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PRELIMINARY IN-ORBIT DATA OF THE ACCELEROMETERS OF THE ESA GOCE MISSION

Abstract

The ESA GOCE mission aims to map Earth gravity field in unprecedented detail. The Gradiometer is the 3D instrument which makes possible the high resolution restitution of the gravity field to the scientific communities to advance our understanding of global ocean circulation patterns and climate change. The Gradiometer is conceived around 6 accelerometers, organised in 3 orthogonal pairs. The accelerometers were developed by ONERA to guarantee a level of noise acceleration as low as $2.0 \cdot 10^{-12} \text{ ms}^{-2} \text{ Hz}^{-1/2}$.

The GOCE satellite will be launched on March 16th, 2009 from Plessetsk in Russia.

The paper will present the preliminary data, obtained after the first months in orbit, illustrating the in-flight behaviour of the six accelerometers.

The accelerometers of the GOCE mission have been developed by ONERA under contract with Thales Alenia Space France as Prime Contractor of the Gradiometer.