Zhibo Zhang

List of Publications by Year
in descending order

71 papers	3,458 citations	186265 28 h-index	144013 57 g-index
117 all docs	117 docs citations	117 times ranked	3140 citing authors

#	ARTICLE	IF	CITATIONS
1	Aerosol and Cloud Experiments in the Eastern North Atlantic (ACE-ENA). Bulletin of the American Meteorological Society, 2022, 103, E619-E641.	3.3	33
2	The thermal infrared optical depth of mineral dust retrieved from integrated CALIOP and IIR observations. Remote Sensing of Environment, 2022, 270, 112841.	11.0	13
3	Subgrid-scale horizontal and vertical variation of cloud water in stratocumulus clouds: a case study based on LES and comparisons with inÂsitu observations. Atmospheric Chemistry and Physics, 2022, 22, 1159-1174.	4.9	2
4	Better calibration of cloud parameterizations and subgrid effects increases the fidelity of the E3SM Atmosphere Model version 1. Geoscientific Model Development, 2022, 15, 2881-2916.	3.6	17
5	Machine Learning Based Algorithms for Global Dust Aerosol Detection from Satellite Images: Inter-Comparisons and Evaluation. Remote Sensing, 2021, 13, 456.	4.0	25
6	Team-Based Online Multidisciplinary Education on Big Data + High-Performance Computing + Atmospheric Sciences. Transactions on Computational Science and Computational Intelligence, 2021, , 43-54.	0.3	1
7	Assessing the Influence of COVIDâ€19 on the Shortwave Radiative Fluxes Over the East Asian Marginal Seas. Geophysical Research Letters, 2021, 48, e2020GL091699.	4.0	20
8	Vertical dependence of horizontal variation of cloud microphysics: observations from the ACE-ENA field campaign and implications for warm-rain simulation in climate models. Atmospheric Chemistry and Physics, 2021, 21, 3103-3121.	4.9	11
9	Observation and modeling of the historic â€œGodzillaâ€•African dust intrusion into the Caribbean Basin and the southern US in June 2020. Atmospheric Chemistry and Physics, 2021, 21, 12359-12383.	4.9	27
10	Global dust optical depth climatology derived from CALIOP and MODIS aerosol retrievals on decadal timescales: regional and interannual variability. Atmospheric Chemistry and Physics, 2021, 21, 13369-13395.	4.9	33
11	Retrieval of Iceâ€Overâ€Water Cloud Microphysical and Optical Properties Using Passive Radiometers. Geophysical Research Letters, 2020, 47, e2020GL088941.	4.0	12
12	Using polarimetric observations to detect and quantify the three-dimensional radiative transfer effects in passive satellite cloud property retrievals: Theoretical framework and feasibility study. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 246, 106920.	2.3	1
13	A machine-learning-based cloud detection and thermodynamic-phase classification algorithm using passive spectral observations. Atmospheric Measurement Techniques, 2020, 13, 2257-2277.	3.1	37
14	Vertical profiles of droplet size distributions derived from cloud-side observations by the research scanning polarimeter: Tests on simulated data. Atmospheric Research, 2020, 239, 104924.	4.1	10
15	Synergetic Satellite Trend Analysis of Aerosol and Warm Cloud Properties ver Ocean and Its Implication for Aerosolâ€Cloud Interactions. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD031598.	3.3	11
16	A Deep Learning Model for Detecting Dust in Earth's Atmosphere from Satellite Remote Sensing Data. , 2020, , .		5
17	Deep Domain Adaptation based Cloud Type Detection using Active and Passive Satellite Data. , 2020, , .		2
18	Satellite Remote Sensing Observations of Trans-Atlantic Dust Transport and Deposition: A Multi-Sensor Analysis. , 2020, , .		0

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19	Estimates of African Dust Deposition Along the Trans‐Atlantic Transit Using the Decadelong Record of Aerosol Measurements from CALIOP, MODIS, MISR, and IASI. Journal of Geophysical Research D: Atmospheres, 2019, 124, 7975-7996.	3.3	68
20	Subgrid variations of the cloud water and droplet number concentration over the tropical ocean: satellite observations and implications for warm rain simulations in climate models. Atmospheric Chemistry and Physics, 2019, 19, 1077-1096.	4.9	26
21	Retrieval of liquid water cloud properties from POLDER-3 measurements using a neural network ensemble approach. Atmospheric Measurement Techniques, 2019, 12, 1697-1716.	3.1	11
22	An Assessment of the Impacts of Cloud Vertical Heterogeneity on Global Ice Cloud Data Records From Passive Satellite Retrievals. Journal of Geophysical Research D: Atmospheres, 2019, 124, 1578-1595.	3.3	13
23	A Hybrid Algorithm for Mineral Dust Detection Using Satellite Data. , 2019, , .		5
24	An Evaluation of Marine Boundary Layer Cloud Property Simulations in the Community Atmosphere Model Using Satellite Observations: Conventional Subgrid Parameterization versus CLUBB. Journal of Climate, 2018, 31, 2299-2320.	3.2	21
25	Biomass smoke from southern Africa can significantly enhance the brightness of stratocumulus over the southeastern Atlantic Ocean. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 2924-2929.	7.1	81
26	Estimating precipitation susceptibility in warm marine clouds using multi-sensor aerosol and cloud products from A-Train satellites. Atmospheric Chemistry and Physics, 2018, 18, 1763-1783.	4.9	18
27	Evaluation of autoconversion and accretion enhancement factors in general circulation model warm-rain parameterizations using ground-based measurements over the Azores. Atmospheric Chemistry and Physics, 2018, 18, 17405-17420.	4.9	21
28	Comparisons of bispectral and polarimetric retrievals of marine boundary layer cloud microphysics: case studies using a LES‐satellite retrieval simulator. Atmospheric Measurement Techniques, 2018, 11, 3689-3715.	3.1	23
29	The importance of considering sub-grid cloud variability when using satellite observations to evaluate the cloud and precipitation simulations in climate models. Geoscientific Model Development, 2018, 11, 3147-3158.	3.6	16
30	Quantifying the Impacts of Subpixel Reflectance Variability on Cloud Optical Thickness and Effective Radius Retrievals Based On High‐Resolution ASTER Observations. Journal of Geophysical Research D: Atmospheres, 2018, 123, 4239-4258.	3.3	15
31	Improving Cloud Optical Property Retrievals for Partly Cloudy Pixels Using Coincident Higher‐Resolution Single Band Measurements: A Feasibility Study Using ASTER Observations. Journal of Geophysical Research D: Atmospheres, 2018, 123, 12,253-12,276.	3.3	7
32	Remote Sensing of Droplet Number Concentration in Warm Clouds: A Review of the Current State of Knowledge and Perspectives. Reviews of Geophysics, 2018, 56, 409-453.	23.0	185
33	A Deterministic Self-Organizing Map Approach and its Application on Satellite Data based Cloud Type Classification. , 2018, , .		16
34	Net radiative effects of dust in the tropical North Atlantic based on integrated satellite observations and in situ measurements. Atmospheric Chemistry and Physics, 2018, 18, 11303-11322.	4.9	36
35	A novel hybrid scattering order-dependent variance reduction method for Monte Carlo simulations of radiative transfer in cloudy atmosphere. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 189, 283-302.	2.3	23
36	Intercomparisons of marine boundary layer cloud properties from the ARM CAP‐MBL campaign and two MODIS cloud products. Journal of Geophysical Research D: Atmospheres, 2017, 122, 2351-2365.	3.3	16

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37	The MODIS Cloud Optical and Microphysical Products: Collection 6 Updates and Examples From Terra and Aqua. IEEE Transactions on Geoscience and Remote Sensing, 2017, 55, 502-525.	6.3	489
38	Seasonally transported aerosol layers over southeast Atlantic are closer to underlying clouds than previously reported. Geophysical Research Letters, 2017, 44, 5818-5825.	4.0	51
39	A framework for quantifying the impacts of sub-pixel reflectance variance and covariance on cloud optical thickness and effective radius retrievals based on the bi-spectral method. AIP Conference Proceedings, 2017, , .	0.4	1
40	Warming effect of dust aerosols modulated by overlapping clouds below. Atmospheric Environment, 2017, 166, 393-402.	4.1	23
41	Cirrus heterogeneity effects on cloud optical properties retrieved with an optimal estimation method from MODIS VIS to TIR channels. AIP Conference Proceedings, 2017, , .	0.4	2
42	Retrieval of ice cloud properties using an optimal estimation algorithm and MODIS infrared observations: 2. Retrieval evaluation. Journal of Geophysical Research D: Atmospheres, 2016, 121, 5827-5845.	3.3	20
43	A framework based on 2â€D Taylor expansion for quantifying the impacts of subpixel reflectance variance and covariance on cloud optical thickness and effective radius retrievals based on the bispectral method. Journal of Geophysical Research D: Atmospheres, 2016, 121, 7007-7025.	3.3	53
44	Shortwave direct radiative effects of above-cloud aerosols over global oceans derived from 8Âyears of CALIOP and MODIS observations. Atmospheric Chemistry and Physics, 2016, 16, 2877-2900.	4.9	59
45	The impact of cloud vertical profile on liquid water path retrieval based on the bispectral method: A theoretical study based on largeâ€eddy simulations of shallow marine boundary layer clouds. Journal of Geophysical Research D: Atmospheres, 2016, 121, 4122-4141.	3.3	35
46	Retrieval of ice cloud properties using an optimal estimation algorithm and MODIS infrared observations: 1. Forward model, error analysis, and information content. Journal of Geophysical Research D: Atmospheres, 2016, 121, 5809-5826.	3.3	38
47	Marine boundary layer cloud property retrievals from high-resolution ASTER observations: case studies and comparison with Terra MODIS. Atmospheric Measurement Techniques, 2016, 9, 5869-5894.	3.1	14
48	CALIPSO inferred most probable heights of global dust and smoke layers. Journal of Geophysical Research D: Atmospheres, 2015, 120, 5085-5100.	3.3	68
49	Frequency and causes of failed MODIS cloud property retrievals for liquid phase clouds over global oceans. Journal of Geophysical Research D: Atmospheres, 2015, 120, 4132-4154.	3.3	78
50	Simultaneously inferring aboveâ€cloud absorbing aerosol optical thickness and underlying liquid phase cloud optical and microphysical properties using MODIS. Journal of Geophysical Research D: Atmospheres, 2015, 120, 5524-5547.	3.3	71
51	The fertilizing role of African dust in the Amazon rainforest: A first multiyear assessment based on data from Cloudâ€Aerosol Lidar and Infrared Pathfinder Satellite Observations. Geophysical Research Letters, 2015, 42, 1984-1991.	4.0	251
52	Quantification of trans-Atlantic dust transport from seven-year (2007â€"2013) record of CALIPSO lidar measurements. Remote Sensing of Environment, 2015, 159, 232-249.	11.0	146
53	Spectral dependence of MODIS cloud droplet effective radius retrievals for marine boundary layer clouds. , 2015, , 135-165.		2
54	A novel method for estimating shortwave direct radiative effect of above-cloud aerosols using CALIOP and MODIS data. Atmospheric Measurement Techniques, 2014, 7, 1777-1789.	3.1	31

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55	On the influence of cloud fraction diurnal cycle and sub-grid cloud optical thickness variability on all-sky direct aerosol radiative forcing. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 142, 25-36.	2.3	44
56	On the sensitivity of cloud effective radius retrieval based on spectral method to bi-modal droplet size distribution: A semi-analytical model. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 129, 79-88.	2.3	28
57	New Directions: Emerging satellite observations of above-cloud aerosols and direct radiative forcing. Atmospheric Environment, 2013, 72, 36-40.	4.1	46
58	Retrieval of Ice Cloud Properties from AIRS and MODIS Observations Based on a Fast High-Spectral-Resolution Radiative Transfer Model. Journal of Applied Meteorology and Climatology, 2013, 52, 710-726.	1.5	28
59	Effects of cloud horizontal inhomogeneity and drizzle on remote sensing of cloud droplet effective radius: Case studies based on large-eddy simulations. Journal of Geophysical Research, 2012, 117, .	3.3	139
60	An assessment of differences between cloud effective particle radius retrievals for marine water clouds from three MODIS spectral bands. Journal of Geophysical Research, 2011, 116, .	3.3	183
61	Improvements in Shortwave Bulk Scattering and Absorption Models for the Remote Sensing of Ice Clouds. Journal of Applied Meteorology and Climatology, 2011, 50, 1037-1056.	1.5	175
62	Effects of ice particle size vertical inhomogeneity on the passive remote sensing of ice clouds. Journal of Geophysical Research, 2010, 115, .	3.3	49
63	Influence of ice particle model on satellite ice cloud retrieval: lessons learned from MODIS and POLDER cloud product comparison. Atmospheric Chemistry and Physics, 2009, 9, 7115-7129.	4.9	75
64	Water-vapor climate feedback inferred from climate fluctuations, 2003-2008. Geophysical Research Letters, 2008, 35, .	4.0	187
65	An analysis of the dependence of clear-sky top-of-atmosphere outgoing longwave radiation on atmospheric temperature and water vapor. Journal of Geophysical Research, 2008, 113, .	3.3	19
66	Effect of Cavities on the Optical Properties of Bullet Rosettes: Implications for Active and Passive Remote Sensing of Ice Cloud Properties. Journal of Applied Meteorology and Climatology, 2008, 47, 2311-2330.	1.5	40
67	A fast infrared radiative transfer model based on the adding-doubling method for hyperspectral remote-sensing applications. Journal of Quantitative Spectroscopy and Radiative Transfer, 2007, 105, 243-263.	2.3	25
68	Single-scattering properties of Platonic solids in geometrical-optics regime. Journal of Quantitative Spectroscopy and Radiative Transfer, 2007, 106, 595-603.	2.3	11
69	A new look at anomalous diffraction theory (ADT): Algorithm in cumulative projected-area distribution domain and modified ADT. Journal of Quantitative Spectroscopy and Radiative Transfer, 2004, 89, 421-442.	2.3	23
70	Geometrical-optics solution to light scattering by droxtal ice crystals. Applied Optics, 2004, 43, 2490.	2.1	69
71	Understanding the microphysical control and spatial-temporal variability of warm rain probability using CloudSat and MODIS observations. Geophysical Research Letters, 0, , .	4.0	4