

Curriculum Vitae for
George W. Kattawar

Education

B.S., Mathematics, Lamar University, 1959 (Highest Honors)
M.S., Physics, Texas A&M University, 1961
PhD., Physics, Texas A&M University, 1964

Professional Experience

1963-1964	Senior Research Physicist, Los Alamos National Laboratory, Los Alamos, New Mexico
1964-1966	Senior Researcher, Esso Production Research, Houston, Texas
1966-1968	Assistant Professor, North Texas State University, Denton, Texas with joint appointment at Southwest Center for Advanced Studies, Dallas, Texas
1968-1973	Associate Professor, Dept. of Physics, Texas A&M University, College Station, Texas
1973-present	Professor, Dept. of Physics, Texas A&M University, College Station, Texas

Honors and Awards

Elected to Fellow status in the Optical Society of America, 1976

Received Amoco Foundation Teaching Excellence Award, 1981

Received Teacher/Scholar Award, 1990

Elected for two, three year terms on the Committee on Recommendations for U.S. Army Basic Scientific Research under the National Research Council

Selected by the OSA to be on the Allen Prize committee for the year 2001 and 2003

Selected to serve on the National Committee on Graduate Education of the American Association of Physics Teachers, 2002-2005

Elected to the External Advisory Board of Stevens Institute of Technology

Society Memberships

Fellow of the Optical Society of America

American Geophysical Union

Texas Academy of Science

Editorships

Former Associate Editor, Journal of Geophysical Research: Oceans

Former Associate Editor, Journal of Transport Theory and Statistical Physics

Selected as editor of SPIE Milestone Series on “Multiple Scattering in Plane Parallel Atmospheres and Oceans: Techniques”

Books and Book Chapters

George W. Kattawar, Multiple Scattering in Plane Parallel Atmospheres and Oceans: Techniques, SPIE Optical Engineering Press, Bellingham, Wash., 1991, 642 pages

G. N. Plass, T. J. Humphreys and G. W. Kattawar, “Ocean Color Calculations,” Oceanography from Space, 377-380 (1981).

George W. Kattawar, “Polarization of Light in the Sea,” Ocean Optics edited by Spinrad, R.W., Carder, K.L., Perry, M.J. 202-219 (1994)

Patents:

1. Granted Patent No. 7057730 “Apparatus and Method for Direct Measurement of Absorption and Scattering Coefficients In Situ”, co-inventors: E.S. Fry, D. J. Gray, X. Zhao, and Z. Lu
2. Granted Patent No. 6795777, “Identifying molecules of a sample”, co-inventors, Scully, Marlan O. Kattawar, George W. , Lucht, Robert P. Opatrny, Tomas Pilloff, Herschel S. Sokolov, Alexei V. Zubairy, Suhail M.
3. Co-inventor on two more patents pending

Professional Interests

Recent research interests: (1) Radiative transfer in realistic planetary atmospheres and oceans with inclusion of polarization and high resolution spectroscopic calculations such as Raman and Rayleigh-Brillouin scattering, (2) use of atmospheric refraction to determine air mass and extinction coefficients as well as temperature and humidity profiles in the marine boundary layer, (3) small angle scattering as applied to tissue optics, (4) Polarotaxis and photoinhibition in marine organisms, (5) electromagnetic scattering from irregularly shaped objects with emphasis on anthrax detection, (6) Use of metamaterials for achieving invisibility cloaks, (7) Ultrashort laser propagation in water, (8) Modeling the physics of camouflage in cephalopods

Theses and Dissertations:

Directed the research of thirteen Doctoral and eleven Master of Science students. Also co-chaired five additional Doctoral students.

My students have positions ranging from academia, government labs, private research companies, consulting firms , and ownership of their own companies

Postdocs:

Twelve

Referee papers for the following Journals:

- 1) Applied Optics
- 2) Journal of the Optical Society of America
- 3) Optics Communications
- 4) Optics Letters
- 5) Journal of Electromagnetic Waves and Applications
- 6) Journal of Quantitative Spectroscopy and Radiative Transfer
- 7) Limnology and Oceanography
- 8) Journal of Geophysical Research
- 9) Journal of Atmospheric Sciences
- 10) Biological Reviews
- 11) The American Naturalist

Referee proposals for:

NASA, NSF, ARO, DOD, DOE, and CRDF

Currently Active Research Funding for 2010:

TITLE:(RF#480951)	3D-Time Dependent Vector Radiative Transfer in an Atmosphere-Ocean System
P.I.	G.W. Kattawar
SPONSOR:	Office of Naval Research
PERIOD:	10/01/05-9/30/10
TOTAL FUNDING:	\$817,808
TITLE:(RF#498411)	Ultrashort Laser Pulse Propagation in Water
P.I.	G.W. Kattawar
Co-PI	Alexei Sokolov

SPONSOR: Office of Naval Research
PERIOD: 10/01/07-9/31/11
TOTAL FUNDING: \$457,120

TITLE:(RF#498411) Graduate Research Fellowship
P.I. G.W. Kattawar
SPONSOR: Sandia Corp.
PERIOD: 09/01/09-08/31/10
TOTAL FUNDING: \$40,000
FUNDING FOR YEAR: \$40,000
Sponsor: SANDIA NATIONAL LABORATORIES

TITLE(RF#422161) Studying Dust Optical and Radiative Properties Using Optimal
Morphological Sets
P.I. Ping Yang
Co-PI George W. Kattawar
SPONSOR: National Science Foundation
PERIOD: 06/01/2008-5/31/2011
TOTAL FUNDING: \$419,905

TITLE(RF#426541-00001) Biological Response to the Dynamic Spectral-Polarized
Underwater Light Field
P.I. Molly Cummings, University of Texas
Co-PI's George W. Kattawar, TAMU, Heidi Dierssen, University of
Connecticut, Brad Seibel & James Sullivan: University of Rhode
Island, Samir Ahmed & Alex Gilerson, City College of the City
University of New York, William Gilly, Stanford University
SPONSOR: Office of Naval Research, MURI
PERIOD: 04/01/2009-9/30/2014
TOTAL FUNDING: \$6,920,289

NOTE: This new project listed below has been approved by Steve
Ackleson but the money will not be in until the end of Sept.

TITLE: Three-Dimensional Polarized Radiative Transfer in a Dynamic
Atmosphere-Ocean System
P.I. George.W. Kattawar
SPONSOR: Office of Naval Research
PERIOD: 10/01/10-9/31/12
TOTAL FUNDING: \$100,000

TITLE: Graduate Research Fellowship (just approved)
P.I. G.W. Kattawar
SPONSOR: Sandia Corp.
PERIOD: 09/01/10-08/31/11

TOTAL FUNDING: \$40,000
FUNDING FOR YEAR: \$40,000
Sponsor: SANDIA NATIONAL LABORATORIES

Involvement with Navy Programs and committee activity

1. From 1984-1988 I was actively involved with colleagues at NOARL studying the many facets of laser propagation in the ocean. I was responsible for writing a complex Monte Carlo program to emulate the *complete* signal analysis from laser transmission to signal detection. This program is state-of-the-art research and has been and will continue to be very important to the Navy's effort in this area.
2. Presented an invited talk at the JADE conference in Nov. 1988 at SSC, Miss. chaired by Dr. Richard Lauer (CNO). This was a conference on a secret project and I was the only attendee to be invited from a university to give expert advice on the project.
3. Presented an invited talk at the Mesoscale Ocean Color Workshop, sponsored by NORDA and co-chaired by Dr. James Mueller and Mr. Ron Holyer (NORDA) in Nov. 1988 on Brillouin scattering
4. Selected for panel to review applicants for the new ONR Ocean Optics director, July 11, 1989.
5. Selected for panel to give outside review of the SLCEVAL project for the Navy. Meetings in San Diego and Washington, 1989. This was another secret project where I was the only attendee from a university to give expert advice on the project.
6. Selected to give lectures on the importance of polarization in the study of hydrologic optics at the *Optical and Bio-Optical Oceanography Conference* held at Friday Harbor Laboratories on Aug. 21-24, 1989. This program was under the auspices of Dr. Rick Spinrad of ONR.
7. Selected to attend the Symposium on Tactical Oceanography sponsored by Rear Admiral Richard Pittenger at the Naval Postgraduate School in Monterey, California, March, 1990. This was another secret conference where I was invited to give expert advice.
8. Selected to present talk at the Joint U.S./Soviet Seminar on Issues in Lidar and Ocean Color Remote Sensing Research at NOSC, Oct. 1-2, 1991
9. Presentation on Monte Carlo methods in ocean optics at workshop organized by Dr. Alan Weidemann of NOARL (presently NRL) held at Long Beach, MS on March 5-6, 1991

12. Selected by University of Miami Physics Dept. to be a member of their departments ten year evaluation team (ca 1994)

13. Selected by Dr. Tim Coffey to serve on panel to review the Oceanography Division (Code 7300) of NRLSSC, July, 1996)

14. Selected for organizing committee for 6th International Conference on Electromagnetic and Light Scattering by Nonspherical Particles: Theory, Measurements, and Applications, 2002

15. Member of the Program Committee for II International Conference on “Current Problems in Optics of Natural Waters” held in St. Petersburg, Russia, Sept. 8-12, 2003.

Selected invited talks from 2004-present:

1. George W. Kattawar “Stokes Vector-Mueller Matrix Radiative Transfer in an Atmosphere-Ocean System” 45 min. Invited Talk at Computational Methods in Transport, sponsored by Lawrence Livermore National Laboratory and the Institute for Pure and Applied Mathematics UCLA. Sept. 11-16, Tahoe City, CA. 2004

2. George W. Kattawar “Sky Archaeology” one hour after dinner invited talk at the APS/AAPT meeting March 2004 meeting in Stephenville, Texas

3. George W. Kattawar “3D Time Dependent Radiative Transfer in an Atmosphere-Ocean System” 30 min. Invited Talk at Radiation in a Dynamic Ocean Workshop sponsored by the Office of Naval Research. Nov. 11-13 , University of Rhode Island, 2005

4. George W. Kattawar “Skyscapes from Fire, Water, and Ice”. 1 hr invited talk , Computational Methods in Transport Workshop, Sept. 9-14, Lake Tahoe, CA, 2006

5. George W. Kattawar and Pengwang Zhai “3D Time Dependent Radiative Transfer in an Atmosphere-Ocean System” 30 min. Invited Talk at Radiation in a Dynamic Ocean Workshop sponsored by the Office of Naval Research. Oct. 14-15, Montreal, Canada, 2006

6. George W. Kattawar “Sky Archaeology”, 1 hr invited talk. Texas Junior Science & Humanities Symposium, Sponsored by College of Science TAMU, Jan. 20, 2006,

7. George W. Kattawar “Virtues of Polarization in the Remote Sensing of Atmospheres and Oceans”, 25 min invited talk at American Geophysical Union 2007 Fall meeting, San Francisco, California, Dec. 10-14, 2007

8. George W. Kattawar “3D-Time Dependent Vector Radiative Transfer in an Atmosphere-Ocean System, 30 min. invited talk at Radiation in a Dynamic Ocean Workshop at Scripps Institute of Oceanography, La Jolla, CA, June 6-8, 2006

9. George W. Kattawar and Peng-Wang Zhai,, "A fast model for obtaining polarized radiance field in a Dynamic ocean," Invited talk RADYO Workshop meeting, Orlando, FL, March 7, 2008
10. P.,Yang and G. W. Kattawar,; "Radiative Transfer and Light Scattering: From Cradle to Adolescence", Invited talk at International Radiation Symposium, Foz do Iguacu, Brazil, August 6, 2008.
11. George W. Kattawar, "Genesis and Evolution of the use of Polarization in Remote Sensing of Atmospheres and Oceans" 45 min. Invited talk at the Hyperspectral Imaging and the Remote Sensing of the Environment session of the Optical Society of America's annual meeting in Vancouver, April 26-30, 2009.
12. (Invited talk) George W. Kattawar, "3D-Time Dependent Vector Radiative Transfer in an Atmosphere-Ocean System", Radiation in a Dynamic Ocean Workshop, Jan. 6-9, ,Santa Barbara, CA, 2009
13. George W. Kattawar, "Calculation of time flash statistics in the Santa Barbara Channel", Radiation in a Dynamic Ocean Workshop, Aug. 21-23, 2009, Honolulu, HA
14. George W. Kattawar, "Study of camouflage in cephalopods", MURI workshop, Aug. 21, Austin, TX
15. (Invited talk presented by my graduate student Ben Strycker) WE-Heraeus-Seminar at the Physikzentrum Bad Honnef (Germany): "Determination of Atmospheric Aerosol Properties Using Satellite Measurements"; "The optical properties of nonspherical aerosols: Implications for Satellite retrieval"; Ping Yang, Lei Bi, George Kattawar, Qian Feng, Gang Hong, Zhaokai Meng, August 17 – 19, 2009
16. George W. Kattawar, "Polarized Light in Nature", presented at the 2010 Physics Festival at TAMU, March 26, 2010
17. George W. Kattawar, "Use of wave slope field data for calculating time dependent radiation fields ", RaDyO Workshop, Santa Barbara, CA, June 1-3, 2010
18. George W. Kattawar, - OCEAN OPTICS IN THE NEAR FUTURE 5-10 YEARS OUT, WHERE WE'RE HEADED AND CURRENT CHALLENGES, Ocean Optics XX, Sept.27-Oct. 1, Anchorage Alaska, 2010

Recent colloquia and seminars since 2005:

1. George W. Kattawar "Photon Distribution and Mueller Matrix Backscattered Imaging Applied to Spores Illuminated by Continuous or Pulsed Laser sources" Seminar presented to the AMO group at TAMU on December 8, 2005
2. George W. Kattawar, "Standoff Detection of Bioaerosols Using New Elastic and Inelastic Scattering Techniques" Seminar presented at Naval Research Laboratory, Washington, D.C. on Oct 25, 2007

3. George W. Kattawar, "Polarization in the Remote sensing of Atmospheres and Oceans" Colloquium presented at Naval Research Laboratory, Washington, D.C. Nov. 6, 2008
4. George W. Kattawar, "Skyscapes from Fire, Water, and ice" Colloquium presented at University of Texas Forum on April 18, 2008
5. P Yang, and G. W. Kattawar, 2008: The Everlasting Flame, Colloquium presented at Department of Atmospheric and Oceanic Sciences, The University of Wisconsin, Madison, WI, September 15, 2008.
6. P. Yang, and G. W. Kattawar, 2008: The Everest Is There, Colloquium presented at Department of Atmospheric Sciences, The University of Washington, Seattle, WA., October 10, 2008.
7. P. Yang, and G. W. Kattawar, 2008: The Everest Is There, Colloquium presented at Department of Atmospheric Sciences, The University of Arizona, Tucson, AZ, September 4, 2008.
8. P. Yang, and G. W. Kattawar: Historical Perspective of Single and Multiple Scattering of Atmospheric Radiation, Dept. of Earth and Atmospheric Sciences, Purdue University, March 5, 2009
9. George W. Kattawar, "Genesis and Evolution of the use of Polarization in Remote Sensing of Atmospheres and Oceans". Department of Atmospheric Sciences at TAMU, May 4, 2009
10. Yang, P., and G. W. Kattawar : Applications of radiative transfer calculations to satellite remote sensing of the atmosphere, School of Earth and Environmental Sciences, Seoul National University, South Korea, Nov. 2, 2009.
11. Yang, P., and G. W. Kattawar : Applications of radiative transfer calculations to satellite remote sensing of the atmosphere, Department of Atmospheric Sciences, National Central University, Taiwan, Oct. 30, 2009.
12. Yang, P., and G. W. Kattawar : Atmospheric Optics and Radiation: History, Application, and Inspiration, Department of Atmospheric Sciences, National Central University, Taiwan, Oct. 30, 2009.
13. Yang, P., and G. W. Kattawar, : Applications of radiative transfer calculations to satellite remote sensing of the atmosphere, Department of Atmospheric Sciences, National Taiwan University, Taiwan, Oct. 29, 2009.
14. Yang, P., and G. W. Kattawar, : Atmospheric Optics and Radiation: History, Application, and Inspiration, Department of Atmospheric Sciences, National Taiwan University, Taiwan, Oct. 29, 2009.
15. Yang, P., and G. W. Kattawar : On the single scattering and radiative processes in the atmosphere, Department of Atmospheric Sciences, North Dakota University, Sept. 17, 2009.

16. Yang, P., and G. W. Kattawar : Historical perspective of single and multiple scattering of radiation, Department of Meteorology, Florida State University, Sept. 10, 2009.
17. Yang, P., and G. W. Kattawar : Atmospheric Optics and Radiation: History, Applications and Inspiration, Department of Atmospheric Sciences, University of Alabama in Huntsville, Sept. 2, 2009.
18. Yang, P., and G. W. Kattawar : Historical Perspective of Single and Multiple Scattering of Atmospheric Radiation, Department of Earth & Atmospheric Sciences, Purdue University, March 5, 2009.
19. G,W, Kattawar: Light Scattering and Radiative Transfer: From Cradle to Adolescence, Dept. of Physics and Astronomy, TAMU, Nov. 3, 2009

Conference Presentations and Proceeding Publications: for 2005-2009

1. Yu You, George Kattawar, Ping Yang, Yong Hu, Bryan Baum; “Sensitivity of depolarized lidar signals to cloud and aerosol particle properties”, Fall 2005 Meeting Texas Section of APS, University of Houston, Date: Oct. 22, 2005
2. Tommy Dickey, and 21 coauthors including George W. Kattawar “The Radiance in a Dynamic Ocean (RaDyO) Program , (Poster), Ocean Optics XVIII Conference, Oct. 9-13, Montreal, Canada, 2006
3. David Haubrich, E.S. Fry, George W. Kattawar and Joseph Musser “An In Situ Instrument for the Direct Measurement of the Integrated Backscattering Coefficient for Arbitrary Phase Functions”, (Poster) , Ocean Optics XVIII Conference, Oct. 9-13, Montreal, Canada, 2006
4. G. Chen, P. Yang, G. Kattawar, “Efficient pseudo-spectral time-domain method for light scattering by realistic aerosols”, (Poster), 2006 AGU Fall Meeting, San Francisco, December 11-15, 2006.
5. Y. You, G. Kattawar, C. Li, P. Yang, “Mueller images of Raman scattering as “fingerprints” to identify bioaerosols”, (Poster), 2006 AGU Fall Meeting, San Francisco, December 11-15, 2006.
6. P. Zhai, G. Kattawar, P. Yang, “The Effective Mueller Matrix for 3D Broken Clouds Using the Monte Carlo Method”, (Poster), 2006 AGU Fall Meeting, San Francisco, December 11-15, 2006.
7. Z. Zhang, P. Yang, G. Kattawar, H. Huang, T. Greenwald, J. Li, B. Baum, DK. Zhou, Y. Hu, “A Fast Infrared Radiative Transfer Model Based on the Adding-Doubling Method for Narrow-band and Hyperspectral Remote Sensing Applications”, 2006 AGU Fall Meeting, San Francisco, December 11-15 , 2006.

8. Zhai, P.-W., G. W. Kattawar and P. Yang: "A 3D vector radiative transfer computational package based on the Monte Carlo method", (Poster), 12th Conference on Cloud Physics/12th Conference on Atmospheric Radiation, Madison, Wisconsin, July 10-14, 2006
9. Chen, G., P. Yang, G. W. Kattawar, and J. Q. Lu: "Solution by Pseudo-spectral time-domain method applied to Light scattering by hexagonal ice crystals", (Poster), 12th Conference on Cloud Physics/12th Conference on Atmospheric Radiation, Madison, Wisconsin, July 10-14, 2006
10. Zhang, Z., P. Yang, G. W. Kattawar, and W. Wiscombe: "Single-scattering Properties of Platonic solids with Size Parameters in the Geometric-Optics Regime", (Poster), 12th Conference on Cloud Physics/12th Conference on Atmospheric Radiation, Madison, Wisconsin, July 10-14, 2006
11. Yu Xie, P. Yang, G. W. Kattawar, and I. Laszlo, "Polarization and Mueller matrix for multiple scattering by hexagonal ice crystals", 12th Conference on Cloud Physics/12th Conference on Atmospheric Radiation, Madison, Wisconsin, July 10-14, 2006
12. You, Yu., G. W. Kattawar, P. Yang, Y. Hu, and B. A. Baum: "Sensitivity of depolarized lidar signals to cloud and aerosol particle properties", (Poster), 12th Conference on Cloud Physics/12th Conference on Atmospheric Radiation, Madison, Wisconsin, July 10-14, 2006
13. You, Y., G. W. Kattawar, C. Li, and P. Yang, "Methods to calculate Raman and fluorescent radiation emitted from irregular particles", 12th Conference on Cloud Physics/12th Conference on Atmospheric Radiation, Madison, Wisconsin, July 10-14, 2006
14. Zhang, Z., P. Yang, G. Kattawar, H.-L. Huang, T. Greenwald, J. Li, B. Baum, D. Zhou, and Y. Hu, (Poster), "Scattering in forward infrared radiative transfer models", (Poster), the 3rd Advanced High Spectral Resolution Infrared Observations Workshop, Madison, Wisconsin, April 26-28, 2006.
15. Yang, P., G. W. Kattawar, G. Hong, P. Minnis, Y. Hu: "Effect of The Surface Texture Of Ice Particles On The Retrieval Of Cirrus Properties", (Poster) American Geophysical Union 2007 Fall meeting, San Francisco, California, Dec. 10-14, 2007
16. You, Y., G. W. Kattawar, P. Yang: "The Nature of the Radiance and Polarization in Deep Oceans", (Poster) American Geophysical Union 2007 Fall meeting, San Francisco, California, Dec. 10-14, 2007
17. Zhai, P., G. W. Kattawar, P. Yang: "The Hybrid Matrix Operator - Monte Carlo Method for Solving the 3D Vector RTE in Atmosphere-Ocean Systems", American Geophysical Union 2007 Fall meeting, San Francisco, California, Dec. 10-14, 2007 (Poster)
18. Bi, L., G. Chen, P. Yang, G. W. Kattawar: "Light Scattering by Nonspherical ice Crystals: Comparison of Pseudo-spectral Time Domain and Discrete Dipole Approximation Methods",

American Geophysical Union 2007 Fall meeting, San Francisco, California, Dec. 10-14, 2007 (Poster)

19. Xie, Y., P. Yang, G. W. Kattawar: “Modeling of Single Scattering by Inhomogeneous Hexagonal Ice Crystals”, American Geophysical Union 2007 Fall meeting, San Francisco, California, Dec. 10-14, 2007 (Poster)

20. Feng, Q., P. Yang, G. W. Kattawar, L. Laszlo: “Study of Light Scattering and Reflectance by an Atmosphere with Nonspherical Mineral Dust Aerosols”, American Geophysical Union 2007 Fall meeting, San Francisco, California, Dec. 10-14, 2007 (Poster)

21. Zhang, F., P. Yang, G. W. Kattawar, Y. Hu: “Scattering properties of horizontally oriented hexagonal plates, American Geophysical Union 2007 Fall meeting, San Francisco, California, Dec. 10-14, 2007 (Poster)

22. Cho, H., P. Yang, G. W. Kattawar, Y. Hu, P. Minnis, D. Winker: “Relation Between Backscatter and Depolarization Ratio for ISCCP Cloud Types On the Basis of Collocated MODIS and CALIPSO products”, American Geophysical Union 2007 Fall meeting, San Francisco, California, Dec. 10-14, 2007 (Poster)

23. Zhang, Z., P. Yang, J. Riedi, G. W. Kattawar: “A Comparison of Cirrus Clouds Retrieved From POLDER-3/PARASOL and MODIS/Aqua”, American Geophysical Union 2007 Fall meeting, San Francisco, California, Dec. 10-14, 2007 (Poster)

24. Yang, P., G. Kattawar, G. Hong, Y. Xie, P. Minnis, and Y. X. Hu, 2007: “Effect of ice crystal surface roughness on retrieved cirrus cloud properties”. 7th CERES-II Science Team Meeting, Newport News, VA, April 24-26, 2007.

25. Yang, P., G. W. Kattawar, G. Hong, P. Minnis, Y. Hu, 2007: Effect of The Surface Texture Of Ice Particles On The Retrieval Of Cirrus Properties, American Geophysical Union 2007 Fall meeting, San Francisco, California, Dec. 10-14, 2007

26. Peng-Wang Zhai and George W. Kattawar, “A Hybrid Matrix Operator – Monte Carlo method for the solution to the 3D vector RTE in coupled atmosphere-ocean systems,” Ocean Science 2008 meeting, Orlando, FL, March 2-7, 2008.

27. Benjamin D. Strycker, Ping Yang, George W. Kattawar, “A mathematical model for ice crystal shapes”, Hyperspectral Imaging and the Remote Sensing of the Environment session of the Optical Society of America’s annual meeting in Vancouver, April 26-30, 2009.(poster)

28. Xie, Y., P. Yang, G. W. Kattawar, P. Minnis, and Y. X. Hu, 2009: Uncertainties associated with the scattering properties of ice crystals in CERES-MODIS retrieval of cirrus clouds. CERES Science Team Meeting, April 28-30, , Newport News, VA. 2009

29. Bi, L., F. Qian, ZK. Meng, P. Yang, and G. W. Kattawar, 2009: “Optical Properties of Mineral Aerosol Particles and Effects of Particle Nonsphericity on Satellite Retrievals”,

International symposium on Atmospheric Light Scattering and Remote Sensing, July 13-17, Xi'an, China.

30. Xie, Y., P. Yang, G. W. Kattawar, P. Minnis, and Y. X. Hu, 2009: Uncertainties associated with the scattering properties of ice crystals in CERES-MODIS retrieval of cirrus clouds. CERES Science Team Meeting, April 28-30, , Newport News, VA. 2009

31. Wenlong Yang, Matthew Springer, Alexandre Kolomenski, George Kattawar, Alexei Sokolov; "Optical Precursor in Hot Rubidium Vapor", : 41st Annual Meeting of the APS Division of Atomic, Molecular, and Optical Physics, Houston, Texas, 2010, (poster)

32. Matthew Springer, Wenlong Yang, Alexei Sokolov, George Kattawar, Alexandre Kolomenski , "Optical Precursor Investigation in an Organic Dye Solution", 41st Annual Meeting of the APS Division of Atomic, Molecular, and Optical Physics, Houston, Texas, 2010

33. Bingqi Yi, Ping Yang, George W. Kattawar, Christina N. Hsu, and Si-Chee Tsay, "Radiative Transfer Simulation of Dust-like Aerosols: Uncertainties from Particle Shape, Refractive Index and Distribution", 13th annual AMS Radiation and Cloud conference, 2010

34. Lei Bi, Ping Yang, and George W. Kattawar, "Computation of the Optical Properties of Preferably Oriented Ice Crystals from a Combination of the Discrete-Dipole-Approximation and Physical-geometric Optics Hybrid Methods", 13th annual AMS Radiation and Cloud conference, 2010

35. Gao, Meng, You, Yu, Dagach, Sergio, and Kattawar, George - UNDERSTANDING CEPHALOPOD CAMOUFLAGE BY THE USE OF A NOVEL 3D VECTOR RADIATIVE TRANSFER CODE, , Ocean Optics XX, Sept.27-Oct. 1, Anchorage Alaska, 2010

36. Twardowski, Michael; Zhang, Xiaodong; Freeman, Scott; Slivkoff, Matt; Sullivan, James; Czerski, Helen; Vagle, Svein; You, Yu; Kattawar, George, "INVERTING THE VOLUME SCATTERING FUNCTION TO INFER PARTICLE COMPOSITION AND DYNAMICS AT THE NEAR-SURFACE IN THE SURF ZONE AND OPEN OCEAN", Ocean Optics XX, Sept.27-Oct. 1, Anchorage Alaska, 2010

37. You, Yu; Kattawar, George W., "MODELING DYNAMIC UNDERWATER POLARIZED RADIANCE FIELDS USING WAVE SLOPES AND IOPS FROM RADYO FIELD EXPERIMENTS", Ocean Optics XX, Sept.27-Oct. 1, Anchorage Alaska, 2010

38. Voss, Kenneth; George, Kattawar; You, Yu; Gordon, Howard; Gleason, Art, "DISCOVERY OF NON-PRINCIPAL-PLANE NEUTRAL POINTS IN THE IN-WATER UPWELLING POLARIZED LIGHT FIELD", Ocean Optics XX, Sept.27-Oct. 1, Anchorage Alaska, 2010

39. Haubrich, David; Fry, Edward S.; Kattawar, George W.; Musser, Joseph A. "INSTRUMENTATION TO MEASURE THE BACKSCATTERING COEFFICIENT FOR ARBITRARY PHASE FUNCTIONS", Ocean Optics XX, Sept.27-Oct. 1, Anchorage Alaska, 2010

PUBLICATIONS

1. G. W. Kattawar and M. Eisner, "Nuclear Magnetic Relaxation of a Three Spin Asymmetric Molecule in a Liquid," Phys. Rev. 26, 1054-1056 (1962).
2. G. W. Kattawar and M. Eisner, "Van der Waals Forces Between Conducting Bodies," J. Chem. Phys. 43, 863-865 (1965)
3. R. J. Robinson, H. R. Brannon and G. W. Kattawar, "Storm Wave Characteristics," Soc. Pet. Eng. 87-98 March (1967).
4. G. W. Kattawar and G. N. Plass, "Electromagnetic Scattering from Absorbing Spheres," Appl. Opt. 6, 1377-1382 (1967).
5. G. W. Kattawar and G. N. Plass, "Resonance Scattering from Absorbing Spheres," Appl. Opt. 6, 1549-1554 (1967).
6. G. N. Plass and G. W. Kattawar, "Monte Carlo Calculations of Light Scattering from Clouds," Appl. Opt. 7, 415-419 (1968).
7. G. N. Plass and G. W. Kattawar, "Radiant Intensity of Light Scattered from Clouds," Appl. Opt. 7, 699-704 (1968).
8. G. N. Plass and G. W. Kattawar, "Influence of Single Scattering Albedo on Reflected and Transmitted Light from Clouds," Appl. Opt. 7, 869-878 (1968).
9. G. W. Kattawar and G. N. Plass, "Influence of Particle Size Distribution on Reflected and Transmitted Light from Clouds," Appl. Opt. 7, 361-367 (1968).
10. G. N. Plass and G. W. Kattawar, "Calculations of Reflected and Transmitted Radiance for Earth's Atmosphere," Appl. Opt. 7, 1129-1135 (1968).
11. G. W. Kattawar and G. N. Plass, "Radiance and Polarization of Multiple Scattered Light from Haze and Clouds," Appl. Opt. 7, 1519-1527 (1968).
12. G. N. Plass and G. W. Kattawar, "Radiative Transfer in an Atmosphere-Ocean System," Appl. Opt. 8 455-466 (1969).
13. G. W. Kattawar and G. N. Plass, "Infrared Cloud Radiance," Appl. Opt. 8, 1169-1178 (1969).
14. G. N. Plass and G. W. Kattawar, "Effect of Changes in Complex Part of the Refractive Index on Polarization of Light Scattered from Haze and Clouds," Appl. Opt. 8, 2489-2495 (1969).

15. C. N. Adams and G. W. Kattawar "Solutions of the Equations of Radiative Transfer by an Invariant Imbedding Approach," J. Quant. Spect. Rad. Tran. 10, 341-356 (1970).
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