

SEM037-07

Room:301B

Time:May 26 12:15-12:30

## An audio-frequency magnetotelluric survey along the 2010-East-profile across the Yasutomi and Kuresaka-touge faults

Satoru Yamaguchi<sup>1\*</sup>, Takahiro Kubota<sup>2</sup>, Satoshi Ueda<sup>3</sup>, Hideki Murakami<sup>4</sup>, Shigehiro Katoh<sup>6</sup>, Naoto Oshiman<sup>5</sup>

<sup>1</sup>Graduate School of Sci., Osaka City Univ, <sup>2</sup>Faculty of Science, Osaka City Univ., <sup>3</sup>Graduate School of Science, Kobe Univ., <sup>4</sup>Faculty of Science, Kochi Univ., <sup>5</sup>DPRI, Kyoto Univ., <sup>6</sup>Museum of Nature and Human Activities

The Yamasaki Fault System (YFS) of southwest Japan is a typical left-lateral strike-slip fault system that extends for over 80 km along a general strike of N60W?S60E. The northwestern part of the system consists of the Ohara, Hijima, Yasutomi, and Kuresakatouge faults and the southeastern part of this fault system consists of Biwako and Miki faults. Many micro-earthquakes have been recorded along the fault system (Shibutani, 2004), along with large historical earthquakes such as the magnitude 7.1 Harima Earthquake of 868 AD (Okada et al., 1987).

An audio-frequency magnetotelluric (AMT) survey was undertaken at nine stations along a profile across the Yasutomi and Kuresakatouge faults. MT responses of a frequency band between 10,400-0.35Hz were obtained at eight stations. After analyses of dimensionality and a regional strike of the resistivity structure beneath the study area, the apparent resistivity and phase data for both TM and TE modes were inverted simultaneously using the code of Ogawa and Uchida (1996). This preliminary resistivity model is characterized by (1) a near surface conductive zone between the Yasutomi and Kuresakatouge faults, (2) a moderately deep conductive zone beneath the Yasutomi fault, and (3) a moderately deep conductive zone to the south of the Kuresakatouge fault.

Keywords: conductivity, active fault, magnetotelluric