Franz Rohrer

List of Publications by Year
in descending order

128 papers	7,866 citations	66343 42 h-index	66911 78 g-index
168 all docs	168 docs citations	168 times ranked	4672 citing authors

#	ARTICLE	IF	CITATIONS
1	Amplified Trace Gas Removal in the Troposphere. Science, 2009, 324, 1702-1704.	12.6	550
2	Strong correlation between levels of tropospheric hydroxyl radicals and solar ultraviolet radiation. Nature, 2006, 442, 184-187.	27.8	352
3	Estimations of global no, emissions and their uncertainties. Atmospheric Environment, 1997, 31, 1735-1749.	4.1	285
4	Observation and modelling of OH and HO₂ concentrations in the Pearl River Delta 2006: a missing OH source in a VOC rich atmosphere. Atmospheric Chemistry and Physics, 2012, 12, 1541-1569.	4.9	269
5	Radical chemistry at a rural site (Wangdu) in the North China Plain: observation and model calculations of OH, HO₂ and RO₂ radicals. Atmospheric Chemistry and Physics, 2017, 17, 663-690.	4.9	239
6	Characterisation of the photolytic HONO-source in the atmosphere simulation chamber SAPHIR. Atmospheric Chemistry and Physics, 2005, 5, 2189-2201.	4.9	237
7	Atmospheric OH reactivities in the Pearl River Delta â€" China in summer 2006: measurement and model results. Atmospheric Chemistry and Physics, 2010, 10, 11243-11260.	4.9	231
8	Exploring the atmospheric chemistry of nitrous acid (HONO) at a rural site in Southern China. Atmospheric Chemistry and Physics, 2012, 12, 1497-1513.	4.9	211
9	Isoprene oxidation by nitrate radical: alkyl nitrate and secondary organic aerosol yields. Atmospheric Chemistry and Physics, 2009, 9, 6685-6703.	4.9	208
10	Detection of HO₂ by laser-induced fluorescence: calibration and interferences from RO₂ radicals. Atmospheric Measurement Techniques, 2011, 4, 1209-1225.	3.1	199
11	The tropospheric cycle of H₂: a critical review. Tellus, Series B: Chemical and Physical Meteorology, 2022, 61, 500.	1.6	196
12	Missing OH source in a suburban environment near Beijing: observed and modelled OH and HO₂ concentrations in summer 2006. Atmospheric Chemistry and Physics, 2013, 13, 1057-1080.	4.9	188
13	Wintertime photochemistry in Beijing: observations of RO_{<i>x</i>} radical concentrations in the North China Plain during the BEST-ONE campaign. Atmospheric Chemistry and Physics, 2018, 18, 12391-12411.	4.9	177
14	Missing Gas-Phase Source of HONO Inferred from Zeppelin Measurements in the Troposphere. Science, 2014, 344, 292-296.	12.6	154
15	Fast Photochemistry in Wintertime Haze: Consequences for Pollution Mitigation Strategies. Environmental Science & Technology, 2019, 53, 10676-10684.	10.0	147
16	Sources and distribution of NO_{<i>x</i>} in the upper troposphere at northern midâ€latitudes. Journal of Geophysical Research, 1992, 97, 3725-3738.	3.3	145
17	Experimental evidence for efficient hydroxyl radical regeneration in isoprene oxidation. Nature Geoscience, 2013, 6, 1023-1026.	12.9	132
18	SOA from limonene: role of NO₃ in its generation and degradation. Atmospheric Chemistry and Physics, 2011, 11, 3879-3894.	4.9	123

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19	Dependence of the OH concentration on solar UV. Journal of Geophysical Research, 2000, 105, 3565-3571.	3.3	115
20	Climatologies of NOxx and NOy: A comparison of data and models. Atmospheric Environment, 1997, 31, 1851-1904.	4.1	111
21	Maximum efficiency in the hydroxyl-radical-based self-cleansing of the troposphere. Nature Geoscience, 2014, 7, 559-563.	12.9	110
22	Effects of NO_{<i>x</i>} and SO₂ on the secondary organic aerosol formation from photooxidation of <i>Î±</i>-pinene and limonene. Atmospheric Chemistry and Physics, 2018, 18, 1611-1628.	4.9	110
23	A broadband cavity enhanced absorption spectrometer for aircraft measurements of glyoxal, methylglyoxal, nitrous acid, nitrogen dioxide, and water vapor. Atmospheric Measurement Techniques, 2016, 9, 423-440.	3.1	93
24	Experimental budgets of OH, HO₂, and RO₂ radicals and implications for ozone formation in the Pearl River Delta in China 2014. Atmospheric Chemistry and Physics, 2019, 19, 7129-7150.	4.9	92
25	OH in the coastal boundary layer of Crete during MINOS: Measurements and relationship with ozone photolysis. Atmospheric Chemistry and Physics, 2003, 3, 639-649.	4.9	86
26	Free Radicals and Fast Photochemistry during BERLIOZ. Journal of Atmospheric Chemistry, 2002, 42, 359-394.	3.2	85
27	Simulation chamber investigation of the reactions of ozone with shortâ€chained alkenes. Journal of Geophysical Research, 2007, 112, .	3.3	83
28	Actinometric measurements of NO₂ photolysis frequencies in the atmosphere simulation chamber SAPHIR. Atmospheric Chemistry and Physics, 2005, 5, 493-503.	4.9	82
29	Intercomparison of measurements of NO₂ concentrations in the atmosphere simulation chamber SAPHIR during the NO3Comp campaign. Atmospheric Measurement Techniques, 2010, 3, 21-37.	3.1	77
30	Intercomparison of Two Hydroxyl Radical Measurement Techniques at the Atmosphere Simulation Chamber SAPHIR. Journal of Atmospheric Chemistry, 2007, 56, 187-205.	3.2	76
31	Comparison of OH concentration measurements by DOAS and LIF during SAPHIR chamber experiments at high OH reactivity and low NO concentration. Atmospheric Measurement Techniques, 2012, 5, 1611-1626.	3.1	75
32	Comparison of OH reactivity measurements in the atmospheric simulation chamber SAPHIR. Atmospheric Measurement Techniques, 2017, 10, 4023-4053.	3.1	74
33	On the use of hydrocarbons for the determination of tropospheric OH concentrations. Journal of Geophysical Research, 1998, 103, 18981-18997.	3.3	70
34	The 193 (and 248) nm photolysis of HN3: Formation and internal energy distributions of the NH (aâ€‰1Î”,) Tj ETQq0 0 0 rgBT /Overlock	3.0	67
35	Study of ozone formation and transatlantic transport from biomass burning emissions over West Africa during the airborne Tropospheric Ozone Campaigns TROPOZ I and TROPOZ II. Journal of Geophysical Research, 1998, 103, 19059-19073.	3.3	67
36	Secondary organic aerosol formation from hydroxyl radical oxidation and ozonolysis of monoterpenes. Atmospheric Chemistry and Physics, 2015, 15, 991-1012.	4.9	67

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37	No Evidence for a Significant Impact of Heterogeneous Chemistry on Radical Concentrations in the North China Plain in Summer 2014. Environmental Science & Technology, 2020, 54, 5973-5979.	10.0	67
38	Suppression of new particle formation from monoterpene oxidation by NO_x. Atmospheric Chemistry and Physics, 2014, 14, 2789-2804.	4.9	63
39	OH reactivity at a rural site (Wangdu) in the North China Plain: contributions from OH reactants and experimental OH budget. Atmospheric Chemistry and Physics, 2017, 17, 645-661.	4.9	63
40	Modeling of HCHO and CHOCHO at a semi-rural site in southern China during the PRIDE-PRD2006 campaign. Atmospheric Chemistry and Physics, 2014, 14, 12291-12305.	4.9	59
41	Comparison of measured OH concentrations with model calculations. Journal of Geophysical Research, 1994, 99, 16633.	3.3	58
42	Generation of NH(aâ€‰1Î”) in the 193 nm photolysis of ammonia. Journal of Chemical Physics, 1987, 86, 2036-2043.	3.0	54
43	Intercomparison of NO₃ radical detection instruments in the atmosphere simulation chamber SAPHIR. Atmospheric Measurement Techniques, 2013, 6, 1111-1140.	3.1	49
44	Investigation of potential interferences in the detection of atmospheric RO_{<i>x</i>} radicals by laser-induced fluorescence under dark conditions. Atmospheric Measurement Techniques, 2016, 9, 1431-1447.	3.1	49
45	Global distribution pattern of anthropogenic nitrogen oxide emissions: Correlation analysis of satellite measurements and model calculations. Journal of Geophysical Research, 2006, 111, .	3.3	44
46	High static stability in the mixing layer above the extratropical tropopause. Journal of Geophysical Research, 2009, 114, .	3.3	44
47	Importance of isomerization reactions for OH radical regeneration from the photo-oxidation of isoprene investigated in the atmospheric simulation chamber SAPHIR. Atmospheric Chemistry and Physics, 2020, 20, 3333-3355.	4.9	44
48	Title is missing!. Journal of Atmospheric Chemistry, 1998, 31, 119-137.	3.2	42
49	Vertical profiles of HDO/H2O in the troposphere. Journal of Geophysical Research, 2005, 110, .	3.3	40
50	Nighttime observation and chemistry of HO_x in the Pearl River Delta and Beijing in summer 2006. Atmospheric Chemistry and Physics, 2014, 14, 4979-4999.	4.9	40
51	Impact of NO_{<i>x</i>} on secondary organic aerosolÂ(SOA) formation from <i>Î±</i>-pinene and <i>Î²</i>-pinene photooxidation: the role of highly oxygenated organic nitrates. Atmospheric Chemistry and Physics, 2020, 20, 10125-10147.	4.9	40
52	NH(a1Î” â†’ X3Î£â^’) emission from the gas-phase photolysis of HN3. Chemical Physics Letters, 1984, 111, 234-237	2.6	39
53	HO_x budgets during HOxComp: A case study of HO_x chemistry under NO_xâ€limited conditions. Journal of Geophysical Research, 2012, 117, .	3.3	38
54	Missing SO₂ oxidant in the coastal atmosphere? â€“ observations from high-resolution measurements of OH and atmospheric sulfur compounds. Atmospheric Chemistry and Physics, 2014, 14, 12209-12223.	4.9	38

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55	OH regeneration from methacrolein oxidation investigated in the atmosphere simulation chamber SAPHIR. Atmospheric Chemistry and Physics, 2014, 14, 7895-7908.	4.9	38
56	Kinetic Study of the OH-isoprene and O3-isoprene reaction in the atmosphere simulation chamber, SAPHIR. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	37
57	Evidence for an unidentified non-photochemical ground-level source of formaldehyde in the Po Valley with potential implications for ozone production. Atmospheric Chemistry and Physics, 2015, 15, 1289-1298.	4.9	36
58	Kinetic study of imidogen(a) by emission. The Journal of Physical Chemistry, 1989, 93, 3170-3174.	2.9	35
59	The global tropospheric distribution of NOxestimated by a three-dimensional chemical tracer model. Journal of Geophysical Research, 1996, 101, 18587-18604.	3.3	35
60	Two-photon formation of NH/ND(A3Î) in the 193 nm photolysis of ammonia. I. Mechanism and identification of the intermediate species. Chemical Physics, 1987, 118, 141-152.	1.9	34
61	Excitation mechanism for hydroxyl(A) in the argon fluoride excimer laser photolysis of nitric acid. The Journal of Physical Chemistry, 1986, 90, 1294-1299.	2.9	33
62	Electronic quenching of imidogen(c1.PI.). The Journal of Physical Chemistry, 1989, 93, 7824-7832.	2.9	33
63	Seasonal variability and trends of volatile organic compounds in the lower polar troposphere. Journal of Geophysical Research, 2003, 108, n/a-n/a.	3.3	33
64	Intercomparison of NO2photolysis frequency measurements by actinic flux spectroradiometry and chemical actinometry during JCOM97. Geophysical Research Letters, 2000, 27, 1115-1118.	4.0	32
65	Twenty years of ambient observations of nitrogen oxides and specified hydrocarbons in air masses dominated by traffic emissions in Germany. Faraday Discussions, 2016, 189, 407-437.	3.2	32
66	Statistical analysis of water vapour and ozone in the UT/LS observed during SPURT and MOZAIC. Atmospheric Chemistry and Physics, 2008, 8, 6603-6615.	4.9	30
67	Intercomparison of peroxy radical measurements obtained at atmospheric conditions by laser-induced fluorescence and electron spin resonance spectroscopy. Atmospheric Measurement Techniques, 2009, 2, 55-64.	3.1	30
68	Comparisons of observed and modeled OH and HO₂ concentrations during the ambient measurement period of the HO_xComp field campaign. Atmospheric Chemistry and Physics, 2012, 12, 2567-2585.	4.9	30
69	Highly oxygenated organic molecule (HOM) formation in the isoprene oxidation by NO₃ radical. Atmospheric Chemistry and Physics, 2021, 21, 9681-9704.	4.9	30
70	Determination of the excitation mechanism for photofragment emission in the ArF laser photolysis of NH3, N2H4, HNO3 and CH3NH2. Chemical Physics Letters, 1985, 116, 374-379.	2.6	29
71	Radiative lifetime of metastable NH(b 1Î£+). Chemical Physics Letters, 1984, 107, 347-350.	2.6	28
72	Surface NO and NO2 mixing ratios measured between 30ï¿½ N and 30ï¿½ S in the Atlantic region. Journal of Atmospheric Chemistry, 1992, 15, 253-267.	3.2	28

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73	Extending water vapor trend observations over Boulder into the tropopause region: Trend uncertainties and resulting radiative forcing. Journal of Geophysical Research D: Atmospheres, 2013, 118, 11269-11284.	3.3	28
74	Collisionâ€induced intersystem crossing NH(câ€‰1Î)â†’NH(Aâ€‰3Î). Journal of Chemical Physics, 1987, 86, 226-233.	3.3	27
75	Tritiated water vapor in the stratosphere: Vertical profiles and residence time. Journal of Geophysical Research, 2002, 107, ACH 8-1.	3.3	27
76	Investigation of the <i>Î²</i>-pinene photooxidation by OH in the atmosphere simulation chamber SAPHIR. Atmospheric Chemistry and Physics, 2017, 17, 6631-6650.	4.9	27
77	Isotope effect in the formation of H₂ from H₂CO studied at the atmospheric simulation chamber SAPHIR. Atmospheric Chemistry and Physics, 2010, 10, 5343-5357.	4.9	25
78	Simulation chamber studies on the NO3chemistry of atmospheric aldehydes. Geophysical Research Letters, 2006, 33, n/a-n/a.	4.0	24
79	Intercomparison of Hantzsch and fiber-laser-induced-fluorescence formaldehyde measurements. Atmospheric Measurement Techniques, 2014, 7, 1571-1580.	3.1	24
80	Uptake of Waterâ€soluble Gasâ€phase Oxidation Products Drives Organic Particulate Pollution in Beijing. Geophysical Research Letters, 2021, 48, e2020GL091351.	4.0	24
81	Investigation of the oxidation of methyl vinyl ketone (MVK) by OH radicals in the atmospheric simulation chamber SAPHIR. Atmospheric Chemistry and Physics, 2018, 18, 8001-8016.	4.9	22
82	Hydroxyl(A) production in the 193-nm photolysis of nitrous acid. The Journal of Physical Chemistry, 1986, 90, 2635-2639.	2.9	21
83	Comparison of N₂O₅ mixing ratios during NO3Comp 2007 in SAPHIR. Atmospheric Measurement Techniques, 2012, 5, 2763-2777.	3.1	21
84	Atmospheric photochemistry of aromatic hydrocarbons: OH budgets during SAPHIR chamber experiments. Atmospheric Chemistry and Physics, 2014, 14, 6941-6952.	4.9	21
85	Actinic Radiation and Photolysis Processes in the Lower Troposphere: Effect of Clouds and Aerosols. Journal of Atmospheric Chemistry, 2002, 42, 413-441.	3.2	20
86	Evaluation of OH and HO₂ concentrations and their budgets during photooxidation of 2-methyl-3-butene-2-ol (MBO) in the atmospheric simulation chamber SAPHIR. Atmospheric Chemistry and Physics, 2018, 18, 11409-11422.	4.9	20
87	Experimental and theoretical study on the impact of a nitrate group on the chemistry of alkoxy radicals. Physical Chemistry Chemical Physics, 2021, 23, 5474-5495.	2.8	20
88	Free Radicals and Fast Photochemistry during BERLIOZ. , 2002, , 359-394.		20
89	The passive transport of NOx emissions from aircraft studied with a hierarchy of models. Atmospheric Environment, 1997, 31, 1783-1799.	4.1	18
90	Concentration and stable carbon isotopic composition of ethane and benzene using a global three-dimensional isotope inclusive chemical tracer model. Journal of Geophysical Research, 2003, 108, n/a-n/a.	3.3	18

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91	Stable carbon isotope ratios of toluene in the boundary layer and the lower free troposphere. Atmospheric Chemistry and Physics, 2013, 13, 11059-11071.	4.9	17
92	Investigation of the <i>Î±</i>-pinene photooxidation by OH in the atmospheric simulation chamber SAPHIR. Atmospheric Chemistry and Physics, 2019, 19, 11635-11649.	4.9	17
93	Highly Oxygenated Organic Nitrates Formed from NO₃ Radical-Initiated Oxidation of Î²-Pinene. Environmental Science & Technology, 2021, 55, 15658-15671.	10.0	17
94	Climate and Weather of the Sun-Earth System (CAWSES). Springer Atmospheric Sciences, 2013, , .	0.3	16
95	Tropospheric mixing ratios of NO obtained during TROPOZ II in the latitude region 67Â°N-56Â°S. Journal of Geophysical Research, 1997, 102, 25429-25449.	3.3	15
96	A new plant chamber facility, PLUS, coupled to the atmosphere simulation chamber SAPHIR. Atmospheric Measurement Techniques, 2016, 9, 1247-1259.	3.1	15
97	Gas-Particle Partitioning and SOA Yields of Organonitrate Products from NO₃-Initiated Oxidation of Isoprene under Varied Chemical Regimes. ACS Earth and Space Chemistry, 2021, 5, 785-800.	2.7	15
98	On the use of nonmethane hydrocarbons for the determination of age spectra in the lower stratosphere. Journal of Geophysical Research, 2007, 112, .	3.3	14
99	Parameterization of Thermal Properties of Aging Secondary Organic Aerosol Produced by Photo-Oxidation of Selected Terpene Mixtures. Environmental Science & Technology, 2014, 48, 6168-6176.	10.0	14
100	Ambient and laboratory observations of organic ammonium salts in PM₁. Faraday Discussions, 2017, 200, 331-351.	3.2	14
101	The IAGOS NO_{<i>x</i>} instrument â€“ design, operation and first results from deployment aboard passenger aircraft. Atmospheric Measurement Techniques, 2018, 11, 3737-3757.	3.1	14
102	Comparison of formaldehyde measurements by Hantzsch, CRDS and DOAS in the SAPHIR chamber. Atmospheric Measurement Techniques, 2021, 14, 4239-4253.	3.1	14
103	The dependence of soil H₂ uptake on temperature and moisture: a reanalysis of laboratory data. Tellus, Series B: Chemical and Physical Meteorology, 2022, 63, 1040.	1.6	12
104	Deposition velocity of H₂: a new algorithm for its dependence on soil moisture and temperature. Tellus, Series B: Chemical and Physical Meteorology, 2022, 65, 19904.	1.6	12
105	Response to Comment on â€œMissing gas-phase source of HONO inferred from Zeppelin measurements in the troposphereâ€ Science, 2015, 348, 1326-1326.	12.6	10
106	Evolution of NO₃ reactivity during the oxidation of isoprene. Atmospheric Chemistry and Physics, 2020, 20, 10459-10475.	4.9	10
107	On the significance of regional trace gas distributions as derived from aircraft campaigns in PEM-West A and B. Journal of Geophysical Research, 1997, 102, 28333-28351.	3.3	9
108	On the decay of stratospheric pollutants: Diagnosing the longest-lived eigenmode. Journal of Geophysical Research, 2004, 109, .	3.3	9

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109	Seasonal variations and profile measurements of photolysis frequenciesj(O1D) andj(NO2) at the ECHO forest field site. Journal of Geophysical Research, 2006, 111, .	3.3	8
110	A correlation study of highâ€altitude and midaltitude clouds and galactic cosmic rays by MIPASâ€Envisat. Journal of Geophysical Research, 2010, 115, .	3.3	8
111	Seasonal measurements of OH, NO<i>_x</i>, and J(O¹D) at Mace Head, Ireland. Geophysical Research Letters, 2013, 40, 1659-1663.	4.0	8
112	The balances of mixing ratios and segregation intensity: a case study from the field (ECHO 2003). Atmospheric Chemistry and Physics, 2014, 14, 10333-10362.	4.9	8
113	Characterization of a chemical modulation reactor (CMR) for the measurement of atmospheric concentrations of hydroxyl radicals with a laser-induced fluorescence instrument. Atmospheric Measurement Techniques, 2021, 14, 1851-1877.	3.1	8
114	Atmospheric photooxidation and ozonolysis of î”³-carene and 3-caronaldehyde: rate constants and product yields. Atmospheric Chemistry and Physics, 2021, 21, 12665-12685.	4.9	8
115	Intelligent microcomputer interface for continuous registration and storage of spectra by photon counting. Review of Scientific Instruments, 1984, 55, 375-378.	1.3	6
116	Photooxidation of pinonaldehyde at ambient conditions investigated in the atmospheric simulation chamber SAPHIR. Atmospheric Chemistry and Physics, 2020, 20, 13701-13719.	4.9	6
117	Global Measurements of Photochemically Active Compounds. , 1994, , 205-222.		4
118	Actinic Radiation and Photolysis Processes in the Lower Troposphere: Effect of Clouds and Aerosols. , 2002, , 413-441.		4
119	Atmospheric photo-oxidation of myrcene: OH reaction rate constant, gas-phase oxidation products and radical budgets. Atmospheric Chemistry and Physics, 2021, 21, 16067-16091.	4.9	4
120	Perturbations in UV Laser Photolysis Experiments: Blast Wave Formation. Zeitschrift Fur Physikalische Chemie, 1988, 158, 131-146.	2.8	3
121	Dry deposition of molecular hydrogen in the presence of H₂ production. Tellus, Series B: Chemical and Physical Meteorology, 2022, 65, 20620.	1.6	3
122	Mixing Ratios and Photostationary State of NO and NO2 Observed During the POPCORN Field Campaign at a Rural Site in Germany. , 1998, , 119-137.		3
123	Detection of nitrous acid in the atmospheric simulation chamber SAPHIR using open-path incoherent broadband cavity-enhanced absorption spectroscopy and extractive long-path absorption photometry. Atmospheric Measurement Techniques, 2022, 15, 945-964.	3.1	3
124	Investigation of the limonene photooxidation by OH at different NO concentrations in the atmospheric simulation chamber SAPHIR (Simulation of Atmospheric PHotochemistry In a large) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 1	4.9	3
125	Does the onset of new particle formation occur in the planetary boundary layer?. , 2013, , .		1
126	The Atmospheric Distribution of NO, O3, CO, and CH4 above the North Atlantic Based on the STRATOZ III Flight. , 1993, , 171-187.		1

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127	Air quality observations onboard commercial and targeted Zeppelin flights in Germany â€“ a platform for high-resolution trace-gas and aerosol measurements within the planetary boundary layer. Atmospheric Measurement Techniques, 2022, 15, 3827-3842.	3.1	1
128	Do Galactic Cosmic Rays Impact the Cirrus Cloud Cover?. Springer Atmospheric Sciences, 2013, , 79-87.	0.3	0