

## Aftershock and microtremor array observation around the source area of the 2018 Hokkaido Eastern Iburi earthquake

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The 2018 Hokkaido Eastern Iburi earthquake (Mw 6.6, depth=37 km) is a shallow to moderate depth earthquake. Strong ground motions were widely observed around the source area and in the Ishikari-Yufutsu sedimentary basin, culminated with the maximum seismic intensity VII of the JMA scale at JMA Atsuma seismic station. Waveforms with clear velocity pulse, having 1 to 3 dominant period, were observed along the west of the source area: K-NET Mukawa (HKD126), JMA Atsuma, KiK-net Atsuma (IBUH03), and Atsuma city hall. Velocity response spectra of these pulse waveforms are comparable to that of the Takatori station record, located close to the heavy damage area, during the 1995 Kobe earthquake. Therefore, we need to resolve the reason why such strong ground motions were developed during the 2018 earthquake although the magnitude was moderate (Mw 6.6) and focal depth was not shallow.

Four seismic station, where the strong pulse waveform was observed, are commonly located along the basin edge of the Yufutsu sedimentary basin. The subsurface velocity structure around the source area is considered to responsible for producing the ground motions. Thus, we conducted temporal observation of aftershocks and microtremor array measurements around the source area to investigate spatial variation of the site amplification and subsurface velocity structure. We deployed 14 temporal seismic station during 16th-21st Sep., 2018 to record around 20 aftershocks with magnitude larger than M2. We also conducted microtremor array survey at 13 locations with array aperture of several to 30 meters. Site amplification and subsurface velocity structures will be shown.

Keywords: The 2018 Hokkaido Eastern Iburi earthquake, strong ground motion, aftershock observation, microtremor array survey, subsurface velocity structure, site amplification

