

Insight into power-law structure of scattering curve

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Electromagnetic scattering by small particles shows an overall power-law structure [1,2]. In this talk, we will present our work on the scattering patterns of wavelength-scale spheroidal particles. The scattering patterns were numerically simulated using Mie theory, T-matrix, and discrete dipole approximation (DDA) methods. Both far-field scattering patterns and internal fields were studied. We will have a deeper look into the reasons for the crossovers in the power-law structure. How the second crossover relates to the particle properties and the conditions for the second crossover to exist will be discussed.

References

- [1] Sorensen, C.M., and J. D. Fishbach, 2000: Patterns in Mie scattering. *Opt. Commun.* **173**, 145–153.
- [2] Berg, M. J., C. M. Sorensen, and A. Chakrabarti, 2005: Patterns in Mie scattering: evolution when normalized by Rayleigh cross section. *Appl. Opt.* **44**, 7487–7493

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