Special Issue

Research on Rotor Dynamics and Vibration Control

Message from the Guest Editors

Rotor dynamics is a subject studying the dynamic characteristics of rotors and other components in rotating machinery. Modern rotor dynamics mainly focuses on complex rotor systems represented by gas turbines, centrifugal/axial-flow compressors, aero-engines, and wind turbines. Strict performance requirements and a harsh service environment make the vibration problem of rotating machinery increasingly prominent, which is mainly reflected in the complicated nonlinear dynamic behaviors caused by rotor–stator structural couplings and multifield coupling. At present, the research on rotor dynamics and vibration control mainly involves:

- dynamic modeling of rotor systems;
- critical speed and vibration response calculation;
- flexible rotor dynamic balance technology;
- dynamic characteristics of various bearing-supporting rotors;
- dynamic stability of rotor systems;
- nonlinear dynamics of rotor systems;
- rotor system vibration fault and its diagnosis technology;
- active and passive vibration reduction of rotor systems;
- vibration of rotor systems under multifield coupling excitation.

Guest Editors

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Message from the Editor-in-Chief

Machines is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications.
Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided.
There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

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