

## Development of a new ground motion prediction equation applicable up to Mw9 (2)

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We examine a new ground motion prediction equation (GMPE) of instrumental seismic intensity in JMA scale, peak acceleration, peak velocity, and acceleration response spectrum for the purpose of application to seismic hazard assessments. In the last year, we develop a new GMPE which is directly applicable upto Mw9 using the strong-motion records of the 2011 Tohoku-oki earthquake in the last year. However, the new GMPE have a tendency that overestimates the amplitude at near source region. Therefore, we perform the examination towards improvement.

The improving point from the last examination is as follows.

- (1) Add the strong-motion records by the earthquake which occurred in 2011 and 2011 to our database.
- (2) Introduce the magnitude saturation of the amplitude to the model with a quadratic magnitude term.
- (3) Give a larger weight to the data from near source region.
- (4) Distinguish the interplate and the intraplate earthquakes for subduction earthquakes.

We confirm that the predicted ground motion amplitudes near the source region becomes small according to the above point (3) compared with the last result. However, the uncertainty of the prediction at near source region for large earthquakes (distance<30km, Mw>7) still remains. The examination using overseas records may be required.

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