Sound Pressure Distribution of Car Interior and Influence of Wall by Car Door Speaker

Journal of Technology and Social Science, Vol.6, No.2, pp.46-54, 2022.

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In order to analyze how the sound emitted from the speaker of an automobile changes due to the influence of the wall, we performed an experiment and a calculation using the FE model for the case of a rectangular parallelepiped box with and without a sound absorbing material on the wall. The calculation results were able to roughly reproduce the experimental results. Next, we created a simple FE model that simulates the interior space of a car, and used the actual vehicle to determine the effects of sound absorption on the ceiling, floor, and seats, and changes in sound pressure level and sound pressure distribution when sound absorbing materials were added. We report the measurement and analysis results by the FE model.