



SAKAMOTO LAB.

Welcome to aural demonstration using sound field simulator!

[Development of technologies for quiet and comfortable environment]

Advanced Mobility Research Center

<http://www.acoust.iis.u-tokyo.ac.jp>

Applied Acoustic Engineering

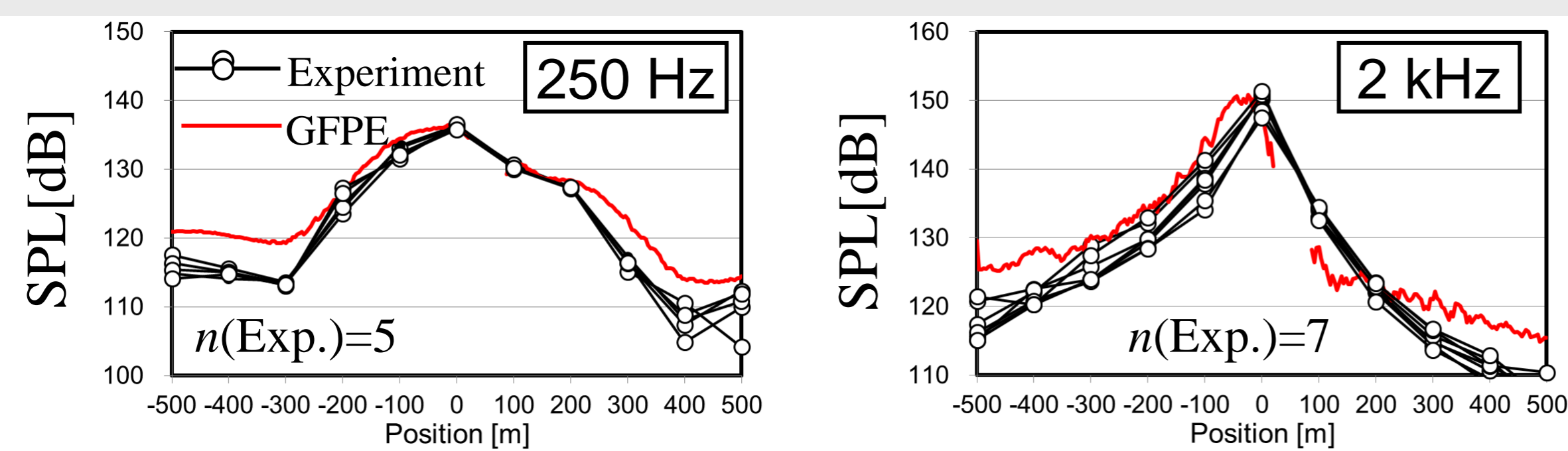
Department of Architecture,
Graduate school of Engineering

Development of technologies for quiet and comfortable environment

Our laboratory treats various acoustical issues about development of technologies for quiet and comfortable environment. Evaluation methods of acoustical environment and techniques of control and prediction of sound will be introduced.

- ◆ **Development of prediction methods** : Numerical analysis
- ◆ **Room acoustic design** : Auditorium, Music practice room, Open-type classrooms
- ◆ **Acoustic measurement** : Sound propagation, Sound insulation and absorption
- ◆ **Development of sound field simulation** : 6 channel recording-reproduction system
- ◆ **Subjective evaluation** : Concert halls, Living environments, Public spaces, Offices, other small spaces such as a car cabin

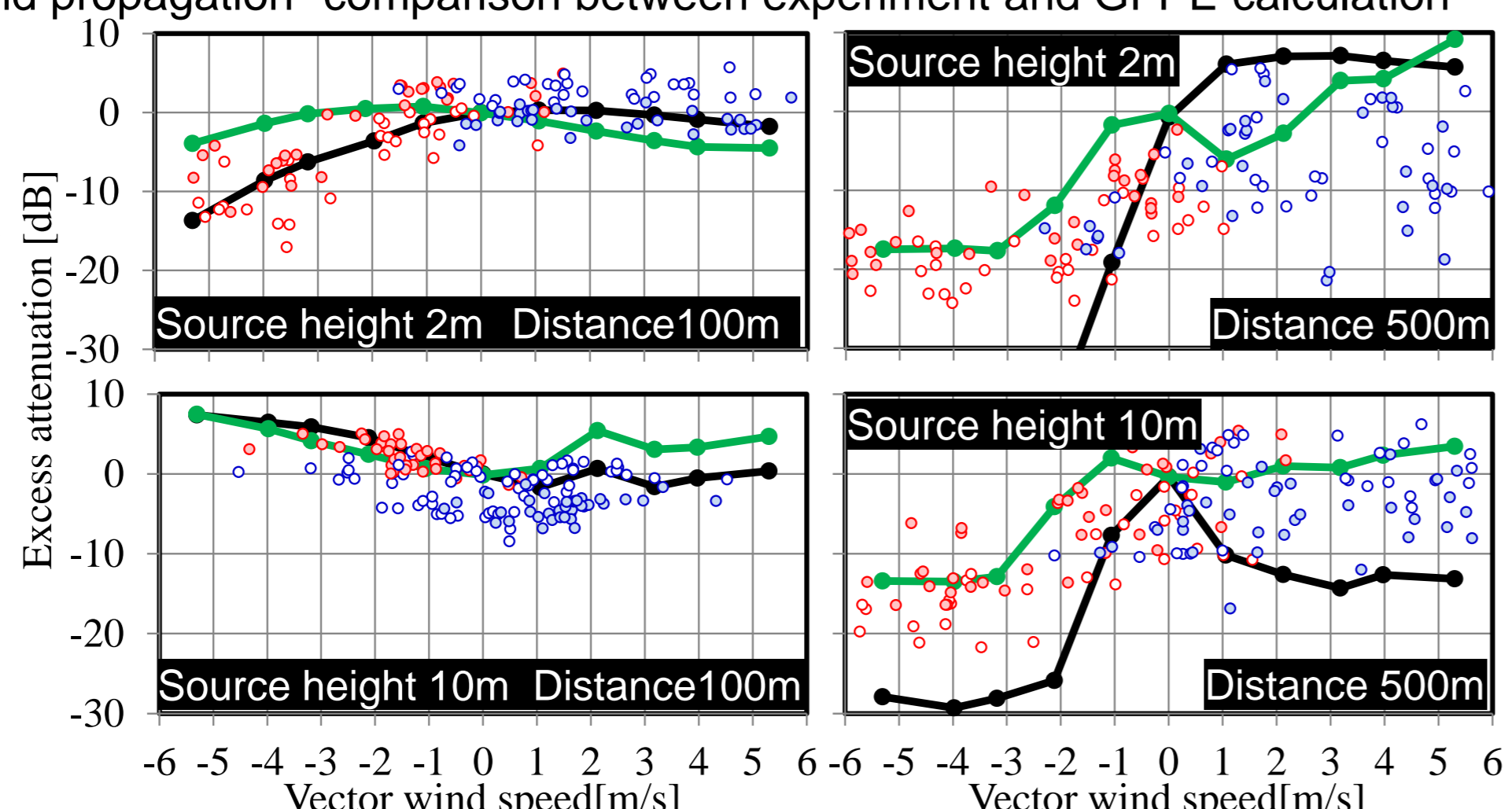
Outdoor sound propagation



Air to ground sound propagation -comparison between experiment and GFPE calculation

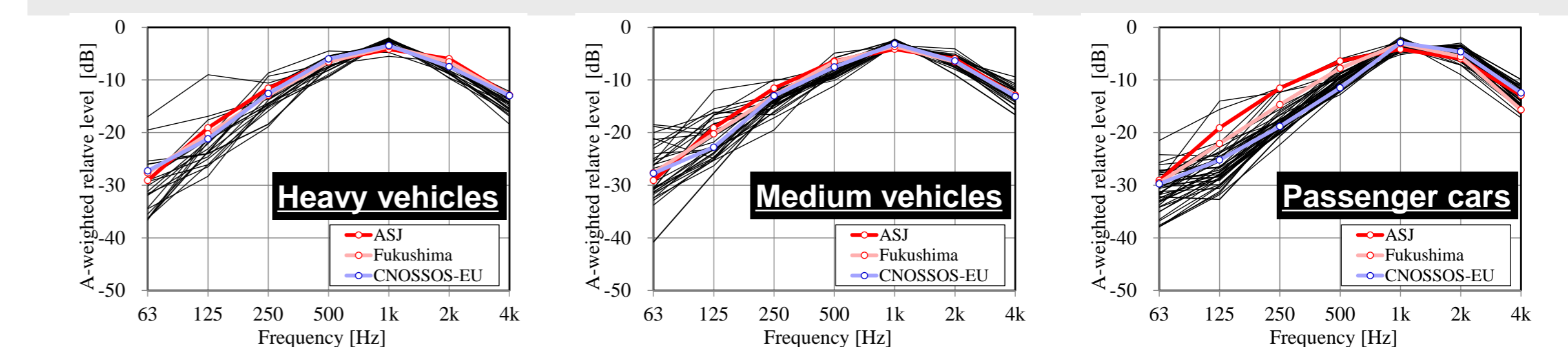
Equivalent acoustic impedance of the ground in the GF-PE calculation

- : $\sigma=20,000 \text{ kPa}\cdot\text{s}/\text{m}^2$
- : $\sigma=1,250 \text{ kPa}\cdot\text{s}/\text{m}^2$

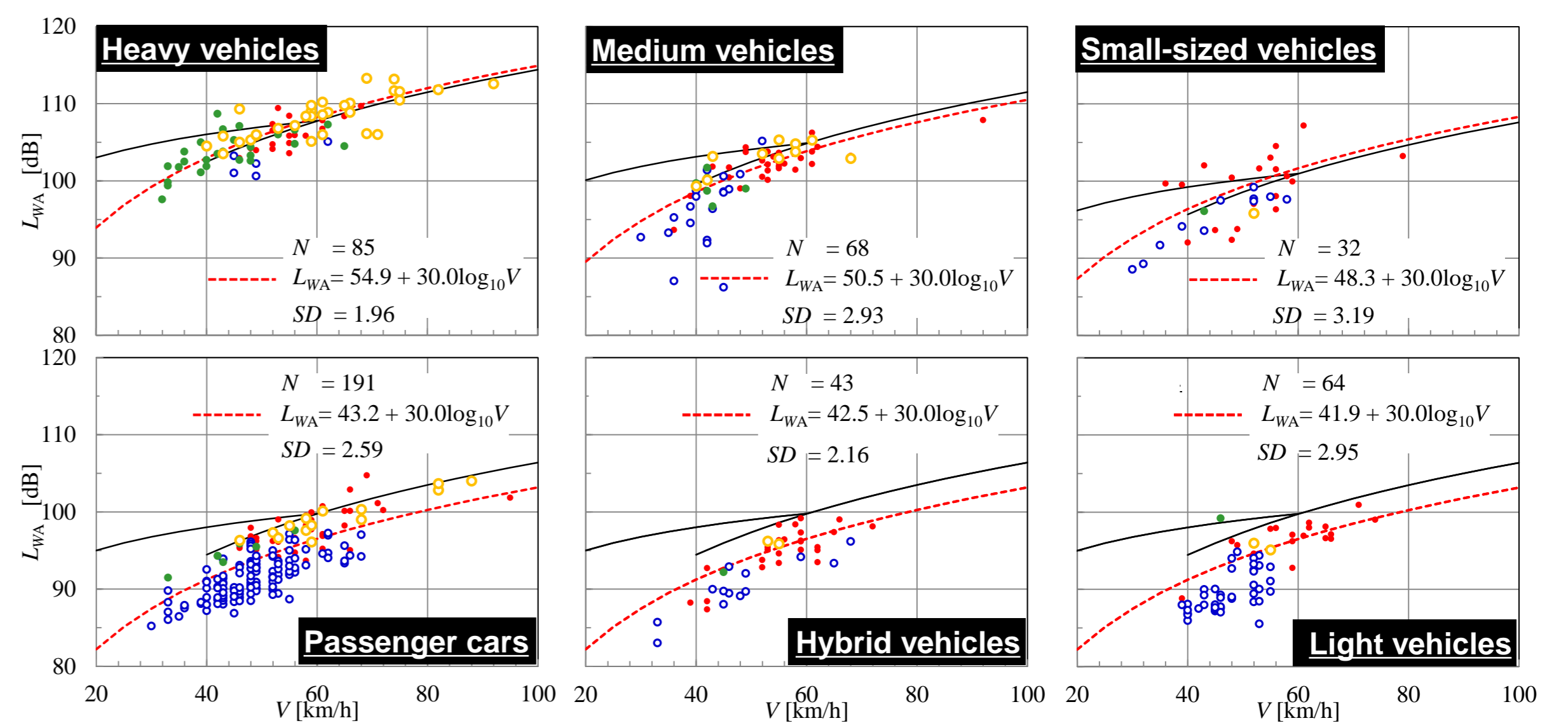


Ground to ground sound propagation -comparison between experiment and GFPE calculation

In-situ measurement of road traffic noise



A-weighted sound power spectrum of each vehicle kind



Dependence of A-weighted sound power levels on vehicle running speed