

A brief status report on absolute gravimetry in Norway

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Instruments

Micro-g Solutions Inc. delivered FG5-226 to the Agricultural University of Norway on March 30, 2004. It has been assembled in the gravity lab and is currently undergoing acceptance tests.

B. R. Pettersen and J. G. G. Svendsen visited the manufacturer in Colorado, USA, on February 23-29, 2004, for detailed technical training and factory acceptance tests. Dr. Derek van Westrum of Micro-g Solutions, Inc. is scheduled to visit Norway on May 10-14 for further training of operating personnel.

LaCoste & Romberg is expected to deliver a refurbished relative gravimeter with Aliod system in April/May 2004. It is needed to determine local gravity gradients.

Observations

Dr. Ludger Timmen and Dr. Heiner Denker visited the Agricultural University of Norway March 16-21, 2004 (funded by a mutual NFR/DAAD exchange program with Universität Hannover for 2004 and 2005) to conduct an initial determination of the gravity value (with FG5-220) and its gradient in the newly established gravity laboratory of the Department of Mathematical Sciences and Technology.

Planned field campaign in 2004

A proposal submitted to the Norwegian Research Council in June 2003 to fund field observations with FG5-226 in 2004-2006 was unsuccessful. Subsequent negotiations with the Agricultural University of Norway have allowed us to spend remaining amounts of the investment grant for *field documentation tests* in 2004. The actual amount available will be determined by the exchange rate of US\$ to NOK at the time of payment. We hope that sufficient funds will be available to observe at all the absolute gravity stations in southern Norway, in addition to simultaneous observations with FG5-220 at Onsala. Our aim is thus to visit Stavanger, Ålesund, Vågstranda, Trondheim, Trysil, Hønefoss, and Onsala. If the quality of our gravity lab is acceptable, we will also contribute measurements from Ås (and a comparison with FG5-220).

Observations at new stations in northern Norway in 2004 will require a very favourable exchange rate or external contributions to the campaign budget.

We are currently investigating ways to cut costs on transportation and to recruit unpaid field assistants from collaborators. One group member is on sabbatical leave in Australia for one year starting June 1, 2004, so operational manpower must be balanced accordingly.

The future

We plan to resubmit a proposal to the Norwegian Research Council in June 2004 to request operating funds for field campaigns in 2005-2007. Based on the referee reports from 2003 we will also request salary funds for data analysis, geophysical modelling and interpretation, and for production of papers and conference contributions.

In another proposal to the Norwegian Research Council we will request investment funds for a superconducting gravimeter to establish a reference gravity laboratory. Candidate sites exist. Episodic calibrations will be made with FG5-226. Supporting contributions to this proposal is very welcome.

NKG Working Group on Geodynamics, Gävle, April 15-16, 2004.