Akkihebbal Ravishankara

List of Publications by Year
in descending order

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107 papers	11,613 citations	57681 46 h-index	33145 104 g-index
108 all docs	108 docs citations	108 times ranked	11931 citing authors

#	Article	IF	Citations
1	Complex and yet predictable: The message of the 2021 Nobel Prize in Physics. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	3
2	Photodissociation of particulate nitrate as a source of daytime tropospheric Cl2. Nature Communications, 2022, 13, 939.	5.8	26
3	Measuring Photodissociation Product Quantum Yields Using Chemical Ionization Mass Spectrometry: A Case Study with Ketones. Journal of Physical Chemistry A, 2021, 125, 6836-6844.	1.1	6
4	Thermal Decomposition of CH3O: A Curious Case of Pressure-Dependent Tunneling Effects. Journal of Physical Chemistry A, 2021, 125, 6761-6771.	1.1	0
5	Opinion: Papers that shaped tropospheric chemistry. Atmospheric Chemistry and Physics, 2021, 21, 12909-12948.	1.9	4
6	Reactions of NO₃ with aromatic aldehydes: gas-phase kinetics and insights into the mechanism of the reaction. Atmospheric Chemistry and Physics, 2021, 21, 13537-13551.	1.9	7
7	An unexpected large continental source of reactive bromine and chlorine with significant impact on wintertime air quality. National Science Review, 2021, 8, nwaa304.	4.6	42
8	Trifluoroacetic acid deposition from emissions of HFO-1234yf in India, China, and the Middle East. Atmospheric Chemistry and Physics, 2021, 21, 14833-14849.	1.9	12
9	The Precautionary Principle and the Environment: A Case Study of an Immediate Global Response to the Molina and Rowland Warning. ACS Earth and Space Chemistry, 2021, 5, 3036-3044.	1.2	3
10	Outdoor air pollution in India is not only an urban problem. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 28640-28644.	3.3	69
11	Unfinished business after five decades of ozone-layer science and policy. Nature Communications, 2020, 11, 4272.	5.8	22
12	Reaction of N2O with the prototype singlet biradical CH2: A theoretical study. Chemical Physics Letters, 2020, 749, 137446.	1.2	2
13	Call for comments: climate and clean air responses to covid-19. International Journal of Public Health, 2020, 65, 525-528.	1.0	7
14	Evidence for an Oceanic Source of Methyl Ethyl Ketone to the Atmosphere. Geophysical Research Letters, 2020, 47, e2019GL086045.	1.5	8
15	Boundary Layer Ozone Across the Indian Subcontinent: Who Influences Whom?. Geophysical Research Letters, 2019, 46, 10008-10014.	1.5	10
16	The atmospheric impact of the reaction of N2O with NO3: A theoretical study. Chemical Physics Letters, 2019, 731, 136605.	1.2	4
17	Tropospheric ozone over the Indian subcontinent from 2000 to 2015: Data set and simulation using GEOS-Chem chemical transport model. Atmospheric Environment, 2019, 219, 117039.	1.9	21
18	A question of balance: weighing the options for controlling ammonia, sulfur dioxide and nitrogen oxides. National Science Review, 2019, 6, 858-859.	4.6	5

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19	Atmospheric Photolysis of Methyl Ethyl, Diethyl, and Propyl Ethyl Ketones: Temperatureâ€Dependent UV Absorption Cross Sections. Journal of Geophysical Research D: Atmospheres, 2019, 124, 5906-5918.	1.2	11
20	Kinetics of the reactions of NO3 radical with alkanes. Physical Chemistry Chemical Physics, 2019, 21, 4246-4257.	1.3	12
21	Atmospheric loss of nitrous oxide (N₂O) is not influenced by its potential reactions with OH and NO₃radicals. Physical Chemistry Chemical Physics, 2019, 21, 24592-24600.	1.3	4
22	Premature Mortality Due to PM_{2.5} Over India: Effect of Atmospheric Transport and Anthropogenic Emissions. GeoHealth, 2019, 3, 2-10.	1.9	63
23	Rate Coefficient Measurements and Theoretical Analysis of the OH + (<i>E</i>)-CF₃CHâ•CHCF₃ Reaction. Journal of Physical Chemistry A, 2018, 122, 4635-4646.	1.1	10
24	Aerosol Optical Depth Over India. Journal of Geophysical Research D: Atmospheres, 2018, 123, 3688-3703.	1.2	73
25	Trends and patterns in the contributions to cumulative radiative forcing from different regions of the world. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 13192-13197.	3.3	19
26	Analysis of the potential atmospheric impact of the reaction of N2O with OH. Chemical Physics Letters, 2018, 708, 100-105.	1.2	8
27	Changes in Emissions of Ozone-Depleting Substances from China Due to Implementation of the Montreal Protocol. Environmental Science & Technology, 2018, 52, 11359-11366.	4.6	54
28	Kinetics of the Reactions of NO3 Radical with Methacrylate Esters. Journal of Physical Chemistry A, 2017, 121, 4464-4474.	1.1	22
29	Highlights from the Faraday Discussion meeting â€œAtmospheric chemistry in the Anthropoceneâ€, York, 2017. Chemical Communications, 2017, 53, 12494-12498.	2.2	0
30	A sensitivity analysis of key natural factors in the modeled global acetone budget. Journal of Geophysical Research D: Atmospheres, 2017, 122, 2043-2058.	1.2	17
31	Improving our fundamental understanding of the role of aerosolâˆ’cloud interactions in the climate system. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5781-5790.	3.3	479
32	Hydrofluorocarbon (HFC) Emissions in China: An Inventory for 2005â€“2013 and Projections to 2050. Environmental Science & Technology, 2016, 50, 2027-2034.	4.6	42
33	Role of Chemistry in Earthâ€™s Climate. Chemical Reviews, 2015, 115, 3679-3681.	23.0	41
34	Atmospheric Degradation of Ozone Depleting Substances, Their Substitutes, and Related Species. Chemical Reviews, 2015, 115, 3704-3759.	23.0	128
35	Physical Chemistry of Climate Metrics. Chemical Reviews, 2015, 115, 3682-3703.	23.0	28
36	Deposition and rainwater concentrations of trifluoroacetic acid in the United States from the use of HFOâ€1234yf. Journal of Geophysical Research D: Atmospheres, 2014, 119, 14,059.	1.2	32

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37	Budgets for nocturnal VOC oxidation by nitrate radicals aloft during the 2006 Texas Air Quality Study. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	63
38	Atmospheric Chemistry of (<i>Z</i>)-CF₃CHâ•CHCF₃: OH Radical Reaction Rate Coefficient and Global Warming Potential. Journal of Physical Chemistry A, 2011, 115, 10539-10549.	1.1	41
39	Rate coefficients for the reactions of OH with <i>n</i>â€propanol and <i>iso</i>â€propanol between 237 and 376 K. International Journal of Chemical Kinetics, 2010, 42, 10-24.	1.0	15
40	Rate Coefficients for the Gas-Phase Reaction of the Hydroxyl Radical with CH₂â•CHF and CH₂â•CF₂. Journal of Physical Chemistry A, 2010, 114, 4619-4633.	1.1	41
41	Nitrous Oxide (N ₂ O): The Dominant Ozone-Depleting Substance Emitted in the 21st Century. Science, 2009, 326, 123-125.	6.0	3,541
42	Laboratory studies of products of N₂O₅ uptake on Cl^{âˆ'} containing substrates. Geophysical Research Letters, 2009, 36, .	1.5	107
43	Regional variation of the dimethyl sulfide oxidation mechanism in the summertime marine boundary layer in the Gulf of Maine. Journal of Geophysical Research, 2009, 114, .	3.3	17
44	Reactive uptake coefficients for N₂O₅ determined from aircraft measurements during the Second Texas Air Quality Study: Comparison to current model parameterizations. Journal of Geophysical Research, 2009, 114, .	3.3	124
45	The CH3CO quantum yield in the 248nm photolysis of acetone, methyl ethyl ketone, and biacetyl. Journal of Photochemistry and Photobiology A: Chemistry, 2008, 199, 336-344.	2.0	36
46	High levels of nitryl chloride in the polluted subtropical marine boundary layer. Nature Geoscience, 2008, 1, 324-328.	5.4	403
47	CF₃CFî€CH₂and (Z)-CF₃CFî€CHF: temperature dependent OH rate coefficients and global warming potentials. Physical Chemistry Chemical Physics, 2008, 10, 808-820.	1.3	119
48	N ₂ O ₅ Oxidizes Chloride to Cl ₂ in Acidic Atmospheric Aerosol. Science, 2008, 321, 1059-1059.	6.0	130
49	Bias in Filter-Based Aerosol Light Absorption Measurements Due to Organic Aerosol Loading: Evidence from Laboratory Measurements. Aerosol Science and Technology, 2008, 42, 1022-1032.	1.5	151
50	Rate coefficients for the reaction of OH with (E)-2-pentenal, (E)-2-hexenal, and (E)-2-heptenal. Physical Chemistry Chemical Physics, 2007, 9, 2240.	1.3	32
51	Influence of nitrate radical on the oxidation of dimethyl sulfide in a polluted marine environment. Journal of Geophysical Research, 2007, 112, .	3.3	31
52	Particle nucleation following the O3 and OH initiated oxidation of Î± -pinene and Î² -pinene between 278 and 320 K. Journal of Geophysical Research, 2007, 112, .	3.3	38
53	Parameterization for the relative humidity dependence of light extinction: Organicâ€ammonium sulfate aerosol. Journal of Geophysical Research, 2007, 112, .	3.3	61
54	Vertical profiles in NO₃ and N₂O₅ measured from an aircraft: Results from the NOAA Pâ€3 and surface platforms during the New England Air Quality Study 2004. Journal of Geophysical Research, 2007, 112, .	3.3	75

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55	Key factors influencing the relative humidity dependence of aerosol light scattering. Geophysical Research Letters, 2006, 33, .	1.5	53
56	Observation of daytime N2 O5 in the marine boundary layer during New England Air Quality Study-Intercontinental Transport and Chemical Transformation 2004. Journal of Geophysical Research, 2006, 111, .	3.3	44
57	Nocturnal odd-oxygen budget and its implications for ozone loss in the lower troposphere. Geophysical Research Letters, 2006, 33, .	1.5	75
58	Rate coefficients for the reaction of OH with OClO between 242 and 392 K. International Journal of Chemical Kinetics, 2006, 38, 234-241.	1.0	2
59	Variability in Nocturnal Nitrogen Oxide Processing and Its Role in Regional Air Quality. Science, 2006, 311, 67-70.	6.0	345
60	Aircraft instrument for simultaneous, in situ measurement of NO3 and N2O5 via pulsed cavity ring-down spectroscopy. Review of Scientific Instruments, 2006, 77, 034101.	0.6	133
61	Reactivity and loss mechanisms of NO3 and N2 O5 in a polluted marine environment: Results from in situ measurements during New England Air Quality Study 2002. Journal of Geophysical Research, 2006, 111, .	3.3	99
62	Nighttime removal of NOxin the summer marine boundary layer. Geophysical Research Letters, 2004, 31, n/a-n/a.	1.5	127
63	Nitrogen oxides in the nocturnal boundary layer: Simultaneous in situ measurements of NO3, N2O5, NO2, NO, and O3. Journal of Geophysical Research, 2003, 108, n/a-n/a.	3.3	105
64	Applicability of the steady state approximation to the interpretation of atmospheric observations of NO3and N2O5. Journal of Geophysical Research, 2003, 108, .	3.3	110
65	Introduction:â€‰ Atmospheric ChemistryLong-Term Issues. Chemical Reviews, 2003, 103, 4505-4508.	23.0	44
66	Simultaneousin situdetection of atmospheric NO3 and N2O5 via cavity ring-down spectroscopy. Review of Scientific Instruments, 2002, 73, 3291-3301.	0.6	134
67	Role of NO3in sulfate production in the wintertime northern latitudes. Journal of Geophysical Research, 2002, 107, AAC 5-1.	3.3	22
68	Redetermination of the rate coefficient for the reaction of O(¹D) with N₂. Geophysical Research Letters, 2002, 29, 35-1.	1.5	22
69	Cavity ring-down spectroscopy for atmospheric trace gas detection: application to the nitrate radical (NO 3). Applied Physics B: Lasers and Optics, 2002, 75, 173-182.	1.1	68
70	Kinetics of the reaction OH + CO under atmospheric conditions. Geophysical Research Letters, 2001, 28, 3135-3138.	1.5	33
71	In-situ measurement of atmospheric NO3and N2O5via cavity ring-down spectroscopy. Geophysical Research Letters, 2001, 28, 3227-3230.	1.5	86
72	Atmospheric chemistry of small organic peroxy radicals. Journal of Geophysical Research, 2001, 106, 12157-12182.	3.3	326

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73	Rate coefficients for the reaction of OH with Cl2, Br2, and I2 from 235 to 354 K. International Journal of Chemical Kinetics, 1999, 31, 417-424.	1.0	30
74	A comparison of observations and model simulations of NOx/NOyin the lower stratosphere. Geophysical Research Letters, 1999, 26, 1153-1156.	1.5	61
75	Role of nitrogen oxides in the stratosphere: A reevaluation based on laboratory studies. Geophysical Research Letters, 1999, 26, 2387-2390.	1.5	46
76	Rate coefficients for the reaction of OH with Cl2, Br2, and I2 from 235 to 354 K. , 1999, 31, 417.		2
77	Photochemistry of acetone under tropospheric conditions. Chemical Physics, 1998, 231, 229-244.	0.9	154
78	Quantum yields of O(Â¹D) in the photolysis of ozone between 289 and 329 nm as a function of temperature. Geophysical Research Letters, 1998, 25, 143-146.	1.5	91
79	ATMOSPHERIC CHEMISTRY: Photochemistry of Ozone: Surprises and Recent Lessons. Science, 1998, 280, 60-61.	6.0	103
80	The photochemistry of acetone in the upper troposphere: A source of odd-hydrogen radicals. Geophysical Research Letters, 1997, 24, 3177-3180.	1.5	193
81	Photolysis of ozone at 308 and 248 nm: Quantum yield of O(Â¹D) as a function of temperature. Geophysical Research Letters, 1997, 24, 1091-1094.	1.5	33
82	Heterogeneous and Multiphase Chemistry in the Troposphere. Science, 1997, 276, 1058-1065.	6.0	661
83	Heterogeneous chemistry of bromine species in sulfuric acid under stratospheric conditions. Geophysical Research Letters, 1995, 22, 385-388.	1.5	132
84	Does the HO2 radical react with H2S, CH3SH, and CH3SCH3?. International Journal of Chemical Kinetics, 1994, 26, 355-365.	1.0	18
85	Yield of16OS18O from the18OH initiated oxidation of CS2 in16O2. International Journal of Chemical Kinetics, 1994, 26, 551-560.	1.0	10
86	Kinetics of the reactions of Cl atoms with CH3Br and CH2Br2. International Journal of Chemical Kinetics, 1994, 26, 719-728.	1.0	25
87	Kinetics of the reactions of OH with alkanes. International Journal of Chemical Kinetics, 1994, 26, 973-990.	1.0	44
88	Reactive Uptake of ClONO2 onto Sulfuric Acid Due to Reaction with HCl and H2O. The Journal of Physical Chemistry, 1994, 98, 5728-5735.	2.9	192
89	Do Hydrofluorocarbons Destroy Stratospheric Ozone?. Science, 1994, 263, 71-75.	6.0	256
90	Kinetics of O(1D) reactions with bromocarbons. International Journal of Chemical Kinetics, 1993, 25, 479-487.	1.0	20

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91	Kinetics of Cl(2P) reactions with CF3CHCl2, CF3CHFCl, and CH3CFCl2. International Journal of Chemical Kinetics, 1993, 25, 833-844.	1.0	29
92	Photodissociation of HNO3 at 193, 222, and 248 nm: Products and quantum yields. Journal of Chemical Physics, 1992, 96, 5887-5895.	1.2	66
93	Photodissociation of H2O2 at 193 and 222 nm: Products and quantum yields. Journal of Chemical Physics, 1992, 96, 5878-5886.	1.2	48
94	Photodissociation of bromocarbons at 193, 222, and 248 nm: Quantum yields of Br atom at 298 K. Journal of Chemical Physics, 1992, 96, 8194-8201.	1.2	42
95	Measurement of hydroxyl and hydroperoxy radical uptake coefficients on water and sulfuric acid surfaces. The Journal of Physical Chemistry, 1992, 96, 4979-4985.	2.9	209
96	Laboratory measurements of direct ozone loss on ice and dopedâ€ice surfaces. Geophysical Research Letters, 1992, 19, 41-44.	1.5	21
97	Rate coefficients for the reaction of OH with HONO between 298 and 373 K. International Journal of Chemical Kinetics, 1992, 24, 711-725.	1.0	35
98	The yield of CH3S from the reaction of OH with CH3SSCH3. International Journal of Chemical Kinetics, 1992, 24, 943-951.	1.0	12
99	Kinetics of the reaction of H(2S) with HBr. International Journal of Chemical Kinetics, 1992, 24, 973-982.	1.0	26
100	The loss of CF₂O on ice, NAT, and sulfuric acid solutions. Geophysical Research Letters, 1991, 18, 1699-1701.	1.5	19
101	New measurement of the rate coefficient for the reaction of OH with methane. Nature, 1991, 350, 406-409.	13.7	217
102	Atmospheric oxidation of reduced sulfur species. International Journal of Chemical Kinetics, 1991, 23, 483-527.	1.0	282
103	The photochemistry of ozone at 193 and 222 nm. Journal of Chemical Physics, 1991, 95, 3244-3251.	1.2	78
104	The rate coefficient for the reaction of O(3P) with CH3OOH at 297 K. International Journal of Chemical Kinetics, 1990, 22, 351-358.	1.0	9
105	Rate coefficient for the termolecular channel of the self-reaction of chlorine monoxide. The Journal of Physical Chemistry, 1990, 94, 4896-4907.	2.9	73
106	Photodissociation of H2O2 and CH3OOH at 248 nm and 298 K: Quantum yields for OH, O(3P) and H(2S). Journal of Chemical Physics, 1990, 92, 996-1003.	1.2	118
107	SO₂ oxidation via the hydroxyl radical: Atmospheric fate of HSOx radicals. Geophysical Research Letters, 1979, 6, 113-116.	1.5	110