

Zhibo Zhang

List of Publications by Year in descending order

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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	The MODIS Cloud Optical and Microphysical Products: Collection 6 Updates and Examples From Terra and Aqua. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2017, 55, 502-525.	6.3	489
2	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. <i>Geophysical Research Letters</i> , 2015, 42, 1984-1991.	4.0	251
3	Waterâ€vapor climate feedback inferred from climate fluctuations, 2003â€2008. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	187
4	Remote Sensing of Droplet Number Concentration in Warm Clouds: A Review of the Current State of Knowledge and Perspectives. <i>Reviews of Geophysics</i> , 2018, 56, 409-453.	23.0	185
5	An assessment of differences between cloud effective particle radius retrievals for marine water clouds from three MODIS spectral bands. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	183
6	Improvements in Shortwave Bulk Scattering and Absorption Models for the Remote Sensing of Ice Clouds. <i>Journal of Applied Meteorology and Climatology</i> , 2011, 50, 1037-1056.	1.5	175
7	Quantification of trans-Atlantic dust transport from seven-year (2007â€2013) record of CALIPSO lidar measurements. <i>Remote Sensing of Environment</i> , 2015, 159, 232-249.	11.0	146
8	Effects of cloud horizontal inhomogeneity and drizzle on remote sensing of cloud droplet effective radius: Case studies based on largeâ€eddy simulations. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	139
9	Biomass smoke from southern Africa can significantly enhance the brightness of stratocumulus over the southeastern Atlantic Ocean. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 2924-2929.	7.1	81
10	Frequency and causes of failed MODIS cloud property retrievals for liquid phase clouds over global oceans. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015, 120, 4132-4154.	3.3	78
11	Influence of ice particle model on satellite ice cloud retrieval: lessons learned from MODIS and POLDER cloud product comparison. <i>Atmospheric Chemistry and Physics</i> , 2009, 9, 7115-7129.	4.9	75
12	Simultaneously inferring aboveâ€cloud absorbing aerosol optical thickness and underlying liquid phase cloud optical and microphysical properties using MODIS. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015, 120, 5524-5547.	3.3	71
13	Geometrical-optics solution to light scattering by droxtal ice crystals. <i>Applied Optics</i> , 2004, 43, 2490.	2.1	69
14	CALIPSO inferred most probable heights of global dust and smoke layers. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015, 120, 5085-5100.	3.3	68
15	Estimates of African Dust Deposition Along the Transâ€Atlantic Transit Using the Decadelong Record of Aerosol Measurements from CALIOP, MODIS, MISR, and IASI. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 7975-7996.	3.3	68
16	Shortwave direct radiative effects of above-cloud aerosols over global oceans derived from 8Âyears of CALIOP and MODIS observations. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 2877-2900.	4.9	59
17	A framework based on 2â€ 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. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 7007-7025.	3.3	53
18	Seasonally transported aerosol layers over southeast Atlantic are closer to underlying clouds than previously reported. <i>Geophysical Research Letters</i> , 2017, 44, 5818-5825.	4.0	51

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19	Effects of ice particle size vertical inhomogeneity on the passive remote sensing of ice clouds. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	49
20	New Directions: Emerging satellite observations of above-cloud aerosols and direct radiative forcing. <i>Atmospheric Environment</i> , 2013, 72, 36-40.	4.1	46
21	On the influence of cloud fraction diurnal cycle and sub-grid cloud optical thickness variability on all-sky direct aerosol radiative forcing. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2014, 142, 25-36.	2.3	44
22	Effect of Cavities on the Optical Properties of Bullet Rosettes: Implications for Active and Passive Remote Sensing of Ice Cloud Properties. <i>Journal of Applied Meteorology and Climatology</i> , 2008, 47, 2311-2330.	1.5	40
23	Retrieval of ice cloud properties using an optimal estimation algorithm and MODIS infrared observations: 1. Forward model, error analysis, and information content. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 5809-5826.	3.3	38
24	A machine-learning-based cloud detection and thermodynamic-phase classification algorithm using passive spectral observations. <i>Atmospheric Measurement Techniques</i> , 2020, 13, 2257-2277.	3.1	37
25	Net radiative effects of dust in the tropical North Atlantic based on integrated satellite observations and in situ measurements. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 11303-11322.	4.9	36
26	The impact of cloud vertical profile on liquid water path retrieval based on the bispectral method: A theoretical study based on large-eddy simulations of shallow marine boundary layer clouds. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 4122-4141.	3.3	35
27	Aerosol and Cloud Experiments in the Eastern North Atlantic (ACE-ENA). <i>Bulletin of the American Meteorological Society</i> , 2022, 103, E619-E641.	3.3	33
28	Global dust optical depth climatology derived from CALIOP and MODIS aerosol retrievals on decadal timescales: regional and interannual variability. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 13369-13395.	4.9	33
29	A novel method for estimating shortwave direct radiative effect of above-cloud aerosols using CALIOP and MODIS data. <i>Atmospheric Measurement Techniques</i> , 2014, 7, 1777-1789.	3.1	31
30	On the sensitivity of cloud effective radius retrieval based on spectral method to bi-modal droplet size distribution: A semi-analytical model. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2013, 129, 79-88.	2.3	28
31	Retrieval of Ice Cloud Properties from AIRS and MODIS Observations Based on a Fast High-Spectral-Resolution Radiative Transfer Model. <i>Journal of Applied Meteorology and Climatology</i> , 2013, 52, 710-726.	1.5	28
32	Observation and modeling of the historic “Godzilla” African dust intrusion into the Caribbean Basin and the southern US in June 2020. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 12359-12383.	4.9	27
33	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. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 1077-1096.	4.9	26
34	A fast infrared radiative transfer model based on the adding-doubling method for hyperspectral remote-sensing applications. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2007, 105, 243-263.	2.3	25
35	Machine Learning Based Algorithms for Global Dust Aerosol Detection from Satellite Images: Inter-Comparisons and Evaluation. <i>Remote Sensing</i> , 2021, 13, 456.	4.0	25
36	A new look at anomalous diffraction theory (ADT): Algorithm in cumulative projected-area distribution domain and modified ADT. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2004, 89, 421-442.	2.3	23

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37	A novel hybrid scattering order-dependent variance reduction method for Monte Carlo simulations of radiative transfer in cloudy atmosphere. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2017, 189, 283-302.	2.3	23
38	Warming effect of dust aerosols modulated by overlapping clouds below. <i>Atmospheric Environment</i> , 2017, 166, 393-402.	4.1	23
39	Comparisons of bispectral and polarimetric retrievals of marine boundary layer cloud microphysics: case studies using a LES satellite retrieval simulator. <i>Atmospheric Measurement Techniques</i> , 2018, 11, 3689-3715.	3.1	23
40	An Evaluation of Marine Boundary Layer Cloud Property Simulations in the Community Atmosphere Model Using Satellite Observations: Conventional Subgrid Parameterization versus CLUBB. <i>Journal of Climate</i> , 2018, 31, 2299-2320.	3.2	21
41	Evaluation of autoconversion and accretion enhancement factors in general circulation model warm-rain parameterizations using ground-based measurements over the Azores. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 17405-17420.	4.9	21
42	Retrieval of ice cloud properties using an optimal estimation algorithm and MODIS infrared observations: 2. Retrieval evaluation. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 5827-5845.	3.3	20
43	Assessing the Influence of COVID-19 on the Shortwave Radiative Fluxes Over the East Asian Marginal Seas. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL091699.	4.0	20
44	An analysis of the dependence of clear-sky top-of-atmosphere outgoing longwave radiation on atmospheric temperature and water vapor. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	19
45	Estimating precipitation susceptibility in warm marine clouds using multi-sensor aerosol and cloud products from A-Train satellites. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 1763-1783.	4.9	18
46	Better calibration of cloud parameterizations and subgrid effects increases the fidelity of the E3SM Atmosphere Model version 1. <i>Geoscientific Model Development</i> , 2022, 15, 2881-2916.	3.6	17
47	Intercomparisons of marine boundary layer cloud properties from the ARM CAP-MBL campaign and two MODIS cloud products. <i>Journal of Geophysical Research D: Atmospheres</i> , 2017, 122, 2351-2365.	3.3	16
48	The importance of considering sub-grid cloud variability when using satellite observations to evaluate the cloud and precipitation simulations in climate models. <i>Geoscientific Model Development</i> , 2018, 11, 3147-3158.	3.6	16
49	A Deterministic Self-Organizing Map Approach and its Application on Satellite Data based Cloud Type Classification. , 2018, , .		16
50	Quantifying the Impacts of Subpixel Reflectance Variability on Cloud Optical Thickness and Effective Radius Retrievals Based On High-Resolution ASTER Observations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 4239-4258.	3.3	15
51	Marine boundary layer cloud property retrievals from high-resolution ASTER observations: case studies and comparison with Terra MODIS. <i>Atmospheric Measurement Techniques</i> , 2016, 9, 5869-5894.	3.1	14
52	An Assessment of the Impacts of Cloud Vertical Heterogeneity on Global Ice Cloud Data Records From Passive Satellite Retrievals. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 1578-1595.	3.3	13
53	The thermal infrared optical depth of mineral dust retrieved from integrated CALIOP and IIR observations. <i>Remote Sensing of Environment</i> , 2022, 270, 112841.	11.0	13
54	Retrieval of Ice-Over-Water Cloud Microphysical and Optical Properties Using Passive Radiometers. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL088941.	4.0	12

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55	Single-scattering properties of Platonic solids in geometrical-optics regime. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2007, 106, 595-603.	2.3	11
56	Retrieval of liquid water cloud properties from POLDER-3 measurements using a neural network ensemble approach. <i>Atmospheric Measurement Techniques</i> , 2019, 12, 1697-1716.	3.1	11
57	Synergetic Satellite Trend Analysis of Aerosol and Warm Cloud Properties over Ocean and Its Implication for Aerosol-Cloud Interactions. <i>Journal of Geophysical Research D: Atmospheres</i> , 2020, 125, e2019JD031598.	3.3	11
58	Vertical dependence of horizontal variation of cloud microphysics: observations from the ACE-ENA field campaign and implications for warm-rain simulation in climate models. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 3103-3121.	4.9	11
59	Vertical profiles of droplet size distributions derived from cloud-side observations by the research scanning polarimeter: Tests on simulated data. <i>Atmospheric Research</i> , 2020, 239, 104924.	4.1	10
60	Improving Cloud Optical Property Retrievals for Partly Cloudy Pixels Using Coincident Higher-Resolution Single Band Measurements: A Feasibility Study Using ASTER Observations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 12,253-12,276.	3.3	7
61	A Hybrid Algorithm for Mineral Dust Detection Using Satellite Data. , 2019, , .		5
62	A Deep Learning Model for Detecting Dust in Earth's Atmosphere from Satellite Remote Sensing Data. , 2020, , .		5
63	Understanding the microphysical control and spatial-temporal variability of warm rain probability using CloudSat and MODIS observations. <i>Geophysical Research Letters</i> , 0, , .	4.0	4
64	Cirrus heterogeneity effects on cloud optical properties retrieved with an optimal estimation method from MODIS VIS to TIR channels. <i>AIP Conference Proceedings</i> , 2017, , .	0.4	2
65	Spectral dependence of MODIS cloud droplet effective radius retrievals for marine boundary layer clouds. , 2015, , 135-165.		2
66	Deep Domain Adaptation based Cloud Type Detection using Active and Passive Satellite Data. , 2020, , .		2
67	Subgrid-scale horizontal and vertical variation of cloud water in stratocumulus clouds: a case study based on LES and comparisons with in-situ observations. <i>Atmospheric Chemistry and Physics</i> , 2022, 22, 1159-1174.	4.9	2
68	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. <i>AIP Conference Proceedings</i> , 2017, , .	0.4	1
69	Using polarimetric observations to detect and quantify the three-dimensional radiative transfer effects in passive satellite cloud property retrievals: Theoretical framework and feasibility study. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2020, 246, 106920.	2.3	1
70	Team-Based Online Multidisciplinary Education on Big Data + High-Performance Computing + Atmospheric Sciences. <i>Transactions on Computational Science and Computational Intelligence</i> , 2021, , 43-54.	0.3	1
71	Satellite Remote Sensing Observations of Trans-Atlantic Dust Transport and Deposition: A Multi-Sensor Analysis. , 2020, , .		0