

Absolute gravity measurements in New Zealand (2nd report)

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To enhance and extend the absolute gravity (AG) measurements in New Zealand, we had conducted AG measurements using a FG5 (#210 of Kyoto University) in January and March 2016 as reported in 2016 JpGU meeting. The measurements were made at three points in North Island and five points in South Island. To compliment the AG measurements, we also conducted relative measurements using a LaCoste & Romberg G-meter (#680) at five points from Bilham et al. (2016) in Southern Alps. Among them, two points are located near the summits and only accessible by a helicopter. Thus we could conduct a single loop measurement only, due to restricted time and weather condition in 2016.

Although we have not conducted AG measurements in 2017, relative measurements using two LaCoste & Romberg G-meters (#680 and #805) have been conducted at four points near the summits including the two points occupied in 2016, and conducted two loops of the measurements for those points. In addition to these, we conducted the measurements at most of the AG points occupied in 2016 and some additional points from Stagpoole et al. (2015) for the calibration of the scale factors of the gravimeters, and the gravity connections to the spare points near the AG points. Moreover, for planning the AG measurements in the area of 2016 Kaikoura earthquake (Mw 7.8), we conducted test measurements at a few points where huge uplifts have been observed. In this talk, we present the results in 2017, and the future observation plan particularly in the area of Kaikoura earthquake. This study was partially supported by JSPS KAKENHI Grant No. 15H05205.

Keywords: New Zealand, absolute gravity measurements, gravity network, gravity changes, NZ Southern Alps, Kaikoura earthquake