

عنوان مقاله:

Development of a regional attenuation relationship for Alborz, Iran

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خلاصه مقاله:

New attenuation relationships for rock and soil in Alborz, have been developed in this study. When the quantity of usable ground-motion data is inadequate in the magnitude and distance ranges, development of an empirical prediction equation is deficient. Due to lack of data, the two well-known simulation techniques, point source and finite-fault models have been used to generate more than ten thousands of strong motions as input data. The stochastic finite-fault modeling that can be used to predict regional groundmotion for large faults has been developed based on subdividing the fault surface into smaller subsources, as stochastic point sources. The model incorporates the seismological information obtained from recorded data of northern Iran to provide new information on source and path effects. In this study, the uncertainty due to inherent variability in earthquake source, path, and site effects has been considered. The results include the attenuation relationships that are validated by statistical analysis to compare the estimated ground motion with those of recorded data at the observed stations in Alborz region.

کلمات کلیدی:

Attenuation relationship, Alborz, Stochastic simulation, uncertainty

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