Source process during the 1938 Shioyazaki-oki earthquakes - Strong motion records and preliminary analysis-

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In the region at Shioyazaki-oki, Japan, five large events with JMA magnitude, Mj, greater than 7.0 were occurred within a half year in 1938. According to the JMA catalogue from 1926 to the present, the large events with Mj greater than 7 are these Shioyazaki-oki events alone, although the seismic activity with Mj less than around 6 is very high in this region. Therefore, it is crucial to elucidate the source process of the 1938 Shioyazaki-oki earthquakes, in order to understand the characteristics of strong ground motions generated from the future large event in this region. We collected and digitized the strong motion records obtained by mechanical type seismograph at 9 stations surrounding the focal region of the 1938 events. Spatio-temporal distribution of fault slip during the 1938 events is investigated from these strong motion records based on waveform inversion analysis (Hartzell and Heaton, 1983). The target events are three trust type earthquakes (Abe, 1977), and theoretical Green's function (Hisada, 1995) calculated from 1D multilayered medium is used in the inversion. The width and length of the fault plane is assumed to be 80 km and 160 km, respectively, and the rupture initiation point is the same as that from Abe (1977). Large slip area is appeared at eastern side of the rupture initiation point. Although the similar slip distributions are reported by Muroya (2003), we will redo the inversion and re-estimate the spatio-temporal distribution of the fault slip, since there is a possibility that the large slip at eastern side of the rupture initiation points has low resolution caused by one-side station coverage from the focal region.