Katrianne Lehtipalo

List of Publications by Year
in descending order

#	Article	IF	Citations
1	Role of sulphuric acid, ammonia and galactic cosmic rays in atmospheric aerosol nucleation. Nature, 2011, 476, 429-433.	13.7	1,114
2	Direct Observations of Atmospheric Aerosol Nucleation. Science, 2013, 339, 943-946.	6.0	876
3	Molecular understanding of sulphuric acidâ€“amine particle nucleation in the atmosphere. Nature, 2013, 502, 359-363.	13.7	774
4	The role of low-volatility organic compounds in initial particle growth in the atmosphere. Nature, 2016, 533, 527-531.	13.7	540
5	Ion-induced nucleation of pure biogenic particles. Nature, 2016, 533, 521-526.	13.7	528
6	Oxidation Products of Biogenic Emissions Contribute to Nucleation of Atmospheric Particles. Science, 2014, 344, 717-721.	6.0	456
7	Measurement of the nucleation of atmospheric aerosol particles. Nature Protocols, 2012, 7, 1651-1667.	5.5	435
8	Organic condensation: a vital link connecting aerosol formation to cloud condensation nuclei (CCN) concentrations. Atmospheric Chemistry and Physics, 2011, 11, 3865-3878.	1.9	392
9	Molecular understanding of atmospheric particle formation from sulfuric acid and large oxidized organic molecules. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 17223-17228.	3.3	300
10	Global atmospheric particle formation from CERN CLOUD measurements. Science, 2016, 354, 1119-1124.	6.0	289
11	Particle Size Magnifier for Nano-CN Detection. Aerosol Science and Technology, 2011, 45, 533-542.	1.5	283
12	EUCAARI ion spectrometer measurements at 12 European sites â€“ analysis of new particle formation events. Atmospheric Chemistry and Physics, 2010, 10, 7907-7927.	1.9	248
13	Atmospheric ions and nucleation: a review of observations. Atmospheric Chemistry and Physics, 2011, 11, 767-798.	1.9	228
14	Neutral molecular cluster formation of sulfuric acidâ€“dimethylamine observed in real time under atmospheric conditions. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 15019-15024.	3.3	208
15	Causes and importance of new particle formation in the presentâ€day and preindustrial atmospheres. Journal of Geophysical Research D: Atmospheres, 2017, 122, 8739-8760.	1.2	198
16	New Particle Formation in the Atmosphere: From Molecular Clusters to Global Climate. Journal of Geophysical Research D: Atmospheres, 2019, 124, 7098-7146.	1.2	185
17	Rapid growth of new atmospheric particles by nitric acid and ammonia condensation. Nature, 2020, 581, 184-189.	13.7	169
18	Multicomponent new particle formation from sulfuric acid, ammonia, and biogenic vapors. Science Advances, 2018, 4, eaau5363.	4.7	164

#	Article	IF	Citations
19	Seasonal variation of CCN concentrations and aerosol activation properties in boreal forest. Atmospheric Chemistry and Physics, 2011, 11, 13269-13285.	1.9	121
20	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
21	The effect of acidâ€“base clustering and ions on the growth of atmospheric nano-particles. Nature Communications, 2016, 7, 11594.	5.8	116
22	Reduced anthropogenic aerosol radiative forcing caused by biogenic new particle formation. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 12053-12058.	3.3	107
23	Effect of ions on sulfuric acidâ€water binary particle formation: 2. Experimental data and comparison with QCâ€normalized classical nucleation theory. Journal of Geophysical Research D: Atmospheres, 2016, 121, 1752-1775.	1.2	99
24	Role of iodine oxoacids in atmospheric aerosol nucleation. Science, 2021, 371, 589-595.	6.0	94
25	New particle formation in the sulfuric acidâ€“dimethylamineâ€“water system: reevaluation of CLOUD chamber measurements and comparison to an aerosol nucleation and growth model. Atmospheric Chemistry and Physics, 2018, 18, 845-863.	1.9	92
26	Results of the first air ion spectrometer calibration and intercomparison workshop. Atmospheric Chemistry and Physics, 2009, 9, 141-154.	1.9	85
27	On the composition of ammoniaâ€“sulfuric-acid ion clusters during aerosol particle formation. Atmospheric Chemistry and Physics, 2015, 15, 55-78.	1.9	84
28	Long-term analysis of clear-sky new particle formation events and nonevents in HyytiÃlÃ. Atmospheric Chemistry and Physics, 2017, 17, 6227-6241.	1.9	84
29	Laboratory Verification of PH-CPC's Ability to Monitor Atmospheric Sub-3 nm Clusters. Aerosol Science and Technology, 2009, 43, 126-135.	1.5	80
30	Applicability of condensation particle counters to measure atmospheric clusters. Atmospheric Chemistry and Physics, 2008, 8, 4049-4060.	1.9	74
31	Sub-3 nm particle size and composition dependent response of a nano-CPC battery. Atmospheric Measurement Techniques, 2014, 7, 689-700.	1.2	73
32	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
33	Measurements of sub-3â€¯nm particles using a particle size magnifier in different environments: from clean mountain top to polluted megacities. Atmospheric Chemistry and Physics, 2017, 17, 2163-2187.	1.9	71
34	Overview of the Antarctic Circumnavigation Expedition: Study of Preindustrial-like Aerosols and Their Climate Effects (ACE-SPACE). Bulletin of the American Meteorological Society, 2019, 100, 2260-2283.	1.7	71
35	Remarks on Ion Generation for CPC Detection Efficiency Studies in Sub-3-nm Size Range. Aerosol Science and Technology, 2013, 47, 556-563.	1.5	70
36	Molecular understanding of new-particle formation from <i>Î±</i>-pinene between âˆ’50 and +25â€‰Â°C. Atmospheric Chemistry and Physics, 2020, 20, 9183-9207.	1.9	68

#	Article	IF	Citations
37	Photo-oxidation of Aromatic Hydrocarbons Produces Low-Volatility Organic Compounds. Environmental Science & Technology, 2020, 54, 7911-7921.	4.6	66
38	Observations of biogenic ion-induced cluster formation in the atmosphere. Science Advances, 2018, 4, eaar5218.	4.7	64
39	Performance of diethylene glycol-based particle counters in the sub-3 nm size range. Atmospheric Measurement Techniques, 2013, 6, 1793-1804.	1.2	63
40	Size-dependent influence of NO _x on the growth rates of organic aerosol particles. Science Advances, 2020, 6, eaay4945.	4.7	61
41	Analysis of atmospheric neutral and charged molecular clusters in boreal forest using pulse-height CPC. Atmospheric Chemistry and Physics, 2009, 9, 4177-4184.	1.9	59
42	Overview of measurements and current instrumentation for 1â€“10Ânm aerosol particle number size distributions. Journal of Aerosol Science, 2020, 148, 105584.	1.8	58
43	Enhanced growth rate of atmospheric particles from sulfuric acid. Atmospheric Chemistry and Physics, 2020, 20, 7359-7372.	1.9	58
44	Influence of temperature on the molecular composition of ions and charged clusters during pure biogenic nucleation. Atmospheric Chemistry and Physics, 2018, 18, 65-79.	1.9	56
45	The Synergistic Role of Sulfuric Acid, Bases, and Oxidized Organics Governing Newâ€Particle Formation in Beijing. Geophysical Research Letters, 2021, 48, e2020GL091944.	1.5	53
46	Formation of Highly Oxygenated Organic Molecules from Î±-Pinene Ozonolysis: Chemical Characteristics, Mechanism, and Kinetic Model Development. ACS Earth and Space Chemistry, 2019, 3, 873-883.	1.2	52
47	Insight into Acidâ€“Base Nucleation Experiments by Comparison of the Chemical Composition of Positive, Negative, and Neutral Clusters. Environmental Science & Technology, 2014, 48, 13675-13684.	4.6	51
48	The role of ions in new particle formation in the CLOUD chamber. Atmospheric Chemistry and Physics, 2017, 17, 15181-15197.	1.9	50
49	Formation and growth of sub-3-nm aerosol particles in experimental chambers. Nature Protocols, 2020, 15, 1013-1040.	5.5	49
50	Molecular understanding of the suppression of new-particle formation by isoprene. Atmospheric Chemistry and Physics, 2020, 20, 11809-11821.	1.9	49
51	Experimental investigation of ionâ€“ion recombination under atmospheric conditions. Atmospheric Chemistry and Physics, 2015, 15, 7203-7216.	1.9	46
52	Heterogeneous Nucleation onto Ions and Neutralized Ions: Insights into Sign-Preference. Journal of Physical Chemistry C, 2016, 120, 7444-7450.	1.5	45
53	Observations of Nano-CN in the Nocturnal Boreal Forest. Aerosol Science and Technology, 2011, 45, 499-509.	1.5	43
54	Nanoparticles in boreal forest and coastal environment: a comparison of observations and implications of the nucleation mechanism. Atmospheric Chemistry and Physics, 2010, 10, 7009-7016.	1.9	42

#	Article	IF	Citations
55	Major contribution of neutral clusters to new particle formation at the interface between the boundary layer and the free troposphere. Atmospheric Chemistry and Physics, 2015, 15, 3413-3428.	1.9	42
56	Biogenic particles formed in the Himalaya as an important source of free tropospheric aerosols. Nature Geoscience, 2021, 14, 4-9.	5.4	40
57	The driving factors of new particle formation and growth in the polluted boundary layer. Atmospheric Chemistry and Physics, 2021, 21, 14275-14291.	1.9	38
58	Sizing of neutral sub 3nm tungsten oxide clusters using Airmodus Particle Size Magnifier. Journal of Aerosol Science, 2015, 87, 53-62.	1.8	37
59	Trends in new particle formation in eastern Lapland, Finland: effect of decreasing sulfur emissions from Kola Peninsula. Atmospheric Chemistry and Physics, 2014, 14, 4383-4396.	1.9	36
60	Operation of the Airmodus A11 nano Condensation Nucleus Counter at various inlet pressures and various operation temperatures, and design of a new inlet system. Atmospheric Measurement Techniques, 2016, 9, 2977-2988.	1.2	35
61	Intercomparison of air ion spectrometers: an evaluation of results in varying conditions. Atmospheric Measurement Techniques, 2011, 4, 805-822.	1.2	34
62	Evolution of particle composition in CLOUD nucleation experiments. Atmospheric Chemistry and Physics, 2013, 13, 5587-5600.	1.9	33
63	The role of H₂SO₄-NH<sub>3</sub&a anion clusters in ion-induced aerosol nucleation mechanisms in the boreal forest. Atmospheric Chemistry and Physics, 2018, 18, 13231-13243.	1.9	33
64	Molecular Composition and Volatility of Nucleated Particles from Î±-Pinene Oxidation between â^’50 Â°C and +25 Â°C. Environmental Science & Technology, 2019, 53, 12357-12365.	4.6	32
65	Sulphuric acid and aerosol particle production in the vicinity of an oil refinery. Atmospheric Environment, 2015, 119, 156-166.	1.9	29
66	Hygroscopicity of nanoparticles produced from homogeneous nucleation in the CLOUD experiments. Atmospheric Chemistry and Physics, 2016, 16, 293-304.	1.9	29
67	Solar eclipse demonstrating the importance of photochemistry in new particle formation. Scientific Reports, 2017, 7, 45707.	1.6	29
68	Tropical and Boreal Forest â€" Atmosphere Interactions: A Review. Tellus, Series B: Chemical and Physical Meteorology, 2022, 74, 24.	0.8	27
69	Synergistic HNO3â€"H2SO4â€"NH3 upper tropospheric particle formation. Nature, 2022, 605, 483-489.	13.7	26
70	Estimating the contribution of ionâ€"ion recombination to sub-2 nm cluster concentrations from atmospheric measurements. Atmospheric Chemistry and Physics, 2013, 13, 11391-11401.	1.9	25
71	High concentrations of sub-3nm clusters and frequent new particle formation observed in the Po Valley, Italy, during the PEGASOS 2012 campaign. Atmospheric Chemistry and Physics, 2016, 16, 1919-1935.	1.9	25
72	Unexpectedly acidic nanoparticles formed in dimethylamineâ€"ammoniaâ€"sulfuric-acid nucleation experiments at CLOUD. Atmospheric Chemistry and Physics, 2016, 16, 13601-13618.	1.9	24

#	Article	IF	Citations
73	Measurementâ€“model comparison of stabilized Criegee intermediateÂand highly oxygenated molecule productionÂinÂtheÂCLOUDÂchamber. Atmospheric Chemistry and Physics, 2018, 18, 2363-2380.	1.9	21
74	Growth rates of atmospheric molecular clusters based on appearance times and collisionâ€“evaporation fluxes: Growth by monomers. Journal of Aerosol Science, 2014, 78, 55-70.	1.8	20
75	Vertical profiles of sub-3â€‰nm particles over the boreal forest. Atmospheric Chemistry and Physics, 2019, 19, 4127-4138.	1.9	20
76	Towards understanding the characteristics of new particle formation in the Eastern Mediterranean. Atmospheric Chemistry and Physics, 2021, 21, 9223-9251.	1.9	19
77	Determination of the collision rate coefficient between charged iodic acid clusters and iodic acid using the appearance time method. Aerosol Science and Technology, 2021, 55, 231-242.	1.5	18
78	Elemental composition and clustering behaviour of Î±-pinene oxidation products for different oxidation conditions. Atmospheric Chemistry and Physics, 2015, 15, 4145-4159.	1.9	17
79	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
80	Comparison of the SAWNUC model with CLOUD measurements of sulphuric acidâ€•water nucleation. Journal of Geophysical Research D: Atmospheres, 2016, 121, 12401-12414.	1.2	16
81	Growth of atmospheric clusters involving clusterâ€“cluster collisions: comparison of different growth rate methods. Atmospheric Chemistry and Physics, 2016, 16, 5545-5560.	1.9	16
82	A new high-transmission inlet for the Caltech nano-RDMA for size distribution measurements of sub-3â€¯nm ions at ambient concentrations. Atmospheric Measurement Techniques, 2016, 9, 2709-2720.	1.2	14
83	Long-term measurement of sub-3â€‰nm particles and their precursor gases in the boreal forest. Atmospheric Chemistry and Physics, 2021, 21, 695-715.	1.9	14
84	Lowâ€Volatility Vapors and New Particle Formation Over the Southern Ocean During the Antarctic Circumnavigation Expedition. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD035126.	1.2	14
85	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
86	First measurements of the number size distribution of 1â€“2Ânm aerosol particles released from manufacturing processes in a cleanroom environment. Aerosol Science and Technology, 2017, 51, 685-693.	1.5	12
87	Emerging Investigator Series: COVID-19 lockdown effects on aerosol particle size distributions in northern Italy. Environmental Science Atmospheres, 2021, 1, 214-227.	0.9	12
88	Chemical composition of nanoparticles from <i>Î±</i>-pinene nucleation and the influence of isoprene and relative humidity at low temperature. Atmospheric Chemistry and Physics, 2021, 21, 17099-17114.	1.9	12
89	Technical Note: Using DEG-CPCs at upper tropospheric temperatures. Atmospheric Chemistry and Physics, 2015, 15, 7547-7555.	1.9	11
90	The standard operating procedure for Airmodus Particle Size Magnifier and nano-Condensation Nucleus Counter. Journal of Aerosol Science, 2022, 159, 105896.	1.8	11

#	Article	IF	Citations
91	Molecular characterization of ultrafine particles using extractive electrospray time-of-flight mass spectrometry. Environmental Science Atmospheres, 2021, 1, 434-448.	0.9	10
92	A chamber study of the influence of boreal BVOC emissions and sulfuric acid on nanoparticle formation rates at ambient concentrations. Atmospheric Chemistry and Physics, 2016, 16, 1955-1970.	1.9	9
93	Zeppelin-led study on the onset of new particle formation in the planetary boundary layer. Atmospheric Chemistry and Physics, 2021, 21, 12649-12663.	1.9	9
94	Towards a concentration closure of sub-6 nm aerosol particles and sub-3 nm atmospheric clusters. Journal of Aerosol Science, 2022, 159, 105878.	1.8	9
95	Combining instrument inversions for sub-10 nm aerosol number size-distribution measurements. Journal of Aerosol Science, 2022, 159, 105862.	1.8	9
96	Wintertime subarctic new particle formation from Kola Peninsula sulfur emissions. Atmospheric Chemistry and Physics, 2021, 21, 17559-17576.	1.9	9
97	Effects of different correction algorithms on absorption coefficient â€" a comparison of three optical absorption photometers at a boreal forest site. Atmospheric Measurement Techniques, 2021, 14, 6419-6441.	1.2	8
98	Survival of newly formed particles in haze conditions. Environmental Science Atmospheres, 2022, 2, 491-499.	0.9	8
99	The versatile size analyzing nuclei counter (vSANC). Aerosol Science and Technology, 2016, 50, 947-958.	1.5	7
100	Measurement report: Long-term measurements of aerosol precursor concentrations in the Finnish subarctic boreal forest. Atmospheric Chemistry and Physics, 2022, 22, 2237-2254.	1.9	6
101	An evaluation of new particle formation events in Helsinki during a Baltic Sea cyanobacterial summer bloom. Atmospheric Chemistry and Physics, 2022, 22, 6365-6391.	1.9	6
102	What controls the observed size-dependency of the growth rates of sub-10 nm atmospheric particles?. Environmental Science Atmospheres, 2022, 2, 449-468.	0.9	5
103	Activation of sub-3 nm organic particles in the particle size magnifier using humid and dry conditions. Journal of Aerosol Science, 2022, 161, 105945.	1.8	3
104	Characterization of diethylene glycol-condensation particle counters for detection of sub-3 nm particles. , 2013, , .		2
105	The particle size magnifier closing the gap between measurement of molecules, molecular clusters and aerosol particles. , 2013, , .		0
106	Ion generation and CPC detection efficiency studies in sub 3-nm size range. , 2013, , .		0
107	Laboratory characterization of a size-resolved CPC battery to infer the composition of freshly formed atmospheric nuclei. , 2013, , .		0
108	Sulphur dioxide and sulphuric acid concentrations in the vicinity of Kilpilahti industrial area. , 2013, , .		0