SAKAMOTO LAB.

[Development of technologies for quiet and comfortable environment]

Advanced Mobility Research Center

Applied Acoustic Engineering

Welcome to aural demonstration using sound field simulator!

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

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, Healthcare facilities, other small spaces such as a car cabin

Sound environment in road tunnel

In-situ measurement

Scale model experiment

Subjective evaluation by using 3-dimensional sound field simulation system

Measurement of acoustic properties by using a parametric loudspeaker

Sharp directivity of a parametric loudspeaker is expected to enable an accurate measurement of acoustical properties of materials, without extraneous edge diffraction of the material or obstructive reflections from room boundaries. Basic examination on the measurement method is being studied experimentally.

In-situ measurement of road traffic noise

Road traffic noise is one of the most important issues for environmental assessment. Accurate sound power levels of road vehicles are determined through in-situ measurement.

Sound environment of healthcare facilities

Environment of hospital ward is essential for patient’s quality of life. Acoustical conditions in a hospital ward are experimentally examined to investigate adequate environment of the room.