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Thermal Management and Heat Transfer Study in Aero-Devices

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

Thermal management and heat transfer play a critical role in ensuring the efficient and reliable operation of aero-devices. This field focuses on understanding and optimizing heat dissipation, thermal insulation, and temperature control mechanisms within aero devices, such as aircraft engines, gas turbines, and spacecraft components. Cutting-edge topics in thermal management and heat transfer research include:

- Active cooling techniques using microchannels, heat pipes and spray cooling.
- Thermoelectric materials for waste heat recovery in aero-devices.
- Computational fluid dynamics (CFD) simulations for optimizing heat transfer in aerospace systems.
- Additive manufacturing of heat transfer components with complex geometries.
- Thermal management of electric propulsion systems in aircraft.
- Thermal interface materials for improved heat dissipation in aero-devices.
- Thermal analysis and design of hypersonic vehicles.
- Thermal management strategies for unmanned aerial vehicles (UAVs) and drones.



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Special Issue



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Message from the Editor-in-Chief

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