

紀伊半島のMT法による3次元構造解析(序報)

木下 雄介 [1]; 小川 康雄 [2]; 齋藤 全史郎 [3]; 市來 雅啓 [4]; 山口 覚 [5]; 藤田 清士 [6]; 梅田 浩司 [7]; 浅森 浩一 [8]
[1] 東工大・理・地惑; [2] 東工大・火山流体; [3] 東工大・地惑; [4] 東北大・院理・地震噴火予知センター; [5] 大阪市大院・理・地球; [6] 阪大・工; [7] 弘前大・理・地球環境; [8] 核燃料サイクル開発機構

Three-dimensional magnetoelluric imaging of Kii peninsula -preliminary results

Yusuke Kinoshita[1]; Yasuo Ogawa[2]; Zenshiro Saito[3]; Masahiro Ichiki[4]; Satoru Yamaguchi[5]; Kiyoshi Fujita[6]; Koji Umeda[7]; Koichi Asamori[8]

[1] Earth and planetary Sciences, Tokyo Tech; [2] VFRC, Titech; [3] Department of Earth and Planetary Sciences, Tokyo Institute of Technology; [4] RCPEV, Grad. School of Sci, Tohoku Univ.; [5] Geosciences, Graduate school of Science, Osaka City University; [6] Technology, Osaka Univ; [7] Earth and Environmental Sciences, Hirosaki Univ; [8] JNC

Although Kii peninsula is located in the forearc side of southwest Jpan, it has high temprature hot springs and fluids from mantle are inferred from the isotopic ratio of helium. Non-volcanic tremors underneath the Kii peninsula imply a rising fluid from slab.

Previously, in the southern part of the Kii peninsula, wide band magnetotelluric measurements were carried out (Fujita et al.,1997;Umeda et al.,2004). These studies could image the existence of the conductivity anomaly in the shallow crust and in the deep crust. Long period observation using network MT data showed low resistivity on wedge mantle (Yamaguchi et al.,2009). These studies, however, used two dimensional iversions and three-dimensionally is not fully taken into consideration.

As part of the "Crustal Dynamics" project, we have measured 20 more stations so that the whole wide-band MT stations constitute grids to make three-dimensional modeling of the area.

As an first attempt, we have analyzed previous data (Fujita et al.,1997 and Umeda et al.,2004) by three-dimensional inversions. Preliminally result showed the followings.

(1) The high resistivity in the eastern Kii peninsula at depths of 5-40km. It is located to the west of the exposed Kumano acidic igneous rocks.

(2) The western part of Kii peninsula has the shallow low resistivity in the upper crust.

(3) The western most part has a deeper conductor in the lower crust.

These features are qualitatively consistent with the previous 2d modeling results. Further modeling incorporating with new 20 sites will be presented.