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Paleomagnetic investigation of the Early Permian Panjal Traps of NW India;  
regional tectonic implications

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1 **Paleomagnetic investigation of the Early Permian Panjal Traps of NW India; regional**  
2 **tectonic implications**

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15 **Abstract**

16 The ~289 Ma Panjal Traps of NW India (Kashmir) are part of series of rift-related mafic suites  
17 (Abor, Sikkim etc.) that were erupted onto northern India (present-day coordinates) around  
18 the same time as separation of the Cimmerian blocks of Qiangtang and Sibumasu. We report  
19 new data from only the second paleomagnetic investigation of this unit. Standard alternating  
20 field and thermal demagnetization methods were used to isolate characteristic  
21 magnetizations from seven outcrops at three locations within the Kashmir Valley, NW India.  
22 Analysis of four sections (14 individual cooling units) from close to Srinagar, that together  
23 form a tectonically coherent sequence spanning ~3 km of stratigraphy, yield a single-  
24 component, primary magnetization with a mean direction of Dec: 134.8°, Inc: 55.3° ( $\alpha_{95} =$   
25 8.9°,  $k = 21.0$ ). An inclination-only mean of 52.5° ( $\alpha_{95} = 8.9^\circ$ ,  $k = 47.2$ ) gives a paleolatitude of  
26 ~33°S ( $\pm 5^\circ$ ). A paleopole of 110.5°E 8.4°S ( $A_{95} = 10.7$ ) is also calculated. Assuming the  
27 magnetization records a portion of the reverse polarity Kiaman Superchron, the new result  
28 indicates extrusion of the Panjal Traps basalts at mid-latitudes in the southern hemisphere.  
29 By inference this constrains the location of central Gondwana, and informs debates related to  
30 Cimmeria's detachment from Gondwana.

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33 **Keywords:** Panjal Traps, Permian, paleolatitude, Greater India, Cimmerian terranes

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