

عنوان مقاله:

Structural drift corresponding to the critical excitations

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خلاصه مقاله:

While the existing structures, even recently constructed ones are subjected to the critical earthquakes, the catastrophic devastations are expected to occur. Therefore, at least for several important structures such as power plants, infrastructure, and buildings, there is a need to consider the critical excitation analysis. One of the important criteria in the seismic design of the structures using the criteria in critical excitation is to control the maximum amount of structural displacement. However, the required characteristics of the analysis and design of the structures are generally random variables and have many uncertainties. Therefore, the probability-based analysis should be accomplished to determine the most probable structural responses. The main objective of this research is to investigate the reliability level of buildings subjected to the critical excitations for concerning the steel structures. In due course, the wide range of the SDOF structures is investigated subjected to real ground motions of the critical excitations. Eventually, the reliability index for structures is given in terms were divulged.

کلمات کلیدی:

reliability index, Critical Excitation, Random Variables and Uncertainty, Power Spectral Density, Serviceability Displacement

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