Ryan A Loomis

List of Publications by Year
in descending order

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66 papers	3,830 citations	94433 37 h-index	128289 60 g-index
68 all docs	68 docs citations	68 times ranked	2073 citing authors

#	Article	IF	Citations
1	Detection of two interstellar polycyclic aromatic hydrocarbons via spectral matched filtering. Science, 2021, 371, 1265-1269.	12.6	236
2	Discovery of the interstellar chiral molecule propylene oxide (CH ₃ CHCH ₂) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	12.6	235
3	The comet-like composition of a protoplanetary disk as revealed by complex cyanides. Nature, 2015, 520, 198-201.	27.8	192
4	FIRST DETECTION OF GAS-PHASE METHANOL IN A PROTOPLANETARY DISK. Astrophysical Journal Letters, 2016, 823, L10.	8.3	166
5	THE COUPLED PHYSICAL STRUCTURE OF GAS AND DUST IN THE IM Lup PROTOPLANETARY DISK. Astrophysical Journal, 2016, 832, 110.	4.5	130
6	Molecules with ALMA at Planet-forming Scales (MAPS). I. Program Overview and Highlights. Astrophysical Journal, Supplement Series, 2021, 257, 1.	7.7	117
7	A Multi-ringed, Modestly Inclined Protoplanetary Disk around AA Tau. Astrophysical Journal, 2017, 840, 23.	4.5	112
8	DETECTION OF E-CYANOMETHANIMINE TOWARD SAGITTARIUS B2(N) IN THE GREEN BANK TELESCOPE PRIMOS SURVEY. Astrophysical Journal Letters, 2013, 765, L10.	8.3	99
9	Interstellar detection of the highly polar five-membered ring cyanocyclopentadiene. Nature Astronomy, 2021, 5, 176-180.	10.1	96
10	Discovery of the Pure Polycyclic Aromatic Hydrocarbon Indene (c-C9H8) with GOTHAM Observations of TMC-1. Astrophysical Journal Letters, 2021, 913, L18.	8.3	96
11	THE DETECTION OF INTERSTELLAR ETHANIMINE (CH ₃ CHNH) FROM OBSERVATIONS TAKEN DURING THE GBT PRIMOS SURVEY. Astrophysical Journal Letters, 2013, 765, L9.	8.3	88
12	An ALMA Survey of DCN/H¹³CN and DCO⁺/H¹³CO⁺ in Protoplanetary Disks. Astrophysical Journal, 2017, 835, 231.	4.5	87
13	Molecules with ALMA at Planet-forming Scales (MAPS). V. CO Gas Distributions. Astrophysical Journal, Supplement Series, 2021, 257, 5.	7.7	87
14	DOUBLE DCO⁺RINGS REVEAL CO ICE DESORPTION IN THE OUTER DISK AROUND IM LUP. Astrophysical Journal, 2015, 810, 112.	4.5	83
15	A Survey of CH₃CN and HC₃N in Protoplanetary Disks. Astrophysical Journal, 2018, 857, 69.	4.5	82
16	N₂ AND CO DESORPTION ENERGIES FROM WATER ICE. Astrophysical Journal Letters, 2016, 816, L28.	8.3	76
17	Constraining Gas-phase Carbon, Oxygen, and Nitrogen in the IM Lup Protoplanetary Disk. Astrophysical Journal, 2018, 865, 155.	4.5	69
18	A Survey of C₂H, HCN, and C¹⁸O in Protoplanetary Disks. Astrophysical Journal, 2019, 876, 25.	4.5	66

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19	The Distribution and Excitation of CH₃CN in a Solar Nebula Analog. Astrophysical Journal, 2018, 859, 131.	4.5	65
20	Sulfur Chemistry in Protoplanetary Disks: CS and H₂CS. Astrophysical Journal, 2019, 876, 72.	4.5	62
21	Early Science from GOTHAM: Project Overview, Methods, and the Detection of Interstellar Propargyl Cyanide (HCCCH₂CN) in TMC-1. Astrophysical Journal Letters, 2020, 900, L10.	8.3	60
22	Molecules with ALMA at Planet-forming Scales (MAPS). IV. Emission Surfaces and Vertical Distribution of Molecules. Astrophysical Journal, Supplement Series, 2021, 257, 4.	7.7	58
23	Molecules with ALMA at Planet-forming Scales (MAPS). II. CLEAN Strategies for Synthesizing Images of Molecular Line Emission in Protoplanetary Disks. Astrophysical Journal, Supplement Series, 2021, 257, 2.	7.7	58
24	Multiple Stellar Flybys Sculpting the Circumstellar Architecture in RW Aurigae. Astrophysical Journal, 2018, 859, 150.	4.5	57
25	Molecules with ALMA at Planet-forming Scales (MAPS). III. Characteristics of Radial Chemical Substructures. Astrophysical Journal, Supplement Series, 2021, 257, 3.	7.7	57
26	Detecting Weak Spectral Lines in Interferometric Data through Matched Filtering. Astronomical Journal, 2018, 155, 182.	4.7	56
27	Molecules with ALMA at Planet-forming Scales (MAPS). XIV. Revealing Disk Substructures in Multiwavelength Continuum Emission. Astrophysical Journal, Supplement Series, 2021, 257, 14.	7.7	56
28	Molecules with ALMA at Planet-forming Scales (MAPS). XVIII. Kinematic Substructures in the Disks of HD 163296 and MWC 480. Astrophysical Journal, Supplement Series, 2021, 257, 18.	7.7	51
29	INVESTIGATING THE MINIMUM ENERGY PRINCIPLE IN SEARCHES FOR NEW MOLECULAR SPECIESâ€"THE CASE OF H₂C₃O ISOMERS. Astrophysical Journal, 2015, 799, 34.	4.5	49
30	An investigation of spectral line stacking techniques and application to the detection of HC11N. Nature Astronomy, 2021, 5, 188-196.	10.1	49
31	Ubiquitous aromatic carbon chemistry at the earliest stages of star formation. Nature Astronomy, 2021, 5, 181-187.	10.1	49
32	THE DISTRIBUTION AND CHEMISTRY OF H ₂ CO IN THE DM TAU PROTOPLANETARY DISK. Astrophysical Journal Letters, 2015, 809, L25.	8.3	48
33	An ALMA Survey of H₂CO in Protoplanetary Disks. Astrophysical Journal, 2020, 890, 142.	4.5	47
34	Variable H¹³CO⁺ Emission in the IM Lup Disk: X-Ray Driven Time-dependent Chemistry?. Astrophysical Journal Letters, 2017, 843, L3.	8.3	44
35	Molecules with ALMA at Planet-forming Scales (MAPS). VII. Substellar O/H and C/H and Superstellar C/O in Planet-feeding Gas. Astrophysical Journal, Supplement Series, 2021, 257, 7.	7.7	40
36	Non-detection of HC₁₁N towards TMC-1: constraining the chemistry of large carbon-chain molecules. Monthly Notices of the Royal Astronomical Society, 2016, 463, 4175-4183.	4.4	38

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37	H₂CO Distribution and Formation in the TW HYA Disk. Astrophysical Journal, 2017, 839, 43.	4.5	38
38	An Unbiased ALMA Spectral Survey of the LkCa 15 and MWC 480 Protoplanetary Disks. Astrophysical Journal, 2020, 893, 101.	4.5	38
39	INTERSTELLAR CARBODIIMIDE (HNCNH): A NEW ASTRONOMICAL DETECTION FROM THE GBT PRIMOS SURVEY VIA MASER EMISSION FEATURES. Astrophysical Journal Letters, 2012, 758, L33.	8.3	37
40	Molecules with ALMA at Planet-forming Scales (MAPS). VI. Distribution of the Small Organics HCN, C₂H, and H₂CO. Astrophysical Journal, Supplement Series, 2021, 257, 6.	7.7	37
41	A SEARCH FORl-C₃H⁺ANDl-C₃H IN Sgr B2(N), Sgr B2(OH), AND THE DARK CLOUD TMC-1. Astrophysical Journal, 2013, 774, 56.	4.5	35
42	The TW Hya Rosetta Stone Project. III. Resolving the Gaseous Thermal Profile of the Disk. Astrophysical Journal, 2021, 908, 8.	4.5	35
43	Sulphur monoxide exposes a potential molecular disk wind from the planet-hosting disk around HD 100546. Astronomy and Astrophysics, 2018, 611, A16.	5.1	34
44	Interstellar Detection of 2-cyanocyclopentadiene, C₅H₅CN, a Second Five-membered Ring toward TMC-1. Astrophysical Journal Letters, 2021, 910, L2.	8.3	33
45	Molecules with ALMA at Planet-forming Scales (MAPS). XIX. Spiral Arms, a Tail, and Diffuse Structures Traced by CO around the GM Aur Disk. Astrophysical Journal, Supplement Series, 2021, 257, 19.	7.7	33
46	Detection of Interstellar HC₄NC and an Investigation of Isocyanopolyyne Chemistry under TMC-1 Conditions. Astrophysical Journal Letters, 2020, 900, L9.	8.3	32
47	Molecules with ALMA at Planet-forming Scales (MAPS). IX. Distribution and Properties of the Large Organic Molecules HC₃N, CH₃CN, and c-C₃H₂. Astrophysical Journal, Supplement Series, 2021, 257, 9.	7.7	30
48	Molecules with ALMA at Planet-forming Scales (MAPS). XII. Inferring the C/O and S/H Ratios in Protoplanetary Disks with Sulfur Molecules. Astrophysical Journal, Supplement Series, 2021, 257, 12.	7.7	30
49	CSO AND CARMA OBSERVATIONS OF L1157. I. A DEEP SEARCH FOR HYDROXYLAMINE (NH₂OH). Astrophysical Journal, 2015, 812, 76.	4.5	28
50	Molecules with ALMA at Planet-forming Scales. XX. The Massive Disk around GM Aurigae. Astrophysical Journal, Supplement Series, 2021, 257, 20.	7.7	26
51	Molecules with ALMA at Planet-forming Scales (MAPS). XI. CN and HCN as Tracers of Photochemistry in Disks. Astrophysical Journal, Supplement Series, 2021, 257, 11.	7.7	25
52	A Search for Heterocycles in GOTHAM Observations of TMC-1. Journal of Physical Chemistry A, 2022, 126, 2716-2728.	2.5	25
53	Molecules with ALMA at Planet-forming Scales (MAPS). XIII. HCO⁺ and Disk Ionization Structure. Astrophysical Journal, Supplement Series, 2021, 257, 13.	7.7	24
54	The Excitation Conditions of CN in TW Hya. Astrophysical Journal, 2020, 899, 157.	4.5	22

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55	Molecules with ALMA at Planet-forming Scales (MAPS). VIII. CO Gap in AS 209â€"Gas Depletion or Chemical Processing?. Astrophysical Journal, Supplement Series, 2021, 257, 8.	7.7	22
56	Molecules with ALMA at Planet-forming Scales (MAPS). XV. Tracing Protoplanetary Disk Structure within 20 au. Astrophysical Journal, Supplement Series, 2021, 257, 15.	7.7	21
57	CO Line Emission Surfaces and Vertical Structure in Midinclination Protoplanetary Disks. Astrophysical Journal, 2022, 932, 114.	4.5	21
58	CSO AND CARMA OBSERVATIONS OF L1157. II. CHEMICAL COMPLEXITY IN THE SHOCKED OUTFLOW. Astrophysical Journal, 2016, 827, 21.	4.5	20
59	Molecules with ALMA at Planet-forming Scales (MAPS). XVI. Characterizing the Impact of the Molecular Wind on the Evolution of the HD 163296 System. Astrophysical Journal, Supplement Series, 2021, 257, 16.	7.7	20
60	The TW Hya Rosetta Stone Project. II. Spatially Resolved Emission of Formaldehyde Hints at Low-temperature Gas-phase Formation. Astrophysical Journal, 2021, 906, 111.	4.5	19
61	Molecules with ALMA at Planet-forming Scales (MAPS). XVII. Determining the 2D Thermal Structure of the HD 163296 Disk. Astrophysical Journal, Supplement Series, 2021, 257, 17.	7.7	19
62	The TW Hya Rosetta Stone Project. I. Radial and Vertical Distributions of DCN and DCO⁺. Astronomical Journal, 2021, 161, 38.	4.7	16
63	Molecules with ALMA at Planet-forming Scales (MAPS). X. Studying Deuteration at High Angular Resolution toward Protoplanetary Disks. Astrophysical Journal, Supplement Series, 2021, 257, 10.	7.7	15
64	Discovery of Interstellar trans-cyanovinylacetylene (HC â‰¡ CCH = CHC â‰¡ N) and vinylcyanoacetylene (H₂C = CHC₃N) in GOTHAM Observations of TMC-1. Astrophysical Journal Letters, 2021, 908, L11.	8.3	13
65	The TW Hya Rosetta Stone Project IV: A Hydrocarbon-rich Disk Atmosphere. Astrophysical Journal, 2021, 911, 29.	4.5	10
66	CH₃-Terminated Carbon Chains in the GOTHAM Survey of TMC-1: Evidence of Interstellar CH₃C₇N. Astrophysical Journal, 2022, 924, 21.	4.5	9