

## ADALYN E. FYHRIE

Doctoral Candidate in Astrophysical and Planetary Sciences, University of Colorado Boulder

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### RESEARCH EXPERIENCE

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Instrumentation; Kinetic Inductance Detectors for IR Astrophysics August 2014 — Present

*CU Boulder, Jet Propulsion Laboratory, National Institute of Standards and Technology*

Integrate detector arrays into testbed, design and conduct tests to characterize detector properties, and analyze test data. Simulate and optimize detector performance.

Co-design, operate, build, and maintain cryogenic test facility.

Molecular Gas Dynamics in Galaxy Merger NGC 6240 May 2016 — Present

*University of Colorado Boulder*

Characterize and simulate gas and dust dynamics of galaxy merger NGC 6240. Calculate physical parameters of the system to investigate outflows, shocks, and other phenomena.

Instrument Team, Galaxy Evolution Probe and Balloon Proposals July 2017 — April 2019

*University of Colorado Boulder*

PI: Jason Glenn

Developed instrumentation case for cryogenic, far-IR space observatory with budget under \$1B and its predecessor, a high altitude balloon-borne cryogenic telescope.

Dusty Cloud Cores in the Milky Way August 2013 — August 2014

*University of Colorado Boulder*

Developed Python pipeline to locate dusty cloud cores using Herschel Space Observatory data.

### TECHNICAL SKILLS

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Programming languages: Python (6y), Linux (5y), MATLAB (3y), SolidWorks (3y),

L<sup>A</sup>T<sub>E</sub>X (6y), C/C++ (2y), R (2y)

Lab Skills: Cryogenics (wet and closed-system dewars), RF Readout, Wire Bonding, Soldering, Mechanical Assembly, Mills, Band Saws, Cable Fabrication

### EDUCATION

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Doctoral Candidate in Astrophysical and Planetary Sciences 2016 — Present

*University of Colorado at Boulder, (estimated graduation December 2019)*

Master of Science in Astrophysical and Planetary Sciences 2016

*University of Colorado at Boulder*

Bachelor of Arts in Astrophysics and Bachelor of Arts in Physics 2013

*University of California, Berkeley*

## FIRST AUTHOR PUBLICATIONS

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3. *Progress Towards Ultra-Sensitive KIDs for Future Far-Infrared Missions: A Focus on Recombination Times* — Adalyn Fyhrie, J. Zmuidzinas, J. Glenn, P. Day, H. G. LeDuc, and C. McKenney, Proc. SPIE 10708, 10708109 (2018)

2. *Responsivity Boosting in FIR TiN LEKIDs Using Phonon Recycling: Simulations and Array Design* — Adalyn Fyhrie, C. McKenney, J. Glenn, H. G. LeDuc, J. Gao, P. Day, J. Zmuidzinas, Proc. SPIE 9914, 99142B (2016)

1. *Towards Background-Limited Kinetic Inductance Detectors for a Cryogenic Far-Infrared Space Telescope* — Adalyn Fyhrie, J. Glenn, J. Wheeler, P. Day, B. H. Eom, H. Leduc, M. Skrutskie, Journal of Low Temperature Physics, 184(3), 712-717 (2015)

## COMMUNICATION AND TEACHING EXPERIENCE

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### Public Talks:

- YMCA of Northern Colorado, March 2019
- Fiske Planetarium, November 2018
- Rocky Mountain MS Center, July 2018
- Fiske Planetarium, March 2015

### Scientific Communication and Teaching Methods Conferences:

- Science Speakeasy, March 2018
- Communicating Science Conference: Rocky Mountain West, September 2017
- Professional Development Program, March — October 2016

Science Team Co-Director, CosmOcosm Sound Planetarium	April 2017 — April 2018
Co-Director, Astronomy on Tap: CO Talk Series	August 2015 — January 2018
Teaching Assistant, Astronomy	August 2013 — May 2015

## LEADERSHIP AND PROFESSIONAL DEVELOPMENT

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Founding Member, Peer Mentorship Program for APS	April 2018 — Present
Founding Member, Diversity Action Group	April 2018 — Present
Board of Directors, Forum on Science Ethics and Policy	May 2017 — Present
Grantee, Catalyzing Advocacy in Science and Engineering Workshop	April 2017
Co-Director, Promoting an Inclusive Community in Astronomy	August 2015 – August 2016

## AWARDS

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Grant Recipient: American Association of University Women	April 2018
High pass on Master's Defense Exam	November 2015
Excellence in Teaching Award	Spring 2015