James C Wilson

List of Publications by Year
in descending order

94 papers	6,704 citations	57752 44 h-index	69246 77 g-index
100 all docs	100 docs citations	100 times ranked	4564 citing authors

#	Article	IF	Citations
1	A large source of cloud condensation nuclei from new particle formation in the tropics. Nature, 2019, 574, 399-403.	27.8	135
2	A new method to quantify mineral dust and other aerosol species from aircraft platforms using single-particle mass spectrometry. Atmospheric Measurement Techniques, 2019, 12, 6209-6239.	3.1	55
3	Fast time response measurements of particle size distributions in the 3â€“60â€‰nm size range with the nucleation mode aerosol size spectrometer. Atmospheric Measurement Techniques, 2018, 11, 3491-3509.	3.1	29
4	Inertial Impaction on MEMS Balance Chips for Real-Time Air Quality Monitoring. IEEE Sensors Journal, 2017, 17, 2329-2337.	4.7	24
5	Chip-Scale Implementation and Cascade Assembly of Particulate Matter Collectors With Embedded Resonant Mass Balances. IEEE Sensors Journal, 2017, 17, 1617-1625.	4.7	19
6	Stratospheric aerosol-Observations, processes, and impact on climate. Reviews of Geophysics, 2016, 54, 278-335.	23.0	265
7	Miniaturized aerosol impactor with integrated piezoelectric thin film resonant mass balance. , 2016, , .		2
8	Miniaturized two stage aerosol impactor with chip-scale stages for airborne particulate size separation. , 2015, , .		1
9	Observations of the chemical composition of stratospheric aerosol particles. Quarterly Journal of the Royal Meteorological Society, 2014, 140, 1269-1278.	2.7	79
10	New particle formation in, around and out of ice clouds in MACPEX. , 2013, , .		0
11	Aerosol impactor with embedded MEMS resonant mass balance for real-time particulate mass concentration monitoring. , 2013, , .		14
12	Individual Air-Borne Particle Mass Measurement Using High-Frequency Micromechanical Resonators. IEEE Sensors Journal, 2011, 11, 2883-2890.	4.7	69
13	Self-sustained micromechanical resonant particulate microbalance/counters. , 2011, , .		11
14	In situ observations of new particle formation in the tropical upper troposphere: the role of clouds and the nucleation mechanism. Atmospheric Chemistry and Physics, 2011, 11, 9983-10010.	4.9	66
15	Aerosols in the tropical and subtropical UT/LS: in-situ measurements of submicron particle abundance and volatility. Atmospheric Chemistry and Physics, 2010, 10, 5573-5592.	4.9	59
16	Fabrication and characterization of thermally actuated micromechanical resonators for airborne particle mass sensing: II. Device fabrication and characterization. Journal of Micromechanics and Microengineering, 2010, 20, 125019.	2.6	47
17	Detection and mass measurement of individual air-borne particles using high frequency micromechanical resonators. , 2010, , .		6
18	Thin-film piezoelectric-on-silicon particle mass sensors. , 2010, , .		17

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19	Fabrication and characterization of resonant aerosol particle mass sensors. , 2010, , .		14
20	Thermally actuated MEMS resonant sensors for mass measurement of micro/nanoscale aerosol particles. , 2009, , .		16
21	Aerosol composition of the tropical upper troposphere. Atmospheric Chemistry and Physics, 2009, 9, 4363-4385.	4.9	159
22	On geoengineering with sulphate aerosols in the tropical upper troposphere and lower stratosphere. Climatic Change, 2008, 90, 315-331.	3.6	17
23	Coatings and their enhancement of black carbon light absorption in the tropical atmosphere. Journal of Geophysical Research, 2008, 113, .	3.3	266
24	Sources of particulate matter in the northeastern United States in summer: 2. Evolution of chemical and microphysical properties. Journal of Geophysical Research, 2008, 113, .	3.3	48
25	Comparison of aerosol extinction coefficients, surface area density, and volume density from SAGE II and in situ aircraft measurements. Journal of Geophysical Research, 2008, 113, .	3.3	11
26	Supersaturations, microphysics and nitric acid partitioning in a cold cirrus cloud observed during CR-AVE 2006: an observationâ€“modelling intercomparison study. Environmental Research Letters, 2008, 3, 035003.	5.2	32
27	Steady-state aerosol distributions in the extra-tropical, lower stratosphere and the processes that maintain them. Atmospheric Chemistry and Physics, 2008, 8, 6617-6626.	4.9	29
28	Chlorine activation near the midlatitude tropopause. Journal of Geophysical Research, 2007, 112, .	3.3	22
29	Condensedâ€phase nitric acid in a tropical subvisible cirrus cloud. Geophysical Research Letters, 2007, 34, .	4.0	21
30	Single-particle measurements of midlatitude black carbon and light-scattering aerosols from the boundary layer to the lower stratosphere. Journal of Geophysical Research, 2006, 111, .	3.3	594
31	Observations of Mercury-Containing Aerosols. Environmental Science & Technology, 2006, 40, 3163-3167.	10.0	82
32	The observation of nitric acid-containing particles in the tropical lower stratosphere. Atmospheric Chemistry and Physics, 2006, 6, 601-611.	4.9	30
33	Ice supersaturations exceeding 100% at the cold tropical tropopause: implications for cirrus formation and dehydration. Atmospheric Chemistry and Physics, 2005, 5, 851-862.	4.9	112
34	Anvil glaciation in a deep cumulus updraught over Florida simulated with the Explicit Microphysics Model. I: Impact of various nucleation processes. Quarterly Journal of the Royal Meteorological Society, 2005, 131, 2019-2046.	2.7	51
35	Particle Generation and Resuspension in Aircraft Inlets when Flying in Clouds. Aerosol Science and Technology, 2004, 38, 401-409.	3.1	56
36	Function and Performance of a Low Turbulence Inlet for Sampling Supermicron Particles from Aircraft Platforms. Aerosol Science and Technology, 2004, 38, 790-802.	3.1	58

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37	Evidence for the Predominance of Mid-Tropospheric Aerosols as Subtropical Anvil Cloud Nuclei. Science, 2004, 304, 718-722.	12.6	112
38	In-situ observations of mid-latitude forest fire plumes deep in the stratosphere. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	130
39	Particle characteristics following cloud-modified transport from Asia to North America. Journal of Geophysical Research, 2004, 109, .	3.3	86
40	Aerosol particles from tropical convective systems: Cloud tops and cirrus anvils. Journal of Geophysical Research, 2004, 109, .	3.3	48
41	Observations of organic species and atmospheric ice formation. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	84
42	New particle formation observed in the tropical/subtropical cirrus clouds. Journal of Geophysical Research, 2004, 109, .	3.3	46
43	Aircraft Particle Inlets: State-of-the-Art and Future Needs. Bulletin of the American Meteorological Society, 2004, 85, 89-92.	3.3	18
44	Size-resolved particle emission indices in the stratospheric plume of an Athena II rocket. Journal of Geophysical Research, 2003, 108, .	3.3	13
45	Quantifying uptake of HNO3and H2O by alumina particles in Athena-2 rocket plume. Journal of Geophysical Research, 2003, 108, .	3.3	7
46	Particle Formation by Ion Nucleation in the Upper Troposphere and Lower Stratosphere. Science, 2003, 301, 1886-1889.	12.6	330
47	The Februaryâ€“March 2000 eruption of Hekla, Iceland from a satellite perspective. Geophysical Monograph Series, 2003, , 107-132.	0.1	56
48	Evidence for the widespread presence of liquid-phase particles during the 1999-2000 Arctic winter. Journal of Geophysical Research, 2002, 107, SOL 61-1-SOL 61-17.	3.3	18
49	The emission and chemistry of reactive nitrogen species in the plume of an Athena II solid-fuel rocket motor. Geophysical Research Letters, 2002, 29, 34-1-34-4.	4.0	13
50	Chance encounter with a stratospheric kerosene rocket plume from Russia over California. Geophysical Research Letters, 2001, 28, 959-962.	4.0	16
51	The Detection of Large HNO3-Containing Particles in the Winter Arctic Stratosphere. Science, 2001, 291, 1026-1031.	12.6	279
52	Quantitative constraints on the atmospheric chemistry of nitrogen oxides: An analysis along chemical coordinates. Journal of Geophysical Research, 2000, 105, 24283-24304.	3.3	22
53	Ozone destruction and production rates between spring and autumn in the Arctic stratosphere. Geophysical Research Letters, 2000, 27, 2605-2608.	4.0	16
54	NOypartitioning from measurements of nitrogen and hydrogen radicals in the upper troposphere. Geophysical Research Letters, 1999, 26, 51-54.	4.0	9

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55	A comparison of observations and model simulations of NOx/NOyin the lower stratosphere. Geophysical Research Letters, 1999, 26, 1153-1156.	4.0	61
56	Evolution of HCL concentrations in the lower stratosphere from 1991 to 1996 following the eruption of Mt. Pinatubo. Geophysical Research Letters, 1998, 25, 995-998.	4.0	25
57	Evaluating the role of NAT, NAD, and liquid H2SO4/H2O/HNO3solutions in Antarctic polar stratospheric cloud aerosol: Observations and implications. Journal of Geophysical Research, 1997, 102, 13255-13282.	3.3	54
58	Evolution and stoichiometry of heterogeneous processing in the Antarctic stratosphere. Journal of Geophysical Research, 1997, 102, 13235-13253.	3.3	25
59	Observed OH and HO2in the upper troposphere suggest a major source from convective injection of peroxides. Geophysical Research Letters, 1997, 24, 3181-3184.	4.0	160
60	Partitioning of the reactive nitrogen reservoir in the lower stratosphere of the southern hemisphere: Observations and modeling. Journal of Geophysical Research, 1997, 102, 3935-3949.	3.3	50
61	Activation of chlorine in sulfate aerosol as inferred from aircraft observations. Journal of Geophysical Research, 1997, 102, 3921-3933.	3.3	53
62	Laboratory studies of ternary H2SO4/HNO3/H2O particles: Implications for polar stratospheric cloud formation. Journal of Geophysical Research, 1997, 102, 10777-10784.	3.3	33
63	The Brewer-Dobson Circulation In the Light of High AltitudeIn Situ Aircraft Observations. Quarterly Journal of the Royal Meteorological Society, 1997, 123, 1-69.	2.7	61
64	Evolution of the stratospheric aerosol in the northern hemisphere following the June 1991 volcanic eruption of Mount Pinatubo: Role of tropospheric-stratospheric exchange and transport. Journal of Geophysical Research, 1996, 101, 1553-1570.	3.3	15
65	In-situ observations of an Antarctic polar stratospheric cloud: Similarities with Arctic observations. Geophysical Research Letters, 1996, 23, 1913-1916.	4.0	32
66	Observations of large reductions in the NO/NOyratio near the mid-latitude tropopause and the role of heterogeneous chemistry. Geophysical Research Letters, 1996, 23, 3223-3226.	4.0	44
67	In situ observations in aircraft exhaust plumes in the lower stratosphere at midlatitudes. Journal of Geophysical Research, 1995, 100, 3065.	3.3	73
68	FTIR studies of low temperature sulfuric acid aerosols. Geophysical Research Letters, 1995, 22, 1105-1108.	4.0	70
69	Emission Measurements of the Concorde Supersonic Aircraft in the Lower Stratosphere. Science, 1995, 270, 70-74.	12.6	165
70	Particle Formation in the Upper Tropical Troposphere: A Source of Nuclei for the Stratospheric Aerosol. Science, 1995, 270, 1650-1653.	12.6	210
71	Aerosols as dynamical tracers in the lower stratosphere: Ozone versus aerosol correlation after the Mount Pinatubo eruption. Journal of Geophysical Research, 1995, 100, 11147.	3.3	17
72	Aerosol particles in the upper troposphere and lower stratosphere: Elemental composition and morphology of individual particles in northern midlatitudes. Geophysical Research Letters, 1994, 21, 2587-2590.	4.0	149

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73	The distribution of hydrogen, nitrogen, and chlorine radicals in the lower stratosphere: Implications for changes in O3due to emission of NOyfrom supersonic aircraft. Geophysical Research Letters, 1994, 21, 2547-2550.	4.0	67
74	The diurnal variation of hydrogen, nitrogen, and chlorine radicals: Implications for the heterogeneous production of HNO2. Geophysical Research Letters, 1994, 21, 2551-2554.	4.0	76
75	In situ measurements constraining the role of sulphate aerosols in mid-latitude ozone depletion. Nature, 1993, 363, 509-514.	27.8	272
76	35 P 03 In-situ aerosol measurements and evaluation on heterogeneous chemistry in the lower stratosphere. Journal of Aerosol Science, 1993, 24, S385-S386.	3.8	0
77	In Situ Observations of Aerosol and Chlorine Monoxide After the 1991 Eruption of Mount Pinatubo: Effect of Reactions on Sulfate Aerosol. Science, 1993, 261, 1140-1143.	12.6	84
78	Chemical Loss of Ozone in the Arctic Polar Vortex in the Winter of 1991-1992. Science, 1993, 261, 1146-1149.	12.6	131
79	Measurements of high number densities of ice crystals in the tops of tropical cumulonimbus. Journal of Geophysical Research, 1993, 98, 8639-8664.	3.3	123
80	Water vapor and cloud water measurements over Darwin during the STEP 1987 tropical mission. Journal of Geophysical Research, 1993, 98, 8713-8723.	3.3	95
81	Relationships between optical extinction, backscatter and aerosol surface and volume in the stratosphere following the eruption of Mt. Pinatubo. Geophysical Research Letters, 1993, 20, 2555-2558.	4.0	41
82	Interpretation of NO_x/NO_y observations from AASEâ€II using a model of chemistry along trajectories. Geophysical Research Letters, 1993, 20, 2507-2510.	4.0	35
83	Inâ€situ measurements of changes in stratospheric aerosol and the N₂Oâ€aerosol relationship inside and outside of the polar vortex. Geophysical Research Letters, 1993, 20, 2559-2562.	4.0	25
84	Effects of Pinatubo aerosol on stratospheric ozone at midâ€latitudes. Geophysical Research Letters, 1993, 20, 2515-2518.	4.0	9
85	Stratospheric sulfate aerosol in and near the northern hemisphere polar vortex: The morphology of the sulfate layer, multimodal size distributions, and the effect of denitrification. Journal of Geophysical Research, 1992, 97, 7997-8013.	3.3	41
86	Measurements of condensation nuclei above the jet stream: Evidence for cross jet transport by waves and new particle formation at high altitudes. Journal of Geophysical Research, 1991, 96, 17415-17423.	3.3	19
87	Calibration Correction of an Active Scattering Spectrometer Probe to Account for Refractive Index of Stratospheric Aerosols: Comparison of Results with Inertial Impaction. Aerosol Science and Technology, 1990, 12, 992-1002.	3.1	21
88	Measurements of condensation nuclei in the Airborne Arctic Stratospheric Expedition: Observations of particle production in the polar vortex. Geophysical Research Letters, 1990, 17, 361-364.	4.0	27
89	Observed particle evolution in the polar stratospheric cloud of January 24, 1989. Geophysical Research Letters, 1990, 17, 413-416.	4.0	36
90	In situ measurements of total reactive nitrogen, total water, and aerosol in a polar stratospheric cloud in the Antarctic. Journal of Geophysical Research, 1989, 94, 11299-11315.	3.3	255

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91	Observations of condensation nuclei in the Airborne Antarctic Ozone Experiment: Implications for new particle formation and polar stratospheric cloud formation. Journal of Geophysical Research, 1989, 94, 16437-16448.	3.3	41
92	Changes in the subâ€2.5 micron diameter aerosol observed at 20 km altitude after the eruption of El Chichon. Geophysical Research Letters, 1983, 10, 1029-1032.	4.0	11
93	Droplet phase (Heterogeneous) and gas phase (homogeneous) contributions to secondary ambient aerosol formation as functions of relative humidity. Journal of Geophysical Research, 1983, 88, 5101-5108.	3.3	95
94	The function and response of an improved stratospheric condensation nucleus counter. Journal of Geophysical Research, 1983, 88, 6781-6785.	3.3	76