Special Issue

Nonlinear Vibrations

Message from the Guest Editor

Structural vibrations could play an important role in the performance of many engineering systems, with typical amplitudes ranging from meters to a few nanometers. Experimental observation indicates that the structural vibrations behave linearly at very small amplitudes, but nonlinearities occur with increasing amplitudes. Due to the large displacements and motions, structural nonlinearity becomes important when more accurate measurement and control are needed. Identifying, modelling and controlling nonlinear vibrations are becoming increasingly important in a range of engineering applications such as mechanical, structural, civil, aeronautical, ocean, electrical, and control systems. Papers (including analytical, computational, and experimental methods) are invited to make contributions to enrich the knowledge of structural nonlinear vibration. Keywords

- nonlinear vibration
- vibration control
- geometric nonlinearity
- bifurcations
- chaos

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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