

1.2-P17. Vertical and lateral variation of coda wave attenuation in Makran region, South-East of Iran

Abstract Makran region, due to movement of the Arabian plate toward the Eurasia forming a subduction zone in South-East of Iran. We are using recorded data on stations of International Institute of Earthquake Engineering and Seismology. The “Single Back-Scattering Method” is used to estimate Q_c . The relations of frequency dependence of coda wave quality factor for events up to 100km epicentral distance is determined. Also, the lateral and depth variation of Q_c are computed and discussed. In this study, the Q_c values are calculated for 12 laps times (5 to 60s with a step of 5s). The frequency dependent relationships of Q_c , for Makran region varies from $Q_c = (12 + 1.1)f^{(1.3 + 0.15)}$ at 5s to $Q_c = (137 + 1.1)f^{(1.03 + 0.018)}$ at 60s lapse time windows. The value of Q is less than 200 that implies, beside a highly tectonically and seismically behavior, a highly heterogeneous medium. In Makran region at a depth of ~97 km the variation rate of Q suddenly increases. Oceanic crust has higher velocity, so attenuation is less than continental crust. Key words: Coda waves, single back scattering, Quality factor, Attenuation, Makran.

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