The 1st international Workshop on the Quality of Geodetic Observation and Monitoring (QuGOMS) was devoted to the general methodology in the field of estimation and filtering with a refined uncertainty modelling emphasizing applications in engineering geodesy and Earth system observation. Geodetic multi-sensor systems and networks using terrestrial and space-borne observation techniques were thematic anchor points.

The QuGOMS workshop has been organized jointly by the study groups IC-SG2 and IC-SG3 of the Intercommission Committee on Theory (ICCT) of the International Association of Geodesy (IAG). Besides its strong relations to all IAG Commissions the workshop was also in the scope of FIG Commissions 5 and 6. Thus, it attracted scientists under the umbrellas of both IAG and FIG. The workshop took place in the rooms of the International Graduate School of Science and Engineering (IGSSE) of the Technische Universität München, Garching/Munich from 13th to 15th April 2011.

The workshop was organized in five regular sessions. To a large extent, the sessions’ topics referred to the subjects of the IC-SG2 and IC-SG3 of the ICCT:

- Uncertainty modelling of geodetic data
- Theoretical studies on combination strategies and parameter estimation
- Recursive state-space filtering
- Sensor networks and multi-sensor systems in engineering geodesy
- Multi-mission approaches with view to physical processes in the Earth system

The contributed papers showed quite well the related questions and hence the close connection of methodology in the different fields of application such as global geodesy and engineering geodesy. Without doubt, it is worthwhile to continue this kind of workshop to foster scientific exchange also between scientific organizations.

There were several colleagues who contributed to the success of the workshop and of the proceedings. All editors of this volume acted also as convenors. Hamza Alkhatib coordinated the reviews of the submitted papers and communicated with the symposium editors and with Springer. Otto Heunecke took care of the contributions from engineering geodesy. Various reviewers helped to ensure a valid review process. Florian Seitz acted as local host. All in all this is gratefully acknowledged.

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