

KIC 008367298

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 008367298-01 | OBS | 7025.01 | 5.134530 | 134.405746 | 53.3 | 21.902 | 14.3 | 16.1 | 1.00 | 5515 | 1.01 | 276.71 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---------------------------------------|
| 008367298-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—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.

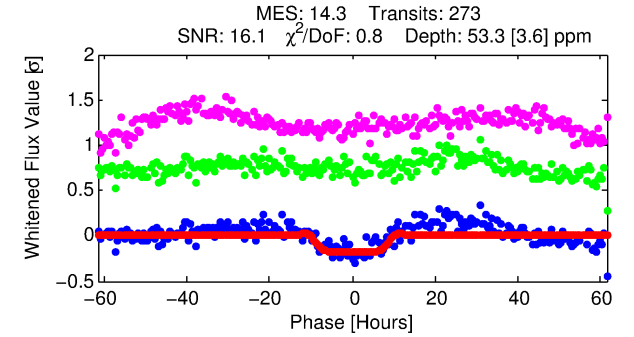
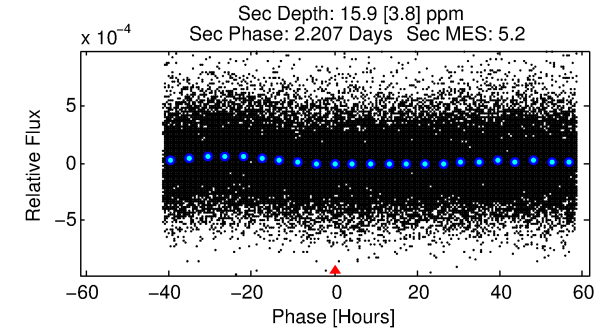
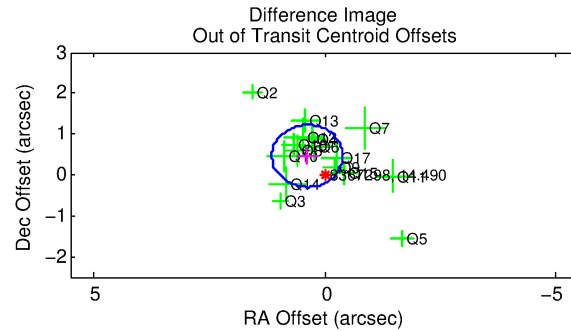
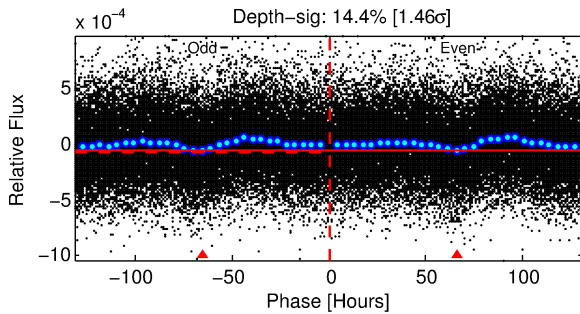
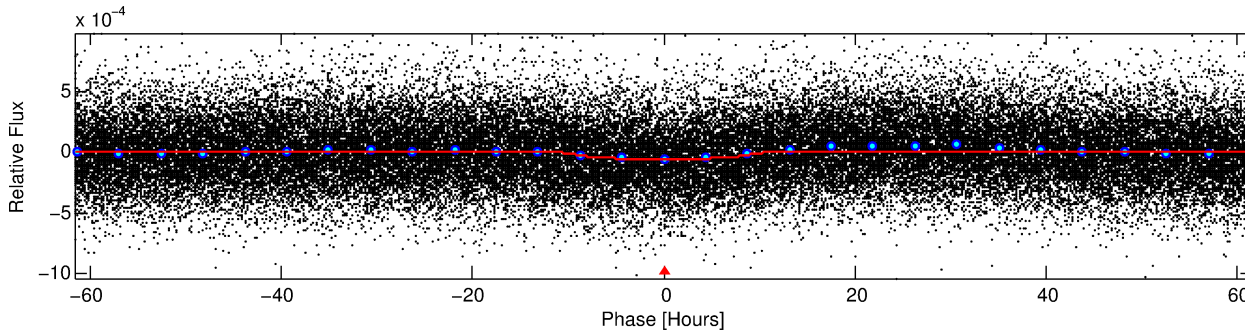
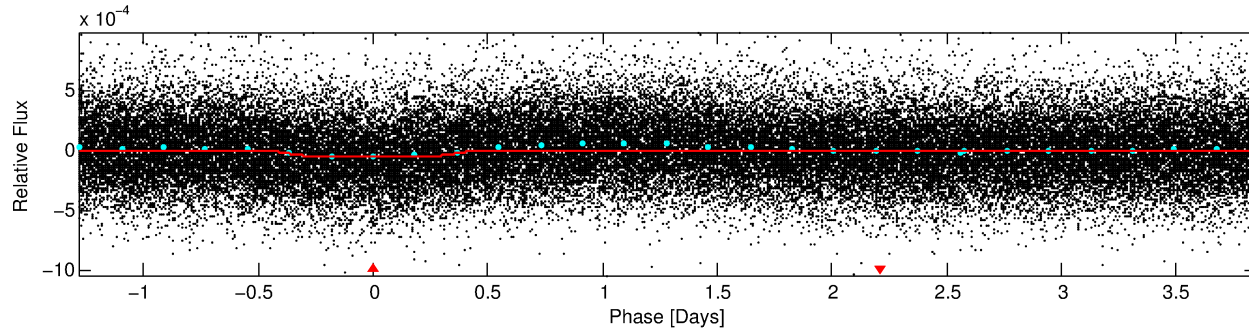
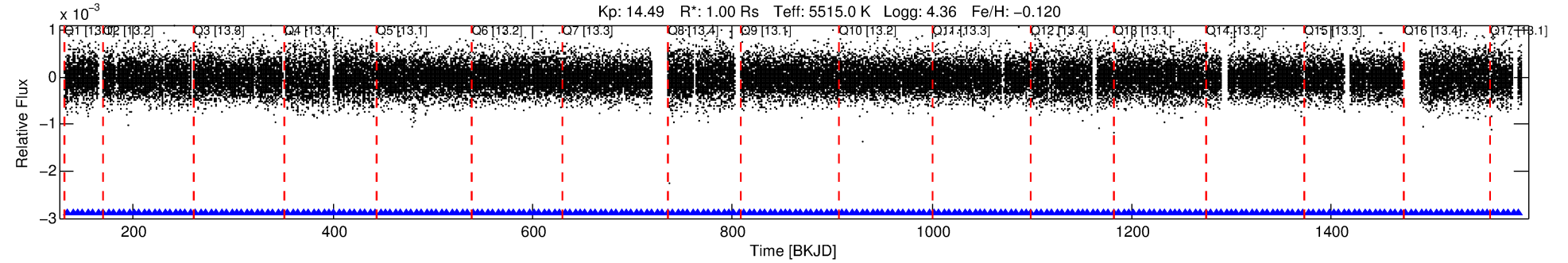
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008367298-01

No Significant Match Found

DV One-Page Summary

KIC: 8367298 Candidate: 1 of 1 Period: 5.135 d
KOI: K07025.01 Corr: 0.755



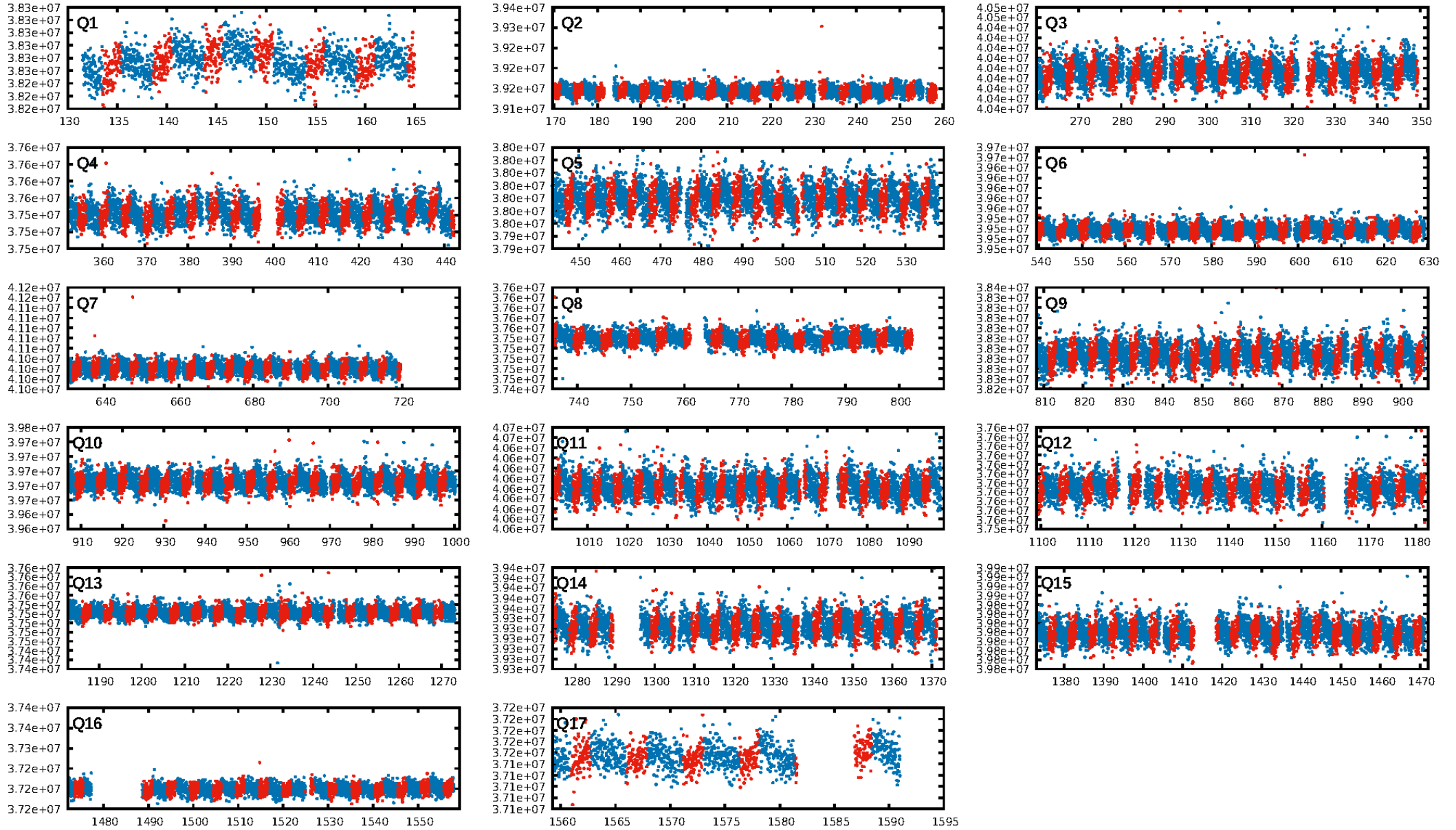
DV Fit Results:

Period = 5.13453 [0.00018] d
Epoch = 134.4057 [0.0277] BKJD
Rp/R* = 0.0092 [0.0005]
a/R* = 1.08 [0.03]
b = 0.98 [0.01]
Seff = 276.71 [112.89]
Teq = 1040 [106] K
Rp = 1.01 [0.32] Re
a = 0.0548 [0.0146] AU
Ag = 25.74 [12.13] [2.04 σ]
Teffp = 3622 [263] K [9.09 σ]

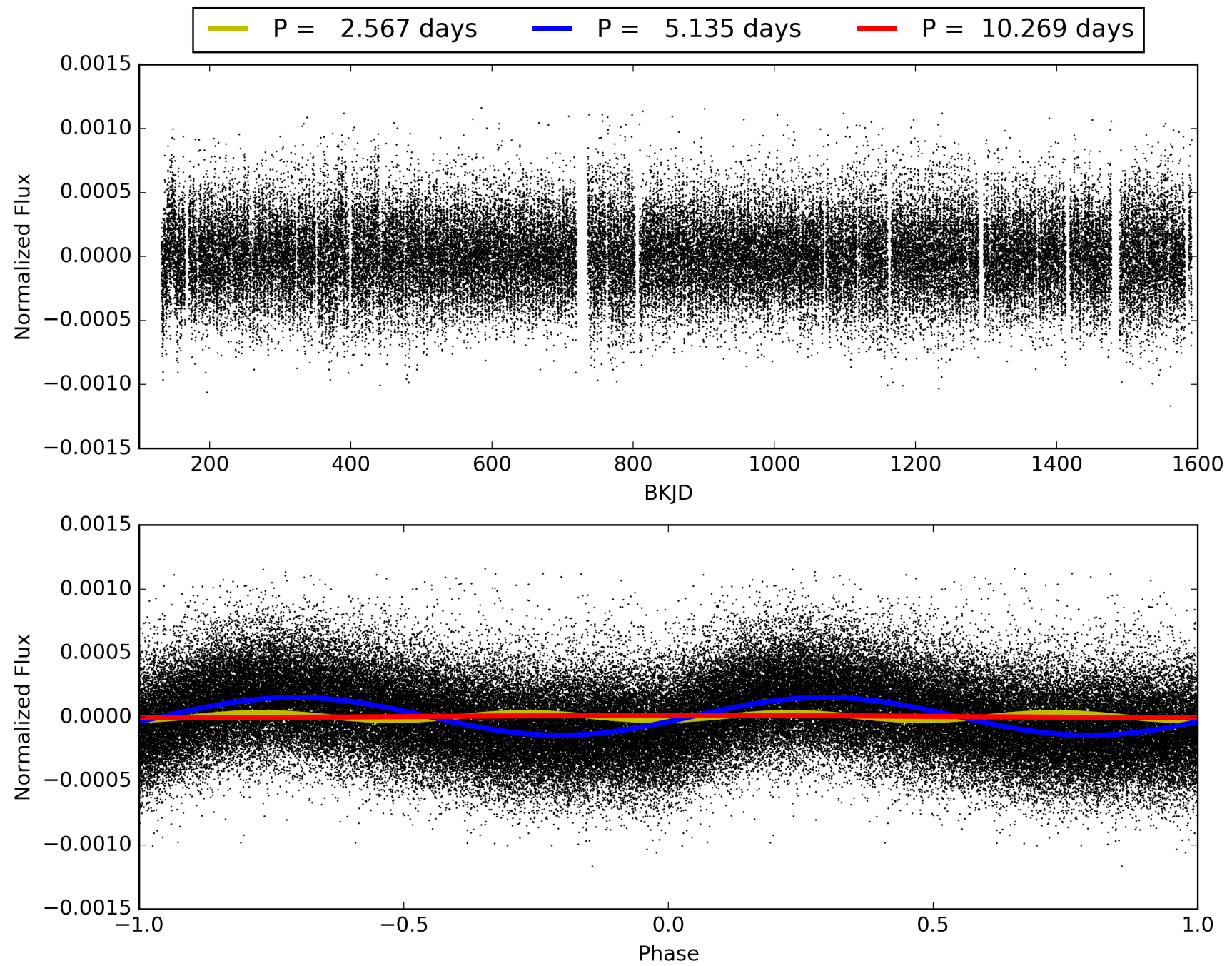
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.90e-42
RollingBand-fgt: 1.00 [261/261]
GhostDiagnostic-chr: 1.408
Centroid-sig: 38.9%
Centroid-so: 0.788 arcsec [1.11 σ]
OotOffset-rm: 0.596 arcsec [2.35 σ]
KicOffset-rm: 0.765 arcsec [2.96 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008367298-01, PDC Light Curves

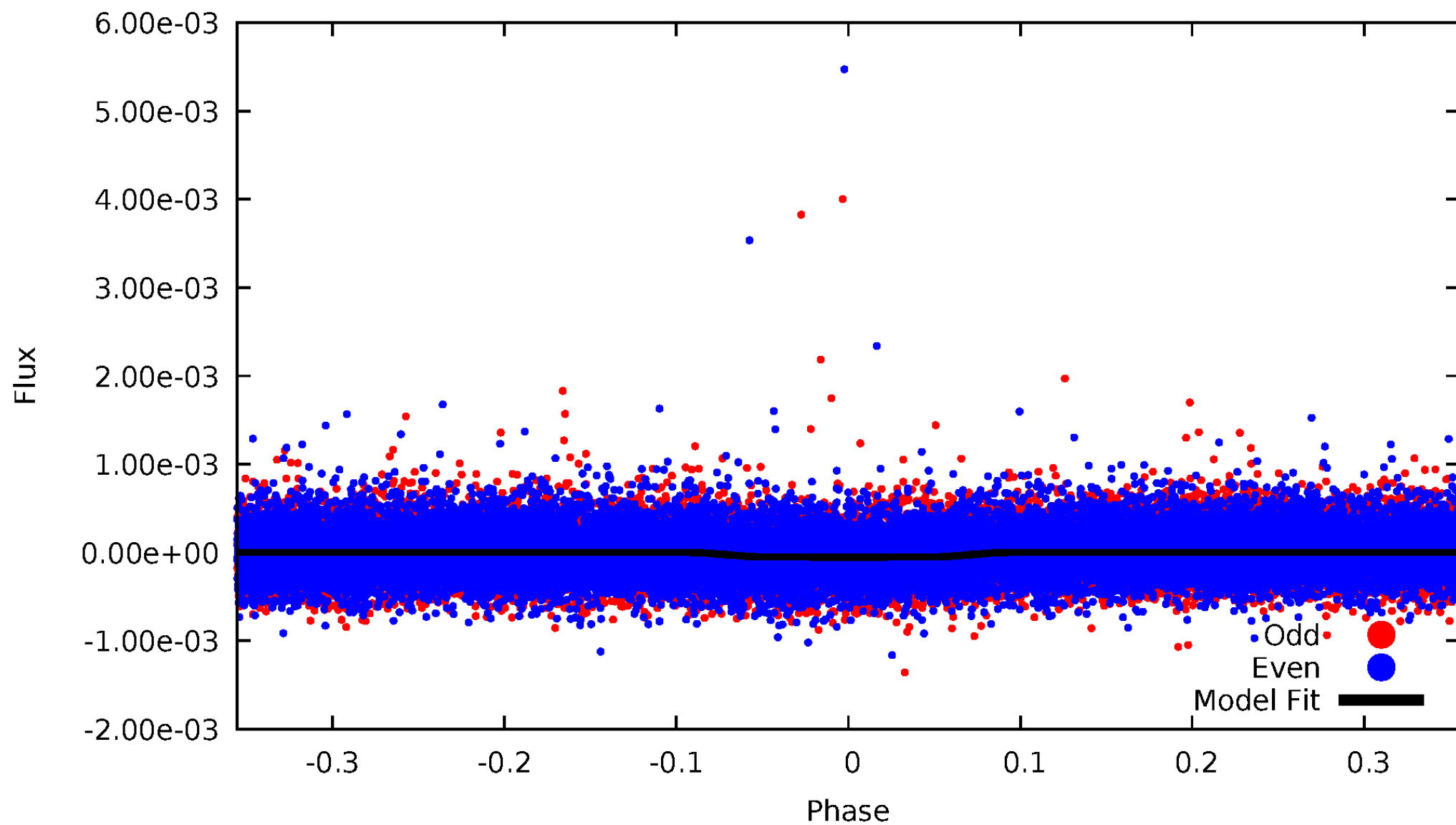


TCE 008367298-01



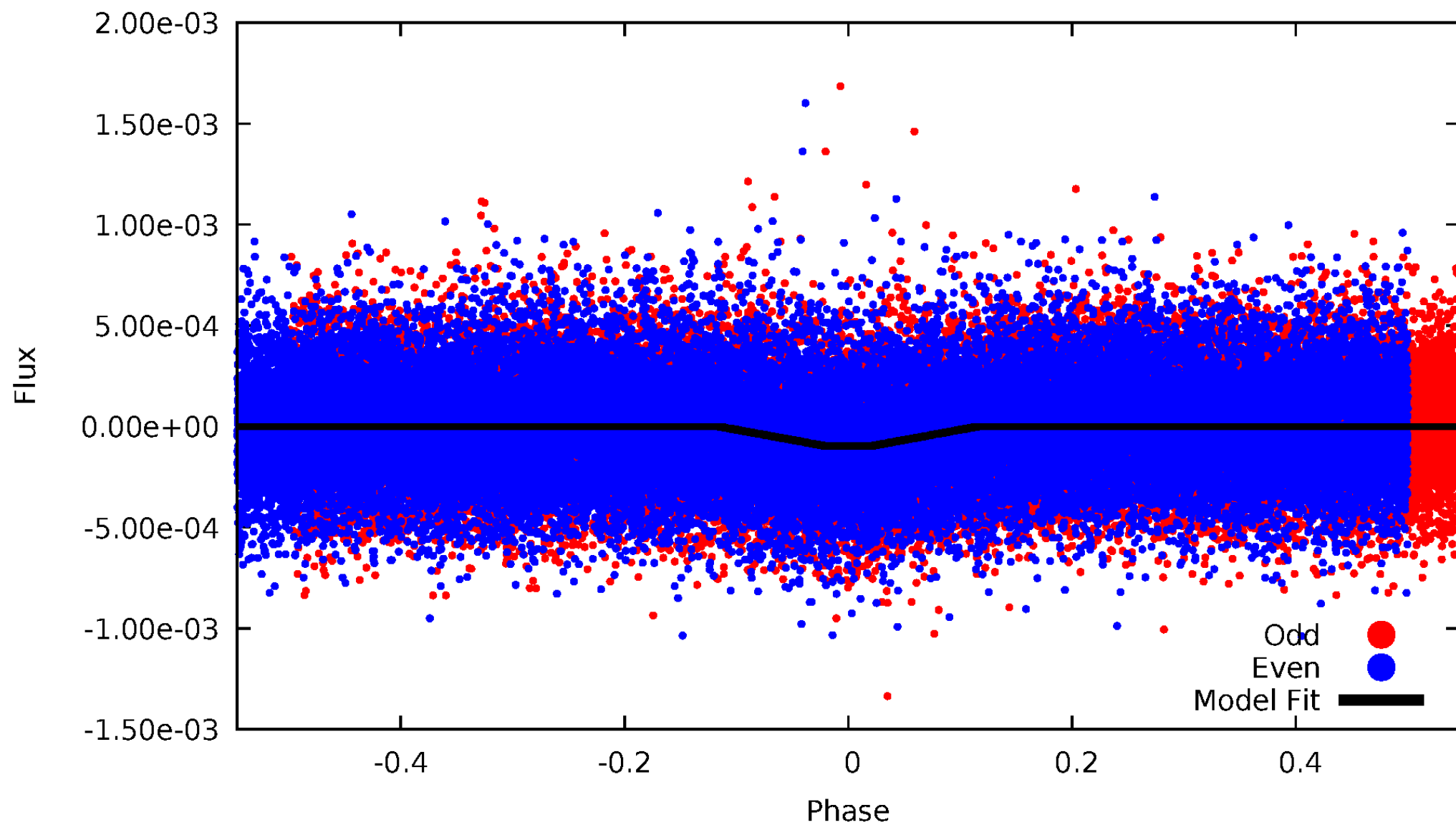
DV Odd/Even

TCE 008367298-01

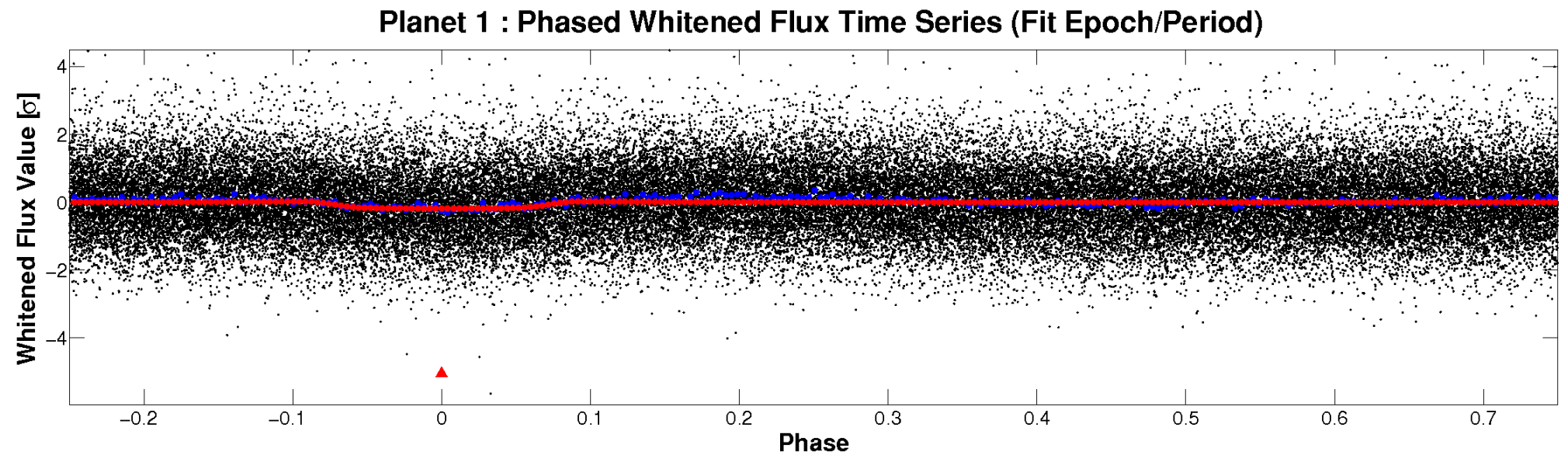
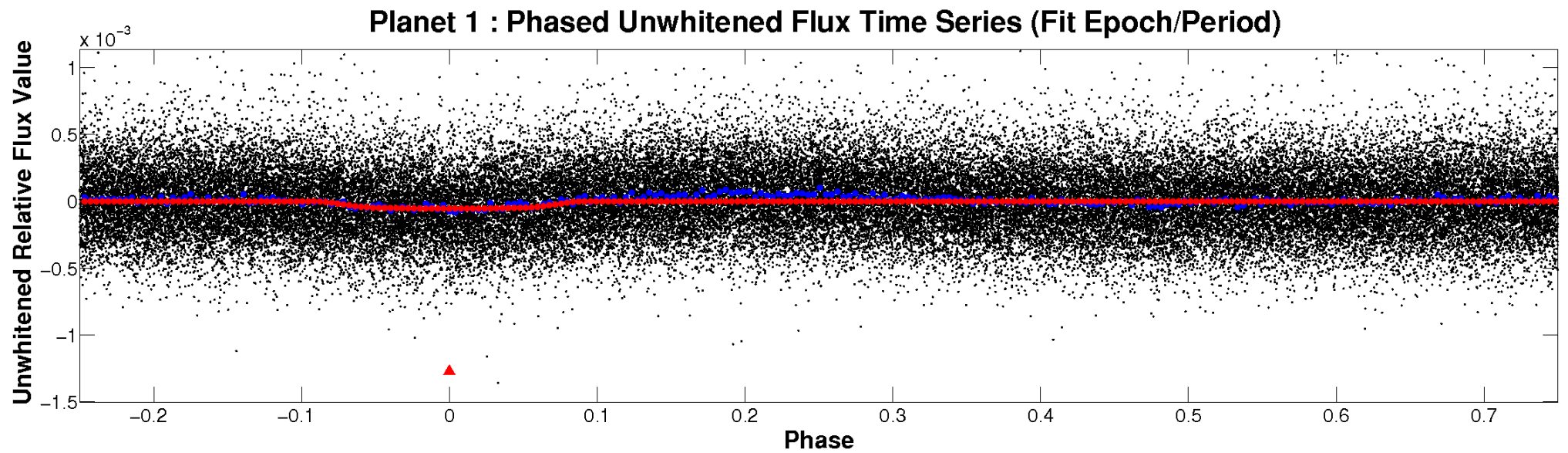


ALT Odd/Even

TCE 008367298-01

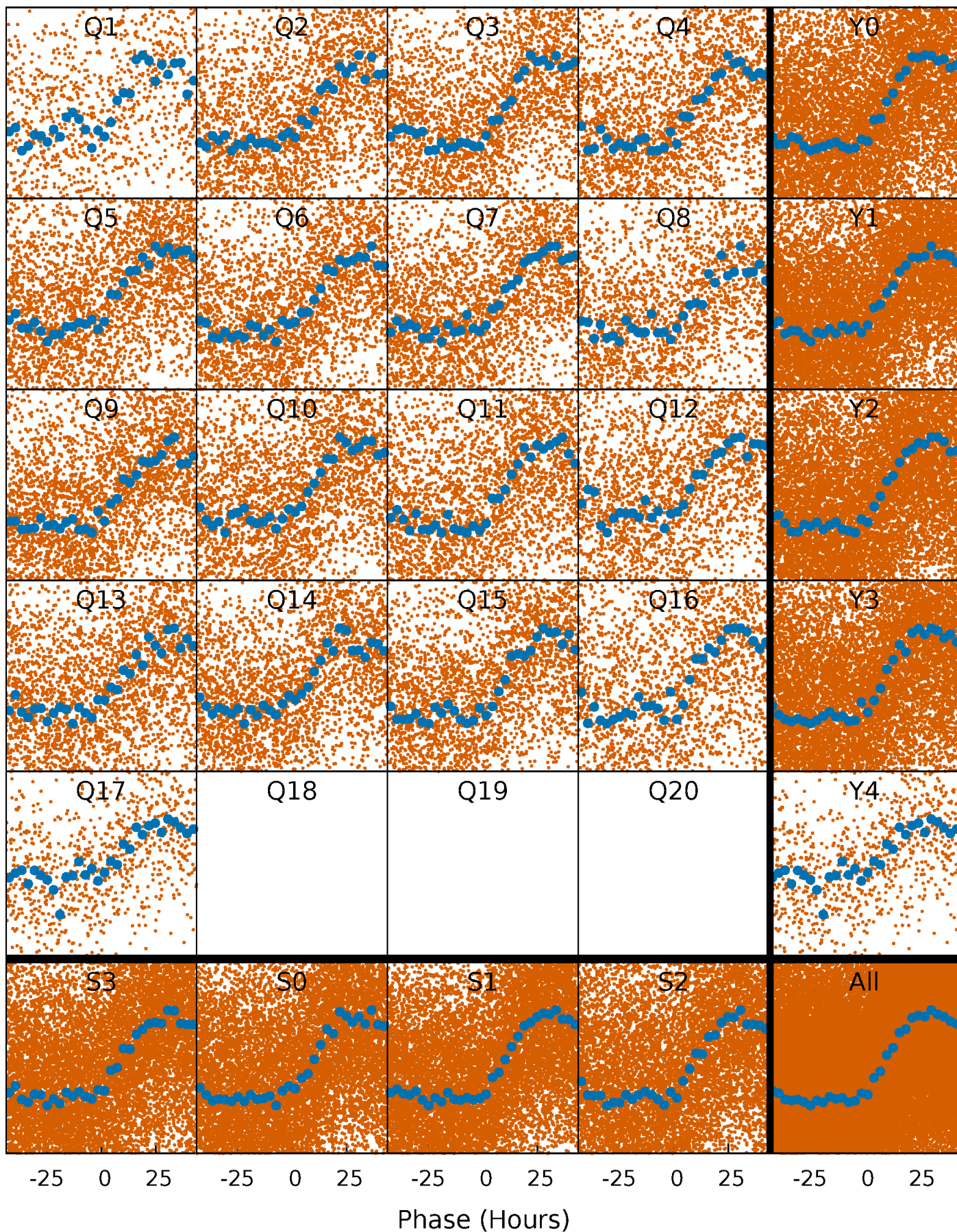


Non-Whitened Vs. Whitened Light Curve



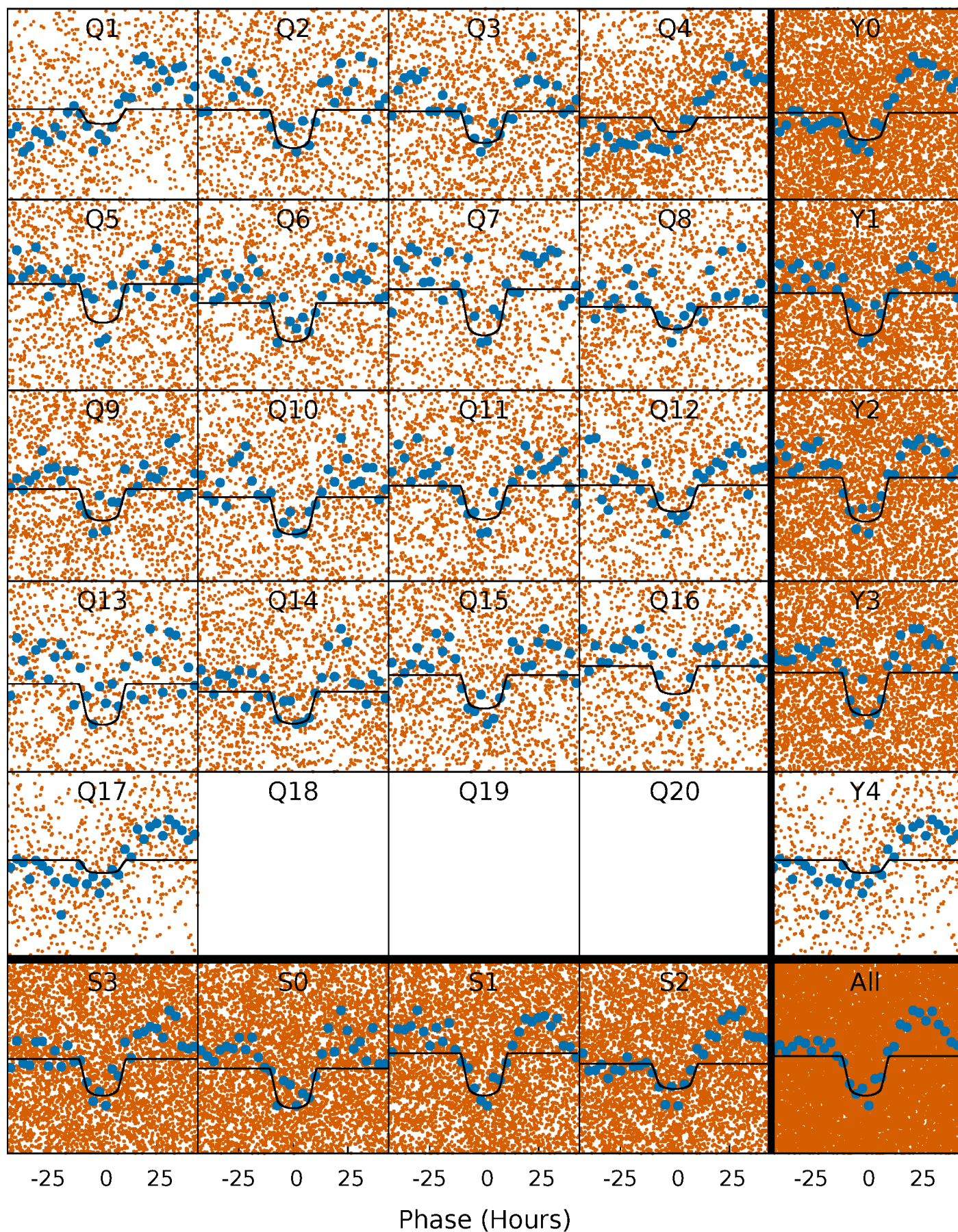
PDC Quarter-Phased Transit Curves

TCE 008367298-01 P= 5.134530 Days $T_0=134.405746$ (BKJD)



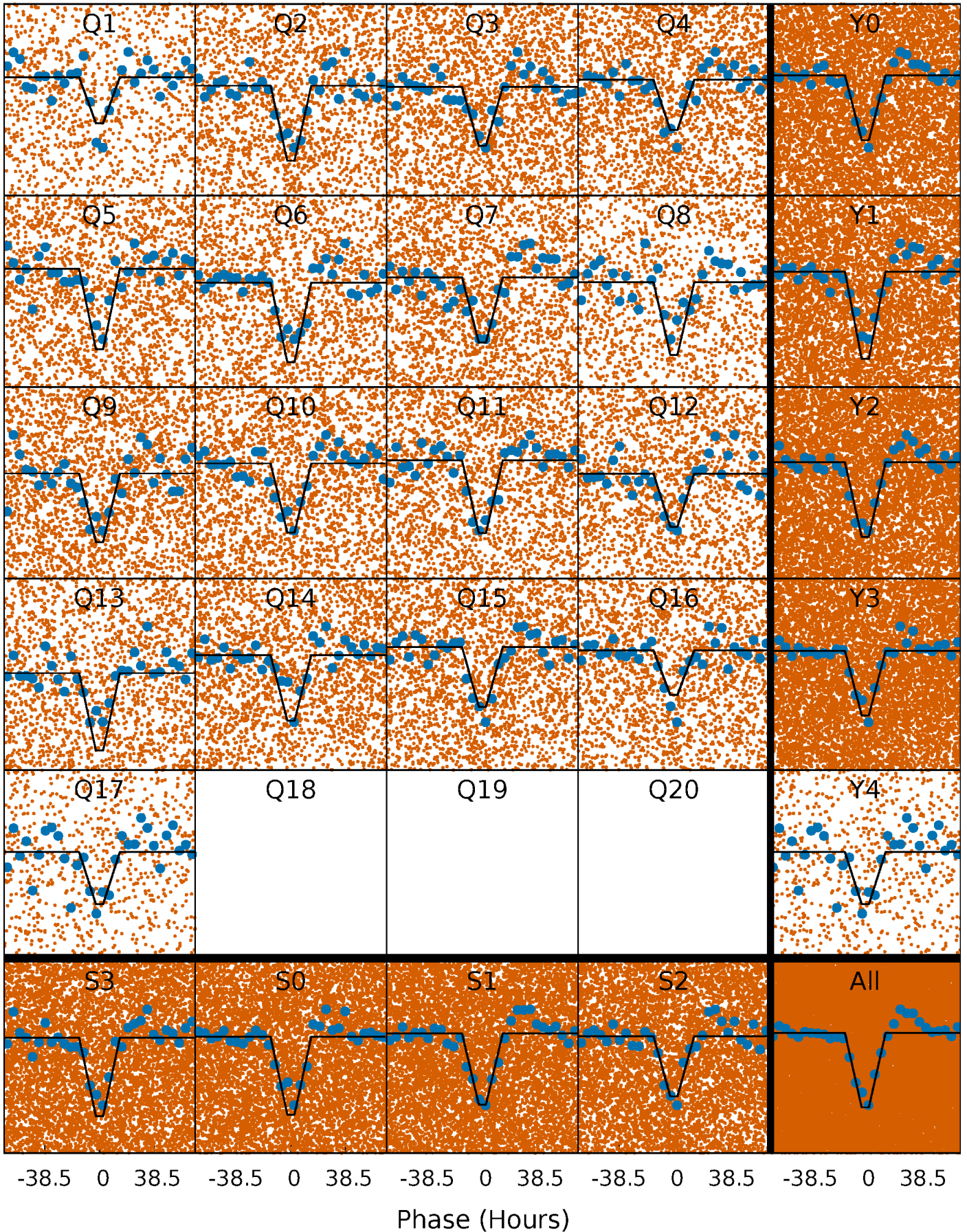
DV Quarter-Phased Transit Curves

TCE 008367298-01 P= 5.134530 Days $T_0=134.405746$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

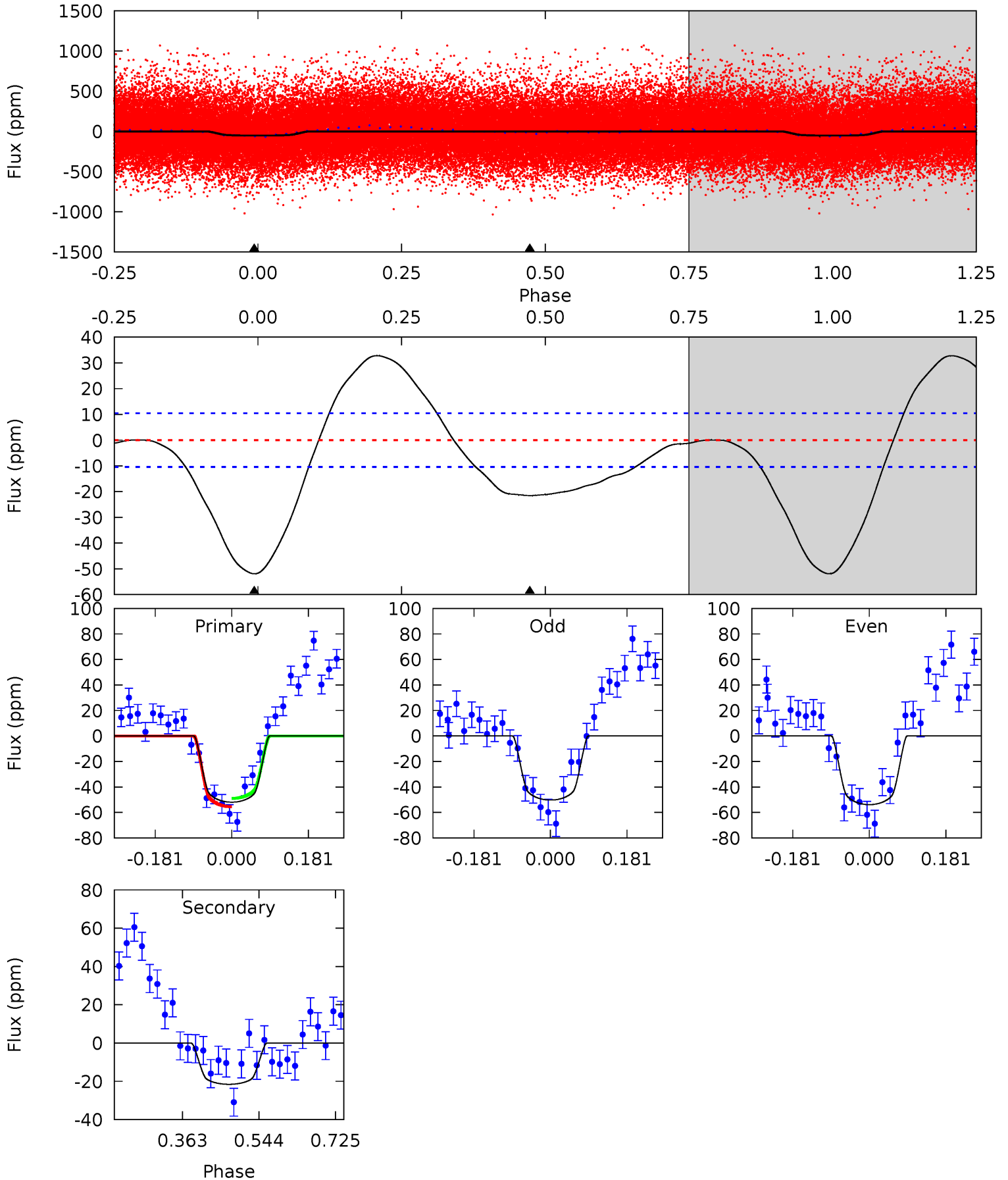
TCE 008367298-01 P= 5.134786 Days $T_0=134.355373$ (BKJD)



DV Model-Shift Uniqueness Test

008367298-01, P = 5.134530 Days, E = 129.271216 Days

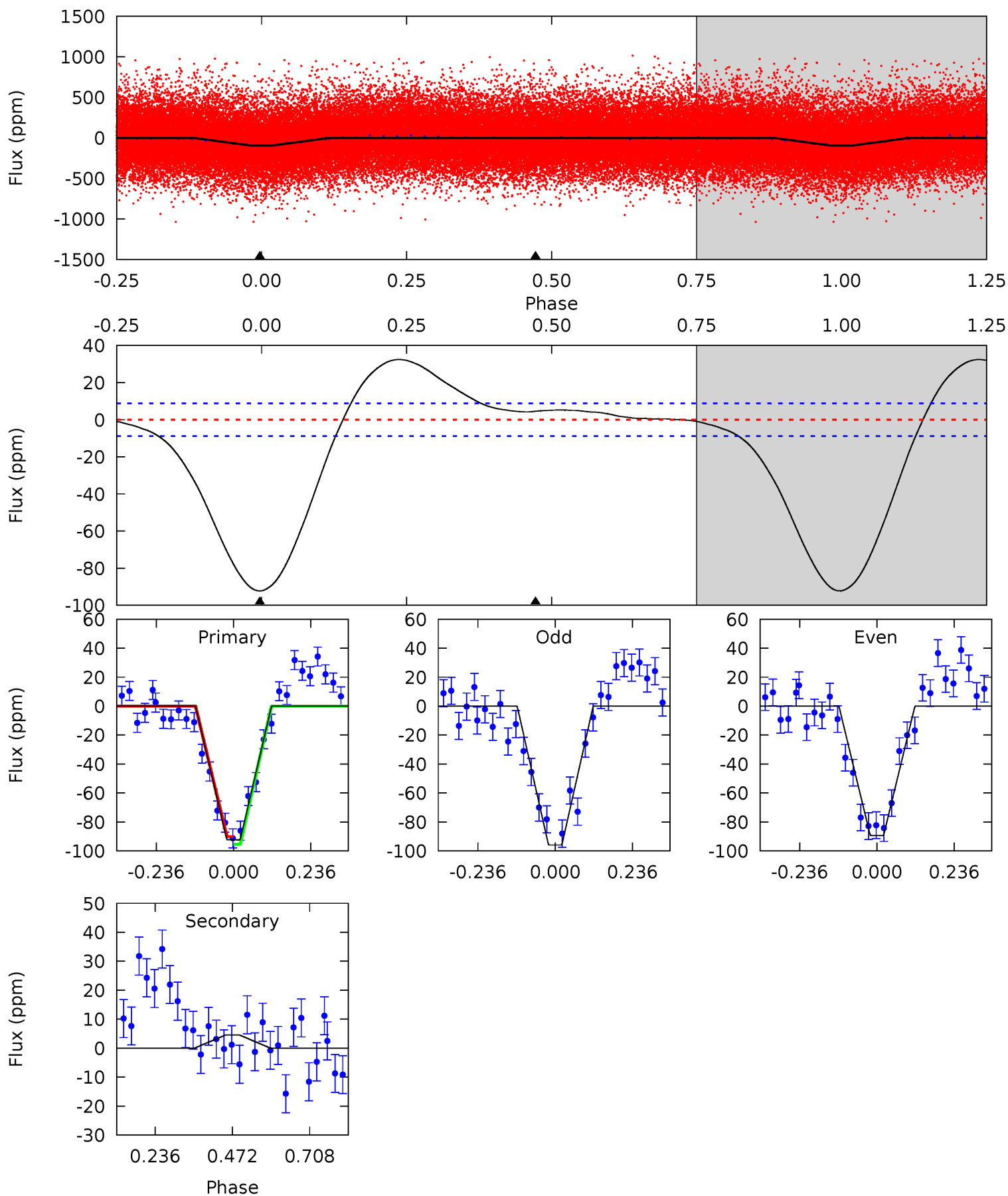
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 22.1 | 9.19 | 0 | 0 | 4.44 | 1.34 | 6.74 | 22.1 | 22.1 | 9.19 | 9.19 | 0.77 | 1.00 | 0.39 | 1.41 |



Alt Model-Shift Uniqueness Test

008367298-01, P = 5.134786 Days, E = 129.220587 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|-------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 45.8 | -2.28 | 0 | 0 | 4.38 | 1.19 | 7.14 | 45.8 | 45.8 | -2.28 | -2.28 | 1.65 | 0.90 | 0.26 | 1.34 |



Stellar Parameters For KIC 008367298

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|-----------------------------------------------|
| | 5515^{+166}_{-149} | $4.357^{+0.175}_{-0.214}$ | $-0.120^{+0.300}_{-0.250}$ | $1.001^{+0.315}_{-0.194}$ | $0.831^{+0.122}_{-0.061}$ | $1.166^{+0.963}_{-0.601}$ |
| | +3%/-3% | +4%/-5% | +250%/-208% | +31%/-19% | +15%/-7% | +83%/-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 008367298-01 / KOI 7025.01

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|-----------------------|----------------------------|
| DV | -22 ± 2 | $1.02^{+0.19}_{-0.13}$ | 1462^{+126}_{-93} | 4160^{+154}_{-142} | 34^{+11}_{-10} |
| Alt. | 5 ± 2 | $1.10^{+0.20}_{-0.15}$ | 1466^{+126}_{-101} | -3185^{+243}_{-194} | $-5.969^{+2.760}_{-3.941}$ |

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 $A_{\text{obs}} \gg 1.0$

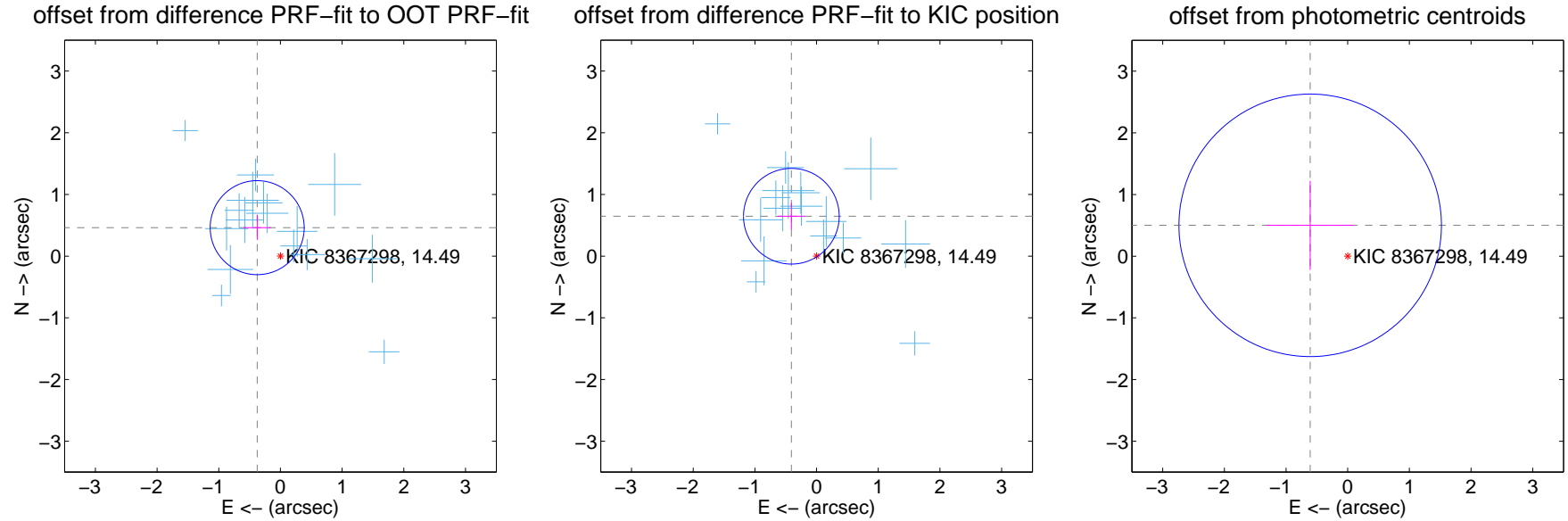
DV Centroid Data

Supplemental centroid analysis for 008367298-01. Kepler magnitude: 14.49. Transit SNR 16.08

There are 16 quarters with good PRF difference image offsets

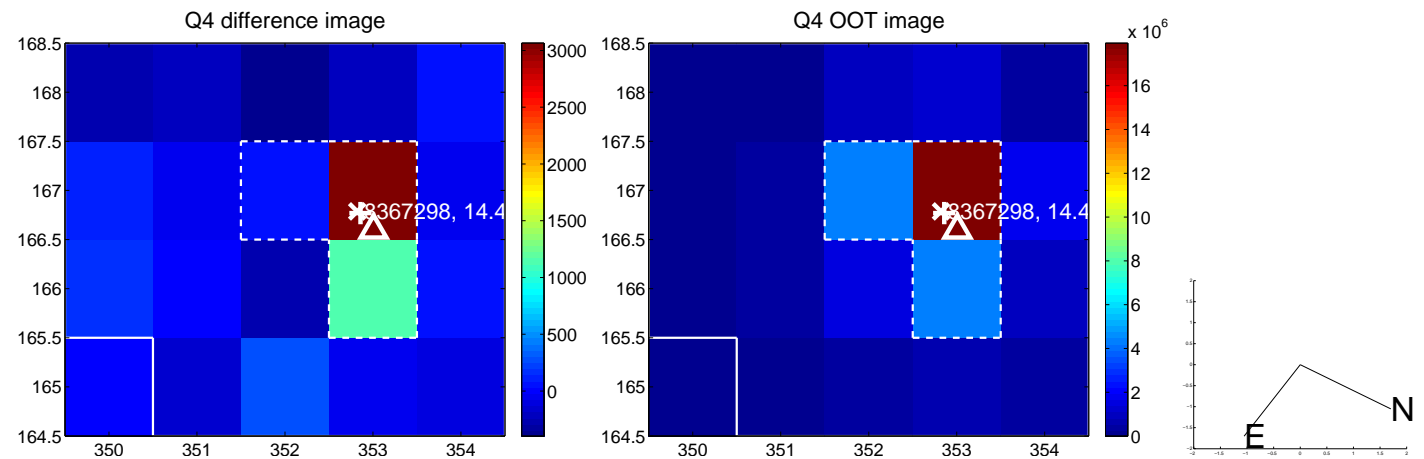
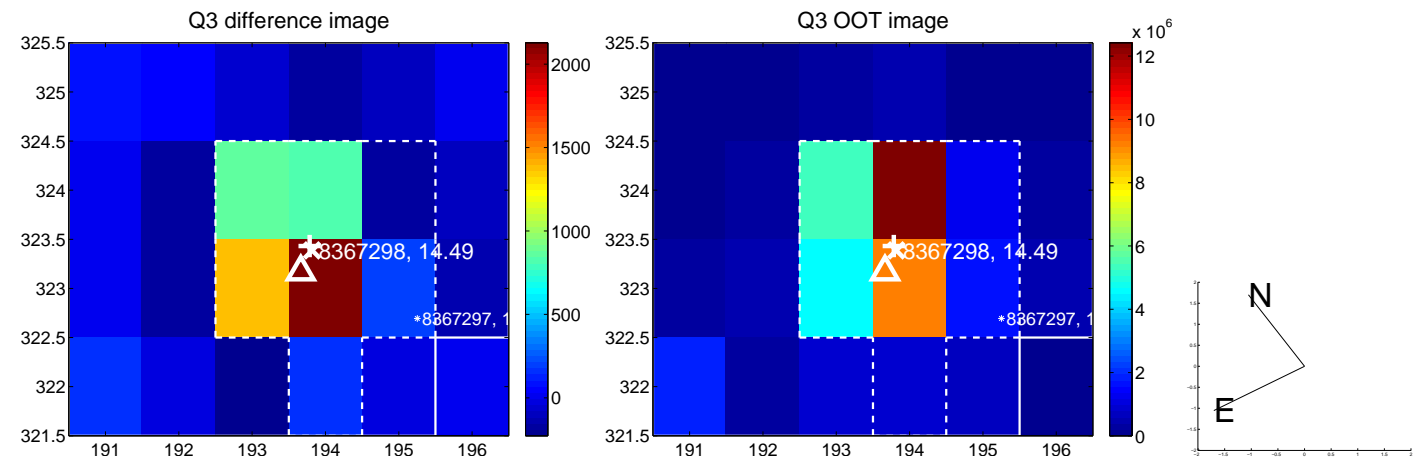
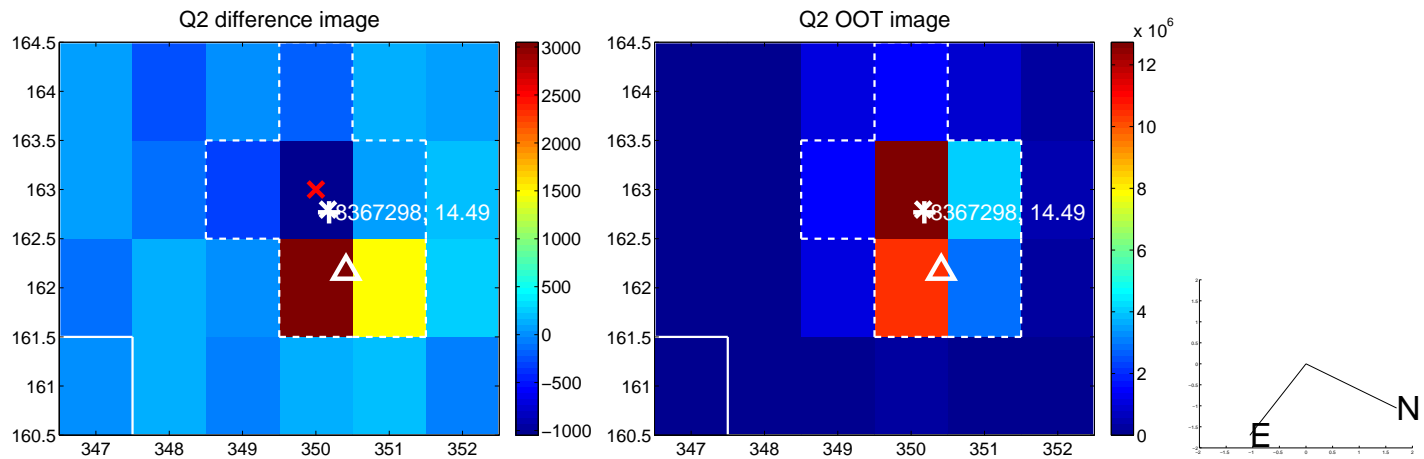
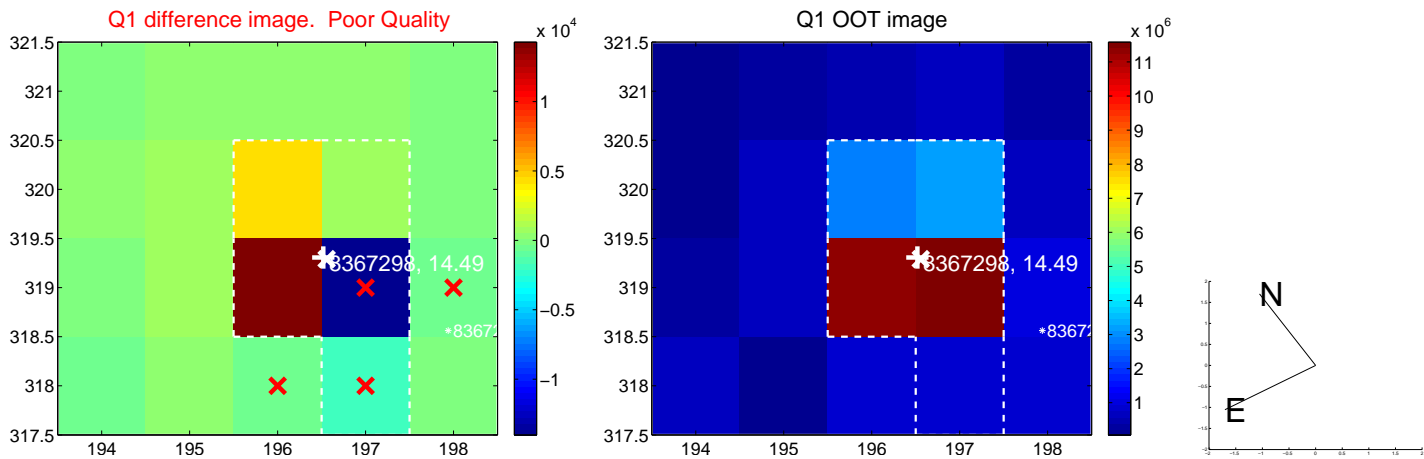
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|-----------------------------------------|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.596 ± 0.254 | 2.35 | 0.377 ± 0.222 | 0.461 ± 0.198 |
| PRF-fit source offset from KIC position | 0.765 ± 0.259 | 2.96 | 0.409 ± 0.221 | 0.647 ± 0.216 |
| photometric centroid source offset | 0.79 ± 0.71 | 1.11 | 0.61 ± 0.70 | 0.50 ± 0.72 |

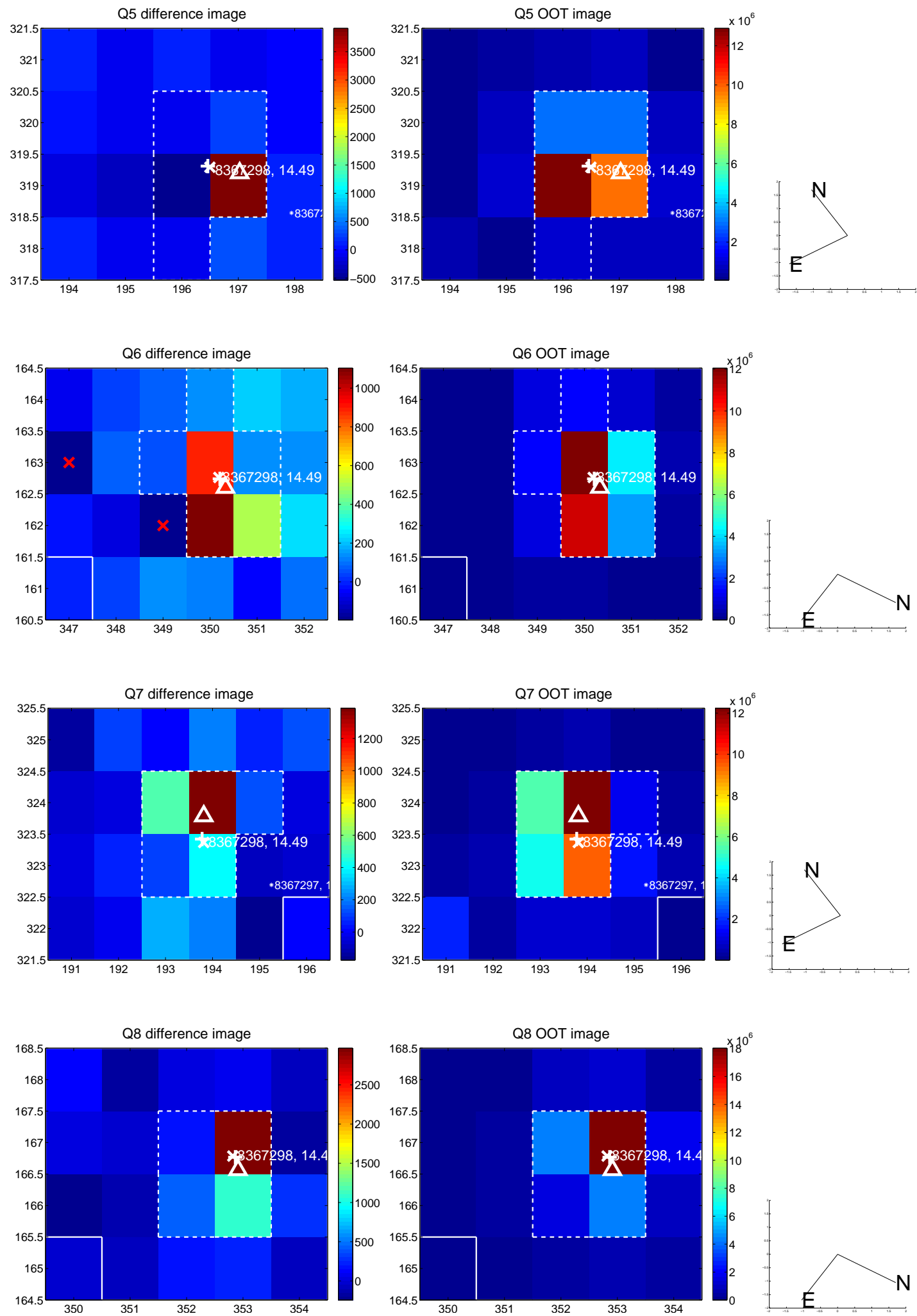


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

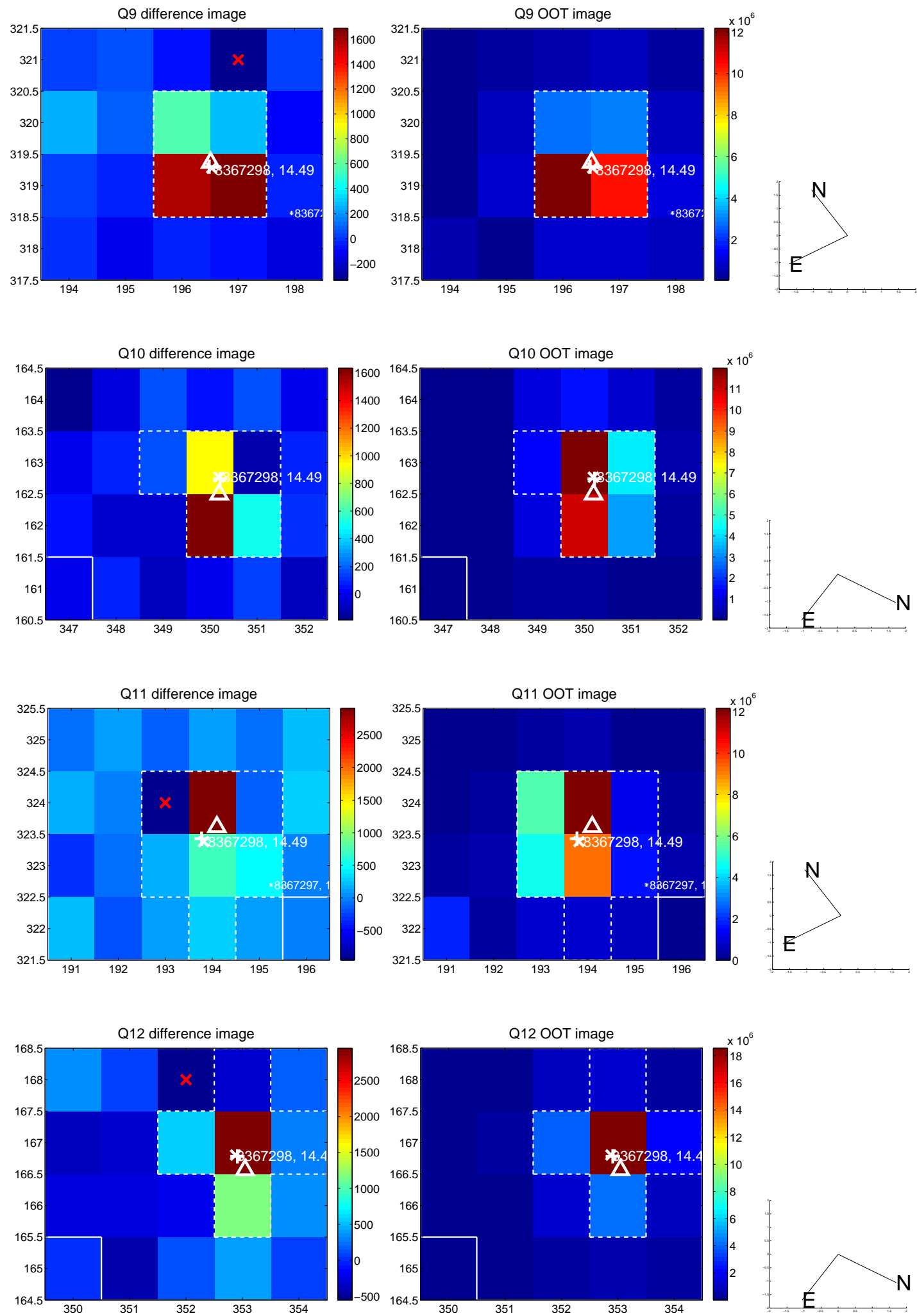
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



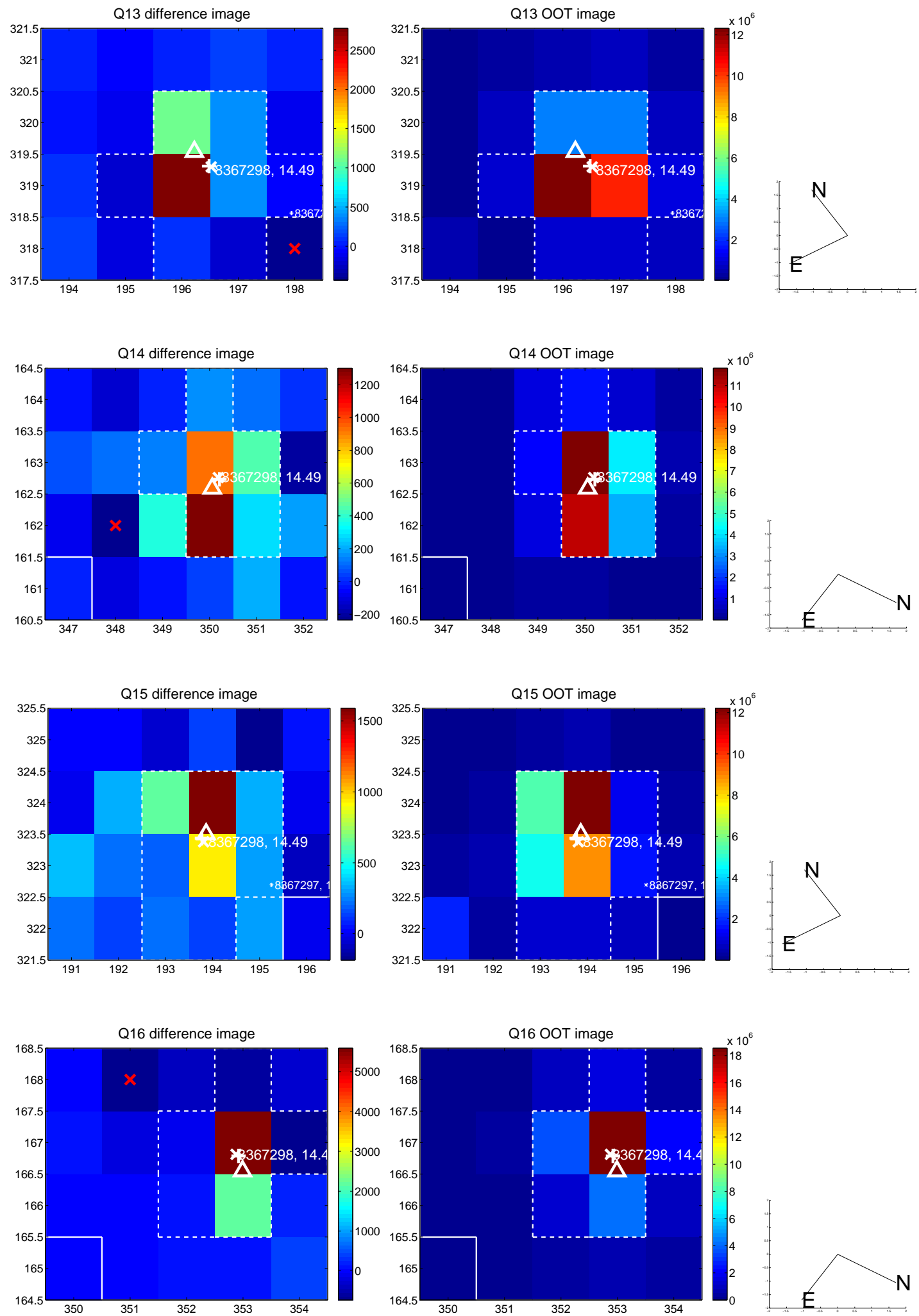
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



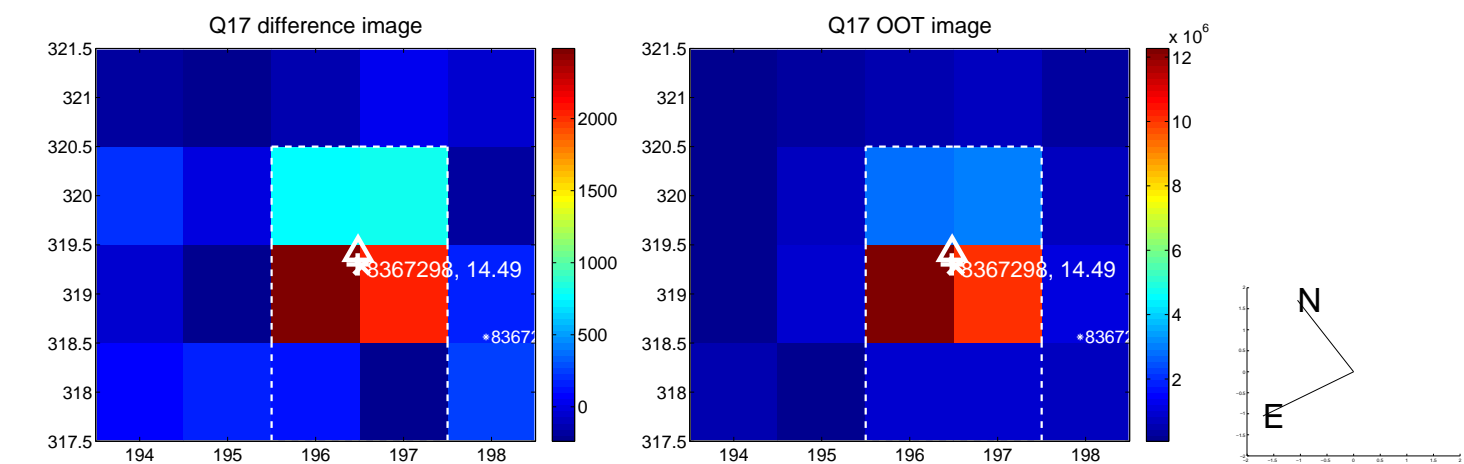
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



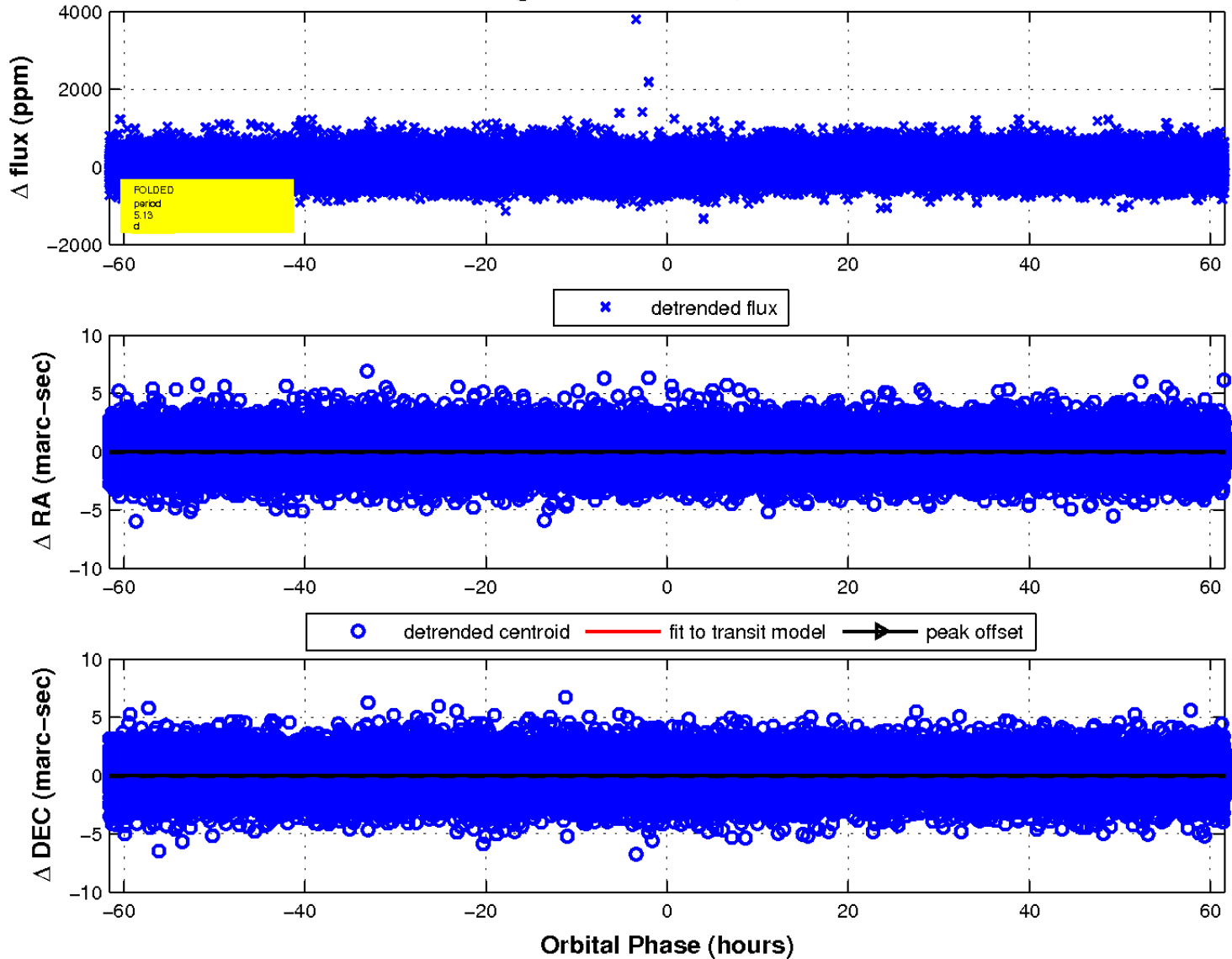
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

