

Rebecca C. Levy

National Science Foundation Astronomy & Astrophysics Postdoctoral Fellow

Department of Astronomy/
Steward Observatory
University of Arizona
Tucson, AZ 85721

rebeccalevy@arizona.edu
rlevy.astro@gmail.com
<https://rlevy.github.io>
Pronouns: she/her/hers

Research Interests

- The role of stellar feedback in shaping the interstellar medium and galaxy evolution
- Multiphase gas kinematics and dynamics in nearby galaxies
- Young, embedded star clusters and galaxy centers
- Multiwavelength spectroscopic observations: radio, (sub-)millimeter, near–far infrared, optical IFU

Experience

Oct 2021 – present	NSF Astronomy & Astrophysics Postdoctoral Fellow Dept. of Astronomy/Steward Observatory, University of Arizona, Tucson, AZ
Aug 2015 – Sept 2021	Graduate Research Assistant Dept. of Astronomy, University of Maryland, College Park, MD
Aug 2019 – May 2020	Graduate Teaching/Lab Assistant Dept. of Astronomy, University of Maryland, College Park, MD

Education

Dec 2021	Ph.D. in Astronomy University of Maryland, College Park, MD <i>“Investigating Star Formation Feedback through Gas Kinematics in Nearby Galaxies”</i> Advisor: Prof. Alberto Bolatto
Dec 2017	M.S. in Astronomy University of Maryland, College Park, MD <i>“The EDGE-CALIFA Survey: Molecular and Ionized Gas Kinematics”</i> Advisor: Prof. Alberto Bolatto
May 2015	B.S. in Astronomy, B.S. in Physics University of Arizona, Tucson, AZ Cum Laude with Honors

Publication Summary

Total: 42 papers — 1044 citations — h-index = 17

First-authored & supervised: 7 papers — 165 citations

[Link to current publications in ADS](#)

A full publication list can be found at the end

First-Authored & Supervised Publications

- [8] “*JWST Observations of Starbursts: Massive Star Clusters in the Central Starburst of M82*”
Levy, R. C., et al. 2024, *ApJL*, in prep.
- [7] “*Milky Way and Nearby Galaxies Science with the Single Aperture Large Telescope for Universe Studies (SALTUS) Space Observatory*”
Levy, R. C., et al. 2024, *JATIS*, [submitted](#)
- [6] “[*CII*] *Spectral Mapping of the Galactic Wind and Starbursting Disk of M82 with SOFIA*”
Levy, R. C., et al. 2023, *ApJ*, [958](#), [109](#)
- [5] “*The Morpho-Kinematic Architecture of Super Star Clusters in the Center of NGC 253*”
Levy, R. C., et al. 2022, *ApJ*, [935](#), [19](#)
- [4] “*Cuspy Dark Matter Density Profiles in Massive Dwarf Galaxies*”
Cooke, L. H., Levy, R. C., et al. 2022, *MNRAS*, [512](#), [1012](#)
- [3] “*Outflows from Super Star Clusters in the Central Starburst of NGC 253*”
Levy, R. C., et al. 2021, *ApJ*, [912](#), [4](#)
- [2] “*The EDGE-CALIFA Survey: Evidence for Pervasive Extraplanar Diffuse Ionized Gas in Nearby Edge-On Galaxies*”
Levy, R. C., et al. 2019, *ApJ*, [882](#), [84](#)
- [1] “*The EDGE-CALIFA Survey: Molecular and Ionized Gas Kinematics in Nearby Galaxies*”
Levy, R. C., et al. 2018, *ApJ*, [860](#), [92](#)

Honors & Awards

2021	IAU PhD Prize Honorable Mention	Div. H Interstellar Matter & Local Universe
2020	Andrew S. Wilson Prize for Excellence in Research	U. Maryland, Dept. of Astronomy
2020	Philip E. Angerhofer Outstanding Teaching Assistant Award	U. Maryland, Dept. of Astronomy
2020	Prize for Excellence in Mentoring	U. Maryland, Dept. of Astronomy
2018 – 2019	Outstanding Research Assistant Award	U. Maryland, Graduate School
2016	Graduate Research Fellowship Program Honorable Mention	National Science Foundation

Grants Awarded

2022	\$44,473	NSF	“21st Annual Symposium of the NSF Astronomy and Astrophysics Postdoctoral Fellows”
2021	\$310,000	NSF AAPF	“A Multiscale View of the Effects of Stellar Feedback in the Local Universe”
2019	\$35,000	NRAO	Student Observing Support for ALMA proposal 2019.1.00473.S (PI: R. Levy)
2019	\$90,000	SOFIA/USRA/NASA	“The GREAT Cigar: Mapping [CII] in the Disk and Outflow of M82”

2019	\$225	U. Maryland Grad. School	International Conference Student Support Award
2019	\$600	U. Maryland Grad. School	The Jacob K. Goldhaber Travel Grant
2017	\$262	U. Maryland Grad. School	International Conference Student Support Award
2017	\$600	U. Maryland Grad. School	The Jacob K. Goldhaber Travel Grant

Recent Scientific Presentations

Invited Reviews and Colloquia

Oct 2023	Instituto de Astrofísica de Andalucía Colloquium	(Virtual, Recorded)
Oct 2023	Radboud U. Astronomy Colloquium	(Virtual)
Apr 2023	The Galactic Centre Workshop — Review Talk	Granada, Spain
Apr 2023	Hamburg Observatory Colloquium	(Virtual)
Apr 2023	Michigan State U. Astronomy Seminar	(Virtual)
Oct 2022	U. Kansas Physics and Astronomy Department Colloquium	Lawrence, KS
Oct 2019	The Warm Ionized Medium (WIM) Workshop — Review Talk	Green Bank, WV

Invited Talks

Apr 2024	UW-Madison Monday Science Seminar	(Virtual)
Dec 2023	ALMA at Ten Years: Past, Present and Future	Puerto Varas, Chile
July 2021	The Grande Cascade	(Virtual)
May 2021	Cornell Galaxy Lunch Seminar	(Virtual)
Feb 2021	Princeton Star Formation/ISM Rendezvous	(Virtual)
Nov 2020	Ringberg Workshop on “How does small-scale physics drive galaxy evolution?” Virtual Seminar	(Virtual)
Oct 2020	CCAPP Seminar	(Virtual)

Selected Contributed Talks

Jan 2024	The 243 st Meeting of the American Astronomical Society	New Orleans, LA
Jan 2024	2024 NSF-AST Fellows Symposium	New Orleans, LA
Jan 2023	The 241 st Meeting of the American Astronomical Society	Seattle, WA
Sept 2022	MPIA Galaxy Coffee Seminar	Heidelberg, Germany
Sept 2022	Puzzles of the Galactic Centre	Heidelberg, Germany
Aug 2022	UVa/ NRAO Astronomy Lunch Talk Series	(Virtual)
July 2022	A Holistic View of Stellar Feedback and Galaxy Evolution	Ascona, Switzerland
June 2022	The 240 th Meeting of the American Astronomical Society	Pasadena, CA
May 2022	Ringberg Virtual Seminar Series	(Virtual)
Apr 2022	NOIRLab FLASH Talk	(Virtual)
Jan 2022	2022 NSF AAPF Fellows Symposium	(Virtual)
Oct 2021	Caltech Astronomy Tea Talk	(Virtual)
Nov 2020	UVa/ NRAO Astronomy Lunch Talk Series	(Virtual)
Nov 2020	Steward/NOAO Galaxy Group Seminar	(Virtual)
Nov 2020	UT Austin ISM Seminar	(Virtual)

Oct 2020	UCLA Astronomy & Physics Lunch Talk Series	(Virtual)
Oct 2020	STScI Galaxy Journal Club	(Virtual)
Sept 2020	SMA Seminar	(Virtual)
Oct 2019	ALMA 2019: Science Results and Cross-Facility Synergies	Cagliari, Italy
June 2019	Radio/Millimeter Astrophysical Frontiers in the Next Decade	Charlottesville, VA

Press, Media, & Other Coverage

Apr 2024	Quoted in NASA Press Release “ <i>NASA’s Webb Probes an Extreme Starburst Galaxy</i> ” Cross-posted by ESA , Webb Telescope , Space.com , U. Arizona , U. Maryland , MPIA , etc.
Aug 2022	Results from Levy et al. 2022, ApJ cited in the Wikipedia page for NGC253
May 2021	NRAO eNews Vol. 14, Issue 5 “ <i>Outflows from Super Star Clusters in NGC253</i> ”
Apr 2021	U. Maryland College of Computer, Mathematical, and Natural Sciences News “ <i>Astronomy Ph.D. Student Awarded Prestigious NSF Postdoctoral Fellowship</i> ”

Students Mentored

Keaton Donaghue	Oct 2022 –	Primary mentor is Prof. Elisabeth Mills Publication: Donaghue, Mills, Levy, et al. in prep. Undergrad at U. Kansas
Lauren Cooke	May 2020, Summer 2019	Publication: Cooke, Levy, et al., 2022, MNRAS , 512 , 1012 High school senior — Now: Undergrad at Harvard U.
Brandon Davey	Jan 2020	GRAD-MAP Winter Workshop Publication: Cooke, Levy, et al. (incl. Davey) 2022, MNRAS , 512 , 1012 Undergrad of U. of South Florida — Now: Quality Technician
Nathnael Feleke	Summer 2019, Jan 2019	GRAD-MAP Summer Scholars & Winter Workshop Summer Scholars co-mentors: Prof. Alberto Bolatto, Prof. Stuart Vogel, Dr. Peter Teuben Undergrad at Montgomery College - Takoma Park — Now: Undergrad at Florida Institute of Technology
Aurora Cid	Jan 2018	GRAD-MAP Winter Workshop Undergrad at CUNY College of Staten Island
Natalia Ramírez Vega	Jan 2017	GRAD-MAP Winter Workshop Undergrad at U. Costa Rica & Fidélitas U. — Now: Data Engineer

Selected Observational Experience

ALMA

Cycle 10	Co-I on 10 projects	
Cycle 9	Co-I on 3 projects	
Cycle 8 ACA	PI	“ <i>Complete Molecular Gas Coverage in Nearby Low-Luminosity AGN</i> ”
Cycle 8	Co-I on 3 projects	

Cycle 7 ACA Co-I on 1 project

Cycle 7 **PI** *“Ionized Gas, Radiation Field, Masses, and Dust Temperature in Forming Massive Star Clusters in the NGC253 Starburst”*
Rank: A — Awarded 24.1 hours

Cycle 7 Co-I on 1 project

Cycle 6 Co-I on 2 projects

Cycle 4 Co-I on 1 project

GBT

2021b Co-I *“GBT EDGE: A Representative Survey of the $z=0$ Universe with Full IFU Spectroscopy”*
PI: A. Bolatto
Awarded 300 hours

2021a Co-I *“Feedback from Diffuse Ionized Gas in the Cygnus X Star-Forming Region”*
PI: K. Emig

HST

Cycle 31 Co-I *“Resolving gas, star formation and feedback in nearby galaxies with an HST+JWST+ALMA Treasury”*
PI: D. Thilker
Awarded 169 primary orbits, 74 parallel orbits

NOEMA

2022a Co-I *“Resolving the Star Formation Quenching Mechanisms of Green Valley Galaxies”*
PI: D. Colombo

2021b Co-I *“Dense Molecular Gas in the Outflow of M82”*
PI: F. Walter

JWST

Cycle 3 Co-I *“Unveiling the physics that govern massive star-formation in extragalactic Central Molecular Zones (eCMZs)”*
PI: E. Schinnerer

Cycle 2 Co-I *“A JWST Census of the Local Galaxy Population: Anchoring the Physics of the Matter Cycle”*
PI: A. Leroy
Awarded 109.4 hours

Cycle 2 Co-I *“Beholding star cluster formation, feedback, and evolution with the ‘Evil Eye’”*
PI: J. Sun

Cycle 2 Co-I *“Resolving HII Regions and ISM Structure Across the Milky Way Analog NGC 253”*
PI: A. Leroy

Cycle 1 **Co-I*** *“Dissecting the Prototypical Starbursts NGC 253 and M 82 and Their Cool Galactic Winds”*
PI: A. Bolatto
Awarded 42.8 hours

*I led the technical planning and justification for this proposal.

Cycle 1 Co-I *“Structure Formation and Baryonic Cycling in the Edge-on Galaxy NGC891”*
PI: I. De Looze

LMT

2021-S1	Co-I PI: S. Sánchez	<i>“The Connection between Molecular Gas Density, Star-formation and Quenching”</i>
---------	------------------------	---

SMA

2018b	Co-I PI: M. Jiménez Donaire	<i>“Searching for Embedded Super Star Clusters in M82”</i>
-------	--------------------------------	--

SOFIA

Cycle 8/7	PI	<i>“The GREAT Cigar: Mapping [CII] in the Disk and Outflow of M82”</i> Rank: A/B — Awarded 9 hours and \$90,000
Cycle 8/7	Co-I PI: A. Bolatto	<i>“Studying the Energetics of Galaxies with Velocity-Resolved [CII] Observations in an IFU-Selected Galaxy Sample”</i>
Cycle 7	Co-I PI: J. Spilker	<i>“Are Galactic Winds Metal-Enriched Compared to their Host Galaxies?”</i>

VLA

2022b	Co-I PI: E. Mills	<i>“JACKS: JVLA Ammonia CMZ K-band Survey”</i>
2022b	Co-I PI: K. Emig	<i>“Recombination Lines from Diffuse Ionized Gas in the M82 Starburst”</i>
2022a	Co-I PI: E. Mills	<i>“High-Resolution Thermal Continuum Imaging of the M82 Starburst”</i>
2022a	Co-I PI: K. Emig	<i>“Diffuse Ionized Gas in the Central Starburst of NGC253”</i>

Professional Service & Memberships

Referee for	ApJ, MNRAS, A&A
Meetings organized	Spatio-spectral Modeling of Interferometric Data: Preparing for the Wideband Era (SOC), May 2024 2023 NSF AAPF Symposium (co-organizer), Jan 2023 The Warm Ionized Medium Workshop (SOC), October 2019
Seminars organized	Steward Obs. Science Coffee arXiv discussion, 2022 – 2023 UMD Dept. of Astronomy weekly arXiv discussion, 2019 – 2020
Review panels	NASA Review Panel - Executive Secretary NSF Review Panel HST TAC
Committee service	UMD Dept. of Astronomy Faculty Search Committee, Spring 2020 UMD Dept. of Astronomy Graduate Student Council Rep., 2017 – 2020
Collaboration membership	ACES/JACKS, Apr 2023 PHANGS, Dec 2022 SALTUS Extragalactic Science Working Group (Lead: Milky Way & Nearby Galaxies), Apr 2022

	DEGAS, Jan 2018
	EDGE-CALIFA, Aug 2015
Society membership	American Astronomical Society, Full Member
Certified to operate	Green Bank Telescope (remote), 2018 –

Teaching Experience

Apr 2023	Guest Lecturer — Translational Science Communication ACBS 493/ECOL 499/GEOS 393/NSCS 393: The Bio/Diversity Project Internship Program	U. Arizona
Spring 2020	Teaching and Lab Assistant Astronomy 121: Introductory Astrophysics II — Stars and Beyond	U. Maryland
Fall 2019	Teaching Assistant Astronomy 120: Introductory Astrophysics — Solar System	U. Maryland
Sept 2018	Guest Lecturer — LaTeX Examples with Overleaf Astronomy 695: First Year Seminar	U. Maryland
Spring 2014	Preceptor Physics 141: Introductory Mechanics	U. Arizona
Spring 2013	Undergraduate Teaching Coordinator Math 100/100AX: Prep. for College Algebra	U. Arizona
Fall 2012	Undergraduate Teaching Coordinator Math 100/100AX: Prep. for College Algebra	U. Arizona
Spring 2012	Lead Undergraduate Teaching Assistant Math 100/100AX: Prep. for College Algebra	U. Arizona
Fall 2011	Undergraduate Teaching Assistant Math 100/100AX: Prep. for College Algebra	U. Arizona

Selected Outreach Experience

Aug 2023 – Apr 2024	Imagine Your STEM Future Curriculum Development Developed and implemented a hands-on astronomy lesson and activity for the Women in Science and Engineering Imagine Your STEM Future program. Materials for my lesson about the phases of the Moon can be found in this Google Drive repository .
Mar 2024 Feb 2023	Imagine Your STEM Future Guest Lecture Guest lecturer for the Women in Science and Engineering Imagine Your STEM Future program.
Dec 2022	Tucson Amateur Astronomy Association Lecture <i>“A JWST View of Starburst Galaxies: Sweet Data Coming Soon!”</i>
Nov 2022	Steward Observatory Public Evening Lecture Series <i>“A JWST View of Starburst Galaxies: Sweet Data Coming Soon!”</i>

2016 – 2020

GRAD-MAP (Graduate Resources Advancing Diversity with Maryland Astronomy and Physics)

- Research mentor for four students over four years during the week-long Winter Workshop.
- Co-mentor for one student during the Summer Scholars program.
- Helped plan Winter Workshops and Summer Scholars programs.
- Developed and led professional development sessions during the Winter Workshops and Summer Scholars programs.
- Co-organized and led two weekend trips to the Green Bank Observatory.
- Helped organize and run the annual Open House, including helping to develop the inaugural Open House.
- Attended Collaborative Seminar Series at local institutions.

Aug 2013 – July 2015,
Apr 2016, June 2016**NOIRLab Education and Public Outreach Department**

- Key developer of all aspects of the United Nations sanctioned [International Year of Light 2015 Quality Lighting Teaching Kit](#) (cornerstone project), including activity creation and development, materials sourcing, instructional guide and media writing, state and national educational standards verification, and classroom testing. These kits have been disseminated internationally and are available for retail sale.
- Guest lecturer and support staff for two [Colors of Nature](#) Summer Academies in Tucson, AZ. This NSF-funded educational research study investigated the development of middle-school girls' identities as scientists as they explored the intersections of art and science (STEAM) in a two-week summer academy.
- Worked extensively with the public, K-12 students, K-12 teachers, and members of the Tohono O'odham Nation.
- Developed, planned, led, and/or supported 1–2 outreach activities per week (on average) focused on astronomy and dark skies education.
 - Developed, planned, led, and/or supported local, national, and international teacher training workshops and outreach events (e.g., at AAS, AGU, and IAU meetings, US Science and Engineering Festival).
- Involvement in the Globe at Night citizen-science campaign including website design, social media, development of materials, newsletter writing, podcast writing and recording, and facilitating translation of materials.
- Hired, trained, mentored, and evaluated other student employees.

Publication List**Total: 42 papers — 1044 citations — h-index = 17**[Link to current publications in ADS](#)

- [42] Fisher, D. B., Bolatto, A. D., Chisholm, J., Fielding, D., **Levy, R. C.**, Tarantino, E., Boyer, M. L., Cronin, S. A., Lopez, L. A., Smith, J. D., Berg, D. A., Lopez, S., Veilleux, S., van der Werf, P. P., Böker, T., Boogaard, L. A., Lenkić, L., Glover, S. C. O., Villanueva, V., Mayya, D., Lai, T. S. Y., Dale, D. A., Emig, K. L., Walter, F., Relaño, M., De Looze, I., Mills, E. A. C., Leroy, A. K., Meier, D. S., Herrera-Camus, R., Klessen, R. S. 2024, MNRAS, submitted, “*JWST Observations of Starbursts: Cold Clouds and Plumes Launching in the M82 Outflow*”, arXiv: [2405.03686](#).
- [41] Laudage, S., Eibensteiner, C., Bigiel, F., Leroy, A. K., Meidt, S., Schinnerer, E., de Blok, W. J. G., Querejeta, M., Stuber, S., Colombo, D., Rosolowsky, E., Pisano, D. J., Utomo, D., **Levy, R. C.**, Klessen, R., Cao, Y., Koch, E. W., Kurapati, S., Sanchez-Blazquez, P., Neumann, J., Neumann, L.,

- Pan, H.-A., Williams, T. G. 2024, A&A, submitted, “*Neutral atomic and molecular gas dynamics in the nearby spiral galaxies NGC 1512, NGC 4535, and NGC 7496*”.
- [40] **Levy, R. C.**, Tielens, A., Spilker, J., Marrone, D. P., Narayanan, D., Walker, C. K. 2024, JATIS, submitted, “*Milky Way and Nearby Galaxies Science with the Single Aperture Large Telescope for Universe Studies (SALTUS) Space Observatory*”, arXiv: [2404.16984](#).
- [39] Maschmann, D., Lee, J. C., Thilker, D. A., Whitmore, B. C., Deger, S., Boquien, M., Chandar, R., Dale, D. A., Wofford, A., Hannon, S., Larson, K. L., Leroy, A. K., Schinnerer, E., Rosolowsky, E. W., Ubeda, L., Barnes, A., Emsellem, E., Grasha, K., Groves, B., Kim, H., Klessen, R. S., Kreckel, K., **Levy, R. C.**, Pinna, F., Rodriguez, J., Tian, Q., Williams, T. G. 2024, ApJS, in press, “*PHANGS-HST catalogs for $\sim 100,000$ star clusters and compact associations in 38 galaxies: I. Observed properties*”, arXiv: [2403.04901](#).
- [38] Spilker, J., **Levy, R. C.**, Marrone, D., Alberts, S., Chapman, S. C., Dickinson, M., Egami, E., Endsley, R., Narayanan, D., Rieke, G., Stark, A. A., Tielens, A., Walker, C. K. 2024, JATIS, submitted, “*High-Redshift Extragalactic Science with the Single Aperture Large Telescope for Universe Studies (SALTUS) Space Observatory*”, arXiv: [2404.16983](#).
- [37] Sun, J., He, H., Batschkun, K., **Levy, R. C.**, Emig, K., Jimena Rodriguez, M., Hassani, H., Leroy, A. K., Schinnerer, E., Ostriker, E. C., Wilson, C. D., Bolatto, A. D., Mills, E. A. C., Rosolowsky, E., Lee, J. C., Dale, D. A., Larson, K. L., Thilker, D. A., Ubeda, L., Whitmore, B. C., Williams, T. G., Barnes, A. T., Bigiel, F., Chevance, M., Glover, S. C. O., Grasha, K., Groves, B., Henshaw, J. D., Indebetouw, R., Jimenez-Donaire, M. J., Klessen, R. S., Koch, E. W., Liu, D., Mathur, S., Meidt, S., Menon, S. H., Neumann, J., Pinna, F., Querejeta, M., Sormani, M. C., Tress, R. G. 2024, ApJ, accepted, “*Hidden Gems on a Ring: Infant Massive Clusters and Their Formation Timeline Unveiled by ALMA, HST, and JWST in NGC 3351*”, arXiv: [2401.14453](#).
- [36] Wong, T., Cao, Y., Luo, Y., Bolatto, A. D., Sánchez, S. F., Barrera-Ballesteros, J. K., Blitz, L., Colombo, D., Dannerbauer, H., Green, A., Kalinova, V., Khan, F., Kim, A., Lacerda, E. A. D., Leroy, A. K., **Levy, R. C.**, Lin, X., Luo, Y., Rosolowsky, E. W., Rubio, M., Teuben, P., Utomo, D., Villanueva, V., Vogel, S. N., Wang, X. 2024, ApJS, 271, 35, “*The EDGE-CALIFA Survey: An Extragalactic Database for Galaxy Evolution Studies*”, doi: [10.3847/1538-4365/ad20c9](#).
- [35] Villanueva, V., Bolatto, A. D., Vogel, S. N., Wong, T., Leroy, A. K., Sánchez, S. F., **Levy, R. C.**, Rosolowsky, E., Colombo, D., Kalinova, V., Cronin, S., Teuben, P., Rubio, M., Bazzi, Z. 2024, ApJ, 962, 88, “*The EDGE-CALIFA Survey: Molecular Gas and Star Formation Activity across the Green Valley*”, doi: [10.3847/1538-4357/ad1387](#).
- [34] Bolatto, A. D., **Levy, R. C.**, Tarantino, E., Boyer, M. L., Fisher, D. B., Leroy, A. K., Cronin, S. A., Klessen, R. S., Smith, J. D., Berg, D. A., Boeker, T., Boogaard, L. A., Ostriker, E. C., Thompson, T. A., Ott, J., Lenkic, L., Lopez, L. A., Dale, D. A., Veilleux, S., van der Werf, P. P., Glover, S. C. O., Sandstrom, K. M., Skillman, E. D., Chisholm, J., Villanueva, V., Lai, T. S. Y., Lopez, S., Mills, E. A. C., Emig, K. L., Armus, L., Mayya, D., Meyer, D. S., De Looze, I., Herrera-Camus, R., Walter, F., Relano, M., Koziol, H. B., Marvin, J., Jimenez-Donaire, M. J. 2024, ApJ, accepted, “*JWST Observations of Starbursts: Polycyclic Aromatic Hydrocarbon Emission at the Base of the M 82 Galactic Wind*”, doi: [10.48550/arXiv.2401.16648](#).
- [33] Lenkić, L., Fisher, D. B., Bolatto, A. D., Teuben, P. J., **Levy, R. C.**, Sun, J., Herrera-Camus, R., Glazebrook, K., Obreschkow, D., Abraham, R. 2023, ApJ, submitted, “*Disk Turbulence and Star Formation Regulation in High- z Main Sequence Analog Galaxies*”.
- [32] **Levy, R. C.**, Bolatto, A. D., Tarantino, E., Leroy, A. K., Armus, L., Emig, K. L., Herrera-Camus, R., Marrone, D. P., Mills, E., Ricken, O., Stutzki, J., Veilleux, S., Walter, F. 2023, ApJ, 958, 109, “*[CII] Spectral Mapping of the Galactic Wind and Starbursting Disk of M82 with SOFIA*”, doi: [10.3847/1538-4357/acff6e](#).

- [31] Cao, Y., Wong, T., Bolatto, A. D., Leroy, A. K., Rosolowsky, E., Utomo, D., Sánchez, S. F., Barrera-Ballesteros, J. K., **Levy, R. C.**, Colombo, D., Blitz, L., Vogel, S. N., Puschignig, J., Villanueva, V., Rubio, M. 2023, ApJS, 268, 3, “*The EDGE-CALIFA Survey: Spatially Resolved $^{13}\text{CO}(1-0)$ Observations and Variations in $^{12}\text{CO}(1-0)/^{13}\text{CO}(1-0)$ in Nearby Galaxies on Kiloparsec Scales*”, doi: [10.3847/1538-4365/acd840](https://doi.org/10.3847/1538-4365/acd840).
- [30] Barrera-Ballesteros, J. K., Cruz-González, I., Colombo, D., Sánchez, S. F., **Levy, R. C.**, Villanueva, V., Wong, T., Bolatto, A. D., Alanso Hernández, D. 2023, ApJ, submitted, “*Central vs Global Quenching Traced by the APEX Survey*”.
- [29] Sormani, M. C., Barnes, A. T., Sun, J., Stuber, S. K., Schinnerer, E., Emsellem, E., Leroy, A. K., Glover, S. C. O., Henshaw, J. D., Meidt, S. E., Neumann, J., Querejeta, M., Williams, T. G., Bigiel, F., Eibensteiner, C., Frangkoudi, F., **Levy, R. C.**, Grasha, K., Klessen, R. S., Kruijssen, J. M. D., Neumayer, N., Pinna, F., Rosolowsky, E. W., Smith, R. J., Teng, Y.-H., Tress, R. G., Watkins, E. J. 2023, MNRAS, 523, 2918, “*Fuelling the nuclear ring of NGC 1097*”, doi: [10.1093/mnras/stad1554](https://doi.org/10.1093/mnras/stad1554).
- [28] Lenkić, L., Bolatto, A. D., Fisher, D. B., Abraham, R., Glazebrook, K., Herrera-Camus, R., **Levy, R. C.**, Obreschkow, D., Volpert, C. G. 2023, ApJ, 945, 9, “*CO Excitation in High- z Main-sequence Analogues: Resolved $\text{CO}(4-3)/\text{CO}(3-2)$ Line Ratios in DYNAMO Galaxies*”, doi: [10.3847/1538-4357/acb3b2](https://doi.org/10.3847/1538-4357/acb3b2).
- [27] Leroy, A. K., Bolatto, A. D., Sandstrom, K., Rosolowsky, E., Barnes, A. T., Bigiel, F., Boquien, M., den Brok, J. S., Cao, Y., Chastenet, J., Chevance, M., Chiang, I.-D., Chown, R., Colombo, D., Ellison, S. L., Emsellem, E., Grasha, K., Henshaw, J. D., Hughes, A., Klessen, R. S., Koch, E. W., Kim, J., Kreckel, K., Kruijssen, J. M. D., Larson, K. L., Lee, J. C., **Levy, R. C.**, Lin, L., Liu, D., Meidt, S. E., Pety, J., Querejeta, M., Rubio, M., Saito, T., Salim, S., Schinnerer, E., Sormani, M. C., Sun, J., Thilker, D. A., Usero, A., Vogel, S. N., Watkins, E. J., Whitcomb, C. M., Williams, T. G., Wilson, C. D. 2023, ApJL, 944, L10, “*PHANGS-JWST First Results: A Global and Moderately Resolved View of Mid-infrared and CO Line Emission from Galaxies at the Start of the JWST Era*”, doi: [10.3847/2041-8213/acab01](https://doi.org/10.3847/2041-8213/acab01).
- [26] Leroy, A. K., Sandstrom, K., Rosolowsky, E., Belfiore, F., Bolatto, A. D., Cao, Y., Koch, E. W., Schinnerer, E., Barnes, A. T., Bešlić, I., Bigiel, F., Blanc, G. A., Chastenet, J., Chen, N. M., Chevance, M., Chown, R., Congiu, E., Dale, D. A., Egorov, O. V., Emsellem, E., Eibensteiner, C., Faesi, C. M., Glover, S. C. O., Grasha, K., Groves, B., Hassani, H., Henshaw, J. D., Hughes, A., Jiménez-Donaire, M. J., Kim, J., Klessen, R. S., Kreckel, K., Kruijssen, J. M. D., Larson, K. L., Lee, J. C., **Levy, R. C.**, Liu, D., Lopez, L. A., Meidt, S. E., Murphy, E. J., Neumann, J., Pessa, I., Pety, J., Saito, T., Sardone, A., Sun, J., Thilker, D. A., Usero, A., Watkins, E. J., Whitcomb, C. M., Williams, T. G. 2023, ApJL, 944, L9, “*PHANGS-JWST First Results: Mid-infrared Emission Traces Both Gas Column Density and Heating at 100 pc Scales*”, doi: [10.3847/2041-8213/acaf85](https://doi.org/10.3847/2041-8213/acaf85).
- [25] Yu, S.-Y., Kalinova, V., Colombo, D., Bolatto, A. D., Wong, T., **Levy, R. C.**, Villanueva, V., Sánchez, S. F., Ho, L. C., Vogel, S. N., Teuben, P., Rubio, M. 2022, A&A, 666, A175, “*The EDGE-CALIFA survey: The role of spiral arms and bars in driving central molecular gas concentrations*”, doi: [10.1051/0004-6361/202244306](https://doi.org/10.1051/0004-6361/202244306).
- [24] **Levy, R. C.**, Bolatto, A. D., Leroy, A. K., Sormani, M. C., Emig, K. L., Gorski, M., Lenkić, L., Mills, E. A. C., Tarantino, E., Teuben, P., Veilleux, S., Walter, F. 2022, ApJ, 935, 19, “*The Morpho-kinematic Architecture of Super Star Clusters in the Center of NGC 253*”, doi: [10.3847/1538-4357/ac7b7a](https://doi.org/10.3847/1538-4357/ac7b7a).
- [23] Cooke, L. H., **Levy, R. C.**, Bolatto, A. D., Simon, J. D., Newman, A. B., Teuben, P., Davey, B. D., Wright, M., Tarantino, E., Lenkić, L., Villanueva, V. 2022, MNRAS, 512, 1012, “*Cuspy dark matter density profiles in massive dwarf galaxies*”, doi: [10.1093/mnras/stac588](https://doi.org/10.1093/mnras/stac588).

- [22] Bolatto, A. D., Leroy, A. K., **Levy, R. C.**, Meier, D. S., Mills, E. A. C., Thompson, T. A., Emig, K. L., Veilleux, S., Ott, J., Gorski, M., Walter, F., Lopez, L. A., Lenkić, L. 2021, ApJ, 923, 83, “*ALMA Imaging of a Galactic Molecular Outflow in NGC 4945*”, doi: [10.3847/1538-4357/ac2c08](https://doi.org/10.3847/1538-4357/ac2c08).
- [21] Villanueva, V., Bolatto, A., Vogel, S., **Levy, R. C.**, Sánchez, S. F., Barrera-Ballesteros, J., Wong, T., Rosolowsky, E., Colombo, D., Rubio, M., Cao, Y., Kalinova, V., Leroy, A., Utomo, D., Herrera-Camus, R., Blitz, L., Luo, Y. 2021, ApJ, 923, 60, “*The EDGE-CALIFA Survey: The Resolved Star Formation Efficiency and Local Physical Conditions*”, doi: [10.3847/1538-4357/ac2b29](https://doi.org/10.3847/1538-4357/ac2b29).
- [20] Mills, E. A. C., Gorski, M., Emig, K. L., Bolatto, A. D., **Levy, R. C.**, Leroy, A. K., Ginsburg, A., Henshaw, J. D., Zschaechner, L. K., Veilleux, S., Tanaka, K., Meier, D. S., Walter, F., Krieger, N., Ott, J. 2021, ApJ, 919, 105, “*Clustered Star Formation in the Center of NGC 253 Contributes to Driving the Ionized Nuclear Wind*”, doi: [10.3847/1538-4357/ac0fe8](https://doi.org/10.3847/1538-4357/ac0fe8).
- [19] Krieger, N., Walter, F., Bolatto, A. D., Guillard, P., Lehnert, M., Leroy, A. K., Pety, J., Emig, K. L., **Levy, R. C.**, Krips, M., Rix, H.-W., Salak, D., Weiss, A., Veilleux, S. 2021, ApJL, 915, L3, “*NOEMA High-fidelity Imaging of the Molecular Gas in and around M82*”, doi: [10.3847/2041-8213/ac01e9](https://doi.org/10.3847/2041-8213/ac01e9).
- [18] Tarantino, E., Bolatto, A. D., Herrera-Camus, R., Harris, A. I., Wolfire, M., Buchbender, C., Croxall, K. V., Dale, D. A., Groves, B., **Levy, R. C.**, Riquelme, D., Smith, J. D. T., Stutzki, J. 2021, ApJ, 915, 92, “*Characterizing the Multiphase Origin of [C II] Emission in M101 and NGC 6946 with Velocity-resolved Spectroscopy*”, doi: [10.3847/1538-4357/abfcc6](https://doi.org/10.3847/1538-4357/abfcc6).
- [17] Barrera-Ballesteros, J. K., Sánchez, S. F., Heckman, T., Wong, T., Bolatto, A., Ostriker, E., Rosolowsky, E., Carigi, L., Vogel, S., **Levy, R. C.**, Colombo, D., Luo, Y., Cao, Y. 2021, MNRAS, 503, 3643, “*The EDGE-CALIFA survey: self-regulation of star formation at kpc scales*”, doi: [10.1093/mnras/stab755](https://doi.org/10.1093/mnras/stab755).
- [16] **Levy, R. C.**, Bolatto, A. D., Leroy, A. K., Emig, K. L., Gorski, M., Krieger, N., Lenkić, L., Meier, D. S., Mills, E. A. C., Ott, J., Rosolowsky, E., Tarantino, E., Veilleux, S., Walter, F., Weiß, A., Zwaan, M. A. 2021, ApJ, 912, 4, “*Outflows from Super Star Clusters in the Central Starburst of NGC 253*”, doi: [10.3847/1538-4357/abec84](https://doi.org/10.3847/1538-4357/abec84).
- [15] Sánchez, S. F., Barrera-Ballesteros, J. K., Colombo, D., Wong, T., Bolatto, A., Rosolowsky, E., Vogel, S., Levy, R., Kalinova, V., Alvarez-Hurtado, P., Luo, Y., Cao, Y. 2021, MNRAS, 503, 1615, “*The EDGE-CALIFA survey: the local and global relations between Σ_* , Σ_{SFR} , and Σ_{mol} that regulate star formation*”, doi: [10.1093/mnras/stab442](https://doi.org/10.1093/mnras/stab442).
- [14] Colombo, D., Sanchez, S. F., Bolatto, A. D., Kalinova, V., Weiß, A., Wong, T., Rosolowsky, E., Vogel, S. N., Barrera-Ballesteros, J., Dannerbauer, H., Cao, Y., **Levy, R. C.**, Utomo, D., Blitz, L. 2020, A&A, 644, A97, “*The EDGE-CALIFA survey: exploring the role of molecular gas on galaxy star formation quenching*”, doi: [10.1051/0004-6361/202039005](https://doi.org/10.1051/0004-6361/202039005).
- [13] Emig, K. L., Bolatto, A. D., Leroy, A. K., Mills, E. A. C., Jiménez Donaire, M. J., Tielens, A. G. G. M., Ginsburg, A., Gorski, M., Krieger, N., **Levy, R. C.**, Meier, D. S., Ott, J., Rosolowsky, E., Thompson, T. A., Veilleux, S. 2020, ApJ, 903, 50, “*Super Star Clusters in the Central Starburst of NGC 4945*”, doi: [10.3847/1538-4357/abb67d](https://doi.org/10.3847/1538-4357/abb67d).
- [12] Krieger, N., Bolatto, A. D., Koch, E. W., Leroy, A. K., Rosolowsky, E., Walter, F., Weiß, A., Eden, D. J., **Levy, R. C.**, Meier, D. S., Mills, E. A. C., Moore, T., Ott, J., Su, Y., Veilleux, S. 2020, ApJ, 899, 158, “*The Turbulent Gas Structure in the Centers of NGC 253 and the Milky Way*”, doi: [10.3847/1538-4357/aba903](https://doi.org/10.3847/1538-4357/aba903).
- [11] Krieger, N., Bolatto, A. D., Leroy, A. K., **Levy, R. C.**, Mills, E. A. C., Meier, D. S., Ott, J., Veilleux, S., Walter, F., Weiß, A. 2020, ApJ, 897, 176, “*The Molecular Interstellar Medium in the Super Star Clusters of the Starburst NGC 253*”, doi: [10.3847/1538-4357/ab9c23](https://doi.org/10.3847/1538-4357/ab9c23).

- [10] Barrera-Ballesteros, J. K., Utomo, D., Bolatto, A. D., Sánchez, S. F., Vogel, S. N., Wong, T., **Levy, R. C.**, Colombo, D., Kalinova, V., Teuben, P., García-Benito, R., Husemann, B., Mast, D., Blitz, L. 2020, MNRAS, 492, 2651, “*The EDGE-CALIFA survey: using optical extinction to probe the spatially resolved distribution of gas in nearby galaxies*”, doi: [10.1093/mnras/stz3553](https://doi.org/10.1093/mnras/stz3553).
- [9] **Levy, R. C.**, Bolatto, A. D., Sánchez, S. F., Blitz, L., Colombo, D., Kalinova, V., López-Cobá, C., Ostriker, E. C., Teuben, P., Utomo, D., Vogel, S. N., Wong, T. 2019, ApJ, 882, 84, “*The EDGE-CALIFA Survey: Evidence for Pervasive Extraplanar Diffuse Ionized Gas in Nearby Edge-on Galaxies*”, doi: [10.3847/1538-4357/ab2ed4](https://doi.org/10.3847/1538-4357/ab2ed4).
- [8] Krieger, N., Bolatto, A. D., Walter, F., Leroy, A. K., Zschaechner, L. K., Meier, D. S., Ott, J., Weiss, A., Mills, E. A. C., **Levy, R. C.**, Veilleux, S., Gorski, M. 2019, ApJ, 881, 43, “*The Molecular Outflow in NGC 253 at a Resolution of Two Parsecs*”, doi: [10.3847/1538-4357/ab2d9c](https://doi.org/10.3847/1538-4357/ab2d9c).
- [7] Leroy, A. K., Bolatto, A. D., Ostriker, E. C., Walter, F., Gorski, M., Ginsburg, A., Krieger, N., **Levy, R. C.**, Meier, D. S., Mills, E., Ott, J., Rosolowsky, E., Thompson, T. A., Veilleux, S., Zschaechner, L. K. 2018, ApJ, 869, 126, “*Forming Super Star Clusters in the Central Starburst of NGC 253*”, doi: [10.3847/1538-4357/aaecd1](https://doi.org/10.3847/1538-4357/aaecd1).
- [6] Leung, G. Y. C., Leaman, R., van de Ven, G., Lyubenova, M., Zhu, L., Bolatto, A. D., Falcón-Barroso, J., Blitz, L., Dannerbauer, H., Fisher, D. B., **Levy, R. C.**, Sanchez, S. F., Utomo, D., Vogel, S., Wong, T., Ziegler, B. 2018, MNRAS, 477, 254, “*The EDGE-CALIFA survey: validating stellar dynamical mass models with CO kinematics*”, doi: [10.1093/mnras/sty288](https://doi.org/10.1093/mnras/sty288).
- [5] **Levy, R. C.**, Bolatto, A. D., Teuben, P., Sánchez, S. F., Barrera-Ballesteros, J. K., Blitz, L., Colombo, D., García-Benito, R., Herrera-Camus, R., Husemann, B., Kalinova, V., Lan, T., Leung, G. Y. C., Mast, D., Utomo, D., van de Ven, G., Vogel, S. N., Wong, T. 2018, ApJ, 860, 92, “*The EDGE-CALIFA Survey: Molecular and Ionized Gas Kinematics in Nearby Galaxies*”, doi: [10.3847/1538-4357/aac2e5](https://doi.org/10.3847/1538-4357/aac2e5).
- [4] Colombo, D., Kalinova, V., Utomo, D., Rosolowsky, E., Bolatto, A. D., **Levy, R. C.**, Wong, T., Sanchez, S. F., Leroy, A. K., Ostriker, E., Blitz, L., Vogel, S., Mast, D., García-Benito, R., Husemann, B., Dannerbauer, H., Ellmeier, L., Cao, Y. 2018, MNRAS, 475, 1791, “*The EDGE-CALIFA survey: the influence of galactic rotation on the molecular depletion time across the Hubble sequence*”, doi: [10.1093/mnras/stx3233](https://doi.org/10.1093/mnras/stx3233).
- [3] Utomo, D., Bolatto, A. D., Wong, T., Ostriker, E. C., Blitz, L., Sanchez, S. F., Colombo, D., Leroy, A. K., Cao, Y., Dannerbauer, H., Garcia-Benito, R., Husemann, B., Kalinova, V., **Levy, R. C.**, Mast, D., Rosolowsky, E., Vogel, S. N. 2017, ApJ, 849, 26, “*The EDGE-CALIFA Survey: Variations in the Molecular Gas Depletion Time in Local Galaxies*”, doi: [10.3847/1538-4357/aa88c0](https://doi.org/10.3847/1538-4357/aa88c0).
- [2] Bolatto, A. D., Wong, T., Utomo, D., Blitz, L., Vogel, S. N., Sánchez, S. F., Barrera-Ballesteros, J., Cao, Y., Colombo, D., Dannerbauer, H., García-Benito, R., Herrera-Camus, R., Husemann, B., Kalinova, V., Leroy, A. K., Leung, G., **Levy, R. C.**, Mast, D., Ostriker, E., Rosolowsky, E., Sandstrom, K. M., Teuben, P., van de Ven, G., Walter, F. 2017, ApJ, 846, 159, “*The EDGE-CALIFA Survey: Interferometric Observations of 126 Galaxies with CARMA*”, doi: [10.3847/1538-4357/aa86aa](https://doi.org/10.3847/1538-4357/aa86aa).
- [1] Walter, F., Bolatto, A. D., Leroy, A. K., Veilleux, S., Warren, S. R., Hodge, J., **Levy, R. C.**, Meier, D. S., Ostriker, E. C., Ott, J., Rosolowsky, E., Scoville, N., Weiss, A., Zschaechner, L., Zwaan, M. 2017, ApJ, 835, 265, “*Dense Molecular Gas Tracers in the Outflow of the Starburst Galaxy NGC 253*”, doi: [10.3847/1538-4357/835/2/265](https://doi.org/10.3847/1538-4357/835/2/265).