

### Tectonic development of the basement structure in the Kanto Plain and its effect for long-period ground motions

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Seismic reflection profile of the KAN-94 (Asaka-Konosu) is geologically interpreted from the viewpoint of a geo-historical model constructed on the basis of surface geology. Two subsurface half-grabens, formed during Japan Sea opening (ca. 16.5-15.0 million years ago), are recognized, which show asymmetrical concavity structure of the basement. Simulation analysis suggests that long-period ground motions of around 4 second components would be amplified by such deep concavity structure of the basement around Kawagoe area. As such long-period wave affects high-rise buildings of several hundred-meters-tall, it is necessary to make clear such buried cavity structure beneath the Kanto Plain in the Tokyo metropolitan areas.

