

# ISO Geodetic Registry

|                           |   |  |
|---------------------------|---|--|
| <i>Item class</i>         | Transformation  |  |
| <i>Name</i>               | <b>ITRF2008 to SIRGAS-CON SIR11P01 [SIRv1]</b>                                |  |
| <i>Item status</i>        | VALID   |  |
| <i>Identifier</i>         | 513   |  |
| <i>Information source</i> | <i>Title</i>  | Use of velocities in the processing of GNSS data   |
|                           | <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>   | 2017   |
|                           | <i>Other citation details</i>   | Website  |
| <i>Information source</i> | <i>Title</i>  | The 2009 Horizontal Velocity Field for South America and the Caribbean   |
|                           | <i>Author</i>   | H. Drewes, O. Heidbach   |
|                           | <i>Publisher</i>  | Springer Berlin Heidelberg   |
|                           | <i>Publication date</i>   | 2012   |
|                           | <i>Series/Journal name</i>  | International Association of Geodesy Symposia  |
|                           | <i>Issue identification</i>   | 136.0  |
|                           | <i>Page</i>   | 657-664  |
|                           | <i>Other citation details</i>   | In Kenyon S., Pacino M., Marti U. (eds) Geodesy for Planet Earth. International Association of Geodesy Symposia, Vol 136. Springer, Berlin, Heidelberg |
| <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>  | Recent activities of the IGS Regional Network Associate Analysis Centre for SIRGAS (IGS RNAAC SIR)   |
|                           | <i>Author</i>   | L. Sanchez, M. Seitz   |
|                           | <i>Publisher</i>  | Deutsches Geodaetisches Forschungsinstitut, Munich, Germany, PANGAEA   |
|                           | <i>Publication date</i>   | 2011   |
|                           | <i>Series/Journal name</i>  | DGFI Report  |
|                           | <i>Issue identification</i>   | No. 87   |
|                           | <i>Other citation details</i>   | Data for paper included in supplement SIRGAS reference frame realization SIR11P01.   |
| <i>Data source</i>        | ISO Geodetic Registry   |  |
| <i>Remarks</i>            | Null reference frame transformation between ITRF2008 and SIRGAS-CON SIR11P01. |  |
| <i>Operation version</i>  | SIRv1   |  |
| <i>Scope</i>              | Spatial referencing   |  |
| <i>Operation accuracy</i> | 0.01 m  |  |
| <i>Source CRS</i>         | ITRF2008 - XYZ  |  |
| <i>Target CRS</i>         | SIRGAS-CON SIR11P01 - LatLon  |  |
| <i>Operation method</i>   | Time-Dependent Position Vector Transformation (geocentric Cartesian domain)   |  |

Extent

|                                |   |         |
|--------------------------------|---|---------|
| <i>Description</i>             | <b>South America - onshore and offshore. Central America - onshore and offshore. Mexico - onshore and offshore.</b> |         |
| <i>Geographic Bounding Box</i> | <i>West-bound longitude</i>   | -122.19 |
|                                | <i>North-bound latitude</i>   | 32.72   |
|                                | <i>East-bound longitude</i>   | -25.28  |
|                                | <i>South-bound latitude</i>   | -59.87  |

#### Operation parameter values

|   |                                |
|---|--------------------------------|
| <i>Time reference</i>                       | 2005.0 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                 |

# 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>                       |