Zeeve **Rogoszinski**

zero@umd.edu | College Park, MD 20742 | https://www.astro.umd.edu/~zero/

Education

University of Maryland — *College Park, MD*
PH.D. IN ASTRONOMY — *Aug 2020 (expected)*
M.S. IN ASTRONOMY — *Dec 2016*

Vassar College — *Poughkeepsie, NY*
B.A. IN ASTRONOMY & PHYSICS — *Jun 2014*

Skills

Programming Languages (proficient): Python, C, LaTeX, Mathematica, shell scripting
Programming Languages (novice): HTML/CSS
Tools & Software: Numpy, Matplotlib, Pandas, Scikit-learn, SciPy, Seaborn
Git, Jupyter Notebook, Microsoft Office, Slurm, Unix/Linux
Spoken Languages: English (native), Hebrew (advanced)

Research Experience

Ann G. Wylie Dissertation Fellow/NASA Earth and Space Science Fellow — *U Maryland*
ADVISOR: DR. DOUGLAS HAMILTON — *present*

- Responsible for model development, execution, and visualization of C based simulations for the evolution of planetary spin-states via spin-orbit resonances, gas accretion, and collisions.
- Developed Python post-processing tools for data aggregation (up to 1-10 TB), visualization, and statistical analysis.
- Repurposed an N-body simulator using a Python wrapper to calculate the evolution of satellite orbits after 100s of collisions.
- Published a novel explanation for Uranus's and Neptune's tilts that both reduces the mass and number of subsequent impacts, and preserves the planets' spin periods. Reprints and additional information can be found on my website.

Summer Intern — *NASA GSFC*
ADVISOR: DR. JOHN HEWITT — *2014*

- Developed a Python image processing and analysis script to study cosmic ray origins in supernova remnants.

Senior Thesis — *Vassar College*
ADVISOR: DR. DEBRA ELMEGREEN — *2013-2014*

- Analyzed elliptical galaxy data to find correlations between structure and star formation rates.

Keck Northeast Astronomy Consortium Summer Research Fellow — *Williams College*
ADVISOR: DR. JAY PASACHOFF — *2013*

- Processed and analyzed raw images from the 2012 transit of Venus to explain the black-drop effect.

Fellowships & Awards

2020	**Ann G. Wylie Dissertation Fellowship**,	*U Maryland*
2016 - 2019	**NASA Earth and Space Science Fellowship**, 28 out of 180 selected	*NASA*
2016	**Hartmann Student Travel Grant**,	*AAS*
2014	**Departmental Honors in Astronomy**,	*Vassar College*
2014	**Departmental Honors in Physics**,	*Vassar College*
2014	**General Honors**,	*Vassar College*
2014	**Sigma Xi**,	
2013	**Ethel Hickox Pollard Memorial Physics Award**,	*Vassar College*
2013	**Janet Murray '31 Memorial Scholarship**,	*Vassar College*

Publications

The Brute-Force Search for Planet Nine
LAWRENCE, S., ROGOSZINSKI, Z., 2020, ARXIV:2004.14980

Tilting Uranus: Collisions vs. Spin-Orbit Resonance
Rogoszinski, Z., Hamilton D. P., 2020, under review, arXiv:2004.14913

Tilting Ice Giants with a Spin-Orbit Resonance
Rogoszinski, Z., Hamilton D. P., 2020, ApJ. arXiv:1908.10969

Selected News Articles

Here's Why We Must Send 100 Spacecraft To The Edge Of The Solar System — *Forbes*
by Jamie Carter — *May 2020*

A New Approach to Tilting Uranus — *AAS Nova*
by Will Saunders — *March 2020*

Presentations

Tilting Ice Giants with Circumplanetary Disks — *Division of Dynamical Astronomy*
Rogoszinski, Z., Hamilton D. P. — *Jun 2019*

Using collisions and resonances to tilting Uranus — *American Astronomical Society*
Rogoszinski, Z., Hamilton D. P. — *Jan 2018*

Continuing the investigation to tilting Uranus with a secular spin-orbit resonance — *Division of Planetary Science*
Rogoszinski, Z., Hamilton D. P. — *Oct 2017*

Tilting Uranus without a Collision — *AstroCon DC*
Rogoszinski, Z., Hamilton D. P. — *Jul 2017*

Posters

Can The Spin Rates of Irregular Satellites Provide Constraints To Their Formation Histories? — *EPSC-DPS Joint Meeting*
Rogoszinski, Z., Hamilton D. P. — *Sept 2019*

How do collisions shape the orbits of irregular satellites? — *Division of Planetary Science*
Rogoszinski, Z., Hamilton D. P. — *Oct 2018*

Why is it so difficult to tilt Uranus? — *Division of Dynamical Astronomy*
Rogoszinski, Z., Hamilton D. P. — *Apr 2018*

Tilting Uranus without a Collision — *Division of Planetary Science*
Rogoszinski, Z., Hamilton D. P. — *Oct 2016*

Constraining Cosmic Ray Origins Through Spectral Radio Breaks In Supernova Remnants — *American Astronomical Society*
Rogoszinski, Z., Hewitt, J. W. — *Jan 2015*

Observations of the Black-Drop Effect at the 2012 Transit of Venus — *American Astronomical Society*
Rogoszinski, Z., Pasachoff, J. M. — *Jan 2014*

Services & Internships

GRAD-MAP Member — *U Maryland*
Volunteered with the GRAD-MAP program by assisting with outreach, and helping to plan the Winter Workshop. GRAD-MAP is a diversity initiative and graduate student led organization by the Astronomy and Physics departments dedicated to sustaining ties between UMD and other minority serving institutions. For more information, visit: www.umdgradmap.org — *2015-2018*

Executive Secretary — *NASA*
A secretary position at a NASA peer review panel for annual proposals. These are usually reserved for early scientists to observe and learn from the proposal decision process. — *2017, 2018*

Observatory Assistant — *Vassar College*
Maintained and operated the school's observatory. — *2010-2012*

Teaching

Astronomy 101 TA — *U Maryland*

Supervisors: Grace Deming, Dr. Douglas Hamilton, Dr. Lee Mundy, Dr. Eliza Kempton — *2014-2016, Fall 2019*

Academic Astronomy Intern — *Vassar College*

Supervisor: Dr. Debra Elmegreen — *2013-2014*

Teaching Assistant — *Williams College Planetarium*

Supervisor: Dr. Jay Pasachoff — *Summer 2013*