

Featuring Fault Zone Dynamics after A Large Earthquake from Crossing-Fault Vertical Borehole Seismic Array



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Pervious studies from Taiwan Chelungpu-Fault Drilling Project borehole seismometers (TCDPBHS) observed occurrence of isotropic events below the primary slip zone, which were explained as events with explosive/implosive mechanism driven by the fluid within a complete stress drop regime capped by a low permeability primary slip zone. It suggests the significant role of fluid in the fault zone, and behaved as a natural hydraulic fracturing. TCDPBHS is a 7-level three-component vertical borehole seismic array installed in Hole-A of the Taiwan Chelungpu-Fault Drilling Project (TCDP) in July 2006. This array covers a depth range from 946 to 1274 m at intervals of 50–60 m, that crosses the main fault of the 1999 *M*_w 7.6 Chi-Chi earthquake at a depth of 1111 m. Through almost a decade of observation of TCDPBHS, significant and intriguing features had been discovered.



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