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# Thermal Reliability of Advanced Materials and Structures

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## Message from the Guest Editors

Advanced materials with various functionalities or structural features have been increasingly utilized in recent years to meet the sophisticated demands of modern technology. Thermal failure presents a significant concern for many advanced materials and structures across diverse thermal environments. Gaining a deeper understanding of thermal failure mechanisms is crucial for designing reliable advanced materials and structures.

This Special Issue is dedicated to exploring the thermal reliability of advanced materials and structures under various thermal disturbances. Topics range from transient heating in ultrafast laser fabrication to the quenching of advanced metal alloys, thermal cycles in electronic devices, and transient heat conduction in heterogeneous microstructures. We welcome papers that address heat conduction, thermal stress analysis, thermal fatigue and fracture of advanced materials and structures, and related subjects. By showcasing recent advancements in this critical area, we aim to enhance our understanding of the thermal reliability of advanced materials and structures.

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## Message from the Editor-in-Chief

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