

## **Dr. PING YANG**

Distinguished Professor & Holder of the David Bullock Harris Chair in Geosciences  
Associate Dean for Research, College of Geosciences  
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### **Education**

Ph.D., 1995, Meteorology, University of Utah, Salt Lake City, Utah, U.S.A.  
M.S., 1988, Atmospheric Physics, Lanzhou Institute of Plateau Atmospheric Physics, Chinese Academy of Science, Lanzhou, China  
B.S., 1985, Theoretical Physics, Lanzhou University, Lanzhou, China

### **Appointments**

University Distinguished Professor (elected 2020), Texas A&M University (TAMU)  
Professor, 09/2008-present, Dept. of Atmospheric Sciences, TAMU  
Associate Dean for Research (3/1/2020-present), College of Geosciences, TAMU  
Interim Associate Dean for Research (9/1/2019-2/29/2020), College of Geosciences, TAMU  
Department Head (09/01/2012-8/31/2018), Dept. of Atmospheric Sciences, TAMU  
Joint Professor, 07/2021-present, Dept. of Oceanography, Texas A&M University  
Joint Professor, 06/2009-present, Dept. of Physics & Astronomy, TAMU  
Holder of the David Bullock Harris Chair in Geosciences (1/1/2010-present), College of Geosciences, TAMU  
Associate Professor, 09/2005-08/2008, Dept. of Atmospheric Sciences, TAMU  
Assistant Professor, 09/2001-08/2005, Dept. of Atmospheric Sciences, TAMU  
Associate Research Scientist, 03/2001-09/2001, Goddard Earth Sciences and Technology Center, University of Maryland Baltimore County, Baltimore, Maryland  
Research Scientist, 01/1999-02/2001, Science and System Application, Inc. Lanham, Maryland (worked on-site in code 913, NASA Goddard Space Flight Center, Greenbelt, Maryland)  
Assistant Research Scientist, 12/1997-01/1999, Department of Atmospheric Sciences, University of California, Los Angeles  
Research Associate, 01/1996-11/1997, Department of Meteorology/Center for Atmospheric Remote Sensing Study, University of Utah, Salt Lake City, Utah  
Graduate Research Assistant, 1992-1995, Department of Meteorology/Center for Atmospheric Remote Sensing Study, University of Utah, Salt Lake City, Utah

### **Awards and Honors**

- ***Distinguished Texas Scientist (2022)***, Texas Academy of Science: Each year, the Board of Directors of the Texas Academy of Science honors one researcher in Texas as the *Distinguished Texas Scientist*.
- ***Van de Hulst Light-Scattering Award (2022)***: this award, sponsored by Elsevier biennially, is the most prestigious award in the field of electromagnetic and light scattering by particles. The award selection was determined by an international committee composed of at least 20 leading experts in the field, as stated in the call for nominations.

- **University Distinguished Professor (elected 2020)**, Texas A&M University. In 2020 “**Seven** Texas A&M University scholars have earned the university’s highest faculty honor by being named Distinguished Professors. The 2020 class of University Distinguished Professors includes faculty from the College of Agriculture and Life Sciences, the College of Engineering, the College of Geosciences, the School of Law, and the College of Science.”
- **David and Lucille Atlas Remote Sensing Prize (2020)** by the American Meteorological Society (AMS) for “For sustained, seminal contributions to developing light-scattering and radiative transfer models and datasets for remote sensing of ice clouds and dust aerosols.”
- **Elected (2019) Fellow of the American Association for the Advancement of Science (AAAS).** According to AAAS, “In a tradition stretching back to 1874, these individuals (Fellows) are recognized for their extraordinary achievements across disciplines. Examples of areas in which nominees may have made significant contributions are research; teaching; technology; services to professional societies; administration in academe, industry, and government; and communicating and interpreting science to the public.”
- **Appointed (2018) one of the 16 members** of the *National Research Council-Space Studies Board's Committee on Earth Science and Applications from Space* (appointment term: October 2018- June 2022)
- **The Selfless Service Award (2018)**, College of Geosciences, Texas A&M University
- **Elected (2018) Fellow of The American Physical Society (APS)** “for sustained pioneering research in light scattering and radiative transfer with various applications, especially in remote sensing of the Earth’s atmosphere” (According to APS, The number of APS Fellows elected each year is limited to no more than one half of one percent of the membership.”)
- **Elected (2018) Fellow of The Electromagnetics Academy** “in recognition of his distinguished contributions to computational optics and applications to atmospheric science and remote sensing” (the sole fellow inducted during the 2018 *Progress In Electromagnetic Research Symposium (PIERS)* in Toyama, Japan, 1-4 August 2018).
- **NASA Exceptional Scientific Achievement Medal (2017)** (only six medals of this category were bestowed by NASA in 2017. According to NASA, this medal is “one of the Agency’s most prestigious honor awards for outstanding contributions to the Agency’s mission.”)
- **University-level Distinguished Achievement Award in the category of Research (2017), The Association of Former Students (AFS) and Texas A&M University.** (Six awards per year at TAMU. This award recognizes, encourages, and rewards individuals whose research efforts have been particularly significant and outstanding and are recognized locally, nationally, and internationally. The results of these research efforts have added substantially to the basic body of knowledge, contributed to the improvement of the quality of life, and/or encouraged additional research. The selection was made by a university-wide committee)
- **Distinguished Alumni Award (2017)**, Department of Atmospheric Sciences, University of Utah
- **Elected (2015) Fellow of American Geophysical Union (AGU)** (With over 60,000 members from 148 countries, AGU represents the largest professional organization for Earth and space scientists. According to AGU, “To be elected a Fellow is a special tribute for those who have made exceptional scientific contributions. Nominated fellows must have attained acknowledged eminence in the Earth and space sciences. Primary criteria for

evaluation in scientific eminence are major breakthrough/discovery and paradigm shift. This designation is conferred upon not more than 0.1% of all AGU members in any given year. New Fellows are chosen by a Committee of Fellows”)

- **Ascent Award (2013) by AGU (American Geophysical Union) Atmospheric Sciences Section** (Five awards were given in 2013. “Established in 2012, the Atmospheric Sciences Ascent Award aims to reward exceptional mid-career (academic, government, and private sector) scientists in the fields of the atmospheric and climate sciences. “Mid-career” is defined here as between 8 and 20 years post-Ph.D or the scientist’s highest degree. The only criterion for the award is that the applicant demonstrates excellence in research and leadership in his or her field.”)
- **NASA Group Achievement Award** to ACCRI Aircraft Cloud Effects Team (8/30/2013)
- **Elected (2013) Fellow of the American Meteorological Society (AMS)** (According to AMS, “Those eligible for election to Fellow shall have made outstanding contributions to the atmospheric or related oceanic or hydrologic sciences or their applications during a substantial period of years...New Fellows are elected each year by the Council at its fall meeting from a slate submitted by the Fellows Committee of not more than two-tenths of one percent of all AMS Members.”)
- **NASA Group Achievement Award** to CERES Clouds Team (8/30/2013)
- **Elected member of the International Radiation Commission (IRC), the International Association of Meteorology and Atmospheric Sciences (IAMAS), for term 2012-2020**
- **Elected (2010) Fellow of the Optical Society of America (OSA)** (According to OSA, “OSA Members who have served with distinction in the advancement of optics and photonics may be proposed for election to the class of Fellow...the number elected each year is limited to approximately 0.5% of the current membership total.”)
- **Certificate of Appreciation**, National Institute of Standards and Technology (NIST), March 2011.
- **Certificate of Appreciation**, NASA, November 2010.
- **Holder of the David Bullock Harris Chair in Geosciences** (1/1/2010-present), College of Geosciences, Texas A&M University
- **The Association of Former Students’ (AFS) College-level Teaching Award**, Texas A&M University, 2008.
- **Dean’s Distinguished Achievement Award for Faculty Research**, College of Geosciences, Texas A&M University, 2004.
- **National Science Foundation (NSF) CAREER Award, 2003**
- **NASA Group Achievement Award** to CRYSTAL-FACE Science Team, 2003
- **Best Paper Award**, Climate and Radiation Branch, NASA Goddard Space Flight Center, 2000

### **Editorship**

Editor-in-Chief (9/1/2020-present), Associate Editor (01/2007-8/31/2020): *Journal of Quantitative Spectroscopy & Radiative Transfer*

Editor (1/2020-present) and Associate Editor (1/2018-12/2019): *Journal of Geophysical Research-Atmospheres* (this is one of the highest quality journals in the discipline of Atmospheric Sciences).

Editor (4/2015- 12/31/2020) and Associate Editor (2004-4/2015): *Journal of the Atmospheric Sciences* (this is one of the highest quality journals in the discipline of Atmospheric Sciences).

Guest Editor, Special Issue “Analysis of Decadal-Scale Continuous Data Products from Weather Satellite Platforms” in *Remote Sensing*, 2021.

Associate Editor (2/2018-9/1/2020) and Editorial Board (5/2015-2/2018), *Remote Sensing of Environment* (this is one of the highest quality journals in the discipline of Remote Sensing)

Section Editorial (11/2017-11/2020): *Remote Sensing*

Editorial Board member/editor (09/2010-2018): *Theoretical and Applied Climatology*

Associate Editor (01/2007-07/2012): *Journal of Applied Meteorology and Climatology*

### **Panelist, Program Committee Chair/Membership, Science Team membership**

- **Session co-chair: “Electromagnetic Modeling in Remote Sensing II”, IEEE’s International Geoscience and Remote Sensing Symposium (IGARSS), Brussels, Belgium, July 12-16, 2021 (virtual)**
- **Scientific Committee member, IEEE’s International Geoscience and Remote Sensing Symposium (IGARSS), Brussels, Belgium, July 12-16, 2021 (virtual)**
- **Scientific Committee member, IEEE’s International Geoscience and Remote Sensing Symposium (IGARSS), Kuala Lumpur, Malaysia, July 17-22, 2022 (Hybrid)**
- Scientific Organizing Committee, Laser-light and Interactions with Particles, August 21-26<sup>th</sup>, 2022, Warsaw, Poland
- Scientific Organizing Committee, International Radiation Symposium 4-8 July, 2022
- Co-chair, Elsevier/JQSRT Michael I. Mishchenko Medal Selection Committee, 2021.
- Co-chair, Elsevier/JQSRT Waterman and Goody Awards Selection Committee, 2021.
- **Primary Organizer, The 17<sup>th</sup> Electromagnetic and Light Scattering Conference ELS-XVI, College Station, TX, March 4-9, 2018 (the effort included receipt of a NASA grant as PI to support 29 early-career researchers to attend the conference)**
- Program Committee member, The 16<sup>th</sup> Electromagnetic and Light Scattering Conference ELS-XVI, College Park, MD, March 19-25, 2017.
- Advisory Committee, The 11<sup>th</sup> International Conference on laser-light and interactions with particles, Xi’an, China, April 22-26, 2016.
- Elsevier/JQSRT van de Hulst Awards Selection Committee, 2011, 2020.
- Elsevier/JQSRT Waterman and Goody Awards Selection Committee, 2016, 2018, 2020.
- Scientific Organizing Committee, The 15<sup>th</sup> Electromagnetic and Light Scattering Conference ELS-XV, Leipzig, Germany, June 21-26, 2015.
- Scientific Organizing Committee, The 14<sup>th</sup> Electromagnetic and Light Scattering Conference ELS-XIV, Lille, France, June 17-21, 2013.
- Chair of Program Committee, Hyperspectral Imaging and Sounding of Environment, Topical Meeting sponsored by the Optical Society of America (OSA), July 10-14, 2011, Toronto, Canada
- Chair of Program Committee, Hyperspectral Imaging and Sounding of Environment, Topical Meeting sponsored by the Optical Society of America (OSA), April 26-30, 2009, Vancouver, Canada
- Chair of Program Committee, Hyperspectral Imaging and Sounding of Environment, Topical Meeting sponsored by the Optical Society of America (OSA), February 12-15, 2007, Santa Fe, New Mexico
- Chair of Program Committee, Hyperspectral Imaging and Sounding of Environment,

Topical Meeting sponsored by the Optical Society of America (OSA) January 31-February 3, 2005, Alexandria, Virginia

- Member of Program Committee and session chair, Hyperspectral Imaging and Sounding of Environment, Topical Meeting sponsored by the Optical Society of America (OSA), virtual conference
- Member of Program Committee and session chair, Hyperspectral Imaging and Sounding of Environment, Topical Meeting sponsored by the Optical Society of America (OSA), June 25-27, 2019, San Jose, CA
- Member of Program Committee and session chair, Hyperspectral Imaging and Sounding of Environment, Topical Meeting sponsored by the Optical Society of America (OSA), November 5-8, 2018, Resort World Sentosa, Sentosa Island, Singapore
- Panelist, NASA Proposal Review Panel (virtual), March 9-11, 2021
- Panelist, NASA Proposal Review Panel, September 12-14, 2016, Ashburn, VA
- Panelist, NASA Proposal Review Panel, July 12-14, 2016, Potomac, MD
- Panelist, NASA Proposal Review Panel, October 21-23, 2015, Arlington, VA
- Panelist, NASA Proposal Review Panel, November 14-16, 2011, Bethesda, Maryland.
- Panelist, NASA Proposal Review Panel, March 10-11, 2010, Baltimore, Maryland.
- Panelist, NASA Proposal Review Panel, March 26-28, 2008, Baltimore, Maryland.
- Panelist, NASA Proposal Review Panel, April 11-13, 2006, Greenbelt, Maryland.
- Panelist, NASA Proposal Review Panel, August 6-7, 2003, Washington, D.C.
- Panelist, Proposal Review Panel (virtual), US Department of Energy (DOE) Atmospheric System Research (ASR) Program, May 12, 2020
- American Geophysical Union (AGU) College of Fellows Sub-committee on Distinguished Traveling Lecture Series (8/2017-present)
- IEEE panel for evaluating Senior Member Applications, April 17, 2021 (I reviewed 88 application packets)
- Organizing Committee member, International Workshop on Atmospheric Scattering, radiation, and remote sensing, Hangzhou, China, June 26-28, 2017.
- One of co-Chairs (Ping Yang and Steven Miller) of an AMS session: “Satellite-Based Algorithm Developments, Products, Applications and Validations 1: Cloud and Aerosol Properties, Physics and Climatologies”, 92nd AMS Annual Meeting, New Orleans, LA, January 22-26, 2012.
- Convener and Chairperson of an AGU session: Light Scattering and Radiative Transfer: Basic Research and Applications, AGU 2006-Fall Meeting, December 11-15, 2006, San Francisco, CA.
- Convener and Chairperson of an AGU session: Light Scattering and Radiative Transfer: Basic Research and Applications, AGU 2007-Fall Meeting, December 10-14, 2007, San Francisco, CA.
- One of two organizers (Ping Yang and Warren J. Wiscombe) of a session entitled “Scattering and Radiative Transfer: Basic Research and Applications” for the Progress in Electromagnetics Research Symposium (PIERS), August 22-26, 2005, Hangzhou, Zhejiang, China.
- One of two organizers (Ping Yang and Michael I. Mishchenko) of a session entitled “Light Scattering and Radiative Transfer: Theories and Applications” for the Progress in Electromagnetics Research Symposium (PIERS), August 18-21, 2009, Moscow, Russia.

- One of two organizers (Ping Yang and Qiang Fu) of a session entitled “Atmospheric Scattering, Radiative Transfer, and Remote Sensing” for the Progress in Electromagnetics Research Symposium (PIERS), Suzhou, Jiangsu, China, September 12-16, 2011.
- Member of Program (AE101) committee of SPIE’s 3<sup>rd</sup> international Asia-Pacific Symposium on remote sensing of the atmosphere, environment, and space. October 23-27, 2002, Hangzhou, China.
- Member of Program (AM107) committee of SPIE’s Atmospheric and Environmental Remote Sensing Data processing and utilization: an end-to-end system perspective, August 2-6, 2004, Denver, Colorado.
- Member of Program (AE101) Committee in SPIE's Remote Sensing of the Atmosphere, Ocean, Environment and Space, November 8-12, 2004, Honolulu, Hawaii.
- Member of the Cirrus Regional Study of Tropical Anvils and Cirrus Layers (CRYSTAL)-Florida Area Cirrus Experiment (FACE) Science Team (2001-2003)
- Member of the NASA CERES Science Team (2004-present)
- Member of the NASA MODIS Science Team (2004- present)
- Member, the American Meteorological Society (AMS) Committee on *Cloud Physics* (2007-2012).

## **Graduate Student Theses and Dissertations Supervised**

### **Ph.D. Dissertations:**

1. Yong-Keun Lee, Ph.D. dissertation entitled “Study of Cloud Properties from Single-Scattering, Radiative Forcing, and Retrieval Perspectives”; Dissertation defense: May 24, 2006; supervised by Ping Yang.
2. Peng-Wang Zhai, Ph.D. dissertation entitled “A Forth-Order Symplectic FDTD Method for Light Scattering and A 3D Monte Carlo Code for Radiative Transfer in Scattering Systems”; Dissertation defense: May 16, 2006; co-supervised by George Kattawar and Ping Yang.
3. Joonsuk Lee, Ph.D. dissertation entitled “Analyses based on the MODIS, CERES, and AIRS measurements”; Dissertation defense: May 29, 2007; co-supervised by Ping Yang and Andrew Dessler.
4. Kerry Meyer, Ph.D. dissertation entitled “Global ice cloud observations: radiative properties and statistics from Moderate-resolution Imaging Spectroradiometric Measurements”; Dissertation defense: May 31, 2007; supervised by Ping Yang.
5. Guang Chen, Ph.D. dissertation entitled “Modeling of the optical properties of nonspherical particles in the atmosphere”; Dissertation defense: June 4, 2007; supervised by Ping Yang.
6. Zhibo Zhang, Ph.D. dissertation entitled “Satellite-based remote sensing of cirrus clouds: Hyperspectral radiative transfer modeling, analysis of uncertainties in in-situ cloud extinction measurements and intercomparison of cirrus retrievals from A-train instruments”; Dissertation defense: April 24, 2008; supervised by Ping Yang.

7. Yu You, Ph.D. dissertation entitled “Applications of the generalized DDA formalism and the nature of polarized light in deep oceans”; Dissertation defense: April 27, 2008; co-supervised by George Kattawar and Ping Yang.
8. Qian Feng, Ph.D. dissertation entitled “Sensitivity study of the effects of mineral dust particle nonsphericity and thin cirrus clouds on MODIS dust optical depth retrievals and direct radiative forcing calculations” Dissertation defense: May 7, 2010; supervised by Ping Yang.
9. Yu Xie, Ph.D. dissertation entitled “Study ice cloud properties from synergetic use of satellite observations and modeling capabilities” Dissertation defense: September 17, 2010; supervised by Ping Yang
10. Lei Bi, Ph.D. dissertation entitled “Light scattering by ice crystals and mineral dust aerosols in the atmosphere” Dissertation defense: September 17, 2010; co-supervised by George Kattawar and Ping Yang
11. Hyoun-Myoung Cho, Ph.D. dissertation entitled “Studying Clouds and aerosols with lidar depolarization ratio and backscatter relationships” Dissertation defense: July 21, 2011; co-supervised by Ping Yang and Shaima Nasiri
12. Yue Li, Ph.D. dissertation entitled “Investigation of the dynamical, macrophysical and radiative properties of high clouds combining satellite observations and climate model simulation” Dissertation defense: October 12, 2011; co-supervised by Ping Yang and Gerald North
13. Chenxi Wang, Ph.D. dissertation entitled “Investigation of thin cirrus cloud optical and microphysical properties on the basis of satellite observations and fast RTMs”. Dissertation defense: May 21, 2013; supervised by Ping Yang
14. Bingqi Yi, Ph.D. dissertation entitled “Radiative effects of aerosols, natural cirrus clouds and contrails: broadband optical properties and sensitivity studies”. Dissertation defense: May 17, 2013; co-supervised by Ping Yang and Kenneth Bowman
15. Chao Liu, Ph.D. dissertation entitled “Numerical investigation of light scattering by atmospheric particles”. Dissertation defense: May 31, 2013; Co-supervised by R.-Lee Panetta and Ping Yang
16. Xin Huang, Ph.D. dissertation entitled “Retrieval of non-spherical dust aerosol properties from satellite observations”. Dissertation defense: June 7, 2013; Co-supervised by George W. Kattawar and Ping Yang
17. Benjamin H. Cole, Ph.D. dissertation entitled “Global distribution of ice cloud particle shape and roughness from PARASOL satellite measurements”. Dissertation defense: May 31, 2013; supervised by Ping Yang
18. Chen Zhou, Ph.D. dissertation entitled “Attribution analysis of cloud feedback”. Dissertation defense: June 11, 2014, supervised by Andrew Dessler and Ping Yang
19. Bingqiang Sun, Ph.D. dissertation entitled “Simulation and application of light scattering properties for scatterers with large aspect ratios”. Dissertation defense: October 8, 2014; supervised by George Kattawar and Ping Yang
20. Jianing Zhang, Ph.D. dissertation entitled “Scattering and radiation computation with spectral methods”. Dissertation defense: June 16, 2016; supervised by Ping Yang and R. Lee Panetta

21. Yifeng Ding, Ph. Dissertation entitled “Satellite-based cloud remote sensing: fast radiative transfer modeling and inter-comparison of single-/multi-layer cloud retrievals with VIIRS”. Dissertation defense: May 31, 2017; supervised by Ping Yang
22. Guanglang Xu, Ph.D. dissertation entitled “A numerical study on the light scattering properties of some atmospheric and oceanic components” Dissertation defense: October 16, 2017; supervised by Ping Yang and Sarah Brooks
23. Kuo, C.-P., Ph.D. dissertation entitled “Impacts of neglecting longwave scattering and the methods of reducing these uncertainties in model simulations containing clouds”, Dissertation defense: May 7, 2018; supervised by Ping Yang
24. Hioki, S., Ph.D. dissertation entitled “Characterizing ice cloud particle shape and surface roughness from polarimetric satellite observations”, Dissertation defense: May 10, 2018; supervised by Ping Yang
25. Jiachen Ding, Ph.D. dissertation entitled “A fast vector radiative transfer model for polarimetric remote sensing” March 1, 2019; supervised by Ping Yang and Andrew Dessler
26. Siyao Zhai, Ph.D. dissertation entitled “The convergence properties and applications of the invariant imbedding T-matrix and Pseudo-spectral time domain methods” May 1, 2019; supervised by R. Lee Panetta and Ping Yang
27. Boyan Gu, Ph.D. dissertation entitled “Evaluations and improvements of the RRTMG and Fu-Liou Radiative Transfer model simulations of clouds ”, dissertation defense: October 10, 2019; supervised by P. Yang and K. Bowman
28. Yi Wang, Ph.D. dissertation entitled “Development of optimal ice cloud optical property models for remote sensing applications”, dissertation defense: October 7, 2020; supervised by P. Yang
29. Adam Bell, Ph.D. dissertation entitled “Inferring ice cloud properties from polarized sub-millimeter microwave and infrared spaceborne observations”, dissertation defense: December 3, 2020; supervised by P. Yang

### **Master’s Degree Theses:**

1. Kerry Meyer, M.S. Thesis entitled “The Study of Cirrus Clouds Using Airborne and Satellite Data”; Thesis defense: March 9, 2004; supervised by Ping Yang.
2. Zhibo Zhang, M.S. Thesis entitled “Computation of the Scattering Properties of Nonspherical Crystals”; Thesis defense: June 4, 2004; supervised by Ping Yang.
3. Jacqueline Kinney, M.S. Thesis entitled “Retrieval of Optical and Microphysical Properties of Ice Clouds Using Atmospheric Radiation Measurement (ARM) Data”; Thesis defense: June 14, 2005; supervised by Ping Yang.
4. Ryan Lawless, M.S. Thesis entitled “Sensitivity of the Mueller Matrix to the Optical and Microphysical Properties of Cirrus Clouds”; Thesis defense: June 15, 2005; supervised by Ping Yang.
5. Christopher Yost, M.S. Thesis entitled “Use of AIRS and MODIS Thermal Infrared Channels to Retrieve Ice Cloud Properties”; Thesis defense: September 29, 2006; supervised by Ping Yang.



6. Yu Xie, M.S. Thesis entitled “The Effect of Ice Crystal Surface Roughness on the Retrieval of Ice Cloud Microphysical and Optical Properties”; Thesis defense: March 5, 2007; supervised by Ping Yang.
7. Kevin Garrett, M.S. Thesis entitled “Hyperspectral and narrowband remote sensing of cirrus clouds using infrared spectral data”; Thesis defense: June 1, 2007; supervised by Ping Yang.
8. Feng Zhang, M.S. Thesis entitled “Scattering properties of oriented hexagonal ice crystals”; Thesis defense: May 5, 2009; supervised by Ping Yang.
9. Jianxu Lu, M.S. Thesis entitled “Simulation of lidar return signals associated with water clouds”; Thesis defense: June 5, 2009; co-supervised by Ping Yang and Sarah Brooks.
10. Guanglin Tang, M.S. Thesis entitled “Application of the discontinuous Galerkin time domain method to the simulation of the optical properties of dielectric particles”; Thesis defense: March, 2010; co-supervised by R. Lee Panetta and Ping Yang.
11. Kai Lu, M.S. Thesis entitled “Simulation of the extinction efficiency, the absorption efficiency, and the asymmetry factor of ice crystals and relevant applications to the study of cirrus cloud radiative properties”; Thesis defense: May 7, 2010; supervised by Ping Yang.
12. Zhaokai Meng, Thesis entitled “Light Scattering Problem and its Application in Atmospheric Science”. Thesis defense: October 11, 2010; co-supervised by George Kattawar and Ping Yang.
13. Benjamin Cole, Thesis entitled “On the Microphysical Properties of Ice Clouds as Inferred from the Polarization of Electromagnetic Waves”. Thesis defense: June 10, 2011; supervised by Ping Yang.
14. Elizabeth Baugher, Thesis entitled “Comparison between model simulations and measurements of hyperspectral far-infrared radiation from FIRST during the RHUBC-II campaign” Thesis defense: October 6, 2011; co-supervised by Ping Yang and Kenneth Bowman.
15. Guangyang Fang, Thesis entitled “Optical properties of Sahara and Asian dust: application to radiative transfer simulations”. Thesis defense: March 7, 2012; supervised by Ping Yang
16. Derek I. Podowitz, Thesis entitled “Comparison between pseudo-spectral time domain and discrete dipole approximation simulations for single-scattering properties of particles” Thesis defense: June 6, 2013; supervised by Ping Yang.
17. Jianing Zhang, Thesis entitled “An investigation of light scattering by irregular ice crystal via PSTD”. Thesis defense: June 10, 2014; supervised by R. Lee Panetta and Ping Yang
18. William L. Henning, Thesis entitled “Rigorous testing of the Rapid Radiative Transfer Model across the infrared spectrum”. Thesis defense: March 7, 2016; supervised by Ping Yang.
19. Rebecca L. Evrard, Thesis entitled “A validation of the VIIRS fast radiative transfer model via brightness temperature analysis in longwave infrared channels”. Thesis defense: June 15, 2016; supervised by Ping Yang and Kenneth Bowman

20. James J. Coy Jr., Thesis entitled “evaluating the benefits of using longwave infrared and millimeter/sub-millimeter bands to explore ice cloud characteristics through polarized vector radiative transfer simulations””. Thesis defense: March 5, 2019; supervised by Ping Yang and R. Saravanan

**Current Graduate Students (chair or co-chair of the thesis committee)**

Jeffrey Mast	Ph.D.	in progress
Jian Wei	Ph.D. (co-chair)	in progress
Nancy Okeudo	Ph.D.	in progress
Dongchen Li	Ph.D.	in progress
Yuheng Zhang	Ph.D.	in progress
Kyle Shores	Ph.D. (co-chair)	in progress
James Coy	Ph.D. (co-chair)	in progress

**Current Research Staff (support and supervisory role)**

- Dr. Masanori Saito, postdoc/Assistant Research Scientist (2017-2019/2019-present)  
 Dr. Steven Schroeder, Dept of Atmospheric Sci., (2016-present)  
 Dr. Tong Ren, postdoctoral researcher, Dept of Atmospheric Sci. (2018-present)  
 Dr. Jiachen Ding, postdoctoral researcher, Dept of Atmospheric Sci. (2019-present)

**Courses Taught (some courses were taught multiple times)**

- METR-335 (Atmospheric Thermodynamics)  
 ATMO-441 Satellite Meteorology and Remote Sensing  
 ATMO-446 (Physical Meteorology)  
 ATMO-612 (Atmospheric Physics II)  
 ATMO-655 (Satellite Data in Meteorology)  
 ATMO-689 (Special Topic on Light Scattering)  
 ATMO-689 (Special Topic on Advanced Radiative Transfer Theory)  
 ATMO-689 (Special Topic on Single- and Multiple-Scattering of Light in the Atmosphere)

**Services at Texas A&M University**

**Department Level:**

- Co-Chair, Strategic Plan Committee, Dept. of Atmospheric Sciences, 04/2009
- Chair, Undergraduate Committee, Dept. of Atmospheric Sciences, 2005-2008
- Member, Teaching Committee, Dept. of Atmospheric Sciences, 2006-2008
- Member, Budget Committee, Dept. of Atmospheric Sciences, 2005
- Member, Graduate Committee, Dept. of Atmospheric Sciences, 2001-2005; 2008-present
- Departmental Seminar coordinator, Spring, 2003 and Fall, 2005
- Co-chair, Faculty Search Committee, Dept. of Atmospheric Sciences, 2004

**College Level:**

- Member, the Selection Committee for the 2005 Dean's Distinguished Achievement Awards, College of Geosciences, 2005
- Member, Curriculum Committee, College of Geosciences, 2005-2007
- Member, Grievance Committee, College of Geosciences, 2008-2012

- Chair, College Awards Committee, 2019-present

### **University Level:**

- Member, the Association of Former Students Awards Selection Committee, 2010
- Member, Dean of Faculties Operations Council, 2019-present
- Member, University Research Council, 2019-present
- Member, International Program Committee, 2019-present
- Member, Executive Advisory Committee on Core Facilities, 2019-present

### **External Services**

- Reviewer for:
  - Bulletin of the American Meteorological Society*
  - J. Atmos. Sci.*
  - J. Appl. Meteor. Clim.*
  - J. Climate*
  - Atmos. Chem. Phys.*
  - J. Geophys. Res.*
  - Reviews of Geophysics*
  - Geophy. Res. Lett.*
  - Applied Optics*
  - J. Opt. Soc. Amer. A*
  - Optics Letter*
  - Optics Express*
  - Optical Engineering*
  - J. Quant. Spectrosc. Radiat. Transfer*
  - IEEE Trans. Geosci. Remote Sens.*
  - IEEE Geosci. Remote Sensing Letter*
  - Medical Physics*
  - Quart. J. Roy. Meteorol. Soc.*
  - Appl. Spectroscopy*
  - J. Electromagnetic Waves and Applications*
  - J. Aerosol Science*
  - Central European Journal of Physics*
  - Advances in Atmospheric Sciences*
  - Aerosol Science & Technology*
  - Nature Communications*
- Reviewer of numerous proposals for
  - NSF
  - NASA
  - DOE

Research Corporation for Science Advancement  
Natural Environmental Research Council, United Kingdom  
The Research Council of Norway  
The Austrian Science Fund (FWF)  
Swiss National Science Foundation  
Israel Science Foundation  
Italian Antarctic Committee

- External evaluator for a promotion dossier for *NCAR Scientist III*
- External evaluator of two promotion dossiers for the Department of Applied Physics and Applied Mathematics, Columbia University
- External evaluator for a promotion dossier for *GS-15*, NASA Goddard Space Flight Center
- External evaluator of a promotion dossier for the Department of Atmospheric Sciences, University of Arizona.
- External evaluator of two promotion dossiers for the Goddard Earth Sciences and Technology Center, University of Maryland, Baltimore County.
- External evaluator of a faculty tenure & promotion dossiers for the National Central University, Taiwan.
- External evaluator of a promotion dossier for the Department of Atmospheric Sciences, University of Illinois at Urbana-Champaign.
- External evaluator of a tenure & promotion dossier for the Department of Atmospheric, Oceanic, and Space Science, University of Michigan.
- External evaluator of a tenure & promotion dossier for the Department of Earth & Atmospheric Sciences, University of Nebraska – Lincoln
- External evaluator of a promotion dossier for the Department of Mechanical Engineering, Auburn University
- External evaluator of a tenure & promotion dossier for the Department of Earth & Atmospheric Sciences, The City College of New York
- External evaluator of a tenure & promotion dossier for the Department of Mechanical Engineering, The City College of New York
- External evaluator of a tenure & promotion dossier for the Department of Physics and Astronomy, Mississippi State University
- External evaluator of a promotion dossier for Earth System Science Interdisciplinary Center/University of Maryland-College Park (ESSIC/UMD)

**Funded Projects (68 completed projects and 10 current projects, totaling \$15.4M)**

**Completed Projects:**

**(NSF Projects)**

**[Funded Project 1]**

PI: Ping Yang

Source: NSF

TAMU Project No.: RF-458131-00001

- Project Title: CAREER: Investigation of the scattering and radiative properties of ice and mixed-phase clouds: Applications to remote sensing & cloud parameterization.  
Budget: \$623,408 for 05/2003-04/2008 (extended to 04/2009)
- [Funded Project 2]** PI: Ping Yang, Co-I: George W. Kattawar  
Source: NSF  
TAMU Project No.: RF-422161-00001  
Project Title: Studying dust optical and radiative properties using optimal morphological sets  
Amount: \$419,905 for 06/01/2008-05/31/2012
- [Funded Project 3]** PI: Ping Yang  
Source: NSF  
TAMU Project No.: 02-467651  
Project Title: Development of rigorous computational capabilities based on the invariant imbedding principle for the simulation of the optical properties of dust and ice crystals  
Amount: \$565,425 for 09/01/2013-08/31/2017
- [Funded Project 4]** Ping Yang (TAMU PI for a collaborative grant); Xiaodong Zhang (PI at the University of North Dakota)  
Source: NSF  
TAMU Project No.: 02-445961  
Project Title: Collaborative Research: Inferring marine particle properties from polarized volume scattering functions (IMPROVE)  
Amount (TAMU portion): \$197,140 for 09/01/2015-08/31/2018
- (DOE Project)**
- [Funded Project 5]** Ping Yang (TAMU PI for a collaborative project); Xianglei Huang (PI at the University of Michigan)  
Source: DOE  
TAMU Project No.: 02-44281  
Project Title: Major improvement on the longwave radiative interactions between surface and clouds in the polar regions in atmospheric global circulation model (GCM)  
Amount: \$194,705 for 01/15/2015-01/14/2018
- [Funded Project 6]** PI: Ping Yang, Co-I Eli Mlawer (AER, Inc.)  
Source: NSF  
TAMU Project No.: 02-401201  
Project Title: Collaborative Research: Systematic Evaluation and Further Improvement of present broadband radiative transfer modeling capabilities  
Amount (TAMU portion): \$509,434 for 09/01/2016-08/31/2019 (no-cost extension to 08/31/2020)
- (DOT Projects)**
- [Funded Project 7]** PI: Ping Yang, Co-I: Andrew Dessler

- Source: DOT/FAA  
TAMU Project No.: RF-497641-00001  
Project Title: Develop a subject-specific white paper on the “climate impacts of contrails and contrail-cirrus”  
Amount: \$45,079 for 10/12/2007-08/31/2008.
- [Funded Project 8]** PI: Ping Yang; Co-I: K. N. Liou  
Source: DOT/RITA/Volpe Center  
TAMU Project No.: RF-427471/427472/427473-00001/01001  
Project Title: Developing optical datasets and modeling capabilities to assess the radiative forcing of contrails and contrail cirrus  
Amount (TAMU portion): \$485,979 for 12/07/2009-3/31/2013
- (ONR Projects)**
- [Funded Project 9]** PI: Ping Yang  
Source: Office of Naval Research (via a subcontract from U. of Wisconsin)  
TAMU Project No.: RF-453281-00001  
Project Title: Radiative properties of cirrus clouds and water clouds: Model development in support of university of Wisconsin GIFTS/IOMI MURI project  
Budget: \$164,380 for 6/30/2001-4/30/2004
- [Funded Project 10]** PI: Ping Yang  
Source: Office of Naval Research (via a subcontract from U. of Wisconsin)  
TAMU Project No.: RF-453281-00001 (an extension with additional funding)  
Project Title: A two-year extension for “Radiative properties of ice clouds and water clouds: model development in support of University of Wisconsin GIFTS/IOMI MURI project  
Budget: \$219,965 for 5/2004-4/2006
- (NOAA Projects)**
- [Funded Project 11]** PI: Ping Yang  
Source: NOAA  
TAMU Project No.: RF-426931-00001  
Project Title: Enhancement of CRTM and support for cloud and aerosol retrieval in the GOES-R Mission  
Amount: \$442,548 for 09/22/2009-9/21/2011
- [Funded Project 12]** PI: Ping Yang  
Source: NOAA  
TAMU Project No.: 02-446011  
Project Title: Improving scattering/absorption/polarization properties of snow, graupel, and ice aggregate particles from solar-to-microwave-region wavelengths in support of CRTM  
Amount: \$196,404 for 08/01/2015-07/31/2017
- [Funded Project 13]** PI: P. Yang, Co-I: S. Nasiri

- Source: NOAA (via a subaward from U. of Wisconsin-Madison)  
TAMU Project No.: RF-492781-00001  
Project Title: Research in support of GOES-R RISK Reduction Project
- [Funded Project 14]**  
Budget: \$150,000 for 1/1/2006-12/31/2008.  
PI: Ping Yang  
Source: NOAA  
TAMU Project No.: RF-492501-00001  
Project Title: Development of consistent lookup libraries for retrieving the microphysical and radiative properties of water, mixed-phase and ice clouds in support of the GOES-R mission
- [Funded Project 15]**  
Budget: \$59,999 for 9/8/2006-9/7/2007.  
PI: Ping Yang  
Source: NOAA  
TAMU Project No.: RF-497631-00001  
Project Title: Enhancement of the Capabilities of CRTM for Simulating Radiative Transfer in Ice-Cloudy Atmospheres
- [Funded Project 16]**  
Budget: \$79,964 for /09/01/2007-08/31/2008  
PI: Ping Yang  
Source: NOAA  
TAMU Project No.: RF-497701-00001 (this project was a continuation of RF-492501-00001)  
Project Title: Development of consistent lookup libraries for retrieving the microphysical and radiative properties of water, mixed-phase and ice clouds in support of the GOES-R mission
- [Funded Project 17]**  
Budget: \$63,043 for 9/8/2007-9/7/2008.  
PI: P. Yang  
Source: NOAA  
TAMU Project No.: RF-423671-00001  
Project Title: Enhancement of the capabilities of CRTM in Atmospheres
- [Funded Project 18]**  
Budget: \$76,423 for 9/29/2008-9/28/2009  
PI: P. Yang  
Source: NOAA  
TAMU Project No.: RF-423611-00001  
Project Title: The Effect of Particle Shape on the Aerosol Retrieval from ABI
- [Funded Project 19]**  
Budget: \$75,000 for 9/29/2008-9/28/2009  
PI: Ping Yang  
Source: NOAA (via a subcontract from University of Wisconsin)  
TAMU Project No.: RF-492782-00001  
Project Title: Development of the optical properties of aerosols and ice crystals in support of the GOES-R research project of the Cooperative Institute for Meteorological Studies (CMISS)

**[Funded Project 20]** Amount: \$80,000 for 04/01/2010-05/31/2011  
PI: Ping Yang  
Source: University of Wisconsin (Federal Prime Sponsor: DOC-NOAA)  
TAMU Project No.: RF-503291-00001  
Project Title: Development of the optical properties of soot, dust aerosols and ice crystals in support of the GOES-R research project of the Cooperative Institute for Meteorological Studies (CMISS)

**[Funded Project 21]** Amount: \$30,000 for 04/1/2011-03/31/2012  
PI: Ping Yang  
Source: NOAA  
TAMU Project No.: 461251-00001  
Project Title: Support for Cloud and Aerosol Retrieval in the GOES-R Mission

**[Funded Project 22]** Amount: \$136,046 for 09/23/2011-09/22/2012  
PI: Ping Yang  
Source: NOAA  
TAMU Project No.: 02-468741-00001  
Project Title: Support for the JPSS Cloud Team

**[Funded Project 23]** Amount: \$59,413 for 11/01/2013-05/31/2014  
PI: Ping Yang  
Source: NOAA  
TAMU Project No.: 02-469861-00001  
Project Title: Improvement and validation of JCSDA Community Radiative Transfer Model (CRTM)

**Funded Project 24]** Amount: \$111,642 for 8/01/2013-07/31/2015  
PI: Ping Yang  
Source: NOAA  
TAMU Project No.: 02-401641  
Project Title: Develop an optimal ice cloud model in support of JPSS

**[Funded Project 25]** Amount: \$31,500 for 08/26/2016-08/25/2017  
PI: Ping Yang  
Source: NOAA  
TAMU Project No.: 02-419761-00001  
Project Title: Research In Support Of JPSS Cal/Val  
Amount: \$57,045 for 10/01/2018-09/30/2019

**(NASA Projects)**

**[Funded Project 26]** PI: Ping Yang; Co-Is: Gerald North and Andrew Dessler  
Source: NASA  
TAMU Project No.: RF-464031-00001  
Project Title: Investigation of the spatial and temporal distributions of cirrus clouds over tropics and their radiative forcing effects using MODIS and CERES data



- [Funded Project 27]** Budget: \$469,777 for 6/2004-5/2007 (extended to 5/2008).  
 PI: Ping Yang; Co-I: K. N. Liou (UCLA)  
 Source: NASA  
 TAMU Project No.: RF-502961-00001/01001  
 Project Title: Determination of the Aspect Ratio of Airborne Dust  
 Particles from Spaceborne Polarimetry Measurements  
 Amount: \$415,056 for 06/20/2011-06/19/2014
- [Funded Project 28]** PI: Ping Yang  
 Source: NASA  
 TAMU Project No.: RF-502951-00001  
 Project Title: Simulation of the Optical Properties of Atmospheric  
 and Oceanic Particles  
 Amount: \$373,451 for 06/20/2011-06/19/2014
- [Funded Project 29]** PI: Ping Yang; Co-I: Shaima Nasiri  
 Source: NASA  
 TAMU Project No.: RF-503531-00001/01001  
 Project Title: Evaluation of the Cloud and Aerosol Look-up Tables  
 and Relevant Parameterizations Utilized in VIIRS  
 Cloud and Aerosol Property Retrievals and  
 Development of VIIRS and CrIS Radiance Simulators  
 Amount: \$431,875 for 07/29/2011-07/28/2014
- [Funded Project 30]** PI: Ping Yang, Co-I: Warren Wiscombe  
 Source: NASA  
 TAMU Project No.: RF-454321-00001  
 Project Title: Scattering and absorption properties of  
 nonspherical/inhomogeneous aerosols and ice crystals:  
 Application to radiative transfer simulation and remote  
 sensing implementation".  
 Budget: \$64,991 for 9/2001-8/2003.
- [Funded Project 31]** PI: Ping Yang  
 Source NASA  
 TAMU Project No.: RF-454051-00001  
 Project Title: Analysis of historical cirrus in situ data in support of  
 Terra, Aqua, and GIFTS cirrus retrieval efforts  
 Budget: \$182,691 for 11/2001-10/2004  
 (A sub-award of a grant; PI: B. A. Baum, NASA LaRC, then; Co-Is:  
 Ping Yang, TAMU; A. Heymsfield, NCAR)
- [Funded Project 32]** PI: Ping Yang  
 Source: NASA  
 TAMU Project No.: RF-455411-00001  
 Project Title: Retrieve cirrus reflectance using visible and 1.38  $\mu\text{m}$   
 water vapor bands". Funded by NASA  
 Budget: \$120,000 for 4/2002-3/2005
- [Funded Project 33]** PI: Ping Yang  
 Source: NASA  
 TAMU Project No.: RF-455701-00001  
 Project Title: Analysis of measurement and modeling studies for  
 CRYSTAL-FACE

- [Funded Project 34]** Budget: \$80,000 for 5/2002-4/2005  
 (A sub-award of a grant; PI: S.-C. Tsay, NASA GSFC' Co-Is: Q. Ji, U. of Maryland-College Park; Ping Yang, TAMU)  
 PI: Ping Yang  
 Sponsor: Science Applications International Corp. (Primary sponsor: NASA)  
 TAMU Project No.: RF-455231-0001  
 Project Title: Support for CALIPSO  
 Budget: \$189,483 for 3/2002-5/2005
- [Funded Project 35]** PI: Ping Yang  
 Source: NASA (via a subcontract from Univ. of Maryland Baltimore County)  
 TAMU Project No.: RF-454471-00001  
 Project Title: Research in support of "Microphysical properties of crystalline PSC particles derived from airborne lidar measurements acquired during the SOLVE mission"  
 Budget: \$30,298 for 9/2002-8/2005  
 (A sub-award of a grant; PI: J. Reichart, UMBC; Ping Yang was one of the co-Is of the original proposal)
- [Funded Project 36]** PI: Ping Yang  
 Sponsor: Science Applications International Corporation (Primary sponsor: NASA)  
 TAMU Project No.: RF-466391-00001  
 Project Title: Data Processing, Modeling and Analysis of Ice Clouds and In-situ Cloud Data  
 Budget: \$291,497 for 11/1/2004-11/30/2006  
 This project was in support of two NASA projects:  
 (1) PI: B. A. Baum (NASA LaRC, then); Co-Is: Ping Yang, TAMU; Paul Menzel (NOAA): "Support of NPP Cloud Retrieval Efforts"  
 (2) PI: B. A. Baum (NASA LaRC, then); Co-Is: A. Heymsfield, NCAR; Ping Yang, TAMU; S. Platnick, NASA GSFC; R. Aune (NOAA): "Regional and global analyses of multilayered clouds, ice-phase clouds and mixed-phase clouds using EOS-Terra and Aqua data".
- [Funded Project 37]** PI: Ping Yang  
 Source: NASA/GSFC  
 TAMU Project No.: RF-468701-00001  
 Project Title: Extension/continuation of Project "Retrieve Cirrus reflectance using visible and 1.38- $\mu$ m water vapor absorption bands"  
 Budget: \$126,725 for 7/1/05-/6/30/08.
- [Funded Project 38]** PI: Ping Yang  
 Source: NASA  
 TAMU Project No.: RF-492501-00001  
 Project Title: Research in Light Scattering and Radiative Transfer for Improving the Retrieval of Ice Cloud Properties  
 Budget: \$153,075 for 10/2006-9/2009.

- [Funded Project 39]** PI: Ping Yang  
Source: NASA/Langley Research Center  
TAMU Project No.: RF-483881-00001  
Project Title: Cloud object analysis and modeling of cloud-aerosols interactions and cloud feedbacks with the combined CERES and CALIPSO data  
Budget: \$268,601 for 06/01/2006-12/31/2009  
(A sub-award of a grant; PI: K.-M. Xu, NASA LaRC; Co-Is: D. M. Winker, NASA LaRC; Y. X. Hu, NASA LaRC; X. Zhao; U. of Maryland-College Park; Ping Yang, TAMU)
- [Funded Project 40]** PI: Ping Yang  
Source: NASA  
TAMU Project No.: RF-423541-00001  
Project Title: Computation of the single-scattering properties of ice clouds in support of NASA's research effort to study ice cloud properties from GLAS observations  
Budget: \$39,726 for 09/01/2008-12/31/2009
- [Funded Project 41]** PI: P. Yang  
Source: NASA  
TAMU Project No.: RF-495671-00001  
Project Title: Development of a fast forward radiative transfer model and retrieval algorithm for inferring cloud properties from hyperspectral measurements  
Budget: \$100,964 for 2/1/2007-5/26/2010
- [Funded Project 42]** PI: Ping Yang  
Source: NASA (via a sub-award through U. of Wisconsin)  
TAMU Project No.: RF-422661-00001  
Project Title: Research in support of "Refinement of Ice Cloud Bulk optical Models: From Microphysical Measurements to Global Retrievals using Multiple Satellite Instruments"  
Amount: \$170,000 for 1/17/2008-1/16/2011  
(A sub-award of a grant; PI: B. A. Baum, SSEC/U. of Wisconsin; Co-Is: Ping Yang, TAMU; A. Heymsfield, NCAR)
- [Funded Project 43]** PI: Ping Yang  
Source: NASA  
TAMU Project No.: RF-499691-00001  
Project Title: Investigation of the optical properties of horizontally oriented ice crystals in support of NASA's CALIPSO project  
Amount: \$92,319 for 01/6/2008-5/31/2011
- [Funded Project 44]** PI: Ping Yang  
Source: NASA  
TAMU Project No.: RF-422731-00001  
Project Title: Research in support of "Estimation of Cloud Microphysics from MODIS Infrared Observations"  
Amount: \$167,000 for 06/01/2008-05/31/2011  
(A sub-award of a grant; PI: A. Heidinger, NOAA; Co-Is: S. Platnick, NASA GSFC; M. Pavolonis, NOAA; Ping Yang, TAMU)

- [Funded Project 45]** PI: Ping Yang  
Source: NASA  
TAMU Project No.: RF-423011-00001  
Project Title: Synergy of Satellite/Surface Observations and Light-Scattering/Radiative-Transfer Modeling for Aerosol Research  
Amount: \$155,459 for 05/07/2008-08/31/2011  
(A sub-award of a grant; PI: S.-C. Tsay, NASA GSFC; Co-Is: N. Christina Hsu, NASA GSFC; Ping Yang, TAMU)
- [Funded Project 46]** PI: Ping Yang  
Source: NASA  
TAMU Project No.: RF-429431-00001  
Project Title: Data analysis and modeling simulation in support of NASA's Far-infrared Spectroscopy of Troposphere (FIRST) project  
Amount: \$52,190 for 06/2/2010-1/04/2012
- [Funded Project 47]** PI: Ping Yang, Co-Is: Andrew Dessler and Gerald North  
Source: NASA  
TAMU Project No.: RF-499361-00001  
Project Title: Study of the properties and radiative forcing of global ice clouds using the synergetic MODIS, AIRS, and CERES products and the NCAR Community Atmospheric Model  
Amount: \$300,000 for 01/14/2008-1/13/2012
- [Funded Project 48]** PI: Ping Yang  
Source: NASA  
TAMU Project No.: RF-429291-00001  
Project Title: Development of an algorithm to retrieve the habit and relative size distributions of ice crystals in cirrus clouds  
Amount: \$178,739 for 06/1/2010-5/31/2013
- [Funded Project 49]** PI: Ping Yang  
Source: NASA  
TAMU Project No.: RF-426491-00001  
Project Title: Research in Light Scattering and Radiative Transfer for Improving the Retrieval of Ice Cloud Properties  
Amount: \$183,578 for 10/1/2010-9/30/2013
- [Funded Project 50]** PI: Ping Yang  
Source: Subcontract from University of Wisconsin (Prime Sponsor: NASA)  
TAMU Project No.: RF-502111-00001  
Project Title: Ice cloud bulk scattering and absorption models: refinement through intercomparison of hyperspectral, narrowband, and polarization sensors  
Amount: \$174,076 for 2/16/2011-2/15/2014  
(A sub-award of a grant; PI: B. A. Baum, SSEC/U. of Wisconsin; Co-Is: Ping Yang, TAMU; A. Heymsfield, NCAR)
- [Funded Project 51]** PI: Ping Yang

- Source: University of Wisconsin (Prime Sponsor: NASA)  
TAMU Project No.: 462041-00001  
Project Title: Investigation of Ice Particle Characteristics Through  
Comparison of APS and MODIS Measurements  
Amount: \$199,179 for 8/26/2011-8/25/2014  
(A sub-award of a grant; PI: B. A. Baum, SSEC/U. of Wisconsin;  
Co-Is: Ping Yang, TAMU; Steven Platnick, NASA-GSFC)  
**[Funded Project 52]** PI: Andrew Dessler; Co-I: Ping Yang  
Source: NASA  
TAMU Project No.: RF-429641-00001  
Project Title: Measurements of cloud radiative impact on the climate  
using CALIPSO, CloudSat and other A-train sensors  
Amount: \$428,565 for 10/01/2010-9/30/2013 (with one-year no-cost  
extension to 9/30/2014)  
**[Funded Project 53]** PI: Ping Yang  
Source: Science Systems and Applications, Inc (Primary sponsor:  
NASA)  
TAMU Project No.: 02-443521  
Project Title: Research effort contributing to uncertainty reduction in  
assessing radiative forcing of contrails and contrail-  
induced cirrus clouds  
Amount: \$34,000 for 05/27/2015-01/31/2016  
**[Funded Project 54]** PI: Ping Yang  
Source: NASA  
TAMU Project No.: 02-468831  
Project Title: Development of a novel ice cloud optical model for  
remote sensing applications and radiative property  
parameterization  
Amount: \$183,537 for 10/01/2013-09/30/2016  
**[Funded Project 55]** PI: Ping Yang  
Source: NASA  
TAMU Project No.: 02-443801  
Project Title: Research in support of NASA's IceCube Project  
Amount: \$80,000 for 06/01/2015-05/31/2017  
**[Funded Project 56]** PI: Ping Yang  
Source: University of Wisconsin (Primary Sponsor: NASA)  
TAMU Project No.: 02-446071  
Project Title: VIIRS RTM Support  
Amount: \$59,820 for 08/18/2015-08/17/2017  
**[Funded Project 57]** PI: Ping Yang  
Source: NASA  
TAMU Project No.: 02-467651  
Project Title: Development of fast multiple scattering computational  
capabilities in support of NASA CLARREO mission  
Amount: \$184,149 for 09/01/2012-08/31/2017  
**[Funded Project 58]** PI: Ping Yang

- Source: Science Systems & Applications, Inc. (Primary sponsor: NASA)  
TAMU Project No.: 415251-00001  
Project Title: Research effort contributions to advanced data analysis study using combined CALIPSO and MODIS  
Amount: \$75933.19 for 09/27/2017-11/30/2017
- [Funded Project 59]** PI: Ping Yang  
Source: NASA  
TAMU Project No.: 02-414241  
Project Title: Travel support for early-career researchers to attend the 1<sup>st</sup> International Workshop on “Advancement of Polarimetric Observations: Calibration and Improvement Aerosol Retrievals” (APOLO2017)  
Amount: \$29,330 for 09/1/2017-5/30/2018
- [Funded Project 60]** PI: Ping Yang, and Michael I. Mishchenko  
Source: NASA  
TAMU Project No.: 02-417171  
Project Title: Support for students and early-career researchers to attend parallel conferences on Electromagnetic and Light Scattering (ELS-XVII) and Laser-light and Interactions with Particles (LIP2018)  
Amount: \$25,661 for 02/12/2018-02/11/2019
- [Funded Project 61]** PI: Ping Yang  
Source: NASA  
TAMU Project No.: 02-443451  
Project Title: Development and improvement of single-scattering and radiative transfer modeling capabilities in support of PACE, MODIS and VIIRS Missions  
Amount: \$209,141 for 04/1/2015-03/31/2019
- [Funded Project 62]** PI: Ping Yang; Larry Di Girolamo (Univ. of Illinois at Urbana-Champaign)  
Source: NASA  
TAMU Project No.: 02-445371-00001  
Project Title: Development of new theoretical framework for inferring ice crystal surface roughness from multi-angular sensor measurements  
Amount: \$392,579 for 07/15/2015-07/14/2019
- [Funded Project 63]** PI: Ping Yang  
Source: NASA (Note: this is a Graduate Fellowship Grant; Dr. Yang as the dissertation advisor serves as the PI of this project)  
TAMU Project No.: 02-445151  
Project Title: Variability of ice cloud particle roughness determined from polarimetric satellite observations  
Amount: \$105,000 for 09/1/2015-08/31/2018 (a non-cost extension to 08/31/2019)
- [Funded Project 64]** PI: Ping Yang  
Source: NASA  
TAMU Project No.: 02-405241

- [Funded Project 65]** Project Title: Development of ice cloud and snow optical property models in support of CERES Science Team  
Amount: \$203,258 for 10/01/2016-09/30/2019  
PI for the Texas A&M Subaward portion (co-I for a primary proposal): Ping Yang  
Source: NASA  
TAMU Project No.: 02-413281
- [Funded Project 66]** Project Title: a subaward proposal for “SWIRP: Compact submm-wave and LWIR polarimeters for cirrus ice properties”  
Amount (TAMU Portion): \$100,000 for 04/3/2017-4/2/2020  
Ping Yang  
Source: NASA  
TAMU Project No.: 02-419101
- [Funded Project 67]** Project Title: Study of dust aerosol optical and microphysical properties based on combined spaceborne lidar and polarimetry  
Amount: \$150,000 for 06/01/2018-05/31/2020  
PI: Ping Yang  
Source: NASA (Note: this is a Graduate Fellowship Grant; Dr. Yang as the dissertation advisor serves as the PI of this project)  
TAMU Project No.: 02-414311
- Project Title: Remote sensing of ice cloud properties using high frequency sub-millimeter and thermal infrared wave radiometry  
Amount: \$135,000 for 09/1/2017-01/31/2021
- [Funded Project 68]** PI: Ping Yang (TAMU PI for a subaward)  
Source: NASA  
TAMU Project No.: 419611  
Project Title: Refinement of the MODIS Cloud Optical Product in Synergy with Continued Development of a Full Suite of EOS-SNPP Cloud Continuity Algorithms + Atmosphere Discipline Team Leads  
Amount (TAMU portion): \$101,108 for 10/1/2018-09/30/2021  
Project Location: Texas A&M Univ.
- [Funded Project 69]** PI: Xianglei Huang Huang (Univ. of Michigan), Co-Is; Mark Flanner (Univ. of Michigan), Ping Yang (TAMU), Wuyin Lin (Brookhaven National Laboratory), and Charles Zender (Univ. of California at Irvine)  
Source: DOE  
TAMU Project No.: 420291-00001  
Project Title: Incorporate more realistic surface-atmosphere radiative coupling in E3SM  
Amount (TAMU portion): \$242,606 for 09/15/2018-9/14/2021

**Current Projects (\* indicates current projects):**

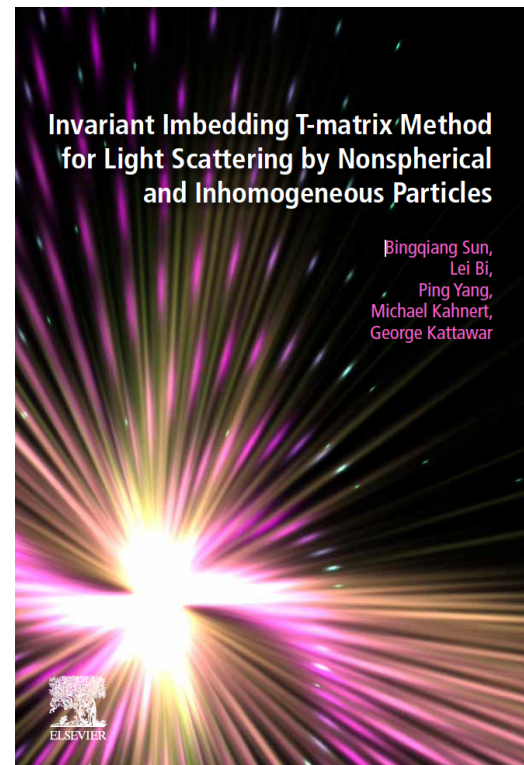
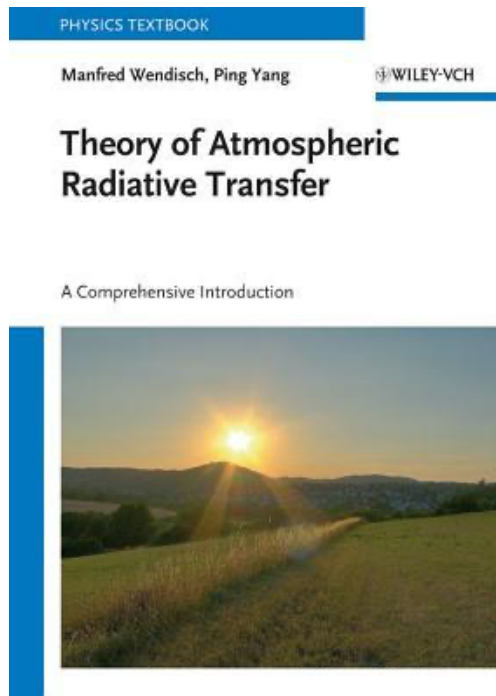
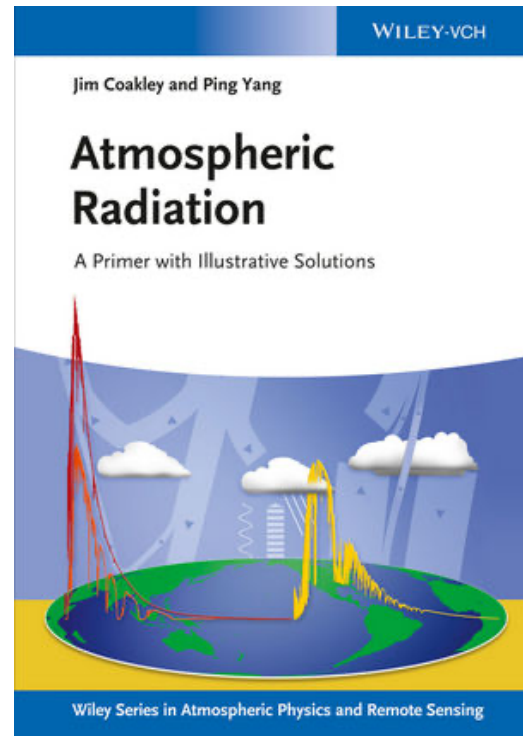
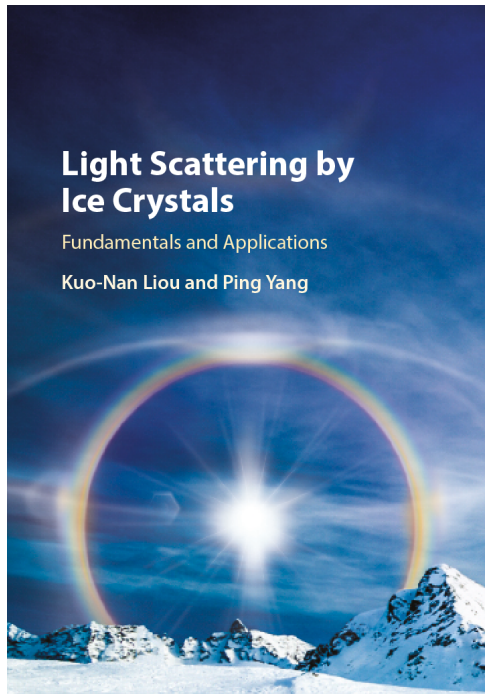
- \*[Funded Project 70]** PI: Ping Yang, and co-I: Richard Lee Panetta  
Source: NSF  
TAMU Project No.: 02-418921  
Project Title: Development of community light scattering computational capabilities  
Amount: \$593,862 for 09/01/2018-08/31/2021 (no-cost extension to 08/31/2022)
- \*[Funded Project 71]** PI: Ping Yang  
Source: NASA  
TAMU Project No.: 418431-00001  
Project Title: Quantification of the consistency of the choice of ice cloud models in forward retrieval and radiative forcing assessment  
Amount (TAMU portion): \$431,106 for 4/30/2018-4/29/2022  
Project Location: Texas A&M Univ.
- \*[Funded Project 72]** PI: Ping Yang  
Source: NASA (Note: this is a Graduate Fellowship Grant; Dr. Yang as the dissertation advisor serves as the PI of this project)  
TAMU Project No.: 02-428421-00001  
Project Title: Remote sensing of ice cloud properties using CLARREO-like Spectrally resolved reflected solar and infrared radiances  
Amount: \$135,000 for 09/1/2019-08/31/2022
- \*[Funded Project 73]** PI: Ping Yang  
Source: NASA  
TAMU Project No.: 428651  
Project Title: Optical property calculations and radiation parameterizations in support of CERES Science Team  
Amount: \$290,062 for 10/1/2019-09/30/2022  
Project Location: Texas A&M Univ.
- \*[Funded Project 74]** PI: Ping Yang  
Source: NASA (Note: this is a Graduate Fellowship Grant; Dr. Yang as the dissertation advisor serves as the PI of this project)  
TAMU Project No.: 02-414311  
Project Title: A study of the optical properties of non-spherical particles with the physical geometric optics method  
Amount: \$135,000 for 09/1/2020-08/31/2023
- \*[Funded Project 75]** PI: Ping Yang  
Source: NOAA  
TAMU Project No.: 414311-00001  
Project Title: Improved Community Radiative Transfer Model (CRTM) for Ultra-Violet (UV) and Passive Microwave Hydrometeor Impacted Radiance Simulation  
Amount: \$199,000 for 09/16/2020-03/15/2022
- \*[Funded Project 76]** PI: Ping Yang  
Source: NOAA  
TAMU Project No.: 404631-00001



- Project Title: Utilizing geostationary satellite observations to develop a next generation ice cloud optical property model in support of JCSDA Community Radiative Transfer Model (CRTM) and JPSS CAL/VAL  
Amount: \$459,907 for 09/23/2020-09/22/2023
- \*[Funded Project 77]** PI: Ping Yang  
Source: NASA (Grant Number 80NSSC21K0188)  
TAMU Project No.: 407341-00001  
Project Title: Developing an accurate ice cloud optical property model for lidar-based active remote sensing applications  
Amount: \$196,984 for 10/30/2020-10/29/2022
- \*[Funded Project 78]** PI: Xianglei Huang Huang (Univ. of Michigan), Co-Is; Mark Flanner (Univ. of Michigan), Ping Yang (TAMU), and Charles Zender (Univ. of California at Irvine)  
Source: DOE (Grant Number DE-SC0022117)  
TAMU Project No.: 410941-00001  
Project Title: Refining the representations of high-latitude surface-atmosphere radiative coupling in the E3SM  
Amount (TAMU portion): \$194,998 for 08/15/2021-08/14/2024
- \*[Funded Project 79]** PI: Ping Yang  
Source: NSF (Grant Number AGS-2153239)  
TAMU Project No.: 411081-00001  
Project Title: Eager: Develop Robust Light-Scattering Computational Capabilities Based on the Method of Separation of Variables in Spheroidal Coordinates for Small-to-Large Spheroids  
Amount: \$194,628 for 12/01/2021-11/30/2023

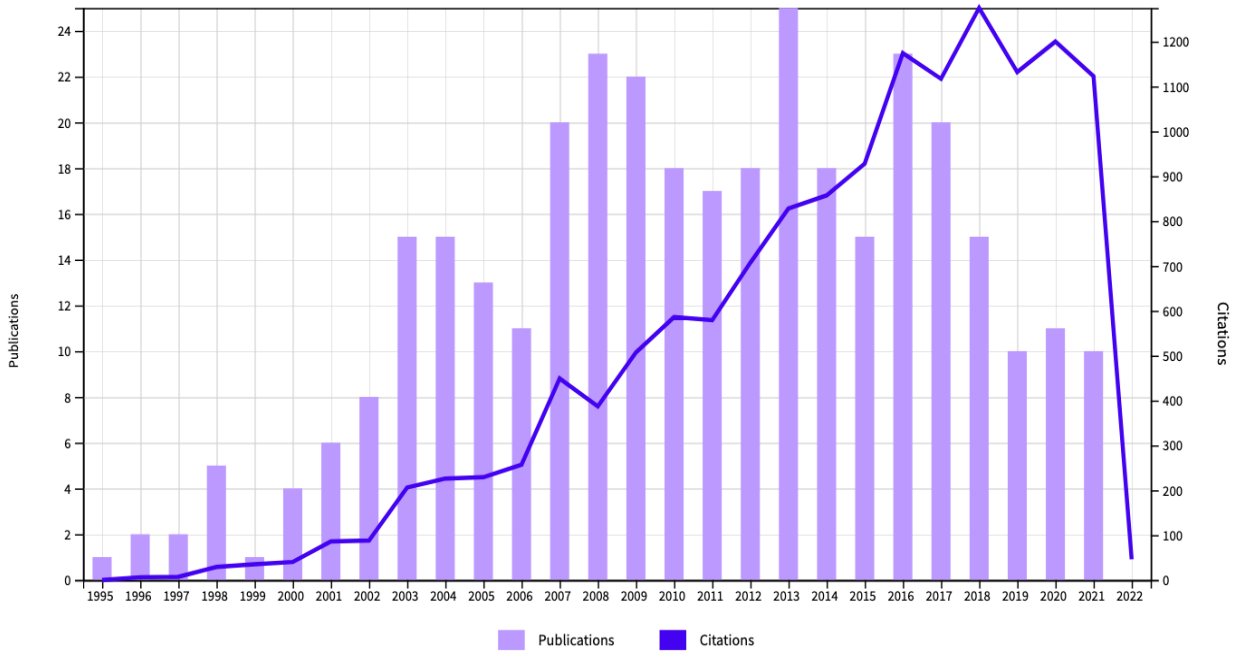
## Ping Yang's Publications

Invited book chapters:	11	
Book Review:	1	
Books:	4	
Publications (in print) in peer-reviewed journals:	349	



Citation statistics from the *Web of Science*: (ResearcherID: B-4590-2011)  
 Total times cited in the literature (as of 1/25/2022):  
 H-index:

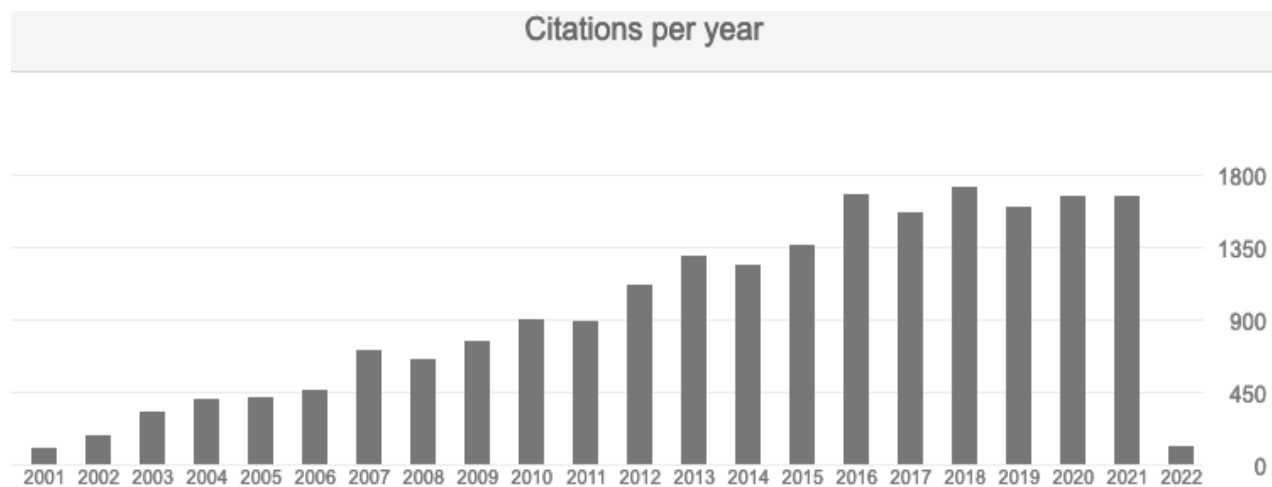
**14,104**  
**59**



Citation statistics from *Google Scholar*)

(Google Scholar Profile: <https://scholar.google.com/citations?user=0hTZUnYAAAAJ&hl=en>)  
 Total times cited in the literature (as of 1/25/2022):

**21,342**  
**75**



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**Peer-reviewed Journal Publications per Year (papers in print)**

2022	1
2021	10
2020	11
2019	10 (plus a book)
2018	15
2017	20
2016	23 (plus a book)
2015	15
2014	18 (plus a book)
2013	25 (plus 2 book-chapters)
2012	18 (plus a book)
2011	17
2010	17
2009	21
2008	24 (plus 1 book-chapter)
2007	19 (plus 1 book-chapter)
2006	11 (plus 1 book-chapter)
2005	13
2004	15
2003	15
2002	8 (plus 1 book-chapter)
2001	6 (plus 1 book-chapter)
2000	4 (plus 2 book-chapters)
1999	2
1998	6
1997	2
1996	2
1995	1

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**Peer-reviewed Publications per Journal (papers in print)**

Journal of Quantitative Spectroscopy & Radiative Transfer	86
Journal of Geophysical Research-Atmospheres	46
Journal of Applied Meteorology/Journal of Applied Meteorology and Climatology	29
Applied Optics	28
Optics Express	21
IEEE Transaction on Geoscience and Remote Sensing	20
Journal of the Atmospheric Sciences	17
Geophysical Research Letters	14
Atmospheric Chemistry and Physics	12

Journal of Climate	8
IEEE Geoscience and Remote Sensing Letters	6
Journal of Aerosol Science	5
Journal of Atmospheric and Oceanic Technology	4
Atmospheric Measurement Techniques	4
Remote Sensing	4
Journal of the Optical Society of America A	4
Atmospheric Research	3
Journal of Applied Remote Sensing	3
Journal of Biomedical Optics	2
Contribution to Atmospheric Physics	2
Aerosol Science and Technology	2
Journal of Advances in Modeling Earth Systems	2
Optical Letters	2
Bulletin of the American Meteorological Society	2
Journal of Geophysical Research-Oceans	1
Journal of Computational Physics	1
Journal of Optics A: Pure and Applied Optics	1
Physics in Medicine and Biology	1
Journal of Electromagnetic Waves and Applications	1
Monthly Weather Review	1
Remote Sensing of Environment	1
Climate Dynamics	1
International Journal of Remote Sensing	1
Atmospheric Environment	1
Journal of American Statistical Association	1
Advances in Atmospheric Science	1
Journal of the Meteorological Society of Japan	1
Atmosphere	1
Applied Sciences	1
Planetary and Space Sciences	1
Physics Reports	1
Physical Review A	1
The Astrophysical Journal	1
Progress In Electromagnetics Research	1

### **Books**

[Book -- 1]:

Wendisch, M., and **P. Yang**, 2012: Theory of Atmospheric Radiative Transfer – A Comprehensive Introduction, Wiley-VCH, 321pp. ISBN, 978-527-40836-8.

[Book -- 2]:

Coakley, J., and **P. Yang**, Atmospheric Radiation -- A Primer with Illustrative Solutions. Wiley-VCH, 2014, Weinheim, Germany, ISBN 978-3-527-41098-9. pp. 239.

[Book -- 3]:

Liou, K. N., and **P. Yang**, 2016: Light Scattering by Ice Crystals: Fundamentals and Applications, Cambridge University Press, ISBN 9780521889162, pp 443.

[Book -- 4]:

Sun, B., L. Bi, **P. Yang**, M. Kahnert, and G. Kattawar, 2019: Invariant Imbedding T-matrix Method for Light Scattering by Nonspherical and Inhomogeneous Particles, Elsevier, ISBN 978-0-12818090-7, pp. 262.

### **Book Chapters**

[Book Chapter -- 1]:

**Yang, P.**, and K. N. Liou, 2000: Finite difference time domain method for light scattering by nonspherical particles. Chapter 7 in *Light scattering by nonspherical particles: theory, measurements, and geophysical applications*, Eds. M. I. Mishchenko, J. W. Hovenier, and L. D. Travis, Academic Press, pp.173-221.

[Book Chapter -- 2]:

Liou, K. N., Y. Takano, and **P. Yang**, 2000: Light scattering and radiative transfer by ice crystal clouds: Applications to climate research. Chapter 15 in *Light scattering by nonspherical particles: theory, measurements, and geophysical applications*, Eds., M. I. Mishchenko, J. W. Hovenier, and L. D. Travis, Academic Press, pp.417-449.

[Book-chapter --3]:

Liou, K. N., Y. Takano, **P. Yang**, and Y. Gu, 2001: Radiative transfer in cirrus clouds: Light scattering and spectral information, in *Cirrus*, Eds. D. Lynch, K. Sassen, D. O. Starr, and G. Stephens. Oxford University Press, New York, pp. 265-296

[Book Chapter -- 4]:

**Yang, P.** and B. A. Baum, 2002: Satellite remote sensing of cloud properties, in *Encyclopedia of Atmospheric Sciences*, Eds. J. Holton, J. A. Curry, and J. Pyle, Academic Press, pp. 1955-1965.

[Book Chapter -- 5]:

**Yang, P.** and K. N. Liou, 2006: Light Scattering and Absorption by Nonspherical Ice Crystals, in *Light Scattering Reviews: Single and Multiple Light Scattering*, Ed. A. Kokhanovsky, Springer-Praxis Publishing, Chichester, UK, 31-71.

[Book Chapter -- 6]:

Lu, J. Q., R. S. Brock, **P. Yang**, and X.-H. Hu, 2007: Modeling of Light Scattering by Single Red Blood Cells With the FDTD Method, invited chapter in *Optics of Biological Particles*, eds. A. Hoekstra, G. Videen, and V. Maltsev, 212-241, 2007, Springer.

[Book Chapter -- 7]:

Liou, K. N., Y. Gu, W. Lee, Y. Chen, and **P. Yang**, 2008: Some unsolved problems in atmospheric radiative transfer: Implication on climate research in the Asia-Pacific Region. In "*Recent Progress in Atmospheric Sciences: Applications to the Asia-Pacific region*", World Scientific Publishing Co., Singapore, Chapter 5.

[Book Chapter -- 8]:

Bi, L., and **P. Yang**, 2013: Physical-geometric optics hybrid methods for computing the scattering and absorption properties of ice crystals and dust aerosols, in *Light Scattering Reviews 8*, Ed. A. Kokhanovsky, Springer-Praxis Publishing, Chichester, UK, 69-114.

[Book Chapter -- 9]:

Panetta, R. L., C. Liu, and **P. Yang**, 2013: A pseudo-spectral time domain method for light scattering computation, in *Light Scattering Reviews 8*, Ed. A. Kokhanovsky, Springer-Praxis Publishing, Chichester, UK, 139-187.

[Book Chapter -- 10]:

**Yang, P.** and B. A. Baum, 2015. Remote Sensing: Cloud Properties, in *Encyclopedia of Atmospheric Sciences* (2<sup>nd</sup> edition), G. R. North (editor-in-chief), J. Pyle and F. Zhang (editors), Vol. 5, pp. 116-127. Academic Press, ISBN: 9780123822253.

[Book Chapter -- 11]:

Kattawar, G. W., **P. Yang**, Y. You, L. Bi, Y. Xie, X. Huang, and S. Hioki, 2016. Polarization of light in the atmosphere and ocean, in *Light Scattering Reviews 10*, Ed. A. Kokhanovsky, Springer-Praxis Publishing, Chichester, UK, 3-33.

### **Research White Paper**

**Yang, P.**, A. Dessler, G. Hong, 2008: Aviation-Climate Change Research Initiative (ACCRI) Subject Specific White Paper (SSWP) VI: Contrails/cirrus optics and radiation, pp. 57, (solicited and funded by DOT/FAA).

### **Book Review & Tribute**

**Yang, P.**, 2008: *Cloud Optics* by A. A. Kokhanovsky, *Bulletin of the American Meteorological Society (BAMS)*, Vol. 89, P. 1924.

**Yang, P.**, B. Cairns, A. Marshak, O. Dubovik, L. Kolokolova, A. Lacis, and L. Travis, 2020: A tribute to Dr. Michael Mishchenko, *BAMS*, Vol. 101, P. 913-915.

### **Peer-Reviewed Journal Papers (total: 344 in print)**

(\* and ^ indicate my graduate students and postdocs, respectively, when the work was performed)

- [1] **Yang, P.**, and K. N. Liou, 1995: Light scattering by hexagonal ice crystals: comparison of finite-difference time domain and geometric optics models, *J. Opt. Soc. Amer. A*, 12, 162-176.
- [2] **Yang, P.**, and K. N. Liou, 1996: Finite-difference time domain method for light scattering by small ice crystals in three-dimensional space, *J. Opt. Soc. Amer.*, A13, 2072-2085
- [3] **Yang, P.**, and K. N. Liou, 1996: Geometric-Optics-integral-equation method for light scattering by nonspherical ice crystals, *Appl. Opt.*, 35, 6568-6584
- [4] **Yang, P.**, and K. N. Liou, 1997: Light scattering by hexagonal ice crystals: Solution by a ray-by-ray integration algorithm, *J. Opt. Soc. Amer. A*, 14, 2278-2289.
- [5] **Yang, P.**, K. N. Liou, and W. P. Arnott, 1997: Extinction efficiency and single-scattering albedo for laboratory and natural cirrus clouds, *J. Geophys. Res.*, 102, 21,825-21,835.
- [6] **Yang, P.**, and K. N. Liou, 1998: Single-scattering properties of complex ice crystals in terrestrial atmosphere, *Contr. Atmos. Phys.*, 71, 223-248.
- [7] **Yang, P.**, and K. N. Liou, 1998: An efficient algorithm for truncating spatial domain in modeling light scattering by finite-difference technique, *J. Comput. Phys.*, 140, 346-369.
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- [13] Wyser, K., and **P. Yang**, 1999: On the uncertainties in refractive index of ice, *Contr. Atmos. Phys.*, 72, 351-354.
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- [17] **Yang, P.**, K. N. Liou, M. I. Mishchenko, and B.-C. Gao, 2000: Efficient finite-difference time domain scheme for light scattering by dielectric particles: application to aerosols, *Appl. Opt.*, 39, 3727-3737.
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**Selected Conference Presentations and Proceeding Publications (Total: ~400)**

- Yang, P.**, M. Saito, 2018: An update on a two-habit ice cloud model and a two-layer snow model for optical property simulation, Earth Radiation Budget Workshop, Boulder, CO, Sep 10-13, 2018
- Yang, P.**, and N. Loeb, 2018: Consistency of ice cloud models in forward retrieval and radiative forcing assessment, MODIS/VIIRS Science Team Meeting, Silver Spring, MD, Oct 15-19.
- Yang, P.**, J. Ding, G. Tang, M. D. King, S. Platnick, K. G. Meyer, and E. J. Mlawer, 2017: Applications of the similarity relations in radiance transfer to remote sensing implementation and flux calculation, 2017 American Geophysical Union Fall Meeting, New Orleans, LA.
- Yang, P.** and K. N. Liou, 2018: A review of the optical properties of atmospheric ice crystals and downstream applications: History and recent advances, American Meteorological Society 15th Conference on Cloud Physics/15th Conference on Atmospheric Radiation, July 9-13, Vancouver, Canada (Invited talk).
- Yang, P.**, M. Saito, J. Ding, S. Hioki, C. P. Kuo, and B. A. Baum, 2018: Advanced radiative transfer capabilities in support of far-infrared based remote sensing of ice clouds, aerosols and snow, 1<sup>st</sup> Workshop on the Far-infrared Outgoing Radiation Understanding and Monitoring (FORUM) mission (FORUM), 23-25 October 2018, Florence, Italy.
- Yang, P.**, M. Saito, J. Ding, P. Stegmann, C. A. Hostetler, X. Liu, and C. Trepte, 2019: Dust Aerosol Optical Properties for Applications to Lidar and Polarimetric Retrievals. AMS 99th Annual Meeting, Phoenix, AZ, 6-10 January 2019.
- Yang, P.**, J. Ding, and M. Saito, 2019: Light scattering and radiative transfer simulations in support of CRTM. 17<sup>th</sup> JCSDA Technical Review Meeting and Science Workshop, 29-31 May 2019, NASA Headquarters, Washington, DC.
- Yang, P.**, and M. Mishchenko, 2020: Single/multiple Scattering of Light by Particles: Fundamentals and Applications in Atmospheric Research” as a **NASA Hyperwall Presentation at the American Association for the Advancement of Science (AAAS) Meeting**, February 15, 2020, Seattle, WA.
- Yang, P.**, J. Ding, M. Saito, J. Coy, R. L. Panetta, Simulations of the optical properties of nonspherical dielectric particles in the atmosphere, International Geoscience and Remote Sensing Symposium (IEEE/IGARSS), Brussels, Belgium, July 12-16, 2021 (Virtual).
- Yang, P.**, M. Saito, J. Ding, X. Liu, Optical properties of dust aerosol particles: Theoretical computations and applications (**invited talk**), The 102<sup>nd</sup> American Meteorological Society (AMS) Annual meeting (virtual), January 24-27, 2022.

**Selected Invited Seminars (total: ~50):**

- Yang, P.**, 2008: The Everest Is There, Department of Atmospheric Sciences, The University of Washington, Seattle, WA, October 10, 2008.
- Yang, P.**, 2010: Light Scattering and Radiative Transfer in the Atmosphere, Leipzig Institute for Meteorology (LIM), University of Leipzig, Germany, Oct. 7, 2010.

- Yang, P.**, 2011: Optical properties of dust aerosols and ice crystals – Fundamentals and downstream applications, Meteorological Institute Munich, Ludwig-Maximilians-University Munich, Munich, Germany, September 30, 2011.
- Yang, P.**, 2018: Potential improvements of GISS ModelEs Radiation Model, NASA Goddard Institute for Space Studies, New York City, 14 November 2018.
- Yang, P.**, 2019: Atmospheric optics and radiative transfer: genesis and Evolution, NASA Jet Propulsion Laboratory (JPL), Pasadena, CA, 15 May 2019.