

ISO Geodetic Registry

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

Extent

<i>Description</i>	World	
<i>Geographic Bounding Box</i>	<i>West-bound longitude</i>	-180.0
	<i>North-bound latitude</i>	90.0
	<i>East-bound longitude</i>	180.0
	<i>South-bound latitude</i>	-90.0

Operation parameter values

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

<i>Y-axis rotation</i>	0.0 milliarc-second
<i>X-axis rotation</i>	0.0 milliarc-second
<i>Z-axis translation</i>	0.0 millimetre
<i>Y-axis translation</i>	0.0 millimetre
<i>X-axis translation</i>	0.0 millimetre

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<i>Item class</i>	OperationMethod
<i>Name</i>	Coordinate Frame Transformation (geocentric Cartesian domain)
<i>Item status</i>	VALID
<i>Identifier</i>	74
<i>Alias</i>	Coordinate Frame Transformation
<i>Alias</i>	7-Parameter Transformation
<i>Alias</i>	Bursa-Wolf Transformation
<i>Data source</i>	ISO Geodetic Registry
<i>Remarks</i>	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!
<i>Formula</i>	Geomatics Guidance Note No 7, part 2: Coordinate Conversions and Transformations including Formulas

Operation parameters

<i>X-axis translation</i>
<i>Y-axis translation</i>
<i>Z-axis translation</i>
<i>X-axis rotation</i>
<i>Y-axis rotation</i>
<i>Z-axis rotation</i>
<i>Scale difference</i>