Martin Steinbacher

List of Publications by Year
in descending order

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93 papers	5,200 citations	76196 40 h-index	106150 65 g-index
144 all docs	144 docs citations	144 times ranked	5552 citing authors

#	Article	IF	Citations
1	Groundâ€level nitrogen dioxide concentrations inferred from the satelliteâ€borne Ozone Monitoring Instrument. Journal of Geophysical Research, 2008, 113, .	3.3	288
2	Long-term changes in lower tropospheric baseline ozone concentrations at northern mid-latitudes. Atmospheric Chemistry and Physics, 2012, 12, 11485-11504.	1.9	260
3	Secondary organic aerosols from anthropogenic and biogenic precursors. Faraday Discussions, 2005, 130, 265.	1.6	245
4	Nitrogen oxide measurements at rural sites in Switzerland: Bias of conventional measurement techniques. Journal of Geophysical Research, 2007, 112, .	3.3	220
5	Secondary Organic Aerosol Formation by Irradiation of 1,3,5-Trimethylbenzeneâ^'NOxâ^'H2O in a New Reaction Chamber for Atmospheric Chemistry and Physics. Environmental Science & Technology, 2005, 39, 2668-2678.	4.6	191
6	Tropospheric Ozone Assessment Report: Database and metrics data of global surface ozone observations. Elementa, 2017, 5, .	1.1	172
7	High accuracy measurements of dry mole fractions of carbon dioxide and methane in humid air. Atmospheric Measurement Techniques, 2013, 6, 837-860.	1.2	151
8	Longâ€term changes in lower tropospheric baseline ozone concentrations: Comparing chemistryâ€climate models and observations at northern midlatitudes. Journal of Geophysical Research D: Atmospheres, 2014, 119, 5719-5736.	1.2	149
9	Changes in ozone over Europe: Analysis of ozone measurements from sondes, regular aircraft (MOZAIC) and alpine surface sites. Journal of Geophysical Research, 2012, 117, .	3.3	139
10	Robust extraction of baseline signal of atmospheric trace species using local regression. Atmospheric Measurement Techniques, 2012, 5, 2613-2624.	1.2	116
11	Single particle characterization of black carbon aerosols at a tropospheric alpine site in Switzerland. Atmospheric Chemistry and Physics, 2010, 10, 7389-7407.	1.9	109
12	Validation of the Swiss methane emission inventory by atmospheric observations and inverse modelling. Atmospheric Chemistry and Physics, 2016, 16, 3683-3710.	1.9	103
13	Tropospheric Ozone Assessment Report: Tropospheric ozone from 1877 to 2016, observed levels, trends and uncertainties. Elementa, 2019, 7, .	1.1	103
14	In situ measurement of atmospheric CO₂ at the four WMO/GAW stations in China. Atmospheric Chemistry and Physics, 2014, 14, 2541-2554.	1.9	102
15	Ozone, carbon monoxide and nitrogen oxides time series at four alpine GAW mountain stations in central Europe. Atmospheric Chemistry and Physics, 2010, 10, 12295-12316.	1.9	98
16	Performance characteristics of a proton-transfer-reaction mass spectrometer (PTR-MS) derived from laboratory and field measurements. International Journal of Mass Spectrometry, 2004, 239, 117-128.	0.7	96
17	Lower tropospheric ozone at northern midlatitudes: Changing seasonal cycle. Geophysical Research Letters, 2013, 40, 1631-1636.	1.5	95
18	Aerosol climatology and planetary boundary influence at the Jungfraujoch analyzed by synoptic weather types. Atmospheric Chemistry and Physics, 2011, 11, 5931-5944.	1.9	92

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19	Top-down estimates of European CH₄ and N₂O emissions based on four different inverse models. Atmospheric Chemistry and Physics, 2015, 15, 715-736.	1.9	92
20	Inverse modelling of European CH₄ emissions during 2006â€“2012 using different inverse models and reassessed atmospheric observations. Atmospheric Chemistry and Physics, 2018, 18, 901-920.	1.9	77
21	Continuous isotopic composition measurements of tropospheric CO₂ at Jungfraujoch (3580 m a.s.l.), Switzerland: real-time observation of regional pollution events. Atmospheric Chemistry and Physics, 2011, 11, 1685-1696.	1.9	72
22	Analysis of longâ€term aerosol size distribution data from Jungfraujoch with emphasis on free tropospheric conditions, cloud influence, and air mass transport. Journal of Geophysical Research D: Atmospheres, 2015, 120, 9459-9480.	1.2	69
23	Application of PTR-MS for measurements of biogenic VOC in a deciduous forest. International Journal of Mass Spectrometry, 2004, 239, 87-101.	0.7	68
24	Estimation of background concentrations of trace gases at the Swiss Alpine site Jungfraujoch (3580 m) Tj ETQq0 0 0 rgBT /Overlock 10	3.3	65
25	A global analysis of climate-relevant aerosol properties retrieved from the network of Global Atmosphere Watch (GAW) near-surface observatories. Atmospheric Measurement Techniques, 2020, 13, 4353-4392.	1.2	65
26	Inverse modelling of European N₂O emissions: assimilating observations from different networks. Atmospheric Chemistry and Physics, 2011, 11, 2381-2398.	1.9	63
27	The Global Atmosphere Watch reactive gases measurement network. Elementa, 0, 3, .	1.1	63
28	Comparison of 7 years of satellite-borne and ground-based tropospheric NO2measurements around Milan, Italy. Journal of Geophysical Research, 2006, 111, .	3.3	62
29	Ice Nucleating Particle Measurements at 241 K during Winter Months at 3580 m MSL in the Swiss Alps. Journals of the Atmospheric Sciences, 2016, 73, 2203-2228.	0.6	59
30	Observations of long-lived anthropogenic halocarbons at the high-Alpine site of Jungfraujoch (Switzerland) for assessment of trends and European sources. Science of the Total Environment, 2008, 391, 224-231.	3.9	56
31	Free tropospheric ozone changes over Europe as observed at Jungfraujoch (1990â€“2008): An analysis based on backward trajectories. Journal of Geophysical Research, 2011, 116, .	3.3	56
32	â€˜Measurements of OVOCs and NMHCs in a Swiss Highway Tunnel for Estimation of Road Transport Emissions. Environmental Science & Technology, 2007, 41, 7060-7066.	4.6	55
33	Fourteen months of on-line measurements of the non-refractory submicron aerosol at the Jungfraujoch (3580 m a.s.l.) â€“ chemical composition, origins and organic aerosol sources. Atmospheric Chemistry and Physics, 2015, 15, 11373-11398.	1.9	55
34	A Review of More than 20 Years of Aerosol Observation at the High Altitude Research Station Jungfraujoch, Switzerland (3580 m asl). Aerosol and Air Quality Research, 2016, 16, 764-788.	0.9	55
35	Multi-decadal surface ozone trends at globally distributed remote locations. Elementa, 2020, 8, .	1.1	54
36	Evaluation of new laser spectrometer techniques for in-situ carbon monoxide measurements. Atmospheric Measurement Techniques, 2012, 5, 2555-2567.	1.2	51

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37			

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55	Measurements of organic trace gases including oxygenated volatile organic compounds at the high alpine site Jungfraujoch (Switzerland): Seasonal variation and source allocations. Journal of Geophysical Research, 2008, 113, .	3.3	28
56	Analysis of elevated springtime levels of Peroxyacetyl nitrate (PAN) at the high Alpine research sites Jungfraujoch and Zugspitze. Atmospheric Chemistry and Physics, 2014, 14, 12553-12571.	1.9	27
57	Comparison of the regional CO₂ mole fraction filtering approaches at a WMO/GAW regional station in China. Atmospheric Measurement Techniques, 2015, 8, 5301-5313.	1.2	27
58	Zonal Similarity of Longâ€Term Changes and Seasonal Cycles of Baseline Ozone at Northern Midlatitudes. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD031908.	1.2	27
59	Volatile Organic Compounds in the Po Basin. Part B: Biogenic VOCs. Journal of Atmospheric Chemistry, 2005, 51, 293-315.	1.4	26
60	Reassessing the variability in atmospheric H₂ using the twoâ€way nested TM5 model. Journal of Geophysical Research D: Atmospheres, 2013, 118, 3764-3780.	1.2	26
61	Toward a definition of Essential Mountain Climate Variables. One Earth, 2021, 4, 805-827.	3.6	26
62	Vertical transport and degradation of polycyclic aromatic hydrocarbons in an Alpine Valley. Atmospheric Environment, 2004, 38, 6447-6456.	1.9	24
63	Background Freeâ€Tropospheric Ice Nucleating Particle Concentrations at Mixedâ€Phase Cloud Conditions. Journal of Geophysical Research D: Atmospheres, 2018, 123, 10,506.	1.2	24
64	Contribution of new particle formation to the total aerosol concentration at the highâ€altitude site Jungfraujoch (3580ÂmÂasl, Switzerland). Journal of Geophysical Research D: Atmospheres, 2016, 121, 11,692.	1.2	21
65	1997â€“2007 CO trend at the high Alpine site Jungfraujoch: a comparison between NDIR surface in situ and FTIR remote sensing observations. Atmospheric Chemistry and Physics, 2011, 11, 6735-6748.	1.9	20
66	Observation of atmospheric CO₂ and CO at Shangri-La station: results from the only regional station located at southwestern China. Tellus, Series B: Chemical and Physical Meteorology, 2022, 68, 28506.	0.8	19
67	Estimation of the fossil fuel component in atmospheric CO₂ based on radiocarbon measurements at the BeromÃ¼nster tall tower, Switzerland. Atmospheric Chemistry and Physics, 2017, 17, 10753-10766.	1.9	18
68	The MUSICA IASI CH₄ and N₂O products and their comparison to HIPPO, GAW and NDACC FTIR references. Atmospheric Measurement Techniques, 2018, 11, 4171-4215.	1.2	18
69	Impact of Air Mass Conditions and Aerosol Properties on Ice Nucleating Particle Concentrations at the High Altitude Research Station Jungfraujoch. Atmosphere, 2018, 9, 363.	1.0	18
70	Molecular hydrogen (H2) emissions from gasoline and diesel vehicles. Science of the Total Environment, 2010, 408, 3596-3606.	3.9	17
71	Recent advances in measurement techniques for atmospheric carbon monoxide and nitrous oxide observations. Atmospheric Measurement Techniques, 2019, 12, 5863-5878.	1.2	17
72	Atmospheric molecular hydrogen (H₂): observations at the high-altitude site Jungfraujoch, Switzerland. Tellus, Series B: Chemical and Physical Meteorology, 2022, 63, 64.	0.8	16

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73	Predicting abundance and variability of ice nucleating particles in precipitation at the high-altitude observatory Jungfraujoch. Atmospheric Chemistry and Physics, 2016, 16, 8341-8351.	1.9	16
74	Adaptive selection of diurnal minimum variation: a statistical strategy to obtain representative atmospheric CO₂ data and its application to European elevated mountain stations. Atmospheric Measurement Techniques, 2018, 11, 1501-1514.	1.2	16
75	Effect of Large-scale Biomass Burning on Aerosol Optical Properties at the GAW Regional Station Pha Din, Vietnam. Aerosol and Air Quality Research, 2019, 19, 1172-1187.	0.9	16
76	Nocturnal trans-alpine transport of ozone and its effects on air quality on the Swiss Plateau. Atmospheric Environment, 2004, 38, 4539-4550.	1.9	15
77	Surface ozone in the Southern Hemisphere: 20Âyears of data from aÂsite with a unique setting in El Tololo, Chile. Atmospheric Chemistry and Physics, 2017, 17, 6477-6492.	1.9	15
78	Chemical and physical influences on aerosol activation in liquid clouds: a study based on observations from the Jungfraujoch, Switzerland. Atmospheric Chemistry and Physics, 2016, 16, 4043-4061.	1.9	14
79	Inversion Approach to Validate Mercury Emissions Based on Background Air Monitoring at the High Altitude Research Station Jungfraujoch (3580 m). Environmental Science & Technology, 2017, 51, 2846-2853.	4.6	14
80	Molecular hydrogen (H₂) combustion emissions and their isotope (D/H) signatures from domestic heaters, diesel vehicle engines, waste incinerator plants, and biomass burning. Atmospheric Chemistry and Physics, 2012, 12, 6275-6289.	1.9	13
81	Evaluation and optimization of ICOS atmosphere station data as part of the labeling process. Atmospheric Measurement Techniques, 2021, 14, 89-116.	1.2	13
82	The isotopic composition of atmospheric nitrous oxide observed at the high-altitude research station Jungfraujoch, Switzerland. Atmospheric Chemistry and Physics, 2020, 20, 6495-6519.	1.9	11
83	Carbonaceous aerosol composition in air masses influenced by large-scale biomass burning: a case study in northwestern Vietnam. Atmospheric Chemistry and Physics, 2021, 21, 8293-8312.	1.9	11
84	The contribution of Saharan dust to the ice-nucleating particle concentrations at the High Altitude Station Jungfraujoch (3580â€‰mâ€‰a.s.l.), Switzerland. Atmospheric Chemistry and Physics, 2021, 21, 18029-18053.	1.9	11
85	An evaluation of the current radiative forcing benefit of the Montreal Protocol at the high-Alpine site Jungfraujoch. Science of the Total Environment, 2008, 391, 217-223.	3.9	8
86	Assessing local CO₂ contamination revealed by two near-by high altitude records at Jungfraujoch, Switzerland. Environmental Research Letters, 2021, 16, 044037.	2.2	8
87	Sources and nature of ice-nucleating particles in the free troposphere at Jungfraujoch in winter 2017. Atmospheric Chemistry and Physics, 2021, 21, 16925-16953.	1.9	6
88	Retrieval of methane source strengths in Europe using a simple modeling approach to assess the potential of spaceborne lidar observations. Atmospheric Chemistry and Physics, 2014, 14, 2625-2637.	1.9	5
89	Sensitivity of biomass burning emissions estimates to land surface information. Biogeosciences, 2022, 19, 2059-2078.	1.3	5
90	Peroxy acetyl nitrate (PAN) measurements at northern midlatitude mountain sites in April: a constraint on continental sourceâ€“receptor relationships. Atmospheric Chemistry and Physics, 2018, 18, 15345-15361.	1.9	3

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91	Low number concentration of ice nucleating particles in an aged smoke plume. Quarterly Journal of the Royal Meteorological Society, 2018, 144, 1991-1994.	1.0	2
92	An algorithm to detect non-background signals in greenhouse gas time series from European tall tower and mountain stations. Atmospheric Measurement Techniques, 2021, 14, 6119-6135.	1.2	1
93	The diurnal and seasonal variability of ice-nucleating particles at the High Altitude Station Jungfraujoch (3580â€‰mâ€‰a.s.l.), Switzerland. Atmospheric Chemistry and Physics, 2022, 22, 7557-7573.	1.9	0