James Hannigan

List of Publications by Year
in descending order

70 papers	3,040 citations	186209 28 h-index	182361 51 g-index
95 all docs	95 docs citations	95 times ranked	3500 citing authors

#	Article	IF	Citations
1	Importance of secondary sources in the atmospheric budgets of formic and acetic acids. Atmospheric Chemistry and Physics, 2011, 11, 1989-2013.	1.9	266
2	Tropospheric Ozone Assessment Report: Present-day distribution and trends of tropospheric ozone relevant to climate and global atmospheric chemistry model evaluation. Elementa, 2018, 6, .	1.1	240
3	Validation of Measurements of Pollution in the Troposphere (MOPITT) CO retrievals with aircraft in situ profiles. Journal of Geophysical Research, 2004, 109, n/a-n/a.	3.3	209
4	The Network for the Detection of Atmospheric Composition Change (NDACC): history, status and perspectives. Atmospheric Chemistry and Physics, 2018, 18, 4935-4964.	1.9	162
5	Reversal of global atmospheric ethane and propane trends largely due to US oil and natural gas production. Nature Geoscience, 2016, 9, 490-495.	5.4	149
6	Validation of ozone measurements from the Atmospheric Chemistry Experiment (ACE). Atmospheric Chemistry and Physics, 2009, 9, 287-343.	1.9	134
7	Recent Northern Hemisphere stratospheric HCl increase due to atmospheric circulation changes. Nature, 2014, 515, 104-107.	13.7	110
8	Tropospheric Ozone Assessment Report: Tropospheric ozone from 1877 to 2016, observed levels, trends and uncertainties. Elementa, 2019, 7, .	1.1	103
9	Evaluating ethane and methane emissions associated with the development of oil and natural gas extraction in North America. Environmental Research Letters, 2016, 11, 044010.	2.2	82
10	Reference Upper-Air Observations for Climate: From Concept to Reality. Bulletin of the American Meteorological Society, 2016, 97, 123-135.	1.7	79
11	Trends of ozone total columns and vertical distribution from FTIR observations at eight NDACC stations around the globe. Atmospheric Chemistry and Physics, 2015, 15, 2915-2933.	1.9	76
12	Ozone depletion events observed in the high latitude surface layer during the TOPSE aircraft program. Journal of Geophysical Research, 2003, 108, TOP 4-1.	3.3	75
13	Observed and simulated time evolution of HCl, ClONO₂, and HF total column abundances. Atmospheric Chemistry and Physics, 2012, 12, 3527-3556.	1.9	72
14	Ubiquitous atmospheric production of organic acids mediated by cloud droplets. Nature, 2021, 593, 233-237.	13.7	71
15	TROPOMIâ€“Sentinel-5 Precursor formaldehyde validation using an extensive network of ground-based Fourier-transform infrared stations. Atmospheric Measurement Techniques, 2020, 13, 3751-3767.	1.2	66
16	Validation of MIPAS ClONO₂ measurements. Atmospheric Chemistry and Physics, 2007, 7, 257-281.	1.9	65
17	Validation of methane and carbon monoxide from Sentinel-5 Precursor using TCCON and NDACC-IRWG stations. Atmospheric Measurement Techniques, 2021, 14, 6249-6304.	1.2	57
18	An evaluation of IASI-NH₃ with ground-based Fourier transform infrared spectroscopy measurements. Atmospheric Chemistry and Physics, 2016, 16, 10351-10368.	1.9	56

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19	Network for the Detection of Stratospheric Change Fourier transform infrared intercomparison at Table Mountain Facility, November 1996. Journal of Geophysical Research, 1999, 104, 30481-30503.	3.3	53
20	Validation of the CrIS fast physical NH₃ retrieval with ground-based FTIR. Atmospheric Measurement Techniques, 2017, 10, 2645-2667.	1.2	52
21	COVIDâ€19 Crisis Reduces Free Tropospheric Ozone Across the Northern Hemisphere. Geophysical Research Letters, 2021, 48, e2020GL091987.	1.5	51
22	Validation of MOPITT carbon monoxide using ground-based Fourier transform infrared spectrometer data from NDACC. Atmospheric Measurement Techniques, 2017, 10, 1927-1956.	1.2	44
23	Semiautonomous FTS Observation System for Remote Sensing of Stratospheric and Tropospheric Gases. Journal of Atmospheric and Oceanic Technology, 2009, 26, 1814-1828.	0.5	43
24	Revisiting global fossil fuel and biofuel emissions of ethane. Journal of Geophysical Research D: Atmospheres, 2017, 122, 2493-2512.	1.2	43
25	Toward a chemical reanalysis in a coupled chemistryâ€climate model: An evaluation of MOPITT CO assimilation and its impact on tropospheric composition. Journal of Geophysical Research D: Atmospheres, 2016, 121, 7310-7343.	1.2	37
26	NDACC harmonized formaldehyde time series from 21 FTIR stations covering a wide range of column abundances. Atmospheric Measurement Techniques, 2018, 11, 5049-5073.	1.2	37
27	On the use of HF as a reference for the comparison of stratospheric observations and models. Journal of Geophysical Research, 1997, 102, 12901-12919.	3.3	35
28	Separation of Methane Emissions From Agricultural and Natural Gas Sources in the Colorado Front Range. Geophysical Research Letters, 2019, 46, 3990-3998.	1.5	34
29	Top-down estimation of carbon monoxide emissions from the Mexico Megacity based on FTIR measurements from ground and space. Atmospheric Chemistry and Physics, 2013, 13, 1357-1376.	1.9	31
30	Comparisons between ACE-FTS and ground-based measurements of stratospheric HCl and ClONO2loadings at northern latitudes. Geophysical Research Letters, 2005, 32, .	1.5	28
31	Detection and attribution of wildfire pollution in the Arctic and northern midlatitudes using a network of Fourier-transform infrared spectrometers and GEOS-Chem. Atmospheric Chemistry and Physics, 2020, 20, 12813-12851.	1.9	26
32	Unprecedented Atmospheric Ammonia Concentrations Detected in the High Arctic From the 2017 Canadian Wildfires. Journal of Geophysical Research D: Atmospheres, 2019, 124, 8178-8202.	1.2	25
33	First intercalibration of column-averaged methane from the Total Carbon Column Observing Network and the Network for the Detection of Atmospheric Composition Change. Atmospheric Measurement Techniques, 2013, 6, 397-418.	1.2	24
34	Ground-based infrared solar spectroscopic measurements of carbon monoxide during 1994 Measurement of Air Pollution From Space flights. Journal of Geophysical Research, 1998, 103, 19317-19325.	3.3	23
35	The CU mobile Solar Occultation Flux instrument: structure functions and emission rates of NH₃, NO₂ and C₂H₆. Atmospheric Measurement Techniques, 2017, 10, 373-392.	1.2	22
36	Spaceborne Measurements of Formic and Acetic Acids: A Global View of the Regional Sources. Geophysical Research Letters, 2020, 47, e2019GL086239.	1.5	21

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37	Towards understanding the variability in biospheric CO₂Âfluxes: using FTIR spectrometry and a chemical transport model to investigate the sources and sinks of carbonyl sulfide and its link to CO₂. Atmospheric Chemistry and Physics, 2016, 16, 2123-2138.	1.9	20
38	An intercomparison of total column-averaged nitrous oxide between ground-based FTIR TCCON and NDACC measurements at seven sites and comparisons with the GEOS-Chem model. Atmospheric Measurement Techniques, 2019, 12, 1393-1408.	1.2	17
39	Observations of upper tropospheric/lower stratospheric water vapor and its isotopes. Journal of Geophysical Research, 2006, 111, .	3.3	16
40	First characterization and validation of FORLI-HNO₃ vertical profiles retrieved from IASI/Metop. Atmospheric Measurement Techniques, 2016, 9, 4783-4801.	1.2	15
41	Discovery of New Coronal Lines at 2.843 and 2.853 Î¼m. Astrophysical Journal Letters, 2018, 856, L29.	3.0	14
42	Using an Inverse Model to Reconcile Differences in Simulated and Observed Global Ethane Concentrations and Trends Between 2008 and 2014. Journal of Geophysical Research D: Atmospheres, 2018, 123, 11,262.	1.2	14
43	Development of a digital mobile solar tracker. Atmospheric Measurement Techniques, 2016, 9, 963-972.	1.2	13
44	Observed Hemispheric Asymmetry in Stratospheric Transport Trends From 1994 to 2018. Geophysical Research Letters, 2020, 47, e2020GL088567.	1.5	13
45	Long-term evolution in the tropospheric concentration of chlorofluorocarbon 12 (CCl2F2) derived from high-spectral resolution infrared solar absorption spectra: retrieval and comparison with in situ surface measurements. Journal of Quantitative Spectroscopy and Radiative Transfer, 2005, 92, 201-209.	1.1	12
46	Nitric acid measurements at Eureka obtained in winter 2001â€“2002 using solar and lunar Fourier transform infrared absorption spectroscopy: Comparisons with observations at Thule and Kiruna and with results from three-dimensional models. Journal of Geophysical Research, 2007, 112, .	3.3	12
47	Atmospheric Implications of Large C₂â€€₅ Alkane Emissions From the U.S. Oil and Gas Industry. Journal of Geophysical Research D: Atmospheres, 2019, 124, 1148-1169.	1.2	12
48	Global Atmospheric OCS Trend Analysis From 22 NDACC Stations. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	1.2	12
49	Long-term trend of at northern mid-latitudes: Comparison between ground-based infrared solar and surface sampling measurements. Journal of Quantitative Spectroscopy and Radiative Transfer, 2006, 97, 457-466.	1.1	11
50	Long-term trends of tropospheric carbon monoxide and hydrogen cyanide from analysis of high resolution infrared solar spectra. Journal of Quantitative Spectroscopy and Radiative Transfer, 2007, 104, 40-51.	1.1	11
51	Analyzing ozone variations and uncertainties at high latitudes during sudden stratospheric warming events using MERRA-2. Atmospheric Chemistry and Physics, 2022, 22, 5435-5458.	1.9	11
52	Comparison of the GOSAT TANSO-FTS TIR CH₄ volume mixing ratio vertical profiles with those measured by ACE-FTS, ESA MIPAS, IMK-IAA MIPAS, and 16 NDACC stations. Atmospheric Measurement Techniques, 2017, 10, 3697-3718.	1.2	10
53	MLS measurements of stratospheric hydrogen cyanide during the 2015â€“2016 El NiÃ±o event. Atmospheric Chemistry and Physics, 2018, 18, 691-703.	1.9	10
54	Solar Eclipse Observations from the Ground and Air from 0.31 to 5.5 Microns. Solar Physics, 2019, 294, 1.	1.0	10

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55	On the Radiative Impact of Biomass-Burning Aerosols in the Arctic: The August 2017 Case Study. Remote Sensing, 2022, 14, 313.	1.8	10
56	Airborne Fourier transform spectrometer observations in support of EOS Aura validation. Journal of Geophysical Research, 2008, 113, .	3.3	9
57	Characterization and potential for reducing optical resonances in Fourier transform infrared spectrometers of the Network for the Detection of Atmospheric Composition Change (NDACC). Atmospheric Measurement Techniques, 2021, 14, 1239-1252.	1.2	9
58	The temporal trend of stratospheric carbonyl sulfide. Journal of Atmospheric Chemistry, 2010, 67, 61-70.	1.4	8
59	Tropospheric water vapor profiles obtained with FTIR: comparison with balloon-borne frost point hygrometers and influence on trace gas retrievals. Atmospheric Measurement Techniques, 2019, 12, 873-890.	1.2	8
60	First retrievals of peroxyacetyl nitrate (PAN) from ground-based FTIR solar spectra recorded at remote sites, comparison with model and satellite data. Elementa, 2021, 9, .	1.1	7
61	The CU Airborne Solar Occultation Flux Instrument: Performance Evaluation during BB-FLUX. ACS Earth and Space Chemistry, 2022, 6, 582-596.	1.2	7
62	Airborne spectroscopic observations of chlorine activation and denitrification of the 1999/2000 winter Arctic stratosphere during SOLVE. Journal of Geophysical Research, 2002, 107, SOL 46-1-SOL 46-6.	3.3	6
63	A reconstructed view of polar stratospheric chemistry. Journal of Geophysical Research, 1999, 104, 8295-8316.	3.3	5
64	Multi-decade measurements of the long-term trends of atmospheric species by high-spectral-resolution infrared solar absorption spectroscopy. Journal of Quantitative Spectroscopy and Radiative Transfer, 2010, 111, 376-383.	1.1	4
65	The Airborne Infrared Spectrometer: Development, Characterization, and the 2017 August 21 Eclipse Observation. Astronomical Journal, 2022, 164, 39.	1.9	4
66	Title is missing!. Journal of Atmospheric Chemistry, 1998, 30, 103-118.	1.4	3
67	Compact friction and wear machine. Review of Scientific Instruments, 1988, 59, 1420-1422.	0.6	0
68	Measurements of the Absorption Cross Section of ¹³CHO¹³CHO at Visible Wavelengths and Application to DOAS Retrievals. Journal of Physical Chemistry A, 2015, 119, 4651-4657.	1.1	0
69	Intense Arctic Ozone Depletion in the Spring of 2011. Arctic, 2012, 65, .	0.2	0
70	Retrievals of Ozone in the Troposphere and Lower Stratosphere Using FTIR Observations Over Greenland. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-12.	2.7	0