Mark A Vaughan

List of Publications by Year
in descending order

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		43973	30010
104	11,976	48	103
papers	citations	h-index	g-index

158	158	158	5162
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Overview of the CALIPSO Mission and CALIOP Data Processing Algorithms. Journal of Atmospheric and Oceanic Technology, 2009, 26, 2310-2323.	0.5	1,820
2	The CALIPSO Mission. Bulletin of the American Meteorological Society, 2010, 91, 1211-1230.	1.7	847
3	The CALIPSO Automated Aerosol Classification and Lidar Ratio Selection Algorithm. Journal of Atmospheric and Oceanic Technology, 2009, 26, 1994-2014.	0.5	820
4	Fully Automated Detection of Cloud and Aerosol Layers in the CALIPSO Lidar Measurements. Journal of Atmospheric and Oceanic Technology, 2009, 26, 2034-2050.	0.5	484
5	The CALIPSO Lidar Cloud and Aerosol Discrimination: Version 2 Algorithm and Initial Assessment of Performance. Journal of Atmospheric and Oceanic Technology, 2009, 26, 1198-1213.	0.5	430
6	CALIPSO Lidar Description and Performance Assessment. Journal of Atmospheric and Oceanic Technology, 2009, 26, 1214-1228.	0.5	426
7	The global 3-D distribution of tropospheric aerosols as characterized by CALIOP. Atmospheric Chemistry and Physics, 2013, 13, 3345-3361.	1.9	406
8	The Retrieval of Profiles of Particulate Extinction from Cloud-Aerosol Lidar Infrared Pathfinder Satellite Observations (CALIPSO) Data: Algorithm Description. Journal of Atmospheric and Oceanic Technology, 2009, 26, 1105-1119.	0.5	371
9	A description of hydrometeor layer occurrence statistics derived from the first year of merged Cloudsat and CALIPSO data. Journal of Geophysical Research, 2009, 114, .	3.3	356
10	The CALIPSO version 4 automated aerosol classification and lidar ratio selection algorithm. Atmospheric Measurement Techniques, 2018, 11, 6107-6135.	1.2	334
11	CALIPSO/CALIOP Cloud Phase Discrimination Algorithm. Journal of Atmospheric and Oceanic Technology, 2009, 26, 2293-2309.	0.5	261
12	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.	1.9	256
13	Global Moderate Resolution Imaging Spectroradiometer (MODIS) cloud detection and height evaluation using CALIOP. Journal of Geophysical Research, 2008, 113, .	3.3	227
14	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.	1.9	218
15	Aerosol classification from airborne HSRL and comparisons with the CALIPSO vertical feature mask. Atmospheric Measurement Techniques, 2013, 6, 1397-1412.	1.2	207
16	CALIPSO lidar observations of the optical properties of Saharan dust: A case study of longâ€range transport. Journal of Geophysical Research, 2008, 113, .	3.3	189
17	The depolarization - attenuated backscatter relation: CALIPSO lidar measurements vs. theory. Optics Express, 2007, 15, 5327.	1.7	167
18	Airborne validation of spatial properties measured by the CALIPSO lidar. Journal of Geophysical Research, 2007, 112, .	3.3	144

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19	Use of probability distribution functions for discriminating between cloud and aerosol in lidar backscatter data. Journal of Geophysical Research, 2004, 109, .	3.3	142
20	Intercomparison of column aerosol optical depths from CALIPSO and MODIS-Aqua. Atmospheric Measurement Techniques, 2011, 4, 131-141.	1.2	140
21	CALIOP and AERONET aerosol optical depth comparisons: One size fits none. Journal of Geophysical Research D: Atmospheres, 2013, 118, 4748-4766.	1.2	130
22	Extinction and optical depth retrievals for CALIPSO's Version 4 data release. Atmospheric Measurement Techniques, 2018, 11, 5701-5727.	1.2	128
23	CALIPSO Lidar Calibration Algorithms. Part I: Nighttime 532-nm Parallel Channel and 532-nm Perpendicular Channel. Journal of Atmospheric and Oceanic Technology, 2009, 26, 2015-2033.	0.5	115
24	CALIPSO lidar levelÂ3 aerosol profile product: versionÂ3 algorithm design. Atmospheric Measurement Techniques, 2018, 11, 4129-4152.	1.2	115
25	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.	1.9	111
26	Estimating random errors due to shot noise in backscatter lidar observations. Applied Optics, 2006, 45, 4437.	2.1	110
27	The Retrieval of Profiles of Particulate Extinction from Cloudâ€“Aerosol Lidar and Infrared Pathfinder Satellite Observations (CALIPSO) Data: Uncertainty and Error Sensitivity Analyses. Journal of Atmospheric and Oceanic Technology, 2013, 30, 395-428.	0.5	109
28	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.	1.9	94
29	An overview of the CATS level 1 processing algorithms and data products. Geophysical Research Letters, 2016, 43, 4632-4639.	1.5	93
30	Sea surface wind speed estimation from space-based lidar measurements. Atmospheric Chemistry and Physics, 2008, 8, 3593-3601.	1.9	89
31	Lidar Measurements for Desert Dust Characterization: An Overview. Advances in Meteorology, 2012, 2012, 1-36.	0.6	88
32	The comparison of MODIS-Aqua (C5) and CALIOP (V2 & V3) aerosol optical depth. Atmospheric Chemistry and Physics, 2012, 12, 3025-3043.	1.9	87
33	Quantifying aboveâ€cloud aerosol using spaceborne lidar for improved understanding of cloudyâ€sky direct climate forcing. Journal of Geophysical Research, 2008, 113, .	3.3	86
34	Simple relation between lidar multiple scattering and depolarization for water clouds. Optics Letters, 2006, 31, 1809.	1.7	84
35	Discriminating between clouds and aerosols in the CALIOP version 4.1 data products. Atmospheric Measurement Techniques, 2019, 12, 703-734.	1.2	80
36	Separating mixtures of aerosol types in airborne High Spectral Resolution Lidar data. Atmospheric Measurement Techniques, 2014, 7, 419-436.	1.2	79

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37	Resolving ice cloud optical thickness biases between CALIOP and MODIS using infrared retrievals. Atmospheric Chemistry and Physics, 2016, 16, 5075-5090.	1.9	73
38	Calibration Technique for Polarization-Sensitive Lidars. Journal of Atmospheric and Oceanic Technology, 2006, 23, 683-699.	0.5	71
39	CALIPSO lidar calibration at 532â€‰nm: versionÂ4 nighttime algorithm. Atmospheric Measurement Techniques, 2018, 11, 1459-1479.	1.2	70
40	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.	1.2	69
41	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.	1.2	65
42	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.	1.4	62
43	Relationships between Ice Water Content and Volume Extinction Coefficient from In Situ Observations for Temperatures from 0Â° to â^'86Â°C: Implications for Spaceborne Lidar Retrievals. Journal of Applied Meteorology and Climatology, 2014, 53, 479-505.	0.6	61
44	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.	1.9	60
45	The CALIPSO mission and initial results from CALIOP. , 2006, 6409, 640902.		57
46	On the spectral dependence of backscatter from cirrus clouds: Assessing CALIOP's 1064 nm calibration assumptions using cloud physics lidar measurements. Journal of Geophysical Research, 2010, 115, .	3.3	57
47	Evaluating nighttime CALIOP 0.532 Î¼m aerosol optical depth and extinction coefficient retrievals. Atmospheric Measurement Techniques, 2012, 5, 2143-2160.	1.2	56
48	Investigating enhanced Aqua MODIS aerosol optical depth retrievals over the midâ€toâ€high latitude Southern Oceans through intercomparison with coâ€located CALIOP, MAN, and AERONET data sets. Journal of Geophysical Research D: Atmospheres, 2013, 118, 4700-4714.	1.2	56
49	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
50	Evaluation of CALIOP 532 nm aerosol optical depth over opaque water clouds. Atmospheric Chemistry and Physics, 2015, 15, 1265-1288.	1.9	52
51	An evaluation of CALIOP/CALIPSO's aerosolâ€aboveâ€cloud detection and retrieval capability over North America. Journal of Geophysical Research D: Atmospheres, 2014, 119, 230-244.	1.2	49
52	Distinguishing cirrus cloud presence in autonomous lidar measurements. Atmospheric Measurement Techniques, 2015, 8, 435-449.	1.2	47
53	CALIPSO lidar calibration at 532â€‰nm: version 4 daytime algorithm. Atmospheric Measurement Techniques, 2018, 11, 6309-6326.	1.2	46
54	Using airborne high spectral resolution lidar data to evaluate combined active plus passive retrievals of aerosol extinction profiles. Journal of Geophysical Research, 2010, 115, .	3.3	44

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55	Effective lidar ratios of dense dust layers over North Africa derived from the CALIOP measurements. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 204-213.	1.1	44
56	Cirrus optical depth and lidar ratio retrieval from combined CALIPSOâ€CloudSat observations using ocean surface echo. Journal of Geophysical Research, 2012, 117, .	3.3	44
57	Evaluating CALIPSO's 532 nm lidar ratio selection algorithm using AERONET sun photometers in Brazil. Atmospheric Measurement Techniques, 2013, 6, 3281-3299.	1.2	43
58	CALIPSO lidar calibration at 1064â€‰nm: version 4 algorithm. Atmospheric Measurement Techniques, 2019, 12, 51-82.	1.2	42
59	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.	1.2	41
60	Extinctionâ€toâ€backscatter ratios of Saharan dust layers derived from in situ measurements and CALIPSO overflights during NAMMA. Journal of Geophysical Research, 2010, 115, .	3.3	40
61	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.	1.2	40
62	Direct atmosphere opacity observations from CALIPSO provide new constraints on cloudâ€radiation interactions. Journal of Geophysical Research D: Atmospheres, 2017, 122, 1066-1085.	1.2	38
63	Cloud ice water content retrieved from the CALIOP spaceâ€based lidar. Geophysical Research Letters, 2012, 39, .	1.5	36
64	Airborne validation of cirrus cloud properties derived from CALIPSO lidar measurements: Spatial properties. Journal of Geophysical Research, 2011, 116, .	3.3	35
65	On the nature and extent of optically thin marine low clouds. Journal of Geophysical Research, 2012, 117, .	3.3	35
66	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
67	Estimations of global shortwave direct aerosol radiative effects above opaque water clouds using a combination of A-Train satellite sensors. Atmospheric Chemistry and Physics, 2019, 19, 4933-4962.	1.9	34
68	Elevation information in tail (EIT) technique for lidar altimetry. Optics Express, 2007, 15, 14504.	1.7	33
69	Macrophysical properties of tropical cirrus clouds from the CALIPSO satellite and from groundâ€based micropulse and Raman lidars. Journal of Geophysical Research D: Atmospheres, 2013, 118, 9209-9220.	1.2	33
70	Cloud-Aerosol Transport System (CATS) 1064â€‰nm calibration and validation. Atmospheric Measurement Techniques, 2019, 12, 6241-6258.	1.2	31
71	Ice cloud backscatter study and comparison with CALIPSO and MODIS satellite data. Optics Express, 2016, 24, 620.	1.7	29
72	CALIPSO level 3 stratospheric aerosol profile product: version 1.00 algorithm description and initial assessment. Atmospheric Measurement Techniques, 2019, 12, 6173-6191.	1.2	26

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73	New Ocean Subsurface Optical Properties From Space Lidars: CALIOP/CALIPSO and ATLAS/ICESatâ€2. Earth and Space Science, 2021, 8, e2021EA001839.	1.1	26
74	Temporal variability of aerosol optical thickness vertical distribution observed from CALIOP. Journal of Geophysical Research D: Atmospheres, 2016, 121, 9117-9139.	1.2	25
75	The impact of lidar detection sensitivity on assessing aerosol direct radiative effects. Geophysical Research Letters, 2017, 44, 9059-9067.	1.5	24
76	CALIOP V4 cloud thermodynamic phase assignment and the impact of near-nadir viewing angles. Atmospheric Measurement Techniques, 2020, 13, 4539-4563.	1.2	24
77	Unusually Deep Wintertime Cirrus Clouds Observed over the Alaskan Subarctic. Bulletin of the American Meteorological Society, 2018, 99, 27-32.	1.7	23
78	Airborne validation of cirrus cloud properties derived from CALIPSO lidar measurements: Optical properties. Journal of Geophysical Research, 2012, 117, .	3.3	18
79	A bulk-mass-modeling-based method for retrieving particulate matter pollution using CALIOP observations. Atmospheric Measurement Techniques, 2019, 12, 1739-1754.	1.2	18
80	Enabling Value Added Scientific Applications of ICESatâ€2 Data With Effective Removal of Afterpulses. Earth and Space Science, 2021, 8, e2021EA001729.	1.1	18
81	Observations of Arctic snow and sea ice cover from CALIOP lidar measurements. Remote Sensing of Environment, 2017, 194, 248-263.	4.6	13
82	Laser pulse bidirectional reflectance from CALIPSO mission. Atmospheric Measurement Techniques, 2018, 11, 3281-3296.	1.2	13
83	Novel aerosol extinction coefficients and lidar ratios over the ocean from CALIPSOâ€“CloudSat: evaluation and global statistics. Atmospheric Measurement Techniques, 2019, 12, 2201-2217.	1.2	13
84	Swelling of transported smoke from savanna fires over the Southeast Atlantic Ocean. Remote Sensing of Environment, 2018, 211, 105-111.	4.6	12
85	Application of high-dimensional fuzzy <i>k</i>-means cluster analysis to CALIOP/CALIPSO version 4.1 cloudâ€“aerosol discrimination. Atmospheric Measurement Techniques, 2019, 12, 2261-2285.	1.2	12
86	New attenuated backscatter profile by removing the CALIOP receiver's transient response. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 255, 107244.	1.1	11
87	Validating Lidar Depolarization Calibration Using Solar Radiation Scattered by Ice Clouds. IEEE Geoscience and Remote Sensing Letters, 2004, 1, 157-161.	1.4	10
88	Characteristics of CALIPSO and CloudSat Backscatter at the Top Center Layers of Mesoscale Convective Systems and Relation to Cloud Microphysics. Journal of Applied Meteorology and Climatology, 2011, 50, 368-378.	0.6	9
89	Version 4 CALIPSO Imaging Infrared Radiometer ice and liquid water cloud microphysical properties â€“ Part I: The retrieval algorithms. Atmospheric Measurement Techniques, 2021, 14, 3253-3276.	1.2	9
90	Multiâ€Year Seasonal Trends in Sea Ice, Chlorophyll Concentration, and Marine Aerosol Optical Depth in the Bellingshausen Sea. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD034737.	1.2	9

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91	Ocean Lidar Measurements of Beam Attenuation and a Roadmap to Accurate Phytoplankton Biomass Estimates. EPJ Web of Conferences, 2016, 119, 22003.	0.1	8
92	Global Ocean Studies from CALIOP/CALIPSO by Removing Polarization Crosstalk Effects. Remote Sensing, 2021, 13, 2769.	1.8	8
93	Detection and Height Measurement of Tenuous Clouds and Blowing Snow in ICESatâ€2 ATLAS Data. Geophysical Research Letters, 2021, 48, e2021GL093473.	1.5	8
94	Identifying Aerosol Subtypes from CALIPSO Lidar Profiles Using Deep Machine Learning. Atmosphere, 2021, 12, 10.	1.0	7
95	CALIOP Calibration: Version 4.0 Algorithm Updates. EPJ Web of Conferences, 2016, 119, 04013.	0.1	6
96	Version 4 CALIPSO Imaging Infrared Radiometer ice and liquid water cloud microphysical properties â€“ Part II: Results over oceans. Atmospheric Measurement Techniques, 2021, 14, 3277-3299.	1.2	6
97	Enhancements to the caliop aerosol subtyping and lidar ratio selection algorithms for level II version 4. EPJ Web of Conferences, 2018, 176, 02006.	0.1	5
98	Two-dimensional and multi-channel feature detection algorithm for the CALIPSO lidar measurements. Atmospheric Measurement Techniques, 2021, 14, 1593-1613.	1.2	5
99	Assessment of tropospheric CALIPSO Version 4.2 aerosol types over the ocean using independent CALIPSOâ€“SODA lidar ratios. Atmospheric Measurement Techniques, 2022, 15, 2745-2766.	1.2	3
100	Cloud-Aerosol Interactions: Retrieving Aerosol Ã…ngstrÃ¶m Exponents from Calipso Measurements of Opaque Water Clouds. EPJ Web of Conferences, 2016, 119, 11001.	0.1	2
101	Retrieving particulate matter concentrations over the contiguous United States using CALIOP observations. Atmospheric Environment, 2022, 274, 118979.	1.9	2
102	Assessing the benefits of Imaging Infrared Radiometer observations for the CALIOP version 4 cloud and aerosol discrimination algorithm. Atmospheric Measurement Techniques, 2022, 15, 1931-1956.	1.2	2
103	Aerosol Optical Properties Above Opaque Water Clouds Derived From The Caliop Version 4 Level 1 Data. EPJ Web of Conferences, 2016, 119, 04010.	0.1	1
104	Towards Improved Cirrus Cloud Optical Depths from CALIPSO. EPJ Web of Conferences, 2016, 119, 16014.	0.1	0