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演題名	Transmission Loss Analysis for Automotive Panel Laminated with Felt and Olefin Sheet
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内容	To reduce the interior noise of cars in the high frequency region, sound proof materials are laminated onto the body panels and interior trims. The sound proof properties of the laminate play an important role in efficient acoustical design. In this study, we developed a program code for predicting both the sound absorption and sound insulation properties of laminates. This program code uses the transfer matrix method based on the Biot theory and involves the vibro-acoustic coupling of a laminated structure with an elastic body (panel, olefin sheet), porous body (felts), and air. First, we use a transfer matrix to express the properties of the individual layers (sound wave transmission inside the material and reflection properties on the surface). Then, we combine the individual properties in the actual lamination order to obtain the acoustic transmission properties of the entire lamination structure. In this report, we outline this program code and present our calculation results, which almost agree with the experimental results.