

Inversion of near-field strong-motion records for the slip distribution of the September 3, 1998 Northern Iwate Earthquake (M6.1)

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The Northern Iwate Earthquake (M6.1) has occurred on September 3, 1998 at the foot of Volcano Iwate. We recorded strong motions at 3 stations near the fault of this earthquake. In this study, we inverted strong motions recorded at 7 stations, including 2 near-fault stations, for the slip distribution on the earthquake fault plane. Assuming constant rupture velocity of 2.4 km/s and ramp function with rise time of 1s as slip time function, we estimated slip for 36 subfaults. We found two areas of large slip on the fault plane: (1) 2-km above the hypocenter, (2) At the depth of 10 km with 5-km south of hypocenter. Theoretical waveforms fit observed ones for most of stations.