

Dr. Adam G. Ginsburg
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Educational Background:

May 9, 2013 PhD Astrophysics	University of Colorado, Boulder
2009 M.S. Astrophysics	University of Colorado, Boulder
2006 B.S. Astrophysics	Rice University

Professional Employment:

2016 -	Jansky Fellow	National Radio Astronomy Observatory Socorro, New Mexico
2013 - 2016	ESO Fellow	European Southern Observatory Garching, Germany
2007 - 2013	Graduate Research Assistant	Center for Astrophysics and Space Astronomy, University of Colorado, Boulder, CO
2010 - 2013	Instructor	Department of Astrophysical and Planetary Sciences, University of Colorado, Boulder, CO
2007 - 2011	Teaching Assistant	Department of Astrophysical and Planetary Sciences, University of Colorado, Boulder, CO
2007	Research Assistant	Department of Physics and Astronomy, University of Denver, Denver, CO

Areas of Research:

- The astrophysics of massive star formation, with a focus on observations of proto-cluster clumps and massive outflows.
- The physical properties of the molecular interstellar medium, supersonic turbulence, and formaldehyde and other molecules as probes of local physical conditions.
- Single-dish heterodyne and continuum millimeter observing, radio single-dish and synthesis array imaging, and optical and near infrared imaging and spectroscopy.
- The development of software tools for the analysis and visualization of diffuse and extended emission, spectral data cubes, and large astronomical data sets.

Honors/Awards:

2016 National Radio Astronomy Observatory Jansky Fellowship
2013 European Southern Observatory Garching Postdoctoral Fellowship
2011 University of Colorado Chance Irick Cooke Fellowship for Excellence in Research
2010 NRAO Green Bank Student Observing Support (\$35,000)
2010 NSF GRFP Honorable Mention
2009 NSF GRFP Honorable Mention
2008 NSF GRFP Honorable Mention
2008 NRAO Photo Contest First Prize (\$1000)
2008 University of Colorado Astrophysical and Planetary Sciences Excellence in Teaching award
2006 National Radio Astronomy Observatory - summer REU with David Meier

Research Advising:

Date	Program	Student	Project
2017-2018	PhD Student	Natalie Butterfield	Cloud Kinematics and Geometry in the Central Molecular Zone
Summer 2017	NRAO Summer Student	Virginie Montes	The ionized jet IRAS 16562-3959
Summer 2017	NRAO REU Student	Terry Melo	A symmetric ionized and molecular jet in W51
Fall 2013 - Fall 2016	Ludwig-Maximilian University / ESO PhD Thesis Student	Anna Faye McLeod	FUSION: Comparison of hydrodynamic simulations and observations in nearby high mass star forming regions
Summer 2015	ESO Summer Student	Dinos Kousidis	Merging astropy tools into pyspeckit
Summer 2014	Google Summer of Code	Simon Liedtke	New tools for astroquery : XMatch, SkyView, Atomic Line List
Summer 2013	Google Summer of Code	Madhura Parikh	A coherent API for astroquery , a python web database query toolkit

Teaching:

Date	Course
Spring 2013	Instructor of ASTR 2600: Introduction to Programming for Astronomers (in IDL)
Fall 2012	Instructor of ASTR 2600: Introduction to Programming for Astronomers (in IDL)
Summer 2010	Co-Instructor of ASTR 1020: Stars and Galaxies
Fall 2011	Co-Instructor of ASTR 6000: Graduate Seminar on the Interstellar Medium
Fall 2011	Teaching Assistant for ASTR 3510: Astronomical Observing (imaging)
Spring 2010	Teaching Assistant for ASTR 3520: Astronomical Observing (spectroscopy)
Fall 2009	Teaching Assistant for ASTR 3510: Astronomical Observing (imaging)
Fall 2008	Teaching Assistant for ASTR 3520: Astronomical Observing (spectroscopy)
Spring 2008	Teaching Assistant for ASTR 3510: Astronomical Observing (imaging)
Fall 2007	Teaching Assistant for ASTR 3520: Astronomical Observing (spectroscopy)

Selected Conferences and Workshops attended:

Date	Meeting Name	Role	Talk or Poster Title
2017	Piercing the Galactic Darkness	Invited Talk	Star Formation in the Central Molecular Zone
2017	Behind the Curtain of Dust II	Talk	High-mass Star Formation in the Galaxy
2017	Multi-Scale Star Formation	Talk	The effects and importance of feedback on high-mass star formation within massive clusters
2016	The Local Truth: Star-Formation and Feedback in the SOFIA Era	Talk	Feedback and Accretion around proto-O-stars
2016	Half a decade of ALMA: Cosmic Dawns Transformed	Talk	Feedback and Accretion Toward Proto-O-Stars at ALMA's Highest Resolution
2016	Sexten: The Role of Feedback in Star Cluster Formation and Evolution	Talk	The ineffectiveness of feedback in a nearby forming massive cluster, W51
2016	The Early Phase of Star Formation 2016	Talk	The effects and extent of feedback on dense prestellar gas near proto-OB stars
2016	From Stars to Massive Stars	Invited Talk	High-mass Stars and Cores in Massive Protoclusters
2016	APEX Ringberg 2016	Talk	Dense gas in the Central Molecular Zone is warm and turbulent
2015	The 6th Zermatt ISM Symposium	Talk	Dense gas in the Central Molecular Zone is warm and heated by turbulence
2015	Astropy Lorentz Center Workshop (5 days)	Talks & unconfere- nces	radio-astro-tools, astroquery, and spectral-cube
2015	University of Munich Filaments Workshop (3 days)	Talk	W51: The most active star-forming complex in the Galaxy
2015	Soul of High Mass Star Formation, Chile	Talk	The Density Structure of the W51 GMC
2014	ALMA Arc Node Retreat	Talk	ALMA's first look at the extended Sgr B2 Cloud
2014	Sexten Workshop: The Formation of Globular Clusters	Talk	The Galactic population of young massive clusters
2014	Sexten Workshop: The assembly of massive clusters	Talk	The density of W51 and its protoclusters
2014	Early Phase of Star Formation (EPoS 6)	Talk	The density structure of The Brick
2014	Early Phase of Star Formation (EPoS 6)	Poster	The density structure of the W51 Giant Molecular Cloud
2013	ISM Physical Processes in Garching	Poster	A measurement of the turbulence driving parameter
2013	.Astronomy 5	Talk	Astroquery: A toolkit for remote data access in python
2013	AAS 221	Thesis Talk	Surveying massive star formation in the Galactic Plane
2012	Galactic Scale Star Formation	Poster	There are no starless massive proto-clusters in the first quadrant
2012	Labyrinth of Star Formation	Talk	Surveying Pre-Stellar Gas with the BGPS (with an emphasis on what we don't see)
2011	Milky Way	Talk	The Bolocam Galactic Plane Survey

Selected Institute Talks:

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| • UNM Colloquium | November, 2017 | High-mass Star and Cluster Formation in the Galaxy |
| • MSU Colloquium | October, 2017 | High-mass Star and Cluster Formation in the Galaxy |
| • UT Austin Colloquium | March, 2017 | High-mass Star and Cluster Formation in the Galaxy |
| • NRAO Socorro Colloquium | November, 2016 | High-mass Star Formation in the Galaxy's Densest Environments |
| • Herzberg Institute Colloquium | November, 2016 | High-mass Star Formation in the Galaxy's Densest Environments |
| • University of Virginia / NRAO Joint Colloquium | November, 2016 | High-mass Star Formation in the Galaxy's Densest Environments |
| • ESO Lunch Talk | 2013 | Examining Massive Cluster Formation with H ₂ CO in W51 |
| • MPIfR Lunch Talk | 2013 | Surveying Star Formation in the Galactic Plane |
| • CfA Lunch Talk | 2013 | Surveying Star Formation in the Galactic Plane |

Software:

I am an active developer of a large variety of astronomical python software tools and a contributor to **astropy** and its affiliates. My github profile (github.com/keflavich) contains a complete list of projects. Below is a selection of my most popular packages:

- **astroquery** (<https://astroquery.readthedocs.org>): a toolkit for querying internet-hosted astronomical databases
- **pyspeckit** (<https://pyspeckit.bitbucket.org>): a software suite for visualizing and analyzing spectral line and spectral cube data
- **spectral-cube** (<https://spectral-cube.rtdfd.org>): a library for the manipulation of radio spectral cube data
- **pyradex** (<https://github.com/keflavich/pyradex>): an object-oriented frontend to the popular RADEX radiative transfer code and its peers
- **image-registration** (https://github.com/keflavich/image_registration): a package designed to determine and correct the offsets between images containing only diffuse emission
- **sdpy** (<https://github.com/keflavich/sdpy>): “Single-Dish python”, a package to support single dish heterodyne data reduction and build data pipelines

Service:

- Organizer of the “Python Coffee and Tutorial” series at ESO, 2014-2016
- Referee for the following journals:
 - *Science*
 - *Nature*
 - *Astrophysical Journal*
 - *Astronomy & Astrophysics*
 - *Monthly Notices of the Royal Astronomical Society*
 - *Revista Mexicana de Astronomía y Astrofísica*
- Served on the SOFIA TAC
- Panel chair for a recent NASA grant review panel
- ESO ALMA Fellow Duties as part of the European ALMA Regional Center. Primary duties include software development, maintenance of the Quality Assurance Packager software, and regression testing
- Member of the **montage** (montage.ipac.caltech.edu) Image Mosaic Engine users group
- Member of the Next-Generation VLA (NGVLA) high mass star formation working group
- Member of the SKA Galactic Science working group

Conferences and Workshops hosted:

Date	Meeting Name	Role
2016	Lorentz Center workshop “Apples-to-Apples”: Comparing simulations & observations	Co-organizer
2015	ESO Central Molecular Zone workshop (2 days)	Organizer
2015	Florence Simulation-Observation Workshop (5 days)	Organizer
2014	Workshop on the APEX CMZ 1 mm survey at MPIfR Bonn (1 day)	Organizer
2014	ALMA Postdoc Symposium, Tokyo	Co-organizer

Additional Training:

- ESO Fellows Development Program: MBTI (October 8, 2015)
- ESO Fellows Development Program: People Skills (June 18, 2015)
- ESO Fellows Development Program: Networking (February 17, 2015)
- ESO Fellows Development Program: Presentation Skills (July 3, 2014)
- ESO Fellows Development Program: Scientific Writing (March 4, 2014)
- ESO Fellows Development Program: Project Management (January 28, 2014)

Selected telescope time allocations as PI:

Telescope	Title	Time	Status
GBT 2017	GBT18A-014: MUSTANG Galactic Plane survey pilot: Protoclusters & Massive Stars	31 hours	Approved
VLA 2017	VLA18A-229: Characterizing high-mass protostars in the whole of Sgr B2	36 hours	Approved
ALMA 2017	Cycle 5: 2017.1.01335.L (co-PI): ALMA-IMF: ALMA transforms our view of the origin of stellar masses	64 hours	Approved
ALMA 2017	Cycle 5: 2017.1.00293.S: Characterizing the accretion structures around the HMYSOs in W51	8 hours	Approved
ALMA 2017	Cycle 5: 2017.1.00114.S: Probing low-mass star formation in the CMZ in Sgr B2 Deep South	14 hours	Approved
ALMA 2017	Cycle 5: 2017.1.00008.S: The core mass function and its evolution in an extreme protocluster	10 hours	Approved
VLA 2016	VLA16B-202: Disks and Outflows around O-type stars in W51	16 hours	Approved, partly observed
ALMA 2016	Cycle 4: 2016.1.00620.S: The core mass function and its evolution in an extreme protocluster	10 hours	Approved, partly Observed
ALMA 2016	Cycle 4: 2016.1.00550.S: (How) do very massive stars form in our Galaxy?	7.5 hours	Observed
ALMA 2015	Cycle 3: 2015.1.00262.S: Digging for rusty bullets at an explosion site	1.9 hours	Observed
ATCA 2015	C3045: Geometry of clouds and HII regions in the CMZ using H2CO	84 hours	Published 2015A&A...584L...7G
ALMA 2014	Cycle 2: 2013.1.00308.S: Gas temperature and kinematics as key inputs for star formation theory: Cores and turbulence in the massive protocluster W51	2.4 hours	Published: 2017ApJ...842...92G
ALMA 2014	Cycle 2: 2013.1.00269.S: Sgr B2 - The Proving Ground for Star Formation Theories	6 hours	Observed (2015), submitted
APEX 2014	H2CO Thermometry of the CMZ to understand its low star formation rate	250 hours	Published: 2016A&A...586A..50G
EVLA 2013	13A/064: Massive stars and ionized gas in the W51 complex	13 hours, 4 configs	Published: 2016A&A...595A..27G
Arecibo 2012	A2854: Density Map of the W51 Giant Molecular Cloud complex	13 hours	Published: 2015A&A...573A.106G
GBT 2010	GBT10B-019: Densitometry of young star-forming complexes throughout the Galaxy	120 hours	Published: 2013ApJ...779...50G
Arecibo 2010	A2584: Densitometry of young star-forming complexes throughout the Galaxy	60 hours	Published: 2013ApJ...779...50G
GBT 2009	GBT09C-049: Measuring the dense gas mass fraction with H2CO absorption	4 hours	Published: 2011ApJ...736..149G

Refereed Publications as of November 14, 2017 [12 first author, 67 total]:

- [1] **Ginsburg**, A., Bally, J., Barnes, A., Bastian, N., Battersby, C., Beuther, H., Brogan, C., Contreras, Y., Corby, J., Darling, J., De-Pree, C., Galván-Madrid, R., Garay, G., Henshaw, J., Hunter, T., Kruijssen, J. M. D., Longmore, S., Meng, F., Mills, E. A., Ott, J., Pineda, J. E., Sánchez-Monge, Á., Schilke, P., Schmiedeke, A., Walker, D., & Wilner, D., *Distributed star formation throughout the galactic center cloud Sgr B2*, December, 2017, ApJ, resubmitted
- [2] Redaelli, E., Alves, F. O., Caselli, P., Pineda, J. E., Friesen, R. K., Chacón-Tanarro, A., Matzner, C. D., **Ginsburg**, A., Rosolowsky, E., Keown, J., Offner, S. S. R., Francesco, J. D., Kirk, H., Myers, P. C., Hacar, A., Cimatti, A., Chen, H. H., Chen, M. C., Seo, Y. M., & Lee, K. I., *The Green Bank Ammonia Survey: Unveiling the Dynamics of the Barnard 59 star-forming Clump*, November, 2017, ArXiv e-prints
- [3] Walker, D. L., Longmore, S. N., Zhang, Q., Battersby, C., Keto, E., Kruijssen, J. M. D., **Ginsburg**, A., Lu, X., Henshaw, J. D., Kauffmann, J., Pillai, T., Mills, E. A. C., Walsh, A. J., Bally, J., Ho, L. C., Immer, K., & Johnston, K. G., *Star formation in a high-pressure environment: An SMA view of the Galactic centre dust ridge*, November, 2017, ArXiv e-prints
- [4] Keown, J., Di Francesco, J., Kirk, H., Friesen, R. K., Pineda, J. E., Rosolowsky, E., **Ginsburg**, A., Offner, S. S. R., Caselli, P., Alves, F., Chacón-Tanarro, A., Punanova, A., Redaelli, E., Seo, Y. M., Matzner, C. D., Chun-Yuan Chen, M., Goodman, A. A., Chen, H.-H., Shirley, Y., Singh, A., Arce, H. G., Martin, P., & Myers, P. C., *The Green Bank Ammonia Survey: Observations of Hierarchical Dense Gas Structures in Cepheus-L1251*, October, 2017, ArXiv e-prints
- [5] Krieger, N., Ott, J., Beuther, H., Walter, F., Kruijssen, J. M. D., Meier, D. S., Mills, E. A. C., Contreras, Y., Edwards, P., **Ginsburg**, A., Henkel, C., Henshaw, J., Jackson, J., Kauffmann, J., Longmore, S., Martin, S., Morris, M. R., Pillai, T., Rickert, M., Rosolowsky, E., Shinnaga, H., Walsh, A., Yusef-Zadeh, F., & Zhang, Q., *The Survey of Water and Ammonia in the Galactic Center (SWAG): Molecular Cloud Evolution in the Central Molecular Zone*, October, 2017, ArXiv e-prints
- [6] Sánchez-Monge, A., Schilke, P., **Ginsburg**, A., Cesaroni, R., & Schmiedeke, A., *STATCONT: A statistical continuum level determination method for line-rich sources*, October, 2017, ArXiv e-prints
- [7] Kirk, H., Friesen, R. K., Pineda, J. E., Rosolowsky, E., Offner, S. S. R., Matzner, C. D., Myers, P. C., Di Francesco, J., Caselli, P., Alves, F. O., Chacón-Tanarro, A., Chen, H.-H., Chun-Yuan Chen, M., Keown, J., Punanova, A., Seo, Y. M., Shirley, Y., **Ginsburg**, A., Hall, C., Singh, A., Arce, H. G., Goodman, A. A., Martin, P., & Redaelli, E., *The Green Bank Ammonia Survey: Dense Cores Under Pressure in Orion A*, August, 2017, ArXiv e-prints
- [8] Sánchez-Monge, Á., Schilke, P., Schmiedeke, A., **Ginsburg**, A., Cesaroni, R., Lis, D. C., Qin, S.-L., Müller, H. S. P., Bergin, E., Comito, C., & Möller, T., *The physical and chemical structure of Sagittarius B2. II. Continuum millimeter emission of Sgr B2(M) and Sgr B2(N) with ALMA*, July, 2017, A&A, 604, A6
- [9] **Ginsburg**, A., Goddi, C., Kruijssen, J. M. D., Bally, J., Smith, R., Galván-Madrid, R., Mills, E. A. C., Wang, K., Dale, J. E., Darling, J., Rosolowsky, E., Loughnane, R., Testi, L., & Bastian, N., *Thermal Feedback in the High-mass Star- and Cluster-forming Region W51*, June, 2017, ApJ, 842, 92
- [10] Lu, X., Zhang, Q., Kauffmann, J., Pillai, T., Longmore, S. N., Kruijssen, J. M. D., Battersby, C., Liu, H. B., **Ginsburg**, A., Mills, E. A. C., Zhang, Z.-Y., & Gu, Q., *The Molecular Gas Environment in the 20 km s⁻¹ Cloud in the Central Molecular Zone*, April, 2017, ApJ, 839, 1
- [11] Bally, J., **Ginsburg**, A., Arce, H., Eisner, J., Youngblood, A., Zapata, L., & Zinnecker, H., *The ALMA View of the OMC1 Explosion in Orion*, March, 2017, ApJ, 837, 60
- [12] Schap, III, W. J., Barnes, P. J., Ordoñez, A., **Ginsburg**, A., Yonekura, Y., & Fukui, Y., *HCN hyperfine ratio analysis of massive molecular clumps*, March, 2017, MNRAS, 465, 2559
- [13] Schuller, F., Csengeri, T., Urquhart, J. S., Duarte-Cabral, A., Barnes, P. J., Giannetti, A., Hernandez, A. K., Leurini, S., Mattern, M., Medina, S.-N. X., Agurto, C., Azagra, F., Anderson, L. D., Beltrán, M. T., Beuther, H., Bontemps, S., Bronfman, L., Dobbs, C. L., Dumke, M., Finger, R., **Ginsburg**, A., Gonzalez, E., Henning, T., Kauffmann, J., Mac-Auliffe, F., Menten, K. M., Montenegro-Montes, F. M., Moore, T. J. T., Muller, E., Parra, R., Perez-Beaupuits, J.-P., Pettitt, A., Russeil, D., Sánchez-Monge, Á., Schilke, P., Schisano, E., Suri, S., Testi, L., Torstensson, K., Venegas, P., Wang, K., Wienen, M., Wyrowski, F., & Zavagno, A., *SEDIGISM: Structure, excitation, and dynamics of the inner Galactic interstellar medium*, January, 2017, ArXiv e-prints
- [14] Immer, K., Kauffmann, J., Pillai, T., **Ginsburg**, A., & Menten, K. M., *Temperature structures in Galactic Center clouds - Direct evidence for gas heating via turbulence*, November, 2016, A&A, 595, A94
- [15] McLeod, A. F., Gritschneider, M., Dale, J. E., **Ginsburg**, A., Klaassen, P. D., Mottram, J. C., Preibisch, T., Ramsay, S., Reiter, M., & Testi, L., *Connecting the dots: a correlation between ionising radiation and cloud mass-loss rate traced by optical integral field spectroscopy*, November, 2016, MNRAS, 462, 3537
- [16] Galametz, M., Zhang, Z.-Y., Immer, K., Humphreys, E., Aladro, R., De Breuck, C., **Ginsburg**, A., Madden, S. C., Möller, P., & Arumugam, V., *Water, methanol and dense gas tracers in the local ULIRG Arp 220: results from the new SEPIA Band 5 Science Verification campaign*, October, 2016, MNRAS, 462, L36
- [17] **Ginsburg**, A., Goss, W. M., Goddi, C., Galván-Madrid, R., Dale, J. E., Bally, J., Battersby, C. D., Youngblood, A., Sankrit, R., Smith, R., Darling, J., Kruijssen, J. M. D., & Liu, H. B., *Toward gas exhaustion in the W51 high-mass protoclusters*, October, 2016, A&A, 595, A27

- [18] Lin, Y., Liu, H. B., Li, D., Zhang, Z.-Y., **Ginsburg**, A., Pineda, J. E., Qian, L., Galván-Madrid, R., McLeod, A. F., Rosolowsky, E., Dale, J. E., Immer, K., Koch, E., Longmore, S., Walker, D., & Testi, L., *Cloud Structure of Galactic OB Cluster-forming Regions from Combining Ground- and Space-based Bolometric Observations*, September, 2016, ApJ, 828, 32
- [19] Eisner, J. A., Bally, J. M., **Ginsburg**, A., & Sheehan, P. D., *Protoplanetary Disks in the Orion OMC1 Region Imaged with ALMA*, July, 2016, ApJ, 826, 16
- [20] Youngblood, A., **Ginsburg**, A., & Bally, J., *The Orion fingers: Near-IR spectral imaging of an explosive outflow*, June, 2016, AJ, 151, 173
- [21] Svoboda, B. E., Shirley, Y. L., Battersby, C., Rosolowsky, E. W., **Ginsburg**, A. G., Ellsworth-Bowers, T. P., Pestalozzi, M. R., Dunham, M. K., Evans, II, N. J., Bally, J., & Glenn, J., *The Bolocam Galactic Plane Survey. XIV. Physical Properties of Massive Starless and Star-forming Clumps*, May, 2016, ApJ, 822, 59
- [22] Henshaw, J. D., Longmore, S. N., Kruijssen, J. M. D., Davies, B., Bally, J., Barnes, A., Battersby, C., Burton, M., Cunningham, M. R., Dale, J. E., **Ginsburg**, A., Immer, K., Jones, P. A., Kendrew, S., Mills, E. A. C., Molinari, S., Moore, T. J. T., Ott, J., Pillai, T., Rathborne, J., Schilke, P., Schmiedeke, A., Testi, L., Walker, D., Walsh, A., & Zhang, Q., *Molecular gas kinematics within the central 250 pc of the Milky Way*, April, 2016, MNRAS, 457, 2675
- [23] McLeod, A. F., Weilbacher, P. M., **Ginsburg**, A., Dale, J. E., Ramsay, S., & Testi, L., *A nebular analysis of the central Orion nebula with MUSE*, February, 2016, MNRAS, 455, 4057
- [24] **Ginsburg**, A., Henkel, C., Ao, Y., Riquelme, D., Kauffmann, J., Pillai, T., Mills, E. A. C., Requena-Torres, M. A., Immer, K., Testi, L., Ott, J., Bally, J., Battersby, C., Darling, J., Aalto, S., Stanke, T., Kendrew, S., Kruijssen, J. M. D., Longmore, S., Dale, J., Guesten, R., & Menten, K. M., *Dense gas in the Galactic central molecular zone is warm and heated by turbulence*, February, 2016, A&A, 586, A50
- [25] Colombo, D., Rosolowsky, E., **Ginsburg**, A., Duarte-Cabral, A., & Hughes, A., *Graph-based interpretation of the Molecular Interstellar Medium Segmentation*, December, 2015, MNRAS, 454, 2067
- [26] **Ginsburg**, A., Walsh, A., Henkel, C., Jones, P. A., Cunningham, M., Kauffmann, J., Pillai, T., Mills, E. A. C., Ott, J., Kruijssen, J. M. D., Menten, K. M., Battersby, C., Rathborne, J., Contreras, Y., Longmore, S., Walker, D., & Dawson, J., *High-mass star-forming cloud G0.38+0.04 in the Galactic Center Dust Ridge contains H₂CO and SiO masers*, December, 2015, A&A, 584, L7
- [27] Bally, J., **Ginsburg**, A., Silvia, D., & Youngblood, A., *The Orion fingers: Near-IR adaptive optics imaging of an explosive protostellar outflow*, July, 2015, A&A, 579, A130
- [28] **ALMA Partnership**, Fomalont, E. B., Vlahakis, C., Corder, S., Remijan, A., Barkats, D., Lucas, R., Hunter, T. R., Brogan, C. L., Asaki, Y., & et al., *The 2014 ALMA Long Baseline Campaign: An Overview*, July, 2015, ApJ, 808, L1
- [29] Wang, K., Testi, L., **Ginsburg**, A., Walmsley, C. M., Molinari, S., & Schisano, E., *Large-scale filaments associated with Milky Way spiral arms*, July, 2015, MNRAS, 450, 4043
- [30] Ellsworth-Bowers, T. P., Glenn, J., Riley, A., Rosolowsky, E., **Ginsburg**, A., Evans, II, N. J., Bally, J., Battersby, C., Shirley, Y. L., & Merello, M., *The Bolocam Galactic Plane Survey. XIII. Physical Properties and Mass Functions of Dense Molecular Cloud Structures*, June, 2015, ApJ, 805, 157
- [31] McLeod, A. F., Dale, J. E., **Ginsburg**, A., Ercolano, B., Gritschneider, M., Ramsay, S., & Testi, L., *The Pillars of Creation revisited with MUSE: gas kinematics and high-mass stellar feedback traced by optical spectroscopy*, June, 2015, MNRAS, 450, 1057
- [32] Merello, M., Evans, II, N. J., Shirley, Y. L., Rosolowsky, E., **Ginsburg**, A., Bally, J., Battersby, C., & Dunham, M. M., *The Bolocam Galactic Plane Survey. XI. Temperatures and Substructure of Galactic Clumps Based On 350 μ m Observations*, May, 2015, ApJS, 218, 1
- [33] Ellsworth-Bowers, T. P., Rosolowsky, E., Glenn, J., **Ginsburg**, A., Evans, II, N. J., Battersby, C., Shirley, Y. L., & Svoboda, B., *The Bolocam Galactic Plane Survey. XII. Distance Catalog Expansion Using Kinematic Isolation of Dense Molecular Cloud Structures with ¹³CO(1-0)*, January, 2015, ApJ, 799, 29
- [34] **Ginsburg**, A., Bally, J., Battersby, C., Youngblood, A., Darling, J., Rosolowsky, E., Arce, H., & Lebrón Santos, M. E., *The dense gas mass fraction in the W51 cloud and its protoclusters*, January, 2015, A&A, 573, A106
- [35] Bally, J., **Ginsburg**, A., Probst, R., Reipurth, B., Shirley, Y. L., & Stringfellow, G. S., *Outflows, Dusty Cores, and a Burst of Star Formation in the North America and Pelican Nebulae*, December, 2014, AJ, 148, 120
- [36] Bally, J., Rathborne, J. M., Longmore, S. N., Jackson, J. M., Alves, J. F., Bressert, E., Contreras, Y., Foster, J. B., Garay, G., **Ginsburg**, A., Johnston, K. G., Kruijssen, J. M. D., Testi, L., & Walsh, A. J., *Absorption Filaments toward the Massive Clump G0.253+0.016*, November, 2014, ApJ, 795, 28
- [37] Battersby, C., **Ginsburg**, A., Bally, J., Longmore, S., Dunham, M., & Darling, J., *The Onset of Massive Star Formation: The Evolution of Temperature and Density Structure in an Infrared Dark Cloud*, June, 2014, ApJ, 787, 113
- [38] Battersby, C., Bally, J., Dunham, M., **Ginsburg**, A., Longmore, S., & Darling, J., *The Comparison of Physical Properties Derived from Gas and Dust in a Massive Star-forming Region*, May, 2014, ApJ, 786, 116

- [39] Levesque, E. M., Stringfellow, G. S., **Ginsburg**, A. G., Bally, J., & Keeney, B. A., *The Peculiar Balmer Decrement of SN 2009ip: Constraints on Circumstellar Geometry*, January, 2014, AJ, 147, 23
- [40] Margutti, R., Milisavljevic, D., Soderberg, A. M., Chornock, R., Zauderer, B. A., Murase, K., Guidorzi, C., Sanders, N. E., Kuin, P., Fransson, C., Levesque, E. M., Chandra, P., Berger, E., Bianco, F. B., Brown, P. J., Challis, P., Chatzopoulos, E., Cheung, C. C., Choi, C., Chomiuk, L., Chugai, N., Contreras, C., Drout, M. R., Fesen, R., Foley, R. J., Fong, W., Friedman, A. S., Gall, C., Gehrels, N., Hjorth, J., Hsiao, E., Kirshner, R., Im, M., Leloudas, G., Lunnan, R., Marion, G. H., Martin, J., Morrell, N., Neugent, K. F., Omodei, N., Phillips, M. M., Rest, A., Silverman, J. M., Strader, J., Stritzinger, M. D., Szalai, T., Utterback, N. B., Vinko, J., Wheeler, J. C., Arnett, D., Campana, S., Chevalier, R., **Ginsburg**, A., Kamble, A., Roming, P. W. A., Pritchard, T., & Stringfellow, G., *A Panchromatic View of the Restless SN 2009ip Reveals the Explosive Ejection of a Massive Star Envelope*, January, 2014, ApJ, 780, 21
- [41] **Ginsburg**, A., Federrath, C., & Darling, J., *A Measurement of the Turbulence-driven Density Distribution in a Non-star-forming Molecular Cloud*, December, 2013, ApJ, 779, 50
- [42] Shirley, Y. L., Ellsworth-Bowers, T. P., Svoboda, B., Schlingman, W. M., **Ginsburg**, A., Rosolowsky, E., Gerner, T., Mairs, S., Battersby, C., Stringfellow, G., Dunham, M. K., Glenn, J., & Bally, J., *The Bolocam Galactic Plane Survey. X. A Complete Spectroscopic Catalog of Dense Molecular Gas Observed toward 1.1 mm Dust Continuum Sources with $7.5 \leq l \leq 194$* , November, 2013, ApJS, 209, 2
- [43] Astropy Collaboration, Robitaille, T. P., Tollerud, E. J., Greenfield, P., Droettboom, M., Bray, E., Aldcroft, T., Davis, M., **Ginsburg**, A., Price-Whelan, A. M., Kerzendorf, W. E., Conley, A., Crighton, N., Barbary, K., Muna, D., Ferguson, H., Grollier, F., Parikh, M. M., Nair, P. H., Unther, H. M., Deil, C., Woillez, J., Conseil, S., Kramer, R., Turner, J. E. H., Singer, L., Fox, R., Weaver, B. A., Zabalza, V., Edwards, Z. I., Azalee Bostroem, K., Burke, D. J., Casey, A. R., Crawford, S. M., Dencheva, N., Ely, J., Jenness, T., Labrie, K., Lim, P. L., Pierfederici, F., Pontzen, A., Ptak, A., Refsdal, B., Servillat, M., & Streicher, O., *Astropy: A community Python package for astronomy*, October, 2013, A&A, 558, A33
- [44] **Ginsburg**, A., Glenn, J., Rosolowsky, E., Ellsworth-Bowers, T. P., Battersby, C., Dunham, M., Merello, M., Shirley, Y., Bally, J., Evans, II, N. J., Stringfellow, G., & Aguirre, J., *The Bolocam Galactic Plane Survey. IX. Data Release 2 and Outer Galaxy Extension*, October, 2013, ApJS, 208, 14
- [45] Kendrew, S., **Ginsburg**, A., Johnston, K., Beuther, H., Bally, J., Cyganowski, C. J., & Battersby, C., *Early-stage Massive Star Formation near the Galactic Center: Sgr C*, October, 2013, ApJ, 775, L50
- [46] Fallscheer, C., Reid, M. A., Di Francesco, J., Martin, P. G., Hill, T., Hennemann, M., Nguyen-Luong, Q., Motte, F., Men'shchikov, A., André, P., Ward-Thompson, D., Griffin, M., Kirk, J., Konyves, V., Rygl, K. L. J., Sadavoy, S., Sauvage, M., Schneider, N., Anderson, L. D., Benedettini, M., Bernard, J.-P., Bontemps, S., **Ginsburg**, A., Molinari, S., Polychroni, D., Rivera-Ingraham, A., Roussel, H., Testi, L., White, G., Williams, J. P., Wilson, C. D., Wong, M., & Zavagno, A., *Herschel Reveals Massive Cold Clumps in NGC 7538*, August, 2013, ApJ, 773, 102
- [47] Ellsworth-Bowers, T. P., Glenn, J., Rosolowsky, E., Mairs, S., Evans, II, N. J., Battersby, C., **Ginsburg**, A., Shirley, Y. L., & Bally, J., *The Bolocam Galactic Plane Survey. VIII. A Mid-infrared Kinematic Distance Discrimination Method*, June, 2013, ApJ, 770, 39
- [48] Harvey, P. M., Fallscheer, C., **Ginsburg**, A., Terebey, S., André, P., Bourke, T. L., Di Francesco, J., Könyves, V., Matthews, B. C., & Peterson, D. E., *A First Look at the Auriga-California Giant Molecular Cloud with Herschel and the CSO: Census of the Young Stellar Objects and the Dense Gas*, February, 2013, ApJ, 764, 133
- [49] Smith, N., Arnett, W. D., Bally, J., **Ginsburg**, A., & Filippenko, A. V., *The ring nebula around the blue supergiant SBW1: pre-explosion snapshot of an SN 1987A twin*, February, 2013, MNRAS, 429, 1324
- [50] Bressert, E., **Ginsburg**, A., Bally, J., Battersby, C., Longmore, S., & Testi, L., *How to Find Young Massive Cluster Progenitors*, October, 2012, ApJ, 758, L28
- [51] **Ginsburg**, A., Bressert, E., Bally, J., & Battersby, C., *There are No Starless Massive Proto-clusters in the First Quadrant of the Galaxy*, October, 2012, ApJ, 758, L29
- [52] Bally, J., Youngblood, A., & **Ginsburg**, A., *The Spindle: An Irradiated Disk and Bent Protostellar Jet in Orion*, September, 2012, ApJ, 756, 137
- [53] **Ginsburg**, A., Bally, J., & Williams, J. P., *JCMT HARP CO 3-2 observations of molecular outflows in W5*, December, 2011, MNRAS, 418, 2121
- [54] Battersby, C., Bally, J., **Ginsburg**, A., Bernard, J.-P., Brunt, C., Fuller, G. A., Martin, P., Molinari, S., Mottram, J., Peretto, N., Testi, L., & Thompson, M. A., *Characterizing precursors to stellar clusters with Herschel*, November, 2011, A&A, 535, A128
- [55] **Ginsburg**, A., Darling, J., Battersby, C., Zeiger, B., & Bally, J., *Galactic H₂CO Densitometry. I. Pilot Survey of Ultracompact H II Regions and Methodology*, August, 2011, ApJ, 736, 149
- [56] Schlingman, W. M., Shirley, Y. L., Schenk, D. E., Rosolowsky, E., Bally, J., Battersby, C., Dunham, M. K., Ellsworth-Bowers, T. P., Evans, II, N. J., **Ginsburg**, A., & Stringfellow, G., *The Bolocam Galactic Plane Survey: V. HCO⁺ and N₂H⁺ Spectroscopy of 1.1 mm Dust Continuum Sources*, August, 2011, ApJS, 195, 14

- [57] van Aarle, E., van Winckel, H., Lloyd Evans, T., Ueta, T., Wood, P. R., & **Ginsburg**, A. G., *The optically bright post-AGB population of the LMC*, June, 2011, A&A, 530, A90+
- [58] Aguirre, J. E., **Ginsburg**, A. G., Dunham, M. K., Drosback, M. M., Bally, J., Battersby, C., Bradley, E. T., Cyganowski, C., Dowell, D., Evans, II, N. J., Glenn, J., Harvey, P., Rosolowsky, E., Stringfellow, G. S., Walawender, J., & Williams, J. P., *The Bolocam Galactic Plane Survey: Survey Description and Data Reduction*, January, 2011, ApJS, 192, 4
- [59] Bally, J., Aguirre, J., Battersby, C., Bradley, E. T., Cyganowski, C., Dowell, D., Drosback, M., Dunham, M. K., Evans, II, N. J., **Ginsburg**, A., Glenn, J., Harvey, P., Mills, E., Merello, M., Rosolowsky, E., Schlingman, W., Shirley, Y. L., Stringfellow, G. S., Walawender, J., & Williams, J., *The Bolocam Galactic Plane Survey: $\lambda = 1.1$ and 0.35 mm Dust Continuum Emission in the Galactic Center Region*, September, 2010, ApJ, 721, 137
- [60] Battersby, C., Bally, J., Jackson, J. M., **Ginsburg**, A., Shirley, Y. L., Schlingman, W., & Glenn, J., *An Infrared Through Radio Study of the Properties and Evolution of IRDC Clumps*, September, 2010, ApJ, 721, 222
- [61] Yan, C.-H., Minh, Y. C., Wang, S.-Y., Su, Y.-N., & **Ginsburg**, A., *Star-forming Region Sh 2-233IR. I. Deep Near-infrared Observations toward the Embedded Stellar Clusters*, September, 2010, ApJ, 720, 1
- [62] Bally, J., Anderson, L. D., Battersby, C., Calzoletti, L., Digiorgio, A. M., Faustini, F., **Ginsburg**, A., Li, J. Z., Nguyen-Luong, Q., Molinari, S., Motte, F., Pestalozzi, M., Plume, R., Rodon, J., Schilke, P., Schlingman, W., Schneider-Bontemps, N., Shirley, Y., Stringfellow, G. S., Testi, L., Traficante, A., Veneziani, M., & Zavagno, A., *Herschel observations of the W43 “mini-starburst”*, July, 2010, A&A, 518, L90+
- [63] Dunham, M. K., Rosolowsky, E., Evans, II, N. J., Cyganowski, C. J., Aguirre, J., Bally, J., Battersby, C., Bradley, E. T., Dowell, D., Drosback, M., **Ginsburg**, A., Glenn, J., Harvey, P., Merello, M., Schlingman, W., Shirley, Y. L., Stringfellow, G. S., Walawender, J., & Williams, J. P., *The Bolocam Galactic Plane Survey: III. Characterizing Physical Properties of Massive Star-forming Regions in the Gemini OB1 Molecular Cloud*, July, 2010, ApJ, 717, 1157
- [64] Rosolowsky, E., Dunham, M. K., **Ginsburg**, A., Bradley, E. T., Aguirre, J., Bally, J., Battersby, C., Cyganowski, C., Dowell, D., Drosback, M., Evans, II, N. J., Glenn, J., Harvey, P., Stringfellow, G. S., Walawender, J., & Williams, J. P., *The Bolocam Galactic Plane Survey: II. Catalog of the Image Data*, May, 2010, ApJS, 188, 123
- [65] **Ginsburg**, A. G., Bally, J., Yan, C.-H., & Williams, J. P., *Outflows and Massive Stars in the Protocluster IRAS 05358+3543*, December, 2009, ApJ, 707, 310
- [66] Rubin, D., Hony, S., Madden, S. C., Tielens, A. G. G. M., Meixner, M., Indebetouw, R., Reach, W., **Ginsburg**, A., Kim, S., Mochizuki, K., Babler, B., Block, M., Bracker, S. B., Engelbracht, C. W., For, B.-Q., Gordon, K., Hora, J. L., Leitherer, C., Meade, M., Misselt, K., Sewilo, M., Vijn, U., & Whitney, B., *A spatially resolved study of photoelectric heating and [C II] cooling in the LMC. Comparison with dust emission as seen by SAGE*, February, 2009, A&A, 494, 647
- [67] van de Steene, G. C., Ueta, T., van Hoof, P. A. M., Reyniers, M., & **Ginsburg**, A. G., *Kinematics and H_2 morphology of the multipolar post-AGB star IRAS 16594-4656*, March, 2008, A&A, 480, 775