

# Geology of Ladakh Himalayas in northern India: Deformation structures of mylonite in the Karakoram fault zone

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The Karakoram fault, which is located along the boundary between India and Tibet, is an NNW-SSE trending large-scale lateral fault. Due to the collision of the India subcontinent and Eurasia continent, this fault displaces laterally and causes the eastward extrusion of Tibet. We performed field survey on mylonite of the Karakoram fault at the region of Ladakh Himalayas in northern India last August, and report its deformation structures.

Study area is along the Nubra river ca. 70 km north from Leh in Ladakh Himalaya. This river is along the Karakoram fault, and granite mylonite is distributed along the river. Mylonite foliation trends NW-SE and dips subvertically. This mylonite contains euhedral large feldspar porphyroclasts. The number of these porphyroclasts is small where enclaves are well elongated. Mesoscopic deformation structures indicate northeastern side uplift and dextral sense of shear. This dextral sense of shear is consistent with recent movement of the Karakoram fault. Andesite dikes intrude concordantly into the granite mylonite, they also exhibit mylonitic foliation. The granite exhibits no deformational features in part, deformation distributes heterogeneously.