



Dynamic Stability Analysis of Aerospace Structures

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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.





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Message from the Editor-in-Chief

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