

Probing the rheology of continental crust in the new era of big data geodesy

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The dramatic increase in the availability of continuous GNSS stations and the launch of new radar satellite constellations like Sentinel-1 mean that we are entering a new "big data" era, where we will have long, accurate time series of surface motions for the entire planet. In this presentation, I will review what these new data are already telling us about the rheology of continental crust, and what we might learn in the future. I will use examples from the Alpine-Himalayan belt, focusing on observations and models of strain accumulation along the North Anatolian Fault, observations of postseismic deformation from continental earthquakes, and on data from the India-Asia collision zone.

Keywords: Earth, Rheology, Geodesy, Continental Tectonics, Earthquake cycle, Deformation

