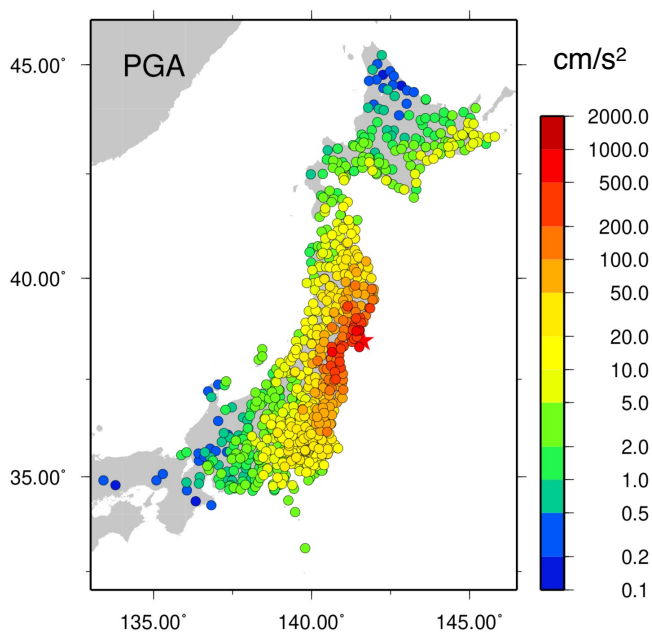


Strong Ground Motions (NIED K-NET and KiK-net data)

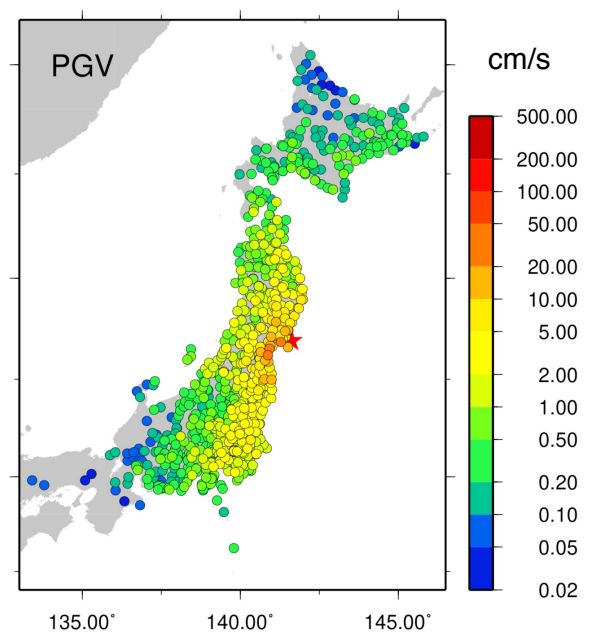
Takumi Hayashida
IISEE-BRI

Created on: Mar 22, 2021
Modified on: Mar 25, 2021

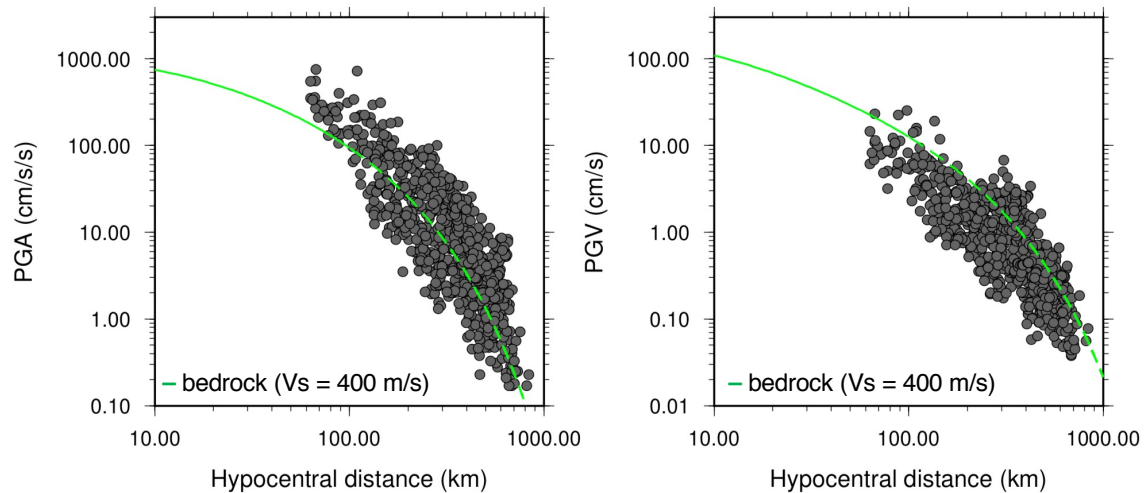
Peak Ground Accelerations



Peak Ground Velocities



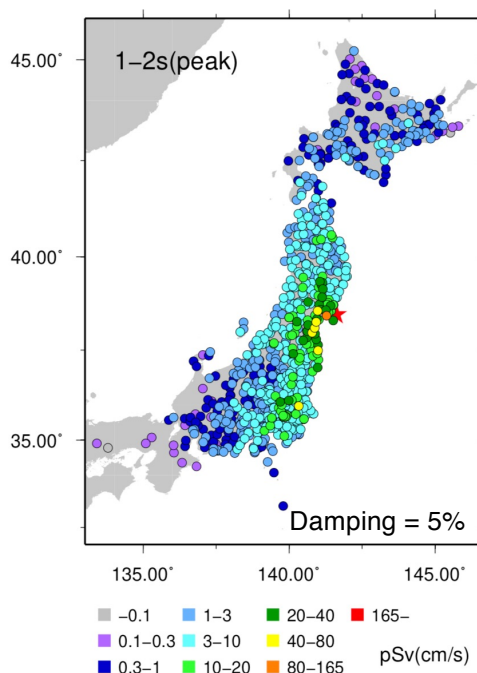
Observed PGAs/PGVs vs GMPE (Si and Midorikawa, 1999)



- The observed PGAs were substantially larger than the estimated values at 60–100 km.
- Most observed PGVs were slightly smaller than the estimated values.

※ Hypocentral distance is shown in the horizontal axis (not the shortest distance to the fault).
 ※ Interplate earthquake is assumed for the estimations.
 ※ Estimated values beyond 100 km (dashed line) are shown as reference values.

Velocity Response Spectra (pSv; 1–2 s)



- Velocity response that exceeded 165 cm/s were not observed.
- Largest response (1–2 s) was recorded at K-NET MYG010 (orange circle; Ishinomaki, Miyagi Pref.)
- Velocity responses in the range of 40–80 cm/s (yellow circles) were observed at some stations on the Sendai plain.

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Velocity response spectra were calculated using the subroutine program developed by Osaki (1994).

Figures were prepared by using the Generic Mapping Tools (GMT: Wessel and Smith, 1998).