

KIC 004913852

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 004913852-01 | OBS | 0818.01 | 8.114376 | 135.767887 | 1554.7 | 2.374 | 45.6 | 52.0 | 0.52 | 3692 | 2.28 | 10.58 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--------------|
| 004913852-01 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |

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

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

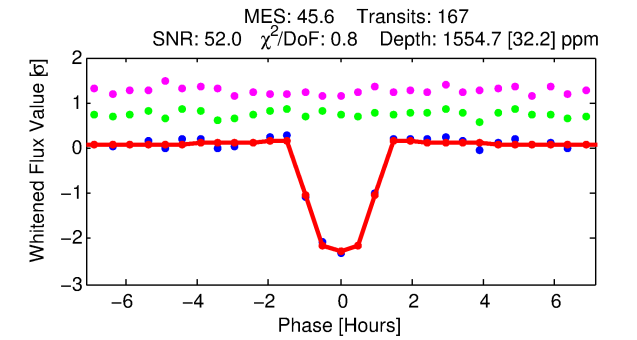
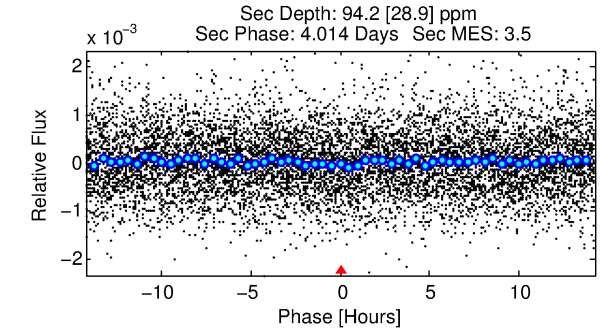
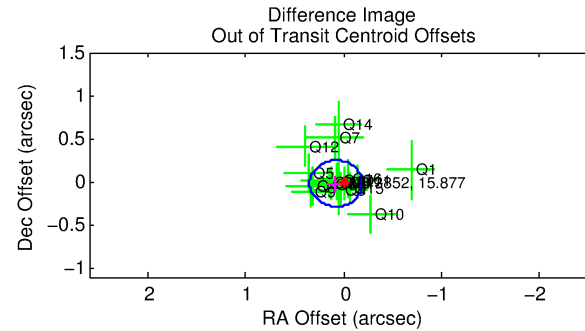
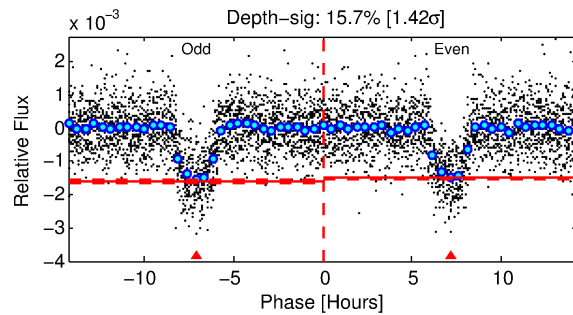
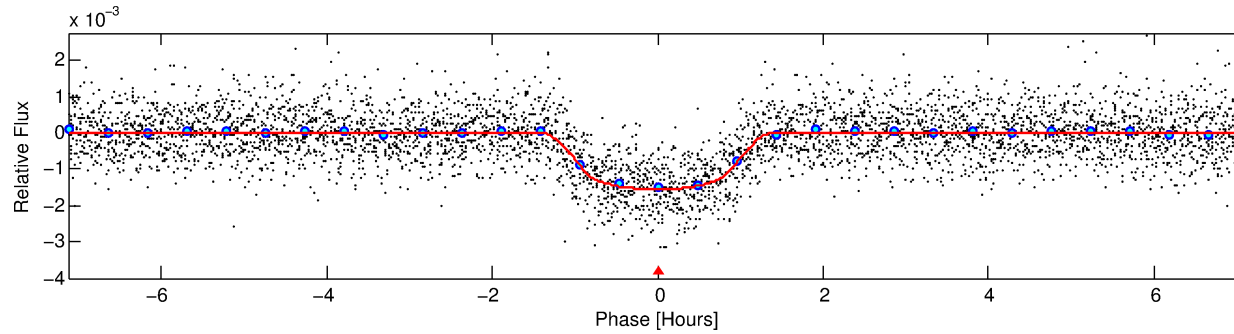
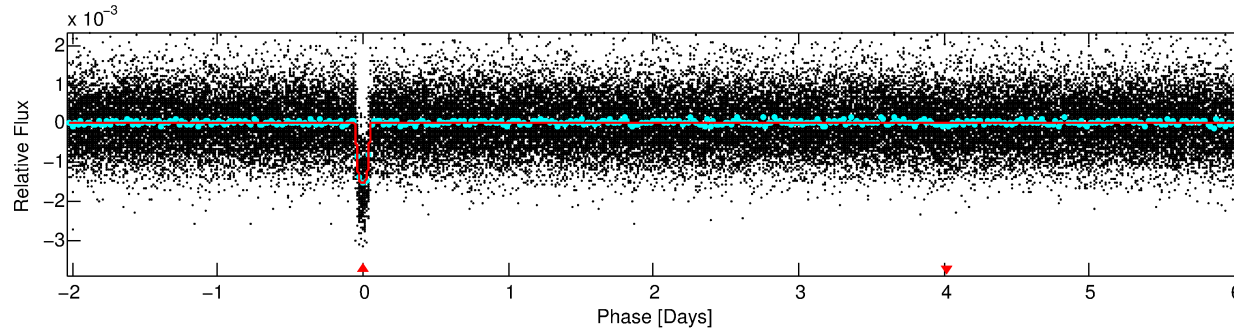
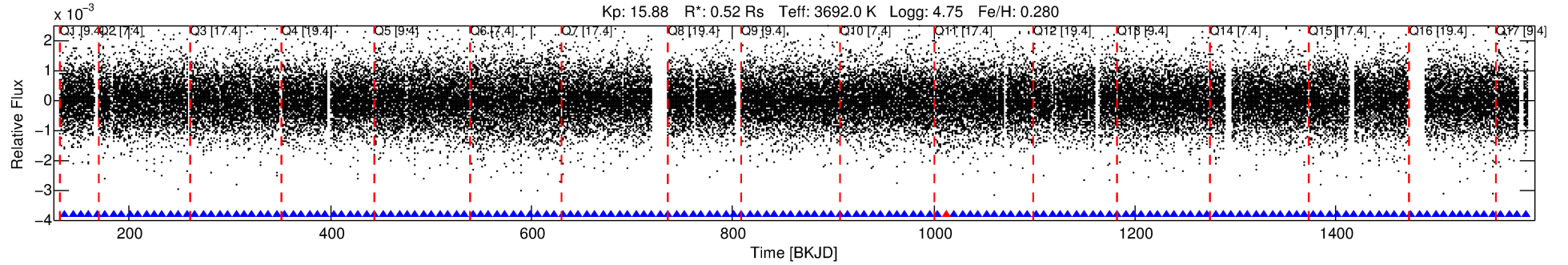
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004913852-01

No Significant Match Found

DV One-Page Summary

KIC: 4913852 Candidate: 1 of 1 Period: 8.114 d
KOI: K00818.01 Corr: 0.975



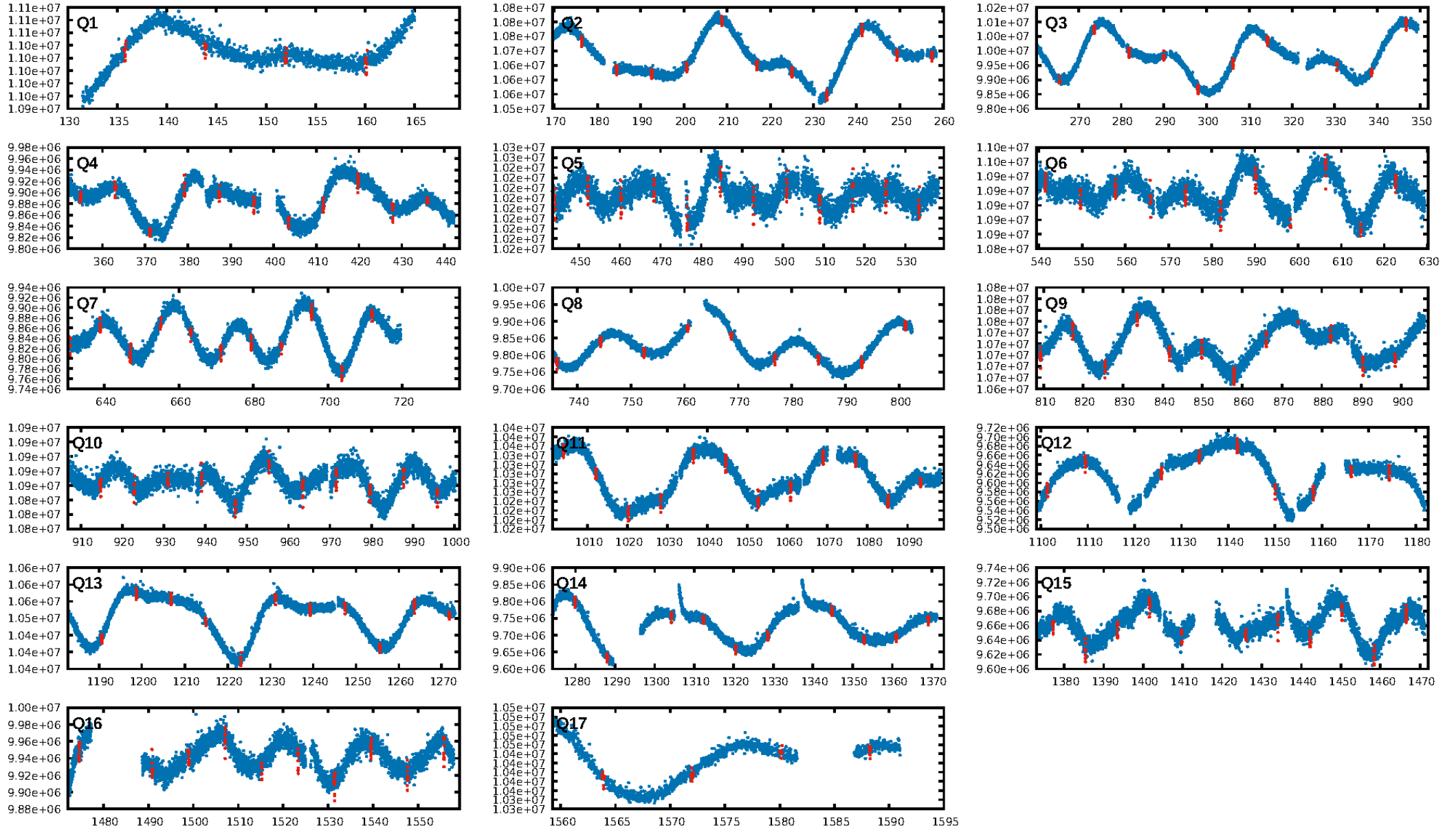
DV Fit Results:

Period = 8.11438 [0.00001] d
Epoch = 135.7679 [0.0010] BKJD
Rp/R* = 0.0405 [0.0051]
a/R* = 17.30 [8.11]
b = 0.80 [0.21]
Seff = 10.58 [1.26]
Teq = 460 [14] K
Rp = 2.28 [0.34] Re
a = 0.0648 [0.0038] AU
Ag = 41.74 [16.96] [2.40 σ]
Teffp = 1807 [185] K [7.28 σ]

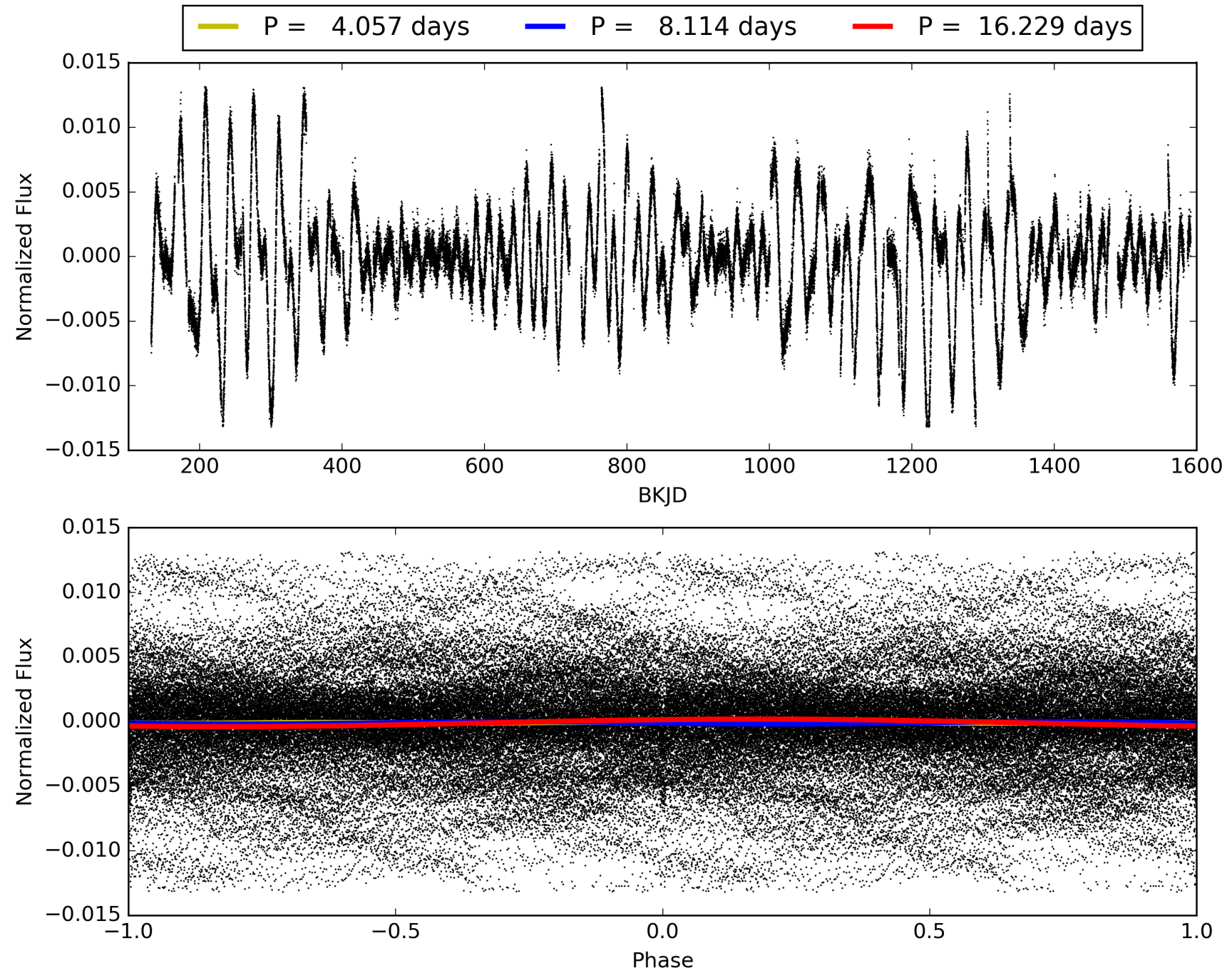
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [158/159]
GhostDiagnostic-chr: 3.254
Centroid-sig: 2.4%
Centroid-so: 1.092 arcsec [4.07 σ]
OotOffset-rm: 0.082 arcsec [0.92 σ]
KicOffset-rm: 0.783 arcsec [7.77 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 004913852-01, PDC Light Curves

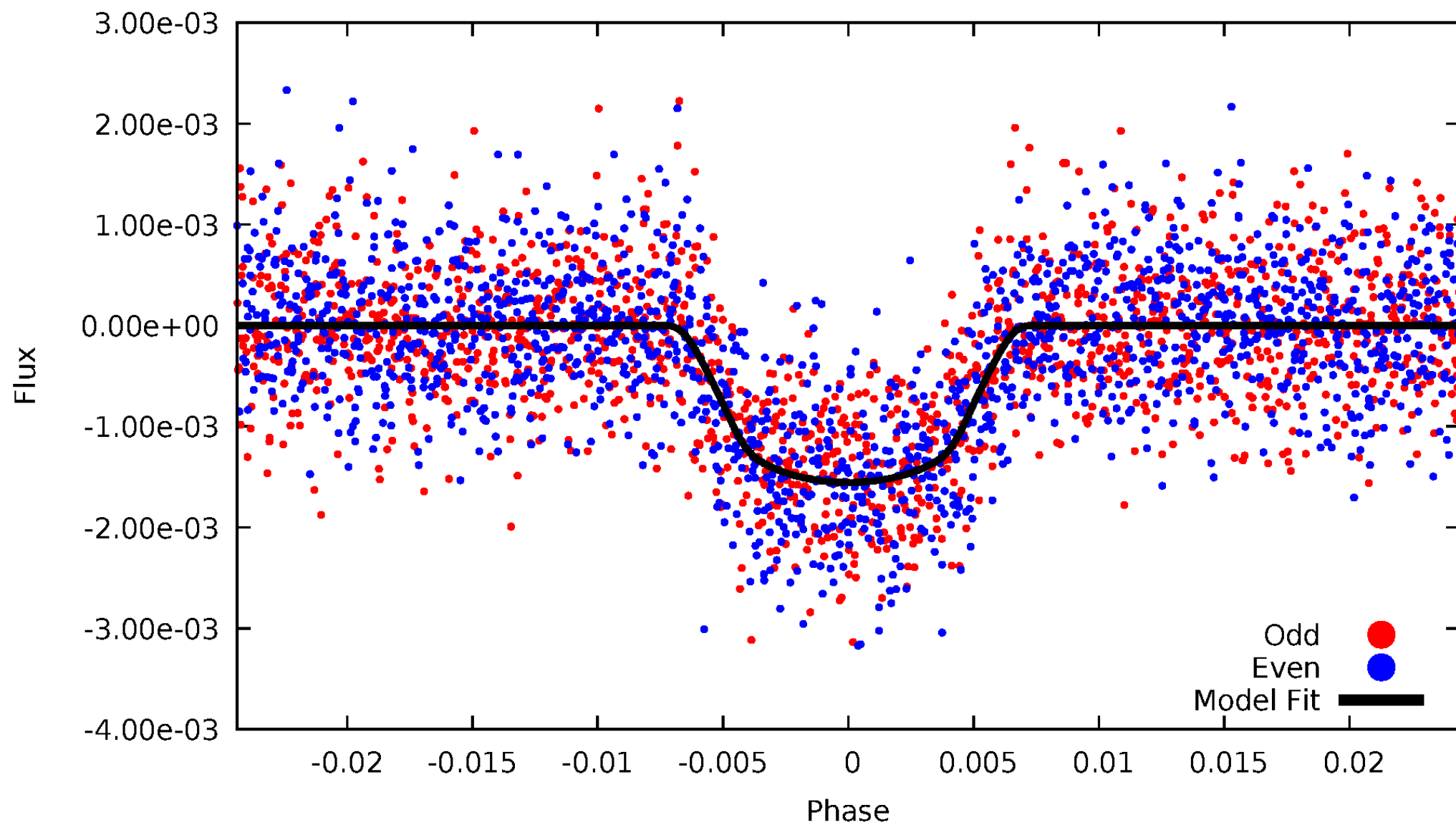


TCE 004913852-01



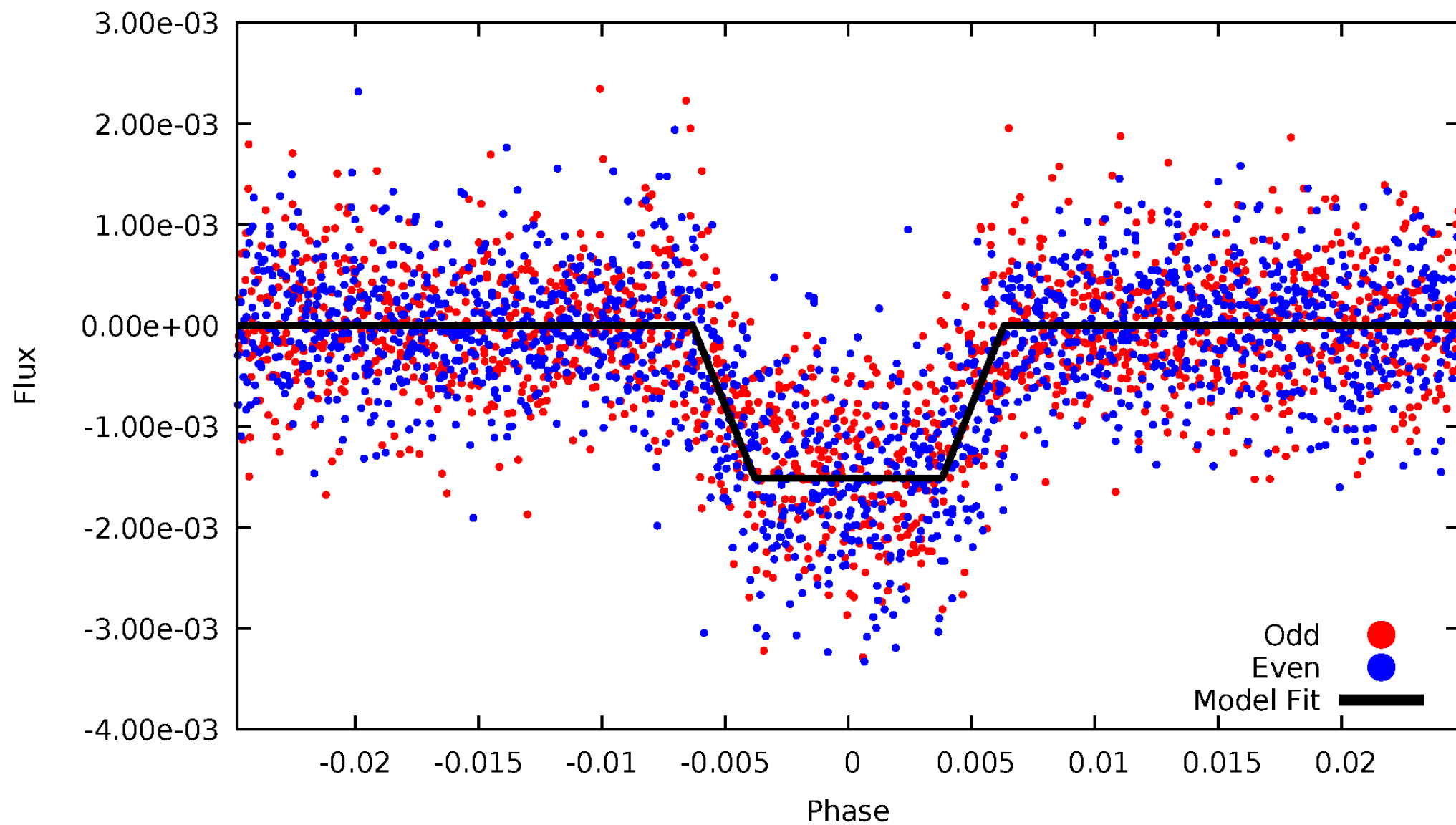
DV Odd/Even

TCE 004913852-01

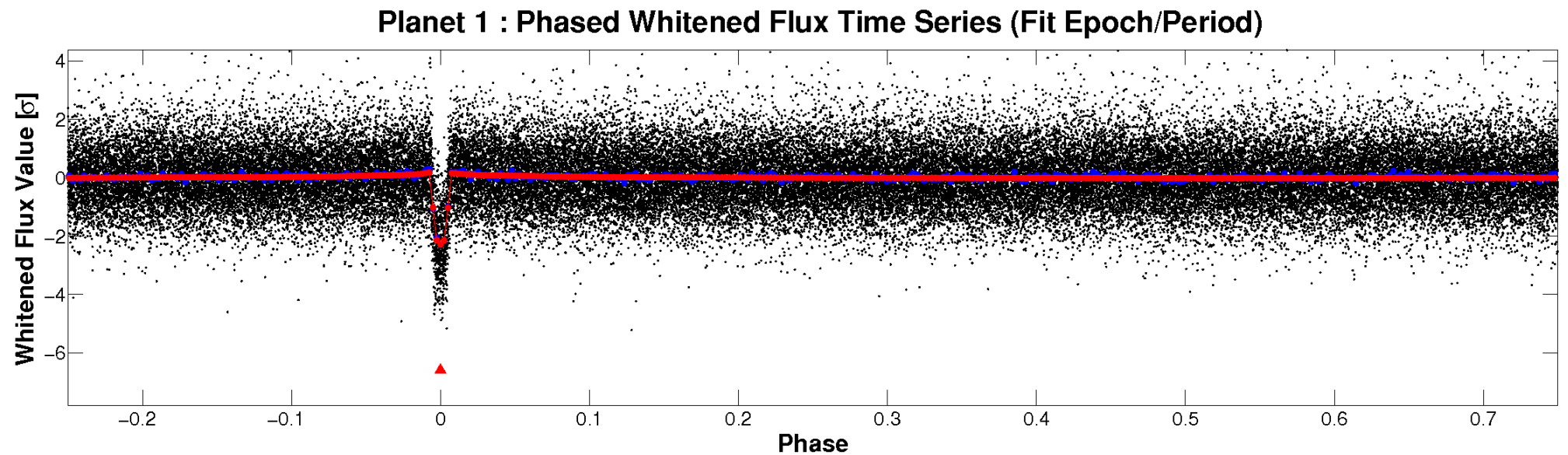
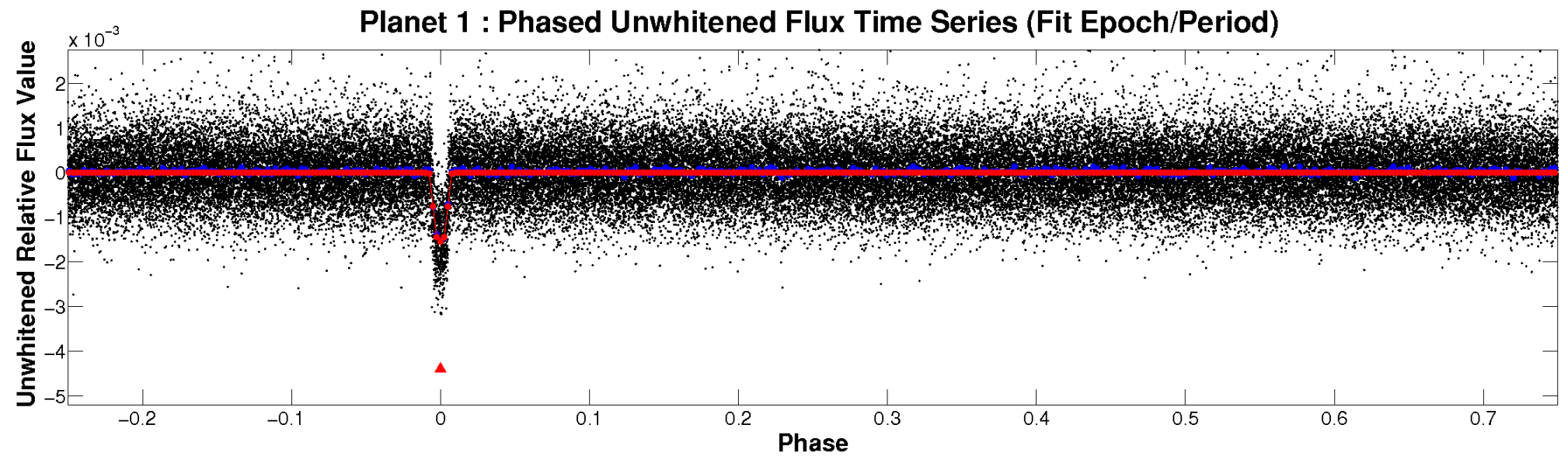


ALT Odd/Even

TCE 004913852-01

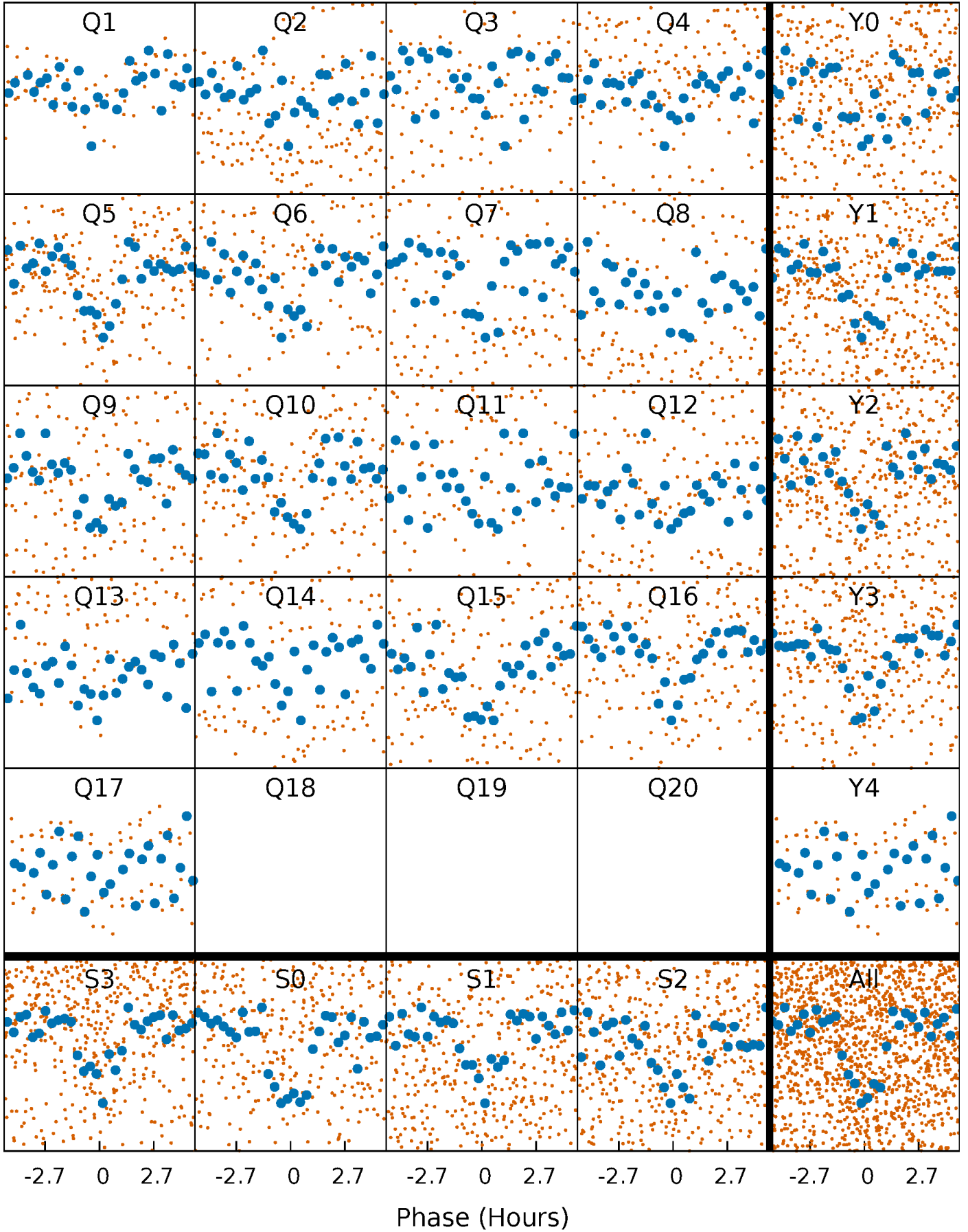


Non-Whitened Vs. Whitened Light Curve



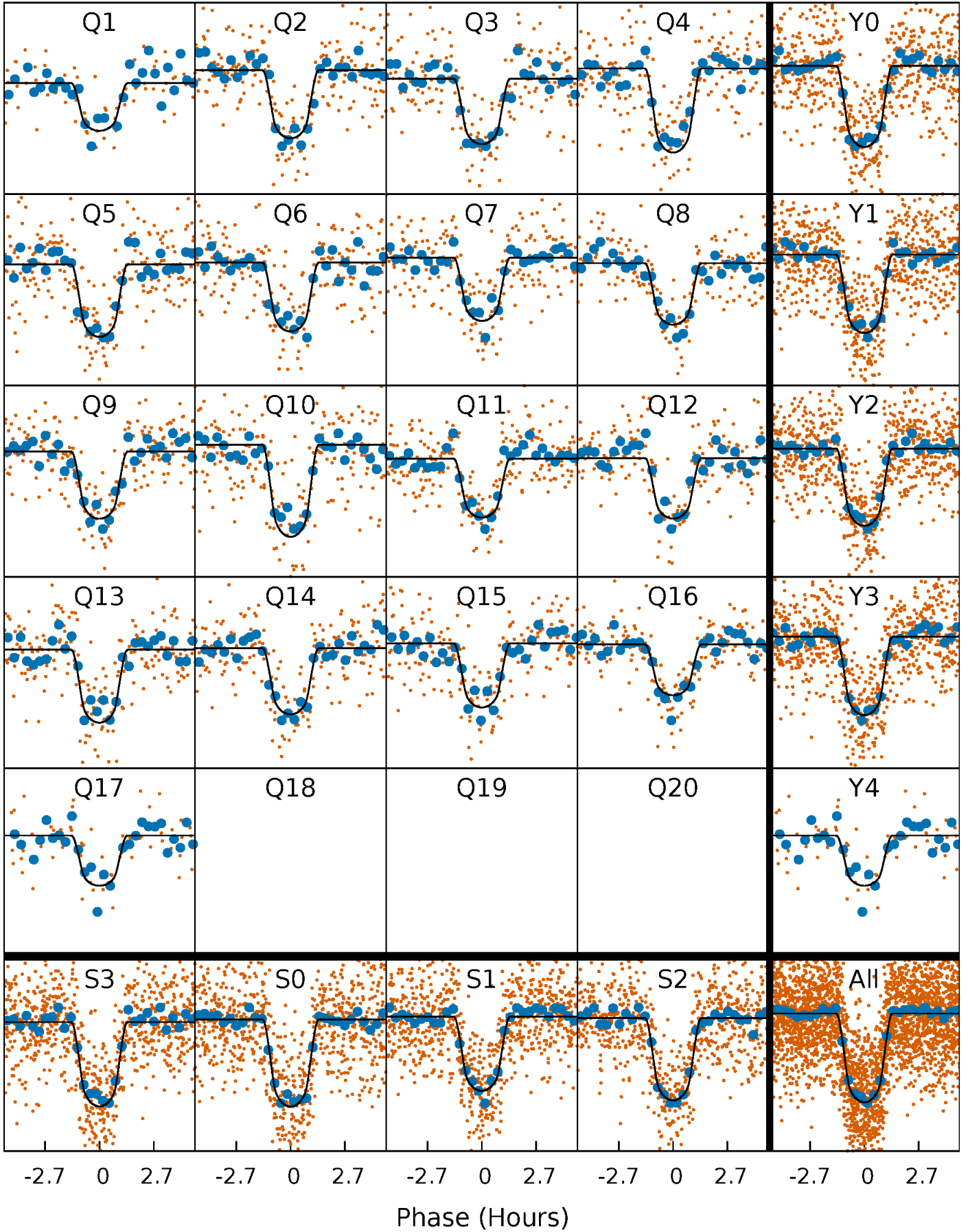
PDC Quarter-Phased Transit Curves

TCE 004913852-01 P= 8.114376 Days $T_0=135.767887$ (BKJD)



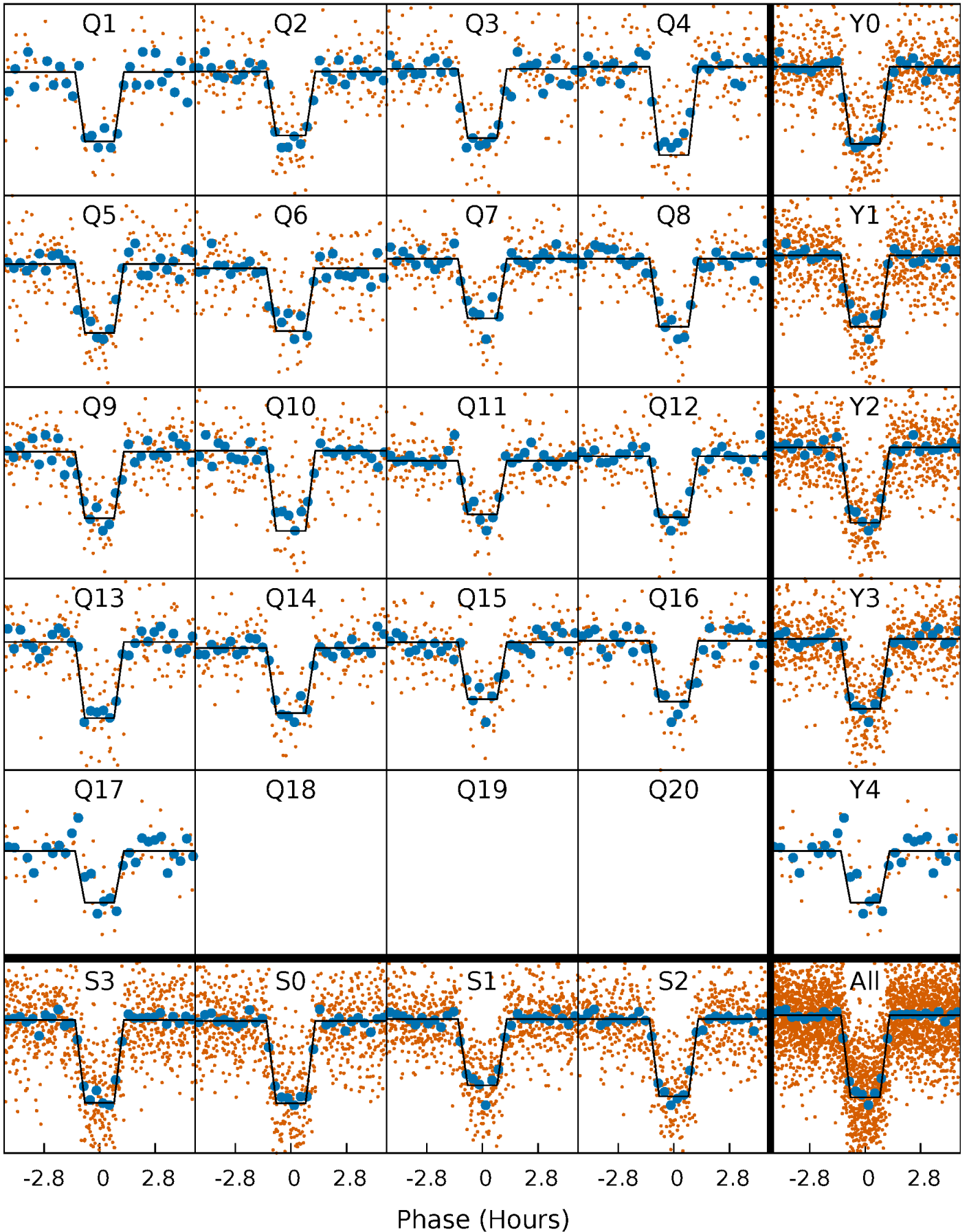
DV Quarter-Phased Transit Curves

TCE 004913852-01 P= 8.114376 Days $T_0=135.767887$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

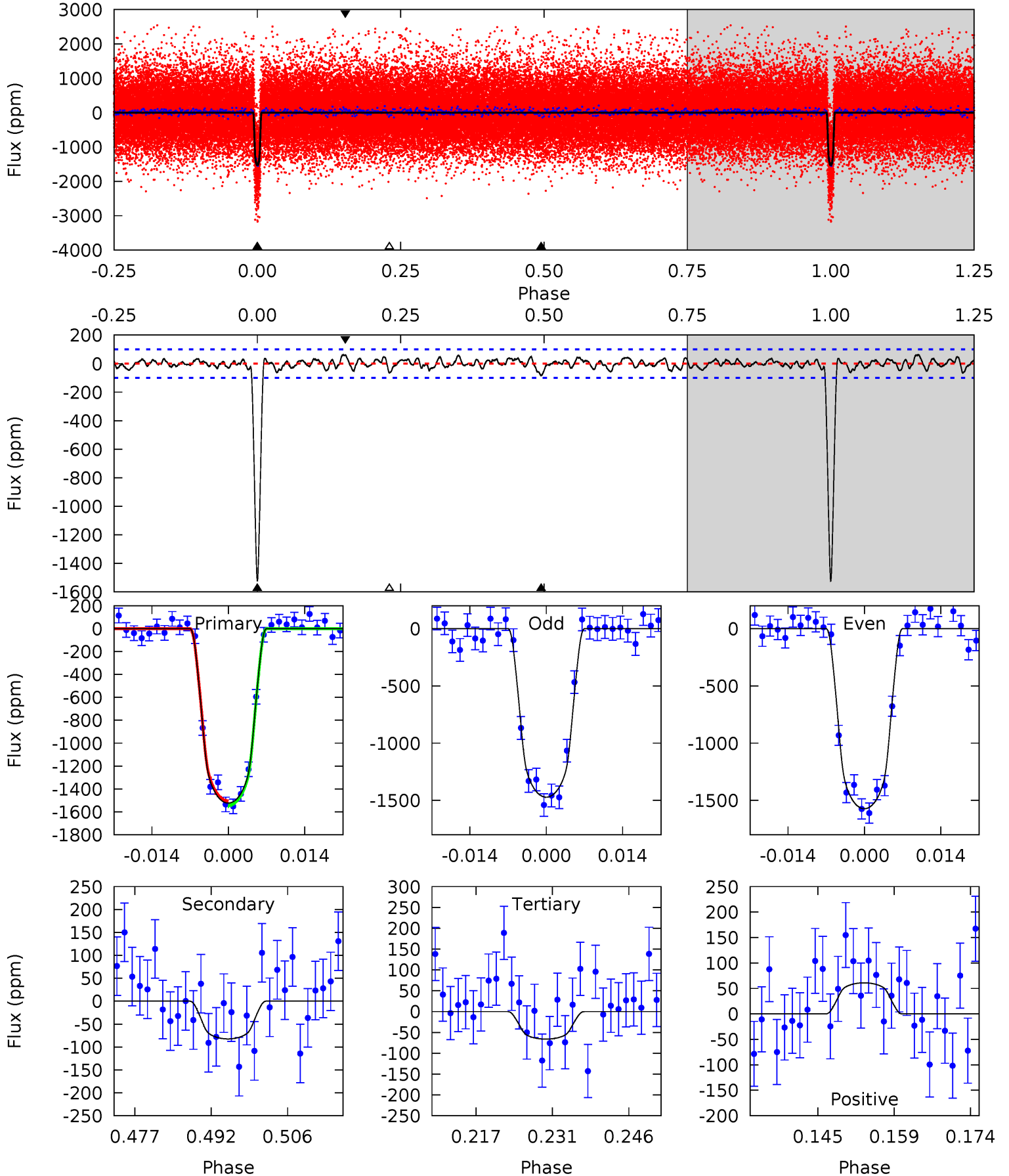
TCE 004913852-01 P= 8.114338 Days $T_0=135.770770$ (BKJD)



DV Model-Shift Uniqueness Test

004913852-01, P = 8.114376 Days, E = 127.653511 Days

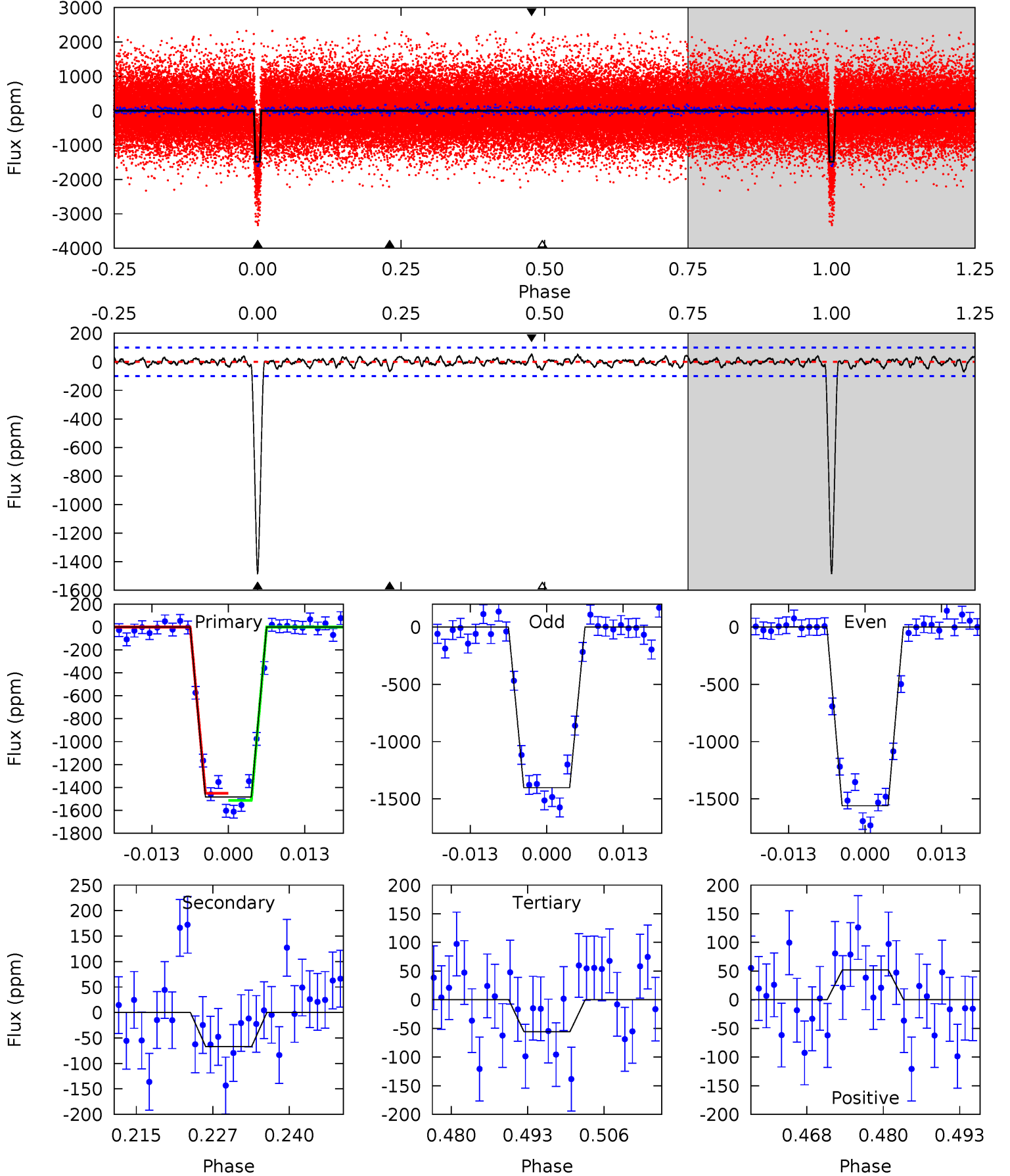
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 75.6 | 4.09 | 3.28 | 3.03 | 4.96 | 2.45 | 1.19 | 72.3 | 72.5 | 0.81 | 1.06 | 2.51 | 1.01 | 0.04 | 0.94 |



Alt Model-Shift Uniqueness Test

004913852-01, P = 8.114338 Days, E = 127.656432 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 74.3 | 3.35 | 2.79 | 2.61 | 4.98 | 2.49 | 0.94 | 71.5 | 71.7 | 0.56 | 0.74 | 3.98 | 0.99 | 0.03 | 1.58 |



Stellar Parameters For KIC 004913852

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|---------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 3692^{+73}_{-83} | $4.753^{+0.032}_{-0.039}$ | $0.280^{+0.150}_{-0.150}$ | $0.517^{+0.035}_{-0.039}$ | $0.553^{+0.027}_{-0.044}$ | $5.629^{+0.912}_{-0.785}$ |
| | +2%/-2% | +1%/-1% | +54%/-54% | +7%/-8% | +5%/-8% | +16%/-14% |
| Source | SPE70 | SPE60 | SPE70 | DSEP | | |

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004913852-01 / KOI 0818.01

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|--------------|------------------------|----------------------|----------------------|------------------|
| DV | -82 ± 20 | $2.28^{+0.30}_{-0.29}$ | 643^{+16}_{-16} | 2422^{+119}_{-106} | 36^{+16}_{-12} |
| Alt. | -67 ± 20 | $2.17^{+0.33}_{-0.28}$ | 643^{+16}_{-17} | 2389^{+119}_{-123} | 33^{+14}_{-12} |

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

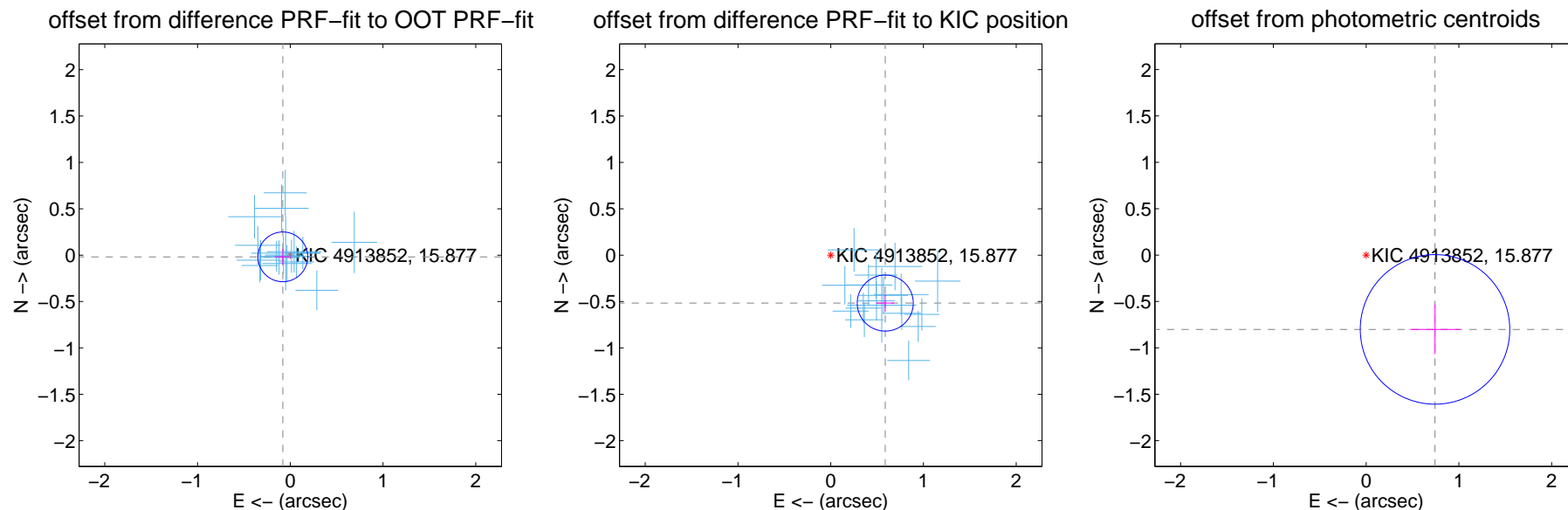
DV Centroid Data

Supplemental centroid analysis for 004913852-01. Kepler magnitude: 15.88. Transit SNR 52.05

There are 17 quarters with good PRF difference image offsets

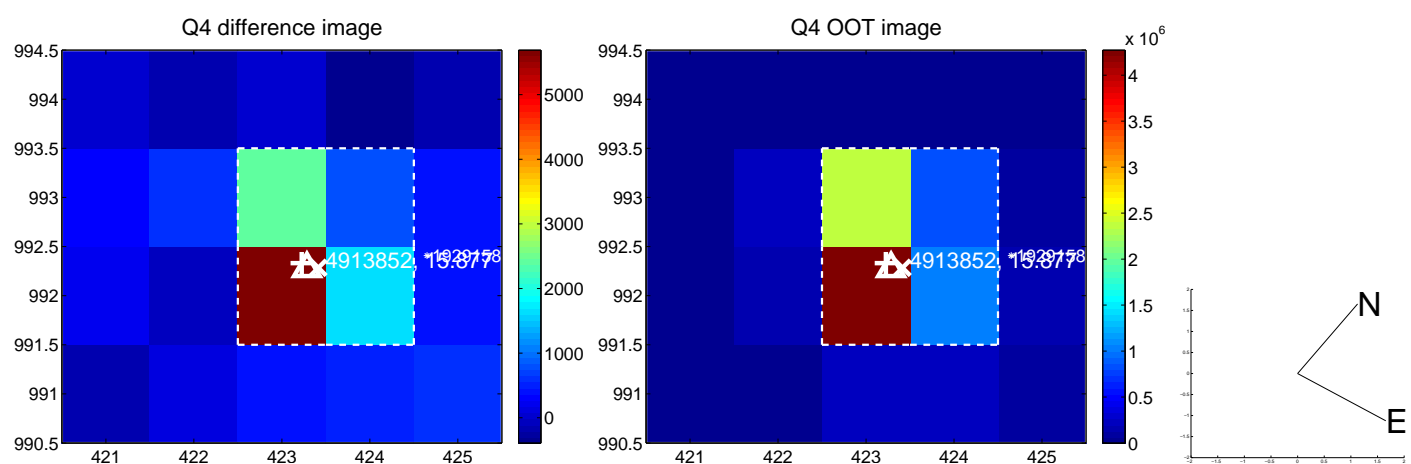
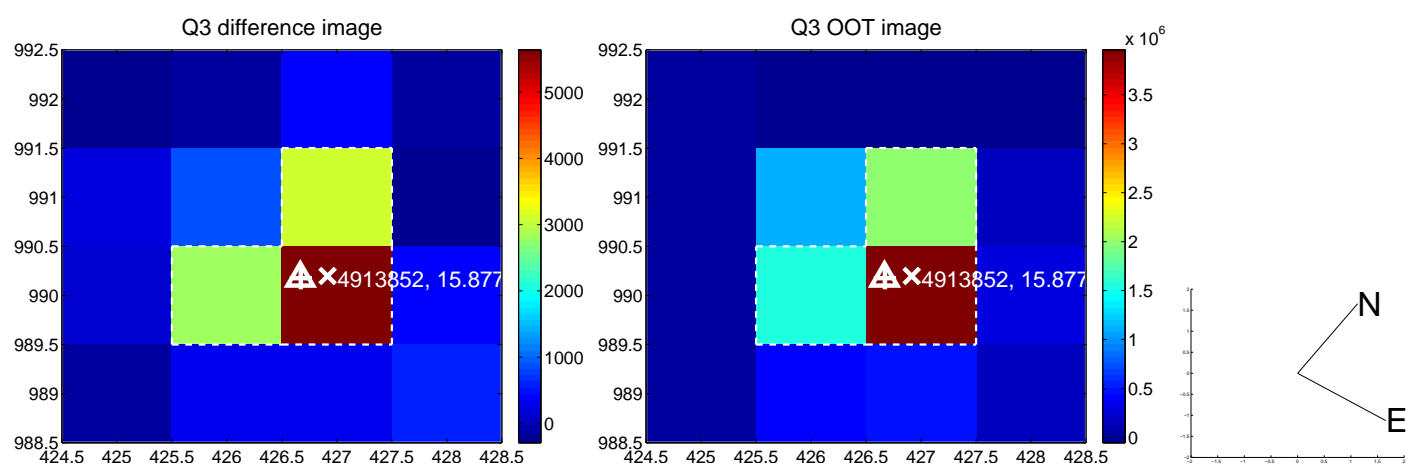
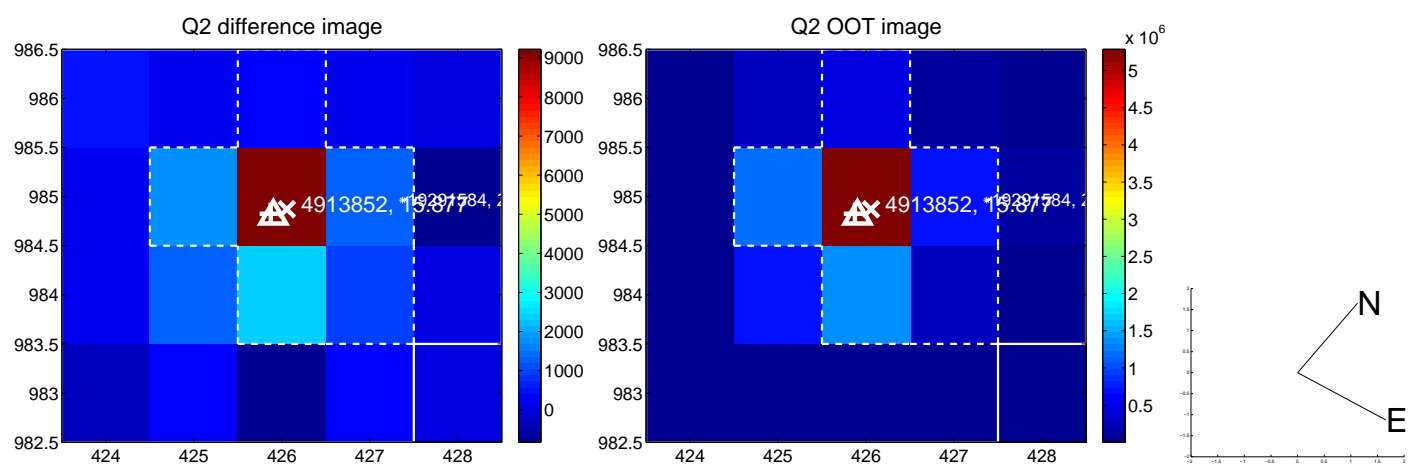
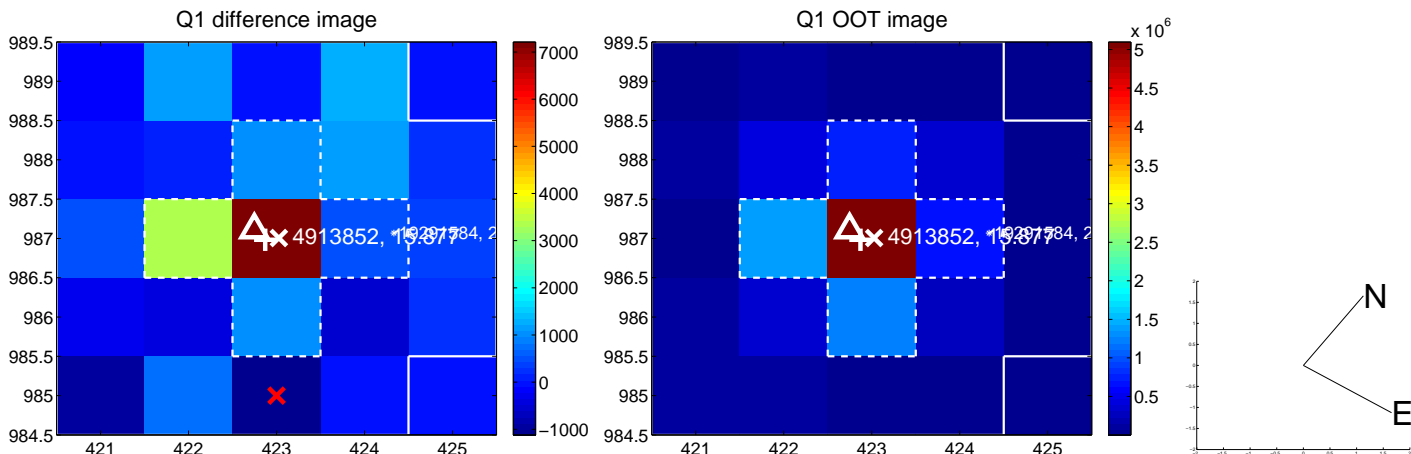
The direct PRF centroid is offset from the target star catalog position by about 0.82 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.082 ± 0.089 | 0.92 | 0.080 ± 0.089 | -0.018 ± 0.087 |
| PRF-fit source offset from KIC position | 0.783 ± 0.101 | 7.77 | -0.588 ± 0.097 | -0.517 ± 0.095 |
| photometric centroid source offset | 1.09 ± 0.27 | 4.07 | -0.74 ± 0.27 | -0.80 ± 0.27 |

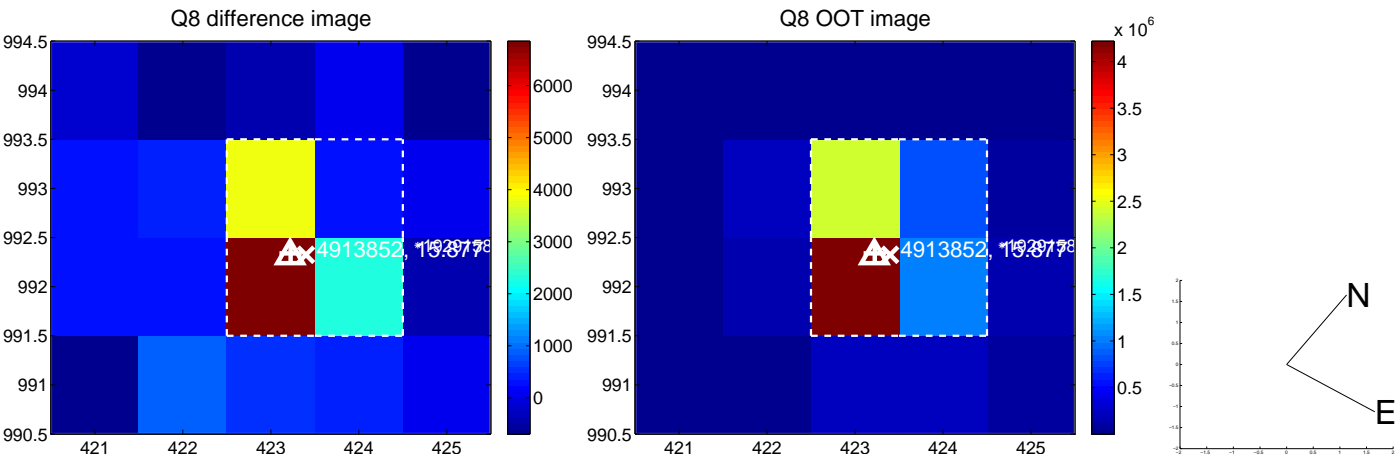
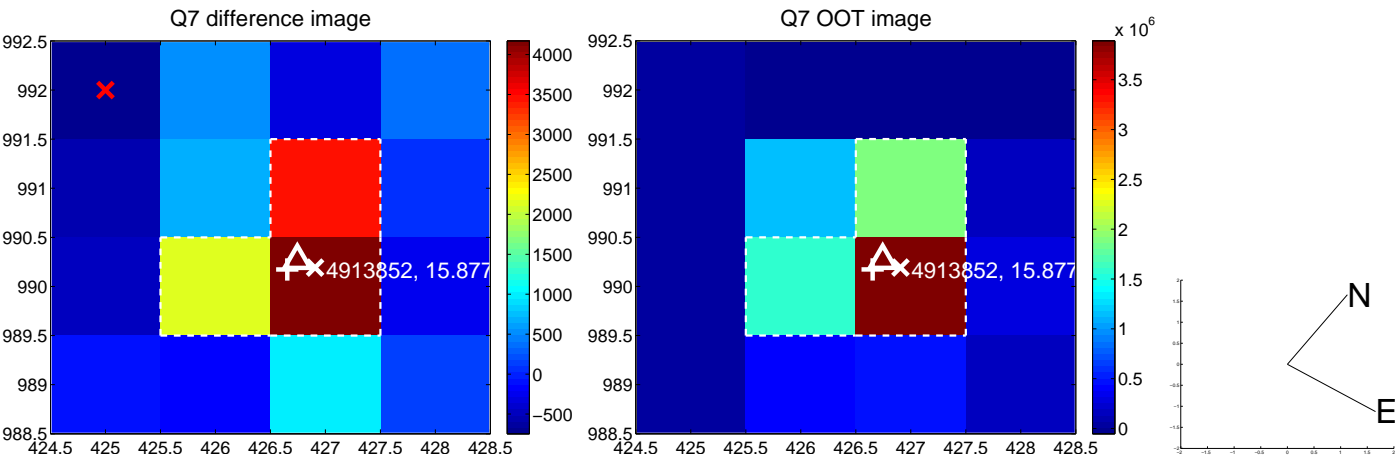
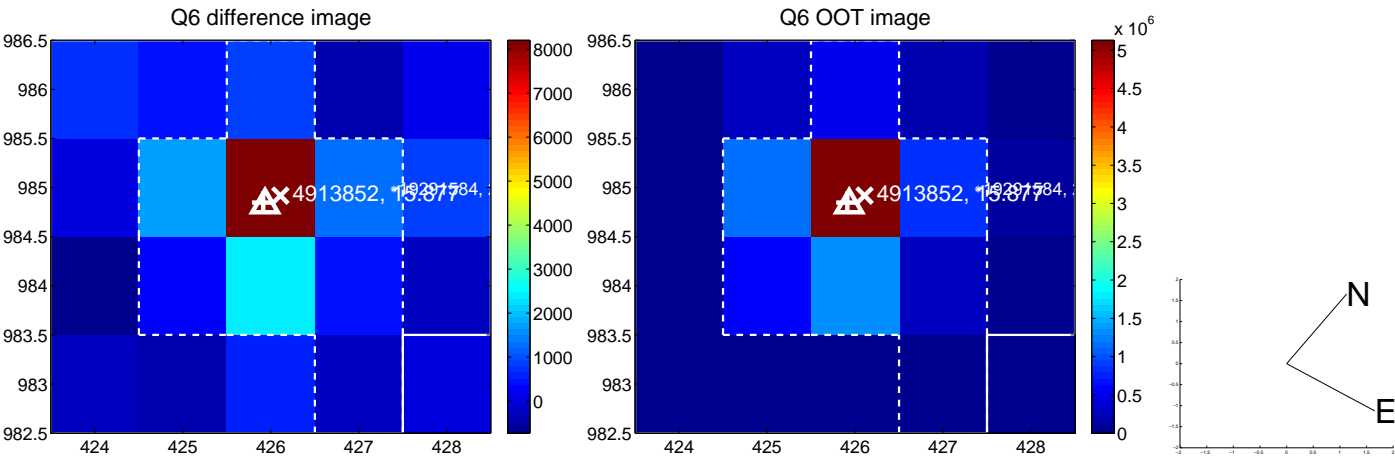
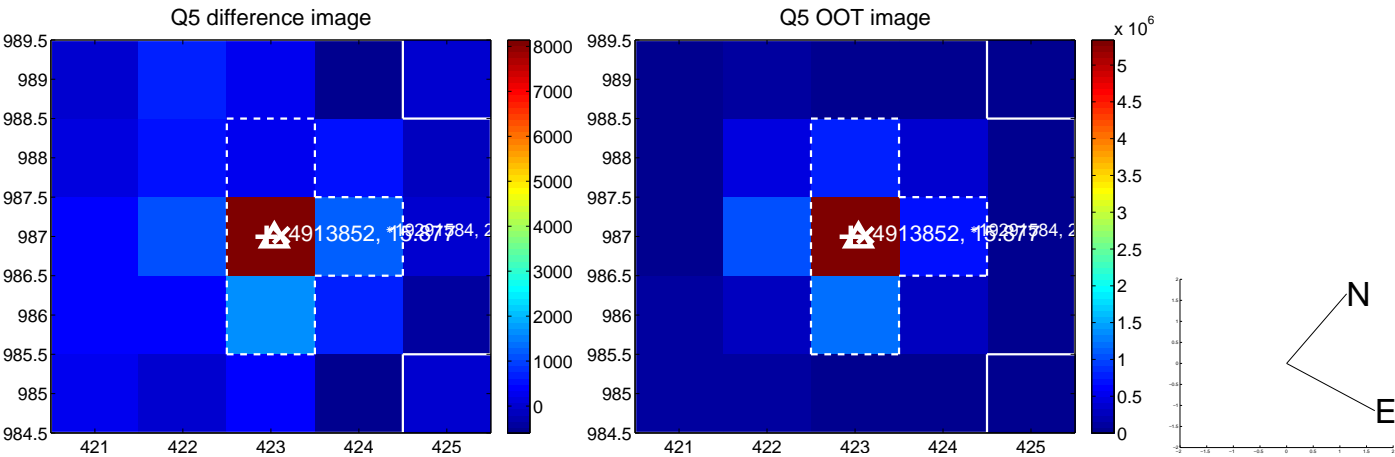


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

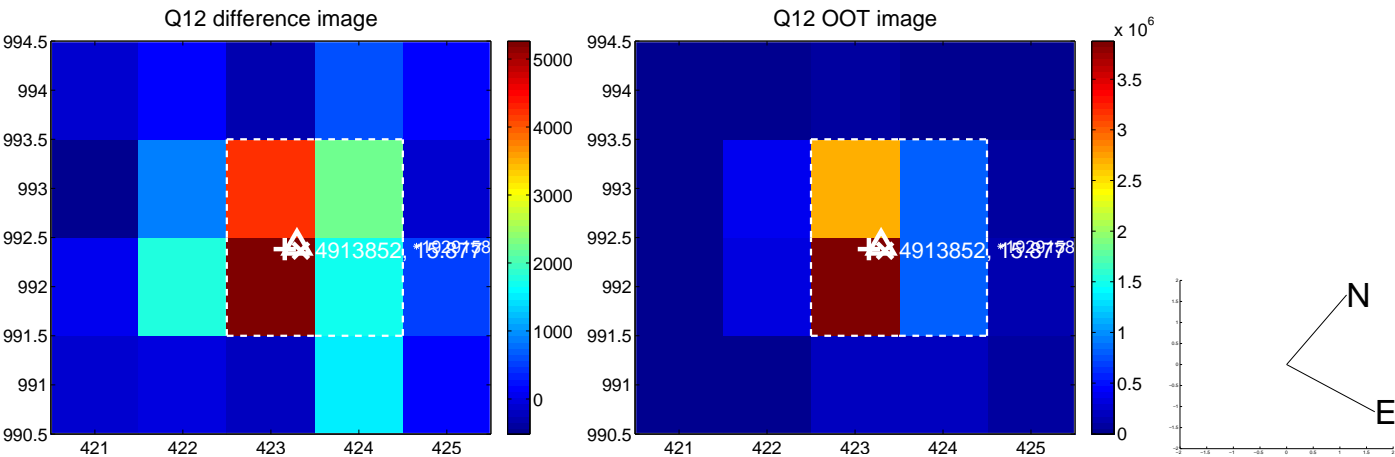
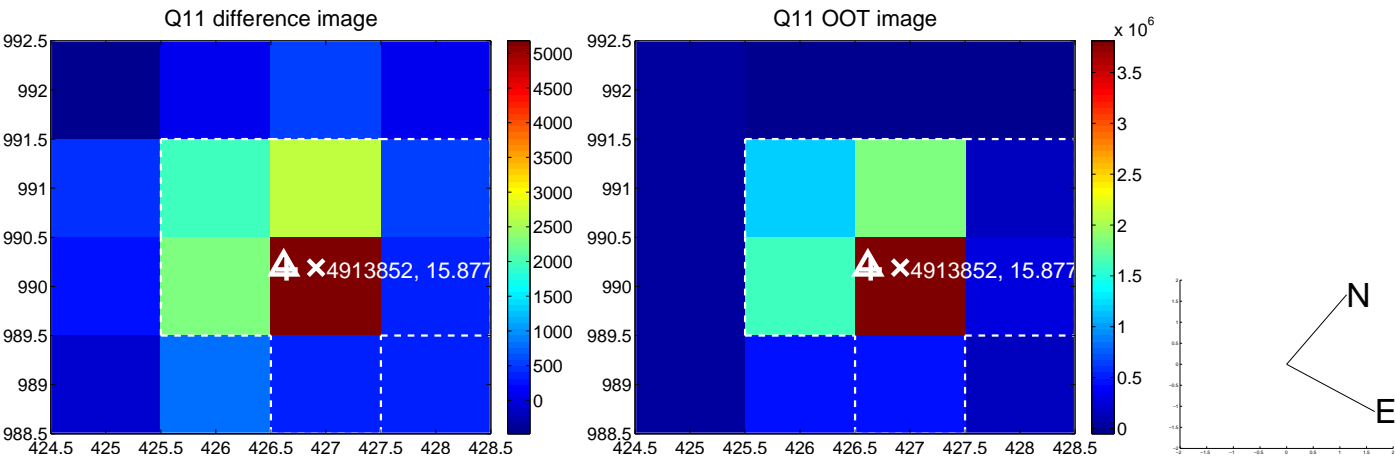
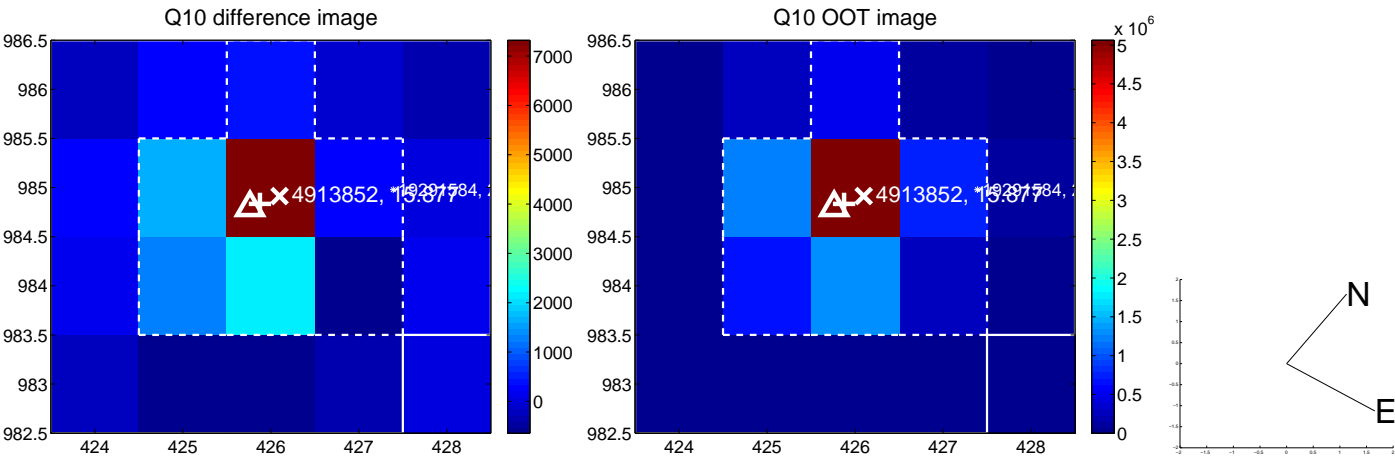
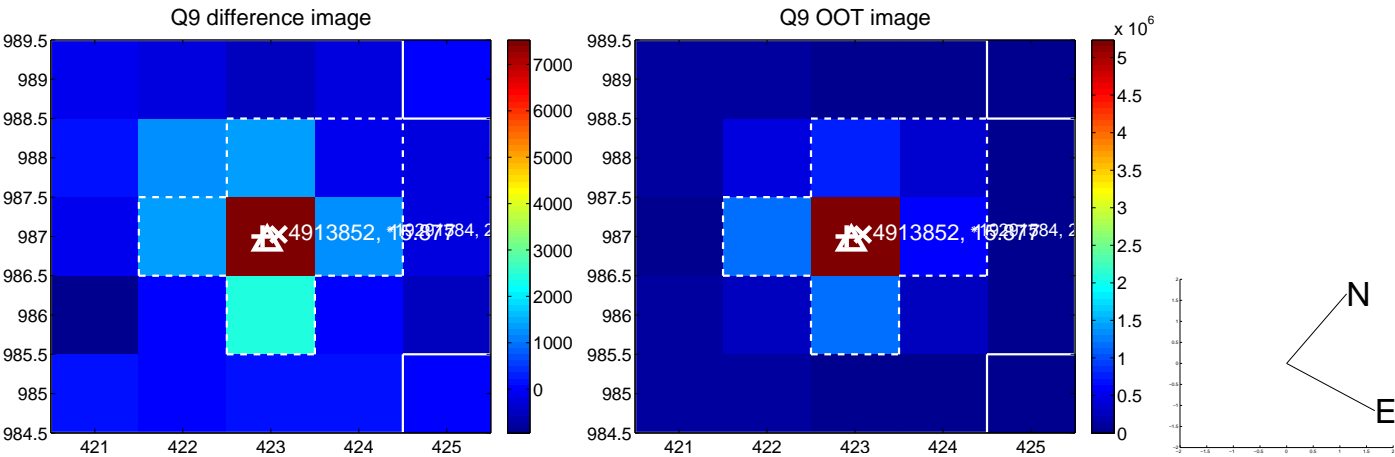
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



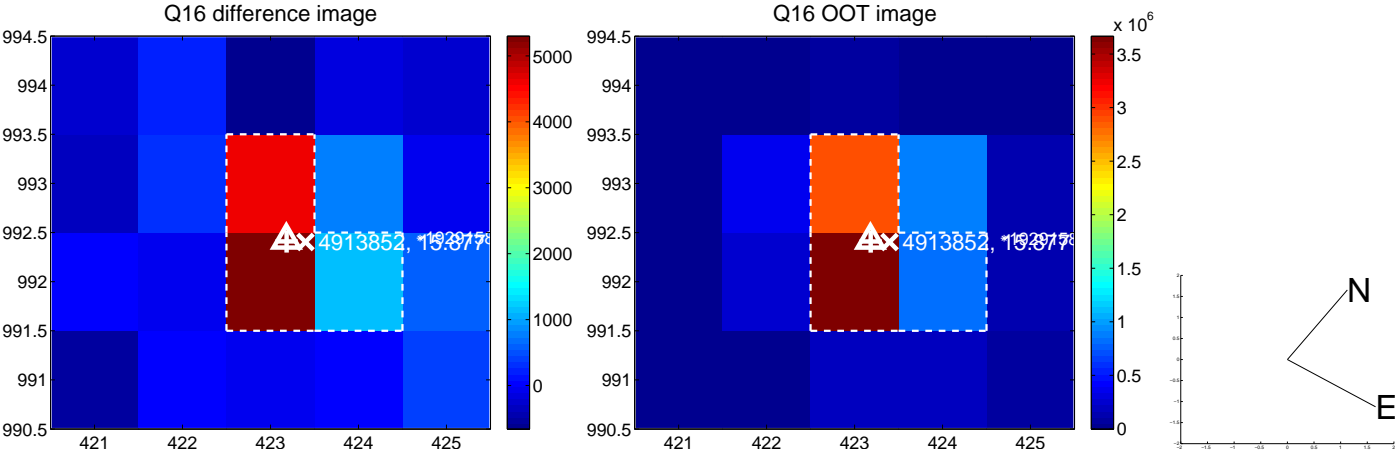
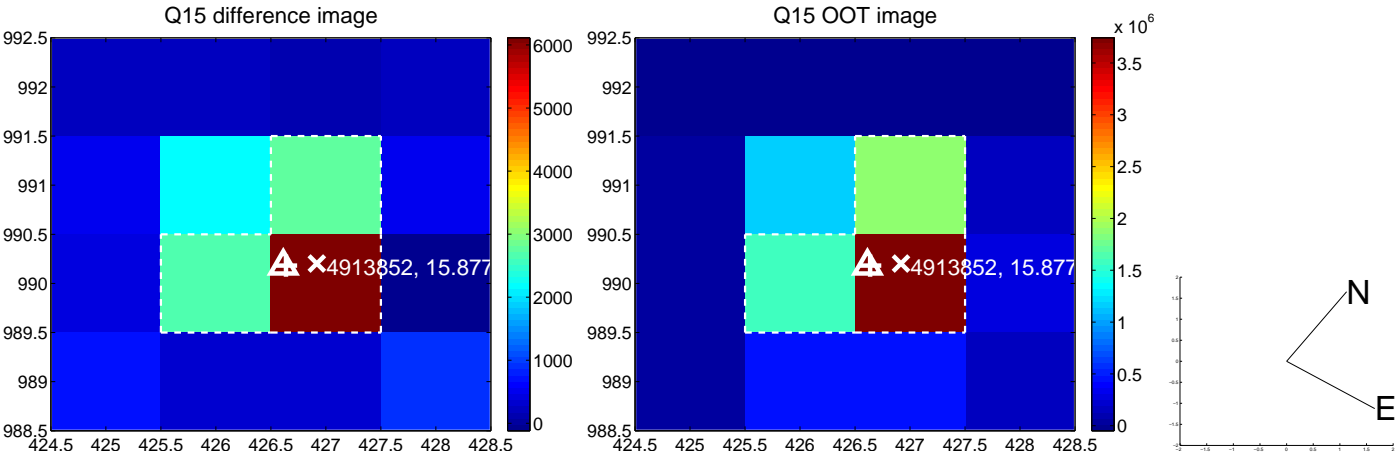
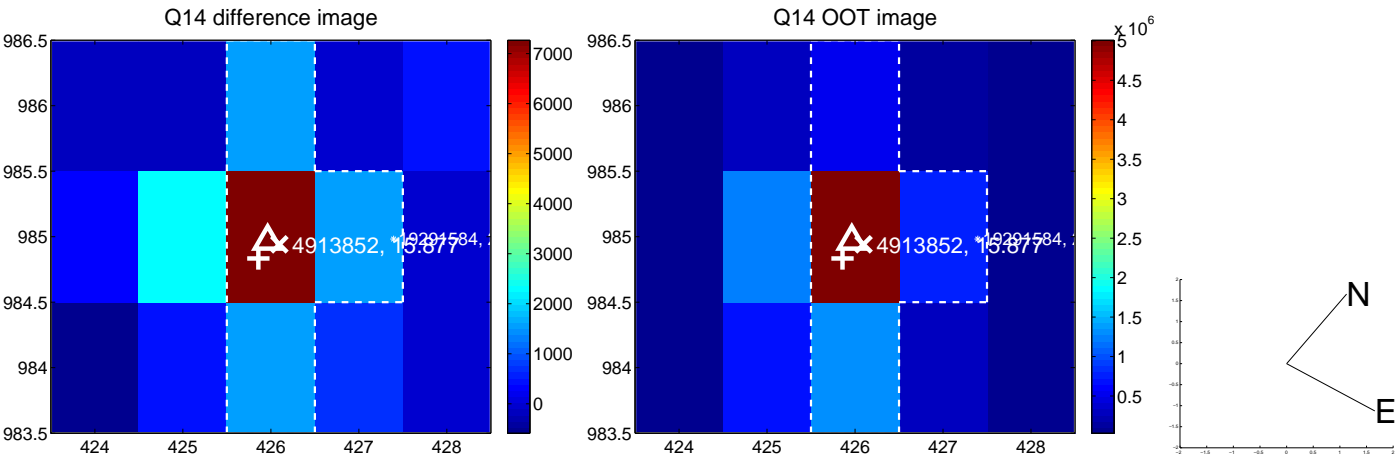
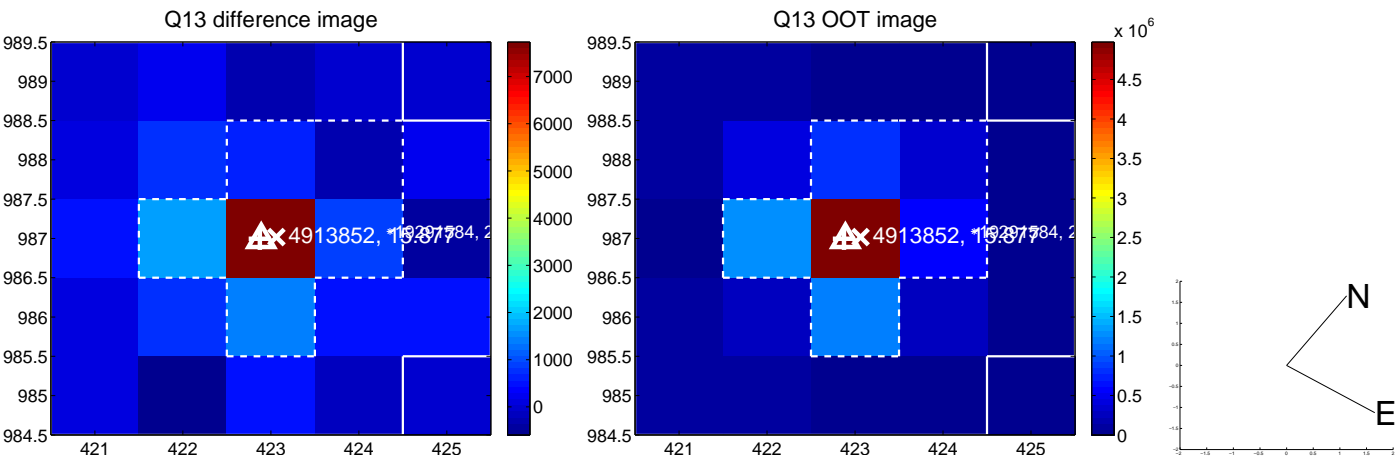
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



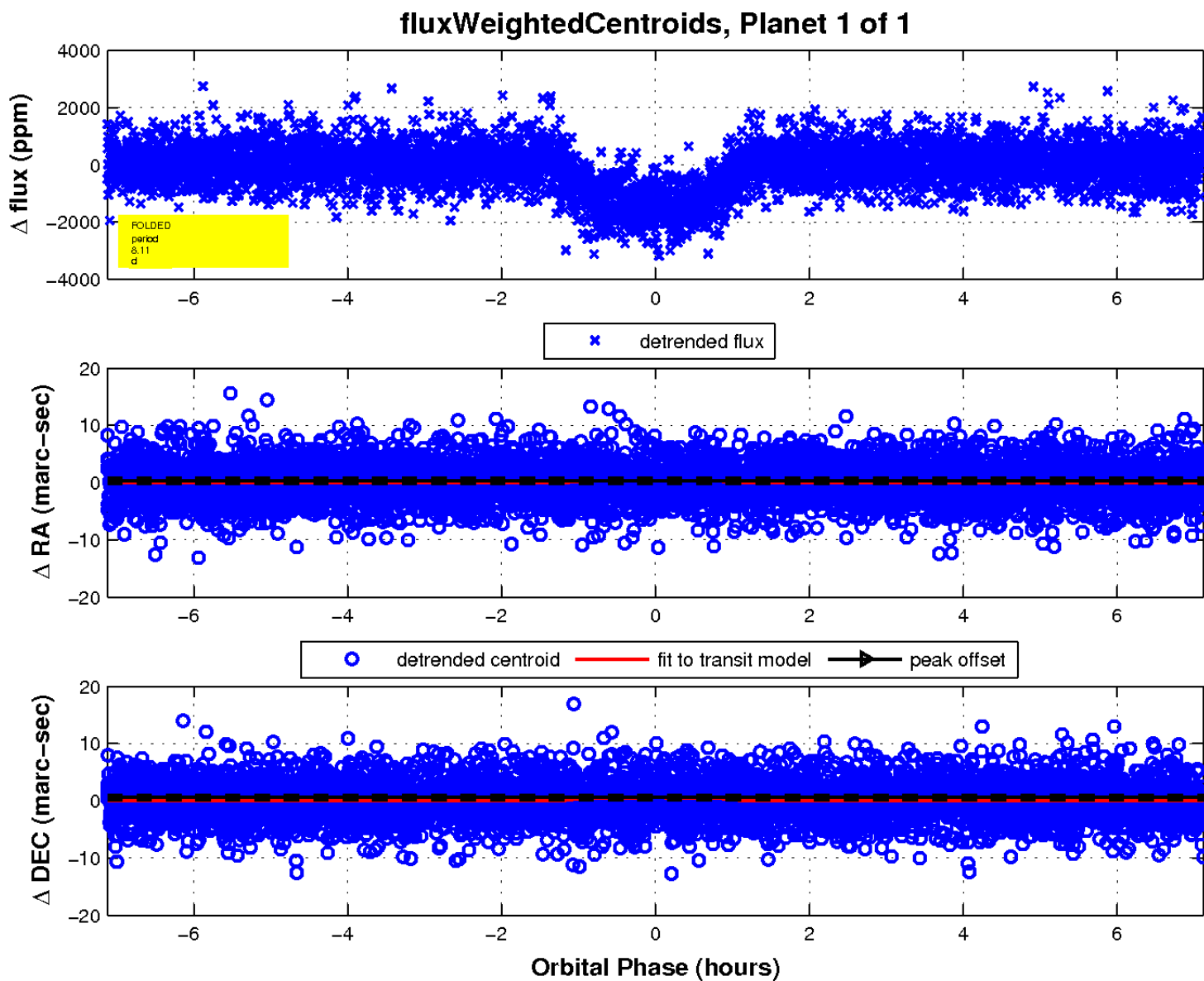
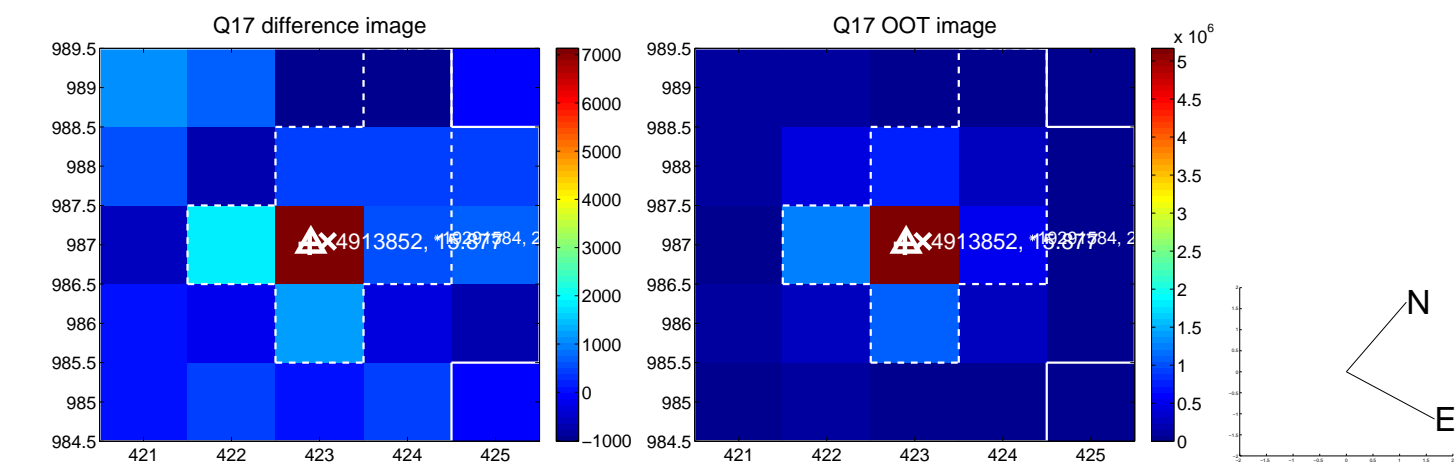
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UKIRT Image

Declination

