ISO Geodetic Registry

Item class Transformation

Name ITRF96 to GDA94 [GA v2]

Item statusVALIDIdentifier465

Information source Title ITRF to GDA94 coordinate transformations

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Data source ISO Geodetic Registry

Remarks Implemented 2010. Replaces 2001 transformation by Dawson and

Steed, ITRF96 to GDA94 [GA-Aus 2001 v1]. RMS of transformation residuals: 22mm north, 56mm east and 90mm vertical. Maximum

residuals: 49mm north, 126mm east and 193mm vertical.

Operation version GA v2

Scope Spatial referencing

Operation accuracy 0.11 m

Source CRS ITRF96 - XYZ Target CRS GDA94 - XYZ

Operation method Time-Dependent Coordinate Frame Transformation (geocentric

Cartesian domain)

South-bound latitude

Extent

Australia - onshore and offshore - mainland,
Tasmania, Lord Howe Island, Norfolk Island,
Macquarie Island. Christmas Island - onshore
and offshore. Cocos (Keeling) Islands onshore and offshore.

Geographic Bounding Box

West-bound longitude
North-bound latitude
East-bound longitude
173.4

Operation parameter values

X-axis translation 24.54 millimetre Y-axis translation -36.43 millimetre Z-axis translation -68.12 millimetre X-axis rotation -2.7359 milliarc-second Y-axis rotation -2.0431 milliarc-second Z-axis rotation 0.3731 milliarc-second Scale difference 6.901 parts per billion Rate of change of X-axis translation -21.8 millimetre per year Rate of change of Y-axis translation 4.71 millimetre per year 26.27 millimetre per year Rate of change of Z-axis translation

-60.56

| Rate of change of X-axis rotation | 2.0203 milliarc-second per year |
|------------------------------------|----------------------------------|
| Rate of change of Y-axis rotation | 2.1735 milliarc-second per year |
| Rate of change of Z-axis rotation | 1.629 milliarc-second per year |
| Rate of change of scale difference | 0.388 parts per billion per year |
| Time reference | 1994.0 year |
| | |

ISO Geodetic Registry

Item class OperationMethod

Name Time-Dependent Coordinate Frame

Transformation (geocentric Cartesian domain)

Item status VALID
Identifier 94

Alias Time-Dependent 7-Parameter Transformation

Alias 14-Parameter Transformation

Alias Time-Dependent Coordinate Frame Transformation

Data source ISO Geodetic Registry

Remarks Note the analogy with the Time-dependent Position Vector

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