Special Issue

Fundamental Detonation Mechanism and Advanced Detonation Propulsion Technology

Message from the Guest Editors

In recent years, there has been increasing interest in developing detonation-based engines, such as Pulsed (PDEs), Rotating (RDEs) and Oblique Detonation Engines (ODEs), for aeronautics and astronautics propulsion applications due to the high propulsion performance afforded by detonation. However, challenges remain in the application of detonation engines; thus, the fundamental detonation phenomena (e.g., initiation, propagation limits and failure) and their mechanisms must be better understood prior to the application of detonation in advanced propulsion technology. For this Special Issue, we invite authors to contribute high-quality original papers covering fundamental detonation phenomena and their physics, and new developments in technology associated with the application of detonation, especially for PDEs, RDEs and ODEs. We also welcome papers discussing new theoretical, analytical, experimental and numerical developments.

Keywords:

- detonation
- shock waves
- initiation
- propagation limits
- detonation failure
- Pulsed Detonation Engines
- Rotating Detonation Engines
- Oblique Detonation Engines

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Aerospace adheres to rigorous peer-review as well as editorial processes and publishes high quality manuscripts that address both the fundamentals and applications of aeronautics and astronautics. Our goal is to enable rapid dissemination of high impact works to the scientific community.

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