Martin Schnaiter

List of Publications by Year
in descending order

84 papers	7,082 citations	87888 38 h-index	64796 79 g-index
119 all docs	119 docs citations	119 times ranked	5096 citing authors

#	Article	IF	Citations
1	Absorption of light by soot particles: determination of the absorption coefficient by means of aethalometers. Journal of Aerosol Science, 2003, 34, 1445-1463.	3.8	1,035
2	UV-VIS-NIR spectral optical properties of soot and soot-containing aerosols. Journal of Aerosol Science, 2003, 34, 1421-1444.	3.8	416
3	Absorption amplification of black carbon internally mixed with secondary organic aerosol. Journal of Geophysical Research, 2005, 110, .	3.3	350
4	Efficiency of the deposition mode ice nucleation on mineral dust particles. Atmospheric Chemistry and Physics, 2006, 6, 3007-3021.	4.9	328
5	Heterogeneous nucleation of ice particles on glassy aerosols under cirrus conditions. Nature Geoscience, 2010, 3, 233-237.	12.9	302
6	Spectral light absorption by ambient aerosols influenced by biomass burning in the Amazon Basin. I: Comparison and field calibration of absorption measurement techniques. Atmospheric Chemistry and Physics, 2006, 6, 3443-3462.	4.9	285
7	The effect of organic coating on the heterogeneous ice nucleation efficiency of mineral dust aerosols. Environmental Research Letters, 2008, 3, 025007.	5.2	230
8	Effect of sulfuric acid coating on heterogeneous ice nucleation by soot aerosol particles. Journal of Geophysical Research, 2005, 110, .	3.3	191
9	Coating of soot and (NH4)2SO4 particles by ozonolysis products of Î±-pinene. Journal of Aerosol Science, 2003, 34, 1297-1321.	3.8	179
10	Experimental investigation of homogeneous freezing of sulphuric acid particles in the aerosol chamber AIDA. Atmospheric Chemistry and Physics, 2003, 3, 211-223.	4.9	178
11	Mixed-Phase Clouds: Progress and Challenges. Meteorological Monographs, 2017, 58, 5.1-5.50.	5.0	165
12	The absorption Ã…ngstrÃ¶m exponent of black carbon: from numerical aspects. Atmospheric Chemistry and Physics, 2018, 18, 6259-6273.	4.9	158
13	Single Particle Soot Photometer intercomparison at the AIDA chamber. Atmospheric Measurement Techniques, 2012, 5, 3077-3097.	3.1	152
14	The Arctic Cloud Puzzle: Using ACLOUD/PASCAL Multiplatform Observations to Unravel the Role of Clouds and Aerosol Particles in Arctic Amplification. Bulletin of the American Meteorological Society, 2019, 100, 841-871.	3.3	145
15	Strong spectral dependence of light absorption by organic carbon particles formed by propane combustion. Atmospheric Chemistry and Physics, 2006, 6, 2981-2990.	4.9	143
16	Optical properties and mineralogical composition of different Saharan mineral dust samples: a laboratory study. Atmospheric Chemistry and Physics, 2006, 6, 3315-3323.	4.9	143
17	Complex refractive indices of Saharan dust samples at visible and near UV wavelengths: a laboratory study. Atmospheric Chemistry and Physics, 2012, 12, 2491-2512.	4.9	141
18	Fluorescent biological aerosol particles measured with the Waveband Integrated Bioaerosol Sensor WIBS-4: laboratory tests combined with a one year field study. Atmospheric Chemistry and Physics, 2013, 13, 225-243.	4.9	130

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19	ACRIDICONâ€“CHUVA Campaign: Studying Tropical Deep Convective Clouds and Precipitation over Amazonia Using the New German Research Aircraft HALO. Bulletin of the American Meteorological Society, 2016, 97, 1885-1908.	3.3	124
20	ML-CIRRUS: The Airborne Experiment on Natural Cirrus and Contrail Cirrus with the High-Altitude Long-Range Research Aircraft HALO. Bulletin of the American Meteorological Society, 2017, 98, 271-288.	3.3	107
21	Aerosol characteristics and particle production in the upper troposphere over the Amazon Basin. Atmospheric Chemistry and Physics, 2018, 18, 921-961.	4.9	105
22	Observations of Clouds, Aerosols, Precipitation, and Surface Radiation over the Southern Ocean: An Overview of CAPRICORN, MARCUS, MICRE, and SOCRATES. Bulletin of the American Meteorological Society, 2021, 102, E894-E928.	3.3	103
23	Ice nucleation on flame soot aerosol of different organic carbon content. Meteorologische Zeitschrift, 2005, 14, 477-484.	1.0	94
24	Glassy aerosols with a range of compositions nucleate ice heterogeneously at cirrus temperatures. Atmospheric Chemistry and Physics, 2012, 12, 8611-8632.	4.9	94
25	Ice nucleating particles in the Saharan Air Layer. Atmospheric Chemistry and Physics, 2016, 16, 9067-9087.	4.9	93
26	Measurement of Wavelength-Resolved Light Absorption by Aerosols Utilizing a UV-VIS Extinction Cell. Aerosol Science and Technology, 2005, 39, 249-260.	3.1	89
27	Influence of particle size and shape on the backscattering linear depolarisation ratio of small ice crystals â€“ cloud chamber measurements in the context of contrail and cirrus microphysics. Atmospheric Chemistry and Physics, 2012, 12, 10465-10484.	4.9	71
28	Heterogeneous ice nucleation of viscous secondary organic aerosol produced from ozonolysis of <i>Î±</i>-pinene. Atmospheric Chemistry and Physics, 2016, 16, 6495-6509.	4.9	71
29	Ice cloud processing of ultra-viscous/glassy aerosol particles leads to enhanced ice nucleation ability. Atmospheric Chemistry and Physics, 2012, 12, 8589-8610.	4.9	65
30	A review of optical measurements at the aerosol and cloud chamber AIDA. Journal of Quantitative Spectroscopy and Radiative Transfer, 2009, 110, 930-949.	2.3	63
31	The accommodation coefficient of water molecules on ice â€“ cirrus cloud studies at the AIDA simulation chamber. Atmospheric Chemistry and Physics, 2013, 13, 4451-4466.	4.9	62
32	Ice nucleation properties of fine ash particles from the EyjafjallajÃ¶kull eruption in April 2010. Atmospheric Chemistry and Physics, 2011, 11, 12945-12958.	4.9	60
33	Studies of propane flame soot acting as heterogeneous ice nuclei in conjunction with single particle soot photometer measurements. Atmospheric Chemistry and Physics, 2011, 11, 9549-9561.	4.9	58
34	Cloud chamber experiments on the origin of ice crystal complexity in cirrus clouds. Atmospheric Chemistry and Physics, 2016, 16, 5091-5110.	4.9	56
35	Observation of viscosity transition in <i>Î±</i>-pinene secondary organic aerosol. Atmospheric Chemistry and Physics, 2016, 16, 4423-4438.	4.9	55
36	Ice nucleation activity of agricultural soil dust aerosols from Mongolia, Argentina, and Germany. Journal of Geophysical Research D: Atmospheres, 2016, 121, 13,559.	3.3	49

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37	New cloud chamber experiments on the heterogeneous ice nucleation ability of oxalic acid in the immersion mode. Atmospheric Chemistry and Physics, 2011, 11, 2083-2110.	4.9	48
38	Regional-scale simulations of fungal spore aerosols using an emission parameterization adapted to local measurements of fluorescent biological aerosol particles. Atmospheric Chemistry and Physics, 2015, 15, 6127-6146.	4.9	44
39	A comprehensive in situ and remote sensing data set from the Arctic CLoud Observations Using airborne measurements during polar Day (ACLOUD) campaign. Earth System Science Data, 2019, 11, 1853-1881.	9.9	42
40	An aerosol chamber investigation of the heterogeneous ice nucleating potential of refractory nanoparticles. Atmospheric Chemistry and Physics, 2010, 10, 1227-1247.	4.9	38
41	Additional global climate cooling by clouds due to ice crystal complexity. Atmospheric Chemistry and Physics, 2018, 18, 15767-15781.	4.9	37
42	PHIPSâ€“HALO: the airborne Particle Habit Imaging and Polar Scattering probe â€“ Part 1: Design and operation. Atmospheric Measurement Techniques, 2016, 9, 3131-3144.	3.1	34
43	Laboratory investigations of mineral dust near-backscattering depolarization ratios. Journal of Quantitative Spectroscopy and Radiative Transfer, 2016, 178, 192-208.	2.3	34
44	Black carbon aggregates: A database for optical properties. Journal of Quantitative Spectroscopy and Radiative Transfer, 2019, 222-223, 170-179.	2.3	34
45	A novel single-cavity three-wavelength photoacoustic spectrometer for atmospheric aerosol research. Atmospheric Measurement Techniques, 2016, 9, 5331-5346.	3.1	33
46	Operation and performance of a differential mobility particle sizer and a TSI 3010 condensation particle counter at stratospheric temperatures and pressures. Journal of Aerosol Science, 2004, 35, 981-993.	3.8	32
47	In situ characterization of mixed phase clouds using the Small Ice Detector and the Particle Phase Discriminator. Atmospheric Measurement Techniques, 2016, 9, 159-177.	3.1	28
48	Quasi-Spherical Ice in Convective Clouds. Journals of the Atmospheric Sciences, 2016, 73, 3885-3910.	1.7	28
49	High variability of the heterogeneous ice nucleation potential of oxalic acid dihydrate and sodium oxalate. Atmospheric Chemistry and Physics, 2010, 10, 7617-7641.	4.9	27
50	First correlated measurements of the shape and light scattering properties of cloud particles using the new Particle Habit Imaging and Polar Scattering (PHIPS) probe. Atmospheric Measurement Techniques, 2011, 4, 2125-2142.	3.1	27
51	Microphysical Properties of Generating Cells Over the Southern Ocean: Results From SOCRATES. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD032237.	3.3	27
52	Laser filament-induced aerosol formation. Atmospheric Chemistry and Physics, 2013, 13, 4593-4604.	4.9	25
53	Ice residual properties in mixedâ€phase clouds at the highâ€alpine Jungfraujoch site. Journal of Geophysical Research D: Atmospheres, 2016, 121, 12343-12362.	3.3	25
54	PHIPS-HALO: the airborne particle habit imaging and polar scattering probeÂâ€“ PartÂ2: Characterization and first results. Atmospheric Measurement Techniques, 2018, 11, 341-357.	3.1	24

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55	Accounting for the effects of nonideal minor structures on the optical properties of black carbon aerosols. Atmospheric Chemistry and Physics, 2019, 19, 2917-2931.	4.9	24
56	Infrared Optical Constants of Highly Diluted Sulfuric Acid Solution Droplets at Cirrus Temperatures. Journal of Physical Chemistry A, 2008, 112, 11661-11676.	2.5	23
57	Heterogeneous Ice Nucleation Ability of NaCl and Sea Salt Aerosol Particles at Cirrus Temperatures. Journal of Geophysical Research D: Atmospheres, 2018, 123, 2841-2860.	3.3	21
58	The Ice Selective Inlet: a novel technique for exclusive extraction of pristine ice crystals in mixed-phase clouds. Atmospheric Measurement Techniques, 2015, 8, 3087-3106.	3.1	20
59	Particle Habit Imaging Using Incoherent Light: A First Step toward a Novel Instrument for Cloud Microphysics. Journal of Atmospheric and Oceanic Technology, 2011, 28, 493-512.	1.3	19
60	A comprehensive parameterization of heterogeneous ice nucleation of dust surrogate: laboratory study with hematite particles and its application to atmospheric models. Atmospheric Chemistry and Physics, 2014, 14, 13145-13158.	4.9	18
61	Chamber Simulations of Cloud Chemistry: The AIDA Chamber. , 2006, , 67-82.		18
62	Infrared Optical Constants of Crystalline Sodium Chloride Dihydrate: Application To Study the Crystallization of Aqueous Sodium Chloride Solution Droplets at Low Temperatures. Journal of Physical Chemistry A, 2012, 116, 8557-8571.	2.5	17
63	Enhanced high-temperature ice nucleation ability of crystallized aerosol particles after preactivation at low temperature. Journal of Geophysical Research D: Atmospheres, 2014, 119, 8212-8230.	3.3	16
64	High homogeneous freezing onsets of sulfuric acid aerosol at cirrus temperatures. Atmospheric Chemistry and Physics, 2021, 21, 14403-14425.	4.9	16
65	Sources, Occurrence and Characteristics of Fluorescent Biological Aerosol Particles Measured Over the Pristine Southern Ocean. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD034811.	3.3	15
66	Technical Note: A numerical test-bed for detailed ice nucleation studies in the AIDA cloud simulation chamber. Atmospheric Chemistry and Physics, 2007, 7, 243-256.	4.9	14
67	Structure of an Atmospheric River Over Australia and the Southern Ocean: II. Microphysical Evolution. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032514.	3.3	14
68	Comparison of measured and computed phase functions of individual tropospheric ice crystals. Journal of Quantitative Spectroscopy and Radiative Transfer, 2016, 178, 379-389.	2.3	13
69	Crystallization and immersion freezing ability of oxalic and succinic acid in multicomponent aqueous organic aerosol particles. Geophysical Research Letters, 2015, 42, 2464-2472.	4.0	12
70	Development and characterization of an ice-selecting pumped counterflow virtual impactor (IS-PCVI) to study ice crystal residuals. Atmospheric Measurement Techniques, 2016, 9, 3817-3836.	3.1	12
71	Phase transition observations and discrimination of small cloud particles by light polarization in expansion chamber experiments. Atmospheric Chemistry and Physics, 2016, 16, 3651-3664.	4.9	11
72	A global view of atmospheric ice particle complexity. Geophysical Research Letters, 2016, 43, 11,913.	4.0	10

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73	Specifying the light-absorbing properties of aerosol particles in fresh snow samples, collected at the Environmental Research Station Schneefernerhaus (UFS), Zugspitze. Atmospheric Chemistry and Physics, 2019, 19, 10829-10844.	4.9	10
74	Laboratory study of microphysical and scattering properties of corona-producing cirrus clouds. Applied Optics, 2014, 53, 7566.	2.1	9
75	Observations and Modeling of Rime Splintering in Southern Ocean Cumuli. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD035479.	3.3	9
76	The Microphysical Properties of Small Ice Particles Measured by the Small Ice Detector-3 Probe during the MACPEX Field Campaign. Journals of the Atmospheric Sciences, 2016, 73, 4775-4791.	1.7	8
77	PHIPS-HALO: the airborne Particle Habit Imaging and Polar Scattering probe â€“ Part 3: Single-particle phase discrimination and particle size distribution based on the angular-scattering function. Atmospheric Measurement Techniques, 2021, 14, 3049-3070.	3.1	8
78	Accurate Retrieval of Asymmetry Parameter for Large and Complex Ice Crystals From Inâ€Situ Polar Nephelometer Measurements. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	8
79	Characterization of Small Ice Crystals Using Frequency Analysis of Azimuthal Scattering Patterns. , 2007, , .		7
80	Investigations of Mesoscopic Complexity of Small Ice Crystals in Midlatitude Cirrus. Geophysical Research Letters, 2018, 45, 11,465.	4.0	6
81	In situ observation of riming in mixed-phase clouds using the PHIPS probe. Atmospheric Chemistry and Physics, 2022, 22, 7087-7103.	4.9	6
82	Intercomparison study and optical asphericity measurements of small ice particles in the CERN CLOUD experiment. Atmospheric Measurement Techniques, 2017, 10, 3231-3248.	3.1	4
83	Particle habit imaging using incoherent light: a first step towards a novel instrument for cloud microphysics. Journal of Atmospheric and Oceanic Technology, 0, , 110301123615052.	1.3	2
84	The Light Absorption Heating Method for Measurement of Light Absorption by Particles Collected on Filters. Atmosphere, 2022, 13, 824.	2.3	1