Nicholas S. Kern

Contact Information

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Education

University of California, Berkeley — August 2015 – present
Pursuing a Ph.D. in Astronomy, expected 2021
M.A. in Astronomy — May, 2017

University of Michigan, Ann Arbor — May 2015
B.S. in Physics and B.S. in Astronomy & Astrophysics

Research Focus

My research explores the frontiers of the distant universe through radio frequency observations of primordial hydrogen. I use these to study the formation of the first generations of stars and galaxies in our universe.

Honors & Awards

Teaching Effectiveness Award, UC Berkeley	2017
Outstanding Graduate Student Instructor Award, UC Berkeley	2017
Graduated with Highest Honors and Distinction, University of Michigan	2015
Excellence in Astrophysics Research Award, University of Michigan	2015
Foreign Language & Area Studies (FLAS) Fellow, University of Michigan	2014
International Institute Fellow, University of Michigan	2014
Upper-Level Writing Prize in Natural Science, University of Michigan	2014

First and Second Author Publications

3. **Kern, N.**, Liu, A., Parsons, A. R., Mesinger, A., & Greig, B. (2017) *Emulating Simulations of Cosmic Dawn for 21cm Power Spectrum Constraints on Cosmology, Reionization, and X-Ray Heating*, Submitted to ApJ
2. Gifford, D., **Kern, N.**, & Miller, C. (2016) *Stacking Caustic Masses from Galaxy Clusters*, ApJ 834 204
1. **Kern, N. S.**, Keown, J. A., Tobin, J. J., Mead, A., & Gutermuth, R. (2016) *Radio Properties of Young Stellar Objects in the Serpens South Infrared Dark Cloud*, AJ 151 42

Additional Publications

3. Miller, C. J., Stark, A., Gifford D., & **Kern, N.** (2016) *Inferring Gravitational Potentials from Mass Densities in Cluster-Sized Halos*, ApJ 822 41
2. Stark, A., Miller, C. J., **Kern, N.**, Gifford, D., et al. (2016) *Probing Theories of Gravity with Phase Space-Inferred Potentials of Galaxy Clusters*, Phys. Rev. D 93, 084036
1. Gifford, D., Miller, C. J., & **Kern, N.** (2013) ApJ, 773, 116: *A Systematic Analysis of Caustic Methods for Galaxy Cluster Masses*, ApJ 773 116

Talks and Presentations

Science at Low Frequencies III, Contributed Talk — December 2016
California Institute of Technology, Pasadena, CA

Astronomy Lunch Talk, Contributed Talk — November 2016
UC Berkeley, Berkeley, CA

	225th American Astronomical Society Meeting, Contributed Poster Seattle, WA	January 2015
	Astronomy Undergraduate Research Session, Contributed Poster University of Michigan, Ann Arbor, MI	April 2014
	223rd American Astronomical Society Meeting, Contributed Poster Washington, D.C.	January 2014
	Cyber Infrastructure Days, Contributed Poster University of Michigan, Ann Arbor, MI	November 2013
	REU Lunch Talk, Contributed Talk National Radio Astronomy Observatory, Charlottesville, VA	August 2013

Grants

Beta User, Open Science Data Cloud Computing Cluster	February 2014 - present
Co-I, Hiltner Telescope at MDM Observatory, AZ, U.S. *Measuring the Mass Dependence of Galaxy Clustering*, 15 nights	November 2014

Teaching Experience

UC Berkeley, Department of Astronomy
Graduate Student Instructor

- Astro 7A: Introduction to Astrophysics — Fall 2016
- Astro 160: Stellar Structure & Evolution — Fall 2015

University of Michigan, Department of Physics
Undergraduate Learning Assistant

- Physics 140: Introduction to Mechanics — Spring 2015