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Crystallographic Design of Material Thermal Properties

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Message from the Guest Editor

This Special Issue aims to publish the latest work on the characterization and design of materials in the field of heat transfer. Thermal parameters can explain the mechanism of thermal energy dissipation via materials. Contact and non-contact methods measure heat oscillations, giving thermal characterization. The crystal quality is critical in applications and significantly impacts detector sensitivity. The performance of detectors based on compound semiconductors is limited by crystal imperfections, so the lattice disorder must be defined. Growing new materials usually requires mixing or introducing dopants into the crystal host structure. The substitution of the native element within a crystal leads to undesired effects, the nature of these phenomena can be ambiguous.

The Issue aims to improve understanding of the physics and chemistry of these materials, and growth and design processes. Areas of interest include material growth, design, defects, dopants, mixing, disorder, surface chemistry, fabrication, thermal/electrical properties, modeling, charge transport, electro-/magneto-optical properties, and interactions among these.



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Special Issue



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Message from the Editor-in-Chief

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