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## ABSTRACT

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<Insert Abstract Text here>



## KEYWORDS

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

keyword\_1, keyword\_2, keyword\_3, etc.



## PREFACE

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**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 clause”

If the Preface does not contain subclauses, it is considered a simple preface clause. This one is entered as text after the `.Preface` label and must be placed between the AsciiDoc document attributes and the first AsciiDoc section title. It should not be give a section title of its own.

If the Preface contains subclauses, it needs to be encoded as a full preface clause. This one is recognized as a full Metanorma AsciiDoc section with the title “Preface”, i.e. `== Preface`. (Simple preface content can also be encoded like full preface.)



## SECURITY CONSIDERATIONS

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No security considerations have been made for this Standard.



## SUBMITTERS

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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

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## VALIDITY OF CONTENT

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## 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

---



# 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

---

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)

The background features a dark blue field with several thin, light yellow lines intersecting at various points. Three of these intersection points are marked with small yellow dots. One dot is located in the upper right quadrant, another is further to the right, and the third is in the lower left quadrant. The lines create a network of triangles and other geometric shapes across the page.

4

# TERMS AND DEFINITIONS

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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

---

**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

---

This clause establishes the **Core** Requirements class, with IRI /req/core, which has a corresponding Conformance Class, **Core**, with IRI /conf/core. ===== Class: geosrs:geosrs:CoordinateSystem The class geosrs:geosrs:CoordinateSystem is defined by the following:===== Class: geosrs:geosrs:CartesianCoordinateSystem The class geosrs:geosrs:CartesianCoordinateSystem is defined by the following:===== Class: geosrs:geosrs:EllipsoidalCoordinateSystem The class geosrs:geosrs:EllipsoidalCoordinateSystem is defined by the following:===== Class: geosrs:geosrs:LinearCoordinateSystem The class geosrs:geosrs:LinearCoordinateSystem is defined by the following:===== Class: geosrs:geosrs:OrdinalCoordinateSystem The class geosrs:geosrs:OrdinalCoordinateSystem is defined by the following:===== Class: geosrs:geosrs:ParametricCoordinateSystem The class geosrs:geosrs:ParametricCoordinateSystem is defined by the following:===== Class: geosrs:geosrs:PolarCoordinateSystem The class geosrs:geosrs:PolarCoordinateSystem is defined by the following:===== Class: geosrs:geosrs:SphericalCoordinateSystem The class geosrs:geosrs:SphericalCoordinateSystem is defined by the following:===== Class: geosrs:geosrs:VerticalCoordinateSystem The class geosrs:geosrs:VerticalCoordinateSystem is defined by the following:===== Class: geosrs:geosrs:CoordinateSystemAxis The class geosrs:geosrs:CoordinateSystemAxis is defined by the following:===== Class: geosrs:geosrs:AreaOfUse The class geosrs:geosrs:AreaOfUse is defined by the following:===== Class: geosrs:geosrs:CRS The class geosrs:geosrs:CRS is defined by the following:===== Class: geosrs:geosrs:EngineeringCRS The class geosrs:geosrs:EngineeringCRS is defined by the following:===== Class: geosrs:geosrs:GeodeticCRS The class geosrs:geosrs:GeodeticCRS is defined by the following:===== Class: geosrs:geosrs:GeographicCRS The class geosrs:geosrs:GeographicCRS is defined by the following:===== Class: geosrs:geosrs:ProjectedCRS The class geosrs:geosrs:ProjectedCRS is defined by the following:===== Class: geosrs:geosrs:SingleCRS The class geosrs:geosrs:SingleCRS is defined by the following:===== Class: geosrs:geosrs:SpatialReferenceSystem The class geosrs:geosrs:SpatialReferenceSystem is defined by the following:===== Class: geosrs:geosrs:CoordinateOperation The class geosrs:geosrs:CoordinateOperation is defined by the following:===== Class: geosrs:geosrs:SingleOperation The class geosrs:geosrs:SingleOperation is defined by the following:===== Class: geosrs:geosrs:Transformation The class geosrs:geosrs:Transformation is defined by the following:===== Class: geosrs:geosrs:Conversion The class geosrs:geosrs:Conversion is defined by the following:===== Class: geosrs:geosrs:OperationMethod The class geosrs:geosrs:OperationMethod is defined by the following:===== Class: geosrs:geosrs:OperationParameter The class geosrs:geosrs:OperationParameter is defined by the following:===== Class: geosrs:geosrs:OperationParameterValue The class geosrs:geosrs:OperationParameterValue is defined by the following:===== Class: geosrs:geosrs:Datum The class geosrs:geosrs:Datum is defined by the following:===== Class: geosrs:geosrs:GeodeticDatum The class geosrs:geosrs:GeodeticDatum is defined by the following:===== Class: geosrs:geosrs:PrimeMeridian The class geosrs:geosrs:PrimeMeridian is defined by the following:===== Class: geosrs:geosrs:Ellipsoid The class geosrs:geosrs:Ellipsoid is defined by the following:===== Class: geosrs:geosrs:VerticalDatum The class geosrs:geosrs:VerticalDatum is defined by the following:



7

# COORDINATE OPERATION MODULE

---



## 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

---

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



9

# DATUM MODULE

---



## DATUM MODULE

---

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

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

---

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



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.









# ANNEX A (INFORMATIVE) ALIGNMENTS

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

## A.1. IGN CRS Ontology

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

FROM ELEMENT	MAPPING RELATION	TO ELEMENT	NOTES
geosrs:CoordinateSystem	<u>owl:equivalentClass</u>	<u>ign:CoordinateSystem</u>	-
geosrs:Datum	<u>owl:equivalentClass</u>	<u>ign:Datum</u>	-
geosrs:Ellipsoid	<u>owl:equivalentClass</u>	<u>ign:Ellipsoid</u>	-

## A.2. ISO 19111 Ontology

**Table A.3** — Alignment: ISO 19111 Ontology

FROM ELEMENT	MAPPING RELATION	TO ELEMENT	NOTES
geosrs:CoordinateSystem	<u>owl:equivalentClass</u>	<u>iso19111:CoordinateSystem</u>	-
geosrs:Datum	<u>owl:equivalentClass</u>	<u>iso19111:Datum</u>	-
geosrs:Ellipsoid	<u>owl:equivalentClass</u>	<u>iso19111:Ellipsoid</u>	-

## A.3. IFCOWL Ontology

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

FROM ELEMENT	MAPPING RELATION	TO ELEMENT	NOTES
geosrs:CRS	<u>owl:equivalentClass</u>	<u>ifc:CoordinateReferenceSystem</u>	-



# ANNEX B (INFORMATIVE) SHACL SHAPES

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## ANNEX B (INFORMATIVE) SHACL SHAPES

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Overview

### Overview

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# ANNEX C (INFORMATIVE) REVISION HISTORY

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## ANNEX C (INFORMATIVE) REVISION HISTORY

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



# BIBLIOGRAPHY





## 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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