

Additional file 4

Supplement to

Estimation of source, path, and site factors of S waves recorded at the S-net sites in the Japan Trench area using the spectral inversion technique

By

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Fig. A3 Comparison of the site amplification factors obtained from spectral inversion with theoretical ones at sites indicated in **Fig. A2**.

Fig. A4 S-wave velocity profiles beneath the S-net sites, whose site amplification factors are given in **Fig. A3**.

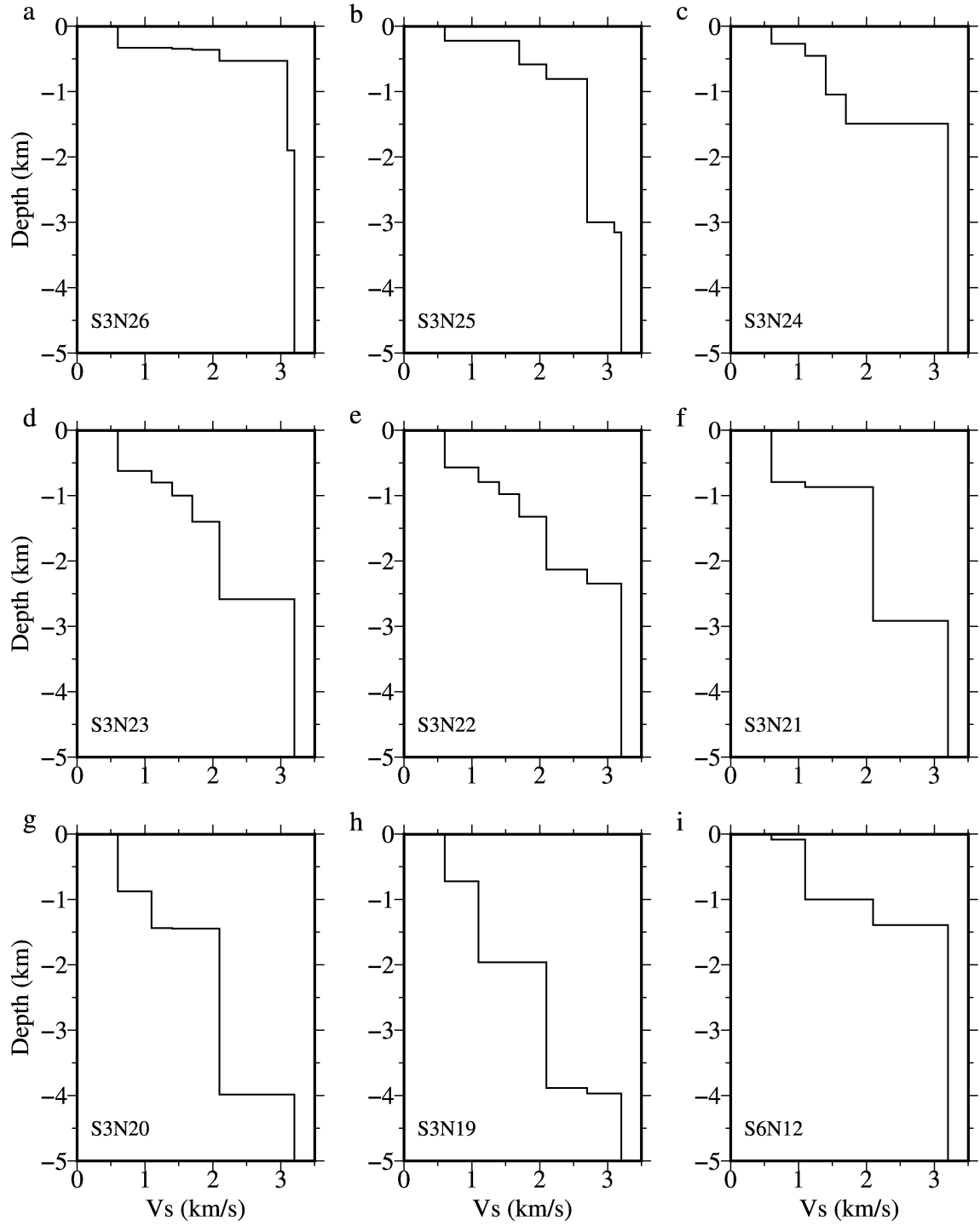


Fig. A1 S-wave velocity profiles beneath the S-net sites discussed in **Fig. 9** in the main paper. The panels **a** to **i** are arranged in the same order of sites as that in **Fig. 9** in the main paper. The site codes are indicated in corresponding panels.

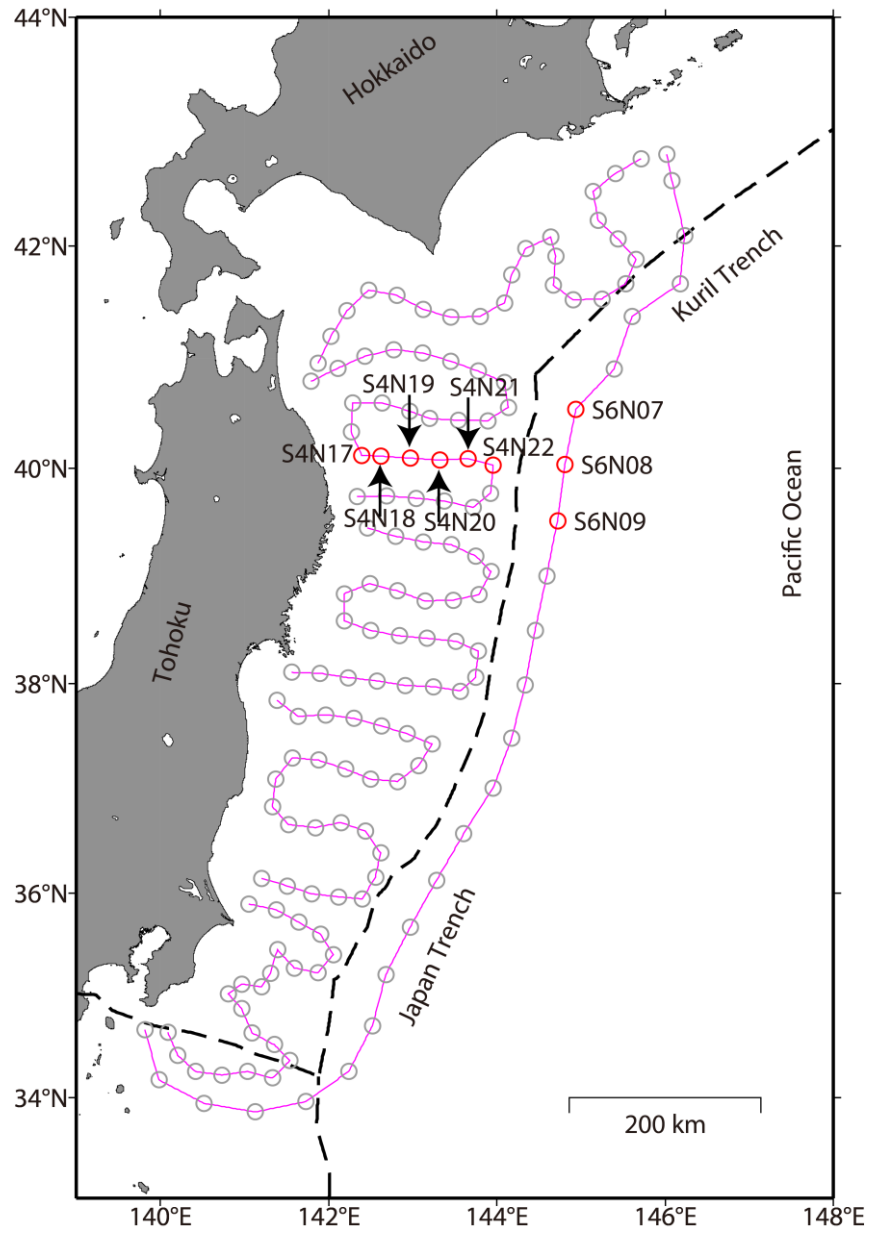


Fig. A2 Location map of sites (indicated by red circles), whose site amplification factors are given in **Fig. A3**. The site codes are provided close to the site locations.

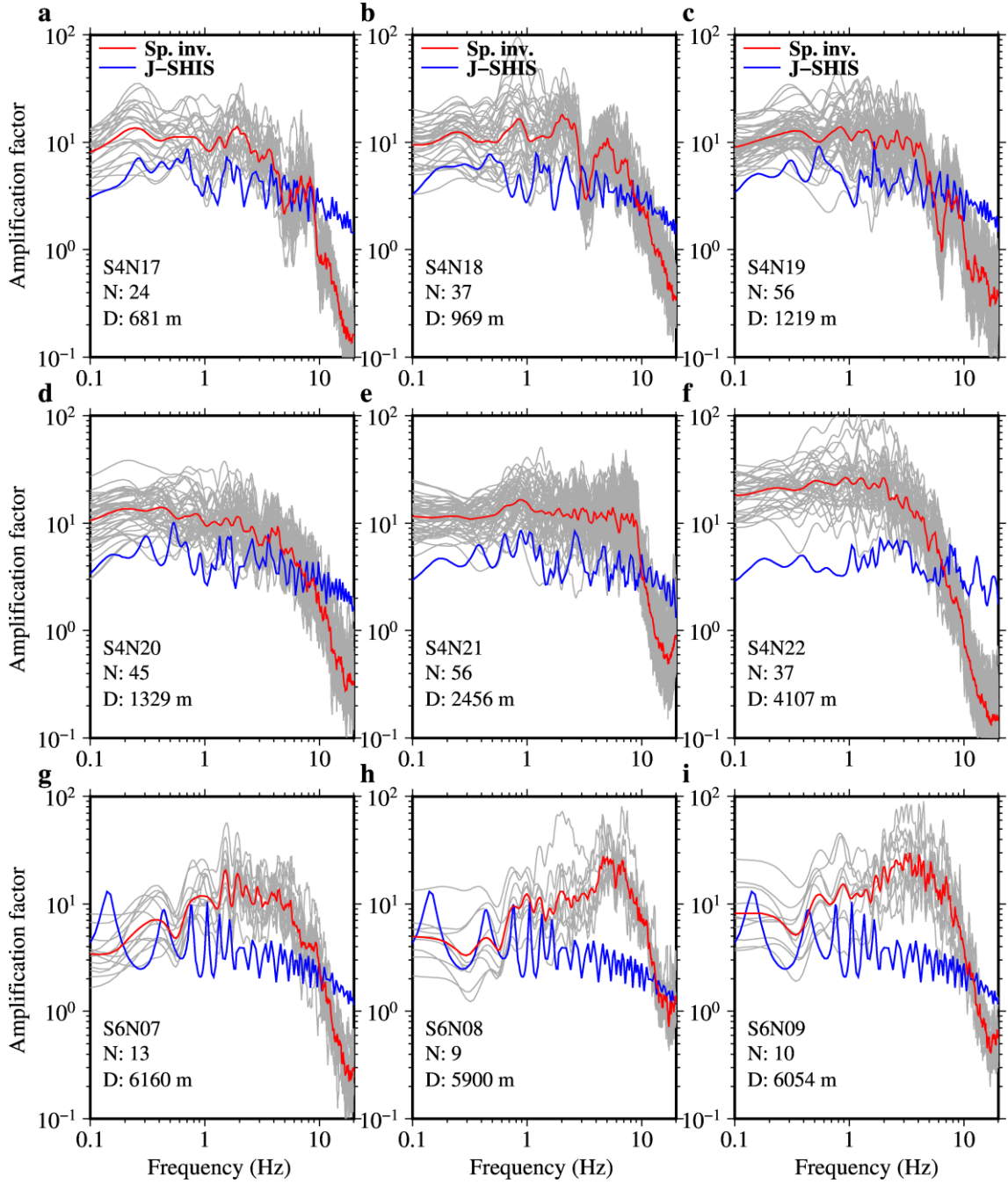


Fig. A3 Comparison of the site amplification factors (red lines) obtained from spectral inversion with theoretical amplification factors (blue lines) using the J-SHIS subsurface velocity model at sites indicated in each panel. See **Fig. A2** for the location map of the sites. The grey lines denote the site factors corresponding to each earthquake deduced by dividing the original spectra by the source spectrum of corresponding earthquake and path factors. The plots **a**, **b**, **c**, **d**, **e**, **f**, **g**, **h**, and **i** correspond to the sites, namely S4N17, S4N18, S4N19, S4N20, S4N21, S4N22, S6N07, S6N08, and S6N09, indicated in each panel. See

Fig. A2 above for the location of the sites. The number of earthquake records (N) used in the spectral inversion and depth to the seafloor (D) are indicated for each site. See the site spectra section in the main paper for the details.

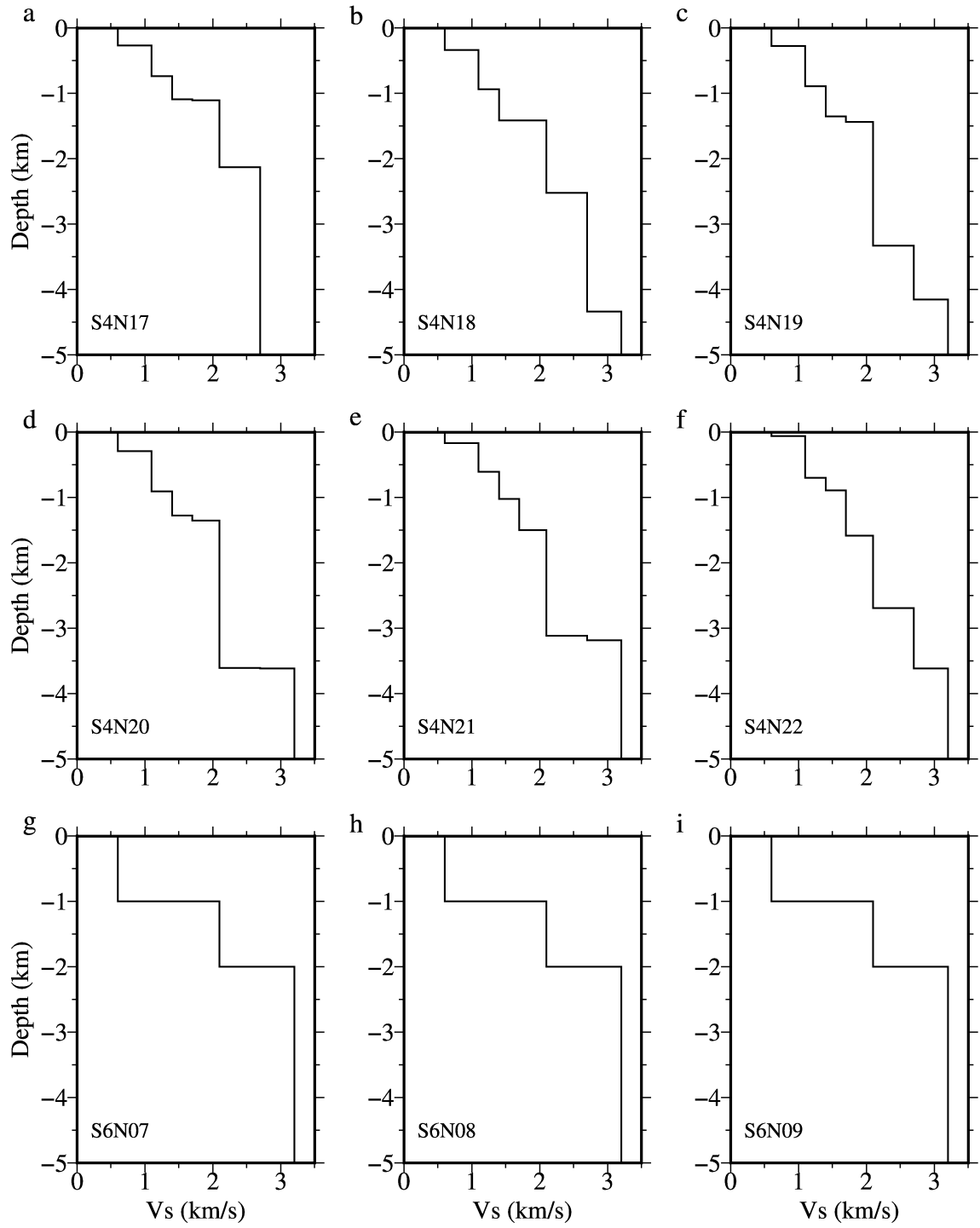


Fig. A4 S-wave velocity profiles beneath the S-net sites, whose site codes are indicated in each panel. See **Fig. A2** for the location map of the sites. See **Fig. A3** for the site amplification factors computed using the above velocity profiles.