

SAKAMOTO LAB.

Acoustic Environment Design for Cities and Buildings



Department of Human and Social Systems

Environmental Acoustic Engineering

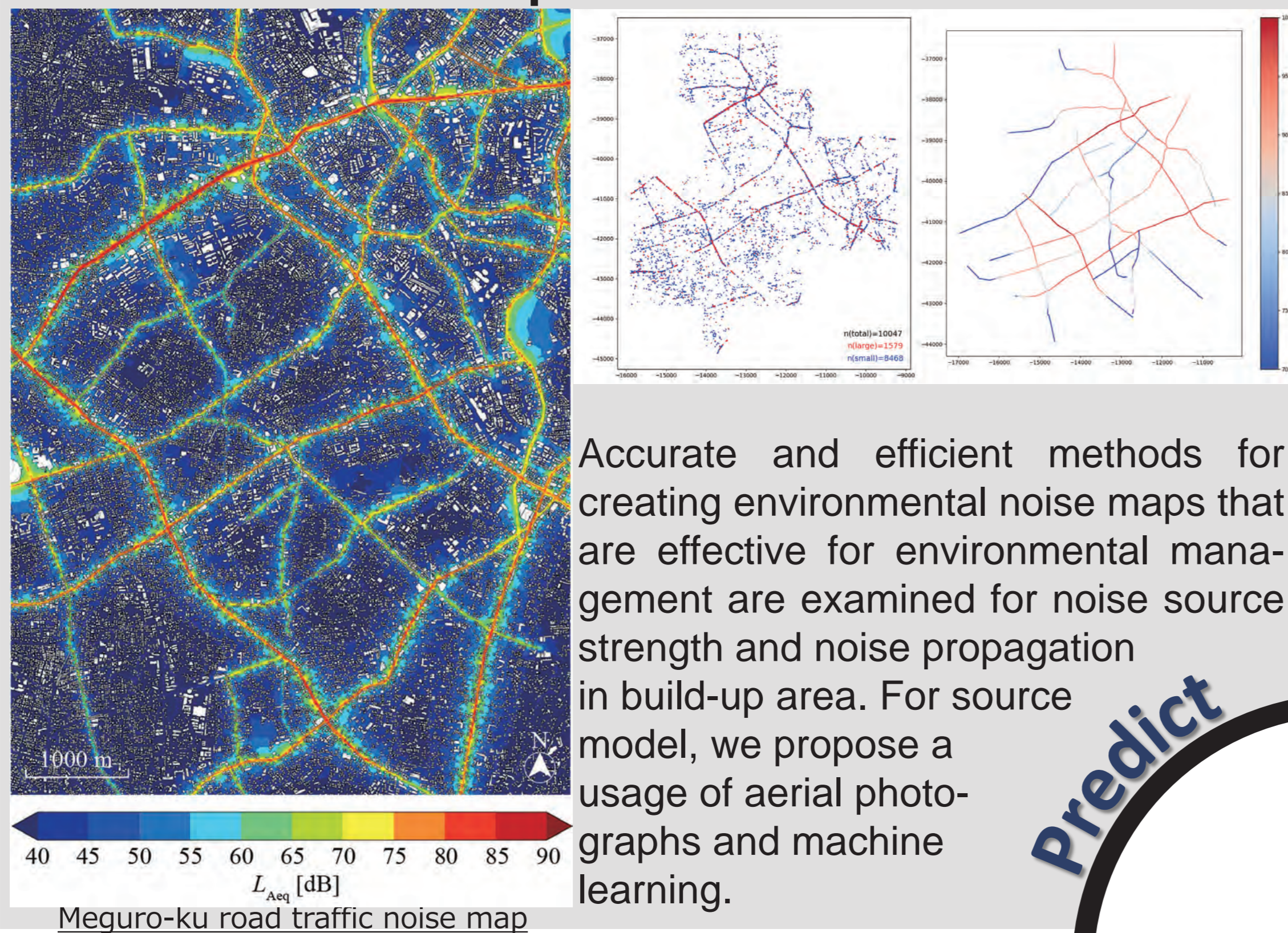
Department of Architecture, Graduate School of Engineering

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

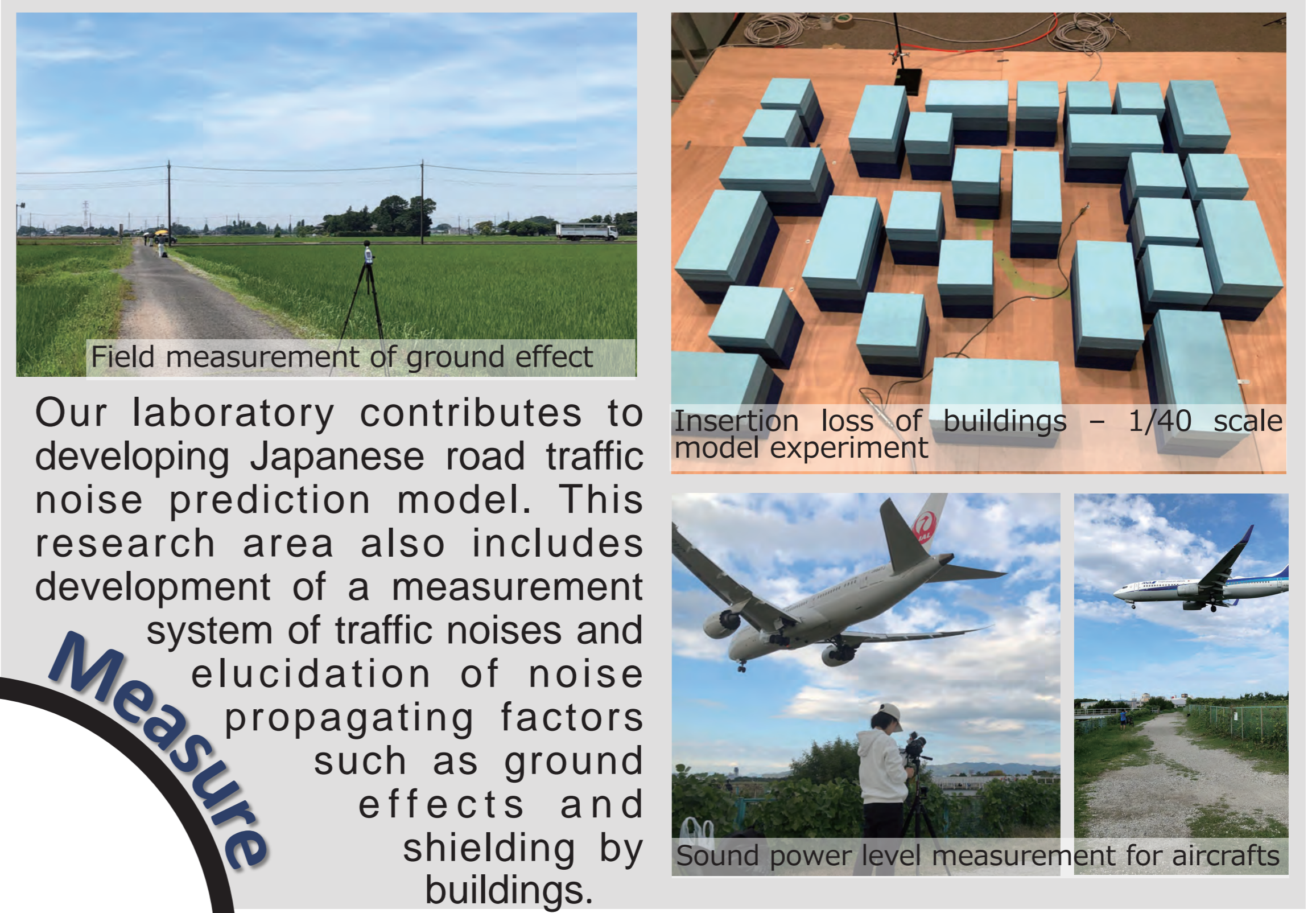
Sounds surround our lives. Sounds have great impacts on our quality of life. Sakamoto laboratory treats various issues on acoustic field control, measurement, prediction and assessment in order to realize better sound environment in architecture and city.

- ◆ **Acoustic measurement:** Impulse responses, Sound insulation, Sound reflection and absorption
- ◆ **Building acoustics:** Sound insulation of building façade and room walls, sound absorption
- ◆ **Creation of 3D sound and its application :** 3D sound reproduction, Audio-Visual presentation
- ◆ **Development of prediction methods :** Wave-based numerical analysis and its application
- ◆ **Environmental noise :** Road traffic, railway and aircraft noises, Wind Turbine Noise, Equipment Noise
- ◆ **Room acoustic design :** Acoustical design of Auditoria, public and living spaces

Creation of Noise Map

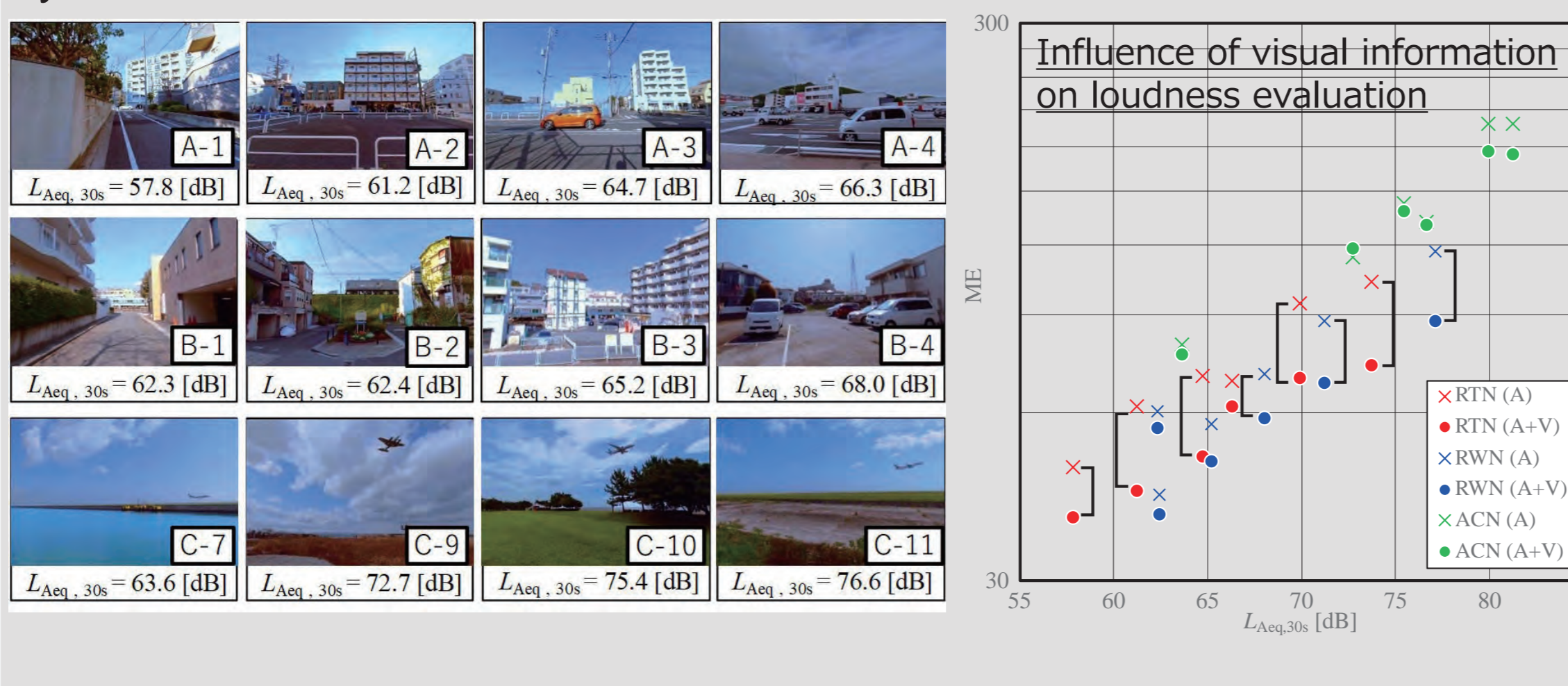


Various environmental noise modeling



Various effects on noisiness sensation

Subjective impression of noise is dependent on various factors such as visual information, spatial characteristics of sounds, and so on. The extents of such effects are quantitatively investigated by psychoacoustical experiments by using the three-dimensional sound field simulation and the audio-visual reproduction systems.



Sound field simulation system

Low-frequency sound reproduction system in a hemi-anechoic room and an audio-visual reproduction system using a dome screen type video device in an anechoic room are constructed. They are utilized for psycho-acoustical experiments.

