



Intercomparison of the DORIS, GNSS, SLR, VLBI and gravimetric time series at co-located sites

Guilhem Moreaux (1), Frank Lemoine (2), Cinzia Luceri (3), Erricos Pavlis (2), Dan MacMillan (2), Sylvain Bonvalot (4), and Jérôme Saunier (5)

(1) CLS, Orbitography and Geodesy, Ramonville Saint-Agne, France (gmoreaux@cls.fr), (2) NASA, Goddard Space Flight Center, Greenbelt, USA, (3) E-GEOS, ASI-CGS, Matera, Italy, (4) IRD-GET, Toulouse, France, (5) IGN, Sain-Mandé, France

This talk will review the progress over the past 6 months of the joint study devoted to the intercomparison of the coordinate time series from the three to four space geodetic techniques (DORIS, GNSS, SLR and VLBI), including gravimeters in future phases of the project, at the 16 geodetic co-located sites of Figure 1. The main objective will be to describe the methodology and to present the results for at least the following sites: Yarragadee (Australia), Greenbelt (USA), Wettzell (Germany), and Matera (Italy).

Starting from the coordinate time series, we will estimate and compare the mean positions and velocities of the co-located instruments over the common time-period of observations. The temporal evolution of the coordinate differences will also be evaluated with respect to the local tie vectors and discrepancies will be investigated. Next, the analysis of the signal content of the time series will be carried out. Amplitudes and phases of the common signals among the techniques will be compared. Our results will also be compared to previous studies (e.g. Tornatore et al., 2016) and products of the latest realization of the International Terrestrial Reference Frame—ITRF2014.