

KIC 005686174

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 005686174-01 | OBS | 0610.01 | 14.282272 | 138.000791 | 994.4 | 2.751 | 37.3 | 40.7 | 0.59 | 4102 | 2.07 | 9.39 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------|
| 005686174-01 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | NO_COMMENT |

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.

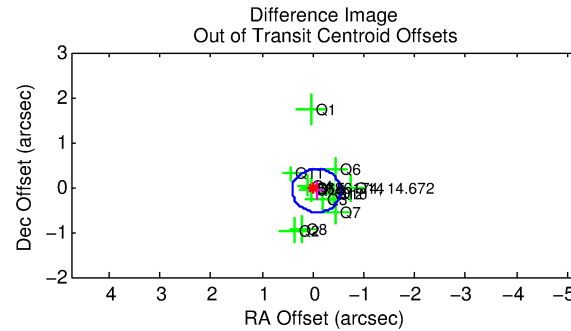
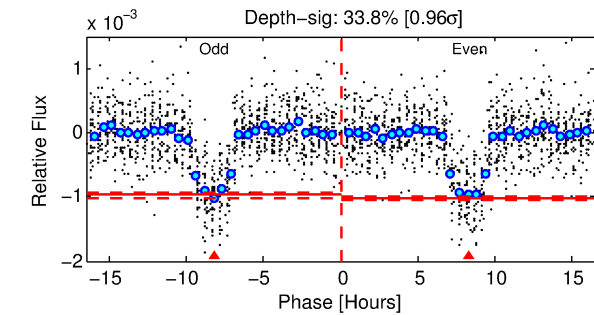
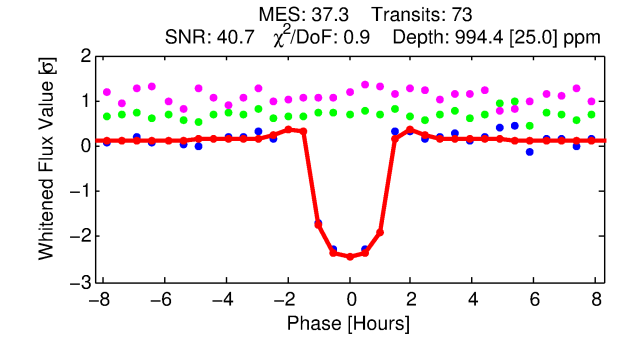
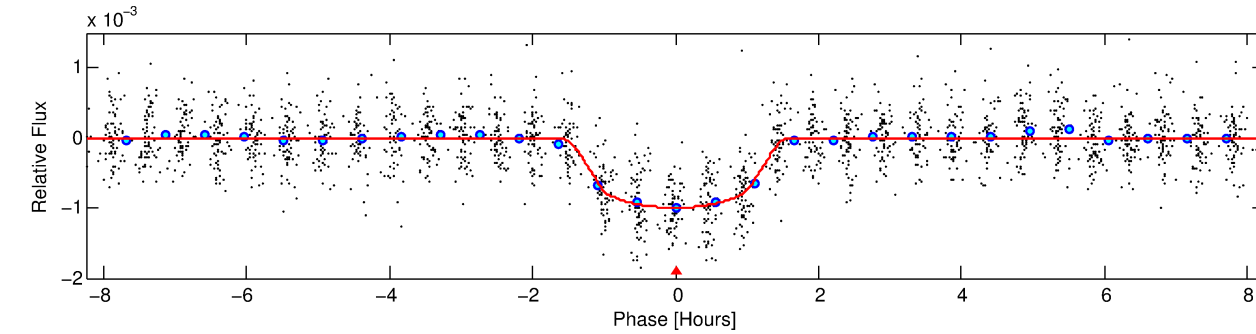
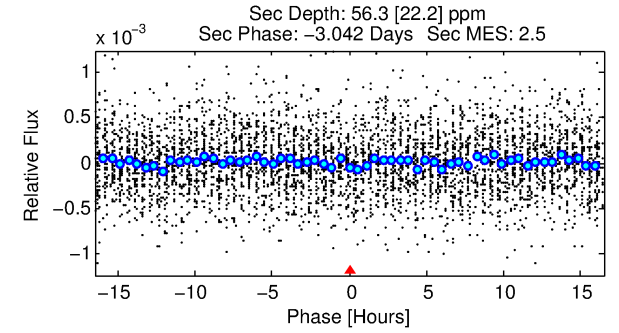
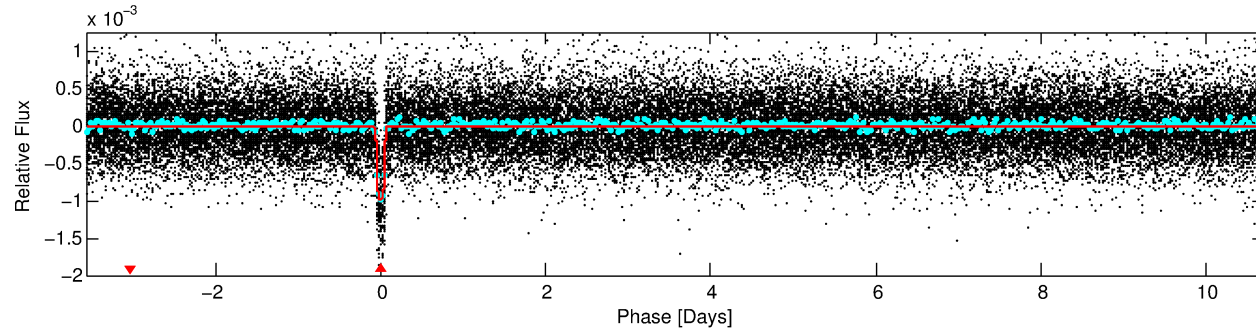
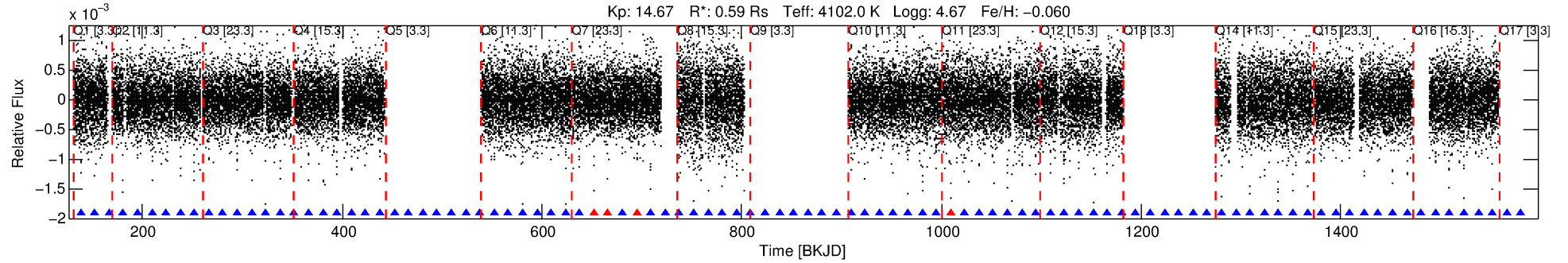
Ephemeris Match Information For 005686174-01

No Significant Match Found

DV One-Page Summary

KIC: 5686174 Candidate: 1 of 1 Period: 14.282 d

KOI: K00610.01 Corr: 0.994



DV Fit Results:

Period = 14.28227 [0.00002] d
Epoch = 138.0008 [0.0013] BKJD
Rp/R* = 0.0319 [0.0055]
a/R* = 27.10 [17.01]
b = 0.77 [0.33]
Seff = 9.39 [0.95]
Teq = 446 [11] K
Rp = 2.07 [0.37] Re
a = 0.0978 [0.0036] AU
Ag = 69.10 [36.35] [1.87σ]
Teffp = 1990 [264] K [5.84σ]

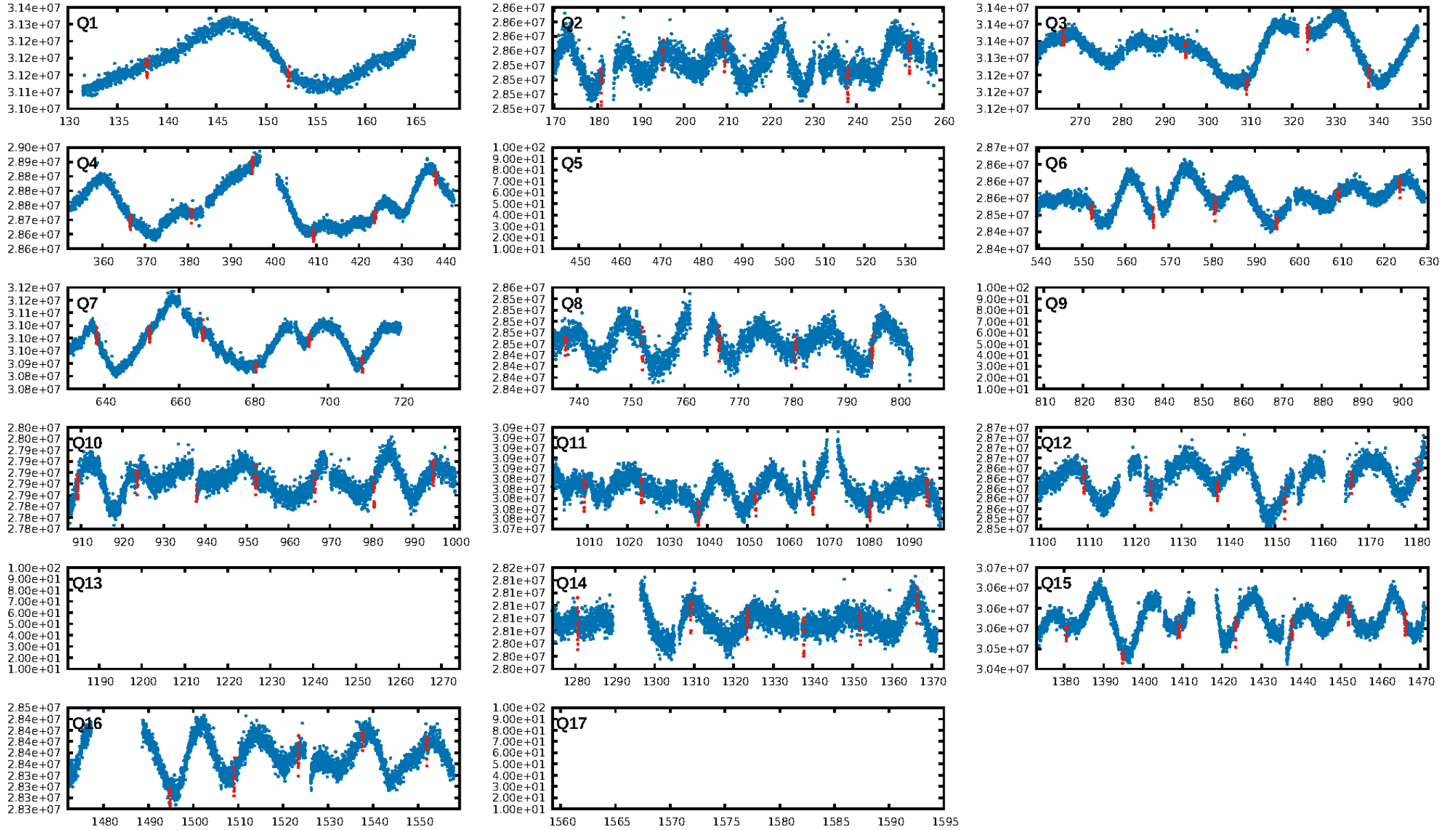
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 82.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.23e-288
RollingBand-fgt: 0.94 [67/71]
GhostDiagnostic-chr: 4.965
Centroid-sig: N/A
Centroid-so: 0.322 arcsec [1.01σ]
OotOffset-rm: 0.105 arcsec [0.66σ]
KicOffset-rm: 0.207 arcsec [1.11σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

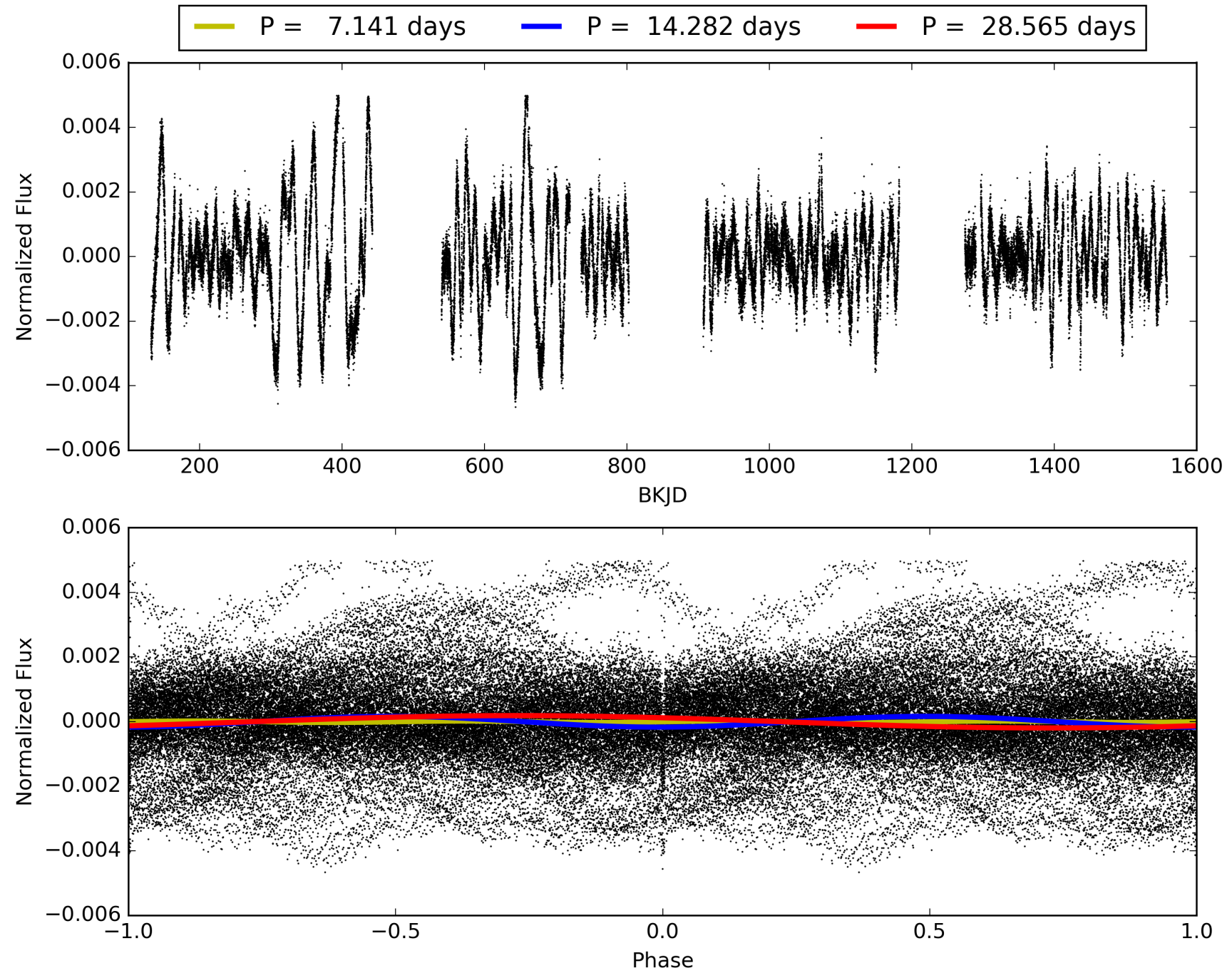
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:16:17 Z

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

TCE 005686174-01, PDC Light Curves

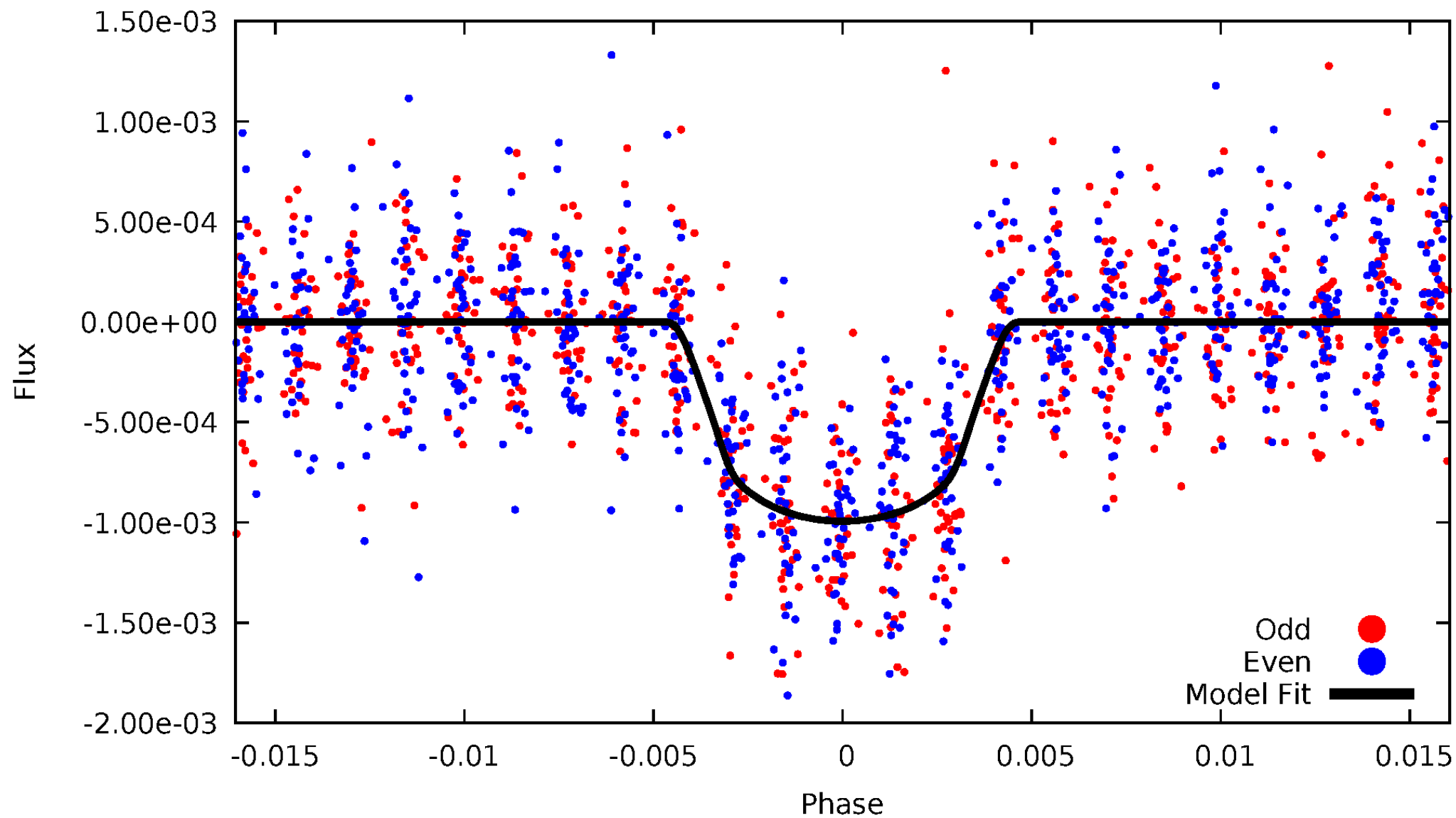


TCE 005686174-01



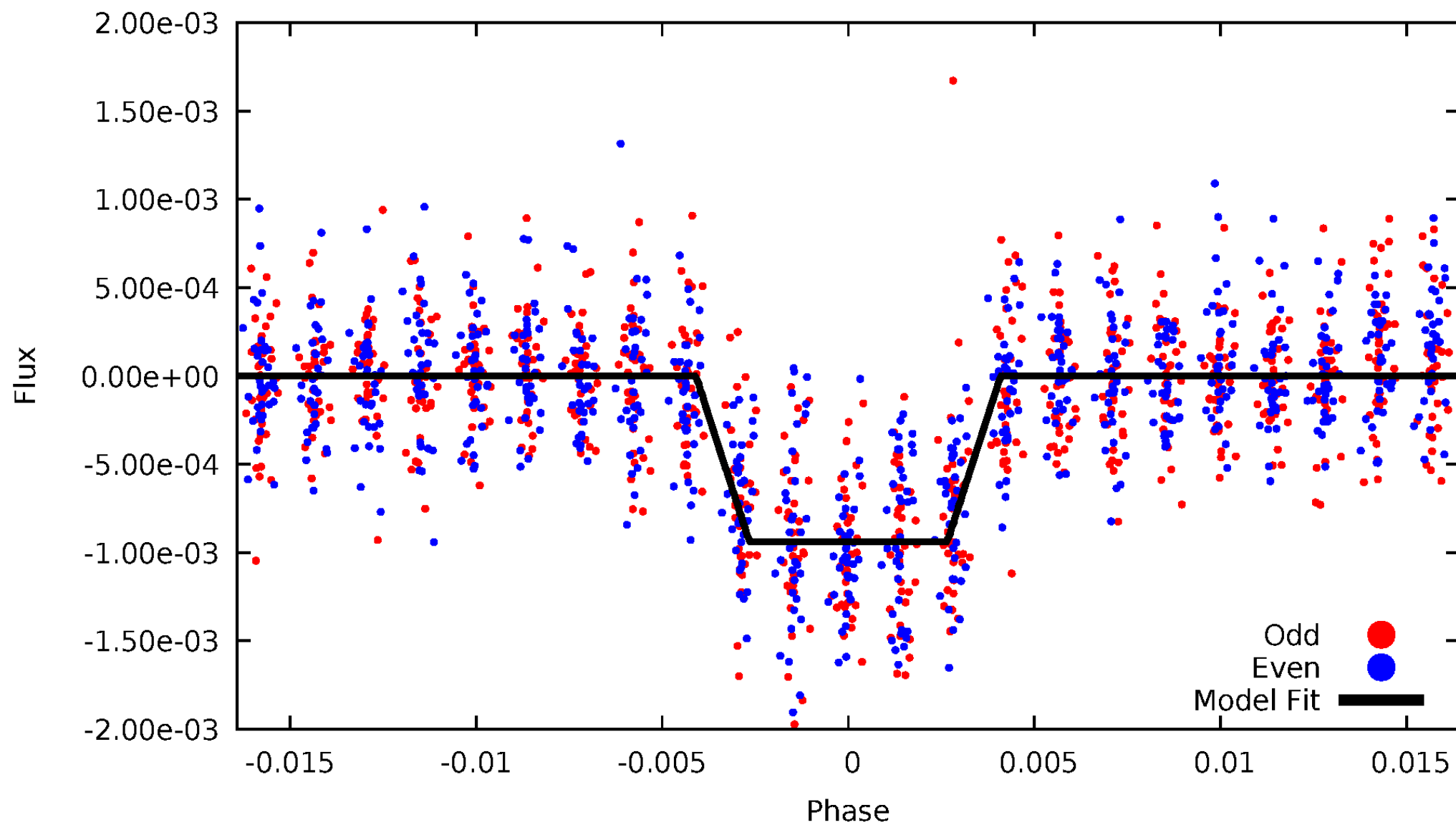
DV Odd/Even

TCE 005686174-01

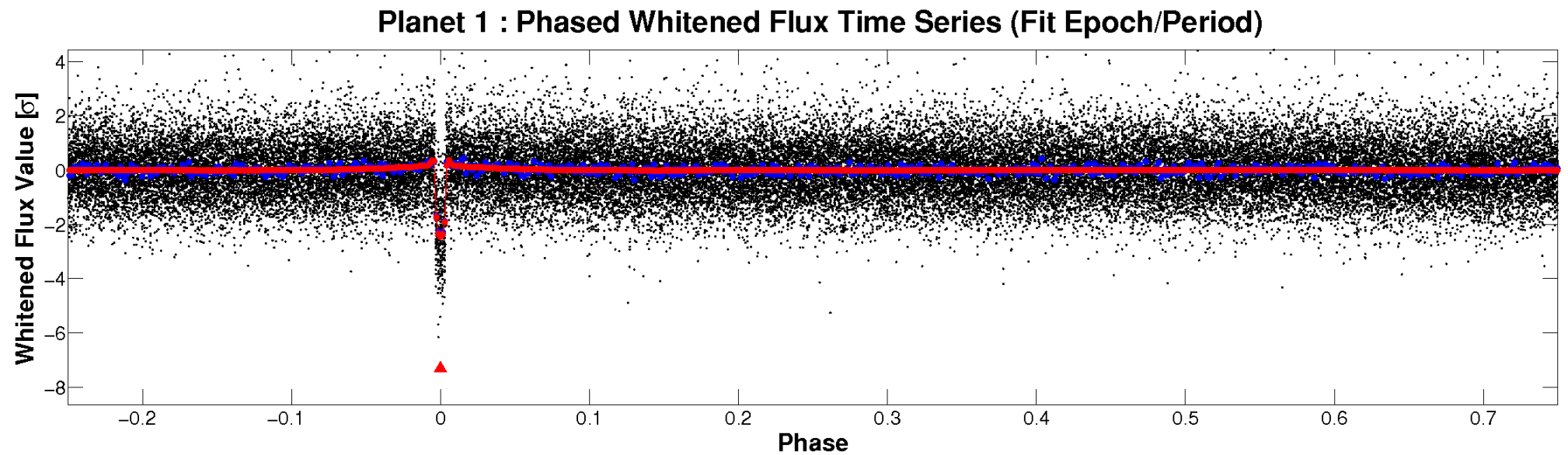
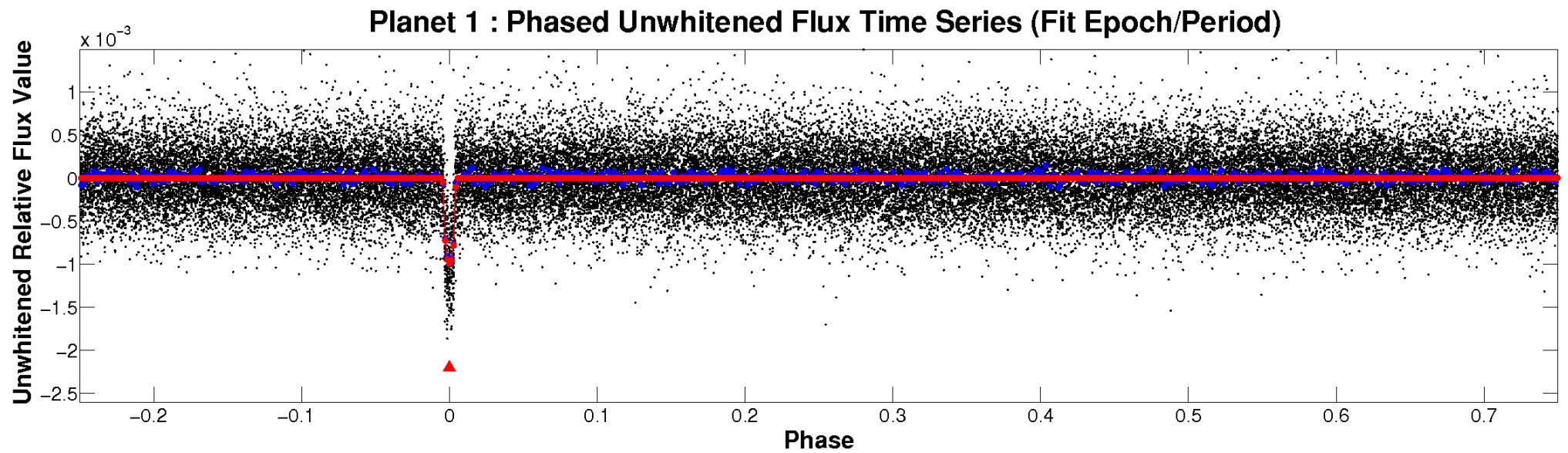


ALT Odd/Even

TCE 005686174-01

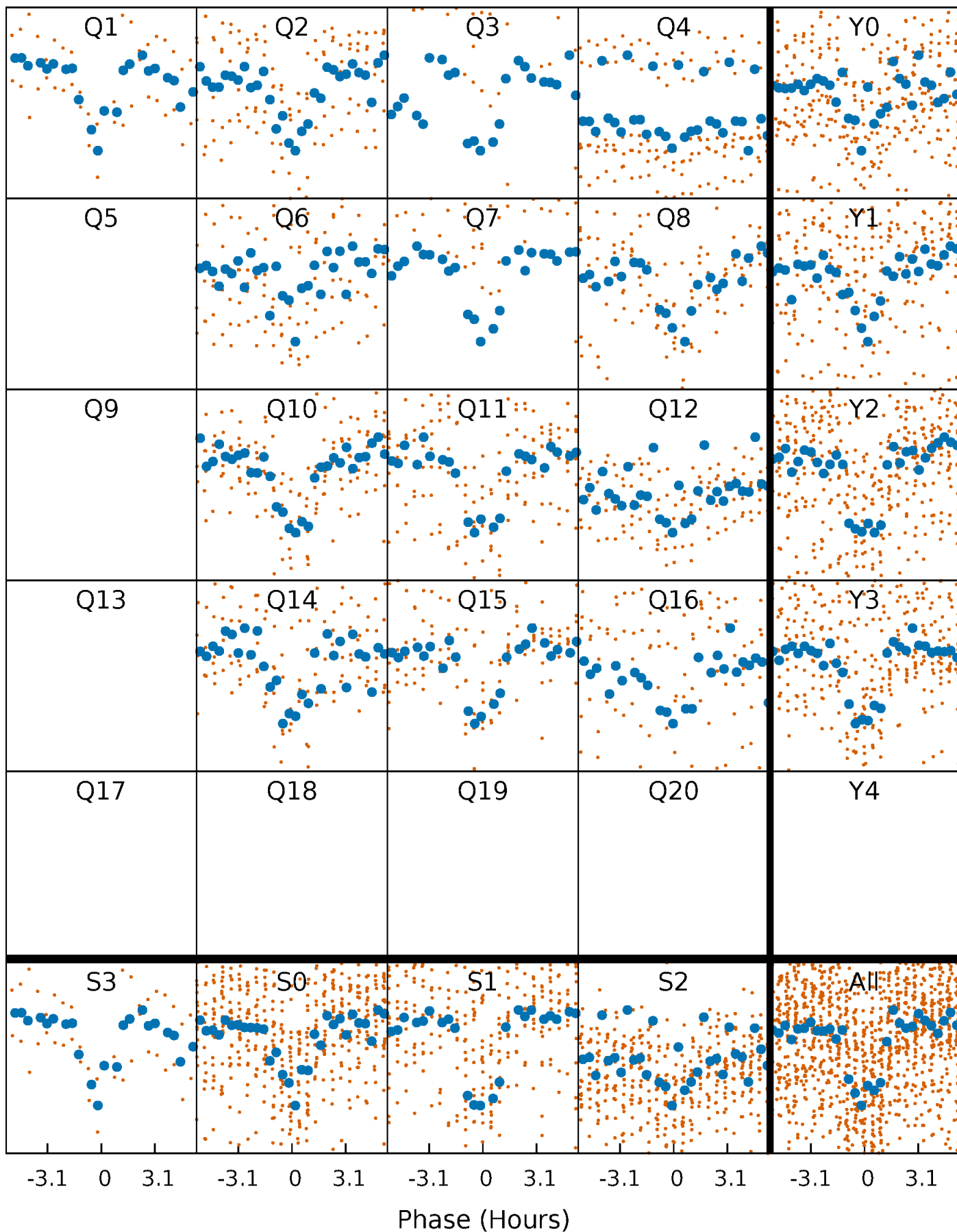


Non-Whitened Vs. Whitened Light Curve



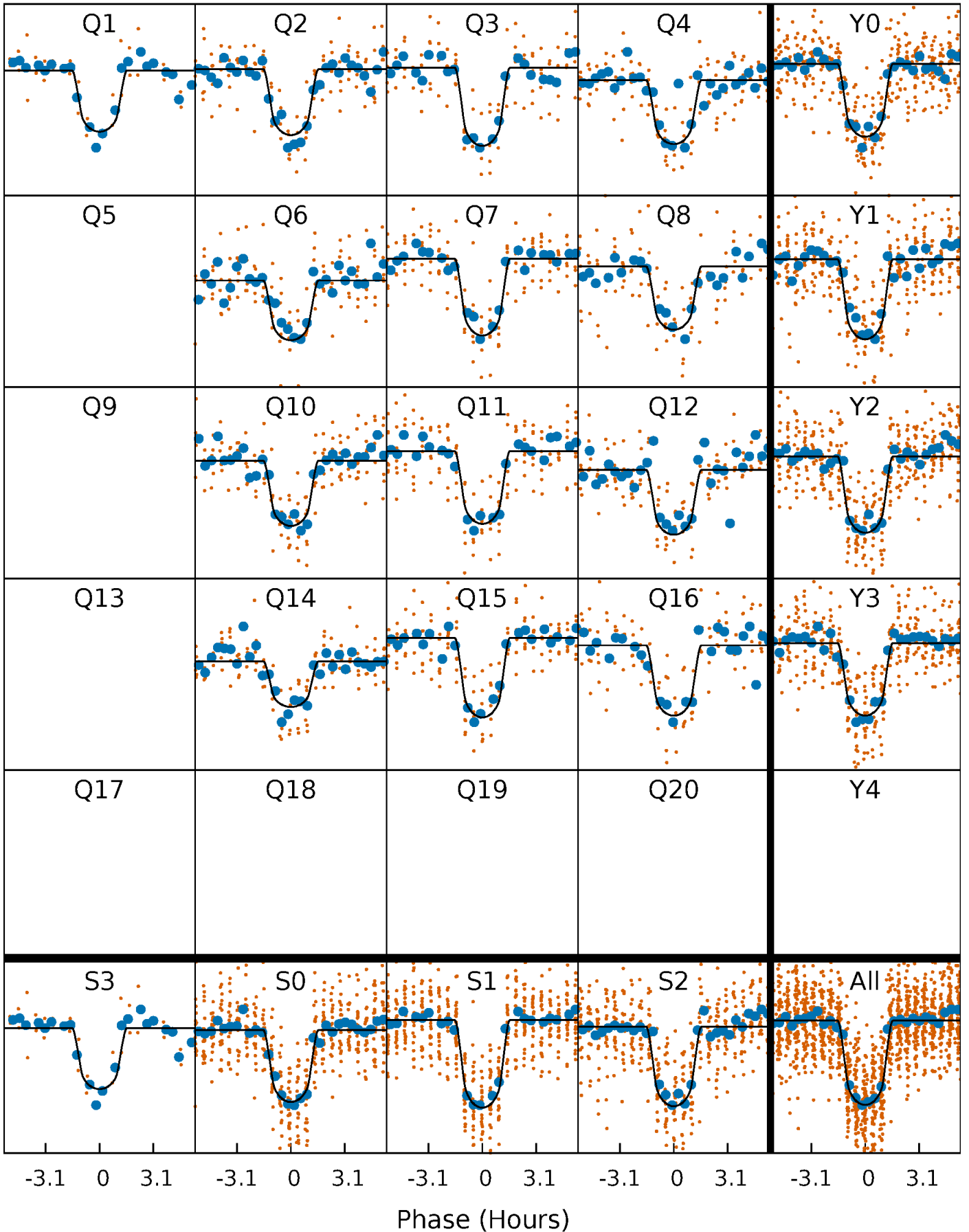
PDC Quarter-Phased Transit Curves

TCE 005686174-01 P= 14.282272 Days $T_0=138.000791$ (BKJD)



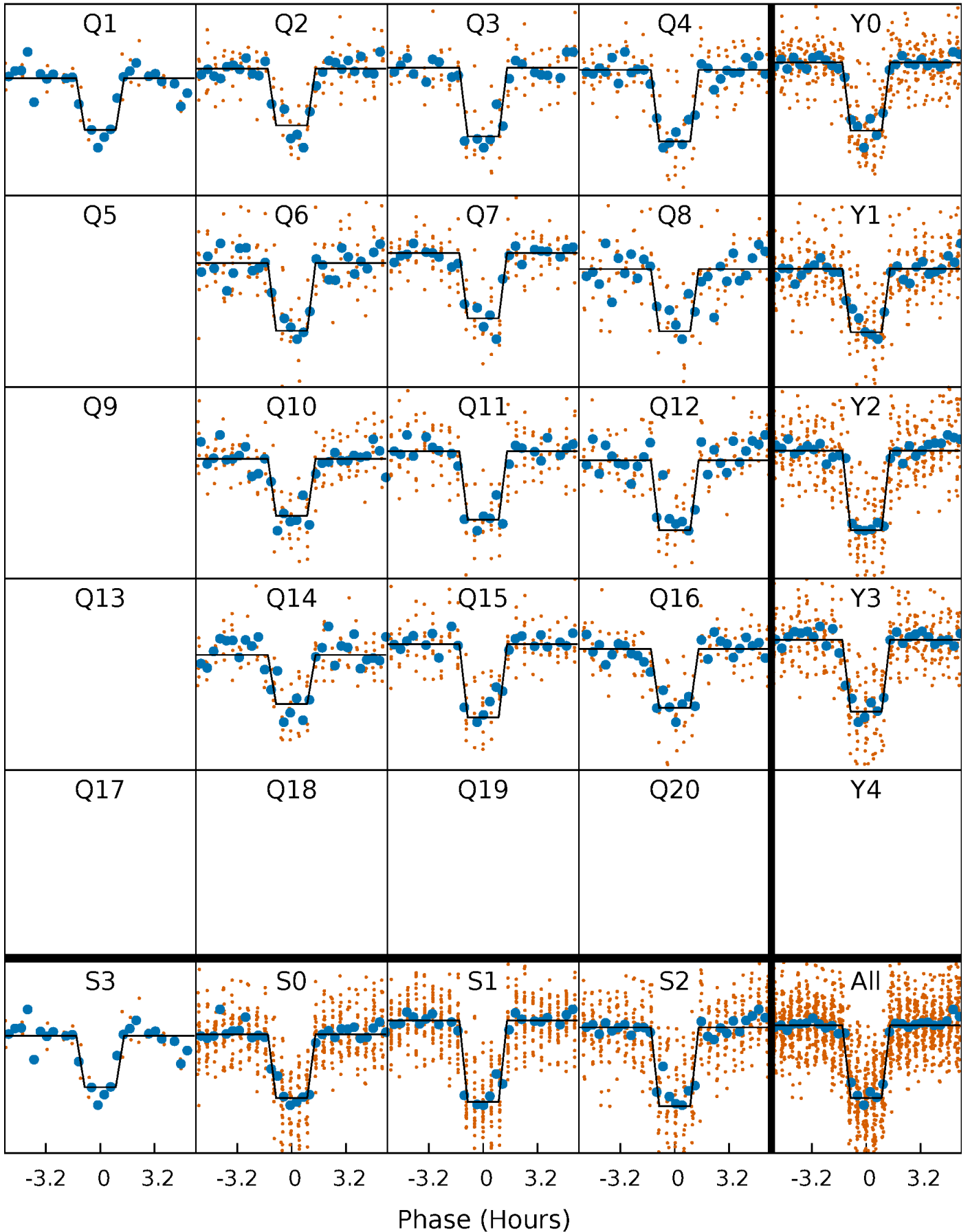
DV Quarter-Phased Transit Curves

TCE 005686174-01 P= 14.282272 Days $T_0=138.000791$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

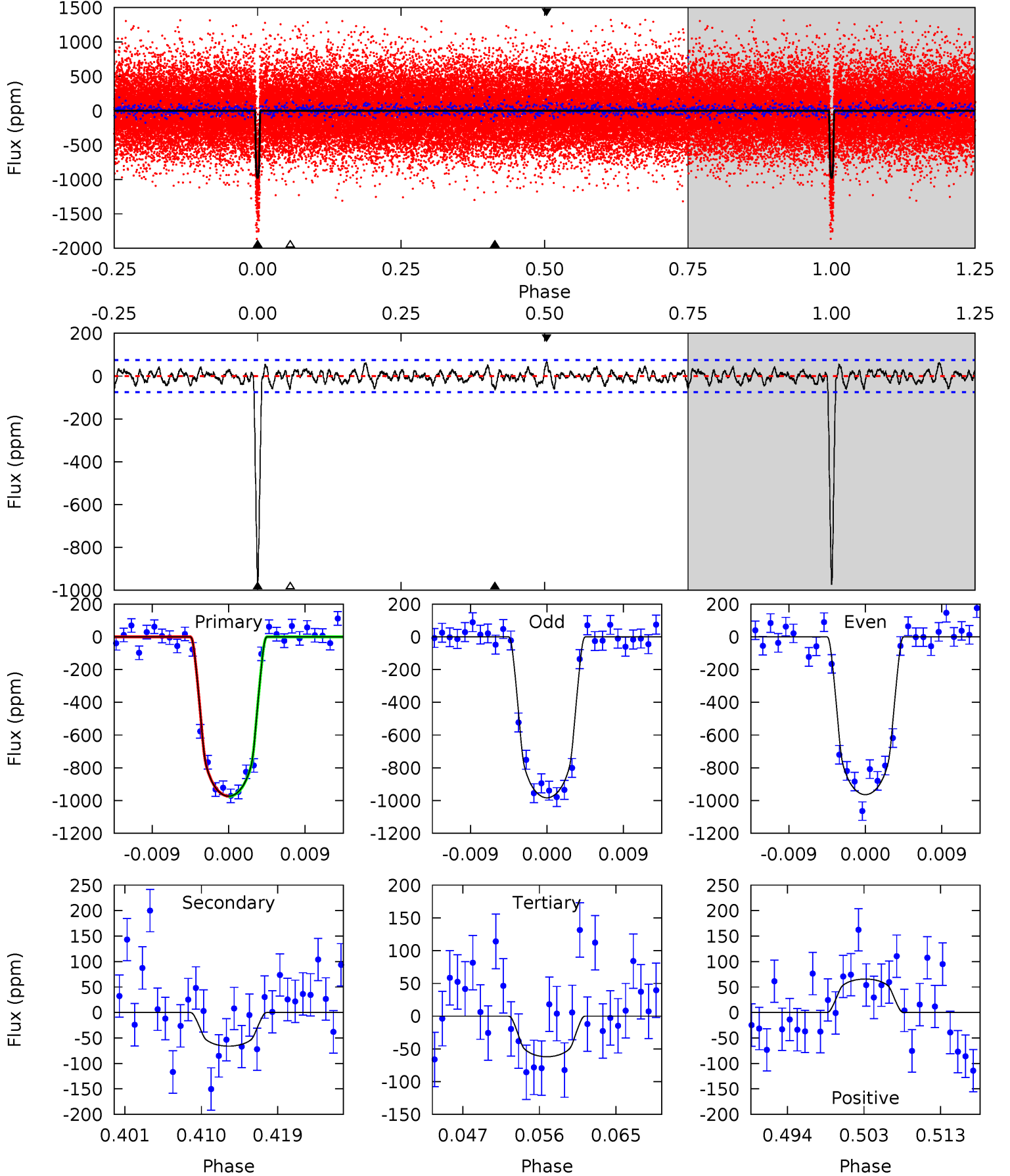
TCE 005686174-01 P= 14.282306 Days $T_0=137.998282$ (BKJD)



DV Model-Shift Uniqueness Test

005686174-01, $P = 14.282272$ Days, $E = 123.718519$ Days

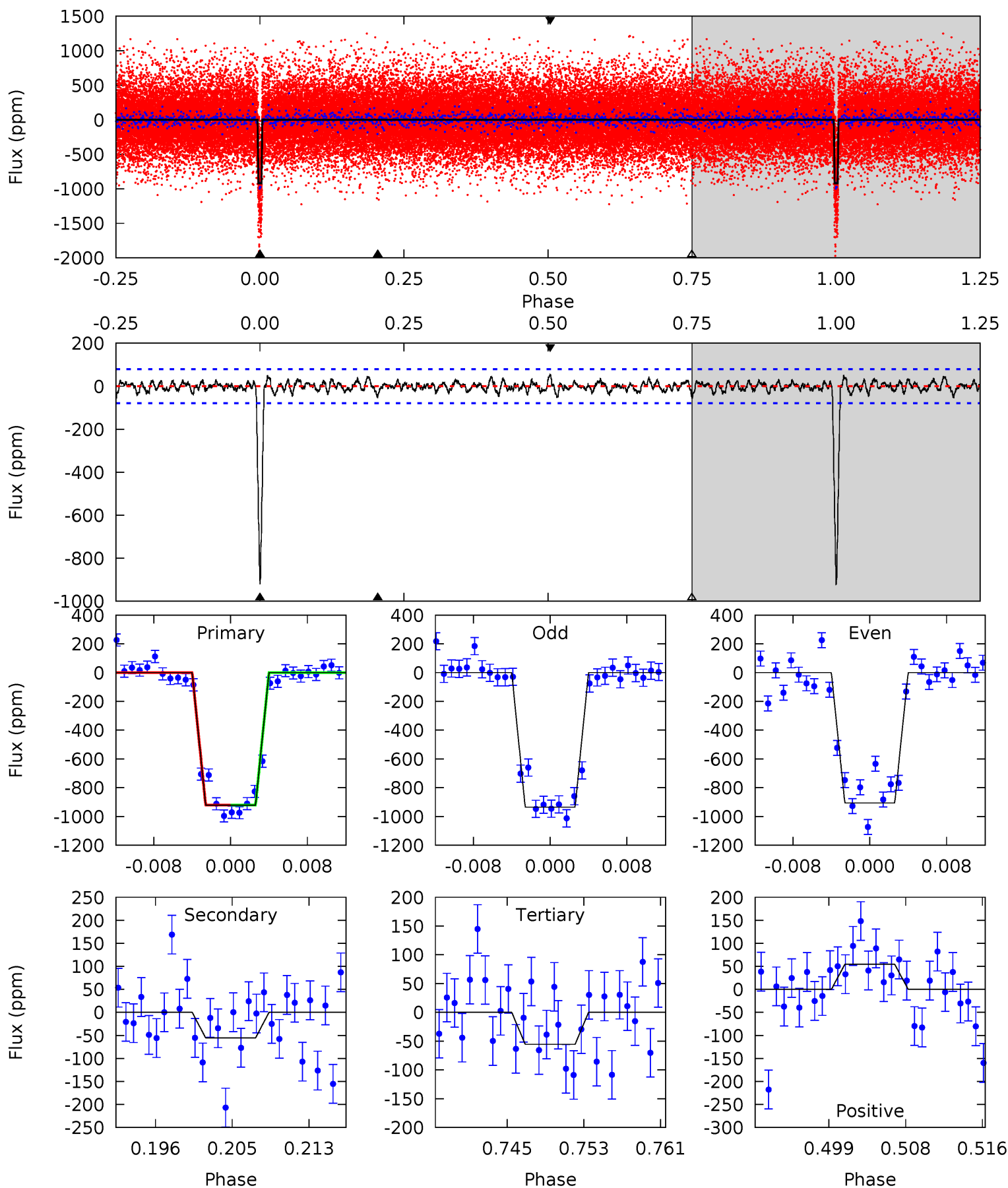
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 65.6 | 4.45 | 4.18 | 4.43 | 5.04 | 2.60 | 1.43 | 61.4 | 61.2 | 0.28 | 0.02 | 0.64 | 0.99 | 0.06 | 0.08 |



Alt Model-Shift Uniqueness Test

005686174-01, P = 14.282306 Days, E = 123.715976 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 58.7 | 3.54 | 3.54 | 3.46 | 5.06 | 2.64 | 1.09 | 55.1 | 55.2 | 0.00 | 0.08 | 0.94 | 0.95 | 0.06 | 0.02 |



Stellar Parameters For KIC 005686174

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|---------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 4102^{+82}_{-90} | $4.675^{+0.022}_{-0.025}$ | $-0.060^{+0.150}_{-0.150}$ | $0.595^{+0.028}_{-0.028}$ | $0.612^{+0.031}_{-0.034}$ | $4.084^{+0.436}_{-0.394}$ |
| | +2%/-2% | +0%/-1% | +250%/-250% | +5%/-5% | +5%/-6% | +11%/-10% |
| Source | SPE60 | SPE60 | SPE60 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 005686174-01 / KOI 0610.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|--------------|------------------------|-------------------|----------------------|------------------|
| DV | -66 ± 15 | $2.08^{+0.39}_{-0.35}$ | 625^{+14}_{-15} | 2703^{+168}_{-146} | 81^{+44}_{-28} |
| Alt. | -56 ± 16 | $2.00^{+0.36}_{-0.38}$ | 624^{+14}_{-14} | 2665^{+187}_{-167} | 72^{+48}_{-28} |

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 $A_{obs} \gg 1.0$

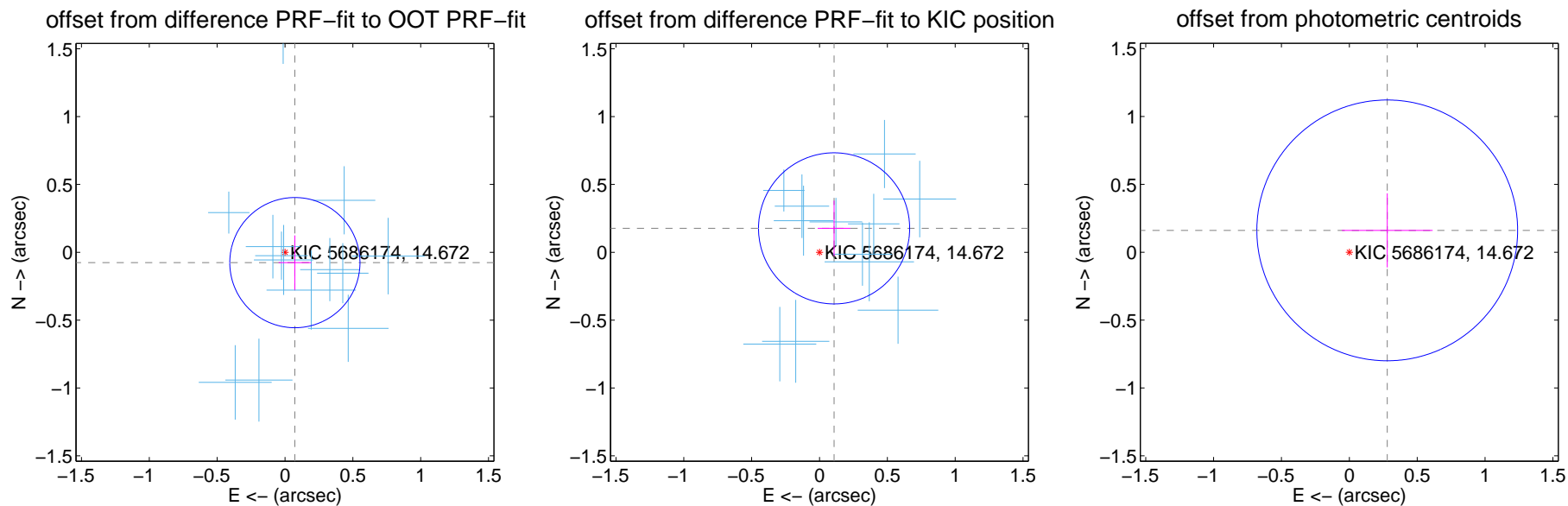
DV Centroid Data

Supplemental centroid analysis for 005686174-01. Kepler magnitude: 14.67. Transit SNR 40.68

There are 13 quarters with good PRF difference image offsets

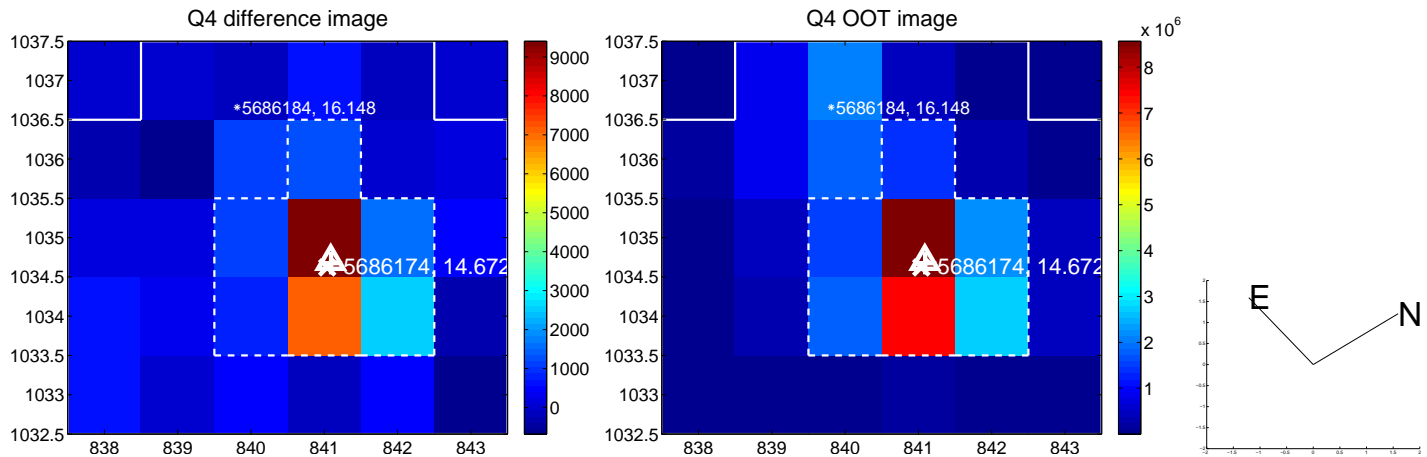
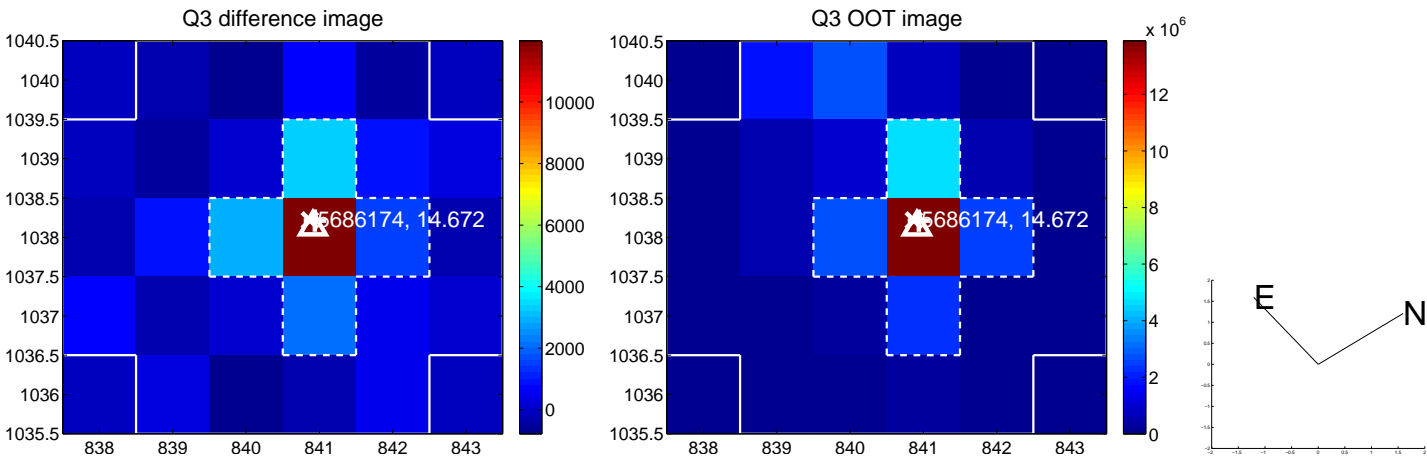
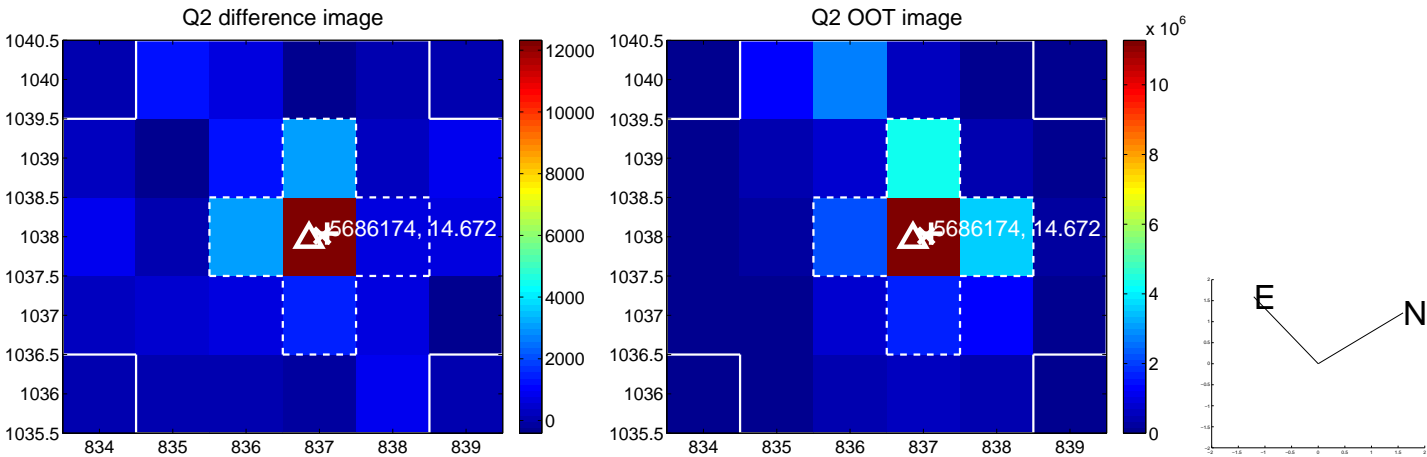
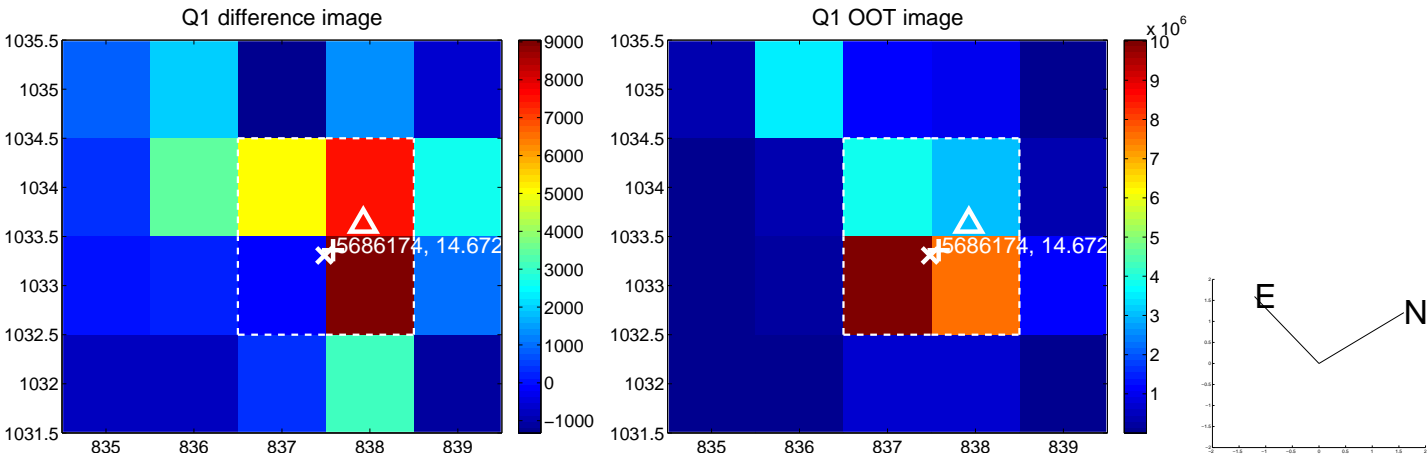
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.105 ± 0.160 | 0.66 | -0.073 ± 0.120 | -0.076 ± 0.201 |
| PRF-fit source offset from KIC position | 0.207 ± 0.186 | 1.11 | -0.107 ± 0.121 | 0.176 ± 0.204 |
| photometric centroid source offset | 0.32 ± 0.32 | 1.01 | -0.28 ± 0.33 | 0.16 ± 0.27 |

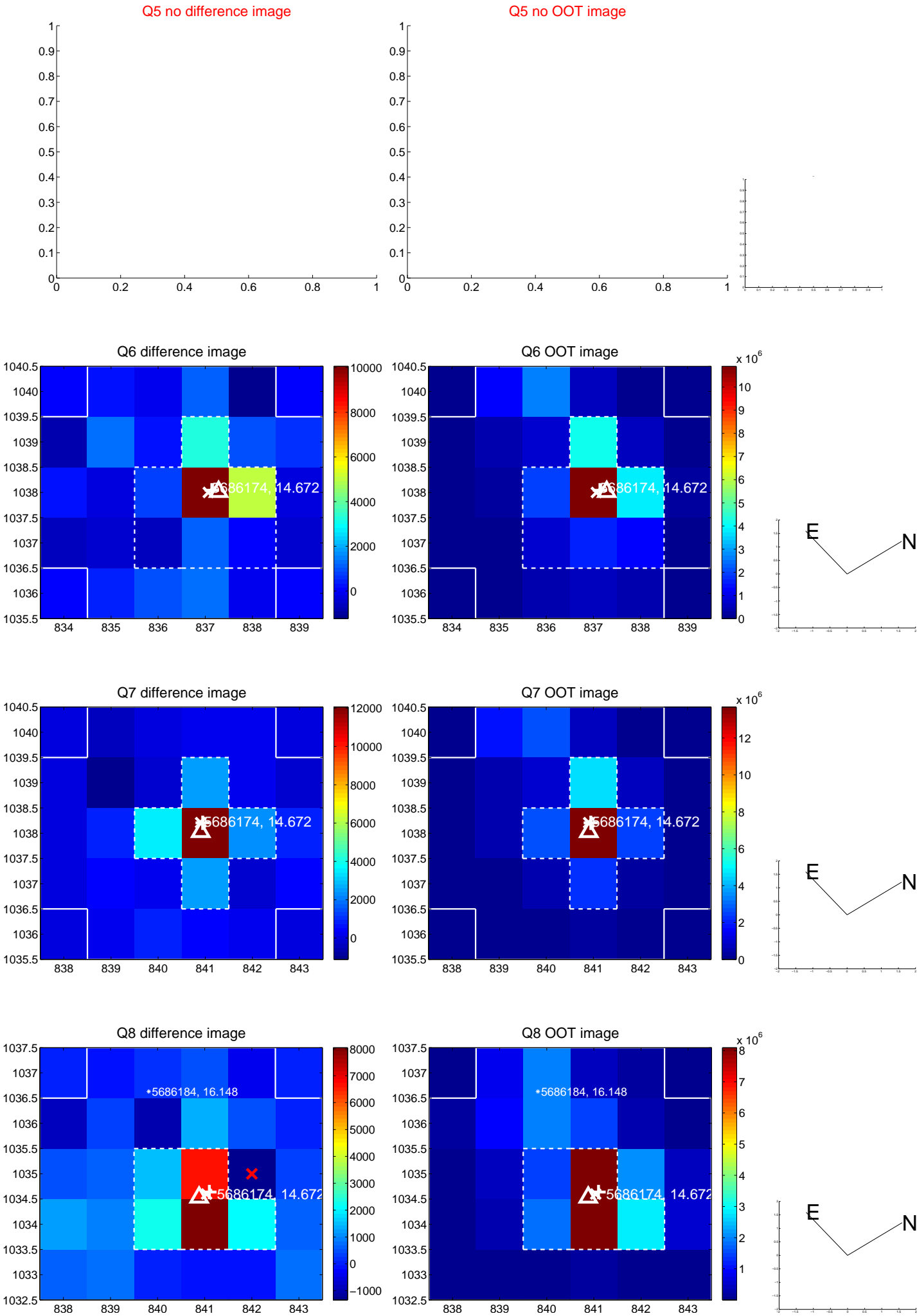


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

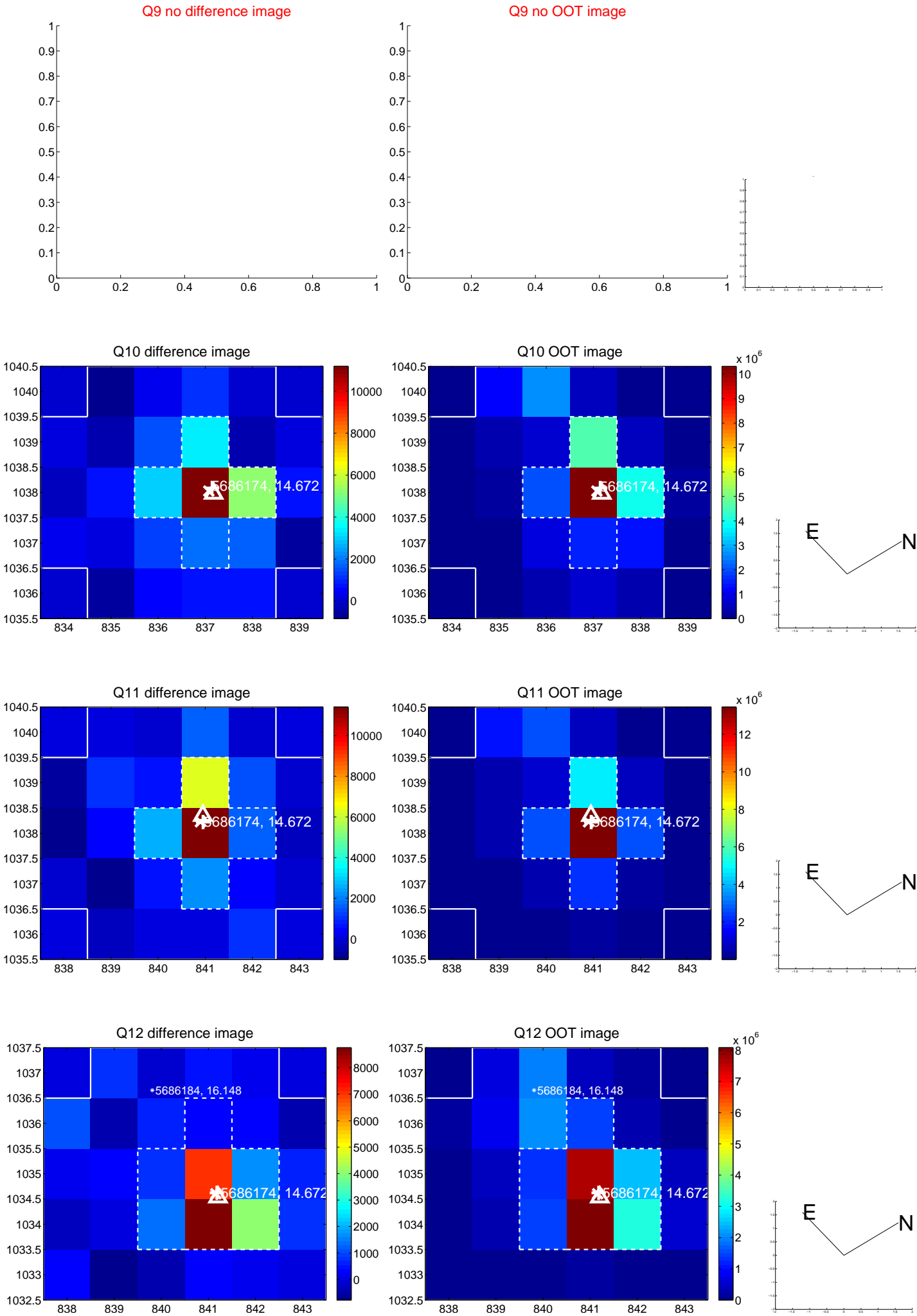
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



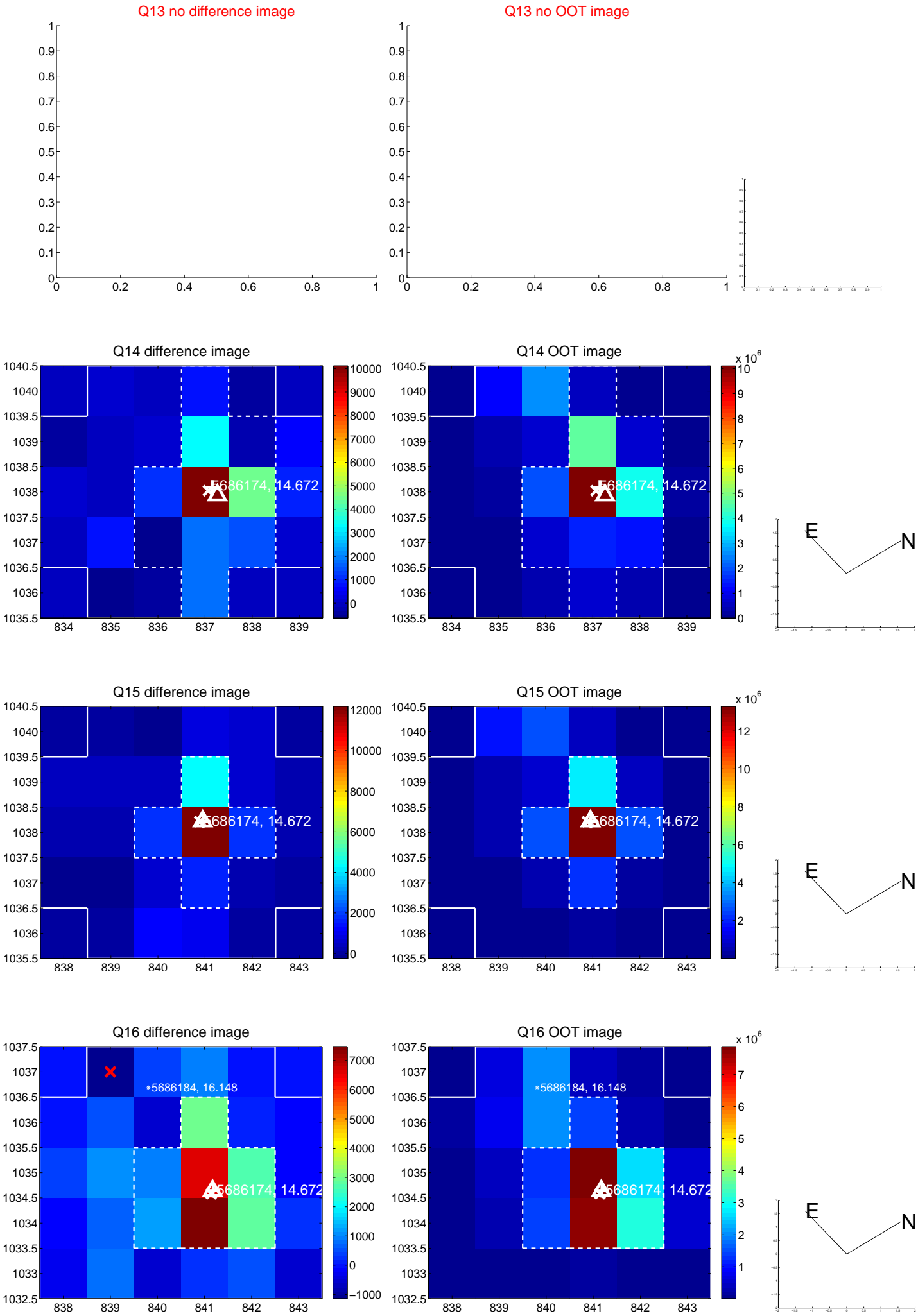
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



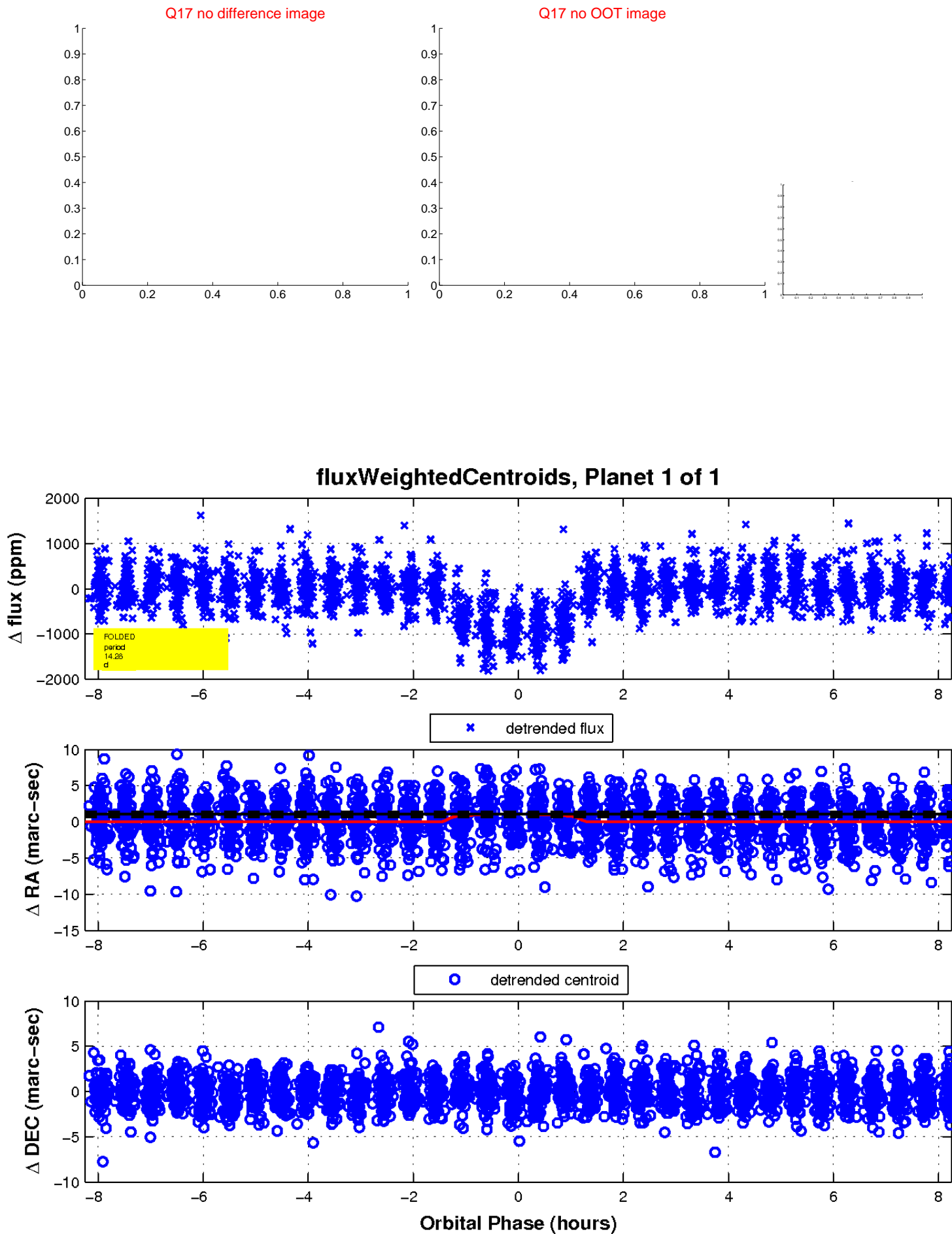
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

