

Ralf Wolke

List of Publications by Year in descending order

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172207

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docs citations

123
times ranked

3454
citing authors

#	ARTICLE	IF	CITATIONS
1	The Effect of Land Use Classification on the Gas-Phase and Particle Composition of the Troposphere: Tree Species Versus Forest Type Information. <i>Journal of Geophysical Research D: Atmospheres</i> , 2022, 127, .	1.2	3
2	A new Lagrangian in-time particle simulation module (Itpas v1) for atmospheric particle dispersion. <i>Geoscientific Model Development</i> , 2021, 14, 2205-2220.	1.3	4
3	Estimating Aerosol Loads and Aerosol-Cloud-Interaction in the 1980s and Today. <i>Springer Proceedings in Complexity</i> , 2021, , 25-30.	0.2	0
4	Biogenic Emissions and Urban Air Quality. <i>Springer Proceedings in Complexity</i> , 2021, , 11-17.	0.2	1
5	Technical note: AQMEII4 Activity 1: evaluation of wet and dry deposition schemes as an integral part of regional-scale air quality models. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 15663-15697.	1.9	14
6	Natural sea-salt emissions moderate the climate forcing of anthropogenic nitrate. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 771-786.	1.9	12
7	Treatment of non-ideality in the SPACCIM multiphase model – Part 2: Impacts on the multiphase chemical processing in deliquesced aerosol particles. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 10351-10377.	1.9	8
8	CAPRAM reduction towards an operational multiphase halogen and dimethyl sulfide chemistry treatment in the chemistry transport model COSMO-MUSCAT(5.04e). <i>Geoscientific Model Development</i> , 2020, 13, 2587-2609.	1.3	6
9	Development of a protocol for the auto-generation of explicit aqueous-phase oxidation schemes of organic compounds. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 9209-9239.	1.9	28
10	Near-Explicit Multiphase Modeling of Halogen Chemistry in a Mixed Urban and Maritime Coastal Area. <i>ACS Earth and Space Chemistry</i> , 2019, 3, 2452-2471.	1.2	10
11	Do new sea spray aerosol source functions improve the results of a regional aerosol model?. <i>Atmospheric Environment</i> , 2019, 198, 265-278.	1.9	19
12	Enhanced Chlorine and Bromine Atom Activation by Hydrolysis of Halogen Nitrates from Marine Aerosols at Polluted Coastal Areas. <i>Environmental Science & Technology</i> , 2019, 53, 771-778.	4.6	15
13	Oxidation of substituted aromatic hydrocarbons in the tropospheric aqueous phase: kinetic mechanism development and modelling. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 10960-10977.	1.3	48
14	An assessment of aerosol optical properties from remote-sensing observations and regional chemistry-climate coupled models over Europe. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 5021-5043.	1.9	18
15	A parameterization of the heterogeneous hydrolysis of N_2O_5 for mass-based aerosol models: improvement of particulate nitrate prediction. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 673-689.	1.9	35
16	Kinetic Modeling of SOA Formation for α - and β -Pinene. <i>Springer Proceedings in Complexity</i> , 2018, , 559-564.	0.2	0
17	Modelling Multiphase Aerosol-Cloud Processing with the 3-D CTM COSMO-MUSCAT: Application for Cloud Events During HCCT-2010. <i>Springer Proceedings in Complexity</i> , 2018, , 587-592.	0.2	1
18	Kinetic modeling studies of SOA formation from α - and β -pinene ozonolysis. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 13187-13211.	1.9	8

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19	Regional effects of atmospheric aerosols on temperature: an evaluation of an ensemble of online coupled models. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 9677-9696.	1.9	14
20	Implementation of aerosol-cloud interactions in the regional atmosphere-aerosol model COSMO-MUSCAT(5.0) and evaluation using satellite data. <i>Geoscientific Model Development</i> , 2017, 10, 2231-2246.	1.3	10
21	An advanced modeling study on the impacts and atmospheric implications of multiphase dimethyl sulfide chemistry. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 11776-11781.	3.3	170
22	Sea salt emission, transport and influence on size-segregated nitrate simulation: a case study in northwestern Europe by WRF-Chem. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 12081-12097.	1.9	33
23	Evaluation of the size segregation of elemental carbon (EC) emission in Europe: influence on the simulation of EC long-range transportation. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 1823-1835.	1.9	17
24	Insights into the deterministic skill of air quality ensembles from the analysis of AQMEII data. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 15629-15652.	1.9	23
25	A Multi-model Case Study on Aerosol Feedbacks in Online Coupled Chemistry-Meteorology Models Within the COST Action ES1004 EuMetChem. <i>Springer Proceedings in Complexity</i> , 2016, , 23-28.	0.2	6
26	Treatment of non-ideality in the SPACCIM multiphase model - Part 1: Model development. <i>Geoscientific Model Development</i> , 2016, 9, 247-281.	1.3	6
27	Regional Scale Dispersion Modelling of Amines from Industrial CCS Processes with COSMO-MUSCAT. <i>Springer Proceedings in Complexity</i> , 2016, , 259-263.	0.2	0
28	Assessment of the MACC reanalysis and its influence as chemical boundary conditions for regional air quality modeling in AQMEII-2. <i>Atmospheric Environment</i> , 2015, 115, 371-388.	1.9	59
29	Comparative analysis of meteorological performance of coupled chemistry-meteorology models in the context of AQMEII phase 2. <i>Atmospheric Environment</i> , 2015, 115, 470-498.	1.9	85
30	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. <i>Atmospheric Environment</i> , 2015, 115, 404-420.	1.9	168
31	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. <i>Atmospheric Environment</i> , 2015, 115, 421-441.	1.9	133
32	Uncertainties of simulated aerosol optical properties induced by assumptions on aerosol physical and chemical properties: An AQMEII-2 perspective. <i>Atmospheric Environment</i> , 2015, 115, 541-552.	1.9	84
33	Modeling the multiphase processing of an urban and a rural air mass with COSMO-MUSCAT. <i>Urban Climate</i> , 2014, 10, 720-731.	2.4	6
34	Comprehensive assessment of meteorological conditions and airflow connectivity during HCCT-2010. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 9105-9128.	1.9	15
35	Influence of Grid Resolution and Biomass Burning Emissions on Air Quality Simulations: A Sensitivity Study with the Modelling System COSMO-MUSCAT. <i>NATO Science for Peace and Security Series C: Environmental Security</i> , 2014, , 559-563.	0.1	0
36	Mechanism development and modelling of tropospheric multiphase halogen chemistry: The CAPRAM Halogen Module 2.0 (HM2). <i>Journal of Atmospheric Chemistry</i> , 2013, 70, 19-52.	1.4	29

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37	Modelling multiphase chemistry in deliquescent aerosols and clouds using CAPRAM3.0i. <i>Journal of Atmospheric Chemistry</i> , 2013, 70, 221-256.	1.4	59
38	Detection of odor sources and high concentrations of pollutants in the Ore Mountains by modeling of air mass paths. <i>Meteorologische Zeitschrift</i> , 2013, 22, 213-220.	0.5	2
39	Implementation of multirate time integration methods for air pollution modelling. <i>Geoscientific Model Development</i> , 2012, 5, 1395-1405.	1.3	13
40	Numerical solution of multiscale problems in atmospheric modeling. <i>Applied Numerical Mathematics</i> , 2012, 62, 1531-1543.	1.2	14
41	Direct and semi-implicit radiative effects of absorbing aerosols in Europe: Results from a regional model. <i>Geophysical Research Letters</i> , 2012, 39, .	1.5	23
42	Simulations of the 2010 Eyjafjallajökull volcanic ash dispersal over Europe using COSMO-MUSCAT. <i>Atmospheric Environment</i> , 2012, 48, 195-204.	1.9	27
43	A regional model of European aerosol transport: Evaluation with sun photometer, lidar and air quality data. <i>Atmospheric Environment</i> , 2012, 47, 519-532.	1.9	15
44	Evaluation of the meteorological forcing used for the Air Quality Model Evaluation International Initiative (AQMEII) air quality simulations. <i>Atmospheric Environment</i> , 2012, 53, 15-37.	1.9	111
45	Model evaluation and ensemble modelling of surface-level ozone in Europe and North America in the context of AQMEII. <i>Atmospheric Environment</i> , 2012, 53, 60-74.	1.9	192
46	Operational model evaluation for particulate matter in Europe and North America in the context of AQMEII. <i>Atmospheric Environment</i> , 2012, 53, 75-92.	1.9	214
47	Influence of grid resolution and meteorological forcing on simulated European air quality: A sensitivity study with the modeling system COSMO-MUSCAT. <i>Atmospheric Environment</i> , 2012, 53, 110-130.	1.9	82
48	Highly Scalable Dynamic Load Balancing in the Atmospheric Modeling System COSMO-SPECS+FD4. <i>Lecture Notes in Computer Science</i> , 2012, , 131-141.	1.0	13
49	The Impact of Meteorological Uncertainties on the Prediction of PM in Urban Areas. <i>NATO Science for Peace and Security Series C: Environmental Security</i> , 2011, , 473-477.	0.1	0
50	Modelling the formation and atmospheric transport of secondary inorganic aerosols with special attention to regions with high ammonia emissions. <i>Atmospheric Environment</i> , 2010, 44, 1904-1912.	1.9	59
51	FD4: A Framework for Highly Scalable Load Balancing and Coupling of Multiphase Models. <i>AIP Conference Proceedings</i> , 2010, , .	0.3	3
52	Multirate Implicit-Explicit Time Integration Schemes in Atmospheric Modelling. , 2010, , .		1
53	Towards an operational aqueous phase chemistry mechanism for regional chemistry-transport models: CAPRAM-RED and its application to the COSMO-MUSCAT model. <i>Journal of Atmospheric Chemistry</i> , 2009, 64, 1-35.	1.4	25
54	Formation of secondary inorganic aerosols by power plant emissions exhausted through cooling towers in Saxony. <i>Environmental Science and Pollution Research</i> , 2009, 16, 25-35.	2.7	21

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55	Multirate Runge-Kutta schemes for advection equations. <i>Journal of Computational and Applied Mathematics</i> , 2009, 226, 345-357.	1.1	42
56	Optimizing the coupling in parallel air quality model systems. <i>Environmental Modelling and Software</i> , 2008, 23, 235-243.	1.9	17
57	A model inter-comparison study focussing on episodes with elevated PM10 concentrations. <i>Atmospheric Environment</i> , 2008, 42, 4567-4588.	1.9	242
58	Numerical Treatment of Urban and Regional Scale Interactions in Chemistry-Transport Modelling. <i>NATO Security Through Science Series C: Environmental Security</i> , 2008, , 90-97.	0.1	1
59	Formation of Secondary Inorganic Aerosols by High Ammonia Emissions Simulated by LM/MUSCAT. <i>NATO Security Through Science Series C: Environmental Security</i> , 2008, , 522-529.	0.1	4
60	Capram Modeling Of Aqueous Aerosol And Cloud Chemistry. <i>NATO Science for Peace and Security Series C: Environmental Security</i> , 2008, , 107-122.	0.1	0
61	Chapter 5.5 Modeling of Saharan dust events within SAMUM: Implications for regional radiation balance and mesoscale circulation. <i>Developments in Environmental Science</i> , 2007, , 523-533.	0.5	2
62	Chapter 5.14 Mixing of plumes with ambient background air: Effects of particle size variations close to the source. <i>Developments in Environmental Science</i> , 2007, 6, 621-630.	0.5	0
63	Poster 27 Modeling of Saharan dust events within SAMUM: On the description of the Saharan dust cycle using LM-MUSCAT. <i>Developments in Environmental Science</i> , 2007, , 817-819.	0.5	0
64	Poster 28 An improved coupling scheme in the parallel modelling system LM-MUSCAT. <i>Developments in Environmental Science</i> , 2007, 6, 820-822.	0.5	0
65	Regional modeling of Saharan dust events using LM-MUSCAT: Model description and case studies. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	85
66	FEBUKO and MODMEP: Field measurements and modelling of aerosol and cloud multiphase processes. <i>Atmospheric Environment</i> , 2005, 39, 4169-4183.	1.9	58
67	Introduction to FEBUKO and MODMEP. <i>Atmospheric Environment</i> , 2005, 39, 4167.	1.9	2
68	SPACCIM: Simulations of the multiphase chemistry occurring in the FEBUKO hill cap cloud experiments. <i>Atmospheric Environment</i> , 2005, 39, 4389-4401.	1.9	36
69	Meteorological characterisation of the FEBUKO hill cap cloud experiments, Part II: Tracer experiments and flow characterisation with nested non-hydrostatic atmospheric models. <i>Atmospheric Environment</i> , 2005, 39, 4195-4207.	1.9	18
70	SPACCIM: A parcel model with detailed microphysics and complex multiphase chemistry. <i>Atmospheric Environment</i> , 2005, 39, 4375-4388.	1.9	64
71	Comparison of different model approaches for the simulation of multiphase processes. <i>Atmospheric Environment</i> , 2005, 39, 4403-4417.	1.9	26
72	The parallel model system LM-MUSCAT for chemistry-transport simulations: Coupling scheme, parallelization and applications. <i>Advances in Parallel Computing</i> , 2004, , 363-369.	0.3	32

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73	Numerical Treatment of Aqueous-Phase Chemistry in Atmospheric Chemistry-Transport Modelling. , 2004, , 399-407.		2
74	The Chemistry-Transport Modeling System Im-Muscat: Description and citydelta Applications. , 2004, , 427-439.		22
75	Flow and Transport in the Obstacle Layer: First Results of the Micro-Scale Model MITRAS. Journal of Atmospheric Chemistry, 2003, 44, 113-130.	1.4	49
76	CAPRAM 2.4 (MODAC mechanism): An extended and condensed tropospheric aqueous phase mechanism and its application. Journal of Geophysical Research, 2003, 108, .	3.3	186
77	Variations of CH ₂ O and C ₂ H ₂ determined from ground-based FTIR measurements and comparison with model results. Advances in Space Research, 2002, 29, 1713-1718.	1.2	9
78	Time-integration of multiphase chemistry in size-resolved cloud models. Applied Numerical Mathematics, 2002, 42, 473-487.	1.2	11
79	MODELING STUDY ON CHEMISTRY OF HALOGENS IN MARINE AEROSOLS. Journal of Aerosol Science, 2001, 32, 303-304.	1.8	0
80	Implicitâ€“explicit Rungeâ€“Kutta methods applied to atmospheric chemistry-transport modelling. Environmental Modelling and Software, 2000, 15, 711-719.	1.9	37
81	CAPRAM2.3: A Chemical Aqueous Phase Radical Mechanism for Tropospheric Chemistry. Journal of Atmospheric Chemistry, 2000, 36, 231-284.	1.4	253
82	Online Coupling of Multiscale Chemistry-Transport Models with Non-Hydrostatic Meteorological Models. , 2000, , 769-770.		1
83	A chemical aqueous phase radical mechanism for tropospheric chemistry. Chemosphere, 1999, 38, 1223-1232.	4.2	50
84	An explicitâ€“implicit numerical approach for atmospheric chemistryâ€“transport modeling. Atmospheric Environment, 1998, 32, 1785-1797.	1.9	37
85	Implicit-explicit Runge-Kutta methods for computing atmospheric reactive flows. Applied Numerical Mathematics, 1998, 28, 327-341.	1.2	47
86	An Implicit-Explicit Algorithm for Chemistry-Transport Models. , 1996, , 655-656.		0
87	Numerical methods for the solution of large kinetic systems. Applied Numerical Mathematics, 1995, 18, 211-221.	1.2	8
88	A Comparison of Fast Chemical Kinetic Solvers in a Simple Vertical Diffusion Model. , 1994, , 287-294.		6
89	Iteratively reweighted least squares: A comparison of several single step algorithms for linear models. BIT Numerical Mathematics, 1992, 32, 506-524.	1.0	16
90	Regularization of a Volterra integral equation by linear inequalities. Computing (Vienna/New York), 1990, 43, 361-375.	3.2	4

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91	Iteratively Reweighted Least Squares: Algorithms, Convergence Analysis, and Numerical Comparisons. SIAM Journal on Scientific and Statistical Computing, 1988, 9, 907-921.	1.5	143
92	APPLICATIONS OF MESOSCALE MODELS FOR AIR POLLUTION RESEARCH. , 0, , 161-198.		0