

Status of the ASI/CGS contribution to the COL WG

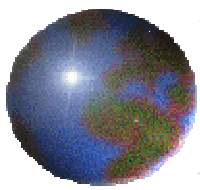


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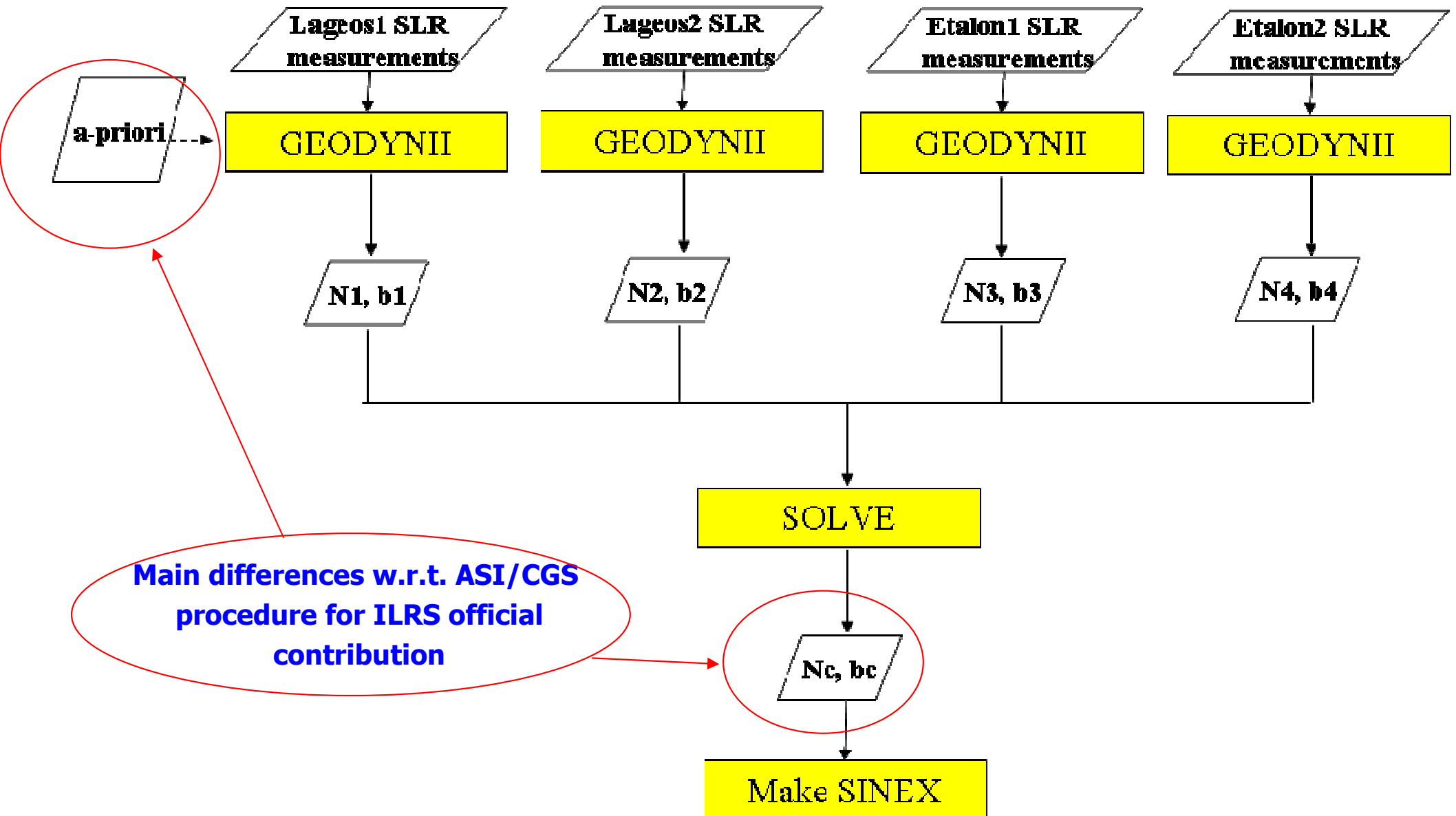


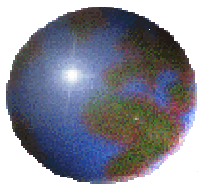
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4° COL Working Group Meeting, 29 May 2012, Munich



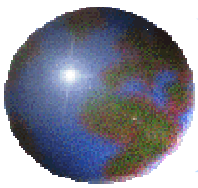
ASI/CGS SLR solution main processing steps





ASI/CGS SLR solution main features

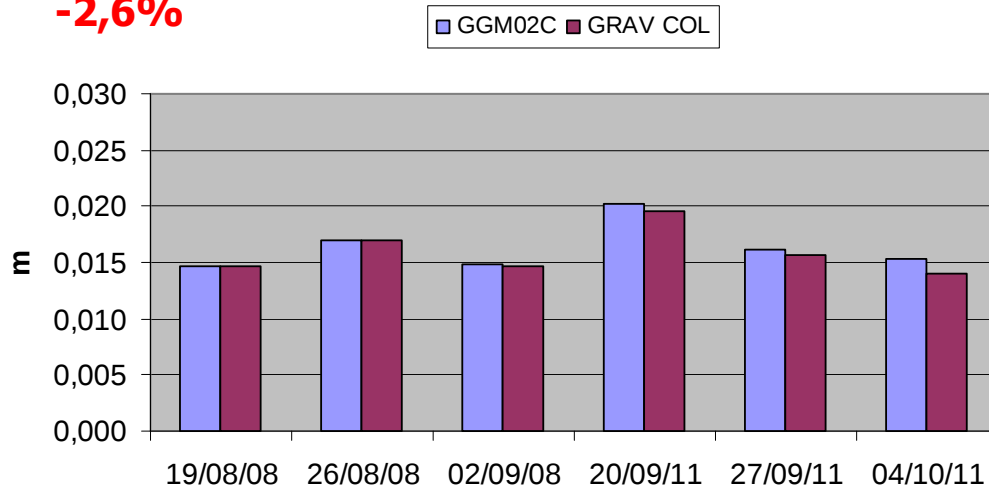
Software		Gravity	
Name and version	NASA GeodynII/Solve	Gravity field (static)	COL standard: GSM-2_2008223-2008243_0021_GRGS_STAB_0003 (2008/08/16 – 2008/08/26) EIGEN-GRGS.RL02bisMF
Satellite		Earth tides	Wahr model
satellites included in weekly SINEX	Lageos-1/2; Etalon-1/2	Ocean tides	Ray GOT4.7
Arc cut		Surface forces and empiricals	
Arc lengths	7 days	Empirical forces	Lageos: const/opr A, opr C Etalon: const/opr A
Handle of Data lacks	use stations with min. 10 obs (Lageos1/2)	Measurements	
Reference System		Troposphere correction	Mendes-Pavlis
Polar motion and UT1 a priori	IERS 08 C04	Relativity	point mass acc., Lense-Thirring effects, Coriolis force
Polar motion and UT1 approach	x, y, ut1-utc, xrate, yrate, LOD (OD at 12:00)	Elevation angle cutoff	20deg
Station coordinates and velocities	ITRF2008	vector from center of mass to center of phase	acc. ILRS table
Displacement of reference points		GGM02C used for ILRS official contribution To be updated	
Earth tides	Love model		
Atmospheric loading	no		
Ocean loading	Modeled from GOT4.7		
Pole tides	IERS conventions (2003)		



Arc reduction data residuals

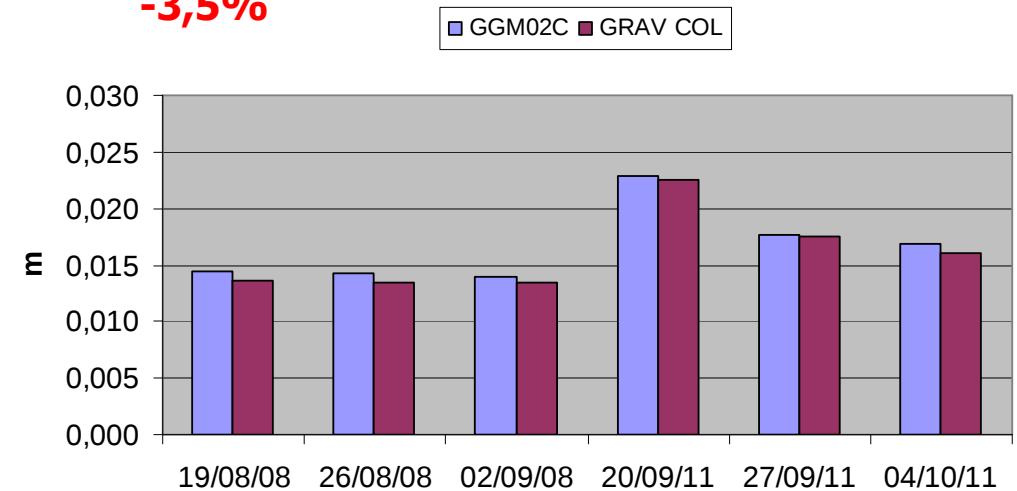
Lageos 1 - wrms(O-C)

-2,6%



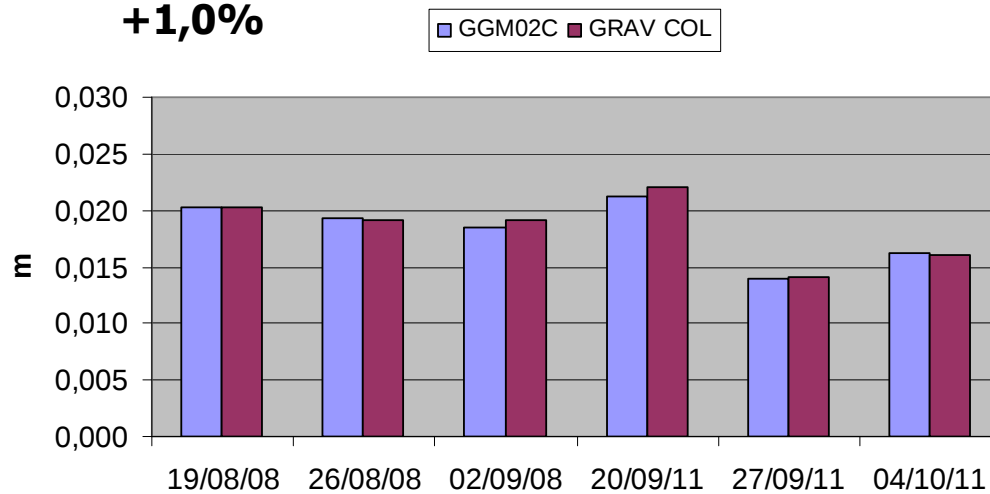
Lageos 2 - wrms(O-C)

-3,5%



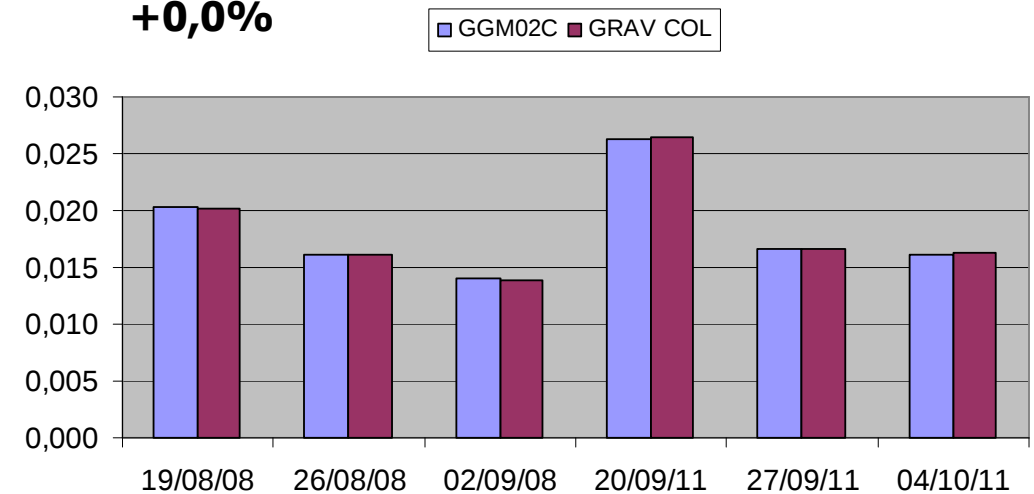
Etalon 1 - wrms(O-C)

+1,0%



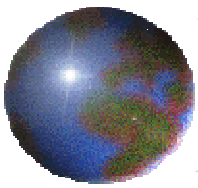
Etalon 2 - wrms(O-C)

+0,0%



• overall quality of the solution

• impact of the COL adopted gravity field



Next steps

- Updating of Ocean/Atmospheric Loading models
- Eventual further revision of analysis implementation after COL WGM
 - Etalon 1/2 ?
 - All and only sites from list?
 - Ocean Tide model?
- Completion of SINEX formalisation (Normal Equations)