FranÃ§ois Leblanc

List of Publications by Year
in descending order

110 papers	4,976 citations	81900 39 h-index	95266 68 g-index
112 all docs	112 docs citations	112 times ranked	2469 citing authors

#	Article	IF	Citations
1	The Mars Atmosphere and Volatile Evolution (MAVEN) Mission. Space Science Reviews, 2015, 195, 3-48.	8.1	563
2	Loss of the Martian atmosphere to space: Present-day loss rates determined from MAVEN observations and integrated loss through time. Icarus, 2018, 315, 146-157.	2.5	216
3	Discovery of an aurora on Mars. Nature, 2005, 435, 790-794.	27.8	203
4	Thermal evolution of an early magma ocean in interaction with the atmosphere. Journal of Geophysical Research E: Planets, 2013, 118, 1155-1176.	3.6	173
5	MAVEN observations of the response of Mars to an interplanetary coronal mass ejection. Science, 2015, 350, aad0210.	12.6	166
6	Mars atmospheric escape and evolution; interaction with the solar wind. Planetary and Space Science, 2004, 52, 1039-1058.	1.7	164
7	Observation of the hydrogen corona with SPICAM on Mars Express. Icarus, 2008, 195, 598-613.	2.5	139
8	Mercury's sodium exosphere. Icarus, 2003, 164, 261-281.	2.5	131
9	Threeâ€dimensional Martian ionosphere model: I. The photochemical ionosphere below 180 km. Journal of Geophysical Research E: Planets, 2013, 118, 2105-2123.	3.6	118
10	Mars solar wind interaction: Formation of the Martian corona and atmospheric loss to space. Journal of Geophysical Research, 2007, 112, .	3.3	115
11	A quantitative model of the planetary Na⁺ contribution to Mercuryâ€™s magnetosphere. Annales Geophysicae, 2003, 21, 1723-1736.	1.6	106
12	Photochemical escape of oxygen from Mars: First results from MAVEN in situ data. Journal of Geophysical Research: Space Physics, 2017, 122, 3815-3836.	2.4	106
13	Exospheres and Atmospheric Escape. Space Science Reviews, 2008, 139, 355-397.	8.1	103
14	Characterizing Atmospheric Escape from Mars Today and Through Time, with MAVEN. Space Science Reviews, 2015, 195, 357-422.	8.1	99
15	Role of molecular species in pickup ion sputtering of the Martian atmosphere. Journal of Geophysical Research, 2002, 107, 5-1.	3.3	90
16	Early MAVEN Deep Dip campaign reveals thermosphere and ionosphere variability. Science, 2015, 350, aad0459.	12.6	90
17	Sputtering of the Martian atmosphere by solar wind pick-up ions. Planetary and Space Science, 2001, 49, 645-656.	1.7	83
18	Variability of the hydrogen in the martian upper atmosphere as simulated by a 3D atmosphereâ€“exosphere coupling. Icarus, 2015, 245, 282-294.	2.5	77

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19	Martian oxygen density at the exobase deduced from O I 130.4â€nm observations by Spectroscopy for the Investigation of the Characteristics of the Atmosphere of Mars on Mars Express. Journal of Geophysical Research, 2009, 114, .	3.3	71
20	Investigating Mercuryâ€™s Environment with the Two-Spacecraft BepiColombo Mission. Space Science Reviews, 2020, 216, 1.	8.1	71
21	The combined effects of escape and magnetic field histories at Mars. Planetary and Space Science, 2007, 55, 343-357.	1.7	70
22	Monte Carlo model of electron transport for the calculation of Mars dayglow emissions. Journal of Geophysical Research, 2008, 113, .	3.3	68
23	Mercury exosphere I. Global circulation model of its sodium component. Icarus, 2010, 209, 280-300.	2.5	68
24	Formation and Evolution of Protoatmospheres. Space Science Reviews, 2016, 205, 153-211.	8.1	68
25	Global distribution and parameter dependences of gravity wave activity in the Martian upper thermosphere derived from MAVEN/NGIMS observations. Journal of Geophysical Research: Space Physics, 2017, 122, 2374-2397.	2.4	66
26	SPICAM on Mars Express: A 10 year in-depth survey of the Martian atmosphere. Icarus, 2017, 297, 195-216.	2.5	64
27	The fate of early Mars' lost water: The role of serpentinization. Journal of Geophysical Research E: Planets, 2013, 118, 1123-1134.	3.6	59
28	Origins of the Martian aurora observed by Spectroscopy for Investigation of Characteristics of the Atmosphere of Mars (SPICAM) on board Mars Express. Journal of Geophysical Research, 2006, 111, .	3.3	58
29	Some expected impacts of a solar energetic particle event at Mars. Journal of Geophysical Research, 2002, 107, SIA 5-1.	3.3	54
30	Marsâ€solar wind interaction: LatHyS, an improved parallel 3â€Ð multispecies hybrid model. Journal of Geophysical Research: Space Physics, 2016, 121, 6378-6399.	2.4	54
31	Mars exospheric thermal and non-thermal components: Seasonal and local variations. Icarus, 2012, 221, 682-693.	2.5	51
32	Three-dimensional Martian ionosphere model: II. Effect of transport processes due to pressure gradients. Journal of Geophysical Research E: Planets, 2014, 119, 1614-1636.	3.6	51
33	Discovery of the Atomic Iron Tail of Comet M c Naught Using the Heliospheric Imager on STEREO. Astrophysical Journal, 2007, 661, L93-L96.	4.5	48
34	Martian corona: Nonthermal sources of hot heavy species. Journal of Geophysical Research, 2007, 112, .	3.3	47
35	Hydrogen density in the dayside venusian exosphere derived from Lyman-Î± observations by SPICAV on Venus Express. Icarus, 2012, 217, 767-778.	2.5	47
36	Response of Mars O⁺ pickup ions to the 8 March 2015 ICME: Inferences from MAVEN dataâ€based models. Geophysical Research Letters, 2015, 42, 9095-9102.	4.0	47

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37	On the orbital variability of Ganymede's atmosphere. Icarus, 2017, 293, 185-198.	2.5	47
38	A global hybrid model for Mercury's interaction with the solar wind: Case study of the dipole representation. Journal of Geophysical Research, 2012, 117, .	3.3	43
39	PHEBUS: A double ultraviolet spectrometer to observe Mercury's exosphere. Planetary and Space Science, 2010, 58, 201-223.	1.7	42
40	Mars heavy ion precipitating flux as measured by Mars Atmosphere and Volatile EvolutioN. Geophysical Research Letters, 2015, 42, 9135-9141.	4.0	39
41	Mercury's sodium exosphere: Magnetospheric ion recycling. Journal of Geophysical Research, 2003, 108, .	3.3	37
42	Origins of Europa Na cloud and torus. Icarus, 2005, 178, 367-385.	2.5	34
43	Shortâ€term variations of Mercury's Na exosphere observed with very high spectral resolution. Geophysical Research Letters, 2009, 36, .	4.0	34
44	High latitude peaks in Mercury's sodium exosphere: Spectral signature using THEMIS solar telescope. Geophysical Research Letters, 2008, 35, .	4.0	33
45	Modelling Ganymedeâ€™s neutral environment: A 3D test-particle simulation. Icarus, 2014, 229, 157-169.	2.5	30
46	THEMIS Na exosphere observations of Mercury and their correlation with in-situ magnetic field measurements by MESSENGER. Planetary and Space Science, 2015, 115, 102-109.	1.7	30
47	Formation of a sodium ring in Mercury's magnetosphere. Journal of Geophysical Research, 2010, 115, .	3.3	27
48	On the Origins of Mars' Exospheric Nonthermal Oxygen Component as Observed by MAVEN and Modeled by HELIOSARES. Journal of Geophysical Research E: Planets, 2017, 122, 2401-2428.	3.6	27
49	Origin of the Extended Mars Radar Blackout of September 2017. Journal of Geophysical Research: Space Physics, 2019, 124, 4556-4568.	2.4	27
50	Observations of the nightside venusian hydrogen corona with SPICAV/VEX. Icarus, 2015, 262, 1-8.	2.5	26
51	Statistical studies on Mars atmospheric sputtering by precipitating pickup O⁺: Preparation for the MAVEN mission. Journal of Geophysical Research E: Planets, 2015, 120, 34-50.	3.6	26
52	SERENA: Particle Instrument Suite for Determining the Sun-Mercury Interaction from BepiColombo. Space Science Reviews, 2021, 217, 11.	8.1	26
53	Mercury and Moon He exospheres: Analysis and modeling. Icarus, 2011, 216, 551-559.	2.5	25
54	On Mars's Atmospheric Sputtering After MAVEN's First Martian Year of Measurements. Geophysical Research Letters, 2018, 45, 4685-4691.	4.0	25

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55	Modeling of the O⁺ pickup ion sputtering efficiency dependence on solar wind conditions for the Martian atmosphere. Journal of Geophysical Research E: Planets, 2014, 119, 93-108.	3.6	23
56	Dynamical evolution of sodium anisotropies in the exosphere of Mercury. Planetary and Space Science, 2013, 82-83, 1-10.	1.7	22
57	Effects of the Crustal Magnetic Fields and Changes in the IMF Orientation on the Magnetosphere of Mars: MAVEN Observations and LatHyS Results. Journal of Geophysical Research: Space Physics, 2018, 123, 5315-5333.	2.4	21
58	Dusk over dawn O2 asymmetry in Europa's near-surface atmosphere. Planetary and Space Science, 2019, 167, 23-32.	1.7	21
59	PHEBUS on Bepi-Colombo: Post-launch Update and Instrument Performance. Space Science Reviews, 2020, 216, 1.	8.1	21
60	MAVEN observations on a hemispheric asymmetry of precipitating ions toward the Martian upper atmosphere according to the upstream solar wind electric field. Journal of Geophysical Research: Space Physics, 2017, 122, 1083-1101.	2.4	19
61	Responses of the Martian Magnetosphere to an Interplanetary Coronal Mass Ejection: MAVEN Observations and LatHyS Results. Geophysical Research Letters, 2018, 45, 7891-7900.	4.0	19
62	First 3D test particle model of Ganymede's ionosphere. Icarus, 2019, 330, 42-59.	2.5	19
63	Ion energization during substorms at Mercury. Planetary and Space Science, 2007, 55, 1502-1508.	1.7	16
64	Evidence for Crustal Magnetic Field Control of Ions Precipitating Into the Upper Atmosphere of Mars. Journal of Geophysical Research: Space Physics, 2018, 123, 8572-8586.	2.4	16
65	Study of the hydrogen escape rate at Mars during martian years 28 and 29 from comparisons between SPICAM/Mars express observations and GCM-LMD simulations. Icarus, 2021, 353, 113498.	2.5	16
66	Effects of the surface conductivity and the IMF strength on the dynamics of planetary ions in Mercury's magnetosphere. Journal of Geophysical Research: Space Physics, 2013, 118, 3233-3242.	2.4	15
67	3D magnetospheric parallel hybrid multi-grid method applied to planetâ€“plasma interactions. Journal of Computational Physics, 2016, 309, 295-313.	3.8	15
68	Global Structure and Sodium Ion Dynamics in Mercury's Magnetosphere With the Offset Dipole. Journal of Geophysical Research: Space Physics, 2017, 122, 10,990.	2.4	15
69	Recovery Timescales of the Dayside Martian Magnetosphere to IMF Variability. Geophysical Research Letters, 2019, 46, 10977-10986.	4.0	15
70	Mercury exosphere. Icarus, 2011, 211, 10-20.	2.5	14
71	Dusk/dawn atmospheric asymmetries on tidally-locked satellites: O2 at Europa. Icarus, 2018, 305, 50-55.	2.5	14
72	Simulations of ion sputtering at Ganymede. Icarus, 2020, 351, 113918.	2.5	14

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73	Mercury exosphere. III: Energetic characterization of its sodium component. Icarus, 2013, 223, 963-974.	2.5	13
74	A Survey of Visible <scp>S⁺</scp> Emission in Io's Plasma Torus During the Hisaki Epoch. Journal of Geophysical Research: Space Physics, 2018, 123, 5610-5624.	2.4	13
75	Solar control of sodium escape from Io. Journal of Geophysical Research E: Planets, 2014, 119, 404-415.	3.6	12
76	MAVEN and the total electron content of the Martian ionosphere. Journal of Geophysical Research: Space Physics, 2017, 122, 3526-3537.	2.4	12
77	Constraining Ganymede's neutral and plasma environments through simulations of its ionosphere and Galileo observations. Icarus, 2020, 343, 113691.	2.5	12
78	Volatiles and Refractories in Surface-Bounded Exospheres in the Inner Solar System. Space Science Reviews, 2021, 217, 61.	8.1	12
79	Comparative Na and K Mercury and Moon Exospheres. Space Science Reviews, 2022, 218, 1.	8.1	12
80	Energetic Particle Showers Over Mars from Comet C/2013 A1 Siding Spring. Journal of Geophysical Research: Space Physics, 2018, 123, 8778-8796.	2.4	11
81	The Mars system revealed by the Martian Moons eXploration mission. Earth, Planets and Space, 2022, 74, .	2.5	11
82	Detection of a southern peak in Mercury's sodium exosphere with the TNG in 2005. Icarus, 2009, 201, 424-431.	2.5	10
83	The LatHyS database for planetary plasma environment investigations: Overview and a case study of data/model comparisons. Planetary and Space Science, 2018, 150, 13-21.	1.7	10
84	Modeling of Diffuse Auroral Emission at Mars: Contribution of MeV Protons. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	10
85	METALLIC SPECIES IN MERCURYâ€™S EXOSPHERE: EMMI/NEW TECHNOLOGY TELESCOPE OBSERVATIONS. Astronomical Journal, 2009, 137, 3859-3863.	4.7	9
86	The Origin and Fate of O 2 $mbox{O}_{2}$ in Europaâ€™s Ice: An Atmospheric Perspective. Space Science Reviews, 2019, 215, 1.	8.1	9
87	Marsâ€™ plasma system. Scientific potential of coordinated multipoint missions: â€œThe next generationâ€• Experimental Astronomy, 2022, 54, 641-676.	3.7	9
88	Spatial variations of the sodium/potassium ratio in Mercuryâ€™s exosphere uncovered by high-resolution spectroscopy. Icarus, 2010, 207, 1-8.	2.5	7
89	Resonance scattering polarization in the magnetosphere of Mercury. Icarus, 2012, 220, 1104-1111.	2.5	7
90	First In Situ Evidence of Mars Nonthermal Exosphere. Geophysical Research Letters, 2019, 46, 4144-4150.	4.0	7

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91	Marsâ€™ atmospheric neon suggests volatile-rich primitive mantle. Icarus, 2021, 370, 114685.	2.5	7
92	Radiative transfer of emission lines with non-Maxwellian velocity distribution function: Application to Mercury D2 sodium lines. Icarus, 2013, 223, 975-985.	2.5	6
93	Cometary sputtering of the Martian atmosphere during the Siding Spring encounter. Icarus, 2016, 272, 301-308.	2.5	6
94	Effect of the Lateral Exospheric Transport on the Horizontal Hydrogen Distribution Near the Exobase of Mars. Journal of Geophysical Research: Space Physics, 2018, 123, 2441-2454.	2.4	6
95	Dawn/Dusk Asymmetry of the Martian UltraViolet Terminator Observed Through Suprathermal Electron Depletions. Journal of Geophysical Research: Space Physics, 2019, 124, 7283-7300.	2.4	6
96	Variability of Precipitating Ion Fluxes During the September 2017 Event at Mars. Journal of Geophysical Research: Space Physics, 2019, 124, 420-432.	2.4	6
97	Influence of the Solar Wind Dynamic Pressure on the Ion Precipitation: MAVEN Observations and Simulation Results. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028183.	2.4	6
98	MOSAIC: A Satellite Constellation to Enable Groundbreaking Mars Climate System Science and Prepare for Human Exploration. Planetary Science Journal, 2021, 2, 211.	3.6	6
99	Effect of Meteoric Ions on Ionospheric Conductance at Jupiter. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	6
100	The Physics and Chemistry of Sputtering by Energetic Plasma Ions. Astrophysics and Space Science, 2001, 277, 259-269.	1.4	5
101	A fullâ€particle Martian upper thermosphereâ€exosphere model using the DSMC method. Journal of Geophysical Research E: Planets, 2016, 121, 1429-1444.	3.6	5
102	Influence of Extreme Ultraviolet Irradiance Variations on the Precipitating Ion Flux From MAVEN Observations. Geophysical Research Letters, 2019, 46, 7761-7768.	4.0	5
103	Mars Environment and Magnetic Orbiter Scientific and Measurement Objectives. Astrobiology, 2009, 9, 71-89.	3.0	4
104	Effect of the planet shine on the corona: Application to the Martian hot oxygen. Journal of Geophysical Research: Space Physics, 2016, 121, 11,413.	2.4	4
105	A Possible Dust Origin for an Unusual Feature in Ioâ€™s Sodium Neutral Clouds. Astronomical Journal, 2021, 162, 190.	4.7	4
106	Ion density and phase space density distribution of planetary ions Na+, O+ and He+ in Mercuryâ€™s magnetosphere. Icarus, 2022, 372, 114734.	2.5	4
107	Mars' Ionospheric Interaction With Comet C/2013 A1 Siding Spring's Coma at Their Closest Approach as Seen by Mars Express. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027344.	2.4	3
108	Reply to comment â€œOn the hydrogen escape: Comment to variability of the hydrogen in the Martian upper atmosphere as simulated by a 3D atmosphere-exosphere coupling by J.-Y. Chaufray etÂal.â€•by V. Krasnopolsky, Icarus, 281, 262. Icarus, 2018, 301, 132-135.	2.5	2

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109	Modeling the Impact of a Strong Xâ€Class Solar Flare on the Planetary Ion Composition in Mercury's Magnetosphere. Geophysical Research Letters, 2022, 49, .	4.0	1
110	Seasonal variations of Mg and Ca in the exosphere of Mercury. Icarus, 2022, 384, 115081.	2.5	1