Interpretation of remote sensing data with T-matrix method.

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We developed a modification of the T-matrix method, which allows us to effectively study scattering properties of particles having irregular shapes. This method allows us to calculate a scattered field in any point of space, and any characteristic of scattered light, that is why this method is very useful. Principal new features: the possibility of calculation of scattering properties of particles without any limitations (such as symmetry axis requirement) on the shape; possibility of analytical averaging of particle scattering properties over ensemble of particles with different sizes and refractive indices. These new features of modified T-matrix method make this method much faster than the analogous methods and call forth that this method seems to be most prospective for investigations in many branches of science, for example, in space studies of the moon, planets, and small bodies of the solar system by remote sensing methods – for investigation of scattering properties of remote objects. This method of scattering calculation allow us to interpret the scattered light data, and basing on this data, to carry out the estimation of information about remote planets, such as sizes and refractive indices of particles ensemble, cover the surfaces of moon, planets, and small bodies of the solar system.