Tyler Gordon

Astronomy Graduate Student

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research summary

My interests span from stellar physics to exoplanetary habitability, including stellar variability, gyrochronology, and transiting exoplanets and exomoons. My work on all of these topics focuses on building numerical models that enable fast and accurate inference.

education

2016–2018 **M.S. Astronomy**
University of Washington

2010–2015 **B.S. Physics, Applied Mathematics**
Boise State University

research experience

2016– **Graduate Research Assistant**
University of Washington

• Development of differentiable exomoon transit models, simulation of JWST transit observations, and development of a multi-wavelength Gaussian process framework for exoplanet detection and characterization with Eric Agol
• Measuring stellar rotation in the K2 Sample with James Davenport

2012–2016 **Undergraduate Research Assistant**
Boise State University

• Simulating sychrotron self-Compton emissions from blazars with Daryl Macomb
• Molecular dynamics simulations of soft matter systems with Charles Hanna and David Pink

awards and honors

2016–2019 **ARCS Fellowship**
University of Washington

teaching and outreach

2018– **Planetarium Coordinator**
University of Washington

• Scheduling planetarium shows and managing volunteers for the UW campus planetarium
• Was awarded a $75,520 grant for upgrading the planetarium projectors in 2020

2017 – **AoT Seattle Co-organizer**

• I Co-organize Astronomy on Tap Seattle, a popular lecture series in which working astronomers give public talks about their work to an audience at a local brewery.

2020 **Pre-MAP Mentor**
University of Washington

• Mentored two undergraduates for one quarter on a project related to stellar rotation

2016–2017 **Graduate Teaching Assistant**
University of Washington

• Taught quiz sections, assisted during lectures, and held office hours for introductory astronomy courses

2012–2015 **Undergraduate Teaching Assistant**
Boise State University

• Taught lab sections for introductory physics courses

publications

Gordon, T. A., Davenport, J. R. A., Angus, R., et al. 2021, Stellar Rotation in the K2 Sample: Evidence for Modified Spin-down, ApJ, 913, 70.

Gordon, T. A., Agol, E., & Foreman-Mackey, D. 2020, A Fast, Two-dimensional Gaussian Process Method Based on Celerite: Applications to Transiting Exoplanet Discovery and Characterization, AJ, 160, 240.

Foreman-Mackey, D., Luger, R., Agol, E., et al. (including **Gordon, T. A.**) 2021, exoplanet: Gradient-based probabilistic inference for exoplanet data & other astronomical time series, The Journal of Open Source Software, 6, 3285.

selected talks

Measuring Stellar Rotation in the K2 Sample, AAS meeting 235, Honolulu, HI, January, 2020

Measuring Stellar Rotation in the K2 Sample, KITP Online Reunion Conference: Exostar Redux, Santa Barbara, CA, August, 2020