Japan Geoscience Union Meeting 2015
(May 24th - 28th at Makuhari, Chiba, Japan)

SSS25-P16 Room:Convention Hall Time:May 25 18:15-19:30

Characteristics of Spatial Variation of Short-Period Ground Motion in the Vicinity of Tachikawa-Fault

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Inhomogeneity of shallow soil structure often causes earthquake damage and extreme large acceleration concentrated locally. To understand the phenomena for singular distribution of earthquake ground motions, therefore, we evaluated the characteristics of spatial variation of short-period ground motions. We performed an earthquake observation at the site locating in Musashimuraya city, Tokyo, for 4 days during June 17 to 20, 2014. 8 seismic stations were installed temporally within a linear array of about 650m crossing the Tachikawa-Fault. In this study, we evaluated the characteristics of spatial variation of earthquake ground motions by applying spectral analyses to seismic data recorded during the Chiba-ken Hokuseibu earthquake (Mj 4.6, 2014/July 20) and the Off Ibaraki-ken earthquake (Mj 3.9, 2014/July 20). In the near future, we will evaluate those characteristics quantitatively by the method of goodness-of-fit considering time and frequency.

Keywords: short-period ground motion, spatial variation, shallow soil structure, earthquake observation, Tachikawa-Fault