

Sierra L. Grant

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Education

Boston University

PhD

Advisor: Catherine C. Espaillat

Boston, MA

Expected 08/2021

Boston University

Master of Arts

Advisor: Catherine C. Espaillat

Boston, MA

09/2015–05/2017

University of Michigan

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

Advisor: Nuria P. Calvet

Ann Arbor, MI

09/2011–05/2015

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 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, & Spring 2014	University Honors

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
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

Presentations (cont.)

- 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:

- In Press *"An ALMA Survey of Protoplanetary Disks in Lynds 1641"*
 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
- 01/2019 *"Using Multiwavelength Variability to Explore the Connection among X-Ray Emission, the Far-ultraviolet H₂ Bump, and Accretion in T Tauri Stars"*
 C. C. Espaillat, C. Robinson, **S. Grant**, M. Reynolds
 ApJ, 876, 121
- 08/2018 *"Herschel Observations of Protoplanetary Disks in Lynds 1641"*
 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: (expected submission date in brackets)

- In Prep. *"Accretion Properties in Herbig Ae/Be Stars as Traced by the Br γ Line"*
 [03/2021] **Sierra L. Grant**, Thanawuth Thanathibodee, Catherine C. Espaillat, Nuria Calvet
- In Prep. *"Accretion onto Herbig Ae/Be Stars"*
 [06/2021] **Sierra L. Grant**, Catherine C. Espaillat, Sean Brittain, Caleb Scott-Joseph

Other Publications:

- 03/2014 *"A Month of Personal Transformation at Kitt Peak"*
 Sierra L. Grant
 NOAO Newsletter, Issue 109, March 2014

Accepted Observing Proposals

As PI:

- 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

Accepted Observing Proposals (cont.)

As PI:.....	
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 , Enríque Macías, 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 – Current	Women as Leaders in Astronomy (Boston University)
09/2015 – Current	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 – Current	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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