

Luke D Oman

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

123
papers

4,411
citations

38
h-index

62
g-index

135
ext. papers

5,225
ext. citations

5.9
avg, IF

5.39
L-index

#	Paper	IF	Citations
123	Response of the Upper-Level Monsoon Anticyclones and Ozone to Abrupt CO ₂ Changes. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021 , 126, e2021JD034903	4.4	
122	A global ozone profile climatology for satellite retrieval algorithms based on Aura MLS measurements and the MERRA-2 GMI simulation. <i>Atmospheric Measurement Techniques</i> , 2021 , 14, 6407-6418	4.18	2
121	Stratospheric Impacts of Continuing CFC-11 Emissions Simulated in a Chemistry-Climate Model. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021 , 126, e2020JD033656	4.4	
120	Comparison of chemical lateral boundary conditions for air quality predictions over the contiguous United States during pollutant intrusion events. <i>Atmospheric Chemistry and Physics</i> , 2021 , 21, 2527-2550	6.8	1
119	The Montreal Protocol protects the terrestrial carbon sink. <i>Nature</i> , 2021 , 596, 384-388	50.4	12
118	The long-term transport and radiative impacts of the 2017 British Columbia pyrocumulonimbus smoke aerosols in the stratosphere. <i>Atmospheric Chemistry and Physics</i> , 2021 , 21, 12069-12090	6.8	12
117	Seasonality of the MJO Impact on Upper Troposphere/Lower Stratosphere Temperature, Circulation, and Composition. <i>Journals of the Atmospheric Sciences</i> , 2020 , 77, 1455-1473	2.1	2
116	Mechanisms Linked to Recent Ozone Decreases in the Northern Hemisphere Lower Stratosphere. <i>Journal of Geophysical Research D: Atmospheres</i> , 2020 , 125, e2019JD031631	4.4	10
115	A machine learning examination of hydroxyl radical differences among model simulations for CCMI-1. <i>Atmospheric Chemistry and Physics</i> , 2020 , 20, 1341-1361	6.8	11
114	Attribution of Chemistry-Climate Model Initiative (CCMI) ozone radiative flux bias from satellites. <i>Atmospheric Chemistry and Physics</i> , 2020 , 20, 281-301	6.8	4
113	Stratospheric impact on the Northern Hemisphere winter and spring ozone interannual variability in the troposphere. <i>Atmospheric Chemistry and Physics</i> , 2020 , 20, 6417-6433	6.8	2
112	Future trends in stratosphere-to-troposphere transport in CCMI models. <i>Atmospheric Chemistry and Physics</i> , 2020 , 20, 6883-6901	6.8	4
111	Model-based climatology of diurnal variability in stratospheric ozone as a data analysis tool. <i>Atmospheric Measurement Techniques</i> , 2020 , 13, 2733-2749	4	5
110	Evaluation of NASA's high-resolution global composition simulations: Understanding a pollution event in the Chesapeake Bay during the summer 2017 OWLETS campaign. <i>Atmospheric Environment</i> , 2020 , 222, 117133-117133	5.3	7
109	Ensemble-based deep learning for estimating PM over California with multisource big data including wildfire smoke. <i>Environment International</i> , 2020 , 145, 106143	12.9	21
108	Observed Hemispheric Asymmetry in Stratospheric Transport Trends From 1994 to 2018. <i>Geophysical Research Letters</i> , 2020 , 47, e2020GL088567	4.9	9
107	Aircraft observations since the 1990s reveal increases of tropospheric ozone at multiple locations across the Northern Hemisphere. <i>Science Advances</i> , 2020 , 6,	14.3	31

106	Future trends in stratosphere-to-troposphere transport in CCMI models 2019 ,		1
105	The salience of nonlinearities in the boreal winter response to ENSO: Arctic stratosphere and Europe. <i>Climate Dynamics</i> , 2019 , 53, 4591-4610	4.2	17
104	Success of Montreal Protocol Demonstrated by Comparing High-Quality UV Measurements with "World Avoided" Calculations from Two Chemistry-Climate Models. <i>Scientific Reports</i> , 2019 , 9, 12332	4.9	25
103	The Effects of a 1998 Observing System Change on MERRA-2-Based Ozone Profile Simulations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019 , 124, 7429	4.4	8
102	The influence of mixing on stratospheric age of air changes in the 21st century. <i>Atmospheric Chemistry and Physics</i> , 2019 , 19, 921-940	6.8	17
101	Large impacts, past and future, of ozone-depleting substances on Brewer-Dobson circulation trends: A multi-model assessment. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019 , 124, 6669-6680	4.4	16
100	Mapping hydroxyl variability throughout the global remote troposphere via synthesis of airborne and satellite formaldehyde observations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 11171-11180	11.5	38
99	Trends in global tropospheric ozone inferred from a composite record of TOMS/OMI/MLS/OMPS satellite measurements and the MERRA-2 GMI simulation. <i>Atmospheric Chemistry and Physics</i> , 2019 , 19, 3257-3269	6.8	60
98	The salience of nonlinearities in the boreal winter response to ENSO: North Pacific and North America. <i>Climate Dynamics</i> , 2019 , 52, 4429-4446	4.2	18
97	Disentangling the Drivers of the Summertime Ozone-Temperature Relationship Over the United States. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019 , 124, 10503-10524	4.4	13
96	Clear-sky ultraviolet radiation modelling using output from the Chemistry Climate Model Initiative. <i>Atmospheric Chemistry and Physics</i> , 2019 , 19, 10087-10110	6.8	11
95	Planetary Defense Mitigation Gateway: A One-Stop Gateway for Pertinent PD-Related Contents. <i>Data</i> , 2019 , 4, 47	2.3	1
94	Global changes in the diurnal cycle of surface ozone. <i>Atmospheric Environment</i> , 2019 , 199, 323-333	5.3	26
93	The Downward Influence of Sudden Stratospheric Warmings: Association with Tropospheric Precursors. <i>Journal of Climate</i> , 2019 , 32, 85-108	4.4	54
92	Ultraviolet radiation modelling using output from the Chemistry Climate Model Initiative 2019 , 19, 10087-10110		
91	Ozone sensitivity to varying greenhouse gases and ozone-depleting substances in CCMI-1 simulations. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 1091-1114	6.8	37
90	Nonlinear response of tropical lower stratospheric temperature and water vapor to ENSO. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 4597-4615	6.8	26
89	Effect of Gravity Waves From Small Islands in the Southern Ocean on the Southern Hemisphere Atmospheric Circulation. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018 , 123, 1552-1561	4.4	11

88	Tropospheric jet response to Antarctic ozone depletion: An update with Chemistry-Climate Model Initiative (CCMI) models. <i>Environmental Research Letters</i> , 2018 , 13, 054024	6.2	30
87	Estimates of ozone return dates from Chemistry-Climate Model Initiative simulations. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 8409-8438	6.8	81
86	Estimates of Ozone Return Dates from Chemistry-Climate Model Initiative Simulations 2018 ,		1
85	Quantifying the effect of mixing on the mean age of air in CCMVal-2 and CCMI-1 models. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 6699-6720	6.8	23
84	Revisiting the mystery of recent stratospheric temperature trends. <i>Geophysical Research Letters</i> , 2018 , 45, 9919-9933	4.9	27
83	Tropospheric ozone in CCMI models and Gaussian process emulation to understand biases in the SOCOLv3 chemistry-climate model. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 16155-16172	6.8	17
82	Trends in Global Tropospheric Ozone Inferred from a Composite Record of TOMS/OMI/MLS/OMPS Satellite Measurements and the MERRA-2 GMI Simulation 2018 ,		2
81	The Impact of Boreal Summer ENSO Events on Tropical Lower Stratospheric Ozone. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018 , 123, 9843-9857	4.4	10
80	Large-scale tropospheric transport in the Chemistry-Climate Model Initiative (CCMI) simulations. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 7217-7235	6.8	25
79	No robust evidence of future changes in major stratospheric sudden warmings: a multi-model assessment from CCMI. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 11277-11287	6.8	32
78	Changes in Global Tropospheric OH Expected as a Result of Climate Change Over the Last Several Decades. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018 , 123, 10,774	4.4	17
77	Recent decline in extratropical lower stratospheric ozone attributed to circulation changes. <i>Geophysical Research Letters</i> , 2018 , 45, 5166-5176	4.9	45
76	Stratospheric Injection of Brominated Very Short-Lived Substances: Aircraft Observations in the Western Pacific and Representation in Global Models. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018 , 123, 5690-5719	4.4	30
75	A 4 U laser heterodyne radiometer for methane (CH ₄) and carbon dioxide (CO ₂) measurements from an occultation-viewing CubeSat. <i>Measurement Science and Technology</i> , 2017 , 28, 035902	2	12
74	A Cloud-Ozone Data Product from Aura OMI and MLS Satellite Measurements. <i>Atmospheric Measurement Techniques</i> , 2017 , 10, 4067-4078	4	5
73	A Model and Satellite-Based Analysis of the Tropospheric Ozone Distribution in Clear Versus Convectively Cloudy Conditions. <i>Journal of Geophysical Research D: Atmospheres</i> , 2017 , 122, 11,948-11,960 [†]	4.4	2
72	Formaldehyde in the Tropical Western Pacific: Chemical sources and sinks, convective transport, and representation in CAM-Chem and the CCMI models. <i>Journal of Geophysical Research D: Atmospheres</i> , 2017 , 122, 11201-11226	4.4	21
71	Stratospheric variability contributed to and sustained the recent hiatus in Eurasian winter warming. <i>Geophysical Research Letters</i> , 2017 , 44, 374-382	4.9	49

70	Multi-decadal records of stratospheric composition and their relationship to stratospheric circulation change. <i>Atmospheric Chemistry and Physics</i> , 2017 , 17, 12081-12096	6.8	8
69	Time-varying changes in the simulated structure of the Brewer-Dobson Circulation. <i>Atmospheric Chemistry and Physics</i> , 2017 , 17, 1313-1327	6.8	22
68	Hemispheric differences in the annual cycle of tropical lower stratosphere transport and tracers. <i>Journal of Geophysical Research D: Atmospheres</i> , 2017 , 122, 7183-7199	4.4	3
67	Large-Scale Atmospheric Transport in GEOS Replay Simulations. <i>Journal of Advances in Modeling Earth Systems</i> , 2017 , 9, 2545-2560	7.1	39
66	Chemical Mechanisms and Their Applications in the Goddard Earth Observing System (GEOS) Earth System Model. <i>Journal of Advances in Modeling Earth Systems</i> , 2017 , 9, 3019-3044	7.1	32
65	Review of the global models used within phase 1 of the Chemistry Climate Model Initiative (CCMI). <i>Geoscientific Model Development</i> , 2017 , 10, 639-671	6.3	211
64	Is the Brewer-Dobson circulation increasing or moving upward?. <i>Geophysical Research Letters</i> , 2016 , 43, 1772-1779	4.9	38
63	The Effect of Representing Bromine from VLSL on the Simulation and Evolution of Antarctic Ozone. <i>Geophysical Research Letters</i> , 2016 , 43, 9869-9876	4.9	15
62	Interpreting space-based trends in carbon monoxide with multiple models. <i>Atmospheric Chemistry and Physics</i> , 2016 , 16, 7285-7294	6.8	24
61	Transport of ice into the stratosphere and the humidification of the stratosphere over the 21 century. <i>Geophysical Research Letters</i> , 2016 , 43, 2323-2329	4.9	37
60	Woodbury Formation (Campanian) in New Jersey yields largest known Cretaceous otolith assemblage of teleostean fishes in North America. <i>Proceedings of the Academy of Natural Sciences of Philadelphia</i> , 2016 , 165, 15-36	1.1	4
59	Airmass Origin in the Arctic. Part I: Seasonality. <i>Journal of Climate</i> , 2015 , 28, 4997-5014	4.4	15
58	Modulation of Antarctic vortex composition by the quasi-biennial oscillation. <i>Geophysical Research Letters</i> , 2015 , 42, 4216-4223	4.9	27
57	Effect of recent sea surface temperature trends on the Arctic stratospheric vortex. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015 , 120, 5404-5416	4.4	25
56	Measuring and modeling the lifetime of nitrous oxide including its variability. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015 , 120, 5693-5705	4.4	90
55	Tropospheric ozone variability in the tropics from ENSO to MJO and shorter timescales. <i>Atmospheric Chemistry and Physics</i> , 2015 , 15, 8037-8049	6.8	33
54	Impact of future nitrous oxide and carbon dioxide emissions on the stratospheric ozone layer. <i>Environmental Research Letters</i> , 2015 , 10, 034011	6.2	19
53	Air-mass Origin in the Arctic. Part II: Response to Increases in Greenhouse Gases. <i>Journal of Climate</i> , 2015 , 28, 9105-9120	4.4	8

52	Seasonal variation of ozone in the tropical lower stratosphere: Southern tropics are different from northern tropics. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014 , 119, 6196-6206	4.4	21
51	Reply to comment by Cole-Dai et al. on "Climatic impact of the long-lasting Laki eruption: Inapplicability of mass-independent sulfur isotope composition measurements" <i>Journal of Geophysical Research D: Atmospheres</i> , 2014 , 119, 6636-6637	4.4	
50	Seasonal ventilation of the stratosphere: Robust diagnostics from one-way flux distributions. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014 , 119, 293-306	4.4	5
49	Modifications of the quasi-biennial oscillation by a geoengineering perturbation of the stratospheric aerosol layer. <i>Geophysical Research Letters</i> , 2014 , 41, 1738-1744	4.9	77
48	Understanding differences in chemistry climate model projections of stratospheric ozone. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014 , 119, 4922-4939	4.4	18
47	Improvements in total column ozone in GEOSCCM and comparisons with a new ozone-depleting substances scenario. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014 , 119, 5613-5624	4.4	25
46	Contrasting Effects of Central Pacific and Eastern Pacific El Niño on stratospheric water vapor. <i>Geophysical Research Letters</i> , 2013 , 40, 4115-4120	4.9	27
45	Connections between the Spring Breakup of the Southern Hemisphere Polar Vortex, Stationary Waves, and AirSea Roughness. <i>Journals of the Atmospheric Sciences</i> , 2013 , 70, 2137-2151	2.1	10
44	The Response of Ozone and Nitrogen Dioxide to the Eruption of Mt. Pinatubo at Southern and Northern Midlatitudes. <i>Journals of the Atmospheric Sciences</i> , 2013 , 70, 894-900	2.1	62
43	Net influence of an internally generated quasi-biennial oscillation on modelled stratospheric climate and chemistry. <i>Atmospheric Chemistry and Physics</i> , 2013 , 13, 12187-12197	6.8	6
42	Sensitivity of the atmospheric response to warm pool El Niño events to modeled SSTs and future climate forcings. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013 , 118, 13,371-13,382	4.4	10
41	The ozone response to ENSO in Aura satellite measurements and a chemistry-climate simulation. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013 , 118, 965-976	4.4	74
40	Temperature trends in the tropical upper troposphere and lower stratosphere: Connections with sea surface temperatures and implications for water vapor and ozone. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013 , 118, 9658-9672	4.4	38
39	Understanding differences in upper stratospheric ozone response to changes in chlorine and temperature as computed using CCMVal-2 models. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		15
38	Dispersion of the volcanic sulfate cloud from a Mount Pinatubo-like eruption. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		59
37	The impact of greenhouse gases on past changes in tropospheric ozone. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		7
36	Climatic impact of the long-lasting 1783 Laki eruption: Inapplicability of mass-independent sulfur isotopic composition measurements. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		26
35	Middle atmosphere response to different descriptions of the 11-yr solar cycle in spectral irradiance in a chemistry-climate model. <i>Atmospheric Chemistry and Physics</i> , 2012 , 12, 5937-5948	6.8	33

34	The response of tropical tropospheric ozone to ENSO. <i>Geophysical Research Letters</i> , 2011 , 38, n/a-n/a	4.9	78
33	Improvement of the GEOS-5 AGCM upon updating the air-sea roughness parameterization. <i>Geophysical Research Letters</i> , 2011 , 38, n/a-n/a	4.9	25
32	The relative importance of random error and observation frequency in detecting trends in upper tropospheric water vapor. <i>Journal of Geophysical Research</i> , 2011 , 116,		20
31	Response of the Antarctic stratosphere to warm pool El Niño Events in the GEOS CCM. <i>Atmospheric Chemistry and Physics</i> , 2011 , 11, 9659-9669	6.8	33
30	Response of the Antarctic Stratosphere to Two Types of El Niño Events. <i>Journals of the Atmospheric Sciences</i> , 2011 , 68, 812-822	2.1	51
29	Multi-model assessment of stratospheric ozone return dates and ozone recovery in CCMVal-2 models. <i>Atmospheric Chemistry and Physics</i> , 2010 , 10, 9451-9472	6.8	179
28	Decline and recovery of total column ozone using a multimodel time series analysis. <i>Journal of Geophysical Research</i> , 2010 , 115,		64
27	Mechanisms and feedback causing changes in upper stratospheric ozone in the 21st century. <i>Journal of Geophysical Research</i> , 2010 , 115,		33
26	Assessment of the breakup of the Antarctic polar vortex in two new chemistry-climate models. <i>Journal of Geophysical Research</i> , 2010 , 115,		22
25	Sensitivity of 21st century stratospheric ozone to greenhouse gas scenarios. <i>Geophysical Research Letters</i> , 2010 , 37, n/a-n/a	4.9	48
24	Multimodel assessment of the factors driving stratospheric ozone evolution over the 21st century. <i>Journal of Geophysical Research</i> , 2010 , 115,		56
23	Correction to Sulfuric acid deposition from stratospheric geoengineering with sulfate aerosols. <i>Journal of Geophysical Research</i> , 2010 , 115,		3
22	A new ENSO index derived from satellite measurements of column ozone. <i>Atmospheric Chemistry and Physics</i> , 2010 , 10, 3711-3721	6.8	68
21	Effect of zonal asymmetries in stratospheric ozone on simulated Southern Hemisphere climate trends. <i>Geophysical Research Letters</i> , 2009 , 36,	4.9	64
20	Sulfuric acid deposition from stratospheric geoengineering with sulfate aerosols. <i>Journal of Geophysical Research</i> , 2009 , 114,		59
19	On the influence of anthropogenic forcings on changes in the stratospheric mean age. <i>Journal of Geophysical Research</i> , 2009 , 114,		69
18	Did the Toba volcanic eruption of ~74 ka B.P. produce widespread glaciation?. <i>Journal of Geophysical Research</i> , 2009 , 114,		112
17	Impacts of climate change on stratospheric ozone recovery. <i>Geophysical Research Letters</i> , 2009 , 36, n/a-n/a		84

16	What would have happened to the ozone layer if chlorofluorocarbons (CFCs) had not been regulated?. <i>Atmospheric Chemistry and Physics</i> , 2009 , 9, 2113-2128	6.8	128
15	Regional climate responses to geoengineering with tropical and Arctic SO ₂ injections. <i>Journal of Geophysical Research</i> , 2008 , 113,		282
14	Understanding the Changes of Stratospheric Water Vapor in Coupled Chemistry-Climate Model Simulations. <i>Journals of the Atmospheric Sciences</i> , 2008 , 65, 3278-3291	2.1	40
13	An overview of geoengineering of climate using stratospheric sulphate aerosols. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2008 , 366, 4007-37	3	205
12	Atmospheric volcanic loading derived from bipolar ice cores: Accounting for the spatial distribution of volcanic deposition. <i>Journal of Geophysical Research</i> , 2007 , 112,		59
11	Nuclear winter revisited with a modern climate model and current nuclear arsenals: Still catastrophic consequences. <i>Journal of Geophysical Research</i> , 2007 , 112,		84
10	Southern Hemisphere atmospheric circulation effects of the 1991 Mount Pinatubo eruption. <i>Geophysical Research Letters</i> , 2007 , 34, n/a-n/a	4.9	40
9	Nuclear war. Consequences of regional-scale nuclear conflicts. <i>Science</i> , 2007 , 315, 1224-5	33.3	42
8	Modeling the distribution of the volcanic aerosol cloud from the 1783-1784 Laki eruption. <i>Journal of Geophysical Research</i> , 2006 , 111,		97
7	High-latitude eruptions cast shadow over the African monsoon and the flow of the Nile. <i>Geophysical Research Letters</i> , 2006 , 33, n/a-n/a	4.9	111
6	Climatic response to high-latitude volcanic eruptions. <i>Journal of Geophysical Research</i> , 2005 , 110,		132
5	Volcanic Climate Warming through Radiative and Dynamical Feedbacks of SO ₂ Emissions. <i>Geophysical Research Letters</i> ,	4.9	0
4	Nonlinear response of tropical lower stratospheric temperature and water vapor to ENSO		3
3	Multi-model assessment of stratospheric ozone return dates and ozone recovery in CCMVal-2 models		5
2	Response of the Antarctic stratosphere to warm pool El Niño Events in the GEOS CCM		2
1	What would have happened to the ozone layer if chlorofluorocarbons (CFCs) had not been regulated?		2