

عنوان مقاله:

Doppler Effect Observed on the Recorded Strong Ground Motions in Iran and Turkey

محل انتشار:

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Mehdi Zare - IIEES

خلاصه مقاله:

The specifications of the recorded strong motions are investigated based on some selected accelerograms obtained in the Iranian and Turkish networks. The data are all recorded in the distances less than ۳۰km to their corresponding surface fault ruptures. These records are selected based on the amplitude of the recorded acceleration, their distance to the fault and the magnitude of the earthquakes. They show, in some cases, the directivity effects based on the multiple corner frequencies observable on the Fourier spectra of the acceleration and displacement time-histories. The cases for which the records are available in the beginning and the end of the rupture, were studied to show the possible differentiation of rupture and rise times, according to the azimuthal positions of the recording stations relative to the rupture locations. The displacement pulses (width and amplitude) are different accordingly; for instance the greatest displacement pulses of Tabas record, obtained in Tabas earthquake of ۱۶ September ۱۹۷۸, Mw۷.۴, are representative for a position in which the rupture front is approaching towards the recording site. Different studied cases in Zagros and Central Iran, as well as the records of the Turkey earthquakes (that are obtained in the nearest distances to the fault) of ۱۷ August ۱۹۹۹ (Kocaeli, Mw۷.۴) and ۱۲ November ۱۹۹۹ (Duzce, Mw۷.۱) indicate the rupture times differing from ۲ to ۱۰ seconds and the rise times from ۰.۸ to ۲.۸۵ seconds for the earthquake magnitudes of ۵.۹ to ۷.۴ and the distances to the zone of energy release varying from ۵ to ۳۰km.

کلمات کلیدی:

Strong Motions, Iran, Turkey, acceleration, Near Fault, doppler effect, Directivity, Source Time Functions

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