

## RESEARCH INTERESTS

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- The lives of exoplanets: formation, dynamics, evolution, observable properties, long-term fates.
- Exoplanet demographics as a function of stellar age, metallicity, and multiplicity.
- Physical and statistical interpretation of astronomical observations.

## PROFESSIONAL PREPARATION

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

## PUBLICATIONS

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### First & second author

- 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).
- Bouma, L., Winn, J., et al. *WASP-4b Arrived Early for the TESS Mission*. AJ, 157, 217 (2019).
- Bouma, L., Masuda, K., Winn, J. *Biases in Planet Occurrence Caused by Unresolved Binaries in Transit Surveys*. AJ, 155, 244 (2018).
- Penev, K., Bouma, L., et al. *Empirical Tidal Dissipation in Exoplanet Hosts From Tidal Spin-Up*. AJ, 155, 165 (2018).
- Bouma, L. et al. *Planet-Detection Simulations for Several Possible TESS Extended Missions*. arXiv:1705.08891 (2017). White paper (non-refereed).

### Many author

- 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).
- Quinn, S. et al., incl. Bouma, L. *Near-resonance in a system of sub-Neptunes from TESS*. AJ, 158, 177 (2019).
- 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).
- 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).
- Shporer, A. et al., incl. Bouma, L. *TESS Full Orbital Phase Curve of the WASP-18b System*. AJ, 157, 178 (2019).
- Zhan, Z. et al., incl. Bouma, L. *Complex Rotational Modulation of Rapidly Rotating M Stars Observed with TESS*. ApJ, 876, 127 (2019).
- Rappaport, S. et al., incl. Bouma, L. *Deep long asymmetric occultation in EPIC 204376071*. MNRAS, 485, 2681 (2019).
- 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).
- 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).
- 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).

- Campante, T. et al., incl. Bouma, L. *The asteroseismic potential of TESS: Exoplanet-Host Stars*. ApJ, 830, 2 (2016).

## Code

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

## SELECTED GRANTS & HONORS

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11/2019 PI: Magellan/PFS (2 nights). *Follow-up radial velocity measurements for giant planets around young stars*.  
 06/2019 Co-I: LCO 1 m and 2 m (PI: Hartman, 2019B-0160). *Follow-up photometry for CDIPS planets*.  
 06/2019 Co-I: TESS GI Program G022117 (PI: Hartman). *Continuation of G011103*.  
 06/2018 Co-I: TESS GI Program G011103 (PI: Hartman). *Helped conceive and write the grant that funds my thesis*.  
 05/2015 USC Discovery Scholar \$10k fellowship based on research portfolio towards graduate study.  
 05/2014 Caltech Summer Undergraduate Research Fellowship  
 04/2014 Goldwater Scholarship \$7.5k 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

## TALKS & POSTERS

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- *TESS Planet Candidates in Open Clusters* 08/2019  
Extreme Solar Systems IV.
- *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; Princeton Thunch Seminar (2 contributed talks).
- *Extending the Planet Search with TESS* 10/2018  
TESS Science Team Meeting (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* 05/2016; 07/2016; 12/2016  
TESS Science Team Meetings; NExSci Sagan Summer Workshop (3 contributed talks; poster).

## SERVICE & OUTREACH

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- **Observing Outreach**: Fall 2017 — present, 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).
- **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.
- **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, invited 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).
- **Spoken**: English (native), French (proficient)
- **Hobbies**: Rock climbing; percussion (kit drums); basketball; reading; camping; foosball