# Explanatory Text of the Urban Geological Map of the Southeastern Area of Saitama Prefecture: Additional Contents

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(ABSTRACT)

This explanatory text is the description of the peak frequency map of the horizontal-to-vertical spectral ratios (HVSRs), as newly added contents of the Urban Geological Map of the Southeastern Area of Saitama Prefecture, which can be regarded as the distribution pattern of resonant frequencies of the ground, caused by the surface geology to the depths within a few tens of meters from the ground. This map was created using microtremor data obtained at 853 survey points, primarily by NIED. It is viewable as a layer among those already existing in the Urban Geological Map of the Southeastern Area of Saitama Prefecture. Amplifications of seismic ground motions are strongly associated with the ground resonant frequency, which can result in severe damage to buildings and civil engineering structures. Therefore, it can be considered as one of the fundamental data, complementing geological data, for infrastructure development, geological risk assessment, and seismic hazard evaluation. This explanatory text outlines the relationship between the resonant frequency of the ground and the peak frequency of a microtremor (HVSR) spectrum, the microtremor data used to create the peak frequency map, and the analysis methods and results. Note, this explanatory text is a summary of Cho *et al*. (2025); a layer showing the map of HVSRs viewable on the website of the Urban Geological Map of the Southeastern Area of Saitama Prefecture (Geological Survey of Japan, AIST and the Center for Environmental Science in Saitama, 2025) is a reproduction of Figure 8 of Cho *et al*. (2025). This peak frequency map was created as part of a joint research project between AIST and NIED.