

There are many different numerical methods and computed codes to compute the optical properties of different shapes of particles.

SCATTERLIB has codes to compute scattering by many types of particles by various numerical methods and should be the first stop when looking for scattering codes.

Mie codes:

The widely used BHMIE code of Bohren and Huffman (1983), in several computer languages

Codes from UMaine including fastMie by Wayne Slade

For nonspherical and aggregated particles, there are

T-matrix codes

and discrete dipole approximation (DDA) codes:

ddscat

and

a-dda

Codes for the computation of the Bidirectional Reflection Distribution Function for flat particulate layers and rough surfaces are found at

BRDF