



Tests of GOCE geopotential models using the GPS and levelling network of Iceland

Gudmundur Valsson (1), Thorarinn Sigurdsson (1), Jaakko Mäkinen (2), and Veikko Saaranen (2)

(1) National Land Survey of Iceland, Akranes, Iceland (gudmundur(at)lmi.is), (2) Finnish Geodetic Institute, Masala, Finland (Jaakko.Makinen(at)fgi.fi)

The new precise levelling network of Iceland covers the whole country and contains more than 300 GPS points, evenly distributed along the levelling lines. They now provide an opportunity to evaluate geopotential models in this geographical region, where such test data have not been available before. We compare the fit of the recent GOCE geopotential models to the GPS/levelling points, along with various GRACE models, GRACE/GOCE, the EGU2008, and with regional high precision geoid models. We discuss the capacity of the models to provide a datum tie for the Icelandic height system to other regional height systems and to a proposed world height system.