Francesco Fontani

List of Publications by Year in descending order

133 papers	4,342 citations	87886 38 h-index	149686 56 g-index
135 all docs	135 docs citations	135 times ranked	2269 citing authors

#	Article	IF	Citations
1	Seeds Of Life In Space (SOLIS): The Organic Composition Diversity at 300â€“1000 au Scale in Solar-type Star-forming Regions[*]. Astrophysical Journal, 2017, 850, 176.	4.5	116
2	Search for massive protostar candidates in the southern hemisphere. Astronomy and Astrophysics, 2006, 447, 221-233.	5.1	114
3	THE DYNAMICS OF MASSIVE STARLESS CORES WITH ALMA. Astrophysical Journal, 2013, 779, 96.	4.5	113
4	Parsec-scale SiO emission in an infrared dark cloud. Monthly Notices of the Royal Astronomical Society, 2010, 406, 187-196.	4.4	108
5	Deuteration as an evolutionary tracer in massive-star formation. Astronomy and Astrophysics, 2011, 529, L7.	5.1	99
6	The dynamical properties of dense filaments in the infrared dark cloud G035.39â˜'00.33â˜.... Monthly Notices of the Royal Astronomical Society, 2014, 440, 2860-2881.	4.4	99
7	Seeds of Life in Space (SOLIS). Astronomy and Astrophysics, 2017, 605, L3.	5.1	98
8	ATLASGAL-selected massive clumps in the inner Galaxy. Astronomy and Astrophysics, 2014, 570, A65.	5.1	91
9	THE 2014 ALMA LONG BASELINE CAMPAIGN: AN OVERVIEW. Astrophysical Journal Letters, 2015, 808, L1.	8.3	90
10	Formation of ethylene glycol and other complex organic molecules in star-forming regions. Astronomy and Astrophysics, 2017, 598, A59.	5.1	87
11	EARLY STAGES OF CLUSTER FORMATION: FRAGMENTATION OF MASSIVE DENSE CORES DOWN TO â‰² 1000 AU. Astrophysical Journal, 2013, 762, 120.	4.5	86
12	THE FIRST DETECTIONS OF THE KEY PREBIOTIC MOLECULE PO IN STAR-FORMING REGIONS. Astrophysical Journal, 2016, 826, 161.	4.5	83
13	Class I and Class II methanol masers in high-mass star-forming regions. Astronomy and Astrophysics, 2010, 517, A56.	5.1	78
14	Complex, quiescent kinematics in a highly filamentary infrared dark cloudâ˜.... Monthly Notices of the Royal Astronomical Society, 2013, 428, 3425-3442.	4.4	76
15	First Detection of the Simplest Organic Acid in a Protoplanetary Disk*. Astrophysical Journal Letters, 2018, 862, L2.	8.3	73
16	MAPPING LARGE-SCALE CO DEPLETION IN A FILAMENTARY INFRARED DARK CLOUD. Astrophysical Journal, 2011, 738, 11.	4.5	70
17	Search for massive protostellar candidates in the southern hemisphere. Astronomy and Astrophysics, 2005, 432, 921-935.	5.1	69
18	FRAGMENTATION OF MASSIVE DENSE CORES DOWN TO â‰² 1000 AU: RELATION BETWEEN FRAGMENTATION AND DENSITY STRUCTURE. Astrophysical Journal, 2014, 785, 42.	4.5	66

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19	Gravity or turbulence? â€“ III. Evidence of pure thermal Jeans fragmentation at âˆ¼0.1Âpc scale. Monthly Notices of the Royal Astronomical Society, 2015, 453, 3786-3798.	4.4	64
20	Searching for massive pre-stellar cores through observations of N$_mathsf{2}$H+and N$_mathsf{2}$D+. Astronomy and Astrophysics, 2006, 460, 709-720.	5.1	64
21	ALMA and ROSINA detections of phosphorus-bearing molecules: the interstellar thread between star-forming regions and comets. Monthly Notices of the Royal Astronomical Society, 2020, 492, 1180-1198.	4.4	58
22	AN ORDERED BIPOLAR OUTFLOW FROM A MASSIVE EARLY-STAGE CORE. Astrophysical Journal Letters, 2016, 821, L3.	8.3	57
23	High CO depletion in southern infrared dark clouds. Monthly Notices of the Royal Astronomical Society, 2012, 423, 2342-2358.	4.4	56
24	Seeds of Life in Space (SOLIS). Astronomy and Astrophysics, 2017, 605, A57.	5.1	54
25	Deuteration and evolution in the massive star formation process. Astronomy and Astrophysics, 2015, 575, A87.	5.1	53
26	Phosphorus-bearing molecules in the Galactic Center. Monthly Notices of the Royal Astronomical Society: Letters, 2018, 475, L30-L34.	3.3	52
27	Comparative study of complex N- and O-bearing molecules in hot molecular cores. Astronomy and Astrophysics, 2007, 470, 639-652.	5.1	50
28	Different evolutionary stages in massive star formation. Astronomy and Astrophysics, 2013, 550, A21.	5.1	50
29	Investigating the structure and fragmentation of a highly filamentary IRDC. Monthly Notices of the Royal Astronomical Society, 2016, 463, 146-169.	4.4	47
30	The structure of molecular clumps around high-mass young stellar objects. Astronomy and Astrophysics, 2002, 389, 603-617.	5.1	47
31	Massive Star Formation. , 2014, , .		47
32	Physical properties of high-mass clumps in different stages of evolution. Astronomy and Astrophysics, 2013, 556, A16.	5.1	45
33	Gas kinematics and excitation in the filamentary IRDC G035.39-00.33. Monthly Notices of the Royal Astronomical Society, 2014, 439, 1996-2013.	4.4	44
34	Silicon-bearing molecules in the shock L1157-B1: first detection of SiS around a Sun-like protostar. Monthly Notices of the Royal Astronomical Society: Letters, 2017, 470, L16-L20.	3.3	44
35	Properties of dense cores in clustered massive star-forming regions at high angular resolution. Monthly Notices of the Royal Astronomical Society, 2013, 432, 3288-3319.	4.4	43
36	A HUNT FOR MASSIVE STARLESS CORES. Astrophysical Journal, 2017, 834, 193.	4.5	42

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37	Astrochemistry at work in the L1157-B1 shock: acetaldehyde formation. Monthly Notices of the Royal Astronomical Society: Letters, 2015, 449, L11-L15.	3.3	41
38	PHOSPHORUS-BEARING MOLECULES IN MASSIVE DENSE CORES*. Astrophysical Journal Letters, 2016, 822, L30.	8.3	40
39	H₂S in the L1157-B1 bow shock. Monthly Notices of the Royal Astronomical Society, 2016, 463, 802-810.	4.4	40
40	Unveiling the early-stage anatomy of a protocluster hub with ALMA. Monthly Notices of the Royal Astronomical Society: Letters, 2017, 464, L31-L35.	3.3	40
41	SOLIS IV. Hydrocarbons in the OMC-2 FIR4 Region, a Probe of Energetic Particle Irradiation of the Region^{â^—}. Astrophysical Journal, 2018, 859, 136.	4.5	39
42	High-angular resolution observations towards OMC-2 FIR 4: Dissecting an intermediate-mass protocluster. Astronomy and Astrophysics, 2013, 556, A62.	5.1	38
43	THE HERSCHEL AND IRAM CHESS SPECTRAL SURVEYS OF THE PROTOSTELLAR SHOCK L1157-B1: FOSSIL DEUTERATION. Astrophysical Journal Letters, 2012, 757, L9.	8.3	37
44	FIRST MEASUREMENTS OF ¹⁵ N FRACTIONATION IN N ₂ H ⁺ TOWARD HIGH-MASS STAR-FORMING CORES. Astrophysical Journal Letters, 2015, 808, L46.	8.3	37
45	THE DEUTERIUM FRACTION IN MASSIVE STARLESS CORES AND DYNAMICAL IMPLICATIONS. Astrophysical Journal, 2016, 821, 94.	4.5	37
46	Nitrogen and hydrogen fractionation in high-mass star-forming cores from observations of HCN and HNC. Astronomy and Astrophysics, 2018, 609, A129.	5.1	35
47	Carbon isotopic fractionation in molecular clouds. Astronomy and Astrophysics, 2020, 640, A51.	5.1	35
48	Widespread Molecular Outflows in the Infrared Dark Cloud G28.37+0.07: Indications of Orthogonal Outflow-filament Alignment. Astrophysical Journal, 2019, 874, 104.	4.5	34
49	Nitrogen fractionation in high-mass star-forming cores across the Galaxy. Monthly Notices of the Royal Astronomical Society, 2018, 478, 3693-3720.	4.4	33
50	On the origin of phosphorus nitride in star-forming regions. Monthly Notices of the Royal Astronomical Society: Letters, 2018, 476, L39-L44.	3.3	32
51	First ALMA maps of HCO, an important precursor of complex organic molecules, towards IRAS 16293â€“2422. Monthly Notices of the Royal Astronomical Society, 2019, 483, 806-823.	4.4	32
52	The first steps of interstellar phosphorus chemistry. Astronomy and Astrophysics, 2020, 633, A54.	5.1	32
53	INTERMEDIATE-MASS HOT CORES AT â^¼500 AU: DISKS OR OUTFLOWS?. Astrophysical Journal Letters, 2011, 743, L32.	8.3	31
54	DNC/HNC and N2D+/N2H+ ratios in high-mass star-forming cores. Monthly Notices of the Royal Astronomical Society, 2014, 440, 448-456.	4.4	31

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55	THE L1157-B1 ASTROCHEMICAL LABORATORY: MEASURING THE TRUE FORMALDEHYDE DEUTERATION ON GRAIN MANTLES. Astrophysical Journal Letters, 2014, 788, L43.	8.3	31
56	Decrease of the organic deuteration during the evolution of Sun-like protostars: the case of SVS13-A. Monthly Notices of the Royal Astronomical Society, 2017, 467, 3011-3023.	4.4	31
57	Magnetically regulated fragmentation of a massive, dense, and turbulent clump. Astronomy and Astrophysics, 2016, 593, L14.	5.1	31
58	A VIRIALIZED FILAMENTARY INFRARED DARK CLOUD. Astrophysical Journal Letters, 2012, 756, L13.	8.3	30
59	The GUAPOS project. Astronomy and Astrophysics, 2021, 653, A129.	5.1	29
60	A high-resolution study of complex organic molecules in hot cores. Monthly Notices of the Royal Astronomical Society, 2014, 443, 3157-3173.	4.4	28
61	Seeds of Life in Space (SOLIS). III. Zooming Into the Methanol Peak of the Prestellar Core L1544*. Astrophysical Journal, 2018, 855, 112.	4.5	28
62	IRAS 23385+6053: A candidate protostellar massive object. Astronomy and Astrophysics, 2004, 414, 299-315.	5.1	28
63	IGRâ€‰J17361-4441: a possible new accreting X-ray binary inÂNGCÂ6388. Astronomy and Astrophysics, 2011, 535, L1.	5.1	27
64	First Measurement of the ¹⁴N/¹⁵N Ratio in the Analog of the Sun Progenitor OMC-2 FIR4. Astrophysical Journal, 2018, 852, 130.	4.5	27
65	FAUST I. The hot corino at the heart of the prototypical Class I protostar L1551 IRS5. Monthly Notices of the Royal Astronomical Society: Letters, 2020, 498, L87-L92.	3.3	27
66	Evolutionary study of complex organic molecules in high-mass star-forming regions. Astronomy and Astrophysics, 2020, 641, A54.	5.1	27
67	Linking pre- and proto-stellar objects in the intermediate-/high-mass star forming region IRASÂ05345+3157. Astronomy and Astrophysics, 2009, 499, 233-247.	5.1	25
68	Widespread deuteration across the IRDC G035.39â^'00.33. Monthly Notices of the Royal Astronomical Society, 2016, 458, 1990-1998.	4.4	24
69	Temperature structure and kinematics of the IRDC G035.39â€“00.33. Astronomy and Astrophysics, 2017, 606, A133.	5.1	24
70	Fragmentation properties of massive protocluster gas clumps: an ALMA study. Astronomy and Astrophysics, 2018, 615, A94.	5.1	24
71	Nature of two massive protostellar candidates: IRAS 21307+5049 and IRAS 22172+5549. Astronomy and Astrophysics, 2004, 424, 179-195.	5.1	23
72	The long-term millimeter activity of active galactic nuclei. Astronomy and Astrophysics, 2011, 533, A97.	5.1	23

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73	Origin of the PN molecule in star-forming regions: the enlarged sample. Monthly Notices of the Royal Astronomical Society, 2019, 489, 4530-4542.	4.4	23
74	Seeds of Life in Space (SOLIS). Astronomy and Astrophysics, 2020, 640, A75.	5.1	22
75	Seeds of Life in Space (SOLIS). Astronomy and Astrophysics, 2020, 637, A63.	5.1	22
76	Highly deuterated pre-stellar cores in a high-mass star formation region. Astronomy and Astrophysics, 2008, 477, L45-L48.	5.1	22
77	¹⁵N fractionation in infrared-dark cloud cores. Astronomy and Astrophysics, 2017, 603, A22.	5.1	21
78	On the chemical ladder of esters. Astronomy and Astrophysics, 2017, 599, A26.	5.1	20
79	Zooming in to Massive Star Birth. Astrophysical Journal, 2018, 867, 94.	4.5	20
80	Subsonic islands within a high-mass star-forming infrared dark cloud. Astronomy and Astrophysics, 2018, 611, L3.	5.1	20
81	A gas-rich AGN near the centre of a galaxy cluster atz~Â1.4. Astronomy and Astrophysics, 2013, 558, A60.	5.1	19
82	Sulfur Chemistry in L1157-B1. Astrophysical Journal, 2019, 878, 64.	4.5	19
83	First interferometric study of enhanced N-fractionation in N2H+: the high-mass star-forming region IRAS 05358+3543. Monthly Notices of the Royal Astronomical Society, 2019, 485, 5543-5558.	4.4	19
84	FAUST. II. Discovery of a Secondary Outflow in IRAS 15398â^'3359: Variability in Outflow Direction during the Earliest Stage of Star Formation?. Astrophysical Journal, 2021, 910, 11.	4.5	19
85	Dense gas in IRAS 20343+4129: an ultracompact Hâ€ƒii region caught in the act of creating a cavity. Monthly Notices of the Royal Astronomical Society, 2012, 423, 1691-1706.	4.4	18
86	The GUAPOS project: G31.41+0.31 Unbiased ALMA sPectral Observational Survey. Astronomy and Astrophysics, 2020, 644, A84.	5.1	18
87	Widespread SiO and CH3OH Emission in Filamentary Infrared-Dark Cloudsâ˜…. Monthly Notices of the Royal Astronomical Society, 0, , .	4.4	16
88	Similar complex kinematics within two massive, filamentary infrared dark clouds. Monthly Notices of the Royal Astronomical Society, 2018, 475, 5268-5289.	4.4	16
89	ALMAâ€“IRDC: dense gas mass distribution from cloud to core scales. Monthly Notices of the Royal Astronomical Society, 2021, 503, 4601-4626.	4.4	16
90	Hot and dense water in the inner 25 au of SVS13-A. Monthly Notices of the Royal Astronomical Society: Letters, 2016, 462, L75-L79.	3.3	15

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91	BROAD N₂H⁺EMISSION TOWARD THE PROTOSTELLAR SHOCK L1157-B1. Astrophysical Journal, 2013, 776, 52.	4.5	14
92	Mid-JCO shock tracing observations of infrared dark clouds. Astronomy and Astrophysics, 2016, 587, A96.	5.1	14
93	Interstellar Plunging Waves: ALMA Resolves the Physical Structure of Nonstationary MHD Shocks. Astrophysical Journal Letters, 2019, 881, L42.	8.3	14
94	Multicomponent Kinematics in a Massive Filamentary Infrared Dark Cloud. Astrophysical Journal, 2019, 872, 30.	4.5	14
95	Temperature and kinematics of protoclusters with intermediate and high-mass stars: the case of IRAS 05345+3157. Astronomy and Astrophysics, 2012, 541, A32.	5.1	13
96	SiO emission as a probe of cloudâ€“cloud collisions in infrared dark clouds. Monthly Notices of the Royal Astronomical Society, 2020, 499, 1666-1681.	4.4	13
97	The Forgotten Quadrant Survey. Astronomy and Astrophysics, 2020, 633, A147.	5.1	13
98	Mid-JCO shock tracing observations of infrared dark clouds. I.. Astronomy and Astrophysics, 2015, 577, A75.	5.1	12
99	MID-J CO SHOCK TRACING OBSERVATIONS OF INFRARED DARK CLOUDS. III. SLED FITTING. Astrophysical Journal, 2016, 827, 107.	4.5	12
100	Deuterium and 15N fractionation in N2H+ during the formation of a Sun-like star. Monthly Notices of the Royal Astronomical Society, 2018, 476, 1982-1990.	4.4	12
101	Seeds of Life in Space (SOLIS). IX. Chemical Segregation of SO₂ and SO toward the Low-mass Protostellar Shocked Region of L1157. Astrophysical Journal, 2020, 896, 37.	4.5	11
102	The L1157-B1 astrochemical laboratory: testing the origin of DCN. Astronomy and Astrophysics, 2017, 604, A20.	5.1	10
103	C₂O and C₃O in low-mass star-forming regions. Astronomy and Astrophysics, 2019, 628, A72.	5.1	10
104	A chemical study of carbon fractionation in external galaxies. Monthly Notices of the Royal Astronomical Society, 2020, 497, 4333-4345.	4.4	10
105	Gas versus solid-phase deuterated chemistry: HDCO and D2CO in massive star-forming regions. Astronomy and Astrophysics, 2017, 602, L3.	5.1	9
106	Protonated CO2 in massive star-forming clumps. Monthly Notices of the Royal Astronomical Society: Letters, 2018, 481, L79-L83.	3.3	9
107	DC3N observations towards high-mass star-forming regions. Monthly Notices of the Royal Astronomical Society, 2020, 496, 1990-1999.	4.4	9
108	SOLIS. Astronomy and Astrophysics, 2021, 654, A52.	5.1	9

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109	Core Emergence in a Massive Infrared Dark Cloud: A Comparison between Mid-IR Extinction and 1.3 mm Emission. Astrophysical Journal Letters, 2018, 855, L25.	8.3	8
110	Nitrogen fractionation in external galaxies. Monthly Notices of the Royal Astronomical Society, 2019, 486, 4805-4812.	4.4	8
111	First survey of HCNH⁺in high-mass star-forming cloud cores. Astronomy and Astrophysics, 2021, 651, A94.	5.1	8
112	Singly and doubly deuterated formaldehyde in massive star-forming regions. Astronomy and Astrophysics, 2021, 653, A45.	5.1	8
113	Negative and positive feedback from a supernova remnant with SHREC: a detailed study of the shocked gas in IC443. Monthly Notices of the Royal Astronomical Society, 2022, 511, 953-963.	4.4	8
114	A train of shocks at 3000-au scale? Exploring the clash of an expanding bubble into the NGC 1333 IRAS 4 region. SOLIS XIV. Monthly Notices of the Royal Astronomical Society, 2022, 512, 5214-5227.	4.4	8
115	No nitrogen fractionation on 600 au scale in the Sun progenitor analogue OMCâ€“2 FIR4. Monthly Notices of the Royal Astronomical Society, 2020, 493, 3412-3421.	4.4	7
116	The double signature of local cosmic-ray acceleration in star-forming regions. Astronomy and Astrophysics, 2021, 649, A149.	5.1	7
117	Close encounters of the protostellar kind in ICÂ1396N. Astronomy and Astrophysics, 2012, 542, L26.	5.1	7
118	VLA cm-wave survey of young stellar objects in the Oph A cluster: constraining extreme UV- and X-ray-driven disk photoevaporation. Astronomy and Astrophysics, 2019, 631, A58.	5.1	6
119	ALMAâ€“IRDC â€“ II. First high-angular resolution measurements of the 14N/15N ratio in a large sample of infrared-dark cloud cores. Monthly Notices of the Royal Astronomical Society, 2021, 503, 4320-4335.	4.4	6
120	Molecular cloud catalogue from ¹³CO (1â€“0) data of the Forgotten Quadrant Survey. Astronomy and Astrophysics, 2021, 654, A144.	5.1	6
121	The TOPGÃ¶t high-mass star-forming sample. Astronomy and Astrophysics, 2021, 653, A87.	5.1	5
122	SOLIS. Astronomy and Astrophysics, 2022, 662, A104.	5.1	5
123	Astrochemical modelling of infrared dark clouds. Astronomy and Astrophysics, 2022, 662, A39.	5.1	5
124	Seeds of Life in Space (SOLIS). Astronomy and Astrophysics, 2021, 645, A91.	5.1	4
125	Star Formation in a Strongly Magnetized Cloud. Astrophysical Journal, 2021, 916, 78.	4.5	4
126	SOLIS. Astronomy and Astrophysics, 2022, 657, A136.	5.1	4

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127	Ongoing star formation in the protocluster IRAS 22134+5834. Astronomy and Astrophysics, 2016, 587, A69.	5.1	3
128	Seeds of Life in Space (SOLIS). Astronomy and Astrophysics, 2020, 635, A189.	5.1	2
129	Hydrogen molecular ions and the violent birth of the Solar System. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20180403.	3.4	1
130	The Deuteration Clock for Massive Starless Cores. EAS Publications Series, 2015, 75-76, 337-341.	0.3	1
131	Probing the Earliest Stages of Massive Star Formation Through Observations of N2D+. Thirty Years of Astronomical Discovery With UKIRT, 2014, , 419-420.	0.3	0
132	Deuteration as an evolutionary tracer in massive-star formation(Corrigendum). Astronomy and Astrophysics, 2014, 562, C1.	5.1	0
133	CO depletion in ATLASGAL-selected high-mass clumps. EAS Publications Series, 2015, 75-76, 147-151.	0.3	0