

Evaluation of horizontal gradient of gravity value at the Ishioka Geodetic Observing Station

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Geospatial Information Authority of Japan (GSI) has conducted the Domestic Comparison of Absolute Gravimeters (DCAG) periodically since 2002 in order to establish the accurate gravity standard over Japan based on the international standard. They had used to be held at a public facility in Ishioka city, Ibaraki Prefecture, until 2015 together with domestic institutions which had the absolute gravimeters such as FG5. GSI started an operation of an integrated geodetic observing station named the Ishioka Geodetic Observing Station (IGOS) in Ishioka city in 2016. IGOS has VLBI, GNSS and gravity measurement facility in order to conduct geodetic observations consistent with the international standards and evaluate inter system biases between the techniques. Since the special facility for the absolute gravity measurements is installed at IGOS, we have conducted DCAG there since 2016. During DCAG, several gravimeters conduct measurements simultaneously at the adjacent gravity markers and when one set of measurements finishes, the gravimeters are switched their positions. We carry out this observation pattern continuously and evaluate the consistency between the instruments by comparing the results. It is essential to grasp the difference in gravity value between the markers if we require the precise comparison, so we performed successive measurements at IGOS from February to March in 2018 in order to determine the accurate gravity values at every marker. The results will be reported in the presentation.

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