James N Smith

List of Publications by Year
in descending order

123 papers	9,739 citations	47409 49 h-index	51423 90 g-index
155 all docs	155 docs citations	155 times ranked	7088 citing authors

#	Article	IF	Citations
1	Tropical and Boreal Forest â€“ Atmosphere Interactions: A Review. Tellus, Series B: Chemical and Physical Meteorology, 2022, 74, 24.	0.8	27
2	Insufficient Condensable Organic Vapors Lead to Slow Growth of New Particles in an Urban Environment. Environmental Science & Technology, 2022, 56, 9936-9946.	4.6	19
3	Observations of gas-phase products from the nitrate-radical-initiated oxidation of four monoterpenes. Atmospheric Chemistry and Physics, 2022, 22, 9017-9031.	1.9	7
4	Atmospheric clusters to nanoparticles: Recent progress and challenges in closing the gap in chemical composition. Journal of Aerosol Science, 2021, 153, 105733.	1.8	35
5	Molecular properties affecting the hydration of acidâ€“base clusters. Physical Chemistry Chemical Physics, 2021, 23, 13106-13114.	1.3	11
6	Composition of Ultrafine Particles in Urban Beijing: Measurement Using a Thermal Desorption Chemical Ionization Mass Spectrometer. Environmental Science & Technology, 2021, 55, 2859-2868.	4.6	24
7	A predictive model for salt nanoparticle formation using heterodimer stability calculations. Atmospheric Chemistry and Physics, 2021, 21, 11637-11654.	1.9	14
8	Indirect Measurements of the Composition of Ultrafine Particles in the Arctic Lateâ€Winter. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD035428.	1.2	2
9	Novel ionization reagent for the measurement of gasâ€phase ammonia and amines using a standâ€alone atmospheric pressure gas chromatography (APGC) source. Rapid Communications in Mass Spectrometry, 2020, 34, e8561.	0.7	6
10	Size-Resolved Chemical Composition of Sub-20 nm Particles from Methanesulfonic Acid Reactions with Methylamine and Ammonia. ACS Earth and Space Chemistry, 2020, 4, 1182-1194.	1.2	20
11	PTR-TOF-MS eddy covariance measurements of isoprene and monoterpene fluxes from an eastern Amazonian rainforest. Atmospheric Chemistry and Physics, 2020, 20, 7179-7191.	1.9	21
12	Enhancing Potential of Trimethylamine Oxide on Atmospheric Particle Formation. Atmosphere, 2020, 11, 35.	1.0	15
13	Atmospheric fungal nanoparticle bursts. Science Advances, 2020, 6, eaax9051.	4.7	19
14	<i>Ab initio</i> metadynamics calculations of dimethylamine for probing p<i>K</i>_b variations in bulk <i>vs.</i> surface environments. Physical Chemistry Chemical Physics, 2020, 22, 26265-26277.	1.3	17
15	Overview of the HI-SCALE Field Campaign: A New Perspective on Shallow Convective Clouds. Bulletin of the American Meteorological Society, 2019, 100, 821-840.	1.7	44
16	Chemical characterization of nanoparticles and volatiles present in mainstream hookah smoke. Aerosol Science and Technology, 2019, 53, 1023-1039.	1.5	8
17	Formation of Highly Oxidized Molecules from NO₃ Radical Initiated Oxidation of Î”-3-Carene: A Mechanistic Study. ACS Earth and Space Chemistry, 2019, 3, 1460-1470.	1.2	28
18	Role of base strength, cluster structure and charge in sulfuric-acid-driven particle formation. Atmospheric Chemistry and Physics, 2019, 19, 9753-9768.	1.9	49

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19	Effects of Phase State and Phase Separation on Dimethylamine Uptake of Ammonium Sulfate and Ammonium Sulfateâ€"Sucrose Mixed Particles. ACS Earth and Space Chemistry, 2019, 3, 1268-1278.	1.2	10
20	An Experimental and Modeling Study of Nanoparticle Formation and Growth from Dimethylamine and Nitric Acid. Journal of Physical Chemistry A, 2019, 123, 5640-5648.	1.1	29
21	Comparison of aerosol measurement systems during the 2016 airborne ARISTO campaign. Aerosol Science and Technology, 2019, 53, 871-885.	1.5	3
22	Molecular-Level Understanding of Synergistic Effects in Sulfuric Acidâ€"Amineâ€"Ammonia Mixed Clusters. Journal of Physical Chemistry A, 2019, 123, 2420-2425.	1.1	57
23	Relative humidity effect on the formation of highly oxidized molecules and new particles during monoterpene oxidation. Atmospheric Chemistry and Physics, 2019, 19, 1555-1570.	1.9	39
24	Chemical composition of ultrafine aerosol particles in central Amazonia during the wet season. Atmospheric Chemistry and Physics, 2019, 19, 13053-13066.	1.9	11
25	Vertically resolved concentration and liquid water content of atmospheric nanoparticles at the US DOE Southern Great Plains site. Atmospheric Chemistry and Physics, 2018, 18, 311-326.	1.9	31
26	Evidence for Diverse Biogeochemical Drivers of Boreal Forest New Particle Formation. Geophysical Research Letters, 2018, 45, 2038-2046.	1.5	31
27	Resolving nanoparticle growth mechanisms from size- and time-dependent growth rate analysis. Atmospheric Chemistry and Physics, 2018, 18, 1307-1323.	1.9	28
28	Measurementâ€"model comparison of stabilized Criegee intermediateÂand highly oxygenated molecule productionÂinÂtheÂCLOUDÂchamber. Atmospheric Chemistry and Physics, 2018, 18, 2363-2380.	1.9	21
29	Constraining nucleation, condensation, and chemistry in oxidation flow reactors using size-distribution measurements and aerosol microphysical modeling. Atmospheric Chemistry and Physics, 2018, 18, 12433-12460.	1.9	12
30	Size resolved chemical composition of nanoparticles from reactions of sulfuric acid with ammonia and dimethylamine. Aerosol Science and Technology, 2018, 52, 1120-1133.	1.5	26
31	Water condensation-based nanoparticle charging system: Physical and chemical characterization. Aerosol Science and Technology, 2018, 52, 1167-1177.	1.5	6
32	Tropospheric HONO distribution and chemistry in the southeastern US. Atmospheric Chemistry and Physics, 2018, 18, 9107-9120.	1.9	22
33	Rapid growth of organic aerosol nanoparticles over a wide tropospheric temperature range. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9122-9127.	3.3	118
34	The Green Ocean Amazon Experiment (GoAmazon2014/5) Observes Pollution Affecting Gases, Aerosols, Clouds, and Rainfall over the Rain Forest. Bulletin of the American Meteorological Society, 2017, 98, 981-997.	1.7	128
35	The role of ions in new particle formation in the CLOUD chamber. Atmospheric Chemistry and Physics, 2017, 17, 15181-15197.	1.9	50
36	Ethene, propene, butene and isoprene emissions from a ponderosa pine forest measured by relaxed eddy accumulation. Atmospheric Chemistry and Physics, 2017, 17, 13417-13438.	1.9	30

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37	Comprehensive characterization of atmospheric organic carbon at a forested site. Nature Geoscience, 2017, 10, 748-753.	5.4	66
38	Recent advances in understanding secondary organic aerosol: Implications for global climate forcing. Reviews of Geophysics, 2017, 55, 509-559.	9.0	548
39	BAECC: A Field Campaign to Elucidate the Impact of Biogenic Aerosols on Clouds and Climate. Bulletin of the American Meteorological Society, 2016, 97, 1909-1928.	1.7	71
40	Effect of dimethylamine on the gas phase sulfuric acid concentration measured by Chemical Ionization Mass Spectrometry. Journal of Geophysical Research D: Atmospheres, 2016, 121, 3036-3049.	1.2	17
41	Experimental particle formation rates spanning tropospheric sulfuric acid and ammonia abundances, ion production rates, and temperatures. Journal of Geophysical Research D: Atmospheres, 2016, 121, 12,377.	1.2	71
42	The role of low-volatility organic compounds in initial particle growth in the atmosphere. Nature, 2016, 533, 527-531.	13.7	540
43	Technical note: An improved approach to determining background aerosol concentrations with PILS sampling on aircraft. Atmospheric Environment, 2016, 136, 16-20.	1.9	2
44	Rapid cycling of reactive nitrogen in the marine boundary layer. Nature, 2016, 532, 489-491.	13.7	159
45	Amazon boundary layer aerosol concentration sustained by vertical transport during rainfall. Nature, 2016, 539, 416-419.	13.7	112
46	Modeling the thermodynamics and kinetics of sulfuric acid-dimethylamine-water nanoparticle growth in the CLOUD chamber. Aerosol Science and Technology, 2016, 50, 1017-1032.	1.5	13
47	Global atmospheric particle formation from CERN CLOUD measurements. Science, 2016, 354, 1119-1124.	6.0	289
48	The effect of acidâ€“base clustering and ions on the growth of atmospheric nano-particles. Nature Communications, 2016, 7, 11594.	5.8	116
49	Introduction: Observations and Modeling of the Green Ocean Amazon (GoAmazon2014/5). Atmospheric Chemistry and Physics, 2016, 16, 4785-4797.	1.9	213
50	Multiple new-particle growth pathways observed at the US DOE Southern Great Plains field site. Atmospheric Chemistry and Physics, 2016, 16, 9321-9348.	1.9	35
51	Unexpectedly acidic nanoparticles formed in dimethylamineâ€“ammoniaâ€“sulfuric-acid nucleation experiments at CLOUD. Atmospheric Chemistry and Physics, 2016, 16, 13601-13618.	1.9	24
52	Molecular composition of organic aerosols in central Amazonia: an ultra-high-resolution mass spectrometry study. Atmospheric Chemistry and Physics, 2016, 16, 11899-11913.	1.9	73
53	Hygroscopicity of nanoparticles produced from homogeneous nucleation in the CLOUD experiments. Atmospheric Chemistry and Physics, 2016, 16, 293-304.	1.9	29
54	Contribution from biogenic organic compounds to particle growth during the 2010 BEACHON-ROCS campaign in a Colorado temperate needleleaf forest. Atmospheric Chemistry and Physics, 2015, 15, 8643-8656.	1.9	15

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55	Spring and summer contrast in new particle formation over nine forest areas in North America. Atmospheric Chemistry and Physics, 2015, 15, 13993-14003.	1.9	36
56	Real-Time Chemical Composition Analysis of Particulate Emissions from Woodchip Combustion. Energy & Fuels, 2015, 29, 1143-1150.	2.5	14
57	High levels of molecular chlorine in the Arctic atmosphere. Nature Geoscience, 2014, 7, 91-94.	5.4	105
58	Secondary Organic Aerosol Formation and Organic Nitrate Yield from NO₃ Oxidation of Biogenic Hydrocarbons. Environmental Science & Technology, 2014, 48, 11944-11953.	4.6	178
59	New Particle Formation and Growth in an Isoprene-Dominated Ozark Forest: From Sub-5Ânm to CCN-Active Sizes. Aerosol Science and Technology, 2014, 48, 1285-1298.	1.5	41
60	Total OH reactivity measurements in ambient air in a southern Rocky mountain ponderosa pine forest during BEACHON-SRM08 summer campaign. Atmospheric Environment, 2014, 85, 1-8.	1.9	40
61	Molecular constraints on particle growth during new particle formation. Geophysical Research Letters, 2014, 41, 6045-6054.	1.5	30
62	Composition of 15â€“85 nm particles in marine air. Atmospheric Chemistry and Physics, 2014, 14, 11557-11569.	1.9	39
63	Atmospheric amines and ammonia measured with a chemical ionization mass spectrometer (CIMS). Atmospheric Chemistry and Physics, 2014, 14, 12181-12194.	1.9	121
64	Atmospheric submicron aerosol composition and particulate organic nitrate formation in a boreal forestlandâ€“urban mixed region. Atmospheric Chemistry and Physics, 2014, 14, 13483-13495.	1.9	53
65	Modeling ultrafine particle growth at a pine forest site influenced by anthropogenic pollution during BEACHON-RoMBAS 2011. Atmospheric Chemistry and Physics, 2014, 14, 11011-11029.	1.9	12
66	Size-resolved aerosol composition and its link to hygroscopicity at a forested site in Colorado. Atmospheric Chemistry and Physics, 2014, 14, 2657-2667.	1.9	62
67	Overview of the Manitou Experimental Forest Observatory: site description and selected science results from 2008 to 2013. Atmospheric Chemistry and Physics, 2014, 14, 6345-6367.	1.9	62
68	Quantitative and time-resolved nanoparticle composition measurements during new particle formation. Faraday Discussions, 2013, 165, 25.	1.6	31
69	Direct Observations of Atmospheric Aerosol Nucleation. Science, 2013, 339, 943-946.	6.0	876
70	Aerosol Chemical Composition in Cloud Events by High Resolution Time-of-Flight Aerosol Mass Spectrometry. Environmental Science & Technology, 2013, 47, 2645-2653.	4.6	40
71	A fast-scanning DMA train for precision quantification of early nanoparticle growth. , 2013, , .		3
72	Worldwide data sets constrain the water vapor uptake coefficient in cloud formation. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 3760-3764.	3.3	29

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73	Identification and quantification of particle growth channels during new particle formation. Atmospheric Chemistry and Physics, 2013, 13, 10215-10225.	1.9	20
74	Aerosol mixing state, hygroscopic growth and cloud activation efficiency during MIRAGE 2006. Atmospheric Chemistry and Physics, 2013, 13, 5049-5062.	1.9	60
75	Dependence of particle nucleation and growth on high-molecular-weight gas-phase products during ozonolysis of Î±-pinene. Atmospheric Chemistry and Physics, 2013, 13, 7631-7644.	1.9	66
76	On the formation of sulphuric acid â€“ amine clusters in varying atmospheric conditions and its influence on atmospheric new particle formation. Atmospheric Chemistry and Physics, 2012, 12, 9113-9133.	1.9	119
77	Size and time-resolved growth rate measurements of 1 to 5 nm freshly formed atmospheric nuclei. Atmospheric Chemistry and Physics, 2012, 12, 3573-3589.	1.9	138
78	Identification of the biogenic compounds responsible for sizeâ€dependent nanoparticle growth. Geophysical Research Letters, 2012, 39, .	1.5	61
79	Observations of inorganic bromine (HOBr, BrO, and Br₂) speciation at Barrow, Alaska, in spring 2009. Journal of Geophysical Research, 2012, 117, .	3.3	71
80	An annual cycle of sizeâ€resolved aerosol hygroscopicity at a forested site in Colorado. Journal of Geophysical Research, 2012, 117, .	3.3	65
81	Effect of aerosol size distribution changes on AOD, CCN and cloud droplet concentration: Case studies from Erfurt and Melpitz, Germany. Journal of Geophysical Research, 2012, 117, .	3.3	14
82	Partitioning of semivolatile surface-active compounds between bulk, surface and gas phase. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	27
83	The role of relative humidity in continental new particle formation. Journal of Geophysical Research, 2011, 116, .	3.3	127
84	A statistical proxy for sulphuric acid concentration. Atmospheric Chemistry and Physics, 2011, 11, 11319-11334.	1.9	124
85	Aerosol hygroscopicity and CCN activation kinetics in a boreal forest environment during the 2007 EUCAARI campaign. Atmospheric Chemistry and Physics, 2011, 11, 12369-12386.	1.9	110
86	Mass yields of secondary organic aerosols from the oxidation of Î±-pinene and real plant emissions. Atmospheric Chemistry and Physics, 2011, 11, 1367-1378.	1.9	68
87	The effect of H₂SO₄ â€“ amine clustering on chemical ionization mass spectrometry (CIMS) measurements of gas-phase sulfuric acid. Atmospheric Chemistry and Physics, 2011, 11, 3007-3019.	1.9	69
88	Bounce behavior of freshly nucleated biogenic secondary organic aerosol particles. Atmospheric Chemistry and Physics, 2011, 11, 8759-8766.	1.9	92
89	Observation of neutral sulfuric acid-amine containing clusters in laboratory and ambient measurements. Atmospheric Chemistry and Physics, 2011, 11, 10823-10836.	1.9	120
90	Application of the np+mP modeling approach for simulating secondary organic particulate matter formation from Î±-pinene oxidation. Atmospheric Environment, 2011, 45, 6812-6819.	1.9	20

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91	Meteorological and trace gas factors affecting the number concentration of atmospheric Aitken (<i>D</i>_p = 50 nm) particles in the continental boundary layer: parameterization using a multivariate mixed effects model. Geoscientific Model Development, 2011, 4, 1-13.	1.3	33
92	On-Line Characterization of Morphology and Water Adsorption on Fumed Silica Nanoparticles. Aerosol Science and Technology, 2011, 45, 1441-1447.	1.5	26
93	An overview of the Amazonian Aerosol Characterization Experiment 2008 (AMAZE-08). Atmospheric Chemistry and Physics, 2010, 10, 11415-11438.	1.9	170
94	Ion Mobility Distributions during the Initial Stages of New Particle Formation by the Ozonolysis of Î±-Pinene. Environmental Science & Technology, 2010, 44, 8917-8923.	4.6	7
95	Observations of aminium salts in atmospheric nanoparticles and possible climatic implications. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 6634-6639.	3.3	415
96	A Thermal Desorption Chemical Ionization Ion Trap Mass Spectrometer for the Chemical Characterization of Ultrafine Aerosol Particles. Aerosol Science and Technology, 2009, 43, 264-272.	1.5	24
97	Sampling Nanoparticles for Chemical Analysis by Low Resolution Electrical Mobility Classification. Environmental Science & Technology, 2009, 43, 4653-4658.	4.6	48
98	New particle formation from the oxidation of direct emissions of pine seedlings. Atmospheric Chemistry and Physics, 2009, 9, 8121-8137.	1.9	64
99	The potential contribution of organic salts to new particle growth. Atmospheric Chemistry and Physics, 2009, 9, 2949-2957.	1.9	163
100	Relaxed Eddy Accumulation Simulations of Aerosol Number Fluxes and Potential Proxy Scalars. Boundary-Layer Meteorology, 2008, 129, 451-468.	1.2	15
101	Carboxylic acid characterization in nanoparticles by thermal desorption chemical ionization mass spectrometry. International Journal of Mass Spectrometry, 2008, 274, 8-13.	0.7	37
102	Chemical composition of atmospheric nanoparticles formed from nucleation in Tecamac, Mexico: Evidence for an important role for organic species in nanoparticle growth. Geophysical Research Letters, 2008, 35, .	1.5	233
103	Estimating nanoparticle growth rates from sizeâ€dependent charged fractions: Analysis of new particle formation events in Mexico City. Journal of Geophysical Research, 2008, 113, .	3.3	107
104	An Ultrafine, Water-Based Condensation Particle Counter and its Evaluation under Field Conditions. Aerosol Science and Technology, 2008, 42, 862-871.	1.5	32
105	New particle formation in the Front Range of the Colorado Rocky Mountains. Atmospheric Chemistry and Physics, 2008, 8, 1577-1590.	1.9	83
106	Estimating Nanoparticle Growth Rates from Size-Dependent Charged Fractions â€“ Analysis of New Particle Formation Events in Mexico City. , 2007, , 897-901.		0
107	Contribution of ion-induced nucleation to new particle formation: Methodology and its application to atmospheric observations in Boulder, Colorado. Journal of Geophysical Research, 2006, 111, .	3.3	93
108	Direct measurement of particle formation and growth from the oxidation of biogenic emissions. Atmospheric Chemistry and Physics, 2006, 6, 4403-4413.	1.9	65

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109	Mapping the Operation of the DMT Continuous Flow CCN Counter. Aerosol Science and Technology, 2006, 40, 242-254.	1.5	295
110	Coupling between Land Ecosystems and the Atmospheric Hydrologic Cycle through Biogenic Aerosol Pathways. Bulletin of the American Meteorological Society, 2005, 86, 1738-1742.	1.7	43
111	Chemical composition of atmospheric nanoparticles during nucleation events in Atlanta. Journal of Geophysical Research, 2005, 110, .	3.3	121
112	Hygroscopicity and volatility of 4â€“10 nm particles during summertime atmospheric nucleation events in urban Atlanta. Journal of Geophysical Research, 2005, 110, .	3.3	74
113	Growth rates of freshly nucleated atmospheric particles in Atlanta. Journal of Geophysical Research, 2005, 110, .	3.3	154
114	Multi-component chemical analysis of gas mixtures using a continuously tuneable lidar system. Applied Physics B: Lasers and Optics, 2004, 79, 525-530.	1.1	20
115	Measurements of Mexico City nanoparticle size distributions: Observations of new particle formation and growth. Geophysical Research Letters, 2004, 31, n/a-n/a.	1.5	127
116	Atmospheric Measurements of Sub-20 nm Diameter Particle Chemical Composition by Thermal Desorption Chemical Ionization Mass Spectrometry. Aerosol Science and Technology, 2004, 38, 100-110.	1.5	162
117	Thermal Desorption Chemical Ionization Mass Spectrometer for Ultrafine Particle Chemical Composition. Aerosol Science and Technology, 2003, 37, 471-475.	1.5	118
118	Development and testing of a frequency-agile optical parametric oscillator system for differential absorption lidar. Review of Scientific Instruments, 2003, 74, 4478-4484.	0.6	17
119	Droplet Evaporation and Discharge Dynamics in Electrospray Ionizationâ€. Journal of Physical Chemistry A, 2002, 106, 9957-9967.	1.1	196
120	Design of a CCN Instrument for Airborne Measurement. Journal of Atmospheric and Oceanic Technology, 2000, 17, 1005-1019.	0.5	21
121	Atmospheric Oxidation Mechanism of n-Butane:â€‰ The Fate of Alkoxy Radicals. Journal of Physical Chemistry A, 1997, 101, 4392-4401.	1.1	56
122	Mechanism of Atmospheric Photooxidation of Aromatics:Â A Theoretical Study. The Journal of Physical Chemistry, 1996, 100, 10967-10980.	2.9	156
123	Aspectos micrometeorolÃ³gicos da emissÃ£o de monoterpenos em uma floresta na AmazÃ´nia central. CiÃªncia E Natura, 0, 40, 150.	0.0	1