



Contribution ID: 176

Type: Poster

Deep Shear Wave Velocity of Southern Bangkok and Vicinity

Thursday, 25 May 2017 17:45 (15 minutes)

Bangkok is located on the soft marine clay of the Lower Chaopraya Basin which can amplify seismic wave and affect to building shaking. Shallow shear wave velocity to depth 30 m. (V_s30) is widely studied recently but data of deeper layer to bedrock still absent. The missing data are useful for earthquake engineering design and ground shaking estimation.

This study aims to measure deep shear wave velocity profile down to bedrock of southern Bangkok region. Microtremor measurements with 2 seismographs using Spatial Autocorrelation (SPAC) technique were done at 8 sites. The data was collected in day time on linear array geometry varied between 5-2,000 m. Long natural wavelength at the frequency 0.2-0.6 Hz. was detected at many sites. The results show that shear wave velocity function of Southern Bangkok is between 100-2,000 ms^{-1} and indicate that the bedrock depth is about 600-800 m, except at Bang Krachao. Very deep shear wave data of many sites are ambiguous due to noise and survey limitation.

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Session Classification: Poster Presentation II

Track Classification: Environmental Physics, Atmospheric Physics, Geophysics and Renewable Energy