Special Issue

Advances in the Nonlinear Vibration and Structure Dynamics of Composite Materials

Message from the Guest Editor

Composite materials have been widely used in various applications such as aerospace, marine, automotive structures and other industries due to their high strength and stiffness, extraordinarily low density, excellent environmental resistance and the ability to tailor properties. Many scholars have performed extensive and interesting studies on the nonlinear vibration and structure dynamics of various composite structures, including composite beams, plates and shells. Although some fantastic research breakthroughs have been obtained, there are great challenges in theoretical analysis, numerical simulation, and experimental tests. First, it is difficult to develop an accurate analytical model and a finite element model for predicting the nonlinear vibration phenomena and dynamic parameters of anisotropic materials and structures due to the complexity of geometric and material nonlinearities. Furthermore, experimental investigations on composite materials and structures are quite scarce.

Guest Editor

Dr. Hui Li

School of Mechanical Engineering and Automation, Northeastern University, Shenyang 110819, China

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Materials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
materials@mdpi.com

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Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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