

IAG Project – Novel Sensors and Quantum Technology for Geodesy (QuGe)

Minutes of Kick-off Meeting

3.12.2020, 16:00–17:30 (CET)

Online, via WebEx

Participants

Jürgen Müller (JM), Marcelo Santos (MS), Christian Lisdat (CL), Erricos Pavlis (EC), Gabriel Guimarães (GG), Robert Spero (RS), Bret Ware (BW), Frederica Migliacio (FM), Jakob Flurry (JF), Frank Pereira (FP), Sylvain Bonvalot (SB), Sam Francis (SF), Shen Wenbin (SW), Ulrich Schreiber (US), Michel van Camp (MC), Gérard Petit (GP), Michael Murböck (MM).

1 Welcome

JM opened the meeting, thanking the participation of everyone. He asked whether the participants would agree to have the meeting recorded so that a participant from Australia, Sue Lynn Choy, could see the meeting later (as her time zone place the meeting in the early morning hours). After some clarifications, all agreed and the meeting was recorded.

2 Reports

2.1 JM made a presentation overviewing the various goals of the QuGe Project. The presentation also covered the early initiatives related to the *IAG Scientific Assembly*, scheduled to happen in the Summer of 2021, in Beijing, China. Depending on the development of the COVID-19 situation the options for the Scientific Assembly are to have it regularly with all participants present, to have it hybrid also open to participation via the Internet or to have it postponed to another date. QuGe will host its own symposium and will participate in other four joint symposia. QuGe is also organizing sessions at the COSPAR 2021 and at the EGU 2021. The former will happen in a hybrid format whereas the latter will be totally virtual. There was also a question about the creation of a *logo* for the QuGe Project.

Copy of the slides are attached.

2.2 FP presented slides on behalf of WG Q.1 Quantum gravimetry in space and on ground. His presentation included the list of WG members, mention to their website and discussion on future actions. He acknowledged delays due to the COVID-19 situation. The quick-off meeting is planned for January 2021, date still to be scheduled. This meeting will serve to choose research directions, collecting inputs and needs and make plans to write a review or white paper.

2.3 MM presented orally on behalf of WG Q.2 Laser interferometry for gravity field missions. Overview on objectives and details on updated membership on website. Discussion that followed on GRACE-FO whose main focus is in improving

accelerometers. Therefore, WG to strive to fully understand interactions and correlations and improvement in models.

2.4 GP presented slides on behalf of WG Q.3 Relativistic geodesy with clocks. He presented the list of members and mentioned about the WG kick-off meeting on December 20th. He also mentioned on the intention of an intra-WG workshop. The work of the WG builds on earlier progresses. Plans also for a review paper on the state-of -the-art.

During discussions that followed, US suggested that QuGe Project could have a wider scope than gravity, more on time and coordinate systems (4D geodesy).

3 Planned activities

- IAG Scientific Assembly – Sessions with QuGe contribution
- Cooperation/exchange in QuGe
- Exchange with other groups
- Other initiatives and deliverables (workshops, papers, products)

JM emphasized the importance of intra-relations among QuGe WGs and inter-relations with other IAG entities and external organizations.

Relation with industry is important. EP suggested to involve them in workshops and meetings, and also motivate them by showing there are needs and markets for new products.

Also, important to approach national metrology institutes.

MS said it is useful to keep in mind the four-year cycle of the WGs and to keep the IUGG 2023 on the horizon as the closing date for delivery of reports and findings.

4 New Business

Should the QuGe Project offer products to the community? It may be too early now, but the project should discuss potential development of products in the long term.

5 AOB

Next meeting to happen in six months, in a date to be determined. The suggestion by EP to meeting at every four months dedicated to the activities of one individual WG will be discussed then.

Minutes prepared by MS.