

Benjamin J Murray

List of Publications by Year in descending order

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114
papers

9,843
citations

36203

51
h-index

42291

92
g-index

194
all docs

194
docs citations

194
times ranked

5958
citing authors

#	ARTICLE	IF	CITATIONS
1	Ice nucleation by particles immersed in supercooled cloud droplets. <i>Chemical Society Reviews</i> , 2012, 41, 6519.	18.7	927
2	The importance of feldspar for ice nucleation by mineral dust in mixed-phase clouds. <i>Nature</i> , 2013, 498, 355-358.	13.7	590
3	A marine biogenic source of atmospheric ice-nucleating particles. <i>Nature</i> , 2015, 525, 234-238.	13.7	475
4	Viscosity of α -pinene secondary organic material and implications for particle growth and reactivity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 8014-8019.	3.3	388
5	Heterogeneous nucleation of ice particles on glassy aerosols under cirrus conditions. <i>Nature Geoscience</i> , 2010, 3, 233-237.	5.4	302
6	Structure of ice crystallized from supercooled water. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 1041-1045.	3.3	274
7	Heterogeneous freezing of water droplets containing kaolinite particles. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 4191-4207.	1.9	240
8	Kinetics of the homogeneous freezing of water. <i>Physical Chemistry Chemical Physics</i> , 2010, 12, 10380.	1.3	231
9	The formation of cubic ice under conditions relevant to Earth's atmosphere. <i>Nature</i> , 2005, 434, 202-205.	13.7	223
10	Immersion mode heterogeneous ice nucleation by an illite rich powder representative of atmospheric mineral dust. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 287-307.	1.9	219
11	Stacking disorder in ice I. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 60-76.	1.3	215
12	A comprehensive laboratory study on the immersion freezing behavior of illite NX particles: a comparison of 17 ice nucleation measurement techniques. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 2489-2518.	1.9	200
13	Ice nucleation by fertile soil dusts: relative importance of mineral and biogenic components. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 1853-1867.	1.9	187
14	The relevance of nanoscale biological fragments for ice nucleation in clouds. <i>Scientific Reports</i> , 2015, 5, 8082.	1.6	164
15	Inhibition of ice crystallisation in highly viscous aqueous organic acid droplets. <i>Atmospheric Chemistry and Physics</i> , 2008, 8, 5423-5433.	1.9	161
16	Deposition ice nucleation on soot at temperatures relevant for the lower troposphere. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	157
17	Strong control of Southern Ocean cloud reflectivity by ice-nucleating particles. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 2687-2692.	3.3	156
18	Contribution of feldspar and marine organic aerosols to global ice nucleating particle concentrations. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 3637-3658.	1.9	144

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19	Infrared spectroscopic study of the deliquescence and efflorescence of ammonium sulfate aerosol as a function of temperature. <i>Journal of Geophysical Research</i> , 1999, 104, 21317-21326.	3.3	142
20	Freezing injury: The special case of the sperm cell. <i>Cryobiology</i> , 2012, 64, 71-80.	0.3	136
21	Diet quality and risk and severity of COVID-19: a prospective cohort study. <i>Gut</i> , 2021, 70, 2096-2104.	6.1	130
22	Not all feldspars are equal: a survey of ice nucleating properties across the feldspar group of minerals. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 10927-10940.	1.9	124
23	A Low Temperature Limit for Life on Earth. <i>PLoS ONE</i> , 2013, 8, e66207.	1.1	117
24	Water diffusion in atmospherically relevant α -pinene secondary organic material. <i>Chemical Science</i> , 2015, 6, 4876-4883.	3.7	116
25	Formation and stability of cubic ice in water droplets. <i>Physical Chemistry Chemical Physics</i> , 2006, 8, 186-192.	1.3	113
26	A technique for quantifying heterogeneous ice nucleation in microlitre supercooled water droplets. <i>Atmospheric Measurement Techniques</i> , 2015, 8, 2437-2447.	1.2	106
27	Effects of sulfuric acid and ammonium sulfate coatings on the ice nucleation properties of kaolinite particles. <i>Geophysical Research Letters</i> , 2009, 36, .	1.5	105
28	Quantifying water diffusion in high-viscosity and glassy aqueous solutions using a Raman isotope tracer method. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 3817-3830.	1.9	97
29	Glassy aerosols with a range of compositions nucleate ice heterogeneously at cirrus temperatures. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 8611-8632.	1.9	94
30	Measurements of the vapor pressure of cubic ice and their implications for atmospheric ice clouds. <i>Geophysical Research Letters</i> , 2006, 33, .	1.5	93
31	Modest effects of dietary supplements during the COVID-19 pandemic: insights from 445 850 users of the COVID-19 Symptom Study app. <i>BMJ Nutrition, Prevention and Health</i> , 2021, 4, 149-157.	1.9	91
32	A physically constrained classical description of the homogeneous nucleation of ice in water. <i>Journal of Chemical Physics</i> , 2016, 145, 211915.	1.2	89
33	High-speed imaging of ice nucleation in water proves the existence of active sites. <i>Science Advances</i> , 2019, 5, eaav4316.	4.7	87
34	The Fifth International Workshop on Ice Nucleation phase 2 (FIN-02): laboratory intercomparison of ice nucleation measurements. <i>Atmospheric Measurement Techniques</i> , 2018, 11, 6231-6257.	1.2	82
35	The adsorption of fungal ice-nucleating proteins on mineral dusts: a terrestrial reservoir of atmospheric ice-nucleating particles. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 7879-7887.	1.9	81
36	Size-resolved characterization of the polysaccharidic and proteinaceous components of sea spray aerosol. <i>Atmospheric Environment</i> , 2017, 154, 331-347.	1.9	81

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37	Coarse-mode mineral dust size distributions, composition and optical properties from AER-D aircraft measurements over the tropical eastern Atlantic. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 17225-17257.	1.9	80
38	Ice-nucleating particles in Canadian Arctic sea-surface microlayer and bulk seawater. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 10583-10595.	1.9	78
39	Opinion: Cloud-phase climate feedback and the importance of ice-nucleating particles. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 665-679.	1.9	78
40	Sucrose diffusion in aqueous solution. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 19207-19216.	1.3	77
41	Seasonal variations of the Na and Fe layers at the South Pole and their implications for the chemistry and general circulation of the polar mesosphere. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	69
42	Homogeneous nucleation of amorphous solid water particles in the upper mesosphere. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2010, 72, 51-61.	0.6	68
43	Removal of Meteoric Iron on Polar Mesospheric Clouds. <i>Science</i> , 2004, 304, 426-428.	6.0	67
44	Inhibition of solute crystallisation in aqueous $\text{H}^+\text{NH}_4^+\text{SO}_4^{2-}\text{H}_2\text{O}$ droplets. <i>Physical Chemistry Chemical Physics</i> , 2008, 10, 3287.	1.3	66
45	The enhancement and suppression of immersion mode heterogeneous ice-nucleation by solutes. <i>Chemical Science</i> , 2018, 9, 4142-4151.	3.7	66
46	Atmospheric Ice-Nucleating Particles in the Dusty Tropical Atlantic. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 2175-2193.	1.2	66
47	Ice cloud processing of ultra-viscous/glassy aerosol particles leads to enhanced ice nucleation ability. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 8589-8610.	1.9	65
48	Glass formation and unusual hygroscopic growth of iodine acid solution droplets with relevance for iodine mediated particle formation in the marine boundary layer. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 8575-8587.	1.9	64
49	The role of phase separation and related topography in the exceptional ice-nucleating ability of alkali feldspars. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 31186-31193.	1.3	63
50	Representing time-dependent freezing behaviour in immersion mode ice nucleation. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 8501-8520.	1.9	62
51	Sensitivity of liquid clouds to homogenous freezing parameterizations. <i>Geophysical Research Letters</i> , 2015, 42, 1599-1605.	1.5	62
52	Ice Nucleation Properties of Oxidized Carbon Nanomaterials. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 3012-3016.	2.1	59
53	Studies of the Formation and Growth of Aerosol from Molecular Iodine Precursor. <i>Zeitschrift Fur Physikalische Chemie</i> , 2010, 224, 1095-1117.	1.4	56
54	Extent of stacking disorder in diamond. <i>Diamond and Related Materials</i> , 2015, 59, 69-72.	1.8	56

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55	Contributions of biogenic material to the atmospheric ice-nucleating particle population in North Western Europe. <i>Scientific Reports</i> , 2018, 8, 13821.	1.6	56
56	Ice nucleation by combustion ash particles at conditions relevant to mixed-phase clouds. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 5195-5210.	1.9	55
57	The ice-nucleating ability of quartz immersed in water and its atmospheric importance compared to K-feldspar. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 11343-11361.	1.9	50
58	A comprehensive characterization of ice nucleation by three different types of cellulose particles immersed in water. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 4823-4849.	1.9	48
59	Modelling the impact of noctilucent cloud formation on atomic oxygen and other minor constituents of the summer mesosphere. <i>Atmospheric Chemistry and Physics</i> , 2005, 5, 1027-1038.	1.9	45
60	CO ₂ ice structure and density under Martian atmospheric conditions. <i>Icarus</i> , 2017, 294, 201-208.	1.1	45
61	Unravelling the origins of ice nucleation on organic crystals. <i>Chemical Science</i> , 2018, 9, 8077-8088.	3.7	43
62	Trigonal Ice Crystals in Earth's Atmosphere. <i>Bulletin of the American Meteorological Society</i> , 2015, 96, 1519-1531.	1.7	39
63	An aerosol chamber investigation of the heterogeneous ice nucleating potential of refractory nanoparticles. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 1227-1247.	1.9	38
64	Supercooling of water droplets in jet aviation fuel. <i>Fuel</i> , 2011, 90, 433-435.	3.4	37
65	Ice-nucleating ability of aerosol particles and possible sources at three coastal marine sites. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 15669-15685.	1.9	37
66	Uptake of Fe, Na and K atoms on low-temperature ice: implications for metal atom scavenging in the vicinity of polar mesospheric clouds. <i>Physical Chemistry Chemical Physics</i> , 2005, 7, 3970.	1.3	36
67	The ice-nucleating activity of Arctic sea surface microlayer samples and marine algal cultures. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 11089-11117.	1.9	35
68	Enhanced formation of cubic ice in aqueous organic acid droplets. <i>Environmental Research Letters</i> , 2008, 3, 025008.	2.2	34
69	Is Black Carbon an Unimportant Ice-Nucleating Particle in Mixed-Phase Clouds?. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 4273-4283.	1.2	34
70	Physical properties of iodate solutions and the deliquescence of crystalline I ₂ O ₅ and HIO ₃ . <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 12251-12260.	1.9	33
71	Iceland is an episodic source of atmospheric ice-nucleating particles relevant for mixed-phase clouds. <i>Science Advances</i> , 2020, 6, eaba8137.	4.7	33
72	The study of atmospheric ice-nucleating particles via microfluidically generated droplets. <i>Microfluidics and Nanofluidics</i> , 2018, 22, 52.	1.0	32

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73	Variability of the mesospheric nightglow sodium D2/D1ratio. Journal of Geophysical Research, 2005, 110, .	3.3	31
74	The seasonal cycle of ice-nucleating particles linked to the abundance of biogenic aerosol in boreal forests. Atmospheric Chemistry and Physics, 2021, 21, 3899-3918.	1.9	31
75	The uptake of atomic oxygen on ice films: Implications for noctilucent clouds. Physical Chemistry Chemical Physics, 2003, 5, 4129.	1.3	30
76	The crystal structure of ice under mesospheric conditions. Journal of Atmospheric and Solar-Terrestrial Physics, 2015, 127, 78-82.	0.6	28
77	Rate of Homogenous Nucleation of Ice in Supercooled Water. Journal of Physical Chemistry A, 2016, 120, 6513-6520.	1.1	28
78	Cryopreservation of primary cultures of mammalian somatic cells in 96-well plates benefits from control of ice nucleation. Cryobiology, 2020, 93, 62-69.	0.3	28
79	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.	1.9	26
80	On-chip analysis of atmospheric ice-nucleating particles in continuous flow. Lab on A Chip, 2020, 20, 2889-2910.	3.1	24
81	An instrument for quantifying heterogeneous ice nucleation in multiwell plates using infrared emissions to detect freezing. Atmospheric Measurement Techniques, 2018, 11, 5629-5641.	1.2	22
82	Active sites for ice nucleation differ depending on nucleation mode. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	22
83	Highly Active Ice-Nucleating Particles at the Summer North Pole. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	1.2	22
84	The importance of crystalline phases in ice nucleation by volcanic ash. Atmospheric Chemistry and Physics, 2019, 19, 5451-5465.	1.9	21
85	Ice goes fully cubic. Nature Materials, 2020, 19, 586-587.	13.3	21
86	Strong dependence of cubic ice formation on droplet ammonium to sulfate ratio. Geophysical Research Letters, 2007, 34, .	1.5	19
87	Nucleation of nitric acid hydrates in polar stratospheric clouds by meteoric material. Atmospheric Chemistry and Physics, 2018, 18, 4519-4531.	1.9	18
88	The Portable Ice Nucleation Experiment (PINE): a new online instrument for laboratory studies and automated long-term field observations of ice-nucleating particles. Atmospheric Measurement Techniques, 2021, 14, 1143-1166.	1.2	18
89	Atomic oxygen depletion in the vicinity of noctilucent clouds. Advances in Space Research, 2003, 31, 2075-2084.	1.2	17
90	Analysis of stacking disorder in ice I using pair distribution functions. Journal of Applied Crystallography, 2018, 51, 1211-1220.	1.9	17

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91	Mineral Dust and its Microphysical Interactions with Clouds. , 2014, , 287-325.		16
92	Resolving the size of ice-nucleating particles with a balloon deployable aerosol sampler: the SHARK. Atmospheric Measurement Techniques, 2020, 13, 2905-2921.	1.2	16
93	Characterisation of the filter inlet system on the FAAM BAe-146 research aircraft and its use for size-resolved aerosol composition measurements. Atmospheric Measurement Techniques, 2019, 12, 5741-5763.	1.2	14
94	Volcanic ash ice-nucleating activity can be enhanced or depressed by ash-gas interaction in the eruption plume. Earth and Planetary Science Letters, 2020, 551, 116587.	1.8	14
95	Influence of Arctic Microlayers and Algal Cultures on Sea Spray Hygroscopicity and the Possible Implications for Mixed-Phase Clouds. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032808.	1.2	14
96	Heterogeneous Ice Nucleation by Soufriere Hills Volcanic Ash Immersed in Water Droplets. PLoS ONE, 2017, 12, e0169720.	1.1	14
97	A Major Combustion Aerosol Event Had a Negligible Impact on the Atmospheric Ice-Nucleating Particle Population. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032938.	1.2	14
98	An evaluation of the heat test for the ice-nucleating ability of minerals and biological material. Atmospheric Measurement Techniques, 2022, 15, 2635-2665.	1.2	13
99	Heterogeneous ice nucleation ability of aerosol particles generated from Arctic sea surface microlayer and surface seawater samples at cirrus temperatures. Atmospheric Chemistry and Physics, 2021, 21, 13903-13930.	1.9	11
100	Ice nucleation by viruses and their potential for cloud glaciation. Biogeosciences, 2021, 18, 4431-4444.	1.3	10
101	Cracking the problem of ice nucleation. Science, 2017, 355, 346-347.	6.0	9
102	Homogeneous Freezing of Water Using Microfluidics. Micromachines, 2021, 12, 223.	1.4	9
103	Mineral and biological ice-nucleating particles above the South East of the British Isles. Environmental Science Atmospheres, 2021, 1, 176-191.	0.9	9
104	The development of a miniaturised balloon-borne cloud water sampler and its first deployment in the high Arctic. Tellus, Series B: Chemical and Physical Meteorology, 2021, 73, 1-12.	0.8	7
105	The Phase of Water Ice Which Forms in Cold Clouds in the Mesospheres of Mars, Venus, and Earth. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006796.	1.5	7
106	On-chip density-based sorting of supercooled droplets and frozen droplets in continuous flow. Lab on A Chip, 2020, 20, 3876-3887.	3.1	5
107	Volcanic ash ice nucleation activity is variably reduced by aging in water and sulfuric acid: the effects of leaching, dissolution, and precipitation. Environmental Science Atmospheres, 2022, 2, 85-99.	0.9	5
108	The fate of meteoric metals in ice particles: Effects of sublimation and energetic particle bombardment. Journal of Atmospheric and Solar-Terrestrial Physics, 2017, 161, 143-149.	0.6	4

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109	Controls on surface aerosol particle number concentrations and aerosol-limited cloud regimes over the central Greenland Ice Sheet. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 15351-15374.	1.9	4
110	Model emulation to understand the joint effects of ice-nucleating particles and secondary ice production on deep convective anvil cirrus. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 17315-17343.	1.9	4
111	Measurement report: Introduction to the HyICE-2018 campaign for measurements of ice-nucleating particles and instrument inter-comparison in the Hyytiälä boreal forest. <i>Atmospheric Chemistry and Physics</i> , 2022, 22, 5117-5145.	1.9	4
112	Ice nucleation efficiency of soot from biomass combustion. , 2013, , .		1
113	Strong Dependence of Cubic Ice Formation on Aqueous Droplet Ammonium to Sulphate Ratio. , 2007, , 432-435.		1
114	Atmospheric ice nucleation by fertile soil dusts particles: Relative importance of mineral and biological components. , 2013, , .		0