Scopus

Document details

‹ Back to results | ‹ Previous 2 of 3 Next ›

Export Download Print E-mail Save to PDF Add to List More... ›

Full Text View at Publisher

Applied Mechanics and Materials
Volume 471, 2014, Pages 89-96
4th International Conference on Noise, Vibration and Comfort, NVC 2012; Kuala Lumpur; Malaysia; 26 November 2012 through 28 November 2012; Code 101751

Dynamic characterization of car door and hood panels using FEA and EMA

(Conference Paper)

Hanouf, Z.[a], Faris, W.F.[b], Nor, M.J.M.[ac]

[a]Department of Mechanical and Materials Engineering, National University of Malaysia, 43600 UKM Bangi, Selangor, Malaysia
[b]Department of Mechanical Engineering, International Islamic University Malaysia (IIUM), Malaysia
[c]Centre for Automotive Research, National University of Malaysia, 43600 UKM Bangi, Selangor, Malaysia

Abstract

View references (11)

The dynamic characterization of vehicle structures is a crucial step in NVH analysis and helps in refining the vibration and noise in new vehicles. This paper investigates the dynamic properties of two parts of the vehicle structure which are door and hood panels. Theoretical modal analysis which is referred to as Finite Element Analysis (FEA) and Experimental Modal Analysis (EMA) or modal testing has been used as investigative tools. The paper investigates the structural dynamic properties of door and hood panels of a local car. ME'scope software was used to analyze the data obtained from Pulse to extract the dynamic properties of the panels. LS-DYNA software was used to analyze the dynamic behavior of the structure. The comparison between the results obtained from both analyses showed some similarity in frequencies and mode shapes. Finally the paper concludes that experimental modal analysis and finite element analysis can both be used to extract dynamic properties of structures. © (2014) Trans Tech Publications, Switzerland.

Author keywords

Dynamic analysis Finite element analysis Modal analysis Structural vibration

Indexed keywords

Metrics View all metrics ›

1 Citation in Scopus
60th Percentile

1.81 Field-Weighted Citation Impact

PlumX Metrics
Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 1 document

Removal of CrMo alloy steel components from investment casting gating system using vibration-excited fatigue failure
Kuo, J.-K. , Huang, P.-H. , Guo, M.-J.
(2017) International Journal of Advanced Manufacturing Technology

View details of this citation

Inform me when this document is cited in Scopus:
Set citation alert › Set citation feed ›

Related documents

Dynamic characterisation of vehicle structural panels
Hanouf, Z. , Faris, W.F. , Nor, M.J.M.
(2015) International Journal of Vehicle Noise and Vibration

An investigation into NVC characteristics of vehicle behaviour using modal analysis
Hanouf, Z. , Faris, W.F. , Ahmad, K.
(2017) IOP Conference Series: Materials Science and Engineering