Tuomo Nieminen

List of Publications by Year
in descending order

115 papers	12,196 citations	57758 44 h-index	36028 97 g-index
203 all docs	203 docs citations	203 times ranked	5597 citing authors

#	Article	IF	Citations
1	A large source of low-volatility secondary organic aerosol. Nature, 2014, 506, 476-479.	27.8	1,448
2	Role of sulphuric acid, ammonia and galactic cosmic rays in atmospheric aerosol nucleation. Nature, 2011, 476, 429-433.	27.8	1,114
3	Direct Observations of Atmospheric Aerosol Nucleation. Science, 2013, 339, 943-946.	12.6	876
4	Molecular understanding of sulphuric acidâ€"amine particle nucleation in the atmosphere. Nature, 2013, 502, 359-363.	27.8	774
5	The role of low-volatility organic compounds in initial particle growth in the atmosphere. Nature, 2016, 533, 527-531.	27.8	540
6	Ion-induced nucleation of pure biogenic particles. Nature, 2016, 533, 521-526.	27.8	528
7	Oxidation Products of Biogenic Emissions Contribute to Nucleation of Atmospheric Particles. Science, 2014, 344, 717-721.	12.6	456
8	Measurement of the nucleation of atmospheric aerosol particles. Nature Protocols, 2012, 7, 1651-1667.	12.0	435
9	Organic condensation: a vital link connecting aerosol formation to cloud condensation nuclei (CCN) concentrations. Atmospheric Chemistry and Physics, 2011, 11, 3865-3878.	4.9	392
10	Sulfuric acid and OH concentrations in a boreal forest site. Atmospheric Chemistry and Physics, 2009, 9, 7435-7448.	4.9	348
11	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.	7.1	300
12	On the roles of sulphuric acid and low-volatility organic vapours in the initial steps of atmospheric new particle formation. Atmospheric Chemistry and Physics, 2010, 10, 11223-11242.	4.9	262
13	EUCAARI ion spectrometer measurements at 12 European sites â€" analysis of new particle formation events. Atmospheric Chemistry and Physics, 2010, 10, 7907-7927.	4.9	248
14	Atmospheric ions and nucleation: a review of observations. Atmospheric Chemistry and Physics, 2011, 11, 767-798.	4.9	228
15	Growth rates of nucleation mode particles in HyytiÃlÃ during 2003â˜'2009: variation with particle size, season, data analysis method and ambient conditions. Atmospheric Chemistry and Physics, 2011, 11, 12865-12886.	4.9	173
16	Multicomponent new particle formation from sulfuric acid, ammonia, and biogenic vapors. Science Advances, 2018, 4, eaau5363.	10.3	164
17	Sub-10 nm particle growth by vapor condensation â€" effects of vapor molecule size and particle thermal speed. Atmospheric Chemistry and Physics, 2010, 10, 9773-9779.	4.9	149
18	Atmospheric nucleation: highlights of the EUCAARI project and future directions. Atmospheric Chemistry and Physics, 2010, 10, 10829-10848.	4.9	144

#	Article	IF	Citations
19	Oxidation of SO₂ by stabilized Criegee intermediate (sCI) radicals as a crucial source for atmospheric sulfuric acid concentrations. Atmospheric Chemistry and Physics, 2013, 13, 3865-3879.	4.9	131
20	The role of relative humidity in continental new particle formation. Journal of Geophysical Research, 2011, 116, .	3.3	127
21	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.	7.1	118
22	The effect of acidâ€“base clustering and ions on the growth of atmospheric nano-particles. Nature Communications, 2016, 7, 11594.	12.8	116
23	Global analysis of continental boundary layer new particle formation based on long-term measurements. Atmospheric Chemistry and Physics, 2018, 18, 14737-14756.	4.9	113
24	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.	7.1	107
25	Charged and total particle formation and growth rates during EUCAARI 2007 campaign in HyytiÃ¤lÃ¤. Atmospheric Chemistry and Physics, 2009, 9, 4077-4089.	4.9	104
26	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.	3.3	99
27	Results from the CERN pilot CLOUD experiment. Atmospheric Chemistry and Physics, 2010, 10, 1635-1647.	4.9	96
28	Atmospheric data over a solar cycle: no connection between galactic cosmic rays and new particle formation. Atmospheric Chemistry and Physics, 2010, 10, 1885-1898.	4.9	89
29	Basic characteristics of atmospheric particles, trace gases and meteorology in a relatively clean Southern African Savannah environment. Atmospheric Chemistry and Physics, 2008, 8, 4823-4839.	4.9	86
30	Connection of Sulfuric Acid to Atmospheric Nucleation in Boreal Forest. Environmental Science & Technology, 2009, 43, 4715-4721.	10.0	84
31	Long-term analysis of clear-sky new particle formation events and nonevents in HyytiÃ¤lÃ¤. Atmospheric Chemistry and Physics, 2017, 17, 6227-6241.	4.9	84
32	Evaluation on the role of sulfuric acid in the mechanisms of new particle formation for Beijing case. Atmospheric Chemistry and Physics, 2011, 11, 12663-12671.	4.9	75
33	Seasonal cycle, size dependencies, and source analyses of aerosol optical properties at the SMEAR II measurement station in HyytiÃ¤lÃ¤, Finland. Atmospheric Chemistry and Physics, 2011, 11, 4445-4468.	4.9	72
34	Experimental Observation of Strongly Bound Dimers of Sulfuric Acid: Application to Nucleation in the Atmosphere. Physical Review Letters, 2011, 106, 228302.	7.8	72
35	Aerosols and nucleation in eastern China: first insights from the new SORPES-NJU station. Atmospheric Chemistry and Physics, 2014, 14, 2169-2183.	4.9	72
36	Modelling atmospheric OH-reactivity in a boreal forest ecosystem. Atmospheric Chemistry and Physics, 2011, 11, 9709-9719.	4.9	69

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37	Size-dependent influence of NO _x on the growth rates of organic aerosol particles. Science Advances, 2020, 6, eaay4945.	10.3	61
38	Regional effect on urban atmospheric nucleation. Atmospheric Chemistry and Physics, 2016, 16, 8715-8728.	4.9	60
39	Analysis of atmospheric neutral and charged molecular clusters in boreal forest using pulse-height CPC. Atmospheric Chemistry and Physics, 2009, 9, 4177-4184.	4.9	59
40	Enhanced growth rate of atmospheric particles from sulfuric acid. Atmospheric Chemistry and Physics, 2020, 20, 7359-7372.	4.9	58
41	On the diurnal cycle of urban aerosols, black carbon and the occurrence of new particle formation events in springtime SÃ£o Paulo, Brazil. Atmospheric Chemistry and Physics, 2012, 12, 11733-11751.	4.9	55
42	Hygroscopicity, CCN and volatility properties of submicron atmospheric aerosol in a boreal forest environment during the summer of 2010. Atmospheric Chemistry and Physics, 2014, 14, 4733-4748.	4.9	54
43	Observations on nocturnal growth of atmospheric clusters. Tellus, Series B: Chemical and Physical Meteorology, 2022, 60, 365.	1.6	51
44	Gas-phase alkylamines in a boreal Scots pine forest air. Atmospheric Environment, 2013, 80, 369-377.	4.1	51
45	The role of ions in new particle formation in the CLOUD chamber. Atmospheric Chemistry and Physics, 2017, 17, 15181-15197.	4.9	50
46	Formation and growth of sub-3-nm aerosol particles in experimental chambers. Nature Protocols, 2020, 15, 1013-1040.	12.0	49
47	Molecular understanding of the suppression of new-particle formation by isoprene. Atmospheric Chemistry and Physics, 2020, 20, 11809-11821.	4.9	49
48	Factors influencing the contribution of ion-induced nucleation in a boreal forest, Finland. Atmospheric Chemistry and Physics, 2010, 10, 3743-3757.	4.9	48
49	Acidic reaction products of monoterpenes and sesquiterpenes in atmospheric fine particles in a boreal forest. Atmospheric Chemistry and Physics, 2014, 14, 7883-7893.	4.9	48
50	Seasonal cycle and modal structure of particle number size distribution at Dome C, Antarctica. Atmospheric Chemistry and Physics, 2013, 13, 7473-7487.	4.9	46
51	Experimental investigation of ionâ€“ion recombination under atmospheric conditions. Atmospheric Chemistry and Physics, 2015, 15, 7203-7216.	4.9	46
52	Long-term volatility measurements of submicron atmospheric aerosol in HyytiÃlÃ, Finland. Atmospheric Chemistry and Physics, 2012, 12, 10771-10786.	4.9	45
53	New insights into nocturnal nucleation. Atmospheric Chemistry and Physics, 2012, 12, 4297-4312.	4.9	45
54	Sources and sinks driving sulfuric acid concentrations in contrasting environments: implications on proxy calculations. Atmospheric Chemistry and Physics, 2020, 20, 11747-11766.	4.9	42

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55	Classifying previously undefined days from eleven years of aerosol-particle-size distribution data from the SMEAR II station, HyytiÃlÃ, Finland. Atmospheric Chemistry and Physics, 2009, 9, 667-676.	4.9	40
56	Climate Feedbacks Linking the Increasing Atmospheric CO2 Concentration, BVOC Emissions, Aerosols and Clouds in Forest Ecosystems. Tree Physiology, 2013, , 489-508.	2.5	38
57	Significance of the organic aerosol driven climate feedback in the boreal area. Nature Communications, 2021, 12, 5637.	12.8	38
58	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.	4.9	36
59	Intercomparison of air ion spectrometers: an evaluation of results in varying conditions. Atmospheric Measurement Techniques, 2011, 4, 805-822.	3.1	34
60	Evolution of particle composition in CLOUD nucleation experiments. Atmospheric Chemistry and Physics, 2013, 13, 5587-5600.	4.9	33
61	Transportable Aerosol Characterization Trailer with Trace Gas Chemistry: Design, Instruments and Verification. Aerosol and Air Quality Research, 2013, 13, 421-435.	2.1	33
62	The first estimates of global nucleation mode aerosol concentrations based on satellite measurements. Atmospheric Chemistry and Physics, 2011, 11, 10791-10801.	4.9	31
63	Sulphuric acid and aerosol particle production in the vicinity of an oil refinery. Atmospheric Environment, 2015, 119, 156-166.	4.1	29
64	Solar eclipse demonstrating the importance of photochemistry in new particle formation. Scientific Reports, 2017, 7, 45707.	3.3	29
65	Technical note: New particle formation event forecasts during PEGASOSâ€“Zeppelin Northern mission 2013 in HyytiÃlÃ, Finland. Atmospheric Chemistry and Physics, 2015, 15, 12385-12396.	4.9	27
66	Ground-based observation of clusters and nucleation-mode particles in the Amazon. Atmospheric Chemistry and Physics, 2018, 18, 13245-13264.	4.9	26
67	Semi-empirical parameterization of size-dependent atmospheric nanoparticle growth in continental environments. Atmospheric Chemistry and Physics, 2013, 13, 7665-7682.	4.9	25
68	Estimating the contribution of ionâ€“ion recombination to sub-2 nm cluster concentrations from atmospheric measurements. Atmospheric Chemistry and Physics, 2013, 13, 11391-11401.	4.9	25
69	Atmospheric new particle formation at the research station Melpitz, Germany: connection with gaseous precursors and meteorological parameters. Atmospheric Chemistry and Physics, 2018, 18, 1835-1861.	4.9	25
70	Analysis of particle size distribution changes between three measurement sites in northern Scandinavia. Atmospheric Chemistry and Physics, 2013, 13, 11887-11903.	4.9	22
71	Estimating seasonal variations in cloud droplet number concentration over the boreal forest from satellite observations. Atmospheric Chemistry and Physics, 2011, 11, 7701-7713.	4.9	21
72	Measurementâ€“model comparison of stabilized Criegee intermediateÂand highly oxygenated molecule productionÂinÂtheÂCLOUDÂchamber. Atmospheric Chemistry and Physics, 2018, 18, 2363-2380.	4.9	21

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73	Variability of air ion concentrations in urban Paris. Atmospheric Chemistry and Physics, 2015, 15, 13717-13737.	4.9	19
74	Parameterization of ion-induced nucleation rates based on ambient observations. Atmospheric Chemistry and Physics, 2011, 11, 3393-3402.	4.9	18
75	Relating the hygroscopic properties of submicron aerosol to both gas- and particle-phase chemical composition in a boreal forest environment. Atmospheric Chemistry and Physics, 2015, 15, 11999-12009.	4.9	18
76	Sources of long-lived atmospheric VOCs at the rural boreal forest site, SMEAR II. Atmospheric Chemistry and Physics, 2015, 15, 13413-13432.	4.9	18
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.	3.1	18
78	ennemi: Non-linear correlation detection with mutual information. SoftwareX, 2021, 14, 100686.	2.6	18
79	Atmospheric nucleation and initial steps of particle growth: Numerical comparison of different theories and hypotheses. Atmospheric Research, 2010, 98, 229-236.	4.1	17
80	Prescribed burning of logging slash in the boreal forest of Finland: emissions and effects on meteorological quantities and soil properties. Atmospheric Chemistry and Physics, 2014, 14, 4473-4502.	4.9	17
81	Identification of new particle formation events with deep learning. Atmospheric Chemistry and Physics, 2018, 18, 9597-9615.	4.9	17
82	Comparison of the SAWNUC model with CLOUD measurements of sulphuric acidâ€water nucleation. Journal of Geophysical Research D: Atmospheres, 2016, 121, 12401-12414.	3.3	16
83	Characterization of satellite-based proxies for estimating nucleation mode particles over South Africa. Atmospheric Chemistry and Physics, 2015, 15, 4983-4996.	4.9	15
84	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.	3.1	14
85	How do air ions reflect variations in ionising radiation in the lower atmosphere in a boreal forest?. Atmospheric Chemistry and Physics, 2016, 16, 14297-14315.	4.9	14
86	Technical note: Effects of uncertainties and number of data points on line fitting â€“ a case study on new particle formation. Atmospheric Chemistry and Physics, 2019, 19, 12531-12543.	4.9	14
87	Emerging Investigator Series: COVID-19 lockdown effects on aerosol particle size distributions in northern Italy. Environmental Science Atmospheres, 2021, 1, 214-227.	2.4	12
88	Terpenoid emissions from fully grown east Siberian <i>Larix cajanderi</i> trees. Biogeosciences, 2013, 10, 4705-4719.	3.3	11
89	Technical Note: Using DEG-CPCs at upper tropospheric temperatures. Atmospheric Chemistry and Physics, 2015, 15, 7547-7555.	4.9	11
90	Late-spring and summertime tropospheric ozone and NO₂ in western Siberia and the Russian Arctic: regional model evaluation and sensitivities. Atmospheric Chemistry and Physics, 2021, 21, 4677-4697.	4.9	11

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91	New particle formation event detection with Mask R-CNN. Atmospheric Chemistry and Physics, 2022, 22, 1293-1309.	4.9	11
92	Quiet New Particle Formation in the Atmosphere. Frontiers in Environmental Science, 0, 10, .	3.3	10
93	Zeppelin-led study on the onset of new particle formation in the planetary boundary layer. Atmospheric Chemistry and Physics, 2021, 21, 12649-12663.	4.9	9
94	Roll vortices induce new particle formation bursts in the planetary boundary layer. Atmospheric Chemistry and Physics, 2020, 20, 11841-11854.	4.9	9
95	Two new submodels for the Modular Earth Submodel System (MESSy): New Aerosol Nucleation (NAN) and small ions (IONS) version 1.0. Geoscientific Model Development, 2018, 11, 4987-5001.	3.6	3
96	Exploring Non-Linear Dependencies in Atmospheric Data with Mutual Information. Atmosphere, 2022, 13, 1046.	2.3	3
97	Evolution of nanoparticle composition in CLOUD in presence of sulphuric acid, ammonia and organics. , 2013, , .		1
98	Does the onset of new particle formation occur in the planetary boundary layer?. , 2013, , .		1
99	Estimation of atmospheric particle formation rates through an analytical formula: validation and application in HyytiÃlÃ and Puijo, Finland. Atmospheric Chemistry and Physics, 2017, 17, 13361-13371.	4.9	1
100	A modelling study of OH, NO₃ and H₂SO₄ in 2007â€"2018 at SMEAR II, Finland: analysis of long-term trends. Environmental Science Atmospheres, 2021, 1, 449-472.	2.4	1
101	Technical note: Incorporating expert domain knowledge into causal structure discovery workflows. Biogeosciences, 2022, 19, 2095-2099.	3.3	1
102	Analysis of particle size distribution changes between three measurement sites in Northern Scandinavia. , 2013, , .		0
103	Contribution of oxidized organic compounds to nanoparticle growth. , 2013, , .		0
104	Atmospheric electricity and aerosol-cloud interactions in earthâ€™s atmosphere. , 2013, , .		0
105	On atmospheric neutral and ion clusters observed in Hyytiaÿlaÿ spring 2011. , 2013, , .		0
106	Determination of the size distribution of recombination products from atmospheric measurements. , 2013, , .		0
107	Measurements of cluster ions using a nano radial DMA and a particle size magnifier in CLOUD. , 2013, , .		0
108	How do amines affect the growth of recently formed aerosol particles. , 2013, , .		0

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109	Nucleation of H[sub 2]SO[sub 4] and oxidized organics in CLOUD experiment. , 2013, , .		0
110	Evolution of alpha-pinene oxidation products in the presence of varying oxidizers: CI-APi-TOF point of view. , 2013, , .		0
111	Modeling new particle formation with detailed chemistry and aerosol dynamics in a boreal forest environment. , 2013, , .		0
112	Long-term aerosol and trace gas measurements in Eastern Lapland, Finland: The impact of Kola air pollution to new particle formation. , 2013, , .		0
113	New particle formation events observed at a high altitude site Pico Espejo, Venezuela. , 2013, , .		0
114	Estimating the concentration of nucleation mode aerosol particles over South Africa using satellite remote sensing measurements. , 2013, , .		0
115	Observations of biomass burning smoke from Russian wild fire episodes in Finland 2010. , 2013, , .		0