

Towards more realistic modeling of earthquake faults

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Recent seismological and geological observations revealed important features of earthquake faults. First, frictional force working on the fault surface is unexpectedly weak as is inferred from the heat-flow paradox observed along the San Andreas Faults. Second, many field evidences seem to indicate fault motions during earthquakes are rather smooth. From these features, we regard earthquake faults motions as more like those of large blocks and present a block model for fault dynamics. The model is two dimensional and consists of a single block mass contact with a rough surface. We also consider a model consists of many blocks with global correlation effects.