J D Crounse

List of Publications by Year
in descending order

117 papers	14,701 citations	23567 58 h-index	23533 111 g-index
189 all docs	189 docs citations	189 times ranked	7778 citing authors

#	Article	IF	Citations
1	Emission factors for open and domestic biomass burning for use in atmospheric models. Atmospheric Chemistry and Physics, 2011, 11, 4039-4072.	4.9	1,527
2	Unexpected Epoxide Formation in the Gas-Phase Photooxidation of Isoprene. Science, 2009, 325, 730-733.	12.6	837
3	Highly Oxygenated Organic Molecules (HOM) from Gas-Phase Autoxidation Involving Peroxy Radicals: A Key Contributor to Atmospheric Aerosol. Chemical Reviews, 2019, 119, 3472-3509.	47.7	460
4	Isoprene photooxidation: new insights into the production of acids and organic nitrates. Atmospheric Chemistry and Physics, 2009, 9, 1479-1501.	4.9	450
5	Autoxidation of Organic Compounds in the Atmosphere. Journal of Physical Chemistry Letters, 2013, 4, 3513-3520.	4.6	444
6	Emissions from biomass burning in the Yucatan. Atmospheric Chemistry and Physics, 2009, 9, 5785-5812.	4.9	433
7	Fast airborne aerosol size and chemistry measurements above Mexico City and Central Mexico during the MILAGRO campaign. Atmospheric Chemistry and Physics, 2008, 8, 4027-4048.	4.9	411
8	Gas-Phase Reactions of Isoprene and Its Major Oxidation Products. Chemical Reviews, 2018, 118, 3337-3390.	47.7	339
9	Investigation of the sources and processing of organic aerosol over the Central Mexican Plateau from aircraft measurements during MILAGRO. Atmospheric Chemistry and Physics, 2010, 10, 5257-5280.	4.9	325
10	Why do models overestimate surface ozone in the Southeast United States?. Atmospheric Chemistry and Physics, 2016, 16, 13561-13577.	4.9	320
11	Secondary organic aerosol (SOA) formation from reaction of isoprene with nitrate radicals (NO₃). Atmospheric Chemistry and Physics, 2008, 8, 4117-4140.	4.9	317
12	Measurement of Gas-Phase Hydroperoxides by Chemical Ionization Mass Spectrometry. Analytical Chemistry, 2006, 78, 6726-6732.	6.5	307
13	Peroxy radical isomerization in the oxidation of isoprene. Physical Chemistry Chemical Physics, 2011, 13, 13607.	2.8	302
14	Secondary organic aerosol formation from photooxidation of naphthalene and alkylnaphthalenes: implications for oxidation of intermediate volatility organic compounds (IVOCs). Atmospheric Chemistry and Physics, 2009, 9, 3049-3060.	4.9	300
15	Importance of secondary sources in the atmospheric budgets of formic and acetic acids. Atmospheric Chemistry and Physics, 2011, 11, 1989-2013.	4.9	266
16	Nitrogen oxides and PAN in plumes from boreal fires during ARCTAS-B and their impact on ozone: an integrated analysis of aircraft and satellite observations. Atmospheric Chemistry and Physics, 2010, 10, 9739-9760.	4.9	234
17	Chemistry of hydrogen oxide radicals (HO_x) in the Arctic troposphere in spring. Atmospheric Chemistry and Physics, 2010, 10, 5823-5838.	4.9	220
18	Sources, seasonality, and trends of southeast US aerosol: an integrated analysis of surface, aircraft, and satellite observations with the GEOS-Chem chemical transport model. Atmospheric Chemistry and Physics, 2015, 15, 10411-10433.	4.9	217

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19	Ozone and organic nitrates over the eastern United States: Sensitivity to isoprene chemistry. Journal of Geophysical Research D: Atmospheres, 2013, 118, 11,256.	3.3	213
20	Insights into hydroxyl measurements and atmospheric oxidation in a California forest. Atmospheric Chemistry and Physics, 2012, 12, 8009-8020.	4.9	211
21	Emissions from forest fires near Mexico City. Atmospheric Chemistry and Physics, 2007, 7, 5569-5584.	4.9	205
22	Rapid deposition of oxidized biogenic compounds to a temperate forest. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E392-401.	7.1	192
23	Role of aldehyde chemistry and NO_x concentrations in secondary organic aerosol formation. Atmospheric Chemistry and Physics, 2010, 10, 7169-7188.	4.9	190
24	Airborne measurements of western U.S. wildfire emissions: Comparison with prescribed burning and air quality implications. Journal of Geophysical Research D: Atmospheres, 2017, 122, 6108-6129.	3.3	184
25	Secondary organic aerosol formation from biomass burning intermediates: phenol and methoxyphenols. Atmospheric Chemistry and Physics, 2013, 13, 8019-8043.	4.9	181
26	Atmospheric fates of Criegee intermediates in the ozonolysis of isoprene. Physical Chemistry Chemical Physics, 2016, 18, 10241-10254.	2.8	179
27	Organic nitrate chemistry and its implications for nitrogen budgets in an isoprene- and monoterpene-rich atmosphere: constraints from aircraft (SEAC⁴RS) and ground-based (SOAS) observations in the Southeast US. Atmospheric Chemistry and Physics, 2016, 16, 5969-5991.	4.9	173
28	Formation of Low Volatility Organic Compounds and Secondary Organic Aerosol from Isoprene Hydroxyhydroperoxide Low-NO Oxidation. Environmental Science & Technology, 2015, 49, 10330-10339.	10.0	172
29	Atmospheric Fate of Methacrolein. 1. Peroxy Radical Isomerization Following Addition of OH and O₂. Journal of Physical Chemistry A, 2012, 116, 5756-5762.	2.5	166
30	The Deep Convective Clouds and Chemistry (DC3) Field Campaign. Bulletin of the American Meteorological Society, 2015, 96, 1281-1309.	3.3	165
31	Gas Phase Production and Loss of Isoprene Epoxydiols. Journal of Physical Chemistry A, 2014, 118, 1237-1246.	2.5	149
32	Atmospheric autoxidation is increasingly important in urban and suburban North America. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 64-69.	7.1	149
33	Biomass burning and urban air pollution over the Central Mexican Plateau. Atmospheric Chemistry and Physics, 2009, 9, 4929-4944.	4.9	138
34	Direct Measurements of the Convective Recycling of the Upper Troposphere. Science, 2007, 315, 816-820.	12.6	114
35	Isoprene Peroxy Radical Dynamics. Journal of the American Chemical Society, 2017, 139, 5367-5377.	13.7	114
36	Observational Insights into Aerosol Formation from Isoprene. Environmental Science & Technology, 2013, 47, 11403-11413.	10.0	113

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37	Kinetics and Products of the Reaction of the First-Generation Isoprene Hydroxy Hydroperoxide (ISOPOOH) with OH. Journal of Physical Chemistry A, 2016, 120, 1441-1451.	2.5	111
38	Mechanism of the hydroxyl radical oxidation of methacryloyl peroxynitrate (MPAN) and its pathway toward secondary organic aerosol formation in the atmosphere. Physical Chemistry Chemical Physics, 2015, 17, 17914-17926.	2.8	108
39	Comparison of chemical characteristics of 495 biomass burning plumes intercepted by the NASA DC-8 aircraft during the ARCTAS/CARB-2008 field campaign. Atmospheric Chemistry and Physics, 2011, 11, 13325-13337.	4.9	106
40	On Rates and Mechanisms of OH and O₃ Reactions with Isoprene-Derived Hydroxy Nitrates. Journal of Physical Chemistry A, 2014, 118, 1622-1637.	2.5	102
41	Observations of heterogeneous reactions between Asian pollution and mineral dust over the Eastern North Pacific during INTEX-B. Atmospheric Chemistry and Physics, 2009, 9, 8283-8308.	4.9	99
42	Conversion of hydroperoxides to carbonyls in field and laboratory instrumentation: Observational bias in diagnosing pristine versus anthropogenically controlled atmospheric chemistry. Geophysical Research Letters, 2014, 41, 8645-8651.	4.0	99
43	Chemical ionization tandem mass spectrometer for the <i>in situ</i> measurement of methyl hydrogen peroxide. Review of Scientific Instruments, 2010, 81, 094102.	1.3	97
44	Analysis of ozone and nitric acid in spring and summer Arctic pollution using aircraft, ground-based, satellite observations and MOZART-4 model: source attribution and partitioning. Atmospheric Chemistry and Physics, 2012, 12, 237-259.	4.9	96
45	Airborne measurements of organosulfates over the continental U.S.. Journal of Geophysical Research D: Atmospheres, 2015, 120, 2990-3005.	3.3	96
46	Total observed organic carbon (TOOC) in the atmosphere: a synthesis of North American observations. Atmospheric Chemistry and Physics, 2008, 8, 2007-2025.	4.9	94
47	Importance of biogenic precursors to the budget of organic nitrates: observations of multifunctional organic nitrates by CIMS and TD-LIF during BEARPEX 2009. Atmospheric Chemistry and Physics, 2012, 12, 5773-5785.	4.9	93
48	Agricultural fires in the southeastern U.S. during SEAC⁴RS: Emissions of trace gases and particles and evolution of ozone, reactive nitrogen, and organic aerosol. Journal of Geophysical Research D: Atmospheres, 2016, 121, 7383-7414.	3.3	93
49	Airborne observations of total RONO₂: new constraints on the yield and lifetime of isoprene nitrates. Atmospheric Chemistry and Physics, 2009, 9, 1451-1463.	4.9	91
50	Upper tropospheric ozone production from lightning NO<i>_x</i>â€impacted convection: Smoke ingestion case study from the DC3 campaign. Journal of Geophysical Research D: Atmospheres, 2015, 120, 2505-2523.	3.3	88
51	Atmospheric Fate of Methyl Vinyl Ketone: Peroxy Radical Reactions with NO and HO₂. Journal of Physical Chemistry A, 2015, 119, 4562-4572.	2.5	87
52	Photolysis, OH reactivity and ozone reactivity of a proxy for isoprene-derived hydroperoxyenals (HPALDs). Physical Chemistry Chemical Physics, 2012, 14, 7276.	2.8	86
53	Isoprene NO₃ Oxidation Products from the RO₂ + HO₂ Pathway. Journal of Physical Chemistry A, 2015, 119, 10158-10171.	2.5	86
54	The Chemistry of Atmosphere-Forest Exchange (CAFE) Model â€“ Part 2: Application to BEARPEX-2007 observations. Atmospheric Chemistry and Physics, 2011, 11, 1269-1294.	4.9	85

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55	Constraints on Aerosol Nitrate Photolysis as a Potential Source of HONO and NO_{<i>x</i>}. Environmental Science & Technology, 2018, 52, 13738-13746.	10.0	79
56	Observation of isoprene hydroxynitrates in the southeastern United States and implications for the fate of NO_{<i>x</i>}. Atmospheric Chemistry and Physics, 2015, 15, 11257-11272.	4.9	75
57	The lifetime of nitrogen oxides in an isoprene-dominated forest. Atmospheric Chemistry and Physics, 2016, 16, 7623-7637.	4.9	75
58	Unimolecular Reactions of Peroxy Radicals Formed in the Oxidation of Î±-Pinene and Î²-Pinene by Hydroxyl Radicals. Journal of Physical Chemistry A, 2019, 123, 1661-1674.	2.5	75
59	High-resolution inversion of OMI formaldehyde columns to quantify isoprene emission on ecosystem-relevant scales: application to the southeast US. Atmospheric Chemistry and Physics, 2018, 18, 5483-5497.	4.9	64
60	Overview of the Focused Isoprene eXperiment at the California Institute of Technology (FIXCIT): mechanistic chamber studies on the oxidation of biogenic compounds. Atmospheric Chemistry and Physics, 2014, 14, 13531-13549.	4.9	60
61	Speciation of OH reactivity above the canopy of an isoprene-dominated forest. Atmospheric Chemistry and Physics, 2016, 16, 9349-9359.	4.9	59
62	Atmospheric Fate of Methacrolein. 2. Formation of Lactone and Implications for Organic Aerosol Production. Journal of Physical Chemistry A, 2012, 116, 5763-5768.	2.5	58
63	Mapping hydroxyl variability throughout the global remote troposphere via synthesis of airborne and satellite formaldehyde observations. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 11171-11180.	7.1	58
64	Lightning NO_{<i>x</i>} Emissions: Reconciling Measured and Modeled Estimates With Updated NO_{<i>x</i>} Chemistry. Geophysical Research Letters, 2017, 44, 9479-9488.	4.0	56
65	Measurement of atmospheric nitrous acid at Bodgett Forest during BEARPEX2007. Atmospheric Chemistry and Physics, 2010, 10, 6283-6294.	4.9	55
66	Quantifying sources and sinks of reactive gases in the lower atmosphere using airborne flux observations. Geophysical Research Letters, 2015, 42, 8231-8240.	4.0	53
67	Large contribution of biomass burning emissions to ozone throughout the global remote troposphere. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	51
68	On the flux of oxygenated volatile organic compounds from organic aerosol oxidation. Geophysical Research Letters, 2006, 33, .	4.0	50
69	Hydroxy nitrate production in the OH-initiated oxidation of alkenes. Atmospheric Chemistry and Physics, 2015, 15, 4297-4316.	4.9	50
70	Impacts of Traffic Reductions Associated With COVIDâ€19 on Southern California Air Quality. Geophysical Research Letters, 2020, 47, e2020GL090164.	4.0	50
71	Ozone chemistry in western U.S. wildfire plumes. Science Advances, 2021, 7, eabl3648.	10.3	45
72	Calculation of conformationally weighted dipole moments useful in ionâ€œmolecule collision rate estimates. Chemical Physics Letters, 2009, 474, 45-50.	2.6	43

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73	A regional scale modeling analysis of aerosol and trace gas distributions over the eastern Pacific during the INTEX-B field campaign. Atmospheric Chemistry and Physics, 2010, 10, 2091-2115.	4.9	43
74	In situ measurements of tropospheric volcanic plumes in Ecuador and Colombia during TC⁴. Journal of Geophysical Research, 2011, 116, .	3.3	41
75	Atmospheric Acetaldehyde: Importance of Airâ€Sea Exchange and a Missing Source in the Remote Troposphere. Geophysical Research Letters, 2019, 46, 5601-5613.	4.0	41
76	The NASA Atmospheric Tomography (ATom) Mission: Imaging the Chemistry of the Global Atmosphere. Bulletin of the American Meteorological Society, 2022, 103, E761-E790.	3.3	39
77	An analysis of fast photochemistry over high northern latitudes during spring and summer using in-situ observations from ARCTAS and TOPSE. Atmospheric Chemistry and Physics, 2012, 12, 6799-6825.	4.9	38
78	Production and Fate of C₄ Dihydroxycarbonyl Compounds from Isoprene Oxidation. Journal of Physical Chemistry A, 2016, 120, 106-117.	2.5	38
79	Constraining remote oxidation capacity with ATom observations. Atmospheric Chemistry and Physics, 2020, 20, 7753-7781.	4.9	36
80	Observed NO/NO₂ Ratios in the Upper Troposphere Imply Errors in NOâ€NO₂â€O₃ Cycling Kinetics or an Unaccounted NO_x Reservoir. Geophysical Research Letters, 2018, 45, 4466-4474.	4.0	34
81	Rapid hydrolysis of tertiary isoprene nitrate efficiently removes NO _x from the atmosphere. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 33011-33016.	7.1	34
82	Correcting model biases of CO in East Asia: impact on oxidant distributions during KORUS-AQ. Atmospheric Chemistry and Physics, 2020, 20, 14617-14647.	4.9	34
83	Impact of the deep convection of isoprene and other reactive trace species on radicals and ozone in the upper troposphere. Atmospheric Chemistry and Physics, 2012, 12, 1135-1150.	4.9	33
84	Kinetics and Product Yields of the OH Initiated Oxidation of Hydroxymethyl Hydroperoxide. Journal of Physical Chemistry A, 2018, 122, 6292-6302.	2.5	33
85	On the sources and sinks of atmospheric VOCs: an integrated analysis of recent aircraft campaigns over North America. Atmospheric Chemistry and Physics, 2019, 19, 9097-9123.	4.9	32
86	New Insights into the Radical Chemistry and Product Distribution in the OH-Initiated Oxidation of Benzene. Environmental Science & Technology, 2020, 54, 13467-13477.	10.0	32
87	Chemical transport models often underestimate inorganic aerosol acidity in remote regions of the atmosphere. Communications Earth & Environment, 2021, 2, .	6.8	32
88	Convective distribution of tropospheric ozone and tracers in the Central American ITCZ region: Evidence from observations during TC4. Journal of Geophysical Research, 2010, 115, .	3.3	31
89	Intramolecular Hydrogen Shift Chemistry of Hydroperoxy-Substituted Peroxy Radicals. Journal of Physical Chemistry A, 2019, 123, 590-600.	2.5	31
90	Decadal changes in summertime reactive oxidized nitrogen and surface ozone over the Southeast United States. Atmospheric Chemistry and Physics, 2018, 18, 2341-2361.	4.9	30

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91	Wet scavenging of soluble gases in DC3 deep convective storms using WRFâ€Chem simulations and aircraft observations. Journal of Geophysical Research D: Atmospheres, 2016, 121, 4233-4257.	3.3	29
92	Long-range pollution transport during the MILAGRO-2006 campaign: a case study of a major Mexico City outflow event using free-floating altitude-controlled balloons. Atmospheric Chemistry and Physics, 2010, 10, 7137-7159.	4.9	25
93	Representing sub-grid scale variations in nitrogen deposition associated with land use in a global Earth system model: implications for present and future nitrogen deposition fluxes over North America. Atmospheric Chemistry and Physics, 2018, 18, 17963-17978.	4.9	25
94	Missing OH reactivity in the global marine boundary layer. Atmospheric Chemistry and Physics, 2020, 20, 4013-4029.	4.9	25
95	Convective transport and scavenging of peroxides by thunderstorms observed over the central U.S. during DC3. Journal of Geophysical Research D: Atmospheres, 2016, 121, 4272-4295.	3.3	24
96	Observational Constraints on the Oxidation of NOx in the Upper Troposphere. Journal of Physical Chemistry A, 2016, 120, 1468-1478.	2.5	23
97	Low-pressure gas chromatography with chemical ionization mass spectrometry for quantification of multifunctional organic compounds in the atmosphere. Atmospheric Measurement Techniques, 2018, 11, 6815-6832.	3.1	23
98	Exploring Oxidation in the Remote Free Troposphere: Insights From Atmospheric Tomography (ATom). Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD031685.	3.3	23
99	Airborne formaldehyde and volatile organic compound measurements over the Daesan petrochemical complex on Koreaâ€™s northwest coast during the Korea-United States Air Quality study. Elementa, 2020, 8, .	3.2	21
100	Stereoselectivity in Atmospheric Autoxidation. Journal of Physical Chemistry Letters, 2019, 10, 6260-6266.	4.6	19
101	Inferring ozone production in an urban atmosphere using measurements of peroxynitric acid. Atmospheric Chemistry and Physics, 2009, 9, 3697-3707.	4.9	18
102	Quantification of hydroxyacetone and glycolaldehyde using chemical ionization mass spectrometry. Atmospheric Chemistry and Physics, 2014, 14, 4251-4262.	4.9	17
103	Hydrotrioxide (ROOOH) formation in the atmosphere. Science, 2022, 376, 979-982.	12.6	16
104	Near-IR photodissociation of peroxy acetyl nitrate. Atmospheric Chemistry and Physics, 2005, 5, 385-392.	4.9	14
105	HCOOH in the Remote Atmosphere: Constraints from Atmospheric Tomography (ATom) Airborne Observations. ACS Earth and Space Chemistry, 2021, 5, 1436-1454.	2.7	13
106	H₂O₂ and CH₃OOH (MHP) in the Remote Atmosphere: 1. Global Distribution and Regional Influences. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	11
107	Hydroxymethanesulfonate (HMS) Formation during Summertime Fog in an Arctic Oil Field. Environmental Science and Technology Letters, 2021, 8, 511-518.	8.7	9
108	Photochemical evolution of the 2013 California Rim Fire: synergistic impacts of reactive hydrocarbons and enhanced oxidants. Atmospheric Chemistry and Physics, 2022, 22, 4253-4275.	4.9	9

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109	Investigation of a potential HCHO measurement artifact from ISOPOOH. Atmospheric Measurement Techniques, 2016, 9, 4561-4568.	3.1	8
110	H₂O₂and CH₃OOH (MHP) in the Remote Atmosphere: 2. Physical and Chemical Controls. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	7
111	Observations of Volatile Organic Compounds in the Los Angeles Basin during COVID-19. ACS Earth and Space Chemistry, 2021, 5, 3045-3055.	2.7	6
112	Vertical Transport, Entrainment, and Scavenging Processes Affecting Trace Gases in a Modeled and Observed SEAC 4 RS Case Study. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD031957.	3.3	5
113	Improvements to a laser-induced fluorescence instrument for measuring SO₂ â€" impact on accuracy and precision. Atmospheric Measurement Techniques, 2021, 14, 2429-2439.	3.1	5
114	Impact of stratospheric air and surface emissions on tropospheric nitrous oxide during ATom. Atmospheric Chemistry and Physics, 2021, 21, 11113-11132.	4.9	5
115	Heterogeneity and chemical reactivity of the remote troposphere defined by aircraft measurements. Atmospheric Chemistry and Physics, 2021, 21, 13729-13746.	4.9	4
116	FORest Canopy Atmosphere Transfer (FORCAsT) 2.0: model updates and evaluation with observations at a mixed forest site. Geoscientific Model Development, 2021, 14, 6309-6329.	3.6	4
117	Response to Comment on â€œUnexpected Epoxide Formation in the Gas-Phase Photooxidation of Isopreneâ€. Science, 2010, 327, 644-644.	12.6	1