

Estimation for stratigraphic position of Takizawa 1 lava flow at Fuji volcano, by using paleomagnetic method.

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Fuji volcano is one of the largest active volcano in Japan. Although stratigraphic studies accumulated, it is difficult to discriminate stratigraphic units of lava flows each other from field survey even with petrography, tephrochronology and ¹⁴C dating. Here, we present a paleomagnetic study of Takizawa 1 lava flow, which is estimated the eruption age (BCE 700-600) from tephrochronology (Uesugi, 1998). Takizawa 1 lava flow is characterized by high K₂O content larger than 0.9, and exposed scatteredly to the Takizawa riverbed. The direction of Takizawa 1 lava flow ($D=-8.2^\circ, I=44.0^\circ, \alpha 95=1.98^\circ$) agree with that for the expected age referring to Holocene paleomagnetic secular variation at Lake Biwa (Ali et al., 1999). However, by our trench excavation, Takizawa 1 lava flow was found to underlie the Fuji black soil, which was formed BCE 6,000-3,600, so that it is a member of Fujinomiya stage (BCE 15,000-6,000). Furthermore, the petrological features and paleomagnetic direction are quite similar to the Saruhashi lava flow, whose age is estimated as BCE 10,000-8,000 by ¹⁴C dating. Our findings suggest that Takizawa 1 lava flow is the same stratigraphic unit as Saruhashi lava flow and thereby paleomagnetic method is effective for dating and identification of stratigraphic unit.

Keywords: paleomagnetic secular variation, paleomagnetic direction data, stratigraphic unit, trench excavation, Fuji volcano