

TIC 320341748

Eclipsing binary candidate dossier - Star Vetter

PERIOD ALIAS

BLS EPHEMERIS

Period 8.127059 d (ALIASED, see below)
-> corrected period: 16.254118 d
Epoch (t0) 1499.1383 BTJD
Duration 0.1200 d
Depth 4.024 % (40,239 ppm)
SNR 80.0

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)

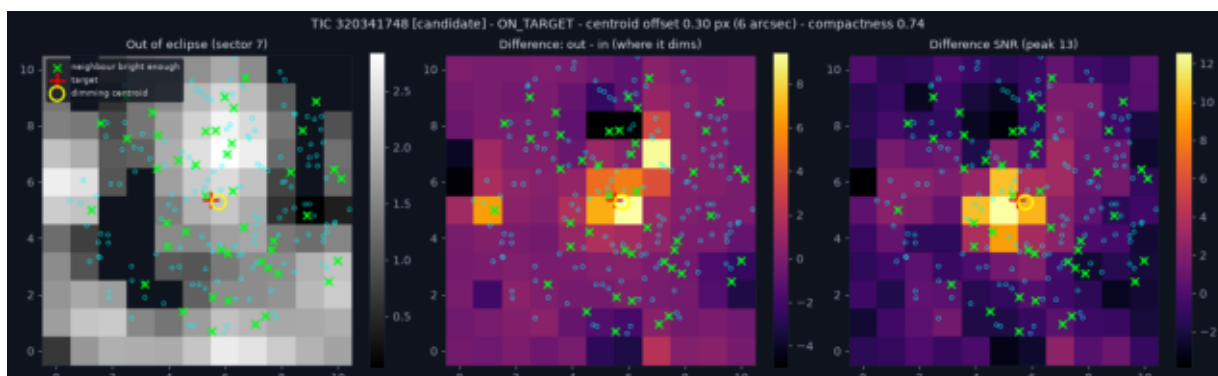
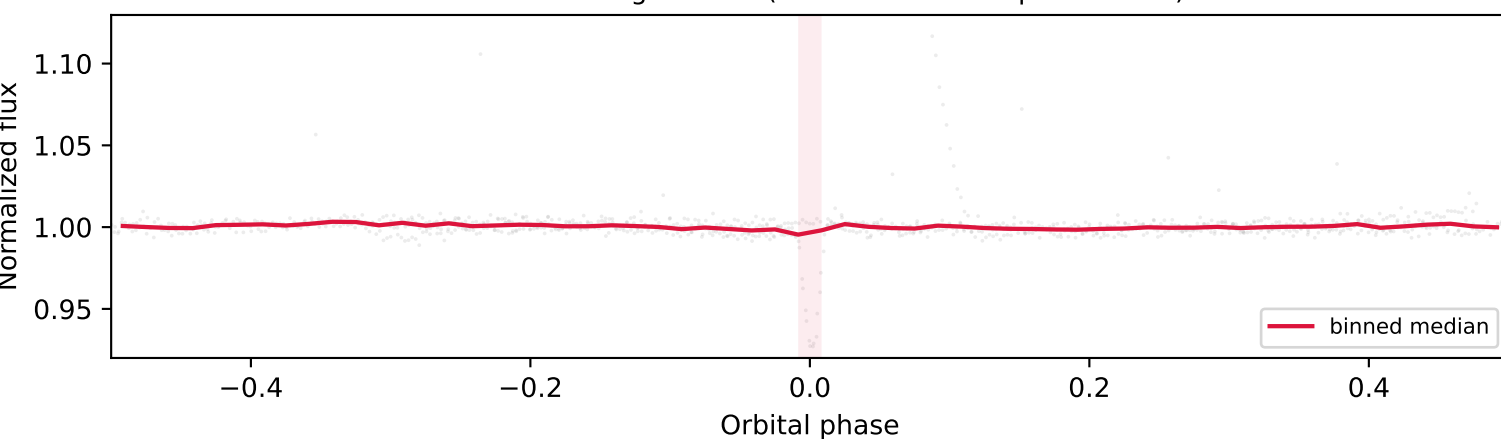
Eclipses observed 3 (gate ≥ 3)
Robust depth ratio 1.13 (gate ≥ 0.50)
Robust depth sigma 45.2 (gate ≥ 7.0)
Odd/even z-score 9.05 (ALIAS FLAGGED)
Secondary eclipse not detected

Verdict: NOVEL

PIXEL-LEVEL SOURCE CHECK (TESScut difference imaging)

Sector 7 light-curve dip in this sector: 48.0 sigma t0 refined by 0.0000 phase
Difference-image peak SNR 12.58 (gate ≥ 5.0) Compactness 0.74 (gate ≥ 0.50)
Dimming centroid offset 0.30 px (6 arcsec) (gate ≤ 1.0 px, i.e. on the target)
Nearest bright-enough neighbour in cutout: TIC 320341750
0.52 px away, dTmag +3.15 - 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 9.05 (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, 16.254118 d, in any write-up.