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Rock magnetic property of surface sediments in Tarim Basin: implications for provenance study of Chinese loess deposits

Kazunori Mishima^{1*}

¹Doshisha University

We made rock magnetic analysis of fine-grained sediment samples collected on ground surface at 28 sites in Tarim Basin, intending to elucidate source areas of loess deposits in Chinese Loess Plateau. Among various rock magnetic parameters obtained, S-ratio shows most significant variations characterizing the sampling sites. The difference in rock magnetic properties probably reflects geology of the surrounding area, particularly distribution of granite. The Day plot of hysteresis parameter ratios, which is diagnostic of magnetic granulometry, shows a trend similar to that reported from loess/paleosol in Chinese Loess Plateau (Torii et al., 2001). Our results emphasize the importance of aeolian transportation from the west to the loess plateau, which was suggested by Lu and Sun (2000) based on dust sedimentation rates.