

## Study on the source process of the largest aftershock of 1923 Kanto earthquake

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The largest aftershock of M7.5 (Takemura, 1994) occurred at off Boso Peninsula following the 1923 Kanto earthquake. Although the hypocenter have been estimated by previous studies (e.g., Takemura, 1994; Hamada et al, 2001), precise source process have not been estimated yet.

The source region of the largest aftershock is characterized by the region of seismic and aseismic phenomena associated with subduction motion of the Philippine Sea Plate, including slow slip events (SSEs), large backslip events, and repeating earthquakes. Kimura et al. (2009) estimated fault plane of the largest aftershock from geodetic data and they concluded that the fault plane lies within the region of large backslip and the large slip area of the Boso SSE. Estimation of the source process during the largest aftershock is, therefore, important to understand earthquake preparation process around the region.

We set three point sources on the fault plane estimated by Kimura et al. (2009); shallow part (S1), middle part (S2) and deep part (S3). We calculated synthetic seismograms and evaluated the cross correlations between the observed and the synthetic waveforms. We tested the nine hypocenter-asperity combinations using S1, S2 and S3. The combination with the highest value of the average cross correlation is regarded as the best model. We obtained the best score for combination of S2 (hypocenter) and S3 (asperity). This result shows that rupture started from S2 and propagated toward S3.

The observed data used in this study were provided by Kajima Corporation. We are grateful for their kind considerations.

Keywords: 1923 Kanto earthquake, the largest aftershock, source process