

RESEARCH INTERESTS

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

PUBLICATIONS

First & second author

- 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

- Patra, K. et al., incl. Bouma, L. *The Continuing Search For Evidence of Tidal Orbital Decay For Hot Jupiters*. (AJ submitted, 2019).
- Quinn, S. et al., incl. Bouma, L. *Near-resonance in a system of sub-Neptunes from TESS*. (AJ submitted, 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*. (Nat. Astron. submitted, 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 accepted, 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 Wallace J. **astrobase**: *a package for variable star astronomy*. Link.
- Astropy Collaboration et al., incl. Bouma, L. *The Astropy Project*. AJ, 156, 123 (2018).

TALKS & POSTERS

- *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).
- *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

- **Observing Outreach**: Fall 2017 — 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).
- **Resident Graduate Student**: Starting in Fall 2018, academic and social advisor to about 30 first and second year students. Hosted star-gazing nights, weekly 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.

SELECTED GRANTS & HONORS

06/2019 TESS GI Program G022117 (PI: Hartman). *Continuation of G011103.*

06/2018 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

SKILLS & OTHER INTERESTS

- **Code**: Python (standard astro stack); cython; C++; bash. Projects at github.com/lgbouma.
- **Technical**: General competence using & developing physical & statistical models.
- **Spoken**: English (native), French (proficient)
- **Hobbies**: Rock climbing; percussion (kit drums); basketball; reading; camping; foosball