

GROUND MOTION ASSESSMENT BASED ON WEAK MOTION DATA IN TAIWAN

Ground Motion Assessment Based on Weak Motion Data in Taiwan

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In this study, we characterize the scaling of the ground motions for frequencies ranging between 0.25 and 5 Hz, obtaining results for seismic attenuation, geometrical spreading, and source parameters in Taiwan. We regressed this large number of weak-motion data in order to characterize the regional propagation and the absolute source scaling. Stochastic simulations are generated for finite-fault ruptures using the obtained parameters to predict the absolute peaks of the ground acceleration and velocity for several magnitude and distance range, as well as beyond the magnitude range of the weak-motion data set on which they are calculated. The predictions are then compared with recorded strong motion data and empirical ground motion prediction equation obtained for the study region. We showed that our regional parameters, obtained from independent weak-motion database, may be applied for evaluation of ground motion parameters for earthquakes of magnitude up to 7.6.

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 Feedback/Corrections?