

Yuri Aikawa

List of Publications by Year in descending order

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104
papers

5,325
citations

71102

41
h-index

91884

69
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106
all docs

106
docs citations

106
times ranked

2555
citing authors

#	ARTICLE	IF	CITATIONS
1	Change in the chemical composition of infalling gas forming a disk around a protostar. <i>Nature</i> , 2014, 507, 78-80.	27.8	196
2	Molecular Evolution and Star Formation: From Prestellar Cores to Protostellar Cores. <i>Astrophysical Journal</i> , 2008, 674, 984-996.	4.5	195
3	Molecular Evolution in Collapsing Prestellar Cores. <i>Astrophysical Journal</i> , 2001, 552, 639-653.	4.5	193
4	The comet-like composition of a protoplanetary disk as revealed by complex cyanides. <i>Nature</i> , 2015, 520, 198-201.	27.8	192
5	Molecular Evolution in Collapsing Prestellar Cores. III. Contraction of a Bonnor-Ebert Sphere. <i>Astrophysical Journal</i> , 2005, 620, 330-346.	4.5	179
6	Complex organic molecules in protoplanetary disks. <i>Astronomy and Astrophysics</i> , 2014, 563, A33.	5.1	169
7	FORMATION OF A KEPLERIAN DISK IN THE INFALLING ENVELOPE AROUND L1527 IRS: TRANSFORMATION FROM INFALLING MOTIONS TO KEPLER MOTIONS. <i>Astrophysical Journal</i> , 2014, 796, 131.	4.5	166
8	FIRST DETECTION OF GAS-PHASE METHANOL IN A PROTOPLANETARY DISK. <i>Astrophysical Journal Letters</i> , 2016, 823, L10.	8.3	166
9	Deuterium Fractionation in Protoplanetary Disks. <i>Astrophysical Journal</i> , 1999, 526, 314-326.	4.5	131
10	CHEMICAL PROCESSES IN PROTOPLANETARY DISKS. II. ON THE IMPORTANCE OF PHOTOCHEMISTRY AND X-RAY IONIZATION. <i>Astrophysical Journal</i> , 2012, 747, 114.	4.5	123
11	Molecules with ALMA at Planet-forming Scales (MAPS). I. Program Overview and Highlights. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 1.	7.7	117
12	ALMA HINTS AT THE PRESENCE OF TWO COMPANIONS IN THE DISK AROUND HD 100546. <i>Astrophysical Journal Letters</i> , 2014, 791, L6.	8.3	114
13	Resolving the Chemistry in the Disk of TW Hydrae. I. Deuterated Species. <i>Astrophysical Journal</i> , 2008, 681, 1396-1407.	4.5	107
14	Evolution of Molecular Abundance in Gaseous Disks around Young Stars: Depletion of CO Molecules. <i>Astrophysical Journal</i> , 1996, 467, 684.	4.5	106
15	Evolution of Molecular Abundances in Protoplanetary Disks with Accretion Flow. <i>Astrophysical Journal</i> , 1999, 519, 705-725.	4.5	106
16	Evolution of Molecular Abundance in Protoplanetary Disks. <i>Astrophysical Journal</i> , 1997, 486, L51-L54.	4.5	101
17	REPROCESSING OF ICES IN TURBULENT PROTOPLANETARY DISKS: CARBON AND NITROGEN CHEMISTRY. <i>Astrophysical Journal</i> , 2014, 790, 97.	4.5	100
18	ALMA OBSERVATIONS OF INFALLING FLOWS TOWARD THE KEPLERIAN DISK AROUND THE CLASS I PROTOSTAR L1489 IRS. <i>Astrophysical Journal</i> , 2014, 793, 1.	4.5	99

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19	A CHEMICAL VIEW OF PROTOSTELLAR-DISK FORMATION IN L1527. <i>Astrophysical Journal Letters</i> , 2014, 791, L38.	8.3	93
20	ALMA OBSERVATIONS OF THE TRANSITION FROM INFALL MOTION TO KEPLERIAN ROTATION AROUND THE LATE-PHASE PROTOSTAR TMC-1A. <i>Astrophysical Journal</i> , 2015, 812, 27.	4.5	87
21	An ALMA Survey of DCN/H ¹³ CN and DCO ⁺ /H ¹³ CO ⁺ in Protoplanetary Disks. <i>Astrophysical Journal</i> , 2017, 835, 231.	4.5	87
22	The ice composition in the disk around V883 Ori revealed by its stellar outburst. <i>Nature Astronomy</i> , 2019, 3, 314-319.	10.1	87
23	Molecules with ALMA at Planet-forming Scales (MAPS). V. CO Gas Distributions. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 5.	7.7	87
24	DOUBLE DCO ⁺ RINGS REVEAL CO ICE DESORPTION IN THE OUTER DISK AROUND IM LUP. <i>Astrophysical Journal</i> , 2015, 810, 112.	4.5	83
25	WATER IN PROTOPLANETARY DISKS: DEUTERATION AND TURBULENT MIXING. <i>Astrophysical Journal</i> , 2013, 779, 11.	4.5	80
26	DISCOVERY OF A HOT CORINO IN THE BOK GLOBULE B335. <i>Astrophysical Journal Letters</i> , 2016, 830, L37.	8.3	80
27	L483: Warm Carbon-chain Chemistry Source Harboring Hot Corino Activity. <i>Astrophysical Journal</i> , 2017, 837, 174.	4.5	78
28	The Distribution and Excitation of CH ₃ CN in a Solar Nebula Analog. <i>Astrophysical Journal</i> , 2018, 859, 131.	4.5	65
29	Molecules with ALMA at Planet-forming Scales (MAPS). IV. Emission Surfaces and Vertical Distribution of Molecules. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 4.	7.7	58
30	Molecules with ALMA at Planet-forming Scales (MAPS). II. CLEAN Strategies for Synthesizing Images of Molecular Line Emission in Protoplanetary Disks. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 2.	7.7	58
31	Molecules with ALMA at Planet-forming Scales (MAPS). III. Characteristics of Radial Chemical Substructures. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 3.	7.7	57
32	Molecules with ALMA at Planet-forming Scales (MAPS). XIV. Revealing Disk Substructures in Multiwavelength Continuum Emission. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 14.	7.7	56
33	Thermal Desorption of Interstellar Ices: A Review on the Controlling Parameters and Their Implications from Snowlines to Chemical Complexity. <i>ACS Earth and Space Chemistry</i> , 2022, 6, 597-630.	2.7	55
34	SUBARCSECOND ANALYSIS OF THE INFALLING ROTATING ENVELOPE AROUND THE CLASS I PROTOSTAR IRAS 04365+2535. <i>Astrophysical Journal Letters</i> , 2016, 820, L34.	8.3	52
35	ALMA Observations of the Protostar L1527 IRS: Probing Details of the Disk and the Envelope Structures. <i>Astrophysical Journal</i> , 2017, 849, 56.	4.5	52
36	Interferometric Observations of Formaldehyde in the Protoplanetary Disk around LkCa 15. <i>Publication of the Astronomical Society of Japan</i> , 2003, 55, 11-15.	2.5	51

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37	Molecules with ALMA at Planet-forming Scales (MAPS). XVIII. Kinematic Substructures in the Disks of HD 163296 and MWC 480. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 18.	7.7	51
38	The TOP-SCOPE Survey of <i>Planck</i> Galactic Cold Clumps: Survey Overview and Results of an Exemplar Source, PGCC G26.53+0.17. <i>Astrophysical Journal, Supplement Series</i> , 2018, 234, 28.	7.7	50
39	ANALYTICAL FORMULAE OF MOLECULAR ION ABUNDANCES AND THE $N_2^+H^+$ RING IN PROTOPLANETARY DISKS. <i>Astrophysical Journal</i> , 2015, 807, 120.	4.5	49
40	ALMA REVEALS THE ANATOMY OF THE mm-SIZED DUST AND MOLECULAR GAS IN THE HD 97048 DISK. <i>Astrophysical Journal</i> , 2016, 831, 200.	4.5	42
41	How Do Stars Gain Their Mass? A JCMT/SCUBA-2 Transient Survey of Protostars in Nearby Star-forming Regions. <i>Astrophysical Journal</i> , 2017, 849, 43.	4.5	42
42	CARBON ISOTOPE AND ISOTOPOMER FRACTIONATION IN COLD DENSE CLOUD CORES. <i>Astrophysical Journal</i> , 2011, 731, 38.	4.5	41
43	CHEMISTRY IN A FORMING PROTOPLANETARY DISK: MAIN ACCRETION PHASE. <i>Astrophysical Journal</i> , 2016, 833, 105.	4.5	41
44	Molecules with ALMA at Planet-forming Scales (MAPS). VII. Substellar O/H and C/H and Superstellar C/O in Planet-feeding Gas. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 7.	7.7	40
45	The JCMT Transient Survey: Stochastic and Secular Variability of Protostars and Disks In the Submillimeter Region Observed over 18 Months. <i>Astrophysical Journal</i> , 2018, 854, 31.	4.5	38
46	CHEMISTRY IN THE FIRST HYDROSTATIC CORE STAGE BY ADOPTING THREE-DIMENSIONAL RADIATION HYDRODYNAMIC SIMULATIONS. <i>Astrophysical Journal</i> , 2012, 758, 86.	4.5	37
47	Molecules with ALMA at Planet-forming Scales (MAPS). VI. Distribution of the Small Organics HCN, C_2H , and H_2CO . <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 6.	7.7	37
48	THE DETECTION OF A HOT MOLECULAR CORE IN THE LARGE MAGELLANIC CLOUD WITH ALMA. <i>Astrophysical Journal</i> , 2016, 827, 72.	4.5	35
49	Vertical structure of the transition zone from infalling rotating envelope to disc in the Class 0 protostar, IRAS 04368+2557. <i>Monthly Notices of the Royal Astronomical Society: Letters</i> , 2017, 467, L76-L80.	3.3	35
50	Depletion of Heavy Nitrogen in the Cold Gas of Star-forming Regions. <i>Astrophysical Journal</i> , 2018, 857, 105.	4.5	33
51	Molecules with ALMA at Planet-forming Scales (MAPS). XIX. Spiral Arms, a Tail, and Diffuse Structures Traced by CO around the GM Aur Disk. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 19.	7.7	33
52	Cold CO Gas in Protoplanetary Disks. <i>Astrophysical Journal</i> , 2007, 656, L93-L96.	4.5	31
53	Chemical Variation among Protostellar Cores: Dependence on Prestellar Core Conditions. <i>Astrophysical Journal</i> , 2020, 897, 110.	4.5	31
54	Molecular-cloud-scale Chemical Composition. I. A Mapping Spectral Line Survey toward W51 in the 3 mm Band. <i>Astrophysical Journal</i> , 2017, 845, 116.	4.5	30

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55	Molecules with ALMA at Planet-forming Scales (MAPS). IX. Distribution and Properties of the Large Organic Molecules HC ₃ N, CH ₃ CN, and c-C ₃ H ₂ . <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 9.	7.7	30
56	Molecules with ALMA at Planet-forming Scales (MAPS). XII. Inferring the C/O and S/H Ratios in Protoplanetary Disks with Sulfur Molecules. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 12.	7.7	30
57	Molecular-cloud-scale Chemical Composition. II. Mapping Spectral Line Survey toward W3(OH) in the 3 mm Band. <i>Astrophysical Journal</i> , 2017, 848, 17.	4.5	29
58	EVIDENCE FOR DCO ⁺ AS A PROBE OF IONIZATION IN THE WARM DISK SURFACE. <i>Astrophysical Journal Letters</i> , 2015, 802, L23.	8.3	28
59	SPECTRAL LINE SURVEY TOWARD MOLECULAR CLOUDS IN THE LARGE MAGELLANIC CLOUD. <i>Astrophysical Journal</i> , 2016, 818, 161.	4.5	27
60	Multiple Paths of Deuterium Fractionation in Protoplanetary Disks. <i>Astrophysical Journal</i> , 2018, 855, 119.	4.5	27
61	EVAPORATION OF GRAIN-SURFACE SPECIES BY SHOCK WAVES IN A PROTOPLANETARY DISK. <i>Astrophysical Journal</i> , 2015, 799, 141.	4.5	26
62	Molecules with ALMA at Planet-forming Scales. XX. The Massive Disk around GM Aurigae. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 20.	7.7	26
63	SPECTRAL LINE SURVEY TOWARD A MOLECULAR CLOUD IN IC10. <i>Astrophysical Journal</i> , 2016, 829, 94.	4.5	25
64	Sulfur-bearing Species Tracing the Disk/Envelope System in the Class I Protostellar Source Elias 29. <i>Astrophysical Journal</i> , 2019, 881, 112.	4.5	25
65	Molecules with ALMA at Planet-forming Scales (MAPS). XI. CN and HCN as Tracers of Photochemistry in Disks. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 11.	7.7	25
66	Disk Structure around the Class I Protostar L1489 IRS Revealed by ALMA: A Warped-disk System. <i>Astrophysical Journal</i> , 2020, 893, 51.	4.5	24
67	Molecules with ALMA at Planet-forming Scales (MAPS). XIII. HCO ⁺ and Disk Ionization Structure. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 13.	7.7	24
68	A theoretical study of the formation of glycine via hydantoin intermediate in outer space environment. <i>Chemical Physics Letters</i> , 2017, 687, 178-183.	2.6	22
69	First-principles study of the formation of glycine-producing radicals from common interstellar species. <i>Molecular Astrophysics</i> , 2018, 10, 11-19.	1.6	22
70	The JCMT Transient Survey: Four-year Summary of Monitoring the Submillimeter Variability of Protostars. <i>Astrophysical Journal</i> , 2021, 920, 119.	4.5	22
71	Molecules with ALMA at Planet-forming Scales (MAPS). VIII. CO Gap in AS 209 – Gas Depletion or Chemical Processing?. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 8.	7.7	22
72	Molecules with ALMA at Planet-forming Scales (MAPS). XV. Tracing Protoplanetary Disk Structure within 20 au. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 15.	7.7	21

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73	ALMA OBSERVATIONS OF THE IRDC CLUMP G34.43+00.24 MM3: 278 GHz CLASS I METHANOL MASERS. <i>Astrophysical Journal Letters</i> , 2014, 794, L10.	8.3	20
74	Molecules with ALMA at Planet-forming Scales (MAPS). XVI. Characterizing the Impact of the Molecular Wind on the Evolution of the HD 163296 System. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 16.	7.7	20
75	ALMA Observations of the IRDC Clump G34.43+00.24 MM3: Complex Organic and Deuterated Molecules. <i>Astrophysical Journal</i> , 2018, 857, 35.	4.5	19
76	FAUST. II. Discovery of a Secondary Outflow in IRAS 15398 $\hat{\sim}$ 3359: Variability in Outflow Direction during the Earliest Stage of Star Formation?. <i>Astrophysical Journal</i> , 2021, 910, 11.	4.5	19
77	Molecules with ALMA at Planet-forming Scales (MAPS). XVII. Determining the 2D Thermal Structure of the HD 163296 Disk. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 17.	7.7	19
78	The JCMT Transient Survey: Identifying Submillimeter Continuum Variability over Several Year Timescales Using Archival JCMT Gould Belt Survey Observations. <i>Astrophysical Journal</i> , 2017, 849, 107.	4.5	18
79	Molecular-cloud-scale Chemical Composition. III. Constraints of Average Physical Properties through Chemical Models. <i>Astrophysical Journal</i> , 2019, 871, 238.	4.5	17
80	Interplay of Chemistry and Dynamics in the Low-Mass Star Formation. <i>Chemical Reviews</i> , 2013, 113, 8961-8980.	47.7	15
81	Molecules with ALMA at Planet-forming Scales (MAPS). X. Studying Deuteration at High Angular Resolution toward Protoplanetary Disks. <i>Astrophysical Journal, Supplement Series</i> , 2021, 257, 10.	7.7	15
82	The Circumstellar Environment around the Embedded Protostar EC 53. <i>Astrophysical Journal</i> , 2020, 889, 20.	4.5	14
83	Chemistry and Physics of a Low-metallicity Hot Core in the Large Magellanic Cloud. <i>Astrophysical Journal</i> , 2020, 891, 164.	4.5	14
84	High Spatial Resolution Observations of Molecular Lines toward the Protoplanetary Disk around TW Hya with ALMA. <i>Astrophysical Journal</i> , 2021, 914, 113.	4.5	14
85	Photoevaporation of Grain-depleted Protoplanetary Disks around Intermediate-mass Stars: Investigating the Possibility of Gas-rich Debris Disks as Protoplanetary Remnants. <i>Astrophysical Journal</i> , 2021, 915, 90.	4.5	14
86	ALMA OBSERVATIONS OF THE IRDC CLUMP G34.43+00.24 MM3: DNC/HNC RATIO. <i>Astrophysical Journal</i> , 2015, 803, 70.	4.5	13
87	Effects of Grain Growth on Molecular Abundances in Young Stellar Objects. <i>Astrophysical Journal</i> , 2017, 837, 78.	4.5	12
88	Protostellar Evolution in Serpens Main: Possible Origin of Disk-size Diversity. <i>Astrophysical Journal</i> , 2019, 887, 209.	4.5	12
89	The ALMA Survey of 70 $\hat{\mu}$ m Dark High-mass Clumps in Early Stages (ASHES). V. Deuterated Molecules in the 70 $\hat{\mu}$ m Dark IRDC G14.492-00.139. <i>Astrophysical Journal</i> , 2022, 925, 144.	4.5	12
90	Diffusion Activation Energy and Desorption Activation Energy for Astrochemically Relevant Species on Water Ice Show No Clear Relation. <i>Astrophysical Journal Letters</i> , 2022, 933, L16.	8.3	11

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91	ALMA Observations of SMM11 Reveal an Extremely Young Protostar in Serpens Main Cluster. <i>Astrophysical Journal Letters</i> , 2017, 850, L2.	8.3	10
92	H_2 Ortho \leftrightarrow Para Spin Conversion on Inhomogeneous Grain Surfaces. <i>Astrophysical Journal</i> , 2019, 882, 172.	4.5	10
93	The Chemical Evolution from Prestellar to Protostellar Cores: A New Multiphase Model with Bulk Diffusion and Photon Penetration. <i>Astrophysical Journal</i> , 2018, 869, 165.	4.5	9
94	The Distinct Evolutionary Nature of Two Class 0 Protostars in Serpens Main SMM4. <i>Astrophysical Journal</i> , 2018, 863, 19.	4.5	9
95	A Multiline Study of a High-mass Young Stellar Object in the Small Magellanic Cloud with ALMA: The Detection of Methanol Gas at 0.2 Solar Metallicity. <i>Astrophysical Journal</i> , 2018, 862, 102.	4.5	8
96	Theoretical study of the photodissociation reaction of methanol. <i>Chemical Physics Letters</i> , 2019, 714, 137-142.	2.6	8
97	Misaligned Rotations of the Envelope, Outflow, and Disks in the Multiple Protostellar System of VLA 1623 \hat{a} 2417: FAUST. III. <i>Astrophysical Journal</i> , 2022, 927, 54.	4.5	7
98	CARBON-CHAIN AND ORGANIC MOLECULES AROUND VERY LOW LUMINOSITY PROTOSTELLAR OBJECTS OF L1521F-IRS AND IRAM 04191+1522. <i>Astrophysical Journal</i> , 2011, 728, 101.	4.5	6
99	First-Principles Study of the Reaction Mechanism of CHO + H on Graphene Surface. <i>Journal of Physical Chemistry A</i> , 2019, 123, 5633-5639.	2.5	3
100	Astrochemical models of water. <i>Proceedings of the International Astronomical Union</i> , 2015, 11, 380-384.	0.0	0
101	Evaporation of grain-surface species by shock waves onto a forming protoplanetary disk. <i>Proceedings of the International Astronomical Union</i> , 2015, 11, .	0.0	0
102	SMA and ALMA studies of protoplanetary disk formation around low-mass protostars. <i>Proceedings of the International Astronomical Union</i> , 2015, 11, 126-129.	0.0	0
103	Molecular Composition of Local Dwarf Galaxies: Astrochemistry in Low-metallicity Environments. <i>Proceedings of the International Astronomical Union</i> , 2018, 14, 182-185.	0.0	0
104	Gas-dust chemistry of volatiles in the star and planetary system formation. <i>Proceedings of the International Astronomical Union</i> , 2019, 15, 161-168.	0.0	0