Environmental Magnetic Study of Core Samples from the Yaojiang Plain in Zhejiang Province, China

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In order to detect high-resolution and continuous environmental changes of the East Asia during the late Quaternary, we collected core samples from Yaojiang plain in Zhejiang Province, China in 2002. We report a result of environmental magnetic study of core sediments. The 36 m-long sediment core consists of 2.5 m-thick lacustrine clay layer, and 32.5 m-thick silty clay layer with 1-5 cm thickness sand layers and 1 m thick sand layer. U-channel samples were collcted from the center part of archived halves of 80 mm-diameter cores. Intial magnetic susceptibility (k) and natural remanant intensity (NRM) were measured by pass-thrugh method.

Our high-resolution record of the magnetic can be correlated with lithological changes and sedimentological events, which may potentially reflect century- to millennium- scale environmental variations. A remarkable increase of k value at 2.5 m in depth corresponds to lithological change from clay to silty clay, related to change of sedimentary environment. Short-term and abrupt increases of k value observed at several horizons below 18 m correspond to enhanced influx of sand with magnetic mineral grains, possibly caused by paleo-flood events.