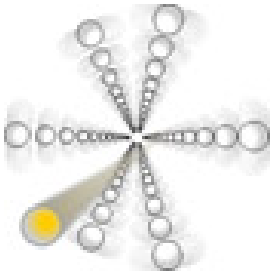

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Spheroidal Coordinates and Diffraction of Waves by Prolate Spheroid and Polyhedrons

Thursday, 27 September 2012 19:43 (1 minute)

The total cross section for the wave scattering by prolate spheroid is compared with the traditional approach of solving the similar problem of scattering by atomic chain.
We show that a set of piecewise continuous spheroidal coordinates and corresponding spheroidal functions can be a powerful tool for wide class of scatterers, in particular: cylinders with polygon profiles and 3D polyhedrons. These geometrical scatterers play an important role in physical theory of diffraction (PTD, Ufimtsev), geometrical theory of diffraction (GTD, Keller) and scattering the De Broglie waves and have many applications in microwave and radar technologies.

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