승용차 대시부의 구조 방사 효율 저감 방법 제안

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A Suggestion of Method to reduce the Radiation Efficiency of Dash Panel of a Passenger Car

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Key Words : dash panel, structure-borne noise, radiation efficiency, finite element analysis, boundary element analysis

Abstract : The study was performed as reduction method using finite and boundary element analysis on structure-borne noise radiated by dash panel of a real car. The radiation efficiency is used to estimate sound noise of dash panel. Curvature and edges of dash panel have effect on radiation efficiency. The simulation results of dash panel was ensured by comparison between experimental results and simulation results of a simple rectangular plate.

승용차 부우밍 인덱스 개발에 관한 연구

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BOOMING INDEX DEVELOPMENT IN A PASSENGER CAR

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Key Words : Artificial neural network, Booming index, Sound quality, Sound metrics

Abstract : Booming sound is one of the most important interior sound of a passenger car. The conventional booming noise research was focused on the reduction of the A-weighted sound pressure level. However A-weighted sound pressure level can not give the whole story about the booming sound of a passenger car. In this paper, we employed sound metric which is the subjective parameter used in psychoacoustics. According to recent research results, the relationship between sound metrics and subjective evaluation has nonlinear characteristics and is very complex. In order to estimate this nonlinear relationship, artificial neural network theory has been applied to derivation of the sound quality index for booming sound of a passenger car.