Observation of local magnetic anomaly on Miyakejima volcano using portable magnetometer: estimate of the depth of magnetic sources

Sumito Higuchi[1], Seiki Asari[2], Takatoshi Yanagisawa[3], Yukitoshi Fukahata[4], Kei Kurita[5], Yozo Hamano[6]

[1] Earth and Planetary Phys., Tokyo Univ., [2] Earth and Planetary Phys.,Tokyo Univ., [3] Earth and Planetary Phys., Univ. of Tokyo, [4] Dept. Earth and Planet. Physics, Univ. Tokyo, [5] Dep. Earth & Planet. Phys.,Univ. of Tokyo, [6] Dept. Earth & Planetary Physics, Univ. of Tokyo

On-land survey of total magnetic field has been carried out at Miyakejima volcano by using a cesium optically pumped magnetometer. The purpose of this survey is to detect shallow structural units associated with the fissure

eruption of 1983 activity. The surveyed lines are located at south-western flank of the edifice. The obtained magnetic anomaly data have clear differences in amplitude and wavelength for variant ground states. Using these differences, we constrained the depth of magnetic substance.