## عنوان مقاله:

SEISMOTECTONIC AND CRUSTAL STRUCTURE IN THE CENTRAL IRAN

## محل انتشار:

هشتمین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1398)

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## خلاصه مقاله:

Central Iran is one of the active seismotectonic provinces in the form of a triangle in the center of Iran. The northern border is the Alborz mountain range and the main Zagros fault in the southern border. For this reason, there are a large number of seismic networks in operation, and data from these networks can provide details of the crustal structure of the region. Local seismic activity has been monitored in the Central Iran. An earthquake recording network consisting of 31 stations seismic, 11 short periods and 20 bround band stations, was operated for 11 years from December 2006 to December 2017. During this period, the Central Iran area proved to be seismically active. Approximately 5 events per day were detected and found to be equally distributed over the upper crust. The hypocenter depth distribution shows surprisingly large depths of up to 60 km in the Southeast (Kerman) of the area. The epicenters are clustered and trace a linear structure lying N-S over a length of 20 km East of Central Iran. Hypocenters in the region of the earthquake cluster are shallow and exhibit a sharp cut-off at 10 km depth. A surface crack that occurred during the recording period is connected to the larg earthquake. Analysis of the focal mechanisms of selected earthquake indicates predominantly strick-slip and trust faulting in response to a N-S directed shear stress filed. This direction corresponds to the general alignment of the northern most part of Central Iran and to the surface faulting pattern in east. The main result of the methods is a linear positive velocity anomaly following the ak135. The high velocities can be explained by material that has intruded into the upper crust. The negative anomaly is attributed to highly fractured rocks.

## کلمات کلیدی:

Strong ground motion, Central Iran, Seismotectonic, Crustal structure