

## **On a simple technique to measure the airborne noise in a car interior using substitution source**

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**Abstract:** From various methods of measuring noise in a motor vehicle, a technique to separate the airborne and structure-borne noise is of interest as an important measure to improve the noise control treatment. This paper proposes a simple technique to measure the contribution of the airborne noise in a vehicle cabin using substitution source method. A cone loudspeaker was used as the substitution source and the airborne transfer function was measured. The technique has successfully separated the airborne transmission with the intersection frequency at roughly 400 Hz with the structure-borne noise. It is found that this is independent of the engine speed.

**Keywords:** airborne noise; structure-borne noise; source substitution; transfer function; interior noise.

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**Biographical notes:** Azma Putra is a Senior Lecturer in the Faculty of Mechanical Engineering, UTeM, Malaysia. He received his MSc in 2004 and PhD in 2008 both from the University of Southampton, UK majoring in Sound and Vibration. He is now leading acoustics and vibration research in the faculty. His current interests include engineering acoustics and noise control, vibro-acoustics, vibration and structural dynamics.

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Clinton D. Juis received his Bachelor of Mechanical Engineering (2011) majoring in Structure and Materials from UTeM. Much of this work was done through his final year project.

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Proceedings of the Eighth International Workshop on Railway Noise. September Buxton, England. Edited by D. steamplantsummerseries.com. Volume , Issues.The Journal of Sound and Vibration (JSV) is an independent journal devoted to the prompt publication of original papers, both theoretical and experimental, that .The first edition of this book presented the principles of vibration and sound with only a little discussion of applications of these principles. During the past eight.The purpose of this analysis is to assess the potential noise and vibration impacts that could occur with the .. recreational experience (Pasadena a).Guidelines for the Treatment of Noise & Vibration in National Road Schemes. 2 (). Approach. The noise input to the EIS follows on from the work.1 May - 12 min - Uploaded by rudedogii I had a vibration/humming problem on my Toyota Tacoma. The Toyota dealer "Puente.Apr;77(3) Epub Jan Cognitive performance and subjective experience during combined exposures to whole-body vibration and noise.Available from: steamplantsummerseries.com?/7/25/23/ the family first noticed low frequency noise and vibration in their house.Proceedings of the International Conference on Noise and Vibration Engineering, ISMA (2 years) 0 The disturbing effects of vibration frequencies above 20 Hz (structure-borne Available from: steamplantsummerseries.com?/6/23/29/The song Good Vibrations by the Beach Boys may have been a big hit in its day , but there's no such thing as good vibrations or noise when it.10 Apr - 4 min - Uploaded by Psychoholic Genius Does your Ford Focus seem to vibrate all the time. Even when sitting still with the engine idling.October Noise and Vibration. discernable threshold, there would be adverse airborne noise impacts from mobile sources at Site 4 during.

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