Siegfried Schobesberger

List of Publications by Year
in descending order

100 papers	9,952 citations	94433 37 h-index	56724 83 g-index
164 all docs	164 docs citations	164 times ranked	5397 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	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
9	Global atmospheric particle formation from CERN CLOUD measurements. Science, 2016, 354, 1119-1124.	12.6	289
10	Highly functionalized organic nitrates in the southeast United States: Contribution to secondary organic aerosol and reactive nitrogen budgets. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 1516-1521.	7.1	269
11	Gas phase formation of extremely oxidized pinene reaction products in chamber and ambient air. Atmospheric Chemistry and Physics, 2012, 12, 5113-5127.	4.9	222
12	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.	7.1	208
13	Composition and temporal behavior of ambient ions in the boreal forest. Atmospheric Chemistry and Physics, 2010, 10, 8513-8530.	4.9	170
14	Source characterization of highly oxidized multifunctional compounds in a boreal forest environment using positive matrix factorization. Atmospheric Chemistry and Physics, 2016, 16, 12715-12731.	4.9	118
15	The effect of acidâ€“base clustering and ions on the growth of atmospheric nano-particles. Nature Communications, 2016, 7, 11594.	12.8	116
16	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
17	How do organic vapors contribute to new-particle formation?. Faraday Discussions, 2013, 165, 91.	3.2	105
18	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

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19	Role of iodine oxoacids in atmospheric aerosol nucleation. Science, 2021, 371, 589-595.	12.6	94
20	On the composition of ammoniaâ€“sulfuric-acid ion clusters during aerosol particle formation. Atmospheric Chemistry and Physics, 2015, 15, 55-78.	4.9	84
21	Anthropogenic enhancements to production of highly oxygenated molecules from autoxidation. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 6641-6646.	7.1	78
22	An Instrumental Comparison of Mobility and Mass Measurements of Atmospheric Small Ions. Aerosol Science and Technology, 2011, 45, 522-532.	3.1	72
23	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.	3.3	71
24	Ambient observations of dimers from terpene oxidation in the gas phase: Implications for new particle formation and growth. Geophysical Research Letters, 2017, 44, 2958-2966.	4.0	71
25	Molecular composition and volatility of isoprene photochemicalÂoxidationÂsecondaryÂorganic aerosolÂunderÂlow-ÂandÂhigh-NO_{<i>x</i>}Âconditions. Atmospheric Chemistry and Physics, 2017, 17, 159-174.	4.9	70
26	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.	4.9	68
27	Enhanced growth rate of atmospheric particles from sulfuric acid. Atmospheric Chemistry and Physics, 2020, 20, 7359-7372.	4.9	58
28	Influence of temperature on the molecular composition of ions and charged clusters during pure biogenic nucleation. Atmospheric Chemistry and Physics, 2018, 18, 65-79.	4.9	56
29	Isomerization of Second-Generation Isoprene Peroxy Radicals: Epoxide Formation and Implications for Secondary Organic Aerosol Yields. Environmental Science & Technology, 2017, 51, 4978-4987.	10.0	53
30	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.	2.7	52
31	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.	10.0	51
32	Isothermal Evaporation of Î±-Pinene Ozonolysis SOA: Volatility, Phase State, and Oligomeric Composition. ACS Earth and Space Chemistry, 2018, 2, 1058-1067.	2.7	49
33	Molecular understanding of the suppression of new-particle formation by isoprene. Atmospheric Chemistry and Physics, 2020, 20, 11809-11821.	4.9	49
34	Characterisation of corona-generated ions used in a Neutral cluster and Air Ion Spectrometer (NAIS). Atmospheric Measurement Techniques, 2011, 4, 2767-2776.	3.1	47
35	Experimental investigation of ionâ€“ion recombination under atmospheric conditions. Atmospheric Chemistry and Physics, 2015, 15, 7203-7216.	4.9	46
36	Overview of the HI-SCALE Field Campaign: A New Perspective on Shallow Convective Clouds. Bulletin of the American Meteorological Society, 2019, 100, 821-840.	3.3	44

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37	A model framework to retrieve thermodynamic and kinetic properties of organic aerosol from composition-resolved thermal desorption measurements. Atmospheric Chemistry and Physics, 2018, 18, 14757-14785.	4.9	42
38	Flight Deployment of a Highâ€Resolution Timeâ€ofâ€Flight Chemical Ionization Mass Spectrometer: Observations of Reactive Halogen and Nitrogen Oxide Species. Journal of Geophysical Research D: Atmospheres, 2018, 123, 7670-7686.	3.3	39
39	Chamber-based insights into the factors controlling epoxydiol (IEPOX) secondary organic aerosol (SOA) yield, composition, and volatility. Atmospheric Chemistry and Physics, 2019, 19, 11253-11265.	4.9	38
40	The driving factors of new particle formation and growth in the polluted boundary layer. Atmospheric Chemistry and Physics, 2021, 21, 14275-14291.	4.9	38
41	High upward fluxes of formic acid from a boreal forest canopy. Geophysical Research Letters, 2016, 43, 9342-9351.	4.0	36
42	Evaluating Organic Aerosol Sources and Evolution with a Combined Molecular Composition and Volatility Framework Using the Filter Inlet for Gases and Aerosols (FIGAERO). Accounts of Chemical Research, 2020, 53, 1415-1426.	15.6	36
43	Intercomparison of air ion spectrometers: an evaluation of results in varying conditions. Atmospheric Measurement Techniques, 2011, 4, 805-822.	3.1	34
44	Effect of ions on sulfuric acidâ€water binary particle formation: 1. Theory for kineticâ€and nucleationâ€type particle formation and atmospheric implications. Journal of Geophysical Research D: Atmospheres, 2016, 121, 1736-1751.	3.3	34
45	Acidâ€"Base Clusters during Atmospheric New Particle Formation in Urban Beijing. Environmental Science & Technology, 2021, 55, 10994-11005.	10.0	34
46	Comparing simulated and experimental molecular cluster distributions. Faraday Discussions, 2013, 165, 75.	3.2	33
47	Evolution of particle composition in CLOUD nucleation experiments. Atmospheric Chemistry and Physics, 2013, 13, 5587-5600.	4.9	33
48	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.	4.9	33
49	Secondary Organic Aerosol Formation from Healthy and Aphid-Stressed Scots Pine Emissions. ACS Earth and Space Chemistry, 2019, 3, 1756-1772.	2.7	32
50	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.	10.0	32
51	Composition and volatility of secondary organic aerosol (SOA) formed from oxidation of real tree emissions compared to simplified volatile organic compound (VOC) systems. Atmospheric Chemistry and Physics, 2020, 20, 5629-5644.	4.9	31
52	Sulphuric acid and aerosol particle production in the vicinity of an oil refinery. Atmospheric Environment, 2015, 119, 156-166.	4.1	29
53	Hygroscopicity of nanoparticles produced from homogeneous nucleation in the CLOUD experiments. Atmospheric Chemistry and Physics, 2016, 16, 293-304.	4.9	29
54	On the calibration of FIGAERO-ToF-CIMS: importance and impact of calibrant delivery for the particle-phase calibration. Atmospheric Measurement Techniques, 2021, 14, 355-367.	3.1	28

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55	Deconvolution of FIGAEROâ€“CIMS thermal desorption profiles using positive matrix factorisation to identify chemical and physical processes during particle evaporation. Atmospheric Chemistry and Physics, 2020, 20, 7693-7716.	4.9	28
56	Thermodynamics of the formation of sulfuric acid dimers in the binary (H₂SO₄â€“H<sub>2</sub and ternary (H₂SO₄â€“H<sub>2</sub system. Atmospheric Chemistry and Physics, 2015, 15, 10701-10721.	4.9	27
57	Synergistic HNO3â€“H2SO4â€“NH3 upper tropospheric particle formation. Nature, 2022, 605, 483-489.	27.8	26
58	Unexpectedly acidic nanoparticles formed in dimethylamineâ€“ammoniaâ€“sulfuric-acid nucleation experiments at CLOUD. Atmospheric Chemistry and Physics, 2016, 16, 13601-13618.	4.9	24
59	Insights into the Oâ€‰:â€‰C-dependent mechanisms controlling the evaporation of <i>Î±</i>-pinene secondary organic aerosol particles. Atmospheric Chemistry and Physics, 2019, 19, 4061-4073.	4.9	23
60	Measurementâ€“model comparison of stabilized Criegee intermediateÂand highly oxygenated molecule productionÂinÂtheÂCLOUDÂchamber. Atmospheric Chemistry and Physics, 2018, 18, 2363-2380.	4.9	21
61	Resolving Ambient Organic Aerosol Formation and Aging Pathways with Simultaneous Molecular Composition and Volatility Observations. ACS Earth and Space Chemistry, 2020, 4, 391-402.	2.7	19
62	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
63	Applicability of an integrated plume rise model for the dispersion from wild-land fires. Geoscientific Model Development, 2014, 7, 2663-2681.	3.6	18
64	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
65	Elemental composition and clustering behaviour of Î±-pinene oxidation products for different oxidation conditions. Atmospheric Chemistry and Physics, 2015, 15, 4145-4159.	4.9	17
66	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.	3.3	17
67	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
68	Potential dual effect of anthropogenic emissions on the formation of biogenic secondary organic aerosol (BSOA). Atmospheric Chemistry and Physics, 2019, 19, 15651-15671.	4.9	16
69	The importance of sesquiterpene oxidation products for secondary organic aerosol formation in a springtime hemiboreal forest. Atmospheric Chemistry and Physics, 2021, 21, 11781-11800.	4.9	16
70	Experiments on the Temperature Dependence of Heterogeneous Nucleation on Nanometerâ€Sized NaCl and Ag Particles. ChemPhysChem, 2010, 11, 3874-3882.	2.1	15
71	Modeling the thermodynamics and kinetics of sulfuric acid-dimethylamine-water nanoparticle growth in the CLOUD chamber. Aerosol Science and Technology, 2016, 50, 1017-1032.	3.1	13
72	Surface Wetness as an Unexpected Control on Forest Exchange of Volatile Organic Acids. Geophysical Research Letters, 2020, 47, e2020GL088745.	4.0	13

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73	Comparison of dimension reduction techniques in the analysis of mass spectrometry data. Atmospheric Measurement Techniques, 2020, 13, 2995-3022.	3.1	11
74	Characterisation of the transfer of cluster ions through an atmospheric pressure interface time-of-flight mass spectrometer with hexapole ion guides. Atmospheric Measurement Techniques, 2019, 12, 5231-5246.	3.1	9
75	A robust clustering algorithm for analysis of composition-dependent organic aerosol thermal desorption measurements. Atmospheric Chemistry and Physics, 2020, 20, 2489-2512.	4.9	9
76	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
77	Comparison of saturation vapor pressures of <i>Î±</i>-pinene + O₃ oxidation products derived from COSMO-RS computations and thermal desorption experiments. Atmospheric Chemistry and Physics, 2022, 22, 1195-1208.	4.9	8
78	Pathways to Highly Oxidized Products in the Î”3-Carene + OH System. Environmental Science & Technology, 2022, 56, 2213-2224.	10.0	8
79	Estimation of sulfuric acid concentration using ambient ion composition and concentration data obtained with atmospheric pressure interface time-of-flight ion mass spectrometer. Atmospheric Measurement Techniques, 2022, 15, 1957-1965.	3.1	8
80	Effect of ions on the measurement of sulfuric acid in the CLOUD experiment at CERN. Atmospheric Measurement Techniques, 2014, 7, 3849-3859.	3.1	7
81	Comparing secondary organic aerosol (SOA) volatility distributions derived from isothermal SOA particle evaporation data and FIGAEROâ€“CIMS measurements. Atmospheric Chemistry and Physics, 2020, 20, 10441-10458.	4.9	7
82	Evolution of volatility and composition in sesquiterpene-mixed and <i>Î±</i>-pinene secondary organic aerosol particles during isothermal evaporation. Atmospheric Chemistry and Physics, 2021, 21, 18283-18302.	4.9	6
83	Diurnal evolution of negative atmospheric ions above the boreal forest: from ground level to the free troposphere. Atmospheric Chemistry and Physics, 2022, 22, 8547-8577.	4.9	5
84	Formation and Evolution of Catechol-Derived SOA Mass, Composition, Volatility, and Light Absorption. ACS Earth and Space Chemistry, 0, , .	2.7	3
85	Role of organics in particle nucleation: From the lab to global model. , 2013, , .		1
86	Evolution of nanoparticle composition in CLOUD in presence of sulphuric acid, ammonia and organics. , 2013, , .		1
87	Two-dimensional volatility basis set modeling of pinanediol oxidation in the CLOUD experiment. , 2013, , .		1
88	Does the onset of new particle formation occur in the planetary boundary layer?. , 2013, , .		1
89	Characterization of positive clusters in the CLOUD nucleation experiments. , 2013, , .		0
90	Contribution of oxidized organic compounds to nanoparticle growth. , 2013, , .		0

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91	On atmospheric neutral and ion clusters observed in HyytiaÌˆlaÌˆ spring 2011. , 2013, , .		0
92	Measuring composition and growth of ion clusters of sulfuric acid, ammonia, amines and oxidized organics as first steps of nucleation in the CLOUD experiment. , 2013, , .		0
93	Modelling new particle formation from JuÌˆlich plant atmosphere chamber and CERN CLOUD chamber measurements. , 2013, , .		0
94	Probing aerosol formation by comprehensive measurements of gas phase oxidation products. , 2013, , .		0
95	The particle size magnifier closing the gap between measurement of molecules, molecular clusters and aerosol particles. , 2013, , .		0
96	Measurements of cluster ions using a nano radial DMA and a particle size magnifier in CLOUD. , 2013, , .		0
97	How do amines affect the growth of recently formed aerosol particles. , 2013, , .		0
98	Simulation of ion-induced nucleation in the CLOUD chamber. , 2013, , .		0
99	Evolution of Î±-pinene oxidation products in the presence of varying oxidizers: Negative APi-TOF point of view. , 2013, , .		0
100	Evolution of alpha-pinene oxidation products in the presence of varying oxidizers: CI-APi-TOF point of view. , 2013, , .		0