

Status of the ASI/CGS contribution to the COL WG

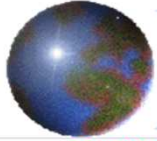


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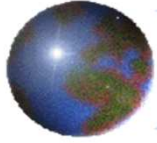
5° COL Working Group Meeting, 3 May 2013, Munich



ASI/CGS solution main features

CONT08 COL campaign	
2008/08/10-2008/08/30	
2011/09/21-2011/10/04	
	SLR
Weight	
Analysis Center	
Name	C. Luceri
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Software	
Name and version	NASA GeodynII/Solve
Satellite	
satellites included in weekly SINEX	Lageos-1/2; Etalon-1/2
Arc cut	
Arc lengths	7 days
Handle of Manoeuvres	n.a.
Handle of Data lacks	use stations with min. 10 obs. For Lageos1/2 only
Additional margins	
Reference System	
Polar motion and UT1 a priori	IERS 08 C04 (as 3h-table provided by COL WG)
Polar motion and UT1 approach	estimates at 0:00-3:00-6:00.....24:00 (pole and UT1-UTC)
Station coordinates and velocities	SLRF2008

Displacement of reference points	
Earth tides	Wahr model
Atmospheric loading	none
Ocean loading	FES2004
Hydrology loading	none
Pole tides	IERS conventions (2003)
Satellite reference	
Mass and center of gravity	acc. ILRS table
Satellite center of mass - antenna phase center correction	acc. ILRS table
Attitude Model	no



ASI/CGS solution submission

ASI/CGS

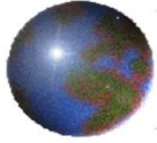
SLR data

09/11/12

Delivered 3 weekly arcs CONT08 NEQ + 3 weekly arcs CONT11 NEQ

26/04/13

Delivered 3 weekly arcs CONT11 NEQ (update; pbs in apriori UTC)



ASI/CGS solution main features

Gravity	
Gravity field (static)	COL standard: GSM-2_2008223-2008243_0021_GRGS_STAB_0003 (2008/08/16 – 2008/08/26) EIGEN-GRGS.RL02bisMF (2011/09/21 - 2011/10/04)
Gravity field (time varying)	no (see above)
Earth tides	Wahr model
Pole tide	applied
Ocean tides	FES2004
Atmospheric tides	Ray-Ponte
Atmospheric gravity	no
Third bodies	Sun, Moon, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune from JPL DE403
Surface forces and empiricals	
Radiation Pressure model	applied
Earth radiation	Knocke
Atmospheric density model	Jacchia
Empirical forces	Lageos: const/opr A, opr C Etalon: const/opr A

Measurements	
Troposphere correction	Mendes-Pavis
Frequency	
Relativity	point mass acc., Lense-Thirring effects, Coriolis force
Weight	
Elevation angle cutoff	20deg
Down weighting law	
vector from center of mass to center of phase	acc. ILRS table
Datation bias (to compensate for along-track inconsistency of Doris orbits wrt SLR/GPS measurements)	
Reduced Parameters	
Orbital elements	yes
Clocks	
Frequency	
Troposphere	
Solar Radiation Pressure	
Earth Radiation Pressure	
Drag coefficients	
empirical bias	range biases for some stations
empirical periodic	constant and Once-Per-Rev along track, OPR cross track