

KIC 008155368

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|--------|--------|-----------------------------|-----------------|------------------------|------------------------|
| 008155368-01 | OBS | 5481.01 | 0.718646 | 131.886944 | 110738.1 | 2.457 | 4845.6 | 2367.7 | 0.93 | 5853 | 36.56 | 3801.48 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 008155368-01 | OBS | FP | 0.00 | 0 | 1 | 0 | 0 | SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—SEASONAL_DEPTH_ALT—CENT_KIC_POS |

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.

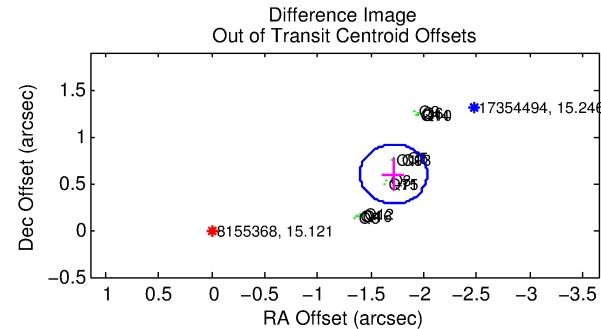
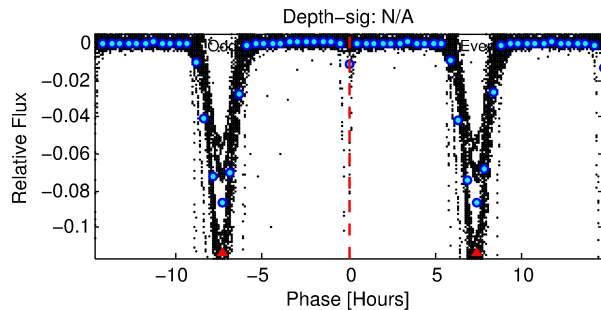
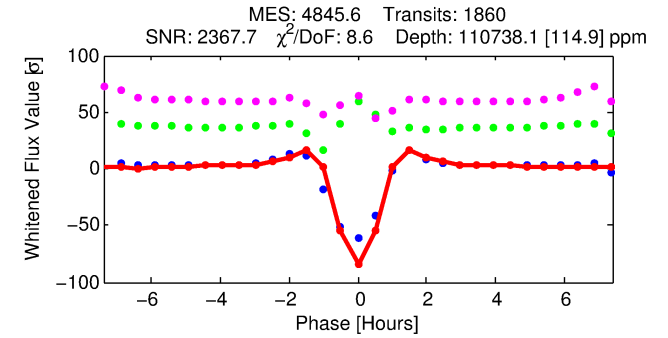
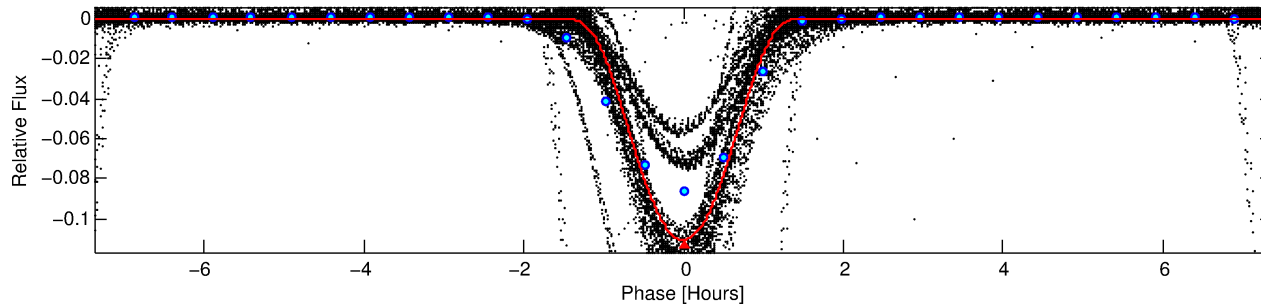
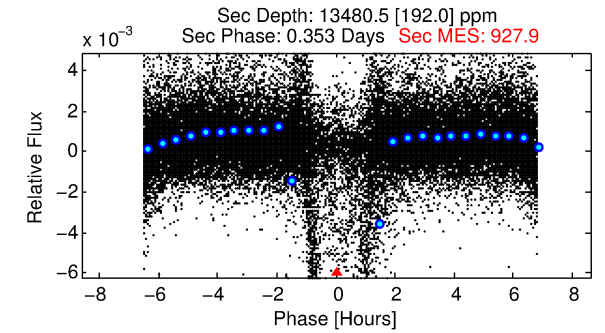
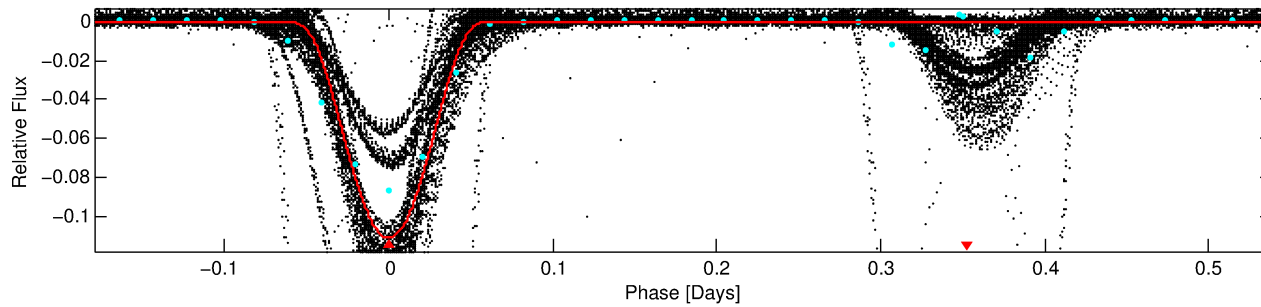
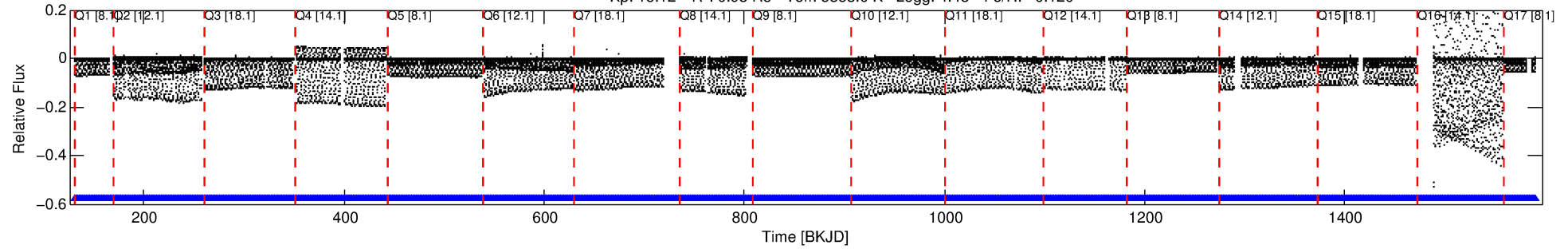
Ephemeris Match Information For 008155368-01

No Significant Match Found

DV One-Page Summary

KIC: 8155368 Candidate: 1 of 1 Period: 0.719 d
KOI: K05481.01 Corr: 0.977

Kp: 15.12 R*: 0.93 Rs Teff: 5853.0 K Logg: 4.48 Fe/H: -0.120



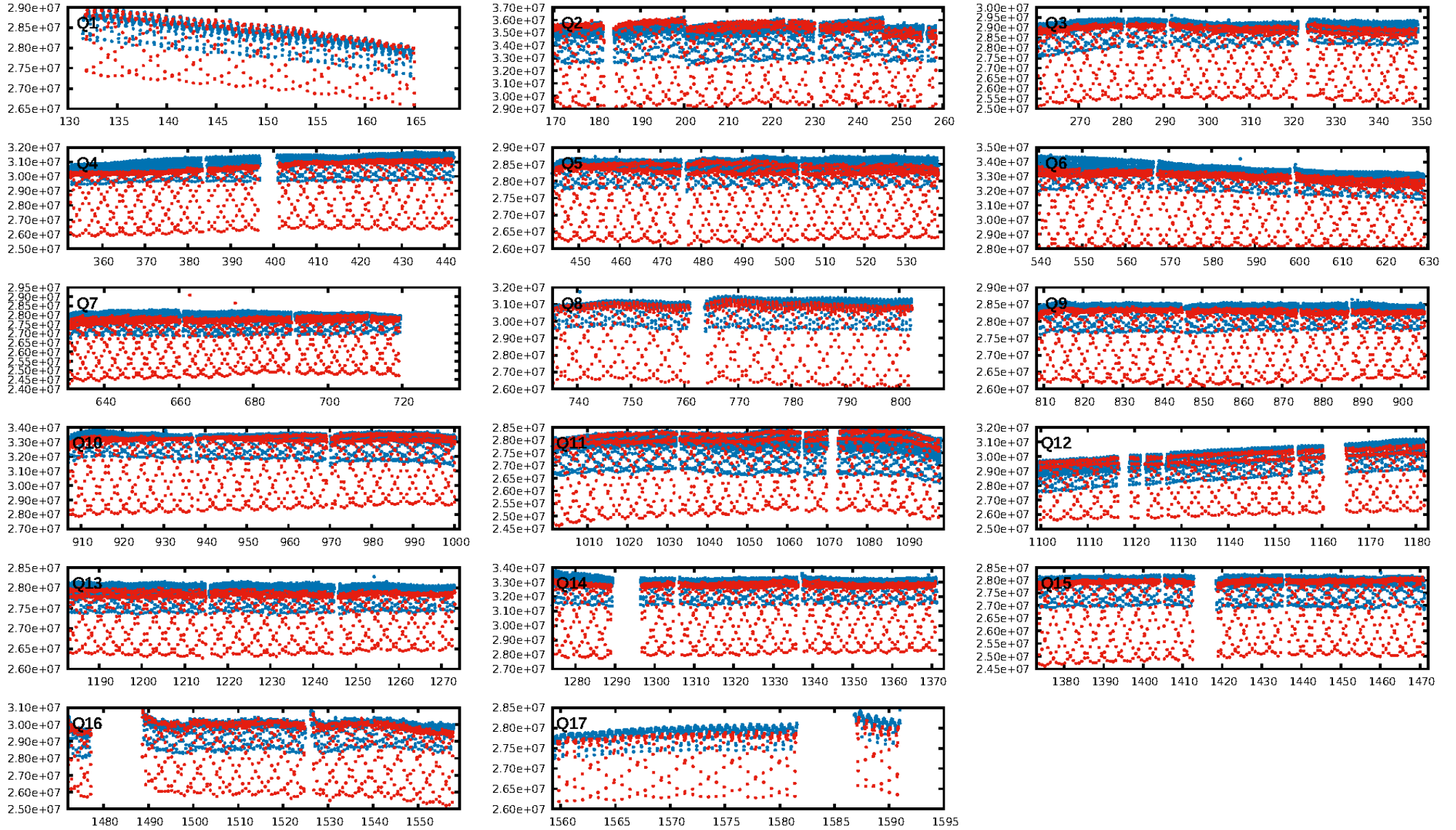
DV Fit Results:

Period = 0.71865 [0.00000] d
Epoch = 131.8869 [0.0000] BKJD
Rp/R* = 0.3587 [0.0026]
a/R* = 2.73 [0.00]
b = 0.74 [0.01]
Seff = 3801.48 [1427.69]
Teff = 2002 [188] K
Rp = 36.56 [10.57] Re
a = 0.0155 [0.0038] AU
Ag = 1.34 [0.48] [0.71σ]
Teffp = 3330 [101] K [6.2σ]

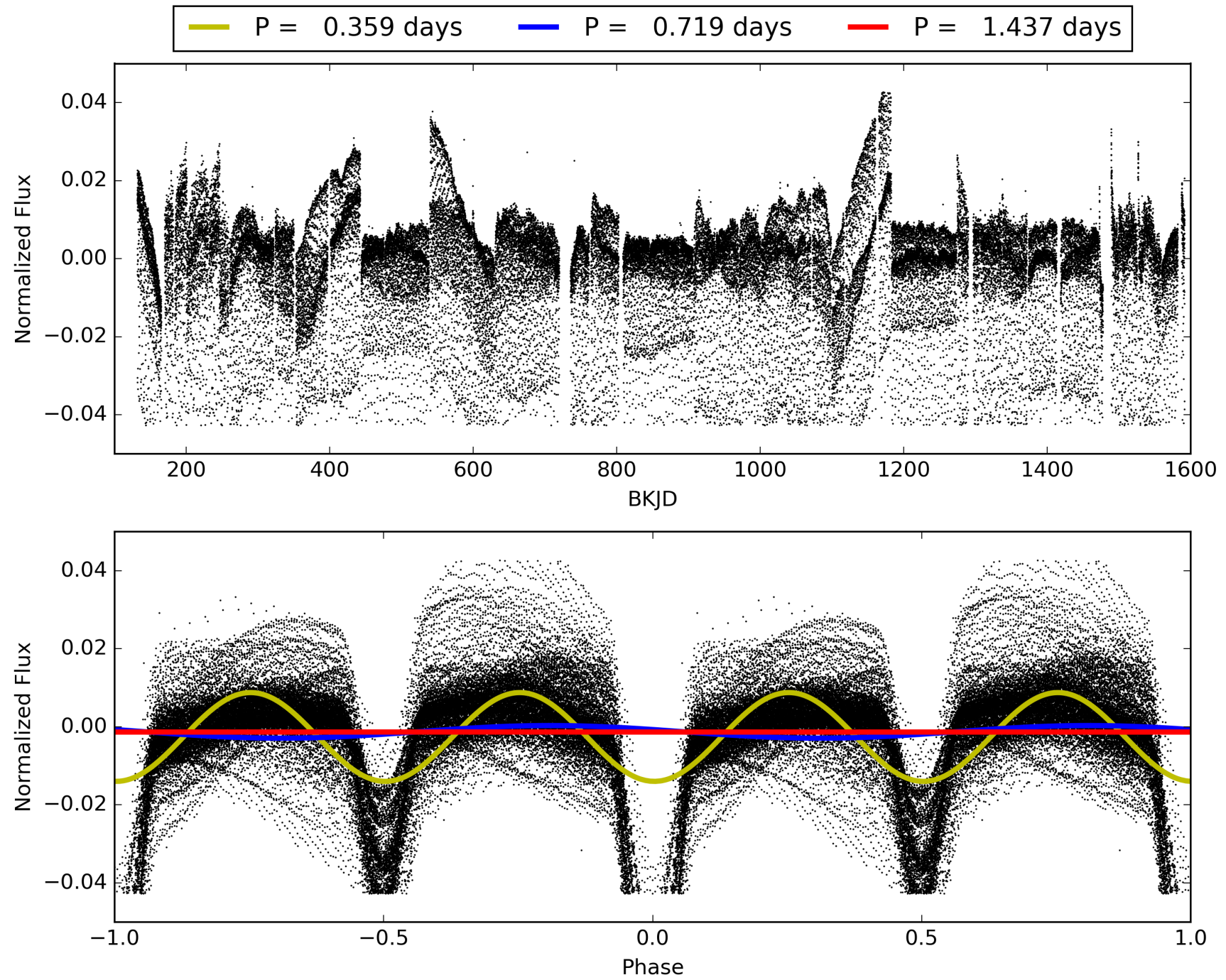
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1776/1776]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 1.815 arcsec [17.11σ]
KicOffset-rm: 2.836 arcsec [42.42σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008155368-01, PDC Light Curves

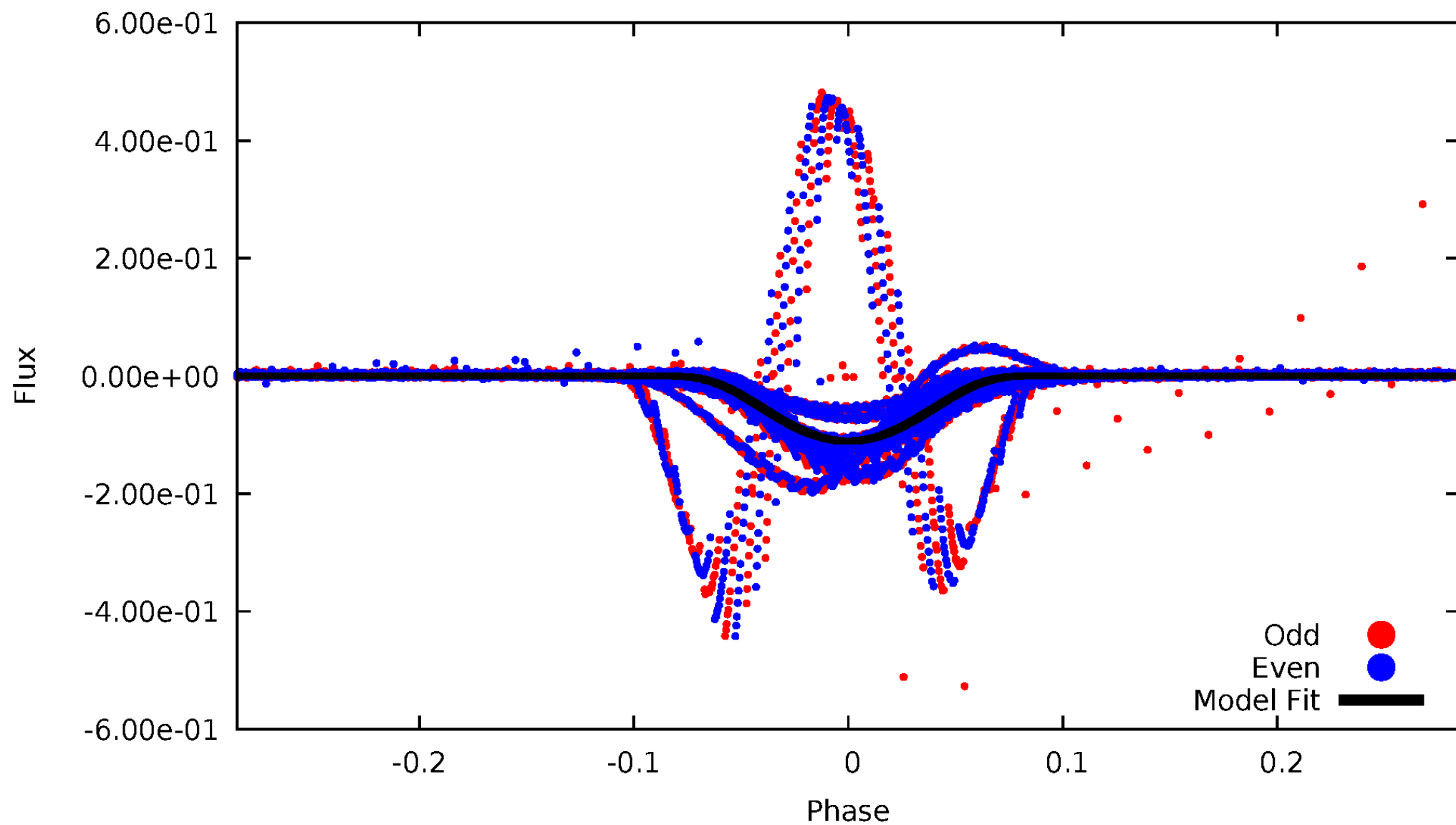


TCE 008155368-01



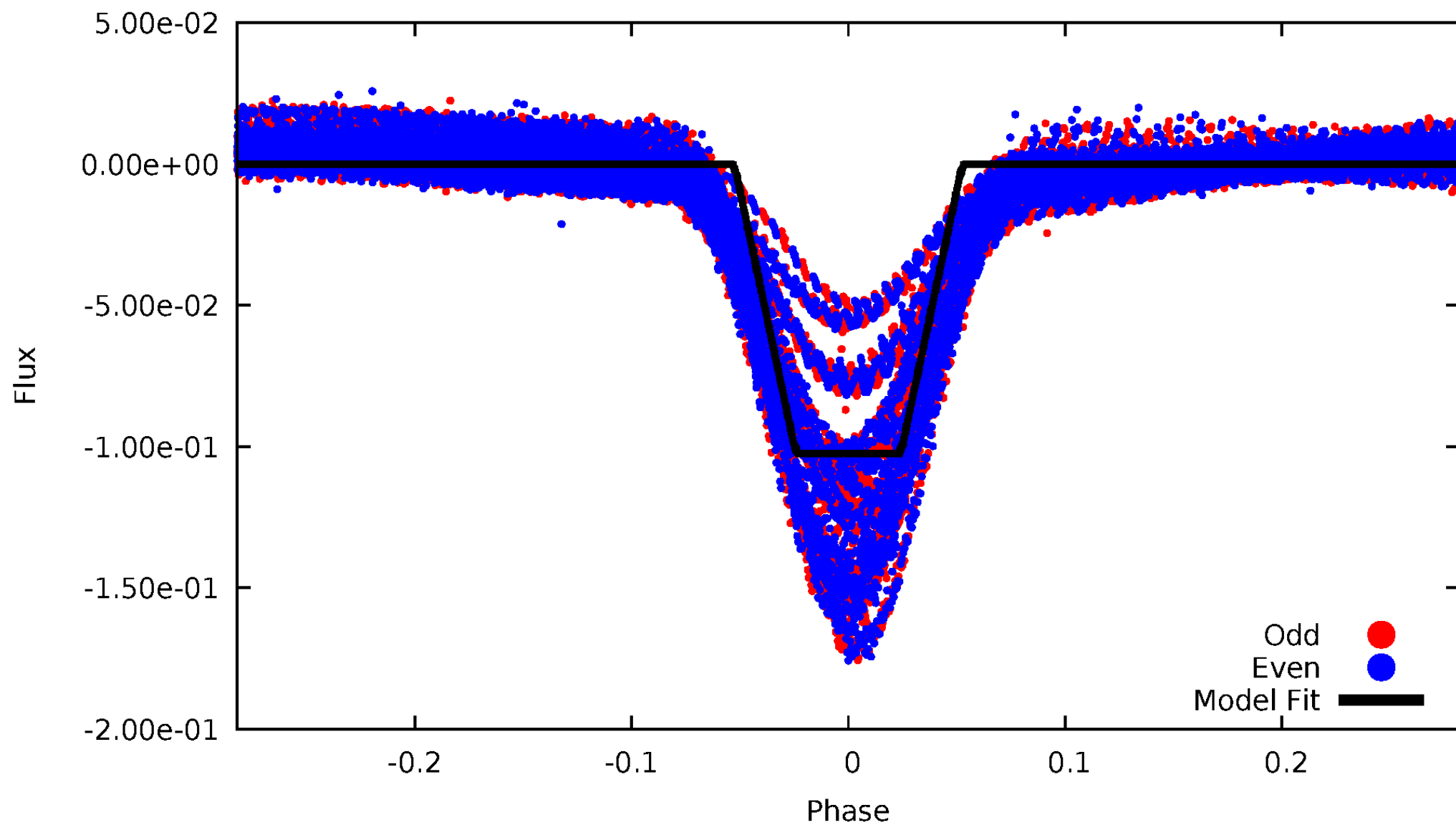
DV Odd/Even

TCE 008155368-01



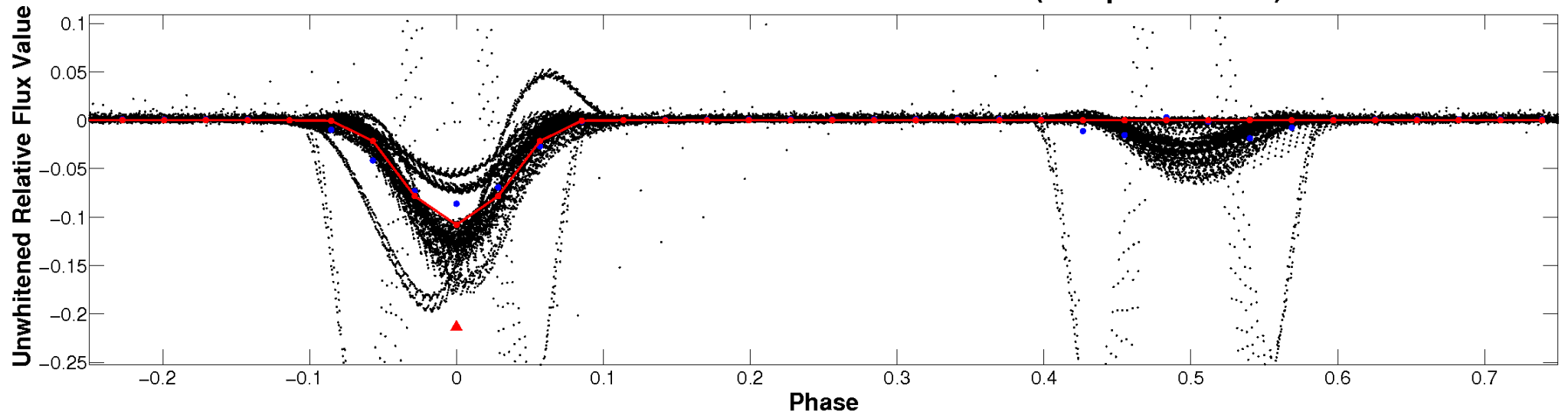
ALT Odd/Even

TCE 008155368-01

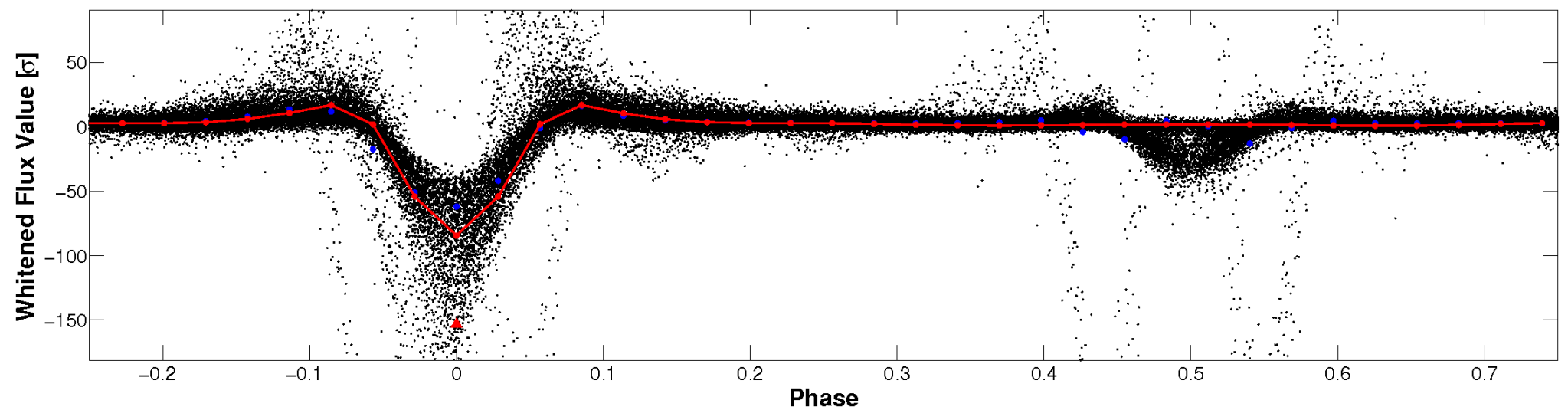


Non-Whitened Vs. Whitened Light Curve

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

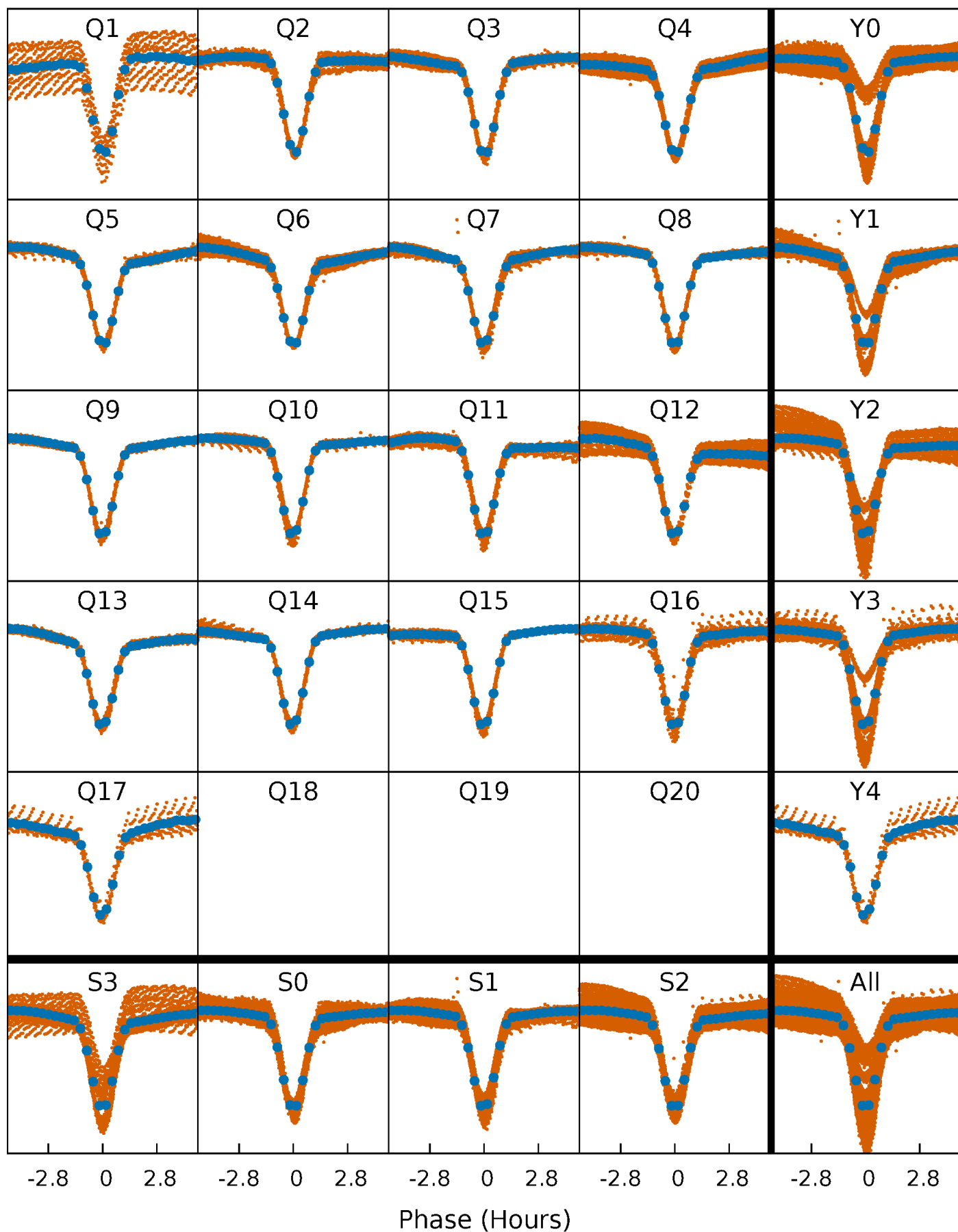


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



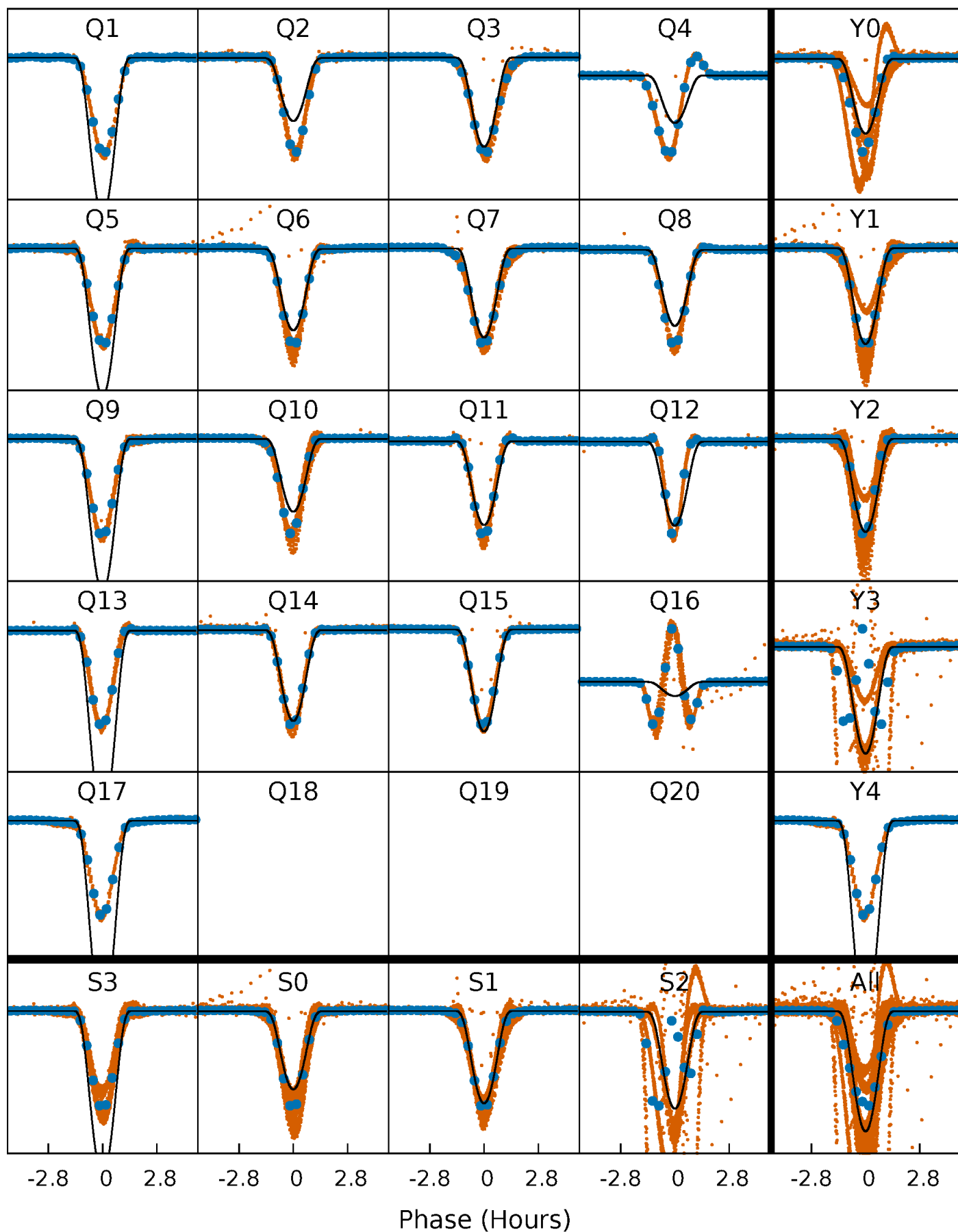
PDC Quarter-Phased Transit Curves

TCE 008155368-01 P= 0.718646 Days $T_0=131.886944$ (BKJD)



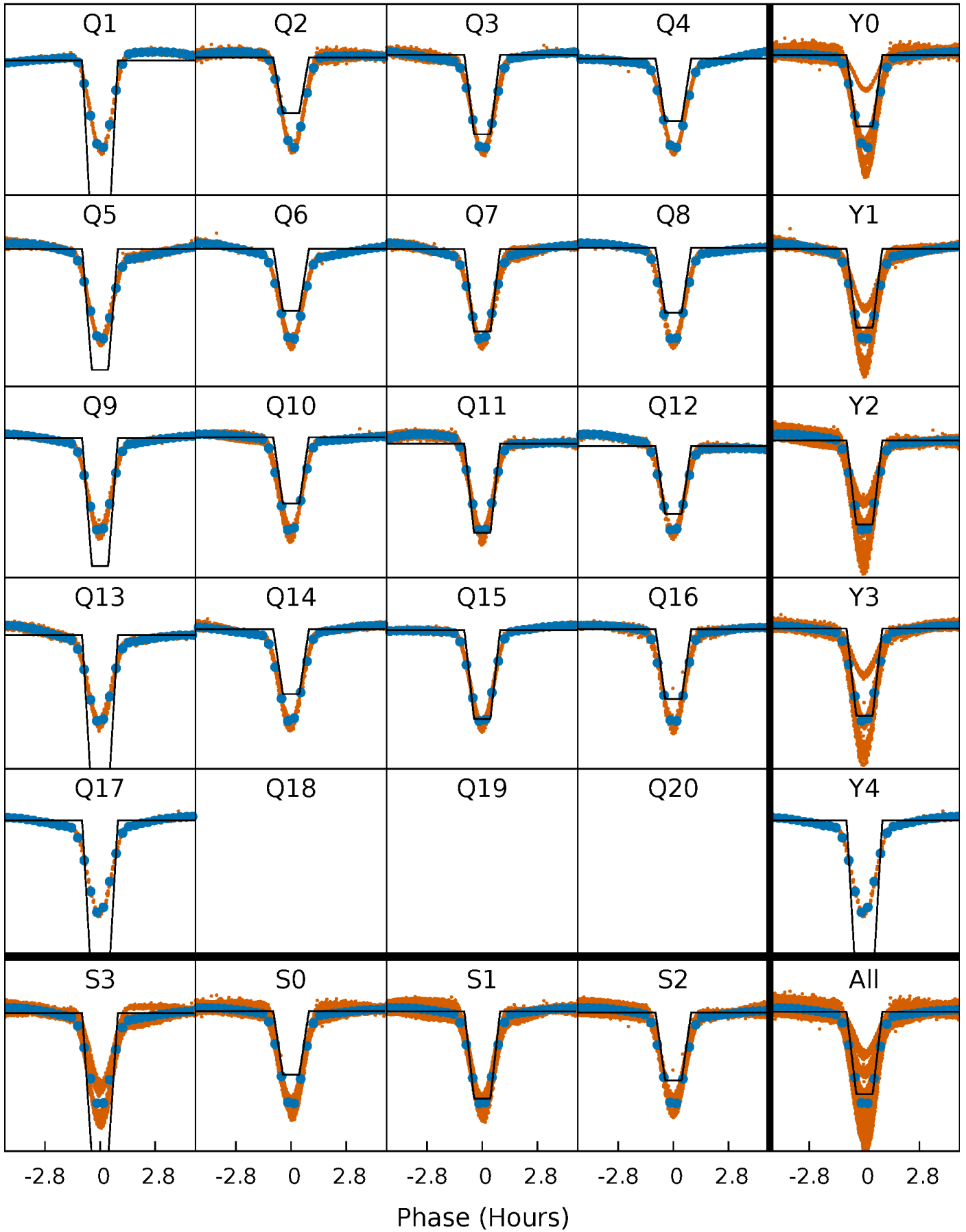
DV Quarter-Phased Transit Curves

TCE 008155368-01 P= 0.718646 Days $T_0=131.886944$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

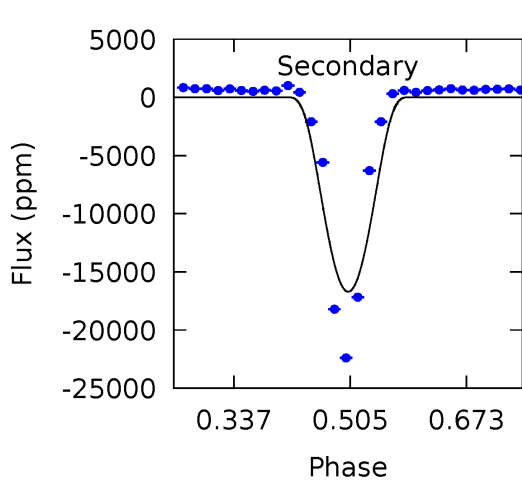
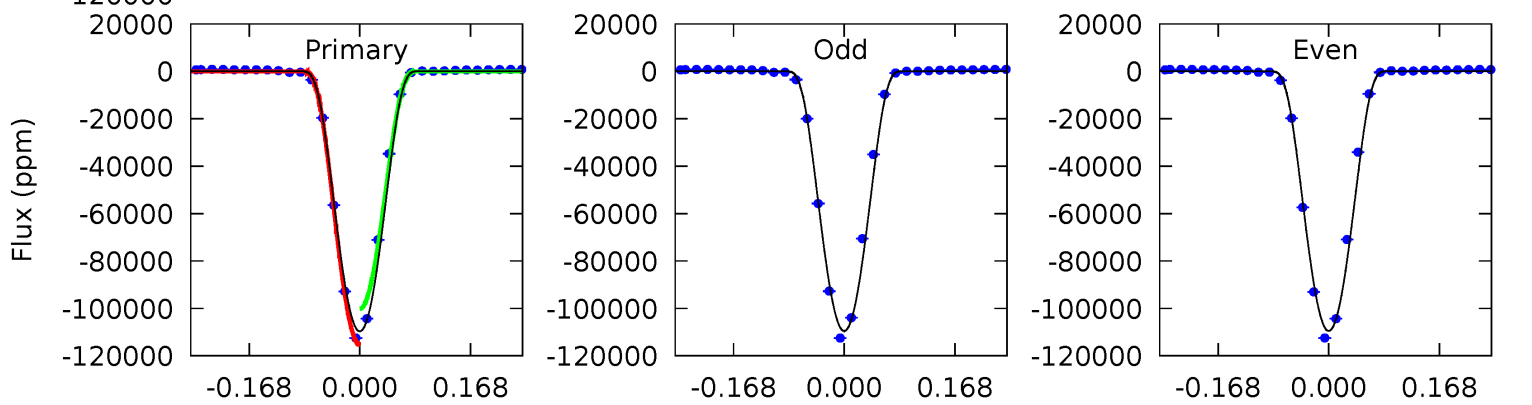
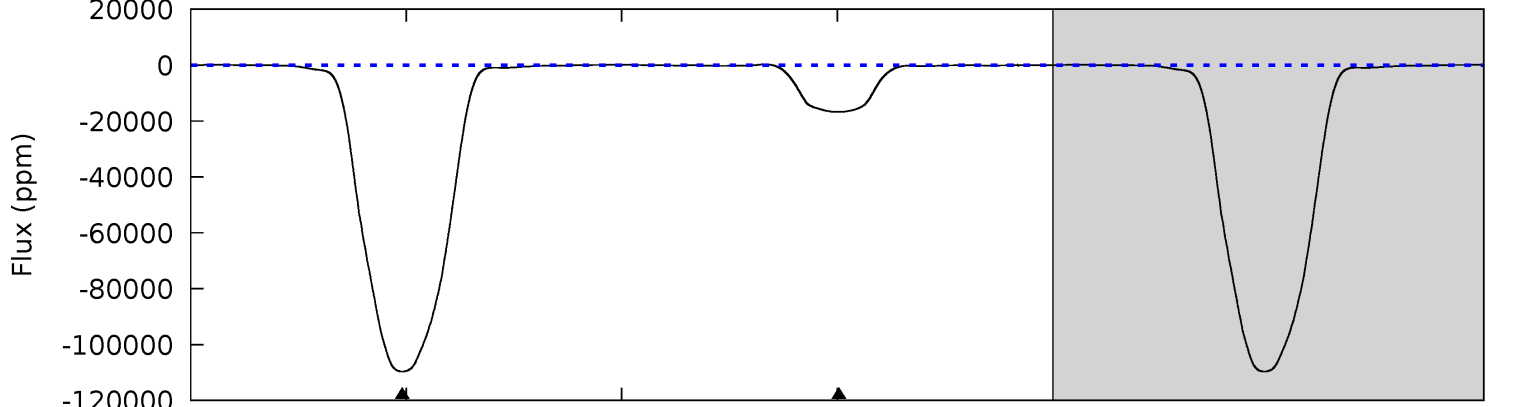
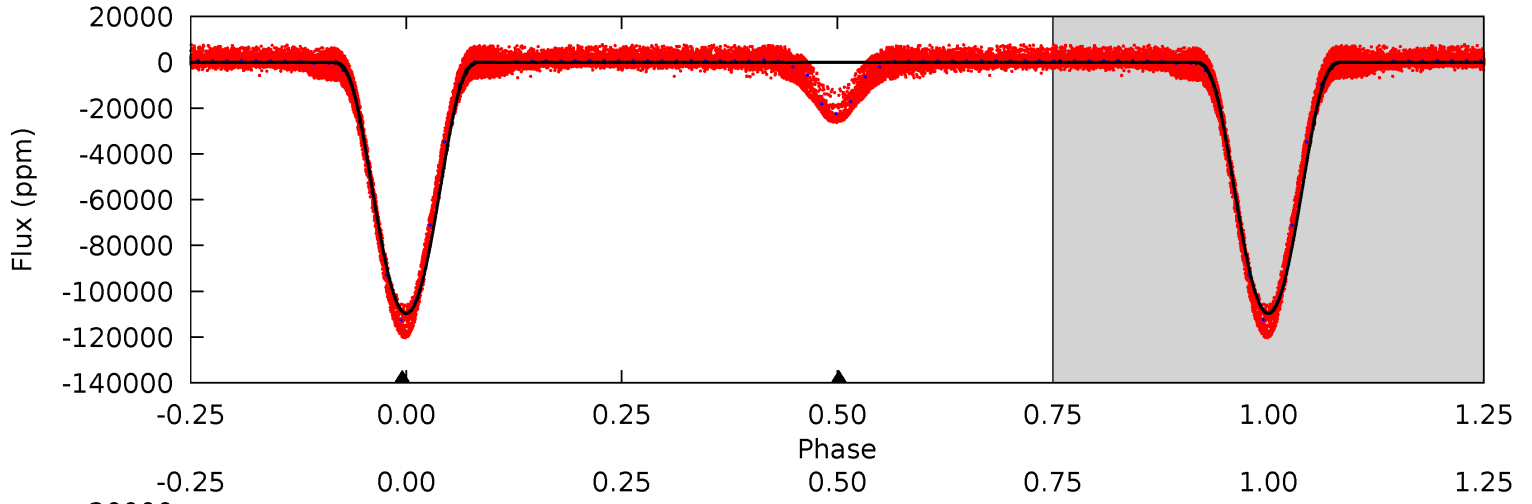
TCE 008155368-01 P= 0.718645 Days $T_0=131.886968$ (BKJD)



DV Model-Shift Uniqueness Test

008155368-01, P = 0.718646 Days, E = 131.168298 Days

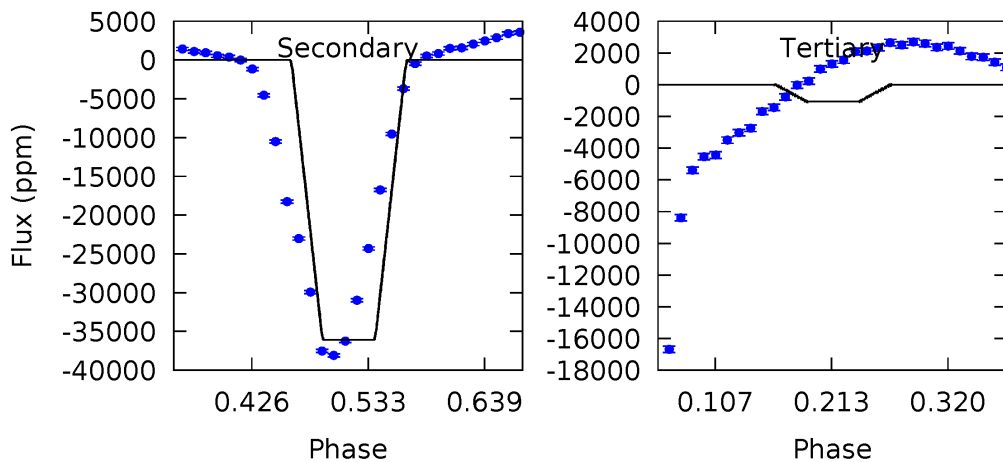
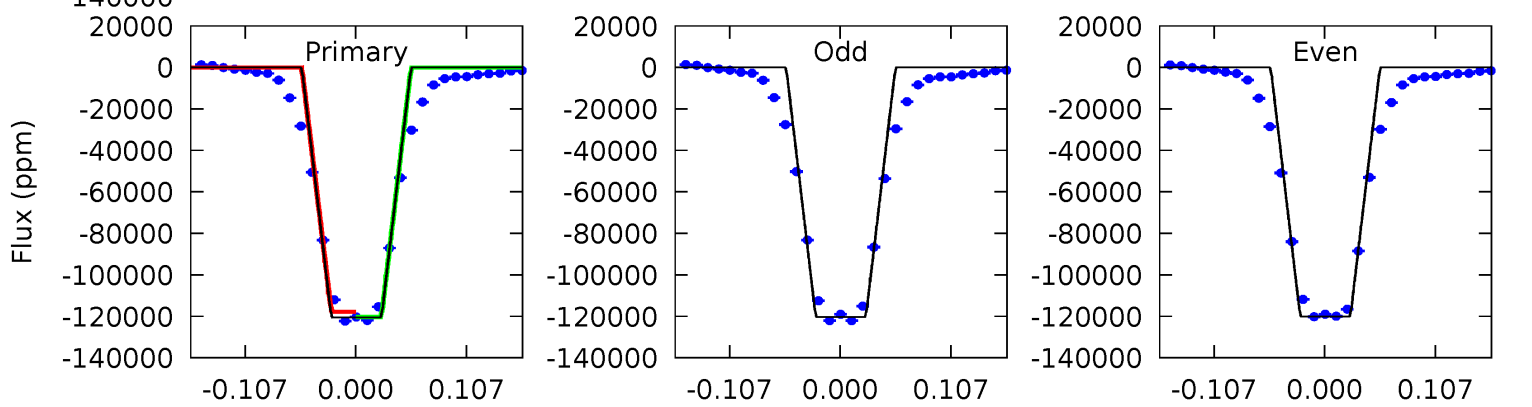
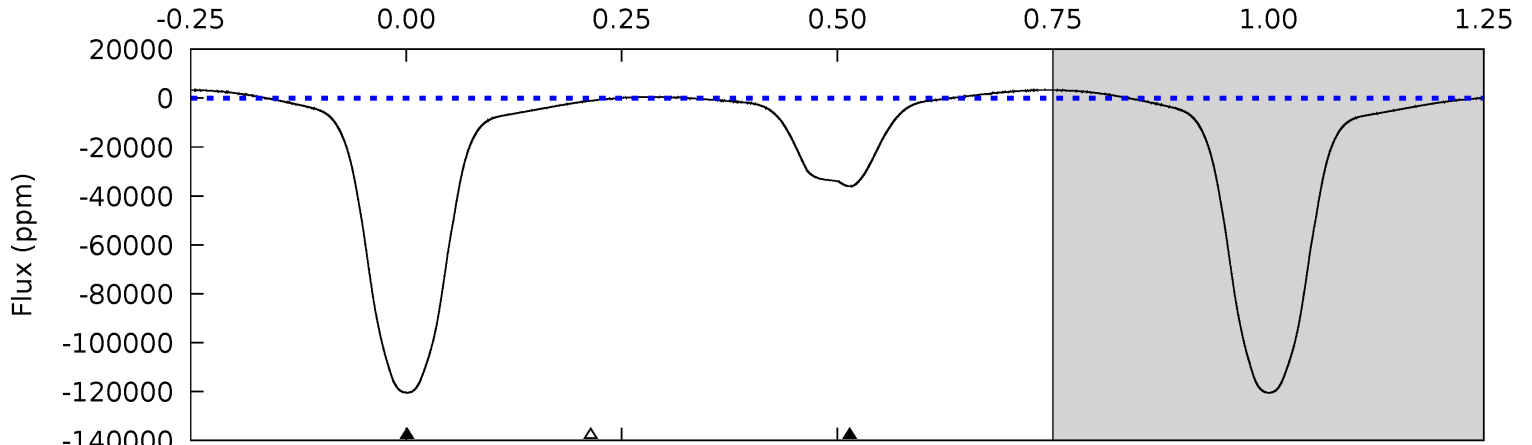
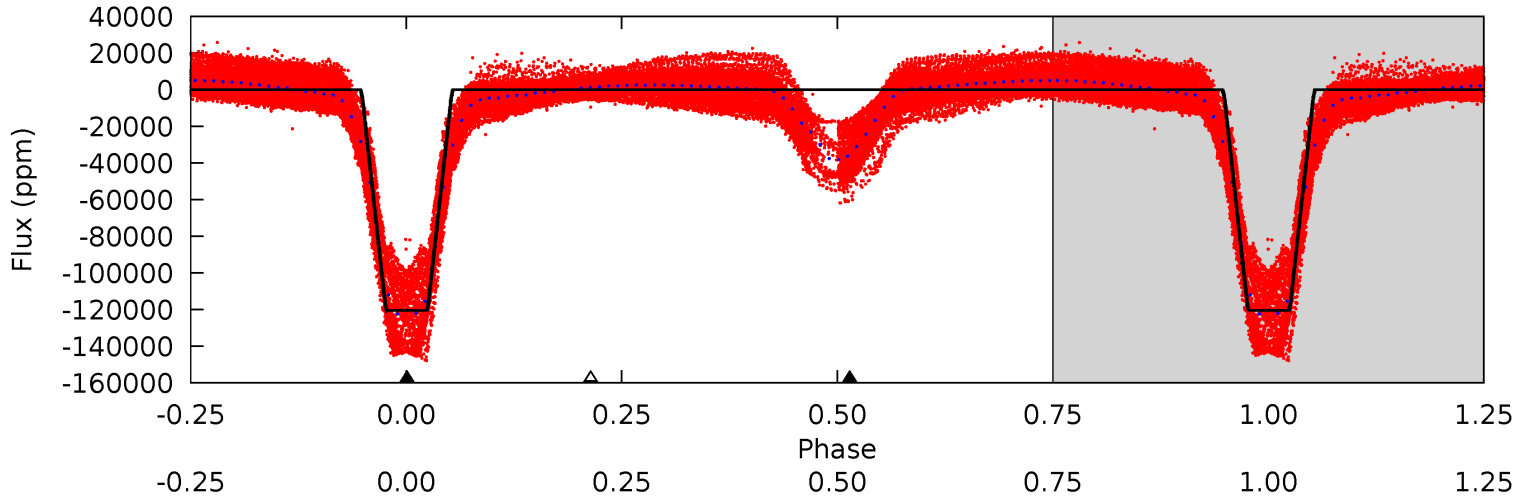
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|-------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 4661 | 709.8 | 0 | 0 | 4.45 | 1.38 | 4.42 | 4661 | 4661 | 709.8 | 709.8 | 1.02 | 0.85 | 0.00 | 0 |



Alt Model-Shift Uniqueness Test

008155368-01, P = 0.718645 Days, E = 131.168323 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|-------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 1465 | 438.7 | 12.9 | 0 | 4.55 | 1.61 | 31.1 | 1452 | 1465 | 425.8 | 438.7 | 1.44 | 0.95 | 0.03 | 14.9 |



Stellar Parameters For KIC 008155368

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 5853^{+157}_{-175} | $4.483^{+0.065}_{-0.195}$ | $-0.120^{+0.300}_{-0.300}$ | $0.934^{+0.270}_{-0.116}$ | $0.967^{+0.116}_{-0.116}$ | $1.673^{+0.456}_{-0.860}$ |
| | +3%/-3% | +1%/-4% | +250%/-250% | +29%/-12% | +12%/-12% | +27%/-51% |
| 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 008155368-01 / KOI 5481.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|-------------------------|----------------------|----------------------|---------------------------|
| DV | -16701 ± 24 | $37.66^{+5.39}_{-3.14}$ | 2854^{+179}_{-150} | 3728^{+92}_{-85} | $1.573^{+0.260}_{-0.338}$ |
| Alt. | -36078 ± 82 | $33.39^{+4.89}_{-2.74}$ | 2847^{+194}_{-144} | 4624^{+108}_{-122} | $4.411^{+0.656}_{-0.961}$ |

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 $A_{obs} \gg 1.0$

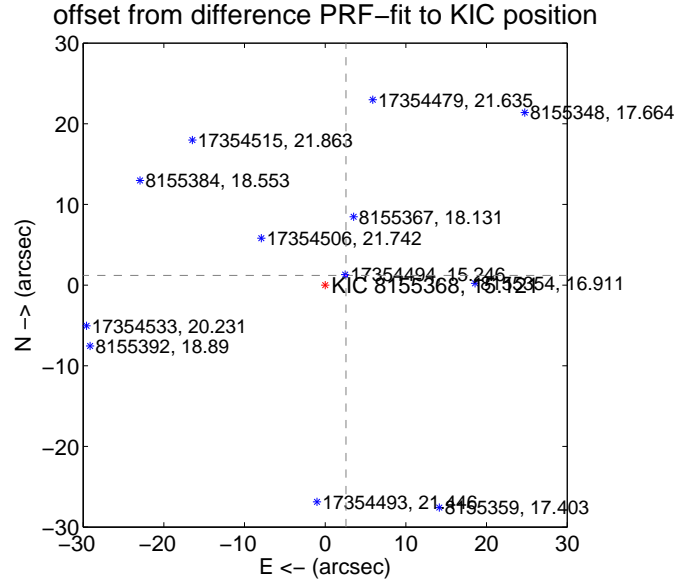
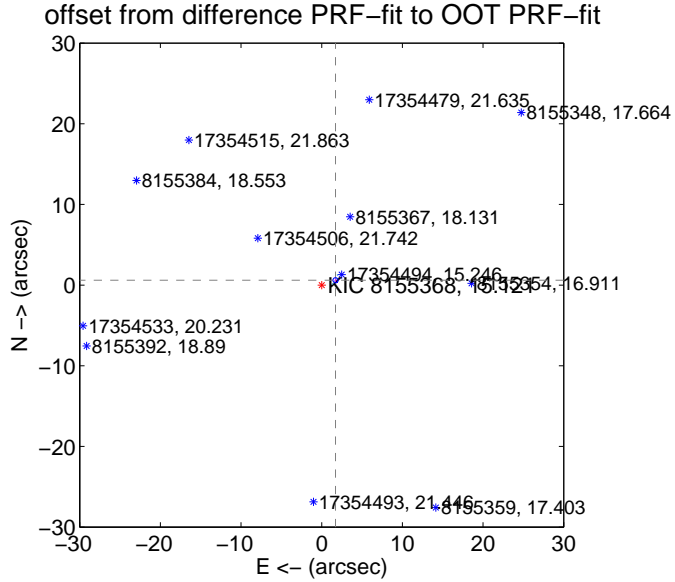
DV Centroid Data

Supplemental centroid analysis for 008155368-01. Kepler magnitude: 15.12. Transit SNR 2367.69

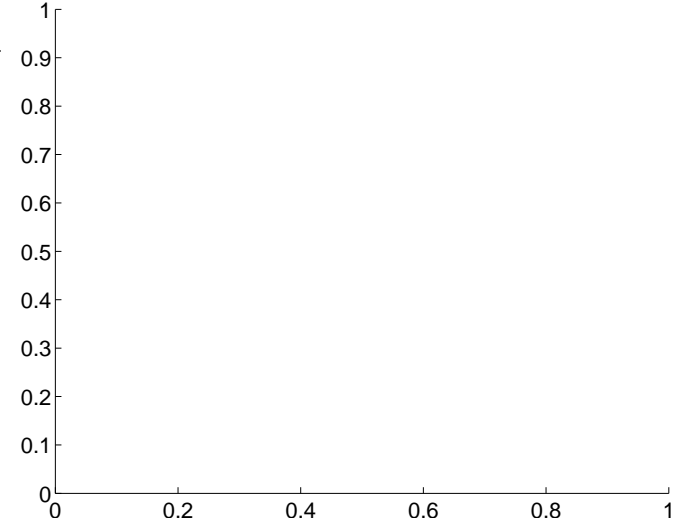
There are 17 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.96 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 1.815 ± 0.106 | 17.11 | -1.713 ± 0.095 | 0.600 ± 0.169 |
| PRF-fit source offset from KIC position | 2.836 ± 0.067 | 42.42 | -2.572 ± 0.067 | 1.196 ± 0.067 |
| photometric centroid source offset | — | — | — | — |

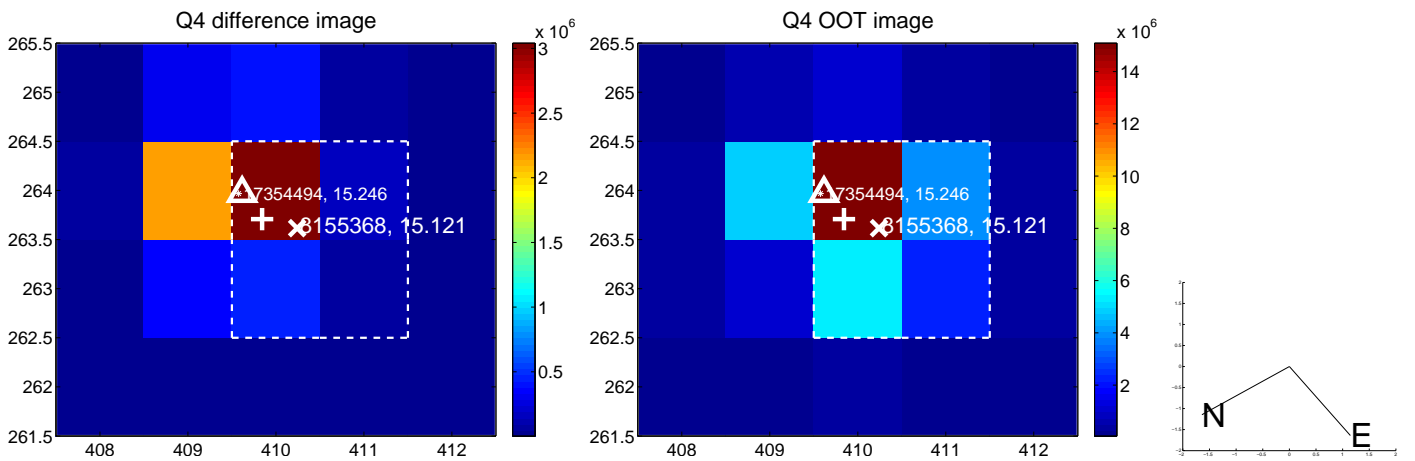
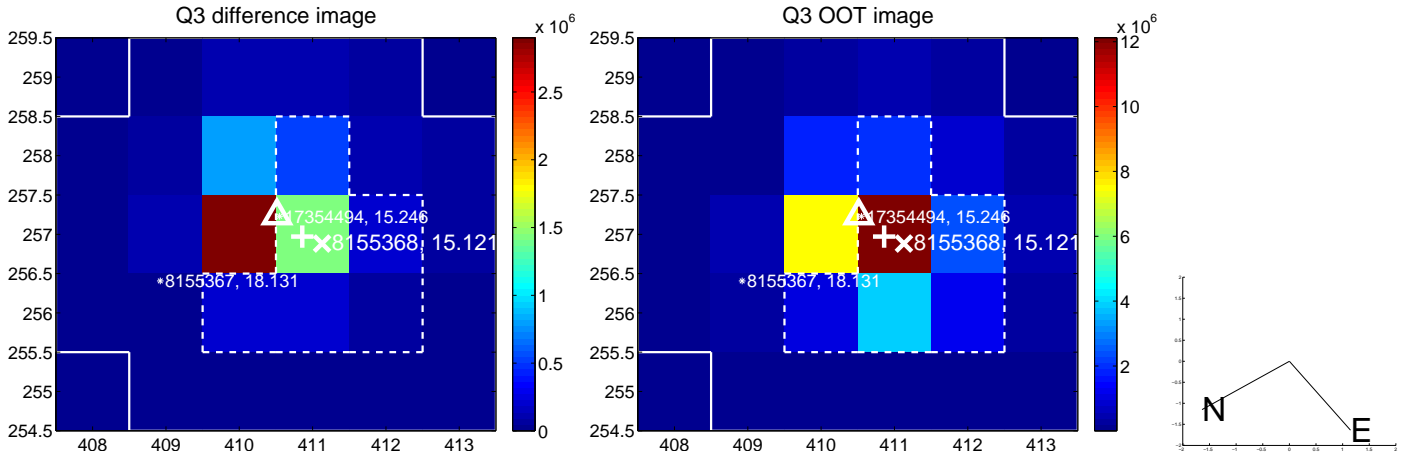
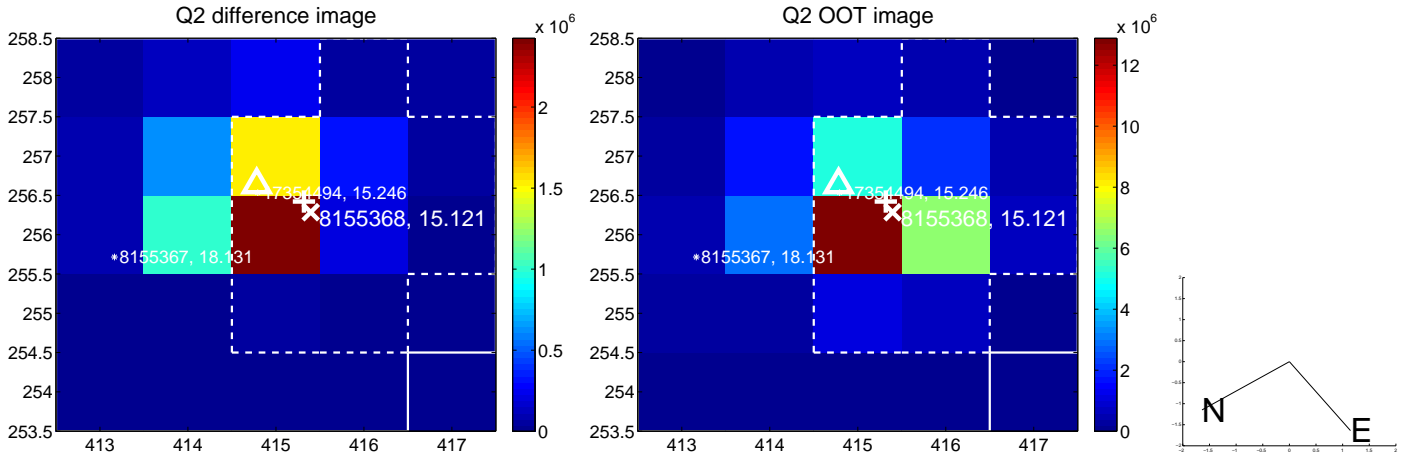
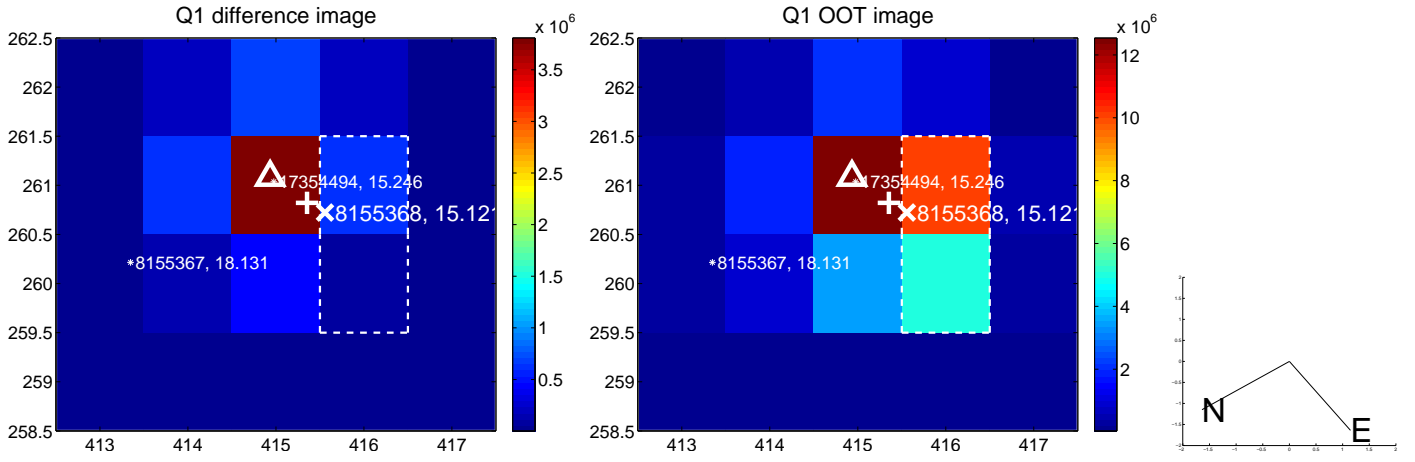


There are no photometric centroids

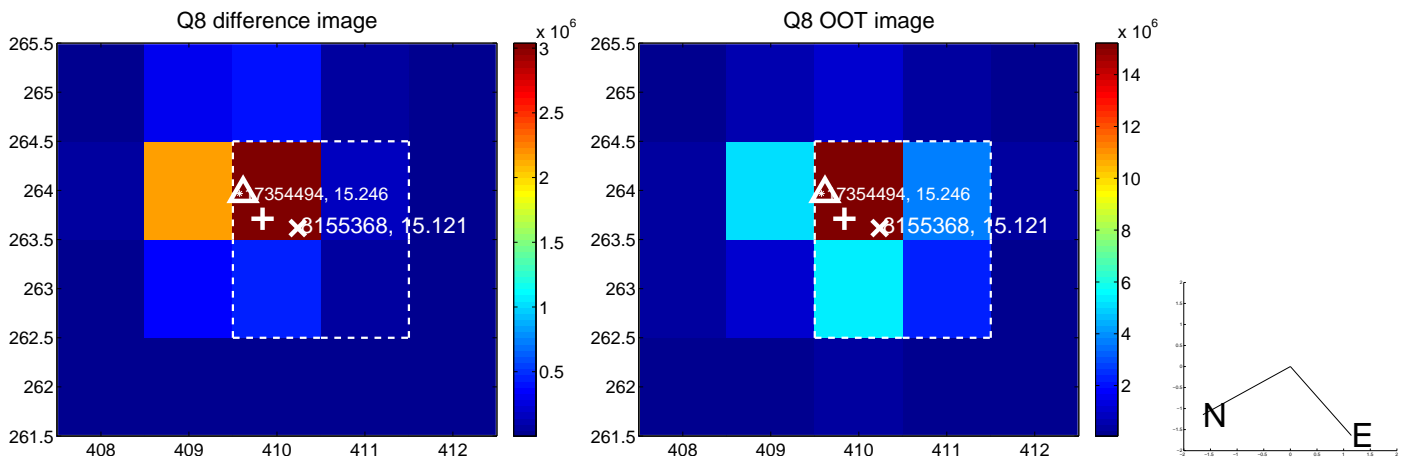
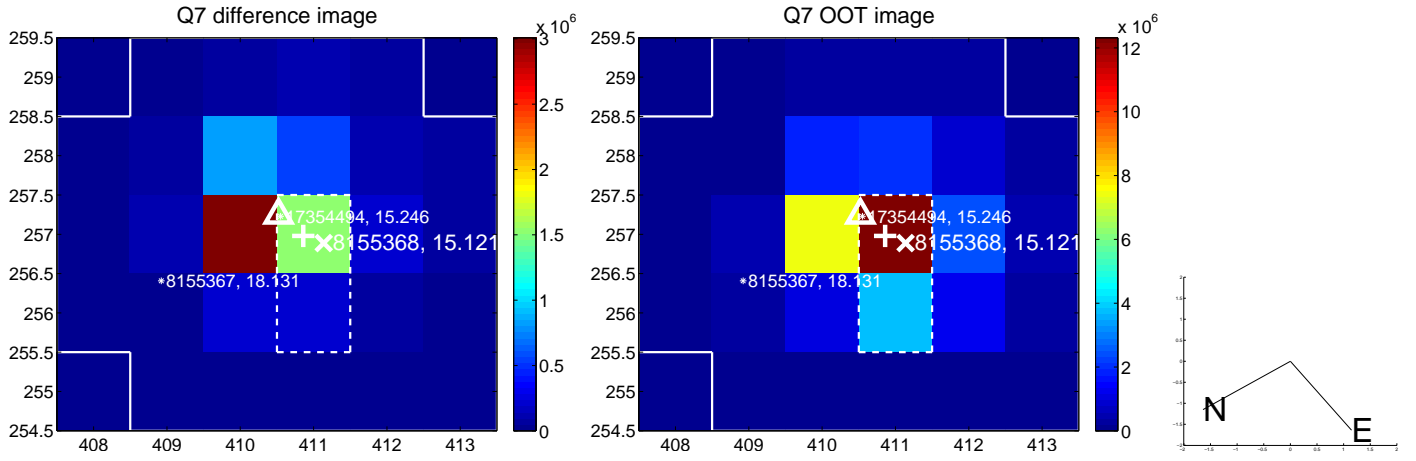
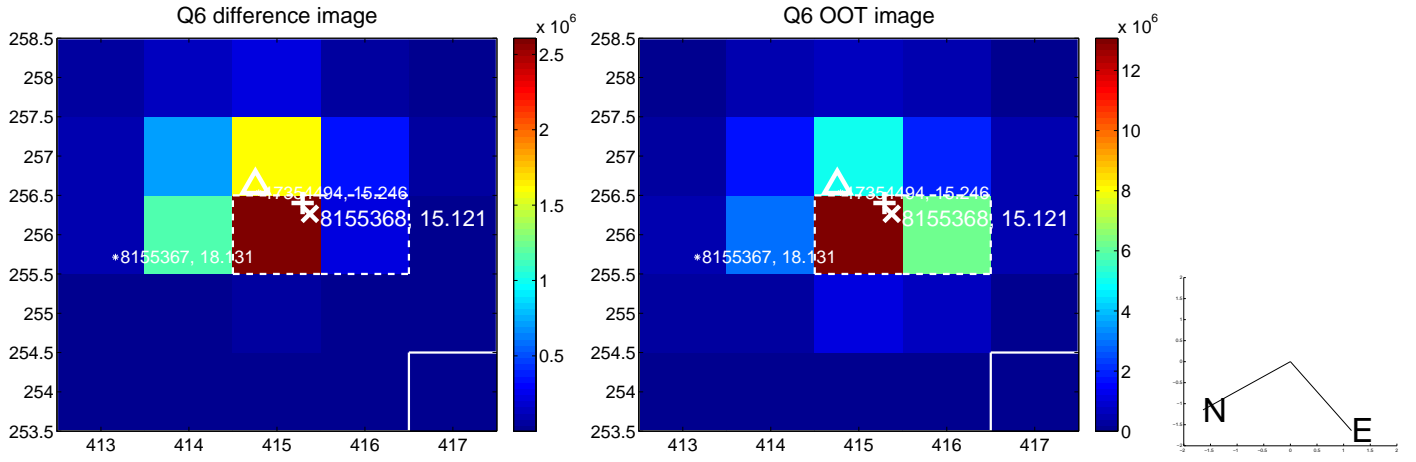
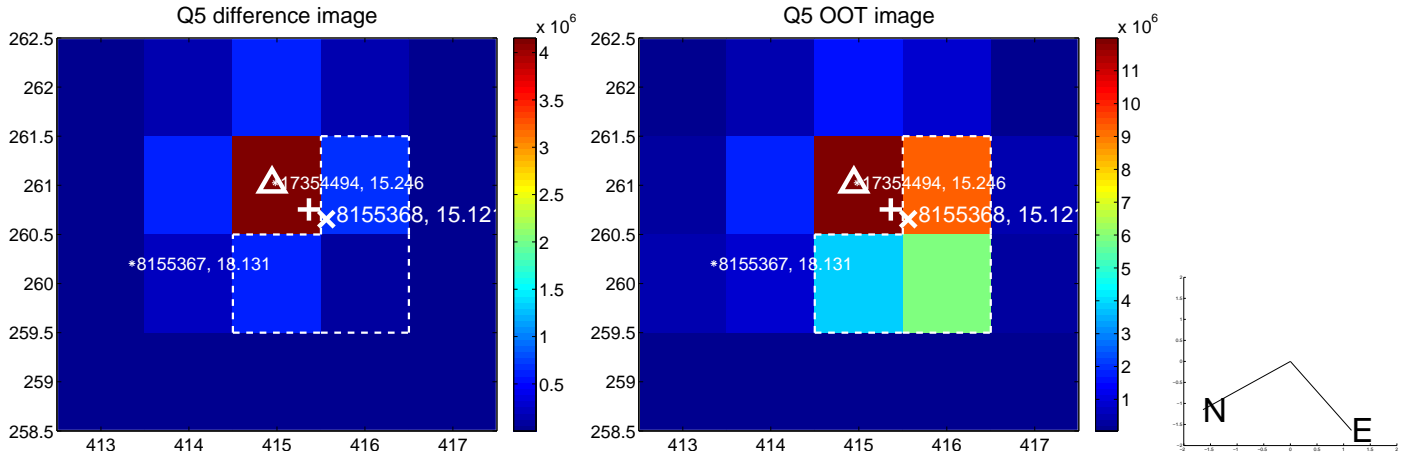


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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.

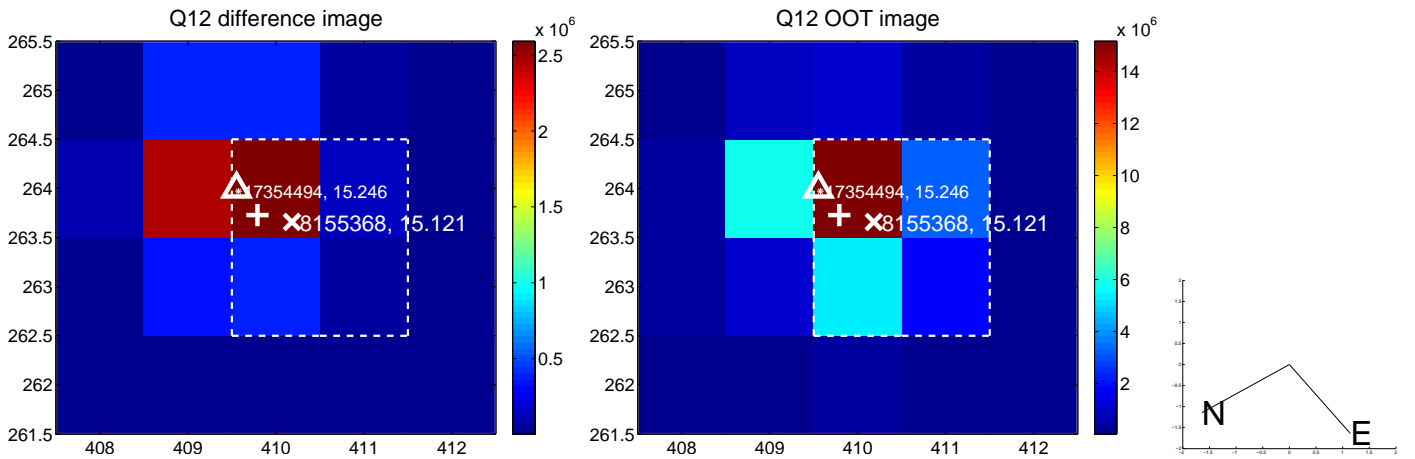
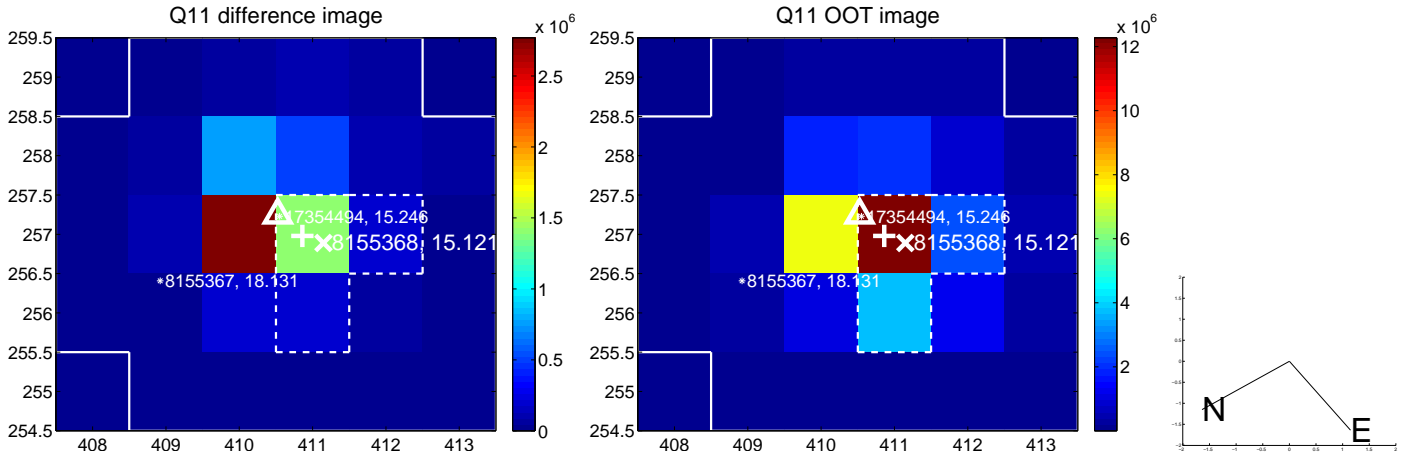
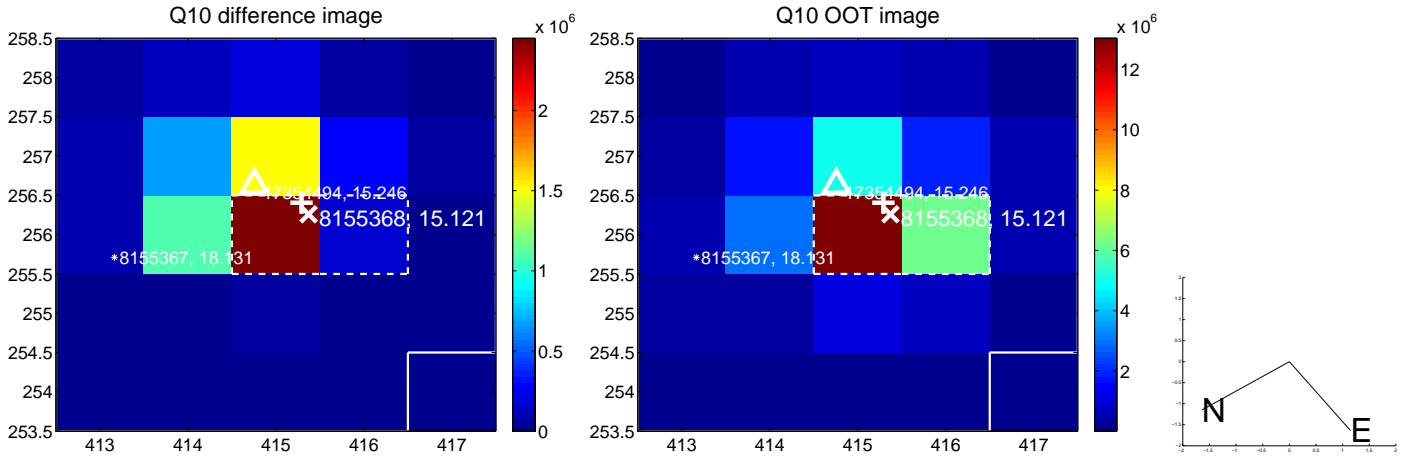
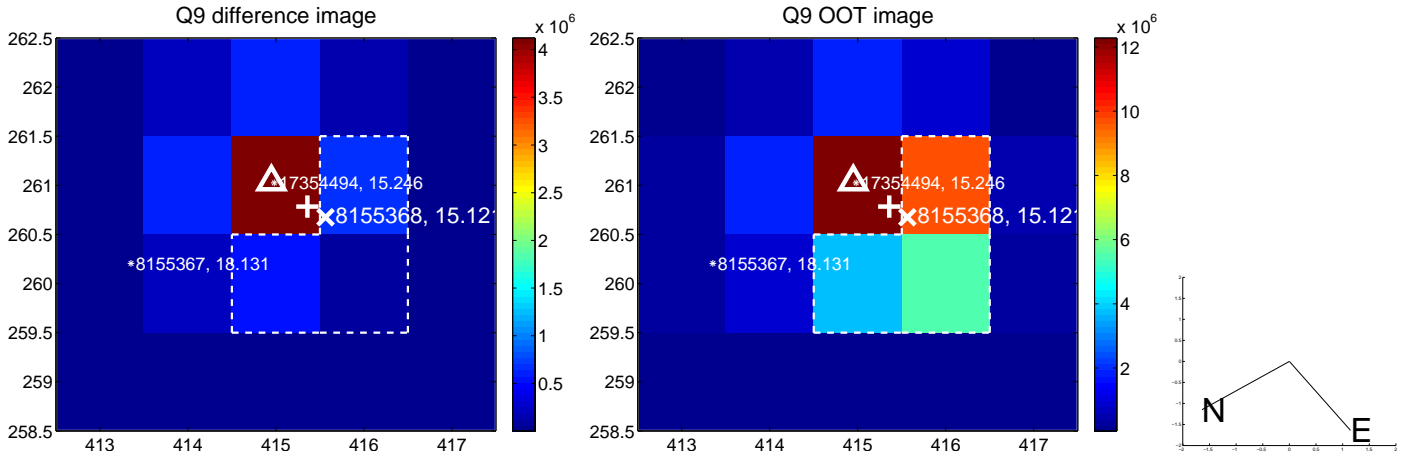
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



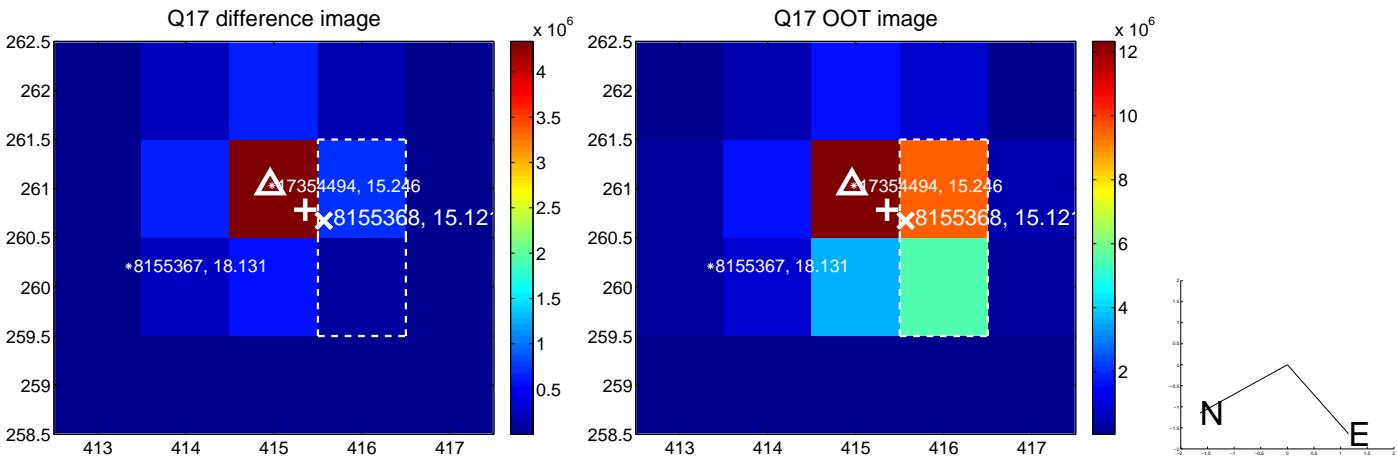
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



folded centroid time series figure for this object.

UKIRT Image

Declination

