Stephen E Schwartz

List of Publications by Year
in descending order

129	12,054	46984 47	29127 104
papers	citations	h-index	g-index

148	148	148	8035
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Residence times in reservoirs under non-steady-state conditions: application to atmospheric SO2 and aerosol sulfate. Tellus, 2022, 31, 530.	0.4	21
2	Determination of a lower bound on Earthâ€™s climate sensitivity. Tellus, Series B: Chemical and Physical Meteorology, 2022, 65, 21533.	0.8	16
3	Probability of committed warming exceeding 1.5 ^{â˜}C and 2.0 ^{â˜}C Paris targets. Environmental Research Letters, 2022, 17, 064022.	2.2	3
4	Bounding Global Aerosol Radiative Forcing of Climate Change. Reviews of Geophysics, 2020, 58, e2019RG000660.	9.0	424
5	Unrealized Global Temperature Increase: Implications of Current Uncertainties. Journal of Geophysical Research D: Atmospheres, 2018, 123, 3462-3482.	1.2	5
6	Optical instruments synergy in determination of optical depth of thin clouds. EPJ Web of Conferences, 2018, 176, 08008.	0.1	0
7	Highâ€resolution photography of clouds from the surface: Retrieval of optical depth of thin clouds down to centimeter scales. Journal of Geophysical Research D: Atmospheres, 2017, 122, 2898-2928.	1.2	15
8	Earth's Climate Sensitivity: Apparent Inconsistencies in Recent Assessments. Earth's Future, 2014, 2, 601-605.	2.4	13
9	Reply to â€œComments on â€˜Why Hasn't Earth Warmed as Much as Expected?â€™â€. Journal of Climate, 2012, 25, 2200-2204.	1.2	1
10	Diverse views on climate change. Eos, 2012, 93, 157-157.	0.1	0
11	Determination of Earthâ€™s Transient and Equilibrium Climate Sensitivities from Observations Over the Twentieth Century: Strong Dependence on Assumed Forcing. Surveys in Geophysics, 2012, 33, 745-777.	2.1	71
12	Observing and Modeling Earthâ€™s Energy Flows. Surveys in Geophysics, 2012, 33, 779-816.	2.1	77
13	Observing and Modeling Earthâ€™s Energy Flows. Space Sciences Series of ISSI, 2012, , 447-484.	0.0	3
14	Determination of Earthâ€™s Transient and Equilibrium Climate Sensitivities from Observations Over the Twentieth Century: Strong Dependence on Assumed Forcing. Space Sciences Series of ISSI, 2012, , 413-445.	0.0	0
15	Production flux of sea spray aerosol. Reviews of Geophysics, 2011, 49, .	9.0	458
16	Reversible uptake of water on NaCl nanoparticles at relative humidity below deliquescence point observed by noncontact environmental atomic force microscopy. Journal of Chemical Physics, 2011, 134, 044702.	1.2	33
17	Feedback and sensitivity in an electrical circuit: an analog for climate models. Climatic Change, 2011, 106, 315-326.	1.7	26
18	Climatology of aerosol optical depth in northâ€central Oklahoma: 1992â€“2008. Journal of Geophysical Research, 2010, 115, .	3.3	45

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19	A Fool's Errand: How Not to Conduct a Research Solicitation. Eos, 2010, 91, 111-111.	0.1	0
20	Why Hasnâ€™t Earth Warmed as Much as Expected?. Journal of Climate, 2010, 23, 2453-2464.	1.2	78
21	Sensitivity of aerosol properties to new particle formation mechanism and to primary emissions in a continentalâ€scale chemical transport model. Journal of Geophysical Research, 2009, 114, .	3.3	15
22	Aerosols and Clouds in Chemical Transport Models and Climate Models. , 2009, , 531-556.		5
23	Current Understanding and Quantification of Clouds in the Changing Climate System and Strategies for Reducing Critical Uncertainties. , 2009, , 557-574.		22
24	The role of adiabaticity in the aerosol first indirect effect. Journal of Geophysical Research, 2008, 113, .	3.3	87
25	Direct aerosol forcing: Calculation from observables and sensitivities to inputs. Journal of Geophysical Research, 2008, 113, .	3.3	157
26	Reply to comments by G. Foster et al., R. Knutti et al., and N. Scafetta on â€œHeat capacity, time constant, and sensitivity of Earth's climate systemâ€• Journal of Geophysical Research, 2008, 113, .	3.3	28
27	Uncertainty in climate sensitivity: Causes, consequences, challenges. Energy and Environmental Science, 2008, 1, 430.	15.6	94
28	MATRIX (Multiconfiguration Aerosol TRacker of mIXing state): an aerosol microphysical module for global atmospheric models. Atmospheric Chemistry and Physics, 2008, 8, 6003-6035.	1.9	166
29	Aerosol Properties and Processes: A Path from Field and Laboratory Measurements to Global Climate Models. Bulletin of the American Meteorological Society, 2007, 88, 1059-1084.	1.7	198
30	Quantifying climate change â€” too rosy a picture?. Nature Climate Change, 2007, 1, 23-24.	8.1	32
31	Observation of ambient aerosol particle growth due to inâ€cloud processes within boundary layers. Journal of Geophysical Research, 2007, 112, .	3.3	10
32	Heat capacity, time constant, and sensitivity of Earth's climate system. Journal of Geophysical Research, 2007, 112, .	3.3	114
33	Mass-transport limitation to the rate of reaction of gases in liquid droplets: application to oxidation of so2 in aqueous solutionsâ†. Atmospheric Environment, 2007, 41, 138-153.	1.9	22
34	Preface to special section: Atmospheric Radiation Measurement Program May 2003 Intensive Operations Period examining aerosol properties and radiative influences. Journal of Geophysical Research, 2006, 111, .	3.3	23
35	Aerosol direct radiative effects over the northwest Atlantic, northwest Pacific, and North Indian Oceans: estimates based on in-situ chemical and optical measurements and chemical transport modeling. Atmospheric Chemistry and Physics, 2006, 6, 1657-1732.	1.9	135
36	Attribution of modeled atmospheric sulfate and SO₂ in the Northern Hemisphere for Juneâ€“July 1997. Atmospheric Chemistry and Physics, 2006, 6, 4723-4738.	1.9	11

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37	Comment on â€œsize distribution of sea-salt emissions as a function of relative humidityâ€• Atmospheric Environment, 2006, 40, 588-590.	1.9	43
38	New unbiased symmetric metrics for evaluation of air quality models. Atmospheric Science Letters, 2006, 7, 26-34.	0.8	226
39	Intercomparison of shortwave radiative transfer codes and measurements. Journal of Geophysical Research, 2005, 110, .	3.3	88
40	Scientific Objectives, Measurement Needs, and Challenges Motivating the PARAGON Aerosol Initiative. Bulletin of the American Meteorological Society, 2004, 85, 1503-1510.	1.7	17
41	PARAGON: An Integrated Approach for Characterizing Aerosol Climate Impacts and Environmental Interactions. Bulletin of the American Meteorological Society, 2004, 85, 1491-1502.	1.7	59
42	Uncertainty Requirements in Radiative Forcing of Climate Change. Journal of the Air and Waste Management Association, 2004, 54, 1351-1359.	0.9	69
43	Modeling atmospheric sulfur over the Northern Hemisphere during the Aerosol Characterization Experiment 2 experimental period. Journal of Geophysical Research, 2004, 109, n/a-n/a.	3.3	23
44	James P. Lodge, Jr.: a tribute to an editor. Atmospheric Environment, 2003, 37, 1160.	1.9	0
45	Moment-based simulation of microphysical properties of sulfate aerosols in the eastern United States: Model description, evaluation, and regional analysis. Journal of Geophysical Research, 2003, 108, .	3.3	29
46	Evaluation of a chemical transport model for sulfate using ACE-2 observations and attribution of sulfate mixing ratios to source regions and formation processes. Geophysical Research Letters, 2003, 30, .	1.5	5
47	Effective radius of cloud droplets by ground-based remote sensing: Relationship to aerosol. Journal of Geophysical Research, 2003, 108, .	3.3	96
48	The Parasol Effect on Climate. Science, 2003, 302, 1679-1681.	6.0	30
49	ATMOSPHERIC SCIENCE: Climate Forcing by Aerosol–a Hazy Picture. Science, 2003, 300, 1103-1104.	6.0	323
50	Influence of anthropogenic aerosol on cloud optical depth and albedo shown by satellite measurements and chemical transport modeling. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 1784-1789.	3.3	87
51	Aerosol Influence on Cloud Microphysics Examined by Satellite Measurements and Chemical Transport Modeling. Journals of the Atmospheric Sciences, 2002, 59, 714-725.	0.6	34
52	Retrieval of aerosol properties from moments of the particle size distribution for kernels involving the step function: cloud droplet activation. Journal of Aerosol Science, 2002, 33, 319-337.	1.8	30
53	Uncertainty in Climate Models. Science, 2002, 296, 2139c-2140.	6.0	5
54	Dynamical influences on the distribution and loading of SO2and sulfate over North America, the North Atlantic, and Europe in April 1987. Geochemistry, Geophysics, Geosystems, 2001, 2, n/a-n/a.	1.0	8

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55	Description and evaluation of a six-moment aerosol microphysical module for use in atmospheric chemical transport models. Journal of Geophysical Research, 2001, 106, 20275-20291.	3.3	26
56	From aerosol microphysics to geophysics using the method of moments. AIP Conference Proceedings, 2000, , .	0.3	0
57	Comparison of model-estimated and measured diffuse downward irradiance at surface in cloud-free skies. Journal of Geophysical Research, 2000, 105, 20165-20177.	3.3	52
58	ATMOSPHERIC SCIENCE:Absorbing Phenomena. Science, 2000, 288, 989-990.	6.0	25
59	Six-moment representation of multiple aerosol populations in a sub-hemispheric chemical transformation model. Geophysical Research Letters, 2000, 27, 967-970.	1.5	28
60	Comparison of aerosol optical depth inferred from surface measurements with that determined by Sun photometry for cloud-free conditions at a continental U.S. site. Journal of Geophysical Research, 2000, 105, 6807-6816.	3.3	46
61	Sulfur chemistry in the National Center for Atmospheric Research Community Climate Model: Description, evaluation, features, and sensitivity to aqueous chemistry. Journal of Geophysical Research, 2000, 105, 1387-1415.	3.3	243
62	A description of the global sulfur cycle and its controlling processes in the National Center for Atmospheric Research Community Climate Model, Version 3. Journal of Geophysical Research, 2000, 105, 1367-1385.	3.3	170
63	Climate change and greenhouse gases. Eos, 1999, 80, 453-458.	0.1	96
64	Properties and evolution of aerosols with size distributions having identical moments. Journal of Aerosol Science, 1998, 29, 761-772.	1.8	71
65	Models overestimate diffuse clear-sky surface irradiance: A case for excess atmospheric absorption. Geophysical Research Letters, 1998, 25, 3591-3594.	1.5	75
66	Intercomparison of models representing direct shortwave radiative forcing by sulfate aerosols. Journal of Geophysical Research, 1998, 103, 16979-16998.	3.3	124
67	Aerosol Optical Depth over Oceans: High Space- and Time-Resolution Retrieval and Error Budget from Satellite Radiometry. Journal of Atmospheric and Oceanic Technology, 1997, 14, 577-590.	0.5	24
68	Evaporation of Ammonium Nitrate Aerosol in a Heated Nephelometer:Â Implications for Field Measurements. Environmental Science & Technology, 1997, 31, 2878-2883.	4.6	68
69	Evaluation of modeled sulfate and SO2over North America and Europe for four seasonal months in 1986-1987. Journal of Geophysical Research, 1997, 102, 25305-25338.	3.3	32
70	Comparison of model estimated and measured direct-normal solar irradiance. Journal of Geophysical Research, 1997, 102, 29991-30002.	3.3	49
71	The whitehouse effectâ€"Shortwave radiative forcing of climate by anthropogenic aerosols: an overview. Journal of Aerosol Science, 1996, 27, 359-382.	1.8	249
72	Uncertainty in Climate Change Caused by Aerosols. Science, 1996, 272, 1121-0.	6.0	151

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73	Enhanced Shortwave Cloud Radiative Forcing Due To Anthropogenic Aerosols. , 1996, , 191-236.		44
74	Cloud droplet nucleation and its connection to aerosol properties. , 1996, , 770-779.		5
75	The scavenging of nitrate by clouds and precipitation. Journal of Atmospheric Chemistry, 1995, 20, 259-280.	1.4	37
76	Units for use in atmospheric chemistry (IUPAC Recommendations 1995). Pure and Applied Chemistry, 1995, 67, 1377-1406.	0.9	25
77	Laboratory study of NO2 reaction with DISPERSED and bulk liquid water. Atmospheric Environment, 1995, 29, 2557-2559.	1.9	11
78	Optical properties of atmospheric aerosols from moments of the particle size distribution. Geophysical Research Letters, 1995, 22, 2929-2932.	1.5	26
79	Climate response to radiative forcings by sulfate aerosols and greenhouse gases. Geophysical Research Letters, 1995, 22, 2509-2512.	1.5	33
80	Field observations in continental stratiform clouds: Partitioning of cloud particles between droplets and unactivated interstitial aerosols. Journal of Geophysical Research, 1995, 100, 18687.	3.3	62
81	Direct shortwave forcing of climate by the anthropogenic sulfate aerosol: Sensitivity to particle size, composition, and relative humidity. Journal of Geophysical Research, 1995, 100, 26105.	3.3	144
82	Quantifying and Minimizing Uncertainty of Climate Forcing by Anthropogenic Aerosols. Bulletin of the American Meteorological Society, 1994, 75, 375-400.	1.7	345
83	The Atmospheric Radiation Measurement (ARM) Program: Programmatic Background and Design of the Cloud and Radiation Test Bed. Bulletin of the American Meteorological Society, 1994, 75, 1201-1221.	1.7	692
84	Sulfate over the North Atlantic and adjacent continental regions: Evaluation for October and November 1986 using a three-dimensonal model driven by observation-derived meteorology. Journal of Geophysical Research, 1994, 99, 20725.	3.3	114
85	Assessment of uncertainties in the projected concentrations of methane in the atmosphere (Technical) Tj ETQq1 1 0.784314 rgBT /Over	0.9	12
86	Does fossil fuel combustion lead to global warming?. Energy, 1993, 18, 1229-1248.	4.5	15
87	Seasonal, latitudinal, and secular variations in temperature trend: Evidence for influence of anthropogenic sulfate. Geophysical Research Letters, 1993, 20, 2455-2458.	1.5	32
88	Response. Science, 1992, 256, 598-599.	6.0	16
89	Climate Forcing by Anthropogenic Aerosols. Science, 1992, 255, 423-430.	6.0	3,196
90	Hit or miss?. Nature, 1992, 355, 196-196.	13.7	0

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91	Low-intensity radiolysis study of free-radical reactions in cloudwater: hydrogen peroxide production and destruction. Environmental Science & Technology, 1991, 25, 791-800.	4.6	31
92	Chemistry with a silver lining. Nature, 1990, 343, 209-210.	13.7	2
93	The characteristic time to achieve interfacial phase equilibrium in cloud drops. Atmospheric Environment Part A General Topics, 1990, 24, 2892-2893.	1.3	2
94	Acid Deposition: Unraveling a Regional Phenomenon. Science, 1989, 243, 753-763.	6.0	143
95	Response: Acid Rain Models. Science, 1989, 244, 127-128.	6.0	0
96	Detectability of acid producing reactions in natural clouds. Atmospheric Environment, 1989, 23, 569-583.	1.1	12
97	Sulphate aerosols and climate. Nature, 1989, 340, 515-516.	13.7	17
98	Are global cloud albedo and climate controlled by marine phytoplankton?. Nature, 1988, 336, 441-445.	13.7	226
99	Mass-transport limitation to the rate of in-cloud oxidation of SO2: Re-examination in the light of new data. Atmospheric Environment, 1988, 22, 2491-2499.	1.1	63
100	Air-sea interface chemistry of reactive gases. Applied Geochemistry, 1988, 3, 65.	1.4	0
101	Aqueous-Phase Reactions in Clouds. ACS Symposium Series, 1987, , 93-108.	0.5	15
102	Both Sides Now.. Annals of the New York Academy of Sciences, 1987, 502, 83-144.	1.8	7
103	Sulfate and nitrate chemistry in cumuliform clouds. Atmospheric Environment, 1987, 21, 1865-1866.	1.1	1
104	Further discussion. Atmospheric Environment, 1987, 21, 1866-1867.	1.1	0
105	Kinetics of hydrogen peroxideâ€sulfur(IV) reaction in rainwater collected at a northeastern U.S. site. Journal of Geophysical Research, 1986, 91, 13264-13274.	3.3	34
106	Mass-Transport Considerations Pertinent to Aqueous Phase Reactions of Gases in Liquid-Water Clouds. , 1986, , 415-471.		363
107	Aircraft Release of Sulfur Hexafluoride as an Atmospheric Tracer. Journal of the Air Pollution Control Association, 1985, 35, 555-557.	0.5	0
108	Measurements of peroxides in cloudwater and rain. Journal of Geophysical Research, 1985, 90, 7861-7871.	3.3	134

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109	Measurements of sulfate production in natural clouds. Atmospheric Environment, 1984, 18, 883-885.	1.1	2
110	Measurements of the chemical composition of stratiform clouds. Atmospheric Environment, 1984, 18, 2671-2684.	1.1	127
111	Acidic and related constituents in liquid water stratiform clouds. Journal of Geophysical Research, 1984, 89, 1447-1458.	3.3	86
112	Gasâ€•and aqueousâ€phase chemistry of HO₂ in liquid water clouds. Journal of Geophysical Research, 1984, 89, 11589-11598.	3.3	148
113	Attempted Measurement of Gaseous H2O2 in the Ambient Atmosphere. , 1984, , 20-26.		3
114	Measurements of sulfate production in natural clouds. Atmospheric Environment, 1983, 17, 2629-2632.	1.1	6
115	Hydrolysis equilibrium of dinitrogen trioxide in dilute acid solution. Inorganic Chemistry, 1981, 20, 445-450.	1.9	88
116	Evaluation of the rate of uptake of nitrogen dioxide by atmospheric and surface liquid water. Journal of Geophysical Research, 1981, 86, 11971-11983.	3.3	141
117	Reaction kinetics of nitrogen dioxide with liquid water at low partial pressure. The Journal of Physical Chemistry, 1981, 85, 840-848.	2.9	195
118	Oxidation of SO2 in aqueous droplets: Mass-transport limitation in laboratory studies and the ambient atmosphere. Atmospheric Environment, 1981, 15, 1145-1154.	1.1	44
119	Residence times in reservoirs under non-steady-state conditions: application to atmospheric SO₂and aerosol sulfate. Tellus, 1979, 31, 530-547.	0.4	20
120	Conversion of sulfur dioxide to sulfate during the da vinci flights. Atmospheric Environment, 1979, 13, 157-167.	1.1	15
121	Processes limiting oxidation of sulfur dioxide in stack plumes. Environmental Science & Technology, 1978, 12, 67-73.	4.6	22
122	An Efficient Intracavity Laser Raman Spectrometer. Applied Spectroscopy, 1978, 32, 298-302.	1.2	8
123	Comment on "Resonant fluorescence and Raman scattering". Physical Review A, 1975, 11, 1121-1122.	1.0	14
124	Integrating-Sphere Fluorescence Cells: Instrumental Errors in Fluorescence Lifetimes and Intensities. Applied Optics, 1975, 14, 1143.	2.1	1
125	Determination of the equivalence point of the atomic nitrogen + mononitrogen monoxide titration reaction by electrical conduction. The Journal of Physical Chemistry, 1974, 78, 1120-1126.	2.9	1
126	The Franck-Condon principle and the duration of electronic transitions. Journal of Chemical Education, 1973, 50, 608.	1.1	21

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127	Kinetics of Nitrogen Dioxide Fluorescence. Journal of Chemical Physics, 1969, 51, 1286-1302.	1.2	105
128	Pulseâ€toâ€Analog Converter for Optimizing Signalâ€toâ€Noise from Photomultipliers at Low Light Intensities. Review of Scientific Instruments, 1968, 39, 715-718.	0.6	13
129	Alternosorptionâ€”II. Journal of Inorganic and Nuclear Chemistry, 1967, 29, 1559-1563.	0.5	1