

عنوان مقاله:

Wave-passage effects on pounding between adjacent buildings near earthquake faults

محل انتشار:

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خلاصه مقاله:

In this paper a simple model of three and seven-storey adjacent buildings excited by the horizontal component of fault-normal pulse with different magnitudes and time lags has been considered. In the considered model each storey consist of a rigid beam connected to two axially rigid mass-less columns by linear rotational springs and dashpots. For determination of the pounding force the non-linear viscoelastic model has been chosen. The system of coupled equations of motion has been solved by the fourth-order Runge-Kutta method. For the considered models the results indicate that the pounding effect tends to increase in the maximum drift of all stories of both buildings, but its effect become more significant for the seven-storey building, specially, in the stories upper than the contact levels. The time delay tends to increase to many times the maximum impact force and the minimum necessary gap size to prevent pounding.

کلمات کلیدی:

wave-passage, pounding, near-fault earthquake, seismic response, adjacent buildings

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