

# Jaime E. Pineda Fornerod

## Curriculum Vitae

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## Experience

- 2020– **Staff Astronomer**, *Center for Astrochemical Studies (CAS@MPE)*, Max-Planck-Institut für extraterrestrische Physik (MPE), Garching, Germany
- 2014–2020 **Post-doc**, *Center for Astrochemical Studies (CAS@MPE)*, Max-Planck-Institut für extraterrestrische Physik (MPE), Garching, Germany
- 2013–2014 **STARFORM Fellow**, *Star and Planet Formation group*, Swiss Federal Institute of Technology in Zurich (ETH Zurich), Zurich, Switzerland
- 2010–2013 **ESO ALMA Fellow**, *ESO/University of Manchester*, University of Manchester, Manchester, UK
- 2010 **Post-doc**, *Harvard University*, Cambridge, MA

## Education

- 2010 **Ph.D., Astronomy**, *Harvard University*, Cambridge, MA  
Dissertation: The Origin and Inner Workings of Star-Forming Cores  
advisor: Professor Alyssa A. Goodman
- 2007 **A.M., Astronomy**, *Harvard University*, Cambridge, MA
- 2005 **M.S., Astronomy**, *Universidad de Chile*, Santiago, Chile  
advisor: Professor Guido Garay
- 2003 **B.S., Astronomy**, *Universidad de Chile*, Santiago, Chile

## Awards and Recognition

- Beatrice M. Tinsley Visiting Scholar**, *University of Texas at Austin*, 2023
- First author of review chapter in Protostars and Planets VII**

## Professional Service

- Committee Member **Chair of Star Formation Science Review Panel**, *NRAO Time Allocation Committee*, 2023–
- Member of Star Formation Science Review Panel**, *NRAO Time Allocation Committee*, 2021–2022
- member of ngVLA Working group**
- member of FIRSST Science Team**

Member of SOFIA German Panel, *Time Allocation Committee*, 2021–2022

SOC Chair of Special Session at EAS 2021

Member of Joint Astronomical Colloquium (JAC) organising committee, including members of ESO, MPE, MPA, and LMU

External thesis committee member for Dr. J. Lewis at Harvard University

External thesis committee member for Dr. H. Chen at Harvard University

Post-doc and student recruitment panel for CAS@MPE Group

Collaborations co-PI of GAS (GBT large program)

coordinator of Class 0 and I MIOP program (NOEMA large program)

member of JCMT Gould Belt Survey, FAUST (ALMA large program), DiSCo GAS (GBT large program), SOLIS (NOEMA large program), KEYSTONE (GBT large program), COMPLETE, MASSES (Legacy program at SMA)

Reviewer Member of ALMA TAC (Cycle 4, Cycle 5, and Cycle 8)

Expert referee for Marie Skłodowska-Curie Individual Fellowships

Expert referee for JCMT and e-MERLIN TAC

Research Assessor on Chilean National Science Foundation (CONICYT) Grant applications

Referee for *Nature*, *Nature Astronomy*, *MNRAS*, *ApJ*, *A&A*, *RAA*

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## Ph.D. and M.Sc. Student co-supervision

2020–present M. T. Valdivia-Mena, *MPE*, Ph.D.

2022 D. Cherouvrier, *CEA Saclay*, M.Sc..

2020–2021 T. Carl, *Freie Universität Berlin*, M.Sc..

2018–2022 S. Choudhury, *MPE*, Ph.D.

2015–2020 C. Agurto-Gangas, *MPE*, Ph.D.

2014–2018 V. Sokolov, *MPE*, Ph.D.

2014–2018 A. Chacon-Tanarro, *MPE*, Ph.D.

2014–2017 A. Punanova, *MPE*, Ph.D.

2011–2014 M. Lackington, *University of Manchester*, Ph.D.

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## Seminars and Colloquia

2023 Seminar, *University of Texas Austin*, Austin, TX, USA

2023 Colloquium, *University of Texas Austin*, Austin, TX, USA

2022 Seminar, *Radio and Geoastronomy Division*, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, USA

2022 Colloquium, *Joint ALMA Observatory (JAO)*, Santiago, Chile

2021 Seminar, *Green Bank Observatory Community Zoom*, Virtual

2021 Star and Planet Formation seminar, *ESO/MPE*, Garching, Germany

2020 Colloquium, *IRyA*, UNAM, Virtual

- 2019 **Colloquium**, *Ludwig-Maximilians-University*, Munich, Germany
- 2019 **Colloquium**, *MPIA*, Heidelberg, Germany
- 2019 **Seminar**, *University of Manchester*, Manchester, UK
- 2019 **Colloquium**, *CEA-Saclay*, Paris, France
- 2018 **Seminar**, *Radio and Geoastronomy Division*, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, USA
- 2017 **Colloquium**, *Universität zu Köln*, Köln, Germany
- 2017 **Colloquium**, *NRC Herzberg*, Victoria, Canada
- 2017 **Colloquium**, *Arcetri Astrophysical Observatory (INAF)*, Florence, Italy
- 2016 **Seminar**, *RIKEN*, Tokio, Japan
- 2015 **Colloquium**, *Universidad de Chile*, Santiago, Chile
- 2015 **Disk Group (MAD) Seminar**, *Universidad de Chile*, Santiago, Chile
- 2015 **ISM and Star Formation Seminar**, *Universidad de Chile*, Santiago, Chile
- 2015 **Star and Planet Formation seminar**, *ESO/MPE*, Garching, Germany
- 2014 **Seminar**, *MPE*, Garching, Germany
- 2014 **Colloquium**, *University of Geneva*, Geneva, Switzerland
- 2013 **Star-formation meeting**, *Yale University*, New Haven, CT, USA
- 2013 **Radio and Geoastronomy Division talk**, *Harvard-Smithsonian Center for Astrophysics*, Cambridge, MA, USA
- 2013 **Internal Seminar**, *ETH Zurich*, Zurich, Switzerland
- 2012 **Colloquium**, *University of Vienna*, Vienna, Austria
- 2012 **Internal Seminar**, *University of Manchester*, Manchester, UK
- 2012 **Cavendish seminar series**, *Cambridge University*, Cambridge, UK
- 2012 **Colloquium**, *University of Exeter*, Exeter, UK
- 2011 **Seminar**, *NRAO*, Green Bank, WV, USA
- 2010 **Seminar**, *Observatorio Astronómico Nacional*, Madrid, Spain
- 2010 **Seminar**, *Joint Astronomy Centre*, Hawaii, USA
- 2010 **Colloquium**, *University of Leeds*, Leeds, UK
- 2010 **Colloquium**, *University of Manchester*, Manchester, UK
- 2010 **Colloquium**, *Pontificia Universidad Católica de Chile*, Santiago, Chile
- 2010 **Colloquium**, *Universidad de Chile*, Santiago, Chile
- 2010 **ITC Lunch Talk**, *Harvard-Smithsonian Center for Astrophysics*, Cambridge, MA, USA

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## Conference Talks

- 2022 **Next Generation Astrochemistry: Reconstruction of the Science Based on Fundamental Molecular Processes**, Tokyo, Japan
- 2022 **Molecules in Extreme Environments; Near and Far**, *Invited Review*, Tokyo, Japan
- 2022 **Cosmic Rays 2: The salt of the star-formation recipe**, Florence, Italy

- 2022 **K-Band Science Using the Green Bank Telescope**, *Invited Talk and Panel Discussion*, Green Bank, WV, USA
- 2022 **Interstellar Institute (I2) Workshop: With two eyes**, Paris, France
- 2022 **Seeing the Future: Of the Universe, Data, Learning, & Digital Scholarship**, *Invited Panel Discussion*, New Castle, NH, USA
- 2022 **Multi-line Diagnostics of the Interstellar Medium**, Nice, France
- 2021 **Gaps, Rings, Spirals, and Vortices: Structure Formation in Planet-Forming Disks**, Garching, Germany
- 2021 **EAS 2021: Special Session SS19**, *Virtual*, Leiden, Netherlands
- 2021 **Core2Disk 2**, *Invited Talk*, Paris, France
- 2020 **Virtual Congreso Astrobiología**, *Invited Talk*, Bogotá, Colombia
- 2020 **Wider and Deeper at Green Bank: The New Argus-144 Instrument**, *Virtual*, Green Bank, WV, USA
- 2019 **ALMA2019: Science Results and Cross-Facility Synergies**, Cagliari, Italy
- 2019 **EWASS2019, Symposium S11**, *Invited Review*, Lyon, France
- 2019 **EWASS2019, Special Session SS15**, Lyon, France
- 2018 **The Early Phase of Star Formation (EPOS2018)**, Ringberg, Germany
- 2018 **Core2Disk**, *Invited Talk*, Paris, France
- 2017 **The Physics of the ISM**, Köln, Germany
- 2016 **The Hydride Toolbox**, Paris, France
- 2016 **American Astronomical Society Meeting #227**, Kissimmee, FL, USA
- 2015 **The 6th Zermatt ISM Symposium**, Zermatt, Switzerland
- 2015 **Disc Dynamics and Planet Formation**, Larnaka, Cyprus
- 2015 **Harvard-Heidelberg Star Formation Meeting 2015 (HHSF15)**, *Research Highlight talk*, Cambridge, MA, USA
- 2014 **OSSF14: The Olympian Symposium on Star Formation**, Paralia Katerini, Greece
- 2014 **AASTCS 4: Workshop on Dense Cores: Origin, Evolution, and Collapse**, *Invited talk*, Monterrey, CA, USA
- 2013 **UK National Astronomy Meeting**, 2 talks, St. Andrews, UK
- 2012 **The First Year of ALMA Science**, Puerto Varas, Chile
- 2012 **StarZ meeting**, *Review talk*, Zurich, Switzerland
- 2012 **Frontiers of Star Formation Workshop**, ESTEC, Noordwijk, Netherlands
- 2012 **Origins of Stars and their Planetary Systems**, McMaster University, Hamilton, Canada
- 2011 **The Milky Way in the Herschel Era**, Rome, Italy
- 2011 **American Astronomical Society Meeting #218**, Boston, MA, USA
- 2011 **ALMA Community Days**, *Review talk*, ESO, Garching, Germany
- 2010 **10th European VLBI Network Symposium and EVN Users Meeting**, *Review talk*, Manchester, UK

- 2010 **The Early Phase of Star Formation (EPOS2010)**, Ringberg, Germany
- 2010 **From Stars to Galaxies**, Gainesville, FL, USA
- 2010 **American Astronomical Society Meeting #215**, Washington, DC, USA
- 2009 **Star formation: the pre-ALMA stage**, *Invited talk*, Santiago, Chile
- 2009 **American Astronomical Society Meeting #213**, Long Beach, CA, USA
- 2007 **American Astronomical Society Meeting #209**, Seattle, WA, USA

## Observing Time as PI

**Summary:** *Since 2010, I have obtained a substantial amount of telescope time as PI: ALMA (47 hrs), VLA (82 hrs), NOEMA (91 hrs), GBT (436 hrs), IRAM 30m (188 hrs)*

## Publications

**Summary:** *The full list of publications include about 158 publications in high-impact journals (Nature, Nature Astronomy, MNRAS, ApJ, A&A, AJ), with an h-index of 43 and collecting around 6600 citations (1161 citations in 2022 alone). An up-to-date list of publications can be found here: [http://bit.ly/JPineda\\_pub\\_35EaU4n](http://bit.ly/JPineda_pub_35EaU4n). Since I participate in a few collaborations, where because of the large number of authors it is difficult to quantify the individual contribution, I list those publications those where I consider my contribution to be substantial together with those of fewer authors*

### Submitted or in Press

- [1] **Jaime E. Pineda**, O. Sipilä, D. M. Segura-Cox, R. Neri, M. Kuffmeier, et al. Probing the Physics of Star-Formation (ProPStar): I. First Maps of Electron Fraction and Cosmic-Ray Ionization Rate. *A&A*, Submitted 2023.
- [2] Yuki Okoda, Yoko Oya, Logan Francis, Doug Johnstone, Claudio Ceccarelli, Cecilia Codella, et al. FAUST VII. Detection of A Hot Corino in the Prototypical Warm Carbon-Chain Chemistry Source IRAS 15398-3359. *ApJL*, Submitted 2023.
- [3] S. Mercimek, L. Podio, C. Codella, L. Chahine, A. López-Sepulcre, et al. FAUST VIII. The protostellar disk of VLA 1623-2417 W and its streamers imaged by ALMA. *MNRAS*, Submitted 2023.
- [4] L. Evans, C. Vastel, F. Fontani, **Jaime E. Pineda**, F. Alves, et al. FAUST IX: Deuteration of Formaldehyde in the Protobinary System [BHB2007] 11. *A&A*, Submitted 2023.
- [5] A. T. Barnes, J. Liu, Q. Zhang, J. C. Tan, P. Caselli, et al. Mother of Dragons: A Massive, Quiescent core in the dragon cloud (IRDC G028.37+00.07). *MNRAS*, Submitted 2023.
- [6] C. Agurto-Gangas, L. Szűcs, D. Segura-Cox, **Jaime E. Pineda**, P. Caselli, and L. Testi. Class I protostar Per-emb-50: limits for the maximum grain size in the disk and inner envelope. *A&A*, Submitted 2023.
- [7] **Jaime E. Pineda**, Doris Arzoumanian, Philippe André, Rachel K. Friesen, Annie Zavagno, et al. From Bubbles and Filaments to Cores and Disks: Gas Gathering and Growth of Structure Leading to the Formation of Stellar Systems. *arXiv e-prints*, page arXiv:2205.03935, May 2022, 2205.03935.

## Articles

- [1] Simon E. T. Smith, Rachel Friesen, Antoine Marchal, **Jaime E. Pineda**, Paola Caselli, et al. Velocity-coherent substructure in TMC-1: inflow and fragmentation. *MNRAS*, 519(1):285–299, Feb. 2023, 2211.10535.
- [2] M. T. Valdivia-Mena, **Jaime E. Pineda**, D. M. Segura-Cox, P. Caselli, R. Neri, et al. PRODIGE - envelope to disk with NOEMA. I. A 3000 au streamer feeding a Class I protostar. *A&A*, 667:A12, Nov. 2022, 2208.01023.
- [3] Elena Redaelli, Ana Chacón-Tanarro, Paola Caselli, Mario Tafalla, **Jaime E. Pineda**, Silvia Spezzano, and Olli Sipilä. A Large ( $\approx 1$  pc) Contracting Envelope Around the Prestellar Core L1544. *ApJ*, 941(2):168, Dec. 2022, 2210.13571.
- [4] **Jaime E. Pineda**, Jorma Harju, Paola Caselli, Olli Sipilä, Mika Juvela, et al. An Interferometric View of H-MM1. I. Direct Observation of  $\text{NH}_3$  Depletion. *AJ*, 163(6):294, June 2022, 2205.01201.
- [5] Stella S. R. Offner, Josh Taylor, Carleen Markey, Hope How-Huan Chen, **Jaime E. Pineda**, et al. Turbulence, coherence, and collapse: Three phases for core evolution. *MNRAS*, 517(1):885–909, Nov. 2022.
- [6] María José Maureira, Munan Gong, **Jaime E. Pineda**, Haoyu Baobab Liu, Kedron Silsbee, et al. Dust Hot Spots at 10 au Scales around the Class 0 Binary IRAS 16293-2422 A: A Departure from the Passive Irradiation Model. *ApJL*, 941(2):L23, Dec. 2022, 2212.08436.
- [7] T. H. Hsieh, D. M. Segura-Cox, J. E. Pineda, P. Caselli, L. Bouscasse, et al. PRODIGE – Envelope to Disk with NOEMA II. Small-scale temperature structure and a streamer feeding the SVS13A protobinary using  $\text{CH}_3\text{CN}$  and  $\text{DCN}$ . *arXiv e-prints*, page arXiv:2211.05022, Nov. 2022, 2211.05022.
- [8] Adam Ginsburg, Vlas Sokolov, Miguel de Val-Borro, Erik Rosolowsky, **Jaime E. Pineda**, Brigitta M. Sipőcz, and Jonathan D. Henshaw. Pyspeckit: A Spectroscopic Analysis and Plotting Package. *AJ*, 163(6):291, June 2022, 2205.04987.
- [9] A. Garufi, L. Podio, C. Codella, D. Segura-Cox, M. Vander Donckt, et al. ALMA chemical survey of disk-outflow sources in Taurus (ALMA-DOT). VI. Accretion shocks in the disk of DG Tau and HL Tau. *A&A*, 658:A104, Feb. 2022, 2110.13820.
- [10] Marta De Simone, Claudio Codella, Cecilia Ceccarelli, Ana López-Sepulcre, Roberto Neri, et al. A train of shocks at 3000-au scale? Exploring the clash of an expanding bubble into the NGC 1333 IRAS 4 region. SOLIS XIV. *MNRAS*, 512(4):5214–5227, June 2022, 2201.03434.
- [11] Michael Chun-Yuan Chen, James Di Francesco, **Jaime E. Pineda**, Stella S. R. Offner, and Rachel K. Friesen. Turbulence and Accretion: A High-resolution Study of the B5 Filaments. *ApJ*, 935(1):57, Aug. 2022, 2209.00659.
- [12] Paola Caselli, **Jaime E. Pineda**, Olli Sipilä, Bo Zhao, Elena Redaelli, et al. The Central 1000 au of a Prestellar Core Revealed with ALMA. II. Almost Complete Freeze-out. *ApJ*, 929(1):13, Apr. 2022, 2202.13374.

- [13] Stephanie Spear, María José Maureira, Héctor G. Arce, **Jaime E. Pineda**, Michael Dunham, Paola Caselli, and Dominique Segura-Cox. VLA and NOEMA Views of Bok Globule CB 17: The Starless Nature of a Proposed First Hydrostatic Core Candidate. *ApJ*, 923(2):231, Dec. 2021, 2111.01217.
- [14] Ayushi Singh, Christopher D. Matzner, Rachel K. Friesen, Peter G. Martin, **Jaime E. Pineda**, et al. Are Massive Dense Clumps Truly Subvirial? A New Analysis Using Gould Belt Ammonia Data. *ApJ*, 922(1):87, Nov. 2021, 2108.05367.
- [15] Anika Schmiedeke, **Jaime E. Pineda**, Paola Caselli, Héctor G. Arce, Gary A. Fuller, et al. Dissecting the Supercritical Filaments Embedded in the 0.5 pc Subsonic Region of Barnard 5. *ApJ*, 909(1):60, Mar. 2021, 2101.00248.
- [16] **Jaime E. Pineda**, Anika Schmiedeke, Paola Caselli, Steven W. Stahler, David T. Frayer, Sarah E. Church, and Andrew I. Harris. Neutral versus Ion Line Widths in Barnard 5: Evidence for Penetration by Magnetohydrodynamic Waves. *ApJ*, 912(1):7, May 2021, 2104.12411.
- [17] F. Fontani, A. T. Barnes, P. Caselli, J. D. Henshaw, G. Cosentino, et al. ALMA-IRDC - II. First high-angular resolution measurements of the  $^{14}\text{N}/^{15}\text{N}$  ratio in a large sample of infrared-dark cloud cores. *MNRAS*, 503(3):4320–4335, May 2021, 2103.09123.
- [18] Spandan Choudhury, **Jaime E. Pineda**, Paola Caselli, Stella S. R. Offner, Erik Rosolowsky, et al. Transition from coherent cores to surrounding cloud in L1688. *A&A*, 648:A114, Apr. 2021, 2102.06459.
- [19] A. T. Barnes, J. D. Henshaw, F. Fontani, **Jaime E. Pineda**, G. Cosentino, et al. ALMA-IRDC: dense gas mass distribution from cloud to core scales. *MNRAS*, 503(3):4601–4626, May 2021, 2103.09122.
- [20] A. Avison, G. A. Fuller, N. Peretto, A. Duarte-Cabral, A. L. Rosen, et al. Continuity of accretion from clumps to Class 0 high-mass protostars in SDC335. *A&A*, 645:A142, Jan. 2021, 2012.08948.
- [21] V. Taquet, C. Codella, M. De Simone, A. López-Sepulcre, **Jaime E. Pineda**, et al. Seeds of Life in Space (SOLIS). VI. Chemical evolution of sulfuretted species along the outflows driven by the low-mass protostellar binary NGC 1333-IRAS4A. *A&A*, 637:A63, May 2020, 2002.05480.
- [22] S. Spezzano, P. Caselli, **Jaime E. Pineda**, L. Bizzocchi, D. Prudenzano, and Z. Nagy. Distribution of methanol and cyclopropenylidene around starless cores. *A&A*, 643:A60, Nov. 2020, 2009.04768.
- [23] Vlas Sokolov, **Jaime E. Pineda**, Johannes Buchner, and Paola Caselli. Probabilistic Detection of Spectral Line Components. *ApJL*, 892(2):L32, Apr. 2020, 2003.07644.
- [24] Dominique M. Segura-Cox, Anika Schmiedeke, **Jaime E. Pineda**, Ian W. Stephens, Manuel Fernández-López, et al. Four annular structures in a protostellar disk less than 500,000 years old. *Nature*, 586(7828):228–231, Oct. 2020, 2010.03657.

- [25] **Jaime E. Pineda**, Dominique Segura-Cox, Paola Caselli, Nichol Cunningham, Bo Zhao, et al. A protostellar system fed by a streamer of 10,500 au length. *Nature Astronomy*, 4:1158–1163, Jan. 2020, 2007.13430.
- [26] I. V. Petrashkevich, A. F. Punanova, P. Caselli, **Jaime E. Pineda**, A. Pon, and R. Friesen. Deuterium Fractionation in the Oph-H-MM1 Dense Core of the L1688 Low Mass Star-Forming Region. *Astronomy Reports*, 64(8):637–640, Aug. 2020.
- [27] Maria Jose Maureira, **Jaime E. Pineda**, Dominique M. Segura-Cox, Paola Caselli, Leonardo Testi, et al. Orbital and mass constraints of the young binary system IRAS 16293-2422 A. *ApJ*, May 2020, 2005.11954.
- [28] María José Maureira, Héctor G. Arce, Michael M. Dunham, Diego Mardones, Andrés E. Guzmán, **Jaime E. Pineda**, and Tyler L. Bourke. ALMA observations of envelopes around first hydrostatic core candidates. *MNRAS*, 499(3):4394–4417, Dec. 2020, 2009.08740.
- [29] Jorma Harju, **Jaime E. Pineda**, Anton I. Vasyunin, Paola Caselli, Stella S. R. Offner, et al. Efficient Methanol Production on the Dark Side of a Prestellar Core. *ApJ*, 895(2):101, June 2020, 1903.11298.
- [30] M. De Simone, C. Codella, C. Ceccarelli, A. López-Sepulcre, A. Witzel, et al. Seeds of Life in Space (SOLIS). X. Interstellar complex organic molecules in the NGC 1333 IRAS 4A outflows. *A&A*, 640:A75, Aug. 2020, 2006.09925.
- [31] Spandan Choudhury, **Jaime E. Pineda**, Paola Caselli, Adam Ginsburg, Stella S. R. Offner, et al. Ubiquitous NH<sub>3</sub> supersonic component in L1688 coherent cores. *A&A*, 640:L6, Aug. 2020, 2007.07149.
- [32] Michael Chun-Yuan Chen, James Di Francesco, Erik Rosolowsky, Jared Keown, **Jaime E. Pineda**, et al. Velocity-coherent Filaments in NGC 1333: Evidence for Accretion Flow? *ApJ*, 891(1):84, Mar. 2020, 2002.11736.
- [33] Che-Yu Chen, Erica A. Behrens, Jasmin E. Washington, Laura M. Fissel, Rachel K. Friesen, et al. Relative alignment between dense molecular cores and ambient magnetic field: the synergy of numerical models and observations. *MNRAS*, 494(2):1971–1987, Mar. 2020, 2003.11033.
- [34] Ian W. Stephens, Tyler L. Bourke, Michael M. Dunham, Philip C. Myers, Riway Pokhrel, et al. Mass Assembly of Stellar Systems and Their Evolution with the SMA (MASSES)—Full Data Release. *ApJS*, 245(2):21, Dec. 2019, 1911.08496.
- [35] Vlas Sokolov, Ke Wang, **Jaime E. Pineda**, Paola Caselli, Jonathan D. Henshaw, et al. Multicomponent Kinematics in a Massive Filamentary Infrared Dark Cloud. *ApJ*, 872(1):30, Feb. 2019, 1812.09581.
- [36] **Jaime E. Pineda**, Bo Zhao, Anika Schmiedeke, Dominique M. Segura-Cox, Paola Caselli, et al. The Specific Angular Momentum Radial Profile in Dense Cores: Improved Initial Conditions for Disk Formation. *ApJ*, 882(2):103, Sept. 2019, 1906.05578.



- [37] **Jaime E. Pineda**, Judit Szulágyi, Sascha P. Quanz, Ewine F. van Dishoeck, Antonio Garufi, et al. High-resolution ALMA Observations of HD 100546: Asymmetric Circumstellar Ring and Circumplanetary Disk Upper Limits. *ApJ*, 871(1):48, Jan. 2019, 1811.10365.
- [38] Ronan Kerr, Helen Kirk, James Di Francesco, Jared Keown, Mike Chen, et al. The Green Bank Ammonia Survey: A Virial Analysis of Gould Belt Clouds in Data Release 1. *ApJ*, 874(2):147, Apr. 2019, 1903.03696.
- [39] Hope How-Huan Chen, **Jaime E. Pineda**, Stella S. R. Offner, Alyssa A. Goodman, Andreas Burkert, et al. Droplets. II. Internal Velocity Structures and Potential Rotational Motions in Pressure-dominated Coherent Structures. *ApJ*, 886(2):119, Dec. 2019, 1908.04367.
- [40] Hope How-Huan Chen, **Jaime E. Pineda**, Alyssa A. Goodman, Andreas Burkert, Stella S. R. Offner, et al. Droplets. I. Pressure-dominated Coherent Structures in L1688 and B18. *ApJ*, 877(2):93, June 2019, 1809.10223.
- [41] Che-Yu Chen, Shaye Storm, Zhi-Yun Li, Lee G. Mundy, David Frayer, et al. Investigating the complex velocity structures within dense molecular cloud cores with GBT-Argus. *MNRAS*, 490(1):527–539, Nov. 2019, 1909.07997.
- [42] A. Chacón-Tanarro, **Jaime E. Pineda**, P. Caselli, L. Bizzocchi, R. A. Gutermuth, et al. Dust opacity variations in the pre-stellar core L1544. *A&A*, 623:A118, Mar. 2019, 1901.02476.
- [43] A. Chacón-Tanarro, P. Caselli, L. Bizzocchi, **Jaime E. Pineda**, O. Sipilä, et al. Mapping deuterated methanol toward L1544. I. Deuterium fraction and comparison with modeling. *A&A*, 622:A141, Feb. 2019, 1808.09871.
- [44] Paola Caselli, **Jaime E. Pineda**, Bo Zhao, Malcolm C. Walmsley, Eric Keto, et al. The Central 1000 au of a Pre-stellar Core Revealed with ALMA. I. 1.3 mm Continuum Observations. *ApJ*, 874(1):89, Mar. 2019, 1902.05299.
- [45] Sayantan Auddy, Philip C. Myers, Shantanu Basu, Jorma Harju, **Jaime E. Pineda**, and Rachel K. Friesen. Magnetic Field Structure of Dense Cores Using Spectroscopic Methods. *ApJ*, 872(2):207, Feb. 2019, 1901.09537.
- [46] C. Agurto-Gangas, **Jaime E. Pineda**, L. Szűcs, L. Testi, M. Tazzari, et al. Revealing the dust grain size in the inner envelope of the Class I protostar Per-emb-50. *A&A*, 623:A147, Mar. 2019, 1901.05021.
- [47] A. Traficante, G. A. Fuller, R. J. Smith, N. Billot, A. Duarte-Cabral, et al. Massive 70  $\mu\text{m}$  quiet clumps - II. Non-thermal motions driven by gravity in massive star formation? *MNRAS*, 473(4):4975–4985, Feb. 2018, 1710.04904.
- [48] Ian W. Stephens, Michael M. Dunham, Philip C. Myers, Riway Pokhrel, Tyler L. Bourke, et al. Mass Assembly of Stellar Systems and Their Evolution with the SMA (MASSES)—1.3 mm Subcompact Data Release. *ApJS*, 237(2):22, Aug. 2018, 1806.07397.

- [49] Vlas Sokolov, Ke Wang, **Jaime E. Pineda**, Paola Caselli, Jonathan D. Henshaw, et al. Subsonic islands within a high-mass star-forming infrared dark cloud. *A&A*, 611:L3, Mar. 2018, 1802.07043.
- [50] A. Punanova, P. Caselli, **Jaime E. Pineda**, A. Pon, M. Tafalla, A. Hacar, and L. Biz-zocchi. Kinematics of dense gas in the L1495 filament. *A&A*, 617:A27, Sept. 2018, 1806.03354.
- [51] Anna Punanova, Paola Caselli, Siyi Feng, Ana Chacón-Tanarro, Cecilia Ceccarelli, et al. Seeds of Life in Space (SOLIS). III. Zooming Into the Methanol Peak of the Prestellar Core L1544. *ApJ*, 855(2):112, Mar. 2018, 1802.00859.
- [52] Kristina Monsch, **Jaime E. Pineda**, Haoyu Baobab Liu, Catherine Zucker, Hope How-Huan Chen, et al. Dense Gas Kinematics and a Narrow Filament in the Orion A OMC1 Region Using NH<sub>3</sub>. *ApJ*, 861(2):77, July 2018, 1806.01847.
- [53] Shuo Kong, Héctor G. Arce, Jesse R. Feddersen, John M. Carpenter, Fumitaka Nakamura, et al. The CARMA-NRO Orion Survey. *ApJS*, 236(2):25, June 2018, 1803.11522.
- [54] Adam Ginsburg, John Bally, Ashley Barnes, Nate Bastian, Cara Battersby, et al. Distributed Star Formation throughout the Galactic Center Cloud Sgr B2. *ApJ*, 853(2):171, Feb. 2018, 1801.04941.
- [55] R. K. Friesen, A. Pon, T. L. Bourke, P. Caselli, J. Di Francesco, J. K. Jørgensen, and **Jaime E. Pineda**. ALMA Detections of the Youngest Protostars in Ophiuchus. *ApJ*, 869(2):158, Dec. 2018, 1811.03976.
- [56] Ian W. Stephens, Michael M. Dunham, Philip C. Myers, Riway Pokhrel, Sarah I. Sadavoy, et al. Alignment between Protostellar Outflows and Filamentary Structure. *ApJ*, 846(1):16, Sept. 2017, 1707.08122.
- [57] Vlas Sokolov, Ke Wang, **Jaime E. Pineda**, Paola Caselli, Jonathan D. Henshaw, et al. Temperature structure and kinematics of the IRDC G035.39-00.33. *A&A*, 606:A133, Oct. 2017, 1706.08903.
- [58] Marta Sewilo, Jennifer Wiseman, Remy Indebetouw, Steven B. Charnley, **Jaime E. Pineda**, Johan E. Lindberg, and Sheng-Li Qin. Very Large Array Ammonia Observations of the HH 111/HH 121 Protostellar System: A Detection of a New Source with a Peculiar Chemistry. *ApJ*, 849(1):68, Nov. 2017, 1709.04856.
- [59] E. Redaelli, F. O. Alves, P. Caselli, **Jaime E. Pineda**, R. K. Friesen, et al. The Green Bank Ammonia Survey: Unveiling the Dynamics of the Barnard 59 Star-forming Clump. *ApJ*, 850(2):202, Dec. 2017, 1711.01794.
- [60] María José Maureira, Héctor G. Arce, Stella S. R. Offner, Michael M. Dunham, **Jaime E. Pineda**, et al. A Turbulent Origin for the Complex Envelope Kinematics in the Young Low-mass Core Per-bolo 58. *ApJ*, 849(2):89, Nov. 2017, 1710.02506.
- [61] María José Maureira, Héctor G. Arce, Michael M. Dunham, **Jaime E. Pineda**, Manuel Fernández-López, Xuepeng Chen, and Diego Mardones. Kinematics of a Young Low-mass

- Star-forming Core: Understanding the Evolutionary State of the First-core Candidate L1451-mm. *ApJ*, 838(1):60, Mar. 2017, 1612.01581.
- [62] L. T. Maud, M. G. Hoare, R. Galván-Madrid, Q. Zhang, W. J. de Wit, et al. The ALMA view of W33A: a spiral filament feeding the candidate disc in MM1-Main. *MNRAS*, 467(1):L120–L124, May 2017, 1701.06958.
  - [63] Helen Kirk, Rachel K. Friesen, **Jaime E. Pineda**, Erik Rosolowsky, Stella S. R. Offner, et al. The Green Bank Ammonia Survey: Dense Cores under Pressure in Orion A. *ApJ*, 846(2):144, Sept. 2017, 1708.05426.
  - [64] H. Kirk, M. M. Dunham, J. Di Francesco, D. Johnstone, S. S. R. Offner, et al. ALMA Observations of Starless Core Substructure in Ophiuchus. *ApJ*, 838(2):114, Apr. 2017, 1703.00506.
  - [65] Jared Keown, James Di Francesco, Helen Kirk, Rachel K. Friesen, **Jaime E. Pineda**, et al. The Green Bank Ammonia Survey: Observations of Hierarchical Dense Gas Structures in Cepheus-L1251. *ApJ*, 850(1):3, Nov. 2017, 1710.04785.
  - [66] J. D. Henshaw, I. Jiménez-Serra, S. N. Longmore, P. Caselli, **Jaime E. Pineda**, et al. Unveiling the early-stage anatomy of a protocluster hub with ALMA. *MNRAS*, 464(1):L31–L35, Jan. 2017, 1608.00009.
  - [67] J. Harju, F. Daniel, O. Sipilä, P. Caselli, **Jaime E. Pineda**, et al. Deuteration of ammonia in the starless core Ophiuchus/H-MM1. *A&A*, 600:A61, Apr. 2017, 1604.05602.
  - [68] Rachel K. Friesen, **Jaime E. Pineda**, co-PIs, Erik Rosolowsky, Felipe Alves, et al. The Green Bank Ammonia Survey: First Results of NH<sub>3</sub> Mapping of the Gould Belt. *ApJ*, 843(1):63, July 2017, 1704.06318.
  - [69] F. Fontani, C. Ceccarelli, C. Favre, P. Caselli, R. Neri, et al. Seeds of Life in Space (SOLIS). I. Carbon-chain growth in the Solar-type protocluster OMC2-FIR4. *A&A*, 605:A57, Sept. 2017, 1707.01384.
  - [70] C. Codella, C. Ceccarelli, P. Caselli, N. Balucani, V. Barone, et al. Seeds of Life in Space (SOLIS). II. Formamide in protostellar shocks: Evidence for gas-phase formation. *A&A*, 605:L3, Sept. 2017, 1708.04663.
  - [71] A. Chacón-Tanarro, P. Caselli, L. Bizzocchi, **Jaime E. Pineda**, J. Harju, M. Spaans, and F. X. Désert. Search for grain growth toward the center of L1544. *A&A*, 606:A142, Oct. 2017, 1707.00005.
  - [72] C. Ceccarelli, P. Caselli, F. Fontani, R. Neri, A. López-Sepulcre, et al. Seeds Of Life In Space (SOLIS): The Organic Composition Diversity at 300-1000 au Scale in Solar-type Star-forming Regions. *ApJ*, 850(2):176, Dec. 2017, 1710.10437.
  - [73] Kamen O. Todorov, Michael R. Line, **Jaime E. Pineda**, Michael R. Meyer, Sascha P. Quanz, Sasha Hinkley, and Jonathan J. Fortney. The Water Abundance of the Directly Imaged Substellar Companion  $\kappa$  And b Retrieved from a Near Infrared Spectrum. *ApJ*, 823(1):14, May 2016, 1504.00217.

- [74] Lucio Mayer, Thomas Peters, **Jaime E. Pineda**, James Wadsley, and Patrick Rogers. Direct Detection of Precursors of Gas Giants Formed by Gravitational Instability with the Atacama Large Millimeter/submillimeter Array. *ApJL*, 823(2):L36, June 2016, 1602.04827.
- [75] S. Mairs, D. Johnstone, H. Kirk, J. Buckle, D. S. Berry, et al. The JCMT Gould Belt Survey: a first look at Southern Orion A with SCUBA-2. *MNRAS*, 461(4):4022–4048, Oct. 2016, 1606.08854.
- [76] Yuxin Lin, Hauyu Baobab Liu, Di Li, Zhi-Yu Zhang, Adam Ginsburg, et al. Cloud Structure of Galactic OB Cluster-forming Regions from Combining Ground- and Space-based Bolometric Observations. *ApJ*, 828(1):32, Sept. 2016, 1606.07645.
- [77] Katherine I. Lee, Michael M. Dunham, Philip C. Myers, Héctor G. Arce, Tyler L. Bourke, et al. Misalignment of Outflow Axes in the Proto-multiple Systems in Perseus. *ApJL*, 820(1):L2, Mar. 2016, 1602.07397.
- [78] Matias Lackington, Gary A. Fuller, **Jaime E. Pineda**, Guido Garay, Nicolas Peretto, and Alessio Traficante. Deuteration in infrared dark clouds. *MNRAS*, 455(1):806–819, Jan. 2016, 1512.00422.
- [79] H. Kirk, D. Johnstone, J. Di Francesco, J. Lane, J. Buckle, et al. The JCMT Gould Belt Survey: Dense Core Clusters in Orion B. *ApJ*, 821(2):98, Apr. 2016, 1602.00707.
- [80] J. D. Henshaw, P. Caselli, F. Fontani, I. Jiménez-Serra, J. C. Tan, et al. Investigating the structure and fragmentation of a highly filamentary IRDC. *MNRAS*, 463(1):146–169, Nov. 2016, 1607.07452.
- [81] Michael M. Dunham, Stella S. R. Offner, **Jaime E. Pineda**, Tyler L. Bourke, John J. Tobin, et al. An ALMA Search for Substructure, Fragmentation, and Hidden Protostars in Starless Cores in Chamaeleon I. *ApJ*, 823(2):160, June 2016, 1604.04027.
- [82] F. Daniel, L. H. Coudert, A. Punanova, J. Harju, A. Faure, et al. The NH<sub>2</sub>D hyperfine structure revealed by astrophysical observations. *A&A*, 586:L4, Feb. 2016, 1601.00162.
- [83] Michael Chun-Yuan Chen, J. Di Francesco, D. Johnstone, S. Sadavoy, J. Hatchell, et al. The JCMT Gould Belt Survey: Evidence for Dust Grain Evolution in Perseus Star-forming Clumps. *ApJ*, 826(1):95, July 2016, 1605.06136.
- [84] J. L. Campbell, R. K. Friesen, P. G. Martin, P. Caselli, J. Kauffmann, and **Jaime E. Pineda**. Contraction Signatures toward Dense Cores in the Perseus Molecular Cloud. *ApJ*, 819(2):143, Mar. 2016, 1601.07165.
- [85] A. Traficante, G. A. Fuller, **Jaime E. Pineda**, and S. Pezzuto. Hyper: Hybrid photometry and extraction routine. *A&A*, 574:A119, Feb. 2015, 1410.7293.
- [86] A. Traficante, G. A. Fuller, N. Peretto, **Jaime E. Pineda**, and S. Molinari. The initial conditions of stellar protocluster formation - II. A catalogue of starless and protostellar clumps embedded in IRDCs in the Galactic longitude range  $15^\circ \leq l \leq 55^\circ$ . *MNRAS*, 451(3):3089–3106, Aug. 2015, 1506.05472.

- [87] C. J. Salji, J. S. Richer, J. V. Buckle, J. Hatchell, H. Kirk, et al. The JCMT Gould Belt Survey: constraints on prestellar core properties in Orion A North. *MNRAS*, 449(2):1769–1781, May 2015.
- [88] D. Rumble, J. Hatchell, R. A. Gutermuth, H. Kirk, J. Buckle, et al. The JCMT Gould Belt Survey: evidence for radiative heating in Serpens MWC 297 and its influence on local star formation. *MNRAS*, 448(2):1551–1573, Apr. 2015, 1412.5965.
- [89] **Jaime E. Pineda**, Stella S. R. Offner, Richard J. Parker, Héctor G. Arce, Alyssa A. Goodman, et al. The formation of a quadruple star system with wide separation. *Nature*, 518(7538):213–215, Feb. 2015.
- [90] K. Pattle, D. Ward-Thompson, J. M. Kirk, G. J. White, E. Drabek-Maunder, et al. The JCMT Gould Belt Survey: first results from the SCUBA-2 observations of the Ophiuchus molecular cloud and a virial analysis of its prestellar core population. *MNRAS*, 450(1):1094–1122, June 2015, 1502.05858.
- [91] S. Mairs, D. Johnstone, H. Kirk, S. Graves, J. Buckle, et al. The JCMT Gould Belt Survey: a quantitative comparison between SCUBA-2 data reduction methods. *MNRAS*, 454(3):2557–2579, Dec. 2015, 1509.06385.
- [92] Katherine I. Lee, Michael M. Dunham, Philip C. Myers, John J. Tobin, Lars E. Kristensen, et al. Mass Assembly of Stellar Systems and Their Evolution with the SMA (MASSES). Multiplicity and the Physical Environment in L1448N. *ApJ*, 814(2):114, Dec. 2015, 1511.01141.
- [93] Guido Garay, Diego Mardones, Yanett Contreras, **Jaime E. Pineda**, Elise Servajean, and Andrés E. Guzmán. G305.136+0.068: A Massive and Dense Cold Core in an Early Stage of Evolution. *ApJ*, 799(1):75, Jan. 2015, 1411.5637.
- [94] J. V. Buckle, E. Drabek-Maunder, J. Greaves, J. S. Richer, B. C. Matthews, et al. The JCMT Gould Belt Survey: SCUBA-2 observations of circumstellar discs in L 1495. *MNRAS*, 449(3):2472–2488, May 2015, 1502.07946.
- [95] A. Avison, N. Peretto, G. A. Fuller, A. Duarte-Cabral, A. Traficante, and **Jaime E. Pineda**. Tightening the belt: Constraining the mass and evolution in SDC335. *A&A*, 577:A30, May 2015, 1501.04638.
- [96] Luis A. Zapata, Héctor G. Arce, Erin Brassfield, Aina Palau, Nimesh Patel, and **Jaime E. Pineda**. A spider-like outflow in Barnard 5 - IRS 1: the transition from a collimated jet to a wide-angle outflow? *MNRAS*, 441(4):3696–3702, July 2014, 1404.6147.
- [97] **Jaime E. Pineda**, Sascha P. Quanz, Farzana Meru, Gijs D. Mulders, Michael R. Meyer, Olja Panić, and Henning Avenhaus. Resolved Images of the Protoplanetary Disk around HD 100546 with ALMA. *ApJL*, 788(2):L34, June 2014, 1405.5773.
- [98] Farzana Meru, Sascha P. Quanz, Maddalena Reggiani, Clement Baruteau, and **Jaime E. Pineda**. Long-lasting dust rings in gas-rich disks: sculpting by single and multiple planets. *arXiv e-prints*, page arXiv:1411.5366, Nov. 2014, 1411.5366.

- [99] R. K. Friesen, J. Di Francesco, T. L. Bourke, P. Caselli, J. K. Jørgensen, **Jaime E. Pineda**, and M. Wong. Revealing  $\text{H}_2\text{D}^+$  Depletion and Compact Structure in Starless and Protostellar Cores with ALMA. *ApJ*, 797(1):27, Dec. 2014, 1410.3706.
- [100] S. Chitsazzadeh, J. Di Francesco, S. Schnee, R. K. Friesen, Y. Shimajiri, et al. Physical and Chemical Characteristics of L1689-SMM16, an Oscillating Prestellar Core in Ophiuchus. *ApJ*, 790(2):129, Aug. 2014.
- [101] P. André, J. Di Francesco, D. Ward-Thompson, S. I. Inutsuka, R. E. Pudritz, and **Jaime E. Pineda**. From Filamentary Networks to Dense Cores in Molecular Clouds: Toward a New Paradigm for Star Formation. In Henrik Beuther, Ralf S. Klessen, Cornelis P. Dullemond, and Thomas Henning, editors, *Protostars and Planets VI*, page 27, Jan. 2014, 1312.6232.
- [102] **Jaime E. Pineda** and P. S. Teixeira. Spokes cluster: The search for the quiescent gas. *A&A*, 555:A106, July 2013, 1305.3329.
- [103] N. Peretto, G. A. Fuller, A. Duarte-Cabral, A. Avison, P. Hennebelle, et al. Global collapse of molecular clouds as a formation mechanism for the most massive stars. *A&A*, 555:A112, July 2013, 1307.2590.
- [104] L. Guzman-Ramirez, **Jaime E. Pineda**, A. A. Zijlstra, R. Stancliffe, and A. Karakas.  $^3\text{He}$ : Does the problem persist? *MNRAS*, 432(1):793–798, June 2013, 1303.5607.
- [105] R. Galván-Madrid, H. B. Liu, Z. Y. Zhang, **Jaime E. Pineda**, T. C. Peng, et al. MUSCLE W49: A Multi-Scale Continuum and Line Exploration of the Most Luminous Star Formation Region in the Milky Way. I. Data and the Mass Structure of the Giant Molecular Cloud. *ApJ*, 779(2):121, Dec. 2013, 1309.4129.
- [106] Jonathan B. Foster, Kaisey S. Mandel, **Jaime E. Pineda**, Kevin R. Covey, Héctor G. Arce, and Alyssa A. Goodman. Evidence for grain growth in molecular clouds: A Bayesian examination of the extinction law in Perseus. *MNRAS*, 428(2):1606–1622, Jan. 2013, 1210.2391.
- [107] Xuepeng Chen, Héctor G. Arce, Qizhou Zhang, Tyler L. Bourke, Ralf Launhardt, et al. SMA Observations of Class 0 Protostars: A High Angular Resolution Survey of Protostellar Binary Systems. *ApJ*, 768(2):110, May 2013, 1304.0436.
- [108] **Jaime E. Pineda**, A. J. Maury, G. A. Fuller, L. Testi, D. García-Appadoo, et al. The first ALMA view of IRAS 16293-2422. Direct detection of infall onto source B and high-resolution kinematics of source A. *A&A*, 544:L7, Aug. 2012, 1206.5215.
- [109] Erik Rosolowsky, **Jaime E. Pineda**, and Yu Gao. Minimal HCN emission from molecular clouds in M33. *MNRAS*, 415(2):1977–1984, Aug. 2011, 1104.3935.
- [110] **Jaime E. Pineda**, Alyssa A. Goodman, Héctor G. Arce, Paola Caselli, Steven Longmore, and Stuartt Corder. Expanded Very Large Array Observations of the Barnard 5 Star-forming Core: Embedded Filaments Revealed. *ApJL*, 739(1):L2, Sept. 2011, 1106.5474.

- [111] **Jaime E. Pineda**, Héctor G. Arce, Scott Schnee, Alyssa A. Goodman, Tyler Bourke, et al. The Enigmatic Core L1451-mm: A First Hydrostatic Core? Or a Hidden VeLLO? *ApJ*, 743(2):201, Dec. 2011, 1109.1207.
- [112] Héctor G. Arce, Michelle A. Borkin, Alyssa A. Goodman, **Jaime E. Pineda**, and Christopher N. Beaumont. A Bubbling Nearby Molecular Cloud: COMPLETE Shells in Perseus. *ApJ*, 742(2):105, Dec. 2011, 1109.3368.
- [113] Markus Schmalzl, Jouni Kainulainen, Sascha P. Quanz, João Alves, Alyssa A. Goodman, et al. Star Formation in the Taurus Filament L 1495: From Dense Cores to Stars. *ApJ*, 725(1):1327–1336, Dec. 2010, 1010.2755.
- [114] **Jaime E. Pineda**, Alyssa A. Goodman, Héctor G. Arce, Paola Caselli, Jonathan B. Foster, Philip C. Myers, and Erik W. Rosolowsky. Direct Observation of a Sharp Transition to Coherence in Dense Cores. *ApJL*, 712(1):L116–L121, Mar. 2010, 1002.2946.
- [115] Helen Kirk, **Jaime E. Pineda**, Doug Johnstone, and Alyssa Goodman. The Dynamics of Dense Cores in the Perseus Molecular Cloud. II. The Relationship Between Dense Cores and the Cloud. *ApJ*, 723(1):457–475, Nov. 2010, 1008.4527.
- [116] Roberto Galván-Madrid, Qizhou Zhang, Eric Keto, Paul T. P. Ho, Luis A. Zapata, et al. From the Convergence of Filaments to Disk-outflow Accretion: Massive Star Formation in W33A. *ApJ*, 725(1):17–28, Dec. 2010, 1004.2466.
- [117] Sami Dib, Patrick Hennebelle, **Jaime E. Pineda**, Timea Csengeri, Sylvain Bontemps, Edouard Audit, and Alyssa A. Goodman. The Angular Momentum of Magnetized Molecular Cloud Cores: A Two-dimensional-Three-dimensional Comparison. *ApJ*, 723(1):425–439, Nov. 2010, 1003.5118.
- [118] Héctor G. Arce, Michelle A. Borkin, Alyssa A. Goodman, **Jaime E. Pineda**, and Michael W. Halle. The COMPLETE Survey of Outflows in Perseus. *ApJ*, 715(2):1170–1190, June 2010, 1005.1714.
- [119] **Jaime E. Pineda**, Erik W. Rosolowsky, and Alyssa A. Goodman. The Perils of Clumpfind: The Mass Spectrum of Substructures in Molecular Clouds. *ApJL*, 699(2):L134–L138, July 2009, 0906.0331.
- [120] Esteban F. E. Morales, Diego Mardones, Guido Garay, Kate J. Brooks, and **Jaime E. Pineda**. A Multiwavelength Study of Young Massive Star-Forming Regions. III. Mid-Infrared Emission. *ApJ*, 698(1):488–501, June 2009, 0902.4625.
- [121] Alyssa A. Goodman, Erik W. Rosolowsky, Michelle A. Borkin, Jonathan B. Foster, Michael Halle, Jens Kauffmann, and **Jaime E. Pineda**. A role for self-gravity at multiple length scales in the process of star formation. *Nature*, 457(7225):63–66, Jan. 2009.
- [122] Alyssa A. Goodman, **Jaime E. Pineda**, and Scott L. Schnee. The “True” Column Density Distribution in Star-Forming Molecular Clouds. *ApJ*, 692(1):91–103, Feb. 2009, 0806.3441.
- [123] Jonathan B. Foster, Erik W. Rosolowsky, Jens Kauffmann, **Jaime E. Pineda**, Michelle A. Borkin, et al. Dense Cores in Perseus: The Influence of Stellar Content and Cluster Environment. *ApJ*, 696(1):298–319, May 2009, 0902.0536.

- [124] E. W. Rosolowsky, **Jaime E. Pineda**, J. Kauffmann, and A. A. Goodman. Structural Analysis of Molecular Clouds: Dendrograms. *ApJ*, 679(2):1338–1351, June 2008, 0802.2944.
- [125] E. W. Rosolowsky, **Jaime E. Pineda**, J. B. Foster, M. A. Borkin, J. Kauffmann, et al. An Ammonia Spectral Atlas of Dense Cores in Perseus. *ApJS*, 175(2):509–521, Apr. 2008, 0711.0231.
- [126] **Jaime E. Pineda**, Paola Caselli, and Alyssa A. Goodman. CO Isotopologues in the Perseus Molecular Cloud Complex: the X-factor and Regional Variations. *ApJ*, 679(1):481–496, May 2008, 0802.0708.
- [127] Naomi A. Ridge, James Di Francesco, Helen Kirk, Di Li, Alyssa A. Goodman, et al. The COMPLETE Survey of Star-Forming Regions: Phase I Data. *AJ*, 131(6):2921–2933, June 2006, astro-ph/0602542.

#### Articles in Collaborations

- [1] D. Navarro-Almaida, R. Le Gal, A. Fuente, P. Rivière-Marichalar, V. Wakelam, et al. Gas phase Elemental abundances in Molecular cloudS (GEMS). II. On the quest for the sulphur reservoir in molecular clouds: the H<sub>2</sub>S case. *A&A*, 637:A39, May 2020, 2004.03475.
- [2] C. Favre, C. Vastel, I. Jimenez-Serra, D. Quénard, P. Caselli, et al. Seeds of Life in Space (SOLIS). VII. Discovery of a cold dense methanol blob toward the L1521F Vello system. *A&A*, 635:A189, Mar. 2020, 2002.07004.
- [3] Marta De Simone, Cecilia Ceccarelli, Claudio Codella, Brian E. Svoboda, Claire Chandler, et al. Hot Corinos Chemical Diversity: Myth or Reality? *ApJL*, 896(1):L3, June 2020, 2006.04484.
- [4] E. Bianchi, C. J. Chandler, C. Ceccarelli, C. Codella, N. Sakai, et al. FAUST I. The hot corino at the heart of the prototypical Class I protostar L1551 IRS5. *MNRAS*, July 2020, 2007.10275.
- [5] Sümeyye Suri, Álvaro Sánchez-Monge, Peter Schilke, Seamus D. Clarke, Rowan J. Smith, et al. The CARMA-NRO Orion Survey. Filamentary structure as seen in C<sup>18</sup>O emission. *A&A*, 623:A142, Mar. 2019, 1901.00176.
- [6] Shuo Kong, Héctor G. Arce, Anneila I. Sargent, Steve Mairs, Ralf S. Klessen, et al. The CARMA-NRO Orion Survey: Core Emergence and Kinematics in the Orion A Cloud. *ApJ*, 882(1):45, Sept. 2019, 1908.04488.
- [7] GRAVITY Collaboration, K. Perraut, L. Labadie, B. Lazareff, L. Klarmann, et al. The GRAVITY Young Stellar Object survey. I. Probing the disks of Herbig Ae/Be stars in terrestrial orbits. *A&A*, 632:A53, Dec. 2019, 1911.00611.
- [8] A. Fuente, D. G. Navarro, P. Caselli, M. Gerin, C. Kramer, et al. Gas phase Elemental abundances in Molecular cloudS (GEMS). I. The prototypical dark cloud TMC 1. *A&A*, 624:A105, Apr. 2019, 1809.04978.



- [9] C. Favre, C. Ceccarelli, A. López-Sepulcre, F. Fontani, R. Neri, et al. SOLIS IV. Hydrocarbons in the OMC-2 FIR4 Region, a Probe of Energetic Particle Irradiation of the Region. *ApJ*, 859(2):136, June 2018, 1804.07825.
- [10] H. Broekhoven-Fiene, B. C. Matthews, P. Harvey, H. Kirk, M. Chen, et al. The JCMT Gould Belt Survey: A First Look at the Auriga-California Molecular Cloud with SCUBA-2. *ApJ*, 852(2):73, Jan. 2018, 1801.08139.
- [11] K. Pattle, D. Ward-Thompson, J. M. Kirk, J. Di Francesco, H. Kirk, et al. The JCMT Gould Belt Survey: first results from SCUBA-2 observations of the Cepheus Flare region. *MNRAS*, 464(4):4255–4281, Feb. 2017, 1610.03671.
- [12] D. Johnstone, S. Ciccone, H. Kirk, S. Mairs, J. Buckle, et al. The JCMT Gould Belt Survey: A First Look at IC 5146. *ApJ*, 836(1):132, Feb. 2017, 1701.04898.
- [13] D. Ward-Thompson, K. Pattle, J. M. Kirk, K. Marsh, J. Buckle, et al. The JCMT and Herschel Gould Belt Surveys: a comparison of SCUBA-2 and Herschel data of dense cores in the Taurus dark cloud L1495. *MNRAS*, 463(1):1008–1025, Nov. 2016, 1608.04353.
- [14] D. Rumble, J. Hatchell, K. Pattle, H. Kirk, T. Wilson, et al. The JCMT Gould Belt Survey: evidence for radiative heating and contamination in the W40 complex. *MNRAS*, 460(4):4150–4175, Aug. 2016, 1605.04842.
- [15] H. Kirk, J. Di Francesco, D. Johnstone, A. Duarte-Cabral, S. Sadavoy, et al. The JCMT Gould Belt Survey: A First Look at Dense Cores in Orion B. *ApJ*, 817(2):167, Feb. 2016, 1512.00893.
- [16] T. J. T. Moore, R. Plume, M. A. Thompson, H. Parsons, J. S. Urquhart, et al. The JCMT Plane Survey: early results from the  $\ell = 30^\circ$  field. *MNRAS*, 453(4):4264–4277, Nov. 2015, 1509.00318.
- [17] ALMA Partnership, E. B. Fomalont, C. Vlahakis, S. Corder, A. Remijan, et al. The 2014 ALMA Long Baseline Campaign: An Overview. *ApJL*, 808(1):L1, July 2015, 1504.04877.