Martin G Schultz

List of Publications by Year
in descending order

124 papers	23,737 citations	28190 55 h-index	19690 117 g-index
173 all docs	173 docs citations	173 times ranked	16941 citing authors

#	Article	IF	Citations
1	Bounding the role of black carbon in the climate system: A scientific assessment. Journal of Geophysical Research D: Atmospheres, 2013, 118, 5380-5552.	1.2	4,319
2	Historical (1850â€"2000) gridded anthropogenic and biomass burning emissions of reactive gases and aerosols: methodology and application. Atmospheric Chemistry and Physics, 2010, 10, 7017-7039.	1.9	2,020
3	Global modeling of tropospheric chemistry with assimilated meteorology: Model description and evaluation. Journal of Geophysical Research, 2001, 106, 23073-23095.	3.3	1,927
4	Global Air Pollution Crossroads over the Mediterranean. Science, 2002, 298, 794-799.	6.0	920
5	Biomass burning emissions estimated with a global fire assimilation system based on observed fire radiative power. Biogeosciences, 2012, 9, 527-554.	1.3	876
6	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.	3.3	848
7	Nitrogen and sulfur deposition on regional and global scales: A multimodel evaluation. Global Biogeochemical Cycles, 2006, 20, n/a-n/a.	1.9	846
8	Multimodel ensemble simulations of present-day and near-future tropospheric ozone. Journal of Geophysical Research, 2006, 111, .	3.3	743
9	Evolution of anthropogenic and biomass burning emissions of air pollutants at global and regional scales during the 1980â€"2010 period. Climatic Change, 2011, 109, 163-190.	1.7	740
10	Severe Surface Ozone Pollution in China: A Global Perspective. Environmental Science and Technology Letters, 2018, 5, 487-494.	3.9	570
11	Multimodel estimates of intercontinental sourceâ€receptor relationships for ozone pollution. Journal of Geophysical Research, 2009, 114, .	3.3	430
12	The MACC reanalysis: an 8 yr data set of atmospheric composition. Atmospheric Chemistry and Physics, 2013, 13, 4073-4109.	1.9	424
13	A multi-model assessment of pollution transport to the Arctic. Atmospheric Chemistry and Physics, 2008, 8, 5353-5372.	1.9	419
14	Global wildland fire emissions from 1960 to 2000. Global Biogeochemical Cycles, 2008, 22, .	1.9	382
15	Air Pollution and Climate-Forcing Impacts of a Global Hydrogen Economy. Science, 2003, 302, 624-627.	6.0	341
16	The Global Atmospheric Environment for the Next Generation. Environmental Science & Technology, 2006, 40, 3586-3594.	4.6	338
17	Global Wildland Fire Emission Model (GWEM): Evaluating the use of global area burnt satellite data. Journal of Geophysical Research, 2004, 109, .	3.3	256
18	Multimodel simulations of carbon monoxide: Comparison with observations and projected near-future changes. Journal of Geophysical Research, 2006, 111, .	3.3	254

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19	TOWARD A MONITORING AND FORECASTING SYSTEM FOR ATMOSPHERIC COMPOSITION. Bulletin of the American Meteorological Society, 2008, 89, 1147-1164.	1.7	253
20	Tropospheric Ozone Assessment Report: Present-day tropospheric ozone distribution and trends relevant to vegetation. Elementa, 2018, 6, .	1.1	212
21	Tropospheric chemistry in the Integrated Forecasting System of ECMWF. Geoscientific Model Development, 2015, 8, 975-1003.	1.3	204
22	Anthropogenic and natural contributions to regional trends in aerosol optical depth, 1980â€“2006. Journal of Geophysical Research, 2009, 114, .	3.3	200
23	Tropospheric ozone assessment report: Global ozone metrics for climate change, human health, and crop/ecosystem research. Elementa, 2018, 6, 1.	1.1	196
24	Ten years of global burned area products from spaceborne remote sensingâ€"A review: Analysis of user needs and recommendations for future developments. International Journal of Applied Earth Observation and Geoinformation, 2014, 26, 64-79.	1.4	185
25	Tropospheric Ozone Assessment Report: Assessment of global-scale model performance for global and regional ozone distributions, variability, and trends. Elementa, 2018, 6, .	1.1	177
26	Tropospheric Ozone Assessment Report: Database and metrics data of global surface ozone observations. Elementa, 2017, 5, .	1.1	172
27	Tropospheric Ozone Assessment Report: Present-day ozone distribution and trends relevant to human health. Elementa, 2018, 6, .	1.1	167
28	Modelling future changes in surface ozone: a parameterized approach. Atmospheric Chemistry and Physics, 2012, 12, 2037-2054.	1.9	155
29	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.	3.3	152
30	Surface ozone-temperature relationships in the eastern US: A monthly climatology for evaluating chemistry-climate models. Atmospheric Environment, 2012, 47, 142-153.	1.9	152
31	Impacts of climate change on surface ozone and intercontinental ozone pollution: A multiâ€model study. Journal of Geophysical Research D: Atmospheres, 2013, 118, 3744-3763.	1.2	149
32	Coupling global chemistry transport models to ECMWF's integrated forecast system. Geoscientific Model Development, 2009, 2, 253-265.	1.3	145
33	Can deep learning beat numerical weather prediction?. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200097.	1.6	142
34	The influence of foreign vs. North American emissions on surface ozone in the US. Atmospheric Chemistry and Physics, 2009, 9, 5027-5042.	1.9	141
35	On the origin of tropospheric ozone and NOxover the tropical South Pacific. Journal of Geophysical Research, 1999, 104, 5829-5843.	3.3	140
36	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.	1.9	128

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37	The representation of emissions from megacities in global emission inventories. Atmospheric Environment, 2008, 42, 703-719.	1.9	128
38	Multi-model ensemble simulations of tropospheric NO₂ compared with GOME retrievals for the year 2000. Atmospheric Chemistry and Physics, 2006, 6, 2943-2979.	1.9	127
39	Intercontinental Impacts of Ozone Pollution on Human Mortality. Environmental Science & Technology, 2009, 43, 6482-6487.	4.6	126
40	Regional trend analysis of surface ozone observations from monitoring networks in eastern North America, Europe and East Asia. Elementa, 2017, 5, .	1.1	125
41	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.	3.3	110
42	Data assimilation of satellite-retrieved ozone, carbon monoxide and nitrogen dioxide with ECMWF's Composition-IFS. Atmospheric Chemistry and Physics, 2015, 15, 5275-5303.	1.9	109
43	The global aerosolâ€“climate model ECHAM6.3â€“HAM2.3 â€“ Part 1: Aerosol evaluation. Geoscientific Model Development, 2019, 12, 1643-1677.	1.3	103
44	Tropospheric Ozone Assessment Report: Tropospheric ozone from 1877 to 2016, observed levels, trends and uncertainties. Elementa, 2019, 7, .	1.1	103
45	Technical Note: Ozonesonde climatology between 1995 and 2011: description, evaluation and applications. Atmospheric Chemistry and Physics, 2012, 12, 7475-7497.	1.9	101
46	On the wintertime low bias of Northern Hemisphere carbon monoxide found in global model simulations. Atmospheric Chemistry and Physics, 2014, 14, 9295-9316.	1.9	101
47	The influence of ozone precursor emissions from four world regions on tropospheric composition and radiative climate forcing. Journal of Geophysical Research, 2012, 117, .	3.3	97
48	Calibration source for peroxy radicals with built-in actinometry using H2O and O2photolysis at 185 nm. Journal of Geophysical Research, 1995, 100, 18811.	3.3	96
49	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.	1.9	96
50	Airborne measurements of the photolysis frequency of NO2. Journal of Geophysical Research, 1996, 101, 18613-18627.	3.3	95
51	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.	1.9	85
52	Florida thunderstorms: A faucet of reactive nitrogen to the upper troposphere. Journal of Geophysical Research, 2004, 109, .	3.3	81
53	Impact of Climate Change on the Future Chemical Composition of the Global Troposphere. Journal of Climate, 2006, 19, 3932-3951.	1.2	81
54	The influence of African air pollution on regional and global tropospheric ozone. Atmospheric Chemistry and Physics, 2007, 7, 1193-1212.	1.9	78

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55	A multi-model study of the hemispheric transport and deposition of oxidised nitrogen. Geophysical Research Letters, 2008, 35, .	1.5	76
56	Trace gas and aerosol interactions in the fully coupled model of aerosolâ€chemistryâ€climate ECHAM5â€HAMMOZ: 1. Model description and insights from the spring 2001 TRACEâ€P experiment. Journal of Geophysical Research, 2008, 113, .	3.3	72
57	A multi-model analysis of vertical ozone profiles. Atmospheric Chemistry and Physics, 2010, 10, 5759-5783.	1.9	70
58	Global model simulations of air pollution during the 2003 European heat wave. Atmospheric Chemistry and Physics, 2010, 10, 789-815.	1.9	67
59	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.	1.9	66
60	Re-analysis of tropospheric sulfate aerosol and ozone for the period 1980â€“2005 using the aerosol-chemistry-climate model ECHAM5-HAMMOZ. Atmospheric Chemistry and Physics, 2011, 11, 9563-9594.	1.9	63
61	The Global Atmosphere Watch reactive gases measurement network. Elementa, 0, 3, .	1.1	63
62	Hindcast experiments of tropospheric composition during the summer 2010 fires over western Russia. Atmospheric Chemistry and Physics, 2012, 12, 4341-4364.	1.9	62
63	Global reactive gases forecasts and reanalysis in the MACC project. Journal of Integrative Environmental Sciences, 2012, 9, 57-70.	1.0	59
64	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.	1.3	56
65	The community atmospheric chemistry box model CAABA/MECCA-4.0. Geoscientific Model Development, 2019, 12, 1365-1385.	1.3	54
66	Multi-decadal surface ozone trends at globally distributed remote locations. Elementa, 2020, 8, .	1.1	54
67	SALSA2.0: The sectional aerosol module of the aerosolâ€“chemistryâ€“climate model ECHAM6.3.0-HAM2.3-MOZ1.0. Geoscientific Model Development, 2018, 11, 3833-3863.	1.3	52
68	The chemistryâ€“climate model ECHAM6.3-HAM2.3-MOZ1.0. Geoscientific Model Development, 2018, 11, 1695-1723.	1.3	51
69	Validation of reactive gases and aerosols in the MACC global analysis and forecast system. Geoscientific Model Development, 2015, 8, 3523-3543.	1.3	49
70	Mapping Yearly Fine Resolution Global Surface Ozone through the Bayesian Maximum Entropy Data Fusion of Observations and Model Output for 1990â€“2017. Environmental Science & Technology, 2021, 55, 4389-4398.	4.6	47
71	ESD Reviews: Climate feedbacks in the Earth system and prospects for their evaluation. Earth System Dynamics, 2019, 10, 379-452.	2.7	46
72	3-D evaluation of tropospheric ozone simulations by an ensemble of regional Chemistry Transport Model. Atmospheric Chemistry and Physics, 2012, 12, 3219-3240.	1.9	44

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73	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.	1.9	42
74	Screening the ESA ATSR-2 World Fire Atlas (1997â€“2002). Atmospheric Chemistry and Physics, 2006, 6, 1409-1424.	1.9	41
75	Implementation of the MEGAN (v2.1) biogenic emission model in the ECHAM6-HAMMOZ chemistry climate model. Geoscientific Model Development, 2017, 10, 903-926.	1.3	40
76	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.	1.9	39
77	Trace gas and aerosol interactions in the fully coupled model of aerosolâ€chemistryâ€climate ECHAM5â€HAMMOZ: 2. Impact of heterogeneous chemistry on the global aerosol distributions. Journal of Geophysical Research, 2008, 113, .	3.3	38
78	Impact of sampling frequency in the analysis of tropospheric ozone observations. Atmospheric Chemistry and Physics, 2012, 12, 6757-6773.	1.9	38
79	Trace gas measurements during the Oxidizing Capacity of the Tropospheric Atmosphere campaign 1993 at IzaÃ±a. Journal of Geophysical Research, 1998, 103, 13505-13518.	3.3	36
80	A model investigation of tropospheric ozone chemical tendencies in long-range transported pollution plumes. Journal of Geophysical Research, 2007, 112, .	3.3	36
81	Ozone impacts of gasâ€“aerosol uptake in global chemistry transport models. Atmospheric Chemistry and Physics, 2018, 18, 3147-3171.	1.9	36
82	Evaluation of near-surface ozone over Europe from the MACC reanalysis. Geoscientific Model Development, 2015, 8, 2299-2314.	1.3	34
83	Forecasts and assimilation experiments of the Antarctic ozone hole 2008. Atmospheric Chemistry and Physics, 2011, 11, 1961-1977.	1.9	33
84	Modeling chemical constituents of the atmosphere. Computing in Science and Engineering, 2002, 4, 56-63.	1.2	31
85	Cluster analysis of European surface ozone observations for evaluation of MACC reanalysis data. Atmospheric Chemistry and Physics, 2016, 16, 6863-6881.	1.9	31
86	Global Realâ€time Fire Emission Estimates Based on Spaceâ€borne Fire Radiative Power Observations. , 2009, , .		30
87	Isoprene-derived secondary organic aerosol in the global aerosolâ€“chemistryâ€“climate model ECHAM6.3.0â€“HAM2.3â€“MOZ1.0. Geoscientific Model Development, 2018, 11, 3235-3260.	1.3	30
88	Measurements of trace gases and photolysis frequencies during SLOPE96 and a coarse estimate of the local OH concentration from HNO3formation. Journal of Geophysical Research, 2000, 105, 1563-1583.	3.3	29
89	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.	3.3	27
90	Copernicus stratospheric ozone service, 2009â€“2012: validation, system intercomparison and roles of input data sets. Atmospheric Chemistry and Physics, 2015, 15, 2269-2293.	1.9	27

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91	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.	3.3	26
92	New Directions: GEIA's 2020 vision for better air emissions information. Atmospheric Environment, 2013, 81, 710-712.	1.9	25
93	Evaluating the impact of chemical boundary conditions on near surface ozone in regional climateâ€“air quality simulations over Europe. Atmospheric Research, 2013, 134, 116-130.	1.8	25
94	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.	1.9	24
95	An intercomparison of tropospheric ozone reanalysis products from CAMS, CAMS interim, TCR-1, and TCR-2. Geoscientific Model Development, 2020, 13, 1513-1544.	1.3	24
96	Intercomparison of NO, NO2, NOy, O3, and ROxmeasurements during the Oxidizing Capacity of the Tropospheric Atmosphere (OCTA) campaign 1993 at IzaÃ±a. Journal of Geophysical Research, 1998, 103, 13615-13634.	3.3	23
97	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.	1.3	23
98	IntelliO3-ts v1.0: a neural network approach to predict near-surface ozone concentrations in Germany. Geoscientific Model Development, 2021, 14, 1-25.	1.3	23
99	Chemical NOxbudget in the upper troposphere over the tropical South Pacific. Journal of Geophysical Research, 2000, 105, 6669-6679.	3.3	22
100	What causes the irregular cycle of the atmospheric tape recorder signal in HCN?. Geophysical Research Letters, 2010, 37, .	1.5	22
101	A photochemical modeling study of ozone and formaldehyde generation and budget in the Po basin. Journal of Geophysical Research, 2007, 112, .	3.3	21
102	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.	4.6	21
103	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, .	3.3	16
104	Tropospheric distribution of ozone and its precursors over the tropical Indian Ocean. Journal of Geophysical Research, 2003, 108, .	3.3	15
105	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.	1.9	14
106	Influence of various emission scenarios on ozone in Europe. Ecological Modelling, 2008, 217, 209-218.	1.2	12
107	Transport of tropospheric and stratospheric ozone over India: Balloon-borne observations and modeling analysis. Atmospheric Environment, 2016, 131, 228-242.	1.9	12
108	In situ temperature measurements in the upper troposphere and lowermost stratosphere from 2Âdecades of IAGOS long-term routine observation. Atmospheric Chemistry and Physics, 2017, 17, 12495-12508.	1.9	12

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109	AQ-Bench: a benchmark dataset for machine learning on global air quality metrics. Earth System Science Data, 2021, 13, 3013-3033.	3.7	12
110	Global, high-resolution mapping of tropospheric ozone â€“ explainable machine learning and impact of uncertainties. Geoscientific Model Development, 2022, 15, 4331-4354.	1.3	12
111	Trend detection of atmospheric time series. Elementa, 2021, 9, .	1.1	10
112	The sensitivity of Western European NO₂ columns to interannual variability of meteorology and emissions: a modelâ€"GOME study. Atmospheric Science Letters, 2008, 9, 182-188.	0.8	8
113	Open weather and climate science in the digital era. Geoscience Communication, 2020, 3, 191-201.	0.5	7
114	Climate change reduces warming potential of nitrous oxide by an enhanced Brewerâ€Dobson circulation. Geophysical Research Letters, 2016, 43, 5851-5859.	1.5	5
115	MLAir (v1.0) â€“ a tool to enable fast and flexible machine learning on air data time series. Geoscientific Model Development, 2021, 14, 1553-1574.	1.3	5
116	Context aware benchmarking and tuning of a TByte-scale air quality database and web service. Earth Science Informatics, 2021, 14, 1597-1607.	1.6	5
117	Observing and Understanding Tropospheric Ozone Changes: Tropospheric Ozone Changes Workshop; Boulder, Colorado, 14â€“16 October 2009. Eos, 2010, 91, 119.	0.1	4
118	Climatic impact of surface transport. Issues in Environmental Science and Technology, 0, , 111-128.	0.4	4
119	Peroxy acetyl nitrate (PAN) measurements at northern midlatitude mountain sites in April: a constraint on continental sourceâ€“receptor relationships. Atmospheric Chemistry and Physics, 2018, 18, 15345-15361.	1.9	3
120	Exploring decomposition of temporal patterns to facilitate learning of neural networks for ground-level daily maximum 8-hour average ozone prediction. , 2022, 1, .		3
121	The Chemistry Climate Model ECHAM6.3-HAM2.3-MOZ1.0. Geoscientific Model Development Discussions (GMDD), 0, , 1-43.	0.0	2
122	A Web Service Architecture for Objective Station Classification Purposes. , 2018, , .		1
123	How to develop new digital knowledge transfer products for communicating strategies and new ways towards a carbon-neutral Germany. Advances in Science and Research, 0, 19, 51-71.	1.0	1
124	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.	0.8	0