

عنوان مقاله:

A Study of the Strong Ground Motions of ۲۶ December ۲۰۰۳ Bam Earthquake: Mw۶.۵

محل انتشار:

فصلنامه زلزله شناسی و مهندسی زلزله، دوره 5، شماره 4 (سال: 1383)

تعداد صفحات اصل مقاله: 24

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خلاصه مقاله:

The Bam earthquake of ۲۶ December ۲۰۰۳ (Mw۶.۵) occurred at ۰۱:۵۶:۵۶ (GMT, ۰۵:۲۶:۵۶ local time) around the city of Bam in the southeast of Iran. The Bam earthquake of ۲۶/۱۲/۲۰۰۳ (Mw۶.۵) has demolished the city of Bam, having a population of about ۱۰۰۰۰۰ at the time of the earthquake. The Bam fault-which was mapped before the event on the geological maps-has been reactivated during the ۲۶/۱۲/۲۰۰۳ earthquake. It seems that a length of about ۱۰km (at the surface) of this fault has been reactivated, where it passed exactly from the east of the city of Bam. The fault has a slope towards the west and the focus of the event was located close to the residential area (almost beneath the city of Bam). This caused a great damage in the macroseismic epicentral zone; however the strong motions have been attenuated very rapidly, specially towards the east-and west (fault normal) direction. The vertical directivity effects caused the amplification of the low frequency motions in the fault-normal direction as well as the greater amplitude of the motion on the vertical direction. Two strong phases of energy are seen on the accelerograms. The first comprises of a starting sub-event with right-lateral strike slip mechanism which is located south of Bam. The mechanism of the second sub-event is reverse mechanism. The comparison of observed and simulated ground motion indicates that rupture started at a depth of ۸km, south of Bam and propagated toward north.

کلمات کلیدی:

Bam, Strong Motions, Data Processing, Source Parameters, Simulation, Stress Drop, Velocity, Displacement, SH Waves, Sub-events

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