ISO Geodetic Registry

Item class Transformation

Name IGb08 to SIRGAS-CON SIR14P01 [SIRv1]

Item status VALID
Identifier 706

Information source Title Sistema de Referencia Geocentrico para las

Americas (SIRGAS)

Author Sistema de Referencia Geocéntrico para las

Américas (SIRGAS)

Publisher Sistema de Referencia Geocéntrico para las

Américas (SIRGAS)

Publication date 2018
Other citation details Website

Information source Title Use of velocities in the processing of GNSS data

Author Sistema de Referencia Geocéntrico para las

Américas (SIRGAS)

Publisher Sistema de Referencia Geocéntrico para las

Américas (SIRGAS)

Publication date 2017
Other citation details Website

Information source Title Crustal deformation and surface kinematics after

the 2010 earthquakes in Latin America

Author L. Sanchez, H. Drewes

Publisher Elsevier Publication date 2016

Series/Journal name Journal of Geodynamics

Issue identification 102.0 Page 2023-01-01

Other citation details Data for paper included in two supplements:

Sanchez L., Drewes H (2016): SIR15P01: Multiyear solution for the SIRGAS Reference Frame, link to ZIP archive, PANGAEA, doi:10.1594/PANGAEA.862536; Sanchez L., Drewes H (2016): VEMOS2015: Velocity and deformation model for Latin America and the Caribbean, link to ZIP archive, PANGAEA,

doi:10.1594/PANGAEA.863131.

Information source Title SIRGAS Regional Network Associate Analysis

Center, Technical Report 2014

Author L. Sanchez

Publisher International GNSS Service

Publication date 2015

Series/Journal name International GNSS Service Technical Report

2014 101-110

Page 101-11

Data source ISO Geodetic Registry

Remarks Null reference frame transformation between IGb08 and SIRGAS-CON

SIR14P01.

Operation version SIRv1

Scope Spatial referencing

Operation accuracy 0.01 m

Source CRS IGb08 - LatLon

Target CRS SIRGAS-CON SIR14P01 - LatLon

Operation method Time-Dependent Position Vector Transformation (geocentric Cartesian

domain)

Extent

Description	South America - onshore and offshore. Central America - onshore and offshore. Mexico - onshore and offshore.	
Geographic Bounding Box	West-bound longitude	-122.19
	North-bound latitude	32.72
	East-bound longitude	-25.28
	South-bound latitude	-59.87

Operation parameter values

Time reference	2013.0 year
Rate of change of scale difference	0.0 parts per billion per year
Rate of change of Z-axis rotation	0.0 milliarc-second per year
Rate of change of Y-axis rotation	0.0 milliarc-second per year
Rate of change of X-axis rotation	0.0 milliarc-second per year
Rate of change of Z-axis translation	0.0 millimetre per year
Rate of change of Y-axis translation	0.0 millimetre per year
Rate of change of X-axis translation	0.0 millimetre per year
Scale difference	0.0 parts per billion
Z-axis rotation	0.0 milliarc-second
Y-axis rotation	0.0 milliarc-second
X-axis rotation	0.0 milliarc-second
Z-axis translation	0.0 millimetre
Y-axis translation	0.0 millimetre
X-axis translation	0.0 millimetre

ISO Geodetic Registry

Item class OperationMethod

Name Time-Dependent Position Vector

Transformation (geocentric Cartesian domain)

Item status VALID
Identifier 82

Alias Time-Dependent 7-Parameter Transformation

Alias 14-Parameter Transformation

Alias Time-Dependent Position Vector Transformation

Data source ISO Geodetic Registry

Remarks 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.

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