

IDS Workshop

PREPARATION OF IDS COMBINATION PRODUCTION AND CURRENT STATUS

VALETTE Jean-Jacques - Collecte Localisation Satellites - FRANCE
MOREAUX Guilhem - COLLECTE LOCALISATION SATELLITES - FRANCE
LEMOINE Frank - NASA GODDARD SPACE FLIGHT CENTER - UNITED STATES OF
AMERICA
FERRAGE Pascale - CENTRE NATIONAL D'ETUDES SPATIALES - FRANCE
YAYA Philippe - COLLECTE LOCALISATION SATELLITES - FRANCE

A significant step in the IDS activities was reached in 2009 with the DORIS contribution to ITRF2008. Seven Analysis Centers (ACs) submitted SINEX solutions including the European Space Operations Center (ESOC), Geodetic Observatory Pecny (GOP), Geoscience Australia (GAU), the NASA Goddard Space Flight Center (GSFC), the Institut Géographique National (IGN), the Institute of Astronomy, Russian Academy of Sciences (INASAN, named as INA), and CNES/CLS (named as LCA). Five different software packages were used to process the DORIS data from 1992 to 2008, including NAPEOS (ESA), Bernese (GOP), GEODYN (GAU, GSC), GIPSY/OASIS (IGN, INASAN), and GINS (LCA). The DORIS data from seven DORIS satellites, TOPEX/Poseidon, SPOT-2, SPOT-3, SPOT-4, SPOT-5, Envisat and Jason-1 have been used. The ACs delivered weekly SINEX solutions for station coordinates and Earth Orientation Parameters in either variance-covariance or normal equation format. After an individual validation, a weekly combination was done using the IGN/LAREG CATREF software applying an appropriate strategy. Two priorities were established during the Analysis Working Group meetings in the IDS combination objectives for 2010. One priority is to start a regular production and to deliver some combination products mainly the weekly combined solutions and the stations network positions time series via the IDS web site. The adopted baseline is a combination process at 3 month intervals and with 3 months latency starting in June 2010. The second priority concerns the consolidation of the results and the integration of the new Jason-2 and Cryosat-2 missions. The consolidation of the results will be focussed on EOP parameters, on periods with high residuals, on the understanding of incoherent behaviour of the scale from one AC to another... In particular, a campaign of single-satellite solutions will be undertaken to understand the behavior of each contributing set of DORIS data. In parallel, the ACs will adapt their software to process the data of the last 3rd generation DORIS instrument onboard Jason-2 satellite, launched in June 2008 and Cryosat-2 satellite, launched in April 2010. The new receivers are able to track up to seven beacons at the same time and provide GPS like phase observations in addition to the Doppler count measurements. Moreover, the new DORIS measurements are available in the RINEX format. First combinations of solutions including Jason-2 have shown a significant improvement in the centering and in the scattering of the Z component of the origin.