Sebastien Lebonnois

List of Publications by Year
in descending order

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	Gravitational atmospheric tides as a probe of Titanâ€™s interior: Application to Dragonfly. Astronomy and Astrophysics, 2022, 658, A108.	5.1	2
2	Science goals and new mission concepts for future exploration of Titanâ€™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
3	Joint evolution of equatorial oscillation and interhemispheric circulation in Saturnâ€™s stratosphere. Nature Astronomy, 2022, 6, 804-811.	10.1	6
4	Revealing the Mysteries of Venus: The DAVINCI Mission. Planetary Science Journal, 2022, 3, 117.	3.6	62
5	Global climate modeling of Saturnâ€™s atmosphere. Part IV: Stratospheric equatorial oscillation. Icarus, 2021, 354, 114042.	2.5	8
6	Characterising atmospheric gravity waves on the nightside lower clouds of Venus: a systematic analysis. Astronomy and Astrophysics, 2021, 649, A34.	5.1	2
7	Venus upper atmosphere revealed by a GCM: II. Model validation with temperature and density measurements. Icarus, 2021, 366, 114432.	2.5	10
8	Venusâ€™ upper atmosphere revealed by a GCM: I. Structure and variability of the circulation. Icarus, 2021, 366, 114400.	2.5	10
9	Radiative-dynamical Simulation of Jupiterâ€™s Stratosphere and Upper Troposphere. Astrophysical Journal, 2021, 921, 174.	4.5	2
10	Convection behind the Humidification of Titanâ€™s Stratosphere. Astrophysical Journal, 2021, 922, 239.	4.5	3
11	Seasonal evolution of temperatures in Titan's lower stratosphere. Icarus, 2020, 344, 113188.	2.5	13
12	Global climate modeling of Saturn's atmosphere. Part II: Multi-annual high-resolution dynamical simulations. Icarus, 2020, 335, 113377.	2.5	31
13	Mesoscale modeling of Venus' bow-shape waves. Icarus, 2020, 335, 113376.	2.5	24
14	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
15	An experimental study of the mixing of CO2 and N2 under conditions found at the surface of Venus. Icarus, 2020, 338, 113550.	2.5	5
16	Superrotation in Planetary Atmospheres. Space Science Reviews, 2020, 216, 1.	8.1	22
17	Temperature and chemical species distributions in the middle atmosphere observed during Titanâ€™s late northern spring to early summer. Astronomy and Astrophysics, 2020, 641, A116.	5.1	20
18	Radiative-equilibrium model of Jupiterâ€™s atmosphere and application to estimating stratospheric circulations. Icarus, 2020, 351, 113935.	2.5	11

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19	Super-rotating the venusian atmosphere. Science, 2020, 368, 363-364.	12.6	1
20	The Physical Origin of the Venus Low Atmosphere Chemical Gradient. Astrophysical Journal, 2019, 880, 82.	4.5	6
21	A model intercomparison of Titan's climate and low-latitude environment. Icarus, 2019, 333, 113-126.	2.5	36
22	Validation of the IPSL Venus GCM Thermal Structure with Venus Express Data. Atmosphere, 2019, 10, 584.	2.3	9
23	Long-term Variations of Venusâ€™s 365 nm Albedo Observed by Venus Express, Akatsuki, MESSENGER, and the Hubble Space Telescope. Astronomical Journal, 2019, 158, 126.	4.7	30
24	HDO and SO₂ thermal mapping on Venus. Astronomy and Astrophysics, 2019, 623, A70.	5.1	26
25	Recent advances in collisional effects on spectra of molecular gases and their practical consequences. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 213, 178-227.	2.3	85
26	Superrotation on Venus, on Titan, and Elsewhere. Annual Review of Earth and Planetary Sciences, 2018, 46, 175-202.	11.0	64
27	Threeâ€Dimensional Turbulenceâ€Resolving Modeling of the Venusian Cloud Layer and Induced Gravity Waves: Inclusion of Complete Radiative Transfer and Wind Shear. Journal of Geophysical Research E: Planets, 2018, 123, 2773-2789.	3.6	31
28	Seasonal evolution of C₂N₂, C₃H₄, and C₄H₂ abundances in Titanâ€™s lower stratosphere. Astronomy and Astrophysics, 2018, 609, A64.	5.1	32
29	Latitudinal variation of cloudsâ€™ structure responsible for Venusâ€™ cold collar. Icarus, 2018, 314, 1-11.	2.5	45
30	Planetary boundary layer and slope winds on Venus. Icarus, 2018, 314, 149-158.	2.5	27
31	Atmospheric mountain wave generation on Venus and its influence on the solid planetâ€™s rotation rate. Nature Geoscience, 2018, 11, 487-491.	12.9	34
32	Threeâ€dimensional turbulenceâ€resolving modeling of the Venusian cloud layer and induced gravity waves. Journal of Geophysical Research E: Planets, 2017, 122, 134-149.	3.6	19
33	The thermal structure of the Venus atmosphere: Intercomparison of Venus Express and ground based observations of vertical temperature and density profiles. Icarus, 2017, 294, 124-155.	2.5	34
34	The Atmospheric Dynamics of Venus. Space Science Reviews, 2017, 212, 1541-1616.	8.1	95
35	Disruption of Saturnâ€™s quasi-periodic equatorial oscillation by the great northern storm. Nature Astronomy, 2017, 1, 765-770.	10.1	37
36	The deep atmosphere of Venus and the possible role of density-driven separation of CO2 and N2. Nature Geoscience, 2017, 10, 473-477.	12.9	62

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37	Thermal structure of the upper atmosphere of Venus simulated by a ground-to-thermosphere GCM. Icarus, 2017, 281, 55-72.	2.5	31
38	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
39	Wave analysis in the atmosphere of Venus below 100-km altitude, simulated by the LMD Venus GCM. Icarus, 2016, 278, 38-51.	2.5	84
40	Global energy budgets and â€˜Trenberth diagramsâ€™ for the climates of terrestrial and gas giant planets. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 703-720.	2.7	28
41	Influence of Venus topography on the zonal wind and UV albedo at cloud top level: The role of stationary gravity waves. Journal of Geophysical Research E: Planets, 2016, 121, 1087-1101.	3.6	60
42	Analysis of the radiative budget of the Venusian atmosphere based on infrared Net Exchange Rate formalism. Journal of Geophysical Research E: Planets, 2015, 120, 1186-1200.	3.6	28
43	Methane storms as a driver of Titanâ€™s duneÂorientation. Nature Geoscience, 2015, 8, 362-366.	12.9	52
44	Seasonal variations in Titanâ€™s middle atmosphere during the northern spring derived from Cassini/CIRS observations. Icarus, 2015, 250, 95-115.	2.5	99
45	The general circulation of Titan's lower and middle atmosphere. , 2014, , 122-157.		9
46	Heldâ€Suarez simulations with the Community Atmosphere Model Spectral Element (CAMâ€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
47	The Venus nighttime atmosphere as observed by the VIRTISâ€M instrument. Average fields from the complete infrared data set. Journal of Geophysical Research E: Planets, 2014, 119, 837-849.	3.6	32
48	Impact of a new wavelength-dependent representation of methane photolysis branching ratios on the modeling of Titanâ€™s atmospheric photochemistry. Icarus, 2013, 223, 330-343.	2.5	20
49	Simulations of the latitudinal variability of COâ€like and OCSâ€like passive tracers below the clouds of Venus using the Laboratoire de MÃ©tÃ©orologie Dynamique GCM. Journal of Geophysical Research E: Planets, 2013, 118, 1983-1990.	3.6	7
50	Modeling Efforts. , 2013, , 111-127.		5
51	Models of Venus Atmosphere. , 2013, , 129-156.		23
52	Two boundary layers in Titanâ€™s lower troposphere inferred from a climate model. Nature Geoscience, 2012, 5, 106-109.	12.9	36
53	Formulation of a wind specification for Titan late polar summer exploration. Planetary and Space Science, 2012, 70, 73-83.	1.7	31
54	Angular momentum budget in General Circulation Models of superrotating atmospheres: A critical diagnostic. Journal of Geophysical Research, 2012, 117, .	3.3	34

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55	The 2010 European Venus Explorer (EVE) mission proposal. Experimental Astronomy, 2012, 33, 305-335.	3.7	20
56	Investigation of air temperature on the nightside of Venus derived from VIRTIS-H on board Venus-Express. Icarus, 2012, 217, 640-647.	2.5	59
57	Titan global climate model: A new 3-dimensional version of the IPSL Titan GCM. Icarus, 2012, 218, 707-722.	2.5	141
58	Titan's lakes chemical composition: Sources of uncertainties and variability. Planetary and Space Science, 2012, 61, 99-107.	1.7	47
59	The various contributions in Venus rotation rate and LOD. Astronomy and Astrophysics, 2011, 531, A45.	5.1	16
60	Decadal variations in a Venus general circulation model. Icarus, 2011, 212, 42-65.	2.5	51
61	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
62	Seasonal change on Saturn from Cassini/CIRS observations, 2004â€“2009. Icarus, 2010, 208, 337-352.	2.5	63
63	Meridional distribution of CH3C2H and C4H2 in Saturnâ€™s stratosphere from CIRS/Cassini limb and nadir observations. Icarus, 2010, 209, 682-695.	2.5	35
64	Superrotation of Venus' atmosphere analyzed with a full general circulation model. Journal of Geophysical Research, 2010, 115, .	3.3	180
65	Thermal structure of Venusian nighttime mesosphere as observed by VIRTISâ€Venus Express. Journal of Geophysical Research, 2010, 115, .	3.3	41
66	TandEM: Titan and Enceladus mission. Experimental Astronomy, 2009, 23, 893-946.	3.7	77
67	Vertical and meridional distribution of ethane, acetylene and propane in Saturnâ€™s stratosphere from CIRS/Cassini limb observations. Icarus, 2009, 203, 214-232.	2.5	78
68	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
69	Net exchange parameterization of thermal infrared radiative transfer in Venus' atmosphere. Journal of Geophysical Research, 2009, 114, .	3.3	46
70	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
71	Evolution of Titan and implications for its hydrocarbon cycle. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 617-631.	3.4	25
72	The role of organic haze in Titan's atmospheric chemistry. Icarus, 2008, 194, 201-211.	2.5	39

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73	Simultaneous mapping of H2O and H2O2 on Mars from infrared high-resolution imaging spectroscopy. Icarus, 2008, 195, 547-556.	2.5	42
74	Coupled ion and neutral rotating model of Titan's upper atmosphere. Icarus, 2008, 197, 110-136.	2.5	77
75	Diagnostics of Titan's stratospheric dynamics using Cassini/CIRS data and the 2-dimensional IPSL circulation model. Icarus, 2008, 197, 556-571.	2.5	44
76	Heterogeneous chemistry in the atmosphere of Mars. Nature, 2008, 454, 971-975.	27.8	130
77	Variable winds on Venus mapped in three dimensions. Geophysical Research Letters, 2008, 35, .	4.0	119
78	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
79	A warm layer in Venus' cryosphere and high-altitude measurements of HF, HCl, H2O and HDO. Nature, 2007, 450, 646-649.	27.8	161
80	A dynamic upper atmosphere of Venus as revealed by VIRTIS on Venus Express. Nature, 2007, 450, 641-645.	27.8	95
81	South-polar features on Venus similar to those near the north pole. Nature, 2007, 450, 637-640.	27.8	110
82	Titan's corona: The contribution of exothermic chemistry. Icarus, 2007, 191, 236-250.	2.5	51
83	Vertical distribution of ozone on Mars as measured by SPICAM/Mars Express using stellar occultations. Journal of Geophysical Research, 2006, 111, .	3.3	90
84	Stellar occultations at UV wavelengths by the SPICAM instrument: Retrieval and analysis of Martian haze profiles. Journal of Geophysical Research, 2006, 111, .	3.3	93
85	Global distribution of total ozone on Mars from SPICAM/MEX UV measurements. Journal of Geophysical Research, 2006, 111, .	3.3	120
86	SPICAM on Mars Express: Observing modes and overview of UV spectrometer data and scientific results. Journal of Geophysical Research, 2006, 111, .	3.3	148
87	Monitoring atmospheric phenomena on Titan. Astronomy and Astrophysics, 2006, 456, 761-774.	5.1	39
88	Subvisible CO2 ice clouds detected in the mesosphere of Mars. Icarus, 2006, 183, 403-410.	2.5	113
89	The planetary fourier spectrometer (PFS) onboard the European Venus Express mission. Planetary and Space Science, 2006, 54, 1298-1314.	1.7	39
90	Ozone abundance on Mars from infrared heterodyne spectra. Icarus, 2006, 183, 396-402.	2.5	22

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91	The Latitudinal Distribution of Clouds on Titan. Science, 2006, 311, 201-205.	12.6	187
92	Benzene and aerosol production in Titan and Jupiter's atmospheres: a sensitivity study. Planetary and Space Science, 2005, 53, 486-497.	1.7	97
93	Infrared imaging spectroscopy of Mars: H2O mapping and determination of CO2 isotopic ratios. Icarus, 2005, 179, 43-54.	2.5	42
94	Titan atmosphere database. Advances in Space Research, 2005, 36, 2194-2198.	2.6	38
95	Hydrogen peroxide on Mars: evidence for spatial and seasonal variations. Icarus, 2004, 170, 424-429.	2.5	177
96	Three-dimensional modeling of ozone on Mars. Journal of Geophysical Research, 2004, 109, .	3.3	170
97	Titan's stratospheric composition driven by condensation and dynamics. Journal of Geophysical Research, 2004, 109, .	3.3	72
98	Atomic and molecular hydrogen budget in Titanâ€™s atmosphere. Icarus, 2003, 161, 474-485.	2.5	47
99	The role of submicrometer aerosols and macromolecules in H2 formation in the titan haze. Icarus, 2003, 161, 468-473.	2.5	14
100	Impact of the seasonal variations of composition on the temperature field of Titanâ€™s stratosphere. Icarus, 2003, 163, 164-174.	2.5	29
101	Latitudinal transport by barotropic waves in Titan's stratosphere.. Icarus, 2003, 166, 343-358.	2.5	60
102	Transition from Gaseous Compounds to Aerosols in Titan's Atmosphere. Icarus, 2002, 159, 505-517.	2.5	97
103	Seasonal Variations of Titan's Atmospheric Composition. Icarus, 2001, 152, 384-406.	2.5	162
104	Actinic fluxes in Titan's atmosphere, from one to three dimensions: Application to high-latitude composition. Journal of Geophysical Research, 1999, 104, 22025-22034.	3.3	23