Dmitry A Semenov

List of Publications by Year
in descending order

90 papers	4,434 citations	81900 39 h-index	106344 65 g-index
92 all docs	92 docs citations	92 times ranked	2856 citing authors

#	Article	IF	Citations
1	Rosseland and Planck mean opacities for protoplanetary discs. Astronomy and Astrophysics, 2003, 410, 611-621.	5.1	422
2	Chemistry in Protoplanetary Disks. Chemical Reviews, 2013, 113, 9016-9042.	47.7	188
3	Grain Surface Models and Data for Astrochemistry. Space Science Reviews, 2017, 212, 1-58.	8.1	177
4	Chemistry in disks. Astronomy and Astrophysics, 2010, 522, A42.	5.1	171
5	Measuring turbulence in TW Hydrae with ALMA: methods and limitations. Astronomy and Astrophysics, 2016, 592, A49.	5.1	141
6	ALMA continuum observations of the protoplanetary disk AS 209. Astronomy and Astrophysics, 2018, 610, A24.	5.1	140
7	Origin of the RNA world: The fate of nucleobases in warm little ponds. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 11327-11332.	7.1	139
8	Reduction of chemical networks. Astronomy and Astrophysics, 2004, 417, 93-106.	5.1	129
9	CHEMICAL EVOLUTION OF TURBULENT PROTOPLANETARY DISKS AND THE SOLAR NEBULA. Astrophysical Journal, Supplement Series, 2011, 196, 25.	7.7	129
10	CHEMISTRY OF A PROTOPLANETARY DISK WITH GRAIN SETTLING AND LyÎ± RADIATION. Astrophysical Journal, 2011, 726, 29.	4.5	111
11	Retrieving scattering clouds and disequilibrium chemistry in the atmosphere of HR 8799e. Astronomy and Astrophysics, 2020, 640, A131.	5.1	107
12	Chemical evolution in the early phases of massive star formation. I. Astronomy and Astrophysics, 2014, 563, A97.	5.1	98
13	CHEMODYNAMICAL DEUTERIUM FRACTIONATION IN THE EARLY SOLAR NEBULA: THE ORIGIN OF WATER ON EARTH AND IN ASTEROIDS AND COMETS. Astrophysical Journal, 2014, 784, 39.	4.5	86
14	Ethynyl (C ₂ H) in Massive Star formation: Tracing the Initial Conditions?. Astrophysical Journal, 2008, 675, L33-L36.	4.5	79
15	NEW EXTENDED DEUTERIUM FRACTIONATION MODEL: ASSESSMENT AT DENSE ISM CONDITIONS AND SENSITIVITY ANALYSIS. Astrophysical Journal, Supplement Series, 2013, 207, 27.	7.7	76
16	Temperature, Mass, and Turbulence: A Spatially Resolved Multiband Non-LTE Analysis of CS in TW Hya. Astrophysical Journal, 2018, 864, 133.	4.5	75
17	Chemistry in Protoplanetary Disks: A Sensitivity Analysis. Astrophysical Journal, 2008, 672, 629-641.	4.5	75
18	PROTOPLANETARY DISK STRUCTURE WITH GRAIN EVOLUTION: THE ANDES MODEL. Astrophysical Journal, 2013, 766, 8.	4.5	74

#	Article	IF	Citations
19	First Detection of the Simplest Organic Acid in a Protoplanetary Disk*. Astrophysical Journal Letters, 2018, 862, L2.	8.3	73
20	CHEMISTRY IN DISKS. III. PHOTOCHEMISTRY AND X-RAY DRIVEN CHEMISTRY PROBED BY THE ETHYNYL RADICAL (CCH) IN DM Tau, LkCa 15, AND MWC 480. Astrophysical Journal, 2010, 714, 1511-1520.	4.5	72
21	Gas-Phase CO in Protoplanetary Disks: A Challenge for Turbulent Mixing. Astrophysical Journal, 2006, 647, L57-L60.	4.5	71
22	Chemistry in disks. Astronomy and Astrophysics, 2007, 464, 615-623.	5.1	71
23	Rotating molecular outflows: the young T Tauri star in CBâ€‰26. Astronomy and Astrophysics, 2009, 494, 147-156.	5.1	70
24	A UNIFIED MONTE CARLO TREATMENT OF GAS-GRAIN CHEMISTRY FOR LARGE REACTION NETWORKS. I. TESTING VALIDITY OF RATE EQUATIONS IN MOLECULAR CLOUDS. Astrophysical Journal, 2009, 691, 1459-1469.	4.5	66
25	Chemistry in disks. Astronomy and Astrophysics, 2012, 548, A70.	5.1	64
26	CHEMISTRY IN DISKS. VII. FIRST DETECTION OF HC₃N IN PROTOPLANETARY DISKS. Astrophysical Journal, 2012, 756, 58.	4.5	61
27	Cavities in inner disks: the GM Aurigae case. Astronomy and Astrophysics, 2008, 490, L15-L18.	5.1	57
28	Millimeter Observations and Modeling of the AB Aurigae System. Astrophysical Journal, 2005, 621, 853-874.	4.5	54
29	Gas Mass Tracers in Protoplanetary Disks: CO is Still the Best. Astrophysical Journal, 2017, 849, 130.	4.5	54
30	Influence of uncertainties in the rate constants of chemical reactions on astrochemical modeling results. Astronomy Letters, 2004, 30, 566-576.	1.0	52
31	A NEW MODIFIED-RATE APPROACH FOR GAS-GRAIN CHEMISTRY: COMPARISON WITH A UNIFIED LARGE-SCALE MONTE CARLO SIMULATION. Astrophysical Journal, 2009, 700, L43-L46.	4.5	52
32	Chemistry in disks. Astronomy and Astrophysics, 2011, 535, A104.	5.1	49
33	Chemistry in disks. Astronomy and Astrophysics, 2016, 592, A124.	5.1	48
34	Resolving the chemical substructure of Orion-KL. Astronomy and Astrophysics, 2015, 581, A71.	5.1	47
35	Efficiency of thermal relaxation by radiative processes in protoplanetary discs: constraints on hydrodynamic turbulence. Astronomy and Astrophysics, 2017, 605, A30.	5.1	47
36	The Flying Saucer: Tomography of the thermal and density gas structure of an edge-on protoplanetary disk. Astronomy and Astrophysics, 2017, 607, A130.	5.1	47

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37	Chemistry in disks. Astronomy and Astrophysics, 2015, 574, A137.	5.1	46
38	Chemistry in disks. Astronomy and Astrophysics, 2018, 617, A28.	5.1	45
39	Molecular Line Radiative Transfer in Protoplanetary Disks: Monte Carlo Simulations versus Approximate Methods. Astrophysical Journal, 2007, 669, 1262-1278.	4.5	44
40	Probing Dust around Brown Dwarfs: The Naked LP 944-20 and the Disk of Chamaeleon HÎ± 2. Astrophysical Journal, 2002, 573, L115-L117.	4.5	40
41	A database of optical constants of cosmic dust analogs. Journal of Quantitative Spectroscopy and Radiative Transfer, 2003, 79-80, 765-774.	2.3	38
42	Chemical evolution in the early phases of massive star formation. Astronomy and Astrophysics, 2015, 579, A80.	5.1	38
43	Gas Density Perturbations Induced by One or More Forming Planets in the AS 209 Protoplanetary Disk as Seen with ALMA. Astrophysical Journal, 2019, 871, 107.	4.5	38
44	Gas-phase CO depletion and N₂H⁺abundances in starless cores. Astronomy and Astrophysics, 2013, 560, A41.	5.1	37
45	A Rotating Disk around the Very Young Massive Star AFGL 490. Astrophysical Journal, 2006, 637, L129-L132.	4.5	36
46	A Surface Density Perturbation in the TW Hydrae Disk at 95 au Traced by Molecular Emission. Astrophysical Journal, 2017, 835, 228.	4.5	35
47	Physical and Chemical Structure of Planet-Forming Disks Probed by Millimeter Observations and Modeling. , 2014, , .		33
48	3D continuum radiative transfer in complex dust configurations around stellar objects and active galactic nuclei. Astronomy and Astrophysics, 2003, 401, 405-418.	5.1	32
49	Towards detecting methanol emission in low-mass protoplanetary discs with ALMA: the role of non-LTE excitation. Monthly Notices of the Royal Astronomical Society, 2016, 460, 2648-2663.	4.4	31
50	Chemical and Thermal Structure of Protoplanetary Disks as Observed with ALMA. Astrophysical Journal, 2008, 673, L195-L198.	4.5	30
51	Deuterium Fractionation: The Ariadneâ€™s Thread from the Precollapse Phase to Meteorites and Comets Today. , 2014, , .		30
52	Chemical and isotopic evolution of the solar nebula and protoplanetary disks. , 2010, , 97-127.		29
53	Chemical Signatures of the FU Ori Outbursts. Astrophysical Journal, 2018, 866, 46.	4.5	29
54	Chemistry in disks. Astronomy and Astrophysics, 2008, 491, 821-827.	5.1	29

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55	The shadow of the Flying Saucer: A very low temperature for large dust grains. Astronomy and Astrophysics, 2016, 586, L1.	5.1	28
56	Reduction of chemical networks. Astronomy and Astrophysics, 2003, 399, 197-210.	5.1	27
57	Molecular Emission Line Formation in Prestellar Cores. Astrophysical Journal, 2008, 689, 335-350.	4.5	25
58	Magnetic diffusivities in 3D radiative chemo-hydrodynamic simulations of protostellar collapse. Astronomy and Astrophysics, 2017, 603, A105.	5.1	22
59	Luminosity outburst chemistry in protoplanetary discs: going beyond standard tracers. Monthly Notices of the Royal Astronomical Society, 2019, 485, 1843-1863.	4.4	22
60	FIRST TIME-DEPENDENT STUDY OF H₂AND H$_3^+$<i>ORTHO</i>-<i>PARA</i>CHEMISTRY IN THE DIFFUSE INTERSTELLAR MEDIUM: OBSERVATIONS MEET THEORETICAL PREDICTIONS. Astrophysical Journal, 2014, 787, 44.	4.5	21
61	Physical properties and chemical composition of the cores in the California molecular cloud. Astronomy and Astrophysics, 2018, 620, A163.	5.1	21
62	Importance of the H₂abundance in protoplanetary disk ices for the molecular layer chemical composition. Astronomy and Astrophysics, 2016, 594, A35.	5.1	17
63	Tracing the evolutionary stage of Bok globules: CCS and NH₃. Astronomy and Astrophysics, 2012, 537, A4.	5.1	14
64	Lack of other molecules in CO-rich debris discs: is it primordial or secondary gas?. Monthly Notices of the Royal Astronomical Society, 2021, 510, 1148-1162.	4.4	13
65	Fragmentation, rotation, and outflows in the high-mass star-forming region IRAS 23033+5951. Astronomy and Astrophysics, 2019, 629, A10.	5.1	12
66	Modeling the NIR-silhouette massive disk candidate in M 17. Astronomy and Astrophysics, 2006, 456, 1013-1026.	5.1	12
67	Discovery of Molecular-line Polarization in the Disk of TW Hya. Astrophysical Journal, 2021, 922, 139.	4.5	10
68	The HIFI spectral survey of AFGL 2591 (CHESS). Astronomy and Astrophysics, 2015, 574, A71.	5.1	9
69	The temperature of nonspherical circumstellar dust grains. Astronomy Letters, 2000, 26, 679-690.	1.0	8
70	Using HCO⁺ isotopologues as tracers of gas depletion in protoplanetary disk gaps. Astronomy and Astrophysics, 2020, 644, A4.	5.1	8
71	Mass determination of protoplanetary disks from dust evolution. Astronomy and Astrophysics, 2022, 657, A74.	5.1	7
72	COLD CO GAS IN THE DISK OF THE YOUNG ERUPTIVE STAR EX LUP. Astrophysical Journal Letters, 2016, 821, L4.	8.3	6

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73	The chemical structure of the Class 0 protostellar envelope NGC 1333 IRAS 4A. Astronomy and Astrophysics, 2017, 603, A88.	5.1	6
74	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
75	Possible Ribose Synthesis in Carbonaceous Planetesimals. Life, 2022, 12, 404.	2.4	6
76	Molecular structure of brown-dwarf disks. Astronomy Reports, 2008, 52, 941-949.	0.9	4
77	ALMA and VLA Observations of EX Lupi in Its Quiescent State. Astrophysical Journal, 2020, 904, 37.	4.5	4
78	The birth and death of organic molecules in protoplanetary disks. Proceedings of the International Astronomical Union, 2008, 4, 89-98.	0.0	3
79	On the methanol emission detection in the TW Hya disc: the role of grain surface chemistry and non-LTE excitation. Monthly Notices of the Royal Astronomical Society, 2017, 468, 2024-2031.	4.4	3
80	Dark cloud-type chemistry in photodissociation regions with moderate ultraviolet field. Monthly Notices of the Royal Astronomical Society, 2021, 507, 3810-3829.	4.4	3
81	Resolving the chemical substructure of Orion-KL<i>(Corrigendum)</i>. Astronomy and Astrophysics, 2016, 590, C1.	5.1	3
82	Chemical Evolution of a Protoplanetary Disk. Proceedings of the International Astronomical Union, 2011, 7, 114-126.	0.0	1
83	Accretion disks around young stars: the cradles of planet formation. Europhysics News, 2020, 51, 29-32.	0.3	1
84	Modeling deuterium chemistry of interstellar space with large chemical networks. Proceedings of the International Astronomical Union, 2012, 10, 624-625.	0.0	0
85	Episodic accretion in focus: revealing the environment of FU Orionis-type stars. Proceedings of the International Astronomical Union, 2018, 14, 87-90.	0.0	0
86	Chemical modeling of FU Ori protoplanetary disks. Proceedings of the International Astronomical Union, 2018, 14, 367-368.	0.0	0
87	Protoplanetary Disk, Chemistry. , 2014, , 1-17.		0
88	Toward a Chemical Evolutionary Sequence in High-Mass Star Formation. Thirty Years of Astronomical Discovery With UKIRT, 2014, , 415-416.	0.3	0
89	The Ionization State of Protoplanetary Disks: The Chemical View. Springer Proceedings in Physics, 1997, , 555-560.	0.2	0
90	Protoplanetary Disk, Chemistry. , 2015, , 2058-2073.		0