3D Electromagnetic imaging of NE-Japan forarc near Zao volcano

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We carried out wide-band magnetotelluric measurements at 30 stations around Zao volcano and southern extension of Nagamachi-Rifu fault. The objective of the survey is to image fluid distribution in the deep crust in relation to volcanoes and faults. We used WSINV3D code to explain the full MT impedances and magnetic transfer functions. The model includes ocean as a fixed structure and we have reached rms 2.09. The main features of the model are (1)2d conductor along Nagamachi-Fifu fault at 15km and below, which does not connected to the surface, (2)localized crustal conductor at Zao volcano within 5km depth, (3)lower crustal conductor further west of Zao volcano, and (4)high resistivity at the low frequency earthquakes.