Johannes Flemming

List of Publications by Year
in descending order

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89 papers	16,012 citations	94269 37 h-index	51492 86 g-index
186 all docs	186 docs citations	186 times ranked	14253 citing authors

#	Article	IF	Citations
1	The ERA5 global reanalysis. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 1999-2049.	1.0	10,272
2	The CAMS reanalysis of atmospheric composition. Atmospheric Chemistry and Physics, 2019, 19, 3515-3556.	1.9	524
3	The MACC reanalysis: an 8 yr data set of atmospheric composition. Atmospheric Chemistry and Physics, 2013, 13, 4073-4109.	1.9	424
4	Online coupled regional meteorology chemistry models in Europe: current status and prospects. Atmospheric Chemistry and Physics, 2014, 14, 317-398.	1.9	271
5	Fire carbon emissions over maritime southeast Asia in 2015 largest since 1997. Scientific Reports, 2016, 6, 26886.	1.6	270
6	TOWARD A MONITORING AND FORECASTING SYSTEM FOR ATMOSPHERIC COMPOSITION. Bulletin of the American Meteorological Society, 2008, 89, 1147-1164.	1.7	253
7	Tropospheric chemistry in the Integrated Forecasting System of ECMWF. Geoscientific Model Development, 2015, 8, 975-1003.	1.3	204
8	Data assimilation in atmospheric chemistry models: current status and future prospects for coupled chemistry meteorology models. Atmospheric Chemistry and Physics, 2015, 15, 5325-5358.	1.9	201
9	Evaluation of operational on-line-coupled regional air quality models over Europe and North America in the context of AQMEII phase 2. Part I: Ozone. Atmospheric Environment, 2015, 115, 404-420.	1.9	168
10	Comparison of OMI NO₂ tropospheric columns with an ensemble of global and European regional air quality models. Atmospheric Chemistry and Physics, 2010, 10, 3273-3296.	1.9	165
11	Coupling global chemistry transport models to ECMWF's integrated forecast system. Geoscientific Model Development, 2009, 2, 253-265.	1.3	145
12	Evaluation of operational online-coupled regional air quality models over Europe and North America in the context of AQMEII phase 2. Part II: Particulate matter. Atmospheric Environment, 2015, 115, 421-441.	1.9	133
13	The CAMS interim Reanalysis of Carbon Monoxide, Ozone and Aerosol for 2003â€“2015. Atmospheric Chemistry and Physics, 2017, 17, 1945-1983.	1.9	127
14	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
15	Volcanic SO₂, 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
16	Multi-model study of chemical and physical controls on transport of anthropogenic and biomass burning pollution to the Arctic. Atmospheric Chemistry and Physics, 2015, 15, 3575-3603.	1.9	83
17	A new air quality regime classification scheme for O, NO, SO and PM10 observations sites. Atmospheric Environment, 2005, 39, 6121-6129.	1.9	76
18	Trace gas/aerosol boundary concentrations and their impacts on continental-scale AQMEII modeling domains. Atmospheric Environment, 2012, 53, 38-50.	1.9	72

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19	Description and evaluation of the tropospheric aerosol scheme in the European Centre for Medium-Range Weather Forecasts (ECMWF) Integrated Forecasting System (IFS-AER, cycle 45R1). Geoscientific Model Development, 2019, 12, 4627-4659.	1.3	71
20	Assessment of natural and anthropogenic aerosol air pollution in the Middle East using MERRA-2, CAMS data assimilation products, and high-resolution WRF-Chem model simulations. Atmospheric Chemistry and Physics, 2020, 20, 9281-9310.	1.9	71
21	Assessment and economic valuation of air pollution impacts on human health over Europe and the United States as calculated by a multi-model ensemble in the framework of AQMEII3. Atmospheric Chemistry and Physics, 2018, 18, 5967-5989.	1.9	68
22	Global model simulations of air pollution during the 2003 European heat wave. Atmospheric Chemistry and Physics, 2010, 10, 789-815.	1.9	67
23	Status and future of numerical atmospheric aerosol prediction with a focus on data requirements. Atmospheric Chemistry and Physics, 2018, 18, 10615-10643.	1.9	64
24	Hindcast experiments of tropospheric composition during the summer 2010 fires over western Russia. Atmospheric Chemistry and Physics, 2012, 12, 4341-4364.	1.9	62
25	The POLARCAT Model Intercomparison Project (POLMIP): overview and evaluation with observations. Atmospheric Chemistry and Physics, 2015, 15, 6721-6744.	1.9	62
26	Global Climate. Bulletin of the American Meteorological Society, 2020, 101, S9-S128.	1.7	61
27	Quantifying Emerging Local Anthropogenic Emissions in the Arctic Region: The ACCESS Aircraft Campaign Experiment. Bulletin of the American Meteorological Society, 2015, 96, 441-460.	1.7	60
28	Global reactive gases forecasts and reanalysis in the MACC project. Journal of Integrative Environmental Sciences, 2012, 9, 57-70.	1.0	59
29	Assessment of the MACC reanalysis and its influence as chemical boundary conditions for regional air quality modeling in AQMEII-2. Atmospheric Environment, 2015, 115, 371-388.	1.9	59
30	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
31	Estimating lockdown-induced European NO₂ changes using satellite and surface observations and air quality models. Atmospheric Chemistry and Physics, 2021, 21, 7373-7394.	1.9	55
32	HTAP2 multi-model estimates of premature human mortality due to intercontinental transport of air pollution and emission sectors. Atmospheric Chemistry and Physics, 2018, 18, 10497-10520.	1.9	54
33	Impact of intercontinental pollution transport on North American ozone air pollution: an HTAP phase 2 multi-model study. Atmospheric Chemistry and Physics, 2017, 17, 5721-5750.	1.9	51
34	Multi-model study of HTAPÂII on sulfur and nitrogen deposition. Atmospheric Chemistry and Physics, 2018, 18, 6847-6866.	1.9	49
35	The impact of future emission policies on tropospheric ozone using a parameterised approach. Atmospheric Chemistry and Physics, 2018, 18, 8953-8978.	1.9	47
36	Modeled deposition of nitrogen and sulfur in Europe estimated by 14 air quality model systems: evaluation, effects of changes in emissions and implications for habitat protection. Atmospheric Chemistry and Physics, 2018, 18, 10199-10218.	1.9	47

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37	Impacts of different characterizations of large-scale background on simulated regional-scale ozone over the continental United States. Atmospheric Chemistry and Physics, 2018, 18, 3839-3864.	1.9	45
38	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
39	Volcanic sulfur dioxide plume forecasts based on UV satellite retrievals for the 2011 GrÃmsvÃ¶tn and the 2010 EyjafjallajÃ¶kull eruption. Journal of Geophysical Research D: Atmospheres, 2013, 118, 10,172.	1.2	43
40	Feedbacks of dust and boundary layer meteorology during a dust storm in the eastern Mediterranean. Atmospheric Chemistry and Physics, 2015, 15, 12909-12933.	1.9	43
41	Biomass burning influence on high-latitude tropospheric ozone and reactive nitrogen in summer 2008: a multi-model analysis based on POLMIP simulations. Atmospheric Chemistry and Physics, 2015, 15, 6047-6068.	1.9	43
42	Global and regional radiative forcing from 20â€¯% reductions in BC, OC and SO₄ â€“ an HTAP2 multi-model study. Atmospheric Chemistry and Physics, 2016, 16, 13579-13599.	1.9	42
43	An aerosol climatology for global models based on the tropospheric aerosol scheme in the Integrated Forecasting System of ECMWF. Geoscientific Model Development, 2020, 13, 1007-1034.	1.3	40
44	Ensemble forecasts of air quality in eastern China â€“ Part 1: Model description and implementation of the MarcoPoloâ€“Panda prediction system, version 1. Geoscientific Model Development, 2019, 12, 33-67.	1.3	39
45	Exceptionally Low Arctic Stratospheric Ozone in Spring 2020 as Seen in the CAMS Reanalysis. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD033563.	1.2	37
46	Global mass fixer algorithms for conservative tracer transport in the ECMWF model. Geoscientific Model Development, 2014, 7, 965-979.	1.3	37
47	Evaluation of near-surface ozone over Europe from the MACC reanalysis. Geoscientific Model Development, 2015, 8, 2299-2314.	1.3	34
48	A deep stratosphere-to-troposphere ozone transport event over Europe simulated in CAMS global and regional forecast systems: analysis and evaluation. Atmospheric Chemistry and Physics, 2018, 18, 15515-15534.	1.9	34
49	Cloud impacts on photochemistry: building a climatology of photolysis rates from the Atmospheric Tomography mission. Atmospheric Chemistry and Physics, 2018, 18, 16809-16828.	1.9	34
50	The effects of intercontinental emission sources on European air pollution levels. Atmospheric Chemistry and Physics, 2018, 18, 13655-13672.	1.9	34
51	Forecasts and assimilation experiments of the Antarctic ozone hole 2008. Atmospheric Chemistry and Physics, 2011, 11, 1961-1977.	1.9	33
52	Quantifying uncertainties due to chemistry modelling â€“ evaluation of tropospheric composition simulations in the CAMS model (cycle 43R1). Geoscientific Model Development, 2019, 12, 1725-1752.	1.3	33
53	Influence of anthropogenic emissions and boundary conditions on multi-model simulations of major air pollutants over Europe and North America in the framework of AQMEII3. Atmospheric Chemistry and Physics, 2018, 18, 8929-8952.	1.9	32
54	The ENSO signal in atmospheric composition fields: emission-driven versus dynamically induced changes. Atmospheric Chemistry and Physics, 2015, 15, 9083-9097.	1.9	30

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55	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
56	Quantifying the causes of differences in tropospheric OH within global models. Journal of Geophysical Research D: Atmospheres, 2017, 122, 1983-2007.	1.2	27
57	Key Issues for Seamless Integrated Chemistryâ€"Meteorology Modeling. Bulletin of the American Meteorological Society, 2017, 98, 2285-2292.	1.7	27
58	The impact of reducing the maximum speed limit on motorways in Switzerland to 80km hâˆ'1 on emissions and peak ozone. Environmental Modelling and Software, 2008, 23, 322-332.	1.9	26
59	Study of SO Pollution in the Middle East Using MERRAâ€2, CAMS Data Assimilation Products, and Highâ€Resolution WRFâ€Chem Simulations. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD031993.	1.2	26
60	Coordinated Airborne Studies in the Tropics (CAST). Bulletin of the American Meteorological Society, 2017, 98, 145-162.	1.7	25
61	Ensemble forecasts of air quality in eastern China â€" Part 2: Evaluation of the MarcoPoloâ€"Panda prediction system, version 1. Geoscientific Model Development, 2019, 12, 1241-1266.	1.3	25
62	C-IFS-CB05-BASCOE: stratospheric chemistry in the Integrated Forecasting System of ECMWF. Geoscientific Model Development, 2016, 9, 3071-3091.	1.3	24
63	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
64	Insights into the deterministic skill of air quality ensembles from the analysis of AQMEII data. Atmospheric Chemistry and Physics, 2016, 16, 15629-15652.	1.9	23
65	Surface ozone in the Doon Valley of the Himalayan foothills during spring. Environmental Science and Pollution Research, 2019, 26, 19155-19170.	2.7	23
66	Contributions of World Regions to the Global Tropospheric Ozone Burden Change From 1980 to 2010. Geophysical Research Letters, 2021, 48, .	1.5	22
67	Evaluation of the MACC operational forecast system â€" potential and challenges of global near-real-time modelling with respect to reactive gases in the troposphere. Atmospheric Chemistry and Physics, 2015, 15, 14005-14030.	1.9	21
68	Source contributions to sulfur and nitrogen deposition â€" an HTAP II multi-model study on hemispheric transport. Atmospheric Chemistry and Physics, 2018, 18, 12223-12240.	1.9	21
69	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.	1.9	20
70	A complex aerosol transport event over Europe during the 2017 Storm Ophelia in CAMS forecast systems: analysis and evaluation. Atmospheric Chemistry and Physics, 2020, 20, 13557-13578.	1.9	19
71	An observationally constrained evaluation of the oxidative capacity in the tropical western Pacific troposphere. Journal of Geophysical Research D: Atmospheres, 2016, 121, 7461-7488.	1.2	18
72	Evaluation of the CAMS global atmospheric trace gas reanalysis 2003â€"2016 using aircraft campaign observations. Atmospheric Chemistry and Physics, 2020, 20, 4493-4521.	1.9	16

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73	Technical note: AQMEII4 Activity 1: evaluation of wet and dry deposition schemes as an integral part of regional-scale air quality models. Atmospheric Chemistry and Physics, 2021, 21, 15663-15697.	1.9	14
74	A Global Climatology of Tropopause Folds in CAMS and MERRAâ€2 Reanalyses. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD034115.	1.2	12
75	Comprehensive evaluation of the Copernicus Atmosphere Monitoring Service (CAMS) reanalysis against independent observations. Elementa, 2021, 9, .	1.1	11
76	On the use of MOZAIC-IAGOS data to assess the ability of the MACC reanalysis to reproduce the distribution of ozone and CO in the UTLS over Europe. Tellus, Series B: Chemical and Physical Meteorology, 2022, 67, 27955.	0.8	11
77	Trends in sulfur dioxide over the Indian subcontinent during 2003â€"2019. Atmospheric Environment, 2022, 284, 119189.	1.9	11
78	Two-scale multi-model ensemble: is a hybrid ensemble of opportunity telling us more?. Atmospheric Chemistry and Physics, 2018, 18, 8727-8744.	1.9	10
79	Evaluating the assimilation of S5P/TROPOMI near real-time SO₂ 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.	1.3	9
80	Description and evaluation of the tropospheric aerosol scheme in the Integrated Forecasting System (IFS-AER, cycle 47R1) of ECMWF. Geoscientific Model Development, 2022, 15, 4881-4912.	1.3	8
81	Disentangling drivers of air pollutant and health risk changes during the COVID-19 lockdown in China. Npj Climate and Atmospheric Science, 2022, 5, .	2.6	6
82	A benchmark for testing the accuracy and computational cost of shortwave top-of-atmosphere reflectance calculations in clear-sky aerosol-laden atmospheres. Geoscientific Model Development, 2019, 12, 805-827.	1.3	5
83	A stratospheric prognostic ozone for seamless Earth system models: performance, impacts and future. Atmospheric Chemistry and Physics, 2022, 22, 4277-4302.	1.9	5
84	A process-oriented evaluation of CAMS reanalysis ozone during tropopause folds over Europe for the period 2003â€"2018. Atmospheric Chemistry and Physics, 2022, 22, 6275-6289.	1.9	4
85	Coupling Global Atmospheric Chemistry Transport Models to ECMWF Integrated Forecasts System for Forecast and Data Assimilation Within GEMS. , 2010, , 109-123.		3
86	Global nature run data with realistic high-resolution carbon weather for the year of the Paris Agreement. Scientific Data, 2022, 9, 160.	2.4	3
87	Regional evaluation of the performance of the global CAMS chemical modeling system over the United States (IFS cycle 47r1). Geoscientific Model Development, 2022, 15, 4657-4687.	1.3	3
88	Modeling an extreme dust deposition event to the French alpine seasonal snowpack in April 2018: Meteorological context and predictions of dust deposition. Journal of Geophysical Research D: Atmospheres, 0, , .	1.2	2
89	An Assessment of Near Surface Ozone Over Europe from the Global CAMS Interim Reanalysis. Springer Atmospheric Sciences, 2017, , 969-974.	0.4	0