

ABSOLUTE GRAVITY MEASUREMENTS IN INDONESIA

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For the purposes of the calibration of the superconducting gravimeter in Bandung and the establishment of the absolute gravity points, we have carried out absolute gravity measurements for the first time in Indonesia in November, 2002.

We have been conducting a superconducting gravimeter (SG TT-70 #08) observation in Bandung since December 1997, under the cooperation between Kyoto University and the Volcanological Survey of Indonesia. It is one of the GGP observation points and the unique SG point near the equator. Hence the SG data are expected not only for the studies of solid earth dynamics but also for the studies of the fluid envelope (ocean, atmosphere, land water) in equatorial regions. However, the SG is a relative gravimeter and it inevitably requires calibration by means of an absolute gravimeter to ensure the scale factor and to determine instrumental drifts. Moreover, there was no absolute gravity point in Indonesia so far, therefore the realization of absolute gravity measurements in Indonesia had been strongly desired.

We have carried out absolute gravity measurements in Bandung during Nov. 10 -19 by means of a FG5 (#210), and we obtained more than 29,000 effective drops. The gravity value newly determined at the gravity base point in Bandung is 977976701.9 uGal ($1.e-8 \text{ m/s}^2$) and the scale factor for the SG is 52.281 uGal/V, although both values are still tentative and might be slightly revised in the future.

We have also established another absolute gravity point in Yogyakarta near Merapi volcano. The absolute gravity measurements in Yogyakarta have been carried out during Nov. 22-26 and a tentative gravity value obtained is 978203091.9 uGal.