Table of Contents

Namespace: "http://www.spase-group.org/data/schema" ................................................................. 4
Schemas .............................................................................................................................................. 4
  Main schema spase-2_0_3.xsd ........................................................................................................ 4
Elements ............................................................................................................................................ 4
  Element Spase ............................................................................................................................. 4
  Element Version ............................................................................................................................ 5
  Element ResourceID ...................................................................................................................... 5
  Element Catalog ............................................................................................................................ 6
  Element ResourceHeader .............................................................................................................. 8
  Element ResourceName ................................................................................................................. 9
  Element AlternateName ............................................................................................................... 9
  Element ReleaseDate .................................................................................................................... 9
  Element ExpirationDate ............................................................................................................... 10
  Element Description ................................................................................................................... 10
  Element Acknowledgement ......................................................................................................... 11
  Element Contact .......................................................................................................................... 11
  Element PersonID ....................................................................................................................... 12
  Element Role .............................................................................................................................. 12
  Element InformationURL .............................................................................................................. 13
  Element Name ............................................................................................................................ 13
  Element URL ................................................................................................................................ 14
  Element Language ..................................................................................................................... 14
  Element Association ................................................................................................................... 15
  Element AssociationID ................................................................................................................. 15
  Element AssociationType ............................................................................................................. 15
  Element Note .............................................................................................................................. 16
  Element PriorID .......................................................................................................................... 16
  Element AccessInformation ........................................................................................................ 16
  Element RepositoryID .................................................................................................................. 17
  Element Availability .................................................................................................................... 17
  Element AccessRights .................................................................................................................. 18
  Element AccessURL ..................................................................................................................... 18
  Element Format ........................................................................................................................... 19
  Element Encoding ........................................................................................................................ 21
  Element DataExtent .................................................................................................................... 22
  Element Quantity ....................................................................................................................... 22
  Element Units ............................................................................................................................. 23
  Element Per .................................................................................................................................. 23
  Element ProviderResourceName ................................................................................................. 24
  Element ProviderVersion ............................................................................................................. 24
  Element InstrumentID .................................................................................................................. 24
  Element PhenomenonType .......................................................................................................... 25
  Element TimeSpan ....................................................................................................................... 27
  Element StartDate ...................................................................................................................... 27
  Element StopDateEntity .............................................................................................................. 27
  Element Caveats .......................................................................................................................... 28
  Element Keyword ....................................................................................................................... 28
  Element InputResourceID .......................................................................................................... 28
  Element Parameter ...................................................................................................................... 29
  Element Set .................................................................................................................................. 30
  Element ParameterKey ................................................................................................................ 30
  Element Cadence ....................................................................................................................... 30
  Element UnitsConversion ............................................................................................................ 31
  Element CoordinateSystem ........................................................................................................ 31
  Element CoordinateRepresentation ............................................................................................ 32
  Element CoordinateSystemName ................................................................................................. 32
  Element RenderingHints .............................................................................................................. 35
  Element DisplayType .................................................................................................................. 36
  Element AxisLabel ...................................................................................................................... 37
  Element ValueFormat .................................................................................................................. 37
  Element ScaleMin ...................................................................................................................... 37
  Element ScaleMax ...................................................................................................................... 38
Element ScaleType .......................................................... 38
Element Structure ......................................................... 38
Element Size .................................................................. 39
Element Element .............................................................. 39
Element Qualifier ............................................................ 40
Element Index .................................................................. 41
Element ValidMin ............................................................ 44
Element ValidMax ............................................................ 44
Element FillValue ............................................................ 44
Element ParameterEntity .................................................. 45
Element Extension ........................................................... 45
Element Field ................................................................. 46
Element FieldQuantity ....................................................... 46
Element FrequencyRange .................................................. 47
Element SpectralRange ...................................................... 48
Element Low .................................................................. 49
Element High .................................................................. 49
Element Bin .................................................................. 49
Element BandName ........................................................... 50
Element Particle ............................................................... 50
Element ParticleType ........................................................ 51
Element ParticleQuantity ................................................... 52
Element AtomicNumber ..................................................... 53
Element EnergyRange ....................................................... 54
Element AzimuthalAngleRange .......................................... 54
Element PolarAngleRange .................................................. 55
Element Wave ................................................................. 55
Element WaveType ........................................................... 56
Element WaveQuantity ...................................................... 57
Element WavelengthRange .................................................. 58
Element Mixed ............................................................... 59
Element MixedQuantity .................................................... 59
Element Support .............................................................. 60
Element SupportQuantity ................................................... 61
Element DisplayData ......................................................... 61
Element ProviderProcessingLevel ...................................... 63
Element ProviderProcessingLevel ...................................... 63
Element MeasurementType ............................................... 64
Element TemporalDescription .......................................... 66
Element Exposure ........................................................... 66
Element DisplayCadence .................................................... 66
Element ObservedRegion .................................................... 67
Element NumericalData ..................................................... 70
Element Document .......................................................... 71
Element DocumentType ..................................................... 72
Element Granule ............................................................. 72
Element ParentID ............................................................ 73
Element StopDate ............................................................ 73
Element Source ............................................................. 73
Element SourceType ........................................................ 74
Element MirrorURL .......................................................... 75
Element Checksum .......................................................... 75
Element HashValue .......................................................... 75
Element HashFunction ....................................................... 76
Element Instrument ........................................................... 76
Element InstrumentType .................................................... 77
Element InvestigationName ................................................ 80
Element Observatory ........................................................ 81
Element Observatory ........................................................ 81
Element ObservatoryGroup ............................................... 81
Element Location ........................................................... 82
Element ObservatoryRegion ............................................... 82
Element Latitude ............................................................ 85
Element Longitude .......................................................... 85
Element Elevation ............................................................ 86
Element Person .............................................................. 86
Element PersonName ........................................................ 87
Element OrganizationName ................................................ 88
Element Address ............................................................ 88
Element Email ............................................................... 88
Element PhoneFax ........................................................... 89
Element FaxNumber ........................................................ 89
Simple Types .......................................................... 89
Element Registry ....................................................... 89
Element Repository .................................................. 90
Element Service ........................................................ 91
Element Annotation ................................................... 91
Element ImageURL .................................................... 92
Element AnnotationType ............................................. 93
Element ClassificationMethod ..................................... 93
Element ConfidenceRating .......................................... 93
Element ObservationExtent ......................................... 94
Element StartLocation ............................................... 94
Element StopLocation ............................................... 95
Element RelativeStopDate .......................................... 95

Complex Types ....................................................... 95
Complex Type Spase .................................................. 95
Complex Type Catalog ................................................ 96
Complex Type ResourceHeader ...................................... 97
Complex Type Contact ............................................... 98
Complex Type InformationURL ...................................... 99
Complex Type Association .......................................... 99
Complex Type AccessInformation .................................. 100
Complex Type AccessURL ........................................... 100
Complex Type DataExtent ........................................... 101
Complex Type TimeSpan ............................................. 101
Complex Type Parameter ............................................. 102
Complex Type CoordinateSystem .................................. 102
Complex Type RenderingHints ...................................... 104
Complex Type Structure ............................................. 105
Complex Type Element ............................................... 105
Complex Type Field .................................................. 106
Complex Type FrequencyRange ..................................... 106
Complex Type Bin .................................................... 107
Complex Type Particle .............................................. 107
Complex Type EnergyRange ......................................... 108
Complex Type AzimuthalAngleRange ............................... 108
Complex Type PolarAngleRange ..................................... 109
Complex Type Wave .................................................. 109
Complex Type WavelengthRange .................................... 110
Complex Type Mixed ................................................ 111
Complex Type Support ............................................... 111
Complex Type DisplayData .......................................... 112
Complex Type TemporalDescription ............................... 113
Complex Type NumericalData ....................................... 113
Complex Type Document ............................................ 115
Complex Type Granule .............................................. 115
Complex Type Source ............................................... 116
Complex Type Checksum ............................................ 117
Complex Type Instrument .......................................... 117
Complex Type Observatory ......................................... 118
Complex Type Location ............................................. 119
Complex Type Person ............................................... 119
Complex Type Registry .............................................. 120
Complex Type Repository .......................................... 121
Complex Type Service ............................................... 121
Complex Type Annotation .......................................... 122
Complex Type ObservationExtent ................................. 122

Simple Types ........................................................ 123
Simple Type enumVersion ........................................... 123
Simple Type enumRole ............................................... 123
Simple Type enumAssociationType ................................. 126
Simple Type enumAvailability ....................................... 126
Simple Type enumAccessRights ...................................... 127
Simple Type enumFormat ............................................ 128
Simple Type enumEncoding .......................................... 133
Simple Type enumPhenomenonNameType ........................... 138
Simple Type enumCoordinateRepresentation ...................... 138
Simple Type enumCoordinateSystemName .......................... 139
Simple Type enumDisplayType ....................................... 145
Simple Type enumScaleType ......................................... 147
Simple Type typeSequence .......................................... 147
Simple Type enumQualifier .......................................... 147
Simple Type enumFieldQuantity ..................................... 155
Simple Type enumSpectralRange .................................... 156
Schema documentation for spase-2_0_3.xsd

**Schemas**

**Main schema spase-2_0_3.xsd**

<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>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>attribute form default: unqualified</td>
<td></td>
</tr>
<tr>
<td></td>
<td>element form default: qualified</td>
<td></td>
</tr>
</tbody>
</table>

Schema location: file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Elements**

**Element Spase**

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

Type: Spase

Properties: content: complex

Model: Version, ResourceEntity+
Children

<table>
<thead>
<tr>
<th>Instance</th>
<th>ResourceEntity, Version</th>
</tr>
</thead>
</table>

Attributes

<table>
<thead>
<tr>
<th>QName</th>
<th>Type</th>
<th>Fixed</th>
<th>Default</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>lang</td>
<td>xsd:string</td>
<td></td>
<td>en</td>
<td>optional</td>
</tr>
</tbody>
</table>

Source

```
<xsd:element name="Spase" type="Spase"/>
```

Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Element Version**

**Namespace**

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

**Annotations**

Indicates the release identifier. When used to indicate the release of the SPASE data model, it is in the form Major.Minor.Fix where Major: A significant change in the architecture of the model or rewrite of the implementation. This includes major changes in design or implementation language. This number starts at 0 (zero). Minor: An addition of terms or features that require changes in documentation/external API. This number starts at 0 (zero). Fix: Any change that doesn't require documentation/external API changes. This number starts at 0 (zero).

**Diagram**

```
Type
enumVersion
```

**Properties**

content: simple

**Facets**

enumeration 2.0.3

**Source**

```
<xsd:element name="Version" type="enumVersion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Indicates the release identifier. When used to indicate the release of the SPASE data model, it is in the form Major.Minor.Fix where Major: A significant change in the architecture of the model or rewrite of the implementation. This includes major changes in design or implementation language. This number starts at 0 (zero). Minor: An addition of terms or features that require changes in documentation/external API. This number starts at 0 (zero). Fix: Any change that doesn't require documentation/external API changes. This number starts at 0 (zero).</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

**Used by**

Complex Type Spase

**Source**

```
<xsd:element name="Version" type="enumVersion"/>
```

**Schema location**

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Element ResourceEntity**

**Namespace**

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

Properties

abstract: true

Substitution Group

- Catalog
- DisplayData
- NumericalData
- Document
- Granule
- Instrument
- Observatory
- Person
- Registry
- Repository
- Service
- Annotation
- Extension

Used by

Complex Type Spase

Source

```
<xsd:element name="ResourceEntity" abstract="true"/>
```

Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Namespace

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

Type Catalog

Properties content: complex

Substitution Group • ResourceEntity

Affiliation

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

Children AccessInformation, Caveats, Extension, InputResourceID, InstrumentID, Keyword, Parameter, PhenomenonType

Instance

Source <xsd:element name="Catalog" type="Catalog" substitutionGroup="ResourceEntity"/>

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
**Element ResourceID**

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

**Annotations**
A Resource ID is a URI that has the form "scheme://authority/path" where "scheme" is "spase" for those resources administered through the SPASE framework, "authority" is the unique identifier for the resource provider registered within the SPASE framework and "path" is the unique identifier of the resource within the context of the "authority". The resource ID must be unique within the SPASE framework.

**Diagram**

![Diagram of ResourceID]

**Type**
xsd:string

**Properties**
content: simple

**Used by**
Complex Types: Annotation, Catalog, DisplayData, Document, Granule, Instrument, NumericalData, Observatory, Person, Registry, Repository, Service

**Source**

```xml
<xsd:element name="ResourceID" type="xsd:string">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A Resource ID is a URI that has the form "scheme://authority/path" where "scheme" is "spase" for those resources administered through the SPASE framework, "authority" is the unique identifier for the resource provider registered within the SPASE framework and "path" is the unique identifier of the resource within the context of the "authority". The resource ID must be unique within the SPASE framework.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

**Schema location**
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

**Element ResourceHeader**

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

**Diagram**

![Diagram of ResourceHeader]

**Type**
ResourceHeader

**Properties**
content: complex
### Used by

<table>
<thead>
<tr>
<th>Complex Types</th>
<th>Annotation, Catalog, DisplayData, Document, Instrument, NumericalData, Observatory, Registry, Repository, Service</th>
</tr>
</thead>
</table>

### Model

| ResourceName, AlternateName*, ReleaseDate, ExpirationDate{0,1}, Description, Acknowledgement{0,1}, Contact+, InformationURL*, Association*, PriorID* |

### Children

| Acknowledgement, AlternateName, Association, Contact, Description, ExpirationDate, InformationURL, PriorID, ReleaseDate, ResourceName |

### Instance

```xml
<ResourceHeader>
  <ResourceName>{1,1}</ResourceName>
  <AlternateName>[0,unbounded]</AlternateName>
  <ReleaseDate>{1,1}</ReleaseDate>
  <ExpirationDate>[0,1]</ExpirationDate>
  <Description>[1,1]</Description>
  <Acknowledgement>[0,1]</Acknowledgement>
  <Contact>[1,unbounded]</Contact>
  <InformationURL>[0,unbounded]</InformationURL>
  <Association>[0,unbounded]</Association>
  <PriorID>[0,unbounded]</PriorID>
</ResourceHeader>
```

### Source

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

### Schema location

`file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd`

---

### Element `ResourceName`

**Namespace**

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

**Annotations**

A short textual description of a resource which may be useful when read by a person.

**Diagram**

![ResourceName](Diagram)

**Type**

`xsd:string`

**Properties**

`content: simple`

**Used by**

Complex Type `ResourceHeader`

**Source**

```xml
<xsd:element name="ResourceName" type="xsd:string">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A short textual description of a resource which may be useful when read by a person.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

**Schema location**

`file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd`

---

### Element `AlternateName`

**Namespace**

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

**Annotations**

An alternative or shortened name used to refer to a resource. This includes acronyms, expanded names or a synonym for a resource.

**Diagram**

![AlternateName](Diagram)

**Type**

`xsd:string`

**Properties**

`content: simple`

**Used by**

Complex Type `ResourceHeader`

**Source**

```xml
<xsd:element name="AlternateName" type="xsd:string">
  <xsd:annotation>
    <xsd: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.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

**Schema location**

`file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd`

---

### Element `ReleaseDate`

**Namespace**

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

**Annotations**

**Diagram**

![ReleaseDate](Diagram)

**Type**

`xsd:string`

**Properties**

**Used by**

Complex Type `ResourceHeader`

**Source**

```xml
<xsd:element name="ReleaseDate" type="xsd:string">
  <xsd:annotation>
    <xsd: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.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

**Schema location**

`file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd`
Annotations

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.

Diagram

Type xsd:dateTime

Properties content: simple

Used by Complex Types Granule, Person, ResourceHeader

Source <xsd:element name="ReleaseDate" type="xsd:dateTime">
  <xsd:annotation>
    <xsd: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.</xsd:documentation>
  </xsd:annotation>
</xsd:element>

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element ExpirationDate

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

Annotations

The date and time when a resource is no longer available. If the Expiration Date is specified then it indicates that resource should not be made available after that time. However, this is only advisory and in practice a resource description should be unpublished to eliminate access to a resource.

Diagram

Type xsd:dateTime

Properties content: simple

Used by Complex Types Granule, ResourceHeader

Source <xsd:element name="ExpirationDate" type="xsd:dateTime">
  <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:element>

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element 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,
11

geometric, inertial) have been applied to the resource.

Diagram

Type xsd:string

Properties content: simple

Used by Complex Types AccessURL, InformationURL, Parameter, ResourceHeader, Structure

Source

<xs:element name="Description" type="xsd:string"> <xs:annotation> <xs:documentation xml:lang="en">A narrative explanation with detail appropriate for the item it describes. For example a description of data resource should include discussions of the main quantities in the resource, possible uses and search terms. A description should also include whether any corrections (i.e., geometric, inertial) have been applied to the resource.</xs:documentation> </xs:annotation> </xs:element>

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element Acknowledgement

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

Annotations The individual, group or organization which should be acknowledged when the data is used in or contributes to a presentation or publication.

Diagram

Type xsd:string

Properties content: simple

Used by Complex Types AccessInformation, ResourceHeader

Source

<xs:element name="Acknowledgement" type="xsd:string"> <xs:annotation> <xs:documentation xml:lang="en">The individual, group or organization which should be acknowledged when the data is used in or contributes to a presentation or publication.</xs:documentation> </xs:annotation> </xs:element>

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element Contact

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

Diagram

Type Contact

Properties content: complex

Used by Complex Type ResourceHeader

Model PersonID, Role+

Children PersonID, Role

Instance

<PersonID>(1,1)</PersonID>
<Role>(1,unbounded)</Role>
</Contact>
### Schema documentation for spase-2_0_3.xsd

<table>
<thead>
<tr>
<th>Source</th>
<th>&lt;xsd:element name=&quot;Contact&quot; type=&quot;Contact&quot;/&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schema location</td>
<td>file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd</td>
</tr>
</tbody>
</table>

**Element PersonID**

<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 identifier assigned to a Person description.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="Diagram" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>xsd:string</td>
</tr>
<tr>
<td>Properties</td>
<td>Content: simple</td>
</tr>
<tr>
<td>Used by</td>
<td>Complex Type Contact</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>&lt;xsd:element name=&quot;PersonID&quot; type=&quot;xsd:string&quot;&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;/xsd:element&gt;</td>
<td></td>
</tr>
</tbody>
</table>

| Schema location | file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd |

**Element Role**

<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 assigned or assumed function or position of an individual.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="Diagram" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>enumRole</td>
</tr>
<tr>
<td>Properties</td>
<td>Content: simple</td>
</tr>
<tr>
<td>Facets</td>
<td>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.</td>
</tr>
<tr>
<td>enumeration CoInvestigator An individual who is a scientific peer and major participant in an investigation.</td>
<td></td>
</tr>
<tr>
<td>enumeration Contributor An entity responsible for making contributions to the content of the resource.</td>
<td></td>
</tr>
<tr>
<td>enumeration DataProducer An individual who generated the resource and is familiar with its provenance.</td>
<td></td>
</tr>
<tr>
<td>enumeration DeputyPI An individual who is an administrative or scientific leader for an investigation operating under the supervision of a Principal Investigator.</td>
<td></td>
</tr>
<tr>
<td>enumeration FormerPI An individual who had served as the administrative and scientific lead for an investigation, but no longer assumes that role.</td>
<td></td>
</tr>
<tr>
<td>enumeration GeneralContact An individual who can provide information on a range of subjects or who can direct you to a domain expert.</td>
<td></td>
</tr>
<tr>
<td>enumeration MetadataContact An individual who can affect a change in the metadata describing a resource.</td>
<td></td>
</tr>
<tr>
<td>enumeration PrincipalInvestigator An individual who is the administrative and scientific lead for an investigation.</td>
<td></td>
</tr>
<tr>
<td>enumeration ProjectScientist An individual who is an expert in the phenomenon and related physics explored by the project.</td>
<td></td>
</tr>
</tbody>
</table>
A project scientist may also have a managerial role within the project.

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Publisher</td>
<td>An individual, organization, institution or government department responsible for the production and dissemination of a document.</td>
</tr>
<tr>
<td>2</td>
<td>Scientist</td>
<td>An individual who is an expert in the phenomenon and related physics represented by the resource.</td>
</tr>
<tr>
<td>3</td>
<td>TeamLeader</td>
<td>An individual who is the designated leader of an investigation.</td>
</tr>
<tr>
<td>4</td>
<td>TeamMember</td>
<td>An individual who is a major participant in an investigation.</td>
</tr>
<tr>
<td>5</td>
<td>TechnicalContact</td>
<td>An individual who can provide specific information with regard to the resource or supporting software</td>
</tr>
</tbody>
</table>

**Element InformationURL**

**Namespace**

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

**Diagram**

```
<InformationURL>
  <Name>{0,1}</Name>
  <URL>{1,1}</URL>
  <Description>{0,1}</Description>
  <Language>{0,1}</Language>
</InformationURL>
```

**Type**

InformationURL

**Properties**

content: complex

**Used by**

Complex Type ResourceHeader

**Model**

Name[0,1], URL, Description[0,1], Language[0,1]

**Children**

Description, Language, Name, URL

**Instance**

<InformationURL>
  <Name>{0,1}</Name>
  <URL>{1,1}</URL>
  <Description>{0,1}</Description>
  <Language>{0,1}</Language>
</InformationURL>

**Source**

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Element Name**

**Namespace**

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

**Annotations**

A language unit by which a person or thing is known.

**Diagram**

```
<Name type="xsd:string"/>
```
### Type

**xsd:string**

### Properties

- **content:** simple

### Used by

- Complex Types: AccessURL, Element, InformationURL, Parameter

### Source

```xml
<xsd:element name="Name" type="xsd:string">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A language unit by which a person or thing is known.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

**Schema location:** file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element 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**

![URL Diagram](URLDiagram.png)

### Type

**xsd:string**

### Properties

- **content:** simple

### Used by

- Complex Types: AccessURL, InformationURL, Source

### Source

```xml
<xsd:element name="URL" type="xsd:string">
  <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:element>
```

**Schema location:** file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element 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**

![Language Diagram](LanguageDiagram.png)

### Type

**xsd:string**

### Properties

- **content:** simple

### Used by

- Complex Types: AccessURL, InformationURL

### Source

```xml
<xsd:element name="Language" type="xsd:string">
  <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:element>
```

**Schema location:** file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
Schema documentation for spase-2_0_3.xsd

Element Association

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

Diagram

Type Association
Properties content: complex
Used by Complex Type ResourceHeader
Model AssociationID{0,1}, AssociationType{0,1}, Note{0,1}
Children AssociationID, AssociationType, Note
Instance

<Association>
  <AssociationID>{0,1}</AssociationID>
  <AssociationType>{0,1}</AssociationType>
  <Note>{0,1}</Note>
</Association>

Source <xsd:element name="Association" type="Association"/>

Element AssociationID

Namespace http://www.spase-group.org/data/schema
Annotations The resource identifier for a resource with which this resource is closely associated.

Diagram

Type xsd:string
Properties content: simple
Used by Complex Type Association
Source

<xsd:element name="AssociationID" type="xsd:string"/>
  <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:element>

Element AssociationType

Namespace http://www.spase-group.org/data/schema
Annotations A characterization of the role or purpose of an associated resource.

Diagram

Type enumAssociationType
Properties content: simple
Facets enumeration ChildEventOf A descendant or caused by another resource.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DerivedFrom</td>
<td>A transformed or altered version of a resource instance.</td>
</tr>
<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>

**Element Note**

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

Annotations: Information which is useful or important for the understanding of a value or parameter.

Diagram:

```
<Note>
  Type: xsd:string
  Annotation:
    <documentation xml:lang="en">Information which is useful or important for the understanding of a value or parameter.</documentation>
</Note>
```

Type: xsd:string

Properties: content: simple

Used by: Complex Types: Association, ObservationExtent, Person, TimeSpan

Source:

```
<xsd:element name="Note" type="xsd:string">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Information which is useful or important for the understanding of a value or parameter.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

Schema location: file://var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Element 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:

```
<PriorID>
  Type: xsd:string
  Annotation:
    <documentation xml:lang="en">The resource identifier for a resource that is superseded or replaced by a resource.</documentation>
</PriorID>
```

Type: xsd:string

Properties: content: simple

Used by: Complex Types: Granule, ResourceHeader

Source:

```
<xsd:element name="PriorID" type="xsd:string">
  <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:element>
```

Schema location: file://var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Element AccessInformation**

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

```
<AccessInformation>
  <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>
```

Source

```
<xsd:element name="AccessInformation" type="AccessInformation" />
```

Schema location

```
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
```

Element RepositoryID

```
<RepositoryID>
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The identifier of an Repository resource.</xsd:documentation>
  </xsd:annotation>
</RepositoryID>
```

Source

```
<xsd:element name="RepositoryID" type="xsd:string">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The identifier of an Repository resource.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

Schema location

```
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
```

Element Availability

```
<Availability>
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An indication of the method or service which</xsd:documentation>
  </xsd:annotation>
</Availability>
```

Source

```
<xsd:element name="Availability">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An indication of the method or service which</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

Schema location

```
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
```
may be used to access the resource.

Diagram

Type enumAvailability

Properties content: simple

Facets

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

Used by Complex Type AccessInformation

Source

```xml
<xsd:element name="Availability" type="enumAvailability">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An indication of the method or service which may be used to access the resource.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Element AccessRights**

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

Annotations Permissions granted or denied by the host of a product to allow other users to access and use the resource.

Diagram

Type enumAccessRights

Properties content: simple

Facets

<table>
<thead>
<tr>
<th>Facet</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Open</td>
<td>Access is granted to everyone.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Restricted</td>
<td>Access to the product is regulated and requires some form of identification.</td>
</tr>
</tbody>
</table>

Used by Complex Type AccessInformation

Source

```xml
<xsd:element name="AccessRights" type="enumAccessRights">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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:element>
```

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Element AccessURL**

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

Diagram

Type AccessURL

Properties content: complex
Schema documentation for spase-2_0_3.xsd

<table>
<thead>
<tr>
<th>Used by</th>
<th>Complex Types</th>
<th>AccessInformation, Registry, Repository, Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Name{0,1}, URL, Description{0,1}, Language{0,1}</td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td>Description, Language, Name, URL</td>
<td></td>
</tr>
</tbody>
</table>
| Instance       | <AccessURL>
|                |   <Name>{0,1}</Name>          |
|                |   <URL>{1,1}</URL>            |
|                |   <Description>{0,1}</Description>|
|                |   <Language>{0,1}</Language>  |
|                | </AccessURL>                 |
| Source         | <xsd:element name="AccessURL" type="AccessURL"/> |
| Schema location| file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd |

**Element Format**

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

**Annotations**
The organization of data according to preset specifications. The value is selected from
a list of accepted names for known, well documented formats.

**Diagram**

<table>
<thead>
<tr>
<th>Format</th>
<th>Type</th>
<th>EnumFormat</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Type**
enumFormat

**Properties**
content: simple

**Facets**
enumeration AVI  Audio Video Interleave (AVI) a digital format
for movies that conforms to the Microsoft Windows Resource Interchange File Format (RIFF).
enumeration Binary  A direct representation of the bits which may be stored in memory on a computer.
enumeration CDF  Common Data Format (CDF). A binary storage format developed at Goddard Space Flight Center (GSFC).
enumeration CEF  Cluster Exchange Format (CEF) is a self-
documenting ASCII format designed for the exchange of data. There are two versions of CEF which are not totally compatible.
enumeration CEF1  Cluster Exchange Format (CEF), version 1, is a self-documenting ASCII format designed for the exchange of data. The metadata contains information compatible with the ISTP recommendations for CDF.
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.
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.
enumeration GIF  Graphic Interchange Format (GIF) first introduced in 1987 by CompuServe. GIF uses LZW compression and images are limited to 256 colours.
enumeration HDF  Hierarchical Data Format
nenumeration HDF4  Hierarchical Data Format, Version 4
nenumeration HDF5  Hierarchical Data Format, Version 5
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Format</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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>
<td></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>
<td></td>
</tr>
<tr>
<td>IDL</td>
<td>Interactive Data Language (IDL) save set. IDL is a proprietary format.</td>
<td></td>
</tr>
<tr>
<td>JPEG</td>
<td>A binary format for still images defined by the Joint Photographic Experts Group</td>
<td></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>
<td></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>
<td></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>
<td></td>
</tr>
<tr>
<td>MPEG</td>
<td>A digital format for movies defined by the Motion Picture Experts Group</td>
<td></td>
</tr>
<tr>
<td>NetCDF</td>
<td>Unidata Program Centers 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>
<td></td>
</tr>
<tr>
<td>PDF</td>
<td>A document expressed in the Portable Document Format (PDF) as defined by Adobe.</td>
<td></td>
</tr>
<tr>
<td>PNG</td>
<td>A digital format for still images. Portable Network Graphics (PNG)</td>
<td></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>
<td></td>
</tr>
<tr>
<td>Text</td>
<td>A sequence of characters which may have an imposed structure or organization.</td>
<td></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 8-bit character-coding scheme.</td>
<td></td>
</tr>
<tr>
<td>Text.Unicode</td>
<td>Text in multi-byte Unicode format.</td>
<td></td>
</tr>
<tr>
<td>TIFF</td>
<td>A binary format for still pictures. Tagged</td>
<td></td>
</tr>
</tbody>
</table>
Image Format File (TIFF). Originally developed by Aldus and now controlled by Adobe.

**Enumeration**

- **UDF**

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

- **XML**
  - eXtensible Mark-up Language (XML). A structured format for representing information. See [http://www.w3.org/XML/](http://www.w3.org/XML/)

**Used by**

- **Complex Type**
  - AccessInformation

**Source**

```xml
<xs:element name="Format" type="enumFormat">
  <xs:annotation>
    <xs:documentation xml:lang="en">The organization of data according to preset specifications. The value is selected from a list of accepted names for known, well documented formats.</xs:documentation>
  </xs:annotation>
</xs:element>
```

**Schema location**

- file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element Encoding

<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 set of unambiguous rules that establishes the representation of information within a file.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image-url" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>enumEncoding</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td>Facets</td>
<td></td>
</tr>
</tbody>
</table>
  - **enumeration** ASCII: A sequence of characters that adheres to American Standard Code for Information Interchange (ASCII) which is an 8-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-Za-z), the numerals (0-9), and the "+" and "/" symbols, with the "=" symbol as a special suffix (padding) code.
  - **enumeration** None: A lack or absence of anything.
  - **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.

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

**Used by**
- Complex Type
- AccessInformation

**Source**
```xml
<xsd:element name="Encoding" type="enumEncoding">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">A set of unambiguous rules that establishes the representation of information within a file.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
```

**Schema location**
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

**Element DataExtent**

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

**Diagram**

- **Type**: DataExtent
- **Properties**: content: complex
- **Used by**: Complex Types, AccessInformation, Source
- **Model**: Quantity, Units[0,1], Per[0,1]
- **Children**: Per, Quantity, Units

**Instance**
```xml
<DataExtent>
  <Quantity>{1,1}</Quantity>
  <Units>[0,1]</Units>
  <Per>[0,1]</Per>
</DataExtent>
```

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

**Schema location**
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

**Element Quantity**

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

**Annotations**
A value that describes a characteristic of a system.

**Diagram**

- **Type**: xsd:double
- **Properties**: content: simple
- **Used by**: Complex Type, DataExtent

**Source**
```xml
<xsd:element name="Quantity" type="xsd:double">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">A value that describes a characteristic of a system.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
```

**Schema location**
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
### Element 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) 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 Units](image)

**Type**
xsd:string

**Properties**
content: simple

**Used by**
Complex Types: AzimuthalAngleRange, DataExtent, Element, EnergyRange, FrequencyRange, Parameter, PolarAngleRange, WavelengthRange

**Source**
```xml
<xsd:element name="Units" type="xsd:string">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A description of the standardized measurement increments in which a value is specified. The description is represented as a mathematical phrase. Units should be represented by widely accepted representation. For example, units should conform to the International System of Units (SI) which is maintained by BIPM (Bureau International des Poids et Mesures) when appropriate or use tokens like "Re" to represent units of the Radius of the Earth. Within a phrase the circumflex (^) is used to indicate a power, a star (*) is used to indicate multiplication and a slash (/) division. When symbols are not separated by a mathematical operator, multiplication is assumed. Symbols for base units can be found at: <http://www.bipm.fr/en/si/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:element>
```

### Element 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 Per](image)

**Type**
xsd:duration

**Properties**
content: simple

**Used by**
Complex Type: DataExtent

**Source**
```xml
<xsd:element name="Per" type="xsd:duration">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The time interval over which a characterization applies. For example, the number of bytes</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```
### Element 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**

```
<providerResourceName type="xsd:string">
</providerResourceName>
```

**Type**
xsd:string

**Properties**
content: simple

**Used by**
Complex Types Catalog, DisplayData, NumericalData

**Source**
```xml
<xs:element name="ProviderResourceName" type="xsd:string">
  <xs:annotation>
    <xs:documentation xml:lang="en">A short textual description of a resource used by the provider which may be used to identify a resource.</xs:documentation>
  </xs:annotation>
</xs:element>
```

### Element 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**

```
<providerVersion type="xsd:string">
</providerVersion>
```

**Type**
xsd:string

**Properties**
content: simple

**Used by**
Complex Types Catalog, DisplayData, NumericalData

**Source**
```xml
<xs:element name="ProviderVersion" type="xsd:string">
  <xs:annotation>
    <xs: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.</xs:documentation>
  </xs:annotation>
</xs:element>
```

### Element InstrumentID

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

**Annotations**
The identifier of an Instrument resource.

**Diagram**

```
<instrumentID type="xsd:string">
</instrumentID>
```

**Type**
xsd:string

**Properties**
content: simple

**Used by**
Complex Types Catalog, DisplayData, NumericalData

**Source**
```xml
<xs:element name="InstrumentID" type="xsd:string">
  <xs:annotation>
    <xs:documentation xml:lang="en">The identifier of an Instrument resource.</xs:documentation>
  </xs:annotation>
</xs:element>
```
### Element PhenomenonType

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

**Annotations**  The characteristics or categorization of an event type.

**Diagram**

```
<xs:element name="PhenomenonType"
  type="enumPhenomenonType">
  <xs:annotation>
    <xs:documentation>
      <p>The characteristics or categorization of an event type.</p>
    </xs:documentation>
  </xs:annotation>
</xs:element>
```

**Type**  enumPhenomenonType

**Properties**  content:  simple

**Facets**

<table>
<thead>
<tr>
<th>Facet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>ActiveRegion</td>
</tr>
<tr>
<td>enumeration</td>
<td>Aurora</td>
</tr>
<tr>
<td>enumeration</td>
<td>BowShockCrossing</td>
</tr>
<tr>
<td>enumeration</td>
<td>CoronalHole</td>
</tr>
<tr>
<td>enumeration</td>
<td>CoronalMassEjection</td>
</tr>
<tr>
<td>enumeration</td>
<td>EITWave</td>
</tr>
<tr>
<td>enumeration</td>
<td>EnergeticSolarParticleEvent</td>
</tr>
<tr>
<td>enumeration</td>
<td>ForbushDecrease</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Geomagnetic Storm</strong></td>
<td>A magnetospheric disturbance typically defined by variations in the horizontal component of the Earth's surface magnetic field. The variation typically starts with a field enhancement associated with a solar wind pressure pulse and continues with a field depression associated with an enhancement of the diamagnetic magnetospheric ring current.</td>
</tr>
<tr>
<td><strong>Interplanetary Shock</strong></td>
<td>A shock propagating generally anti-sunward through the slower solar wind, often seen in front of CME-associated plasma clouds.</td>
</tr>
<tr>
<td><strong>Magnetic Cloud</strong></td>
<td>A transient event observed in the solar wind characterized as a region of enhanced magnetic field strength, smooth rotation of the magnetic field vector and low proton density and temperature.</td>
</tr>
<tr>
<td><strong>Magnetopause Crossing</strong></td>
<td>A crossing of the interface between the shocked solar wind in the magnetosheath and the magnetic field and plasma in the magnetosphere.</td>
</tr>
<tr>
<td><strong>Radio Burst</strong></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><strong>Solar Flare</strong></td>
<td>An explosive event in the Sun's atmosphere which produces electromagnetic radiation across the electromagnetic spectrum at multiple wavelengths from long-wave radio to the shortest wavelength gamma rays.</td>
</tr>
<tr>
<td><strong>Solar Wind Extreme</strong></td>
<td>Intervals of unusually large or small values of solar wind attributes such as flow speed and ion density.</td>
</tr>
<tr>
<td><strong>Stream Interaction Region</strong></td>
<td>The region (SIR) where two solar wind streams, typically having differing characteristics and solar sources, abut up against (and possibly partially interpenetrate) each other.</td>
</tr>
<tr>
<td><strong>Substorm</strong></td>
<td>A process by which plasma in the magnetotail becomes energized at a fast rate.</td>
</tr>
</tbody>
</table>
**Element TimeSpan**

<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**

```
<TimeSpan>
  <StartDate>{1,1}</StartDate>
  <StopDateEntity>{1,1}</StopDateEntity>
  <Note>{0,unbounded}</Note>
</TimeSpan>
```

**Type** TimeSpan

**Properties** content: complex

**Used by** Complex Types Annotation, Catalog, TemporalDescription

**Model** StartDate, StopDateEntity, Note*

**Children** Note, StartDate, StopDateEntity

**Instance**

```
<TimeSpan>
  <StartDate>{1,1}</StartDate>
  <StopDateEntity>{1,1}</StopDateEntity>
  <Note>{0,unbounded}</Note>
</TimeSpan>
```

**Source**

```
<xs:element name="TimeSpan" type="TimeSpan"/>
```

**Schema location** file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Element StartDate**

<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** The specification of a starting point in time.

**Diagram**

```
<StartDate type="xsd:dateTime"/>
```

**Type** xsd:dateTime

**Properties** content: simple

**Used by** Complex Types Granule, TimeSpan

**Source**

```
<xsd:element name="StartDate" type="xsd:dateTime">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The specification of a starting point in time.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

**Schema location** file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Element StopDateEntity**

<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**

```
<StopDateEntity>
  <RelativeStopDate/>
  <StopDate type="xsd:dateTime"/>
</StopDateEntity>
```

**Properties** abstract: true

**Substitution Group**

- RelativeStopDate
- StopDate

**Used by** Complex Type TimeSpan
### Element Caveats

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

**Annotations**  
Information which may be important in the avoidance of the misuse of the resource, for instance instrument maladies, corruption or contamination.

**Type**  
xsd:string

**Properties**  
content: simple

**Used by**  
Complex Types: Catalog, DisplayData, Instrument, NumericalData, Parameter

**Source**  
<xsd:element name="Caveats" type="xsd:string">  
  <xsd:annotation>  
    <xsd:documentation xml:lang="en">Information which may be important in the avoidance of the misuse of the resource, for instance instrument maladies, corruption or contamination.</xsd:documentation>  
  </xsd:annotation>  
</xsd:element>

**Schema location**  
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element Keyword

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

**Annotations**  
A word or phrase that is relevant to the resource but does not exist in other documentary information.

**Type**  
xsd:string

**Properties**  
content: simple

**Used by**  
Complex Types: Catalog, DisplayData, Document, NumericalData

**Source**  
<xsd:element name="Keyword" type="xsd:string">  
  <xsd:annotation>  
    <xsd:documentation xml:lang="en">A word or phrase that is relevant to the resource but does not exist in other documentary information.</xsd:documentation>  
  </xsd:annotation>  
</xsd:element>

**Schema location**  
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element InputResourceID

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

**Annotations**  
The resource identifier for a resource which was used to generate this resource.

**Type**  
xsd:string

**Properties**  
content: simple

**Used by**  
Complex Types: Catalog, DisplayData, Document, NumericalData

**Source**  
<xsd:element name="InputResourceID" type="xsd:string">  
  <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:element>

**Schema location**  
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
## Element Parameter

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

### Diagram
![Diagram of Parameter Element]

### Type
- Parameter

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

### Used by
- Complex Types, Catalog, DisplayData, NumericalData

### Model
- `Name`, `Set*`, `ParameterKey{0,1}`, `Description{0,1}`, `Caveats{0,1}`, `Cadence{0,1}`, `Units{0,1}`, `UnitsConversion{0,1}`, `CoordinateSystem{0,1}`, `RenderingHints*`, `Structure{0,1}`, `ValidMin{0,1}`, `ValidMax{0,1}`, `FillValue{0,1}`, `ParameterEntity`

### Children
- Cadence, Caveats, CoordinateSystem, Description, FillValue, Name, ParameterEntity, ParameterKey, RenderingHints, Set, Structure, Units, UnitsConversion, ValidMax, ValidMin

### Instance
```
<Parameter>
  <Name>{1,1}</Name>
  <Set>{0,unbounded}</Set>
  <ParameterKey>{0,1}</ParameterKey>
  <Description>{0,1}</Description>
  <Caveats>{0,1}</Caveats>
  <Cadence>{0,1}</Cadence>
  <Units>{0,1}</Units>
  <UnitsConversion>{0,1}</UnitsConversion>
  <CoordinateSystem>{0,1}</CoordinateSystem>
  <RenderingHints>{0,unbounded}</RenderingHints>
  <Structure>{0,1}</Structure>
  <ValidMin>{0,1}</ValidMin>
  <ValidMax>{0,1}</ValidMax>
  <FillValue>{0,1}</FillValue>
  <ParameterEntity>{1,1}</ParameterEntity>
</Parameter>
```
Element Set

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

Annotations  
A collection of items for a particular purpose.

Diagram

Type  
xsd:string

Properties  
content: simple

Used by  
Complex Type  Parameter

Source  
<xsd:element name="Set" type="xsd:string">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A collection of items for a particular purpose.</xsd:documentation>
  </xsd:annotation>
</xsd:element>

Schema location  
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element 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.

Diagram

Type  
xsd:string

Properties  
content: simple

Used by  
Complex Types  Element, Parameter

Source  
<xsd:element name="ParameterKey" type="xsd:string">
  <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.</xsd:documentation>
  </xsd:annotation>
</xsd:element>

Schema location  
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element Cadence

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

Annotations  
The time interval between the start of successive measurements.

Diagram

Type  
xsd:duration

Properties  
content: simple

Used by  
Complex Types  Parameter, TemporalDescription

Source  
<xsd:element name="Cadence" type="xsd:duration">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The time interval between the start of successive measurements.</xsd:documentation>
  </xsd:annotation>
</xsd:element>

Schema location  
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
**Element 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-5>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:

```
<xs:element name="UnitsConversion" type="xsd:string">
  <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-5>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:element>
```

Schema location: file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Element CoordinateSystem**

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

Diagram:

```
<CoordinateSystem>
  <CoordinateRepresentation {0,1} />
  <CoordinateSystemName {0,1} />
</CoordinateSystem>
```

Type: CoordinateSystem

Properties:
content: complex

Used by:
Complex Type: Parameter

Model:
CoordinateRepresentation{0,1}, CoordinateSystemName{0,1}

Children:
CoordinateRepresentation, CoordinateSystemName

Instance:
```
<CoordinateSystem>
  <CoordinateRepresentation {0,1} />
  <CoordinateSystemName {0,1} />
</CoordinateSystem>
```
Element CoordinateRepresentation

Annotations
The method or form for specifying a given point or vector in a given coordinate system.

Type
desc CoordinateRepresentation
desc simple

Facets
desc enumeration Cartesian
desc 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.

desc enumeration Cylindrical
A coordinate representation of a position vector or measured vector (field or flow) by its k-component, the magnitude of its projection into the i-j plane, and the azimuthal angle of the i-j plane projection.


desc enumeration Spherical
A coordinate representation of a position vector or of a measured vector by its magnitude and two direction angles. The angles are relative to the base axes of the coordinate system used. Typically the angles are phi [azimuth angle, =arctan (j/i)] and theta, where theta may be a polar angle, arctan ([SQRT(i^2+j^2)])/k), or an elevation angle, arctan [k/SQRT (i^2+j^2)].

Used by
Complex Type CoordinateSystem

Element CoordinateSystemName

Annotations
Identifies the coordinate system in which the position, direction or observation has been expressed.

Type
desc CoordinateSystemName
desc simple

Facets
desc 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.


desc 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/cgm_des.html>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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>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</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>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 Hapgood, 1992</td>
</tr>
<tr>
<td>HCI</td>
<td>Heliographic Carrington Inertial</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</td>
</tr>
<tr>
<td>Schema documentation for spase-2_0_3.xsd</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------</td>
<td></td>
</tr>
<tr>
<td>enumeration HG</td>
<td>Heliographic - A heliocentric rotating coordinate system where the Z axis is normal to the solar equatorial plane, positive northward. X, Y axes rotate with a 25.38 day period. The zero longitude (X axis) is defined as the longitude that passed through the ascending node of the solar equator on the ecliptic plane on 1 January, 1854 at 12 UT. See <a href="http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html">http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html</a></td>
</tr>
<tr>
<td>enumeration HGI</td>
<td>Heliographic Inertial - A heliocentric coordinate system where the Z axis is normal to the solar equatorial plane, positive northward. X axis is along the intersection line between solar equatorial and ecliptic planes. The X axis was positive at SE longitude of 74.367 deg on Jan 1, 1900. (See SE below.) See <a href="http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html">http://nssdc.gsfc.nasa.gov/space/helios/coor_des.html</a></td>
</tr>
<tr>
<td>enumeration 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 LGM</td>
<td>Local Geomagnetic - A coordinate system used mainly for Earth surface or near Earth surface magnetic field data. X axis northward from observation point in a geographic meridian. Z axis downward towards Earth's center. In this system, H (total horizontal component) = SQRT (Bx^2 + By^2) and D (declination angle) = arctan (By/Bx)</td>
</tr>
<tr>
<td>enumeration 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>enumeration 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>enumeration 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>enumeration 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><strong>enumeration</strong></td>
<td><strong>SE</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>SM</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>SpacecraftOrbitPlane</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>SR</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>SR2</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>SSE</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>WGS84</strong></td>
</tr>
</tbody>
</table>

**Used by**

| Complex Types | CoordinateSystem, Location |

**Source**

```xml
<xsd:element name="CoordinateSystemName" type="enumCoordinateSystemName">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifies the coordinate system in which the position, direction or observation has been expressed.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

**Schema location**

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Element RenderingHints**

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

Type RenderingHints
Properties content: complex
Used by Complex Type Parameter
Model DisplayType{0,1}, AxisLabel{0,1}, ValueFormat{0,1}, ScaleMin{0,1}, ScaleMax{0,1}, ScaleType{0,1}
Children AxisLabel, DisplayType, ScaleMax, ScaleMin, ScaleType, ValueFormat
Instance
<RenderingHints>
<DisplayType>{0,1}</DisplayType>
<AxisLabel>{0,1}</AxisLabel>
<ValueFormat>{0,1}</ValueFormat>
<ScaleMin>{0,1}</ScaleMin>
<ScaleMax>{0,1}</ScaleMax>
<ScaleType>{0,1}</ScaleType>
</RenderingHints>
Source <xsd:element name="RenderingHints" type="RenderingHints"/>
Schema location file://var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element DisplayType

Namespace http://www.spase-group.org/data/schema
Annotations The general styling or type of plot that is suitable for the variable.
Diagram

Type enumDisplayType
Properties content: simple
Facets
enumeration Image A two-dimensional representation of data with values at each element of the array related to an intensity or a color.
enumeration Plasmagram The characterization of signal strengths in active sounding measurements as a function of virtual range or signal delay time and sounding frequency. A Plasmagram is also referred to as an Ionogram.
enumeration Spectrogram The characterization of signal strengths as a function of frequency (or energy) and time.
enumeration StackPlot A representation of data showing multiple sets of observations on a single plot, possibly offsetting each plot by some uniform amount.
enumeration TimeSeries A representation of data showing a set of observations taken at different points in time and charted as a time series.
enumeration WaveForm Spatial or temporal variations of wave amplitude
used by automated

over wave-period timescales.

Used by
Complex Type RenderingHints

Source
<xsd:element name="DisplayType" type="enumDisplayType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The general styling or type of plot that is
suitable for the variable.</xsd:documentation>
  </xsd:annotation>
</xsd:element>

Schema location
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element 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.

Diagram

Type
xsd:string

Properties
content: simple

Used by
Complex Type RenderingHints

Source
<xsd:element name="AxisLabel" type="xsd:string">
  <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:element>

Schema location
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element ValueFormat

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

Annotations
A string defining the output format used when
extracting data values out to a file or screen.
The magnitude and the number of significant
figures needed should be carefully considered.
The output format string can be in either
Fortran or C syntax.

Diagram

Type
xsd:string

Properties
content: simple

Used by
Complex Type RenderingHints

Source
<xsd:element name="ValueFormat" type="xsd:string">
  <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:element>

Schema location
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element 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.

**Type** xsd:double

**Properties** content:  simple

**Used by** Complex Type RenderingHints

**Source**
```
<xs:element name="ScaleMin" type="xsd:double">
  <xs:annotation>
    <xs:documentation xml:lang="en">The minimum value that the variable is expected to attain. Used, for example, by automated plotting software.</xs:documentation>
  </xs:annotation>
</xs:element>
```

**Schema location** file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element 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.

**Type** xsd:double

**Properties** content:  simple

**Used by** Complex Type RenderingHints

**Source**
```
<xs:element name="ScaleMax" type="xsd:double">
  <xs:annotation>
    <xs:documentation xml:lang="en">The maximum value that the variable is expected to attain. Used, for example, by automated plotting software.</xs:documentation>
  </xs:annotation>
</xs:element>
```

**Schema location** file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element ScaleType

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

**Annotations** The scaling to apply to an axis. If this attribute is not present, linear scale should be assumed.

**Type** enumScaleType

**Properties** content:  simple

**Facets**

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

**Used by** Complex Type RenderingHints

**Source**
```
<xs:element name="ScaleType" type="enumScaleType">
  <xs:annotation>
    <xs:documentation xml:lang="en">The scaling to apply to an axis. If this attribute is not present, linear scale should be assumed.</xs:documentation>
  </xs:annotation>
</xs:element>
```

**Schema location** file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element Structure

**Namespace** http://www.spase-group.org/data/schema
Schema documentation for spase-2_0_3.xsd

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: complex</td>
</tr>
<tr>
<td>Used by</td>
<td>Complex Type, Parameter</td>
</tr>
<tr>
<td>Model</td>
<td>Size{0,1}, Description{0,1}, Element*</td>
</tr>
<tr>
<td>Children</td>
<td>Description, Element, Size</td>
</tr>
<tr>
<td>Instance</td>
<td><code>&lt;Structure&gt;</code> <code>&lt;Size&gt;{0,1}&lt;/Size&gt;</code> <code>&lt;Description&gt;{0,1}&lt;/Description&gt;</code> <code>&lt;Element&gt;{0,unbounded}&lt;/Element&gt;</code> <code>&lt;/Structure&gt;</code></td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;Structure&quot; type=&quot;Structure&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd</td>
</tr>
</tbody>
</table>

**Element 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 | |
| Type | typeSequence |
| Properties | content: simple |
| Used by | Complex Type, Structure |
| Source | `<xsd:element name="Size" type="typeSequence"/>` `<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:element>` |
| Schema location | file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd |

**Element Element**

| Namespace | http://www.spase-group.org/data/schema |
Schema documentation for spase-2_0_3.xsd

**Diagram**

**Type**  
Element

**Properties**
content:  
complex

**Used by**
Complex Type  
Structure

**Model**
Name, Qualifier*, Index, ParameterKey{0,1}, Units{0,1}, UnitsConversion{0,1}, ValidMin{0,1}, ValidMax{0,1}, FillValue{0,1}

**Children**
FillValue, Index, Name, ParameterKey, Qualifier, Units, UnitsConversion, ValidMax, ValidMin

**Instance**

```xml
<Element>
  <Name>{1,1}</Name>
  <Qualifier>{0,unbounded}</Qualifier>
  <Index>{1,1}</Index>
  <ParameterKey>{0,1}</ParameterKey>
  <Units>{0,1}</Units>
  <UnitsConversion>{0,1}</UnitsConversion>
  <ValidMax>{0,1}</ValidMax>
  <FillValue>{0,1}</FillValue>
</Element>
```

**Source**

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

**Schema location**

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element Qualifier

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

**Annotations**
Characterizes the refinement to apply to a type or attribute of a quantity.

**Diagram**

**Type**  
enumQualifier

**Properties**
content:  
simple

**Facets**

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anisotropy</td>
<td>Direction-dependent property.</td>
</tr>
<tr>
<td>Array</td>
<td>A sequence of values corresponding to the elements in a rectilinear, n-dimension matrix. Each value can be referenced by a unique index.</td>
</tr>
<tr>
<td>Average</td>
<td>The statistical mean; the sum of a set of values divided by the number of values in the set.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Characteristic</td>
</tr>
<tr>
<td>enumeration</td>
<td>Circular</td>
</tr>
<tr>
<td>enumeration</td>
<td>Column</td>
</tr>
<tr>
<td>enumeration</td>
<td>Component</td>
</tr>
<tr>
<td>enumeration</td>
<td>Component.I</td>
</tr>
<tr>
<td>enumeration</td>
<td>Component.J</td>
</tr>
<tr>
<td>enumeration</td>
<td>Component.K</td>
</tr>
<tr>
<td>enumeration</td>
<td>CrossSpectrum</td>
</tr>
<tr>
<td>enumeration</td>
<td>Deviation</td>
</tr>
<tr>
<td>enumeration</td>
<td>Differential</td>
</tr>
<tr>
<td>enumeration</td>
<td>Direction</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionAngle</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionAngle.AzimuthAngle</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionAngle.ElevationAngle</td>
</tr>
<tr>
<td>enumeration</td>
<td>DirectionAngle.PolarAngle</td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>FieldAligned</strong></td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Fit</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Group</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Integral</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Integral.Area</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Integral.Bandwidth</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Integral.SolidAngle</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>LineOfSight</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Linear</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Magnitude</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Moment</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Parallel</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Peak</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Perpendicular</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Perturbation</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Phase</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>PhaseAngle</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Projection</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Projection.IJ</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Projection.IK</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Projection.JK</strong></td>
</tr>
<tr>
<td><strong>enumeration</strong></td>
<td><strong>Pseudo</strong></td>
</tr>
</tbody>
</table>
or approximation of a particular quantity.

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Ratio</th>
<th>The relative magnitudes of two quantities.</th>
</tr>
</thead>
<tbody>
<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 set of four parameters (usually called I, Q, U and V) that describe the polarization state of an electromagnetic wave propagating through space.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Symmetric</td>
<td>Equal distribution about one or more axes.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Tensor</td>
<td>A generalized linear &quot;quantity&quot; or &quot;geometrical entity&quot; that can be expressed as a multi-dimensional array relative to a choice of basis of the particular space on which it is defined.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Total</td>
<td>The summation of quantities over all possible species.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Trace</td>
<td>The sum of the elements on the main diagonal (the diagonal from the upper left to the lower right) of a square matrix.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Uncertainty</td>
<td>A statistically defined discrepancy between a measured quantity and the true value of that quantity that cannot be corrected by calculation or calibration.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Variance</td>
<td>A measure of dispersion of a set of data points around their mean value. The expectation value of the squared deviations from the mean.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Vector</td>
<td>A set of parameter values each along some independent variable (e.g., components of a field in three orthogonal spatial directions; atmospheric temperature values at several altitudes, or at a given latitude and longitude).</td>
</tr>
</tbody>
</table>

Used by

| Complex Types | Element, Field, Mixed, Particle, Support, Wave |

Source

```
<xs:element name="Qualifier" type="enumQualifier">
  <xs:annotation>
    <xs:documentation xml:lang="en">Characterizes the refinement to apply to a type or attribute of a quantity.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Schema location: file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element Index

| 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. |

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

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

**Annotations**  
The location of an item in an array or vector. An index can be multivalued to represent the location in a multidimensional object. The index of the first item is "1". A value of "0" is a wild card for all elements at the location in an array. A value of "-1" is a reference to the dimension at the location in the array. A "-1" is used when describing the attributes of the dimension, whereas "0" or a positive integer is used to describe attributes of individual elements.

**Diagram**

```
<element name="Index" type="typeSequence">
  <annotation>
    <documentation xml:lang="en">The location of an item in an array or vector. An index can be multivalued to represent the location in a multidimensional object. The index of the first item is "1". A value of "0" is a wild card for all elements at the location in an array. A value of "-1" is a reference to the dimension at the location in the array. A "-1" is used when describing the attributes of the dimension, whereas "0" or a positive integer is used to describe attributes of individual elements.</documentation>
  </annotation>
</element>
```

**Source**  
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element `ValidMin`

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

**Annotations**  
The smallest legitimate value.

**Diagram**

```
<element name="ValidMin" type="xsd:string">
  <annotation>
    <documentation xml:lang="en">The smallest legitimate value.</documentation>
  </annotation>
</element>
```

**Source**  
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element `ValidMax`

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

**Annotations**  
The largest legitimate value.

**Diagram**

```
<element name="ValidMax" type="xsd:string">
  <annotation>
    <documentation xml:lang="en">The largest legitimate value.</documentation>
  </annotation>
</element>
```

**Source**  
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element `FillValue`

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

**Annotations**  
A value that indicates that a quantity is undefined.

**Diagram**

```
<element name="FillValue" type="xsd:string">
  <annotation>
    <documentation xml:lang="en">A value that indicates that a quantity is undefined.</documentation>
  </annotation>
</element>
```

**Source**  
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
Schema documentation for spase-2_0_3.xsd

Diagram

Type
xsd:string

Properties
content: simple

Used by
Complex Types Element, Parameter

Source
<xsd:element name="FillValue" type="xsd:string">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A value that indicates that a quantity is undefined.</xsd:documentation>
  </xsd:annotation>
</xsd:element>

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element ParameterEntity

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

Diagram

Properties
abstract: true

Substitution Group
• Field
• Particle
• Wave
• Mixed
• Support

Used by
Complex Type Parameter

Source
<xsd:element name="ParameterEntity" abstract="true"/>

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element 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

Properties
content: complex
### Element Field

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

**Diagram**

```
Field
  \- Qualifier
    \- FieldQuantity
    \- FrequencyRange

Field
  \- Type
    \- Field

ParameterEntity
  \- Abstract
```

**Type**
Field

**Properties**
content: complex

**Substitution Group**
ParameterEntity

**Model**
Qualifier*, FieldQuantity, FrequencyRange\[0, 1]\n
**Children**
FieldQuantity, FrequencyRange, Qualifier

**Instance**
```
<Field>
  <Qualifier>[0, unbounded]</Qualifier>
  <FieldQuantity>[1, 1]</FieldQuantity>
  <FrequencyRange>[0, 1]</FrequencyRange>
</Field>
```

**Source**
```
<xsd:element name="Field" type="Field" substitutionGroup="ParameterEntity"/>
```

**Schema location**
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element FieldQuantity

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

**Annotations**
The physical attribute of the field.

**Diagram**

```
FieldQuantity
  \- Type
    \- enumFieldQuantity
```

**Type**
enumFieldQuantity
Properties

<table>
<thead>
<tr>
<th>Facets</th>
<th>content: simple</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Current</td>
</tr>
<tr>
<td>Facets</td>
<td>Enumeration</td>
</tr>
<tr>
<td>enumeration</td>
<td>Electric</td>
</tr>
<tr>
<td>Facets</td>
<td>Enumeration</td>
</tr>
<tr>
<td>enumeration</td>
<td>Electromagnetic</td>
</tr>
<tr>
<td>Facets</td>
<td>Enumeration</td>
</tr>
<tr>
<td>enumeration</td>
<td>Gyrofrequency</td>
</tr>
<tr>
<td>Facets</td>
<td>Enumeration</td>
</tr>
<tr>
<td>enumeration</td>
<td>Magnetic</td>
</tr>
<tr>
<td>Facets</td>
<td>Enumeration</td>
</tr>
<tr>
<td>enumeration</td>
<td>PlasmaFrequency</td>
</tr>
<tr>
<td>Facets</td>
<td>Enumeration</td>
</tr>
<tr>
<td>enumeration</td>
<td>Potential</td>
</tr>
<tr>
<td>Facets</td>
<td>Enumeration</td>
</tr>
<tr>
<td>enumeration</td>
<td>PoyntingFlux</td>
</tr>
</tbody>
</table>

Used by

<table>
<thead>
<tr>
<th>Complex Type</th>
<th>Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complex Type</td>
<td>Field</td>
</tr>
</tbody>
</table>

Source

```
<xsd:element name="FieldQuantity" type="enumFieldQuantity" />
<xsd:annotation>
  <xsd:documentation xml:lang="en">The physical attribute of the field.</xsd:documentation>
</xsd:annotation>
</xsd:element>
```

Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element FrequencyRange

Namespace

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

Diagram

```
<FrequencyRange>
  <SpectralRange>{0,1}</SpectralRange>
  <Low>{1,1}</Low>
</FrequencyRange>
```

Type

FrequencyRange

Properties

| content: complex |

Used by

| Complex Types | Field, Wave |

Model

SpectralRange(0,1), Low, High, Units, Bin*

Children

Bin, High, Low, SpectralRange, Units

Instance

```
<FrequencyRange>
  <SpectralRange>{0,1}</SpectralRange>
  <Low>{1,1}</Low>
</FrequencyRange>
```
### Element SpectralRange

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

**Annotations**
The general term used to describe wavelengths or frequencies within a given span of values for those quantities.

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

**Type**
enumSpectralRange

**Properties**
- content: simple

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

**Used by:** Complex Types DisplayData, FrequencyRange, NumericalData, WavelengthRange

**Source:**

```
<xs:element name="SpectralRange" type="enumSpectralRange">
  <xs:annotation>
    <xs:documentation xml:lang="en">The general term used to describe wavelengths or frequencies within a given span of values for those quantities.</xs:documentation>
  </xs:annotation>
</xs:element>
```

**Schema location:** file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

### Element Low

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

**Annotations:** The smallest value within a range of possible values.

**Diagram:**

```
Low
Type xsd:double
```

**Type:** xsd:double

**Properties:**

```
content:
```

**Used by:** Complex Types AzimuthalAngleRange, Bin, EnergyRange, FrequencyRange, PolarAngleRange, WavelengthRange

**Source:**

```
<xs:element name="Low" type="xsd:double">
  <xs:annotation>
    <xs:documentation xml:lang="en">The smallest value within a range of possible values.</xs:documentation>
  </xs:annotation>
</xs:element>
```

**Schema location:** file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

### Element High

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

**Annotations:** The largest value within a range of possible values.

**Diagram:**

```
High
Type xsd:double
```

**Type:** xsd:double

**Properties:**

```
content:
```

**Used by:** Complex Types AzimuthalAngleRange, Bin, EnergyRange, FrequencyRange, PolarAngleRange, WavelengthRange

**Source:**

```
<xs:element name="High" type="xsd:double">
  <xs:annotation>
    <xs:documentation xml:lang="en">The largest value within a range of possible values.</xs:documentation>
  </xs:annotation>
</xs:element>
```

**Schema location:** file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

### Element Bin

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

```
<Bin>
  <BandName>{0,1}</BandName>
  <Low>{1,1}</Low>
  <High>{1,1}</High>
</Bin>
```

### Type

**Bin**

### Properties

**content:** complex

### Used by

**Complex Types** AzimuthalAngleRange, EnergyRange, FrequencyRange, PolarAngleRange, WavelengthRange

### Model

BandName{0,1}, Low, High

### Children

BandName, High, Low

### Instance

```
<Bin>
  <BandName>{0,1}</BandName>
  <Low>{1,1}</Low>
  <High>{1,1}</High>
</Bin>
```

### Source

<xsd:element name="Bin" type="Bin" />

### Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

**Element BandName**

### Namespace

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

### Annotations

A common or provider assigned name for a range of values.

### Diagram

```
BandName
Type xsd:string
```

### Type

xsd:string

### Properties

**content:** simple

### Used by

Complex Type Bin

### Source

<xsd:element name="BandName" type="xsd:string"/>

<xsd:annotation>
<xsd:documentation xml:lang="en">A common or provider assigned name for a range of values.</xsd:documentation>
</xsd:annotation>

### Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

**Element Particle**

### Namespace

http://www.spase-group.org/data/schema
## Schema documentation for spase-2.0.3.xsd

### Diagram

![Diagram](image.png)

### Type

**Particle**

### Properties

- `content`: complex

### Substitution Group

- `ParameterEntity`

### Affiliation

- `ParticleType+`, `Qualifier*`, `ParticleQuantity`, `AtomicNumber*`, `EnergyRange{0,1}`, `AzimuthalAngleRange{0,1}`, `PolarAngleRange{0,1}`

### Children

- AtomicNumber, AzimuthalAngleRange, EnergyRange, ParticleQuantity, ParticleType, PolarAngleRange, Qualifier

### Instance

```xml
<Particle>
  <ParticleType>(1,unbounded)</ParticleType>
  <Qualifier>(0,unbounded)</Qualifier>
  <ParticleQuantity>(1,1)</ParticleQuantity>
  <AtomicNumber>(0,unbounded)</AtomicNumber>
  <EnergyRange>(0,1)</EnergyRange>
  <AzimuthalAngleRange>(0,1)</AzimuthalAngleRange>
  <PolarAngleRange>(0,1)</PolarAngleRange>
</Particle>
```

### Source

```xml
<xsd:element name="Particle" type="Particle" substitutionGroup="ParameterEntity"/>
```

### Schema location

`file:/var/www/spase/site/root/data/schema/spase-2.0.3.xsd`

## Element ParticleType

### Namespace

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

### Annotations

A characterization of the kind of particle observed by the measurement.

### Diagram

![Diagram](image.png)

### Type

`enumParticleType`

### Properties

- `content`: simple

### 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.</td>
</tr>
</tbody>
</table>
of negative electricity equal to about $1.602 \times 10^{-19}$ Coulomb and having a mass when at rest of about $9.109534 \times 10^{-28}$ gram.

**Ion**

An atom that has acquired a net electric charge by gaining or losing one or more electrons. (Note: $Z>2$)

**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.

**Neutron**

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

**Proton**

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

---

**Element ParticleQuantity**

A characterization of the physical properties of the particle.

**Properties**

- content: simple

**Facets**

- **ArrivalDirection**

An angular measure of the direction from which an energetic particle or photon was incident on a detector. The angles may be measured in any coordinate system.

- **AtomicNumberDetected**

The number of protons in the nucleus of an atom as determined by a detector.

- **AverageChargeState**

A measure of the composite deficit (positive) or excess (negative) of electrons with respect to protons.

- **ChargeState**

Charge of a fully or partially stripped ion, in units of the charge of a proton. Charge state of a bare proton = 1.

- **CountRate**

The number of events per unit time.

- **Counts**

An enumeration of the number of detection events occurring in a particle detector per unit time or over detector accumulation times.

- **Energy**

The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy).
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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>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 through a unit area in a unit time.</td>
</tr>
<tr>
<td>PhaseSpaceDensity</td>
<td>The number of particles per unit volume in the six-dimensional space of position and velocity.</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 ~63% (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 the average velocity of a collection of particles, also referred to as &quot;bulk velocity&quot;.</td>
</tr>
</tbody>
</table>

Used by Complex Type: Particle

Source:
```xml
<xsd:element name="ParticleQuantity" type="enumParticleQuantity">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A characterization of the physical properties of the particle.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

Schema location: file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element AtomicNumber

Namespace: http://www.spase-group.org/data/schema
Annotations
The number of protons in the nucleus of an atom.

Diagram
![Diagram of AtomicNumber]

Type
xsd:double

Properties
content: simple

Used by
Complex Type  Particle

Source
<xsd:element name="AtomicNumber" type="xsd:double"/>
<xsd:annotation>
  <xsd:documentation xml:lang="en">The number of protons in the nucleus of an atom.</xsd:documentation>
</xsd:annotation>
</xsd:element>

Schema location
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Element EnergyRange**

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

Diagram
![Diagram of EnergyRange]

Type
EnergyRange

Properties
content: complex

Used by
Complex Types  Particle, Wave

Model
Low, High, Units, Bin*

Children
Bin, High, Low, Units

Instance
<EnergyRange>
  <Low>[1,1]</Low>
  <High>[1,1]</High>
  <Units>[1,1]</Units>
  <Bin>[0,unbounded]</Bin>
</EnergyRange>

Source
<xsd:element name="EnergyRange" type="EnergyRange"/>

Schema location
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Element AzimuthalAngleRange**

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

Diagram
![Diagram of AzimuthalAngleRange]

Type
AzimuthalAngleRange

Properties
content: complex

Used by
Complex Types  Particle, Wave

Model
Low, High, Units, Bin*

Children
Bin, High, Low, Units

Instance
<AzimuthalAngleRange>
  <Low>[1,1]</Low>
  <High>[1,1]</High>
  <Units>[1,1]</Units>
  <Bin>[0,unbounded]</Bin>
</AzimuthalAngleRange>

Source
<xsd:element name="AzimuthalAngleRange" type="AzimuthalAngleRange"/>

Schema location
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
<table>
<thead>
<tr>
<th>Type</th>
<th>AzimuthalAngleRange</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: complex</td>
</tr>
<tr>
<td>Used by</td>
<td>Complex Type</td>
</tr>
<tr>
<td></td>
<td>Particle</td>
</tr>
<tr>
<td>Model</td>
<td>Low, High, Units, Bin*</td>
</tr>
<tr>
<td>Children</td>
<td>Bin, High, Low, Units</td>
</tr>
</tbody>
</table>

**Instance**

```
<AzimuthalAngleRange>
  <Low>{1,1}</Low>
  <High>{1,1}</High>
  <Units>{1,1}</Units>
  <Bin>{0, unbounded}</Bin>
</AzimuthalAngleRange>
```

**Source**

```
<xsd:element name="AzimuthalAngleRange" type="AzimuthalAngleRange"/>
```

**Schema location**

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

**Element PolarAngleRange**

<table>
<thead>
<tr>
<th>Type</th>
<th>PolarAngleRange</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: complex</td>
</tr>
<tr>
<td>Used by</td>
<td>Complex Type</td>
</tr>
<tr>
<td></td>
<td>Particle</td>
</tr>
<tr>
<td>Model</td>
<td>Low, High, Units, Bin*</td>
</tr>
<tr>
<td>Children</td>
<td>Bin, High, Low, Units</td>
</tr>
</tbody>
</table>

**Instance**

```
<PolarAngleRange>
  <Low>{1,1}</Low>
  <High>{1,1}</High>
  <Units>{1,1}</Units>
  <Bin>{0, unbounded}</Bin>
</PolarAngleRange>
```

**Source**

```
<xsd:element name="PolarAngleRange" type="PolarAngleRange"/>
```

**Schema location**

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

**Element Wave**

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

---

55
Diagram

Type Wave
Properties content: complex
Substitution Group • ParameterEntity
Affiliation
Model Qualifier*, WaveType, WaveQuantity, EnergyRange[0,1], WavelengthRange[0,1], FrequencyRange[0,1]
Children EnergyRange, FrequencyRange, Qualifier, WaveQuantity, WaveType, WavelengthRange
Instance
<Wave>
  <Qualifier>({0, unbounded})</Qualifier>
  <WaveType>({1,1})</WaveType>
  <WaveQuantity>({1,1})</WaveQuantity>
  <EnergyRange>({0,1})</EnergyRange>
  <WavelengthRange>({0,1})</WavelengthRange>
  <FrequencyRange>({0,1})</FrequencyRange>
</Wave>

Source <xsd:element name="Wave" type="Wave" substitutionGroup="ParameterEntity"/>
Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element WaveType

Namespace http://www.spase-group.org/data/schema
Annotations A characterization of the carrier or phenomenon of wave information observed by the measurement.

Diagram

Type enumWaveType
Properties content: simple
Facets

<table>
<thead>
<tr>
<th>Facet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>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.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Electrostatic Collective longitudinal electric-field and plasma oscillations trapped within a body of plasma.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Hydrodynamic Periodic or quasi-periodic oscillations of fluid quantities.</td>
</tr>
<tr>
<td>enumeration</td>
<td>MHD Hydrodynamic waves in a magnetized plasma</td>
</tr>
</tbody>
</table>
in which the background magnetic field plays a key role in controlling the wave propagation characteristics.

| enumeration | Photon | Electromagnetic waves detected by techniques that utilize their corpuscular character (e.g., CCD, CMOS, photomultipliers). |
| enumeration | PlasmaWaves | Self-consistent collective oscillations of particles and fields (electric and magnetic) in a plasma. |

### Used by
- Complex Type: Wave

### Source
```xml
<xsd:element name="WaveType" type="enumWaveType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A characterization of the carrier or phenomenon of wave information observed by the measurement.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

### Schema location
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element 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>A characterization of the physical properties of a wave.</td>
</tr>
</tbody>
</table>

#### Diagram
```
WaveQuantity

Type: enumWaveQuantity

Content: simple

Facets

<p>| enumeration | Absorption | Decrease of radiant energy (relative to the background continuum spectrum). |
| enumeration | ACElectricField | Alternating electric field component of a wave. |
| enumeration | ACMagneticField | Alternating magnetic field component of a wave. |
| enumeration | DopplerFrequency | Change in the frequency of a propagating wave due to motion of the source, the observer, the reflector, or the propagation medium. |
| enumeration | Emissivity | The energy emitted spontaneously per unit bandwidth (typically frequency) per unit time per unit mass of source. Emissivity is usually integrated over all directions/solid angles. |
| enumeration | EnergyFlux | The amount of energy passing through a unit area in a unit time. |
| enumeration | EquivalentWidth | The spectral width of a total absorption line having the amount of absorbed radiant energy being equivalent to that in an observed absorption line. |
| enumeration | Frequency | The number of occurrences of a repeating event per unit time. |
| 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 | Intensity | The measurement of radiant or wave energy per unit detector area per unit bandwidth per unit solid angle per unit time. |
| enumeration | LineDepth | The measure of the amount of absorption below the continuum (depth) in a particular wavelength. |</p>
<table>
<thead>
<tr>
<th>enumeration</th>
<th>MagneticField</th>
<th>A region of space near a magnetized body where magnetic forces can be detected (as measured by methods such as Zeeman splitting, etc.).</th>
</tr>
</thead>
<tbody>
<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>A set of four parameters (usually called I, Q, U and V) which describe the polarization state of an electromagnetic wave propagating through space.</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>

**Used by** | Complex Type | Wave |
---|---|---|
**Source** | <xsd:element name="WaveQuantity" type="enumWaveQuantity">  
<xsd:annotation>  
<xsd:documentation xml:lang="en">A characterization of the physical properties of a wave.</xsd:documentation>  
</xsd:annotation>  
</xsd:element> |
**Schema location** | file://var/www/spase/site/root/data/schema/spase-2_0_3.xsd |

**Element WavelengthRange**

**Namespace** | http://www.spase-group.org/data/schema |
**Diagram** | ![Diagram](image) |
**Type** | WavelengthRange |
**Properties** | content: complex |
**Used by** | Complex Type | Wave |
**Model**

| SpectralRange{0,1} , Low , High , Units , Bin* |

**Children**

| Bin , High , Low , SpectralRange , Units |

**Instance**

```
<WavelengthRange>
  <SpectralRange>{0,1}</SpectralRange>
  <Low>{1,1}</Low>
  <High>{1,1}</High>
  <Units>{1,1}</Units>
  <Bin>{0,unbounded}</Bin>
</WavelengthRange>
```

**Source**

```
<xsd:element name="WavelengthRange" type="WavelengthRange"/>
```

**Schema location**

file://var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

**Element Mixed**

**Namespace**

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

**Diagram**

```
[Diagram Image]
```

**Type**

Mixed

**Properties**

- content: complex

**Substitution Group**

- ParameterEntity

**Model**

Qualifier* , MixedQuantity , ParticleType*

**Children**

| MixedQuantity , ParticleType , Qualifier |

**Instance**

```
<Mixed>
  <Qualifier>{0,unbounded}</Qualifier>
  <MixedQuantity>{1,1}</MixedQuantity>
  <ParticleType>{0,unbounded}</ParticleType>
</Mixed>
```

**Source**

```
<xsd:element name="Mixed" type="Mixed" substitutionGroup="ParameterEntity"/>
```

**Schema location**

file://var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

**Element MixedQuantity**

**Namespace**

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

**Annotations**

A characterization of the combined attributes of a quantity.

```
[Diagram Image]
```

**Type**

type enumMixedQuantity

**Properties**

- content: simple

**Facets**

- enumeration AkasofuEpsilon

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

---

59
| enumeration | AlfvenMachNumber | The ratio of the bulk flow speed to the Alfven speed. |
| enumeration | 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 (μ). |
| enumeration | FrequencyToGyrofrequencyRat | |
| enumeration | MagnetosonicMachNumber | The ratio of the velocity of fast mode waves to the Alfven velocity. |
| enumeration | Other | Not classified with more specific terms. The context of its usage may be described in related text. |
| enumeration | PlasmaBeta | 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). |
| enumeration | TotalPressure | In an MHD fluid it is the number density (N) 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**

| Complex Type | Mixed |

**Source**

```
<xs:element name="MixedQuantity" type="enumMixedQuantity">
  <xs:annotation>
    <xs:documentation xml:lang="en">A characterization of the combined attributes of a quantity.</xs:documentation>
  </xs:annotation>
</xs:element>
```

**Schema location**

```
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
```

**Element Support**

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

**Diagram**

![Diagram of Structure](image)

**Type**

Support

**Properties**

- content: complex

**Substitution Group**

- ParameterEntity

**Affiliation**

**Model**

Qualifier*, SupportQuantity

**Children**

Qualifier, SupportQuantity

**Instance**

```
<Support>
  <Qualifier>[0,unbounded]</Qualifier>
  <SupportQuantity>[1,1]</SupportQuantity>
</Support>
```

**Source**

```
<xsd:element name="Support" type="Support" substitutionGroup="ParameterEntity"/>
```

**Schema location**

```
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
```
### Element `SupportQuantity`

<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 characterization of the support information.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Schema" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>enumSupportQuantity</code></td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td>Facets</td>
<td>enumeration InstrumentMode</td>
</tr>
<tr>
<td></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 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.</td>
</tr>
<tr>
<td></td>
<td>enumeration Temporal Pertaining to time.</td>
</tr>
<tr>
<td></td>
<td>enumeration Velocity 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>Used by</td>
<td>Complex Type Support</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;SupportQuantity&quot; type=&quot;enumSupportQuantity&quot;&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;A characterization of the support information.&lt;/xsd:documentation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:element&gt;</code></td>
</tr>
</tbody>
</table>

### Schema location
- `file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd`

### Element `DisplayData`

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

Properties:
- content: complex

Substitution Group:
- ResourceEntity

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

Children:
- AccessInformation
- Caveats
- DisplayCadence
- Extension
- InputResourceID
- InstrumentID
- Keyword
- MeasurementType
- ObservedRegion
- Parameter
- ProcessingLevel
- ProviderProcessingLevel
- ProviderResourceName
- ProviderVersion
- ResourceHeader
- ResourceID
- SpectralRange
- TemporalDescription

Instance:
```
<DisplayData>
  <ResourceID>(1,1)</ResourceID>
  <ResourceHeader>(1,1)</ResourceHeader>
</DisplayData>
```
<AccessInformation>{1,unbounded}</AccessInformation>
<ProcessingLevel>{0,1}</ProcessingLevel>
<ProviderResourceName>{0,1}</ProviderResourceName>
<ProviderProcessingLevel>{0,1}</ProviderProcessingLevel>
<ProviderVersion>{0,1}</ProviderVersion>
<InstrumentID>{0,unbounded}</InstrumentID>
<MeasurementType>{1,unbounded}</MeasurementType>
<TemporalDescription>{0,1}</TemporalDescription>
<SpectralRange>{0,unbounded}</SpectralRange>
<DisplayCadence>{0,1}</DisplayCadence>
<ObservedRegion>{0,unbounded}</ObservedRegion>
<Caveats>{0,unbounded}</Caveats>
<Keyword>{0,unbounded}</Keyword>
<InputResourceID>{0,unbounded}</InputResourceID>
<Parameter>{0,unbounded}</Parameter>
<Extension>{0,unbounded}</Extension>
</DisplayData>

Source

<xs:element name="DisplayData" types="DisplayData" substitutionGroup="ResourceEntity"/>

Schema location
file:/var/www/spase/site/root/data/schema/spase-2.0.3.xsd

Element ProcessingLevel

Namespace http://www.spase-group.org/data/schema
Annotations The standard classification of the processing performed on the product.

Diagram

```
[ProcessingLevel]
| Type: enumProcessingLevel |
```

Type enumProcessingLevel

Properties

<table>
<thead>
<tr>
<th>Facets</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Calibrated</td>
</tr>
<tr>
<td></td>
<td>Data wherein sensor outputs have been convolved with instrument response function, often irreversibly, to yield data in physical units.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Raw</td>
</tr>
<tr>
<td></td>
<td>Data in its original state with no processing to account for calibration!!!</td>
</tr>
<tr>
<td>enumeration</td>
<td>Uncalibrated</td>
</tr>
<tr>
<td></td>
<td>Duplicate data are removed from the data stream and data are time ordered. Values are not adjusted for any potential biases or external factors.</td>
</tr>
</tbody>
</table>

Used by Complex Types DisplayData, NumericalData

Source

<xs:element name="ProcessingLevel" type="enumProcessingLevel">
<xs:annotation>
<xs:documentation xml:lang="en">The standard classification of the processing performed on the product.</xs:documentation>
</xs:annotation>
</xs:element>

Schema location file:/var/www/spase/site/root/data/schema/spase-2.0.3.xsd

Element ProviderProcessingLevel

Namespace http://www.spase-group.org/data/schema
Annotations The provider specific classification of the processing performed on the product.

Diagram

```
[ProviderProcessingLevel]
| Type: xsd:string |
```

Type xsd:string

Properties

<table>
<thead>
<tr>
<th>Used by</th>
<th>Complex Types</th>
<th>DisplayData, NumericalData</th>
</tr>
</thead>
</table>

Source

<xs:element name="ProviderProcessingLevel" type="xsd:string">
<xs:annotation>
<xs:documentation xml:lang="en">The provider specific classification of the processing performed on the product.</xs:documentation>
</xs:annotation>
</xs:element>
### Element MeasurementType

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>A characterization of the quantitative assessment of a phenomenon.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>enumMeasurementType</td>
</tr>
<tr>
<td>Properties content:</td>
<td>simple</td>
</tr>
<tr>
<td>Facets</td>
<td></td>
</tr>
<tr>
<td>enumeration ActivityIndex</td>
<td>An indication, derived from one or more measurements, of the level of activity of an object or region, such as sunspot number, F10.7 flux, Dst, or the Polar Cap Indices.</td>
</tr>
<tr>
<td>enumeration Dopplergram</td>
<td>A map or image depicting the spatial distribution of line-of-sight velocities of the observed object.</td>
</tr>
<tr>
<td>enumeration ElectricField</td>
<td>A region of space around a charged particle, or between two voltages within which a force is exerted on charged objects in its vicinity. An electric field is the electric force per unit charge.</td>
</tr>
<tr>
<td>enumeration EnergeticParticles</td>
<td>Pieces of matter that are moving very fast. Energetic particles include protons, electrons, neutrons, neutrinos, the nuclei of atoms, and other sub-atomic particles.</td>
</tr>
<tr>
<td>enumeration Ephemeris</td>
<td>The spatial coordinates of a body as a function of time. When used as an Instrument Type it represents the process or methods used to generate spatial coordinates.</td>
</tr>
<tr>
<td>enumeration ImageIntensity</td>
<td>Measurements of the two-dimensional distribution of the intensity of photons from some region or object such as the Sun or the polar auroral regions; can be in any wavelength band, and polarized, etc.</td>
</tr>
<tr>
<td>enumeration InstrumentStatus</td>
<td>A quantity directly related to the operation or function of an instrument.</td>
</tr>
<tr>
<td>enumeration IonComposition</td>
<td>In situ measurements of the relative flux or density of electrically charged particles in the space environment. May give simple fluxes, but full distribution functions are sometimes measured.</td>
</tr>
<tr>
<td>enumeration Irradiance</td>
<td>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. The SI unit of irradiance is watts per square meter (W·m⁻²).</td>
</tr>
<tr>
<td>enumeration 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>
</tbody>
</table>
| enumeration Magnetogram       | 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."
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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. The SI unit of radiance is watts per steradian per square meter ($W^*sr^{-1}m^{-2}$).</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 Complex Types**

- DisplayData
- NumericalData

**Source**

```xml
<xsd:element name="MeasurementType" type="enumMeasurementType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A characterization of the quantitative assessment of a phenomenon.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

**Schema location**

`file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd`
Element TemporalDescription

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

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>TemporalDescription</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: complex</td>
</tr>
<tr>
<td>Used by</td>
<td>Complex Types DisplayData, NumericalData</td>
</tr>
<tr>
<td>Model</td>
<td>TimeSpan, Cadence{0,1}, Exposure{0,1}</td>
</tr>
<tr>
<td>Children</td>
<td>Cadence, Exposure, TimeSpan</td>
</tr>
</tbody>
</table>

Instance

```xml
<TemporalDescription>
  <TimeSpan>{1,1}</TimeSpan>
  <Cadence>{0,1}</Cadence>
  <Exposure>{0,1}</Exposure>
</TemporalDescription>
```

Source

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

Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element Exposure

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

Annotations

The time interval over which an individual measurement is taken.

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>xsd:duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td>Used by</td>
<td>Complex Type TemporalDescription</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:element name="Exposure" type="xsd:duration">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The time interval over which an individual measurement is taken.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element DisplayCadence

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

Annotations

The time interval between the successive display elements.

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>xsd:duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td>Used by</td>
<td>Complex Type DisplayData</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:element name="DisplayCadence" type="xsd:duration">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The time interval between the successive display elements.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
### Element ObservedRegion

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

#### Annotations
The portion of space measured by the instrument at the time of an observation. A region is distinguished by certain natural features or physical characteristics. It is the location of the observatory for in situ data, the location or region sensed by remote sensing observatories and the location-of-relevance for parameters that are derived from observational data.

#### Diagram
![ObservedRegion Diagram](image)

#### Type
enumRegion

#### Properties
- **content:** simple

#### Facets
<table>
<thead>
<tr>
<th>Type</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 planets 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>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>Earth.NearSurface</td>
<td>The gaseous and possibly ionized environment of a body extending from the surface to some specified altitude. For the Earth, this altitude is 2000 km.</td>
</tr>
<tr>
<td>Earth.NearSurface.Atmosphere</td>
<td>Neutral gases surrounding a body that extends from the surface and is bound to the body by virtue of the gravitational attraction.</td>
</tr>
<tr>
<td>Earth.NearSurface.AuroralRegion</td>
<td>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>Schema documentation for spase-2_0_3.xsd</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Earth.NearSurface.EquatorialRegion</strong></td>
<td></td>
</tr>
<tr>
<td>A region centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.</td>
<td></td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Ionosphere</strong></td>
<td></td>
</tr>
<tr>
<td>Charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.</td>
<td></td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Ionosphere.DRegion</strong></td>
<td></td>
</tr>
<tr>
<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>
<td></td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Ionosphere.FRegion</strong></td>
<td></td>
</tr>
<tr>
<td>A layer that contains ionized gases at a height of around 150-800 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1- and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.</td>
<td></td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Ionosphere.Topside</strong></td>
<td></td>
</tr>
<tr>
<td>The region at the upper most areas of the ionosphere.</td>
<td></td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Mesosphere</strong></td>
<td></td>
</tr>
<tr>
<td>The layer of the atmosphere that extends from the Stratosphere to a range of 80 km to 85 km, temperature decreasing with height.</td>
<td></td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Plasmasphere</strong></td>
<td></td>
</tr>
<tr>
<td>A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
<td></td>
</tr>
<tr>
<td><strong>Earth.NearSurface.PolarCap</strong></td>
<td></td>
</tr>
<tr>
<td>The areas of the globe surrounding the poles and consisting of the region north of 60 degrees north latitude an the region south of 60 degrees south latitude.</td>
<td></td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Stratosphere</strong></td>
<td></td>
</tr>
<tr>
<td>The layer of the atmosphere that extends from the troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.</td>
<td></td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Thermosphere</strong></td>
<td></td>
</tr>
<tr>
<td>The layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height.</td>
<td></td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Troposphere</strong></td>
<td></td>
</tr>
<tr>
<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>
<td></td>
</tr>
<tr>
<td><strong>Earth.Surface</strong></td>
<td></td>
</tr>
<tr>
<td>The outermost area of a solid object.</td>
<td></td>
</tr>
<tr>
<td><strong>Heliosphere</strong></td>
<td></td>
</tr>
<tr>
<td>The solar atmosphere extending roughly from the outer corona to the edge of the solar plasma at the heliopause separating primarily...</td>
<td></td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>solar plasma from interstellar plasma.</td>
<td>The region of the heliosphere extending radially out from the &quot;surface&quot; of the Sun to 1 AU.</td>
</tr>
<tr>
<td>Heliosphere.Inner</td>
<td>The region of the heliosphere extending radially out from the &quot;surface&quot; of the Sun to 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 from, but not including, 1 AU to the farthest extent of the heliosphere (heliopause).</td>
</tr>
<tr>
<td>Heliosphere.Remote1AU</td>
<td>The heliospheric region near the Earths orbit, but exclusive of the region near the Earth.</td>
</tr>
<tr>
<td>Interstellar</td>
<td>The region between stars outside of the stars heliopause.</td>
</tr>
<tr>
<td>Jupiter</td>
<td>The fifth planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Mars</td>
<td>The forth planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Mercury</td>
<td>The first planet from the sun in our solar system.</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>Sun</td>
<td>The star upon which our solar system is centered.</td>
</tr>
<tr>
<td>Sun.Chromosphere</td>
<td>The region of the Suns (or a stars) 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>Venus</td>
<td>The second planet from the sun in our solar system.</td>
</tr>
</tbody>
</table>

**Used by**

| Complex Types | DisplayData, NumericalData, ObservationExtent |

**Source**

```xml
<xsd:element name="ObservedRegion" type="enumRegion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The portion of space measured by the instrument at the time of an observation. A region is distinguished by certain natural features or physical characteristics. It is the location of the observatory for in situ data, the location or region sensed by remote sensing observatories.
  </xsd:documentation>
</xsd:element>
```
Element **NumericalData**

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

Diagram

<table>
<thead>
<tr>
<th>Type</th>
<th>NumericalData</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>content: complex</td>
</tr>
<tr>
<td>Substitution Group</td>
<td>• ResourceEntity</td>
</tr>
<tr>
<td>Affiliation</td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>ResourceID, ResourceHeader, AccessInformation+, ProcessingLevel[0,1], ProviderResourceName[0,1], ProviderProcessingLevel[0,1], ProviderVersion[0,1], InstrumentID*, MeasurementType+, TemporalDescription[0,1], SpectralRange*, ObservedRegion*, Caveats[0,1], Keyword*, InputResourceId*, Parameter*, Extension*</td>
</tr>
</tbody>
</table>
### Children

<table>
<thead>
<tr>
<th>AccessInformation, Caveats, Extension, InputResourceID, InstrumentID, Keyword, MeasurementType, ObservedRegion, Parameter, ProcessingLevel, ProviderProcessingLevel, ProviderResourceName, ProviderVersion, ResourceHeader, ResourceID, SpectralRange, TemporalDescription</th>
</tr>
</thead>
</table>

### Instance

```
<NumericalData>
  <ResourceID>(1,1)</ResourceID>
  <ResourceHeader>(1,1)</ResourceHeader>
  <AccessInformation>[1,unbounded]</AccessInformation>
  <ProcessingLevel>[0,1]</ProcessingLevel>
  <ProviderResourceName>[0,1]</ProviderResourceName>
  <ProviderProcessingLevel>[0,1]</ProviderProcessingLevel>
  <ProviderVersion>(0,unbounded)</ProviderVersion>
  <InstrumentID>[0,unbounded]</InstrumentID>
  <MeasurementType>[1,unbounded]</MeasurementType>
  <TemporalDescription>[0,1]</TemporalDescription>
  <SpectralRange>[0,unbounded]</SpectralRange>
  <ObservedRegion>[0,unbounded]</ObservedRegion>
  <Caveats>[0,1]</Caveats>
  <Keyword>[0,unbounded]</Keyword>
  <InputResourceID>[0,unbounded]</InputResourceID>
  <Parameter>[0,unbounded]</Parameter>
  <Extension>[0,unbounded]</Extension>
</NumericalData>
```

### Source

```
<xsd:element  name="NumericalData"  type="NumericalData"  substitutionGroup="ResourceEntity"/>
```

### Schema location

`file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd`

---

### Element Document

#### Namespace

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

#### Diagram

![Diagram of Document](image)

#### Type

Document

#### Properties

- content: complex

#### Substitution Group

- ResourceEntity

#### Affiliation

- ResourceID, ResourceHeader, AccessInformation+, Keyword*, DocumentType, InputResourceID*

#### Model

AccessInformation, DocumentType, InputResourceID, Keyword, ResourceHeader, ResourceID

#### Children

```
<Document>
  <ResourceID>(1,1)</ResourceID>
  <ResourceHeader>(1,1)</ResourceHeader>
  <AccessInformation>[1,unbounded]</AccessInformation>
  <Keyword>[0,unbounded]</Keyword>
  <DocumentType>[1,1]</DocumentType>
  <InputResourceID>[0,unbounded]</InputResourceID>
</Document>
```

#### Source

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

#### Schema location

`file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd`
### Element `DocumentType`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><code>http://www.spase-group.org/data/schema</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>A characterization of the content or purpose of a document.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>enumDocumentType</code></td>
</tr>
<tr>
<td>Properties</td>
<td>content: <code>simple</code></td>
</tr>
<tr>
<td>Facets</td>
<td>enumeration, <code>Paper</code> A formal presentation of an idea or discovery typically more than a few pages in length.</td>
</tr>
<tr>
<td>Used by</td>
<td>Complex Type Document</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:element name=&quot;DocumentType&quot; type=&quot;enumDocumentType&quot;&gt;</code> <code>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;A characterization of the content or purpose of a document.&lt;/xsd:documentation&gt;</code> <code>&lt;xsd:annotation&gt;</code> <code>&lt;xsd:element&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd</td>
</tr>
</tbody>
</table>

### Element `Granule`

<table>
<thead>
<tr>
<th>Namespace</th>
<th><code>http://www.spase-group.org/data/schema</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td><code>Granule</code></td>
</tr>
<tr>
<td>Properties</td>
<td>content: <code>complex</code></td>
</tr>
<tr>
<td>Substitution Group</td>
<td>• ResourceEntity</td>
</tr>
<tr>
<td>Affiliation</td>
<td>ResourceID, ReleaseDate, ExpirationDate[0,1], ParentID, PriorID*, StartDate, StopDate, Source+</td>
</tr>
<tr>
<td>Model</td>
<td>ResourceID, ReleaseDate, ExpirationDate[0,1], ParentID, PriorID*, StartDate, StopDate, Source+</td>
</tr>
<tr>
<td>Children</td>
<td>ExpirationDate, ParentID, PriorID, ReleaseDate, ResourceID, Source, StartDate, StopDate</td>
</tr>
<tr>
<td>Instance</td>
<td><code>&lt;Granule&gt;</code> <code>&lt;ResourceID&gt;(1,1)&lt;/ResourceID&gt;</code> <code>&lt;ReleaseDate&gt;(1,1)&lt;/ReleaseDate&gt;</code> <code>&lt;ExpirationDate&gt;(0,1)&lt;/ExpirationDate&gt;</code></td>
</tr>
</tbody>
</table>
Schema documentation for spase-2_0_3.xsd

```xml
<ParentID>{1,1}</ParentID>
<PriorID>[0,unbounded]</PriorID>
<StartDate>{1,1}</StartDate>
<StopDate>{1,1}</StopDate>
<Source>[1,unbounded]</Source>
</Granule>
```

**Source**
```
<xsd:element name="Granule" type="Granule" substitutionGroup="ResourceEntity"/>
```

**Element ParentID**

- **Namespace**: http://www.spase-group.org/data/schema
- **Annotations**: The resource identifier for a resource that a resource is a part of. The resource inherits the attributes of the referenced resource. Attributes defined in the resource override attributes of the parent in the manner prescribed by the containing resource.
- **Diagram**
- **Type**: xsd:string
- **Properties**: content: simple
- **Used by**: Complex Type Granule

**Source**
```
<xsd:element name="ParentID" type="xsd:string">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The resource identifier for a resource that a resource is a part of. The resource inherits the attributes of the referenced resource. Attributes defined in the resource override attributes of the parent in the manner prescribed by the containing resource.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

**Element StopDate**

- **Namespace**: http://www.spase-group.org/data/schema
- **Annotations**: The specification of a stopping point in time.
- **Diagram**
- **Type**: xsd:dateTime
- **Properties**: content: simple
- **Substitution Group Affiliation**: • StopDateEntity
- **Used by**: Complex Type Granule

**Source**
```
<xsd:element name="StopDate" type="xsd:dateTime" substitutionGroup="StopDateEntity">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The specification of a stopping point in time.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

**Element Source**

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

Type Source
Properties content: complex
Used by Complex Type Granule
Model SourceType, URL, MirrorURL*,Checksum[0,1], DataExtent[0,1]
Children Checksum, DataExtent, MirrorURL, SourceType, URL
Instance
<Source>
  <SourceType>{1,1}</SourceType>
  <URL>{1,1}</URL>
  <MirrorURL>{0,unbounded}</MirrorURL>
  <Checksum>{0,1}</Checksum>
  <DataExtent>{0,1}</DataExtent>
</Source>

SourceType

Namespace http://www.spase-group.org/data/schema
Annotations A characterization of the function or purpose of the source.
Diagram

Type enumSourceType
Properties content: simple
Facets
  enumeration Ancillary A complementary item which can be subordinate, subsidiary, auxiliary, supplementary to the primary item.
  enumeration Browse A representation of an image which is suitable to reveal most or all of the details of the image.
  enumeration Data A collection of organized information, usually the results of experience, observation or experiment, or a set of premises. This may consist of numbers, words, or images, particularly as measurements or observations of a set of variables.
  enumeration Layout The structured arrangement of items in a collection.
  enumeration Thumbnail A small representation of an image which is suitable to infer what the full-sized imaged is like.

Used by Complex Type Source
Source

<XSD:element name="SourceType" type="enumSourceType"/>
<XSD:annotation>
Element `MirrorURL`

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

Annotations:
A Uniform Resource Locator (URL) to an alternate location of a resource.

Diagram:

Type: `xsd:string`

Properties:
content: simple

Used by:
Complex Type: Source

Source:
```xml
<xs:element name="MirrorURL" type="xsd:string">
  <xs:annotation>
    <xs:documentation xml:lang="en">A Uniform Resource Locator (URL) to an alternate location of a resource.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Schema location: file://var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element `Checksum`

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

Diagram:

Type: Checksum

Properties:
content: complex

Used by:
Complex Type: Source

Model:
HashValue, HashFunction

Children:
HashFunction, HashValue

Instance:
```xml
<Checksum>
  <HashValue>(1,1)</HashValue>
  <HashFunction>(1,1)</HashFunction>
</Checksum>
```

Source:
```xml
<xsd:element name="Checksum" type="Checksum"/>
```

Schema location: file://var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element `HashValue`

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

Annotations:
The value calculated by a hash function, e.g. the message digest of a digital data object.

Diagram:

Type: `xsd:string`

Properties:
content: simple

Used by:
Complex Type: Checksum

Source:
```xml
<xsd:element name="HashValue" type="xsd:string">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The value calculated by a hash function, e.g. the message digest of a digital data object.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```
## Element HashFunction

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

### Annotations
A function or algorithm that converts a digital data object into a hash value. Typically the hash value is small and concise when compared to the digital data object.

### Diagram
![Diagram of HashFunction]

### Type
enumHashFunction

### Properties
Content: simple

### Facets
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<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>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>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
- Complex Type: Checksum

### Source
```xml
<xsd:element name="HashFunction" type="enumHashFunction">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A function or algorithm that converts a digital data object into a hash value. Typically the hash value is small and concise when compared to the digital data object.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

## Element Instrument

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

### Diagram
![Diagram of Instrument]

### Source
```xml
<xsd:element name="Instrument" type="InstrumentType">
  <xsd:documentation xml:lang="en">...
  </xsd:documentation>
</xsd:element>
```
Type | Instrument
---|---
Properties | content: complex
Substitution Group | ResourceEntity
Affiliation
Model | ResourceID, ResourceHeader, InstrumentType+, InvestigationName, ObservatoryID, Caveats[0,1], Extension*
Children | Caveats, Extension, InstrumentType, InvestigationName, ObservatoryID, ResourceHeader, ResourceID

Instance

```xml
<Instrument>
  <ResourceID>[1,1]</ResourceID>
  <ResourceHeader>[1,1]</ResourceHeader>
  <InstrumentType>[1,unbounded]</InstrumentType>
  <InvestigationName>[1,1]</InvestigationName>
  <ObservatoryID>[1,1]</ObservatoryID>
  <Caveats>[0,1]</Caveats>
  <Extension>[0,unbounded]</Extension>
</Instrument>
```

Source

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

Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

Element InstrumentType

Namespace | http://www.spase-group.org/data/schema
Annotations | A characterization of an integrated collection of software and hardware containing one or more sensors and associated controls used to produce data on an environment.

Diagram

```
InstrumentType
<table>
<thead>
<tr>
<th>Type: enumInstrumentType</th>
</tr>
</thead>
</table>
```

Type | enumInstrumentType
Properties | content: simple

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 Suns 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.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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 measures density of ionizing radiation based on interactions with a gas.</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>A device 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>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>Enumeration</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td><strong>NeutralParticleDetector</strong></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><strong>ParticleCorrelator</strong></td>
<td>An instrument which correlates particle flux to help identify wave/particle interactions.</td>
<td></td>
</tr>
<tr>
<td><strong>ParticleDetector</strong></td>
<td>An instrument which detects particle flux.</td>
<td></td>
</tr>
<tr>
<td><strong>Photometer</strong></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><strong>Photopolarimeter</strong></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><strong>Platform</strong></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><strong>ProportionalCounter</strong></td>
<td>An instrument which measures energy of ionization radiation based on interactions with a gas.</td>
<td></td>
</tr>
<tr>
<td><strong>QuadrisphericalAnalyser</strong></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><strong>Radar</strong></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><strong>Radiometer</strong></td>
<td>An instrument for detecting or measuring radiant energy. Radiometers are commonly limited to infrared radiation.</td>
<td></td>
</tr>
<tr>
<td><strong>ResonanceSounder</strong></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><strong>RetardingPotentialAnalyser</strong></td>
<td>An instrument which measures ion temperatures and ion concentrations using a planar ion trap.</td>
<td></td>
</tr>
<tr>
<td><strong>Riometer</strong></td>
<td>An instrument which measures the signal strength in various directions of the galactic radio signals. Variations in these signals are influenced by solar flare activity and geomagnetic storm and substorm processes.</td>
<td></td>
</tr>
<tr>
<td><strong>ScintillationDetector</strong></td>
<td>An instrument which detects flourescences of a material which is excited by high energy (ionizing) electromagnetic or charged particle radiation.</td>
<td></td>
</tr>
<tr>
<td><strong>SearchCoil</strong></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>
</tbody>
</table>
### Enumeration

<table>
<thead>
<tr>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sounder</strong></td>
</tr>
<tr>
<td><strong>SpacecraftPotentialControl</strong></td>
</tr>
<tr>
<td><strong>SpectralPowerReceiver</strong></td>
</tr>
<tr>
<td><strong>Spectrometer</strong></td>
</tr>
<tr>
<td><strong>TimeOfFlight</strong></td>
</tr>
<tr>
<td><strong>Unspecified</strong></td>
</tr>
<tr>
<td><strong>WaveformReceiver</strong></td>
</tr>
</tbody>
</table>

- **Sounder**: An instrument which measures the radiances from an object. A sounder may measure radiances at multiple spectral ranges.
- **SpacecraftPotentialControl**: An instrument to control the electric potential of a spacecraft with respect to the ambient plasma by emitting a variable current of positive ions.
- **SpectralPowerReceiver**: A radio receiver which determines the power spectral density of the electric or magnetic field, or both, at one or more frequencies.
- **Spectrometer**: An instrument that measures the component wavelengths of light (or other electromagnetic radiation) by splitting the light up into its component wavelengths.
- **TimeOfFlight**: An instrument which measures the time it takes for a particle to travel between two detectors.
- **Unspecified**: A value which is not provided.
- **WaveformReceiver**: A radio receiver which outputs the value of one or more components of the electric and/or magnetic field as a function of time.

### Element

**InvestigationName**

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

**Annotations**

The name given to the contract or engagement which enabled the data to be produced. Each investigation is associated with a Principal Investigator or Guest Investigator who was responsible for the original proposal. For single PI missions each major subsystem having its own identified Team Leader may also be classed as an "Investigation" for the purposes of data archiving.

**Diagram**

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

**Type**

xsd:string

**Properties**

content: simple

**Used by**

Complex Type: Instrument

**Source**

```xml
<xs:element name="InvestigationName" type="xsd:string"/>
<xs:annotation>
  <xs:documentation xml:lang="en">The name given to the contract or engagement which enabled the data to be produced. Each investigation is associated with a Principal Investigator or Guest Investigator who was responsible for the original proposal. For single PI missions each major subsystem having its own identified Team Leader may also be classed as an "Investigation" for the purposes of data archiving.</xs:documentation>
</xs:annotation>
</xs:element>
```

**Schema location**

file://var/www/spase/site/root/data/schema/spase-2_0_3.xsd
Element ObservatoryID

Namespace  http://www.spase-group.org/data/schema
Annotations  The identifier of an Observatory resource.
Diagram
Type  xsd:string
Properties  content: simple
Used by  Complex Type Instrument
Source  
Instance  
Schema location  file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element Observatory

Namespace  http://www.spase-group.org/data/schema
Diagram
Type  Observatory
Properties  content: complex
Substitution Group  • ResourceEntity
Affiliation  Model  ResourceID , ResourceHeader , ObservatoryGroup* , Location , Extension*
Children  Extension , Location , ObservatoryGroup , ResourceHeader , ResourceID
Instance  
Source  
Schema location  file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element observatoryGroup

Namespace  http://www.spase-group.org/data/schema
Annotations  A set of programatically related observatories.
Diagram
**Type**
xsd:string

**Properties**
content: simple

**Used by**
Complex Type: Observatory

**Source**
```xml
<xsd:element name="ObservatoryGroup" type="xsd:string">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">A set of programmatically related observatories.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
```

**Schema location**
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

### Element Location

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

**Diagram**

**Type**
Location

**Properties**
content: complex

**Used by**
Complex Type: Observatory

**Model**
ObservatoryRegion+, CoordinateSystemName{0,1}, Latitude{0,1}, Longitude{0,1}, Elevation{0,1}

**Children**
CoordinateSystemName, Elevation, Latitude, Longitude, ObservatoryRegion

**Instance**
```xml
<Location>
    <ObservatoryRegion>{1,unbounded}</ObservatoryRegion>
    <CoordinateSystemName>{0,1}</CoordinateSystemName>
    <Latitude>{0,1}</Latitude>
    <Longitude>{0,1}</Longitude>
    <Elevation>{0,1}</Elevation>
</Location>
```

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

**Schema location**
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

### Element ObservatoryRegion

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

**Annotations**
A spatial location distinguished by certain natural features or physical characteristics where an observatory is located.

**Diagram**

**Type**
enumRegion

**Properties**
content: simple

**Facets**

<table>
<thead>
<tr>
<th>Facet Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Asteroid: A small extraterrestrial body consisting mostly of rock and metal that is in orbit around the sun.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Comet: A relatively small extraterrestrial body consisting of a frozen mass that travels around the sun in a highly elliptical orbit.</td>
</tr>
<tr>
<td><strong>Schema documentation for spase-2.0.3.xsd</strong></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration Earth</strong></td>
<td></td>
</tr>
<tr>
<td>The third planet from the sun in our solar system.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration Earth.MagnetoSheath</strong></td>
<td></td>
</tr>
<tr>
<td>The region between the bow shock and the magnetopause, characterized by very turbulent plasma.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration Earth.Magnetosphere</strong></td>
<td></td>
</tr>
<tr>
<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 planets magnetic field.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration Earth.Magnetosphere.Magnetotail</strong></td>
<td></td>
</tr>
<tr>
<td>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 Earth.Magnetosphere.Main</strong></td>
<td></td>
</tr>
<tr>
<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><strong>enumeration Earth.Magnetosphere.Polar</strong></td>
<td></td>
</tr>
<tr>
<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><strong>enumeration Earth.Magnetosphere.RadiationBelt</strong></td>
<td></td>
</tr>
<tr>
<td>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 Earth.NearSurface</strong></td>
<td></td>
</tr>
<tr>
<td>The gaseous and possibly ionized environment of a body extending from the surface to some specified altitude. For the Earth, this altitude is 2000 km.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration Earth.NearSurface.Atmosphere</strong></td>
<td></td>
</tr>
<tr>
<td>Neutral gases surrounding a body that extends from the surface and is bound to the body by virtue of the gravitational attraction.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration Earth.NearSurface.AuroralRegion</strong></td>
<td></td>
</tr>
<tr>
<td>Electrically-charged particles bombarding the upper atmosphere of a planet in the presence of a magnetic field produce an optical phenomenon.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration Earth.NearSurface.EquatorialRegion</strong></td>
<td></td>
</tr>
<tr>
<td>Centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration Earth.NearSurface.Ionosphere.DRegion</strong></td>
<td></td>
</tr>
<tr>
<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>
<td></td>
</tr>
<tr>
<td><strong>enumeration Earth.NearSurface.Ionosphere.ERegion</strong></td>
<td></td>
</tr>
<tr>
<td>Ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the K-H layer.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration Earth.NearSurface.Ionosphere.FRegion</strong></td>
<td></td>
</tr>
<tr>
<td>Ionized gases at a height of around 150-800 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1- and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.</td>
<td></td>
</tr>
<tr>
<td><strong>enumeration Earth.NearSurface.Ionosphere.Ionosphere.DRegion</strong></td>
<td></td>
</tr>
<tr>
<td>The upper most areas of the atmosphere.</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Mesosphere</strong></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><strong>Earth.NearSurface.Plasmasphere</strong></td>
<td>Region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.PolarCap</strong></td>
<td>Areas of the globe surrounding the poles and consisting of the region north of 60 degrees north latitude and the region south of 60 degrees south latitude.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.SouthAtlanticAnomalyRegion</strong></td>
<td>The region where the Earth's inner van Allen radiation belt makes its closest approach to the planet's surface. The result is that, for a given altitude, the radiation intensity is higher over this region than elsewhere.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Stratosphere</strong></td>
<td>Layer of the atmosphere that extends from the troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Thermosphere</strong></td>
<td>Layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height.</td>
</tr>
<tr>
<td><strong>Earth.NearSurface.Troposphere</strong></td>
<td>Lowest layer of the atmosphere which begins at the surface and extends to between 7 km (4.4 mi) at the poles and 17 km (10.6 mi) at the equator, with some variation due to weather factors.</td>
</tr>
<tr>
<td><strong>Earth.Surface</strong></td>
<td>The outermost area of a solid object.</td>
</tr>
<tr>
<td><strong>Heliosphere</strong></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><strong>Heliosphere.Inner</strong></td>
<td>The region of the heliosphere extending radially out from the &quot;surface&quot; of the Sun to 1 AU.</td>
</tr>
<tr>
<td><strong>Heliosphere.NearEarth</strong></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><strong>Heliosphere.Outer</strong></td>
<td>The region of the heliosphere from but not including, 1 AU to the farthest extent of the heliosphere (heliopause).</td>
</tr>
<tr>
<td><strong>Heliosphere.Remote1AU</strong></td>
<td>The heliospheric region near the Earth's orbit, but exclusive of the region near the Earth.</td>
</tr>
<tr>
<td><strong>Interstellar</strong></td>
<td>The region between stars outside of the stars heliopause.</td>
</tr>
<tr>
<td><strong>Jupiter</strong></td>
<td>The fifth planet from the sun in our solar system.</td>
</tr>
<tr>
<td><strong>Mars</strong></td>
<td>The forth planet from the sun in our solar system.</td>
</tr>
<tr>
<td><strong>Mercury</strong></td>
<td>The first planet from the sun in our solar system.</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>Schema documentation for spase-2_0_3.xsd</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>enumeration</strong> Saturn</td>
</tr>
<tr>
<td></td>
<td><strong>enumeration</strong> Sun</td>
</tr>
<tr>
<td></td>
<td><strong>enumeration</strong> Sun.Chromosphere</td>
</tr>
<tr>
<td></td>
<td><strong>enumeration</strong> Sun.Corona</td>
</tr>
<tr>
<td></td>
<td><strong>enumeration</strong> Sun.Interior</td>
</tr>
<tr>
<td></td>
<td><strong>enumeration</strong> Sun.Photosphere</td>
</tr>
<tr>
<td></td>
<td><strong>enumeration</strong> Sun.TransitionRegion</td>
</tr>
<tr>
<td></td>
<td><strong>enumeration</strong> Uranus</td>
</tr>
<tr>
<td></td>
<td><strong>enumeration</strong> Venus</td>
</tr>
</tbody>
</table>

**Element Latitude**

<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 angular distance north (positive) or south (negative) from the equator, measured along the meridian passing through the point.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="latitude.png" alt="Latitude Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>xsd:double</td>
</tr>
<tr>
<td>Properties</td>
<td>content: simple</td>
</tr>
<tr>
<td>Used by</td>
<td>Complex Type Location</td>
</tr>
</tbody>
</table>

**Element 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>
### Element Longitude

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

**Annotations**  
The angular distance measured west (positive) or east (negative) from a north-south line called the Prime Meridian.

**Diagram**

```
<element name="Longitude" type="xsd:double">
    <annotation>
        <documentation xml:lang="en">The angular distance measured west (positive) or east (negative) from a north-south line called the Prime Meridian.</documentation>
    </annotation>
</element>
```

**Type**  
xsd:double

**Properties**  
content: simple

**Used by**  
Complex Type

**Source**  
file://var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element Elevation

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

**Annotations**  
The distance in meters above (positive) or below (negative) the "zero elevation" defined by the World Geodetic System reference frame (WGS84).

**Diagram**

```
<element name="Elevation" type="xsd:double">
    <annotation>
        <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).</documentation>
    </annotation>
</element>
```

**Type**  
xsd:double

**Properties**  
content: simple

**Used by**  
Complex Type

**Source**  
file://var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element Person

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

**Type**
Person

**Properties**
- content: complex

**Substitution Group**
- ResourceEntity

**Affiliation**

**Model**
- ResourceID, ReleaseDate{0,1}, PersonName{0,1}, OrganizationName, Address{0,1}, Email*, PhoneNumber*, FaxNumber{0,1}, Note{0,1}, Extension*

**Children**
- Address, Email, Extension, FaxNumber, Note, OrganizationName, PersonName, PhoneNumber, ReleaseDate, ResourceID

**Instance**
```xml
<Person>
  <ResourceID>(1,1)</ResourceID>
  <ReleaseDate>(0,1)</ReleaseDate>
  <PersonName>(0,1)</PersonName>
  <OrganizationName>(1,1)</OrganizationName>
  <Address>(0,1)</Address>
  <Email>(0,unbounded)</Email>
  <PhoneNumber>(0,unbounded)</PhoneNumber>
  <FaxNumber>(0,1)</FaxNumber>
  <Note>(0,1)</Note>
  <Extension>(0,unbounded)</Extension>
</Person>
```

**Source**
```xml
<xsd:element name="Person" type="Person" substitutionGroup="ResourceEntity"/>
```

**Schema location**
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element PersonName

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

**Annotations**
The words used to address an individual.

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

**Type**
xsd:string

**Properties**
- content: simple

**Used by**
- Complex Type: Person
Schema documentation for spase-2_0_3.xsd

**Source**

```xml
<xsd:element name="PersonName" type="xsd:string">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The words used to address an individual.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

**Schema location**

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

**Element** OrganizationName

**Namespace**

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

**Annotations**

A unit within a company or other entity (e.g., Government agency or branch of service) within which many projects are managed as a whole.

**Diagram**

```
<OrganizationName type="xsd:string"/>
```

**Type**

xsd:string

**Properties**

content: simple

**Used by**

Complex Type Person

**Source**

```xml
<xsd:element name="OrganizationName" type="xsd:string">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A unit within a company or other entity (e.g., Government agency or branch of service) within which many projects are managed as a whole.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

**Schema location**

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

**Element** Address

**Namespace**

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

**Annotations**

Directions for finding some location; written on letters or packages that are to be delivered to that location.

**Diagram**

```
<Address type="xsd:string"/>
```

**Type**

xsd:string

**Properties**

content: simple

**Used by**

Complex Type Person

**Source**

```xml
<xsd:element name="Address" type="xsd:string">
  <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:element>
```

**Schema location**

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

**Element** Email

**Namespace**

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

**Annotations**

The electronic address at which the individual may be contacted expressed in the form "local-part@domain".

**Diagram**

```
<Email type="xsd:string"/>
```

**Type**

xsd:string

**Properties**

content: simple

**Used by**

Complex Type Person

**Source**

```xml
<xsd:element name="Email" type="xsd:string">
  <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:element>
```

**Schema location**

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
Source
<xsd:element name="Email" type="xsd:string">
  <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:element>

Schema location
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element PhoneNumber

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

Annotations
The symbols and numerals required to contact an individual by telephone. The string may contain punctuation marks such as dash (-) or dot (.) to separate fields within the string.

Diagram

Type
xsd:string

Properties
content: simple

Used by
Complex Type
Person

Source
<xsd:element name="PhoneNumber" type="xsd:string">
  <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:element>

Schema location
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element 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

Properties
content: simple

Used by
Complex Type
Person

Source
<xsd:element name="FaxNumber" type="xsd:string">
  <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:element>

Schema location
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Element Registry

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

**Type**
- Registry

**Properties**
- content: complex

**Substitution Group**
- ResourceEntity

**Model**
- ResourceID, ResourceHeader, AccessURL, Extension*

**Children**
- AccessURL, Extension, ResourceHeader, ResourceID

**Instance**
```xml
<Registry>
  <ResourceID>(1,1)</ResourceID>
  <ResourceHeader>(1,1)</ResourceHeader>
  <AccessURL>(1,1)</AccessURL>
  <Extension>(0,unbounded)</Extension>
</Registry>
```

**Source**
```xml
c<xsd:element name="Registry" type="Registry" substitutionGroup="ResourceEntity"/>
```

**Schema location**
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element Repository

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

**Type**
- Repository

**Properties**
- content: complex

**Substitution Group**
- ResourceEntity

**Model**
- ResourceID, ResourceHeader, AccessURL, Extension*

**Children**
- AccessURL, Extension, ResourceHeader, ResourceID

**Instance**
```xml
<Repository>
  <ResourceID>(1,1)</ResourceID>
  <ResourceHeader>(1,1)</ResourceHeader>
  <AccessURL>(1,1)</AccessURL>
  <Extension>(0,unbounded)</Extension>
</Repository>
```
### Element Service

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

**Diagram**

![Diagram of Service element]

**Type**  
Service

**Properties**

- content: complex

**Substitution Group**  
- ResourceEntity

**Model**

- ResourceID, ResourceHeader, AccessURL, Extension*

**Children**

- AccessURL, Extension, ResourceHeader, ResourceID

**Instance**

```xml
<Service>
  <ResourceID>(1,1)</ResourceID>
  <ResourceHeader>(1,1)</ResourceHeader>
  <AccessURL>(1,1)</AccessURL>
  <Extension>(0,unbounded)</Extension>
</Service>
```

**Source**  
<xsd:element name="Repository" type="Repository" substitutionGroup="ResourceEntity"/>

**Schema location**  
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

### Element Annotation

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

---

91
Schema documentation for spase-2_0_3.xsd

**Diagram**

Type: Annotation

Properties:
- content: complex

Substitution Group: ResourceEntity

Model:
- ResourceID, ResourceHeader, ImageURL{0,1}, AnnotationType, PhenomenonType{0,1}, ClassificationMethod{0,1}, ConfidenceRating{0,1}, TimeSpan*, ObservationExtent*, Extension*

Children:
- AnnotationType, ClassificationMethod, ConfidenceRating, Extension, ImageURL, ObservationExtent, PhenomenonType, ResourceHeader, ResourceID, TimeSpan

Instance:
```
<Annotation>
  <ResourceID>[1,1]</ResourceID>
  <ResourceHeader>[1,1]</ResourceHeader>
  <ImageURL>[1,1]</ImageURL>
  <AnnotationType>[1,1]</AnnotationType>
  <PhenomenonType>[0,1]</PhenomenonType>
  <ClassificationMethod>[0,1]</ClassificationMethod>
  <ConfidenceRating>[0,1]</ConfidenceRating>
  <TimeSpan>[0, unbounded]</TimeSpan>
  <ObservationExtent>[0, unbounded]</ObservationExtent>
  <Extension>[0, unbounded]</Extension>
</Annotation>
```

Source:
```
xsd:element name="Annotation" type="Annotation" substitutionGroup="ResourceEntity"/>
```

**Element ImageURL**

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

Annotations:
- A URL to graphic, image or movie.

Type: xsd:string

Properties:
- content: simple

Used by:
- Complex Type: Annotation

---

92
Source

```xml
<xsd:element name="ImageURL" type="xsd:string">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A URL to graphic, image or movie.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element AnnotationType

**Namespace**

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

**Annotations**

A classification for an annotation.

**Diagram**

![Diagram](annotation.png)

**Type**

denumAnnotationType

**Properties**

content: simple

**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.

**Used by**

Complex Type Annotation

**Source**

```xml
<xsd:element name="AnnotationType" type="enumAnnotationType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A classification for an annotation.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element ClassificationMethod

**Namespace**

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

**Annotations**

The technique used to determine the characteristics of an object.

**Diagram**

![Diagram](classification.png)

**Type**

denumClassificationMethod

**Properties**

content: simple

**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**

Complex Type Annotation

**Source**

```xml
<xsd:element name="ClassificationMethod" type="enumClassificationMethod">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The technique used to determine the characteristics of an object.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Element ConfidenceRating

**Namespace**

http://www.spase-group.org/data/schema
Annotations | A classification of the certainty of an assertion.
---|---

**Type** | enumConfidenceRating
**Properties** | content: simple
**Facets** | 
- enumConfidenceRating
  - Probable: Likely given the available evidence. Considered in the range of 4-7 on a scale of 0-10.
  - Strong: Highly likely given the available evidence. Considered in the range of 7-10 on a scale of 0-10.
  - Unlikely: Not likely given the available evidence. Considered in the range of 0 on a scale of 0-10.
  - Weak: Slightly likely given the available evidence. Considered in the range of 1-4 on a scale of 0-10.

**Used by** | Complex Type Annotation

**Source** | 
```xml
<xsd:element name="ConfidenceRating" type="enumConfidenceRating">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A classification of the certainty of an assertion.</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

**Schema location** | file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

**Element** | **ObservationExtent**

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

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

**Type** | ObservationExtent
**Properties** | content: complex

**Used by** | Complex Type Annotation

**Model** | ObservedRegion{0,1}, StartLocation, StopLocation, Note*

**Children** | Note, ObservedRegion, StartLocation, StopLocation

**Instance** | 
```xml
<ObservationExtent>
  <ObservedRegion>[0,1]</ObservedRegion>
  <StartLocation>[1,1]</StartLocation>
  <StopLocation>[1,1]</StopLocation>
  <Note>[0,unbounded]</Note>
</ObservationExtent>
```

**Source** | 
```xml
<xsd:element name="ObservationExtent" type="ObservationExtent"/>
```

**Schema location** | file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

---

**Element** | **StartLocation**

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

**Annotations** | The initial position in space.
Diagram

Type xsd:string
Properties content: simple
Used by Complex Type ObservationExtent
Source

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Element StartLocation**

Namespace http://www.spase-group.org/data/schema
Annotations The initial position in space.

**Element StopLocation**

Namespace http://www.spase-group.org/data/schema
Annotations The final position in space.

**Element RelativeStopDate**

Namespace http://www.spase-group.org/data/schema
Annotations An indication of the nominal end date relative to the present.

Substitution Group Affiliation StopDateEntity

Complex Types

**Complex Type Spase**

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

Space Physics Archive Search and Extract (SPASE).
The outermost container or envelope for SPASE metadata. This indicates the start of the SPASE metadata.

Diagram

Used by

Element Spase

Model

Version, ResourceEntity+

Children

ResourceEntity, Version

Attributes

<table>
<thead>
<tr>
<th>QName</th>
<th>Type</th>
<th>Fixed</th>
<th>Default</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>lang</td>
<td>xsd:string</td>
<td></td>
<td>en</td>
<td>optional</td>
</tr>
</tbody>
</table>

Source

```
<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 ref="Version" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="ResourceEntity" minOccurs="1" maxOccurs="unbounded"/>
  </xsd:sequence>
  <xsd:attribute name="lang" type="xsd:string" default="en"/>
</xsd:complexType>
```

Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Complex Type Catalog

Namespace

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

Annotations

A tabular listing of events or observational notes, especially those that have utility in aiding a user in locating data. Catalogues include lists of events, files in a product, and data availability.
Diagram

<table>
<thead>
<tr>
<th>Used by</th>
<th>Element</th>
<th>Catalog</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>ResourceID, ResourceHeader, AccessInformation+, ProviderResourceName[0,1], ProviderVersion[0,1], InstrumentID*, PhenomenonType+, TimeSpan[0,1], Caveats[0,1], Keyword*, InputResourceID*, Parameter*, Extension*</td>
<td></td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:complexType name="Catalog">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A tabular listing of events or observational notes, especially those that have utility in aiding a user in locating data. Catalogues include lists of events, files in a product, and data availability.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element ref="ResourceID" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="ResourceHeader" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="AccessInformation" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element ref="ProviderResourceName" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="ProviderVersion" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="InstrumentID" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element ref="PhenomenonType" minOccurs="1" maxOccurs="unbounded"/>
    <xsd:element ref="TimeSpan" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Caveats" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Keyword" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element ref="InputResourceID" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element ref="Parameter" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element ref="Extension" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Complex Type ResourceHeader**

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

Annotations Attributes of a resource which pertain to the provider of the resource and descriptive
Diagram

Source

Complex Type Contact

Annotations

Complex Type Contact

Annotations
Children | PersonID, 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 ref="PersonID" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="Role" minOccurs="1" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Complex Type InformationURL**

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

Annotations Attributes of the method of acquiring additional information.

Diagram

Used by

- Element InformationURL

Model Name{0,1}, URL, Description{0,1}, Language{0,1}

Children Description, Language, Name, URL

Source

```xml
<xsd:complexType name="InformationURL">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Attributes of the method of acquiring additional information.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element ref="Name" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="URL" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="Description" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Language" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Complex Type Association**

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

Annotations Attributes of a relationship a resource has with another resource.

Diagram

Used by

- Element Association

Model AssociationID{0,1}, AssociationType{0,1}, Note{0,1}

Children AssociationID, AssociationType, Note

Source

```xml
<xsd:complexType name="Association">
</xsd:complexType>
```
<xsd:documentation xml:lang="en">Attributes of a relationship a resource has with another resource.</xsd:documentation>
</xsd:annotation>
<xsd:element ref="AssociationID" minOccurs="0" maxOccurs="1"/>
<xsd:element ref="AssociationType" minOccurs="0" maxOccurs="1"/>
<xsd:element ref="Note" minOccurs="0" maxOccurs="1"/>
</xsd:sequence>
</xsd:complexType>

Complex Type 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.

Diagram

Used by Element AccessInformation

Model RepositoryID, Availability[0,1], AccessRights[0,1], AccessURL+, Format, Encoding[0,1], DataExtent[0,1], Acknowledgement[0,1]

Children AccessRights, AccessURL, Acknowledgement, Availability, DataExtent, Encoding, Format, RepositoryID

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 ref="RepositoryID" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="Availability" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="AccessRights" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="AccessURL" minOccurs="1" maxOccurs="unbounded"/>
    <xsd:element ref="Format" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="Encoding" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="DataExtent" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Acknowledgement" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>

Complex Type AccessURL

Namespace http://www.spase-group.org/data/schema
Annotations Attributes of the method for accessing a resource including a URL, name and description.
Schema documentation for spase-2_0_3.xsd

Diagram

Used by
Element
AccessURL

Model
Name{0,1}, URL, Description{0,1}, Language{0,1}

Children
Description, Language, Name, URL

Source
<xsd:complexType name="AccessURL">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Attributes of the method for accessing a resource including a URL, name and description.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element ref="Name" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="URL" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="Description" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Language" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>

Schema location
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Complex Type DataExtent

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

Annotations
The area of storage in a file system required to store the contents of a resource. The default units for data extent is bytes.

Diagram

Used by
Element
DataExtent

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

Children
Per, Quantity, Units

Source
<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 ref="Quantity" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="Units" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Per" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>

Schema location
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Complex Type TimeSpan

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

Annotations
The duration of an interval in time.
### Diagram

![Diagram](Image)

### Used by

<table>
<thead>
<tr>
<th>Element</th>
<th>TimeSpan</th>
</tr>
</thead>
</table>

### Model

| StartDate , StopDateEntity , Note* |

### Children

| Note , StartDate , StopDateEntity |

### 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 ref="StartDate" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="StopDateEntity" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="Note" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

### Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

### Complex Type Parameter

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

### Annotations

A container of information regarding a parameter whose values are part of the product. Every product contains or can be related to one or more parameters.
Diagram

Used by

Model
Name, Set*, ParameterKey\(\{0,1\}\), Description\(\{0,1\}\), Caveats\(\{0,1\}\), Cadence\(\{0,1\}\), Units\(\{0,1\}\), UnitsConversion\(\{0,1\}\), CoordinateSystem\(\{0,1\}\), RenderingHints*, Structure\(\{0,1\}\), ValidMin\(\{0,1\}\), ValidMax\(\{0,1\}\), FillValue\(\{0,1\}\), ParameterEntity

Children
Cadence, Caveats, CoordinateSystem, Description, FillValue, Name, ParameterEntity, ParameterKey, RenderingHints, Set, Structure, Units, UnitsConversion, ValidMax, ValidMin

Source
<xs:complexType name="Parameter">
  <xs:annotation>
    <xs: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.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element ref="Name" minOccurs="1" maxOccurs="1"/>
    <xs:element ref="Set" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="ParameterKey" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Description" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Caveats" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Cadence" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Units" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="UnitsConversion" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="CoordinateSystem" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="RenderingHints" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="Structure" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="ValidMin" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="ValidMax" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="FillValue" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="ParameterEntity" minOccurs="1" maxOccurs="1"/>
  </xs:sequence>
</xs:complexType>
Complex Type CoordinateSystem

Namespace | http://www.spase-group.org/data/schema
Annotations | Specification of the origin and orientation of a set of typically orthogonal axes.
Diagram

Used by | Element CoordinateSystem
Model | CoordinateRepresentation[0,1], CoordinateSystemName[0,1]
Children | CoordinateRepresentation, CoordinateSystemName

Source

Complex Type RenderingHints

Namespace | http://www.spase-group.org/data/schema
Annotations | Attributes to aid in the rendering of parameter.
Diagram

Used by | Element RenderingHints
Model | DisplayType[0,1], AxisLabel[0,1], ValueFormat[0,1], ScaleMin[0,1], ScaleMax[0,1], ScaleType[0,1]
Children | AxisLabel, DisplayType, ScaleMax, ScaleMin, ScaleType, ValueFormat

Source

Schema location | file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
**Complex Type Structure**

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

**Annotations**
The organization and relationship of individual values within a quantity.

**Diagram**

```
<xsd:complexType name="Structure">
    <xsd:documentation xml:lang="en">The organization and relationship of individual values within a quantity.</xsd:documentation>
    <xsd:sequence>
        <xsd:element ref="Size" minOccurs="0" maxOccurs="1"/>
        <xsd:element ref="Description" minOccurs="0" maxOccurs="1"/>
        <xsd:element ref="Element" minOccurs="0" maxOccurs="unbounded"/>
    </xsd:sequence>
</xsd:complexType>
```

**Used by**
Element, Structure

**Model**
Size(0,1), Description(0,1), Element*

**Children**
Description, Element, Size

**Source**
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Complex Type 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**

```
<xsd:complexType name="Element">
    <xsd:documentation xml:lang="en">A component or individual unit of a multiple value quantity such as an array or vector.</xsd:documentation>
</xsd:complexType>
```

**Used by**
Element, Element

**Model**
Name, Qualifier*, Index, ParameterKey(0,1), Units(0,1), UnitsConversion(0,1), ValidMin(0,1), ValidMax(0,1), FillValue(0,1)

**Children**
FillValue, Index, Name, ParameterKey, Qualifier, Units, UnitsConversion, ValidMax, ValidMin

**Source**
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
Complex Type 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 Field

Model Qualifier*, FieldQuantity, FrequencyRange[0,1]

Children FieldQuantity, FrequencyRange, Qualifier

Source

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Complex Type FrequencyRange

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

Annotations The range of possible values for the observed frequency.

Diagram

Used by Element FrequencyRange

Model SpectralRange(0,1), Low, High, Units, Bin*

Children Bin, High, Low, SpectralRange, Units
Complex Type 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

Used by Element Bin

Model BandName\{0,1\}, Low, High

Children BandName, High, Low

Complex Type 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
Schema documentation for spase-2_0_3.xsd

Used by | Element | Particle
-------|---------|---------
Model   | ParticleType*, Qualifier*, ParticleQuantity, AtomicNumber*, EnergyRange{0,1}, AzimuthalAngleRange{0,1}, PolarAngleRange{0,1}
Children| AtomicNumber, AzimuthalAngleRange, EnergyRange, ParticleQuantity, ParticleType, PolarAngleRange, Qualifier

Source
```
<xs:complexType name="Particle">
    <xs:annotation>
        <xs:documentation xml:lang="en">A description of the types of particles observed in the measurement. This includes both direct observations and inferred observations.</xs:documentation>
    </xs:annotation>
    <xs:sequence>
        <xs:element ref="ParticleType" minOccurs="1" maxOccurs="unbounded"/>
        <xs:element ref="Qualifier" minOccurs="0" maxOccurs="unbounded"/>
        <xs:element ref="ParticleQuantity" minOccurs="1" maxOccurs="1"/>
        <xs:element ref="AtomicNumber" minOccurs="0" maxOccurs="unbounded"/>
        <xs:element ref="EnergyRange" minOccurs="0" maxOccurs="1"/>
        <xs:element ref="AzimuthalAngleRange" minOccurs="0" maxOccurs="1"/>
        <xs:element ref="PolarAngleRange" minOccurs="0" maxOccurs="1"/>
    </xs:sequence>
</xs:complexType>
```

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Complex Type EnergyRange

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

Annotations The minimum and maximum energy values of the particles represented by a given "physical parameter" description.

Diagram

```
<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 ref="Low" minOccurs="1" maxOccurs="1"/>
        <xs:element ref="High" minOccurs="1" maxOccurs="1"/>
        <xs:element ref="Units" minOccurs="1" maxOccurs="1"/>
        <xs:element ref="Bin" minOccurs="0" maxOccurs="unbounded"/>
    </xs:sequence>
</xs:complexType>
```

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Complex Type AzimuthalAngleRange

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

Annotations The range of possible azimuthal angles for a group of energy observations. Default units are degrees.
Diagram

Used by Element AzimuthalAngleRange
Model Low, High, Units, Bin*
Children Bin, High, Low, Units
Source

Complex Type PolarAngleRange

Namespace http://www.spase-group.org/data/schema
Annotations The range of possible polar angles for a group of energy observations. Defaults units are degrees.

Diagram

Used by Element PolarAngleRange
Model Low, High, Units, Bin*
Children Bin, High, Low, Units
Source

Complex Type 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 Wave

Model Qualifier*, WaveType, WaveQuantity, EnergyRange[0,1], WavelengthRange[0,1], FrequencyRange[0,1]

Children EnergyRange, FrequencyRange, Qualifier, WaveQuantity, WaveType, WavelengthRange

Source
<xsd:complexType name="Wave">
  <xsd:annotation>
    <xsd: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.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element ref="Qualifier" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element ref="WaveType" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="WaveQuantity" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="EnergyRange" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="WavelengthRange" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="FrequencyRange" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Complex Type WavelengthRange

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

Annotations
The range of possible values for the observed wavelength.

Diagram

Used by
Element WavelengthRange

Model SpectralRange[0,1], Low, High, Units, Bin*

Children Bin, High, Low, SpectralRange, Units

Source
<xsd:complexType name="WavelengthRange">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The range of possible values for the observed wavelength.</xsd:documentation>
  </xsd:annotation>
</xsd:complexType>
Complex Type 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: Mixed
Model: Qualifier*, MixedQuantity, ParticleType*
Children: MixedQuantity, ParticleType, Qualifier

Source:
```xml
<xs:complexType name="Mixed">
  <xs:annotation>
    <xs:documentation xml:lang="en">A parameter derived from more than one of the type of parameter. For example, plasma beta, the ratio of plasma particle energy density to the energy density of the magnetic field permeating the plasma, is "mixed."</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element ref="Qualifier" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="MixedQuantity" minOccurs="1" maxOccurs="1"/>
    <xs:element ref="ParticleType" minOccurs="0" maxOccurs="unbounded"/>
  </xs:sequence>
</xs:complexType>
```

Complex Type 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: Support
Model: Qualifier*, SupportQuantity
Children: Qualifier, SupportQuantity

Source:
```xml
<xs:complexType name="Support">
  <xs:annotation>
    <xs:documentation xml:lang="en">Information useful in understanding the context of an observation, typically observed or measured coincidentally with a physical observation.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element ref="Qualifier" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="SupportQuantity" minOccurs="1" maxOccurs="1"/>
  </xs:sequence>
</xs:complexType>
```
Complex Type DisplayData

Namespace | http://www.spase-group.org/data/schema
Annotiations | A graphical representation of data wherein the underlying numeric values are not (readily) accessible for analysis. Examples are line plots and spectrograms.

Diagram

Used by | Element | DisplayData
Model | ResourceID, ResourceHeader, AccessInformation+, ProcessingLevel[0,1], ProviderResourceName[0,1] , ProviderProcessingLevel[0,1] , ProviderVersion[0,1] , InstrumentID+, MeasurementType+, TemporalDescription[0,1] , SpectralRange+, DisplayCadence[0,1] , ObservedRegion+, Caveats[0,1] , Keyword+, InputResourceID*, Parameter*, Extension*
Children | AccessInformation, Caveats, DisplayCadence, Extension, InputResourceID, InstrumentID, Keyword, MeasurementType, ObservedRegion, Parameter, ProcessingLevel, ProviderProcessingLevel, ProviderResourceName, ProviderVersion, ResourceHeader, ResourceID, SpectralRange, TemporalDescription

Source

```xml
<xs:complexType name="DisplayData">
  <!-- Annotation -->
  <xs:sequence>
    <!-- Elements -->
    <xs:element name="ResourceID" type="xsd:string"/>
    <xs:element name="ResourceHeader" type="xsd:ResourceHeader"/>
    <xs:element name="AccessInformation" type="xsd:AccessInformation"/>
    <xs:element name="ProcessingLevel" type="xsd:enumProcessingLevel"/>
    <xs:element name="ProviderResourceName" type="xsd:string"/>
    <xs:element name="ProviderProcessingLevel" type="xsd:string"/>
    <xs:element name="ProviderVersion" type="xsd:string"/>
    <xs:element name="InstrumentID" type="xsd:string"/>
    <xs:element name="MeasurementType" type="xsd:enumMeasurementType"/>
    <xs:element name="TemporalDescription" type="xsd:TemporalDescription"/>
    <xs:element name="SpectralRange" type="xsd:SpectralRange"/>
    <xs:element name="DisplayCadence" type="xsd:string"/>
    <xs:element name="ObservedRegion" type="xsd:ObservedRegion"/>
    <xs:element name="Caveats" type="xsd:Caveats"/>
    <xs:element name="Keyword" type="xsd:Keyword"/>
    <xs:element name="InputResourceID" type="xsd:string"/>
    <xs:element name="Parameter" type="xsd:string"/>
    <xs:element name="Extension" type="xsd:Extension"/>
  </xs:sequence>
</xs:complexType>
```
A graphical representation of data wherein the underlying numeric values are not (readily) accessible for analysis. Examples are line plots and spectrograms.

```xml
<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.</xsd:documentation>
</xsd:annotation>
</xsd:sequence>
</xsd:complexType>

Complex Type

**TemporalDescription**

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

Annotations: A characterization of the time over which the measurement was taken.

Diagram:

```
TemporalDescription
  └── TimeSpan
  └── Cadence
  └── Exposure
```

Used by:

Element: TemporalDescription

Model:

TimeSpan, Cadence{0,1}, Exposure{0,1}

Children:

Cadence, Exposure, TimeSpan

```
<xsd:complexType name="TemporalDescription">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A characterization of the time over which the measurement was taken.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element ref="TimeSpan" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="Cadence" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Exposure" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

Schema location: file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Complex Type

**NumericalData**

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

Annotations: Data product stored as numerical values in a specified format.

```
<xsd:complexType name="NumericalData">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Data product stored as numerical values in a specified format.</xsd:documentation>
  </xsd:annotation>
</xsd:complexType>
```

Schema location: file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
Diagram

Used by

Element NumericalData

Model

ResourceId, ResourceHeader, AccessInformation+, ProcessingLevel[0,1], ProviderResourceName[0,1], ProviderProcessingLevel[0,1], ProviderVersion[0,1], InstrumentID*, MeasurementType+, TemporalDescription[0,1], SpectralRange*, ObservedRegion*, Caveats[0,1], Keyword*, InputResourceId*, Parameter*, Extension*

Children

AccessInformation, Caveats, Extension, InputResourceId, InstrumentID, Keyword, MeasurementType, ObservedRegion, Parameter, ProcessingLevel, ProviderProcessingLevel, ProviderResourceName, ProviderVersion, ResourceHeader, ResourceID, SpectralRange, TemporalDescription

Source

<xsd:complexType name="NumericalData">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Data product stored as numerical values in a specified format.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element ref="ResourceId" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="ResourceHeader" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="AccessInformation" minOccurs="1" maxOccurs="unbounded"/>
    <xsd:element ref="ProcessingLevel" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="ProviderResourceName" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="ProviderProcessingLevel" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="ProviderVersion" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="InstrumentID" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element ref="MeasurementType" minOccurs="1" maxOccurs="unbounded"/>
    <xsd:element ref="TemporalDescription" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="SpectralRange" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element ref="ObservedRegion" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element ref="Caveats" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Keyword" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="InputResourceId" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Parameter" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Extension" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
**Complex Type 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. Some examples of documents include a paper, letter, book, user guide, map, drawing, photograph, or image.

Diagram

Used by | Element Document
---|---
Model | ResourceID, ResourceHeader, AccessInformation+, Keyword*, DocumentType, InputResourceID*
Children | AccessInformation, DocumentType, InputResourceID, Keyword, ResourceID

**Complex Type 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**

Diagram showing the structure of a Granule resource with elements and attributes:

```
Granule
├── ResourceID
├── ReleaseDate
├── ExpirationDate
├── ParentID
├── PriorID
├── StartDate
├── StopDate
└── Source
```

### Used by
- **Element**
  - Granule

### Model
- ResourceID, ReleaseDate, ExpirationDate[0,1], ParentID, PriorID*, StartDate, StopDate, Source+

### Children
- ExpirationDate, ParentID, PriorID, ReleaseDate, ResourceID, Source, StartDate, StopDate

### Source

```xml
<xsd:complexType name="Granule">
  <xsd:annotation>
    <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:sequence>
    <xsd:element ref="ResourceID" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="ReleaseDate" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="ExpirationDate" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="ParentID" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="PriorID" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element ref="StartDate" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="StopDate" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="Source" minOccurs="1" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

**Schema location**
- file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Complex Type Source**

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

- **Annotations**
  - The location and attributes of an object.
Schema documentation for spase-2_0_3.xsd

Complex Type 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.

Complex Type Instrument

Namespace http://www.spase-group.org/data/schema
Annotations A device that makes measurements used to characterize
A device that makes measurements used to characterize a physical phenomenon, or a family of like devices.

**Complex Type Observatory**

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

**Annotations**
The host (spacecraft, network, facility) for instruments making observations, or a family of programatically related hosts.

**Diagram**

**Used by**
Element Observatory

**Model**
ResourceID, ResourceHeader, ObservatoryGroup*, Location, Extension*

**Children**
Extension, Location, ObservatoryGroup, ResourceHeader, ResourceID

**Source**

```xml
<xsd:complexType name="Observatory">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The host (spacecraft, network, facility) for instruments making observations, or a family of programatically related hosts.</xsd:documentation>
  </xsd:annotation>
</xsd:complexType>
```
Complex Type 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

Location

Model ObservatoryRegion+, CoordinateSystemName{0,1}, Latitude{0,1}, Longitude{0,1}, Elevation{0,1}

Children CoordinateSystemName, Elevation, Latitude, Longitude, ObservatoryRegion

Source

```xml
<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 ref="ObservatoryRegion" minOccurs="1" maxOccurs="unbounded"/>
    <xsd:element ref="CoordinateSystemName" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Latitude" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Longitude" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Elevation" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

Complex Type Person

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

Annotations An individual human being.
### Complex Type Registry

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

**Annotations**
A location or facility where resources are cataloged.

---

**Diagram**

- **Used by**
  - Element: Registry
  - Person

- **Model**
  - ResourceID, ReleaseDate[0,1], PersonName[0,1], OrganizationName, Address[0,1], Email*, PhoneNumber*, FaxNumber[0,1], Note[0,1], Extension*

- **Children**
  - Address, Email, Extension, FaxNumber, Note, OrganizationName, PersonName, PhoneNumber, ReleaseDate, ResourceID

---

**Source**

```xml
<xsd:complexType name="Person">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual human being.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element ref="ResourceID" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="ReleaseDate" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="PersonName" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="OrganizationName" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="Address" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Email" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element ref="PhoneNumber" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element ref="FaxNumber" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Note" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="Extension" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

**Schema location**
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
Complex Type Repository

Namespace: http://www.spase-group.org/data/schema
Annotations: A location or facility where resources are stored.

Diagram:

Used by:
- Element: Repository

Model: ResourceID, ResourceHeader, AccessURL, Extension*
Children: AccessURL, Extension, ResourceHeader, ResourceID

Source:
```xml
<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 ref="ResourceID" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="ResourceHeader" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="AccessURL" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="Extension" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

Schema location: file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Complex Type 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: Service

Model: ResourceID, ResourceHeader, AccessURL, Extension*
Children: AccessURL, Extension, ResourceHeader, ResourceID

Source:
```xml
<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:complexType>
```

Schema location: file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
Complex Type Annotation

Namespace: http://www.spase-group.org/data/schema
Annotations: Information which is explanatory or descriptive which is associated with another resource.

Diagram:

Used by:
Element: Annotation

Model:
ResourceID, ResourceHeader, ImageURL{0,1}, AnnotationType, PhenomenonType{0,1}, ClassificationMethod{0,1}, ConfidenceRating{0,1}, TimeSpan*, ObservationExtent*, Extension*

Children:
AnnotationType, ClassificationMethod, ConfidenceRating, Extension, ImageURL, ObservationExtent, PhenomenonType, ResourceHeader, ResourceID, TimeSpan

Source:

Complex Type ObservationExtent

Namespace: http://www.spase-group.org/data/schema
Annotations: The spatial area encompassed by an observation.
Diagram

<table>
<thead>
<tr>
<th>Used by</th>
<th>Element</th>
<th>ObservationExtent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>ObservedRegion[0,1], StartLocation, StopLocation, Note*</td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td>Note, ObservedRegion, StartLocation, StopLocation</td>
<td></td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:complexType name="ObservationExtent">
  <xsd:annotation>
    <xsd:documentation xml:lang= "en">The spatial area encompassed by an observation.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element ref="ObservedRegion" minOccurs= "0" maxOccurs= "1"/>
    <xsd:element ref="StartLocation" minOccurs= "1" maxOccurs= "1"/>
    <xsd:element ref="StopLocation" minOccurs= "1" maxOccurs= "1"/>
    <xsd:element ref="Note" minOccurs= "0" maxOccurs= "unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Simple Types

Simple Type `enumVersion`

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

Annotations Version number.

Type restriction of xsd:string

Facets enumeration 2.0.3

Used by Element Version

Source

```xml
<xsd:simpleType name="enumVersion">
  <xsd:annotation>
    <xsd:documentation xml:lang= "en">Version number.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base= "xsd:string">
    <xsd:enumeration value= "2.0.3"/>
  </xsd:restriction>
</xsd:simpleType>
```

Schema location

file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Simple Type `enumRole`

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

Annotations Identifiers for the assigned or assumed function or position of an individual.

Diagram

Type restriction of xsd:string

Facets enumeration ArchiveSpecialist An individual who is an expert on a collection of resources and may also be knowledgeable of the phenomenon and related physics represented by the resources. This includes librarians, curators, archive scientists and other experts.

enumeration CoInvestigator An individual who is a scientific peer and major participant in an investigation.
<table>
<thead>
<tr>
<th>Role</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributor</td>
<td>An entity responsible for making contributions to the content of the resource.</td>
</tr>
<tr>
<td>DataProducer</td>
<td>An individual who generated the resource and is familiar with its provenance.</td>
</tr>
<tr>
<td>DeputyPI</td>
<td>An individual who is an administrative or scientific leader for an investigation operating under the supervision of a Principal Investigator.</td>
</tr>
<tr>
<td>FormerPI</td>
<td>An individual who had served as the administrative and scientific lead for an investigation, but no longer assumes that role.</td>
</tr>
<tr>
<td>GeneralContact</td>
<td>An individual who can provide information on a range of subjects or who can direct you to a domain expert.</td>
</tr>
<tr>
<td>MetadataContact</td>
<td>An individual who can affect a change in the metadata describing a resource.</td>
</tr>
<tr>
<td>PrincipalInvestigator</td>
<td>An individual who is the administrative and scientific lead for an investigation.</td>
</tr>
<tr>
<td>ProjectScientist</td>
<td>An individual who is an expert in the phenomenon and related physics explored by the project. A project scientist may also have a managerial role within the project.</td>
</tr>
<tr>
<td>Publisher</td>
<td>An individual, organization, institution or government department responsible for the production and dissemination of a document.</td>
</tr>
<tr>
<td>Scientist</td>
<td>An individual who is an expert in the phenomenon and related physics represented by the resource.</td>
</tr>
<tr>
<td>TeamLeader</td>
<td>An individual who is the designated leader of an investigation.</td>
</tr>
<tr>
<td>TeamMember</td>
<td>An individual who is a major participant in an investigation.</td>
</tr>
<tr>
<td>TechnicalContact</td>
<td>An individual who can provide specific information with regard to the resource or supporting software</td>
</tr>
</tbody>
</table>

Used by Element Role

Source

```xml
<xsd:simpleType name="enumRole">
  <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">An individual who is a scientific peer and major participant in an investigation.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Contributor">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An entity responsible for making contributions to the content of the resource.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="DataProducer">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">An individual who generated the resource and is familiar with its provenance.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```
<xsd:enumeration value="DeputyPI">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who is an administrative or scientific leader for an investigation operating under the supervision of a Principal Investigator.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="FormerPI">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who had served as the administrative and scientific lead for an investigation, but no longer assumes that role.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="GeneralContact">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who can provide information on a range of subjects or who can direct you to a domain expert.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="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:enumeration value="Publisher">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual, organization, institution or government department responsible for the production and dissemination of a document.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Scientist">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who is an expert in the phenomenon and related physics represented by the resource.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="TeamLeader">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who is the designated leader of an investigation.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="TeamMember">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who is a major participant in an investigation.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="TechnicalContact">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An individual who can provide specific information with regard to the resource or supporting software.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
Simple Type enumAssociationType

Namespace    http://www.spase-group.org/data/schema
Annotations  Identifiers for resource associations.
Diagram
Type    restriction of xsd:string
Facets
  enumeration    ChildEventOf    A descendant or caused by another resource.
  enumeration    DerivedFrom    A transformed or altered version of a resource instance.
  enumeration    ObservedBy    Detected or originating from another resource.
  enumeration    Other    Not classified with more specific terms. The context of its usage may be described in related text.
  enumeration    PartOf    A portion of a larger resource.
  enumeration    RevisionOf    A modified version of a resource instance.
Used by
Source
<xs:complexType name="enumAssociationType">
  <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:complexType>

Schema location  file:/var/www/spase/site/root/data/schema/spase-2.0.3.xsd

Simple Type enumAvailability

Namespace    http://www.spase-group.org/data/schema
Annotations  Identifiers for indicating the method or service
which may be used to access the resource.

### Diagram

**Type**

- restriction of xsd:string

#### Facets

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

#### Used by

- Element: Availability

### Source

```xml
<xsd:simpleType name="enumAvailability">
  <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 enumAccessRights

#### Namespace

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

#### Annotations

Identifiers for permissions granted or denied by the host of a product to allow other users to access and use the resource.

#### Diagram

**Type**

- restriction of xsd:string

#### Facets

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>Access is granted to everyone.</td>
</tr>
<tr>
<td>Restricted</td>
<td>Access to the product is regulated and requires some form of identification.</td>
</tr>
</tbody>
</table>

#### Used by

- Element: AccessRights

### Source

```xml
<xsd:simpleType name="enumAccessRights">
  <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 `enumFormat`

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio Video Interleave (AVI)</td>
<td>AVI</td>
</tr>
<tr>
<td>A direct representation of the bits which may be stored in memory on a computer.</td>
<td>Binary</td>
</tr>
<tr>
<td>Common Data Format (CDF)</td>
<td>CDF</td>
</tr>
<tr>
<td>Cluster Exchange Format (CEF)</td>
<td>CEF</td>
</tr>
<tr>
<td>Cluster Exchange Format (CEF), version 1</td>
<td>CEF1</td>
</tr>
<tr>
<td>Cluster Exchange Format (CEF), version 2</td>
<td>CEF2</td>
</tr>
<tr>
<td>Flexible Image Transport System (FITS)</td>
<td>FITS</td>
</tr>
<tr>
<td>Graphic Interchange Format (GIF)</td>
<td>GIF</td>
</tr>
<tr>
<td>Hierarchical Data Format</td>
<td>HDF</td>
</tr>
<tr>
<td>Hierarchical Data Format, Version 4</td>
<td>HDF4</td>
</tr>
<tr>
<td>Hierarchical Data Format, Version 5</td>
<td>HDF5</td>
</tr>
<tr>
<td>A text file containing structured information represented in the HyperText Mark-up Language (HTML)</td>
<td>HTML</td>
</tr>
<tr>
<td>Instrument Data File Set (IDFS)</td>
<td>IDFS</td>
</tr>
<tr>
<td>Interactive Data Language (IDL) save set. IDL is a proprietary format.</td>
<td>IDL</td>
</tr>
<tr>
<td>A Binary format for still images defined by the Joint Photographic Experts Group</td>
<td>JPEG</td>
</tr>
<tr>
<td>MATLAB Workspace save set, version 4</td>
<td>MATLAB_4</td>
</tr>
<tr>
<td>enumeration</td>
<td>Format</td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------</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 Centers 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>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>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>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 Format
Source
<xsd:simpleType name="enumFormat">
  <xsd:annotation>
    ...
  </xsd:annotation>
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.

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.
Hierarchical Data Format, Version 5

- **HTML**: A text file containing structured information represented in the HyperText Mark-up Language (HTML). See [http://www.w3.org/MarkUp/](http://www.w3.org/MarkUp/)

- **IDFS**: 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).

- **IDL**: Interactive Data Language (IDL) save set. IDL is a proprietary format.

- **JPEG**: A binary format for still images defined by the Joint Photographic Experts Group.

- **MATLAB_4**: MATLAB Workspace save set, version 4. MAT-files are double-precision, binary, MATLAB format files. MATLAB is a proprietary product of The MathWorks.

- **MATLAB_6**: MATLAB Workspace save set, version 6. MAT-files are double-precision, binary, MATLAB format files. MATLAB is a proprietary product of The MathWorks.

- **MATLAB_7**: 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.

- **MPEG**: A digital format for movies defined by the Motion Picture Experts Group.

- **NetCDF**: Unidata Program Center’s Network Common Data Form (NetCDF). A self-describing portable data format for array-oriented data access. See [http://my.unidata.ucar.edu/content/software/netcdf/](http://my.unidata.ucar.edu/content/software/netcdf/)

- **PDF**:
<xsd:annotation>
  <xsd:documentation xml:lang="en">A document expressed in the Portable Document Format (PDF) as defined by Adobe.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="PNG">
  <xsd:annotation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Postscript">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A page description programming language created by Adobe Systems Inc. that is a device-independent industry standard for representing text and graphics.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="QuickTime">
  <xsd:annotation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Text">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A sequence of characters which may have an imposed structure or organization.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Text.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="Text.Unicode">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Text in multi-byte Unicode format.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="TIFF">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A binary format for still pictures. Tagged Image Format File (TIFF). Originally developed by Aldus and now controlled by Adobe.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="UDF">
  <xsd:annotation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="VOTable">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A proposed IVOA standard designed as a flexible storage and exchange format for tabular data.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="XML">
  <xsd:annotation>
  </xsd:annotation>
</xsd:enumeration>
</xsd:simpleType>
### Simple Type `enumEncoding`

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

**Annotations**
Identifiers for unambiguous rules that establishes the representation of information within a file.

**Diagram**

<table>
<thead>
<tr>
<th>Facets</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><code>ASCII</code></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></td>
<td><code>Base64</code></td>
<td>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-Za-z), the numerals (0-9), and the &quot;+&quot; and &quot;/&quot; symbols, with the &quot;=&quot; symbol as a special suffix (padding) code.</td>
</tr>
<tr>
<td></td>
<td><code>GZIP</code></td>
<td>An open standard algorithm distributed by GNU based on LZW and Huffman coding. See <a href="http://www.gnu.org/software/gzip/gzip.html">http://www.gnu.org/software/gzip/gzip.html</a> or <a href="http://www.gzip.org/">http://www.gzip.org/</a></td>
</tr>
<tr>
<td></td>
<td><code>None</code></td>
<td>A lack or absence of anything.</td>
</tr>
<tr>
<td></td>
<td><code>TAR</code></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td><code>Unicode</code></td>
<td>Text in multi-byte Unicode format.</td>
</tr>
<tr>
<td></td>
<td><code>ZIP</code></td>
<td>An open standard for compression which is a variation of the LZW method and was originally used in the PKZIP utility.</td>
</tr>
</tbody>
</table>

**Used by**

<table>
<thead>
<tr>
<th>Source</th>
<th>Encoding</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;xsd:simpleType name=&quot;enumEncoding&quot;&gt;</code></td>
<td><code>&lt;xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Identifiers for unambiguous rules that establishes the representation of information within a file.&lt;/xsd:documentation&gt;</code></td>
</tr>
<tr>
<td><code>&lt;xsd:restriction base=&quot;xsd:string&quot;&gt;</code></td>
<td><code>&lt;xsd:enumeration value=&quot;ASCII&quot;&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;A sequence of characters that adheres to American Standard Code for Information Interchange (ASCII) which is an 7-bit character-coding scheme.&lt;/xsd:documentation&gt;</code></td>
</tr>
<tr>
<td><code>&lt;xsd:enumeration value=&quot;Base64&quot;&gt;</code></td>
<td><code>&lt;xsd:annotation&gt;</code></td>
</tr>
<tr>
<td></td>
<td><code>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;A 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-Za-z), the numerals (0-9),&lt;/xsd:documentation&gt;</code></td>
</tr>
<tr>
<td><code>&lt;xsd:enumeration value=&quot;None&quot;&gt;</code></td>
<td><code>&lt;xsd:annotation&gt;</code></td>
</tr>
<tr>
<td><code>&lt;xsd:enumeration value=&quot;TAR&quot;&gt;</code></td>
<td><code>&lt;xsd:annotation&gt;</code></td>
</tr>
<tr>
<td><code>&lt;xsd:enumeration value=&quot;Unicode&quot;&gt;</code></td>
<td><code>&lt;xsd:enumeration value=&quot;ZIP&quot;&gt;</code></td>
</tr>
</tbody>
</table>

133
and the "+" and "/" symbols, with the "+" symbol as a special suffix (padding) code.

<xs:annotation>
</xs:annotation>
<xs:enumeration value="BZIP2">
  <xs:annotation>
  </xs:annotation>
</xs:enumeration>
<xs:enumeration value="GZIP">
  <xs:annotation>
  </xs:annotation>
</xs:enumeration>
<xs:enumeration value="None">
  <xs:annotation>
    <xs:documentation xml:lang="en">A lack or absence of anything.</xs:documentation>
  </xs:annotation>
</xs:enumeration>
<xs:enumeration value="TAR">
  <xs:annotation>
    <xs:documentation xml:lang="en">A file format used to collate collections of files into one larger file, for distribution or archiving, while preserving file system information such as user and group permissions, dates, and directory structures. The format was standardized by POSIX.1-1988 and later POSIX.1-2001.\</xs:documentation>
  </xs:annotation>
</xs:enumeration>
<xs:enumeration value="Unicode">
  <xs:annotation>
    <xs:documentation xml:lang="en">Text in multi-byte Unicode format.\</xs:documentation>
  </xs:annotation>
</xs:enumeration>
<xs:enumeration value="ZIP">
  <xs:annotation>
    <xs:documentation xml:lang="en">An open standard for compression which is a variation of the LZW method and was originally used in the PKZIP utility.\</xs:documentation>
  </xs:annotation>
</xs:enumeration>
</xs:simpleType>

**Simple Type** enumPhenomenonType

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

**Annotations** Identifiers for the characteristics or categorization of an observation. Note: Joe King to provide.

**Diagram**

<table>
<thead>
<tr>
<th>enumPhenomenonType</th>
<th>xsd:string</th>
</tr>
</thead>
<tbody>
<tr>
<td>ActiveRegion</td>
<td>A localized, transient volume of the solar atmosphere in which PLAGES, SUNSPOTS, FACULAE, FLARES, etc. may be observed.</td>
</tr>
<tr>
<td>Aurora</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>BowShockCrossing</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>CoronalHole</td>
<td>An extended region of the corona, exceptionally</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CoronalMassEjection</td>
<td>A solar event (CME) that involves a burst of plasma ejected into the interplanetary medium. CMEs 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 CMEs (ICMEs).</td>
</tr>
<tr>
<td>EITWave</td>
<td>A wave in the corona of the Sun which produce shock waves on the Sun's chromosphere (Moreton Waves). EIT Waves are produced by large solar flare and expand outward at about 1,000 km/s. It usually appears as a slowly moving diffuse arc of brightening in H-alpha, and may travel for several hundred thousand km.</td>
</tr>
<tr>
<td>EnergeticSolarParticleEvent</td>
<td>An enhancement of interplanetary fluxes of energetic ions accelerated by interplanetary shocks and/or solar flares.</td>
</tr>
<tr>
<td>ForbushDecrease</td>
<td>A rapid decrease in the observed galactic cosmic ray intensity following the passage of an outwardly convecting interplanetary magnetic field disturbance, such as those associated with large CMEs, 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>
</tbody>
</table>
| 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 - 0.5 MHz); and "Type IV" consisting of a smooth continuum of broad-band bursts primarily in the meter range (300 - 30 MHz).

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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="enumPhenomenonType">
  <xsd:documentation xml:lang="en">Identifiers for the characteristics or categorization of an observation. Note: Joe King to provide.</xsd:documentation>
  <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">A solar event (CME) that involves a burst of plasma ejected into the interplanetary medium. CMEs may be observed remotely relatively quickly.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```
near the sun or in situ in the interplanetary medium. The latter type of observations are often referred to as Interplanetary CME's. (ICME#39:s).

- **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.

- **EnergeticSolarParticleEvent**
  - An enhancement of interplanetary fluxes of energetic ions accelerated by interplanetary shocks and/or solar flares.

- **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.

- **GeomagneticStorm**
  - A magnetospheric disturbance typically defined by variations in the horizontal component of the Earth's 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.

- **InterplanetaryShock**
  - A shock propagating generally anti-sunward through the slower solar wind, often seen in front of CME-associated plasma clouds.

- **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.

- **MagnetopauseCrossing**
  - A crossing of the interface between the shocked solar wind in the magnetosheath and the magnetic field and plasma in the magnetosphere.

- **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 - 0.5 MHz); and "Type IV" consisting of a smooth continuum of broad-band emissions.
bursts primarily in the meter range (300 - 30 MHz). </xsd:documentation>
</xsd:annotation>
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  </xsd:annotation>
</xsd:enumeration>
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  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="StreamInteractionRegion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region (SIR) where two solar wind streams, typically having differing characteristics and solar sources, abut up against (and possibly partially interpenetrate) each other. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Substorm">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A process by which plasma in the magnetotail becomes energized at a fast rate. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
</xsd:restriction>
</xsd:simpleType>

Simple Type enumCoordinateRepresentation

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

Annotations Identifiers of the method or form for specifying a given point or vector in a given coordinate system.

Diagram

Type restriction of xsd:string

Facets

<table>
<thead>
<tr>
<th>Facet</th>
<th>Cartesian</th>
<th>Cylindrical</th>
<th>Spherical</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</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>
<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>
<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 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(1&quot;^2+j&quot;^2))/k], or an elevation angle, arctan [k/SQRT (1&quot;^2+j&quot;^2)].</td>
</tr>
</tbody>
</table>

Used by

- Element CoordinateRepresentation

Source

```
<xsd:simpleType name="enumCoordinateRepresentation">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers of the method or form for specifying a given point or vector in a given coordinate system. </xsd:documentation>
  </xsd:annotation>
</xsd:simpleType>```
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        <xsd:annotation>
            <xsd:documentation xml:lang="en">A representation in which a position vector or a measured vector (e.g., field or flow) is specified by its components along the base axes of the coordinate system.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Cylindrical">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">A coordinate representation of a position vector or measured vector (field or flow) by its k-component, the magnitude of its projection into the i-j plane, and the azimuthal angle of the i-j plane projection.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Spherical">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">A coordinate representation of a position vector or of a measured vector by its magnitude and two direction angles. The angles are relative to the base axes of the coordinate system used. Typically the angles are $\phi$ [azimuth angle, $=\arctan (j/i)$] and $\theta$, where $\theta$ may be a polar angle, $\arctan \left(\frac{\sqrt{i^2+j^2}}{k}\right)$, or an elevation angle, $\arctan \left(\frac{k}{\sqrt{i^2+j^2}}\right)$. </xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
</xsd:restriction>
</xsd:simpleType>
```

**Schema location**  
file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

**Simple Type** enumCoordinateSystemName

<table>
<thead>
<tr>
<th>Namespace</th>
<th><a href="http://www.spase-group.org/data/schema">http://www.spase-group.org/data/schema</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>Identifiers of the origin and orientation of a set of typically orthogonal axes.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>restriction of xsd:string</td>
</tr>
</tbody>
</table>

**Facets**

<table>
<thead>
<tr>
<th>enumeration</th>
<th>Carrington</th>
<th>A coordinate system which is centered at the Sun and is &quot;fixed&quot; with respect to the synodic rotation rate; the mean synodic value is about 27.2753 days. The Astronomical Almanac gives a value for Carrington longitude of 349.03 degrees at 0000 UT on 1 January 1995.</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>CGM</td>
<td>Corrected Geomagnetic - A coordinate system from a spatial point with GEO radial distance and geomagnetic latitude and longitude, follow the epoch-appropriate IGRF/DGRF model field vector through to the point where the field line crosses the geomagnetic dipole equatorial plane. Then trace the dipole magnetic field vector Earthward from that point on the equatorial plane, in the same hemisphere as the original point, until the initial radial distance is reached. Designate the dipole latitude and longitude at that point as the CGM latitude and longitude of the original point. See <a href="http://nssdc.gsfc.nasa.gov/space/cgm/cgm_des.html">http://nssdc.gsfc.nasa.gov/space/cgm/cgm_des.html</a></td>
</tr>
<tr>
<td>enumeration</td>
<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 Earths</td>
</tr>
</tbody>
</table>

139
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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.</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>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 Hapgood, 1992.</td>
</tr>
<tr>
<td>HCI</td>
<td>Heliographic Carrington Inertial.</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, 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>
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</tbody>
</table>
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>

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>J2000</td>
<td>An astronomical coordinate system which uses the mean equator and equinox of Julian date 2451545.0 TT (Terrestrial Time), or January 1, 2000, noon TT. (aka J2000) to define a celestial reference frame.</td>
</tr>
<tr>
<td>LGM</td>
<td>Local Geomagnetic - A coordinate system used mainly for Earth surface or near Earth surface magnetic field data. X axis northward from observation point in a geographic meridian. Z axis downward towards Earths center. In this system, H (total horizontal component) = SQRT (Bx^2 + By^2) and D (declination angle) = arctan (By/Bx)</td>
</tr>
<tr>
<td>MAG</td>
<td>Geomagnetic - geocentric. Z axis is parallel to the geomagnetic dipole axis, positive north. X is in the plane defined by the Z axis and the Earths rotation axis. If N is a unit vector from the Earths 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>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, Y (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 RAЕ 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 Earths dipole axis, X axis is in plane of z axis and Earth-Sun line, positive sunward. See Russell, 1971.</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</td>
</tr>
</tbody>
</table>
coordinate system.

| enumeration | SR          | 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> |
| enumeration | SR2         | 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> |
| enumeration | SSE         | Spacecraft Solar Ecliptic - A coordinate system used for deep space spacecraft, for example Helios. X axis from spacecraft to Sun. Z axis normal to ecliptic plane, positive northward. Note: Angle between normals to ecliptic and to Helios orbit plane ~ 0.25 deg. |
| enumeration | 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. |

<table>
<thead>
<tr>
<th>Used by</th>
<th>Source</th>
<th>Element</th>
<th>CoordinateSystemName</th>
</tr>
</thead>
<tbody>
<tr>
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<td>&lt;xsd:simpleType name=&quot;enumCoordinateSystemName&quot;&gt;</td>
<td><a href="">xsd:annotation</a></td>
<td>Identifiers of the origin and orientation of a set of typically orthogonal axes. &lt;/xsd:simple:annotation&gt;</td>
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<tr>
<td></td>
<td>&lt;xsd:restriction base=&quot;xsd:string&quot;&gt;</td>
<td>&lt;xsd:enumeration value=&quot;Carrington&quot;&gt;</td>
<td>A coordinate system which is centered at the Sun and is &quot;fixed&quot; with respect to the synodic rotation rate; the mean synodic value is about 27.2753 days. The Astronomical Almanac gives a value for Carrington longitude of 349.03 degrees at 0000 UT on 1 January 1995. &lt;/xsd:simple:annotation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;CGM&quot;&gt;</td>
<td><a href="">xsd:annotation</a></td>
<td>Corrected Geomagnetic - A coordinate system from a spatial point with GEO radial distance and geomagnetic latitude and longitude, follow the epoch-appropriate IGRF/DGRF model field vector through to the point where the field line crosses the geomagnetic dipole equatorial plane. Then trace the dipole magnetic field vector Earthward from that point on the equatorial plane, in the same hemisphere as the original point, until the initial radial distance is reached. Designate the dipole latitude and longitude at that point as the CGM latitude and longitude of the original point. See <a href="http://nssdc.gsfc.nasa.gov/space/cgm/cgm_des.html">http://nssdc.gsfc.nasa.gov/space/cgm/cgm_des.html</a> &lt;/xsd:simple:annotation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;DM&quot;&gt;</td>
<td><a href="">xsd:annotation</a></td>
<td>Dipole Meridian - A coordinate system centered at the observation point. Z axis is parallel to the Earth#39;s dipole axis, positive northward. X is in the plane defined by Z and the line linking the observation point with the Earth#39;s center. Y is positive eastward. See <a href="http://cdpp.cnes.fr/00428.pdf">http://cdpp.cnes.fr/00428.pdf</a> &lt;/xsd:simple:annotation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;GEI&quot;&gt;</td>
<td><a href="">xsd:annotation</a></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. &lt;/xsd:simple:annotation&gt;</td>
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</tbody>
</table>
<xsd:documentation xml:lang="en">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.</xsd:documentation>
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</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="HAE">
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</xsd:enumeration>
<xsd:enumeration value="HEE">
<xsd:annotation>
<xsd:documentation xml:lang="en">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.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
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<xsd:annotation>
<xsd:documentation xml:lang="en">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.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="HG">
<xsd:annotation>
<xsd:documentation xml:lang="en">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>

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.

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).

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.

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.

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.
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/space/helios/coor_des.html

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.

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.

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

Spin Reference 2 - A special case of a Spacecraft (SC) coordinate system for a spinning spacecraft. Z is parallel to the spacecraft-Sun line, positive sunward. See http://cdpp.cnes.fr/00428.pdf

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.

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.
Facets

<table>
<thead>
<tr>
<th>Facet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image</td>
<td>A two-dimensional representation of data with values at each element of the array related to an intensity or a color.</td>
</tr>
<tr>
<td>Plasmagram</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>Spectrogram</td>
<td>The characterization of signal strengths as a function of frequency (or energy) and time.</td>
</tr>
<tr>
<td>StackPlot</td>
<td>A representation of data showing multiple sets of observations on a single plot, possibly offsetting each plot by some uniform amount.</td>
</tr>
<tr>
<td>TimeSeries</td>
<td>A representation of data showing a set of observations taken at different points in time and charted as a time series.</td>
</tr>
<tr>
<td>WaveForm</td>
<td>Spatial or temporal variations of wave amplitude over wave-period timescales.</td>
</tr>
</tbody>
</table>

Used by Element DisplayType

Source

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      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Spectrogram">
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      </xsd:annotation>
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      <xsd:annotation>
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      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="TimeSeries">
      <xsd:annotation>
        <xsd: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.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="WaveForm">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Spatial or temporal variations of wave amplitude over wave-period timescales.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```

Schema location: file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd
Simple Type `enumScaleType`

Namespace | http://www.spase-group.org/data/schema
Annotations | Identifiers for scaling applied to a set of numbers.
Diagram | ![Diagram](enumScaleType_xsd.png)
Type | restriction of xsd:string
Facets | | enumeration | LinearScale | Intervals which are equally spaced. | | enumeration | LogScale | Intervals which are spaced proportionally to the logarithms of the values being represented.
Used by | Element | ScaleType
Source | ```xml
<xsd:simpleType name="enumScaleType">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">Identifiers for scaling applied to a set of numbers. </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="LinearScale">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">Intervals which are equally spaced. </xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="LogScale">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">Intervals which are spaced proportionally to the logarithms of the values being represented. </xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
    </xsd:restriction>
</xsd:simpleType>
```
Schema location | file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Simple Type `typeSequence`

Namespace | http://www.spase-group.org/data/schema
Diagram | ![Diagram](typeSequence_xsd.png)
Type | list of xsd:integer
Used by | Elements | Index, Size
Source | ```xml
<xsd:simpleType name="typeSequence">
    <xsd:list itemType="xsd:integer"/>
</xsd:simpleType>
```
Schema location | file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Simple Type `enumQualifier`

Namespace | http://www.spase-group.org/data/schema
Annotations | Identifiers for terms which refine the type or attribute of a quantity.
Diagram | ![Diagram](enumQualifier_xsd.png)
Type | restriction of xsd:string
Facets | | enumeration | Anisotropy | A sequence of values corresponding to the elements in a rectilinear, n-dimension matrix. Each value can be referenced by a unique index.
| 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.

147
<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration 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 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 Component</td>
<td>Projection of a vector along one of the base axes of a coordinate system.</td>
</tr>
<tr>
<td>enumeration 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 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 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 CrossSpectrum</td>
<td>The Fourier transform of the cross correlation of two physical or empirical observations.</td>
</tr>
<tr>
<td>enumeration Deviation</td>
<td>The difference between an observed value and the expected value of a quantity.</td>
</tr>
<tr>
<td>enumeration Differential</td>
<td>A flux measurement within a given energy and solid-angle range.</td>
</tr>
<tr>
<td>enumeration Direction</td>
<td>The spatial relation between an object and another object, the orientation of the object or the course along which the object points or moves.</td>
</tr>
<tr>
<td>enumeration DirectionAngle</td>
<td>The angle between a position vector or measured vector (or one of its projections onto a plane) and one of the base axes of the coordinate system.</td>
</tr>
<tr>
<td>enumeration 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) ).</td>
</tr>
<tr>
<td>enumeration DirectionAngle.ElevationAngle</td>
<td>The angle between the position or measured vector and the i-j plane of the coordinate system. Mathematically defined as ( \arctan(k/\sqrt{i^2+j^2}) ).</td>
</tr>
<tr>
<td>enumeration 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>enumeration FieldAligned</td>
<td>The component of a quantity which is oriented in the same direction of a field.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Fit</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>Integral</td>
<td>The summation of values above a given threshold and over area or solid-angle range.</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>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...</td>
</tr>
</tbody>
</table>
its magnitude and has no direction.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Qualifier</th>
</tr>
</thead>
<tbody>
<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 set of four parameters (usually called (I, Q, U), and (V)) which describe the polarization state of an electromagnetic wave propagating through space.</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="enumQualifier">
  <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 quantity which can be easily identified</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>```
and measured in a given environment.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Circular">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Relative to polarization, right-hand circularly polarized light is defined such that the electric field is rotating clockwise as seen by an observer towards whom the wave is moving. Left-hand circularly polarized light is defined such that the electric field is rotating counterclockwise as seen by an observer towards whom the wave is moving. The polarization of magnetohydrodynamic waves is specified with respect to the ambient mean magnetic field: right-hand polarized waves have a transverse electric field component which turns in a right-handed sense (that of the gyrating electrons) around the magnetic field.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Column">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A two-dimensional measure of a quantity. The column is the area over which the quantity is measured.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Component">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Projection of a vector along one of the base axes of a coordinate system.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Component.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="Component.J">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Component.K">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="CrossSpectrum">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The Fourier transform of the cross correlation of two physical or empirical observations.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Deviation">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The difference between an observed value and the expected value of a quantity.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Differential">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A flux measurement within a given energy and solid-angle range.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Direction">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The spatial relation between an object and another object, the orientation of the object or the course along which the object points or moves.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
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 \(\arctan(j/i)\).

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 component of a quantity which is oriented in the same direction of a field.

Values that make a model agree with the data.

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

The summation of values above a given threshold and over area or solid-angle range.

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.
<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="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: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>
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 set of four parameters (usually called I,Q, U and V) which describe the polarization state of an electromagnetic wave propagating through space.</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">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:enumeration value="Total">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The summation of quantities over all possible species.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Trace">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The sum of the elements on the main diagonal (the diagonal from the upper left to the lower right) of a square matrix.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Uncertainty">
  <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.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Variance">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A measure of dispersion of a set of data points around their mean value. The expectation value
of the squared deviations from the mean.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Vector">
<xsd:annotation>
<xsd:documentation xml:lang="en">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>

Schema documentation for spase-2_0_3.xsd

Simple Type enumFieldQuantity

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

Annotations Identifiers for the physical attribute of the field.

Diagram

<table>
<thead>
<tr>
<th>Facets</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>restriction of xsd:string</td>
</tr>
<tr>
<td>Current</td>
<td>The flow of electrons through a conductor caused by a potential difference.</td>
</tr>
<tr>
<td>Electric</td>
<td>The physical attribute that exerts an electrical force.</td>
</tr>
<tr>
<td>Electromagnetic</td>
<td>Electric and magnetic field variations in time and space that propagate through a medium or a vacuum with the wave's propagation, electric field, and magnetic field vectors forming an orthogonal triad. Waves in this category are detected by having their field quantities measured.</td>
</tr>
<tr>
<td>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>Magnetic</td>
<td>The physical attribute attributed to a magnet or its equivalent.</td>
</tr>
<tr>
<td>PlasmaFrequency</td>
<td>A number-density-dependent characteristic frequency of a plasma.</td>
</tr>
<tr>
<td>Potential</td>
<td>A field which obeys Laplace's Equation.</td>
</tr>
<tr>
<td>PoyntingFlux</td>
<td>Electromagnetic energy flux transported by a wave characterized as the rate of energy transport per unit area per steradian.</td>
</tr>
</tbody>
</table>

Used by

<table>
<thead>
<tr>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Element FieldQuantity</td>
</tr>
</tbody>
</table>

<xsd:simpleType name="enumFieldQuantity">
  <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">A field which obeys Laplace's Equation.</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>
<xsd:annotation 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: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">A field which obeys Laplace's Equation.</xsd:documentation>
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<xsd:enumeration value="PoyntingFlux">
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</xsd:annotation>
</xsd:enumeration>

## Simple Type enumSpectralRange

<table>
<thead>
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<th>Facets</th>
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</tr>
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<tbody>
<tr>
<td>enumeration</td>
<td>CaK</td>
</tr>
<tr>
<td>enumeration</td>
<td>ExtremeUltraviolet</td>
</tr>
<tr>
<td>enumeration</td>
<td>FarUltraviolet</td>
</tr>
<tr>
<td>enumeration</td>
<td>GammaRays</td>
</tr>
<tr>
<td>enumeration</td>
<td>Halpha</td>
</tr>
</tbody>
</table>
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 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>N16768</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>
<xsd:enumeration value="FarUltraviolet">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">A spectrum with a wavelength range of 122 nm to 200.0nm. VSO nickname: FUV image with a range of 122.0 nm to 200 nm</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="GammaRays">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">Photons with a wavelength range: 0.00001 to 0.001 nm</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Halpha">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">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.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="HardXrays">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">Photons with a wavelength range: 0.001 to 0.1 nm and an energy range of 12 keV to 120 keV</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="He10830">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">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.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="He304">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">A spectrum centered around the resonance line of ionised helium at 304 Angstrom (30.4 nm).</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Infrared">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">Photons with a wavelength range: 760 to 1.00x10^6 nm</xsd:documentation>
    </xsd:annotation>
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    <xsd:annotation>
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    </xsd:annotation>
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<xsd:enumeration value="LBHBand">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">Lyman-Birge-Hopfield band in the far ultraviolet range with wavelength range of 140nm to 170 nm.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Microwave">
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        <xsd:documentation xml:lang="en">Photons with a wavelength range: 1.00x10^6 to 1.50x10^7 nm</xsd:documentation>
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<xsd:enumeration value="NaD">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">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.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Ni6768">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">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.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Optical">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">Photons with a wavelength range: 380 to 760 nm</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
A suspension of fine solid or liquid particles in a gas.

A positively charged nuclear particle that consists of two protons and two neutrons.

Matter consisting of a nucleus surrounded by electrons which has no net charge.

Free microscopic particles of solid material.

An elementary particle consisting of a charge of negative electricity equal to about 1.602 x 10^-19 Coulomb and having a mass when at rest of about 9.109384 x 10^-28 gram.

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

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

An elementary particle that has no net charge and is a constituent of atomic nuclei, and that has a mass slightly larger than a proton (1.673 x 10^-24 gram.)
<table>
<thead>
<tr>
<th>Used by</th>
<th>Element</th>
<th>ParticleType</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>&lt;xsd:simpleType name=&quot;enumParticleType&quot;&gt;</td>
<td>&lt;/xsd:simpleType&gt;</td>
</tr>
</tbody>
</table>

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

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

**Annotations**  
Identifiers for the characterization of the physical properties of the particle.

**Diagram**  
![Diagram](enumParticleQuantity restriction of xsd:string)

**Type**  
restriction of xsd:string

<table>
<thead>
<tr>
<th>Facets</th>
<th>Description</th>
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<tr>
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</tr>
<tr>
<td>enumeration</td>
<td><code>AtomicNumberDetected</code></td>
</tr>
<tr>
<td>enumeration</td>
<td><code>AverageChargeState</code></td>
</tr>
<tr>
<td>enumeration</td>
<td><code>ChargeState</code></td>
</tr>
<tr>
<td>enumeration</td>
<td><code>CountRate</code></td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Counts</code></td>
</tr>
<tr>
<td>enumeration</td>
<td><code>Energy</code></td>
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<tr>
<td>enumeration</td>
<td><code>EnergyDensity</code></td>
</tr>
<tr>
<td>enumeration</td>
<td><code>EnergyFlux</code></td>
</tr>
<tr>
<td>enumeration</td>
<td><code>FlowSpeed</code></td>
</tr>
<tr>
<td>enumeration</td>
<td><code>FlowVelocity</code></td>
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<td><code>Gyrofrequency</code></td>
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<tr>
<td>enumeration</td>
<td><code>HeatFlux</code></td>
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<tr>
<td>enumeration</td>
<td><code>Mass</code></td>
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<tr>
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<td><code>NumberDensity</code></td>
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<td>enumeration</td>
<td><code>NumberFlux</code></td>
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<tr>
<td>enumeration</td>
<td><code>PhaseSpaceDensity</code></td>
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<tr>
<td>enumeration</td>
<td><code>PlasmaFrequency</code></td>
</tr>
<tr>
<td>Schema documentation for spase-2_0_3.xsd</td>
<td>frequency of a plasma.</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>enumeration Pressure</td>
<td>The force per unit area exerted by a particle distribution or field.</td>
</tr>
<tr>
<td>enumeration SonicMachNumber</td>
<td>The ratio of the bulk flow speed to the speed of sound in the medium.</td>
</tr>
<tr>
<td>enumeration SoundSpeed</td>
<td>The speed at which sound travels through a medium.</td>
</tr>
<tr>
<td>enumeration 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>enumeration 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>
<tr>
<td>enumeration 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 | ParticleQuantity |
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<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>
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<td><a href="">xsd:annotation</a></td>
<td></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>
<td></td>
</tr>
<tr>
<td></td>
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<td><a href="">xsd:annotation</a></td>
<td></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>
<td></td>
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<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
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<td><a href="">xsd:annotation</a></td>
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</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>
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<td>&lt;/xsd:annotation&gt;</td>
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<td><a href="">xsd:annotation</a></td>
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<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>
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</tr>
<tr>
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<td>&lt;/xsd:annotation&gt;</td>
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<td><a href="">xsd:annotation</a></td>
<td></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>
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<tr>
<td></td>
<td>&lt;/xsd:annotation&gt;</td>
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<td><a href="">xsd:annotation</a></td>
<td></td>
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<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;An enumeration of the number of detection events occurring in a particle detector per unit time or over detector accumulation times.&lt;/xsd:documentation&gt;</td>
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<td><a href="">xsd:annotation</a></td>
<td></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</td>
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</table>

162
<xsd:enumeration value="EnergyDensity">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The amount of energy per unit volume.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="EnergyFlux">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The amount of energy passing through a unit area in a unit time.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="FlowSpeed">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The rate at which particles or energy is passing through a unit area in a unit time.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="FlowVelocity">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The volume of matter passing through a unit area perpendicular to the direction of flow in a unit of time.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Gyrofrequency">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The number of gyrations around a magnetic guiding center (field line) a charged particle makes per unit time due to the Lorentz force.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="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>
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<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 through a unit area in a unit time.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="PhaseSpaceDensity">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The number of particles per unit volume in the six-dimensional space of position and velocity.</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">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).</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="ThermalSpeed">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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.</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:simpleType>

Schema documentation for spase-2_0_3.xsd

---

**Simple Type** `enumWaveType`

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

**Annotations**  
Identifiers for the carrier or phenomenon of wave information observed by the measurement.

**Diagram**  
![enumWaveType](image-url)

**Type**  
restriction of `xsd:string`

**Facets**

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electromagnetic</td>
<td>Electric and magnetic field variations in time and space that propagate through a medium or a vacuum with the wave’s propagation, electric field, and magnetic field vectors forming an orthogonal triad. Waves in this category are detected by having their field quantities measured.</td>
</tr>
<tr>
<td>Electrostatic</td>
<td>Collective longitudinal electric-field and plasma oscillations trapped within a body of plasma.</td>
</tr>
<tr>
<td>Hydrodynamic</td>
<td>Periodic or quasi-periodic oscillations of fluid quantities.</td>
</tr>
<tr>
<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>Photon</td>
<td>Electromagnetic waves detected by techniques</td>
</tr>
<tr>
<td>Source</td>
<td>Element</td>
</tr>
<tr>
<td>--------</td>
<td>---------</td>
</tr>
<tr>
<td>&lt;xsd:simpleType name=&quot;enumWaveType&quot;&gt;</td>
<td>&lt;xsd:enumeration value=&quot;Electromagnetic&quot;&gt;</td>
</tr>
<tr>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;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.&lt;/xsd:documentation&gt;</td>
<td>&lt;/xsd:annotation&gt;</td>
</tr>
<tr>
<td>&lt;xsd:enumeration value=&quot;Electrostatic&quot;&gt;</td>
<td>&lt;xsd:enumeration value=&quot;Hydrodynamic&quot;&gt;</td>
</tr>
<tr>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Collective longitudinal electric-field and plasma oscillations trapped within a body of plasma.&lt;/xsd:documentation&gt;</td>
<td>&lt;/xsd:annotation&gt;</td>
</tr>
<tr>
<td>&lt;xsd:enumeration value=&quot;Hydrodynamic&quot;&gt;</td>
<td>&lt;xsd:enumeration value=&quot;MHD&quot;&gt;</td>
</tr>
<tr>
<td>&lt;xsd:enumeration value=&quot;MHD&quot;&gt;</td>
<td>&lt;xsd:enumeration value=&quot;Photon&quot;&gt;</td>
</tr>
<tr>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Hydrodynamic waves in a magnetized plasma in which the background magnetic field plays a key role in controlling the wave propagation characteristics.&lt;/xsd:documentation&gt;</td>
<td>&lt;/xsd:annotation&gt;</td>
</tr>
<tr>
<td>&lt;xsd:enumeration value=&quot;Photon&quot;&gt;</td>
<td>&lt;xsd:enumeration value=&quot;PlasmaWaves&quot;&gt;</td>
</tr>
<tr>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Electromagnetic waves detected by techniques that utilize their corpuscular character (e.g., CCD, CMOS, photomultipliers). &lt;/xsd:documentation&gt;</td>
<td>&lt;/xsd:annotation&gt;</td>
</tr>
<tr>
<td>&lt;xsd:enumeration value=&quot;PlasmaWaves&quot;&gt;</td>
<td>&lt;/xsd:restriction&gt;</td>
</tr>
</tbody>
</table>

**Simple Type enumWaveQuantity**

<table>
<thead>
<tr>
<th>Namespace</th>
<th>Annotations</th>
<th>Diagram</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>Identifiers for the characterization of the physical properties of a wave.</td>
<td><img src="enumWaveQuantity" alt="Diagram" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facets</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Absorption</td>
</tr>
<tr>
<td>enumeration</td>
<td>ACElectricField</td>
</tr>
<tr>
<td>enumeration</td>
<td>ACMagneticField</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>enumeration</td>
<td>DopplerFrequency</td>
</tr>
<tr>
<td>enumeration</td>
<td>Emissivity</td>
</tr>
<tr>
<td>enumeration</td>
<td>EnergyFlux</td>
</tr>
<tr>
<td>enumeration</td>
<td>EquivalentWidth</td>
</tr>
<tr>
<td>enumeration</td>
<td>Frequency</td>
</tr>
<tr>
<td>enumeration</td>
<td>Gyrofrequency</td>
</tr>
<tr>
<td>enumeration</td>
<td>Intensity</td>
</tr>
<tr>
<td>enumeration</td>
<td>LineDepth</td>
</tr>
<tr>
<td>enumeration</td>
<td>MagneticField</td>
</tr>
<tr>
<td>enumeration</td>
<td>ModeAmplitude</td>
</tr>
<tr>
<td>enumeration</td>
<td>PlasmaFrequency</td>
</tr>
<tr>
<td>enumeration</td>
<td>Polarization</td>
</tr>
<tr>
<td>enumeration</td>
<td>PoyntingFlux</td>
</tr>
<tr>
<td>enumeration</td>
<td>PropagationTime</td>
</tr>
<tr>
<td>enumeration</td>
<td>StokesParameters</td>
</tr>
<tr>
<td>enumeration</td>
<td>Velocity</td>
</tr>
<tr>
<td>enumeration</td>
<td>Wavelength</td>
</tr>
<tr>
<td>Used by</td>
<td>Element</td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Source</td>
<td>&lt;xsd:simpleType name=&quot;enumWaveQuantity&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:restriction base=&quot;xsd:string&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;ACElectricField&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;ACMagneticField&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td><a href="">xsd:annotation</a></td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;DopplerFrequency&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;Change in the frequency of a propagating wave due to motion of the source, the observer, the reflector, or the propagation medium.&lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;Emissivity&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;The energy emitted spontaneously per unit bandwidth (typically frequency) per unit time per unit mass of source. Emissivity is usually integrated over all directions/solid angles.&lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;EnergyFlux&quot;&gt;</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>&lt;xsd:enumeration value=&quot;EquivalentWidth&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;The spectral width of a total absorption line having the amount of absorbed radiant energy being equivalent to that in an observed absorption line.&lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;Frequency&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;The number of occurrences of a repeating event per unit time.&lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;Gyrofrequency&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;The number of gyrations around a magnetic guiding center (field line) a charged particle makes per unit time due to the Lorentz force.&lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;Intensity&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;The measurement of radiant or wave energy per unit detector area per unit bandwidth per unit solid angle per unit time.&lt;/xsd:documentation&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:enumeration value=&quot;LineDepth&quot;&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;xsd:documentation xml:lang=&quot;en&quot;&gt;The measure of the amount of absorption below the continuum (depth) in a particular wavelength or frequency in an absorption spectrum.&lt;/xsd:documentation&gt;</td>
</tr>
</tbody>
</table>
<xsd:enumeration value="MagneticField">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A region of space near a magnetized body where
    magnetic forces can be detected (as measured
    by methods such as Zeeman splitting, etc.).</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="ModeAmplitude">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">In helioseismology the magnitude of oscillation
    of waves of a particular geometry.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="PlasmaFrequency">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A number-density-dependent characteristic
    frequency of a plasma. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="Polarization">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Direction of the electric vector of an
    electromagnetic
    wave. The wave can be linearly polarized in
    any direction perpendicular to the direction
    of travel, circularly polarized (clockwise
    or counterclockwise), unpolarized, or mixtures
    of the above. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="PoyntingFlux">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Electromagnetic energy flux transported by
    a wave characterized as the rate of energy
    transport per unit area per steradian. </xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="PropagationTime">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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">A set of four parameters (usually called I,Q,
    U and V) which describe the polarization state
    of an electromagnetic wave propagating through
    space. </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>
and an indicator of the solar wind power available for subsequent magnetospheric energization. Defined as: \( V^2 B^2 \sin^2(\theta/2)^4 \) where \( B \) is the IMF, \( l \) is an empirical scaling parameter equal to 7 RE, and \( \theta = \tan(BY /BZ)^{-1} \) the IMF clock angle.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AlfvenMachNumber</td>
<td>The ratio of the bulk flow speed to the Alfven speed.</td>
</tr>
<tr>
<td>AlfvenVelocity</td>
<td>Phase velocity of the Alfven wave; In SI units it is the velocity of the magnetic field divided by the square root of the mass density times the permeability of free space (( \mu_0 )).</td>
</tr>
<tr>
<td>FrequencyToGyrofrequencyRat</td>
<td></td>
</tr>
<tr>
<td>MagnetosonicMachNumber</td>
<td>The ratio of the velocity of fast mode waves to the Alfven velocity.</td>
</tr>
<tr>
<td>Other</td>
<td>Not classified with more specific terms. The context of its usage may be described in related text.</td>
</tr>
<tr>
<td>PlasmaBeta</td>
<td>The ratio of the plasma pressure (( n k T )) to the magnetic pressure (( B^2 /2 \mu_0 )) of the SUN(( n k T / (B^2 /2 \mu_0) )).</td>
</tr>
<tr>
<td>TotalPressure</td>
<td>In an MHD fluid it is the number density (( N )) times Boltzmann constant times the temperature in Kelvin.</td>
</tr>
<tr>
<td>VCrossB</td>
<td>The cross product of the charge velocity (( V )) and the magnetic field (( B )). It is the electric field exerted on a point charge by a magnetic field.</td>
</tr>
</tbody>
</table>

Used by

Element | MixedQuantity
---|---
<xsd:simpleType name="enumMixedQuantity">
  <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: \( V^2 B^2 \sin^2(\theta/2)^4 \) where \( B \) is the IMF, \( l \) is an empirical scaling parameter equal to 7 RE, and \( \theta = \tan(BY /BZ)^{-1} \) the IMF clock angle.</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="FrequencyToGyrofrequencyRat">
      <xsd:annotation>
        <xsd:documentation xml:lang="en"></xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="MagnetosonicMachNumber">
      <xsd:annotation>
        <xsd:documentation xml:lang="en"></xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
<xsd:annotation>
  <xsd:documentation xml:lang="en">The ratio of the velocity of fast mode waves to the Alfvén 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="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">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.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
</xsd:restriction>
</xsd:simpleType>

Schema documentation for spase-2_0_3.xsd

### Simple Type `enumSupportQuantity`

**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**

<table>
<thead>
<tr>
<th>Facets</th>
<th>InstrumentMode</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td>Not classified with more specific terms. The context of its usage may be described in related text.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Positional</td>
</tr>
<tr>
<td></td>
<td>The specification of the location of an object or measurement within a reference coordinate system. The position is usually expressed as a set of values corresponding to the location along a set of orthogonal axes together with the date/time of the observation.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Temporal</td>
</tr>
<tr>
<td></td>
<td>Pertainig to time.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Velocity</td>
</tr>
<tr>
<td></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**

<table>
<thead>
<tr>
<th>Element</th>
<th>SupportQuantity</th>
</tr>
</thead>
</table>

**Source**

```xml
<xs:simpleType name="enumSupportQuantity">
  <xs:annotation>
    <xs:documentation xml:lang="en">Identifiers for the information useful in understanding the context of an observation, typically observed or measured coincidentally with a physical observation.</xs:documentation>
  </xs:annotation>
</xs:simpleType>
```
<xsd:restriction base="xsd:string">
    <xsd:enumeration value="InstrumentMode">
        <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="Other">
        <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="Positional">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">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:simpleType>

**Simple Type** enumProcessingLevel

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

**Annotations**

Identifiers to characterize the amount and type of manipulation which has been applied to the sampled data.

**Diagram**

```
enumProcessingLevel  xsd:string
```

**Type**

restriction of xsd:string

**Facets**

- **enumeration**
  - **Calibrated**
  - **Raw**
  - **Uncalibrated**

- **Data wherein sensor outputs have been convolved with instrument response function, often irreversibly, to yield data in physical units.**
- **Data in its original state with no processing to account for calibration!!!**
- **Duplicate data are removed from the data stream and data are time ordered. Values are not adjusted for any potential biases or external factors.**

**Used by**

- **Element** ProcessingLevel

**Source**

```
<xsd:simpleType name="enumProcessingLevel">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">Identifiers to characterize the amount and type of manipulation which has been applied to the sampled data.</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="Calibrated">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">Data wherein sensor outputs have been convolved with instrument response function, often irreversibly, to yield data in physical units.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="Raw">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">Data in its original state with no processing to account for calibration!!!</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="Uncalibrated">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">Duplicate data are removed from the data stream and data are time ordered. Values are not adjusted for any potential biases or external factors.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
    </xsd:restriction>
</xsd:simpleType>
```
Simple Type `enumMeasurementType`

<table>
<thead>
<tr>
<th>Facets</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>enumeration</code></td>
<td><code>ActivityIndex</code> 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><code>enumeration</code></td>
<td><code>Dopplergram</code> A map or image depicting the spatial distribution of line-of-sight velocities of the observed object.</td>
</tr>
<tr>
<td><code>enumeration</code></td>
<td><code>ElectricField</code> 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><code>enumeration</code></td>
<td><code>EnergeticParticles</code> 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><code>enumeration</code></td>
<td><code>Ephemeris</code> 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><code>enumeration</code></td>
<td><code>ImageIntensity</code> 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><code>enumeration</code></td>
<td><code>InstrumentStatus</code> A quantity directly related to the operation or function of an instrument.</td>
</tr>
<tr>
<td><code>enumeration</code></td>
<td><code>IonComposition</code> 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><code>enumeration</code></td>
<td><code>Irradiance</code> 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. The SI unit of</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Irradiance</td>
<td>Watts per square meter ($W \cdot m^{-2}$).</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. The SI unit of radiance is watts per steradian per square meter ($W \cdot s^{-1} \cdot m^{-2}$).</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>
Identifiers for the method of making an estimated value of a quantity that forms the basis of an observation.

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.

A map or image depicting the spatial distribution of line-of-sight velocities of the observed object.

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.

Pieces of matter that are moving very fast. Energetic particles include protons, electrons, neutrons, neutrinos, the nuclei of atoms, and other sub-atomic particles.

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.

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.

A quantity directly related to the operation or function of an instrument.

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.

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. The SI unit of...
irradiance is watts per square meter (W·m⁻²).</xsd:documentation>
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</xsd:annotation>
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<xsd:annotation>
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</xsd:annotation>
</xsd:enumeration>
</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>
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<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>
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</xsd:enumeration>
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<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>
<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>
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</xsd:enumeration>
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<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. The SI unit of radiance is watts per steradian per square meter (W·sr⁻¹·m⁻²).</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
</xsd:enumeration>
<xsd:enumeration value="Spectrum">
<xsd:annotation>
<xsd:documentation xml:lang="en">The distribution of a characteristic of a physical system or phenomenon, such as the energy emitted by a radiant source, arranged in the order of wavelengths.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
</xsd:enumeration>
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<xsd:annotation>
<xsd:documentation xml:lang="en">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.).</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
</xsd:enumeration>
<xsd:enumeration value="Waves">
<xsd:annotation>
<xsd:documentation xml:lang="en">Data resulting from observations of wave experiments and natural wave phenomena. Wave experiments are typically active and natural wave phenomena are passive. Examples of wave experiments include coherent/incoherent scatter radars, radio soundings, VLF propagation studies, ionospheric scintillation of beacon satellite signals, etc. Examples of natural wave phenomena include micropulsations, mesospheric gravity waves, auroral/plasmaspheric hiss, Langmuir
waves, AKR, Jovian decametric radiation, solar radio bursts, etc.</xsd:documentation>
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    <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="Waves.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** enumRegion

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

**Annotations**  Identifiers for areas of the physical world which may be occupied or observed.

**Diagram**

<table>
<thead>
<tr>
<th>Facets</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Asteroid A small extraterrestrial body consisting mostly of rock and metal that is in orbit around the sun.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Comet A relatively small extraterrestrial body consisting of a frozen mass that travels around the sun in a highly elliptical orbit.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Earth The third planet from the sun in our solar system.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Earth.Magnetosheath The region between the bow shock and the magnetopause, characterized by very turbulent plasma.</td>
</tr>
<tr>
<td>enumeration</td>
<td>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 planets magnetic field.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Earth.Magnetosphere.Magnetotailregion on the night side of the body where the magnetic filed is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td>enumeration</td>
<td>Earth.Magnetosphere.MainThe region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Earth.Magnetosphere.Polar The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Earth.Magnetosphere.RadiationBelt Within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>enumeration</td>
<td>Earth.NearSurface The gaseous and possibly ionized environment of a body extending from the surface to some</td>
</tr>
</tbody>
</table>
specified altitude. For the Earth, this altitude is 2000 km.

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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>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.Ionosphere.DRegion</td>
<td>The ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.ERegion</td>
<td>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>Earth.NearSurface.Ionosphere.FRegion</td>
<td>A layer that contains ionized gases at a height of around 150-800 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1- and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.</td>
</tr>
<tr>
<td>Earth.NearSurface.Ionosphere.Topside</td>
<td>The region at the upper most areas of the ionosphere.</td>
</tr>
<tr>
<td>Earth.NearSurface.Mesosphere</td>
<td>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>The layer of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</td>
</tr>
<tr>
<td>Earth.NearSurface.PolarCap</td>
<td>The areas of the globe surrounding the poles and consisting of the region north of 60 degrees north latitude an the region south of 60 degrees south latitude.</td>
</tr>
<tr>
<td>Earth.NearSurface.SouthAtlanticAnomalyRegion</td>
<td>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>Earth.NearSurface.Stratosphere</td>
<td>The layer of the atmosphere that extends from the troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.</td>
</tr>
<tr>
<td>Earth.NearSurface.Thermosphere</td>
<td>The 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.Inner</td>
<td>The region of the heliosphere extending radially out from the &quot;surface&quot; of the Sun to 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 from, but not including, 1 AU to the farthest extent of the heliosphere (heliopause).</td>
</tr>
<tr>
<td>Heliosphere.Remote1AU</td>
<td>The heliospheric region near 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 stars heliopause.</td>
</tr>
<tr>
<td>Jupiter</td>
<td>The fifth planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Mars</td>
<td>The forth planet from the sun in our solar system.</td>
</tr>
<tr>
<td>Mercury</td>
<td>The first planet from the sun in our solar system.</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>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>Source</td>
<td>Elements</td>
</tr>
<tr>
<td>--------</td>
<td>---------</td>
</tr>
</tbody>
</table>
|        | <xsd:simpleType name="enumRegion">
|        |     <xsd:annotation>                 |
|        |         <xsd:documentation xml:lang="en">Identifiers for areas of the physical world which may be occupied or observed.</xsd:documentation>
|        |     </xsd:annotation>               |
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|        |             <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> |
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|        |         </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> |
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|        |         </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 Rs (X > -10Rs).</xsd:documentation> |
|        |             </xsd:annotation>       |
|        |         </xsd:enumeration>          |
|        |         <xsd:enumeration value="Earth.Magnetosphere.Main"> |
|        |             <xsd:annotation>         |
|        |                 <xsd:documentation xml:lang="en">The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</xsd:documentation> |
|        |             </xsd:annotation>       |
|        |         </xsd:enumeration>          |
|        |         <xsd:enumeration value="Earth.Magnetosphere.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="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.NearSurface"> |
|        |             <xsd:annotation>         |
|        |                 <xsd:documentation xml:lang="en">The second planet from the sun in our solar system.</xsd:documentation> |
|        |             </xsd:annotation>       |
The gaseous and possibly ionized environment of a body extending from the surface to some specified altitude. For the Earth, this altitude is 2000 km.

The neutral gases surrounding a body that extends from the surface and is bound to the body by virtue of the gravitational attraction.

The region in the atmosphere where electrically-charged particles bombarding the upper atmosphere of a planet in the presence of a magnetic field produce an optical phenomenon.

A region centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.

The charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.

The layer of the ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.

A layer of ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.

A layer that contains ionized gases at a height of around 1500-3000 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1- and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.

The region at the upper most areas of the ionosphere.

The layer of the atmosphere that extends from the Stratosphere to a range of 80 km to 85 km, temperature decreasing with height.

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 and 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">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The lowest layer of the atmosphere which begins at the surface and extends to between 7 km (4.4 mi) at the poles and 17 km (10.6 mi) at the equator, with some variation due to weather factors.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Earth.Surface">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The outermost area of a solid object.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Heliosphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The solar atmosphere extending roughly from the outer corona to the edge of the solar plasma at the heliopause separating primarily solar plasma from interstellar plasma.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Heliosphere.Inner">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region of the heliosphere extending radially out from the "surface" of the Sun to 1 AU.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Heliosphere.NearEarth">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The heliospheric region near the Earth which extends to and includes the area near the L1 and L2 Lagrange point.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Heliosphere.Outer">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region of the heliosphere from, but not including, 1 AU to the farthest extent of the heliosphere (heliopause).</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Heliosphere.Remote1AU">
  <xsd:annotation>
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but exclusive of the region near the Earth.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Interstellar">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region between stars outside of the star's heliopause.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Jupiter">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The fifth planet from the sun in our solar system.</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="Mercury">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The first planet from the sun in our solar system.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
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  <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="Sun">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The star upon which our solar system is centered.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Sun.Chromosphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region of the Sun's (or a star's) atmosphere above the temperature minimum and below the Transition Region. The solar chromosphere is approximately 400 km to 2100 km above the photosphere, and characterized by temperatures from 4500 - 28000 K.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
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  <xsd:annotation>
    <xsd:documentation xml:lang="en">The outermost atmospheric region of the Sun or a star, characterized by ionization temperatures above 10^5 K. The solar corona starts at about 2100 km above the photosphere; there is no generally defined upper limit.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Sun.Interior">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region inside the body which is not visible from outside the body.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Sun.Photosphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The atmospheric layer of the Sun or a star from which continuum radiation, especially optical, is emitted to space. For the Sun,
the photosphere is about 500 km thick.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Sun.TransitionRegion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A very narrow (<100 km) layer between the chromosphere and the corona where the temperature rises abruptly from about 8000 to about 500,000 K.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Uranus">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The eighth planet from the sun in our solar system.</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:restriction>
</xsd:simpleType>

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Simple Type enumDocumentType

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

Annotations Identifiers for the characterization of the content or purpose of a document.

Diagram

Type restriction of xsd:string

Facets

<table>
<thead>
<tr>
<th>Facet</th>
<th>Enum</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Paper</td>
<td>A formal presentation of an idea or discovery typically more than a few pages in length.</td>
</tr>
</tbody>
</table>

Used by

Element DocumentType

Source

<xs:simpleType name="enumDocumentType">
  <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="Paper">
      <xs:annotation>
        <xs:documentation xml:lang="en">A formal presentation of an idea or discovery typically more than a few pages in length.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Simple Type enumSourceType

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

Annotations Identifiers for the characterization of the function or purpose of a source.

Diagram

Type restriction of xsd:string

Facets

<table>
<thead>
<tr>
<th>Facet</th>
<th>Enum</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration</td>
<td>Ancillary</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>
<td>A representation of an image which is suitable to reveal most or all of the details of the</td>
</tr>
</tbody>
</table>
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.

The structured arrangement of items in a collection.

A small representation of an image which is suitable to infer what the full-sized image is like.

Source

<xs:simpleType name="enumSourceType">
  <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 image is like.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>

Schema location file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd

Simple Type enumHashFunction

Annotations Identifiers for functions or algorithms that convert a digital data object into a hash value.

Diagram

Type restriction of xsd:string

Facets

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.

Used by
Element HashFunction
Source

Simple Type enumInstrumentType

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

Facets

enumeration Antenna
  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 Channeltron
  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 Coronograph
  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.
<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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>
</tr>
<tr>
<td>ElectrostaticAnalyser</td>
<td>An instrument which uses charged plates to analyze the mass, charge and kinetic energies of charged particles which enter the instrument.</td>
</tr>
<tr>
<td>EnergeticParticleInstrument</td>
<td>An instrument that measures fluxes of charged particles as a function of time, direction of motion, mass, charge and/or species.</td>
</tr>
<tr>
<td>FaradayCup</td>
<td>An instrument consisting of an electrode from which electrical current is measured while a charged particle beam (electrons or ions) impinges on it. Used to determine energy spectrum and sometimes ion composition of the impinging particles.</td>
</tr>
<tr>
<td>FluxFeedback</td>
<td>A search coil whose bandwidth and signal/noise ratio are increased by the application of negative feedback at the sensor (flux) level by driving a collocated coil with a signal from the preamplifier.</td>
</tr>
<tr>
<td>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>An instrument which measures density of ionizing radiation based on interactions with a gas.</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>
</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>enumeration</td>
<td>Instrument Name</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>enumeration</td>
<td>Magnetometer</td>
</tr>
<tr>
<td>enumeration</td>
<td>MassSpectrometer</td>
</tr>
<tr>
<td>enumeration</td>
<td>MicrochannelPlate</td>
</tr>
<tr>
<td>enumeration</td>
<td>MultispectralImager</td>
</tr>
<tr>
<td>enumeration</td>
<td>NeutralAtomImager</td>
</tr>
<tr>
<td>enumeration</td>
<td>NeutralParticleDetector</td>
</tr>
<tr>
<td>enumeration</td>
<td>ParticleCorrelator</td>
</tr>
<tr>
<td>enumeration</td>
<td>ParticleDetector</td>
</tr>
<tr>
<td>enumeration</td>
<td>Photometer</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>Instrument Type</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Riometer</td>
<td>An instrument which measures the strength of radio signals in various directions of the galactic radio signals. Variations in these signals are influenced by solar flare activity and geomagnetic storm and substorm processes.</td>
</tr>
<tr>
<td>ScintillationDetector</td>
<td>An instrument which detects scintillations of a material which is excited by high energy (ionizing) electromagnetic or charged particle radiation.</td>
</tr>
<tr>
<td>SearchCoil</td>
<td>An instrument which measures the time variation of the magnetic flux threading a loop by measurement of the electric potential difference induced between the ends of the wire.</td>
</tr>
<tr>
<td>Sounder</td>
<td>An instrument which measures the radiances from an object. A sounder may measure radiances at multiple spectral ranges.</td>
</tr>
<tr>
<td>SpacecraftPotentialControl</td>
<td>An instrument to control the electric potential of a spacecraft with respect to the ambient plasma by emitting a variable current of positive ions.</td>
</tr>
<tr>
<td>SpectralPowerReceiver</td>
<td>A radio receiver which determines the power spectral density of the electric or magnetic field, or both, at one or more frequencies.</td>
</tr>
<tr>
<td>Spectrometer</td>
<td>An instrument that measures the component wavelengths of light (or other electromagnetic radiation) by splitting the light up into its component wavelengths.</td>
</tr>
<tr>
<td>TimeOfFlight</td>
<td>An instrument which measures the time it takes for a particle to travel between two detectors.</td>
</tr>
<tr>
<td>Unspecified</td>
<td>A value which is not provided.</td>
</tr>
<tr>
<td>WaveformReceiver</td>
<td>A radio receiver which outputs the value of one or more components of the electric and/or magnetic field as a function of time.</td>
</tr>
</tbody>
</table>
faint solar corona and other celestial objects.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="DoubleSphere">  
<xsd:annotation>
<xsd:documentation xml:lang="en">A dipole antenna of which the active (sensor) elements are small spheres located at the ends of two wires deployed in the equatorial plane, on opposite sides of a spinning spacecraft.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="DustDetector">  
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument which determines the mass and speed of ambient dust particles.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="ElectronDriftInstrument">  
<xsd:annotation>
<xsd:documentation xml:lang="en">An active experiment to measure the electron drift velocity based on sensing the displacement of a weak beam of electrons after one gyration in the ambient magnetic field.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="ElectrostaticAnalyser">  
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument which uses charged plates to analyze the mass, charge and kinetic energies of charged particles which enter the instrument.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="EnergeticParticleInstrument">  
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument that measures fluxes of charged particles as a function of time, direction of motion, mass, charge and/or species.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="FaradayCup">  
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument consisting of an electrode from which electrical current is measured while a charged particle beam (electrons or ions) impinges on it. Used to determine energy spectrum and sometimes ion composition of the impinging particles.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="FluxFeedback">  
<xsd:annotation>
<xsd:documentation xml:lang="en">A search coil whose bandwidth and signal/noise ratio are increased by the application of negative feedback at the sensor (flux) level by driving a collocated coil with a signal from the preamplifier.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="FourierTransformSpectrograph">  
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument that determines the spectra of a radiative source, using time-domain measurements and a Fourier transform.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="GeigerMuellerTube">  
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument which measures density of ionizing radiation based on interactions with a gas.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Imager">  
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument which samples the radiation from an area at one or more spectral ranges emitted or reflected by an object.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="ImagingSpectrometer">  
<xsd:annotation>
<xsd:documentation xml:lang="en">An instrument which is a multispectral scanner with a very large number of channels (64–256 channels) with very narrow band widths.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Interferometer">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">An instrument to study the properties of two or more waves from the pattern of interference created by their superposition.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="IonChamber">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="IonDrift">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">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:documentation>
  </xsd:annotation>
</xsd:enumeration>

<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="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. An instrument which correlates particle flux to help identify wave/particle interactions.

An instrument which detects particle flux!!!

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.

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 used for the 3-D detection of plasma, energetic electrons and ions, and for positive-ion composition measurements.

An instrument that uses directional properties of returned power to infer spatial and/or other characteristics of a remote object.

An instrument for detecting or measuring radiant energy. Radiometers are commonly limited to infrared radiation.

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.
An instrument which measures ion temperatures and ion concentrations using a planar ion trap.

An instrument which measures the signal strength in various directions of the galactic radio signals. Variations in these signals are influenced by solar flare activity and geomagnetic storm and substorm processes.

An instrument which detects fluorescences 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.

An instrument which detects fluorescences of a material which is excited by high energy (ionizing) electromagnetic or charged particle radiation.

An instrument which measures the radiances from an object. 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 `enumAnnotationType`

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

**Annotations**  
Identifiers for an classification of an annotation.

**Diagram**  
![Diagram](enumAnnotationType)

**Type**  
restriction of xsd:string

**Facets**

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anomaly</td>
<td>An interval where measurements or observations may be adversely affected.</td>
</tr>
<tr>
<td>Event</td>
<td>An action or observation which occurs at a point in time.</td>
</tr>
<tr>
<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**

<table>
<thead>
<tr>
<th>Element</th>
<th>AnnotationType</th>
</tr>
</thead>
</table>

**Source**

```xml
<xsd:simpleType name="enumAnnotationType">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">Identifiers for an classification of an annotation.</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="Anomaly">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">An interval where measurements or observations may be adversely affected.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="Event">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">An action or observation which occurs at a point in time.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="Feature">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">A prominent or distinctive characteristic that occurs at a location or persists over a period of time.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
    </xsd:restriction>
</xsd:simpleType>
```

### Simple Type `enumClassificationMethod`

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

**Annotations**  
Identifiers for the technique used to determine the characteristics of an object.

**Diagram**  
![Diagram](enumClassificationMethod)

**Type**  
restriction of xsd:string

**Facets**

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic</td>
<td>Determined by the analysis or assessment performed by a program or server.</td>
</tr>
<tr>
<td>Inferred</td>
<td>Determined by the analysis of other information or resources.</td>
</tr>
<tr>
<td>Inspection</td>
<td>Determined by the analysis or assessment performed by a person.</td>
</tr>
</tbody>
</table>

**Used by**

<table>
<thead>
<tr>
<th>Element</th>
<th>ClassificationMethod</th>
</tr>
</thead>
</table>

**Source**

```xml
<xsd:simpleType name="enumClassificationMethod">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">Identifiers for the technique used to determine the characteristics of an object.</xsd:documentation>
    </xsd:annotation>
</xsd:simpleType>
```
XML Schema documentation for spase-2.0.3.xsd

```xml
<xsd:simpleType name="enumConfidenceRating">
  <xsd:documentation xml:lang="en">Identifiers for the classification of the certainty of an assertion.</xsd:documentation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="Probable">
      <xsd:documentation xml:lang="en">Likely given the available evidence. Considered in the range of 4-7 on a scale of 0-10.</xsd:documentation>
    </xsd:enumeration>
    <xsd:enumeration value="Strong">
      <xsd:documentation xml:lang="en">Highly likely given the available evidence. Considered in the range of 7-10 on a scale of 0-10.</xsd:documentation>
    </xsd:enumeration>
    <xsd:enumeration value="Unlikely">
      <xsd:documentation xml:lang="en">Not likely given the available evidence. Considered in the range of 0 on a scale of 0-10.</xsd:documentation>
    </xsd:enumeration>
    <xsd:enumeration value="Weak">
      <xsd:documentation xml:lang="en">Slightly likely given the available evidence. Considered in the range of 1-4 on a scale of 0-10.</xsd:documentation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```

**Simple Type** `enumConfidenceRating`

- **Namespace**: http://www.spase-group.org/data/schema
- **Annotations**: Identifiers for the classification of the certainty of an assertion.
- **Diagram**
  - Enumerations: `enumConfidenceRating` and `xsd:string`
- **Type**: restriction of `xsd:string`
- **Facets**
  - `enumeration`: `Probable`, `Strong`, `Unlikely`, `Weak`
  - `Probable`: Likely given the available evidence. Considered in the range of 4-7 on a scale of 0-10.
  - `Strong`: Highly likely given the available evidence. Considered in the range of 7-10 on a scale of 0-10.
  - `Unlikely`: Not likely given the available evidence. Considered in the range of 0 on a scale of 0-10.
  - `Weak`: Slightly likely given the available evidence. Considered in the range of 1-4 on a scale of 0-10.

**Used by**

- **Source**
  - `<xsd:simpleType name="enumConfidenceRating">
    <xsd:annotation>Identifiers for the classification of the certainty of an assertion.</xsd:annotation>
    <xsd:restriction base="xsd:string">
      <xsd:enumeration value="Probable">
        <xsd:documentation xml:lang="en">Likely given the available evidence. Considered in the range of 4-7 on a scale of 0-10.</xsd:documentation>
      </xsd:enumeration>
      <xsd:enumeration value="Strong">
        <xsd:documentation xml:lang="en">Highly likely given the available evidence. Considered in the range of 7-10 on a scale of 0-10.</xsd:documentation>
      </xsd:enumeration>
      <xsd:enumeration value="Unlikely">
        <xsd:documentation xml:lang="en">Not likely given the available evidence. Considered in the range of 0 on a scale of 0-10.</xsd:documentation>
      </xsd:enumeration>
      <xsd:enumeration value="Weak">
        <xsd:documentation xml:lang="en">Slightly likely given the available evidence. Considered in the range of 1-4 on a scale of 0-10.</xsd:documentation>
      </xsd:enumeration>
    </xsd:restriction>
  </xsd:simpleType>`

194
Simple Type `enumComponent`

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

Annotations: Identifiers for the axis of coordinate systems.

Diagram: `enumComponent` → `xsd:string`

Type: restriction of `xsd:string`

Facets:
- `enumeration` `I`: Projection of a vector along the first named axis of a coordinate system. Typically the X axis, but could be the R axis for an RTN coordinate system.
- `enumeration` `J`: Projection of a vector along the second named axis of a coordinate system. Typically the Y axis, but could be the T axis for an RTN coordinate system.
- `enumeration` `K`: Projection of a vector along the third named axis of a coordinate system. Typically the Z axis, but could be the N axis for an RTN coordinate system.

Source:
```xml
<xs:simpleType name="enumComponent">
  <xs:annotation>
    <xs:documentation xml:lang="en">Identifiers for the axis of coordinate systems.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string">
    <xs:enumeration value="I">
      <xs:annotation>
        <xs: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.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="J">
      <xs:annotation>
        <xs: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.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="K">
      <xs:annotation>
        <xs: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.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```

Schema location: `file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd`

Simple Type `enumDirectionAngle`

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

Annotations: Identifiers for the angle between a vector and a base axis.

Diagram: `enumDirectionAngle` → `xsd:string`

Type: restriction of `xsd:string`

Facets:
- `enumeration` `AzimuthAngle`: The angle between the projection into the
<table>
<thead>
<tr>
<th>Schema documentation for spase-2_0_3.xsd</th>
</tr>
</thead>
</table>
| **enumeration** ElevationAngle | The angle between the position or measured vector and the i-j plane of the coordinate system. Mathematically defined as $\arctan\left(\frac{j}{i}\right)$.
| **enumeration** PolarAngle | The angle between the position or measured vector and the k-axis of the coordinate system. Mathematically defined as $\arctan\left(\frac{\sqrt{i^2+j^2}}{k}\right)$.

**Source**

```xml
<xsd:simpleType name="enumDirectionAngle">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for the angle between a vector and a base axis.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="AzimuthAngle">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The angle between the projection into the i-j plane of a position or measured vector and the i-axis of the coordinate system. Mathematically defined as $\arctan\left(\frac{j}{i}\right)$.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="ElevationAngle">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The angle between the position or measured vector and the i-j plane of the coordinate system. Mathematically defined as $\arctan\left(\frac{\sqrt{i^2+j^2}}{k}\right)$.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="PolarAngle">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">The angle between the position or measured vector and the k-axis of the coordinate system. Mathematically defined as $\arctan\left(\frac{\sqrt{i^2+j^2}}{k}\right)$.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```

**Simple Type enumEarth**

<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>
<tr>
<td>Diagram</td>
<td><img src="envelope.png" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>restriction of xsd:string</td>
</tr>
</tbody>
</table>

**Facets**

<p>| 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 ($X &gt; -10Re$). |
| enumeration 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 Magnetosphere.Polar | The region near the pole of a body. For a... |</p>
<table>
<thead>
<tr>
<th>Schema documentation for spase-2_0_3.xsd</th>
</tr>
</thead>
<tbody>
<tr>
<td>magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</td>
</tr>
<tr>
<td>enumeration Magnetosphere.RadiationBelt The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
<tr>
<td>enumeration 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.</td>
</tr>
<tr>
<td>enumeration NearSurface.Atmosphere 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>enumeration NearSurface.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.</td>
</tr>
<tr>
<td>enumeration NearSurface.EquatorialRegion A region centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.</td>
</tr>
<tr>
<td>enumeration NearSurface.Ionosphere 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>enumeration NearSurface.Ionosphere.DRegion One of several layers in the ionosphere.</td>
</tr>
<tr>
<td>enumeration NearSurface.Ionosphere.ERegion One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.</td>
</tr>
<tr>
<td>enumeration 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.</td>
</tr>
<tr>
<td>enumeration NearSurface.Ionosphere.Topside The region at the upper most areas of the ionosphere.</td>
</tr>
<tr>
<td>enumeration 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.</td>
</tr>
<tr>
<td>enumeration 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.</td>
</tr>
<tr>
<td>enumeration 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.</td>
</tr>
<tr>
<td>enumeration NearSurface.SouthAtlanticAnomalyRegion The Earths inner van Allen radiation belt makes its closest approach to the planets surface. The result is that, for a given altitude, the radiation intensity is higher over this region than elsewhere.</td>
</tr>
</tbody>
</table>
The layer of the atmosphere that extends from the troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.

The layer of the atmosphere 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 the regions surrounding the Earth. The region between the bow shock and the magnetopause, characterized by very turbulent plasma. 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 an includes the auroral zone. The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field. 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:enumeration value="NearSurface.Atmosphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The neutral gases surrounding a body that extends from the surface and is bound to the body by virtue of the gravitational attraction.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.AuroralRegion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region in the atmospheric where electrically-charged particles bombarding the upper atmosphere of a planet in the presence of a magnetic field produce an optical phenomenon.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.EquatorialRegion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A region centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.Ionosphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.Ionosphere.DRegion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The layer of the ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.Ionosphere.ERegion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A layer of ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.Ionosphere.FRegion">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A layer that contains ionized gases at a height of around 150-300 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.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.Ionosphere.Topside">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The region at the upper most areas of the ionosphere.</xsd:documentation>
  </xsd:annotation>
</xsd:enumeration>

<xsd:enumeration value="NearSurface.Mesosphere">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">The 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="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="NearSurface.PolarCap">
  <xsd:annotation>
    
  </xsd:annotation>
</xsd:enumeration>
<xsd:documentation xml:lang="en">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.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
</xsd:enumeration>
<xsd:enumeration value="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>
</xsd:enumeration>
<xsd:enumeration value="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>
</xsd:enumeration>
<xsd:enumeration value="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>
</xsd:enumeration>
</xsd:enumeration>
<xsd:enumeration value="NearSurface.Troposphere">
<xsd:annotation>
<xsd:documentation xml:lang="en">The lowest layer of the atmosphere which begins at the surface and extends to between 7 km (4.4 mi) at the poles and 17 km (10.6 mi) at the equator, with some variation due to weather factors.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
</xsd:enumeration>
</xsd:enumeration>
</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:enumeration>
</xsd:restriction>
</xsd:simpleType>

**Simple Type enumHeliosphere**

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

**Annotations**
Identifiers for regions of the solar atmosphere which extends roughly from the inner corona to the edge of the solar plasma at the heliopause separating primarily solar plasma from interstellar plasma.

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

**Type**
restriction of xsd:string

**Facets**

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner</td>
<td>The region of the heliosphere extending radially out from the &quot;surface&quot; of the Sun to 1 AU.</td>
</tr>
<tr>
<td>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>Outer</td>
<td>The region of the heliosphere from, but not including, 1 AU to the farthest extent of the heliosphere (heliopause).</td>
</tr>
<tr>
<td>Remote1AU</td>
<td>The heliospheric region near the Earths orbit, but exclusive of the region near the Earth.</td>
</tr>
</tbody>
</table>

**Source**
<xsd:simpleType name="enumHeliosphere">
<xsd:annotation>
<xsd:documentation xml:lang="en">Identifiers for regions of the solar atmosphere which extends roughly from the inner corona</xsd:documentation>
</xsd:annotation>
</xsd:simpleType>
to the edge of the solar plasma at the heliopause
separating primarily solar plasma from interstellar
plasma.</xsd:documentation>
</xsd:annotation>
</xsd:restriction>
</xsd:simpleType>

Simple Type **enumIntegral**

<table>
<thead>
<tr>
<th>Facets</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration Area</td>
<td>Integration over the extent of a planar region, or of the surface of a solid.</td>
</tr>
<tr>
<td>enumeration Bandwidth</td>
<td>Integration over the width a frequency band.</td>
</tr>
<tr>
<td>enumeration SolidAngle</td>
<td>Integration over the angle in three-dimensional space that an object subtends at a point.</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:simpleType name="enumIntegral">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">Identifiers for values above a given threshold and over area or solid-angle range.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="Area">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Integration over the extent of a planar region, or of the surface of a solid.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Bandwidth">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Integration over the width a frequency band.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="SolidAngle">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">Integration over the angle in three-dimensional space that an object subtends at a point.</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```
### Simple Type enumIonosphere

<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 ionospheric regions.</td>
</tr>
<tr>
<td>Diagram</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Type</td>
<td>restriction of xsd:string</td>
</tr>
<tr>
<td>Facets</td>
<td></td>
</tr>
<tr>
<td>enumeration</td>
<td>DRegion</td>
</tr>
<tr>
<td></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>
</tr>
<tr>
<td></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>
</tr>
<tr>
<td></td>
<td>A layer that contains ionized gases at a height of around 150 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>
</tr>
<tr>
<td></td>
<td>The region at the upper most areas of the ionosphere.</td>
</tr>
</tbody>
</table>

**Source**

```xml
<xsd:simpleType name="enumIonosphere">
  <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 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 `enumMagnetosphere`**

<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>[Image]</td>
</tr>
<tr>
<td>Type</td>
<td><code>restriction of xsd:string</code></td>
</tr>
<tr>
<td>Facets</td>
<td></td>
</tr>
<tr>
<td><code>enumeration</code> <code>Magnetotail</code></td>
<td>The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X &gt; -10Re).</td>
</tr>
<tr>
<td><code>enumeration</code> <code>Main</code></td>
<td>The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</td>
</tr>
<tr>
<td><code>enumeration</code> <code>Polar</code></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><code>enumeration</code> <code>RadiationBelt</code></td>
<td>The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</td>
</tr>
</tbody>
</table>

**Source**

```xml
<xsd:simpleType name="enumMagnetosphere">
  <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">The region on the night side of the body where the magnetic field is stretched backwards by the force of the solar wind. For Earth, the magnetotail begins at a night-side radial distance of 10 Re (X > -10Re).</xsd:enumeration>
    <xsd:enumeration value="Main">The region of the magnetosphere where the magnetic field lines are closed, but does not include the gaseous region gravitationally bound to the body.</xsd:enumeration>
    <xsd:enumeration value="Polar">The region near the pole of a body. For a magnetosphere the polar region is the area where magnetic field lines are open and includes the auroral zone.</xsd:enumeration>
    <xsd:enumeration value="RadiationBelt">The region within a magnetosphere where high-energy particles could potentially be trapped in a magnetic field.</xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
```
## Simple Type `enumNearSurface`

### 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
![Diagram](enumNearSurface_xsd)

### Type
restriction of xsd:string

### Facets

<table>
<thead>
<tr>
<th>Enumeration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>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>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>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>Ionosphere</td>
<td>The charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.</td>
</tr>
<tr>
<td>Ionosphere.DRegion</td>
<td>The layer of the ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.</td>
</tr>
<tr>
<td>Ionosphere.ERegion</td>
<td>A layer of ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.</td>
</tr>
<tr>
<td>Ionosphere.FRegion</td>
<td>A layer that contains ionized gases at a height of around 150-900 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 planets surface. The result is that, for a given altitude, the radiation intensity is higher over this region than elsewhere.</td>
</tr>
</tbody>
</table>
The layer of the atmosphere that extends from the troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.

The layer of the atmosphere 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.

Identifiers for regions of the gaseous and possibly ionized environment of a body extending from the surface to some specified altitude.

The neutral gases surrounding a body that extends from the surface and is bound to the body by virtue of the gravitational attraction.

The region in the atmospheric where electrically-charged particles bombarding the upper atmosphere of a planet in the presence of a magnetic field produce an optical phenomenon.

A region centered on the equator and limited in latitude by approximately 23 degrees north and south of the equator.

The charged or ionized gases surrounding a body that are nominally bound to the body by virtue of the gravitational attraction.

The layer of the ionosphere that exists approximately 50 to 95 km above the surface of the Earth. One of several layers in the ionosphere.

A layer of ionised gas occurring at 90-150km above the ground. One of several layers in the ionosphere. Also called the The Kennelly-Heaviside layer.

A layer that contains ionized gases at a height of around 150#800 km above sea level, placing it in the thermosphere. The F region has the highest concentration of free electrons and ions anywhere in the atmosphere. It may be thought of as comprising two layers, the F1- and F2-layers. One of several layers in the ionosphere. Also known as the Appleton layer.
<xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Ionosphere.Topside">
<xsd:annotation>
<xsd:documentation xml:lang="en">The region at the upper most areas of the ionosphere.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Mesosphere">
<xsd:annotation>
<xsd:documentation xml:lang="en">The layer of the atmosphere that extends from the stratosphere to a range of 80 km to 85 km, temperature decreasing with height.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Plasmasphere">
<xsd:annotation>
<xsd:documentation xml:lang="en">A region of the magnetosphere consisting of low energy (cool) plasma. It is located above the ionosphere. The outer boundary of the plasmasphere is known as the plasmapause, which is defined by an order of magnitude drop in plasma density.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="PolarCap">
<xsd:annotation>
<xsd:documentation xml:lang="en">The areas of the globe surrounding the poles and consisting of the region north of 60 degrees north latitude an the region south of 60 degrees south latitude.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="SouthAtlanticAnomalyRegion">
<xsd:annotation>
<xsd:documentation xml:lang="en">The region where the Earth's inner van Allen radiation belt makes its closest approach to the planet's surface. The result is that, for a given altitude, the radiation intensity is higher over this region than elsewhere.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Stratosphere">
<xsd:annotation>
<xsd:documentation xml:lang="en">The layer of the atmosphere that extends from the troposphere to about 30 km, temperature increases with height. The stratosphere contains the ozone layer.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Thermosphere">
<xsd:annotation>
<xsd:documentation xml:lang="en">The layer of the atmosphere that extends from the Mesosphere to 640+ km, temperature increasing with height.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Troposphere">
<xsd:annotation>
<xsd:documentation xml:lang="en">The lowest layer of the atmosphere which begins at the surface and extends to between 7 km (4.4 mi) at the poles and 17 km (10.6 mi) at the equator, with some variation due to weather factors.</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
</xsd:restriction>
</xsd:simpleType>

**Simple Type** enumProjection

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

**Annotations**
Identifiers to projections into a coordinate system.

**Diagram**
- enumProjection
- xsd:string

**Type**
restriction of xsd:string
Facets

<table>
<thead>
<tr>
<th>Facet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration 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 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 JK</td>
<td>A measure of the length of a position or measured vector projected into the j-k (typically Y-Z) plane of the coordinate system.</td>
</tr>
</tbody>
</table>

Source

```xml
<xsd:simpleType name="enumProjection">
  <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 enumSun

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

Annotations Identifiers for regions of the star upon which our solar system is centered.

Diagram

Type restriction of xsd:string

Facets

<table>
<thead>
<tr>
<th>Facet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enumeration Chromosphere</td>
<td>The region of the Sun's (or a star's) atmosphere above the temperature minimum and below the Transition Region. The solar chromosphere is approximately 400 km to 2100 km above the photosphere, and characterized by temperatures from 4500 – 28000 K.</td>
</tr>
<tr>
<td>enumeration Corona</td>
<td>The outermost atmospheric region of the Sun or a star, characterized by ionization temperatures above 10^5 K. The solar corona starts at about 2100 km above the photosphere; there is no generally defined upper limit.</td>
</tr>
<tr>
<td>enumeration Interior</td>
<td>The region inside the body which is not visible from outside the body.</td>
</tr>
<tr>
<td>enumeration 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,</td>
</tr>
</tbody>
</table>
The photosphere is about 500 km thick.

```
<xs:simpleType name="enumSun">
  <xs:annotation>
    <xs:documentation xml:lang="en">Identifiers for regions of the star upon which our solar system is centered.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string">
    <xs:enumeration value="Chromosphere">
      <xs:annotation>
        <xs:documentation xml:lang="en">The region of the Sun'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.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Corona">
      <xs:annotation>
        <xs:documentation xml:lang="en">The outermost atmospheric region of the Sun or a star, characterized by ionization temperatures above 10^5 K. The solar corona starts at about 2100 km above the photosphere; there is no generally defined upper limit.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Interior">
      <xs:annotation>
        <xs:documentation xml:lang="en">The region inside the body which is not visible from outside the body.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Photosphere">
      <xs:annotation>
        <xs:documentation xml:lang="en">The atmospheric layer of the Sun or a star from which continuum radiation, especially optical, is emitted to space. For the Sun, the photosphere is about 500 km thick.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="TransitionRegion">
      <xs:annotation>
        <xs:documentation xml:lang="en">A very narrow (<100 km) layer between the chromosphere and the corona where the temperature rises abruptly from about 8000 to about 500,000 K.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```

**Source**

The photosphere is about 500 km thick.

```
<xs:simpleType name="enumText">
  <xs:annotation>
    <xs:documentation xml:lang="en">Identifiers for the encoding of sequences of characters.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string">
    <xs:enumeration value="ASCII">
      <xs:annotation>
        <xs:documentation xml:lang="en">A sequence of characters that adheres to American Standard Code for Information Interchange (ASCII) which is an 7-bit character-coding scheme. </xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Unicode">
      <xs:annotation>
        <xs:documentation xml:lang="en">Text in multi-byte Unicode format.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```

**Source**

The photosphere is about 500 km thick.

```
<xs:simpleType name="enumText">
  <xs:annotation>
    <xs:documentation xml:lang="en">Identifiers for the encoding of sequences of characters.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xsd:string">
    <xs:enumeration value="ASCII">
      <xs:annotation>
        <xs:documentation xml:lang="en">A sequence of characters that adheres to American Standard Code for Information Interchange (ASCII) which is an 7-bit character-coding scheme. </xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Unicode">
      <xs:annotation>
        <xs:documentation xml:lang="en">Text in multi-byte Unicode format.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```
Schema documentation for spase-2_0_3.xsd

Simple Type enumWaves

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

Annotations:
- Identifiers for experimental and natural wave phenomena.

Diagram:
- 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.
  - 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:

Attributes: ""

Attribute Spase /

- @lang

  Namespace: No namespace
  Type: xsd:string
<table>
<thead>
<tr>
<th>Properties</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>default:</td>
<td>en</td>
</tr>
<tr>
<td>Used by</td>
<td>Complex Type</td>
</tr>
<tr>
<td>Source</td>
<td><code>&lt;xsd:attribute name=&quot;lang&quot; type=&quot;xsd:string&quot; default=&quot;en&quot;/&gt;</code></td>
</tr>
<tr>
<td>Schema location</td>
<td>file:/var/www/spase/site/root/data/schema/spase-2_0_3.xsd</td>
</tr>
</tbody>
</table>