

TIC 96687087

Eclipsing binary candidate dossier - Star Vetter

PERIOD ALIAS

BLS EPHEMERIS

Period 3.865444 d (ALIASSED, see below)
-> corrected period: 7.730888 d
Epoch (t0) 1818.7275 BTJD
Duration 0.1700 d
Depth 10.759 % (107,587 ppm)
SNR 610.7

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)

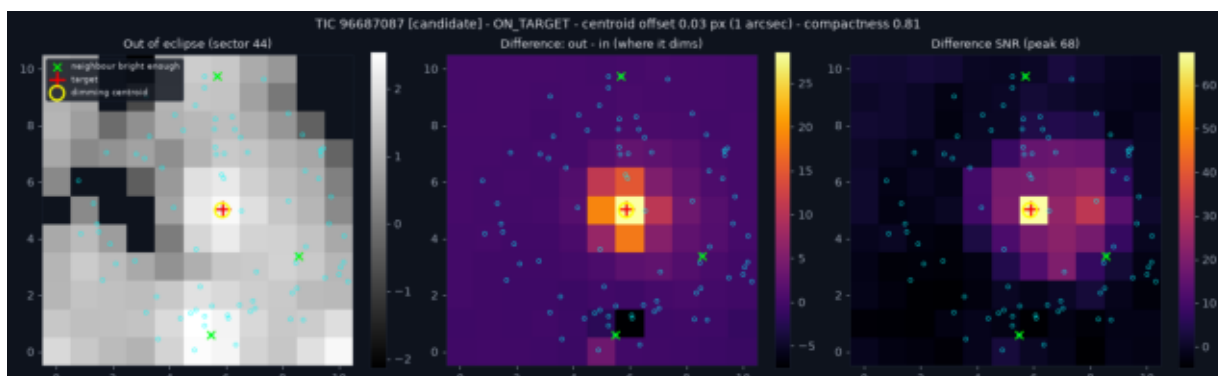
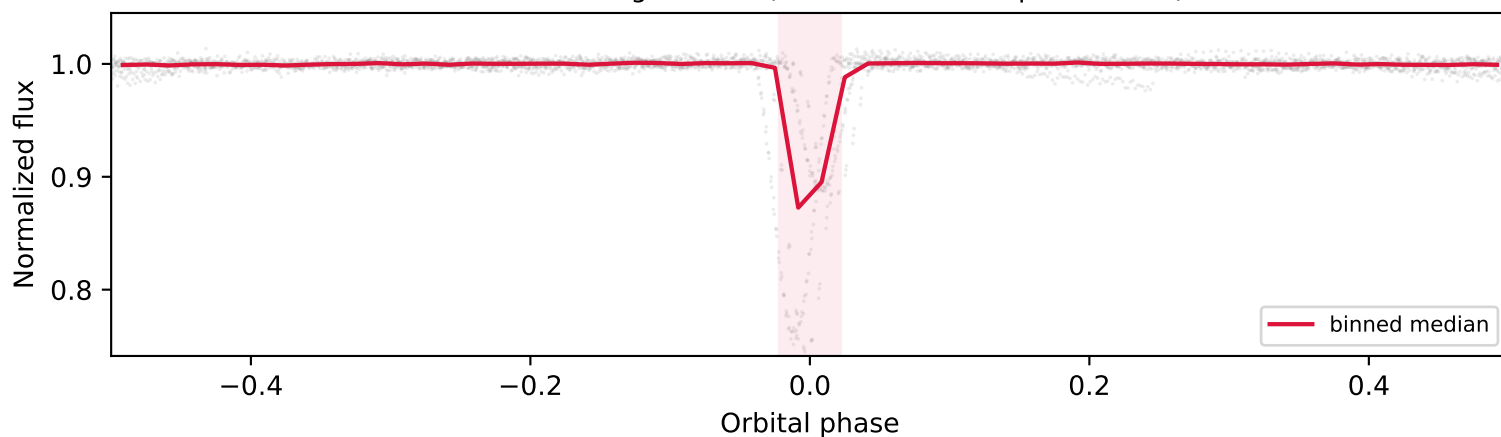
Eclipses observed 12 (gate ≥ 3)
Robust depth ratio 0.90 (gate ≥ 0.50)
Robust depth sigma 329.7 (gate ≥ 7.0)
Odd/even z-score 100.14 (ALIAS FLAGGED)
Secondary eclipse not detected

Verdict: NOVEL

PIXEL-LEVEL SOURCE CHECK (TESScut difference imaging)

Sector 44 light-curve dip in this sector: 253.5 sigma t0 refined by -0.0075 phase
Difference-image peak SNR 67.59 (gate ≥ 5.0) Compactness 0.81 (gate ≥ 0.50)
Dimming centroid offset 0.03 px (1 arcsec) (gate ≤ 1.0 px, i.e. on the target)
Nearest bright-enough neighbour in cutout: TIC 96687067
3.13 px away, dTmag +2.30 - farther from the dimming than the target

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



Caveat (PERIOD ALIAS): Odd/even eclipse-depth z-score is 100.14 (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, 7.730888 d, in any write-up.