Paleomagnetic and paleoclimatic records through the Matuyama-Brunhes boundary from the Chiba composite section, southeastern Japan

*Yusuke Suganuma[1,2], Masaaki Okuda[4], Makoto Okada[3], Yuki Haneda[3]

1. National institute of Polar Research, 2. SOKENDAI, 3. Ibaraki University, 4. Natural History Museum and Institute, Chiba

The Marine Isotope Stage (MIS) 19 is thought to be an important analogue for evaluating the climate system of the present interglacial (MIS 1), because of the similarity of the Earth’s orbital configuration, especially the phasing of obliquity maximum to precession minimum. During the MIS 19, the youngest geomagnetic polarity reversal, the Matuyama-Brunhes (M-B) boundary, has been recongnized at the later part of the interglacial period in marine/lake sediments and Antarctic ice core (e.g., Dreyfus et al., 2008; Channell et al., 2010; Simon et al., 2017). Recently, the influence of geomagnetic field intensity to the climate was reported based on anomalous cooling events observed during the M-B boundary and the other reversal from pollen records from Osaka Bay (e.g., Kitaba et al., 2013; 2017). During the M-B boundary, the cooling event, coincides with the middle part of the paleomagnetic intensity low, just before the sea-level highstand correlated with the MIS 19c, followed by a rapid warming and concurrent paleointensity recovery. In order to address this topic, we carried out a very detailed pollen analysis from the most expanded marine sedimentary record throught the MIS 19 in the Choba composite section, southeastern part of Japan. A newly obtained high-resolution oxygen isotope stratigraphy provides robust time control for the studied section. In this record, however, no significant palynological changes were observed across the horizon of the M–B transition interval. This indicates that a climatic change related with the geomagnetic field reversal was not obvious in the southeastern part of Japan.

