Sarah Peacock

Curriculum Vitae

Exoplanets and Stellar Astrophysics Laboratory, Code 667
NASA Goddard Space Flight Center
Greenbelt, MD 20771

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SUMMARY

Astrophysicist exploring the connections between stars and their planets through a varied research portfolio, with leadership roles on NASA mission concepts and recognition from the NASA Astrophysics Division. Brings a strong record of securing research funding and mentoring the next generation of scientists, including two John Mather Nobel Scholars.

EDUCATION

Ph.D. Planetary Sciences, **University of Arizona** 2019
Minor: Astrobiology
Thesis: "*Predicting the Extreme Ultraviolet Radiation Environment of Exoplanets Around Low-Mass Stars*"

M.Sc. Planetary Sciences, **University of Arizona** 2016

B.A. Astronomy-Physics, **University of Virginia** 2013

RESEARCH AND TEACHING EXPERIENCE

NASA Goddard Space Flight Center **Greenbelt, MD**

Assistant Research Scientist (University of Maryland, Baltimore County) 2023 – Present

- PI for an HST program to complete panchromatic spectra for ten high priority HWO target stars.
- PI for the PEGASUS: PHOENIX EUV Grid and Stellar UV Spectra webtool, producing synthetic EUV-IR spectra of M and K exoplanet host stars: https://science.data.nasa.gov/data-sites/pegasus-stellar-spectra
- Co-lead of the HWO Target Stars and Systems Working Group, leading a multi-mission archival UV and X-ray data assessment for 98 high-priority target stars to identify coverage gaps and guide future observing strategies.
- Developing panchromatic (X-ray through radio) PHOENIX stellar atmosphere models for GKM stars with directly imageable habitable zones to support target selection and habitability studies.
- Estimating stellar EUV fluxes for the HST Multi-Cycle Treasury program STELa, a project focused on atmospheric escape in exoplanets through a reconnaissance–detection–characterization strategy.
- Co-manager, lead report editor, and science team member for the NIAC Phase I study: Artemis-enabled Stellar Imager (AeSI) to place a UV/optical interferometer near the south pole of the Moon.
- Co-lead analyzing JWST observations of the TRAPPIST-1 system, refining models of stellar contamination and flare activity.
- Lead for the Star-Planet Interaction Team for the NASA ICAR Program: Strange New Worlds: Characterizing Nearby M-dwarf Habitable Zone Planets.
- Mentor to a postbac researcher on PHOENIX atmosphere modeling of the JWST Rocky Worlds DDT target LTT 1445 A, including a sensitivity analysis of stellar parameters to inform model fidelity.
- Generated a grid of 120 high-resolution (R~10,000) synthetic spectra for OBAFGK stars with varying metallicities to support an HWO/ASDPS study of the coronagraph's astrophysical noise floor.

CRESST-II Postdoc | Supervisor: Ken Carpenter 2022 – 2023

- Project Scientist for the NASA Pioneer mission concept: *Small NASA Optical Ultraviolet Telescope (*SNOUT*)* - measuring ionizing energy emitted by exoplanet host stars and identifying connections between EUV and white-light flares.
- PI for an HST program revealing how the H I Lyα profile evolves with spectral type and how to use it to

improve stellar models.
- Star-Planet Interaction Team Lead for the NASA ICAR Program: Consortium on Habitability and Atmospheres of M-dwarf Planets (CHAMPS) - modeling UV spectra of M dwarf exoplanet host stars used for studying the stability and photochemical response of terrestrial habitable zone planets.
- Co-I on a large JWST program measuring the prevalence and diversity of M-dwarf planet atmospheres, providing full wavelength synthetic spectra of all target host stars.
- Mentor to undergrad interns using PHOENIX to compute synthetic UV spectra for main sequence stars and developing a webtool for enabling public access to the spectra.

NASA Postdoctoral Fellow | Advisor: Ken Carpenter 2020 – 2022
- Used HST observations of Lyα lines of low mass stars with high radial velocities to better understand microphysics occurring at depth in stellar atmospheres. Also led a successful HST proposal to observe more high radial velocity stars to further this work.
- Computed 900 models to form a grid of stellar spectra across the main sequence (300-12,000 K) exploring various carbon and oxygen abundances.
- Assessed X-ray and UV irradiation effects on habitability and biosignatures of Lalande 21185 by compiling archival UV data and creating a validated panchromatic synthetic stellar spectrum.
- Star-Planet Interaction Team Lead for the NASA ICAR Program: Consortium on Habitability and Atmospheres of M-dwarf Planets (CHAMPS) – determined the lifetime evolution of UV flux emitted by TRAPPIST-1 and computed representative spectra of this star at multiple ages throughout its entire history.
- Science Case Lead for the NASA MidEx concept: *Ultraviolet Spectroscopic Characterization of Planets and their Environments (*UV-SCOPE*)* – modeled the EUV flux of target stars that may or may not host planets with escaping atmospheres. Computed ~1,000 synthetic UV spectra of target stars and conducted several sensitivity and precision analyses with these models, the results of which drove both science and instrument requirements.
- Science Team Member for the NASA APRA mission: *Star-Planet Activity Research CubeSat* (SPARCS) - used PHOENIX to compute synthetic UV spectra of target stars in various activity states. Computed synthetic UV spectra of target stars that drove key mission requirements.
- Mentor to undergrad interns using PHOENIX to compute synthetic UV spectra for main sequence stars.

University of Arizona, Lunar and Planetary Lab **Tucson, AZ**

Postdoctoral Research Associate | Advisor: Travis Barman 2020
- Modeled and characterized low mass stars that host one or more planets.
- Used archival UV observations from HST and GALEX to improve the PHOENIX code.
- Science Team Member for the NASA MidEx concept: *Ultraviolet Spectroscopic Characterization of Planets and their Environments (*UV-SCOPE*)*.
- Science Team Member for the NASA APRA mission: *Star-Planet Activity Research CubeSat* (SPARCS).

Graduate Research Associate | Advisor: Travis Barman 2013 – 2019
- Modeled the high energy radiation environment around M stars using PHOENIX.
- Quantified the evolution of stellar extreme-ultraviolet radiation from M dwarf stars.
- Constructed synthetic EUV-IR spectra for exoplanet host stars: TRAPPIST-1, GJ 176, GJ 436, and GJ832.
- Science Team Member for the NASA APRA mission: *Star-Planet Activity Research CubeSat* (SPARCS).

Graduate Teaching Assistant 2013 – 2014
- PTYS206: "Our Golden Age of Planetary Exploration"

University of Virginia **Charlottesville, VA**

Undergraduate Research Assistant | Advisor: Phil Arras 2011 – 2013
- Modeled the probability and outcomes of Roche Lobe overflow in exoplanetary systems using MESA.

SETI Institute **Mountain View, CA**

REU Intern | Advisor: Jean Chiar 2012 – 2013
- Studied ice, dust, and extinction in the Perseus Molecular Cloud.

MISSION CONCEPT EXPERIENCE

Artemis-enabled Stellar Imager (AeSI)

Co-Manager and Science Team Member | P.I.: Ken Carpenter 2020 – Present

- NASA Innovative Advanced Concepts (NIAC) Program (selected for Phase 1 study in 2024)
- Study to investigate the details of building a high-resolution imaging interferometer near the South Pole of the Moon in conjunction with the Artemis Program
- Roles: Co-manage and prepare for the potential to lead mission in the future. Develop science case and help define science requirements flow-down to ensure mission concept will enable the desired science. Lead editor of the Phase 1 Final Report.

Star-Planet Activity Research CubeSat (SPARCS)

Science Team Member | P.I.: Evgenya Shkolnik 2017 – Present

- NASA Astrophysics Research and Analysis (APRA) Program (launching 2025)
- 6U cubesat monitoring flares and sunspot activity on M dwarfs in the far- and near-ultraviolet
- Role: Provide model spectra for target stars based on the SPARCS photometric measurements.

Multi Telescope HOt jupiter Survey (MiTHOS)

Science Team Member | P.I.: Erin May 2024 – Present

- NASA SMEX concept (2025 call - *delayed*)
- R~100 spectroscopic smallsat constellation mapping hot Jupiter atmospheres via phase curves, enabling a population-level census of thermal structures and compositions across ~90 systems.
- Role: Lead for ancillary stellar science case, guiding investigations into stellar variability and systematics during long-duration observations, and assessing stellar impacts on exoplanet phase curves.

DISCO

Science Team Member | P.I.: Sarah Tuttle 2024 – Present

- NASA SMEX concept (2025 call - *delayed*)
- R~20,000 FUV spectrograph to map the cosmic ecosystems of nearby galaxies in the FUV, connecting galactic properties and processes to the cosmological infrastructure of the universe.
- Role: Provide ancillary science case on exoplanet host star characterization.

Small NASA Optical and Ultraviolet Telescope (SNOUT)

Project Scientist | P.I.: Allison Youngblood 2022 – 2024

- NASA Pioneer concept development (March 2023 call, rated E/VG)
- A smallsat measuring the quiescent EUV flux and simultaneous EUV+white-light flares from 30 GKM stars to characterize the high energy environment exoplanets are subject to
- Roles: Oversee the development of the plan for science implementation and science operations. Lead the analysis using SNOUT measurements to better understand general stellar physics.

Ultraviolet Spectroscopic Characterization of Planets and their Environments (UV-SCOPE)

Science Team Member | P.I.: Evgenya Shkolnik 2020 – Present

- NASA MidEx concept development (December 2021 call, rated "Selectable")
- Time-domain FUV–NUV spectra of ~200 stars and planets to study exoplanet atmospheric mass loss, aerosol formation, and stellar influences on atmospheric evolution and habitability.
- Roles: Define mission requirements for enabling accurate stellar modeling using UV emission lines. Compute the EUV flux from host stars to help determine the dominant mass-loss model (photoevaporation vs core powered) that shapes the well-observed radius valley between super-Earth and sub-Neptune planet populations.

POLICY EXPERIENCE

The National Academies of Sciences, Engineering, and Medicine **Washington, DC**

Lloyd V. Berkner Space Policy Intern | Space Studies Board 2016

- Assisted in writing reviews ("Getting Ready for the Next Planetary Science Decadal Survey", "Review of the Restructured Research and Analysis Programs of NASA's Planetary Science Division") and organizing the Searching for Life Across Space and Time Workshop

ADVISING EXPERIENCE

I have served as the primary mentor for four NASA/GSFC interns and one NASA/GSFC PostBac:

Elizabeth Dare Bartlet, PostBac Student — Fall 2024 – Summer 2025
Computing model spectra for stars and planets targeted by the JWST/HST Rocky Worlds Director's Discretionary Time (DDT) Program

Malia Barker, Undergraduate NASA OSTEM Intern — Fall 2022 – Spring 2023
Extreme Ultraviolet Spectrum Catalog Website Development

Anna Taylor, Undergraduate NASA OSTEM Intern — Summer 2022 – Spring 2023
Stellar activity, structure, and the chromosphere
Selected as a John Mathers Nobel Scholar

Audrey Dunn, Undergraduate NASA OSTEM Intern — Summer 2022 – Spring 2023
Stellar activity, structure, and the chromosphere

Lori Huseby, Undergraduate NASA OSTEM Intern — Summer 2021 – Summer 2022
Hubble Space Telescope Main Sequence Star Modeling
Selected as a John Mathers Nobel Scholar

AWARDED RESEARCH FUNDING (*excluding observing programs*)

PRINCIPAL INVESTIGATOR

GSFC Sellers Exoplanet Environments Collaboration Grant, "PHOENIX EUV Grid and Stellar Ultraviolet Spectra (PEGASUS) Webtool" — 2024 – 2026

NASA NPP, "Predicting the High Energy Radiation Environment Around Cool Stars" — 2020 – 2022

CO-INVESTIGATOR

NASA ADS/Precursor Science, "Determining the Astrophysical Noise Floor of the Habitable Worlds Observatory's Coronagraphs" — 2024 – 2027

GSFC Sellers Exoplanet Environments Collaboration Grant, "Simulating the atmospheric carbon spectral footprint of lifeless Earth-size planets with a surface water ocean around G, K, and M stars" — 2025 – 2027

NASA Innovative Advanced Concepts (NIAC) Phase I, "A Lunar Long-Baseline Optical Imaging Interferometer: Artemis-enabled Stellar Imager (AeSI)" — 2024 – 2025

NASA APRA, "Monitoring of the High-Energy Radiation Environment of Exoplanets around Low-mass Stars with SPARCS (Star-Planet Activity Research CubeSat): Launch, Operations, and Science" — 2024 – 2025

NASA ICAR, "Strange New Worlds: Characterizing Nearby M-dwarf Habitable Zone Planet" — 2023 – 2028

SEEC, "Investigating Impacts of Stellar Wind and XUV Emission on Atmospheric Loss" — 2023 – 2025

NASA XRP, "Assessing Atmospheric Impacts of X-ray and UV Irradiation on Earth-like Planets in Directly Imageable Habitable Zones" — 2023 – 2025

NASA XRP, "Estimating pi with PIE: Constraining the Population Proportion of M-Dwarf Planetary Atmospheres with Planetary Infrared Excess" — 2023 – 2025

NASA ICAR, "The M-dwarf Opportunity: Characterizing Nearby M-dwarf Habitable Zone Planets" — 2020 – 2023

OBSERVING PROGRAMS

PRINCIPAL INVESTIGATOR

HST General Observer, 37 orbits "Completing Panchromatic Spectra for High Priority HWO Target Stars" (Program 18001) 2025

HST General Observer, 22 orbits, "Exposing the Lyman-alpha Profiles of Low-Mass Stars," (Program 16646I) 2021

CO-INVESTIGATOR

JWST Cycle 4, 244.6 hours, "Charting the Cosmic Shoreline" (Program 7073) 2025

Keck, 18 nights, "Stellar Secrets Revealed: Keck/NIRSPEC's Key Role in NASA's Pandora Exoplanet Mission" (PID 68/2025B_N165) 2025

HST General Observer, 204 orbits, *Multicycle* treasury, "STELa: Survey of Transiting Exoplanets in Lyman-alpha" (Program 17804) 2025

HST General Observer, 31 orbits, "Characterizing the Detected Atmospheric Escape of a Pair of Small Sub-Neptunes" (Program 17801) 2025

JWST Cycle 3 General Observer, 15.7 hours, "Oceans of Uncertainty: A Veritable Waterworld or a Desolate Wasteland?" (Program 5866) 2024

HST General Observer, 12 orbits, "Leveraging High Radial Velocities to Get to the Core of Planetary Lyman-alpha Transits," (Program 16731) 2021

JWST Cycle 1 General Observer, 75.6 hours, "Tell Me How I'm Supposed to Breathe With No Air: Measuring the Prevalence and Diversity of M-Dwarf Planet Atmospheres," (Program 1981) 2021

HST General Observer, 14 orbits, "Observing the Lyman-alpha Transits of Two Sub-Neptunes Orbiting a 400 Myr G Star to Illuminate the Cause of the Exoplanet Radius Valley," (Program 16455) 2021

HST General Observer, 130 orbits, "HAZMAT: Habitable Zones and M dwarf Activity across Time," (Program 14784) 2016

FELLOWSHIPS AND AWARDS

NASA Astrophysics Division Peer Award 2023

Gerard P. Kuiper Memorial Award 2020

NASA Earth and Space Science Fellowship 2015 – 2018

UA College of Science Galileo Circle Scholarship 2016

NSF Graduate Research Fellowship Honorable Mention 2015

LPL Graduate Teaching Excellence Award 2015

Arizona Space Grant Graduate Fellowship 2013

INVITED TALKS

NASA/GSFC HWO Science Simulations and Analysis Group | "Need a Stellar Spectrum? I've got you covered X-ray to IR" 2025

NASA/GSFC code 667 Lab Meeting | "Characterizing Stellar Activity and Planetary Atmospheres in the TRAPPIST-1 System: JWST NIRSpec Observations of TRAPPIST-1 h and b" 2025

Penn State | "Modeling Exoplanet Host Stars from X-ray to Infrared: Panchromatic Spectra and Their Impact on Planetary Atmospheres" 2025

JWST Flight Operations Weekly Briefing | "Characterizing Stellar Activity and Planetary Atmospheres in the TRAPPIST-1 System: JWST NIRSpec Observations of TRAPPIST-1 h and b" 2025

Carnegie EPL Astronomy Seminar | "Providing Access to EUV Spectra of Exoplanet Host Stars" 2023

Imperial College London | "How to Quantify the Unobservable: A Guide to Modeling the Extreme Ultraviolet Spectrum" 2022
Stars and Planets in the Ultraviolet | "On the Potential of Generalized EUV Spectrum Grids" 2021
JPL Exoplanet Journal Club | "How to Quantify the Unobservable: A Guide to Modeling the Extreme Ultraviolet Spectrum" 2021
GSFC SED Director's Seminar | "Constructing Reliable Chromosphere Models for the Accurate Prediction of Stellar UV Radiation" 2020
Carnegie EPL Astronomy Seminar | "Predicting the Extreme Ultraviolet Radiation Environment Around Low-Mass Stars" 2020

CONTRIBUTED PRESENTATIONS

1. Towards the Habitable Worlds Observatory: Visionary Science and Transformational Technology | Poster 2025
   "High-Energy Emission from High-Priority Target Stars: Current Status and Future Needs"
2. 245th Meeting of the American Astronomical Society | Talk 2025
   "Characterizing Stellar Activity and Planetary Atmospheres in the TRAPPIST-1 System: JWST NIRSpec Observations of TRAPPIST-1 h and b"
3. NIAC Symposium | Poster 2024
   "Artemis-enabled Stellar Imager (AeSI): Observing the Universe in High Definition"
4. Cool Stars 22 | Poster 2024
   "Exposing the Lyman-alpha Profiles of Low-Mass Stars"
5. Exoplanets 5 | Poster 2024
   "PEGASUS: PHOENIX EUV Grid and Stellar UV Spectra"
6. CRESST-II Retreat | Poster 2024
   "JWST Transmission Spectroscopy of Five Rocky Worlds"
7. 241st Meeting of the American Astronomical Society | Talk 2023
   "PEGASUS: PHOENIX EUV Grid and Stellar UV Spectra"
8. Cool Stars 21 | Poster 2022
   "High Radial Velocities Expose More than Just Lyman-alpha Cores"
9. UV Science at Goddard Symposium | Talk 2022
   "On the Potential of Generalized EUV Spectrum Grids"
10. CHAMPS Early Career Highlight Seminar | Talk 2022
    "High Radial Velocities Expose More than Just Lyman-alpha Cores"
11. Goddard Space Flight Center, Early Career Scientist Forum | Talk 2020
    "The Lifetime Evolution of the Extreme Ultraviolet Environment of M Stars"
12. 235th Meeting of the American Astronomical Society | Talk 2020
    "The Lifetime Evolution of the Extreme Ultraviolet Environment of M Stars"
13. CubeSat Astronomy in the 2020s | Poster 2020
    "Understanding the High-Energy Radiation Emission of Low-Mass Stars: Constructing Stellar Models Using SPARCS Photometry"
14. 233rd Meeting of the American Astronomical Society | Talk 2019
    "Predicting the Extreme Ultraviolet Radiation Environment of The TRAPPIST-1 System"
15. Cool Stars 20 | Poster 2018
    "The Extreme Ultraviolet Spectrum in Time: Modeling the Evolution of Early M dwarf Emission"
16. 231st Meeting of the American Astronomical Society | Talk 2018
    "How Extreme is TRAPPIST-1? A look into the planetary system's extreme-UV radiation environment"

17. Exoclimes 2016 | Poster 2016
"The Extreme-UV Radiation Environment of M dwarf Planet Hosts"
18. 47th Meeting of the Division for Planetary Sciences | Talk 2015
"Understanding the Early Evolution of M dwarf Extreme Ultraviolet Radiation"
19. Star and Planet Formation in the Southwest 1 | Talk 2015
"HAZMAT II: Modeling the Evolution of Extreme-UV Radiation from M Stars"
20. 225th Meeting of the American Astronomical Society | Poster 2015
"HAZMAT II: Modeling the Evolution of Extreme-UV Radiation from M Stars"
21. Exoplanets, Biosignatures & Instruments Meeting | Talk 2014
"HAZMAT II: Modeling the Evolution of Extreme-UV Radiation from M Stars"
22. 221st Meeting of the American Astronomical Society | Poster 2013
"Ice, Dust, and Extinction in the Perseus Molecular Cloud"

ACADEMIC SERVICE AND LEADERSHIP

Served on NASA and NSF review panels	---
Executive Committee Member for NASA's ExoPAG	2024 – present
NASA Intern and Postbac Mentor	2021 – present
Star-Planet Interaction Task Lead (CHAMPS, SNW)	2020 – present
Co-Lead for the High Energy Emission Group under the Target Stars and Systems working group for the Habitable Worlds Observatory	2024 – 2025
Co-Project Manager (AeSI, NIAC Phase 1 Study)	2024 – 2025
Project Scientist (SNOUT)	2022 – 2024
American Astronomical Society Congressional Visit Day Participant	2019
Coordinator for the Graduate Student Colloquium Series (LPL)	2015 – 2018
Co-Organizer for the Searching for Life Across Space and Time Workshop	2016
LPL Representative to the Arizona Graduate & Professional Student Council	2015 – 2017
Coordinator for the Prospective Graduate Students (LPL)	2014 – 2017
Co-Organizer of Bennuval: An Evening of Space, Art, and Music	2015
LPL Liaison for the International Dark Skies Association	2014 – 2015
UVA Astronomy Department Representative	2011 – 2013

PUBLIC OUTREACH

San Juan del Sur Day School, Astrobiology Guest Speaker (5th grade)	2024
Arlington High School, Exoplanet Guest Speaker	2024
The Challenger Center, SME for Operations Comet and Mars Videos	2023, 2024
Arizona State University, Exoplanet Research Career Panelist	2022, 2023
Provided 10 weeks of Field Work experience for a science writing student	2022
The Challenger Center, SME for Operation Comet Videos	2022
OSTA Presents: Young Girl's Science Club, Guest Speaker	2021
John Ruhrah Middle School, Seventh Grade Guest Speaker	2021
Co-Organizer of the Art of Planetary Science Exhibit (LPL)	2014 – 2019
Tucson Festival of Books Volunteer	2015 – 2019
Arlington Science Focus School, Fourth Grade Guest Speaker	2016
Observe the Moon Night Volunteer (UA)	2013 – 2015
Astronomy Night Volunteer (Catalina Foothills School District)	2015
Arizona Science and Astronomy Expo Volunteer	2014
Dark Skies, Bright Kids! Volunteer (UVA)	2011 – 2013

PRESS RELEASES and MEDIA COVERAGE

"Sarah Peacock Surveys Stellar Radiation to Hunt for Habitable Worlds" (https://www.nasa.gov/people-of-nasa/goddard-people/sarah-peacock-surveys-stellar-radiation-to-hunt-for-habitable-worlds/) – Conversations with Goddard Profile

"Is There Life in Space? A UVA Alumna Is Searching" (https://news.virginia.edu/content/there-life-space-uva-alumna-searching) - UVA Today Student Experience Article

"2024 NASA Innovative Advanced Concepts Symposium: Part 2 - Stellar imaging and looking for life while mining water on Mars" (https://www.planetary.org/planetary-radio/2024-niac-part-2) Planetary Radio Interview

"We're One Step Closer to a Giant Interferometer on the Moon" (https://www.universetoday.com/articles/were-one-step-closer-to-a-giant-interferometer-on-the-moon) – similar articles published by BBC Sky at Night, Universe Today, and phys.org

"Could nearby stars have habitable exoplanets? NASA's Chandra X-ray Observatory hopes to find out" (https://www.space.com/nasa-chandra-searching-for-exoplanets) - Similar articles were published by Universe Today, Phys.org, EarthSky, and other media outlets.

"NASA's Webb Confirms Its First Exoplanet" (https://webbtelescope.org/contents/news-releases/2023/news-2023-102.html) – For the associated press conference held at the January 2023 AAS conference, STSci Press Office reports "Media coverage amounted to 2,800 online articles with potential readership of 11.3 billion. Highlights include MSN, CNN, Daily Mail, and Yahoo! News."

ACADEMIC ENHANCEMENT

Building Bridges Across Planet-Related Science Workshop	2022
Software/Data Carpentry Workshop	2018
Exoplanets, Biosignatures & Instruments Astrobiology School	2014

PROFESSIONAL AFFILIATIONS

American Association for the Advancement of Science, Member	2019 – Present
American Astronomical Society, Member	2014 – Present

TECHNICAL SKILLS

Programming Languages	Python, Fortran, IDL, HTML
Operating Systems	Macintosh, Windows, Linux
Software	LaTeX, Microsoft Office, Adobe Creative Suite
Observing Experience	New Technology Telescope (ESO), Keck I, OSIRIS, HST, JWST

FIRST AUTHOR PUBLICATIONS

UNDER REVIEW:

Peacock, S., Barman, T. S., Loyd, R. O. P., Schneider, A. C., Youngblood, A., Carpenter, K. G., Shkolnik, E. L. *Lyman-Alpha Emission from K and M Dwarfs: Intrinsic Profiles, Variability, and Flux in the Habitable Zone (in press. at ApJ)*

Peacock, S., Wilson, D. J., Richey-Yowell, T., Tuchow, N. W., France, K., Caballero, J. A., Spinelli, R., Corrales, L., Zelakiewicz, A. S., Redfield, S., Rockcliffe, K., Youngblood, A., Froning, C. S., Duvvuri, G. M., Binder, B. A., Hinkel, N. R., Mamajek, E. E. *HWO Target Stars and Systems: A Survey of Archival UV and X-ray Data (under review at AJ)*

4. **Peacock, S.,** Barman, T., Schneider, A.C., Schwieterman, E., Leung, M., Shkolnik, E., Loyd R.O.P. 2022 *Accurate Modeling of Lyman-alpha Profiles and their Impact on Photolysis of Terrestrial Planet Atmospheres*. The Astrophysical Journal, Vol. 933
3. **Peacock, S.,** Barman, T., Shkolnik, E., Loyd R.O.P., Schneider, A.C., Pagano, I., Meadows, V. 2020. *HAZMAT VI: The Evolution of Extreme Ultraviolet Radiation Emitted from Early M Stars*. The Astrophysical Journal, Vol. 895
2. **Peacock, S.,** Barman, T., Shkolnik, E., Hauschildt, P., Baron, E. 2019. *Predicting the Extreme Ultraviolet Radiation Environment of Exoplanets Around Low-Mass Stars: GJ 832, GJ 176, GJ 436*. The Astrophysical Journal, Vol. 886
1. **Peacock, S.,** Barman, T., Shkolnik, E., Hauschildt, P., Baron, E. 2019. *Predicting the Extreme Ultraviolet Radiation Environment of Exoplanets Around Low-Mass Stars: The TRAPPIST-1 System*. The Astrophysical Journal, Vol. 871

OTHER REFEREED PUBLICATIONS

28. Bennett, K. A., MacDonald, R. J., **Peacock, S.,** Perez, J., May, E. M., Moran, S. E., Alderson, L., Lustig-Yaeger, J., Wakeford, H. R., Sing, D. K., Stevenson, K. B., Batalha, N. E., López-Morales, M., Alam, M. K., Lothringer, J. D., Fu, G., Kirk, J., Valenti, J. A., Mayorga, L. C., Sotzen, K. S., 2025 *Additional JWST/NIRSpec Transits of the Rocky M Dwarf Exoplanet GJ 1132 b Reveal a Featureless Spectrum*, The Astrophysical Journal (accepted)
27. Shkolnik, E. L., Ardila, D. R., Jensen, L., Jewell, A. D., Ramiaramanantsoa, T., Bowman, J., Jacobs, D., Scowen, P., Basset, C., Gamaunt, J., Gregory, D., Ladwig, M. C., Kolopanis, M., Nikzad, S., Struebel, N., Llama, J., Knapp, M**., Peacock, S.,** Samson, T., Swain, M. 2025 *Building SPARCS, an Ultraviolet Science CubeSat for Exoplanet Habitability Studies, Technology Advancements, and Mission Training,* Journal of Astronomical Telescopes, Instruments, and Systems (JATIS) (*accepted*)
26. Deming, D., Currie, M. H., Meadows, V. S., **Peacock, S.,** 2025, *Minimizing Star-spot Contamination of Exoplanet Transit Spectroscopy Using Alternate Normalization*, The Astronomical Journal, 170, 11
25. Amaral, L. N. R., Shkolnik, E. L., Loyd, R. O. P., **Peacock, S.,** 2025, *The Impact of Stellar Flares on the Atmospheric Escape of Exoplanets Orbiting M Stars. I. Insights from the AU Mic System*, The Astrophysical Journal, 985, 100
24. Loyd, R. O. P., Schreyer, E., Owen, J. E., Rogers, J. G., Broome, M. I., Shkolnik, E. L., Murray-Clay, R., Wilson, D. J., **Peacock, S**., Teske, J., Schlichting, H. E., Duvvuri, G. M., Youngblood, A., Schneider, P. C., France, K., Giacalone, S., Batalha, N. E., Schneider, A. C., Longo, I., Barman, T., & Ardila, D. R., 2025, *Hydrogen escaping from a pair of exoplanets smaller than Neptune,* Nature, 638, 636

23. DiTomasso, V., Lopez-Morales, M., **Peacock, S.**, Malavolta, L., Kirk, J., Stevenson, K., Fu, G., Lustig-Yaeger, J. 2025 *The Magnetically Induced Radial Velocity Variation of Gliese 341 and an Upper Limit to the Mass of Its Transiting Earth-sized Planet*. The Astrophysical Journal, Volume 979, Issue 2, id.214, 18 pp.
22. Baburaj, A, Konopacky, Q., Theissen, C., **Peacock, S.,** Huseby, L., Fulton, B., Gerasimov, R., Barman, T., Hoch, K. 2025. *A High-resolution Spectroscopic Survey of Directly Imaged Companion Hosts. I. Determination of Diagnostic Stellar Abundances for Planet Formation and Composition*. The Astronomical Journal, Volume 169, Issue 2, id.55, 41 pp.
21. Binder, B., **Peacock, S.,** Schwieterman, E., Turnbull, M., Virgen, A., Kane, S., Farrish, A., Garcia-Sage, K. 2024. *X-ray Emission of Nearby Low-mass and Sun-like Stars with Directly Imageable Habitable Zones*. The Astrophysical Journal Supplement Series, Volume 275, Issue 1, id.1, 29 pp
20. Paudel, R., Barclay, T., Youngblood, A., Quintana, E., Schlieder, J., Vega, L., Gilbert, E., Osten, R., **Peacock, S.,** Tristan, I., Feliz, D., Boyd, P., Davenport, J., Huber, D., Kowalski, A., Monsue, T., Silverstein, M. 2024 *A Multiwavelength Survey of Nearby M dwarfs: Optical and Near-Ultraviolet Flares and Activity with Contemporaneous TESS and Swift Data*. The Astrophysical Journal, Volume 971, Issue 1, id.24, 27 pp.
19. Taylor, A., Dunn, A., **Peacock, S.,** Youngblood, A. *Correlating Intrinsic Stellar Parameters with Mg II Self-Reversal Depths*. 2024 The Astrophysical Journal, Volume 964, Issue 1, id.80, 15 pp
18. Kirk, J., Stevenson, K., Fu, G., Lustig-Yaeger, J., Moran, S., **Peacock, S.,** et al. *JWST/NIRCam Transmission Spectroscopy of the Nearby Sub-Earth GJ 341b*. 2024 The Astronomical Journal, Volume 167, Issue 3, id.90, 22 pp
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