# Estimation of Geological Structure in Wakayama City Using gravity exploration

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In Wakayama City, the Izumi Mountains are in the northern part, and there is a central structure line in the boundary with the plain as for the geographical features. And, a shallow earthquake appears frequently. It becomes an important clue that the underground structure of Wakayama City is estimated to know relations between much geology structure and the earthquake. The purpose of the research is to estimate underground structure in that circumference at Wakayama City by the gravity investigation.

The estimation of the base rock density was analyzed in the CVUR method (Komazawa, 1973). It was analyzed in 2 area of the northern part (the group of a class of Izumi) and the southern part (Sambagawa schists). It got the result of 2.55g/cm3 in the northern part in 2.54g/cm3, the southern part. Supposition density 2.55g/cm3 is adopted here.

In Bouguer Anomaly distribution, Low Bouguer Anomaly exists on the south side of MTL. And, high Bouguer Anomaly was seen in Wakayama castle in the center of the city. The section (A-A') which crossed Wakayama City was analyzed by using the two-dimensional base structure analysis. Three points that a rock was exposed on the surface of the earth side were chosen as the standard point. It could get the fall of the big base around MTL. But, it was inconsistent around Wakayama castle. Next, multiple layer analyses were done. A reverse fault of MTL and the fall of the plain were seen. Then, it found that the rock pulse of the high density existed around Wakayama castle.