

## RESEARCH INTERESTS

- The lives of exoplanets: formation, dynamics, evolution, observable properties, long-term fates.
- Exoplanet discovery and characterization.
- Physical and statistical interpretation of astronomical observations.

## EDUCATION

- Princeton University Princeton, NJ  
*Ph.D., Astrophysics in progress; M.Sc., Astrophysics (2018). Advisor: Winn* 09/2016–08/2021
- Massachusetts Institute of Technology Cambridge, MA  
*Physics Ph.D. program (transferred after completing first year). Advisor: Winn* 09/2015–08/2016
- University of Southern California Los Angeles, CA  
*B.Sc., Physics; B.A., Mathematics; Minor, Astronomy (GPA: 3.97/4)* 09/2011–05/2015

## PUBLICATIONS

### First & second author

6. Bouma, L., Winn, J., et al. *WASP-4 is Accelerating Toward the Earth*. AAS Journals, submitted.
5. Bouma, L., Hartman, J., et al. *Cluster Difference Imaging Photometric Survey. I. Light Curves of Stars in Open Clusters from TESS Sectors 6 & 7*. ApJS, 245, 13 (2019).
4. Bouma, L., Winn, J., et al. *WASP-4b Arrived Early for the TESS Mission*. AJ, 157, 217 (2019).
3. Bouma, L., Masuda, K., Winn, J. *Biases in Planet Occurrence Caused by Unresolved Binaries in Transit Surveys*. AJ, 155, 244 (2018).
2. Penev, K., Bouma, L., et al. *Empirical Tidal Dissipation in Exoplanet Hosts From Tidal Spin-Up*. AJ, 155, 165 (2018).
1. Bouma, L. et al. *Planet-Detection Simulations for Several Possible TESS Extended Missions*. arXiv:1705.08891 (2017). Non-refereed white paper.

### Many author

15. Patra, K. et al., incl. Bouma, L. *The Continuing Search For Evidence of Tidal Orbital Decay For Hot Jupiters*. (AJ accepted, arXiv:2002.02606).
14. Jordán, A. et al., incl. Bouma, L. *TOI-677 b: A Warm Jupiter ( $P=11.2d$ ) on an eccentric orbit transiting a late F-type star*. (AJ accepted, arXiv:1911.05574).
13. Soares-Furtado, M. et al., incl. Bouma, L. *A Catalog of Periodic Variables in Open Clusters M 35 and NGC 2158*. ApJS, 246, 15 (2020).
12. Rodríguez Martínez, R. et al., incl. Bouma, L. *KELT-25b and KELT-26b: A Hot Jupiter and a Substellar Companion Transiting Young A-Stars Observed by TESS*. ApJS, 246, 15 (2020).
11. Netwon, E. et al., incl. Bouma, L. *TESS Hunt for Young and Maturing Exoplanets (THYME): A Planet in the 45 Myr Tucana-Horologium Association*. ApJL, 880, 1, L17 (2019).
10. Quinn, S. et al., incl. Bouma, L. *Near-resonance in a system of sub-Neptunes from TESS*. AJ, 158, 177 (2019).
9. Günther, M. et al., incl. Bouma, L. *A Super-Earth and two sub-Neptunes transiting the bright, nearby, and quiet M-dwarf TOI-270*. Nature Astronomy (2019).
8. Dawson, B. et al., incl. Bouma, L. *TOI-216b and TOI-216c: Two warm, large exoplanets in or slightly wide of the 2:1 orbital resonance*. AJ, 158, 65 (2019).
7. Shporer, A. et al., incl. Bouma, L. *TESS Full Orbital Phase Curve of the WASP-18b System*. AJ, 157, 178 (2019).

6. Zhan, Z. et al., incl. Bouma, L. *Complex Rotational Modulation of Rapidly Rotating M Stars Observed with TESS*. ApJ, 876, 127 (2019).
5. Rappaport, S. et al., incl. Bouma, L. *Deep long asymmetric occultation in EPIC 204376071*. MNRAS, 485, 2681 (2019).
4. Rodriguez, J. et al., incl. Bouma, L. *An Eccentric Massive Jupiter Orbiting a Sub-Giant on a 9.5 Day Period Discovered in the TESS Full Frame Images*. AJ, 157, 191 (2019).
3. Burt, J. et al., incl. Bouma, L. *Simulating the M-R Relation From APF Followup of TESS Targets: Survey Design and Strategies for Overcoming Mass Biases*. AJ, 156, 255 (2018).
2. Louie, D. et al., incl. Bouma, L. *Simulated JWST/NIRISS Transit Spectroscopy of Anticipated TESS Planets Compared to Select Discoveries from Space-Based and Ground-Based Surveys*. PASP 130d 4401 (2018).
1. Campante, T. et al., incl. Bouma, L. *The asteroseismic potential of TESS: Exoplanet-Host Stars*. ApJ, 830, 2 (2016).

## Code

3. Bhatti, W. Bouma, L., and Yee S. *cdips-pipeline: difference-imaging photometry pipeline*. [Link](#).
2. Bhatti, W. Bouma, L., and Wallace J. *astrobases: package for variable star astronomy*. [Link](#).
1. Astropy Collaboration et al., incl. Bouma, L. *The Astropy Project*. AJ, 156, 123 (2018).

## SELECTED GRANTS AND TELESCOPE TIME AWARDED

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- 12/2019 PI: NOAO CTIO1.5m/CHIRON (3 nights); AAT/Veloce (2.5 nights).  
*Designed and executed a spectroscopic program to confirm CDIPS planet candidates.*
- 11/2019 PI: Magellan/PFS (1 night).  
*Designed and executed a spectroscopic program to confirm CDIPS planet candidates.*
- 06/2019 Co-I: NOAO LCO 1 m and 2 m (PI: Hartman, 2019B-0160).  
*Planned and executed follow-up photometry for planet candidates that I discovered through CDIPS.*
- 07/2019 Co-I: TESS GI Program G022117 (PI: Hartman).  
*Helped conceive and write an extension to the grant that funds CDIPS.*
- 07/2018 Co-I: TESS GI Program G011103 (PI: Hartman).  
*Helped conceive and write the grant that funds the Cluster Difference Imaging Photometric Survey (CDIPS).*

## SELECTED HONORS

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- 05/2015 USC Discovery Scholar  
*University-level fellowship based on research portfolio towards graduate study.*
- 05/2014 Caltech Summer Undergraduate Research Fellowship
- 04/2014 Goldwater Scholarship  
*National fellowship for undergraduates pursuing careers in STEM.*
- 03/2014 ΦBK Honor Society
- 05/2013 NIST Summer Undergraduate Research Fellowship
- 2011-15 USC Trustee and University Scholarships  
*Full tuition award and merit stipend.*
- 05/2011 Valedictorian, Collège du Léman High School

## TEACHING

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| Teaching Assistant, AST 205 (Planets in the Universe), Princeton   | 09/2015-01/2016        |
| Supplemental Instruction Leader, USC (Electromagnetism, Mechanics) | 01-05/2013, 01-05/2014 |

## PRESENTATIONS

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- *Snapshots of Transiting Exoplanets Through Time* 03/2020, 03/2020  
Princeton Research on the Road Alumni Meeting (Invited talk).  
University of Chicago exoplanet group (Contributed talk).
- *TESS Planet Candidates in Open Clusters* 08/2019, 12/2019  
Extreme Solar Systems IV (Poster).  
TESS Science Team Meeting #18 (Contributed talk).
- *Homogeneous Light Curves for Stars in Clusters from TESS* 02/2019  
STScI TESS Data Workshop (Invited talk).
- *The Early Arrival of WASP-4b* 01/2019, 07/2019  
TESS Science Conference I (Contributed talk).  
Princeton Thunch Seminar (Contributed talk).
- *Extending the Planet Search with TESS* 10/2018  
TESS Science Team Meeting #16 (Contributed talk).  
TESS Science Conference I (Invited panel).
- *How do Unresolved Binaries Bias Transit Survey Occurrence Rates?* 06/2018  
Exoplanets II (Poster).
- *Planet-Detection Simulations for Several Possible TESS Extended Missions* 02/2016, 05/2016, 12/2016  
TESS Science Team Meetings #7, #8, #10 (3 contributed talks).  
NExScI Sagan Summer Workshop (Poster).

## SERVICE & OUTREACH

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- **Resident Graduate Student:** Fall 2018 — present. Academic and social advisor to about 30 first and second year undergraduates. Hosted star-gazing nights, office hours, and social events.
- **Observing Outreach Organizer:** Fall 2016 — Fall 2019. Organized over 20 public observing events at Princeton's department telescope. Led outreach team to host groups ranging from 10 to 100 people; separately hosted private groups (*e.g.*, middle and high-school classes, student groups, and donors).
- **Computational Astrophysics Seminar Co-Founder & Organizer:** Jan 2017 — June 2018. With a team of two other students, proposed and received funding from Princeton's graduate student initiatives to run a seminar. Invited speakers, advertized events, and chaired talks.
- **Princeton Thunch Co-Organizer:** Jan 2017 — Dec 2017. I nvited speakers; made hosting arrangements; chaired talks; developed new lunch delivery system.

## SKILLS & OTHER INTERESTS

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- **Code:** Python (standard astro stack); cython; C++; bash. Projects at [github.com/lgbouma](https://github.com/lgbouma).
- **Hobbies:** Rock climbing; percussion (kit drums); basketball; reading; camping; foosball