

Nicolas Fray

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/6769492/publications.pdf>

Version: 2024-02-01

58
papers

2,189
citations

236925

25
h-index

214800

47
g-index

58
all docs

58
docs citations

58
times ranked

2586
citing authors

#	ARTICLE	IF	CITATIONS
1	Sublimation of ices of astrophysical interest: A bibliographic review. <i>Planetary and Space Science</i> , 2009, 57, 2053-2080.	1.7	263
2	Carbon-rich dust in comet 67P/Churyumov-Gerasimenko measured by COSIMA/Rosetta. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S712-S722.	4.4	177
3	New experimental constraints on the composition and structure of tholins. <i>Icarus</i> , 2008, 198, 218-231.	2.5	144
4	Comet 67P/Churyumov-Gerasimenko sheds dust coat accumulated over the past four years. <i>Nature</i> , 2015, 518, 216-218.	27.8	144
5	High-molecular-weight organic matter in the particles of comet 67P/Churyumov-Gerasimenko. <i>Nature</i> , 2016, 538, 72-74.	27.8	124
6	Bibliographic review and new measurements of the infrared band strengths of pure molecules at 25 K: H ₂ O, CO ₂ , CO, CH ₄ , NH ₃ , CH ₃ OH, HCOOH and H ₂ CO. <i>Monthly Notices of the Royal Astronomical Society</i> , 2015, 451, 2145-2160.	4.4	123
7	The origin of the CN radical in comets: A review from observations and models. <i>Planetary and Space Science</i> , 2005, 53, 1243-1262.	1.7	105
8	COMET 67P/CHURYUMOV-GERASIMENKO: CLOSE-UP ON DUST PARTICLE FRAGMENTS. <i>Astrophysical Journal Letters</i> , 2016, 816, L32.	8.3	84
9	Distributed Sources in Comets. <i>Space Science Reviews</i> , 2008, 138, 179-197.	8.1	55
10	Very high resolution mass spectrometry of HCN polymers and tholins. <i>Faraday Discussions</i> , 2010, 147, 495.	3.2	49
11	Nitrogen-to-carbon atomic ratio measured by COSIMA in the particles of comet 67P/Churyumov-Gerasimenko. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S506-S516.	4.4	49
12	Heliocentric evolution of the degradation of polyoxymethylene: Application to the origin of the formaldehyde (H ₂ CO) extended source in Comet C/1995 O1 (Hale-Bopp). <i>Icarus</i> , 2006, 184, 239-254.	2.5	46
13	UVolution: Compared photochemistry of prebiotic organic compounds in low Earth orbit and in the laboratory. <i>Planetary and Space Science</i> , 2010, 58, 1327-1346.	1.7	45
14	High-temperature measurements of VUV-absorption cross sections of CO ₂ and their application to exoplanets. <i>Astronomy and Astrophysics</i> , 2013, 551, A131.	5.1	45
15	Halogens as tracers of protosolar nebula material in comet 67P/Churyumov-Gerasimenko. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 472, 1336-1345.	4.4	44
16	Importance of thermal reactivity for hexamethylenetetramine formation from simulated interstellar ices. <i>Astronomy and Astrophysics</i> , 2013, 551, A128.	5.1	42
17	Distributed glycine in comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2019, 630, A32.	5.1	42
18	A cometary nucleus model taking into account all phase changes of water ice: amorphous, crystalline, and clathrate. <i>Astronomy and Astrophysics</i> , 2012, 542, A82.	5.1	41

#	ARTICLE	IF	CITATIONS
19	Heterogeneous solid/gas chemistry of organic compounds related to comets, meteorites, Titan, and Mars: Laboratory and in lower Earth orbit experiments. <i>Advances in Space Research</i> , 2008, 42, 2019-2035.	2.6	38
20	VUV-absorption cross section of carbon dioxide from 150 to 800 K and applications to warm exoplanetary atmospheres. <i>Astronomy and Astrophysics</i> , 2018, 609, A34.	5.1	35
21	Inferring the interplanetary dust properties. <i>Astronomy and Astrophysics</i> , 2007, 473, 641-649.	5.1	35
22	Equilibrium Data of Methane, Carbon Dioxide, and Xenon Clathrate Hydrates below the Freezing Point of Water. Applications to Astrophysical Environments. <i>Journal of Chemical & Engineering Data</i> , 2010, 55, 5101-5108.	1.9	34
23	Variations in cometary dust composition from <i>Giotto</i> to <i>Rosetta</i> , clues to their formation mechanisms. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 462, S323-S330.	4.4	28
24	Temperature-dependent photoabsorption cross-sections of cyanoacetylene and diacetylene in the mid- and vacuum-UV: Application to Titan's atmosphere. <i>Planetary and Space Science</i> , 2009, 57, 10-22.	1.7	26
25	On the prospective detection of polyoxymethylene in comet 67P/Churyumov-Gerasimenko with the COSIMA instrument onboard Rosetta. <i>Planetary and Space Science</i> , 2012, 65, 83-92.	1.7	25
26	Formation of analogs of cometary nitrogen-rich refractory organics from thermal degradation of tholin and HCN polymer. <i>Icarus</i> , 2015, 250, 53-63.	2.5	23
27	Compositional and structural investigation of HCN polymer through high resolution mass spectrometry. <i>International Journal of Mass Spectrometry</i> , 2013, 354-355, 193-203.	1.5	22
28	H/C elemental ratio of the refractory organic matter in cometary particles of 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2019, 630, A27.	5.1	22
29	Experimental study of the degradation of polymers: Application to the origin of extended sources in cometary atmospheres. <i>Meteoritics and Planetary Science</i> , 2004, 39, 581-587.	1.6	20
30	New benzene absorption cross sections in the VUV, relevance for Titan's upper atmosphere. <i>Icarus</i> , 2016, 265, 95-109.	2.5	19
31	Mechanical and electrostatic experiments with dust particles collected in the inner coma of comet 67P by COSIMA onboard Rosetta. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2017, 375, 20160255.	3.4	19
32	Ionization photophysics and spectroscopy of cyanoacetylene. <i>Journal of Chemical Physics</i> , 2014, 140, 174305.	3.0	18
33	Identification of organic molecules with a laboratory prototype based on the Laser Ablation-CosmOrbitrap. <i>Planetary and Space Science</i> , 2019, 170, 42-51.	1.7	18
34	HMT production and sublimation during thermal process of cometary organic analogs. Implications for its detection with the ROSETTA instruments. <i>Icarus</i> , 2013, 226, 541-551.	2.5	16
35	COSIMA calibration for the detection and characterization of the cometary solid organic matter. <i>Planetary and Space Science</i> , 2015, 105, 1-25.	1.7	16
36	New experimental results on the degradation of polyoxymethylene: Application to the origin of the formaldehyde extended source in comets. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	15

#	ARTICLE	IF	CITATIONS
37	COSIMA-Rosetta calibration for in situ characterization of 67P/Churyumov-Gerasimenko cometary inorganic compounds. <i>Planetary and Space Science</i> , 2015, 117, 35-44.	1.7	15
38	VUV and mid-UV photoabsorption cross sections of thin films of adenine: Application on its photochemistry in the solar system. <i>Planetary and Space Science</i> , 2014, 90, 90-99.	1.7	14
39	CARBON DIOXIDE INFLUENCE ON THE THERMAL FORMATION OF COMPLEX ORGANIC MOLECULES IN INTERSTELLAR ICE ANALOGS. <i>Astrophysical Journal Letters</i> , 2015, 809, L18.	8.3	13
40	Equilibrium Pressure of Ethane, Acetylene, and Krypton Clathrate Hydrates below the Freezing Point of Water. <i>Journal of Chemical & Engineering Data</i> , 2012, 57, 3408-3415.	1.9	11
41	OPTIMIZATION OF A SOLAR SIMULATOR FOR PLANETARY-PHOTOCHEMICAL STUDIES. <i>Astrophysical Journal, Supplement Series</i> , 2015, 218, 19.	7.7	11
42	D/H in the refractory organics of comet 67P/Churyumov-Gerasimenko measured by Rosetta/COSIMA. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 504, 4940-4951.	4.4	11
43	The oxygen isotopic composition ($^{18}\text{O}/^{16}\text{O}$) in the dust of comet 67P/Churyumov-Gerasimenko measured by COSIMA on-board Rosetta. <i>Monthly Notices of the Royal Astronomical Society</i> , 2018, 477, 3836-3844.	4.4	10
44	VUV photoionization of acetamide studied by electron/ion coincidence spectroscopy in the 8–24 eV photon energy range. <i>Chemical Physics</i> , 2012, 393, 107-116.	1.9	9
45	VUV and Mid-UV Photoabsorption Cross Sections of Thin Films of Guanine and Uracil: Application on Their Photochemistry in the Solar System. <i>Astrobiology</i> , 2015, 15, 268-282.	3.0	9
46	The AMINO experiment: a laboratory for astrochemistry and astrobiology on the EXPOSE-R facility of the International Space Station. <i>International Journal of Astrobiology</i> , 2015, 14, 67-77.	1.6	8
47	Temperature-dependent photoabsorption cross section of cyanodiacetylene in the vacuum UV. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	7
48	Single photon ionization of methyl isocyanide and the subsequent unimolecular decomposition of its cation: experiment and theory. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 26017-26026.	2.8	5
49	The detection of solid phosphorus and fluorine in the dust from the coma of comet 67P/Churyumov-Gerasimenko. <i>Monthly Notices of the Royal Astronomical Society</i> , 2020, 499, 1870-1873.	4.4	5
50	VUV spectroscopy and photochemistry of five interstellar and putative prebiotic molecules. <i>EAS Publications Series</i> , 2012, 58, 301-306.	0.3	2
51	VUV Spectral Irradiance Measurements in $\text{H}_2/\text{He}/\text{Ar}$ Microwave Plasmas and Comparison with Solar Data. <i>Astrophysical Journal, Supplement Series</i> , 2019, 240, 7.	7.7	2
52	Electrical properties of cometary dust particles derived from line shapes of TOF-SIMS spectra measured by the ROSETTA/COSIMA instrument. <i>Planetary and Space Science</i> , 2020, 182, 104758.	1.7	2
53	Distributed Sources in Comets. <i>Space Sciences Series of ISSI</i> , 2008, , 179-197.	0.0	2
54	VUV-absorption cross section of CO_2 at high temperatures and impact on exoplanet atmospheres. <i>BIO Web of Conferences</i> , 2014, 2, 01002.	0.2	1

#	ARTICLE	IF	CITATIONS
55	Significance of variables for discrimination: Applied to the search of organic ions in mass spectra measured on cometary particles. <i>Journal of Chemometrics</i> , 2018, 32, e3001.	1.3	1
56	Astrochemistry on the EXPOSE/ISS and BIOPAN/Foton experiments. <i>Proceedings of the International Astronomical Union</i> , 2009, 5, 684-685.	0.0	0
57	Synthesis of analogues of cometary organic matter: thermochemical evolution and preparation of in-situ observations. <i>BIO Web of Conferences</i> , 2014, 2, 03007.	0.2	0
58	Composition of cometary particles collected during two periods of the Rosetta mission: multivariate evaluation of mass spectral data. <i>Journal of Chemometrics</i> , 2020, 34, e3218.	1.3	0