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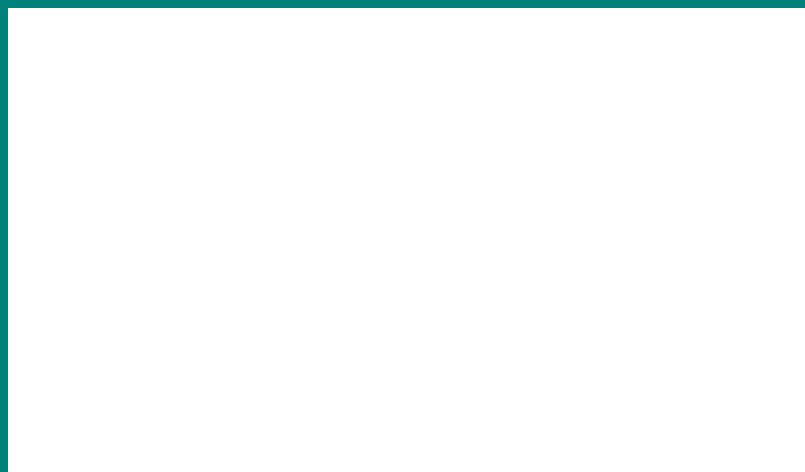
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Geografisk information – Schema för företeelser i rörelse (ISO 19141:2008)

Geographic information – Schema for moving features (ISO 19141:2008)



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Denna standard ersätter SS-ISO 19141:2008, utgåva 1.

The European Standard EN ISO 19141:2009 has the status of a Swedish Standard. This document contains the official English version of EN ISO 19141:2009.

This standard supersedes the Swedish Standard SS-ISO 19141:2008, edition 1.

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 19141

August 2009

ICS 35.240.70

English Version

**Geographic information - Schema for moving features (ISO
19141:2008)**

Information géographique - Schéma des entités mobiles
(ISO 19141:2008)

Geoinformation - Schema für sich bewegende Objekte (ISO
19141:2008)

This European Standard was approved by CEN on 30 July 2009.

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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

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

Foreword

The text of ISO 19141:2008 has been prepared by Technical Committee ISO/TC 211 "Geographic information/Geomatics" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 19141:2009 by Technical Committee CEN/TC 287 "Geographic Information" the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2010, and conflicting national standards shall be withdrawn at the latest by February 2010.

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The text of ISO 19141:2008 has been approved by CEN as a EN ISO 19141:2009 without any modification.

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.

Geographic information — Schema for moving features

1 Scope

This International Standard defines a method to describe the geometry of a feature that moves as a rigid body. Such movement has the following characteristics.

- a) The feature moves within any domain composed of spatial objects as specified in ISO 19107.
- b) The feature may move along a planned route, but it may deviate from the planned route.
- c) Motion may be influenced by physical forces, such as orbital, gravitational, or inertial forces.
- d) Motion of a feature may influence or be influenced by other features, for example:
 - 1) The moving feature might follow a predefined route (e.g. road), perhaps part of a network, and might change routes at known points (e.g. bus stops, waypoints).
 - 2) Two or more moving features may be “pulled” together or pushed apart (e.g. an airplane will be refuelled during flight, a predator detects and tracks a prey, refugee groups join forces).
 - 3) Two or more moving features may be constrained to maintain a given spatial relationship for some period (e.g. tractor and trailer, convoy).

This International Standard does not address other types of change to the feature. Examples of changes that are not addressed include the following:

- The deformation of features.
- The succession of either features or their associations.
- The change of non-spatial attributes of features.
- The feature’s geometric representation cannot be embedded in a geometric complex that contains the geometric representations of other features, since this would require the other features’ representations to be updated as the feature moves.

Because this International Standard is concerned with the geometric description of feature movement, it does not specify a mechanism for describing feature motion in terms of geographic identifiers. This is done, in part, in ISO 19133.

2 Conformance

2.1 Conformance classes

2.1.1 Introduction

This International Standard specifies four conformance classes (Table 1). They are differentiated on the basis of two criteria: purpose and level of complexity.