

The underground structure model in the Osaka sedimentary basin with gravity analysis considered reverse faults

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Many gravity measurements were carried out around the active faults in order to investigate the underground structure. Inoue and Nakagawa (2000) present a three-dimensional model of underground structure in the Osaka sedimentary basin based on geological interpretation of observed gravity anomalies and seismic reflection profiles. However, they was not analyzed basement structure which contained the reverse fault structure, the result could not express enough underground structure along reverse fault.

Ryoki (2006) developed a method for calculating gravity anomalies of reverse fault structure and suggested that can get more reliable underground structure model. In this method, basement structure was shown as sets of the half infinity length triangular prisms which have inclined upper surface. The calculation in reverse fault was enabled by devising arrangement of triangular prisms. The program can use DEM data widely used and does not need to set complex input-parameter. Therefore, we succeeded in obtaining gravity value along reverse faults easily.

In this study, we apply this method to reverse faults in the Osaka sedimentary basin and construct a detailed underground structure model. In this presentation, we will report the details of an obtained underground structure model in the Osaka sedimentary basin.