



Consolidated science requirements for a next generation gravity field mission

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As a joint initiative of the IAG (International Association of Geodesy) Sub-Commissions 2.3 and 2.6, the GGOS (Global Geodetic Observing System) Working Group on Satellite Missions, and the IUGG (International Union of Geodesy and Geophysics), science requirements for a next generation gravity field mission (beyond GRACE-FO) shall be defined and consolidated.

A consolidation of the user requirements is required, because several future gravity field studies have resulted in quite different performance numbers as a target for a future gravity mission (2025+). For this purpose, the science requirements shall be accorded by the different user groups, i.e. hydrology, ocean, cryosphere, solid Earth and atmosphere, under the boundary condition of the technical feasibility of the mission concepts and before the background of double- and multi-pair formations.

This initiative shall mainly concentrate on the consolidation of the science requirements, and should result in a document that can be used as a solid basis for further programmatic and technological developments. Based on limited number of realistic mission scenarios, a consolidated view on the science requirements within the international user communities shall be derived, research fields that could not be tackled by current gravity missions shall be identified, and the added value (qualitatively and quantitatively) of these scenarios with respect to science return shall be evaluated. The final science requirements shall be agreed upon during a workshop which will be held in September 2014.

In this contribution, the mission scenarios will be discussed and first results of the consolidation process will be presented.