

R004-07

Zoom meeting A : 11/4 AM2 (10:45-12:30)

11:15~11:30

富士火山における紀元前 3600 から 1000 年の古地磁気方位

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Paleomagnetic direction data during 3600 to 1000 BCE at Fuji volcano, Japan

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The paleomagnetic secular variation (PSV) records in Japan has mainly been restored by archaeomagnetic studies of old kilns and hearths (e.g. Hirooka, 1977) and paleomagnetic studies of sediment cores (e.g. Ali et al., 1999). The volcanic materials can also be a very good candidate reconstructing the PSV. We have presented the paleomagnetic direction measurements of the volcanic products on Fuji volcano to draw the PSV curve from CE 1100 to 1000 BCE (Baba and Shibuya, 2020). Here, we try to extend the PSV curve at Fuji volcano beyond 1000 BCE.

Volcanic products before 1000 BCE are widely distributed on the Fuji volcano as lava flows and pyroclasts. Takada et al. (2016) categorized 43 rock-stratigraphic units with the ages of 3600 to 1500 BCE into Subashiri-b stage. However, the ¹⁴C data are sparse thus eruption ages have been mostly estimated using the tephrostratigraphy by trench excavations of each pyroclastic cone (e.g. Ishizuka et al., 2007). Therefore, we conducted the paleomagnetic study of those volcanic products to fill the gap of the ¹⁴C aged units. From each volcanic product, we collected 6 to 20 samples using an engine powered core picker. Samples were oriented by a sun compass to eliminate the influence of local magnetic anomalies. Magnetization of the samples are measured using a spinner magnetometer, and magnetic cleaning is performed with alternating field demagnetization and thermal demagnetization.

Although the magnetic direction dataset is not large enough to draw a credible PSV curve before 1000 BCE, most of the paleomagnetic directions before 1000 BCE shows the easterly declination, and agree with the known the PSV curve drawn at Aso volcano. Correlating the volcanic materials in two volcanoes by the paleomagnetic direction, we may resolve the ¹⁴C age scarcity problem.