عنوان مقاله:

Simulation of ground motion records by consideration of spectral acceleration correlation

محل انتشار:

ششمین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1390)

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خلاصه مقاله:

Most of the reliable Ground Motion Record (GMR) simulation procedures use a seismological model including source, path and site characteristics. However the response spectrum of the simulated GMRs is different in some aspects when is compared with the response spectrum based on recorded GMRs. The correlation between the spectral values is one of the most important characteristics of a record which can be different for the simulated and recorded GMRs. Since this correlation has a significant influence on the structural response, it is needed to demonstrate the consistency of the simulated ground motions with the recorded ones. This issue has been investigated in this paper. The results show that using a simple point source for modeling of the faulting mechanism leads to a significant difference between the recorded and simulated ground motions in the mentioned issue. However, the use of a finite fault model for the source mechanism can modify this imperfection. Finally, a set of modeling parameters has been obtained in this paper, by using the Genetic Algorithm (GA) as an optimization technique, for more realistic simulation of GMRs.

کلمات کلیدی:

Stochastic method, Simulation, Ground motion, Random vibration, Site amplification

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