Nicolas Biver

List of Publications by Year
in descending order

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117 papers	5,918 citations	53794 45 h-index	76900 74 g-index
118 all docs	118 docs citations	118 times ranked	2977 citing authors

#	Article	IF	Citations
1	Ocean-like water in the Jupiter-family comet 103P/Hartley 2. Nature, 2011, 478, 218-220.	27.8	412
2	The organic-rich surface of comet 67P/Churyumov-Gerasimenko as seen by VIRTIS/Rosetta. Science, 2015, 347, aaa0628.	12.6	293
3	Subsurface properties and early activity of comet 67P/Churyumov-Gerasimenko. Science, 2015, 347, aaa0709.	12.6	217
4	The composition of ices in comet C/1995 O1 (Hale-Bopp) from radio spectroscopy. Astronomy and Astrophysics, 2004, 418, 1141-1157.	5.1	188
5	Deep Impact: Observations from a Worldwide Earth-Based Campaign. Science, 2005, 310, 265-269.	12.6	182
6	MIRO: Microwave Instrument for Rosetta Orbiter. Space Science Reviews, 2007, 128, 561-597.	8.1	173
7	Evolution of the Outgassing of Comet Hale-Bopp (C/1995 O1) from Radio Observations. Science, 1997, 275, 1915-1918.	12.6	172
8	Spectroscopic Monitoring of Comet C/1996 B2 (Hyakutake) with the JCMT and IRAM Radio Telescopes. Astronomical Journal, 1999, 118, 1850-1872.	4.7	153
9	Chemical Composition Diversity Among 24 Comets Observed At Radio Wavelengths. Earth, Moon and Planets, 2002, 90, 323-333.	0.6	122
10	Herschelmeasurements of theÂD/H and¹⁶O/¹⁸O ratios in water in the Oort-cloud comet C/2009ÂP1 (Garradd). Astronomy and Astrophysics, 2012, 544, L15.	5.1	115
11	Ethyl alcohol and sugar in comet C/2014 Q2 (Lovejoy). Science Advances, 2015, 1, e1500863.	10.3	115
12	The 1995â€“2002 Long-Term Monitoring of Comet C/1995 O1 (HALEâ€“BOPP) at Radio Wavelength. Earth, Moon and Planets, 2002, 90, 5-14.	0.6	110
13	Ethylene glycol in comet C/1995 O1 (Hale-Bopp). Astronomy and Astrophysics, 2004, 418, L35-L38.	5.1	103
14	Radio wavelength molecular observations of comets C/1999ÂT1 (McNaught-Hartley), C/2001ÂA2 (LINEAR), C/2000ÂWM1(LINEAR) and 153P/Ikeya-Zhang. Astronomy and Astrophysics, 2006, 449, 1255-1270.	5.1	102
15	Complex organic molecules in comets C/2012 F6 (Lemmon) and C/2013 R1 (Lovejoy): detection of ethylene glycol and formamide. Astronomy and Astrophysics, 2014, 566, L5.	5.1	101
16	Compositional homogeneity in the fragmented comet 73P/Schwassmannâ€“Wachmann 3. Nature, 2007, 448, 172-175.	27.8	95
17	The Composition of Comets. Space Science Reviews, 2015, 197, 9-46.	8.1	90
18	The composition of cometary ices. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20160252.	3.4	90

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19	MIRO observations of subsurface temperatures of the nucleus of 67P/Churyumov-Gerasimenko. Astronomy and Astrophysics, 2015, 583, A29.	5.1	81
20	Submillimetre observations of comets with Odin: 2001â€“2005. Planetary and Space Science, 2007, 55, 1058-1068.	1.7	78
21	Terrestrial deuterium-to-hydrogen ratio in water in hyperactive comets. Astronomy and Astrophysics, 2019, 625, L5.	5.1	78
22	Long-term monitoring of the outgassing and composition of comet 67P/Churyumov-Gerasimenko with the Rosetta/MIRO instrument. Astronomy and Astrophysics, 2019, 630, A19.	5.1	78
23	First observations of H₂O and CO₂vapor in comet 67P/Churyumov-Gerasimenko made by VIRTIS onboard Rosetta. Astronomy and Astrophysics, 2015, 583, A6.	5.1	77
24	Carbon Monoxide Outgassing from Comet P/Schwassmann-Wachmann 1. Icarus, 1995, 115, 213-216.	2.5	76
25	Outgassing Behavior and Composition of Comet C/1999 S4 (LINEAR) During Its Disruption. Science, 2001, 292, 1339-1343.	12.6	74
26	Evolution of CO₂, CH₄, and OCS abundances relative to H₂O in the coma of comet 67P around perihelion fromRosetta/VIRTIS-H observations. Monthly Notices of the Royal Astronomical Society, 2016, 462, S170-S183.	4.4	72
27	Isotopic ratios of H, C, N, O, and S in comets C/2012 F6 (Lemmon) and C/2014 Q2 (Lovejoy). Astronomy and Astrophysics, 2016, 589, A78.	5.1	66
28	Observations of water in comets with Odin. Astronomy and Astrophysics, 2003, 402, L55-L58.	5.1	65
29	Substantial outgassing of CO from comet Haleâ€“Bopp at large heliocentric distance. Nature, 1996, 380, 137-139.	27.8	64
30	MAPPING THE RELEASE OF VOLATILES IN THE INNER COMAE OF COMETS C/2012 F6 (LEMMON) AND C/2012 S1 (ISON) USING THE ATACAMA LARGE MILLIMETER/SUBMILLIMETER ARRAY. Astrophysical Journal Letters, 2014, 792, L2.	8.3	64
31	Unusually high CO abundance of the first active interstellar comet. Nature Astronomy, 2020, 4, 861-866.	10.1	62
32	Spatial and diurnal variation of water outgassing on comet 67P/Churyumov-Gerasimenko observed from Rosetta/MIRO in August 2014. Astronomy and Astrophysics, 2015, 583, A5.	5.1	61
33	Dust-to-Gas and Refractory-to-Ice Mass Ratios of Comet 67P/Churyumov-Gerasimenko from Rosetta Observations. Space Science Reviews, 2020, 216, 1.	8.1	61
34	Distribution of water around the nucleus of comet 67P/Churyumov-Gerasimenko at 3.4 AU from the Sun as seen by the MIRO instrument on Rosetta. Astronomy and Astrophysics, 2015, 583, A3.	5.1	60
35	The 2016 Feb 19 outburst of comet 67P/CG: an ESA Rosetta multi-instrument study. Monthly Notices of the Royal Astronomical Society, 2016, 462, S220-S234.	4.4	60
36	THE VOLATILE COMPOSITION AND ACTIVITY OF COMET 103P/HARTLEY 2 DURING THE EPOXI CLOSEST APPROACH. Astrophysical Journal Letters, 2011, 734, L8.	8.3	59

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37	Water and related chemistry in the solar system. A guaranteed time key programme for Herschel. Planetary and Space Science, 2009, 57, 1596-1606.	1.7	58
38	Spectroscopic Observations of Comet C/1999 H1 (Lee) with the SEST, JCMT, CSO, IRAM, and NanÃ‡ay Radio Telescopes. Astronomical Journal, 2000, 120, 1554-1570.	4.7	56
39	The extraordinary composition of the blue comet C/2016 R2 (PanSTARRS). Astronomy and Astrophysics, 2018, 619, A127.	5.1	55
40	The Peculiar Volatile Composition of CO-dominated Comet C/2016 R2 (PanSTARRS). Astronomical Journal, 2019, 158, 128.	4.7	55
41	Interferometric imaging of the sulfur-bearing molecules H$_{mathsf 2}$S, SO, and CS in comet C/1995 O1 (Hale-Bopp). Astronomy and Astrophysics, 2007, 475, 1131-1144.	5.1	54
42	Radiative transfer simulation of water rotational excitation in comets. Astronomy and Astrophysics, 2007, 473, 303-310.	5.1	52
43	No evidence of phosphine in the atmosphere of Venus from independent analyses. Nature Astronomy, 2021, 5, 631-635.	10.1	50
44	Hydrogen Isocyanide in Comet 73P/Schwassmannâ€Wachmann (Fragment B). Astrophysical Journal, 2008, 675, 931-936.	4.5	47
45	Heliocentric evolution of the degradation of polyoxymethylene: Application to the origin of the formaldehyde (H2CO) extended source in Comet C/1995 O1 (Haleâ€“Bopp). Icarus, 2006, 184, 239-254.	2.5	46
46	Spatially resolved evolution of the local H₂O production rates of comet 67P/Churyumov-Gerasimenko from the MIRO instrument on Rosetta. Astronomy and Astrophysics, 2017, 603, A87.	5.1	46
47	Antifreeze in the hot core of Orion. Astronomy and Astrophysics, 2015, 576, A129.	5.1	44
48	The Chemical Diversity of Comets: Synergies Between Space Exploration and Ground-based Radio Observations. Earth, Moon and Planets, 2009, 105, 267-272.	0.6	43
49	Dark side of comet 67P/Churyumov-Gerasimenko in Aug.â€“Oct. 2014. Astronomy and Astrophysics, 2015, 583, A28.	5.1	42
50	Distributed glycine in comet 67P/Churyumov-Gerasimenko. Astronomy and Astrophysics, 2019, 630, A32.	5.1	42
51	Mapping the carbon monoxide coma of comet 29P/Schwassmann-WachmannÂ1. Astronomy and Astrophysics, 2008, 484, 537-546.	5.1	42
52	The outgassing and composition of Comet 19P/Borrelly from radio observations. Icarus, 2004, 167, 113-128.	2.5	38
53	Continuum and spectroscopic observations of asteroid (21) Lutetia at millimeter and submillimeter wavelengths with the MIRO instrument on the Rosetta spacecraft. Planetary and Space Science, 2012, 66, 31-42.	1.7	38
54	Radio observations of Comet 9P/Tempel 1 before and after Deep Impact. Icarus, 2007, 187, 253-271.	2.5	36

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55	A study of the distant activity of comet C/2006ÂW3Â(Christensen) withHerscheland ground-based radio telescopes. Astronomy and Astrophysics, 2010, 518, L149.	5.1	35
56	Radio observations of Jupiter-family comets. Planetary and Space Science, 2009, 57, 1162-1174.	1.7	34
57	Highlights from the first year of Odin observations. Astronomy and Astrophysics, 2003, 402, L39-L46.	5.1	34
58	Parent volatiles in Comet 103P/Hartley 2 observed by Keck II with NIRSPEC during the 2010 apparition. Icarus, 2013, 222, 723-733.	2.5	33
59	Remote sensing of a comet at millimeter and submillimeter wavelengths from an orbiting spacecraft. Planetary and Space Science, 2007, 55, 1050-1057.	1.7	32
60	HIFI observations of water in the atmosphere of comet C/2008 Q3 (Garradd). Astronomy and Astrophysics, 2010, 518, L150.	5.1	31
61	Ammonia and other parent molecules in comet 10P/Tempel 2 fromHerschel/HIFI and ground-based radio observations. Astronomy and Astrophysics, 2012, 539, A68.	5.1	31
62	Observations of the OH radical in comet C/1996 B2 (Hyakutake) with the NanÃ§ay radio telescope. Planetary and Space Science, 1998, 46, 569-577.	1.7	30
63	The Deep Impact Earth-Based Campaign. Space Science Reviews, 2005, 117, 297-334.	8.1	30
64	Millimeter and submillimeter measurements of asteroid (2867) Steins during the Rosetta fly-by. Planetary and Space Science, 2010, 58, 1077-1087.	1.7	30
65	Complex Organic Molecules in Comets from Remote-Sensing Observations at Millimeter Wavelengths. ACS Earth and Space Chemistry, 2019, 3, 1550-1555.	2.7	30
66	An upper limit for the water outgassing rate of the main-belt comet 176P/LINEAR observed withHerschel/HIFI. Astronomy and Astrophysics, 2012, 546, L4.	5.1	29
67	The 67P/Churyumovâ€“Gerasimenko observation campaign in support of the Rosetta mission. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20160249.	3.4	29
68	DETERMINATION OF AN UPPER LIMIT FOR THE WATER OUTGASSING RATE OF MAIN-BELT COMET P/2012 T1 (PANSTARRS). Astrophysical Journal Letters, 2013, 774, L13.	8.3	27
69	Water production in comet 81P/WildÂ2 as determined byHerschel/HIFI. Astronomy and Astrophysics, 2010, 521, L50.	5.1	25
70	Production and kinematics of CO in comet C/1995ÂO1Â(Hale-Bopp) at large post-perihelion distances. Astronomy and Astrophysics, 2003, 402, 383-393.	5.1	25
71	The compositional evolution of C/2012 S1 (ISON) from ground-based high-resolution infrared spectroscopy as part of a worldwide observing campaign. Icarus, 2016, 266, 152-172.	2.5	24
72	Probing the Evolutionary History of Comets: An Investigation of the Hypervolatiles CO, CH₄, and C₂H₆ in the Jupiter-family Comet 21P/Giacobiniâ€“Zinner. Astronomical Journal, 2020, 159, 42.	4.7	23

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73	First Comet Observations with NIRSPEC-2 at Keck: Outgassing Sources of Parent Volatiles and Abundances Based on Alternative Taxonomic Compositional Baselines in 46P/Wirtanen. Planetary Science Journal, 2021, 2, 45.	3.6	22
74	Gas and dust productions of Comet 103P/Hartley 2 from millimetre observations: Interpreting rotation-induced time variations. Icarus, 2014, 228, 197-216.	2.5	21
75	Molecular investigations of comets C/2002ÂX5 (Kudo-Fujikawa), C/2002ÂV1 (NEAT), and C/2006 P1 (McNaught) at small heliocentric distances. Astronomy and Astrophysics, 2011, 528, A142.	5.1	20
76	Molecular composition of comet 46P/Wirtanen from millimetre-wave spectroscopy. Astronomy and Astrophysics, 2021, 648, A49.	5.1	20
77	Recent astronomy highlights from the Odin satellite. Advances in Space Research, 2005, 36, 1031-1047.	2.6	19
78	Searches for HCl and HF in comets 103P/Hartley 2 and C/2009 P1 (Garradd) with theHerschelSpace Observatory. Astronomy and Astrophysics, 2014, 562, A5.	5.1	19
79	EXTREMELY ORGANIC-RICH COMA OF COMET C/2010 G2 (HILL) DURING ITS OUTBURST IN 2012. Astrophysical Journal, 2014, 788, 110.	4.5	18
80	ALMA Mapping of Rapid Gas and Dust Variations in Comet C/2012 S1 (ISON):New Insights into the Origin of Cometary HNC. Astrophysical Journal, 2017, 838, 147.	4.5	18
81	Interferometric mapping of the 3.3-mm continuum emission of comet 17P/Holmes after its 2007 outburst. Astronomy and Astrophysics, 2012, 542, A73.	5.1	17
82	A high-resolution infrared spectral survey of 103P/Hartley 2 on the night of the EPOXI closest approach. Icarus, 2013, 222, 707-722.	2.5	17
83	No compelling evidence of distributed production of CO in Comet C/1995 O1 (Hale-Bopp) from millimeter interferometric data and a re-analysis of near-IR lines. Icarus, 2010, 210, 898-915.	2.5	16
84	Submillimeter Wave Astronomy SatelliteMonitoring of the Postperihelion Water Production Rate of Comet C/1999 T1 (McNaughtâ€Hartley). Astrophysical Journal, 2004, 609, 1164-1169.	4.5	15
85	Interferometric imaging of carbon monoxide in comet C/1995ÂO1 (Hale-Bopp): evidence of a strong rotating jet. Astronomy and Astrophysics, 2009, 505, 825-843.	5.1	14
86	Periodic variation in the water production of comet C/2001 Q4 (NEAT) observed with the Odin satellite. Astronomy and Astrophysics, 2009, 501, 359-366.	5.1	14
87	ALMA Autocorrelation Spectroscopy of Comets: The HCN/H¹³CN Ratio in C/2012 S1 (ISON). Astrophysical Journal Letters, 2019, 870, L26.	8.3	14
88	The volatile composition of 81P/Wild 2 from ground-based high-resolution infrared spectroscopy. Icarus, 2014, 238, 125-136.	2.5	13
89	Thermal Physics of the Inner Coma: ALMA Studies of the Methanol Distribution and Excitation in Comet C/2012 K1 (PanSTARRS). Astrophysical Journal, 2017, 837, 177.	4.5	13
90	Herschelobservations of gas and dust in comet C/2006 W3 (Christensen) at 5 AU from the Sun. Astronomy and Astrophysics, 2014, 564, A124.	5.1	12

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91	Observations of the 18-cm OH lines of Comet 103P/Hartley 2 at NanÃ§ay in support to the EPOXI and Herschel missions. Icarus, 2013, 222, 679-683.	2.5	11
92	Far-ultraviolet aurora identified at comet 67P/Churyumov-Gerasimenko. Nature Astronomy, 2020, 4, 1084-1091.	10.1	11
93	Radio line observations of comet 109P/Swift-Tuttle at IRAM. Planetary and Space Science, 1996, 44, 529-539.	1.7	10
94	Radio observations of Comet 9P/Tempel 1 before and after Deep Impact. Icarus, 2007, 191, 494-512.	2.5	10
95	Earth-based detection of the millimetric thermal emission from the nucleus of comet 8P/Tuttle. Astronomy and Astrophysics, 2011, 528, A54.	5.1	10
96	A survey of volatile species in Oort cloud comets C/2001 Q4 (NEAT) and C/2002 T7 (LINEAR) at millimeter wavelengths. Astronomy and Astrophysics, 2013, 559, A48.	5.1	10
97	Comets at radio wavelengths. Comptes Rendus Physique, 2016, 17, 985-994.	0.9	10
98	Rapidly Varying Anisotropic Methanol (CH₃OH) Production in the Inner Coma of Comet 46P/Wirtanen as Revealed by the ALMA Atacama Compact Array. Planetary Science Journal, 2021, 2, 55.	3.6	9
99	Recurrent Cometary Activity in Near-Earth Object (3552) Don Quixote. Planetary Science Journal, 2020, 1, 12.	3.6	9
100	Size and albedo of the largest detected Oort-cloud object: Comet C/2014 UN₂₇₁ (Bernardinelli-Bernstein). Astronomy and Astrophysics, 2022, 659, L1.	5.1	9
101	Chemical diversity in the comet population. Proceedings of the International Astronomical Union, 2015, 11, 228-232.	0.0	8
102	Leveraging the ALMA Atacama Compact Array for Cometary Science: An Interferometric Survey of Comet C/2015 ER61 (PanSTARRS) and Evidence for a Distributed Source of Carbon Monosulfide. Astrophysical Journal, 2021, 921, 14.	4.5	8
103	Submillimetric spectroscopic observations of volatiles in comet C/2004 Q2 (Machholz). Astronomy and Astrophysics, 2012, 545, A2.	5.1	7
104	A molecular wind blows out of the Kuiper belt. Astronomy and Astrophysics, 2021, 653, L11.	5.1	7
105	Herschel and IRAM-30 m observations of comet C/2012 S1 (ISON) at 4.5 AU from the Sun. Astronomy and Astrophysics, 2013, 560, A101.	5.1	7
106	The Volatile Composition of the Inner Coma of Comet 46P/Wirtanen: Coordinated Observations Using iSHELL at the NASA-IRTF and Keck/NIRSPEC-2. Planetary Science Journal, 2021, 2, 54.	3.6	6
107	Multi-instrument analysis of far-ultraviolet aurora in the southern hemisphere of comet 67P/Churyumov-Gerasimenko. Astronomy and Astrophysics, 2021, 647, A119.	5.1	6
108	Low Water Outgassing from (24) Themis and (65) Cybele: 3.1 Î¼m Near-IR Spectral Implications. Astrophysical Journal Letters, 2020, 898, L45.	8.3	6

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109	Molecular composition of short-period comets from millimetre-wave spectroscopy: 21P/Giacobini-Zinner, 38P/Stephan-Oterma, 41P/Tuttle-Giacobini-KresÃ¡k, and 64P/Swift-Gehrels. Astronomy and Astrophysics, 2021, 651, A25.	5.1	5
110	Volatile Abundances, Extended Coma Sources, and Nucleus Ice Associations in Comet C/2014 Q2 (Lovejoy). Planetary Science Journal, 2022, 3, 6.	3.6	4
111	Gas terminal velocity from MIRO/Rosetta data using neural network approach. Astronomy and Astrophysics, 2021, 648, A21.	5.1	3
112	Sub-millimeter observation of water vapor at 557GHz in Comet C/2002 T7 (LINEAR). Icarus, 2014, 239, 141-153.	2.5	2
113	The Chemical Composition of 9P/Tempel 1 from Radio Observations. Globular Clusters - Guides To Galaxies, 2009, , 243-248.	0.1	1
114	Solar System Science with the Orbiting Astronomical Satellite Investigating Stellar Systems (OASIS) Observatory. Space Science Reviews, 2022, 218, .	8.1	1
115	Spatial Distribution of Ultraviolet Emission from Cometary Activity at 67P/Churyumov-Gerasimenko. Astronomical Journal, 2021, 162, 5.	4.7	0
116	MIRO: Microwave Instrument for Rosetta Orbiter. , 2009, , 291-314.		0
117	The Composition of Comets. , 2017, , 9-46.		0