

R004-04

C会場：11/6 AM1 (9:00-10:30)

09:45~10:00

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Paleomagnetism of pyroclastic deposits of Futatsudake eruptions from the younger Haruna Volcano, Japan during the 5-7th century

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Paleomagnetic studies were conducted on the two sites of the pyroclastic deposits of the Futatsudake eruptions of the younger Haruna Volcano, central Japan. One of the objectives of the studies is the dating of pyroclastic deposits using paleomagnetic secular variations. Haruna volcano is considered to have erupted twice around the 6th century from the Futatsudake crater (Souda, 1989). There have been reports of 14C ages ranging from 1540 to 1640 yr BP from the Haruna Futatsudake Shibukawa tephra suggesting the eruption age of the late 5th century – early 6th century. On the other hand, the four samples obtained from the Haruna Futatsudake Ikaho tephra shows same 14C ages of 1480 yr BP suggesting

the eruption age of the Ikaho tephra is considered as between the late 6th century and the beginning of the 7th century (Geshi and Oishi, 2011). It is expected that the paleomagnetic dating could provide ages for the pyroclastic deposits enabling to associate with the above-mentioned tephra layers.

Paleomagnetic samples were taken both from essential lithics and pumice in the pyroclastic deposits for the two sites. It is well known that self-reversed magnetization was recognized in the pumice from the Haruna Volcano (e.g. Nagata et al., 1953), which is expected to provide an opportunity to compare and normal magnetization recorded by essential lithics and self-reversed magnetization recorded by pumice fragments. In total, 20 and 17 oriented cores were taken from sites 1 and 2, respectively. A preliminary results of stepwise AF demagnetization for eight essential lithics of site 1 based on 8 specimens provide paleomagnetic direction of (dec, inc, alpha95) = (-11.4deg, 52.6deg, 5.5deg). The comparison of the paleomagnetic direction with the paleomagnetic secular variation for the studied area (Hatakeyama, 2022) suggest the age range of around 500-600 AD.

Further investigation including results of pumice fragments and thermal demagnetization of site 1, and the results of site 2 will be presented.

References

- Geshi, M. and Oishi, M. (2011) Geological Survey Reports, 62, 177-183. (in Japanese with English abstract)
Hatakeyama, T. (2022) JRFM2K.1, <http://mag.center.ous.ac.jp/reduction/cal.cgi>.
Nagata, T., Akimoto, S., and Uyeda, S. (1953) Nature, 172, 630-631.
Souda, T. (1989) Quaternary Research, 27, 297-312. (in Japanese with English abstract)