

Special Issue

Recent Advances in Ramjets

Message from the Guest Editor

Ramjets are jet engines that use air compression, derived from their forward motion, to generate thrust without using major moving parts. Working best at supersonic speeds, the ramjet engine is one of the most promising propulsion systems for the realization of supersonic and hypersonic flights using subsonic (ramjet) and supersonic (scramjet) combustion. Additionally, they offer continuous thrust at high speeds, increase range and manoeuvrability, reduce weight and cost, and enable new capabilities and missions. However, ramjet technology poses many challenges and limitations, such as ignition, combustion stability, heat management, aerodynamics, materials, integration and control. To address these challenges and harness the benefits of ramjet technology, intensive research and development efforts are required, both from academia and industry. The papers in this Special Issue cover various topics related to ramjets, including the design principles and analysis of ramjets, novel concepts and innovations for ramjet applications, case studies and examples of ramjet systems, and various applications of ramjet engines in hypersonic flight and missile propulsion.

Guest Editor

Dr. Omer Musa

College of Energy and Power Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing 210016, China

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
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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, Scotland, UK

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