

Temps et coordonnées astronomiques avec

astropy

(et sans doute un peu plus...)

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astropy, qu'est-ce que c'est ?

- Langage Python
- Des bibliothèques nombreuses
- Très bien documenté
- Devenu un standard
- Donc très utilisé
- Donc robuste !



Le site

<https://docs.astropy.org/en/stable/index.html>

astropy: A Community Python Library for Astronomy

[Edit on GitHub](#)

Version: 6.1.0

Useful links: [Installation](#) | [Issues & Ideas](#) | [Get Help](#) | [Contribute](#) | [About](#)

The `astropy` package contains key functionality and common tools needed for performing astronomy and astrophysics with Python. It is at the core of the [Astropy Project](#), which aims to enable the community to develop a robust ecosystem of [affiliated packages](#) covering a broad range of needs for astronomical research, data processing, and data analysis.

Important

If you use Astropy for work presented in a publication or talk please help the project via proper [citation or acknowledgement](#). This also applies to use of software or [affiliated packages](#) that depend on the astropy core package.

Pour les anglophobes... euh, non-anglophones...

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Traducteur

français



astropy : Une bibliothèque Python communautaire pour l'astronomie
Version : 6.1.0

Liens utiles : [Installation](#) | [Problèmes et idées](#) | [Obtenir de l'aide](#) | [Contribuer](#) | [À propos](#)

Le paquet astropy contient des fonctionnalités clés et des outils communs nécessaires pour réaliser des travaux d'astronomie et d'astrophysique avec Python. Il est au cœur du projet Astropy, qui vise à permettre à la communauté de développer un écosystème robuste de paquets affiliés couvrant un large éventail de besoins pour la recherche astronomique, le traitement et l'analyse des données.

[Voir sur DeepL.com](#)

Dictionnaire



Pour aujourd'hui (1/2) : les temps en astronomie

<https://docs.astropy.org/en/stable/time/index.html>

[Getting Started](#) [User Guide](#) [Development](#) [Project Details](#) [Tutorials](#) [↗](#)

[🏠](#) > [User Guide](#) > [Time and...](#)

Time and Dates ([astropy.time](#))

Introduction

The [astropy.time](#) package provides functionality for manipulating times and dates. Specific emphasis is placed on supporting time scales (e.g., UTC, TAI, UT1, TDB) and time representations (e.g., JD, MJD, ISO 8601) that are used in astronomy and required to calculate, for example, sidereal times and barycentric corrections. The [astropy.time](#) package is based on fast and memory efficient [PyERFA](#) wrappers around the [ERFA](#) time and calendar routines.

All time manipulations and arithmetic operations are done internally using two 64-bit floats to represent time. Floating point algorithms from [\[1\]](#) are used so that the [Time](#) object maintains sub-nanosecond precision over times spanning the age of the universe.

[\[1\]](#) Shewchuk, 1997, Discrete & Computational Geometry 18(3):305-363

Getting Started

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Pour aujourd'hui (2/2) : les coordonnées en astronomie

<https://docs.astropy.org/en/stable/coordinates/index.html>

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Astronomical Coordinate Systems (`astropy.coordinates`)

Introduction

The `coordinates` package provides classes for representing a variety of celestial/spatial coordinates and their velocity components, as well as tools for converting between common coordinate systems in a uniform way.

Getting Started

The best way to start using `coordinates` is to use the `SkyCoord` class. `SkyCoord` objects are instantiated by passing in positions (and optional velocities) with specified units and a coordinate frame. Sky positions are commonly passed in as `Quantity` objects and the frame is specified with the string name.

To create a `SkyCoord` object to represent an ICRS (Right ascension [RA], Declination [Dec]) sky position:

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Un peu du “*un peu plus*” ...

<https://www.jetbrains.com/fr-fr/pycharm/download/other.html>

PyCharm JetBrains IDEs Science des données Développement web EAP Nouveautés Fonctionnalités ▼ Apprendre ▼ Tarifs Télécharger

Autres versions

Version 2024.1

PyCharm Professional Edition

- [2024.1.2 - Linux \(tar.gz\)](#)
- [2024.1.2 - Linux ARM64 \(tar.gz\)](#)
- [2024.1.2 - Windows \(exe\)](#)
- [2024.1.2 - Windows ARM64 \(exe\)](#)
- [2024.1.2 - ZIP archive \(win.zip\)](#)
- [2024.1.2 - ZIP archive for Windows ARM64 \(win.zip\)](#)
- [2024.1.2 - macOS \(dmg\)](#)
- [2024.1.2 - macOS Apple Silicon \(dmg\)](#)

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- [2024.1.2 - macOS \(dmg\)](#)
- [2024.1.2 - macOS Apple Silicon \(dmg\)](#)

Version : [2024.1.2 \(Notes de publication\)](#)

Build : 241.17011.127

Publication : 29 mai 2024

Version majeure : 2024.1

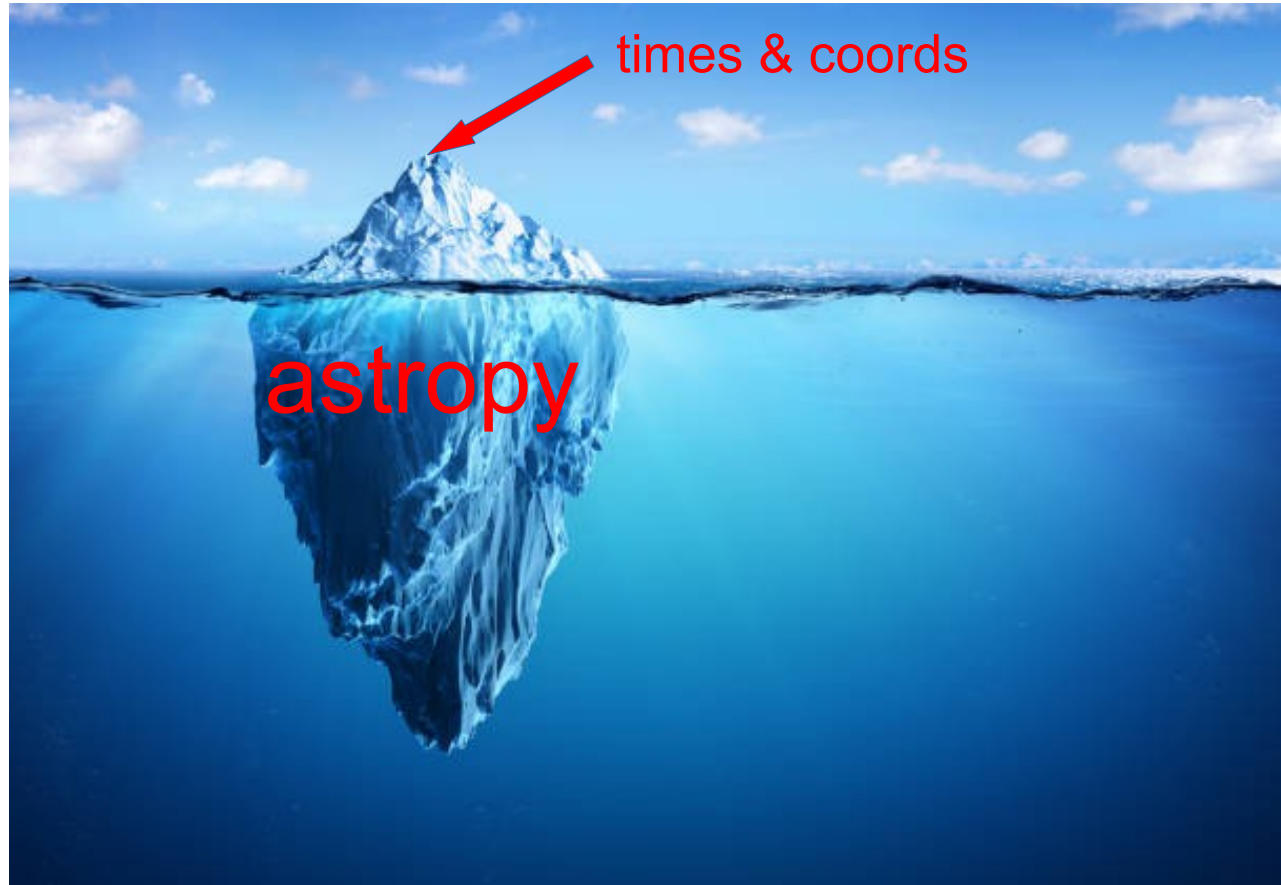
Publication : 4 avril 2024

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Juste un minuscule bout de la pointe...



Démo interactive ! Avec ordre et clarté...



On continue ?...



Coordonnées ↔ WCS

Getting Started [User Guide](#) Development Project Details Tutorials [↗](#)

🏠 > [User Guide](#) > [World...](#)

World Coordinate System ([astropy.wcs](#))

Introduction

World Coordinate Systems (WCSs) describe the geometric transformations between one set of coordinates and another. A common application is to map the pixels in an image onto the celestial sphere. Another common application is to map pixels to wavelength in a spectrum.

[astropy.wcs](#) contains utilities for managing World Coordinate System (WCS) transformations defined in several elaborate [FITS WCS standard](#) conventions. These transformations work both forward (from pixel to world) and backward (from world to pixel).

Nouvelle démo interactive ! Avec calme et sérénité...



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