

ISO Geodetic Registry

<i>Item class</i>	Transformation	
<i>Name</i>	ITRF2005 to GDA94 [GA v1]	
<i>Item status</i>	VALID	
<i>Identifier</i>	486	
<i>Information source</i>	<i>Title</i>	ITRF to GDA94 coordinate transformations
	<i>Author</i>	John Dawson and Alex Woods
	<i>Publisher</i>	de Gruyter
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<i>Data source</i>	ISO Geodetic Registry	
<i>Remarks</i>	Implemented 2010. RMS of transformation residuals: 4mm north, 8mm east and 30mm vertical. Maximum residuals: 10mm north, 17 mm east and 61mm vertical.	
<i>Operation version</i>	GA v1	
<i>Scope</i>	Spatial referencing	
<i>Operation accuracy</i>	0.03 m	
<i>Source CRS</i>	ITRF2005 - XYZ	
<i>Target CRS</i>	GDA94 - XYZ	
<i>Operation method</i>	Time-Dependent Coordinate Frame Transformation (geocentric Cartesian domain)	

Extent

<i>Description</i>	Australia - onshore and offshore - mainland, Tasmania, Lord Howe Island, Norfolk Island, Macquarie Island. Christmas Island - onshore and offshore. Cocos (Keeling) Islands - onshore and offshore.	
<i>Geographic Bounding Box</i>	<i>West-bound longitude</i>	93.41
	<i>North-bound latitude</i>	-8.47
	<i>East-bound longitude</i>	173.4
	<i>South-bound latitude</i>	-60.56

Operation parameter values

<i>X-axis translation</i>	-79.73 millimetre
<i>Y-axis translation</i>	-6.86 millimetre
<i>Z-axis translation</i>	38.03 millimetre
<i>X-axis rotation</i>	-0.0351 milliarc-second
<i>Y-axis rotation</i>	2.1211 milliarc-second
<i>Z-axis rotation</i>	2.1411 milliarc-second
<i>Scale difference</i>	6.636 parts per billion
<i>Rate of change of X-axis translation</i>	2.25 millimetre per year
<i>Rate of change of Y-axis translation</i>	-0.62 millimetre per year
<i>Rate of change of Z-axis translation</i>	-0.56 millimetre per year
<i>Rate of change of X-axis rotation</i>	1.4707 milliarc-second per year

<i>Rate of change of Y-axis rotation</i>	1.1443 milliarc-second per year
<i>Rate of change of Z-axis rotation</i>	1.1701 milliarc-second per year
<i>Rate of change of scale difference</i>	0.294 parts per billion per year
<i>Time reference</i>	1994.0 year

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<i>Item class</i>	OperationMethod
<i>Name</i>	Time-Dependent Coordinate Frame Transformation (geocentric Cartesian domain)
<i>Item status</i>	VALID
<i>Identifier</i>	94
<i>Alias</i>	Time-Dependent 7-Parameter Transformation
<i>Alias</i>	14-Parameter Transformation
<i>Alias</i>	Time-Dependent Coordinate Frame Transformation
<i>Data source</i>	ISO Geodetic Registry
<i>Remarks</i>	Note the analogy with the Time-dependent Position Vector Transformation but beware of the differences! The Position Vector Transformation convention is used by IAG.
<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>
<i>Rate of change of X-axis translation</i>
<i>Rate of change of Y-axis translation</i>
<i>Rate of change of Z-axis translation</i>
<i>Rate of change of X-axis rotation</i>
<i>Rate of change of Y-axis rotation</i>
<i>Rate of change of Z-axis rotation</i>
<i>Rate of change of scale difference</i>
<i>Time reference</i>