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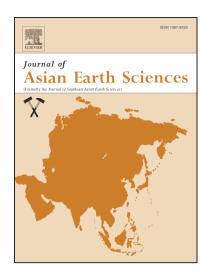
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ACCEPTED MANUSCRIPT

Loess deposits since Early Pleistocene in Northeast China and implications for desert

evolution in East China

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**Abstract:** Loess deposits and deserts are regarded as coupled geological systems and loess

deposits on the periphery of deserts can often be used to reconstruct desert evolution.

Previous studies of desert evolution in Asia are mainly concentrated in northwest China and

the China Loess Plateau, and little is known about long-term desert evolution in east China. In

this study, we selected the Sishijiazi loess section in the Chifeng area in northeast China to

study the long-term evolution of the desert in east China. A high-resolution

magnetostratigraphy combined with optically stimulated luminescence dating indicated that

the age of the section base is approximately 1.02 Ma. The Brunhes-Matuyama boundary is at

the depth of 39.8 m in loess unit L8, and the upper boundary of the Jaramillo Subchron is at

the depth of 60.8 m in paleosol S10. The results of grain-size analysis indicate a coarsening

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1

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