Franz Schreier

List of Publications by Year
in descending order

56 papers	1,016 citations	394421 19 h-index	477307 29 g-index
62 all docs	62 docs citations	62 times ranked	1113 citing authors

#	Article	IF	Citations
1	Computational aspects of speed-dependent Voigt and Rautian profiles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, 258, 107385.	2.3	4
2	Detectability of biosignatures on LHS 1140 b. Astronomy and Astrophysics, 2021, 647, A48.	5.1	20
3	Influence of Biomass Emissions on Habitability, Biosignatures, and Detectability in Earth-like Atmospheres. Astrophysical Journal, 2021, 909, 128.	4.5	2
4	Measurement characteristics of an airborne microwave temperature profiler (MTP). Atmospheric Measurement Techniques, 2021, 14, 1689-1713.	3.1	3
5	Insight into Construction of Tikhonov-Type Regularization for Atmospheric Retrievals. Atmosphere, 2020, 11, 1052.	2.3	4
6	Impact of Molecular Spectroscopy on Carbon Monoxide Abundances from TROPOMI. Remote Sensing, 2020, 12, 3486.	4.0	3
7	Proxima Centauri b: A Strong Case for Including Cosmic-Ray-induced Chemistry in Atmospheric Biosignature Studies. Astrophysical Journal, 2020, 893, 12.	4.5	21
8	SVEEEETIES: singular vector expansion to estimate Earth-like exoplanet temperatures from infrared emission spectra. Astronomy and Astrophysics, 2020, 633, A156.	5.1	3
9	Impact of Molecular Spectroscopy on Carbon Monoxide Abundances from SCIAMACHY. Remote Sensing, 2020, 12, 1084.	4.0	5
10	Effect of mantle oxidation state and escape upon the evolution of Earth's magma ocean atmosphere. Astronomy and Astrophysics, 2020, 643, A81.	5.1	19
11	Consistently Simulating a Wide Range of Atmospheric Scenarios for K2-18b with a Flexible Radiative Transfer Module. Astrophysical Journal, 2020, 898, 44.	4.5	30
12	Distinguishing between Wet and Dry Atmospheres of TRAPPIST-1 e and f. Astrophysical Journal, 2020, 901, 126.	4.5	33
13	Validation of SMILES HCl profiles over a wide range from the stratosphere to the lower thermosphere. Atmospheric Measurement Techniques, 2020, 13, 6837-6852.	3.1	0
14	Notes: An assessment of some closed-form expressions for the Voigt function III: Combinations of the Lorentz and Gauss functions. Journal of Quantitative Spectroscopy and Radiative Transfer, 2019, 226, 87-91.	2.3	7
15	Py4CAtS—PYthon for Computational ATmospheric Spectroscopy. Atmosphere, 2019, 10, 262.	2.3	22
16	Detectability of atmospheric features of Earth-like planets in the habitable zone around M dwarfs. Astronomy and Astrophysics, 2019, 624, A49.	5.1	84
17	A new model suite to determine the influence of cosmic rays on (exo)planetary atmospheric biosignatures. Astronomy and Astrophysics, 2019, 631, A101.	5.1	23
18	Transmission spectroscopy with the ACE-FTS infrared spectral atlas of Earth: A model validation and feasibility study. Molecular Astrophysics, 2018, 11, 1-22.	1.6	22

#	Article	IF	Citations
19	Intercomparison of three microwave/infrared high resolution line-by-line radiative transfer codes. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 211, 64-77.	2.3	22
20	Comments on the Voigt function implementation in the Astropy and SpectraPlot.com packages. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 213, 13-16.	2.3	9
21	Addendum: Hochstaffl, P. et al. Validation of Carbon Monoxide Total Columns from SCIAMACHY with NDACC/TCCON Ground-Based Measurements. Remote Sens. 2018, 10, 223. Remote Sensing, 2018, 10, 469.	4.0	0
22	The Voigt and complex error function: Humlíček's rational approximation generalized. Monthly Notices of the Royal Astronomical Society, 2018, 479, 3068-3075.	4.4	11
23	Validation of Carbon Monoxide Total Column Retrievals from SCIAMACHY Observations with NDACC/TCCON Ground-Based Measurements. Remote Sensing, 2018, 10, 223.	4.0	13
24	Performance Assessment of Balloon-Borne Trace Gas Sounding with the Terahertz Channel of TELIS. Remote Sensing, 2018, 10, 315.	4.0	2
25	New Insights into Cosmic-Ray-induced Biosignature Chemistry in Earth-like Atmospheres. Astrophysical Journal, 2018, 863, 6.	4.5	29
26	An assessment of some closed-form expressions for the Voigt function II: Utilizing rational approximations for the Gauss function. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 202, 81-89.	2.3	3
27	Computational aspects of speed-dependent Voigt profiles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 187, 44-53.	2.3	21
28	Assessment of Tikhonov-type regularization methods for solving atmospheric inverse problems. Journal of Quantitative Spectroscopy and Radiative Transfer, 2016, 184, 274-286.	2.3	21
29	Monitoring ozone in different spectral regimes from space and balloon (Sentinel-4/-5P, TELIS). , 2016, , .		2
30	An assessment of some closed-form expressions for the Voigt function. Journal of Quantitative Spectroscopy and Radiative Transfer, 2016, 176, 1-5.	2.3	6
31	Algorithmic vs. finite difference Jacobians for infrared atmospheric radiative transfer. Journal of Quantitative Spectroscopy and Radiative Transfer, 2015, 164, 147-160.	2.3	10
32	GARLIC â€" A general purpose atmospheric radiative transfer line-by-line infrared-microwave code: Implementation and evaluation. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 137, 29-50.	2.3	55
33	Venus observations from ENVISATâ€"SCIAMACHY: Measurements and modeling. Advances in Space Research, 2013, 51, 835-848.	2.6	5
34	Py4CAtS â€" Python tools for line-by-line modelling of infrared atmospheric radiative transfer. AIP Conference Proceedings, 2013, , .	0.4	1
35	Deriving stratospheric trace gases from balloon-borne infrared/microwave limb sounding measurements. , 2013, , .		0
36	Validation of stratospheric and mesospheric ozone observed by SMILES from International Space Station. Atmospheric Measurement Techniques, 2013, 6, 2311-2338.	3.1	28

#	Article	IF	Citations
37	Response of Atmospheric Biomarkers to NO$_x$-Induced Photochemistry Generated by Stellar Cosmic Rays for Earth-like Planets in the Habitable Zone of M Dwarf Stars. Astrobiology, 2012, 12, 1109-1122.	3.0	52
38	Line-by-Line Computation of Atmospheric Infrared Spectra With Field Programmable Gate Arrays. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2011, 4, 701-709.	4.9	8
39	Optimized implementations of rational approximations for the Voigt and complex error function. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 1010-1025.	2.3	76
40	Nine years of atmospheric remote sensing with sciamachy - atmospheric parameters and data products. , 2011, , .		1
41	Regularization of inverse problems in atmospheric remote sensing. NATO Science for Peace and Security Series C: Environmental Security, 2011, , 79-116.	0.2	2
42	Numerical Regularization for Atmospheric Inverse Problems. , 2010, , .		72
43	Comments on "A Common Misunderstanding about the Voigt Line Profile". Journals of the Atmospheric Sciences, 2009, 66, 1860-1864.	1.7	6
44	Carbon Monoxide Vertical Column Density Retrieval from SCIAMACHY Infrared Nadir Observations. , 2009, , .		3
45	Warming the early earth—CO2 reconsidered. Planetary and Space Science, 2008, 56, 1244-1259.	1.7	82
46	Optimized implementations of rational approximations—a case study on the Voigt and complex error function. Computer Physics Communications, 2008, 179, 457-465.	7.5	22
47	An efficient inversion algorithm for atmospheric remote sensing with application to UV limb observations. Journal of Quantitative Spectroscopy and Radiative Transfer, 2007, 103, 193-208.	2.3	6
48	Optimized evaluation of a large sum of functions using a three-grid approach. Computer Physics Communications, 2006, 174, 783-792.	7.5	12
49	Finite element method for the two-dimensional atmospheric radiative transfer. Journal of Quantitative Spectroscopy and Radiative Transfer, 2005, 91, 347-361.	2.3	2
50	Remote detection and quantification of hot molecular combustion products—experimental instrumentation and determination of optimal infrared spectral micro-windows. Journal of Molecular Structure, 2005, 744-747, 235-242.	3.6	1
51	An iterative regularization method with B-spline approximation for atmospheric temperature and concentration retrievals. Environmental Modelling and Software, 2005, 20, 1101-1109.	4.5	5
52	Multi-parameter regularization method for atmospheric remote sensing. Computer Physics Communications, 2005, 165, 1-9.	7.5	4
53	Iterative regularization methods for atmospheric remote sensing. Journal of Quantitative Spectroscopy and Radiative Transfer, 2004, 83, 47-61.	2.3	26
54	Iteratively regularized Gauss–Newton method for bound-constraint problems in atmospheric remote sensing. Computer Physics Communications, 2003, 153, 59-65.	7.5	17

#	Article	IF	Citations
55	Iteratively regularized Gauss–Newton method for atmospheric remote sensing. Computer Physics Communications, 2002, 148, 214-226.	7.5	43
56	The 2.5 THz heterodyne spectrometer THOMAS: Measurement of OH in the middle atmosphere and comparison with photochemical model results. Journal of Geophysical Research, 2000, 105, 22211-22223.	3.3	22