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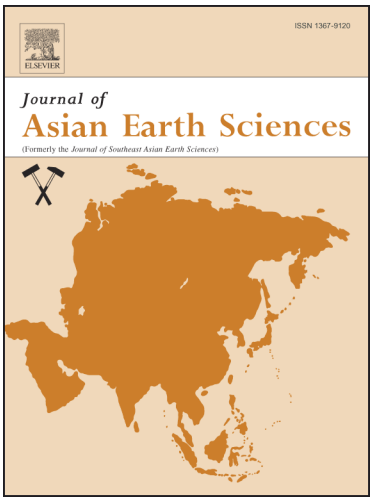

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Loess deposits since Early Pleistocene in Northeast China and implications for desert evolution in East China

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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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