

## Supplementary Material to

## An Evaluation of Strong-Motion Parameters at the S-net Ocean-Bottom Seismograph Sites Near the Kanto Basin for Earthquake Early Warning

## Yadab P. Dhakal and Takashi Kunugi

National Research Institute for Earth Science and Disaster Resilience, Tsukuba, Japan

## **1** Supplementary Figures

This file contains four supplementary figures listed below.

**Supplementary Figure 1.** Comparison of the PGAs between the 2018 (circles), 2020a (squares), and 2020b (triangles) events at the Land (K-NET/KiK-net) (a, b, c) and S-net sites (d, e, f) as a function of hypocentral distance. See the Table 1 of the main document for the event information. The different color lines represent the best-fit lines between the corresponding PGA data (shown by identical colors to the fitted lines) and the hypocentral distance. The panels (a, d) and (b, e) show the PGAs of the 20 s time windows starting from the S-onset for the horizontal (hor) and vertical (ver) components, respectively. The panels (c) and (f) show the peak values of the 5 s time windows starting from the P-onset for the vertical components. The horizontal PGAs are the larger ones of the maximum values from two horizontal components. See the main document for the details.

**Supplementary Figure 2.** Comparison of the PGVs between the 2018 (circles), 2020a (squares), and 2020b (triangles) events at the Land (K-NET/KiK-net) (a, b, c) and S-net sites (d, e, f) as a function of hypocentral distance. See the Table 1 of the main document for the event information. The different color lines represent the best-fit lines between the corresponding PGA data (shown by identical colors to the fitted lines) and the hypocentral distance. The panels (a, d) and (b, e) show the PGAs of the 20 s time windows starting from the S-onset for the horizontal (hor) and vertical (ver) components, respectively. The panels (c) and (f) show the peak values of the 5 s time windows starting from the P-onset for the vertical components. The horizontal PGAs are the larger ones of the maximum values from two horizontal components. See the main document for the details.

**Supplementary Figure 3.** Comparison of the PGAs between the 2018 (circles), 2020a (squares), and 2020b (triangles) events at the MeSO-net (a, b, c) and S-net sites (d, e, f) as a function of hypocentral distance for the radial (a, d), transverse (b, e), and vertical (c, f) component records. See the Table 1 of the main document for the event information. The peak values were obtained from the time windows of 450 s starting from P-onset from the 0.1 to 0.5 Hz bandpass-filtered accelerograms. The values are colored by the depth to Vs 1.4 km/s. See the main document for the details.

**Supplementary Figure 4.** Comparison of the significant durations (interval between the 5% and 95% of the Husid plot for Arias intensity) between the 2018 (circles), 2020a (squares), and 2020b (triangles)

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