Special Issue

Flow and Heat Transfer in Solid Rocket Motors

Message from the Guest Editor

Due to various advantages, such as their inherent simplicity, high reliability, and quick responses, solid rocket motors (SRMs) play an important role in space launch vehicles. As their performance can be enhanced through the fundamental mechanisms of their complex flow and heat transfer physics, there is growing interest in the issues encountered in these areas. Indeed, an understanding of complex flow and heat transfer mechanisms, multiphase flow dynamics, and the ablation mechanism of the adiabatic layer are all technical challenges still to be faced in advanced SRM design. Building on this vision, this Special Issue aims to provide an overview of the most recent advances in the field of the flow and heat transfer of SRMs. Potential topics include, but are not limited to, complex flow and heat transfer, ablation mechanisms, multiphase flow modeling, metal droplet behavior, the prediction of SRM performance, the design of combustion chambers and nozzles, and combustion modeling.

Guest Editor

Prof. Dr. Yang Liu

National Key Laboratory of Solid Rocket Propulsion, Northwestern Polytechnical University, Xi'an 710072, China

Deadline for manuscript submissions

31 December 2025

Aerospace

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 4.0

mdpi.com/si/212583

Aerospace
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
aerospace@mdpi.com

mdpi.com/journal/aerospace

Aerospace

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 4.0

mdpi.com/journal/aerospace

MDPI

About the Journal

Message from the Editor-in-Chief

You are welcome to contribute a research article or a comprehensive review for consideration and publication in *Aerospace* (ISSN 2226-4310), an on-line, open access journal.
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.

Editor-in-Chief

Prof. Dr. Konstantinos Kontis
School of Engineering, University of Glasgow, James Watt Building South, University Avenue, Glasgow G12 8QQ, Scotland, UK

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Aerospace) / CiteScore - Q2 (Aerospace Engineering)