

Sebastien Lebonnois

List of Publications by Year in descending order

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104
papers

5,559
citations

71004

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114
all docs

114
docs citations

114
times ranked

2665
citing authors

#	ARTICLE	IF	CITATIONS
1	Gravitational atmospheric tides as a probe of Titan's interior: Application to Dragonfly. <i>Astronomy and Astrophysics</i> , 2022, 658, A108.	2.1	2
2	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). <i>Experimental Astronomy</i> , 2022, 54, 911-973.	1.6	5
3	Joint evolution of equatorial oscillation and interhemispheric circulation in Saturn's stratosphere. <i>Nature Astronomy</i> , 2022, 6, 804-811.	4.2	6
4	Revealing the Mysteries of Venus: The DAVINCI Mission. <i>Planetary Science Journal</i> , 2022, 3, 117.	1.5	62
5	Global climate modeling of Saturn's atmosphere. Part IV: Stratospheric equatorial oscillation. <i>Icarus</i> , 2021, 354, 114042.	1.1	8
6	Characterising atmospheric gravity waves on the nightside lower clouds of Venus: a systematic analysis. <i>Astronomy and Astrophysics</i> , 2021, 649, A34.	2.1	2
7	Venus upper atmosphere revealed by a GCM: II. Model validation with temperature and density measurements. <i>Icarus</i> , 2021, 366, 114432.	1.1	10
8	Venus's upper atmosphere revealed by a GCM: I. Structure and variability of the circulation. <i>Icarus</i> , 2021, 366, 114400.	1.1	10
9	Radiative-dynamical Simulation of Jupiter's Stratosphere and Upper Troposphere. <i>Astrophysical Journal</i> , 2021, 921, 174.	1.6	2
10	Convection behind the Humidification of Titan's Stratosphere. <i>Astrophysical Journal</i> , 2021, 922, 239.	1.6	3
11	Seasonal evolution of temperatures in Titan's lower stratosphere. <i>Icarus</i> , 2020, 344, 113188.	1.1	13
12	Global climate modeling of Saturn's atmosphere. Part II: Multi-annual high-resolution dynamical simulations. <i>Icarus</i> , 2020, 335, 113377.	1.1	31
13	Mesoscale modeling of Venus' bow-shape waves. <i>Icarus</i> , 2020, 335, 113376.	1.1	24
14	Seasonal changes in the middle atmosphere of Titan from Cassini/CIRS observations: Temperature and trace species abundance profiles from 2004 to 2017. <i>Icarus</i> , 2020, 344, 113547.	1.1	22
15	An experimental study of the mixing of CO ₂ and N ₂ under conditions found at the surface of Venus. <i>Icarus</i> , 2020, 338, 113550.	1.1	5
16	Superrotation in Planetary Atmospheres. <i>Space Science Reviews</i> , 2020, 216, 1.	3.7	22
17	Temperature and chemical species distributions in the middle atmosphere observed during Titan's late northern spring to early summer. <i>Astronomy and Astrophysics</i> , 2020, 641, A116.	2.1	20
18	Radiative-equilibrium model of Jupiter's atmosphere and application to estimating stratospheric circulations. <i>Icarus</i> , 2020, 351, 113935.	1.1	11

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19	Super-rotating the venusian atmosphere. <i>Science</i> , 2020, 368, 363-364.	6.0	1
20	The Physical Origin of the Venus Low Atmosphere Chemical Gradient. <i>Astrophysical Journal</i> , 2019, 880, 82.	1.6	6
21	A model intercomparison of Titan's climate and low-latitude environment. <i>Icarus</i> , 2019, 333, 113-126.	1.1	36
22	Validation of the IPSL Venus GCM Thermal Structure with Venus Express Data. <i>Atmosphere</i> , 2019, 10, 584.	1.0	9
23	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.	1.9	30
24	HDO and SO ₂ thermal mapping on Venus. <i>Astronomy and Astrophysics</i> , 2019, 623, A70.	2.1	26
25	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.	1.1	85
26	Superrotation on Venus, on Titan, and Elsewhere. <i>Annual Review of Earth and Planetary Sciences</i> , 2018, 46, 175-202.	4.6	64
27	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.	1.5	31
28	Seasonal evolution of C ₂ N ₂ , C ₃ H ₄ , and C ₄ H ₂ abundances in Titan's lower stratosphere. <i>Astronomy and Astrophysics</i> , 2018, 609, A64.	2.1	32
29	Latitudinal variation of clouds' structure responsible for Venus' cold collar. <i>Icarus</i> , 2018, 314, 1-11.	1.1	45
30	Planetary boundary layer and slope winds on Venus. <i>Icarus</i> , 2018, 314, 149-158.	1.1	27
31	Atmospheric mountain wave generation on Venus and its influence on the solid planet's rotation rate. <i>Nature Geoscience</i> , 2018, 11, 487-491.	5.4	34
32	Three-dimensional turbulence-resolving modeling of the Venusian cloud layer and induced gravity waves. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 134-149.	1.5	19
33	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.	1.1	34
34	The Atmospheric Dynamics of Venus. <i>Space Science Reviews</i> , 2017, 212, 1541-1616.	3.7	95
35	Disruption of Saturn's quasi-periodic equatorial oscillation by the great northern storm. <i>Nature Astronomy</i> , 2017, 1, 765-770.	4.2	37
36	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.	5.4	62

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37	Thermal structure of the upper atmosphere of Venus simulated by a ground-to-thermosphere GCM. <i>Icarus</i> , 2017, 281, 55-72.	1.1	31
38	Stratospheric aftermath of the 2010 Storm on Saturn as observed by the TEXES instrument. I. Temperature structure. <i>Icarus</i> , 2016, 277, 196-214.	1.1	12
39	Wave analysis in the atmosphere of Venus below 100-km altitude, simulated by the LMD Venus GCM. <i>Icarus</i> , 2016, 278, 38-51.	1.1	84
40	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.	1.0	28
41	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.	1.5	60
42	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.	1.5	28
43	Methane storms as a driver of Titan's dune orientation. <i>Nature Geoscience</i> , 2015, 8, 362-366.	5.4	52
44	Seasonal variations in Titan's middle atmosphere during the northern spring derived from Cassini/CIRS observations. <i>Icarus</i> , 2015, 250, 95-115.	1.1	99
45	The general circulation of Titan's lower and middle atmosphere. , 2014, , 122-157.		9
46	Held's 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. <i>Journal of Advances in Modeling Earth Systems</i> , 2014, 6, 129-140.	1.3	17
47	The Venus nighttime atmosphere as observed by the VIRTIS instrument. Average fields from the complete infrared data set. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 837-849.	1.5	32
48	Impact of a new wavelength-dependent representation of methane photolysis branching ratios on the modeling of Titan's atmospheric photochemistry. <i>Icarus</i> , 2013, 223, 330-343.	1.1	20
49	Simulations of the latitudinal variability of CO-like and OCS-like passive tracers below the clouds of Venus using the Laboratoire de Mécanique Dynamique GCM. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 1983-1990.	1.5	7
50	Modeling Efforts. , 2013, , 111-127.		5
51	Models of Venus Atmosphere. , 2013, , 129-156.		23
52	Two boundary layers in Titan's lower troposphere inferred from a climate model. <i>Nature Geoscience</i> , 2012, 5, 106-109.	5.4	36
53	Formulation of a wind specification for Titan late polar summer exploration. <i>Planetary and Space Science</i> , 2012, 70, 73-83.	0.9	31
54	Angular momentum budget in General Circulation Models of superrotating atmospheres: A critical diagnostic. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	34

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55	The 2010 European Venus Explorer (EVE) mission proposal. <i>Experimental Astronomy</i> , 2012, 33, 305-335.	1.6	20
56	Investigation of air temperature on the nightside of Venus derived from VIRTIS-H on board Venus-Express. <i>Icarus</i> , 2012, 217, 640-647.	1.1	59
57	Titan global climate model: A new 3-dimensional version of the IPSL Titan GCM. <i>Icarus</i> , 2012, 218, 707-722.	1.1	141
58	Titan's lakes chemical composition: Sources of uncertainties and variability. <i>Planetary and Space Science</i> , 2012, 61, 99-107.	0.9	47
59	The various contributions in Venus rotation rate and LOD. <i>Astronomy and Astrophysics</i> , 2011, 531, A45.	2.1	16
60	Decadal variations in a Venus general circulation model. <i>Icarus</i> , 2011, 212, 42-65.	1.1	51
61	ABOUT THE POSSIBLE ROLE OF HYDROCARBON LAKES IN THE ORIGIN OF TITAN'S NOBLE GAS ATMOSPHERIC DEPLETION. <i>Astrophysical Journal Letters</i> , 2010, 721, L117-L120.	3.0	16
62	Seasonal change on Saturn from Cassini/CIRS observations, 2004-2009. <i>Icarus</i> , 2010, 208, 337-352.	1.1	63
63	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.	1.1	35
64	Superrotation of Venus' atmosphere analyzed with a full general circulation model. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	180
65	Thermal structure of Venusian nighttime mesosphere as observed by VIRTIS on Venus Express. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	41
66	TandEM: Titan and Enceladus mission. <i>Experimental Astronomy</i> , 2009, 23, 893-946.	1.6	77
67	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.	1.1	78
68	Density and temperatures of the upper Martian atmosphere measured by stellar occultations with Mars Express SPICAM. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	200
69	Net exchange parameterization of thermal infrared radiative transfer in Venus' atmosphere. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	46
70	The coupling of winds, aerosols and chemistry in Titan's atmosphere. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2009, 367, 665-682.	1.6	23
71	Evolution of Titan and implications for its hydrocarbon cycle. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2009, 367, 617-631.	1.6	25
72	The role of organic haze in Titan's atmospheric chemistry. <i>Icarus</i> , 2008, 194, 201-211.	1.1	39

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73	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.	1.1	42
74	Coupled ion and neutral rotating model of Titan's upper atmosphere. <i>Icarus</i> , 2008, 197, 110-136.	1.1	77
75	Diagnostics of Titan's stratospheric dynamics using Cassini/CIRS data and the 2-dimensional IPSL circulation model. <i>Icarus</i> , 2008, 197, 556-571.	1.1	44
76	Heterogeneous chemistry in the atmosphere of Mars. <i>Nature</i> , 2008, 454, 971-975.	13.7	130
77	Variable winds on Venus mapped in three dimensions. <i>Geophysical Research Letters</i> , 2008, 35, .	1.5	119
78	Scientific goals for the observation of Venus by VIRTIS on ESA/Venus express mission. <i>Planetary and Space Science</i> , 2007, 55, 1653-1672.	0.9	155
79	A warm layer in Venus' cryosphere and high-altitude measurements of HF, HCl, H ₂ O and HDO. <i>Nature</i> , 2007, 450, 646-649.	13.7	161
80	A dynamic upper atmosphere of Venus as revealed by VIRTIS on Venus Express. <i>Nature</i> , 2007, 450, 641-645.	13.7	95
81	South-polar features on Venus similar to those near the north pole. <i>Nature</i> , 2007, 450, 637-640.	13.7	110
82	Titan's corona: The contribution of exothermic chemistry. <i>Icarus</i> , 2007, 191, 236-250.	1.1	51
83	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
84	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
85	Global distribution of total ozone on Mars from SPICAM/MEX UV measurements. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	120
86	SPICAM on Mars Express: Observing modes and overview of UV spectrometer data and scientific results. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	148
87	Monitoring atmospheric phenomena on Titan. <i>Astronomy and Astrophysics</i> , 2006, 456, 761-774.	2.1	39
88	Subvisible CO ₂ ice clouds detected in the mesosphere of Mars. <i>Icarus</i> , 2006, 183, 403-410.	1.1	113
89	The planetary fourier spectrometer (PFS) onboard the European Venus Express mission. <i>Planetary and Space Science</i> , 2006, 54, 1298-1314.	0.9	39
90	Ozone abundance on Mars from infrared heterodyne spectra. <i>Icarus</i> , 2006, 183, 396-402.	1.1	22

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91	The Latitudinal Distribution of Clouds on Titan. <i>Science</i> , 2006, 311, 201-205.	6.0	187
92	Benzene and aerosol production in Titan and Jupiter's atmospheres: a sensitivity study. <i>Planetary and Space Science</i> , 2005, 53, 486-497.	0.9	97
93	Infrared imaging spectroscopy of Mars: H ₂ O mapping and determination of CO ₂ isotopic ratios. <i>Icarus</i> , 2005, 179, 43-54.	1.1	42
94	Titan atmosphere database. <i>Advances in Space Research</i> , 2005, 36, 2194-2198.	1.2	38
95	Hydrogen peroxide on Mars: evidence for spatial and seasonal variations. <i>Icarus</i> , 2004, 170, 424-429.	1.1	177
96	Three-dimensional modeling of ozone on Mars. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	170
97	Titan's stratospheric composition driven by condensation and dynamics. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	72
98	Atomic and molecular hydrogen budget in Titan's atmosphere. <i>Icarus</i> , 2003, 161, 474-485.	1.1	47
99	The role of submicrometer aerosols and macromolecules in H ₂ formation in the titan haze. <i>Icarus</i> , 2003, 161, 468-473.	1.1	14
100	Impact of the seasonal variations of composition on the temperature field of Titan's stratosphere. <i>Icarus</i> , 2003, 163, 164-174.	1.1	29
101	Latitudinal transport by barotropic waves in Titan's stratosphere.. <i>Icarus</i> , 2003, 166, 343-358.	1.1	60
102	Transition from Gaseous Compounds to Aerosols in Titan's Atmosphere. <i>Icarus</i> , 2002, 159, 505-517.	1.1	97
103	Seasonal Variations of Titan's Atmospheric Composition. <i>Icarus</i> , 2001, 152, 384-406.	1.1	162
104	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