ISO Geodetic Registry

Item class	Transformation	
Name	**IGS05 to SIRGAS-CON SIR09P01 [SIRv1]**	
Item status	VALID	
Identifier	512	
Information source	*Title*	The position and velocity solution SIR09P01 of the IGS Regional Network Associate Analysis Centre for SIRGAS (IGS RNAAC SIR)
	Author	W. Seemueller, M. Seitz, L. Sanchez, H. Drewes
	Publisher	Deutsches Geodaetisches Forschungsinstitut, Munich, Germany
	Publication date	2009
	Series/Journal name	DGFI Report
	Issue identification	No. 85
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*	The new Multi-year Position and Velocity Solution SIR09P01 of the IGS Regional Network Associate Analysis Centre (IGS RNAAC SIR)
	Author	W. Seemueller, L. Sanchez, M. Seitz
	Publisher	Springer Berlin Heidelberg
	Publication date	2011
	Series/Journal name	International Association of Geodesy Symposia
	Issue identification	136.0
	Page	675-680
Information source	*Title*	The 2009 Horizontal Velocity Field for South America and the Caribbean
	Author	H. Drewes, O. Heidbach
	Publisher	Springer Berlin Heidelberg
	Publication date	2012
	Series/Journal name	International Association of Geodesy Symposia
	Issue identification	136.0
	Page	657-664
	Other citation details	In Kenyon S., Pacino M., Marti U. (eds) Geodesy for Planet Earth. International Association of Geodesy Symposia, Vol 136. Springer, Berlin, Heidelberg
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
Data source	ISO Geodetic Registry	
Remarks	Null reference frame transformation between IGS05 and SIRGAS-CON SIR09P01.	
Operation version	SIRv1	
Scope	Spatial referencing	
Operation accuracy	0.01 m	
Source CRS	IGS05 - LatLon	

Target CRS	SIRGAS-CON SIR09P01 - 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	2005.0 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

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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