

KIC 003448787

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 003448787-01 | OBS | No | 0.543136 | 131.727243 | 30.0 | 5.757 | 20.2 | 11.2 | 1.07 | 6476 | 0.60 | 9870.82 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 003448787-01 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | SWEET_NTL—LPP_DV—LPP_ALT—CENT_RESOLVED_OFFSET—HALO_GHOST |

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

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

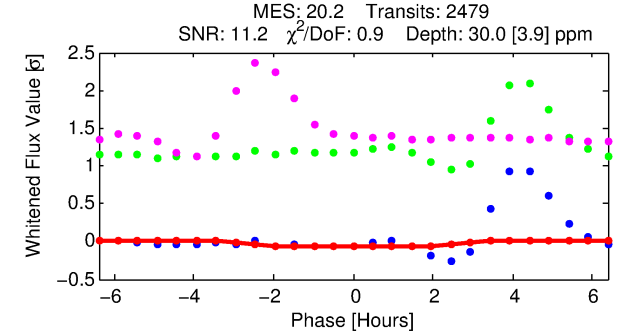
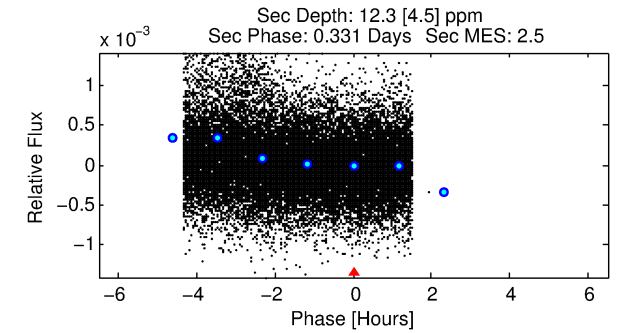
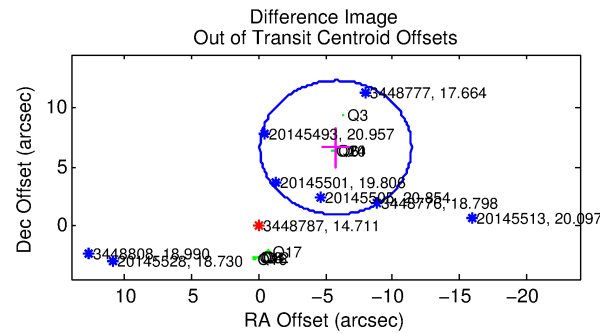
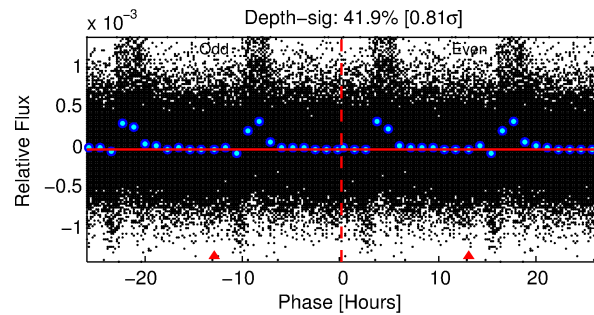
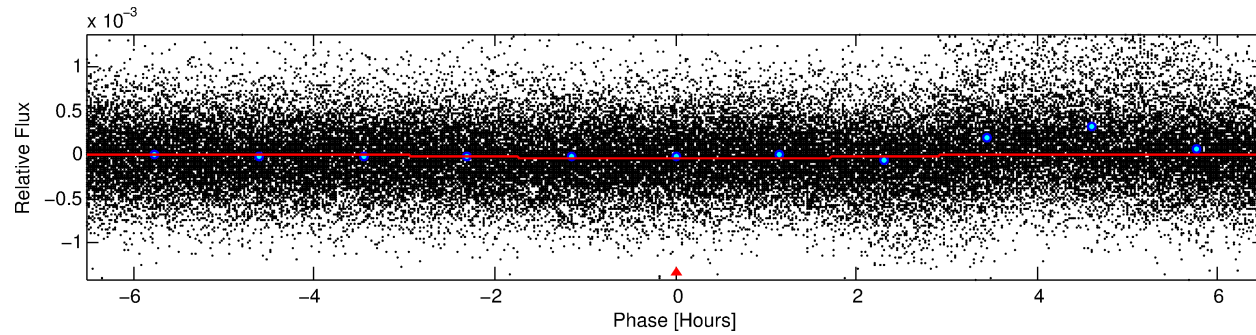
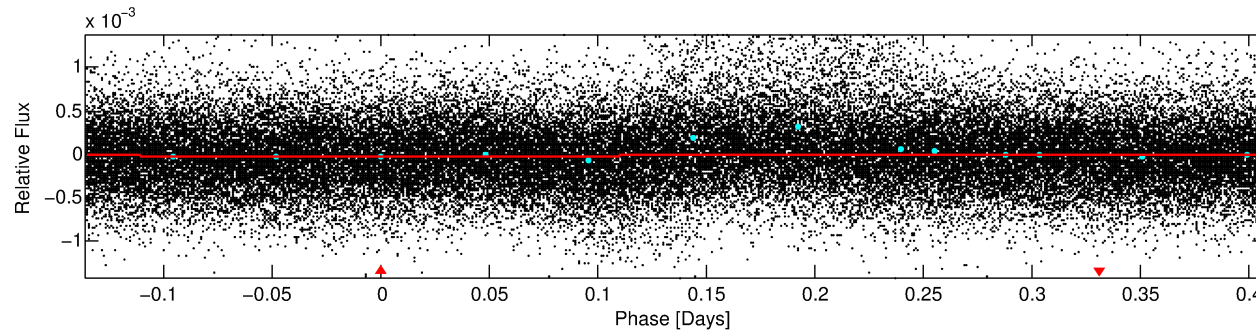
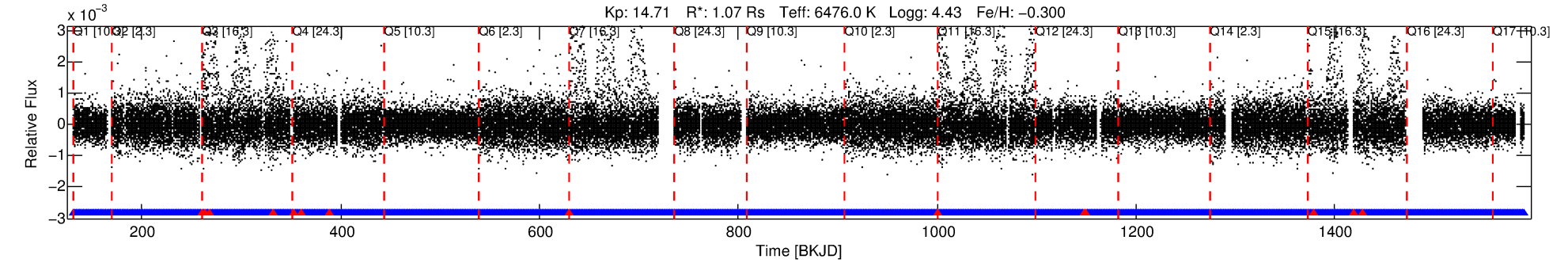
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003448787-01

No Significant Match Found

DV One-Page Summary

KIC: 3448787 Candidate: 1 of 1 Period: 0.543 d



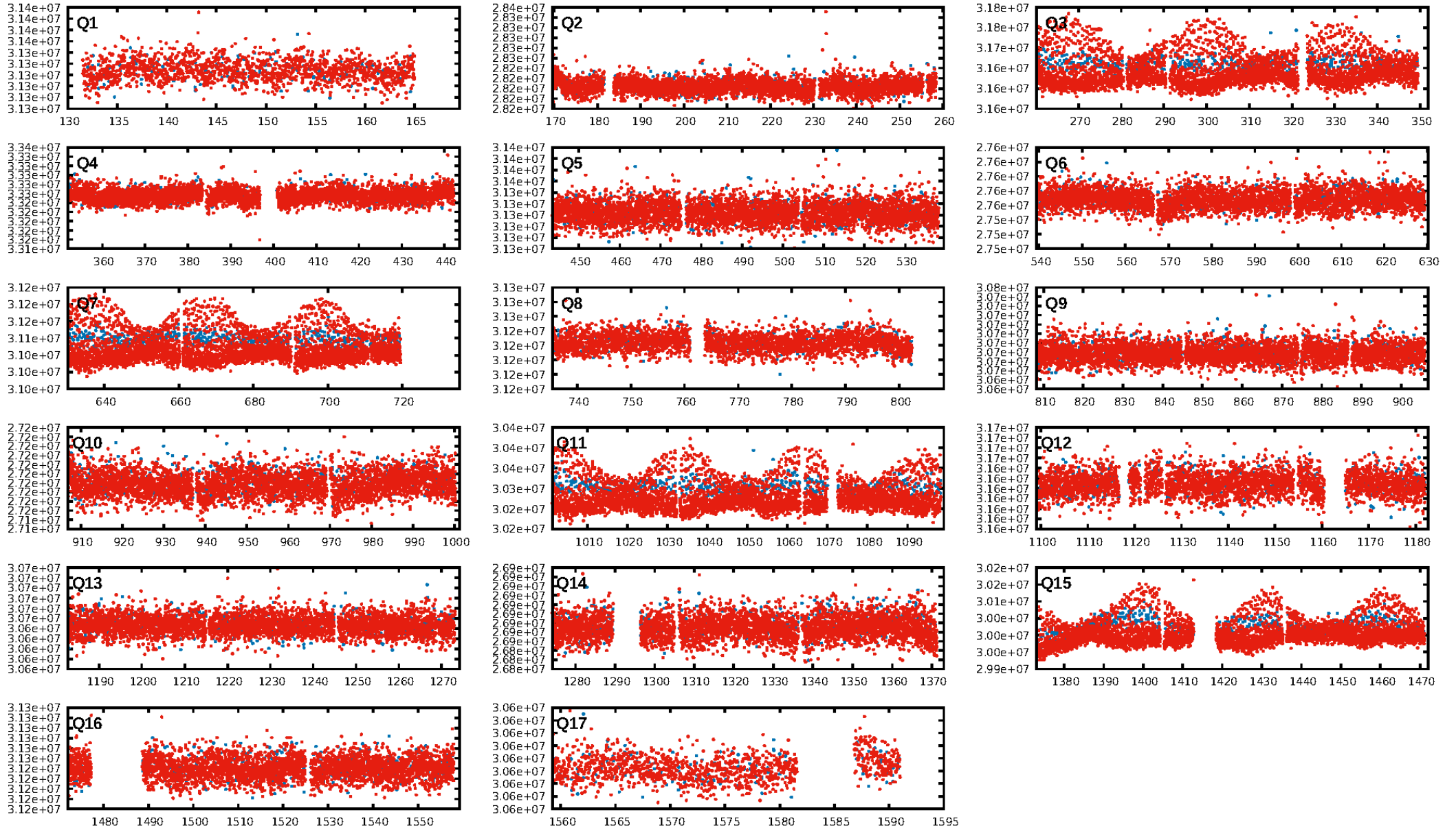
DV Fit Results:

Period = 0.54314 [0.00001] d
Epoch = 131.7272 [0.0055] BKJD
Rp/R* = 0.0051 [0.0053]
a/R* = 1.02 [0.21]
b = 0.39 [12.33]
Seff = 9870.82 [3481.16]
Teq = 2542 [224] K
Rp = 0.60 [0.64] Re
a = 0.0135 [0.0030] AU
Ag = 3.46 [7.36] [0.33 σ]
Teffp = 5358 [2823] K [0.99 σ]

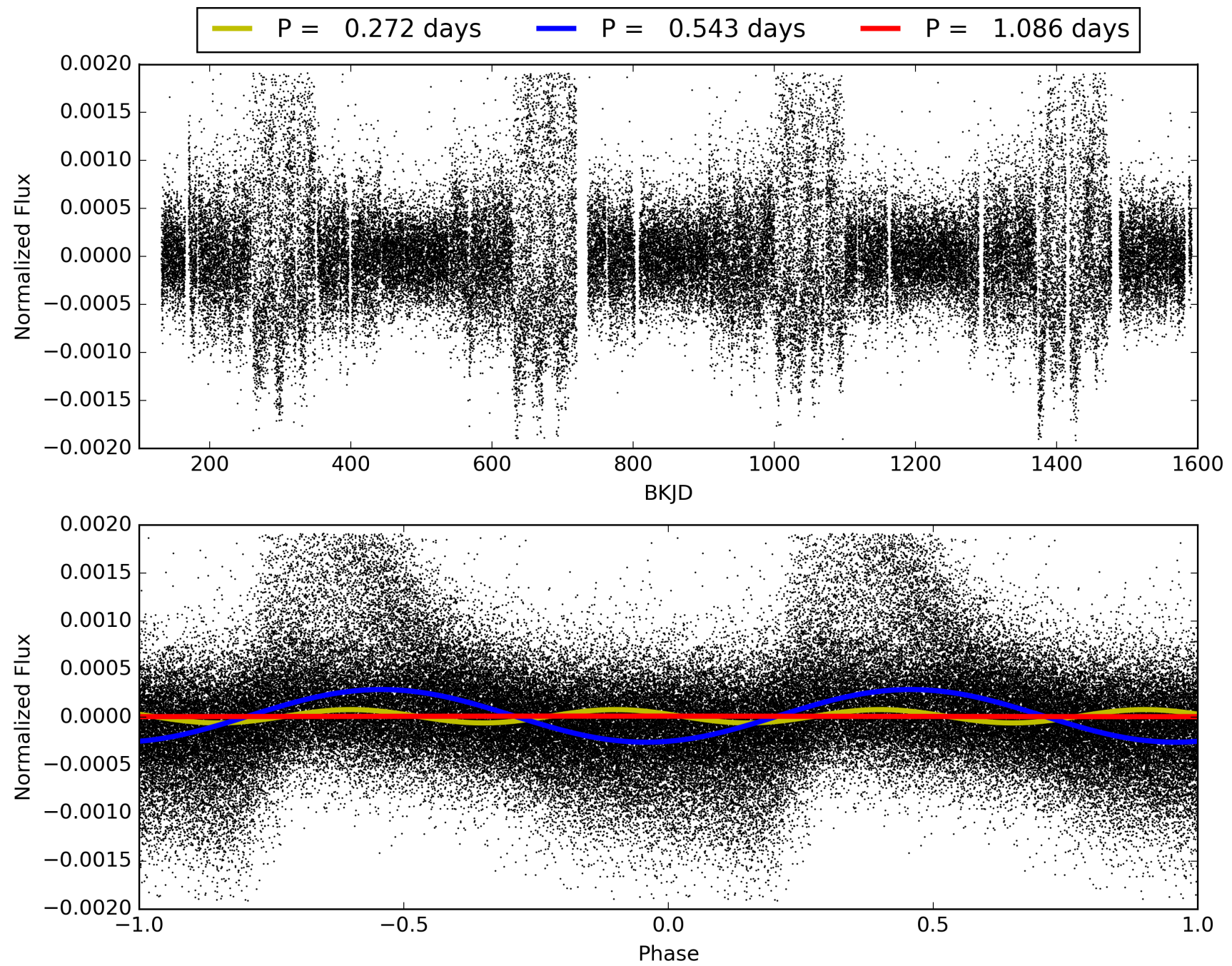
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [2353/2368]
GhostDiagnostic-chr: -0.1558
Centroid-sig: 0.5%
Centroid-so: 2.772 arcsec [2.14 σ]
OotOffset-rm: 8.781 arcsec [4.65 σ]
KicOffset-rm: 8.721 arcsec [5.05 σ]
OotOffset-st: 4/1/4/1 [10]
KicOffset-st: 4/1/4/1 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 003448787-01, PDC Light Curves

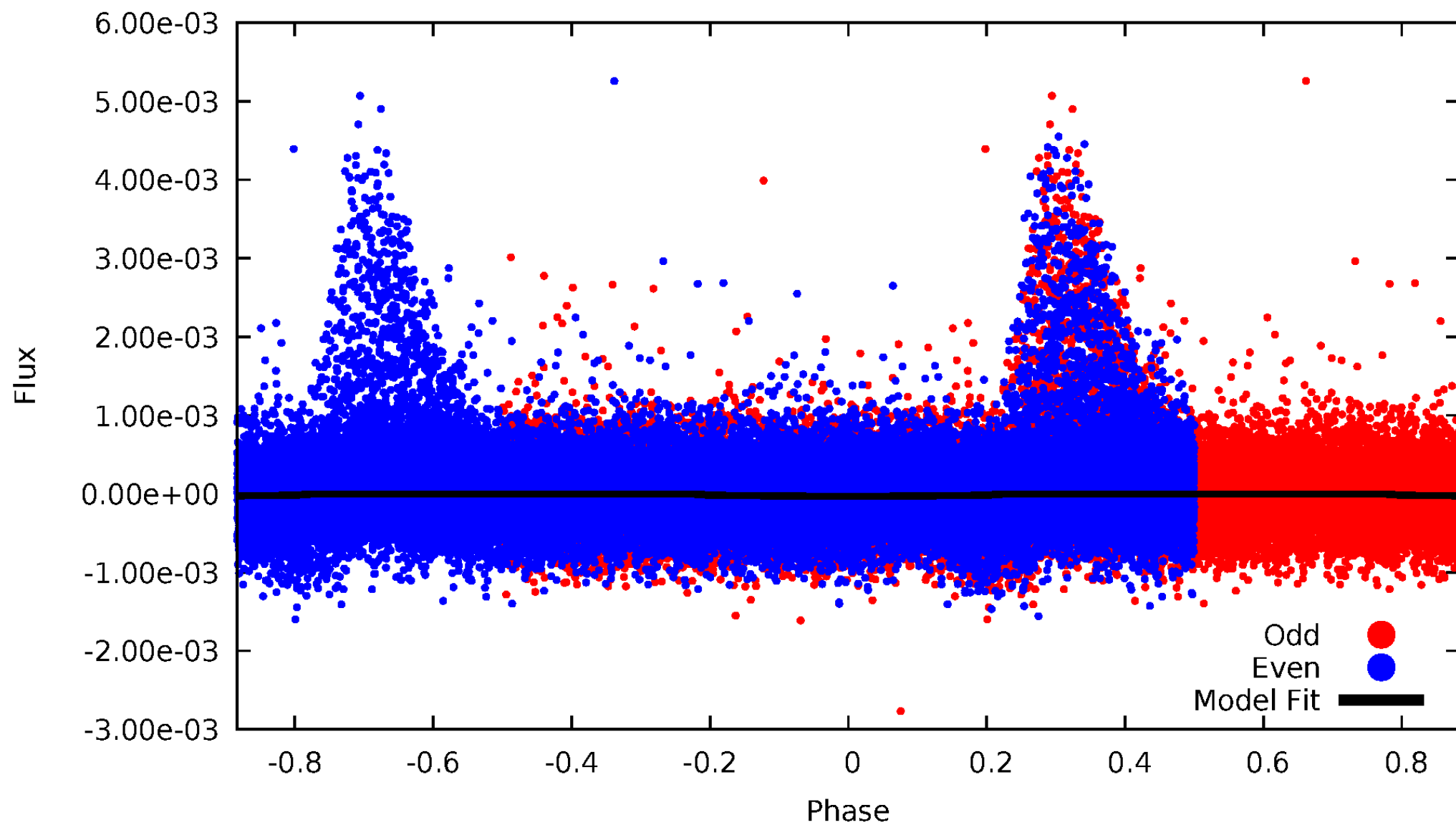


TCE 003448787-01



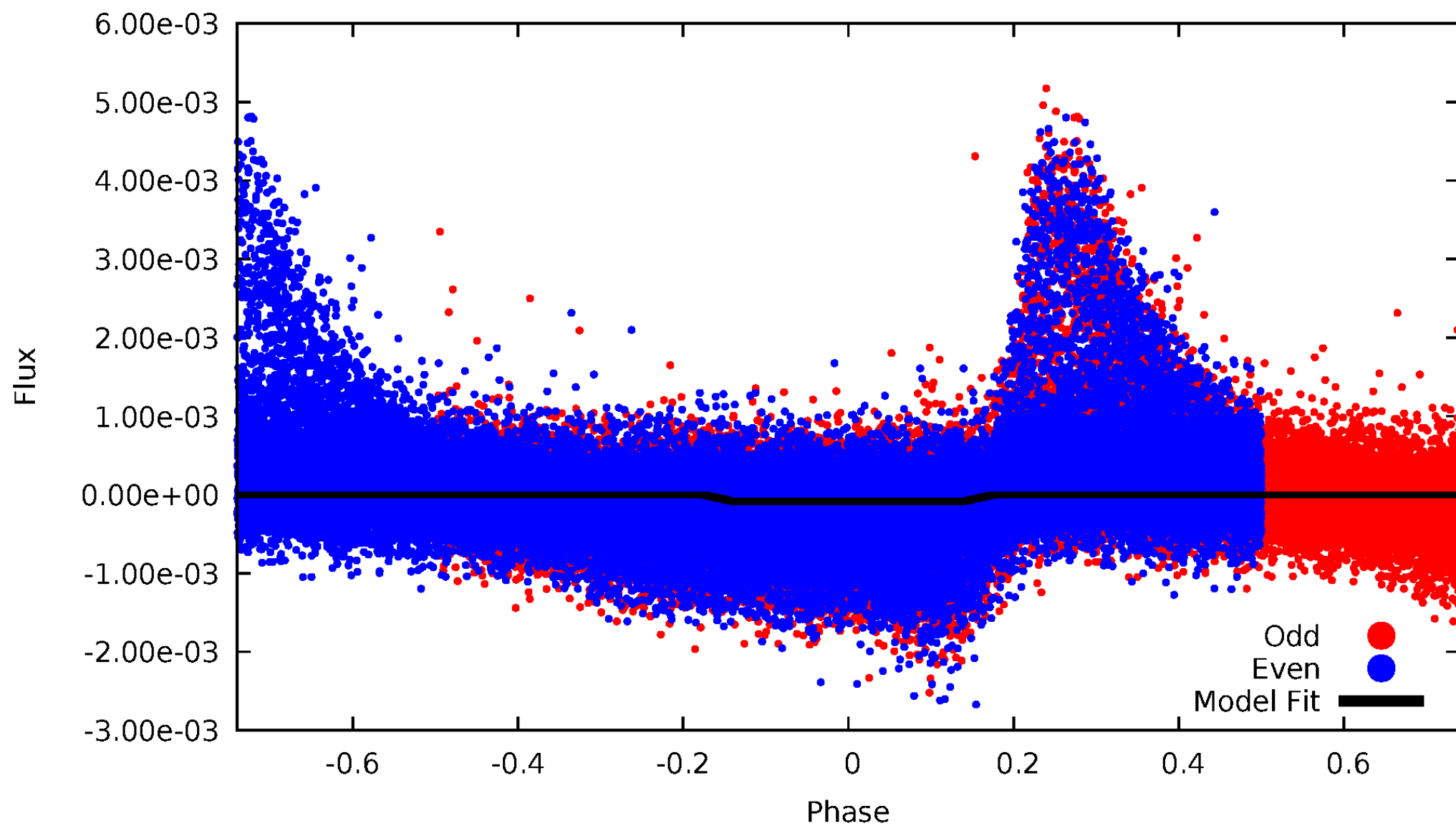
DV Odd/Even

TCE 003448787-01



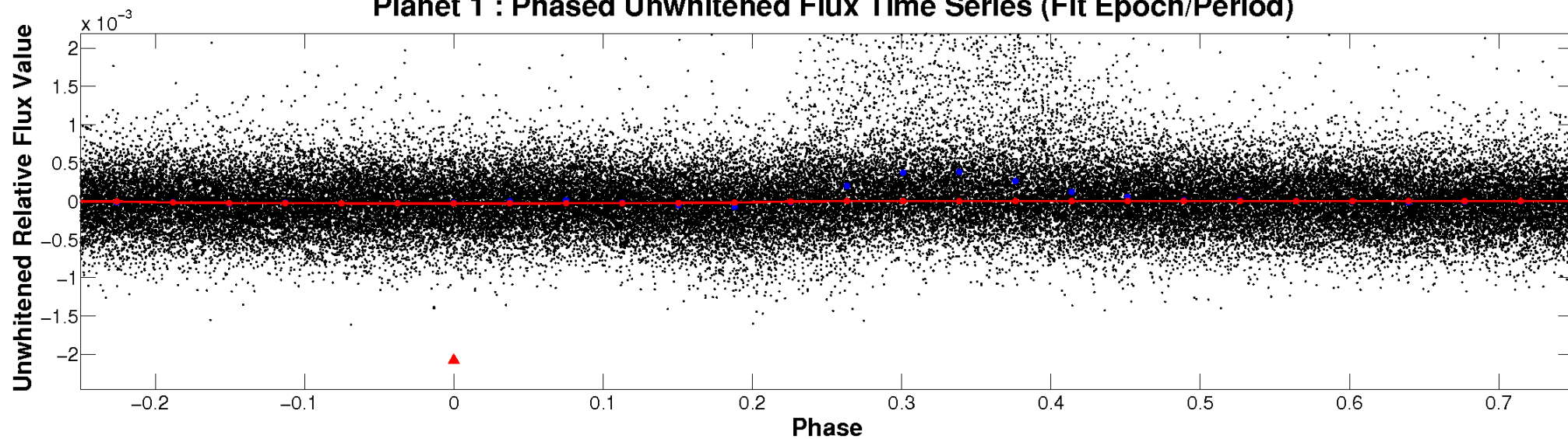
ALT Odd/Even

TCE 003448787-01

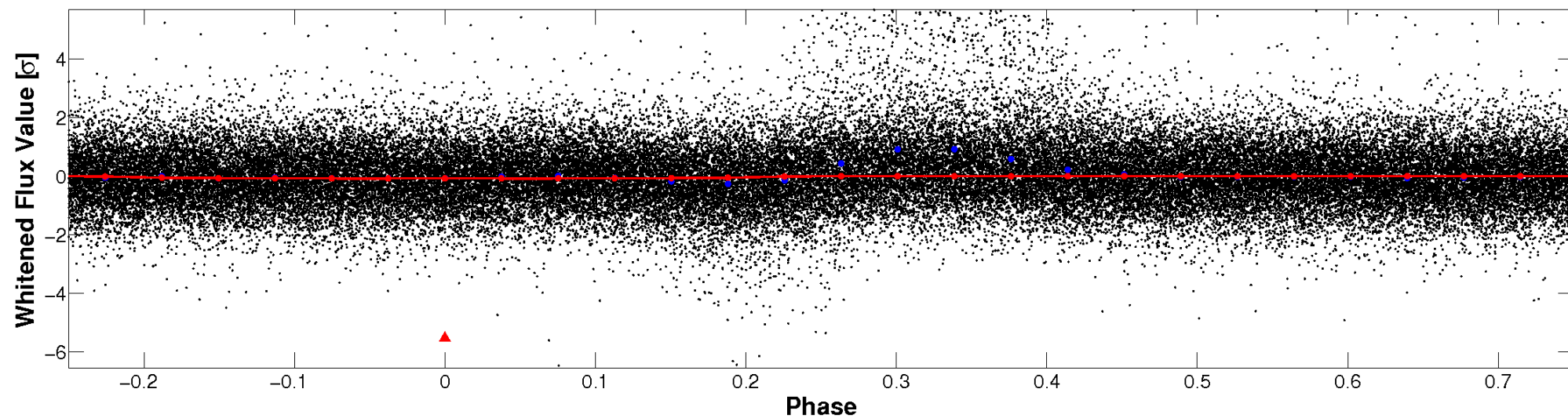


Non-Whitened Vs. Whitened Light Curve

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

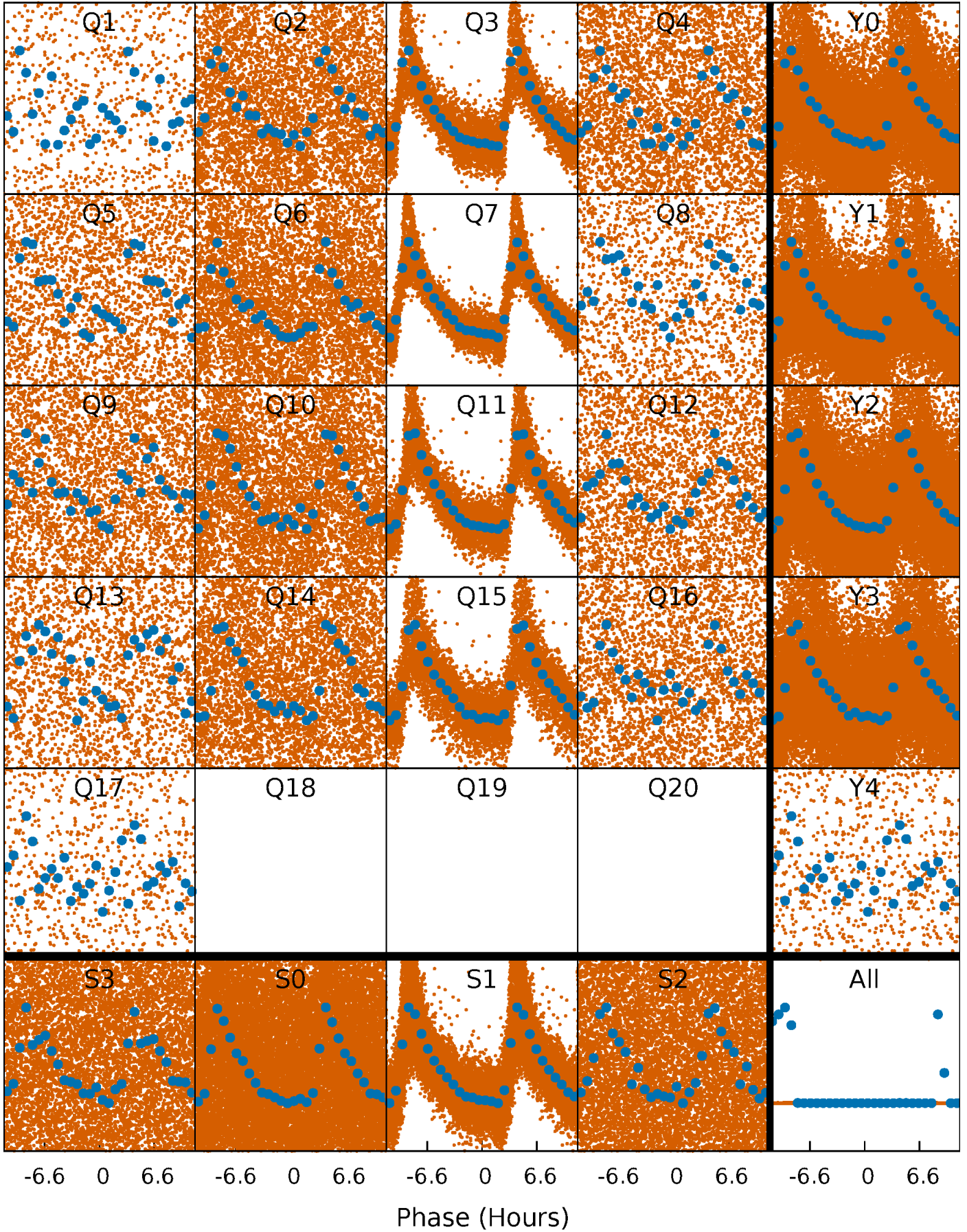


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



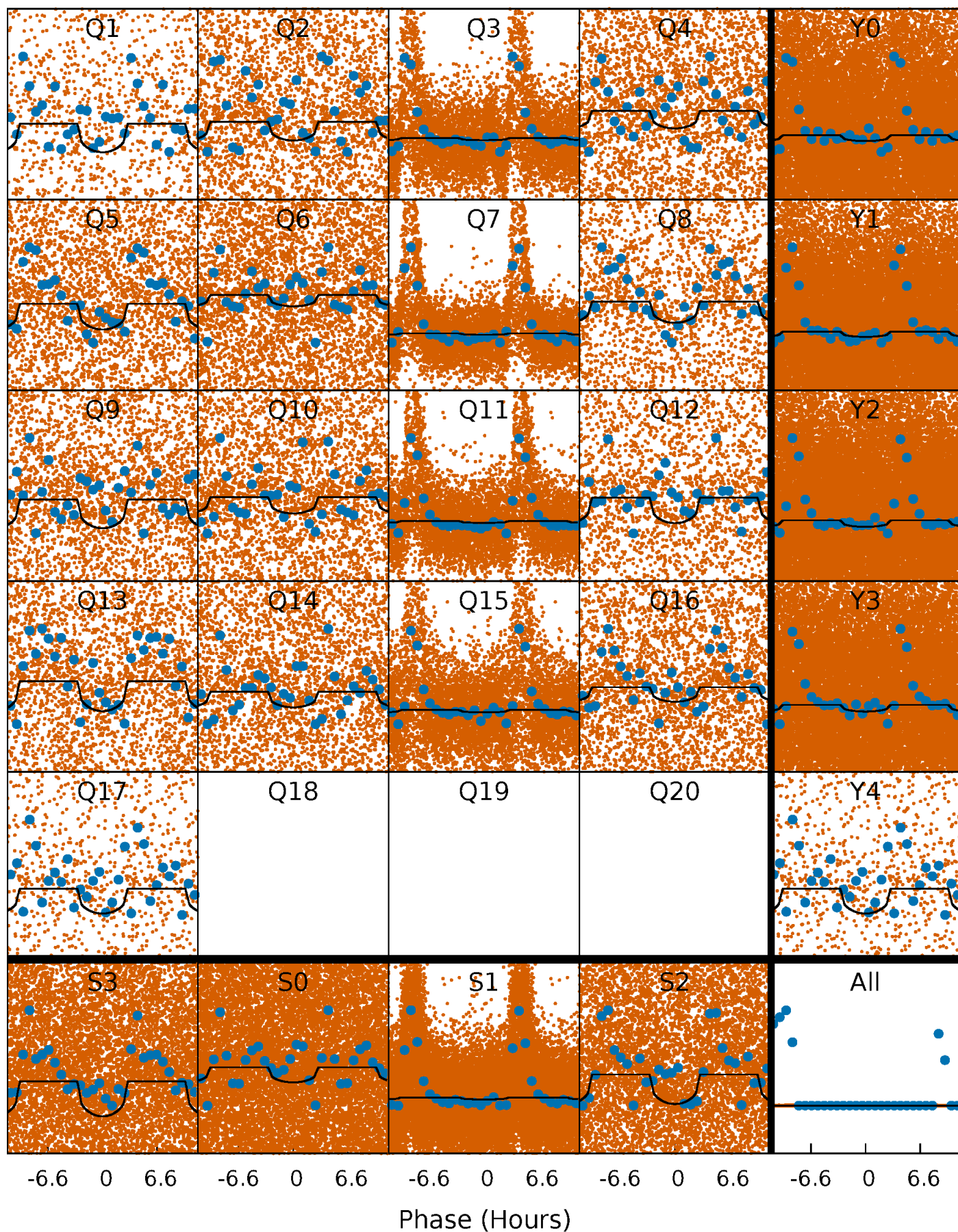
PDC Quarter-Phased Transit Curves

TCE 003448787-01 P= 0.543136 Days $T_0=131.727243$ (BKJD)



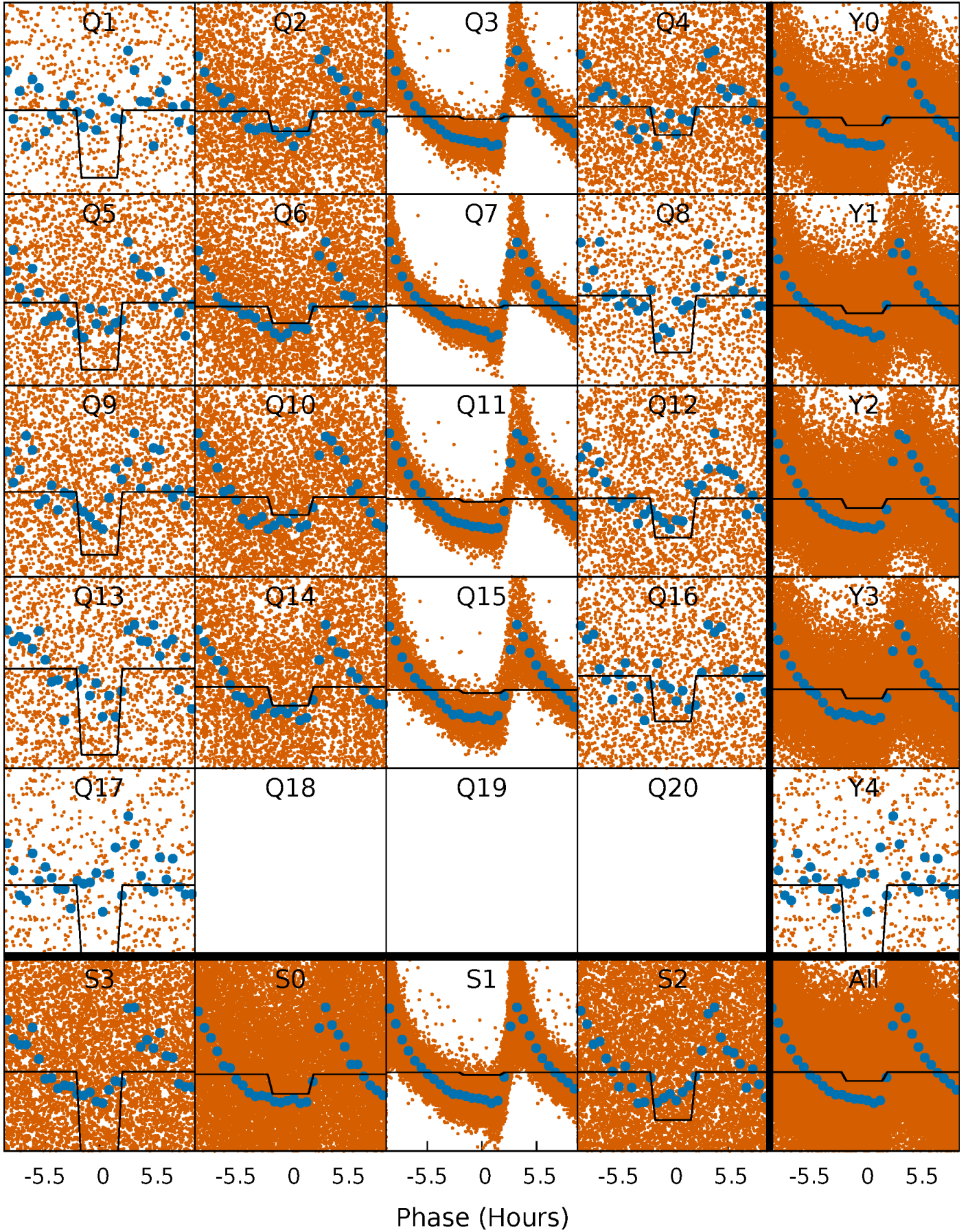
DV Quarter-Phased Transit Curves

TCE 003448787-01 P= 0.543136 Days $T_0=131.727243$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

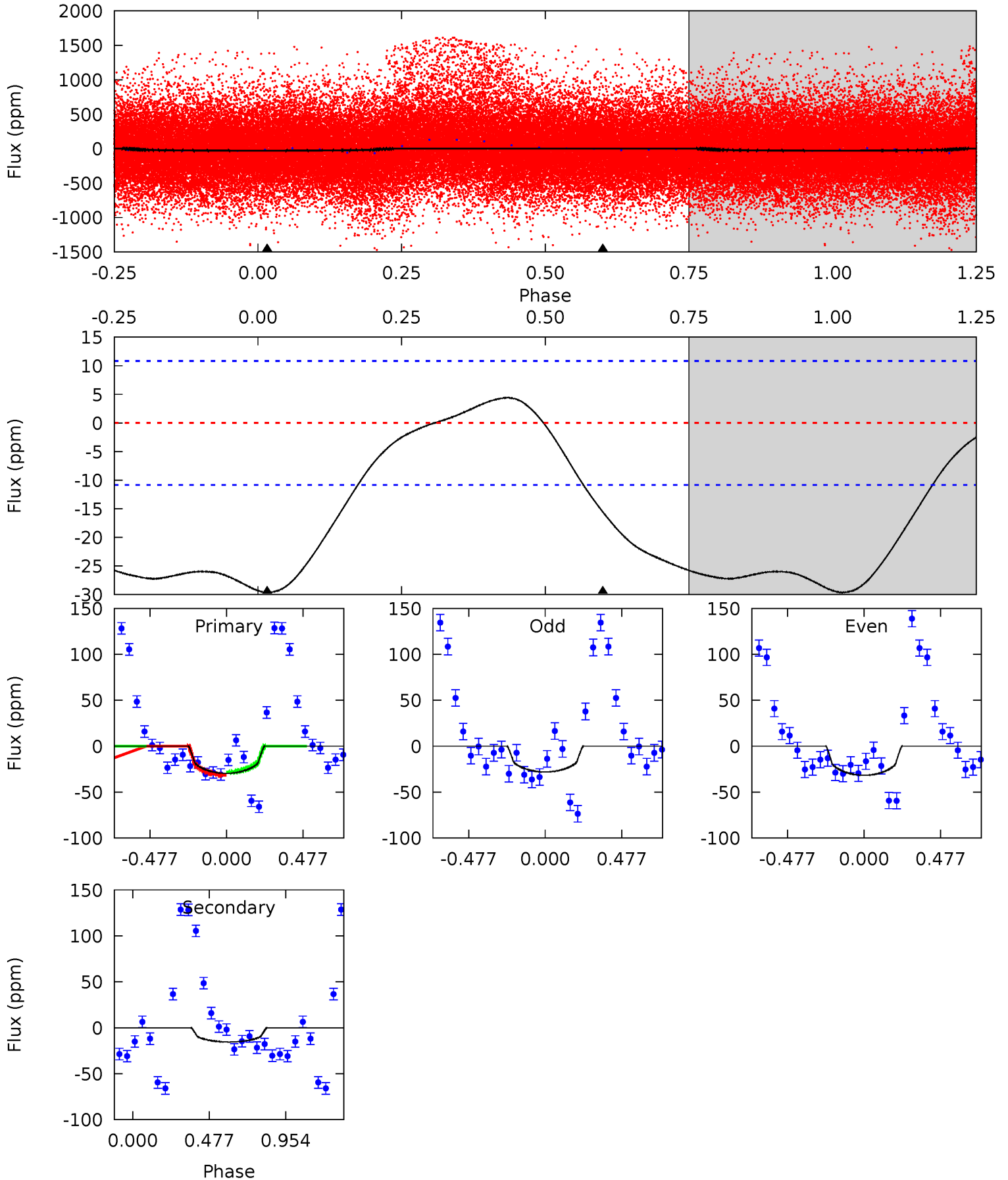
TCE 003448787-01 P= 0.543146 Days $T_0=131.747701$ (BKJD)



DV Model-Shift Uniqueness Test

003448787-01, P = 0.543136 Days, E = 131.184107 Days

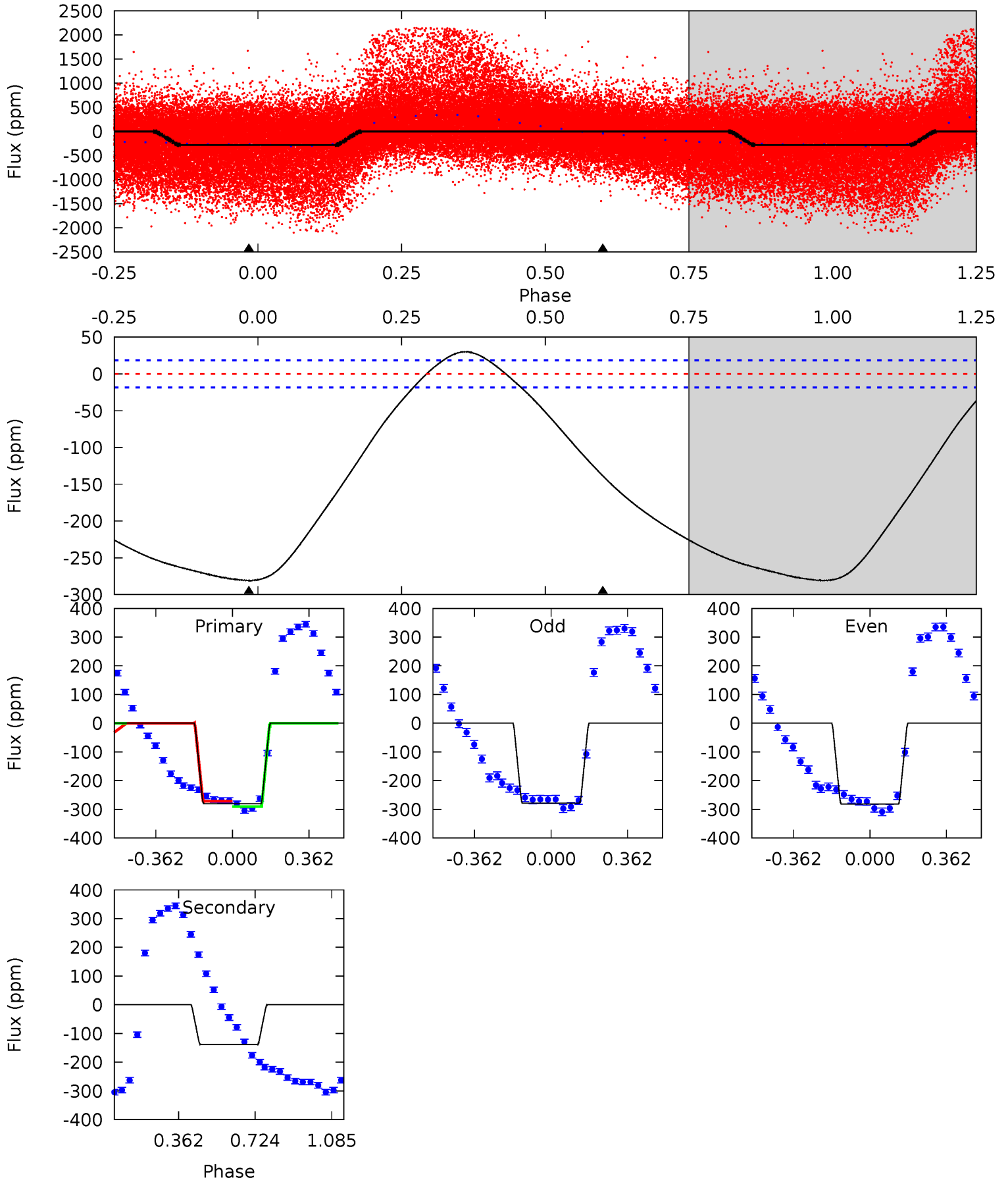
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 11.6 | 6.07 | 0 | 0 | 4.23 | 0.71 | 0.48 | 11.6 | 11.6 | 6.07 | 6.07 | 0.72 | 1.16 | 0.13 | 0.75 |



Alt Model-Shift Uniqueness Test

003448787-01, P = 0.543146 Days, E = 131.204555 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 | 32.3 | 0 | 0 | 4.29 | 0.91 | 5.50 | 65.6 | 65.6 | 32.3 | 32.3 | 0.39 | 2.33 | 0.10 | 2.64 |



Stellar Parameters For KIC 003448787

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6476^{+146}_{-211} | $4.426^{+0.060}_{-0.180}$ | $-0.300^{+0.250}_{-0.300}$ | $1.067^{+0.282}_{-0.121}$ | $1.105^{+0.146}_{-0.146}$ | $1.282^{+0.404}_{-0.640}$ |
| | +2%/-3% | +1%/-4% | +83%/-100% | +26%/-11% | +13%/-13% | +31%/-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 003448787-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|--------------|------------------------|----------------------|------------------------|----------------------------|
| DV | -16 ± 3 | $0.73^{+0.62}_{-0.46}$ | 3598^{+214}_{-163} | 5129^{+3693}_{-1326} | $2.960^{+17.255}_{-2.144}$ |
| Alt. | -138 ± 4 | $1.15^{+0.69}_{-0.56}$ | 3592^{+229}_{-166} | 7223^{+4043}_{-1581} | 11^{+27}_{-6} |

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

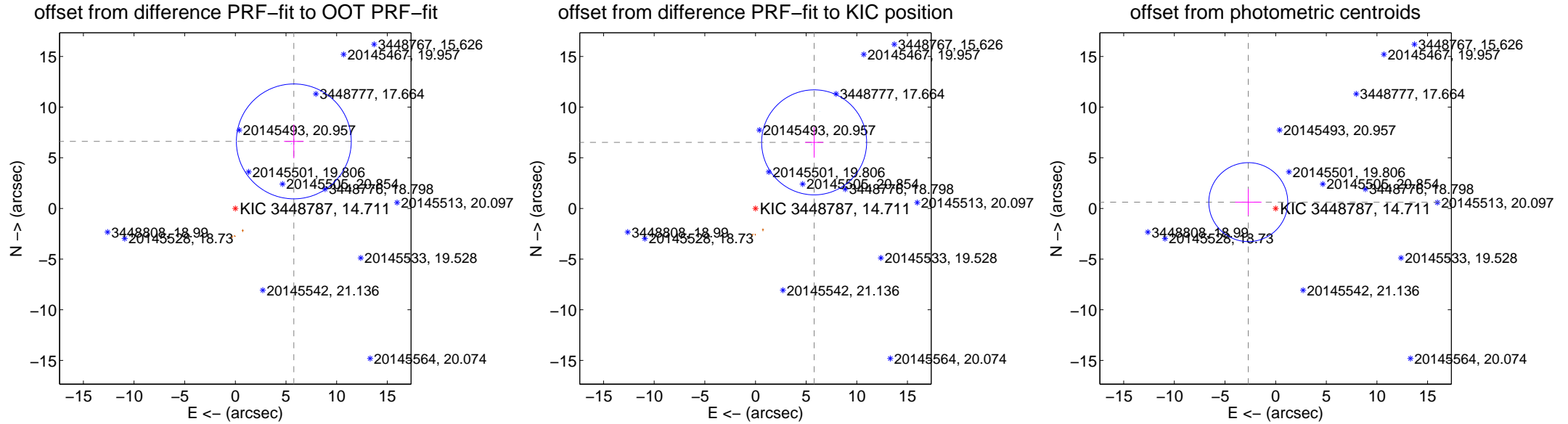
DV Centroid Data

Supplemental centroid analysis for 003448787-01. Kepler magnitude: 14.71. Transit SNR 11.17

There are 5 quarters with good PRF difference image offsets

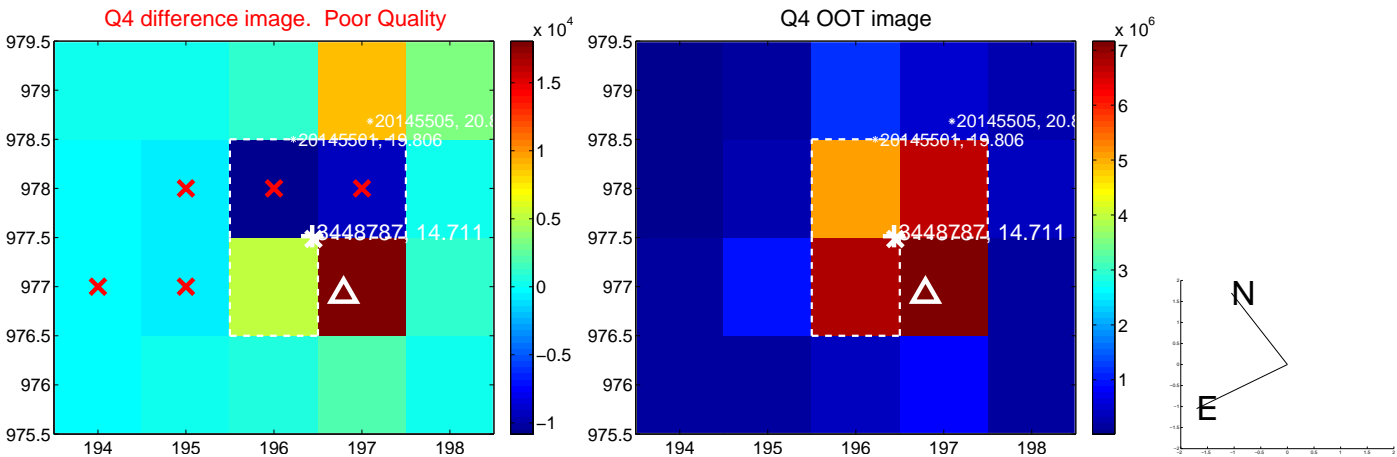
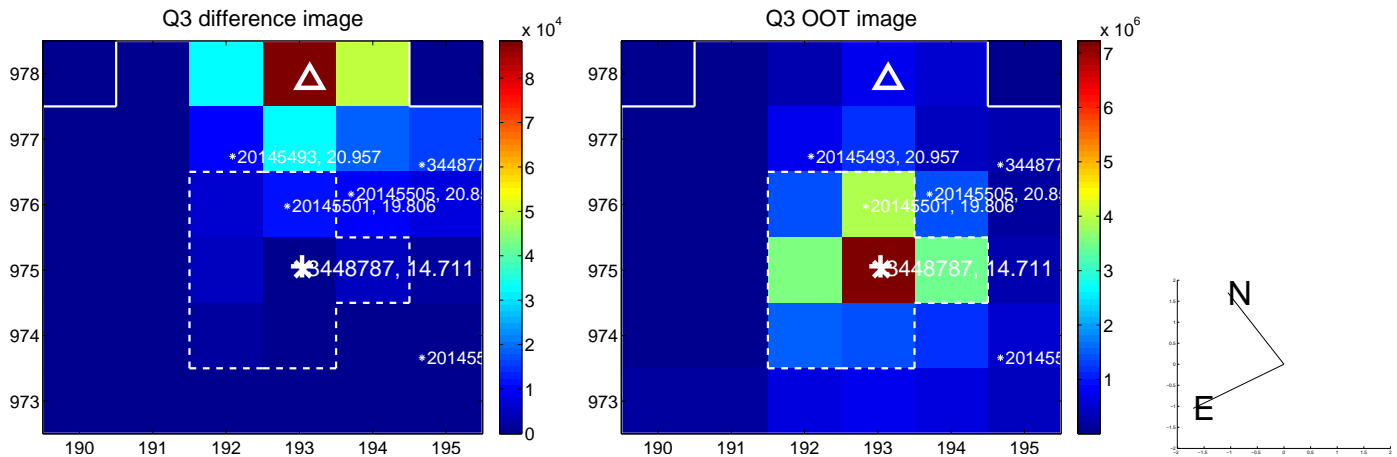
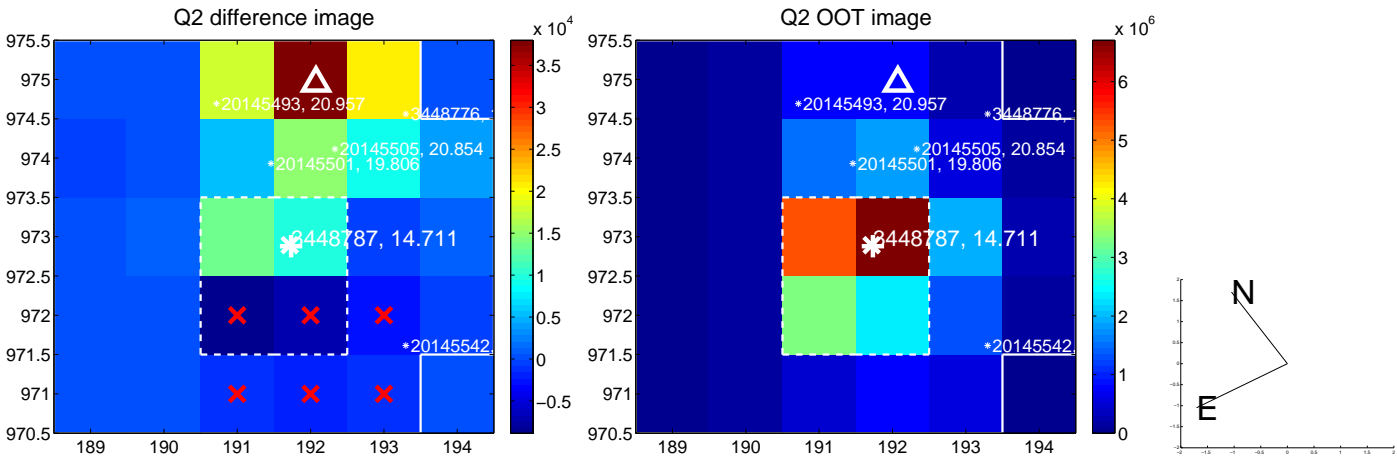
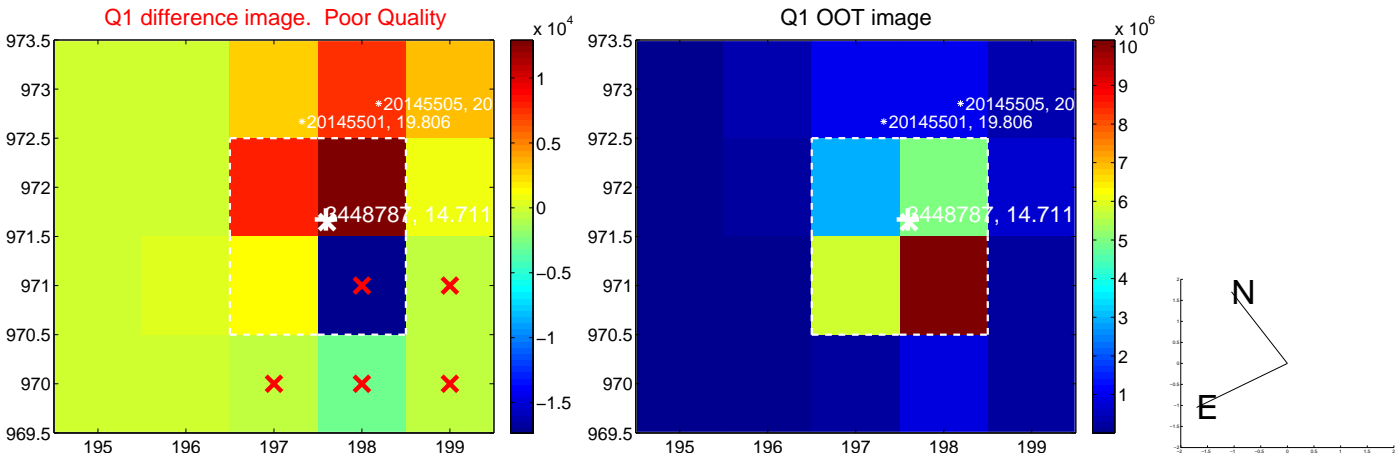
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 8.781 ± 1.890 | 4.65 | -5.773 ± 0.971 | 6.617 ± 1.665 |
| PRF-fit source offset from KIC position | 8.721 ± 1.728 | 5.05 | -5.788 ± 0.905 | 6.523 ± 1.513 |
| photometric centroid source offset | 2.77 ± 1.30 | 2.14 | 2.70 ± 1.30 | 0.62 ± 1.30 |

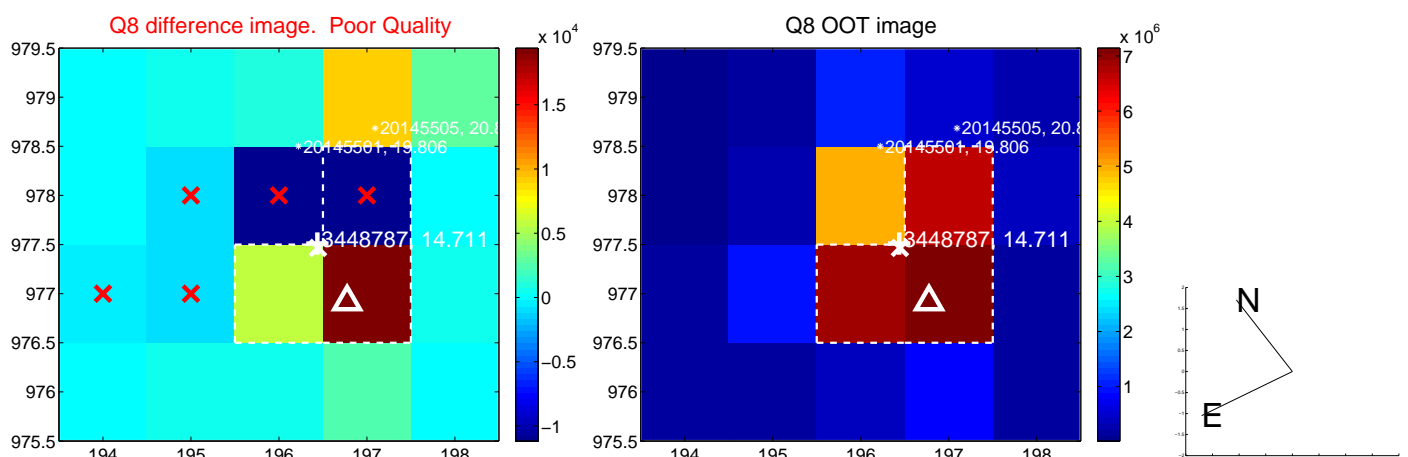
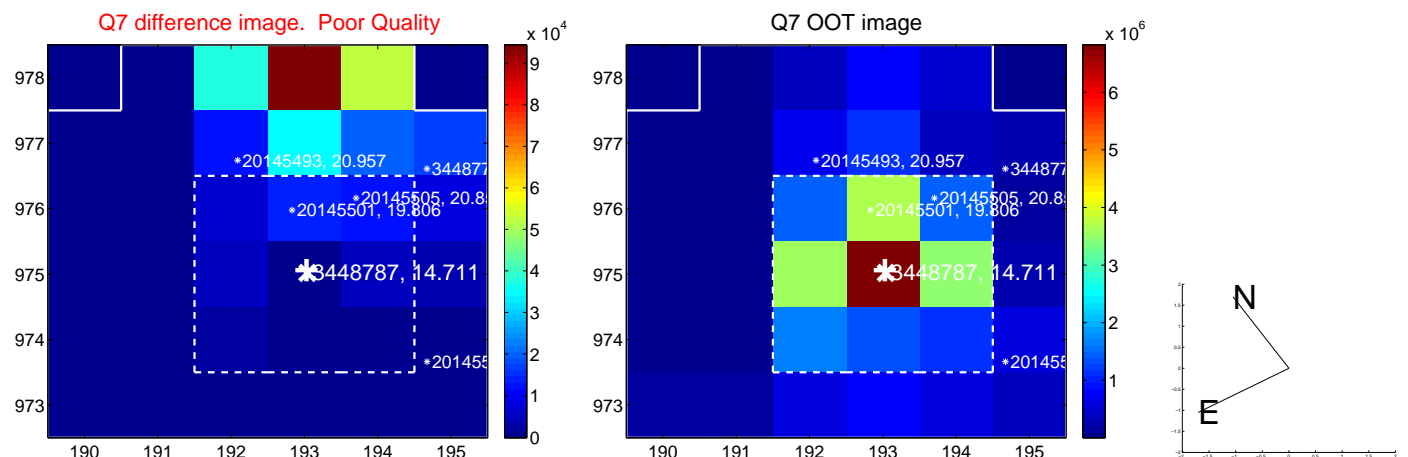
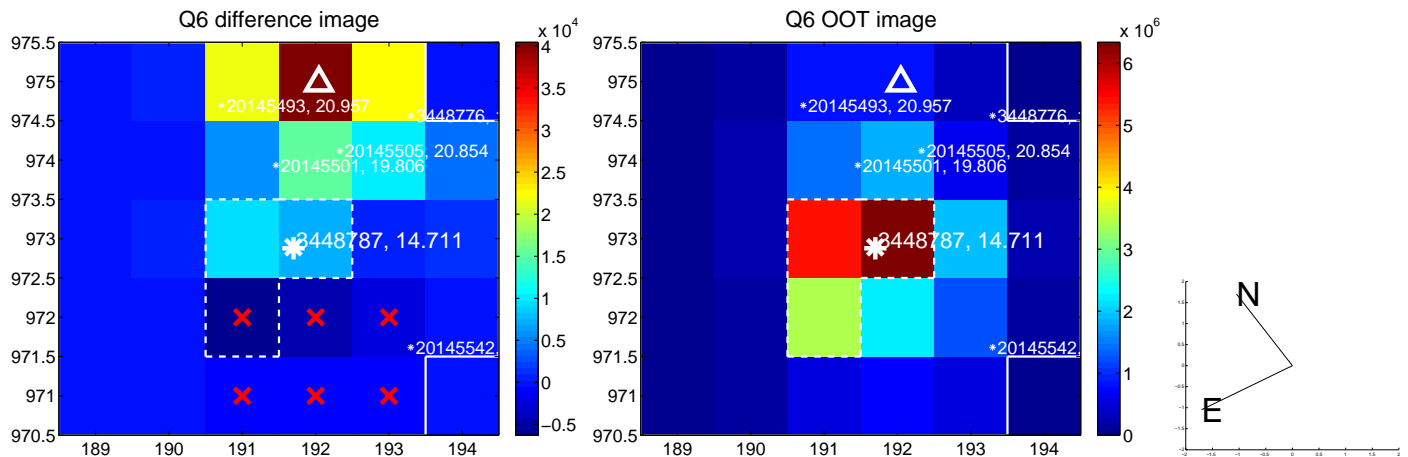
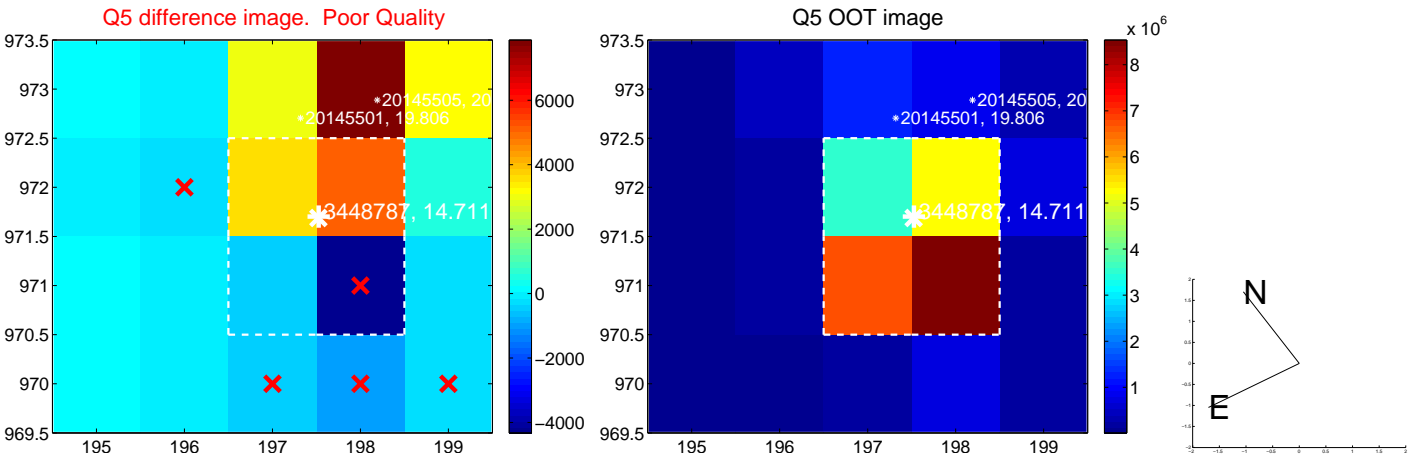


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

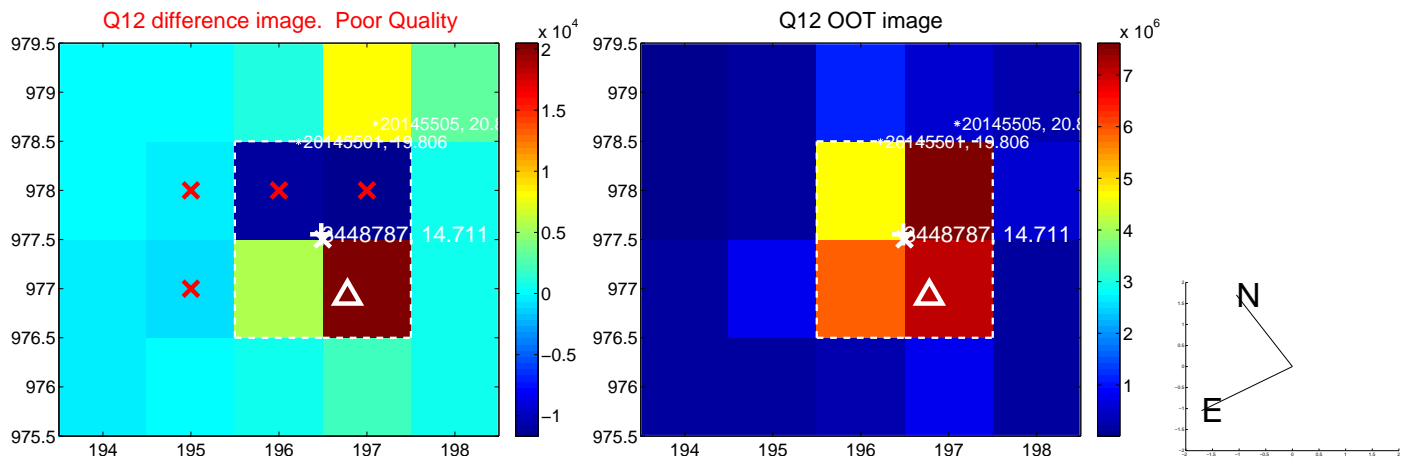
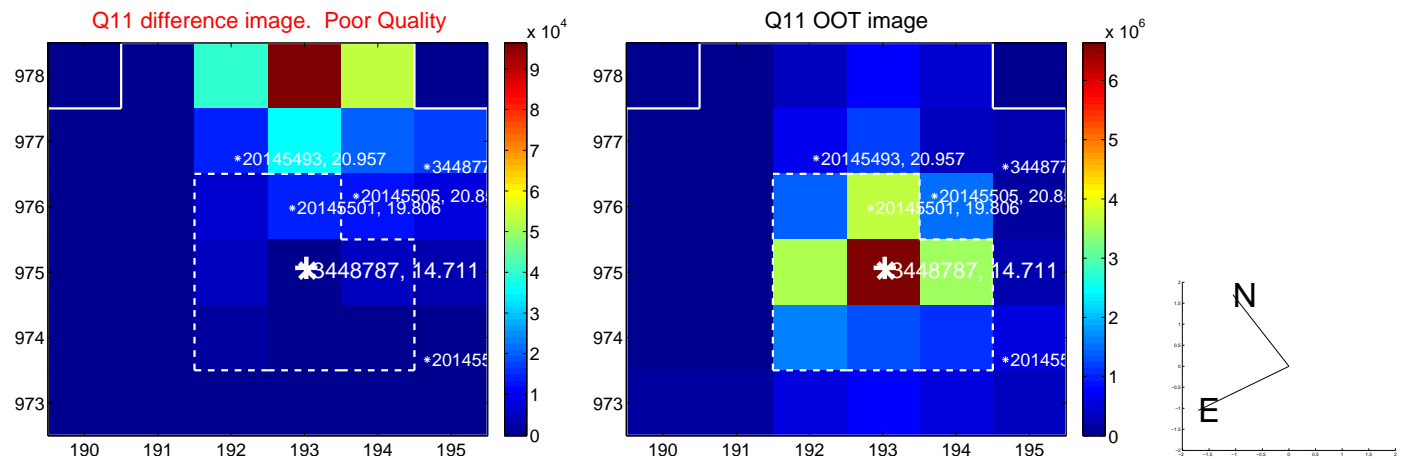
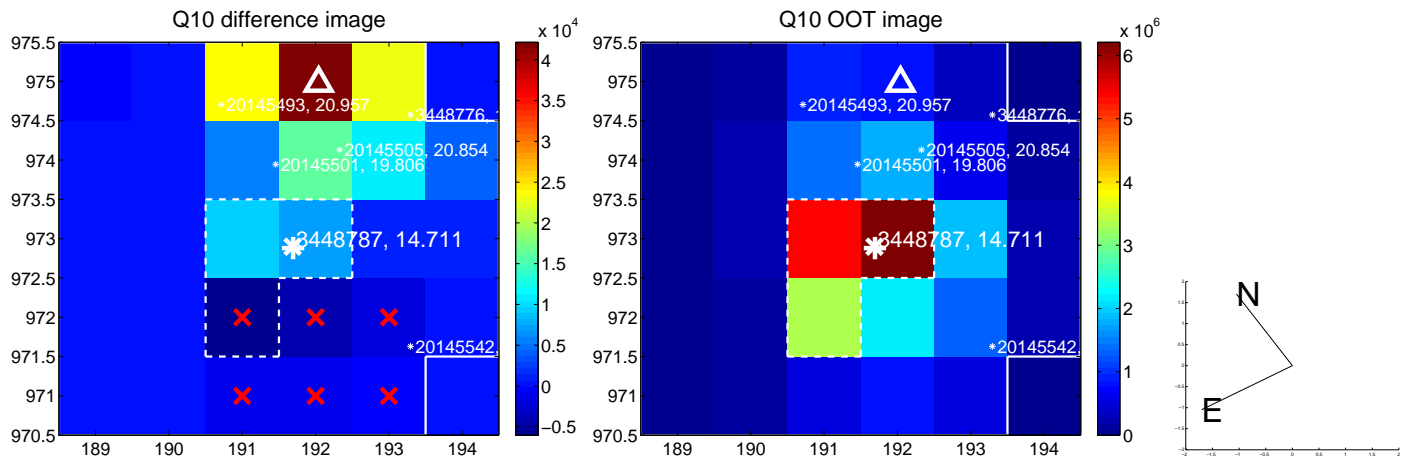
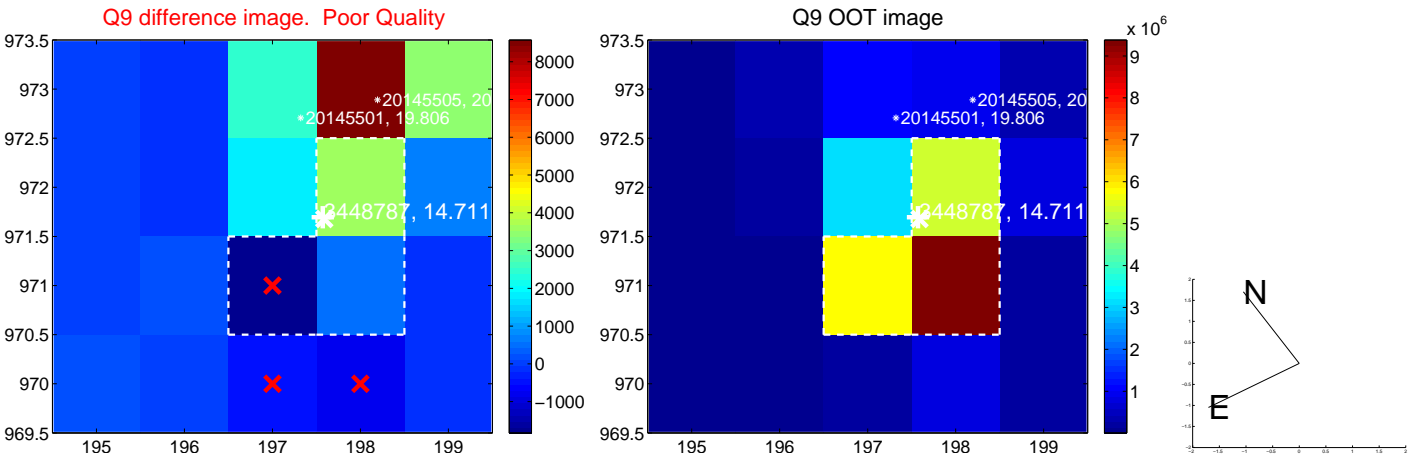
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



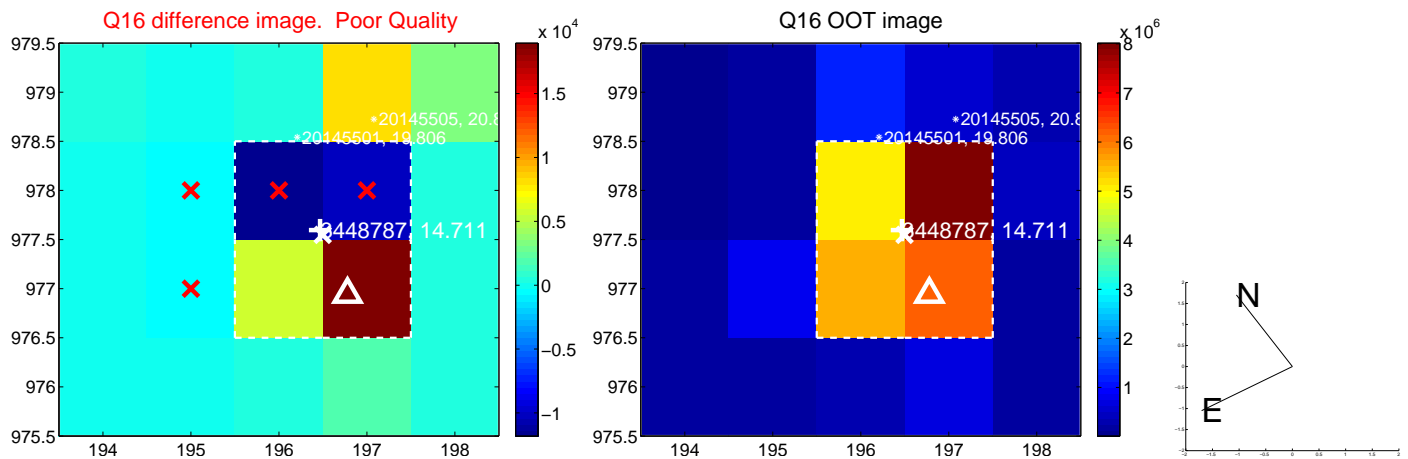
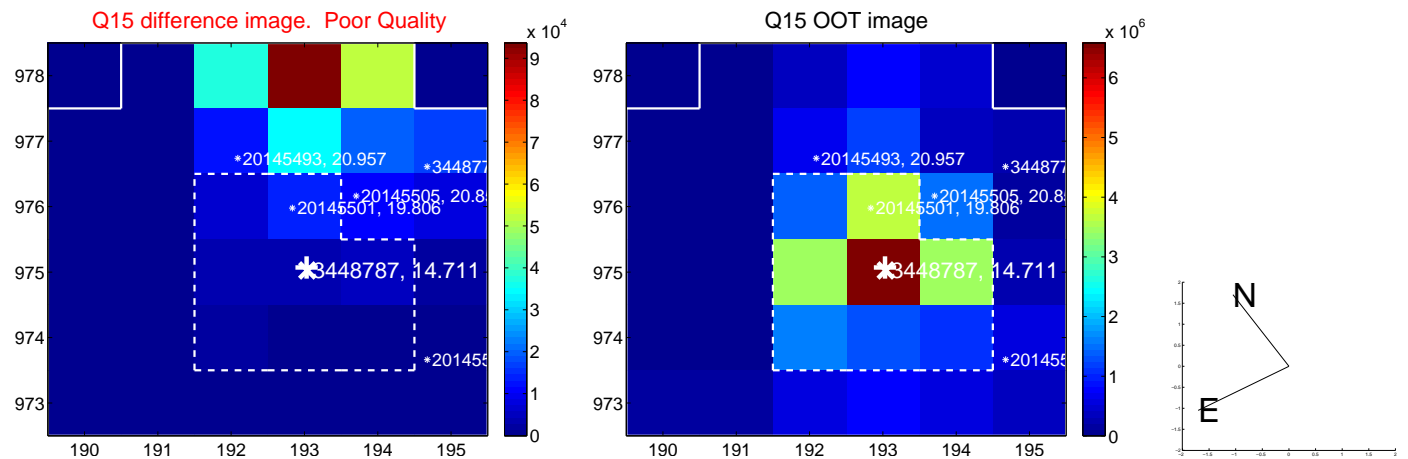
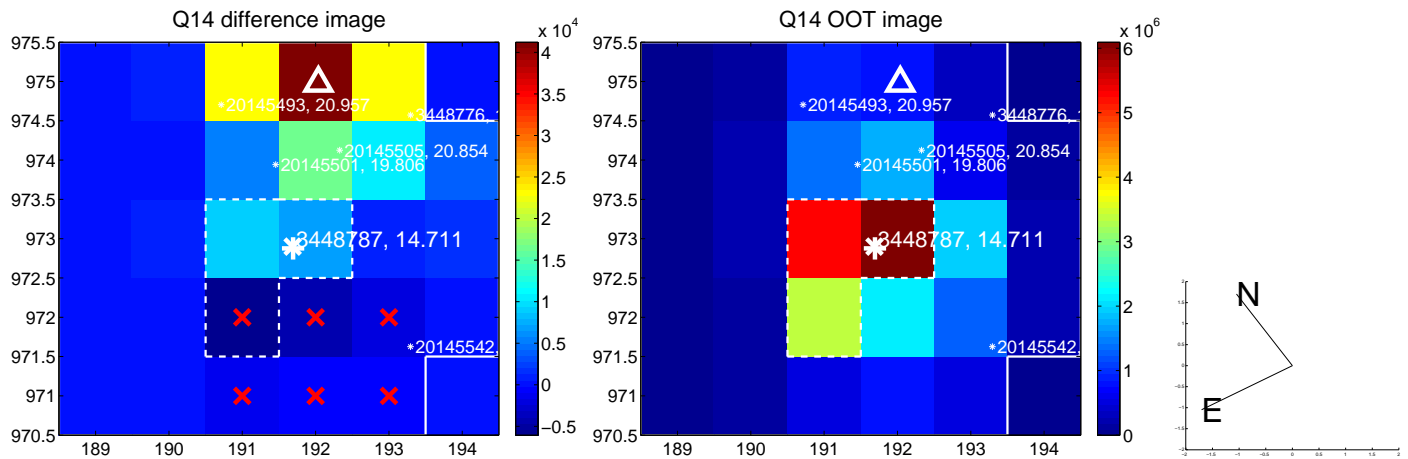
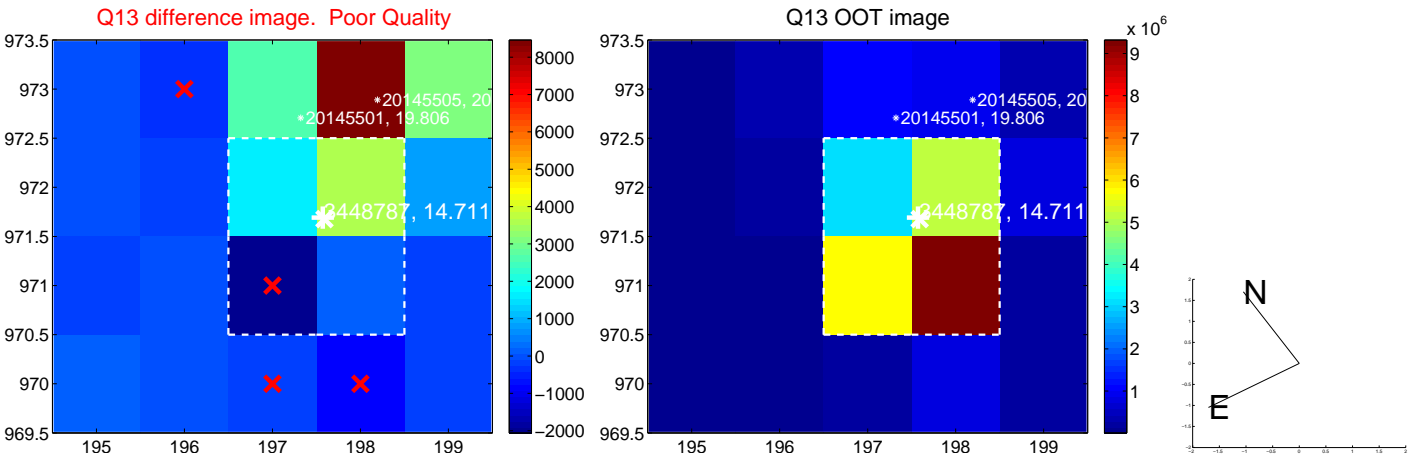
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



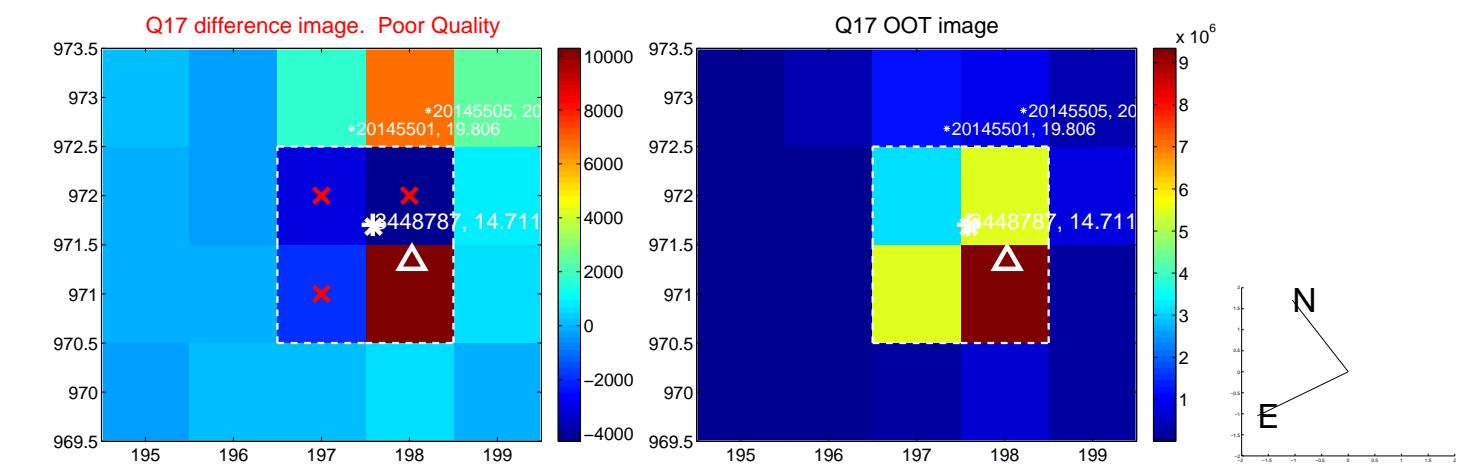
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



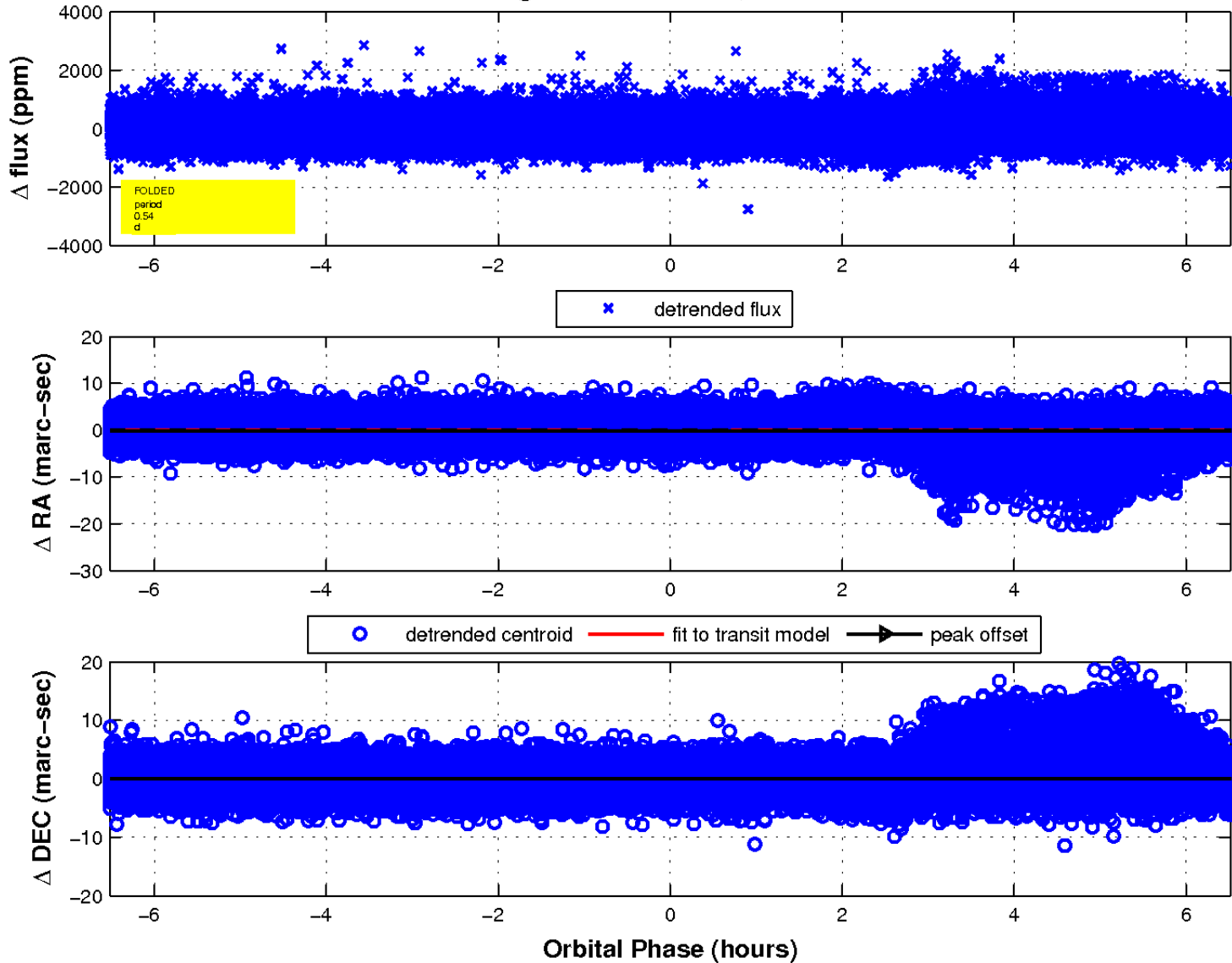
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

