

Relationship among gravity anomaly, active faults, earthquakes and structure in southern part of the Noto peninsula

Hirokazu Sutou[1], Yoshiteru Kono[2], Yoshihiro Kitaguchi[3], Kazuhiro Yamamoto[4]

[1] Earth,Natural Sci,Kanazawa Univ, [2] Earth Science, Graduate Schl.Nat.Sci.Tech., Kanazawa Univ., [3] Takahama high school, Isikawa prefecture, [4] Dept. Earth Sci., Kanazawa Univ.

Steep horizontal gradient belt of gravity anomaly generally correspond to active faults. In the Houdatsu mountain and Oochi depression area, however, there are cases that steep gravity anomaly zone don't correspond to active faults. There are some earthquakes in the Noto Peninsula. In recent year, M6 class earthquakes don't occur in this area. Micro earthquakes are occurring a boundary zone between the Houdatsu hill and the Tonami plain. However there is no good correlation between epicenters and active faults. In this study we examined relationship among structures, earthquakes and active faults.

Studied area is southern part of the Noto Peninsula. In this area, gravity data measured by Kanazawa University are 3700 points. We added data that are measured by ex-GSI (about 1400 points) and other organization (about 2500 points). Total data are about 7600 points.

One of the most remarkable features is the relationship between steep horizontal gradient belt of gravity anomalies and reported active faults in the Hakui area. There is a gap between them about 2km. Large-scale landslides are recognized in this area. It is possible that the reported active fault is misjudgment of topographic appearance due to landslide.

In north of the Himi area, clear topographic change doesn't exist and geological faults are not reported. Gravity anomalies in this area, however, steeply change. Sunami and Kono (1988) suggested that the existence ' North Himi tectonic line ' from gravity anomaly. Gravity anomalies and distribution of epicenters obtained from this study also support this tectonic line. In western side of the Mt.Houdatsu, active fault is reported from geomorphological studies. However, no remarkable gravity anomaly changes.

It is widely recognized that earthquake is hard to occur in granitic bodies. Earthquakes don't occur in the Mt.Houdatsu and the Mt.Sekidousan, they are consists of granite. Earthquakes are rather occurring between the Houdatsu hill and the Tonami plain region where basement rock is suddenly deepen.