

## Chapter 2 lc plots

June 6, 2022

```
[1]: import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import lightcurve as lk
import periodogram_properties as pprop
import autolcper
# %matplotlib auto
```

### 0.1 TIC 140757590

Contact binary (EW type) Observed for 5 sectors between sectors 9 and 13 in year 1 period of 0.41839 days

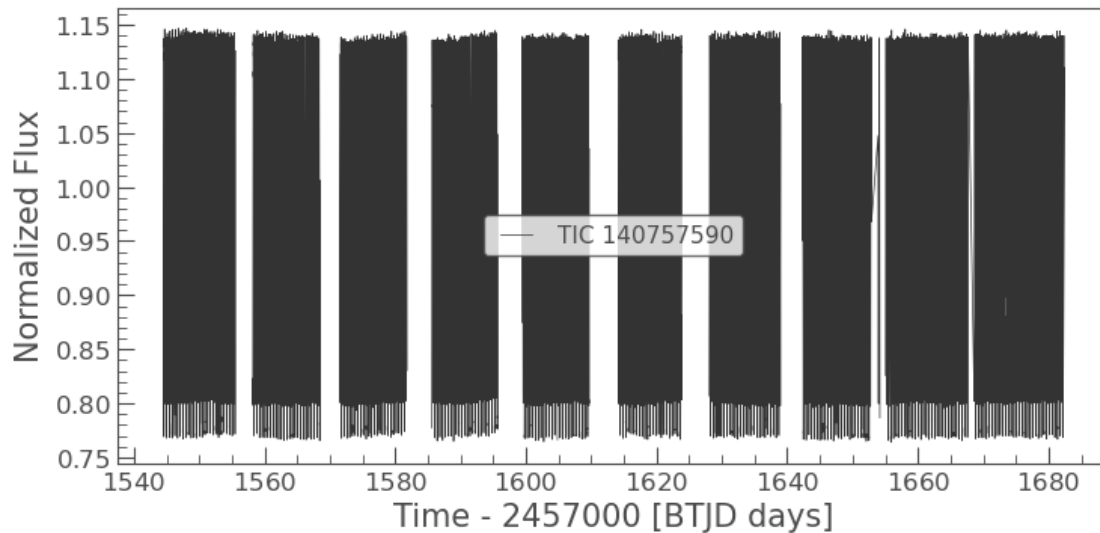
```
[2]: autolcper.automator(ticid=140757590)
```

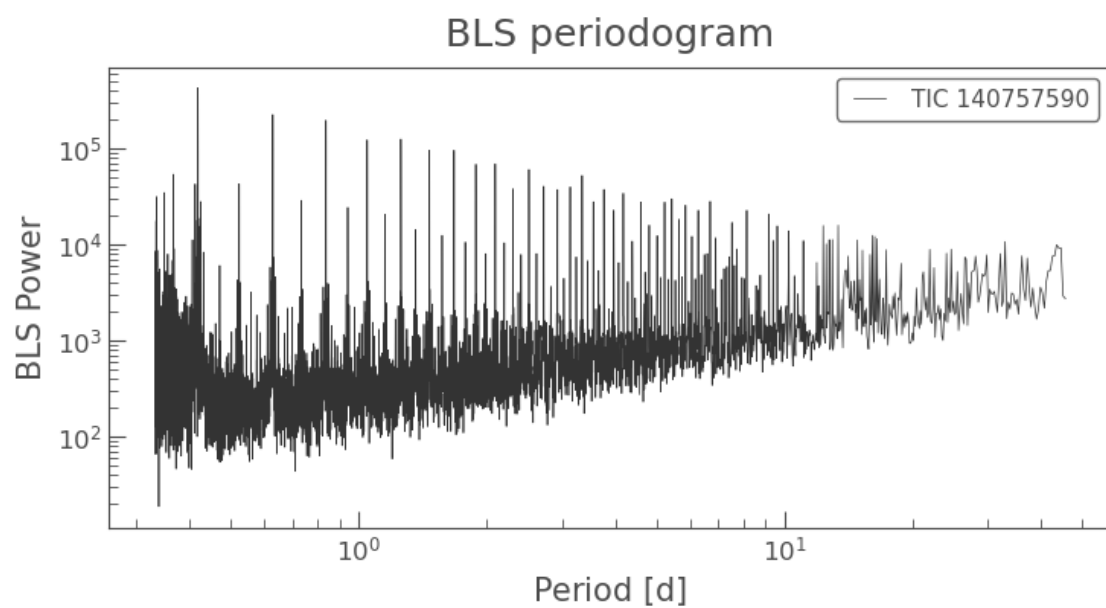
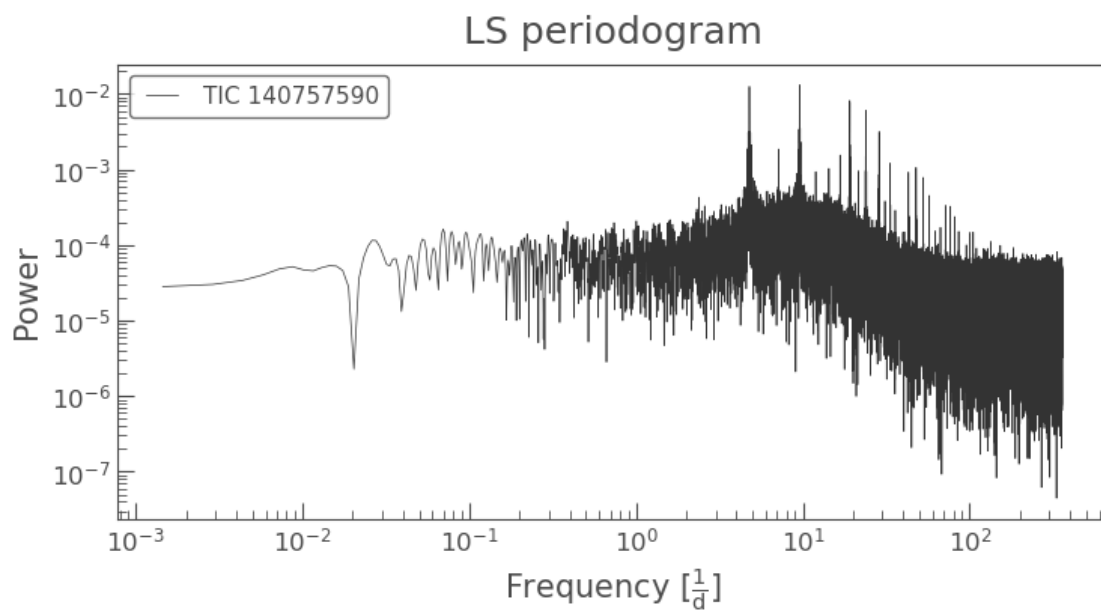
LS Period : 0.10459330548105829 d

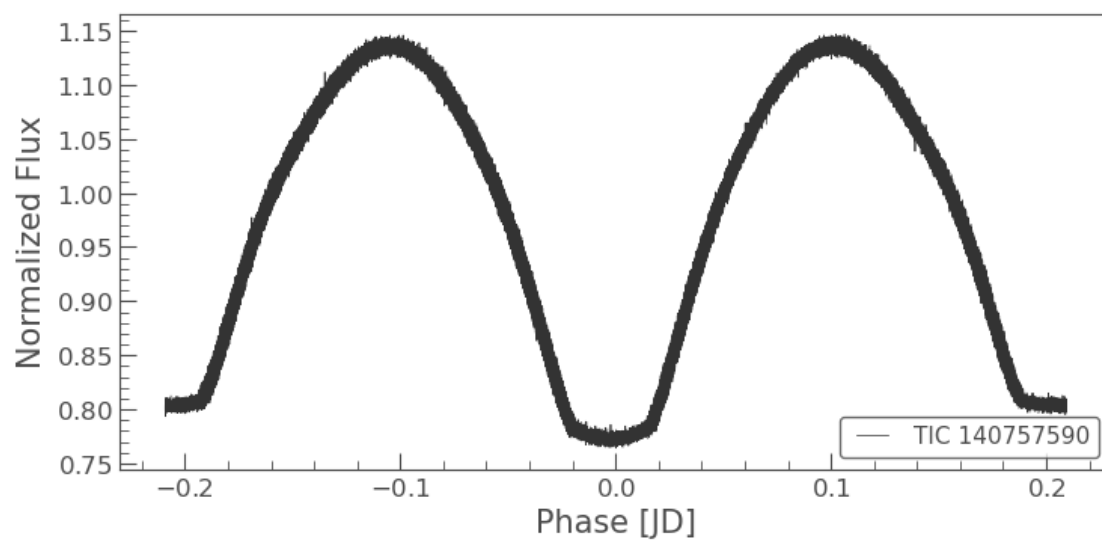
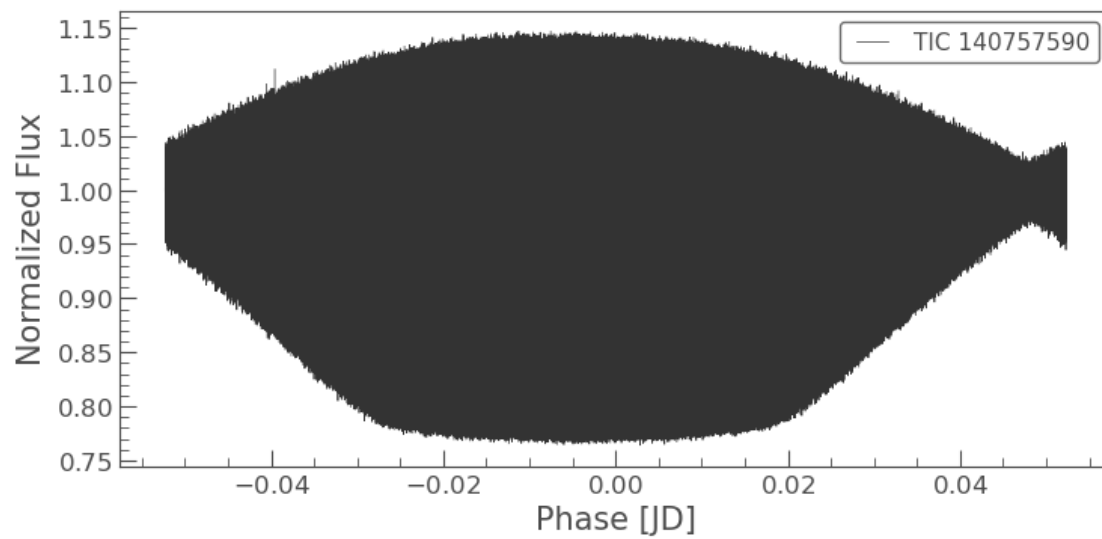
BLS Period : 0.4184190383121709 d

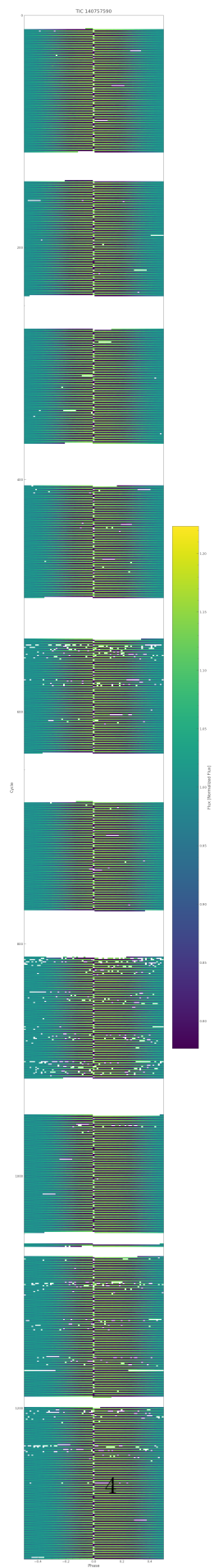
T0 : 1544.5716492067852

Transit duration : 0.05 d

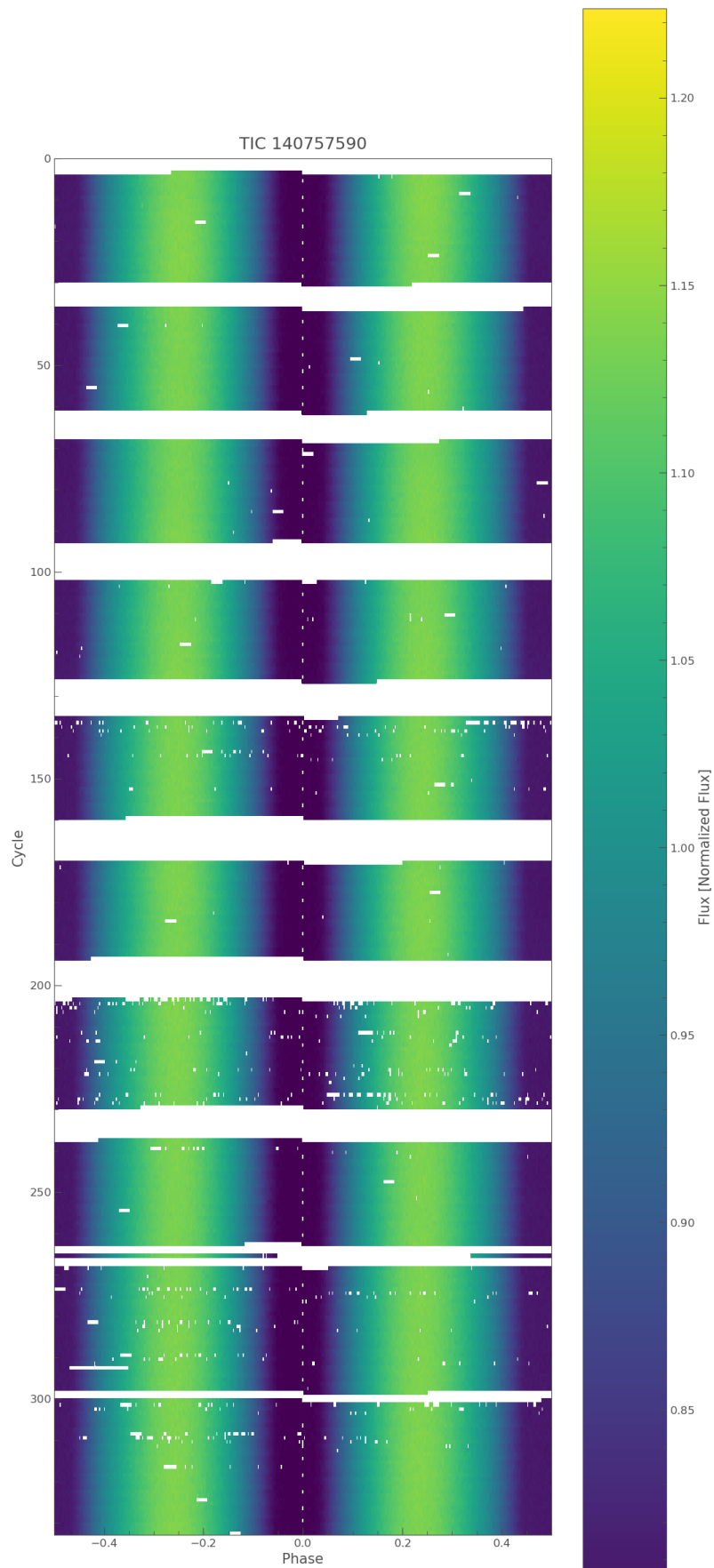












## 0.2 TIC 38846515

WASP-100 star of type F2 Contains eclipsing planet with orbital period 2.84938 days all sectors in year 1

```
[3]: autolcper.automator(ticid=38846515)
```

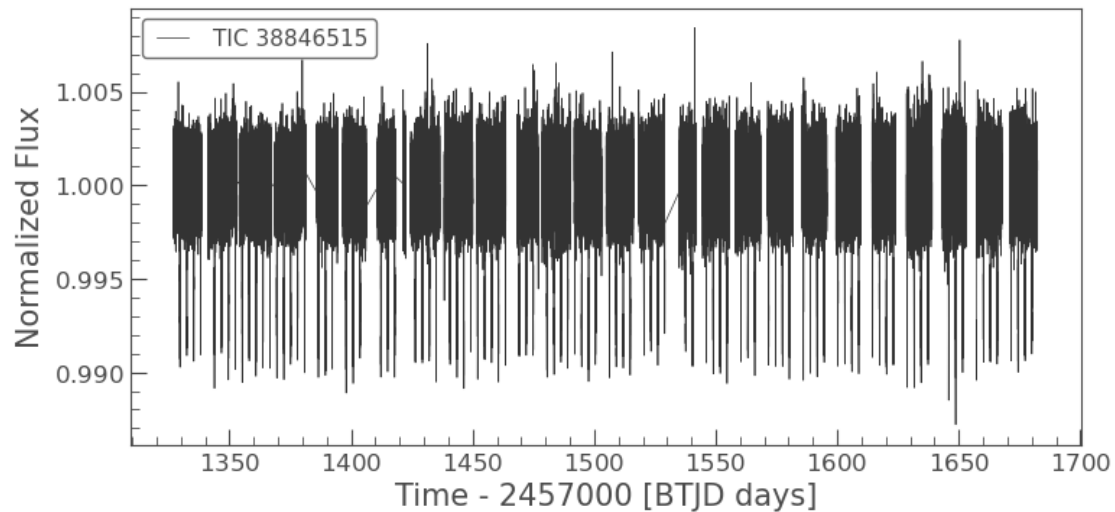
Warning: 30% (5871/19412) of the cadences will be ignored due to the quality mask (quality\_bitmask=175).

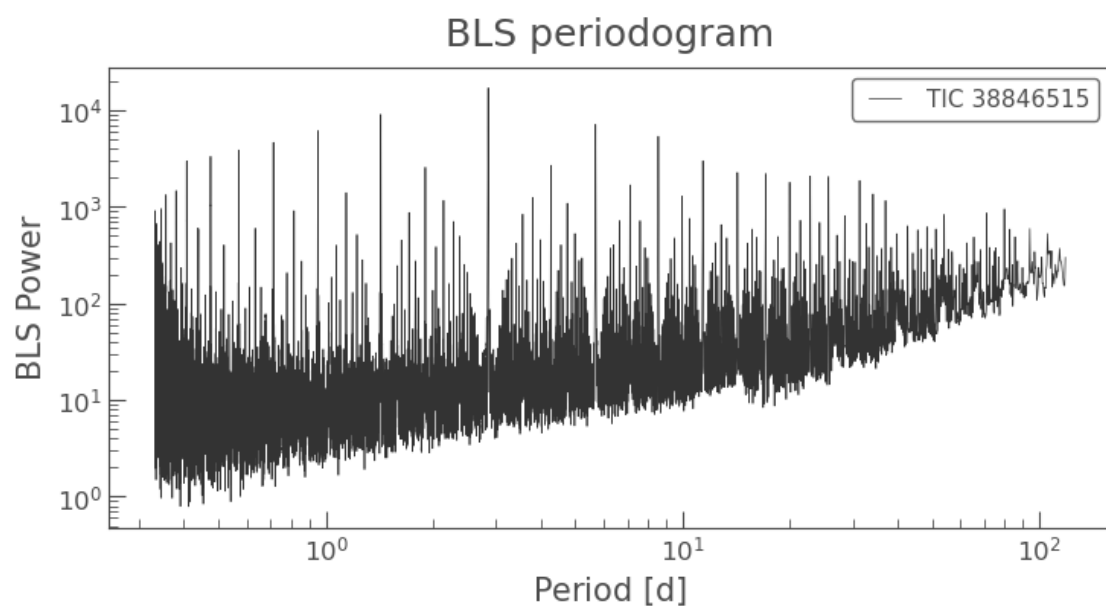
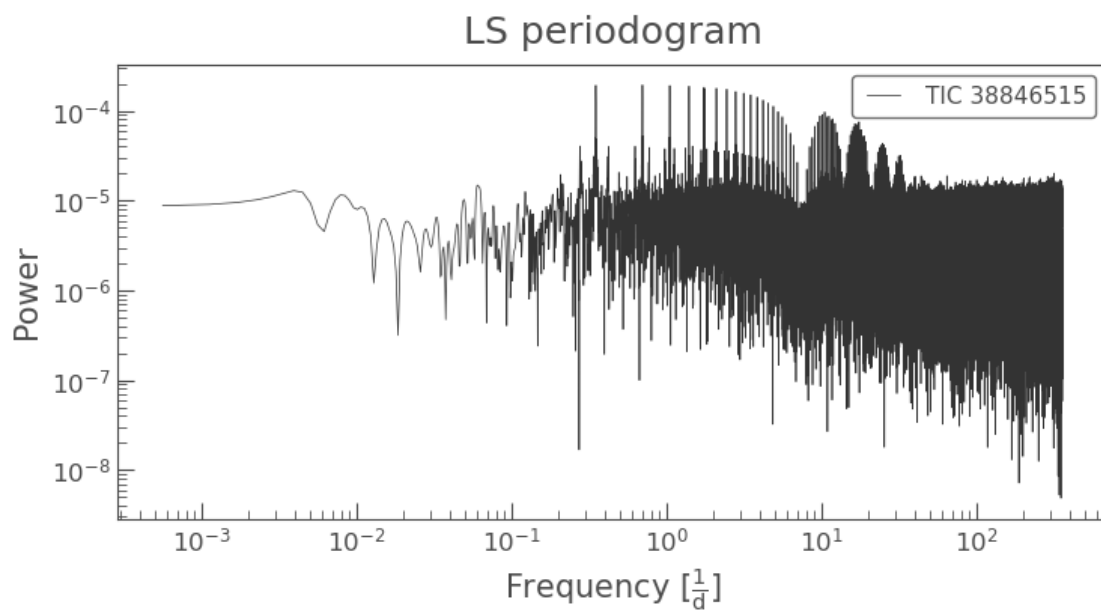
LS Period : 1.4245455191221557 d

BLS Period : 2.849513158321518 d

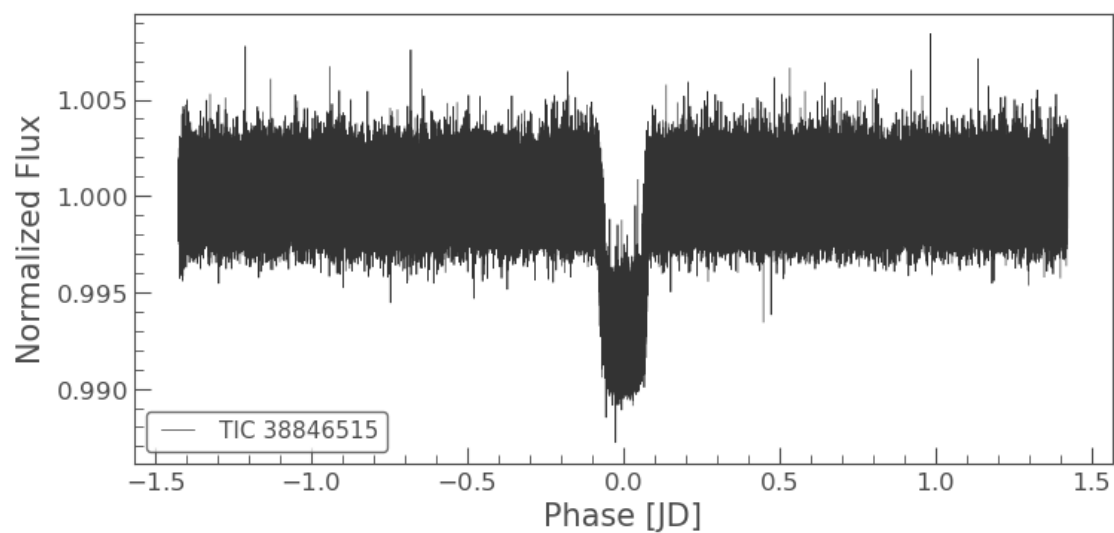
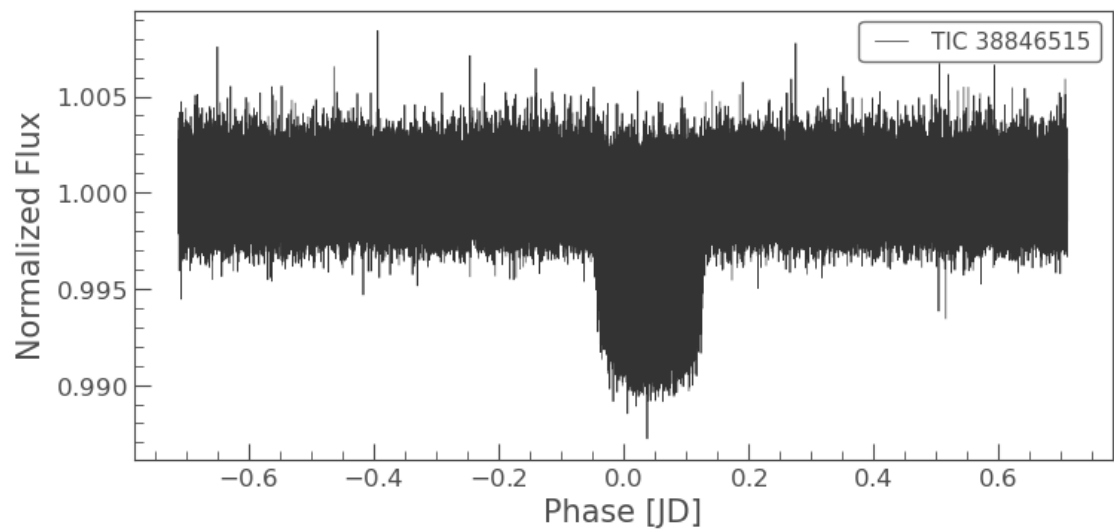
T0 : 1329.5853299362525

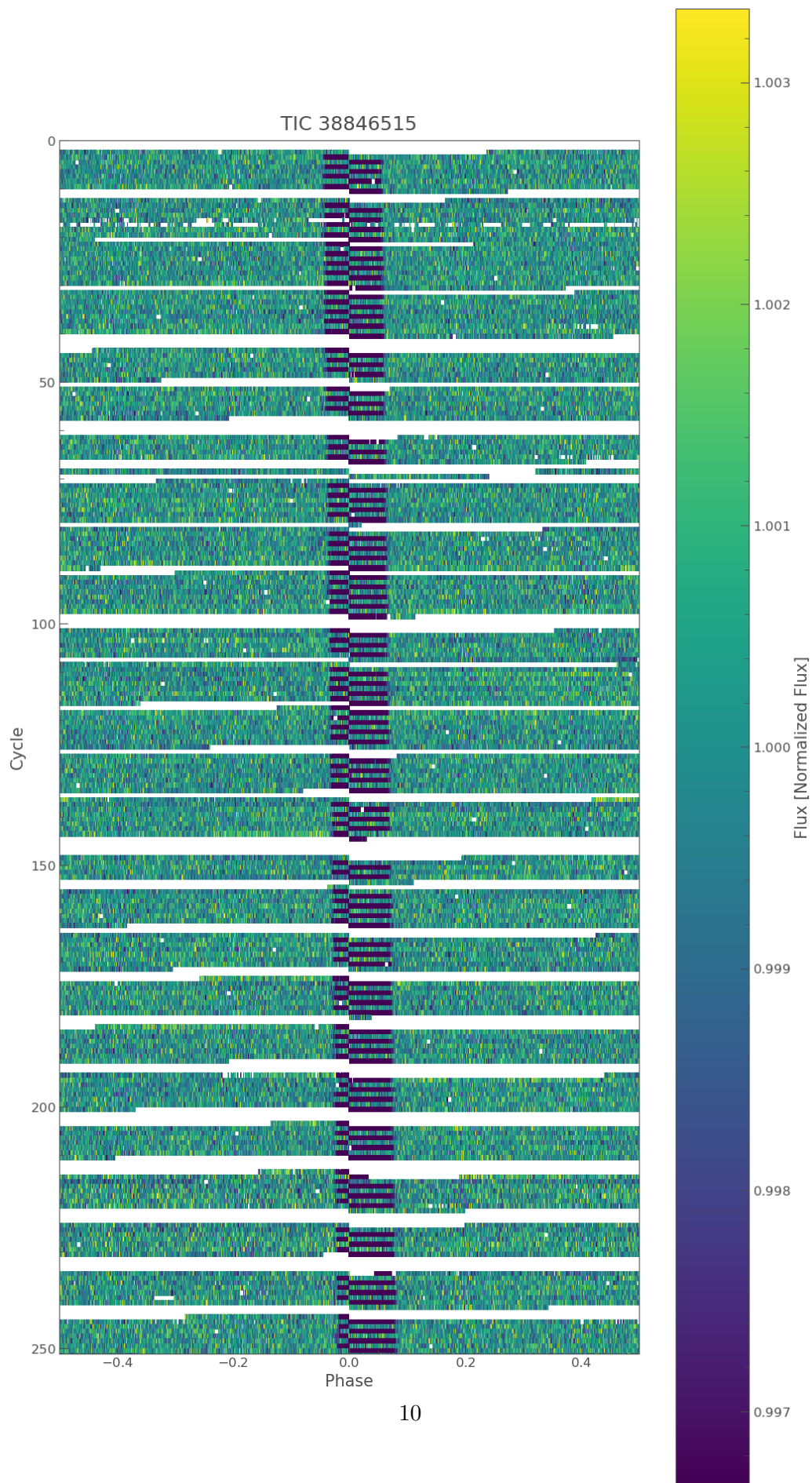
Transit duration : 0.15 d

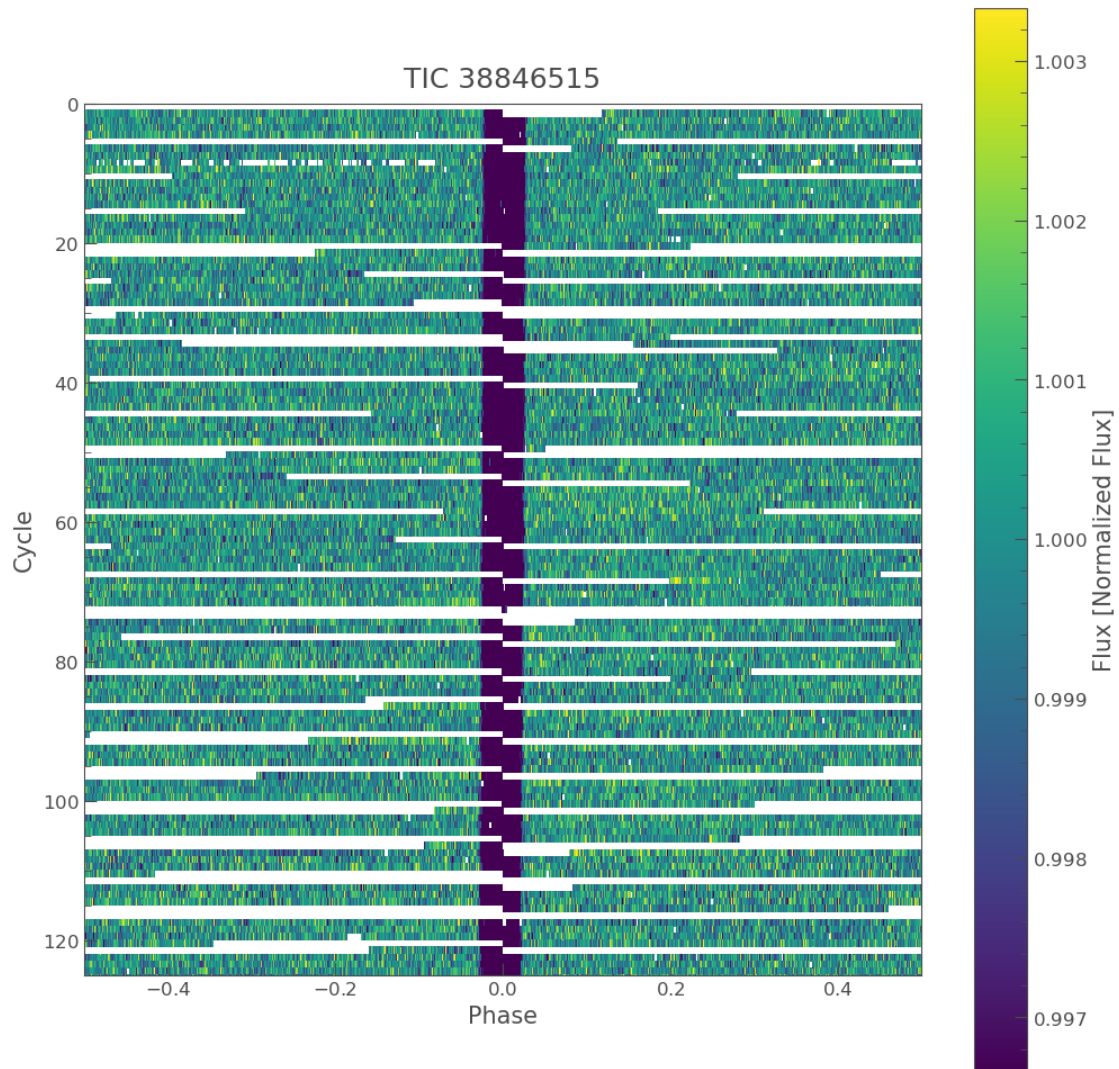












### 0.3 TIC 357911163

sectors 11 and 12 of year 1 eclipsing binary

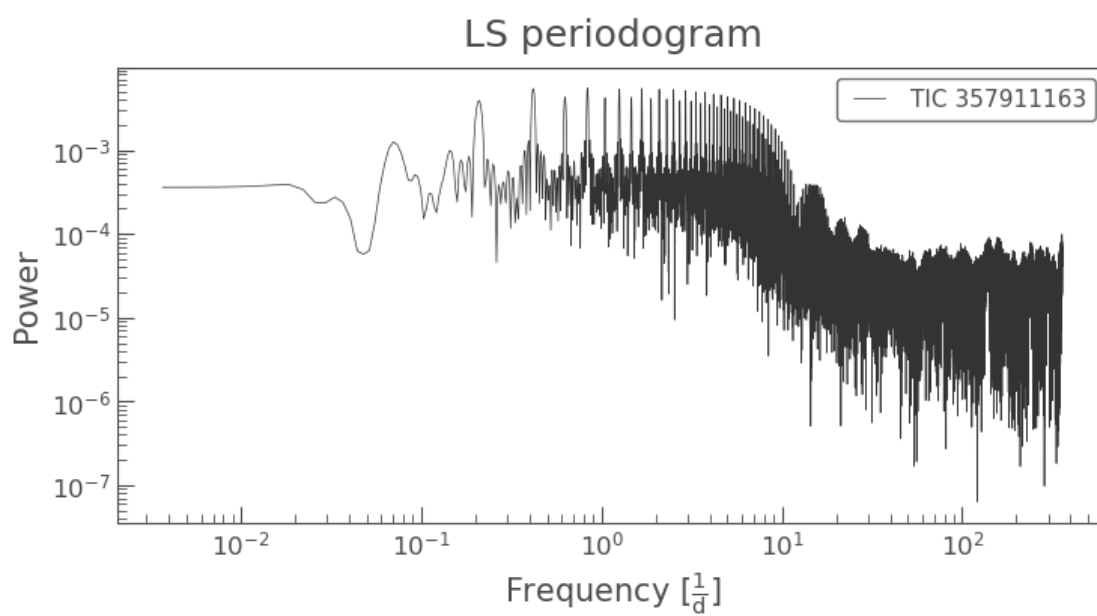
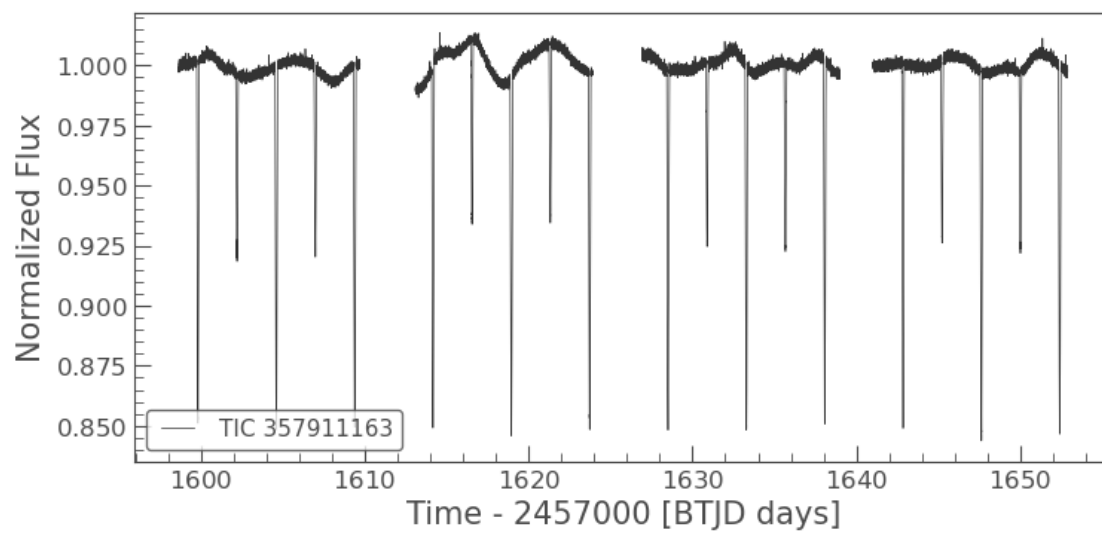
```
[4]: autolcper.automator(ticid=357911163)
```

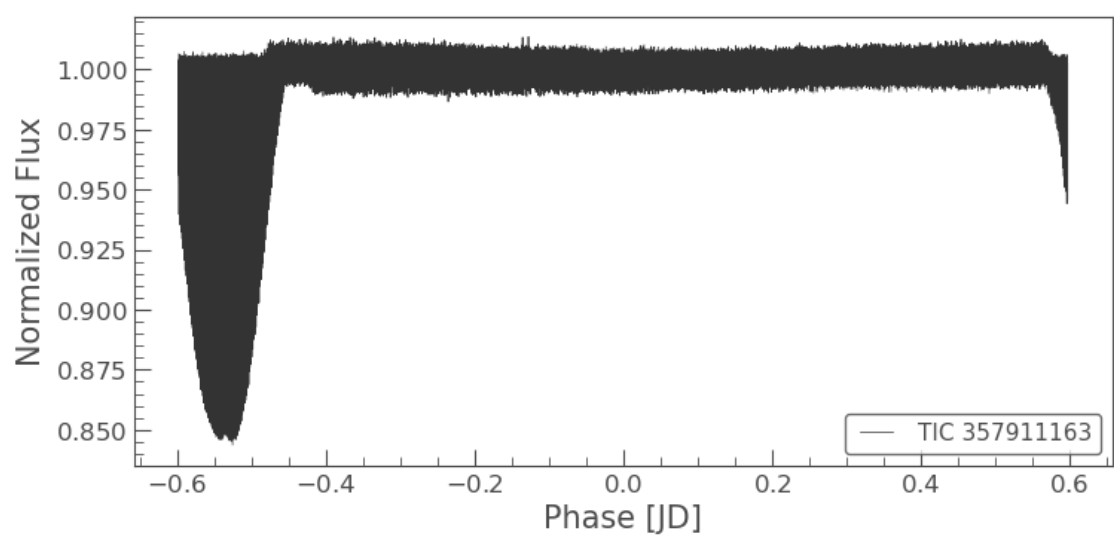
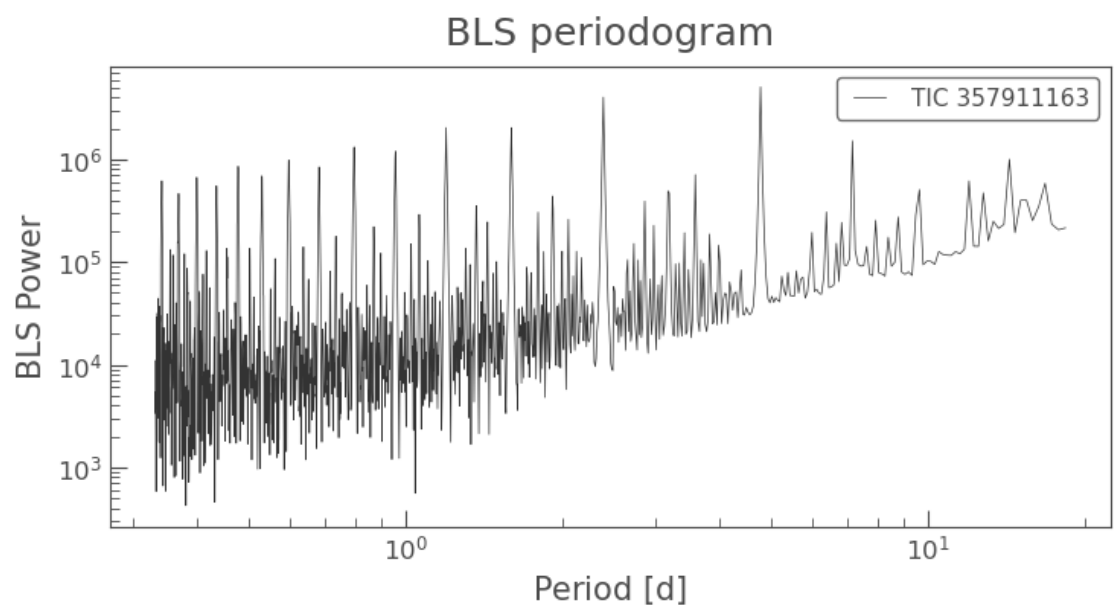
LS Period : 1.1949091870810453 d

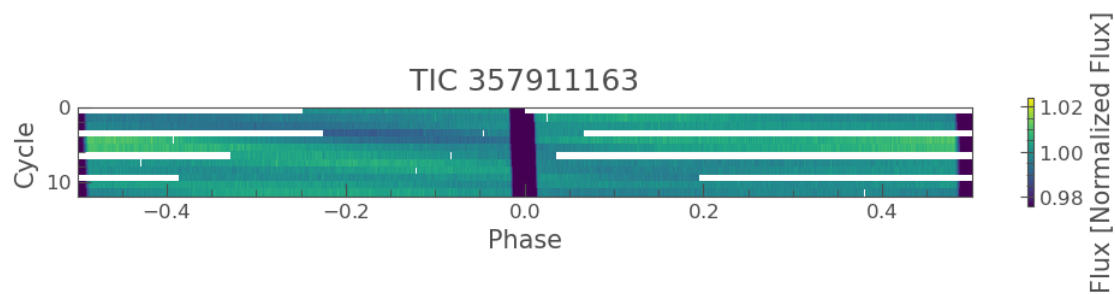
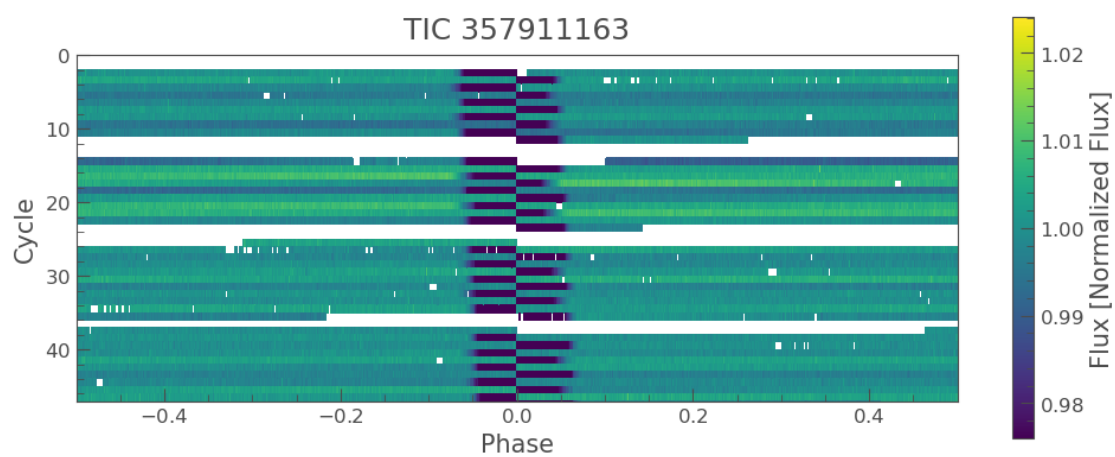
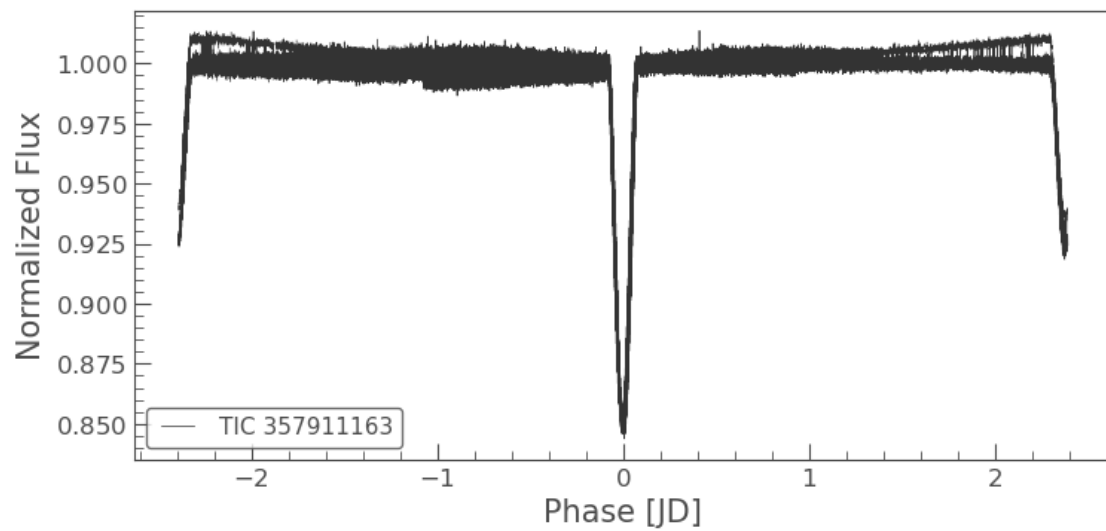
BLS Period : 4.7804072958059685 d

T0 : 1599.8251103378348

Transit duration : 0.1 d







#### 0.4 TIC 35516889

WASP-19 main sequence star of spectral type G planet with an orbital period of 0.78884 days sector 8 of year 1

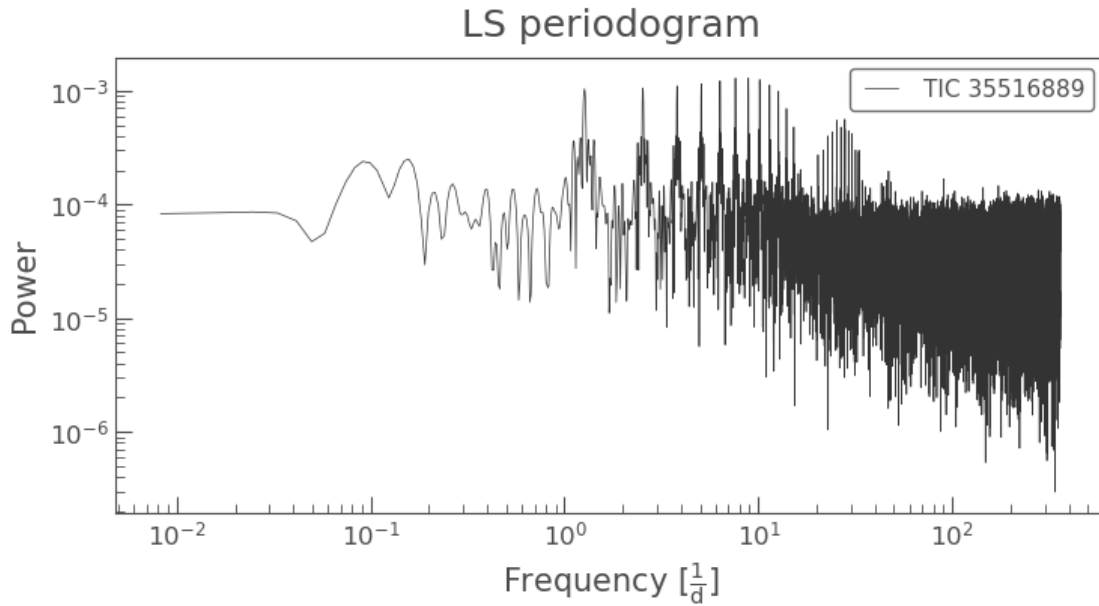
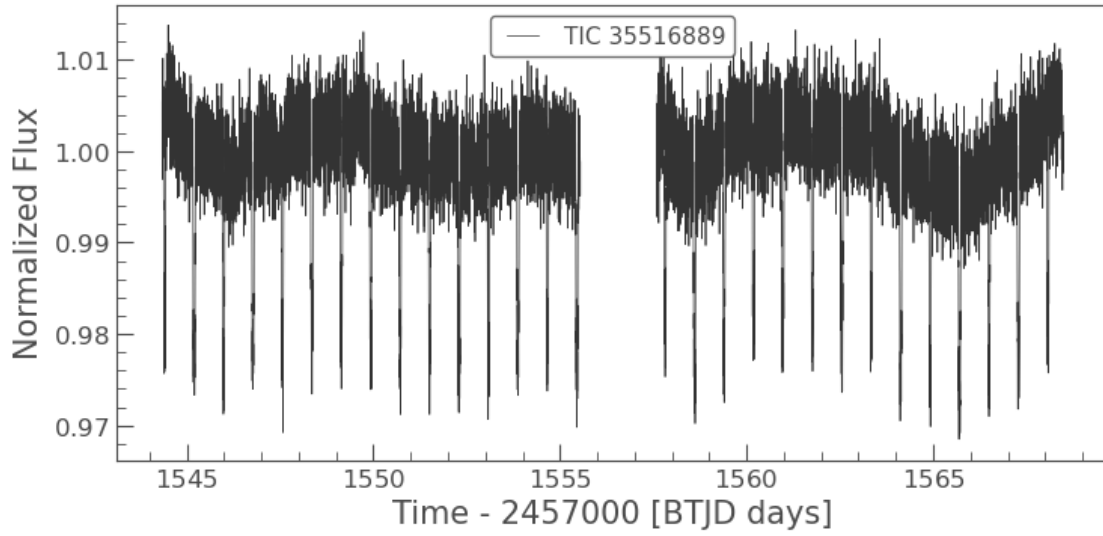
```
[5]: autolcper.automator(ticid=35516889)
```

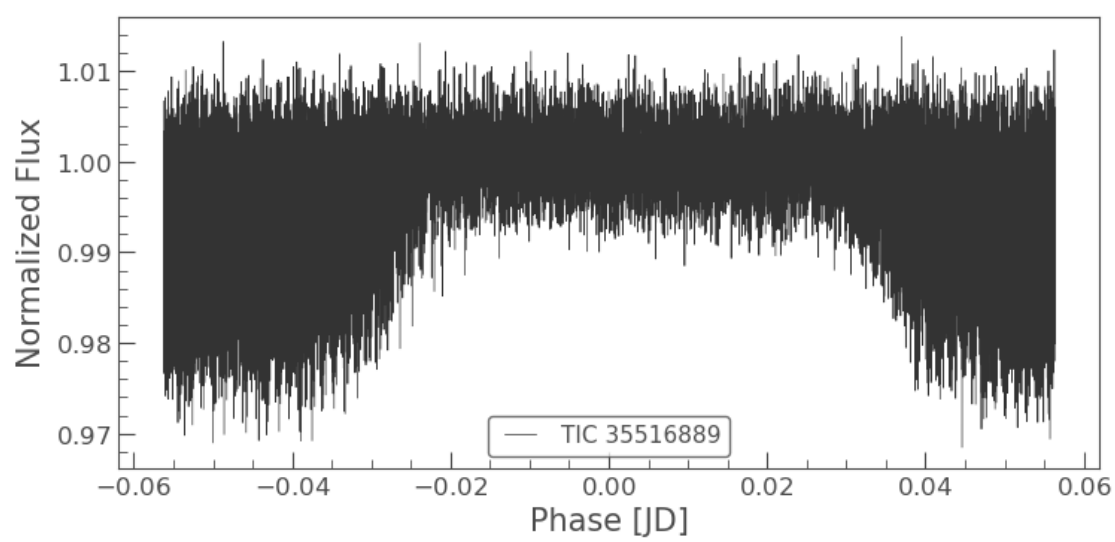
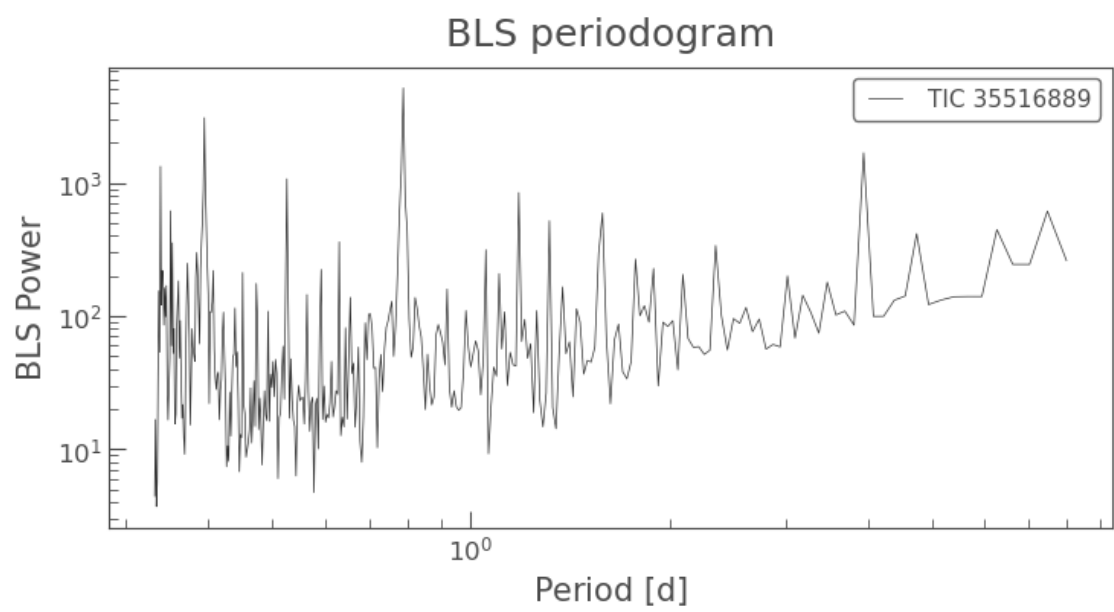
LS Period : 0.11267413127212085 d

BLS Period : 0.7895805864054031 d

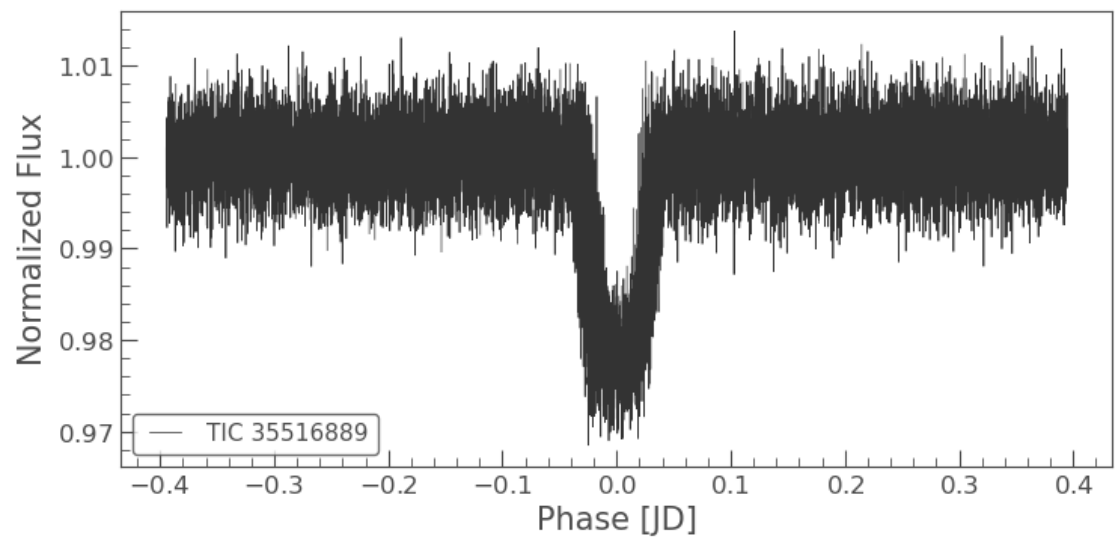
T0 : 1544.398406060177

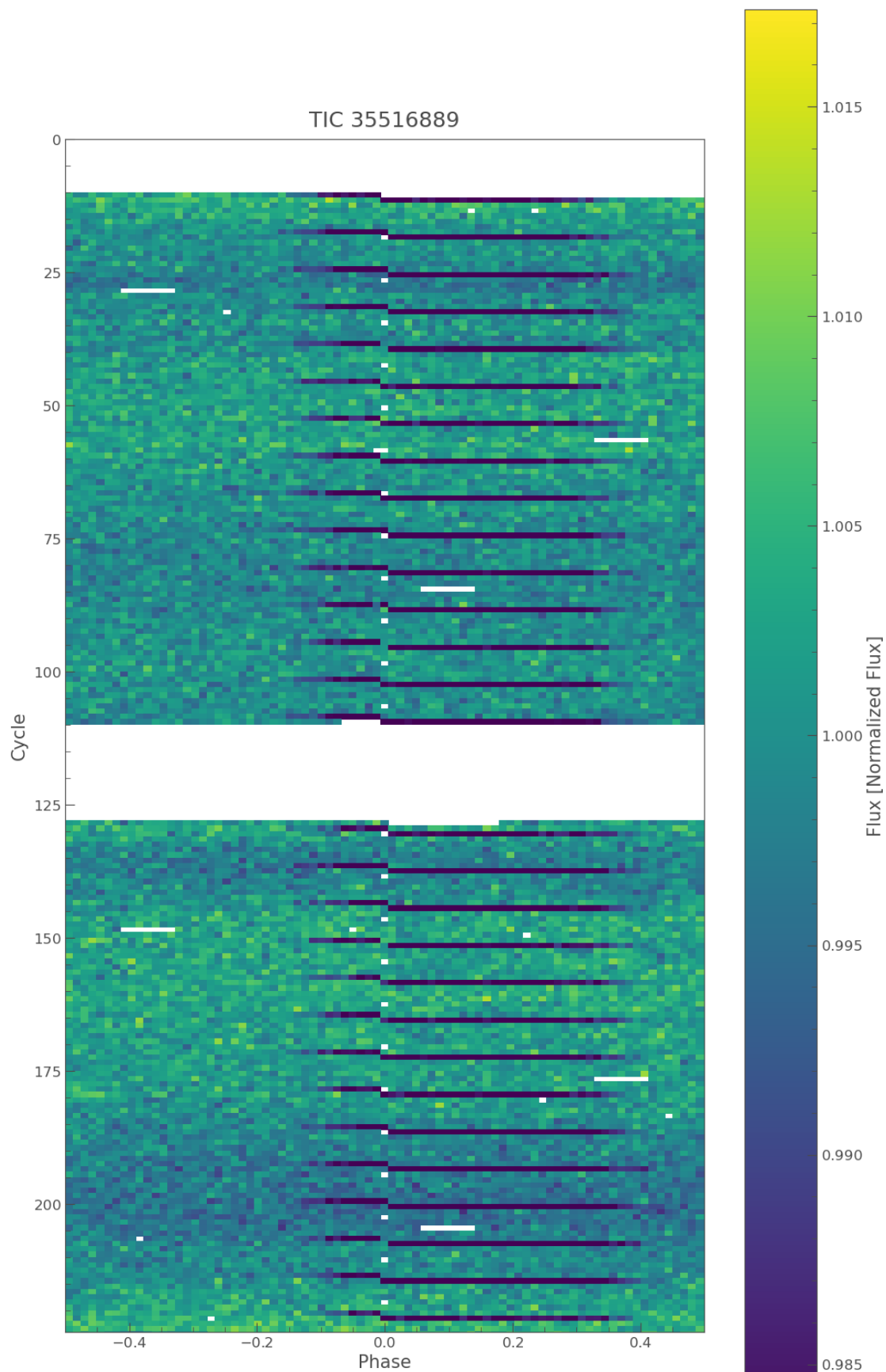
Transit duration : 0.05 d

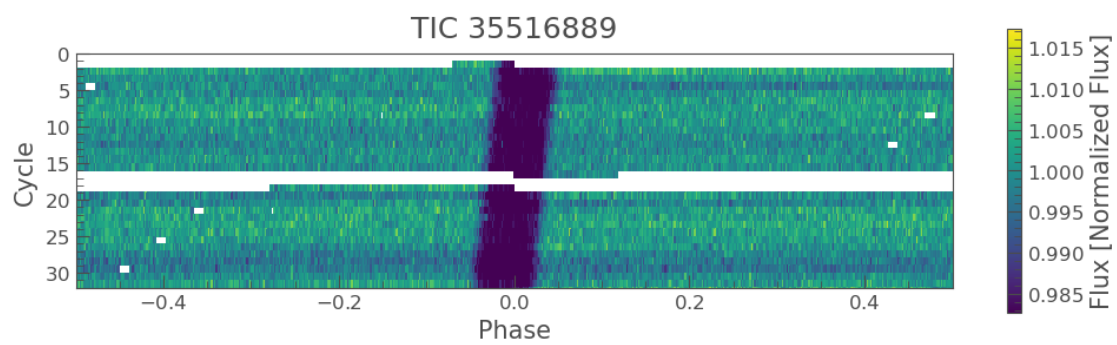












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