

KIC 008242606

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 008242606-01 | OBS | No | 368.088172 | 235.837744 | 480.2 | 11.294 | 9.4 | 9.5 | 1.03 | 6277 | 2.43 | 1.38 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 008242606-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_FEW_DIFFS |

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

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

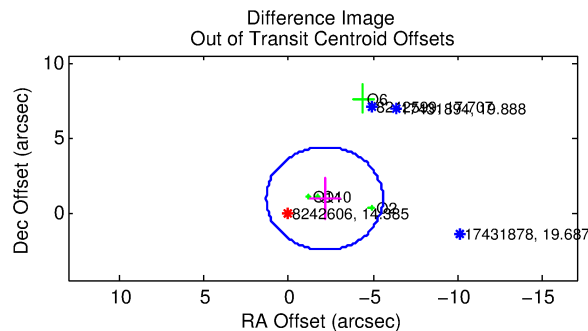
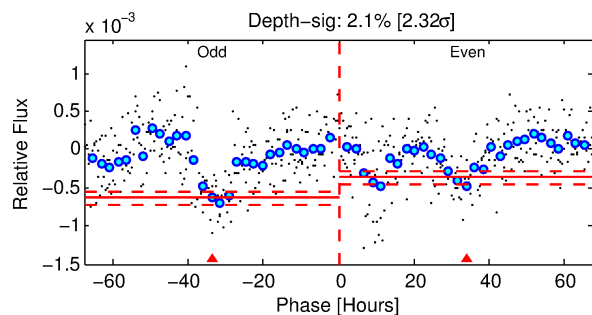
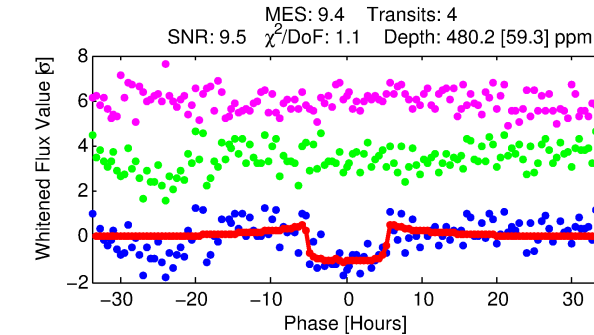
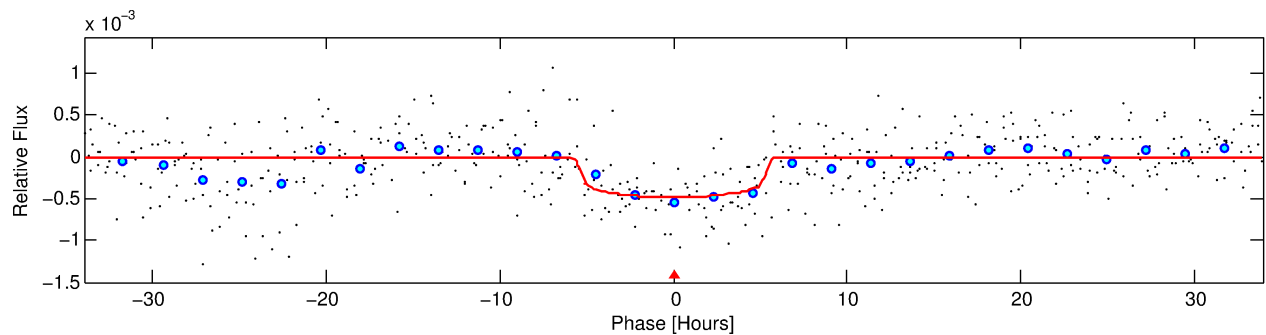
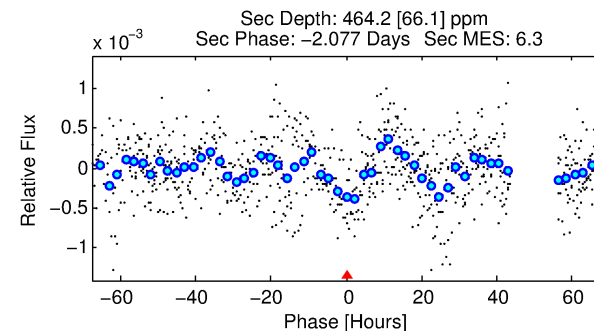
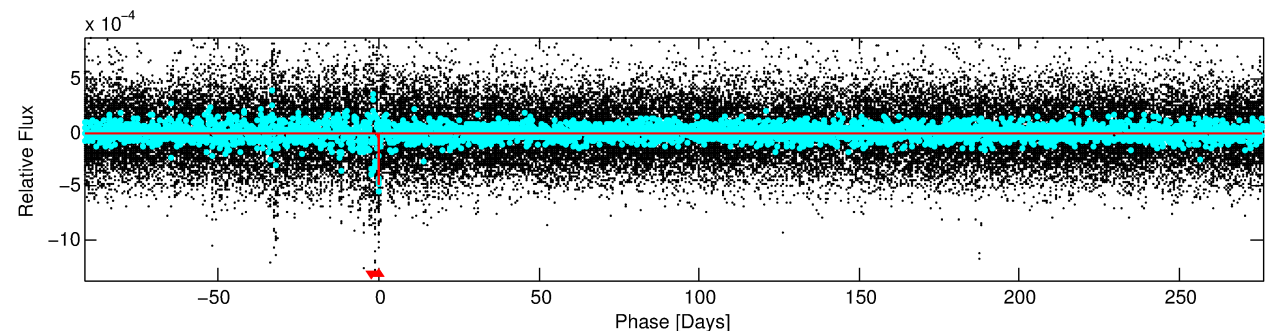
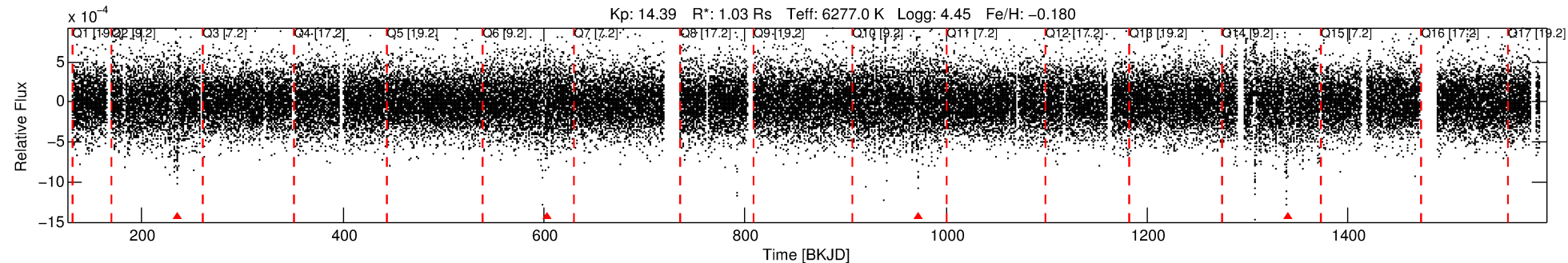
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008242606-01

No Significant Match Found

DV One-Page Summary

KIC: 8242606 Candidate: 1 of 1 Period: 368.088 d



DV Fit Results:

Period = 368.08817 [0.00688] d
Epoch = 235.8377 [0.0146] BKJD
Rp/R* = 0.0216 [0.0060]
a/R* = 180.20 [250.64]
b = 0.72 [0.93]
Seff = 1.38 [0.55]
Teff = 276 [28] K
Rp = 2.43 [1.04] Re
a = 1.0348 [0.2756] AU
Ag = 46299.94 [31951.30] [1.45σ]
Teffp = 6269 [928] K [6.46σ]

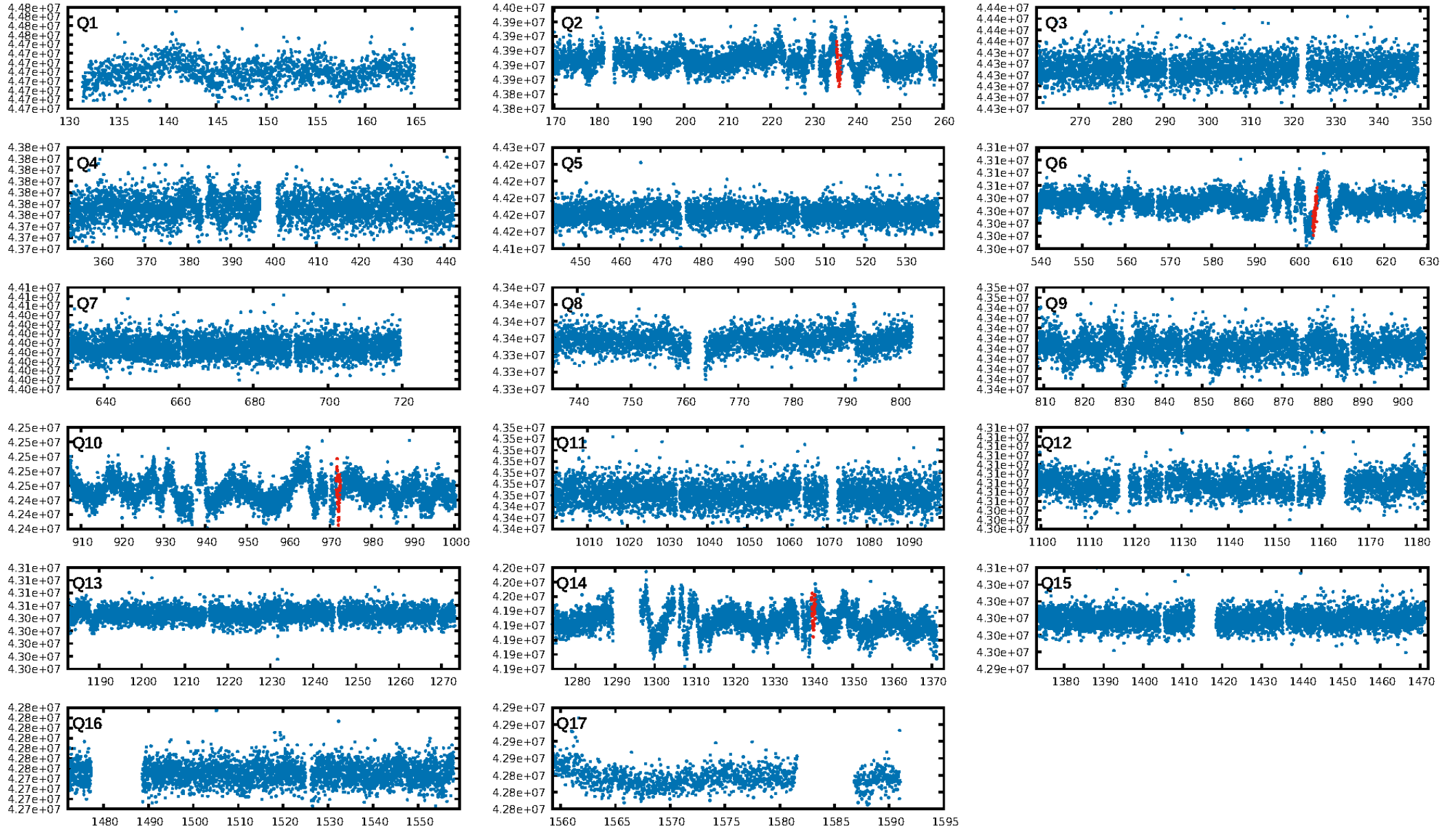
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.4%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 3.27e-10
RollingBand-fgt: 0.00 [0/4]
GhostDiagnostic-chr: 4.429
Centroid-sig: 60.6%
Centroid-so: 0.982 arcsec [0.55σ]
OotOffset-rm: 2.321 arcsec [2.03σ]
KicOffset-rm: 2.192 arcsec [2.20σ]
OotOffset-st: 4/0/0/0 [4]
KicOffset-st: 4/0/0/0 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 1.00 [4/4]

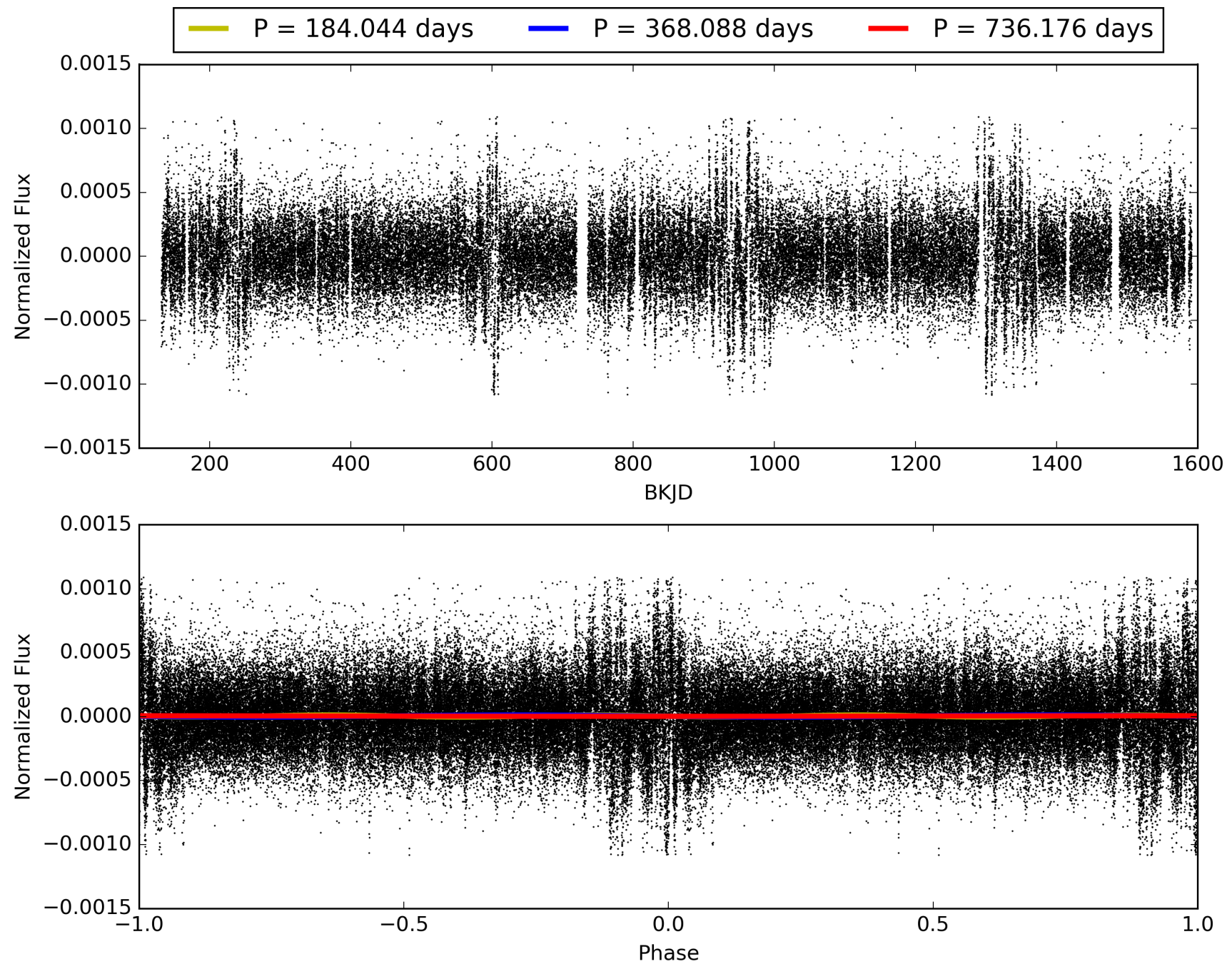
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:52:59 Z

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

TCE 008242606-01, PDC Light Curves

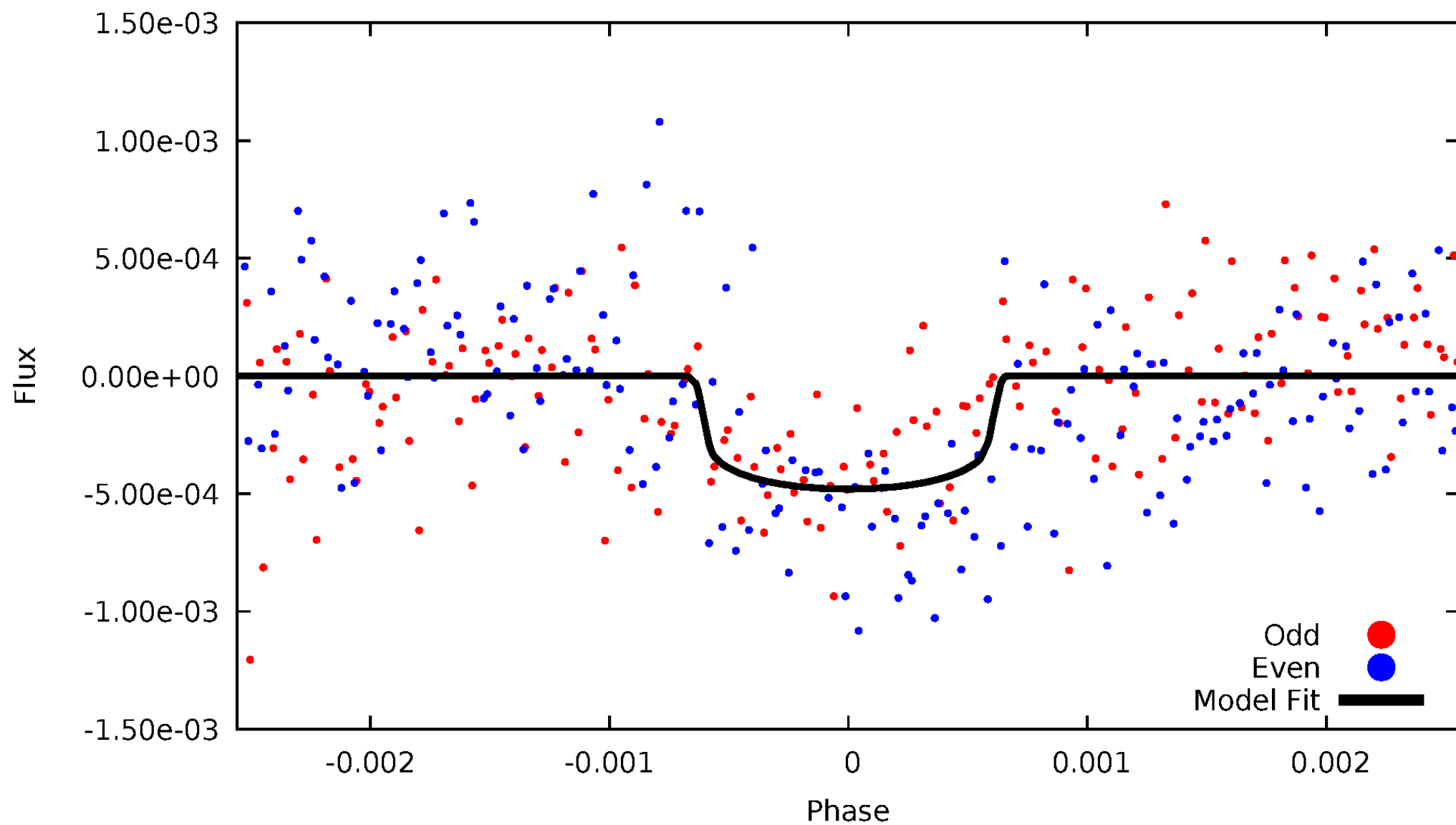


TCE 008242606-01



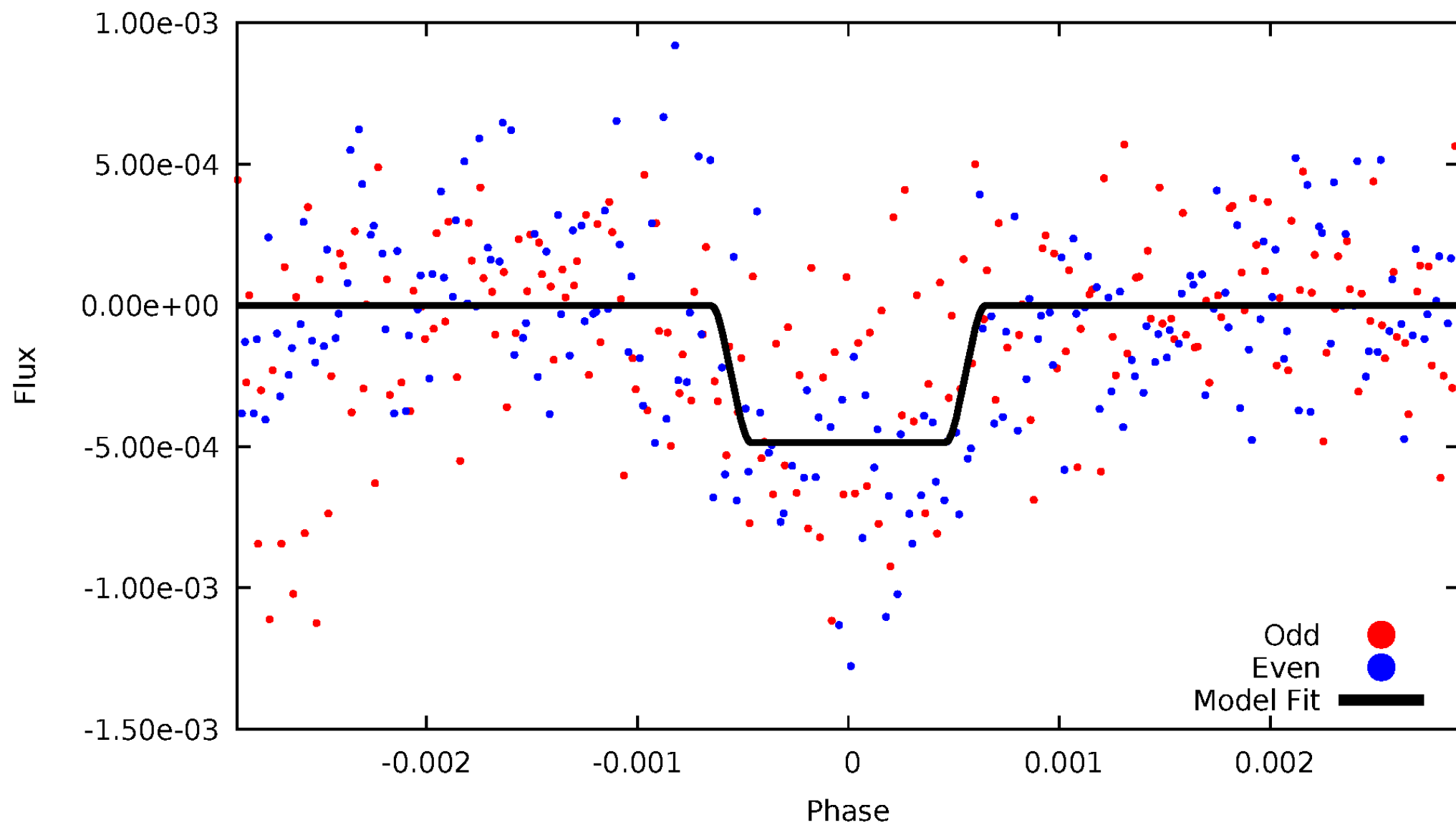
DV Odd/Even

TCE 008242606-01



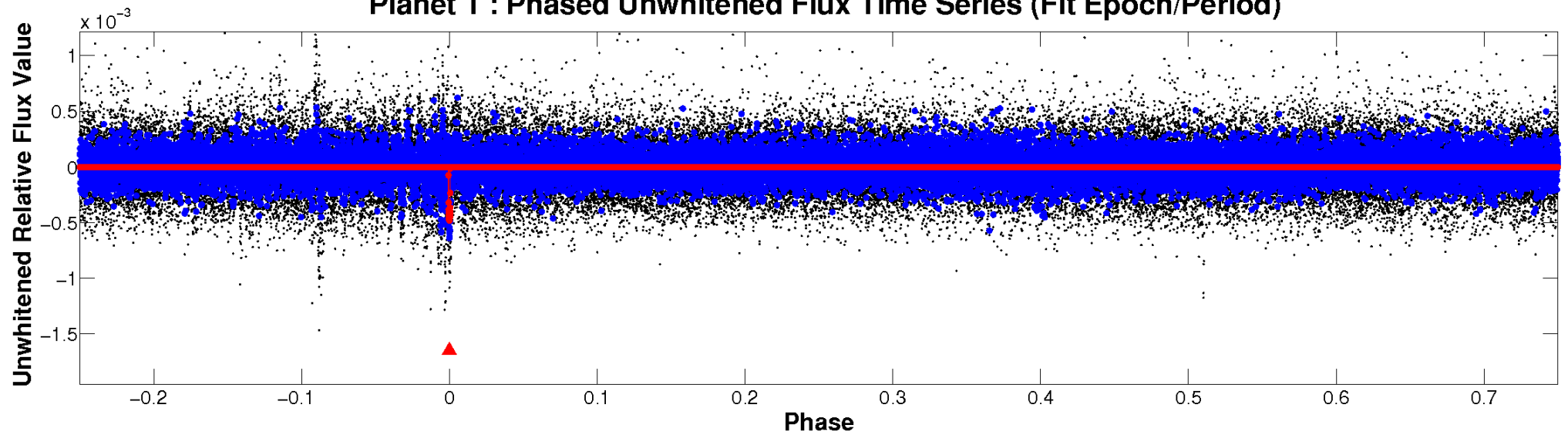
ALT Odd/Even

TCE 008242606-01

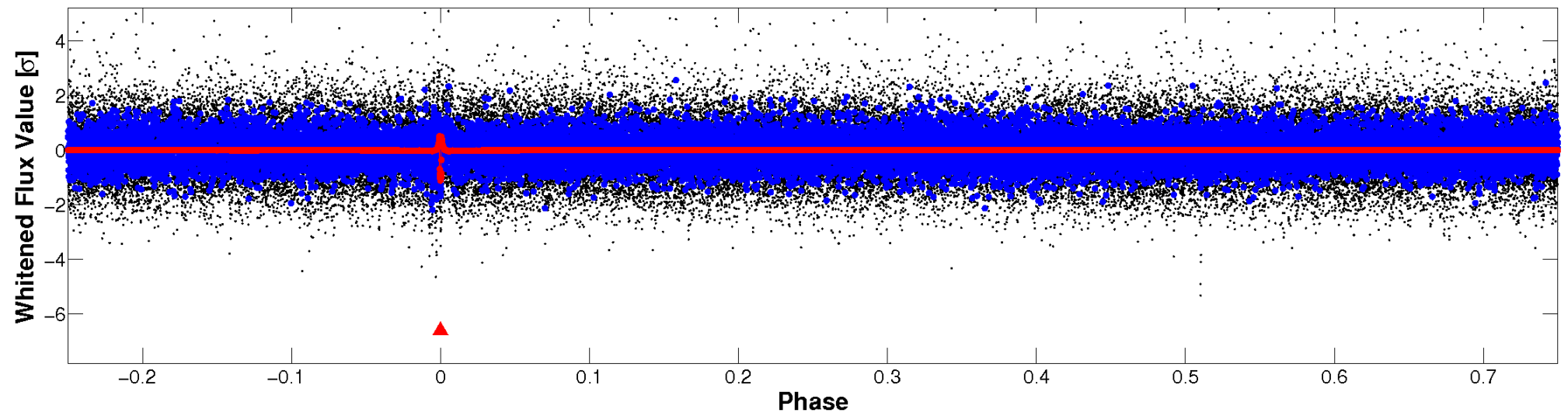


Non-Whitened Vs. Whitened Light Curve

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

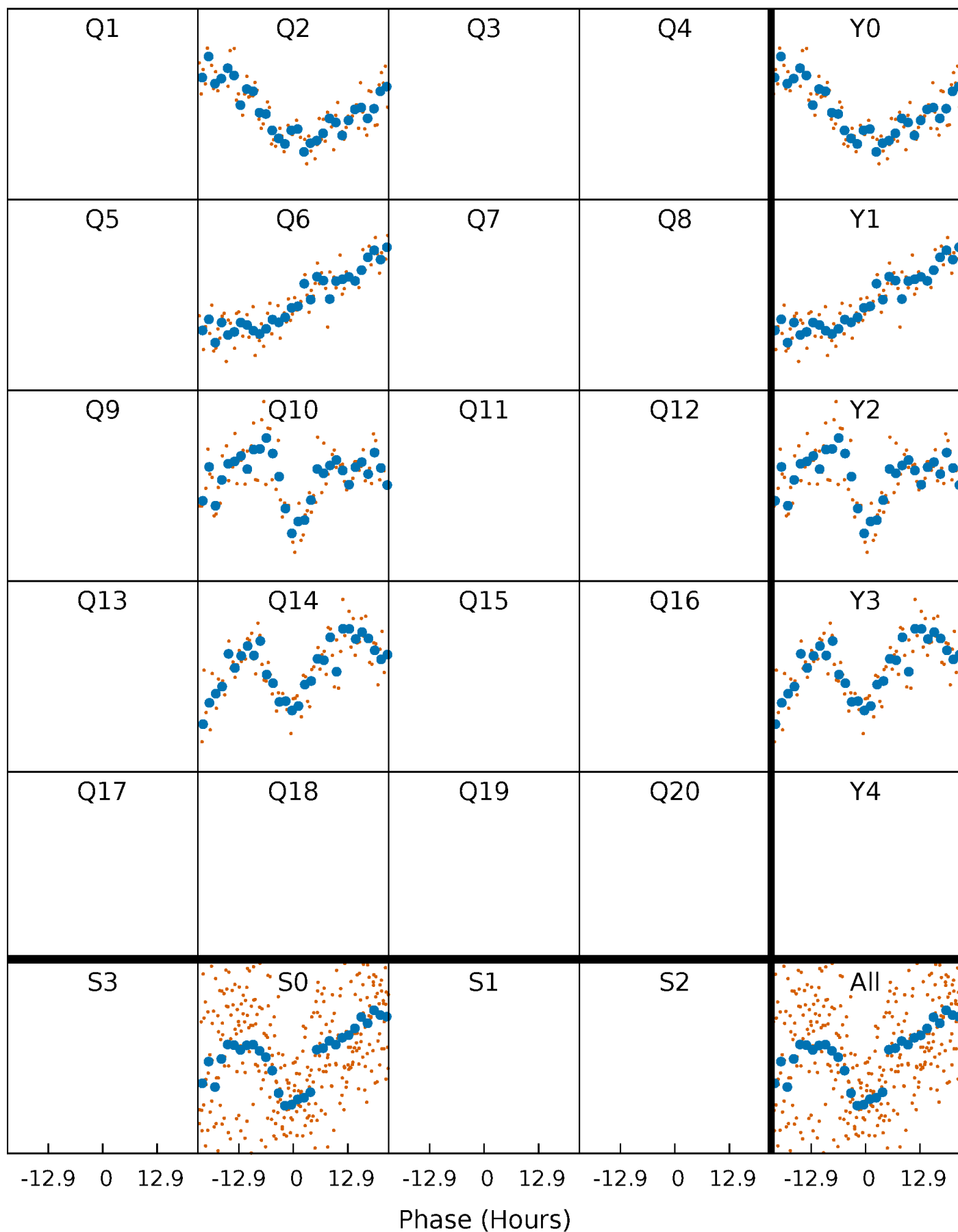


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



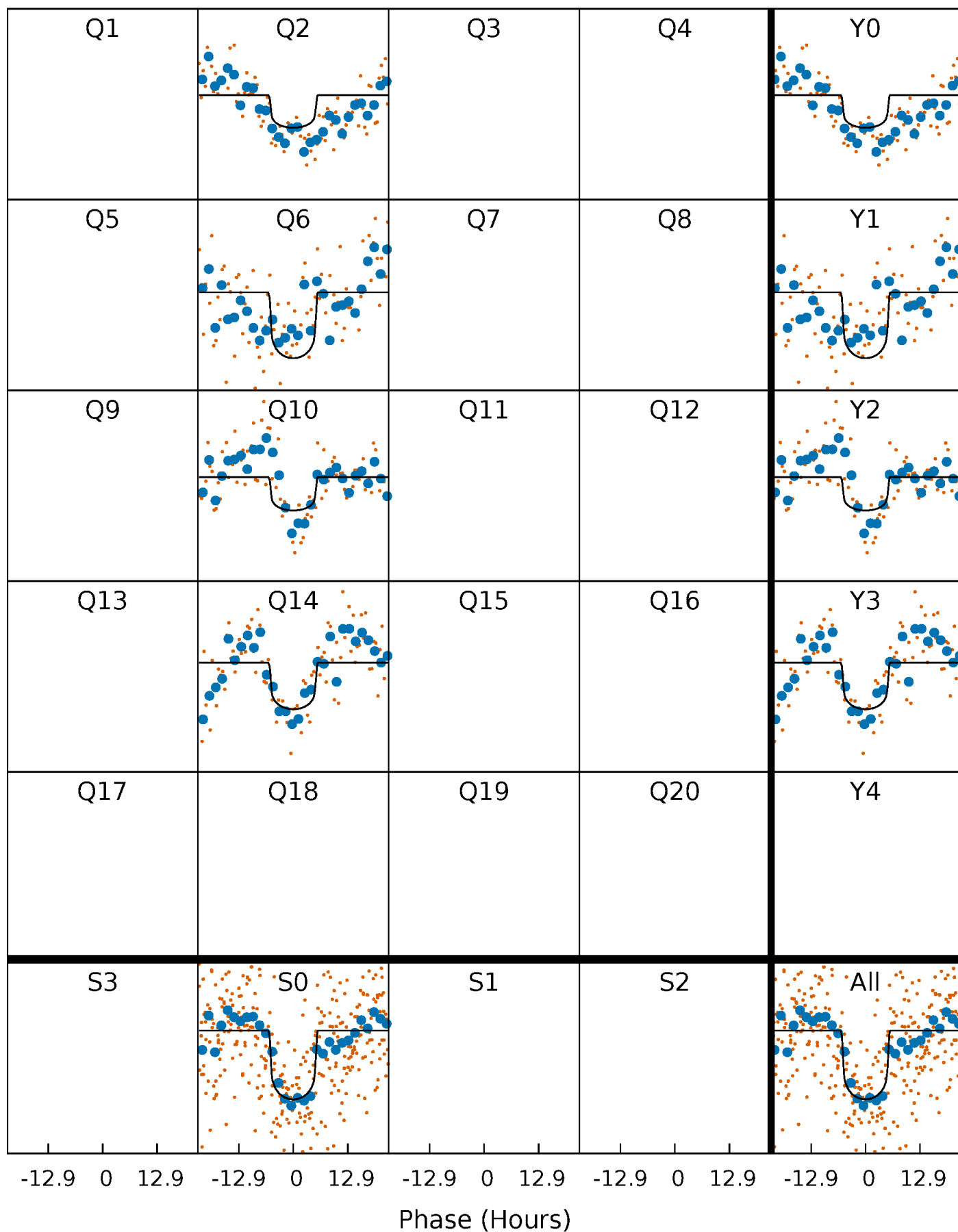
PDC Quarter-Phased Transit Curves

TCE 008242606-01 $P=368.088172$ Days $T_0=235.837744$ (BKJD)



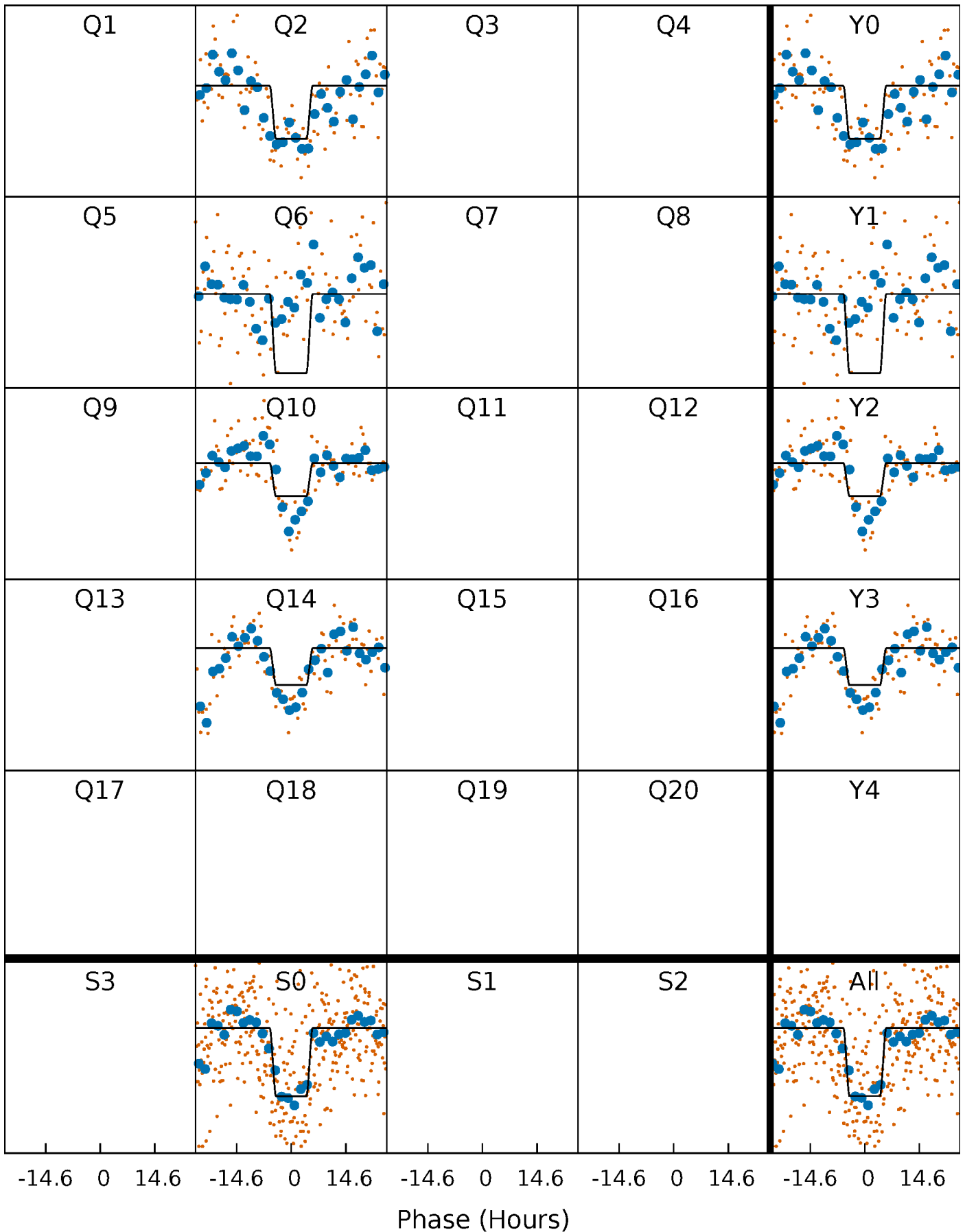
DV Quarter-Phased Transit Curves

TCE 008242606-01 P=368.088172 Days $T_0=235.837744$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

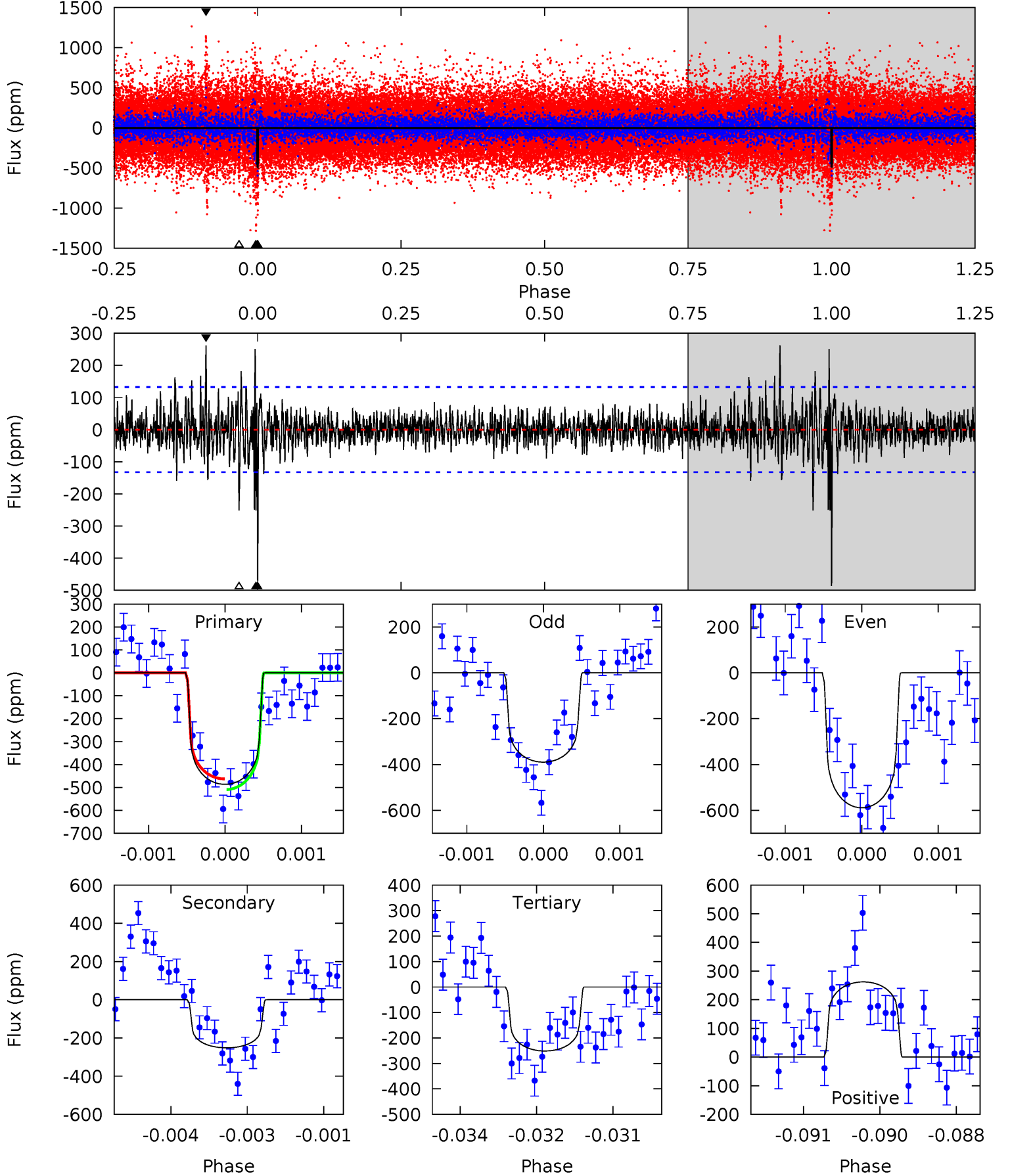
TCE 008242606-01 P=368.083339 Days $T_0=235.859053$ (BKJD)



DV Model-Shift Uniqueness Test

008242606-01, P = 368.088172 Days, E = 235.837744 Days

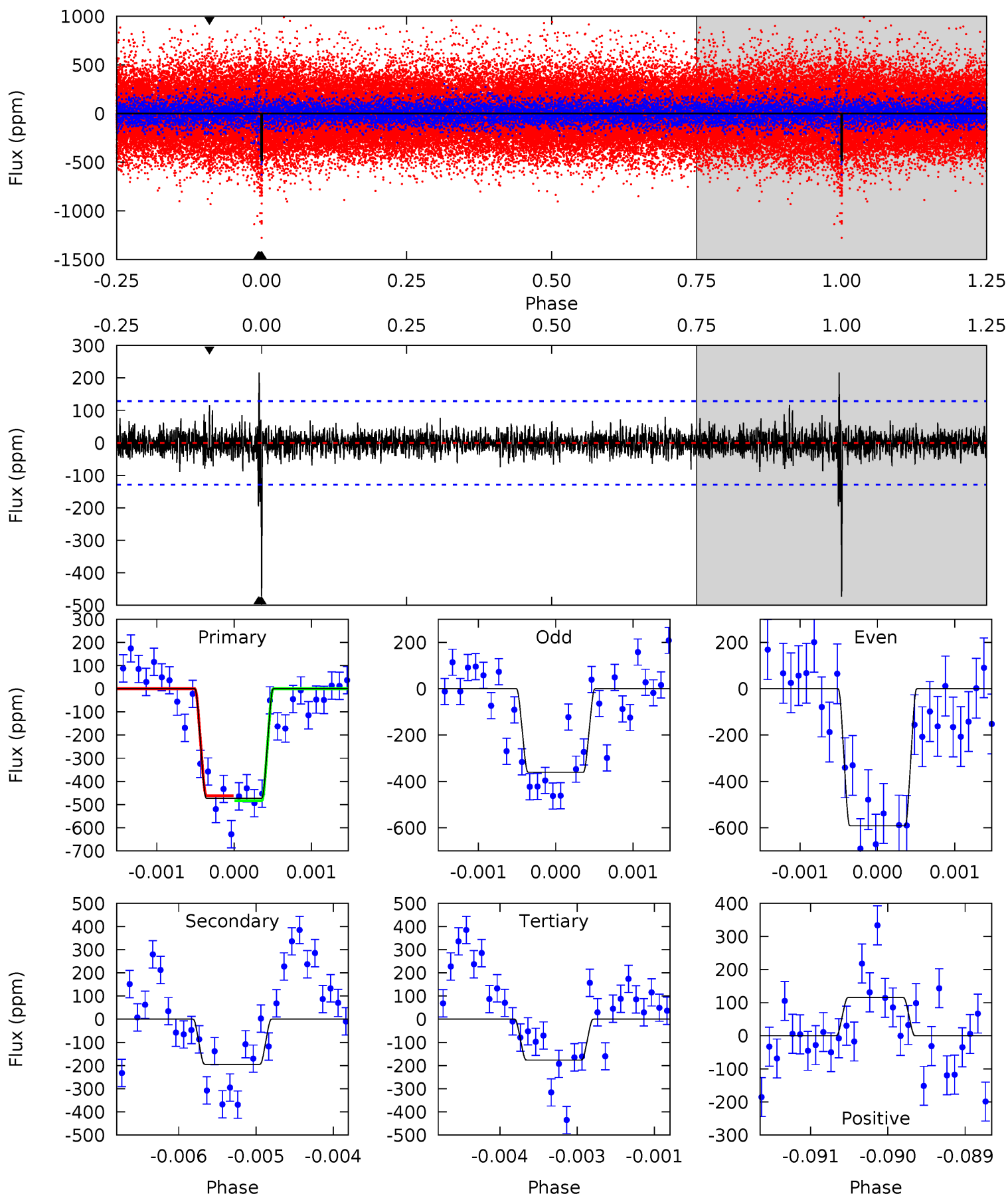
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 19.8 | 10.3 | 10.2 | 10.7 | 5.40 | 3.22 | 1.65 | 9.60 | 9.15 | 0.02 | -0.44 | 4.06 | 0.99 | 0.35 | 0.95 |



Alt Model-Shift Uniqueness Test

008242606-01, P = 368.083339 Days, E = 235.859053 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 19.8 | 8.16 | 7.39 | 4.84 | 5.41 | 3.22 | 1.03 | 12.4 | 15.0 | 0.77 | 3.32 | 4.83 | 0.80 | 0.31 | 0.44 |



Stellar Parameters For KIC 008242606

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6277^{+169}_{-206} | $4.449^{+0.054}_{-0.202}$ | $-0.180^{+0.250}_{-0.350}$ | $1.031^{+0.335}_{-0.112}$ | $1.085^{+0.144}_{-0.144}$ | $1.396^{+0.393}_{-0.733}$ |
| | +3%/-3% | +1%/-5% | +139%/-194% | +32%/-11% | +13%/-13% | +28%/-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 008242606-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|---------------|------------------------|-------------------|----------------------|---------------------------|
| DV | -252 ± 25 | $2.50^{+0.82}_{-0.74}$ | 392^{+26}_{-18} | 5441^{+961}_{-617} | 23598^{+21836}_{-10258} |
| Alt. | -195 ± 24 | $2.60^{+0.78}_{-0.72}$ | 394^{+28}_{-18} | 5013^{+834}_{-471} | 16238^{+15101}_{-6744} |

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 $A_{obs} \gg 1.0$

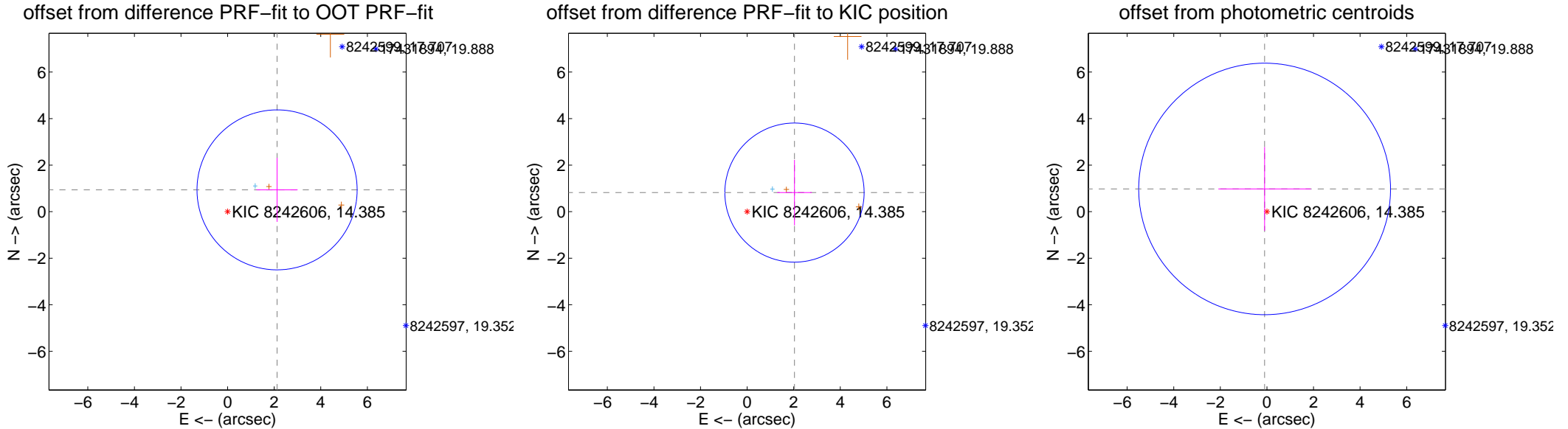
DV Centroid Data

Supplemental centroid analysis for 008242606-01. Kepler magnitude: 14.38. Transit SNR 9.47

There are 1 quarters with good PRF difference image offsets

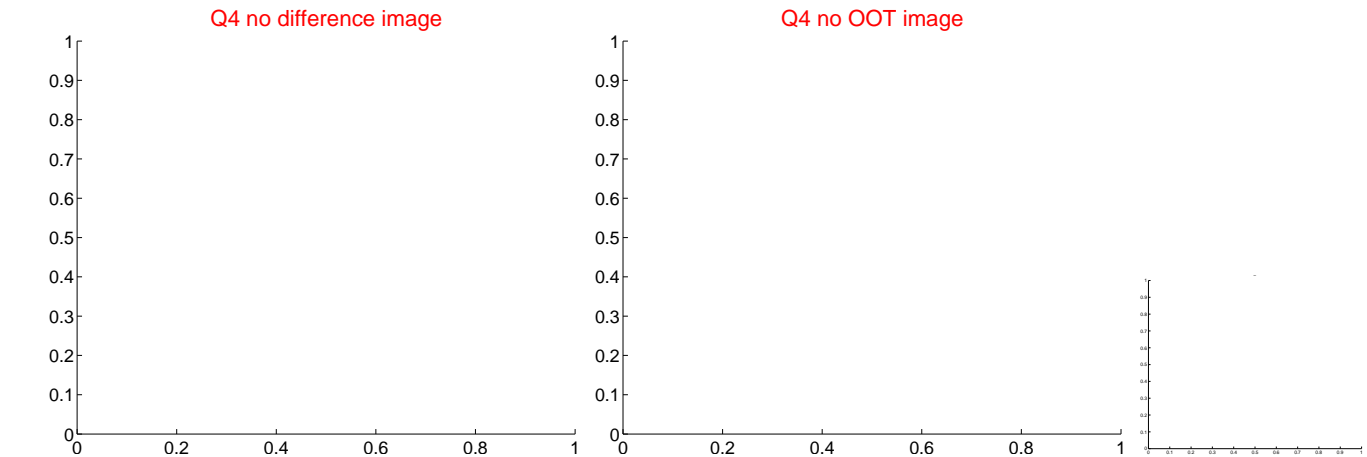
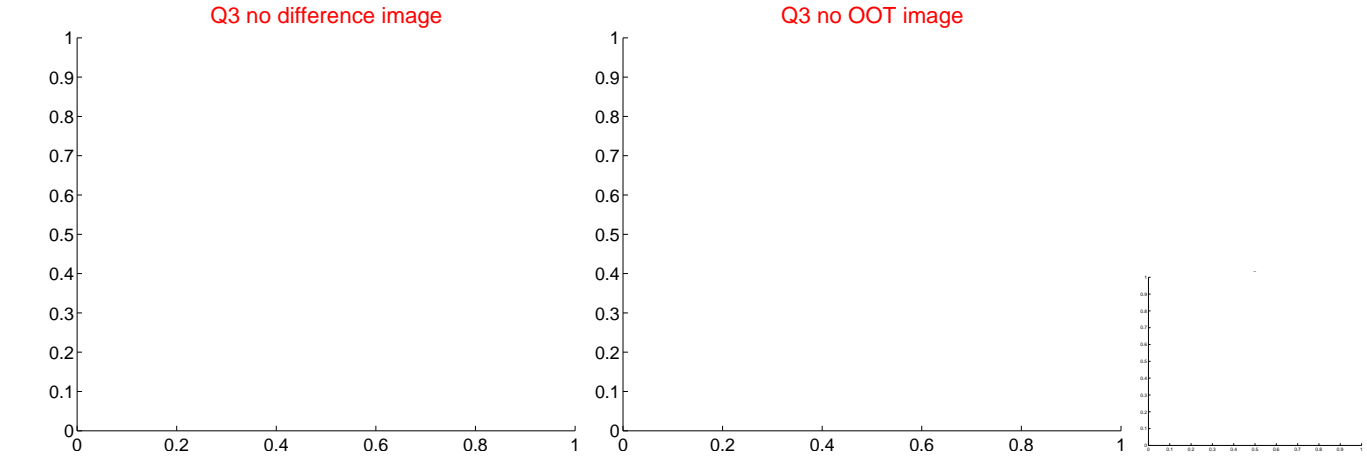
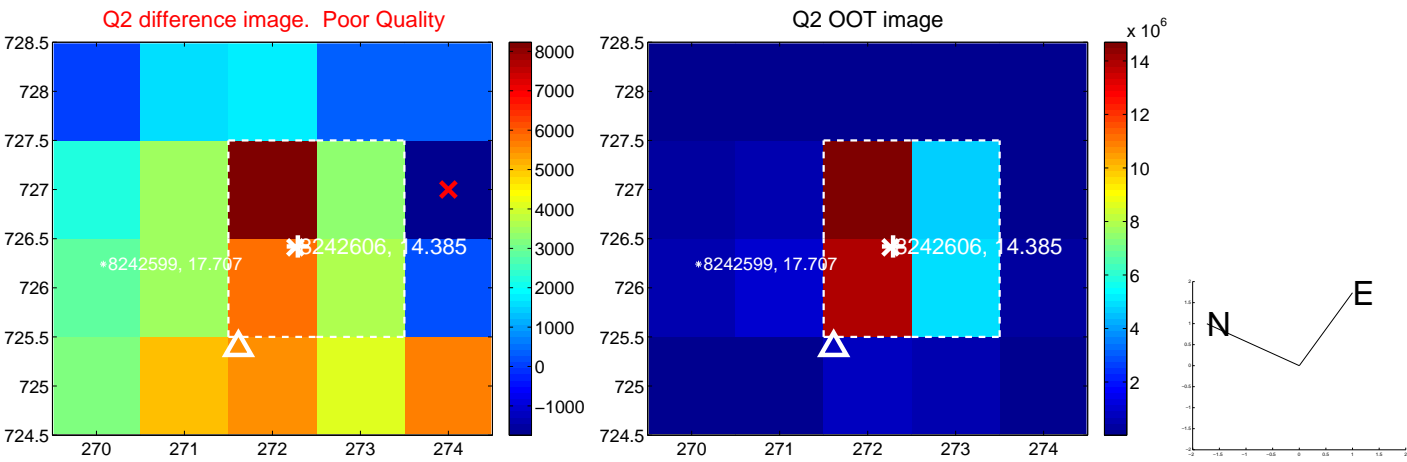
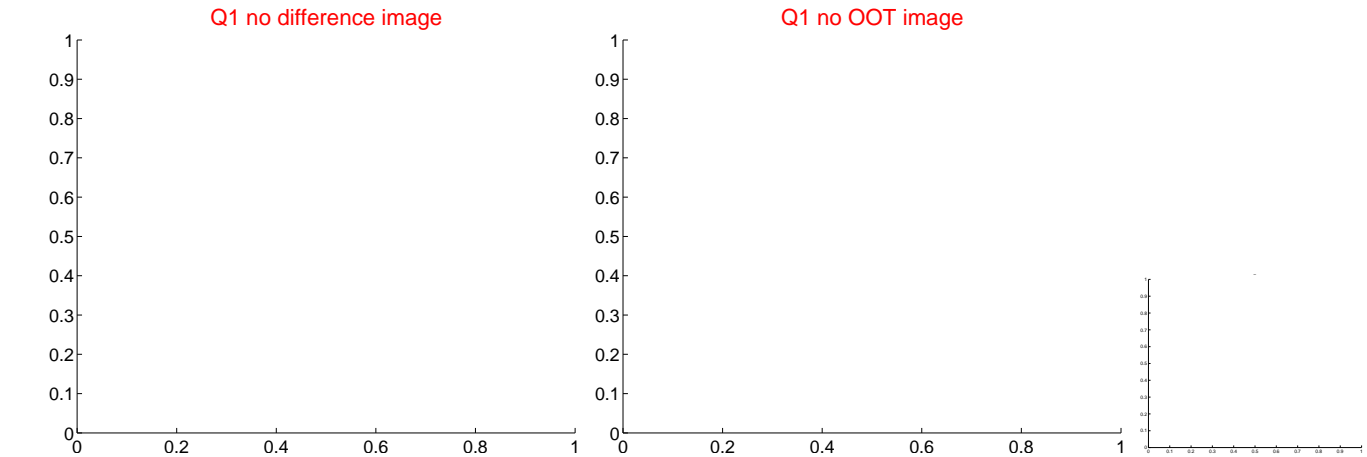
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 2.321 ± 1.145 | 2.03 | -2.123 ± 0.880 | 0.937 ± 1.373 |
| PRF-fit source offset from KIC position | 2.192 ± 0.996 | 2.20 | -2.033 ± 0.742 | 0.820 ± 1.404 |
| photometric centroid source offset | 0.98 ± 1.80 | 0.55 | 0.10 ± 1.98 | 0.98 ± 1.80 |

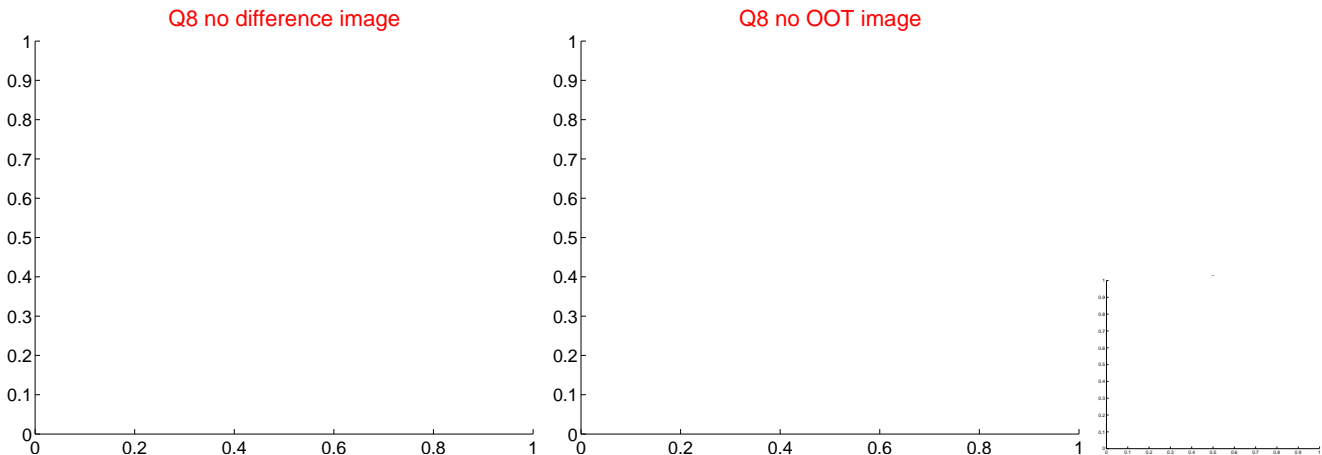
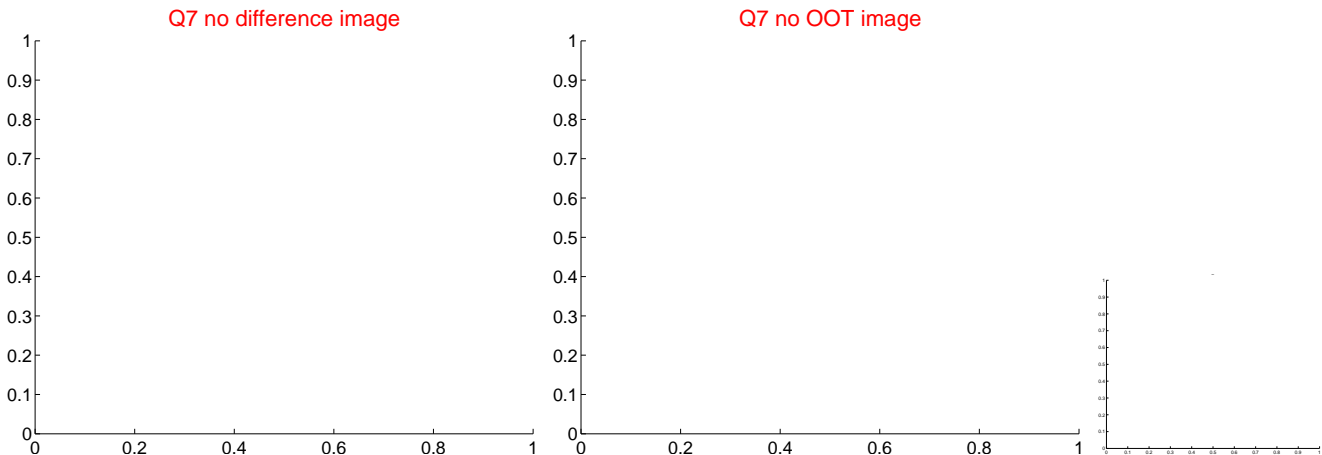
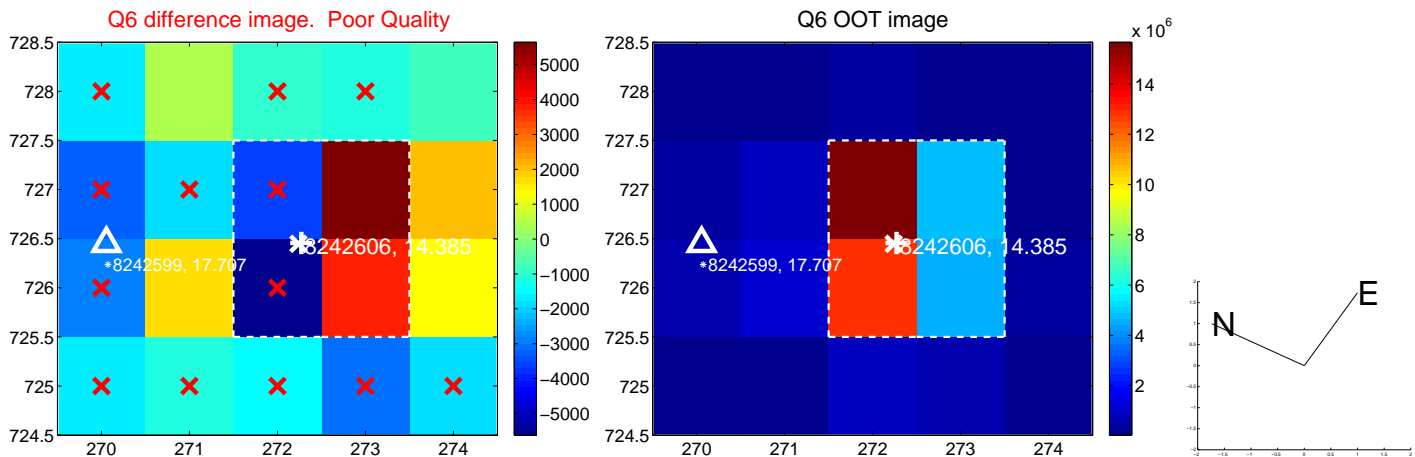
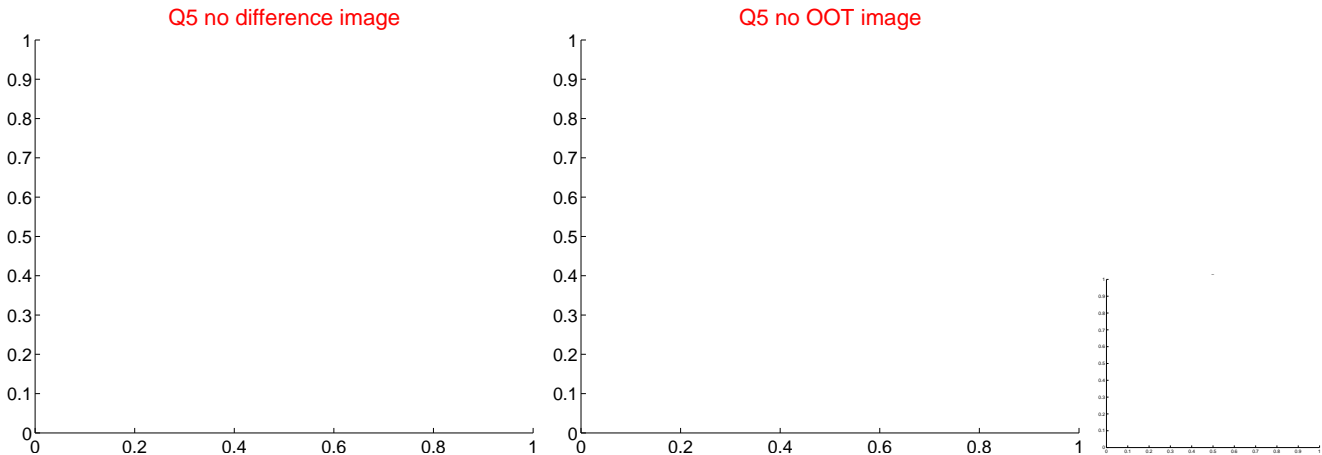


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

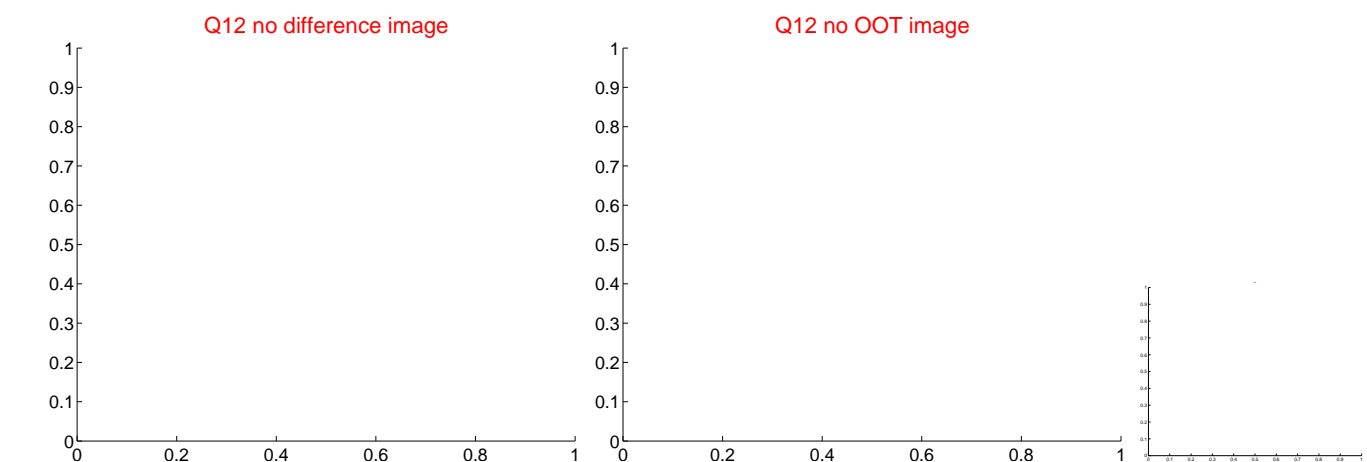
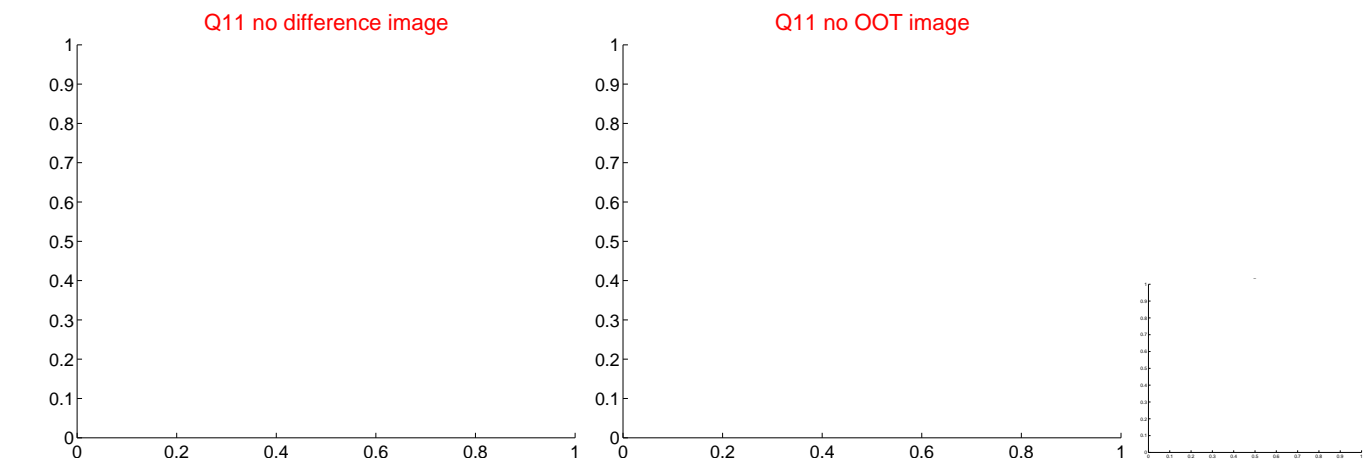
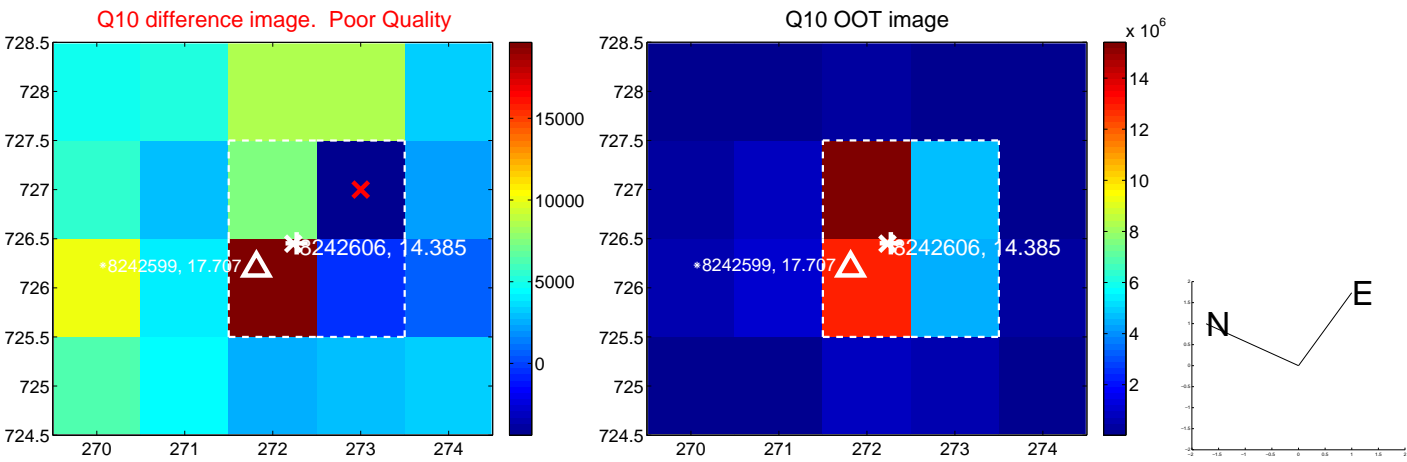
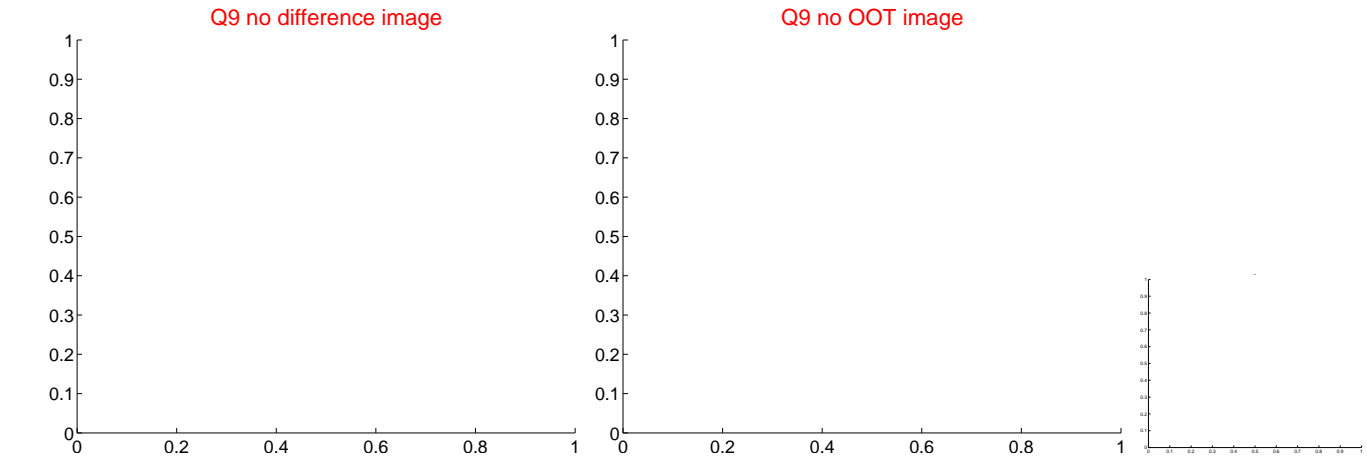
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



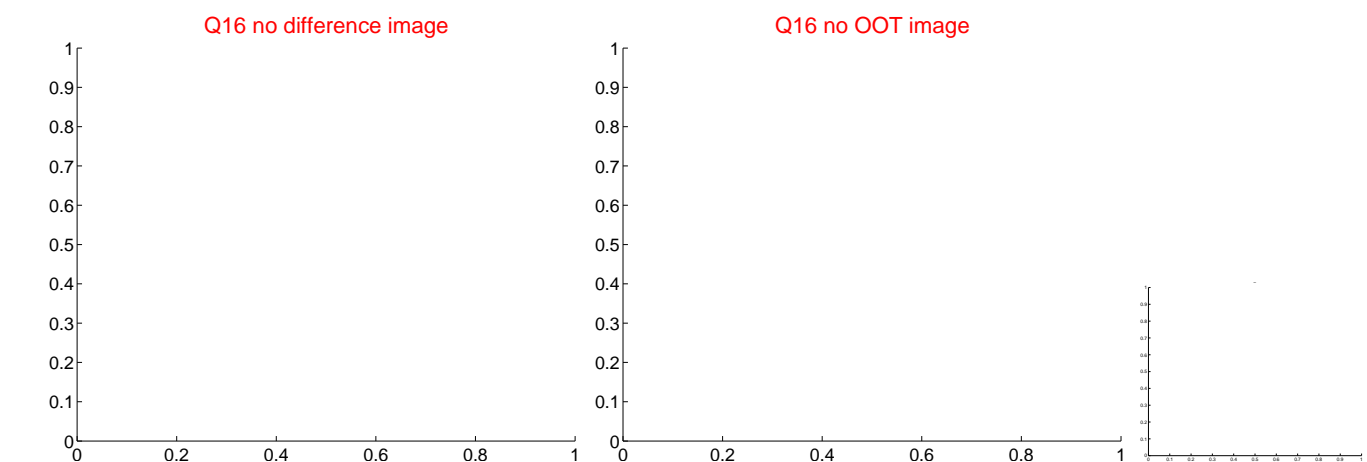
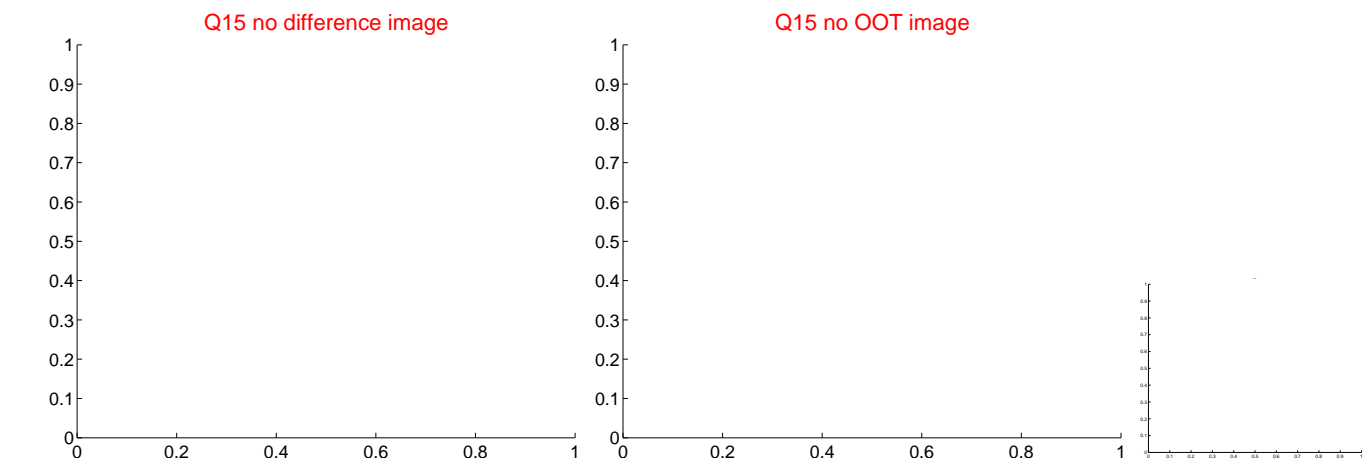
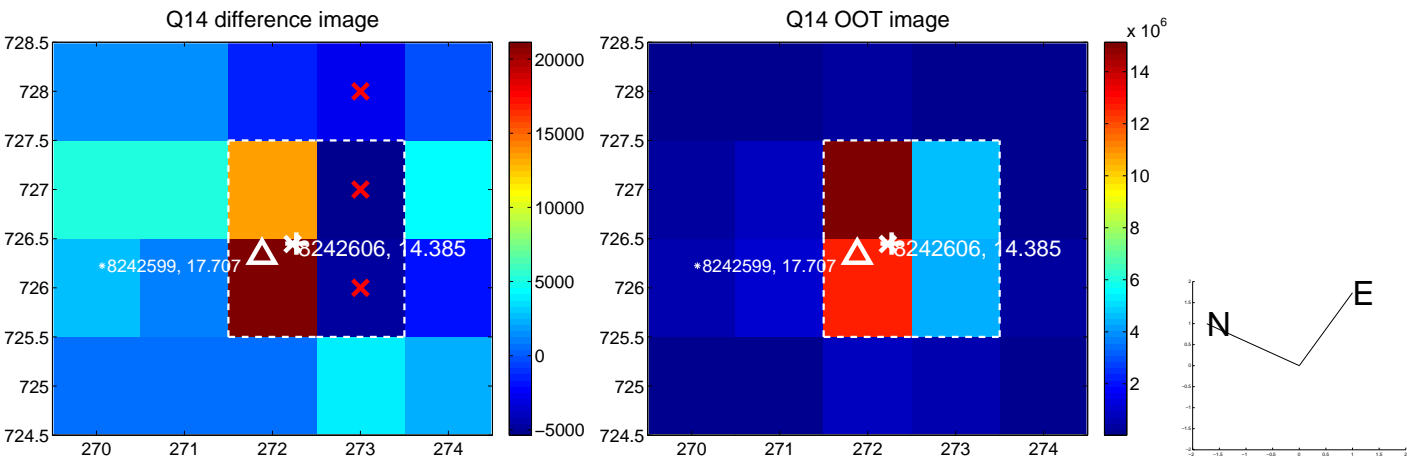
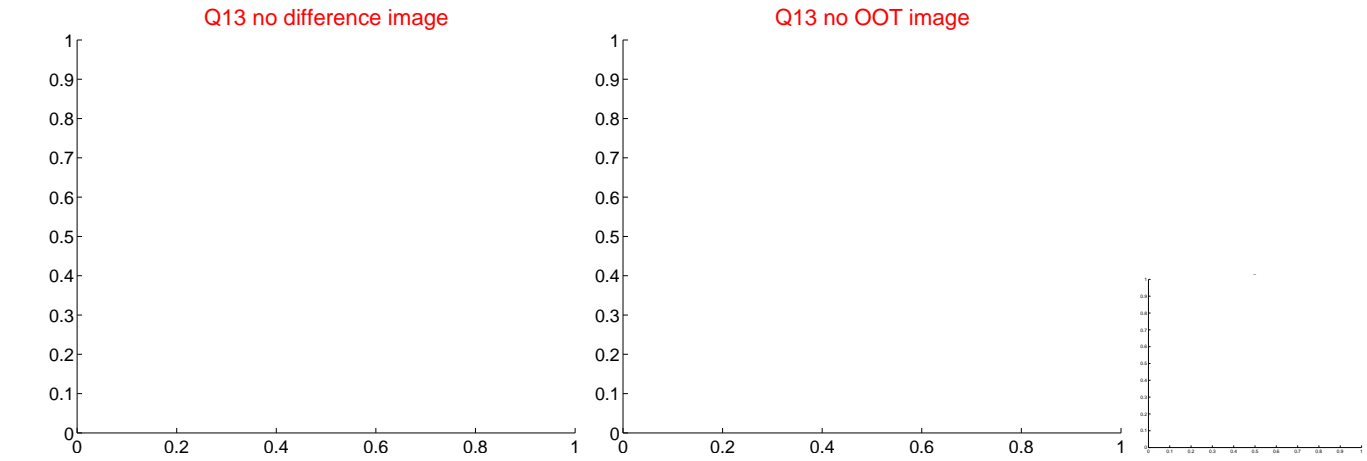
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



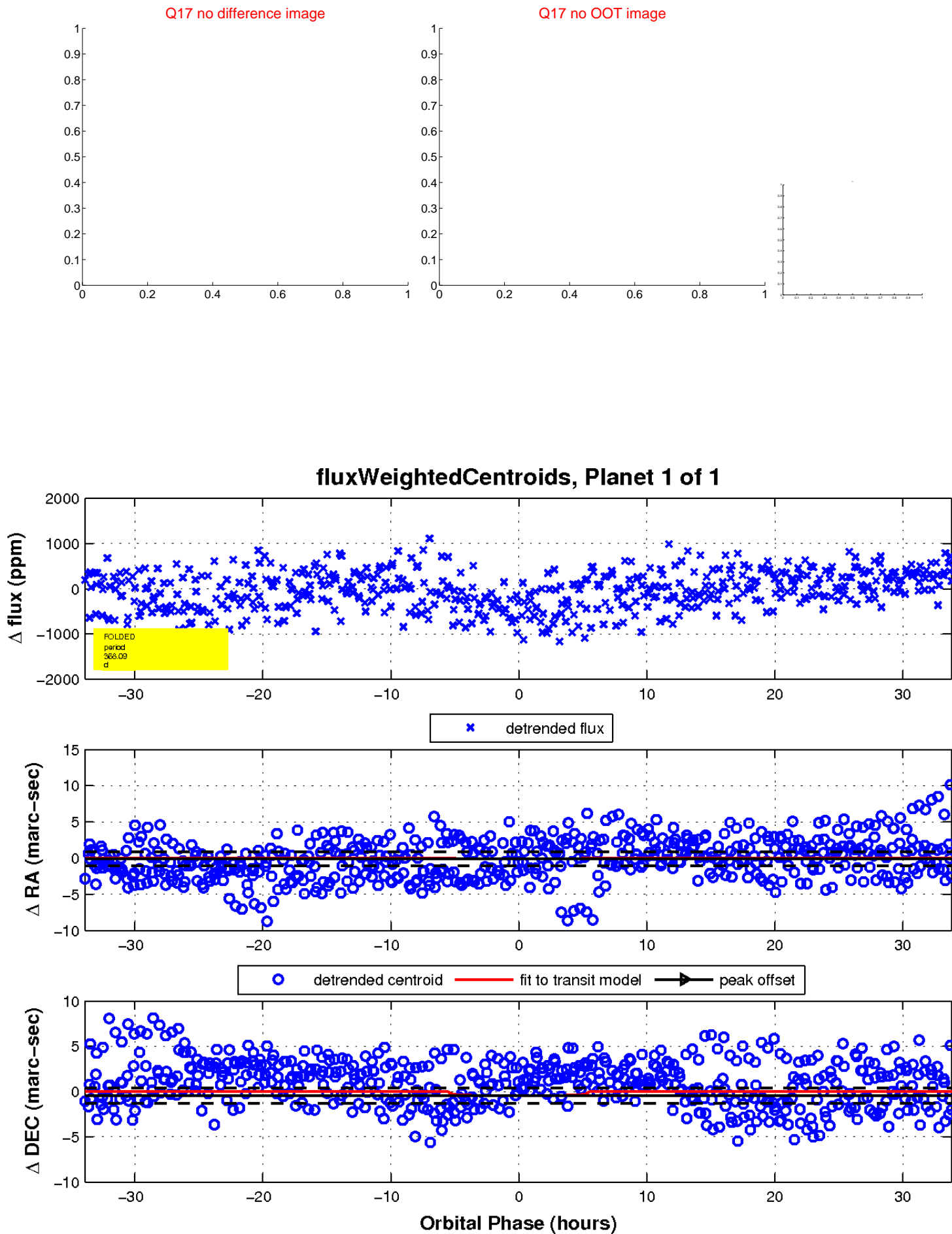
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

