Samuel J Oltmans

List of Publications by Year
in descending order

69 papers	6,866 citations	50276 46 h-index	91884 69 g-index
78 all docs	78 docs citations	78 times ranked	4121 citing authors

#	Article	IF	Citations
1	Increasing springtime ozone mixing ratios in the free troposphere over western North America. Nature, 2010, 463, 344-348.	27.8	397
2	Southern Hemisphere Additional Ozonesondes (SHADOZ) 1998â€“2000 tropical ozone climatology 1. Comparison with Total Ozone Mapping Spectrometer (TOMS) and ground-based measurements. Journal of Geophysical Research, 2003, 108, .	3.3	329
3	Assessment of the performance of ECCâ€ozonesondes under quasiâ€flight conditions in the environmental simulation chamber: Insights from the Juelich Ozone Sonde Intercomparison Experiment (JOSIE). Journal of Geophysical Research, 2007, 112, .	3.3	282
4	Stratospheric water vapor increases over the past half-century. Geophysical Research Letters, 2001, 28, 1195-1198.	4.0	246
5	Surface ozone measurements in clean air. Journal of Geophysical Research, 1981, 86, 1174-1180.	3.3	222
6	Increase in lower-stratospheric water vapour at a mid-latitude Northern Hemisphere site from 1981 to 1994. Nature, 1995, 374, 146-149.	27.8	220
7	Springtime high surface ozone events over the western United States: Quantifying the role of stratospheric intrusions. Journal of Geophysical Research, 2012, 117, .	3.3	219
8	Transport of Asian ozone pollution into surface air over the western United States in spring. Journal of Geophysical Research, 2012, 117, .	3.3	218
9	Observations of Near-Zero Ozone Concentrations Over the Convective Pacific: Effects on Air Chemistry. Science, 1996, 274, 230-233.	12.6	212
10	The increase in stratospheric water vapor from balloonborne, frostpoint hygrometer measurements at Washington, D.C., and Boulder, Colorado. Geophysical Research Letters, 2000, 27, 3453-3456.	4.0	201
11	Development and Validation of a Time-Lag Correction for Vaisala Radiosonde Humidity Measurements. Journal of Atmospheric and Oceanic Technology, 2004, 21, 1305-1327.	1.3	193
12	Climate variability modulates western US ozone air quality in spring via deep stratospheric intrusions. Nature Communications, 2015, 6, 7105.	12.8	186
13	Validation of Tropospheric Emission Spectrometer (TES) nadir ozone profiles using ozonesonde measurements. Journal of Geophysical Research, 2008, 113, .	3.3	181
14	Trends in the vertical distribution of ozone: A comparison of two analyses of ozonesonde data. Journal of Geophysical Research, 1999, 104, 26373-26399.	3.3	179
15	Rapid photochemical production of ozone at high concentrations in a rural site during winter. Nature Geoscience, 2009, 2, 120-122.	12.9	175
16	Stratospheric water vapor trends over Boulder, Colorado: Analysis of the 30 year Boulder record. Journal of Geophysical Research, 2011, 116, .	3.3	162
17	Trends of ozone in the troposphere. Geophysical Research Letters, 1998, 25, 139-142.	4.0	156
18	Tropospheric ozone trends at Mauna Loa Observatory tied to decadal climate variability. Nature Geoscience, 2014, 7, 136-143.	12.9	151

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19	Electrochemical concentration cell (ECC) ozonesonde pump efficiency measurements and tests on the sensitivity to ozone of buffered and unbuffered ECC sensor cathode solutions. Journal of Geophysical Research, 2002, 107, ACH 8-1.	3.3	137
20	Atmospheric comparison of electrochemical cell ozonesondes from different manufacturers, and with different cathode solution strengths: The Balloon Experiment on Standards for Ozonesondes. Journal of Geophysical Research, 2008, 113, .	3.3	119
21	Large upper tropospheric ozone enhancements above midlatitude North America during summer: In situ evidence from the IONS and MOZAIC ozone measurement network. Journal of Geophysical Research, 2006, 111, .	3.3	113
22	Trends and variability of midlatitude stratospheric water vapour deduced from the re-evaluated Boulder balloon series and HALOE. Atmospheric Chemistry and Physics, 2008, 8, 1391-1402.	4.9	107
23	The evolution of the dehydration in the Antarctic stratospheric vortex. Journal of Geophysical Research, 1995, 100, 13919.	3.3	104
24	Stratospheric influence on surface ozone in the Los Angeles area during late spring and early summer of 2010. Journal of Geophysical Research, 2012, 117, .	3.3	103
25	Tropospheric Ozone Assessment Report: Tropospheric ozone from 1877 to 2016, observed levels, trends and uncertainties. Elementa, 2019, 7, .	3.2	103
26	Technical Note: Ozonesonde climatology between 1995 and 2011: description, evaluation and applications. Atmospheric Chemistry and Physics, 2012, 12, 7475-7497.	4.9	101
27	Background ozone levels of air entering the west coast of the US and assessment of longer-term changes. Atmospheric Environment, 2008, 42, 6020-6038.	4.1	100
28	Characterizing summertime chemical boundary conditions for airmasses entering the US West Coast. Atmospheric Chemistry and Physics, 2011, 11, 1769-1790.	4.9	90
29	Intercontinental Chemical Transport Experiment Ozonesonde Network Study (IONS) 2004: 1. Summertime upper troposphere/lower stratosphere ozone over northeastern North America. Journal of Geophysical Research, 2007, 112, .	3.3	82
30	Evidence for a recurring eastern North America upper tropospheric ozone maximum during summer. Journal of Geophysical Research, 2007, 112, .	3.3	81
31	Intercontinental Chemical Transport Experiment Ozonesonde Network Study (IONS) 2004: 2. Tropospheric ozone budgets and variability over northeastern North America. Journal of Geophysical Research, 2007, 112, .	3.3	77
32	Impact of transported background ozone inflow on summertime air quality in a California ozone exceedance area. Atmospheric Chemistry and Physics, 2010, 10, 10093-10109.	4.9	73
33	Measurement of western U.S. baseline ozone from the surface to the tropopause and assessment of downwind impact regions. Journal of Geophysical Research, 2011, 116, .	3.3	71
34	Attribution of recovery in lower-stratospheric ozone. Journal of Geophysical Research, 2006, 111, .	3.3	70
35	Water vapor control at the tropopause by equatorial Kelvin waves observed over the GalÃ¡pagos. Geophysical Research Letters, 2001, 28, 3143-3146.	4.0	69
36	Balloon-borne observations of water vapor and ozone in the tropical upper troposphere and lower stratosphere. Journal of Geophysical Research, 2002, 107, ACL 8-1.	3.3	69

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37	Impacts of transported background ozone on California air quality during the ARCTAS-CARB period â€“ a multi-scale modeling study. Atmospheric Chemistry and Physics, 2010, 10, 6947-6968.	4.9	63
38	Strategic ozone sounding networks: Review of design and accomplishments. Atmospheric Environment, 2011, 45, 2145-2163.	4.1	63
39	Seasonal to decadal variations of water vapor in the tropical lower stratosphere observed with balloonâ€borne cryogenic frost point hygrometers. Journal of Geophysical Research, 2010, 115, .	3.3	61
40	First Reprocessing of Southern Hemisphere Additional Ozonesondes (SHADOZ) Ozone Profiles (1998â€“2016): 2. Comparisons With Satellites and Groundâ€Based Instruments. Journal of Geophysical Research D: Atmospheres, 2017, 122, 13,000.	3.3	61
41	Validation of northern latitude Tropospheric Emission Spectrometer stare ozone profiles with ARC-IONS sondes during ARCTAS: sensitivity, bias and error analysis. Atmospheric Chemistry and Physics, 2010, 10, 9901-9914.	4.9	58
42	Southern Hemisphere Additional Ozonesondes (SHADOZ) ozone climatology (2005â€“2009): Tropospheric and tropical tropopause layer (TTL) profiles with comparisons to OMIâ€based ozone products. Journal of Geophysical Research, 2012, 117, .	3.3	58
43	Performance of the Meteolabor â€œSnow Whiteâ€•Chilled-Mirror Hygrometer in the Tropical Troposphere: Comparisons with the Vaisala RS80 A/H-Humicap Sensors. Journal of Atmospheric and Oceanic Technology, 2003, 20, 1534-1542.	1.3	57
44	Homogenizing and estimating the uncertainty in NOAA's long-term vertical ozone profile records measured with the electrochemical concentration cell ozonesonde. Atmospheric Measurement Techniques, 2018, 11, 3661-3687.	3.1	56
45	Multi-decadal surface ozone trends at globally distributed remote locations. Elementa, 2020, 8, .	3.2	54
46	Springtime boundary layer ozone depletion at Barrow, Alaska: Meteorological influence, yearâ€toâ€year variation, and longâ€term change. Journal of Geophysical Research, 2012, 117, .	3.3	52
47	The Behavior of the Snow White Chilled-Mirror Hygrometer in Extremely Dry Conditions. Journal of Atmospheric and Oceanic Technology, 2003, 20, 1560-1567.	1.3	51
48	A re-evaluated Canadian ozonesonde record: measurements of the vertical distribution of ozone over Canada from 1966 to 2013. Atmospheric Measurement Techniques, 2016, 9, 195-214.	3.1	51
49	Stratospheric Water Vapor Variability for Washington, DC/Boulder, CO: 1964â€“82. Journals of the Atmospheric Sciences, 1983, 40, 2157-2165.	1.7	48
50	Anatomy of wintertime ozone associated with oil and natural gas extraction activity in Wyoming and Utah. Elementa, 2014, 2, .	3.2	45
51	Comparison of Canadian air quality forecast models with tropospheric ozone profile measurements above midlatitude North America during the IONS/ICARTT campaign: Evidence for stratospheric input. Journal of Geophysical Research, 2007, 112, .	3.3	40
52	Validation of Aura Microwave Limb Sounder stratospheric water vapor measurements by the NOAA frost point hygrometer. Journal of Geophysical Research D: Atmospheres, 2014, 119, 1612-1625.	3.3	38
53	Comparisons of temperature, pressure and humidity measurements by balloon-borne radiosondes and frost point hygrometers during MOHAVE-2009. Atmospheric Measurement Techniques, 2011, 4, 2777-2793.	3.1	37
54	Tropospheric ozone during Mauna Loa Observatory Photochemistry Experiment 2 compared to long-term measurements from surface and ozonesonde observations. Journal of Geophysical Research, 1996, 101, 14569-14580.	3.3	36

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55	Highâ€resolution tropospheric ozone fields for INTEX and ARCTAS from IONS ozonesondes. Journal of Geophysical Research, 2010, 115, .	3.3	35
56	Quantifying stratosphere-troposphere transport of ozone using balloon-borne ozonesondes, radar windprofilers and trajectory models. Atmospheric Environment, 2019, 198, 496-509.	4.1	34
57	Recent divergences in stratospheric water vapor measurements by frost point hygrometers and the Aura Microwave Limb Sounder. Atmospheric Measurement Techniques, 2016, 9, 4447-4457.	3.1	33
58	Advancements, measurement uncertainties, and recent comparisons of the NOAA frostÂpoint hygrometer. Atmospheric Measurement Techniques, 2016, 9, 4295-4310.	3.1	31
59	Improving ECC Ozonesonde Data Quality: Assessment of Current Methods and Outstanding Issues. Earth and Space Science, 2021, 8, e2019EA000914.	2.6	30
60	Impacts of transported background pollutants on summertime western US air quality: model evaluation, sensitivity analysis and data assimilation. Atmospheric Chemistry and Physics, 2013, 13, 359-391.	4.9	28
61	Origin of springtime ozone enhancements in the lower troposphere over Beijing: in situ measurements and model analysis. Atmospheric Chemistry and Physics, 2015, 15, 5161-5179.	4.9	25
62	Reversal of Longâ€Term Trend in Baseline Ozone Concentrations at the North American West Coast. Geophysical Research Letters, 2017, 44, 10,675.	4.0	24
63	Cold trap dehydration in the Tropical Tropopause Layer characterised by SOWER chilled-mirror hygrometer network data in the Tropical Pacific. Atmospheric Chemistry and Physics, 2013, 13, 4393-4411.	4.9	17
64	Tropospheric ozonesonde profiles at longâ€term U.S. monitoring sites: 2. Links between Trinidad Head, CA, profile clusters and inland surface ozone measurements. Journal of Geophysical Research D: Atmospheres, 2017, 122, 1261-1280.	3.3	17
65	A new method to correct the electrochemical concentration cell (ECC) ozonesonde time response and its implications for â€œbackground currentâ€•and pump efficiency. Atmospheric Measurement Techniques, 2020, 13, 5667-5680.	3.1	15
66	Comparison of ozone concentrations on a surface elevation gradient with balloon-borne ozonesonde measurements. Atmospheric Environment, 2011, 45, 5431-5439.	4.1	10
67	Variations in the vertical profile of ozone at four high-latitude Arctic sites from 2005 to 2017. Atmospheric Chemistry and Physics, 2019, 19, 9733-9751.	4.9	10
68	Boundary layer ozone in the Northern Colorado Front Range in Julyâ€“August 2014 during FRAPPE and DISCOVER-AQ from vertical profile measurements. Elementa, 2019, 7, .	3.2	9
69	Estimating wildfire-generated ozone over North America using ozonesonde profiles and a differential back trajectory technique. Atmospheric Environment: X, 2020, 7, 100078.	1.4	8