HUGH SHARP

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EDUCATION

Texas A&M University, College Station, TX Overall GPA: 3.825
B.S. in Physics, Minor in Astrophysics Major GPA: 3.863
August 2016 - May 2020

RESEARCH EXPERIENCE

Present
January 2018

Research on NGC 4203 Supermassive Black Hole Mass
Worked with Dr. Walsh, Assitant Professor at Texas A&M
Undergraduate Research Assistant
Worked on analysing the stellar kinematics as a function of distance from NGC 4203's galactic center using the penalized pixel fitting method (pPXF). Monte Carlo simulations were performed to test the robustness of the kinematics and their associated statistical uncertainties, and the results will be used in stellar-dynamical techniques to constrain NGC 4203's supermassive black hole mass. I am currently planning on attending the 235th AAS meeting to present the results of my research.

December 2017
January 2017

Research at Munnerlyn Astronomical Instrumentation Lab
Worked with Dr. Marshall, Assistant Professor at Texas A&M
Undergraduate Research Assistant
Learned the basics of charge coupled device (CCD) detectors and put together a specification sheet of hundreds of CCD detectors on the market, to compare price points and features between models.
Worked on the traveling photometric calibration system (TCal) project at the lab. This system was designed so that the calibration between telescopes may be more consistent by using a common mobile instrument.

PUBLICATIONS

Conference Paper

Peter Ferguson, D. L. DePoy, L. Schmidt, J. L. Marshall, T. Prochaska, Daniel Freeman, Lawrence Gardner, Isaac Gutierrez, Doyeon Kim, Zeeshan Kunnummal, Marcus Sauseda, **Hugh Sharp**, and Michael Torregosa "Development of TCal: a mobile spectrophotometric calibration unit for astronomical imaging systems", Proc. SPIE 10702, Ground-based and Airborne Instrumentation for Astronomy VII, 107023A (6 July 2018); https://doi.org/10.1117/12.2313752

TECHNICAL STRENGTHS

Most Proficient Language	Python 3
Markup Languages	HTML, CSS, LaTeX
Coding Experience	Used python for a multitude of things including Monte Carlo simulations, pPXF, analysing spectra, uncertainty analysis generalized for lab classes, and a couple of personal projects.
Tools/Software	github, MatLab, Mathematica, IRAF, ftp

PRESENTATIONS

January 2020 | **235th American Astronomical Society Meeting**
Planned poster presentation, Honolulu, HI
The poster presentation will cover my work on the stellar kinematic work on NGC 4203.

October 2017 | **7th Texas Astronomy Undergraduate Symposium**
PowerPoint presentation, Rice University, Houston TX
The presentation covered my work done in the astronomical instrumentation lab towards TCal.

Present
May 2018 | **Extragalactic/Black Hole Group Meetings**
PowerPoint presentation, Texas A&M University, College Station
Regular updates on my research over NGC 4203's Steller Kinematics, and occasionally presented a paper.

December 2017
January 2017 | **Astronomical Instrumentation Group Meetings**
PowerPoint presentation, Texas A&M University, College Station
Regular updates on the status of my research at the astronomical instrumentation lab

EXTRACIRCULAR/MEMBERSHIPS

Society of Physics Students, Texas A&M
August 2016-Present
Member, PR Officer Fall 2017-Spring 2018

Discover Explore and Enjoy Physics
August 2016-Present
Physics Outreach group involved with building and presenting demonstrations for Texas A&M's annual physics festival.

American Astronomical Society
September 2019-Present
Member

VOLUNTEERING/OUTREACH

Physics Outreach Events
August 2016-Present
Gameday Physics
Chemistry Open House
First Friday
Annual Physics and Engineering Festival

RESEARCH INTERESTS

Fields of Interest Observational/Theoretical Extragalactic Astronomy and Cosmology.

Topics of Interest Supermassive Black Holes and Galaxy Relations, Dark Energy, Gravitational Waves.