Welcome!

Slides and all materials here:

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

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

Facilitators and Organizers

Workshop Facilitators:
Larry Bradley, Nadia Dencheva, Kristen Larson, Brett Morris, David Shupe, Leo Singer, Nathaniel Starkman

Organizers:
Kelle Cruz, Brett Morris & David Shupe (workshop coordinators)

Thanks to the Astropy Project for support

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. We expect everyone in our community to follow these guidelines when interacting with others both inside and outside of our community. Our goal is to keep ours a positive, inclusive, successful, and growing community.

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

the plan for today

- introduction to the Astropy project and core package
- introduction to fundamental *astropy* sub-packages
  - Quantities, Coordinates, Input and Output (I/O), Tables
  - Introduction to Object-Oriented Programming (OOP)
  - Modeling, Visualizing Images
- *ccdproc* (coordinated package for CCD reduction)
- *photutils* (coordinated package for photometry)
- *asdf* (data format to be used for the Nancy Grace Roman Telescope)
- 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

If you finish the tutorial notebook, start thinking about how you would use the features in your own research, or go back to some you didn't finish

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 for users:

- `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

(source code is licensed but available to anyone for use, modification, etc.)

open development

(bugs, code contributions, discussions all done in the open [on GitHub])

affiliated and coordinated packages

https://astropy.org/affiliated

Astronomy Python packages that are **not part of the Astropy core package** but have requested to be a part of the **Astropy project**

Agree to good coding standards (testing, documentation), reduce duplication, open development

Use `astropy` when possible to improve interoperability

coordinated packages are maintained by the Astropy Project as a whole