

- Aas (1984)
- Aas, E., 1984. Influence of shape and structure on light scattering by marine particles. *Inst. Geophys. Rpt.* 53, University of Oslo.
- Aas (1996)
- Aas E., 1996. A Refractive index of phytoplankton derived from its metabolite composition. *J. Plankton Research* 18(12), 2223-2249.
- Acharya et al. (1998)
- Acharya, P.K., et al., 1998. MODTRAN User's Manual, Versions 3.7 and 4.0. Air Force Res. Lab., Hanscom AFB, MA., 80 pages.
- Ackleson and Spinrad (1988)
- Ackleson, S. G. and R. W. Spinrad, 1988. Size and refractive index of individual marine particulates: a flow cytometric approach. *Appl. Optics* 27(7), 1270-1277.
- Adler et al. (2010)
- Adler, G., A. A. Riziq, C. Erlick, and Y. Rudich, 2010. Effect of intrinsic organic carbon on the optical properties of fresh diesel soot. *Proc. Nat. Acad. Sci* 107(15), 6699-6704.
- Agrawal and Pottsmith (2000)
- Agrawal, Y. C. and H. C. Pottsmith, 2000. Instruments for particle size and settling velocity observations in sediment transport. *Marine Geology* 168, 89-114.
- Ahmad and Fraser (1982)
- Ahmad, Z. and R. S. Fraser, 1982. An iterative radiative transfer code for ocean-atmosphere systems. *J. Atmos. Sci.* 39, 656-665.
- Ahmad et al. (2007)
- Ahmad, Z., C. R. McClain, J. R. Herman, B. A. Franz, E. J. Kwaitkowska, W. D. Robinson, E. J. Bucsela, and M. Tzortziou, 2007. Atmospheric correction for NO₂ absorption in retrieving water-leaving reflectances from the SeaWiFS and MODIS measurements. *Appl. Optics* 39(26), 6504-6512.
- Ahmad et al. (2010)
- Ahmad, Z., B. A. Franz, C. R. McClain, E. J. Kwaitkowska, J. Werdell, E. P. Shettle, and B. N. Holben, 2010. New aerosol models for the retrieval of aerosol optical thickness and normalized water-leaving radiances from SeaWiFS and MODIS sensors over coastal regions and open oceans. *Appl. Optics*, 49(29), 5545-5560. Errata to Table 1 are in Ahmad et al. (2010b).
- Ahmad et al. (2010b)
- Ahmad, Z., B. A. Franz, C. R. McClain, E. J. Kwaitkowska, J. Werdell, E. P. Shettle, and B. N. Holben, 2010. New aerosol models for the retrieval of aerosol optical thickness and normalized water-leaving radiances from SeaWiFS and MODIS sensors over coastal regions and open oceans: publisher's note. *Appl. Optics*, 50(5), 626.
- Ahn (1999)
- Ahy, Y.-H., 1999. *Proprietes optiques des particules biologiques et minerales presentes dans l'océan. Application : inversion de la reflectance.* Ph.D. Thesis, Univ. Pierre and Marie Curie, Paris, France.
- Apfel (1972)
- Apfel, R.E., 1972. The tensile strength of liquids. *Sci. Am.* 227, 58-62, 67-71.
- Alves and Banner (2003)

- Alves, J. H. G. M. and M. L. Banner, 2003. Revisiting the Pierson-Moskowitz asymptotic limits for fully developed wind waves. *J. Phys. Oceanogr.*, 33, 1301-1323.
- Arnott and Marston (1988a)
- Arnott, W. and P.L. Marston, 1988a. Optical glory of small freely rising gas bubbles in water: observed and computed cross-polarized backscattering patterns. *J. Opt. Soc. Am.* 5, 496-506.
- Arnott and Marston (1988b)
- Arnott, W.P. and P.L. Marston, 1988b. Backscattering of laser light from freely rising spherical and spheroidal air bubbles in water. SPIE, 925 *Ocean Optics IX*, 296-307.
- Arnott and Marston (1991)
- Arnott, W. and P.L. Marston, 1991. Unfolded optical glory of spheroids: backscattering of laser light from freely rising spheroidal air bubbles in water. *Appl. Opt.* 30 3429-3442.
- Arnone et al. (2004)
- Arnone, R.A., A.M. Wood, and R.W. Gould Jr., 2004. Water mass classification. *Oceanography* 17(2), 14-15.
- Arons and Peppard (1969)
- Arons, A.B. and M.B. Peppard, 1969. Concerning an heuristic point of view toward the emission and transformation of light. *Am. J. Phys.* 33, 367. English translation of Einstein, A. (1905), *Ann. Phys.* 17, 132.
- Artlett and Pask (2017)
- Artlett, C. P. and H. M. Pask, 2017. New approach to remote sensing of temperature and salinity in natural water samples. *Optics Express* 25(3), 2840-2851. doi.org/10.1364/OE.25.002840
- Asano and Sato (1980)
- Asano, S. and M. Sato, 1980. Light scattering by randomly oriented spheroidal particles. *Appl. Optics* 19(6), 962-974.
- Asano and Yamamoto (1975)
- Asano, S. and G. Yamamoto, 1975. Light scattering by a spheroidal particle. *Appl. Optics* 14(1), 29-49.
- Austin and Halikas (1976)
- Austin, R.W. and G. Halikas, 1976. The index of refraction of seawater. SIO Ref. 76-1 Scripps Institution of Oceanography.
- Avouris and Ortiz (2019)
- Avouris, D. M. and J. D. Ortiz, 2019. Validation of 2015 Lake Erie MODIS image spectral decomposition using visible derivative spectroscopy and field campaign data. *J. Great Lakes Res.* 45, 466-479. DOI: 10.1016/j.jglr.2019.02.005
- Babin (2008)
- Babin, M. 2008. Phytoplankton fluorescence: Theory, current literature and in situ measurement. In M. Babin, C.S. Roesler and J.J. Cullen [eds.], *Real-time coastal observing systems for ecosystem dynamics and harmful algal blooms*, UNESCO.
- Babin et al. (2003a)
- Babin, M., A. Morel, V. Fournier-Sicre, F. Fell, and D. Stramski, 2003a. Light scattering properties of marine particles in coastal and open ocean waters as related to the particle mass concentration. *Limnol. Oceanogr.* 48, 843-859. Available online
- Babin et al. (2003b)

- Babin, M., D. Stramski, G.M. Ferrari, H. Claustre, A. Bricaud, G. Obolensky, and N. Hoepffner, 2003b. Variations in the light absorption coefficients of phytoplankton, nonalgal particles, and dissolved organic matter in coastal waters around Europe. *J. Geophys. Res.* 108, 3211. Available online doi.org/10.1029/2001JC000882
- Babin and Stramski (2004)
- Babin, M. and D. Stramski, 2004. Variations in the mass-specific absorption coefficient of mineral particles suspended in water. *Limnol. Oceanogr.* 49, 756-767. Available online
- Bader (1970)
- Bader, H., 1970. The hyperbolic distribution of particle sizes. *J. Geophys. Res.* 75(15), 2822. DOI/10.1029/JC075i015p02822
- Bailey et al. (2010)
- Bailey, S.W., B.A. Franz, and P.J. Werdell, 2010. Estimation of near-infrared water-leaving reflectance for satellite ocean color data processing. *Optics Exp.* 18(7), 7521-7527.
- Balch et al. (1996)
- Balch, W.M., K.A. Kilpatrick, P. Holligan, D. Harbour, and E. Fernandez, 1996. The 1991 coccolithophore bloom in the central North Atlantic .1. Relating optics to coccolith concentration. *Limnol. Oceanogr.* 41(8): 1684-1696.
- Baldy (1988)
- Baldy, S., 1988. Bubbles in the close vicinity of breaking waves: Statistical characteristics of the generation and dispersion mechanism. *J. Geophys. Res.* 93, 8239-8248.
- Baldy and Bourguel (1985)
- Baldy, S. and M. Bourguel, 1985. Measurement of bubbles in a stationary field of breaking waves by a laser-based single-particle scattering technique. *J. Geophys. Res.* 90, 1037-1047.
- Banner (1990)
- Banner, M. L., 1990. Equilibrium spectra of wind waves. *J. Phys. Oceanogr.*, 20, 966-984.
- Bartlett et al. (1998)
- Bartlett, J. S., K. J. Voss, S. Sathyendranath, and A. Vodacek, 1998. Raman scattering by pure water and seawater. *Appl. Optics* 37(15), 3324-3332.
- Beebe (1934)
- Beebe, W., 1934. A half mile down. *The National Geographic Magazine*, LXVI, No. 6, 661-704.
- Beer (1852)
- Beer, A., 1852. Bestimmung der Absorption des rothen Lichts in farbigen Flüssigkeiten. *Ann. Physik Chemie* 162(5), 77-88.
- Berg et al. (2011)
- Berg, M. J., C. M. Sorensen, and A. Chakrabarti, 2011. A new explanation of the extinction paradox. *J. Quant. Spectros. Rad. Transfer* 112, 1170-1181.
- Bidigare et al. (1990)
- Bidigare, R.R., M.E. Ondrusek, J.H. Morrow, and D. Kiefer, 1990. In vivo absorption properties of algal pigments. *Ocean Optics X Proc. SPIE*, 1302, 290-302.
- Binding and Bowers (2003)
- Binding, C.E. and D.G. Bowers, 2003. Measuring the salinity of the Clyde Sea from space. *Estuarine, Coastal Shelf Sci.*, 57, 605-611.
- Binding et al. (2005)

Binding, C.E., D.G. Bowers and E.G. Mitchelson-Jacob, 2005. Estimating suspended sediment concentrations from ocean colour measurements in moderately turbid waters: The impact of variable particle scattering properties. *Remote Sensing of Environment*, 94, 373-383.

Bishop (1999)

Bishop, J.K.B., 1999. Transmissometer measurement of POC. *Deep Sea Res.* I, 46, 353-369.

Bishop et al. (1999)

Bishop, J.K.B., S.E. Calvert, and M.Y.S. Soon, 1999. Spatial and temporal variability of POC in the northeast Subarctic Pacific. *Deep Sea Res.* II, 46, 2699-2733.

Bissett et al. (1999)

Bissett, W.P., K.L. Carder, J.J. Walsh, and D.A. Dieterle, 1999. Carbon cycling in the upper waters of the Sargasso Sea: II. Numerical simulation of the apparent and inherent optical properties. *Deep-Sea Res.* I 46, 271-317.

Blough and Del Vecchio (2002)

Blough, N.V. and R. Del Vecchio, 2002. Chromophoric DOM in the coastal environment. In: D. A. Hansell and C. A. Carlson [eds.], *Biogeochemistry of Marine Dissolved Organic Matter*, Academic Press, 509-546.

Bodhaine et al. (1999)

Bodhaine, B. A., N. B. Wood, E. G. Dutton, and J. R. Slusser, 1999. On Rayleigh optical depth calculations. *J. Atmos. Oceanic Technol.*, 16, 1854-1861.

Bohren and Clothiaux (2006)

Bohren, C. F. and E. Clothiaux, 2006. *Fundamentals of Atmospheric Radiation*, Wiley-VCH, 490 pages.

Bohren and Fraser (1985)

Bohren, C. F. and A. B. Fraser, 1985. The color of the sky. *The Physics Teacher*, May 1985 edition. 267-272.

Bohren and Huffman (1983)

Bohren, C.F. and D.R. Huffman, 1983. *Absorption and Scattering of Light by Small Particles*, John Wiley & Sons.

Boss et al. (2001a)

Boss, E., W.S. Pegau, W.D. Gardner, J.R.V. Zaneveld, A.H. Barnard, M.S. Twardowski, G.C. Chang, and T.D. Dickey, 2001a. Spectral particulate attenuation and particle size distribution in the bottom boundary layer of a continental shelf. *J. Geophys. Res.* 106, 9509-16. Available online

Boss et al. (2001b)

Boss, E., W.S. Pegau, J.R.V. Zaneveld, and A.H. Barnard, 2001b. Spatial and temporal variability of absorption by dissolved material at a continental shelf. *J. Geophys. Res.* 106, 9499-507. Available online

Boss et al. (2001c)

Boss, E., M.S. Twardowski, and S. Herring, 2001c. Shape of the particulate beam attenuation spectrum and its inversion to obtain the shape of the particulate size distribution. *Appl. Opt.* 40, 4885-93. Available online

Boss et al. (2004)

- Boss, E., W.S. Pegau, M. Lee, M. Twardowski, E. Shybanov, G. Korotaev, and F. Baratange, 2004. Particulate backscattering ratio at LEO 15 and its use to study particle composition and distribution. *J. Geophys. Res.* 109(C1), doi:10.1029/2002JC001415. Available online
- Boss et al. (2009a)
- Boss, E., W.H. Slade, M. Behrenfeld, and G. Dall’Olmo, 2009a. Acceptance angle effects on the beam attenuation in the ocean. *Optics Express* 17(3), 1535-1550. Available online
- Boss et al. (2009b)
- Boss, E., W. Slade, and P. Hill, 2009. Effect of particulate aggregation in aquatic environments on the beam attenuation and its utility for particulate mass. *Opt. Express*, 17, 9408-9420. Available online
- Bouguer (1729)
- Bouguer, P., 1729. Essai d’optique sur la gradation de la lumière. [Optics essay on the attenuation of light] (in French). C. Jombert, Paris, France.
- Bowers and Binding (2006)
- Bowers, D.G. and C.E. Binding, 2006. The optical properties of mineral suspended particles: a review and synthesis. *Estuarine, Coastal Shelf Sci.*, 67, 219-230.
- Bowers and Brett (2008)
- Bowers, D.G. and H.L. Brett, 2008. The relationship between CDOM and salinity in estuaries: an analytical and graphical solution. *Journal of Marine Systems*, 73, 1-7.
- Bowers et al. (2010)
- Bowers, D.G., K.M. Braithwaite, W.A.M. Nimmo-Smith, and G.W. Graham, 2010. The optical efficiency of flocs in shelf seas and estuaries. *Estuarine, Coastal Shelf Sci.*, under review.
- Bracewell (1986)
- Bracewell, R. N., 1986. *The Fourier Transform and Its Applications, Second Edition, Revised*. McGraw Hill, Inc., 474 pages.
- Breitz and Medwin (1989)
- Breitz, N. and H. Medwin, 1989. Instrumentation for the acoustical measurement of bubble densities under breaking waves. *J. Acoust. Soc. Am.* 86, 739-743.
- Bricaud and Stramski (1990)
- Bricaud, A. and D. Stramski, 1990. Spectral absorption coefficients of living phytoplankton and nonalgal biogenous matter: A comparison between the Peru upwelling area and the Sargasso Sea. *Limnol. Oceanogr.* 35(3), 562-582.
- Bricaud et al. (1981)
- Bricaud, A., A. Morel, and L. Prieur, 1981. Absorption by dissolved organic matter of the sea (yellow substance) in the UV and visible domains. *Limnol. Oceanogr.* 26, 43-53.
- Bricaud et al. (1983)
- Bricaud, A., A. Morel, and L. Prieur, 1983. Optical-efficiency factors of some phytoplankters. *Limnol. Oceanogr.* 28, 816-832.
- Bricaud et al. (1995)
- Bricaud, A., M. Babin, A. Morel, and H. Claustre, 1995. Variability in the chlorophyll-specific absorption coefficients of natural phytoplankton: Analysis and parameterization. *J. Geophys. Res* 100(C7), 13321-13332.
- Bricaud et al. (1998)

- Bricaud, A., A. Morel, M. Babin, K. Allali, and H. Claustre, 1998. Variation of light absorption by suspended particles with chlorophyll a concentration in oceanic (case 1) waters: Analysis and implications for bio-optical models. *J. Geophys. Res.* 103(C13), 31033-31044.
- Bricaud et al. (2004)
- Bricaud, A., H. Claustre, J. Ras and K. Oubelkheir, 2004. Natural variability of phytoplanktonic absorption in oceanic waters: Influence of the size structure of algal populations. *J. Geophys. Res., [Oceans]* 109(C11).
- Budde (1983)
- Budde, W., 1983. *Optical Radiation Measurements, Vol. 4. Physical Detectors of Optical Radiation*, Academic Press.
- Buiteveld et al. (1994)
- Buiteveld, H, J. H.M. Hakvoort, and M. Donze, 1994. The optical properties of pure water. SPIE Vol. 2258, Ocean Optics XII, 174-183.
- Campbell (1995)
- Campbell, J. W., 1995. The lognormal distribution as a model for bio-optical variability in the sea. *J. Geophys. Res.*, 100(C7), 13237-13254.
- Carder et al. (1989)
- Carder, K.L., R.G. Steward, G.R. Harvey, and P.B. Ortner, 1989. Marine humic and fulvic acids: their effects on remote sensing of ocean chlorophyll. *Limnol. Oceanogr.* 34, 68-81.
- Cartmill and Su (1993)
- Cartmill, J. and M.-Y. Su, 1993. Bubble size distribution under saltwater and freshwater breaking waves. *Dyn. Atmos. Oceans* 20, 25-31.
- Cermeno and Figueiras (2008)
- Cermeno, P. and F. G. Figueiras, 2008. Species richness and cell-size distribution: size structure of phytoplankton communities. *Mar. Ecol. Prog. Ser.*, 357, 7985.
- Chami et al. (2014)
- Chami, M., A. Thirouard, and T. Harmel, 2014. POLVSM (Polarized Volume Scattering Meter) instrument: an innovative device to measure the directional and polarized scattering properties of hydrosols. *Optics Express* 22(21), 26403-26428. DOI:10.1364/OE.22.026403
- Chandrasekhar (1960)
- Chandrasekhar, S., 1960. *Radiative Transfer*, Dover.
- Chang et al. (2003)
- Chang, G.C., T.D. Dickey, E. Boss, C.D. Mobley, and W.S. Pegau, 2003. Toward closure of upwelling radiance in coastal waters. *Applied Optics* 42(9), 1574-1582.
- Chomko and Gordon (1998)
- Chomko, R.M. and H.R. Gordon, 1998. Atmospheric correction of ocean color imagery: use of the Junge power-law aerosol size distribution with variable refractive index to handle aerosol absorption. *Appl. Optics* 37(24), 5560-5572.
- Ciotti et al. (2002)
- Ciotti, A.M., M.R. Lewis, and J.J. Cullen, 2002. Assessment of the relationships between dominant cell size in natural phytoplankton communities and the spectral shape of the absorption coefficient. *Limnol. Oceanogr.* 47(2), 404-417.
- Clavano et al. (2007)

- Clavano, W.R., E. Boss, and L. Karp-Boss, 2007. Inherent optical properties of non-spherical marine-like particles - from theory to observations. *Oceanogr. Mar. Biol. Annual Rev.* 45, 1-38.
- Coble (2007)
- Coble, P. G., 2007. Marine optical biogeochemistry: the chemistry of ocean color. *Chem. Rev.* 107, 402-418.
- Cooley and Tukey (1965)
- Cooley, J. W. and J. W. Tukey, 1965. An algorithm for the machine calculation of complex Fourier series. *Math. Comput.* 19: 297-301. doi:10.2307/2003354
- Cox and Munk (1954a)
- Cox, C. and W. Munk, 1954. Statistics of the sea surface derived from Sun glitter. *Sears Found. J. Marine Research*, 13(2), 198-227.
- Cox and Munk (1954b)
- Cox, C. and W. Munk, 1954. Measurement of the roughness of the sea surface from photographs of the Sun's glitter. *J. Opt. Soc. Amer. A*, 44(11), 838-850.
- Cox and Munk (1955)
- Cox, C. and W. Munk, 1955. Some problems in optical oceanography. *Sears Found. J. Marine Research*, 14(1), 63-78.
- Cronin and Shashar (2001)
- Cronin, T. W. and N. Shashar, 2001. The linearly polarized light field in clear, tropical marine waters: spatial and temporal variation of light intensity, degree of polarization and e-vector angle. *J. Exp. Biol.* 204, 2461-2467.
- Crawford and Farmer (1987)
- Crawford, G.B. and D.M. Farmer, 1987. On the spatial distribution of ocean bubbles. *J. Geophys. Res.* 92, 8231-8243.
- Cullen (2008)
- Cullen, J.J., 2008. Observation and prediction of harmful algal blooms. In M. Babin, C.S. Roesler and J.J. Cullen [eds.], *Real-time coastal observing systems for ecosystem dynamics and harmful algal blooms*, UNESCO.
- Curtis et al. (2008)
- Curtis, D. B., B. Meland, M. Aycibin, N. P. Arnold, V. H. Grassian, M. A. Yound, and P. D. Kleiber, 2008. A laboratory investigation of light scattering from representative components of mineral dust aerosol at a wavelength of 550 nm. *J. Geophys. Res.* 113, D08210, DOI 10.1029/2007JD009387
- Dall'Olmo et al. (2009)
- Dall'Olmo, G., T.K. Westberry, M.J. Behrenfeld, E. Boss, and W.H. Slade, 2009. Significant contribution of large particles to optical backscattering in the open ocean. *Biogeosciences* 6, 947-967.
- Davis (1955)
- Davis, G.E., 1955. Scattering of light by an air bubble in water. *J. Opt. Soc. Am.* 45, 572-581.
- Davison and Sykes (1957)
- Davison, B. and J.B. Sykes, 1957. *Neutron Transport Theory*, Oxford.
- Deane (1997)

- Deane, G.B., 1997. Sound generation and air entrainment by breaking waves in the surf zone. *J. Acoust. Soc. Am.* 192, 2671-2689.
- de Boer (1969)
- de Boer, J. G., 1969. On the correlation function in time and space of wind-generated ocean waves. Technical report, SACLANT ASW Research Centre, Tech. Rept. No. 160. <http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=AD0865249>.
- Deering and Stoker (2014)
- Deering C. A. and J. M. Stoker, 2014. Let's agree on the casing of lidar. *LiDAR News Magazine* 4(6), 1-4.
- Dekker et al. (2011)
- Dekker A.G., S.R. Phinn, J. Anstee, W.P. Bissett, V.E. Brando, B. Casey, P. Fearn, J. Hedley, W. Klonowski, Z.P. Lee, M. Lynch, M. Lyons, C.D. Mobley, and C. Roelfsema, 2011. Intercomparison of shallow water bathymetry, hydro-optics, and benthos mapping techniques in Australian and Caribbean coastal environments. *Limnol. Oceanogr. Methods* 9, 396-425.
- Del Castillo and Miller (2008)
- Del Castillo, C.E. and R.L. Miller, 2008. On the use of ocean colour remote sensing to measure the transport of dissolved organic carbon by the Mississippi river plume. *Remote Sensing of Environment*, 112, 836-844.
- Dereniak and Crowe (1984)
- Dereniak, E.L. and D.G. Crowe, 1984. *Optical Radiation Detectors*, John Wiley & Sons.
- Desiderio (2000)
- Desiderio, R.A., 2000. Application of the Raman Scattering Coefficient of water to calculations in marine optics. *Appl. Opt.* 39, 1893-1894.
- Dierssen et al. (2006)
- Dierssen, H., R. M. Kudela, J. P. Ryan, and R. C. Zimmerman, 2006. Red and black tides: Quantitative analysis of water-leaving radiance and perceived color for phytoplankton, colored dissolved organic matter, and suspended sediments. *Limnol. Oceanogr.* 51(6), 2646-2659. doi 10.4319/lo.2006.51.6.2646
- Dolin (2013)
- Dolin, L. S., 2013. Theory of lidar method for measurement of the modulation transfer function of water types. *Appl. Optics* 52(2), 199-207.
- Doxaran et al. (2009)
- Doxaran, D., J-M. Froidefond, P. Castaing, and M. Babin, 2009. Dynamics of the turbidity maximum zone in a macrotidal estuary (the Gironde, France): observations from field and MODIS satellite data. *Estuarine, Coastal Shelf Sci.*, 81, 321-332.
- Duntley (1954)
- Duntley, S. Q., 1954. Measurements of the distribution of water wave slopes. *J. Opt. Soc. Amer.* 44(7), 574-575.
- Duysens (1956)
- Duysens, L.M.N., 1956. The flattening effect of the absorption spectra of suspensions as compared to that of solutions. *Biochim. biophys. Acta* 19, 1-12.
- Eckhardt (1987)

- Eckhardt, R., 1987. Stan Ulam, John von Neumann, and the Monte Carlo Method. *Los Alamos Science*, Special Issue 1987, 131-143. Available online.
- Einstein (1910)
- Einstein, A., 1910. Theorie der Opaleszenz von homogenen Flüssigkeiten und Flüssigkeitsgemischen in der Nähe des kritischen Zustandes. *Ann. Physik* 33, 1275-1298.
- Eisberg and Resnick (1985)
- Eisberg, R. and R. Resnick, 1985. *Quantum Physics of Atoms, Molecules, Solids, Nuclei, and Particles; Second Edition*, John Wiley & Sons.
- Eleveld et al. (2017)
- Eleveld, M. A., A. B. Ruescas, A. Hommersom, T. S. Moore, S. W. M. Peters, and C. Brockmann, 2017. An optical classification tool for global lake waters. *Remote Sensing* 9, 420, doi:10.3390/rs9050420.
- Elfouhaily et al. (1997)
- Elfouhaily, T., B. Chapron, K. Katsaros, and D. Vandemark, 1997. A unified directional spectrum for long and short wind-driven waves. *J. Geophys. Res.*, 102(C7), 15781-15796.
- Falkowski and Kiefer (1985)
- Falkowski, P. and D. A. Kiefer, 1985. Chlorophyll-a fluorescence in phytoplankton - relationship to photosynthesis and biomass. *J. Plankton Res.* 7(5), 715-731.
- Falkowski and Owens (1980)
- Falkowski, P.G. and T.G. Owens, 1980. Light-shade adaptation - 2 strategies in marine-phytoplankton. *Plant Physiol.* 66(4): 592-595.
- Falkowski and Raven (2007)
- Falkowski, P.G. and J.A. Raven, 2007. *Aquatic photosynthesis: 2nd ed.* Princeton University Press.
- Falkowski et al. (2017)
- Falkowski, P. G., H. Lin, and M. Y. Gorbunov, 2017. What limits photosynthetic energy conversion efficiency in nature? Lessons from the oceans. *Philosoph. Trans. Royal Soc. B.* 372. DOI 10.1098/rstb.2016.0376
- Fan et al. (2016)
- Fan, Y., W. Li, K. J. Voss, C. K. Gatebe, and K. Stamnes, 2016. Neural network method to correct bidirectional effects in water-leaving radiance. *Appl. Optics*, 55(1), 10-21.
- Feynman et al. (1964)
- Feynman, R. P., R. B. Leighton, and M. Sands, 1964. *The Feynman Lectures on Physics*, vol 2. Addison-Wesley,
- Feynman (1985)
- Feynman, R. P., 1985. *QED. The Strange Story of Light and Matter*, Princeton Univ. Press. (Latest edition is 2014)
- Finney (1977)
- Finney, D. J., 1944. Dimensions of statistics. *J. Royal Stat. Soc. C (Appl. Statistics)*. 26(3), 285-289. DOI: 10.2307/2346969
- Flatau et al. (1999)
- Flatau, P.J., J. Piskozub, and J.R.V.Zaneveld, 1999. Asymptotic light field in the presence of a bubble-layer. *Opt. Express* 5, 120-124.
- Flatau et al. (2000)

- Flatau, P.J., M. Flatau, J.R.V. Zaneveld, and C.D. Mobley, 2000. Remote sensing of bubble clouds in sea water. *Q. J. R. Meteorol. Soc.* 126, 2511-2523.
- Fleisch (2008)
- Fleisch, D., 2008. *A Student's Guide to Maxwell's Equations*, Cambridge Univ. Press. Available online.
- Flory et al. (2004)
- Flory, E.N., P.S. Hill, T.G. Milligan, and J. Grant, 2004. The relation between floc area and backscattering during a spring bloom. *Deep-Sea Res.*, 51, 213-223.
- Fournier and Forand (1994)
- Fournier, G. and J.L. Forand, 1994. Analytic phase function for ocean water. In *Ocean Optics XII* SPIE Vol. 2258, J. S. Jaffe [ed], 194-201.
- Fournier and Jonasz (1999)
- Fournier, G. and M. Jonasz, 1999. Computer based underwater imaging analysis. In *Airborne and In-water Underwater Imaging*, SPIE Vol. 3761, G. Gilbert [ed], 62-77 (with corrections).
- Fox and Herzfeld (1954)
- Fox, F.E. and K. Herzfeld, 1954. Gas bubbles with organic skin as cavitation nuclei. *J. Acoust. Soc. Am.* 26, 984-989.
- Franz et al. (2007)
- Franz, B, S. W. Bailey, P. J. Werdell, and C. R. McClain, 2007. Sensor-independent approach to the vicarious calibration of satellite ocean color radiometry. *Appl. Optics* 46(22), 5068-5082.
- Franz (2014)
- Franz, B. 2014. Atmospheric Correction Discussion: Where we are today and where we might be in 2.5 years. Presentation at the PACE Science Team Meeting; Jan 2014. Available at Available online.,
- Frouin et al. (1996)
- Frouin, R., M. Schwindling, and P. Y. Dechamps, 1996. Spectral reflectance of sea foam in the visible and near infrared: In situ measurements and remote sensing implications. *J. Geophys. Res.*, 101(C6), 14361-14371.
- Fujii et al. (2007)
- Fujii, M., E. Boss, and F. Chai, 2007. The value of adding optics to ecosystem models: a case study. *Biogeosciences Discuss.* 4, 1585-1631. Available online.
- Gainusa Bogdan and Boss (2011)
- Gainusa Bogdan, A. and E. S. Boss, 2011. Evaluation of a compact sensor for backscattering and absorption. *Appl. Optics*, 50(21),3785-3772.
- Gao and Goetz (1990)
- Gao B.-C. and A. F. H. Goetz, 1990. Column atmospheric water vapor and vegetation liquid water retrievals from airborne imaging spectrometer data. *J. Geophys Res.* 95(D4), 3549-3564.
- Gao et al. (2000)
- Gao, B.-C., M.J. Montes, Z. Ahmad, and C.O. Davis, 2000. Atmospheric correction algorithm for hyperspectral remote sensing of ocean color from space. *Appl. Opt.* 39(6), 887-896.
- Garcia (2012)

- Garcia., R. D. M., 2012. Fresnel boundary and interface conditions for polarized radiative transfer in a multilayer medium. *J. Quant. Spectros. Rad. Trans.*, 113, 306-307.
- Ge et al. (1993)
- Ge, Y., H.R. Gordon, and K.J. Voss, 1993. Simulation of inelastic-scattering contributions to the irradiance field in the ocean: variation in Fraunhofer line depths. *Appl. Opt.* 32, 4028-4036.
- Gershun (1936)
- Gershun, A.A., 1936. Fundamental ideas of the theory of a light field (vector methods of photometric calculations), in Russian. *Izvestiya Akad. Nauk SSSR*, 417-430.
- Gershun (1939)
- Gershun, A.A., 1939. The light field. *J. Math. and Phys.* 18(2), 51-151.
- Goodman (1996)
- Goodman, J. W., 1996. *Introduction to Fourier Optics, Second Edition*. McGraw-Hill.
- Gordon (1973)
- Gordon, H.R., 1973. Simple calculation of the diffuse reflectance of the ocean. *Appl. Optics* 12(12), 2803-2804.
- Gordon (1978)
- Gordon, H.R., 1978. Removal of atmospheric effects from satellite imagery of the oceans. *Appl. Optics* 17(10), 1631-1636.
- Gordon (1979)
- Gordon, H. R., 1979. Diffuse reflectance of the ocean: The theory of its augmentation by chlorophyll a fluorescence at 685 nm. *Appl. Optics* 18(8), 1161-1166.
- Gordon (1987)
- Gordon, H.R., 1987. Bio-optical model describing the distribution of irradiance at the sea surface resulting from a point source imbedded in the ocean *Appl. Optics* 26(19), 4133-4148.
- Gordon (1989)
- Gordon, H.R. 1989. Can the Lambert-Beer law be applied to the diffuse attenuation coefficient of ocean water? *Limnol. Oceanogr.* 34(8), 1389-1409.
- Gordon (1994)
- Gordon, H.R., 1994. Modeling and simulating radiative transfer in the ocean. Chapter 1 in *Ocean Optics*, R.W. Spinrad, K.L. Carder and M.J. Perry [eds], Oxford.
- Gordon (1994b)
- Gordon, H.R., 1994. Equivalence of the point and beam spread function of scattering media: a formal demonstration. *Appl. Optics* 33(6), 1120-1122.
- Gordon (1995)
- Gordon, H. R., 1995. Remote sensing of ocean color: a methodology for dealing with broad spectral bands and significant out-of-band response. *Appl. Optics*, 34(36), 8363-8374.
- Gordon (1997)
- Gordon, H.R., 1997. Atmospheric correction of ocean color imagery in the Earth observing system era. *J. Geophys. Res.* 102D, 17081-17106.
- Gordon (2005)
- Gordon, H.R., 2005. Normalized water-leaving radiance: revisiting the influence of surface roughness, *Appl. Optics* 44(2), 241-248.
- Gordon (2006)

- Gordon, H.R., 2006. Backscattering of light from disklike particles: is fine-scale structure or gross morphology more important? *Appl. Optics* 45, 7166-7173.
- Gordon (2007)
- Gordon, H.R., 2007. Rayleigh-Gans scattering approximation: surprisingly useful for understanding backscattering from disk-like particles. *Optics Express* 15 (9), 5572-5588.
- Gordon (2019)
- Gordon, H. R., 2019. *Physical Principles of Ocean Color Remote Sensing*. IOCCG Download
- Gordon and Clark (1981)
- Gordon, H. R. and D. K. Clark, 1981. Clear water radiances for atmospheric correction of Coastal Zone Color Scanner imagery. *Appl. Optics* 20, 4175-4780.
- Gordon and Du (2001)
- Gordon, H.R. and T. Du, 2001. Light scattering by nonspherical particles: Application to coccoliths detached from *Emiliania huxleyi*. *Limnol. Oceanogr.* 46, 1438-1454.
- Gordon and Franz (2008)
- Gordon, H. R. and B. Franz, 2008. Remote sensing of ocean color: Assessment of the water-leaving radiance bidirectional effects on the atmospheric diffuse transmittance for SeaWiFS and MODIS intercomparisons. *Rem. Sens. Environ.*, 112, 2677-2685.
- Gordon and Morel (1983)
- Gordon, H.R. and A. Morel, 1983. Remote Assessment of Ocean Color for Interpretation of Satellite Visible Imagery: A Review. *Lecture Notes on Coastal and Estuarine Studies*, vol. 4, Springer-Verlag.
- Gordon and Voss (2004)
- Gordon, H. R. and K. J. Voss, 2004. MODIS Normalized Water-leaving Radiance. *MODIS Algorithm Theoretical Basis Document, Version 5*, NASA, 121 pages.
- Gordon and Wang (1992)
- Gordon, H. R. and M. Wang, 1992. Surface-roughness considerations for atmospheric correction of ocean color sensors. I: the Rayleigh-scattering component. *Appl. Optics*, 31(21), 4247-4260.
- Gordon and Wang (1994a)
- Gordon, H.R. and M. Wang, 1994. Retrieval of water-leaving radiance and aerosol optical thickness over the oceans with SeaWiFS: a preliminary algorithm. *Appl. Opt.* 33, 443-452.
- Gordon and Wang (1994b)
- Gordon, H.R. and M. Wang, 1994. Influence of oceanic whitecaps on atmospheric correction of ocean-color sensor. *Appl. Opt.* 33(33), 7754-7763.
- Gordon et al. (1975)
- Gordon, H.R., O. B. Brown, and M. M. Jacobs, 1975. Computed relationships between the inherent and apparent optical properties of a flat homogeneous ocean. *Appl. Optics* 14(2), 417-427.
- Gordon et al. (1988)
- Gordon, H. R., O. B. Brown, R. H. Evans, J. W. Brown, R. C. Smith, K. S. Baker, and D. K. Clark, 1988. A semianalytical radiance model of ocean color. *J. Geophys. Res.* 93(D9), 10909-10924.
- Gordon et al. (1997a)

- Gordon, H. R., T. Du, and T. Zhang, 1997. Atmospheric correction of ocean color sensors: analysis of the effects of residual instrument polarization sensitivity. *Appl. Optics* 36(27), 6938-6948.
- Gordon et al. (1997b)
- Gordon, H. R., T. Du, and T. Zhang, 1997. Remote sensing of ocean color and aerosol properties: resolving the issue of aerosol absorption. *Appl. Optics* 36(33), 8670-8684.
- Gordon et al. (2009)
- Gordon, H.R., M.R. Lewis, S.D. McLean, M.S. Twardowski, S.A. Freeman, K.J. Voss, and G.C. Boynton. 2009. Spectra of particulate backscattering in natural waters. *Opt. Express* 17(18), 16192-16208.
- Gray (2012)
- Gray, D. J., 2012. Order-of-scattering point spread function and modulation transfer functions for natural waters. *Appl. Optics* 51(28), 6753-6764.
- Gregg and Carder (1990)
- Gregg, W. and K.L. Carder, 1990. A simple solar irradiance model for cloudless maritime atmospheres. *Limnol. Oceanogr.* 38(5), 1657-1675.
- Greenler (2020)
- Greenler, R., 2020. *Rainbows, Halos and Glories*. SPIE Press vol. PM321, ISBN: 9781510638372. (Republication of the original 1980 edition).
- Griffiths (1981)
- Griffiths, D.J., 1981. *Introduction to Electrodynamics*, Prentice-Hall.
- Griffiths (2008)
- Griffiths, D.J., 2008. *Introduction to Elementary Particles, Second Edition*, Wiley.
- Guidi et al. (2009)
- Guidi, L., L. Stemann, G. A. Jackson, F. Ibanez, H. Claustre, L. Legendre, M. Picheral, and G. Gorski, 2009. Effects of phytoplankton community on production, size, and export of large aggregates: a world-ocean analysis. *Limnol. Oceanogr.* 54, 1951-1963.
- Haines and Johnson (1995)
- Haines, M.A. and B.D. Johnson, 1995. Injected bubble populations in seawater and fresh water measured by a photographic method. *J. Geophys. Res.* 100, 7057-7068.
- Halliday and Resnick (1988)
- Halliday, D. and R. Resnick. 1988. *Fundamentals of Physics, Third Edition*, John Wiley & Sons.
- Handbook of Optics (1995)
- Handbook of Optics, Volume 1: Fundamentals, Techniques, and Design*. 1995. M. Bass [ed.], McGraw-Hill.
- Hansen (1971)
- Hansen, J. E. 1971. Multiple scattering of polarized light in planetary atmospheres. Part II. Sunlight reflected by terrestrial water clouds. *J. Atmos. Sci.* 28, 1400-1426.
- Hansen and Travis (1974)
- Hansen, J. E. and L. D. Travis, 1974. Light scattering in planetary atmospheres. *Space Sci. Rev.* 16, 527-610.
- Hapke (1993)

- Hapke, B., 1993. *Theory of Reflectance and Emittance Spectroscopy*, Cambridge Univ. Press.
- Harmel et al. (2016)
- Harmel, T., M. Hieronymi, W. Slade, R. Röttgers, F. Roullier, and M. Chami, 2016. Laboratory experiments for inter-comparison of three volume scattering meters to measure angular scattering properties of hydrosols. *Optics Express* 24(2), A234-A256. doi:10.1364/OE.24.00A234
- Harvey et al. (1998)
- Harvey, A. H., J. S. Gallagher, and J. M. H. Levelt Sengers, 1998. Revised formulation of the refractive index of water and steam as a function of wavelength, temperature and density. *J. Phys. Chem. Ref. Data* 27, 761-774. doi.org/10.1063/1.556029
- Hawes (1992)
- Hawes, S. K., 1992. *Quantum Fluorescence Efficiencies of Marine Fulvic and Humic Acids*. Masters Thesis, Univ. South Florida, 92 pages. download pdf
- Hawes et al. (1992)
- Hawes, S. K., K. L. Carder, and G. R. Harvey, 1992. Quantum fluorescence efficiencies of fulvic and humic acids: effects on ocean color and fluorometric detection. In *Ocean Optics XI*, Proc. SPIE vol. 1750, 212-223.
- Hecht (1989)
- Hecht, E., 1989. *Optics, Second Edition*, Addison-Wesley.
- Henry and Greenstein (1941)
- Henry, L.C. and J.L. Greenstein. 1941. Diffuse radiation in the galaxy. *Astrophys. J.* 93, 70-83.
- Heron (2006)
- Heron, M. L., 2006. Short-wave ocean wave slope models for use in remote sensing data analysis. *IEEE Transactions Geosci. Rem. Sens.*, 44(7), 1962-1973.
- Herring (2002)
- Herring, S.G., 2002. A systematic survey of the modeled optical properties of nonspherical marine-like particles. MS thesis, Oregon State Univ.
- Hochberg et al. (2010)
- Hochberg, E., C.D. Mobley, Y. Park, J. Goodman, K.R. Turpie, B-C Gao, C.F. Bruce, R.O. Green, R.G. Knox, F.E. Muller-Karger, E.M. Middleton, P.J. Minnet, C. Gentemann, B.V. Oaida, and R.C. Zimmerman, 2010. *Summary of HyspIRI Sunglint Subgroup Discussions and Analyses Fall 2009 - Spring 2010*. Draft Report dated 23 June 2010.
- Højerslev (1975) Højerslev, N. 1975. A spectral light absorption meter for measurements in the sea. *Limnol. Oceanogr.* 20(6), 1027-1034.
- Højerslev and Zaneveld (1977) Højerslev, N. and J.R.V. Zaneveld. 1977. A theoretical proof of the existence of the submarine asymptotic daylight field. Rept. No. 34, Københavns Univ. Inst. Fysisk Oceanog., Copenhagen.
- Hoge et al. (1988)
- Hoge, F.E. C.W. Wright, W.B. Krabill, R.R. Buntzen, G.D. Gilbert, R.N. Swift, J.K. Yungel, and R.E. Berry. 1988. Airborne lidar detection of subsurface oceanic scattering layers. *Appl. Opt.* 27, 3969-3977.
- Holl (1970)
- Holl, J.W., 1970. Nuclei and Cavitation. *J. Basic Eng.* 92, 681-688.
- Hoepffner and Sathyendranath (1991)

- Hoepffner, N. and Sathyendranath. S., 1991. Effect of pigment composition on absorption properties of phytoplankton. *Mar. Ecol.: Prog. Ser.*, 73(1), 11-23.
- Holthuijsen (2007)
- Holthuijsen, L. H., 2007. *Waves in Oceanic and Coastal Waters*. Cambridge Univ. Press.
- Horoshenkov et al. (2013)
- Horoshenkov, K. V., A. Nichols, S. J. Tait, and G. A. Maximov, 2013. The pattern of surface waves in a shallow free surface flow. *J. Geophys. Res. Earth Surf.*, 118, 1864–1876.
- Hou et al. (2007)
- Hou, W., Z.-P. Lee, and A. W. Weidemann, 2007. Why does the Secchi disk disappear? An imaging perspective. *Optics Express* 15(6), 2791-2802.
- Hou et al. (2008)
- Hou, W., D. J. Gray, A. D. Weidemann, and R. A. Arnone, 2008. Comparison and validation of point spread models for imaging in natural waters. *Optics Express*, 16(13), 9958-9965.
- Hu et al. (2001)
- Hu, Y.-X., D. Winker, P. Yang, B. Baum, L. Poole, and L. Vann, 2001. Identification of cloud phase from PICASSO-CENA lidar depolarization: a multiple scattering sensitivity study. *J. Quant. Spectros. Rad. Trans.*, 70, 569-579.
- Huang et al. (2000)
- Huang, P. A., D. W. Wang, E. J. Walsh, W. B. Krabill, and R. N. Swift, 2000. Airborne measurements of the wavenumber spectra of ocean surface waves. Part II: Directional distribution. *J. Phys. Oceanogr.*, 30, 2768-2787.
- Huffman and Zveare (1974)
- Huffman, T.B. and D.L. Zveare, 1974. Sound Speed Dispersion, Attenuation and Inferred Microbubbles in the Upper Ocean. M.S. thesis, p. 119, Naval Postgraduate School.
- Huibers (1997)
- Huibers, P. D. T., 1997. Models for the wavelength dependence of the index of refraction of water. *Appl. Optics* 36(16), 3785-3787.
- Huot et al. (2005)
- Huot, Y., C.A. Brown, and J.J. Cullen, 2005. New algorithms for MODIS sun-induced chlorophyll fluorescence and a comparison with present data products. *Limnol. Oceanogr.: Methods* 3, 108-130.
- HydroLight Technical Documentation (2019)
- Hedley, J. D. and C. D. Mobley, 2019. HydroLight 6.0 - EcoLight 6.0 Technical Documentation (2019), Numerical Optics Ltd. Download pdf
- HydroLight Users' Guide (2019)
- Hedley, J. D. and Mobley, 2019. HydroLight 6.0 - EcoLight 6.0 Users' Guide (2019), Numerical Optics Ltd. Download pdf
- Hydrologic Optics
- Preisendorfer, R.W., 1976. *Hydrologic Optics*, in 6 volumes: Vol. 1: Introduction, 218 pp; Vol. 2: Foundations, 400 pp; Vol. 3: Solutions, 246 pp; Vol. 4: Imbeddings, 207 pp; Vol. 5: Properties, 296 pp; Vol. 6: Surfaces. NOAA Pacific Mar. Environ. Lab., Seattle, WA. (Out of print, but available on CD from Curtis Mobley)
- HyspIRI (2011)

- HyspIRI Mission Study Website
IOCCG (2008)
- Platt, T., N. Hoepffner, V. Stuart, and C. Brown [eds], 2008. IOCCG Report Number 7: *Why Ocean Colour? The Societal Benefits of Ocean-Colour Technology*. Available online IOCCG (2010)
- Wang, M. [editor], 2010. *IOCCG Report Number 10. Atmospheric Correction for Remotely-Sensed Ocean-Color Products*. IOCCG Report Series, 78 pages. Available online
- Iturriaga and Siegel (1989)
- Iturriaga, R. and D. A. Siegel, 1989. Microphotometric characterization of phytoplankton and detrital absorption properties in the Sargasso Sea. *Limnol. Oceanogr.* 34(8),1706-1726.
- Jackson (1962)
- Jackson, J. D., 1962. *Classical Electrodynamics*. John Wiley & Sons.
- Jackson (1975)
- Jackson, J. D., 1975. *Classical Electrodynamics, Second Edition*. John Wiley & Sons. Available online
- Jackson et al. (1977)
- Jackson G. A., R. Maffione, D. K. Costello, A. L. Alldredge, B. E. Logan, and H. G. Dam, 1997. Particle size spectra between 1 m and 1 cm at Monterey Bay determined using multiple instruments. *Deep Sea Res. Part I Oceanogr. Res. Pap.* 44(11), 17391767.
- Jeffrey et al. (1997)
- Jeffrey, S.W., R.F.C. Mantoura, and W.W. Wright [eds], 1997. *Phytoplankton pigments in oceanography: Guidelines to modern methods (monographs on oceanographic methodology)*. UNESCO.
- Jeffrey and Vesk (1997)
- Jeffrey, S.W. and M. Vesk, 1997. Introduction to marine phytoplankton and their pigment signatures, p. 37-84. In: S.W. Jeffrey, R.F.C. Mantoura, and W.W. Wright [eds]. *Phytoplankton pigments in oceanography: Guidelines to modern methods (monographs on oceanographic methodology)*. UNESCO.
- Jerlov (1968)
- Jerlov, N.G., 1968. *Optical Oceanography*, Elsevier Oceanography Series 5.
- Jerlov (1976)
- Jerlov, N.G., 1976. *Marine Optics*, Elsevier Oceanography Series 14.
- Jerlov and Nygard (1969)
- Jerlov, N.G. and K. Nygard, 1969. A quanta and energy meter for photosynthetic studies. Copenhagen Univ. Inst. Fysisk Oceanog., Rept 10.
- Johnson (1986)
- Johnson, B.D., 1986. Bubble populations: Background and breaking waves, p. 69-73. In E.C. Monahan and G. Mac Niocail [eds], *Oceanic Whitecaps and their role in air-sea exchange processes*, D. Reidel.
- Johnson and Cooke (1979)
- Johnson, B.D. and R.C. Cooke, 1979. Bubble populations and spectra in coastal waters: A photographic approach. *J. Geophys. Res.* 84, 3761-3766.
- Johnson and Cooke (1981)

- Johnson, B.D. and R.C. Cooke, 1981. Generation of stabilized microbubbles in seawater. *Sci.* 213, 209-211.
- Johnsen et al. (1994)
- Johnsen, G., N.B. Nelson, R.V.M. Jovine, and B.B. Prezelin, 1994. Chromoprotein-dependent and pigment-dependent modeling of spectral light-absorption in 2 dinoflagellates, prorocentrum-minimum and heterocapsa-pygmaea. *Mar. Ecol.: Prog. Ser.* 114(3), 245-258.
- Jonasz (1983)
- Jonasz, M. 1983. Particle-size distributions in the Baltic. *Tellus* 35B, 346-358.
- Jonasz (1987)
- Jonasz, M. 1987, Nonsphericity of suspended marine particles and its influence on light scattering. *Limnol. Oceanogr.* 32, 1059-1065.
- Jonasz and Fournier (2007)
- Jonasz, M. and G.R. Fournier, 2007. *Light scattering by particles in water: Theoretical and experimental foundations.* Academic Press.
- Junge (1953)
- Junge, C., 1953. Die Rolle der Aerosole und der gasförmigen Beimengungen der Luft im Spurenstoffhaushalt der Troposphäre. *Tellus*, 5(1), 1-26. DOI: 10.3402/tellusa.v5i1.8567
- Junge (1955)
- Junge, C., 1955. The size distribution and aging of natural aerosols as determined from electrical and optical data on the atmosphere. *J. Meteorology* 12, 13-25.
- Kattawar (1975)
- Kattawar, G.W., 1975. A three-parameter analytic phase function for multiple scattering calculations. *J. Quant. Spectrosc. Radiat. Trans.* 15, 839-849.
- Kattawar (1994)
- Kattawar, G.W., 1994. Polarization of light in the ocean. In R.W. Spinrad, K.L. Carder, and M.J. Perry, editors, *Ocean Optics*, pages 200-225. Oxford Press.
- Kattawar and Adams (1989)
- Kattawar, G.W. and C.N. Adams, 1989. Stokes vector calculations of the submarine light field in an atmosphere-ocean with scattering according to a Reyleigh phase matrix: Effect of interface refractive index on radiance and polarization. *Limnol. Oceanogr.* 34(8), 1453-1472.
- Kattawar and Plass (1976)
- Kattawar, G.W. and G.N. Plass, 1976. Asymptotic radiance and polarization in optically thick media: ocean and clouds. *Appl. Optics* 15(12), 3166-3178.
- Kattawar and Xu (1992)
- Kattawar, G. W. and X. Xu, 1992. Filling in of Fraunhofer lines in the ocean by Raman scattering. *Appl. Optics* 31(30), 6491-6500.
- Kay et al. (2011)
- Kay, S., J. Hedley, S. Lavender, and A. Nimmo-Smith, 2011. Light transfer at the ocean surface modeled using high resolution sea surface realizations. *Optics Express* 19, 6493-6505.
- Kelly (1943)
- Kelly, K. L., 1943. Color designations for lights. *J. Opt. Soc. Amer.* 33(11), 627-632.
- Khelifa and Hill (2006)

- Khelifa A., and P. S. Hill, 2006. Models for effective density and settling velocity of flocs. *J. Hydraul. Res.* 44, 390401.
- Kidd et al. (1989)
- Kidd, R., J. Ardini, and A. Anton, 1986. Evolution of the modern photon. *Amer. J. Phys* 57(1), 27-35.
- Kiefer and Reynolds (1992)
- Kiefer, D. A. and R. A. Reynolds, 1992. Advances in understanding phytoplankton fluorescence and photosynthesis. In *Primary Productivity and Biogeochemical Cycles in the Sea*, Edited by P. G. Falkowski and A. D. Woodhead, Plenum Press, New York. 155-174.
- Kingsbury and Marston (1981)
- Kingsbury, D.L. and P.L. Marston, 1981. Mie scattering near the critical angle of bubbles in water. *J. Opt. Soc. Am.* 71, 358-361.
- Kirk (1976)
- Kirk, J.T.O., 1976. A theoretical analysis of the contribution of algal cells to the attenuation of light within natural waters, III. Cylindrical and spheroidal cells. *New Phytol.* 77, 341-358.
- Kirk (1994)
- Kirk, J.T.O., 1994. *Light and Photosynthesis in Aquatic Ecosystems, Second Edition*, Cambridge Univ. Press.
- Kirkpatrick et al. (2000)
- Kirkpatrick, G.J., D.F. Millie, M.A. Moline, and O. Schofield, 2000. Optical discrimination of a phytoplankton species in natural mixed populations. *Limnol. Oceanogr.* 45(2), 467-471.
- Kishino et al. (1985)
- Kishino, M.; Takahashi, M.; Okami, N.; Ichimura, S., 1985. Estimation of the spectral absorption coefficients of phytoplankton in the sea. *Bulletin of Marine Sci.* 37(2), 634-642.
- Koepke 1984)
- Koepke, P., 1984. Effective reflectance of oceanic whitecaps. *Appl. Optics* 23(11), 1816-1824.
- Kokhanovsky and Zege (1997)
- Kokhanovsky, A. A. and E. P. Zege, 1997. Optical properties of aerosol particles: a review of approximate analytical solutions. *J. Aerosol. Sci.* 28(1), 1-21.
- Kolovayev (1976)
- Kolovayev, D.A., 1976. Investigation of the concentration and statistical size distribution of wind-produced bubbles in the near-surface ocean. *Oceanology (Engl. Transl.)* 15, 659-661.
- Kutser et al. (2005)
- Kutser, T., D.C. Pierson, K.Y. Kallio, A. Reinart, and S. Sobek, 2005. Mapping lake CDOM by satellite remote sensing. *Remote Sensing of Environment*, 94, 535-540.
- Lamarre and Melville (1991)
- Lamarre, E. and W.K. Melville, 1991. Air entrainment and dissipation in breaking waves. *Nature* 351, 469-472.
- Lambert (1760)
- Lambert, J. H. , 1760. Photometria sive de mensura et gradibus luminis, colorum et umbrae. [Photometry, or, On the measure and gradations of light intensity, colors, and

- shade] (in Latin). Eberhardt Klett, Augsburg, Germany.
- Larsen (1973)
- Larsen, J. C., 1973. An introduction to electromagnetic induction in the ocean. *Phys. Earth Planetary Interiors* 7, 389-398.
- Larsen (1992)
- Larsen, J. C., 1992. Transport and Heat Flux of the Florida Current at 27 degrees N Derived from Cross-Stream Voltages and Profiling Data: Theory and Observations. *Philos. Trans. Royal Soc. London A* 339(1650), 169-236. DOI: 10.1098/rsta.1992.0007
- Latta and Bailie (1968)
- Latta, G. E. and J. A. Bailie, 1968. On the autocorrelation functions of wind generated ocean waves. *Zeit. Angew. Math. Phys.*, 19, 575-586.
- Lawaetz and Stedmon (2009)
- Lawaetz, A. J. and C. A. Stedmon, 2009. Fluorescence intensity calibration using the Raman scatter peak of water. *Appl. Spectros.* 63(8), 936-940.
- Leathers et al. (2004b)
- Leathers, R.A., T.V. Downes, and C.D. Mobley, 2004. Self-shading correction for oceanographic upwelling radiometers. *Opt. Express* 12(20), 4709-4718. Download pdf
- Leathers et al. (2004a)
- Leathers, R.A., T.V. Downes, C.O. Davis, and C.D. Mobley, 2004. *Monte Carlo Radiative Transfer Simulations for Ocean Optics: A Practical Guide*. Naval Research Lab. Rept. NRL/MR/5660-04-8819. Download pdf
- Lee and Lewis (2003)
- Lee, M.E. and M.R. Lewis, 2003. A new method for the measurement of the optical volume scattering function in the upper ocean. *J. Atmos. Ocean. Technol.* 20, 563-571.
- Lee et al. (1994)
- Lee, Z.-P., K. L. Carder, S. K. Hawes, R. G. Steward, T. G. Peacock, and C. O. Davis, 1994. Model for the interpretation of hyperspectral remote-sensing reflectance. *Appl. Optics* 33(24), 5721-5732.
- Lee et al. (2010a)
- Lee, Z. P., Y.-H. Ahn, C. D. Mobley, and R. Arnone, 2010. Removal of surface-reflected light for the measurement of remote-sensing reflectance from an above-surface platform. *Optics Express*, 18(25), 26313-26324.
- Lee et al. (2010b)
- Lee, Z. P., R. A. Arnone, C.-M. Hu, P. J. Werdell, and B. Lubac. 2010. Uncertainties of optical parameters and their propagations in an analytical ocean color inversion algorithm. *Appl. Optics* 49(3), 369381.
- Lee et al. (2011)
- Lee, Z. P., K. Du, K. J. Voss, G. Zibordi, B. Lubac, R. Arnone, and A. Weidemann, 2011. An inherent-optical-property-centered approach to correct the angular effects in water-leaving radiance. *Appl. Optics* 50(19), 3155-3167.
- Lee et al. (2011)
- Lee, Z. P., S. Shang, C. Hu, K. Du, A. Weidemann, W. Hou, J. Lin, and G. Lin, 2015. Secchi disk depth: A new theory and mechanistic model for underwater visibility. *Rem. Sens. Environ.* 169, 139-149.
- Leeuw and Cohen (1995)

- Leeuw, G.D. and L.H. Cohen, 1995. Bubble size distribution in coastal seas. In B. Jahne and E.C. Monahan [eds.], Air-water gas transfer. AEON Verlag and Studio.
- Leighton (1959)
- Leighton, R.B., 1959. *Principles of Modern Physics*, McGraw-Hill.
- Lenoble (1993)
- Lenoble, J., 1993. *Atmospheric Radiative Transfer*, A. Deepak.
- Li et al. (2012)
- Li, C., W. Cao, J. Yu, T. Ke, G. Lu, Y. Yang, and C. Guo, 2012. An instrument for in situ measuring of the volume scattering function of water: design, calibration and primary experiments. *Sensors* 12, 4514-4533. doi:10.3390/s120404514
- Liboff (1980)
- Liboff, R.L., 1980. *Introductory Quantum Mechanics*, Addison-Wesley.
- Light and Water (1994)
- Mobley, C.D., 1994. *Light and Water: Radiative Transfer in Natural Waters*, Academic Press. (Out of print, but can be obtained on CD from Curtis Mobley or download Light and Water as a zipped pdf (22.4 Mbytes).) Liley (1992)
- Liley, J. B., 1992. Fitting size distributions to optical particle counter data. *Aerosol Sci. Tech.* 17(2), 84-92. DOI:10.1080/02786829208959562
- Lilienfeld (1991)
- Lilienfeld, P., 1991. Gustav Mie: the person. *Appl. Optics* 30(33), 4696-4698.
- Ling and Pao (1988)
- Ling, S.C. and H.P. Pao, 1988. Study of micro-bubbles in the North Sea, p. 197-210. In B.R. Kerman [ed.], Sea surface sound. Kluwer Academic Publishers.
- Loisel and Morel (1998)
- Loisel, H. and A. Morel, 1998. Light scattering and chlorophyll concentration in case 1 waters: A reexamination. *Limnol. Oceanogr.* 43(5), 847-858.
- Lombard et al. (2019)
- Lombard, F., E. Boss, A. M. Waite, M. Vogt, J. Uitz, L. Stemann. H. M. Sosik, J. Schulz, J-B. Romagnan, M. Picheral, J. Pearlman, M. D. Ohman, B. Niehoff, K. O. Miller, P. Miloslavich, A. Lara-Lpez, R. Kudela, R. M. Lopes, R. Kiko, L. Karp-Boss, J. S. Jaffe, M. H. Iversen, J-O. Irisson, K. Fennel, H. Hauss, L. Guidi, G. Gorsky, S. L. C. Giering, P. Gaube, S. Gallagher, G. Dubelaar, R. K. Cowen, F. Carlotti, C. Briseo-Avena, L. Berline, K. Benoit-Bird, N. Bax, S. Batten, S. D. Ayata, L. F. Artigas and W. Appeltan, 2019. Globally Consistent Quantitative Observations of Planktonic Ecosystems. *Front. Mar. Sci.* 6:196. doi: 10.3389/fmars.2019.00196F
- Longuet-Higgins et al. (1963)
- Longuet-Higgins, M. S., D. E. Cartwright, and N. D. Smith, 1963. Observations of the directional spectrum of sea waves using the motions of a flotation buoy. In *Ocean Wave Spectra*, 111-136. Prentice-Hall.
- Lotsberg et al. (2007)
- Lotsberg, J.K., E. Marken, J.J. Stamnes, S.R. Erga, K. Aursland, and C. Olseng, 2007. Laboratory measurements of light scattering from marine particles. *Limnol. Oceanogr.: Methods* 5, 34-40.
- Lubac and Loisel (2007)

- Lubac, B. and H. Loisel, 2007. Variability and classification of remote sensing reflectance spectra in the eastern English Channel and southern North Sea. *Rem. Sens. Environ.* 110(1), 45-58. DOI: 10.1016/j.rse.2007.02.012
- Maffione and Honey (1992)
- Maffione, R.A. and R.C. Honey, 1992. Instrument for measuring the volume scattering function in the backward direction. Proc. SPIE 1750, Ocean Optics XI; doi:10.1117/12.140650.
- Maffione et al. (1993)
- Maffione, R.A., K.J. Voss, and R.C. Honey, 1993. Measurement of the spectral absorption coefficient in the ocean with an isotropic light source. *Appl. Optics* 32(18), 3273-3279.
- MacCallum et al. (2004)
- MacCallum, I., A. Cunningham, and D. McKee, 2004. The measurement and modelling of light scattering by phytoplankton cells at narrow forward angles. *J. Opt. A: Pure Appl. Opt.* 6, 698-702.
- Maggi (2007)
- Maggi, F., 2007. Variable fractal dimension: A major control for floc structure and flocculation kinematics of suspended cohesive sediment. *J. Geophys. Res.* 112(C7), C07012.
- Makhoul (1980)
- Makhoul, J., 1980. A fast cosine transform in one and two dimensions. *IEEE Trans. Acoustics, Speech, Signal Process.* 28(1), 27-34.
- Maritorena et al. (2000)
- Maritorena, S., A. Morel, and B. Gentili, 2000. Determination of the fluorescence quantum yield by oceanic phytoplankton in their natural habitat. *Appl. Optics* 39(36), 6725-6737.
- Marshall and Smith (1990)
- Marshall, B. R. and R. C. Smith, 1990. Raman scattering and in-water ocean optical properties. *Appl. Optics* 29, 71-84.
- Marston (1979)
- Marston, P.L., 1979. Critical angle scattering by a bubble: physical-optics approximation and observations. *J. Opt. Soc. Am.* 69, 1205-1211.
- Marston et al. (1988)
- Marston, P.L., B. Billette, and C. Dean, 1988. Scattering of light by a coated bubble in water near the critical and Brewster scattering angles. *SPIE 925 Ocean Optics IX*, 925, 308-316.
- Marston and Kingsbury (1981)
- Marston, P.L. and D.L. Kingsbury, 1981. Scattering by a bubble in water near the critical angle: Interference effects. *J. Opt. Soc. Am.* 71, 192-196.
- Marston et al. (1982)
- Marston, P.L., D.S. Langley, and D.L. Kingsbury, 1982. Light scattering by bubbles in liquids: Mie theory, physical-optics approximations and experiments. *J. Appl. Sci. Res.* 38, 373-383.
- Massel (2011)
- Massel, S. R., 2011. On the geometry of ocean surface waves. *Oceanologia*, 53(2), 521-548.
- Masters (2009)

- Masters, B. R., 2009. Lord Rayleigh: A Scientific Life, *Optics and Photonics* June 2009. Available online
- Matta et al. (2011)
- Matta, C. F, L. Massa, A. V. Gubskaya, and E. Knoll, 2011. Can one take the logarithm or the sine of a dimensioned quantity or a unit? Dimensional analysis involving transcendental functions. *J. Chem. Educ.* 88(1), 6770. DOI: 10.1021/ed1000476
- McClain et al. (2000a)
- McClain, C. R., E. J. Ainsworth, R. A. Barnes. R. E. Splee, Jr., R. S. Patt, W. D. Robinson, M. Wang, and S. W. Bailey, 2000. *Volume 9, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 1, SeaWiFS Postlaunch Technical Report Series*, S. B. Hooker and E. R. Firestone [editors], NASA, 83 pages.
- McClain et al. (2000b)
- McClain, C. R., E. J. Ainsworth, R. A. Barnes, R. E. Splee, Jr., F. S. Patt, W. D. Robinson, M. Wang, and S. W. Bailey, 2000. *Volume 10, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 2, SeaWiFS Postlaunch Technical Report Series*, S. B. Hooker and E. R. Firestone [editors], NASA, 57 pages.
- McLean et al. (1998)
- McLean, J. W., J. D. Freeman, and R. E. Walker, 1998. Beam spread function with time dispersion. *Appl. Optics*, 37(21), 4701-4711.
- McLean and Voss (1991)
- McLean, J. W. and K. J. Voss, 1991. Point spread function in ocean water: comparison between theory and experiment. *Appl. Optics* 30(15), 2027-2030.
- Meister et al. (2005)
- Meister, G., E. J. Kwiatkowska, B. A. Franz, F. S. Patt, G. C. Feldman, and C. R. McClain, 2005. Moderate-resolution imaging spectroradiometer ocean color polarization correction. *Appl. Optics* 44(26), 5524-5535.
- Measures (1992)
- Measures, R.M. 1992. *Laser Remote Sensing: Fundamentals and Applications*, Krieger.
- Medwin (1970)
- Medwin, H., 1970. In situ acoustic measurements of bubble populations in coastal ocean waters. *J. Geophys. Res.* 75.
- Medwin (1977)
- Medwin, H., 1977. In situ acoustic measurements of microbubbles at sea. *J. Geophys. Res.* 82, 971-976.
- Melin and Vantrepotte (2015)
- Melin, F. and V. Vantrepotte, 2015. How optically diverse is the coastal ocean? *Rem. Sens. Environ.* 160, 235-251. DOI: 10.1016/j.rse.2015.01.023
- Mertens and Replogle (1977)
- Mertens, L. E. and R. S. Replogle, 1977. Use of point spread and beam spread functions for analysis of imaging systems in water. *J. Opt. Soc. Amer.* 67(8), 1105-1117.
- Metropolis (1949)
- Metropolis, N. and S. Ulam, 1949. The Monte Carlo method. *J. Amer. Statistical Assoc.* 44(247), 335-341.
- Meyer-Arendt (1968)

- Meyer-Arendt, J.R., 1968. Radiometer and photometry: units and conversion factors. *Appl. Optics* 7, 2081-2084.
- Mie (1908)
- Mie G., 1908. Beiträge zur Optik trüber Medien, speziell kolloidaler Metallösungen. *Ann. Physik*, Vierte Folge, Band 25(3), 377-445.
- Mishchenko et al. (2002)
- Mishchenko, M.I., L.D. Travis and A.A. Lacis, 2002. *Scattering, Absorption, and Emission of Light by Small Particles*, Cambridge Univ. Press. Available online
- Mishchenko (2008a)
- Mishchenko, M.I., 2008. Multiple scattering by particles embedded in an absorbing medium. 2. Radiative transfer equation. *J. Quant. Spectros. Rad. Trans.* 108, 2386-2390.
- Mishchenko (2008b)
- Mishchenko, M.I., 2008. Multiple scattering, radiative transfer, and weak localization in discrete random media: unified microphysical approach. *Rev. Geophys.*, 46, 1-33.
- Mishchenko (2013)
- Mishchenko, M.I., 2013. 125 years of radiative transfer: Enduring triumphs and persisting misconceptions. In *Radiation Processes in the Atmosphere and Ocean*. AIP Conf. Proc. 1531, 11-18. doi 10.1063/1.4804696.
- Mishchenko (2014)
- Mishchenko, M.I., 2014. Directional radiometry and radiative transfer: The convoluted path from centuries-old phenomenology to physical optics. *J. Quant. Spectros. Rad. Trans.* 146, 4-33.
- Mishchenko et al. (2016)
- Mishchenko, M.I., J. M. Dlugach, M. A. Yurkin, L. Bi, B. Cairns, L. Liu, R. L. Panetta, L. D. Travis, P. Yang, and N. T. Zakharova, 2016. First principles modeling of electromagnetic scattering by discrete and discretely heterogeneous random media. *Physics Reports* 632, 1-75. doi 10.1016/j.physrep.2016.04.002.
- Mobley (1989)
- Mobley, C.D., 1989. A numerical model for the computation of radiance distributions in natural waters with wind-roughened surfaces. *Limnol. Oceanogr.* 34(8), 1473-1483.
- Mobley (1994)
- Mobley, C.D., 1994. *Light and Water: Radiative Transfer in Natural Waters*, Academic Press. (Out of print, but can be obtained on CD from Curtis Mobley or download Light and Water as a zipped pdf (22.4 Mbytes).).
- Mobley (1996)
- Mobley, C.D., 1996. Monte Carlo simulation of a point light source in an infinite medium. SRI Tech Report, May 1996, 39 pages.
- Mobley (1999)
- Mobley, C.D., 1999. Estimation of the remote-sensing reflectance from above-surface measurements. *Appl. Optics* 38(36), 7442-7455.
- Mobley (2011)
- Mobley, C.D., 2011. Fast light calculations for ocean ecosystem and inverse models. *Optics Express* 19(20), 18927-18944.
- Mobley (2014)

- Mobley, C. D., 2014. *HydroPol Mathematical Documentation: Invariant Imbedding Theory for the Vector Radiative Transfer Equation*. Sequoia Scientific, Inc. Bellevue, WA 98005. 163 pages. Download pdf
- Mobley (2015)
- Mobley, C.D., 2015. Polarized reflectance and transmittance properties of wind-blown sea surfaces. *Appl. Optics* 54(15), 4828-4849.
- Mobley (2016)
- Mobley, C. D., 2016. *Modeling Sea Surfaces: A Tutorial on Fourier Transform Methods. Version 2.0*. Sequoia Scientific, Inc. Bellevue, WA 98005. 104 pages. Download pdf
- Mobley (2018)
- Mobley, C. D., 2018. *Monte Carlo Ray Tracing for Coral Reef Light Simulations*. Sequoia Scientific, Inc. Bellevue, WA 98005. 3 pages. Download pdf
- Mobley (2019)
- Mobley, C. D., 2019. *The Evolution of Radiative Transfer Theory (draft of 02 March 2019)*. Download pdf
- Mobley (2020)
- Mobley, C. D., 2020. *A Tutorial on Prediction of Underwater Images*. Draft technical report, available from the author. 47 pages.
- Mobley and Boss (2012)
- Mobley, C. D. and E. Boss, 2012. Improved irradiances for use in ocean heating, primary production, and photo-oxydation calculations, *Applied Optics*, 51(27), 6549-6560.
- Mobley et al. (1993)
- Mobley, C.D., B. Gentili, H.R. Gordon, Z. Jin, G.W. Kattawar, A. Morel, P. Reinersman, K. Stamnes, and R. Stavn, 1993. Comparison of numerical models for the computation of underwater light fields. *Applied Optics* 32(36), 7484-7504.
- Mobley et al. (2002)
- Mobley, C.D., L.K. Sundman, and E. Boss, 2002. Phase function effects on oceanic light fields. *Appl. Optics* 41(6), 1035-1050.
- Mobley et al. (2003)
- Mobley, C.D., H. Zhang, and K.J. Voss, 2003. Effects of optically shallow bottoms on upwelling radiances: Bidirectional reflectance distribution function effects. *Limnol. Oceanogr.* 48(1, part 2), 337-345.
- Mobley et al. (2004)
- Mobley, C.D., D. Stramski, W. P. Bisset, and E. Boss, 2004. Optical modeling of ocean waters: Is the case-1 case-2 still useful? *Oceanography* 17(2), 60-67.
- Mobley et al. (2005)
- Mobley, C.D., L.K. Sundman, C.O. Davis, J.H. Bowles, T.V. Downes, R.A. Leathers, M.J. Montes, W.P. Bissett, D.D.R. Kohler, R.P. Reid, E.M. Louchard, and A. Gleason, 2005. Interpretation of hyperspectral remote-sensing imagery by spectrum matching and look-up-tables. *Appl. Optics* 44(17), 3576-3592.
- Mobley et al. (2015)
- Mobley, C. D., F. Chai, P. Xiu, and L. K. Sundman, 2015. Impact of improved light calculations on predicted phytoplankton growth and heating in an idealized upwelling-downwelling channel geometry. *J. Geophys. Res. Oceans*, 120, doi:10.1002/2014JC010588.
- Mobley et al. (2016)

- Mobley, C. D., P. J. Werdell, B. Franz, Z. Ahmad, and S. Bailey, 2016. *Atmospheric Correction for Satellite Ocean Color Radiometry: A Tutorial and Documentation of the Algorithms Used by the NASA Ocean Biology Processing Group*. Sequoia Scientific, Inc. Download pdf
- Montes et al. (2001)
- M.J. Montes, B.-C. Gao, and C. O. Davis, 2001. A new algorithm for atmospheric correction of hyperspectral remote sensing data. *Proc. SPIE* 4383, 23-30.
- Montes and Gao (2004)
- M.J. Montes and B.-C. Gao, 2004, NRL Atmospheric Correction Algorithms for Oceans: TAFKAA Users' Guide. 39 pages. Download pdf
- Moore et al. (2000)
- Moore, K. D., K. J. Voss, and H. R. Gordon, 2000. Spectral reflectance of whitecaps: Their contribution to water-leaving radiance. *J. Geophys. Res.* 105, 6493-6499.
- Moore et al. (2001)
- Moore, T. S., J. W. Campbell, and H. Feng, 2001. A Fuzzy Logic Classification Scheme for Selecting and Blending Satellite Ocean Color Algorithms. *IEEE Trans. Geosci. Rem. Sens* 39(8), 1764-1776.
- Moore et al. (2009)
- Moore, T. S., J. W. Campbell, and M. D. Dowell, 2009. A class-based approach to characterizing and mapping the uncertainty of the MODIS ocean chlorophyll product. *Rem. Sens. Environ.*, 113(11), 2424-2430. DOI:10.1016/j.rse.2009.07.016
- Moore et al. (2014)
- Moore, T. S., M. D. Dowell, S. Bradt, and A. R. Verdu, 2014. An optical water type framework for selecting and blending retrievals from bio-optical algorithms in lakes and coastal waters. *Rem. Sens. Environ.*, 143, 97-111. DOI: 10.1016/j.rse.2013.11.021
- Morel (1988)
- Morel, A., 1988. Optical modeling of the upper ocean in relation to its biogenous matter content (case 1 waters). *J. Geophys. Res.* 93(C9), 10749-10768.
- Morel and Bricaud (1981)
- Morel, A. and A. Bricaud, 1981. Theoretical results concerning light-absorption in a discrete medium, and application to specific absorption of phytoplankton. *Deep-Sea Res., Part A* 28(11), 1375-1393.
- Morel and Bricaud (1986)
- Morel, A. and A. Bricaud, 1986. Inherent optical properties of algal cells including picoplankton theoretical and experimental results. *Can. Bull. Fish. Aquat. Sci.* 214, 521-560.
- Morel and Gentili (1991)
- Morel, A. and B. Gentili, 1991. Diffuse reflectance of oceanic waters: its dependence on sun angle as influenced by molecular scattering contribution. *Applied Opt.* 30(30), 4427-4438.
- Morel and Gentili (1993)
- Morel, A. and B. Gentili, 1993. Diffuse reflectance of oceanic waters: II: Bidirectional aspects. *Applied Opt.* 32(33), 6864-6879.
- Morel and Gentili (1996)

- Morel, A. and B. Gentili, 1996. Diffuse reflectance of oceanic waters: III: Implication of bidirectionality for the remote-sensing problem. *Applied Opt.* 35(24), 4850-4862.
- Morel and Maritorena (2001)
- Morel, A. and S. Maritorena, 2001. Bio-optical properties of oceanic waters: A reappraisal. *J. Geophys. Res.* 106(C4), 7163-7180.
- Morel and Prieur (1977)
- Morel, A. and L. Prieur, 1977. Analysis of variations in ocean color. *Limnol. Oceanogr.*, 22(4), 709-722.
- Morel and Smith (1974)
- Morel, A. and R.C. Smith, 1974. Relation between total quanta and total energy for aquatic photosynthesis. *Limnol. Oceanogr.* 19(4), 591.
- Morel and Smith (1982)
- Morel, A. and R.C. Smith, 1982. Terminology and units in optical oceanography. *Marine Geodesy* 5(4), 335-349.
- Morel et al. (2002)
- Morel, A., D. Antoine, and B. Gentili, 2002. Bidirectional reflectance of oceanic waters: accounting for Raman emission and varying particle scattering phase function. *Appl. Optics* 41(30), 6289-6306.
- Morrison (2003)
- Morrison, J. R., 2003. In situ determination of the quantum yield of phytoplankton chlorophyll *a* fluorescence: A simple algorithm, observations, and a model. *Limnol. Oceanogr.* 48(2), 618-633.
- Morrison and Nelson (2004)
- Morrison, J. R. and N. B. Nelson, 2004. Seasonal cycle of phytoplankton UV absorption and the Bermuda Atlantic Time-series Study (BATS) site. *Limnol. Oceanogr.* 49(1), 215-224.
- Mulhearn (1981)
- Mulhearn, P.J., 1981. Distribution of microbubbles in coastal waters. *J. Geophys. Res.* 86, 6429-6434.
- Nechad et al. (2010)
- Nechad, B., K.G. Ruddick, and Y. Park, 2010. Calibration and validation of a generic multisensory algorithm for mapping of total suspended matter in turbid waters. *Remote Sensing of Environment*, 114, 854-866.
- Nelson and Siegel (2002)
- Nelson, N. B. and D. A. Siegel, 2002. Chromophoric DOM in the open ocean. In: C. A. Carlson (ed.), *Biogeochemistry of Marine Dissolved Organic Matter.*, Academic Press, 547-578.
- Nelson and Coble (2009)
- Nelson, N.B. and P.G. Coble, 2009. Optical analysis of chromophoric dissolved organic matter. Chapter 5 in: *Practical Guidelines for the Analysis of Seawater*, O. Wurl [ed], CRC Press.
- Neville and Gower (1977)
- Neville, R.A. and J.F.R. Gower, 1977. Passive remote-sensing of phytoplankton via chlorophyll-alpha fluorescence. *J. Geophys. Res., C: Oceans Atmos.* 82(24), 3487-3493.
- Nicodemus et al. (1977)

- Nicodemus, F.E., J.C. Richmond, J.J. Hsia, I.W. Ginsburg, and T. Limperis, 1977. *Geometrical Considerations and Nomenclature for Reflectance*, NBS Monograph 160, National Bureau of Standards.
- NRC (2011)
- National Research Council, 2011. *Assessing the Requirements for Sustained Ocean Color Research and Operations*. National Academies Press.
- Numerical Recipes
Press, W. H., S. A. Teukolsky, W. T. Vetterling, and B. P. Flannery, 1992. *Numerical Recipes in Fortran: The Art of Scientific Computing, Second Edition*. Cambridge Univ. Press, 963 pages.
- O’Hern (1987)
- O’Hern, T.J., 1987. Cavitation Inception Scale Effects I. Nuclei Distribution in Natural Waters II. Cavitation Inception in a Turbulent Shear Flow. Ph. D. thesis, p. 304, Pasadena, California: California Institute of Technology.
- O’Hern et al. (1988)
- O’Hern, T.J., L. d’Agostino, and A.J. Acosta, 1988. Comparison of holographic and Coulter counter measurement of cavitation nuclei in the ocean. *J. Fluids Eng.* 110, 200-207.
- O’Reilly et al. (1998)
- O’Reilly, J.E., S. Maritorena, B.G. Mitchell, D.A. Siegel, K.L. Carder, S.A. Garver, M. Kahru, and C. McClain, 1998. Ocean chlorophyll algorithms for SeaWiFS. *J. Geophys. Res.* 103(C11), 24937-24953.
- Ostrowska (2012)
- Ostrowska, M., 2012. Model of the dependence of the sun-induced chlorophyll *a* fluorescence quantum yield on the environmental factors in the sea. *Optics Express* 20(21), 23301-23317.
- Patt et al. (2003)
- Patt, F. S., R. A. Barnes, R. E. Eplee, Jr., B. A. Franz, G. C. Feldman, S. W. Bailey, J. Gales, J. Werdell, M. Wang, R. Frouin, R. P. Stumpf, R. A. Arnone, R. W. Gould, Jr., P. M. Martinovich, V. Ransibrahmanakul, J. E. O’Reilly, and J. A. Yoder, 2003. *Volume 22, Algorithm Updates for the Fourth SeaWiFS Data Reprocessing, SeaWiFS Postlaunch Technical Report Series*, S. B. Hooker and E. R. Firestone [editors], NASA, 74 pages.
- Petzold (1972)
- Petzold, T.J., 1972. Volume scattering functions for selected ocean waters. *Scripts Inst. Oceanogr.* Report SIO 72-78. Download pdf
- Petzold (1977)
- Petzold, T.J., 1977. Volume scattering functions for selected ocean waters. Chapter 12 in *Light in the Sea*, J.E. Tyler [ed], Dowden, Hutchinson & Ross.
- Phelps and Leighton (1998)
- Phelps, A.D. and T.G. Leighton, 1998. Oceanic bubble population measurements using a buoy-deployed combination frequency technique. *IEEE J. Oceanic Eng.* 23, 400-410.
- Phelps et al. (1997)
- Phelps, A.D., D.G. Ramble, and T.G. Leighton, 1997. The use of a combination frequency technique to measure the surf zone bubble population. *J. Acoust. Soc. Am.* 101, 1981-1989.
- Pierson and Moskowitz (1964)

- Pierson, W. J. and L. Moskowitz, 1964. A proposed spectral form for fully developed wind seas based on the similarity theory of S. A. Kitaigorodskii. *J. Geophys. Res.*, 69, 5181-5190.
- Piskozub et al. (2009)
- Piskozub, J., D. Stramski, E. Terrill, and W.K. Melville, 2009. Small-scale effects of underwater bubble clouds on ocean reflectance: 3-D modeling results. *Opt. Express* 17, 11747-11752.
- Pitarch (2020)
- Pitarch, J. 2020. A review of Secchi's contribution to marine optics and the foundation of Secchi disk science. *Oceanography* 33(3), DOI 10.5670/oceanog.2020.301.
- Pope and Fry (1997)
- Pope, R.M. and E.S. Fry, 1997. Absorption spectrum (380-700 nm) of pure water. II. Integrating cavity measurements. *Appl. Optics* 36(33), 8710-8723.
- Pozdnyakov and Grassl (2003)
- Pozdnyakov D.V. and H. Grassl, 2003. *Colour of inland and coastal waters: A methodology for its interpretation*, Chichester: Springer-Praxis.
- Prasad and Agrawal (2016)
- Prasad, D. K. and K. Agarwal, 2016. Classification of hyperspectral or trichromatic measurements of ocean color data into spectral classes. *Sensors* 16(3) 413. DOI: 10.3390/s16030413
- Preisendorfer (1965)
- Preisendorfer, R.W., 1965. *Radiative Transfer Theory on Discrete Spaces*. Pergamon. 462 pages.
- Preisendorfer (1976)
- Preisendorfer, R.W., 1976. *Hydrologic Optics*, in 6 volumes: Vol. 1: Introduction, 218 pp; Vol. 2: Foundations, 400 pp; Vol. 3: Solutions, 246 pp; Vol. 4: Imbeddings, 207 pp; Vol. 5: Properties, 296 pp; Vol. 6: Surfaces. NOAA Pacific Mar. Environ. Lab., Seattle, WA. (Out of print, but available on CD from Curtis Mobley)
- Preisendorfer (1986)
- Preisendorfer, R. W., 1986. Secchi disk science: Visual optics of natural waters. *Limnol. Oceanogr.* 31(5), 909-926.
- Preisendorfer (1988)
- Preisendorfer, R. W., 1988. *Principal Component Analysis in Meteorology and Oceanography*. Elsevier. 425 pages.
- Preisendorfer and Mobley (1985)
- Preisendorfer, R. W. and C. D. Mobley, 1985. Unpolarized Irradiance Reflectances and Glitter Patterns of Random Capillary Wave on Lakes and Sea, by Monte Carlo Simulation. NOAA Tech. Memo. ERL-PMEL-63. NTIS PB86-123577.
- Preisendorfer and Mobley (1986)
- Preisendorfer, R. W. and C. D. Mobley, 1986. Albedos and glitter patterns of a wind-roughened sea surface. *J. Phys. Oceanogr.* 16(7), 1293-1316. Reply in *J. Phys. Oceanogr.* 17(4), 551.
- Press et al. (1992)
- Press, W. H., S. A. Teukolsky, W. T. Vetterling, and B. P. Flannery, 1992. *Numerical Recipes in Fortran: The Art of Scientific Computing, Second Edition*. Cambridge Univ.

Press, 963 pages.

Prezelin and Alberte (1978)

Prezelin, B.B. and R.S. Alberte, 1978. Photosynthetic characteristics and organization of chlorophyll in marine dinoflagellates. *Proc. Natl. Acad. Sci. U. S. A.* 75(4), 1801-1804.

Prieur and Morel (1971)

Prieur, L. and A. Morel, 1971. Etude theorique du regime asymptotique: relations entre caracteristiques optiques et coefficient d'extinction relatif a la penetration de la lumiere du jour. *Cah. Oceanogr.* 23, 35-47.

Prieur and Sathyendranath (1981)

Prieur, L. and S. Sathyendranath, 1981. An optical classification of coastal and oceanic waters based on the specific spectral absorption of phytoplankton pigments, dissolved organic matter, and other particulate materials. *Limnol. Oceanogr.* 26(4):671-689.

Proakis and Manolakis (1996)

Proakis, J. G. and D. G. Manolakis, 1996. *Digital Signal Processing: Principles, Algorithms, and Applications. Third Edition.* Prentice Hall.

Quan and Fry (1995)

Quan, X. and E.S. Fry, 1995. Empirical equation for the index of refraction of seawater. *Appl. Opt.* 34, 3477-3480.

Quirantes and Bernard (2004)

Quirantes, A. and S. Bernard, 2004. Light scattering by marine algae: Two-layer spherical and nonspherical models. *J. Quant. Spectrosc. Radiat. Transfer* 89, 311-321.

Quirantes and Bernard (2006)

Quirantes, A. and S. Bernard, 2006. Light-scattering methods for modelling algal particles as a collection of coated and/or nonspherical particles. *J. Quant. Spectrosc. Radiat. Transfer* 100, 315-324.

Rainville (1964)

Rainville, E.D., 1964. *Elementary Differential Equations, Third Edition,* Macmillan.

Reynolds et al. (2010)

Reynolds, R. A., D. Stramski, V. M. Wright, and S. B. Wozniak, 2010. Measurements and characterization of particle size distributions in coastal waters. *J. Geophys. Res.* 115 (C08024), doi:10.1029/2009JC005930

Richards and Jia (1996)

Richards, J. A. and X. Jia, 1996. *Remote Sensing Digital Image Analysis: An Introduction. 4th Edition.* Springer 439 pages.

Roesler and Perry (1995)

Roesler, C.S. and M.J. Perry, 1995. In situ phytoplankton absorption, fluorescence emission, and particulate backscattering spectra determined from reflectance. *J. Geophys. Res.* 100(C7), 13279-13294.

Roesler et al. (1989)

Roesler, C. S., M. J. Perry, and K. L. Carder, 1989. Modeling in situ phytoplankton absorption from total absorption spectra in productive inland marine waters. *Limnol. Oceanogr.* 34(8), 1510-1523.

Roettgers et al. (2014)

Roettgers, R., D. McKee, and C. Utschig, 2014. Temperature and salinity correction coefficients for light absorption by water in the visible to infrared spectral region. *Opt.*

- Express* 22(21), 25093-25108.
- Roychoudhuri et al. (2008)
- Roychoudhuri, C., A.F. Kracklauer, and K. Creath, 2008. *The Nature of Light: What is a Photon?*, CRC Press.
- Runyan et al. (2020)
- Runyan, H., R. A. Reynolds, and D. Stramski, 2020. Evaluation of particle size distribution metrics to estimate the relative contributions of different size fractions based on measurements in Arctic waters. *J. Geophys. Res. Oceans* 125 e2020JC016218. DOI:10.1029/2020JC016218
- Sabbah and Shashar (2006)
- Sabbah, S. and N. Shashar, 2006. Underwater light polarization and radiance fluctuations induced by surface waves. *Appl. Optics* 45(19), 4726-4739.
- Sakurai (1967)
- Sakurai, J. J., 1967. *Advanced Quantum Mechanics*. Addison Wesley.
- San and Suzen (2010)
- San, B. T. and M. L. Suzen, 2010. Evaluation of different atmospheric correction algorithms for EO-1 Hyperion imagery. *Internat. Archives Photogrammetry, Rem. Sens. Spatial Info. Sci.*, XXXVIII (Part 8), Kyoto, Japan.
- Sanchez and McCormick (2002)
- Sanchez, R. and N. McCormick, 2002. Analytic beam spread function for ocean optics applications. *Appl. Optics* 41(30), 6276-6288.
- Santabarbara et al. (2020)
- Santabarbara, S., W. Remelli, A. A. Petrova, and A. P. Casazza, 2020. Influence of the wavelength of excitation and fluorescence emission detection on the estimation of fluorescence-based physiological parameters in different classes of photosynthetic organisms. In *Fluorescence Methods for Investigation of Living Cells and Microorganisms*, N. Grigoryeva, IntechOpen, DOI: 10.5772/intechopen.93230
- Schott (1999)
- Schott, J. R., 1999. *Fundamentals of Polarimetric Remote Sensing. SPIE Tutorial Text Vol. TT81*, 244 pages.
- Schuster (1897)
- Schuster, A., 1897. On lunar and solar periodicities of earthquakes, " *Proc. Royal Soc. London*, 61.369-377, 455-465.
- Schuster (1898)
- Schuster, A., 1898. On the investigation of hidden periodicities with application to a supposed 26 day period of meteorological phenomena, in *Terrestrial Magnetism*, III, J. A. Fleming, Editor, 13-41.
- Schuster (1905)
- Schuster, A., 1905. Radiation through a foggy atmosphere. *The Astrophysical Journal*, XXI, No. X, 1-22.
- Schwarz et al. (2002)
- Schwarz, J. N., P. Kowalczyk, S. Kaczmarek, G. F. Cota, B. G. Mitchell, M. Kahru, F. P. Chavez, A. Cunningha, D. McKee, P. Gege, M. Kishino, D. A. Phinney, and R. Raine, 2002. Two models for absorption by coloured dissolved organic matter (CDOM). *Oceanologia* 44(2), 209-241.
- Shen et al. (1986)

Shen, Y.T., S. Gowing, and B. Eckstein, 1986. Cavitation Susceptibility Measurements of Ocean Lake and Laboratory Waters, p. 47. David Taylor Naval Ship Research and Development Center.

Segelstein (1981)

Segelstein, D., 1981. *The Complex Refractive Index of Water*, M.S. Thesis, University of Missouri, Kansas City. 170 pages.

Sheldon (1972)

Sheldon, R. W., A. Prakash, and W. H. Sutcliff, 1972. Size distribution of particles in ocean. *Limnol. Oceanogr.* 17: 327340.

Shettle and Fenn (1979)

Shettle, E. P. and R. W. Fenn, 1979. Models for the aerosols of the lower atmosphere and the effects of humidity variation on their optical properties. Air Force Geophys. Lab., Hanscom Air Force Base, MA. Environ. Res. Paper 676, AFGL-TR-79-0214.

Shifrin (1988)

Shifrin, K.S., 1988. *Physical Optics of Ocean Water*. American Institute of Physics.

Shimizu and Crow (1988)

Shimizu, K. and E. L. Crow, 1988. *History, Genesis, and Properties*, in *Lognormal Distributions: Theory and Applications*, E. L. Crow and K. Shimizu [editors], CRC Press, 389 pages.

Siegel et al. (2000)

Siegel, D.A., M. Wang, S. Maritorena, and W. Robinson, 2000. Atmospheric correction of satellite ocean color imagery: the black pixel assumption. *Appl. Optics* 39(21), 3582-3591.

Slade et al. (2013)

Slade, W.H., Y. C. Agrawal, and O. A. Mikkelsen, 2013. Comparison of measured and theoretical scattering and polarization properties of narrow size range irregular sediment particles. In IEEE Oceans-San Diego, 1-6.

Smith (1985)

Smith, W.J., 1985. *Modern Optical Engineering: The Design of Optical Systems, Second Edition.*, McGraw-Hill.

Smith and Baker (1978)

Smith, R.C. and K. Baker, 1978. The bio-optical state of ocean waters and remote sensing. *Limnol. Oceanogr.* 23(2), 247.

Smoluchowski (1908)

Smoluchowski, M. v., 1908. Molekular-kinetische Theorie der Opaleszenz von Gasen im kritischen Zustande, sowie einiger verwandter Erscheinungen. *Ann. Physik* 25, 205-226.

Soffer and Lynch (1999)

Soffer, B.H. and D.K. Lynch, 1999. Some paradoxes, errors, and resolutions concerning the spectral optimization of human vision. *Am. J. Phys.* 67(11), 946-953.

Solonenko and Mobley (2015)

Solonenko, M. G. and C. D. Mobley, 2015. Inherent optical properties of Jerlov water types. *Appl. Optics* 54(17), 5392-5401.

Sosik (2008)

Sosik, H.M., 2008. Characterizing seawater constituents from optical properties. In M. Babin, C.S. Roesler and J.J. Cullen [eds.], *Real-time coastal observing systems for ecosystem*

- dynamics and harmful algal blooms*, UNESCO.
- Stavin and Weidemann (1988)
- Stavin, R. H. and A. D. Weidemann, 1988. Optical modeling of clear ocean light fields: Raman scattering effects. *Appl. Optics* 27, 4002-4010.
- Stedmon et al. (2010)
- Stedmon, C.A., C.L. Osburn, and T. Kragh, 2010. Tracing water mass mixing in the Baltic North Sea transition zone using the optical properties of coloured dissolved organic matter. *Estuarine, Coastal and Shelf Sci.*, 87, 156-162.
- Steel (1974)
- Steel, W. H., 1974. Luminosity, throughput, or etendue? *Appl. Optics* 13(4), 704-705.
- Stout and Bonod (2020)
- Stout, B. and N. Bonod, 2020. Gustav Mie: the man, the theory. *Photoniques* 101, 22-26. DOI 10.1051/photon/202010122
- Stramska and Petelski (2003)
- Stramska, M. and T. Petelski, 2003. Observations of oceanic whitecaps in the north polar waters of the Atlantic. *J. Geophys. Res* 108(C3), DOI 10.1029/2002JC001321
- Stramski and Kiefer (1991)
- Stramski, D. and D. A. Kiefer, 1991. Light scattering by microorganisms in the open ocean. *Prog. Oceanogr.* 28, 343-383.
- Stramski and Tegowski (2001)
- Stramski, D. and J. Tegowski, 2001. Effects of intermittent entrainment of air bubbles by breaking wind waves on ocean reflectance and underwater light field. *J. Geophys. Res.* 106, 31,345-331,360.
- Stramski and Wozniak (2005)
- Stramski, D. and S.B. Wozniak, 2005. On the role of colloidal particles in light scattering in the ocean. *Limnol. Oceanogr.* 50, 1581-1591.
- Stramski et al. (2001)
- Stramski, D., A. Bricaud, and A. Morel, 2001. Modeling the inherent optical properties of the ocean based on the detailed composition of the planktonic community. *Appl. Opt.* 40(18), 2929-2945.
- Stramski et al. (2004)
- Stramski, D., E. Boss, D. Bogucki, and K. J. Voss, 2004. The role of seawater constituents in light backscattering in the ocean. *Prog. Oceanogr.* 61, 27-56.
- Stramski et al. (2004b)
- Stramski, D., S. Wozinac, and P. J. Flatau, 2004. Optical properties of Asian mineral dust suspended in seawater. *Limnol. Oceanogr.* 49(3), 749-755.
- Stramski et al. (2007)
- Stramski, D., M. Babin, and S. Wozinac, 2007. Variations in the optical properties of terrigenous mineral-rich particulate matter suspended in seawater. *Limnol. Oceanogr.* 52(6), 2418-2433.
- Stramski et al. (2015)
- Stramski, D., R. A. Reynolds, S. Kaczmarek, J. Uitz, and G. Zheng. 2015. Correction of pathlength amplification in the filter-pad technique for measurements of particulate

absorption coefficient in the visible spectral region. *Applied Optics* 54, 6763-6782. DOI 10.1364/AO.54.006763

Stramski et al. (2019)

Stramski, D., L. Li, and R. A. Reynolds, 2019. Model for separating the contributions of non-algal particles and colored dissolved organic matter to light absorption by seawater. *Appl. Optics* 58(14), 3790-3806.

Strutt (1871)

Strutt, J. W. (Lord Rayleigh), 1871. XV. On the light from the sky, its polarization and colour. *The London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science* 41 (271): 107-120. doi:10.1080/14786447108640452

Stumpf and Pennock (1989)

Stumpf, R. and J.R. Pennock, 1989. Calibration of a general optical equation for remote sensing of suspended sediments in a moderately turbid estuary. *J. Geophys. Res.*, 94, 14363-14371.

Su and Cartmill (1994)

Su, M.Y. and J. Cartmill, 1994. Low-frequency underwater sound speed variations due to oceanic bubbles, p. 351-365. In M.J. Buckingham and J.R. Potter [eds.], *Sea surface sound*. World Scientific.

Su et al. (1988)

Su, M.Y., S.C. Ling, and J. Cartmill, 1988. Optical microbubble measurements in the North Sea, p. 211-223. In B.R. Kerman [ed.], *Sea surface sound*. Kluwer Academic Publishers.

Subramaniam et al. (2002)

Subramaniam, A., C.W. Brown, R.R. Hood, E.J. Carpenter, and D.G. Capone, 2002. Detecting *Trichodesmium* blooms in SeaWiFS imagery. *Deep-Sea Res., Part II* 49(1-3), 107-121.

Sugihara et al. (1984)

Sugihara, S. M. Kishino, and N. Okami, 1984. Contribution of Raman scattering up upward irradiance in the sea. *J. Oceanogr. Soc. Japan* 40, 397-404.

Sullivan and Twardowski (2009)

Sullivan, J.M. and M.S. Twardowski, 2009. Angular shape of the oceanic particulate volume scattering function in the backward direction. *Appl. Opt.* 48(35), 6811-6819.

Sullivan et al. (2005)

Sullivan, J.M., M.S. Twardowski, P.L. Donaghay, and S.A. Freeman, 2005. Use of optical scattering to discriminate particle types in coastal waters." *Appl. Opt.* 44(9), 1667-1680.

Sullivan et al. (2006)

Sullivan, J.M., M.S. Twardowski, J.R. Zaneveld, C. Moore, A. Barnard, P.L. Donaghay, and B. Rhoades, 2006. The hyper-spectral temperature and salinity dependent absorption of pure water, salt water and heavy salt water (D 2 O) in the visible and near-IR wavelengths (400 - 750 nm). *Appl. Opt.* 45(21), 5294-5309.

Sun et al. (2010)

Sun, D., Y. Li, Q. Wang, H. Lv, C. Le, C. Huang, and S. Gong, 2010. Partitioning particulate scattering and absorption into contributions of phytoplankton and non-algal particles in winter in Lake Taihu (China). *Hydrobiologia*, 644, 337-349. DOI 10.1007/s10750-010-0198-7

Takano and Liou (1989)

- Takano, Y. and K.-N. Liou, 1989. Solar radiative transfer in cirrus clouds. Part I: Single-scattering and optical properties of hexagonal ice crystals. *J. Atmos. Sci.* 46(1), 3-19.
- Tan et al. (2013)
- Tan, H., R. Doerffer, T. Oishi, and A. Tanaka, 2013. A new approach to measure the volume scattering function. *Optics Express* 21(16), 18697-18711. DOI 10.1364/OE.21.018697
- Tan et al. (2016)
- Tan, S., J. Zhu, L. Tsang, and S. V. Nghiem, 2016. Numerical simulation of Maxwell's equation in 3D (NMM3D) applied to active and passive remote sensing of terrestrial snow and snow on sea ice. Prog. Electro. Res. Symp (PIERS), DOI 10.1109/PIERS.2016.7735538
- Terrill and Melville (2000)
- Terrill, E.J. and W.K. Melville, 2000. A broadband acoustic technique for measuring bubble size distributions: laboratory and shallow water measurements. *J. Atmos. Oceanic Technol.* 17, 220-239.
- Terrill et al. (2001)
- Terrill, E.J., W.K. Melville, and D. Stramski, 2001. Bubble entrainment by breaking waves and their influence on optical scattering in the upper ocean. *J. Geophys. Res.* 106, 16,815-816,823.
- Tessendorf (2004)
- Tessendorf, J., 2004. *Simulating Ocean Water*. Tech. Rept., SIGGRAPH Course Notes, 2004. Download pdf
- Timofeeva and Gorobetz (1967)
- Timofeeva, U.A. and F.I. Gorobetz, 1967. The relationship between the coefficient of extinction of collimated and diffuse fluxes of light. *Izv. Akad. Nauk, USSR, Series Geofizik*, 3, 291-296.
- Thorpe (1982)
- Thorpe, S.A., 1982. On the clouds of bubbles formed by breaking wind waves in deep water, and their role in air-sea transfer. *Philos. Trans. R. Soc. London Series A*, 304, 155-210.
- Thorpe (1986)
- Thorpe, S.A. 1986. Measurements with an automatically recording inverted echo sounder; ARIES and the bubble clouds. *J. Phys. Oceanogr.* 16, 1462-1478.
- Thorpe and Hall (1983)
- Thorpe, S.A. and A.J. Hall, 1983. The characteristics of breaking waves, bubble clouds, and near-surface currents observed using side-scan sonar. *Cont. Shelf Res.* 1, 353-384.
- Thorpe and Humphries (1980)
- Thorpe, S.A. and P.N. Humphries, 1980. Bubbles and breaking waves. *Nature* 283, 463-465.
- Toole et al. (2000)
- Toole, D.A., D.A. Siegel, D.W. Menzies, J.J. Neumann, and R.C. Smith, 2000. Remote-sensing reflectance determinations in the coastal ocean environment: impact of instrumental characteristics and environmental variability. *Appl. Optics* 39(3), 456-469.
- Tomlinson et al. (2009)
- Tomlinson, M.C., T.T. Wynne, and R.P. Stumpf, 2009. An evaluation of remote sensing techniques for enhanced detection of the toxic dinoflagellate, *Karenia brevis*. *Remote Sens.*

- Env.* 113(3), 598-609.
- Thuillier et al. (2003)
- Thuillier, G., M. Hersé, D. Labs, T. Foujols, W. Peetermans, D. Gillotay, P. C. Simon, and H. Mandel, 2003. The solar spectral irradiance from 200 to 2400 nm as measured by the SOLSPEC spectrometer from the ATLAS and EURECA missions. *Solar Physics* 214, 1-22.
- Tonizzo et al. (2017)
- Tonizzo, A., M. Twardowski, S. McLean, K. Voss, M. Lewis, and C. Trees. Closure and uncertainty assessment for ocean color reflectance using measured volume scattering functions and reflective tube absorption coefficients with novel correction for scattering. *Appl. Optics* 56(1), 130-146. DOI 10.1364/AO.56.000130
- Twardowski et al. (2001)
- Twardowski, M.S., E. Boss, J.B. Macdonald, W.S. Pegau, A.H. Barnard, and J.R.V. Zaneveld, 2001. A model for estimating bulk refractive index from the optical backscattering ratio and the implications for understanding particle composition in case I and case II waters. *J. Geophys. Res., [Oceans]* 106(C7), 14129-14142.
- Twardowski et al. (2004)
- Twardowski, M.S., E. Boss, J.M. Sullivan, and P.L. Donaghay, 2004. Modeling the spectral shape of absorption by chromophoric dissolved organic matter (CDOM). *Mar. Chem.* 89:69-88.
- Twardowski et al. (2012)
- Twardowski, M.S., X. Zhang, S. Vagle, J. Sullivan, S. Freeman, H. Czerski, Y. You, L. Bi, and G. Kattawar, 2012. The optical volume scattering function in a surf zone inverted to derive sediment and bubble particle subpopulations. *J. Geophys. Res.* 117(C00H17), doi:10.1029/2011JC007347
- Tyler (1960)
- Tyler, J.E., 1960. Radiance distribution as a function of depth in an underwater environment. *Bull. Scripps Inst. Ocean.* 7(5), 363-412. Download pdf
- Tyler and Smith (1970)
- Tyler, J.E. and R. C. Smith, 1970. *Measurements of Spectral Irradiance Underwater*. Gordon and Breach, New York. 103 pages.
- Tzortziou et al. (2006)
- Tzortziou, M., J.R. Herman, C.L. Gallegos, P.J. Neale, A. Subramaniam, L.W. Harding Jr., and Z. Ahmad, 2006. Bio-optics of the Chesapeake Bay from measurements and radiative transfer closure. *Estuarine, Coastal and Shelf Sci.* 68, 348-362.
- Ulloa et al. (1994)
- Ulloa, O., S. Sathyendranath, and T. Platt, 1994. Effect of the particle-size distribution on the backscattering ratio in seawater. *Appl. Optics* 33(30), 7070-7077.
- Vagle and Farmer (1992)
- Vagle, S. and D.M. Farmer, 1992. The measurement of bubble-size distributions by acoustical backscatter. *J. Atmos. Oceanic Technol.* 9, 630-644.
- Vagle and Farmer (1998)
- Vagle, S. and D.M. Farmer, 1998. A comparison of four methods for bubble size and void fraction measurements. *IEEE J. Oceanic Eng.* 23, 211-222.
- Vaillancourt et al. (2004)

- Vaillancourt, R.D., C.W. Brown, R.R.L. Guillard, and W.M. Balch, 2004. Light backscattering properties of marine phytoplankton: relationships to cell size, chemical composition and taxonomy. *J. Plankton Res.* 26(2), 191-212.
- van de Hulst (1957)
- van de Hulst, H.C., 1957. *Light Scattering by Small Particles*, John Wiley & Sons, New York.
- van de Hulst (1980)
- van de Hulst, H.C., 1980. *Multiple Light Scattering: Tables, Formulas, and Applications*, Vol. 1, pages 1-299; Vol. 2, 300-739, Academic Press.
- van de Hulst (1981)
- van de Hulst, H.C., 1981. *Light Scattering by Small Particles*, Dover. (Reprint of the 1957 edition)
- Vandermeulen et al. (2020)
- Vandermeulen, R. A., A.Mannino, S. E. Craig, P. J. Werdell, 2020. 150 shades of green: Using the full spectrum of remote sensing reflectance to elucidate color shifts in the ocean. *Rem. Sens. Environ.* 247. DOI: 10.1016/j.rse.2020.111900
- Vasilkov et al. (2005)
- Vasilkov, A. P., J. R. Herman, Z. Ahmad, M. Kahru, and B. G. Mitchell, 2005. Assessment of the ultraviolet radiation field in ocean waters from space-based measurements and full radiative-transfer calculations. *Appl. Optics* 44(14), 2863-2869.
- Vodacek et al. (1997)
- Vodacek, A., M.D. DeGrandpre, E.T. Peltzer, R.K. Nelson, and N.V. Blough, 1997. Seasonal variation of CDOM and DOC in the Middle Atlantic Bight: Terrestrial inputs and photooxidation. *Limnol. Oceanogr.* 42, 674-686.
- Volten et al. (1998)
- Volten, H., J.F. de Haan, J.W. Hoovenier, R. Schreurs, and W. Vassen, 1998. Laboratory measurements of angular distributions of light scattered by phytoplankton and silt. *Limnol. Oceanogr.* 43, 1180-1197.
- Voss (1989)
- Voss, K.J., 1989. Use of the radiance distribution to measure the optical absorption coefficient in the ocean. *Limnol. Oceanogr.* 34(8), 1614-1622.
- Voss and Chapin (1990)
- Voss, K.J. and A. L. Chapin, 1990. Measurement of the point spread function in the ocean. *Appl. Optics* 29(25), 3638-3642.
- Voss (1991)
- Voss, K.J., 1991. Simple empirical model fo the oceanic point spread function. *Appl. Optics* 30(18), 2647-2651.
- Voss (1992)
- Voss, K.J., 1992. a spectral model of the beam attenuation coefficient in the ocean and coastal waters. *Limnol. Oceanogr.* 37(3), 501-509.
- Voss and Fry (1984)
- Voss, K.J. and E.S. Fry, 1984. Measurement of the Mueller matrix for ocean water. *Appl. Optics* 23(23), 4427-4439.
- Voss et al. (2007)

- Voss, K. J., A. Morel, and D. Antoine, 2007. Detailed validation of the bidirectional effect in various Case 1 waters for application to ocean color imagery, *Biogeosciences* 4, 781-789.
- Waaland and Branton (1969)
- Waaland, J.R. and D. Branton, 1969. Gas Vacuole Development in a Blue-Green Alga. *Science* 163, 1339-1341.
- Wang (2002)
- Wang, M., 2002. The Rayleigh lookup tables for the SeaWiFS data processing: accounting for the effects of ocean surface roughness. *Internat. J. Remote Sensing* 23(13), 2693-2702.
- Wang (2005)
- Wang, M., 2005. A refinement for the Rayleigh radiance computation with variation of the atmospheric pressure. *Internat. J. Remote Sensing* 26(24), 5651-5653.
- Wang and Bailey (2001)
- Wang, M. and S. W. Bailey, 2001. Correction of sun glint contamination of the SeaWiFS ocean and atmosphere products. *Appl. Optics* 40(27), 4790-4798.
- Walker (1994)
- Walker, R.E., 1994. *Marine Light Field Statistics*, John Wiley & Sons, Inc.
- Walrafen (1967)
- Walrafen, G. E., 1967. Raman spectral studies of the effects of temperature on water structure. *J. Chem. Phys.* 47(1), 118-121.
- Walsh and Mulhearn (1987)
- Walsh, A.L. and P.J. Mulhearn, 1987. Photographic measurements of bubble populations from breaking wind waves at sea. *J. Geophys. Res.* 92, 14553-14565.
- Wei et al. (2016)
- Wei, J. Z.-P. Lee, and S. Shang, 2016. A system to measure the data quality of spectral remote-sensing reflectance of aquatic environments. *J. Geophys. Res.: Oceans* 121(11), 8189-8207.
- Werdell (2015)
- Werdell, P. J., 2015. Ocean color satellite atmospheric correction. Lecture at the 2015 Univ. of Maine Summer Class in Optical Oceanography and Remote Sensing. Video of this lecture is available online
- Werdell et al. (2007)
- Werdell, P. J., S. W. Bailey, B. A. Franz, A. Morel, and C. R. McClain, 2007. On-orbit vicarious calibration of ocean color sensors using an ocean surface reflectance model. *Appl. Optics* 46(23), 5649-5666.
- Werdell et al. (2013)
- Werdell, P. J., B. A. Franz, J. T. Lefler, W. D. Robinson, and E. Boss, 2013. Retrieving marine inherent optical properties from satellites using temperature and salinity-dependent backscattering by seawater. *Optics Express*, 21, 32611-32622.
- Wernand (2011)
- Wernand, M.R., 2011. *Poisedon's Paintbox: Historical Archives of Ocean Color in Global-Change Perspective*. Ph.D. dissertation, Univ. of Utrecht, 204 pages.
- Witkowski et al. (1998)

- Witkowski, K., T. Krol, A. Zielinski, and E. Kuten, 1998. A light-scattering matrix for unicellular marine phytoplankton. *Limnol. Oceanogr.* 43, 859-869
- Wolfe (1998)
- Wolfe, W.L., 1998. *Introduction to Radiometry*, SPIE Optical Engineering Press, vol. TT29.
- Wyatt and Jackson (1989)
- Wyatt, P.J. and C. Jackson, 1989. Discrimination of phytoplankton via light-scattering properties. *Limnol. Oceanogr.* 34, 96-112.
- Xu and Yue (2015)
- Xu, Z. and D. K. P. Yue, 2015. Analytical solution of beam spread function for ocean light radiative transfer. *Optics Express*, 23(14), 17966-17978.
- Yacobi et al. (2003)
- Yacobi, Y.Z., J.J. Alberts, M. Takacs, and M. McElvaine, 2003. Absorption spectroscopy of colored dissolved organic carbon in Georgia (USA) rivers: the impact of molecular size distribution. *J. Limnol.* 62, 41-46.
- Yan et al. (2002)
- Yan, B., B. Chen, B., and K. Stamnes, 2002. Role of oceanic air bubbles in atmospheric correction of ocean color imagery. *Appl. Opt.* 41, 2202-2212.
- Yang and Gordon (1997)
- Yang, H. and H. R. Gordon, 1997. Remote sensing of ocean color: Assessment of the water-leaving radiance bidirectional effects on the atmospheric diffuse transmittance. *Appl. Optics* 36(30), 7887-7897.
- Ye et al. (2016)
- Ye, H., J. Li, T. Li, Q. Shen, J. Zhu, X. Wang, F. Zhang, J. Zhang, B. Zhang, 2016. Spectral classification of the Yellow Sea and implications for coastal ocean color remote sensing. *Remote Sensing* 8(4), 321. DOI: 10.3390/rs8040321
- Yentsch (1962)
- Yentsch, C. S., 1962. Measurement of visible light absorption by particulate matter in the ocean. *Limnol. Oceanogr.* 7(62), 207-216.
- You et al. (2011)
- You, Y., A. Tonizzo, A. A. Gilerson, M. E. Cummings, P. Brady, J. M. Sullivan, M. S. Twardowski, H. M. Diersen, S. A. Ahmad, and G. W. Kattawar, 2011. Measurements and simulations of polarization states of underwater light in clear oceanic waters. *Appl. Optics* 50(24), 4873-4893.
- Yount (1979)
- Yount, D.E., 1979. Skins of varying permeability: A stabilization mechanism for gas cavitation nuclei. *J. Acoust. Soc. Am.* 65, 1429-1439.
- Zaneveld et al. (1994)
- Zaneveld, J.R.V., J.C. Kitchen, and C.C. Moore, 1994. The scattering error correction of reflecting-tube absorption meters. SPIE Vol. 2258, *Ocean Optics XII* J.S. Jaffe [ed.], 44-55.
- Zaneveld and Pegau (2003)
- Zaneveld, J.R.V. and W. S. Pegau, 2003. Robust underwater visibility parameter. *Optics Express* 11(23) 2997-3009.
- Zhai et al. (2012)

- Zhai, P.-W., G. W. Kattawar, and Y. Hu, 2012. Comment on the transmission matrix for a dielectric interface. *J. Quant. Spectros. Rad. Trans.*, 113, 1981-1984.
- Zhang and Hu (2009)
- Zhang, X. and L. Hu, 2009. Estimating scattering of pure water from density fluctuation of the refractive index. *Opt. Express* 17, 1671-1678.
- Zhang et al. (1998)
- Zhang, X., M.R. Lewis, and B.D. Johnson, 1998. Influence of bubbles on scattering of light in the ocean. *Appl. Opt.* 37, 6525-6536.
- Zhang et al. (2002)
- Zhang, X., M.R. Lewis, M. Lee, B.D. Johnson, and G. Korotaev, 2002. Volume scattering function of natural bubble populations. *Limnol. Oceanogr.* 47, 1273-1282.
- Zhang et al. (2003)
- Zhang, H., K.J. Voss, R. P. Reid, and E. M. Louchard, 2003. Bidirectional reflectance measurements of sediments in the vicinity of Lee Stocking Island, Bahamas. *Limnol. Oceanogr.* 41(1, part 2), 380-389.
- Zhang et al. (2004)
- Zhang, X., M. Lewis, W. P. Bissett, B. Johnson, and D. Kohler, 2004. Optical influence of ship wakes. *Appl. Opt.* 43, 3122-3132.
- Zhang et al. (2009)
- Zhang, X., H. Lianbo, and M-X. He, 2009. Scattering by pure seawater: Effect of salinity. *Opt. Express* 17, 5698-5710.
- Zhang et al. (2019)
- Zhang, X., D. Stramski, R. A. Reynolds, and E. R. Blocker, 2019. Light scattering by pure water and seawater: the depolarization ratio and its variation with salinity. *Appl. Opt.* 58(4), 991-1004.
- Zoloratev and Demin (1977)
- Zoloratev, V. M. and A. V. Demin, 1977. Optical constants of water over a broad range of wavelengths, 0.1 Å–1 m. *Optics Spectroscopy (USSR)* 43(2), 157-161.