

Japan Geoscience Union Meeting 2011

(May 22-27 2011 at Makuhari, Chiba, Japan)

©2011. Japan Geoscience Union. All Rights Reserved.



SGL041-P02

Room:Convention Hall

Time:May 25 14:00-16:30

Paleomagnetic direction of the Pliocene PM tephra, Himi area (Toyama Prefecture), central Japan

Hiroyuki Hoshi^{1*}

¹Aichi University of Education

The PM tephra, a prominent felsic tephra bed in the Pliocene sedimentary sequence in Himi, has been sampled for deciphering its rock magnetic and paleomagnetic properties. 10 oriented cores were taken from the uppermost fine-grained vitric ash layer at one locality, and detailed alternating-field and thermal demagnetization experiments were performed for 20 cylindrical samples cut from the cores in order to isolate remanent magnetization components. More than half of the samples had a single magnetic component with a northerly and down direction close to the present geomagnetic field direction (i.e. normal polarity). However, six samples which also provided a normal polarity linear component displayed a directional change along a great circle during stepwise demagnetization, indicating the presence of another higher coercivity/unblocking temperature component. Application of the great circle method disclosed that component which possesses a SSW and up direction (i.e. reversed polarity). A previous study has reported that the PM tephra is normally magnetized; however, I interpret that the normal polarity direction is most likely a viscous remanent magnetization and the primary magnetization is of reversed polarity. This interpretation is concordant with tephrostratigraphic investigations suggesting that the PM is correlated to the reversely magnetized tephtras in several areas of central Japan collectively referred to as the Znp-Ohta tephra, a widespread tephra at about 4 Ma (upper Gilbert Chron).

Keywords: paleomagnetism, Pliocene, PM tephra, Znp-Ohta tephra, Himi