



Accuracy of absolute gravity control in Fennoscandia - groundtruth for GRACE

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The Scandinavian land uplift area offers unique opportunities for validation of space gravimetry missions. Over the expected lifetime of five years for GRACE a temporal geoid variation of 3 mm is predicted for the central uplift area, corresponding to a gravity change of 10 μ Gal. Absolute gravimeters may observe gravity change in a point wise fashion across Scandinavia with an accuracy of $\pm 1-2 \mu$ Gal for a five years period. The terrestrial in situ observations (groundtruth) may be used to validate and test GRACE results. Four groups with FG5 absolute gravimeters made observations at two dozen sites in Scandinavia in 2003 and 2004. The program will continue in 2005. Parallel observations at Metsähovi and Onsala, and repeated occupations at other sites provide comparisons of measurement results with different instruments. This allows an assessment of precision and errors in the observing program.