

## Source process of the 2007 Noto-Hanto earthquake (M6.9)

# Haruo Horikawa[1]

[1] Active Fault Research Center, AIST, GSJ

The 2007 Noto-Hanto earthquake (M6.9) occurred in the crust of the Northern part of the Noto Peninsula, Japan. The best couple of moment tensor solutions commonly shows oblique slip with thrust and right-lateral slips. Aftershock distribution suggests a causative fault strikes to NE and dips to SE. The source process of the 2007 Noto-Hanto earthquake was inferred from strong motions recorded at five near-source stations. The original acceleration records were band-pass filtered, and were numerically integrated into displacement. These displacement records were used as inversion data. I employed a nonlinear inversion scheme in which distributions of slip and rupture time were inferred simultaneously. The rupture was assumed to propagate over a planar fault with 22 km long and 20 km width. One major asperity (patch of large slip) was found close to the hypocenter. The other asperity was inferred to the northeast of the hypocenter. This asperity is smaller than the asperity close to the hypocenter both in the spatial extent and the slip amount. The boundary between the two asperities has very small amount of slip, and was clearly identified. Moreover, rupture velocity slows down there. The rupture continues about 7 s, and the moment release reaches a peak value at about 2 s, which comes from the rupture of the main asperity. The seismic moment of this event was estimated to be  $1.3 \times 10^{19}$  Nm (Mw6.7), which is larger than that of USGS fast moment tensor ( $9.1 \times 10^{18}$  Nm), but agrees with that of the Global CMT ( $1.4 \times 10^{19}$  Nm).

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