

**Abstract Title:** A Study of the Physical Geometric Optics Method In the Case of a Spheroid

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The physical geometric optics method (PGOM) is used to calculate single-scattering properties (namely, the extinction efficiency, single scattering albedo, and phase matrix) of moderate to large-sized faceted particles. The limitation of implementing PGOM to a spheroid is that a spheroid is not a faceted particle, so it is not currently possible to implement PGOM. The goal of this study is to determine if the physical geometric optics method can be applied to quasi-spheroidal faceted particles by comparing the  $P_{11}$  element of the phase matrix to IITM.