

Seismic Hazard of Singapore and Malaysia

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ABSTRACT

This article reviews the seismic hazard studies of low-to-moderate regions like Singapore and Malaysia, and presents a procedure to obtain the seismic demand for buildings in Singapore. The review includes the research on potential seismic sources, attenuation models and soft soil amplification effects. A comparative study of various attenuation models is carried out. In light of the latest two strong earthquakes (2004 Aceh earthquake and 2005 Nias earthquake), the Component Attenuation Model (CAM) is found to predict reliable and more accurate ground motions as far as 600km from potential earthquake sources. It is found that the maximum bedrock spectral acceleration for the worst possible earthquake scenario can be nearly 14 gals. With soil amplification, this could translate to a base shear demand of 10% of the weight of the building.
