



Simplest stick-slip experimental set up to model a seismic fault

Leticia Flores-Marquez (1), Carlos Vargas (2), and Alejandro Ramirez-Rojas (2)

(1) Instituto de Geofisica, Exploracion, Mexico, Mexico (leticia@geofisica.unam.mx, 525 55502486), (2) Depto de Ciencias Básicas, Universidad Autónoma Metropolitana Azcapotzalco, Mexico DF

In order to model the seismicity produced by the tectonic plate's interaction, we present an experimental device to mimic these phenomena.

The experimental device is characterized by the interface of two sandpapers, one of them is stick in a solid block and the other is fixed in a track. This track has a free friction suspension. The solid block is pulled with constant and slow velocity by a rope connected to a DC motor. As the friction between the two sandpapers is opposed to the displacement of the block, the potential energy is accumulated till the force driven by the motor is able to pull, producing a suddenly displacement, that is the stick-slip phenomenon.

Some statistical analysis of the experimental data series has been already published, displaying some dynamical features analogous to the natural seismicity.