Thomas Koop

List of Publications by Year
in descending order

84 papers	11,056 citations	41323 49 h-index	66879 78 g-index
98 all docs	98 docs citations	98 times ranked	6398 citing authors

#	Article	IF	Citations
1	Specific Ionâ€“Protein Interactions Influence Bacterial Ice Nucleation. Chemistry - A European Journal, 2021, 27, 7402-7407.	1.7	20
2	Cloud Activation via Formation of Water and Ice on Various Types of Porous Aerosol Particles. ACS Earth and Space Chemistry, 2021, 5, 604-617.	1.2	5
3	Water activity in Venusâ€™s uninhabitable clouds and other planetary atmospheres. Nature Astronomy, 2021, 5, 665-675.	4.2	45
4	Glyoxal as a Potential Source of Highly Viscous Aerosol Particles. ACS Earth and Space Chemistry, 2021, 5, 3324-3337.	1.2	7
5	Inhibition of Recrystallization. , 2020, , 159-184.		2
6	Second inflection point of water surface tension in the deeply supercooled regime revealed by entropy anomaly and surface structure using molecular dynamics simulations. Physical Chemistry Chemical Physics, 2019, 21, 3360-3369.	1.3	19
7	Ice Nucleation Properties of Ice-binding Proteins from Snow Fleas. Biomolecules, 2019, 9, 532.	1.8	13
8	Size-dependent ice nucleation by airborne particles during dust events in the eastern Mediterranean. Atmospheric Chemistry and Physics, 2019, 19, 11143-11158.	1.9	29
9	Phase Transitions of Ice in Aqueous Salt Solutions within Nanometer-Sized Pores. Journal of Physical Chemistry C, 2019, 123, 24566-24574.	1.5	7
10	A comprehensive characterization of ice nucleation by three different types of cellulose particles immersed in water. Atmospheric Chemistry and Physics, 2019, 19, 4823-4849.	1.9	48
11	Contrasting Behavior of Antifreeze Proteins: Ice Growth Inhibitors and Ice Nucleation Promoters. Journal of Physical Chemistry Letters, 2019, 10, 966-972.	2.1	67
12	Physical state of 2-methylbutane-1,2,3,4-tetraol in pure and internally mixed aerosols. Atmospheric Chemistry and Physics, 2018, 18, 15841-15857.	1.9	12
13	The Fifth International Workshop on Ice Nucleation phase 2 (FIN-02): laboratory intercomparison of ice nucleation measurements. Atmospheric Measurement Techniques, 2018, 11, 6231-6257.	1.2	82
14	Crystals creeping out of cracks. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 797-799.	3.3	15
15	Global distribution of particle phase state in atmospheric secondary organic aerosols. Nature Communications, 2017, 8, 15002.	5.8	295
16	Boreal pollen contain ice-nucleating as well as ice-binding â€˜antifreezeâ€™ polysaccharides. Scientific Reports, 2017, 7, 41890.	1.6	97
17	A physically constrained classical description of the homogeneous nucleation of ice in water. Journal of Chemical Physics, 2016, 145, 211915.	1.2	89
18	Surface stabilization determines a classical versus non-classical nucleation pathway during particle formation. RSC Advances, 2016, 6, 74061-74066.	1.7	1

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19	Sensitivity of liquid clouds to homogenous freezing parameterizations. Geophysical Research Letters, 2015, 42, 1599-1605.	1.5	62
20	A comprehensive laboratory study on the immersion freezing behavior of illite NX particles: a comparison of 17 ice nucleation measurement techniques. Atmospheric Chemistry and Physics, 2015, 15, 2489-2518.	1.9	200
21	Intercomparing different devices for the investigation of ice nucleating particles using Snomax^{Â®} as test substance. Atmospheric Chemistry and Physics, 2015, 15, 1463-1485.	1.9	108
22	Ice nucleation by water-soluble macromolecules. Atmospheric Chemistry and Physics, 2015, 15, 4077-4091.	1.9	198
23	Viscous organic aerosol particles in the upper troposphere: diffusivity-controlled water uptake and ice nucleation?. Atmospheric Chemistry and Physics, 2015, 15, 13599-13613.	1.9	103
24	Size dependence of phase transitions in aerosol nanoparticles. Nature Communications, 2015, 6, 5923.	5.8	131
25	BINARY: an optical freezing array for assessing temperature and time dependence of heterogeneous ice nucleation. Atmospheric Measurement Techniques, 2015, 8, 689-703.	1.2	106
26	Ice nucleation by cellulose and its potential contribution to ice formation in clouds. Nature Geoscience, 2015, 8, 273-277.	5.4	105
27	Glass Formation Processes in Mixed Inorganic/Organic Aerosol Particles. Journal of Physical Chemistry A, 2015, 119, 4552-4561.	1.1	42
28	Quantitative Efficacy Classification of Ice Recrystallization Inhibition Agents. Crystal Growth and Design, 2014, 14, 4285-4294.	1.4	85
29	Glass-Forming Properties of 3-Methylbutane-1,2,3-tricarboxylic Acid and Its Mixtures with Water and Pinonic Acid. Journal of Physical Chemistry A, 2014, 118, 7024-7033.	1.1	54
30	Competition between water uptake and ice nucleation by glassy organic aerosol particles. Atmospheric Chemistry and Physics, 2014, 14, 12513-12531.	1.9	151
31	Influence of surface morphology on the immersion mode ice nucleation efficiency of hematite particles. Atmospheric Chemistry and Physics, 2014, 14, 2315-2324.	1.9	65
32	The homogeneous ice nucleation rate of water droplets produced in a microfluidic device and the role of temperature uncertainty. Physical Chemistry Chemical Physics, 2013, 15, 5873.	1.3	132
33	The seeds of ice in clouds. Nature, 2013, 498, 302-303.	13.7	15
34	Investigation of heterogeneous ice nucleation using a novel optical freezing array. , 2013, , .		1
35	Formation of highly porous aerosol particles by atmospheric freeze-drying in ice clouds. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 20414-20419.	3.3	67
36	Kinetic regimes and limiting cases of gas uptake and heterogeneous reactions in atmospheric aerosols and clouds: a general classification scheme. Atmospheric Chemistry and Physics, 2013, 13, 6663-6686.	1.9	77

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37	Effects of atmospheric conditions on ice nucleation activity of <i>Pseudomonas</i>. Atmospheric Chemistry and Physics, 2012, 12, 10667-10677.	1.9	98
38	Depositional ice nucleation onto crystalline hydrated NaCl particles: a new mechanism for ice formation in the troposphere. Atmospheric Chemistry and Physics, 2012, 12, 1121-1134.	1.9	107
39	Humidity-dependent phase state of SOA particles from biogenic and anthropogenic precursors. Atmospheric Chemistry and Physics, 2012, 12, 7517-7529.	1.9	219
40	Influence of Sequential Modifications and Carbohydrate Variations in Synthetic AFGP Analogues on Conformation and Antifreeze Activity. Chemistry - A European Journal, 2012, 18, 12783-12793.	1.7	20
41	Kinetic multi-layer model of gas-particle interactions in aerosols and clouds (KM-GAP): linking condensation, evaporation and chemical reactions of organics, oxidants and water. Atmospheric Chemistry and Physics, 2012, 12, 2777-2794.	1.9	170
42	Antifreeze glycopeptide diastereomers. Beilstein Journal of Organic Chemistry, 2012, 8, 1657-1667.	1.3	15
43	Ultra-slow water diffusion in aqueous sucrose glasses. Physical Chemistry Chemical Physics, 2011, 13, 3514.	1.3	249
44	Glass transition and phase state of organic compounds: dependency on molecular properties and implications for secondary organic aerosols in the atmosphere. Physical Chemistry Chemical Physics, 2011, 13, 19238.	1.3	585
45	Synthesis and characterization of natural and modified antifreeze glycopeptides: glycosylated foldamers. Amino Acids, 2011, 41, 719-732.	1.2	29
46	From Nanoscale Liquid Spheres to Anisotropic Crystalline Particles of Tin: Decomposition of Decamethylstannocene in Organic Solvents. Small, 2011, 7, 3075-3086.	5.2	8
47	Gas uptake and chemical aging of semisolid organic aerosol particles. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 11003-11008.	3.3	555
48	Antifreeze glycopeptide analogues: microwave-enhanced synthesis and functional studies. Amino Acids, 2010, 38, 213-222.	1.2	35
49	An amorphous solid state of biogenic secondary organic aerosol particles. Nature, 2010, 467, 824-827.	13.7	719
50	2-Aminopyrimidine-Silver(I) Based Hybrid Organic Polymers: Self-Assembly and Phase Transitions of a Novel Class of Electronic Material. Chemistry of Materials, 2010, 22, 4749-4755.	3.2	22
51	On-Resin Click-Glycoconjugation of Peptoids. Synthesis, 2009, 2009, 488-494.	1.2	15
52	'Snow joke as festive season gives rise to a blizzard of fake flakes. Nature, 2009, 462, 985-985.	13.7	1
53	Parameterizations for ice nucleation in biological and atmospheric systems. Physical Chemistry Chemical Physics, 2009, 11, 10839.	1.3	155
54	Amorphous and crystalline aerosol particles interacting with water vapor: conceptual framework and experimental evidence for restructuring, phase transitions and kinetic limitations. Atmospheric Chemistry and Physics, 2009, 9, 9491-9522.	1.9	454

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55	Heterogeneous Ice Nucleation in Aqueous Solutions:â€‰ the Role of Water Activity. Journal of Physical Chemistry A, 2008, 112, 3965-3975.	1.1	135
56	Do atmospheric aerosols form glasses?. Atmospheric Chemistry and Physics, 2008, 8, 5221-5244.	1.9	376
57	Physikalische Chemie 2006. Nachrichten Aus Der Chemie, 2007, 55, 285-288.	0.0	0
58	Heterogeneous Ice Nucleation Rate Coefficient of Water Droplets Coated by a Nonadecanol Monolayer. Journal of Physical Chemistry C, 2007, 111, 2149-2155.	1.5	209
59	Immersion Freezing in Emulsifi ed Aqueous Sulfuric Acid Solutions Containing AgI Particles. , 2007, , 466-470.		0
60	Heterogeneous Ice Nucleation of Aqueous Solutions with Immersed Mineral Dust Particles. , 2007, , 461-465.		0
61	Heterogeneous nucleation of ice on surrogates of mineral dust. Journal of Geophysical Research, 2006, 111, .	3.3	169
62	Densities of liquid H+/NH4+/SO42-/NO3-/H2O solutions at tropospheric temperatures. Atmospheric Environment, 2006, 40, 467-483.	1.9	18
63	Ice Recrystallization Inhibition and Molecular Recognition of Ice Faces by Poly(vinyl alcohol). ChemPhysChem, 2006, 7, 2601-2606.	1.0	137
64	ATMOSPHERE: When Dry Air Is Too Humid. Science, 2006, 314, 1399-1402.	6.0	151
65	Review of the vapour pressures of ice and supercooled water for atmospheric applications. Quarterly Journal of the Royal Meteorological Society, 2005, 131, 1539-1565.	1.0	1,114
66	Homogeneous Ice Nucleation in Water and Aqueous Solutions. ChemInform, 2005, 36, no.	0.1	0
67	Reply to â€œComment on the â€˜Thermodynamic Dissociation Constant of the Bisulfate Ion from Raman and Ion Interaction Modeling Studies of Aqueous Sulfuric Acid at Low Temperatures'â€• Journal of Physical Chemistry A, 2005, 109, 2707-2709.	1.1	12
68	Homogeneous Ice Nucleation in Water and Aqueous Solutions. Zeitschrift Fur Physikalische Chemie, 2004, 218, 1231-1258.	1.4	127
69	An experimental examination of intensity fluctuations of a host droplet containing an inclusion. Journal of Quantitative Spectroscopy and Radiative Transfer, 2003, 79-80, 873-880.	1.1	5
70	Thermodynamic Dissociation Constant of the Bisulfate Ion from Raman and Ion Interaction Modeling Studies of Aqueous Sulfuric Acid at Low Temperatures. Journal of Physical Chemistry A, 2003, 107, 4322-4332.	1.1	114
71	Ice nucleation in aqueous solutions of poly[ethylene glycol] with different molar mass. Journal of Chemical Physics, 2003, 118, 10254-10261.	1.2	55
72	Technical Note: Organics-Induced Fluorescence in Raman Studies of Sulfuric Acid Aerosols. Aerosol Science and Technology, 2002, 36, 510-512.	1.5	11

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73	The Water Activity of Aqueous Solutions in Equilibrium with Ice. Bulletin of the Chemical Society of Japan, 2002, 75, 2587-2588.	2.0	30
74	Heterogeneous Freezing of Aqueous Particles Induced by Crystallized (NH4)2SO4, Ice, and Letovicite. Journal of Physical Chemistry A, 2001, 105, 6458-6464.	1.1	82
75	Water activity as the determinant for homogeneous ice nucleation in aqueous solutions. Nature, 2000, 406, 611-614.	13.7	1,178
76	Phase transitions of sea-salt/water mixtures at low temperatures: Implications for ozone chemistry in the polar marine boundary layer. Journal of Geophysical Research, 2000, 105, 26393-26402.	3.3	204
77	Ice Formation in (NH4)2SO4â^'H2O Particles. Journal of Physical Chemistry A, 2000, 104, 584-588.	1.1	96
78	Phase Transitions in Emulsified HNO3/H2O and HNO3/H2SO4/H2O Solutions. Journal of Physical Chemistry A, 1999, 103, 2673-2679.	1.1	67
79	Phase Transitions in Aqueous NH4HSO4Solutions. Journal of Physical Chemistry A, 1999, 103, 9042-9048.	1.1	50
80	A New Optical Technique to Study Aerosol Phase Transitions:Â The Nucleation of Ice from H2SO4Aerosols. Journal of Physical Chemistry A, 1998, 102, 8924-8931.	1.1	182
81	Freezing of HNO3/H2SO4/H2O Solutions at Stratospheric Temperatures:â€‰ Nucleation Statistics and Experiments. Journal of Physical Chemistry A, 1997, 101, 1117-1133.	1.1	167
82	Thermodynamic stability and phase transitions of PSC particles. Geophysical Research Letters, 1997, 24, 2199-2202.	1.5	57
83	Do stratospheric aerosol droplets freeze above the ice frost point?. Geophysical Research Letters, 1995, 22, 917-920.	1.5	149
84	Size-dependent stratospheric droplet composition in Lee wave temperature fluctuations and their potential role in PSC freezing. Geophysical Research Letters, 1995, 22, 3031-3034.	1.5	147