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**Title:**

Investigating the mechanics of strain partitioning at the Rakhine-Bangladesh Megathrust using InSAR time-series

**Abstract**

The Rakhine-Bangladesh megathrust extending from offshore Myanmar to central Bangladesh is accommodating active deformation between the Indian plate and the Burma micro-plate, at the eastern edge of the India-Eurasia collision zone. In this region, dextral-oblique collisional strain is partitioned across several tectonically active structures including the megathrust, the Indoburman Ranges (fold-and-thrust belt with additional potential strike-slip structures) and the dextral Sagaing Fault. The megathrust and Indoburman ranges have been historically understudied compared to similarly active regions worldwide, owing in part to the region's dense vegetation and limited accessibility. The advent of remote geodetic observations such as L-band Interferometric Synthetic Aperture Radar (InSAR) has greatly improved our ability to map tectonic strain accumulation in such areas, even through dense vegetation. In this study, we seek to answer how strain is partitioned in the Indoburman Ranges using L-band InSAR. We use observations from ALOS-2 wide-swath imagery to perform InSAR time-series in the central Indoburman Ranges spanning Bangladesh, India, and Myanmar. The data are corrected for variable ionospheric and tropospheric delays using the split-spectrum method implemented in the ISCE software package from JPL and the GACOS atmospheric delay model. We use the resulting map of line-of-sight tectonic velocities to assess the pattern of interseismic strain across the central fold-and-thrust belt and construct a three-dimensional model of the active structures at depth.

