

## 機械・精密システム工学科 論文発表

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題名	Damped Acoustic Analysis of an Automotive Cabin with Various Porous Media
掲載雑誌	Journal of Technology and Social Science, Vol.1, No.2, pp.31-36, 2017.
著者	黒沢良夫, 山口誉夫
概要	<p>We created a test piece that simulates the upper back of a car. We measured the change in sound insulation from the sound-source side to the cabin side with breathable trim (urethane foam or felt). We created a finite-element model to calculate the acoustic-damping properties. Using urethane foam and felt to model the complex effective density and bulk modulus of the internal air, we sought the loss factor from the decay contribution of each sound-absorbing element employed in modal damping of the space. An experiment was conducted to verify this analysis, and it was found to be of sufficient accuracy, meaning that the sound-absorbing-material-thickness-dependent damping in an actual car could be accurately calculated by this technique.</p>