Murthy S Gudipati

List of Publications by Year
in descending order

73 papers	1,717 citations	279798 23 h-index	302126 39 g-index
76 all docs	76 docs citations	76 times ranked	1769 citing authors

#	Article	IF	Citations
1	Macromolecular organic compounds from the depths of Enceladus. Nature, 2018, 558, 564-568.	27.8	282
2	Charged polycyclic aromatic hydrocarbon clusters and the galactic extended red emission. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 5274-5278.	7.1	109
3	Facile Generation and Storage of Polycyclic Aromatic Hydrocarbon Ions in Astrophysical Ices. Astrophysical Journal, 2003, 596, L195-L198.	4.5	72
4	Complementary and Emerging Techniques for Astrophysical Ices Processed in the Laboratory. Space Science Reviews, 2013, 180, 101-175.	8.1	68
5	IN-SITU PROBING OF RADIATION-INDUCED PROCESSING OF ORGANICS IN ASTROPHYSICAL ICE ANALOGSâ€"NOVEL LASER DESORPTION LASER IONIZATION TIME-OF-FLIGHT MASS SPECTROSCOPIC STUDIES. Astrophysical Journal Letters, 2012, 756, L24.	8.3	61
6	DIRECT DETECTION OF COMPLEX ORGANIC PRODUCTS IN ULTRAVIOLET (LyÎ±) AND ELECTRON-IRRADIATED ASTROPHYSICAL AND COMETARY ICE ANALOGS USING TWO-STEP LASER ABLATION AND IONIZATION MASS SPECTROMETRY. Astrophysical Journal, 2015, 800, 66.	4.5	61
7	Unusual Stability of Polycyclic Aromatic Hydrocarbon Radical Cations in Amorphous Water Ices up to 120 K: Astronomical Implications. Astrophysical Journal, 2006, 638, 286-292.	4.5	60
8	Polycyclic Aromatic Hydrocarbon Ionization Energy Lowering in Water Ices. Astrophysical Journal, 2004, 615, L177-L180.	4.5	52
9	Matrix-Isolation in Cryogenic Water-Ices:Â Facile Generation, Storage, and Optical Spectroscopy of Aromatic Radical CationsÂ§. Journal of Physical Chemistry A, 2004, 108, 4412-4419.	2.5	46
10	Photochemical activity of Titanâ€™s low-altitude condensed haze. Nature Communications, 2013, 4, 1648.	12.8	44
11	Photochemistry in Hot H₂-dominated Exoplanet Atmospheres. Astrophysical Journal, 2019, 871, 158.	4.5	40
12	Spin-Directed Stereoselectivity of Carbonylâˆ'Alkene Photocycloadditions. Organic Letters, 2000, 2, 3623-3625.	4.6	39
13	Higher electronically excited states of phenanthrene, carbazole and fluorene. Chemical Physics, 1994, 186, 289-301.	1.9	36
14	Exciton, Exchange, and Through-Bond Interactions in Multichromophoric Molecules: An Analysis of the Electronic Excited States. The Journal of Physical Chemistry, 1994, 98, 9750-9763.	2.9	35
15	SURVIVAL DEPTH OF ORGANICS IN ICES UNDER LOW-ENERGY ELECTRON RADIATION (â©½2 keV). Astrophysical Journal, 2012, 747, 13.	4.5	35
16	Electronic spectra of matrix-isolated tolan: site selective one- and two-photon spectra. The Journal of Physical Chemistry, 1992, 96, 2433-2442.	2.9	34
17	How Predictable Are IR Transition Moment Directions? Vibrational Transitions in Propene and Deuterated Propenes. Journal of the American Chemical Society, 1996, 118, 10275-10284.	13.7	33
18	Higher excited states of aromatic hydrocarbons. III. Assigning the in-plane polarized transitions of low-symmetry molecules: chrysene and E-stilbene. Chemical Physics, 1995, 192, 37-47.	1.9	29

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19	Amorphous and Crystalline H2O-Ice. Astrophysics and Space Science Library, 2013, , 371-408.	2.7	27
20	Temperature and Viscosity Dependence of the Spin-Directed Stereoselectivity of the Carbonyl-Alkene Photocycloaddition. Angewandte Chemie - International Edition, 2001, 40, 4684-4687.	13.8	26
21	Luminescence from Vacuumâ€Ultravioletâ€“irradiated Cosmic Ice Analogs and Residues. Astrophysical Journal, 2003, 583, 514-523.	4.5	26
22	Mixing of the Immiscible: Hydrocarbons in Water-Ice near the Ice Crystallization Temperature. Journal of Physical Chemistry A, 2015, 119, 2607-2613.	2.5	26
23	Higher excited states of aromatic hydrocarbons: polarized VUV fluorescence-excitation spectra of anthracence and pyrene in argon matrices at 15 K using synchrotron radiation. Chemical Physics, 1993, 173, 143-157.	1.9	25
24	New Assignment of the Electronically Excited States of Anthracene-9,10-endoperoxide and Its Derivatives:â€‰ A Critical Experimental and Theoretical Study. Journal of Physical Chemistry A, 1999, 103, 3843-3853.	2.5	23
25	Disequilibrium Chemistry in Exoplanet Atmospheres Observed with the Hubble Space Telescope. Astronomical Journal, 2021, 162, 37.	4.7	22
26	Cometary Science with the James Webb Space Telescope. Publications of the Astronomical Society of the Pacific, 2016, 128, 018009.	3.1	19
27	Stepwise heating of lunar anorthosites 60025, 60215, 65315 possibly reveals an indigenous noble gas component on the Moon. Geochimica Et Cosmochimica Acta, 2017, 218, 114-131.	3.9	19
28	Spectroscopic studies of non-volatile residue formed by photochemistry of solid C4N2: A model of condensed aerosol formation on Titan. Icarus, 2014, 234, 81-90.	2.5	18
29	Laboratory Studies Towards Understanding Comets. Space Science Reviews, 2015, 197, 101-150.	8.1	18
30	Photoinduced Electron-Transfer Reactions with Quinolinic and Trimellitic Acid Imides:Â Experiments and Spin Density Calculations1. Journal of Organic Chemistry, 2000, 65, 7151-7157.	3.2	16
31	Simulation of Titanâ€™s atmospheric photochemistry. Astronomy and Astrophysics, 2015, 578, A111.	5.1	15
32	Excited-state behavior of 1,2-di-2-pyridyl-1,2-ethenediol (.alpha.-pyridoin) and its boric acid complexes. The Journal of Physical Chemistry, 1993, 97, 8602-8607.	2.9	14
33	The evolution of Titanâ€™s high-altitude aerosols under ultraviolet irradiation. Nature Astronomy, 2018, 2, 489-494.	10.1	14
34	Europaâ€™s surface water ice crystallinity: Discrepancy between observations and thermophysical and particle flux modeling. Icarus, 2020, 341, 113660.	2.5	14
35	Schumann-Runge bands of O2 in Ar, Kr and Xe matrices revisited: potential curves of the B 3Î£uâ¯ state. Chemical Physics, 1995, 201, 451-462.	1.9	13
36	Double Ionization of Quaterrylene (C40H20) in Water-Ice at 20 K with LyÎ± (121.6 nm) Radiation. Journal of Physical Chemistry A, 2006, 110, 9020-9024.	2.5	13

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37	Infrared spectra of [n]staffanes. The Journal of Physical Chemistry, 1992, 96, 10165-10176.	2.9	12
38	Photolysis of N2O at 125 nm in Ar matrices at 15 K: further evidence for the 120.7 nm band of O(3P). Chemical Physics Letters, 1996, 248, 452-457.	2.6	12
39	Rydberg and charge-transfer states of atomic oxygen in Ar and Kr matrices: identification of two distinct sites. Chemical Physics Letters, 1999, 307, 27-34.	2.6	12
40	UVâ€“Vis Light-induced Aging of Titanâ€™s Haze and Ice. Astrophysical Journal, 2018, 852, 117.	4.5	12
41	Linking Atmospheric Chemistry of the Hot Jupiter HD 209458b to Its Formation Location through Infrared Transmission and Emission Spectra. Astrophysical Journal, 2022, 932, 20.	4.5	12
42	Bicyclo[3.2.2]non-1-ene: matrix isolation and spectroscopic characterization of a moderately strained bridgehead olefin. Journal of Organic Chemistry, 1993, 58, 3668-3674.	3.2	11
43	Photochemically Induced Electronic-To-Electronic Energy Transfer in Geminate COÂ·Â·Â·O van der Waals Pair Generated through Vacuum Ultraviolet Photolysis of CO2in Ar Matrices. Journal of Physical Chemistry A, 1997, 101, 2003-2009.	2.5	11
44	Photoreactivity of condensed acetylene on Titan aerosols analogues. Icarus, 2019, 321, 358-366.	2.5	11
45	Reply to the Comment on â€œNew Assignment of the Electronically Excited States of Anthracene-9,10-endoperoxide and Its Derivatives:Â A Critical Experimental and Theoretical Studyâ€• Journal of Physical Chemistry A, 2000, 104, 166-167.	2.5	10
46	Influence of C/O Ratio on Hot Jupiter Atmospheric Chemistry. Astrophysical Journal, 2020, 899, 147.	4.5	10
47	On the 1S â†' 1D emission of O by exciting O2 into and beyond the Schumann-Runge continuum in Ar matrices at 15 K. Chemical Physics Letters, 1995, 242, 132-138.	2.6	9
48	Leeb hardness of salty Europa ice analogs exposed to high-energy electrons. Icarus, 2019, 322, 114-120.	2.5	9
49	Plume Composition and Evolution in Multicomponent Ices Using Resonant Two-Step Laser Ablation and Ionization Mass Spectrometry. Journal of Physical Chemistry A, 2014, 118, 5454-5463.	2.5	8
50	Novel two-step laser ablation and ionization mass spectrometry (2S-LAIMS) of actor-spectator ice layers: Probing chemical composition of D2O ice beneath a H2O ice layer. Journal of Chemical Physics, 2014, 140, 104202.	3.0	7
51	Observing Outer Planet Satellites (Except Titan) with the James Webb Space Telescope: Science Justification and Observational Requirements. Publications of the Astronomical Society of the Pacific, 2016, 128, 018006.	3.1	7
52	Chemistry in Water Ices: From Fundamentals to Planetary Applications. Astrophysics and Space Science Library, 2013, , 503-526.	2.7	7
53	Photochemically Induced Energy Transfer II:Â Spectroscopic and Photophysical Aspects of the Electronic-to-Electronic Energy Transfer in Geminate van der Waals Complexesâ€. Journal of Physical Chemistry A, 2000, 104, 3593-3602.	2.5	6
54	Photochemical Processes in CO₂/H₂O Ice Mixtures with Trapped Pyrene, a Model Polycyclic Aromatic Hydrocarbon. Astrophysical Journal, 2018, 864, 151.	4.5	6

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55	Visible-light photoionization of aromatic molecules in water-ice: Organic chemistry across the universe with less energy. Chemical Physics Letters, 2021, 778, 138814.	2.6	6
56	Oxidant generation in the ice under electron irradiation: Simulation and application to Europa. Icarus, 2022, 373, 114760.	2.5	6
57	Energy transfer involving higher excited states: a comparison between CO â€¦ anthracene and O2 â€¦ anthracene in Ar matrices. Chemical Physics Letters, 1997, 268, 169-174.	2.6	5
58	Concentration dependence of the spectroscopic and photochemical properties of atomic and molecular oxygen in argon matrices. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2000, 56, 2581-2588.	3.9	5
59	The influence of Europa's plumes on its atmosphere and ionosphere. Icarus, 2020, 352, 113999.	2.5	5
60	Science goals and new mission concepts for future exploration of Titanâ€™s atmosphere, geology and habitability: titan POlar scout/orbitEr and in situ lake lander and DrONe explorer (POSEIDON). Experimental Astronomy, 2022, 54, 911-973.	3.7	5
61	Electronic spectrum of atomic sulfur in argon matrices in the vacuum ultraviolet region. Chemical Physics Letters, 2001, 344, 479-487.	2.6	4
62	New experimental capability to investigate the hypervelocity micrometeoroid bombardment of cryogenic surfaces. Review of Scientific Instruments, 2016, 87, 024502.	1.3	4
63	Photoinduced Reversible Electron Transfer Between the Benzhydryl Radical and Benzhydryl Cation in Amorphous Waterâ€“Ice. Journal of Physical Chemistry A, 2017, 121, 6405-6412.	2.5	3
64	Laboratory predictions for the night-side surface ice glow of Europa. Nature Astronomy, 2021, 5, 276-282.	10.1	3
65	Radiative and nonradiative energy transfer between CO and pyrene involving higher excited states: A Spectroscopic Analysis. Zeitschrift Fur Elektrotechnik Und Elektrochemie, 1998, 102, 249-256.	0.9	2
66	New Exciplex Emission of Pyrene and O2Co-deposited in Argon Matrices. Journal of Physical Chemistry A, 1998, 102, 508-510.	2.5	2
67	Chapter 2 Chemistry, Thermodynamics, and Material Processes at Low Temperatures. , 2016, , 11-26.		2
68	Coulomb explosion of multiply ionized xenon in water ice. Geochemical Journal, 2019, 53, 69-81.	1.0	2
69	UV absorption and luminescence spectroscopy of tetrabenzo[b,h,n,t]tetraphenylene. Chemical Physics Letters, 1992, 196, 481-485.	2.6	1
70	Temperature and Viscosity Dependence of the Spin-Directed Stereoselectivity of the Carbonylâ€“Alkene Photocycloaddition This work was funded by the Deutsche Forschungsgemeinschaft and the Fonds der Chemischen Industrie. S.B. thanks the Egyptian government for a Ph.D. grant.. Angewandte Chemie - International Edition, 2001, 40, 4684.	13.8	1
71	Editorial for Earth, Moon, and Planets. Earth, Moon and Planets, 2009, 105, 1-2.	0.6	0
72	Endoperoxides. , 2003, , .		0

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73	Laboratory Studies Towards Understanding Comets. , 2017, , 101-150.		0