

Cathy Clerboux

List of Publications by Year in descending order

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115
papers

8,734
citations

44042

48
h-index

53190

85
g-index

122
all docs

122
docs citations

122
times ranked

6474
citing authors

#	ARTICLE	IF	CITATIONS
1	Present and future land surface and wet bulb temperatures in the Arabian Peninsula. <i>Environmental Research Letters</i> , 2022, 17, 044029.	2.2	13
2	Surface-to-space atmospheric waves from Hunga Tonga–Hunga Haʻapai eruption. <i>Nature</i> , 2022, 609, 741-746.	13.7	107
3	Understanding the Simulated Ammonia Increasing Trend from 2008 to 2015 over Europe with CHIMERE and Comparison with IASI Observations. <i>Atmosphere</i> , 2022, 13, 1101.	1.0	2
4	First retrievals of peroxyacetyl nitrate (PAN) from ground-based FTIR solar spectra recorded at remote sites, comparison with model and satellite data. <i>Elementa</i> , 2021, 9, .	1.1	7
5	Multiscale observations of NH ₃ around Toronto, Canada. <i>Atmospheric Measurement Techniques</i> , 2021, 14, 905-921.	1.2	7
6	Monthly Patterns of Ammonia Over the Contiguous United States at 2-km Resolution. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL090579.	1.5	16
7	Identification of Short and Long-Lived Atmospheric Trace Gases From IASI Space Observations. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL091742.	1.5	9
8	Model and Satellite Analysis of Transport of Asian Anthropogenic Pollution to the Arctic: Siberian and Pacific Pathways and Their Meteorological Controls. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2020JD033459.	1.2	5
9	Ubiquitous atmospheric production of organic acids mediated by cloud droplets. <i>Nature</i> , 2021, 593, 233-237.	13.7	71
10	Validation of IASI Satellite Ammonia Observations at the Pixel Scale Using In Situ Vertical Profiles. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2020JD033475.	1.2	28
11	IASI-Derived Sea Surface Temperature Data Set for Climate Studies. <i>Earth and Space Science</i> , 2021, 8, e2020EA001427.	1.1	4
12	Global, regional and national trends of atmospheric ammonia derived from a decadal (2008–2018) satellite record. <i>Environmental Research Letters</i> , 2021, 16, 055017.	2.2	65
13	The Diel Cycle of NH ₃ Observed From the FY-4A Geostationary Interferometric Infrared Sounder (GIIRS). <i>Geophysical Research Letters</i> , 2021, 48, e2021GL093010.	1.5	11
14	Atmospheric Impacts of COVID-19 on NO _x and VOC Levels over China Based on TROPOMI and IASI Satellite Data and Modeling. <i>Atmosphere</i> , 2021, 12, 946.	1.0	13
15	Transport and Variability of Tropospheric Ozone over Oceania and Southern Pacific during the 2019–20 Australian Bushfires. <i>Remote Sensing</i> , 2021, 13, 3092.	1.8	2
16	Ammonia and PM _{2.5} Air Pollution in Paris during the 2020 COVID Lockdown. <i>Atmosphere</i> , 2021, 12, 160.	1.0	32
17	Atmospheric Composition Applications with IASI and next-generation hyperspectral infrared sounders (IASI-NG and IRS). , 2021, , .		1
18	Trends in spectrally resolved outgoing longwave radiation from 10 years of satellite measurements. <i>Npj Climate and Atmospheric Science</i> , 2021, 4, .	2.6	8

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19	A space view of agricultural and industrial changes during the Syrian civil war. <i>Elementa</i> , 2021, 9, .	1.1	3
20	Artificial Neural Networks to Retrieve Land and Sea Skin Temperature from IASI. <i>Remote Sensing</i> , 2020, 12, 2777.	1.8	10
21	Ten-Year Assessment of IASI Radiance and Temperature. <i>Remote Sensing</i> , 2020, 12, 2393.	1.8	18
22	Investigating the Long-Range Transport of Aerosol Plumes Following the Amazon Fires (August 2019): A Multi-Instrumental Approach from Ground-Based and Satellite Observations. <i>Remote Sensing</i> , 2020, 12, 3846.	1.8	14
23	Record high levels of atmospheric ammonia over India: Spatial and temporal analyses. <i>Science of the Total Environment</i> , 2020, 740, 139986.	3.9	61
24	Atmospheric ammonia variability and link with particulate matter formation: a case study over the Paris area. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 577-596.	1.9	24
25	Antarctic Ozone Enhancement During the 2019 Sudden Stratospheric Warming Event. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL087810.	1.5	40
26	Spaceborne Measurements of Formic and Acetic Acids: A Global View of the Regional Sources. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL086239.	1.5	21
27	Spectrally Resolved Fluxes from IASI Data: Retrieval Algorithm for Clear-Sky Measurements. <i>Journal of Climate</i> , 2020, 33, 6971-6988.	1.2	7
28	Do alternative inventories converge on the spatiotemporal representation of spring ammonia emissions in France?. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 13481-13495.	1.9	11
29	APIFLAME v2.0 biomass burning emissions model: impact of refined input parameters on atmospheric concentration in Portugal in summer 2016. <i>Geoscientific Model Development</i> , 2020, 13, 2981-3009.	1.3	12
30	Unprecedented Atmospheric Ammonia Concentrations Detected in the High Arctic From the 2017 Canadian Wildfires. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 8178-8202.	1.2	25
31	Tracking down global NH ₃ point sources with wind-adjusted superresolution. <i>Atmospheric Measurement Techniques</i> , 2019, 12, 5457-5473.	1.2	39
32	The unintended consequence of SO ₂ and NO ₂ regulations over China: increase of ammonia levels and impact on PM _{2.5} concentrations. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 6701-6716.	1.9	63
33	Atmospheric ammonia (NH ₃) emanations from Lake Natron's saline mudflats. <i>Scientific Reports</i> , 2019, 9, 4441.	1.6	24
34	A Decadal Data Set of Global Atmospheric Dust Retrieved From IASI Satellite Measurements. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 1618-1647.	1.2	32
35	Acetone Atmospheric Distribution Retrieved From Space. <i>Geophysical Research Letters</i> , 2019, 46, 2884-2893.	1.5	18
36	NH ₃ emissions from large point sources derived from CrIS and IASI satellite observations. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 12261-12293.	1.9	89

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37	Is the recovery of stratospheric O ₃ speeding up in the Southern Hemisphere? An evaluation from the first IASI decadal record (2008–2017). Atmospheric Chemistry and Physics, 2019, 19, 14031-14056.	1.9	9
38	Top-Down CO Emissions Based On IASI Observations and Hemispheric Constraints on OH Levels. Geophysical Research Letters, 2018, 45, 1621-1629.	1.5	23
39	Spatio-temporal variations of nitric acid total columns from 9 years of IASI measurements – a driver study. Atmospheric Chemistry and Physics, 2018, 18, 4403-4423.	1.9	3
40	Decrease in tropospheric O ₃ levels in the Northern Hemisphere observed by IASI. Atmospheric Chemistry and Physics, 2018, 18, 6867-6885.	1.9	14
41	A General Framework for Global Retrievals of Trace Gases From IASI: Application to Methanol, Formic Acid, and PAN. Journal of Geophysical Research D: Atmospheres, 2018, 123, 13,963.	1.2	38
42	Industrial and agricultural ammonia point sources exposed. Nature, 2018, 564, 99-103.	13.7	312
43	Validation of the IASI FORLI/EUMETSAT ozone products using satellite (GOME-2), ground-based (Brewer–Dobson, SAOZ, FTIR) and ozonesonde measurements. Atmospheric Measurement Techniques, 2018, 11, 5125-5152.	1.2	47
44	Monitoring emissions from the 2015 Indonesian fires using CO satellite data. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20170307.	1.8	31
45	Bottleneck Channels Algorithm for Satellite Data Dimension Reduction: A Case Study for IASI. IEEE Transactions on Geoscience and Remote Sensing, 2018, 56, 6069-6081.	2.7	9
46	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
47	IASI's sensitivity to near-surface carbon monoxide (CO): Theoretical analyses and retrievals on test cases. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 189, 428-440.	1.1	23
48	IASI-derived NH ₃ enhancement ratios relative to CO for the tropical biomass burning regions. Atmospheric Chemistry and Physics, 2017, 17, 12239-12252.	1.9	12
49	Determination of enhancement ratios of HCOOH relative to CO in biomass burning plumes by the Infrared Atmospheric Sounding Interferometer (IASI). Atmospheric Chemistry and Physics, 2017, 17, 11089-11105.	1.9	6
50	O ₃ variability in the troposphere as observed by IASI over 2008–2016: Contribution of atmospheric chemistry and dynamics. Journal of Geophysical Research D: Atmospheres, 2017, 122, 2429-2451.	1.2	32
51	Version 2 of the IASI NH ₃ neural network retrieval algorithm: near-real-time and reanalysed datasets. Atmospheric Measurement Techniques, 2017, 10, 4905-4914.	1.2	118
52	Retrieval of near-surface sulfur dioxide (SO ₂) concentrations at a global scale using IASI satellite observations. Atmospheric Measurement Techniques, 2016, 9, 721-740.	1.2	36
53	First characterization and validation of FORLI-HNO ₃ vertical profiles retrieved from IASI/Metop. Atmospheric Measurement Techniques, 2016, 9, 4783-4801.	1.2	15
54	A flexible and robust neural network IASI–NH ₃ retrieval algorithm. Journal of Geophysical Research D: Atmospheres, 2016, 121, 6581-6599.	1.2	96

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55	Substantial Underestimation of Post-Harvest Burning Emissions in the North China Plain Revealed by Multi-Species Space Observations. <i>Scientific Reports</i> , 2016, 6, 32307.	1.6	49
56	Doubling of annual ammonia emissions from the peat fires in Indonesia during the 2015 El Niño. <i>Geophysical Research Letters</i> , 2016, 43, 11,007.	1.5	41
57	Unaccounted variability in NH ₃ agricultural sources detected by IASI contributing to European spring haze episode. <i>Geophysical Research Letters</i> , 2016, 43, 5475-5482.	1.5	37
58	Ozone variability in the troposphere and the stratosphere from the first 6 years of IASI observations (2008–2013). <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 5721-5743.	1.9	25
59	An evaluation of IASI-NH ₃ with ground-based Fourier transform infrared spectroscopy measurements. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 10351-10368.	1.9	56
60	Interannual variability of ammonia concentrations over the United States: sources and implications. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 12305-12328.	1.9	48
61	HCOOH distributions from IASI for 2008–2014: comparison with ground-based FTIR measurements and a global chemistry-transport model. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 8963-8981.	1.9	13
62	Worldwide spatiotemporal atmospheric ammonia (NH ₃) columns variability revealed by satellite. <i>Geophysical Research Letters</i> , 2015, 42, 8660-8668.	1.5	66
63	An examination of the long-term CO records from MOPITT and IASI: comparison of retrieval methodology. <i>Atmospheric Measurement Techniques</i> , 2015, 8, 4313-4328.	1.2	50
64	Ammonia emissions in tropical biomass burning regions: Comparison between satellite-derived emissions and bottom-up fire inventories. <i>Atmospheric Environment</i> , 2015, 121, 42-54.	1.9	78
65	Towards validation of ammonia (NH ₃) measurements from the IASI satellite. <i>Atmospheric Measurement Techniques</i> , 2015, 8, 1575-1591.	1.2	90
66	Tracking pollutants from space: Eight years of IASI satellite observation. <i>Comptes Rendus - Geoscience</i> , 2015, 347, 134-144.	0.4	21
67	Towards IASI-New Generation (IASI-NG): impact of improved spectral resolution and radiometric noise on the retrieval of thermodynamic, chemistry and climate variables. <i>Atmospheric Measurement Techniques</i> , 2014, 7, 4367-4385.	1.2	110
68	Extending the satellite data record of tropospheric ozone profiles from Aura-TES to MetOp-IASI: characterisation of optimal estimation retrievals. <i>Atmospheric Measurement Techniques</i> , 2014, 7, 4223-4236.	1.2	19
69	IASI observations of sulfur dioxide (SO ₂) in the boundary layer of Norilsk. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 4253-4263.	1.2	42
70	Evaluating 4 years of atmospheric ammonia (NH ₃) over Europe using IASI satellite observations and LOTOS-EUROS model results. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 9549-9566.	1.2	61
71	Summertime tropospheric ozone assessment over the Mediterranean region using the thermal infrared IASI/MetOp sounder and the WRF-Chem model. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 10119-10131.	1.9	73
72	Global distributions, time series and error characterization of atmospheric ammonia (NH ₃) from IASI satellite observations. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 2905-2922.	1.9	195

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73	Tropospheric ozone and nitrogen dioxide measurements in urban and rural regions as seen by IASI and GOME-2. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 10,555.	1.2	41
74	New Directions: Infrared remote sensing of the troposphere from satellite: Less, but better. <i>Atmospheric Environment</i> , 2013, 72, 24-26.	1.9	34
75	Towards a climate-dependent paradigm of ammonia emission and deposition. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2013, 368, 20130166.	1.8	328
76	A unified approach to infrared aerosol remote sensing and type specification. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 2195-2221.	1.9	105
77	The MACC reanalysis: an 8 yr data set of atmospheric composition. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 4073-4109.	1.9	424
78	Exceptional emissions of NH_3 and HCOOH in the 2010 Russian wildfires. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 4171-4181.	1.9	76
79	Retrieval of sulphur dioxide from the infrared atmospheric sounding interferometer (IASI). <i>Atmospheric Measurement Techniques</i> , 2012, 5, 581-594.	1.2	150
80	Hyperspectral Earth Observation from IASI: Five Years of Accomplishments. <i>Bulletin of the American Meteorological Society</i> , 2012, 93, 347-370.	1.7	357
81	Validation of IASI FORLI carbon monoxide retrievals using FTIR data from NDACC. <i>Atmospheric Measurement Techniques</i> , 2012, 5, 2751-2761.	1.2	45
82	Antarctic ozone hole as observed by IASI/MetOp for 2008-2010. <i>Atmospheric Measurement Techniques</i> , 2012, 5, 123-139.	1.2	27
83	Validation of three different scientific ozone products retrieved from IASI spectra using ozonesondes. <i>Atmospheric Measurement Techniques</i> , 2012, 5, 611-630.	1.2	102
84	Satellite evidence for a large source of formic acid from boreal and tropical forests. <i>Nature Geoscience</i> , 2012, 5, 26-30.	5.4	171
85	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. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 237-259.	1.9	96
86	The influence of boreal biomass burning emissions on the distribution of tropospheric ozone over North America and the North Atlantic during 2010. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 2077-2098.	1.9	90
87	Assimilation of IASI satellite CO fields into a global chemistry transport model for validation against aircraft measurements. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 4493-4512.	1.9	23
88	Analysis of IASI tropospheric O_3 data over the Arctic during POLARCAT campaigns in 2008. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 7371-7389.	1.9	29
89	Atmospheric ammonia and particulate inorganic nitrogen over the United States. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 10295-10312.	1.9	240
90	FORLI radiative transfer and retrieval code for IASI. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2012, 113, 1391-1408.	1.1	162

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91	Ten years of CO emissions as seen from Measurements of Pollution in the Troposphere (MOPITT). Journal of Geophysical Research, 2011, 116, .	3.3	87
92	Thermal infrared nadir observations of 24 atmospheric gases. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	88
93	Intercontinental transport of anthropogenic sulfur dioxide and other pollutants: An infrared remote sensing case study. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	32
94	Global distributions of methanol and formic acid retrieved for the first time from the IASI/MetOp thermal infrared sounder. Atmospheric Chemistry and Physics, 2011, 11, 857-872.	1.9	71
95	First space-based derivation of the global atmospheric methanol emission fluxes. Atmospheric Chemistry and Physics, 2011, 11, 4873-4898.	1.9	122
96	Validation of the MetOp-A total ozone data from GOME-2 and IASI using reference ground-based measurements at the Iberian Peninsula. Remote Sensing of Environment, 2011, 115, 1380-1386.	4.6	42
97	IASI carbon monoxide validation over the Arctic during POLARCAT spring and summer campaigns. Atmospheric Chemistry and Physics, 2010, 10, 10655-10678.	1.9	65
98	Satellite monitoring of ammonia: A case study of the San Joaquin Valley. Journal of Geophysical Research, 2010, 115, .	3.3	118
99	Retrieving radius, concentration, optical depth, and mass of different types of aerosols from high-resolution infrared nadir spectra. Applied Optics, 2010, 49, 3713.	2.1	80
100	Global ammonia distribution derived from infrared satellite observations. Nature Geoscience, 2009, 2, 479-483.	5.4	400
101	IASI measurements of reactive trace species in biomass burning plumes. Atmospheric Chemistry and Physics, 2009, 9, 5655-5667.	1.9	165
102	Monitoring of atmospheric composition using the thermal infrared IASI/MetOp sounder. Atmospheric Chemistry and Physics, 2009, 9, 6041-6054.	1.9	694
103	Tracking the emission and transport of pollution from wildfires using the IASI CO retrievals: analysis of the summer 2007 Greek fires. Atmospheric Chemistry and Physics, 2009, 9, 4897-4913.	1.9	147
104	Carbon monoxide distributions from the IASI/METOP mission: evaluation with other space-borne remote sensors. Atmospheric Chemistry and Physics, 2009, 9, 8317-8330.	1.9	208
105	On the capability of IASI measurements to inform about CO surface emissions. Atmospheric Chemistry and Physics, 2009, 9, 8735-8743.	1.9	42
106	Carbon monoxide pollution from cities and urban areas observed by the Terra/MOPITT mission. Geophysical Research Letters, 2008, 35, .	1.5	68
107	ACE-FTS observation of a young biomass burning plume: first reported measurements of C<sub>2>H<sub>4>, C<sub>3>H<sub>6>, H<sub>2>CO and PAN by infrared occultation from space. Atmospheric Chemistry and Physics, 2007, 7, 5437-5446.	1.9	119
108	First space-based observations of formic acid (HCOOH): Atmospheric Chemistry Experiment austral spring 2004 and 2005 Southern Hemisphere tropical-mid-latitude upper tropospheric measurements. Geophysical Research Letters, 2006, 33, .	1.5	42

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109	Retrieval and characterization of ozone vertical profiles from a thermal infrared nadir sounder. Journal of Geophysical Research, 2005, 110, .	3.3	108
110	Operational trace gas retrieval algorithm for the Infrared Atmospheric Sounding Interferometer. Journal of Geophysical Research, 2004, 109, n/a-n/a.	3.3	99
111	Land surface skin temperatures from a combined analysis of microwave and infrared satellite observations for an all-weather evaluation of the differences between air and skin temperatures. Journal of Geophysical Research, 2003, 108, .	3.3	70
112	Spectroscopic measurements of halocarbons and hydrohalocarbons by satellite-borne remote sensors. Journal of Geophysical Research, 2003, 108, .	3.3	24
113	Trace gas measurements from infrared satellite for chemistry and climate applications. Atmospheric Chemistry and Physics, 2003, 3, 1495-1508.	1.9	107
114	A Regularized Neural Net Approach for Retrieval of Atmospheric and Surface Temperatures with the IASI Instrument. Journal of Applied Meteorology and Climatology, 2002, 41, 144-159.	1.7	107
115	An inversion algorithm using neural networks to retrieve atmospheric CO total columns from high-resolution nadir radiances. Journal of Geophysical Research, 1999, 104, 23841-23854.	3.3	39