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Fig. S1. (a) The acceleration waveforms for stress drop of 3MPa at HUA. (b) The acceleration waveforms for stress drop of 3MPa at MAT. (c) The acceleration waveforms for stress drop of 3MPa at KIN.

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Fig. S2. (a) The acceleration waveforms for stress drop of 10MPa at HUA. (b) The acceleration waveforms for stress drop of 10MPa at MAT. (c) The acceleration waveforms for stress drop of 10MPa at KIN.

(a)

(b)

(c)

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Fig. S3. (a) The acceleration waveforms of the asperity model at HUA. (b) The acceleration waveforms of the asperity model at MAT. (c) The acceleration waveforms of the asperity model at KIN.

(a)

(c)

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Fig. S4. The acceleration response spectrum comparisons of three Taiwan Strait stations HUA, MAT, and KIN for Model A. The response spectra are for the homogenous slip models of stress drop of 3 MPa (blue) and 10 MPa (red), and the heterogeneous one asperity for an average stress drop of 10MPa (green). The derived response spectra from NGA-east (dashed lines) and those from Taiwan crustal earthquakes (solid lines) for the corresponding magnitudes with smaller magnitudes in gray and larger magnitude in black are also shown.

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Fig. S5. The acceleration response spectrum comparisons of three Taiwan Strait stations HUA, MAT, and KIN for Model B. The response spectra are for the homogenous slip models of stress drop of 3 MPa (blue) and 10 MPa (red), and the heterogeneous one asperity for an average stress drop of 10MPa (green). The derived response spectra from NGA-east (dashed lines) and those from Taiwan crustal earthquakes (solid lines) for the corresponding magnitudes with smaller magnitudes in gray and larger magnitude in black are also shown.