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## Characteristic features of the magnetotelluric response functions in the northern Kanto region

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There are several quaternary volcanos in the northern Kanto region (e.g., Nasu, Takahara, and Hiuchigatake). In the vicinity of some of the volcanoes, deep low-frequency earthquakes occur, implying the transfer of melt or aqueous fluid. Geochemical studies based on isotopic ratios of volcanic rocks have suggested that the aseismic Philippine Sea slab extends beyond the northern Kanto region and perturbs mantle flow, enhancing the flux of the slab-derived fluid to the northern margin of the Kanto region. In order to elucidate the transport of the slab-derived fluid and the magma supply system, it is important to reveal the subsurface fluid distribution by conducting an electromagnetic induction survey that delineates the subsurface electrical resistivity structure. However, the regional electrical resistivity structure in the northern Kanto region has not yet been investigated. Thus, the authors performed magnetotelluric surveys around the northern margin of the Kanto region in 2021 and 2022. From the measured time-series data, the authors estimated the impedance tensor and the vertical magnetic transfer function using a robust MT data processing method. The estimated response functions show characteristic features appearing to be associated with the volcanos around the survey area. Around Nasu volcano, the phase tensor ellipses are flattened, and  $\Phi_{max}$  is significantly higher than 45 (deg.) at periods of longer than several hundred seconds. Because the major axes of the phase tensor ellipses tend to be aligned perpendicular to the island arc, this tendency might indicate a conductor along the island arc. In addition, the Parkinson vectors point toward the volcanoes, which also implies conductors beneath the volcanoes. In this presentation, the authors show the characteristic features of the obtained MT response functions and give some interpretations of them.