

KIC 003441652

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 003441652-01 | OBS | No | 1.854167 | 132.306908 | 26.6 | 2.663 | 7.4 | 6.2 | 1.75 | 6935 | 1.12 | 5795.32 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 003441652-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—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.

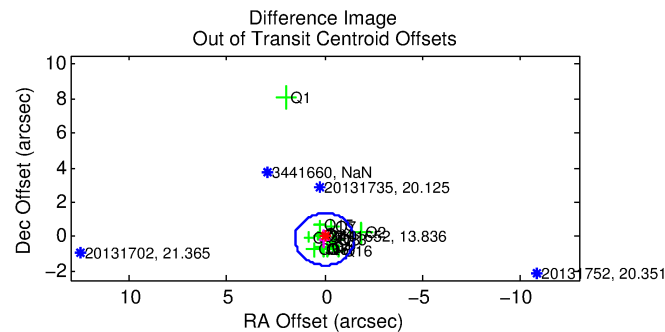
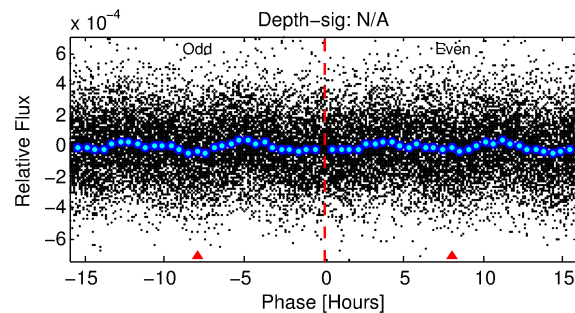
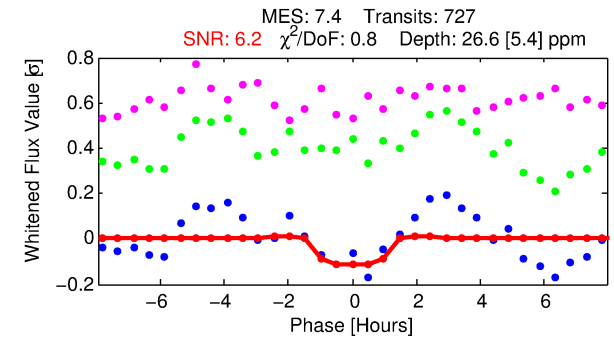
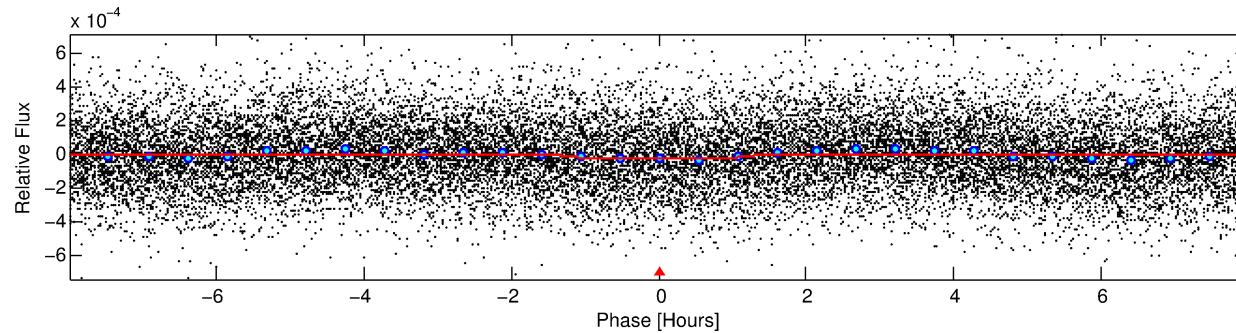
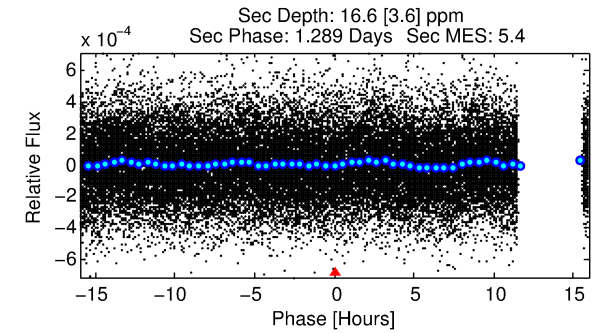
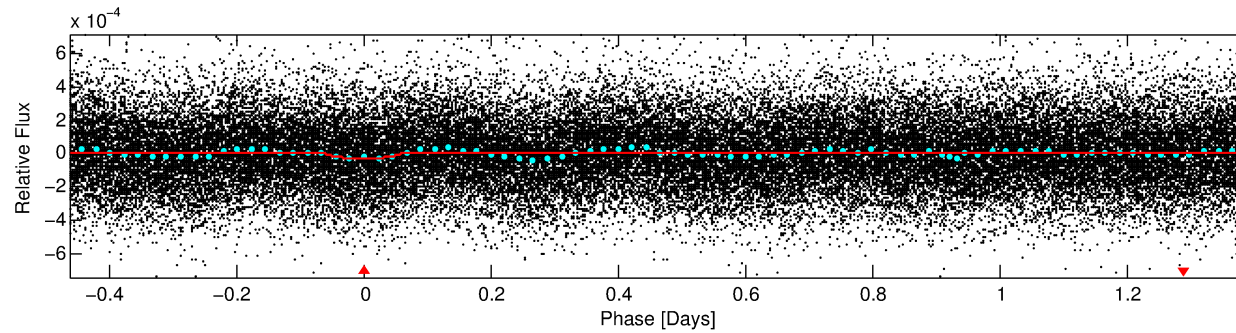
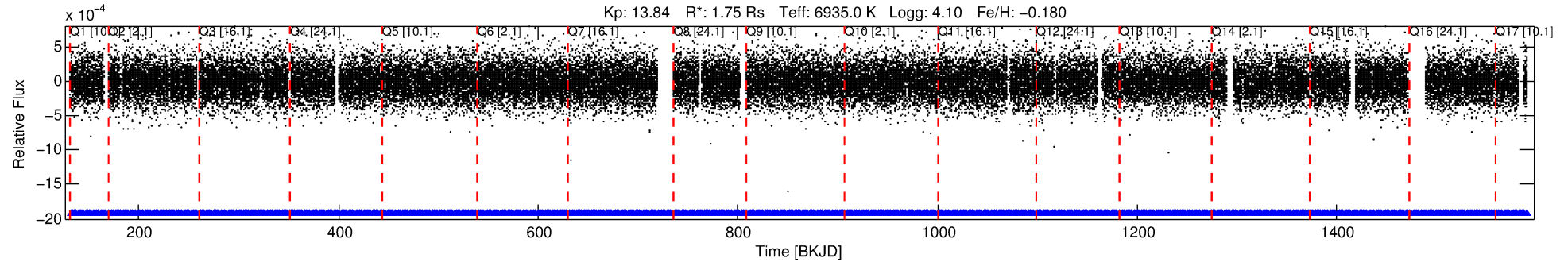
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003441652-01

No Significant Match Found

DV One-Page Summary

KIC: 3441652 Candidate: 1 of 1 Period: 1.854 d



DV Fit Results:

Period = 1.85417 [0.00002] d
Epoch = 132.3069 [0.0053] BKJD
Rp/R* = 0.0059 [0.0029]
a/R* = 1.92 [4.36]
b = 0.96 [0.28]
Seff = 5795.32 [1418.96]
Teq = 2225 [136] K
Rp = 1.12 [0.58] Re
a = 0.0330 [0.0051] AU
Ag = 8.03 [8.29] [0.85σ]
Teffp = 5790 [1456] K [2.44σ]

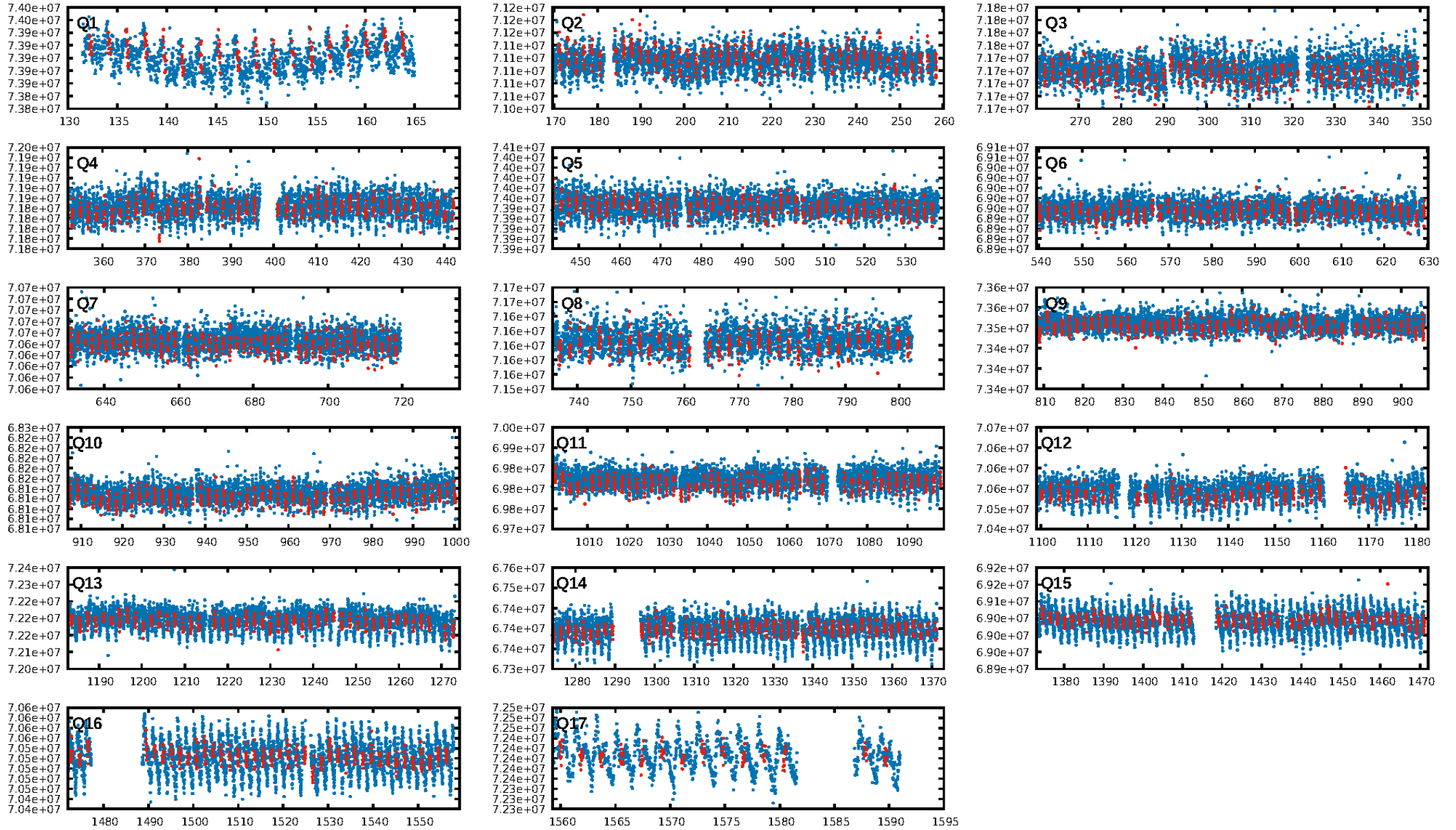
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.47e-12
RollingBand-fgt: 1.00 [695/695]
GhostDiagnostic-chr: 0.4749
Centroid-sig: 10.4%
Centroid-so: 2.275 arcsec [1.21σ]
OotOffset-rm: 0.143 arcsec [0.29σ]
KicOffset-rm: 0.189 arcsec [0.58σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [17/17]

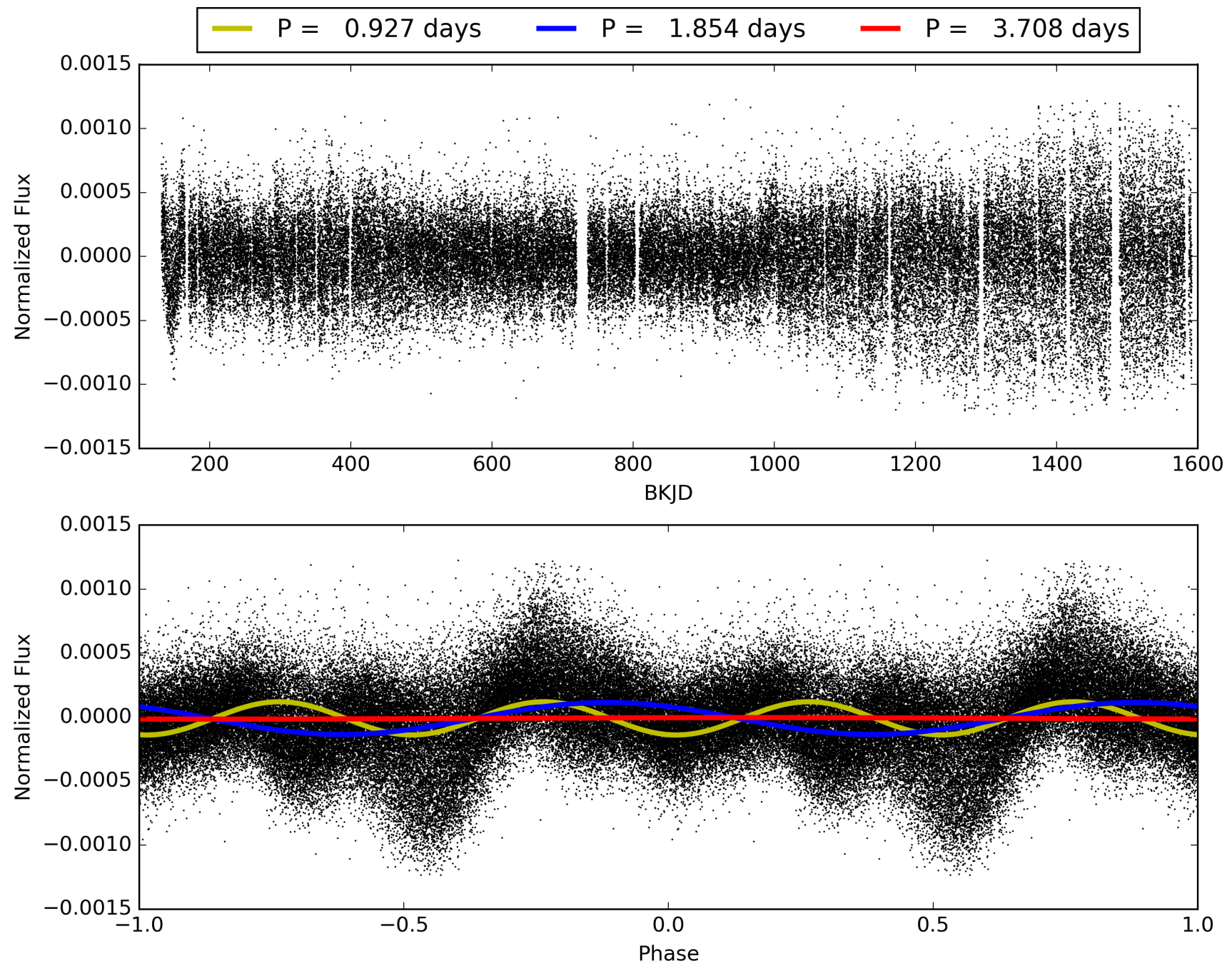
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:30:20 Z

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

TCE 003441652-01, PDC Light Curves

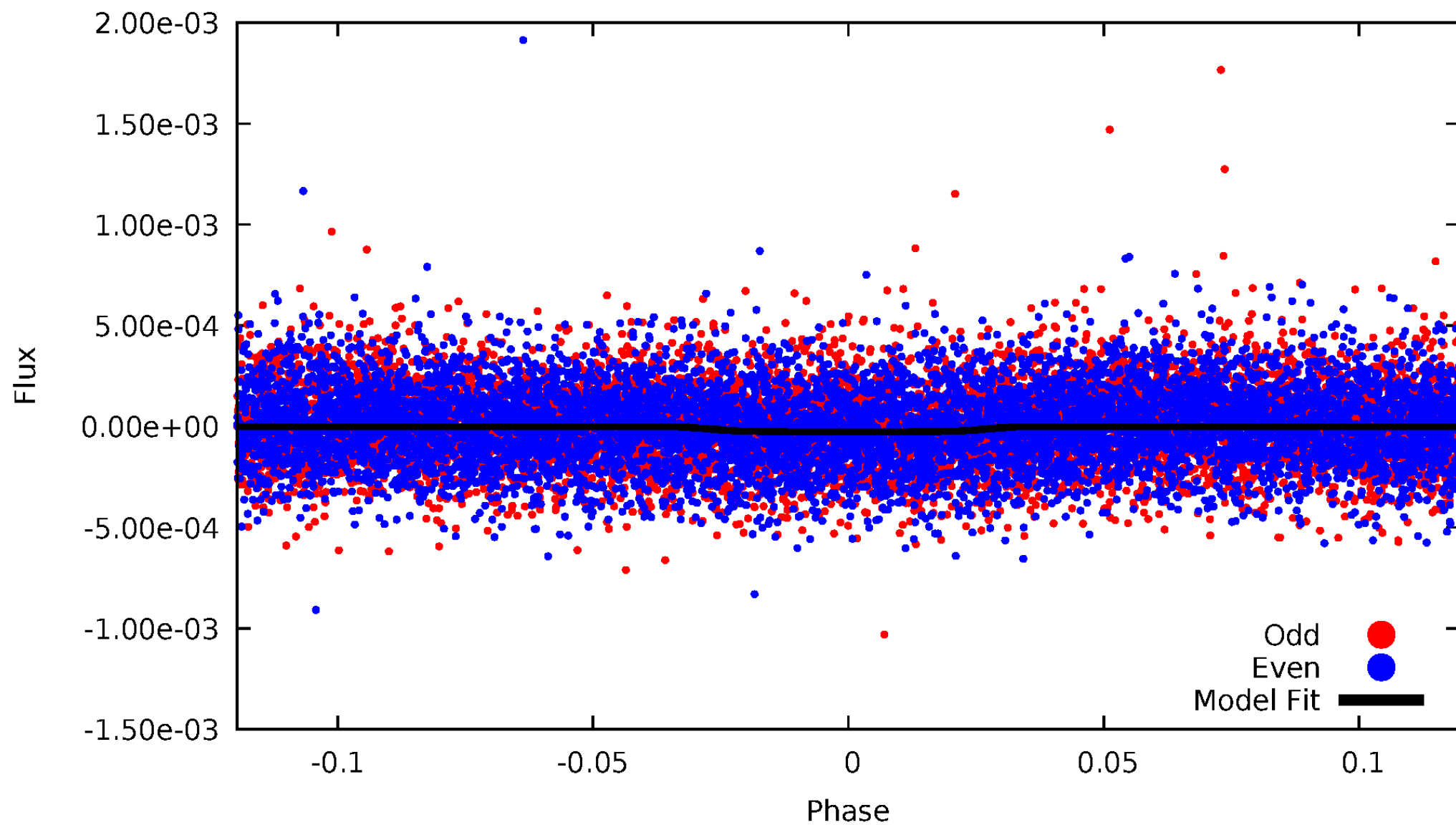


TCE 003441652-01



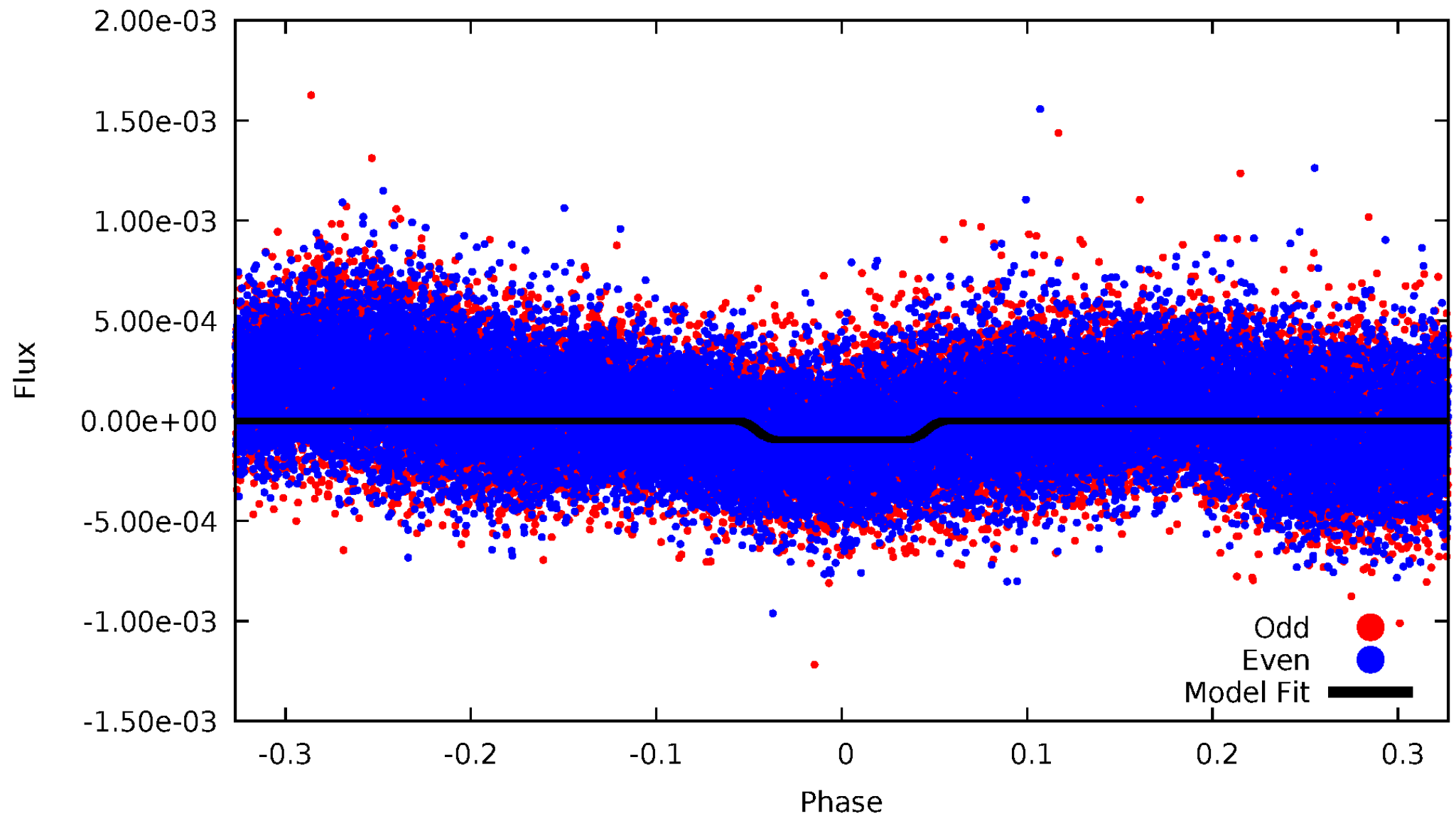
DV Odd/Even

TCE 003441652-01

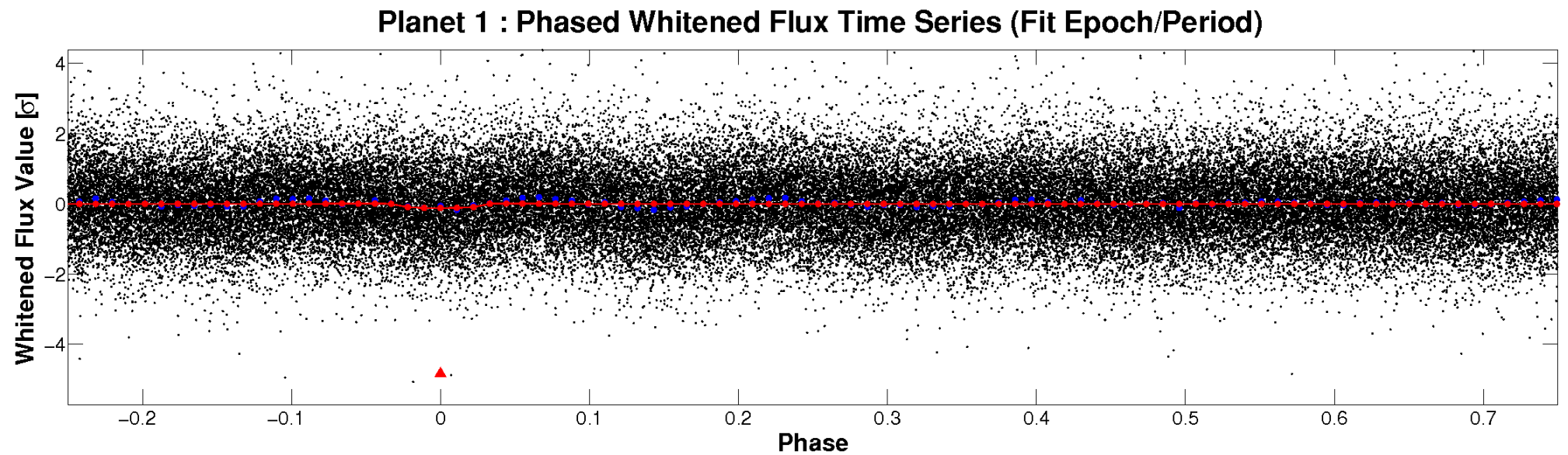
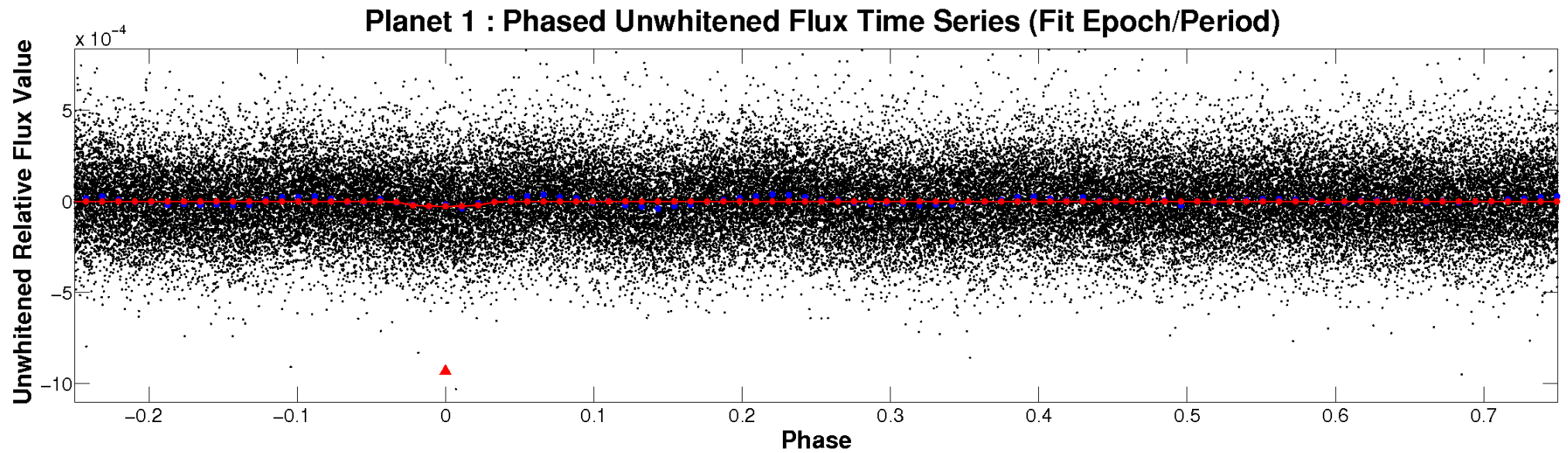


ALT Odd/Even

TCE 003441652-01

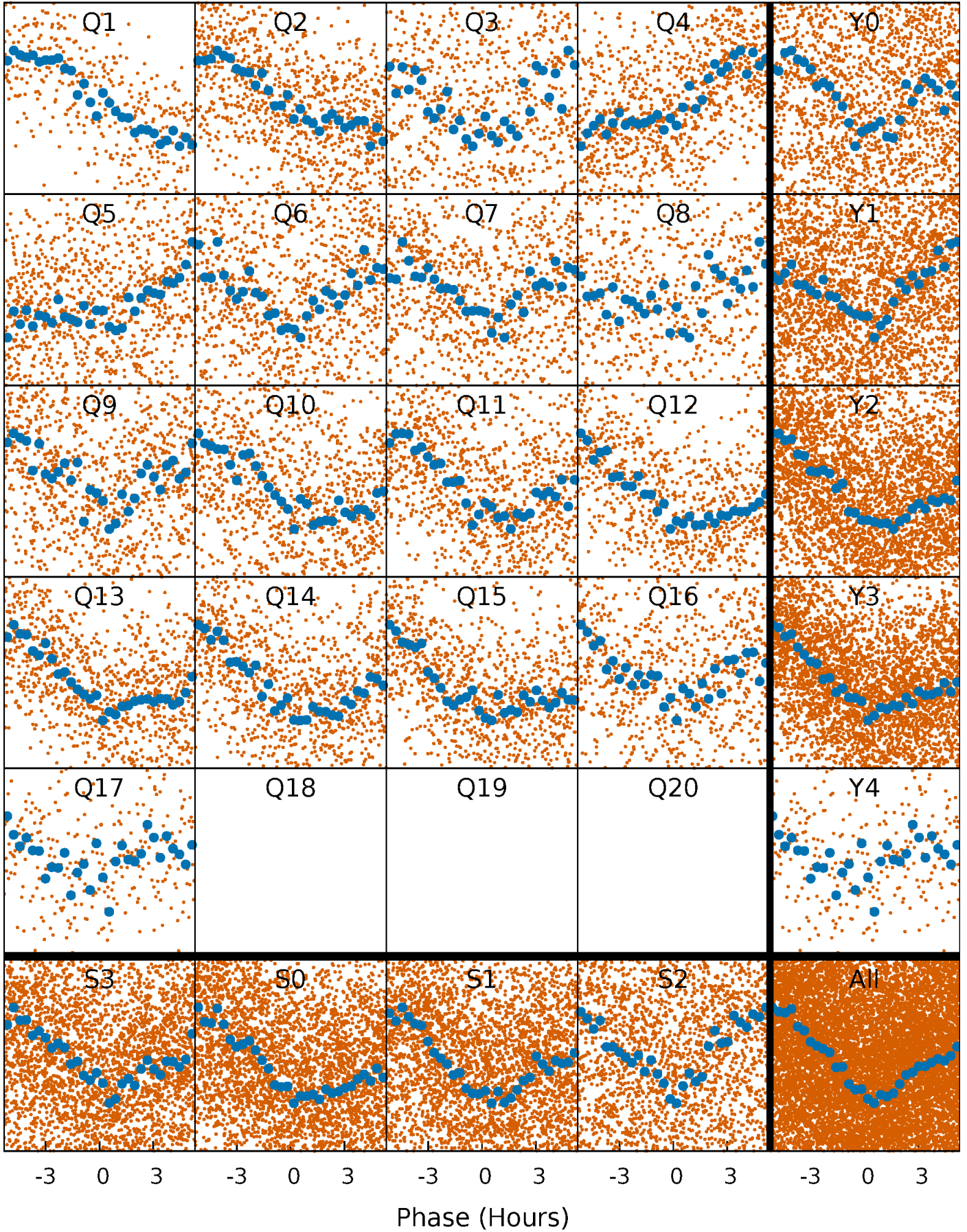


Non-Whitened Vs. Whitened Light Curve



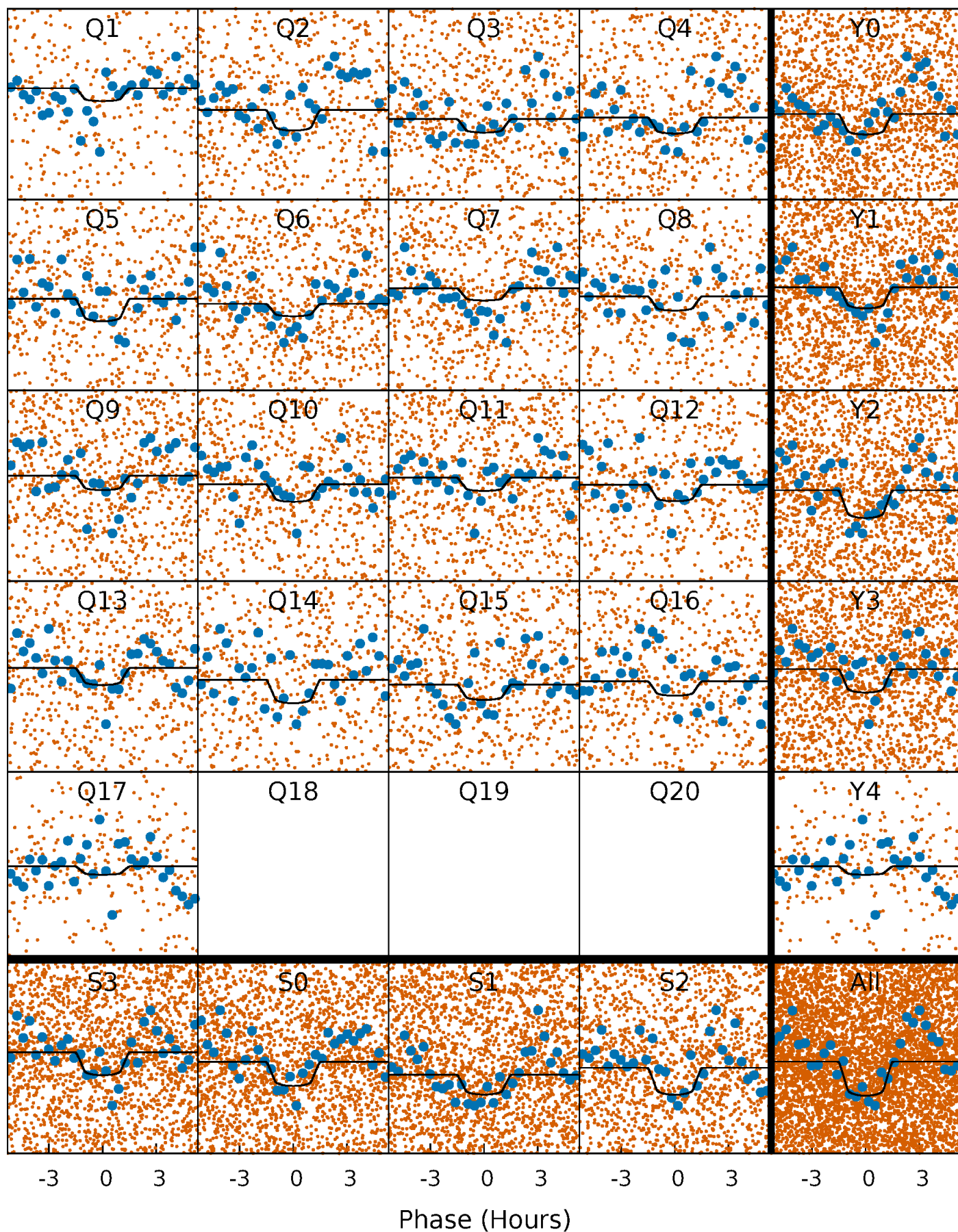
PDC Quarter-Phased Transit Curves

TCE 003441652-01 P= 1.854167 Days $T_0=132.306908$ (BKJD)



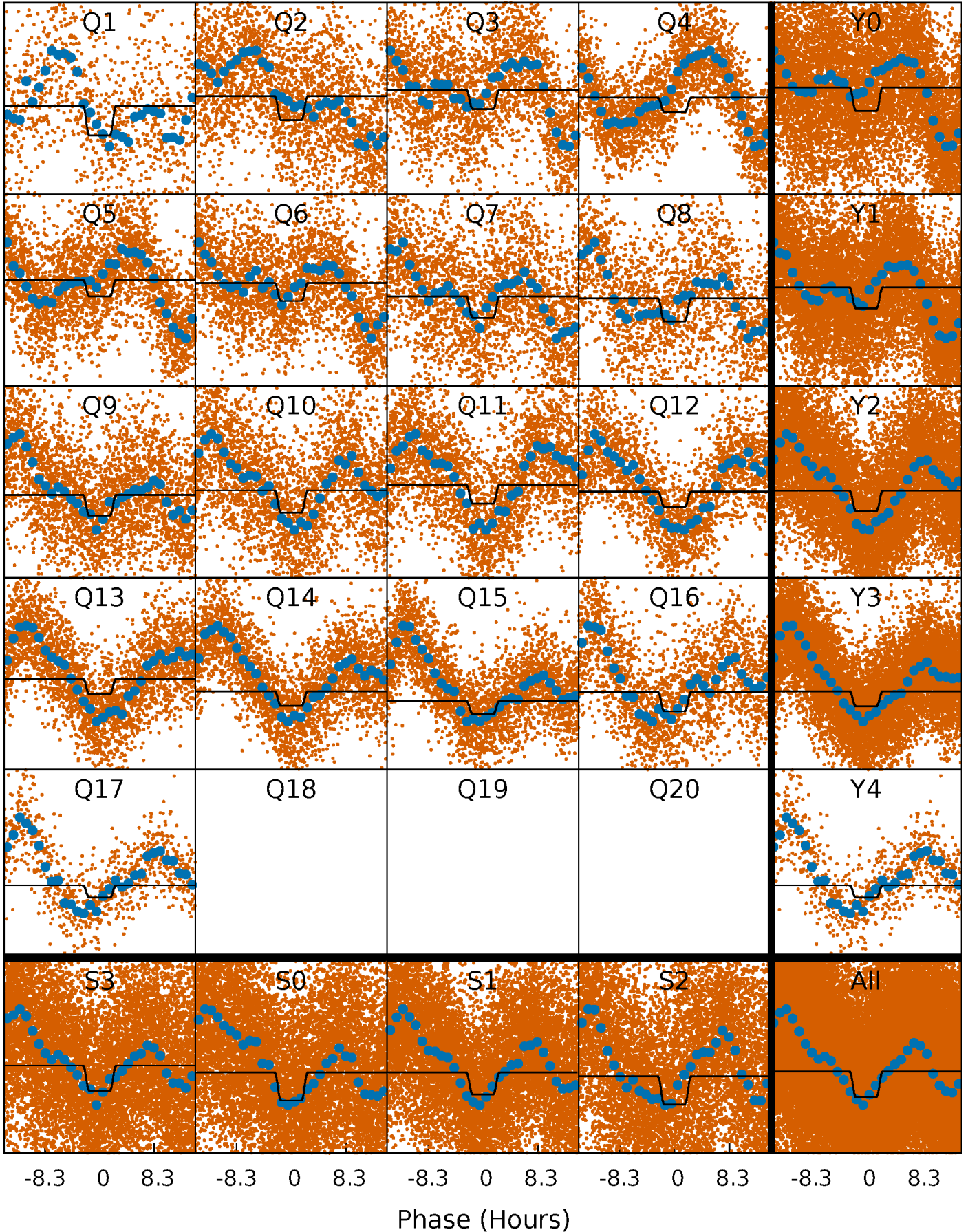
DV Quarter-Phased Transit Curves

TCE 003441652-01 P= 1.854167 Days $T_0=132.306908$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

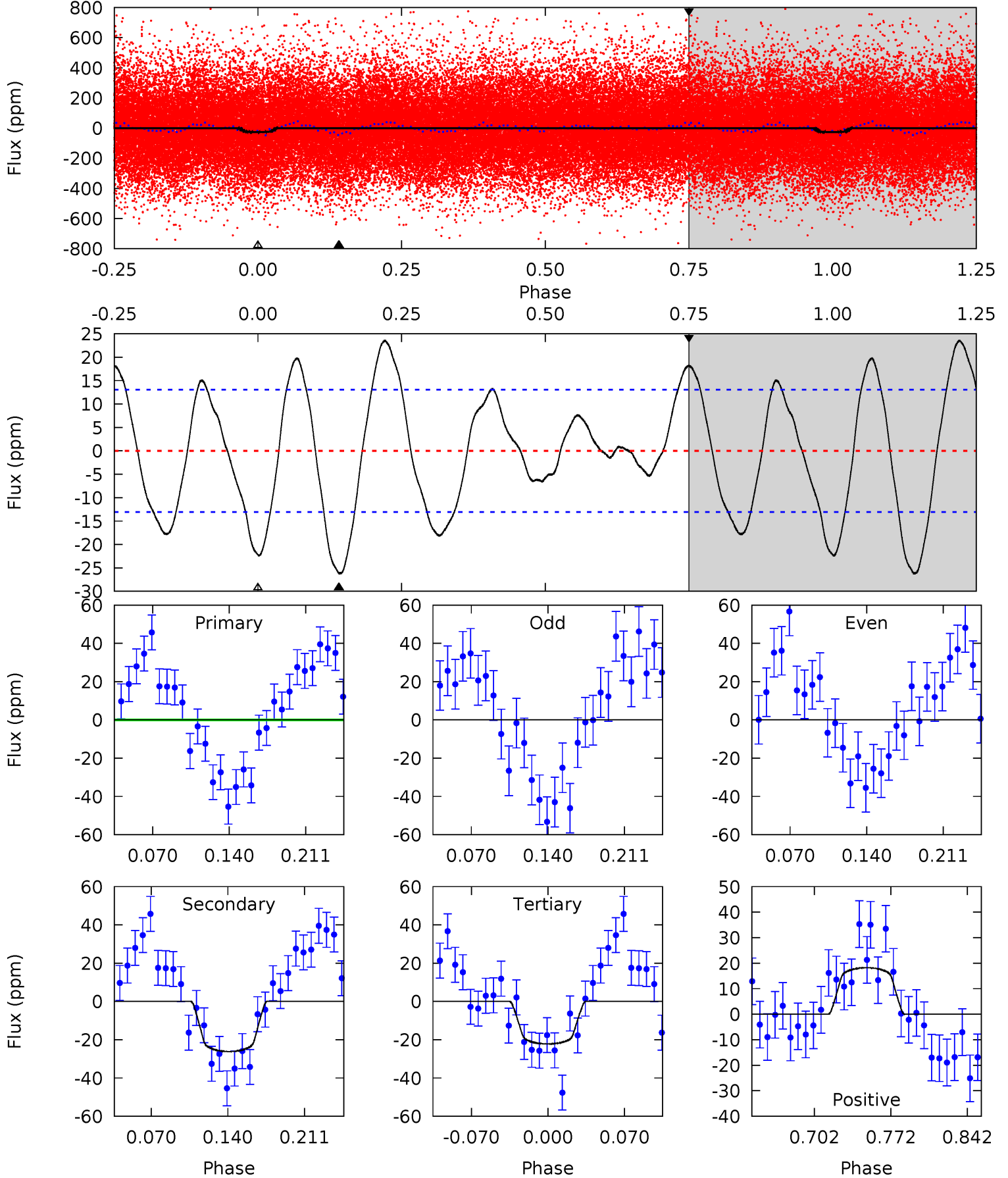
TCE 003441652-01 P= 1.854117 Days $T_0=132.376909$ (BKJD)



DV Model-Shift Uniqueness Test

003441652-01, P = 1.854167 Days, E = 130.452741 Days

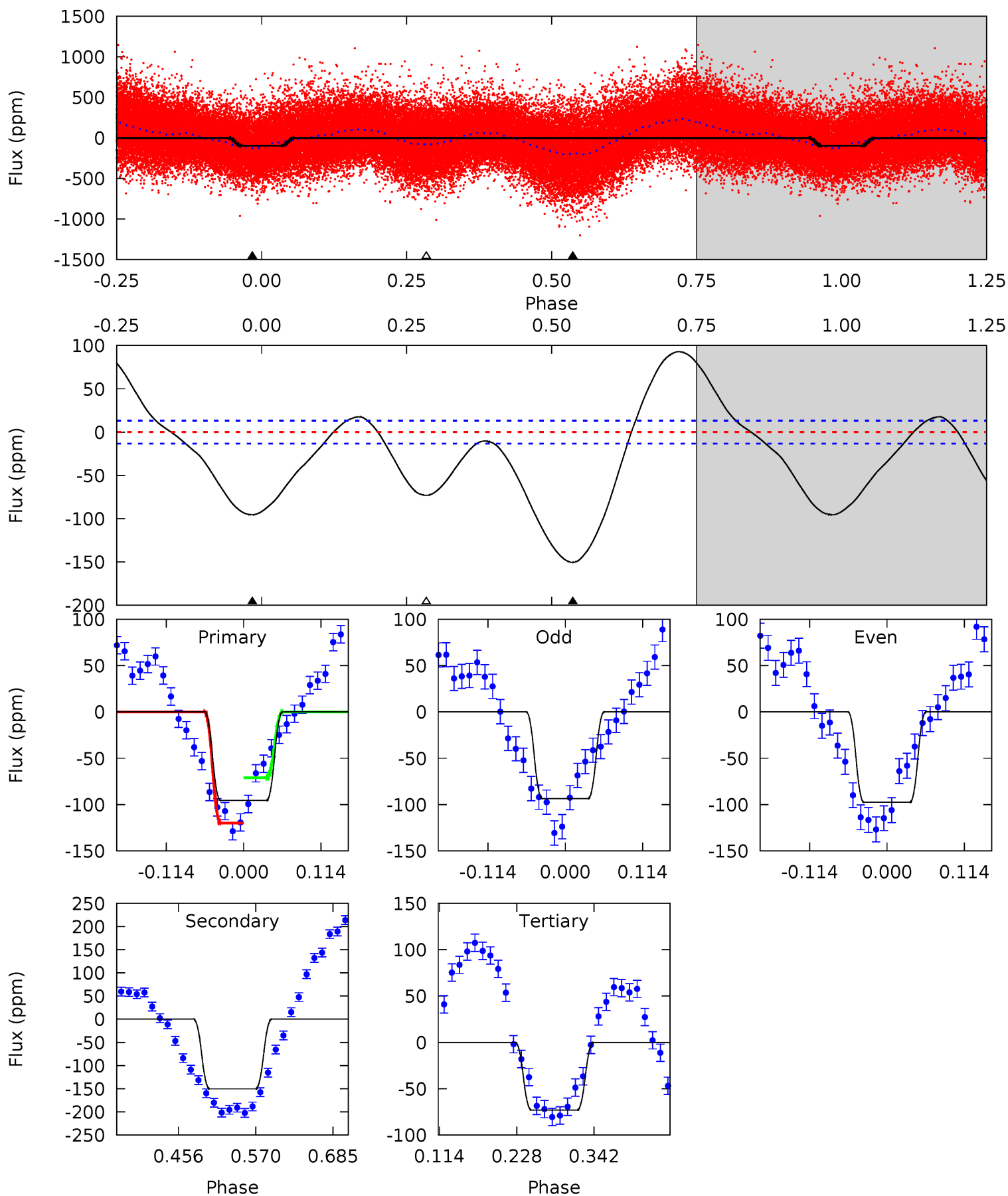
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.27 | 9.30 | 7.89 | 6.47 | 4.64 | 1.81 | 3.89 | 1.39 | 2.81 | 1.41 | 2.83 | 2.50 | 0.98 | 0.47 | 0.68 |



Alt Model-Shift Uniqueness Test

003441652-01, P = 1.854117 Days, E = 130.522792 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 32.6 | 51.3 | 24.9 | 0 | 4.54 | 1.58 | 16.1 | 7.71 | 32.6 | 26.4 | 51.3 | 0.68 | 0.99 | 0.38 | 8.14 |



Stellar Parameters For KIC 003441652

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|---------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6935^{+72}_{-93} | $4.099^{+0.137}_{-0.112}$ | $-0.180^{+0.150}_{-0.200}$ | $1.747^{+0.297}_{-0.297}$ | $1.403^{+0.104}_{-0.116}$ | $0.371^{+0.250}_{-0.127}$ |
| | +1%/-1% | +3%/-3% | +83%/-111% | +17%/-17% | +7%/-8% | +67%/-34% |
| Source | SPE68 | SPE68 | SPE68 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 003441652-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|--------------|------------------------|----------------------|------------------------|------------------|
| DV | -26 ± 3 | $1.09^{+0.58}_{-0.50}$ | 3094^{+131}_{-146} | 6415^{+2926}_{-1163} | 13^{+32}_{-7} |
| Alt. | -150 ± 3 | $1.86^{+0.57}_{-0.59}$ | 3099^{+146}_{-146} | 7857^{+2146}_{-1099} | 26^{+30}_{-11} |

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

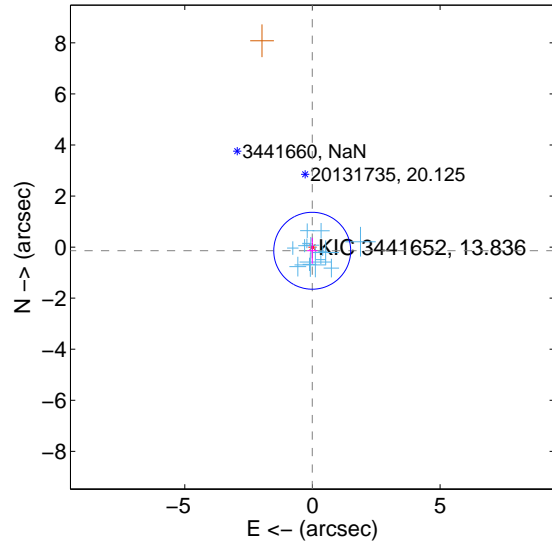
Supplemental centroid analysis for 003441652-01. Kepler magnitude: 13.84. Transit SNR 6.25

There are 15 quarters with good PRF difference image offsets

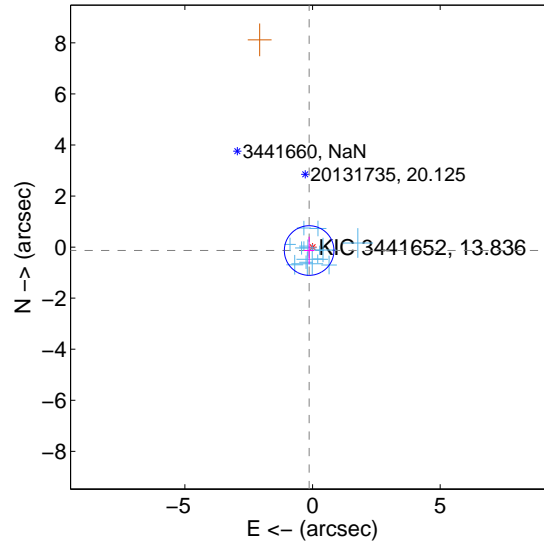
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.143 ± 0.502 | 0.29 | 0.009 ± 0.200 | -0.143 ± 0.509 |
| PRF-fit source offset from KIC position | 0.189 ± 0.324 | 0.58 | 0.132 ± 0.202 | -0.134 ± 0.540 |
| photometric centroid source offset | 2.28 ± 1.87 | 1.21 | 0.98 ± 1.74 | 2.05 ± 1.90 |

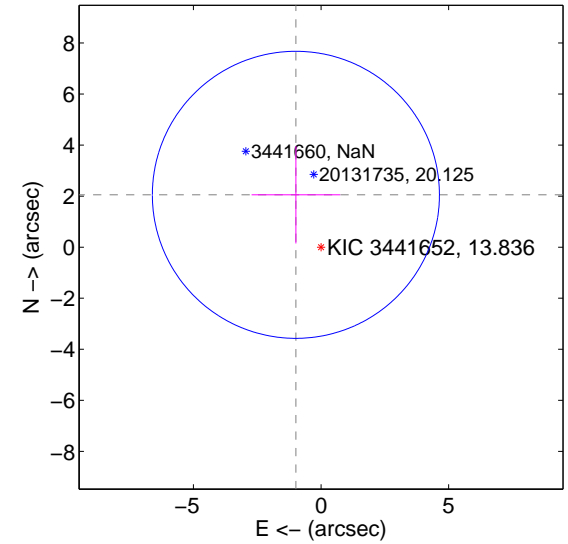
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

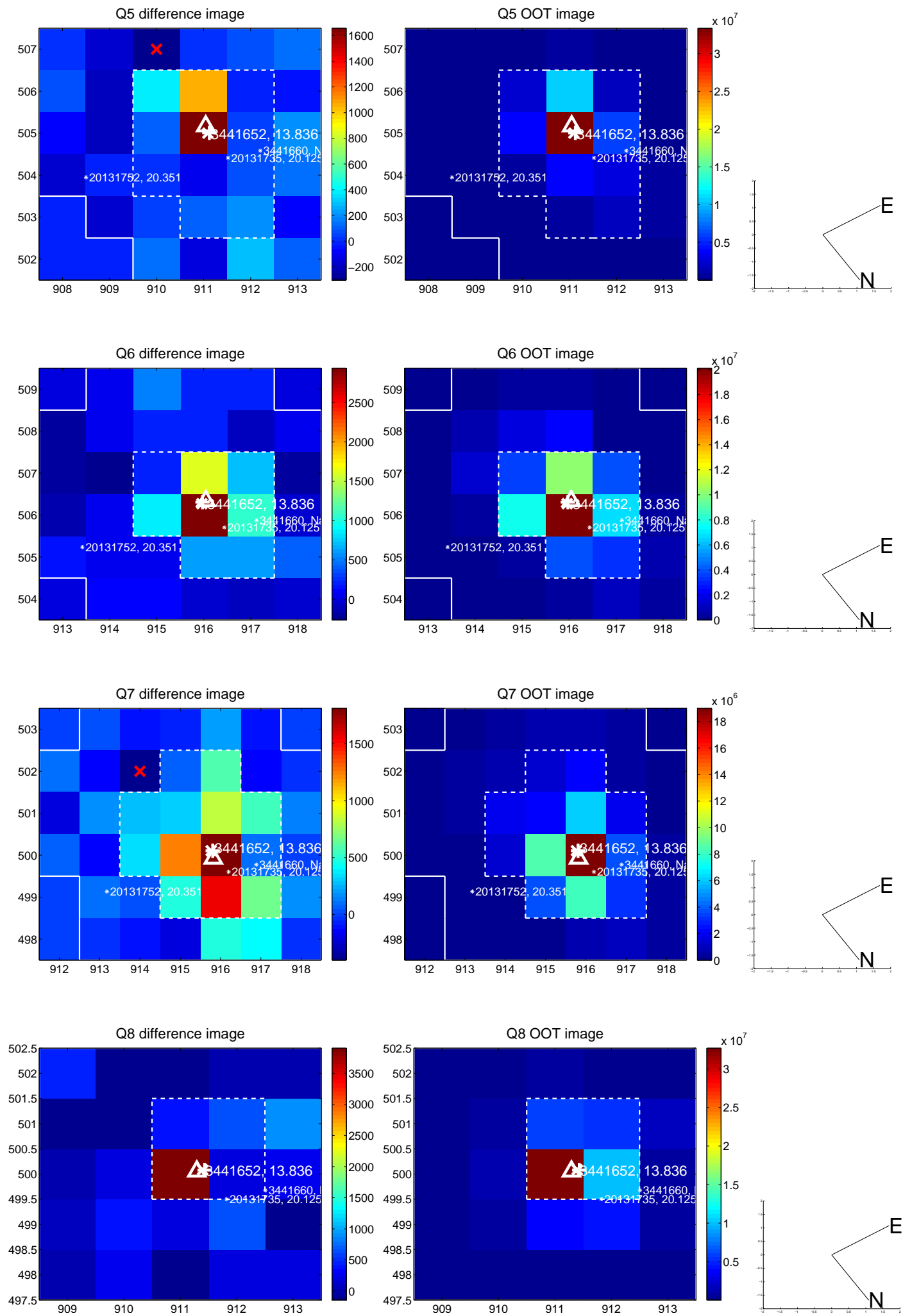


offset from photometric centroids

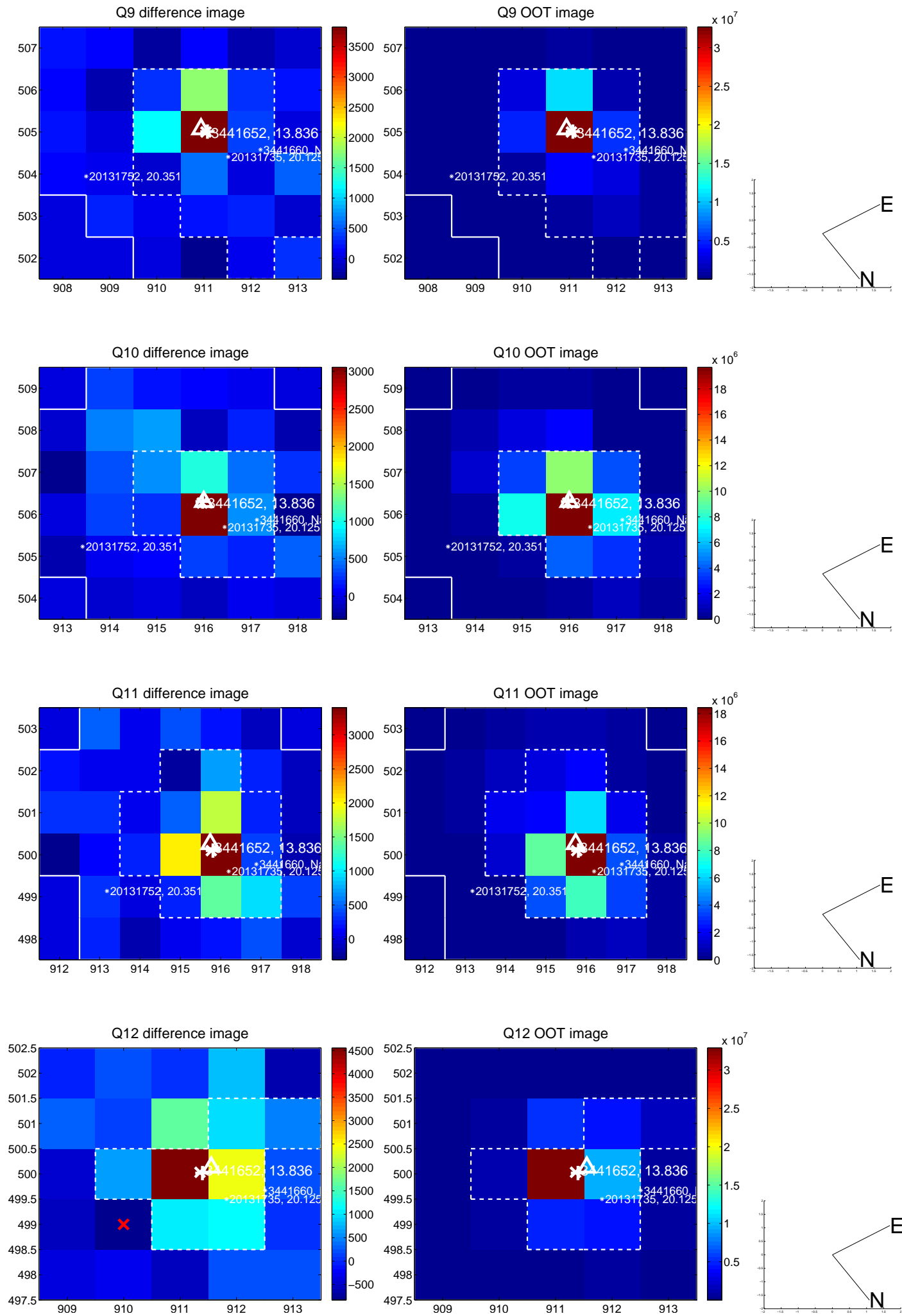


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

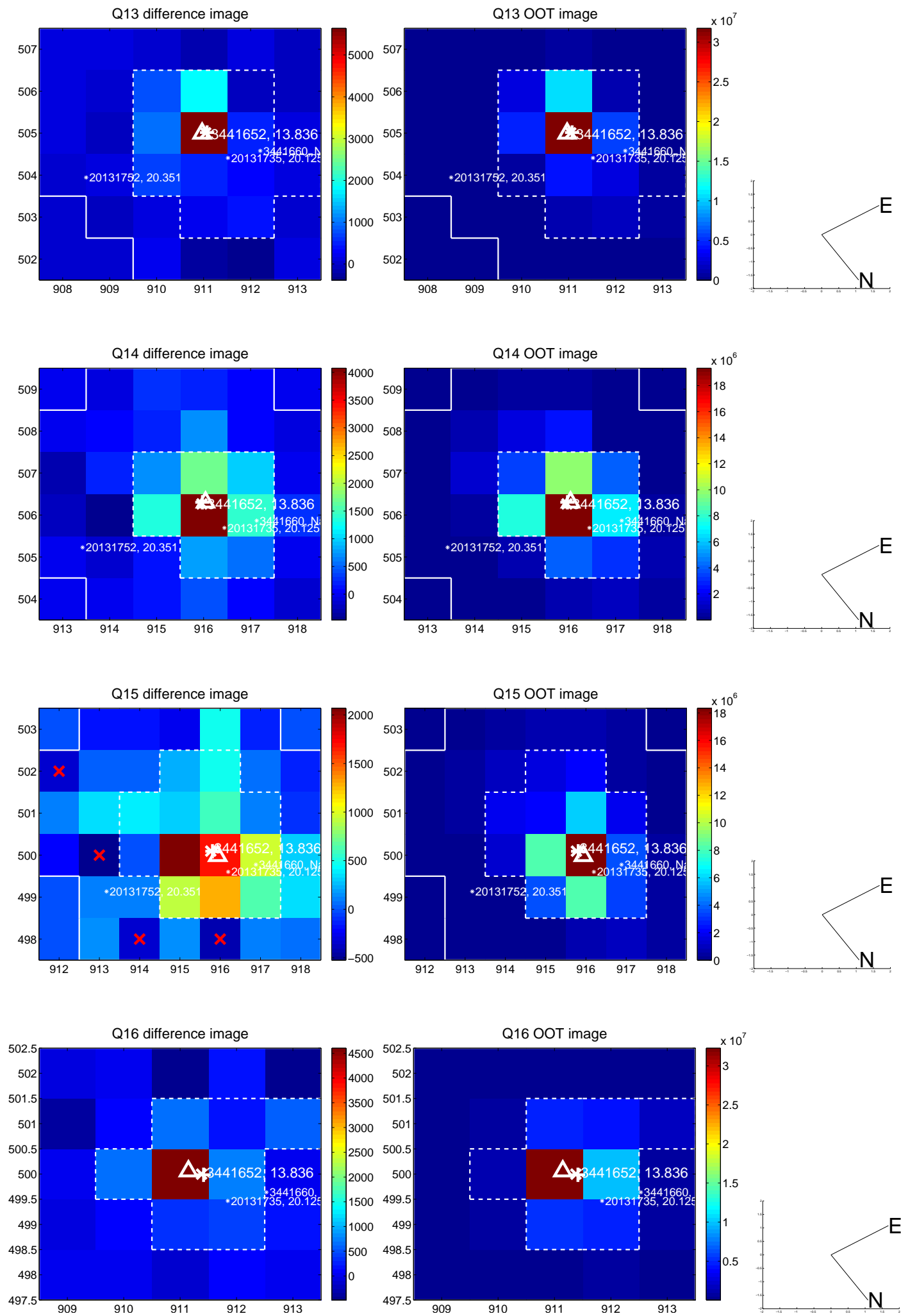
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



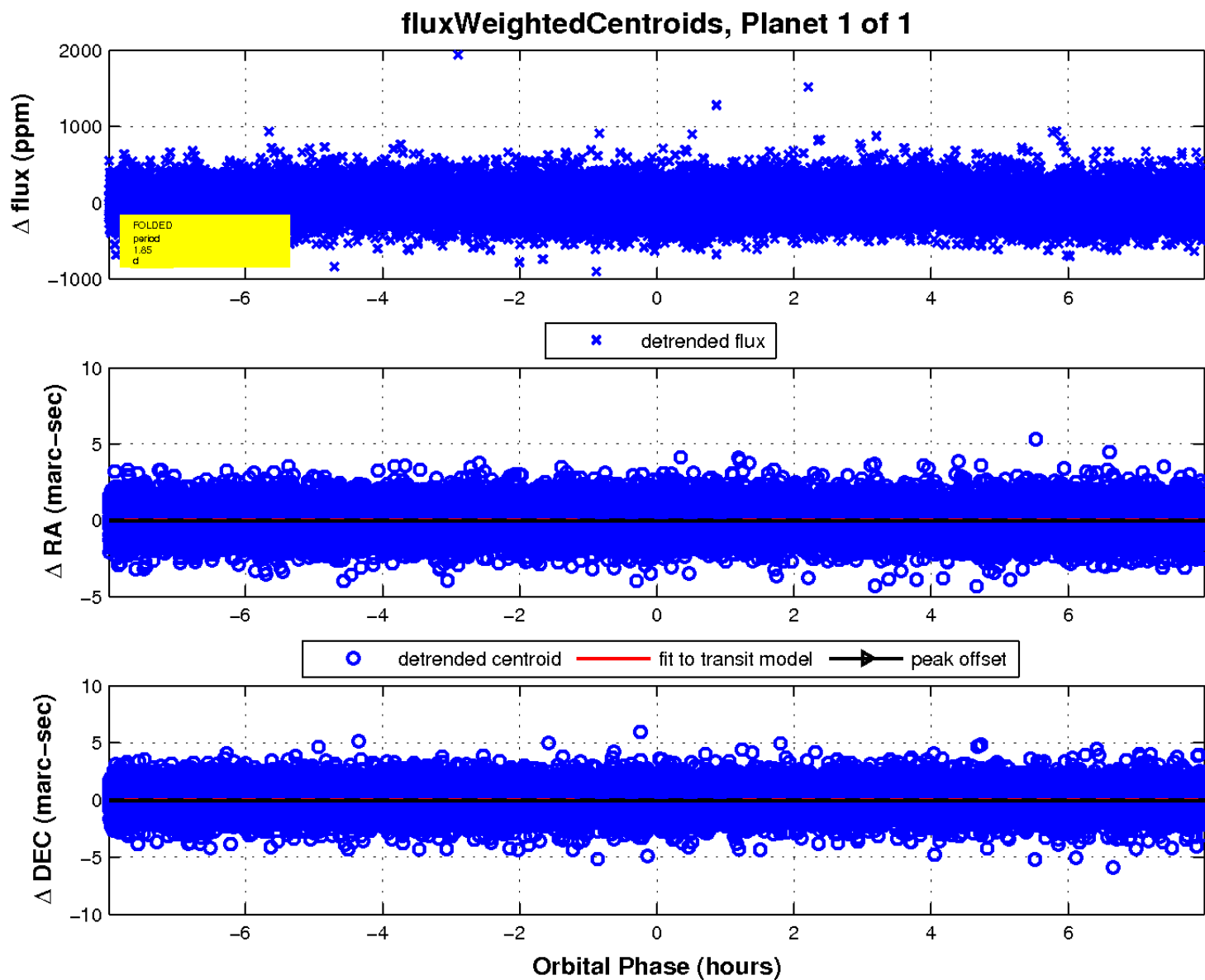
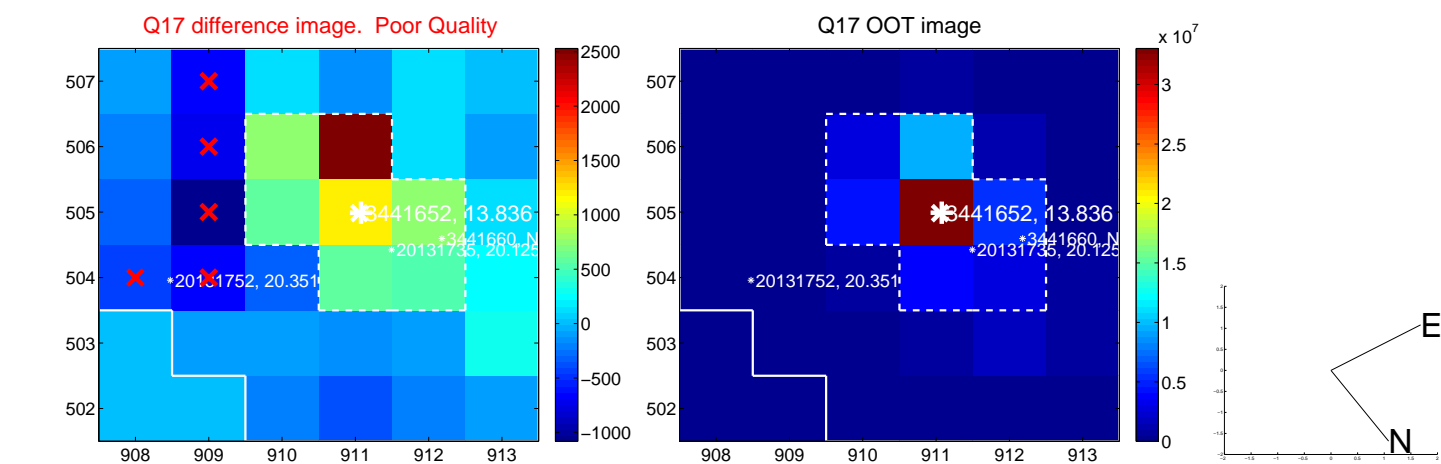
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

