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Latest Gravity Database of Japan (CD-ROM) and new Bouguer gravity maps of Tohoku District, northern Japan

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In 2001 we published the gravity database CD-ROM of Southwest Japan (Shichi and Yamamoto, 2001; hereafter referred to as CD2001), in which the absolute gravity values and their coordinates of 90,298 net gravity data were digitally included. CD2001 consists with gravity data by Nagoya University (NU) (DB1, 54.3% of total) and those by organizations other than NU (DB2, 45.7% of total). Besides this database, we archived more than 100,000 net gravity data (DB3) by other sources that were not published in CD2001. DB3 contains a part of published database by Geological Survey Japan (GSJ, 2000, 2004) and unpublished database by Geographical Survey Institute and private companies. At that time we focused our attention to Southwest Japan in order to collect and compile gravity database from many organizations, because many blank-areas of gravity data have been left untouched in Northeast Japan. After the publication of CD2001, we have performed extensive gravity surveys especially in the regions with sparsely-measured gravity data (chiefly in Northeast Japan) until the Autumn of 2010. Consequently, we obtained about 23,689 new gravity data (DB4), which may fill most of the blank-areas of gravity data in Northeast Japan. DB4 consists with gravity data by Chubu University (CU) (22,406, 94.6% of total) and those by Nagoya University (NU) (1,283, 5.4% of total). Finally we archived more than 214,000 original gravity data (DB1+DB2+DB3+DB4).

DB1: 49,615 (published in CD2001, data by NU+CU)

DB2: 40,683 (published in CD2001,
data by 35 organizations other than NU+CU)

DB3: 100,000 (unpublished data)

DB4: 23,689 (new data by CU+NU)

DB1+DB4: 73,304 (CD2001 and new data by CU+NU)

We have carefully revised and/or updated previously-measured data (DB1) in CD2001. Here we publish the updated version of DB1 and newly archived database DB4 with their coordinates, gravity, and related values in a digital form. Most of this updated database has not yet been published in a tabulated list nor in computer-readable form. We present new Bouguer gravity maps of Tohoku District, northern Japan, which were created using gravity data compiled from this CD-ROM and other sources.

Keywords: gravity anomaly, database