Hans MoosmÃ¼ller

List of Publications by Year
in descending order

113 papers	8,489 citations	66234 42 h-index	51492 86 g-index
129 all docs	129 docs citations	129 times ranked	5916 citing authors

#	Article	IF	Citations
1	Aerosol light absorption and its measurement: A review. Journal of Quantitative Spectroscopy and Radiative Transfer, 2009, 110, 844-878.	1.1	675
2	Equivalence of Elemental Carbon by Thermal/Optical Reflectance and Transmittance with Different Temperature Protocols. Environmental Science & Technology, 2004, 38, 4414-4422.	4.6	604
3	Towards Aerosol Light-Absorption Measurements with a 7-Wavelength Aethalometer: Evaluation with a Photoacoustic Instrument and 3-Wavelength Nephelometer. Aerosol Science and Technology, 2005, 39, 17-29.	1.5	518
4	Brown carbon in tar balls from smoldering biomass combustion. Atmospheric Chemistry and Physics, 2010, 10, 6363-6370.	1.9	427
5	Photoacoustic spectrometer for measuring light absorption by aerosol: instrument description. Atmospheric Environment, 1999, 33, 2845-2852.	1.9	368
6	Emissions of trace gases and aerosols during the open combustion of biomass in the laboratory. Journal of Geophysical Research, 2009, 114, .	3.3	336
7	An Inter-Comparison of Instruments Measuring Black Carbon Content of Soot Particles. Aerosol Science and Technology, 2007, 41, 295-314.	1.5	276
8	Absorption Ã…ngstrÃ¶m coefficient, brown carbon, and aerosols: basic concepts, bulk matter, and spherical particles. Atmospheric Chemistry and Physics, 2011, 11, 1217-1225.	1.9	270
9	Strong spectral variation of biomass smoke light absorption and single scattering albedo observed with a novel dualâ€wavelength photoacoustic instrument. Journal of Geophysical Research, 2008, 113, .	3.3	267
10	The Reno Aerosol Optics Study: An Evaluation of Aerosol Absorption Measurement Methods. Aerosol Science and Technology, 2005, 39, 1-16.	1.5	215
11	Cloud condensation nucleation activity of biomass burning aerosol. Journal of Geophysical Research, 2009, 114, .	3.3	213
12	Emissions from Laboratory Combustion of Wildland Fuels:Â Emission Factors and Source Profiles. Environmental Science & Technology, 2007, 41, 4317-4325.	4.6	192
13	Characterizing elemental, equivalent black, and refractory black carbon aerosol particles: a review of techniques, their limitations and uncertainties. Analytical and Bioanalytical Chemistry, 2014, 406, 99-122.	1.9	186
14	Emissions of Levoglucosan, Methoxy Phenols, and Organic Acids from Prescribed Burns, Laboratory Combustion of Wildland Fuels, and Residential Wood Combustion. Environmental Science & Technology, 2007, 41, 2115-2122.	4.6	163
15	Emissions from the laboratory combustion of wildland fuels: Particle morphology and size. Journal of Geophysical Research, 2006, 111, .	3.3	159
16	Polycyclic aromatic hydrocarbons in biomass-burning emissions and their contribution to light absorption and aerosol toxicity. Science of the Total Environment, 2016, 568, 391-401.	3.9	145
17	Nitrogen dioxide and kerosene-flame soot calibration of photoacoustic instruments for measurement of light absorption by aerosols. Review of Scientific Instruments, 2000, 71, 4545.	0.6	139
18	Ice nuclei emissions from biomass burning. Journal of Geophysical Research, 2009, 114, .	3.3	125

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19	Brown carbon aerosols from burning of boreal peatlands: microphysical properties, emission factors, and implications for direct radiative forcing. Atmospheric Chemistry and Physics, 2016, 16, 3033-3040.	1.9	119
20	Time Resolved Characterization of Diesel Particulate Emissions. 1. Instruments for Particle Mass Measurements. Environmental Science & Technology, 2001, 35, 781-787.	4.6	99
21	Remote sensing of PM, NO, CO and HC emission factors for on-road gasoline and diesel engine vehicles in Las Vegas, NV. Science of the Total Environment, 2004, 322, 123-137.	3.9	93
22	Cavity Ring-Down and Cavity-Enhanced Detection Techniques for the Measurement of Aerosol Extinction. Aerosol Science and Technology, 2005, 39, 30-39.	1.5	93
23	Light scattering and absorption by fractal-like carbonaceous chain aggregates: comparison of theories and experiment. Applied Optics, 2007, 46, 6990.	2.1	93
24	Single scattering albedo of fine mineral dust aerosols controlled by iron concentration. Journal of Geophysical Research, 2012, 117, .	3.3	93
25	Soot superaggregates from flaming wildfires and their direct radiative forcing. Scientific Reports, 2014, 4, 5508.	1.6	90
26	Technical note: Mineralogical, chemical, morphological, and optical interrelationships of mineral dust re-suspensions. Atmospheric Chemistry and Physics, 2016, 16, 10809-10830.	1.9	89
27	Particulate-Phase and Gaseous Elemental Mercury Emissions During Biomass Combustion: Controlling Factors and Correlation with Particulate Matter Emissions. Environmental Science & Technology, 2008, 42, 721-727.	4.6	78
28	Photoacoustic optical properties at UV, VIS, and near IR wavelengths for laboratory generated and winter time ambient urban aerosols. Atmospheric Chemistry and Physics, 2012, 12, 2587-2601.	1.9	74
29	Particle Optics in the Rayleigh Regime. Journal of the Air and Waste Management Association, 2009, 59, 1028-1031.	0.9	73
30	Modeling reflectance and transmittance of quartz-fiber filter samples containing elemental carbon particles: Implications for thermal/optical analysis. Journal of Aerosol Science, 2004, 35, 765-780.	1.8	70
31	Ice nucleation behavior of biomass combustion particles at cirrus temperatures. Journal of Geophysical Research, 2009, 114, .	3.3	68
32	A Biomass Combustion Chamber: Design, Evaluation, and a Case Study of Wheat Straw Combustion Emission Tests. Aerosol and Air Quality Research, 2015, 15, 2104-2114.	0.9	68
33	The filter-loading effect by ambient aerosols in filter absorption photometers depends on the coating of the sampled particles. Atmospheric Measurement Techniques, 2017, 10, 1043-1059.	1.2	60
34	Light absorption by polar and non-polar aerosol compounds from laboratory biomass combustion. Atmospheric Chemistry and Physics, 2018, 18, 10849-10867.	1.9	60
35	Integrating nephelometer with a low truncation angle and an extended calibration scheme. Measurement Science and Technology, 2006, 17, 1723-1732.	1.4	55
36	Photoacoustic and nephelometric spectroscopy of aerosol optical properties with a supercontinuum light source. Atmospheric Measurement Techniques, 2013, 6, 3501-3513.	1.2	55

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37	Time-Resolved Characterization of Diesel Particulate Emissions. 2. Instruments for Elemental and Organic Carbon Measurements. Environmental Science & Technology, 2001, 35, 1935-1942.	4.6	54
38	Evaluation of 1047-nm Photoacoustic Instruments and Photoelectric Aerosol Sensors in Source-Sampling of Black Carbon Aerosol and Particle-Bound PAHs from Gasoline and Diesel Powered Vehicles. Environmental Science & Technology, 2005, 39, 5398-5406.	4.6	53
39	Angular truncation errors in integrating nephelometry. Review of Scientific Instruments, 2003, 74, 3492-3501.	0.6	52
40	Low Fractal Dimension Cluster-Dilute Soot Aggregates from a Premixed Flame. Physical Review Letters, 2009, 102, 235504.	2.9	51
41	Small and large particle limits of single scattering albedo for homogeneous, spherical particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 204, 250-255.	1.1	51
42	Photoacoustic insight for aerosol light absorption aloft from meteorological aircraft and comparison with particle soot absorption photometer measurements: DOE Southern Great Plains climate research facility and the coastal stratocumulus imposed perturbation experiments. Journal of Geophysical Research, 2006, 111, .	3.3	50
43	Technical Note: Simple analytical relationships between Ã…ngstrÃ¶m coefficients of aerosol extinction, scattering, absorption, and single scattering albedo. Atmospheric Chemistry and Physics, 2011, 11, 10677-10680.	1.9	50
44	Particle emissions from laboratory combustion of wildland fuels: In situ optical and mass measurements. Geophysical Research Letters, 2006, 33, .	1.5	48
45	Extensive Soot Compaction by Cloud Processing from Laboratory and Field Observations. Scientific Reports, 2019, 9, 11824.	1.6	47
46	Evaporationâ€“Condensation Effects on Resonant Photoacoustics of Volatile Aerosols. Journal of Atmospheric and Oceanic Technology, 2003, 20, 685-695.	0.5	45
47	Structural and Fractal Properties of Particles Emitted from Spark Ignition Engines. Environmental Science & Technology, 2006, 40, 6647-6654.	4.6	45
48	Optical closure experiments for biomass smoke aerosols. Atmospheric Chemistry and Physics, 2010, 10, 9017-9026.	1.9	45
49	Previously unaccounted atmospheric mercury deposition in a midlatitude deciduous forest. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	42
50	Toward an ideal integrating nephelometer. Optics Letters, 2003, 28, 1007.	1.7	40
51	Correlation between automotive CO, HC, NO, and PM emission factors from on-road remote sensing: implications for inspection and maintenance programs. Transportation Research, Part D: Transport and Environment, 2004, 9, 477-496.	3.2	40
52	On-Road Measurement of Automotive Particle Emissions by Ultraviolet Lidar and Transmissometer:Â Instrument. Environmental Science & Technology, 2003, 37, 4971-4978.	4.6	39
53	Strong radiative heating due to wintertime black carbon aerosols in the Brahmaputra River Valley. Geophysical Research Letters, 2012, 39, .	1.5	39
54	Laboratory and field evaluation of real-time and near real-time PM_{2.5} smoke monitors. Journal of the Air and Waste Management Association, 2020, 70, 158-179.	0.9	38

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55	Observation of Superaggregates from a Reversed Gravity Low-Sooting Flame. Aerosol Science and Technology, 2012, 46, i-iii.	1.5	37
56	A case study of real-world tailpipe emissions for school buses using a 20% biodiesel blend. Science of the Total Environment, 2007, 385, 146-159.	3.9	36
57	Light absorption by biomass burning source emissions. Atmospheric Environment, 2016, 127, 347-354.	1.9	34
58	Optical losses of photovoltaic modules due to mineral dust deposition: Experimental measurements and theoretical modeling. Solar Energy, 2018, 164, 160-173.	2.9	33
59	Stimulated Rayleigh-Brillouin Gain Spectroscopy in Pure Gases. Physical Review Letters, 1983, 51, 1648-1651.	2.9	32
60	Particulate emission factors for mobile fossil fuel and biomass combustion sources. Science of the Total Environment, 2011, 409, 2384-2396.	3.9	32
61	Physical and chemical characterization of aerosol in fresh and aged emissions from open combustion of biomass fuels. Aerosol Science and Technology, 2018, 52, 1266-1282.	1.5	32
62	Simulation of Aggregates with Point-Contacting Monomers in the Clusterâ€“Dilute Regime. Part 1: Determining the Most Reliable Technique for Obtaining Three-Dimensional Fractal Dimension from Two-Dimensional Images. Aerosol Science and Technology, 2011, 45, 75-80.	1.5	27
63	Evaluation of MODIS columnar aerosol retrievals using AERONET in semi-arid Nevada and California, U.S.A., during the summer of 2012. Atmospheric Environment, 2016, 144, 345-360.	1.9	27
64	Single scattering albedo of homogeneous, spherical particles in the transition regime. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 219, 333-338.	1.1	27
65	Parameterization of the Aerosol Upscatter Fraction as Function of the Backscatter Fraction and Their Relationships to the Asymmetry Parameter for Radiative Transfer Calculations. Atmosphere, 2017, 8, 133.	1.0	25
66	Deposition of brown carbon onto snow: changes in snow optical and radiative properties. Atmospheric Chemistry and Physics, 2020, 20, 6095-6114.	1.9	25
67	Optical losses of photovoltaic cells due to aerosol deposition: Role of particle refractive index and size. Solar Energy, 2017, 155, 637-646.	2.9	24
68	Two-component velocity measurements in a supersonic nitrogen jet with spatially resolved inverse Raman spectroscopy. Optics Letters, 1984, 9, 536.	1.7	23
69	Optical Stark effect in the four-wave mixing and stimulated Raman spectra ofN2. Physical Review A, 1989, 40, 6983-6998.	1.0	22
70	On-Road Vehicle Particulate Matter and Gaseous Emission Distributions in Las Vegas, Nevada, Compared with Other Areas. Journal of the Air and Waste Management Association, 2004, 54, 711-726.	0.9	22
71	Spherical particle absorption over a broad range of imaginary refractive index. Journal of Quantitative Spectroscopy and Radiative Transfer, 2019, 226, 81-86.	1.1	22
72	Coefficients of an analytical aerosol forcing equation determined with a Monte-Carlo radiation model. Journal of Quantitative Spectroscopy and Radiative Transfer, 2015, 164, 129-136.	1.1	21

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73	Reduction of snow albedo from vehicle emissions at Portillo, Chile. Cold Regions Science and Technology, 2018, 146, 43-52.	1.6	21
74	Real-world PM, NOx, CO, and ultrafine particle emission factors for military non-road heavy duty diesel vehicles. Atmospheric Environment, 2011, 45, 2603-2609.	1.9	20
75	Stimulated Rayleigh-Brillouin gain spectroscopy. Physical Review A, 1985, 31, 3733-3740.	1.0	19
76	Morphology based particle segregation by electrostatic charge. Journal of Aerosol Science, 2008, 39, 785-792.	1.8	19
77	Polar semivolatile organic compounds in biomass-burning emissions and their chemical transformations during aging in an oxidation flow reactor. Atmospheric Chemistry and Physics, 2020, 20, 8227-8250.	1.9	19
78	In-Plume Emission Test Stand 2: Emission Factors for 10- to 100-kW U.S. Military Generators. Journal of the Air and Waste Management Association, 2009, 59, 1446-1457.	0.9	17
79	Simulation of Aggregates with Point-Contacting Monomers in the Clusterâ€“Dilute Regime. Part 2: Comparison of Two- and Three-Dimensional Structural Properties as a Function of Fractal Dimension. Aerosol Science and Technology, 2011, 45, 903-908.	1.5	17
80	Trapping and aerogelation of nanoparticles in negative gravity hydrocarbon flames. Applied Physics Letters, 2014, 104, 243103.	1.5	17
81	Thermoacoustic enhancement of photoacoustic spectroscopy: Theory and measurements of the signal	0.6	16
82	Simultaneous Photoacoustic Spectroscopy of Aerosol and Oxygen A-Band Absorption for the Calibration of Aerosol Light Absorption Measurements. Aerosol Science and Technology, 2009, 43, 1084-1090.	1.5	16
83	Scattering Cross-Section Emission Factors for Visibility and Radiative Transfer Applications: Military Vehicles Traveling on Unpaved Roads. Journal of the Air and Waste Management Association, 2005, 55, 1743-1750.	0.9	15
84	Optical determination of black carbon mass concentrations in snow samples: A new analytical method. Science of the Total Environment, 2019, 697, 133934.	3.9	14
85	Characterization of smoke for spacecraft fire safety. Journal of Aerosol Science, 2019, 136, 36-47.	1.8	14
86	Evaluation of gas and particle sensors for detecting spacecraft-relevant fire emissions. Fire Safety Journal, 2020, 113, 102977.	1.4	14
87	The In-Plume Emission Test Stand: An Instrument Platform for the Real-Time Characterization of Fuel-Based Combustion Emissions. Journal of the Air and Waste Management Association, 2009, 59, 1437-1445.	0.9	13
88	Monitoring Automotive Particulate Matter Emissions with LiDAR: A Review. Remote Sensing, 2010, 2, 1077-1119.	1.8	13
89	Suomi. Bulletin of the American Meteorological Society, 2010, 91, 559-578.	1.7	13
90	A Multipollutant Smoke Emissions Sensing and Sampling Instrument Package for Unmanned Aircraft Systems: Development and Testing. Fire, 2019, 2, 32.	1.2	13

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91	Radial wave thermoacoustic engines: Theory and examples for refrigerators and highâ€gain narrowâ€bandwidth photoacoustic spectrometers. Journal of the Acoustical Society of America, 1996, 99, 734-745.	0.5	12
92	FracMAP: A user-interactive package for performing simulation and orientation-specific morphology analysis of fractal-like solid nano-agglomerates. Computer Physics Communications, 2009, 180, 1376-1381.	3.0	11
93	Snow Surface Albedo Sensitivity to Black Carbon: Radiative Transfer Modelling. Atmosphere, 2020, 11, 1077.	1.0	11
94	Detection of Gasoline Vehicles with Gross PM Emissions. , 0, , .		10
95	Emissions and Partitioning of Intermediate-Volatility and Semi-Volatile Polar Organic Compounds (I/SV-POCs) During Laboratory Combustion of Boreal and Sub-Tropical Peat. Aerosol Science and Engineering, 2017, 1, 25-32.	1.1	10
96	On-road measurement of automotive particle emissions by ultraviolet Lidar and transmissometer: theory. Measurement Science and Technology, 2004, 15, 2295-2302.	1.4	9
97	Influence of photolysis on multispectral photoacoustic measurement of nitrogen dioxide concentration. Journal of the Air and Waste Management Association, 2013, 63, 1091-1097.	0.9	8
98	Evolution of Multispectral Aerosol Absorption Properties in a Biogenically-Influenced Urban Environment during the CARES Campaign. Atmosphere, 2017, 8, 217.	1.0	8
99	Optical properties of morphologically complex black carbon aerosols: Effects of coatings. Journal of Quantitative Spectroscopy and Radiative Transfer, 2022, 281, 108080.	1.1	8
100	Blue moons and Martian sunsets. Applied Optics, 2014, 53, 1808.	0.9	7
101	Accuracy of nearâ€surface aerosol extinction determined from columnar aerosol optical depth measurements in Reno, NV, USA. Journal of Geophysical Research D: Atmospheres, 2014, 119, 11,355.	1.2	7
102	Apparatus for dry deposition of aerosols on snow. Atmospheric Measurement Techniques, 2018, 11, 6803-6813.	1.2	7
103	Criteria-Based Identification of Important Fuels for Wildland Fire Emission Research. Atmosphere, 2020, 11, 640.	1.0	7
104	Effect of Biomass-Burning Emissions on Soil Water Repellency: A Pilot Laboratory Study. Fire, 2021, 4, 24.	1.2	7
105	Measurement of Light Absorbing Aerosols with Folded-Jamin Photothermal Interferometry. Sensors, 2020, 20, 2615.	2.1	6
106	Albedo reduction for snow surfaces contaminated with soot aerosols: Comparison of experimental results and models. Aerosol Science and Technology, 2022, 56, 847-858.	1.5	6
107	Beam characteristics of fiber-based supercontinuum light sources with mirror- and lens-based beam collimators. Optics Express, 2014, 22, 13860.	1.7	5
108	ChakrabartyetÂal.Reply:. Physical Review Letters, 2010, 104, .	2.9	4

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109	Combined Ramanâ€“elastic backscatter lidar method for the measurement of backscatter ratios. Applied Optics, 1997, 36, 5144.	2.1	3
110	Emissions from the Open Laboratory Combustion of Cheatgrass (Bromus Tectorum). Atmosphere, 2020, 11, 406.	1.0	3
111	Comparison of equations used to estimate soot agglomerate absorption efficiency with the Rayleigh-Debye-Gans approximation. Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, 262, 107522.	1.1	3
112	Optical Characterization of Fresh and Photochemically Aged Aerosols Emitted from Laboratory Siberian Peat Burning. Atmosphere, 2022, 13, 386.	1.0	3
113	Black metal nanoparticles from abrasion processes in everyday life: Bicycle drivetrains and rock-climbing ropes. Optics Communications, 2021, 479, 126413.	1.0	0