



Light absorption by aquatic particles in the near-infrared spectral region

Babin, Marcel, Dariusz Stramski

Limnol. Oceanogr., 47(3), 2002, 911-915 | DOI: 10.4319/lo.2002.47.3.0911

ABSTRACT: In this study, we used a special measurement geometry with samples placed inside the integrating sphere to address whether significant absorption by aquatic particles exists in the near-infrared (near-IR) spectral region from about 700 to 850 nm. Our tests with inorganic dyes and $MgCO_3$ particles showed that placing a small sample (1 cm cuvette) inside a relatively large integrating sphere (15 cm diameter) reduced the scattering error to a negligible level with no adverse effect on the absorption measurement. Our measurements of absorption by various particle suspensions suggest that absorption is generally negligible in the near-IR regardless of the type of particles. We examined four species of phytoplankton, phytodetritus derived from phytoplankton cultures, three samples of natural assemblages of mineral particles that show distinct reddish or brownish color, and three samples of aquatic particles from coastal and inland waters that have varying proportions of organic and inorganic particles.

Article Links

[Download Full-text PDF](#)

[Return to Table of Contents](#)

Please Note

Articles in L&O appear in PDF format. Open access articles may be freely downloaded by anyone. Other articles are available for download to subscribers only, or may be purchased for \$10 per article. All L&O articles are moved into Open Access after three years.