Samuel Yee

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Research Interests

Hot Jupiters – formation and evolution
Exoplanet discovery and statistics
Architectures and dynamics of planetary systems

Appointments

Center for Astrophysics | Harvard & Smithsonian — Cambridge, MA
51 Pegasi b Postdoctoral Fellow — 09/2023 – present

Education

Princeton University — Princeton, NJ
Ph.D., Astrophysics; M.Sc., Astrophysics (2020) — 09/2018 – 08/2023
Thesis: *The TESS Grand Unified Hot Jupiter Survey*
Advisor: Joshua Winn

California Institute of Technology — Pasadena, CA
B.S., Physics, with Minor in Geological and Planetary Sciences — 09/2014 - 06/2018

Awards

Heising-Simons 51 Pegasi b Fellowship — 2023 – 2026
Princeton University Centennial Fellowship — 2018 – 2023
George W. Housner Prize for Academic Excellence and Original Research — 2018
Best Poster, Know Thy Star Conference — 2017

Publications [ADS]

First Author

9. **Yee, S. W.**, Winn, J., Hartman, J., et al. *The TESS Grand Unified Hot Jupiter Survey III. Thirty New Planets.* in prep (2023).
8. **Yee, S. W.** & Winn, J. *The Period Distribution of Hot Jupiters is Not Dependent on Host Star Metallicity.* ApJL, 949, L21 (2023).
7. **Yee, S. W.**, Winn, J., Hartman, J., et al. *The TESS Grand Unified Hot Jupiter Survey II. Twenty New Giant Planets.* ApJS, 265, 1 (2023).
6. **Yee, S. W.**, Winn, J., Hartman, J., et al. *The TESS Grand Unified Hot Jupiter Survey I. Ten TESS Planets.* AJ, 164, 70 (2022).
5. **Yee, S. W.**, Winn, J. & Hartman, J. *How Complete Are Surveys for Nearby Transiting Hot Jupiters?* AJ, 162, 240 (2021).
4. **Yee, S. W.**, Tamayo, D., Hadden, S. & Winn, J. *How Close are Compact Multi-Planet Systems to the Stability Limit?* AJ, 162, 55 (2021).
3. **Yee, S. W.**, Winn, J., Knutson, H., et al. *The Orbit of WASP-12b is Decaying.* ApJL, 888, L5 (2020).
2. **Yee, S. W.**, Petigura, E., Fulton, B., et al. *HAT-P-11: Discovery of a Second Planet and a Clue to Understanding Exoplanet Obliquities.* AJ, 155, 255 (2018).
1. **Yee, S. W.**, Petigura, E. & von Braun, K. *Precision Stellar Characterization of FGKM Stars using an Empirical Spectral Library.* ApJ, 836, 77 (2017).

Contributing Author

8. Delamer, M., incl. **Yee, S. W.** *TOI-4201: An Early M-dwarf Hosting a Massive Transiting Jupiter Stretching Theories of Core Accretion.* ApJL, in review [arXiv] (2023).
7. Schmidt, S., incl. **Yee, S. W.** *Verification of Gaia DR3 Single-lined Spectroscopic Binary Solutions With Three Transiting Low-mass Secondaries.* ApJ, in review (2023).
6. Psaridi, A., incl. **Yee, S. W.** *Three Saturn-mass planets transiting F-type stars revealed with TESS and HARPS.* A&A, 675, A39 (2023).
5. Zink, J. K. et al., incl. **Yee, S. W.** *Scaling K2. VI. Reduced Small Planet Occurrence in High Galactic Amplitude Stars.* AJ, 165, 262 (2023).
4. MacDougall, M. G. et al., incl. **Yee, S. W.** *The TESS-Keck Survey: Precise Properties of 106 TESS Planets and Their Host Stars.* AJ, 166, 33 (2023).
3. Fraizer, R. C. et al., incl. **Yee, S. W.** *NEID Reveals that The Young Warm Neptune TOI 2076b Has a Low Obliquity.* ApJL, 944, L41 (2023).
2. Essack, Z. E. et al., incl. **Yee, S. W.** *TOI-1075 b: A Dense, Massive, Ultra-Short Period Hot Super-Earth Straddling the Radius Gap.* AJ, 165, 47 (2023).
1. Petigura, E. et al., incl **Yee, S. W.** *Planet Candidates from K2 Campaigns 5-8 and Follow-up Optical Spectroscopy.* AJ, 155, 21 (2018).

Observing Programs

Obliquities on the Edge of the Hot Neptune Desert (PI) 2023B
Keck I/KPF – 1 night (NASA);

The TESS Grand Unified Hot Jupiter Survey (PI) 2023B
Keck I/KPF – 0.5 nights (NASA); Magellan/PFS – 2 nights (Princeton);
WIYN/NEID – 2.5 nights (NOIRLab); CTIO1.5m/CHIRON – 5.4 nights (NOIRLab);

The TESS Grand Unified Hot Jupiter Survey (PI) 2023A
Keck I/HIRES – 1 night (NASA); Magellan/PFS – 1.5 nights (Princeton)
WIYN/NEID – 2.7 nights (NOIRLab); CTIO1.5m/CHIRON – 5.2 nights (NOIRLab);

Small Friends to Hot Jupiters (PI) 2023A
WIYN/NEID – 1.9 nights (NOIRLab);

The TESS Grand Unified Hot Jupiter Survey (PI) 2022B
Keck I/HIRES – 1.5 nights (NASA); Magellan/PFS – 2 nights (Princeton)
WIYN/NEID – 2.8 nights (NOIRLab); CTIO1.5m/CHIRON – 6.3 nights (NOIRLab);
MINERVA-Australis – 1.5 nights (NOIRLab);

The TESS Grand Unified Hot Jupiter Survey (PI) 2022A
Keck I/HIRES – 1.5 nights (NOIRLab); Magellan/PFS – 2 nights (Princeton)
WIYN/NEID – 2.3 nights (NOIRLab); CTIO1.5m/CHIRON – 5.9 nights (NOIRLab);
MINERVA-Australis – 1.5 nights (NOIRLab);

The TESS Grand Unified Hot Jupiter Survey (PI) 2021B
Keck I/HIRES – 0.5 nights (NOIRLab); Magellan/PFS – 2 nights (Princeton)
CTIO1.5m/CHIRON – 5 nights (NOIRLab); WIYN/NEID – 2 nights (NOIRLab);

Observing Experience

Magellan/PFS – 29 nights
Keck/HIRES – 22 nights

Presentations

AAS General Meeting 241, Seattle *(contributed talk)* Jan 2023
TESS Science Team Meeting #29, Cambridge, MA *(contributed talk)* Oct 2022
Harvard CfA Seminar, Cambridge, MA *(invited seminar)* Oct 2022

MIT TESS Science Talk, Cambridge, MA *(invited seminar)* Oct 2022
ERES VII, State College *(contributed talk)* Aug 2022
Exoplanets IV, Las Vegas *(contributed plenary session talk)* May 2022
Yale Exoplanets and Stars Seminar *(invited seminar)* Apr 2022
AAS Division of Dynamical Astronomy Meeting 52, online *(contributed talk)* May 2021
AAS General Meeting 235, Honolulu *(poster)* Jan 2020
Exoplanets & Planet Formation, Shanghai *(poster)* Dec 2017
Know thy Star, Pasadena *(poster)* Sep 2017

Teaching

Assistant in Instruction — Princeton
AST 205, Planets in the Universe — Sep 2019 – Jan 2020
Teaching Assistant — Caltech
Ph 12c, Statistical Mechanics — Mar 2018 – Jun 2018
Ph 12b, Quantum Mechanics — Jan 2018 – Mar 2018
Peer Tutor — Caltech, 2016 – 2018

Professional Activities

Referee, *AAS Journals*, *MNRAS*, *A&A* — 2020 – present
Virtual Organizing Committee, *Emerging Researchers in Exoplanet Science (ERES) V* — 2021

Code

Bhatti, W., Bouma, L., & **Yee, S. W.** `cdips-pipeline`: *difference-imaging photometry pipeline*
Yee, S. W., Petigura, E., von Braun, K. `SpecMatch-Emp`: *stellar characterization using an empirical spectral library*

Outreach & Service

Princeton Public Observing: Organize and host members of the public at observing events using the Princeton department telescope.

Intro2Astro: Gave lectures for Intro2Astro, an online summer course introducing students to astronomy research.

Astro Department Graduate Student Mentorship Program, Princeton University

Graduate Student Buddy Program, Princeton University