

## Correlation of volcanostratigraphy in the eastern and northern flank of Northern Yatsugatake on the basis of magnetostratigraphy

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The Northern Yatsugatake volcanoes, located in the eastern Nagano Prefecture, central Japan, continues the activity from early Pleistocene. Total eruptive volume is estimated at about 238 km<sup>3</sup> (Kawachi, 1985). Geology of Yatsugatake volcanoes and outline of volcanic history are reported Kawachi (1961a,b), Kawachi (1974-75) and others. Kawachi (1974-75) shows volcanic history that these are demarcated in younger Yatsugatake Period / older Yatsugatake Period which based on physical features by erosion. Among them, younger Yatsugatake Period details the stratigraphy of volcanics, this period is started over 0.3 Ma from radiometric ages. However, most of older Yatsugatake volcanics are integrated Kasuga volcanics, do not establish particular stratigraphy of volcanics and activity ages. In this area, several characteristics of paleomagnetic polarity are reported (ex. Akimoto et.al., 2002). But, it does not reach dating of magnetostratigraphy based on paleomagnetic stratigraphy and radiometric ages. Consequently, the authors tried to compare with geomagnetic polarity time scale on the basis of newly K-Ar ages and paleomagnetic stratigraphy.

The argon isotope was analyzed by isotope dilution at AIST. The analyses and the age determination were based on the method described by Uto et.al.(1995). Samples were crushed and sieved to obtain 0.25 mm to 0.50 mm fractions. Phenocrysts were removed from the fractions using a hand magnet and an isodynamic separator. The argon isotope analyzed over twice in independence. The concentration of potassium was determined by flame spectrometric analysis, and method described by Matsumoto (1989).

As a result of paleomagnetic measures, we identify magnetostratigraphy that shows the sequence of reversed-normal-reversed-normal magnetic polarity changes. From K-Ar ages, these sequences of magnetostratigraphy are correlated to Matuyama Chron (2.58-0.78 Ma) and Brunhes Chron (after 0.78 Ma). Especially, the lower normal polarity is correlated to Jaramillo Subchron (1.07-0.99 Ma). Because this polarity shows relatively short term, we could decide accurate eruptive time of volcanics by correlation of stratigraphy. Consequently, It became possible to correlate volcanostratigraphy of the eastern- northern area in the Northern Yatsugatake that immediate stratigraphy was indistinct.