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American National Standard

Geographic information — Schema for moving features

Developed by



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Geographic information — Schema for moving features

Information géographique — Schéma des entités mobiles



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Contents

Page

Foreword.....	v
Introduction	vi
1 Scope	1
2 Conformance	1
2.1 Conformance classes.....	1
2.2 Requirements	2
3 Normative references	2
4 Terms, definitions, and abbreviated terms	3
4.1 Terms and definitions.....	3
4.2 Abbreviated terms	5
5 Package – Moving Features.....	6
5.1 Semantics	6
5.2 Package structure.....	7
5.3 Class hierarchy	7
6 Package – Geometry Types	9
6.1 Package semantics.....	9
6.2 Type – MF_OneParamGeometry	9
6.3 Type – MF_TemporalGeometry	11
6.4 Type – MF_Trajectory	12
6.5 Type – MF_TemporalTrajectory.....	14
6.6 Class – MF_PositionExpression	20
6.7 Type – MF_SecondaryOffset	20
6.8 Type – MF_MeasureFunction	21
7 Package – Prism Geometry	22
7.1 Package structure.....	22
7.2 CodeList – MF_GlobalAxisName.....	23
7.3 Type – MF_LocalGeometry	25
7.4 Type – MF_PrismGeometry	27
7.5 Type – MF_RigidTemporalGeometry	28
7.6 Type – MF_RotationMatrix	29
7.7 Type – MF_TemporalOrientation.....	30
8 Moving features in application schemas.....	30
8.1 Introduction	30
8.2 Representing the spatial characteristics of moving features	31
8.3 Associations of moving features	31
8.4 Operations of moving features.....	31
Annex A (normative) Abstract test suite.....	32
A.1 Application schemas for data transfer	32
A.2 Application schemas for data with operations	32
Annex B (informative) UML Notation	34
B.1 Introduction	34
B.2 Class.....	34
B.3 Stereotype	34
B.4 Attribute	35
B.5 Operation	35
B.6 Constraint	36
B.7 Note	36

This is a preview of "INCITS/ISO 19141:200...". [Click here to purchase the full version from the ANSI store.](#)

B.8	Association	36
B.9	Role name	36
B.10	Multiplicity	37
B.11	Navigability	37
B.12	Aggregation	37
B.13	Composition	38
B.14	Dependency	38
B.15	Generalization	38
B.16	Realization	39
Annex C	(informative) Interpolating between orientations	40
C.1	Introduction	40
C.2	Euler rotations and gimbal lock	40
C.3	Interpolating between two orientation matrices	42
C.4	Interpolating between other orientation representations	44
C.5	Sample interpolation	45
Bibliography	49

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 19141 was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics*.

Introduction

This International Standard specifies a conceptual schema that addresses moving features, i.e., features whose locations change over time. This schema includes classes, attributes, associations and operations that provide a common conceptual framework that can be implemented to support various application areas that deal with moving features, including:

- Location Based Services,
- Intelligent Transportation Systems,
- Tracking and navigation (land-based, marine, or space), and
- Modeling and simulation.

The schema specifies mechanisms to describe motion consisting of translation and/or rotation of the feature, but not including deformation of the feature. The schema is based on the concept of a one parameter set of geometries that may be viewed as a set of leaves or a set of trajectories, where a leaf represents the geometry of the moving feature at a particular value of the parameter (e.g., a point in time) and a trajectory is a curve that represents the path of a point in the geometry of the moving feature as it moves with respect to the parameter.