

Markus D Petters

List of Publications by Year in descending order

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105
papers

11,554
citations

36203

51
h-index

33814

99
g-index

155
all docs

155
docs citations

155
times ranked

6493
citing authors

#	ARTICLE	IF	CITATIONS
1	Open-hardware design and characterization of an electrostatic aerosol precipitator. <i>HardwareX</i> , 2022, 11, e00266.	1.1	3
2	Discrimination between individual dust and bioparticles using aerosol time-of-flight mass spectrometry. <i>Aerosol Science and Technology</i> , 2022, 56, 592-608.	1.5	6
3	Bioaerosol Diversity and Ice Nucleating Particles in the North-Western Himalayan Region. <i>Journal of Geophysical Research D: Atmospheres</i> , 2022, 127, .	1.2	8
4	Interactive Worksheets for Teaching Atmospheric Aerosols and Cloud Physics. <i>Bulletin of the American Meteorological Society</i> , 2021, 102, E672-E680.	1.7	1
5	Toward closure between predicted and observed particle viscosity over a wide range of temperatures and relative humidity. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 1127-1141.	1.9	12
6	Revisiting matrix-based inversion of scanning mobility particle sizer (SMPS) and humidified tandem differential mobility analyzer (HTDMA) data. <i>Atmospheric Measurement Techniques</i> , 2021, 14, 7909-7928.	1.2	5
7	Predicting the influence of particle size on the glass transition temperature and viscosity of secondary organic material. <i>Scientific Reports</i> , 2020, 10, 15170.	1.6	21
8	Observations of new particle formation, modal growth rates, and direct emissions of sub-10 nm particles in an urban environment. <i>Atmospheric Environment</i> , 2020, 242, 117835.	1.9	10
9	Volatility and Viscosity Are Correlated in Terpene Secondary Organic Aerosol Formed in a Flow Reactor. <i>Environmental Science and Technology Letters</i> , 2019, 6, 513-519.	3.9	28
10	Characterization of Ice-Nucleating Particles Over Northern India. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 10467-10482.	1.2	21
11	Possible Wintertime Sources of Fine Particles in an Urban Environment. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 13055-13070.	1.2	7
12	100 Years of Progress in Cloud Physics, Aerosols, and Aerosol Chemistry Research. <i>Meteorological Monographs</i> , 2019, 59, 11.1-11.72.	5.0	35
13	Characterization of a dimer preparation method for nanoscale organic aerosol. <i>Aerosol Science and Technology</i> , 2019, 53, 998-1011.	1.5	9
14	A comprehensive characterization of ice nucleation by three different types of cellulose particles immersed in water. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 4823-4849.	1.9	48
15	Classification of aerosol population type and cloud condensation nuclei properties in a coastal California littoral environment using an unsupervised cluster model. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 6931-6947.	1.9	4
16	Cloud droplet activation of secondary organic aerosol is mainly controlled by molecular weight, not water solubility. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 941-954.	1.9	35
17	The effect of hydrophobic glassy organic material on the cloud condensation nuclei activity of particles with different morphologies. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 3325-3339.	1.9	22
18	Understanding aerosol-cloud interactions through modeling the development of orographic cumulus congestus during IPHEX. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 1413-1437.	1.9	4

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19	Temperature- and Humidity-Dependent Phase States of Secondary Organic Aerosols. <i>Geophysical Research Letters</i> , 2019, 46, 1005-1013.	1.5	53
20	The viscosity of atmospherically relevant organic particles. <i>Nature Communications</i> , 2018, 9, 956.	5.8	252
21	Hygroscopicity- and Size-Resolved Measurements of Submicron Aerosol on the East Coast of the United States. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 1826-1839.	1.2	6
22	Continuous flow hygroscopicity-resolved relaxed eddy accumulation (Hy-Res REA) method of measuring size-resolved sodium chloride particle fluxes. <i>Aerosol Science and Technology</i> , 2018, 52, 433-450.	1.5	3
23	A language to simplify computation of differential mobility analyzer response functions. <i>Aerosol Science and Technology</i> , 2018, 52, 1437-1451.	1.5	22
24	The Fifth International Workshop on Ice Nucleation phase 2 (FIN-02): laboratory intercomparison of ice nucleation measurements. <i>Atmospheric Measurement Techniques</i> , 2018, 11, 6231-6257.	1.2	82
25	Amorphous phase state diagrams and viscosity of ternary aqueous organic/organic and inorganic/organic mixtures. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 15086-15097.	1.3	37
26	Condensation Kinetics of Water on Amorphous Aerosol Particles. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 3708-3713.	2.1	18
27	Hygroscopicity of Organic Compounds as a Function of Carbon Chain Length and Carboxyl, Hydroperoxy, and Carbonyl Functional Groups. <i>Journal of Physical Chemistry A</i> , 2017, 121, 5164-5174.	1.1	21
28	Characterization of the temperature and humidity-dependent phase diagram of amorphous nanoscale organic aerosols. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 6532-6545.	1.3	37
29	Influence of Functional Groups on the Viscosity of Organic Aerosol. <i>Environmental Science & Technology</i> , 2017, 51, 271-279.	4.6	87
30	Comparative measurements of ambient atmospheric concentrations of ice nucleating particles using multiple immersion freezing methods and a continuous flow diffusion chamber. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 11227-11245.	1.9	73
31	Aerosol Properties Observed in the Subtropical North Pacific Boundary Layer. <i>Journal of Geophysical Research D: Atmospheres</i> , 2017, 122, 9990.	1.2	11
32	Transport of pollution to a remote coastal site during gap flow from California's interior: impacts on aerosol composition, clouds, and radiative balance. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 1491-1509.	1.9	20
33	Prediction of cloud condensation nuclei activity for organic compounds using functional group contribution methods. <i>Geoscientific Model Development</i> , 2016, 9, 111-124.	1.3	40
34	Measuring Mass-Based Hygroscopicity of Atmospheric Particles through in Situ Imaging. <i>Environmental Science & Technology</i> , 2016, 50, 5172-5180.	4.6	17
35	Hygroscopic growth and cloud droplet activation of xanthan gum as a proxy for marine hydrogels. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 11,803.	1.2	18
36	Surfactant effect on cloud condensation nuclei for two-component internally mixed aerosols. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 1878-1895.	1.2	79

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37	Thermodynamic and kinetic behavior of glycerol aerosol. <i>Aerosol Science and Technology</i> , 2016, 50, 1385-1396.	1.5	30
38	Coalescence-based assessment of aerosol phase state using dimers prepared through a dual-differential mobility analyzer technique. <i>Aerosol Science and Technology</i> , 2016, 50, 1294-1305.	1.5	32
39	Revisiting ice nucleation from precipitation samples. <i>Geophysical Research Letters</i> , 2015, 42, 8758-8766.	1.5	123
40	A comprehensive laboratory study on the immersion freezing behavior of illite NX particles: a comparison of 17 ice nucleation measurement techniques. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 2489-2518.	1.9	200
41	Integrating laboratory and field data to quantify the immersion freezing ice nucleation activity of mineral dust particles. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 393-409.	1.9	315
42	Droplet activation of wet particles: development of the Wet CCN approach. <i>Atmospheric Measurement Techniques</i> , 2014, 7, 2227-2241.	1.2	5
43	High Relative Humidity as a Trigger for Widespread Release of Ice Nuclei. <i>Aerosol Science and Technology</i> , 2014, 48, i-v.	1.5	80
44	Influence of Functional Groups on Organic Aerosol Cloud Condensation Nucleus Activity. <i>Environmental Science & Technology</i> , 2014, 48, 10182-10190.	4.6	99
45	Trends in particle-phase liquid water during the Southern Oxidant and Aerosol Study. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 10911-10930.	1.9	75
46	Contribution of pollen to atmospheric ice nuclei concentrations. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 5433-5449.	1.9	79
47	Aerosol microphysical impact on summertime convective precipitation in the Rocky Mountain region. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 11,709-11,728.	1.2	6
48	Accurate Determination of Aerosol Activity Coefficients at Relative Humidities up to 99% Using the Hygroscopicity Tandem Differential Mobility Analyzer Technique. <i>Aerosol Science and Technology</i> , 2013, 47, 991-1000.	1.5	43
49	The role of dynamic surface tension in cloud droplet activation. , 2013, , .		3
50	A single parameter representation of hygroscopic growth and cloud condensation nucleus activity α_{cc} Part 3: Including surfactant partitioning. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 1081-1091.	1.9	110
51	The role of time in heterogeneous freezing nucleation. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 3731-3743.	1.2	85
52	Minimal cooling rate dependence of ice nuclei activity in the immersion mode. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 10,535.	1.2	43
53	In Situ, Airborne Instrumentation: Addressing and Solving Measurement Problems in Ice Clouds. <i>Bulletin of the American Meteorological Society</i> , 2012, 93, ES29-ES34.	1.7	38
54	The Role of Temperature in Cloud Droplet Activation. <i>Journal of Physical Chemistry A</i> , 2012, 116, 9706-9717.	1.1	36

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55	Hygroscopicity frequency distributions of secondary organic aerosols. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	44
56	An annual cycle of size-resolved aerosol hygroscopicity at a forested site in Colorado. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	65
57	Experimental study of the role of physicochemical surface processing on the IN ability of mineral dust particles. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 11131-11144.	1.9	70
58	Influences on the fraction of hydrophobic and hydrophilic black carbon in the atmosphere. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 5099-5112.	1.9	101
59	Surface modification of mineral dust particles by sulphuric acid processing: implications for ice nucleation abilities. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 7839-7858.	1.9	60
60	A review of the anthropogenic influence on biogenic secondary organic aerosol. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 321-343.	1.9	297
61	Resurgence in Ice Nuclei Measurement Research. <i>Bulletin of the American Meteorological Society</i> , 2011, 92, 1623-1635.	1.7	199
62	Corrigendum to "An overview of the Amazonian Aerosol Characterization Experiment 2008 (AMAZE-08)" published in <i>Atmos. Chem. Phys.</i> , 10, 11415-11438, 2010. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 11565-11565.	1.9	4
63	An overview of the Amazonian Aerosol Characterization Experiment 2008 (AMAZE-08). <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 11415-11438.	1.9	170
64	Irreversible loss of ice nucleation active sites in mineral dust particles caused by sulphuric acid condensation. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 11471-11487.	1.9	175
65	Laboratory investigations of the impact of mineral dust aerosol on cold cloud formation. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 11955-11968.	1.9	98
66	Towards closing the gap between hygroscopic growth and CCN activation for secondary organic aerosols – Part 3: Influence of the chemical composition on the hygroscopic properties and volatile fractions of aerosols. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 3775-3785.	1.9	58
67	Water uptake and chemical composition of fresh aerosols generated in open burning of biomass. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 5165-5178.	1.9	104
68	Predicting global atmospheric ice nuclei distributions and their impacts on climate. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 11217-11222.	3.3	945
69	Impact of Particle Generation Method on the Apparent Hygroscopicity of Insoluble Mineral Particles. <i>Aerosol Science and Technology</i> , 2010, 44, 830-846.	1.5	44
70	Ice Initiation by Aerosol Particles: Measured and Predicted Ice Nuclei Concentrations versus Measured Ice Crystal Concentrations in an Orographic Wave Cloud. <i>Journals of the Atmospheric Sciences</i> , 2010, 67, 2417-2436.	0.6	96
71	Observations of ice nucleation by ambient aerosol in the homogeneous freezing regime. <i>Geophysical Research Letters</i> , 2010, 37, .	1.5	15
72	Intercomparison of cloud condensation nuclei and hygroscopic fraction measurements: Coated soot particles investigated during the LACIS Experiment in November (LExNo). <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	34

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73	Rainforest Aerosols as Biogenic Nuclei of Clouds and Precipitation in the Amazon. <i>Science</i> , 2010, 329, 1513-1516.	6.0	541
74	Large-Eddy Simulations of a Drizzling, Stratocumulus-Topped Marine Boundary Layer. <i>Monthly Weather Review</i> , 2009, 137, 1083-1110.	0.5	208
75	Relative roles of biogenic emissions and Saharan dust as ice nuclei in the Amazon basin. <i>Nature Geoscience</i> , 2009, 2, 402-405.	5.4	282
76	Hygroscopicity and cloud droplet activation of mineral dust aerosol. <i>Geophysical Research Letters</i> , 2009, 36, .	1.5	159
77	Role of molecular size in cloud droplet activation. <i>Geophysical Research Letters</i> , 2009, 36, .	1.5	69
78	Ice nucleation behavior of biomass combustion particles at cirrus temperatures. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	68
79	Cloud condensation nucleation activity of biomass burning aerosol. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	213
80	Cloud condensation nuclei and ice nucleation activity of hydrophobic and hydrophilic soot particles. <i>Physical Chemistry Chemical Physics</i> , 2009, 11, 7906.	1.3	165
81	Timescale for hygroscopic conversion of calcite mineral particles through heterogeneous reaction with nitric acid. <i>Physical Chemistry Chemical Physics</i> , 2009, 11, 7826.	1.3	82
82	Ice nuclei emissions from biomass burning. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	125
83	Heterogeneous ice nucleation measurements of secondary organic aerosol generated from ozonolysis of alkenes. <i>Geophysical Research Letters</i> , 2009, 36, .	1.5	43
84	Effect of chemical mixing state on the hygroscopicity and cloud nucleation properties of calcium mineral dust particles. <i>Atmospheric Chemistry and Physics</i> , 2009, 9, 3303-3316.	1.9	268
85	Towards closing the gap between hygroscopic growth and activation for secondary organic aerosol – Part 2: Theoretical approaches. <i>Atmospheric Chemistry and Physics</i> , 2009, 9, 3999-4009.	1.9	130
86	Towards closing the gap between hygroscopic growth and activation for secondary organic aerosol: Part 1 – Evidence from measurements. <i>Atmospheric Chemistry and Physics</i> , 2009, 9, 3987-3997.	1.9	191
87	Cloud Particle Precursors. , 2009, , 291-318.		24
88	Aerosol hygroscopicity and cloud droplet activation of extracts of filters from biomass burning experiments. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	69
89	Water interaction with hydrophobic and hydrophilic soot particles. <i>Physical Chemistry Chemical Physics</i> , 2008, 10, 2332.	1.3	83
90	Single-parameter estimates of aerosol water content. <i>Environmental Research Letters</i> , 2008, 3, 035002.	2.2	97

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91	Optical particle counter measurement of marine aerosol hygroscopic growth. Atmospheric Chemistry and Physics, 2008, 8, 1949-1962.	1.9	36
92	A single parameter representation of hygroscopic growth and cloud condensation nucleus activity – Part 2: Including solubility. Atmospheric Chemistry and Physics, 2008, 8, 6273-6279.	1.9	194
93	A single parameter representation of hygroscopic growth and cloud condensation nucleus activity. Atmospheric Chemistry and Physics, 2007, 7, 1961-1971.	1.9	2,020
94	On Measuring the Critical Diameter of Cloud Condensation Nuclei Using Mobility Selected Aerosol. Aerosol Science and Technology, 2007, 41, 907-913.	1.5	74
95	Cloud droplet activation of secondary organic aerosol. Journal of Geophysical Research, 2007, 112, .	3.3	196
96	Potential impact of Owens (dry) Lake dust on warm and cold cloud formation. Journal of Geophysical Research, 2007, 112, .	3.3	68
97	Optical Particle Counter Measurement of Marine Aerosol Hygroscopic Growth. , 2007, , 1185-1189.		0
98	Accumulation mode aerosol, pockets of open cells, and particle nucleation in the remote subtropical Pacific marine boundary layer. Journal of Geophysical Research, 2006, 111, .	3.3	88
99	Deliquescence-controlled activation of organic aerosols. Geophysical Research Letters, 2006, 33, .	1.5	29
100	Chemical aging and the hydrophobic-to-hydrophilic conversion of carbonaceous aerosol. Geophysical Research Letters, 2006, 33, .	1.5	137
101	Supersaturation in the Wyoming CCN Instrument. Journal of Atmospheric and Oceanic Technology, 2006, 23, 1323-1339.	0.5	43
102	Cloud droplet activation of polymerized organic aerosol. Tellus, Series B: Chemical and Physical Meteorology, 2006, 58, 196-205.	0.8	49
103	Evaluation of the aerosol indirect effect in marine stratocumulus clouds: Droplet number, size, liquid water path, and radiative impact. Journal of Geophysical Research, 2005, 110, .	3.3	144
104	Dynamics and Chemistry of Marine Stratocumulus – DYCOMS-II. Bulletin of the American Meteorological Society, 2003, 84, 579-594.	1.7	209
105	Supplement to Dynamics and Chemistry of Marine Stratocumulus – DYCOMS-II. Bulletin of the American Meteorological Society, 2003, 84, 593-593.	1.7	199