

KIC 004914032

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|------|-----------------------------|-----------------|------------------------|------------------------|
| 004914032-01 | OBS | No | 2.290270 | 133.255145 | 61.4 | 23.867 | 9.3 | 13.4 | 0.64 | 4818 | 0.70 | 220.68 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|----------------------|
| 004914032-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—CENT_FEW_MEAS |

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

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

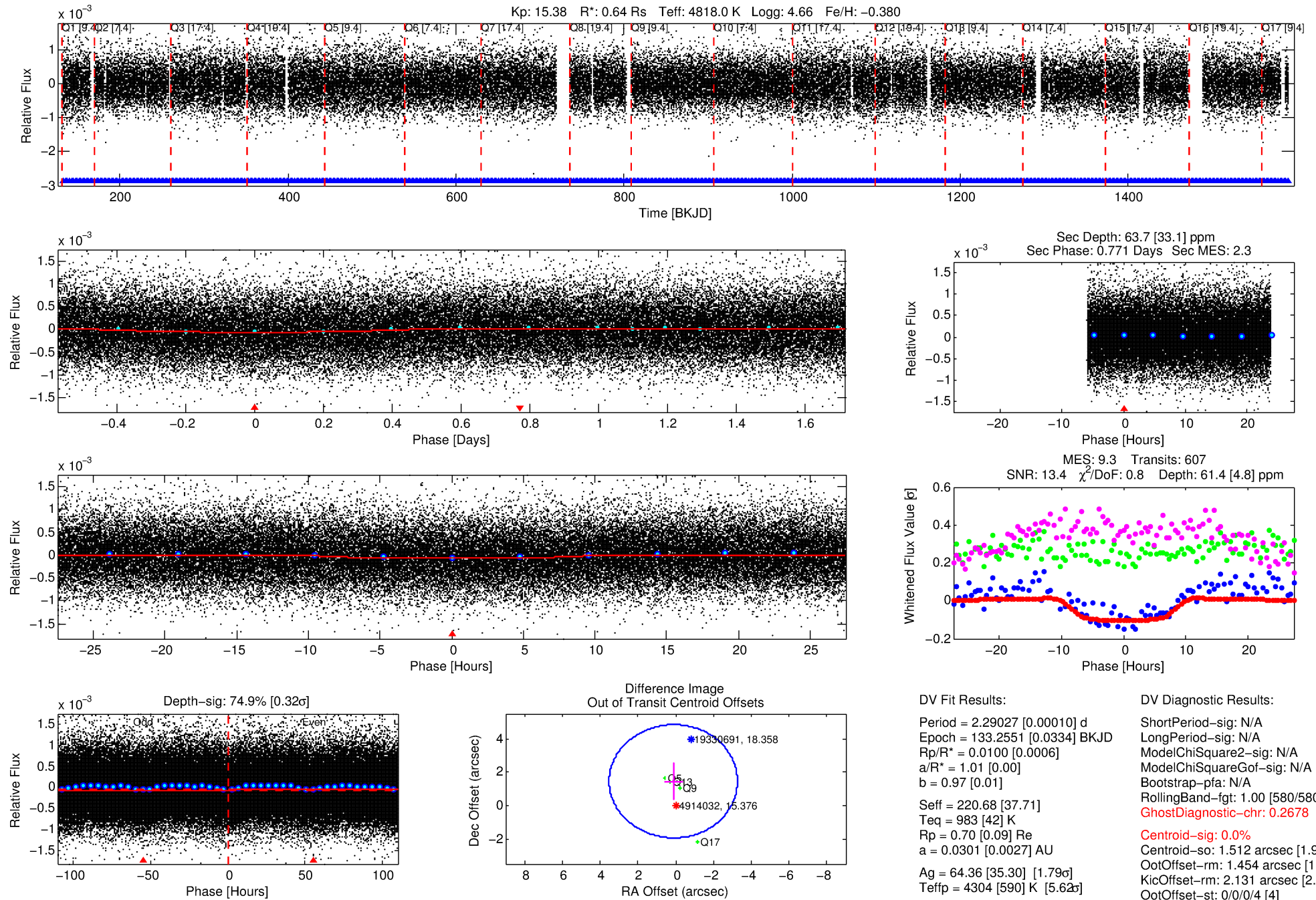
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004914032-01

No Significant Match Found

DV One-Page Summary

KIC: 4914032 Candidate: 1 of 1 Period: 2.290 d



DV Fit Results:

Period = 2.29027 [0.00010] d
Epoch = 133.2551 [0.0334] BKJD
Rp/R* = 0.0100 [0.0006]
a/R* = 1.01 [0.00]
b = 0.97 [0.01]
Seff = 220.68 [37.71]
Teff = 983 [42] K
Rp = 0.70 [0.09] Re
a = 0.0301 [0.0027] AU
Ag = 64.36 [35.30] [1.79 σ]
Teffp = 4304 [590] K [5.62 σ]

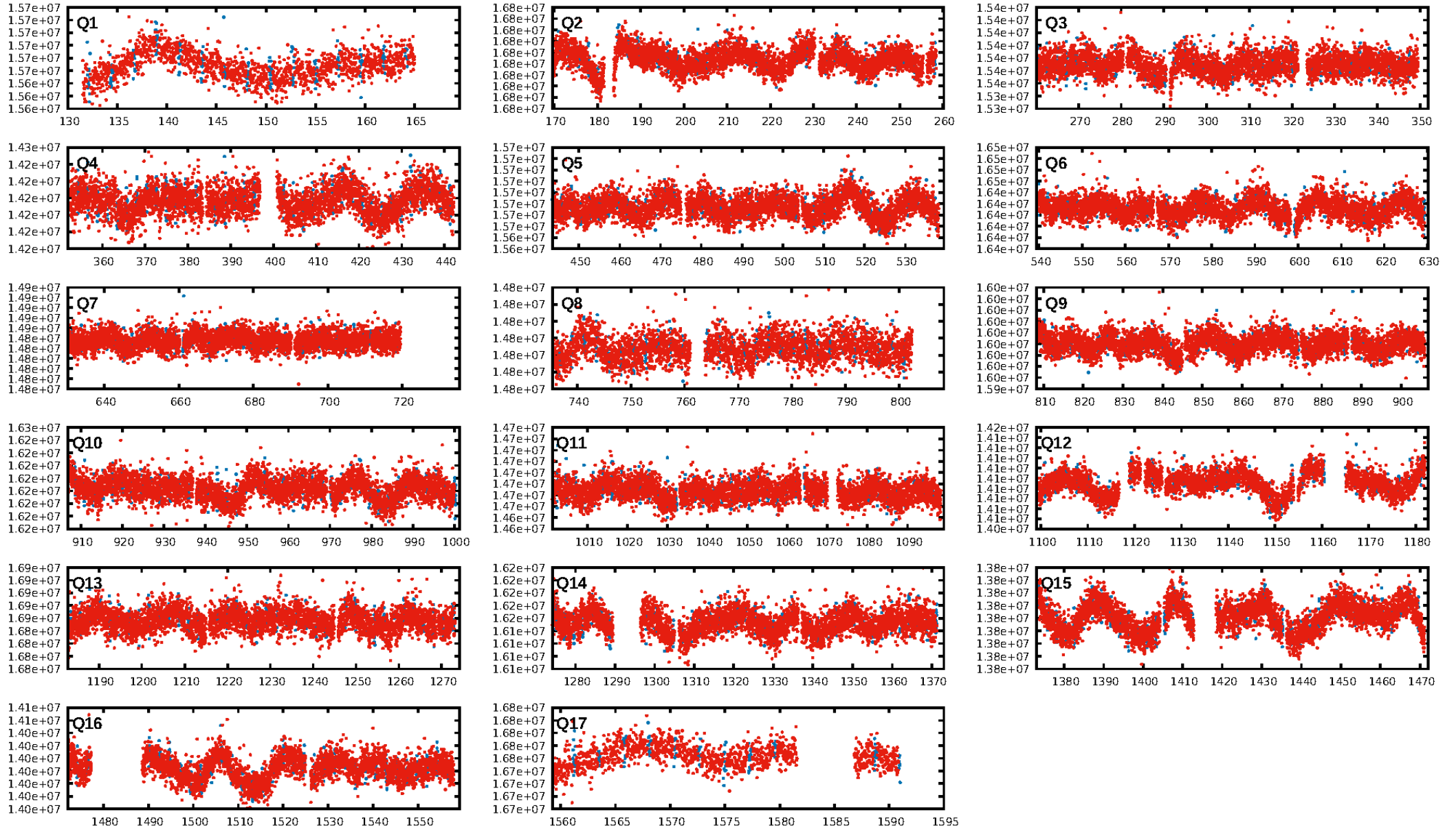
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [580/580]
GhostDiagnostic-chr: 0.2678
Centroid-sig: 0.0%
Centroid-so: 1.512 arcsec [1.94 σ]
OotOffset-rm: 1.454 arcsec [1.29 σ]
KicOffset-rm: 2.131 arcsec [2.82 σ]
OotOffset-st: 0/0/0/4 [4]
KicOffset-st: 0/0/0/4 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [17/17]

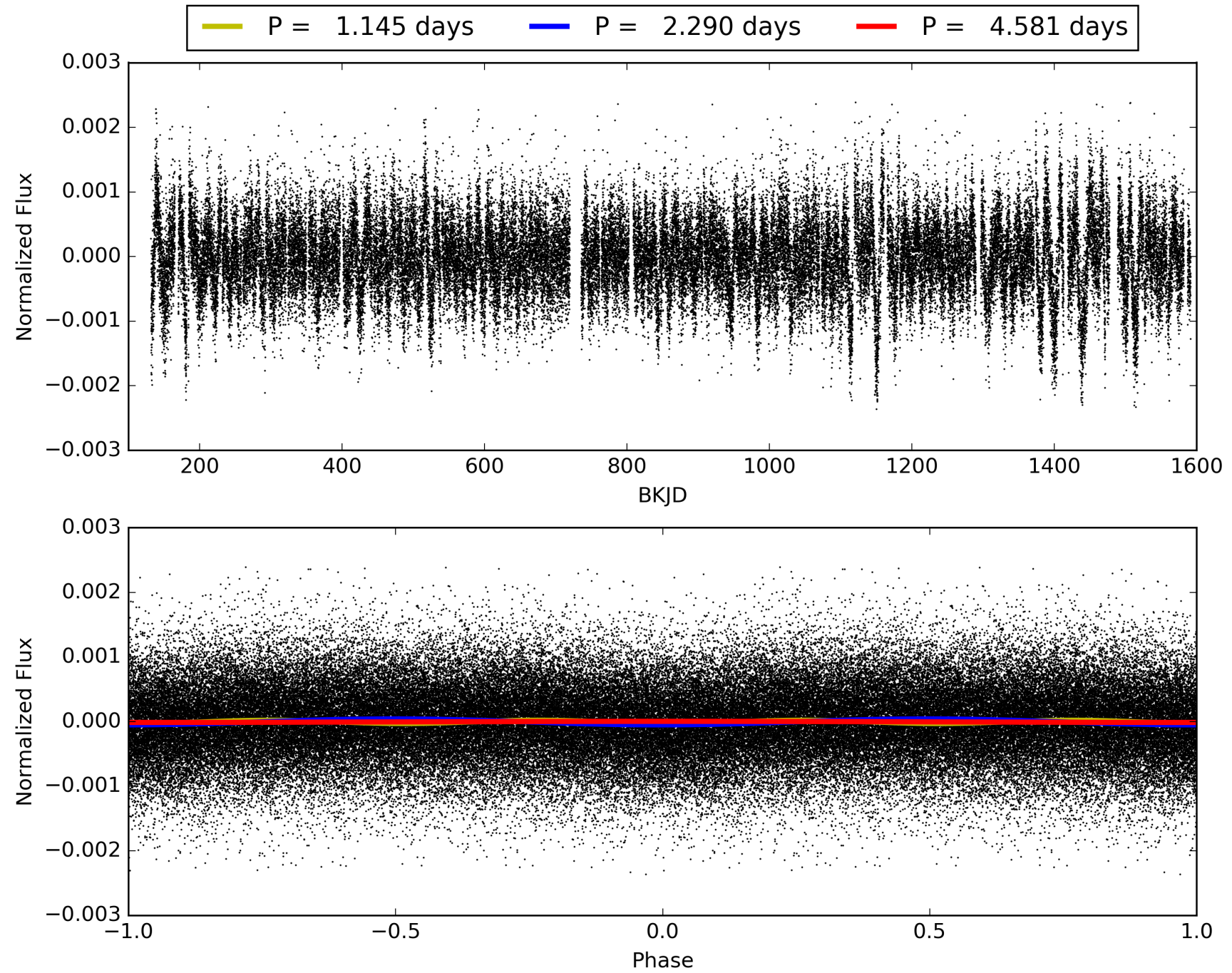
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:27:44 Z

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

TCE 004914032-01, PDC Light Curves

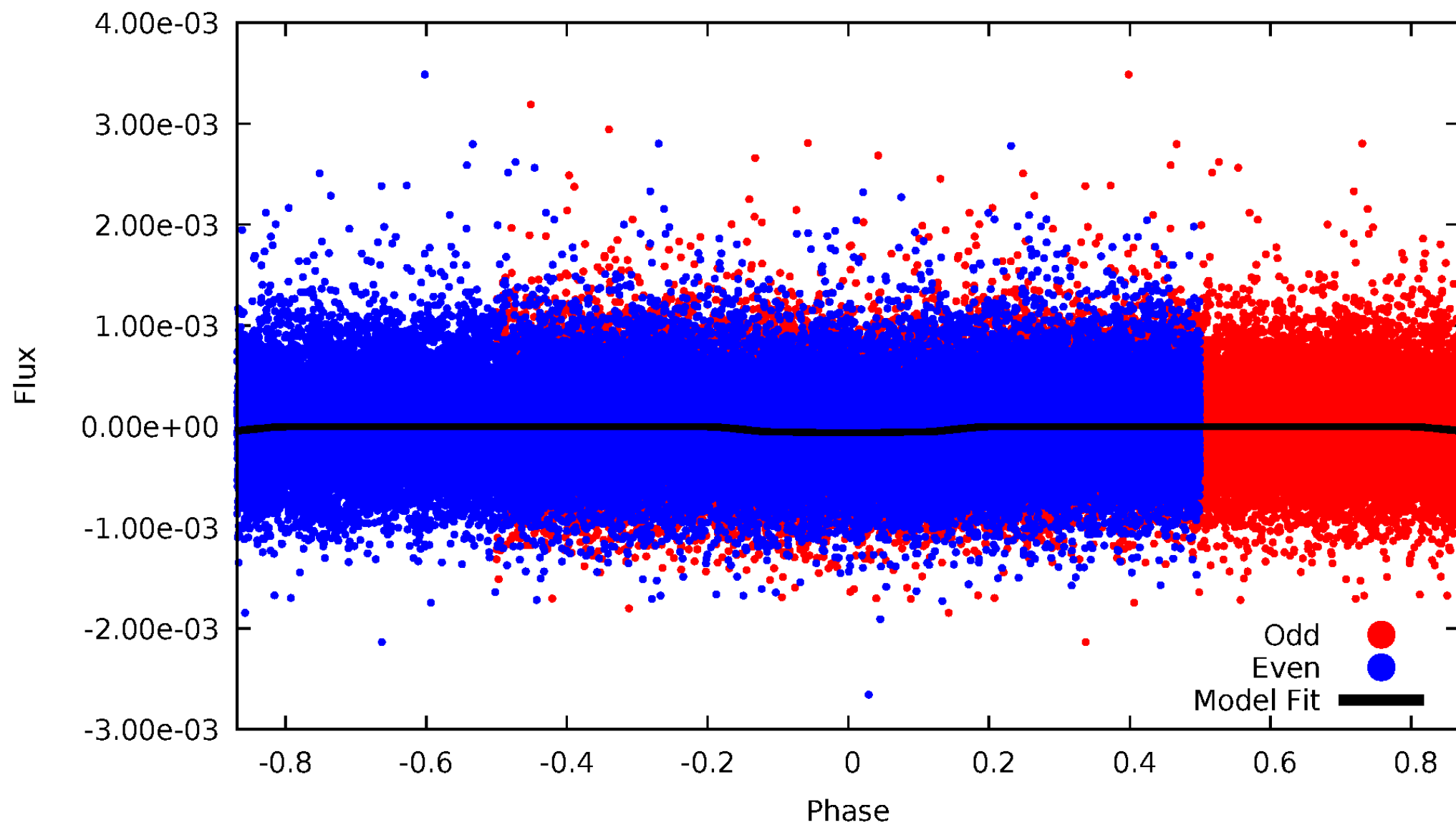


TCE 004914032-01



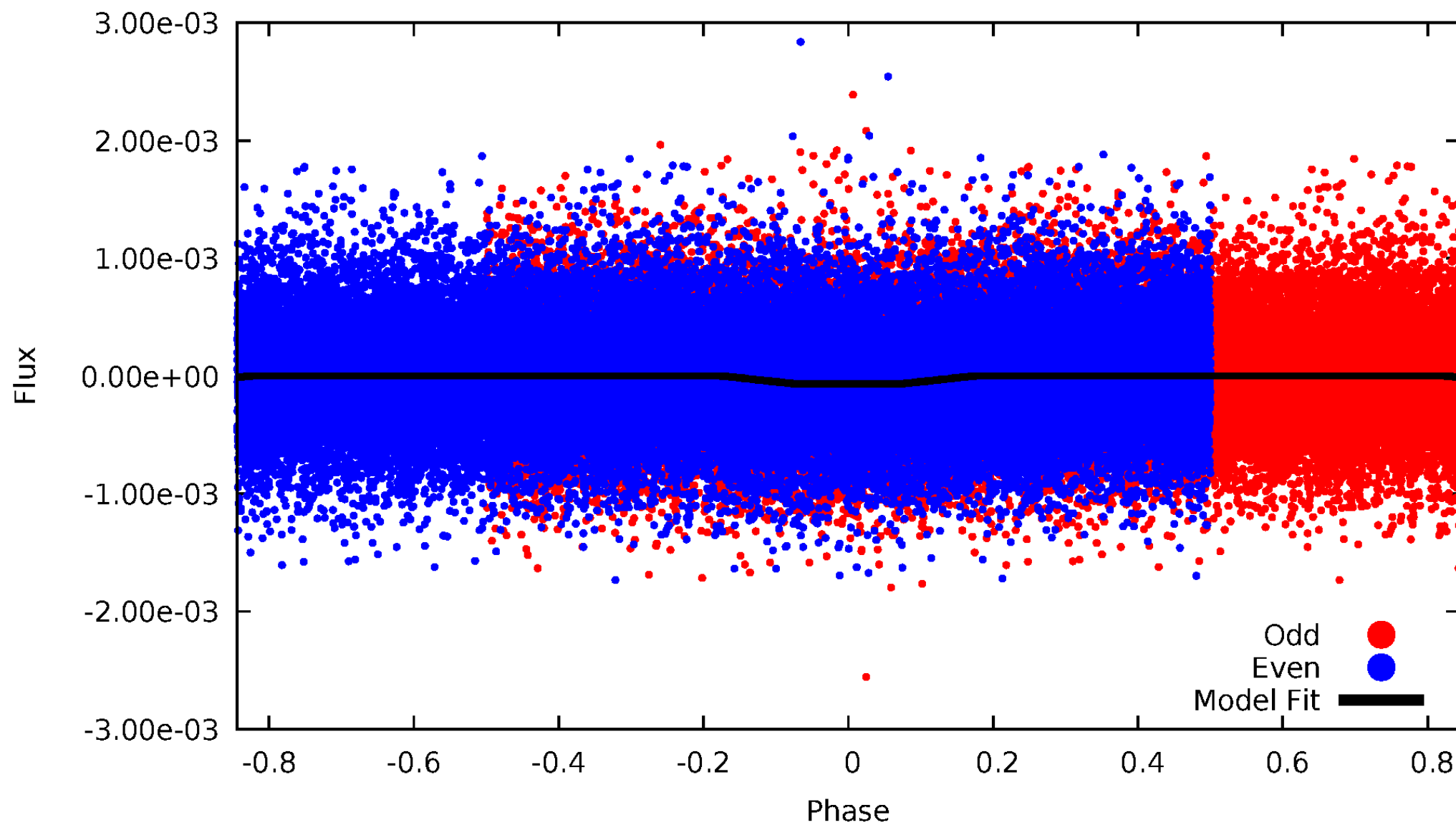
DV Odd/Even

TCE 004914032-01

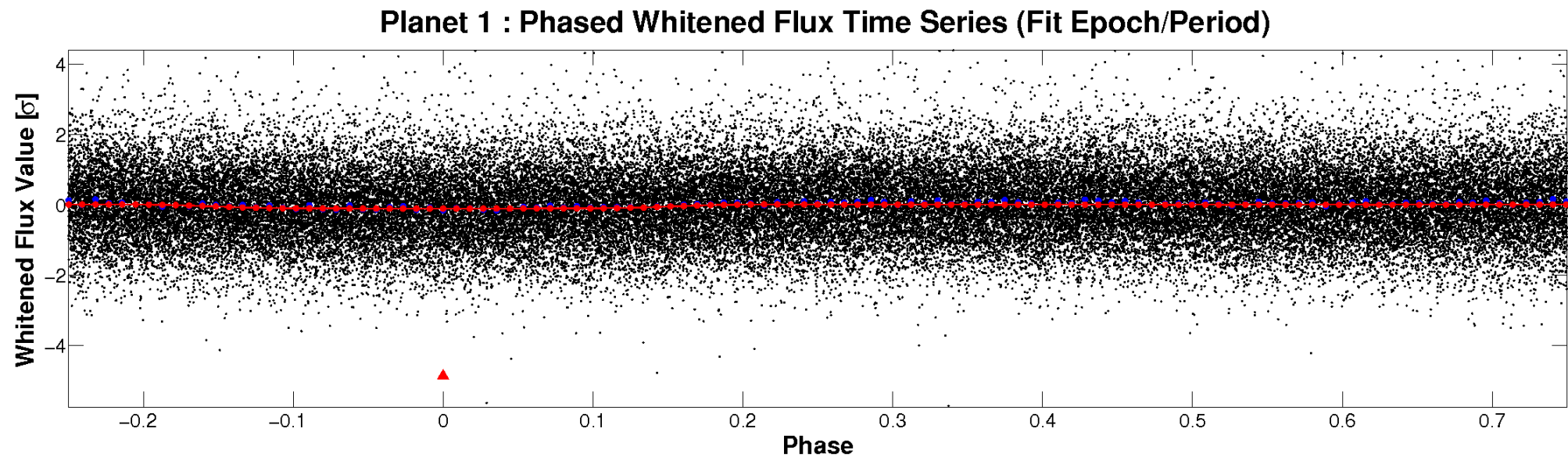
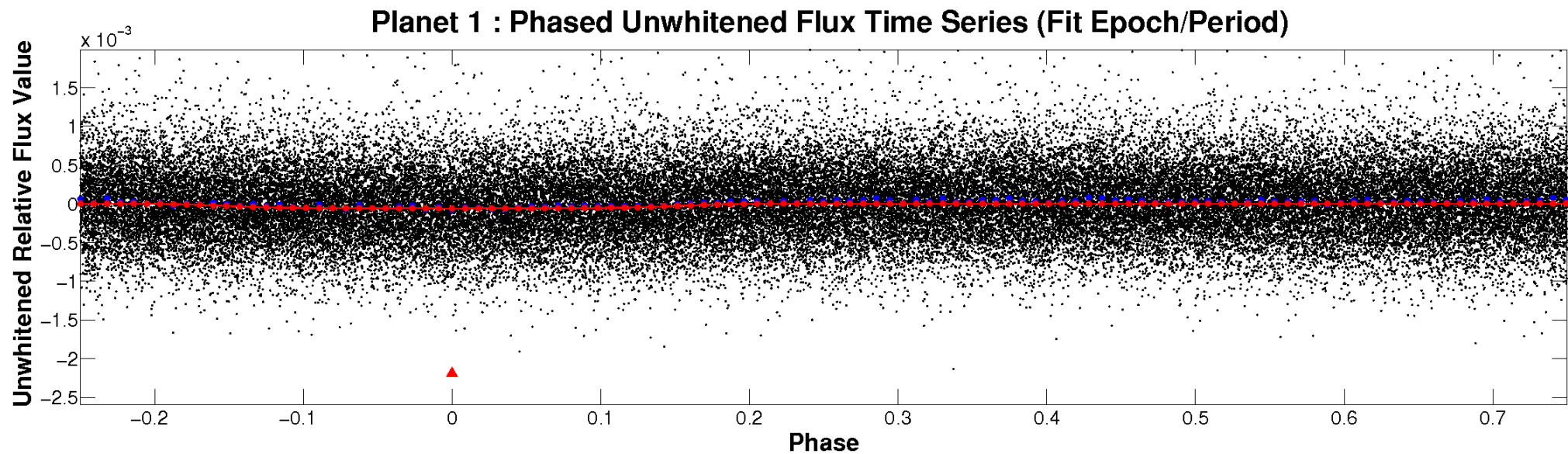


ALT Odd/Even

TCE 004914032-01

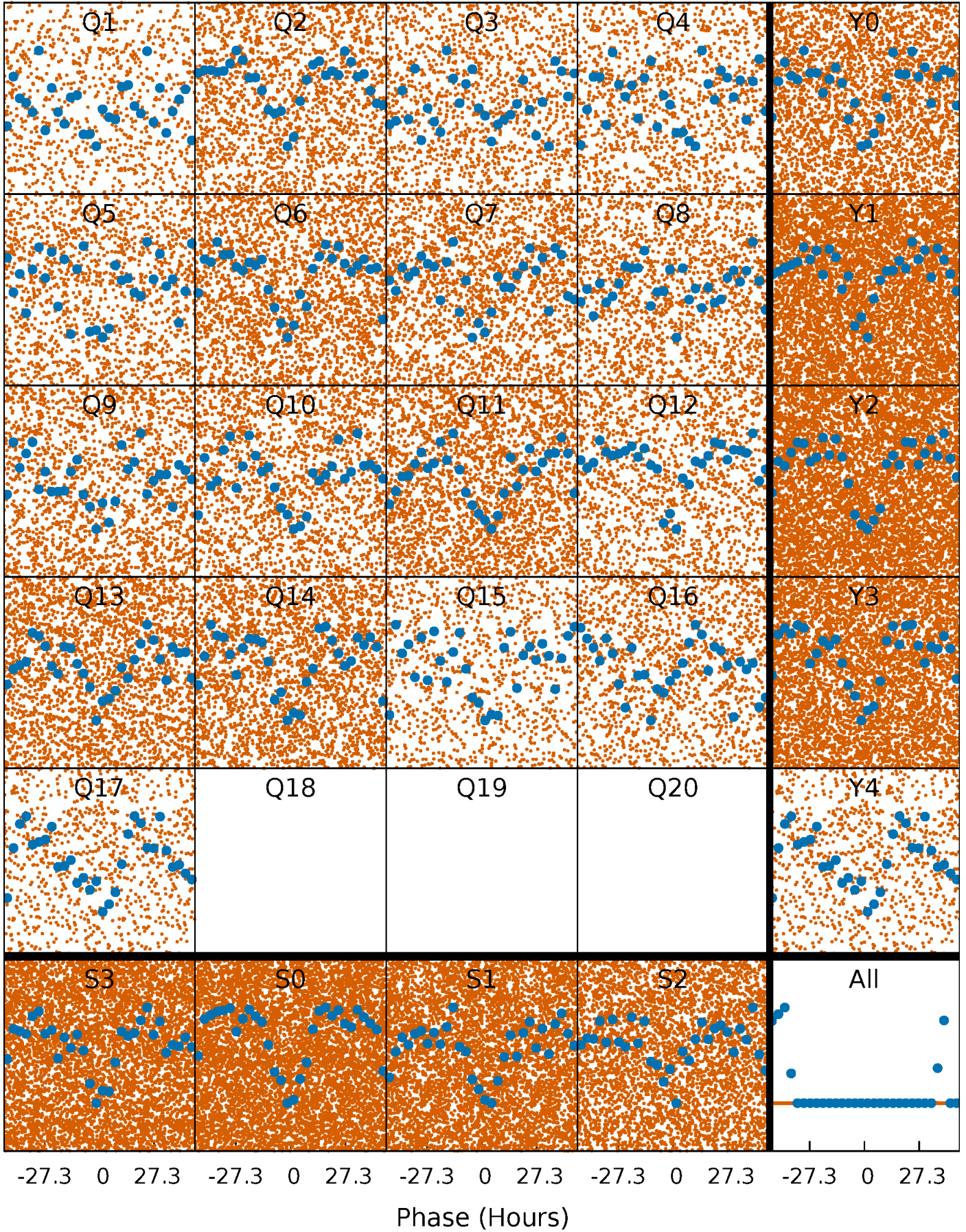


Non-Whitened Vs. Whitened Light Curve



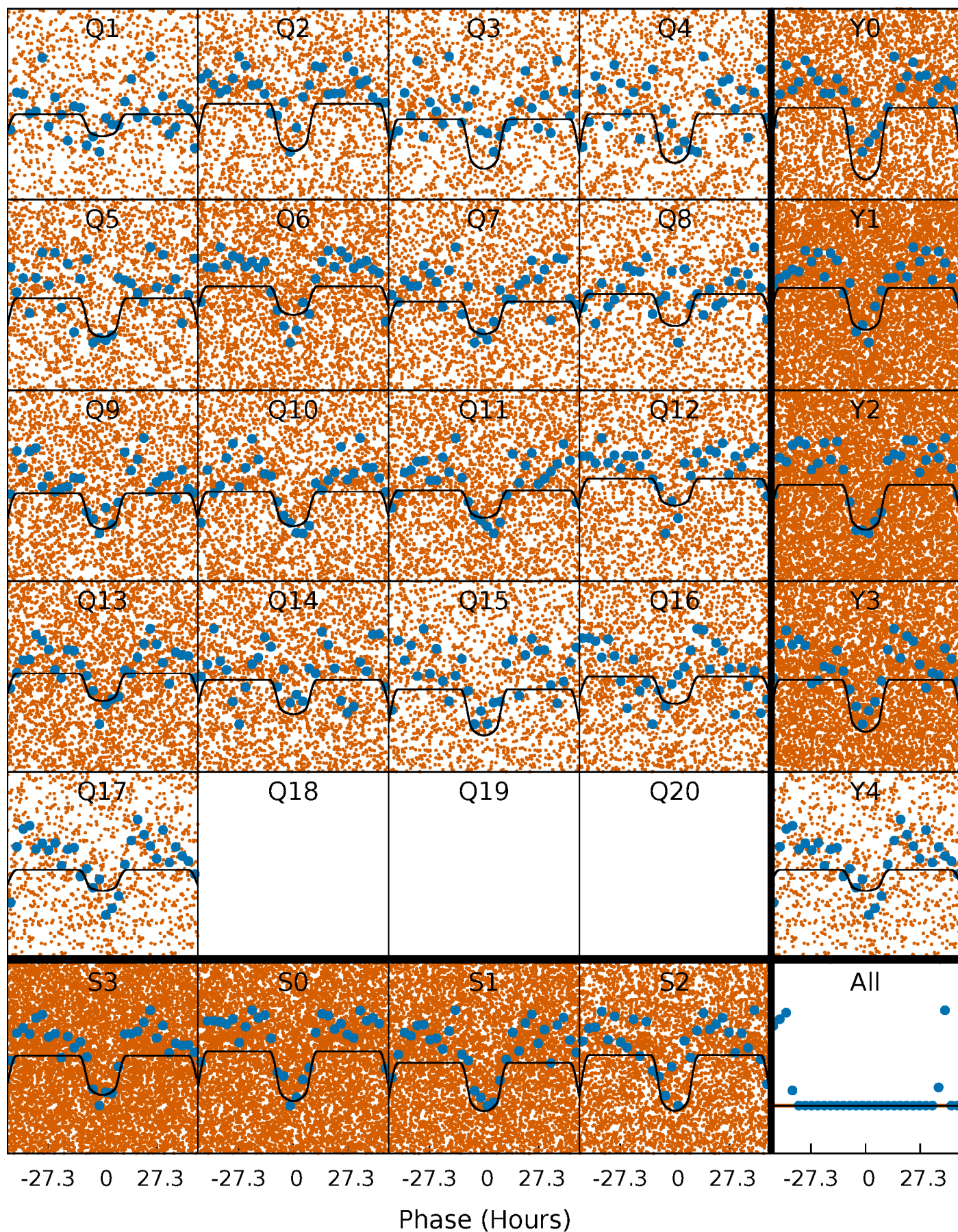
PDC Quarter-Phased Transit Curves

TCE 004914032-01 P= 2.290270 Days $T_0=133.255145$ (BKJD)



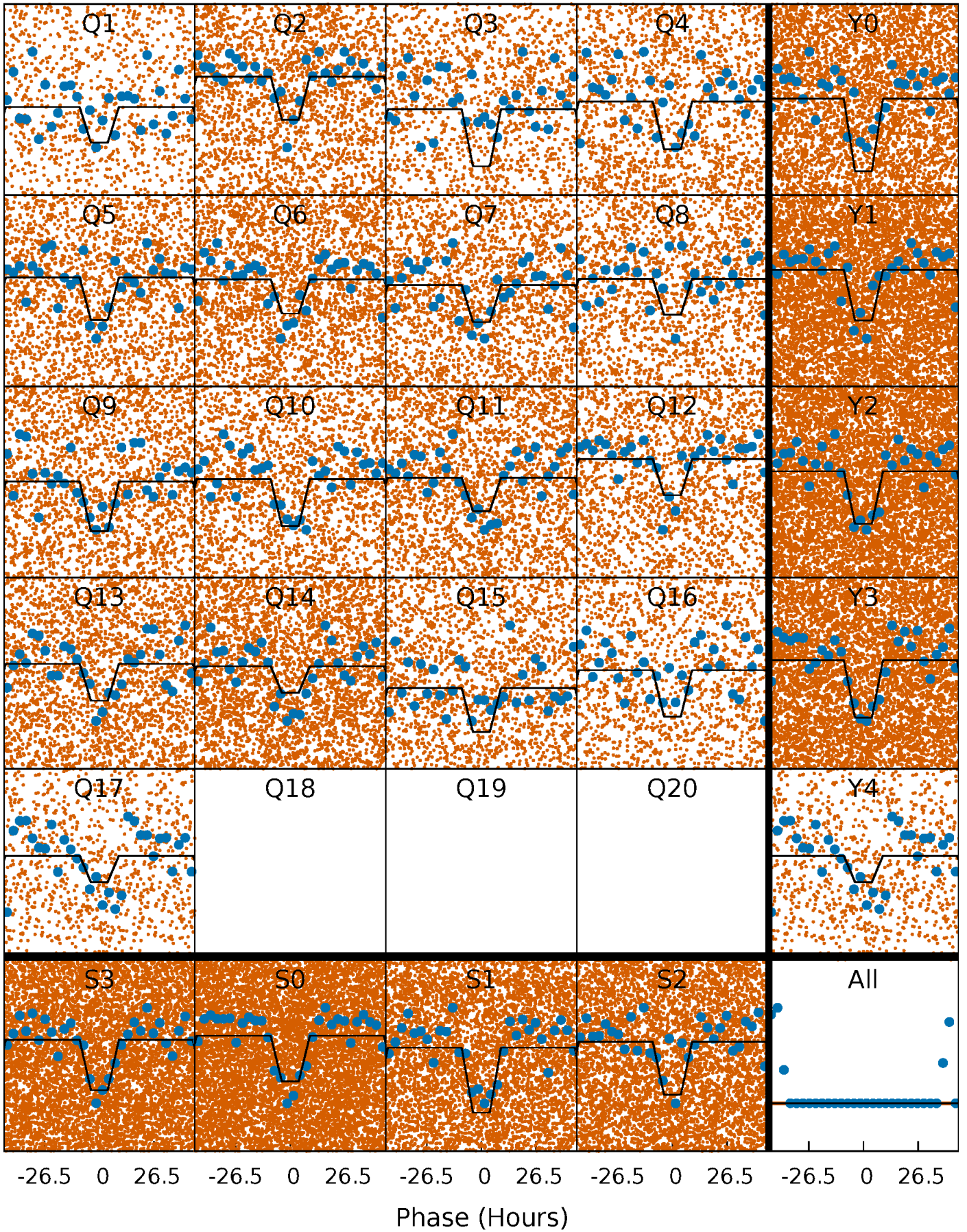
DV Quarter-Phased Transit Curves

TCE 004914032-01 P= 2.290270 Days $T_0=133.255145$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

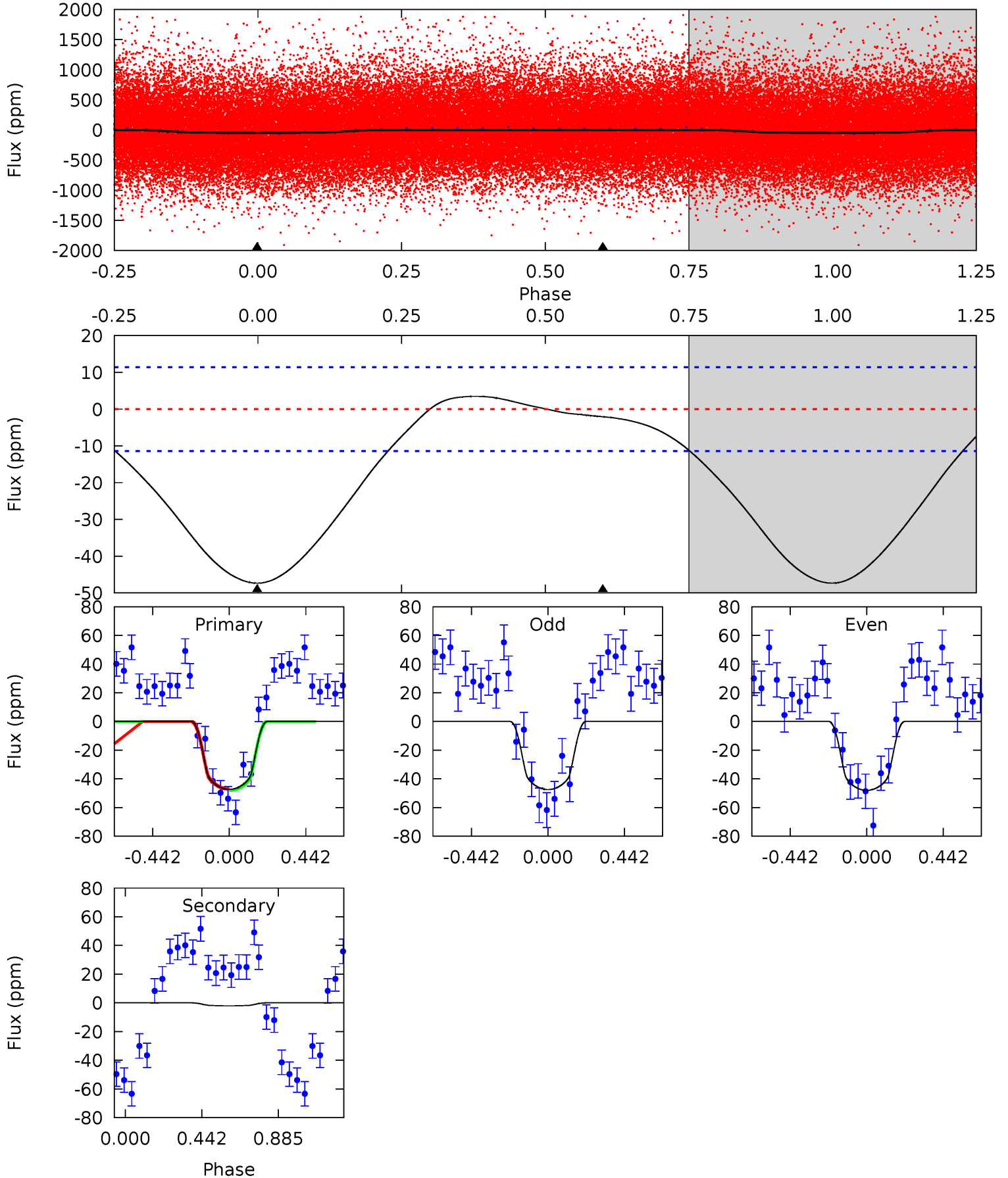
TCE 004914032-01 P= 2.290138 Days $T_0=133.297878$ (BKJD)



DV Model-Shift Uniqueness Test

004914032-01, P = 2.290270 Days, E = 130.964875 Days

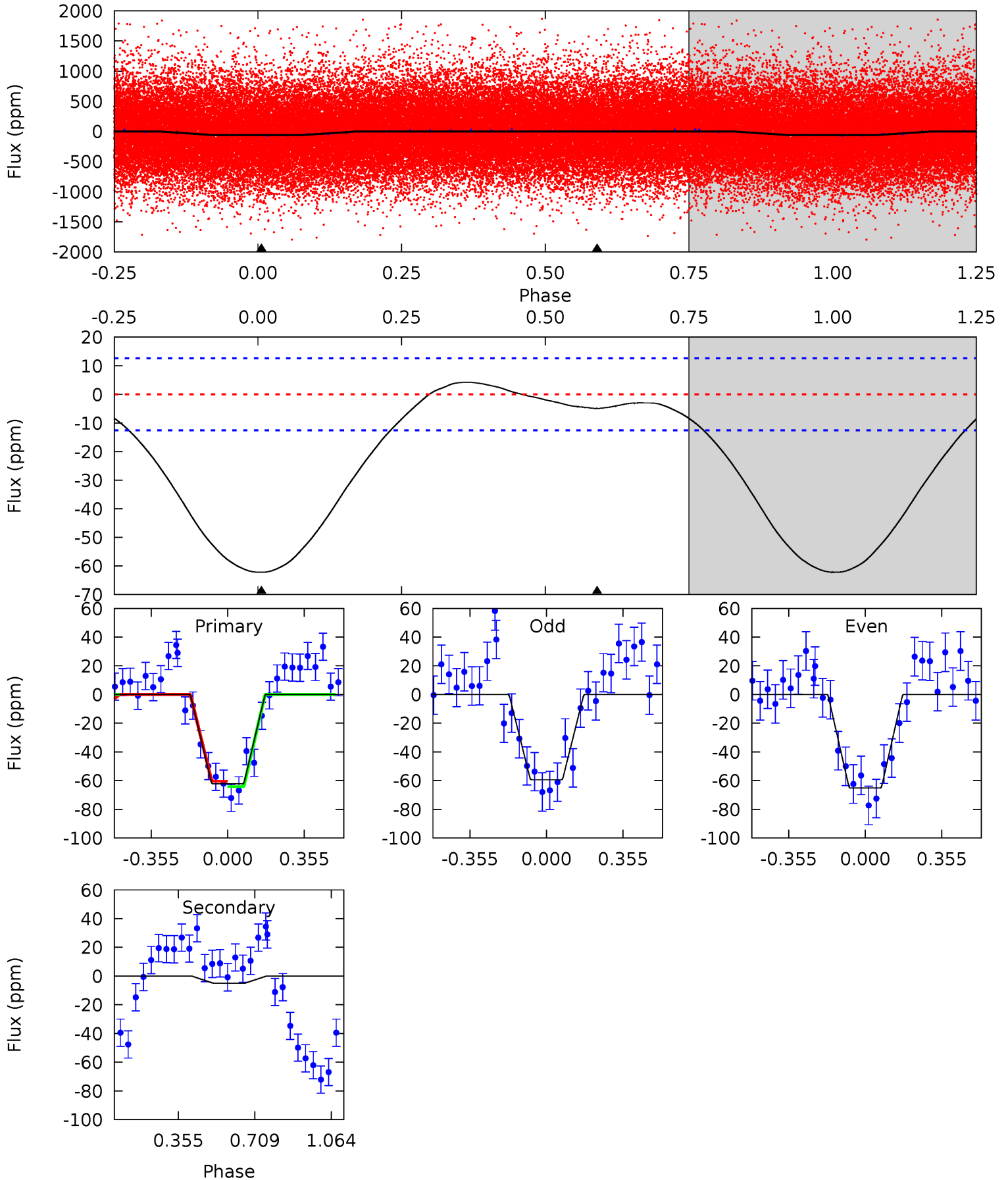
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 17.6 | 0.77 | 0 | 0 | 4.24 | 0.77 | 1.24 | 17.6 | 17.6 | 0.77 | 0.77 | 0.10 | 1.03 | 0.07 | 0.16 |



Alt Model-Shift Uniqueness Test

004914032-01, P = 2.290138 Days, E = 131.007740 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 21.2 | 1.68 | 0 | 0 | 4.29 | 0.93 | 1.36 | 21.2 | 21.2 | 1.68 | 1.68 | 0.99 | 1.17 | 0.06 | 0.61 |



Stellar Parameters For KIC 004914032

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 4818^{+144}_{-144} | $4.662^{+0.027}_{-0.063}$ | $-0.380^{+0.300}_{-0.300}$ | $0.644^{+0.072}_{-0.048}$ | $0.703^{+0.059}_{-0.072}$ | $3.709^{+0.510}_{-0.789}$ |
| | +3%/-3% | +1%/-1% | +79%/-79% | +11%/-7% | +8%/-10% | +14%/-21% |
| 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 004914032-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|--------------------|-----------------------|---------------------------|
| DV | -2 ± 3 | $0.71^{+0.06}_{-0.06}$ | 1385^{+49}_{-49} | 2540^{+353}_{-4898} | $1.974^{+2.894}_{-2.580}$ |
| Alt. | -5 ± 3 | $0.58^{+0.06}_{-0.06}$ | 1385^{+54}_{-49} | 3074^{+256}_{-366} | $7.265^{+4.693}_{-4.202}$ |

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 $A_{obs} \gg 1.0$

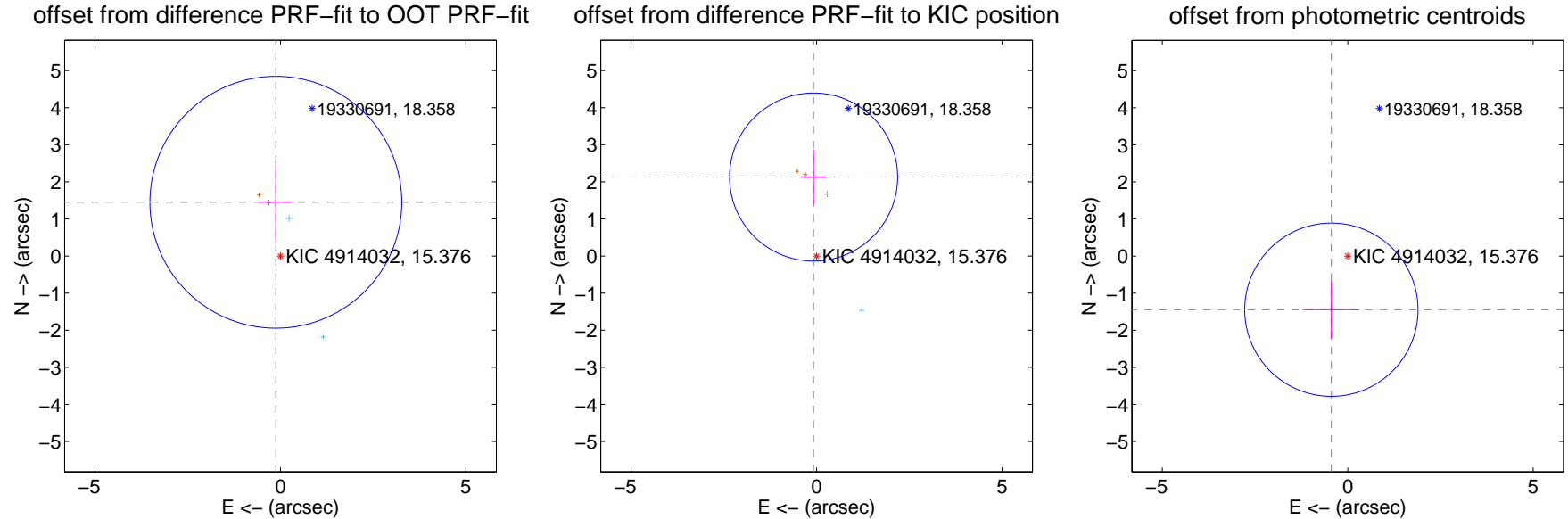
DV Centroid Data

Supplemental centroid analysis for 004914032-01. Kepler magnitude: 15.38. Transit SNR 13.37

There are 2 quarters with good PRF difference image offsets

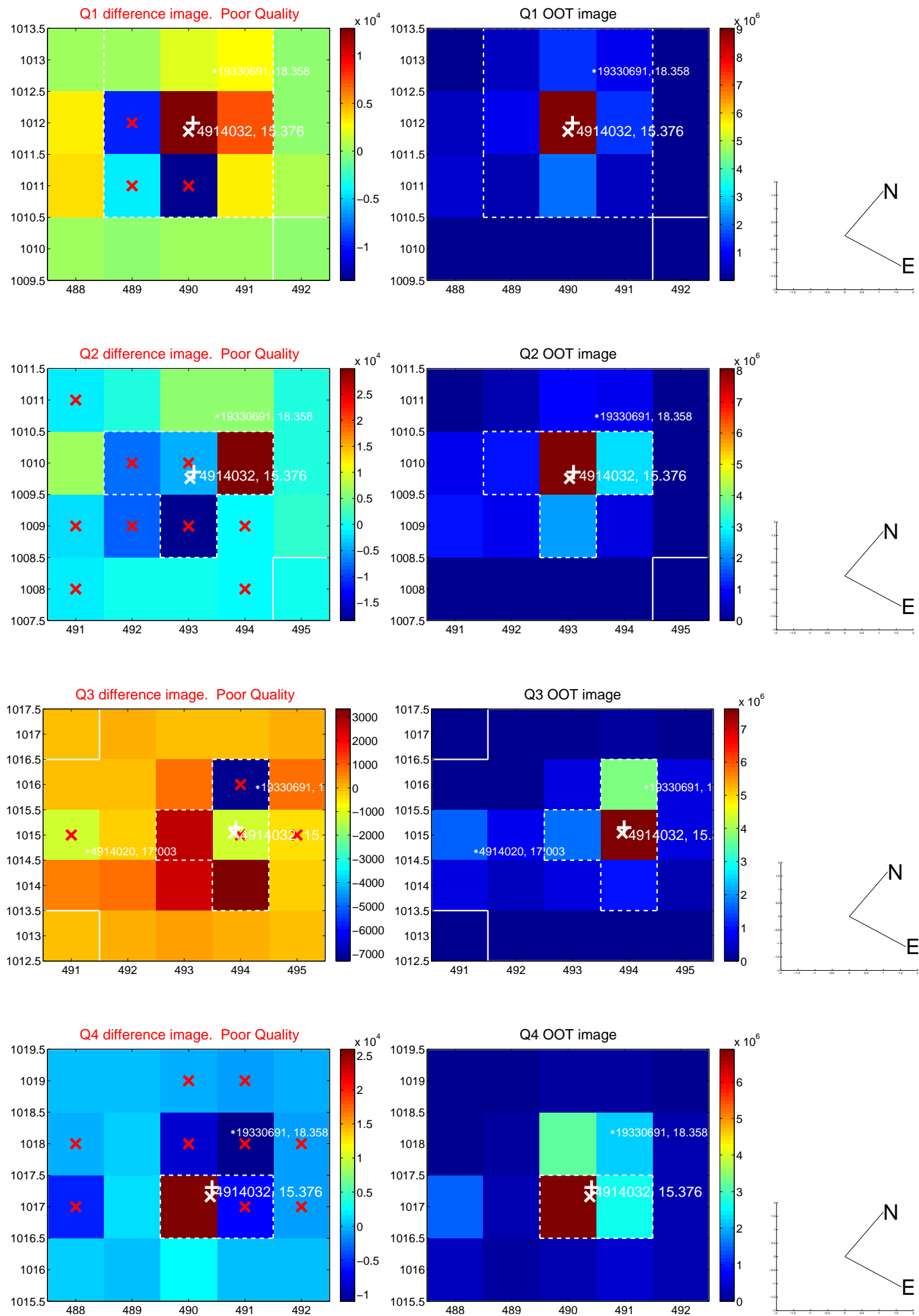
The direct PRF centroid is offset from the target star catalog position by about 0.72 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 1.454 ± 1.131 | 1.29 | 0.124 ± 0.466 | 1.449 ± 1.098 |
| PRF-fit source offset from KIC position | 2.131 ± 0.755 | 2.82 | 0.080 ± 0.339 | 2.129 ± 0.744 |
| photometric centroid source offset | 1.51 ± 0.78 | 1.94 | 0.44 ± 0.77 | -1.45 ± 0.78 |

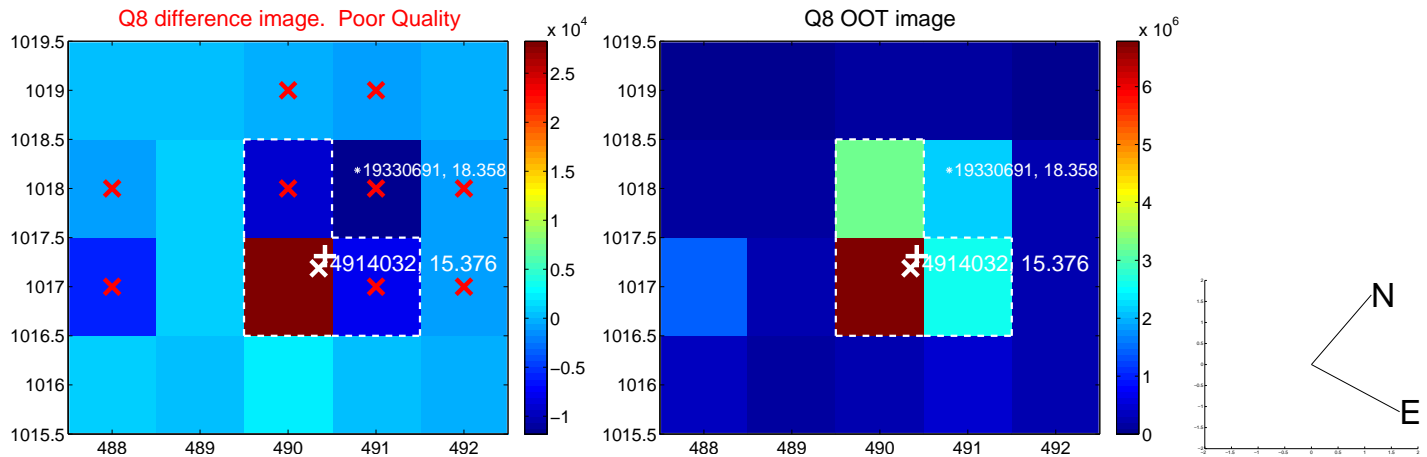
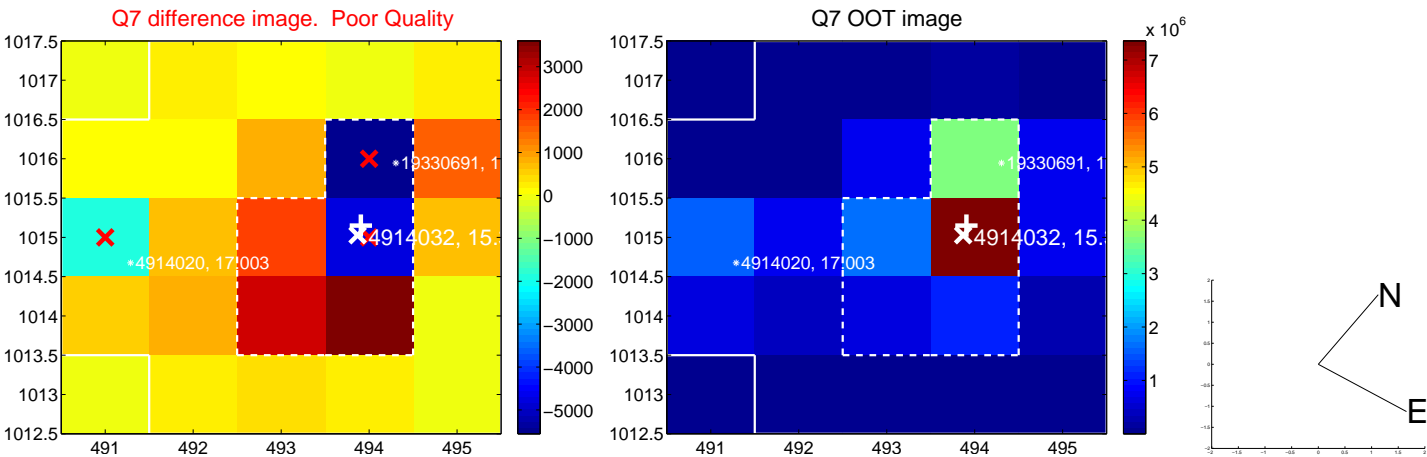
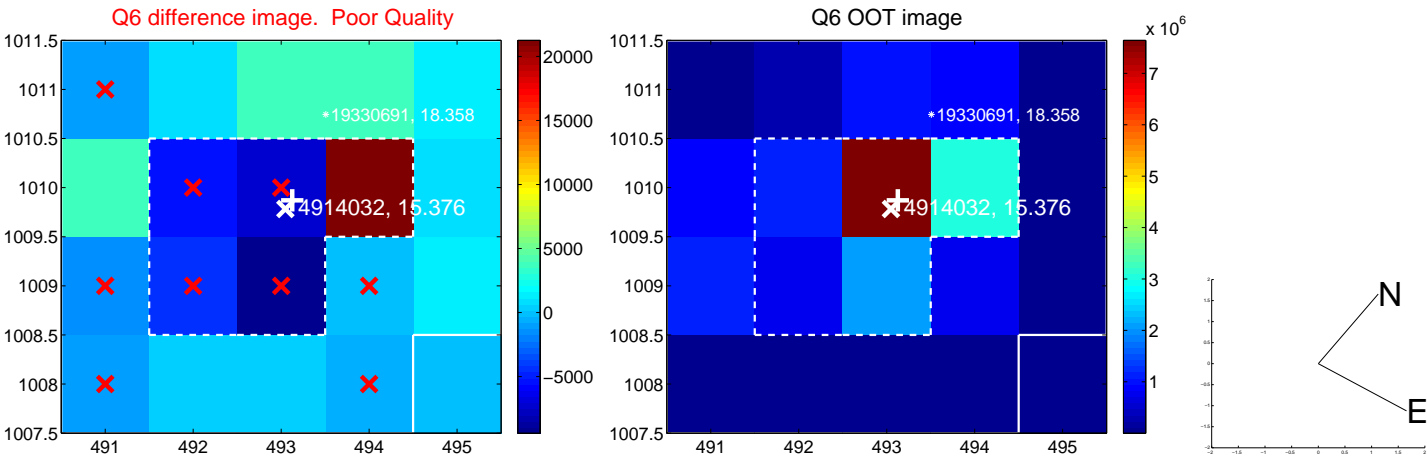
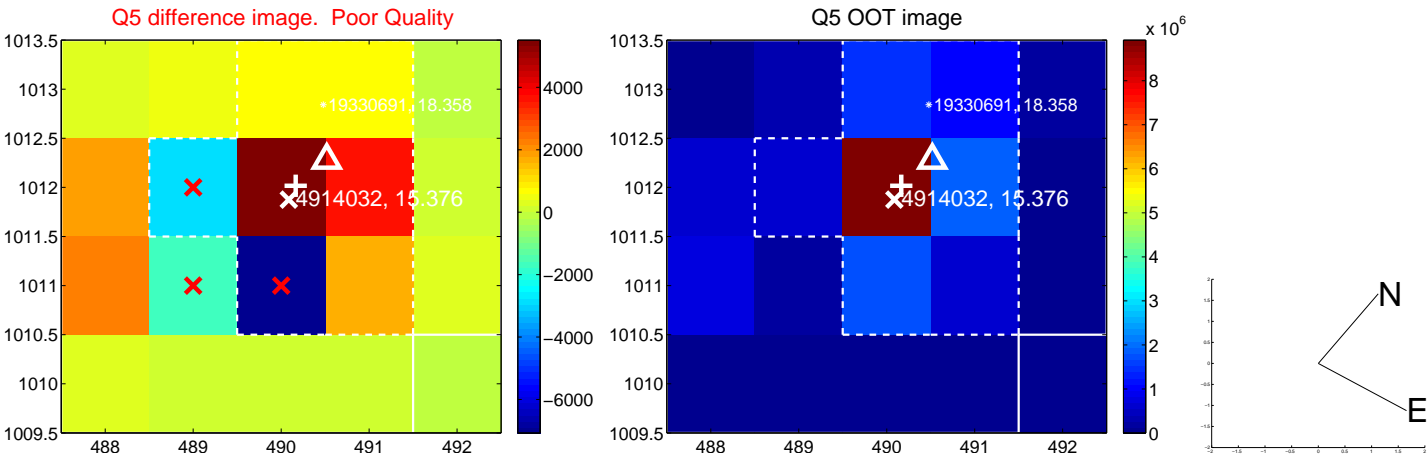


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

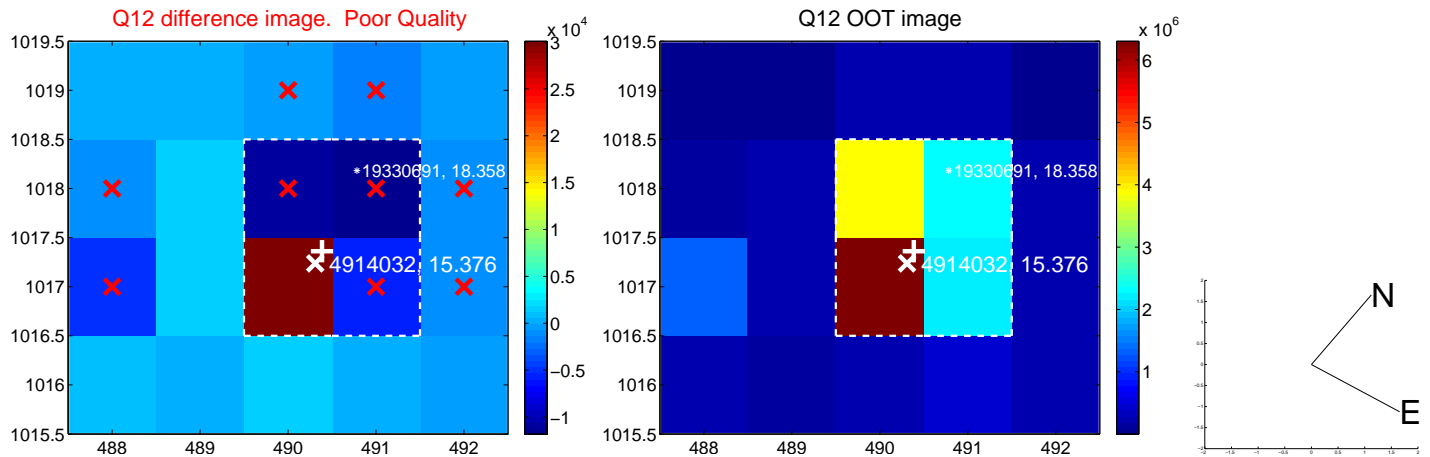
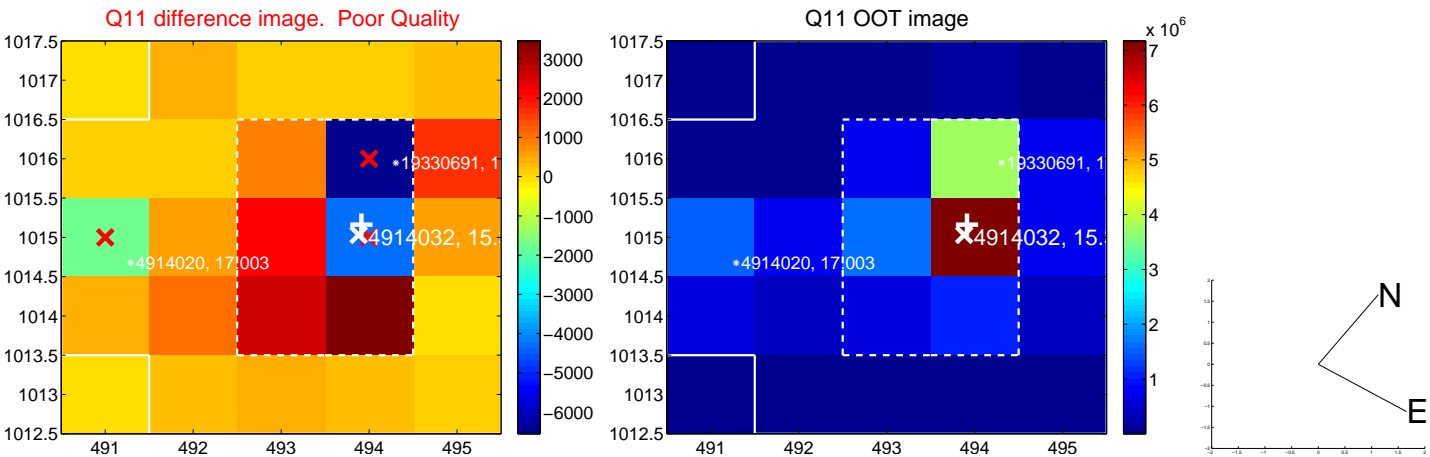
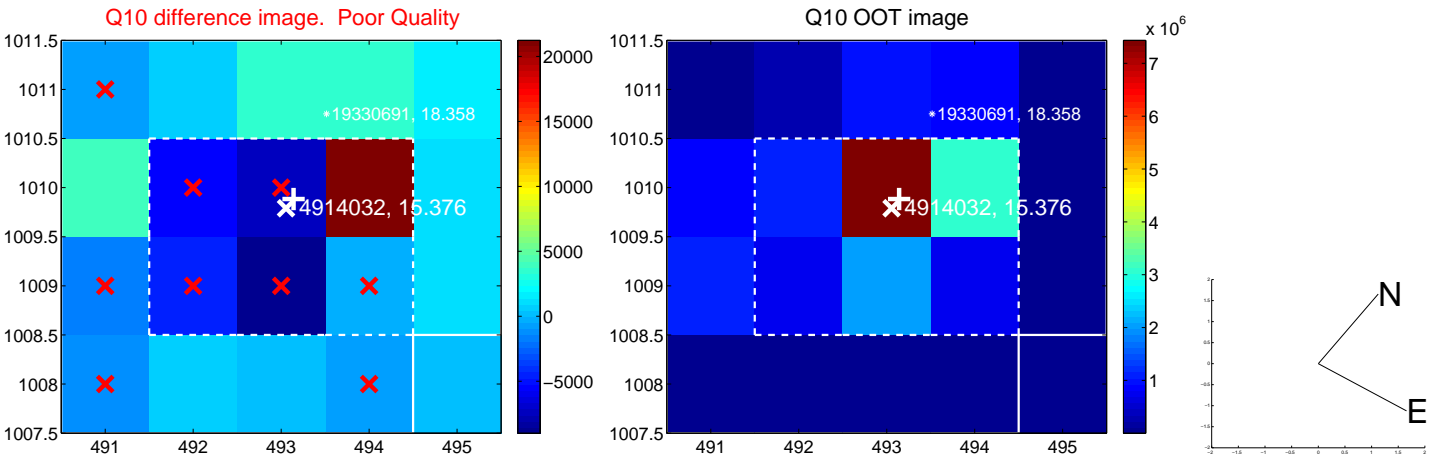
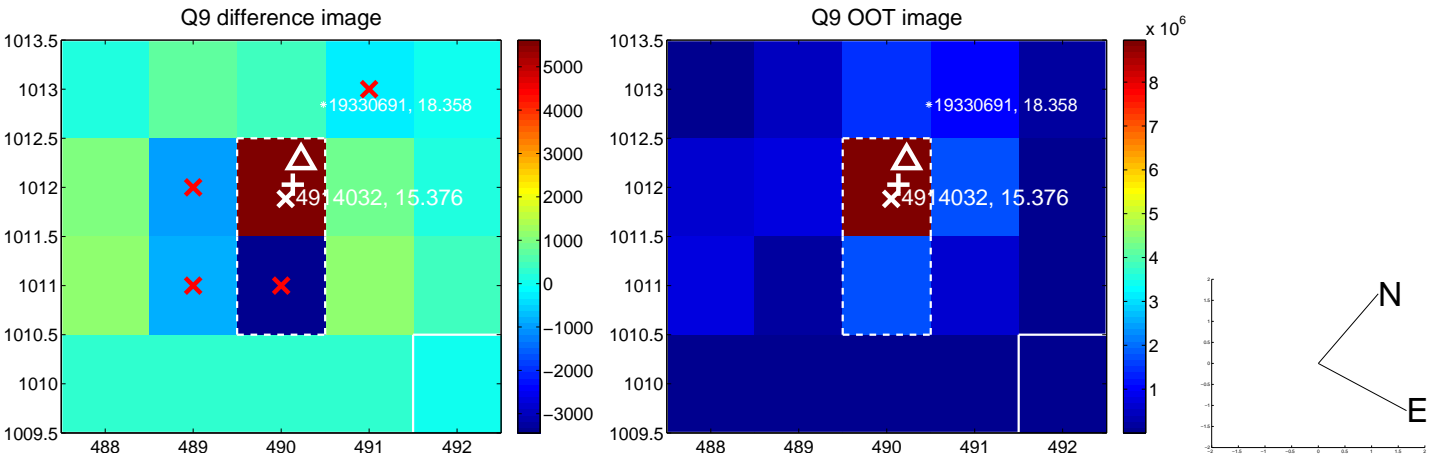
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



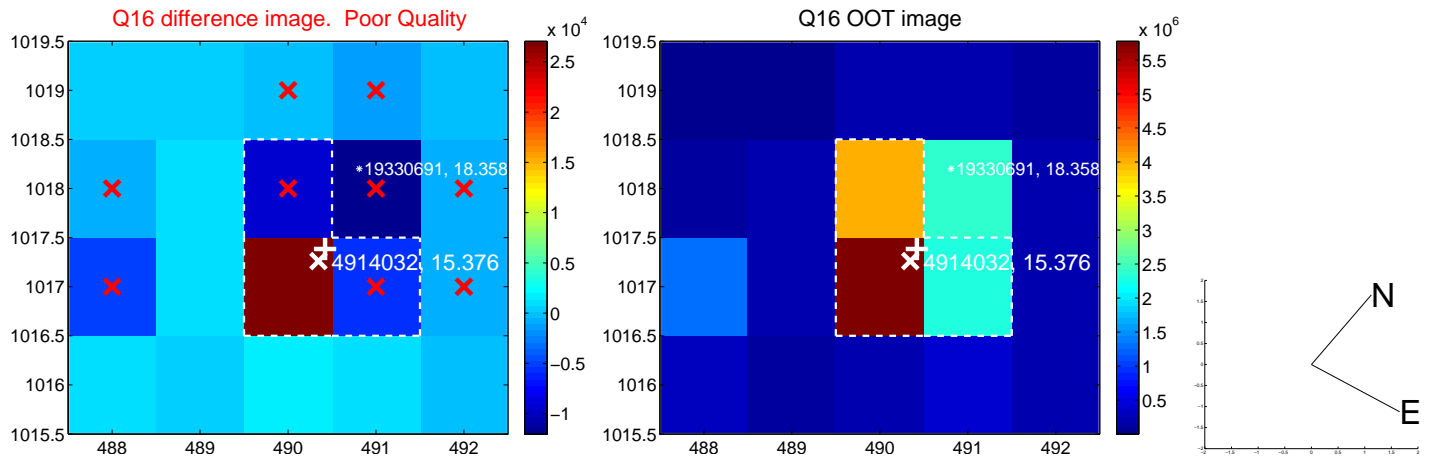
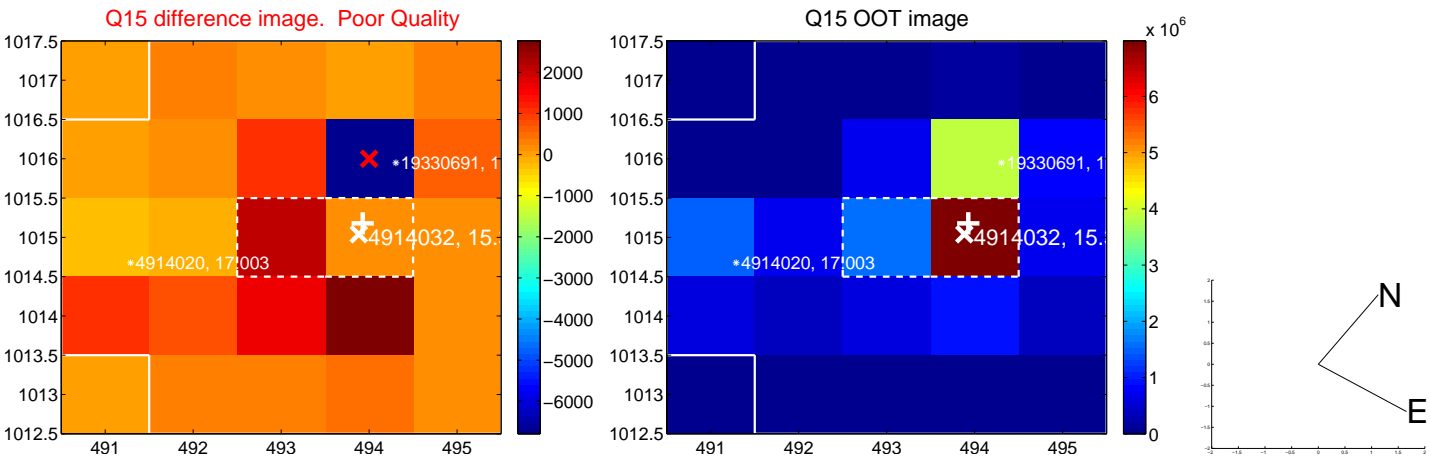
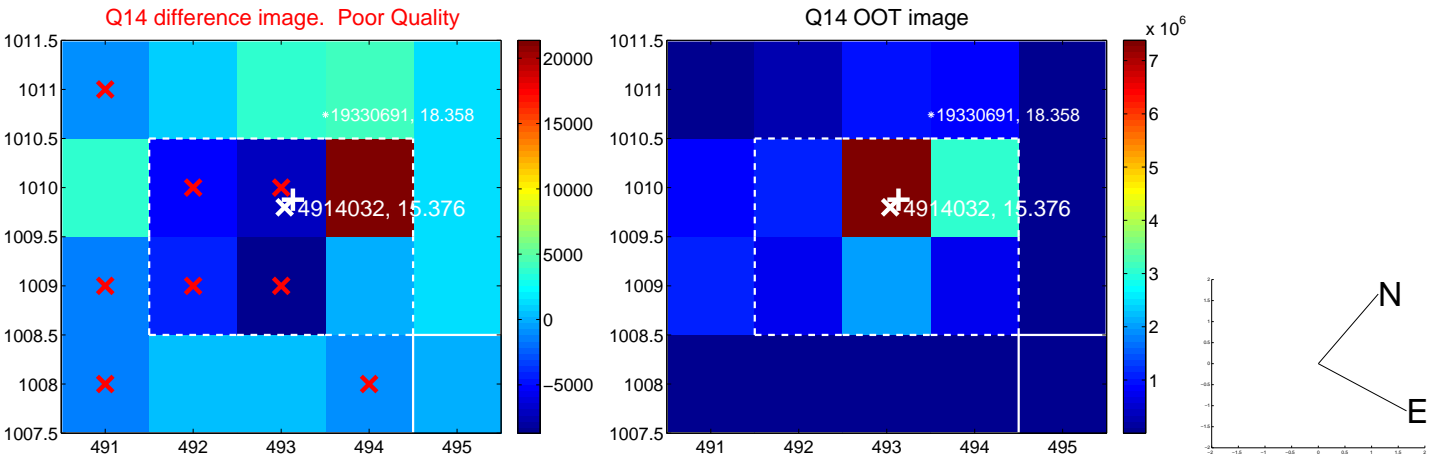
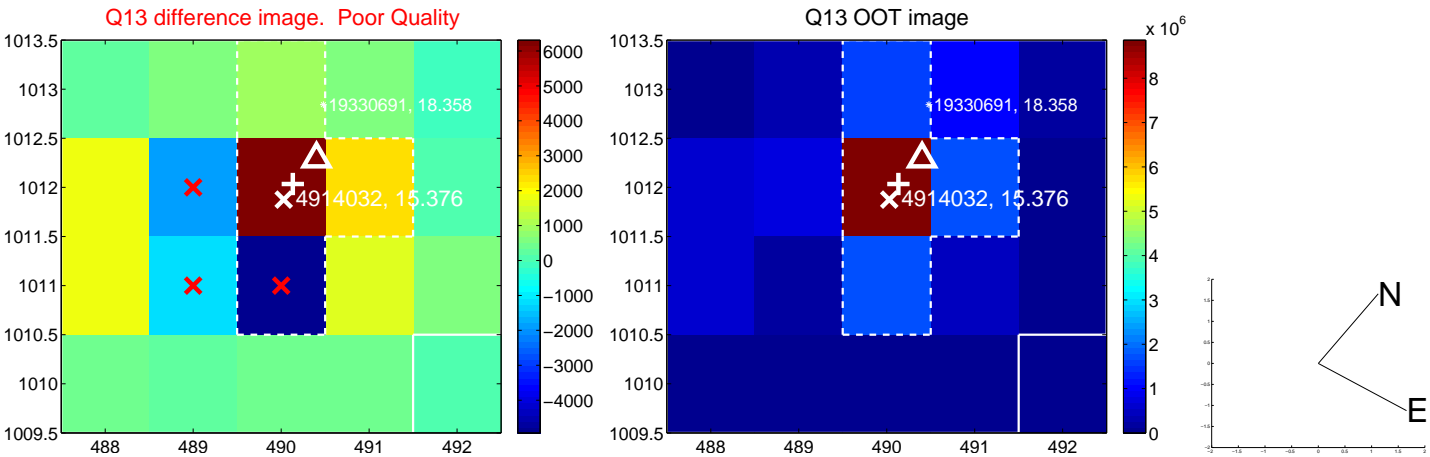
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



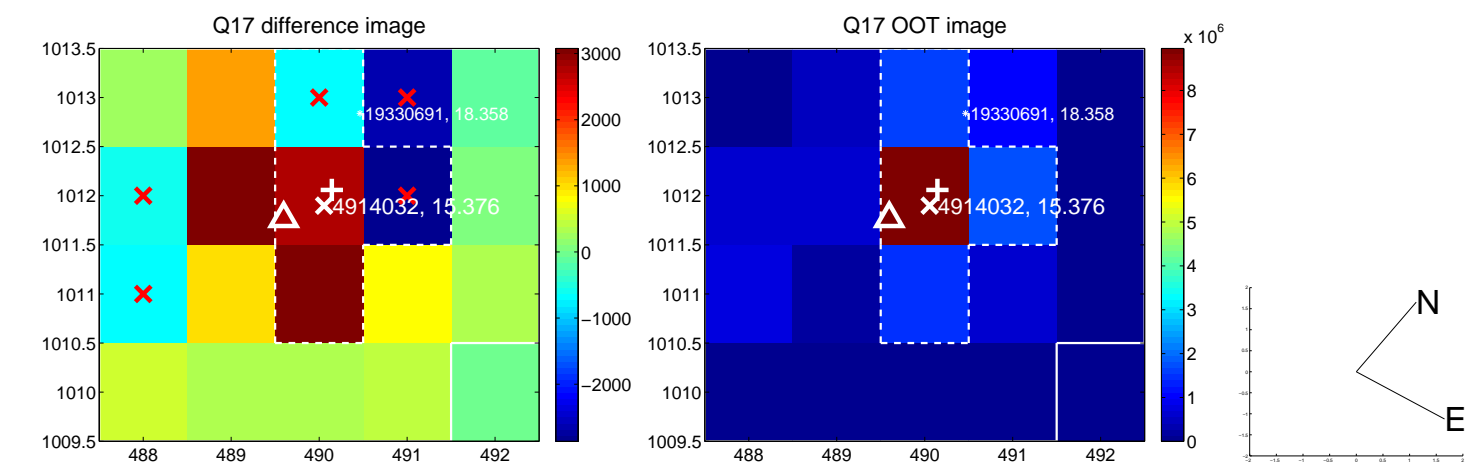
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



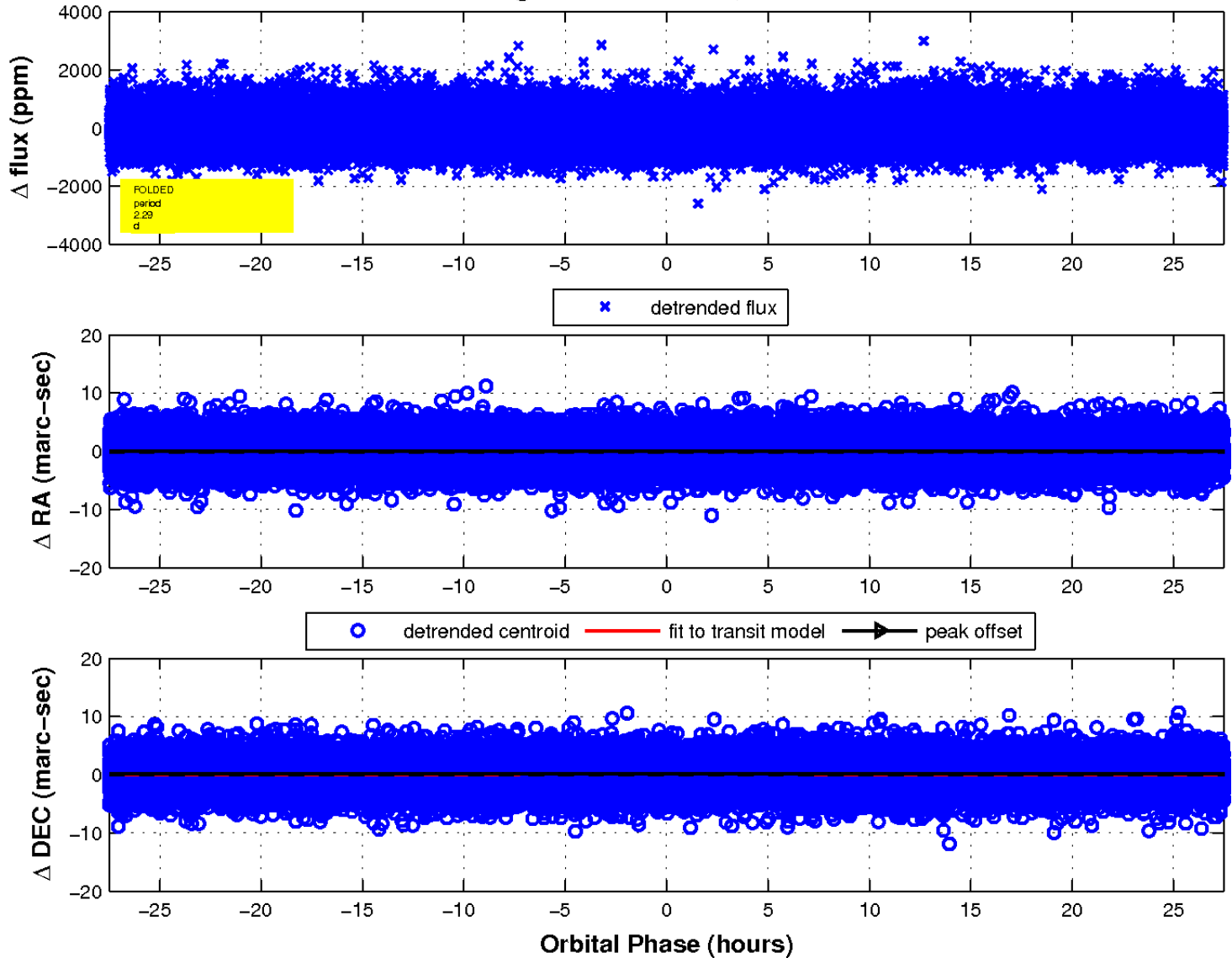
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

