

# ISO Geodetic Registry

|                           |   |  |
|---------------------------|---|--|
| <i>Item class</i>         | Transformation  |  |
| <i>Name</i>               | <b>IGS97 to IGS00 [IGS v1]</b>  |  |
| <i>Item status</i>        | VALID   |  |
| <i>Identifier</i>         | 635   |  |
| <i>Information source</i> | <i>Title</i>  | Chronology of IGS Reference Frame Usage  |
|                           | <i>Author</i>   | International GNSS Service Analysis Centre   |
|                           |   | Coordinator  |
|                           | <i>Publisher</i>  | National Oceanic and Atmospheric Administration (NOAA), National Geodetic Survey (NGS) |
|                           | <i>Publication date</i>   | 2012-10-04   |
| <i>Information source</i> | <i>Other citation details</i>   | Website  |
|                           | <i>Title</i>  | Towards ITRF2000   |
|                           | <i>Author</i>   | AC Coordinator   |
|                           | <i>Publisher</i>  | International GNSS Service (IGS)   |
|                           | <i>Publication date</i>   | 2001-11-20   |
|                           | <i>Edition date</i>   |  |
|                           | <i>Series/Journal name</i>  | IGSMAIL  |
| <i>Data source</i>        | <i>Issue identification</i>   | 3605.0   |
|                           |   | ISO Geodetic Registry  |
| <i>Remarks</i>            | 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. |  |
| <i>Operation version</i>  | IGS v1  |  |
| <i>Scope</i>              | Spatial referencing   |  |
| <i>Operation accuracy</i> | 0.007 m   |  |
| <i>Source CRS</i>         | IGS97 - XYZ   |  |
| <i>Target CRS</i>         | IGS00 - XYZ   |  |
| <i>Operation method</i>   | Time-Dependent Position Vector Transformation (geocentric Cartesian domain)   |  |

## Extent

|                                |                             |        |
|--------------------------------|-----------------------------|--------|
| <i>Description</i>             | <b>World.</b>               |        |
| <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>X-axis translation</i>                   | -6.0 millimetre          |
| <i>Y-axis translation</i>                   | -5.6 millimetre          |
| <i>Z-axis translation</i>                   | 20.1 millimetre          |
| <i>X-axis rotation</i>                      | -0.04 milliarc-second    |
| <i>Y-axis rotation</i>                      | 0.001 milliarc-second    |
| <i>Z-axis rotation</i>                      | -0.043 milliarc-second   |
| <i>Scale difference</i>                     | -1.403 parts per billion |
| <i>Rate of change of X-axis translation</i> | 0.4 millimetre per year  |
| <i>Rate of change of Y-axis translation</i> | 0.8 millimetre per year  |

|   |                                   |
|---|-----------------------------------|
| <i>Rate of change of Z-axis translation</i> | 1.5 millimetre per year           |
| <i>Rate of change of X-axis rotation</i>    | 0.004 milliarc-second per year    |
| <i>Rate of change of Y-axis rotation</i>    | -0.001 milliarc-second per year   |
| <i>Rate of change of Z-axis rotation</i>    | -0.003 milliarc-second per year   |
| <i>Rate of change of scale difference</i>   | -0.012 parts per billion per year |
| <i>Time reference</i>                       | 1998.0 year                       |

# ISO Geodetic Registry

|                    |  |
|--------------------|--|
| <i>Item class</i>  | OperationMethod  |
| <i>Name</i>        | <b>Time-Dependent Position Vector Transformation (geocentric Cartesian domain)</b>   |
| <i>Item status</i> | VALID  |
| <i>Identifier</i>  | 82   |
| <i>Alias</i>       | Time-Dependent 7-Parameter Transformation  |
| <i>Alias</i>       | 14-Parameter Transformation  |
| <i>Alias</i>       | Time-Dependent Position Vector Transformation  |
| <i>Data source</i> | ISO Geodetic Registry  |
| <i>Remarks</i>     | 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. |
| <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>                       |