

# Zhaoyan Liu

## List of Publications by Year in descending order

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104  
papers

11,174  
citations

53660

45  
h-index

38300

95  
g-index

128  
all docs

128  
docs citations

128  
times ranked

5800  
citing authors

#	ARTICLE	IF	CITATIONS
1	On the climate forcing consequences of the albedo continuum between cloudy and clear air. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2022, 59, 715.	0.8	116
2	Assessing the benefits of Imaging Infrared Radiometer observations for the CALIOP version 4 cloud and aerosol discrimination algorithm. <i>Atmospheric Measurement Techniques</i> , 2022, 15, 1931-1956.	1.2	2
3	Two-dimensional and multi-channel feature detection algorithm for the CALIPSO lidar measurements. <i>Atmospheric Measurement Techniques</i> , 2021, 14, 1593-1613.	1.2	5
4	Airborne lidar observations of wind, water vapor, and aerosol profiles during the NASA Aeolus calibration and validation (Cal/Val) test flight campaign. <i>Atmospheric Measurement Techniques</i> , 2021, 14, 4305-4334.	1.2	15
5	Martian Atmospheric CO <sub>2</sub> and Pressure Profiling With Differential Absorption Lidar: System Consideration and Simulation Results. <i>Earth and Space Science</i> , 2021, 8, e2020EA001600.	1.1	2
6	Estimations of global shortwave direct aerosol radiative effects above opaque water clouds using a combination of A-Train satellite sensors. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 4933-4962.	1.9	34
7	Application of high-dimensional fuzzy &lt;i>k&gt;-means cluster analysis to CALIOP/CALIPSO version 4.1 cloud&quot;aerosol discrimination. <i>Atmospheric Measurement Techniques</i> , 2019, 12, 2261-2285.	1.2	12
8	Discriminating between clouds and aerosols in the CALIOP version 4.1 data products. <i>Atmospheric Measurement Techniques</i> , 2019, 12, 703-734.	1.2	80
9	CALIPSO lidar calibration at 1064&quot;nm: version 4 algorithm. <i>Atmospheric Measurement Techniques</i> , 2019, 12, 51-82.	1.2	42
10	Laser pulse bidirectional reflectance from CALIPSO mission. <i>Atmospheric Measurement Techniques</i> , 2018, 11, 3281-3296.	1.2	13
11	The CALIPSO version 4 automated aerosol classification and lidar ratio selection algorithm. <i>Atmospheric Measurement Techniques</i> , 2018, 11, 6107-6135.	1.2	334
12	CALIPSO lidar calibration at 532&quot;nm: version 4 nighttime algorithm. <i>Atmospheric Measurement Techniques</i> , 2018, 11, 1459-1479.	1.2	70
13	Swelling of transported smoke from savanna fires over the Southeast Atlantic Ocean. <i>Remote Sensing of Environment</i> , 2018, 211, 105-111.	4.6	12
14	Quantifying the low bias of CALIPSO's column aerosol optical depth due to undetected aerosol layers. <i>Journal of Geophysical Research D: Atmospheres</i> , 2017, 122, 1098-1113.	1.2	41
15	Observations of Arctic snow and sea ice cover from CALIOP lidar measurements. <i>Remote Sensing of Environment</i> , 2017, 194, 248-263.	4.6	13
16	Ocean Lidar Measurements of Beam Attenuation and a Roadmap to Accurate Phytoplankton Biomass Estimates. <i>EPJ Web of Conferences</i> , 2016, 119, 22003.	0.1	8
17	Aerosol Optical Properties Above Opaque Water Clouds Derived From The Caliop Version 4 Level 1 Data. <i>EPJ Web of Conferences</i> , 2016, 119, 04010.	0.1	1
18	Shortwave direct radiative effects of above-cloud aerosols over global oceans derived from 8&quot;years of CALIOP and MODIS observations. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 2877-2900.	1.9	59

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19	Cloud-Aerosol Interactions: Retrieving Aerosol Ångström Exponents from Calipso Measurements of Opaque Water Clouds. EPJ Web of Conferences, 2016, 119, 11001.	0.1	2
20	CALIPSO inferred most probable heights of global dust and smoke layers. Journal of Geophysical Research D: Atmospheres, 2015, 120, 5085-5100.	1.2	68
21	Evaluation of CALIOP 532 nm aerosol optical depth over opaque water clouds. Atmospheric Chemistry and Physics, 2015, 15, 1265-1288.	1.9	52
22	Detection of pollution outflow from Mexico City using CALIPSO lidar measurements. Remote Sensing of Environment, 2015, 169, 205-211.	4.6	17
23	A Super-Resolution Laser Altimetry Concept. IEEE Geoscience and Remote Sensing Letters, 2014, 11, 298-302.	1.4	8
24	A New Technique Using Infrared Satellite Measurements to Improve the Accuracy of the CALIPSO Cloud-Aerosol Discrimination Method. IEEE Transactions on Geoscience and Remote Sensing, 2013, 51, 642-653.	2.7	15
25	Retrieval of multi-wavelength aerosol lidar ratio profiles using Raman scattering and Mie backscattering signals. Atmospheric Environment, 2013, 79, 36-40.	1.9	17
26	Is Oklahoma getting drier?. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 122, 208-213.	1.1	3
27	Simulation of coherent Doppler wind lidar measurement from space based on CALIPSO lidar global aerosol observations. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 122, 79-86.	1.1	2
28	Cloud temperature measurement using rotational Raman lidar. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 125, 45-50.	1.1	28
29	Transpacific transport and evolution of the optical properties of Asian dust. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 116, 24-33.	1.1	34
30	For the depolarization of linearly polarized light by smoke particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 122, 233-237.	1.1	31
31	Comparison of Two Different Cloud Climatologies Derived from CALIOP-Attenuated Backscattered Measurements (Level 1): The CALIPSO-ST and the CALIPSO-GOCCP. Journal of Atmospheric and Oceanic Technology, 2013, 30, 725-744.	0.5	53
32	CALIOP and AERONET aerosol optical depth comparisons: One size fits none. Journal of Geophysical Research D: Atmospheres, 2013, 118, 4748-4766.	1.2	130
33	CALIOP receiver transient response study. , 2013, , .		6
34	The global 3-D distribution of tropospheric aerosols as characterized by CALIOP. Atmospheric Chemistry and Physics, 2013, 13, 3345-3361.	1.9	406
35	Use of spaceborne lidar for the evaluation of thin cirrus contamination and screening in the Aqua MODIS Collection 5 aerosol products. Journal of Geophysical Research D: Atmospheres, 2013, 118, 6444-6453.	1.2	7
36	Transmittance ratio constrained retrieval technique for lidar cirrus measurements. Optics Letters, 2012, 37, 1595.	1.7	5

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37	Lidar Measurements for Desert Dust Characterization: An Overview. <i>Advances in Meteorology</i> , 2012, 2012, 1-36.	0.6	88
38	CALIOP observations of the transport of ash from the Eyjafjallajökull volcano in April 2010. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	72
39	Effect of CALIPSO cloud aerosol discrimination (CAD) confidence levels on observations of aerosol properties near clouds. <i>Atmospheric Research</i> , 2012, 116, 134-141.	1.8	25
40	An integrated analysis of aerosol above clouds from A-Train multi-sensor measurements. <i>Remote Sensing of Environment</i> , 2012, 121, 125-131.	4.6	40
41	Evaluations of cirrus contamination and screening in ground aerosol observations using collocated lidar systems. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	18
42	CALIPSO lidar ratio retrieval over the ocean. <i>Optics Express</i> , 2011, 19, 18696.	1.7	22
43	Seasonal Characteristics of Spherical Aerosol Distribution in Eastern Asia: Integrated Analysis Using Ground/Space-Based Lidars and a Chemical Transport Model. <i>Scientific Online Letters on the Atmosphere</i> , 2011, 7, 121-124.	0.6	27
44	Assessment of the CALIPSO Lidar 532 nm attenuated backscatter calibration using the NASA LaRC airborne High Spectral Resolution Lidar. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 1295-1311.	1.9	111
45	Large Asian dust layers continuously reached North America in April 2010. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 7333-7341.	1.9	65
46	On the consistency of CERES longwave flux and AIRS temperature and humidity profiles. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	15
47	The impact of ice cloud particle microphysics on the uncertainty of ice water content retrievals. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2011, 112, 189-196.	1.1	16
48	Effective lidar ratios of dense dust layers over North Africa derived from the CALIOP measurements. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2011, 112, 204-213.	1.1	44
49	Modulation of Cloud Droplets and Radiation over the North Pacific by Sulfate Aerosol Erupted from Mount Kilauea. <i>Scientific Online Letters on the Atmosphere</i> , 2011, 7, 77-80.	0.6	20
50	The CALIPSO Mission: results and progress. <i>Proceedings of SPIE</i> , 2010, , .	0.8	2
51	Wintertime pollution over the Eastern Indo-Gangetic Plains as observed from MOPITT, CALIPSO and tropospheric ozone residual data. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 12273-12283.	1.9	56
52	Detection of dust aerosol by combining CALIPSO active lidar and passive IIR measurements. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 4241-4251.	1.9	73
53	On the spectral dependence of backscatter from cirrus clouds: Assessing CALIOP's 1064 nm calibration assumptions using cloud physics lidar measurements. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	57
54	Global view of aerosol vertical distributions from CALIPSO lidar measurements and GOCART simulations: Regional and seasonal variations. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	218

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55	Summertime trans-Pacific transport of Asian dust. <i>Geophysical Research Letters</i> , 2010, 37, .	1.5	39
56	Structure of dust and air pollutant outflow over East Asia in the spring. <i>Geophysical Research Letters</i> , 2010, 37, .	1.5	37
57	Extinction-to-backscatter ratios of Saharan dust layers derived from in situ measurements and CALIPSO overflights during NAMMA. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	40
58	Obtaining a ground-based lidar geometric form factor using coincident spaceborne lidar measurements. <i>Applied Optics</i> , 2010, 49, 108.	2.1	9
59	CALIPSO Lidar Calibration Algorithms. Part I: Nighttime 532-nm Parallel Channel and 532-nm Perpendicular Channel. <i>Journal of Atmospheric and Oceanic Technology</i> , 2009, 26, 2015-2033.	0.5	115
60	Fully Automated Detection of Cloud and Aerosol Layers in the CALIPSO Lidar Measurements. <i>Journal of Atmospheric and Oceanic Technology</i> , 2009, 26, 2034-2050.	0.5	484
61	CALIPSO/CALIOP Cloud Phase Discrimination Algorithm. <i>Journal of Atmospheric and Oceanic Technology</i> , 2009, 26, 2293-2309.	0.5	261
62	The CALIPSO Lidar Cloud and Aerosol Discrimination: Version 2 Algorithm and Initial Assessment of Performance. <i>Journal of Atmospheric and Oceanic Technology</i> , 2009, 26, 1198-1213.	0.5	430
63	Asian dust transported one full circuit around the globe. <i>Nature Geoscience</i> , 2009, 2, 557-560.	5.4	689
64	The CALIPSO Automated Aerosol Classification and Lidar Ratio Selection Algorithm. <i>Journal of Atmospheric and Oceanic Technology</i> , 2009, 26, 1994-2014.	0.5	820
65	Overview of the CALIPSO Mission and CALIOP Data Processing Algorithms. <i>Journal of Atmospheric and Oceanic Technology</i> , 2009, 26, 2310-2323.	0.5	1,820
66	Two contrasting dust-dominant periods over India observed from MODIS and CALIPSO data. <i>Geophysical Research Letters</i> , 2009, 36, .	1.5	171
67	Asian dust outflow in the PBL and free atmosphere retrieved by NASA CALIPSO and an assimilated dust transport model. <i>Atmospheric Chemistry and Physics</i> , 2009, 9, 1227-1239.	1.9	56
68	Trans-pacific dust transport: integrated analysis of NASA/CALIPSO and a global aerosol transport model. <i>Atmospheric Chemistry and Physics</i> , 2009, 9, 3137-3145.	1.9	112
69	An elevated large-scale dust veil from the Taklimakan Desert: Intercontinental transport and three-dimensional structure as captured by CALIPSO and regional and global models. <i>Atmospheric Chemistry and Physics</i> , 2009, 9, 8545-8558.	1.9	95
70	Deriving Marine-Boundary-Layer Lapse Rate from Collocated CALIPSO, MODIS, and AMSR-E Data to Study Global Low-Cloud Height Statistics. <i>IEEE Geoscience and Remote Sensing Letters</i> , 2008, 5, 649-652.	1.4	22
71	3D structure of Asian dust transport revealed by CALIPSO lidar and a 4DVAR dust model. <i>Geophysical Research Letters</i> , 2008, 35, .	1.5	104
72	CALIPSO lidar observations of the optical properties of Saharan dust: A case study of long-range transport. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	189

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73	Quantifying above-cloud aerosol using spaceborne lidar for improved understanding of cloudy sky direct climate forcing. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	86
74	A height resolved global view of dust aerosols from the first year CALIPSO lidar measurements. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	225
75	Determination of aerosol extinction-to-backscatter ratios from simultaneous ground-based and spaceborne lidar measurements. <i>Optics Letters</i> , 2008, 33, 2986.	1.7	20
76	Measurements of cirrus cloud backscatter color ratio with a two-wavelength lidar. <i>Applied Optics</i> , 2008, 47, 1478.	2.1	43
77	Summertime Taklimakan dust structure. <i>Geophysical Research Letters</i> , 2008, 35, .	1.5	9
78	Long-range transport and vertical structure of Asian dust from CALIPSO and surface measurements during PACDEX. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	324
79	Adjoint inversion modeling of Asian dust emission using lidar observations. <i>Atmospheric Chemistry and Physics</i> , 2008, 8, 2869-2884.	1.9	157
80	Airborne dust distributions over the Tibetan Plateau and surrounding areas derived from the first year of CALIPSO lidar observations. <i>Atmospheric Chemistry and Physics</i> , 2008, 8, 5045-5060.	1.9	256
81	The depolarization - attenuated backscatter relation: CALIPSO lidar measurements vs. theory. <i>Optics Express</i> , 2007, 15, 5327.	1.7	167
82	Retrieving Optical Depths and Lidar Ratios for Transparent Layers Above Opaque Water Clouds From CALIPSO Lidar Measurements. <i>IEEE Geoscience and Remote Sensing Letters</i> , 2007, 4, 523-526.	1.4	62
83	Summer dust aerosols detected from CALIPSO over the Tibetan Plateau. <i>Geophysical Research Letters</i> , 2007, 34, .	1.5	302
84	Simple relation between lidar multiple scattering and depolarization for water clouds. <i>Optics Letters</i> , 2006, 31, 1809.	1.7	84
85	Estimating random errors due to shot noise in backscatter lidar observations. <i>Applied Optics</i> , 2006, 45, 4437.	2.1	110
86	Fully automated analysis of space-based lidar data: an overview of the CALIPSO retrieval algorithms and data products. , 2004, 5575, 16.		267
87	Validating Lidar Depolarization Calibration Using Solar Radiation Scattered by Ice Clouds. <i>IEEE Geoscience and Remote Sensing Letters</i> , 2004, 1, 157-161.	1.4	10
88	Use of probability distribution functions for discriminating between cloud and aerosol in lidar backscatter data. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	142
89	Simulation study for cloud detection with space lidars by use of analog detection photomultiplier tubes. <i>Applied Optics</i> , 2002, 41, 1750.	2.1	22
90	Extinction-to-backscatter ratio of Asian dust observed with high-spectral-resolution lidar and Raman lidar. <i>Applied Optics</i> , 2002, 41, 2760.	2.1	159

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91	Multiple scattering simulations for the Japanese space lidar project ELISE. IEEE Transactions on Geoscience and Remote Sensing, 2002, 40, 550-559.	2.7	5
92	Ground-based network observation of Asian dust events of April 1998 in east Asia. Journal of Geophysical Research, 2001, 106, 18345-18359.	3.3	278
93	Latitudinal distribution of aerosols and clouds in the western Pacific observed with a lidar on board the Research Vessel Mirai. Geophysical Research Letters, 2001, 28, 4187-4190.	1.5	22
94	Influence of system parameters on multiple scattering in spaceborne lidar measurements. , 2001, 4153, 631.		0
95	Science applications of the multi-FOV lidar for ATMOS-B1/ERM. , 2001, 4153, 399.		0
96	Observation of aerosols and clouds in the western tropical Pacific using a two-wavelength polarization lidar on the research vessel Mirai. , 2001, 4153, 234.		0
97	Data reduction methods for space lidar observation of clouds and aerosols. , 2001, 4153, 647.		0
98	Simulations of the observation of clouds and aerosols with the Experimental Lidar in Space Equipment system. Applied Optics, 2000, 39, 3120.	2.1	50
99	High-spectral-resolution lidar using an iodine absorption filter for atmospheric measurements. Optical Engineering, 1999, 38, 1661.	0.5	76
100	<title>Inversion algorithms for space lidar observation of clouds and aerosols</title>. , 1998, 3494, 296.		2
101	High-spectral-resolution lidar measurements of aerosols, clouds, and temperature at NIES. , 1998, 3504, 558.		3
102	Differential Discrimination Technique for Incoherent Doppler Lidar to Measure Atmospheric Wind and Backscatter Ratio. Optical Review, 1996, 3, 47-52.	1.2	34
103	Wave-front matching measurement in coherent CO <sub>2</sub> laser-radar. Applied Optics, 1992, 31, 7647.	2.1	2
104	Cloud and aerosol observation planned with the space-borne lidar "ELISE" and the ATMOS-B1/ERM lidar. , 0, , .		1