

Sierra L. Grant, Ph.D.

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Current Employment

Max Planck Institute for Extraterrestrial Physics **09/2021–Current**
Postdoctoral Researcher

Education

Boston University **05/2017–08/2021**
Ph.D.

Advisor: Catherine C. Espaillat

Boston University **09/2015–05/2017**

M.A.

Advisor: Catherine C. Espaillat

University of Michigan **09/2011–05/2015**

B.S. Astronomy & Astrophysics and B.S. Interdisciplinary Physics

Advisor: Nuria P. Calvet

Research Interests

I study protoplanetary disks which are disks of gas and dust that surround young stars and are the birth places of exoplanets. Specifically, I focus on accretion from the disk onto the central star and how populations of disks evolve. I use models and observations, with data from space-based (including *Spitzer* and *Herschel*) and ground-based telescopes (including the Very Large Telescope, Lowell Discovery Telescope, Gemini South, NASA's IRTF, and ALMA) to characterize protoplanetary disk evolution.

Honors and Awards

2020 ALMA Student Observing Support (\$33,148)

Fall 2015 Dean's Fellowship

Fall 2011, 2013, University Honors
& Spring 2014

Presentations

03/2021 Caltech Tea Talk – **Invited Talk**

12/2020 Five years after HL Tau: a new era in planet formation – **Contributed Talk**

12/2018 Star and Planet Formation Lunch Talk, Amherst, MA – **Invited Talk**

07/2018 Cool Stars 20, Boston, MA – **Poster**

01/2018 The 4th MA-CT Regional Star Formation Meeting, Boston, MA
– **Contributed Talk**

12/2017 Boston Area Exoplanet Science Meeting, Cambridge, MA – **Contributed Talk**

Presentations (cont.)

01/2017	Regional Star Formation Meeting, New Haven, CT – Contributed Talk
06/2015	Frontiers in Star Formation: Celebrating Contributions to the Field by Nuria Calvet and Lee Hartmann, Ann Arbor, MI – Invited Talk
01/2015	225th American Astronomical Society Meeting, Seattle, WA – Poster
02/2014	Scientista Symposium, Massachusetts Institute of Technology, Cambridge, MA – Poster
2013, 2014, & 2015	Undergraduate Research Presentation, University of Michigan, Ann Arbor, MI – Poster

Publications

Peer Reviewed:

06/2021	<i>"An ALMA Survey of Protoplanetary Disks in Lynds 1641"</i> Sierra L. Grant , Catherine C. Espaillat, John Wendeborn, John J. Tobin, Enrique Macías, Anneliese Rilinger, Álvaro Ribas, S. Thomas Megeath, William J. Fischer, Nuria Calvet, Kyoung Hee Kim ApJ, 913, 123
01/2019	<i>"Using Multiwavelength Variability to Explore the Connection among X-Ray Emission, the Far-ultraviolet H₂ Bump, and Accretion in T Tauri Stars"</i> C. C. Espaillat, C. Robinson, S. Grant , M. Reynolds ApJ, 876, 121
08/2018	<i>"Herschel Observations of Protoplanetary Disks in Lynds 1641"</i> Sierra L. Grant , Catherine C. Espaillat, S. Thomas Megeath, Nuria Calvet, William J. Fischer, Christopher J. Miller, Kyoung Hee Kim, Amelia M. Stutz, Álvaro Ribas, Connor E. Robinson ApJ, 863, 13

In Preparation/Submitted: (expected submission date in brackets)

Submitted 05/2021	<i>"Accretion Properties in Herbig Ae/Be Stars as Traced by the Brγ Line"</i> Sierra L. Grant , Catherine C. Espaillat, Sean Brittain, Caleb Scott-Joseph, Nuria Calvet
In Prep. [06/2021]	<i>"Accretion onto Herbig Ae/Be Stars"</i> Sierra L. Grant , Thanawuth Thanathibodee, Catherine C. Espaillat, Nuria Calvet, James Muzerolle

Other Publications:

03/2014	<i>"A Month of Personal Transformation at Kitt Peak"</i> Sierra L. Grant NOAO Newsletter, Issue 109, March 2014
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Accepted Observing Proposals

As PI:

2021	VLT-CRIRES+ (1.4 hours, Science Verification) "Probing the impact of dust cavities on the gas distribution in intermediate-mass stars" Sierra Grant , Carlo Manara, Ewine van Dishoeck, Giulio Bettoni,
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Accepted Observing Proposals (cont.)

As PI:.....	
	Melissa McClure
2020	Gemini South Observatory (17 hours in 2020A, 7.7 hours in 2020B) "Accretion onto Intermediate-mass Stars" Sierra Grant , Catherine Espaillat, Sean Brittain, Nuria Calvet
2019	ALMA (Cycle 7, 2019.1.00951.S) "Characterizing Protoplanetary Disks in the Orion L1641 Region" Sierra Grant , Catherine Espaillat, Kyoung Hee Kim, Enrique Macías, Álvaro Ribas, Tom Megeath, Nuria Calvet, John Tobin
2019 & 2020	NASA Infrared Telescope Facility (3 half-nights each in 2019B and 2020A) "Accretion onto Intermediate-mass Stars" Sierra Grant , Catherine Espaillat, Sean Brittain, Nuria Calvet
2017 & 2018	Lowell Discovery Telescope, Lowell Observatory (10 half-nights) "Probing Gas and Dust in the Sites of Planet Formation" Sierra Grant , Catherine Espaillat
As Co-I:.....	
10/2017	<i>Hubble Space Telescope</i> (6 orbits) & <i>Chandra X-ray Observatory</i> (35ks) & VLA (9.6 hours) "Connecting Mass Accretion and Ejection in Pre-main Sequence Stars" Catherine Espaillat, Jesús Hernández, Sierra Grant , Enrique Macias, Mark Reynolds, Connor Robinson
10/2015	<i>Spitzer Space Telescope</i> (Proposal ID #12036) "Footprints of the Magnetosphere: the Star-Disk Connection in T Tauri Stars" Catherine Espaillat, Sierra Grant , Jesus Hernandez, Nuria Calvet Coordinated with the <i>Hubble Space Telescope</i> and the The Neil Gehrels <i>Swift</i> Observatory for simultaneous observations

Affiliations and Outreach

09/2015 – 08/2021	Women as Leaders in Astronomy (Boston University)
09/2015 – 08/2021	Boston University Astronomy Public Open Nights
09/2018 – 05/2019	Letters to a Pre-Scientist Pen Pal
09/2011 – 05/2015	Student Astronomical Society
09/2011 – 05/2012	Douglass Houghton Scholars Program
09/2011 – 05/2012	Women in Science and Engineering Residency Program
06/2010	Michigan Technological University Women in Engineering Program

Leadership

09/2018 – 08/2021	Women as Leaders in Astronomy Organizer
09/2018 – 08/2019	Graduate Student Representative

Mentored Students

Caleb Scott-Joseph (06/2018 – 08/2019): Caleb was a high school student at Boston University Academy who I mentored to analyze high-resolution, near-infrared spectra of protoplanetary

disks.

Workshops

12/2017	JWST Proposal Planning Workshop, Pasadena, CA
03/2016	NRAO Live! ALMA Proposal Workshop at Boston University, Boston, MA

Teaching

Spring 2016	AS 203: Principles of Astronomy II Teaching Assistant
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