Jiachen DING

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Educational Background

Ph.D., Atmospheric Sciences, Texas A&M University 09/2014-05/2019

B.S., Information Engineering (Optoelectronics), Nanjing University 09/2010-07/2014

Appointments

Assistant Research Scientist, Department of Atmospheric Sciences, Texas A&M University
12/2022-present

Postdoctoral Research Associate, Department of Atmospheric Sciences, Texas A&M University
06/2019-11/2022

Graduate Research Assistant, Department of Atmospheric Sciences, Texas A&M University
09/2014-05/2019

Honors & Awards

Outstanding Research Staff Member Award of Dept. Atmos. Sci., TAMU 12/2023

Outstanding Graduate Student Research Award of Dept. Atmos. Sci., TAMU 12/2017

Heep Fellowship 11/2015

Outstanding Graduate of NJU 06/2014

Outstanding Student, Outstanding Model Student of NJU 12/2012

Honorable Mention in Mathematical Contest in Modeling (MCM) 04/2013

Samsung Scholarship by NJU and Samsung Company 12/2012

National Scholarship 09/2013

Second Prize and Excellent Theoretical Plan Award in National University Students' Opt-Sci-Tech Competition (The Chinese Optical Society) 08/2012

Professional Association

Member of American Geophysical Union

Member of American Meteorology Society

External Services

Reviewer for:

- *Appl. Opt.*
- *Appl. Sci.*
- *Atmosphere*
- *Axioms*
- *Chin. Opt. Lett.*
- *Electronics*
- *Meteorol. Atmos. Phys.*
- *J. Appl. Meteorol. Climatol.*
- *J. Atmos. Sci.*
- *J. Geophys. Res.*
- *J. Hydrometeor.*
- *J. Meteorol. Res.*
- *J. Opt. Soc. Amer. A*
- *J. Quant. Spectrosc. Radiat. Transfer*
- *Opt. Expr.*
- *Opt. Lett.*
- *OSA Contin.*
- *Perspectives Earth Space Sci.*
- *Remote Sens.*
- *Remote Sens. Environ.*
- *Sensors*

Volunteer judge of AGU Outstanding Student Presentation Awards.

Volunteer judge of AMS ACCI Symposium Best Student Presentation Awards.

Peer-reviewed Publications

1) **Ding, J**, and P. Yang, 2023: Lorenz-Mie Theory-Type Solution for Light Scattering by Spheroids with Small-to-Large Size Parameters and Aspect Ratios, *Optics Express*, 31(24), 40937-40951.

2) Cikota, A., **J. Ding**, L. Wang, D. Baade, S. Cikota, P. Höflich, J. Maund, and P. Yang, 2023: An independent determination of the distance to supernova SN 1987A by means of the light echo AT 2019xis, *The Astrophysical Journal Letters*, 949(1), L9.

3) **Ding, J**, P. Yang, and G. Videen, 2023: On the Relation Between Ice-Crystal Scattering Phase Function at 180° and Particle Size: Implication to Lidar-based Remote Sensing of Cirrus Clouds, *Optics Express*, 31(11), 18680-18692.

4) **Ding, J.**, P. Yang, M. T. Lemmon, and Y. Zhang, 2023: Simulations of Halos Produced by Carbon Dioxide Ice Crystals in the Martian Atmosphere, *Geophysical Research Letter*s, 50, e2023GL103457.

5) Zhang, Y., **J. Ding**, P. Yang, and G. Videen, 2023: Evaluating the accuracy of single-scattering computations by the geometric optics approximation using Platonic solids, *Journal of Quantitative Spectroscopy & Radiative Transfer*, 108591.

6) **Ding, J.**, P. Yang, L. Wang, E. Oran, N. G. Loeb, W. L. Smith Jr., and P. Minnis, 2023: Quantification of Global Cloud Properties with Use of Spherical Harmonic Functions, *Earth and Space Science*, 10(3), e2022EA002718.

7) **Ding, J.**, and P. Yang, 2023: Tangent-Linear and Adjoint Models for the Transfer of Polarized Radiation, *Journal of Atmospheric Sciences*, 80(1), 73-89.

8) Ren, T., P. Yang, K. Garrett, Y. Ma, **J. Ding**, and J. Coy, 2022: A microphysics-scheme consistent snow optical parameterization for the Community Radiative Transfer Model, *Monthly Weather Review*, 151(2), 383-402.

9) Song, Q., Z. Zhang, H. Yu, J. F. Kok, C. Di Biagio, S. Albani, J. Zheng, and **J. Ding**, 2022: Size-resolved Dust Direct Radiative Effect Efficiency Derived from Satellites Observations, *Atmospheric Chemistry and Physics*, 22, 13115–13135.

10) Zhang, Y., **J. Ding***, P. Yang, and R. L. Panetta, 2022: Vector Spherical Wave Function Truncation in the Invariant Imbedding T-matrix Method, *Optics Express*, 30(17), 30020-30037. (*Corresponding author)

11) Silber, I., R. C. Jackson, A. M. Fridlind, A. S. Ackerman, S. Collis, J. Verlinde, and **J. Ding**, 2022: The Earth Model Column Collaboratory (EMC 2) v1. 1: An Open-Source Ground-Based Lidar and Radar Instrument Simulator and Subcolumn Generator for Large-Scale Models, *Geoscientific Model Development*, 15, 901-927.

12) Okeudo, N., **J. Ding**, P. Yang, and R. Saravanan, 2022: Edge effect correction formula for sperspheroids using the Debye series, *Optics Express*, 30, 146-165.

13) **Ding, J.**, Wang, L., Brown, P., and Yang, P., 2021: Radiative Transfer Modeling of An SN 1987A Light Echo —AT2019xis, *The Astrophysical Journal*, 919, 104.

14) Saito, M., P. Yang, **J. Ding**, and X. Liu, 2021: A comprehensive database of the optical properties of irregular aerosol particles for radiative transfer simulations, *Journal of Atmospheric Sciences*, 78, 2089-2111.

15) **Ding, J.**, P. Yang, M. I. Mishchenko, and R. D. Nevels, 2020. Identify the limits of geometric optics ray tracing by numerically solving the vector Kirchhoff integral, *Optics Express* 28, 10670-10682.

16) **Ding, J.**, P. Yang, M. D. King, S. Platnick, X. Liu, K. G. Meyer, and C. Wang, 2019. A Fast Vector Radiative Transfer Model for the Atmosphere-Ocean Coupled System, *Journal of Quantitative Spectroscopy & Radiative Transfer*, p.106667.

17) Yang, P., **J. Ding**, R. L. Panetta, K. N. Liou, G. W. Kattawar, and M. I. Mishchenko, 2019: On the convergence of numerical computations for both exact and approximate solutions for electromagnetic scattering by nonspherical dielectric particles (invited review), *Progress In Electromagnetics Research*, 164, 27-61.

18) Stegmann, P. G., B. Sun, **J. Ding**, P. Yang, and X. Zhang, 2019: Study of the effects of phytoplankton morphology and vertical profile on lidar attenuated backscatter and depolarization ratio, *Journal of Quantitative Spectroscopy & Radiative Transfer*, 225, 1-15.

19) Li, R., G. Tang, **J. Ding**, T. Logan, S. Brooks, D. Collins, P. Yang, and G. Kattawar, 2018: Laboratory measurements of light scattering properties of kaolinite dust at 532 nm, *Aerosol Science and Technology*, 52, 666-678.

20) **Ding, J.**, P. Yang, G. W. Kattawar, M. D. King, S. Platnick, and K. G. Meyer, 2017: Validation of quasi-invariant ice cloud radiative quantities with MODIS satellite-based cloud property retrievals, *Journal of Quantitative Spectroscopy & Radiative Transfer*, 194, 47-57.

21) **Ding, J.**, L. Bi, P. Yang, G. W. Kattawar, F. Weng, Q. Liu, and T. Greenwald, 2017: Single-scattering properties of ice particles in the microwave regime: temperature effect on the ice refractive index with implications in remote sensing, *Journal of Quantitative Spectroscopy & Radiative Transfer*, 190, 26-37.

22) Heinson, Y. W., J. Maughan, **J. Ding**, A. Chakrabarti, P. Yang, and C. Sorensen, 2016: Q-space analysis of light scattering by ice crystals, *Journal of Quantitative Spectroscopy & Radiative Transfer*, 185, 86-94.

23) **Ding, J.**, P. Yang, R. E. Holz, S. Platnick, K. G. Meyer, M. A. Vaughan, Y. Hu, and M. D. King, 2016: Ice cloud backscatter study and comparison with CALIPSO and MODIS satellite data, *Optics Express*, 24, 620-636.

24) Li, Y., M. Li, Y. Poo, **J. Ding**, M. Tang, and Y. Lu, 2014: Performance analysis of OOK, BPSK, QPSK modulation schemes in uplink of ground-to-satellite laser communication system under atmospheric fluctuation, *Optics Communications*, 317, 57-61.

25) **Ding, J.**, M. Li, M. Tang, and Y. Song, 2013: BER performance of MSK in a ground-to-satellite laser uplink system under the influence of atmospheric turbulence and detector noise, *Optics Letters*, 38(18), 3488-3491.

26) Tang, M., M. Li, Y. Li, **J. Ding**, and G. Xu, 2013: Investigation of the performance of OOK, 2DPSK, QDPSK in downlink of ground-to-satellite laser communication systems, *Applied Mechanics and Materials*, 411, 749-752.

27) Li, Y., M. Li, **J. Ding**, M. Tang, and Y. Lu, 2013: Performance of OOK, 2PSK, QPSK modulation format in downlink of ground-to-satellite laser communication under the fluctuation of atmosphere. *Applied Mechanics and Materials*, 411, 753-756.

28) **Ding, J.**, M. Li, M. Tang, Y. Li, and Y. Song, 2013: The Performance of MSK in downlink of ground-to-satellite laser communication systems. *Applied Mechanics and Materials*, 411, 757-760.

Books & Book Chapters

1) Yang, P., **J. Ding**, and G. Kattawar, 2023: Applications of Maxwell's equations to light scattering by dielectric particles. Chapter 7 in *Light, Plasmonics and Particles*, Eds. M. Pınar Mengüç and Mathieu Francoeur, Elsevier, pp. 600.

2) Yang, P., **J. Ding**, and G. Kattawar, 2023: Maxwell's equations and particle single-scattering properties. Chapter 2 in *Light, Plasmonics and Particles*, Eds. M. Pınar Mengüç and Mathieu Francoeur, Elsevier, pp. 600.

3) Contribution to the Chapter 5 of "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."

Conference Presentations

- **Ding, J.**, and P. Yang, 2024: A Comprehensive Optical Property Database of Spheroids in Support of Atmospheric and Oceanic Remote Sensing. International Geoscience and Remote Sensing Symposium (IGARSS), Athens, Greece, 7-12 July.
- **Ding, J.**, and P. Yang, 2024: Lorenz-Mie Theory-Type Solutions for the Optical properties of Spheroids with Small-to-Large Size Parameters and Aspect Ratios. AMS 104th Annual Meeting, Baltimore, MD, 28 January-1 February.
- **Ding, J.**, and P. Yang, 2023: Light Scattering by a Large Dielectric Spheroid Based on the Separation of Variable Method in Spheroidal Coordinates. AGU Fall Meeting 2023, online, 11-15 December.
- Zhang, Y., **J. Ding**, and P. Yang, 2023: A single-scattering property database for two-layer oceanic particles. AGU Fall Meeting, San Francisco, CA, 11-15 December.
- Okeudo, N., **J. Ding**, P. Yang, and G. Videen, 2023: R. Saravanan, Simulating the reflectance and normalized modified polarized reflectance of aerosol dust particles using irregular convex shapes. AGU Fall Meeting, online, 11-15 December.
- Yang, P., and **J. Ding**, 2023: Advanced Light-Scattering Computational Capability for Solving the Optical Properties of Nonspherical Particles. SPIE Optics + Photonics Conference, San Diego, CA, 20-24 August. (*Invited talk*).
- **Ding, J.**, and P. Yang, 2023: A Radiative Transfer Model with Jacobian Computational Capabilities for Polarimetric Remote Sensing of the Earth System. SPIE Optics + Photonics Conference, San Diego, CA, 20-24 August.
- Yang, P., **J. Ding**, K. Meyer, K. Knobelspiesse, and S. Gassó, 2023: Radiative Transfer of Polarized Light in the Atmosphere and Oceans: Techniques and Remote Sensing Applications. International Geoscience and Remote Sensing Symposium (IGARSS), Pasadena, CA, 16-21 July.
- **Ding, J.**, and P. Yang, 2023: Analytical Solution of Light Scattering by a Spheroid. International Geoscience and Remote Sensing Symposium (IGARSS), Pasadena, CA, 16-21 July.

- Panetta, R. Lee, Y. Zhang, **J. Ding**, and P. Yang, 2023: Optimal Truncation of Vector Spherical Harmonic Expansions in Single Homogeneous Particle IITM Scattering Calculations: Going beyond Dependence on Size Parameter Alone. The 20th Electromagnetic and Light Scattering Conference, Almuñécar, Spain, 15-19 May.

- Ren, T., M. Saito, **J. Ding**, P. Yang, and J. Coy, 2023: The Consistency of Ice Clouds Optical Models for Spaceborne Active and Passive Remote Sensing Applications. The 38th CERES Science Team Meeting, Hampton, VA, 9-11 May.

- **Ding, J.**, P. Yang, L. Wang, E. Oran, N. G. Loeb, W. L. Smith Jr., and P. Minnis, 2023: Quantification of Global Cloud Properties with Use of Spherical Harmonic Functions. Texas Center for Climate Studies High-Resolution Modeling Workshop, College Station, TX, 23-25 January.

- Song, Q., Z. Zhang, H. Yu, J. F. Kok, C. Di Biagio, S. Albani, J. Zheng, and **J. Ding**, 2023: Deriving Global Dust Optical Depth and Size-Resolved Direct Radiative Effects Efficiency from Satellite Observations. AMS 103rd Annual Meeting, online, 8-12 January.

- **Ding, J.**, P. Yang, K. Meyer, K. Knobelspiesse, and S. Gassó, 2023: Circular Polarization in Reflected Radiation from Dust Aerosol: A Modeling Study. AMS 103rd Annual Meeting, online, 8-12 January.

- Coy, J., M. Saito, **J. Ding**, and P. Yang, 2022: A Broad Spectrum Two-Habit Model Optical Property Database for the Improvement of Active-Passive Retrieval Consistency of Downstream Remote Sensing Applications. AGU Fall Meeting 2022, online, 12-16 December.

- **Ding, J.** and P. Yang, 2022: Revisiting the Analytical Solution to Light Scattering by a Dielectric Spheroid. AGU Fall Meeting 2022, online, 12-16 December.

- Coy, J., M. Saito, **J. Ding**, and P. Yang, 2022: Improving Ice Cloud Backscattering and Determining an Optimal Ice Particle Optical Property Database for Lidar-Based Applications. 13th LIP Meeting 2022, 21-26, August.

- Coy, J., M. Saito, **J. Ding**, and P. Yang, 2022: A New Ice Particle Optical Property Database with Improved Shortwave Backscattering for Downstream Active Remote Sensing Applications. The Third Advancement of POLarimetric Observations (APOLO-2022) Conference, online, 9-12, August.

- **Ding, J.**, and P. Yang, 2022: Adjoint model of polarized radiative transfer and application in sensitivity analysis, The Third Advancement of POLarimetric Observations (APOLO-2022) Conference, online, 9-12, August.

- Yang, P., **J. Ding**, M. Saito, T. Ren, J. Coy, Y. Zhang, and G. Videen, 2022: Advanced Capabilities for Modeling the Optical Properties of Nonspherical and Inhomogeneous Particles: Applications to the Solutions to Light Scattering By Ice Crystals and Dust Aerosol, American Meteorological Society Collective Madison Meeting, online, 8-12 August.

- Okeudo, N., **J. Ding**, P. Yang, and R. Saravanan, 2022: Evaluating a Triangular Bipyramid Shape as a Surrogate of Dust Aerosol in Vector Radiative Transfer Simulations, AMS Collective Madison Meeting, online, 8-12, August.

- Zhang, Y., **J. Ding**, and P. Yang, 2022: Evaluate the performance of the physical geometric optics method with use of Platonic solids, AMS Collective Madison Meeting, online, 8-12, August.

- Okeudo, N., **J. Ding**, P. Yang, and R. Saravanan, 2022: Shape Factor Parameterizations of the Edge Effect Correction Using the Debye Series for Super-spheroids to Represent Convex Particles, Texas Academy of Science 2022 Annual meeting, Houston, TX, 25-27 February.
- Zhang, Y., **J. Ding**, P. Yang, and R. L. Panetta, 2022: Convergence and Truncation Criteria in Invariant-Imbedding T-Matrix Method for Non-Spherical Particles, Texas Academy of Science 2022 Annual meeting, Houston, TX, 25-27 February.
- Ren, T., **J. Ding**, J. Coy, P. Yang, 2022: A microphysics-based snow optical parameterization scheme for the Community Radiative Transfer Model, Texas Academy of Science 2022 Annual meeting, Houston, TX, 25-27 February.
- **Ding, J.**, and P. Yang, 2022: Light Scattering Computation for Dielectric Spheroidal Particles, Texas Academy of Science 2022 Annual meeting, Houston, TX, 25-27 February.
- **Ding, J.**, and P. Yang, 2022: Advances in Modeling Nonspherical Dust Aerosol Optical Properties Using Spheroidal Shape Particles, AMS 102th Annual Meeting, Houston, TX & Online, 23-27 January.
- Yang, P., M. Saito, **J. Ding**, and X. Liu, 2022: Optical Properties of Dust Aerosol Particles: Theoretical Computations and Applications, AMS 102th Annual Meeting, Houston, TX & Online, 23-27 January.
- Ren, T., **J. Ding**, J. Coy, P. Yang, and K. Garrett, 2022: Implementation of Microphysics-Based Snow and Graupel Bulk Optical Properties into the Community Radiative Transfer Model, AMS 102th Annual Meeting, Houston, TX & Online, 23-27 January.
- Okeudo, N., **J. Ding**, P. Yang, and R. Saravanan, 2022: Modeling Atmospheric Dust Particle Optical Properties Using the Triangular Bipyramid Shape, AMS 102th Annual Meeting, Houston, TX & Online, 23-27 January.
- Coy, J., **J. Ding**, T. Ren, P. Yang, and K. Garrett, 2022: New Optical Property Databases for the Accurate Representation of Snow and Graupel Particles, AMS 102th Annual Meeting, Houston, TX & Online, 23-27 January.
- Zhang, Y., **J. Ding**, P. Yang, and R. L. Panetta, 2022: Improved Truncation Criteria of the Invariant-Embedding T-Matrix Method for Nonspherical Particles, AMS 102th Annual Meeting, Houston, TX & Online, 23-27 January.
- Silber, I., R. Jackson, A. Fridlind, A. Ackerman, S. M. Collis, J. Verlinde, and **J. Ding**, 2021: The Earth Model Column Collaboratory (EMC^2) Ground-Based Lidar and Radar Instrument Simulator and Subcolumn Generator for Large-Scale Models, AGU Fall Meeting, New Orleans, LA & Online, 13-17 December.
- Okeudo, N., **J. Ding**, P. Yang, and R. Saravanan, 2021: Edge Effect Correction Formula to the Physical Geometric Optics Method Using the Debye Series for Spheres in the Case of Aggregates, AGU Fall Meeting, New Orleans, LA & Online, 13-17 December.
- Coy, J., M. Saito, **J. Ding**, and P. Yang, 2021: A Single-Scattering Optical Property Database for the Improvement of Downstream Lidar Calculations, AGU Fall Meeting, New Orleans, LA & Online, 13-17 December.
- Zhang, Y., **J. Ding**, P. Yang, and R. L. Panetta, 2021: Zhang, Y., J. Ding, P. Yang, and R. L. Panetta, 2021: Vector Spherical Harmonics Expansion Truncation in the Invariant Imbedding T-matrix Method, AGU Fall Meeting, New Orleans, LA & Online, 13-17 December.

- **Ding, J.**, and P. Yang, 2021: Jacobian Computation in Vector Radiative Transfer Model of the Atmosphere-Ocean System, AGU Fall Meeting, New Orleans, LA & Online, 13-17 December.
- **Ding, J.**, P. Brown, L. Wang, N. Suntzeff, and P. Yang, 2021: Interstellar Dust Extinction Constrained by Photometry and Polarimetry of Type Ia Supernova, Texas A&M Astrosymposium 2021, Online, 27 August.
- Zhang, Y., **J. Ding**, P. Yang, and R. L. Panetta, 2021: Vector Spherical Harmonics Expansion Truncation in the Invariant Imbedding T-matrix Method, The 19th Electromagnetic and Light Scattering Conference, Online, 12-16 July.
- Okeudo, N., **J. Ding**, P. Yang, and R. Saravanan, 2021: Edge Effect Correction to the Physical Geometric Optics Method (PGOM) Using the Debye Series for Super-Spheroid Non-Spherical Particles, The 19th Electromagnetic and Light Scattering Conference, Online, 12-16 July.
- **Ding, J.**, and P. Yang, 2021: Development of Jacobian Computational Capability in Vector Radiative Transfer Model, The 19th Electromagnetic and Light Scattering Conference, Online, 12-16 July.
- Yang, P., **J. Ding**, M. Saito, J. Coy, and R. L. Panetta, 2021: Simulations of the Optical Properties of Nonspherical Dielectric Particles in the Atmosphere, IEEE IGARSS 2021, Online, 11-16 July.
- Silber, I., R. Jackson, A. Ackerman, A. M. Fridlind, S. M. Collis, J. Verlinde, and **J. Ding**, 2021: Using the Earth Model Column Collaboratory (EMC²) Ground-Based Lidar and Radar Forward Simulator and Subcolumn Generator to Test a Global Climate Model, 2021 Joint ARM User Facility and ASR PI Meeting, Online, 21-24 June.
- Yang, P., T. Ren, J. Coy, **J. Ding**, and M. Saito, 2021: Databases of the optical properties of snow, graupel, ice clouds, and dust aerosol in support of CRTM, 18th JCSDA Technical Review Meeting and Science Workshop, Online, 7-11 June.
- Coy, J., M. Saito, **J. Ding**, and P. Yang, 2021: A New Database for the Optical Properties of Ice Crystals, AMS 101th Annual Meeting, Online, 10-15 January.
- Zhang, Y., **J. Ding**, and P. Yang, 2021: Convergence problems of invariant-imbedded T-Matrix method for particles with arbitrary shapes, AMS 101th Annual Meeting, Online, 10-15 January.
- Okeudo, N., **J. Ding**, P. Yang, R. Saravanan, 2021: Simulating Faceted Atmospheric Dust Particles with the Physical Geometric Optics Method and the Debye Series, AMS 101th Annual Meeting, Online, 10-15 January.
- Ren, T., **J. Ding**, and P. Yang, 2021: Modeling the Optical Properties of Snow and Graupel Particles, AMS 101th Annual Meeting, Online, 10-15 January.
- **Ding, J.**, and P. Yang, 2021: A Multiple Scattering Jacobian Computational Approach in a Vector Radiative Transfer Model, AMS 101th Annual Meeting, Online, 10-15 January.
- Okeudo, N., **J. Ding**, P. Yang, R. Saravanan, 2020: Edge Effect Correction to the Physical Geometric Optics Method in the Case of a Hexagonal Column, AGU Fall Meeting, Online, 1-17 December.
- Zhang, Y., **J. Ding**, and P. Yang, 2020: Investigation of invariant-imbedding T-Matrix method computational efficiency for particles with complicated geometries, AGU Fall Meeting, Online, 1-17 December.
- Coy, J., M. Saito, **J. Ding**, and P. Yang, 2020: Improvements to the Two-Habit Model Single-Scattering Database: Irregular Hexagonal Column Ensemble, New Size Characterization, and Improved Backscattering, AGU Fall Meeting, Online, 1-17 December.

- **Ding, J.** P. Yang, and E. J. Mlawer, 2020: An Improved Two-Stream Radiative Transfer Scheme Using Small-Angle Approximation for Multiple Scattering Computation in a Cloudy Atmosphere, AGU Fall Meeting, Online, 1-17 December.
- **Ding, J.**, L. Wang, and P. Yang, 2020: Automatic Pixel-by-pixel Contrail Cloud Detections, Texas A&M Scientific Machine Learning (SciML) Workshop, Online, 27 October.
- **Ding, J.**, L. Wang, Peter Brown and P. Yang, 2020: Radiative Transfer Modeling of An SN1987A Light Echo-AT2019xis, The Rise of Metals and Dust in Galaxies through Cosmic Time, Online, 27 October.
- **Ding, J.** and P. Yang, 2020: Modeling the optical properties of graupel, hailstone and snowflake with varied shapes and density, Texas A&M 4th Annual Postdoctoral Research Symposium, Online, 18 September.
- Coy, J., M. Saito, T. Ren, **J. Ding**, and P. Yang, 2020: Updates on a two-habit model for the optical properties of ice clouds, 34rd CERES-II Science Team Meeting, Online, 15-17 September.
- **Ding, J.**, L. Wang, and P. Yang, 2020: Radiative Transfer Modeling of An SN1987A Light Echo-AT2019xis, Texas A&M Astrosymposium 2020, Online, 17 August.
- Coy, J. **J. Ding**, M. Saito, and P. Yang, 2020: Progress in simulating the optical properties of ice clouds and graupel/Snow in support of the CERES Science Team, 33rd CERES-II Science Team Meeting, Online, 28-30 April 2020.
- Okeudo, N., **J. Ding**, P. Yang, and R. Saravanan, 2020: A Study of the Physical Geometric Optics Method In the Case of a Spheroid, AMS 100th Annual Meeting, Boston, MA, 12-16 January 2020.
- **Ding, J.**, P. Yang, X. Liu, M. D. King, S. Platnick, K. Meyer, and C. Wang, 2020: On the Band- Averaged Radiative Transfer Calculation in a Mixture of Absorptive Gas and Scattering Medium, AMS 100th Annual Meeting, Boston, MA, 12-16 January 2020.
- Yang, P., **J. Ding**, M. Saito, and J. J. Coy, 2020: Enhancing CRTM in Absorption, Single-Scattering Properties, and Multiple-Scattering Calculation with Polarization, AMS 100th Annual Meeting, Boston, MA, 12-16 January 2020.
- Mast, J., P. Yang, and **J. Ding**, 2020: Information Content of Hyperspectral Reflected Solar Spectra for Ice Cloud Retrievals, AMS 100th Annual Meeting, Boston, MA, 12-16 January 2020.
- Yang, P., **J. Ding**, M. Saito, and X. Liu, 2019: Advanced modeling capabilities for simulating single and multiple scattering in the atmosphere with inclusion of polarization, PIERS conference, Xiamen, China, 17-20 December 2019.
- **Ding, J.**, P. Yang, and R. Lee Panetta, 2019: Improvement in the Computational Efficiency of Physical Geometric Optics Method in Simulating Light Scattering by Large Faceted Dielectric Particles. AGU Fall Meeting, San Francisco, CA, 9-13 December 2019.
- Yang, P., M. Saito, **J. Ding**, T. Ren, Y. Wang, A. Bell, B. Gu, J. Coy, and J. Mast, 2019: Light Scattering and Downstream Applications with High-performance Computing Capabilities. International Conference for High Performance Computing, Networking, Storage and Analysis (SC19), Denver, CO, 17-22 November 2019.
- **Ding, J.**, P. Yang, X. Liu, M. D. King, S. Platnick, K. G. Meyer, and C. Wang, 2019: Development of Vector Radiative Transfer Simulation Capability in Support of Polarimetric Remote Sensing. 27th IUGG General Assembly, Montreal, Canada, 08-18 July 2019.

- Yang, P., **J. Ding**, M. Saito, P. Stgemann, B. A. Baum, and X. Huang, 2019: Single- and Multiple-scattering Modeling Capabilities in Support of Remote Sensing Implementations. The 41st PIERS, Rome, Italy, 17-20 June 2019.
- Panetta, R. Lee, P. Yang, **J. Ding**, M. Mishchenko, and S. Zhai, 2019: Demonstration of an overlap range of size parameters for reliable exact and approximate methods of computing single-particle scattering optical properties. 17th Electromagnetic and Light Scattering Conference, Hangzhou, China, 10-14 June 2019.
- **Ding, J.**, and P. Yang, 2019: On the Convergence of Invariant Imbedding T-matrix Method in Computing Light Scattering by Nonspherical Dielectric Particles. AAPT/APS/SPS Joint 2019 Spring Meeting, Nacogdoches, TX, 07-09 March 2019.
- **Ding, J.**, P. Yang, M. D. King, S. Platnick, K. G. Meyer, P. Stegmann, and B. Johnson, 2019: Development of Advanced Radiative Transfer Capabilities for Polarimetric Remote Sensing. AMS 99th Annual Meeting, Phoenix, AZ, 6-10 January 2019.
- 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**, M. Saito, G. W. Kattawar, K.-N. Liou, and M. I. Mishchenko, 2018: Recent Progress in Simulating Light Scattering by Nonspherical Ice Particles. AGU Fall Meeting 2018, Washington, D.C., 10-14 December 2018.
- **Ding, J.**, P. Yang, M. D. King, S. Platnick, and K. G. Meyer, 2018: A Fast Hyperspectral Radiative Transfer Model. OSA Light, Energy and the Environment Congress, Singapore, 05-08 November 2018.
- **Ding, J.**, P. Yang, and M. D. King, 2018: A Fast Vector Radiative Transfer Model for Atmospheric Remote Sensing. PIERS, Toyama, Japan, 01-04 August 2018.
- **Ding, J.**, P. Yang, M. D. King, S. Platnick, and K. G. Meyer, 2018: A Fast Vector Radiative Transfer Model for Polarimetric Remote Sensing. COSPAR 42nd Assembly, Pasadena, CA, 14-22 July 2018.
- **Ding, J.**, P. Yang, and R. Holz, 2018: Dust Aerosol Optical Depth and Particle Size Retrieval Using Spaceborne Lidar. 17th Electromagnetic and Light Scattering Conference and 11th Conference on Laser-Light and Interactions with Particles, College Station, TX, 05-09 March 2018.
- **Ding, J.**, P. Yang, and R. Holz, 2018: Simultaneous Retrieval of Dust Aerosol Optical Depth and Particle Size Using Spaceborne Lidar. The 98th American Meteorological Society Annual Meeting, Austin, TX, 07-11 January 2018.
- **Ding, J.**, P. Yang, M. D. King, S. Platnick, and K. G. Meyer, 2017: A Fast Vector Radiative Transfer Model for Atmospheric and Oceanic Remote Sensing. American Geophysical Union Fall Meeting, New Orleans, LA, 11-15 December 2017.
- Yang, P., **J. Ding**, G. Tang, M. D. King, S. Platnick, K. G. Meyer, and E. Mlawer, 2017: On the similarity relation in radiative transfer. American Geophysical Union Fall Meeting, New Orleans, LA, 11-15 December 2017.
- **Ding, J.**, P. Yang, M. D. King, S. Platnick, and K. G. Meyer, 2017: A Fast Vector Radiative Transfer Model for Atmospheric and Oceanic Polarimetric Remote Sensing. 1st International Workshop on "Advancement of polarimetric observations: calibration and improved aerosol retrievals" (APOLO2017), Hefei, China, 24-27 October 2017.

- Stegmann, P., **J. Ding**, B. Sun, G. Tang, R. L. Panetta, G. W. Kattawar, and P. Yang, 2017: Simulation of the scattering and polarization properties of nonspherical dust particles. 1st International Workshop on "Advancement of polarimetric observations: calibration and improved aerosol retrievals" (APOLO2017), Hefei, China, 24-27 October 2017.

- Yang, P., **J. Ding**, and G. Tang, 2017: On the similarity relations in radiative transfer. International Workshop on Atmospheric Scattering, Radiation, and Remote Sensing, Hangzhou, China, June 26-28, 2017.

- **Ding, J.**, P. Yang, and M. D. King, 2017: Comparison of Saharan and Asian dust aerosol optical properties inferred from multiple satellite observations and simulations. A-train Symposium 2017, Pasadena, CA, 19-21 April 2017.

- **Ding, J.**, P. Yang, B. Sun, G. W. Kattawar, S. E. Platnick, K. G. Meyer, and C. Wang, 2016: A fast hyperspectral vector radiative transfer model in UV to IR spectral bands. American Geophysical Union Fall Meeting, San Francisco, CA, 12-16 December 2016.

- Wang, C., S. E. Platnick, K. Meyer, Z. Zhang, P. Yang, and **J. Ding**, 2016: Retrieval of ice cloud properties with visible/near-/shortwave-infrared (VNIR/SWIR) and thermal-infrared (TIR) obaservations. American Geophysical Union Fall Meeting, San Francisco, CA, 12-16 December 2016.

- Yang, P., G. Xu, G. Tang, **J. Ding**, B. Sun, G. Kattawar, and X. Zhang, 2016: Simulation of the optical properties of large realistic organic and inorganic particles. Ocean Optics Conference, Victoria, Canada, 23-28 October 2016.

- **Ding, J.**, L. Bi, P. Yang, G. W. Kattawar, F. Weng, Q. Liu, and T. Greenwald, 2016: Single-scattering properties of ice particles in the microwave regime: temperature effect on the ice refractive index with implications in remote sensing. Wilheit Symposium, College Station, TX, 21 October 2016.

- Yang, P., M. D. King, G. Tang, S. Hioki, and **J. Ding**, 2016: Constraints on the optical properties of ice clouds and airborne dust based on passive and active remote sensing observations. PIERS, Shanghai, China, 8-11 August 2016.

- **Ding, J.**, P. Yang, and M. King, 2016: Polluted Dust Classification, Evolution, and Optical Properties Analysis Using Spaceborne Observations and Simulations. Asia Oceania Geosciences Society 13th Annual Meeting, Beijing, China, 31 July-5 August 2016.

- Yang, P., **J. Ding**, G. Tang, and R. L. Panetta, 2016: On the simulation of the optical properties of complex particles: Application to remote sensing. International Radiation Symposium, Auckland, New Zealand, 16-22 April 2016.

- **Ding, J.**, P. Yang, R. Holz, M. Vaughan, and Y.-X. Hu, 2015: Polluted dust classification and its optical properties analysis using CALIPSO data and simulation. American Geophysical Union Fall meeting, San Francisco, CA, 14-18 December 2015.

- Yang, P., S. Hioki, and **J. Ding**, 2015: MODIS Collection 6 ice model assessments with POLDER and CALIPSO. MODIS Science Team Meeting, Silver Spring, MD, 18-22 May 2015.