

Three-dimensional electromagnetic imaging of NE Japan

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Geofluid plays an important role in the genesis of crustal earthquakes and volcanoes. Magnetotelluric method uses natural electromagnetic fields and it can image the fluid distribution in terms of electrical resistivity. We have selected an area around Naruko volcano for our project target in order to get detailed three-dimensional distribution of fluids in the crust with a horizontal resolution of ~3km. From the analyses of previous data of 60 MT stations, we have found (1)sub-vertical conductors at the active volcanoes, like Naruko and Onikobe and (2)lower crustal conductors with SSW-NNE strike in the backarc side, and (3)upper to middle crustal conductors in the forearc. We have found high seismicity, located over or outside the crustal conductors.

In this presentation, newly obtained 81 MT data over the two large calderas, Mukaimachi caldera and Sanzugawa caldera, and three-dimensional modeling results will be presented.

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