

KIC 003346154

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 003346154-01 | OBS | 2723.01 | 1.952702 | 133.164169 | 342.9 | 0.825 | 21.8 | 29.5 | 0.95 | 5741 | 2.14 | 918.88 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------|
| 003346154-01 | 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.

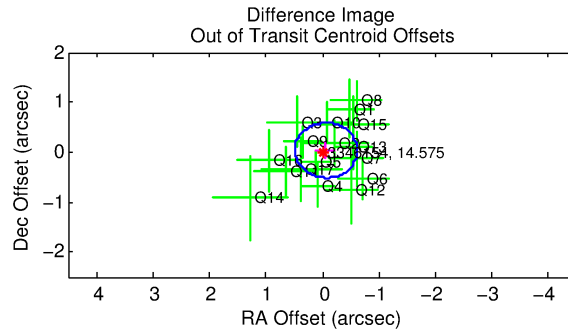
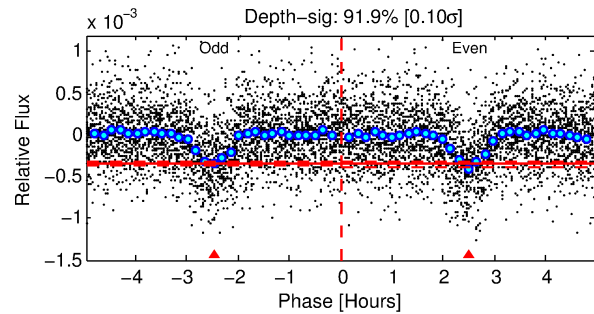
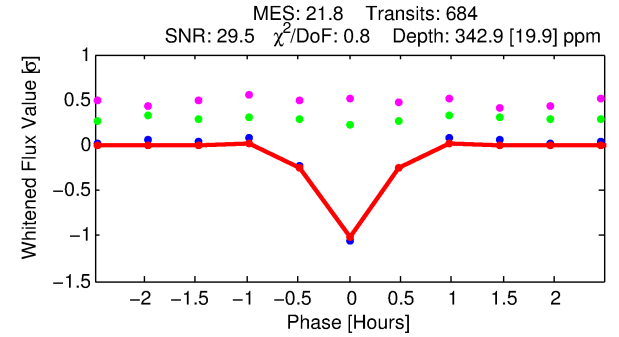
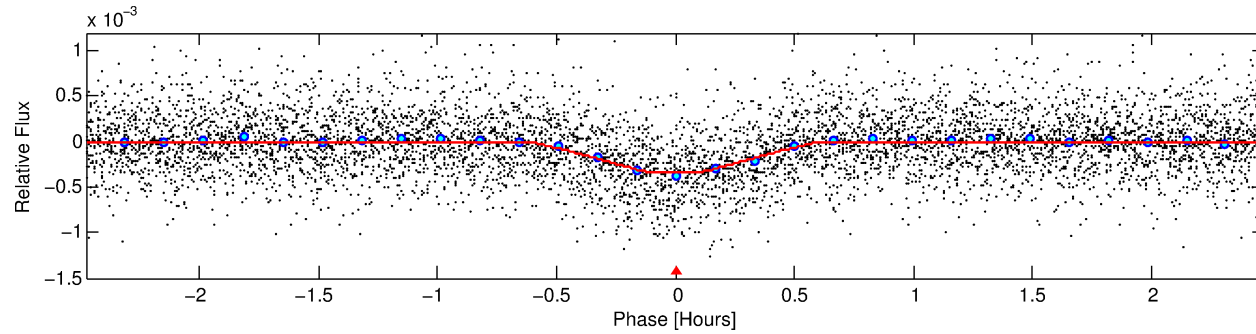
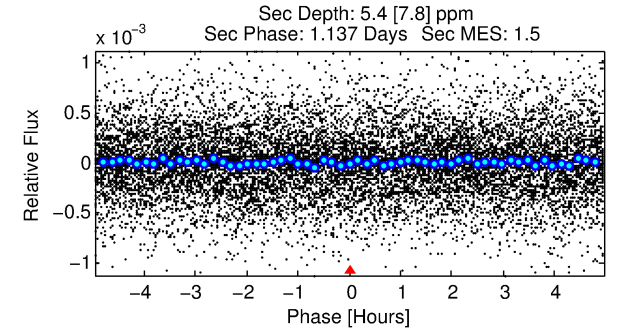
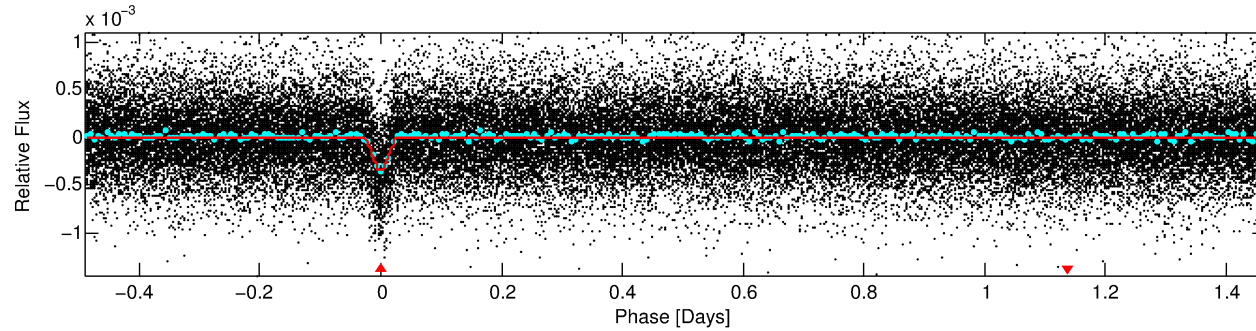
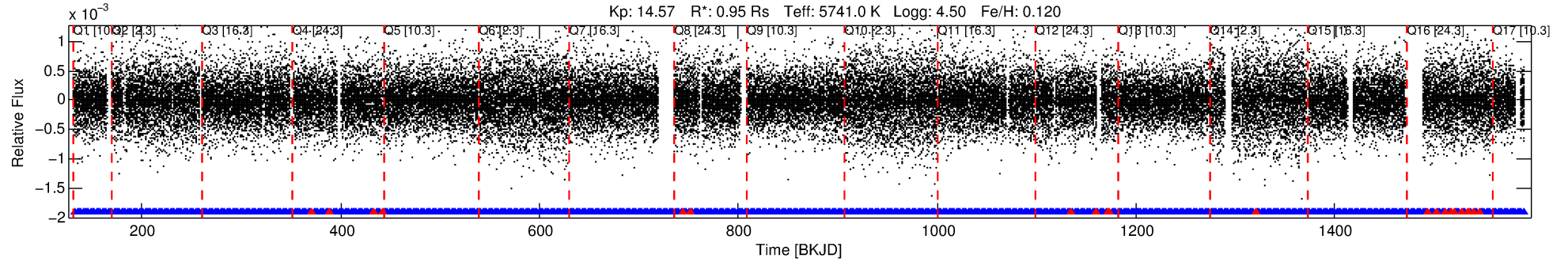
Ephemeris Match Information For 003346154-01

No Significant Match Found

DV One-Page Summary

KIC: 3346154 Candidate: 1 of 1 Period: 1.953 d

KOI: K02723.01 Corr: 0.931



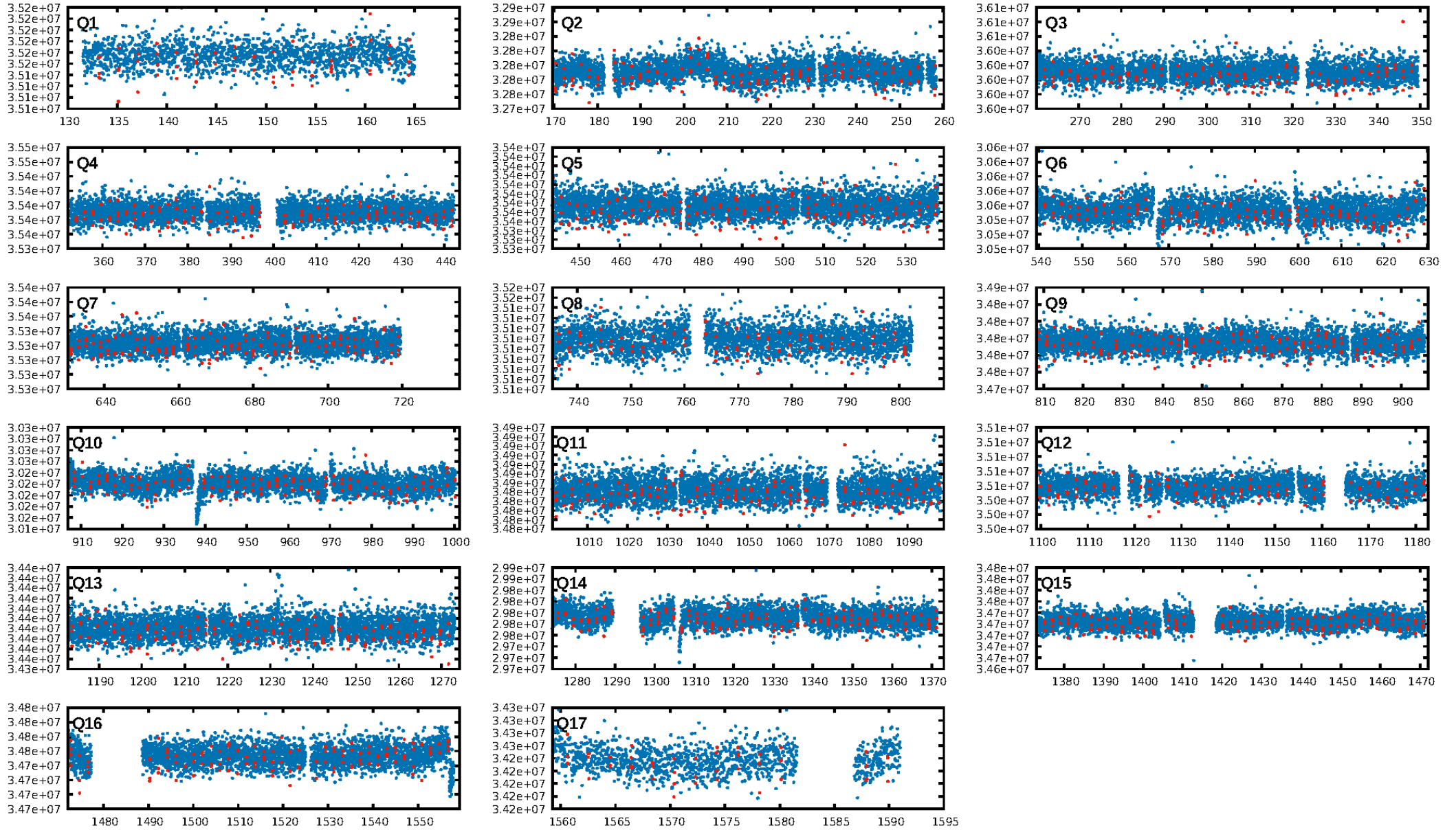
DV Fit Results:

Period = 1.95270 [0.00000] d
Epoch = 133.1642 [0.0005] BKJD
Rp/R* = 0.0207 [0.0048]
a/R* = 8.53 [8.92]
b = 0.91 [0.21]
Seff = 918.88 [364.97]
Teff = 1404 [139] K
Rp = 2.14 [0.80] Re
a = 0.0308 [0.0078] AU
Ag = 0.62 [0.96] [-0.40σ]
Teffp = 1923 [732] K [0.70σ]

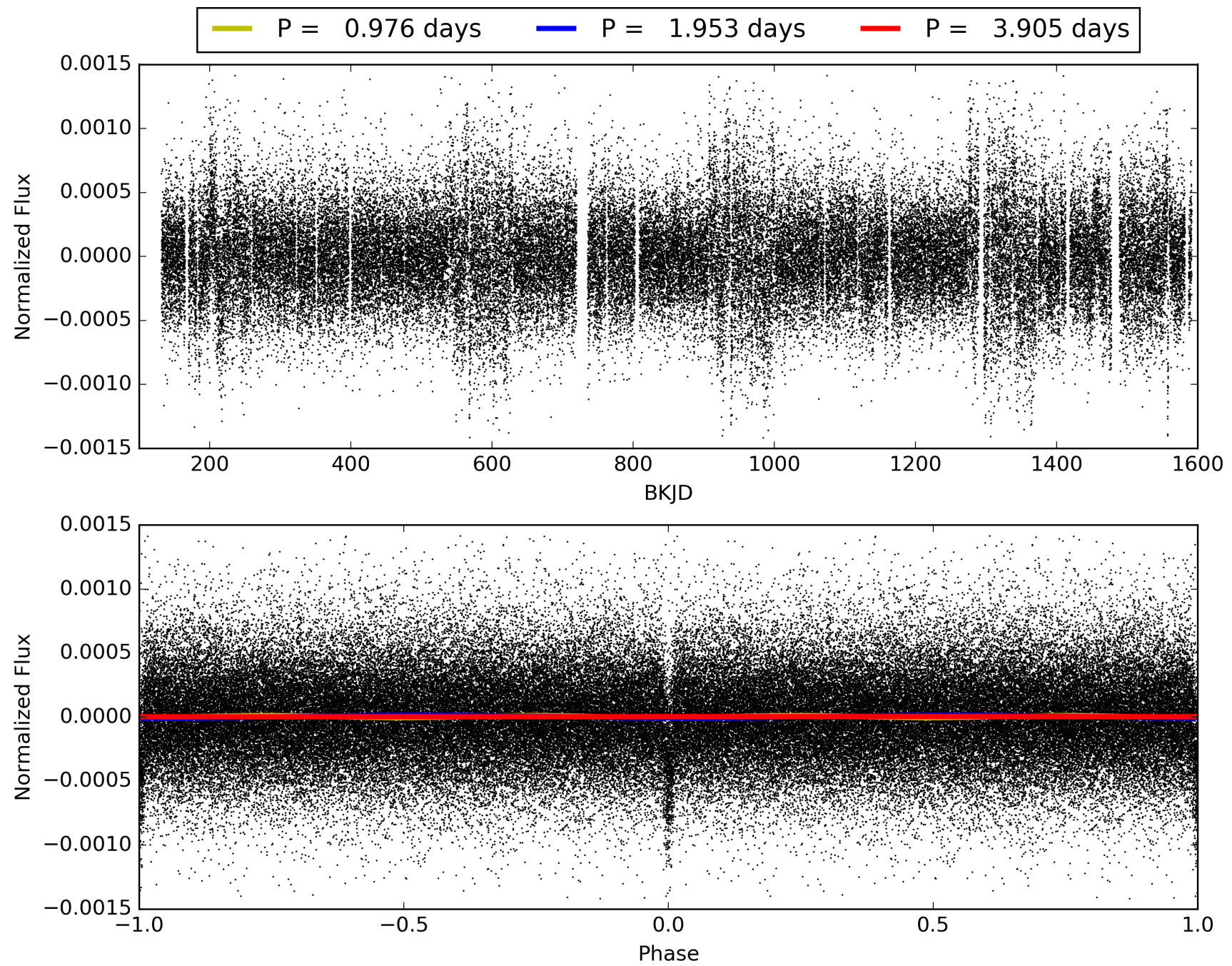
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.92e-102
RollingBand-fgt: 0.97 [633/654]
GhostDiagnostic-chr: 6.221
Centroid-sig: 1.8%
Centroid-so: 1.344 arcsec [3.09σ]
OotOffset-rm: 0.073 arcsec [0.40σ]
KicOffset-rm: 0.063 arcsec [0.37σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 003346154-01, PDC Light Curves

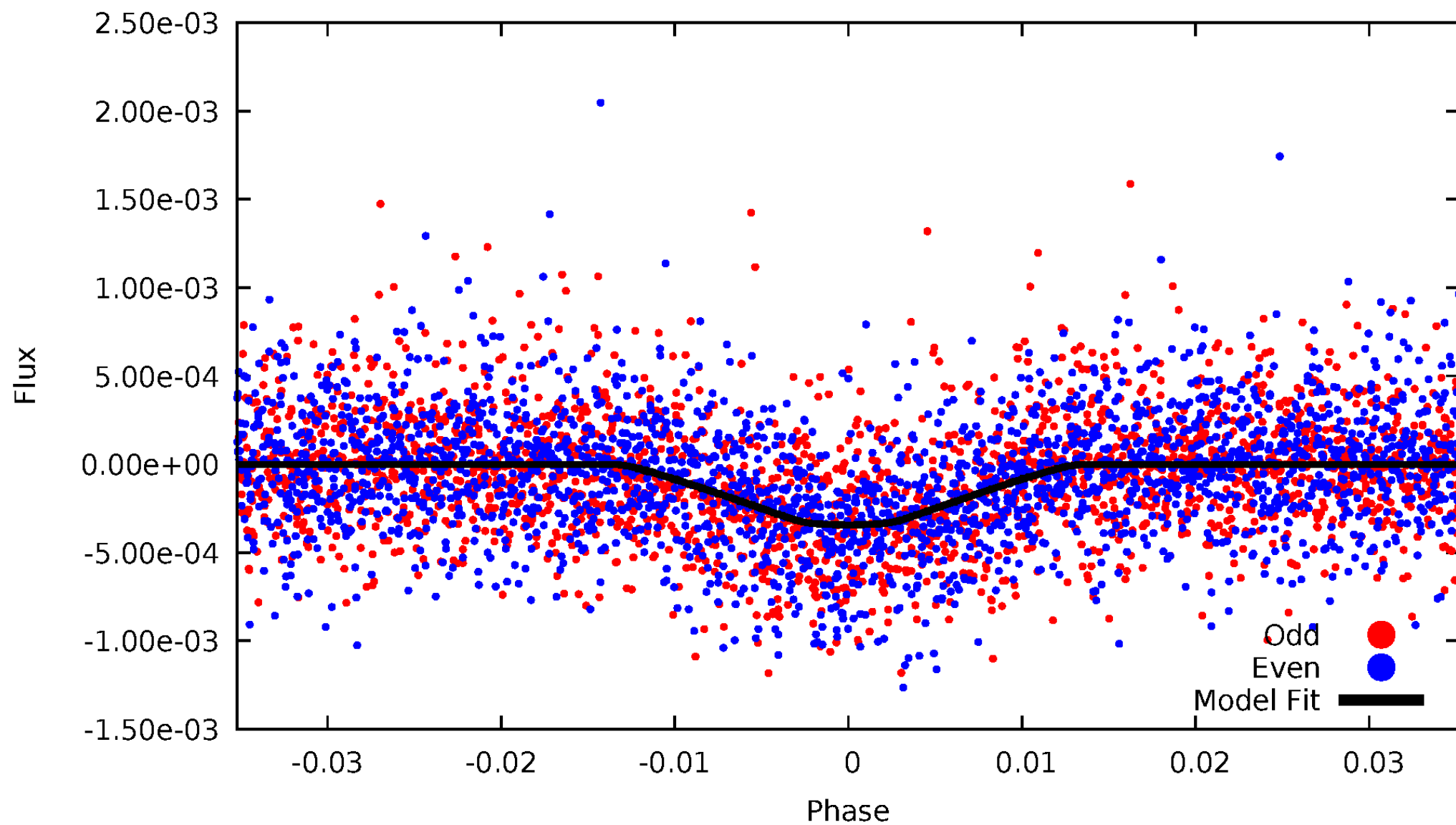


TCE 003346154-01



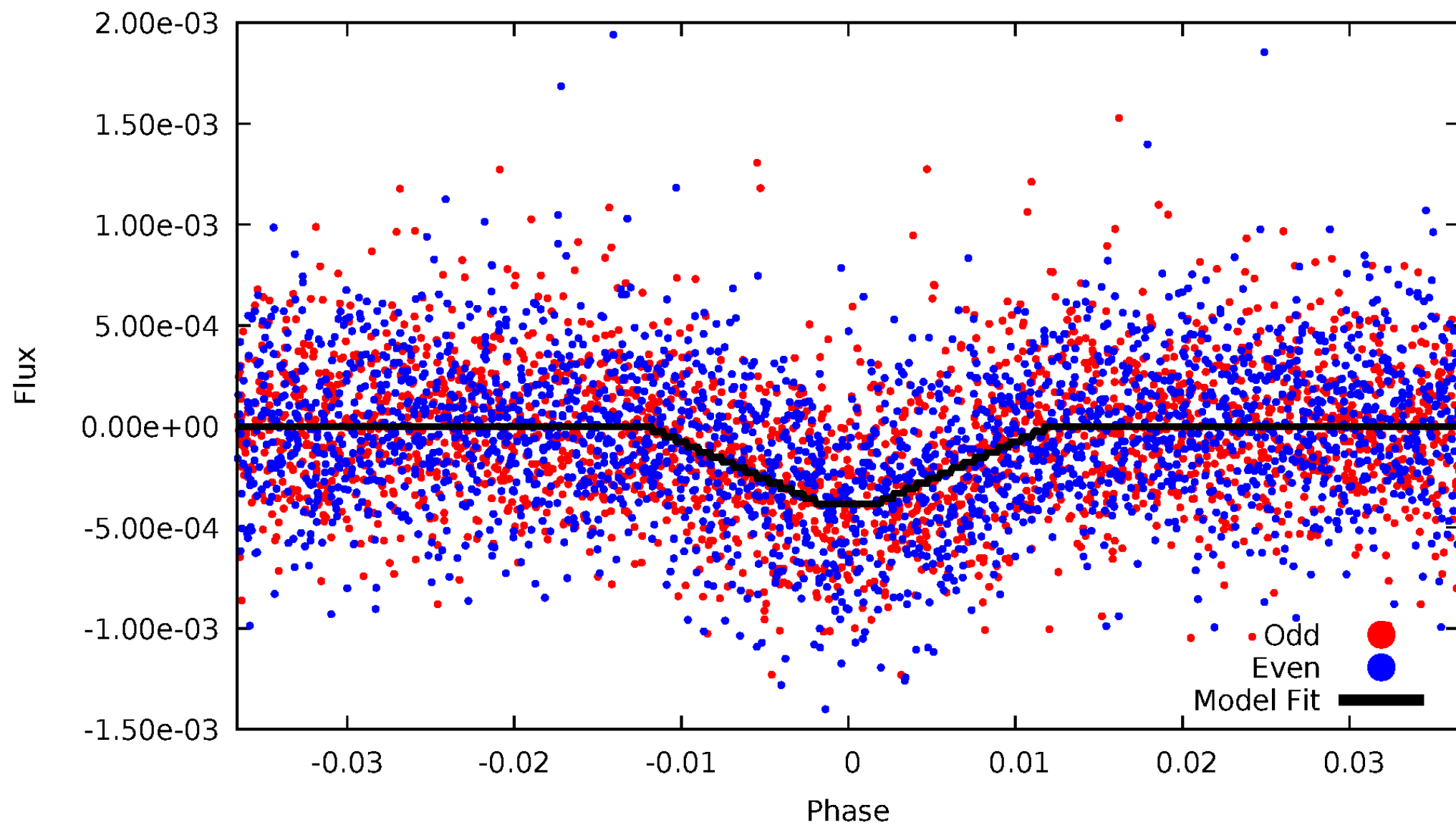
DV Odd/Even

TCE 003346154-01



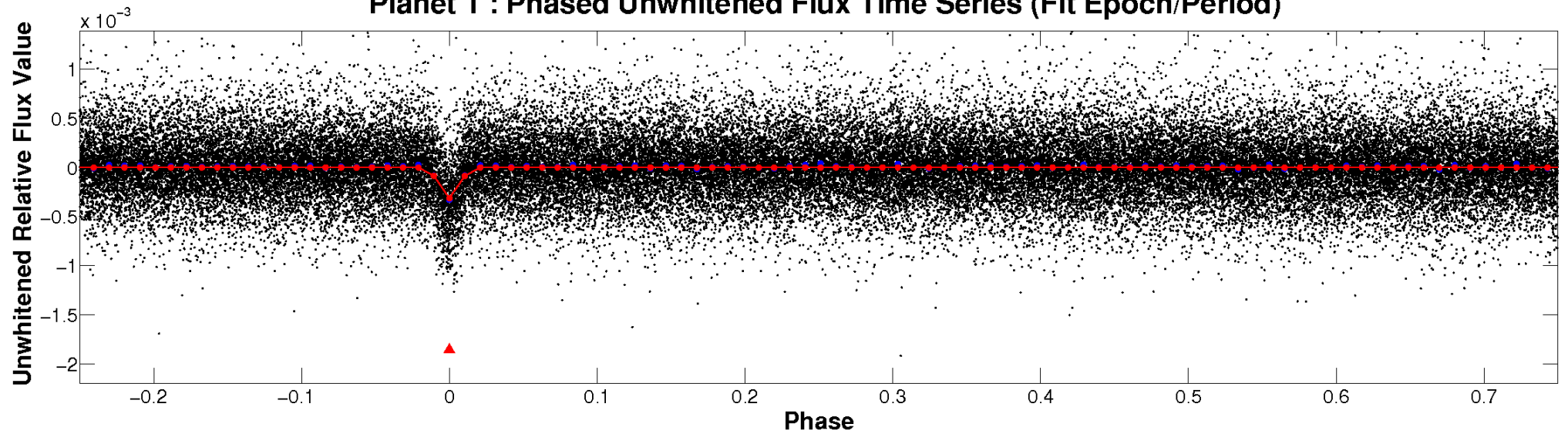
ALT Odd/Even

TCE 003346154-01

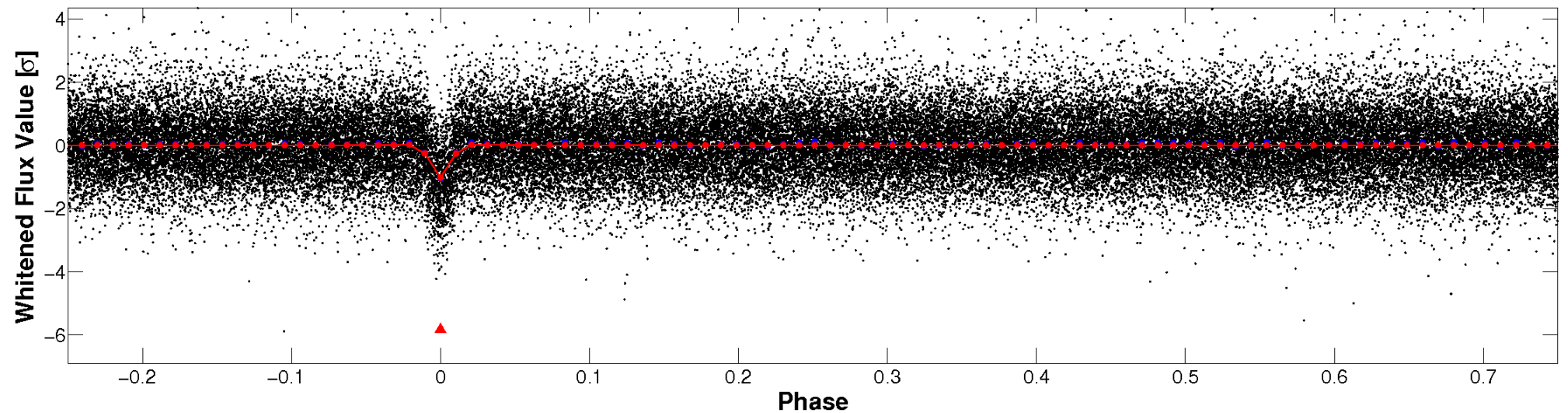


Non-Whitened Vs. Whitened Light Curve

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

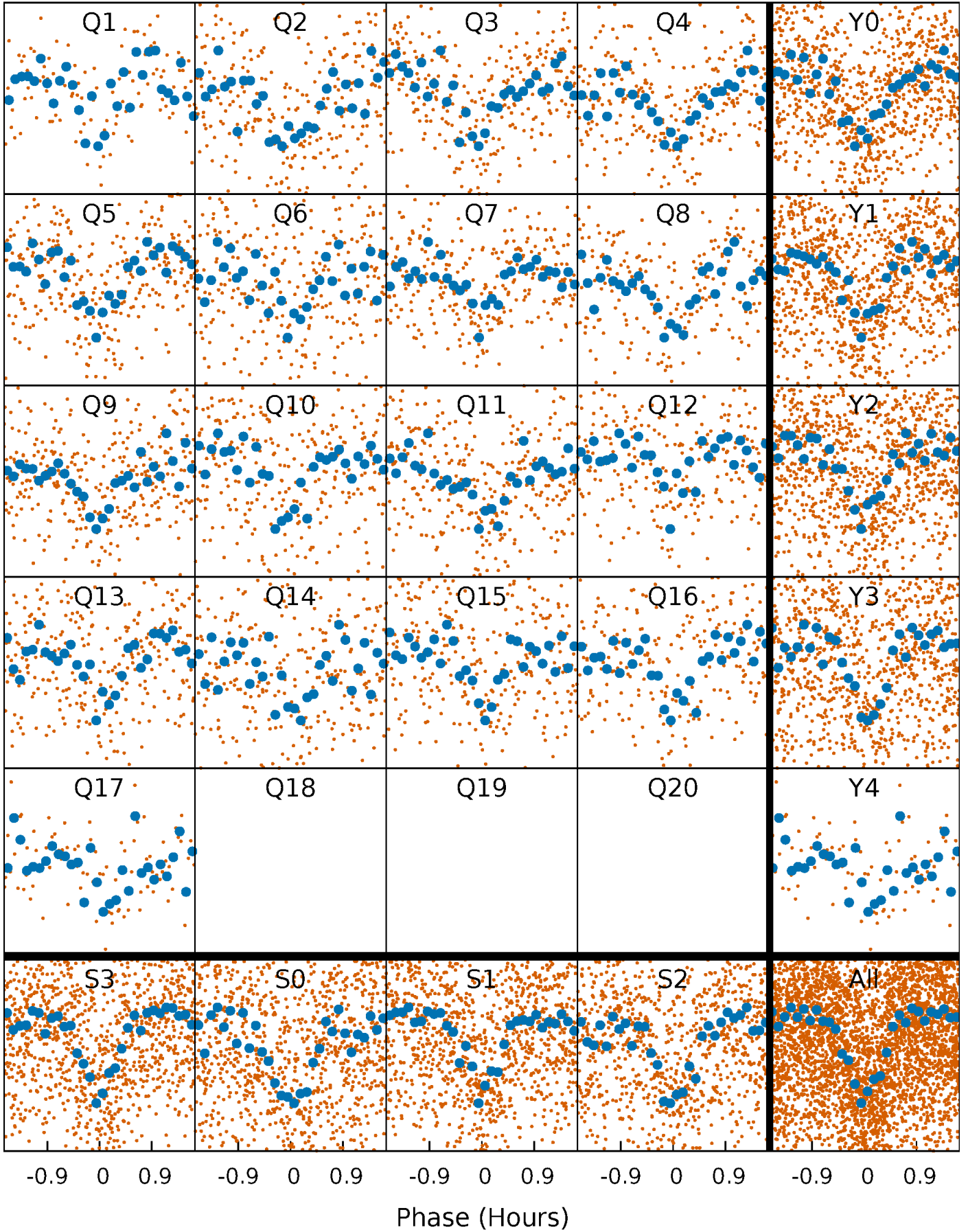


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



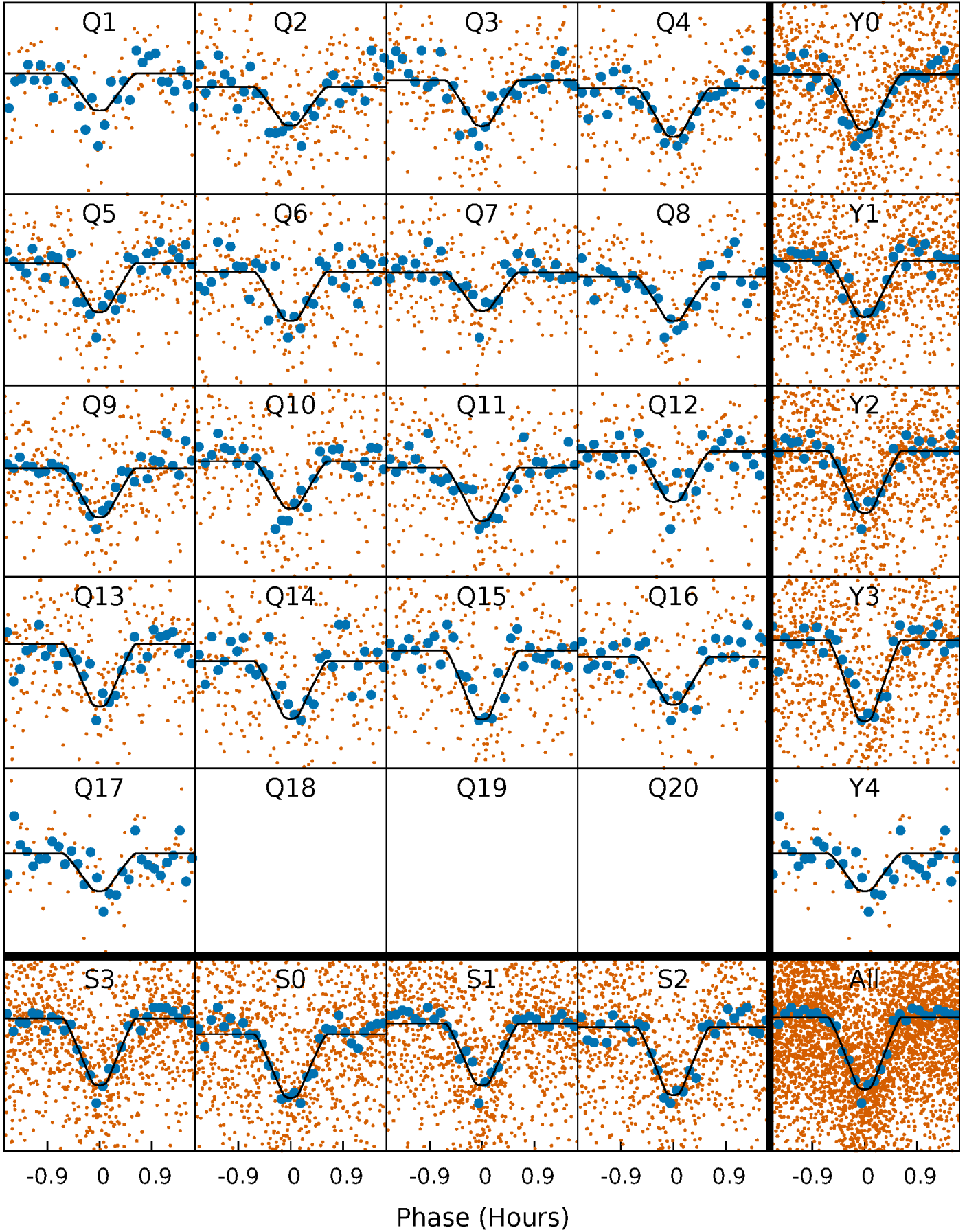
PDC Quarter-Phased Transit Curves

TCE 003346154-01 P= 1.952702 Days $T_0=133.164169$ (BKJD)



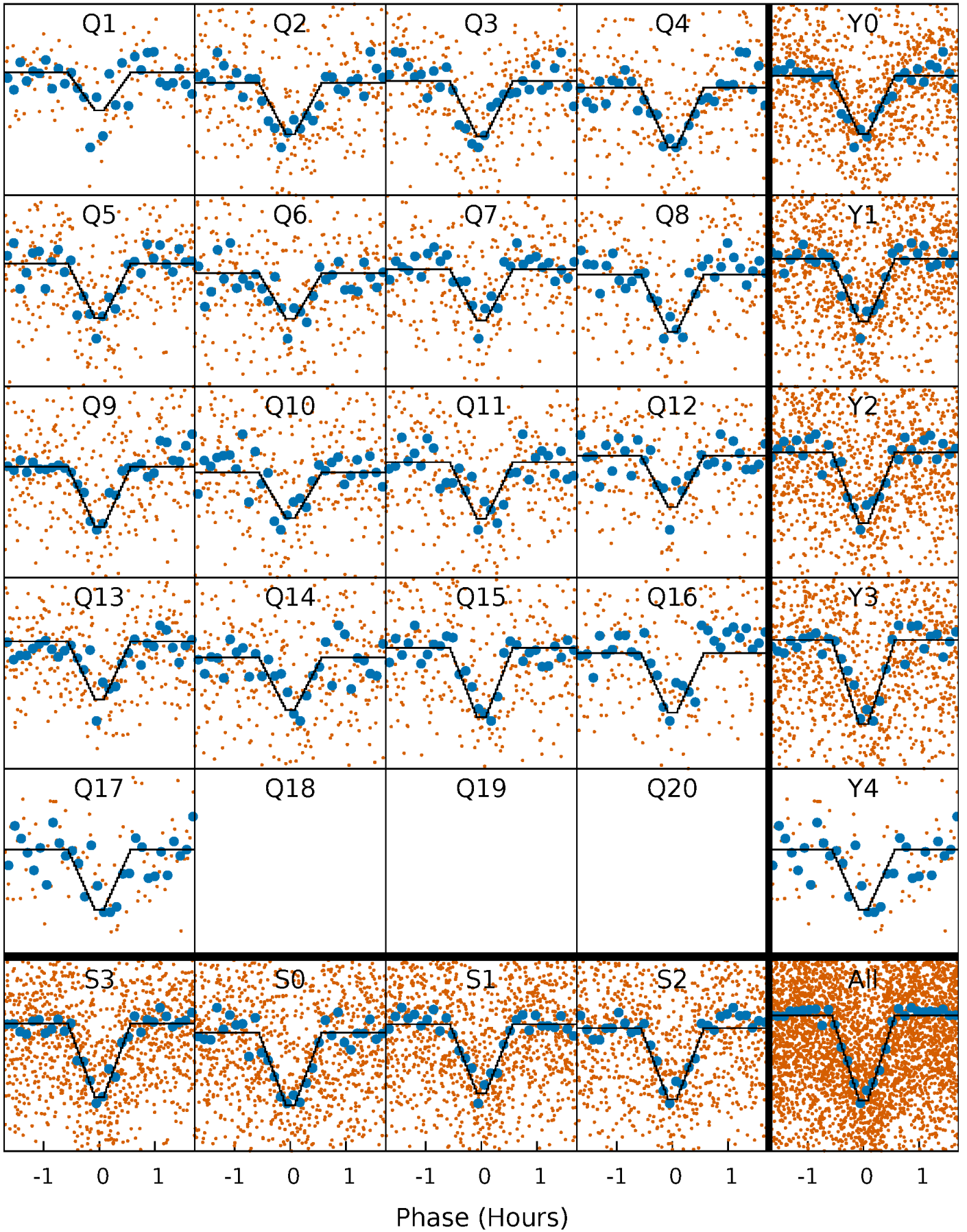
DV Quarter-Phased Transit Curves

TCE 003346154-01 P= 1.952702 Days $T_0=133.164169$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

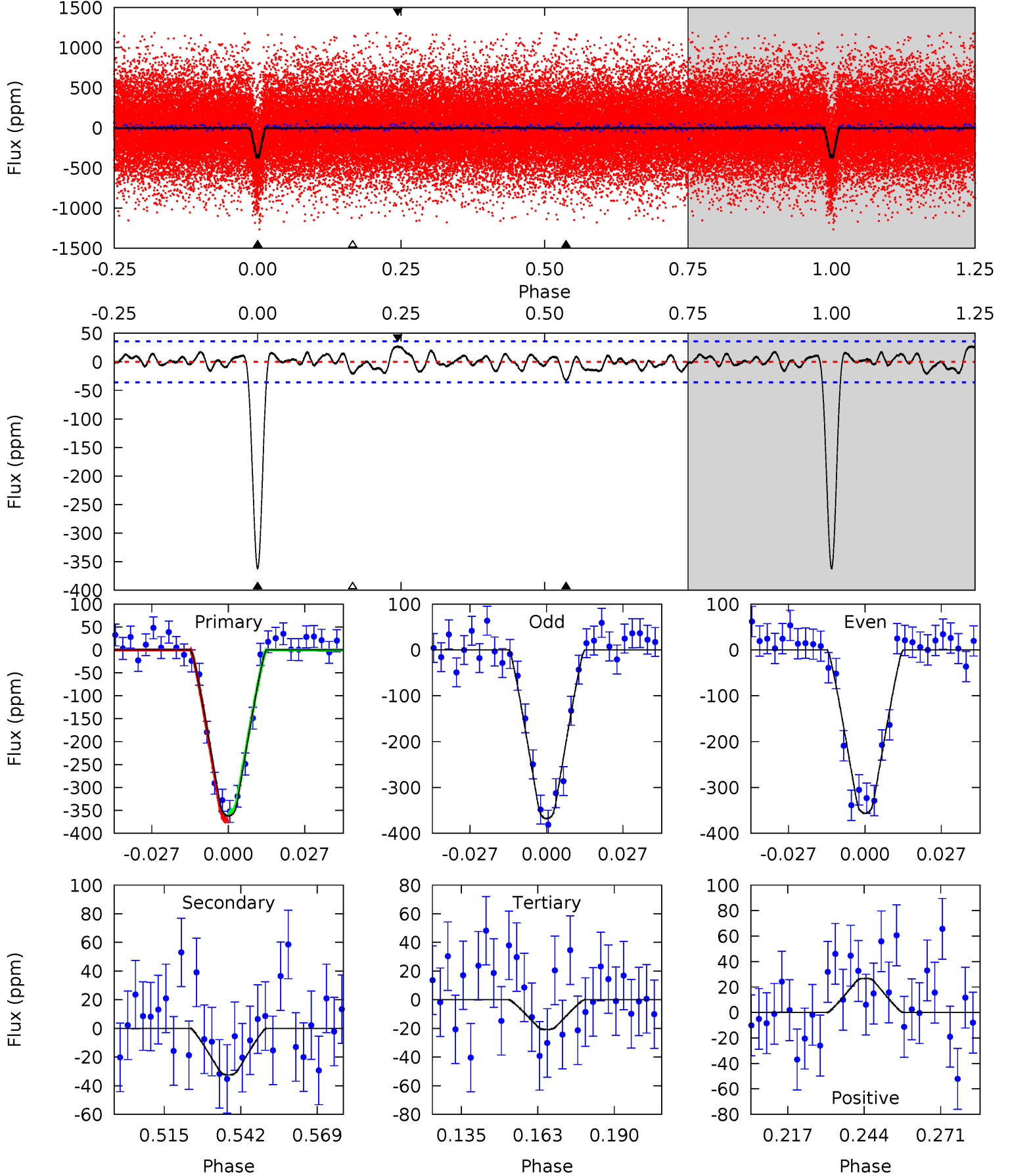
TCE 003346154-01 P= 1.952704 Days $T_0=133.163646$ (BKJD)



DV Model-Shift Uniqueness Test

003346154-01, P = 1.952702 Days, E = 131.211467 Days

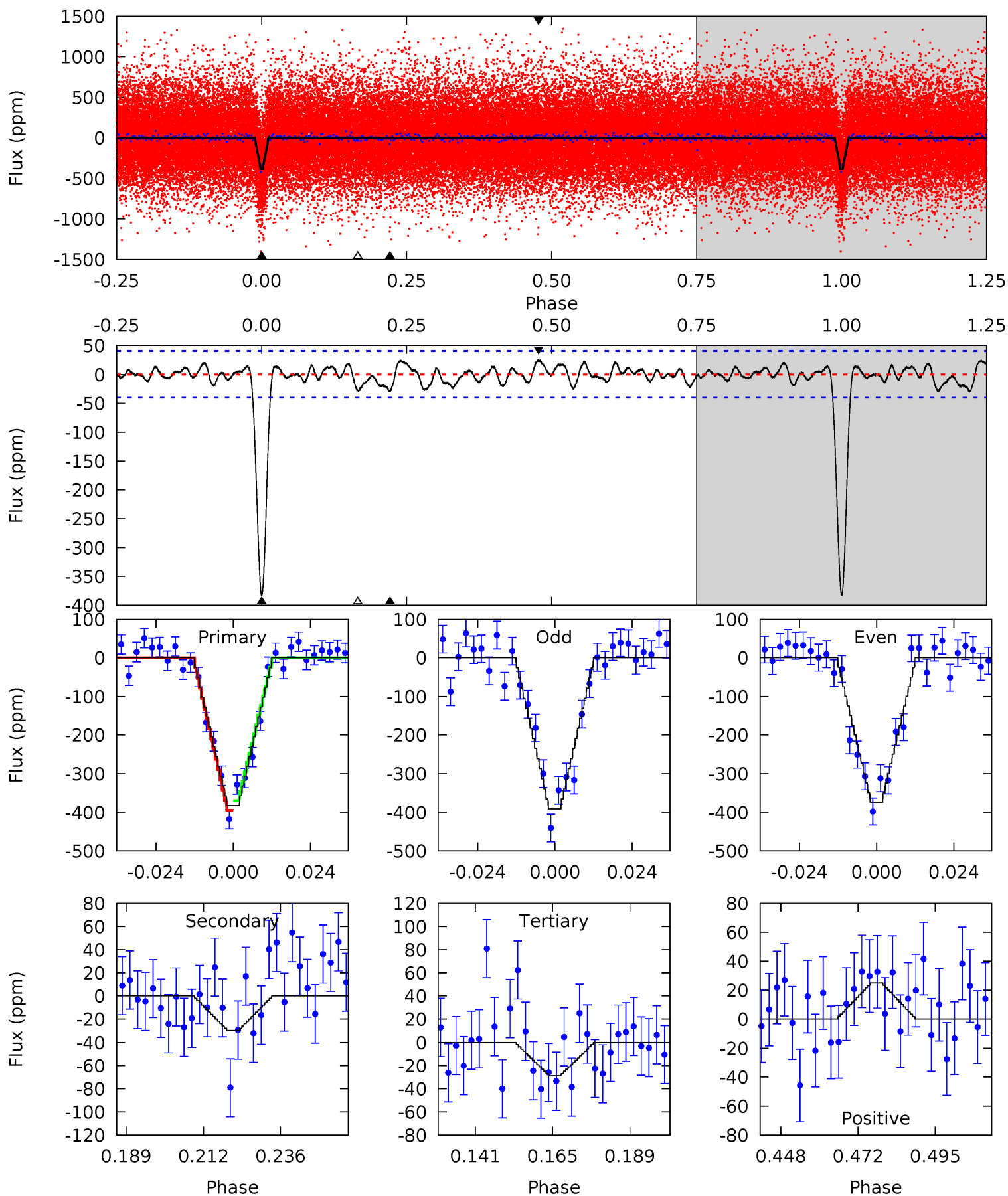
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 48.6 | 4.36 | 2.78 | 3.60 | 4.83 | 2.21 | 1.28 | 45.8 | 45.0 | 1.57 | 0.76 | 0.79 | 1.02 | 0.07 | 1.20 |



Alt Model-Shift Uniqueness Test

003346154-01, P = 1.952704 Days, E = 131.210942 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 45.9 | 3.58 | 3.47 | 3.00 | 4.86 | 2.26 | 1.29 | 42.5 | 42.9 | 0.11 | 0.58 | 1.05 | 1.03 | 0.06 | 1.50 |



Stellar Parameters For KIC 003346154

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5741^{+154}_{-188} | $4.495^{+0.052}_{-0.208}$ | $0.120^{+0.250}_{-0.300}$ | $0.946^{+0.279}_{-0.093}$ | $1.020^{+0.111}_{-0.122}$ | $1.698^{+0.446}_{-0.849}$ |
| | +3%/-3% | +1%/-5% | +208%/-250% | +29%/-10% | +11%/-12% | +26%/-50% |
| 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 003346154-01 / KOI 2723.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|----------------------|---------------------------|
| DV | -32 ± 7 | $2.28^{+0.60}_{-0.52}$ | 2002^{+142}_{-101} | 3389^{+355}_{-247} | $3.079^{+2.367}_{-1.209}$ |
| Alt. | -30 ± 8 | $2.16^{+0.60}_{-0.54}$ | 2011^{+150}_{-99} | 3424^{+414}_{-305} | $3.213^{+2.896}_{-1.388}$ |

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

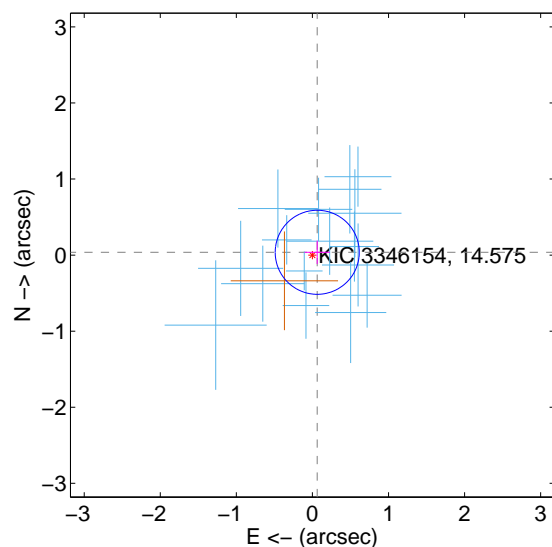
Supplemental centroid analysis for 003346154-01. Kepler magnitude: 14.57. Transit SNR 29.47

There are 16 quarters with good PRF difference image offsets

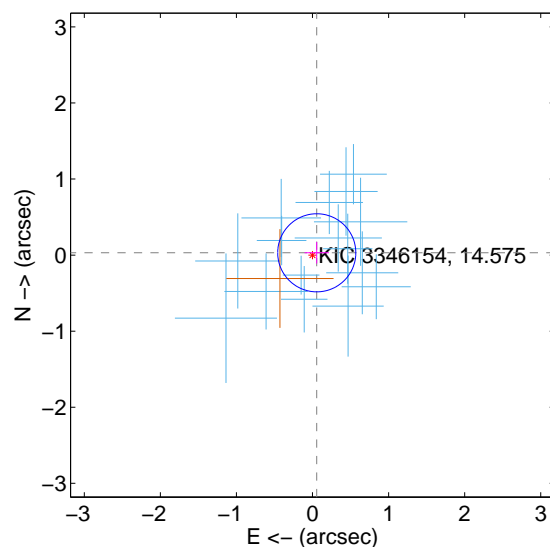
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 0.073 ± 0.184 | 0.40 | -0.063 ± 0.166 | 0.037 ± 0.153 |
| PRF-fit source offset from KIC position | 0.063 ± 0.171 | 0.37 | -0.056 ± 0.160 | 0.030 ± 0.142 |
| photometric centroid source offset | 1.34 ± 0.44 | 3.09 | -0.13 ± 0.40 | -1.34 ± 0.44 |

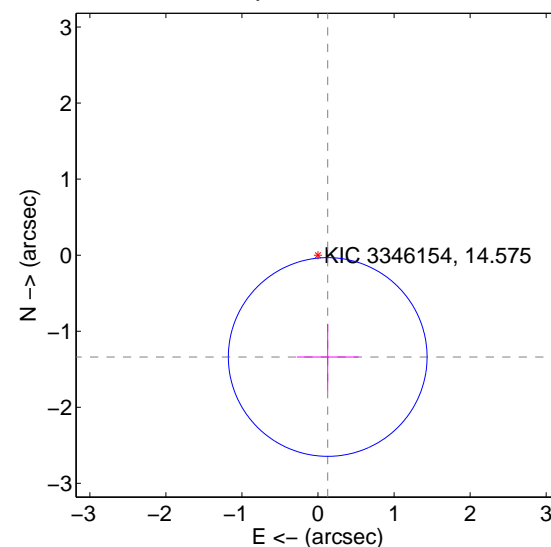
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

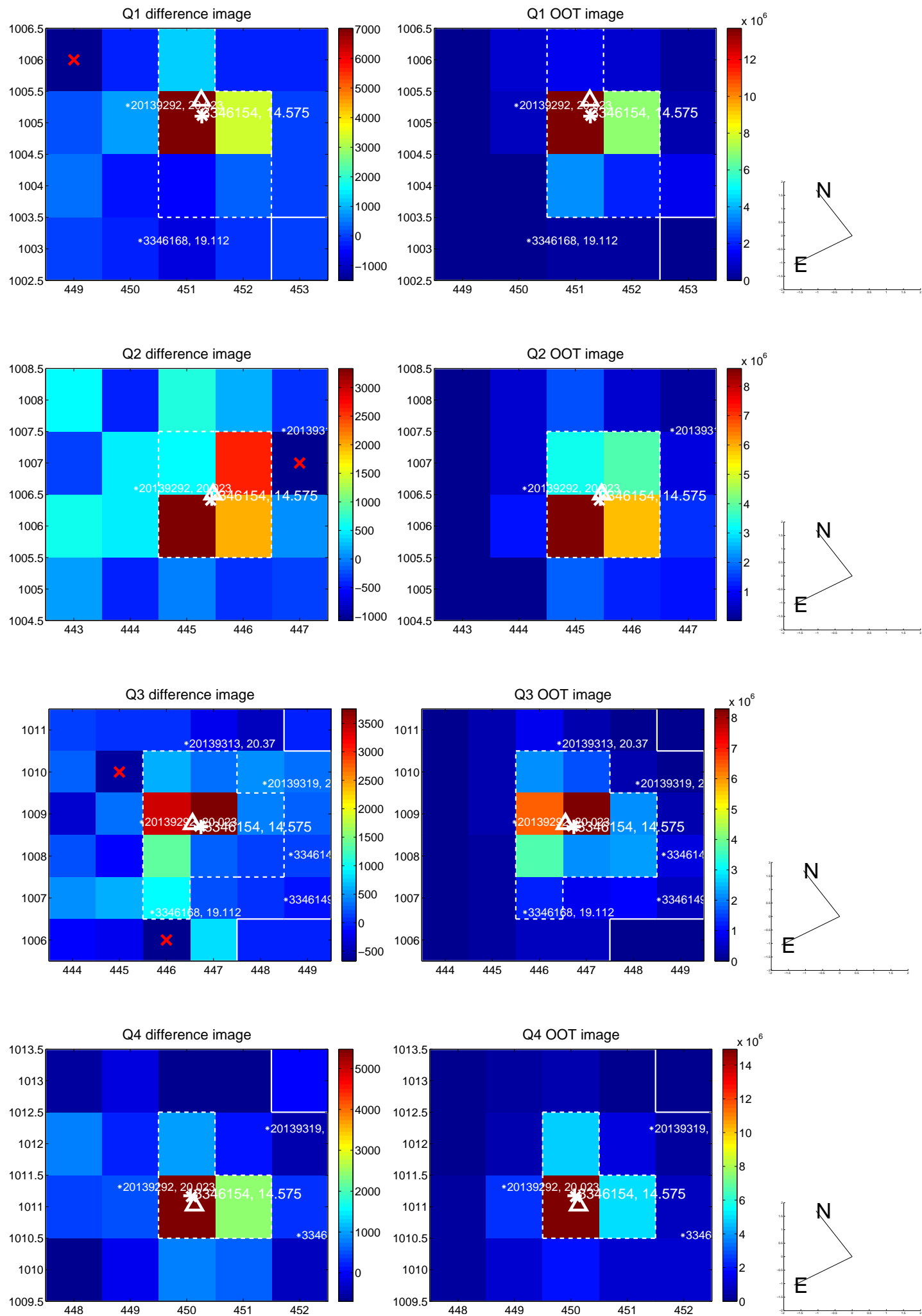


offset from photometric centroids

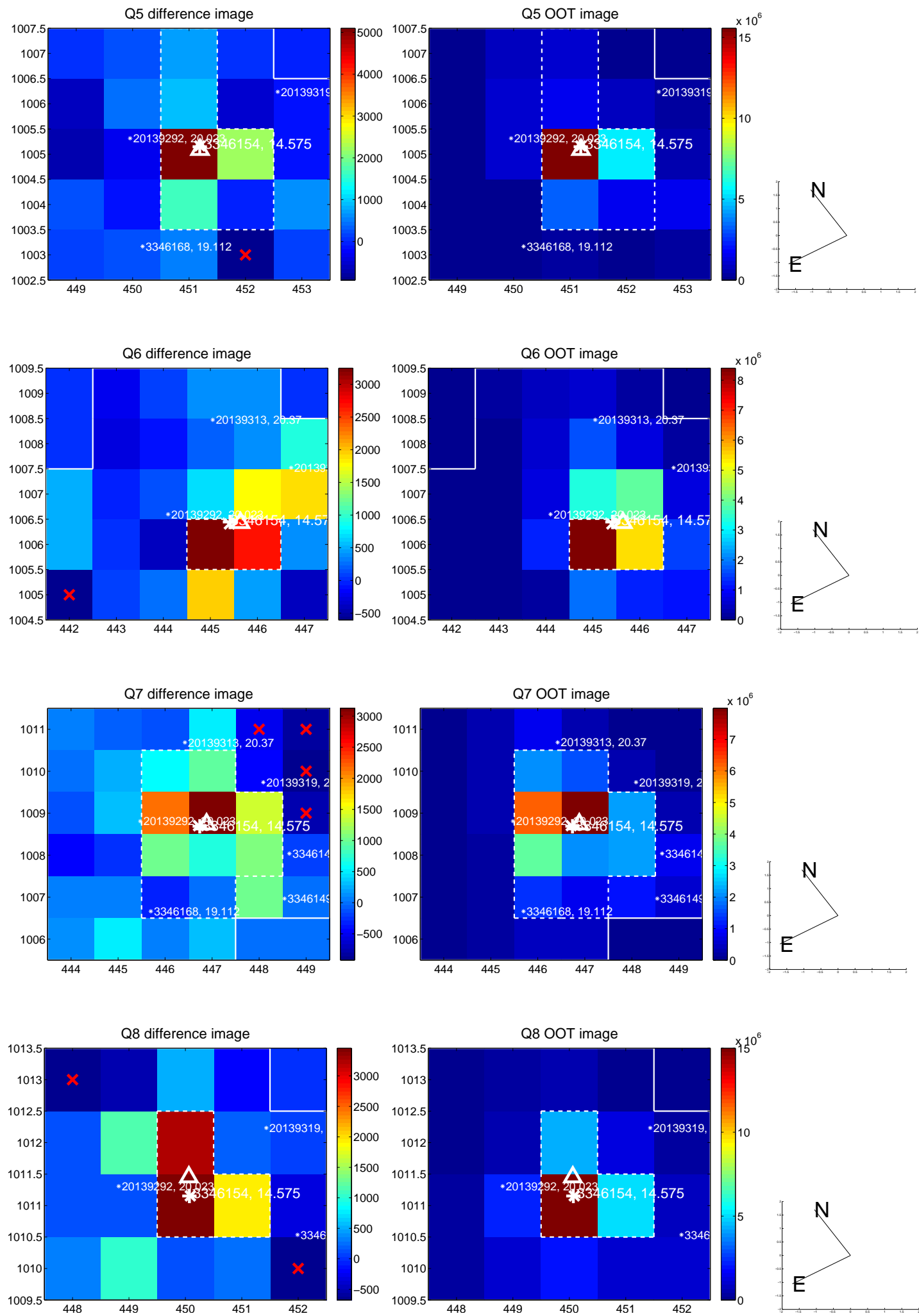


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

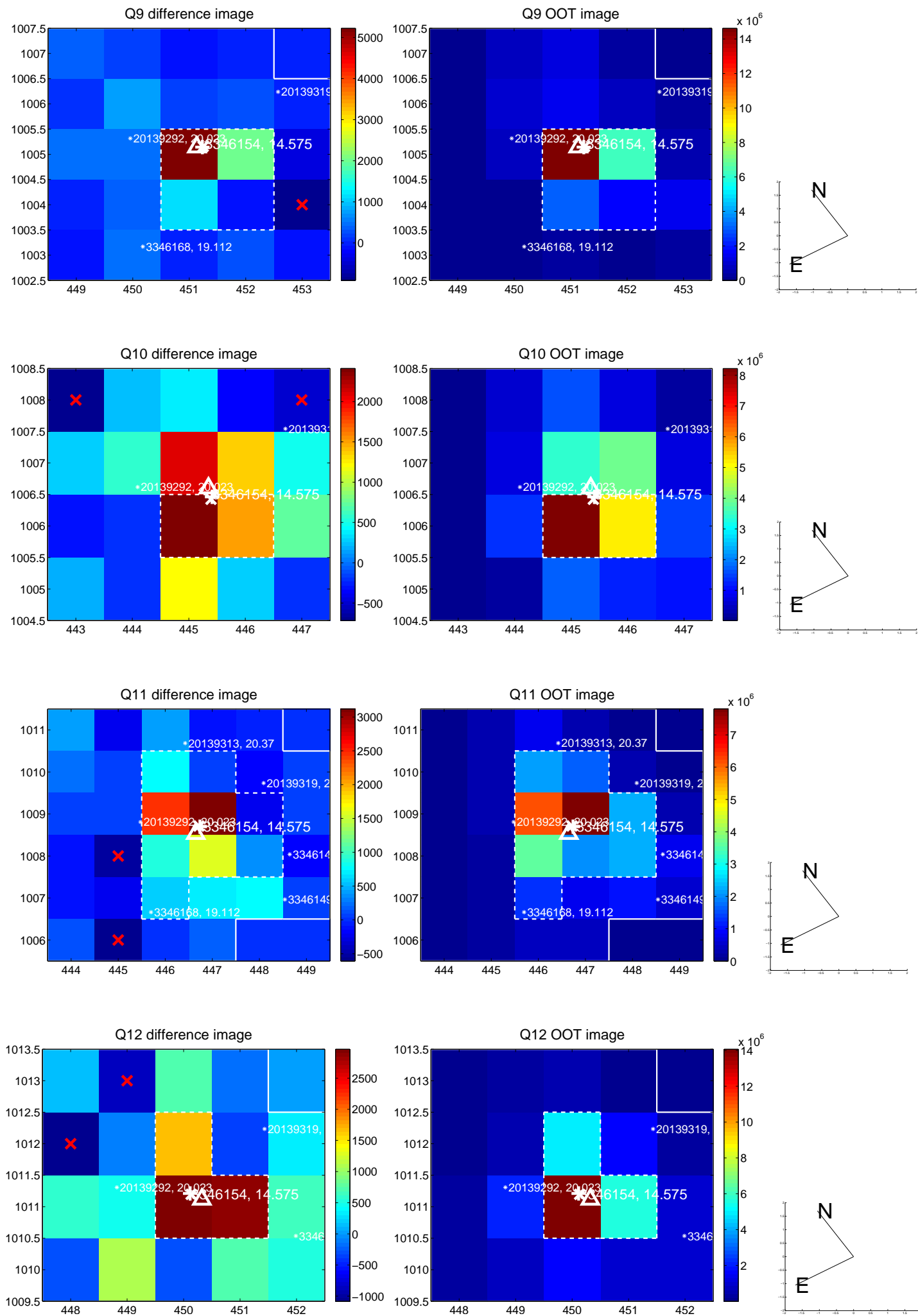
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



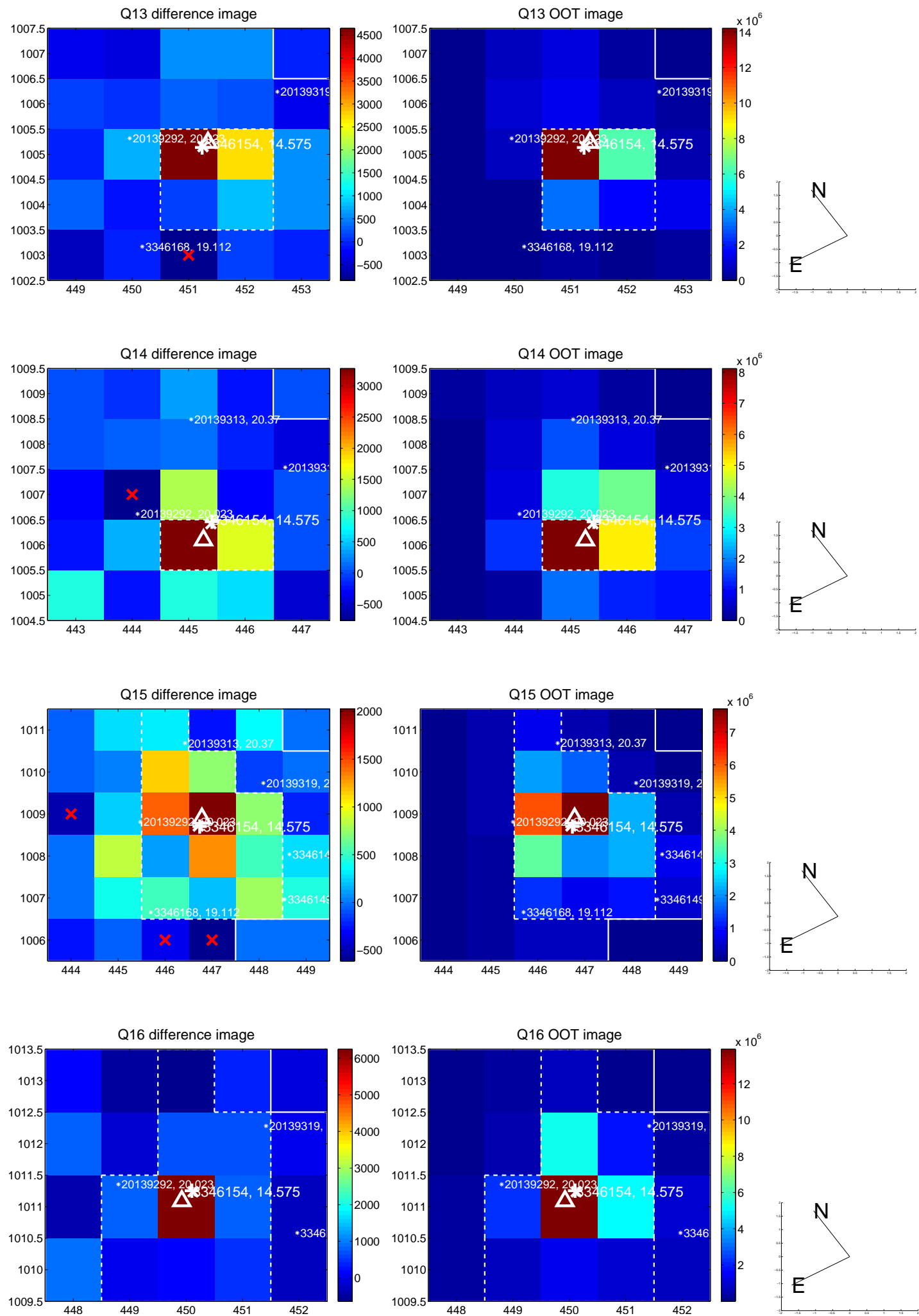
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



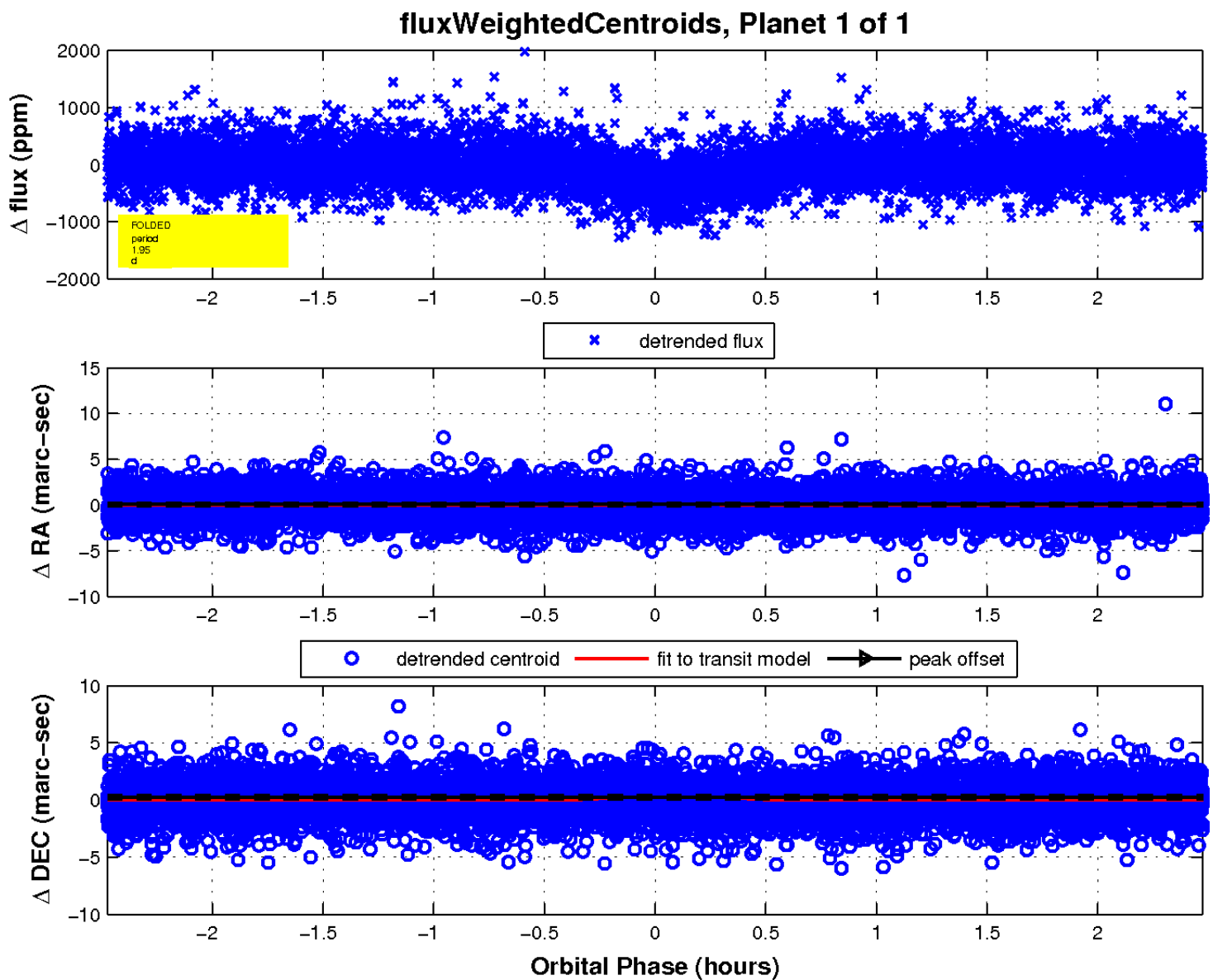
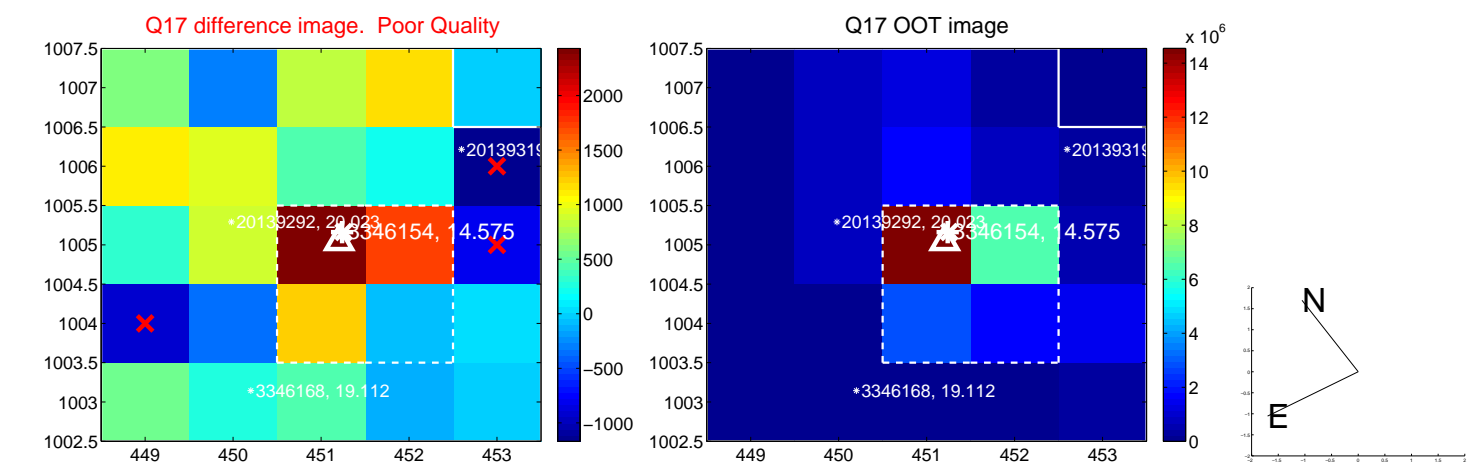
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

