研究室名	黒沢研究室　学会発表

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演題名	Calculation for normal sound absorption coefficient of automotive absorption materials using FE model for impedance tube
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内容	The impedance tube is used for measuring the normal sound absorption coefficient of a sound absorbing material such as an automobile. Such as urethane foam and felt with high density, the sound absorption coefficient measurement result may be different depending on the contact situation between the cut sample and the impedance tube wall. In order to elucidate this phenomenon, we modeled the acoustic tube with finite elements and modeled the contact condition by placing a spring between the cut sample and the acoustic tube wall. By changing the spring coefficient, we tried to reproduce the way of vibration of the cut sample occurring at the time of actual sound absorption, to elucidate the influence of improvement of prediction accuracy and the contact condition of cut sample and acoustic tube wall on sound absorption coefficient. We introduce calculation result by transfer matrix method and calculation result using finite element model by Biot-Allard theory, comparison of experiment result. In addition, the results of comparing the results of FEM and TMM by changing the Young's modulus and flow resistance of the sample are introduced.