

Modeling of the subsurface structure from the seismic bedrock to the ground surface for a broadband strong motion evaluation during 2016 Kumamoto earthquake.

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On April 16, 2016, a Japan Meteorological Agency Magnitude (MJMA) 7.3 earthquake struck the Kumamoto Prefecture on the island of Kyushu in southwest Japan. This earthquake followed the MJMA 6.5 earthquake, which struck on April 14. Both the earthquakes registered a reading of 7 on the Japan Meteorological Agency seismic intensity scale (IJMA), which is the highest reading on the IJMA, in the town of Mashiki approximately 6.5 and 5.5 km from the hypocenters of the main shock and foreshock, respectively.

The tendency damage is concentrating at the earthquake fault neighborhood confirmed the building damage distribution. However, even if damage is away from a little location and the fault even if it's right above the gap, the location where damage is big relatively is also confirmed. There is also comment with a high possibility caused by soil structure for these phenomena. We put it around Kumamoto plain in the fault neighborhood, collected borehole data and built initial stage geologic model, and a microtremor observation and seismography record were collected.

And secondary S-wave velocity model built highly precise ground model and did comparison and consideration with the building damage distribution.

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