



Application of seismic moment tensors for determining the shortening rate of the Makran region, Southeastern Iran

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The purpose of this study is to investigate the seismic shortening rate in the Makran region, southeast of Iran. Seismic moment tensors are used for calculating seismic shortening rate. The data are collected from CMT catalogue of Harvard University that covering the period 1979-2006. First, a cubic box within seismogenic region is considered with a specific length, width and depth. After the determination of seismic strain rate, the seismic shortening rate is calculated. The calculated seismic shortening rate in Makran is 1.06 mm/year. Geodetic data can provide the rate of earthquakes on faults that are undocumented or unobservable. The geodetic shortening rate indicate the seismic and aseismic deformation. Seismic deformation rate could account for only some percent to some tenth of percents of the geodesy-related deformations. So, it is concluded that the seismic deformation is approximately 5 percent in Makran region that is due to faults creep or ductile deformation.