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GRAF - A GRACE follow-on mission feasibility study

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After more than 6 years of very successful operation in orbit, the US-German GRACE mission has demonstrated in a very impressive way its outstanding capability to monitor mass motions in the Earth system with unprecedented accuracy and temporal resolution. These results have stimulated many novel research activities in hydrology, oceanography, glaciology, geophysics and geodesy, which also indicate that long term monitoring of such mass motions, possibly with improved spatial and temporal resolution is a must for further understanding of various phenomena.

GRACE had been designed for 5 years lifetime, but due to the robust design and some margin on S/C consumables, GRACE can operate likely until 2012, thus about 10 years. Considering this, GFZ Potsdam has recently launched a short study with STI as industrial partner, holding a wealth of GRACE technical experience, to investigate the feasibility/boundaries of a follow on mission taking into account system, cost, programmatic and schedule aspects.

An additional goal of the study is to work out some improvement in terms of temporal and spatial resolution, based on lessons learned from GRACE and based on further developed state of the art technology. These results will form the basis for further discussions with potential national and international partners in 2009. The presentation will focus on the main targets of the study.