

Two Decades of Great Earthquake $M_w > 7$ In Java Region Based on Seismic Wave Calculation

The great earthquake in Java region caused high tsunami damage for two decades. We determine the source parameters of the earthquakes based on seismic wave calculation. We calculate the formula using the teleseismic wave signal processing with the initial phase of P wave with bandpass filter 0.001 Hz to 5 Hz. The amount of teleseismic stations is 84 broadband seismometers. The results are the 2 June 1994 Java earthquake with $M_w=7.8$ and the 17 July 2006 Java earthquake with $M_w=7.7$ categorized as a tsunami earthquake which distributed about ratio $Q=-6.1$, long rupture duration $T_0>100$ s and high tsunami $H>7$ m. The 2 September 2009 Java earthquake with $M_w=7.2$, $Q=-5.1$ and $T_0=27$ s which characterized as a small tsunamigenic earthquake.

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