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Light Scattering from Aerosol Particles in the Presence of Humidity MIGUEL CORTEZ, ROBERT MCAFEE, None — Light scattering phenomena of particles has played a vital role in the investigation of aerosols in the atmosphere. Many computational methods have been developed to explore light scattering phenomena such as Mie theory, Coated Mie, the T-matrix, and the code created by Quirantes for irregularly shaped particles. In this project we investigate and compare the computational scattering coefficients of coated particles using Mie theory to that of actual data. The Mie theory code is specific to only particles of spherical nature and is proposed to fit scattering data collected at humidity above 40 percent. It is proposed that the particle accumulates a water shell which changes the particle's three dimensional geometry to that of a sphere. Below the 40% humidity line, particles may accumulate a thin shell of water but retain their irregular shape. In this project we also work with the recent Quirantes code to further understand light scattering properties of irregularly shaped particles and compare it to the data collected. Future work will be to find where Quirantes and the Mie codes correlate best with data and confirm the 40% humidity mark where particles are more spherical in geometry and can be approximated to be spheres.

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None

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