



Presentation of the new Spanish Gravimeter Station; Yebes

M. Calvo (1,3), B. Cordoba (2), J.M Serna (2), S. Rosat (3), and J. López (2)

(1) Observatorio Geofísico Central (IGN), c/Alfonso XII, 3, 28014, Madrid, Spain (mcalvo@fomento.es), (2) Centro Astronómico de Yebes, (IGN), Cerro de la Palera s/n, 19141 Yebes, Guadalajara, Spain, (3) EOST / IPGS (UMR 7516 CNRS-UdS), 5 rue René Descartes, 67084 Strasbourg Cedex, France

A GWR superconducting gravimeter (SG) of the new generation (OSG#59) has been installed in April 2011 at the new Yebes gravimeter station, in the center of the Iberian Peninsula (Spain). This station, located about 70 Km from Madrid, is part of the “Center for Technological Development of Yebes”(CDT), a large Astronomical Center, especially dedicated to radio astronomy and the development of instrumentation, where VLBI observations have been done since 1990.

We describe the new Gravimeter Laboratory built mainly to host both the new superconducting gravimeter (SG) and the two absolute gravimeter (FG5 and A10) belonging to the IGN. The building is also well equipped with other instrumentation like GPS, barometers, meteorological station, piezometers, etc.

We show the first results in terms of instrumental drift as well as the calibration using parallel measurement of the FG5 and A10 absolute gravimeters. We also show the estimation of the SG transfer function calculated in November 2011. A tidal analysis for the main tidal waves is performed using the first 10 months of gravity data. We also investigate the gravity response to atmospheric pressure changes and the noise level in various frequency bands.

One of the main reasons for installing an OSG in Yebes, is to make the observatory one of the fundamental stations which will be part of the project Atlantic Network of Geodynamic and Spatial Stations (RAEGE). This station will also be part of the international GGP project.