

Magnetotelluric Transect of The Unzen Graben

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Magnetotelluric (MT) method has been employed in the western side, 2 km away, of the summit of Unzen Volcano. Unzen is grown within the East-West (E-W) trending graben structure, resulting many normal faults. We accomplished the measurement by aligning North-South (N-S) trending line crossing the graben structure. We installed 28 MT stations spatially distributed every 300-400 meters, consisted of 4 five-components MT stations and 24 two-components telluric stations. A seismic survey reflection survey was carried out along the same survey line (Matsumoto et al., 2012). Furthermore, we are interested in comparing the resistivity structure with seismic profile to interpret the faults and more importantly the possibly magma conduit of 1991-1995 eruption that assumed exists beneath survey line. Many research suggests the magma rose obliquely in E-W, from below Tachibana Bay in the west offset to the summit of volcano through the inclined conduit. Thus, we calculated impedances and geomagnetic transfer functions by remote reference processing using a reference stations located in Kirishima Volcanoes. Consecutively, we will show the preliminary result of resistivity structure beneath this profile.

