Special Issue

Aerospace Vehicle Optimization: Design Innovations, Thermal Management, and Practical Applications

Message from the Guest Editor

As the aerospace industry progresses toward more complex missions and increasingly stringent performance requirements, innovation in both design and thermal management has become a critical driver of technological advancement. In design optimization, Multidisciplinary Optimization (MDO) integrates aerodynamics, structural engineering, and materials science, employing advanced algorithms to identify optimal solutions. Aerodynamic layout refinement reduces drag, while structural topology optimization enables lightweight design. This Special Issue invites researchers from around the world to contribute original research, innovative technologies, and practical applications related to aerospace vehicle optimization.

Keywords: aerospace vehicle optimization; design methodologies; multidisciplinary optimization; thermal management; liquid cooling; two-phase flow heat transfer; phase change material; hydrogen; heat exchanger

Guest Editor

Dr. Yu Xu

Key Laboratory of Aircraft Environment Control and Life Support, MIIT, Nanjing University of Aeronautics and Astronautics, 29 Yudao St., Nanjing 210016, China

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

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Editor-in-Chief

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

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