Micro-Nano Scale Heat Transfer in Nano-structures and Devices

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PROPOSAL
This mini-symposium will cover a wide range of topics related with computational or analytical modeling and analysis of nano-structures and their devices with a focus on micro-nano heat transfer. The topics of interests include but not limited to: (1) Application of different modeling methodologies and tools such as first principle density functional theory, molecular dynamics, Boltzmann transport equations or atmospheric Green’s function for phonon transport analysis, (2) Heat dissipation and hot-spot generation analysis in micro- and nano-electronic devices, (3) Energy transport at solid-solid, solid-gas and solid-liquid interfaces, (4) Multi-physics model development and analysis for devices considering coupling of phonons, photons or electrons, and (5) Thermal properties and transport analysis in 0-D, 1-D and 2-D materials such as quantum dots, nano-wires, carbon nanotubes, graphene, boron nitride, transition metal dichalcogenides (TMDCs), etc., and their interfaces.