

Hugh W. Sharp

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Department of Physics, University of Connecticut - Storrs, CT 06269-3046

EDUCATION

2025	PHYSICS PHD
2022	PHYSICS M.S. University of Connecticut
2020	PHYSICS B.S. ASTRONOMY MINOR Texas A&M University

SKILLS

PROGRAMMING:

Python (NumPy, astropy, Pandas, scikit-learn, Bokeh and way more)

Julia

MATLAB

SQL

HTML

JAVA

Git

OTHER:

Mentoring Experience

Bayesian Statistics

850 hrs of Telescope Time

AWARDED PROPOSALS

Las Cumbres Observatory 2023B:

Echo Mapping Accretion and Emission of Hypervariable Quasars (110 hrs)

Las Cumbres Observatory 2024A:

A Fundamental Test of Black Hole Masses: Multi-Scale Echo Mapping of Luminous Quasars (95 hrs)

REFERENCES

- jonathan.trump@uconn.edu
- stephany.santos@uconn.edu
- kate.grier@astro.wisc.edu
- walsh@tamu.edu

WEBSITE

More info, and Extended CV Here!

Link: actualmonday.github.io



WORK EXPERIENCE

BLACKHOLE ACCRETION | GRADUATE RESEARCH ASSISTANT

Aug 2020 - Current | University of Connecticut

- Characterized accretion disk size/structure of 20 quasars, utilizing various signal processing analysis methods on their multi-band lightcurves.
- Designed, managed, and analyzed image data of ~850 hrs of observation time.
- Proposed multiple successful projects, which collected data over many months.
- Explored high-dimensional data in the context of accretion disk structure dependence on the vast quasar properties of 95 quasars.
- Planned and implemented many joint observations for the success of collaborator's projects.

TEACHING & MENTORING | INSTRUCTOR/TEACHING ASSISTANT

Aug 2020 - Current | University of Connecticut

- Mentored 2 undergraduate researchers, cultivating projects, managed research organization, and planned for their future career paths.
- Physics Instructor for BRIDGE; a summer program bridging the gap between high school and college, providing research and industry opportunities, as well as scholarships for students of underrepresented backgrounds.
- 6 semesters of TAing the engineering/pre-med mechanics course.

STELLAR KINEMATICS | UNDERGRAD RESEARCH ASSISTANT

Jan 2018 - Jul 2020 | Texas A&M University

- Created model spectra using linear combinations of stellar spectral data.
- Deconvolved line-of-sight velocity distributions from redshifted galaxy spectra.
- Worked with spatially resolved spectra, in 3D and 4D data cubes.

ASTRONOMICAL INSTRUMENTATION | UNDERGRAD RESEARCH ASSISTANT

Jan 2017 - Jan 2018 | Texas A&M University

- Gained hands on experience with charge coupled device (CCD) detectors, and cultivating budgeting information for the lab.
- Experience designing photometric calibration systems.

PUBLICATIONS

PRIMARY AUTHOR

- Sharp, H. W., et al (in prep.), *The SDSS-V Black Hole Mapper Reverberation Mapping Project: Echo Mapping Accretion onto Supermassive Black Holes across Cosmic Time*
- Sharp, H. W., et al 2024, *The Sloan Digital Sky Survey Reverberation Mapping Project: Investigation of Continuum Lag Dependence on Broad-Line Contamination and Quasar Properties*

CO-AUTHORSHIPS

- Fries, L. B., et al 2024, *The SDSS-V Black Hole Mapper Reverberation Mapping Project: A Kinetically Variable Broad-line Region and Consequences for the Masses of Luminous Quasars*
- Fries, L. B., et al 2023, *The SDSS-V Black Hole Mapper Reverberation Mapping Project: Unusual Broad-Line Variability in a Luminous Quasar*