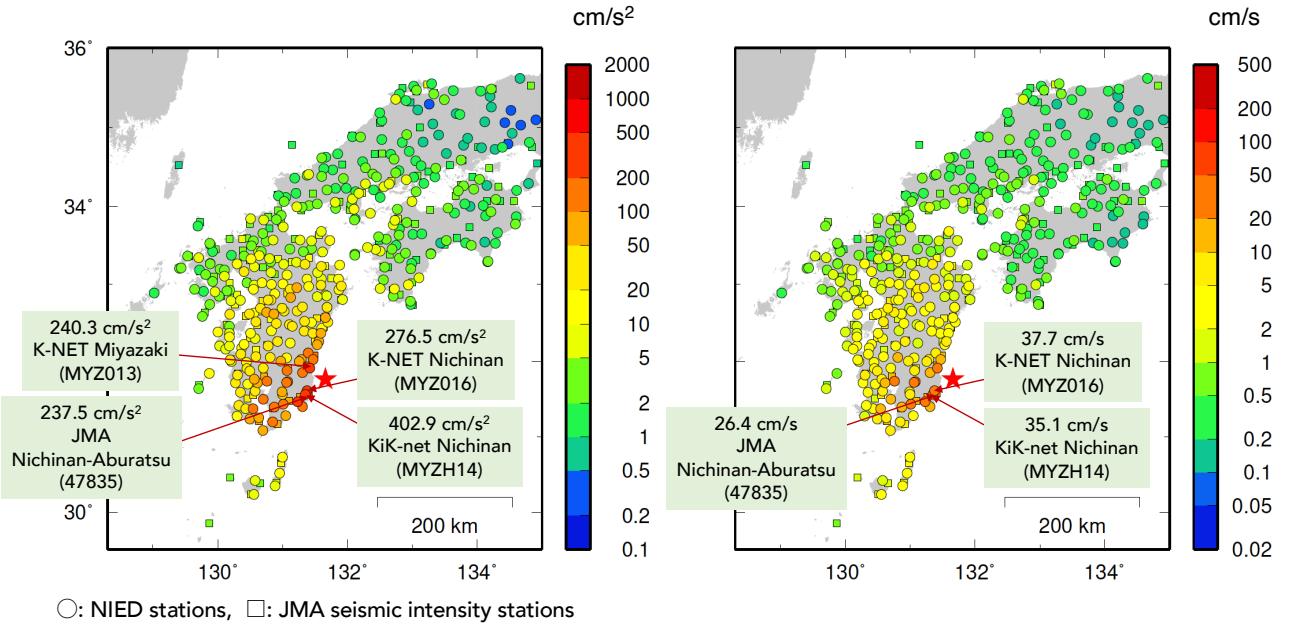
Strong Ground Motions

Earthquake in Hyuganada, Miyazaki Prefecture on August 8, 2024 (Mj7.1, Mw7.0)

IISEE, Building Research Institute

This report contains preliminary information/analysis results.

Observed PGAs/PGVs (Horizontal comp.)

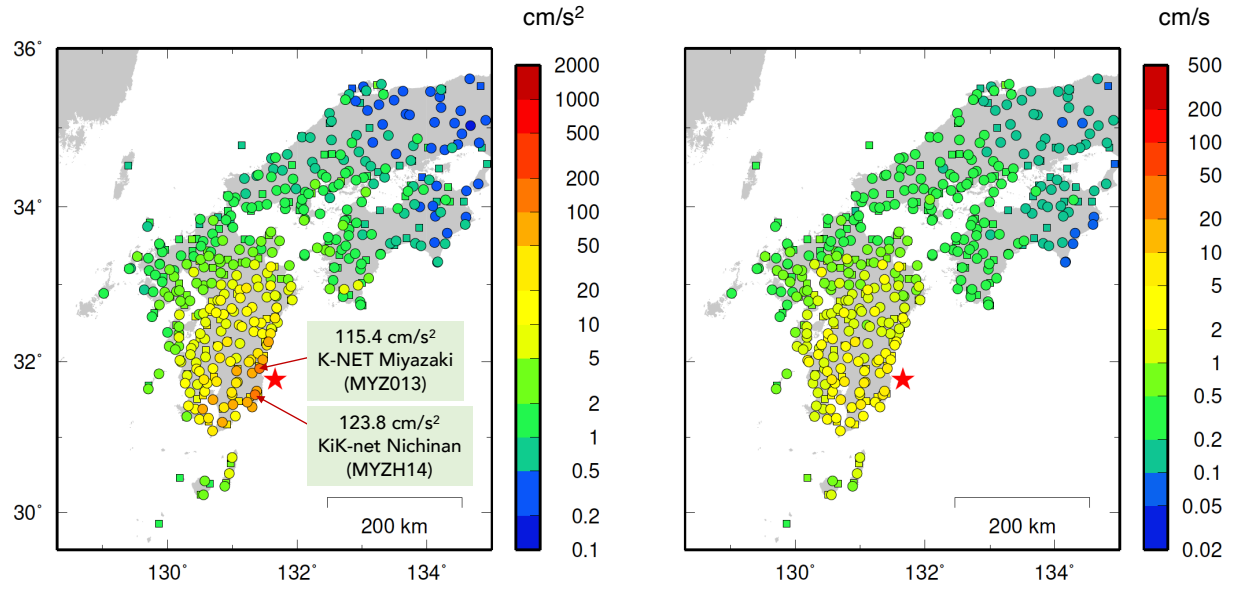


○: NIED stations, □: JMA seismic intensity stations

※ PGA and PGV are the maximum values of vector summation in the horizontal components.

BRI

Observed PGAs/PGVs (UD comp.)



○: NIED stations, □: JMA seismic intensity stations

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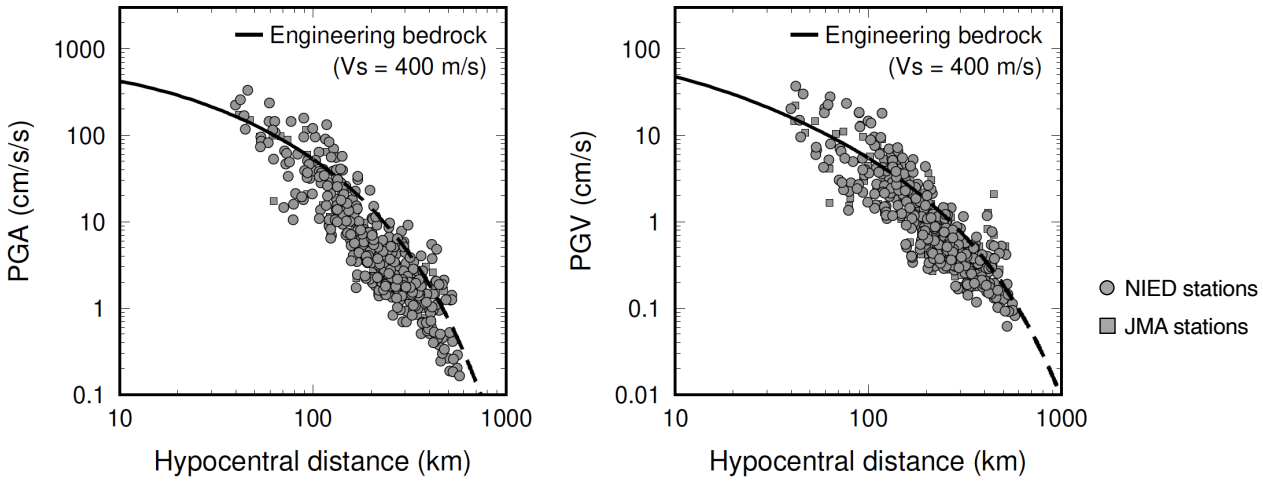
Observed PGAs/PGVs vs GMM (Si & Midorikawa, 1999)



※ Horizontal axis is not the "shortest distance to the fault".
※ PGA/PGV values are the larger of the maximum values of NS and EW components.
※ Interplate earthquake (Mw=7.0, depth=28 km) is assumed for the estimation.
※ Estimated values beyond 100 km (dashed line) are shown as reference values.

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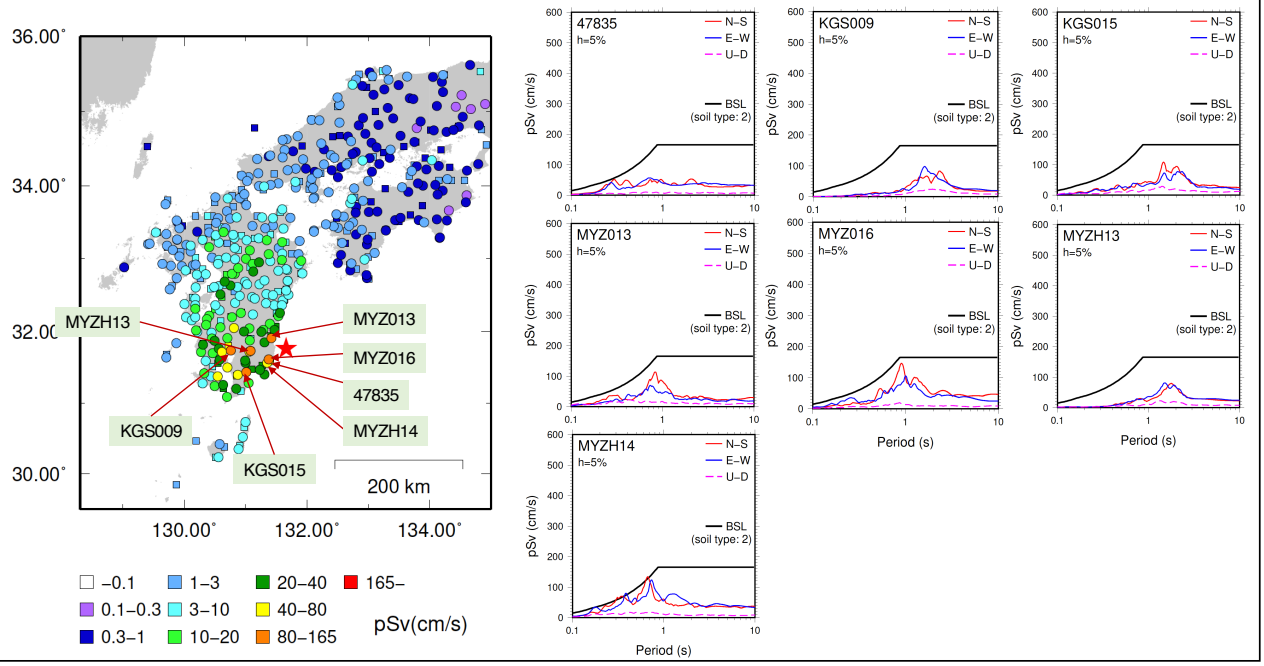
Pseudo-velocity response (pSv: 1–2 s, h=5%)



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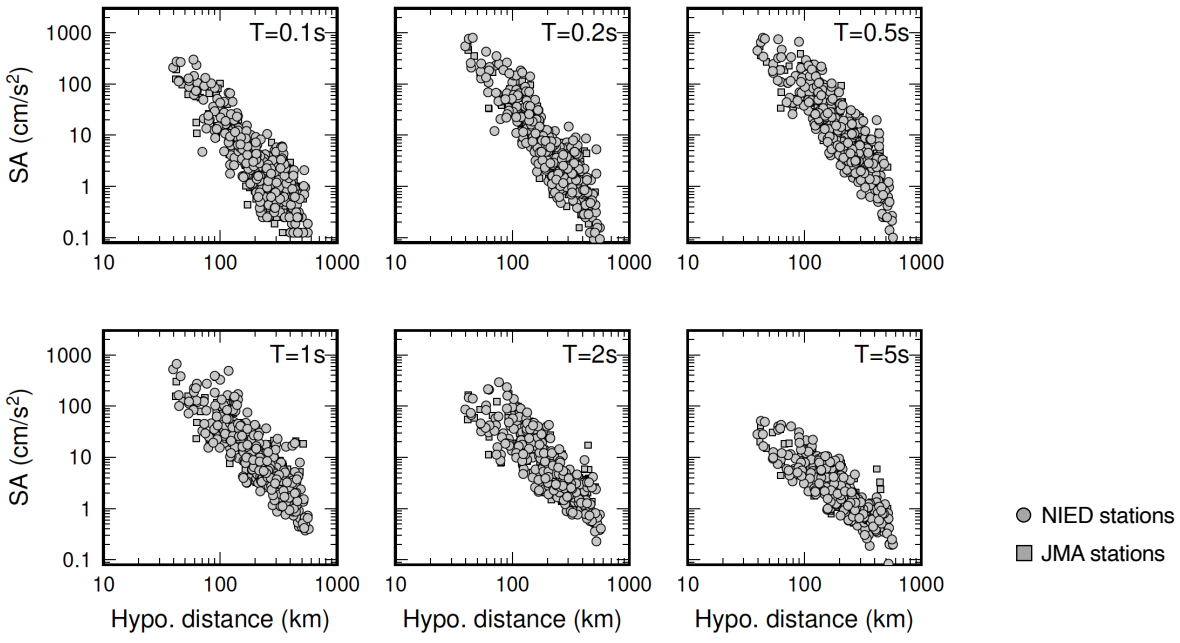
Attenuation characteristics of response spectra (h=5%)



Summary

NIED/JMA stations in Nichinan City, Miyazaki Pref., show larger PGA and PGV.

Response of pSv >165 cm/s (h = 5%, T=1–2 s) were not observed.

Acknowledgments:

We used K-NET and KiK-net strong-motion data provided by
the National Research Institute for Earth Science and Disaster Resilience; NIED), Japan (https://www.doi.org/10.17598/NIED.0004)
We also used strong-motion data from the Japan Meteorological Agency (JMA) seismic intensity stations.

We used hypocenter information, rapidly determined by JMA, and moment magnitude determined by NIED.
Response spectra were calculated using the subroutine program developed by Ohsaki (1994).
Figures were prepared using Generic Mapping Tools (GMT: Wessel and Smith, 1998).