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**Paleomagnetic constraints on the paleolatitude of the Lhasa block during the Early Cretaceous: Implications for the onset of India-Asia collision and latitudinal shortening estimates across Tibet and stable Asia**

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**Abstract**

Interbedded volcano-sedimentary sequences are well exposed in the northern part of the Lhasa block in southern Tibet. Zircon U-Pb dating results from two samples indicate that the emplacement age of the Duoni Formation volcanic flows is  $120.2 \pm 0.5$  Ma. Paleomagnetic results from 235 progressively demagnetized volcanic rock samples (25 sites) and 41 sandstone samples (5 sites) indicate that the dominant remanence carriers are Ti-poor titanomagnetite and Ti-poor titanohematite in the volcanic samples and Ti-poor titanomagnetite in the sandstone samples. Rock magnetic investigations, systematic demagnetization behavior, positive fold test results, and direct petrographic identifications all indicate that the paleodirections recorded by the chemically stable magnetic particles are primary thermal remanent magnetization in the volcanic flows and primary detrital remanent magnetization in the sandstones. The tilt-corrected ChRM mean direction is

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