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Evaluation of Quality Factor Beneath the Local Seismic Networks in SE Central Iran

Quality factor of seismic waves (Q), is one of the important parameters to explain attenuation of seismic waves. By calculating the quality factor in each area we can understand the rate of seismic activity in the region. This quantity has many applications in determination other earthquake parameters, such as moment and magnitude.. According to these applications and the existence of high seismic risk in SE central Iran, calculation of quality factor for this region is important. In this investigation, we used single back scattering method given by Aki. For this purpose, the recordings of earthquakes on stations of Kerman and Minab sub networks installed by Iranian Seismological Center (IRSC), which occurred during 2010 to 2012, have been used. We applied a bandpass filter from 2 to 20 Hz, and obtained a relation for Q in Kerman region as Q=132.49f^0.87 , in Minab region as Qc=62.5 f^0.91 and the relation for Q in southeast central Iran as Qc=97.5 f^0.89, that confirms the increasing of Q with frequency. The results have been compared with other regions in Iran. And results show that the attenuation is higher in SE central Iran compared to west and east central Iran.

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