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Nano Materials for Thermal Management

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Thermal management is one of the major bottlenecks to increasing the performance of modern electronic devices. The thermal engineering of such devices represents a multiscale materials challenge. Many of these bottlenecks can be addressed through the rational design of “thermal materials,” which are multifunctional thermal conductors that exhibit unique combinations of properties not available in nature. This talk will first show the examples of porous conductive structures combining fluid permeability and high thermal conductivity which can be used in microfluidic applications. Also, there will be discussion about carbon nanotubes combining thermal and mechanical properties for interface materials. Therefore, this research aims to design and integrate thermal materials with functional nanoscale architectures based on the comprehensive knowledge of their multiscale physics.



主催: 東京大学大学院工学系研究科「機械システム・イノベーション」プログラム (GMSI)
「最先端融合科学イノベーション教育研究コンソーシアム」(CIAiS)

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