Real-time Prediction of Earthquake Ground Motions using Seismic Records
Observed in Deep Boreholes

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In the case of local earthquakes occurring beneath Tokyo Metropolitan Area, the present earthquake early warning system may not work efficiently due to the shortness of the hypocentral distance. We proposed a method to directly predict earthquake ground motions using seismic records observed in deep boreholes of KiK-net to make the lead time longer. To develop this method, we investigated relationships between peak amplitudes on the surface and those in deep boreholes. We confirmed that this method could rapidly predict earthquake ground motions, using parameters estimated by both the site amplifications and the radiation patterns.