

## 断層レオロジーと不均質構造に支配されたゆっくり地震の伝播 Propagation dynamics of episodic tremor and slip governed by fault rheology and heterogeneity

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Slow earthquakes called episodic tremor and slip (ETS) propagate over 100 kilometers at low velocities, ~10 kilometers per day, along several plate interfaces. These low velocities differentiate slow earthquakes from ordinary earthquakes, and thus understanding their propagation processes is fundamental to understand the diversity and universality of earthquake processes. Comprehensive modeling and previously-unreported correlations of migration patterns with energetics of tremor observed in Japan show that rheological fault heterogeneity essentially governs ETS propagations. The fault has persistent small-scale segmentation, where the propagations always energetically started in brittle sections and decelerated in the ductile sections; spontaneous rupture calculations constrain the ductility to that caused by the Newtonian plastic flow or dilatant strengthening, but not by large-scale fluid flows.

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