Rolf Sander

List of Publications by Year
in descending order

110 papers	12,582 citations	43973 48 h-index	31759 101 g-index
188 all docs	188 docs citations	188 times ranked	9544 citing authors

#	Article	IF	Citations
1	Simulation of organics in the atmosphere: evaluation of EMACv2.54 with the Mainz Organic Mechanism (MOM) coupled to the ORACLE (v1.0) submodel. Geoscientific Model Development, 2022, 15, 2673-2710.	1.3	13
2	Henryâ€™s law constants (IUPAC Recommendations 2021). Pure and Applied Chemistry, 2022, 94, 71-85.	0.9	37
3	Description and evaluation of the community aerosol dynamics model MAFOR v2.0. Geoscientific Model Development, 2022, 15, 3969-4026.	1.3	7
4	Influence of aromatics on tropospheric gas-phase composition. Atmospheric Chemistry and Physics, 2021, 21, 2615-2636.	1.9	19
5	Halogen activation in the plume of Masaya volcano: field observations and box model investigations. Atmospheric Chemistry and Physics, 2021, 21, 3371-3393.	1.9	10
6	Ubiquitous atmospheric production of organic acids mediated by cloud droplets. Nature, 2021, 593, 233-237.	13.7	71
7	Oxidation of low-molecular-weight organic compounds in cloud droplets: global impact on tropospheric oxidants. Atmospheric Chemistry and Physics, 2021, 21, 9909-9930.	1.9	7
8	Oxidation of low-molecular-weight organic compounds in cloud droplets: development of the JÃ¼lich Aqueous-phase Mechanism of Organic Chemistry (JAMOC) in CAABA/MECCA (version 4.5.0). Geoscientific Model Development, 2021, 14, 4103-4115.	1.3	8
9	Impact of pyruvic acid photolysis on acetaldehyde and peroxy radical formation in the boreal forest: theoretical calculations and model results. Atmospheric Chemistry and Physics, 2021, 21, 14333-14349.	1.9	1
10	The community atmospheric chemistry box model CAABA/MECCA-4.0. Geoscientific Model Development, 2019, 12, 1365-1385.	1.3	54
11	Oxidation processes in the eastern Mediterranean atmosphere: evidence from the modelling of HO_{<i>x</i>} measurements over Cyprus. Atmospheric Chemistry and Physics, 2018, 18, 10825-10847.	1.9	35
12	Accelerating simulations using REDCHEM_v0.0 for atmospheric chemistry mechanism reduction. Geoscientific Model Development, 2018, 11, 3391-3407.	1.3	4
13	Atmospheric chemistry, sources and sinks of carbon suboxide, C₃O₂. Atmospheric Chemistry and Physics, 2017, 17, 8789-8804.	1.9	6
14	Volatile organic compounds (VOCs) in photochemically aged air from the eastern and western Mediterranean. Atmospheric Chemistry and Physics, 2017, 17, 9547-9566.	1.9	35
15	Implementation of the Community Earth System Model (CESM) version 1.2.1 as a new base model into version 2.50 of the MESSy framework. Geoscientific Model Development, 2016, 9, 125-135.	1.3	11
16	Earth System Chemistry integrated Modelling (ESCiMo) with the Modular Earth Submodel System (MESSy) versionÂ2.51. Geoscientific Model Development, 2016, 9, 1153-1200.	1.3	208
17	Evaluation of simulated photolysis rates and their response to solar irradiance variability. Journal of Geophysical Research D: Atmospheres, 2016, 121, 6066-6084.	1.2	27
18	Global atmospheric budget of simple monocyclic aromatic compounds. Atmospheric Chemistry and Physics, 2016, 16, 6931-6947.	1.9	48

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19	A Mechanism for Halogen Release from Sea-Salt Aerosol in the Remote Marine Boundary Layer. SpringerBriefs on Pioneers in Science and Practice, 2016, , 189-196.	0.2	0
20	Compilation of Henry's law constants (version 4.0) for water as solvent. Atmospheric Chemistry and Physics, 2015, 15, 4399-4981.	1.9	2,039
21	Origins of aerosol chlorine during winter over north central Colorado, USA. Journal of Geophysical Research D: Atmospheres, 2015, 120, 678-694.	1.2	30
22	The photolysis module JVAL-14, compatible with the MESSy standard, and the JVal PreProcessor (JVPP). Geoscientific Model Development, 2014, 7, 2653-2662.	1.3	55
23	Meteorology during the DOMINO campaign and its connection with trace gases and aerosols. Atmospheric Chemistry and Physics, 2014, 14, 2325-2342.	1.9	11
24	Observation and modelling of HO_x radicals in a boreal forest. Atmospheric Chemistry and Physics, 2014, 14, 8723-8747.	1.9	109
25	Sensitivity of tropospheric chemical composition to halogen-radical chemistry using a fully coupled size-resolved multiphase chemistryâ€“global climate system: halogen distributions, aerosol composition, and sensitivity of climate-relevant gases. Atmospheric Chemistry and Physics, 2014, 14, 3397-3425.	1.9	56
26	New tracer compounds for secondary organic aerosol formation from Î²-caryophyllene oxidation. Atmospheric Environment, 2013, 80, 122-130.	1.9	35
27	The MPI-Mainz UV/VIS Spectral Atlas of Gaseous Molecules of Atmospheric Interest. Earth System Science Data, 2013, 5, 365-373.	3.7	323
28	Gas phase acid, ammonia and aerosol ionic and trace element concentrations at Cape Verde during the Reactive Halogens in the Marine Boundary Layer (RHaMBLe) 2007 intensive sampling period. Earth System Science Data, 2013, 5, 385-392.	3.7	15
29	Implementation of the chemistry module MECCA (v2.5) in the modal aerosol version of the Community Atmosphere Model component (v3.6.33) of the Community Earth System Model. Geoscientific Model Development, 2013, 6, 255-262.	1.3	8
30	HO_x measurements in the summertime upper troposphere over Europe: a comparison of observations to a box model and a 3-D model. Atmospheric Chemistry and Physics, 2013, 13, 10703-10720.	1.9	19
31	Phase partitioning of soluble trace gases with sizeâ€resolved aerosols in nearâ€surface continental air over northern Colorado, USA, during winter. Journal of Geophysical Research D: Atmospheres, 2013, 118, 9414-9427.	1.2	56
32	Tropospheric BrO column densities in the Arctic derived from satellite: retrieval and comparison to ground-based measurements. Atmospheric Measurement Techniques, 2012, 5, 2779-2807.	1.2	43
33	Case study of the diurnal variability of chemically active species with respect to boundary layer dynamics during DOMINO. Atmospheric Chemistry and Physics, 2012, 12, 5329-5341.	1.9	35
34	Impact of the Manaus urban plume on trace gas mixing ratios near the surface in the Amazon Basin: Implications for the NOâ€NO₂â€O₃ photostationary state and peroxy radical levels. Journal of Geophysical Research, 2012, 117, .	3.3	29
35	A compilation of tropospheric measurements of gas-phase and aerosol chemistry in polar regions. Earth System Science Data, 2012, 4, 215-282.	3.7	14
36	The vertical distribution of BrO and aerosols in the Arctic: Measurements by active and passive differential optical absorption spectroscopy. Journal of Geophysical Research, 2011, 116, .	3.3	123

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37	A comparison of Arctic BrO measurements by chemical ionization mass spectrometry and long path-differential optical absorption spectroscopy. Journal of Geophysical Research, 2011, 116, .	3.3	105
38	Chemical Mechanism Solvers in Air Quality Models. Atmosphere, 2011, 2, 510-532.	1.0	25
39	Simulation of the diurnal variations of the oxygen isotope anomaly (Î”¹⁷O) of reactive atmospheric species. Atmospheric Chemistry and Physics, 2011, 11, 3653-3671.	1.9	66
40	Corrigendum to "Oxidation photochemistry in the Southern Atlantic boundary layer: unexpected deviations of photochemical steady state" published in Atmos. Chem. Phys., 11, 8497â€“8513, 2011. Atmospheric Chemistry and Physics, 2011, 11, 8825-8826.	1.9	0
41	Editorial Note "Î±-Pinene nitrates: synthesis, yields and atmospheric chemistry'' published in Atmos. Chem. Phys., 11, 6337â€“6347, 2011. Atmospheric Chemistry and Physics, 2011, 11, 12065-12065.	1.9	2
42	Distribution of hydrogen peroxide and formaldehyde over Central Europe during the HOOVER project. Atmospheric Chemistry and Physics, 2011, 11, 4391-4410.	1.9	55
43	HOCl and Cl₂ observations in marine air. Atmospheric Chemistry and Physics, 2011, 11, 7617-7628.	1.9	109
44	Oxidation photochemistry in the Southern Atlantic boundary layer: unexpected deviations of photochemical steady state. Atmospheric Chemistry and Physics, 2011, 11, 8497-8513.	1.9	68
45	The atmospheric chemistry box model CAABA/MECCA-3.0. Geoscientific Model Development, 2011, 4, 373-380.	1.3	161
46	Assessing the effect of marine isoprene and ship emissions on ozone, using modelling and measurements from the South Atlantic Ocean. Environmental Chemistry, 2010, 7, 171.	0.7	26
47	Introducing the bromide/alkalinity ratio for a follow-up discussion on "Precipitation of salts in freezing seawater and ozone depletion events: a status report", by Morin et al., published in Atmos. Chem. Phys., 8, 7317â€“7324, 2008. Atmospheric Chemistry and Physics, 2010, 10, 7655-7658.	1.9	10
48	Reactive Halogens in the Marine Boundary Layer (RHaMBLe): the tropical North Atlantic experiments. Atmospheric Chemistry and Physics, 2010, 10, 1031-1055.	1.9	66
49	Impact of dust on tropospheric chemistry over polluted regions: a case study of the Beijing megacity. Atmospheric Chemistry and Physics, 2010, 10, 3855-3873.	1.9	47
50	Hydroxyl radicals in the tropical troposphere over the Suriname rainforest: comparison of measurements with the box model MECCA. Atmospheric Chemistry and Physics, 2010, 10, 9705-9728.	1.9	110
51	Development cycle 2 of the Modular Earth Submodel System (MESSy2). Geoscientific Model Development, 2010, 3, 717-752.	1.3	398
52	A fast stratospheric chemistry solver: the E4CHEM submodel for the atmospheric chemistry global circulation model EMAC. Geoscientific Model Development, 2010, 3, 321-328.	1.3	2
53	A kinetic chemistry tagging technique and its application to modelling the stable isotopic composition of atmospheric trace gases. Geoscientific Model Development, 2010, 3, 337-364.	1.3	41
54	Quantifying atmospheric transport, chemistry, and mixing using a new trajectory-box model and a global atmospheric-chemistry GCM. Geoscientific Model Development, 2009, 2, 267-280.	1.3	7

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55	Mainz Isoprene Mechanism 2 (MIM2): an isoprene oxidation mechanism for regional and global atmospheric modelling. Atmospheric Chemistry and Physics, 2009, 9, 2751-2777.	1.9	112
56	Latitudinal variation in the multiphase chemical processing of inorganic halogens and related species over the eastern North and South Atlantic Oceans. Atmospheric Chemistry and Physics, 2009, 9, 7361-7385.	1.9	68
57	Photochemical production of hydroxyl radical and hydroperoxides in water extracts of nascent marine aerosols produced by bursting bubbles from Sargasso seawater. Geophysical Research Letters, 2008, 35, .	1.5	45
58	A threeâ€dimensional model study on the production of BrO and Arctic boundary layer ozone depletion. Journal of Geophysical Research, 2008, 113, .	3.3	24
59	LIF studies of iodine oxide chemistry : Part 3. Reactions IO + NO3 â† OIO + NO2, I + NO3 â† IO + NO2, and CH2I + O2 â† (products): implications for the chemistry of the marine atmosphere at night. Physical Chemistry Chemical Physics, 2008, 10, 1540.	1.3	36
60	Toward effective emissions of ships in global models. Meteorologische Zeitschrift, 2008, 17, 117-129.	0.5	24
61	Consistent simulation of bromine chemistry from the marine boundary layer to the stratosphere â€“ Part 1: Model description, sea salt aerosols and pH. Atmospheric Chemistry and Physics, 2008, 8, 5899-5917.	1.9	30
62	Simulation of atmospheric mercury depletion events (AMDEs) during polar springtime using the MECCA box model. Atmospheric Chemistry and Physics, 2008, 8, 7165-7180.	1.9	42
63	Technical Note: Coupling of chemical processes with the Modular Earth Submodel System (MESSy) submodel TRACER. Atmospheric Chemistry and Physics, 2008, 8, 1677-1687.	1.9	65
64	Technical Note: Simulation of detailed aerosol chemistry on the global scale using MECCA-AERO. Atmospheric Chemistry and Physics, 2007, 7, 2973-2985.	1.9	37
65	Simulating organic species with the global atmospheric chemistry general circulation model ECHAM5/MESSy1: a comparison of model results with observations. Atmospheric Chemistry and Physics, 2007, 7, 2527-2550.	1.9	95
66	Global cloud and precipitation chemistry and wet deposition: tropospheric model simulations with ECHAM5/MESSy1. Atmospheric Chemistry and Physics, 2007, 7, 2733-2757.	1.9	104
67	Chemistry, transport and dry deposition of trace gases in the boundary layer over the tropical Atlantic Ocean and the Guyanas during the GABRIEL field campaign. Atmospheric Chemistry and Physics, 2007, 7, 3933-3956.	1.9	47
68	An overview of snow photochemistry: evidence, mechanisms and impacts. Atmospheric Chemistry and Physics, 2007, 7, 4329-4373.	1.9	554
69	Halogens and their role in polar boundary-layer ozone depletion. Atmospheric Chemistry and Physics, 2007, 7, 4375-4418.	1.9	593
70	Possible evidence for a connection between methyl iodide emissions and Saharan dust. Journal of Geophysical Research, 2007, 112, .	3.3	23
71	Chemical and physical characteristics of nascent aerosols produced by bursting bubbles at a model airâ€sea interface. Journal of Geophysical Research, 2007, 112, .	3.3	259
72	Influence of summertime deep convection on formaldehyde in the middle and upper troposphere over Europe. Journal of Geophysical Research, 2006, 111, .	3.3	50

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73	Technical note: Simulating chemical systems in Fortran90 and Matlab with the Kinetic PreProcessor KPP-2.1. Atmospheric Chemistry and Physics, 2006, 6, 187-195.	1.9	249
74	The atmospheric chemistry general circulation model ECHAM5/MESSy1: consistent simulation of ozone from the surface to the mesosphere. Atmospheric Chemistry and Physics, 2006, 6, 5067-5104.	1.9	528
75	Technical Note: The MESSy-submodel AIRSEA calculating the air-sea exchange of chemical species. Atmospheric Chemistry and Physics, 2006, 6, 5435-5444.	1.9	79
76	Technical note: A new comprehensive SCAVenging submodel for global atmospheric chemistry modelling. Atmospheric Chemistry and Physics, 2006, 6, 565-574.	1.9	265
77	Technical note: Implementation of prescribed (OFFLEM), calculated (ONLEM), and pseudo-emissions (TNUDGE) of chemical species in the Modular Earth Submodel System (MESSy). Atmospheric Chemistry and Physics, 2006, 6, 3603-3609.	1.9	198
78	Carbonate precipitation in brine â€“ a potential trigger for tropospheric ozone depletion events. Atmospheric Chemistry and Physics, 2006, 6, 4653-4658.	1.9	92
79	Technical note: The new comprehensive atmospheric chemistry module MECCA. Atmospheric Chemistry and Physics, 2005, 5, 445-450.	1.9	273
80	Observations and model calculations of trace gas scavenging in a dense Saharan dust plume during MINATROC. Atmospheric Chemistry and Physics, 2005, 5, 1787-1803.	1.9	103
81	Technical Note: The Modular Earth Submodel System (MESSy) - a new approach towards Earth System Modeling. Atmospheric Chemistry and Physics, 2005, 5, 433-444.	1.9	282
82	Comment on "Reactions at Interfaces As a Source of Sulfate Formation in Sea-Salt Particles" (II). Science, 2004, 303, 628c-628.	6.0	13
83	Halogen cycling and aerosol pH in the Hawaiian marine boundary layer. Atmospheric Chemistry and Physics, 2004, 4, 147-168.	1.9	136
84	Title is missing!. Journal of Atmospheric Chemistry, 2003, 46, 201-203.	1.4	0
85	Inorganic bromine in the marine boundary layer: a critical review. Atmospheric Chemistry and Physics, 2003, 3, 1301-1336.	1.9	243
86	Modeling the chemical effects of ship exhaust in the cloud-free marine boundary layer. Atmospheric Chemistry and Physics, 2003, 3, 233-250.	1.9	83
87	Modeling halogen chemistry in the marine boundary layer 1. Cloud-free MBL. Journal of Geophysical Research, 2002, 107, ACH 9-1-ACH 9-16.	3.3	151
88	Modeling halogen chemistry in the marine boundary layer 2. Interactions with sulfur and the cloud-covered MBL. Journal of Geophysical Research, 2002, 107, ACH 2-1-ACH 2-12.	3.3	91
89	Bromide content of sea-salt aerosol particles collected over the Indian Ocean during INDOEX 1999. Journal of Geophysical Research, 2002, 107, INX2 31-1.	3.3	33
90	Variation of marine aerosol acidity with particle size. Geophysical Research Letters, 2002, 29, 5-1.	1.5	74

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91	Variation of sea salt aerosol pH with relative humidity. Geophysical Research Letters, 2001, 28, 247-250.	1.5	64
92	Comment on â€œA chemical aqueous phase radical mechanism for tropospheric chemistryâ€•by H. Herrmann et al.. Chemosphere, 2000, 41, 631-632.	4.2	4
93	Significance of HOxand peroxides production due to alkene ozonolysis during fall and winter: A modeling study. Journal of Geophysical Research, 2000, 105, 17721-17738.	3.3	49
94	The volume of the solution is 1 kg: Pleading for scientific writing. Eos, 2000, 81, 6-6.	0.1	1
95	Title is missing!. Journal of Atmospheric Chemistry, 1999, 32, 375-395.	1.4	376
96	Title is missing!. , 1999, 20, 1-31.		108
97	The role of BrNO3in marine tropospheric chemistry: A model study. Geophysical Research Letters, 1999, 26, 2857-2860.	1.5	88
98	Kinetics and Products of the Reactions BrO + DMS and Br + DMS at 298 K. Journal of Physical Chemistry A, 1999, 103, 7199-7209.	1.1	57
99	Aerosol pH in the marine boundary layer. Journal of Aerosol Science, 1998, 29, 339-356.	1.8	246
100	Measurements of C2-C7hydrocarbons during the Polar Sunrise Experiment 1994: Further evidence for halogen chemistry in the troposphere. Journal of Geophysical Research, 1998, 103, 13169-13180.	3.3	72
101	Trichloroethene and tetrachloroethene: tropospheric probes for Cl- and Br-atom reactions during the polar sunrise. Tellus, Series B: Chemical and Physical Meteorology, 1997, 49, 583-591.	0.8	9
102	Trichloroethene and tetrachloroethene: tropospheric probes for Cl- and Br-atom reactions during the polar sunrise. Tellus, Series B: Chemical and Physical Meteorology, 1997, 49, 583-591.	0.8	11
103	Modelling the chemistry of ozone, halogen compounds, and hydrocarbons in the arctic troposphere during spring. Tellus, Series B: Chemical and Physical Meteorology, 1997, 49, 522-532.	0.8	103
104	Model study indicating halogen activation and ozone destruction in polluted air masses transported to the sea. Journal of Geophysical Research, 1996, 101, 9121-9138.	3.3	348
105	A mechanism for halogen release from sea-salt aerosol in the remote marine boundary layer. Nature, 1996, 383, 327-330.	13.7	706
106	Modelling of the nighttime nitrogen and sulfur chemistry in size resolved droplets of an orographic cloud. Journal of Atmospheric Chemistry, 1995, 20, 89-116.	1.4	63
107	Computer modelling of clouds at Kleiner Feldberg. Journal of Atmospheric Chemistry, 1994, 19, 189-229.	1.4	32
108	Computer Modelling of Clouds at Kleiner Feldberg. , 1994, , 189-229.		0

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109	Modelling the chemistry of ozone, halogen compounds, and hydrocarbons in the arctic troposphere during spring. Tellus, Series B: Chemical and Physical Meteorology, 1993, 45, 522-532.	0.8	13
110	Force field calculations for ethanedial, butanedione and some cyclic 1,2-diketones with respect to the influence of the intercarbonyl dihedral angle on their vibrational frequencies. Journal of Molecular Structure, 1991, 263, 123-132.	1.8	8