

SC 2.1: Gravimetry and Gravity Networks

Chair: Leonid F. Vitushkin (Russia)

Terms of Reference and Objectives

IAG Sub-commission 2.1 "Gravimetry and gravity networks" promotes scientific studies of the methods and instruments for terrestrial, airborne, shipboard and planetary gravity measurements, establishment of gravity networks and improvement of strategy in the measurement of gravity networks provided by growing number of absolute gravity determinations and the sites for such determinations. The Sub-commission provides the geodesy-geophysics community with the means to access the confidence in gravity measurements at the well-defined level of accuracy through organizing, in cooperation with metrology community, Consultative Committee on Mass and Related Quantities and its Working Group on Gravimetry (CCM WGG), Regional Metrology Organizations (RMO) the international comparisons of absolute gravimeters on continental scale. The Sub-commission proceeds from such point-wise gravimetry to precise gravimetry/radiometry which should cover, in particular, the land-sea border areas to resolve still existing problem of significant biases and errors in determination. The Sub-commission promotes such research and development by stimulating airborne and shipboard gravimetry and gradiometry. It encourages and promotes special absolute/relative gravity campaigns, techniques and procedures for the adjustment of the results of gravity surveys on a regional scale.

The Sub-commission supports the development of the International Gravity Reference System (IGRS) for GGOS technically and through organization of comparisons of absolute gravimeters at the sites of IGRS in cooperation with relevant metrological bodies.

The Sub-commission in collaboration with metrology community promotes the implementation of the system of metrological support (calibration, verification, comparisons) of absolute gravimeters belonging to geodesy-geophysics community.

In collaboration with JWG 2.2 "Absolute Gravimetry and Absolute Gravity Reference System" the Sub-commission works on the standardization of absolute gravity data, software for absolute gravity measurement and appropriate information. The Sub-commission will encourage regional meetings or workshops dedicated to specific problems, where appropriate.

To meet these goals, the SC 2.1 sets up the Joint Working Group JWG 2.1: "Techniques and Metrology in Absolute Gravimetry" and appointed the Steering Committee consisted of the members which are the specialists in the fields of gravimetry related to the activities of SC2.1 and

the contact persons for European, East Asia and Western Pacific, South America and North America Gravity Networks)

Program of Activities

- selection in collaboration with Commission 2 – IGFS JWG 2.2 and CCM WGG of the sites for regional comparisons of absolute gravimeters, as the basis for IGRS
- supporting the CCM and RMO Key Comparisons of absolute gravimeters on four-yearly and two year scale, correspondingly
- providing the results of comparisons of absolute gravimeters to data base AGrav at BKG-BGI
- supporting the scientific investigations of absolute and relative (including the superconducting) gravimeters on static and moving platforms
- organization of the Third IAG Commission 2 Symposium "Terrestrial Gravimetry. Static and mobile measurements – TGSMM-2013"

Steering Committee

Chair: Leonid Vitushkin (Russia)

Vice Chair: Hideo Hanada (Japan)

Matthias Becker (Germany, Relative Gravimetry and European Gravity Networks)

Herbert Wilmes (Germany, Absolute Gravimetry Data and Absolute Gravity Reference System)

Vojtech Palinkas (Czech Republic, Techniques, Metrology and Comparisons of Absolute Gravimeters)

David Crossley (USA, Superconductive Gravimetry)

Uwe Meyer (Germany, Aerogravimetry and Gradiometry)

Dag Solheim (Norway, Shipboard Gravimetry)

Yoichi Fukuda (Japan, East Asia and Western Pacific Gravity Networks)

Maria Cristina Pacino (Argentina, South America Gravity Networks)

Mark Eckl (USA, North America Gravity Networks)