

KIC 008622555

Q1-17 DR25 TCE Parameters

| TCE | Run Type | KOI? | Period (Days) | Epoch (BKJD) | Depth (ppm) | Duration (Hours) | MES | SNR | R_{\star} (R_{\odot}) | T_{\star} (K) | R_p (R_{\oplus}) | S_p (S_{\oplus}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 008622555-01 | OBS | No | 374.709554 | 134.214917 | 1401.2 | 76.645 | 10.6 | 23.5 | 0.95 | 6045 | 4.36 | 1.03 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 008622555-01 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—CENT_FEW_DIFFS—HALO_GHOST |

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

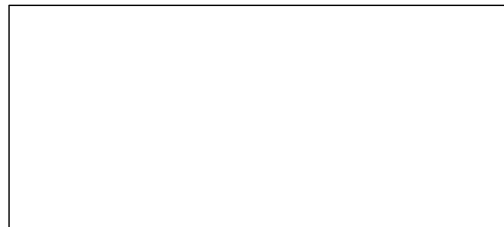
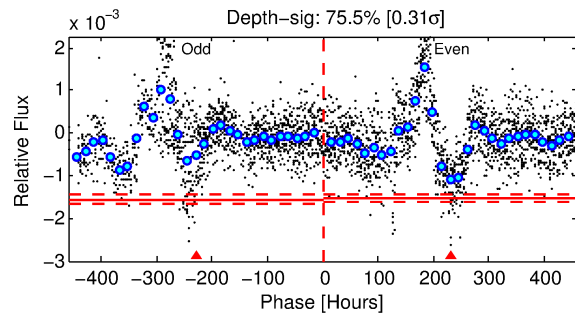
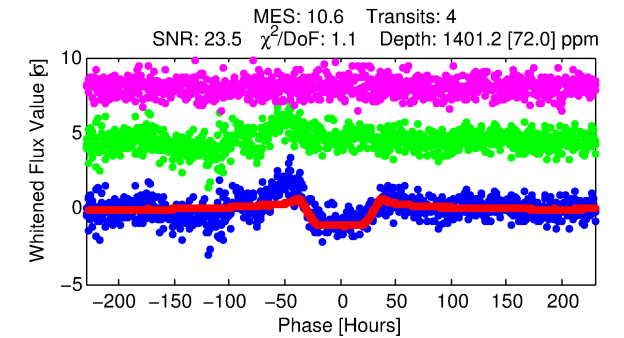
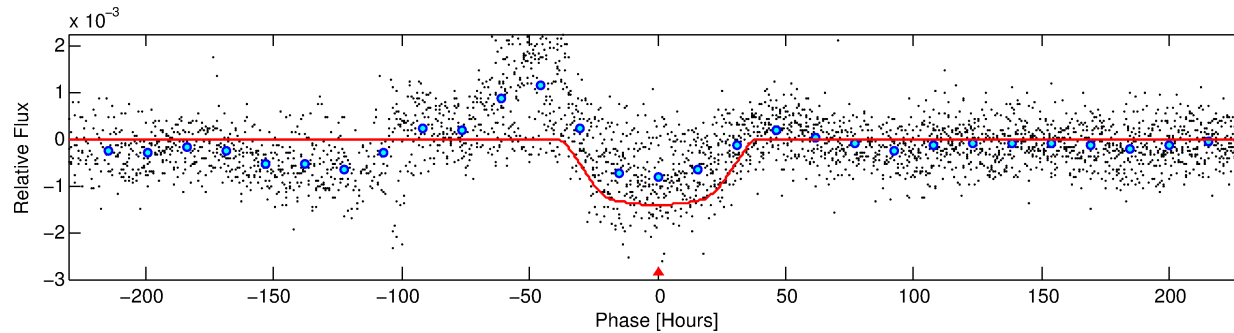
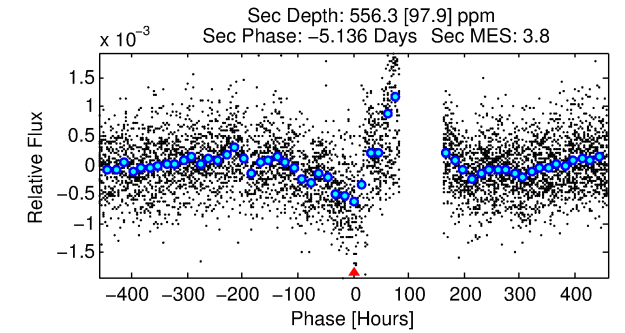
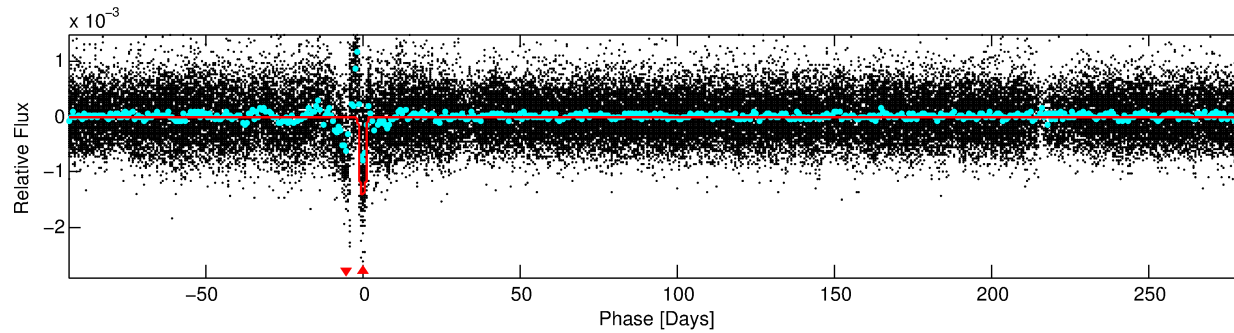
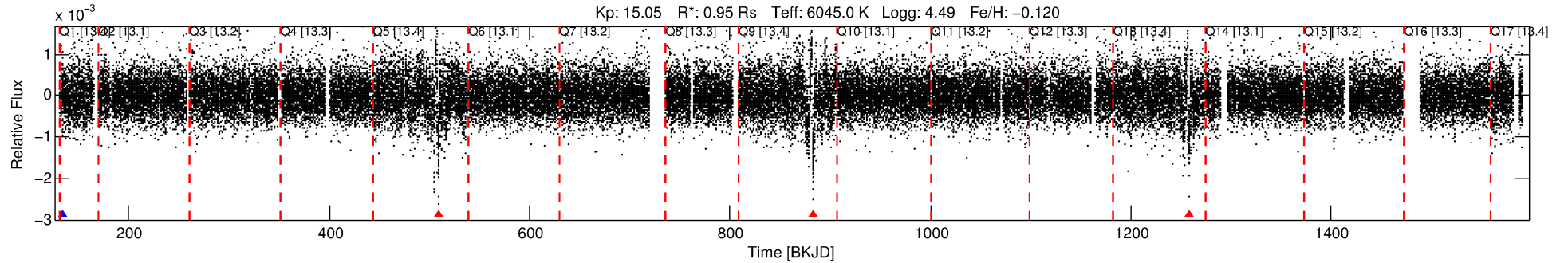
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008622555-01

No Significant Match Found

DV One-Page Summary

KIC: 8622555 Candidate: 1 of 1 Period: 374.710 d



DV Fit Results:

Period = 374.70955 [0.02563] d
Epoch = 134.2149 [0.0502] BKJD
Rp/R* = 0.0418 [0.0013]
a/R* = 17.63 [1.12]
b = 0.93 [0.01]
Seff = 1.03 [0.40]
Teq = 257 [25] K
Rp = 4.36 [1.31] Re
a = 1.0300 [0.2588] AU
Ag = 17115.11 [7030.13] [2.43σ]
Teffp = 4541 [259] K [16.47σ]

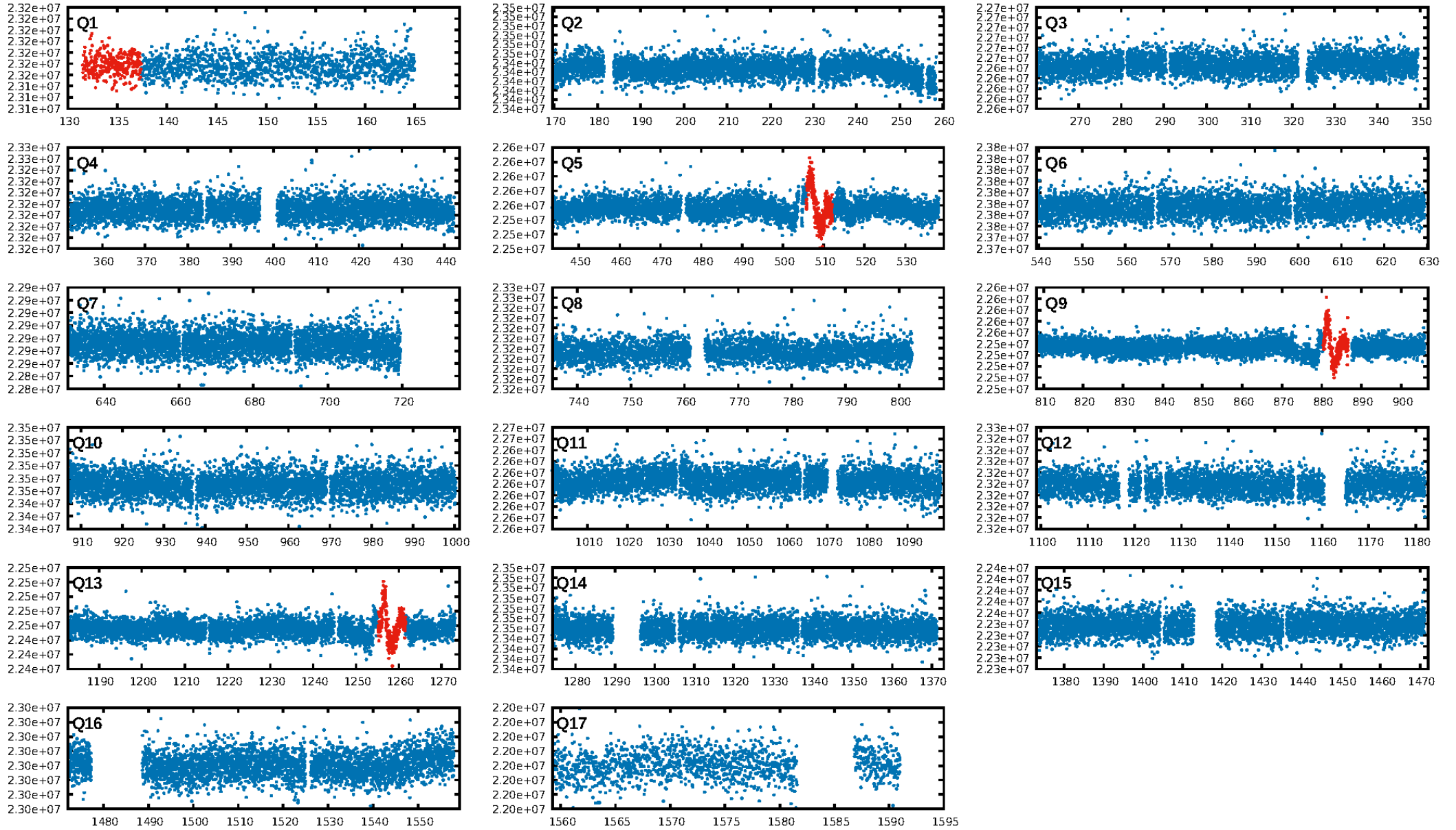
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.23e-29
RollingBand-fgt: 0.00 [0/3]
GhostDiagnostic-chr: 0.06203
Centroid-sig: 0.0%
Centroid-so: 1.401 arcsec [3.39σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [1/1]

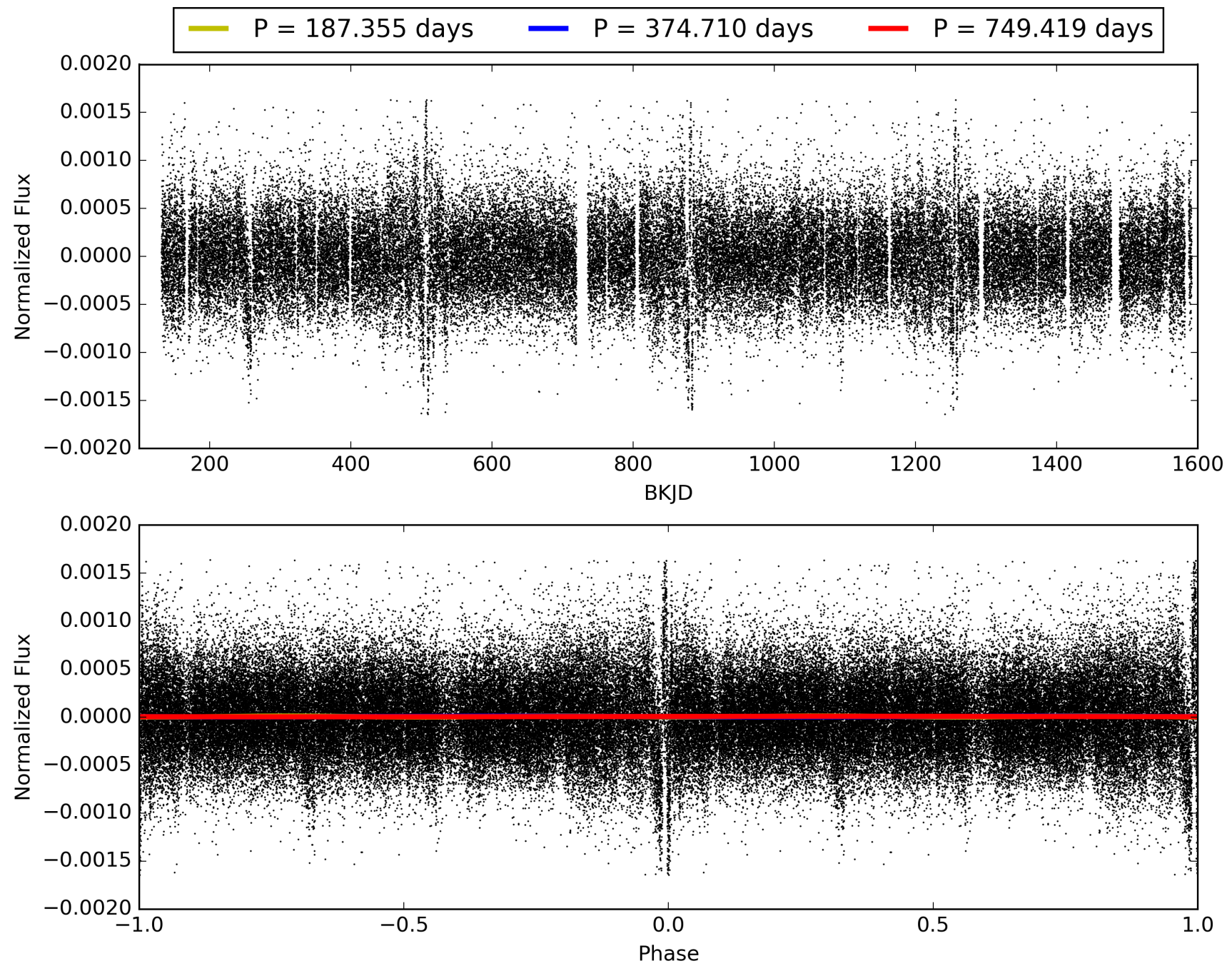
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:18:57 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008622555-01, PDC Light Curves

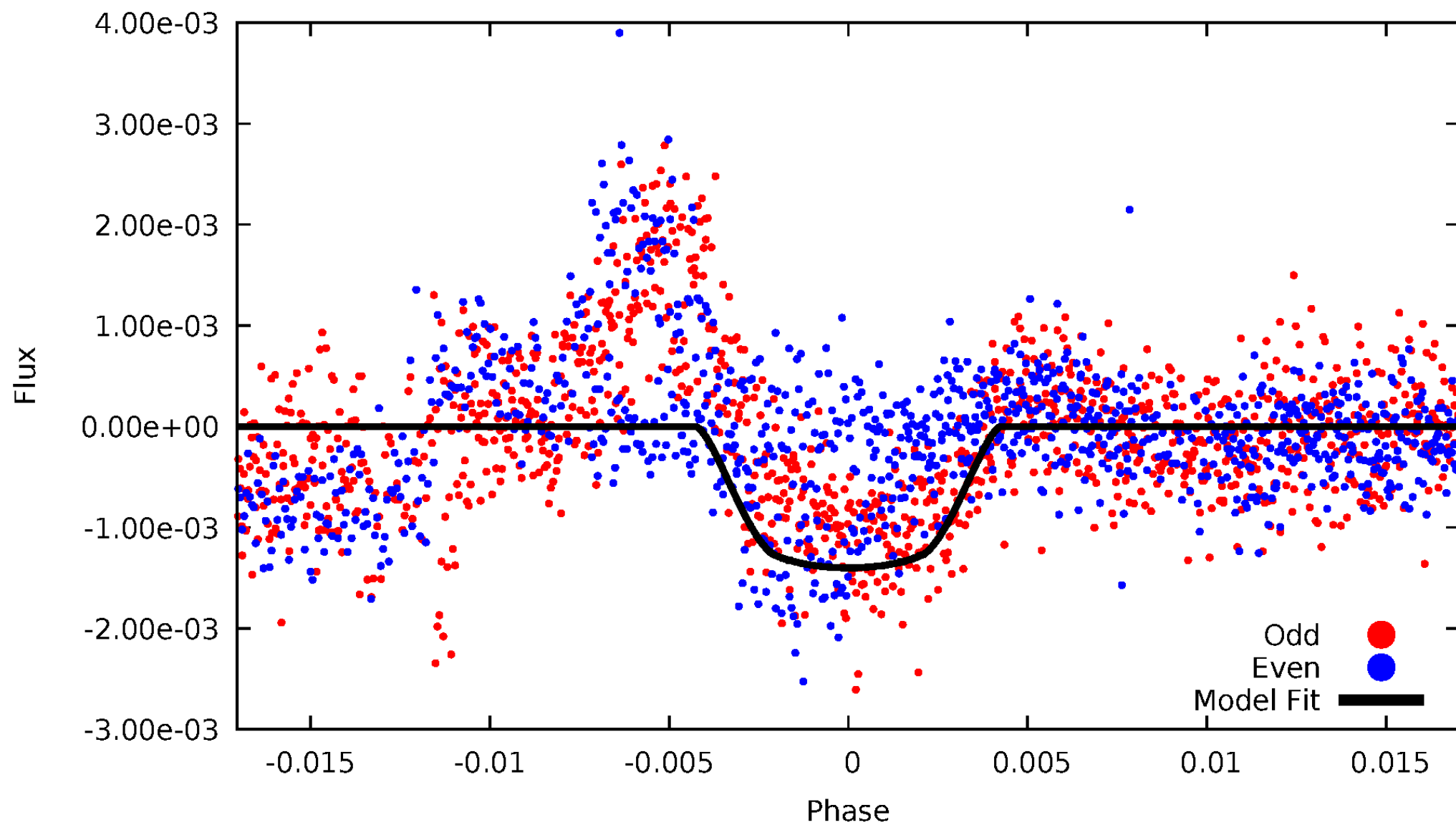


TCE 008622555-01



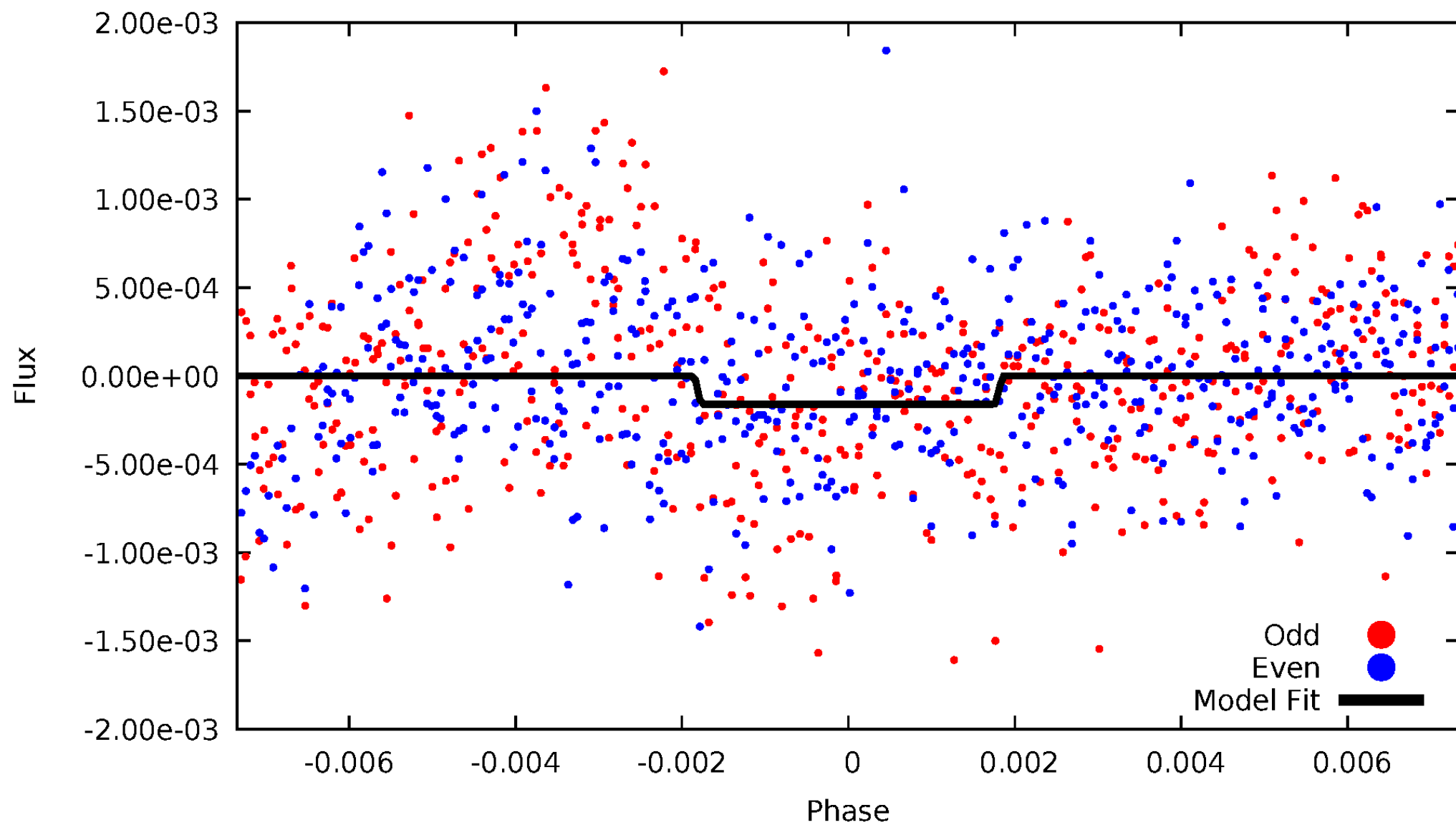
DV Odd/Even

TCE 008622555-01



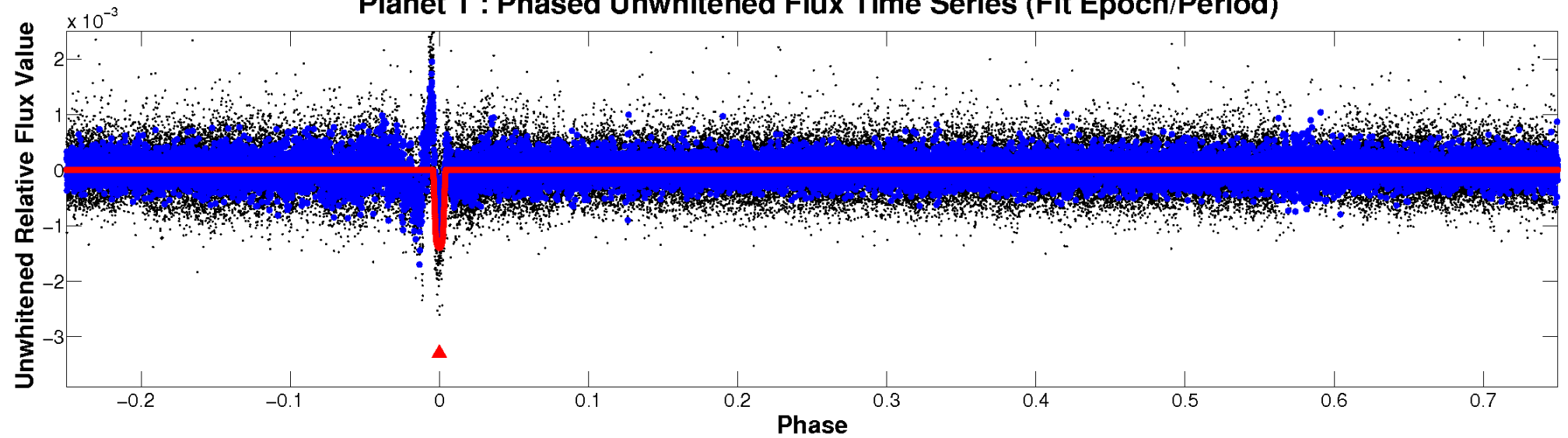
ALT Odd/Even

TCE 008622555-01

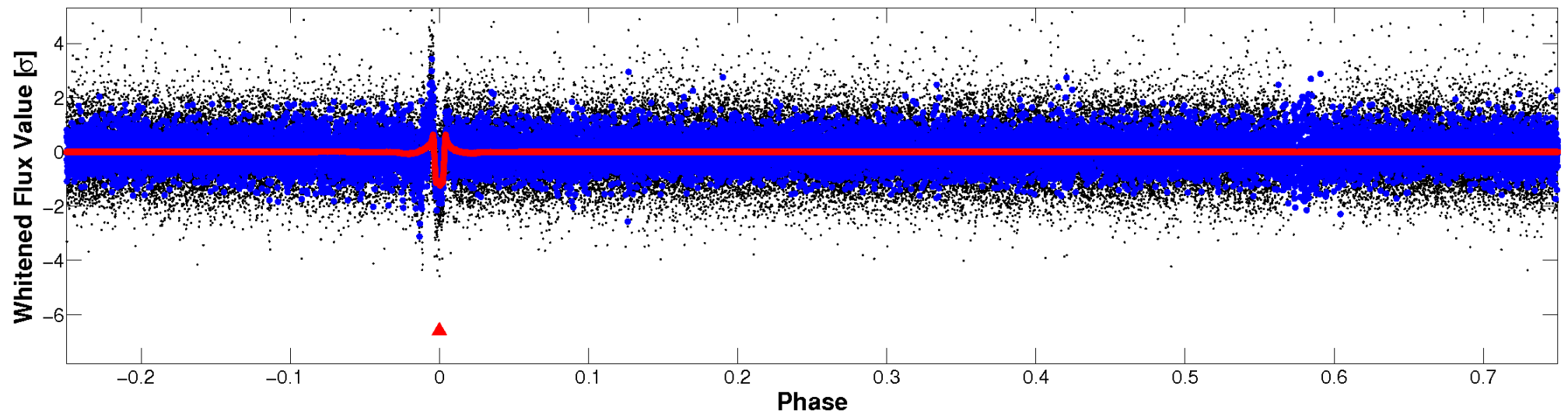


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

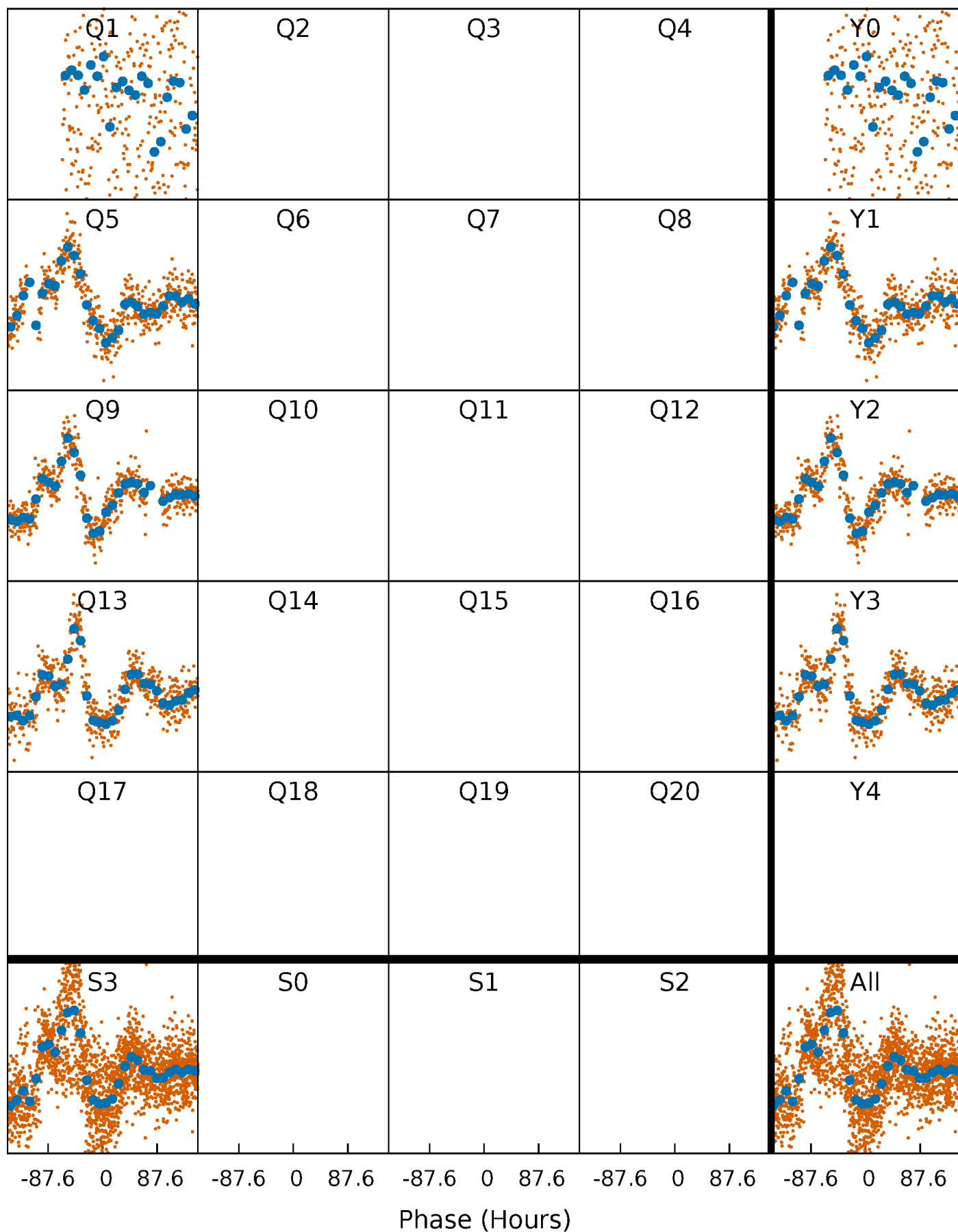


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



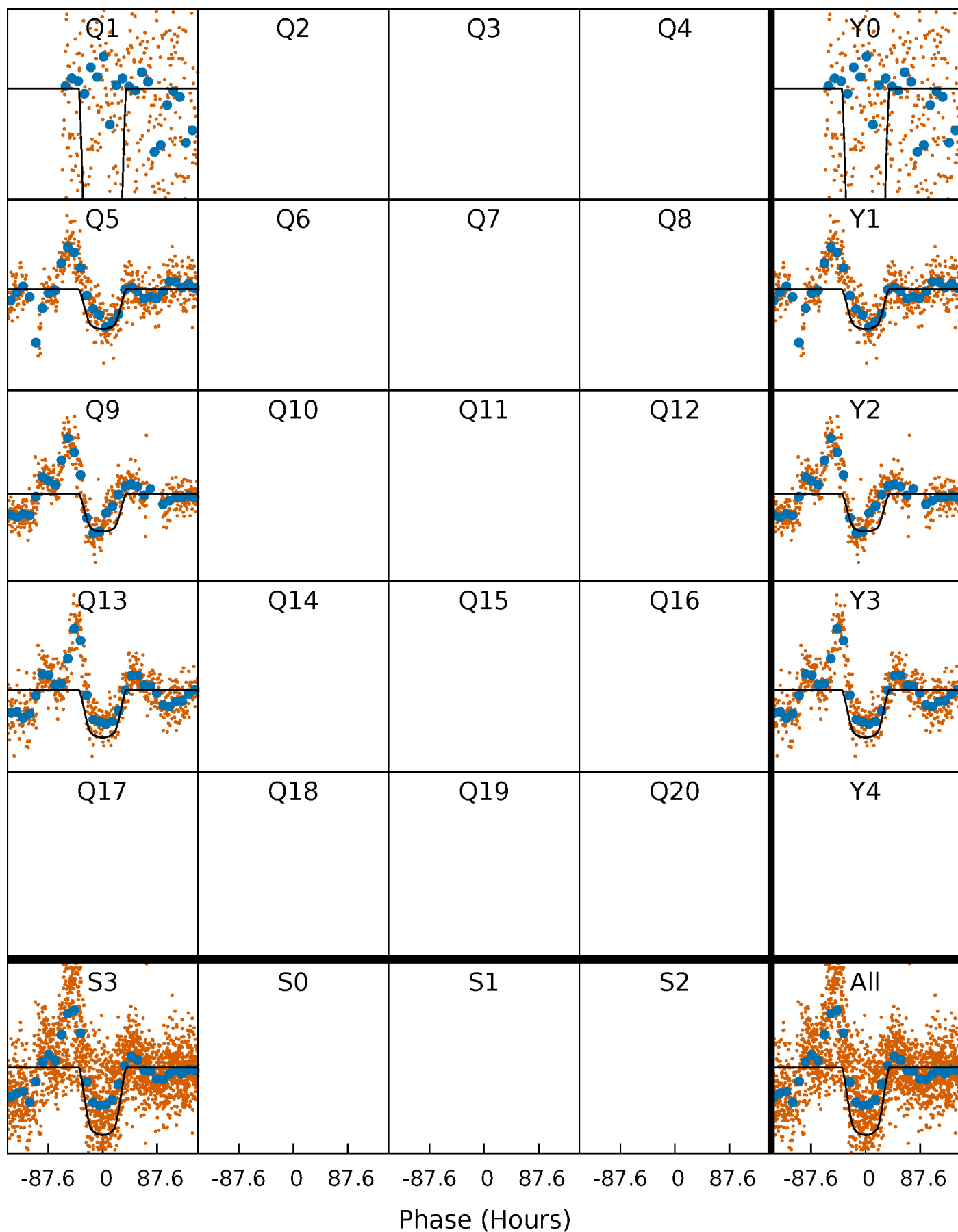
PDC Quarter-Phased Transit Curves

TCE 008622555-01 P=374.709554 Days $T_0=134.214917$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008622555-01 P=374.709554 Days $T_0=134.214917$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

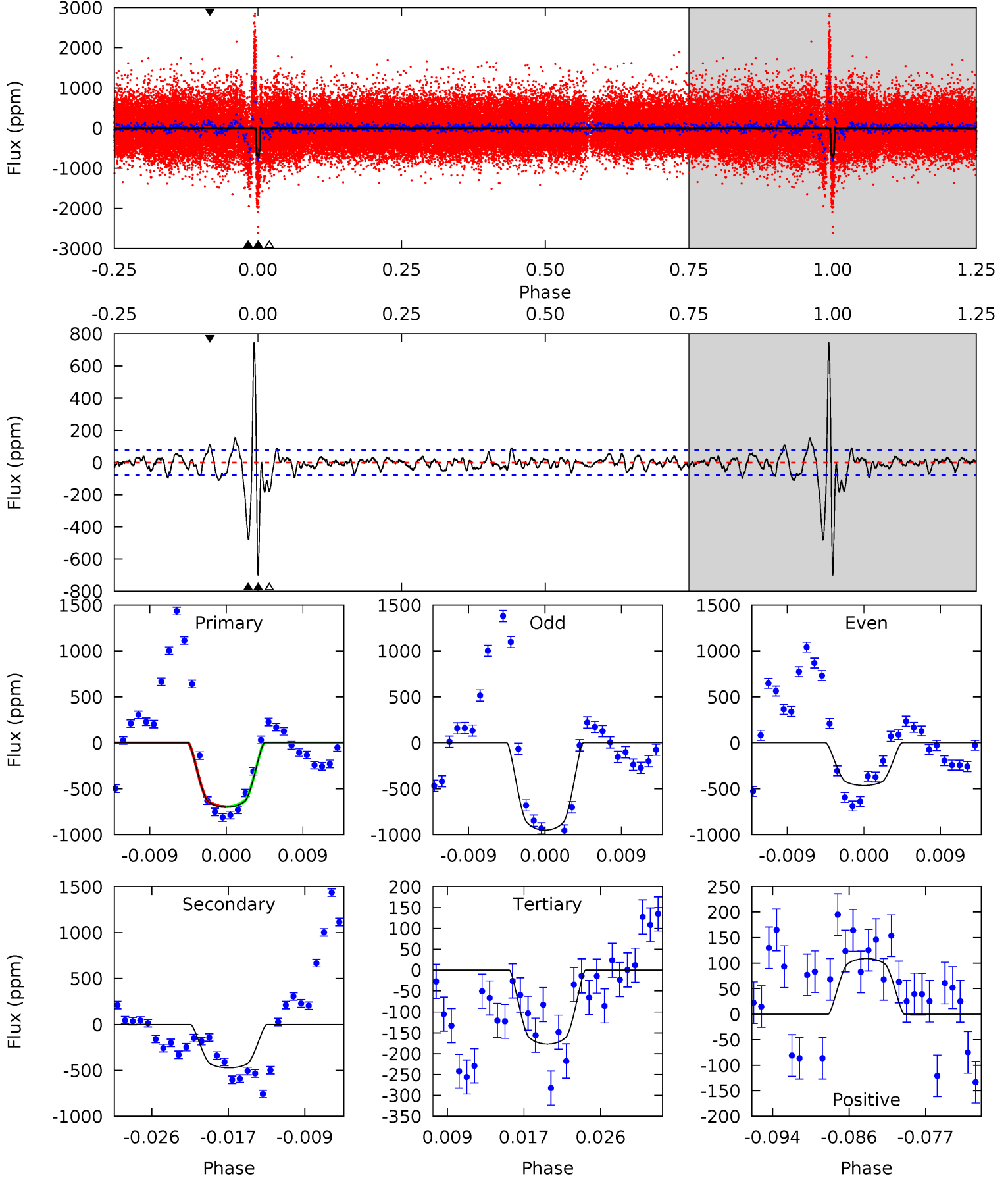
TCE 008622555-01 P=374.628889 Days $T_0=133.898377$ (BKJD)



DV Model-Shift Uniqueness Test

008622555-01, $P = 374.709554$ Days, $E = 134.214917$ Days

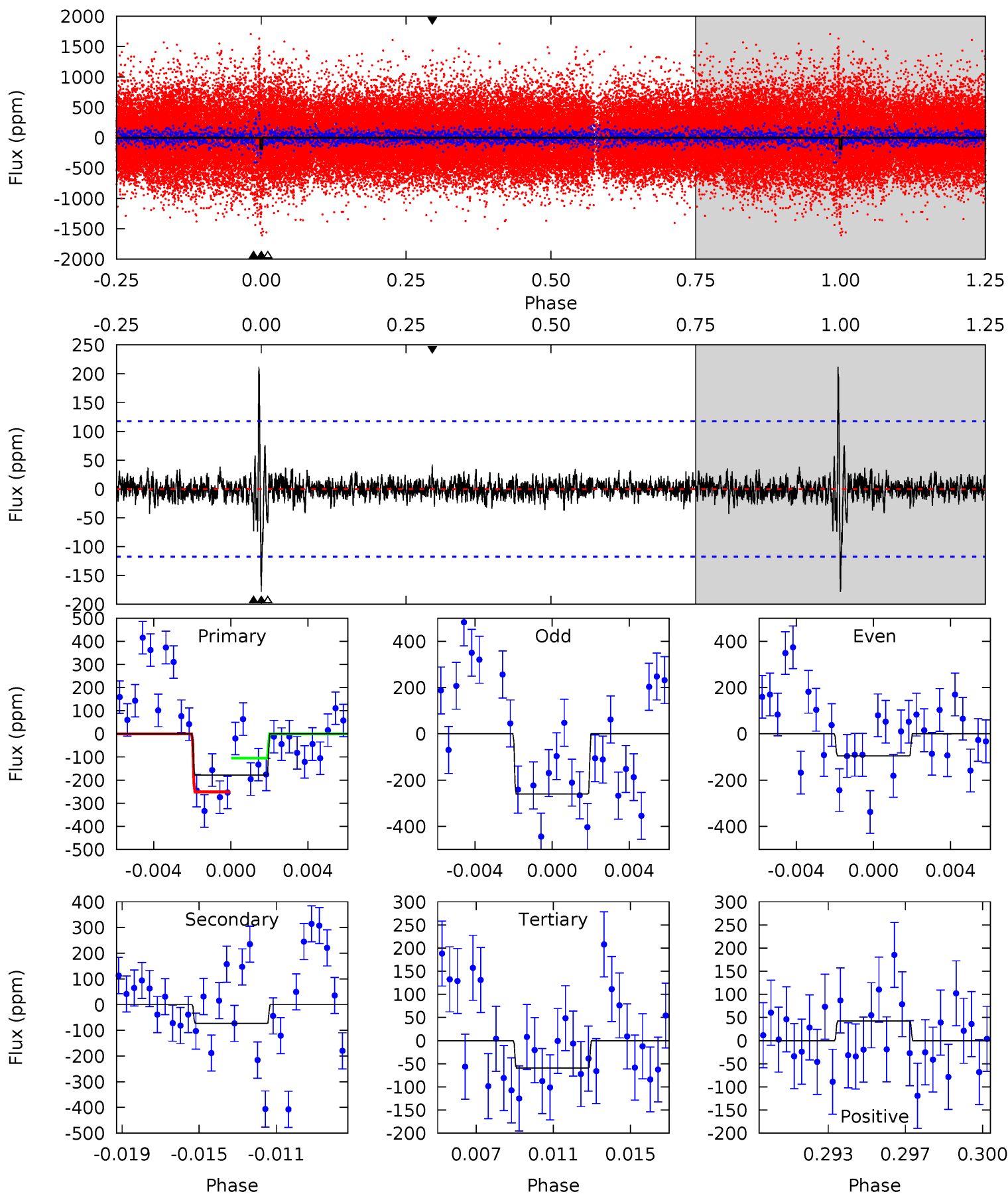
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 46.0 | 31.1 | 11.6 | 7.17 | 5.06 | 2.63 | 2.56 | 34.4 | 38.9 | 19.4 | 23.9 | 15.8 | 0.76 | 0.52 | 0.01 |



Alt Model-Shift Uniqueness Test

008622555-01, P = 374.628889 Days, E = 133.898377 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 7.91 | 3.24 | 2.62 | 1.89 | 5.21 | 2.90 | 0.61 | 5.29 | 6.02 | 0.62 | 1.35 | 3.67 | 0.84 | 0.54 | 3.23 |



Stellar Parameters For KIC 008622555

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6045^{+180}_{-198} | $4.494^{+0.050}_{-0.200}$ | $-0.120^{+0.300}_{-0.300}$ | $0.955^{+0.285}_{-0.095}$ | $1.038^{+0.139}_{-0.139}$ | $1.679^{+0.437}_{-0.880}$ |
| | +3%/-3% | +1%/-4% | +250%/-250% | +30%/-10% | +13%/-13% | +26%/-52% |
| Source | PHO1 | KIC0 | KIC0 | DSEP | | |

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008622555-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|---------------|------------------------|-------------------|----------------------|--------------------------|
| DV | -472 ± 15 | $4.47^{+0.70}_{-0.37}$ | 366^{+24}_{-17} | 4538^{+132}_{-140} | 13515^{+2329}_{-3056} |
| Alt. | -73 ± 23 | $1.38^{+0.23}_{-0.18}$ | 367^{+25}_{-18} | 5029^{+419}_{-437} | 21538^{+10197}_{-7922} |

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

Supplemental centroid analysis for 008622555-01. Kepler magnitude: 15.05. Transit SNR 23.51

There are 0 quarters with good PRF difference image offsets

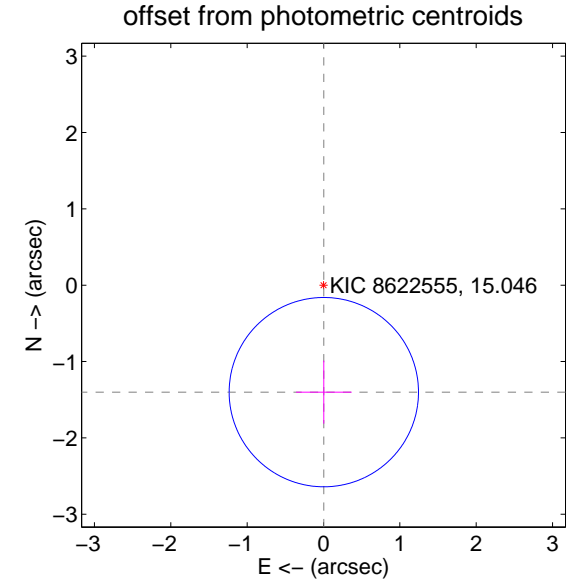
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|------------------|------------------|
| PRF-fit source offset from OOT | — | — | — | — |
| PRF-fit source offset from KIC position | — | — | — | — |
| photometric centroid source offset | 1.40 ± 0.41 | 3.39 | -0.00 ± 0.36 | -1.40 ± 0.41 |

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



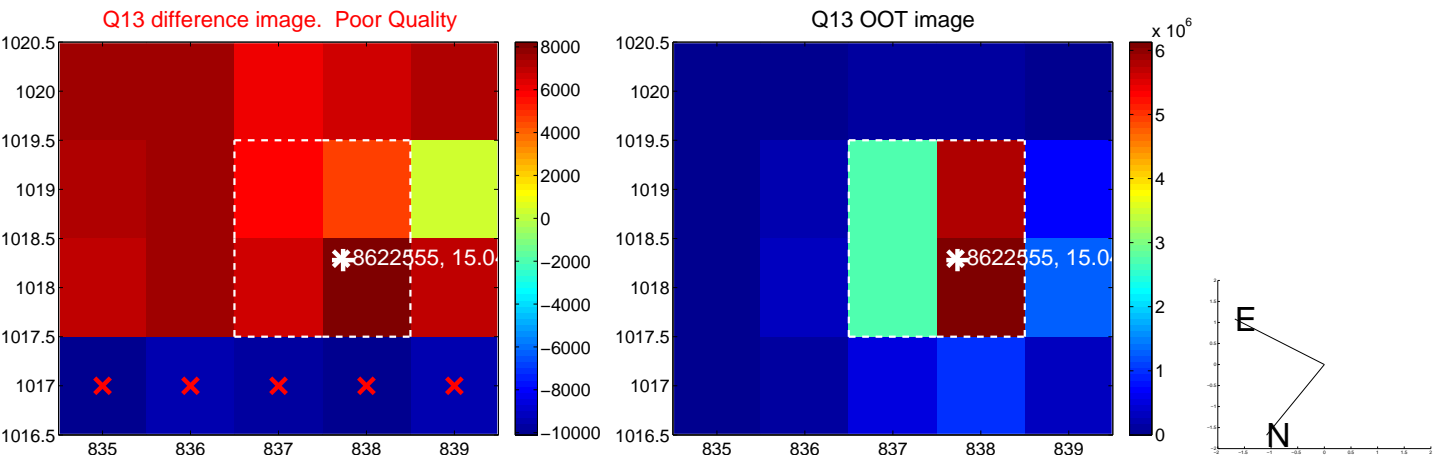
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



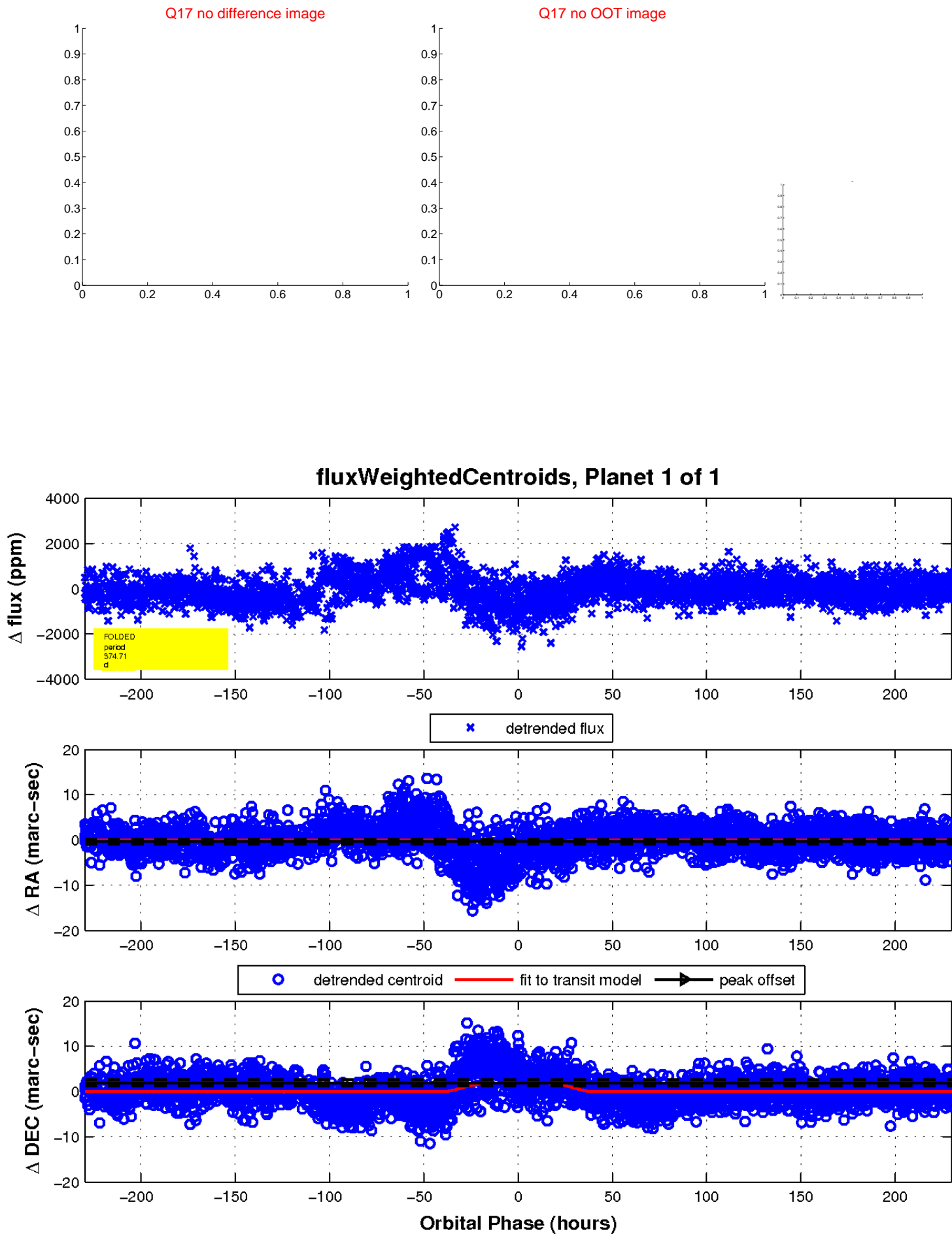
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

