Franz Schreier

List of Publications by Year
in descending order

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56	1,016	394421	477307
papers	citations	19 h-index	29 g-index

62	62	62	1113
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Detectability of atmospheric features of Earth-like planets in the habitable zone around M dwarfs. Astronomy and Astrophysics, 2019, 624, A49.	5.1	84
2	Warming the early earthâ€"CO2 reconsidered. Planetary and Space Science, 2008, 56, 1244-1259.	1.7	82
3	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
4	Numerical Regularization for Atmospheric Inverse Problems. , 2010, , .		72
5	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
6	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
7	Iteratively regularized Gaussâ€"Newton method for atmospheric remote sensing. Computer Physics Communications, 2002, 148, 214-226.	7.5	43
8	Distinguishing between Wet and Dry Atmospheres of TRAPPIST-1 e and f. Astrophysical Journal, 2020, 901, 126.	4.5	33
9	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
10	New Insights into Cosmic-Ray-induced Biosignature Chemistry in Earth-like Atmospheres. Astrophysical Journal, 2018, 863, 6.	4.5	29
11	Validation of stratospheric and mesospheric ozone observed by SMILES from International Space Station. Atmospheric Measurement Techniques, 2013, 6, 2311-2338.	3.1	28
12	Iterative regularization methods for atmospheric remote sensing. Journal of Quantitative Spectroscopy and Radiative Transfer, 2004, 83, 47-61.	2.3	26
13	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
14	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
15	Optimized implementations of rational approximationsâ€"a case study on the Voigt and complex error function. Computer Physics Communications, 2008, 179, 457-465.	7.5	22
16	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
17	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
18	Py4CAtSâ€"PYthon for Computational ATmospheric Spectroscopy. Atmosphere, 2019, 10, 262.	2.3	22

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19	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
20	Computational aspects of speed-dependent Voigt profiles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 187, 44-53.	2.3	21
21	Proxima Centauri b: A Strong Case for Including Cosmic-Ray-induced Chemistry in Atmospheric Biosignature Studies. Astrophysical Journal, 2020, 893, 12.	4.5	21
22	Detectability of biosignatures on LHS 1140 b. Astronomy and Astrophysics, 2021, 647, A48.	5.1	20
23	Effect of mantle oxidation state and escape upon the evolution of Earthâ€™s magma ocean atmosphere. Astronomy and Astrophysics, 2020, 643, A81.	5.1	19
24	Iteratively regularized Gaussâ€“Newton method for bound-constraint problems in atmospheric remote sensing. Computer Physics Communications, 2003, 153, 59-65.	7.5	17
25	Validation of Carbon Monoxide Total Column Retrievals from SCIAMACHY Observations with NDACC/TCCON Ground-Based Measurements. Remote Sensing, 2018, 10, 223.	4.0	13
26	Optimized evaluation of a large sum of functions using a three-grid approach. Computer Physics Communications, 2006, 174, 783-792.	7.5	12
27	The Voigt and complex error function: HumlÃ¤kâ€™s rational approximation generalized. Monthly Notices of the Royal Astronomical Society, 2018, 479, 3068-3075.	4.4	11
28	Algorithmic vs. finite difference Jacobians for infrared atmospheric radiative transfer. Journal of Quantitative Spectroscopy and Radiative Transfer, 2015, 164, 147-160.	2.3	10
29	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
30	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
31	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
32	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
33	Comments on â€œA Common Misunderstanding about the Voigt Line Profileâ€• Journals of the Atmospheric Sciences, 2009, 66, 1860-1864.	1.7	6
34	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
35	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
36	Venus observations from ENVISATâ€“SCIAMACHY: Measurements and modeling. Advances in Space Research, 2013, 51, 835-848.	2.6	5

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37	Impact of Molecular Spectroscopy on Carbon Monoxide Abundances from SCIAMACHY. Remote Sensing, 2020, 12, 1084.	4.0	5
38	Multi-parameter regularization method for atmospheric remote sensing. Computer Physics Communications, 2005, 165, 1-9.	7.5	4
39	Insight into Construction of Tikhonov-Type Regularization for Atmospheric Retrievals. Atmosphere, 2020, 11, 1052.	2.3	4
40	Computational aspects of speed-dependent Voigt and Rautian profiles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, 258, 107385.	2.3	4
41	Carbon Monoxide Vertical Column Density Retrieval from SCIAMACHY Infrared Nadir Observations. , 2009, , .		3
42	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
43	Impact of Molecular Spectroscopy on Carbon Monoxide Abundances from TROPOMI. Remote Sensing, 2020, 12, 3486.	4.0	3
44	SVEEEETIES: singular vector expansion to estimate Earth-like exoplanet temperatures from infrared emission spectra. Astronomy and Astrophysics, 2020, 633, A156.	5.1	3
45	Measurement characteristics of an airborne microwave temperature profiler (MTP). Atmospheric Measurement Techniques, 2021, 14, 1689-1713.	3.1	3
46	Finite element method for the two-dimensional atmospheric radiative transfer. Journal of Quantitative Spectroscopy and Radiative Transfer, 2005, 91, 347-361.	2.3	2
47	Monitoring ozone in different spectral regimes from space and balloon (Sentinel-4/-5P, TELIS). , 2016, , .		2
48	Performance Assessment of Balloon-Borne Trace Gas Sounding with the Terahertz Channel of TELIS. Remote Sensing, 2018, 10, 315.	4.0	2
49	Influence of Biomass Emissions on Habitability, Biosignatures, and Detectability in Earth-like Atmospheres. Astrophysical Journal, 2021, 909, 128.	4.5	2
50	Regularization of inverse problems in atmospheric remote sensing. NATO Science for Peace and Security Series C: Environmental Security, 2011, , 79-116.	0.2	2
51	Remote detection and quantification of hot molecular combustion productsâ€"experimental instrumentation and determination of optimal infrared spectral micro-windows. Journal of Molecular Structure, 2005, 744-747, 235-242.	3.6	1
52	Nine years of atmospheric remote sensing with sciamachy - atmospheric parameters and data products. , 2011, , .		1
53	Py4CAtS â€“ Python tools for line-by-line modelling of infrared atmospheric radiative transfer. AIP Conference Proceedings, 2013, , .	0.4	1
54	Deriving stratospheric trace gases from balloon-borne infrared/microwave limb sounding measurements. , 2013, , .		0

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55	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
56	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