

# Kevin Baines

## List of Publications by Year in descending order

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121  
papers

6,997  
citations

38742

50  
h-index

62596

80  
g-index

122  
all docs

122  
docs citations

122  
times ranked

2737  
citing authors

#	ARTICLE	IF	CITATIONS
1	The Cassini Visual And Infrared Mapping Spectrometer (Vims) Investigation. Space Science Reviews, 2004, 115, 111-168.	8.1	369
2	The identification of liquid ethane in Titan's Ontario Lacus. Nature, 2008, 454, 607-610.	27.8	254
3	Release of volatiles from a possible cryovolcano from near-infrared imaging of Titan. Nature, 2005, 435, 786-789.	27.8	208
4	Composition and Physical Properties of Enceladus' Surface. Science, 2006, 311, 1425-1428.	12.6	199
5	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
6	Evidence for a Polar Ethane Cloud on Titan. Science, 2006, 313, 1620-1622.	12.6	161
7	Galileo Infrared Imaging Spectroscopy Measurements at Venus. Science, 1991, 253, 1541-1548.	12.6	156
8	Compositional maps of Saturn's moon Phoebe from imaging spectroscopy. Nature, 2005, 435, 66-69.	27.8	155
9	Impact winter and the Cretaceous/Tertiary extinctions: Results of a Chicxulub asteroid impact model. Earth and Planetary Science Letters, 1994, 128, 719-725.	4.4	149
10	Detection and mapping of hydrocarbon deposits on Titan. Journal of Geophysical Research, 2010, 115, .	3.3	147
11	The surface composition of Iapetus: Mapping results from Cassini VIMS. Icarus, 2012, 218, 831-860.	2.5	136
12	An observed correlation between plume activity and tidal stresses on Enceladus. Nature, 2013, 500, 182-184.	27.8	136
13	Compositional mapping of Saturn's satellite Dione with Cassini VIMS and implications of dark material in the Saturn system. Icarus, 2008, 193, 372-386.	2.5	135
14	Spectroscopy, morphometry, and photoclinometry of Titan's dunefields from Cassini/VIMS. Icarus, 2008, 195, 400-414.	2.5	125
15	The Abundances of Methane and Ortho/Para Hydrogen on Uranus and Neptune: Implications of New Laboratory 4-0 H2 Quadrupole Line Parameters. Icarus, 1995, 114, 328-340.	2.5	115
16	A close look at Saturn's rings with Cassini VIMS. Icarus, 2008, 193, 182-212.	2.5	113
17	Global-scale surface spectral variations on Titan seen from Cassini/VIMS. Icarus, 2007, 186, 242-258.	2.5	110
18	South-polar features on Venus similar to those near the north pole. Nature, 2007, 450, 637-640.	27.8	110

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19	Impact debris particles in Jupiter's stratosphere. <i>Science</i> , 1995, 267, 1296-1301.	12.6	109
20	Organic sedimentary deposits in Titan's dry lakebeds: Probable evaporite. <i>Icarus</i> , 2011, 216, 136-140.	2.5	96
21	A dynamic upper atmosphere of Venus as revealed by VIRTIS on Venus Express. <i>Nature</i> , 2007, 450, 641-645.	27.8	95
22	Cassini Visual and Infrared Mapping Spectrometer Observations of Iapetus: Detection of CO <sub>2</sub> . <i>Astrophysical Journal</i> , 2005, 622, L149-L152.	4.5	94
23	Fresh Ammonia Ice Clouds in Jupiter. <i>Icarus</i> , 2002, 159, 74-94.	2.5	92
24	Self-Gravity Wake Structures in Saturn's A Ring Revealed by Cassini/VIMS. <i>Astronomical Journal</i> , 2007, 133, 2624-2629.	4.7	92
25	Thermal Maps of Jupiter: Spatial Organization and Time Dependence of Stratospheric Temperatures, 1980 to 1990. <i>Science</i> , 1991, 252, 537-542.	12.6	88
26	Fluvial erosion and post-erosional processes on Titan. <i>Icarus</i> , 2008, 197, 526-538.	2.5	88
27	Saturn's north polar cyclone and hexagon at depth revealed by Cassini/VIMS. <i>Planetary and Space Science</i> , 2009, 57, 1671-1681.	1.7	85
28	Saturn's tropospheric composition and clouds from Cassini/VIMS 4.6-5.1 $\mu$ m nightside spectroscopy. <i>Icarus</i> , 2011, 214, 510-533.	2.5	84
29	The atmospheric structure and dynamical properties of Neptune derived from ground-based and IUE spectrophotometry. <i>Icarus</i> , 1990, 85, 65-108.	2.5	79
30	A 5-Micron-Bright Spot on Titan: Evidence for Surface Diversity. <i>Science</i> , 2005, 310, 92-95.	12.6	78
31	Carbon dioxide on the satellites of Saturn: Results from the Cassini VIMS investigation and revisions to the VIMS wavelength scale. <i>Icarus</i> , 2010, 206, 561-572.	2.5	78
32	Semi-annual oscillations in Saturn's low-latitude stratospheric temperatures. <i>Nature</i> , 2008, 453, 196-199.	27.8	77
33	TandEM: Titan and Enceladus mission. <i>Experimental Astronomy</i> , 2009, 23, 893-946.	3.7	77
34	Global circulation as the main source of cloud activity on Titan. <i>Nature</i> , 2009, 459, 678-682.	27.8	76
35	Estimates of the bolometric albedos and radiation balance of Uranus and Neptune. <i>Icarus</i> , 1986, 65, 442-466.	2.5	75
36	Thermal Structure and Dynamics of Saturn's Northern Springtime Disturbance. <i>Science</i> , 2011, 332, 1413-1417.	12.6	75

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37	The domination of Saturn's low-latitude ionosphere by ring rain. <i>Nature</i> , 2013, 496, 193-195.	27.8	70
38	The structure of the Uranian atmosphere: Constraints from the geometric albedo spectrum and H <sub>2</sub> and CH <sub>4</sub> line profiles. <i>Icarus</i> , 1986, 65, 406-441.	2.5	69
39	Shoreline features of Titan's Ontario Lacus from Cassini/VIMS observations. <i>Icarus</i> , 2009, 201, 217-225.	2.5	69
40	Specular reflection on Titan: Liquids in Kraken Mare. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	69
41	The temperature and width of an active fissure on Enceladus measured with Cassini VIMS during the 14 April 2012 South Pole flyover. <i>Icarus</i> , 2013, 226, 1128-1137.	2.5	69
42	Clouds, Hazes, and the Stratospheric Methane Abundance in Neptune. <i>Icarus</i> , 1994, 109, 20-39.	2.5	68
43	Detection of Sub-Micron Radiation from the Surface of Venus by Cassini/VIMS. <i>Icarus</i> , 2000, 148, 307-311.	2.5	62
44	The geology of Hotei Regio, Titan: Correlation of Cassini VIMS and RADAR. <i>Icarus</i> , 2009, 204, 610-618.	2.5	62
45	Evidence of Titan's climate history from evaporite distribution. <i>Icarus</i> , 2014, 243, 191-207.	2.5	62
46	Dione's spectral and geological properties. <i>Icarus</i> , 2010, 206, 631-652.	2.5	61
47	Spatial Organization and Time Dependence of Jupiter's Tropospheric Temperatures, 1980-1993. <i>Science</i> , 1994, 265, 625-631.	12.6	58
48	Surface composition of Hyperion. <i>Nature</i> , 2007, 448, 54-56.	27.8	56
49	Polar Lightning and Decadal-Scale Cloud Variability on Jupiter. <i>Science</i> , 2007, 318, 226-229.	12.6	52
50	Saturn's dynamic D ring. <i>Icarus</i> , 2007, 188, 89-107.	2.5	50
51	Saturn's south polar vortex compared to other large vortices in the Solar System. <i>Icarus</i> , 2009, 202, 240-248.	2.5	50
52	Saturn's Great Storm of 2010-2011: Evidence for ammonia and water ices from analysis of VIMS spectra. <i>Icarus</i> , 2013, 226, 402-418.	2.5	50
53	Jupiter Cloud Composition, Stratification, Convection, and Wave Motion: A View from New Horizons. <i>Science</i> , 2007, 318, 223-225.	12.6	48
54	Galileo infrared observations of the Shoemaker-Levy 9 G Impact Fireball: A Preliminary report. <i>Geophysical Research Letters</i> , 1995, 22, 1557-1560.	4.0	47

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55	Precipitation-induced surface brightenings seen on Titan by Cassini VIMS and ISS. <i>Planetary Science</i> , 2013, 2, .	1.5	45
56	Geology of the Selk crater region on Titan from Cassini VIMS observations. <i>Icarus</i> , 2010, 208, 905-912.	2.5	44
57	Uranus Pathfinder: exploring the origins and evolution of Ice Giant planets. <i>Experimental Astronomy</i> , 2012, 33, 753-791.	3.7	44
58	Storm clouds on Saturn: Lightning-induced chemistry and associated materials consistent with Cassini/VIMS spectra. <i>Planetary and Space Science</i> , 2009, 57, 1650-1658.	1.7	43
59	Dynamic auroral storms on Saturn as observed by the Hubble Space Telescope. <i>Geophysical Research Letters</i> , 2014, 41, 3323-3330.	4.0	43
60	Transient features in a Titan sea. <i>Nature Geoscience</i> , 2014, 7, 493-496.	12.9	43
61	Complex structure within Saturn's infrared aurora. <i>Nature</i> , 2008, 456, 214-217.	27.8	42
62	Wave constraints for Titan's Jingpo Lacus and Kraken Mare from VIMS specular reflection lightcurves. <i>Icarus</i> , 2011, 211, 722-731.	2.5	38
63	The Saturnian satellite Rhea as seen by Cassini VIMS. <i>Planetary and Space Science</i> , 2012, 61, 142-160.	1.7	38
64	Venus, an Astrobiology Target. <i>Astrobiology</i> , 2021, 21, 1163-1185.	3.0	38
65	Spectral properties of Titan's impact craters imply chemical weathering of its surface. <i>Geophysical Research Letters</i> , 2015, 42, 3746-3754.	4.0	36
66	CHARACTERIZATION OF CLOUDS IN TITAN'S TROPICAL ATMOSPHERE. <i>Astrophysical Journal</i> , 2009, 702, L105-L109.	4.5	35
67	CHANGING CHARACTERISTICS OF JUPITER'S LITTLE RED SPOT. <i>Astronomical Journal</i> , 2008, 135, 2446-2452.	4.7	33
68	Rotational modulation and local time dependence of Saturn's infrared H <sub>3</sub> <sup>+</sup> auroral intensity. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	33
69	Dissipation of Titan's north polar cloud at northern spring equinox. <i>Planetary and Space Science</i> , 2012, 60, 86-92.	1.7	33
70	Near-Infrared Absolute Photometric Imaging of the Uranian System. <i>Icarus</i> , 1998, 132, 266-284.	2.5	31
71	Modeling specular reflections from hydrocarbon lakes on Titan. <i>Icarus</i> , 2012, 220, 744-751.	2.5	31
72	Cassini/VIMS observes rough surfaces on Titan's Punga Mare in specular reflection. <i>Planetary Science</i> , 2014, 3, 3.	1.5	31

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73	Temperature changes and energy inputs in giant planet atmospheres: what we are learning from H <sub>3</sub> <sup>+</sup> . Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2012, 370, 5213-5224.	3.4	29
74	Conjugate observations of Saturn's northern and southern H <sub>3</sub> <sup>+</sup> aurorae. Icarus, 2014, 229, 214-220.	2.5	29
75	VIMS spectral mapping observations of Titan during the Cassini prime mission. Planetary and Space Science, 2009, 57, 1950-1962.	1.7	28
76	Latitudinal variations in Titan's methane and haze from Cassini VIMS observations. Icarus, 2010, 206, 352-365.	2.5	28
77	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
78	To the depths of Venus: Exploring the deep atmosphere and surface of our sister world with Venus Express. Planetary and Space Science, 2006, 54, 1263-1278.	1.7	26
79	Interpretation of the 6818.9-Å... methane feature observed on Jupiter, Saturn, and Uranus. Icarus, 1983, 56, 543-559.	2.5	25
80	Absorption coefficients for the 6190-Å... CH <sub>4</sub> band between 290 and 100 Å°K with application to Uranus' atmosphere. Icarus, 1990, 85, 58-64.	2.5	25
81	Calibration of the 7- to 14-μm brightness spectra of Uranus and Neptune. Icarus, 1990, 85, 257-265.	2.5	25
82	Peak emission altitude of Saturn's H <sub>3</sub> <sup>+</sup> aurora. Geophysical Research Letters, 2012, 39, .	4.0	25
83	The D/H ratio for Jupiter. Astrophysical Journal, 1989, 336, 967.	4.5	25
84	Global mapping of Titan's 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
85	Meridional variation in tropospheric methane on Titan observed with AO spectroscopy at Keck and VLT. Icarus, 2016, 270, 376-388.	2.5	24
86	Cassini VIMS observations of latitudinal and hemispheric variations in Saturn's infrared auroral intensity. Icarus, 2011, 216, 367-375.	2.5	23
87	A TRANSMISSION SPECTRUM OF TITAN'S NORTH POLAR ATMOSPHERE FROM A SPECULAR REFLECTION OF THE SUN. Astrophysical Journal, 2013, 777, 161.	4.5	23
88	Observations of the chemical and thermal response of ring rain on Saturn's ionosphere. Icarus, 2019, 322, 251-260.	2.5	22
89	The 2010 European Venus Explorer (EVE) mission proposal. Experimental Astronomy, 2012, 33, 305-335.	3.7	20
90	D/H for Uranus and Neptune. Astrophysical Journal, 1989, 336, 962.	4.5	20

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91	Quantification of middle and lower cloud variability and mesoscale dynamics from Venus Express/VIRTIS observations at 1.74 $\mu$ m. <i>Icarus</i> , 2012, 217, 615-628.	2.5	19
92	Observational evidence for active dust storms on Titan at equinox. <i>Nature Geoscience</i> , 2018, 11, 727-732.	12.9	18
93	Equatorial winds on Saturn and the stratospheric oscillation. <i>Nature Geoscience</i> , 2011, 4, 750-752.	12.9	16
94	Redetection of the Ionospheric Signature of Saturn's "Ring Rain". <i>Geophysical Research Letters</i> , 2017, 44, 11,762.	4.0	16
95	Atmospheric control of the cooling rate of impact melts and cryolavas on Titan's surface. <i>Icarus</i> , 2010, 208, 887-895.	2.5	14
96	Observational Evidence for Summer Rainfall at Titan's North Pole. <i>Geophysical Research Letters</i> , 2019, 46, 1205-1212.	4.0	14
97	Investigation of Venus Cloud Aerosol and Gas Composition Including Potential Biogenic Materials via an Aerosol-Sampling Instrument Package. <i>Astrobiology</i> , 2021, 21, 1316-1323.	3.0	14
98	High-resolution observations of the 6815- $\tilde{\text{A}}$ ... band of methane in the major planets. <i>Icarus</i> , 1983, 56, 534-542.	2.5	13
99	Cassini's geological and compositional view of Tethys. <i>Icarus</i> , 2016, 274, 1-22.	2.5	13
100	Ground-based observations of Saturn's auroral ionosphere over three days: Trends in $H_3^+$ emission, temperature, density and emission with Saturn local time and planetary period oscillation. <i>Icarus</i> , 2016, 263, 44-55.	2.5	13
101	Cassini VIMS observations of $H_3^+$ emission on the nightside of Jupiter. <i>Journal of Geophysical Research: Space Physics</i> , 2015, 120, 6948-6973.	2.4	12
102	Saturn's giant storm and global radiant energy. <i>Geophysical Research Letters</i> , 2015, 42, 2144-2148.	4.0	12
103	Near-Infrared Observations of Neptune's Tropospheric Cloud Layer with the Lick Observatory Adaptive Optics System. <i>Astronomical Journal</i> , 2001, 122, 1636-1643.	4.7	11
104	Saturn's Global Zonal Winds Explored by Cassini/VIMS 5 $\mu$ m Images. <i>Geophysical Research Letters</i> , 2018, 45, 6823-6831.	4.0	11
105	Local-time averaged maps of $H_3^+$ emission, temperature and ion winds. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2019, 377, 20180405.	3.4	11
106	CASSINI VIMS OBSERVATIONS SHOW ETHANE IS PRESENT IN TITAN'S RAINFALL. <i>Astrophysical Journal Letters</i> , 2012, 761, L24.	8.3	10
107	$H_2 S_3(1)$ and $S_4(1)$ transitions in the atmospheres of Neptune and Uranus: Observations and analysis. <i>Icarus</i> , 1990, 85, 109-119.	2.5	9
108	European Venus Explorer (EVE): an in-situ mission to Venus. <i>Experimental Astronomy</i> , 2009, 23, 741-760.	3.7	9

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109	Vortices in Saturn's Northern Hemisphere (2008–2015) observed by Cassini ISS. <i>Journal of Geophysical Research E: Planets</i> , 2016, 121, 1814-1826.	3.6	9
110	An isolated, bright cusp aurora at Saturn. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 6121-6138.	2.4	9
111	Saturn's Weather-Driven Aurorae Modulate Oscillations in the Magnetic Field and Radio Emissions. <i>Geophysical Research Letters</i> , 2022, 49, .	4.0	9
112	Infrared radiometry of Uranus and Neptune at 21 and 32 $\mu$ m. <i>Icarus</i> , 1987, 69, 230-238.	2.5	8
113	Vertical Structure and Color of Jovian Latitudinal Cloud Bands during the Juno Era. <i>Planetary Science Journal</i> , 2021, 2, 16.	3.6	7
114	Spatio-temporal Variation of Bright Ephemeral Features on Titan's North Pole. <i>Planetary Science Journal</i> , 2020, 1, 31.	3.6	7
115	The Eye of Saturn's North Polar Vortex: Unexpected Cloud Structures Observed at High Spatial Resolution by Cassini/VIMS. <i>Geophysical Research Letters</i> , 2018, 45, 5867-5875.	4.0	6
116	Occultation observations of Saturn's rings with Cassini VIMS. <i>Icarus</i> , 2020, 344, 113356.	2.5	6
117	Convective storms in closed cyclones in Jupiter's South Temperate Belt: (I) observations. <i>Icarus</i> , 2022, 380, 114994.	2.5	5
118	The Search for Activity on Dione and Tethys With Cassini VIMS and UVIS. <i>Geophysical Research Letters</i> , 2018, 45, 5860-5866.	4.0	4
119	Limits on the diurnal variation of H <sub>2</sub> quadrupole features in Neptune. <i>Astrophysical Journal</i> , 1989, 343, 450.	4.5	4
120	The temporal evolution of the July 2009 Jupiter impact cloud. <i>Planetary and Space Science</i> , 2013, 77, 25-39.	1.7	3
121	Systematic detection of Titan's clouds in VIMS/Cassini hyperspectral images using a new automated algorithm. , 2010, , .		0