

Sebastien Lebonnois

List of Publications by Year in descending order

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104
papers

5,559
citations

61984
43
h-index

82547
72
g-index

114
all docs

114
docs citations

114
times ranked

2472
citing authors

#	ARTICLE	IF	CITATIONS
1	Density and temperatures of the upper Martian atmosphere measured by stellar occultations with Mars Express SPICAM. Journal of Geophysical Research, 2009, 114, .	3.3	200
2	The Latitudinal Distribution of Clouds on Titan. Science, 2006, 311, 201-205.	12.6	187
3	Superrotation of Venus' atmosphere analyzed with a full general circulation model. Journal of Geophysical Research, 2010, 115, .	3.3	180
4	Hydrogen peroxide on Mars: evidence for spatial and seasonal variations. Icarus, 2004, 170, 424-429.	2.5	177
5	Three-dimensional modeling of ozone on Mars. Journal of Geophysical Research, 2004, 109, .	3.3	170
6	Seasonal Variations of Titan's Atmospheric Composition. Icarus, 2001, 152, 384-406.	2.5	162
7	A warm layer in Venus' cryosphere and high-altitude measurements of HF, HCl, H ₂ O and HDO. Nature, 2007, 450, 646-649.	27.8	161
8	Scientific goals for the observation of Venus by VIRTIS on ESA/Venus express mission. Planetary and Space Science, 2007, 55, 1653-1672.	1.7	155
9	SPICAM on Mars Express: Observing modes and overview of UV spectrometer data and scientific results. Journal of Geophysical Research, 2006, 111, .	3.3	148
10	Titan global climate model: A new 3-dimensional version of the IPSL Titan GCM. Icarus, 2012, 218, 707-722.	2.5	141
11	Heterogeneous chemistry in the atmosphere of Mars. Nature, 2008, 454, 971-975.	27.8	130
12	Global distribution of total ozone on Mars from SPICAM/MEX UV measurements. Journal of Geophysical Research, 2006, 111, .	3.3	120
13	Variable winds on Venus mapped in three dimensions. Geophysical Research Letters, 2008, 35, .	4.0	119
14	Subvisible CO ₂ ice clouds detected in the mesosphere of Mars. Icarus, 2006, 183, 403-410.	2.5	113
15	South-polar features on Venus similar to those near the north pole. Nature, 2007, 450, 637-640.	27.8	110
16	Seasonal variations in Titan's middle atmosphere during the northern spring derived from Cassini/CIRS observations. Icarus, 2015, 250, 95-115.	2.5	99
17	Transition from Gaseous Compounds to Aerosols in Titan's Atmosphere. Icarus, 2002, 159, 505-517.	2.5	97
18	Benzene and aerosol production in Titan and Jupiter's atmospheres: a sensitivity study. Planetary and Space Science, 2005, 53, 486-497.	1.7	97

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19	A dynamic upper atmosphere of Venus as revealed by VIRTIS on Venus Express. <i>Nature</i> , 2007, 450, 641-645.	27.8	95
20	The Atmospheric Dynamics of Venus. <i>Space Science Reviews</i> , 2017, 212, 1541-1616.	8.1	95
21	Stellar occultations at UV wavelengths by the SPICAM instrument: Retrieval and analysis of Martian haze profiles. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	93
22	Vertical distribution of ozone on Mars as measured by SPICAM/Mars Express using stellar occultations. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	90
23	Recent advances in collisional effects on spectra of molecular gases and their practical consequences. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2018, 213, 178-227.	2.3	85
24	Wave analysis in the atmosphere of Venus below 100-km altitude, simulated by the LMD Venus GCM. <i>Icarus</i> , 2016, 278, 38-51.	2.5	84
25	Vertical and meridional distribution of ethane, acetylene and propane in Saturn's stratosphere from CIRS/Cassini limb observations. <i>Icarus</i> , 2009, 203, 214-232.	2.5	78
26	Coupled ion and neutral rotating model of Titan's upper atmosphere. <i>Icarus</i> , 2008, 197, 110-136.	2.5	77
27	TandEM: Titan and Enceladus mission. <i>Experimental Astronomy</i> , 2009, 23, 893-946.	3.7	77
28	Titan's stratospheric composition driven by condensation and dynamics. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	72
29	Superrotation on Venus, on Titan, and Elsewhere. <i>Annual Review of Earth and Planetary Sciences</i> , 2018, 46, 175-202.	11.0	64
30	Seasonal change on Saturn from Cassini/CIRS observations, 2004–2009. <i>Icarus</i> , 2010, 208, 337-352.	2.5	63
31	The deep atmosphere of Venus and the possible role of density-driven separation of CO ₂ and N ₂ . <i>Nature Geoscience</i> , 2017, 10, 473-477.	12.9	62
32	Revealing the Mysteries of Venus: The DAVINCI Mission. <i>Planetary Science Journal</i> , 2022, 3, 117.	3.6	62
33	Latitudinal transport by barotropic waves in Titan's stratosphere.. <i>Icarus</i> , 2003, 166, 343-358.	2.5	60
34	Influence of Venus topography on the zonal wind and UV albedo at cloud top level: The role of stationary gravity waves. <i>Journal of Geophysical Research E: Planets</i> , 2016, 121, 1087-1101.	3.6	60
35	Investigation of air temperature on the nightside of Venus derived from VIRTIS-H on board Venus-Express. <i>Icarus</i> , 2012, 217, 640-647.	2.5	59
36	Methane storms as a driver of Titan's dune orientation. <i>Nature Geoscience</i> , 2015, 8, 362-366.	12.9	52

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37	Titan's corona: The contribution of exothermic chemistry. <i>Icarus</i> , 2007, 191, 236-250.	2.5	51
38	Decadal variations in a Venus general circulation model. <i>Icarus</i> , 2011, 212, 42-65.	2.5	51
39	Atomic and molecular hydrogen budget in Titan's atmosphere. <i>Icarus</i> , 2003, 161, 474-485.	2.5	47
40	Titan's lakes chemical composition: Sources of uncertainties and variability. <i>Planetary and Space Science</i> , 2012, 61, 99-107.	1.7	47
41	Net exchange parameterization of thermal infrared radiative transfer in Venus' atmosphere. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	46
42	Latitudinal variation of clouds' structure responsible for Venus' cold collar. <i>Icarus</i> , 2018, 314, 1-11.	2.5	45
43	Diagnostics of Titan's stratospheric dynamics using Cassini/CIRS data and the 2-dimensional IPSL circulation model. <i>Icarus</i> , 2008, 197, 556-571.	2.5	44
44	Infrared imaging spectroscopy of Mars: H ₂ O mapping and determination of CO ₂ isotopic ratios. <i>Icarus</i> , 2005, 179, 43-54.	2.5	42
45	Simultaneous mapping of H ₂ O and H ₂ O ₂ on Mars from infrared high-resolution imaging spectroscopy. <i>Icarus</i> , 2008, 195, 547-556.	2.5	42
46	Thermal structure of Venusian nighttime mesosphere as observed by VIRTIS on Venus Express. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	41
47	Monitoring atmospheric phenomena on Titan. <i>Astronomy and Astrophysics</i> , 2006, 456, 761-774.	5.1	39
48	The planetary fourier spectrometer (PFS) onboard the European Venus Express mission. <i>Planetary and Space Science</i> , 2006, 54, 1298-1314.	1.7	39
49	The role of organic haze in Titan's atmospheric chemistry. <i>Icarus</i> , 2008, 194, 201-211.	2.5	39
50	Titan atmosphere database. <i>Advances in Space Research</i> , 2005, 36, 2194-2198.	2.6	38
51	Disruption of Saturn's quasi-periodic equatorial oscillation by the great northern storm. <i>Nature Astronomy</i> , 2017, 1, 765-770.	10.1	37
52	Two boundary layers in Titan's lower troposphere inferred from a climate model. <i>Nature Geoscience</i> , 2012, 5, 106-109.	12.9	36
53	A model intercomparison of Titan's climate and low-latitude environment. <i>Icarus</i> , 2019, 333, 113-126.	2.5	36
54	Meridional distribution of CH ₃ C ₂ H and C ₄ H ₂ in Saturn's stratosphere from CIRS/Cassini limb and nadir observations. <i>Icarus</i> , 2010, 209, 682-695.	2.5	35

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55	Angular momentum budget in General Circulation Models of superrotating atmospheres: A critical diagnostic. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	34
56	The thermal structure of the Venus atmosphere: Intercomparison of Venus Express and ground based observations of vertical temperature and density profiles. <i>Icarus</i> , 2017, 294, 124-155.	2.5	34
57	Atmospheric mountain wave generation on Venus and its influence on the solid planet's rotation rate. <i>Nature Geoscience</i> , 2018, 11, 487-491.	12.9	34
58	The Venus nighttime atmosphere as observed by the VIRTIS-M instrument. Average fields from the complete infrared data set. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 837-849.	3.6	32
59	Seasonal evolution of C_2N_2 , C_3H_4 , and C_4H_2 abundances in Titan's lower stratosphere. <i>Astronomy and Astrophysics</i> , 2018, 609, A64.	5.1	32
60	Formulation of a wind specification for Titan late polar summer exploration. <i>Planetary and Space Science</i> , 2012, 70, 73-83.	1.7	31
61	Thermal structure of the upper atmosphere of Venus simulated by a ground-to-thermosphere GCM. <i>Icarus</i> , 2017, 281, 55-72.	2.5	31
62	Three-Dimensional Turbulence-Resolving Modeling of the Venusian Cloud Layer and Induced Gravity Waves: Inclusion of Complete Radiative Transfer and Wind Shear. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 2773-2789.	3.6	31
63	Global climate modeling of Saturn's atmosphere. Part II: Multi-annual high-resolution dynamical simulations. <i>Icarus</i> , 2020, 335, 113377.	2.5	31
64	Long-term Variations of Venus's 365 nm Albedo Observed by Venus Express, Akatsuki, MESSENGER, and the Hubble Space Telescope. <i>Astronomical Journal</i> , 2019, 158, 126.	4.7	30
65	Impact of the seasonal variations of composition on the temperature field of Titan's stratosphere. <i>Icarus</i> , 2003, 163, 164-174.	2.5	29
66	Analysis of the radiative budget of the Venusian atmosphere based on infrared Net Exchange Rate formalism. <i>Journal of Geophysical Research E: Planets</i> , 2015, 120, 1186-1200.	3.6	28
67	Global energy budgets and Trenberth diagrams for the climates of terrestrial and gas giant planets. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2016, 142, 703-720.	2.7	28
68	Planetary boundary layer and slope winds on Venus. <i>Icarus</i> , 2018, 314, 149-158.	2.5	27
69	HDO and SO_2 thermal mapping on Venus. <i>Astronomy and Astrophysics</i> , 2019, 623, A70.	5.1	26
70	Evolution of Titan and implications for its hydrocarbon cycle. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2009, 367, 617-631.	3.4	25
71	Mesoscale modeling of Venus' bow-shape waves. <i>Icarus</i> , 2020, 335, 113376.	2.5	24
72	Actinic fluxes in Titan's atmosphere, from one to three dimensions: Application to high-latitude composition. <i>Journal of Geophysical Research</i> , 1999, 104, 22025-22034.	3.3	23

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73	The coupling of winds, aerosols and chemistry in Titan's atmosphere. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 665-682.	3.4	23
74	Models of Venus Atmosphere. , 2013, , 129-156.		23
75	Ozone abundance on Mars from infrared heterodyne spectra. Icarus, 2006, 183, 396-402.	2.5	22
76	Seasonal changes in the middle atmosphere of Titan from Cassini/CIRS observations: Temperature and trace species abundance profiles from 2004 to 2017. Icarus, 2020, 344, 113547.	2.5	22
77	Superrotation in Planetary Atmospheres. Space Science Reviews, 2020, 216, 1.	8.1	22
78	The 2010 European Venus Explorer (EVE) mission proposal. Experimental Astronomy, 2012, 33, 305-335.	3.7	20
79	Impact of a new wavelength-dependent representation of methane photolysis branching ratios on the modeling of Titan's atmospheric photochemistry. Icarus, 2013, 223, 330-343.	2.5	20
80	Temperature and chemical species distributions in the middle atmosphere observed during Titan's late northern spring to early summer. Astronomy and Astrophysics, 2020, 641, A116.	5.1	20
81	Three-dimensional turbulence-resolving modeling of the Venusian cloud layer and induced gravity waves. Journal of Geophysical Research E: Planets, 2017, 122, 134-149.	3.6	19
82	Held-Suarez simulations with the Community Atmosphere Model Spectral Element (CAM-SE) dynamical core: A global axial angular momentum analysis using Eulerian and floating Lagrangian vertical coordinates. Journal of Advances in Modeling Earth Systems, 2014, 6, 129-140.	3.8	17
83	ABOUT THE POSSIBLE ROLE OF HYDROCARBON LAKES IN THE ORIGIN OF TITAN'S NOBLE GAS ATMOSPHERIC DEPLETION. Astrophysical Journal Letters, 2010, 721, L117-L120.	8.3	16
84	The various contributions in Venus rotation rate and LOD. Astronomy and Astrophysics, 2011, 531, A45.	5.1	16
85	The role of submicrometer aerosols and macromolecules in H ₂ formation in the titan haze. Icarus, 2003, 161, 468-473.	2.5	14
86	Seasonal evolution of temperatures in Titan's lower stratosphere. Icarus, 2020, 344, 113188.	2.5	13
87	Stratospheric aftermath of the 2010 Storm on Saturn as observed by the TEXES instrument. I. Temperature structure. Icarus, 2016, 277, 196-214.	2.5	12
88	Radiative-equilibrium model of Jupiter's atmosphere and application to estimating stratospheric circulations. Icarus, 2020, 351, 113935.	2.5	11
89	Venus upper atmosphere revealed by a GCM: II. Model validation with temperature and density measurements. Icarus, 2021, 366, 114432.	2.5	10
90	Venus' upper atmosphere revealed by a GCM: I. Structure and variability of the circulation. Icarus, 2021, 366, 114400.	2.5	10

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91	The general circulation of Titan's lower and middle atmosphere. , 2014, , 122-157.		9
92	Validation of the IPSL Venus GCM Thermal Structure with Venus Express Data. Atmosphere, 2019, 10, 584.	2.3	9
93	Global climate modeling of Saturn's atmosphere. Part IV: Stratospheric equatorial oscillation. Icarus, 2021, 354, 114042.	2.5	8
94	Simulations of the latitudinal variability of CO ₂ -like and OCS ₂ -like passive tracers below the clouds of Venus using the Laboratoire de Météorologie Dynamique GCM. Journal of Geophysical Research E: Planets, 2013, 118, 1983-1990.	3.6	7
95	The Physical Origin of the Venus Low Atmosphere Chemical Gradient. Astrophysical Journal, 2019, 880, 82.	4.5	6
96	Joint evolution of equatorial oscillation and interhemispheric circulation in Saturn's stratosphere. Nature Astronomy, 2022, 6, 804-811.	10.1	6
97	An experimental study of the mixing of CO ₂ and N ₂ under conditions found at the surface of Venus. Icarus, 2020, 338, 113550.	2.5	5
98	Modeling Efforts. , 2013, , 111-127.		5
99	Science goals and new mission concepts for future exploration of Titan's atmosphere, geology and habitability: titan POLar scout/orbitEr and in situ lake lander and DrONe explorer (POSEIDON). Experimental Astronomy, 2022, 54, 911-973.	3.7	5
100	Convection behind the Humidification of Titan's Stratosphere. Astrophysical Journal, 2021, 922, 239.	4.5	3
101	Characterising atmospheric gravity waves on the nightside lower clouds of Venus: a systematic analysis. Astronomy and Astrophysics, 2021, 649, A34.	5.1	2
102	Radiative-dynamical Simulation of Jupiter's Stratosphere and Upper Troposphere. Astrophysical Journal, 2021, 921, 174.	4.5	2
103	Gravitational atmospheric tides as a probe of Titan's interior: Application to Dragonfly. Astronomy and Astrophysics, 2022, 658, A108.	5.1	2
104	Super-rotating the venusian atmosphere. Science, 2020, 368, 363-364.	12.6	1