

# Parker Wise

 | Undergraduate Physics & Astronomy Student

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## Education

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### The University of Kansas

Bachelors of Science: Physics, Astronomy

Minor in Mathematics

3.47 Cumulative GPA

Honors College

Lawrence, Kansas

2021-Present

## Honors and Awards

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### Gene E. Feaster Scholarship

The University of Kansas

Lawrence, Kansas

October 2023 (\$2,000)

- Highest award given to undergraduate students in the Physics and Astronomy Department at the University of Kansas.

### David M. Wall Scholarship

The University of Kansas

Lawrence, Kansas

May 2021 (\$101,427)

- Full tuition scholarship granted to one Topeka High School graduate attending the University of Kansas pursuing a degree in liberal arts and sciences.

## Research Experience

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### Undergraduate Researcher

Advisor: Dr. Elisabeth Mills

Lawrence, Kansas

January 2023-Present

- Used ALMA data to measure the spectra of Cloud C, a hot protostellar core in the Central Molecular Zone of the Galaxy.
- Gained experience using relevant software for research such as CARTA, DS9, Jupyter, and relevant python packages.
- Attended a team meeting for the ALMA Large program ACES (ALMA Central Molecular Zone Exploration Survey) in Storrs, Connecticut.
- Presented research at the 243rd meeting of the American Astronomical Society.

### Undergraduate Researcher

Advisor: Dr. Dave Z. Besson

Lawrence, Kansas

Summer 2023

- Worked on setting up a Vector Network Analyzer for use in an anechoic chamber. This included using GPIB cables to send SCPI commands to the instrument in order for it to save data to an external hard drive.

## Professional Experience

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### Department Activities

The University of Kansas

Lawrence, Kansas

Fall 2021-Present

- Attended department seminars where researchers would share their work.
- Attended department colloquium where researchers would share their work.
- Attended weekly meetings for astronomy researchers to socialize and discuss astronomy news and new papers.

### Class Research Project

The University of Kansas, Astr 591, Stellar Astronomy

Professor: Dr. Allison Kirkpatrick

Lawrence, Kansas

Fall 2023

- Used data from Gaia to fit isochrones to the color magnitude diagrams for 2 open clusters and 2 globular clusters to determine the age of each cluster.
- Practiced communicating results by writing an article in LaTeX according to the Astrophysical Journal guidelines.

### Observational Astrophysics Observing Project

The University of Kansas

Professor: Dr. Gregory Rudnick

Lawrence, Kansas

October 2023

- Remotely Gathered data on open clusters using the Breyo Observatory at Siena College located in Loudonville, New York. Learned several techniques of observation.

### ALMA Large Program ACES Team Meeting

The University of Connecticut

Storrs, Connecticut

September 2023

- Worked with graduate students from several institutions to work with data collected from the ALMA Large Program ACES (ALMA Central Molecular Zone Exploration Survey).

## Presentations

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### 243rd Meeting of The American Astronomical Society

Measuring Accurate Masses in a Protocluster Source in the Galactic Center.

New Orleans, Louisiana

January 2024

### Mid-American Regional Astrophysics Conference

Measuring Accurate Masses in a Protocluster Source in the Galactic Center.

Atchinson, Kansas

November 2023

### KU Undergraduate Symposium

Vector Network Analyzer Set-Up

Lawrence, Kansas

August 2023

## Leadership

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### Undergraduate Ambassador

The University of Kansas

Lawrence, Kansas

Fall 2023-Present

- Represented an undergraduate's perspective at KU the Physics and Astronomy Department events for prospective students.

### Undergraduate Representative

The University of Kansas

Lawrence, Kansas

Fall 2023-Present

- Served as an Undergraduate Representative for the Undergraduate Committee at The University of Kansas.
- Attended monthly meetings for both the Undergraduate Committee as well as the Departmental Assembly.

#### **Society of Physics Students Vice President**

The University of Kansas

**Lawrence, Kansas**

May 2023-Present

- Helped to plan bi-weekly meetings, run outreach events, take executive meeting minutes, and communicate with the Physics and Astronomy student undergraduate body.

#### **Society of Physics Students Treasurer**

The University of Kansas

**Lawrence, Kansas**

May 2022-May 2023

- Held accountability for the club's bank account and attended bi-weekly meetings to help run the meeting's activities.

### **Outreach**

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#### **Science in Drag**

The University of Kansas

**Lawrence, Kansas**

November 2023

- Organized and hosted a drag show featuring drag performers who were pursuing STEM majors at the University of Kansas.
- Had undergraduate members of the University of Kansas chapter of the Society of Physics Students present physics demonstrations before the show and during intermission.
- Collected \$100 worth of donations from patrons to be given to the Kansas City Urban Advantage, a non-profit focused on giving holistic STEAM education to students in underserved communities, as well as providing resources for educators in these communities.

#### **KU Carnival of Chemistry**

The University of Kansas

**Lawrence, Kansas**

November 2022, 2023

- Assisted in the onsite setup and management of physics demonstrations.
- Ran a demonstration on gyroscopic precession.

#### **Rocks and Rockets**

The University of Kansas

**Colby, Kansas**

August 2023

- Ran a demonstration on sun spots using a solar telescope.
- Recruited undergraduate volunteers to help run the event.

#### **Hawk Week Planetarium Extravaganza**

The University of Kansas

**Lawrence, Kansas**

August 2023

- Helped run the front table for planetarium shows being hosted by the KU Physics and Astronomy department.

#### **Camp Jayhawk Merit Badge Camp**

Boy Scouts of America

**Oskaloosa, Kansas**

June 2023

- Gave a speech discussing techniques of amateur astronomy at a middle school level.
- Led observations of the night sky by pointing out several constellations and other celestial bodies visible to the naked eye.

## Teaching Experience

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**Merit Badge University at Washburn University**  
Boy Scouts of America

**Topeka, Kansas**  
February 2021, 2022, 2023

- Gave a 6 hour course teaching the Boy Scouts of America Astronomy merit badge.

**Physics and Math Tutoring**  
The University of Kansas

**Lawrence, Kansas**  
Spring 2022-Present

- Worked with Trio Tutoring to tutor students in multiple different classes including calculus based Physics 1, algebra based Physics 1 and 2, and Calculus 3.
- Worked with students to work through practice problems, develop conceptual understanding, and create good studying habits.

**Camp Counselor**  
Cosmosphere

**Hutchinson, Kansas**  
Summer 2022

- Led activities regarding Physics, Astronomy, Engineering and Space exploration history.

## Technical Skills

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**Python Packages:** ..... Astropy, Numpy, Matplotlib, PySpecKit, Spectral Cube

**Astronomy Software:** ..... CARTA, DS9, CASA, XCLASS, FITS files

**Computer Skills:** ..... Jupyter, Linux, Bash, C++, HTML

**Document Creation:** ..... LaTeX, Bibtex, Markdown, Beamer

**Performing Arts:** ..... Improv Comedy, Jazz Trombone