

# Hans Moosmüller

## List of Publications by Year in descending order

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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	Optical properties of morphologically complex black carbon aerosols: Effects of coatings. Journal of Quantitative Spectroscopy and Radiative Transfer, 2022, 281, 108080.	1.1	8
2	Optical Characterization of Fresh and Photochemically Aged Aerosols Emitted from Laboratory Siberian Peat Burning. Atmosphere, 2022, 13, 386.	1.0	3
3	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
4	Black metal nanoparticles from abrasion processes in everyday life: Bicycle drivetrains and rock-climbing ropes. Optics Communications, 2021, 479, 126413.	1.0	0
5	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
6	Effect of Biomass-Burning Emissions on Soil Water Repellency: A Pilot Laboratory Study. Fire, 2021, 4, 24.	1.2	7
7	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
8	Laboratory and field evaluation of real-time and near real-time PM <sub>2.5</sub> smoke monitors. Journal of the Air and Waste Management Association, 2020, 70, 158-179.	0.9	38
9	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
10	Snow Surface Albedo Sensitivity to Black Carbon: Radiative Transfer Modelling. Atmosphere, 2020, 11, 1077.	1.0	11
11	Emissions from the Open Laboratory Combustion of Cheatgrass (Bromus Tectorum). Atmosphere, 2020, 11, 406.	1.0	3
12	Evaluation of gas and particle sensors for detecting spacecraft-relevant fire emissions. Fire Safety Journal, 2020, 113, 102977.	1.4	14
13	Deposition of brown carbon onto snow: changes in snow optical and radiative properties. Atmospheric Chemistry and Physics, 2020, 20, 6095-6114.	1.9	25
14	Criteria-Based Identification of Important Fuels for Wildland Fire Emission Research. Atmosphere, 2020, 11, 640.	1.0	7
15	Measurement of Light Absorbing Aerosols with Folded-Jamin Photothermal Interferometry. Sensors, 2020, 20, 2615.	2.1	6
16	Extensive Soot Compaction by Cloud Processing from Laboratory and Field Observations. Scientific Reports, 2019, 9, 11824.	1.6	47
17	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
18	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

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19	Characterization of smoke for spacecraft fire safety. <i>Journal of Aerosol Science</i> , 2019, 136, 36-47.	1.8	14
20	A Multipollutant Smoke Emissions Sensing and Sampling Instrument Package for Unmanned Aircraft Systems: Development and Testing. <i>Fire</i> , 2019, 2, 32.	1.2	13
21	Small and large particle limits of single scattering albedo for homogeneous, spherical particles. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2018, 204, 250-255.	1.1	51
22	Reduction of snow albedo from vehicle emissions at Portillo, Chile. <i>Cold Regions Science and Technology</i> , 2018, 146, 43-52.	1.6	21
23	Optical losses of photovoltaic modules due to mineral dust deposition: Experimental measurements and theoretical modeling. <i>Solar Energy</i> , 2018, 164, 160-173.	2.9	33
24	Apparatus for dry deposition of aerosols on snow. <i>Atmospheric Measurement Techniques</i> , 2018, 11, 6803-6813.	1.2	7
25	Single scattering albedo of homogeneous, spherical particles in the transition regime. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2018, 219, 333-338.	1.1	27
26	Light absorption by polar and non-polar aerosol compounds from laboratory biomass combustion. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 10849-10867.	1.9	60
27	Physical and chemical characterization of aerosol in fresh and aged emissions from open combustion of biomass fuels. <i>Aerosol Science and Technology</i> , 2018, 52, 1266-1282.	1.5	32
28	Optical losses of photovoltaic cells due to aerosol deposition: Role of particle refractive index and size. <i>Solar Energy</i> , 2017, 155, 637-646.	2.9	24
29	Emissions and Partitioning of Intermediate-Volatility and Semi-Volatile Polar Organic Compounds (I/SV-POCs) During Laboratory Combustion of Boreal and Sub-Tropical Peat. <i>Aerosol Science and Engineering</i> , 2017, 1, 25-32.	1.1	10
30	Evolution of Multispectral Aerosol Absorption Properties in a Biogenically-Influenced Urban Environment during the CARES Campaign. <i>Atmosphere</i> , 2017, 8, 217.	1.0	8
31	Parameterization of the Aerosol Upscatter Fraction as Function of the Backscatter Fraction and Their Relationships to the Asymmetry Parameter for Radiative Transfer Calculations. <i>Atmosphere</i> , 2017, 8, 133.	1.0	25
32	The filter-loading effect by ambient aerosols in filter absorption photometers depends on the coating of the sampled particles. <i>Atmospheric Measurement Techniques</i> , 2017, 10, 1043-1059.	1.2	60
33	Evaluation of MODIS columnar aerosol retrievals using AERONET in semi-arid Nevada and California, U.S.A., during the summer of 2012. <i>Atmospheric Environment</i> , 2016, 144, 345-360.	1.9	27
34	Brown carbon aerosols from burning of boreal peatlands: microphysical properties, emission factors, and implications for direct radiative forcing. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 3033-3040.	1.9	119
35	Technical note: Mineralogical, chemical, morphological, and optical interrelationships of mineral dust re-suspensions. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 10809-10830.	1.9	89
36	Polycyclic aromatic hydrocarbons in biomass-burning emissions and their contribution to light absorption and aerosol toxicity. <i>Science of the Total Environment</i> , 2016, 568, 391-401.	3.9	145

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37	Light absorption by biomass burning source emissions. Atmospheric Environment, 2016, 127, 347-354.	1.9	34
38	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
39	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
40	Blue moons and Martian sunsets. Applied Optics, 2014, 53, 1808.	0.9	7
41	Beam characteristics of fiber-based supercontinuum light sources with mirror- and lens-based beam collimators. Optics Express, 2014, 22, 13860.	1.7	5
42	Trapping and aerogelation of nanoparticles in negative gravity hydrocarbon flames. Applied Physics Letters, 2014, 104, 243103.	1.5	17
43	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
44	Soot superaggregates from flaming wildfires and their direct radiative forcing. Scientific Reports, 2014, 4, 5508.	1.6	90
45	Accuracy of near-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
46	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
47	Photoacoustic and nephelometric spectroscopy of aerosol optical properties with a supercontinuum light source. Atmospheric Measurement Techniques, 2013, 6, 3501-3513.	1.2	55
48	Observation of Superaggregates from a Reversed Gravity Low-Sooting Flame. Aerosol Science and Technology, 2012, 46, 1-iii.	1.5	37
49	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
50	Single scattering albedo of fine mineral dust aerosols controlled by iron concentration. Journal of Geophysical Research, 2012, 117, .	3.3	93
51	Strong radiative heating due to wintertime black carbon aerosols in the Brahmaputra River Valley. Geophysical Research Letters, 2012, 39, .	1.5	39
52	Technical Note: Simple analytical relationships between Å...ngstrÅm coefficients of aerosol extinction, scattering, absorption, and single scattering albedo. Atmospheric Chemistry and Physics, 2011, 11, 10677-10680.	1.9	50
53	Absorption Å...ngstrÅm coefficient, brown carbon, and aerosols: basic concepts, bulk matter, and spherical particles. Atmospheric Chemistry and Physics, 2011, 11, 1217-1225.	1.9	270
54	Particulate emission factors for mobile fossil fuel and biomass combustion sources. Science of the Total Environment, 2011, 409, 2384-2396.	3.9	32

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55	Real-world PM, NO <sub>x</sub> , CO, and ultrafine particle emission factors for military non-road heavy duty diesel vehicles. <i>Atmospheric Environment</i> , 2011, 45, 2603-2609.	1.9	20
56	Simulation of Aggregates with Point-Contacting Monomers in the Cluster-Dilute Regime. Part 1: Determining the Most Reliable Technique for Obtaining Three-Dimensional Fractal Dimension from Two-Dimensional Images. <i>Aerosol Science and Technology</i> , 2011, 45, 75-80.	1.5	27
57	Simulation of Aggregates with Point-Contacting Monomers in the Cluster-Dilute Regime. Part 2: Comparison of Two- and Three-Dimensional Structural Properties as a Function of Fractal Dimension. <i>Aerosol Science and Technology</i> , 2011, 45, 903-908.	1.5	17
58	Optical closure experiments for biomass smoke aerosols. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 9017-9026.	1.9	45
59	Monitoring Automotive Particulate Matter Emissions with LiDAR: A Review. <i>Remote Sensing</i> , 2010, 2, 1077-1119.	1.8	13
60	Brown carbon in tar balls from smoldering biomass combustion. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 6363-6370.	1.9	427
61	Chakrabarty et al. Reply. <i>Physical Review Letters</i> , 2010, 104, .	2.9	4
62	Suomi. <i>Bulletin of the American Meteorological Society</i> , 2010, 91, 559-578.	1.7	13
63	Low Fractal Dimension Cluster-Dilute Soot Aggregates from a Premixed Flame. <i>Physical Review Letters</i> , 2009, 102, 235504.	2.9	51
64	Simultaneous Photoacoustic Spectroscopy of Aerosol and Oxygen A-Band Absorption for the Calibration of Aerosol Light Absorption Measurements. <i>Aerosol Science and Technology</i> , 2009, 43, 1084-1090.	1.5	16
65	Particle Optics in the Rayleigh Regime. <i>Journal of the Air and Waste Management Association</i> , 2009, 59, 1028-1031.	0.9	73
66	In-Plume Emission Test Stand 2: Emission Factors for 10- to 100-kW U.S. Military Generators. <i>Journal of the Air and Waste Management Association</i> , 2009, 59, 1446-1457.	0.9	17
67	The In-Plume Emission Test Stand: An Instrument Platform for the Real-Time Characterization of Fuel-Based Combustion Emissions. <i>Journal of the Air and Waste Management Association</i> , 2009, 59, 1437-1445.	0.9	13
68	Aerosol light absorption and its measurement: A review. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2009, 110, 844-878.	1.1	675
69	FracMAP: A user-interactive package for performing simulation and orientation-specific morphology analysis of fractal-like solid nano-agglomerates. <i>Computer Physics Communications</i> , 2009, 180, 1376-1381.	3.0	11
70	Emissions of trace gases and aerosols during the open combustion of biomass in the laboratory. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	336
71	Ice nucleation behavior of biomass combustion particles at cirrus temperatures. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	68
72	Cloud condensation nucleation activity of biomass burning aerosol. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	213

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73	Ice nuclei emissions from biomass burning. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	125
74	Particulate-Phase and Gaseous Elemental Mercury Emissions During Biomass Combustion: Controlling Factors and Correlation with Particulate Matter Emissions. <i>Environmental Science &amp; Technology</i> , 2008, 42, 721-727.	4.6	78
75	Strong spectral variation of biomass smoke light absorption and single scattering albedo observed with a novel dual-wavelength photoacoustic instrument. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	267
76	Morphology based particle segregation by electrostatic charge. <i>Journal of Aerosol Science</i> , 2008, 39, 785-792.	1.8	19
77	An Inter-Comparison of Instruments Measuring Black Carbon Content of Soot Particles. <i>Aerosol Science and Technology</i> , 2007, 41, 295-314.	1.5	276
78	Light scattering and absorption by fractal-like carbonaceous chain aggregates: comparison of theories and experiment. <i>Applied Optics</i> , 2007, 46, 6990.	2.1	93
79	Emissions from Laboratory Combustion of Wildland Fuels: Emission Factors and Source Profiles. <i>Environmental Science &amp; Technology</i> , 2007, 41, 4317-4325.	4.6	192
80	Emissions of Levoglucosan, Methoxy Phenols, and Organic Acids from Prescribed Burns, Laboratory Combustion of Wildland Fuels, and Residential Wood Combustion. <i>Environmental Science &amp; Technology</i> , 2007, 41, 2115-2122.	4.6	163
81	A case study of real-world tailpipe emissions for school buses using a 20% biodiesel blend. <i>Science of the Total Environment</i> , 2007, 385, 146-159.	3.9	36
82	Structural and Fractal Properties of Particles Emitted from Spark Ignition Engines. <i>Environmental Science &amp; Technology</i> , 2006, 40, 6647-6654.	4.6	45
83	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. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	50
84	Particle emissions from laboratory combustion of wildland fuels: In situ optical and mass measurements. <i>Geophysical Research Letters</i> , 2006, 33, .	1.5	48
85	Emissions from the laboratory combustion of wildland fuels: Particle morphology and size. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	159
86	Integrating nephelometer with a low truncation angle and an extended calibration scheme. <i>Measurement Science and Technology</i> , 2006, 17, 1723-1732.	1.4	55
87	Cavity Ring-Down and Cavity-Enhanced Detection Techniques for the Measurement of Aerosol Extinction. <i>Aerosol Science and Technology</i> , 2005, 39, 30-39.	1.5	93
88	Towards Aerosol Light-Absorption Measurements with a 7-Wavelength Aethalometer: Evaluation with a Photoacoustic Instrument and 3-Wavelength Nephelometer. <i>Aerosol Science and Technology</i> , 2005, 39, 17-29.	1.5	518
89	Scattering Cross-Section Emission Factors for Visibility and Radiative Transfer Applications: Military Vehicles Traveling on Unpaved Roads. <i>Journal of the Air and Waste Management Association</i> , 2005, 55, 1743-1750.	0.9	15
90	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. <i>Environmental Science &amp; Technology</i> , 2005, 39, 5398-5406.	4.6	53

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91	The Reno Aerosol Optics Study: An Evaluation of Aerosol Absorption Measurement Methods. <i>Aerosol Science and Technology</i> , 2005, 39, 1-16.	1.5	215
92	On-road measurement of automotive particle emissions by ultraviolet Lidar and transmissometer: theory. <i>Measurement Science and Technology</i> , 2004, 15, 2295-2302.	1.4	9
93	Correlation between automotive CO, HC, NO, and PM emission factors from on-road remote sensing: implications for inspection and maintenance programs. <i>Transportation Research, Part D: Transport and Environment</i> , 2004, 9, 477-496.	3.2	40
94	Remote sensing of PM, NO, CO and HC emission factors for on-road gasoline and diesel engine vehicles in Las Vegas, NV. <i>Science of the Total Environment</i> , 2004, 322, 123-137.	3.9	93
95	Equivalence of Elemental Carbon by Thermal/Optical Reflectance and Transmittance with Different Temperature Protocols. <i>Environmental Science &amp; Technology</i> , 2004, 38, 4414-4422.	4.6	604
96	On-Road Vehicle Particulate Matter and Gaseous Emission Distributions in Las Vegas, Nevada, Compared with Other Areas. <i>Journal of the Air and Waste Management Association</i> , 2004, 54, 711-726.	0.9	22
97	Modeling reflectance and transmittance of quartz-fiber filter samples containing elemental carbon particles: Implications for thermal/optical analysis. <i>Journal of Aerosol Science</i> , 2004, 35, 765-780.	1.8	70
98	On-Road Measurement of Automotive Particle Emissions by Ultraviolet Lidar and Transmissometer: A Instrument. <i>Environmental Science &amp; Technology</i> , 2003, 37, 4971-4978.	4.6	39
99	Toward an ideal integrating nephelometer. <i>Optics Letters</i> , 2003, 28, 1007.	1.7	40
100	Evaporation-Condensation Effects on Resonant Photoacoustics of Volatile Aerosols. <i>Journal of Atmospheric and Oceanic Technology</i> , 2003, 20, 685-695.	0.5	45
101	Angular truncation errors in integrating nephelometry. <i>Review of Scientific Instruments</i> , 2003, 74, 3492-3501.	0.6	52
102	Time-Resolved Characterization of Diesel Particulate Emissions. 2. Instruments for Elemental and Organic Carbon Measurements. <i>Environmental Science &amp; Technology</i> , 2001, 35, 1935-1942.	4.6	54
103	Time Resolved Characterization of Diesel Particulate Emissions. 1. Instruments for Particle Mass Measurements. <i>Environmental Science &amp; Technology</i> , 2001, 35, 781-787.	4.6	99
104	Nitrogen dioxide and kerosene-flame soot calibration of photoacoustic instruments for measurement of light absorption by aerosols. <i>Review of Scientific Instruments</i> , 2000, 71, 4545.	0.6	139
105	Photoacoustic spectrometer for measuring light absorption by aerosol: instrument description. <i>Atmospheric Environment</i> , 1999, 33, 2845-2852.	1.9	368
106	Combined Raman-elastic backscatter lidar method for the measurement of backscatter ratios. <i>Applied Optics</i> , 1997, 36, 5144.	2.1	3
107	Radial wave thermoacoustic engines: Theory and examples for refrigerators and high-gain narrow-bandwidth photoacoustic spectrometers. <i>Journal of the Acoustical Society of America</i> , 1996, 99, 734-745.	0.5	12
108	Thermoacoustic enhancement of photoacoustic spectroscopy: Theory and measurements of the signal	0.6	16

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109	Optical Stark effect in the four-wave mixing and stimulated Raman spectra of N <sub>2</sub> . Physical Review A, 1989, 40, 6983-6998.	1.0	22
110	Stimulated Rayleigh-Brillouin gain spectroscopy. Physical Review A, 1985, 31, 3733-3740.	1.0	19
111	Two-component velocity measurements in a supersonic nitrogen jet with spatially resolved inverse Raman spectroscopy. Optics Letters, 1984, 9, 536.	1.7	23
112	Stimulated Rayleigh-Brillouin Gain Spectroscopy in Pure Gases. Physical Review Letters, 1983, 51, 1648-1651.	2.9	32
113	Detection of Gasoline Vehicles with Gross PM Emissions. , 0, , .		10