

KIC 003454844

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 003454844-01 | OBS | No | 0.588224 | 131.783149 | 26.1 | 1.031 | 7.6 | 6.3 | 1.19 | 6011 | 0.72 | 9314.70 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 003454844-01 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET |

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

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

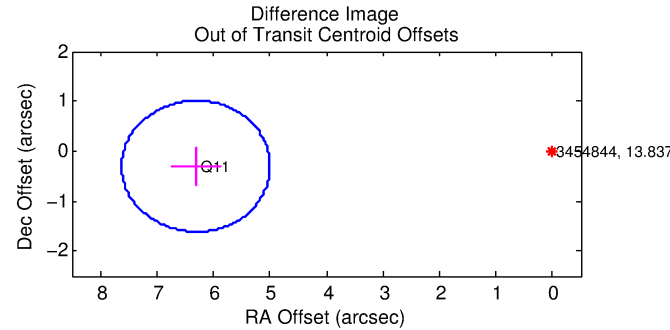
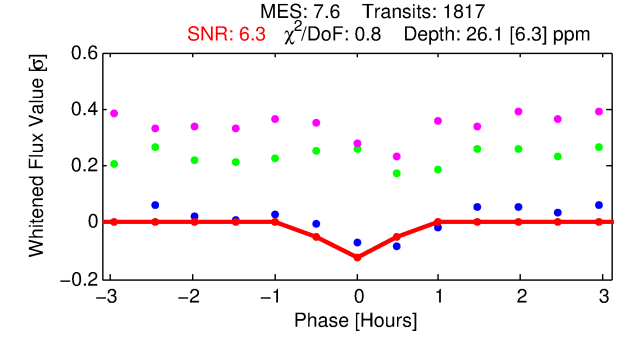
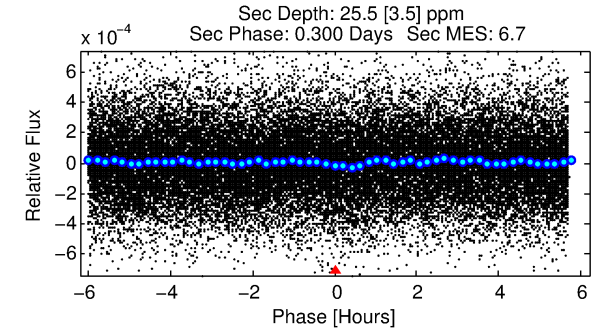
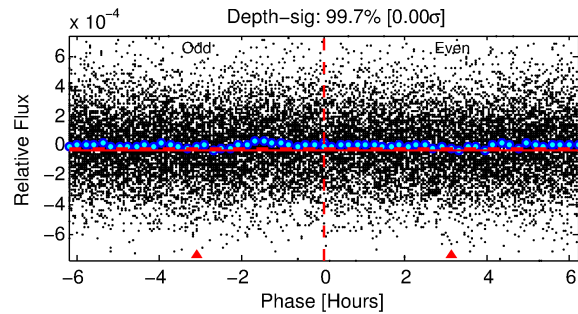
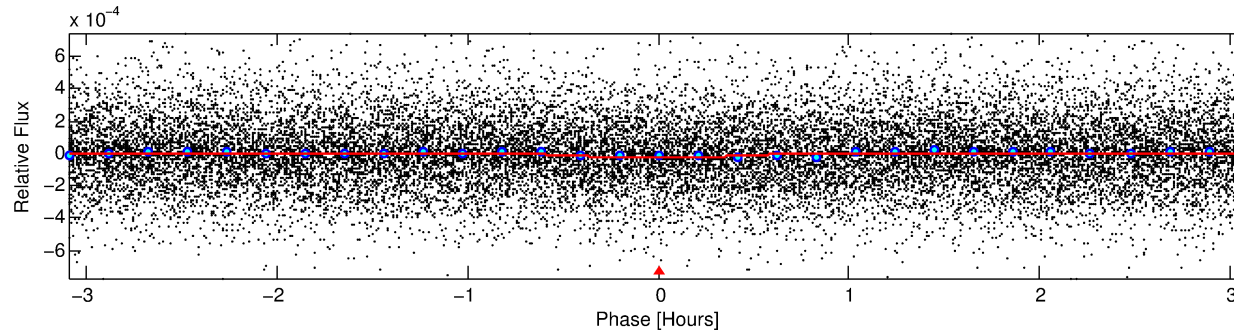
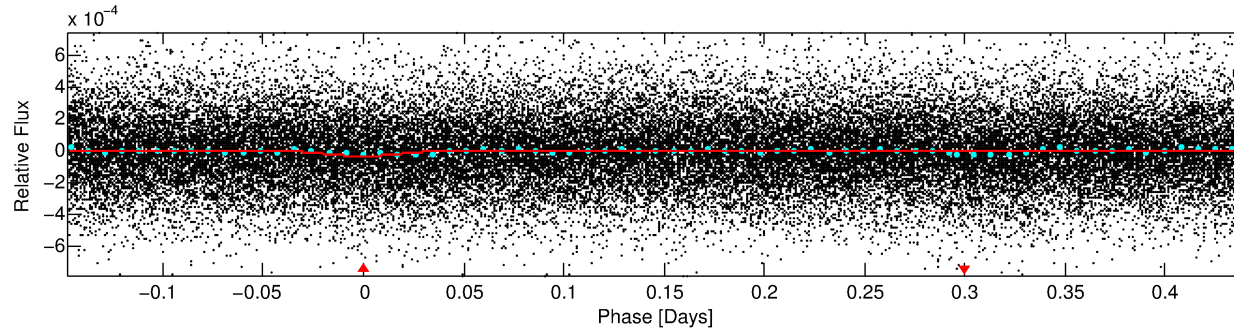
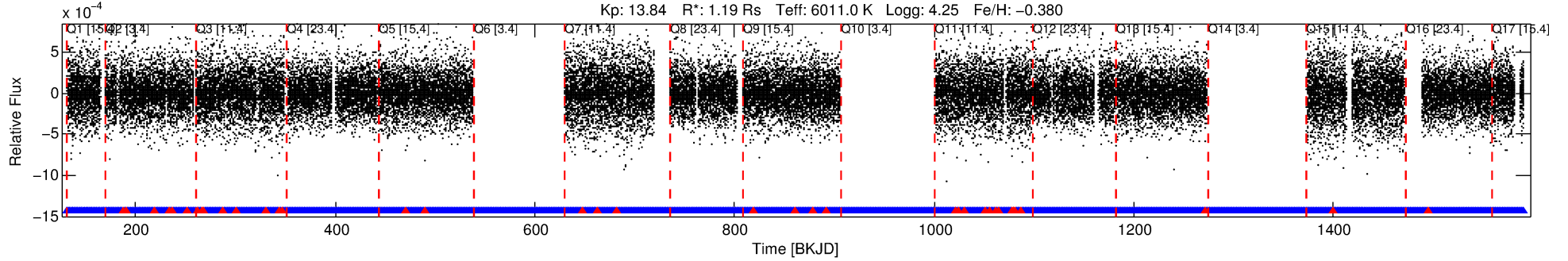
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003454844-01

No Significant Match Found

DV One-Page Summary

KIC: 3454844 Candidate: 1 of 1 Period: 0.588 d



DV Fit Results:

Period = 0.58822 [0.00002] d
Epoch = 131.7831 [0.0028] BKJD
Rp/R* = 0.0056 [0.0023]
a/R* = 2.16 [3.61]
b = 0.90 [0.45]
Seff = 9314.70 [3922.09]
Teq = 2505 [264] K
Rp = 0.72 [0.36] Re
a = 0.0133 [0.0035] AU
Ag = 4.80 [4.45] [0.86σ]
Teffp = 5734 [1206] K [2.62σ]

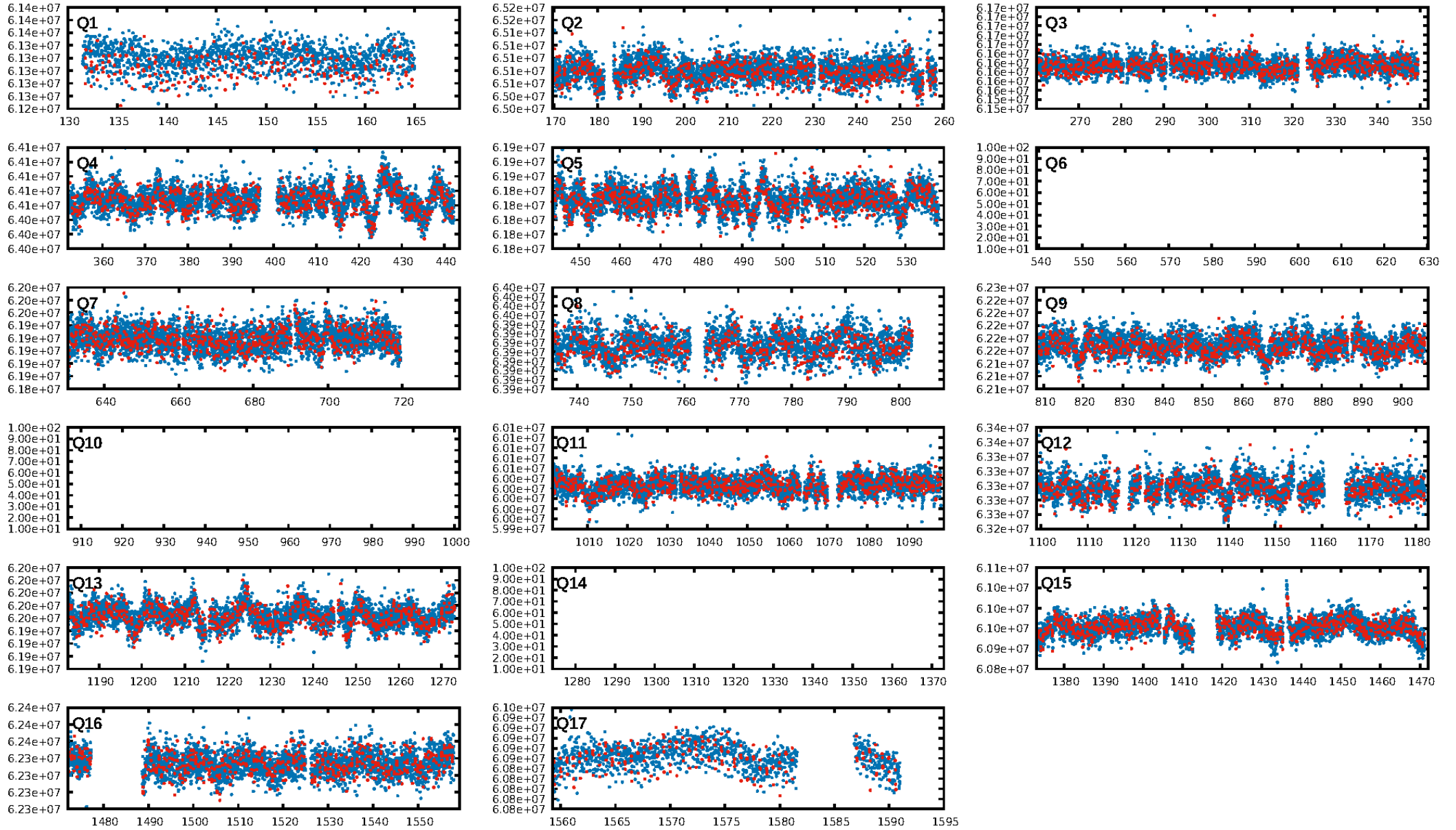
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.64e-14
RollingBand-fgt: 0.98 [1676/1715]
GhostDiagnostic-chr: 5.119
Centroid-sig: 0.0%
Centroid-so: 7.402 arcsec [4.30σ]
OotOffset-rm: 6.314 arcsec [14.42σ]
KicOffset-rm: 6.223 arcsec [14.21σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [14/14]

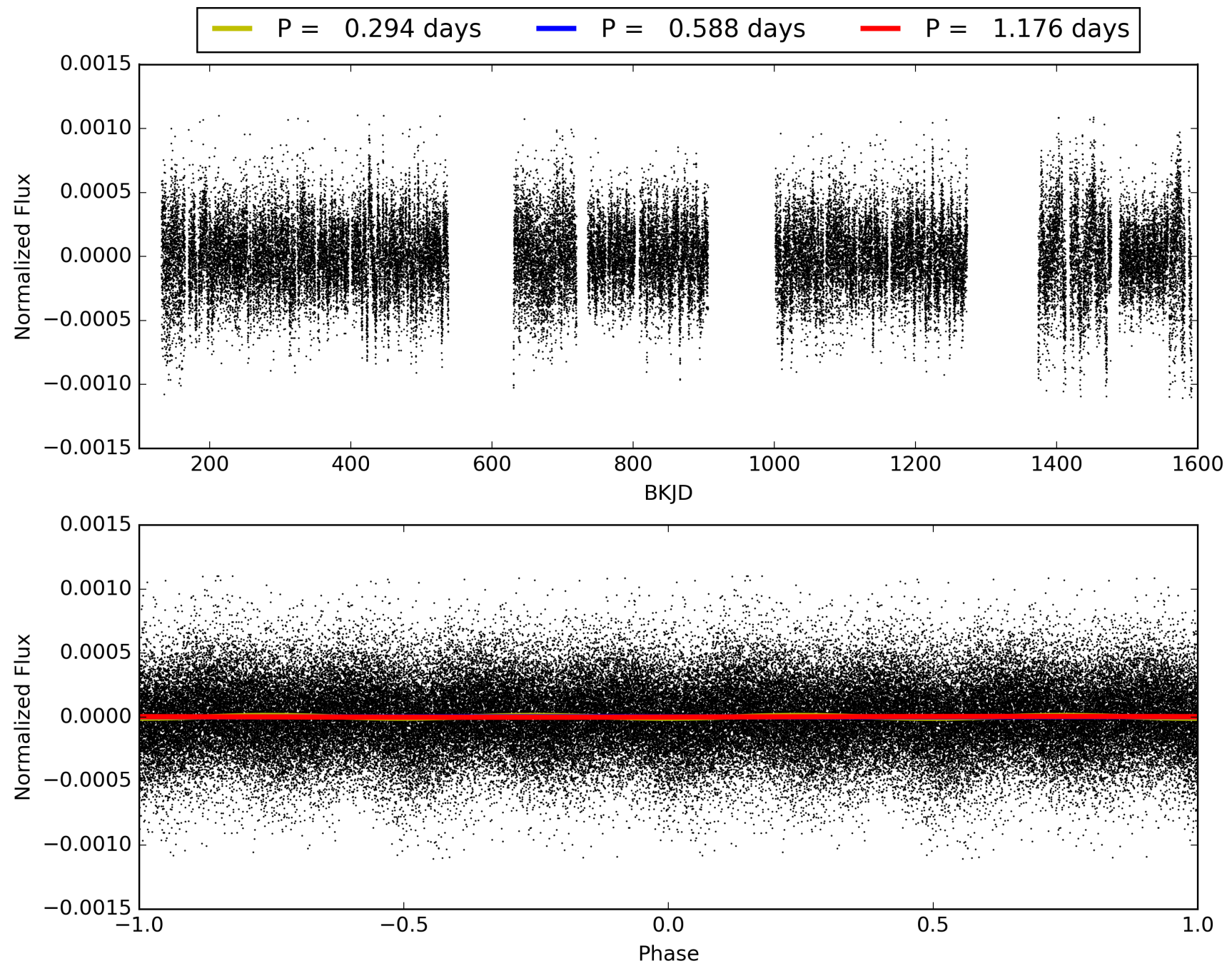
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:51:43 Z

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

TCE 003454844-01, PDC Light Curves

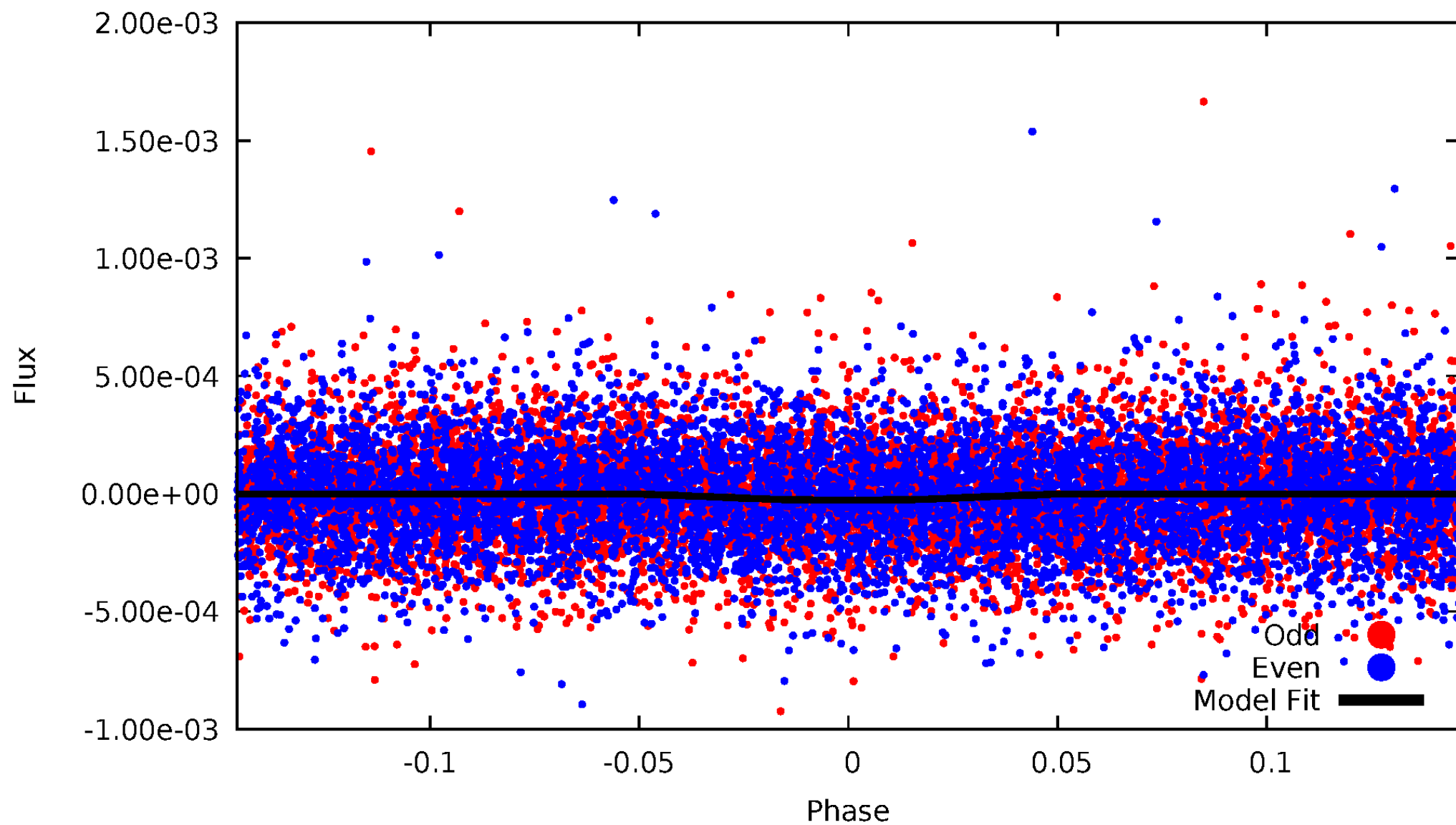


TCE 003454844-01



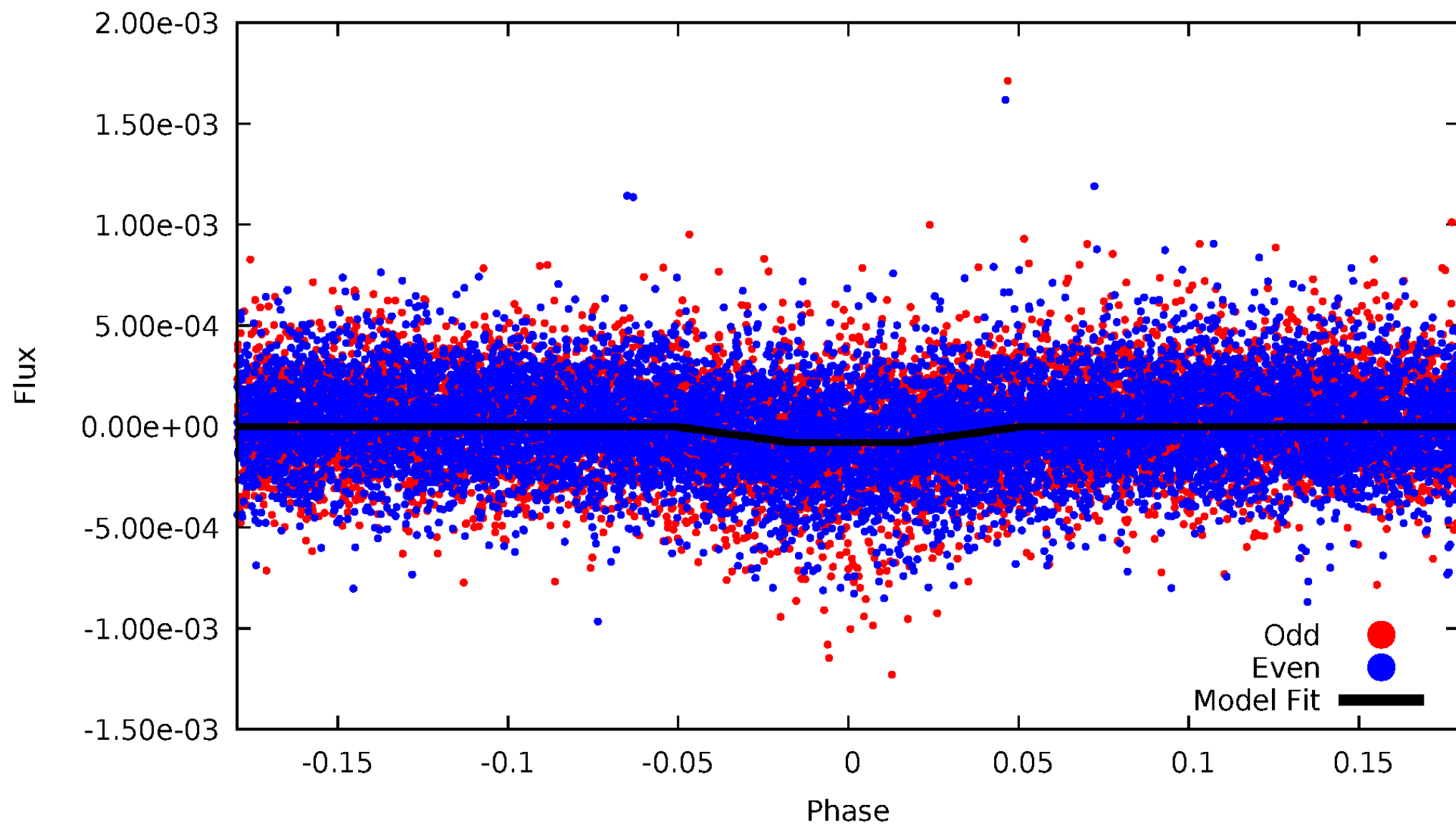
DV Odd/Even

TCE 003454844-01



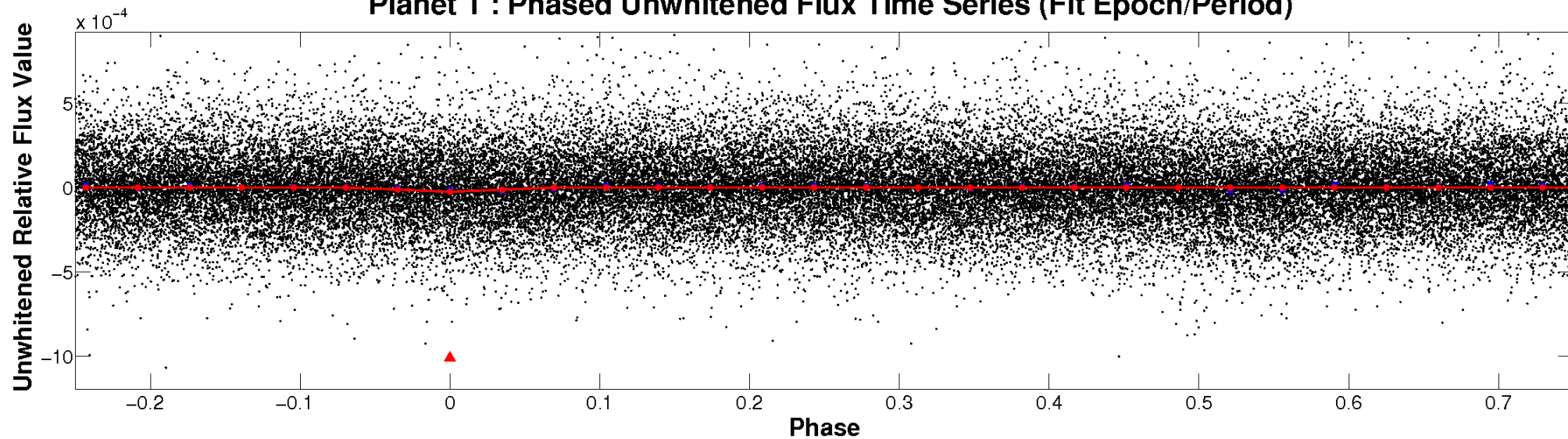
ALT Odd/Even

TCE 003454844-01

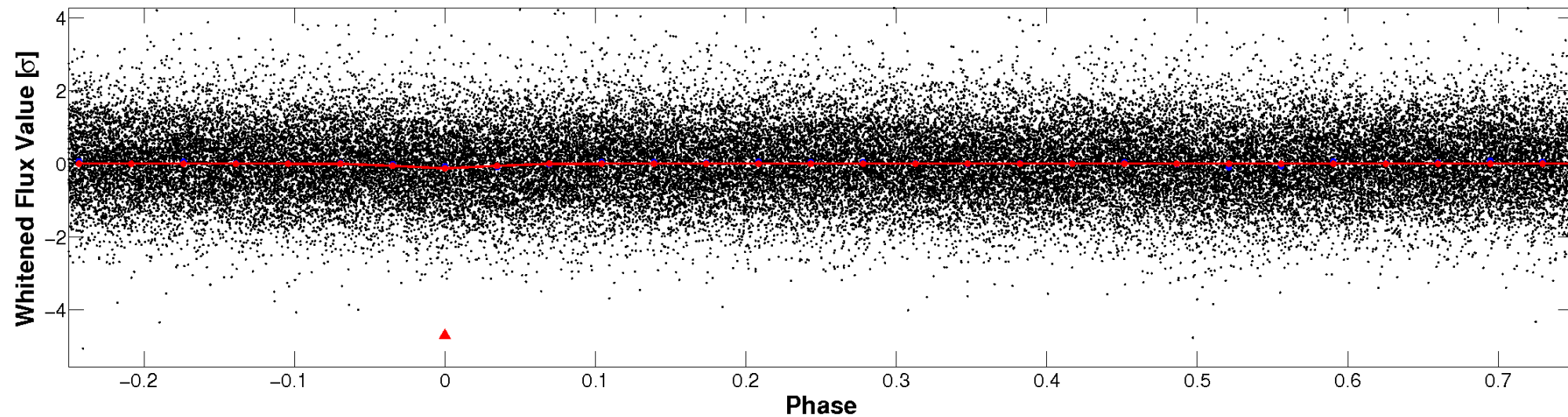


Non-Whitened Vs. Whitened Light Curve

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

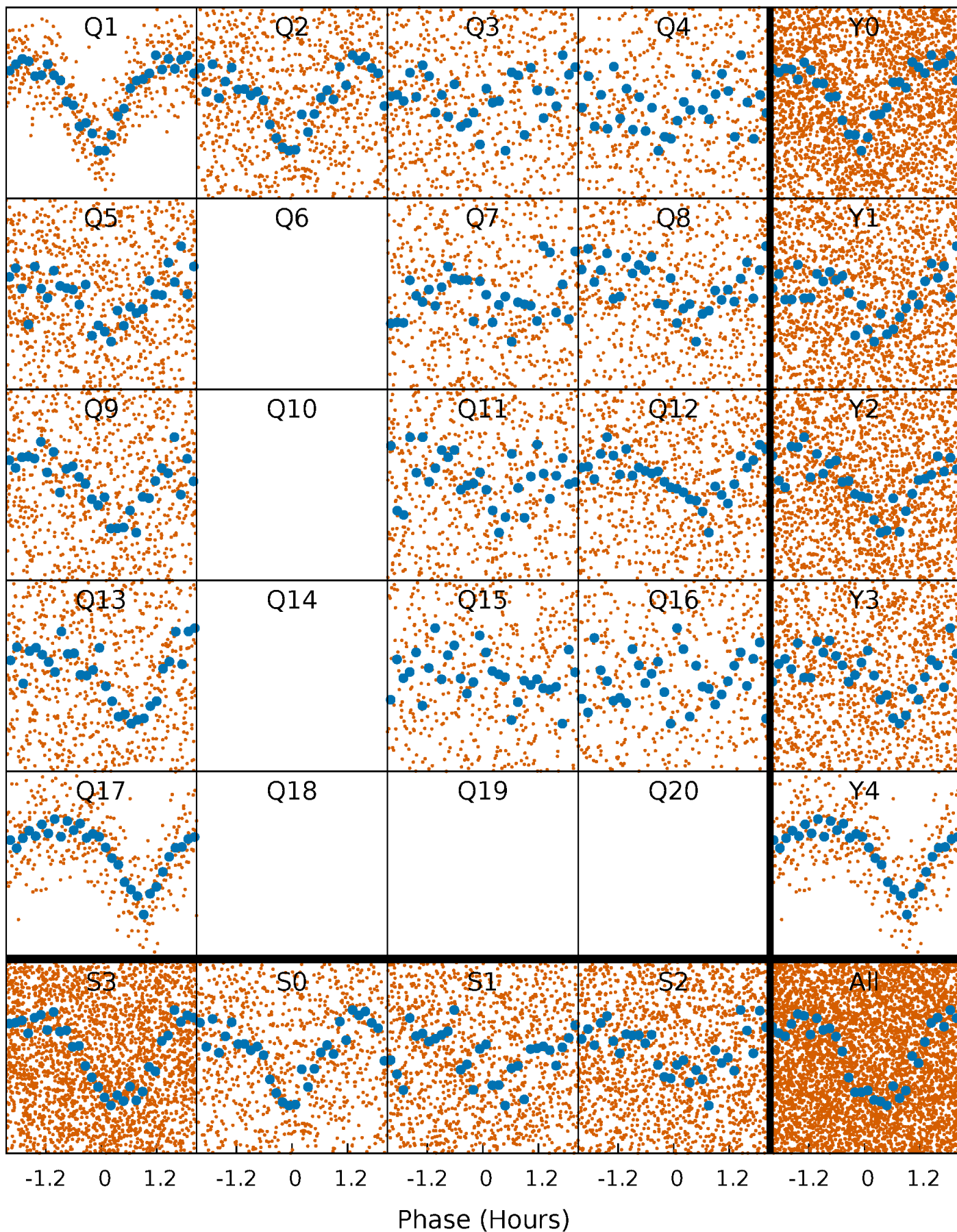


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



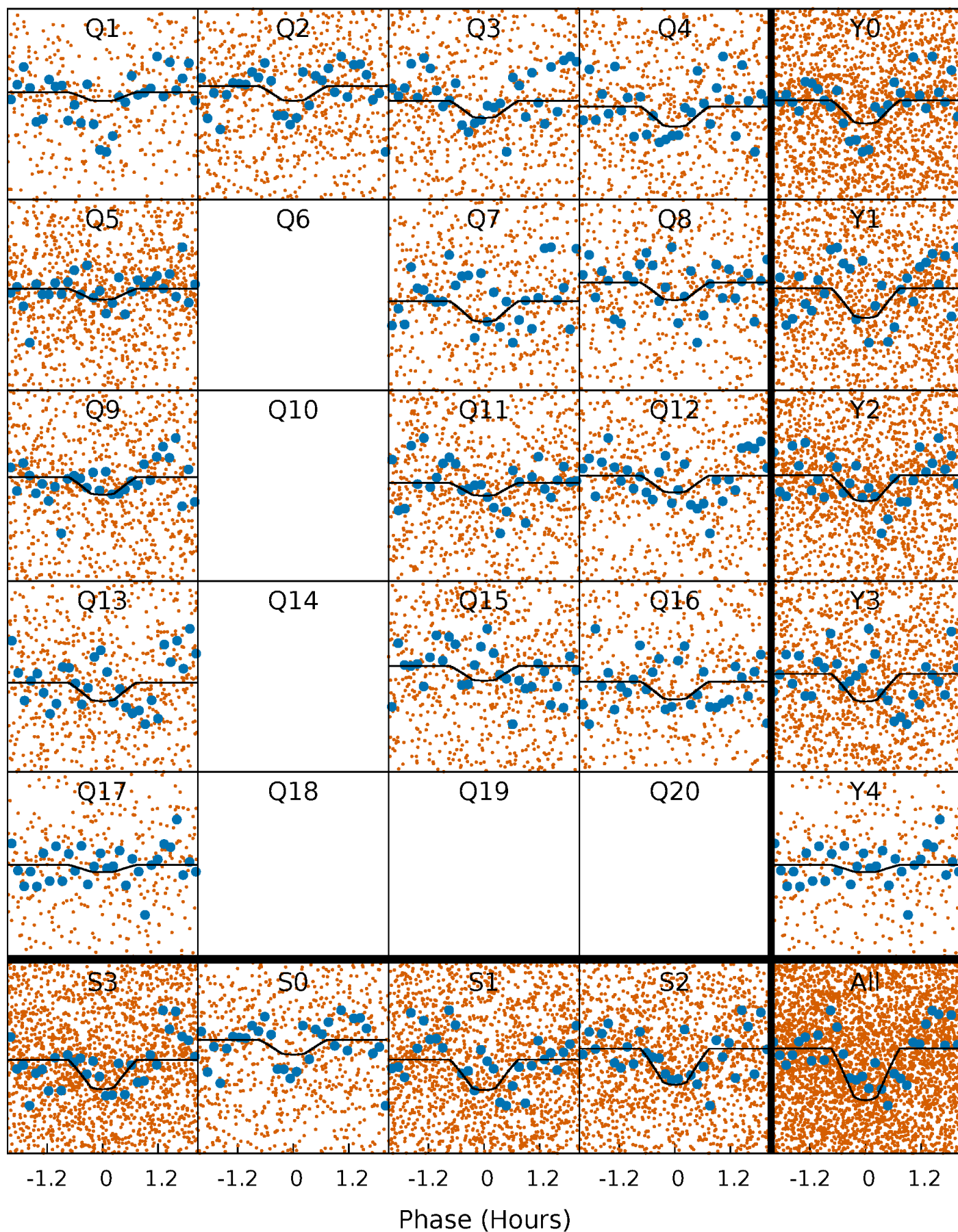
PDC Quarter-Phased Transit Curves

TCE 003454844-01 P= 0.588224 Days $T_0=131.783149$ (BKJD)



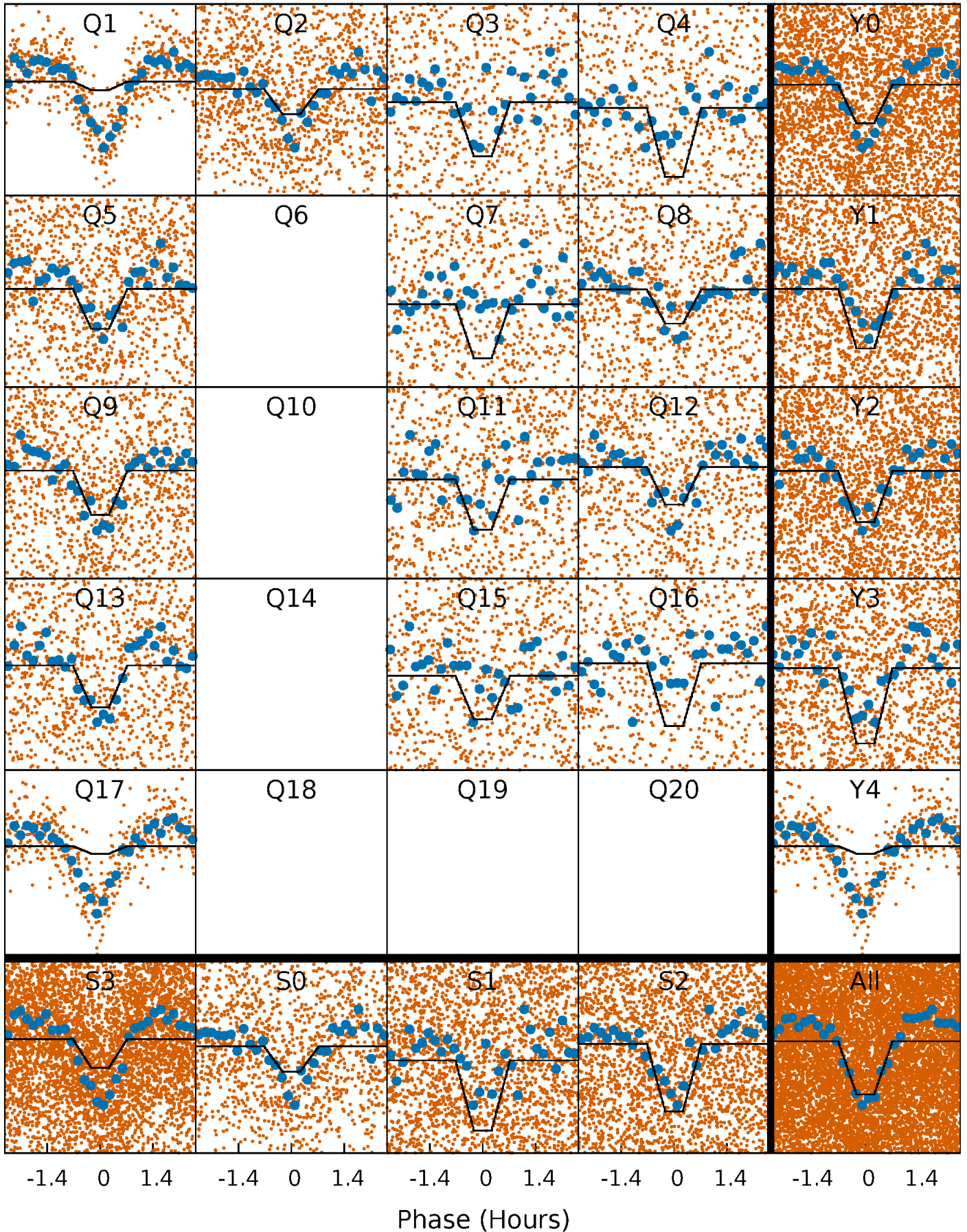
DV Quarter-Phased Transit Curves

TCE 003454844-01 P= 0.588224 Days $T_0=131.783149$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

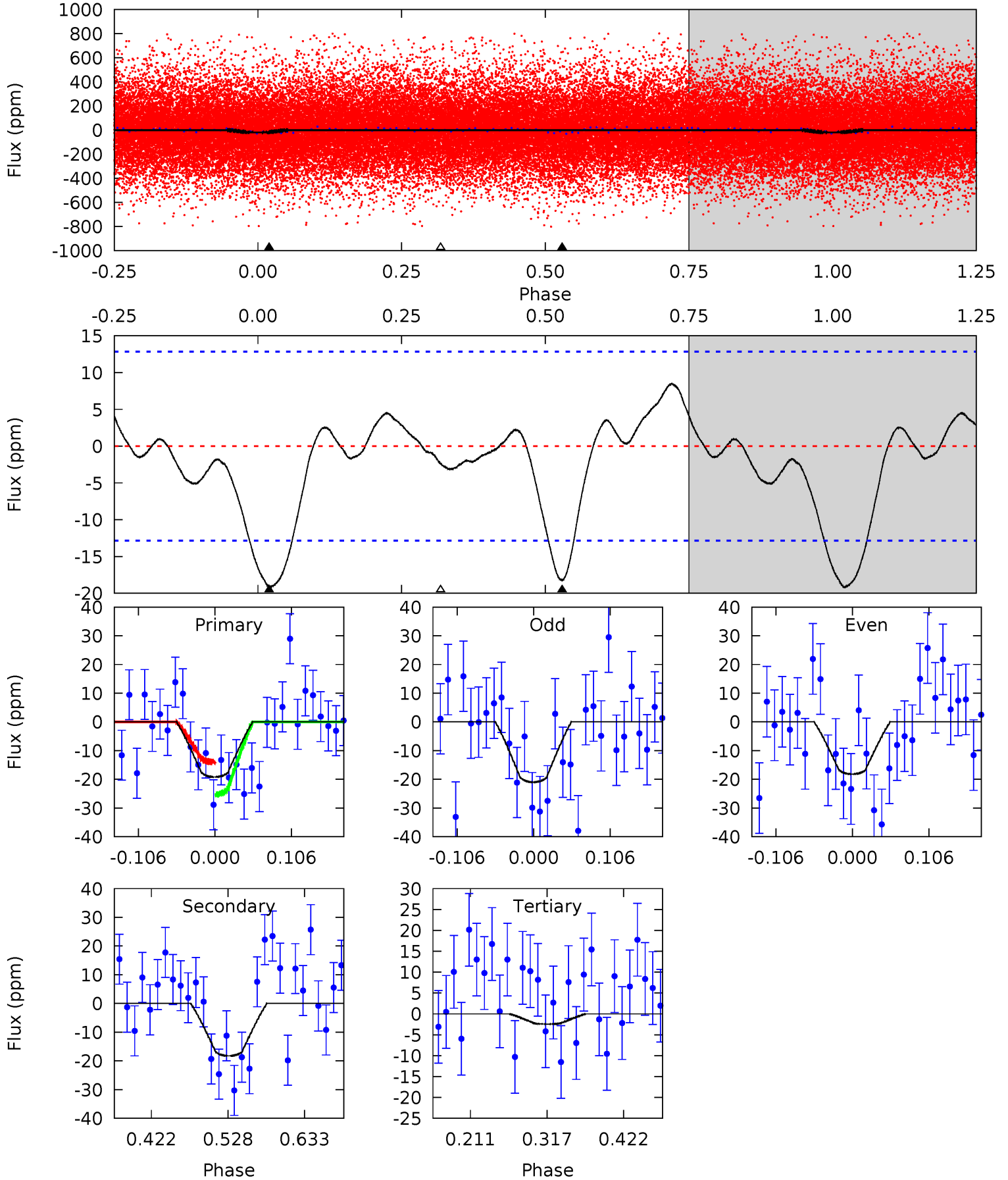
TCE 003454844-01 P= 0.588243 Days $T_0=131.776233$ (BKJD)



DV Model-Shift Uniqueness Test

003454844-01, P = 0.588224 Days, E = 131.194925 Days

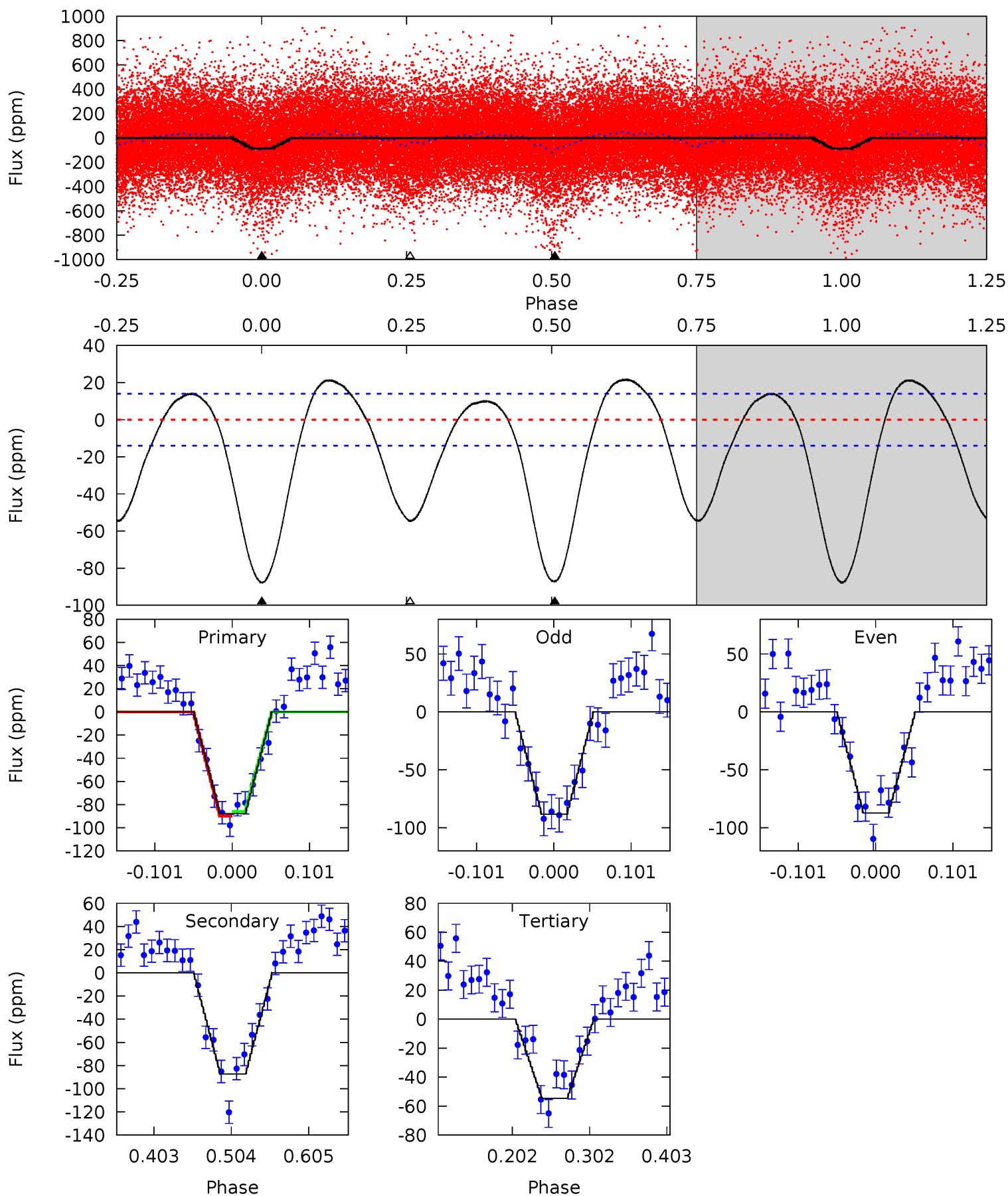
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.80 | 6.47 | 0.87 | 0 | 4.55 | 1.62 | 1.14 | 5.94 | 6.80 | 5.61 | 6.47 | 0.50 | 1.46 | 0.31 | 2.01 |



Alt Model-Shift Uniqueness Test

003454844-01, P = 0.588243 Days, E = 131.187990 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 28.7 | 28.5 | 17.8 | 0 | 4.56 | 1.64 | 8.23 | 10.8 | 28.7 | 10.7 | 28.5 | 0.18 | 1.13 | 0.20 | 0.67 |



Stellar Parameters For KIC 003454844

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|--|
| | 6011^{+163}_{-181} | $4.247^{+0.231}_{-0.168}$ | $-0.380^{+0.300}_{-0.300}$ | $1.188^{+0.343}_{-0.281}$ | $0.909^{+0.131}_{-0.095}$ | $0.763^{+0.944}_{-0.362}$ |
| | +3%/-3% | +5%/-4% | +79%/-79% | +29%/-24% | +14%/-10% | +124%/-47% |
| 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 003454844-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|-----------------------|---------------------------|
| DV | -18 ± 3 | $0.71^{+0.33}_{-0.29}$ | 3466^{+270}_{-253} | 5203^{+1561}_{-775} | $3.493^{+6.939}_{-1.848}$ |
| Alt. | -87 ± 3 | $1.16^{+0.37}_{-0.32}$ | 3474^{+275}_{-275} | 6050^{+980}_{-717} | $6.482^{+5.829}_{-2.787}$ |

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

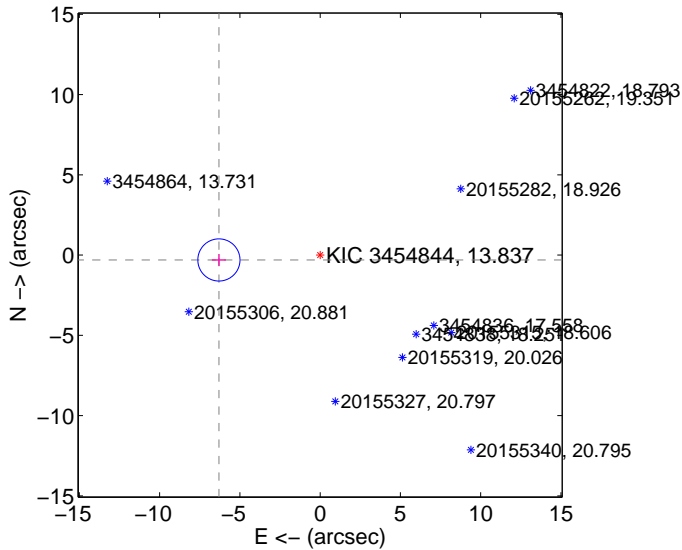
Supplemental centroid analysis for 003454844-01. Kepler magnitude: 13.84. Transit SNR 6.33

There are 0 quarters with good PRF difference image offsets

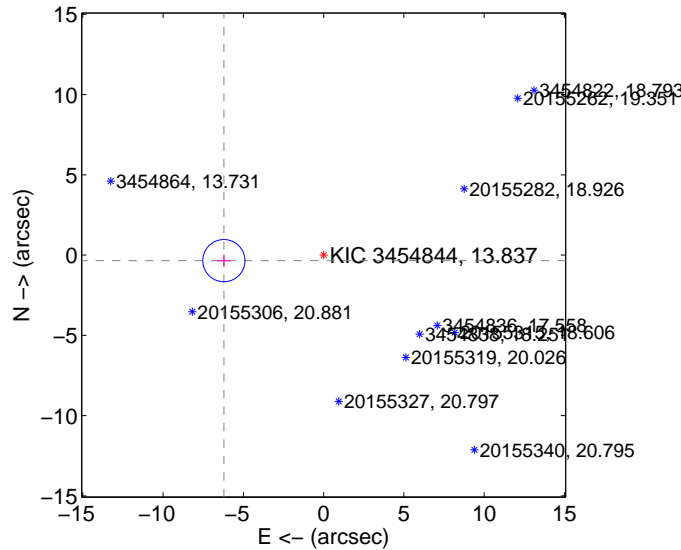
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 6.314 ± 0.438 | 14.42 | 6.307 ± 0.438 | -0.302 ± 0.373 |
| PRF-fit source offset from KIC position | 6.223 ± 0.438 | 14.21 | 6.213 ± 0.438 | -0.345 ± 0.373 |
| photometric centroid source offset | 7.40 ± 1.72 | 4.30 | 6.47 ± 1.68 | 3.60 ± 1.85 |

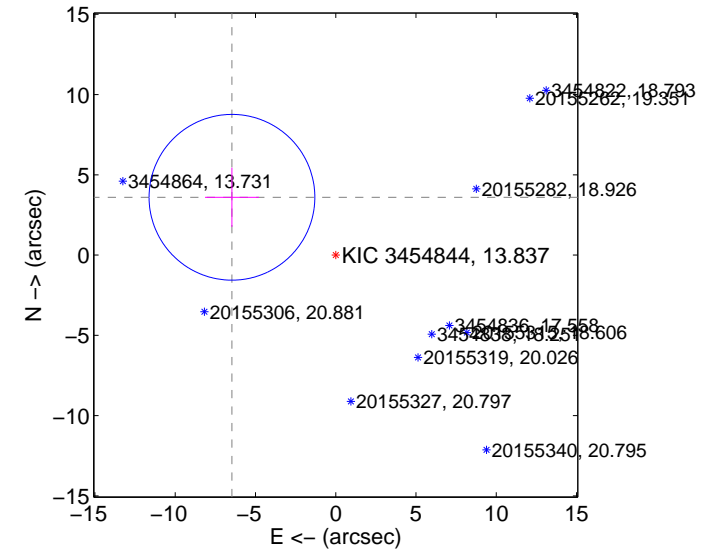
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

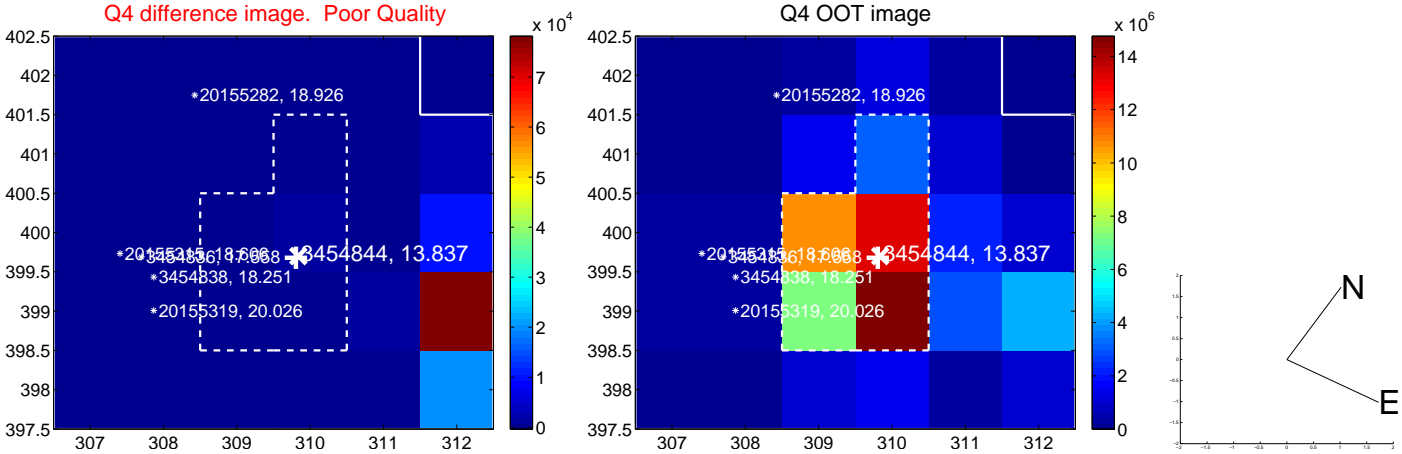
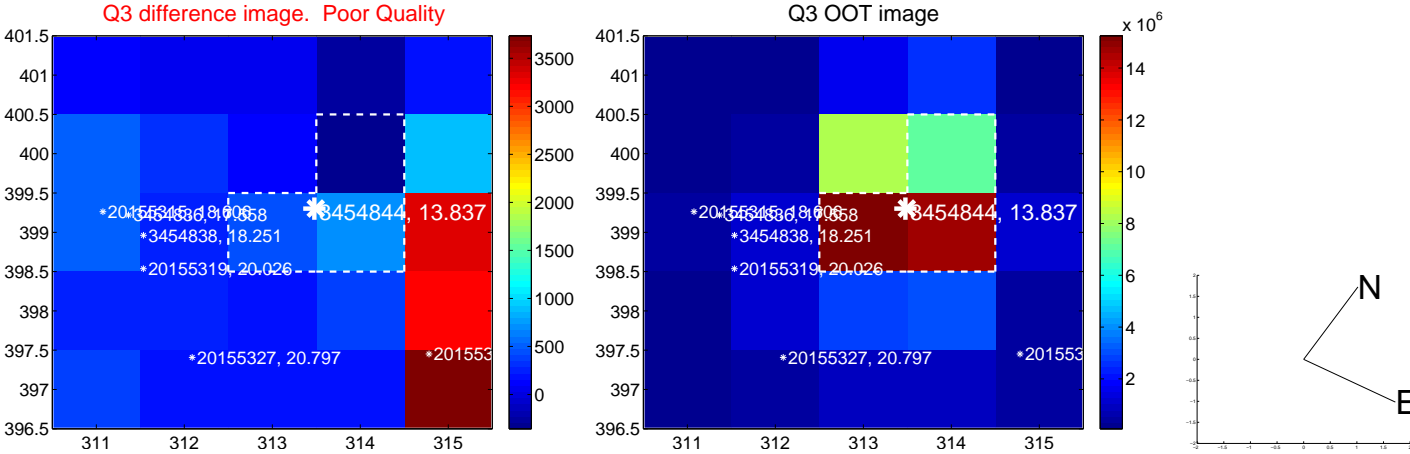
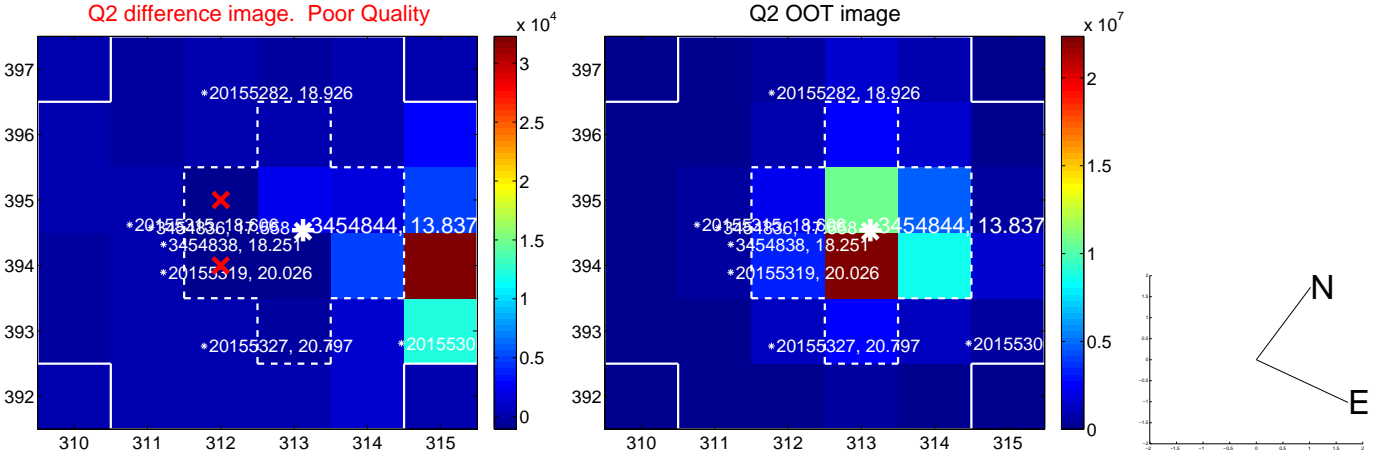
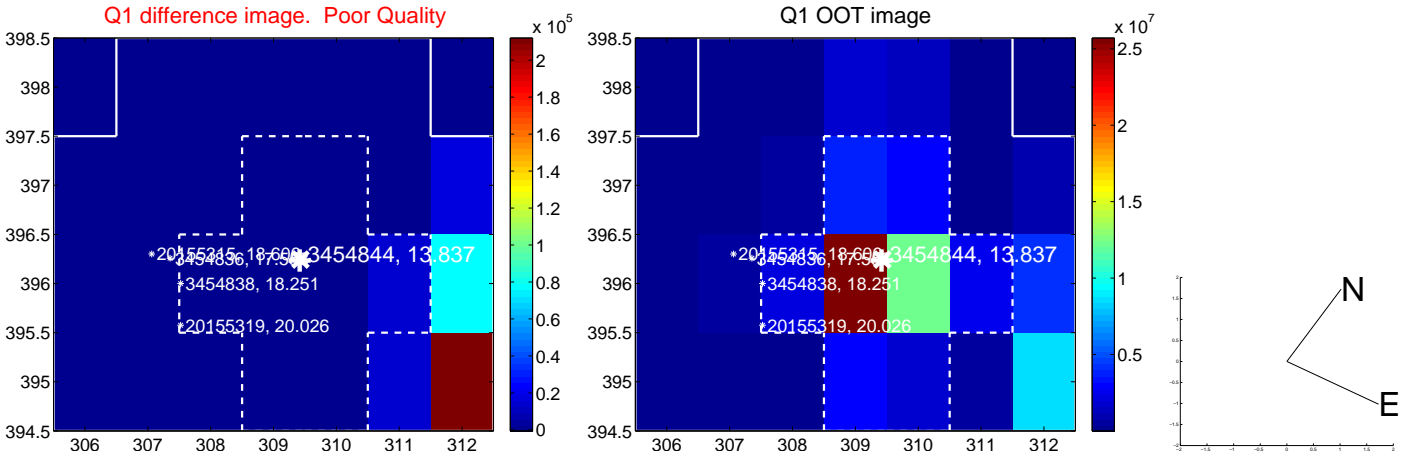


offset from photometric centroids

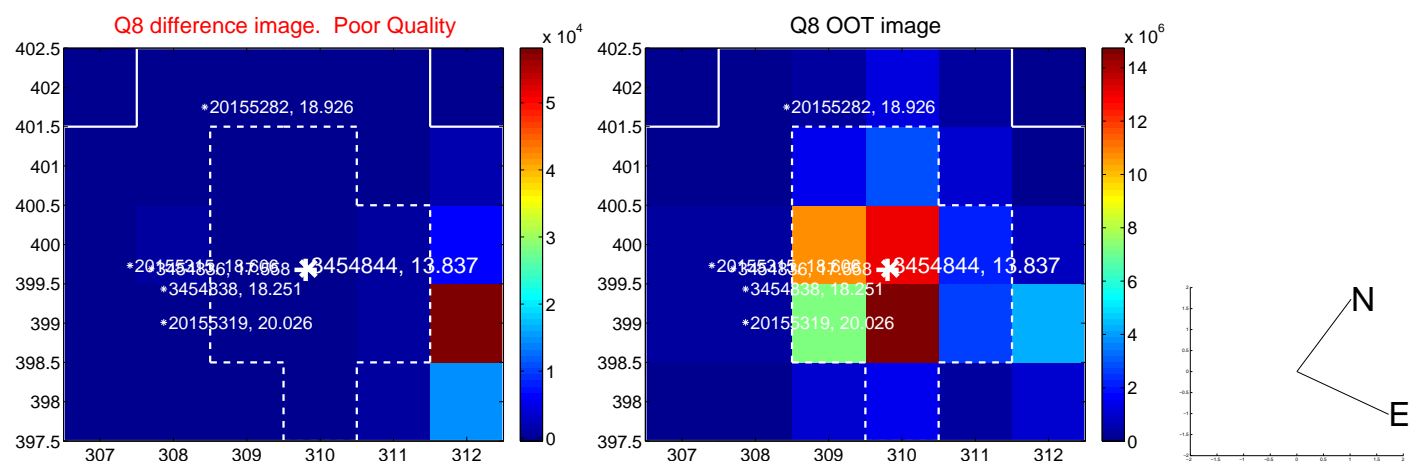
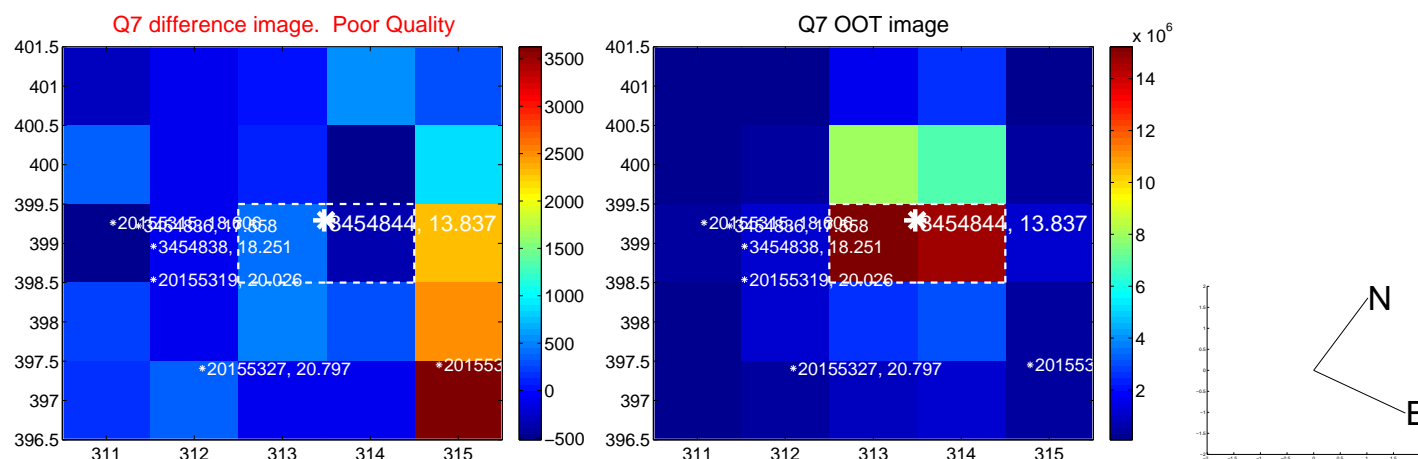
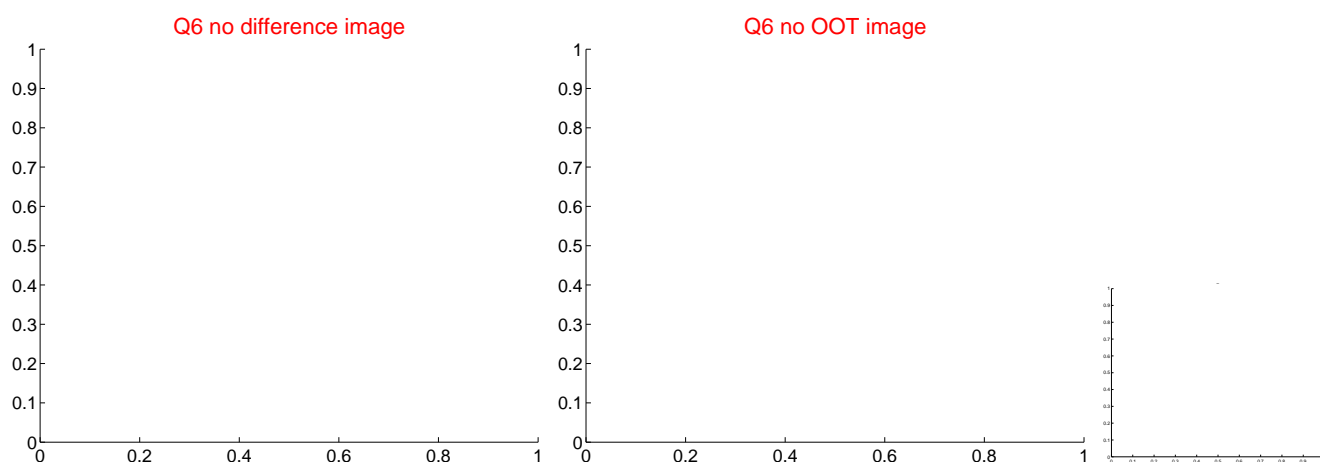
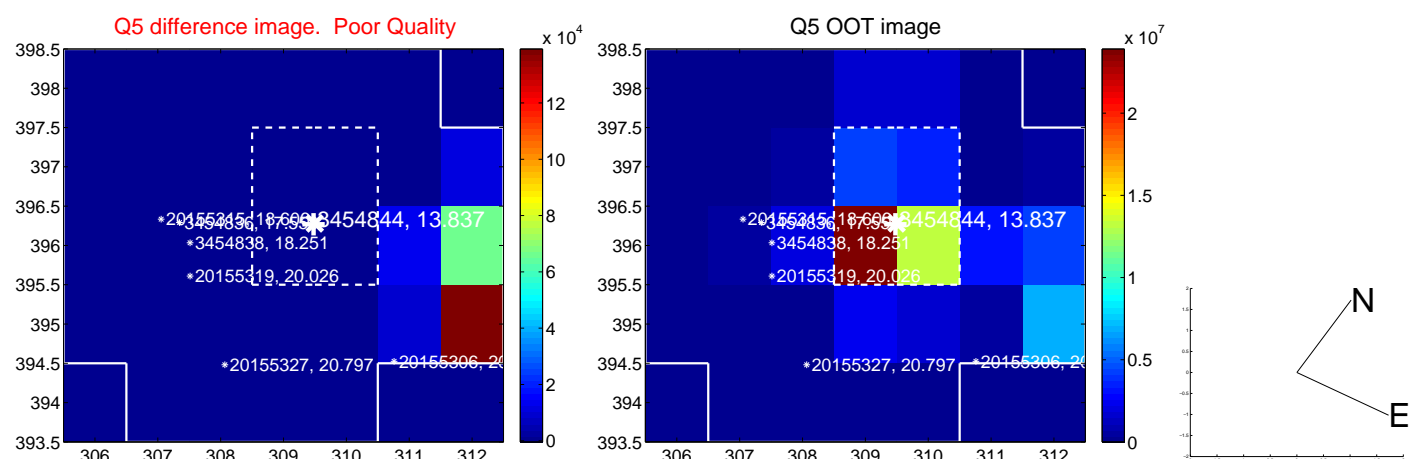


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

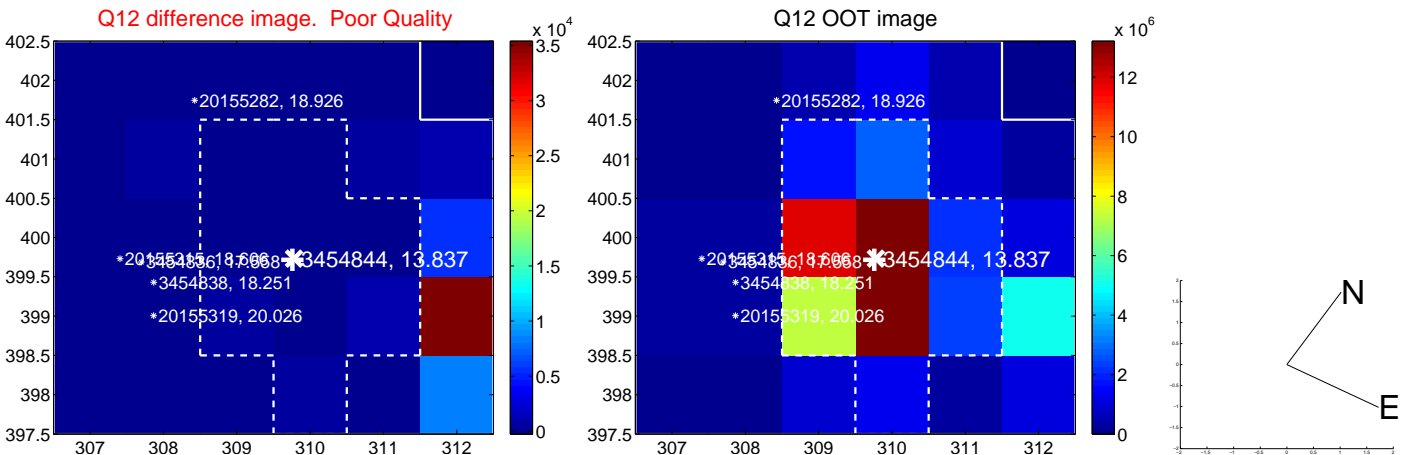
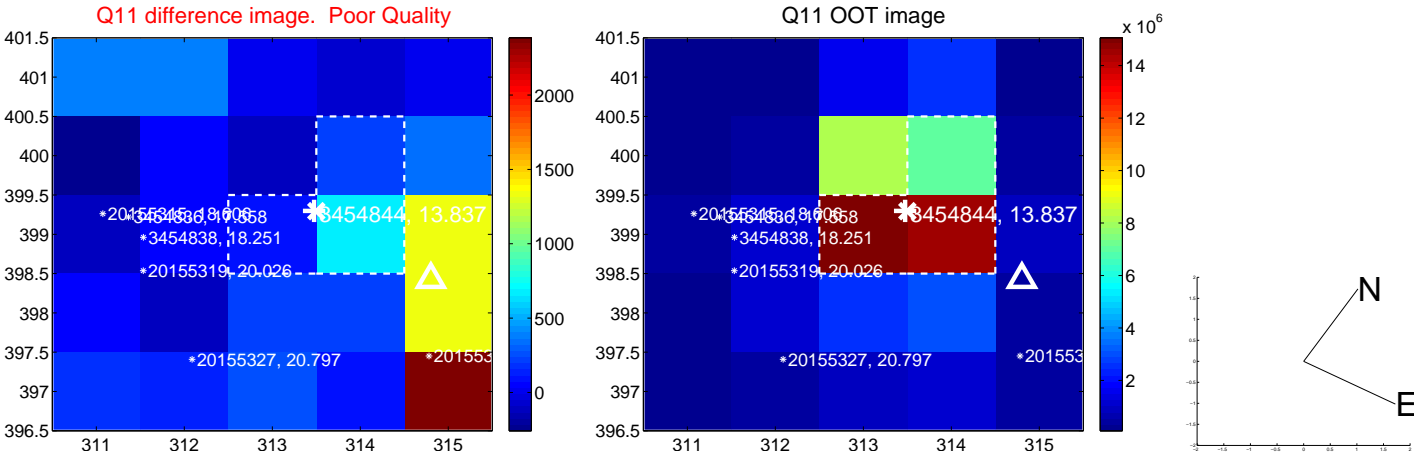
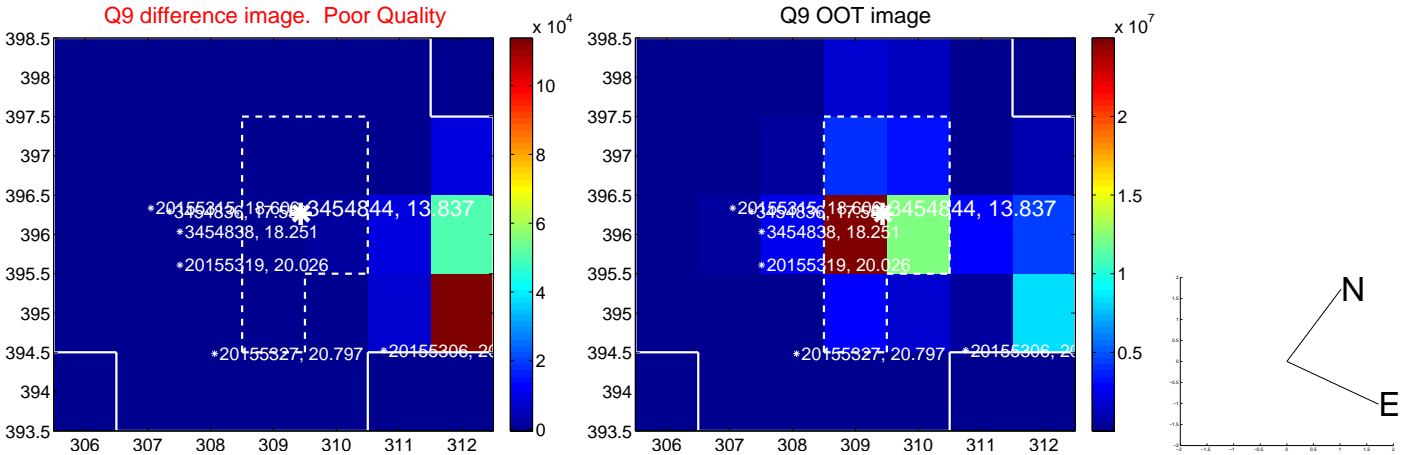
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



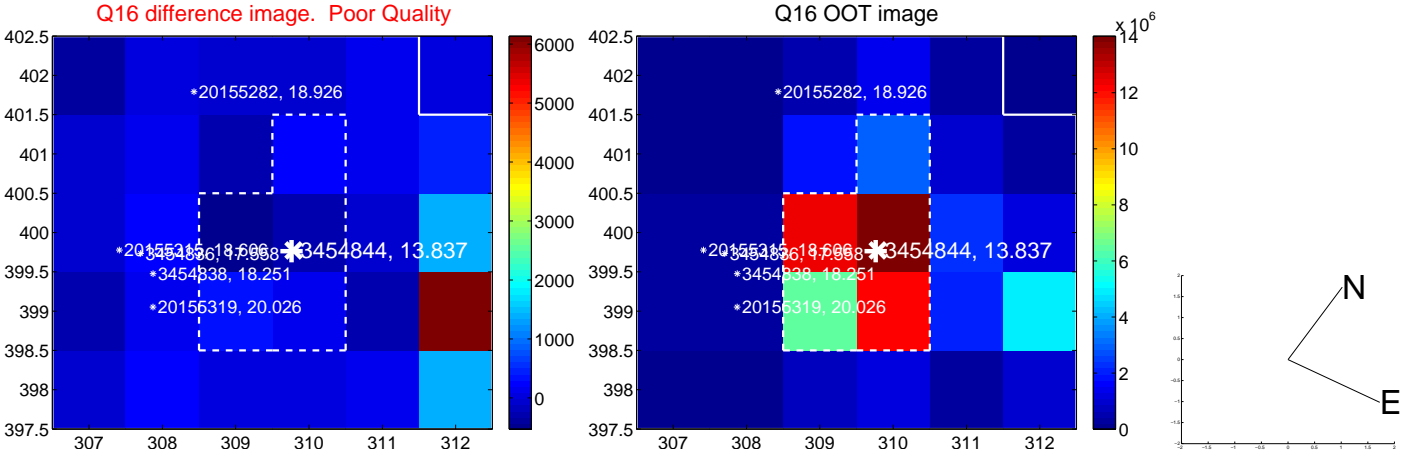
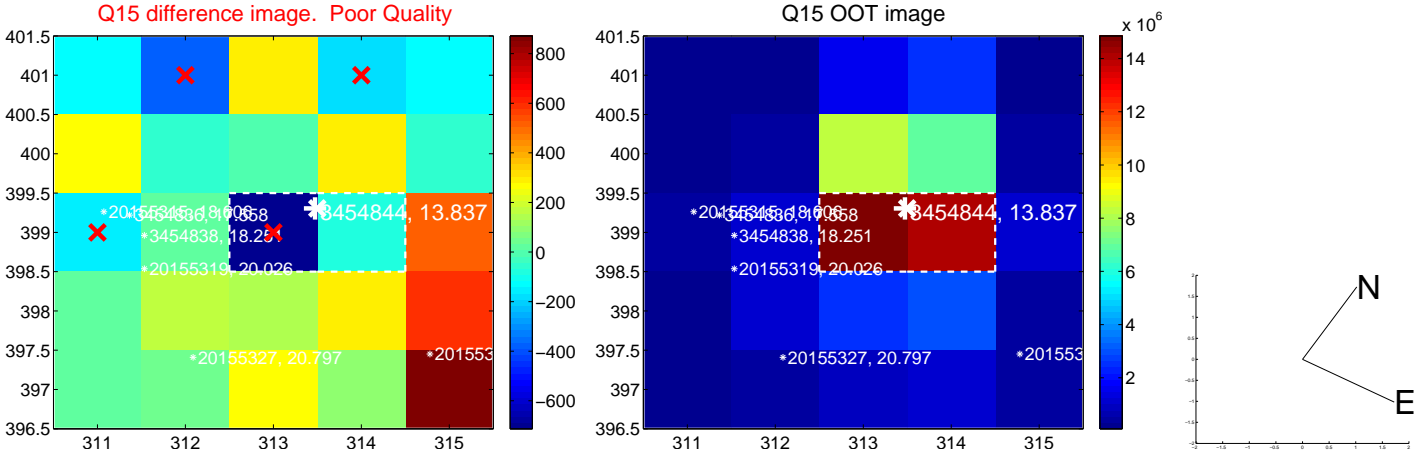
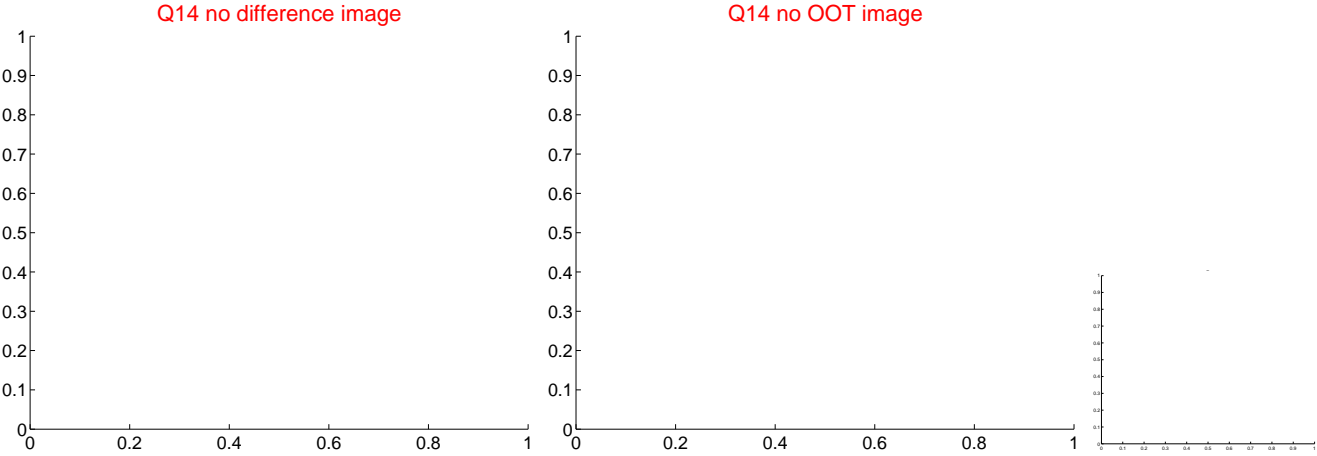
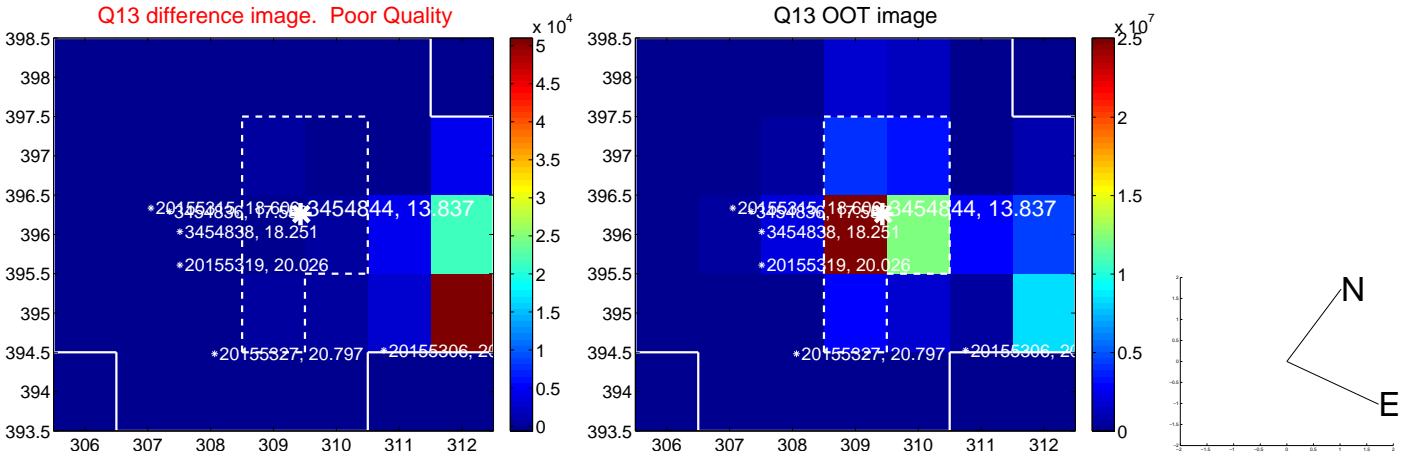
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



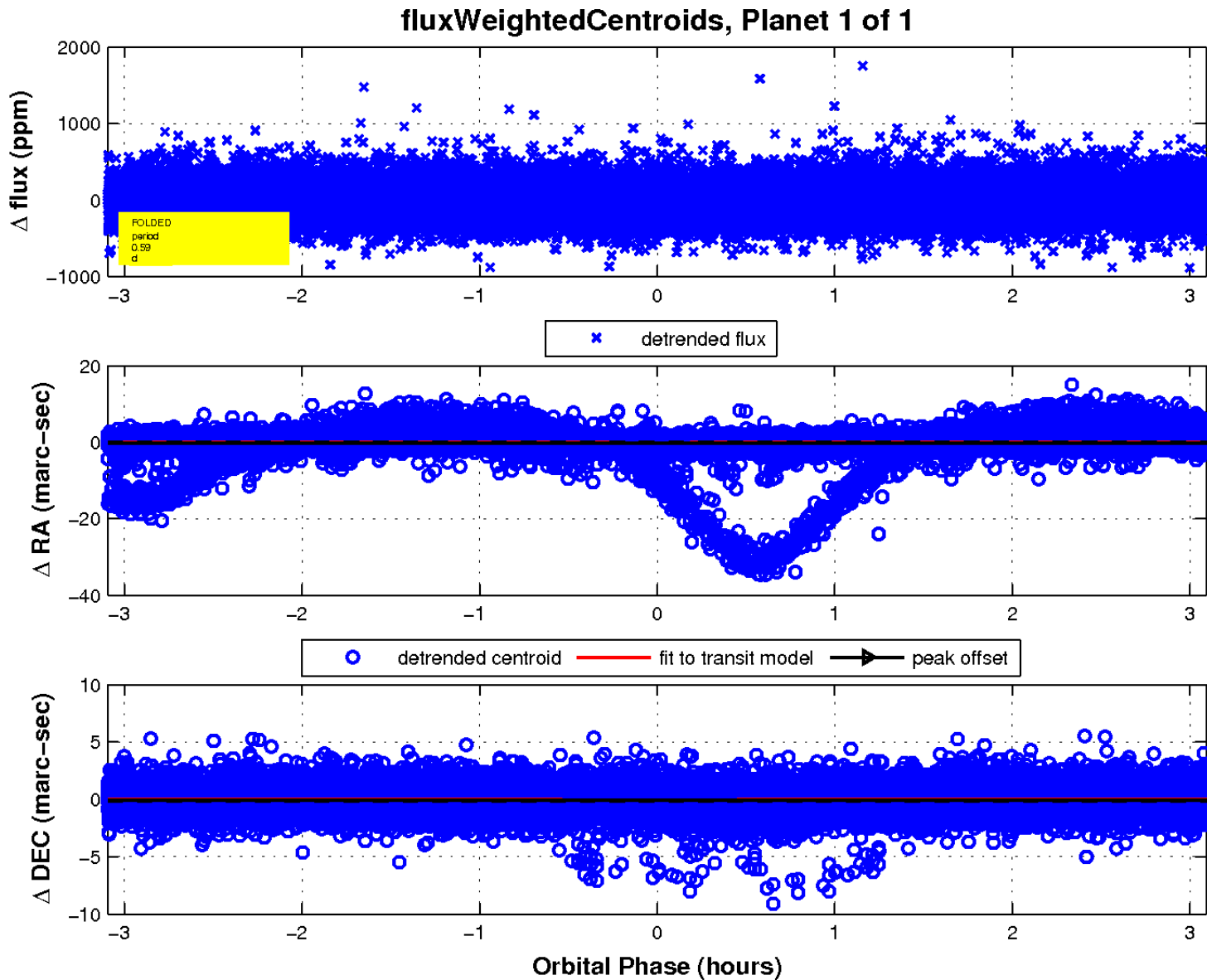
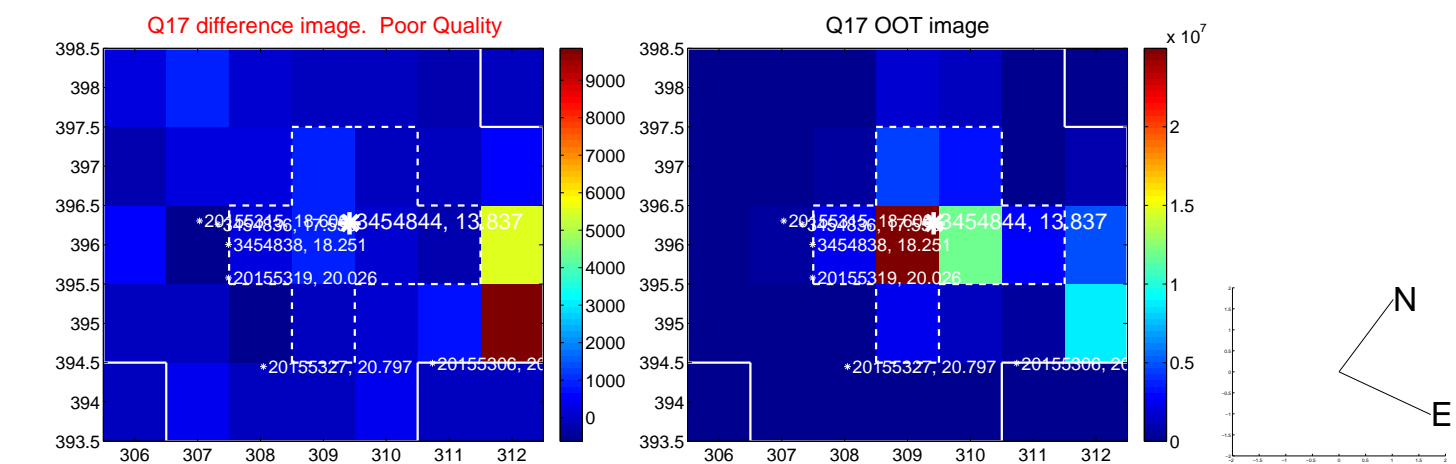
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image

Declination

