## عنوان مقاله:

Dynamic Soil-Structure Interaction of Three-storied Buildings Considering Effects of Surface Irregularity

## محل انتشار:

چهارمین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1382)

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## خلاصه مقاله:

This case study involves analysis of seismic records observation at two adjacent buildings, similarly constructed except that one is fitted with the base isolation system, to investigate the nature of soilstructure interaction mechanism involved. A system of 32 seismometers is installed for recording the response of two buildings and the free field. Altogether 20 earthquake records with maximum acceleration of over 10 cm/s2 from the recent five years (1996-2000) are selected for the analysis.The south face of the building site slopes downward at an angle of about 20 degrees, which can also effect the wave propagation in the ground. Surface irregularity due to reclamation is also confirmed.Correlation analysis for the surface irregularity reveals different response characteristics due to seismic records by obtaining Fourier amplitude spectra and cross correlation.SSI effects of both inertial and kinematic interaction are discussed with respect of spectral characteristics and the first mode of super-tructure compared to maximum acceleration distribution.Finally, the importance of spectral evaluation and surface irregularity in SSI effects are emphasized

## کلمات کلیدی: