Christophe Sotin

List of Publications by Year
in descending order

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124 papers	7,005 citations	47006 47 h-index	62596 80 g-index
131 all docs	131 docs citations	131 times ranked	2642 citing authors

#	Article	IF	Citations
1	Enceladus as a potential oasis for life: Science goals and investigations for future explorations. Experimental Astronomy, 2022, 54, 809-847.	3.7	5
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	Theoretical Considerations on the Characteristic Timescales of Hydrogen Generation by Serpentinization Reactions on Enceladus. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	10
4	Reply to the â€˜Comment on Cage occupancy of methane clathrate hydrates in the ternary H₂Oâ€“NH₃â€“CH₄ systemâ€™ by S. Alavi and J. Ripmeester, Chem. Commun., 2022, 58, DOI: 10.1039/D1CC06526B. Chemical Communications, 2022, 58, 4099-4102.	4.1	1
5	Dynamics of Mixed Clathrateâ€Ice Shells on Ocean Worlds. Geophysical Research Letters, 2022, 49, .	4.0	8
6	Titan Stratospheric Haze Bands Observed in Cassini VIMS as Tracers of Meridional Circulation. Planetary Science Journal, 2022, 3, 114.	3.6	3
7	Titan's Interior Structure and Dynamics After the Cassini-Huygens Mission. Annual Review of Earth and Planetary Sciences, 2021, 49, 579-607.	11.0	17
8	Detection of an Atmosphere on a Rocky Exoplanet. Astronomical Journal, 2021, 161, 213.	4.7	50
9	Titan: Earth-like on the Outside, Ocean World on the Inside. Planetary Science Journal, 2021, 2, 112.	3.6	21
10	A Recipe for the Geophysical Exploration of Enceladus. Planetary Science Journal, 2021, 2, 157.	3.6	14
11	The density structure of Titanâ€™s outer ice shell. Icarus, 2021, 364, 114466.	2.5	13
12	Modeling the formation of Menrva impact crater on Titan: Implications for habitability. Icarus, 2021, 370, 114679.	2.5	10
13	A carbonaceous chondrite and cometary origin for icy moons of Jupiter and Saturn. Earth and Planetary Science Letters, 2020, 530, 115920.	4.4	25
14	On the Habitability and Future Exploration of Ocean Worlds. Space Science Reviews, 2020, 216, 1.	8.1	36
15	Cage occupancy of methane clathrate hydrates in the ternary H2Oâ€“NH3â€“CH4 system. Chemical Communications, 2020, 56, 12391-12394.	4.1	4
16	Phase Behavior of Clathrate Hydrates in the Ternary H₂Oâ€“NH₃â€“Cyclopentane System. ACS Earth and Space Chemistry, 2020, 4, 526-534.	2.7	6
17	The Insulating Effect of Methane Clathrate Crust on Titan's Thermal Evolution. Geophysical Research Letters, 2020, 47, e2020GL087481.	4.0	27
18	Dynamics of Titan's high-pressure ice layer. Earth and Planetary Science Letters, 2020, 545, 116416.	4.4	12

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19	Ice-Ocean Exchange Processes in the Jovian and Saturnian Satellites. Space Science Reviews, 2020, 216, 1.	8.1	43
20	Large Ocean Worlds with High-Pressure Ices. Space Science Reviews, 2020, 216, 1.	8.1	62
21	Rapid Formation of Clathrate Hydrate From Liquid Ethane and Water Ice on Titan. Geophysical Research Letters, 2020, 47, e2019GL086265.	4.0	19
22	Photometrically-corrected global infrared mosaics of Enceladus: New implications for its spectral diversity and geological activity. Icarus, 2020, 349, 113848.	2.5	10
23	The Evolutionary Track of H/He Envelopes of the Observed Population of Sub-Neptunes and Super-Earths. Astrophysical Journal, 2020, 898, 104.	4.5	7
24	Diffraction-limited Titan Surface Imaging from Orbit Using Near-infrared Atmospheric Windows. Planetary Science Journal, 2020, 1, 24.	3.6	2
25	Spatio-temporal Variation of Bright Ephemeral Features on Titanâ€™s North Pole. Planetary Science Journal, 2020, 1, 31.	3.6	7
26	Tidal Currents Detected in Kraken Mare Straits from Cassini VIMS Sun Glitter Observations. Planetary Science Journal, 2020, 1, 35.	3.6	1
27	Two Terrestrial Planet Families with Different Origins. Astrophysical Journal, 2019, 881, 117.	4.5	14
28	Close-range remote sensing of Saturnâ€™s rings during Cassiniâ€™s ring-grazing orbits and Grand Finale. Science, 2019, 364, .	12.6	17
29	The case for seasonal surface changes at Titanâ€™s lake district. Nature Astronomy, 2019, 3, 506-510.	10.1	19
30	The Cassini VIMS archive of Titan: From browse products to global infrared color maps. Icarus, 2019, 319, 121-132.	2.5	17
31	Observational Evidence for Summer Rainfall at Titan's North Pole. Geophysical Research Letters, 2019, 46, 1205-1212.	4.0	14
32	Titan's cold case files - Outstanding questions after Cassini-Huygens. Planetary and Space Science, 2018, 155, 50-72.	1.7	37
33	Geological Evolution of Titan's Equatorial Regions: Possible Nature and Origin of the Dune Material. Journal of Geophysical Research E: Planets, 2018, 123, 1089-1112.	3.6	28
34	The Spectral Nature of Titan's Major Geomorphological Units: Constraints on Surface Composition. Journal of Geophysical Research E: Planets, 2018, 123, 489-507.	3.6	33
35	Phase Diagram of the Ternary Waterâ€“Tetrahydrofuranâ€“Ammonia System at Low Temperatures. Implications for Clathrate Hydrates and Outgassing on Titan. ACS Earth and Space Chemistry, 2018, 2, 135-146.	2.7	12
36	Two-phase convection in Ganymedeâ€™s high-pressure ice layer â€”ÂImplications for its geological evolution. Icarus, 2018, 299, 133-147.	2.5	49

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37	Explorer of Enceladus and Titan (E2T): Investigating ocean worlds' evolution and habitability in the solar system. Planetary and Space Science, 2018, 155, 73-90.	1.7	26
38	Geophysical Investigations of Habitability in Iceâ€Covered Ocean Worlds. Journal of Geophysical Research E: Planets, 2018, 123, 180-205.	3.6	133
39	Observational evidence for active dust storms on Titan at equinox. Nature Geoscience, 2018, 11, 727-732.	12.9	18
40	Mapping polar atmospheric features on Titan with VIMS: From the dissipation of the northern cloud to the onset of a southern polar vortex. Icarus, 2018, 311, 371-383.	2.5	20
41	Melting in Highâ€Pressure Ice Layers of Large Ocean Worldsâ€”Implications for Volatiles Transport. Geophysical Research Letters, 2018, 45, 8096-8103.	4.0	24
42	Titan's Meteorology Over the Cassini Mission: Evidence for Extensive Subsurface Methane Reservoirs. Geophysical Research Letters, 2018, 45, 5320-5328.	4.0	47
43	Heat transport in the high-pressure ice mantle of large icy moons. Icarus, 2017, 285, 252-262.	2.5	47
44	Powering prolonged hydrothermal activity inside Enceladus. Nature Astronomy, 2017, 1, 841-847.	10.1	158
45	Meridional variation in tropospheric methane on Titan observed with AO spectroscopy at Keck and VLT. Icarus, 2016, 270, 376-388.	2.5	24
46	Cryolava flow destabilization of crustal methane clathrate hydrate on Titan. Icarus, 2016, 274, 23-32.	2.5	9
47	Titanâ€™s surface spectra at the Huygens landing site and Shangri-La. Icarus, 2016, 270, 291-306.	2.5	14
48	Titan Science with the James Webb Space Telescope. Publications of the Astronomical Society of the Pacific, 2016, 128, 018007.	3.1	19
49	Temporal variations of Titanâ€™s surface with Cassini/VIMS. Icarus, 2016, 270, 85-99.	2.5	29
50	Spectral properties of Titan's impact craters imply chemical weathering of its surface. Geophysical Research Letters, 2015, 42, 3746-3754.	4.0	36
51	Interiors and Evolution of Icy Satellites. , 2015, , 605-635.		24
52	Surface albedo spectral properties of geologically interesting areas on Titan. Journal of Geophysical Research E: Planets, 2014, 119, 1729-1747.	3.6	30
53	The exploration of Titan with an orbiter and a lake probe. Planetary and Space Science, 2014, 104, 78-92.	1.7	26
54	Global mapping and characterization of Titanâ€™s dune fields with Cassini: Correlation between RADAR and VIMS observations. Icarus, 2014, 230, 168-179.	2.5	68

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55	Ganymedeâ³s internal structure including thermodynamics of magnesium sulfate oceans in contact with ice. Planetary and Space Science, 2014, 96, 62-70.	1.7	121
56	Transient features in a Titan sea. Nature Geoscience, 2014, 7, 493-496.	12.9	43
57	Titanâ€™s surface composition and atmospheric transmission with solar occultation measurements by Cassini VIMS. Icarus, 2014, 243, 158-172.	2.5	23
58	Cassini/VIMS observes rough surfaces on Titanâ€™s Punga Mare in specular reflection. Planetary Science, 2014, 3, 3.	1.5	31
59	Evidence of Titanâ€™s climate history from evaporite distribution. Icarus, 2014, 243, 191-207.	2.5	62
60	Equilibrium composition between liquid and clathrate reservoirs on Titan. Icarus, 2014, 239, 39-45.	2.5	22
61	Precipitation-induced surface brightenings seen on Titan by Cassini VIMS and ISS. Planetary Science, 2013, 2, .	1.5	45
62	An observed correlation between plume activity and tidal stresses on Enceladus. Nature, 2013, 500, 182-184.	27.8	136
63	A TRANSMISSION SPECTRUM OF TITAN'S NORTH POLAR ATMOSPHERE FROM A SPECULAR REFLECTION OF THE SUN. Astrophysical Journal, 2013, 777, 161.	4.5	23
64	The solubility of ⁴⁰Ar and ⁸⁴Kr in liquid hydrocarbons: Implications for Titan's geological evolution. Geophysical Research Letters, 2013, 40, 2935-2940.	4.0	26
65	Global mapping of Titanâ€²s surface using an empirical processing method for the atmospheric and photometric correction of Cassini/VIMS images. Planetary and Space Science, 2012, 73, 178-190.	1.7	24
66	Modeling specular reflections from hydrocarbon lakes on Titan. Icarus, 2012, 220, 744-751.	2.5	31
67	Is Titan's shape caused by its meteorology and carbon cycle?. Geophysical Research Letters, 2012, 39, .	4.0	84
68	Observations of Titanâ€™s Northern lakes at 5Î¼m: Implications for the organic cycle and geology. Icarus, 2012, 221, 768-786.	2.5	72
69	Geomorphological significance of Ontario Lacus on Titan: Integrated interpretation of Cassini VIMS, ISS and RADAR data and comparison with the Etosha Pan (Namibia). Icarus, 2012, 218, 788-806.	2.5	55
70	Analytic theory of Titanâ€™s Schumann resonance: Constraints on ionospheric conductivity and buried water ocean. Icarus, 2012, 218, 1028-1042.	2.5	77
71	Mapping Titan's surface features within the visible spectrum via Cassini VIMS. Planetary and Space Science, 2012, 60, 52-61.	1.7	25
72	Dissipation of Titan's north polar cloud at northern spring equinox. Planetary and Space Science, 2012, 60, 86-92.	1.7	33

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73	A newly discovered impact crater in Titan's Senkyo: Cassini VIMS observations and comparison with other impact features. Planetary and Space Science, 2012, 60, 18-25.	1.7	18
74	Titanâ€™s cloud seasonal activity from winter to spring with Cassini/VIMS. Icarus, 2011, 216, 89-110.	2.5	68
75	Organic sedimentary deposits in Titanâ€™s dry lakebeds: Probable evaporite. Icarus, 2011, 216, 136-140.	2.5	96
76	Detection and mapping of hydrocarbon deposits on Titan. Journal of Geophysical Research, 2010, 115, .	3.3	147
77	Stability of methane clathrate hydrates under pressure: Influence on outgassing processes of methane on Titan. Icarus, 2010, 205, 581-593.	2.5	107
78	Latitudinal variations in Titanâ€™s methane and haze from Cassini VIMS observations. Icarus, 2010, 206, 352-365.	2.5	28
79	Atmospheric control of the cooling rate of impact melts and cryolavas on Titanâ€™s surface. Icarus, 2010, 208, 887-895.	2.5	14
80	Geology of the Selk crater region on Titan from Cassini VIMS observations. Icarus, 2010, 208, 905-912.	2.5	44
81	The Moon That Would Be a Planet. Scientific American, 2010, 302, 36-43.	1.0	12
82	Global mapping of Titan in the infrared using a heuristic approach to reduce the atmospheric scattering component. , 2010, , .		2
83	Analysis of a cryolava flow-like feature on Titan. Planetary and Space Science, 2009, 57, 870-879.	1.7	31
84	VIMS spectral mapping observations of Titan during the Cassini prime mission. Planetary and Space Science, 2009, 57, 1950-1962.	1.7	28
85	Saturn's Titan: Surface change, ammonia, and implications for atmospheric and tectonic activity. Icarus, 2009, 199, 429-441.	2.5	69
86	The geology of Hotei Regio, Titan: Correlation of Cassini VIMS and RADAR. Icarus, 2009, 204, 610-618.	2.5	62
87	TandEM: Titan and Enceladus mission. Experimental Astronomy, 2009, 23, 893-946.	3.7	77
88	A review of Titanâ€™s atmospheric phenomena. Astronomy and Astrophysics Review, 2009, 17, 105-147.	25.5	15
89	Global circulation as the main source of cloud activity on Titan. Nature, 2009, 459, 678-682.	27.8	76
90	Shoreline features of Titan's Ontario Lacus from Cassini/VIMS observations. Icarus, 2009, 201, 217-225.	2.5	69

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91	Photometric changes on Saturn's Titan: Evidence for active cryovolcanism. Geophysical Research Letters, 2009, 36, .	4.0	38
92	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
93	Geology and Surface Processes on Titan. , 2009, , 75-140.		27
94	Titan's surface: Search for spectral diversity and composition using the Cassini VIMS investigation. Icarus, 2008, 194, 212-242.	2.5	83
95	Spectroscopy, morphometry, and photoclinometry of Titan's dunefields from Cassini/VIMS. Icarus, 2008, 195, 400-414.	2.5	125
96	Fluvial erosion and post-erosional processes on Titan. Icarus, 2008, 197, 526-538.	2.5	88
97	The identification of liquid ethane in Titanâ€™s Ontario Lacus. Nature, 2008, 454, 607-610.	27.8	254
98	Mapping and interpretation of Sinlap crater on Titan using Cassini VIMS and RADAR data. Journal of Geophysical Research, 2008, 113, .	3.3	60
99	Interiors and Evolution of Icy Satellites. , 2007, , 509-539.		8
100	Nearâ€infrared spectral mapping of Titan's mountains and channels. Journal of Geophysical Research, 2007, 112, .	3.3	82
101	Global-scale surface spectral variations on Titan seen from Cassini/VIMS. Icarus, 2007, 186, 242-258.	2.5	110
102	Correlations between Cassini VIMS spectra and RADAR SAR images: Implications for Titan's surface composition and the character of the Huygens Probe Landing Site. Planetary and Space Science, 2007, 55, 2025-2036.	1.7	168
103	Titan's lost seas found. Nature, 2007, 445, 29-30.	27.8	12
104	Cassini observations of flow-like features in western Tui Regio, Titan. Geophysical Research Letters, 2006, 33, .	4.0	66
105	Observations in the Saturn system during approach and orbital insertion, with Cassini's visual and infrared mapping spectrometer (VIMS). Astronomy and Astrophysics, 2006, 446, 707-716.	5.1	57
106	Episodic outgassing as the origin of atmospheric methane on Titan. Nature, 2006, 440, 61-64.	27.8	356
107	High-resolution CASSINI-VIMS mosaics of Titan and the icy Saturnian satellites. Planetary and Space Science, 2006, 54, 1146-1155.	1.7	24
108	Titan: Preliminary results on surface properties and photometry from VIMS observations of the early flybys. Planetary and Space Science, 2006, 54, 1498-1509.	1.7	19

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109	Cassini/VIMS hyperspectral observations of the HUYGENS landing site on Titan. Planetary and Space Science, 2006, 54, 1510-1523.	1.7	79
110	On the discovery of CO nighttime emissions on Titan by Cassini/VIMS: Derived stratospheric abundances and geological implications. Planetary and Space Science, 2006, 54, 1552-1562.	1.7	27
111	THE ATMOSPHERES OF SATURN AND TITAN IN THE NEAR-INFRARED: FIRST RESULTS OF CASSINI/VIMS. Earth, Moon and Planets, 2006, 96, 119-147.	0.6	57
112	Tidal dissipation within large icy satellites: Applications to Europa and Titan. Icarus, 2005, 177, 534-549.	2.5	190
113	A 5-Micron-Bright Spot on Titan: Evidence for Surface Diversity. Science, 2005, 310, 92-95.	12.6	78
114	Release of volatiles from a possible cryovolcano from near-infrared imaging of Titan. Nature, 2005, 435, 786-789.	27.8	208
115	Titan's internal structure inferred from a coupled thermal-orbital model. Icarus, 2005, 175, 496-502.	2.5	214
116	The Evolution of Titan's Mid-Latitude Clouds. Science, 2005, 310, 474-477.	12.6	139
117	The Cassini Visual And Infrared Mapping Spectrometer (Vims) Investigation. Space Science Reviews, 2004, 115, 111-168.	8.1	369
118	Observations with the Visual and Infrared Mapping Spectrometer (VIMS) during Cassini's flyby of Jupiter. Icarus, 2003, 164, 461-470.	2.5	48
119	Tidally heated convection: Constraints on Europa's ice shell thickness. Journal of Geophysical Research, 2003, 108, .	3.3	177
120	Europa: Tidal heating of upwelling thermal plumes and the origin of lenticulae and chaos melting. Geophysical Research Letters, 2002, 29, 74-1-74-4.	4.0	156
121	Thermal convection in the outer shell of large icy satellites. Journal of Geophysical Research, 2001, 106, 5107-5121.	3.3	81
122	Three-dimensional thermal convection in an iso-viscous, infinite Prandtl number fluid heated from within and from below: applications to the transfer of heat through planetary mantles. Physics of the Earth and Planetary Interiors, 1999, 112, 171-190.	1.9	148
123	The Cooling Rate of a Liquid Shell in Titan's Interior. Icarus, 1996, 123, 101-112.	2.5	108
124	Creep of High-Pressure Ice VI. , 1985, , 109-118.		18