

Bayu J. Wilson

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EDUCATION

University of California, Riverside, CA

September 2019 – Present

M.Sc. Physics, 3.5/4.0 GPA

University of Washington, Seattle, WA

September 2015 – June 2019

B.S. Astronomy & Physics with minor in Mathematics, 3.6/4.0 GPA

RESEARCH

Effects of Gas Relaxation on Quasar Proximity Zone Properties

June 2020 – Present

Advisor: Dr. Anson D'Aloisio

Riverside, CA

- Applied statistical methods to differentiate relaxed and un-relaxed gas
- Ran high-resolution hydro+radiative transfer simulations using the Texas Advanced Computing Center

Ly β Power Spectrum from XQ-100 Legacy Survey

August 2018 – September 2019

Advisor: Dr. Matthew McQuinn

Seattle, WA

- Made first measurements of the Ly β power spectrum and Ly α -Ly β cross power spectrum
- Developed pipeline in Python to measure power spectra from VLT/XSHOOTER quasar spectra

How does the Ly α Profile depend on Galaxy Properties?

June 2017 – August 2017

Advisor: Dr. Jorryt Matthee

Leiden, NL

- Used narrow-band filter (NB392) at CFHT to select galaxies in COSMOS & UDS fields
- Designed a robust image reduction pipeline in Python

TEACHING EXPERIENCE

Teaching Assistant

March 2020 – Present

- Instructed undergraduate students virtually through introductory physics labs

CLUE Physics Tutor

September 2016 – June 2019

- Tutored hundreds of physics students on a drop-in basis

OUTREACH

Virtual Outreach

January 2021 – Present

- Developed astronomy activities to engage youth in science virtually

Mobile Planetarium Committee

September 2018 – June 2019

- Found committee to increase diversity in astronomy via engaging planetarium presentations for middle school students in the Seattle Public School District

PUBLICATION

Ly β Power Spectrum from XQ-100 Legacy Survey

- Wilson, B. (in prep.)

AWARDS

Chancellor's Distinguished Fellowship

September 2019

Mary Gates Research Scholarship

January 2017

TECHNICAL SKILLS

Languages: Python, L^AT_EX, C/C++, SQL, HTML/CSS

Libraries: pandas, NumPy, Matplotlib