

## Andrew Milne

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### EDUCATION

- **Bachelor of Science, Astronomy**
- **Bachelor of Arts, Physics**
- **Minor, Chemistry**

3.47 Cumulative GPA

*University of Iowa, Anticipated May 2024*

### HONORS AND AWARDS

- **Strayer-Rairden Scholarship in Physics**
- **Iowa Flagship Award**
- **Bucksbaum Academy Scholarship**
- **University of Iowa Dean's List**

*January 2021*

*August 2020*

*August 2020*

*Fall 2021 & 2022 Semester, Spring 2022 Semester*

### RELATED EMPLOYMENT

- **Research Assistant, Philip Kaaret, Iowa City, IA** *August 2021-May 2022*
  - Conduct tests of CMOS sensor effectiveness on X-ray detection using Fe-55 samples and data processing using Python 3
  - Assemble new CMOS sensor instrument package for usage at Argonne National Laboratory's Advanced Photon Source for further X-ray detection at other wavelengths
  - Design sensor package mount for future experiment in cooperation with NASA, for atmospheric or orbital use
  - Conduct tests on various cameras for Earth observing instrument, and design & construct a customized cable to connect the cameras together to a computer
- **Research Assistant, William Kurth, Iowa City, IA** *September 2022-Present*
  - Analyze data from Juno instruments "UVS" and "Waves" to identify aurora crossing times
  - Process and analyze data from "Waves" instrument from perijove observations
  - Also work alongside George Hospodarsky in cataloging "Waves" readings on lightning whistlers
- **REU Scholar, Dominique Segura-Cox, University of Texas, Austin, TX**
  - Deriving protostellar masses using Keplerian and infalling-rotating envelope C<sup>18</sup>O models and comparing to the values derived from a simple Keplerian fit from a previous project
  - Use Keplerian and IRE C<sup>18</sup>O models to find the radii of the centrifugal barrier
  - Make the model grids for both C<sup>18</sup>O and SO to determine if these molecular tracers probe the same or different structures

### PUBLICATIONS

- This is where I will put my poster, research note, conference talk, eventual peer reviewed paper?
- Uhh should probably figure out if Hospodarsky conference thing counts and if I can reference it somewhere

## RELATED CLASSES

- **Calculus 3 (MATH:2850)**
- **Linear Algebra (MATH:2700)**
- **Electricity and Magnetism 2 (PHYS:3812)**
- **Introduction to Astrophysics 2 (ASTR:3772)**
- **Introduction to Quantum Mechanics 1 (PHYS:3741)**
- **Principles of Chemistry 2 (CHEM:1120)**
- **Organic Chemistry 2 (CHEM:2220)**
- **Observational Techniques in Astronomy (ASTR:4850:0001)**

## OTHER EXPERIENCE

- **Vice President**, American Institute of Aeronautics and Astronautics *August 2020-Present*
  - Develop leadership and communication skills needed for future executive board members
  - Design, construct, and successfully fly a Level 1 certification rocket according to National Association of Rocketry specifications
  - Act as chief engineer for the design and construction of high powered rockets
  - Formerly was Secretary and Safety Officer of student organization from August 2021 - May 2022
- **Webmaster**, Society of Physics Students, Iowa City, IA *September 2021-Present*
  - Operate club website, and be executive leader for club