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SSS28-P05 Room:Poster Time:May 2 14:00-15:15

A method to remove non-seismic long-period pulses for improved estimations of automatic centroid moment tensor solutions

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Non-seismic long-period pulse-like waveforms appear in broadband seismic records when P or S waves arrive (e.g., Delorey et al, Bull. Seism. Soc. Am., 2008). The pulse-like waveforms affect centroid moment tensor (CMT) solutions estimated from waveform inversion, but a method to remove those pulse-like waveforms yet to be established. Broadband seismograph networks were installed in the Philippine and Indonesia region to monitor earthquakes and tsunamis. The pulse-like waveforms appear in those network data frequently. Those data are used for automatic estimations of CMT solutions by SWIFT (Source estimates based on Waveform Inversion of Fourier Transformed seismograms), which was developed by Nakano et al. (Geophys.J.Int, 2008). SWIFT estimates both the CMT and moment function by the use of long-period (50-100 s) waveform data, but sometimes the long-period pulse-like waveforms affect SWIFT solutions. To monitor earthquakes and tsunamis, we have to estimate source parameters rapidly and adequately. In this study, we propose a simple and rapid method to remove long-period pulse-like waveforms from broadband seismic records.