Thomas F Hanisco

List of Publications by Year
in descending order

109 papers	5,050 citations	100601 38 h-index	124990 64 g-index
162 all docs	162 docs citations	162 times ranked	4704 citing authors

#	Article	IF	Citations
1	The NASA Atmospheric Tomography (ATom) Mission: Imaging the Chemistry of the Global Atmosphere. Bulletin of the American Meteorological Society, 2022, 103, E761-E790.	1.7	39
2	Observations of atmospheric oxidation and ozone production in South Korea. Atmospheric Environment, 2022, 269, 118854.	1.9	6
3	Photochemical evolution of the 2013 California Rim Fire: synergistic impacts of reactive hydrocarbons and enhanced oxidants. Atmospheric Chemistry and Physics, 2022, 22, 4253-4275.	1.9	9
4	Sensitivity of total column NO2 at a marine site within the Chesapeake Bay during OWLETS-2. Atmospheric Environment, 2022, 277, 119063.	1.9	10
5	Source and Chemistry of Hydroxymethanesulfonate (HMS) in Fairbanks, Alaska. Environmental Science & Technology, 2022, 56, 7657-7667.	4.6	14
6	Airborne Emission Rate Measurements Validate Remote Sensing Observations and Emission Inventories of Western U.S. Wildfires. Environmental Science & Technology, 2022, 56, 7564-7577.	4.6	15
7	Evaluating the Impact of Chemical Complexity and Horizontal Resolution on Tropospheric Ozone Over the Conterminous US With a Global Variable Resolution Chemistry Model. Journal of Advances in Modeling Earth Systems, 2022, 14, .	1.3	20
8	Source and variability of formaldehyde (HCHO) at northern high latitudes: an integrated satellite, aircraft, and model study. Atmospheric Chemistry and Physics, 2022, 22, 7163-7178.	1.9	9
9	Secondary organic aerosols from anthropogenic volatile organic compounds contribute substantially to air pollution mortality. Atmospheric Chemistry and Physics, 2021, 21, 11201-11224.	1.9	60
10	Heterogeneity and chemical reactivity of the remote troposphere defined by aircraft measurements. Atmospheric Chemistry and Physics, 2021, 21, 13729-13746.	1.9	4
11	Evolution of formaldehyde (HCHO) in a plume originating from a petrochemical industry and its volatile organic compounds (VOCs) emission rate estimation. Elementa, 2021, 9, .	1.1	6
12	Ozone chemistry in western U.S. wildfire plumes. Science Advances, 2021, 7, eabl3648.	4.7	45
13	Formaldehyde evolution in US wildfire plumes during the Fire Influence on Regional to Global Environments and Air Quality experiment (FIREX-AQ). Atmospheric Chemistry and Physics, 2021, 21, 18319-18331.	1.9	24
14	Exploring Oxidation in the Remote Free Troposphere: Insights From Atmospheric Tomography (ATom). Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD031685.	1.2	23
15	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.	1.2	5
16	Missing OH reactivity in the global marine boundary layer. Atmospheric Chemistry and Physics, 2020, 20, 4013-4029.	1.9	25
17	A machine learning examination of hydroxyl radical differences among model simulations for CCMI-1. Atmospheric Chemistry and Physics, 2020, 20, 1341-1361.	1.9	24
18	Spatial heterogeneity in CO₂, CH₄, and energy fluxes: insights from airborne eddy covariance measurements over the Mid-Atlantic region. Environmental Research Letters, 2020, 15, 035008.	2.2	19

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19	Validation of satellite formaldehyde (HCHO) retrievals using observations from 12 aircraft campaigns. Atmospheric Chemistry and Physics, 2020, 20, 12329-12345.	1.9	21
20	A cavity-enhanced ultraviolet absorption instrument for high-precision, fast-time-response ozone measurements. Atmospheric Measurement Techniques, 2020, 13, 6877-6887.	1.2	6
21	CAFE: a new, improved nonresonant laser-induced fluorescence instrument for airborne in situ measurement of formaldehyde. Atmospheric Measurement Techniques, 2019, 12, 4581-4590.	1.2	13
22	Hydrocarbon Removal in Power Plant Plumes Shows Nitrogen Oxide Dependence of Hydroxyl Radicals. Geophysical Research Letters, 2019, 46, 7752-7760.	1.5	9
23	Towards a satellite formaldehyde â€" in situ hybrid estimate for organic aerosol abundance. Atmospheric Chemistry and Physics, 2019, 19, 2765-2785.	1.9	15
24	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.	3.3	58
25	Atmospheric Acetaldehyde: Importance of Airâ€Sea Exchange and a Missing Source in the Remote Troposphere. Geophysical Research Letters, 2019, 46, 5601-5613.	1.5	41
26	A new laser-based and ultra-portable gas sensor for indoor and outdoor formaldehyde (HCHO) monitoring. Atmospheric Measurement Techniques, 2019, 12, 6079-6089.	1.2	10
27	Decadal changes in summertime reactive oxidized nitrogen and surface ozone over the Southeast United States. Atmospheric Chemistry and Physics, 2018, 18, 2341-2361.	1.9	30
28	Applicability of neural networks to etalon fringe filtering in laser spectrometers. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 211, 115-122.	1.1	8
29	Atmospheric oxidation in the presence of clouds during the Deep Convective Clouds and Chemistry (DC3) study. Atmospheric Chemistry and Physics, 2018, 18, 14493-14510.	1.9	18
30	Nitrogen Oxides Emissions, Chemistry, Deposition, and Export Over the Northeast United States During the WINTER Aircraft Campaign. Journal of Geophysical Research D: Atmospheres, 2018, 123, 12,368.	1.2	49
31	The NASA Carbon Airborne Flux Experiment (CARAFE): instrumentation and methodology. Atmospheric Measurement Techniques, 2018, 11, 1757-1776.	1.2	29
32	Kinetics and Product Yields of the OH Initiated Oxidation of Hydroxymethyl Hydroperoxide. Journal of Physical Chemistry A, 2018, 122, 6292-6302.	1.1	33
33	Modeling Ozone in the Eastern U.S. using a Fuel-Based Mobile Source Emissions Inventory. Environmental Science & Technology, 2018, 52, 7360-7370.	4.6	64
34	The Convective Transport of Active Species in the Tropics (CONTRAST) Experiment. Bulletin of the American Meteorological Society, 2017, 98, 106-128.	1.7	50
35	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.	1.2	184
36	Emissions of Glyoxal and Other Carbonyl Compounds from Agricultural Biomass Burning Plumes Sampled by Aircraft. Environmental Science & Technology, 2017, 51, 11761-11770.	4.6	38

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37	Formaldehyde in the Tropical Western Pacific: Chemical Sources and Sinks, Convective Transport, and Representation in CAMâ€Chem and the CCMI Models. Journal of Geophysical Research D: Atmospheres, 2017, 122, 11201-11226.	1.2	32
38	Transition from high- to low-NOx control of night-time oxidation in the southeastern US. Nature Geoscience, 2017, 10, 490-495.	5.4	56
39	Impact of evolving isoprene mechanisms on simulated formaldehyde: An inter-comparison supported by in situ observations from SENEX. Atmospheric Environment, 2017, 164, 325-336.	1.9	33
40	BrO and inferred Br_{<i>y</i>} profiles over the western Pacific: relevance of inorganic bromine sources and a Br_{<i>y</i>} minimum in the aged tropical tropopause layer. Atmospheric Chemistry and Physics, 2017, 17, 15245-15270.	1.9	33
41	Glyoxal yield from isoprene oxidation and relation to formaldehyde: chemical mechanism, constraints from SENEX aircraft observations, and interpretation of OMI satellite data. Atmospheric Chemistry and Physics, 2017, 17, 8725-8738.	1.9	72
42	A new non-resonant laser-induced fluorescence instrument for the airborne in situ measurement of formaldehyde. Atmospheric Measurement Techniques, 2017, 10, 4833-4844.	1.2	14
43	Observations of VOC emissions and photochemical products over US oil- and gas-producing regions using high-resolution H₃O⁺ CIMS (PTR-ToF-MS). Atmospheric Measurement Techniques, 2017, 10, 2941-2968.	1.2	44
44	Instrumentation and measurement strategy for the NOAA SENEX aircraft campaign as part of the Southeast Atmosphere Study 2013. Atmospheric Measurement Techniques, 2016, 9, 3063-3093.	1.2	58
45	Investigation of a potential HCHO measurement artifact from ISOPOOH. Atmospheric Measurement Techniques, 2016, 9, 4561-4568.	1.2	8
46	Injection Seeded Laser for Formaldehyde Differential Fluorescence Lidar. EPJ Web of Conferences, 2016, 119, 02004.	0.1	0
47	A laser-induced fluorescence instrument for aircraft measurements of sulfur dioxide in the upper troposphere and lower stratosphere. Atmospheric Measurement Techniques, 2016, 9, 4601-4613.	1.2	19
48	Observational constraints on glyoxal production from isoprene oxidation and its contribution to organic aerosol over the Southeast United States. Journal of Geophysical Research D: Atmospheres, 2016, 121, 9849-9861.	1.2	48
49	An observationally constrained evaluation of the oxidative capacity in the tropical western Pacific troposphere. Journal of Geophysical Research D: Atmospheres, 2016, 121, 7461-7488.	1.2	18
50	Airborne measurements of BrO and the sum of HOBr and Br₂ over the Tropical West Pacific from 1 to 15â€‰km during the CONvective TRansport of Active Species in the Tropics (CONTRAST) experiment. Journal of Geophysical Research D: Atmospheres, 2016, 121, 12,560.	1.2	16
51	Observing atmospheric formaldehyde (HCHO) from space: validation and intercomparison of six retrievals from four satellites (OMI, GOME2A, GOME2B, OMPS) with SEAC⁴RS aircraft observations over the southeast US. Atmospheric Chemistry and Physics, 2016, 16, 13477-13490.	1.9	99
52	Aqueous-phase mechanism for secondary organic aerosol formation from isoprene: application to the southeast United States and co-benefit of SO₂ emission controls. Atmospheric Chemistry and Physics, 2016, 16, 1603-1618.	1.9	257
53	Formaldehyde production from isoprene oxidation acrossÂNO_{<i>x</i>}Âregimes. Atmospheric Chemistry and Physics, 2016, 16, 2597-2610.	1.9	124
54	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.	1.9	173

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55	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.	1.2	93
56	A pervasive role for biomass burning in tropical high ozone/low water structures. Nature Communications, 2016, 7, 10267.	5.8	33
57	Reassessing the ratio of glyoxal to formaldehyde as an indicator of hydrocarbon precursor speciation. Atmospheric Chemistry and Physics, 2015, 15, 7571-7583.	1.9	55
58	Quantifying sources and sinks of reactive gases in the lower atmosphere using airborne flux observations. Geophysical Research Letters, 2015, 42, 8231-8240.	1.5	53
59	A new airborne laser-induced fluorescence instrument for in situ detection of formaldehyde throughout the troposphere and lower stratosphere. Atmospheric Measurement Techniques, 2015, 8, 541-552.	1.2	88
60	Airborne measurements of the atmospheric emissions from a fuel ethanol refinery. Journal of Geophysical Research D: Atmospheres, 2015, 120, 4385-4397.	1.2	16
61	The development and deployment of a ground-based, laser-induced fluorescence instrument for thein situdetection of iodine monoxide radicals. Review of Scientific Instruments, 2014, 85, 044101.	0.6	0
62	OH in the tropical upper troposphere and its relationships to solar radiation and reactive nitrogen. Journal of Atmospheric Chemistry, 2014, 71, 55-64.	1.4	14
63	Development of a fluorescence lidar for measurement of atmospheric formaldehyde. Proceedings of SPIE, 2014, , .	0.8	1
64	Influence of convection on the water isotopic composition of the tropical tropopause layer and tropical stratosphere. Journal of Geophysical Research, 2010, 115, .	3.3	55
65	A new cavity based absorption instrument for detection of water isotopologues in the upper troposphere and lower stratosphere. Review of Scientific Instruments, 2009, 80, 044102.	0.6	87
66	Chlorine-Catalyzed Ozone Destruction: Cl Atom Production from ClOOCl Photolysis. Journal of Physical Chemistry A, 2009, 113, 14099-14108.	1.1	35
67	Validation of the Harvard Lymanâ€‹<i>Î±</i> in situ water vapor instrument: Implications for the mechanisms that control stratospheric water vapor. Journal of Geophysical Research, 2009, 114, .	3.3	48
68	A new photolysis laser-induced fluorescence instrument for the detection of H2O and HDO in the lower stratosphere. Review of Scientific Instruments, 2008, 79, 064101.	0.6	15
69	Formation of large (â‰ƒ100 Î¼m) ice crystals near the tropical tropopause. Atmospheric Chemistry and Physics, 2008, 8, 1621-1633.	1.9	69
70	Observations of deep convective influence on stratospheric water vapor and its isotopic composition. Geophysical Research Letters, 2007, 34, .	1.5	109
71	Effects of convective ice lofting on H₂O and HDO in the tropical tropopause layer. Journal of Geophysical Research, 2007, 112, .	3.3	58
72	Rotationally Resolved Absorption Cross Sections of Formaldehyde in the 28100â^'28500 cm-1 (351â^'356) Tj ETQq0 0 0 rgBT /Overlock 109, 10675-10682.	1.1	24

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73	Quantifying the rate of heterogeneous processing in the Arctic polar vortex with in situ observations of OH. Journal of Geophysical Research, 2002, 107, SOL 21-1.	3.3	13
74	In situ observations of HO2and OH obtained on the NASA ER-2 in the high-ClO conditions of the 1999/2000 Arctic polar vortex. Journal of Geophysical Research, 2002, 107, SOL 26-1.	3.3	14
75	Comparing atmospheric [HO2]/[OH] to modeled [HO2]/[OH]: Identifying discrepancies with reaction rates. Geophysical Research Letters, 2001, 28, 967-970.	1.5	14
76	Establishing the Dependence of [HO2]/[OH] on Temperature, Halogen Loading, O3, and NOxBased on in Situ Measurements from the NASA ER-2â€. Journal of Physical Chemistry A, 2001, 105, 1535-1542.	1.1	16
77	Inorganic chlorine partitioning in the summer lower stratosphere: Modeled and measured [ClONO2]/[HCl] during POLARIS. Journal of Geophysical Research, 2001, 106, 1713-1732.	3.3	7
78	Accurate, direct measurements of oh yields from gas-phase ozone-alkene reactions using anin situLIF Instrument. Geophysical Research Letters, 2001, 28, 3863-3866.	1.5	51
79	The NOxâˆ'HNO3System in the Lower Stratosphere:Â Insights from In Situ Measurements and Implications of theJHNO3âˆ'[OH] Relationship. Journal of Physical Chemistry A, 2001, 105, 1521-1534.	1.1	24
80	Sources, Sinks, and the Distribution of OH in the Lower Stratosphereâ€. Journal of Physical Chemistry A, 2001, 105, 1543-1553.	1.1	42
81	Influence of air mass histories on radical species during the Photochemistry of Ozone Loss in the Arctic Region in Summer (POLARIS) mission. Journal of Geophysical Research, 2000, 105, 15185-15199.	3.3	5
82	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
83	Ozone destruction and production rates between spring and autumn in the Arctic stratosphere. Geophysical Research Letters, 2000, 27, 2605-2608.	1.5	16
84	NOypartitioning from measurements of nitrogen and hydrogen radicals in the upper troposphere. Geophysical Research Letters, 1999, 26, 51-54.	1.5	9
85	A comparison of observations and model simulations of NOx/NOyin the lower stratosphere. Geophysical Research Letters, 1999, 26, 1153-1156.	1.5	61
86	Twilight observations suggest unknown sources of HOx. Geophysical Research Letters, 1999, 26, 1373-1376.	1.5	85
87	Microphysics and chemistry of sulphate aerosols at warm stratospheric temperatures. Journal of Geophysical Research, 1999, 104, 26737-26751.	3.3	9
88	Fourier Transform Ultraviolet Spectroscopy of the A2Î3/2â†•X2Î3/2Transition of BrOâ€. Journal of Physical Chemistry A, 1999, 103, 8935-8945.	1.1	182
89	Hydrogen Radicals, Nitrogen Radicals, and the Production of O3 in the Upper Troposphere. Science, 1998, 279, 49-53.	6.0	329
90	The photochemistry of acetone in the upper troposphere: A source of odd-hydrogen radicals. Geophysical Research Letters, 1997, 24, 3177-3180.	1.5	193

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91	Evolution and stoichiometry of heterogeneous processing in the Antarctic stratosphere. Journal of Geophysical Research, 1997, 102, 13235-13253.	3.3	25
92	Comment on: â€œThe measurement of tropospheric OH radicals by laser-induced fluorescence spectroscopy during the POPCORN Field Campaignâ€• by Hofzumahaus et al. and â€œIntercomparison of tropospheric OH radical measurements by multiple folded long-path laser ab. Geophysical Research Letters, 1997, 24, 3037-3038.	1.5	41
93	Observed OH and HO2in the upper troposphere suggest a major source from convective injection of peroxides. Geophysical Research Letters, 1997, 24, 3181-3184.	1.5	160
94	OH, HO2, and NO in two biomass burning plumes: Sources of HOxand implications for ozone production. Geophysical Research Letters, 1997, 24, 3185-3188.	1.5	40
95	The role of HOxin super- and subsonic aircraft exhaust plumes. Geophysical Research Letters, 1997, 24, 65-68.	1.5	19
96	The atmospheric column abundance of IO: Implications for stratospheric ozone. Journal of Geophysical Research, 1997, 102, 8887-8898.	3.3	53
97	Monitoring potential photochemical interference in laser-induced fluorescence Measurements of atmospheric OH. Geophysical Research Letters, 1996, 23, 3215-3218.	1.5	40
98	In Situ Measurements of OH and H02in the Upper Troposphere and Stratosphere. Journals of the Atmospheric Sciences, 1995, 52, 3413-3420.	0.6	42
99	Emission Measurements of the Concorde Supersonic Aircraft in the Lower Stratosphere. Science, 1995, 270, 70-74.	6.0	165
100	Aircraftâ€borne, laserâ€induced fluorescence instrument for the in situ detection of hydroxyl and hydroperoxyl radicals. Review of Scientific Instruments, 1994, 65, 1858-1876.	0.6	98
101	Correlations between angular momentum orientation and exit velocity in gasâ€“surface scattering: A probe of the dependence of collision dynamics on the position of impact. Journal of Chemical Physics, 1994, 101, 3341-3352.	1.2	11
102	The effect of surface passivation on rotationally inelastic scattering: N2 scattered from W(110), W(110)â€“(2Ã—2)N, W(110)â€“(1Ã—1)H, and Pt(111). Journal of Chemical Physics, 1993, 99, 7076-7089.	1.2	19
103	Energy and momentum distributions versus incident energy in the scattering of CO from Ag(111). Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1993, 11, 2090-2094.	0.9	8
104	Rotationally inelastic scattering of N2 from W(110). Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1993, 11, 1907-1913.	0.9	22
105	State-resolved photodissociation of nitrous oxide. The Journal of Physical Chemistry, 1993, 97, 7242-7246.	2.9	74
106	Resonantly enhanced multiphoton ionization of nitrogen a''1.SIGMA.g+ (v' = v'') .rarw. X1.SIGMA.g+ (v'') Tj ETQq0 0 0 rgBT /Overlock 10 2982-2993.	2.9	21
107	Energy and momentum distributions and projections in the scattering of CO from Ag(111). Journal of Chemical Physics, 1992, 97, 1484-1497.	1.2	29
108	Velocity selective rotational rainbows for normal incidence/normal detection gasâ€“surface scattering. Journal of Chemical Physics, 1991, 95, 6178-6180.	1.2	5

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109	Resonantly enhanced multiphoton ionization of nitrogen a''1.SIGMA.g+ (v' = v'') .rarw. X1.SIGMA.g+ (v'') Tj ETQq1 1 0.784314 rgBT /Ov Chemistry, 1991, 95, 8565-8574.	2.9	46