

KIC 006804648

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 006804648-01 | OBS | 6771.01 | 0.700596 | 131.606935 | 20.8 | 0.906 | 7.8 | 8.8 | 2.45 | 6280 | 1.32 | 28494.98 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 006804648-01 | OBS | FP | 0.00 | 0 | 1 | 1 | 0 | MOD_SEC_DV—MOD_SEC_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.

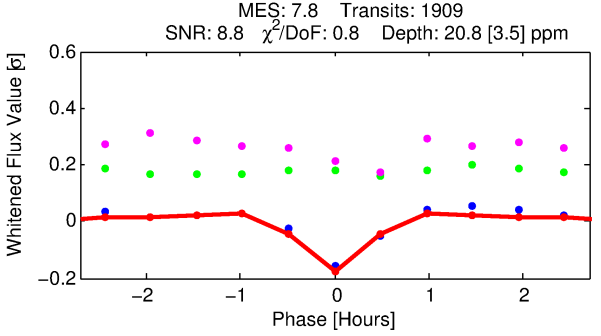
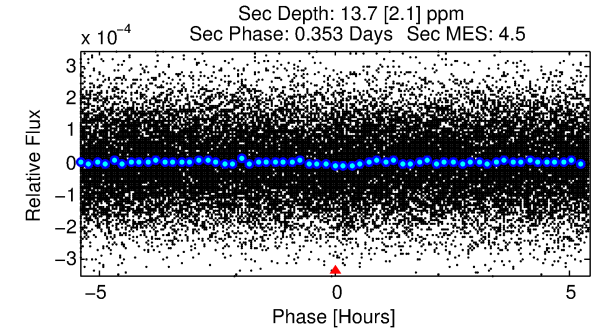
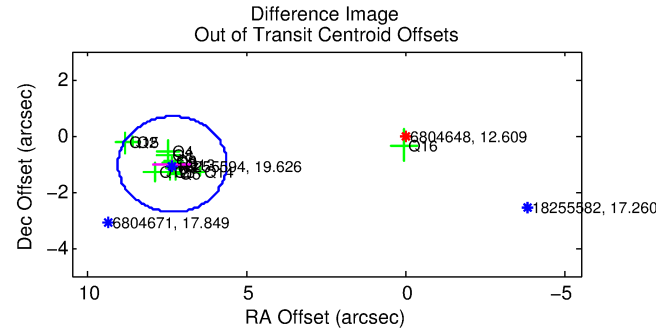
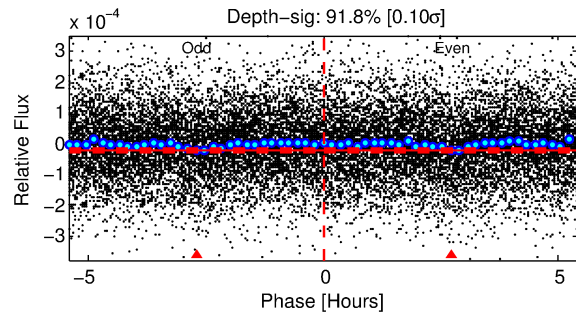
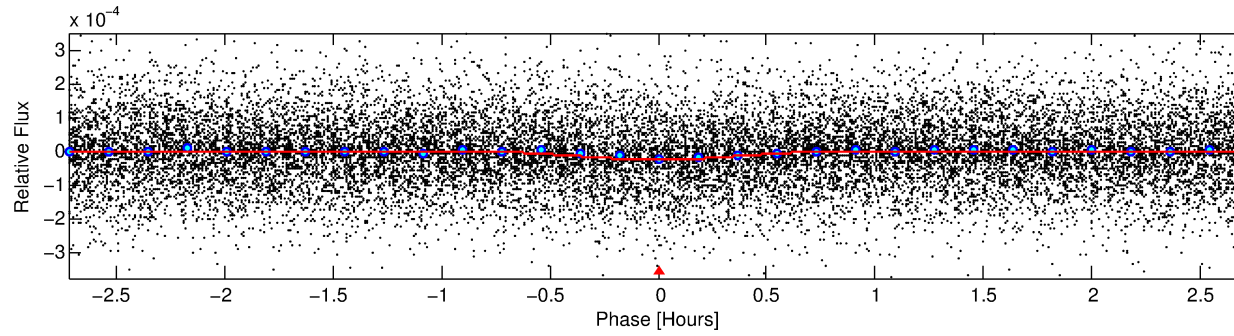
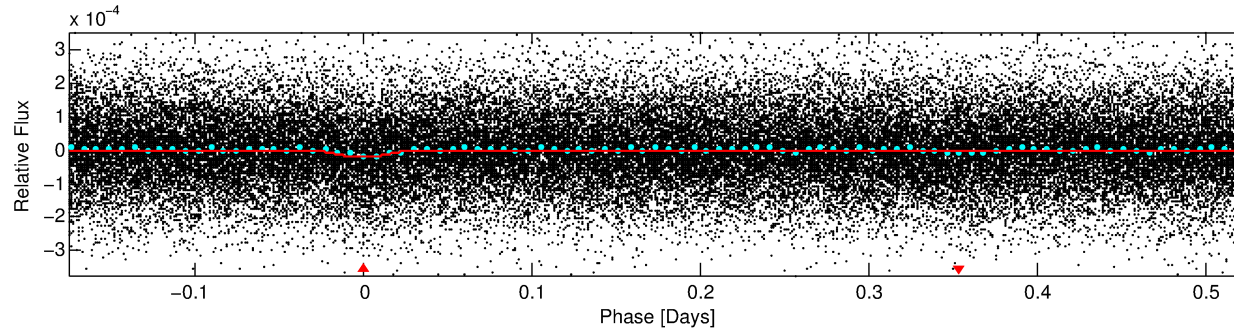
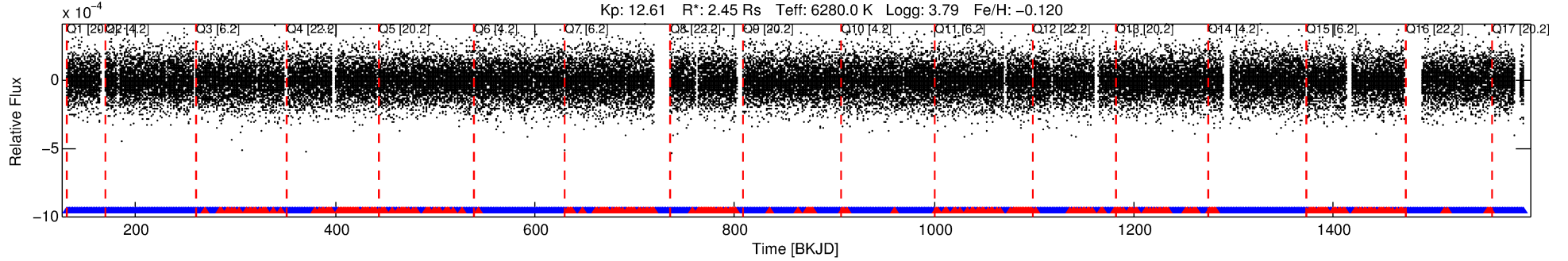
Ephemeris Match Information For 006804648-01

No Significant Match Found

DV One-Page Summary

KIC: 6804648 Candidate: 1 of 1 Period: 0.701 d
KOI: K06771 Corr: No Ephemeris Match

Kp: 12.61 R*: 2.45 Rs Teff: 6280.0 K Logg: 3.79 Fe/H: -0.120



DV Fit Results:

Period = 0.70060 [0.00001] d
Epoch = 131.6069 [0.0017] BKJD
Rp/R* = 0.0049 [0.0011]
a/R* = 2.77 [2.93]
b = 0.90 [0.25]
Seff = 28494.98 [15353.74]
Teq = 3313 [446] K
Rp = 1.32 [0.57] Re
a = 0.0171 [0.0058] AU
Ag = 1.27 [0.91] [0.29σ]
Teffp = 5435 [673] K [2.63σ]

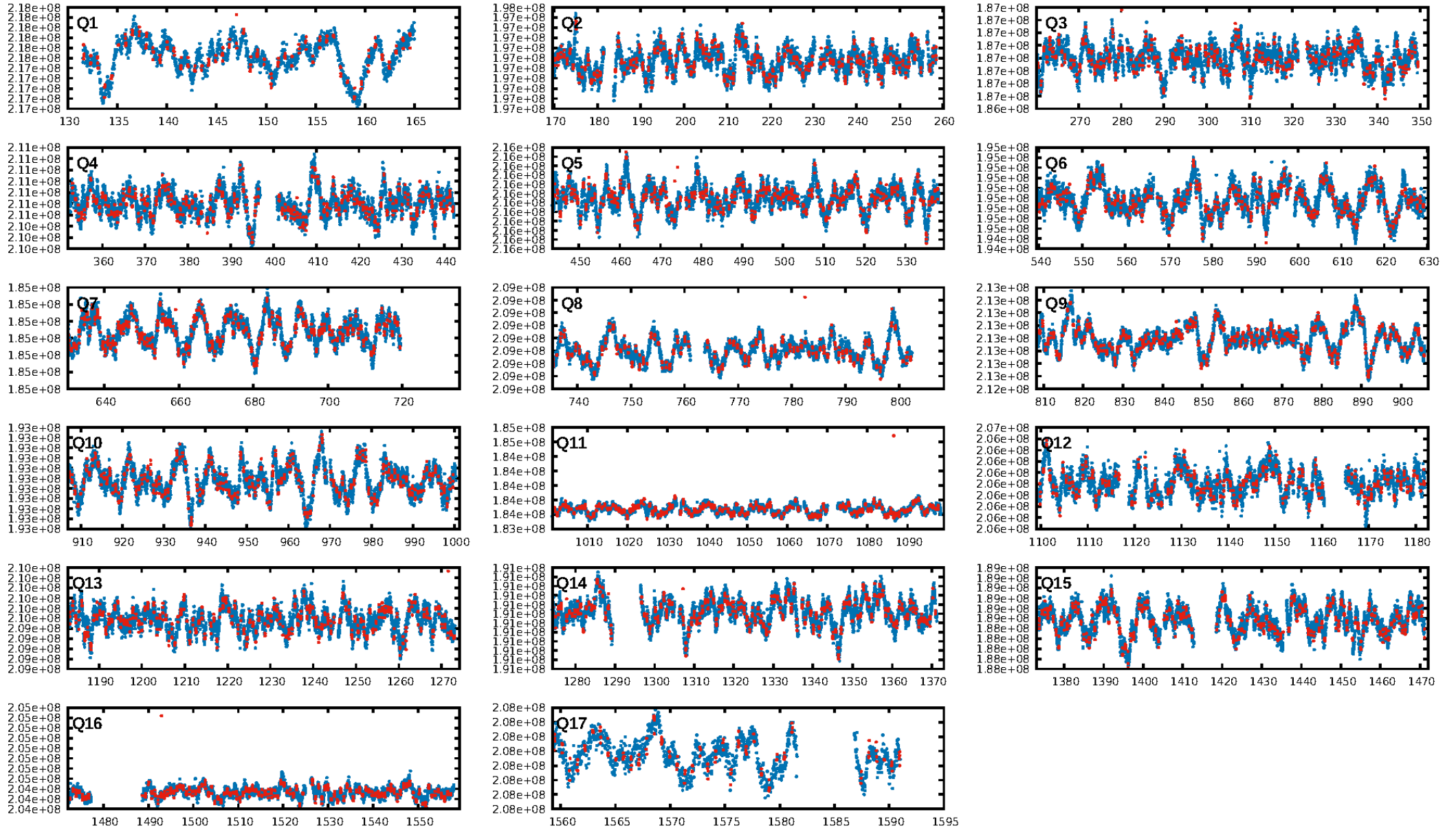
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.47e-13
RollingBand-fgt: 0.81 [1472/1823]
GhostDiagnostic-chr: 0.003995
Centroid-sig: 0.0%
Centroid-so: 10.516 arcsec [8.54σ]
OotOffset-rm: 7.413 arcsec [13.05σ]
KicOffset-rm: 7.418 arcsec [14.39σ]
OotOffset-st: 3/3/4/3 [13]
KicOffset-st: 3/3/4/3 [13]
DiffImageQuality-fgm: 0.77 [10/13]
DiffImageOverlap-fno: 1.00 [17/17]

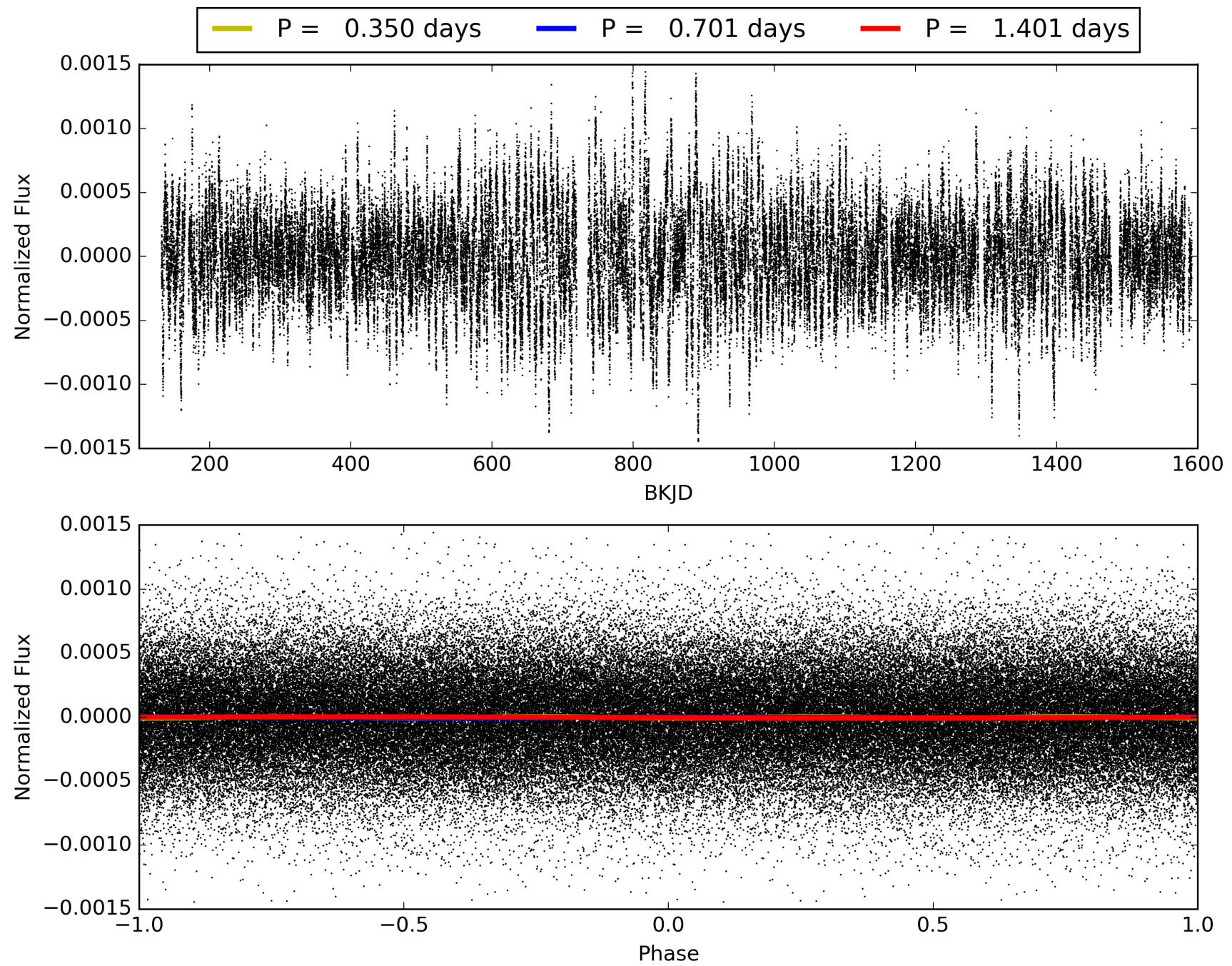
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:26:35 Z

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

TCE 006804648-01, PDC Light Curves

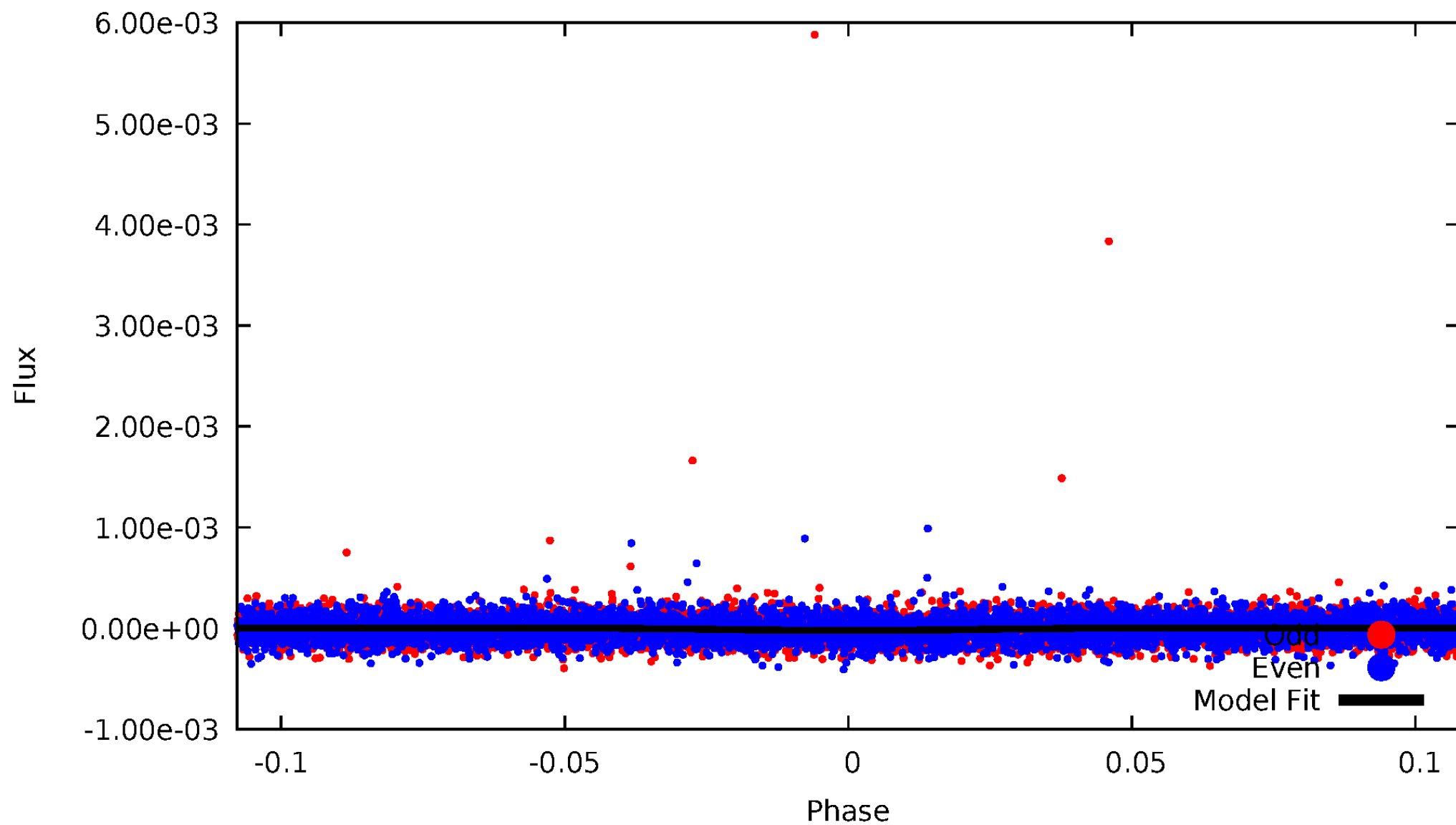


TCE 006804648-01



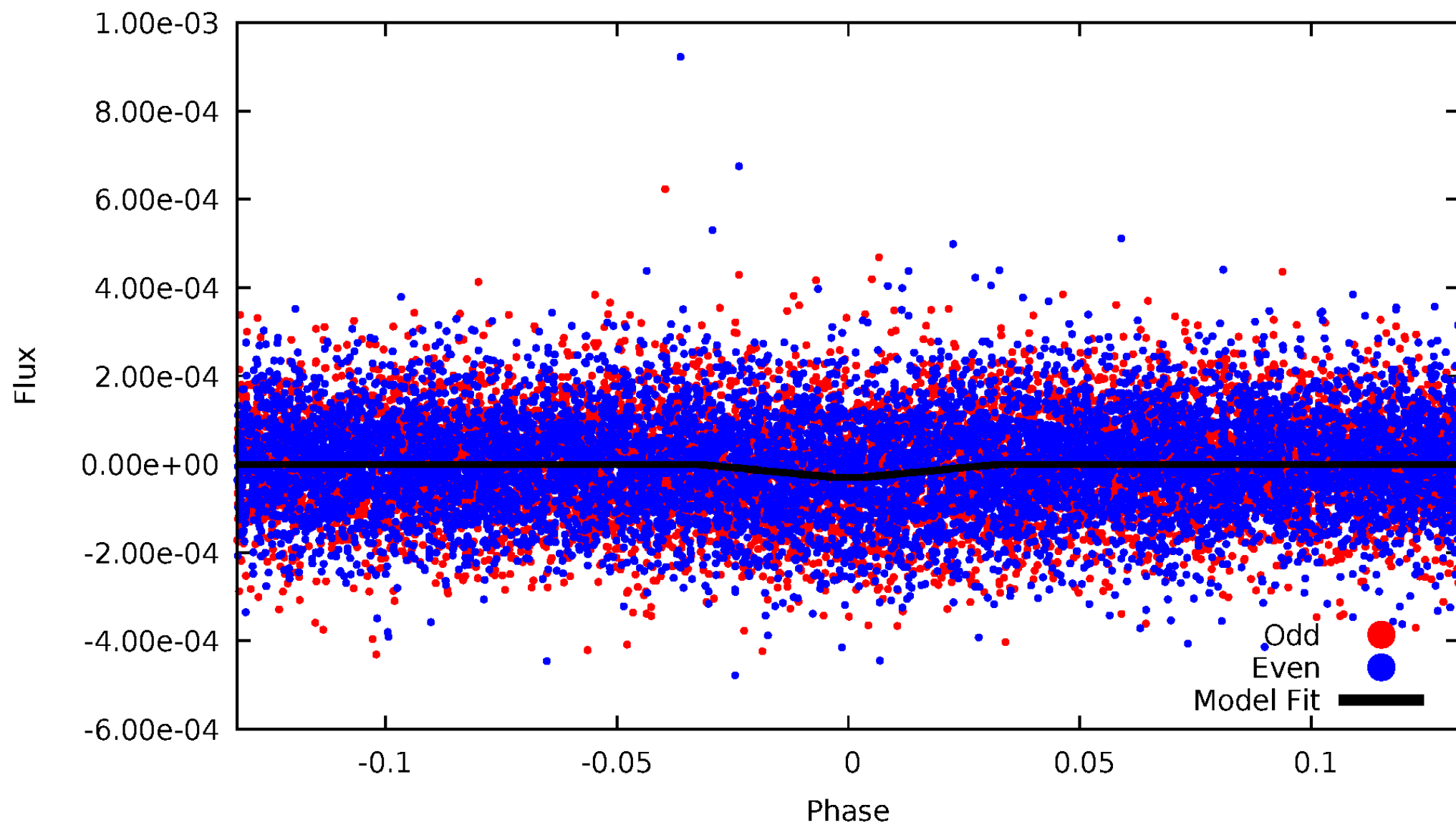
DV Odd/Even

TCE 006804648-01



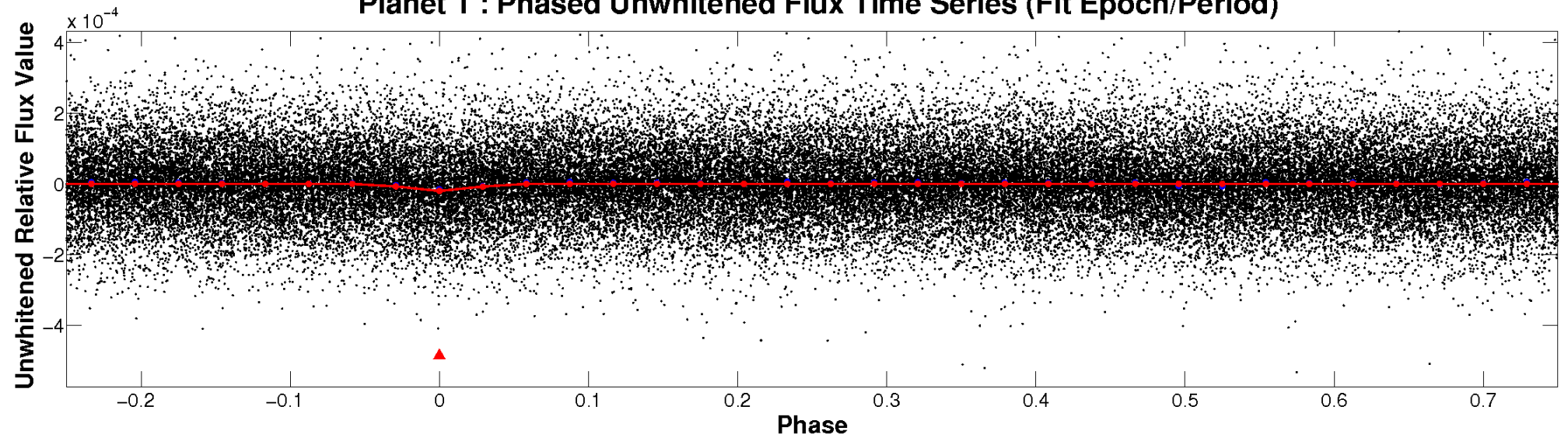
ALT Odd/Even

TCE 006804648-01

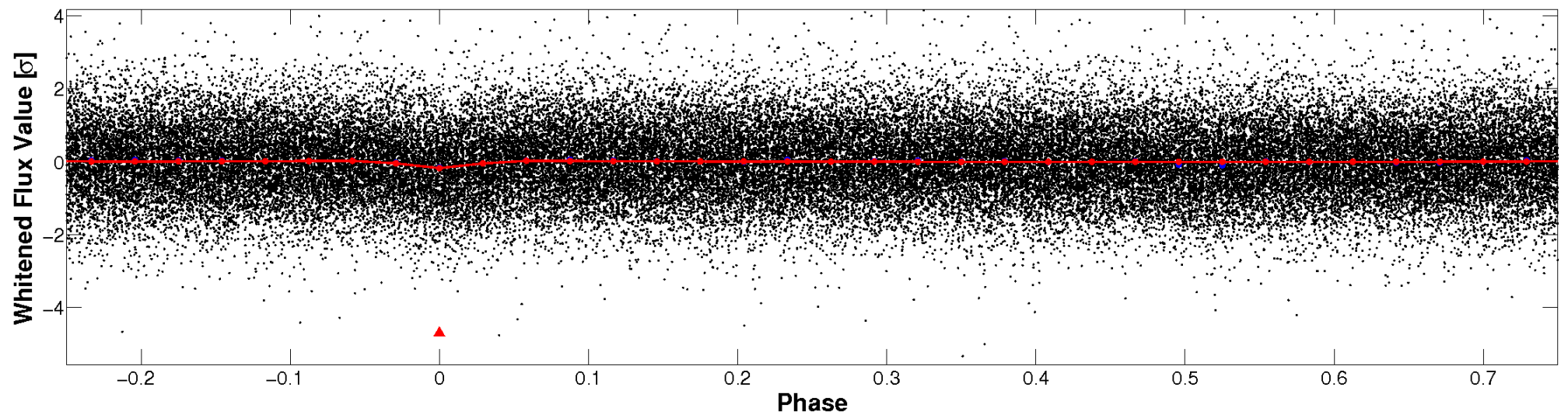


Non-Whitened Vs. Whitened Light Curve

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

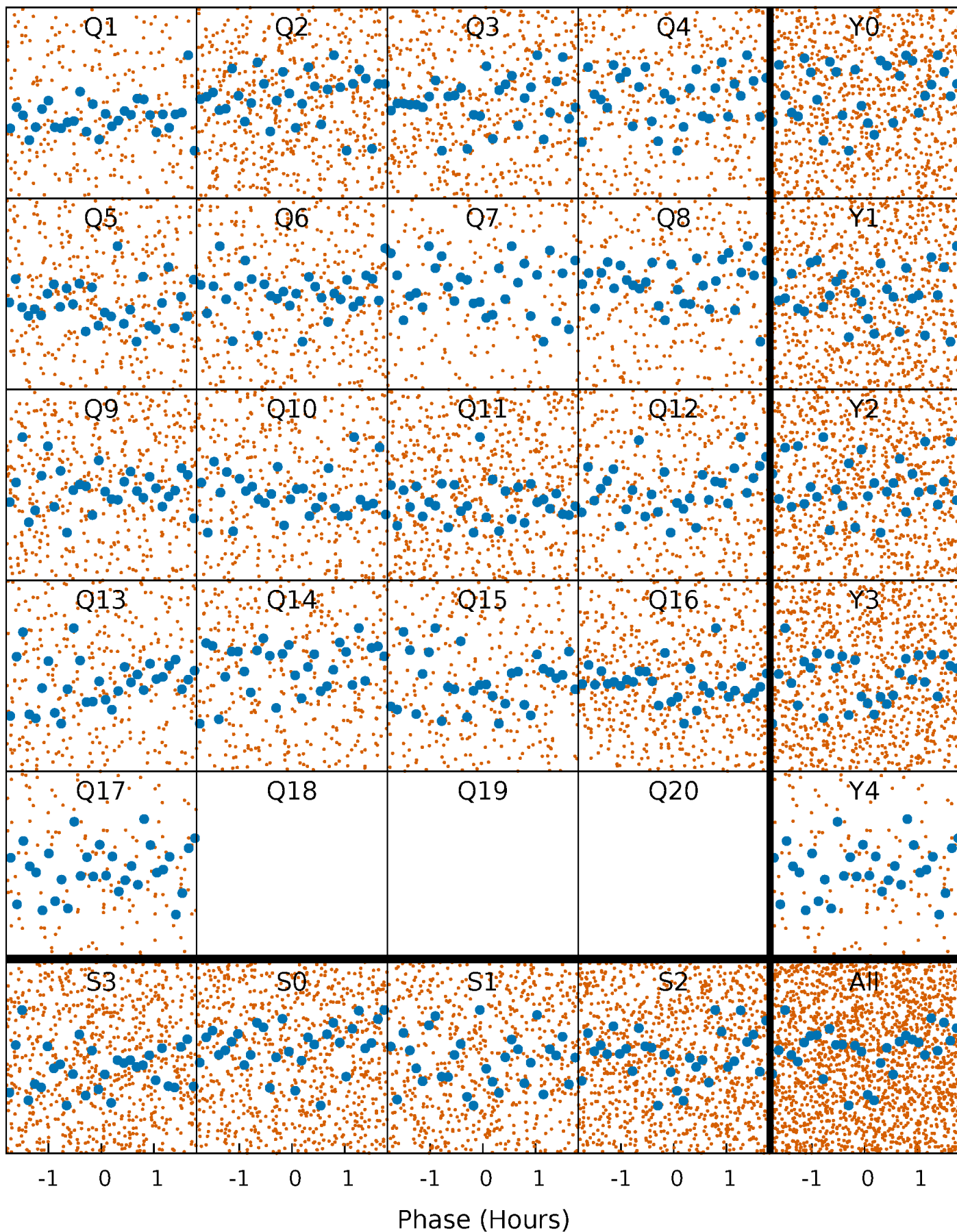


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



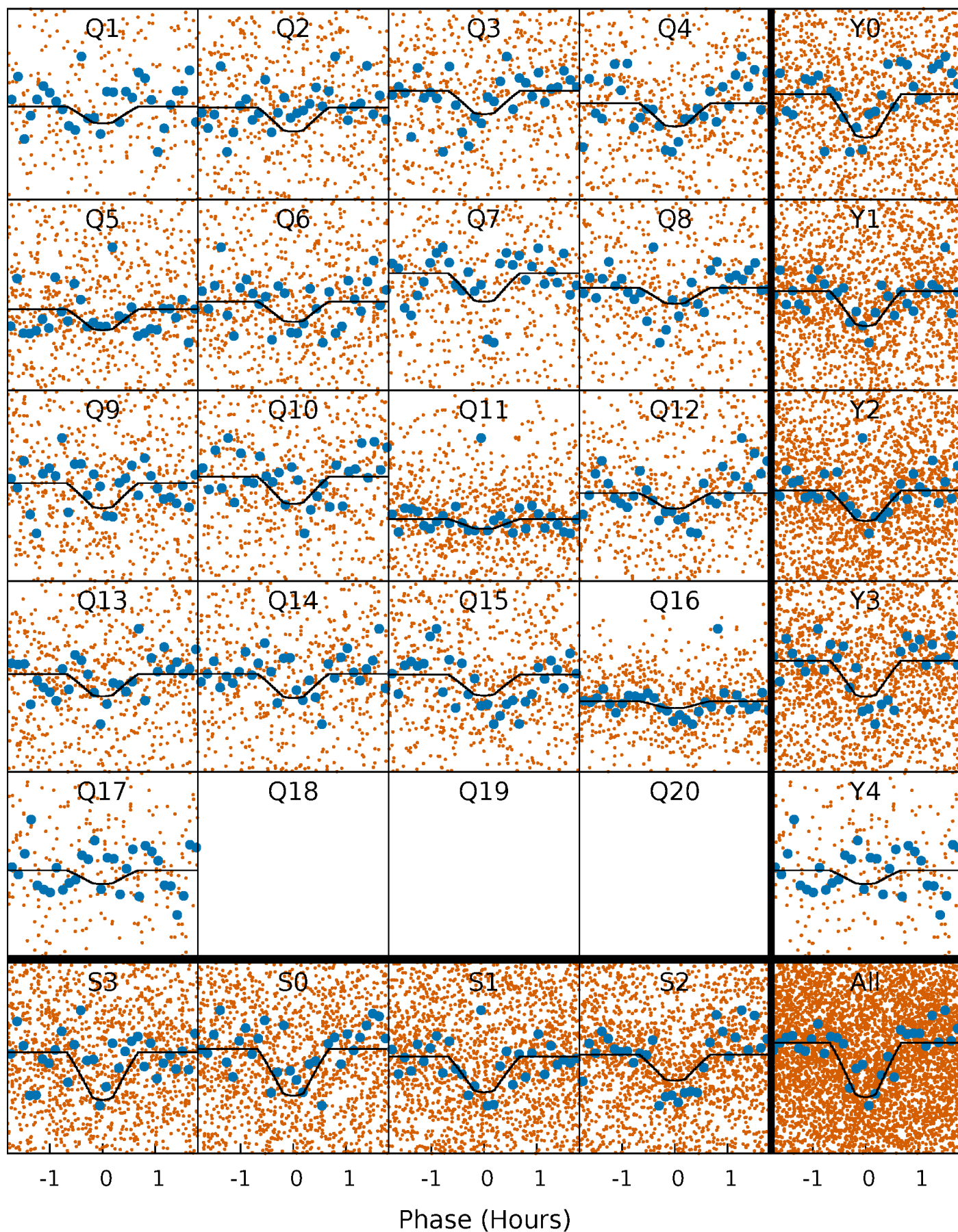
PDC Quarter-Phased Transit Curves

TCE 006804648-01 P= 0.700596 Days $T_0=131.606935$ (BKJD)



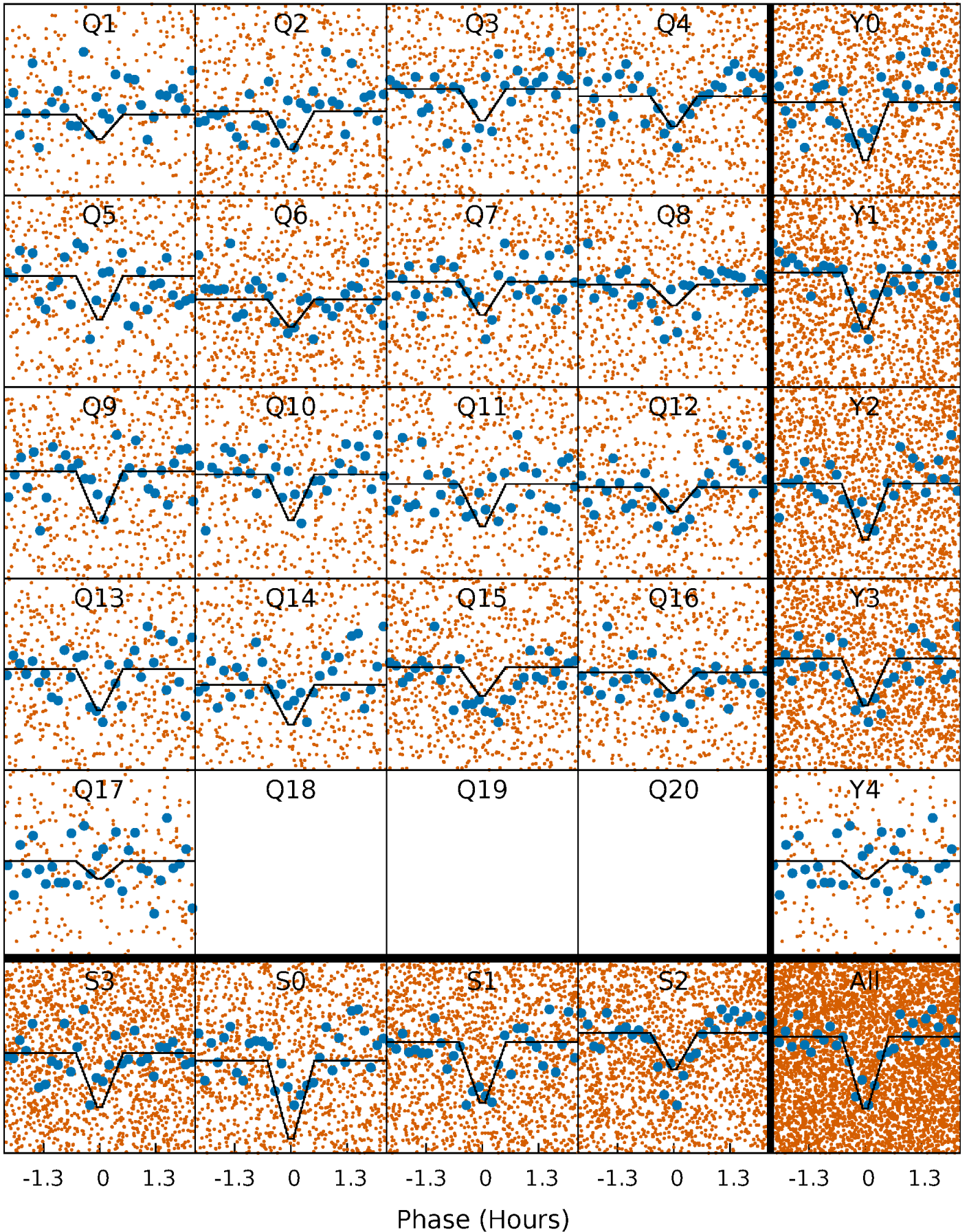
DV Quarter-Phased Transit Curves

TCE 006804648-01 P= 0.700596 Days $T_0=131.606935$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

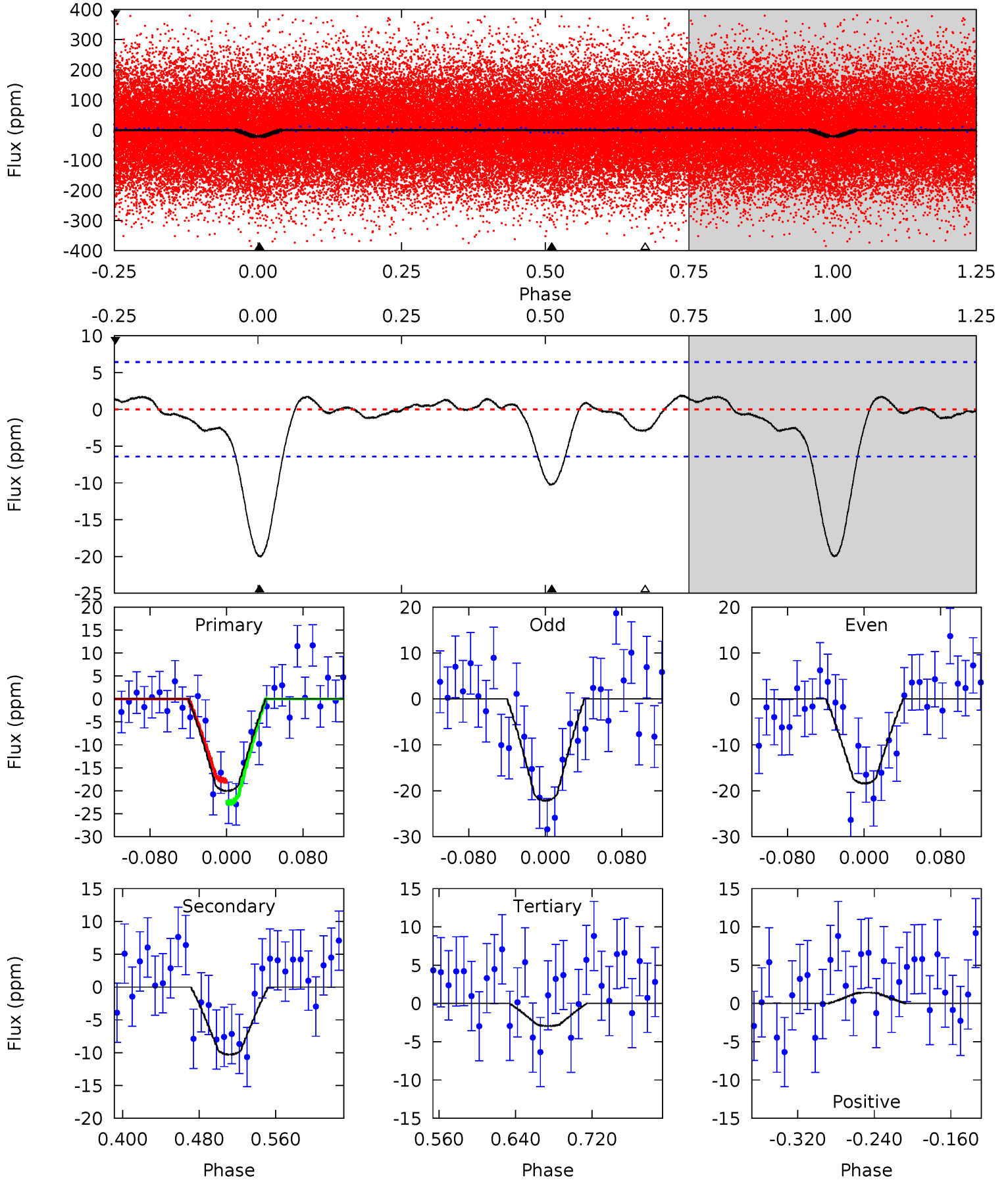
TCE 006804648-01 P= 0.700600 Days $T_0=131.604656$ (BKJD)



DV Model-Shift Uniqueness Test

006804648-01, P = 0.700596 Days, E = 130.906339 Days

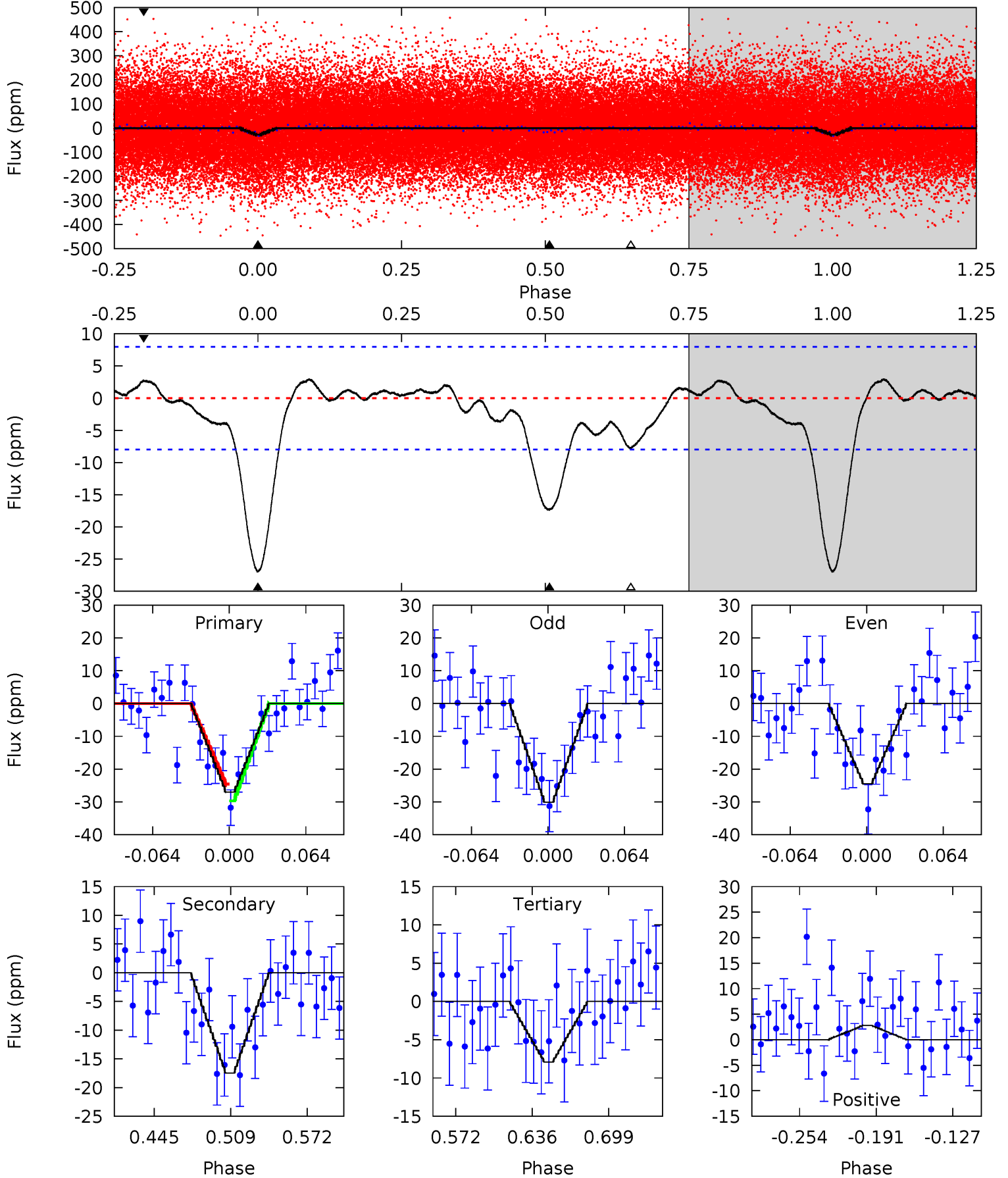
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 14.4 | 7.38 | 2.11 | 1.01 | 4.61 | 1.75 | 0.88 | 12.3 | 13.4 | 5.27 | 6.37 | 1.34 | 0.79 | 0.09 | 1.74 |



Alt Model-Shift Uniqueness Test

006804648-01, P = 0.700600 Days, E = 130.904056 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 15.8 | 10.2 | 4.61 | 1.65 | 4.66 | 1.86 | 1.52 | 11.2 | 14.1 | 5.58 | 8.54 | 1.64 | 0.92 | 0.10 | 1.50 |



Stellar Parameters For KIC 006804648

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|--|
| | 6280^{+172}_{-172} | $3.795^{+0.304}_{-0.095}$ | $-0.120^{+0.300}_{-0.250}$ | $2.449^{+0.452}_{-0.904}$ | $1.366^{+0.229}_{-0.255}$ | $0.131^{+0.272}_{-0.041}$ |
| | +3%/-3% | +8%/-3% | +250%/-208% | +18%/-37% | +17%/-19% | +208%/-31% |
| Source | PHO1 | FLK73 | 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 006804648-01 / KOI 6771.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|----------------------|---------------------------|
| DV | -10 ± 1 | $1.26^{+0.34}_{-0.36}$ | 4537^{+281}_{-369} | 4753^{+757}_{-579} | $1.056^{+0.942}_{-0.410}$ |
| Alt. | -17 ± 2 | $1.37^{+0.37}_{-0.36}$ | 4530^{+260}_{-392} | 5269^{+718}_{-578} | $1.497^{+1.283}_{-0.561}$ |

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

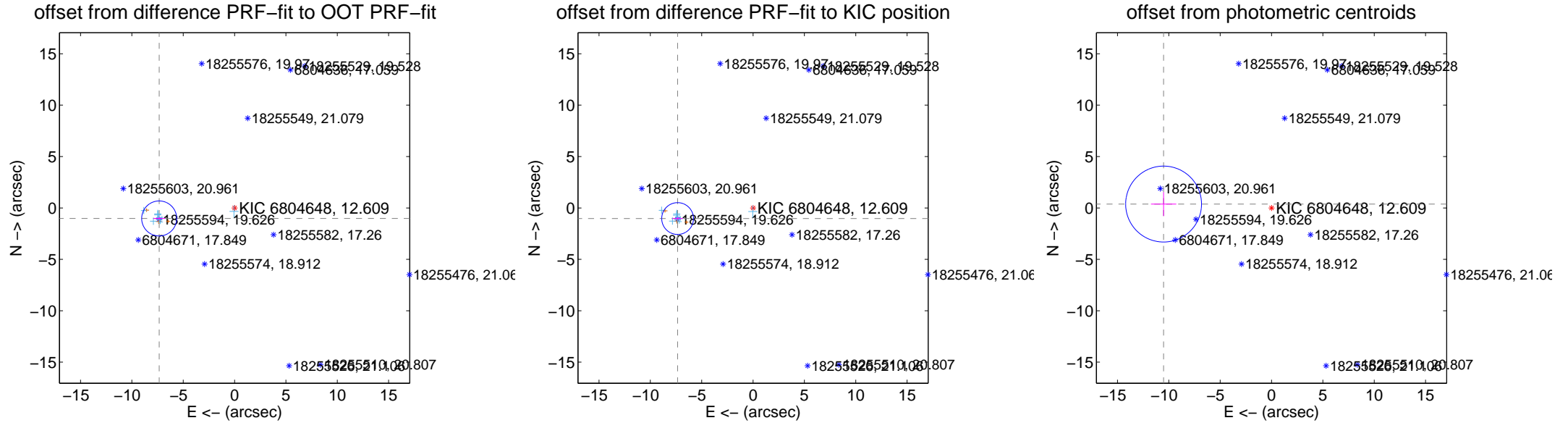
DV Centroid Data

Supplemental centroid analysis for 006804648-01. Kepler magnitude: 12.61. Transit SNR 8.82

There are 10 quarters with good PRF difference image offsets

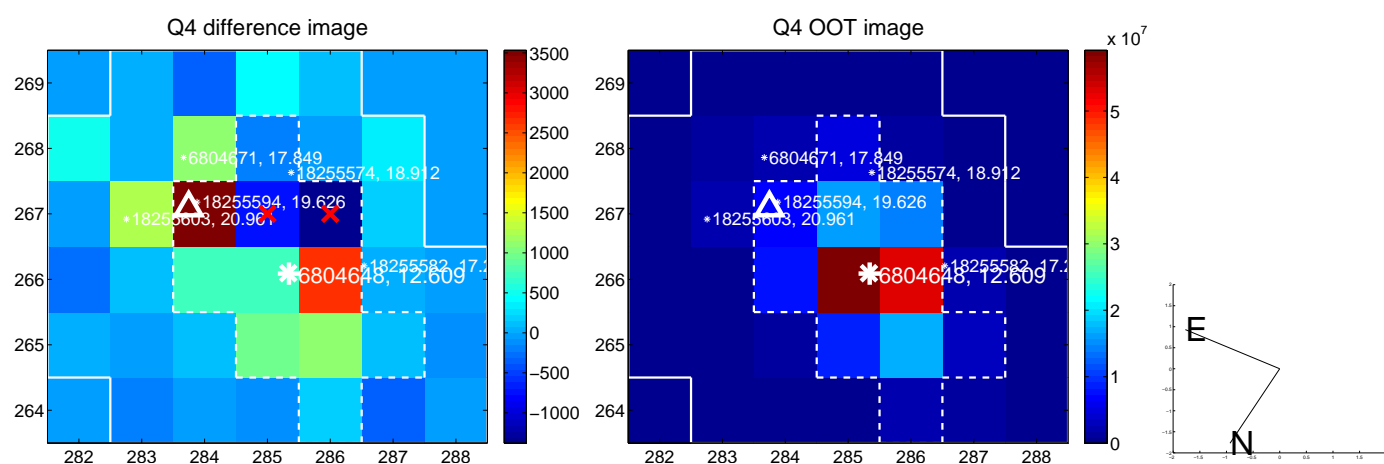
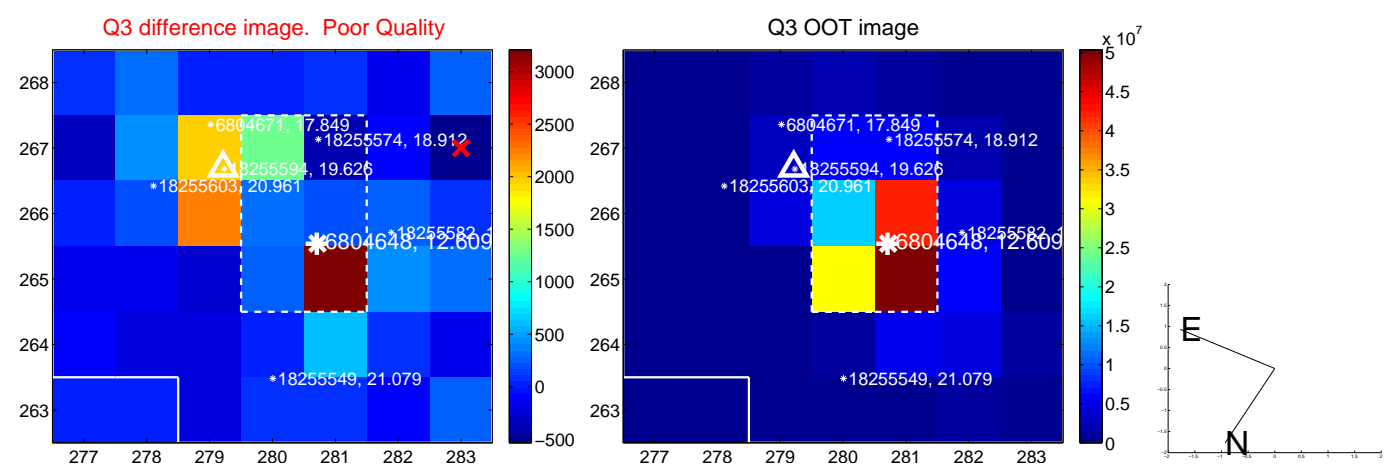
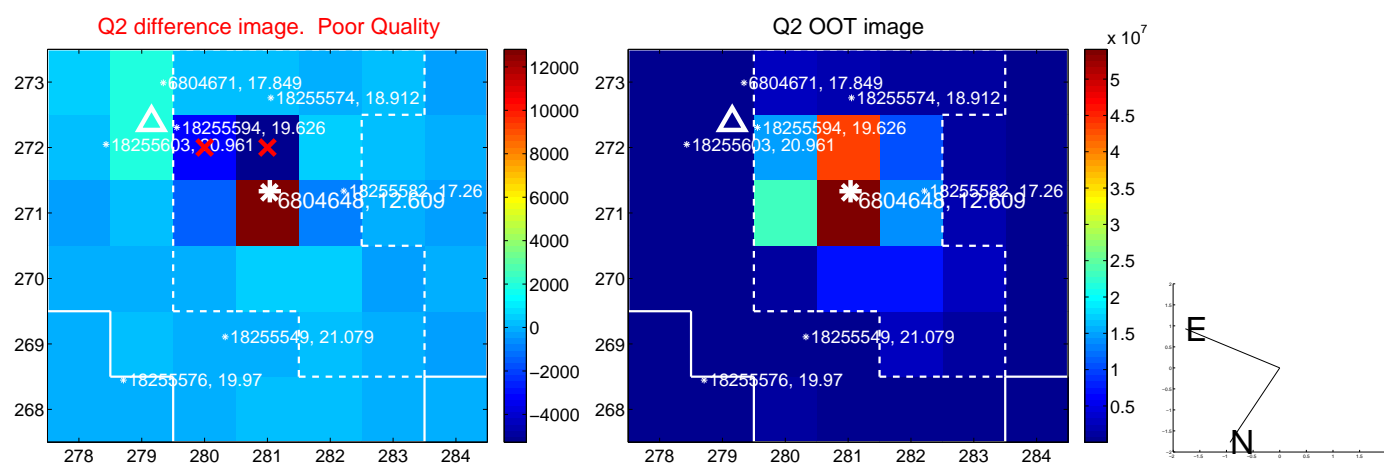
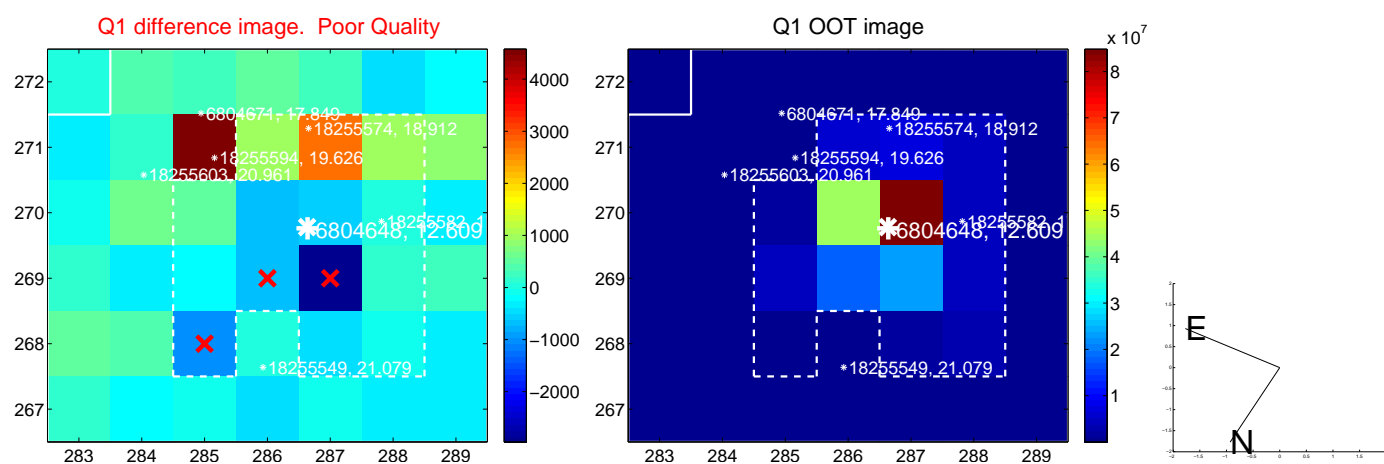
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 7.413 \pm 0.568 | 13.05 | 7.342 \pm 0.571 | -1.022 \pm 0.136 |
| PRF-fit source offset from KIC position | 7.418 \pm 0.516 | 14.39 | 7.346 \pm 0.521 | -1.031 \pm 0.136 |
| photometric centroid source offset | 10.52 \pm 1.23 | 8.54 | 10.51 \pm 1.23 | 0.38 \pm 1.16 |

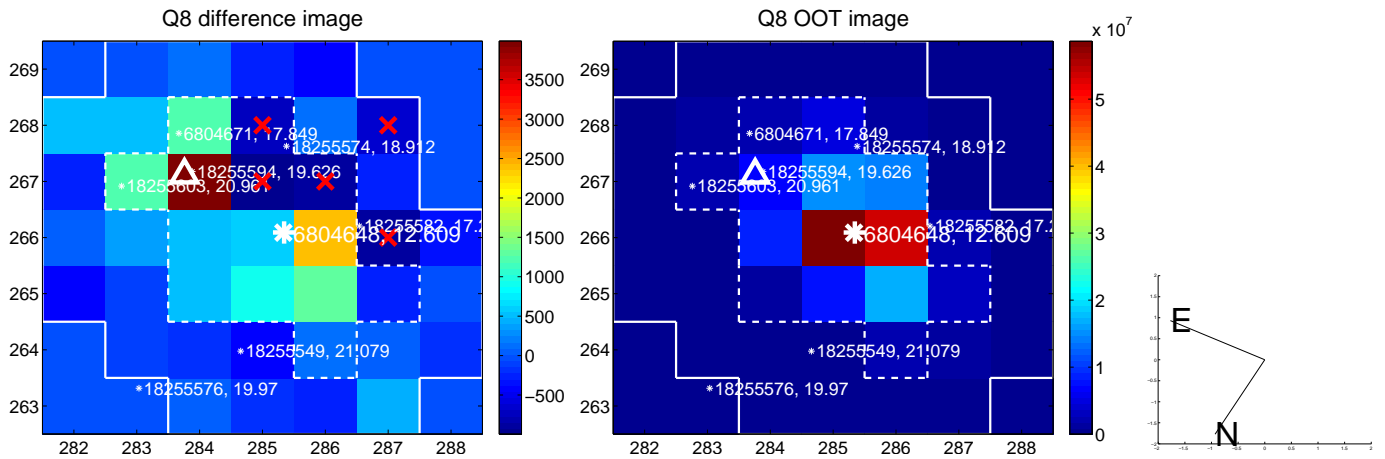
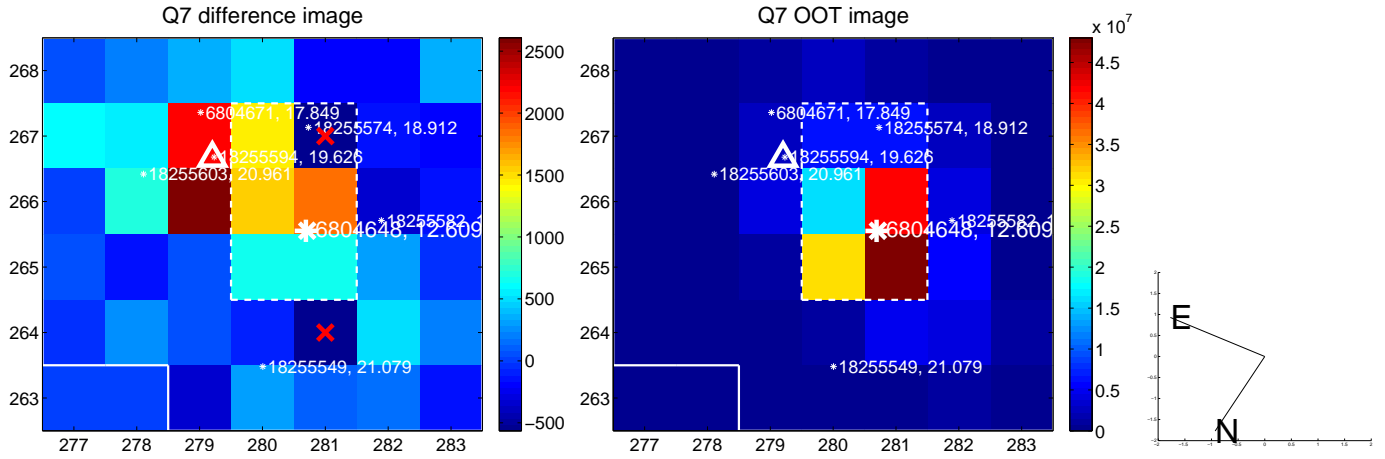
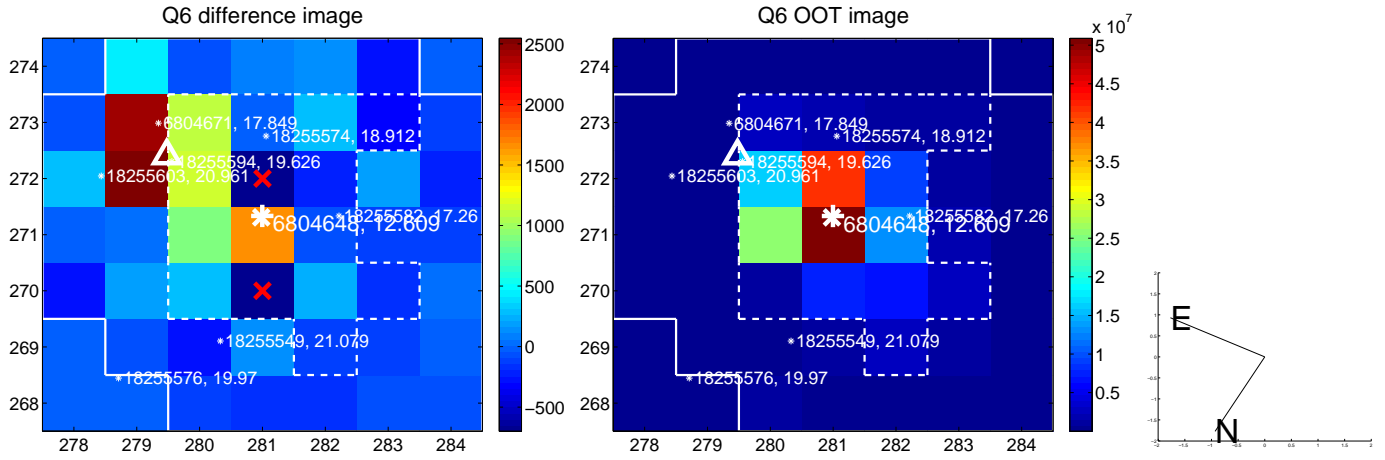
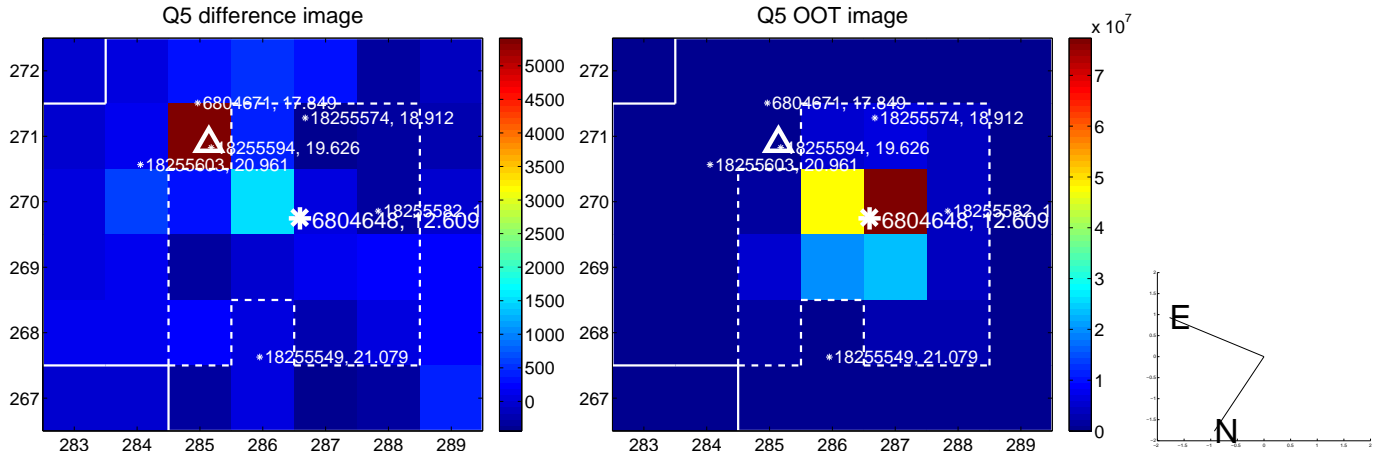


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

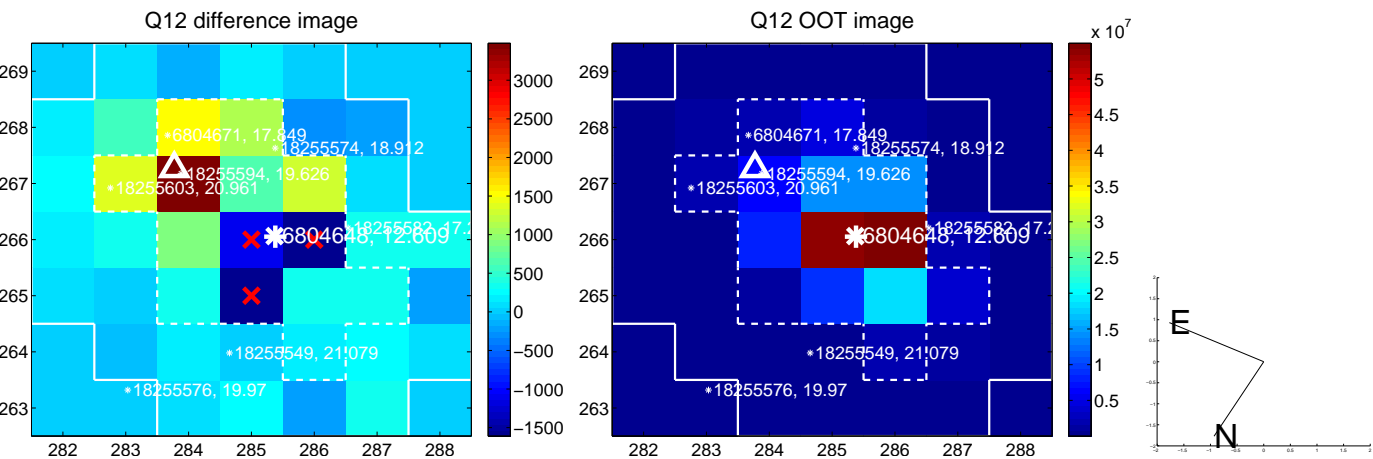
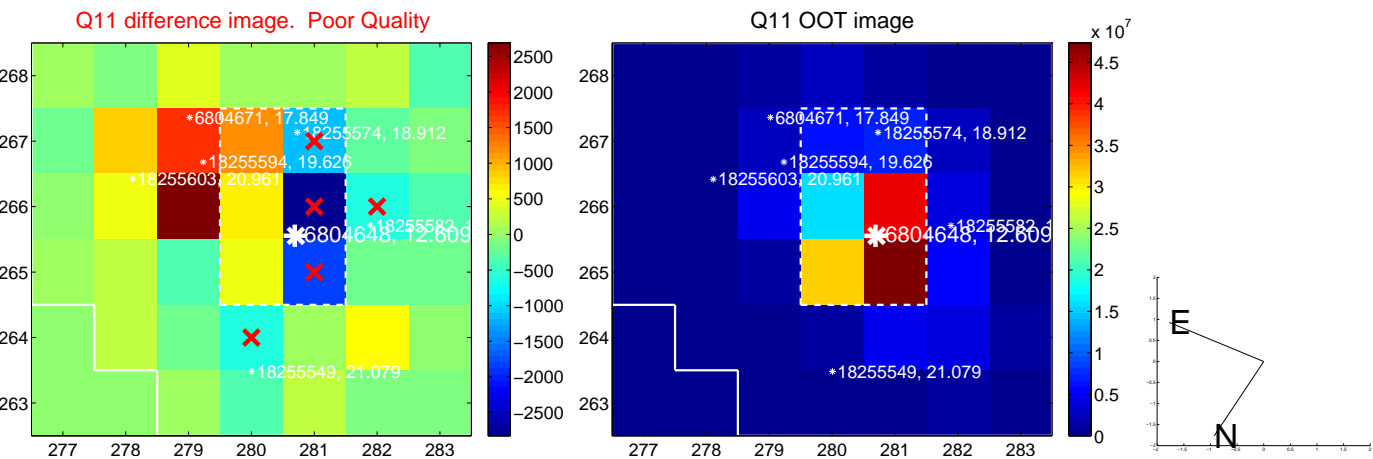
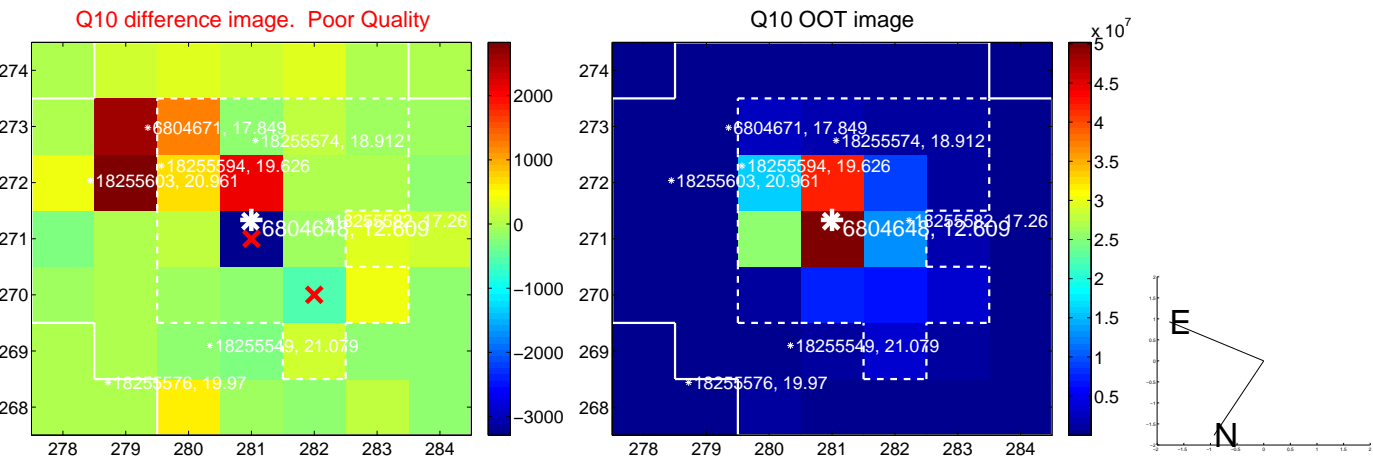
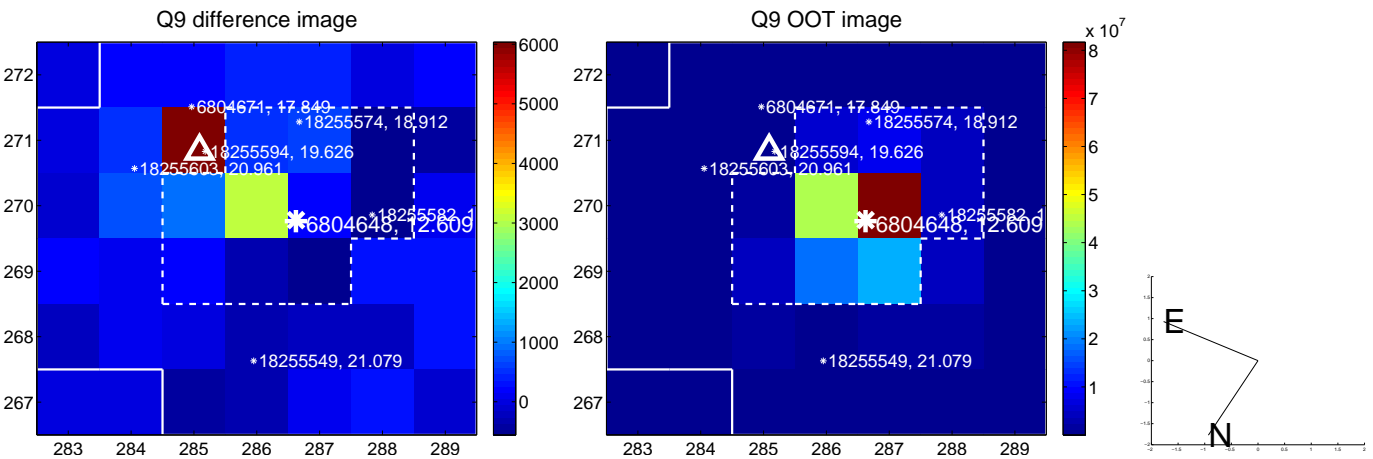
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



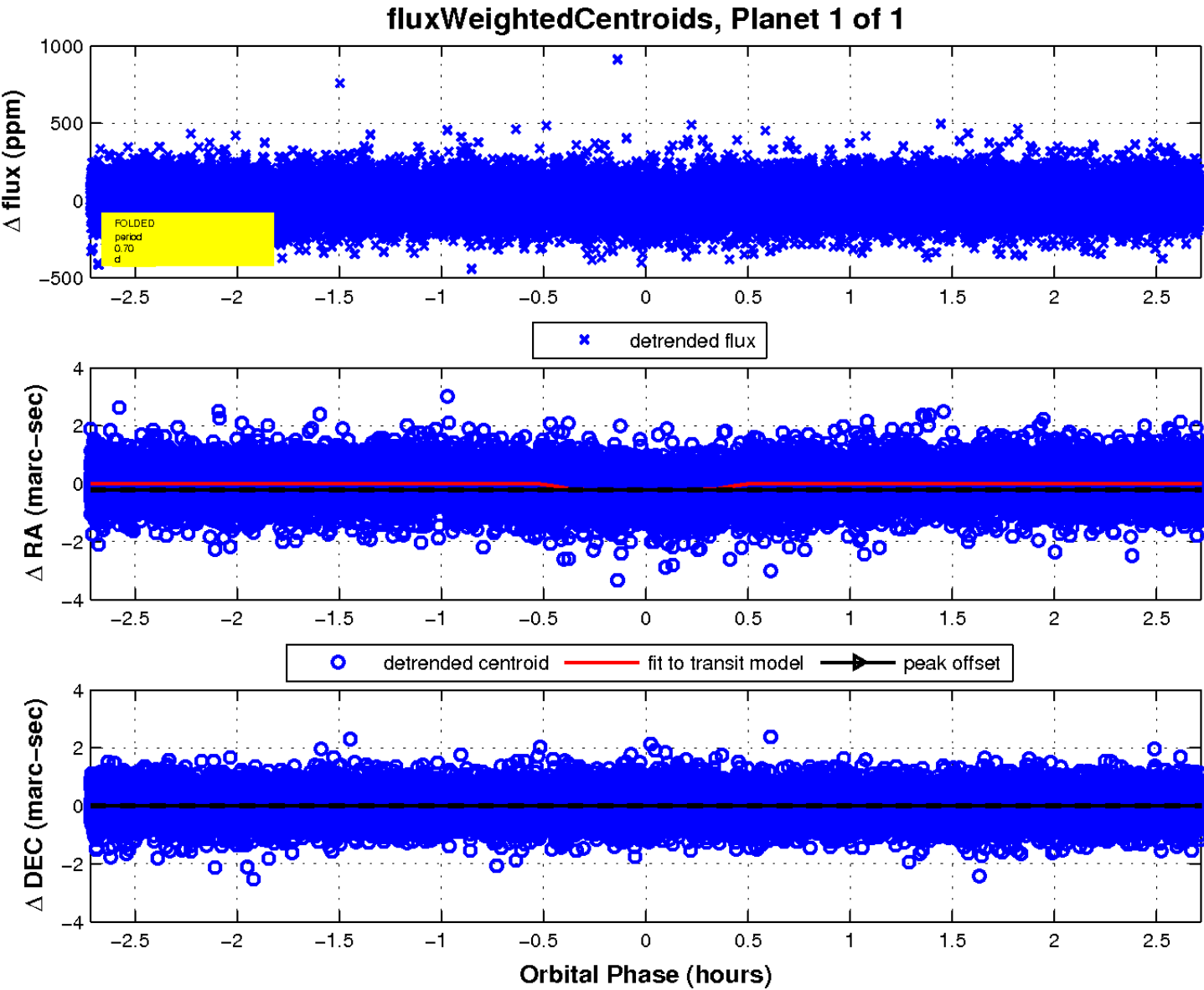
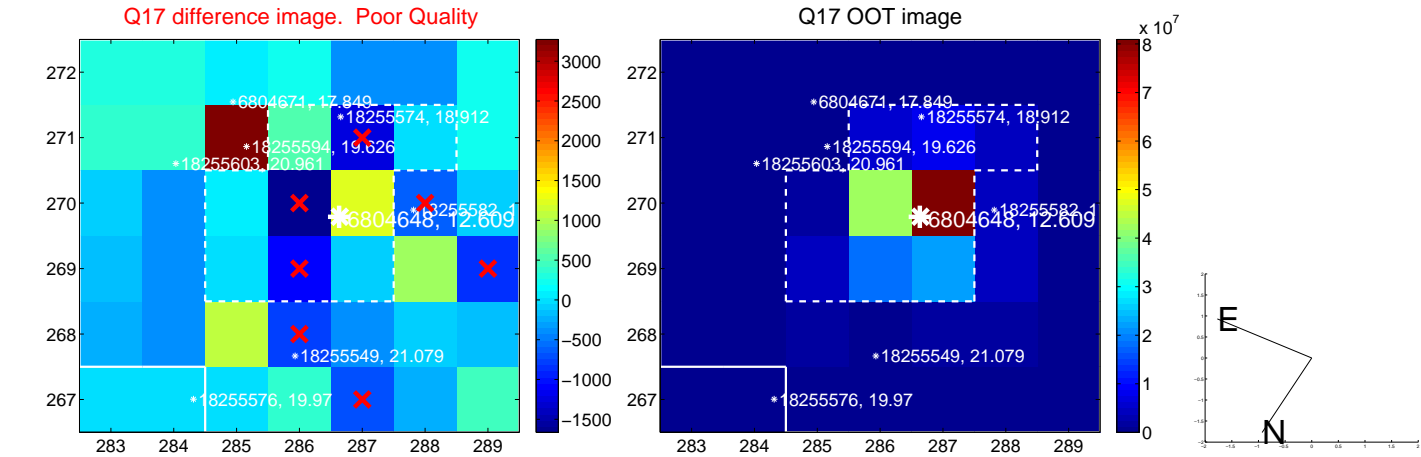
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

