	ISO Geode	etic Registry	
Item class	Transformation		
Name	IGS05 to SIR	GAS-CON SIR09P01 [SIRv1]	
Item status	VALID		
Identifier	512		
Information source	Title	The position and velocity solution SIR09P01 of	
imornation source	TiuG	the IGS Regional Network Associate Analysis Centre for SIRGAS (IGS RNAAC SIR)	
	Author Publisher	W. Seemueller, M. Seitz, L. Sanchez, H. Drewes Deutsches Geodaetisches Forschungsinstitut,	
	Publication date	Munich, Germany 2009	
	Series/Journal name		
	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 - Website	
Information source	Other citation details Title	The new Multi-year Position and Velocity Solution	
imormation source	Tiue	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	
		International Association of Geodesy Symposia	
	Issue identification	136.0 675-680	
Information source	Page Title	The 2009 Horizontal Velocity Field for South America and the Caribbean	
	Author	H. Drewes, O. Heidbach	
	Publisher	Springer Berlin Heidelberg	
	Publication date	2012	
	Issue identification	e International Association of Geodesy Symposia 136.0	
	Page Other citation details	657-664 s In Kenyon S., Pacino M., Marti U. (eds) Geodesy	
	other challon details	for Planet Earth. International Association of Geodesy Symposia, Vol 136. Springer, Berlin,	
 Information source	Title	Heidelberg Use of velocities in the processing of GNSS data	
imormation source	Author	Sistema de Referencia Geocéntrico para las Américas (SIRGAS)	
	Publisher	Sistema de Referencia Geocéntrico para las Américas (SIRGAS)	
	Publication date	2017	
D = (= = = = = = = = = = = = = = = = =	Other citation details		
Data source	-	ISO Geodetic Registry	
Remarks	SIR09P01.	Null reference frame transformation between IGS05 and SIRGAS-CON SIR09P01. SIRv1	
Operation version			
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 North-bound latitude East-bound longitude South-bound latitude	-122.19 32.72 -25.28 -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

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