

## Precise gravity measurements to detect inter- and co-seismic changes in Shizuoka and the calibration of Burris gravity meter

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Precise gravity measurements in the Tokai Region were made by GSJ, JMA, Univ. of Tokyo, Kyoto Univ., Nagoya Univ. Shizuoka Univ. Kanazawa Univ. and so on. However, most of measurements were not addressed to determine temporal changes but the underground structure (the gravity anomaly survey).

It has a great possibility to take place the Tokai earthquake and Mt. Fuji eruption accompanying the gravity changes in the future in the Tokai Region including Shizuoka Pref.

Therefore, we decided to construct the new precise gravity monitoring network around the Omaezaki cape, as the current reference frame.

Usually, the precise gravity survey will be held using at least two gravity meters. In this work, we used Burris b-019 gravity meter, Zero Length Spring Co. Ltd. (Tokai University) and LaCoste & Romberg G-581 gravity meter (Tokyo University). We established 24 gravity stations which were measured by GSJ in the past.

Furthermore, we made the verification of the correction coefficient of Burris gravity meter. We connected three absolute gravity stations (Mizusawa, Kyoto and Aso) and obtained new correction factor of 1.02309. To use this correction factor, we can reach a gravity value with the order of 10 micro-gal.

In this study, the averaged accuracy was 44 micro-gal (If we exclude relatively large residual points, it improves 15 micro-gal). Concerning gravity change, we observed 50 micro-gal increasing around the Omaezaki cape to compare with GSJ observations which were held about 30 years ago. The gravity changes were getting greater to approach the Omaezaki cape. In contrast, north of the Kakegawa region, the gravity values are decreased.

In this study, we showed the gravity change past 30 years around the Omaezski cape due to the crustal deformation of the subduction origin. We have to continue to pay a lot of effort to detect the temporal changes of gravity value in this region.