Abstract Submitted
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Particle scattering applications in solar panels JEHAN SENEVIRATNE, MATTHEW BERG, Department of Physics and Astronomy, Mississippi State University — The focus of this work is to apply the scattering characteristics of particles to model particle assisted solar concentrators. In this work, the scattering patterns of particles of different shapes, sizes, and refractive indices are computationally studied using Discrete Dipole Approximation (DDA). The study investigates the optical behavior of different particle ensembles. The simulated results are used to explain the characteristic behavior seen in [1]. The computational methodology can be used to determine the ideal ensemble of particles to produce the most efficient energy yield in a scattering-based photovoltaic concentrator.

[1] J. Wen, M. J. Berg, M. Steed, "Scattering-based solar concentrator," *Opt. Express* (submitted in review, 2013).

Jehan Seneviratne
Department of Physics and Astronomy, Mississippi State University

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