Geophysical Research Abstracts
Vol. 19, EGU2017-6948, 2017
EGU General Assembly 2017

Experiences from ship- and airborne gravity missions within the FAMOS project and onboard the HALO aircraft

Christoph Förste (1), Barthelmes Franz (1), Petrovic Svetozar (1), Lu Biao (1), Liebsch Gunter (2), Schwabe Joachim (2), Ågren Jonas (3), Mirjam Bilker-Koivula (4), Hannu Koivula (4), Sinem Ince (1), and Mirko Scheinert (5)

(1) GFZ German Research Centre for Geosciences, Geodesy and Remote Sensing, Potsdam, Germany (foer@gfz-potsdam.de), (2) BKG Federal Agency for Cartography and Geodesy, Leipzig, Germany, (3) Lantmäteriet, Swedish Mapping, Cadastral and Land Registration Authority, Gävle, Schweden, (4) FGI Finnish Geospatial Research Institute, National Land Survey of Finland, Masala, Finland, (5) Institute of Planetary Geodesy, Technical University Dresden, Dresden, Germany

In 2011 GFZ restarted its activities in gravimetry on moving platforms using a Chekan-AM air/ship gravimeter. Since then various gravity missions have been carried out.

One special focus of these campaigns is on the improvement of the geoid in the Baltic Sea region within the framework of the ongoing project “Finalising Surveys for the Baltic Motorways of the Sea” (FAMOS). In this context, GFZ has already conducted four campaigns since 2015 together with several European partners around the Baltic Sea under the project management of the Swedish Maritime Administration (SMA). Further two campaigns per year are planned with the GFZ gravimeter till the end of 2020. FAMOS is supported by the European Commission within its Connecting Europe Facility (CET).

Another focus is on testing the power and limits of airborne gravimetry onboard the German High Altitude and LOng Range (HALO) research aircraft. An appropriate airborne campaign using this aircraft has been carried out in 2012 over Italy in the framework of the project GEOHALO which was a joint project of several universities and research institutions. The main purpose was to check the performance of the equipment on this aircraft, aiming at the plan to cover the gravity data gap over Antarctica.

The presentation gives an overview of these campaigns, summarizes our experiences, especially with respect to processing of the collected data, and shows results from these missions.