عنوان مقاله:
(Seismotectonic study of Central Zagros (Iran

محل انتشار:
چهارمین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1382)

تعداد صفحات اصل مقاله: 8

نویسندگان:
M. Tatar - *Laboratoire de Géophysique Interne et Tectonophysique, Grenoble, France*

D. Hatzfeld - *Laboratoire de Géophysique Interne et Tectonophysique, Grenoble, France*

A. Walpersdorf - *Bullard Laboratories, Cambridge, Great Britain*

خلاصه مقاله:
Seismotectonics of the Zagros continental collision zone was investigated using microearthquakes and geodetic data. The structures of the sedimentary cover and the upper crystalline crust were determined from the inversion of P and S travel times of local earthquakes recorded on a dense seismological network. The velocity of the lower crust and the depth of the Moho are found using receiver function analysis of teleseismic earthquakes. The total crustal thickness beneath the Ghir region is 46+/-2 km and consists of an 11-km thick sedimentary layer above a ~8-km thick upper crystalline crust (Vp~ 6.0 km/s), overlying a unusually slow (Vp~6.5 km/s) ~27-km thick lower crystalline crust.Seismicity in central Zagros is located at the top of the brittle crystalline crust beneath 11 km of sediments. It is not located on an active décollement between the sediments and the crystalline crust, but rather define a pattern of NNW-SSE trending lineaments parallel to fold axes observed at the surface.The spacing between the seismic lineaments is ~15-20 km and therefore different from that between the folds (~10-15 km), which suggests that no direct relation exists between the two. Focal mechanisms and precise relative locations are consistent with NW-SE striking reverse faulting connected by NNW-SSE striking right lateral strike-slip faults. The dip of the reverse faults is not certain but is likely NE for the northernmost faults and SW for the southernmost faults. The strain pattern deduced from the P-axes is remarkably similar to the shortening deduced from GPS-based geodesy suggesting that microearthquakes are the response of the prefractured brittle crust to strain rather than localized on single active faults.Deformation study of this zone based on GPS measurements shows that about 1 cm/y of shortening across the Central Zagros is distributed across the mountain belt. The internal deformation of the folded belt is rather .homogeneous, at our scale, which does not allow us to infer any particular active blind fault

کلمات کلیدی: