

Special Issue

Dynamic Stability Analysis of Aerospace Structures

Message from the Guest Editors

Aerospace structures are a combination of light structures used for aircraft and spacecraft, which are generally subject to cyclic loads. Such structures operate in complex conditions that may determine the occurrence of dynamic instability phenomena, such as parametric resonance, structural vibration and aeroelastic flutter. The large amplitude response, resulting from dynamic instability, can have severe consequences for the safety and survivability of the structures and should, therefore, be mitigated and, where possible, avoided. Different technological solutions can be developed by using optimised design, traditional mechanisms or smart materials to overcome the internal resistance and external loads and avoid the instability. However, in some cases, such as when actuating a morphing structure or a blade, controlling dynamic instability might be leveraged for increased system performance. This Special Issue aims to provide insights into the state of the art of dynamic instability of aerospace structures and to highlight methods and solutions that may be transferrable between various application areas. Contributions on modelling, simulation and experiments are welcomed.

Guest Editors

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Deadline for manuscript submissions

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About the Journal

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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