



Pyovie - Pyote

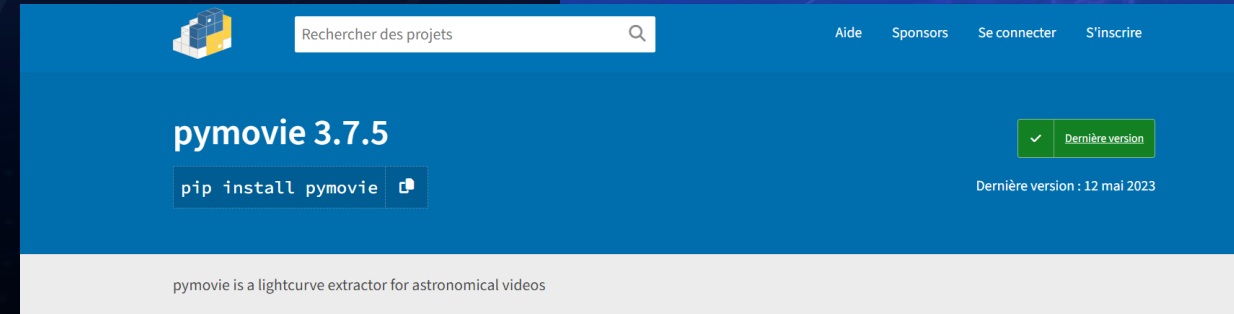
Logiciels d'analyse
d'occultation stellaire

Arnaud Leroy – Ecole de Photométrie -25 Juin 2023

Pymovie

Logiciel d'extraction de courbe de lumière

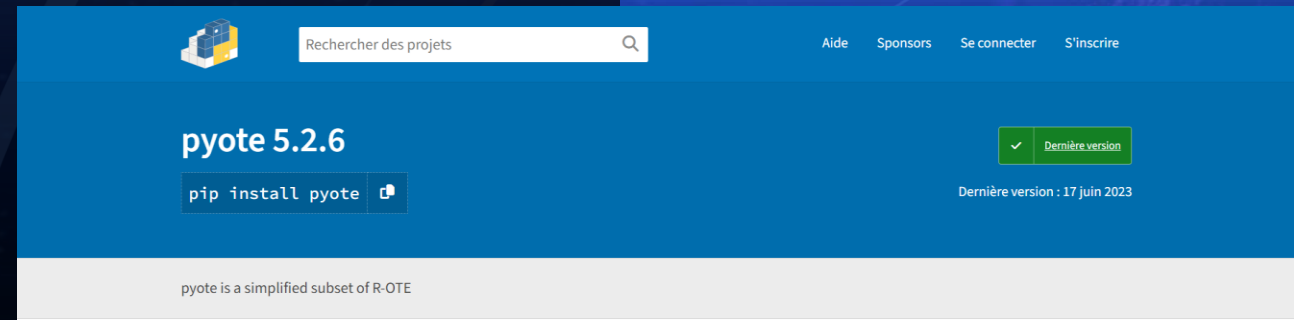
- Dernière version 3.7.5 - <https://pypi.org/project/pymovie/>
- S'installe à partir d'une invite de commande
- Nécessite une librairie Python
- Un pdf à télécharger ici : <https://forum.iota-es.de/showthread.php?tid=130>



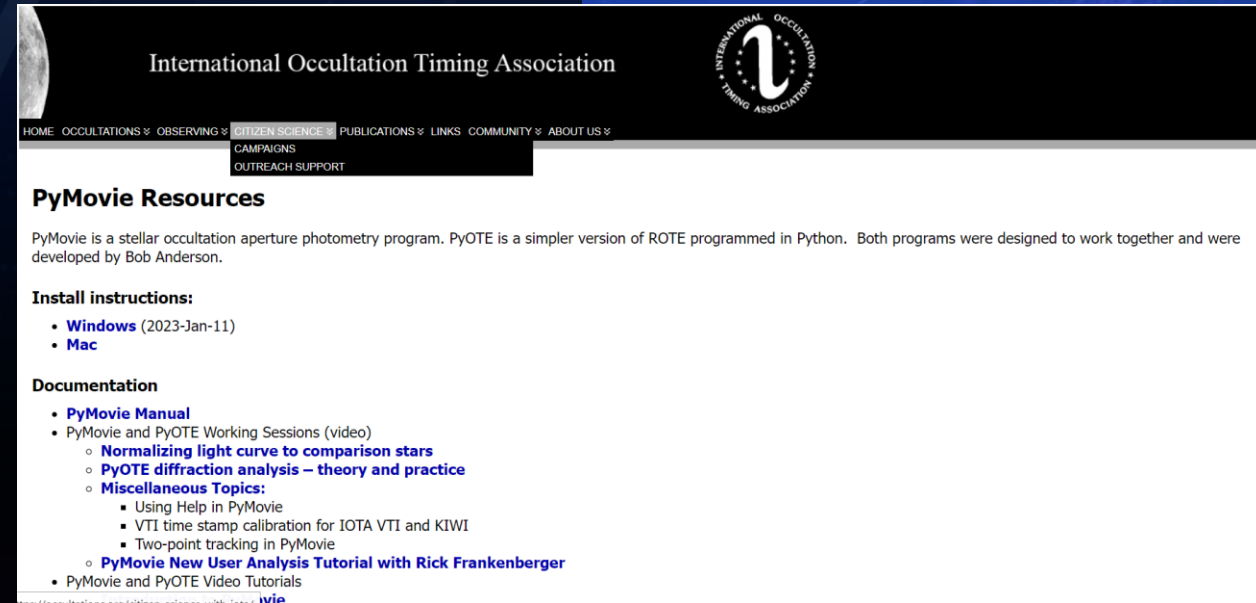
Pyote

Logiciel d'extraction des temps sur une courbe de lumière d'occultation stellaire

- Utilise des données (fichier csv) venant de Pymovie
- Fonctionne avec un fichier csv venant de Tangra (déduire sur les résultats un 1/2 temps d'exposition – Pyote s'attend à avoir des start frame alors que Tangra sort des temps mid frame)
- <https://pypi.org/project/pyote/>



Installation



The screenshot shows the website for the International Occultation Timing Association. The header includes the organization's name and logo. A navigation menu lists: HOME, OCCULTATIONS, OBSERVING, CITIZEN SCIENCE, PUBLICATIONS, LINKS, COMMUNITY, ABOUT US, CAMPAIGNS, and OUTREACH SUPPORT. The main content area is titled "PyMovie Resources" and contains the following text:

PyMovie is a stellar occultation aperture photometry program. PyOTE is a simpler version of ROTE programmed in Python. Both programs were designed to work together and were developed by Bob Anderson.

Install instructions:

- [Windows](#) (2023-Jan-11)
- [Mac](#)

Documentation

- [PyMovie Manual](#)
- [PyMovie and PyOTE Working Sessions](#) (video)
 - [Normalizing light curve to comparison stars](#)
 - [PyOTE diffraction analysis – theory and practice](#)
 - [Miscellaneous Topics:](#)
 - [Using Help in PyMovie](#)
 - [VTI time stamp calibration for IOTA VTI and KIWI](#)
 - [Two-point tracking in PyMovie](#)
 - [PyMovie New User Analysis Tutorial with Rick Frankenberger](#)
- [PyMovie and PyOTE Video Tutorials](#)

- <https://occultations.org/sw/pymovie/WinPyMoviePyOTE-Install-2023-01-12.zip>
- <https://occultations.org/observing/software/pymovie/>

Installation

[PyMovie/PyOTE](#) installation instructions for Python

(Windows 10 and 11 only)

[Note: [PyMovie/PyOTE](#) are written for 64-bit computers only]

January 12, 2023

Installation: step-by-step in detail

Step 1: Uninstall (if needed) the existing Anaconda installation. The file to execute is

[C:\Anaconda3\Uninstall-Anaconda3.exe](#)

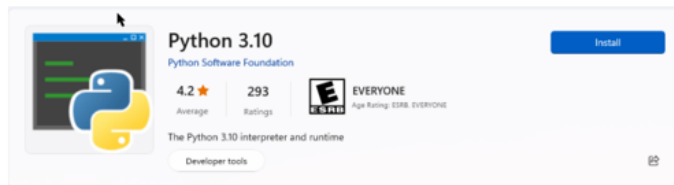
Step 2: Install Python 3.10.9 from Internet. Earlier versions may work with [PyMovie/PyOTE](#). Later versions will likely not work with [PyMovie/PyOTE](#).

Open the Microsoft Store



Search for Python in the search window. An array of Python choices will be offered.

Select Python 3.10.9 WINDOWS version for your 64-bit computer (32-bit computers are not supported by [PyMovie/PyOTE](#)).

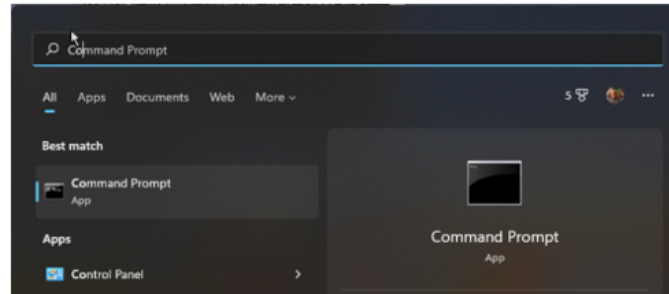


Click Install in the upper right corner. Python will now be added to your C:\users\{default user name here} directory.

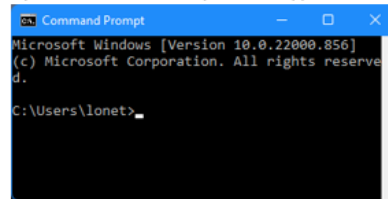
Step 3: Install [PyMovie](#) and [PyOTE](#) from the internet [PyPI](#) repository.

Open the 'Windows Command Prompt' console app.

To find this app, click on the Windows Start Menu in the lower left corner of your Windows screen. In the search window, type Command Prompt. The following or similar should appear:



Open the Command Prompt console app. It should look like this:



Recall that the c:\Users\{xxxxx} is where the Python program was loaded.

Next, type [pip install wheel](#) and press enter:

Following that, type [pip install pymovie](#) and press enter:

Note that Python will process lots of routines and generate a lot of messages in the Command Prompt window. This will take several minutes. Be patient. There may/will be a few strange looking messages. Such as the following path error messages:

```
WARNING: The scripts pypupdate5.exe, pyoc5.exe and pyuic5.exe are installed in
'C:\Users\lonet\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.10_qbz5n2kfa8p0\LocalCache\loc
al-packages\Python310\Scripts' which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-
script-location.
WARNING: The script #py.exe is installed in
'C:\Users\lonet\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.10_qbz5n2kfa8p0\LocalCache\loc
al-packages\Python310\Scripts' which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-
script-location.
```

Error messages regarding 'Spyder' can be disregarded.

When done, somewhere in the 'Successfully installed' section at the end, there should be a line with [pymovie-X.XX](#) (latest version number will be shown), which tells us that the [PyMovie](#) install worked. See the following:

```
Successfully installed Adv2-1.2.0 JsonForm-0.0.2 PyQt5-5.15.7 PyWavelets-1.3.0 astro-py-5.1 astroquery-
0.4.6 atts-22.1.0 beautifulsoup4-4.11.1 certifi-2022.6.15.1 chasset-normalizer-2.1.1 cyclic-0.11.0
fonttools-4.37.1 html5lib-1.1 idna-3.3 imageio-2.21.2 jaraco.classes-3.2.2 jasonschema-4.16.0 keyring-
23.9.1 kiwisolver-1.4.4 livemlite-0.39.1 matplotlib-3.5.3 more-itertools-8.14.0 networkx-2.8.6 numba-
0.56.2 numpy-1.23.1 opencv-python-4.6.0.66 packaging-21.3 pillow-9.2.0 pygham-3.99 pyrsa-2.0.0.1
pymovie-3.6.6 pyqtgraph-0.12.4 python-datasci-2.8.2 python-easyconfig-0.1.7 pyvo-1.3 requests-2.28.1
resource-0.2.1 scikit-image-0.19.3 scipy-1.9.1 tifffile-2022.8.12
```

At the time of creation of these instructions, [PyMovie](#) 3.6.6 was the latest version. This may change when [PyMovie](#) is installed on your computer.

Next, type [pip install pyote](#). The same comments apply to this installation. You should see Successfully installed [pyote-X.XX](#) (latest version number will be shown). At the time of creation of these instructions, [PyOTE](#) 4.9.2 was the latest version. This may change when [PyOTE](#) is installed.

Step 4: Run and Test [PyMovie](#) and [PyOTE](#) installations.

Use the already open 'Command Prompt' and enter the following:

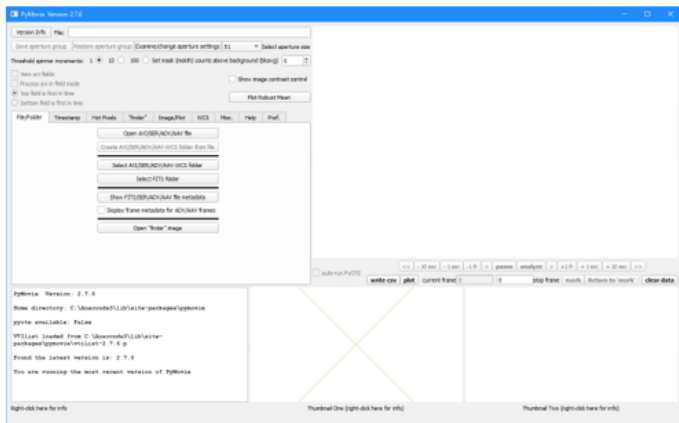
On the first line after the > prompt type: [python](#)

After you get the >>> prompt type: [from pymovie import main](#)

You will have to wait a while for this import to complete because python is busy compiling the source code into byte code. The resulting byte code is cached, so this is a one-time only delay.

After the above imports have completed and returned you to the >>> prompt, type: [main.main\(\)](#)
[PyMovie](#) should start up in a few seconds looking something like the screen grab shown below:

Installation



The size and position of the [PyMovie](#) window can/should now be adjusted to best fit your screen size and resolution. Those settings will be remembered in a file labeled `simple-ote.ini` stored under the `C:\Users\[username]` folder. There are three 'splitters' that can be used to reappportion the space used for the main GUI elements.

Note for future runs of [PyMovie](#): If you are running the latest available version, the text in the [PyMovie](#) 'textOut' box at the bottom left of the screen will read:

```
Found the latest version is: 3.6.4 (or later version)
You are running the most recent version of PyMovie
```

If you do not have the most recent version, prior to [PyMovie](#) running, a prompt screen will appear asking you if you want to update to the new version. You can select 'Yes' or 'No'. If you select 'Yes', read the text in [PyMovie](#) 'textOut' box at the bottom left of the screen and follow the instruction for installing the update and restarting [PyMovie](#).

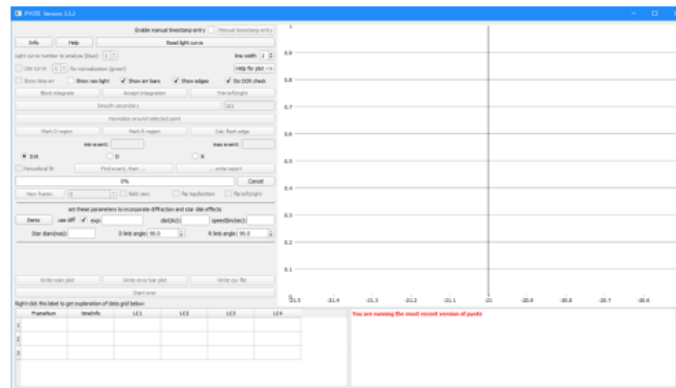
Next close the instance of [PyMovie](#) opened above. You will be returned to the `>` prompt in the Command Prompt window. Type `python`.

After you get the `>>>` prompt type: `from pyoteapp import pyote`

You will have to wait a while for this import to complete because python is busy compiling the source code into byte code. The resulting byte code is cached, so this is a one-time only delay

After you get the next `>>>` prompt type: `pyote.main()`

[PyOTE](#) should start up in a few seconds looking something like the screen grab shown below:



Note: If you have the latest version, the text in the [PyOTE](#) 'log' box at the bottom of the screen will read:

You are running the most recent version of [pyote](#).

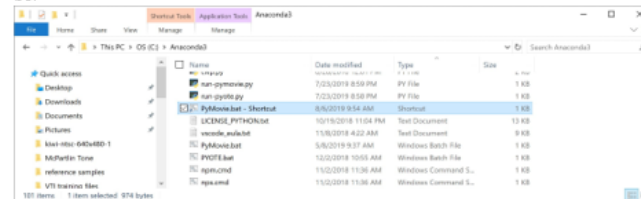
If you do not have the most recent version, a message will appear in the text screen portion of the [PyOTE](#) screen informing you of the update version available and how to install it.

Step 5: Add desktop icon to simplify starting up [PyMovie](#) and [PyOTE](#)

Open File Explorer and navigate to the unzipped files you downloaded from the IOTA website.

Locate the file `python-logo.ico`, `Clean_Python_PyMovie.bat`, and `Clean_Python_PyOTE.bat` files (you may not see the `.bat` extensions if you have not enabled the display of file extensions). Copy these files into your `C:\Users\[xxxx]` folder.

Next, right-click on the highlighted [PyMovie](#).bat file and select Create Shortcut. The result will be:



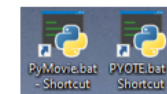
Drag the resulting "PyMovie.bat – Shortcut" file (highlighted above) to your desktop.

Do the same for the [PYOTE](#).bat file (not highlighted). Below is a clip of what the icons look like:



Double-clicking the icon will now start up [PyMovie](#) or [PyOTE](#).

It is possible to change the icon picture itself by right-clicking on the shortcut icon, selecting 'properties', and in the Shortcut tab, clicking on Change icon tab and then associating a new icon with the shortcut. Just browse to the `python-logo.ico` file copied previously, and select it for use as the shortcut icon. Here is an example of a modified Python icons:



Congratulations, you have now installed [PyMovie](#) and [PyOTE](#).

User instructions are provided in text boxes that appear when a right-click on a button (or sometimes a label) is performed. This form of help is provided in both [PyMovie](#) and [PyOTE](#).

All new users are strongly encouraged to right-click on each of the buttons and menu items to read the instructions before attempting to run [PyMovie](#) or [PyOTE](#).

Additional documentation is provided in [PyMovie](#) and [PyOTE](#).

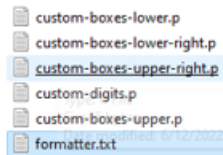
For [PyMovie](#), click on the Help tab and then click on any of the help topics. The Documentation item provides a 27-page tutorial on how to use [PyMovie](#).

Clicking on the 'Version Info' button in [PyMovie](#) or the 'Info' button in [PyOTE](#) will open a pdf file that describes the version to version changes and should always be consulted just after a new version is installed.

All new users are strongly encouraged to read the Documentation before attempting to run [PyMovie](#) or [PyOTE](#).

When you run [PyMovie](#) for the first time after doing a clean Python installation, you will not have any of your VTI OCR files and [PyMovie](#) will not automatically read the time stamp characters in your videos. An easy fix for this issue is to use [PyMovie](#) to browse to a previous observation folder that contains the [PyMovie](#) character files:

Installation



- custom-boxes-lower.p
- custom-boxes-lower-right.p
- custom-boxes-upper-right.p
- custom-digits.p
- custom-boxes-upper.p
- formatter.txt

Go to your timestamp tab in PvMovie and press the button:

Select/save custom ocr profile

Create and save a profile. That profile will then open any future file opened by PvMovie. If you have multiple cameras and character sets, do the same thing for each camera/character set. You will not have to retrain your character box locations and digits.

Démonstration
