

Martin G Schultz

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

130
papers

18,970
citations

57
h-index

137
g-index

173
ext. papers

21,576
ext. citations

6.2
avg, IF

5.84
L-index

#	Paper	IF	Citations
130	Global, high-resolution mapping of tropospheric ozone [explainable machine learning and impact of uncertainties. <i>Geoscientific Model Development</i> , 2022 , 15, 4331-4354	6.3	1
129	MLAir (v1.0) [a tool to enable fast and flexible machine learning on air data time series. <i>Geoscientific Model Development</i> , 2021 , 14, 1553-1574	6.3	1
128	Mapping Yearly Fine Resolution Global Surface Ozone through the Bayesian Maximum Entropy Data Fusion of Observations and Model Output for 1990-2017. <i>Environmental Science & Technology</i> , 2021 , 55, 4389-4398	10.3	13
127	AQ-Bench: a benchmark dataset for machine learning on global air quality metrics. <i>Earth System Science Data</i> , 2021 , 13, 3013-3033	10.5	4
126	Context aware benchmarking and tuning of a TByte-scale air quality database and web service. <i>Earth Science Informatics</i> , 2021 , 14, 1-11	2.5	1
125	IntelliO3-ts v1.0: a neural network approach to predict near-surface ozone concentrations in Germany. <i>Geoscientific Model Development</i> , 2021 , 14, 1-25	6.3	9
124	Can deep learning beat numerical weather prediction?. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021 , 379, 20200097	3	31
123	An intercomparison of tropospheric ozone reanalysis products from CAMS, CAMS interim, TCR-1, and TCR-2. <i>Geoscientific Model Development</i> , 2020 , 13, 1513-1544	6.3	15
122	Multi-decadal surface ozone trends at globally distributed remote locations. <i>Elementa</i> , 2020 , 8,	3.6	26
121	Open weather and climate science in the digital era. <i>Geoscience Communication</i> , 2020 , 3, 191-201	0.7	2
120	Impact of U.S. Oil and Natural Gas Emission Increases on Surface Ozone Is Most Pronounced in the Central United States. <i>Environmental Science & Technology</i> , 2020 , 54, 12423-12433	10.3	6
119	The community atmospheric chemistry box model CAABA/MECCA-4.0. <i>Geoscientific Model Development</i> , 2019 , 12, 1365-1385	6.3	34
118	The global aerosol-climate model ECHAM6.3[AM2.3 [Part 1: Aerosol evaluation. <i>Geoscientific Model Development</i> , 2019 , 12, 1643-1677	6.3	57
117	A new method (M[math display="block">\supset 3 \supsetFusion v1) for combining observations and multiple model output for an improved estimate of the global surface ozone distribution. <i>Geoscientific Model Development</i> , 2019 , 12, 955-978	6.3	12
116	ESD Reviews: Climate feedbacks in the Earth system and prospects for their evaluation. <i>Earth System Dynamics</i> , 2019 , 10, 379-452	4.8	31
115	Tropospheric Ozone Assessment Report: Tropospheric ozone from 1877 to 2016, observed levels, trends and uncertainties. <i>Elementa</i> , 2019 , 7,	3.6	60
114	A New Tool for Automated Quality Control of Environmental Time Series (AutoQC4Env) in Open Web Services. <i>Lecture Notes in Business Information Processing</i> , 2019 , 513-518	0.6	

113	Ozone impacts of gas/aerosol uptake in global chemistry transport models. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 3147-3171	6.8	21
112	Severe Surface Ozone Pollution in China: A Global Perspective. <i>Environmental Science and Technology Letters</i> , 2018 , 5, 487-494	11	316
111	SALSA2.0: The sectional aerosol module of the aerosol-chemistry-climate model ECHAM6.3.0-HAM2.3-MOZ1.0 2018 ,		3
110	Tropospheric Ozone Assessment Report: Assessment of global-scale model performance for global and regional ozone distributions, variability, and trends. <i>Elementa</i> , 2018 , 6,	3.6	121
109	Tropospheric Ozone Assessment Report: Present-day ozone distribution and trends relevant to human health. <i>Elementa</i> , 2018 , 6,	3.6	92
108	Tropospheric ozone assessment report: Global ozone metrics for climate change, human health, and crop/ecosystem research. <i>Elementa</i> , 2018 , 1, 1	3.6	115
107	Tropospheric Ozone Assessment Report: Present-day tropospheric ozone distribution and trends relevant to vegetation. <i>Elementa</i> , 2018 , 6,	3.6	135
106	The chemistry-climate model ECHAM6.3-HAM2.3-MOZ1.0. <i>Geoscientific Model Development</i> , 2018 , 11, 1695-1723	6.3	33
105	Climate feedbacks in the Earth system and prospects for their evaluation 2018 ,		1
104	Peroxy acetyl nitrate (PAN) measurements at northern midlatitude mountain sites in April: a constraint on continental source-receptor relationships. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 15345-15361	6.8	2
103	SALSA2.0: The sectional aerosol module of the aerosol-chemistry-climate model ECHAM6.3.0-HAM2.3-MOZ1.0. <i>Geoscientific Model Development</i> , 2018 , 11, 3833-3863	6.3	27
102	Isoprene-derived secondary organic aerosol in the global aerosol-chemistry-climate model ECHAM6.3.0-HAM2.3-MOZ1.0. <i>Geoscientific Model Development</i> , 2018 , 11, 3235-3260	6.3	22
101	In situ temperature measurements in the upper troposphere and lowermost stratosphere from 2 decades of IAGOS long-term routine observation. <i>Atmospheric Chemistry and Physics</i> , 2017 , 17, 12495-12508	6.8	8
100	Implementation of the MEGAN (v2.1) biogenic emission model in the ECHAM6-HAMMOZ chemistry climate model. <i>Geoscientific Model Development</i> , 2017 , 10, 903-926	6.3	29
99	Tropospheric Ozone Assessment Report: Database and Metrics Data of Global Surface Ozone Observations. <i>Elementa</i> , 2017 , 5, 58	3.6	112
98	Regional trend analysis of surface ozone observations from monitoring networks in eastern North America, Europe and East Asia. <i>Elementa</i> , 2017 , 5,	3.6	83
97	Implementation of the biogenic emission model MEGAN(v2.1) into the ECHAM6-HAMMOZ chemistry climate model. Basic results and sensitivity tests 2016 ,		1
96	Cluster analysis of European surface ozone observations for evaluation of MACC reanalysis data. <i>Atmospheric Chemistry and Physics</i> , 2016 , 16, 6863-6881	6.8	15

95	Climate change reduces warming potential of nitrous oxide by an enhanced Brewer-Dobson circulation. <i>Geophysical Research Letters</i> , 2016 , 43, 5851-5859	4.9	4
94	Transport of tropospheric and stratospheric ozone over India: Balloon-borne observations and modeling analysis. <i>Atmospheric Environment</i> , 2016 , 131, 228-242	5.3	9
93	Evaluation of near surface ozone over Europe from the MACC reanalysis 2015 ,		4
92	Data assimilation of satellite-retrieved ozone, carbon monoxide and nitrogen dioxide with ECMWF's Composition-IFS. <i>Atmospheric Chemistry and Physics</i> , 2015 , 15, 5275-5303	6.8	82
91	Copernicus stratospheric ozone service, 2009-2012: validation, system intercomparison and roles of input data sets. <i>Atmospheric Chemistry and Physics</i> , 2015 , 15, 2269-2293	6.8	25
90	Transport pathways of peroxyacetyl nitrate in the upper troposphere and lower stratosphere from different monsoon systems during the summer monsoon season. <i>Atmospheric Chemistry and Physics</i> , 2015 , 15, 11477-11499	6.8	20
89	Evaluation of near-surface ozone over Europe from the MACC reanalysis. <i>Geoscientific Model Development</i> , 2015 , 8, 2299-2314	6.3	27
88	Validation of reactive gases and aerosols in the MACC global analysis and forecast system. <i>Geoscientific Model Development</i> , 2015 , 8, 3523-3543	6.3	38
87	Tropospheric chemistry in the Integrated Forecasting System of ECMWF. <i>Geoscientific Model Development</i> , 2015 , 8, 975-1003	6.3	137
86	Trends in peroxyacetyl nitrate (PAN) in the upper troposphere and lower stratosphere over southern Asia during the summer monsoon season: regional impacts. <i>Atmospheric Chemistry and Physics</i> , 2014 , 14, 12725-12743	6.8	35
85	On the wintertime low bias of Northern Hemisphere carbon monoxide found in global model simulations. <i>Atmospheric Chemistry and Physics</i> , 2014 , 14, 9295-9316	6.8	80
84	Ten years of global burned area products from spaceborne remote sensing: A review: Analysis of user needs and recommendations for future developments. <i>International Journal of Applied Earth Observation and Geoinformation</i> , 2014 , 26, 64-79	7.3	159
83	New Directions: GEIAS 2020 vision for better air emissions information. <i>Atmospheric Environment</i> , 2013 , 81, 710-712	5.3	18
82	Impacts of climate change on surface ozone and intercontinental ozone pollution: A multi-model study. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013 , 118, 3744-3763	4.4	118
81	Evaluating the impact of chemical boundary conditions on near surface ozone in regional climate air quality simulations over Europe. <i>Atmospheric Research</i> , 2013 , 134, 116-130	5.4	23
80	Bounding the role of black carbon in the climate system: A scientific assessment. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013 , 118, 5380-5552	4.4	3330
79	The MACC reanalysis: an 8 yr data set of atmospheric composition. <i>Atmospheric Chemistry and Physics</i> , 2013 , 13, 4073-4109	6.8	352
78	Transport of aerosols into the UTLS and their impact on the Asian monsoon region as seen in a global model simulation. <i>Atmospheric Chemistry and Physics</i> , 2013 , 13, 8771-8786	6.8	64

77	Surface ozone-temperature relationships in the eastern US: A monthly climatology for evaluating chemistry-climate models. <i>Atmospheric Environment</i> , 2012 , 47, 142-153	5.3	126
76	The influence of ozone precursor emissions from four world regions on tropospheric composition and radiative climate forcing. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		84
75	Biomass burning emissions estimated with a global fire assimilation system based on observed fire radiative power. <i>Biogeosciences</i> , 2012 , 9, 527-554	4.6	677
74	Global reactive gases forecasts and reanalysis in the MACC project. <i>Journal of Integrative Environmental Sciences</i> , 2012 , 9, 57-70	3	52
73	Hindcast experiments of tropospheric composition during the summer 2010 fires over western Russia. <i>Atmospheric Chemistry and Physics</i> , 2012 , 12, 4341-4364	6.8	54
72	Impact of sampling frequency in the analysis of tropospheric ozone observations. <i>Atmospheric Chemistry and Physics</i> , 2012 , 12, 6757-6773	6.8	27
71	Modelling future changes in surface ozone: a parameterized approach. <i>Atmospheric Chemistry and Physics</i> , 2012 , 12, 2037-2054	6.8	118
70	3-D evaluation of tropospheric ozone simulations by an ensemble of regional Chemistry Transport Model. <i>Atmospheric Chemistry and Physics</i> , 2012 , 12, 3219-3240	6.8	35
69	Technical Note: Ozonesonde climatology between 1995 and 2011: description, evaluation and applications. <i>Atmospheric Chemistry and Physics</i> , 2012 , 12, 7475-7497	6.8	75
68	Forecasts and assimilation experiments of the Antarctic ozone hole 2008. <i>Atmospheric Chemistry and Physics</i> , 2011 , 11, 1961-1977	6.8	33
67	An analysis of long-term regional-scale ozone simulations over the Northeastern United States: variability and trends. <i>Atmospheric Chemistry and Physics</i> , 2011 , 11, 567-582	6.8	61
66	Re-analysis of tropospheric sulfate aerosol and ozone for the period 1980-2005 using the aerosol-chemistry-climate model ECHAM5-HAMMOZ. <i>Atmospheric Chemistry and Physics</i> , 2011 , 11, 9563-9594	6.8	53
65	Evolution of anthropogenic and biomass burning emissions of air pollutants at global and regional scales during the 1980-2010 period. <i>Climatic Change</i> , 2011 , 109, 163-190	4.5	623
64	Current status of the ability of the GEMS/MACC models to reproduce the tropospheric CO vertical distribution as measured by MOZAIC. <i>Geoscientific Model Development</i> , 2010 , 3, 501-518	6.3	49
63	A multi-model analysis of vertical ozone profiles. <i>Atmospheric Chemistry and Physics</i> , 2010 , 10, 5759-5783	6.8	61
62	Observing and Understanding Tropospheric Ozone Changes: Tropospheric Ozone Changes Workshop; Boulder, Colorado, 14-16 October 2009. <i>Eos</i> , 2010 , 91, 119	1.5	3
61	What causes the irregular cycle of the atmospheric tape recorder signal in HCN?. <i>Geophysical Research Letters</i> , 2010 , 37, n/a-n/a	4.9	21
60	Historical (1850-2000) gridded anthropogenic and biomass burning emissions of reactive gases and aerosols: methodology and application. <i>Atmospheric Chemistry and Physics</i> , 2010 , 10, 7017-7039	6.8	1724

59	Global model simulations of air pollution during the 2003 European heat wave. <i>Atmospheric Chemistry and Physics</i> , 2010 , 10, 789-815	6.8	56
58	Sensitivity of tracer transport to model resolution, prescribed meteorology and tracer lifetime in the general circulation model ECHAM5. <i>Atmospheric Chemistry and Physics</i> , 2010 , 10, 3385-3396	6.8	12
57	Global Real-time Fire Emission Estimates Based on Space-borne Fire Radiative Power Observations 2009 ,		27
56	Intercontinental impacts of ozone pollution on human mortality. <i>Environmental Science & Technology</i> , 2009 , 43, 6482-7	10.3	109
55	Multimodel estimates of intercontinental source-receptor relationships for ozone pollution. <i>Journal of Geophysical Research</i> , 2009 , 114,		378
54	Anthropogenic and natural contributions to regional trends in aerosol optical depth, 1980-2006. <i>Journal of Geophysical Research</i> , 2009 , 114,		172
53	The influence of foreign vs. North American emissions on surface ozone in the US. <i>Atmospheric Chemistry and Physics</i> , 2009 , 9, 5027-5042	6.8	120
52	Coupling global chemistry transport models to ECMWF's integrated forecast system. <i>Geoscientific Model Development</i> , 2009 , 2, 253-265	6.3	129
51	The representation of emissions from megacities in global emission inventories. <i>Atmospheric Environment</i> , 2008 , 42, 703-719	5.3	111
50	Influence of various emission scenarios on ozone in Europe. <i>Ecological Modelling</i> , 2008 , 217, 209-218	3	10
49	Global wildland fire emissions from 1960 to 2000. <i>Global Biogeochemical Cycles</i> , 2008 , 22, n/a-n/a	5.9	333
48	Trace gas and aerosol interactions in the fully coupled model of aerosol-chemistry-climate ECHAM5-HAMMOZ: 1. Model description and insights from the spring 2001 TRACE-P experiment. <i>Journal of Geophysical Research</i> , 2008 , 113,		63
47	Trace gas and aerosol interactions in the fully coupled model of aerosol-chemistry-climate ECHAM5-HAMMOZ: 2. Impact of heterogeneous chemistry on the global aerosol distributions. <i>Journal of Geophysical Research</i> , 2008 , 113,		34
46	A multi-model study of the hemispheric transport and deposition of oxidised nitrogen. <i>Geophysical Research Letters</i> , 2008 , 35,	4.9	69
45	TOWARD A MONITORING AND FORECASTING SYSTEM FOR ATMOSPHERIC COMPOSITION. <i>Bulletin of the American Meteorological Society</i> , 2008 , 89, 1147-1164	6.1	218
44	A multi-model assessment of pollution transport to the Arctic. <i>Atmospheric Chemistry and Physics</i> , 2008 , 8, 5353-5372	6.8	365
43	The sensitivity of Western European NO ₂ columns to interannual variability of meteorology and emissions: a model-TOME study. <i>Atmospheric Science Letters</i> , 2008 , 9, 182-188	2.4	6
42	A model investigation of tropospheric ozone chemical tendencies in long-range transported pollution plumes. <i>Journal of Geophysical Research</i> , 2007 , 112,		31

41	A photochemical modeling study of ozone and formaldehyde generation and budget in the Po basin. <i>Journal of Geophysical Research</i> , 2007 , 112,		18
40	Transportprozesse in der Atmosphäre. <i>Chemie in Unserer Zeit</i> , 2007 , 41, 266-274	0.2	2
39	The influence of African air pollution on regional and global tropospheric ozone. <i>Atmospheric Chemistry and Physics</i> , 2007 , 7, 1193-1212	6.8	63
38	High levels of ozone and related gases over the Bay of Bengal during winter and early spring of 2001. <i>Atmospheric Environment</i> , 2006 , 40, 1633-1644	5.3	38
37	Nitrogen and sulfur deposition on regional and global scales: A multimodel evaluation. <i>Global Biogeochemical Cycles</i> , 2006 , 20, n/a-n/a	5.9	73 ¹
36	Multimodel ensemble simulations of present-day and near-future tropospheric ozone. <i>Journal of Geophysical Research</i> , 2006 , 111,		625
35	Multimodel simulations of carbon monoxide: Comparison with observations and projected near-future changes. <i>Journal of Geophysical Research</i> , 2006 , 111,		220
34	The global atmospheric environment for the next generation. <i>Environmental Science & Technology</i> , 2006 , 40, 3586-94	10.3	298
33	Screening the ESA ATSR-2 World Fire Atlas (1997-2002). <i>Atmospheric Chemistry and Physics</i> , 2006 , 6, 1409-1424	6.8	36
32	Multi-model ensemble simulations of tropospheric NO ₂ compared with GOME retrievals for the year 2000. <i>Atmospheric Chemistry and Physics</i> , 2006 , 6, 2943-2979	6.8	118
31	Impact of Climate Change on the Future Chemical Composition of the Global Troposphere. <i>Journal of Climate</i> , 2006 , 19, 3932-3951	4.4	69
30	Improved albedo formulation for chemistry transport models based on satellite observations and assimilated snow data and its impact on tropospheric photochemistry. <i>Journal of Geophysical Research</i> , 2005 , 110,		12
29	Global Wildland Fire Emission Model (GWEM): Evaluating the use of global area burnt satellite data. <i>Journal of Geophysical Research</i> , 2004 , 109,		221
28	Florida thunderstorms: A faucet of reactive nitrogen to the upper troposphere. <i>Journal of Geophysical Research</i> , 2004 , 109,		73
27	Global chemical weather forecasts for field campaign planning: predictions and observations of large-scale features during MINOS, CONTRACE, and INDOEX. <i>Atmospheric Chemistry and Physics</i> , 2003 , 3, 267-289	6.8	112
26	A global simulation of tropospheric ozone and related tracers: Description and evaluation of MOZART, version 2. <i>Journal of Geophysical Research</i> , 2003 , 108, n/a-n/a		74 ¹
25	Tropospheric distribution of ozone and its precursors over the tropical Indian Ocean. <i>Journal of Geophysical Research</i> , 2003 , 108,		13
24	Air pollution and climate-forcing impacts of a global hydrogen economy. <i>Science</i> , 2003 , 302, 624-7	33.3	281

23	Methyl iodide: Atmospheric budget and use as a tracer of marine convection in global models. <i>Journal of Geophysical Research</i> , 2002 , 107, ACH 8-1-ACH 8-12		136
22	On the use of ATSR fire count data to estimate the seasonal and interannual variability of vegetation fire emissions. <i>Atmospheric Chemistry and Physics</i> , 2002 , 2, 387-395	6.8	91
21	Global air pollution crossroads over the Mediterranean. <i>Science</i> , 2002 , 298, 794-9	33.3	771
20	. <i>Computing in Science and Engineering</i> , 2002 , 4, 56-63	1.5	1
19	Global modeling of tropospheric chemistry with assimilated meteorology: Model description and evaluation. <i>Journal of Geophysical Research</i> , 2001 , 106, 23073-23095		1601
18	Measurements of trace gases and photolysis frequencies during SLOPE96 and a coarse estimate of the local OH concentration from HNO ₃ formation. <i>Journal of Geophysical Research</i> , 2000 , 105, 1563-1583		26
17	Chemical NO _x budget in the upper troposphere over the tropical South Pacific. <i>Journal of Geophysical Research</i> , 2000 , 105, 6669-6679		17
16	Convective injection and photochemical decay of peroxides in the tropical upper troposphere: Methyl iodide as a tracer of marine convection. <i>Journal of Geophysical Research</i> , 1999 , 104, 5717-5724		104
15	On the origin of tropospheric ozone and NO _x over the tropical South Pacific. <i>Journal of Geophysical Research</i> , 1999 , 104, 5829-5843		123
14	Chemical characteristics of air from differing source regions during the Pacific Exploratory Mission-Tropics A (PEM-Tropics A). <i>Journal of Geophysical Research</i> , 1999 , 104, 16181-16196		26
13	Photochemical box modeling of long-range transport from North America to Tenerife during the North Atlantic Regional Experiment (NARE) 1993. <i>Journal of Geophysical Research</i> , 1998 , 103, 13477-13488		22
12	Trace gas measurements during the Oxidizing Capacity of the Tropospheric Atmosphere campaign 1993 at Izaña. <i>Journal of Geophysical Research</i> , 1998 , 103, 13505-13518		32
11	Intercomparison of NO, NO ₂ , NO _y , O ₃ , and RO _x measurements during the Oxidizing Capacity of the Tropospheric Atmosphere (OCTA) campaign 1993 at Izaña. <i>Journal of Geophysical Research</i> , 1998 , 103, 13615-13634		23
10	Airborne measurements of the photolysis frequency of NO ₂ . <i>Journal of Geophysical Research</i> , 1996 , 101, 18613-18627		75
9	Calibration source for peroxy radicals with built-in actinometry using H ₂ O and O ₂ photolysis at 185 nm. <i>Journal of Geophysical Research</i> , 1995 , 100, 18811		78
8	The Global Atmosphere Watch reactive gases measurement network. <i>Elementa</i> , 3 ,	3.6	46
7	Transport pathways of peroxyacetyl nitrate in the upper troposphere and lower stratosphere from different monsoon systems during the summer monsoon season		5
6	On the wintertime low bias of Northern Hemisphere carbon monoxide in global model studies		4

5	Analysis of the global atmospheric methane budget using ECHAM-MOZ simulations for present-day, pre-industrial time and the Last Glacial Maximum	1
4	Development and optimization of a wildfire plume rise model based on remote sensing data inputs [Part 2]	16
3	The Chemistry Climate Model ECHAM6.3-HAM2.3-MOZ1.01-43	2
2	Isoprene derived secondary organic aerosol in a global aerosol chemistry climate model	3
1	Climatic impact of surface transport. <i>Issues in Environmental Science and Technology</i> ,111-128	0.7 4