Sergio Ioppolo

List of Publications by Year
in descending order

77 papers	3,095 citations	172457 29 h-index	161849 54 g-index
79 all docs	79 docs citations	79 times ranked	1379 citing authors

#	Article	IF	Citations
1	Hydrogenation of Accreting C Atoms and CO Moleculesâ€“Simulating Ketene and Acetaldehyde Formation Under Dark and Translucent Cloud Conditions. Astrophysical Journal, 2022, 924, 110.	4.5	13
2	Methoxymethanol formation starting from CO hydrogenation. Astronomy and Astrophysics, 2022, 659, A65.	5.1	7
3	IRFEL Selective Irradiation of Amorphous Solid Water: from Dangling to Bulk Modes. Journal of Physical Chemistry A, 2022, 126, 2262-2269.	2.5	4
4	Infrared free-electron laser irradiation of carbon dioxide ice. Journal of Molecular Spectroscopy, 2022, 385, 111601.	1.2	6
5	Mid-IR and VUV spectroscopic characterisation of thermally processed and electron irradiated CO2 astrophysical ice analogues. Journal of Molecular Spectroscopy, 2022, 385, 111599.	1.2	9
6	Comparative electron irradiations of amorphous and crystalline astrophysical ice analogues. Physical Chemistry Chemical Physics, 2022, 24, 10974-10984.	2.8	7
7	On the origin of molecular oxygen on the surface of Ganymede. Icarus, 2022, 383, 115074.	2.5	3
8	Laboratory experiments on the radiation astrochemistry of water ice phases. European Physical Journal D, 2022, 76, .	1.3	8
9	First Experimental Confirmation of the CH₃O + H₂CO â†' CH₃OH + HCO Reaction: Expanding the CH₃OH Formation Mechanism in Interstellar Ices. Astrophysical Journal Letters, 2022, 931, L33.	8.3	15
10	A non-energetic mechanism for glycine formation in the interstellar medium. Nature Astronomy, 2021, 5, 197-205.	10.1	69
11	Sulfur Ice Astrochemistry: A Review of Laboratory Studies. Space Science Reviews, 2021, 217, 1.	8.1	22
12	Vacuum ultraviolet photoabsorption spectroscopy of space-related ices: formation and destruction of solid carbonic acid upon 1 keV electron irradiation. Astronomy and Astrophysics, 2021, 646, A172.	5.1	14
13	Electron irradiation and thermal chemistry studies of interstellar and planetary ice analogues at the ICA astrochemistry facility. European Physical Journal D, 2021, 75, 1.	1.3	21
14	The Ice Chamber for Astrophysicsâ€“Astrochemistry (ICA): A new experimental facility for ion impact studies of astrophysical ice analogs. Review of Scientific Instruments, 2021, 92, 084501.	1.3	15
15	Systematic investigation of CO₂ : NH₃ ice mixtures using mid-IR and VUV spectroscopy â€“ part 2: electron irradiation and thermal processing. RSC Advances, 2021, 11, 33055-33069.	3.6	2
16	The Role of Terahertz and Far-IR Spectroscopy in Understanding the Formation and Evolution of Interstellar Prebiotic Molecules. Frontiers in Astronomy and Space Sciences, 2021, 8, .	2.8	8
17	Systematic investigation of CO₂â€‰:â€‰NH₃ ice mixtures using mid-IR and VUV spectroscopy â€“ part 1: thermal processing. RSC Advances, 2020, 10, 37515-37528.	3.6	6
18	Vacuum ultraviolet photoabsorption spectroscopy of space-related ices: 1 keV electron irradiation of nitrogen- and oxygen-rich ices. Astronomy and Astrophysics, 2020, 641, A154.	5.1	11

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19	Infrared Resonant Vibrationally Induced Restructuring of Amorphous Solid Water. Journal of Physical Chemistry C, 2020, 124, 20864-20873.	3.1	12
20	A cryogenic ice setup to simulate carbon atom reactions in interstellar ices. Review of Scientific Instruments, 2020, 91, 054501.	1.3	17
21	An experimental study of the surface formation of methane in interstellar molecular clouds. Nature Astronomy, 2020, 4, 781-785.	10.1	50
22	Formation of complex molecules in translucent clouds: acetaldehyde, vinyl alcohol, ketene, and ethanol via â€œnonenergeticâ€•processing of C₂H₂ice. Astronomy and Astrophysics, 2020, 635, A199.	5.1	29
23	Systematic Study on the Absorption Features of Interstellar Ices in the Presence of Impurities. ACS Earth and Space Chemistry, 2020, 4, 920-946.	2.7	6
24	Extension of the HCOOH and CO₂ solid-state reaction network during the CO freeze-out stage: inclusion of H₂CO. Astronomy and Astrophysics, 2019, 626, A118.	5.1	14
25	Formation of interstellar propanal and 1-propanol ice: a pathway involving solid-state CO hydrogenation. Astronomy and Astrophysics, 2019, 627, A1.	5.1	29
26	Searches for Interstellar HCCSH and H₂CCS. Astrophysical Journal, 2019, 883, 201.	4.5	13
27	Alcohols on the Rocks: Solid-State Formation in a H₃CCâ‰¡CH + OH Cocktail under Dark Cloud Conditions. ACS Earth and Space Chemistry, 2019, 3, 986-999.	2.7	13
28	H₂ photochemistry in interstellar ices:The formation of HCO in UV irradiated CO:H₂ ice mixtures. Proceedings of the International Astronomical Union, 2019, 15, 404-405.	0.0	0
29	Nanoscale structure of amorphous solid water: What determines the porosity in ASW?. Proceedings of the International Astronomical Union, 2019, 15, 368-369.	0.0	2
30	Synthesis of solid-state complex organic molecules through accretion of simple species at low temperatures. Proceedings of the International Astronomical Union, 2019, 15, 46-50.	0.0	0
31	Reactive Desorption of CO Hydrogenation Products under Cold Pre-stellar Core Conditions. Astrophysical Journal, 2018, 853, 102.	4.5	51
32	H₂chemistry in interstellar ices: the case of CO ice hydrogenation in UV irradiated CO:H₂ice mixtures. Astronomy and Astrophysics, 2018, 617, A87.	5.1	17
33	Formation of interstellar methanol ice prior to the heavy CO freeze-out stage. Astronomy and Astrophysics, 2018, 612, A83.	5.1	36
34	Grain Surface Models and Data for Astrochemistry. Space Science Reviews, 2017, 212, 1-58.	8.1	177
35	Formation of Glycerol through Hydrogenation of CO Ice under Prestellar Core Conditions. Astrophysical Journal, 2017, 842, 52.	4.5	80
36	Solid CO₂ in quiescent dense molecular clouds. Astronomy and Astrophysics, 2017, 608, A12.	5.1	8

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37	Importance of tunneling in H-abstraction reactions by OH radicals. Astronomy and Astrophysics, 2017, 599, A132.	5.1	15
38	Simultaneous hydrogenation and UV-photolysis experiments of NO in CO-rich interstellar ice analogues; linking HNCO, OCN^{â˜}, NH₂CHO, and NH₂OH. Monthly Notices of the Royal Astronomical Society, 2016, 460, 4297-4309.	4.4	67
39	THz time-domain spectroscopy of mixed CO2â€“CH3OH interstellar ice analogs. Physical Chemistry Chemical Physics, 2016, 18, 20199-20207.	2.8	12
40	Low-temperature chemistry between water and hydroxyl radicals: H/D isotopic effects. Monthly Notices of the Royal Astronomical Society, 2016, 455, 634-641.	4.4	5
41	H-atom addition and abstraction reactions in mixed CO, H2CO and CH3OH ices â€“ an extended view on complex organic molecule formation. Monthly Notices of the Royal Astronomical Society, 2016, 455, 1702-1712.	4.4	157
42	Thermal H/D exchange in polar ice â€“ deuteron scrambling in space. Monthly Notices of the Royal Astronomical Society, 2015, 448, 3820-3828.	4.4	19
43	Atom addition reactions in interstellar ice analogues. International Reviews in Physical Chemistry, 2015, 34, 205-237.	2.3	133
44	Low-temperature surface formation of NH3 and HNCO: hydrogenation of nitrogen atoms in CO-rich interstellar ice analogues. Monthly Notices of the Royal Astronomical Society, 2015, 446, 439-448.	4.4	62
45	Experimental evidence for glycolaldehyde and ethylene glycol formation by surface hydrogenation of CO molecules under dense molecular cloud conditions. Monthly Notices of the Royal Astronomical Society, 2015, 448, 1288-1297.	4.4	138
46	Deuterium enrichment of ammonia produced by surface N+H/D addition reactions at low temperature. Monthly Notices of the Royal Astronomical Society, 2015, 446, 449-458.	4.4	15
47	Spectroscopic constraints on CH₃OH formation: CO mixed with CH₃OH ices towards young stellar objects. Monthly Notices of the Royal Astronomical Society, 2015, 454, 531-540.	4.4	34
48	UNTANGLING MOLECULAR SIGNALS OF ASTROCHEMICAL ICES IN THE THz: DISTINGUISHING AMORPHOUS, CRYSTALLINE, AND INTRAMOLECULAR MODES WITH BROADBAND THz SPECTROSCOPY. , 2015, , .		0
49	Relevance of the H₂â€‰+â€‰O reaction pathway for the surface formation of interstellar water. Astronomy and Astrophysics, 2014, 570, A57.	5.1	23
50	DYNAMICS OF CO IN AMORPHOUS WATER-ICE ENVIRONMENTS. Astrophysical Journal, 2014, 781, 16.	4.5	52
51	Solid state chemistry of nitrogen oxides â€“ Part I: surface consumption of NO. Physical Chemistry Chemical Physics, 2014, 16, 8257-8269.	2.8	29
52	Solid state chemistry of nitrogen oxides â€“ Part II: surface consumption of NO₂. Physical Chemistry Chemical Physics, 2014, 16, 8270-8282.	2.8	32
53	THz and mid-IR spectroscopy of interstellar ice analogs: methyl and carboxylic acid groups. Faraday Discussions, 2014, 168, 461-484.	3.2	29
54	The structure and dynamics of carbon dioxide and water containing ices investigated via THz and mid-IR spectroscopy. Physical Chemistry Chemical Physics, 2014, 16, 3442.	2.8	25

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55	Highlights from Faraday Discussion 168: Astrochemistry of Dust, Ice and Gas, Leiden, The Netherlands, April 2014. Chemical Communications, 2014, 50, 13636-13644.	4.1	0
56	THz TIME-DOMAIN SPECTROSCOPY OF COMPLEX INTERSTELLAR ICE ANALOGS. , 2014, , .		0
57	TIME-DOMAIN TERAHERTZ SPECTROSCOPY (0.3Â-Â7.5ÂTHz) OF MOLECULAR ICES OF SIMPLE ALCOHOLS. , 2014, , .		0
58	Water formation at low temperatures by surface O2 hydrogenation III: Monte Carlo simulation. Physical Chemistry Chemical Physics, 2013, 15, 8287.	2.8	54
59	Complementary and Emerging Techniques for Astrophysical Ices Processed in the Laboratory. Space Science Reviews, 2013, 180, 101-175.	8.1	68
60	SURFRESIDE2: An ultrahigh vacuum system for the investigation of surface reaction routes of interstellar interest. Review of Scientific Instruments, 2013, 84, 073112.	1.3	49
61	Solid CO₂in low-mass young stellar objects. Astronomy and Astrophysics, 2013, 554, A34.	5.1	24
62	Efficient surface formation route of interstellar hydroxylamine through NO hydrogenation. II. The multilayer regime in interstellar relevant ices. Journal of Chemical Physics, 2012, 137, 054714.	3.0	41
63	NO ICE HYDROGENATION: A SOLID PATHWAY TO NH ₂ OH FORMATION IN SPACE. Astrophysical Journal Letters, 2012, 750, L12.	8.3	57
64	Nitrogen oxides and carbon chain oxides formed after ion irradiation of CO:N₂ice mixtures. Astronomy and Astrophysics, 2012, 543, A155.	5.1	39
65	The influence of temperature on the synthesis of molecules on icy grain mantles in dense molecular clouds. Astronomy and Astrophysics, 2011, 528, A118.	5.1	14
66	Solid State Pathways towards Molecular Complexity in Space. Proceedings of the International Astronomical Union, 2011, 7, 390-404.	0.0	10
67	Surface formation of HCOOH at low temperature. Monthly Notices of the Royal Astronomical Society, 2011, 410, 1089-1095.	4.4	50
68	Surface formation of CO2 ice at low temperatures. Monthly Notices of the Royal Astronomical Society, 2011, 413, 2281-2287.	4.4	117
69	Surface formation routes of interstellar molecules: hydrogenation reactions in simple ices. Rendiconti Lincei, 2011, 22, 211.	2.2	19
70	Water formation by surface O3 hydrogenation. Journal of Chemical Physics, 2011, 134, 084504.	3.0	68
71	Water formation at low temperatures by surface O2 hydrogenation I: characterization of ice penetration. Physical Chemistry Chemical Physics, 2010, 12, 12065.	2.8	92
72	Water formation at low temperatures by surface O2 hydrogenation II: the reaction network. Physical Chemistry Chemical Physics, 2010, 12, 12077.	2.8	117

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73	Hydrogenation reactions in interstellar COÂice analogues. Astronomy and Astrophysics, 2009, 505, 629-639.	5.1	343
74	Formation of interstellar solid CO₂after energetic processing of icy grain mantles. Astronomy and Astrophysics, 2009, 493, 1017-1028.	5.1	46
75	Formation of alcohols on ice surfaces. Proceedings of the International Astronomical Union, 2008, 4, 377-382.	0.0	0
76	Laboratory Evidence for Efficient Water Formation in Interstellar Ices. Astrophysical Journal, 2008, 686, 1474-1479.	4.5	206
77	Production of complex organic molecules:H-atom addition versus UV irradiation. Monthly Notices of the Royal Astronomical Society, 0, , stx222.	4.4	39