

Seismic Hazard of Hong Kong

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ABSTRACT

This paper reviews the probabilistic seismic hazard assessment studies undertaken in recent years to estimate the potential seismic ground motion levels on bedrock in Hong Kong. A detailed catalogue of historical and recent seismicity within the South China region has been compiled. A suite of published empirical and stochastic attenuation relationships have been used with alternative source models and source parameters in a logic tree hazard analysis. Uniform hazard bedrock ground-motion spectra having various probabilities of being exceeded in 50 years have been calculated. The results have been de-aggregated to investigate what earthquake magnitude and distance combinations have contributed most to the hazard levels for the different probabilities and structural periods. The obtained uniform hazard spectra have been compared to the study using an alternative assessment approach developed by the University of Hong Kong. Recent recorded earthquake ground motions in Hong Kong are also presented with the uniform hazard spectra.
