

Source process of the 1999 Chi-Chi, Taiwan, earthquake and its near-fault ground motions

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We modeled the source process of the 1999 Chi-Chi, Taiwan, earthquake from near-source strong ground motions. A fault plane was assumed by using information of the hypocenter position, surface rupture, aftershock distribution, moment tensor solution from teleseismic data and particle motions of near-fault ground motions. 20 station velocity waveform data were used for the source inversion. In the southern part of the fault including the starting point, heterogeneous slip distributions are observed and large slip occurred on the deeper portion of the fault. In the northern part, large slip distributes in the shallower part. Near-fault strong ground motion simulations will be done using this slip history.