

## Source process of the 1999 Kocaeli, Turkey earthquake estimated from strong motion records

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Main rupture area of 1999 Kocaeli, Turkey earthquake deduced from the observed S-wave durations and from an ordinary rupture velocity is much smaller than the extension of surface rupture and the 1st day's aftershocks. A possibility of rupture propagation at a higher velocity is indicated by the extremely short P-S time at a station SKR located along the surface rupture in the east of the epicenter. Ellsworth(1999) explained it by a super-shear rupture propagation and Anderson(2000) by P-wave triggering of rupture. We performed the multi time window linear waveform inversion of the strong motion records examining various rupture propagation style and deduced that the case of P-wave triggering the rupture in the eastern part on the causative fault better explains the observation.