

## Initial rupture of the 2011 Suruga-bay, Japan, earthquake (M6.2)

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The 2011 Suruga-Bay, Japan, earthquakes (6.2) occurred two years after the 2009 Suruga-Bay earthquakes (6.5). This area, where the two earthquakes occurred, is located at the eastern tip of the Supposed Tokai earthquake source area. In this study, we estimate source process at the initial stage of the 2011 earthquake. The P-wave portion of records at local stations shows about one seconds of small but increasing amplitude arrival (so-called "initial rupture phase") followed by the onset of the main energy release (so-called "main rupture phase"). We estimated the focal mechanisms of the events corresponding to these phases. We found that the initial rupture has a mechanism of strike-slip fault, while the main rupture has a reverse-fault one. We also determined the relative time and location between the initial and the main ruptures.

Keywords: initial rupture, main rupture, source process, 2011 Suruga-bay earthquake