&lt;xsd:simpleType name=&quot;OrganizationName&quot;&gt;</code></td>
</tr>
</tbody>
</table>
**Simple Type spase:Address**

<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>Directions for finding some location; written on letters or packages that are to be delivered to that location.</td>
</tr>
<tr>
<td><strong>Diagram</strong></td>
<td><img src="" alt="Address" /></td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>xsd:string</td>
</tr>
<tr>
<td><strong>Used by</strong></td>
<td>Element spase:Person/spase:Address</td>
</tr>
</tbody>
</table>

**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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Simple Type spase:Email**

<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 electronic address at which the individual may be contacted expressed in the form &quot;local-part@domain&quot;.</td>
</tr>
<tr>
<td><strong>Diagram</strong></td>
<td><img src="" alt="Email" /></td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>xsd:string</td>
</tr>
<tr>
<td><strong>Used by</strong></td>
<td>Element spase:Person/spase:Email</td>
</tr>
</tbody>
</table>

**Source**

```
<xsd:simpleType name="Email">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The electronic address at which the individual may be contacted expressed in the form "local-part@domain".</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

**Schema location**

file:///C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Simple Type spase:PhoneNumber**

<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 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.</td>
</tr>
<tr>
<td><strong>Diagram</strong></td>
<td><img src="" alt="PhoneNumber" /></td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>xsd:string</td>
</tr>
<tr>
<td><strong>Used by</strong></td>
<td>Element spase:Person/spase:PhoneNumber</td>
</tr>
</tbody>
</table>

**Source**

```
<xsd:simpleType name="PhoneNumber">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```
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

Type xsd:string

Used by Element spase:Person/spase:FaxNumber

Source

```xml
<xsd:simpleType name="FaxNumber">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

Schema location file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

Simple Type spase:ImageURL

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

Annotations A URL to graphic, image or movie.

Diagram

Type xsd:anyURI

Used by Element spase:Annotation/spase:ImageURL

Source

```xml
<xsd:simpleType name="ImageURL">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A URL to graphic, image or movie.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:anyURI"/>
</xsd:simpleType>
```

Schema location file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

Simple Type spase:AnnotationType

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

Annotations Identifiers for an classification of an annotation.

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>Anomaly</td>
<td>An interval where measurements or observations may be adversely affected.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Event</td>
<td>An action or observation which occurs at a point in time.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Feature</td>
<td>A prominent or distinctive characteristic that occurs at a location or persists over a period of time.</td>
</tr>
</tbody>
</table>

Used by Element spase:Annotation/spase:AnnotationType

Source

```xml
<xsd:simpleType name="AnnotationType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for a classification of an annotation.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="Anomaly"/>
  </xsd:restriction>
</xsd:simpleType>
```

Schema location file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd
### Simple Type `spase:ClassificationMethod`

<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>Identifiers for the technique used to determine the characteristics of an object.</td>
</tr>
<tr>
<td><strong>Diagram</strong></td>
<td><img src="" alt="ClassificationMethod" /></td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>restriction of xsd:string</td>
</tr>
</tbody>
</table>
| **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. |
| **Used by** | Element: spase:Annotation/spase:ClassificationMethod |

### Simple Type `spase:ConfidenceRating`

<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>Identifiers for the classification of the certainty of an assertion.</td>
</tr>
</tbody>
</table>
### Simple Type spase:StartLocation

<table>
<thead>
<tr>
<th>Diagram</th>
<th>spase:StartLocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>xsd:string</td>
</tr>
<tr>
<td>Used by</td>
<td>Element</td>
</tr>
</tbody>
</table>

#### Source

```xml
<xs:complexType name="StartLocation">
  <xs:annotation>
    <xs:documentation xml:lang="en">The initial position in space.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string"/>
</xs:complexType>
```

### Simple Type spase:StopLocation

<table>
<thead>
<tr>
<th>Diagram</th>
<th>spase:StopLocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>xsd:string</td>
</tr>
<tr>
<td>Used by</td>
<td>Element</td>
</tr>
</tbody>
</table>

#### Source

```xml
<xs:complexType name="StopLocation">
  <xs:annotation>
    <xs:documentation xml:lang="en">The initial position in space.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string"/>
</xs:complexType>
```
Annotations | The final position in space.
---|---
Diagram | ![StopLocation](image1)
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/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Simple Type spase:Component**

Namespace | http://www.spase-group.org/data/schema
Annotations | Identifiers for the axis of coordinate systems.
Diagram | ![Component](image2)
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 | `<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>`
Schema location | file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

---

**Simple Type spase:DirectionAngle**

Namespace | http://www.spase-group.org/data/schema
Annotations | Identifiers for the angle between a vector and a base axis.

---

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Facets

- **enumeration**: AzimuthAngle
  - 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 \( \arctan(\frac{|By|}{Bz}) \).

- **enumeration**: ElevationAngle
  - The angle between the position or measured vector and the i-j plane of the coordinate system. Mathematically defined as \( \arctan(\frac{k}{\sqrt{i^2+j^2}}) \).

- **enumeration**: PolarAngle
  - The angle between the position or measured vector and the k-axis of the coordinate system. Mathematically defined as \( \arctan(\frac{\sqrt{i^2+j^2}}{k}) \). This term could be also applied to angles between the vector and other components, for example the IMF cone angle defined as \( \arccos(Bx/Bt) \).

Source

```xml
<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 \( \arctan(\frac{j}{i}) \). This term could be also applied to angles measured in different planes, for example the IMF clock angle defined as \( \arctan(\frac{|By|}{Bz}) \).</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 \( \arctan(\frac{k}{\sqrt{i^2+j^2}}) \).</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 \( \arctan(\frac{\sqrt{i^2+j^2}}{k}) \). This term could be also applied to angles between the vector and other components, for example the IMF cone angle defined as \( \arccos(Bx/Bt) \).</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
</xsd:restriction>
```

Schema location:
file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Simple Type spase:Earth

<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 regions surrounding the Earth.</td>
</tr>
</tbody>
</table>

Facets

- **enumeration**: Magnetosheath
  - The region between the bow shock and the magnetopause, characterized by very turbulent plasma.

- **enumeration**: 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**: 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).

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>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>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><strong>Magnetosphere.RadiationBelts</strong></td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td><strong>Moon</strong></td>
<td>The only natural satellite of the Earth.</td>
</tr>
<tr>
<td><strong>NearSurface</strong></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><strong>NearSurface.Atmosphere</strong></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><strong>NearSurface.AuroralRegion</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>NearSurface.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>NearSurface.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>NearSurface.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>NearSurface.PolarCap</strong></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>NearSurface.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>
</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.

| enumeration | NearSurface.Thermosphere | The layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height. |
| enumeration | 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. |

Source

```xml
<xsd:simpleType name="Earth">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for the regions surrounding the Earth.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="Magnetosheath">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The region between the bow shock and the magnetopause, characterized by very turbulent plasma.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="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="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 10 Re (X > -10Re).</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="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="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="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="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 auroral region of a body, where the magnetic field lines are open and includes the auroral zone.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Surface">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The outermost area of a solid object.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```
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.

- **NearSurface.EquatorialRegion**
  - A region centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.

- **NearSurface.Ionosphere**
  - The charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.

- **NearSurface.Ionosphere.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.

- **NearSurface.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.

- **NearSurface.Ionosphere.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.

- **NearSurface.Ionosphere.Topside**
  - The region at the upper most areas of the ionosphere.

- **NearSurface.Mesosphere**
  - The layer of the atmosphere that extends from the Stratosphere to a range of 80 km to 85 km, temperature decreasing with height.

- **NearSurface.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.

- **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.

- **NearSurface.SouthAtlanticAnomalyRegion**
  - 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.

- **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.
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.

Identifiers for permanent reproductions, or copy in the form of a physical object, of any media suitable for direct use by a person.

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.

A sheet of microfilm on which many pages of material have been photographed; a magnification system is used to read the material.

Film rolls on which materials are photographed at greatly reduced size; a magnification system is used to read the material.

An image (positive or negative) registered on a piece of photo-sensitive paper.

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.

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 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="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>
### 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**
![Diagram](#)

**Type**
restriction of `xsd:string`

**Facets**
- **enumeration** `Area`
  - Integration over the extent of a planar region, or of the surface of a solid.
- **enumeration** `Bandwidth`
  - Integration over the width a frequency band.
- **enumeration** `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:documentation xml:lang="en">Integration over the extent of a planar region, or of the surface of a solid.</xsd:documentation>
    </xsd:enumeration>
    <xsd:enumeration value="Bandwidth">
      <xsd:documentation xml:lang="en">Integration over the width a frequency band.</xsd:documentation>
    </xsd:enumeration>
    <xsd:enumeration value="SolidAngle">
      <xsd:documentation xml:lang="en">Integration over the angle in three-dimensional space that an object subtends at a point.</xsd:documentation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```

### Simple Type `spase:Ionosphere`

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

**Annotations**
Identifiers for ionospheric regions.

**Diagram**
![Diagram](#)

**Type**
restriction of `xsd:string`
### Facets

<table>
<thead>
<tr>
<th>Facets</th>
<th>Facet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>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>enumeration</td>
<td>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>
</tr>
<tr>
<td>enumeration</td>
<td>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>enumeration</td>
<td>Topside</td>
<td>The region at the upper most areas of the ionosphere.</td>
</tr>
</tbody>
</table>

### 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`

<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 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.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="Magnetosphere" alt="Diagram" /> ![XmlStructure]</td>
</tr>
<tr>
<td>Type</td>
<td>restriction of xsd:string</td>
</tr>
<tr>
<td>Facets</td>
<td>enumeration</td>
</tr>
<tr>
<td></td>
<td>enumeration</td>
</tr>
</tbody>
</table>
magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.

| enumeration | 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 | RadiationBelt | The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.

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 (r > -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="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:restriction>
</xsd:simpleType>
```

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.

Diagram

```
<NewSurface> ———> <ionosphere>
```

Type `restriction of xsd:string`

Facets

| enumeration | Atmosphere | The neutral gases surrounding a body that extends from the surface and is bound to the body by virtue of the gravitational attraction.
| enumeration | AuroralRegion | 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.
| enumeration | EquatorialRegion | A region centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.
| enumeration | Ionosphere | The charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.
| enumeration | Ionosphere.DRegion | The layer of the ionosphere that exists approximately
<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ionosphere.ERegion</td>
<td>A layer of ionised gas occurring at 50-95 km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.</td>
</tr>
<tr>
<td>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>Ionosphere.Topside</td>
<td>The region at the upper most areas of the ionosphere.</td>
</tr>
<tr>
<td>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>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>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>SouthAtlanticAnomalyRegion</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>Stratosphere</td>
<td>The layer of the atmosphere that extends from the troposphere to about 30 km, temperature increasing with height. The stratosphere contains the ozone layer.</td>
</tr>
<tr>
<td>Thermosphere</td>
<td>The layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height.</td>
</tr>
<tr>
<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>
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 90-150 km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.

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. Also known as the Appleton 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 layer of the atmosphere that extends from the Stratosphere to a range of 80 km to 85 km, temperature decreasing with height.

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.

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.
Simple Type `spase:Projection`

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

**Annotations** Identifiers to projections into a coordinate system.

**Diagram**

```
</xsd:restriction>
</xsd:simpleType>
```

```
</xsd:simpleType>
```

**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**

```
<xsdd: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>
```

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**

```
</xsd:restriction>
</xsd:simpleType>
```

**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>
</tbody>
</table>

Schema documentation for spase-2_2_6.xsd
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.

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 xml:lang="en">A sequence of characters that adheres to American Standard Code for Information Interchange (ASCII) which is a 7-bit character-coding scheme.</xsd:documentation>
<xsd:enumeration>
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Text in multi-byte Unicode format.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
</xsd:restriction>
</xsd:simpleType>

Schema location file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd

Simple Type spase:Waves

Namespace http://www.spase-group.org/data/schema
Annotations Identifiers for experimental and natural wave phenomena.
Diagram
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
<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
Diagram
Type list of xsd:string
Source
<xsd:simpleType name="typeStringSequence">
  <xsd:annotation>
    <xsd:documentation xml:lang="en"></xsd:documentation>
  </xsd:annotation>
</xsd:simpleType>
### Simple Type `spase:typeFloatSequence`

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

**Annotations**  
```xml  
<xs:annotation>  
 <xs:documentation xml:lang="en">  
 SPASE Identifier  
 </xs:documentation>  
</xs:annotation>  
```

**Diagram**  
![Diagram](https://via.placeholder.com/150)

**Type**  
list of `xsd:float`

**Source**  
```xml  
<xs:simpleType name="typeFloatSequence">  
 <xs:annotation>  
 <xs:documentation xml:lang="en">  
 SPASE Identifier  
 </xs:documentation>  
</xs:annotation>  
</xs:simpleType>  
```

---

### Simple Type `spase:typeID`

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

**Annotations**  
```xml  
<xs:annotation>  
 <xs:documentation xml:lang="en">  
 SPASE Identifier  
 </xs:documentation>  
</xs:annotation>  
```

**Diagram**  
![Diagram](https://via.placeholder.com/150)

**Type**  
restriction of `xsd:string`

**Facets**  
`pattern`  
```
[^:]?://[^/]+/.+  
```

**Source**  
```xml  
<xs:simpleType name="typeID">  
 <xs:annotation>  
 <xs:documentation xml:lang="en">  
 SPASE Identifier  
 </xs:documentation>  
</xs:annotation>  
 <xs:restriction base="xsd:string">  
 <xs:pattern value="[^:]?://[^/]+/.+"/>  
</xs:restriction>  
</xs:simpleType>  
```

---

### Namespace: ""

#### Attribute(s)

**Attribute `spase:Spase` / `@lang`**

**Namespace**  
No namespace

**Type**  
`xsd:string`

**Properties**  
default: `en`

**Used by**  
Complex Type `spase:Spase`
### Attribute `spase:typeValue / @Units`

<table>
<thead>
<tr>
<th>Namespace</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) 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` |

### Attribute `spase:typeValue / @UnitsConversion`  

<table>
<thead>
<tr>
<th>Namespace</th>
<th>No namespace</th>
</tr>
</thead>
</table>
| 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 Engruculated: 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> |
| Type | `xsd:string` |
| Properties | content: simple |
| Used by | Complex Type `spase:typeValue` |

---

[322] Schema documentation for spase-2_2_6.xsd
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:documentation>
</xsd:attribute>

| Schema location | file:/C:/projects/spase/java/model-tools/build/bin/spase-2_2_6.xsd |