

### **Automotive NVH Technology**

Anton Fuchs, Eugenius Nijman,  
and Hans-Herwig Priebisch, Editors  
Springer, NY, (2016),  
Softbound, 54.99 USD, ISBN 978-3-319-24053-4

This specialized book is a highly welcome addition to the literature on Noise, Vibration and Harshness (NVH) technology for automotive industry. It is known that NVH technology has become very important for the automotive industry as there are several demands such as environmentally friendly “green” vehicles, use of lightweight materials, downsizing of internal combustion engines, efficient transmission technology etc. Numerical and simulation methods are also used extensively in the automotive industry.

The editors have done an excellent work in bringing the recent advances in some of the topics in NVH technology. The specialty of the book is that most of the chapter contributions are based on the scientific papers presented at the 8th International Styrian N.V.H. Congress in Graz, Austria in 2014. The book is structured into seven chapters that are authored by NVH experts. The chapters focus on aero-acoustics, characterization and reduction of noise from downsized engines, noise of electrified power-trains, practical aspects of cylindrical near-field acoustical holography, acoustics of geared systems, light weight exhaust systems and a sub-structuring method that allows the dynamic interaction analysis between car body structure, the poro-elastic trim material and the interior cavity.

Each chapter title describes well the contents in that chapter.

- The first chapter deals with “*Assessment of the Vehicle's Interior Wind Noise Due Measurement of Exterior Flow Quantities in Early Project Phases.*”
- The second chapter describes “*Sound Optimization for Downsized Engines.*”
- The third chapter deals with “*Reducing Noise in an Electric Vehicle Powertrain by Means of Numerical Simulation.*”
- The fourth chapter deals with “*Cylindrical Nearfield Acoustical Holography: Practical Aspects and Possible Improvements.*”
- The fifth chapter deals with “*Vibro-Acoustic Analysis of Geared Systems—Predicting and Controlling the Whining Noise.*”
- The sixth chapter deals with “*Possibilities and Constraints for Lightweight in Exhaust Systems.*”
- The seventh chapter describes “*A Patch Transfer Function Approach for Combined Computational–Experimental Analysis of Vibro-Porous-Acoustic Problems.*”

Each chapter has a nicely written abstract at the beginning and end with either a summary or conclusion that helps the reader. Each chapter has several very clear figures and a list of references. The book will be highly useful not only for NVH engineers and researchers but also for those in automotive industry in general.

*M.G. Prasad*  
*Stevens Institute of Technology*  
*Hoboken, NJ, USA*  
*mprasad@stevens.edu*