Diego G Loyola

List of Publications by Year
in descending order

119 papers	3,730 citations	109321 35 h-index	175258 52 g-index
229 all docs	229 docs citations	229 times ranked	3318 citing authors

#	Article	IF	Citations
1	Hyperspectral Satellite Remote Sensing of Aerosol Parameters: Sensitivity Analysis and Application to TROPOMI/S5P. Frontiers in Environmental Science, 2022, 9, .	3.3	4
2	Evaluating the assimilation of S5P/TROPOMI near real-time SO_2 columns and layer height data into the CAMS integrated forecasting system (CY47R1), based on a case study of the 2019 Raikoke eruption. Geoscientific Model Development, 2022, 15, 971-994.	3.6	9
3	TROPOspheric Monitoring Instrument observations of total column water vapour: Algorithm and validation. Science of the Total Environment, 2022, 821, 153232.	8.0	7
4	Volcanic SO_2 layer height by TROPOMI/S5P: evaluation against IASI/MetOp and CALIOP/CALIPSO observations. Atmospheric Chemistry and Physics, 2022, 22, 5665-5683.	4.9	5
5	Global total ozone recovery trends attributed to ozone-depleting substance (ODS) changes derived from five merged ozone datasets. Atmospheric Chemistry and Physics, 2022, 22, 6843-6859.	4.9	29
6	Global, regional and seasonal analysis of total ozone trends derived from the 1995–2020 GTO-ECV climate data record. Atmospheric Chemistry and Physics, 2022, 22, 6861-6878.	4.9	9
7	Three-Dimensional Distribution of Biomass Burning Aerosols from Australian Wildfires Observed by TROPOMI Satellite Observations. Remote Sensing, 2022, 14, 2582.	4.0	1
8	Quantification of lightning-produced NO_x over the Pyrenees and the Ebro Valley by using different TROPOMI-NO_2 and cloud research products. Atmospheric Measurement Techniques, 2022, 15, 3329-3351.	3.1	6
9	Evaluation of Water Vapor Product from TROPOMI and GOME-2 Satellites against Ground-Based GNSS Data over Europe. Atmosphere, 2022, 13, 1079.	2.3	1
10	Record low ozone values over the Arctic in boreal spring 2020. Atmospheric Chemistry and Physics, 2021, 21, 617-633.	4.9	34
11	Validation of the Sentinel-5 Precursor TROPOMI cloud data with Cloudnet, Aura OMI O_2–O_2, MODIS, and Suomi-NPP VIIRS. Atmospheric Measurement Techniques, 2021, 14, 2451-2476.	3.1	25
12	A method for random uncertainties validation and probing the natural variability with application to TROPOMI on board Sentinel-5P total ozone measurements. Atmospheric Measurement Techniques, 2021, 14, 2993-3002.	3.1	7
13	Volcanic SO_2 effective layer height retrieval for the Ozone Monitoring Instrument (OMI) using a machine-learning approach. Atmospheric Measurement Techniques, 2021, 14, 3673-3691.	3.1	5
14	Optimization of Aerosol Model Selection for TROPOMI/S5P. Remote Sensing, 2021, 13, 2489.	4.0	2
15	Global Climate. Bulletin of the American Meteorological Society, 2021, 102, S11-S142.	3.3	36
16	Nitrogen dioxide decline and rebound observed by GOME-2 and TROPOMI during COVID-19 pandemic. Air Quality, Atmosphere and Health, 2021, 14, 1737-1755.	3.3	10
17	Comparative assessment of TROPOMI and OMI formaldehyde observations and validation against MAX-DOAS network column measurements. Atmospheric Chemistry and Physics, 2021, 21, 12561-12593.	4.9	57
18	Global Monitoring of Volcanic SO2 Degassing Using Sentinel-5 Precursor Tropomi. , 2021, , .		2

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19	Inconsistencies in sulfur dioxide emissions from the Canadian oil sands and potential implications. Environmental Research Letters, 2021, 16, 014012.	5.2	11
20	An improved TROPOMI tropospheric NO&lt;sub&gt;2&lt;/sub&gt; research product over Europe. Atmospheric Measurement Techniques, 2021, 14, 7297-7327.	3.1	16
21	A sulfur dioxide Covariance-Based Retrieval Algorithm (COBRA): application to TROPOMI reveals new emission sources. Atmospheric Chemistry and Physics, 2021, 21, 16727-16744.	4.9	19
22	TROPOMI tropospheric ozone column data: geophysical assessment and comparison to ozonesondes, GOME-2B and OMI. Atmospheric Measurement Techniques, 2021, 14, 7405-7433.	3.1	14
23	An Overview of Neural Network Methods for Predicting Uncertainty in Atmospheric Remote Sensing. Remote Sensing, 2021, 13, 5061.	4.0	2
24	Glyoxal tropospheric column retrievals from TROPOMI â€" multi-satellite intercomparison and ground-based validation. Atmospheric Measurement Techniques, 2021, 14, 7775-7807.	3.1	7
25	Model Selection in Atmospheric Remote Sensing with Application to Aerosol Retrieval from DSCOVR/EPIC. Part 2: Numerical Analysis. Remote Sensing, 2020, 12, 3656.	4.0	5
26	Model Selection in Atmospheric Remote Sensing with an Application to Aerosol Retrieval from DSCOVR/EPIC, Part 1: Theory. Remote Sensing, 2020, 12, 3724.	4.0	7
27	Comparison of GTO-ECV and adjusted MERRA-2 total ozone columns from the last 2 decades and assessment of interannual variability. Atmospheric Measurement Techniques, 2020, 13, 1633-1654.	3.1	5
28	Applying FP_ILM to the retrieval of geometry-dependent effective Lambertian equivalent reflectivity (GE_LER) daily maps from UVN satellite measurements. Atmospheric Measurement Techniques, 2020, 13, 985-999.	3.1	34
29	Anthropogenic and volcanic point source SO&lt;sub&gt;2&lt;/sub&gt; emissions derived from TROPOMI on board Sentinel-5 Precursor: first results. Atmospheric Chemistry and Physics, 2020, 20, 5591-5607.	4.9	39
30	Satellite-based estimation of surface NO2 concentrations over east-central China: A comparison of POMINO and OMNO2d data. Atmospheric Environment, 2020, 224, 117322.	4.1	37
31	Spatially and temporally coherent reconstruction of tropospheric NO₂ over China combining OMI and GOME-2B measurements. Environmental Research Letters, 2020, 15, 125011.	5.2	23
32	Global Climate. Bulletin of the American Meteorological Society, 2020, 101, S9-S128.	3.3	61
33	TROPOMIâ€"Sentinel-5 Precursor formaldehyde validation using an extensive network of ground-based Fourier-transform infrared stations. Atmospheric Measurement Techniques, 2020, 13, 3751-3767.	3.1	66
34	Total column water vapor retrieval for Global Ozone Monitoring Experience-2 (GOME-2) visible blue observations. Atmospheric Measurement Techniques, 2020, 13, 4169-4193.	3.1	18
35	TROPOMI aerosol products: evaluation and observations of synoptic-scale carbonaceous aerosol plumes during 2018â€"2020. Atmospheric Measurement Techniques, 2020, 13, 6789-6806.	3.1	36
36	Improvement of EPIC/DSCOVR Image Registration by Means of Automatic Coastline Detection. Remote Sensing, 2019, 11, 1747.	4.0	3

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37	TROPOMI/S5P total ozone column data: global ground-based validation and consistency with other satellite missions. Atmospheric Measurement Techniques, 2019, 12, 5263-5287.	3.1	77
38	The use of QBO, ENSO, and NAO perturbations in the evaluation of GOME-2 MetOp A total ozone measurements. Atmospheric Measurement Techniques, 2019, 12, 987-1011.	3.1	2
39	Monitoring and assimilation tests with TROPOMI data in the CAMS system: near-real-time total column ozone. Atmospheric Chemistry and Physics, 2019, 19, 3939-3962.	4.9	20
40	Global monitoring of volcanic SO2 degassing with unprecedented resolution from TROPOMI onboard Sentinel-5 Precursor. Scientific Reports, 2019, 9, 2643.	3.3	126
41	Sulfur dioxide layer height retrieval from Sentinel-5 Precursor/TROPOMI using FP_ILM. Atmospheric Measurement Techniques, 2019, 12, 5503-5517.	3.1	58
42	Fast Stochastic Radiative Transfer Models for Trace Gas and Cloud Property Retrievals Under Cloudy Conditions. Springer Series in Light Scattering, 2018, , 231-277.	0.6	7
43	Total ozone trends from 1979 to 2016 derived from five merged observational datasets â€" the emergence into ozone recovery. Atmospheric Chemistry and Physics, 2018, 18, 2097-2117.	4.9	118
44	Inter-comparison of integrated water vapor from satellite instruments using reference GPS data at the Iberian Peninsula. Remote Sensing of Environment, 2018, 204, 729-740.	11.0	45
45	Aerosol Retrievals from DSCOVR Measurements. , 2018, , .		1
46	Validation of Atmospheric Water Vapor from Several Satellite Instruments Using GPS Measurements at Spanish Stations Under Cloud-Free Conditions. , 2018, , .		0
47	Validation of the IASI FORLI/EUMETSAT ozone products using satellite (GOME-2), ground-based (Brewerâ€"Dobson, SAOZ, FTIR) and ozonesonde measurements. Atmospheric Measurement Techniques, 2018, 11, 5125-5152.	3.1	47
48	The Global Ozone Monitoring Experiment: review of in-flight performance and new reprocessed 1995â€"2011 level 1 product. Atmospheric Measurement Techniques, 2018, 11, 5237-5259.	3.1	1
49	Algorithm theoretical baseline for formaldehyde retrievals from S5P TROPOMI and from the QA4ECV project. Atmospheric Measurement Techniques, 2018, 11, 2395-2426.	3.1	127
50	On the Cause of Recent Variations in Lower Stratospheric Ozone. Geophysical Research Letters, 2018, 45, 5718-5726.	4.0	87
51	Quality assessment of the Ozone_cci Climate Research Data Package (release 2017) â€" Part 1: Ground-based validation of total ozone column data products. Atmospheric Measurement Techniques, 2018, 11, 1385-1402.	3.1	26
52	The operational cloud retrieval algorithms from TROPOMI on board Sentinel-5 Precursor. Atmospheric Measurement Techniques, 2018, 11, 409-427.	3.1	87
53	Linearized radiative transfer models for retrieval of cloud parameters from EPIC/DSCOVR measurements. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 213, 241-251.	2.3	9
54	Radiative transfer models for retrieval of cloud parameters from EPIC/DSCOVR measurements. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 213, 228-240.	2.3	18

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55	The GEWEX Water Vapor Assessment archive of water vapour products from satellite observations and reanalyses. Earth System Science Data, 2018, 10, 1093-1117.	9.9	42
56	The ESA GOME-Evolution "Climate" water vapor product: a homogenized time series of H<sub>2</sub>O columns from GOME, SCIAMACHY, and GOME-2. Earth System Science Data, 2018, 10, 449-468.	9.9	16
57	Volcanic SO_2 plume height retrieval from UV sensors using a full-physics inverse learning machine algorithm. International Journal of Remote Sensing, 2017, 38, 1-27.	2.9	68
58	Sulfur dioxide retrievals from TROPOMI onboard Sentinel-5 Precursor: algorithm theoretical basis. Atmospheric Measurement Techniques, 2017, 10, 119-153.	3.1	130
59	OCRA radiometric cloud fractions for GOME-2 on MetOp-A/B. Atmospheric Measurement Techniques, 2016, 9, 2357-2379.	3.1	21
60	Overview of the O3M SAF GOME-2 operational atmospheric composition and UV radiation data products and data availability. Atmospheric Measurement Techniques, 2016, 9, 383-407.	3.1	44
61	Seven years of IASI ozone retrievals from FORLI: validation with independent total column and vertical profile measurements. Atmospheric Measurement Techniques, 2016, 9, 4327-4353.	3.1	50
62	Trends of tropical tropospheric ozone from 20 years of European satellite measurements and perspectives for the Sentinel-5 Precursor. Atmospheric Measurement Techniques, 2016, 9, 5037-5051.	3.1	38
63	Smart sampling and incremental function learning for very large high dimensional data. Neural Networks, 2016, 78, 75-87.	5.9	60
64	A stochastic cloud model for cloud and ozone retrievals from UV measurements. Journal of Quantitative Spectroscopy and Radiative Transfer, 2016, 184, 167-179.	2.3	12
65	Monitoring ozone in different spectral regimes from space and balloon (Sentinel-4/-5P, TELIS). , 2016, , .		2
66	Evaluating a new homogeneous total ozone climate data record from GOME/ERS‐2, SCIAMACHY/Envisat, and GOME‐2/MetOp‐A. Journal of Geophysical Research D: Atmospheres, 2015, 120, 12,296.	3.3	29
67	The GOME-type Total Ozone Essential Climate Variable (GTO-ECV) data record from the ESA Climate Change Initiative. Atmospheric Measurement Techniques, 2015, 8, 3923-3940.	3.1	23
68	Validation of GOME-2/MetOp-A total water vapour column using reference radiosonde data from the GRUAN network. Atmospheric Measurement Techniques, 2015, 8, 1135-1145.	3.1	19
69	Total column water vapour measurements from GOME-2 MetOp-A and MetOp-B. Atmospheric Measurement Techniques, 2015, 8, 1111-1133.	3.1	43
70	State of the Climate in 2014. Bulletin of the American Meteorological Society, 2015, 96, ES1-ES32.	3.3	78
71	Comparison of total water vapor column from GOME-2 on MetOp-A against ground-based GPS measurements at the Iberian Peninsula. Science of the Total Environment, 2015, 533, 317-328.	8.0	23
72	Tropical tropospheric ozone column retrieval for GOME-2. Atmospheric Measurement Techniques, 2014, 7, 2513-2530.	3.1	25

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73	Homogenized total ozone data records from the European sensors GOME/ERSâ€2, SCIAMACHY/Envisat, and GOMEâ€2/MetOpâ€A. Journal of Geophysical Research D: Atmospheres, 2014, 119, 1639-1662.	3.3	63
74	Comparison of profile total ozone from SBUV (v8.6) with GOME-type and ground-based total ozone for a 16-year period (1996 to 2011). Atmospheric Measurement Techniques, 2014, 7, 1681-1692.	3.1	17
75	GOME-2 total ozone columns from MetOp-A/MetOp-B and assimilation in the MACC system. Atmospheric Measurement Techniques, 2014, 7, 2937-2951.	3.1	41
76	Discrete ordinate method with matrix exponential for stochastic radiative transfer in broken clouds. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 138, 1-16.	2.3	12
77	Acceleration of radiative transfer model calculations for the retrieval of trace gases under cloudy conditions. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 135, 58-65.	2.3	8
78	Optical property dimensionality reduction techniques for accelerated radiative transfer performance: Application to remote sensing total ozone retrievals. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 133, 128-135.	2.3	31
79	Multi-core-CPU and GPU-accelerated radiative transfer models based on the discrete ordinate method. Computer Physics Communications, 2014, 185, 3079-3089.	7.5	59
80	A new health check of the ozone layer at global and regional scales. Geophysical Research Letters, 2014, 41, 4363-4372.	4.0	18
81	Tropospheric ozone and nitrogen dioxide measurements in urban and rural regions as seen by IASI and GOMEâ€2. Journal of Geophysical Research D: Atmospheres, 2013, 118, 10,555.	3.3	41
82	Small-angle modification of the radiative transfer equation for a pseudo-spherical atmosphere. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 114, 82-90.	2.3	7
83	Acceleration techniques for the discrete ordinate method. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 114, 73-81.	2.3	27
84	Linearization of the Principal Component Analysis method for radiative transfer acceleration: Application to retrieval algorithms and sensitivity studies. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 125, 1-17.	2.3	22
85	Geophysical validation and long-term consistency between GOME-2/MetOp-A total ozone column and measurements from the sensors GOME/ERS-2, SCIAMACHY/ENVISAT and OMI/Aura. Atmospheric Measurement Techniques, 2012, 5, 2169-2181.	3.1	45
86	Sixteen years of GOME/ERSâ€2 total ozone data: The new directâ€fitting GOME Data Processor (GDP) version 5â€"Algorithm description. Journal of Geophysical Research, 2012, 117, .	3.3	47
87	Multi-sensor data merging with stacked neural networks for the creation of satellite long-term climate data records. Eurasip Journal on Advances in Signal Processing, 2012, 2012, .	1.7	20
88	Volcanic SO_2, BrO and plume height estimations using GOMEâ€2 satellite measurements during the eruption of EyjafjallajÃ¶kull in May 2010. Journal of Geophysical Research, 2012, 117, .	3.3	85
89	Influence of cloud properties on satellite total ozone observations. Journal of Geophysical Research, 2011, 116, .	3.3	24
90	Long-term trends of total ozone column over the Iberian Peninsula for the period 1979â€"2008. Atmospheric Environment, 2011, 45, 6283-6290.	4.1	12

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91	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.	11.0	42
92	Space-based measurements of air quality during the World Expo 2010 in Shanghai. Environmental Research Letters, 2011, 6, 044004.	5.2	58
93	Operational total and tropospheric NO&lt;sub&gt;2&lt;/sub&gt; column retrieval for GOME-2. Atmospheric Measurement Techniques, 2011, 4, 1491-1514.	3.1	114
94	Constrained regularization methods for ozone profile retrieval from UV/VIS nadir spectrometers. Journal of Quantitative Spectroscopy and Radiative Transfer, 2010, 111, 907-916.	2.3	1
95	Influence of turbidity and clouds on satellite total ozone data over Madrid (Spain). Annales Geophysicae, 2010, 28, 1441-1448.	1.6	1
96	The GODFIT algorithm: a direct fitting approach to improve the accuracy of total ozone measurements from GOME. International Journal of Remote Sensing, 2010, 31, 543-550.	2.9	34
97	Comparison of GOME-2/MetOp total ozone data with Brewer spectroradiometer data over the Iberian Peninsula. Annales Geophysicae, 2009, 27, 1377-1386.	1.6	41
98	Satellite Monitoring of Volcanic Sulfur Dioxide Emissions for Early Warning of Volcanic Hazards. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2009, 2, 196-206.	4.9	67
99	Introduction to the Issue on Fostering Applications of Earth Observations of the Atmosphere. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2009, 2, 142-143.	4.9	0
100	The Geospatial Service Infrastructure for DLR's National Remote Sensing Data Library. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2009, 2, 260-269.	4.9	14
101	Introduction to the Issue on Fostering Applications of Earth Observations of the Atmosphereâ€"Part II. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2009, 2, 270-270.	4.9	0
102	Spectral surface albedo derived from GOME-2/Metop measurements. Proceedings of SPIE, 2009, , .	0.8	1
103	Operational Monitoring of the Antarctic Ozone Hole: Transition from GOME and SCIAMACHY to GOME-2. , 2009, , 213-236.		0
104	Long-term analysis of GOME in-flight calibration parameters and instrument degradation. Applied Optics, 2008, 47, 4749.	2.1	10
105	Climatology databases using neural networks: Application to global temperature profiles. , 2008, , .		0
106	Comparison of GOME total ozone data with ground data from the Spanish Brewer spectroradiometers. Annales Geophysicae, 2008, 26, 401-412.	1.6	20
107	Ten years of GOME/ERS2 total ozone dataâ€"The new GOME data processor (GDP) version 4: 2. Ground-based validation and comparisons with TOMS V7/V8. Journal of Geophysical Research, 2007, 112, .	3.3	61
108	Ten years of GOME/ERS-2 total ozone dataâ€"The new GOME data processor (GDP) version 4: 1. Algorithm description. Journal of Geophysical Research, 2006, 111, .	3.3	121

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109	Applications of neural network methods to the processing of earth observation satellite data. Neural Networks, 2006, 19, 168-177.	5.9	36
110	Intercomparison of cloud top altitudes as derived using GOME and ATSR-2 instruments onboard ERS-2. Remote Sensing of Environment, 2006, 102, 186-193.	11.0	18
111	GOME level 1-to-2 data processor version 30: a major upgrade of the GOME/ERS-2 total ozone retrieval algorithm. Applied Optics, 2005, 44, 7196.	2.1	18
112	Ozone profile retrieval from Global Ozone Monitoring Experiment (GOME) data using a neural network approach (Neural Network Ozone Retrieval System (NNORSY)). Journal of Geophysical Research, 2003, 108, .	3.3	57
113	Comparison of total ozone from the satellite instruments GOME and TOMS with measurements from the Dobson network 1996â€"2000. Atmospheric Chemistry and Physics, 2003, 3, 1409-1419.	4.9	59
114	A new cloud recognition algorithm for optical sensors. , 1998, , .		16
115	<title>GOME data processor: the first operational DOAS-based algorithm applied to data from a spaceborne sensor</title>. , 1997, , .		0
116	<title>Ground segment for ERS-2 GOME sensor at the German D-PAF</title>. , 1996, , .		0
117	Satellite-based detection of volcanic sulphur dioxide from recent eruptions in Central and South America. Advances in Geosciences, 0, 14, 35-40.	12.0	31
118	The 1997 El NiÃ±o impact on clouds, water vapour, aerosols and reactive trace gases in the troposphere, as measured by the Global Ozone Monitoring Experiment. Advances in Geosciences, 0, 6, 267-272.	12.0	6
119	FULL-PHYSICS INVERSE LEARNING MACHINE FOR SATELLITE REMOTE SENSING OF OZONE PROFILE SHAPES AND TROPOSPHERIC COLUMNS. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives, 0, XLII-3, 1995-1998.	0.2	0