ISO Geodetic Registry

Item class	Transformation	
Name	**IGb08 to IGS14 [IGS v1]**	
Item status	VALID	
Identifier	611	
Information source	*Title*	ITRF2014: A new release of the International Terrestrial Reference Frame modeling nonlinear station motions
	Author	Z. Altamimi, P. Rebischung, L. Metivier, X. Collilieux
	Publisher	American Geophysical Union
	Publication date	2016-08-04
	Edition date	
	Series/Journal name	Journal of Geophysical Research Solid Earth
	Issue identification	Volume 121, Issue 8
Information source	*Title*	Upcoming switch to IGS14/igs14.atx
	Author	P. Rebischung
	Publisher	International GNSS Service (IGS)
	Publication date	2016-12-21
	Series/Journal name	IGSMAIL
	Issue identification	7399.0
Information source	*Title*	Analysis and results of ITRF2014
	Author	Z. Altamimi, P. Rebischung, L. Metivier, X. Collilieux
	Publisher	International Earth Rotation and Reference Systems Service Central Bureau, Verlag des Bundesamts fur Kartographie und Geodasie, Frankfurt am Main, Germany
	Publication date	2017
	Edition date	
	Series/Journal name	IERS Technical Notes
	Issue identification	38.0
Data source	ISO Geodetic Registry	
Remarks	Transformation identical with ITRF2008 to ITRF2014 due to IGb08 being aligned to ITRF2008 and IGS14 being aligned to ITRF2014. 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	IGb08 - XYZ	
Target CRS	IGS14 - 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 translation	-1.6 millimetre
Y-axis translation	-1.9 millimetre
Z-axis translation	-2.4 millimetre
X-axis rotation	0.0 milliarc-second
Y-axis rotation	0.0 milliarc-second
Z-axis rotation	0.0 milliarc-second
Scale difference	0.02 parts per billion
Rate of change of X-axis translation	0.0 millimetre per year
Rate of change of Y-axis translation	0.0 millimetre per year
Rate of change of Z-axis translation	0.1 millimetre per year
Rate of change of X-axis rotation	0.0 milliarc-second per year
Rate of change of Y-axis rotation	0.0 milliarc-second per year
Rate of change of Z-axis rotation	0.0 milliarc-second per year
Rate of change of scale difference	-0.03 parts per billion per year
Time reference	2010.0 year

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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