PHT Data Validation Report
TIC 55525572

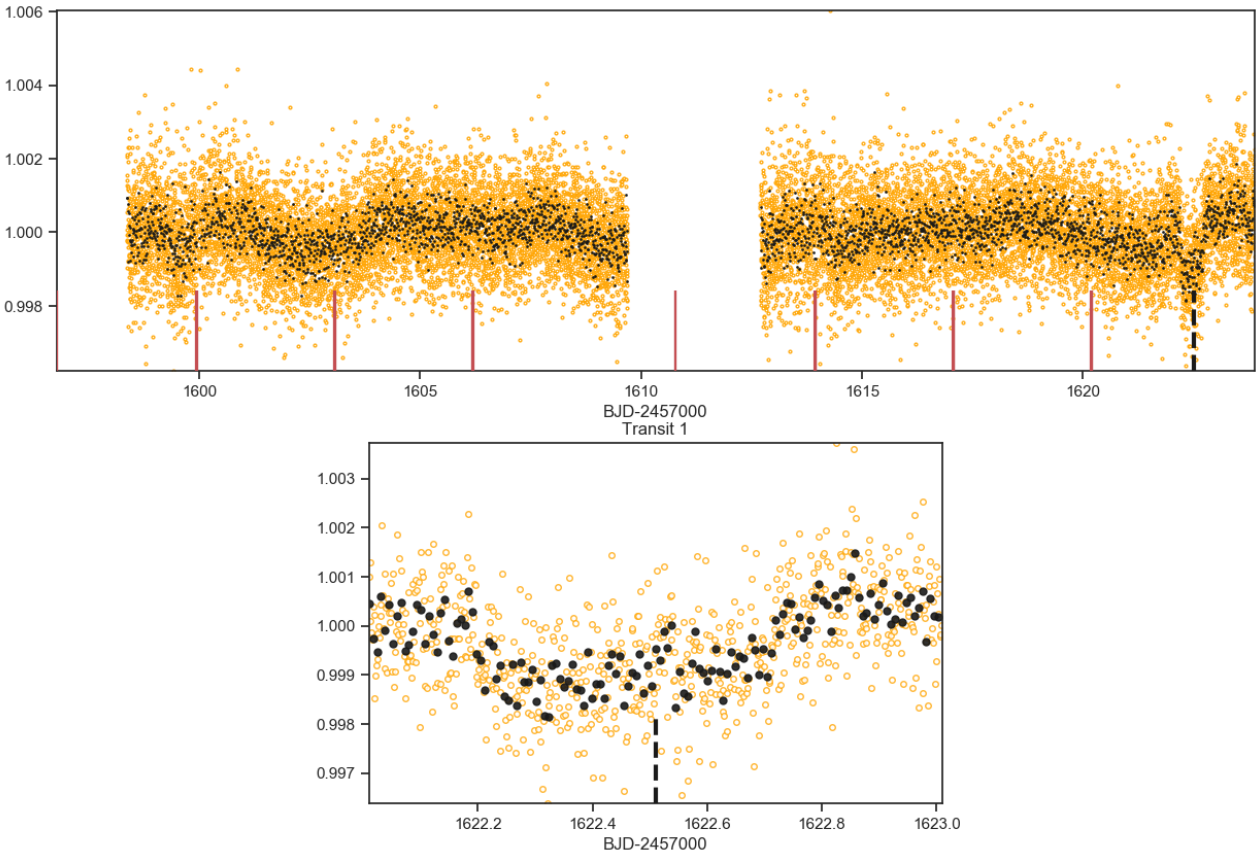

Fig 1. Full lightcurve for target TIC 55525572. The solid red lines at the bottom of the figure indicated the times of the momentum dumps and the dashed black line(s) show the time(s) of the marked transit event(s).

Target Properties

Parameter	Value	Unit
TIC ID	55525572	
RA	72.6941	degrees
Dec	-60.9055	degrees
Radius	1.9325	Solar Radii
Tess Mag	9.8200	Mag
Teff	5824	Kelvin
Sectors	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13 *	
TCE	-	
TOI	813.01	

Table 1. Stellar properties of the TIC 55525572. * List of the sectors in which the target will be has been observed.

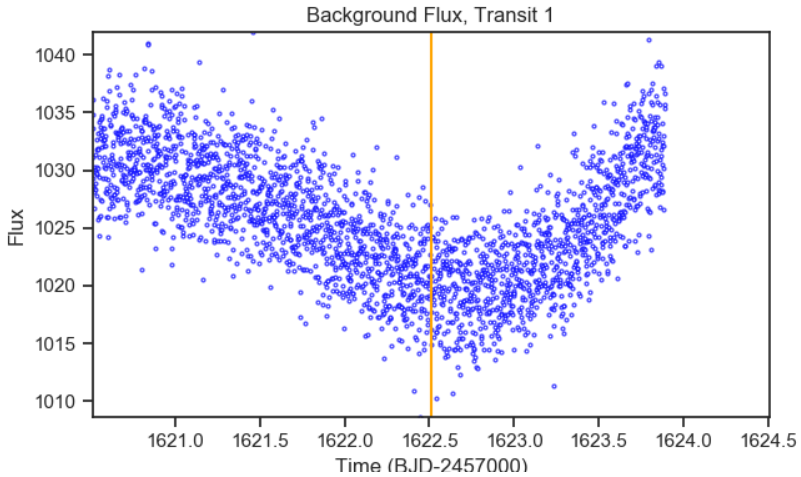

Fig 2. Background flux vs. time around the time of each transit-like event. The vertical orange line indicates the time of the transit-like event.

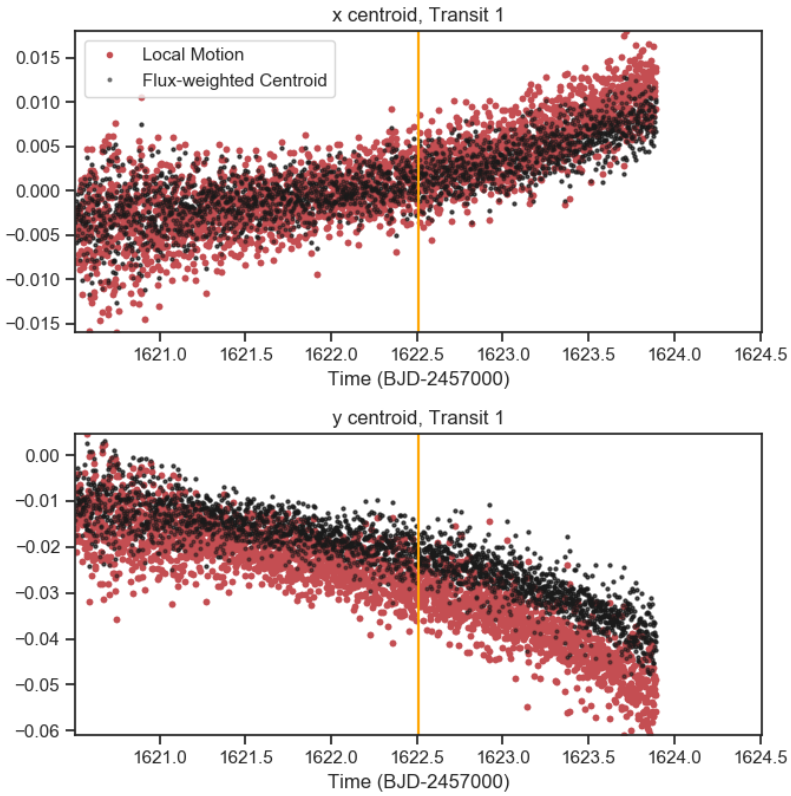

Fig 3. The x and y centroid positions around the time of each transit-like event. The black points shows the CCD column and row position of the target's flux-weighted centroid. The red shows the CCD column and row local motion differential velocity aberration (DVA), pointing drift, and thermal effects. The vertical orange line indicates the time of the transit-like event

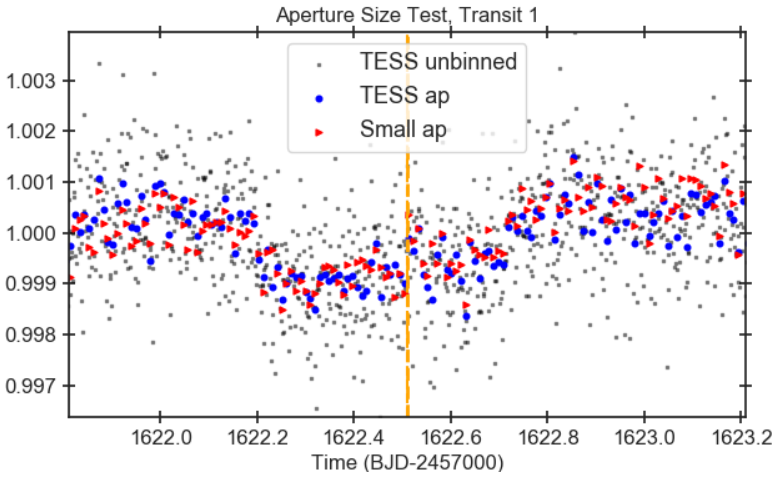

Fig 4. The lighcurve around the time of each transit-like event extracted with the SPOC pipeline defined aperture (binned:blue, unbinned:grey) and the with an aperture that is 40 per cent smaller (red). The flux is extracted from the target pixel files (TPFs) and has not been detrended or corrected for systematics. The vertical orange line indicates the time of the transit-like event.

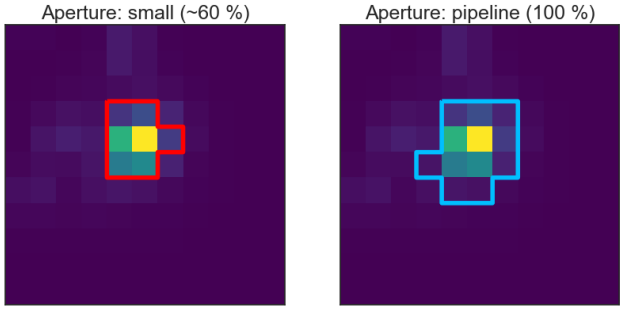

Fig 5. The apertures used to extract the lightcurves. The blue aperture on the right shows the optimum aperture determined by the SPOC pipeline, which is used for the extraction of 2-minute cadence light curves shown in Figure 1. The red outline on the left shows an aperture that is around 40 per cent smaller than the SPOC pipeline aperture which was used to extract the red lightcurve shown in Figure 4.

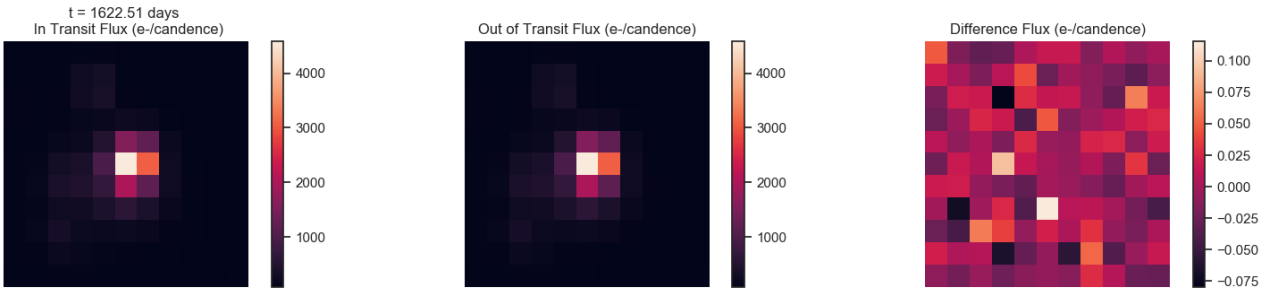

Fig 6. Diffrence images for target TIC 55525572 for each transit like event. Left: mean in-transit flux(left). Middle: mean out-of-transit flux. Right: difference between the mean out-of-transit and mean in-transit flux. Ensure that the change in brightness occurs on target.

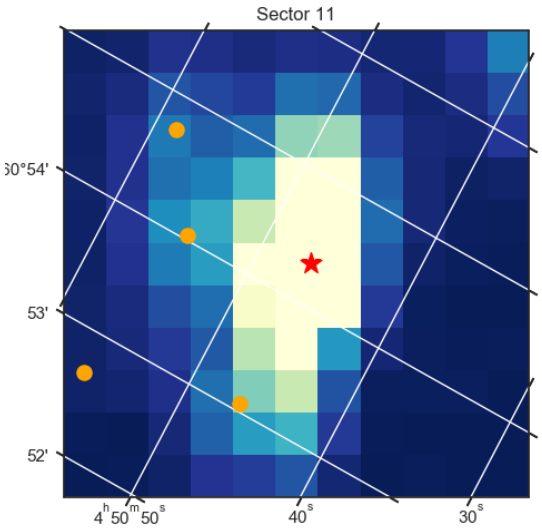

Fig 7. Left: The locations of nearby GAIA DR2 stars with mag < 15 (orange circle) within the Tess Cut Out around TIC 55525572 (red star). Only shown for one sector. Right: SDSS image of the surrounding field.

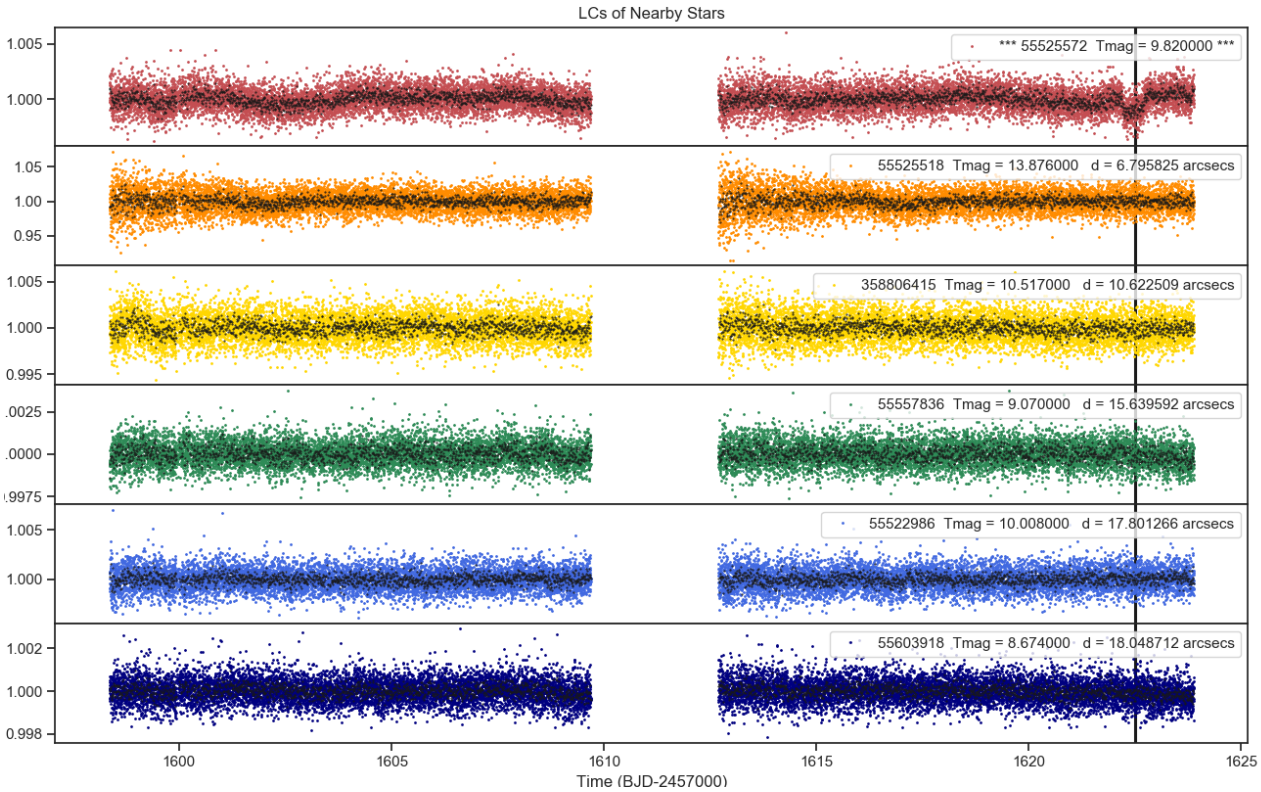

Fig 8. Lightcurves of the five closest stars to target 55525572 (top pannel). The distances to the target star and the TESS magnitudes are shown for each star. Only ever shown for one sector.

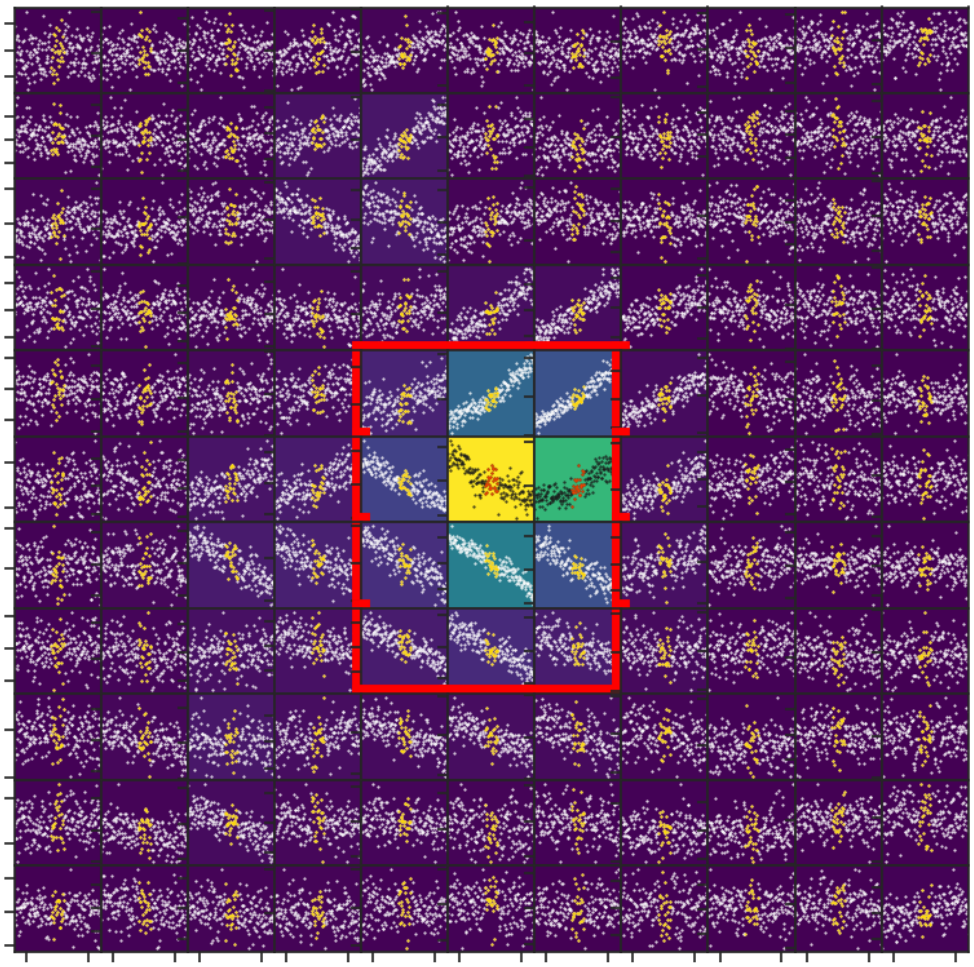

Fig 9. Normalised flux extracted for each pixel, using the SPOC pipeline mask, around the time of the transit-like event. The orange/red data points show the in-transit data. The solid red lines show the SPOC pipeline mask. Only shown for one sector.