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	D/H in the refractory organics of comet 67P/Churyumov-Gerasimenko measured by Rosetta/COSIMA. Monthly Notices of the Royal Astronomical Society, 2021, 504, 4940-4951.	4.4	11
2	Electrical properties of cometary dust particles derived from line shapes of TOF-SIMS spectra measured by the ROSETTA/COSIMA instrument. Planetary and Space Science, 2020, 182, 104758.	1.7	2
3	The detection of solid phosphorus and fluorine in the dust from the coma of comet 67P/Churyumovâ€“Gerasimenko. Monthly Notices of the Royal Astronomical Society, 2020, 499, 1870-1873.	4.4	5
4	Composition of cometary particles collected during two periods of the Rosetta mission: multivariate evaluation of mass spectral data. Journal of Chemometrics, 2020, 34, e3218.	1.3	0
5	VUV Spectral Irradiance Measurements in H₂/He/Ar Microwave Plasmas and Comparison with Solar Data. Astrophysical Journal, Supplement Series, 2019, 240, 7.	7.7	2
6	Identification of organic molecules with a laboratory prototype based on the Laser Ablation-CosmOrbitrap. Planetary and Space Science, 2019, 170, 42-51.	1.7	18
7	Distributed glycine in comet 67P/Churyumov-Gerasimenko. Astronomy and Astrophysics, 2019, 630, A32.	5.1	42
8	Single photon ionization of methyl isocyanide and the subsequent unimolecular decomposition of its cation: experiment and theory. Physical Chemistry Chemical Physics, 2019, 21, 26017-26026.	2.8	5
9	H/C elemental ratio of the refractory organic matter in cometary particles of 67P/Churyumov-Gerasimenko. Astronomy and Astrophysics, 2019, 630, A27.	5.1	22
10	The oxygen isotopic composition (18O/16O) in the dust of comet 67P/Churyumov-Gerasimenko measured by COSIMA on-board Rosetta. Monthly Notices of the Royal Astronomical Society, 2018, 477, 3836-3844.	4.4	10
11	Significance of variables for discrimination: Applied to the search of organic ions in mass spectra measured on cometary particles. Journal of Chemometrics, 2018, 32, e3001.	1.3	1
12	VUV-absorption cross section of carbon dioxide from 150 to 800 K and applications to warm exoplanetary atmospheres. Astronomy and Astrophysics, 2018, 609, A34.	5.1	35
13	Mechanical and electrostatic experiments with dust particles collected in the inner coma of comet 67P by COSIMA onboard Rosetta. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20160255.	3.4	19
14	Halogens as tracers of protosolar nebula material in comet 67P/Churyumovâ€“Gerasimenko. Monthly Notices of the Royal Astronomical Society, 2017, 472, 1336-1345.	4.4	44
15	Nitrogen-to-carbon atomic ratio measured by COSIMA in the particles of comet 67P/Churyumovâ€“Gerasimenko. Monthly Notices of the Royal Astronomical Society, 2017, 469, S506-S516.	4.4	49
16	Carbon-rich dust in comet 67P/Churyumov-Gerasimenko measured by COSIMA/Rosetta. Monthly Notices of the Royal Astronomical Society, 2017, 469, S712-S722.	4.4	177
17	Variations in cometary dust composition fromGiottotoRosetta, clues to their formation mechanisms. Monthly Notices of the Royal Astronomical Society, 2016, 462, S323-S330.	4.4	28
18	High-molecular-weight organic matter in the particles of comet 67P/Churyumovâ€“Gerasimenko. Nature, 2016, 538, 72-74.	27.8	124

#	Article	IF	Citations
19	COMET 67P/CHURYUMOVâ€“GERASIMENKO: CLOSE-UP ON DUST PARTICLE FRAGMENTS. Astrophysical Journal Letters, 2016, 816, L32.	8.3	84
20	New benzene absorption cross sections in the VUV, relevance for Titanâ€™s upper atmosphere. Icarus, 2016, 265, 95-109.	2.5	19
21	COSIMA calibration for the detection and characterization of the cometary solid organic matter. Planetary and Space Science, 2015, 105, 1-25.	1.7	16
22	Comet 67P/Churyumov-Gerasimenko sheds dust coat accumulated over the past four years. Nature, 2015, 518, 216-218.	27.8	144
23	The AMINO experiment: a laboratory for astrochemistry and astrobiology on the EXPOSE-R facility of the International Space Station. International Journal of Astrobiology, 2015, 14, 67-77.	1.6	8
24	Bibliographic review and new measurements of the infrared band strengths of pure molecules at 25 K: H2O, CO2, CO, CH4, NH3, CH3OH, HCOOH and H2CO. Monthly Notices of the Royal Astronomical Society, 2015, 451, 2145-2160.	4.4	123
25	OPTIMIZATION OF A SOLAR SIMULATOR FOR PLANETARY-PHOTOCHEMICAL STUDIES. Astrophysical Journal, Supplement Series, 2015, 218, 19.	7.7	11
26	VUV and Mid-UV Photoabsorption Cross Sections of Thin Films of Guanine and Uracil: Application on Their Photochemistry in the Solar System. Astrobiology, 2015, 15, 268-282.	3.0	9
27	CARBON DIOXIDE INFLUENCE ON THE THERMAL FORMATION OF COMPLEX ORGANIC MOLECULES IN INTERSTELLAR ICE ANALOGS. Astrophysical Journal Letters, 2015, 809, L18.	8.3	13
28	COSIMA-Rosetta calibration for in situ characterization of 67P/Churyumovâ€“Gerasimenko cometary inorganic compounds. Planetary and Space Science, 2015, 117, 35-44.	1.7	15
29	Formation of analogs of cometary nitrogen-rich refractory organics from thermal degradation of tholin and HCN polymer. Icarus, 2015, 250, 53-63.	2.5	23
30	Synthesis of analogues of cometary organic matter: thermochemical evolution and preparation of in-situ observations. BIO Web of Conferences, 2014, 2, 03007.	0.2	0
31	VUV-absorption cross section of CO₂at high temperatures and impact on exoplanet atmospheres. BIO Web of Conferences, 2014, 2, 01002.	0.2	1
32	Ionization photophysics and spectroscopy of cyanoacetylene. Journal of Chemical Physics, 2014, 140, 174305.	3.0	18
33	VUV and mid-UV photoabsorption cross sections of thin films of adenine: Application on its photochemistry in the solar system. Planetary and Space Science, 2014, 90, 90-99.	1.7	14
34	Compositional and structural investigation of HCN polymer through high resolution mass spectrometry. International Journal of Mass Spectrometry, 2013, 354-355, 193-203.	1.5	22
35	HMT production and sublimation during thermal process of cometary organic analogs. Implications for its detection with the ROSETTA instruments. Icarus, 2013, 226, 541-551.	2.5	16
36	Importance of thermal reactivity for hexamethylenetetramine formation from simulated interstellar ices. Astronomy and Astrophysics, 2013, 551, A128.	5.1	42

#	Article	IF	Citations
37	High-temperature measurements of VUV-absorption cross sections of CO₂and their application to exoplanets. Astronomy and Astrophysics, 2013, 551, A131.	5.1	45
38	VUV spectroscopy and photochemistry of five interstellar and putative prebiotic molecules. EAS Publications Series, 2012, 58, 301-306.	0.3	2
39	Equilibrium Pressure of Ethane, Acetylene, and Krypton Clathrate Hydrates below the Freezing Point of Water. Journal of Chemical & Engineering Data, 2012, 57, 3408-3415.	1.9	11
40	A cometary nucleus model taking into account all phase changes of water ice: amorphous, crystalline, and clathrate. Astronomy and Astrophysics, 2012, 542, A82.	5.1	41
41	VUV photoionization of acetamide studied by electron/ion coincidence spectroscopy in the 8â€“24 eV photon energy range. Chemical Physics, 2012, 393, 107-116.	1.9	9
42	On the prospective detection of polyoxymethylene in comet 67P/Churyumovâ€“Gerasimenko with the COSIMA instrument onboard Rosetta. Planetary and Space Science, 2012, 65, 83-92.	1.7	25
43	UVolution: Compared photochemistry of prebiotic organic compounds in low Earth orbit and in the laboratory. Planetary and Space Science, 2010, 58, 1327-1346.	1.7	45
44	Equilibrium Data of Methane, Carbon Dioxide, and Xenon Clathrate Hydrates below the Freezing Point of Water. Applications to Astrophysical Environments. Journal of Chemical & Engineering Data, 2010, 55, 5101-5108.	1.9	34
45	Temperatureâ€dependent photoabsorption cross section of cyanodiacetylene in the vacuum UV. Journal of Geophysical Research, 2010, 115, .	3.3	7
46	Very high resolution mass spectrometry of HCN polymers and tholins. Faraday Discussions, 2010, 147, 495.	3.2	49
47	Temperature-dependent photoabsorption cross-sections of cyanoacetylene and diacetylene in the mid- and vacuum-UV: Application to Titan's atmosphere. Planetary and Space Science, 2009, 57, 10-22.	1.7	26
48	Sublimation of ices of astrophysical interest: A bibliographic review. Planetary and Space Science, 2009, 57, 2053-2080.	1.7	263
49	Astrochemistry on the EXPOSE/ISS and BIOPAN/Foton experiments. Proceedings of the International Astronomical Union, 2009, 5, 684-685.	0.0	0
50	Distributed Sources in Comets. Space Science Reviews, 2008, 138, 179-197.	8.1	55
51	Heterogeneous solid/gas chemistry of organic compounds related to comets, meteorites, Titan, and Mars: Laboratory and in lower Earth orbit experiments. Advances in Space Research, 2008, 42, 2019-2035.	2.6	38
52	New experimental constraints on the composition and structure of tholins. Icarus, 2008, 198, 218-231.	2.5	144
53	Distributed Sources in Comets. Space Sciences Series of ISSI, 2008, , 179-197.	0.0	2
54	Inferring the interplanetary dust properties. Astronomy and Astrophysics, 2007, 473, 641-649.	5.1	35

#	Article	IF	Citations
55	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
56	The origin of the CN radical in comets: A review from observations and models. Planetary and Space Science, 2005, 53, 1243-1262.	1.7	105
57	New experimental results on the degradation of polyoxymethylene: Application to the origin of the formaldehyde extended source in comets. Journal of Geophysical Research, 2004, 109, .	3.3	15
58	Experimental study of the degradation of polymers: Application to the origin of extended sources in cometary atmospheres. Meteoritics and Planetary Science, 2004, 39, 581-587.	1.6	20