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SPATIAL DISTRIBUTION CHARACTERISTICS OF SEISMIC GROUND MOTION INTENSITIES IN THE KANTO REGION

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ABSTRACT: This study aims to assess the distribution characteristics of seismic ground motion intensities in the Kanto region of Japan based on the seismic records observed by several organizations' networks. The spatial distribution characteristics of seismic ground motion intensities are extracted as the difference between the arranged observation data compiled from these networks and the standard values derived from empirical models. In this study, three indices were used to represent the seismic ground motion intensities: peak ground acceleration, peak ground velocity, and the Japan Meteorological Agency (JMA) seismic intensity. The results of investigation suggest that the distribution characteristics of seismic ground motion intensities based on the peak ground velocity and JMA seismic intensity are largely affected by the site amplification factors of the subsurface layers. The distribution characteristics of the seismic ground motion intensities may be influenced not only by the site amplification of subsurface layers, but also by the effect of the seismic source and/or path characteristics.

Key Words: Ground motion intensity, Spatial distribution characteristics, Strong motion seismograph network, Site amplification, Kanto region