

Mark A Vaughan

List of Publications by Year in descending order

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104
papers

11,976
citations

44069

48
h-index

30087

103
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158
all docs

158
docs citations

158
times ranked

5162
citing authors

#	ARTICLE	IF	CITATIONS
1	Retrieving particulate matter concentrations over the contiguous United States using CALIOP observations. <i>Atmospheric Environment</i> , 2022, 274, 118979.	4.1	2
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.	3.1	2
3	Assessment of tropospheric CALIPSO Version 4.2 aerosol types over the ocean using independent CALIPSOâ€“SODA lidar ratios. <i>Atmospheric Measurement Techniques</i> , 2022, 15, 2745-2766.	3.1	3
4	Two-dimensional and multi-channel feature detection algorithm for the CALIPSO lidar measurements. <i>Atmospheric Measurement Techniques</i> , 2021, 14, 1593-1613.	3.1	5
5	Version 4 CALIPSO Imaging Infrared Radiometer ice and liquid water cloud microphysical properties â€“ Part II: Results over oceans. <i>Atmospheric Measurement Techniques</i> , 2021, 14, 3277-3299.	3.1	6
6	Version 4 CALIPSO Imaging Infrared Radiometer ice and liquid water cloud microphysical properties â€“ Part I: The retrieval algorithms. <i>Atmospheric Measurement Techniques</i> , 2021, 14, 3253-3276.	3.1	9
7	Enabling Value Added Scientific Applications of ICESatâ€“2 Data With Effective Removal of Afterpulses. <i>Earth and Space Science</i> , 2021, 8, e2021EA001729.	2.6	18
8	Global Ocean Studies from CALIOP/CALIPSO by Removing Polarization Crosstalk Effects. <i>Remote Sensing</i> , 2021, 13, 2769.	4.0	8
9	Detection and Height Measurement of Tenuous Clouds and Blowing Snow in ICESatâ€“2 ATLAS Data. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL093473.	4.0	8
10	Multi-Year Seasonal Trends in Sea Ice, Chlorophyll Concentration, and Marine Aerosol Optical Depth in the Bellingshausen Sea. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2021JD034737.	3.3	9
11	Identifying Aerosol Subtypes from CALIPSO Lidar Profiles Using Deep Machine Learning. <i>Atmosphere</i> , 2021, 12, 10.	2.3	7
12	New Ocean Subsurface Optical Properties From Space Lidars: CALIOP/CALIPSO and ATLAS/ICESatâ€“2. <i>Earth and Space Science</i> , 2021, 8, e2021EA001839.	2.6	26
13	New attenuated backscatter profile by removing the CALIOP receiver's transient response. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2020, 255, 107244.	2.3	11
14	CALIOP V4 cloud thermodynamic phase assignment and the impact of near-nadir viewing angles. <i>Atmospheric Measurement Techniques</i> , 2020, 13, 4539-4563.	3.1	24
15	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.	4.9	34
16	Novel aerosol extinction coefficients and lidar ratios over the ocean from CALIPSOâ€“CloudSat: evaluation and global statistics. <i>Atmospheric Measurement Techniques</i> , 2019, 12, 2201-2217.	3.1	13
17	Application of high-dimensional fuzzy <i>k</i>-means cluster analysis to CALIOP/CALIPSO version 4.1 cloudâ€“aerosol discrimination. <i>Atmospheric Measurement Techniques</i> , 2019, 12, 2261-2285.	3.1	12
18	A bulk-mass-modeling-based method for retrieving particulate matter pollution using CALIOP observations. <i>Atmospheric Measurement Techniques</i> , 2019, 12, 1739-1754.	3.1	18

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19	Discriminating between clouds and aerosols in the CALIOP version 4.1 data products. Atmospheric Measurement Techniques, 2019, 12, 703-734.	3.1	80
20	CALIPSO level 3 stratospheric aerosol profile product: version 1.00 algorithm description and initial assessment. Atmospheric Measurement Techniques, 2019, 12, 6173-6191.	3.1	26
21	Cloud-Aerosol Transport System (CATS) 1064nm calibration and validation. Atmospheric Measurement Techniques, 2019, 12, 6241-6258.	3.1	31
22	CALIPSO lidar calibration at 1064nm: version 4 algorithm. Atmospheric Measurement Techniques, 2019, 12, 51-82.	3.1	42
23	Unusually Deep Wintertime Cirrus Clouds Observed over the Alaskan Subarctic. Bulletin of the American Meteorological Society, 2018, 99, 27-32.	3.3	23
24	Laser pulse bidirectional reflectance from CALIPSO mission. Atmospheric Measurement Techniques, 2018, 11, 3281-3296.	3.1	13
25	The CALIPSO version 4 automated aerosol classification and lidar ratio selection algorithm. Atmospheric Measurement Techniques, 2018, 11, 6107-6135.	3.1	334
26	CALIPSO lidar level 3 aerosol profile product: version 3 algorithm design. Atmospheric Measurement Techniques, 2018, 11, 4129-4152.	3.1	115
27	Extinction and optical depth retrievals for CALIPSO's Version 4 data release. Atmospheric Measurement Techniques, 2018, 11, 5701-5727.	3.1	128
28	CALIPSO lidar calibration at 532nm: version 4 daytime algorithm. Atmospheric Measurement Techniques, 2018, 11, 6309-6326.	3.1	46
29	Minimum aerosol layer detection sensitivities and their subsequent impacts on aerosol optical thickness retrievals in CALIPSO level 2 data products. Atmospheric Measurement Techniques, 2018, 11, 499-514.	3.1	40
30	Enhancements to the caliop aerosol subtyping and lidar ratio selection algorithms for level II version 4. EPJ Web of Conferences, 2018, 176, 02006.	0.3	5
31	CALIPSO lidar calibration at 532nm: version 4 nighttime algorithm. Atmospheric Measurement Techniques, 2018, 11, 1459-1479.	3.1	70
32	Swelling of transported smoke from savanna fires over the Southeast Atlantic Ocean. Remote Sensing of Environment, 2018, 211, 105-111.	11.0	12
33	Quantifying the low bias of CALIPSO's column aerosol optical depth due to undetected aerosol layers. Journal of Geophysical Research D: Atmospheres, 2017, 122, 1098-1113.	3.3	41
34	Direct atmosphere opacity observations from CALIPSO provide new constraints on cloud-radiation interactions. Journal of Geophysical Research D: Atmospheres, 2017, 122, 1066-1085.	3.3	38
35	Observations of Arctic snow and sea ice cover from CALIOP lidar measurements. Remote Sensing of Environment, 2017, 194, 248-263.	11.0	13
36	The impact of lidar detection sensitivity on assessing aerosol direct radiative effects. Geophysical Research Letters, 2017, 44, 9059-9067.	4.0	24

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37	CALIOP Calibration: Version 4.0 Algorithm Updates. EPJ Web of Conferences, 2016, 119, 04013.	0.3	6
38	An overview of the CATS level 1 processing algorithms and data products. Geophysical Research Letters, 2016, 43, 4632-4639.	4.0	93
39	Ocean Lidar Measurements of Beam Attenuation and a Roadmap to Accurate Phytoplankton Biomass Estimates. EPJ Web of Conferences, 2016, 119, 22003.	0.3	8
40	Aerosol Optical Properties Above Opaque Water Clouds Derived From The Caliop Version 4 Level 1 Data. EPJ Web of Conferences, 2016, 119, 04010.	0.3	1
41	Temporal variability of aerosol optical thickness vertical distribution observed from CALIOP. Journal of Geophysical Research D: Atmospheres, 2016, 121, 9117-9139.	3.3	25
42	Ice cloud backscatter study and comparison with CALIPSO and MODIS satellite data. Optics Express, 2016, 24, 620.	3.4	29
43	Resolving ice cloud optical thickness biases between CALIOP and MODIS using infrared retrievals. Atmospheric Chemistry and Physics, 2016, 16, 5075-5090.	4.9	73
44	Cloud-Aerosol Interactions: Retrieving Aerosol Å...ngstrÅm Exponents from Calipso Measurements of Opaque Water Clouds. EPJ Web of Conferences, 2016, 119, 11001.	0.3	2
45	Towards Improved Cirrus Cloud Optical Depths from CALIPSO. EPJ Web of Conferences, 2016, 119, 16014.	0.3	0
46	Evaluation of CALIOP 532 nm aerosol optical depth over opaque water clouds. Atmospheric Chemistry and Physics, 2015, 15, 1265-1288.	4.9	52
47	Lidar multiple scattering factors inferred from CALIPSO lidar and IIR retrievals of semi-transparent cirrus cloud optical depths over oceans. Atmospheric Measurement Techniques, 2015, 8, 2759-2774.	3.1	65
48	Distinguishing cirrus cloud presence in autonomous lidar measurements. Atmospheric Measurement Techniques, 2015, 8, 435-449.	3.1	47
49	Looking through the haze: evaluating the CALIPSO level 2 aerosol optical depth using airborne high spectral resolution lidar data. Atmospheric Measurement Techniques, 2014, 7, 4317-4340.	3.1	69
50	Relationships between Ice Water Content and Volume Extinction Coefficient from In Situ Observations for Temperatures from 0Å° to Å~86Å°C: Implications for Spaceborne Lidar Retrievals. Journal of Applied Meteorology and Climatology, 2014, 53, 479-505.	1.5	61
51	Separating mixtures of aerosol types in airborne High Spectral Resolution Lidar data. Atmospheric Measurement Techniques, 2014, 7, 419-436.	3.1	79
52	An evaluation of CALIOP/CALIPSO's aerosolÅ€aboveÅ€cloud detection and retrieval capability over North America. Journal of Geophysical Research D: Atmospheres, 2014, 119, 230-244.	3.3	49
53	Transpacific transport and evolution of the optical properties of Asian dust. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 116, 24-33.	2.3	34
54	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.	1.3	53

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55	CALIOP and AERONET aerosol optical depth comparisons: One size fits none. Journal of Geophysical Research D: Atmospheres, 2013, 118, 4748-4766.	3.3	130
56	Investigating enhanced Aqua MODIS aerosol optical depth retrievals over the mid- to high latitude Southern Oceans through intercomparison with co-located CALIOP, MAN, and AERONET data sets. Journal of Geophysical Research D: Atmospheres, 2013, 118, 4700-4714.	3.3	56
57	The Retrieval of Profiles of Particulate Extinction from Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observations (CALIPSO) Data: Uncertainty and Error Sensitivity Analyses. Journal of Atmospheric and Oceanic Technology, 2013, 30, 395-428.	1.3	109
58	Evaluating CALIPSO's 532 nm lidar ratio selection algorithm using AERONET sun photometers in Brazil. Atmospheric Measurement Techniques, 2013, 6, 3281-3299.	3.1	43
59	Macrophysical properties of tropical cirrus clouds from the CALIPSO satellite and from ground-based micropulse and Raman lidars. Journal of Geophysical Research D: Atmospheres, 2013, 118, 9209-9220.	3.3	33
60	The global 3-D distribution of tropospheric aerosols as characterized by CALIOP. Atmospheric Chemistry and Physics, 2013, 13, 3345-3361.	4.9	406
61	Aerosol classification from airborne HSRL and comparisons with the CALIPSO vertical feature mask. Atmospheric Measurement Techniques, 2013, 6, 1397-1412.	3.1	207
62	Evaluating nighttime CALIOP 0.532 μ m aerosol optical depth and extinction coefficient retrievals. Atmospheric Measurement Techniques, 2012, 5, 2143-2160.	3.1	56
63	Lidar Measurements for Desert Dust Characterization: An Overview. Advances in Meteorology, 2012, 2012, 1-36.	1.6	88
64	The comparison of MODIS-Aqua (C5) and CALIOP (V2 & V3) aerosol optical depth. Atmospheric Chemistry and Physics, 2012, 12, 3025-3043.	4.9	87
65	Comparison of CALIPSO aerosol optical depth retrievals to AERONET measurements, and a climatology for the lidar ratio of dust. Atmospheric Chemistry and Physics, 2012, 12, 7431-7452.	4.9	218
66	Cloud ice water content retrieved from the CALIOP space-based lidar. Geophysical Research Letters, 2012, 39, .	4.0	36
67	Cirrus optical depth and lidar ratio retrieval from combined CALIPSO-CloudSat observations using ocean surface echo. Journal of Geophysical Research, 2012, 117, .	3.3	44
68	Airborne validation of cirrus cloud properties derived from CALIPSO lidar measurements: Optical properties. Journal of Geophysical Research, 2012, 117, .	3.3	18
69	On the nature and extent of optically thin marine low clouds. Journal of Geophysical Research, 2012, 117, .	3.3	35
70	Airborne validation of cirrus cloud properties derived from CALIPSO lidar measurements: Spatial properties. Journal of Geophysical Research, 2011, 116, .	3.3	35
71	Assessment of the CALIPSO Lidar 532 nm attenuated backscatter calibration using the NASA LaRC airborne High Spectral Resolution Lidar. Atmospheric Chemistry and Physics, 2011, 11, 1295-1311.	4.9	111
72	An accuracy assessment of the CALIOP/CALIPSO version 2/version 3 daytime aerosol extinction product based on a detailed multi-sensor, multi-platform case study. Atmospheric Chemistry and Physics, 2011, 11, 3981-4000.	4.9	94

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73	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.	2.3	44
74	Characteristics of CALIPSO and CloudSat Backscatter at the Top Center Layers of Mesoscale Convective Systems and Relation to Cloud Microphysics. <i>Journal of Applied Meteorology and Climatology</i> , 2011, 50, 368-378.	1.5	9
75	Intercomparison of column aerosol optical depths from CALIPSO and MODIS-Aqua. <i>Atmospheric Measurement Techniques</i> , 2011, 4, 131-141.	3.1	140
76	The CALIPSO Mission. <i>Bulletin of the American Meteorological Society</i> , 2010, 91, 1211-1230.	3.3	847
77	Using airborne high spectral resolution lidar data to evaluate combined active plus passive retrievals of aerosol extinction profiles. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	44
78	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
79	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
80	CALIPSO Lidar Description and Performance Assessment. <i>Journal of Atmospheric and Oceanic Technology</i> , 2009, 26, 1214-1228.	1.3	426
81	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.	1.3	115
82	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.	1.3	484
83	CALIPSO/CALIOP Cloud Phase Discrimination Algorithm. <i>Journal of Atmospheric and Oceanic Technology</i> , 2009, 26, 2293-2309.	1.3	261
84	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.	1.3	430
85	The Retrieval of Profiles of Particulate Extinction from Cloud-Aerosol Lidar Infrared Pathfinder Satellite Observations (CALIPSO) Data: Algorithm Description. <i>Journal of Atmospheric and Oceanic Technology</i> , 2009, 26, 1105-1119.	1.3	371
86	The CALIPSO Automated Aerosol Classification and Lidar Ratio Selection Algorithm. <i>Journal of Atmospheric and Oceanic Technology</i> , 2009, 26, 1994-2014.	1.3	820
87	Overview of the CALIPSO Mission and CALIOP Data Processing Algorithms. <i>Journal of Atmospheric and Oceanic Technology</i> , 2009, 26, 2310-2323.	1.3	1,820
88	A description of hydrometeor layer occurrence statistics derived from the first year of merged Cloudsat and CALIPSO data. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	356
89	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
90	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

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91	Global Moderate Resolution Imaging Spectroradiometer (MODIS) cloud detection and height evaluation using CALIOP. Journal of Geophysical Research, 2008, 113, .	3.3	227
92	Sea surface wind speed estimation from space-based lidar measurements. Atmospheric Chemistry and Physics, 2008, 8, 3593-3601.	4.9	89
93	Airborne dust distributions over the Tibetan Plateau and surrounding areas derived from the first year of CALIPSO lidar observations. Atmospheric Chemistry and Physics, 2008, 8, 5045-5060.	4.9	256
94	Global statistics of liquid water content and effective number concentration of water clouds over ocean derived from combined CALIPSO and MODIS measurements. Atmospheric Chemistry and Physics, 2007, 7, 3353-3359.	4.9	60
95	The depolarization - attenuated backscatter relation: CALIPSO lidar measurements vs. theory. Optics Express, 2007, 15, 5327.	3.4	167
96	Elevation information in tail (EIT) technique for lidar altimetry. Optics Express, 2007, 15, 14504.	3.4	33
97	Retrieving Optical Depths and Lidar Ratios for Transparent Layers Above Opaque Water Clouds From CALIPSO Lidar Measurements. IEEE Geoscience and Remote Sensing Letters, 2007, 4, 523-526.	3.1	62
98	Airborne validation of spatial properties measured by the CALIPSO lidar. Journal of Geophysical Research, 2007, 112, .	3.3	144
99	Simple relation between lidar multiple scattering and depolarization for water clouds. Optics Letters, 2006, 31, 1809.	3.3	84
100	Estimating random errors due to shot noise in backscatter lidar observations. Applied Optics, 2006, 45, 4437.	2.1	110
101	Calibration Technique for Polarization-Sensitive Lidars. Journal of Atmospheric and Oceanic Technology, 2006, 23, 683-699.	1.3	71
102	The CALIPSO mission and initial results from CALIOP. , 2006, 6409, 640902.		57
103	Validating Lidar Depolarization Calibration Using Solar Radiation Scattered by Ice Clouds. IEEE Geoscience and Remote Sensing Letters, 2004, 1, 157-161.	3.1	10
104	Use of probability distribution functions for discriminating between cloud and aerosol in lidar backscatter data. Journal of Geophysical Research, 2004, 109, .	3.3	142