Mini Tutorial Period04

Note: Period04 has a very complete tutorial that you can consult and learn more about this tool.
to open
> period04

Import the file with time and magnitude/flux

- Import time string → to import the file in the computer
verify that the columns are correct, and correspondto the right quantities
- Display graph → plots the lightcurve, just to check

To compute the Fourier Transform

- tab Fourier
-Check the Nyquist frequency (write from0 to that frequency)
- Original data : computes the FT and substracts the zero point
- Calculate
-yes to zero point question

This procedure computes the FT and gives the frequency and amplitude of the highest peak. A window messege will apear asking if you want to save the frequency. Answer: yes.

-Display graph : will display the FT, that can be saved as a .dat file for future work.
To save the FT data, in the upper menu of the FT, graph → export data.

To compute the phase:
- tab Fit
-Phase diagram: To display phase

Mark the frequency that you want to compute the phase
-Calculate → to compute the phase
- Improve all → to improve the results

The last step is more significant once there are many frequencies.

To substract the frequency

-Fourier
Select the frequency/frequencies to be extracted from the original data
- Residuals at original
-calculate

This will give the FT with the substracted peak
A window will appear with the data of the highest peak, also asking to save.
A second frequency will be added to the list
Repeat the procedure for the second frequency to compute the phase

--tab fit to plot the phase, the one that you want has to be unmarked
-Display graph to check that the peak was substracted from the FT

The log file is in LOG

With all the frequencies and different data from all the steps.

NOTE 1: Period04 will continue finding peaks, it does not have a criteria to stop once the noise level is reached. It it important to look at the FT for when there are no more peaks.

NOTE 2: Each class of variable star will have its particular characteristics. You need to analise, make tests, ask people, etc. to find out what is the best configuration of parameters or the best tool to study that object.