Radiative Heat Transfer Laboratory

Leadership:
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Research in the Radiative Heat Transfer Lab (RHTL) is focused on radiative heat transfer, mostly at the micro/nanoscale. We develop theoretical frameworks, computational methods, and experimental techniques that enable understanding the physical mechanisms driving heat transport via electromagnetic waves between micro/nanoscale media or across separation distances of such order. Our research has significant implication for thermal management of micro/nanoscale devices, design and discovery of materials with novel thermal radiative properties, and development of the state-of-the-art applications such as nano-gap thermophotovoltaics, near-field photonic cooling, heat transfer rectification and modulation, and radiative cooling.