

Welcome!



All workshop materials:

<https://github.com/astropy/astropy-workshop/>

**Be sure you have followed the installation steps in
"00-Install_and_Setup"!**

Please complete intake survey:

<https://tinyurl.com/astropy-workshop-2025>

Facilitators and Organizers

Brett Morris

Kelle Cruz

Larry Bradley

Clara Brasseur

Erik Tollerud

Code of Conduct

The community of participants in open source Astronomy projects is made up of members from around the globe with a diverse set of skills, personalities, and experiences. It is through these differences that our community experiences success and continued growth.

In particular, discussions relating to pros/cons of various technologies, programming languages, and so on are welcome, but these should be done with respect, taking proactive measure to ensure that all participants are heard and feel confident that they can freely express their opinions.

https://www.astropy.org/code_of_conduct.html



Overview

What is ASTROPY?

the `astropy` core package:

- a community-driven, open-source, open-development Python library for Astronomy
- provide core functionality for more specialized astro packages

the `Astropy` Project:

a community effort to develop the core package and foster an ecosystem of interoperable astronomy packages

astropy core package

Some examples of key subpackages:

- `astropy.units`: represent and convert numbers with units
- `astropy.coordinates`: transform astronomical coordinates
- `astropy.time`: represent and convert astronomical times
- `astropy.table`: represent tabular data
- `astropy.io.fits`: reading and writing FITS files

astropy core package

open source

Code is licensed so that anyone can duplicate and modification.

open development

Bugs, code contributions, discussions all done in the open [on GitHub]

Affiliated and Coordinated packages

<https://astropy.org/affiliated>

Affiliated packages:

- not part of `astropy` core but part of the ecosystem.
- Demonstrate good coding standards (testing, documentation), reduce duplication, developed openly.
- Use `astropy` when possible to improve interoperability

Coordinated

- maintained by the Astropy Project.

The PLAN for today

- Introduction to the Astropy project and core package
- Introduction to core *astropy* sub-packages
 - Units, Quantities
 - Introduction to Object-Oriented Programming (OOP)
 - Coordinates, Tables Input and Output (I/O)
- *specutils*: coordinated package for spectroscopy analysis
- *photutils*: coordinated package for photometry
- *ccdproc*: processing CCD observations
- working with or contributing to the Astropy community

(See README.md for full schedule)

The FORMAT

alternate between short introductory slides and individual working time

working time is all done using the Jupyter notebooks provided in the workshop repository

How to use this workshop

Ask questions

- Raise your hand and a facilitator will come to you.
- Post in Slack

If you finish the tutorial notebook:

- Browse the docs for the relevant functions, packages
- Think about how you would use the features in your own research
- Work with your neighbor
- Review previous notebooks.