

## The Three Dimension Analysis of Subsurface Structure in Kyoto Basin

# Syoji Doshida[1], Atsumasa Okada[1], Keiji Takemura[2]

[1] Earth and Planetary Sci., Kyoto Univ., [2] Beppu Geo. Res. Labo., Grad. Sci., Kyoto Univ.

Kyoto Basin is the tectonic depression surrounded by high-relief mountains. Active faults are located at the fronts of these mountains. This basin is defined by several factors such as uplifting of mountain associated with active fault activity, sediments derived from uplifted mountains and height distribution of widely developing marine clay formations etc. This research aims at examining the formation process on the surface and subsurface structure of Kyoto Basin.

Underground geologic strata are assumed by the statistical analysis with the subsurface structure data which are originally obtained by the Research Committee of underground structure organized by Kyoto City, and compiled by Geo-Database Information Committee in Kansai (GeoDICK). The research target is the whole sedimentary layers covering the basement rocks mainly consisted of Mesozoic, Tanba Group. Kyoto Basin is suitable for this kind of researches, because detailed data of subsurface structure have been densely received as a part of the surveys carried out by the Research Committee mentioned above.

These underground strata are presumed as precise as possible, and the layer formation boundaries are compiled as DEM (Digital Elevation Model). The formation process of Quaternary geology and geomorphology in Kyoto Basin is examined by comparing with the relationships between heights along the upper horizon of formations and basement rocks. The major subjects are specially examined as follows,

1. Elevation of the basement obtained by gravity and seismic reflection data is relatively low at the northwestern area in Kyoto basin
2. The marine clay formations are tilted to the northward within the Osaka Group

We will try to consider about these reason. And then, we will treat with the activities of the Uji-Gawa fault, a blind fault in southern Kyoto Basin.

### Reference:

Geo-Database Information Committee in Kansai (GeoDICK)

[New Kansai ground -Kyoto basin- (in Japanese)]

[Kansai ground information database CD-ROM(in Japanese)]