ISO Geodetic Registry

Item class	Transformation	
Name	**WGS 84 (G2139) to ITRF2014 [1]**	
Item status	VALID	
Identifier	799	
Information source	*Title*	Recent Update to WGS 84 Reference Frame and NGA Transition to IGS ANTEX
	Author	Office of Geomatics / GNSS Division, National Geospatial-Intelligence Agency
	Publisher	National Geospatial-Intelligence Agency
	Publication date	2021
	Series/Journal name	Public Release
	Issue identification	21-520
	Other citation details	https://earth-info.nga.mil/php/download.php?file=(U)WGS%2084(G2139).pdf (accessed 2021-09-24)
Information source	*Title*	Personal communication
	Author	Robert Wong
	Publisher	National Geospatial-Intelligence Agency
	Publication date	2021-10-25
	Series/Journal name	ISOGR Control Body Meeting
	Issue identification	2021-10-25
Data source	ISO Geodetic Registry	
Remarks	Null transformation. WGS 84 (G2139) is aligned to ITRF2014 at all epochs.	
Operation version	1.0	
Scope	Spatial referencing and GPS satellite navigation.	
Operation accuracy	0.01 m	
Source CRS	WGS 84 (G2139) - XYZ	
Target CRS	ITRF2014 - XYZ	
Operation method	Coordinate Frame 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

Time reference	2016.0 year
Rate of change of scale difference	0.0 parts per billion per year
Rate of change of Z-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 X-axis rotation	0.0 milliarc-second per year
Rate of change of Z-axis translation	0.0 millimetre per year
Rate of change of Y-axis translation	0.0 millimetre per year
Rate of change of X-axis translation	0.0 millimetre per year
Scale difference	0.0 parts per billion
Z-axis rotation	0.0 milliarc-second

Y-axis rotation	0.0 milliarc-second
X-axis rotation	0.0 milliarc-second
Z-axis translation	0.0 millimetre
Y-axis translation	0.0 millimetre
X-axis translation	0.0 millimetre

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Item class	OperationMethod
Name	**Coordinate Frame Transformation (geocentric Cartesian domain)**
Item status	VALID
Identifier	74
Alias	Coordinate Frame Transformation
Alias	7-Parameter Transformation
Alias	Bursa-Wolf Transformation
Data source	ISO Geodetic Registry
Remarks	This method is a specific case of the Molodensky-Badekas (CF) method in which the evaluation point is at the geocentre with coordinate values of zero. Note the analogy with the Position Vector transformation method but beware of the differences!
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