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Polarized phase functions in oil-in-water emulsion

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Abstract

Results of modeling of polarized phase functions (PPFs) in water polluted by oil-in-water emulsion are presented. The shapes of PPFs for various oil droplets size distributions and for two optically different oil types are shown for various wavelengths in the visible region. It is revealed that PPFs for two perpendicular planes are different for angles greater than 50° (with even 2-fold difference close to 90°). Shapes of PPFs depend on the type of oil and on wavelength; oil droplets size distribution plays a minor role only.


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