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Numerical Investigation of Particle Shape Effects on the Spatial Distribution of Near-field Electromagnetic Flux KEITH PRUSSING, MICHAEL CATHCART, Georgia Institute of Technology — It is well known that the radiative transport between particles, particularly the case of nano-sized particles, can exceed the black body limit when the separation between the particles less than the thermal wavelength $\lambda \sim hc/(k_B T)$. Recent work has investigated the total and spatial distribution of the electromagnetic energy flux into closely separated bodies using the boundary element method. This computational method permits the insertion of test surfaces into the two-body system to readily assess the directionality of the electromagnetic flux at additional points in space. By studying the effect of particle shape and orientation of the flux through such a test surface, it will be possible to establish geometric configurations to directionally channel the electromagnetic flux through a system of particles. In this presentation, the spatial distribution of the electromagnetic flux between a sphere and a spheroid is investigated as a function of the eccentricity of the spheroid.

Michael Cathcart
Georgia Institute of Technology

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