Holger VÃ¶mel

List of Publications by Year
in descending order

97 papers	6,411 citations	61984 43 h-index	79698 73 g-index
144 all docs	144 docs citations	144 times ranked	3713 citing authors

#	Article	IF	Citations
1	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
2	Decreases in stratospheric water vapor after 2001: Links to changes in the tropical tropopause and the Brewer-Dobson circulation. Journal of Geophysical Research, 2006, 111, .	3.3	273
3	Aura Microwave Limb Sounder upper tropospheric and lower stratospheric H₂O and relative humidity with respect to ice validation. Journal of Geophysical Research, 2007, 112, .	3.3	234
4	Absolute accuracy of water vapor measurements from six operational radiosonde types launched during AWEX-G and implications for AIRS validation. Journal of Geophysical Research, 2006, 111, .	3.3	233
5	Accuracy assessment and correction of Vaisala RS92 radiosonde water vapor measurements. Journal of Geophysical Research, 2009, 114, .	3.3	229
6	Radiation Dry Bias of the Vaisala RS92 Humidity Sensor. Journal of Atmospheric and Oceanic Technology, 2007, 24, 953-963.	1.3	224
7	Observations of Near-Zero Ozone Concentrations Over the Convective Pacific: Effects on Air Chemistry. Science, 1996, 274, 230-233.	12.6	212
8	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
9	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
10	Reference quality upper-air measurements: GRUAN data processing for the Vaisala RS92 radiosonde. Atmospheric Measurement Techniques, 2014, 7, 4463-4490.	3.1	188
11	Stratospheric water vapor trends over Boulder, Colorado: Analysis of the 30 year Boulder record. Journal of Geophysical Research, 2011, 116, .	3.3	162
12	Accuracy of tropospheric and stratospheric water vapor measurements by the cryogenic frost point hygrometer: Instrumental details and observations. Journal of Geophysical Research, 2007, 112, .	3.3	158
13	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
14	The impact of cirrus clouds on tropical troposphere-to-stratosphere transport. Atmospheric Chemistry and Physics, 2006, 6, 2539-2547.	4.9	137
15	Validation of Aura Microwave Limb Sounder Ozone by ozonesonde and lidar measurements. Journal of Geophysical Research, 2007, 112, .	3.3	133
16	Reference Quality Upper-Air Measurements: guidance for developing GRUAN data products. Atmospheric Measurement Techniques, 2010, 3, 1217-1231.	3.1	133
17	The Stratospheric Water and Ozone Satellite Homogenized (SWOOSH) database: a long-term database for climate studies. Earth System Science Data, 2016, 8, 461-490.	9.9	126
18	Reference Upper-Air Observations for Climate: Rationale, Progress, and Plans. Bulletin of the American Meteorological Society, 2009, 90, 361-369.	3.3	122

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19	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
20	The evolution of the dehydration in the Antarctic stratospheric vortex. Journal of Geophysical Research, 1995, 100, 13919.	3.3	104
21	Validation of Aura Microwave Limb Sounder water vapor by balloonâ€borne Cryogenic Frost point Hygrometer measurements. Journal of Geophysical Research, 2007, 112, .	3.3	98
22	Radiation Dry Bias Correction of Vaisala RS92 Humidity Data and Its Impacts on Historical Radiosonde Data. Journal of Atmospheric and Oceanic Technology, 2013, 30, 197-214.	1.3	91
23	The AquaVIT-1 intercomparison of atmospheric water vapor measurement techniques. Atmospheric Measurement Techniques, 2014, 7, 3177-3213.	3.1	88
24	In situ water vapor and ozone measurements in Lhasa and Kunming during the Asian summer monsoon. Geophysical Research Letters, 2012, 39, .	4.0	81
25	Reference Upper-Air Observations for Climate: From Concept to Reality. Bulletin of the American Meteorological Society, 2016, 97, 123-135.	3.3	79
26	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
27	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
28	Intercomparison of humidity and temperature sensors: GTS1, Vaisala RS80, and CFH. Advances in Atmospheric Sciences, 2011, 28, 139-146.	4.3	69
29	Nitric acid trihydrate nucleation and denitrification in the Arctic stratosphere. Atmospheric Chemistry and Physics, 2014, 14, 1055-1073.	4.9	62
30	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
31	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
32	Particle backscatter and relative humidity measured across cirrus clouds and comparison with microphysical cirrus modelling. Atmospheric Chemistry and Physics, 2012, 12, 9135-9148.	4.9	60
33	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
34	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
35	Ozone sonde cell current measurements and implications for observations of near-zero ozone concentrations in the tropical upper troposphere. Atmospheric Measurement Techniques, 2010, 3, 495-505.	3.1	56
36	Validation of 10-year SAO OMI Ozone Profile (PROFOZ) product using ozonesonde observations. Atmospheric Measurement Techniques, 2017, 10, 2455-2475.	3.1	53

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37	Tropospheric ozone over the North Pacific from ozonesonde observations. Journal of Geophysical Research, 2004, 109, .	3.3	52
38	An update on the uncertainties of water vapor measurements using cryogenic frost point hygrometers. Atmospheric Measurement Techniques, 2016, 9, 3755-3768.	3.1	52
39	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
40	Airborne and Ground-Based Measurements Using a High-Performance Raman Lidar. Journal of Atmospheric and Oceanic Technology, 2010, 27, 1781-1801.	1.3	50
41	Dehydration and sedimentation of ice particles in the Arctic stratospheric vortex. Geophysical Research Letters, 1997, 24, 795-798.	4.0	48
42	Quasibiennial oscillation in tropical ozone as revealed by ozonesonde and satellite data. Journal of Geophysical Research, 2003, 108, .	3.3	48
43	Evaluation of UT/LS hygrometer accuracy by intercomparison during the NASA MACPEX mission. Journal of Geophysical Research D: Atmospheres, 2014, 119, 1915-1935.	3.3	47
44	Detailed structure of the tropical upper troposphere and lower stratosphere as revealed by balloon sonde observations of water vapor, ozone, temperature, and winds during the NASA TCSP and TC4 campaigns. Journal of Geophysical Research, 2010, 115, .	3.3	46
45	First Reprocessing of Southern Hemisphere ADditional OZonesondes Profile Records: 3. Uncertainty in Ozone Profile and Total Column. Journal of Geophysical Research D: Atmospheres, 2018, 123, 3243-3268.	3.3	46
46	Intercomparisons of Stratospheric Water Vapor Sensors: FLASH-B and NOAA/CMDL Frost-Point Hygrometer. Journal of Atmospheric and Oceanic Technology, 2007, 24, 941-952.	1.3	43
47	Assessing the quality of humidity measurements from global operational radiosonde sensors. Journal of Geophysical Research D: Atmospheres, 2013, 118, 8040-8053.	3.3	43
48	Measurements of Humidity in the Atmosphere and Validation Experiments (MOHAVE)-2009: overview of campaign operations and results. Atmospheric Measurement Techniques, 2011, 4, 2579-2605.	3.1	41
49	Arctic stratospheric dehydration â€“ Part 1: Unprecedented observation of vertical redistribution of water. Atmospheric Chemistry and Physics, 2013, 13, 11503-11517.	4.9	41
50	Characterization of the long-term radiosonde temperature biases in the upper troposphere and lower stratosphere using COSMIC and Metop-A/GRAS data from 2006 to 2014. Atmospheric Chemistry and Physics, 2017, 17, 4493-4511.	4.9	39
51	New evidence for the stratospheric dehydration mechanism in the equatorial Pacific. Geophysical Research Letters, 1995, 22, 3235-3238.	4.0	38
52	Comparison of Tropospheric Emission Spectrometer nadir water vapor retrievals with in situ measurements. Journal of Geophysical Research, 2008, 113, .	3.3	38
53	Dehydration in the Arctic stratosphere during the SOLVE/THESEO-2000 campaigns. Journal of Geophysical Research, 2002, 107, SOL 36-1.	3.3	37
54	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

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55	Dehydration and low ozone in the tropopause layer over the Asian monsoon caused by tropical cyclones: Lagrangian transport calculations using ERA-Interim and ERA5 reanalysis data. Atmospheric Chemistry and Physics, 2020, 20, 4133-4152.	4.9	35
56	Analysis of Raman lidar and radiosonde measurements from the AWEX-G field campaign and its relation to Aqua validation. Journal of Geophysical Research, 2006, 111, .	3.3	33
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	Identification of the tropical tropopause transition layer using the ozone-water vapor relationship. Journal of Geophysical Research D: Atmospheres, 2014, 119, 3586-3599.	3.3	31
59	Advancements, measurement uncertainties, and recent comparisons of the NOAA frostÂpoint hygrometer. Atmospheric Measurement Techniques, 2016, 9, 4295-4310.	3.1	31
60	Convective and wave signatures in ozone profiles over the equatorial Americas: Views from TC4 2007 and SHADOZ. Journal of Geophysical Research, 2010, 115, .	3.3	30
61	High tropospheric ozone in Lhasa within the Asian summer monsoon anticyclone in 2013: influence of convective transport and stratospheric intrusions. Atmospheric Chemistry and Physics, 2018, 18, 17979-17994.	4.9	30
62	Improving ECC Ozonesonde Data Quality: Assessment of Current Methods and Outstanding Issues. Earth and Space Science, 2021, 8, e2019EA000914.	2.6	30
63	In situ observations of dehydrated air parcels advected horizontally in the Tropical Tropopause Layer of the western Pacific. Atmospheric Chemistry and Physics, 2007, 7, 803-813.	4.9	29
64	Validation of Aura MLS retrievals of temperature, water vapour and ozone in the upper troposphere and lowerâ€"middle stratosphere over the Tibetan Plateau during boreal summer. Atmospheric Measurement Techniques, 2016, 9, 3547-3566.	3.1	29
65	How stratospheric are deep stratospheric intrusions? LUAMIÂ2008. Atmospheric Chemistry and Physics, 2016, 16, 8791-8815.	4.9	29
66	Impact of typhoons on the composition of the upper troposphere within the Asian summer monsoon anticyclone: the SWOP campaign in Lhasa 2013. Atmospheric Chemistry and Physics, 2017, 17, 4657-4672.	4.9	24
67	Strong day-to-day variability of the Asian Tropopause Aerosol Layer (ATAL) in August 2016 at the Himalayan foothills. Atmospheric Chemistry and Physics, 2020, 20, 14273-14302.	4.9	23
68	Assessment of Observational Evidence for Direct Convective Hydration of the Lower Stratosphere. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032793.	3.3	21
69	Tropical cirrus clouds near cold point tropopause under ice supersaturated conditions observed by lidar and balloon-borne cryogenic frost point hygrometer. Journal of Geophysical Research, 2007, 112, .	3.3	19
70	Validation of GOME-2/MetOp-A total water vapour column using reference radiosonde data from the GRUAN network. Atmospheric Measurement Techniques, 2015, 8, 1135-1145.	3.1	19
71	A Postâ€2013 Dropoff in Total Ozone at a Third of Global Ozonesonde Stations: Electrochemical Concentration Cell Instrument Artifacts?. Geophysical Research Letters, 2020, 47, e2019GL086791.	4.0	19
72	Evaluation of Humidity Correction Methods for Vaisala RS92 Tropical Sounding Data. Journal of Atmospheric and Oceanic Technology, 2015, 32, 397-411.	1.3	18

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73	Dehydration in the tropical tropopause layer estimated from the water vapor match. Atmospheric Chemistry and Physics, 2013, 13, 8623-8642.	4.9	17
74	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
75	Arctic stratospheric dehydration â€" Part 2: Microphysical modeling. Atmospheric Chemistry and Physics, 2014, 14, 3231-3246.	4.9	17
76	Cirrus cloud appearance in a volcanic aerosol layer around the tropical cold point tropopause over Biak, Indonesia, in January 2011. Journal of Geophysical Research, 2012, 117, .	3.3	16
77	Intercomparison of atmospheric water vapour measurements at a Canadian High Arctic site. Atmospheric Measurement Techniques, 2017, 10, 2851-2880.	3.1	16
78	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
79	High vertical resolution water vapour profiles in the upper troposphere and lower stratosphere retrieved from MAESTRO solar occultation spectra. Advances in Space Research, 2010, 46, 642-650.	2.6	14
80	Altitude misestimation caused by the Vaisala RS80 pressure bias and its impact on meteorological profiles. Atmospheric Measurement Techniques, 2015, 8, 4043-4054.	3.1	14
81	TROPOMI tropospheric ozone column data: geophysical assessment and comparison to ozonesondes, GOME-2B and OMI. Atmospheric Measurement Techniques, 2021, 14, 7405-7433.	3.1	14
82	Recovery of ozone in the lower stratosphere at the South Pole during the spring of 1994. Geophysical Research Letters, 1995, 22, 2493-2496.	4.0	12
83	High-resolution in situ observations of atmospheric thermodynamics using dropsondes during the Organization of Tropical East Pacific Convection (OTREC) field campaign. Earth System Science Data, 2021, 13, 1107-1117.	9.9	11
84	Observational evidence of particle hygroscopic growth in the upper troposphereâ€"lower stratosphere (UTLS) over the Tibetan Plateau. Atmospheric Chemistry and Physics, 2019, 19, 8399-8406.	4.9	10
85	Evidence for midwinter chemical ozone destruction over Antarctica. Geophysical Research Letters, 1995, 22, 2381-2384.	4.0	9
86	Stratospheric water vapour as tracer for Vortex filamentation in the Arctic winter 2002/2003. Atmospheric Chemistry and Physics, 2003, 3, 1991-1997.	4.9	9
87	Laboratory evaluation of the effect of nitric acid uptake on frost point hygrometer performance. Atmospheric Measurement Techniques, 2011, 4, 289-296.	3.1	9
88	Validation of Aura Microwave Limb Sounder water vapor and ozone profiles over the Tibetan Plateau and its adjacent region during boreal summer. Science China Earth Sciences, 2015, 58, 589-603.	5.2	9
89	Validation of SAGE III/ISS Solar Water Vapor Data With Correlative Satellite and Balloonâ€Borne Measurements. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033803.	3.3	9
90	High supersaturation inside cirrus in wellâ€developed tropical tropopause layer over Indonesia. Geophysical Research Letters, 2012, 39, .	4.0	8

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91	Mixing characteristics within the tropopause transition layer over the Asian summer monsoon region based on ozone and water vapor sounding data. Atmospheric Research, 2022, 271, 106093.	4.1	6
92	On the quality of RS41 radiosonde descent data. Atmospheric Measurement Techniques, 2022, 15, 165-183.	3.1	5
93	Comparison of ground-based and satellite measurements of water vapour vertical profiles over Ellesmere Island, Nunavut. Atmospheric Measurement Techniques, 2019, 12, 4039-4063.	3.1	4
94	The SPARC Water Vapor Assessment II: assessment of satellite measurements of upper tropospheric humidity. Atmospheric Measurement Techniques, 2022, 15, 3377-3400.	3.1	4
95	Farâ€Ranging Impact of Mountain Waves Excited Over Greenland on Stratospheric Dehydration and Rehydration. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD033055.	3.3	3
96	Unprecedented Observations of a Nascent In Situ Cirrus in the Tropical Tropopause Layer. Geophysical Research Letters, 2021, 48, e2020GL090936.	4.0	3
97	Effect of deep convection on the tropical tropopause layer composition over the southwest Indian Ocean during austral summer. Atmospheric Chemistry and Physics, 2020, 20, 10565-10586.	4.9	3