On the anomalous temporal gravity change between VERA and F-net stations at Ishigakijima, Japan

*名和 一成[1]、今西 祐一[2]、田村 良明[3]、池田 博[4]、木村 武志[5]
*Kazunari Nawa[1], Yuichi Imanishi[2], Yoshiaki Tamura[3], Hiroshi Ikeda[4], Takeshi Kimura[5]

1. 産業技術総合研究所、2. 東京大学地震研究所、3. 国立天文台、4. 筑波大学、5. 防災科学技術研究所
1. National Institute of Advanced Industrial Science and Technology, 2. Earthquake Research Institute, The University of Tokyo, 3. National Astronomical Observatory of Japan, 4. University of Tsukuba, 5. National Research Institute for Earth Science and Disaster Resilience

Continuous gravity and hydrological observations at Ishigakijima revealed that the gravity difference between the F-net station (gPhone) and the VERA station (superconducting gravimeter) is closely related with the change in the soil water content near the F-net station. It was also noted, however, that the gravity difference did not indicate significant changes on some occasions of heavy rainfall. In addition, our precipitation response model did not predict the observed gravity change well for a particular period expanding a few tens of days. Here we reexamine our data of precipitation, soil moisture, and underground water level as well as gravity, to refine our model of the hydrological effects on gravity at Ishigakijima.

