

Special Issue

Nonlinear Dynamics of MEMS/NEMS: Fundamentals and Applications

Message from the Guest Editors

MEMS/NEMS have been successfully applied in recent decades in a variety of different fields, such as industry, communications, and bioengineering. Special attention is increasingly devoted to nonlinear phenomena arising in MEMS/NEMS. Significant research has recently been conducted where the nonlinear phenomena observed in MEMS/NEMS are deeply explored, theoretically and experimentally, including softening and hardening behavior, internal resonances, multistability, and chaotic dynamics. The complexity induced by the nonlinearities offers outstanding capabilities for applications. Several recent studies investigate in-depth the possibility of deliberately operating MEMS/NEMS in the nonlinear regime, showing their potential to fabricate novel devices capable of satisfying more sophisticated requirements and achieving superior performances. Accordingly, this Special Issue seeks to showcase research papers, short communications, and review articles that focus on theoretical and experimental research studies in MEMS/NEMS investigating nonlinear dynamic phenomena and their potential implementation in emerging applications.

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