Paul Hartogh

List of Publications by Year
in descending order

131 papers	4,870 citations	87888 38 h-index	114465 63 g-index
149 all docs	149 docs citations	149 times ranked	3246 citing authors

#	Article	IF	Citations
1	Ocean-like water in the Jupiter-family comet 103P/Hartley 2. Nature, 2011, 478, 218-220.	27.8	412
2	Strong water isotopic anomalies in the martian atmosphere: Probing current and ancient reservoirs. Science, 2015, 348, 218-221.	12.6	245
3	Subsurface properties and early activity of comet 67P/Churyumov-Gerasimenko. Science, 2015, 347, aaa0709.	12.6	217
4	MIRO: Microwave Instrument for Rosetta Orbiter. Space Science Reviews, 2007, 128, 561-597.	8.1	173
5	Modeling the effects of gravity wave momentum deposition on the general circulation above the turbopause. Journal of Geophysical Research, 2009, 114, .	3.3	119
6	The Atmospheric Chemistry Suite (ACS) of Three Spectrometers for the ExoMars 2016 Trace Gas Orbiter. Space Science Reviews, 2018, 214, 1.	8.1	119
7	Herschelmeasurements of theÂD/H and¹⁶O/¹⁸O ratios in water in the Oort-cloud comet C/2009ÂP1 (Garradd). Astronomy and Astrophysics, 2012, 544, L15.	5.1	115
8	Water vapor of the polar middle atmosphere: Annual variation and summer mesosphere Conditions as observed by ground-based microwave spectroscopy. Geophysical Research Letters, 1999, 26, 1517-1520.	4.0	100
9	EPOXI: COMET 103P/HARTLEY 2 OBSERVATIONS FROM A WORLDWIDE CAMPAIGN. Astrophysical Journal Letters, 2011, 734, L1.	8.3	96
10	Influence of gravity waves on the Martian atmosphere: General circulation modeling. Journal of Geophysical Research, 2011, 116, .	3.3	89
11	MIRO observations of subsurface temperatures of the nucleus of 67P/Churyumov-Gerasimenko. Astronomy and Astrophysics, 2015, 583, A29.	5.1	81
12	The D/H ratio in the atmospheres of Uranus and Neptune fromHerschel-PACS observations. Astronomy and Astrophysics, 2013, 551, A126.	5.1	76
13	A high-resolution chirp transform spectrometer for microwave measurements. Measurement Science and Technology, 1990, 1, 592-595.	2.6	73
14	A HERSCHEL STUDY OF D/H IN WATER IN THE JUPITER-FAMILY COMET 45P/HONDA-MRKOS-PAJDUÅÃKOVÃ•AND PROSPECTS FOR D/H MEASUREMENTS WITH CCAT. Astrophysical Journal Letters, 2013, 774, L3.	8.3	73
15	Description and climatology of a new general circulation model of the Martian atmosphere. Journal of Geophysical Research, 2005, 110, .	3.3	63
16	Polar mesospheric clouds formed from space shuttle exhaust. Geophysical Research Letters, 2003, 30, n/a-n/a.	4.0	62
17	The abundance, vertical distribution and origin of H2O in Titanâ€™s atmosphere: Herschel observations and photochemical modelling. Icarus, 2012, 221, 753-767.	2.5	61
18	Spatial and diurnal variation of water outgassing on comet 67P/Churyumov-Gerasimenko observed from Rosetta/MIRO in August 2014. Astronomy and Astrophysics, 2015, 583, A5.	5.1	61

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19	First results ofHerschel-PACS observations of Neptune. Astronomy and Astrophysics, 2010, 518, L152.	5.1	60
20	Distribution of water around the nucleus of comet 67P/Churyumov-Gerasimenko at 3.4 AU from the Sun as seen by the MIRO instrument on Rosetta. Astronomy and Astrophysics, 2015, 583, A3.	5.1	60
21	Direct detection of the Enceladus water torus withHerschel. Astronomy and Astrophysics, 2011, 532, L2.	5.1	59
22	Water and related chemistry in the solar system. A guaranteed time key programme for Herschel. Planetary and Space Science, 2009, 57, 1596-1606.	1.7	58
23	Herschel/HIFI observations of Mars: First detection of O₂at submillimetre wavelengths and upper limits on HCl and H₂O₂. Astronomy and Astrophysics, 2010, 521, L49.	5.1	57
24	The first submillimeter observation of CO in the stratosphere of Uranus. Astronomy and Astrophysics, 2014, 562, A33.	5.1	52
25	On the spatiotemporal behavior of ozone within the upper mesosphere/mesopause region under nearly polar night conditions. Journal of Geophysical Research, 2004, 109, .	3.3	51
26	Cooling of the Martian thermosphere by CO₂radiation and gravity waves: An intercomparison study with two general circulation models. Journal of Geophysical Research E: Planets, 2015, 120, 913-927.	3.6	51
27	Constraints on Titan's middle atmosphere ammonia abundance from Herschel/SPIRE sub-millimetre spectra. Planetary and Space Science, 2013, 75, 136-147.	1.7	50
28	Seasonal Water â€œPumpâ€•in the Atmosphere of Mars: Vertical Transport to the Thermosphere. Geophysical Research Letters, 2019, 46, 4161-4169.	4.0	50
29	Dynamical effects of internal gravity waves in the equinoctial thermosphere. Journal of Atmospheric and Solar-Terrestrial Physics, 2012, 90-91, 104-116.	1.6	49
30	General circulation modeling of the Martian upper atmosphere during global dust storms. Journal of Geophysical Research E: Planets, 2013, 118, 2234-2246.	3.6	49
31	Estimates of gravity wave drag on Mars: Indication of a possible lower thermospheric wind reversal. Icarus, 2011, 211, 909-912.	2.5	48
32	Spatially resolved evolution of the local H₂O production rates of comet 67P/Churyumov-Gerasimenko from the MIRO instrument on Rosetta. Astronomy and Astrophysics, 2017, 603, A87.	5.1	46
33	The High Resolution Chirp Transform Spectrometer for the Sofia-Great Instrument. Experimental Astronomy, 2004, 18, 77-91.	3.7	43
34	Winter polar warmings and the meridional transport on Mars simulated with a general circulation model. Icarus, 2007, 186, 97-110.	2.5	42
35	Water vapor measurements at ALOMAR over a solar cycle compared with model calculations by LIMA. Journal of Geophysical Research, 2010, 115, .	3.3	42
36	Dark side of comet 67P/Churyumov-Gerasimenko in Aug.â€“Oct. 2014. Astronomy and Astrophysics, 2015, 583, A28.	5.1	42

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37	Thermal inertia and roughness of the nucleus of comet 67P/Churyumovâ€“Gerasimenko from MIRO and VIRTIS observations. Astronomy and Astrophysics, 2018, 616, A122.	5.1	42
38	First detection of hydrogen isocyanide (HNC) in Titanâ€™s atmosphere. Astronomy and Astrophysics, 2011, 536, L12.	5.1	40
39	Hydroxyl layer: Mean state and trends at midlatitudes. Journal of Geophysical Research D: Atmospheres, 2014, 119, 12,391.	3.3	40
40	Noctilucent clouds and the mesospheric water vapour: the past decade. Atmospheric Chemistry and Physics, 2004, 4, 2449-2464.	4.9	39
41	Gravity waves and highâ€altitude CO₂ ice cloud formation in the Martian atmosphere. Geophysical Research Letters, 2015, 42, 4294-4300.	4.0	39
42	Seasonal changes of the baroclinic wave activity in the northern hemisphere of Mars simulated with a GCM. Geophysical Research Letters, 2007, 34, .	4.0	37
43	A cometary origin for CO in the stratosphere of Saturn?. Astronomy and Astrophysics, 2010, 510, A88.	5.1	37
44	A study of the distant activity of comet C/2006ÂW3Â(Christensen) withHerscheland ground-based radio telescopes. Astronomy and Astrophysics, 2010, 518, L149.	5.1	35
45	Carbon dioxide ice clouds, snowfalls, and baroclinic waves in the northern winter polar atmosphere of Mars. Geophysical Research Letters, 2013, 40, 1484-1488.	4.0	35
46	Herschel/PACS spectroscopy of trace gases of the stratosphere of Titan. Astronomy and Astrophysics, 2014, 561, A4.	5.1	35
47	First detection of the 63Î¼m atomic oxygen line in the thermosphere of Mars with GREAT/SOFIA. Astronomy and Astrophysics, 2015, 580, L10.	5.1	34
48	Comparison of the Martian thermospheric density and temperature from IUVS/MAVEN data and general circulation modeling. Geophysical Research Letters, 2016, 43, 3095-3104.	4.0	34
49	First observation of CO at 345GHz in the atmosphere of Saturn with the JCMT: New constraints on its origin. Icarus, 2009, 203, 531-540.	2.5	33
50	From cold to warm gas giants: A three-dimensional atmospheric general circulation modeling. Icarus, 2013, 225, 228-235.	2.5	33
51	Spatial distribution of water in the stratosphere of Jupiter fromHerschelHIFI and PACS observations. Astronomy and Astrophysics, 2013, 553, A21.	5.1	32
52	HIFI observations of water in the atmosphere of comet C/2008 Q3 (Garradd). Astronomy and Astrophysics, 2010, 518, L150.	5.1	31
53	Ammonia and other parent molecules in comet 10P/Tempel 2 fromHerschel/HIFI and ground-based radio observations. Astronomy and Astrophysics, 2012, 539, A68.	5.1	31
54	Acceleration of cometary dust near the nucleus: application to 67P/Churyumovâ€“Gerasimenko. Monthly Notices of the Royal Astronomical Society, 2016, 461, 3410-3420.	4.4	31

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55	Middle atmosphere polar warmings on Mars: Simulations and study on the validation with sub-millimeter observations. Planetary and Space Science, 2007, 55, 1103-1112.	1.7	30
56	First results ofHerschel-SPIRE observations of Titan. Astronomy and Astrophysics, 2011, 536, L2.	5.1	30
57	An upper limit for the water outgassing rate of the main-belt comet 176P/LINEAR observed withHerschel/HIFI. Astronomy and Astrophysics, 2012, 546, L4.	5.1	29
58	A case study on middle atmospheric water vapor transport during the February 1998 stratospheric warming. Geophysical Research Letters, 2000, 27, 3309-3312.	4.0	28
59	On Forcing the Winter Polar Warmings in the Martian Middle Atmosphere during Dust Storms. Journal of the Meteorological Society of Japan, 2009, 87, 913-921.	1.8	28
60	DETERMINATION OF AN UPPER LIMIT FOR THE WATER OUTGASSING RATE OF MAIN-BELT COMET P/2012 T1 (PANSTARRS). Astrophysical Journal Letters, 2013, 774, L13.	8.3	27
61	Is near-surface ice the driver of dust activity on 67P/Churyumov-Gerasimenko. Astronomy and Astrophysics, 2017, 600, A142.	5.1	27
62	New constraints on the CH₄vertical profile in Uranus and Neptune fromHerschelobservations. Astronomy and Astrophysics, 2015, 579, A121.	5.1	27
63	A digital dispersive matching network for SAW devices in chirp transform spectrometers. IEEE Transactions on Microwave Theory and Techniques, 2006, 54, 1415-1424.	4.6	26
64	On the winter anomaly of the night-to-day ratio of ozone in the middle to upper mesosphere in middle to high latitudes. Advances in Space Research, 2007, 40, 846-854.	2.6	26
65	Water production in comet 81P/WildÂ2 as determined byHerschel/HIFI. Astronomy and Astrophysics, 2010, 521, L50.	5.1	25
66	Constraints from Comets on the Formation and Volatile Acquisition of the Planets and Satellites. Space Science Reviews, 2015, 197, 297-342.	8.1	25
67	A global view of gravity waves in the Martian atmosphere inferred from a highâ€resolution general circulation model. Geophysical Research Letters, 2015, 42, 9213-9222.	4.0	24
68	<title>Ground-based detection of middle atmospheric water vapor</title>. , 1995, 2586, 188.		23
69	Long-term behavior of the concentration of the minor constituents in the mesosphere â€“ a model study. Atmospheric Chemistry and Physics, 2009, 9, 2779-2792.	4.9	23
70	Influence of dust on the dynamics of the martian atmosphere above the first scale height. Aeolian Research, 2011, 3, 145-156.	2.7	23
71	The quasi 5â€day signal in the mesospheric water vapor concentration at high latitudes in 2003â€a comparison between observations at ALOMAR and calculations. Journal of Geophysical Research, 2008, 113, .	3.3	22
72	Influence of gravity waves on the climatology of high-altitude Martian carbon dioxide ice clouds. Annales Geophysicae, 2018, 36, 1631-1646.	1.6	22

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73	Gravity Wave Activity in the Martian Atmosphere at Altitudes 20â€“160Âkm From ACS/TGO Occultation Measurements. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006899.	3.6	22
74	Sounding of Titanâ€™s atmosphere at submillimeter wavelengths from an orbiting spacecraft. Planetary and Space Science, 2010, 58, 1724-1739.	1.7	20
75	Global Distribution of Gravity Wave Sources and Fields in the Martian Atmosphere during Equinox and Solstice Inferred from a High-Resolution General Circulation Model. Journals of the Atmospheric Sciences, 2016, 73, 4895-4909.	1.7	20
76	A comparison of multiple Rosetta data sets and 3D model calculations of 67P/Churyumov-Gerasimenko coma around equinox (May 2015). Icarus, 2019, 328, 104-126.	2.5	20
77	HCN SPECTROSCOPY OF COMET 73P/SCHWASSMANN-WACHMANN 3. A STUDY OF GAS EVOLUTION AND ITS LINK TO CN. Astrophysical Journal, 2010, 715, 1258-1269.	4.5	19
78	First results on Martian carbon monoxide fromHerschel/HIFI observations. Astronomy and Astrophysics, 2010, 521, L48.	5.1	19
79	Searches for HCl and HF in comets 103P/Hartley 2 and C/2009 P1 (Garradd) with theHerschelSpace Observatory. Astronomy and Astrophysics, 2014, 562, A5.	5.1	19
80	Hydroxyl layer: trend of number density and intra-annual variability. Annales Geophysicae, 2015, 33, 749-767.	1.6	19
81	High-resolution chirp transform spectrometer for middle atmospheric microwave sounding. , 1997, , .		18
82	Overview of the Martian atmospheric submillimetre sounder FIRE. Planetary and Space Science, 2012, 63-64, 62-82.	1.7	18
83	Laboratory Studies Towards Understanding Comets. Space Science Reviews, 2015, 197, 101-150.	8.1	18
84	The HCN molecule as a tracer of the nucleus rotation of comet 73P-C/Schwassmann-Wachmann 3. Astronomy and Astrophysics, 2010, 510, A55.	5.1	17
85	Ozone distribution in the middle latitude mesosphere as derived from microwave measurements at Lindau (51.66Â°N, 10.13Â°E). Journal of Geophysical Research, 2011, 116, .	3.3	16
86	Bright polar mesospheric clouds formed by main engine exhaust from the space shuttle's final launch. Journal of Geophysical Research, 2012, 117, .	3.3	16
87	Density Fluctuations in the Lower Thermosphere of Mars Retrieved From the ExoMars Trace Gas Orbiter (TGO) Aerobraking. Atmosphere, 2019, 10, 620.	2.3	16
88	Latitudinal distribution of upper stratospheric ClO as derived from Space Borne Microwave Spectroscopy. Geophysical Research Letters, 1996, 23, 2321-2324.	4.0	15
89	Herschel map of Saturnâ€™s stratospheric water, delivered by the plumes of Enceladus. Astronomy and Astrophysics, 2019, 630, A87.	5.1	15
90	Behavior of mesospheric ozone under nearly polar night conditions. Advances in Space Research, 2006, 38, 2402-2407.	2.6	14

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91	Odin space telescope monitoring of water vapor in the stratosphere of Jupiter. Planetary and Space Science, 2012, 61, 3-14.	1.7	14
92	Modeling the Hydrological Cycle in the Atmosphere of Mars: Influence of a Bimodal Size Distribution of Aerosol Nucleation Particles. Journal of Geophysical Research E: Planets, 2018, 123, 508-526.	3.6	14
93	Ozone trends in the mid-latitude stratopause region based on microwave measurements at Lindau (51.66Â° N, 10.13Â° E), the ozone reference model, and model calculations. Advances in Space Research, 2011, 47, 1937-1948.	2.6	13
94	First detection of tidal behaviour in polar mesospheric water vapour by ground based microwave spectroscopy. Atmospheric Chemistry and Physics, 2012, 12, 3753-3759.	4.9	13
95	Parameterization of radiative heating and cooling rates in the stratosphere of Jupiter. Icarus, 2014, 242, 149-157.	2.5	13
96	The SPARC water vapor assessment II: intercomparison of satellite and ground-based microwave measurements. Atmospheric Chemistry and Physics, 2017, 17, 14543-14558.	4.9	13
97	Herschelobservations of gas and dust in comet C/2006 W3 (Christensen) at 5 AU from the Sun. Astronomy and Astrophysics, 2014, 564, A124.	5.1	12
98	Gas flow in near surface comet like porous structures: Application to 67P/Churyumov-Gerasimenko. Planetary and Space Science, 2018, 161, 57-67.	1.7	12
99	ARIS-Campaign: intercomparison of three ground based 22 GHz radiometers for middle atmospheric water vapor at the Zugspitze in winter 2009. Atmospheric Measurement Techniques, 2011, 4, 1979-1994.	3.1	11
100	A survey of volatile species in Oort cloud comets C/2001 Q4 (NEAT) and C/2002 T7 (LINEAR) at millimeter wavelengths. Astronomy and Astrophysics, 2013, 559, A48.	5.1	10
101	Solving non-LTE problems in rotational transitions using the Gaussâ€“Seidel method and its implementation in the Atmospheric Radiative Transfer Simulator. Astronomy and Astrophysics, 2018, 619, A181.	5.1	10
102	General circulation modeling of the Martian upper atmosphere during global dust storms. Journal of Geophysical Research E: Planets, 2013, 118, n/a-n/a.	3.6	10
103	Martian Dust Storms and Gravity Waves: Disentangling Water Transport to the Upper Atmosphere. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	10
104	TheHerschel-SPIRE submillimetre spectrum of Mars. Astronomy and Astrophysics, 2010, 518, L151.	5.1	9
105	Photochemical response to the variation of temperature in the 2011â"2012 stratospheric vortex of Saturn. Astronomy and Astrophysics, 2015, 580, A55.	5.1	9
106	Analysis of nonlinear effects in microwave spectrometers. Journal of Geophysical Research, 2009, 114, .	3.3	8
107	Anthropogenic effects on the distribution of minor chemical constituents in the mesosphere/lower thermosphere â€“ A model study. Advances in Space Research, 2012, 50, 598-618.	2.6	8
108	Ion Friction and Quantification of the Geomagnetic Influence on Gravity Wave Propagation and Dissipation in the Thermosphereâ€Ionosphere. Journal of Geophysical Research: Space Physics, 2017, 122, 12,464.	2.4	8

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109	Origins space telescope: from first light to life. Experimental Astronomy, 2021, 51, 595.	3.7	8
110	Variations of the Martian Thermospheric Gravity-wave Activity during the Recent Solar Minimum as Observed by MAVEN. Astrophysical Journal, 2021, 920, 69.	4.5	8
111	<title>Retrieval of data from ground-based microwave sensing of the middle atmosphere: comparison of two inversion techniques</title>. , 1995, , .		7
112	Submillimetric spectroscopic observations of volatiles in comet C/2004 Q2 (Machholz). Astronomy and Astrophysics, 2012, 545, A2.	5.1	7
113	Three-dimensional analysis of spatial resolution of MIRO/Rosetta measurements at 67P/Churyumov-Gersimenko. Astronomy and Astrophysics, 2019, 630, A34.	5.1	7
114	Validation of stratospheric ClO measurements from the Millimeter-wave Atmospheric Sounder (MAS). Journal of Geophysical Research, 2000, 105, 9053-9062.	3.3	6
115	Mars submillimeter sensor on microsatellite: sensor feasibility study. Geoscientific Instrumentation, Methods and Data Systems, 2018, 7, 331-341.	1.6	6
116	A NEW, HIGH-PERFORMANCE, HETERODYNE SPECTROMETER FOR GROUND-BASED REMOTE SENSING OF MESOSPHERIC WATER VAPOUR. , 0, , 569-578.		6
117	<title>Ground-based microwave detection of middle atmospheric ozone</title>. , 1995, 2586, 206.		5
118	HCN and CN in Comet 2P/Encke: Models of the non-isotropic, rotation-modulated coma and CN parent life time. Icarus, 2011, 215, 153-185.	2.5	5
119	Transport Characteristics of a Hierarchical Near-Surface Layer of the Nucleus of Comet 67P/Churyumovâ€“Gerasimenko. Solar System Research, 2022, 56, 100-121.	0.7	5
120	Martian magnetism with orbiting sub-millimeter sensor: simulated retrieval system. Geoscientific Instrumentation, Methods and Data Systems, 2017, 6, 27-37.	1.6	4
121	Retrieval of wind, temperature, water vapor and other trace constituents in the Martian Atmosphere. Planetary and Space Science, 2018, 161, 26-40.	1.7	4
122	Upper stratospheric ozone decrease events due to a positive feedback between ozone and the ozone dissociation rate. Nonlinear Processes in Geophysics, 2009, 16, 409-418.	1.3	4
123	Subseasonal variability of water vapor in the upper stratosphere/lower mesosphere over Northern Europe in winter 2009/2010. Journal of Atmospheric and Solar-Terrestrial Physics, 2014, 114, 9-18.	1.6	3
124	Gas terminal velocity from MIRO/Rosetta data using neural network approach. Astronomy and Astrophysics, 2021, 648, A21.	5.1	3
125	<title>Multiband chirp transform spectrometer for the microwave remote sensing of middle-atmospheric trace gases</title>. , 1995, , .		2
126	Preparation for the solar system observations with Herschel: Simulation of Jupiter observations with PACS. Planetary and Space Science, 2010, 58, 1692-1698.	1.7	2

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127	Investigations of the Solar Influence on Middle Atmospheric Water Vapour and Ozone During the Last Solar Cycleâ€"Analysis of the MPS Data Set. Springer Atmospheric Sciences, 2013, , 109-124.	0.3	1
128	THE DOPPLER-SONNEMANN EFFECT (DSE) ON THE PHOTOCHEMISTRY ON MARS. , 0, , 163-175.		1
129	Solar System Science with the Orbiting Astronomical Satellite Investigating Stellar Systems (OASIS) Observatory. Space Science Reviews, 2022, 218, .	8.1	1
130	Laboratory Studies Towards Understanding Comets. , 2017, , 101-150.		0
131	Constraints from Comets on the Formation and Volatile Acquisition of the Planets and Satellites. , 2017, , 297-342.		0