

High resolution magnetostratigraphy of the Matuyama-Brunhes transition from oriented samples from the Chiba Section, central Japan

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Pleistocene sediments of the Kokumoto Formation in the upper part of the Kazusa Group, central Japan have been studied by many research groups. However, very few studies have focused on the marine isotope stage 19 interglacial including the Matuyama-Brunhes magnetic polarity boundary (MBB). In order to establish detailed magnetostratigraphy across the MBB, we collected oriented samples for magnetic analyses by drilling from 140 horizons of the Chiba Section, a candidate for the Global Boundary Stratotype Section and Point (GSSP) of the Early to Middle Pleistocene Boundary. We also collected block samples to pick up foraminifera fossils from 35 horizons for construction of oxygen isotope stratigraphy. Here, we first report preliminary results of paleomagnetic analyses. Progressive thermal demagnetizations reveal natural remanent magnetizations (NRMs) consist of two components demagnetized at or below 350 degrees Celsius and between 500 degrees Celsius and 680 degrees Celsius. The values of magnetic susceptibility measured at each step of thermal demagnetizations begin to increase from 400 degrees Celsius and decrease above 500 degrees Celsius. These results indicate that the samples include a ferromagnetic iron sulfide mineral such as greigite, which is decomposed below about 350 degrees Celsius, followed by oxidation to form magnetite and further to hematite, causing an increase and a decrease of magnetic susceptibility, respectively. Characteristic remanent magnetizations isolated above 350 degrees Celsius show that reverse and normal polarity continue from 1440 cm below to 60 cm above and from 290 cm to 430 cm above the Byakubi tephra (Byk-E), respectively. Therefore, the Matuyama-Brunhes transition would lie between 60 cm and 290 cm above the Byk-E, which would require reviewing the previous MBB position in detail. The result of oxygen isotope analysis using fossils of *Bolivinita quadrilatera* will also be reported.

Keywords: Early to Middle Pleistocene GSSP, Chiba Section, Matuyama-Brunhes boundary, *Bolivinita quadrilatera*, MIS19, Byakubi-E