

# TIC 229012892

Eclipsing binary candidate dossier - Star Vetter

PERIOD ALIAS

## BLS EPHEMERIS

Period 2.068194 d (ALIASED, see below)  
-> corrected period: 4.136388 d  
Epoch (t0) 3182.6781 BTJD  
Duration 0.1700 d  
Depth 0.213 % (2,131 ppm)  
SNR 225.5

## CATALOG CROSS-MATCH (novelty)

|                              |          |
|------------------------------|----------|
| VSX                          | no match |
| ASAS-SN                      | no match |
| Gaia eclipsing-binary table  | no match |
| Gaia variable classification | no match |
| TESS EB catalog (Prsa+2022)  | no match |
| ExoFOP TOI list              | no match |

## INDEPENDENT CHECKS (f3i gates)

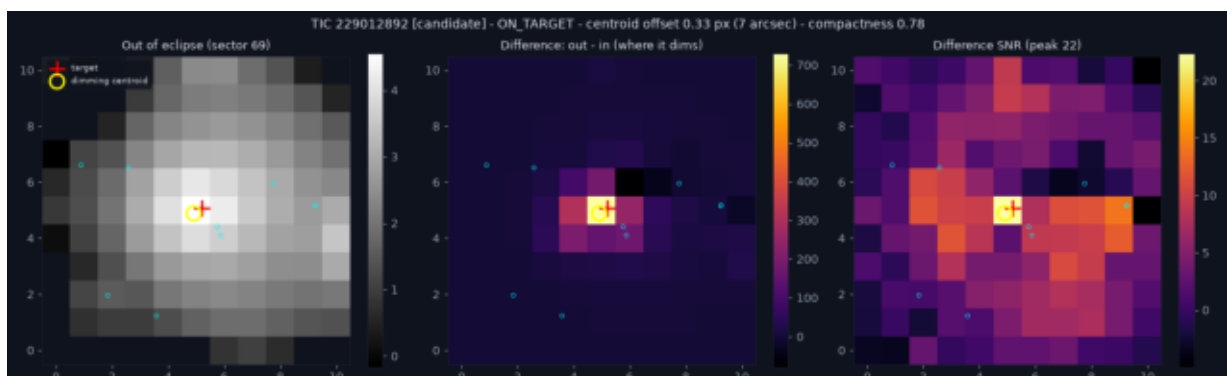
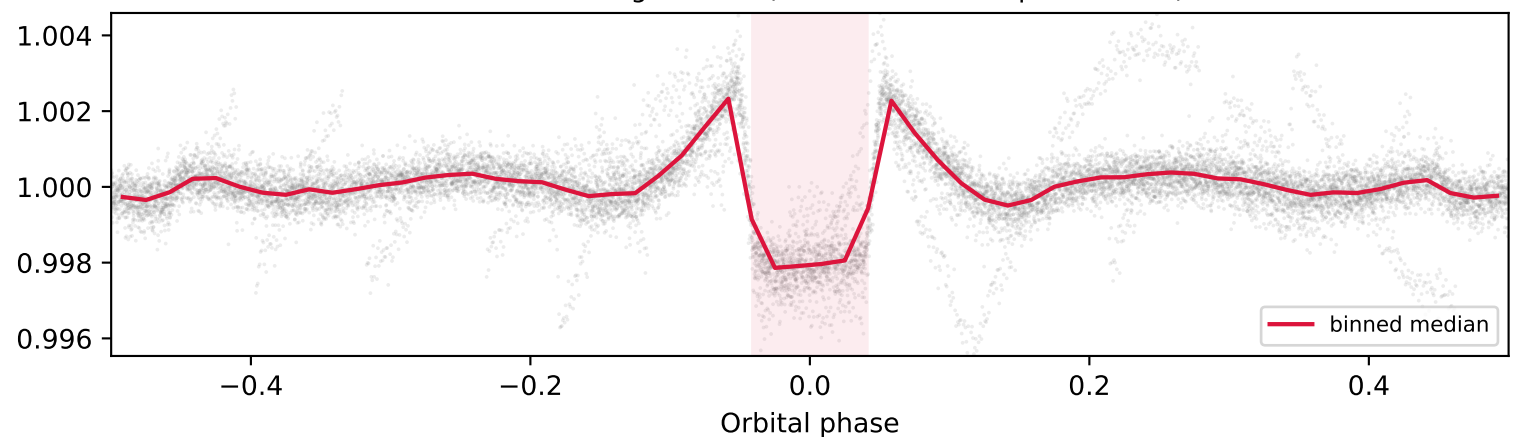
Eclipses observed 10 (gate  $\geq 3$ )  
Robust depth ratio 0.98 (gate  $\geq 0.50$ )  
Robust depth sigma 104.4 (gate  $\geq 7.0$ )  
Odd/even z-score 5.05 (ALIAS FLAGGED)  
Secondary eclipse not detected

Verdict: NOVEL

## PIXEL-LEVEL SOURCE CHECK (TESScut difference imaging)

Sector 69 light-curve dip in this sector: 115.1 sigma t0 refined by -0.0050 phase  
Difference-image peak SNR 22.37 (gate  $\geq 5.0$ ) Compactness 0.78 (gate  $\geq 0.50$ )  
Dimming centroid offset 0.33 px (7 arcsec) (gate  $\leq 1.0$  px, i.e. on the target)  
Nearest bright-enough neighbour in cutout: none within the cutout

Phase-folded light curve (shaded = BLS eclipse window)



Caveat (PERIOD ALIAS): Odd/even eclipse-depth z-score is 5.05 (gate  $> 3.0$ ): alternating eclipses differ significantly in depth, the signature of a true period double what BLS found. Pixel-check confirmation and eclipse timing are unaffected - report the corrected period, 4.136388 d, in any write-up.