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주행 중 차 실내 공기 기인 소음의 기여도 분석
Contribution Analysis of Airborne Noise in Vehicle Interior under driving condition

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Abstract : The important point in the optimization of vehicle interior noise is the correct understanding of the various sources strength, position, and how they propagate to the vehicle interior cavity. The sources are divided into two groups, one is the structure borne source and the other is airborne source. For understanding the airborne source, one needs to be able quantify the airborne transfer noise from the source to the vehicle interior cavity. The main airborne sources are power train, intake, tires and exhaust system. In this paper, we are focused on the quantification of the airborne sources and contribution of these airborne sources to the vehicle interior cavity during run up. we applied matrix inversion method which is the one of the airborne source quantification method to find correct airborne source strength. Applying this method, we investigated that how many sensors are need and where the sensors should be locate. To calculate contribution of the airborne sources to the vehicle interior cavity, the acoustic transfer functions from each source to the target part are measured using the reciprocity principle.