

INA AC processing status and plans for ITRF2013

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INASAN products delivered to the IDS (April 2013)

<i>Product</i>	<i>Latest version</i>	<i>Span</i>
Sinex weekly free-network solutions	inawd07	1993.0 - 2013.1
Geocenter time series	ina10wd01	1993.0 - 2012.8
EOP time series	ina10wd01	1993.0 - 2012.8
STCD time series	ina12wd01	1993.0 - 2012.8

Summary of changes wrt. ITRF2008 submissions

	<i>For ITRF2013</i>	<i>Current processing</i>	<i>For ITRF2008</i>
Software	GIPSY-OASIS II (version 6.2)	GIPSY-OASIS II (version 6.1.2)	GIPSY-OASIS II (version 4.03)
SINEX method	COV	COV	COV
Satellites included in weekly Sinex	All satellites (Jason1 ?)	SPOT 4,5; Cryosat2, Jason2 (no HY2A)	SPOT 2,3,4,5; T/P; Envisat
Arc cut Arc lengths Handle of manoeuvres	1 day delete data before or after the maneuver	1 day delete data before or after the maneuver	1 day delete data before or after the maneuver
Handle of data lacks	Not used	Not used	Not used

	<i>For ITRF2013</i>	<i>Current processing</i>	<i>For ITRF2008</i>
Reference system Polar motion and UT1 DORIS coordinates SLR coordinates	IERS bulletin A ITRF2008 Not used	IERS bulletin A ITRF2008 Not used	IERS bulletin B ITRF2005 Not used
Displacement of reference point Earth tides Atmospheric tides Ocean loading Pole tides	IERS2010 Not applied FES2004 (?) IERS2010	IERS2010 Not applied FES2004 IERS2010	IERS2003 Not applied CSR3 IERS2003

	<i>For ITRF2013</i>	<i>Current processing</i>	<i>For ITRF2008</i>
Satellite reference Mass and center of gravity Satellite center of mass – antenna phase center correction Attitude model	CNES files at CDDIS Applied from DORIS data Satellite dependent	CNES files at CDDIS Applied from DORIS data Satellite dependent	CNES files at CDDIS Applied from DORIS data Satellite dependent
Gravity Gravity field (static) Gravity field (time varying) Earth tides Pole tides Ocean tides Atmospheric tides Atmospheric gravity Third bodies	? Not applied IERS2010 IERS2010 IERS2010 Not applied Not applied sun + moon + planets (DE421)	GGM02C (120*120) Not applied IERS2010 IERS2010 IERS2010 Not applied Not applied sun + moon + planets (DE421)	GGM01C (120x120) Not applied IERS2003 IERS2003 IERS2003 Not applied Not applied sun + moon + planets (DE405)

	<i>For ITRF2013</i>	<i>Current processing</i>	<i>For ITRF2008</i>
Surface forces and empiricals Radiation pressure model Radiation pressure scale coefficient Earth radiation Atmospheric density model Drag coefficients 1/rev empiricals	Apriori from CNES at IDS Fixing satellite dependent Applied (albedo) DTM2000 (?) Satellite dependent cross-track and along- track (1 per day)	Apriori from CNES at IDS Fixing satellite dependent Applied (albedo) DTM2000 Satellite dependent cross-track and along- track (1 per day day)	Apriori from CNES at IDS Fixing satellite dependent Applied (albedo) DTM94 Satellite dependent cross-track and along- track (1 per day day)

	<i>For ITRF2013</i>	<i>Current processing</i>	<i>For ITRF2008</i>
DORIS measurements			
Troposphere correction	?	Niell	Lanyi
Frequency Relativity	?	?	?
SAA	applied	applied	applied
Weight	?	JA1 data not used	JA1 data not used
Elevation angle cutoff	satellite dependent	satellite dependent	satellite dependent
Downweighting law	?	15 degrees	15 degrees
	$WGHT = WGHT * (EL+1)**2 / ((EL+1)**2 + cutoff),$ cutoff = 18	$WGHT = WGHT * (EL+1)**2 / ((EL+1)**2 + cutoff),$ cutoff = 18	$WGHT = WGHT * (EL+1)**2 / ((EL+1)**2 + cutoff),$ cutoff = 18
Vector from center of mass to center of phase	applied from data files	applied from data files	applied from data files
Datation bias	not used	not used	not used
SLR measurements	not used	not used	not used

Plans for ITRF2013 processing

- **Reprocessing all satellites data from 1993.0 – 2014.0**
- **Reprocessing speed 3-4 years data/month**
- **Time to reprocess entire series 6-8 months**