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Solid Friction inside geological faults

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Earthquakes are among the most violent phenomena in nature. They are the consequence of sudden and large ruptures of geological faults, located several kilometres below the Earth crust. At this depth, temperature and pressure are so high that faults are inaccessible to our direct investigation. There is however common consensus that friction process are at the origin of the earthquake dynamics. In this talk we review simple models for the dynamics of geological faults. In particular I discuss the effect of two ingredients usually neglected: the inertia and the velocity strengthening friction.

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