

中国 Lingtai レスセクションにおける Gauss-Matuyama 地磁気逆転記録の予察的報告

三島 稔明 [1]; 兵頭 政幸 [2]; 谷川 晃一郎 [3]; 石田 拓也 [4]; 加藤 茂弘 [5]; 楊 天水 [6]; Li Huidi [7]; 楊 振宇 [8]
[1] 神戸大・内海域; [2] 神戸大・内海域; [3] 神戸大・地球惑星; [4] 神戸大・理; [5] 人と自然博; [6] 神戸大・自然; [7] 地質
力学研究所; [8] 神戸大、理

A preliminary report of Gauss-Matuyama geomagnetic polarity transition record from Lingtai loess section, China

Toshiaki Mishima[1]; Masayuki Hyodo[2]; Koichiro Tanigawa[3]; Takuya Ishida[4]; Shigehiro Katoh[5]; Tianshui Yang[6];
Huidi Li[7]; ZhenYu Yang[8]

[1] KURCIS, Kobe Univ.; [2] Kobe Univ. R. C. Inland Seas; [3] Dept. of Earth and Planetary Sciences, Kobe Univ.; [4] Kobe
Univ.; [5] Hyogo Museum; [6] Earth and Planetary Sci., Kobe Univ.; [7] Institute of Geomechanics; [8] Faculty of Sci., Kobe
Univ.

We report a preliminary result of a detailed paleomagnetic record around the Gauss-Matuyama boundary from Lingtai loess-paleosol section, middle Loess Plateau, China. Previous paleomagnetic studies on the identical section (Sun et al., 1988; Ding et al., 1999) had identified the Gauss-Matuyama polarity reversal within the loess L33, but detailed feature of the reversal was unclear because of long sampling intervals of about 15-25 cm. We are carrying out paleomagnetic analysis at sampling intervals of 2.5 cm throughout the loess L33 in order to clarify the feature in a submillennial time resolution.

Low-field magnetic susceptibility within L33 is relatively low and constant except for some minor peaks, suggesting that L33 have suffered only low degree of pedogenesis and is a good paleomagnetic recorder. Stepwise thermal demagnetization revealed a high temperature ChRM with normal, reverse and transitional polarities, after removal of a low temperature viscous overprint below 200-300°C. The polarity of the high temperature component within L33 changed from normal to reverse through a transition zone, which is consistent with previous paleomagnetic studies from Lingtai.

A notable feature of the transition zone is that it consisted of some short episodes, each of which had a steady paleomagnetic direction and transited by rapid paleomagnetic direction changes. The transitional zone continues at least 1.1 m (equivalent to a >15ka based on the age models of previous studies), and has five rapid direction flips (or four short episodes) at least. Comparison with detailed records from other loess-paleosol sections will be discussed.