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T1.5-P25. Ground Motion Scaling Study in Central Anatolia Region, Turkey

A regional study of ground motion scaling parameters is presented for the region surrounding the Central Turkey. In order to emprically obtain the scaling relationships for high frequency S-wave motion, regressions are carried out on three component broadband seismograms, all recorded within a hypocentral distance of 250 km.The data set used in this study consists of 120 earthquake events with magnitudes between (ML and Mw) 2.8 – 4.6. All selected events are in the upper crust. The peak ground velocities are measured in selected narrow-frequency bands between 1.0 and 10.0 Hz. Random vibration theory (RVT) is used to test estimates of the peak ground motion in the time domain. Results are presented to define a continuous geometrical spreading function, frequency-dependent crustal shear-wave quality factor Q(f), duration and source excitation. We fit stochastic ground motion model (Boore's implementation) to parameterize the regression results.

Primary author: ŞEMIN, Korhan Umut (Belbasi Nuclear Test Monitoring Center)

Presenter: ŞEMIN, Korhan Umut (Belbasi Nuclear Test Monitoring Center)

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