

Moho-offset beneath the western margin of Lake Biwa deduced from gravity data and short-period receiver function imaging.

Takeshi Kudo[1], Akiko Tada[2], Kazuro Hirahara[3]

[1] Research Center for Seismology & Volcanology, Nagoya Univ., [2] Earth and Planetary Sci., Nagoya Univ, [3] Earth and Planetary Sci., Nagoya Univ.

<http://www.seis.nagoya-u.ac.jp/STAFF/kudo/kudo-j.html>

We discuss subsurface density structures and some problems regarding isostasy in and around Lake Biwa in the Kinki district, Japan. The Lake Biwa region is characterized by strong negative Bouguer anomalies. Especially, a steep horizontal gradient zone of gravity anomaly field is distributed along the western margin of the Lake. The large amount of the gravity anomaly depression ($>50\text{mgals}$) can not be explained only by low-density sediments beneath the lake. This large gravity depression indicates that a down-warping structure extends to the Moho depth. This conjecture has been strongly supported by short-period receiver function imaging. Moho-discontinuities derived from the imaging shows the clear offset of about 8km under the steep gravity gradient zone.