

Detection of high-frequency AE events at fault zone using hydrophones

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We made an AE(acoustic emission)observation using a hydrophone array. We installed hydrophones that have a sensitivity up to 5 kHz in a 350-m-deep borehole drilled into the Atotsugawa fault. The output of the hydrophones is proportional to peak velocity estimated from the epicentral distance and magnitude for 14 earthquakes that observed by both our hydrophones and Hi-net. The proportionality yields the sensitivity of the hydrophones. We detect 24 events that have high frequency content of 130 : 200 Hz. The source of these high-frequency events are calculated to be 100 : 300 m above the hydrophone array from the S-P time of the events.