**Katherine Murray**

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**Education**

University of Michigan – Ann Arbor: September 2012 – May 2016

B.S. in Astronomy and Astrophysics, Interdisciplinary Physics

**Relevant Experience**

Science Support Analyst I at Space Telescope: September 2016 – present

* MIRI Low Resolution Spectrometer (LRS): created simulations to run through pipeline and crafts tests to assist pipeline development, runs and validates pipeline testing, heads MIRI CAP 305 – LRS Throughput and Slit Losses test creation and analysis, creating appcorr path loss reference file, supports weekly LRS working group meeting
* MIRI Medium Resolution Spectrometer (MRS): Integrated MIRI Simulator (MIRISim) expert, created simulations to run through pipeline and crafts tests to assist pipeline development, supported weekly MRS working group meeting, serves as tech reviewer for MRS GTO programs, reviewed the MRS Calibration activity
* JWST Documentation (JDox): Serves as MIRI JDox deputy (previously lead), creates and edits content of documentation on MIRI, organized MIRI numerical repository, manages Sensitivity and Bright Source Limit pages, organizes updates to MIRI pocket guide
* Moving targets: Serves as Moving Targets deputy for MIRI, reviews many moving target MIRI APT files
* Reference Files: Serves as deputy for MIRI reference files, delivers files to CRDS for MIRI team.
* Help Desk: Serves as a help desk triage member
* JPL flight-like detector testing: Facilitates testing of the flight-like detector at JPL, analyzed data from these tests to predict MIRI performance in flight
* ReDCaT: Served as MIRI liaison, performed file deliveries for both telescopes, began writing code for delivery automation.

Undergraduate Research Assistant: September 2013 – August 2016

* Coded in IDL and python to measure dynamical mass of galaxy clusters with multi-object spectroscopic data from Magellan
* Coded in IDL and matlab to adjust astrometry of images from SDSS

Planetarium operator at the University of Michigan Natural History Museum: November 2012 – August 2016

* Gave shows to teach about the night sky and solar system to museum visitors

**Ongoing Science Projects**

GTO: Pluto's climate system with JWST – PI Emmanuel Lellouch

GTO: Kuiper Belt Science with JWST – PI Dean Hines (maybe?)

**Publications and Presentations**

Memory management with multi-channel MRS cube building

* Technical report in SOCCER, published 2019

Search for a Pluto-like Satellite System Around Eris

* Poster presented at 50th DPS Meeting October 2018

Mosaicking with the MRS

* Talk given at the TIPS August 2018 meeting

MRS Dithering Paper

* Coauthor on technical report on MRS dither patterns with David Law, published July 2017

Cluster Dynamical Mass from Magellan Multi-Object Spectroscopy for SGAS Clusters

* Poster presented at University of Michigan Astronomy Undergraduate Poster Session April 2015 and 227th AAS Meeting January 2016

Rester, A.~C., Coldwell,

R.~L. \& Dunnam, F.~E., et al.\ 1989, \apj, 342, L71.

Star Formation at z = 2.481 in the Lensed Galaxy SDSS J1110+6459: Star Formation Down to 30 pc Scales

Star Formation at z = 2.481 in the Lensed Galaxy SDSS J1110 = 6459. I. Lens Modeling and Source Reconstruction

\bibitem[Rester, et al.(1989)]{1989ApJ...342L..71R} Rester, A.~C., Coldwell,

R.~L. \& Dunnam, F.~E., et al.\ 1989, \apj, 342, L71.

**Relevant Classwork/Tutorials**

Python Workshop – August 2018

SciPy – July 2017

**Relevant Skills**

JWST pipeline, APT, ETC

OS proficiency for Linux and Mac

Coding languages: Python (proficient), IDL, IRAF (has experience)

Professional writing and presentation skills

Word processing and knowledge of all Microsoft office programs