

ETHAN A. KRUSE

ethan.kruse@nasa.gov
(845)·499·1384
<http://www.ethankruse.com>
<https://github.com/ethankruse/>

NASA Goddard Space Flight Center
8800 Greenbelt Road
Building 34
Greenbelt, MD 20771

EMPLOYMENT

NASA Postdoctoral Fellow	September 2018–Present
NASA Goddard Space Flight Center	Greenbelt, MD

EDUCATION

University of Washington	August 2018
Ph.D. in Astronomy	
Dissertation title: “A New Transiting Planet Search Applied to Kepler and K2: Discovery of Hundreds of Planet Candidates, Eclipsing Binary Stars, and a Self-lensing Binary System”	
University of Washington	December 2013
M.S. in Astronomy	
Harvard University	May 2012
B.A. cum laude in Astrophysics	
Minor in Computer Science	

HONORS & AWARDS

Blue Waters Graduate Fellow	2017–2018
National Science Foundation Graduate Research Fellowship	2013–2016
Harvard Hoopes Prize for Outstanding Senior Thesis	2012

RESEARCH EXPERIENCE

Doctoral Research	2012–2018
Dr. Eric Agol	Seattle, WA
+) Discovering and characterizing the Kepler & K2 planet population, as well as discovering the first self-lensing binary system	
Senior Thesis	2011–2012
Dr. Darin Ragozzine	Cambridge, MA
+) Two semesters searching for circumbinary planets in the Kepler data	
NRAO REU	Summer 2011
Dr. Scott Ransom	Charlottesville, VA
+) Extensive GPU coding with CUDA to develop a gamma-ray pulsar search of Fermi data	
Space Telescope Science Institute REU	Summer 2010
Dr. Jason Tumlinson	Baltimore, MD
+) HST spectral analysis on the COS-Halos team with focus on H ₂ absorption analysis	

Harvard PRISE Research Fellow

Dr. Edo Berger

+) Short-term M-dwarf magnetic field variability using SDSS spectra

Summer 2009

Cambridge, MA

TEACHING EXPERIENCE

University of Washington TA

+) Astronomy 101 with Dr. Chris Laws

+) Astronomy 101 with Dr. Oliver Fraser

+) Astronomy 150 with Dr. Toby Smith

Seattle, WA

Spring 2013

Winter 2013

Autumn 2012

SCIENCE COMMUNICATION, OUTREACH, & SERVICE

Seattle Astronomy on Tap Invited Talk

August 2018

Seattle Astronomical Society Invited Talk

September 2016

Seattle Astronomy on Tap Invited Talk

April 2016

\$13,000 University of Washington STF Grant for Computing Resources

2016

[Kepler Animation](#) with 900,000+ Views Featured on [APOD](#)

December 2015

University of Washington Curriculum Review Committee

2015–2016

Moderator and Contributor on reddit [/r/AskScience](#)

2014–Present

University of Washington Faculty Search Committee

2014–2015

University of Washington Graduate Representative

2014–2016

[Science Podcast](#) Discussing KOI-3278

April 2014

Weekly arXiv Discussion Leader

2013–2016

Science Olympiad Event Coordinator

2009–2011

FIRST AUTHOR PUBLICATIONS

Citations compiled from [ADS](#) on 23 May 2020.

#	PAPER TITLE	First Author	N Authors	Journal	(Year)	Citations
3.	DETECTION OF HUNDREDS OF NEW PLANET CANDIDATES AND ECLIPSING BINARIES IN K2 CAMPAIGNS 0–8	E. Kruse	4	<i>ApJS</i>	(2019)	arXiv 7
2.	KOI-3278: A SELF-LENSING BINARY STAR SYSTEM	E. Kruse	2	<i>Science</i>	(2014)	arXiv 33
1.	CHROMOSPHERIC VARIABILITY IN SLOAN DIGITAL SKY SURVEY M DWARFS. II. SHORT-TIMESCALE H α VARIABILITY	E. Kruse	7	<i>ApJ</i>	(2010)	arXiv 23

CO-AUTHOR PUBLICATIONS

Citations compiled from [ADS](#) on 23 May 2020.

#	PAPER TITLE	First Author	E. Kruse	--	of N Authors	Journal	(Year)	Citations
8.	GRAVITY-DARKENING ANALYSIS OF THE MISALIGNED HOT JUPITER MASCARA-4 B	J. Ahlers	2		20	<i>ApJ</i>	(2020)	2
7.	K2-146: DISCOVERY OF PLANET C, PRECISE MASSES FROM TRANSIT TIMING, AND OBSERVED PRECESSION	A. Hamann	5		5	<i>AJ</i>	(2019)	2
6.	THE MASS OF THE WHITE DWARF COMPANION IN THE SELF-LENSING BINARY KOI-3278: EINSTEIN VERSUS NEWTON	D. Yahalomi	6		13	<i>ApJ</i>	(2019)	2
5.	THE L 98-59 SYSTEM: THREE TRANSITING, TERRESTRIAL-SIZE PLANETS ORBITING A NEARBY M DWARF	V. Kostov	12		115	<i>AJ</i>	(2019)	20
4.	AN UPDATE TO THE EVEREST K2 PIPELINE: SHORT CADENCE, SATURATED STARS, AND KEPLER-LIKE PHOTOMETRY DOWN TO $K_P = 15$	R. Luger	2		5	<i>AJ</i>	(2018)	63
3.	A SEVEN-PLANET RESONANT CHAIN IN TRAPPIST-1	R. Luger	3		33	<i>Nature Astronomy</i>	(2017)	145
2.	EVEREST: PIXEL LEVEL DECORRELATION OF K2 LIGHT CURVES	R. Luger	3		7	<i>AJ</i>	(2016)	128
1.	KEPLER-47: A TRANSITING CIRCUMBINARY MULTIPLANET SYSTEM	J. Orosz	31		39	<i>Science</i>	(2012)	228

RESEARCH PRESENTATIONS

11. POSTER. RAPID DISCOVERY OF FFI PLANETS IN THE CVZ TO ADD TO SHORT CADENCE
E. Kruse et al., *TESS Science Conference I*, (Cambridge, MA 2019).
10. DISSERTATION TALK. HUNDREDS OF NEW PLANET CANDIDATES FROM K2
E. Kruse et al., *AAS Meeting 233*, 408.07D (Seattle, WA 2019).
9. POSTER. K2 PLANET CANDIDATES IN CAMPAIGNS 0-8
E. Kruse et al., *Kepler & K2 Science Conference IV* (Moffett Field, CA 2017).
8. TALK. HUNDREDS OF NEW K2 PLANET CANDIDATES
E. Kruse et al., *Formation and Dynamical Evolution of Exoplanets* (Aspen, CO 2017).
7. POSTER. DOUBLING THE NUMBER OF K2 PLANET CANDIDATES
E. Kruse et al., *Exoplanets I* (Davos, Switzerland 2016).
6. TALK. KEPLER'S MISSING PLANETS: USING QATS TO SEARCH FOR PLANETS WITH TTVs
E. Kruse & E. Agol, *AAS Meeting 225*, 105.04 (Seattle, WA 2015).
5. TALK. DISCOVERY OF A NEW CLASS OF ECLIPSING BINARY
E. Agol & **E. Kruse**, *University of Washington Astronomy Colloquium*, (Seattle, WA 2014).
4. POSTER. SEARCHING FOR EXTREME TTV PLANETS WITH QATS
E. Kruse & E. Agol, *Kepler Science Conference II*, 1.307 (Moffett Field, CA 2013).

3. TALK. A SYSTEMATIC SEARCH FOR CIRCUMBINARY PLANETS
E. Kruse, *Exoplanets in Multi-planet Systems in the Kepler Era* (Aspen, CO 2013).
2. POSTER. SPEEDING UP BLIND GAMMA-RAY PULSAR SEARCHES WITH GPUS
E. Kruse & S. Ransom, *AAS Meeting 219*, 237.05 (Austin, TX 2012).
1. POSTER. COS OBSERVATIONS OF MOLECULAR H₂ AT $z = 0.248$
E. Kruse, J. Tumlinson, C. Thom, K. Sembach, *AAS Meeting 217*, 335.09 (Seattle, WA 2011).

SELECTED PRESS COVERAGE

[Scientific American: One Search to \(Almost\) Rule Them All: Hundreds of Hidden Planets Found in Kepler Data](#)

[The Planetary Report: A Kepler Orrery](#)

[Astronomy Picture of the Day \(APOD\): Kepler Orrery IV](#)

[Scientific American: White Dwarf Acts as Cosmic Magnifying Glass](#)

[Tech Times: KOI-3278, a bizarre 'self-lensing' binary star system, discovered in Lyra](#)

[Gizmodo: A Mesmerizing Animation Shows Just How Weird Our Solar System Is](#)