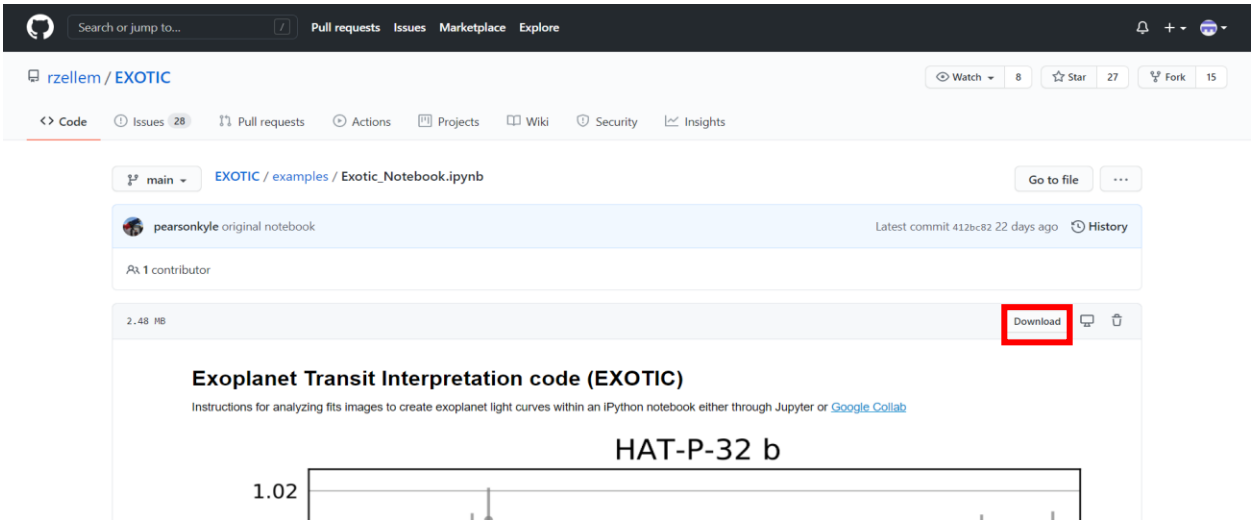
EXOplanet Transit Interpretation Code (EXOTIC) Instructions: How to Run the Code with a Python Notebook

These are the instructions for running EXOTIC to reduce your photometric data using the python notebook. This is the recommended way to use EXOTIC, offering a much more interactive and user-friendly experience and significantly simplifying the installation process.

Please note: in order to be able to click on the links and select text in this document, you must **download it off GitHub**. The GitHub preview simply shows you an image of the document, which does not allow for those functions.

I. Opening the Python Notebook

- You can run the notebook in Jupyter Notebook or the Google Collab.
- Download the .ipynb file from GitHub
    - Navigate to this link: https://github.com/rzellem/EXOTIC/tree/main/examples
    - Download the file 'Exotic_Notebook.ipynb' (select the button in the red box below).



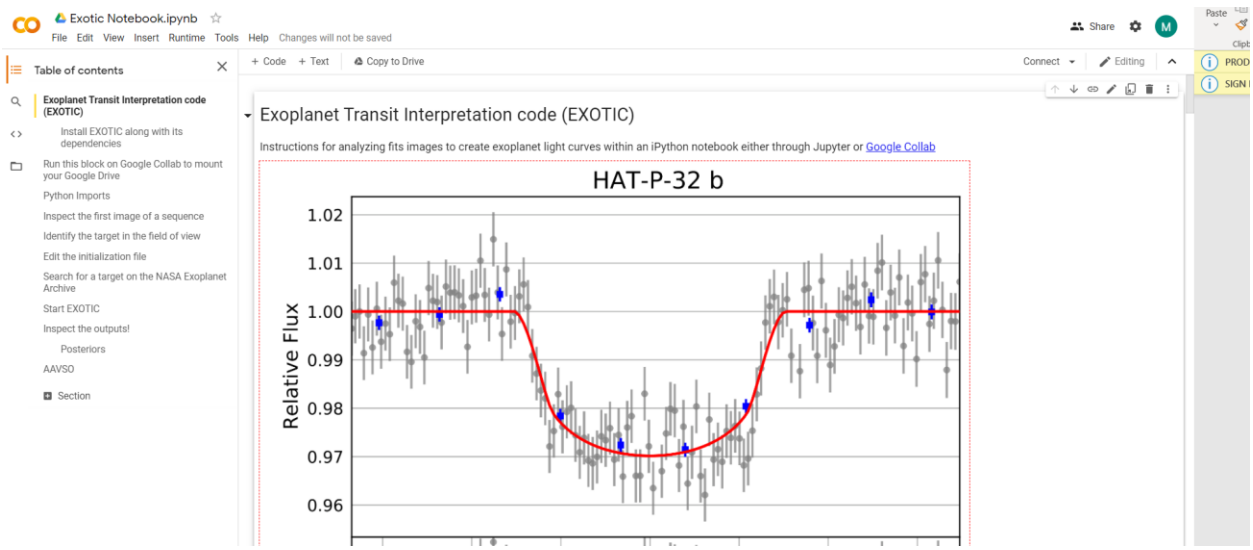
- Open the notebook in either the Google Collab or Jupyter.
    - If you would like to use Jupyter, follow these next few steps
        - Open your Terminal app.
            - If you are using Windows, open the app 'Command Prompt'
            - If you are using a Mac, open the app 'Terminal'
        - Enter the command to open Jupyter Notebook in your browser.
            - Type 'jupyter notebook' and hit enter

- This should prompt the following response in your terminal, and your browser should automatically open Jupyter.

```
C:\Users\Marlena Smith>jupyter notebook
[I 19:41:27.031 NotebookApp] JupyterLab extension loaded from C:\anaconda3\lib\site-packages\jupyterlab
[I 19:41:27.031 NotebookApp] JupyterLab application directory is C:\anaconda3\share\jupyter\lab
[I 19:41:27.290 NotebookApp] Serving notebooks from local directory: C:\Users\Marlena Smith
[I 19:41:27.291 NotebookApp] The Jupyter Notebook is running at:
[I 19:41:27.291 NotebookApp] http://localhost:8888/?token=d29b11691b98e4d6bc07560d5105a7bf49b3c77fefa4d41a
[I 19:41:27.291 NotebookApp]  or http://127.0.0.1:8888/?token=d29b11691b98e4d6bc07560d5105a7bf49b3c77fefa4d41a
[I 19:41:27.291 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[C 19:41:27.360 NotebookApp]

    To access the notebook, open this file in a browser:
        file:///C:/Users/Marlena%20Smith/AppData/Roaming/jupyter/runtime/nbserver-72280-open.html
    Or copy and paste one of these URLs:
        http://localhost:8888/?token=d29b11691b98e4d6bc07560d5105a7bf49b3c77fefa4d41a
     or http://127.0.0.1:8888/?token=d29b11691b98e4d6bc07560d5105a7bf49b3c77fefa4d41a
```

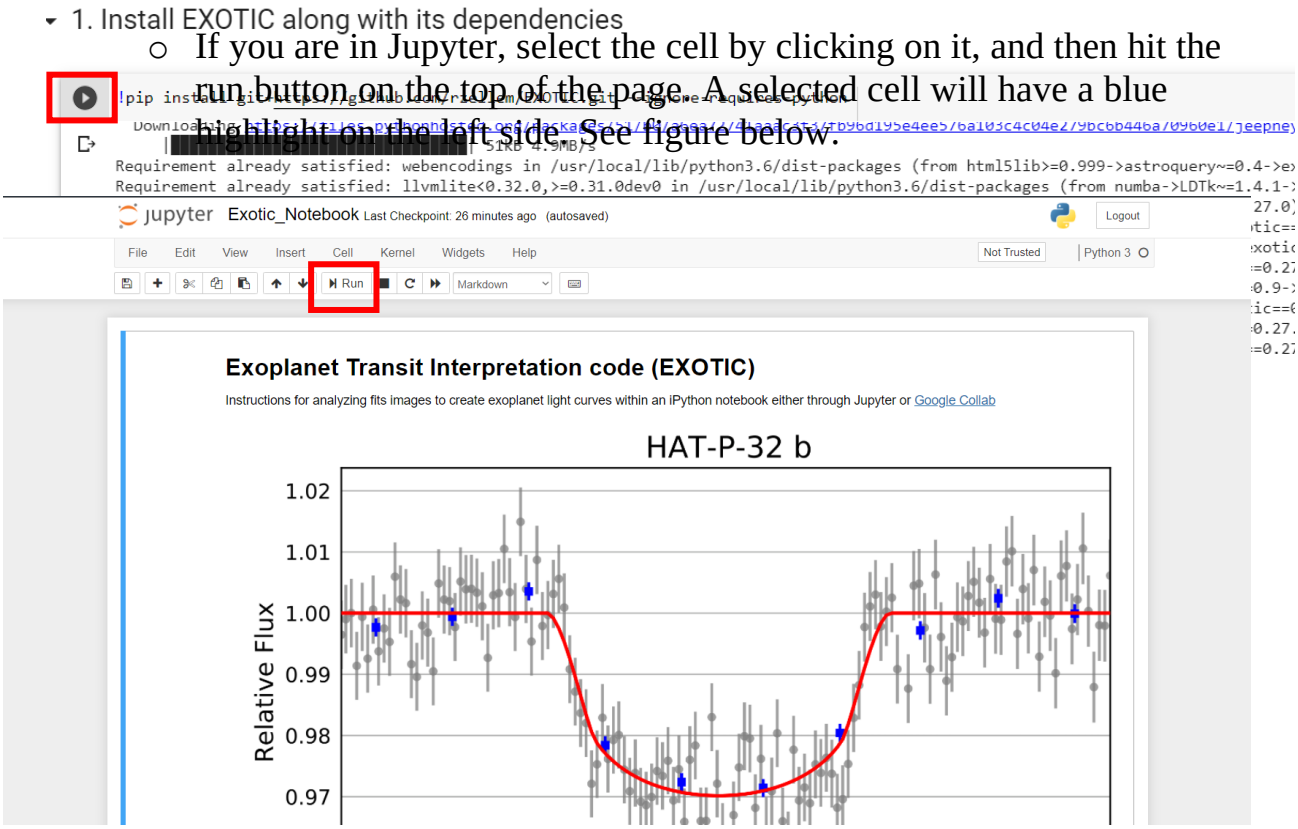
  - Finally, in either Jupyter or Google Collab, navigate to your downloads (or the location you saved the .ipynb file) and select it to open.
  - You should see the interface below in your application.



I. Running the Notebook

- Running the Notebook is very simple! The following steps will walk you through the process.
- Python notebooks are broken up into cells, which are simply blocks of code you can run independently of one another. To run EXOTIC, we will be running each cell sequentially (top to bottom).

- To run a cell:
    - If you are in the Google Collab, simply click the ‘play’ button in the top left corner of the cell. See figure below.



    - If you are in Jupyter, select the cell by clicking on it, and then hit the run button on the top of the page. A selected cell will have a blue highlight on the left side. See figure below.

- Cell #1 will install EXOTIC and all of its dependencies for you. **Please note** that you will have to run this command each time you open the notebook.
- Run each of the following cells, reading the instructions/descriptions above them first. Follow the instructions and enter any values you are prompted for.
- After running all of the cells, you will have completed the reduction process, and are able to view some of the resulting figures and files! Congratulations!
- To view the rest of the output files, visit the folder that you specified as your save folder in the initialization file.
- For more information on how EXOTIC works and how to interpret your results, see the other guides in the Documentation folder.

Happy observing! If you have any questions, please message us on Slack or via email!