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## Stability of ambient noise H/V spectra obtained from OBS near the Japan Trench

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Ocean bottom seismometers (OBS) are widely in use since recent past to monitor seismicity of slow earthquakes as well as that of ordinary earthquakes. Seismic velocity structures, especially of S-wave are essential to estimate hypocenters of them with accuracy. Here we focus on spatial and temporal stability of ambient noise horizontal to vertical spectral ratio (H/V) spectra calculated from ocean bottom seismometers, as the first step toward future application of ambient noise H/V to estimate S-wave velocity structure. We aim to use the Nakamura's method (1989) for ambient noise H/V spectra using a 3-component OBS array in the Japan Trench, to image deep structure above the plate interface near the trench. To achieve the imaging, it is necessary to examine spatial and temporal stability of the derived H/V spectra from these seismometers. First, we split each 24-hours record into 1-hour windows after removing the instrumental response, Then, Fourier amplitude spectra of each component is taken and smoothed using Konno and Ohmachi (1998) method, with applying downsampling, mean and trend removal, and tapering to each window. Finally, a 1-hour H/V spectral ratio is calculated with taking quadratic mean of two horizontal components. However, a total of 21 OBS, 3 broadband and 18 short-period, stations have been used in this study. A daily variation and stability of the H/V spectra are examined along with comparing them spatially from one station to another. Stability of the H/V spectra from OBS is promising for carrying out our future endeavour of deeper observation using the ambient noise H/V method.