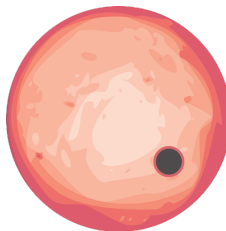


Zachory K. Berta-Thompson

Assistant Professor, Astronomer, Exoplaneteer
Dept. of Astrophysical and Planetary Sciences,
University of Colorado at Boulder
UCB 391; Boulder, CO 80309



zach.bertathompson@colorado.edu
Office: Duane D213, 303-735-6821
casa.colorado.edu/~bertathompson
github.com/zkbt

Research Interests:

I use small telescopes to discover transiting exoplanets and large telescope to study these planets' atmospheres. I aim to connect our limited views of thousands of exoplanets to our much more detailed view of our one local Solar System. My team's work makes practical advances toward the long-term goal of searching for life around other stars.

Teaching Statement:

My goal is to nurture seeds of curiosity into lifelong scientific mindsets. I believe engaging hands-on with the beautiful mysteries of the Universe is the best way for students of diverse backgrounds and strengths to cultivate a passion for discovery and a willingness to explore.

Academic Experience:

University of Colorado at Boulder, Assistant Professor, 2016–
Massachusetts Institute of Technology, Torres Fellow for Exoplanet Research, 2013–2016
Harvard University, Ph.D. in Astronomy, 2008–2013
Princeton University, A. B. in Astrophysical Sciences with Highest Honors, 2003–2007

Selected Publication Highlights:

(58 total refereed, 5251 citations, h-index=32, advised students underlined, as Z. K. Berta until 2013)

- W. Waalkes, **Z. Berta-Thompson**, and many others, "TOI 122b and TOI 237b: Two Small Warm Planets Orbiting Inactive M Dwarfs Found by TESS", 2021, *The Astronomical Journal*, 161, 1, 13.
- K. Melbourne and 31 others including G. Duvvuri and **Z. Berta-Thompson**, "Estimating the Ultraviolet Emission of M Dwarfs with Exoplanets from Ca II and H α ", 2020, *The Astronomical Journal*, 160, 6, 269.
- K. France, G. Duvvuri, and 22 others including **Z. Berta-Thompson**, "The High-energy Radiation Environment around a 10 Gyr M Dwarf: Habitable at Last?", 2020, *The Astronomical Journal*, Volume 160, Issue 5.
- H. Diamond-Lowe, **Z. Berta-Thompson**, D. Charbonneau, J. Dittmann, E. Kempton, "Simultaneous Optical Transmission Spectroscopy of a Terrestrial, Habitable-zone Exoplanet with Two Ground-based Multiobject Spectrographs", 2020, *The Astronomical Journal*, 160, 1.
- J. Libby-Roberts, **Z. Berta-Thompson**, and 10 others, "The Featureless Transmission Spectra of Two Super-puff Planets", 2020, *The Astronomical Journal*, 159, 2.
- R. Vanderspeck and 46 others including **Z. Berta-Thompson**, "TESS Discovery of an ultra-short-period planet around the nearby M dwarf LHS 3844", 2019, *The Astrophysical Journal Letters*, 871, 2, L24.

- J. Bean, K. Stevenson, N. Batalha, **Z. Berta-Thompson**, and many others, "The Transiting Exoplanet Community Early Release Science Program for JWST", 2018, *Publications of the Astronomical Society of the Pacific*, 130, 993.
- H. Diamond-Lowe, **Z. Berta-Thompson**, D. Charbonneau, E. Kempton, "Ground-based Optical Transmission Spectroscopy of the Small, Rocky Exoplanet GJ 1132b", 2018, *The Astronomical Journal*, 156, 2, 42.
- J. A. Dittmann, J. Irwin, D. Charbonneau, X. Bonfires, N. Astudillo-Defru, R. Haywood, **Z. Berta-Thompson**, E. R. Newton, J. Rodriguez, J. Winters, T-G. Tan, J-M. Almenara, F. Bouchy, X. Delfosse, T. Forveille, C. Lovis, F. Murgas, F. Pepe, N. Santos, S. Udry, "A temperate rocky super-Earth transiting a nearby cool star", 2017, *Nature*, 544, 7650, 333
- **Z. Berta-Thompson**, J. Irwin, D. Charbonneau, E. R. Newton, J. A. Dittmann, N. Astudillo-Defru, X. Bonfils, M. Gillon, E. Jehin, A. A. Stark, B. Stalder, F. Bouchy, X. Delfosse, T. Forveille, C. Lovis, M. Mayor, V. Neves, F. Pepe, N. C. Santos, S. Udry, A. Wunsche "A rocky planet transiting a nearby low-mass star", 2015, *Nature*, 527, 204-207
- **Z. Berta**, J. Irwin, D. Charbonneau, C. Burke, E. Falco, "Transit Detection in the MEarth Survey of Nearby M Dwarfs: Bridging the Clean-First, Search-Later Divide" 2012, *The Astronomical Journal*, 144, 145
- **Z. Berta**, D. Charbonneau, J.-M. Désert, E. Kempton, P. McCullough, C. Burke, J. Fortney, J. Irwin, P. Nutzman, D. Homeier "The Flat Transmission Spectrum of the Super-Earth GJ1214b from Wide Field Camera 3 on the Hubble Space Telescope" 2012, *The Astrophysical Journal*, 747, 35
- D. Charbonneau, **Z. Berta**, J. Irwin, C. J. Burke, P. Nutzman, L. A. Buchhave, C. Lovis, X. Bonfils, D. W. Latham, S. Udry, R. A. Murray-Clay, M. J. Holman, E. E. Falco, J. N. Winn, D. Queloz, F. Pepe, M. Mayor, X. Delfosse, T. Forveille, "A super-Earth transiting a nearby low-mass star", 2009, *Nature*, 462, 7275

Selected Teaching Highlights:

- CU Boulder* — ASTR1030: advanced introduction to astrophysics & planetary science (spring 2017), emphasizing quantitative reasoning, scientific thought, and interactive engagement with astrophysical concepts through labs and telescope observations
- CU Boulder* — ASTR2600: an introduction to scientific computing in Python (fall 2016, spring 2019), emphasizing creativity and curiosity in coding as a craft, making use of in-class computational tutorials and a final N-body gravitational dynamics project
- CU Boulder* — ASTR3400: an undergraduate course in astronomical research methods (fall 2018), emphasizing hands-on discovery and exploration of exoplanetary systems with data from the Kepler and TESS space telescopes (zkbt.github.io/henrietta/)
- CU Boulder* — ASTR5810: a graduate-level introduction to planetary atmospheres (fall 2017), emphasizing important concepts for understanding Earth, Solar System, and exoplanet atmospheres, with hands-on practice with research skills (zkbt.bitbucket.io/astr5810/)
- MIT* — "Crafting the Cosmos", *Independent Activities Period*, (January 2016) astrophysics concepts (the curvature of space-time) paired with crafts (knitting the Schwarzschild metric with yarn), to inspire creativity & growth mindset (bit.ly/craftingcosmos)