



ASSESSMENT OF DESIGN BASES GROUND MOTION FOR IMPORTANT BRIDGE

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The performance-based earthquake engineering requires reliable assessment of long- period ground motion particularly for long span bridges. The important issues involved in such assessments are: Empirical and theoretical tools for prediction of displacement response spectra; Analysis and incorporation of near fault effects; Spectrum scaling for different damping ratios; and Time domain simulation of long- period ground motion. These issues are elaborated through (1) the principles for modification of design basis spectra in the long- period range; (2) guidelines for time domain simulation of long- period ground motions; and (3) rules for selecting and scaling ground motion records to address long-period effects.

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