

Slow earthquakes, tectonic tremors, and rheology of the lower continental crust

An Yin¹

¹Department of Earth, Planetary, and Space Sciences, University of California, Los Angeles, CA 90095, USA, yin@ess.ucla.edu

One of the most exciting discoveries in Earth Sciences in the past two decades is the occurrence of slow earthquakes expressed as slow-slip events, repeating earthquakes, low to very low-frequency seismic events, and tectonic tremors. The above features have been documented along Circum-Pacific subduction zones at seismic-aseismic transition depths (15-50 km) and in the lower crust of continental strike-slip faults such as the San Andreas and San Gabriel faults in California along a transform plate boundary. In this talk, I will show how the geodetic and seismological observations of slow fault motion have inspired a new research frontier that integrates field observations with experimental rockmechanics studies and numerical modeling.

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