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Fennoscandian Uplift Observed with Absolute Gravity Measurements in the Period 1991 to 2003

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With the availability of the first two FG5-gravimeters in 1993 the institutions NOAA / NGS (USA), Statens Kartverk (Norway) and BKG / IfAG (Germany) started a project to monitor the postglacial uplift in Scandinavia with repeated absolute gravity measurements. In the period 1993 to 2003 four measurement campaigns with one or two absolute gravimeters have been carried out in a network of up to 12 gravimetric stations. Later comparisons of the FG5 gravimeters with the JILAG-6 absolute gravimeter operated by the Finnish Geodetic Institute (FGI) allow to include the JILAG-6 observations in 1991 at identical stations of the network. Station preparation and observation campaigns have been supported by Statens Kartverk, the Landmäteriet of Sweden and Finnish Geodetic Institute.

To combine the observations of the four involved absolute gravimeters special effort was undertaken to check the stability of the individual instruments and possible offsets. The results from four measurement epochs show clear trends in gravity in the order of half a μ Gal up to more than 2 μ Gal per year. The results are compared with GPS-derived height variations.