

---

## Introduction

---

### Peijun Xu

Commercial Vehicle Group, Inc.,  
7800 Walton Parkway,  
New Albany, OH 43054, USA  
E-mail: peijun.xu@cvgrp.com

### Xiaobo Yang

Chrysler LLC,  
CIMS 484-05-20,  
800 Chrysler Drive,  
Auburn Hills, MI 48326, USA  
E-mail: xy1@chrysler.com

**Biographical notes:** Peijun Xu joined Commercial Vehicle Group as a Chief Engineer for global development and evaluation in March 2008. Prior to that, he was a product development engineer on modelling, simulation and testing of vehicle dynamics and durability from July 2000 to February 2008. Prior to joining Chrysler, he conducted automotive research and development at Carleton University, University of Illinois at Chicago and Shanghai Automotive Industry Corporation. He earned his PhD in Automotive Engineering from Jilin University of Technology in China. He is a member of the SAE Materials Modelling and Testing Committee and served as a co-organiser for 'Loads Simulation and Analysis in Automotive Engineering' of 2005, 2006, 2007 and 2008 SAE World Congress.

With 20-year industry and university experiences in vehicle dynamics and durability analysis, more than 30 papers published in the related fields, Xiaobo Yang is a technical specialist in stress laboratory and durability development of Chrysler LLC. Additionally, he serves as a member in SAE Vehicle Dynamics Standard Committee, Materials Modelling and Testing Committee, and ASME Vehicle Design Committee, respectively. Since January 2007, he has been the chairman of SAE Tire Tests for Road-Load Tire Model Parameterization Task Force. He received his BE, ME and PhD from Sichuan Institute of Technology, Jilin University of Technology and Concordia University (Canada), respectively.

---

In a progressively competitive business environment, there are various challenges for automotive manufacturers to reduce product development time and cost, where the durability and ride comfort performances of vehicles are the primary concerns. Computer modelling, proving ground and laboratory testing have been playing important roles in fast design validation, optimisation and upstream modification. Therefore, companies can bring their new durable, reliable and well performing vehicles to the market quickly.

The confidence of analytical simulation for durability and ride comfort performances vastly relies on the accuracy of vehicle model and road load inputs to vehicle. It is thus significant to address various issues in both analytical and experimental simulations and testing.

This Special Issue focuses on new research and development techniques and their applications in vehicle durability road loads and ride dynamics.