

KIC 010532751

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 010532751-01 | OBS | 8292.01 | 367.760387 | 194.780282 | 558.0 | 5.398 | 7.3 | 7.7 | 9.89 | 5348 | 28.14 | 35.62 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|-------------------------------------|
| 010532751-01 | OBS | FP | 0.13 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL—CENT_SATURATED |

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

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

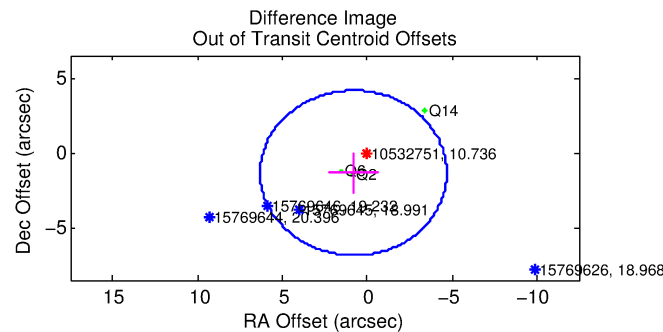
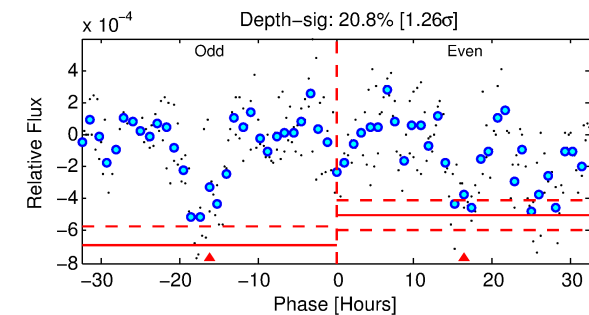
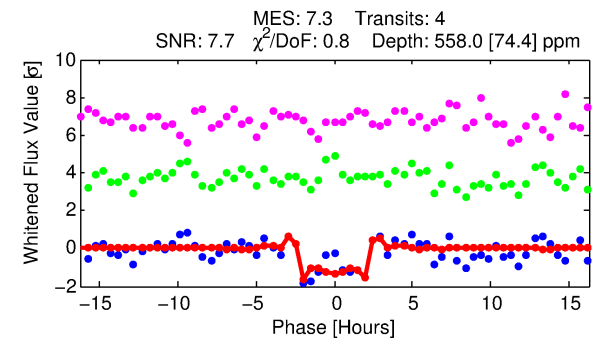
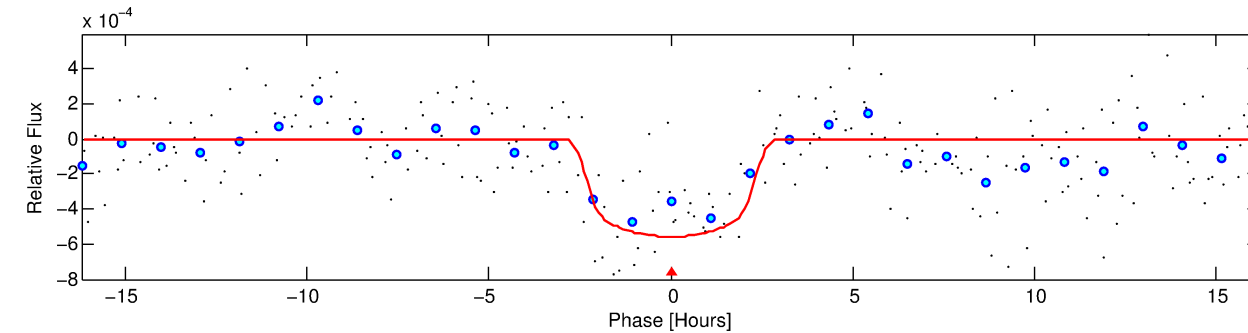
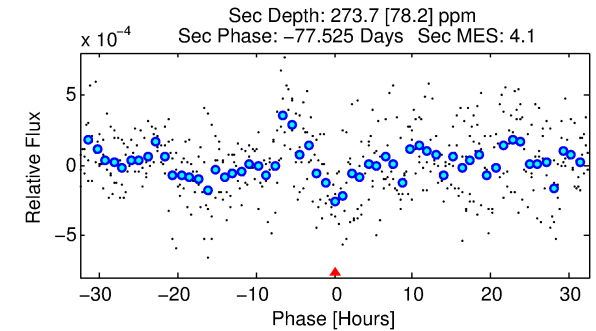
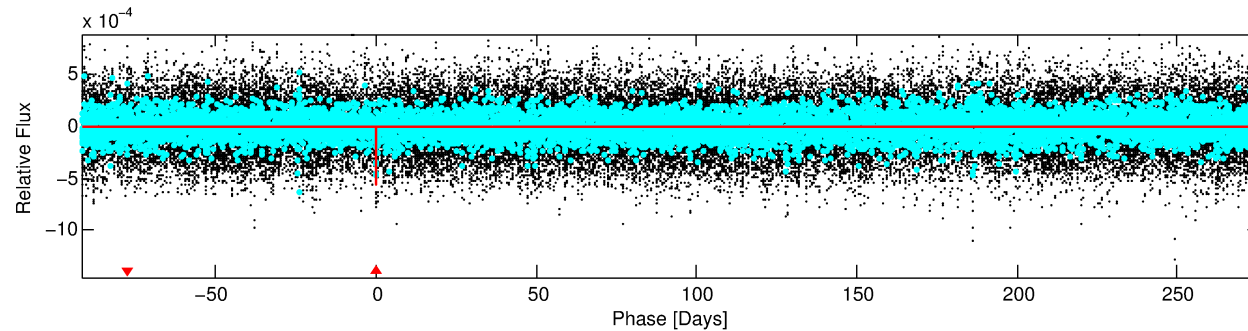
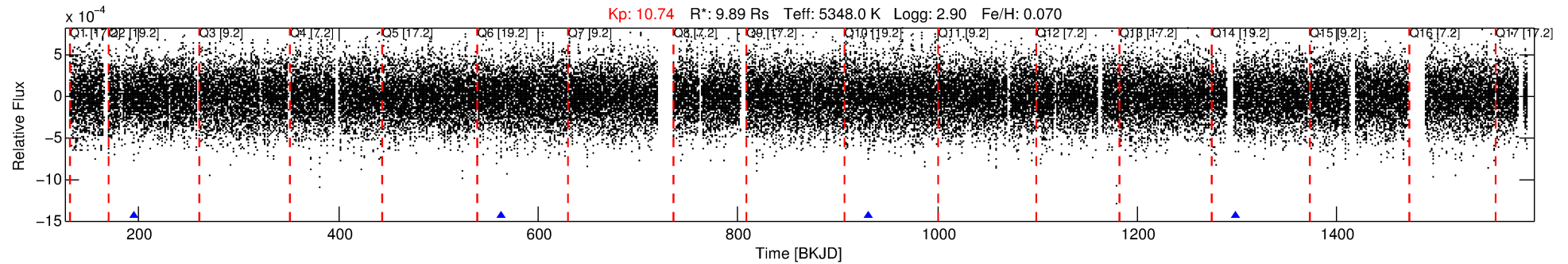
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010532751-01

No Significant Match Found

DV One-Page Summary

KIC: 10532751 Candidate: 1 of 1 Period: 367.760 d



DV Fit Results:

Period = 367.76039 [0.00244] d
Epoch = 194.7803 [0.0042] BKJD
Rp/R* = 0.0261 [0.0024]
a/R* = 254.33 [52.67]
b = 0.90 [0.04]
Seff = 35.62 [9.60]
Teff = 623 [42] K
Rp = 28.14 [6.42] Re
a = 1.4184 [0.2028] AU
Ag = 382.66 [143.55] [2.66σ]
Teffp = 4260 [433] K [8.36σ]

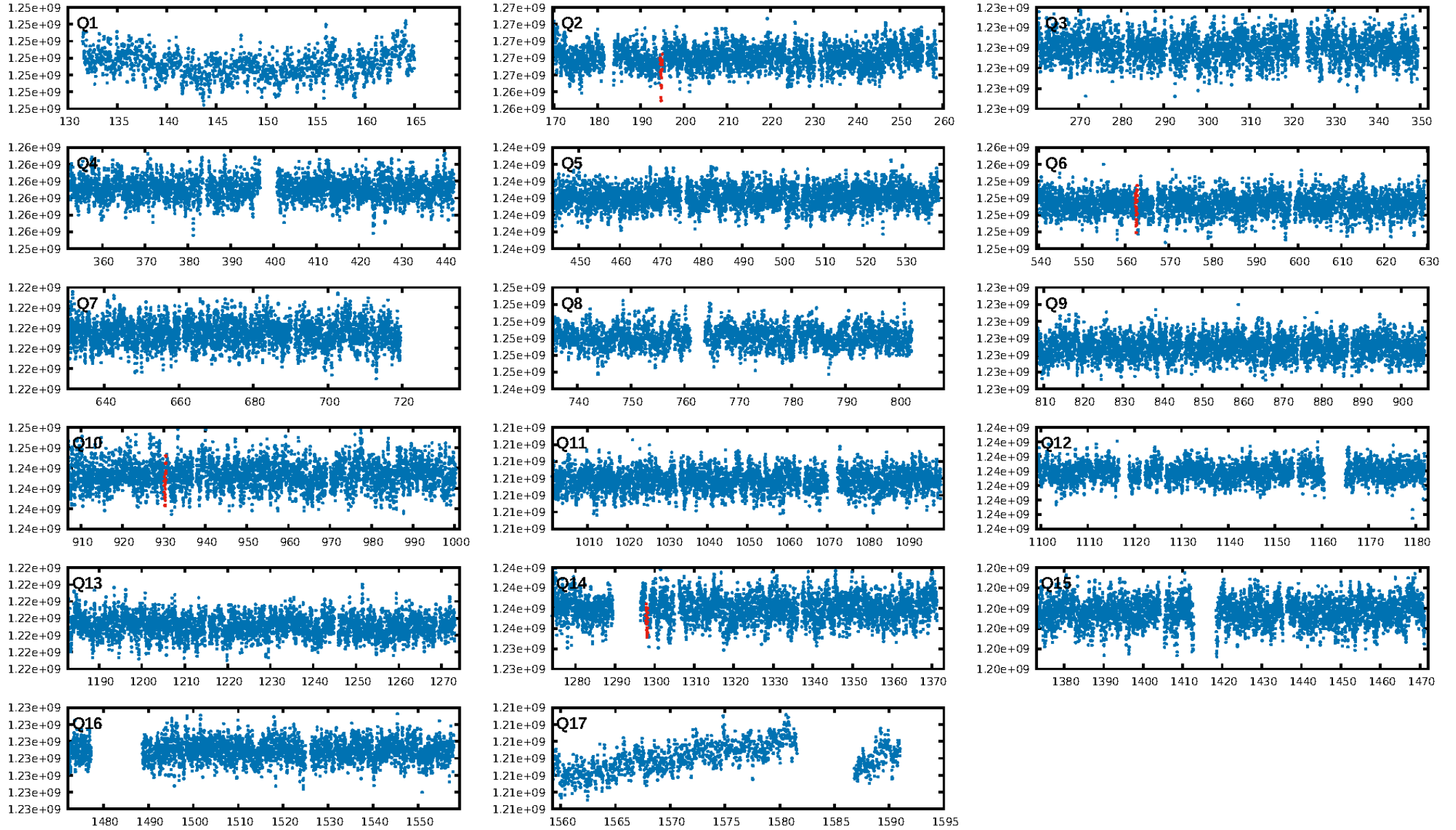
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 26.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.30e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 5.722
Centroid-sig: 24.4%
Centroid-so: 0.547 arcsec [1.61σ]
OotOffset-rm: 1.572 arcsec [0.86σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-rm: 3.028 arcsec [3.41σ]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

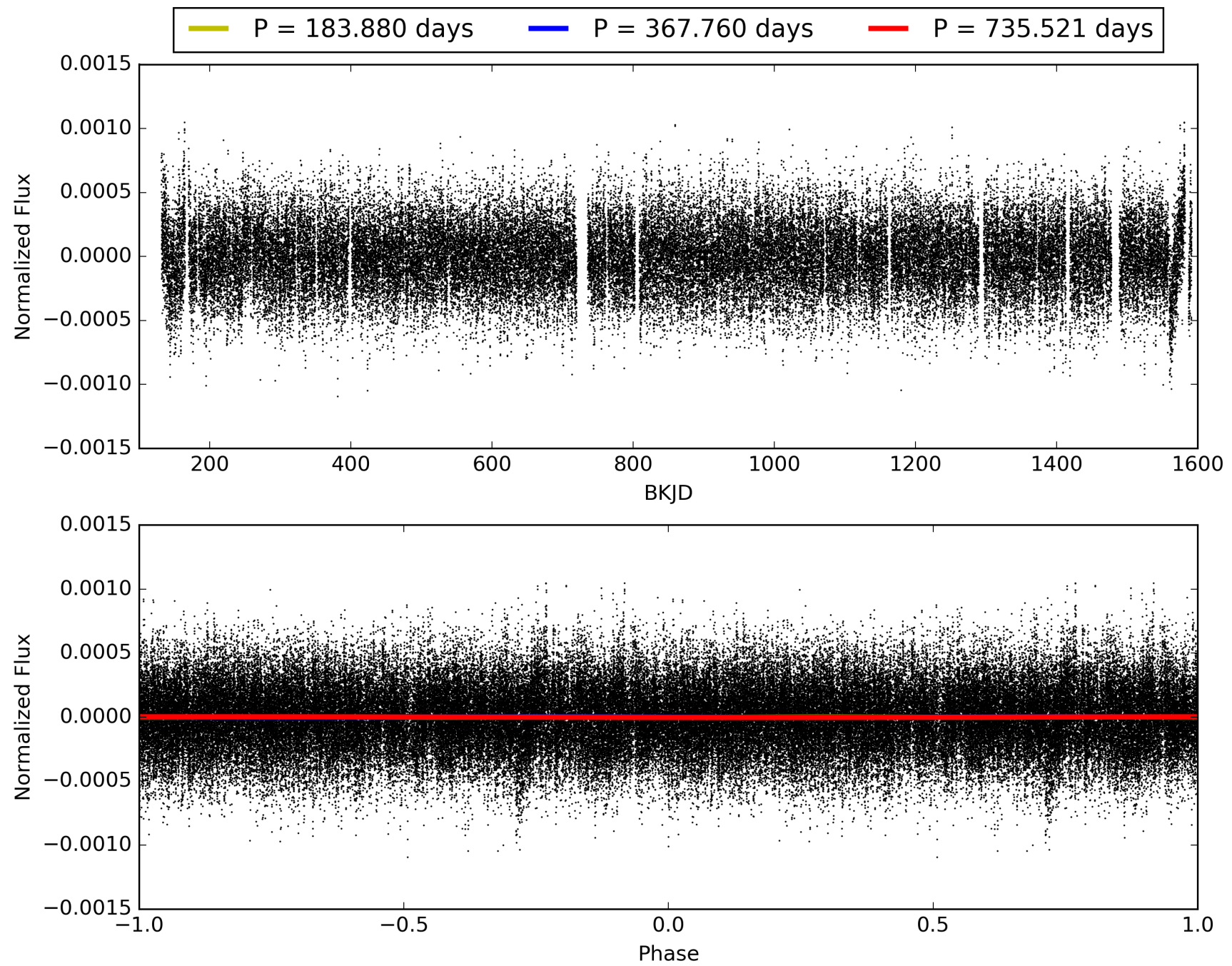
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:04:02 Z

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

TCE 010532751-01, PDC Light Curves

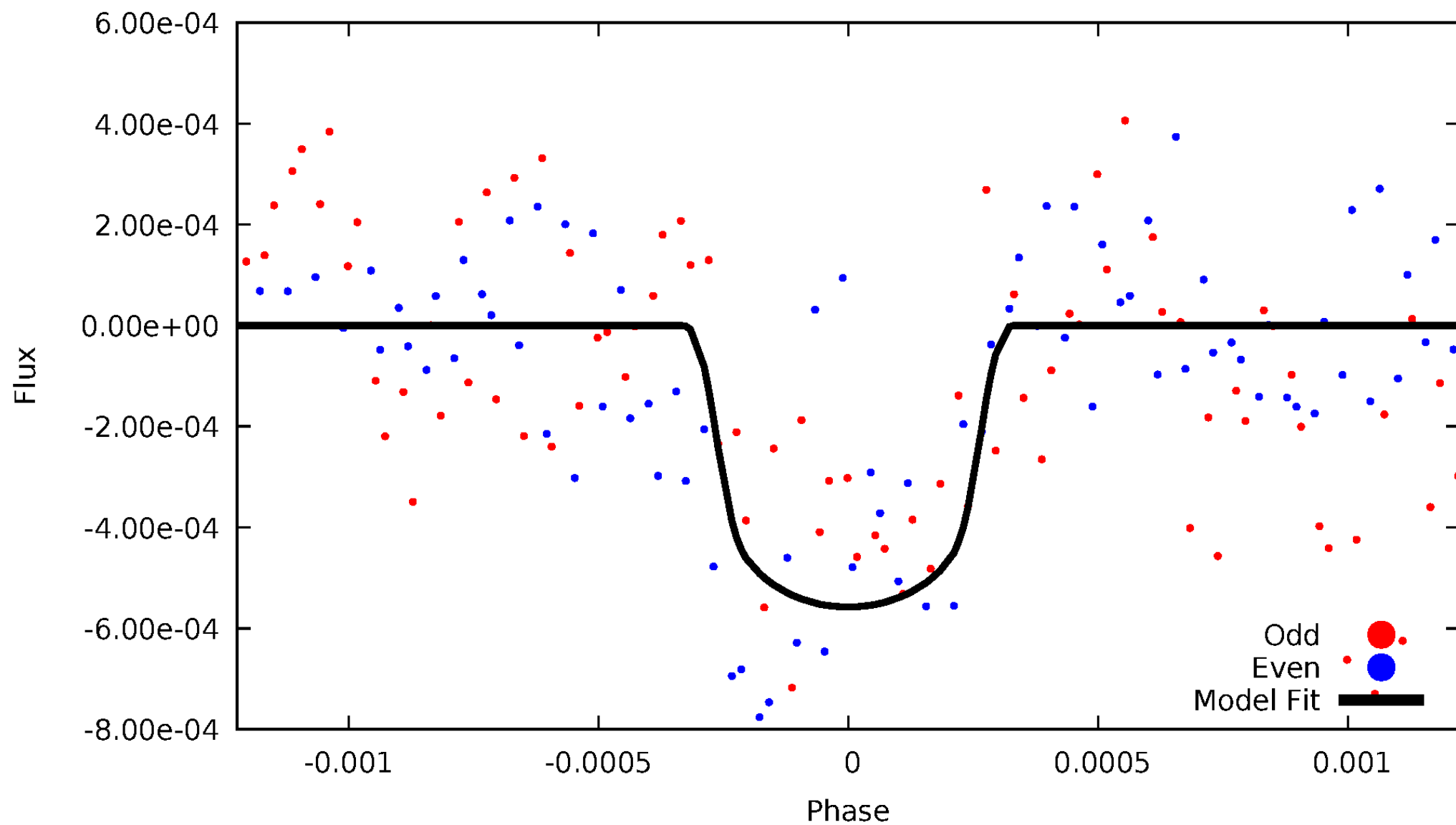


TCE 010532751-01



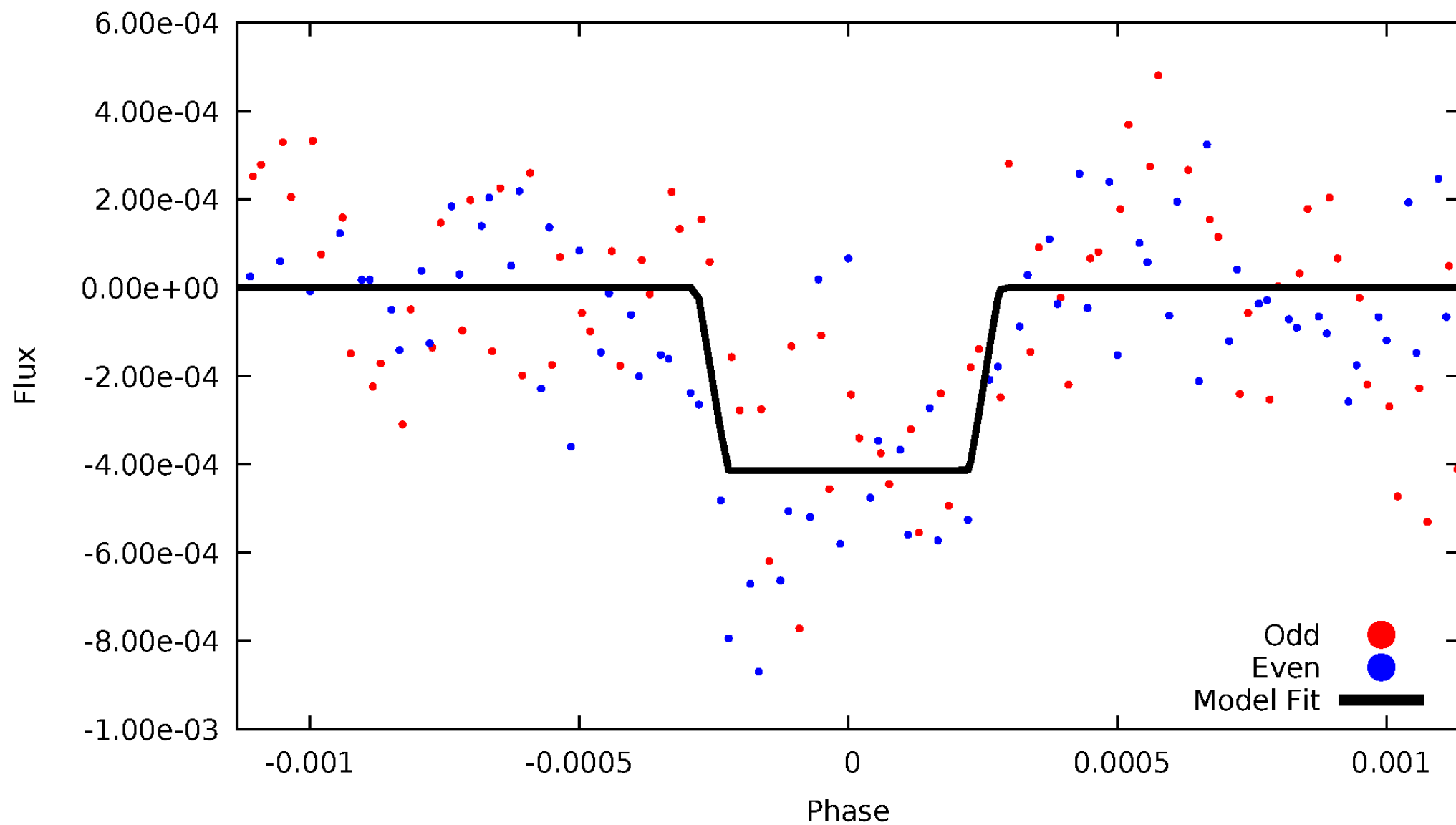
DV Odd/Even

TCE 010532751-01

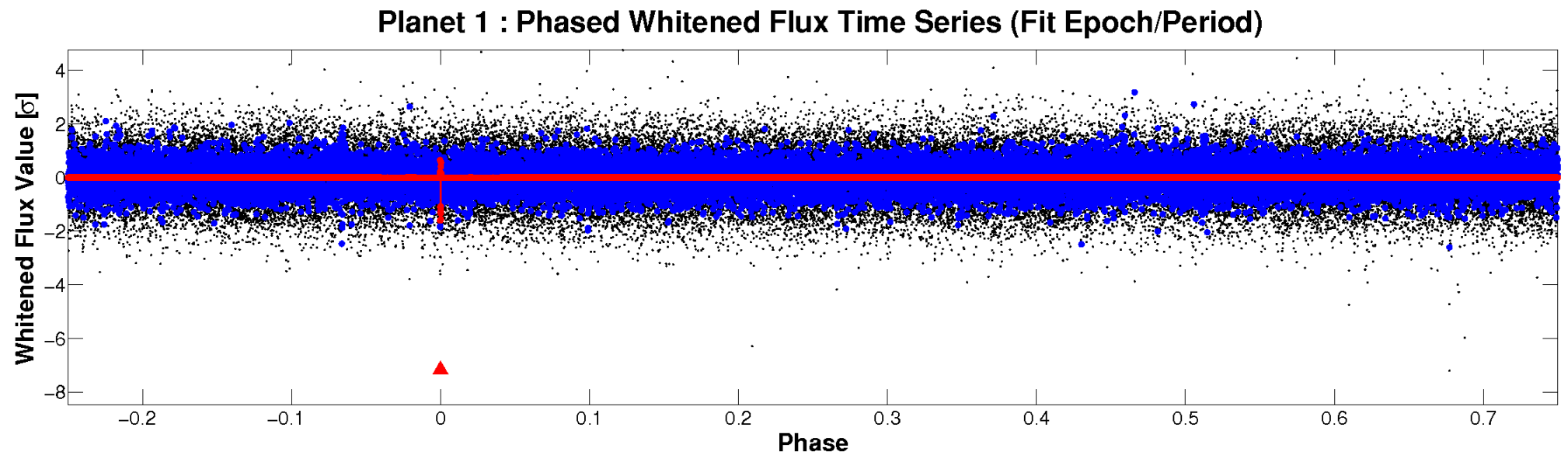
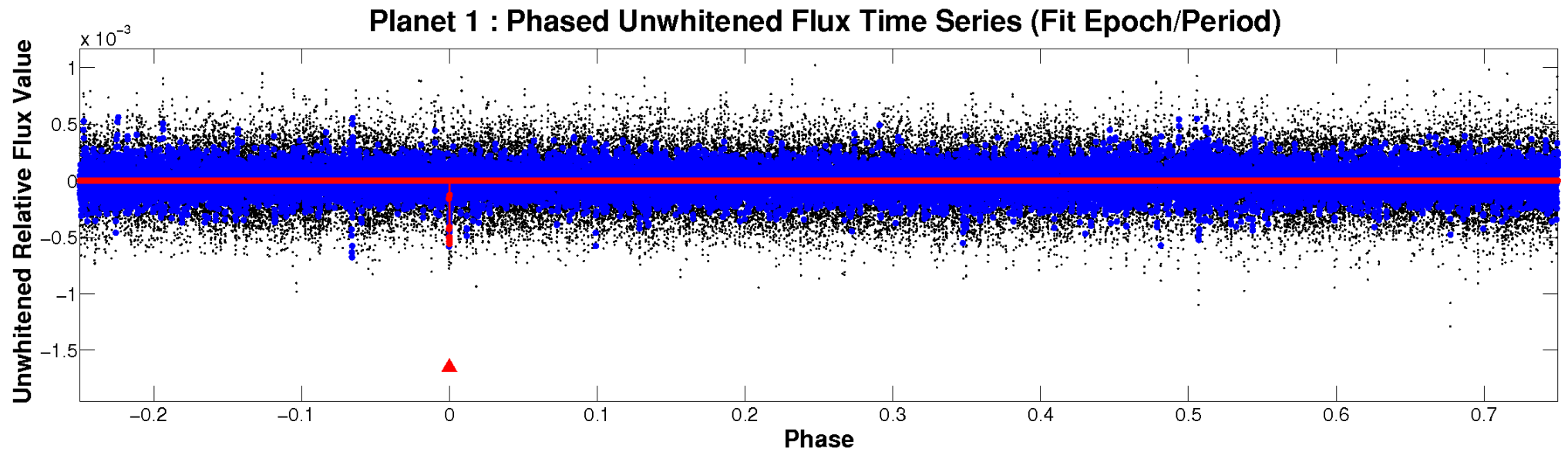


ALT Odd/Even

TCE 010532751-01

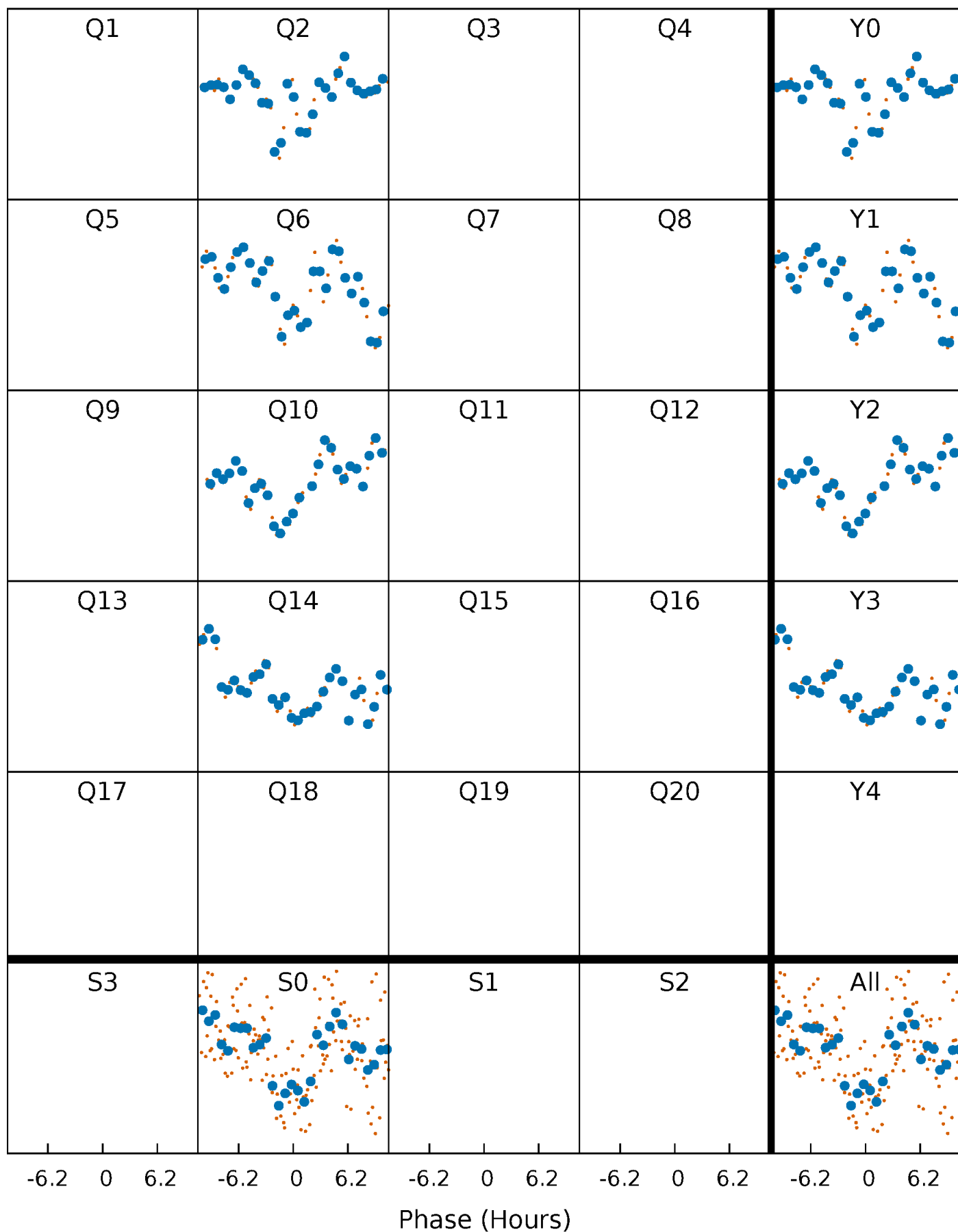


Non-Whitened Vs. Whitened Light Curve



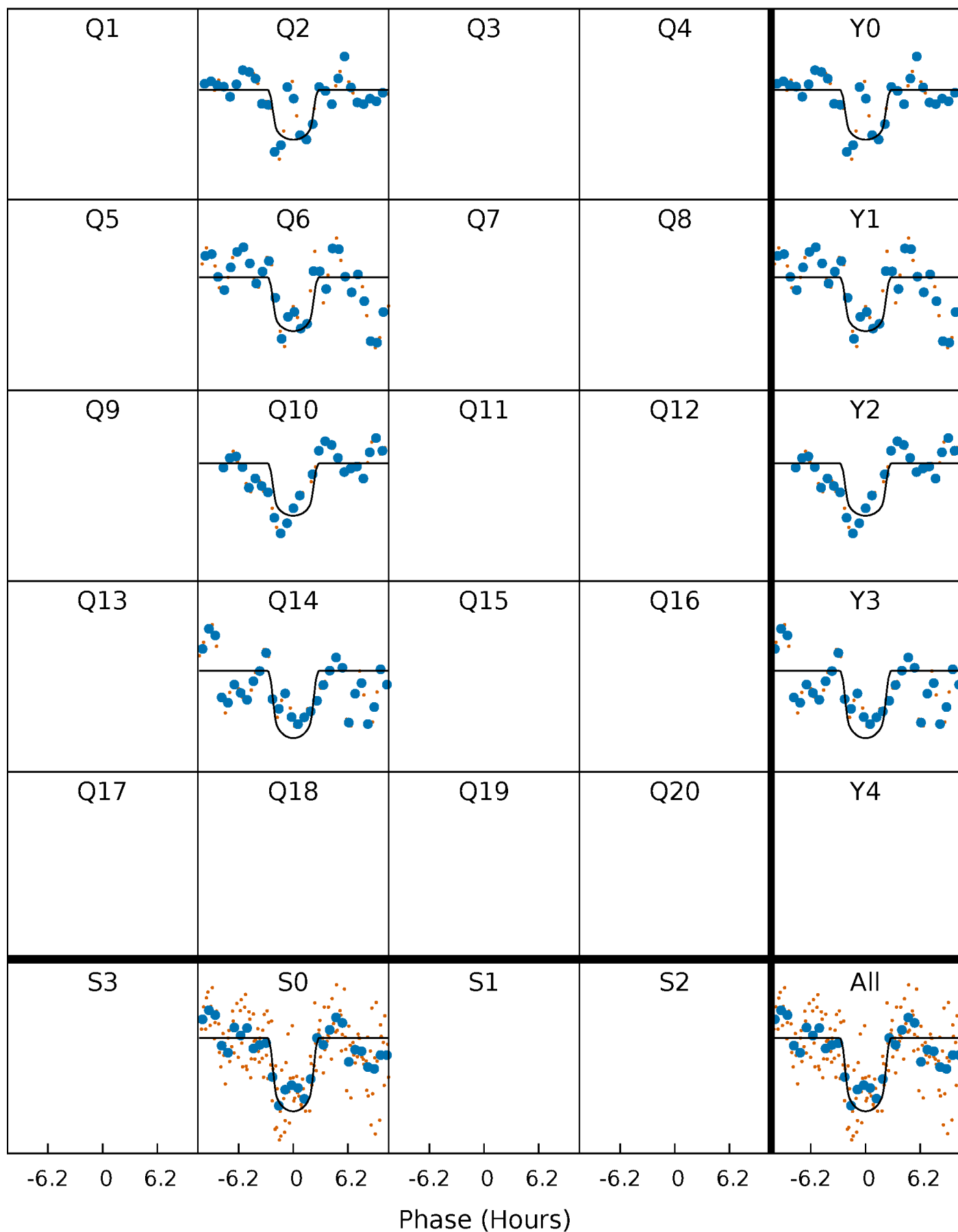
PDC Quarter-Phased Transit Curves

TCE 010532751-01 P=367.760387 Days $T_0=194.780282$ (BKJD)



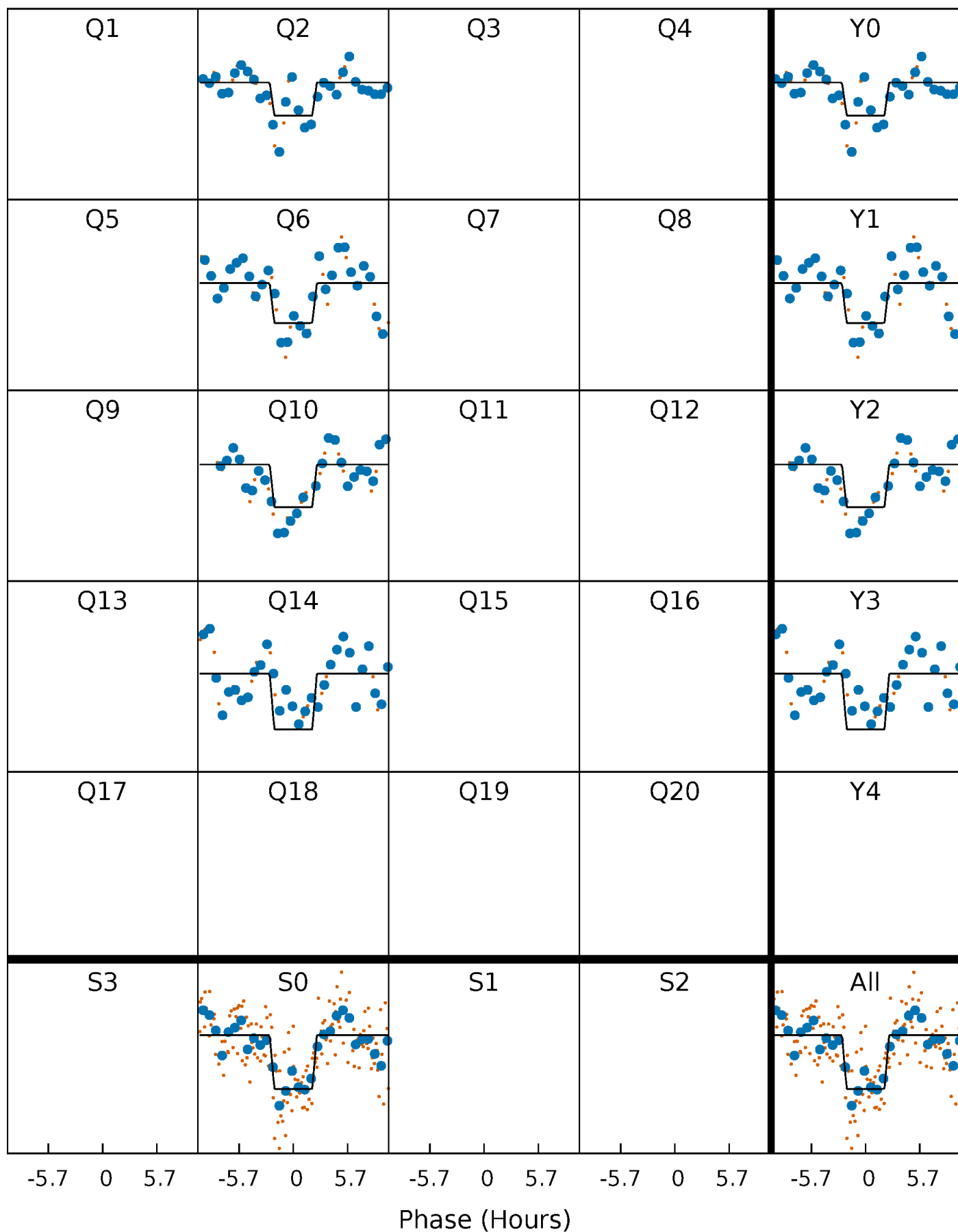
DV Quarter-Phased Transit Curves

TCE 010532751-01 P=367.760387 Days $T_0=194.780282$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

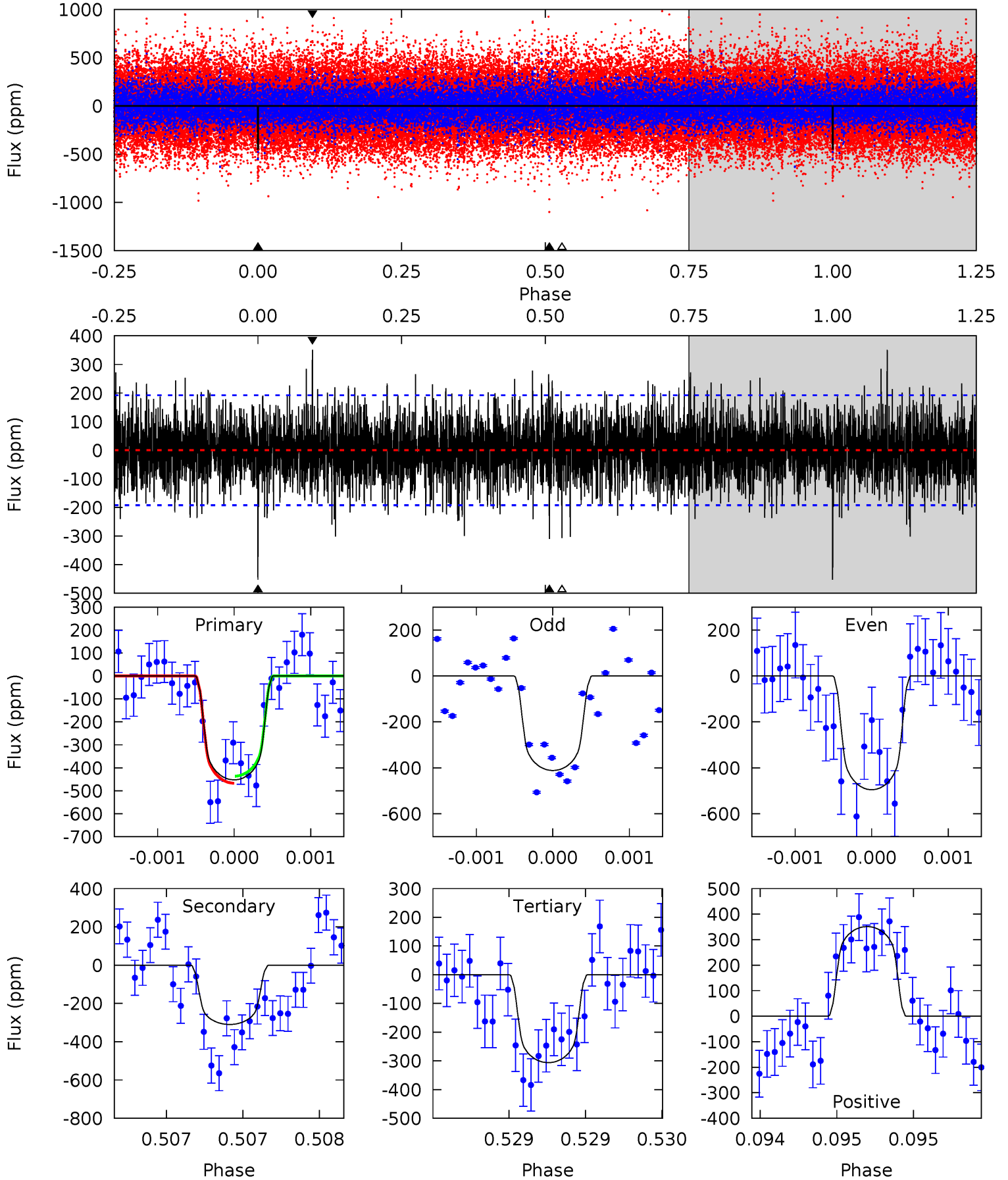
TCE 010532751-01 P=367.756402 Days $T_0=194.776248$ (BKJD)



DV Model-Shift Uniqueness Test

010532751-01, P = 367.760387 Days, E = 194.780282 Days

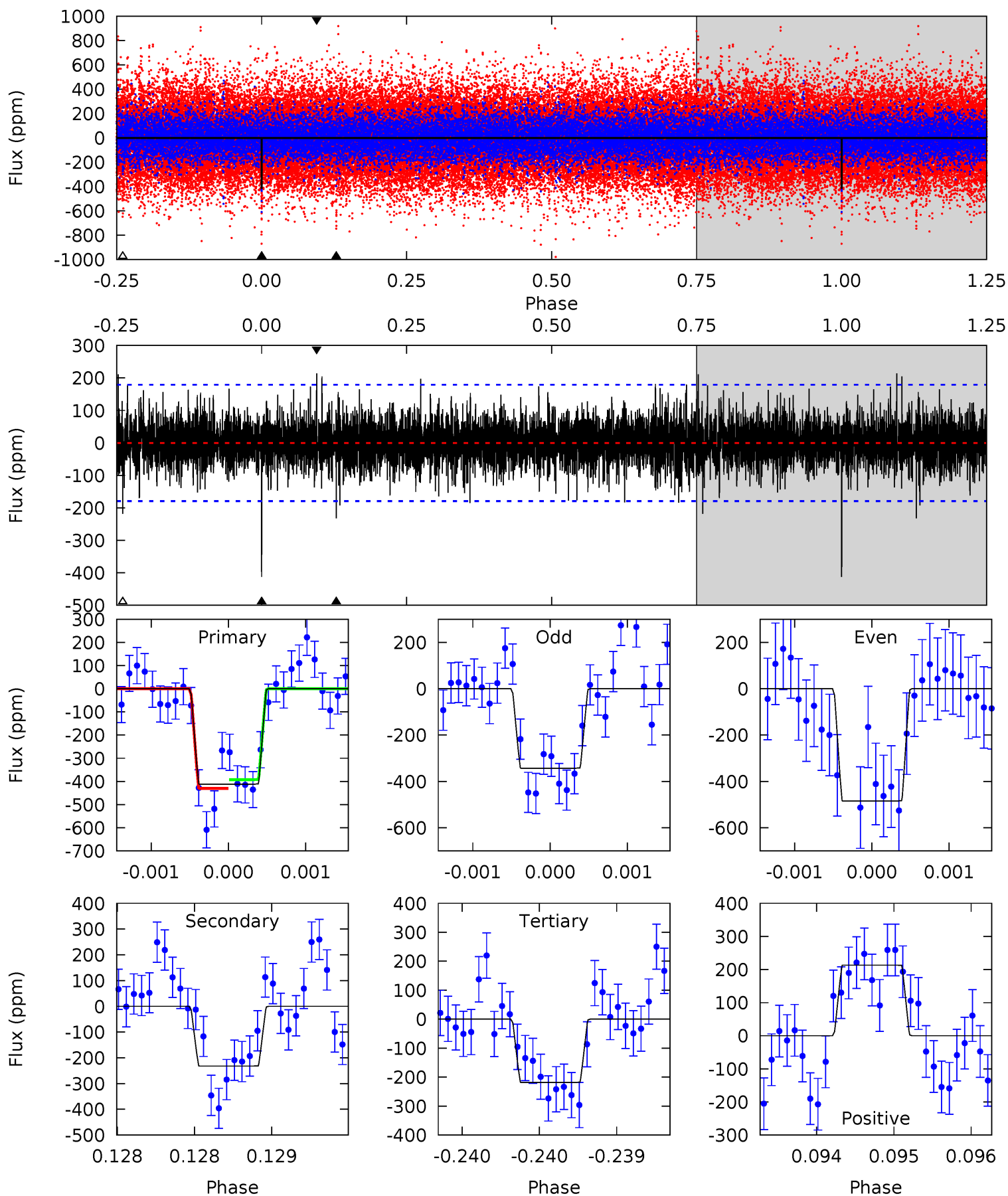
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 13.0 | 8.89 | 8.79 | 10.1 | 5.53 | 3.41 | 2.35 | 4.20 | 2.91 | 0.10 | -1.19 | 1.22 | 1.04 | 0.44 | 0.44 |



Alt Model-Shift Uniqueness Test

010532751-01, P = 367.756402 Days, E = 194.776248 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 12.8 | 7.18 | 6.75 | 6.60 | 5.55 | 3.44 | 1.64 | 6.00 | 6.15 | 0.43 | 0.58 | 2.19 | 0.90 | 0.34 | 0.58 |



Stellar Parameters For KIC 010532751

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|---------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5348^{+63}_{-295} | $2.897^{+0.045}_{-0.014}$ | $0.070^{+0.150}_{-0.350}$ | $9.888^{+0.257}_{-2.058}$ | $2.814^{+0.053}_{-1.016}$ | $0.004^{+0.002}_{-0.000}$ |
| | +1%/-6% | +2%/-0% | +214%/-500% | +3%/-21% | +2%/-36% | +37%/-4% |
| Source | PHO55 | AST55 | SPE55 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 010532751-01 / KOI 8292.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|-------------------------|----------------------|----------------------|---------------------|
| DV | -310 ± 35 | $27.68^{+2.85}_{-3.09}$ | 859^{+22}_{-41} | 4475^{+246}_{-228} | 441^{+115}_{-78} |
| Alt. | -232 ± 32 | $21.68^{+2.79}_{-2.78}$ | 859^{+22}_{-40} | 4667^{+301}_{-275} | 541^{+192}_{-132} |

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

DV Centroid Data

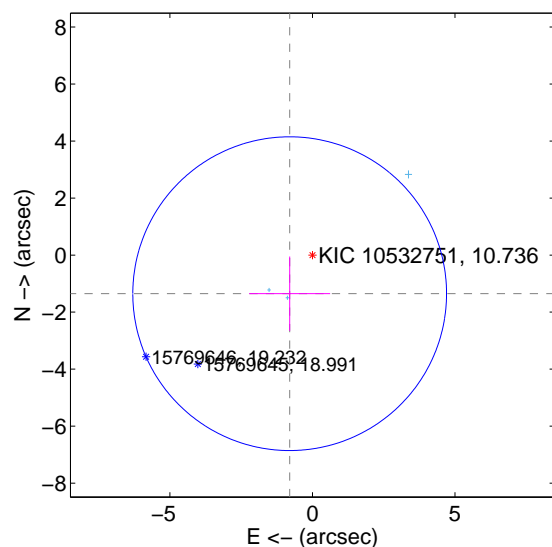
Supplemental centroid analysis for 010532751-01. **Kepler magnitude: 10.74.** Transit SNR 7.71

There are 3 quarters with good PRF difference image offsets

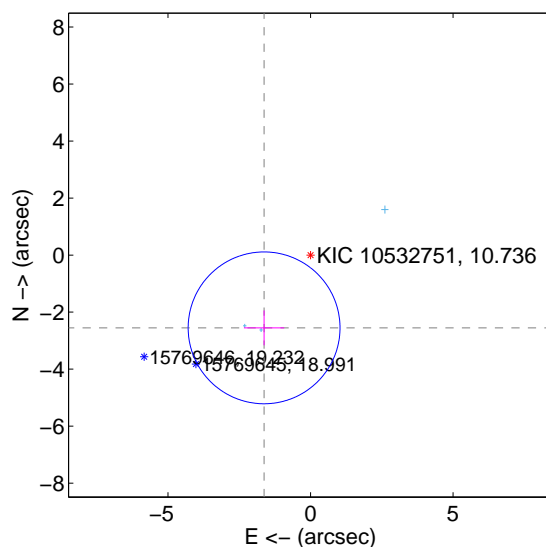
The direct PRF centroid is offset from the target star catalog position by about 1.45 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|-------------------------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 1.572 ± 1.834 | 0.86 | 0.798 ± 1.420 | -1.354 ± 1.305 |
| PRF-fit source offset from KIC position | 3.028 ± 0.888 | 3.41 | 1.629 ± 0.707 | -2.552 ± 0.612 |
| photometric centroid source offset | 0.55 ± 0.34 | 1.61 | 0.53 ± 0.33 | -0.14 ± 0.42 |

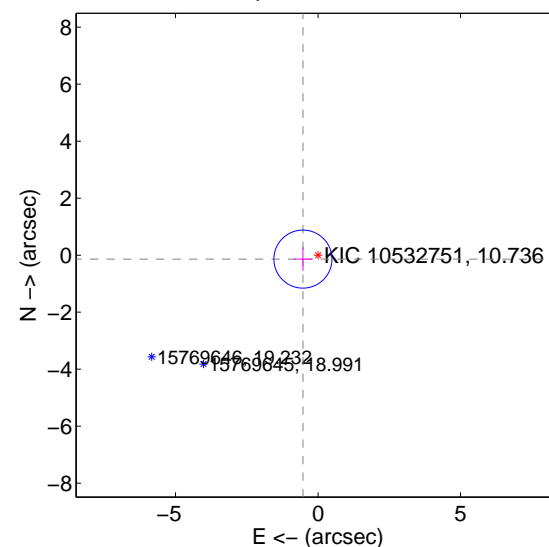
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

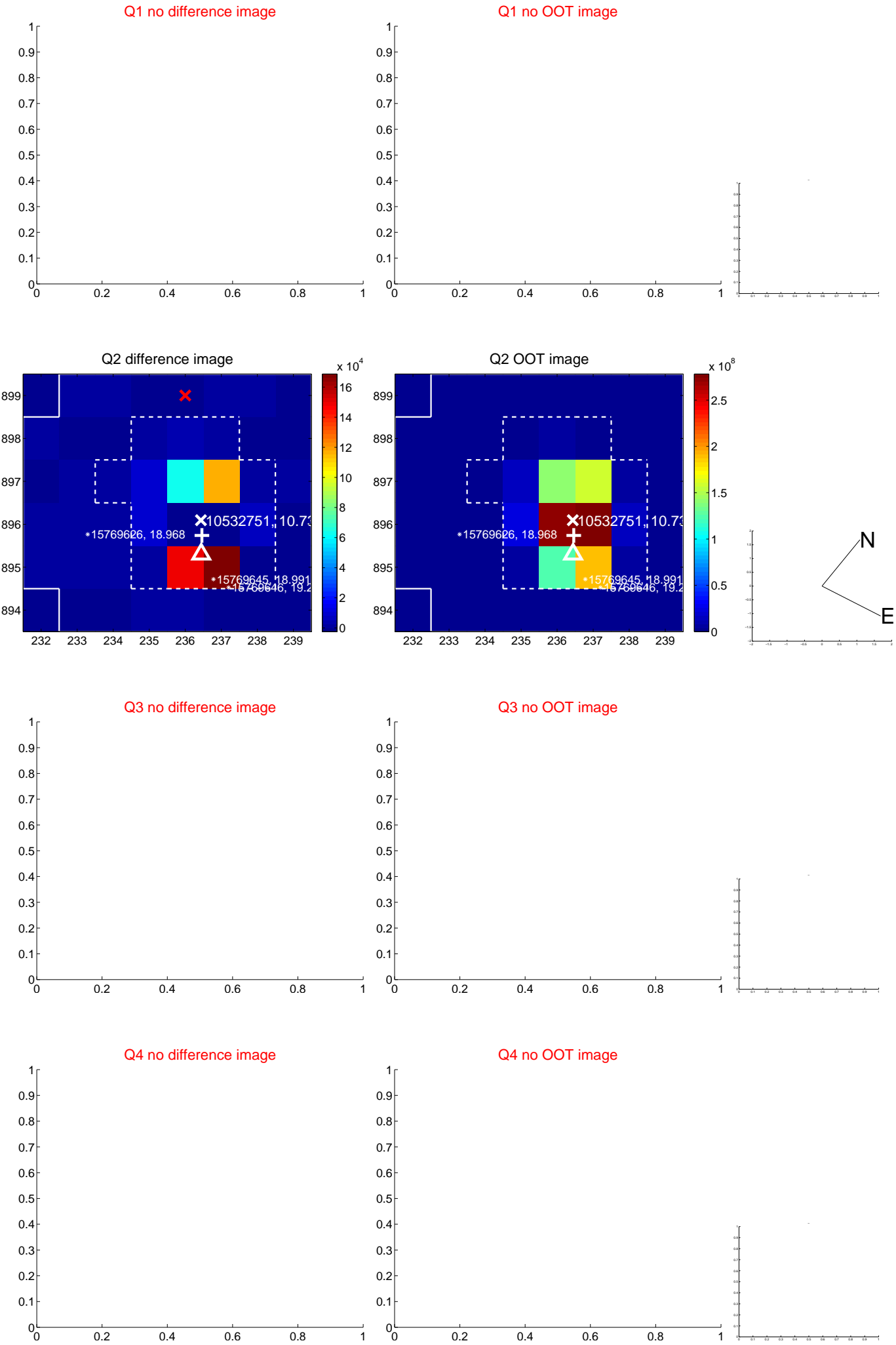


offset from photometric centroids

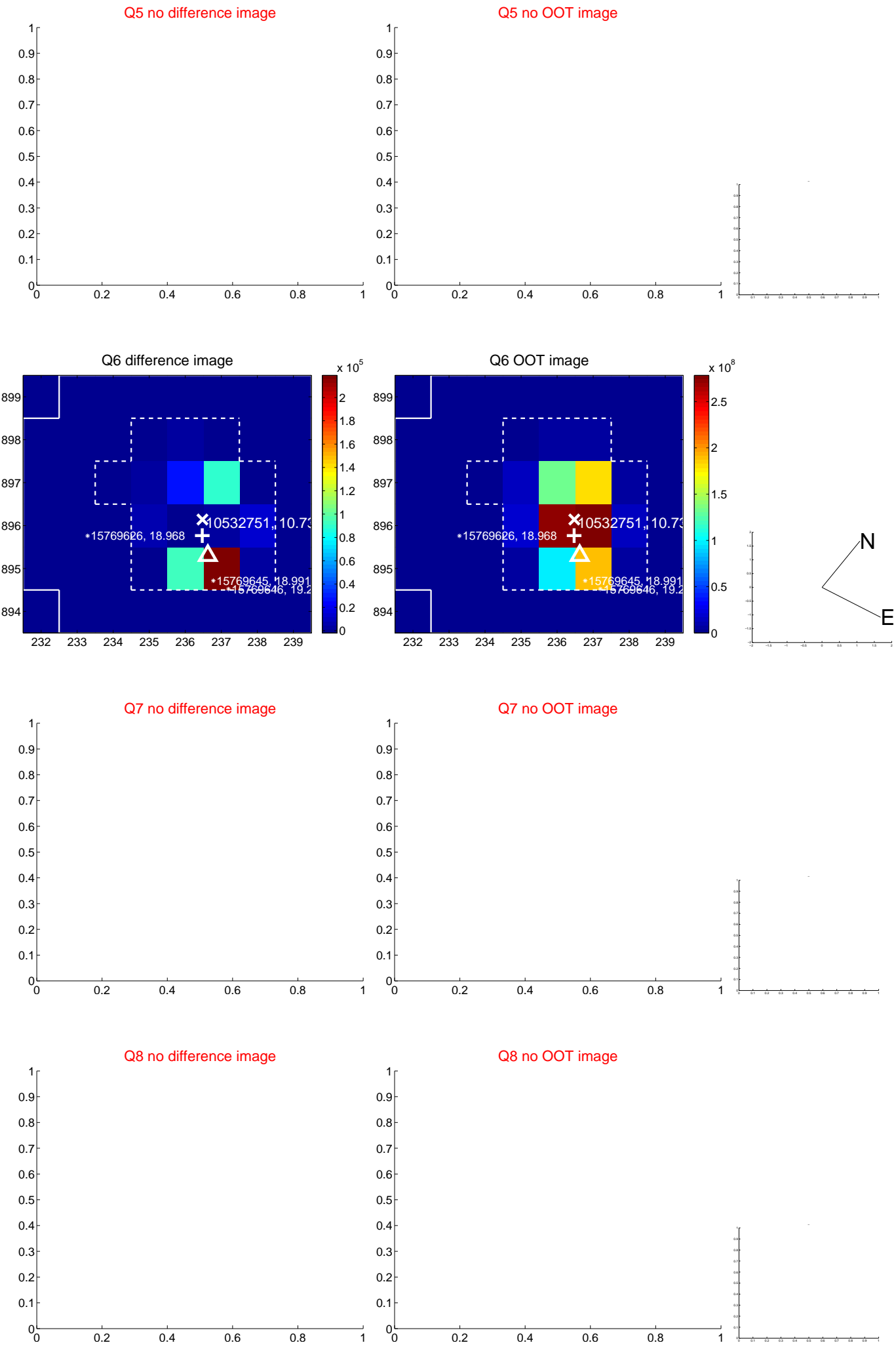


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



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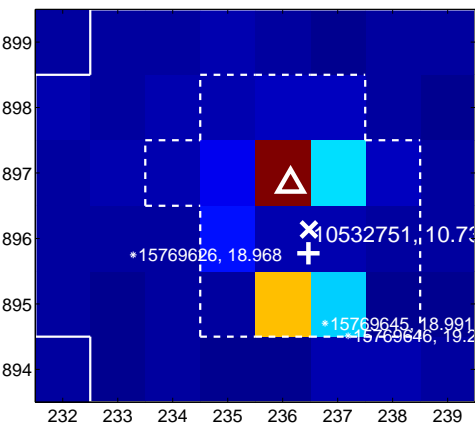
Q13 no difference image



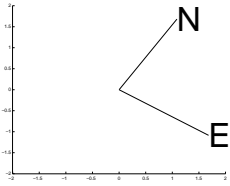
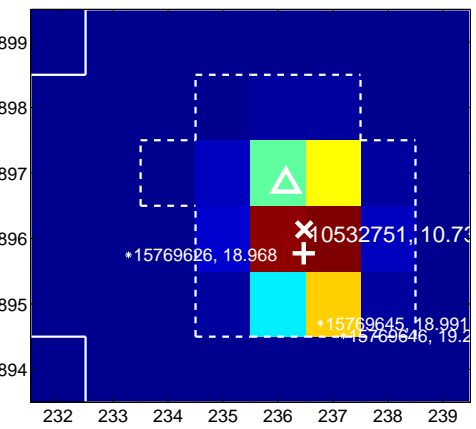
Q13 no OOT image



Q14 difference image



Q14 OOT image



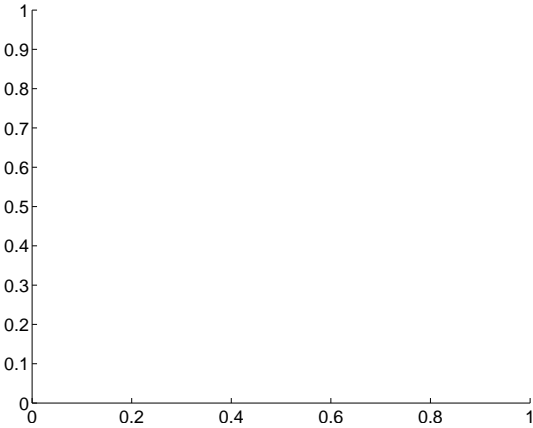
Q15 no difference image



Q15 no OOT image



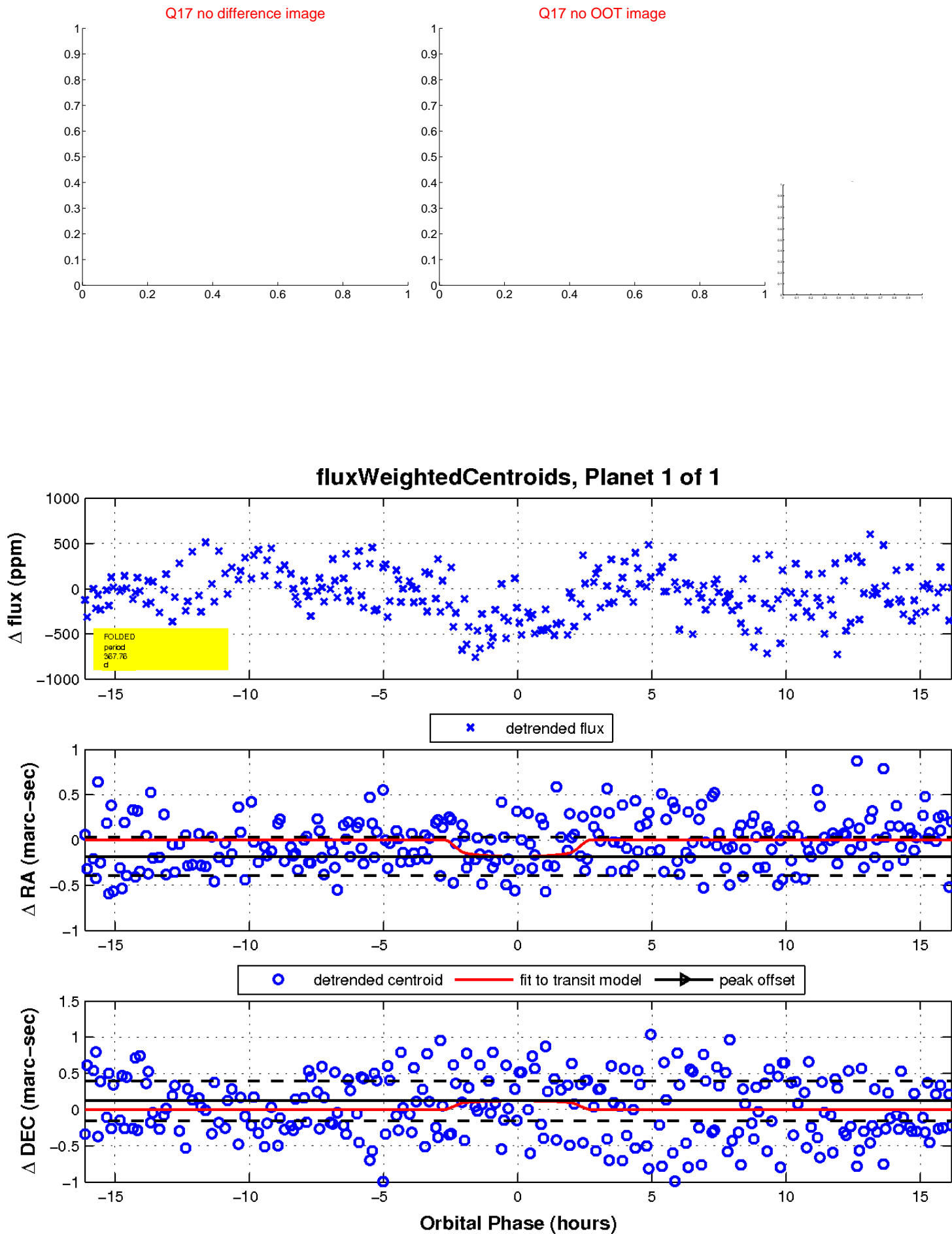
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

