Andreas Richter

List of Publications by Year in Descending Order

135 papers	7,839 citations	42 h-index	88 g-index
148 ext. papers	8,961 ext. citations	5.6 avg, IF	5.46 L-index

#	Paper	IF	Citations
135	Variability of nitrogen oxide emission fluxes and lifetimes estimated from Sentinel-5P TROPOMI observations. *Atmospheric Chemistry and Physics*, **2022**, 22, 2745-2767	6.8	1
134	TROPOMI-Retrieved Underwater Light Attenuation in Three Spectral Regions in the Ultraviolet and Blue. *Frontiers in Marine Science*, **2022**, 9,	4.5	2
133	Simulating tropospheric BrO in the Arctic using an artificial neural network. *Atmospheric Environment*, **2022**, 276, 119032	5.3	
132	Overview: On the transport and transformation of pollutants in the outflow of major population centres – observational data from the EMeRGe European intensive operational period in summer 2017. *Atmospheric Chemistry and Physics*, **2022**, 22, 5877-5924	6.8	0
131	Retrieval algorithm for OClO from TROPOMI (TROPOspheric Monitoring Instrument) by differential optical absorption spectroscopy. *Atmospheric Measurement Techniques*, **2021**, 14, 7595-7625	4	1
130	An improved TROPOMI tropospheric NO₂ research product over Europe. *Atmospheric Measurement Techniques*, **2021**, 14, 7297-7327	4	4
129	The Unusual Stratospheric Arctic Winter 2019/20: Chemical Ozone Loss From Satellite Observations and TOMCAT Chemical Transport Model. *Journal of Geophysical Research D: Atmospheres*, **2021**, 126, e2020JD034386	4.4	9
128	Evaluation of the LOTOS-EUROS NO₂ simulations using ground-based measurements and S5P/TROPOMI observations over Greece. *Atmospheric Chemistry and Physics*, **2021**, 21, 5269-5288	6.8	4
127	Ground-based validation of the Copernicus Sentinel-5P TROPOMI NO₂ measurements with the NDACC ZSL-DOAS, MAX-DOAS and Pandonia global networks. *Atmospheric Measurement Techniques*, **2021**, 14, 481-510	4	61
126	Retrieval and evaluation of tropospheric-aerosol extinction profiles using multi-axis differential optical absorption spectroscopy (MAX-DOAS) measurements over Athens, Greece. *Atmospheric Measurement Techniques*, **2021**, 14, 749-767	4	2
125	Evaluation of UV–visible MAX-DOAS aerosol profiling products by comparison with ceilometer, sun photometer, and in situ observations in Vienna, Austria. *Atmospheric Measurement Techniques*, **2021**, 14, 5299-5318	4	0
124	Estimation of ship emission rates at a major shipping lane by long-path DOAS measurements. *Atmospheric Measurement Techniques*, **2021**, 14, 5791-5807	4	1
123	Comparative assessment of TROPOMI and OMI formaldehyde observations and validation against MAX-DOAS network column measurements. *Atmospheric Chemistry and Physics*, **2021**, 21, 12561-12593	6.8	11
122	Intercomparison of MAX-DOAS vertical profile retrieval algorithms: studies on field data from the CINDI-2 campaign. *Atmospheric Measurement Techniques*, **2021**, 14, 1-35	4	16
121	Five Years of Spatially Resolved Ground-Based MAX-DOAS Measurements of Nitrogen Dioxide in the Urban Area of Athens: Synergies with In Situ Measurements and Model Simulations. *Atmosphere*, **2021**, 12, 1634	2.7	0
120	Glyoxal tropospheric column retrievals from TROPOMI – multi-satellite intercomparison and ground-based validation. *Atmospheric Measurement Techniques*, **2021**, 14, 7775-7807	4	2
119	Comparison of tropospheric NO₂ columns from MAX-DOAS retrievals and regional air quality model simulations. *Atmospheric Chemistry and Physics*, **2020**, 20, 2795-2823	6.8	7

118	Evaluating different methods for elevation calibration of MAX-DOAS (Multi AXis Differential Optical Absorption Spectroscopy) instruments during the CINDI-2 campaign. *Atmospheric Measurement Techniques*, **2020**, 13, 685-712	4	7
117	Unexpected long-range transport of glyoxal and formaldehyde observed from the Copernicus Sentinel-5 Precursor satellite during the 2018 Canadian wildfires. *Atmospheric Chemistry and Physics* , **2020**, 20, 2057-2072	6.8	20
116	Transformative Urban Changes of Beijing in the Decade of the 2000s. *Remote Sensing*, **2020**, 12, 652	5	5
115	Spatial distribution of enhanced BrO and its relation to meteorological parameters in Arctic and Antarctic sea ice regions. *Atmospheric Chemistry and Physics*, **2020**, 20, 12285-12312	6.8	2
114	Long-term time series of Arctic tropospheric BrO derived from UV VIS satellite remote sensing and its relation to first-year sea ice. *Atmospheric Chemistry and Physics*, **2020**, 20, 11869-11892	6.8	7
113	Pan-Arctic surface ozone: modelling vs. measurements. *Atmospheric Chemistry and Physics*, **2020**, 20, 15937-15967	6.8	7
112	Intercomparison of NO₂, O₄, O₃ and HCHO slant column measurements by MAX-DOAS and zenith-sky UV isible spectrometers during CINDI-2. *Atmospheric Measurement Techniques*, **2020**, 13, 2169-2208	4	30
111	Satellite validation strategy assessments based on the AROMAT campaigns. *Atmospheric Measurement Techniques*, **2020**, 13, 5513-5535	4	2
110	Validation of tropospheric NO₂ column measurements of GOME-2A and OMI using MAX-DOAS and direct sun network observations. *Atmospheric Measurement Techniques*, **2020**, 13, 6141-6174	4	12
109	Dual ground-based MAX-DOAS observations in Vienna, Austria: Evaluation of horizontal and temporal NO2, HCHO, and CHOCHO distributions and comparison with independent data sets. *Atmospheric Environment: X*, **2020**, 5, 100059	2.8	14
108	Validation of Aura-OMI QA4ECV NO₂ climate data records with ground-based DOAS networks: the role of measurement and comparison uncertainties. *Atmospheric Chemistry and Physics*, **2020**, 20, 8017-8045	6.8	13
107	Detection of outflow of formaldehyde and glyoxal from the African continent to the Atlantic Ocean with a MAX-DOAS instrument. *Atmospheric Chemistry and Physics*, **2019**, 19, 10257-10278	6.8	9
106	Towards monitoring localized CO₂ emissions from space: co-located regional CO₂ and NO₂ enhancements observed by the OCO-2 and S5P satellites. *Atmospheric Chemistry and Physics*, **2019**, 19, 9371-9383	6.8	59
105	Full-azimuthal imaging-DOAS observations of NO₂ and O₄ during CINDI-2. *Atmospheric Measurement Techniques*, **2019**, 12, 4171-4190	4	5
104	Near-surface and path-averaged mixing ratios of NO₂ derived from car DOAS zenith-sky and tower DOAS off-axis measurements in Vienna: a case study. *Atmospheric Chemistry and Physics*, **2019**, 19, 5853-5879	6.8	7
103	Intercomparison of MAX-DOAS vertical profile retrieval algorithms: studies using synthetic data. *Atmospheric Measurement Techniques*, **2019**, 12, 2155-2181	4	21
102	Is a scaling factor required to obtain closure between measured and modelled atmospheric O₄ absorptions? An assessment of uncertainties of measurements and radiative transfer simulations for 2 selected days during the MAD-CAT campaign. *Atmospheric Measurement Techniques*, **2019**, 12, 2745-2817	4	16
101	First high-resolution BrO column retrievals from TROPOMI. *Atmospheric Measurement Techniques*, **2019**, 12, 2913-2932	4	11

100	Concept of small satellite UV/visible imaging spectrometer optimized for tropospheric NO2 measurements in air quality monitoring. *Acta Astronautica*, **2019**, 160, 421-432	2.9	1
99	An improved total and tropospheric NO₂ column retrieval for GOME-2. *Atmospheric Measurement Techniques*, **2019**, 12, 1029-1057	4	9
98	Intercomparison of four airborne imaging DOAS systems for tropospheric NO₂ mapping the AROMAPEX campaign. *Atmospheric Measurement Techniques*, **2019**, 12, 211-236	4	11
97	Studies of the horizontal inhomogeneities in NO₂ concentrations above a shipping lane using ground-based multi-axis differential optical absorption spectroscopy (MAX-DOAS) measurements and validation with airborne imaging DOAS measurements. *Atmospheric Measurement Techniques*, **2019**, 12, 5959-5977	4	3
96	Global diffuse attenuation derived from vibrational Raman scattering detected in hyperspectral backscattered satellite spectra. *Optics Express*, **2019**, 27, A829-A855	3.3	4
95	Towards monitoring localized CO₂ emissions from space: co-located regional CO₂ and NO₂ enhancements observed by the OCO-2 and S5P satellites **2019**,		1
94	XBAER-derived aerosol optical thickness from OLCI/Sentinel-3 observation. *Atmospheric Chemistry and Physics*, **2018**, 18, 2511-2523	6.8	14
93	Investigating missing sources of glyoxal over China using a regional air quality model (RAMS-CMAQ). *Journal of Environmental Sciences*, **2018**, 71, 108-118	6.4	7
92	Vertical Profiles of Tropospheric Ozone From MAX-DOAS Measurements During the CINDI-2 Campaign: Part 1Development of a New Retrieval Algorithm. *Journal of Geophysical Research D: Atmospheres*, **2018**, 123, 10,637	4.4	8
91	Improving algorithms and uncertainty estimates for satellite NO₂ retrievals: results from the quality assurance for the essential climate variables (QA4ECV) project. *Atmospheric Measurement Techniques*, **2018**, 11, 6651-6678	4	115
90	Aerosol profiling during the large scale field campaign CINDI-2. *EPJ Web of Conferences*, **2018**, 176, 10005	5.3	
89	BOREAS a new MAX-DOAS profile retrieval algorithm for aerosols and trace gases. *Atmospheric Measurement Techniques*, **2018**, 11, 6833-6859	4	19
88	GOME-2A retrievals of tropospheric NO₂ in different spectral ranges influence of penetration depth. *Atmospheric Measurement Techniques*, **2018**, 11, 2769-2795	4	4
87	Algorithm theoretical baseline for formaldehyde retrievals from S5P TROPOMI and from the QA4ECV project. *Atmospheric Measurement Techniques*, **2018**, 11, 2395-2426	4	73
86	Improved slant column density retrieval of nitrogen dioxide and formaldehyde for OMI and GOME-2A from QA4ECV: intercomparison, uncertainty characterisation, and trends. *Atmospheric Measurement Techniques*, **2018**, 11, 4033-4058	4	51
85	The importance of surface reflectance anisotropy for cloud and NO₂ retrievals from GOME-2 and OMI. *Atmospheric Measurement Techniques*, **2018**, 11, 4509-4529	4	17
84	NO₂ pollution over India observed from space the impact of rapid economic growth, and a recent decline **2017**,		17
83	Observation of Air Pollution in Asia Using UV/Visible Space Sensors **2017**, 287-307		

82	Monitoring shipping emissions in the German Bight using MAX-DOAS measurements. *Atmospheric Chemistry and Physics*, **2017**, 17, 10997-11023	6.8	18
81	Enhanced trans-Himalaya pollution transport to the Tibetan Plateau by cut-off low systems. *Atmospheric Chemistry and Physics*, **2017**, 17, 3083-3095	6.8	28
80	Space-based observation of volcanic iodine monoxide. *Atmospheric Chemistry and Physics*, **2017**, 17, 4857-4870	6.8	13
79	Investigating differences in DOAS retrieval codes using MAD-CAT campaign data. *Atmospheric Measurement Techniques*, **2017**, 10, 955-978	4	17
78	High-resolution airborne imaging DOAS measurements of NO₂ above Bucharest during AROMAT. *Atmospheric Measurement Techniques*, **2017**, 10, 1831-1857	4	16
77	Structural uncertainty in air mass factor calculation for NO₂ and HCHO satellite retrievals. *Atmospheric Measurement Techniques*, **2017**, 10, 759-782	4	91
76	MAX-DOAS measurements of HONO slant column densities during the MAD-CAT campaign: inter-comparison, sensitivity studies on spectral analysis settings, and error budget. *Atmospheric Measurement Techniques*, **2017**, 10, 3719-3742	4	25
75	Estimates of free-tropospheric NO₂ and HCHO mixing ratios derived from high-altitude mountain MAX-DOAS observations at midlatitudes and in the tropics. *Atmospheric Chemistry and Physics*, **2016**, 16, 2803-2817	6.8	16
74	Impacts of the 2014–2015 Holuhraun eruption on the UK atmosphere. *Atmospheric Chemistry and Physics*, **2016**, 16, 11415-11431	6.8	12
73	TIBAGS: Tropospheric Iodine Monoxide and Its Coupling to Biospheric and Atmospheric Variables– Global Satellite Study. *Springer Earth System Sciences*, **2016**, 15-34	0.3	
72	C-IFS-CB05-BASCOE: stratospheric chemistry in the Integrated Forecasting System of ECMWF. *Geoscientific Model Development*, **2016**, 9, 3071-3091	6.3	15
71	Slant column MAX-DOAS measurements of nitrogen dioxide, formaldehyde, glyoxal and oxygen dimer in the urban environment of Athens. *Atmospheric Environment*, **2016**, 135, 118-131	5.3	28
70	The application of ecological stoichiometry to plant–microbial–soil organic matter transformations. *Ecological Monographs*, **2015**, 85, 133-155	9	431
69	Investigating the Link Between Glyoxal and Biogenic Activities. *Springer Earth System Sciences*, **2015**, 59-65	0.3	1
68	Estimates of NOx Emission Factors from GOME-2 Measurements for the Major Types of Open Biomass Burning. *Springer Earth System Sciences*, **2015**, 67-75	0.3	
67	Evolution of NO2 levels in Spain from 1996 to 2012. *Scientific Reports*, **2014**, 4, 5887	4.9	21
66	Convective forcing of mercury and ozone in the Arctic boundary layer induced by leads in sea ice. *Nature*, **2014**, 506, 81-4	50.4	65
65	Validation strategy for satellite observations of tropospheric reactive gases. *Annals of Geophysics*, **2014**,	1.1	8

64	The effects of rapid urbanization on the levels in tropospheric nitrogen dioxide and ozone over East China. *Atmospheric Environment*, **2013**, 77, 558-567	5.3	49
63	Satellite remote sensing of changes in NO x emissions over China during 1996–2010. *Science Bulletin*, **2012**, 57, 2857-2864		97
62	Uncertainties in the inverse modelling of sulphur dioxide eruption profiles. *Geomatics, Natural Hazards and Risk*, **2012**, 3, 97-97	3.6	
61	Exploring the missing source of glyoxal (CHOCHO) over China. *Geophysical Research Letters*, **2012**, 39, n/a-n/a	4.9	73
60	Field and satellite observations of the formation and distribution of Arctic atmospheric bromine above a rejuvenated sea ice cover. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		38
59	The impact of North American anthropogenic emissions and lightning on long-range transport of trace gases and their export from the continent during summers 2002 and 2004. *Journal of Geophysical Research*, **2011**, 116,		16
58	SO2 emissions and lifetimes: Estimates from inverse modeling using in situ and global, space-based (SCIAMACHY and OMI) observations. *Journal of Geophysical Research*, **2011**, 116,		182
57	A feasibility study for the detection of the diurnal variation of tropospheric NO2 over Tokyo from a geostationary orbit. *Advances in Space Research*, **2011**, 48, 1551-1564	2.4	4
56	Megacities as hot spots of air pollution in the East Mediterranean. *Atmospheric Environment*, **2011**, 45, 1223-1235	5.3	196
55	Long-term change in the nitrogen cycle of tropical forests. *Science*, **2011**, 334, 664-6	33.3	203
54	Uncertainties in the inverse modelling of sulphur dioxide eruption profiles. *Geomatics, Natural Hazards and Risk*, **2011**, 2, 201-216	3.6	26
53	The Use of UV, Visible and Near IR Solar Back Scattered Radiation to Determine Trace Gases. *Physics of Earth and Space Environments*, **2011**, 67-121		13
52	Satellite Monitoring of Nitrogen Oxide Emissions. *NATO Science for Peace and Security Series C: Environmental Security*, **2011**, 219-234	0.3	
51	Testing and improving OMI DOMINO tropospheric NO2 using observations from the DANDELIONS and INTEX-B validation campaigns. *Journal of Geophysical Research*, **2010**, 115,		90
50	Comparison of satellite observed tropospheric NO2 over India with model simulations. *Atmospheric Environment*, **2010**, 44, 3314-3321	5.3	51
49	Application of high-mobility-group-A proteins increases the proliferative activity of chondrocytes in vitro. *Tissue Engineering - Part A*, **2009**, 15, 473-7	3.9	12
48	Regional NOx emission inversion through a four-dimensional variational approach using SCIAMACHY tropospheric NO2 column observations. *Atmospheric Environment*, **2009**, 43, 5046-5055	5.3	48
47	Retrieval of vertical columns of sulfur dioxide from SCIAMACHY and OMI: Air mass factor algorithm development, validation, and error analysis. *Journal of Geophysical Research*, **2009**, 114,		93

46	Remote Sensing of Tropospheric Trace Gases (NO2 and SO2) from SCIAMACHY **2009**, 63-72		1
45	Impact of transport of sulfur dioxide from the Asian continent on the air quality over Korea during May 2005. *Atmospheric Environment*, **2008**, 42, 1461-1475	5.3	34
44	Atmospheric mercury depletion event study in Ny-Alesund (Svalbard) in spring 2005. Deposition and transformation of Hg in surface snow during springtime. *Science of the Total Environment*, **2008**, 397, 167-77	10.2	44
43	Remote Sensing of Tropospheric Pollution from Space. *Bulletin of the American Meteorological Society*, **2008**, 89, 805-822	6.1	91
42	Genomic characterisation, chromosomal assignment and in vivo localisation of the canine high mobility group A1 (HMGA1) gene. *BMC Genetics*, **2008**, 9, 49	2.6	1
41	The sensitivity of Western European NO2 columns to interannual variability of meteorology and emissions: a model□GOME study. *Atmospheric Science Letters*, **2008**, 9, 182-188	2.4	6
40	Forest fire plumes over the North Atlantic: p-TOMCAT model simulations with aircraft and satellite measurements from the ITOP/ICARTT campaign. *Journal of Geophysical Research*, **2007**, 112,		49
39	NOx emission trends for China, 1995□2004: The view from the ground and the view from space. *Journal of Geophysical Research*, **2007**, 112,		386
38	Atmosph□ische Spurenstoffe und ihre Sondierung. *Chemie in Unserer Zeit*, **2007**, 41, 170-191	0.2	
37	Variations of the increasing trend of tropospheric NO2 over central east China during the past decade. *Atmospheric Environment*, **2007**, 41, 4865-4876	5.3	77
36	Comparison of model-simulated tropospheric NO2 over China with GOME-satellite data. *Atmospheric Environment*, **2006**, 40, 593-604	5.3	55
35	Chemical characterization of air pollution in Eastern China and the Eastern United States. *Atmospheric Environment*, **2006**, 40, 2607-2625	5.3	109
34	Regional NOx emission strength for the Indian subcontinent and the impact of emissions from India and neighboring countries on regional O3 chemistry. *Journal of Geophysical Research*, **2006**, 111,		33
33	Measurements of nitrogen dioxide total column amounts using a Brewer double spectrophotometer in direct Sun mode. *Journal of Geophysical Research*, **2006**, 111,		58
32	Observation of a fast ozone loss in the marginal ice zone of the Arctic Ocean. *Journal of Geophysical Research*, **2006**, 111,		49
31	Simultaneous global observations of glyoxal and formaldehyde from space. *Geophysical Research Letters*, **2006**, 33,	4.9	237
30	A study of the trace gas columns of O3, NO2 and HCHO over Africa in September 1997. *Faraday Discussions*, **2005**, 130, 387-405; discussion 491-517, 519-24	3.6	28
29	Satellite measurements of daily variations in soil NOx emissions. *Geophysical Research Letters*, **2005**, 32,	4.9	70

28	GOME Observations of Stratospheric Trace Gas Distributions during the Splitting Vortex Event in the Antarctic Winter of 2002. Part I: Measurements. *Journals of the Atmospheric Sciences*, **2005**, 62, 778-785	2.1	31
27	Increase in tropospheric nitrogen dioxide over China observed from space. *Nature*, **2005**, 437, 129-32	50.4	1116
26	Analysis of tropospheric NOx over Asia using the model of atmospheric transport and chemistry (MATCH-MPIC) and GOME-satellite observations. *Atmospheric Environment*, **2004**, 38, 581-596	5.3	71
25	Semiannual NO2 plumes during the monsoon transition periods over the central Indian Ocean. *Geophysical Research Letters*, **2004**, 31,	4.9	13
24	Satellite measurements of NO2 from international shipping emissions. *Geophysical Research Letters* , **2004**, 31,	4.9	117
23	BrO emission from volcanoes: A survey using GOME and SCIAMACHY measurements. *Geophysical Research Letters*, **2004**, 31,	4.9	58
22	First comparison between ground-based and satellite-borne measurements of tropospheric nitrogen dioxide in the Po basin. *Journal of Geophysical Research*, **2004**, 109,		58
21	The canine HMGA1. *Gene*, **2004**, 330, 93-9	3.8	1
20	Retrieval of profile information from airborne multiaxis UV-visible skylight absorption measurements. *Applied Optics*, **2004**, 43, 4415-26	1.7	26
19	Quantification of Tropospheric Measurements from Nadir Viewing UV/Visible Instruments **2004**, 137-147		
18	First Validation of Tropospheric NO2 Column Densities Retrieved from GOME by in situ Aircraft Profile Measurements **2004**, 265-270		
17	Studies of NO2 from Lightning and Convective Uplifting using GOME Data **2004**, 297-306		2
16	Antarctic springtime depletion of atmospheric mercury. *Environmental Science & Technology*, **2002**, 36, 1238-44	10.3	273
15	Dynamic oxidation of gaseous mercury in the Arctic troposphere at polar sunrise. *Environmental Science & Technology*, **2002**, 36, 1245-56	10.3	484
14	First comparison of tropospheric NO2 column densities retrieved from GOME measurements and in situ aircraft profile measurements. *Geophysical Research Letters*, **2002**, 29, 44-1-44-4	4.9	43
13	Magnification of atmospheric mercury deposition to polar regions in springtime: The link to tropospheric ozone depletion chemistry. *Geophysical Research Letters*, **2001**, 28, 3219-3222	4.9	190
12	Global tropospheric NO2 column distributions: Comparing three-dimensional model calculations with GOME measurements. *Journal of Geophysical Research*, **2001**, 106, 12643-12660		82
11	Enhanced O3 and NO2 in thunderstorm clouds: Convection or production?. *Geophysical Research Letters*, **1999**, 26, 1291-1294	4.9	37

10	The Global Ozone Monitoring Experiment (GOME): Mission Concept and First Scientific Results. *Journals of the Atmospheric Sciences*, **1999**, 56, 151-175	2.1	888
9	GOME observations of tropospheric BrO in northern hemispheric spring and summer 1997. *Geophysical Research Letters*, **1998**, 25, 2683-2686	4.9	217
8	First observation of the OIO molecule by time-resolved flash photolysis absorption spectroscopy. *Chemical Physics Letters*, **1996**, 251, 330-334	2.5	54
7	Pan-Arctic surface ozone: modelling vs measurements		2
6	Intercomparison of four airborne imaging DOAS systems for tropospheric NO₂ mapping The AROMAPEX campaign		2
5	Studies of the horizontal inhomogeneities in NO₂ concentrations above a shipping lane using ground-based MAX-DOAS and airborne imaging DOAS measurements		2
4	Intercomparison of MAX-DOAS Vertical Profile Retrieval Algorithms: Studies using Synthetic Data		4
3	Intercomparison of NO₂, O₄, O₃ and HCHO slant column measurements by MAX-DOAS and zenith-sky UV-Visible spectrometers during the CINDI-2 campaign		5
2	Intercomparison of MAX-DOAS vertical profile retrieval algorithms: studies on field data from the CINDI-2 campaign		10
1	Validation of tropospheric NO₂ column measurements of GOME-2A and OMI using MAX-DOAS and direct sun network observations		3