

KIC 006303679

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 006303679-01 | OBS | No | 3.626257 | 132.077700 | 43.0 | 8.152 | 10.4 | 8.9 | 1.69 | 6398 | 1.34 | 1861.53 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 006303679-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT |

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

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

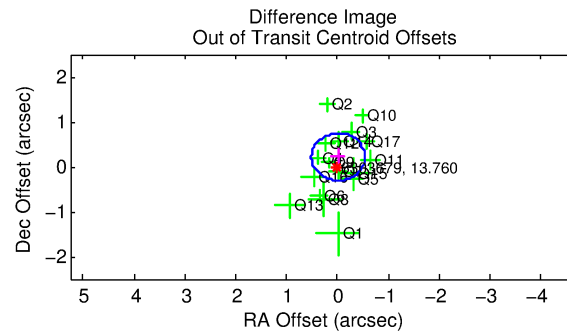
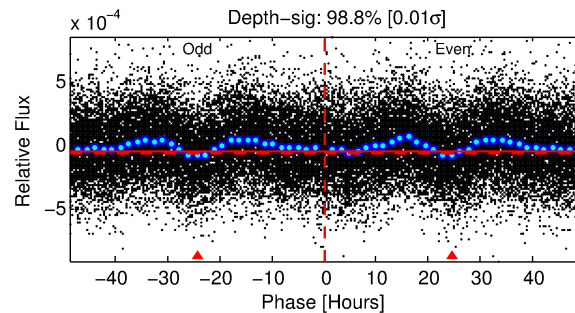
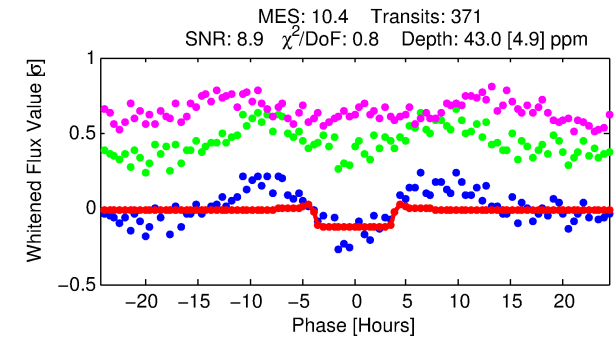
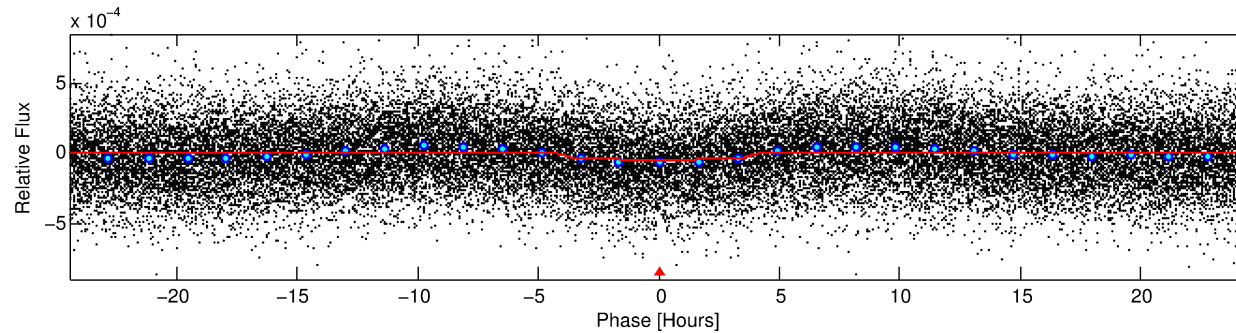
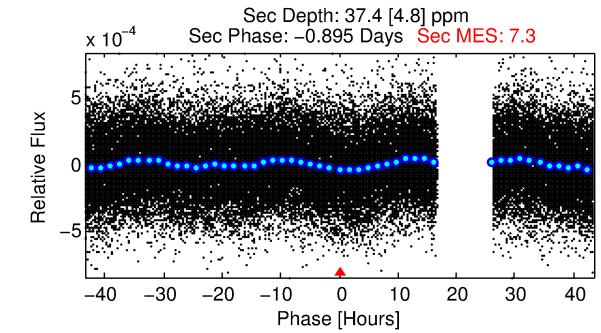
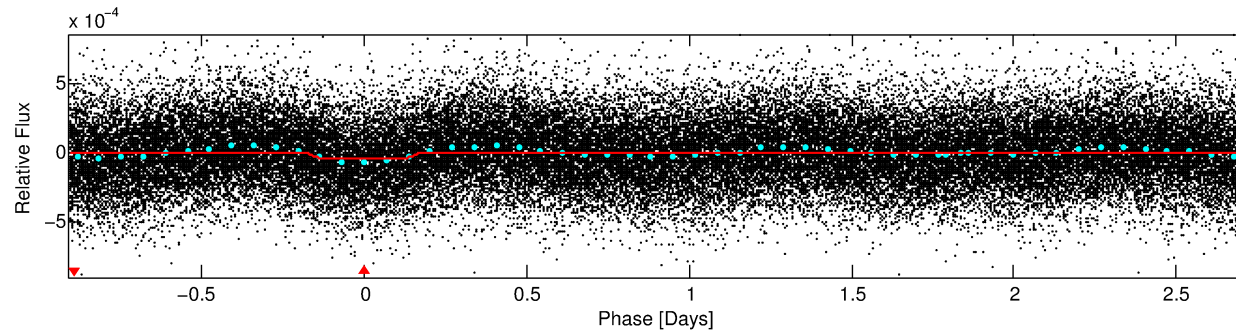
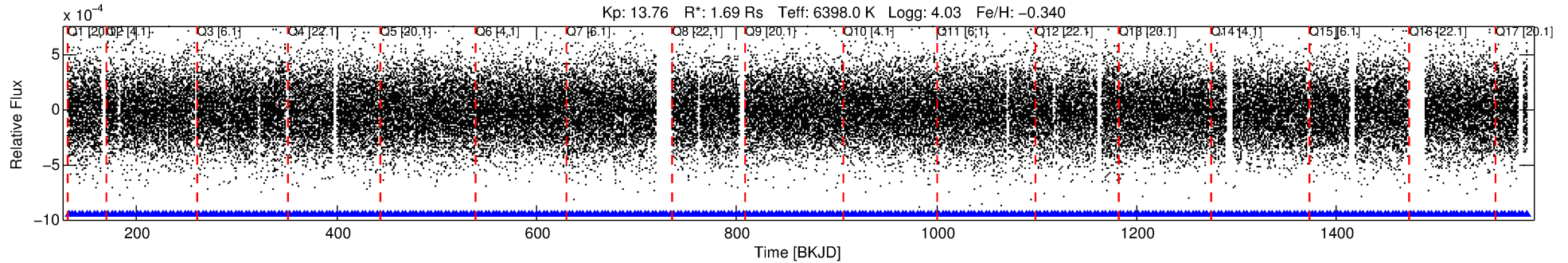
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006303679-01

No Significant Match Found

DV One-Page Summary

KIC: 6303679 Candidate: 1 of 1 Period: 3.626 d



DV Fit Results:

Period = 3.62626 [0.00004] d
Epoch = 132.0777 [0.0077] BKJD
Rp/R* = 0.0073 [0.0012]
a/R* = 1.60 [0.86]
b = 0.93 [0.12]
Seff = 1861.53 [1074.91]
Teq = 1675 [242] K
Rp = 1.34 [0.49] Re
a = 0.0479 [0.0163] AU
Ag = 26.43 [17.42] [1.46σ]
Teffp = 5871 [543] K [7.06σ]

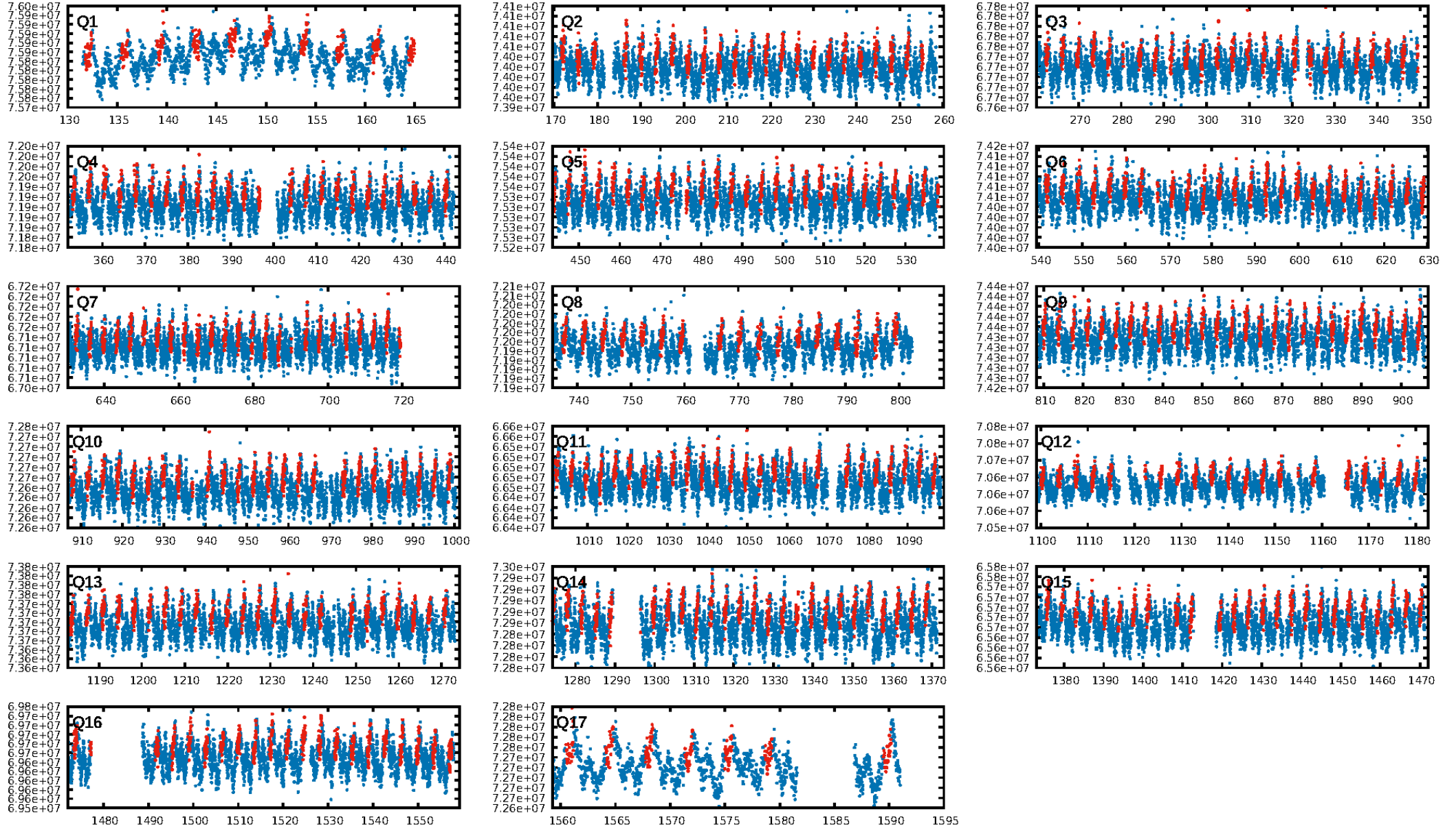
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.81e-21
RollingBand-fgt: 1.00 [354/354]
GhostDiagnostic-chr: 1.59
Centroid-sig: 0.0%
Centroid-so: 2.777 arcsec [3.70σ]
OotOffset-rm: 0.216 arcsec [1.23σ]
KicOffset-rm: 0.151 arcsec [1.28σ]
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]

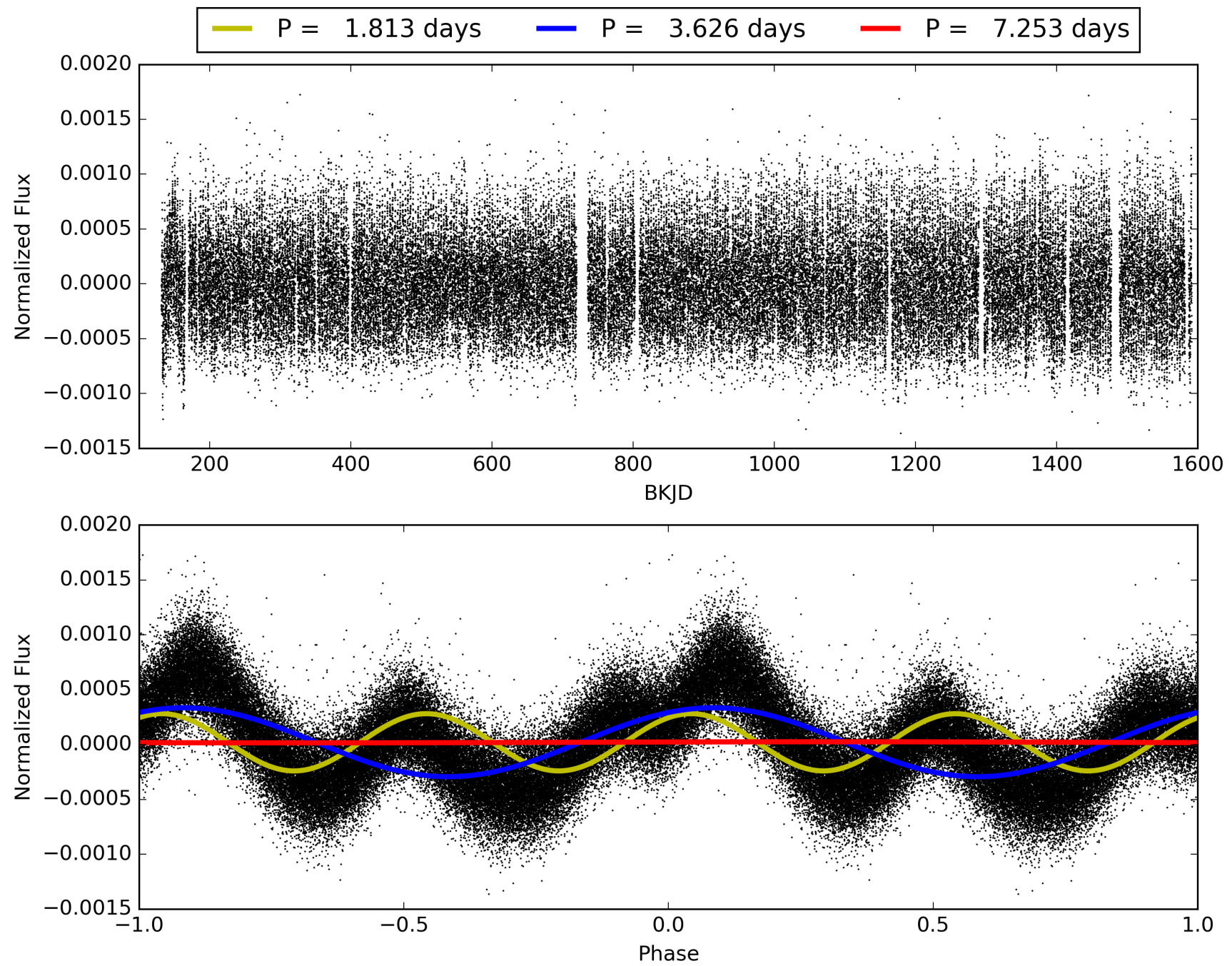
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:28:17 Z

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

TCE 006303679-01, PDC Light Curves

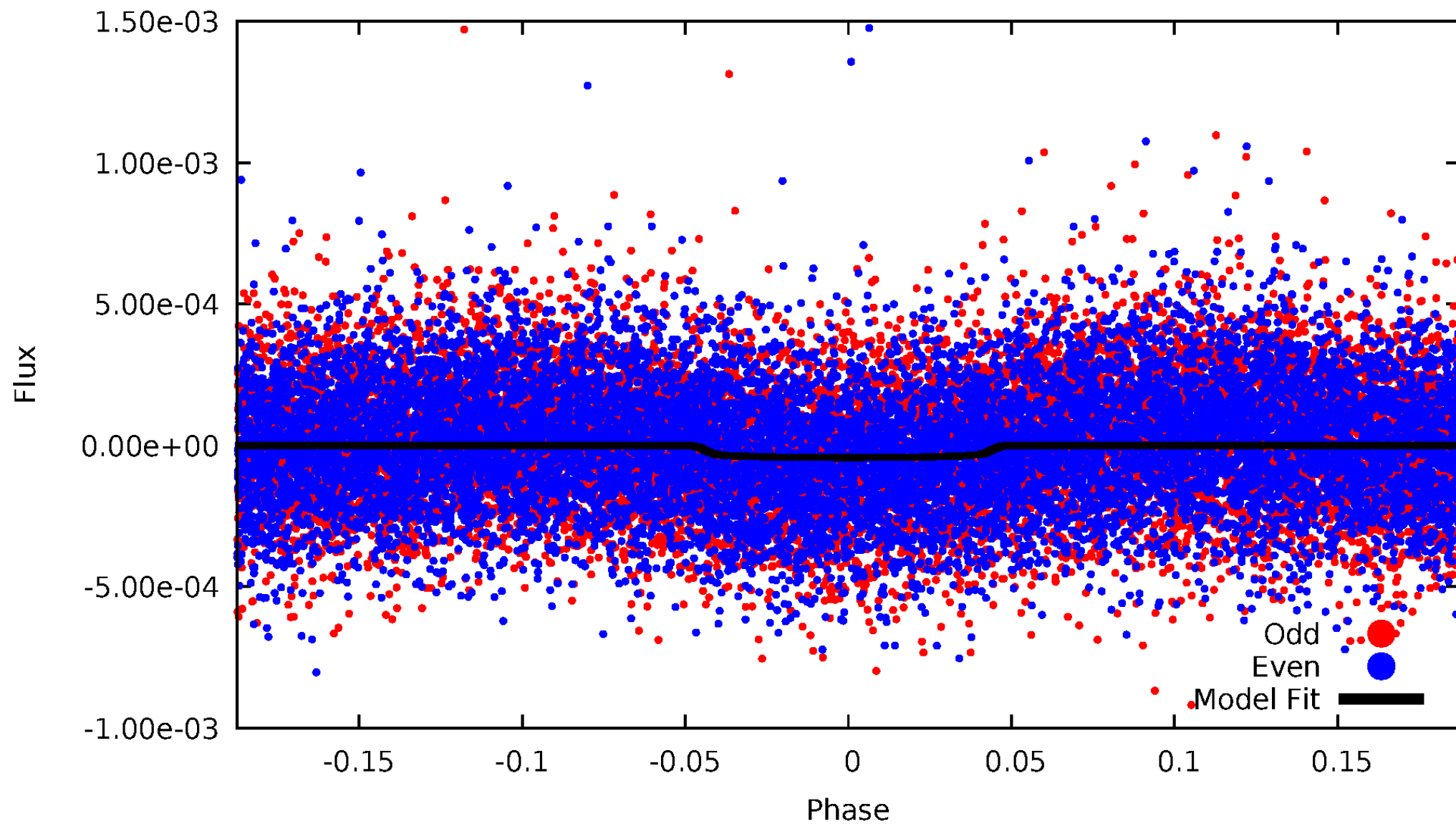


TCE 006303679-01



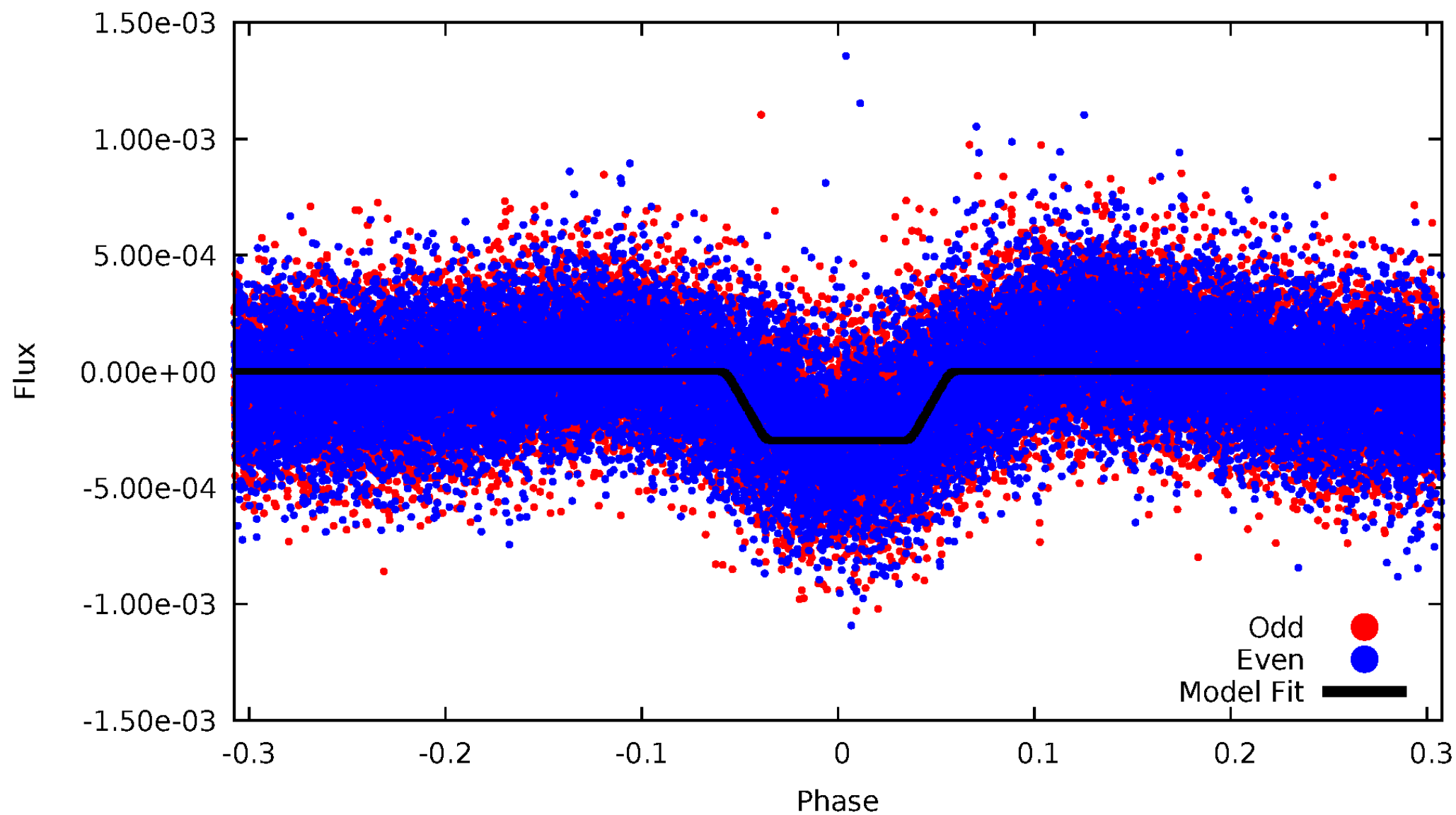
DV Odd/Even

TCE 006303679-01

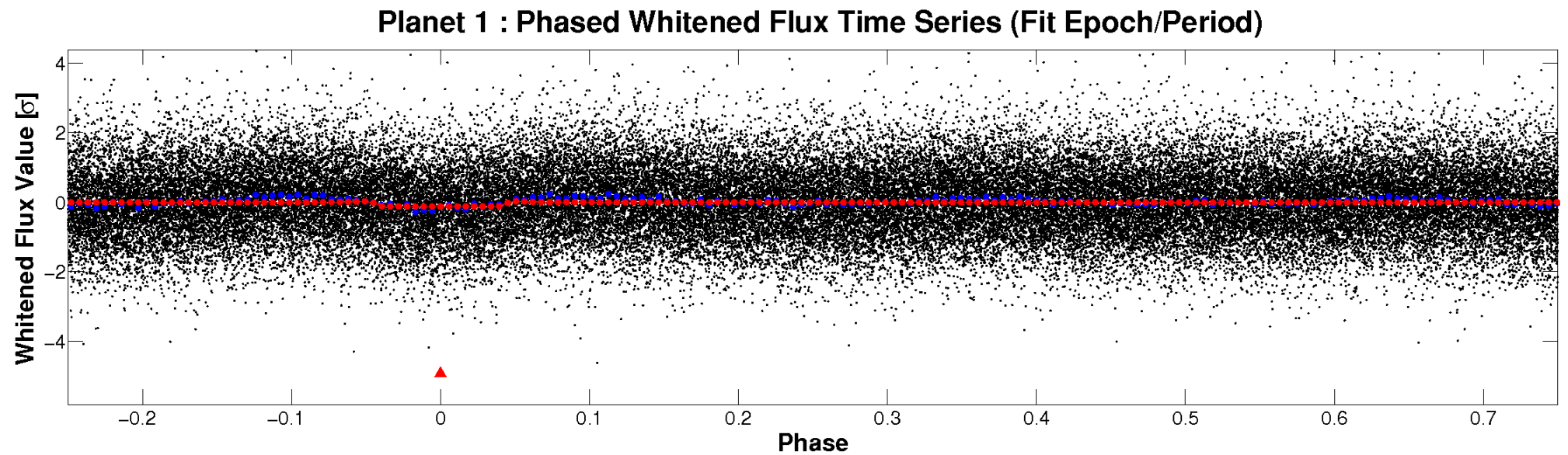
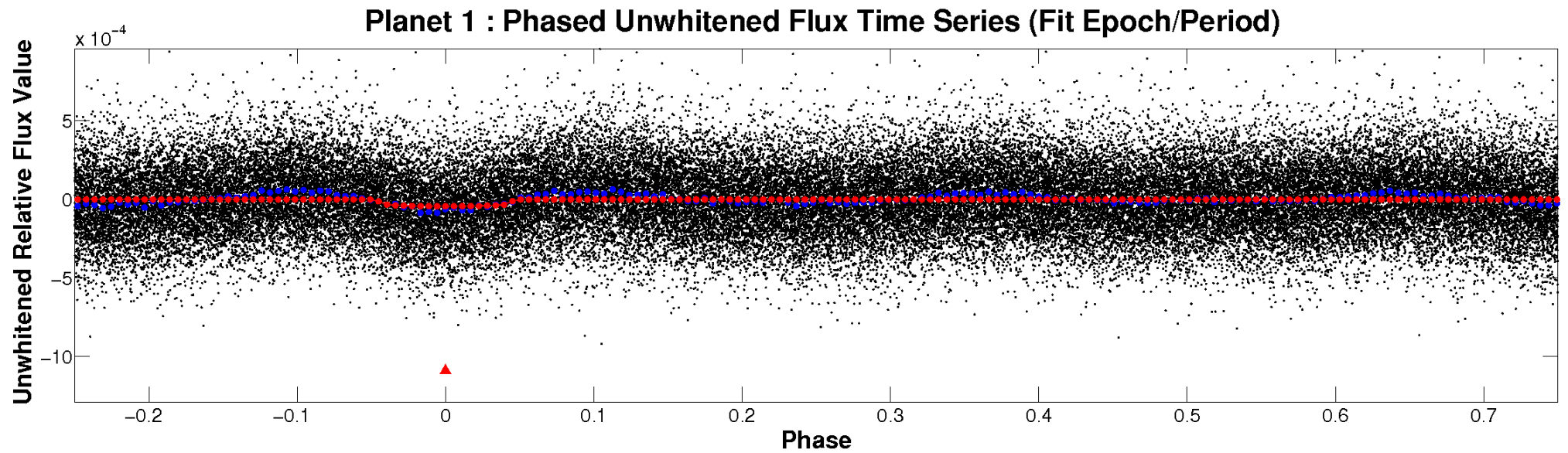


ALT Odd/Even

TCE 006303679-01

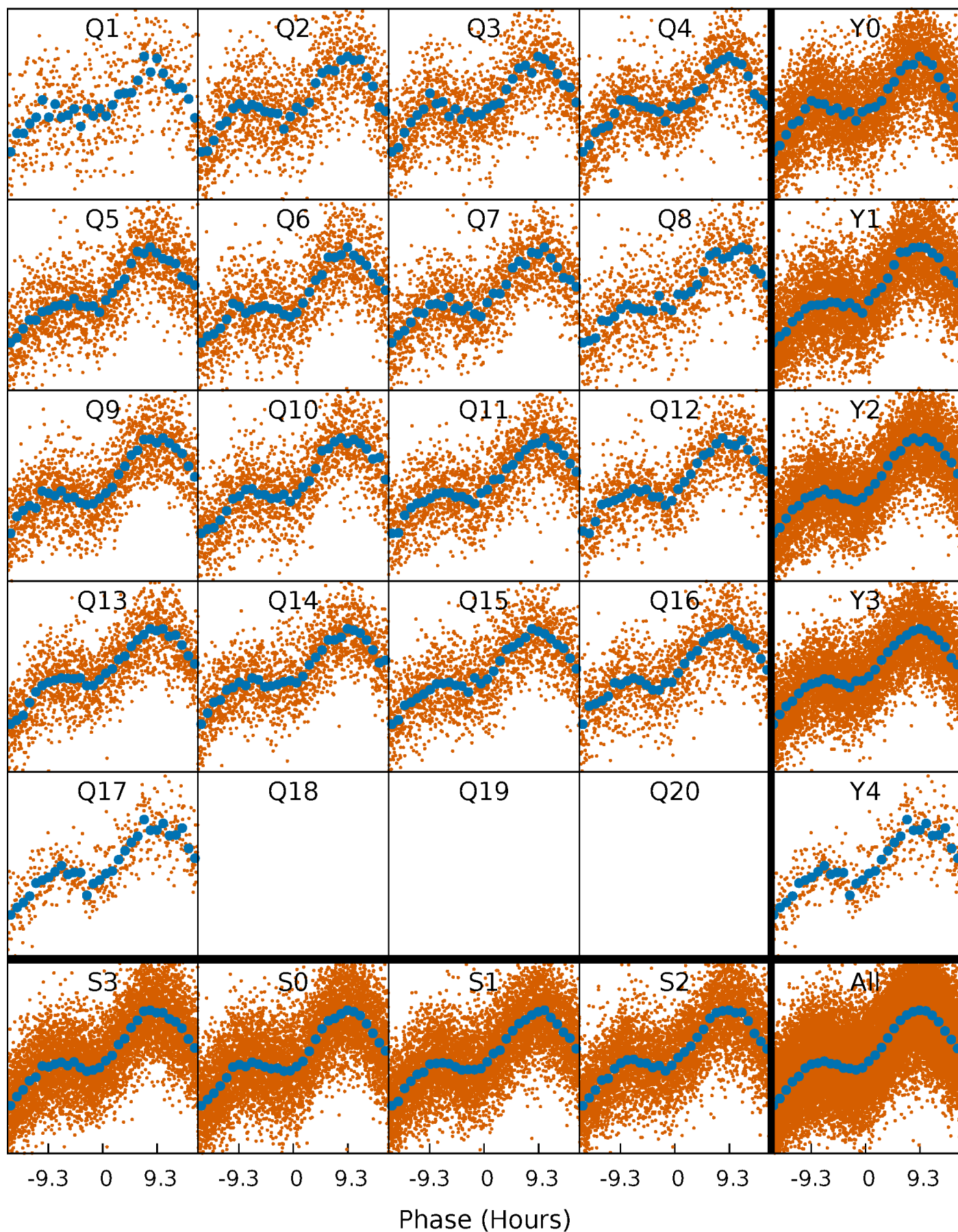


Non-Whitened Vs. Whitened Light Curve



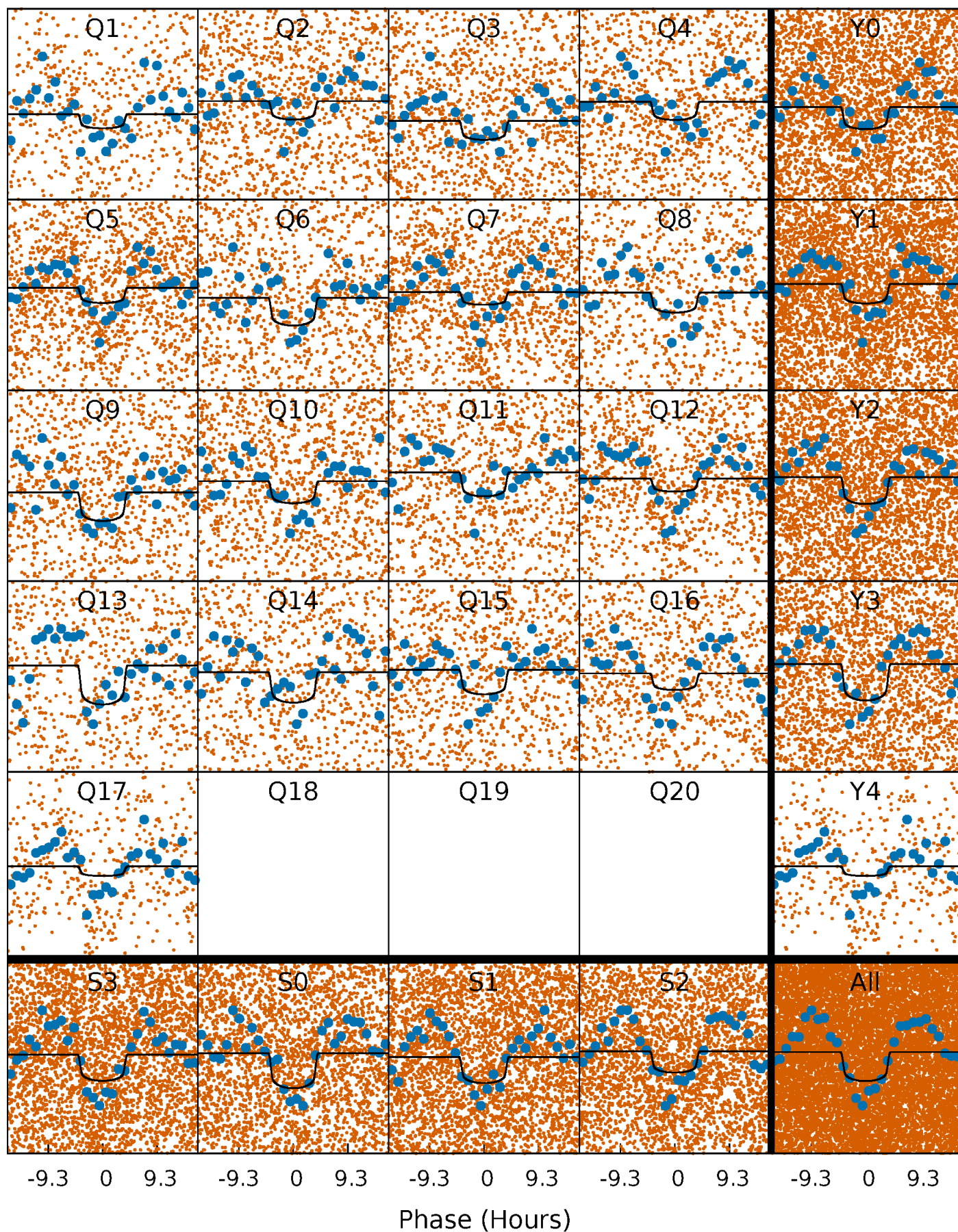
PDC Quarter-Phased Transit Curves

TCE 006303679-01 P= 3.626257 Days $T_0=132.077699$ (BKJD)



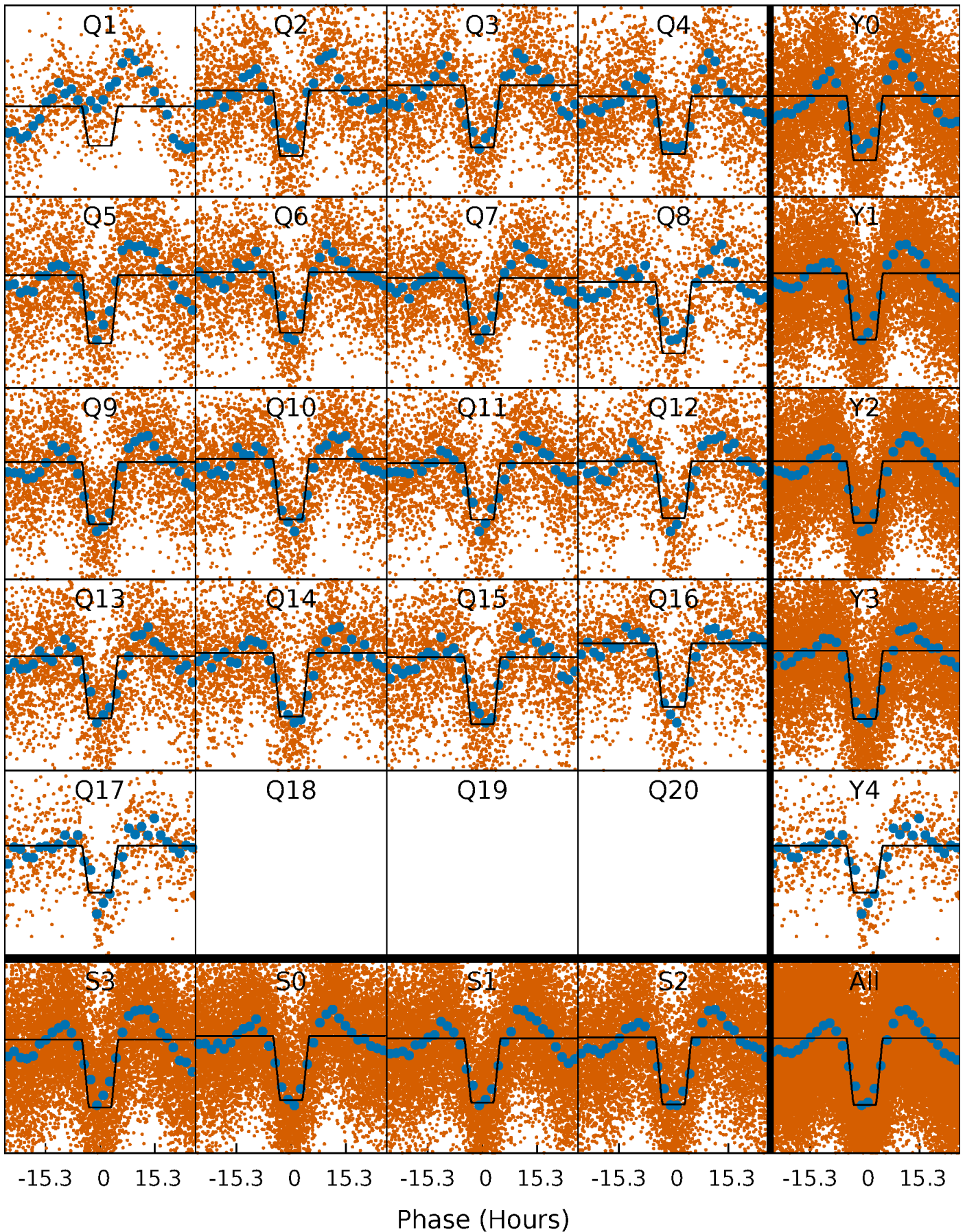
DV Quarter-Phased Transit Curves

TCE 006303679-01 P= 3.626257 Days $T_0=132.077699$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

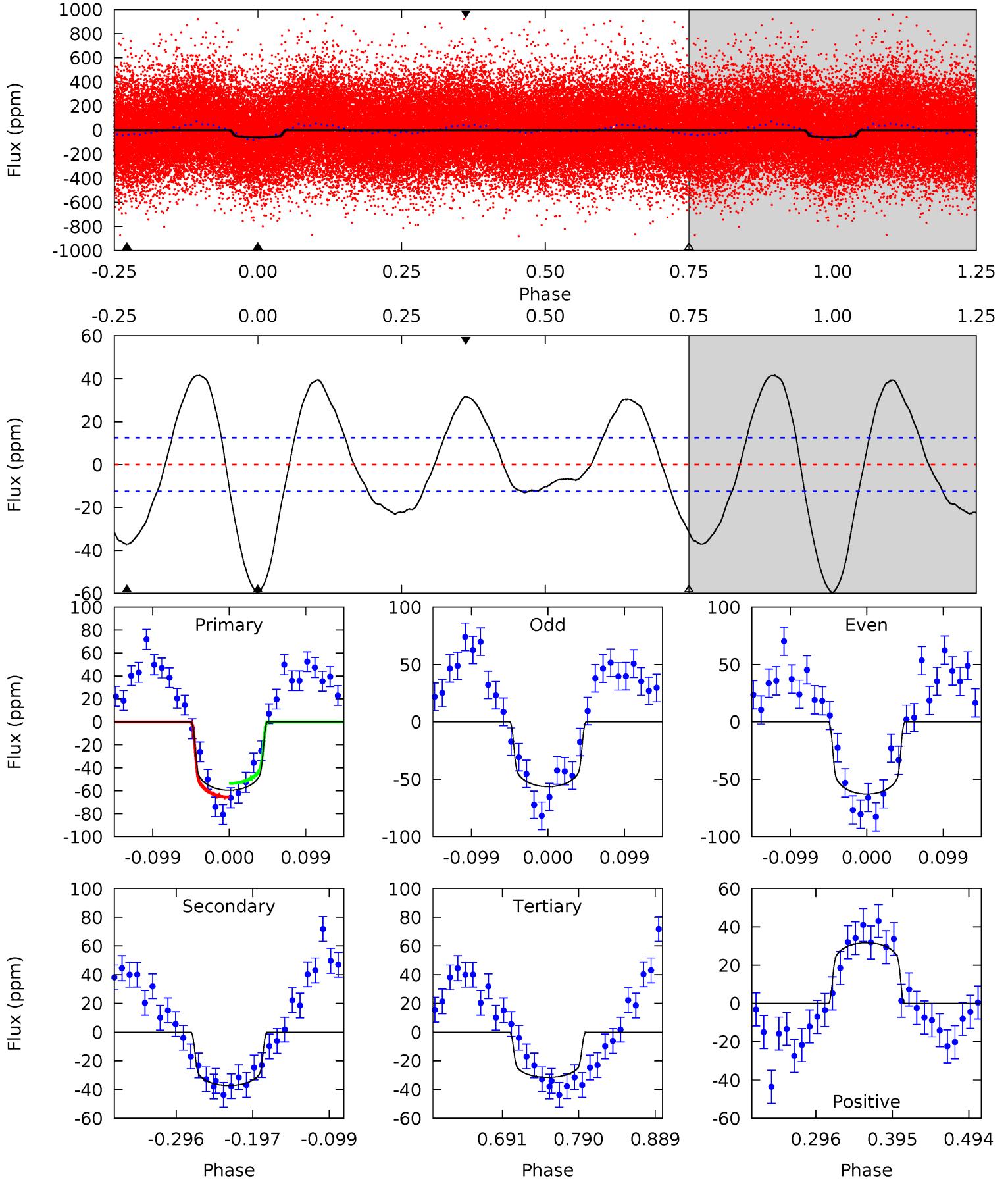
TCE 006303679-01 P= 3.626059 Days $T_0=132.096634$ (BKJD)



DV Model-Shift Uniqueness Test

006303679-01, P = 3.626257 Days, E = 128.451442 Days

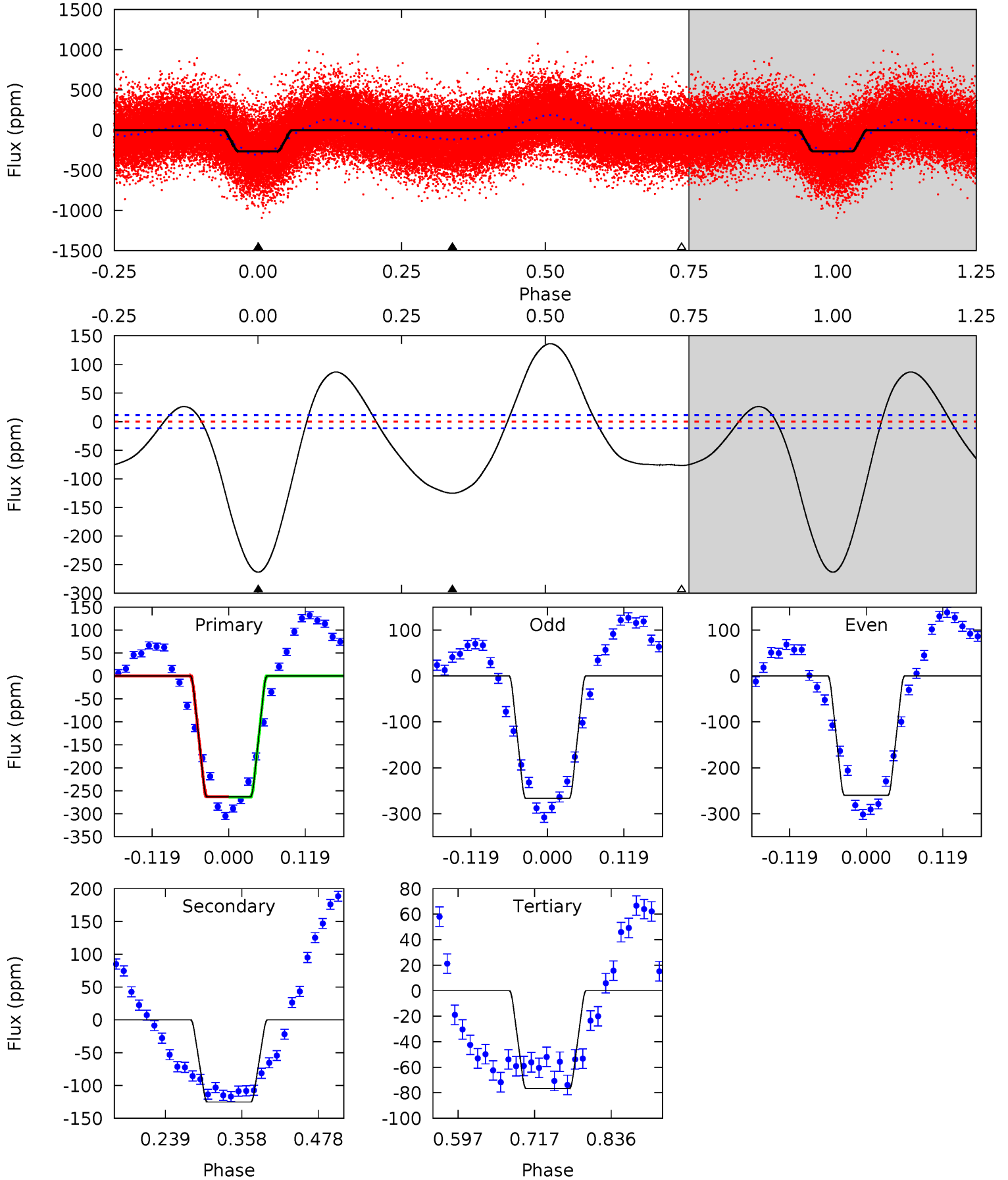
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 21.8 | 13.6 | 11.5 | 11.6 | 4.57 | 1.65 | 7.14 | 10.3 | 10.2 | 2.06 | 2.01 | 1.19 | 1.03 | 0.41 | 2.17 |



Alt Model-Shift Uniqueness Test

006303679-01, P = 3.626059 Days, E = 128.470575 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 102.8 | 48.9 | 29.9 | 0 | 4.53 | 1.56 | 27.8 | 72.9 | 102.8 | 18.9 | 48.9 | 1.29 | 0.98 | 0.34 | 0.12 |



Stellar Parameters For KIC 006303679

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6398^{+175}_{-214} | $4.031^{+0.336}_{-0.144}$ | $-0.340^{+0.300}_{-0.300}$ | $1.687^{+0.461}_{-0.563}$ | $1.115^{+0.174}_{-0.174}$ | $0.327^{+0.788}_{-0.148}$ |
| | +3%/-3% | +8%/-4% | +88%/-88% | +27%/-33% | +16%/-16% | +241%/-45% |
| 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 006303679-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|--------------|------------------------|----------------------|----------------------|------------------|
| DV | -37 ± 3 | $1.28^{+0.31}_{-0.28}$ | 2291^{+165}_{-219} | 5826^{+552}_{-461} | 29^{+18}_{-10} |
| Alt. | -125 ± 3 | $3.11^{+0.51}_{-0.61}$ | 2302^{+173}_{-209} | 5178^{+207}_{-206} | 17^{+8}_{-4} |

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

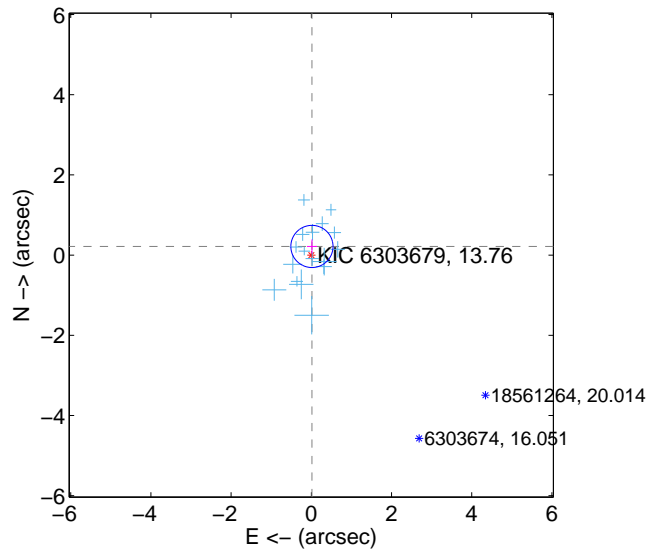
Supplemental centroid analysis for 006303679-01. Kepler magnitude: 13.76. Transit SNR 8.94

There are 17 quarters with good PRF difference image offsets

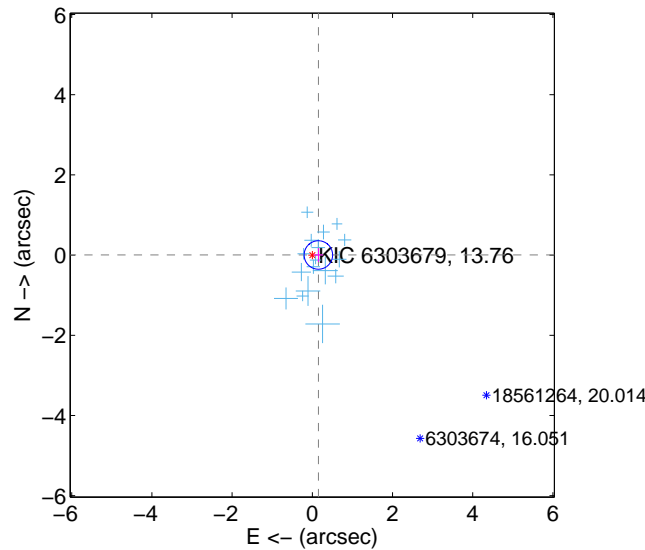
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 0.216 ± 0.175 | 1.23 | -0.015 ± 0.126 | 0.216 ± 0.176 |
| PRF-fit source offset from KIC position | 0.151 ± 0.118 | 1.28 | -0.151 ± 0.118 | 0.003 ± 0.173 |
| photometric centroid source offset | 2.78 ± 0.75 | 3.70 | 1.08 ± 0.82 | 2.56 ± 0.74 |

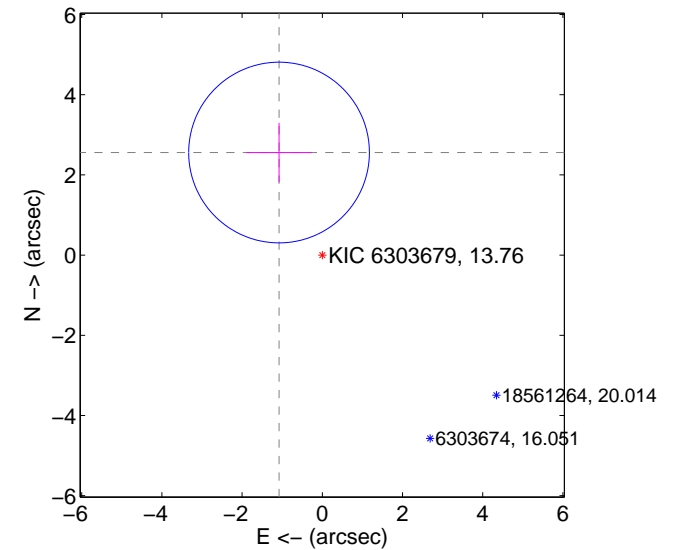
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

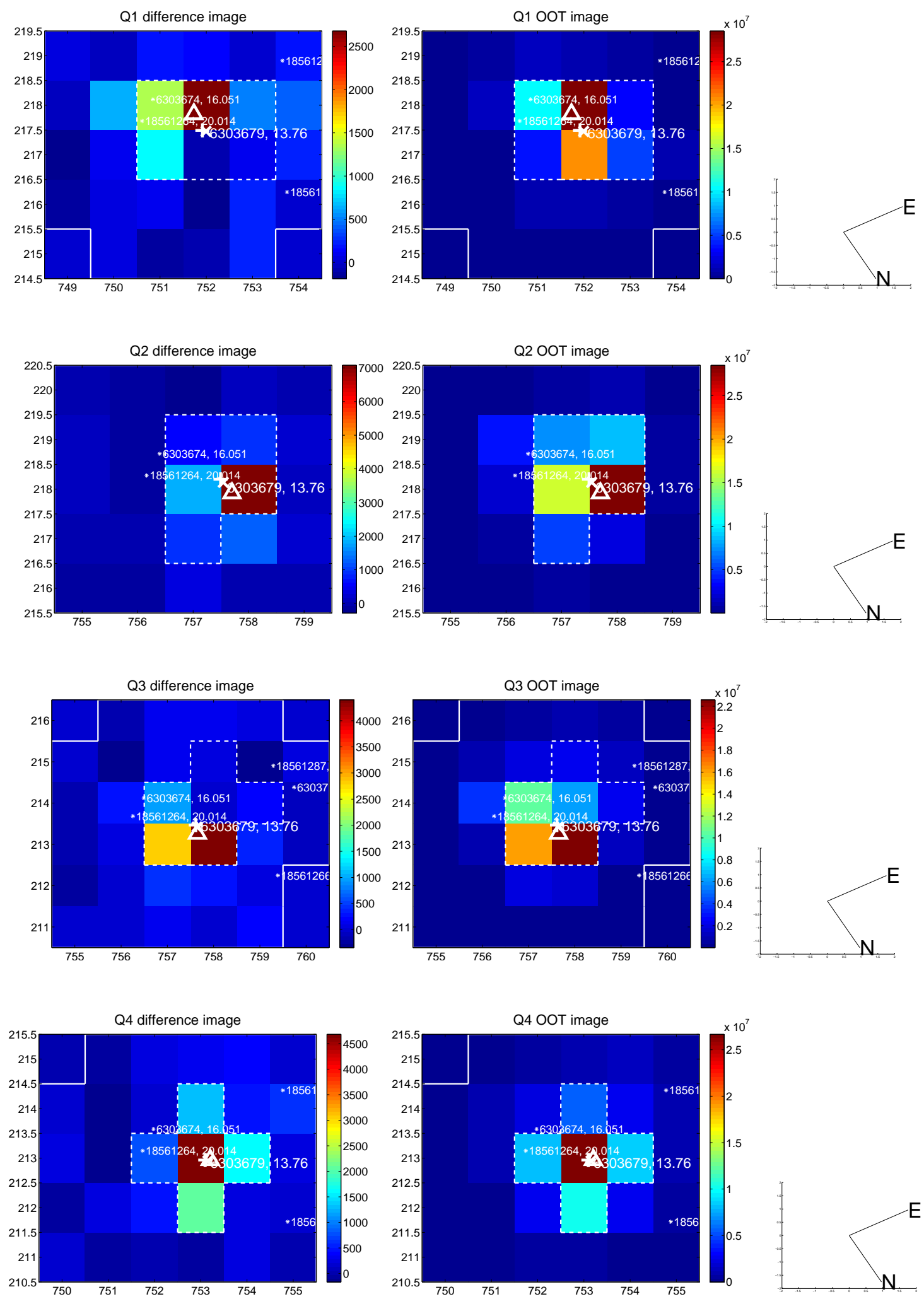


offset from photometric centroids

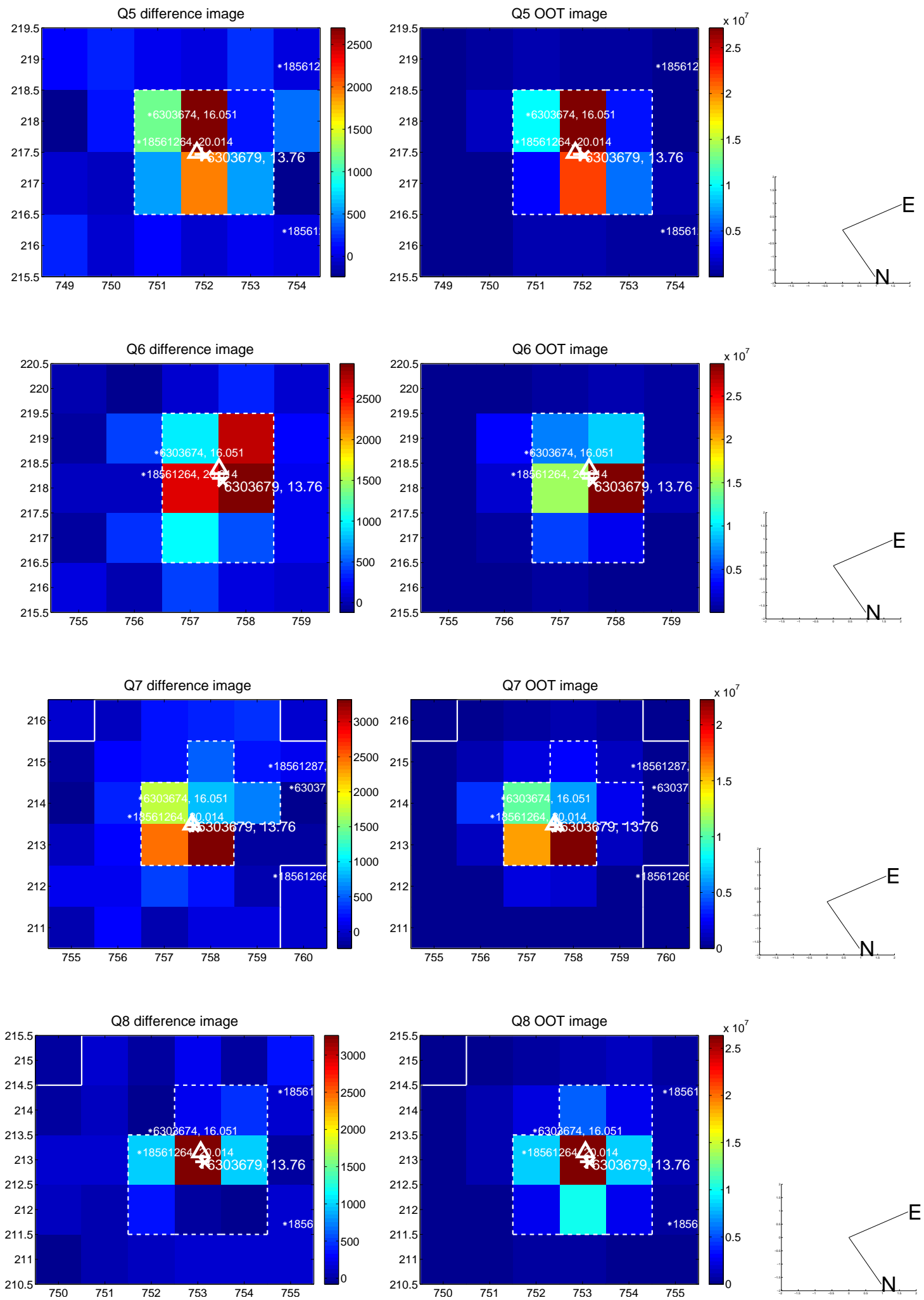


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

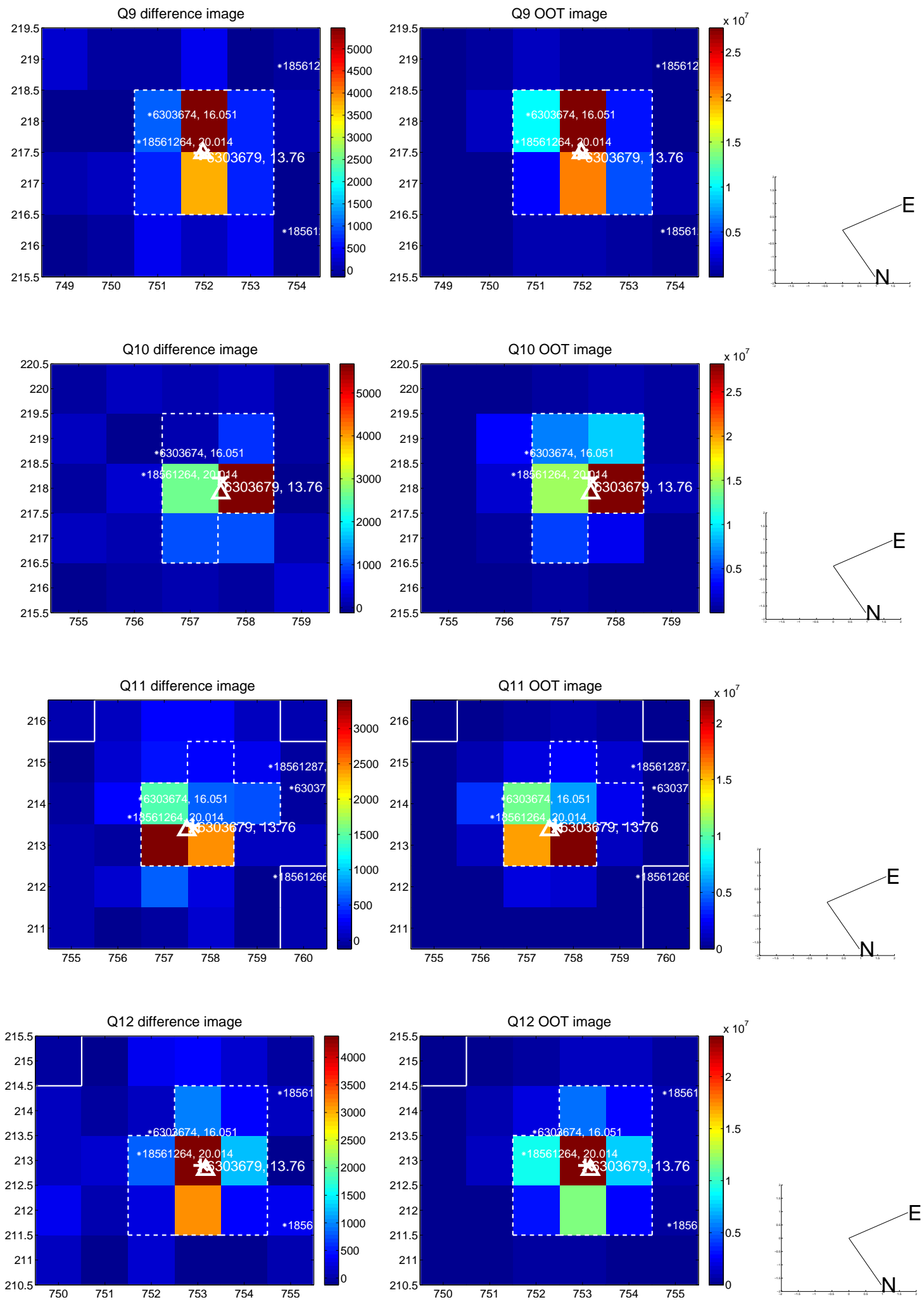
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



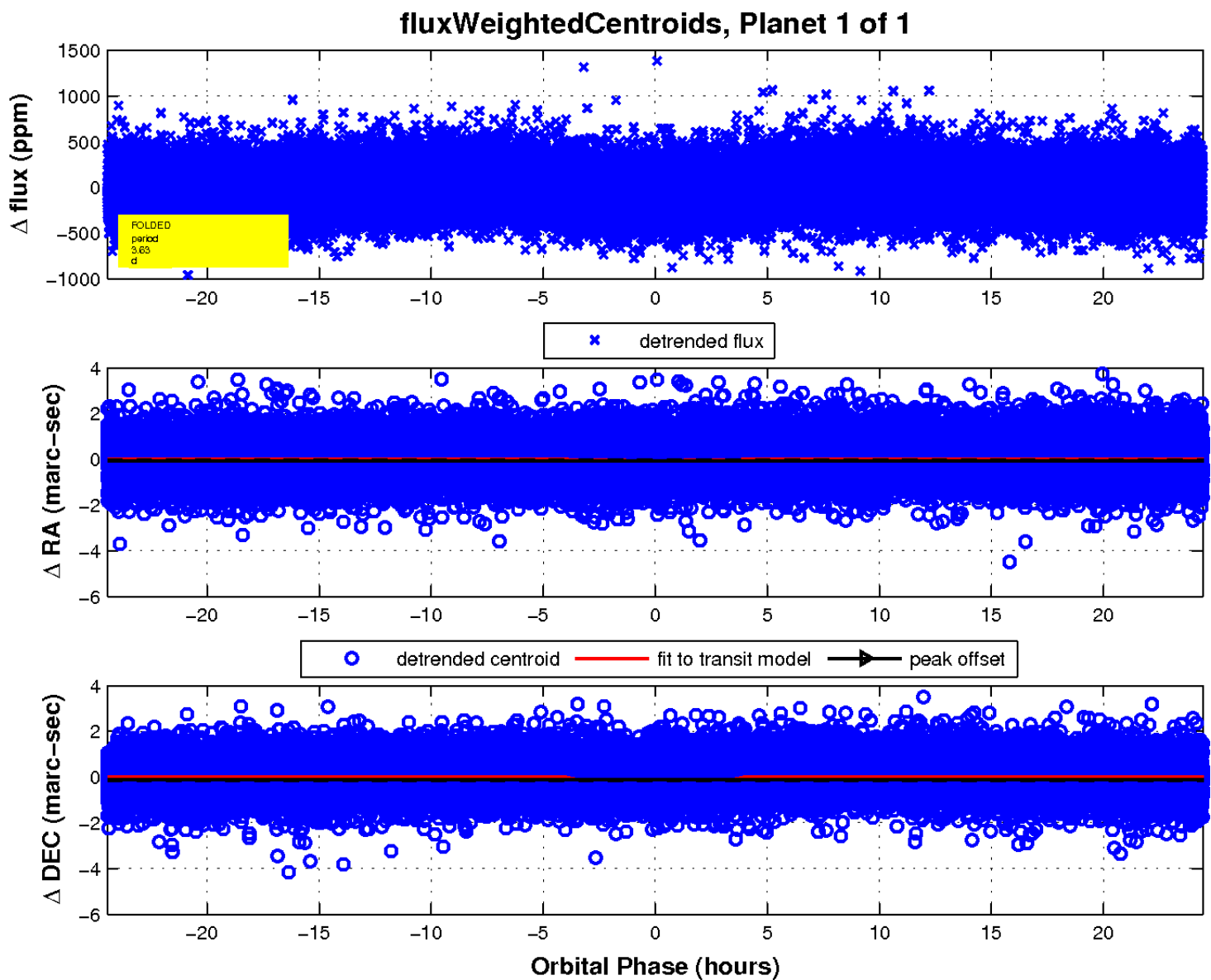
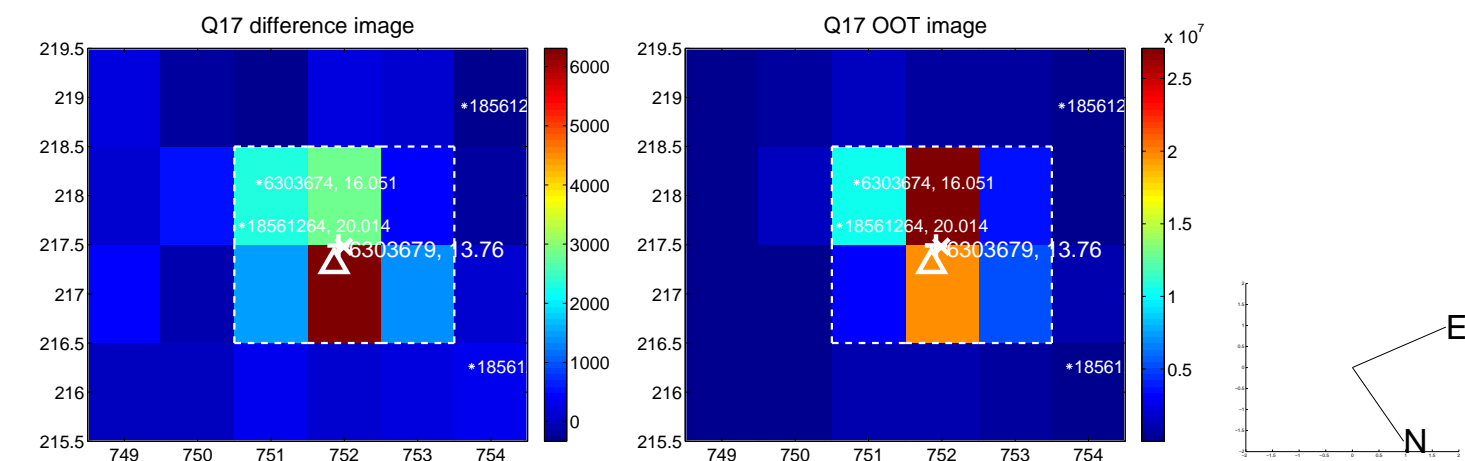
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

