Markus Rex

List of Publications by Year
in descending order

91	5,288	81839 39	95218 68
papers	citations	h-index	g-index

100	100	100	3959
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Unprecedented Arctic ozone loss in 2011. Nature, 2011, 478, 469-475.	13.7	572
2	Arctic ozone loss and climate change. Geophysical Research Letters, 2004, 31, .	1.5	284
3	Stratospheric aerosol-Observations, processes, and impact on climate. Reviews of Geophysics, 2016, 54, 278-335.	9.0	265
4	Prolonged stratospheric ozone loss in the 1995â€"96 Arctic winter. Nature, 1997, 389, 835-838.	13.7	216
5	Observational evidence for chemical ozone depletion over the Arctic in winter 1991â€"92. Nature, 1995, 375, 131-134.	13.7	178
6	Multimodel assessment of the upper troposphere and lower stratosphere: Tropics and global trends. Journal of Geophysical Research, 2010, 115, .	3.3	171
7	Arctic winter 2005: Implications for stratospheric ozone loss and climate change. Geophysical Research Letters, 2006, 33, .	1.5	151
8	A Strategy for Process-Oriented Validation of Coupled Chemistryâ€"Climate Models. Bulletin of the American Meteorological Society, 2005, 86, 1117-1134.	1.7	139
9	Ozone trends at northern mid- and high latitudes â€" a European perspective. Annales Geophysicae, 2008, 26, 1207-1220.	0.6	128
10	State of the Climate in 2011. Bulletin of the American Meteorological Society, 2012, 93, S1-S282.	1.7	121
11	Overview of the MOSAiC expedition: Atmosphere. Elementa, 2022, 10, .	1.1	121
12	On the possible causes of recent increases in northern hemispheric total ozone from a statistical analysis of satellite data from 1979 to 2003. Atmospheric Chemistry and Physics, 2006, 6, 1165-1180.	1.9	103
13	In situ measurements of stratospheric ozone depletion rates in the Arctic winter 1991/1992: A Lagrangian approach. Journal of Geophysical Research, 1998, 103, 5843-5853.	3.3	102
14	Enhanced Upper Tropical Tropospheric COS: Impact on the Stratospheric Aerosol Layer. Science, 2003, 300, 307-310.	6.0	98
15	Chemical depletion of Arctic ozone in winter 1999/2000. Journal of Geophysical Research, 2002, 107, SOL 18-1.	3.3	95
16	Ammonium nitrate particles formed in upper troposphere from ground ammonia sources during Asian monsoons. Nature Geoscience, 2019, 12, 608-612.	5.4	95
17	Overview of the MOSAiC expedition: Snow and sea ice. Elementa, 2022, 10, .	1.1	91
18	Chemical Ozone Loss in the Arctic Winter 1994/95 as Determined by the Match Technique. Journal of Atmospheric Chemistry, 1999, 32, 35-59.	1.4	90

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19	Reconciliation of essential process parameters for an enhanced predictability of Arctic stratospheric ozone loss and its climate interactions (RECONCILE): activities and results. Atmospheric Chemistry and Physics, 2013, 13, 9233-9268.	1.9	88
20	Nearâ€Complete Local Reduction of Arctic Stratospheric Ozone by Severe Chemical Loss in Spring 2020. Geophysical Research Letters, 2020, 47, e2020GL089547.	1.5	75
21	Chemical ozone loss in the Arctic and Antarctic stratosphere between 1992 and 2005. Geophysical Research Letters, 2006, 33, .	1.5	70
22	Balloon-borne measurements of temperature, water vapor, ozone and aerosol backscatter on the southern slopes of the Himalayas during StratoClim 2016â€"2017. Atmospheric Chemistry and Physics, 2018, 18, 15937-15957.	1.9	69
23	Ozone loss rates in the Arctic stratosphere in the winter 1991/92: Model calculations compared with match results. Geophysical Research Letters, 1998, 25, 4325-4328.	1.5	68
24	On the unexplained stratospheric ozone losses during cold Arctic Januaries. Geophysical Research Letters, 2003, 30, 8-1-8-4.	1.5	68
25	Arctic ozone loss in threshold conditions: Match observations in 1997/1998 and 1998/1999. Journal of Geophysical Research, 2001, 106, 7495-7503.	3.3	66
26	Title is missing!. Journal of Atmospheric Chemistry, 1998, 30, 187-207.	1.4	64
27	Match observations in the Arctic winter 1996/97: High stratospheric ozone loss rates correlate with low temperatures deep inside the polar vortex. Geophysical Research Letters, 2000, 27, 205-208.	1.5	62
28	A tropical West Pacific OH minimum and implications for stratospheric composition. Atmospheric Chemistry and Physics, 2014, 14, 4827-4841.	1.9	60
29	A process-oriented regression model for column ozone. Journal of Geophysical Research, 2007, 112, .	3.3	59
30	The MOSAiC ice floe: sediment-laden survivor from the Siberian shelf. Cryosphere, 2020, 14, 2173-2187.	1.5	59
31	Toward a better quantitative understanding of polar stratospheric ozone loss. Geophysical Research Letters, 2006, 33, n/a-n/a.	1.5	58
32	Comparison of empirically derived ozone losses in the Arctic vortex. Journal of Geophysical Research, 2002, 107, SOL 7-1.	3.3	56
33	Relative importance of dynamical and chemical contributions to Arctic wintertime ozone. Geophysical Research Letters, 2008, 35, .	1.5	54
34	Overview of the MOSAiC expedition: Physical oceanography. Elementa, 2022, 10, .	1.1	54
35	Correlation between equatorial Kelvin waves and the occurrence of extremely thin ice clouds at the tropical tropopause. Atmospheric Chemistry and Physics, 2008, 8, 4019-4026.	1.9	50
36	A closer look at Arctic ozone loss and polar stratospheric clouds. Atmospheric Chemistry and Physics, 2010, 10, 8499-8510.	1.9	50

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37	Subsidence, mixing, and denitrification of Arctic polar vortex air measured during POLARIS. Journal of Geophysical Research, 1999, 104, 26611-26623.	3.3	49
38	Arctic ozone loss and climate sensitivity: Updated three-dimensional model study. Geophysical Research Letters, 2005, 32, .	1.5	46
39	The Lagrangian chemistry and transport model ATLAS: validation of advective transport and mixing. Geoscientific Model Development, 2009, 2, 153-173.	1.3	46
40	Ozonesonde observations in the Arctic during 1989â€“2003: Ozone variability and trends in the lower stratosphere and free troposphere. Journal of Geophysical Research, 2007, 112, .	3.3	45
41	Uncertainties in modelling heterogeneous chemistry and Arctic ozone depletion in the winter 2009/2010. Atmospheric Chemistry and Physics, 2013, 13, 3909-3929.	1.9	45
42	Climate change favours large seasonal loss of Arctic ozone. Nature Communications, 2021, 12, 3886.	5.8	44
43	A test of our understanding of the ozone chemistry in the Arctic polar vortex based on in situ measurements of ClO, BrO, and O3in the 1994/1995 winter. Journal of Geophysical Research, 1999, 104, 18755-18768.	3.3	42
44	Ozone loss rates in the Arctic stratosphere in the winter 1994/1995: Model simulations underestimate results of the Match analysis. Journal of Geophysical Research, 2000, 105, 15175-15184.	3.3	42
45	Ground-based observations of Arctic O3loss during spring and summer 1997. Journal of Geophysical Research, 1999, 104, 26497-26510.	3.3	41
46	Chemical loss of ozone during the Arctic winter of 1999/2000: An analysis based on balloon-borne observations. Journal of Geophysical Research, 2002, 107, SOL 11-1.	3.3	39
47	POAM III observations of arctic ozone loss for the 1999/2000 winter. Journal of Geophysical Research, 2002, 107, SOL 5-1.	3.3	38
48	Influence of tropospheric SO2emissions on particle formation and the stratospheric humidity. Geophysical Research Letters, 2005, 32, n/a-n/a.	1.5	38
49	Improvement of vertical and residual velocities in pressure or hybrid sigma-pressure coordinates in analysis data in the stratosphere. Atmospheric Chemistry and Physics, 2008, 8, 265-272.	1.9	38
50	Large decadal scale changes of polar ozone suggest solar influence. Atmospheric Chemistry and Physics, 2006, 6, 1835-1841.	1.9	33
51	ClOOCl photolysis at high solar zenith angles: analysis of the RECONCILE self-match flight. Atmospheric Chemistry and Physics, 2012, 12, 1353-1365.	1.9	32
52	Integrated equivalent latitude as a proxy for dynamical changes in ozone column. Geophysical Research Letters, 2005, 32, .	1.5	31
53	Severe 2011 ozone depletion assessed with 11 years of ozone, NO₂, and OClO measurements at 80Â°N. Geophysical Research Letters, 2012, 39, .	1.5	30
54	Chemical ozone loss in the Arctic winter 2002/2003 determined with Match. Atmospheric Chemistry and Physics, 2006, 6, 2783-2792.	1.9	28

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55	The role of stratospheric ozone for Arctic-midlatitude linkages. Scientific Reports, 2019, 9, 7962.	1.6	28
56	Sensitivity of stratospheric Br_y to uncertainties in very short lived substance emissions and atmospheric transport. Atmospheric Chemistry and Physics, 2011, 11, 1379-1392.	1.9	27
57	The Lagrangian chemistry and transport model ATLAS: simulation and validation of stratospheric chemistry and ozone loss in the winter 1999/2000. Geoscientific Model Development, 2010, 3, 585-601.	1.3	26
58	Sensitivity of polar stratospheric ozone loss to uncertainties in chemical reaction kinetics. Atmospheric Chemistry and Physics, 2009, 9, 8651-8660.	1.9	25
59	Extrapolating future Arctic ozone losses. Atmospheric Chemistry and Physics, 2004, 4, 1849-1856.	1.9	20
60	Comparison of polar ozone loss rates simulated by one-dimensional and three-dimensional models with Match observations in recent Antarctic and Arctic winters. Journal of Geophysical Research, 2007, 112, .	3.3	20
61	Polar stratospheric chlorine kinetics from a selfâ€match flight during SOLVEâ€II/EUPLEX. Geophysical Research Letters, 2008, 35, .	1.5	20
62	Ship-borne FTIR measurements of CO and O₃ in the Western Pacific from 43Â° N to 35Â° S: an evaluation of the sources. Atmospheric Chemistry and Physics, 2012, 12, 815-828.	1.9	19
63	Variations of the residual circulation in the Northern Hemispheric winter. Journal of Geophysical Research, 2008, 113, .	3.3	18
64	A quantitative analysis of the reactions involved in stratospheric ozone depletion in the polar vortex core. Atmospheric Chemistry and Physics, 2017, 17, 10535-10563.	1.9	17
65	The link between springtime total ozone and summer UV radiation in Northern Hemisphere extratropics. Journal of Geophysical Research D: Atmospheres, 2013, 118, 8649-8661.	1.2	16
66	Title is missing!. Journal of Atmospheric Chemistry, 2001, 39, 123-138.	1.4	15
67	Polar stratospheric cloud evolution and chlorine activation measured by CALIPSO and MLS, and modeled by ATLAS. Atmospheric Chemistry and Physics, 2016, 16, 3311-3325.	1.9	15
68	Arctic and Antarctic ozone layer observations: chemical and dynamical aspects of variability and long-term changes in the polar stratosphere. Polar Research, 2000, 19, 193-204.	1.6	14
69	Water vapour transport in the tropical tropopause region in coupled Chemistry-Climate Models and ERA-40 reanalysis data. Atmospheric Chemistry and Physics, 2009, 9, 2679-2694.	1.9	14
70	Statistical analysis of the precision of the Match method. Atmospheric Chemistry and Physics, 2005, 5, 2713-2727.	1.9	13
71	The spring 2011 final stratospheric warming above Eureka: anomalous dynamics and chemistry. Atmospheric Chemistry and Physics, 2013, 13, 611-624.	1.9	13
72	The Atmosphere Above Ny-Ã…lesund: Climate and Global Warming, Ozone and Surface UV Radiation. Advances in Polar Ecology, 2019, , 23-46.	1.3	13

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73	Retrievals of chlorine chemistry kinetic parameters from Antarctic ClO microwave radiometer measurements. Atmospheric Chemistry and Physics, 2011, 11, 5183-5193.	1.9	12
74	Stratospheric ozone loss in the Arctic winters between 2005 and 2013 derived with ACE-FTS measurements. Atmospheric Chemistry and Physics, 2019, 19, 577-601.	1.9	10
75	Arctic and Antarctic ozone layer observations: chemical and dynamical aspects of variability and long-term changes in the polar stratosphere. Polar Research, 2000, 19, 193-204.	1.6	10
76	Update of the Polar SWIFT model for polar stratospheric ozone loss (Polar SWIFT versionÂ2). Geoscientific Model Development, 2017, 10, 2671-2689.	1.3	8
77	A Lagrangian convective transport scheme including a simulation of the time air parcels spend in updrafts (LaConTra v1.0). Geoscientific Model Development, 2019, 12, 4387-4407.	1.3	7
78	Arctic sea ice anomalies during the MOSAiC winter 2019/20. Cryosphere, 2022, 16, 981-1005.	1.5	7
79	Understanding the relation between Arctic ozone loss and the volume of polar stratospheric clouds. International Journal of Remote Sensing, 2009, 30, 4065-4070.	1.3	5
80	Persistence of ozone anomalies in the Arctic stratospheric vortex in autumn. Atmospheric Chemistry and Physics, 2012, 12, 4817-4823.	1.9	5
81	Technical Note: SWIFT â€" a fast semi-empirical model for polar stratospheric ozone loss. Atmospheric Chemistry and Physics, 2014, 14, 6545-6555.	1.9	4
82	First quasi-Lagrangian in situ measurements of Antarctic Polar springtime ozone: observed ozone loss rates from the Concordiasi long-duration balloon campaign. Atmospheric Chemistry and Physics, 2015, 15, 2463-2472.	1.9	4
83	Improved Circulation in the Northern Hemisphere by Adjusting Gravity Wave Drag Parameterizations in Seasonal Experiments With ICONâ€NWP. Earth and Space Science, 2021, 8, e2021EA001676.	1.1	4
84	Variations in the tropical uplift following the Pinatubo eruption studied by infrared solar absorption spectrometry. Geophysical Research Letters, 2000, 27, 2609-2612.	1.5	3
85	Semi-empirical models for chlorine activation and ozone depletion in the Antarctic stratosphere: proof of concept. Atmospheric Chemistry and Physics, 2013, 13, 3237-3243.	1.9	3
86	The Extrapolar SWIFT model (version 1.0): fast stratospheric ozone chemistry for global climate models. Geoscientific Model Development, 2018, 11, 753-769.	1.3	3
87	The Quadrennial Ozone Symposium 2016. Advances in Atmospheric Sciences, 2017, 34, 283-288.	1.9	2
88	Ozone Loss in the Polar Stratosphere. , 2011, , 145-168.		1
89	Correction to â€œOzone loss rates in the Arctic stratosphere in the winter 1991/92: Model calculations compared with match resultsâ€. Geophysical Research Letters, 1999, 26, 327-327.	1.5	0
90	Influence of transport and mixing in autumn on stratospheric ozone variability over the Arctic in early winter. Atmospheric Chemistry and Physics, 2012, 12, 7921-7930.	1.9	0

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91	Cloud Condensation Nuclei. , 0, , 285-297.		0