Ken Carslaw

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.	27.8	1,114
2	Large contribution of natural aerosols to uncertainty in indirect forcing. Nature, 2013, 503, 67-71.	27.8	814
3	Molecular understanding of sulphuric acidâ€"amine particle nucleation in the atmosphere. Nature, 2013, 502, 359-363.	27.8	774
4	Impact of nucleation on global CCN. Atmospheric Chemistry and Physics, 2009, 9, 8601-8616.	4.9	732
5	Atmospheric composition change â€" global and regional air quality. Atmospheric Environment, 2009, 43, 5268-5350.	4.1	714
6	Particulate matter, air quality and climate: lessons learned and future needs. Atmospheric Chemistry and Physics, 2015, 15, 8217-8299.	4.9	641
7	The importance of feldspar for ice nucleation by mineral dust in mixed-phase clouds. Nature, 2013, 498, 355-358.	27.8	590
8	A review of natural aerosol interactions and feedbacks within the Earth system. Atmospheric Chemistry and Physics, 2010, 10, 1701-1737.	4.9	542
9	The role of low-volatility organic compounds in initial particle growth in the atmosphere. Nature, 2016, 533, 527-531.	27.8	540
10	Ion-induced nucleation of pure biogenic particles. Nature, 2016, 533, 521-526.	27.8	528
11	Cosmic Rays, Clouds, and Climate. Science, 2002, 298, 1732-1737.	12.6	506
12	Improving our fundamental understanding of the role of aerosolâˆ'cloud interactions in the climate system. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5781-5790.	7.1	479
13	A marine biogenic source of atmospheric ice-nucleating particles. Nature, 2015, 525, 234-238.	27.8	475
14	Oxidation Products of Biogenic Emissions Contribute to Nucleation of Atmospheric Particles. Science, 2014, 344, 717-721.	12.6	456
15	UKESM1: Description and Evaluation of the U.K. Earth System Model. Journal of Advances in Modeling Earth Systems, 2019, 11, 4513-4558.	3.8	448
16	Bounding Global Aerosol Radiative Forcing of Climate Change. Reviews of Geophysics, 2020, 58, e2019RG000660.	23.0	424
17	Aerosol mass spectrometer constraint on the global secondary organic aerosol budget. Atmospheric Chemistry and Physics, 2011, 11, 12109-12136.	4.9	421
18	Description and evaluation of GLOMAP-mode: a modal global aerosol microphysics model for the UKCA composition-climate model. Geoscientific Model Development, 2010, 3, 519-551.	3.6	406

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19	Evidence for the role of organics in aerosol particle formation under atmospheric conditions. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 6646-6651.	7.1	403
20	Contribution of particle formation to global cloud condensation nuclei concentrations. Geophysical Research Letters, 2008, 35, .	4.0	400
21	The Met Office Unified Model Global Atmosphere 7.0/7.1 and JULES Global Land 7.0 configurations. Geoscientific Model Development, 2019, 12, 1909-1963.	3.6	372
22	The contribution of boundary layer nucleation events to total particle concentrations on regional and global scales. Atmospheric Chemistry and Physics, 2006, 6, 5631-5648.	4.9	364
23	The AeroCom evaluation and intercomparison of organic aerosol in global models. Atmospheric Chemistry and Physics, 2014, 14, 10845-10895.	4.9	363
24	Stratospheric aerosol growth and HNO3gas phase depletion from coupled HNO3and water uptake by liquid particles. Geophysical Research Letters, 1994, 21, 2479-2482.	4.0	346
25	Ion-aerosol-cloud processes in the lower atmosphere. Reviews of Geophysics, 2003, 41, .	23.0	303
26	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
27	Global atmospheric particle formation from CERN CLOUD measurements. Science, 2016, 354, 1119-1124.	12.6	289
28	The Detection of Large HNO3-Containing Particles in the Winter Arctic Stratosphere. Science, 2001, 291, 1026-1031.	12.6	279
29	General overview: European Integrated project on Aerosol Cloud Climate and Air Quality interactions (EUCAARI) â€" integrating aerosol research from nano to global scales. Atmospheric Chemistry and Physics, 2011, 11, 13061-13143.	4.9	278
30	A Thermodynamic Model of the System HCl-HNO3-H2SO4-H2O, Including Solubilities of HBr, from <200 to 328 K. The Journal of Physical Chemistry, 1995, 99, 11557-11574.	2.9	275
31	An analytic expression for the composition of aqueous HNO3-H2SO4stratospheric aerosols including gas phase removal of HNO3. Geophysical Research Letters, 1995, 22, 1877-1880.	4.0	267
32	A global off-line model of size-resolved aerosol microphysics: I. Model development and prediction of aerosol properties. Atmospheric Chemistry and Physics, 2005, 5, 2227-2252.	4.9	257
33	Impacts on iron solubility in the mineral dust by processes in the source region and the atmosphere: A review. Aeolian Research, 2012, 5, 21-42.	2.7	228
34	Arctic Ozone Loss Due to Denitrification. Science, 1999, 283, 2064-2069.	12.6	214
35	Explaining global surface aerosol number concentrations in terms of primary emissions and particle formation. Atmospheric Chemistry and Physics, 2010, 10, 4775-4793.	4.9	212
36	The magnitude and causes of uncertainty in global model simulations of cloud condensation nuclei. Atmospheric Chemistry and Physics, 2013, 13, 8879-8914.	4.9	211

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37	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
38	Increased stratospheric ozone depletion due to mountain-induced atmospheric waves. Nature, 1998, 391, 675-678.	27.8	198
39	Causes and importance of new particle formation in the presentâ€day and preindustrial atmospheres. Journal of Geophysical Research D: Atmospheres, 2017, 122, 8739-8760.	3.3	198
40	Boreal forests, aerosols and the impacts on clouds and climate. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 4613-4626.	3.4	197
41	Introduction: European Integrated Project on Aerosol Cloud Climate and Air Quality interactions (EUCAARI) â€" integrating aerosol research from nano to global scales. Atmospheric Chemistry and Physics, 2009, 9, 2825-2841.	4.9	196
42	Global cloud condensation nuclei influenced by carbonaceous combustion aerosol. Atmospheric Chemistry and Physics, 2011, 11, 9067-9087.	4.9	194
43	Strong constraints on aerosolâ€“cloud interactions from volcanic eruptions. Nature, 2017, 546, 485-491.	27.8	191
44	The scavenging processes controlling the seasonal cycle in Arctic sulphate and black carbon aerosol. Atmospheric Chemistry and Physics, 2012, 12, 6775-6798.	4.9	179
45	The direct and indirect radiative effects of biogenic secondary organic aerosol. Atmospheric Chemistry and Physics, 2014, 14, 447-470.	4.9	175
46	Multicomponent new particle formation from sulfuric acid, ammonia, and biogenic vapors. Science Advances, 2018, 4, eaau5363.	10.3	164
47	Influence of oceanic dimethyl sulfide emissions on cloud condensation nuclei concentrations and seasonality over the remote Southern Hemisphere oceans: A global model study. Journal of Geophysical Research, 2008, 113, .	3.3	162
48	Strong control of Southern Ocean cloud reflectivity by ice-nucleating particles. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 2687-2692.	7.1	156
49	Particle microphysics and chemistry in remotely observed mountain polar stratospheric clouds. Journal of Geophysical Research, 1998, 103, 5785-5796.	3.3	155
50	Modeling the composition of liquid stratospheric aerosols. Reviews of Geophysics, 1997, 35, 125-154.	23.0	154
51	Natural aerosol direct and indirect radiative effects. Geophysical Research Letters, 2013, 40, 3297-3301.	4.0	150
52	Intercomparison and evaluation of global aerosol microphysical properties among AeroCom models of a range of complexity. Atmospheric Chemistry and Physics, 2014, 14, 4679-4713.	4.9	148
53	Size-dependent stratospheric droplet composition in Lee wave temperature fluctuations and their potential role in PSC freezing. Geophysical Research Letters, 1995, 22, 3031-3034.	4.0	147
54	Contribution of feldspar and marine organic aerosols to global ice nucleating particle concentrations. Atmospheric Chemistry and Physics, 2017, 17, 3637-3658.	4.9	144

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55	The 1997 Arctic Ozone depletion quantified from three-dimensional model simulations. Geophysical Research Letters, 1998, 25, 2425-2428.	4.0	133
56	Emulation of a complex global aerosol model to quantify sensitivity to uncertain parameters. Atmospheric Chemistry and Physics, 2011, 11, 12253-12273.	4.9	128
57	vapour pressures of H2SO4/HNO3/HCl/HBr/H2O solutions to low stratospheric temperatures. Geophysical Research Letters, 1995, 22, 247-250.	4.0	125
58	Globally significant oceanic source of organic carbon aerosol. Geophysical Research Letters, 2008, 35, .	4.0	125
59	Iron dissolution kinetics of mineral dust at low pH during simulated atmospheric processing. Atmospheric Chemistry and Physics, 2011, 11, 995-1007.	4.9	122
60	Occurrence of pristine aerosol environments on a polluted planet. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 18466-18471.	7.1	117
61	Importance of tropospheric volcanic aerosol for indirect radiative forcing of climate. Atmospheric Chemistry and Physics, 2012, 12, 7321-7339.	4.9	116
62	The effect of acidâ€“base clustering and ions on the growth of atmospheric nano-particles. Nature Communications, 2016, 7, 11594.	12.8	116
63	A global off-line model of size-resolved aerosol microphysics: II. Identification of key uncertainties. Atmospheric Chemistry and Physics, 2005, 5, 3233-3250.	4.9	111
64	Primary versus secondary contributions to particle number concentrations in the European boundary layer. Atmospheric Chemistry and Physics, 2011, 11, 12007-12036.	4.9	110
65	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
66	Impact of the modal aerosol scheme GLOMAP-mode on aerosol forcing in the Hadley Centre Global Environmental Model. Atmospheric Chemistry and Physics, 2013, 13, 3027-3044.	4.9	106
67	Low sensitivity of cloud condensation nuclei to changes in the sea-air flux of dimethyl-sulphide. Atmospheric Chemistry and Physics, 2010, 10, 7545-7559.	4.9	105
68	The impact of dust on sulfate aerosol, CN and CCN during an East Asian dust storm. Atmospheric Chemistry and Physics, 2010, 10, 365-382.	4.9	102
69	Intercomparison of modal and sectional aerosol microphysics representations within the same 3-D global chemical transport model. Atmospheric Chemistry and Physics, 2012, 12, 4449-4476.	4.9	101
70	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
71	Results from the CERN pilot CLOUD experiment. Atmospheric Chemistry and Physics, 2010, 10, 1635-1647.	4.9	96
72	The mass and number size distributions of black carbon aerosol over Europe. Atmospheric Chemistry and Physics, 2013, 13, 4917-4939.	4.9	96

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73	An overview of the SOLVE/THESEO 2000 campaign. Journal of Geophysical Research, 2002, 107, SOL 1-1.	3.3	94
74	Selective environmental stress from sulphur emitted by continental flood basalt eruptions. Nature Geoscience, 2016, 9, 77-82.	12.9	92
75	Excess mortality in Europe following a future Laki-style Icelandic eruption. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 15710-15715.	7.1	91
76	Influence of chemical weathering and aging of iron oxides on the potential iron solubility of Saharan dust during simulated atmospheric processing. Global Biogeochemical Cycles, 2011, 25, n/a-n/a.	4.9	90
77	Vertical transport and processing of aerosols in a mixed-phase convective cloud and the feedback on cloud development. Quarterly Journal of the Royal Meteorological Society, 2005, 131, 221-245.	2.7	88
78	An AeroCom assessment of black carbon in Arctic snow and sea ice. Atmospheric Chemistry and Physics, 2014, 14, 2399-2417.	4.9	86
79	Impact on short-lived climate forcers increases projected warming due to deforestation. Nature Communications, 2018, 9, 157.	12.8	86
80	Mapping the uncertainty in global CCN using emulation. Atmospheric Chemistry and Physics, 2012, 12, 9739-9751.	4.9	85
81	Aerosols in the Pre-industrial Atmosphere. Current Climate Change Reports, 2017, 3, 1-15.	8.6	84
82	Ultrathin Tropical Tropopause Clouds (UTTCs): I. Cloud morphology and occurrence. Atmospheric Chemistry and Physics, 2003, 3, 1083-1091.	4.9	83
83	Sensitivity of cloud condensation nuclei to regional changes in dimethyl-sulphide emissions. Atmospheric Chemistry and Physics, 2013, 13, 2723-2733.	4.9	83
84	Description and evaluation of aerosol in UKESM1 and HadGEM3-GC3.1 CMIP6 historical simulations. Geoscientific Model Development, 2020, 13, 6383-6423.	3.6	83
85	Regional and global trends in sulfate aerosol since the 1980s. Geophysical Research Letters, 2007, 34, .	4.0	81
86	The complex response of Arctic aerosol to sea-ice retreat. Atmospheric Chemistry and Physics, 2014, 14, 7543-7557.	4.9	81
87	A vortex-scale simulation of the growth and sedimentation of large nitric acid hydrate particles. Journal of Geophysical Research, 2002, 107, SOL 43-1.	3.3	80
88	On the relationship between aerosol model uncertainty and radiative forcing uncertainty. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5820-5827.	7.1	79
89	Opinion: Cloud-phase climate feedback and the importance of ice-nucleating particles. Atmospheric Chemistry and Physics, 2021, 21, 665-679.	4.9	78
90	Impact of BrO on dimethylsulfide in the remote marine boundary layer. Geophysical Research Letters, 2010, 37, .	4.0	75

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91	Aerosol and physical atmosphere model parameters are both important sources of uncertainty in aerosol ERF. Atmospheric Chemistry and Physics, 2018, 18, 9975-10006.	4.9	75
92	Reassessment of pre-industrial fire emissions strongly affects anthropogenic aerosol forcing. Nature Communications, 2018, 9, 3182.	12.8	75
93	Widespread solid particle formation by mountain waves in the Arctic stratosphere. Journal of Geophysical Research, 1999, 104, 1827-1836.	3.3	73
94	A global model study of processes controlling aerosol size distributions in the Arctic spring and summer. Journal of Geophysical Research, 2008, 113, .	3.3	72
95	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
96	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.	3.3	71
97	Tropospheric aerosol microphysics simulation with assimilated meteorology: model description and intermodel comparison. Atmospheric Chemistry and Physics, 2008, 8, 3149-3168.	4.9	70
98	Ozone loss rates in the Arctic stratosphere in the winter 1991/92: Model calculations compared with match results. Geophysical Research Letters, 1998, 25, 4325-4328.	4.0	68
99	The impact of the 1783â€“1784 AD Laki eruption on global aerosol formation processes and cloud condensation nuclei. Atmospheric Chemistry and Physics, 2010, 10, 6025-6041.	4.9	68
100	Quantifying sources of interâ€model diversity in the cloud albedo effect. Geophysical Research Letters, 2015, 42, 1568-1575.	4.0	68
101	Understanding the nature of atmospheric acid processing of mineral dusts in supplying bioavailable phosphorus to the oceans. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14639-14644.	7.1	68
102	The relationship between aerosol and cloud drop number concentrations in a global aerosol microphysics model. Atmospheric Chemistry and Physics, 2009, 9, 4131-4144.	4.9	65
103	Enhancement of marine cloud albedo via controlled sea spray injections: a global model study of the influence of emission rates, microphysics and transport. Atmospheric Chemistry and Physics, 2010, 10, 4133-4143.	4.9	65
104	Aerosol climate feedback due to decadal increases in Southern Hemisphere wind speeds. Geophysical Research Letters, 2010, 37, .	4.0	65
105	Effects of boundary layer particle formation on cloud droplet number and changes in cloud albedo from 1850 to 2000. Atmospheric Chemistry and Physics, 2010, 10, 695-705.	4.9	64
106	Nonequilibrium coexistence of solid and liquid particles in Arctic stratospheric clouds. Journal of Geophysical Research, 2001, 106, 22991-23007.	3.3	63
107	Aerosol microphysics simulations of the Mt.~Pinatubo eruption with the UM-UKCA composition-climate model. Atmospheric Chemistry and Physics, 2014, 14, 11221-11246.	4.9	62
108	Impact of Changes to the Atmospheric Soluble Iron Deposition Flux on Ocean Biogeochemical Cycles in the Anthropocene. Global Biogeochemical Cycles, 2020, 34, e2019GB006448.	4.9	62

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109	Melting of H2SO4Â4H2O Particles upon Cooling: Implications for Polar Stratospheric Clouds. Science, 1996, 272, 1638-1641.	12.6	61
110	Modelled and observed changes in aerosols and surface solar radiation over Europe between 1960 and 2009. Atmospheric Chemistry and Physics, 2015, 15, 9477-9500.	4.9	61
111	Large simulated radiative effects of smoke in the south-east Atlantic. Atmospheric Chemistry and Physics, 2018, 18, 15261-15289.	4.9	61
112	Size-dependent influence of NO _x on the growth rates of organic aerosol particles. Science Advances, 2020, 6, eaay4945.	10.3	61
113	Evaluation of global simulations of aerosol particle and cloud condensation nuclei number, with implications for cloud droplet formation. Atmospheric Chemistry and Physics, 2019, 19, 8591-8617.	4.9	60
114	Aircraft lidar observations of an enhanced type Ia polar stratospheric clouds during APE-POLECAT. Journal of Geophysical Research, 1999, 104, 23961-23969.	3.3	59
115	New approaches to quantifying aerosol influence on the cloud radiative effect. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5812-5819.	7.1	58
116	Enhanced growth rate of atmospheric particles from sulfuric acid. Atmospheric Chemistry and Physics, 2020, 20, 7359-7372.	4.9	58
117	Thermodynamic stability and phase transitions of PSC particles. Geophysical Research Letters, 1997, 24, 2199-2202.	4.0	57
118	The CLoudâ€“Aerosolâ€“Radiation Interaction and Forcing: YearÂ2017 (CLARIFY-2017) measurement campaign. Atmospheric Chemistry and Physics, 2021, 21, 1049-1084.	4.9	57
119	Evaluating uncertainty in convective cloud microphysics using statistical emulation. Journal of Advances in Modeling Earth Systems, 2015, 7, 162-187.	3.8	56
120	An analysis of large HNO3-containing particles sampled in the Arctic stratosphere during the winter of 1999/2000. Journal of Geophysical Research, 2002, 107, SOL 41-1.	3.3	55
121	Aerosol-cloud-climate cooling overestimated by ship-track data. Science, 2021, 371, 485-489.	12.6	55
122	Freezing of polar stratospheric clouds in orographically induced strong warming events. Geophysical Research Letters, 1997, 24, 2303-2306.	4.0	54
123	Dehydration potential of ultrathin clouds at the tropical tropopause. Geophysical Research Letters, 2003, 30, .	4.0	54
124	Detailed modeling of mountain wave PSCs. Atmospheric Chemistry and Physics, 2003, 3, 697-712.	4.9	54
125	A model intercomparison of CCN-limited tenuous clouds in the high Arctic. Atmospheric Chemistry and Physics, 2018, 18, 11041-11071.	4.9	54
126	A simple model of global aerosol indirect effects. Journal of Geophysical Research D: Atmospheres, 2013, 118, 6688-6707.	3.3	53

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127	Aerosol-boundary-layer-monsoon interactions amplify semi-direct effect of biomass smoke on low cloud formation in Southeast Asia. Nature Communications, 2021, 12, 6416.	12.8	53
128	Solubility of HOCl in water and aqueous H2SO4 to stratospheric temperatures. Journal of Atmospheric Chemistry, 1995, 21, 81-95.	3.2	52
129	The Global Aerosol Synthesis and Science Project (GASSP): Measurements and Modeling to Reduce Uncertainty. Bulletin of the American Meteorological Society, 2017, 98, 1857-1877.	3.3	52
130	The hemispheric contrast in cloud microphysical properties constrains aerosol forcing. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 18998-19006.	7.1	51
131	Uncertainties in reactive uptake coefficients for solid stratospheric particles-1. Surface chemistry. Geophysical Research Letters, 1997, 24, 1743-1746.	4.0	50
132	Evaluation of a global aerosol microphysics model against size-resolved particle statistics in the marine atmosphere. Atmospheric Chemistry and Physics, 2007, 7, 2073-2090.	4.9	50
133	The impact of European legislative and technology measures to reduce air pollutants on air quality, human health and climate. Environmental Research Letters, 2016, 11, 024010.	5.2	50
134	A numerical study of aerosol effects on the dynamics and microphysics of a deep convective cloud in a continental environment. Journal of Geophysical Research, 2006, 111, .	3.3	49
135	Uncertainty in the magnitude of aerosolâ€cloud radiative forcing over recent decades. Geophysical Research Letters, 2014, 41, 9040-9049.	4.0	49
136	Model-guided Lagrangian observation and simulation of mountain polar stratospheric clouds. Journal of Geophysical Research, 1999, 104, 23971-23981.	3.3	47
137	Experimental investigation of ionâ€“ion recombination under atmospheric conditions. Atmospheric Chemistry and Physics, 2015, 15, 7203-7216.	4.9	46
138	Minor effect of physical size sorting on iron solubility of transported mineral dust. Atmospheric Chemistry and Physics, 2011, 11, 8459-8469.	4.9	44
139	Collocated observations of cloud condensation nuclei, particle size distributions, and chemical composition. Scientific Data, 2017, 4, 170003.	5.3	44
140	Impact of future Arctic shipping on highâ€latitude black carbon deposition. Geophysical Research Letters, 2013, 40, 4459-4463.	4.0	43
141	A test of our understanding of the ozone chemistry in the Arctic polar vortex based on in situ measurements of ClO, BrO, and O3in the 1994/1995 winter. Journal of Geophysical Research, 1999, 104, 18755-18768.	3.3	42
142	Ozone loss rates in the Arctic stratosphere in the winter 1994/1995: Model simulations underestimate results of the Match analysis. Journal of Geophysical Research, 2000, 105, 15175-15184.	3.3	42
143	Modeling the effect of denitrification on Arctic ozone depletion during winter 1999/2000. Journal of Geophysical Research, 2002, 107, SOL 65-1-SOL 65-18.	3.3	42
144	Uncertainties in reactive uptake coefficients for solid stratospheric particles-2. Effect on ozone depletion. Geophysical Research Letters, 1997, 24, 1747-1750.	4.0	41

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145	Multi-model comparison of the volcanic sulfate deposition from the 1815 eruption of Mt.ÂTambora. Atmospheric Chemistry and Physics, 2018, 18, 2307-2328.	4.9	41
146	Boundary layer nucleation as a source of new CCN in savannah environment. Atmospheric Chemistry and Physics, 2013, 13, 1957-1972.	4.9	40
147	Exploring How Eruption Source Parameters Affect Volcanic Radiative Forcing Using Statistical Emulation. Journal of Geophysical Research D: Atmospheres, 2019, 124, 964-985.	3.3	40
148	Mountain Waveâ€"Induced Polar Stratospheric Cloud Forecasts for Aircraft Science Flights during SOLVE/THESEO 2000. Weather and Forecasting, 2006, 21, 42-68.	1.4	38
149	The response of precipitation to aerosol through riming and melting in deep convective clouds. Atmospheric Chemistry and Physics, 2011, 11, 3495-3510.	4.9	38
150	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
151	Chlorine activation and ozone destruction in the northern lowermost stratosphere. Journal of Geophysical Research, 1999, 104, 8201-8213.	3.3	37
152	Impact of gas-to-particle partitioning approaches on the simulated radiative effects of biogenic secondary organic aerosol. Atmospheric Chemistry and Physics, 2015, 15, 12989-13001.	4.9	37
153	Ice-nucleating ability of aerosol particles and possible sources at three coastal marine sites. Atmospheric Chemistry and Physics, 2018, 18, 15669-15685.	4.9	37
154	Mesoscale Temperature Fluctuations Induced by a Spectrum of Gravity Waves: A Comparison of Parameterizations and Their Impact on Stratospheric Microphysics. Journals of the Atmospheric Sciences, 1999, 56, 1913-1924.	1.7	35
155	Modelling the effect of denitrification on polar ozone depletion for Arctic winter 2004/2005. Atmospheric Chemistry and Physics, 2011, 11, 6559-6573.	4.9	35
156	Simulation of trace gas redistribution by convective clouds - Liquid phase processes. Atmospheric Chemistry and Physics, 2001, 1, 19-36.	4.9	34
157	Ultrathin Tropical Tropopause Clouds (UTTCs): II. Stabilization mechanisms. Atmospheric Chemistry and Physics, 2003, 3, 1093-1100.	4.9	34
158	Is Black Carbon an Unimportant Iceâ€Nucleating Particle in Mixedâ€Phase Clouds?. Journal of Geophysical Research D: Atmospheres, 2018, 123, 4273-4283.	3.3	34
159	Recent multivariate changes in the North Atlantic climate system, with a focus on 2005â€"2016. International Journal of Climatology, 2018, 38, 5050-5076.	3.5	34
160	The APE-THESEO Tropical Campaign: An Overview. Journal of Atmospheric Chemistry, 2004, 48, 1-33.	3.2	33
161	Ensembles of Global Climate Model Variants Designed for the Quantification and Constraint of Uncertainty in Aerosols and Their Radiative Forcing. Journal of Advances in Modeling Earth Systems, 2019, 11, 3728-3754.	3.8	33
162	Iceland is an episodic source of atmospheric ice-nucleating particles relevant for mixed-phase clouds. Science Advances, 2020, 6, eaba8137.	10.3	33

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163	Factors controlling Arctic denitrification in cold winters of the 1990s. Atmospheric Chemistry and Physics, 2003, 3, 403-416.	4.9	32
164	The development of ice in a cumulus cloud over southwest England. New Journal of Physics, 2008, 10, 105021.	2.9	31
165	The importance of comprehensive parameter sampling and multiple observations for robust constraint of aerosol radiative forcing. Atmospheric Chemistry and Physics, 2018, 18, 13031-13053.	4.9	31
166	The Impact of Changes in Cloud Water pH on Aerosol Radiative Forcing. Geophysical Research Letters, 2019, 46, 4039-4048.	4.0	31
167	New Directions: The impact of oceanic iron fertilisation on cloud condensation nuclei. Atmospheric Environment, 2008, 42, 5728-5730.	4.1	30
168	The magnitude and sources of uncertainty in global aerosol. Faraday Discussions, 2013, 165, 495.	3.2	29
169	Large nitric acid trihydrate particles and denitrification caused by mountain waves in the Arctic stratosphere. Journal of Geophysical Research, 2005, 110, .	3.3	28
170	Redistribution of trace gases by convective clouds - mixed-phase processes. Atmospheric Chemistry and Physics, 2002, 2, 293-306.	4.9	27
171	The value of remote marine aerosol measurements for constraining radiative forcing uncertainty. Atmospheric Chemistry and Physics, 2020, 20, 10063-10072.	4.9	27
172	Polar vortex concentricity as a controlling factor in Arctic denitrification. Journal of Geophysical Research, 2002, 107, AAC 13-1.	3.3	26
173	Cosmic rays, clouds and climate. Nature, 2009, 460, 332-333.	27.8	26
174	The temperature dependence of ice-nucleating particle concentrations affects the radiative properties of tropical convective cloud systems. Atmospheric Chemistry and Physics, 2021, 21, 5439-5461.	4.9	26
175	Climate Models Are Uncertain, but We Can Do Something About It. Eos, 2018, 99, .	0.1	26
176	Microphysical properties of wave polar stratospheric clouds retrieved from lidar measurements during SOLVE/THESEO 2000. Journal of Geophysical Research, 2002, 107, SOL 37-1.	3.3	24
177	In situ constraints on the vertical distribution of global aerosol. Atmospheric Chemistry and Physics, 2019, 19, 11765-11790.	4.9	24
178	Large contribution to secondary organic aerosol from isoprene cloud chemistry. Science Advances, 2021, 7, .	10.3	24
179	Ozone depletion in the late winter lower Arctic stratosphere: Observations and model results. Journal of Geophysical Research, 1997, 102, 10815-10828.	3.3	23
180	Enhanced vertical transport efficiency of aerosol in convective clouds due to increases in tropospheric aerosol abundance. Journal of Geophysical Research, 2006, 111, .	3.3	23

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181	Assessing hazards to aviation from sulfur dioxide emitted by explosive Icelandic eruptions. Journal of Geophysical Research D: Atmospheres, 2014, 119, 14,180.	3.3	23
182	An emulator approach to stratocumulus susceptibility. Atmospheric Chemistry and Physics, 2019, 19, 10191-10203.	4.9	23
183	The production of warm rain in shallow maritime cumulus clouds. Quarterly Journal of the Royal Meteorological Society, 2013, 139, 20-31.	2.7	22
184	Comparing the impact of environmental conditions and microphysics on the forecast uncertainty of deep convective clouds and hail. Atmospheric Chemistry and Physics, 2020, 20, 2201-2219.	4.9	22
185	Evaluating the simulated radiative forcings, aerosol properties, and stratospheric warmings from the 1963 Mt Agung, 1982 El ChichÃ³n, and 1991 Mt Pinatubo volcanic aerosol clouds. Atmospheric Chemistry and Physics, 2020, 20, 13627-13654.	4.9	22
186	Robust observational constraint of uncertain aerosol processes and emissions in a climate model and the effect on aerosol radiative forcing. Atmospheric Chemistry and Physics, 2020, 20, 9491-9524.	4.9	22
187	3-D microphysical model studies of Arctic denitrification: comparison with observations. Atmospheric Chemistry and Physics, 2005, 5, 3093-3109.	4.9	21
188	The Effect of Atmospheric Acid Processing on the Global Deposition of Bioavailable Phosphorus From Dust. Global Biogeochemical Cycles, 2018, 32, 1367-1385.	4.9	21
189	Constraining Uncertainty in Aerosol Direct Forcing. Geophysical Research Letters, 2020, 47, e2020GL087141.	4.0	21
190	Evaluation of natural aerosols in CRESCENDO Earth system models (ESMs): mineral dust. Atmospheric Chemistry and Physics, 2021, 21, 10295-10335.	4.9	20
191	Variable CCN formation potential of regional sulfur emissions. Atmospheric Chemistry and Physics, 2009, 9, 3253-3259.	4.9	19
192	No statistically significant effect of a short-term decrease in the nucleation rate on atmospheric aerosols. Atmospheric Chemistry and Physics, 2012, 12, 11573-11587.	4.9	19
193	A multi-model assessment of the impact of sea spray geoengineering on cloud droplet number. Atmospheric Chemistry and Physics, 2012, 12, 11647-11663.	4.9	19
194	Intercomparison of Stratospheric Chemistry Models under Polar Vortex Conditions. Journal of Atmospheric Chemistry, 2003, 45, 51-77.	3.2	18
195	The Climatic Importance of Uncertainties in Regional Aerosolâ€“Cloud Radiative Forcings over Recent Decades. Journal of Climate, 2015, 28, 6589-6607.	3.2	18
196	Comments on â€œRethinking the Lower Bound on Aerosol Radiative Forcingâ€. Journal of Climate, 2018, 31, 9407-9412.	3.2	17
197	Polar stratospheric clouds due to vapor enhancement: HALOE observations of the Antarctic vortex in 1993. Journal of Geophysical Research, 1997, 102, 28185-28193.	3.3	16
198	Using Emulators to Understand the Sensitivity of Deep Convective Clouds and Hail to Environmental Conditions. Journal of Advances in Modeling Earth Systems, 2018, 10, 3103-3122.	3.8	16

#	Article	IF	Citations
199	Constraints on global aerosol number concentration, SO₂ and condensation sink in UKESM1 using ATomÂmeasurements. Atmospheric Chemistry and Physics, 2021, 21, 4979-5014.	4.9	16
200	Large methane releases lead to strong aerosol forcing and reduced cloudiness. Atmospheric Chemistry and Physics, 2011, 11, 6961-6969.	4.9	14
201	Testing our understanding of Arctic denitrification using MIPAS-E satellite measurements in winter 2002/2003. Atmospheric Chemistry and Physics, 2006, 6, 3149-3161.	4.9	12
202	The influence of subgrid surface-layer variability on vertical transport of a chemical species in a convective environment. Geophysical Research Letters, 2006, 33, .	4.0	9
203	Precipitation sensitivity to autoconversion rate in a numerical weatherâ€prediction model. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 2032-2044.	2.7	9
204	A global model perturbed parameter ensemble study of secondary organic aerosol formation. Atmospheric Chemistry and Physics, 2021, 21, 2693-2723.	4.9	9
205	Unknown Eruption Source Parameters Cause Large Uncertainty in Historical Volcanic Radiative Forcing Reconstructions. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033578.	3.3	9
206	Effect of aerosol radiative forcing uncertainty on projected exceedance year of a 1.5 Â°C global temperature rise. Environmental Research Letters, 2020, 15, 0940a6.	5.2	9
207	Size-resolved simulations of the aerosol inorganic composition with the new hybrid dissolution solver HyDiS-1.0: description, evaluation and first global modelling results. Geoscientific Model Development, 2016, 9, 3875-3906.	3.6	8
208	Spatial and temporal CCN variations in convection-permitting aerosol microphysics simulations in an idealised marine tropical domain. Atmospheric Chemistry and Physics, 2017, 17, 3371-3384.	4.9	8
209	The Evaluation of the North Atlantic Climate System in UKESM1 Historical Simulations for CMIP6. Journal of Advances in Modeling Earth Systems, 2020, 12, e2020MS002126.	3.8	8
210	Impact on short-lived climate forcers (SLCFs) from a realistic land-use change scenario via changes in biogenic emissions. Faraday Discussions, 2017, 200, 101-120.	3.2	7
211	Development of aerosol activation in the double-moment Unified Model and evaluation with CLARIFY measurements. Atmospheric Chemistry and Physics, 2020, 20, 10997-11024.	4.9	7
212	The decomposition of cloudâ€"aerosol forcing in the UK Earth System Model (UKESM1). Atmospheric Chemistry and Physics, 2020, 20, 15681-15724.	4.9	7
213	The Impacts of Aerosol Emissions on Historical Climate in UKESM1. Atmosphere, 2020, 11, 1095.	2.3	5
214	Comment on â€œVapor pressures in the ternary system water-nitric acid-sulfuric acid at low temperature: A reexaminationâ€•by D.-E. Taleb, J.-L. Ponche, and P. Mirabel: Part 1. Journal of Geophysical Research, 1997, 102, 10867-10869.	3.3	4
215	Indications of heterogeneous chlorine activation on moderately cold aerosol based on chlorine observations in the Arctic stratosphere. Atmospheric Environment, 2000, 34, 4283-4289.	4.1	4
216	Variations of Galactic Cosmic Rays and the Earth's Climate. , 2006, , 349-397.		4

#	Article	IF	Citations
217	The Coupled Effect of Mid-Tropospheric Moisture and Aerosol Abundance on Deep Convective Cloud Dynamics and Microphysics. Atmosphere, 2011, 2, 222-241.	2.3	4
218	Suppression of <scp>CCN</scp> formation by bromine chemistry in the remote marine atmosphere. Atmospheric Science Letters, 2015, 16, 141-147.	1.9	4
219	Controls on surface aerosol particle number concentrations and aerosol-limited cloud regimes over the central Greenland Ice Sheet. Atmospheric Chemistry and Physics, 2021, 21, 15351-15374.	4.9	4
220	Model emulation to understand the joint effects of ice-nucleating particles and secondary ice production on deep convective anvil cirrus. Atmospheric Chemistry and Physics, 2021, 21, 17315-17343.	4.9	4
221	Corrigendum to "The magnitude and causes of uncertainty in global model simulations of cloud condensation nuclei" published in Atmos. Chem. Phys., 13, 8879â€“8914, 2013. Atmospheric Chemistry and Physics, 2013, 13, 9375-9377.	4.9	3
222	The Impact of Boundary Layer Nucleation on Global CCN. , 2007, , 911-915.		3
223	A Novel Networkâ€Based Approach to Determining Measurement Representation Error for Model Evaluation of Aerosol Microphysical Properties. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	3
224	Ultrathin subvisible cirrus clouds at the tropical tropopause. AIP Conference Proceedings, 2000, , .	0.4	2
225	Corrigendum to "Introduction: European Integrated Project on Aerosol Cloud Climate and Air Quality interactions (EUCAARI) â€“ integrating aerosol research from nano to global scales" published in Atmos. Chem. Phys., 9, 2825â€“2841, 2009. Atmospheric Chemistry and Physics, 2009, 9, 3443-3444.	4.9	2
226	Comment on â€œVapor pressures in the ternary system water-nitric acid-sulphuric acid at low temperature: A reexaminationâ€• by D.-E. Taleb, J.-L. Ponche, and P. Mirabel: Part 2. Journal of Geophysical Research, 1998, 103, 16291-16294.	3.3	1
227	Role of organics in particle nucleation: From the lab to global model. , 2013, , .		1
228	Correction to â€œOzone loss rates in the Arctic stratosphere in the winter 1991/92: Model calculations compared with match resultsâ€• Geophysical Research Letters, 1999, 26, 327-327.	4.0	0
229	Large stratospheric particles observed by lidar during the SOLVE mission. AIP Conference Proceedings, 2000, , .	0.4	0
230	The radiative effect of ion-induced inorganic nucleation in the free troposphere. , 2013, , .		0
231	New approaches to quantifying the magnitude and causes of uncertainty in global aerosol models. , 2013, , .		0
232	Factors Controlling Spring and Summer Time Aerosol Size Distributions in the Arctic: A Global Model Study. , 2007, , 906-910.		0
233	Spatial and Temporal Variations in Aerosol Properties in High-Resolution Convection-Permitting Simulations in an Idealized Tropical Marine Domain. Springer Proceedings in Complexity, 2016, , 61-64.	0.3	0