



Moho depth and crust and upper mantle velocity structures in Iran

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In detailed studies for the regions in and around Iran, significant anomalies in terms of their travel time structures are observed. According to previous studies in Iran, an Alpine type of crust is found for the Iranian plateau while uppermost mantle velocities range from a low-velocity mantle in eastern Iran to a high-velocity shield-like structure in the western parts of the country.

At the present study based on the results of surface wave dispersion analysis in north-western Iran and the data of previous studies, a matched and compiled Moho depth map for the Iran region is introduced. The Moho reaches to a depth of about 60 km (deepest in Iran) in a region northeast of the Main Zagros Thrust (MZT) in Sanandaj-Sirjan Zone. The preliminary analysis of well-located earthquakes by two local temporary networks in the Makran region suggests the thinnest crust in Iran along the coasts of the Oman Sea (28 km). Pn velocity varies from 7.7 km/s in the northwest of the country to 8.1 km/s in Zagros.