

Preliminary report of strong motion and aftershock observation of the 2003/12/26 Bam earthquake (Mw6.5) in southeastern Iran

Sadaomi Suzuki[1]; Takeshi Matsushima[2]; Yoshihiro Ito[3]; Takeshi Nakamura[4]; Sayyed Keivan Hosseini[5]; Naoshi Hirata[6]

[1] Earth and Planetary Sci., Kyushu Univ; [2] SEVO, Kyushu Univ.; [3] NIED; [4] Dept. Earth & Planet. Sci., Kyushu Univ.; [5] Dept. Earth & Planet. Sci., Grad. Sci., Kyushu Univ.; [6] ERI, Univ. Tokyo

The southeastern Iran earthquake (Mw6.5, see ref.1, ref. 2) occurred on December 26, 2003. The earthquake struck the ancient city of Bam and killed about 40,000 people. It shows that one third of about 120,000 in population in and around Bam city were killed. The reason of such a big damage may be caused by not only weak adobe houses but also strong motion of this event.

(Hypocenter and mechanism,USGS:ref.2)
2003/12/26 01:56:56.09 (UT) Southeastern Iran
Epicenter: 29.010N, 58.266E, Mw6.5, Mo=6.6x10**18Nm
Double Couple: NP1: Strike=264, Dip=88, Slip=2, NP2: Strike=174, Dip=88, Slip=178
(Source Parameters, ERI: ref.1)
Strike=175, Dip=85, Slip=153, Mo=7.6x10**18Nm (Mw=6.5), Duration Time= 13sec, Depth=4km, Fault Dimension=20kmx15km, Dmax=1.0m, Stress Drop=3.7MPa
(Accelerogram in Bam station, BHRC: ref.3)
Accelerograph:SSA-2, Place: installed in Government Building in Bam city.
Maximum Accelerogram: Long=799.06cm/s/s, Vert=988.51cm/s/s, Trans=636.37cm/s/s

Firstly we study the generating system of this high strong-motion of this earthquake. Secondly we'll present preliminary result of aftershock observation in Iran.

(References)

ref.1: Yamanaka, ERI, University of Tokyo, HP

ref 2: USGS Fast Moment Tensor Solution, HP

ref 3: Building and Housing Research Center, Iran (<http://www.bhrc.ac.ir/>)