

# ISO Geodetic Registry

|                           |   |  |
|---------------------------|---|--|
| <i>Item class</i>         | Transformation  |  |
| <i>Name</i>               | <b>ITRF2014 to IGS14 [IGS v1]</b>   |  |
| <i>Item status</i>        | VALID   |  |
| <i>Identifier</i>         | 557   |  |
| <i>Information source</i> | <i>Title</i>  | Velocity model for SIRGAS 2017: VEMOS2017  |
|                           | <i>Author</i>   | L. Sanchez, H. Drewes  |
|                           | <i>Publisher</i>  | Sistema de Referencia Geocéntrico para las Américas (SIRGAS)   |
|                           | <i>Publication date</i>   | 2018-08-14   |
|                           | <i>Other citation details</i>   | In supplement to: Drewes H. and Sanchez L. (2017) The varying surface kinematics in Latin America: VEMOS 2009, 2015, and 2017, Symposium SIRGAS2017. Mendoza, Argentina. November 28, 2017 |
| <i>Information source</i> | <i>Title</i>  | Sistema de Referencia Geocentrico para las Americas (SIRGAS)   |
|                           | <i>Author</i>   | Sistema de Referencia Geocéntrico para las Américas (SIRGAS)   |
|                           | <i>Publisher</i>  | Sistema de Referencia Geocéntrico para las Américas (SIRGAS)   |
|                           | <i>Publication date</i>   | 2018   |
|                           | <i>Other citation details</i>   | Website  |
| <i>Information source</i> | <i>Title</i>  | Upcoming switch to IGS14/igs14.atx   |
|                           | <i>Author</i>   | P. Rebischung  |
|                           | <i>Publisher</i>  | International GNSS Service (IGS)   |
|                           | <i>Publication date</i>   | 2016-12-21   |
|                           | <i>Series/Journal name</i>  | IGSMail  |
|                           | <i>Issue identification</i>   | 7399.0   |
| <i>Data source</i>        | ISO Geodetic Registry   |  |
| <i>Remarks</i>            | Null transformation. IGS14 is aligned to ITRF2014 and is treated as the same reference frame. |  |
| <i>Operation version</i>  | IGS v1  |  |
| <i>Scope</i>              | Spatial referencing   |  |
| <i>Operation accuracy</i> | 0.0 m   |  |
| <i>Source CRS</i>         | ITRF2014 - XYZ  |  |
| <i>Target CRS</i>         | IGS14 - 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>Time reference</i>                     | 2010.0 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>        | <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>                       |