



Moment Tensor Solution of 26 December 2004 Bam Earthquake

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The teleseismic records of Bam earthquake, occurred in southeast of Iran, were inverted to their source so as to get a rupture process and the parameters necessary to calculate seismic moment. The source mechanism derived from the inversion of long period body waves revealed that the earthquake occurred on N-S trending strike-slip fault with a thrust component. According to the source model estimated in this study, the Bam earthquake was a complex rupture pattern associated with two sub events. The rupture following the sub event one started at a depth of about 8 km. However depth of the sub event two is about 10 km. The total seismic moment estimated from inversion processes is 8.34×10^{18} Nm. The pulse duration of sub event one and the sub event two was determined from source time function and it is 1.7s and 0.8s respectively. Corner frequency and source radius have been calculated by using major pulse duration. The corner frequency and source radius are 0.187 Hz and 5.47 km, respectively. The total moment tensor of the complex Bam earthquake the following reasons are likely to cause the no double couple component of total seismic moment tensor. 1) Curvature of a fault plane, 2) existence of other faults near the source region, 3) the sub events take place at fault planes with different geometry.