Robert Wagner

List of Publications by Year
in descending order

66 papers	4,373 citations	136950 32 h-index	118850 62 g-index
88 all docs	88 docs citations	88 times ranked	3944 citing authors

#	Article	IF	Citations
1	The role of low-volatility organic compounds in initial particle growth in the atmosphere. Nature, 2016, 533, 527-531.	27.8	540
2	Absorption amplification of black carbon internally mixed with secondary organic aerosol. Journal of Geophysical Research, 2005, 110, .	3.3	350
3	Efficiency of the deposition mode ice nucleation on mineral dust particles. Atmospheric Chemistry and Physics, 2006, 6, 3007-3021.	4.9	328
4	Heterogeneous nucleation of ice particles on glassy aerosols under cirrus conditions. Nature Geoscience, 2010, 3, 233-237.	12.9	302
5	The effect of organic coating on the heterogeneous ice nucleation efficiency of mineral dust aerosols. Environmental Research Letters, 2008, 3, 025007.	5.2	230
6	Effect of sulfuric acid coating on heterogeneous ice nucleation by soot aerosol particles. Journal of Geophysical Research, 2005, 110, .	3.3	191
7	A New Ice Nucleation Active Site Parameterization for Desert Dust and Soot. Journals of the Atmospheric Sciences, 2017, 74, 699-717.	1.7	153
8	Complex refractive indices of Saharan dust samples at visible and near UV wavelengths: a laboratory study. Atmospheric Chemistry and Physics, 2012, 12, 2491-2512.	4.9	141
9	Heterogeneous ice nucleation activity of bacteria: new laboratory experiments at simulated cloud conditions. Biogeosciences, 2008, 5, 1425-1435.	3.3	122
10	Ammonium nitrate particles formed in upper troposphere from ground ammonia sources during Asian monsoons. Nature Geoscience, 2019, 12, 608-612.	12.9	95
11	Ice nucleation on flame soot aerosol of different organic carbon content. Meteorologische Zeitschrift, 2005, 14, 477-484.	1.0	94
12	Glassy aerosols with a range of compositions nucleate ice heterogeneously at cirrus temperatures. Atmospheric Chemistry and Physics, 2012, 12, 8611-8632.	4.9	94
13	T-dependent rate measurements of homogeneous ice nucleation in cloud droplets using a large atmospheric simulation chamber. Journal of Photochemistry and Photobiology A: Chemistry, 2005, 176, 208-217.	3.9	85
14	The Fifth International Workshop on Ice Nucleation phase 2 (FIN-02): laboratory intercomparison of ice nucleation measurements. Atmospheric Measurement Techniques, 2018, 11, 6231-6257.	3.1	82
15	Influence of particle size and shape on the backscattering linear depolarisation ratio of small ice crystals â€“ cloud chamber measurements in the context of contrail and cirrus microphysics. Atmospheric Chemistry and Physics, 2012, 12, 10465-10484.	4.9	71
16	Heterogeneous ice nucleation of viscous secondary organic aerosol produced from ozonolysis of <i>Î±</i>-pinene. Atmospheric Chemistry and Physics, 2016, 16, 6495-6509.	4.9	71
17	<i>Î±</i>-Pinene secondary organic aerosol at low temperature: chemical composition and implications for particle viscosity. Atmospheric Chemistry and Physics, 2018, 18, 2883-2898.	4.9	71
18	Ice cloud processing of ultra-viscous/glassy aerosol particles leads to enhanced ice nucleation ability. Atmospheric Chemistry and Physics, 2012, 12, 8589-8610.	4.9	65

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19	A review of optical measurements at the aerosol and cloud chamber AIDA. Journal of Quantitative Spectroscopy and Radiative Transfer, 2009, 110, 930-949.	2.3	63
20	The accommodation coefficient of water molecules on ice â€“ cirrus cloud studies at the AIDA simulation chamber. Atmospheric Chemistry and Physics, 2013, 13, 4451-4466.	4.9	62
21	Cloud chamber experiments on the origin of ice crystal complexity in cirrus clouds. Atmospheric Chemistry and Physics, 2016, 16, 5091-5110.	4.9	56
22	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
23	Observation of viscosity transition in <i>Î±</i>-pinene secondary organic aerosol. Atmospheric Chemistry and Physics, 2016, 16, 4423-4438.	4.9	55
24	Mid-infrared Extinction Spectra and Optical Constants of Supercooled Water Droplets. Journal of Physical Chemistry A, 2005, 109, 7099-7112.	2.5	51
25	New cloud chamber experiments on the heterogeneous ice nucleation ability of oxalic acid in the immersion mode. Atmospheric Chemistry and Physics, 2011, 11, 2083-2110.	4.9	48
26	Experimental investigation of ice nucleation by different types of aerosols in the aerosol chamber AIDA: implications to microphysics of cirrus clouds. Meteorologische Zeitschrift, 2005, 14, 485-497.	1.0	47
27	Aqueous phase oxidation of sulphur dioxide by ozone in cloud droplets. Atmospheric Chemistry and Physics, 2016, 16, 1693-1712.	4.9	47
28	Probing ice clouds by broadband mid-infrared extinction spectroscopy: case studies from ice nucleation experiments in the AIDA aerosol and cloud chamber. Atmospheric Chemistry and Physics, 2006, 6, 4775-4800.	4.9	44
29	Infrared Spectrum of Nitric Acid Dihydrate:Â Influence of Particle Shape. Journal of Physical Chemistry A, 2005, 109, 2572-2581.	2.5	40
30	Pre-activation of ice-nucleating particles by the pore condensation and freezing mechanism. Atmospheric Chemistry and Physics, 2016, 16, 2025-2042.	4.9	39
31	An aerosol chamber investigation of the heterogeneous ice nucleating potential of refractory nanoparticles. Atmospheric Chemistry and Physics, 2010, 10, 1227-1247.	4.9	38
32	The ice-nucleating activity of Arctic sea surface microlayer samples and marine algal cultures. Atmospheric Chemistry and Physics, 2020, 20, 11089-11117.	4.9	35
33	Homogeneous nucleation rates of nitric acid dihydrate (NAD) at simulated stratospheric conditions â€“ Part I: Experimental results. Atmospheric Chemistry and Physics, 2006, 6, 3023-3033.	4.9	33
34	Heterogeneous ice nucleation ability of crystalline sodium chloride dihydrate particles. Journal of Geophysical Research D: Atmospheres, 2013, 118, 4610-4622.	3.3	31
35	Heterogeneous ice nucleation of <i>Î±</i>â€pinene SOA particles before and after ice cloud processing. Journal of Geophysical Research D: Atmospheres, 2017, 122, 4924-4943.	3.3	30
36	Tritium management and anti-permeation strategies for three different breeding blanket options foreseen for the European Power Plant Physics and Technology Demonstration reactor study. Fusion Engineering and Design, 2014, 89, 1219-1222.	1.9	29

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37	Enhanced ice nucleation activity of coal fly ash aerosol particles initiated by ice-filled pores. Atmospheric Chemistry and Physics, 2019, 19, 8783-8800.	4.9	29
38	In situ characterization of mixed phase clouds using the Small Ice Detector and the Particle Phase Discriminator. Atmospheric Measurement Techniques, 2016, 9, 159-177.	3.1	28
39	High variability of the heterogeneous ice nucleation potential of oxalic acid dihydrate and sodium oxalate. Atmospheric Chemistry and Physics, 2010, 10, 7617-7641.	4.9	27
40	Synergistic HNO3â€"H2SO4â€"NH3 upper tropospheric particle formation. Nature, 2022, 605, 483-489.	27.8	26
41	Infrared Optical Constants of Highly Diluted Sulfuric Acid Solution Droplets at Cirrus Temperatures. Journal of Physical Chemistry A, 2008, 112, 11661-11676.	2.5	23
42	A quantitative test of infrared optical constants for supercooled sulphuric and nitric acid droplet aerosols. Atmospheric Chemistry and Physics, 2003, 3, 1147-1164.	4.9	22
43	Temperature-dependent formation of NaCl dihydrate in levitated NaCl and sea salt aerosol particles. Journal of Chemical Physics, 2016, 145, 244503.	3.0	21
44	Heterogeneous Ice Nucleation Ability of NaCl and Sea Salt Aerosol Particles at Cirrus Temperatures. Journal of Geophysical Research D: Atmospheres, 2018, 123, 2841-2860.	3.3	21
45	Particle Habit Imaging Using Incoherent Light: A First Step toward a Novel Instrument for Cloud Microphysics. Journal of Atmospheric and Oceanic Technology, 2011, 28, 493-512.	1.3	19
46	Influence of Particle Aspect Ratio on the Midinfrared Extinction Spectra of Wavelength-Sized Ice Crystals. Journal of Physical Chemistry A, 2007, 111, 13003-13022.	2.5	18
47	Chamber Simulations of Cloud Chemistry: The AIDA Chamber. , 2006, , 67-82.		18
48	Infrared Optical Constants of Crystalline Sodium Chloride Dihydrate: Application To Study the Crystallization of Aqueous Sodium Chloride Solution Droplets at Low Temperatures. Journal of Physical Chemistry A, 2012, 116, 8557-8571.	2.5	17
49	Enhanced high-temperature ice nucleation ability of crystallized aerosol particles after preactivation at low temperature. Journal of Geophysical Research D: Atmospheres, 2014, 119, 8212-8230.	3.3	16
50	High homogeneous freezing onsets of sulfuric acid aerosol at cirrus temperatures. Atmospheric Chemistry and Physics, 2021, 21, 14403-14425.	4.9	16
51	Solid Ammonium Nitrate Aerosols as Efficient Ice Nucleating Particles at Cirrus Temperatures. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD032248.	3.3	15
52	Zeolite membranes and palladium membrane reactor for tritium extraction from the breeder blankets of ITER and DEMO. Fusion Engineering and Design, 2013, 88, 2396-2399.	1.9	14
53	Influence of Arctic Microlayers and Algal Cultures on Sea Spray Hygroscopicity and the Possible Implications for Mixedâ€Phase Clouds. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032808.	3.3	14
54	Crystallization and immersion freezing ability of oxalic and succinic acid in multicomponent aqueous organic aerosol particles. Geophysical Research Letters, 2015, 42, 2464-2472.	4.0	12

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55	Development and characterization of an ice-selecting pumped counterflow virtual impactor (IS-PCVI) to study ice crystal residuals. Atmospheric Measurement Techniques, 2016, 9, 3817-3836.	3.1	12
56	Phase transition observations and discrimination of small cloud particles by light polarization in expansion chamber experiments. Atmospheric Chemistry and Physics, 2016, 16, 3651-3664.	4.9	11
57	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.	4.9	11
58	Aerosol Chamber Study of Optical Constants and N_2O_5Uptake on Supercooled $H_2SO_4/H_2O/HNO_3$Solution Droplets at Polar Stratospheric Cloud Temperatures. Journal of Physical Chemistry A, 2005, 109, 8140-8148.	2.5	10
59	Improvement and Characterization of Small Cross-Piece Ionization Chambers at the Tritium Laboratory Karlsruhe. Fusion Science and Technology, 2011, 60, 968-971.	1.1	9
60	Ice nucleation ability of ammonium sulfate aerosol particles internally mixed with secondary organics. Atmospheric Chemistry and Physics, 2021, 21, 10779-10798.	4.9	9
61	The Influence of Chemical and Mineral Compositions on the Parameterization of Immersion Freezing by Volcanic Ash Particles. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033356.	3.3	6
62	Dismantling of the PETRA Glove Box: Tritium Contamination and Inventory Assessment. Fusion Science and Technology, 2015, 67, 631-634.	1.1	3
63	High-resolution optical constants of crystalline ammonium nitrate for infrared remote sensing of the Asian Tropopause Aerosol Layer. Atmospheric Measurement Techniques, 2021, 14, 1977-1991.	3.1	3
64	Infrared Spectroscopy of Aerosol Particles. , 2011, , 3-24.		2
65	Micro-Channel Catalytic Reactor Integration in Caper and R&D on Highly Tritiated Water Handling and Processing. Fusion Science and Technology, 2015, 67, 312-315.	1.1	1
66	Parameterizations of ice formation derived from AIDA cloud simulation experiments. , 2013, , .		0