ISO Geodetic Registry

Item class Transformation

Name IGb00 to IGS05 [IGS v1]

Item statusVALIDIdentifier504

Information source Title Proposed IGS05 Realization

Author R. Ferland

Publisher International GNSS Service (IGS)

Publication date 2006-10-19

Edition date

Series/Journal name IGSMAIL Issue identification 5447.0

Information source Title Chronology of IGS Reference Frame Usage

Author International GNSS Service Analysis Centre

Coordinator

Publisher National Oceanic and Atmospheric Administration

(NOAA), National Geodetic Survey (NGS)

Publication date 2012-10-04 Other citation details Website

Data source ISO Geodetic Registry

Remarks Citations give the transformation from IGS05 to ITGb00. Accuracy of

transformation is given at the reference epoch for the transformation parameters. Accuracy at other epochs depends on the accuracies of the parameters at the reference epoch and their rates of change. Refer to citations for accuracies of the parameters and their rates of change.

Operation version IGS v1

Scope Spatial referencing

 Operation accuracy
 0.001 m

 Source CRS
 IGb00 - XYZ

 Target CRS
 IGS05 - XYZ

Operation method Time-Dependent Position Vector Transformation (geocentric Cartesian

domain)

Extent

Description	World.	
Geographic Bounding Box	West-bound longitude	-180.0
	North-bound latitude	90.0
	East-bound longitude	180.0
	South-bound latitude	-90.0

Operation parameter values

X-axis translation0.0 millimetreY-axis translation1.7 millimetreZ-axis translation5.3 millimetreX-axis rotation0.0224 milliarc-secondY-axis rotation-0.0341 milliarc-second

Z-axis rotation

Scale difference

Rate of change of X-axis translation

Rate of change of Y-axis translation

O.0099 milliarc-second

-0.8473 parts per billion

0.4 millimetre per year

-0.7 millimetre per year

Rate of change of Z-axis translation

Rate of change of X-axis rotation

Rate of change of Y-axis rotation

Rate of change of Y-axis rotation

Rate of change of Z-axis rotation

Rate of change of Z-axis rotation

Rate of change of scale difference

Time reference

1.8 millimetre per year

-0.0033 milliarc-second per year

0.0161 milliarc-second per year

-0.1748 parts per billion per year

2000.0 year

ISO Geodetic Registry

Item class OperationMethod

Name Time-Dependent Position Vector

Transformation (geocentric Cartesian domain)

Item status VALID Identifier 82

Alias Time-Dependent 7-Parameter Transformation

Alias 14-Parameter Transformation

Alias Time-Dependent Position Vector Transformation

Data source ISO Geodetic Registry

Remarks Note the analogy with the rotation for the Time-dependent Coordinate

Frame Transformation but beware of the differences! The Position

Vector Transformation convention is used by IAG.

Formula Geomatics Guidance Note No 7, part 2: Coordinate Conversions and

Transformations including Formulas

Operation parameters

X-axis translation

Y-axis translation

Z-axis translation

X-axis rotation

Y-axis rotation

Z-axis rotation

Scale difference

Rate of change of X-axis translation

Rate of change of Y-axis translation

Rate of change of Z-axis translation

Rate of change of X-axis rotation

Rate of change of Y-axis rotation

Rate of change of Z-axis rotation

Rate of change of scale difference

Time reference