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The Japan Gravity Standardization Net 2013 (JGSN2013)

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Geospatial Information Authority of Japan (GSI) have established new gravity standardization net, the Japan Gravity Standardization Net 2013 (JGSN2013), from the latest absolute and relative land gravity data which covers Japanese islands. GSI already established and published the Japan Gravity Standardization Net 1975 (JGSN75), which is consistent with the International Gravity Standardization Net 1971 (IGSN71). JGSN75 have been officially referred as Japanese gravity standard.

JGSN2013 have been established by combining gravity data obtained from primary-order absolute gravity survey and first-order relative gravity survey. In Tohoku area, at least one gravity survey was done for each gravity benchmark after the 2013 off the Pacific coast of Tohoku Earthquake. Therefore, the gravity survey data include gravity change caused by the earthquake.

JGSN2013, which is the second Japanese gravity standard net established by GSI, have achieved great improvement in accuracy and special coverage by adopting FG5 absolute gravity meter as an instrument, updating station coordinates to ITRF2008 and modifying tidal correction procedure to more consistent manner through all process. As a result, JGSN2013 have a capacity not only to contribute to monitoring of earth gravity filed, which is promoting by GGOS, but also to be registered to international absolute gravity database (AGrav), which is operated as a joint project by IAG IC-WG2.1 and IGFS. The establishment of JGSN2013 is reported in the paper.

Keywords: The Gravity Standardization Net, JGSN75, JGSN2013