
Working Group on Absolute Gravimetry

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Dear Colleagues,

This is to inform you about a new Working Group on Absolute Gravimetry “WGAG” which has been set up under the umbrella of the International Gravity Field Service¹ and the IAG Sub-Commission 2.1 Gravimetry and Gravity Networks². This working group will work in cooperation with the already existing IAG Subcommission 2.1 Working Group on Absolute Gravimeter Comparison and the Working Group on Gravimetry of the Consultative Committee on Mass and Related Quantities³ which are both responsible for the organisation of absolute gravimeter comparisons. The International Gravity Field Service IGFS coordinates the servicing of the geodetic and geophysical community with gravity field-related data, software and information. Subcommission 2.1 “Gravimetry and Gravity Networks” promotes scientific investigations of gravimetry and gravity networks, terrestrial, airborne, shipboard and planetary gravity measurements.

Absolute gravity measurements have increased in significance because new questions and fields of application have arisen about time-varying processes on and in the Earth. This is underlined by the continuously growing number of absolute gravimeters and observations worldwide. New applications are to monitor, for example, global change, mass transports and regional changes of the gravity field. Hence IAG’s Global Geodetic Observing System⁴ has asked for absolute gravity observations to be carried out in a global network in conjunction with selected reference stations using other geodetic observation techniques: GNSS⁵, SLR⁶, VLBI⁷ or DORIS⁸. It is obvious that a combination of the different observation types requires agreed common standards for observations and data processing.

The WGAG will strengthen the importance of the gravity observations and provide the means for a better presentation and coordination of activities together with the standardisation of

¹ cf. IGFS – <http://www.igfs.net/>

² cf. <http://www.iugg.org/associations/iag.html>

³ cf. CCM – <http://www.bipm.org/en/committees/cc/ccm/>

⁴ cf. GGOS – <http://www.ggos.org/>

⁵ cf. IGS – International GNSS Service <http://igsceb.jpl.nasa.gov/>

⁶ cf. ILRS – International Laser Ranging Service <http://ilrs.gsfc.nasa.gov/>

⁷ cf. IVS – International VLBI Service for Geodesy and Astronomy <http://ivscc.gsfc.nasa.gov/>

⁸ cf. IDS – International DORIS Service <http://ids.cls.fr/>

procedures and outcomes. It will work, in particular, on the following tasks discussed and agreed with IGFS and the Bureau Gravimétrique International (BGI):

- Standardisation of AG observation and evaluation to make the results compatible and to enable the combination with geometric observations or complementary information,
- Implementation and promotion of a freely accessible common database at BGI (<http://bgi.dtp.obs-mip.fr/agrav/>) and BKG (<http://agrav.bkg.bund.de/agrav-meta/>) for absolute gravity observations (the two databases operate as “mirrors”) aiming at a better visibility of AG measurements and an improved cooperation with other disciplines,
- Encouragement of combined absolute gravity and superconducting gravity (SG) measurements for the determination of precise gravity time series. This should be carried out in close cooperation with the Global Geodynamics Project⁹,
- Establishment of a global network of absolute gravity sites in conjunction with other geodetic observation techniques. The absolute gravity observations should be repeated at regular intervals.

I would be grateful for your cooperation, for proposals and ideas concerning the WGAG activities.

As mentioned above, one of WGAG’s activities will be to build up and develop the database for absolute gravity measurements hosted at BKG and BGI. Therefore, together with the director of BGI, Sylvain Bonvalot, I request you to submit your contribution to the newly established database of absolute gravity data. Online instructions for the upload of data are available on the website.

You are kindly invited to cooperate and contribute to the WGAG. Please answer (e-mail: herbert.wilmes@bkg.bund.de) before May 15, 2008 if you are willing to participate in the WGAG so that we can include your address in the mailing list.

We plan to arrange a meeting during the GGEO2008 in Chania, Crete.

Kind regards

Herbert Wilmes

⁹ cf. GGP – <http://www.eas.slu.edu/GGP/ggphome.html>