Geophysical Research Abstracts
Vol. 12, EGU2010-5278, 2010
EGU General Assembly 2010

Accelerometers for GOCE: one year of in-orbit results

Jean-Pierre MARQUE, Bruno CHRISTOPHE, and Bernard FOULON
ONERA, France (marque@onera.fr)

The tri-axes Gradiometer of the ESA GOCE Mission is conceived around six electrostatic accelerometers developed by ONERA. The contribution of the accelerometers to the mission is double by providing the Satellite with the combination of linear accelerations as input to the continuous drag compensation and attitude control system and with the scientific data measurements to be on-ground processed for the Earth gravity gradients restitution.
The satellite was launched on March 17th, 2009 and the gradiometer was switched on in Science mode on April 7th. Since, the accelerometers are continuously feeding the science channel with data, first during the commissioning and calibration phases, then during the first measurement phase started in September 2009.

The presentation will illustrate the in-flight behaviour of the six accelerometers after one year in orbit as deduced from the analysis of their output signals. Comparison with on ground test data or prediction results will be presented.

From these results, the perspective towards applications to future gravity missions will be underlined.