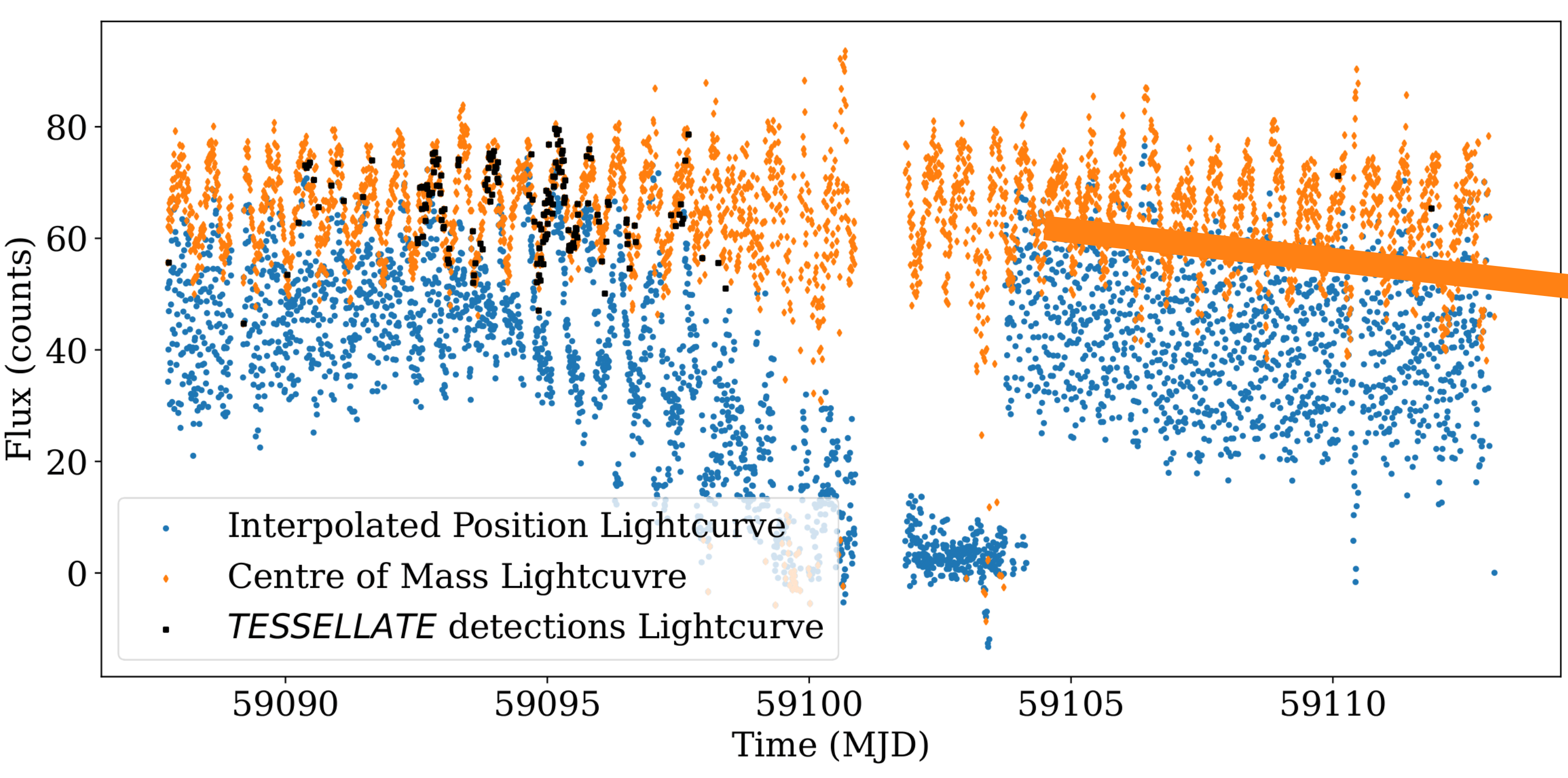
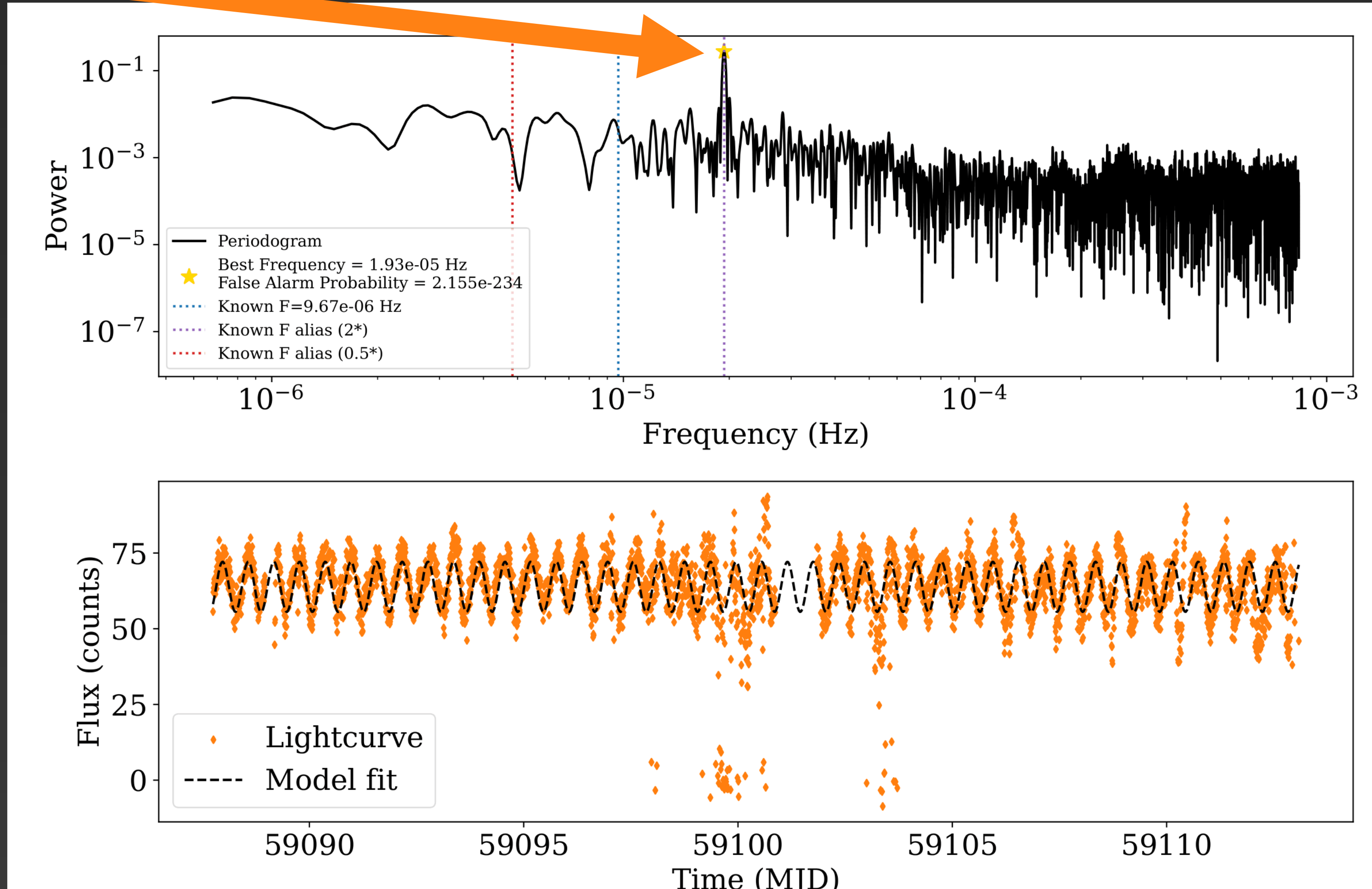




# Detecting asteroid lightcurves and calculating periodograms with *TESSELLATE*.

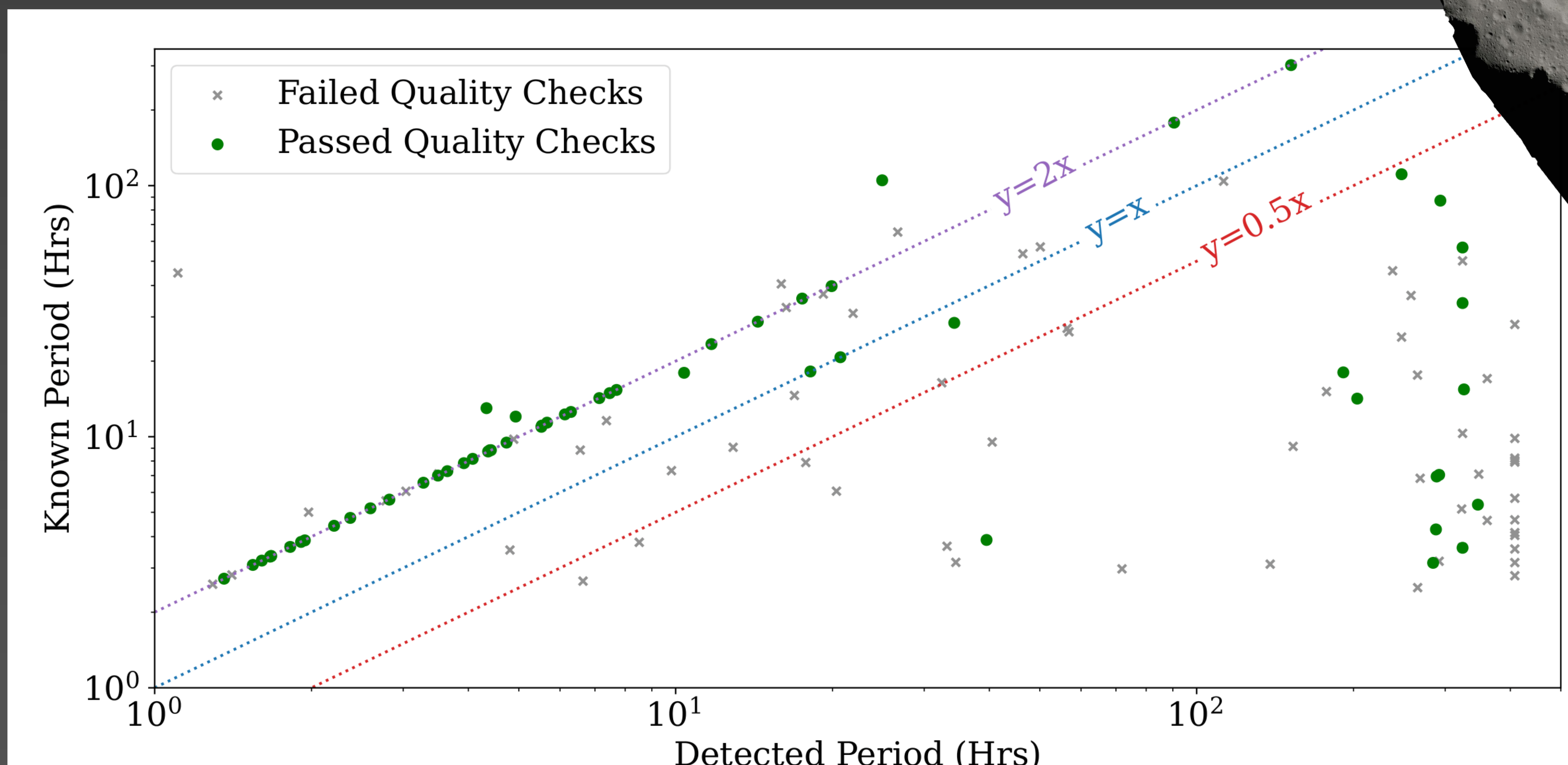


**Figure 1:** Lightcurves of the asteroid (5254) Ulysses for the interpolated positions (blue), centre of mass positions (Orange) and *TESSELLATE* detection matches (black).

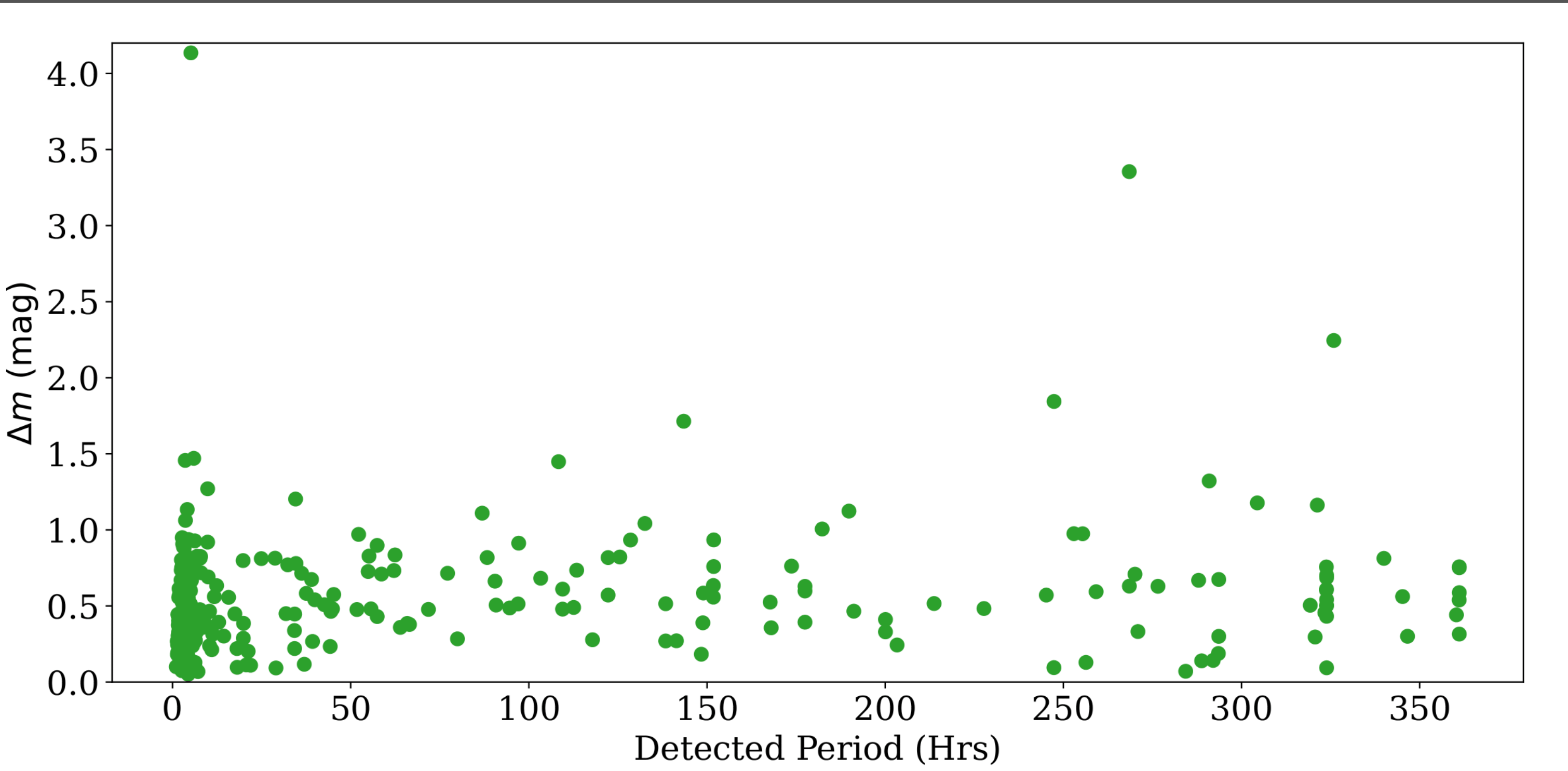


**Figure 2:** Upper Panel: An example periodogram of the same asteroid. Lower Panel: The model fit to the lightcurve.

## TESS can give accurate asteroid rotation periods.



**Figure 3:** Comparison of detected period and known period for all the asteroids in the field and the Lightcurve Database (LCDB [3]) (grey), and those that passed the quality checks (green).



**Figure 4:** Detected periods against the amplitude variation of all the asteroids that pass the quality checks.

## The amplitude of variation is constant with rotation period.