OGC® DOCUMENT: 18-053R2

External identifier of this OGC® document: http://www.opengis.net/docs/CS/3DTiles/1.0

Open Geospatial Consortium

OGC DOCUMENT TITLE

COMMUNITY STANDARD

APPROVED

Version: 1.0
Submission Date: 2018-06-04
Approval Date: 2018-12-14
Publication Date: 2019-01-31
Editor: Patrick Cozzi, Sean Lilley

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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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SECURITY CONSIDERATIONS

No security considerations have been made for this Standard.

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

SOURCE OF THE CONTENT FOR THIS OGC DOCUMENT

VALIDITY OF CONTENT

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:

Individual name(s), Organization

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/CRSTypes

6.1. CRSTypes

Requirement 1: CRSTypes	
IDENTIFIER	`/req/CRSTypes`
STATEMENT	Implementations shall allow the RDFS classes geosrs:BoundCRS, geosrs:CompoundCRS, geosrs:EngineeringCRS, geosrs:GeocentricCRS, geosrs:GeodeticCRS, geosrs:GeographicCRS, 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`.

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 2: 08-cs_extension.adoc Extension	
IDENTIFIER	`/req/08-cs_extension.adoc`
TARGET TYPE	Implementation Specification
REQUIREMENT	/req/CSTypes /req/Orthogonal_Coordinate_Systems /req/Celestial_Coordinate_Systems

8.1. CSTypes

Requirement 2: CSTypes	
IDENTIFIER	`/req/CSTypes`
STATEMENT	Implementations shall allow the RDFS classes geosrs:1DCoordinateSystem, geosrs:3DCoordinate System, geosrs:AffineCoordinateSystem, geosrs:BarycentricCoordinateSystem, geosrs:Cartesian CoordinateSystem, geosrs:CelestialCoordinateSystem, geosrs:CurvilinearCoordinateSystem, geosrs: GeodeticCoordinateSystem, geosrs:GridCoordinateSystem, geosrs:LocalCoordinateSystem, geosrs: ObliqueCoordinateSystem, geosrs:OrdinalCoordinateSystem, geosrs:PlanarCoordinateSystem to be used in SPARQL graph patterns.

8.1.1. Class: geosrs:1DCoordinateSystem

Table 12 — 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

8.1.2. Class: geosrs:3DCoordinateSystem

Table 13 — 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

8.1.3. Class: geosrs:AffineCoordinateSystem

Table 14 — 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

8.1.4. Class: geosrs:BarycentricCoordinateSystem

Table 15 — 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

8.1.5. Class: geosrs:CelestialCoordinateSystem

Table 16 — 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

8.1.6. Class: geosrs:CurvilinearCoordinateSystem

Table 17 — 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

8.1.7. Class: geosrs:GeodeticCoordinateSystem

Table 18 — 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

8.1.8. Class: geosrs:GridCoordinateSystem

Table 19 — geosrs:GridCoordinateSystem

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

8.1.9. Class: geosrs:LocalCoordinateSystem

Table 20 — geosrs:LocalCoordinateSystem

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

8.1.10. Class: geosrs:ObliqueCoordinateSystem

Table 21 — geosrs:ObliqueCoordinateSystem

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

8.1.11. Class: geosrs:PlanarCoordinateSystem

Table 22 — 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

8.2. Orthogonal Coordinate Systems

Requirement 3: 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.

8.2.1. Class: geosrs:ConicalCoordinateSystem

Table 23 — 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

8.3. Celestial Coordinate Systems

Requirement 4: 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.

8.3.1. Class: geosrs:EclipticCoordinateSystem

Table 24 — 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

8.3.2. Class: geosrs:EquatorialCoordinateSystem

Table 25 — 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

8.3.3. Class: geosrs:GalacticCoordinateSystem

Table 26 — 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

8.3.4. Class: geosrs:HorizontalCoordinateSystem

Table 27 — 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

8.3.5. Class: geosrs:PerifocalCoordinateSystem

Table 28 — 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

8.3.6. Class: geosrs:SuperGalacticCS

Table 29 — 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

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 3: 09-datum_extension.adoc Extension	
IDENTIFIER	`/req/09-datum_extension.adoc`
TARGET TYPE	Implementation Specification
REQUIREMENT	/req/DatumTypes

9.1. DatumTypes

Requirement 5: DatumTypes	
IDENTIFIER	`/req/DatumTypes`
STATEMENT	Implementations shall allow the RDFS classes geosrs:GeodeticDatum, geosrs:DynamicGeodetic ReferenceFrame, 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 30 — 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 31 — 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 32 — 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 33 — 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 34 — 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 35 — 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 4: 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/Equal_Area_Projections /req/Compromise_Projections /req/Polyhedral_Projections /req/Equidistant_Projections /req/Conical_Projections /req/Cylindrical_Projections /req/Azimuthal_Projections /req/Polyconic_Projections /req/Stereographic_Projections

11.1. Lenticular Projections

Requirement 6: Lenticular Projections	
IDENTIFIER	`/req/Lenticular_Projections`

Requirement 6: Lenticular Projections	
STATEMENT	Implementations shall allow the RDFS classes geosrs:A4Projection, geosrs:BriesemeisterProjection, geosrs:CiricIProjection, geosrs:CupolaProjection, geosrs:DedistortProjection, geosrs:DietrichKitada Projection, geosrs:FranculaIIIProjection, geosrs:FranculaIVProjection, geosrs:FranculaIXProjection, geosrs:FranculaVIIIProjection, geosrs:FranculaVProjection, geosrs:FranculaXIIIProjection, geosrs: FranculaXIIProjection, geosrs:FranculaXIVProjection, geosrs:HamusoidalProjection, geosrs:Kiss Projection to be used in SPARQL graph patterns.

11.1.1. Class: geosrs:A4Projection

Table 36 — geosrs:A4Projection

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

11.1.2. Class: geosrs:BriesemeisterProjection

Table 37 — geosrs:BriesemeisterProjection

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

11.1.3. Class: geosrs:CiricIProjection

Table 38 — geosrs:CiricIProjection

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

11.1.4. Class: geosrs:CupolaProjection

Table 39 — geosrs:CupolaProjection

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

11.1.5. Class: geosrs:DedistortProjection

Table 40 — geosrs:DedistortProjection

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

11.1.6. Class: geosrs:DietrichKitadaProjection

Table 41 — geosrs:DietrichKitadaProjection

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

11.1.7. Class: geosrs:FranculaIIIProjection

Table 42 — geosrs:FranculaIIIProjection

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

11.1.8. Class: geosrs:FranculaIVProjection

Table 43 — geosrs:FranculaIVProjection

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

11.1.9. Class: geosrs:FranculaIXProjection

Table 44 — geosrs:FranculaIXProjection

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

11.1.10. Class: geosrs:FranculaVIIIProjection

Table 45 — geosrs:FranculaVIIIProjection

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

11.1.11. Class: geosrs:FranculaVProjection

Table 46 — geosrs:FranculaVProjection

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

11.1.12. Class: geosrs:FranculaXIIIProjection

Table 47 — geosrs:FranculaXIIIProjection

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

11.1.13. Class: geosrs:FranculaXIIProjection

Table 48 — geosrs:FranculaXIIProjection

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

11.1.14. Class: geosrs:FranculaXIVProjection

Table 49 — geosrs:FranculaXIVProjection

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

11.1.15. Class: geosrs:HamusoidalProjection

Table 50 — geosrs:HamusoidalProjection

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

11.1.16. Class: geosrs:KissProjection

Table 51 — geosrs:KissProjection

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

11.2. Conformal Projections

Requirement 7: Conformal Projections	
IDENTIFIER	`/req/Conformal_Projections`
STATEMENT	Implementations shall allow the RDFS classes geosrs:AdamsProjection, geosrs:AdamsWorld InASquareIIProjection, geosrs:AdamsWorldInASquareIProjection, geosrs:AugustEpicycloidal Projection, geosrs:CoxConformalProjection, geosrs:EisenlohrProjection, geosrs:GS50Projection, geosrs:PeirceQuincuncialProjection, geosrs:StereographicProjection to be used in SPARQL graph patterns.

11.2.1. Class: geosrs:AdamsProjection

Table 52 — geosrs:AdamsProjection

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

11.2.2. Class: geosrs:AdamsWorldInASquareIIProjection

Table 53 — geosrs:AdamsWorldInASquareIIProjection

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

11.2.3. Class: geosrs:AdamsWorldInASquareIProjection

Table 54 — geosrs:AdamsWorldInASquareIProjection

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

11.2.4. Class: geosrs:AugustEpicycloidalProjection

Table 55 — 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

11.2.5. Class: geosrs:CoxConformalProjection

Table 56 — geosrs:CoxConformalProjection

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

11.2.6. Class: geosrs:EisenlohrProjection

Table 57 — geosrs:EisenlohrProjection

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

11.2.7. Class: geosrs:GS50Projection

Table 58 — geosrs:GS50Projection

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

11.2.8. Class: geosrs:PeirceQuincuncialProjection

Table 59 — geosrs:PeirceQuincuncialProjection

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

11.2.9. Class: geosrs:StereographicProjection

Table 60 — geosrs:StereographicProjection

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

11.3. Minimum Error Projections

Requirement 8: Minimum Error Projections	
IDENTIFIER	`/req/Minimum_Error_Projections`
STATEMENT	Implementations shall allow the RDFS classes geosrs:AiryProjection to be used in SPARQL graph patterns.

11.3.1. Class: geosrs:AiryProjection

Table 61 — 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

11.4. Equal Area Projections

Requirement 9: 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.

11.4.1. Class: geosrs:AlbersEqualAreaProjection

Table 62 — geosrs:AlbersEqualAreaProjection

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

11.4.2. Class: geosrs:AzimuthalEqualAreaProjection

Table 63 — geosrs:AzimuthalEqualAreaProjection

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

11.4.3. Class: geosrs:CylindricalEqualArea

Table 64 — geosrs:CylindricalEqualArea

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

11.4.4. Class: geosrs:GallPetersProjection

Table 65 — geosrs:GallPetersProjection

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

11.4.5. Class: geosrs:HoboDyerProjection

Table 66 — geosrs:HoboDyerProjection

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

11.4.6. Class: geosrs:LambertAzimuthalEqualArea

Table 67 — geosrs:LambertAzimuthalEqualArea

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

11.4.7. Class: geosrs:TrystanEdwardsProjection

Table 68 — geosrs:TrystanEdwardsProjection

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

11.4.8. Class: geosrs:WiechelProjection

Table 69 — geosrs:WiechelProjection

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

11.5. Compromise Projections

Requirement 10: Compromise Projections	
IDENTIFIER	`/req/Compromise_Projections`
STATEMENT	Implementations shall allow the RDFS classes geosrs:ArmadilloProjection, geosrs:BakerDinomic Projection, geosrs:BertinProjection, geosrs:ChamberlinTrimetricProjection, geosrs:DenoyerSemi EllipticalProjection, geosrs:FairgrieveProjection, geosrs:LarriveeProjection, geosrs:PetermannStar Projection, geosrs:SpilhausOceanicProjection, geosrs:VanDerGrintenIIIProjection, geosrs:Winkel IIProjection, geosrs:WinkelIProjection, geosrs:WinkelSnyderProjection to be used in SPARQL graph patterns.

11.5.1. Class: geosrs:ArmadilloProjection

Table 70 — geosrs:ArmadilloProjection

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

11.5.2. Class: geosrs:BakerDinomicProjection

Table 71 — geosrs:BakerDinomicProjection

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

11.5.3. Class: geosrs:BertinProjection

Table 72 — geosrs:BertinProjection

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

11.5.4. Class: geosrs:ChamberlinTrimetricProjection

Table 73 — geosrs:ChamberlinTrimetricProjection

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

11.5.5. Class: geosrs:DenoyerSemiEllipticalProjection

Table 74 — geosrs:DenoyerSemiEllipticalProjection

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

11.5.6. Class: geosrs:FairgrieveProjection

Table 75 — geosrs:FairgrieveProjection

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

11.5.7. Class: geosrs:LarriveeProjection

Table 76 — geosrs:LarriveeProjection

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

11.5.8. Class: geosrs:PetermannStarProjection

Table 77 — geosrs:PetermannStarProjection

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

11.5.9. Class: geosrs:SpilhausOceanicProjection

Table 78 — geosrs:SpilhausOceanicProjection

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

11.5.10. Class: geosrs:VanDerGrintenIIIProjection

Table 79 — geosrs:VanDerGrintenIIIProjection

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

11.5.11. Class: geosrs:WinkelIIProjection

Table 80 — geosrs:WinkelIIProjection

URI	https://w3id.org/geosrs/projection/WinkelIIProjection

Super-classes	WinkelIIProjection

11.5.12. Class: geosrs:WinkelIProjection

Table 81 — geosrs:WinkelIProjection

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

11.5.13. Class: geosrs:WinkelSnyderProjection

Table 82 — geosrs:WinkelSnyderProjection

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

11.6. Polyhedral Projections

Requirement 11: Polyhedral Projections	
IDENTIFIER	`/req/Polyhedral_Projections`
STATEMENT	Implementations shall allow the RDFS classes geosrs:AuthaGraphProjection, geosrs:CahillKeyes Projection, geosrs:CollignonButterflyProjection, geosrs:DodecahedralProjection, geosrs:Dymaxion Projection, geosrs:GnomonicButterflyProjection, geosrs:GnomonicCubedSphereProjection, geosrs: GnomonicIcosahedronProjection, geosrs:GuyouProjection, geosrs:IcosahedralProjection, geosrs:Lee Projection, geosrs:MyrahedalProjection, geosrs:OctantProjection, geosrs:QuadrilateralizedSpherical CubeProjection, geosrs:WatermanButterflyProjection to be used in SPARQL graph patterns.

11.6.1. Class: geosrs:AuthaGraphProjection

Table 83 — geosrs:AuthaGraphProjection

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

11.6.2. Class: geosrs:CahillKeyesProjection

Table 84 — geosrs:CahillKeyesProjection

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

11.6.3. Class: geosrs:CollignonButterflyProjection

Table 85 — geosrs:CollignonButterflyProjection

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

11.6.4. Class: geosrs:DodecahedralProjection

Table 86 — geosrs:DodecahedralProjection

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

11.6.5. Class: geosrs:DymaxionProjection

Table 87 — geosrs:DymaxionProjection

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

Super-classes	DymaxionProjection

11.6.6. Class: geosrs:GnomonicButterflyProjection

Table 88 — geosrs:GnomonicButterflyProjection

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

11.6.7. Class: geosrs:GnomonicCubedSphereProjection

Table 89 — geosrs:GnomonicCubedSphereProjection

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

11.6.8. Class: geosrs:GnomonicIcosahedronProjection

Table 90 — geosrs:GnomonicIcosahedronProjection

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

11.6.9. Class: geosrs:GuyouProjection

Table 91 — geosrs:GuyouProjection

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

11.6.10. Class: geosrs:IcosahedralProjection

Table 92 — geosrs:IcosahedralProjection

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

11.6.11. Class: geosrs:LeeProjection

Table 93 — geosrs:LeeProjection

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

11.6.12. Class: geosrs:MyrahedalProjection

Table 94 — geosrs:MyrahedalProjection

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

11.6.13. Class: geosrs:OctantProjection

Table 95 — geosrs:OctantProjection

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

11.6.14. Class: geosrs:QuadrilateralizedSphericalCubeProjection

Table 96 — geosrs:QuadrilateralizedSphericalCubeProjection

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

11.6.15. Class: geosrs:WatermanButterflyProjection

Table 97 — geosrs:WatermanButterflyProjection

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

11.7. Equidistant Projections

Requirement 12: 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 98 — geosrs:AzimuthalEquidistantProjection

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

11.7.2. Class: geosrs:BerghausStarProjection

Table 99 — geosrs:BerghausStarProjection

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

11.7.3. Class: geosrs:CassiniProjection

Table 100 — 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 101 — geosrs:EquidistantConicProjection

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

11.7.5. Class: geosrs:EquidistantCylindricalProjection

Table 102 — geosrs:EquidistantCylindricalProjection

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

11.7.6. Class: geosrs:EquirectangularProjection

Table 103 — geosrs:EquirectangularProjection

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

11.7.7. Class: geosrs:ObliquePlateCarreeProjection

Table 104 — geosrs:ObliquePlateCarreeProjection

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

11.7.8. Class: geosrs:PlateCarreeProjection

Table 105 — geosrs:PlateCarreeProjection

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

11.7.9. Class: geosrs:TwoPointEquidistantProjection

Table 106 — geosrs:TwoPointEquidistantProjection

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

11.8. Conical Projections

Requirement 13: 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.

11.8.1. Class: geosrs:BipolarObliqueConicConformalProjection

Table 107 — geosrs:BipolarObliqueConicConformalProjection

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

11.8.2. Class: geosrs:CentralConicProjection

Table 108 — geosrs:CentralConicProjection

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

11.8.3. Class: geosrs:HerschelConformalConicProjection

Table 109 — geosrs:HerschelConformalConicProjection

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

11.8.4. Class: geosrs:Krovak

Table 110 — geosrs:Krovak

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

11.8.5. Class: geosrs:LambertConformalConicProjection

Table 111 — geosrs:LambertConformalConicProjection

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

11.8.6. Class: geosrs:MurdochIIIProjection

Table 112 — geosrs:MurdochIIIProjection

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

11.8.7. Class: geosrs:MurdochIIProjection

Table 113 — geosrs:MurdochIIProjection

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

11.8.8. Class: geosrs:MurdochIProjection

Table 114 — geosrs:MurdochIProjection

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

11.8.9. Class: geosrs:SchjerningIProjection

Table 115 — geosrs:SchjerningIProjection

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

11.8.10. Class: geosrs:VitkovskyIProjection

Table 116 — geosrs:VitkovskyIProjection

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

11.9. Cylindrical Projections

Requirement 14: Cylindrical Projections	
IDENTIFIER	`/req/Cylindrical_Projections`
STATEMENT	Implementations shall allow the RDFS classes 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.

11.9.1. Class: geosrs:BraunPerspectiveProjection

Table 117 — geosrs:BraunPerspectiveProjection

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

11.9.2. Class: geosrs:CompactMillerProjection

Table 118 — geosrs:CompactMillerProjection

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

11.9.3. Class: geosrs:CylindricalStereographicProjection

Table 119 — geosrs:CylindricalStereographicProjection

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

11.9.4. Class: geosrs:KarchenkoShabanovaProjection

Table 120 — geosrs:KarchenkoShabanovaProjection

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

11.9.5. Class: geosrs:LabordeProjection

Table 121 — geosrs:LabordeProjection

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

11.9.6. Class: geosrs:MercatorProjection

Table 122 — geosrs:MercatorProjection

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

11.9.7. Class: geosrs:MillerProjection

Table 123 — geosrs:MillerProjection

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

11.9.8. Class: geosrs:PattersonCylindricalProjection

Table 124 — geosrs:PattersonCylindricalProjection

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

11.9.9. Class: geosrs:PavlovProjection

Table 125 — geosrs:PavlovProjection

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

11.9.10. Class: geosrs:ToblerCylindricalIIProjection

Table 126 — geosrs:ToblerCylindricalIIProjection

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

11.9.11. Class: geosrs:ToblerCylindricalIProjection

Table 127 — geosrs:ToblerCylindricalIProjection

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

11.9.12. Class: geosrs:UrmayevIIIProjection

Table 128 — geosrs:UrmayevIIIProjection

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

11.9.13. Class: geosrs:WebMercatorProjection

Table 129 — geosrs:WebMercatorProjection

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

11.10. Azimuthal Projections

Requirement 15: 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.

11.10.1. Class: geosrs:BreusingGeometricProjection

Table 130 — geosrs:BreusingGeometricProjection

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

11.10.2. Class: geosrs:BreusingHarmonicProjection

Table 131 — geosrs:BreusingHarmonicProjection

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

11.10.3. Class: geosrs:GinzburgIIProjection

Table 132 — geosrs:GinzburgIIProjection

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

11.10.4. Class: geosrs:GinzburgIProjection

Table 133 — geosrs:GinzburgIProjection

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

11.10.5. Class: geosrs:GnomonicProjection

Table 134 — geosrs:GnomonicProjection

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

11.10.6. Class: geosrs:JamesAzimuthalProjection

Table 135 — geosrs:JamesAzimuthalProjection

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

11.11. Polyconic Projections

Requirement 16: 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:Van

Requirement 16: Polyconic Projections	
	DerGrintenIVProjection, geosrs:WagnerIXProjection, geosrs:WagnerVIIIProjection, geosrs:WagnerVIIProjection to be used in SPARQL graph patterns.

11.11.1. Class: geosrs:GinzburgIVProjection

Table 136 — geosrs:GinzburgIVProjection

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

11.11.2. Class: geosrs:GinzburgIXProjection

Table 137 — geosrs:GinzburgIXProjection

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

11.11.3. Class: geosrs:GinzburgVIProjection

Table 138 — geosrs:GinzburgVIProjection

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

11.11.4. Class: geosrs:GinzburgVProjection

Table 139 — geosrs:GinzburgVProjection

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

11.11.5. Class: geosrs:GottWagnerProjection

Table 140 — geosrs:GottWagnerProjection

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

11.11.6. Class: geosrs:HillEucyclicProjection

Table 141 — geosrs:HillEucyclicProjection

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

11.11.7. Class: geosrs:LagrangeProjection

Table 142 — geosrs:LagrangeProjection

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

11.11.8. Class: geosrs:LaskowskiProjection

Table 143 — geosrs:LaskowskiProjection

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

11.11.9. Class: geosrs:RectangularPolyconicProjection

Table 144 — geosrs:RectangularPolyconicProjection

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

11.11.10. Class: geosrs:StabiusWernerIIIProjection

Table 145 — geosrs:StabiusWernerIIIProjection

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

11.11.11. Class: geosrs:StabiusWernerIProjection

Table 146 — geosrs:StabiusWernerIProjection

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

11.11.12. Class: geosrs:VanDerGrintenIIProjection

Table 147 — geosrs:VanDerGrintenIIProjection

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

11.11.13. Class: geosrs:VanDerGrintenIProjection

Table 148 — geosrs:VanDerGrintenIProjection

URI	https://w3id.org/geosrs/projection/VanDerGrintenIProjection

Super-classes	VanDerGrintenIProjection

11.11.14. Class: geosrs:VanDerGrintenIVProjection

Table 149 — geosrs:VanDerGrintenIVProjection

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

11.11.15. Class: geosrs:WagnerIXProjection

Table 150 — geosrs:WagnerIXProjection

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

11.11.16. Class: geosrs:WagnerVIIIProjection

Table 151 — geosrs:WagnerVIIIProjection

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

11.11.17. Class: geosrs:WagnerVIIProjection

Table 152 — geosrs:WagnerVIIProjection

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

11.12. Stereographic Projections

Requirement 17: Stereographic Projections	
IDENTIFIER	`/req/Stereographic_Projections`
STATEMENT	Implementations shall allow the RDFS classes geosrs:MillerOblatedStereographicProjection, geosrs:RoussilheProjection to be used in SPARQL graph patterns.

11.12.1. Class: geosrs:MillerOblatedStereographicProjection

Table 153 — geosrs:MillerOblatedStereographicProjection

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

11.12.2. Class: geosrs:RoussilheProjection

Table 154 — 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

BIBLIOGRAPHY

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NOTE: The TC has approved Springer LNCS as the official document citation type. Springer LNCS is widely used in technical and computer science journals and other publications For citations in the text please use square brackets and consecutive numbers: [1], [2], [3] Actual References: [n] Journal: Author Surname, A.: Title. Publication Title. Volume number, Issue number, Pages Used (Year Published)

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