Martin G Schultz

List of Publications by Citations

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	Bounding the role of black carbon in the climate system: A scientific assessment. *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 5380-5552	4.4	3330
129	Historical (1850–2000) gridded anthropogenic and biomass burning emissions of reactive gases and aerosols: methodology and application. *Atmospheric Chemistry and Physics*, **2010**, 10, 7017-7039	6.8	1724
128	Global modeling of tropospheric chemistry with assimilated meteorology: Model description and evaluation. *Journal of Geophysical Research*, **2001**, 106, 23073-23095		1601
127	Global air pollution crossroads over the Mediterranean. *Science*, **2002**, 298, 794-9	33.3	771
126	A global simulation of tropospheric ozone and related tracers: Description and evaluation of MOZART, version 2. *Journal of Geophysical Research*, **2003**, 108, n/a-n/a		741
125	Nitrogen and sulfur deposition on regional and global scales: A multimodel evaluation. *Global Biogeochemical Cycles*, **2006**, 20, n/a-n/a	5.9	731
124	Biomass burning emissions estimated with a global fire assimilation system based on observed fire radiative power. *Biogeosciences*, **2012**, 9, 527-554	4.6	677
123	Multimodel ensemble simulations of present-day and near-future tropospheric ozone. *Journal of Geophysical Research*, **2006**, 111,		625
122	Evolution of anthropogenic and biomass burning emissions of air pollutants at global and regional scales during the 1980–2010 period. *Climatic Change*, **2011**, 109, 163-190	4.5	623
121	Multimodel estimates of intercontinental source-receptor relationships for ozone pollution. *Journal of Geophysical Research*, **2009**, 114,		378
120	A multi-model assessment of pollution transport to the Arctic. *Atmospheric Chemistry and Physics*, **2008**, 8, 5353-5372	6.8	365
119	The MACC reanalysis: an 8 yr data set of atmospheric composition. *Atmospheric Chemistry and Physics*, **2013**, 13, 4073-4109	6.8	352
118	Global wildland fire emissions from 1960 to 2000. *Global Biogeochemical Cycles*, **2008**, 22, n/a-n/a	5.9	333
117	Severe Surface Ozone Pollution in China: A Global Perspective. *Environmental Science and Technology Letters*, **2018**, 5, 487-494	11	316
116	The global atmospheric environment for the next generation. *Environmental Science & Technology*, **2006**, 40, 3586-94	10.3	298
115	Air pollution and climate-forcing impacts of a global hydrogen economy. *Science*, **2003**, 302, 624-7	33.3	281
114	Global Wildland Fire Emission Model (GWEM): Evaluating the use of global area burnt satellite data. *Journal of Geophysical Research*, **2004**, 109,		221

113	Multimodel simulations of carbon monoxide: Comparison with observations and projected near-future changes. *Journal of Geophysical Research*, **2006**, 111,		220
112	TOWARD A MONITORING AND FORECASTING SYSTEM FOR ATMOSPHERIC COMPOSITION. *Bulletin of the American Meteorological Society*, **2008**, 89, 1147-1164	6.1	218
111	Anthropogenic and natural contributions to regional trends in aerosol optical depth, 1980–2006. *Journal of Geophysical Research*, **2009**, 114,		172
110	Ten years of global burned area products from spaceborne remote sensing—A review: Analysis of user needs and recommendations for future developments. *International Journal of Applied Earth Observation and Geoinformation*, **2014**, 26, 64-79	7.3	159
109	Tropospheric chemistry in the Integrated Forecasting System of ECMWF. *Geoscientific Model Development*, **2015**, 8, 975-1003	6.3	137
108	Methyl iodide: Atmospheric budget and use as a tracer of marine convection in global models. *Journal of Geophysical Research*, **2002**, 107, ACH 8-1-ACH 8-12		136
107	Tropospheric Ozone Assessment Report: Present-day tropospheric ozone distribution and trends relevant to vegetation. *Elementa*, **2018**, 6,	3.6	135
106	Coupling global chemistry transport models to ECMWF's integrated forecast system. *Geoscientific Model Development*, **2009**, 2, 253-265	6.3	129
105	Surface ozone-temperature relationships in the eastern US: A monthly climatology for evaluating chemistry-climate models. *Atmospheric Environment*, **2012**, 47, 142-153	5.3	126
104	On the origin of tropospheric ozone and NOx over the tropical South Pacific. *Journal of Geophysical Research*, **1999**, 104, 5829-5843		123
103	Tropospheric Ozone Assessment Report: Assessment of global-scale model performance for global and regional ozone distributions, variability, and trends. *Elementa*, **2018**, 6,	3.6	121
102	The influence of foreign vs. North American emissions on surface ozone in the US. *Atmospheric Chemistry and Physics*, **2009**, 9, 5027-5042	6.8	120
101	Impacts of climate change on surface ozone and intercontinental ozone pollution: A multi-model study. *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 3744-3763	4.4	118
100	Modelling future changes in surface ozone: a parameterized approach. *Atmospheric Chemistry and Physics*, **2012**, 12, 2037-2054	6.8	118
99	Multi-model ensemble simulations of tropospheric NO₂ compared with GOME retrievals for the year 2000. *Atmospheric Chemistry and Physics*, **2006**, 6, 2943-2979	6.8	118
98	Tropospheric ozone assessment report: Global ozone metrics for climate change, human health, and crop/ecosystem research. *Elementa*, **2018**, 1, 1	3.6	115
97	Tropospheric Ozone Assessment Report: Database and Metrics Data of Global Surface Ozone Observations. *Elementa*, **2017**, 5, 58	3.6	112
96	Global chemical weather forecasts for field campaign planning: predictions and observations of large-scale features during MINOS, CONTRACE, and INDOEX. *Atmospheric Chemistry and Physics*, **2003**, 3, 267-289	6.8	112

95	The representation of emissions from megacities in global emission inventories. *Atmospheric Environment*, **2008**, 42, 703-719	5.3	111
94	Intercontinental impacts of ozone pollution on human mortality. *Environmental Science & Technology*, **2009**, 43, 6482-7	10.3	109
93	Convective injection and photochemical decay of peroxides in the tropical upper troposphere: Methyl iodide as a tracer of marine convection. *Journal of Geophysical Research*, **1999**, 104, 5717-5724		104
92	Tropospheric Ozone Assessment Report: Present-day ozone distribution and trends relevant to human health. *Elementa*, **2018**, 6,	3.6	92
91	On the use of ATSR fire count data to estimate the seasonal and interannual variability of vegetation fire emissions. *Atmospheric Chemistry and Physics*, **2002**, 2, 387-395	6.8	91
90	The influence of ozone precursor emissions from four world regions on tropospheric composition and radiative climate forcing. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		84
89	Regional trend analysis of surface ozone observations from monitoring networks in eastern North America, Europe and East Asia. *Elementa*, **2017**, 5,	3.6	83
88	Data assimilation of satellite-retrieved ozone, carbon monoxide and nitrogen dioxide with ECMWF's Composition-IFS. *Atmospheric Chemistry and Physics*, **2015**, 15, 5275-5303	6.8	82
87	On the wintertime low bias of Northern Hemisphere carbon monoxide found in global model simulations. *Atmospheric Chemistry and Physics*, **2014**, 14, 9295-9316	6.8	80
86	Calibration source for peroxy radicals with built-in actinometry using H2O and O2 photolysis at 185 nm. *Journal of Geophysical Research*, **1995**, 100, 18811		78
85	Technical Note: Ozonesonde climatology between 1995 and 2011: description, evaluation and applications. *Atmospheric Chemistry and Physics*, **2012**, 12, 7475-7497	6.8	75
84	Airborne measurements of the photolysis frequency of NO2. *Journal of Geophysical Research*, **1996**, 101, 18613-18627		75
83	Florida thunderstorms: A faucet of reactive nitrogen to the upper troposphere. *Journal of Geophysical Research*, **2004**, 109,		73
82	A multi-model study of the hemispheric transport and deposition of oxidised nitrogen. *Geophysical Research Letters*, **2008**, 35,	4.9	69
81	Impact of Climate Change on the Future Chemical Composition of the Global Troposphere. *Journal of Climate*, **2006**, 19, 3932-3951	4.4	69
80	Transport of aerosols into the UTLS and their impact on the Asian monsoon region as seen in a global model simulation. *Atmospheric Chemistry and Physics*, **2013**, 13, 8771-8786	6.8	64
79	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. *Journal of Geophysical Research*, **2008**, 113,		63
78	The influence of African air pollution on regional and global tropospheric ozone. *Atmospheric Chemistry and Physics*, **2007**, 7, 1193-1212	6.8	63

77	An analysis of long-term regional-scale ozone simulations over the Northeastern United States: variability and trends. *Atmospheric Chemistry and Physics*, **2011**, 11, 567-582	6.8	61
76	A multi-model analysis of vertical ozone profiles. *Atmospheric Chemistry and Physics*, **2010**, 10, 5759-5783	6.8	61
75	Tropospheric Ozone Assessment Report: Tropospheric ozone from 1877 to 2016, observed levels, trends and uncertainties. *Elementa*, **2019**, 7,	3.6	60
74	The global aerosol–climate model ECHAM6.3–HAM2.3 – Part 1: Aerosol evaluation. *Geoscientific Model Development*, **2019**, 12, 1643-1677	6.3	57
73	Global model simulations of air pollution during the 2003 European heat wave. *Atmospheric Chemistry and Physics*, **2010**, 10, 789-815	6.8	56
72	Hindcast experiments of tropospheric composition during the summer 2010 fires over western Russia. *Atmospheric Chemistry and Physics*, **2012**, 12, 4341-4364	6.8	54
71	Re-analysis of tropospheric sulfate aerosol and ozone for the period 1980–2005 using the aerosol-chemistry-climate model ECHAM5-HAMMOZ. *Atmospheric Chemistry and Physics*, **2011**, 11, 9563-9594	6.8	53
70	Global reactive gases forecasts and reanalysis in the MACC project. *Journal of Integrative Environmental Sciences*, **2012**, 9, 57-70	3	52
69	Current status of the ability of the GEMS/MACC models to reproduce the tropospheric CO vertical distribution as measured by MOZAIC. *Geoscientific Model Development*, **2010**, 3, 501-518	6.3	49
68	The Global Atmosphere Watch reactive gases measurement network. *Elementa*,3,	3.6	46
67	Validation of reactive gases and aerosols in the MACC global analysis and forecast system. *Geoscientific Model Development*, **2015**, 8, 3523-3543	6.3	38
66	High levels of ozone and related gases over the Bay of Bengal during winter and early spring of 2001. *Atmospheric Environment*, **2006**, 40, 1633-1644	5.3	38
65	Screening the ESA ATSR-2 World Fire Atlas (1997–2002). *Atmospheric Chemistry and Physics*, **2006**, 6, 1409-1424	6.8	36
64	Trends in peroxyacetyl nitrate (PAN) in the upper troposphere and lower stratosphere over southern Asia during the summer monsoon season: regional impacts. *Atmospheric Chemistry and Physics*, **2014**, 14, 12725-12743	6.8	35
63	3-D evaluation of tropospheric ozone simulations by an ensemble of regional Chemistry Transport Model. *Atmospheric Chemistry and Physics*, **2012**, 12, 3219-3240	6.8	35
62	The community atmospheric chemistry box model CAABA/MECCA-4.0. *Geoscientific Model Development*, **2019**, 12, 1365-1385	6.3	34
61	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. *Journal of Geophysical Research*, **2008**, 113,		34
60	Forecasts and assimilation experiments of the Antarctic ozone hole 2008. *Atmospheric Chemistry and Physics*, **2011**, 11, 1961-1977	6.8	33

59	The chemistry□climate model ECHAM6.3-HAM2.3-MOZ1.0. *Geoscientific Model Development*, **2018**, 11, 1695-1723	6.3	33
58	Trace gas measurements during the Oxidizing Capacity of the Tropospheric Atmosphere campaign 1993 at Iza□. *Journal of Geophysical Research*, **1998**, 103, 13505-13518		32
57	ESD Reviews: Climate feedbacks in the Earth system and prospects for their evaluation. *Earth System Dynamics*, **2019**, 10, 379-452	4.8	31
56	A model investigation of tropospheric ozone chemical tendencies in long-range transported pollution plumes. *Journal of Geophysical Research*, **2007**, 112,		31
55	Can deep learning beat numerical weather prediction?. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2021**, 379, 20200097	3	31
54	Implementation of the MEGAN (v2.1) biogenic emission model in the ECHAM6-HAMMOZ chemistry climate model. *Geoscientific Model Development*, **2017**, 10, 903-926	6.3	29
53	Evaluation of near-surface ozone over Europe from the MACC reanalysis. *Geoscientific Model Development*, **2015**, 8, 2299-2314	6.3	27
52	Global Real-time Fire Emission Estimates Based on Space-borne Fire Radiative Power Observations **2009**,		27
51	Impact of sampling frequency in the analysis of tropospheric ozone observations. *Atmospheric Chemistry and Physics*, **2012**, 12, 6757-6773	6.8	27
50	SALSA2.0: The sectional aerosol module of the aerosol□hemistry□limate model ECHAM6.3.0-HAM2.3-MOZ1.0. *Geoscientific Model Development*, **2018**, 11, 3833-3863	6.3	27
49	Measurements of trace gases and photolysis frequencies during SLOPE96 and a coarse estimate of the local OH concentration from HNO3 formation. *Journal of Geophysical Research*, **2000**, 105, 1563-1583		26
48	Chemical characteristics of air from differing source regions during the Pacific Exploratory Mission-Tropics A (PEM-Tropics A). *Journal of Geophysical Research*, **1999**, 104, 16181-16196		26
47	Multi-decadal surface ozone trends at globally distributed remote locations. *Elementa*, **2020**, 8,	3.6	26
46	Copernicus stratospheric ozone service, 2009□2012: validation, system intercomparison and roles of input data sets. *Atmospheric Chemistry and Physics*, **2015**, 15, 2269-2293	6.8	25
45	Evaluating the impact of chemical boundary conditions on near surface ozone in regional climate□ir quality simulations over Europe. *Atmospheric Research*, **2013**, 134, 116-130	5.4	23
44	Intercomparison of NO, NO2, NO y , O3, and RO x measurements during the Oxidizing Capacity of the Tropospheric Atmosphere (OCTA) campaign 1993 at Iza□. *Journal of Geophysical Research*, **1998**, 103, 13615-13634		23
43	Photochemical box modeling of long-range transport from North America to Tenerife during the North Atlantic Regional Experiment (NARE) 1993. *Journal of Geophysical Research*, **1998**, 103, 13477-13488		22
42	Isoprene-derived secondary organic aerosol in the global aerosol□hemistry□limate model ECHAM6.3.0□HAM2.3□MOZ1.0. *Geoscientific Model Development*, **2018**, 11, 3235-3260	6.3	22

41	Ozone impacts of gas□erosol uptake in global chemistry transport models. *Atmospheric Chemistry and Physics*, **2018**, 18, 3147-3171	6.8	21
40	What causes the irregular cycle of the atmospheric tape recorder signal in HCN?. *Geophysical Research Letters*, **2010**, 37, n/a-n/a	4.9	21
39	Transport pathways of peroxyacetyl nitrate in the upper troposphere and lower stratosphere from different monsoon systems during the summer monsoon season. *Atmospheric Chemistry and Physics* , **2015**, 15, 11477-11499	6.8	20
38	New Directions: GEIA□s 2020 vision for better air emissions information. *Atmospheric Environment*, **2013**, 81, 710-712	5.3	18
37	A photochemical modeling study of ozone and formaldehyde generation and budget in the Po basin. *Journal of Geophysical Research*, **2007**, 112,		18
36	Chemical NO x budget in the upper troposphere over the tropical South Pacific. *Journal of Geophysical Research*, **2000**, 105, 6669-6679		17
35	Development and optimization of a wildfire plume rise model based on remote sensing data inputs □Part 2		16
34	An intercomparison of tropospheric ozone reanalysis products from CAMS, CAMS interim, TCR-1, and TCR-2. *Geoscientific Model Development*, **2020**, 13, 1513-1544	6.3	15
33	Cluster analysis of European surface ozone observations for evaluation of MACC reanalysis data. *Atmospheric Chemistry and Physics*, **2016**, 16, 6863-6881	6.8	15
32	Tropospheric distribution of ozone and its precursors over the tropical Indian Ocean. *Journal of Geophysical Research*, **2003**, 108,		13
31	Mapping Yearly Fine Resolution Global Surface Ozone through the Bayesian Maximum Entropy Data Fusion of Observations and Model Output for 1990-2017. *Environmental Science & Technology*, **2021**, 55, 4389-4398	10.3	13
30	A new method (M³Fusion v1) for combining observations and multiple model output for an improved estimate of the global surface ozone distribution. *Geoscientific Model Development*, **2019**, 12, 955-978	6.3	12
29	Sensitivity of tracer transport to model resolution, prescribed meteorology and tracer lifetime in the general circulation model ECHAM5. *Atmospheric Chemistry and Physics*, **2010**, 10, 3385-3396	6.8	12
28	Improved albedo formulation for chemistry transport models based on satellite observations and assimilated snow data and its impact on tropospheric photochemistry. *Journal of Geophysical Research*, **2005**, 110,		12
27	Influence of various emission scenarios on ozone in Europe. *Ecological Modelling*, **2008**, 217, 209-218	3	10
26	Transport of tropospheric and stratospheric ozone over India: Balloon-borne observations and modeling analysis. *Atmospheric Environment*, **2016**, 131, 228-242	5.3	9
25	IntelliO3-ts v1.0: a neural network approach to predict near-surface ozone concentrations in Germany. *Geoscientific Model Development*, **2021**, 14, 1-25	6.3	9
24	In situ temperature measurements in the upper troposphere and lowermost stratosphere from 2□decades of IAGOS long-term routine observation. *Atmospheric Chemistry and Physics*, **2017**, 17, 12495-12508	6.8	8

23	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
22	Impact of U.S. Oil and Natural Gas Emission Increases on Surface Ozone Is Most Pronounced in the Central United States. *Environmental Science & Technology*, **2020**, 54, 12423-12433	10.3	6
21	Transport pathways of peroxyacetyl nitrate in the upper troposphere and lower stratosphere from different monsoon systems during the summer monsoon season		5
20	Evaluation of near surface ozone over Europe from the MACC reanalysis **2015**,		4
19	Climate change reduces warming potential of nitrous oxide by an enhanced Brewer-Dobson circulation. *Geophysical Research Letters*, **2016**, 43, 5851-5859	4.9	4
18	On the wintertime low bias of Northern Hemisphere carbon monoxide in global model studies		4
17	Climatic impact of surface transport. *Issues in Environmental Science and Technology*,111-128	0.7	4
16	AQ-Bench: a benchmark dataset for machine learning on global air quality metrics. *Earth System Science Data*, **2021**, 13, 3013-3033	10.5	4
15	SALSA2.0: The sectional aerosol module of the aerosol-chemistry-climate model ECHAM6.3.0-HAM2.3-MOZ1.0 **2018**,		3
14	Observing and Understanding Tropospheric Ozone Changes: Tropospheric Ozone Changes Workshop; Boulder, Colorado, 14–16 October 2009. *Eos*, **2010**, 91, 119	1.5	3
13	Isoprene derived secondary organic aerosol in a global aerosol chemistry climate model		3
12	Transportprozesse in der Atmosphäre. *Chemie in Unserer Zeit*, **2007**, 41, 266-274	0.2	2
11	The Chemistry Climate Model ECHAM6.3-HAM2.3-MOZ1.01-43		2
10	Open weather and climate science in the digital era. *Geoscience Communication*, **2020**, 3, 191-201	0.7	2
9	Peroxy acetyl nitrate (PAN) measurements at northern midlatitude mountain sites in April: a constraint on continental source–receptor relationships. *Atmospheric Chemistry and Physics*, **2018**, 18, 15345-15361	6.8	2
8	Implementation of the biogenic emission model MEGAN(v2.1) into the ECHAM6-HAMMOZ chemistry climate model. Basic results and sensitivity tests **2016**,		1
7	. *Computing in Science and Engineering*, **2002**, 4, 56-63	1.5	1
6	Analysis of the global atmospheric methane budget using ECHAM-MOZ simulations for present-day, pre-industrial time and the Last Glacial Maximum		1

List of Publications

5	MLAir (v1.0) – a tool to enable fast and flexible machine learning on air data time series. *Geoscientific Model Development*, **2021**, 14, 1553-1574	6.3	1
4	Context aware benchmarking and tuning of a TByte-scale air quality database and web service. *Earth Science Informatics*, **2021**, 14, 1-11	2.5	1
3	Climate feedbacks in the Earth system and prospects for their evaluation **2018**,		1
2	Global, high-resolution mapping of tropospheric ozone – explainable machine learning and impact of uncertainties. *Geoscientific Model Development*, **2022**, 15, 4331-4354	6.3	1
1	A New Tool for Automated Quality Control of Environmental Time Series (AutoQC4Env) in Open Web Services. *Lecture Notes in Business Information Processing*, **2019**, 513-518	0.6	