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Open Geospatial Consortium

# OGC DOCUMENT TITLE

## COMMUNITY STANDARD

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# CONTENTS

# LIST OF TABLES

# LIST OF RECOMMENDATIONS

# I ABSTRACT

<Insert Abstract Text here>

# II KEYWORDS

The following are keywords to be used by search engines and document catalogues.

keyword_1, keyword_2, keyword_3, etc.

# PREFACE

**NOTE:**Insert Preface Text here. Give OGC specific commentary: describe the technical content, reason for document, history of the document and precursors, and plans for future work.

There are two ways to specify the Preface: “simple clause” or “full clasuse”

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# IV SECURITY CONSIDERATIONS

No security considerations have been made for this Standard.

# V SUBMITTERS

All questions regarding this submission should be directed to the editor or the submitters:

| NAME | AFFILIATION | OGC MEMBER |
|---|---|---|
| Steve Liang | University of Calgary, Canada / SensorUp Inc. | Yes |

# VI SOURCE OF THE CONTENT FOR THIS OGC DOCUMENT

# VII VALIDITY OF CONTENT

# VIII FUTURE WORK

**NOTE:**If you need to place any further sections in the preface area use the `[.preface]` attribute.

# CONTRIBUTORS

Additional contributors to this Standard include the following:

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# 1 SCOPE

# 1 SCOPE

<Insert Scope text here>

**NOTE:**Give the subject of the document and the aspects of that scope covered by the document.

# 2 CONFORMANCE

# 2 CONFORMANCE

<Insert conformance content here>

**NOTE:**Provide a short description of the content approached in subsequent sections and the main subject of the document

# 3 NORMATIVE REFERENCES

# 3 NORMATIVE REFERENCES

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

*Identification of Common Molecular Subsequences*. Smith, T.F., Waterman, M.S., J. Mol. Biol. 147, 195–197 (1981)

*ZIB Structure Prediction Pipeline: Composing a Complex Biological Workflow through Web Services*. May, P., Ehrlich, H.C., Steinke, T. In: Nagel, W.E., Walter, W.V., Lehner, W. (eds.) Euro-Par 2006. LNCS, vol. 4128, pp. 1148–1158. Springer, Heidelberg (2006)

*The Grid: Blueprint for a New Computing Infrastructure.*, Foster, I., Kesselman, C.. Morgan Kaufmann, San Francisco (1999).

*Grid Information Services for Distributed Resource Sharing*. Czajkowski, K., Fitzgerald, S., Foster, I., Kesselman, C. In: 10th IEEE International Symposium on High Performance Distributed Computing, pp. 181–184. IEEE Press, New York (2001)

# 4 TERMS AND DEFINITIONS

# 4 TERMS AND DEFINITIONS

This document uses the terms defined in OGC Policy Directive 49, which is based on the ISO/IEC Directives, Part 2, Rules for the structure and drafting of International Standards. In particular, the word “shall” (not “must”) is the verb form used to indicate a requirement to be strictly followed to conform to this document and OGC documents do not use the equivalent phrases in the ISO/IEC Directives, Part 2.

This document also uses terms defined in the OGC Standard for Modular specifications (OGC 08-131r3), also known as the ‘ModSpec’. The definitions of terms such as standard, specification, requirement, and conformance test are provided in the ModSpec.

For the purposes of this document, the following additional terms and definitions apply.

## 4.1. example term

term used for exemplary purposes

**Note 1 to entry:** An example note.

Example Here’s an example of an example term.

[**SOURCE:** ]

5

# CONVENTIONS

# 5 CONVENTIONS

**NOTE:**This section provides details and examples for any conventions used in the document. Examples of conventions are symbols, abbreviations, use of XML schema, or special notes regarding how to read the document.

## 5.1. Identifiers

The normative provisions in this standard are denoted by the URI

`http://www.opengis.net/spec/{standard}/{m.n}`

All requirements and conformance tests that appear in this document are denoted by partial URIs which are relative to this base.

## 5.2. Other conventions

<Place any other convention needed with its corresponding title>

# 6

# CORE

# 6 CORE

This clause establishes the **Core** Requirements class, with IRI `/req/core`, which has a corresponding Conformance Class, **Core**, with IRI `/conf/core`.

| Requirements class 1: 06-core.adoc Extension | |
|---|---|
| **IDENTIFIER** | `/req/06-core.adoc` |
| **TARGET TYPE** | Implementation Specification |
| **REQUIREMENT** | /req/Coordinate_Reference_System_Types |

## 6.1. Coordinate Reference System Types

| Requirement 1: Coordinate Reference System Types | |
|---|---|
| **IDENTIFIER** | `/req/Coordinate_Reference_System_Types` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:BoundCRS`, `geosrs:CompoundCRS`, geosrs:EngineeringCRS, `geosrs:GeocentricCRS`, geosrs:GeodeticCRS, geosrs:Geographic CRS, `geosrs:ParametricCRS`, geosrs:ProjectedCRS, `geosrs:SelenographicCRS`, `geosrs:SpatioParametricCompoundCRS`, `geosrs:SpatioParametricTemporalCompoundCRS`, `geosrs:SpatioTemporalCompoundCRS`, `geosrs:StaticCRS`, `geosrs:TemporalCRS`, `geosrs:VerticalCRS` to be used in SPARQL graph patterns. |

### 6.1.1. Class: geosrs:BoundCRS

**Table 1** — geosrs:BoundCRS

| | |
|---|---|
| URI | https://w3id.org/geosrs/srs/BoundCRS |
| Super-classes | BoundCRS |

### 6.1.2. Class: geosrs:CompoundCRS

**Table 2** — geosrs:CompoundCRS

| | |
|---|---|
| URI | https://w3id.org/geosrs/srs/CompoundCRS |
| Definition | Coordinate reference system using at least two independent single coordinate reference systems. Cf. ISO 19111:2007:2007-07, parts 8.2.3.c, 8.2.4, table 6 and annex B.1.2.4. |
| Super-classes | CompoundCRS |

### 6.1.3. Class: geosrs:GeocentricCRS

**Table 3** — geosrs:GeocentricCRS

| | |
|---|---|
| URI | https://w3id.org/geosrs/srs/GeocentricCRS |
| Definition | A cartesian coordinate reference system that represents locations in the vicinity of the Earth (including its surface, interior, atmosphere, and surrounding outer space) as X, Y, and Z measurements from its center of mass. Commonly used to track the orbits of satellites. |
| Super-classes | GeocentricCRS |

### 6.1.4. Class: geosrs:ParametricCRS

**Table 4** — geosrs:ParametricCRS

| | |
|---|---|
| URI | https://w3id.org/geosrs/srs/ParametricCRS |
| Definition | Coordinate Reference System based on a parametric datum |
| Super-classes | ParametricCRS |

### 6.1.5. Class: geosrs:SelenographicCRS

**Table 5** — geosrs:SelenographicCRS

| | |
|---|---|
| URI | https://w3id.org/geosrs/srs/SelenographicCRS |
| Definition | Coordinate Reference System to refer locations on the surface of the Earth's Moon. |
| Super-classes | SelenographicCRS |

### 6.1.6. Class: geosrs:SpatioParametricCompoundCRS

**Table 6** — geosrs:SpatioParametricCompoundCRS

| | |
|---|---|
| URI | https://w3id.org/geosrs/srs/SpatioParametricCompoundCRS |
| Definition | A spatio-parametric coordinate reference system is a compound CRS in which one component is a geographic 2D, projected 2D or engineering 2D CRS, supplemented by a parametric CRS to create a three-dimensional CRS |
| Super-classes | SpatioParametricCompoundCRS |

### 6.1.7. Class: geosrs:SpatioParametricTemporalCompoundCRS

**Table 7** — geosrs:SpatioParametricTemporalCompoundCRS

| | |
|---|---|
| URI | https://w3id.org/geosrs/srs/SpatioParametricTemporalCompoundCRS |
| Definition | Coordinate reference system combining a spatio-parametric reference system with at least one temporal reference system |
| Super-classes | SpatioParametricTemporalCompoundCRS |

### 6.1.8. Class: geosrs:SpatioTemporalCompoundCRS

**Table 8** — geosrs:SpatioTemporalCompoundCRS

| | |
|---|---|
| URI | https://w3id.org/geosrs/srs/SpatioTemporalCompoundCRS |
| Definition | Coordinate reference system combining a spatial reference system with at least one temporal reference system |
| Super-classes | SpatioTemporalCompoundCRS |

### 6.1.9. Class: geosrs:StaticCRS

**Table 9** — geosrs:StaticCRS

| | |
|---|---|
| URI | https://w3id.org/geosrs/srs/StaticCRS |
| Definition | Coordinate Reference System that has a static reference frame |
| Super-classes | StaticCRS |

### 6.1.10. Class: geosrs:TemporalCRS

**Table 10** — geosrs:TemporalCRS

| | |
|---|---|
| URI | https://w3id.org/geosrs/srs/TemporalCRS |
| Definition | Coordinate Reference System based on a temporal datum |
| Super-classes | TemporalCRS |

### 6.1.11. Class: geosrs:VerticalCRS

**Table 11** — geosrs:VerticalCRS

| | |
|---|---|
| URI | https://w3id.org/geosrs/srs/VerticalCRS |
| Definition | One-dimensional coordinate reference system associated with a vertical datum and used for recording heights or depths.Ellipsoidal heights are not captured in a vertical coordinate reference system but as part of a 3D coordinates tuple defined in a geodetic 3D coordinate |

| | |
|---|---|
| | reference system. Cf. ISO 19111:2007:2007-07, parts 8.2.2.b, table 14 and annex B.1.2.1.b. |
| Super-classes | VerticalCRS |

# 7

# COORDINATE OPERATION MODULE

# 7 COORDINATE OPERATION MODULE

This clause establishes the **Co** Requirements class, with IRI `/req/co`, which has a corresponding Conformance Class, **Co**, with IRI `/conf/co`.

| Requirements class 2: 07-co_extension.adoc Extension | |
|---|---|
| IDENTIFIER | `/req/07-co_extension.adoc` |
| TARGET TYPE | Implementation Specification |
| REQUIREMENT | /req/Coordinate_operation_methods<br>/req/Coordinate_operation_parameters<br>/req/Coordinate_operation_categories |

## 7.1. Coordinate operation categories

| Requirement 2: Coordinate operation categories | |
|---|---|
| IDENTIFIER | `/req/Coordinate_operation_categories` |
| STATEMENT | Implementations shall allow the RDFS classes `geosrs:GeographicObject`, `geosrs:RegisterOperations`, `geosrs:ScaleOperation`, `geosrs:RotationOperation`, `geosrs:IdentityOperation`, `geosrs:ShearOperation`, `geosrs:TranslationOperation`, `geosrs:AffineTransformationOperation`, `geocrs:CoordinateTransformationOperation` to be used in SPARQL graph patterns. |

### 7.1.1. Class: geosrs:GeographicObject

**Table 12** — geosrs:GeographicObject

| | |
|---|---|
| URI | https://w3id.org/geosrs/co/GeographicObject |
| Definition | Identifier of a geographic feature of which the coordinates are used as operation parameters. |

| | |
|---|---|
| Super-classes | GeographicObject |

### 7.1.2. Class: geosrs:RegisterOperations

**Table 13** — geosrs:RegisterOperations

| | |
|---|---|
| URI | https://w3id.org/geosrs/co/RegisterOperations |
| Definition | Operations supported in the Coordinate Operations package. |

### 7.1.3. Class: geosrs:ScaleOperation

**Table 14** — geosrs:ScaleOperation

| | |
|---|---|
| URI | https://w3id.org/geosrs/co/ScaleOperation |
| Definition | Scale transformation operation |
| Super-classes | ScaleOperation |

### 7.1.4. Class: geosrs:RotationOperation

**Table 15** — geosrs:RotationOperation

| | |
|---|---|
| URI | https://w3id.org/geosrs/co/RotationOperation |
| Definition | Rotation transformation operation |
| Super-classes | RotationOperation |

### 7.1.5. Class: geosrs:IdentityOperation

**Table 16** — geosrs:IdentityOperation

| | |
|---|---|
| URI | https://w3id.org/geosrs/co/IdentityOperation |

| | |
|---|---|
| Definition | Identity transformation operation |
| Super-classes | IdentityOperation |

### 7.1.6. Class: geosrs:ShearOperation

**Table 17** — geosrs:ShearOperation

| | |
|---|---|
| URI | https://w3id.org/geosrs/co/ShearOperation |
| Definition | Shear transformation operation |
| Super-classes | ShearOperation |

### 7.1.7. Class: geosrs:TranslationOperation

**Table 18** — geosrs:TranslationOperation

| | |
|---|---|
| URI | https://w3id.org/geosrs/co/TranslationOperation |
| Definition | Translation transformation operation |
| Super-classes | TranslationOperation |

### 7.1.8. Class: geosrs:AffineTransformationOperation

**Table 19** — geosrs:AffineTransformationOperation

| | |
|---|---|
| URI | https://w3id.org/geosrs/co/AffineTransformationOperation |
| Definition | Affine coordinate transformation operation |
| Super-classes | CoordinateTransformationOperation [] |

### 7.1.9. Class: geocrs:CoordinateTransformationOperation

**Table 20** — geocrs:CoordinateTransformationOperation

| | |
|---|---|
| URI | geocrs:CoordinateTransformationOperation[] |
| Definition | Coordinate operation in which the two coordinate reference systems are based on different datums. |
| Super-classes | geocrs:CoordinateTransformationOperation[geocrs:CoordinateTransformationOperation] |

# 7.2. Coordinate operation methods

| **Requirement 3: Coordinate operation methods** | |
|---|---|
| **IDENTIFIER** | `/req/Coordinate_operation_methods` |
| **STATEMENT** | Implementations shall allow the RDFS classes geosrs:CoordinateOperation, `geosrs:PassThroughOperation`, `geosrs:ConcatenatedOperation`, geosrs:SingleOperation, geosrs:Transformation, geosrs:Conversion, `geosrs:PointMotionOperation`, geosrs:OperationMethod to be used in SPARQL graph patterns. |

## 7.2.1. Class: geosrs:PassThroughOperation

**Table 21** — geosrs:PassThroughOperation

| | |
|---|---|
| URI | https://w3id.org/geosrs/co/PassThroughOperation |
| Definition | Specification of a subset of coordinate tuples that is subject to a coordinate operation |
| Super-classes | PassThroughOperation |

## 7.2.2. Class: geosrs:ConcatenatedOperation

**Table 22** — geosrs:ConcatenatedOperation

| | |
|---|---|
| URI | https://w3id.org/geosrs/co/ConcatenatedOperation |
| Definition | Ordered sequence of two or more single coordinate operations. Note: The sequence of coordinate operations is constrained by the requirement that the source |

| | |
|---|---|
| | coordinate reference system of step (n + 1) shall be the same as the target coordinate reference system of step (n). The source coordinate reference system of the first step and the target coordinate reference system of the last step are the source and target coordinate reference system associated with the concatenated coordinate operation. For a concatenated coordinate operation sequence of n coordinate operations: source CRS (concatenated coordinate operation) .eq. source CRS (coordinate operation step 1) target CRS (coordinate operation step i) .eq. source CRS (coordinate operation step i + 1); i .eq. 1 ...(n — 1) target CRS (concatenated coordinate operation) .eq. target CRS (coordinate operation step n) Instead of a forward coordinate operation, an inverse coordinate operation may be used for one or more of the coordinate operation steps mentioned above, if the inverse coordinate operation is uniquely defined by the forward coordinate operation method. |
| Super-classes | ConcatenatedOperation |

### 7.2.3. Class: geosrs:PointMotionOperation

**Table 23** — geosrs:PointMotionOperation

| | |
|---|---|
| URI | https://w3id.org/geosrs/co/PointMotionOperation |
| Definition | Mathematical operation that decribes the change of coordinate values within one coordinate reference system due to the motion of the point between one coordinate epoch and another coordinate epoch Note: In this document the motion is due to tectonic plate movement or deformation. |
| Super-classes | PointMotionOperation |

## 7.3. Coordinate operation parameters

| Requirement 4: Coordinate operation parameters | |
|---|---|
| **IDENTIFIER** | `/req/Coordinate_operation_parameters` |
| **STATEMENT** | Implementations shall allow the RDFS classes geosrs:GeneralOperationParameter, `geosrs:OperationParameterGroup`, geosrs:OperationParameter, geosrs:GeneralParameterValue, `geosrs:ParameterValueGroup`, geosrs:OperationParameterValue to be used in SPARQL graph patterns. |

### 7.3.1. Class: geosrs:OperationParameterGroup

**Table 24** — geosrs:OperationParameterGroup

| | |
|---|---|
| URI | https://w3id.org/geosrs/co/OperationParameterGroup |
| Definition | Definition of a group of related parameters used by a coordinate operation method. |
| Super-classes | OperationParameterGroup |

### 7.3.2. Class: geosrs:ParameterValueGroup

**Table 25** — geosrs:ParameterValueGroup

| | |
|---|---|
| URI | https://w3id.org/geosrs/co/ParameterValueGroup |
| Definition | Group of related parameter values. Note: The same group can be repeated more than once in a coordinate operation or higher level ParameterValueGroup, if those instances contain different values of one or more ParameterValues which suitably distinguish among those groups. |
| Super-classes | ParameterValueGroup |

8

# COORDINATE SYSTEM MODULE

# 8 COORDINATE SYSTEM MODULE

This clause establishes the **CS** Requirements class, with IRI `/req/cs`, which has a corresponding Conformance Class, **CS**, with IRI `/conf/cs`.

| Requirements class 3: 08-cs_extension.adoc Extension | |
|---|---|
| **IDENTIFIER** | `/req/08-cs_extension.adoc` |
| **TARGET TYPE** | Implementation Specification |
| **REQUIREMENT** | /req/Coordinate_System_Types<br>/req/Orthogonal_Coordinate_Systems<br>/req/Celestial_Coordinate_Systems |

## 8.1. Celestial Coordinate Systems

| Requirement 5: Celestial Coordinate Systems | |
|---|---|
| **IDENTIFIER** | `/req/Celestial_Coordinate_Systems` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:EclipticCoordinateSystem`, `geosrs:EquatorialCoordinateSystem`, `geosrs:GalacticCoordinateSystem`, `geosrs:HorizontalCoordinateSystem`, `geosrs:PerifocalCoordinateSystem`, `geosrs:SuperGalacticCS` to be used in SPARQL graph patterns. |

### 8.1.1. Class: geosrs:EclipticCoordinateSystem

**Table 26** — geosrs:EclipticCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/EclipticCoordinateSystem |
| Definition | An ecliptic coordinate system is used for representing the apparent positions and orbits of solar system objects. |
| Super-classes | EclipticCoordinateSystem |

### 8.1.2. Class: geosrs:EquatorialCoordinateSystem

**Table 27** — geosrs:EquatorialCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/EquatorialCoordinateSystem |
| Definition | A celestial coordinate system in which an object's position on the celestial sphere is described in terms of its north-south declination and east-west right ascension, measured relative to the celestial equator and vernal equinox, respectively. |
| Super-classes | EquatorialCoordinateSystem |

### 8.1.3. Class: geosrs:GalacticCoordinateSystem

**Table 28** — geosrs:GalacticCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/GalacticCoordinateSystem |
| Definition | A coordinate system with the Sun as its center, the primary direction aligned with the approximate center of the Milky Way Galaxy, and the fundamental plane parallel to an approximation of the galactic plane but offset to its north. |
| Super-classes | CelestialCoordinateSystem 3DCoordinateSystem |

### 8.1.4. Class: geosrs:HorizontalCoordinateSystem

**Table 29** — geosrs:HorizontalCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/HorizontalCoordinateSystem |
| Definition | A horizontal coordinate system is a celestial coordinate system that uses the observer's local horizon as the fundamental plane. |
| Super-classes | HorizontalCoordinateSystem |

### 8.1.5. Class: geosrs:PerifocalCoordinateSystem

**Table 30** — geosrs:PerifocalCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/PerifocalCoordinateSystem |
| Definition | A frame of reference centered at the focus of the orbit, i. e. the celestial body about which the orbit is centered. |
| Super-classes | PerifocalCoordinateSystem |

### 8.1.6. Class: geosrs:SuperGalacticCS

**Table 31** — geosrs:SuperGalacticCS

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/SuperGalacticCS |
| Definition | A reference frame for the supercluster of galaxies that contains the Milky Way galaxy, referenced to a local relatively flat collection of galaxy clusters used to define the supergalactic plane. |
| Super-classes | CelestialCoordinateSystem 3DCoordinateSystem |

## 8.2. Coordinate System Types

| **Requirement 6: Coordinate System Types** | |
|---|---|
| **IDENTIFIER** | `/req/Coordinate_System_Types` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:1DCoordinateSystem`, `geosrs:3DCoordinateSystem`, `geosrs:AffineCoordinateSystem`, `geosrs:BarycentricCoordinateSystem`, geosrs:CartesianCoordinateSystem, `geosrs:CelestialCoordinateSystem`, `geosrs:CurvilinearCoordinateSystem`, `geosrs:GeodeticCoordinateSystem`, `geosrs:GridCoordinateSystem`, `geosrs:LocalCoordinateSystem`, `geosrs:ObliqueCoordinateSystem`, geosrs:OrdinalCoordinateSystem, `geosrs:PlanarCoordinateSystem` to be used in SPARQL graph patterns. |

### 8.2.1. Class: geosrs:1DCoordinateSystem

**Table 32** — geosrs:1DCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/1DCoordinateSystem |
| Definition | Non-repeating sequence of coordinate system axes that spans a given coordinate space in one dimension |
| Super-classes | 1DCoordinateSystem |

### 8.2.2. Class: geosrs:3DCoordinateSystem

**Table 33** — geosrs:3DCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/3DCoordinateSystem |
| Definition | Non-repeating sequence of coordinate system axes that spans a given coordinate space in three dimensions |
| Super-classes | 3DCoordinateSystem |

### 8.2.3. Class: geosrs:AffineCoordinateSystem

**Table 34** — geosrs:AffineCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/AffineCoordinateSystem |
| Definition | Coordinate system in Euclidean space with straight axes that are not necessarily mutually perpendicular |
| Super-classes | AffineCoordinateSystem |

### 8.2.4. Class: geosrs:BarycentricCoordinateSystem

**Table 35** — geosrs:BarycentricCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/BarycentricCoordinateSystem |

| | |
|---|---|
| Definition | A coordinate system in which the location of a point is specified by reference to a simplex (a triangle for points in a plane, a tetrahedron for points in three-dimensional space, etc.) |
| Super-classes | BarycentricCoordinateSystem |

### 8.2.5. Class: geosrs:CelestialCoordinateSystem

**Table 36** — geosrs:CelestialCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/CelestialCoordinateSystem |
| Definition | A coordinate system for specifying positions of celestial objects relative to physical reference points |
| Super-classes | CelestialCoordinateSystem |

### 8.2.6. Class: geosrs:CurvilinearCoordinateSystem

**Table 37** — geosrs:CurvilinearCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/CurvilinearCoordinateSystem |
| Definition | A coordinate system for the Euclidean space in which the coordinate lines may be curved |
| Super-classes | CurvilinearCoordinateSystem |

### 8.2.7. Class: geosrs:GeodeticCoordinateSystem

**Table 38** — geosrs:GeodeticCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/GeodeticCoordinateSystem |
| Definition | Coordinate system used by a Geodetic CRS, one of a Cartesian coordinate system or a spherical coordinate system. |
| Super-classes | GeodeticCoordinateSystem |

### 8.2.8. Class: geosrs:GridCoordinateSystem

**Table 39** — geosrs:GridCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/GridCoordinateSystem |
| Definition | A grid coordinate system identifies areas within a grid. |
| Super-classes | GridCoordinateSystem |

### 8.2.9. Class: geosrs:LocalCoordinateSystem

**Table 40** — geosrs:LocalCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/LocalCoordinateSystem |
| Definition | Coordinate system with a point of local reference. |
| Super-classes | LocalCoordinateSystem |

### 8.2.10. Class: geosrs:ObliqueCoordinateSystem

**Table 41** — geosrs:ObliqueCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/ObliqueCoordinateSystem |
| Definition | A plane coordinate system whose axes are not perpendicular. |
| Super-classes | ObliqueCoordinateSystem |

### 8.2.11. Class: geosrs:PlanarCoordinateSystem

**Table 42** — geosrs:PlanarCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/PlanarCoordinateSystem |

| | |
|---|---|
| Definition | A two-dimensional measurement system that locates features on a plane based on their distance from an origin (0,0) along two perpendicular axes. |
| Super-classes | PlanarCoordinateSystem |

## 8.3. Orthogonal Coordinate Systems

| Requirement 7: Orthogonal Coordinate Systems | |
|---|---|
| **IDENTIFIER** | `/req/Orthogonal_Coordinate_Systems` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:ConicalCoordinateSystem`, geosrs: EllipsoidalCoordinateSystem to be used in SPARQL graph patterns. |

### 8.3.1. Class: geosrs:ConicalCoordinateSystem

**Table 43** — geosrs:ConicalCoordinateSystem

| | |
|---|---|
| URI | https://w3id.org/geosrs/cs/ConicalCoordinateSystem |
| Definition | A conical coordinate system is a three-dimensional orthogonal coordinate system consisting of concentric spheres (described by their radius r) and by two families of perpendicular cones, aligned along the z- and x-axes, respectively |
| Super-classes | ConicalCoordinateSystem |

9

# DATUM MODULE

# 9 DATUM MODULE

This clause establishes the **Datum** Requirements class, with IRI `/req/datum`, which has a corresponding Conformance Class, **Datum**, with IRI `/conf/datum`.

| Requirements class 4: 09-datum_extension.adoc Extension | |
|---|---|
| IDENTIFIER | `/req/09-datum_extension.adoc` |
| TARGET TYPE | Implementation Specification |
| REQUIREMENT | /req/DatumTypes |

## 9.1. DatumTypes

| Requirement 8: DatumTypes | |
|---|---|
| IDENTIFIER | `/req/DatumTypes` |
| STATEMENT | Implementations shall allow the RDFS classes geosrs:GeodeticDatum, `geosrs:DynamicGeodeticReferenceFrame`, geosrs:VerticalDatum, `geosrs:DynamicVerticalDatum`, `geosrs:ParametricDatum`, `geosrs:EngineeringDatum`, `geosrs:TemporalDatum`, `geosrs:DatumEnsemble` to be used in SPARQL graph patterns. |

### 9.1.1. Class: geosrs:DynamicGeodeticReferenceFrame

**Table 44** — geosrs:DynamicGeodeticReferenceFrame

| | |
|---|---|
| URI | https://w3id.org/geosrs/datum/DynamicGeodeticReferenceFrame |
| Definition | Geodetic reference frame in which some of the parameters describe time evolution of defining station coordinatesExample: defining station coordinates having linear velocities to account for crustal motion. |
| Super-classes | DynamicGeodeticReferenceFrame |

### 9.1.2. Class: geosrs:DynamicVerticalDatum

**Table 45** — geosrs:DynamicVerticalDatum

| | |
|---|---|
| URI | https://w3id.org/geosrs/datum/DynamicVerticalDatum |
| Definition | Vertical reference frame in which some of the defining parameters have time dependencyExample: Defining station heights have velocity to account for post-glacial isostatic rebound motion. Cf. ISO 19111:2019 Geographic information — Referencing by coordinates. |
| Super-classes | DynamicVerticalDatum |

### 9.1.3. Class: geosrs:ParametricDatum

**Table 46** — geosrs:ParametricDatum

| | |
|---|---|
| URI | https://w3id.org/geosrs/datum/ParametricDatum |
| Definition | Textual description and/or a set of parameters identifying a particular reference surface used as the origin of a parametric coordinate system, including its position with respect to the Earth. Cf. ISO 19111:2019 Geographic information — Referencing by coordinates. |
| Super-classes | ParametricDatum |

### 9.1.4. Class: geosrs:EngineeringDatum

**Table 47** — geosrs:EngineeringDatum

| | |
|---|---|
| URI | https://w3id.org/geosrs/datum/EngineeringDatum |
| Definition | Definition of the origin and orientation of an engineering coordinate reference systemNote: The origin can be fixed with respect to the Earth (such as a defined point at a construction site), or be a defined point on a moving vehicle (such as on a ship or satellite), or a defined point of an image. Cf. ISO 19111:2019 Geographic information — Referencing by coordinates. |

| | |
|---|---|
| Super-classes | EngineeringDatum |

### 9.1.5. Class: geosrs:TemporalDatum

**Table 48** — geosrs:TemporalDatum

| | |
|---|---|
| URI | https://w3id.org/geosrs/datum/TemporalDatum |
| Definition | Definition of the relationship of a temporal coordinate system to an objectNote: The object is normally time on the Earth. Cf. ISO 19111:2019 Geographic information — Referencing by coordinates. |
| Super-classes | TemporalDatum |

### 9.1.6. Class: geosrs:DatumEnsemble

**Table 49** — geosrs:DatumEnsemble

| | |
|---|---|
| URI | https://w3id.org/geosrs/datum/DatumEnsemble |
| Definition | A collection of two or more datums (or if geodetic or vertical, a collection of two or more reference frames) that are realizations of one Conventional Reference System and which for all but the highest accuracy requirements may be considered to be insignificantly different from each other. Note: Within the datum ensemble every frame or datum is constrained to be a realization of the same reference system. Cf. ISO 19111:2019 Geographic information — Referencing by coordinates. |

10

# SRS APPLICATION MODULE

# 10 SRS APPLICATION MODULE

This clause establishes the **SRSAPP** Requirements class, with IRI `/req/srsapp`, which has a corresponding Conformance Class, **SRSAPP**, with IRI `/conf/srsapp`.

11

# PROJECTIONS MODULE

# 11 PROJECTIONS MODULE

This clause establishes the **PROJ** Requirements class, with IRI `/req/proj`, which has a corresponding Conformance Class, **PROJ**, with IRI `/conf/proj`.

| Requirements class 5: 11-projections_extension.adoc Extension | |
|---|---|
| **IDENTIFIER** | `/req/11-projections_extension.adoc` |
| **TARGET TYPE** | Implementation Specification |
| **REQUIREMENT** | /req/Lenticular_Projections |
| | /req/Conformal_Projections |
| | /req/Minimum_Error_Projections |
| | /req/Pseudo_Azimuthal_Projections |
| | /req/Equal_Area_Projections |
| | /req/Pseudo_Conical_Projections |
| | /req/Globular_Projections |
| | /req/Pseudo_Cylindrical_Projections |
| | /req/Cylindrical_Projections |
| | /req/Compromise_Projections |
| | /req/Polyhedral_Projections |
| | /req/Equidistant_Projections |
| | /req/Conical_Projections |
| | /req/Azimuthal_Projections |
| | /req/Perspective_Projections |
| | /req/Polyconic_Projections |
| | /req/Stereographic_Projections |

## 11.1. Azimuthal Projections

| Requirement 9: Azimuthal Projections | |
|---|---|
| **IDENTIFIER** | `/req/Azimuthal_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:BreusingGeometricProjection`, `geosrs:BreusingHarmonicProjection`, `geosrs:GinzburgIIProjection`, `geosrs:GinzburgIProjection`, `geosrs:GnomonicProjection`, `geosrs:JamesAzimuthalProjection` to be used in SPARQL graph patterns. |

### 11.1.1. Class: geosrs:BreusingGeometricProjection

**Table 50** — geosrs:BreusingGeometricProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/BreusingGeometricProjection |
| Super-classes | BreusingGeometricProjection |

### 11.1.2. Class: geosrs:BreusingHarmonicProjection

**Table 51** — geosrs:BreusingHarmonicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/BreusingHarmonicProjection |
| Super-classes | BreusingHarmonicProjection |

### 11.1.3. Class: geosrs:GinzburgIIProjection

**Table 52** — geosrs:GinzburgIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GinzburgIIProjection |
| Super-classes | GinzburgIIProjection |

### 11.1.4. Class: geosrs:GinzburgIProjection

**Table 53** — geosrs:GinzburgIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GinzburgIProjection |
| Super-classes | GinzburgIProjection |

### 11.1.5. Class: geosrs:GnomonicProjection

**Table 54** — geosrs:GnomonicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GnomonicProjection |
| Super-classes | GnomonicProjection |

### 11.1.6. Class: geosrs:JamesAzimuthalProjection

**Table 55** — geosrs:JamesAzimuthalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/JamesAzimuthalProjection |
| Super-classes | JamesAzimuthalProjection |

## 11.2. Compromise Projections

| **Requirement 10: Compromise Projections** | |
|---|---|
| **IDENTIFIER** | `/req/Compromise_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:ArmadilloProjection`, `geosrs:BakerDinomicProjection`, `geosrs:BertinProjection`, `geosrs:ChamberlinTrimetricProjection`, `geosrs:DenoyerSemiEllipticalProjection`, `geosrs:FairgrieveProjection`, `geosrs:LarriveeProjection`, `geosrs:PetermannStarProjection`, `geosrs:SpilhausOceanicProjection`, `geosrs:VanDerGrintenIIIProjection`, `geosrs:` |

| Requirement 10: Compromise Projections |
| --- |
| `WinkelIIProjection`, `geosrs:WinkelIProjection`, `geosrs:WinkelSnyderProjection` to be used in SPARQL graph patterns. |

### 11.2.1. Class: geosrs:ArmadilloProjection

**Table 56** — geosrs:ArmadilloProjection

| | |
| --- | --- |
| URI | https://w3id.org/geosrs/projection/ArmadilloProjection |
| Super-classes | ArmadilloProjection |

### 11.2.2. Class: geosrs:BakerDinomicProjection

**Table 57** — geosrs:BakerDinomicProjection

| | |
| --- | --- |
| URI | https://w3id.org/geosrs/projection/BakerDinomicProjection |
| Super-classes | BakerDinomicProjection |

### 11.2.3. Class: geosrs:BertinProjection

**Table 58** — geosrs:BertinProjection

| | |
| --- | --- |
| URI | https://w3id.org/geosrs/projection/BertinProjection |
| Super-classes | BertinProjection |

### 11.2.4. Class: geosrs:ChamberlinTrimetricProjection

**Table 59** — geosrs:ChamberlinTrimetricProjection

| | |
| --- | --- |
| URI | https://w3id.org/geosrs/projection/ChamberlinTrimetricProjection |
| Super-classes | ChamberlinTrimetricProjection |

### 11.2.5. Class: geosrs:DenoyerSemiEllipticalProjection

**Table 60** — geosrs:DenoyerSemiEllipticalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/DenoyerSemiEllipticalProjection |
| Super-classes | DenoyerSemiEllipticalProjection |

### 11.2.6. Class: geosrs:FairgrieveProjection

**Table 61** — geosrs:FairgrieveProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/FairgrieveProjection |
| Super-classes | FairgrieveProjection |

### 11.2.7. Class: geosrs:LarriveeProjection

**Table 62** — geosrs:LarriveeProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/LarriveeProjection |
| Super-classes | LarriveeProjection |

### 11.2.8. Class: geosrs:PetermannStarProjection

**Table 63** — geosrs:PetermannStarProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PetermannStarProjection |
| Super-classes | PetermannStarProjection |

### 11.2.9. Class: geosrs:SpilhausOceanicProjection

**Table 64** — geosrs:SpilhausOceanicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/SpilhausOceanicProjection |
| Super-classes | SpilhausOceanicProjection |

## 11.2.10. Class: geosrs:VanDerGrintenIIIProjection

**Table 65** — geosrs:VanDerGrintenIIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/VanDerGrintenIIIProjection |
| Super-classes | VanDerGrintenIIIProjection |

## 11.2.11. Class: geosrs:WinkelIIProjection

**Table 66** — geosrs:WinkelIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WinkelIIProjection |
| Super-classes | WinkelIIProjection |

## 11.2.12. Class: geosrs:WinkelIProjection

**Table 67** — geosrs:WinkelIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WinkelIProjection |
| Super-classes | WinkelIProjection |

## 11.2.13. Class: geosrs:WinkelSnyderProjection

**Table 68** — geosrs:WinkelSnyderProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WinkelSnyderProjection |

| | |
|---|---|
| Super-classes | WinkelSnyderProjection |

## 11.3. Conformal Projections

| Requirement 11: Conformal Projections | |
|---|---|
| **IDENTIFIER** | `/req/Conformal_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:AdamsProjection`, `geosrs:AdamsWorldInASquareIIProjection`, `geosrs:AdamsWorldInASquareIProjection`, `geosrs:AugustEpicycloidalProjection`, `geosrs:CoxConformalProjection`, `geosrs:EisenlohrProjection`, `geosrs:GS50Projection`, `geosrs:PeirceQuincuncialProjection`, `geosrs:StereographicProjection` to be used in SPARQL graph patterns. |

### 11.3.1. Class: geosrs:AdamsProjection

**Table 69** — geosrs:AdamsProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/AdamsProjection |
| Super-classes | AdamsProjection |

### 11.3.2. Class: geosrs:AdamsWorldInASquareIIProjection

**Table 70** — geosrs:AdamsWorldInASquareIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/AdamsWorldInASquareIIProjection |
| Super-classes | AdamsWorldInASquareIIProjection |

### 11.3.3. Class: geosrs:AdamsWorldInASquareIProjection

**Table 71** — geosrs:AdamsWorldInASquareIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/AdamsWorldInASquareIProjection |
| Super-classes | AdamsWorldInASquareIProjection |

## 11.3.4. Class: geosrs:AugustEpicycloidalProjection

**Table 72** — geosrs:AugustEpicycloidalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/AugustEpicycloidalProjection |
| Definition | A projection in which every angle between two curves that crosss each other on a celestical body is preserved in the image of the projection |
| Super-classes | AugustEpicycloidalProjection |

## 11.3.5. Class: geosrs:CoxConformalProjection

**Table 73** — geosrs:CoxConformalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/CoxConformalProjection |
| Super-classes | CoxConformalProjection |

## 11.3.6. Class: geosrs:EisenlohrProjection

**Table 74** — geosrs:EisenlohrProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/EisenlohrProjection |
| Super-classes | EisenlohrProjection |

## 11.3.7. Class: geosrs:GS50Projection

**Table 75** — geosrs:GS50Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GS50Projection |
| Super-classes | GS50Projection |

### 11.3.8. Class: geosrs:PeirceQuincuncialProjection

**Table 76** — geosrs:PeirceQuincuncialProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PeirceQuincuncialProjection |
| Super-classes | PeirceQuincuncialProjection |

### 11.3.9. Class: geosrs:StereographicProjection

**Table 77** — geosrs:StereographicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/StereographicProjection |
| Super-classes | StereographicProjection |

## 11.4. Conical Projections

| **Requirement 12: Conical Projections** | |
|---|---|
| **IDENTIFIER** | `/req/Conical_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:BipolarObliqueConicConformalProjection`, `geosrs:CentralConicProjection`, `geosrs:HerschelConformalConicProjection`, `geosrs:Krovak`, `geosrs:LambertConformalConicProjection`, `geosrs:MurdochIIIProjection`, `geosrs:MurdochIIProjection`, `geosrs:MurdochIProjection`, `geosrs:SchjerningIProjection`, `geosrs:VitkovskyIProjection` to be used in SPARQL graph patterns. |

### 11.4.1. Class: geosrs:BipolarObliqueConicConformalProjection

**Table 78** — geosrs:BipolarObliqueConicConformalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/BipolarObliqueConicConformalProjection |
| Super-classes | BipolarObliqueConicConformalProjection |

### 11.4.2. Class: geosrs:CentralConicProjection

**Table 79** — geosrs:CentralConicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/CentralConicProjection |
| Super-classes | CentralConicProjection |

### 11.4.3. Class: geosrs:HerschelConformalConicProjection

**Table 80** — geosrs:HerschelConformalConicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/HerschelConformalConicProjection |
| Super-classes | HerschelConformalConicProjection |

### 11.4.4. Class: geosrs:Krovak

**Table 81** — geosrs:Krovak

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/Krovak |
| Super-classes | Krovak |

### 11.4.5. Class: geosrs:LambertConformalConicProjection

**Table 82** — geosrs:LambertConformalConicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/LambertConformalConicProjection |
| Super-classes | LambertConformalConicProjection |

## 11.4.6. Class: geosrs:MurdochIIIProjection

**Table 83** — geosrs:MurdochIIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/MurdochIIIProjection |
| Super-classes | MurdochIIIProjection |

## 11.4.7. Class: geosrs:MurdochIIProjection

**Table 84** — geosrs:MurdochIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/MurdochIIProjection |
| Super-classes | MurdochIIProjection |

## 11.4.8. Class: geosrs:MurdochIProjection

**Table 85** — geosrs:MurdochIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/MurdochIProjection |
| Super-classes | MurdochIProjection |

## 11.4.9. Class: geosrs:SchjerningIProjection

**Table 86** — geosrs:SchjerningIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/SchjerningIProjection |
| Super-classes | SchjerningIProjection |

### 11.4.10. Class: geosrs:VitkovskyIProjection

**Table 87** — geosrs:VitkovskyIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/VitkovskyIProjection |
| Super-classes | VitkovskyIProjection |

## 11.5. Cylindrical Projections

| **Requirement 13: Cylindrical Projections** | |
|---|---|
| **IDENTIFIER** | `/req/Cylindrical_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:ArdenCloseProjection`, `geosrs:BraunPerspectiveProjection`, `geosrs:CompactMillerProjection`, `geosrs:CylindricalStereographicProjection`, `geosrs:KarchenkoShabanovaProjection`, `geosrs:LabordeProjection`, `geosrs:MercatorProjection`, `geosrs:MillerProjection`, `geosrs:PattersonCylindricalProjection`, `geosrs:PavlovProjection`, `geosrs:ToblerCylindricalIIProjection`, `geosrs:ToblerCylindricalIProjection`, `geosrs:UrmayevIIIProjection`, `geosrs:WebMercatorProjection` to be used in SPARQL graph patterns. |

### 11.5.1. Class: geosrs:ArdenCloseProjection

**Table 88** — geosrs:ArdenCloseProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/ArdenCloseProjection |
| Super-classes | ArdenCloseProjection |

### 11.5.2. Class: geosrs:BraunPerspectiveProjection

**Table 89** — geosrs:BraunPerspectiveProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/BraunPerspectiveProjection |
| Super-classes | BraunPerspectiveProjection |

### 11.5.3. Class: geosrs:CompactMillerProjection

**Table 90** — geosrs:CompactMillerProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/CompactMillerProjection |
| Super-classes | CompactMillerProjection |

### 11.5.4. Class: geosrs:CylindricalStereographicProjection

**Table 91** — geosrs:CylindricalStereographicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/CylindricalStereographicProjection |
| Super-classes | CylindricalStereographicProjection |

### 11.5.5. Class: geosrs:KarchenkoShabanovaProjection

**Table 92** — geosrs:KarchenkoShabanovaProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/KarchenkoShabanovaProjection |
| Super-classes | KarchenkoShabanovaProjection |

### 11.5.6. Class: geosrs:LabordeProjection

**Table 93** — geosrs:LabordeProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/LabordeProjection |

| | |
|---|---|
| Super-classes | LabordeProjection |

### 11.5.7. Class: geosrs:MercatorProjection

**Table 94** — geosrs:MercatorProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/MercatorProjection |
| Super-classes | MercatorProjection |

### 11.5.8. Class: geosrs:MillerProjection

**Table 95** — geosrs:MillerProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/MillerProjection |
| Super-classes | MillerProjection |

### 11.5.9. Class: geosrs:PattersonCylindricalProjection

**Table 96** — geosrs:PattersonCylindricalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PattersonCylindricalProjection |
| Super-classes | PattersonCylindricalProjection |

### 11.5.10. Class: geosrs:PavlovProjection

**Table 97** — geosrs:PavlovProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PavlovProjection |
| Super-classes | PavlovProjection |

## 11.5.11. Class: geosrs:ToblerCylindricalIIProjection

**Table 98** — geosrs:ToblerCylindricalIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/ToblerCylindricalIIProjection |
| Super-classes | ToblerCylindricalIIProjection |

## 11.5.12. Class: geosrs:ToblerCylindricalIProjection

**Table 99** — geosrs:ToblerCylindricalIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/ToblerCylindricalIProjection |
| Super-classes | ToblerCylindricalIProjection |

## 11.5.13. Class: geosrs:UrmayevIIIProjection

**Table 100** — geosrs:UrmayevIIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/UrmayevIIIProjection |
| Super-classes | UrmayevIIIProjection |

## 11.5.14. Class: geosrs:WebMercatorProjection

**Table 101** — geosrs:WebMercatorProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WebMercatorProjection |
| Super-classes | WebMercatorProjection |

## 11.6. Equal Area Projections

| Requirement 14: Equal Area Projections | |
|---|---|
| **IDENTIFIER** | `/req/Equal_Area_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:AlbersEqualAreaProjection`, `geosrs:AzimuthalEqualAreaProjection`, `geosrs:CylindricalEqualArea`, `geosrs:GallPetersProjection`, `geosrs:HoboDyerProjection`, `geosrs:LambertAzimuthalEqualArea`, `geosrs:TrystanEdwardsProjection`, `geosrs:WiechelProjection` to be used in SPARQL graph patterns. |

### 11.6.1. Class: geosrs:AlbersEqualAreaProjection

**Table 102** — geosrs:AlbersEqualAreaProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/AlbersEqualAreaProjection |
| Super-classes | AlbersEqualAreaProjection |

### 11.6.2. Class: geosrs:AzimuthalEqualAreaProjection

**Table 103** — geosrs:AzimuthalEqualAreaProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/AzimuthalEqualAreaProjection |
| Super-classes | AzimuthalEqualAreaProjection |

### 11.6.3. Class: geosrs:CylindricalEqualArea

**Table 104** — geosrs:CylindricalEqualArea

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/CylindricalEqualArea |
| Super-classes | CylindricalEqualArea |

### 11.6.4. Class: geosrs:GallPetersProjection

**Table 105** — geosrs:GallPetersProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GallPetersProjection |
| Super-classes | GallPetersProjection |

### 11.6.5. Class: geosrs:HoboDyerProjection

**Table 106** — geosrs:HoboDyerProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/HoboDyerProjection |
| Super-classes | HoboDyerProjection |

### 11.6.6. Class: geosrs:LambertAzimuthalEqualArea

**Table 107** — geosrs:LambertAzimuthalEqualArea

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/LambertAzimuthalEqualArea |
| Super-classes | LambertAzimuthalEqualArea |

### 11.6.7. Class: geosrs:TrystanEdwardsProjection

**Table 108** — geosrs:TrystanEdwardsProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/TrystanEdwardsProjection |
| Super-classes | TrystanEdwardsProjection |

### 11.6.8. Class: geosrs:WiechelProjection

**Table 109** — geosrs:WiechelProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WiechelProjection |
| Super-classes | WiechelProjection |

# 11.7. Equidistant Projections

| **Requirement 15: Equidistant Projections** | |
|---|---|
| **IDENTIFIER** | `/req/Equidistant_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:AzimuthalEquidistantProjection`, `geosrs:BerghausStarProjection`, `geosrs:CassiniProjection`, `geosrs:EquidistantConicProjection`, `geosrs:EquidistantCylindricalProjection`, `geosrs:EquirectangularProjection`, `geosrs:ObliquePlateCarreeProjection`, `geosrs:PlateCarreeProjection`, `geosrs:TwoPointEquidistantProjection` to be used in SPARQL graph patterns. |

## 11.7.1. Class: geosrs:AzimuthalEquidistantProjection

**Table 110** — geosrs:AzimuthalEquidistantProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/AzimuthalEquidistantProjection |
| Super-classes | AzimuthalEquidistantProjection |

## 11.7.2. Class: geosrs:BerghausStarProjection

**Table 111** — geosrs:BerghausStarProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/BerghausStarProjection |
| Super-classes | BerghausStarProjection |

### 11.7.3. Class: geosrs:CassiniProjection

**Table 112** — geosrs:CassiniProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/CassiniProjection |
| Definition | A map projection first described in an approximate form by César-François Cassini de Thury in 1745 |
| Super-classes | CassiniProjection |

### 11.7.4. Class: geosrs:EquidistantConicProjection

**Table 113** — geosrs:EquidistantConicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/EquidistantConicProjection |
| Super-classes | EquidistantConicProjection |

### 11.7.5. Class: geosrs:EquidistantCylindricalProjection

**Table 114** — geosrs:EquidistantCylindricalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/EquidistantCylindricalProjection |
| Super-classes | EquidistantCylindricalProjection |

### 11.7.6. Class: geosrs:EquirectangularProjection

**Table 115** — geosrs:EquirectangularProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/EquirectangularProjection |
| Super-classes | EquirectangularProjection |

### 11.7.7. Class: geosrs:ObliquePlateCarreeProjection

**Table 116** — geosrs:ObliquePlateCarreeProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/ObliquePlateCarreeProjection |
| Super-classes | ObliquePlateCarreeProjection |

### 11.7.8. Class: geosrs:PlateCarreeProjection

**Table 117** — geosrs:PlateCarreeProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PlateCarreeProjection |
| Super-classes | PlateCarreeProjection |

### 11.7.9. Class: geosrs:TwoPointEquidistantProjection

**Table 118** — geosrs:TwoPointEquidistantProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/TwoPointEquidistantProjection |
| Super-classes | TwoPointEquidistantProjection |

## 11.8. Globular Projections

| **Requirement 16: Globular Projections** | |
|---|---|
| **IDENTIFIER** | `/req/Globular_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:ApianGlobularIProjection`, `geosrs:BaconGlobularProjection`, `geosrs:FournierGlobularIProjection` to be used in SPARQL graph patterns. |

### 11.8.1. Class: geosrs:ApianGlobularIProjection

**Table 119** — geosrs:ApianGlobularIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/ApianGlobularIProjection |
| Super-classes | ApianGlobularIProjection |

### 11.8.2. Class: geosrs:BaconGlobularProjection

**Table 120** — geosrs:BaconGlobularProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/BaconGlobularProjection |
| Super-classes | BaconGlobularProjection |

### 11.8.3. Class: geosrs:FournierGlobularIProjection

**Table 121** — geosrs:FournierGlobularIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/FournierGlobularIProjection |
| Super-classes | FournierGlobularIProjection |

## 11.9. Lenticular Projections

| **Requirement 17: Lenticular Projections** | |
|---|---|
| **IDENTIFIER** | `/req/Lenticular_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:A4Projection`, `geosrs:BriesemeisterProjection`, `geosrs:CiricIProjection`, `geosrs:CupolaProjection`, `geosrs:DedistortProjection`, `geosrs:DietrichKitadaProjection`, `geosrs:FranculaIIIProjection`, `geosrs:FranculaIVProjection`, `geosrs:FranculaIXProjection`, |

| Requirement 17: Lenticular Projections |
| --- |
| `geosrs:FranculaVIIIProjection`, `geosrs:FranculaVProjection`, `geosrs:FranculaXIIIProjection`, `geosrs:FranculaXIIProjection`, `geosrs:FranculaXIVProjection`, `geosrs:HamusoidalProjection`, `geosrs:KissProjection` to be used in SPARQL graph patterns. |

### 11.9.1. Class: geosrs:A4Projection

**Table 122** — geosrs:A4Projection

| | |
| --- | --- |
| URI | https://w3id.org/geosrs/projection/A4Projection |
| Super-classes | A4Projection |

### 11.9.2. Class: geosrs:BriesemeisterProjection

**Table 123** — geosrs:BriesemeisterProjection

| | |
| --- | --- |
| URI | https://w3id.org/geosrs/projection/BriesemeisterProjection |
| Super-classes | BriesemeisterProjection |

### 11.9.3. Class: geosrs:CiricIProjection

**Table 124** — geosrs:CiricIProjection

| | |
| --- | --- |
| URI | https://w3id.org/geosrs/projection/CiricIProjection |
| Super-classes | CiricIProjection |

### 11.9.4. Class: geosrs:CupolaProjection

**Table 125** — geosrs:CupolaProjection

| | |
| --- | --- |
| URI | https://w3id.org/geosrs/projection/CupolaProjection |

| | |
|---|---|
| Super-classes | CupolaProjection |

### 11.9.5. Class: geosrs:DedistortProjection

**Table 126** — geosrs:DedistortProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/DedistortProjection |
| Super-classes | DedistortProjection |

### 11.9.6. Class: geosrs:DietrichKitadaProjection

**Table 127** — geosrs:DietrichKitadaProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/DietrichKitadaProjection |
| Super-classes | DietrichKitadaProjection |

### 11.9.7. Class: geosrs:FranculaIIIProjection

**Table 128** — geosrs:FranculaIIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/FranculaIIIProjection |
| Super-classes | FranculaIIIProjection |

### 11.9.8. Class: geosrs:FranculaIVProjection

**Table 129** — geosrs:FranculaIVProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/FranculaIVProjection |
| Super-classes | FranculaIVProjection |

## 11.9.9. Class: geosrs:FranculaIXProjection

**Table 130** — geosrs:FranculaIXProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/FranculaIXProjection |
| Super-classes | FranculaIXProjection |

## 11.9.10. Class: geosrs:FranculaVIIIProjection

**Table 131** — geosrs:FranculaVIIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/FranculaVIIIProjection |
| Super-classes | FranculaVIIIProjection |

## 11.9.11. Class: geosrs:FranculaVProjection

**Table 132** — geosrs:FranculaVProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/FranculaVProjection |
| Super-classes | FranculaVProjection |

## 11.9.12. Class: geosrs:FranculaXIIIProjection

**Table 133** — geosrs:FranculaXIIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/FranculaXIIIProjection |
| Super-classes | FranculaXIIIProjection |

## 11.9.13. Class: geosrs:FranculaXIIProjection

**Table 134** — geosrs:FranculaXIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/FranculaXIIProjection |
| Super-classes | FranculaXIIProjection |

### 11.9.14. Class: geosrs:FranculaXIVProjection

**Table 135** — geosrs:FranculaXIVProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/FranculaXIVProjection |
| Super-classes | FranculaXIVProjection |

### 11.9.15. Class: geosrs:HamusoidalProjection

**Table 136** — geosrs:HamusoidalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/HamusoidalProjection |
| Super-classes | HamusoidalProjection |

### 11.9.16. Class: geosrs:KissProjection

**Table 137** — geosrs:KissProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/KissProjection |
| Super-classes | KissProjection |

## 11.10. Minimum Error Projections

| Requirement 18: Minimum Error Projections | |
|---|---|
| **IDENTIFIER** | `/req/Minimum_Error_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:AiryProjection` to be used in SPARQL graph patterns. |

### 11.10.1. Class: geosrs:AiryProjection

**Table 138** — geosrs:AiryProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/AiryProjection |
| Definition | An azimuthal minimum error projection for the region within the small or great circle defined by an angular distance, from the tangency point of the plane |
| Super-classes | AiryProjection |

## 11.11. Perspective Projections

| Requirement 19: Perspective Projections | |
|---|---|
| **IDENTIFIER** | `/req/Perspective_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:CentralCylindricalProjection`, `geosrs:GeneralVerticalPerspectiveProjection`, `geosrs:GilbertTwoWorldPerspectiveProjection`, `geosrs:LaHireProjection`, `geosrs:LorgnaProjection`, `geosrs:LowryProjection`, `geosrs:OrthographicProjection`, `geosrs:PerspectiveConicProjection`, `geosrs:TiltedPerspectiveProjection`, `geosrs:VerticalPerspectiveProjection` to be used in SPARQL graph patterns. |

### 11.11.1. Class: geosrs:CentralCylindricalProjection

**Table 139** — geosrs:CentralCylindricalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/CentralCylindricalProjection |

| | |
|---|---|
| Super-classes | CentralCylindricalProjection |

## 11.11.2. Class: geosrs:GeneralVerticalPerspectiveProjection

**Table 140** — geosrs:GeneralVerticalPerspectiveProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GeneralVerticalPerspectiveProjection |
| Super-classes | GeneralVerticalPerspectiveProjection |

## 11.11.3. Class: geosrs:GilbertTwoWorldPerspectiveProjection

**Table 141** — geosrs:GilbertTwoWorldPerspectiveProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GilbertTwoWorldPerspectiveProjection |
| Super-classes | GilbertTwoWorldPerspectiveProjection |

## 11.11.4. Class: geosrs:LaHireProjection

**Table 142** — geosrs:LaHireProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/LaHireProjection |
| Super-classes | LaHireProjection |

## 11.11.5. Class: geosrs:LorgnaProjection

**Table 143** — geosrs:LorgnaProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/LorgnaProjection |
| Super-classes | LorgnaProjection |

## 11.11.6. Class: geosrs:LowryProjection

**Table 144** — geosrs:LowryProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/LowryProjection |
| Super-classes | LowryProjection |

## 11.11.7. Class: geosrs:OrthographicProjection

**Table 145** — geosrs:OrthographicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/OrthographicProjection |
| Super-classes | OrthographicProjection |

## 11.11.8. Class: geosrs:PerspectiveConicProjection

**Table 146** — geosrs:PerspectiveConicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PerspectiveConicProjection |
| Super-classes | PerspectiveConicProjection |

## 11.11.9. Class: geosrs:TiltedPerspectiveProjection

**Table 147** — geosrs:TiltedPerspectiveProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/TiltedPerspectiveProjection |
| Super-classes | TiltedPerspectiveProjection |

## 11.11.10. Class: geosrs:VerticalPerspectiveProjection

**Table 148** — geosrs:VerticalPerspectiveProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/VerticalPerspectiveProjection |
| Super-classes | VerticalPerspectiveProjection |

## 11.12. Polyconic Projections

| **Requirement 20: Polyconic Projections** | |
|---|---|
| **IDENTIFIER** | `/req/Polyconic_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:GinzburgIVProjection`, `geosrs:GinzburgIXProjection`, `geosrs:GinzburgVIProjection`, `geosrs:GinzburgVProjection`, `geosrs:GottWagnerProjection`, `geosrs:HillEucyclicProjection`, `geosrs:LagrangeProjection`, `geosrs:LaskowskiProjection`, `geosrs:RectangularPolyconicProjection`, `geosrs:StabiusWernerIIIProjection`, `geosrs:StabiusWernerIProjection`, `geosrs:VanDerGrintenIIProjection`, `geosrs:VanDerGrintenIProjection`, `geosrs:VanDerGrintenIVProjection`, `geosrs:WagnerIXProjection`, `geosrs:WagnerVIIIProjection`, `geosrs:WagnerVIIProjection` to be used in SPARQL graph patterns. |

### 11.12.1. Class: geosrs:GinzburgIVProjection

**Table 149** — geosrs:GinzburgIVProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GinzburgIVProjection |
| Super-classes | GinzburgIVProjection |

### 11.12.2. Class: geosrs:GinzburgIXProjection

**Table 150** — geosrs:GinzburgIXProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GinzburgIXProjection |
| Super-classes | GinzburgIXProjection |

### 11.12.3. Class: geosrs:GinzburgVIProjection

**Table 151** — geosrs:GinzburgVIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GinzburgVIProjection |
| Super-classes | GinzburgVIProjection |

### 11.12.4. Class: geosrs:GinzburgVProjection

**Table 152** — geosrs:GinzburgVProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GinzburgVProjection |
| Super-classes | GinzburgVProjection |

### 11.12.5. Class: geosrs:GottWagnerProjection

**Table 153** — geosrs:GottWagnerProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GottWagnerProjection |
| Super-classes | GottWagnerProjection |

### 11.12.6. Class: geosrs:HillEucyclicProjection

**Table 154** — geosrs:HillEucyclicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/HillEucyclicProjection |
| Super-classes | HillEucyclicProjection |

### 11.12.7. Class: geosrs:LagrangeProjection

**Table 155** — geosrs:LagrangeProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/LagrangeProjection |
| Super-classes | LagrangeProjection |

## 11.12.8. Class: geosrs:LaskowskiProjection

**Table 156** — geosrs:LaskowskiProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/LaskowskiProjection |
| Super-classes | LaskowskiProjection |

## 11.12.9. Class: geosrs:RectangularPolyconicProjection

**Table 157** — geosrs:RectangularPolyconicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/RectangularPolyconicProjection |
| Super-classes | RectangularPolyconicProjection |

## 11.12.10. Class: geosrs:StabiusWernerIIIProjection

**Table 158** — geosrs:StabiusWernerIIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/StabiusWernerIIIProjection |
| Super-classes | StabiusWernerIIIProjection |

## 11.12.11. Class: geosrs:StabiusWernerIProjection

**Table 159** — geosrs:StabiusWernerIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/StabiusWernerIProjection |

| | |
|---|---|
| Super-classes | StabiusWernerIProjection |

## 11.12.12. Class: geosrs:VanDerGrintenIIProjection

**Table 160** — geosrs:VanDerGrintenIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/VanDerGrintenIIProjection |
| Super-classes | VanDerGrintenIIProjection |

## 11.12.13. Class: geosrs:VanDerGrintenIProjection

**Table 161** — geosrs:VanDerGrintenIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/VanDerGrintenIProjection |
| Super-classes | VanDerGrintenIProjection |

## 11.12.14. Class: geosrs:VanDerGrintenIVProjection

**Table 162** — geosrs:VanDerGrintenIVProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/VanDerGrintenIVProjection |
| Super-classes | VanDerGrintenIVProjection |

## 11.12.15. Class: geosrs:WagnerIXProjection

**Table 163** — geosrs:WagnerIXProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WagnerIXProjection |
| Super-classes | WagnerIXProjection |

### 11.12.16. Class: geosrs:WagnerVIIIProjection

**Table 164** — geosrs:WagnerVIIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WagnerVIIIProjection |
| Super-classes | WagnerVIIIProjection |

### 11.12.17. Class: geosrs:WagnerVIIProjection

**Table 165** — geosrs:WagnerVIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WagnerVIIProjection |
| Super-classes | WagnerVIIProjection |

## 11.13. Polyhedral Projections

| **Requirement 21: Polyhedral Projections** | |
|---|---|
| **IDENTIFIER** | `/req/Polyhedral_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:AuthaGraphProjection`, `geosrs:CahillKeyesProjection`, `geosrs:CollignonButterflyProjection`, `geosrs:DodecahedralProjection`, `geosrs:DymaxionProjection`, `geosrs:GnomonicButterflyProjection`, `geosrs:GnomonicCubedSphereProjection`, `geosrs:GnomonicIcosahedronProjection`, `geosrs:GuyouProjection`, `geosrs:IcosahedralProjection`, `geosrs:LeeProjection`, `geosrs:MyrahedalProjection`, `geosrs:OctantProjection`, `geosrs:QuadrilateralizedSphericalCubeProjection`, `geosrs:WatermanButterflyProjection` to be used in SPARQL graph patterns. |

### 11.13.1. Class: geosrs:AuthaGraphProjection

**Table 166** — geosrs:AuthaGraphProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/AuthaGraphProjection |
| Super-classes | AuthaGraphProjection |

## 11.13.2. Class: geosrs:CahillKeyesProjection

**Table 167** — geosrs:CahillKeyesProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/CahillKeyesProjection |
| Super-classes | CahillKeyesProjection |

## 11.13.3. Class: geosrs:CollignonButterflyProjection

**Table 168** — geosrs:CollignonButterflyProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/CollignonButterflyProjection |
| Super-classes | CollignonButterflyProjection |

## 11.13.4. Class: geosrs:DodecahedralProjection

**Table 169** — geosrs:DodecahedralProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/DodecahedralProjection |
| Super-classes | DodecahedralProjection |

## 11.13.5. Class: geosrs:DymaxionProjection

**Table 170** — geosrs:DymaxionProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/DymaxionProjection |

| | |
|---|---|
| Super-classes | DymaxionProjection |

## 11.13.6. Class: geosrs:GnomonicButterflyProjection

**Table 171** — geosrs:GnomonicButterflyProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GnomonicButterflyProjection |
| Super-classes | GnomonicButterflyProjection |

## 11.13.7. Class: geosrs:GnomonicCubedSphereProjection

**Table 172** — geosrs:GnomonicCubedSphereProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GnomonicCubedSphereProjection |
| Super-classes | GnomonicCubedSphereProjection |

## 11.13.8. Class: geosrs:GnomonicIcosahedronProjection

**Table 173** — geosrs:GnomonicIcosahedronProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GnomonicIcosahedronProjection |
| Super-classes | GnomonicIcosahedronProjection |

## 11.13.9. Class: geosrs:GuyouProjection

**Table 174** — geosrs:GuyouProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GuyouProjection |
| Super-classes | GuyouProjection |

## 11.13.10. Class: geosrs:IcosahedralProjection

**Table 175** — geosrs:IcosahedralProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/IcosahedralProjection |
| Super-classes | IcosahedralProjection |

## 11.13.11. Class: geosrs:LeeProjection

**Table 176** — geosrs:LeeProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/LeeProjection |
| Super-classes | LeeProjection |

## 11.13.12. Class: geosrs:MyrahedalProjection

**Table 177** — geosrs:MyrahedalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/MyrahedalProjection |
| Super-classes | MyrahedalProjection |

## 11.13.13. Class: geosrs:OctantProjection

**Table 178** — geosrs:OctantProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/OctantProjection |
| Super-classes | OctantProjection |

## 11.13.14. Class: geosrs:QuadrilateralizedSphericalCubeProjection

**Table 179** — geosrs:QuadrilateralizedSphericalCubeProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/QuadrilateralizedSphericalCubeProjection |
| Super-classes | QuadrilateralizedSphericalCubeProjection |

### 11.13.15. Class: geosrs:WatermanButterflyProjection

**Table 180** — geosrs:WatermanButterflyProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WatermanButterflyProjection |
| Super-classes | WatermanButterflyProjection |

## 11.14. Pseudo Azimuthal Projections

| **Requirement 22: Pseudo Azimuthal Projections** | |
|---|---|
| **IDENTIFIER** | `/req/Pseudo_Azimuthal_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:AitoffObliqueProjection`, `geosrs:AitoffProjection`, `geosrs:HammerProjection`, `geosrs:Strebe1995Projection`, `geosrs:WinkelTripelProjection` to be used in SPARQL graph patterns. |

### 11.14.1. Class: geosrs:AitoffObliqueProjection

**Table 181** — geosrs:AitoffObliqueProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/AitoffObliqueProjection |
| Super-classes | AitoffObliqueProjection |

### 11.14.2. Class: geosrs:AitoffProjection

**Table 182** — geosrs:AitoffProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/AitoffProjection |
| Definition | A modified azimuthal projection whose graticule takes the form of an ellipse |
| Super-classes | AitoffProjection |

### 11.14.3. Class: geosrs:HammerProjection

**Table 183** — geosrs:HammerProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/HammerProjection |
| Super-classes | HammerProjection |

### 11.14.4. Class: geosrs:Strebe1995Projection

**Table 184** — geosrs:Strebe1995Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/Strebe1995Projection |
| Super-classes | Strebe1995Projection |

### 11.14.5. Class: geosrs:WinkelTripelProjection

**Table 185** — geosrs:WinkelTripelProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WinkelTripelProjection |
| Super-classes | WinkelTripelProjection |

## 11.15. Pseudo Conical Projections

| Requirement 23: Pseudo Conical Projections | |
|---|---|
| **IDENTIFIER** | `/req/Pseudo_Conical_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:AmericanPolyconicProjection`, `geosrs:BonneProjection`, `geosrs:BottomleyProjection`, `geosrs:NicolosiGlobularProjection`, `geosrs:PtolemyIIProjection`, `geosrs:WernerProjection` to be used in SPARQL graph patterns. |

## 11.15.1. Class: geosrs:AmericanPolyconicProjection

**Table 186** — geosrs:AmericanPolyconicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/AmericanPolyconicProjection |
| Super-classes | AmericanPolyconicProjection |

## 11.15.2. Class: geosrs:BonneProjection

**Table 187** — geosrs:BonneProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/BonneProjection |
| Super-classes | BonneProjection |

## 11.15.3. Class: geosrs:BottomleyProjection

**Table 188** — geosrs:BottomleyProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/BottomleyProjection |
| Super-classes | BottomleyProjection |

## 11.15.4. Class: geosrs:NicolosiGlobularProjection

**Table 189** — geosrs:NicolosiGlobularProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/NicolosiGlobularProjection |
| Super-classes | NicolosiGlobularProjection |

### 11.15.5. Class: geosrs:PtolemyIIProjection

**Table 190** — geosrs:PtolemyIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PtolemyIIProjection |
| Super-classes | PtolemyIIProjection |

### 11.15.6. Class: geosrs:WernerProjection

**Table 191** — geosrs:WernerProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WernerProjection |
| Super-classes | WernerProjection |

## 11.16. Pseudo Cylindrical Projections

| **Requirement 24: Pseudo Cylindrical Projections** | |
|---|---|
| **IDENTIFIER** | `/req/Pseudo_Cylindrical_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:ApianIIProjection`, `geosrs:AtlantisProjection`, `geosrs:BaranyiIIIProjection`, `geosrs:BaranyiIIProjection`, `geosrs:BaranyiIProjection`, `geosrs:BaranyiIVProjection`, `geosrs:BoggsEumorphicProjection`, `geosrs:BromleyProjection`, `geosrs:CabotProjection`, `geosrs:CollignonProjection`, `geosrs:CrasterParabolicProjection`, `geosrs:DeakinMinimumErrorProjection`, `geosrs:Eckert1Projection`, `geosrs:Eckert2Projection`, `geosrs:Eckert3Projection`, `geosrs:Eckert4Projection`, `geosrs:Eckert5Projection`, `geosrs:Eckert6Projection`, `geosrs:EqualEarthProjection`, `geosrs:FaheyProjection`, `geosrs:FoucautProjection`, `geosrs:FoucautSinusoidalProjection`, `geosrs:FournierIIProjection`, `geosrs:GinzburgVIIIProjection`, `geosrs:` |

| Requirement 24: Pseudo Cylindrical Projections |
| --- |
| GoodeHomolosineProjection, geosrs:HEALPixProjection, geosrs:HufnagelProjection, geosrs:Kavrayskiy7Projection, geosrs:LoximuthalProjection, geosrs:MayrProjection, geosrs:McBrydeThomasFlatPolarParabolicProjection, geosrs:McBrydeThomasFlatPolarQuarticProjection, geosrs:McBrydeThomasFlatPolarSinusoidalProjection, geosrs:McBrydeThomasIIProjection, geosrs:McBrydeThomasIProjection, geosrs:NaturalEarth2Projection, geosrs:NaturalEarthProjection, geosrs:NellHammerProjection, geosrs:NellProjection, geosrs:OrteliusOvalProjection, geosrs:PutninsP1Projection, geosrs:PutninsP2Projection, geosrs:PutninsP3Projection, geosrs:PutninsP5Projection, geosrs:PutninsP6Projection, geosrs:QuarticAuthalicProjection, geosrs:RobinsonProjection, geosrs:SinusoidalProjection, geosrs:TheTimesProjection, geosrs:ToblerG1Projection, geosrs:ToblerHyperellipticalProjection, geosrs:WagnerIIIProjection, geosrs:WagnerIIProjection, geosrs:WagnerIProjection, geosrs:WagnerIVProjection, geosrs:WagnerVIProjection, geosrs:WagnerVProjection, geosrs:WerenskioldIProjection, geosrs:PutninsP3'Projection, geosrs:PutninsP4'Projection, geosrs:PutninsP5'Projection, geosrs:PutninsP6'Projection to be used in SPARQL graph patterns. |

## 11.16.1. Class: geosrs:ApianIIProjection

**Table 192** — geosrs:ApianIIProjection

| | |
| --- | --- |
| URI | https://w3id.org/geosrs/projection/ApianIIProjection |
| Super-classes | ApianIIProjection |

## 11.16.2. Class: geosrs:AtlantisProjection

**Table 193** — geosrs:AtlantisProjection

| | |
| --- | --- |
| URI | https://w3id.org/geosrs/projection/AtlantisProjection |
| Super-classes | AtlantisProjection |

## 11.16.3. Class: geosrs:BaranyiIIIProjection

**Table 194** — geosrs:BaranyiIIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/BaranyiIIIProjection |
| Super-classes | BaranyiIIIProjection |

## 11.16.4. Class: geosrs:BaranyiIIProjection

**Table 195** — geosrs:BaranyiIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/BaranyiIIProjection |
| Super-classes | BaranyiIIProjection |

## 11.16.5. Class: geosrs:BaranyiIProjection

**Table 196** — geosrs:BaranyiIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/BaranyiIProjection |
| Super-classes | BaranyiIProjection |

## 11.16.6. Class: geosrs:BaranyiIVProjection

**Table 197** — geosrs:BaranyiIVProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/BaranyiIVProjection |
| Super-classes | BaranyiIVProjection |

## 11.16.7. Class: geosrs:BoggsEumorphicProjection

**Table 198** — geosrs:BoggsEumorphicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/BoggsEumorphicProjection |
| Super-classes | BoggsEumorphicProjection |

## 11.16.8. Class: geosrs:BromleyProjection

**Table 199** — geosrs:BromleyProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/BromleyProjection |
| Super-classes | BromleyProjection |

## 11.16.9. Class: geosrs:CabotProjection

**Table 200** — geosrs:CabotProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/CabotProjection |
| Super-classes | CabotProjection |

## 11.16.10. Class: geosrs:CollignonProjection

**Table 201** — geosrs:CollignonProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/CollignonProjection |
| Definition | An equal-area pseudocylindrical projection that maps the sphere onto a triangle or diamond |
| Super-classes | CollignonProjection |

## 11.16.11. Class: geosrs:CrasterParabolicProjection

**Table 202** — geosrs:CrasterParabolicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/CrasterParabolicProjection |
| Super-classes | CrasterParabolicProjection |

## 11.16.12. Class: geosrs:DeakinMinimumErrorProjection

**Table 203** — geosrs:DeakinMinimumErrorProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/DeakinMinimumErrorProjection |
| Super-classes | DeakinMinimumErrorProjection |

## 11.16.13. Class: geosrs:Eckert1Projection

**Table 204** — geosrs:Eckert1Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/Eckert1Projection |
| Super-classes | Eckert1Projection |

## 11.16.14. Class: geosrs:Eckert2Projection

**Table 205** — geosrs:Eckert2Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/Eckert2Projection |
| Super-classes | Eckert2Projection |

## 11.16.15. Class: geosrs:Eckert3Projection

**Table 206** — geosrs:Eckert3Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/Eckert3Projection |
| Super-classes | Eckert3Projection |

## 11.16.16. Class: geosrs:Eckert4Projection

**Table 207** — geosrs:Eckert4Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/Eckert4Projection |
| Super-classes | Eckert4Projection |

## 11.16.17. Class: geosrs:Eckert5Projection

**Table 208** — geosrs:Eckert5Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/Eckert5Projection |
| Super-classes | Eckert5Projection |

## 11.16.18. Class: geosrs:Eckert6Projection

**Table 209** — geosrs:Eckert6Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/Eckert6Projection |
| Super-classes | Eckert6Projection |

## 11.16.19. Class: geosrs:EqualEarthProjection

**Table 210** — geosrs:EqualEarthProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/EqualEarthProjection |
| Super-classes | EqualEarthProjection |

## 11.16.20. Class: geosrs:FaheyProjection

**Table 211** — geosrs:FaheyProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/FaheyProjection |
| Super-classes | FaheyProjection |

## 11.16.21. Class: geosrs:FoucautProjection

**Table 212** — geosrs:FoucautProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/FoucautProjection |
| Super-classes | FoucautProjection |

## 11.16.22. Class: geosrs:FoucautSinusoidalProjection

**Table 213** — geosrs:FoucautSinusoidalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/FoucautSinusoidalProjection |
| Super-classes | FoucautSinusoidalProjection |

## 11.16.23. Class: geosrs:FournierIIProjection

**Table 214** — geosrs:FournierIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/FournierIIProjection |
| Super-classes | FournierIIProjection |

## 11.16.24. Class: geosrs:GinzburgVIIIProjection

**Table 215** — geosrs:GinzburgVIIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GinzburgVIIIProjection |
| Super-classes | GinzburgVIIIProjection |

## 11.16.25. Class: geosrs:GoodeHomolosineProjection

**Table 216** — geosrs:GoodeHomolosineProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/GoodeHomolosineProjection |
| Super-classes | GoodeHomolosineProjection |

## 11.16.26. Class: geosrs:HEALPixProjection

**Table 217** — geosrs:HEALPixProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/HEALPixProjection |
| Super-classes | HEALPixProjection |

## 11.16.27. Class: geosrs:HufnagelProjection

**Table 218** — geosrs:HufnagelProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/HufnagelProjection |
| Super-classes | HufnagelProjection |

## 11.16.28. Class: geosrs:Kavrayskiy7Projection

**Table 219** — geosrs:Kavrayskiy7Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/Kavrayskiy7Projection |
| Super-classes | Kavrayskiy7Projection |

## 11.16.29. Class: geosrs:LoximuthalProjection

**Table 220** — geosrs:LoximuthalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/LoximuthalProjection |
| Super-classes | LoximuthalProjection |

## 11.16.30. Class: geosrs:MayrProjection

**Table 221** — geosrs:MayrProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/MayrProjection |
| Super-classes | MayrProjection |

## 11.16.31. Class: geosrs:McBrydeThomasFlatPolarParabolicProjection

**Table 222** — geosrs:McBrydeThomasFlatPolarParabolicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/McBrydeThomasFlatPolarParabolicProjection |
| Super-classes | McBrydeThomasFlatPolarParabolicProjection |

## 11.16.32. Class: geosrs:McBrydeThomasFlatPolarQuarticProjection

**Table 223** — geosrs:McBrydeThomasFlatPolarQuarticProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/McBrydeThomasFlatPolarQuarticProjection |
| Super-classes | McBrydeThomasFlatPolarQuarticProjection |

## 11.16.33. Class: geosrs:McBrydeThomasFlatPolarSinusoidalProjection

**Table 224** — geosrs:McBrydeThomasFlatPolarSinusoidalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/McBrydeThomasFlatPolarSinusoidalProjection |
| Super-classes | McBrydeThomasFlatPolarSinusoidalProjection |

## 11.16.34. Class: geosrs:McBrydeThomasIIProjection

**Table 225** — geosrs:McBrydeThomasIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/McBrydeThomasIIProjection |
| Super-classes | McBrydeThomasIIProjection |

## 11.16.35. Class: geosrs:McBrydeThomasIProjection

**Table 226** — geosrs:McBrydeThomasIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/McBrydeThomasIProjection |
| Super-classes | McBrydeThomasIProjection |

## 11.16.36. Class: geosrs:NaturalEarth2Projection

**Table 227** — geosrs:NaturalEarth2Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/NaturalEarth2Projection |
| Super-classes | NaturalEarth2Projection |

## 11.16.37. Class: geosrs:NaturalEarthProjection

**Table 228** — geosrs:NaturalEarthProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/NaturalEarthProjection |
| Definition | A pseudocylindrical map projection designed by Tom Patterson and introduced in 2008 |
| Super-classes | NaturalEarthProjection |

## 11.16.38. Class: geosrs:NellHammerProjection

**Table 229** — geosrs:NellHammerProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/NellHammerProjection |
| Super-classes | NellHammerProjection |

## 11.16.39. Class: geosrs:NellProjection

**Table 230** — geosrs:NellProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/NellProjection |
| Super-classes | NellProjection |

## 11.16.40. Class: geosrs:OrteliusOvalProjection

**Table 231** — geosrs:OrteliusOvalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/OrteliusOvalProjection |
| Super-classes | OrteliusOvalProjection |

## 11.16.41. Class: geosrs:PutninsP1Projection

**Table 232** — geosrs:PutninsP1Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PutninsP1Projection |
| Super-classes | PutninsP1Projection |

## 11.16.42. Class: geosrs:PutninsP2Projection

**Table 233** — geosrs:PutninsP2Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PutninsP2Projection |
| Super-classes | PutninsP2Projection |

## 11.16.43. Class: geosrs:PutninsP3Projection

**Table 234** — geosrs:PutninsP3Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PutninsP3Projection |
| Super-classes | PutninsP3Projection |

## 11.16.44. Class: geosrs:PutninsP5Projection

**Table 235** — geosrs:PutninsP5Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PutninsP5Projection |
| Super-classes | PutninsP5Projection |

## 11.16.45. Class: geosrs:PutninsP6Projection

**Table 236** — geosrs:PutninsP6Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PutninsP6Projection |
| Super-classes | PutninsP6Projection |

## 11.16.46. Class: geosrs:QuarticAuthalicProjection

**Table 237** — geosrs:QuarticAuthalicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/QuarticAuthalicProjection |
| Super-classes | QuarticAuthalicProjection |

## 11.16.47. Class: geosrs:RobinsonProjection

**Table 238** — geosrs:RobinsonProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/RobinsonProjection |
| Super-classes | RobinsonProjection |

## 11.16.48. Class: geosrs:SinusoidalProjection

**Table 239** — geosrs:SinusoidalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/SinusoidalProjection |
| Super-classes | SinusoidalProjection |

## 11.16.49. Class: geosrs:TheTimesProjection

**Table 240** — geosrs:TheTimesProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/TheTimesProjection |
| Super-classes | TheTimesProjection |

## 11.16.50. Class: geosrs:ToblerG1Projection

**Table 241** — geosrs:ToblerG1Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/ToblerG1Projection |
| Super-classes | ToblerG1Projection |

## 11.16.51. Class: geosrs:ToblerHyperellipticalProjection

**Table 242** — geosrs:ToblerHyperellipticalProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/ToblerHyperellipticalProjection |
| Super-classes | ToblerHyperellipticalProjection |

## 11.16.52. Class: geosrs:WagnerIIIProjection

**Table 243** — geosrs:WagnerIIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WagnerIIIProjection |
| Super-classes | WagnerIIIProjection |

## 11.16.53. Class: geosrs:WagnerIIProjection

**Table 244** — geosrs:WagnerIIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WagnerIIProjection |
| Super-classes | WagnerIIProjection |

## 11.16.54. Class: geosrs:WagnerIProjection

**Table 245** — geosrs:WagnerIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WagnerIProjection |
| Super-classes | WagnerIProjection |

## 11.16.55. Class: geosrs:WagnerIVProjection

**Table 246** — geosrs:WagnerIVProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WagnerIVProjection |
| Super-classes | WagnerIVProjection |

## 11.16.56. Class: geosrs:WagnerVIProjection

**Table 247** — geosrs:WagnerVIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WagnerVIProjection |
| Super-classes | WagnerVIProjection |

## 11.16.57. Class: geosrs:WagnerVProjection

**Table 248** — geosrs:WagnerVProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WagnerVProjection |
| Super-classes | WagnerVProjection |

## 11.16.58. Class: geosrs:WerenskioldIProjection

**Table 249** — geosrs:WerenskioldIProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/WerenskioldIProjection |
| Super-classes | WerenskioldIProjection |

## 11.16.59. Class: geosrs:PutninsP3'Projection

**Table 250** — geosrs:PutninsP3'Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PutninsP3'Projection |
| Super-classes | PutninsP3'Projection |

## 11.16.60. Class: geosrs:PutninsP4'Projection

**Table 251** — geosrs:PutninsP4'Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PutninsP4'Projection |
| Super-classes | PutninsP4'Projection |

### 11.16.61. Class: geosrs:PutninsP5'Projection

**Table 252** — geosrs:PutninsP5'Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PutninsP5'Projection |
| Super-classes | PutninsP5'Projection |

### 11.16.62. Class: geosrs:PutninsP6'Projection

**Table 253** — geosrs:PutninsP6'Projection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/PutninsP6'Projection |
| Super-classes | PutninsP6'Projection |

## 11.17. Stereographic Projections

| Requirement 25: Stereographic Projections | |
|---|---|
| **IDENTIFIER** | `/req/Stereographic_Projections` |
| **STATEMENT** | Implementations shall allow the RDFS classes `geosrs:MillerOblatedStereographicProjection`, `geosrs:RoussilheProjection` to be used in SPARQL graph patterns. |

### 11.17.1. Class: geosrs:MillerOblatedStereographicProjection

**Table 254** — geosrs:MillerOblatedStereographicProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/MillerOblatedStereographicProjection |
| Super-classes | MillerOblatedStereographicProjection |

## 11.17.2. Class: geosrs:RoussilheProjection

**Table 255** — geosrs:RoussilheProjection

| | |
|---|---|
| URI | https://w3id.org/geosrs/projection/RoussilheProjection |
| Super-classes | RoussilheProjection |

12

# PLANET MODULE

# 12 PLANET MODULE

This clause establishes the **PLANET** Requirements class, with IRI `/req/planet`, which has a corresponding Conformance Class, **PLANET**, with IRI `/conf/planet`.

A

# ANNEX A (INFORMATIVE) ALIGNMENTS

# A ANNEX A (INFORMATIVE) ALIGNMENTS

Overview

## Overview

The prefixes used for the ontologies mapped to in all following sections are given in the following table.

**Table A.1** — Alignment: Namespaces

| | |
|---|---|
| ign: | http://data.ign.fr/def/ignf# |
| iso19111: | http://def.isotc211.org/iso19112/2019/SpatialReferencingByGeographicIdentifier# |
| geosrs: | http://www.opengis.net/ont/geosparql# |
| ifc: | https://standards.buildingsmart.org/IFC/DEV/IFC4/ADD2_TC1/OWL/ |
| owl: | http://www.w3.org/2002/07/owl# |
| prov: | http://www.w3.org/ns/prov# |
| rdf: | http://www.w3.org/1999/02/22-rdf-syntax-ns# |
| rdfs: | http://www.w3.org/2000/01/rdf-schema# |

## A.1. IGN Ontology

**Table A.2** — Alignment: IGN Ontology

| FROM ELEMENT | MAPPING RELATION | TO ELEMENT | NOTES |
|---|---|---|---|
| geosrs:CoordinateSystem | owl:equivalentClass | ign:CoordinateSystem | - |
| geosrs:Datum | owl:equivalentClass | ign:Datum | - |
| geosrs:Ellipsoid | owl:equivalentClass | ign:Ellipsoid | - |
| geosrs:Conversion | owl:equivalentClass | ign:Conversion | - |
| geosrs:CoordinateOperation | owl:equivalentClass | ign:CoordinateOperation | - |
| geosrs:OperationMethod | owl:equivalentClass | ign:OperationMethod | - |
| geosrs:OperationParameter | owl:equivalentClass | ign:OperationParameter | - |
| geosrs:OperationParameterValue | owl:equivalentClass | ign:OperationParameterValue | - |
| geosrs:SingleOperation | owl:equivalentClass | ign:SingleOperation | - |
| geosrs:Transformation | owl:equivalentClass | ign:Transformation | - |
| geosrs:CartesianCoordinateSystem | owl:equivalentClass | ign:CartesianCS | - |
| geosrs:CoordinateSystem | owl:equivalentClass | ign:CoordinateSystem | - |
| geosrs:CoordinateSystemAxis | owl:equivalentClass | ign:CoordinateSystemAxis | - |
| geosrs:EllipsoidalCoordinateSystem | owl:equivalentClass | ign:EllipsoidalCS | - |
| geosrs:VerticalCoordinateSystem | owl:equivalentClass | ign:VerticalCS | - |
| geosrs:Datum | owl:equivalentClass | ign:Datum | - |
| geosrs:Ellipsoid | owl:equivalentClass | ign:Ellipsoid | - |
| geosrs:GeodeticDatum | owl:equivalentClass | ign:GeodeticDatum | - |
| geosrs:PrimeMeridian | owl:equivalentClass | ign:PrimeMeridian | - |
| geosrs:VerticalDatum | owl:equivalentClass | ign:VerticalDatum | - |
| geosrs:AxesList | owl:equivalentClass | ign:AxesList | - |

| FROM ELEMENT | MAPPING RELATION | TO ELEMENT | NOTES |
|---|---|---|---|
| geosrs:CRS | owl:equivalentClass | ign:CRS | - |
| geosrs:CompoundCRS | owl:equivalentClass | ign:CompoundCRS | - |
| geosrs:Extent | owl:equivalentClass | ign:Extent | - |
| geosrs:GeodeticCRS | owl:equivalentClass | ign:GeodeticCRS | - |
| geosrs:GeographicBoundingBox | owl:equivalentClass | ign:GeographicBoundingBox | - |
| geosrs:ProjectedCRS | owl:equivalentClass | ign:ProjectedCRS | - |
| geosrs:SingleCRS | owl:equivalentClass | ign:SingleCRS | - |
| geosrs:SingleCRSList | owl:equivalentClass | ign:SingleCRSList | - |
| geosrs:VerticalCRS | owl:equivalentClass | ign:VerticalCRS | - |

## A.2. ISO19111 Ontology

**Table A.3** — Alignment: ISO19111 Ontology

| FROM ELEMENT | MAPPING RELATION | TO ELEMENT | NOTES |
|---|---|---|---|
| geosrs:CoordinateSystem | owl:equivalentClass | iso19111:CoordinateSystem | - |
| geosrs:Datum | owl:equivalentClass | iso19111:Datum | - |
| geosrs:Ellipsoid | owl:equivalentClass | iso19111:Ellipsoid | - |
| geosrs:CRS | owl:equivalentClass | iso19111:CRS | - |
| geosrs:CompoundCRS | owl:equivalentClass | iso19111:CompoundCRS | - |
| geosrs:EngineeringCRS | owl:equivalentClass | iso19111:EngineeringCRS | - |
| geosrs:GeodeticCRS | owl:equivalentClass | iso19111:GeodeticCRS | - |

| FROM ELEMENT | MAPPING RELATION | TO ELEMENT | NOTES |
|---|---|---|---|
| geosrs:GeographicCRS | owl:equivalentClass | iso19111:GeographicCRS | - |
| geosrs:ParametricCRS | owl:equivalentClass | iso19111:ParametricCRS | - |
| geosrs:ProjectedCRS | owl:equivalentClass | iso19111:ProjectedCRS | - |
| geosrs:SingleCRS | owl:equivalentClass | iso19111:SingleCRS | - |
| geosrs:TemporalCRS | owl:equivalentClass | iso19111:TemporalCRS | - |
| geosrs:VerticalCRS | owl:equivalentClass | iso19111:VerticalCRS | - |

## A.3. IFC Ontology

**Table A.4** — Alignment: IFC Ontology

| FROM ELEMENT | MAPPING RELATION | TO ELEMENT | NOTES |
|---|---|---|---|
| geosrs:AxisDirection | owl:equivalentClass | ifc:IfcDirection | - |
| geosrs:CRS | owl:equivalentClass | ifc:IfcCoordinateReferenceSystem | - |
| geosrs:CoordinateOperation | owl:equivalentClass | ifc:IfcCoordinateOperation | - |
| geosrs:ProjectedCRS | owl:equivalentClass | ifc:IfcProjectedCRS | - |
| geosrs:axis | owl:equivalentProperty | ifc:axis_IfcAxis1Placement | - |
| geosrs:sourceCRS | owl:equivalentProperty | ifc:sourceCRS | - |
| geosrs:targetCRS | owl:equivalentProperty | ifc:targetCRS | - |

B

# ANNEX B (INFORMATIVE) SHACL SHAPES

# B ANNEX B (INFORMATIVE) SHACL SHAPES

Overview

## Overview

C

# ANNEX C (INFORMATIVE) REVISION HISTORY

# ANNEX C (INFORMATIVE) REVISION HISTORY

| DATE | RELEASE | AUTHOR | PRIMARY CLAUSES MODIFIED | DESCRIPTION |
|---|---|---|---|---|
| 2016-04-28 | 0.1 | G. Editor | all | initial version |

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