

Andrew Mayo

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Education

Technical University of Denmark

Visiting PhD Student

University of Copenhagen

Fulbright Fellow, PhD Dual Degree Student

Harvard University

B.A. in Physics and Astrophysics

- English honors: Highest honors
- Latin honors: Magna cum laude
- Cumulative GPA: 3.834

Kongens Lyngby, Denmark

December 2017 - June 2018

Copenhagen, Denmark

August 2017 - June 2018

Cambridge, MA

August 2013 - May 2017

Research Experience

Caltech

Pasadena, CA

June 2016 - August 2016

- Analyzed transit timing variations in the four-planet Kepler-89 system.
- Explained part of the discrepancy between previous mass measurements of the Jupiter-sized Kepler-89d.
- Investigated presence of a rocky fifth planet suggested by results of modeling.

Harvard-Smithsonian Center for Astrophysics

Cambridge, MA

May 2016 - June 2016

- Constructed a data set of stars observed by both Mt. Wilson Observatory and Whipple Observatory.
- Used that data set to calibrate the TRES spectrograph at Mt. Hopkins for R'_{HK} , a stellar activity index.
- Method will be integrated into the TRES data reduction pipeline to calculate R'_{HK} for all spectra.

Harvard-Smithsonian Center for Astrophysics

Cambridge, MA

June 2015 - August 2015

- Modeled starspots and an exoplanet in the Kepler-78 star system.
- Analyzed the effects of starspots on photometry, radial velocity, and other spectral diagnostics.
- Measured the mass of the Earth-sized exoplanet Kepler-78b.

Indiana University

Bloomington, IN

June 2014 - August 2014

- Developed method to calculate detection efficiency of microlensing events by the Gaia space probe.
- Applied method to estimate Gaia's detection efficiency of nomadic planets via microlensing events.

Publications

- Mayo A. W. et al., "275 Candidates and 149 Validated Planets Orbiting Bright Stars in K2 Campaigns 0-10" *The Astronomical Journal* (2018, in press)
- Malavolta, L., Mayo, A. W., et al., "An ultra-short period rocky super-Earth with a secondary eclipse and a Neptune-like companion around K2-141" *The Astronomical Journal* (2018, in press)
- Rodriguez, J. E. et al., including Mayo A. W. "A Multi-Planet System Transiting the $V = 9$ Rapidly Rotating F-Star HD 106315" *The Astronomical Journal*, 153, 256 (2017)
- Vanderburg, A. et al., including Mayo A. W. "Two Small Planets Transiting HD 3167" *The Astrophysical Journal Letters*, 829, L9 (2016).

Presentations

- Mayo, Andrew et al. “275 Candidates and 149 Validated Planets Orbiting Bright Stars in K2 Campaigns 0-10” 231st American Astronomical Society Meeting, National Harbor, MD, January 4, 2018.
- Mayo, Andrew et al. “197 Candidates and 102 Validated Planets in C0-C10 of K2” Kepler & K2 Science Conference IV, NASA Ames Research Center, Moffett Field, CA, June 19-23, 2017.
- Mayo, Andrew et al. “197 Candidates and 102 New Validated Planets in C0-C10 of K2” Harvard Astrophysics Senior Thesis Presentations, Cambridge, MA, March 31, 2017.
- Mayo, Andrew et al. “A Possible 5th Planet in the Kepler-89 System.” 229th American Astronomical Society Meeting Poster Session, Grapevine, TX, January 4, 2017.
- Mayo, Andrew et al. “Why Can’t We Agree on the Mass of KOI-94d?” Caltech Summer Undergraduate Research Fellowship Seminar, Pasadena, CA, August 10, 2016.
- Mayo, Andrew et al. “Modeling Starspots on Kepler-78.” National Collegiate Research Conference Poster Session, Cambridge, MA, January 23, 2016.
- Mayo, Andrew et al. “Modeling Starspots on Kepler-78.” 227th American Astronomical Society Meeting Poster Session, Kissimmee, FL, January 5, 2016.
- Mayo, Andrew et al. “Starspots: And What We can Learn from Them” Harvard Program for Research in Science and Engineering Seminar, Cambridge, MA, August 11, 2015.
- Mayo, Andrew et al. “Searching for Nomadic Planets with Gravitational Lensing” Indiana University Research Experience for Undergraduates Seminar, Bloomington, IN, July 29 2014.

Awards

- 2017 Fulbright Scholar
- 2017 National Science Foundation Graduate Research Fellow
- 2016 Caltech Summer Undergraduate Research Fellow
- 2015 Program for Research in Science and Engineering Fellow
- 2015 Herchel Smith-Harvard Undergraduate Science Research Fellow
- 2013 National Merit Finalist

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