

KIC 004141760

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 004141760-01 | OBS | No | 7.541337 | 132.151351 | 30.9 | 22.158 | 8.9 | 9.0 | 1.24 | 6134 | 0.79 | 350.28 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|-----------------------|
| 004141760-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—MOD_NONUNIQ_DV |

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

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

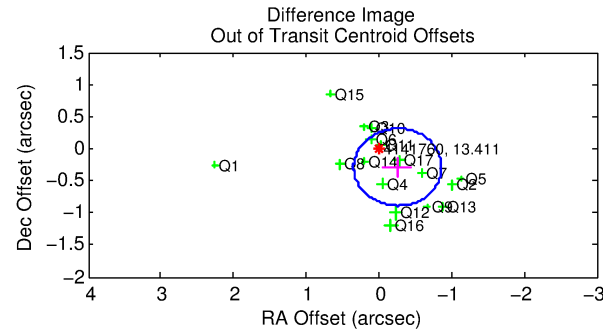
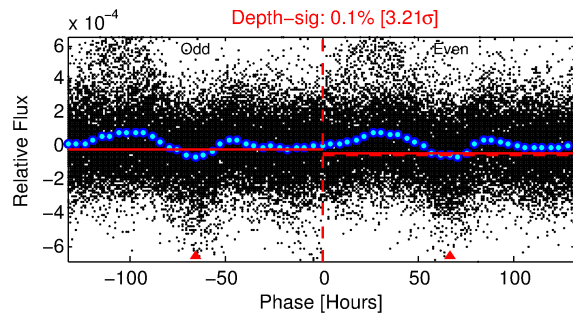
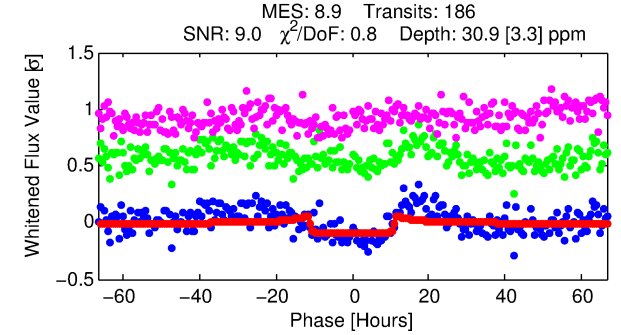
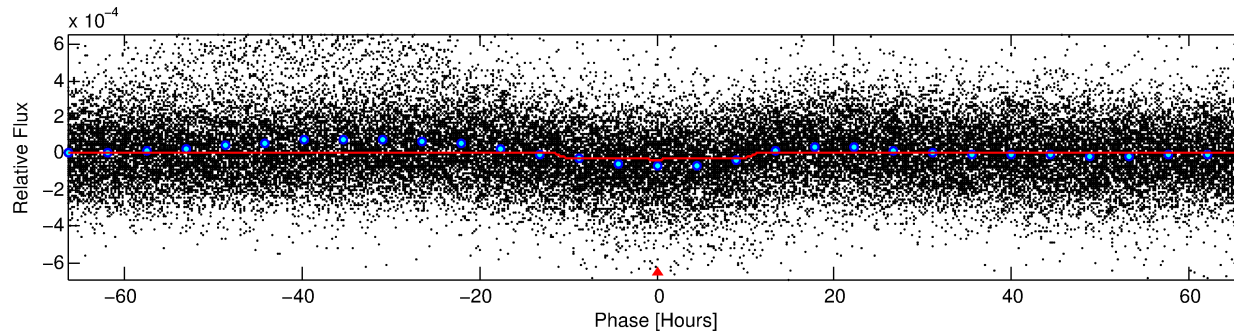
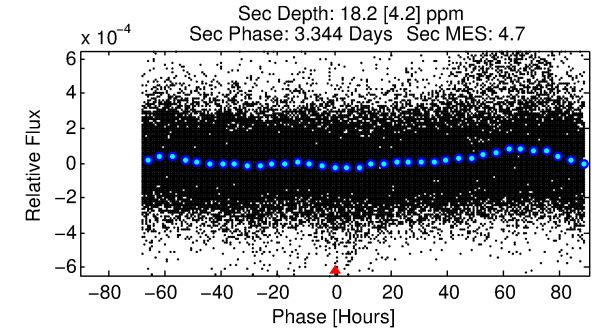
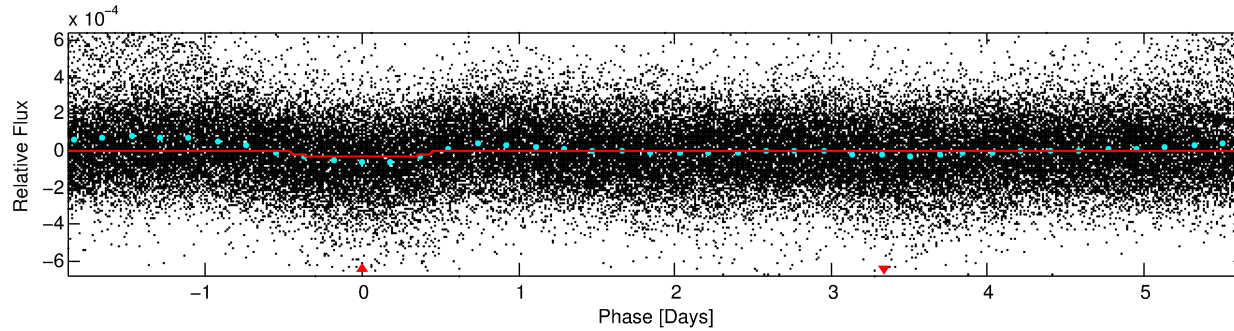
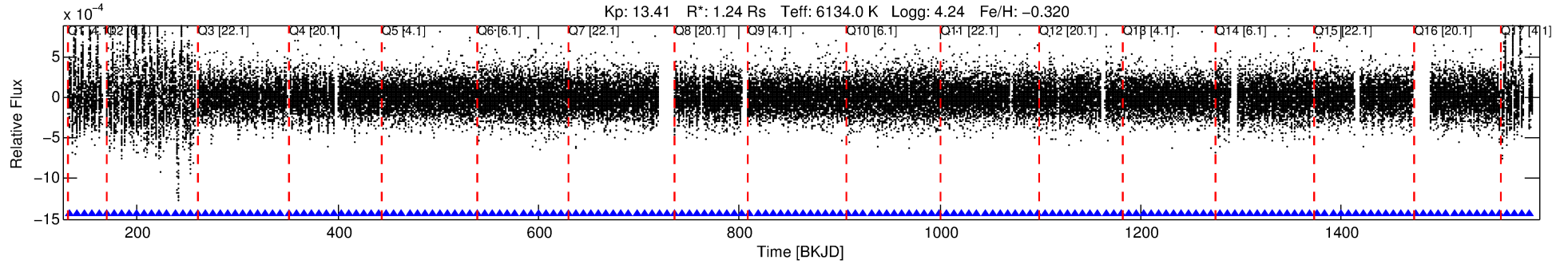
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004141760-01

No Significant Match Found

DV One-Page Summary

KIC: 4141760 Candidate: 1 of 1 Period: 7.541 d



DV Fit Results:

Period = 7.54134 [0.00018] d
Epoch = 132.1514 [0.0185] BKJD
Rp/R* = 0.0058 [0.0008]
a/R* = 1.61 [0.64]
b = 0.87 [0.19]
Seff = 350.28 [143.92]
Teq = 1103 [113] K
Rp = 0.79 [0.25] Re
a = 0.0745 [0.0192] AU
Ag = 89.20 [46.85] [1.88σ]
Teffp = 5242 [493] K [8.19σ]

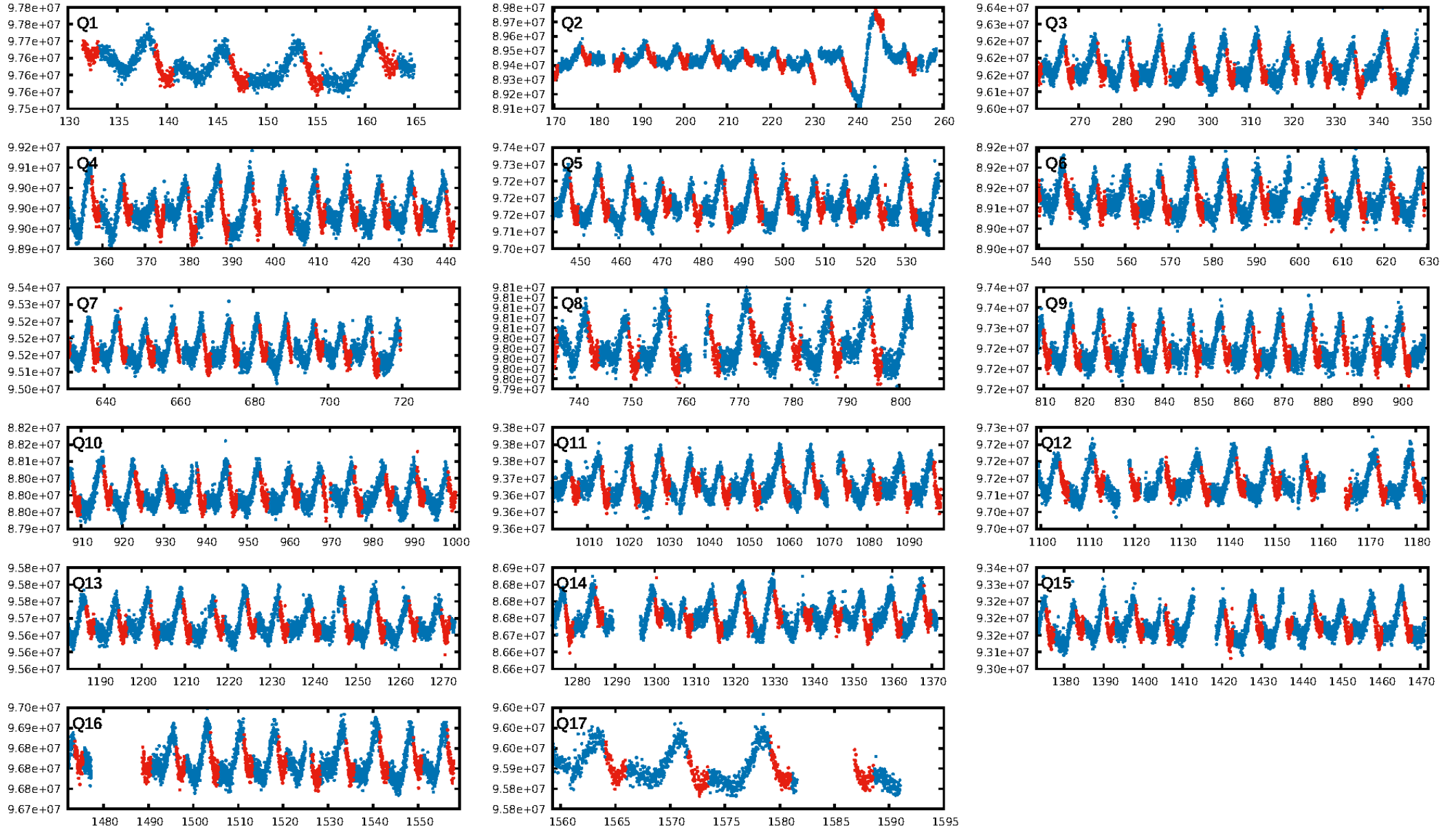
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.07e-18
RollingBand-fgt: 1.00 [177/177]
GhostDiagnostic-chr: 2.35
Centroid-sig: 0.0%
Centroid-so: 5.188 arcsec [3.97σ]
OotOffset-rm: 0.386 arcsec [1.92σ]
KicOffset-rm: 0.459 arcsec [2.27σ]
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]

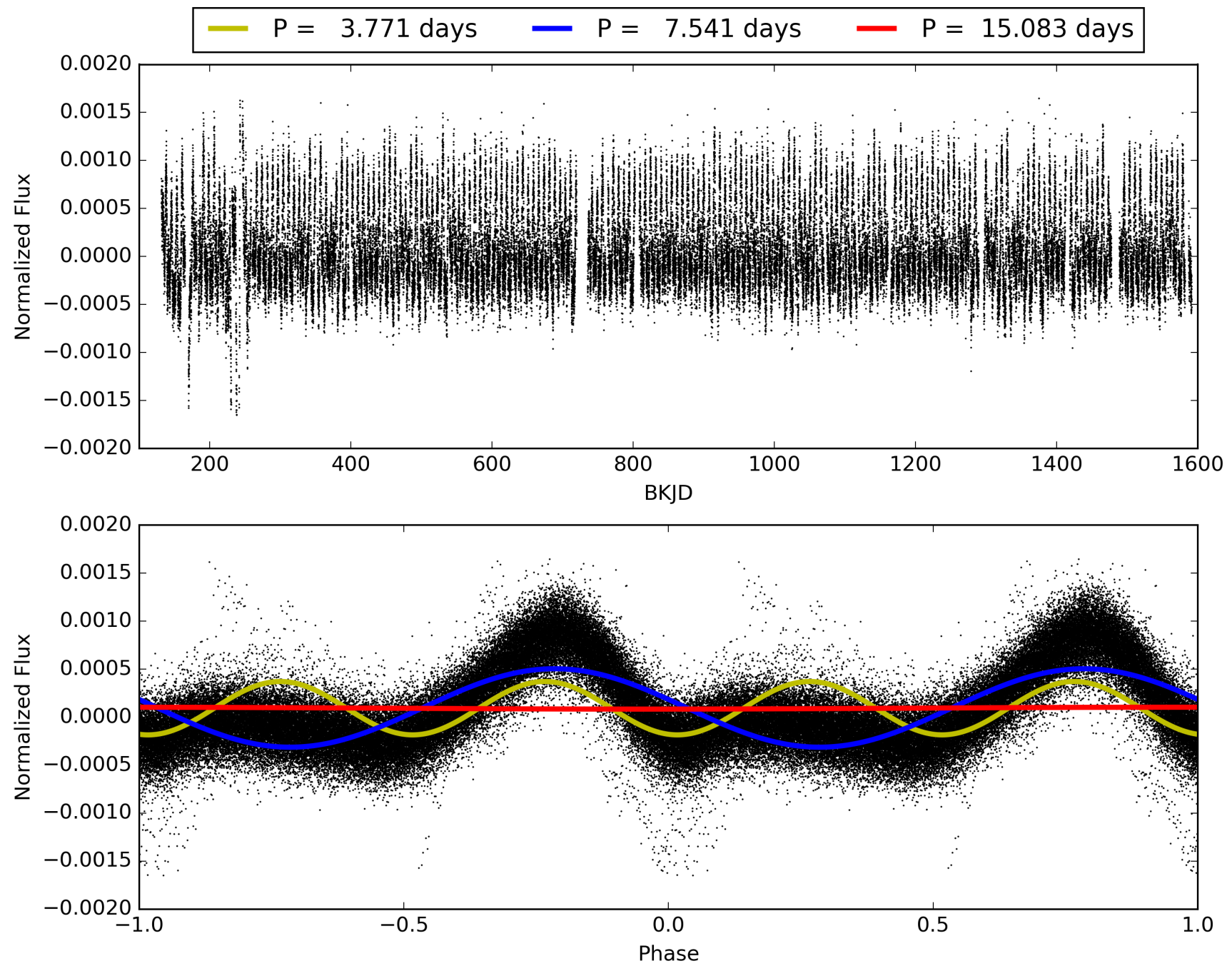
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:28:14 Z

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

TCE 004141760-01, PDC Light Curves

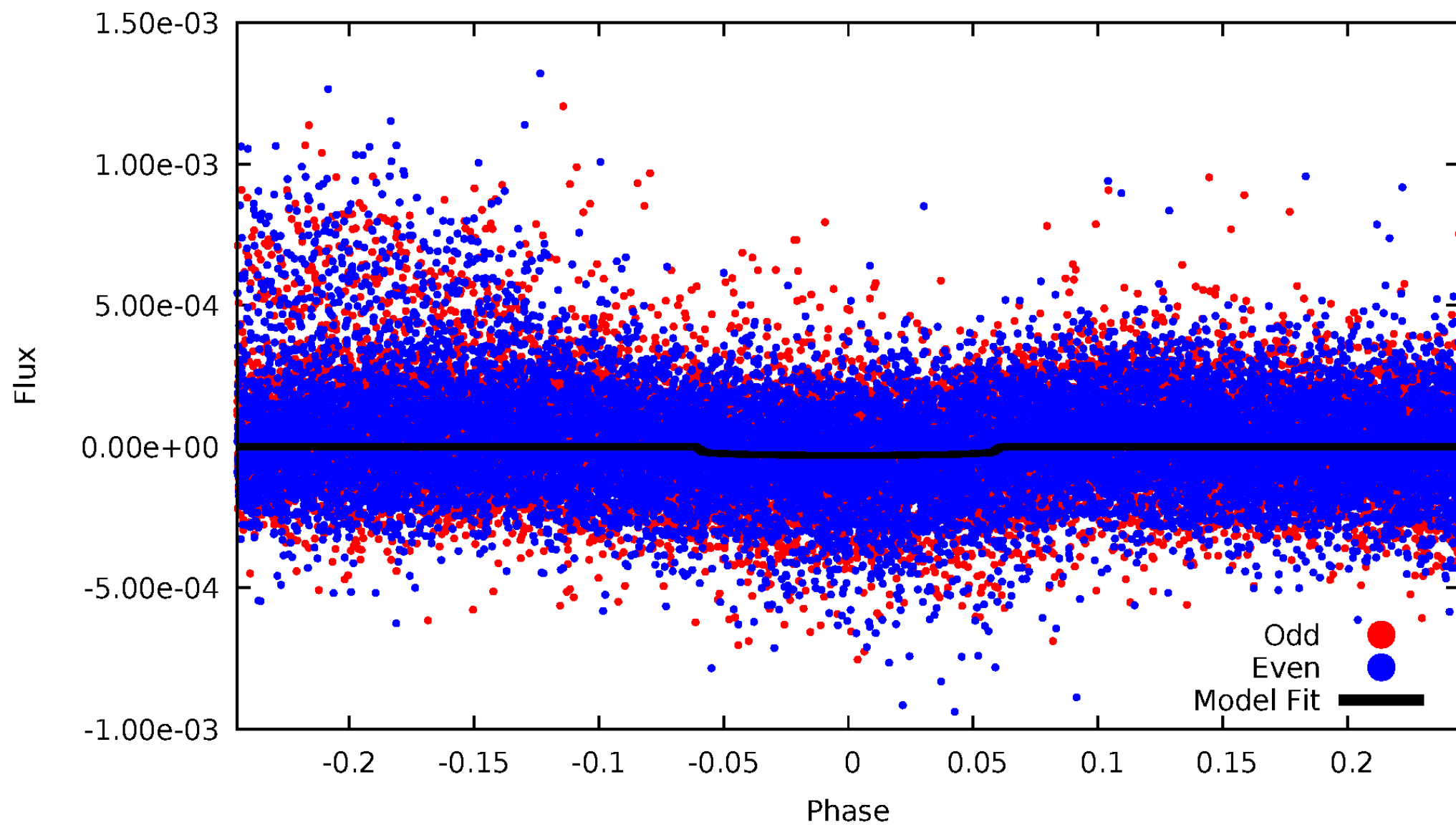


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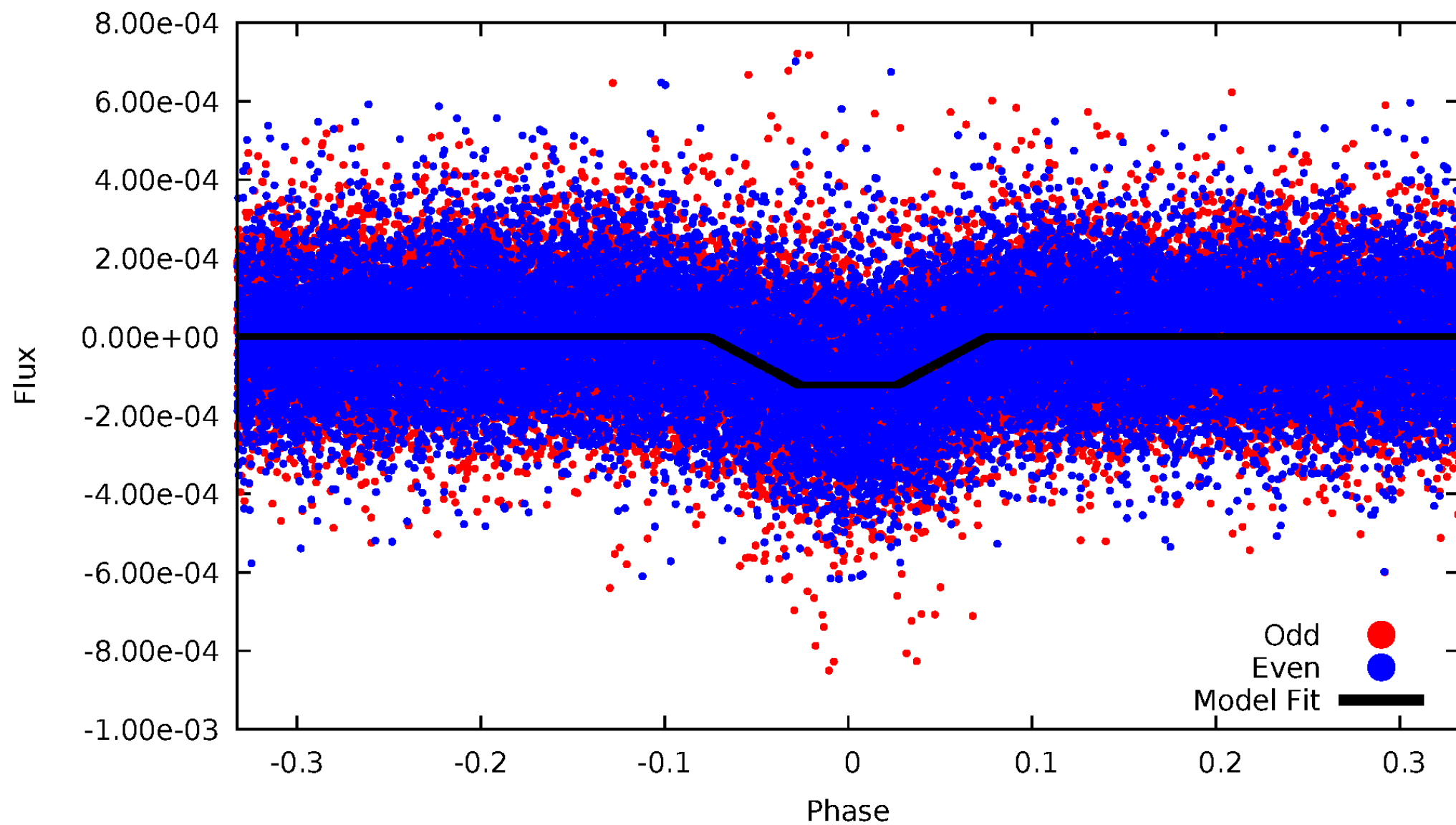
DV Odd/Even

TCE 004141760-01

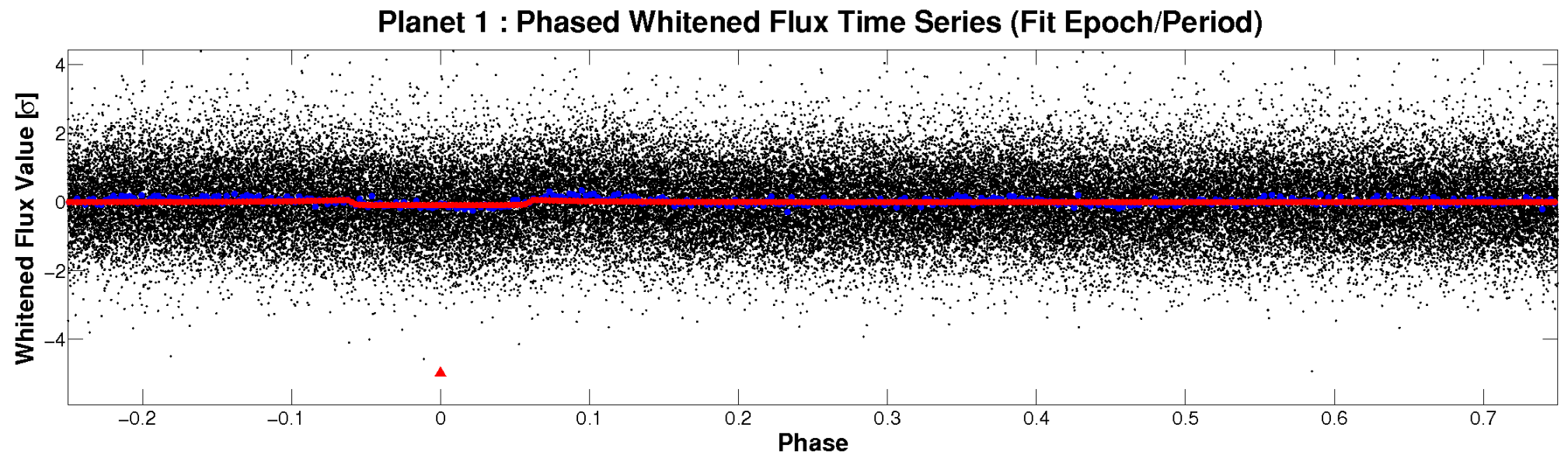
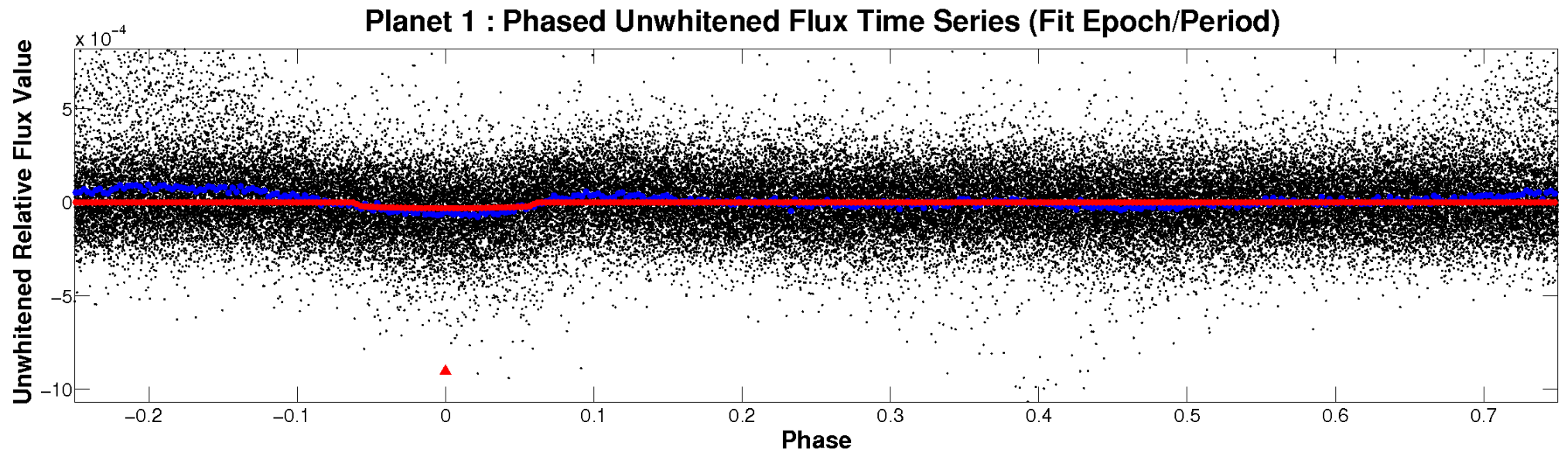


ALT Odd/Even

TCE 004141760-01

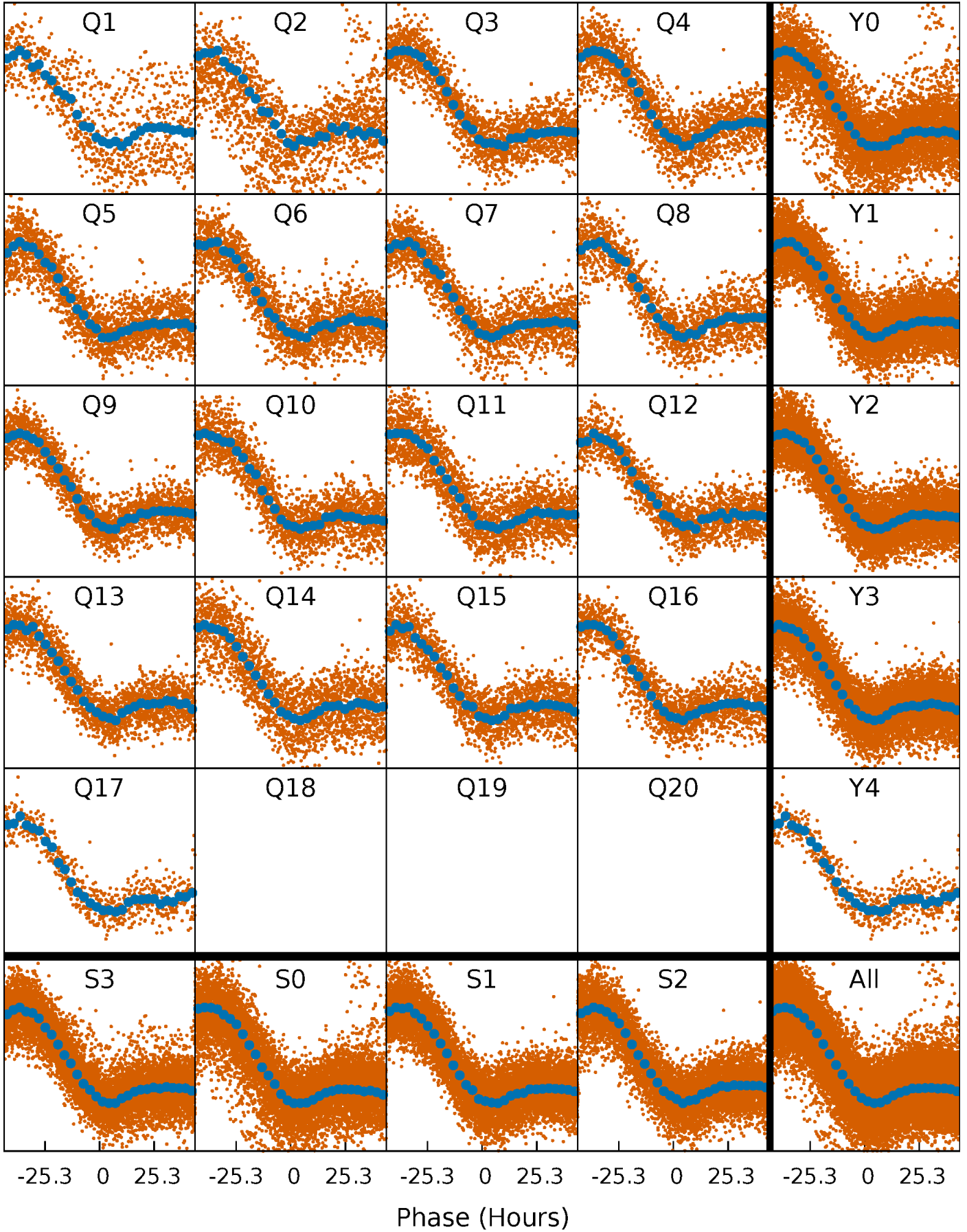


Non-Whitened Vs. Whitened Light Curve



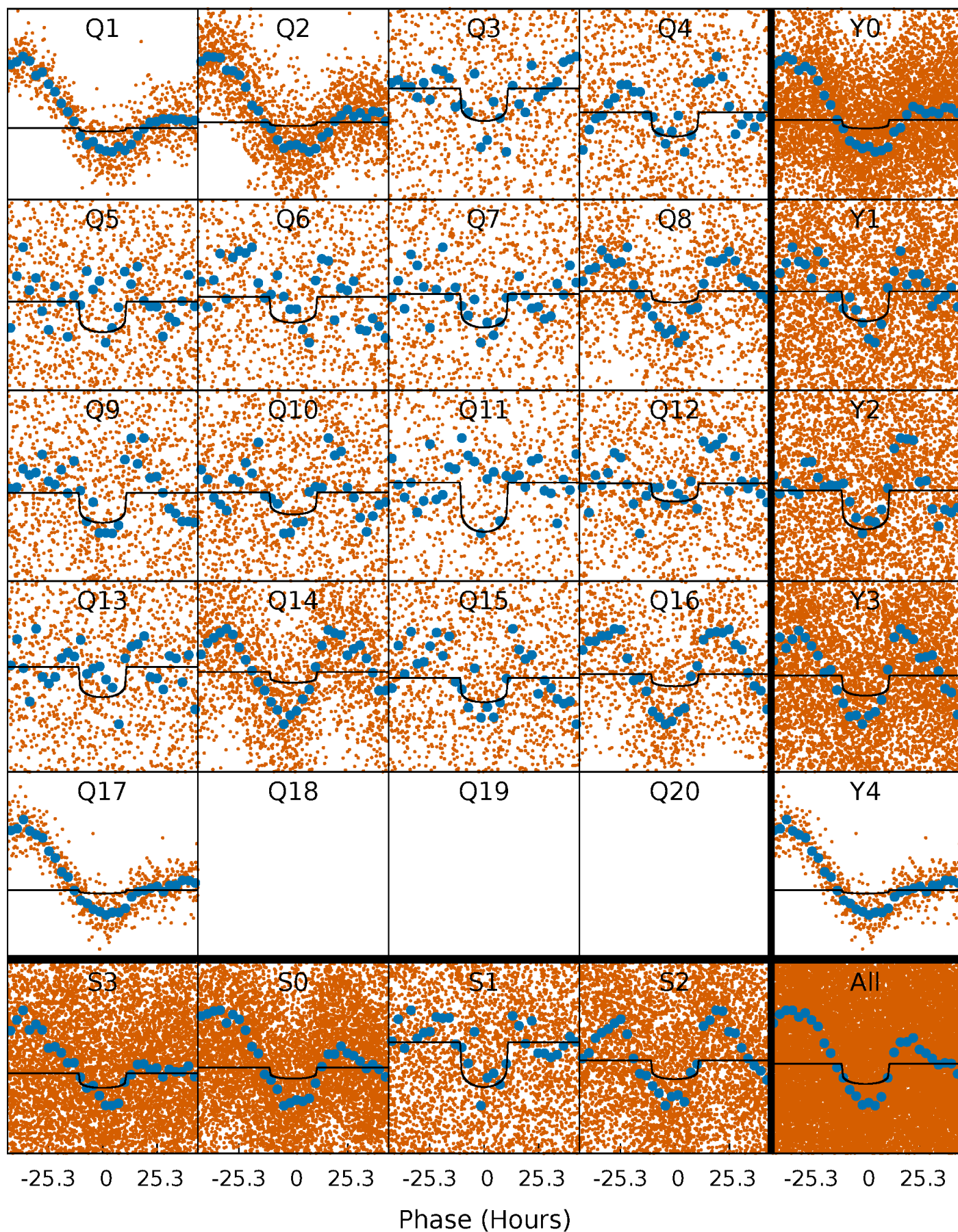
PDC Quarter-Phased Transit Curves

TCE 004141760-01 P= 7.541337 Days $T_0=132.151351$ (BKJD)



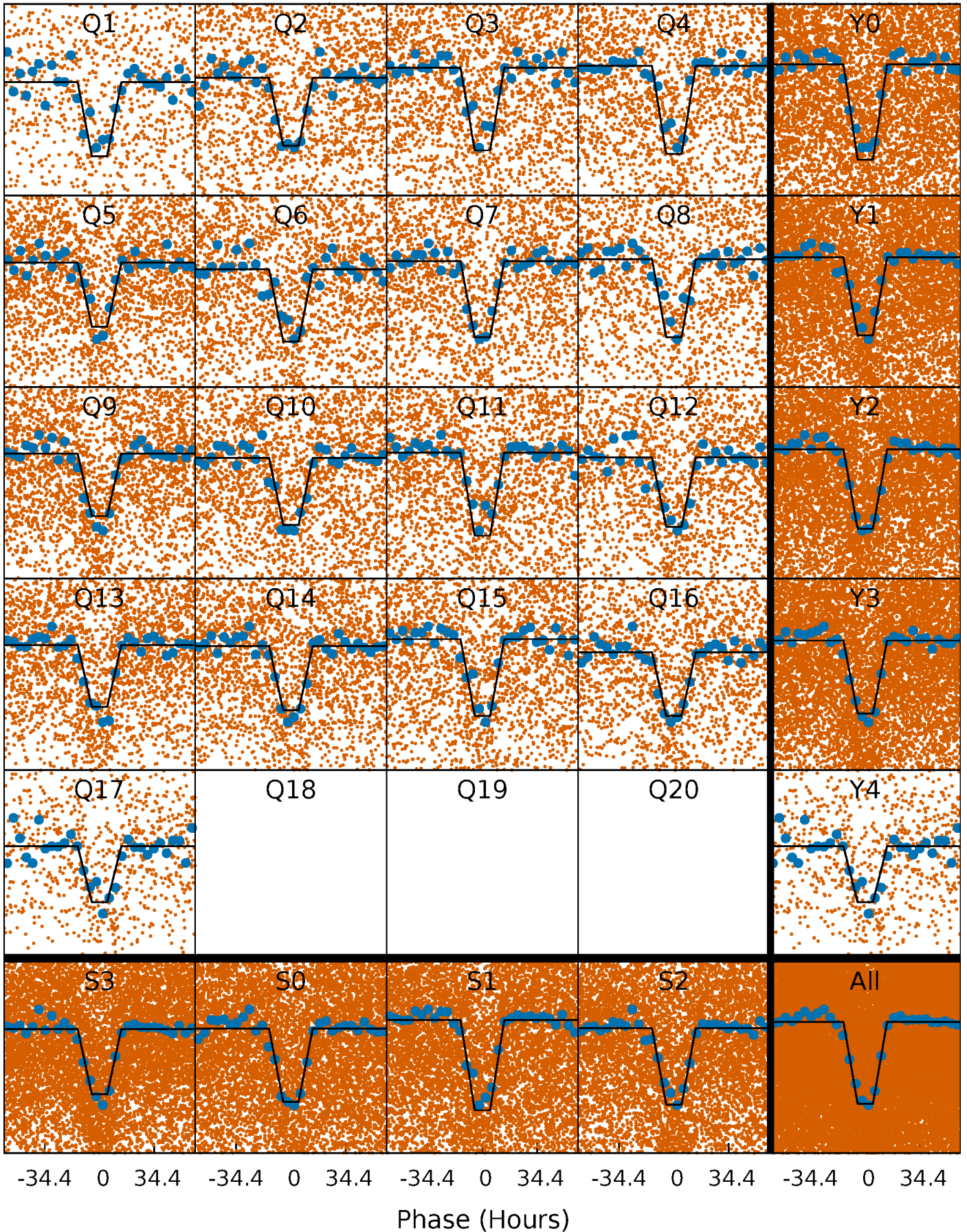
DV Quarter-Phased Transit Curves

TCE 004141760-01 P= 7.541337 Days $T_0=132.151351$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

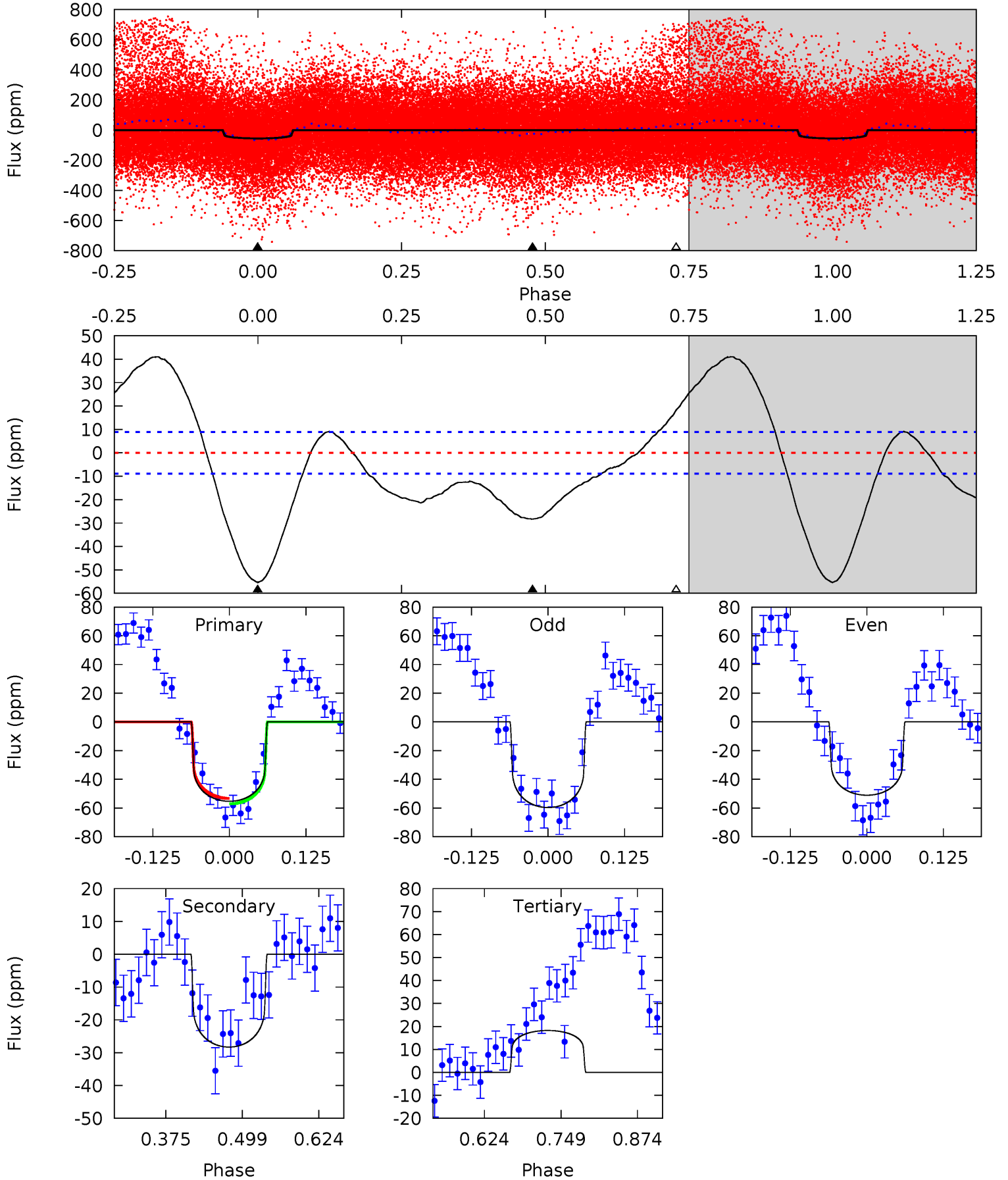
TCE 004141760-01 P= 7.540940 Days $T_0=132.261880$ (BKJD)



DV Model-Shift Uniqueness Test

004141760-01, P = 7.541337 Days, E = 124.610014 Days

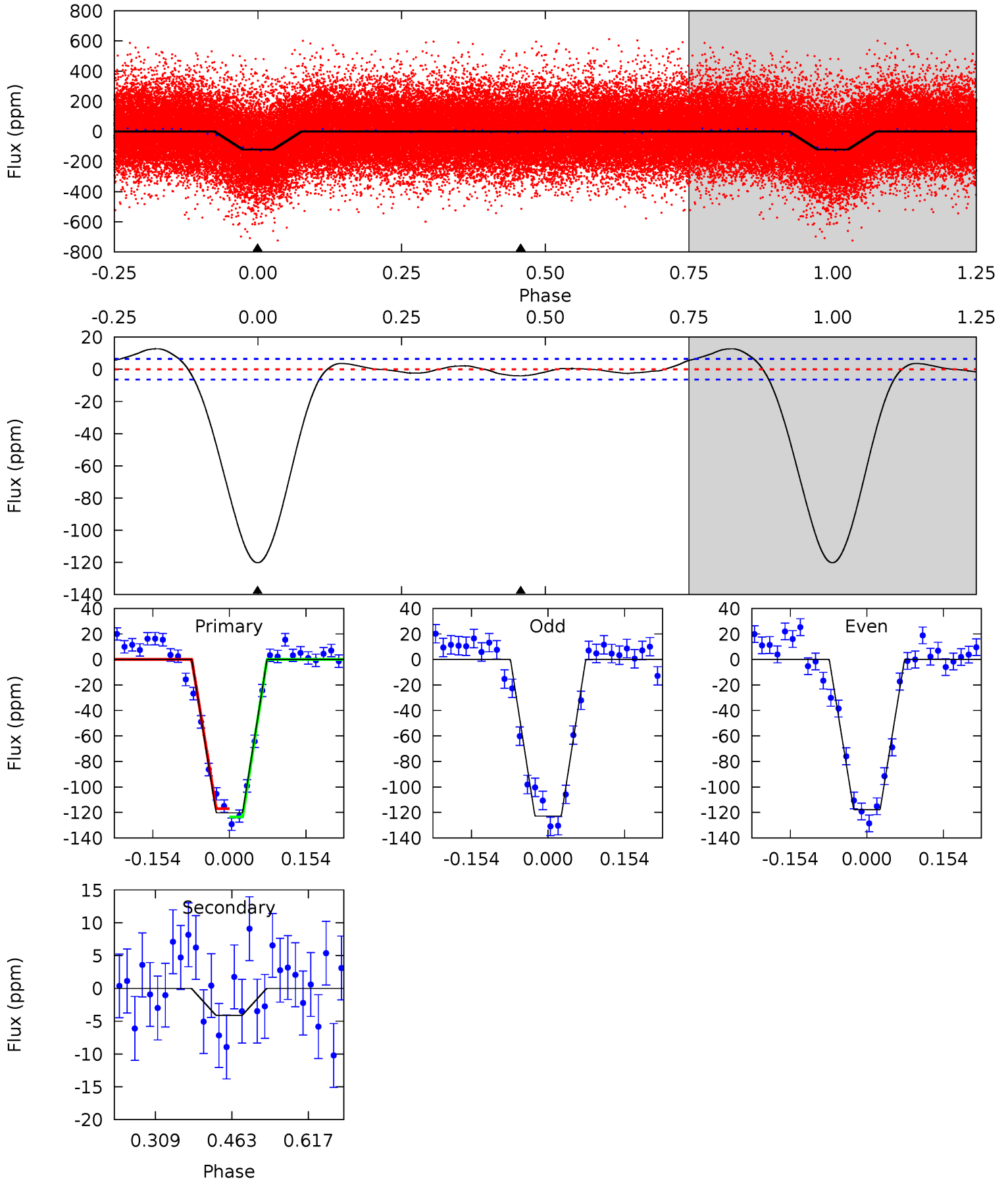
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 28.0 | 14.3 | -9.22 | 0 | 4.52 | 1.53 | 10.4 | 37.2 | 28.0 | 23.5 | 14.3 | 2.19 | 1.51 | 0.43 | 0.97 |



Alt Model-Shift Uniqueness Test

004141760-01, P = 7.540940 Days, E = 124.720940 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 83.6 | 2.85 | 0 | 0 | 4.47 | 1.42 | 3.44 | 83.6 | 83.6 | 2.85 | 2.85 | 1.75 | 1.08 | 0.10 | 2.23 |



Stellar Parameters For KIC 004141760

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|--|
| | 6134^{+183}_{-201} | $4.239^{+0.220}_{-0.180}$ | $-0.320^{+0.300}_{-0.300}$ | $1.238^{+0.360}_{-0.294}$ | $0.971^{+0.151}_{-0.110}$ | $0.720^{+0.839}_{-0.337}$ |
| | +3%/-3% | +5%/-4% | +94%/-94% | +29%/-24% | +16%/-11% | +116%/-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 004141760-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|----------------------|---------------------------|
| DV | -28 ± 2 | $0.78^{+0.17}_{-0.15}$ | 1534^{+122}_{-111} | 5852^{+493}_{-393} | 141^{+74}_{-45} |
| Alt. | -4 ± 1 | $1.48^{+0.28}_{-0.21}$ | 1530^{+120}_{-110} | 3176^{+186}_{-233} | $5.519^{+3.281}_{-2.369}$ |

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

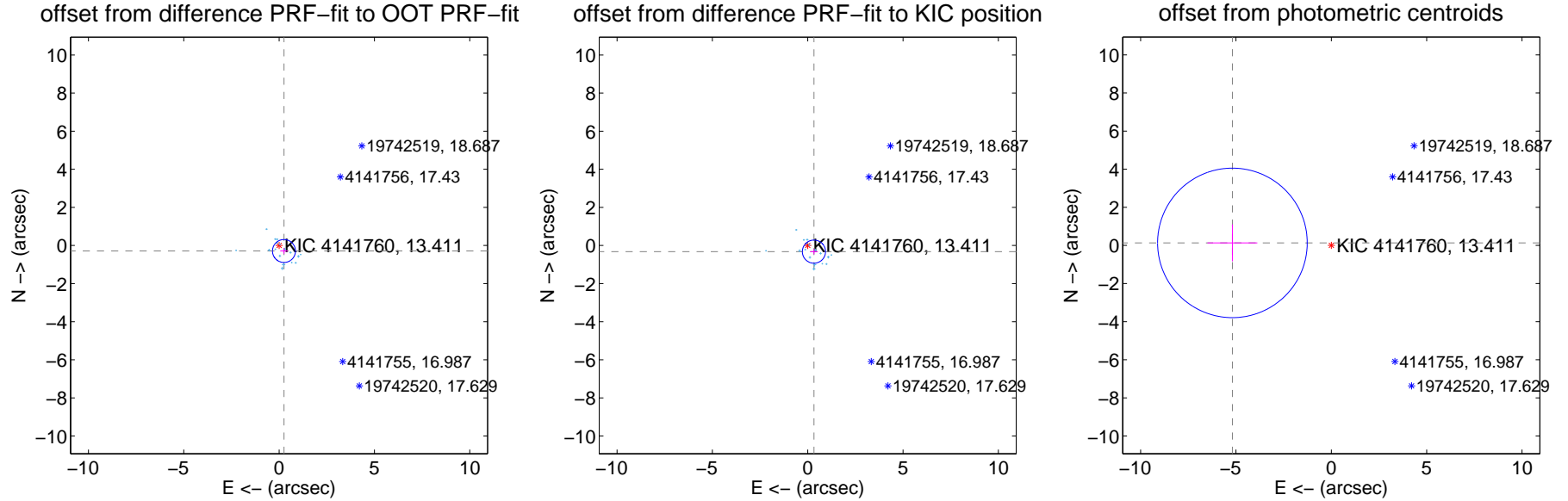
DV Centroid Data

Supplemental centroid analysis for 004141760-01. Kepler magnitude: 13.41. Transit SNR 9.00

There are 17 quarters with good PRF difference image offsets

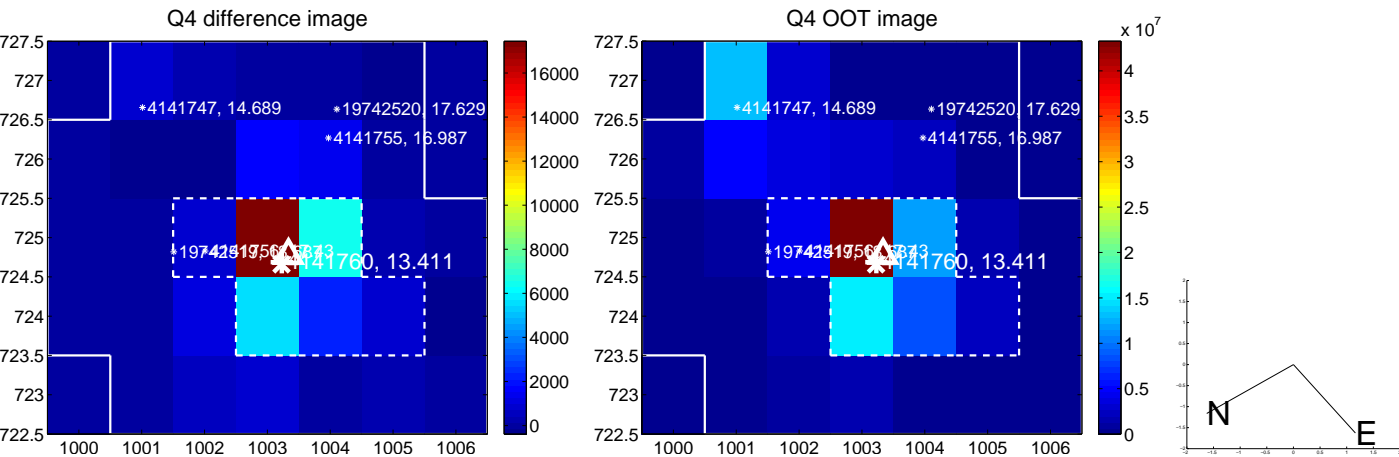
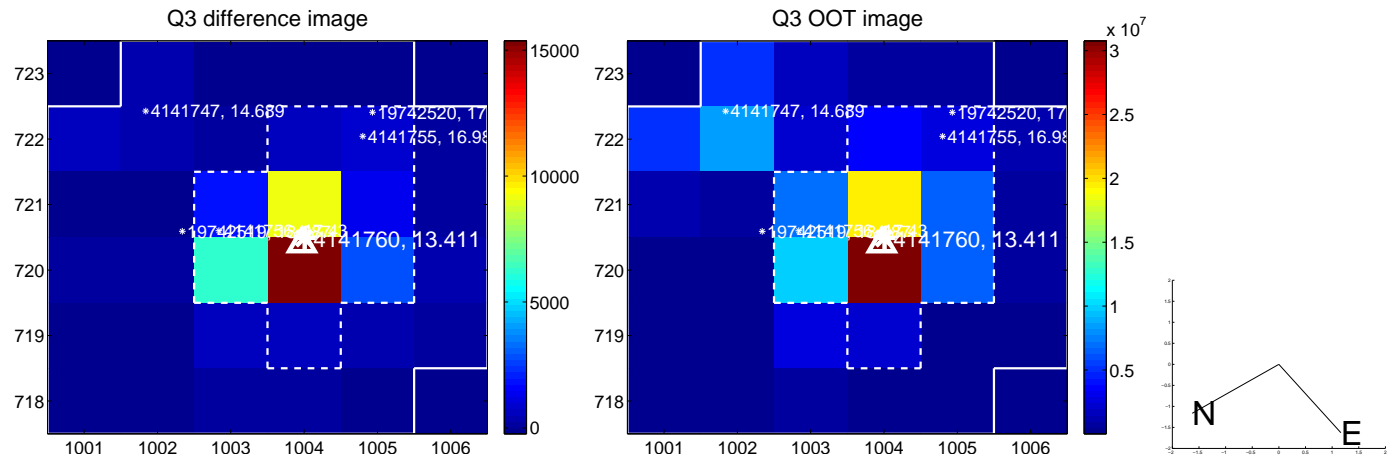
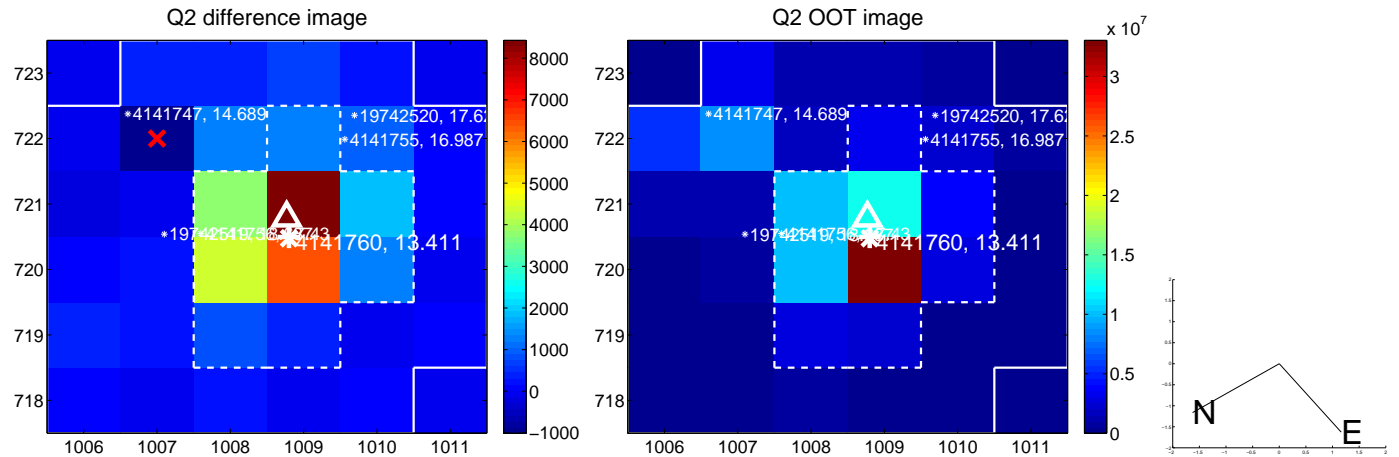
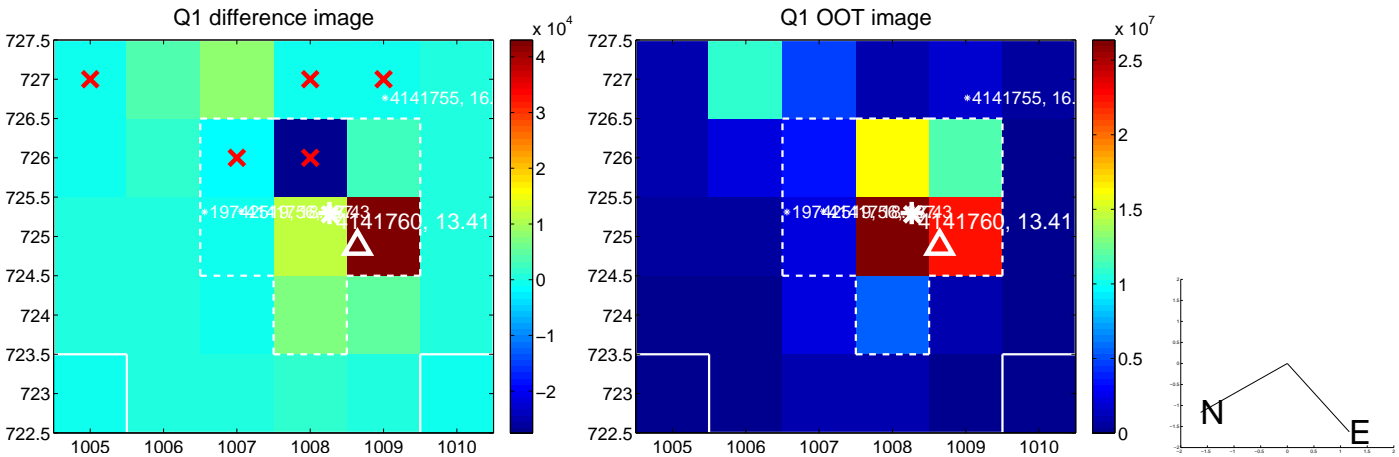
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.386 ± 0.201 | 1.92 | -0.255 ± 0.197 | -0.290 ± 0.148 |
| PRF-fit source offset from KIC position | 0.459 ± 0.203 | 2.27 | -0.327 ± 0.201 | -0.323 ± 0.143 |
| photometric centroid source offset | 5.19 ± 1.31 | 3.97 | 5.19 ± 1.31 | 0.13 ± 0.97 |

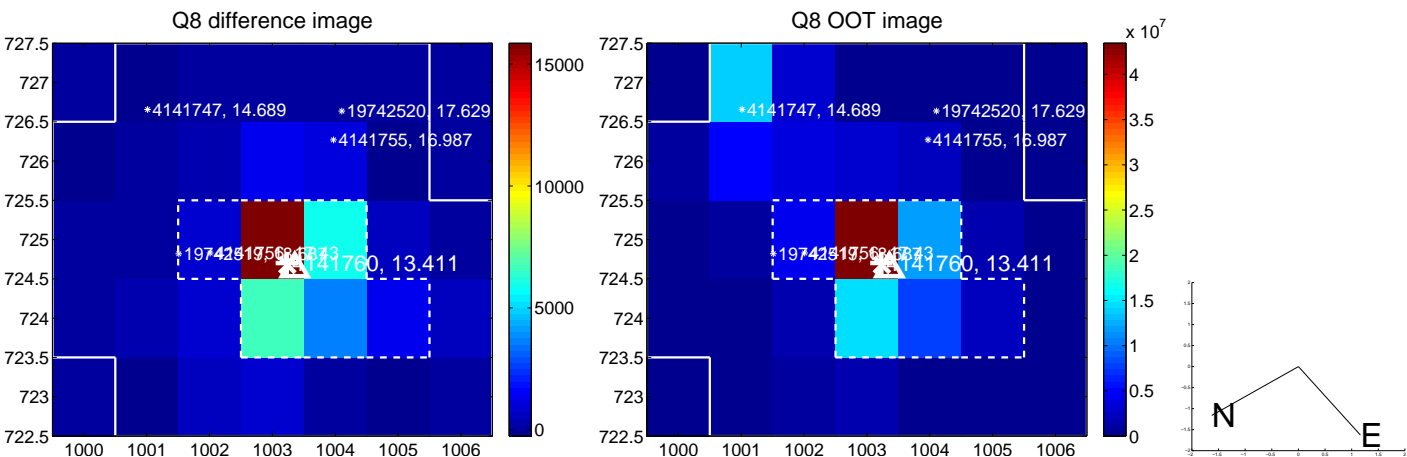
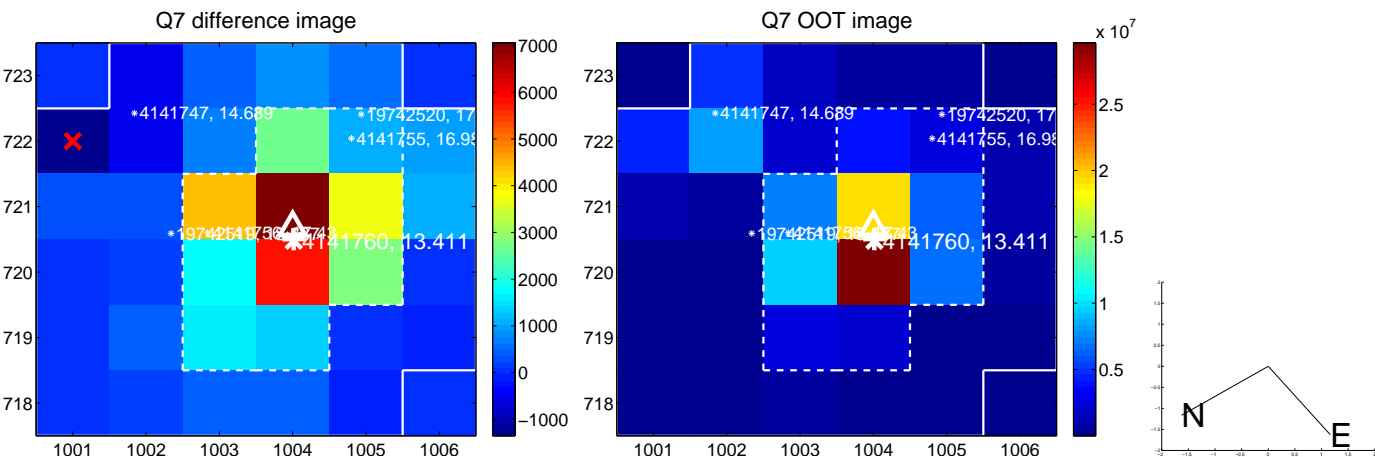
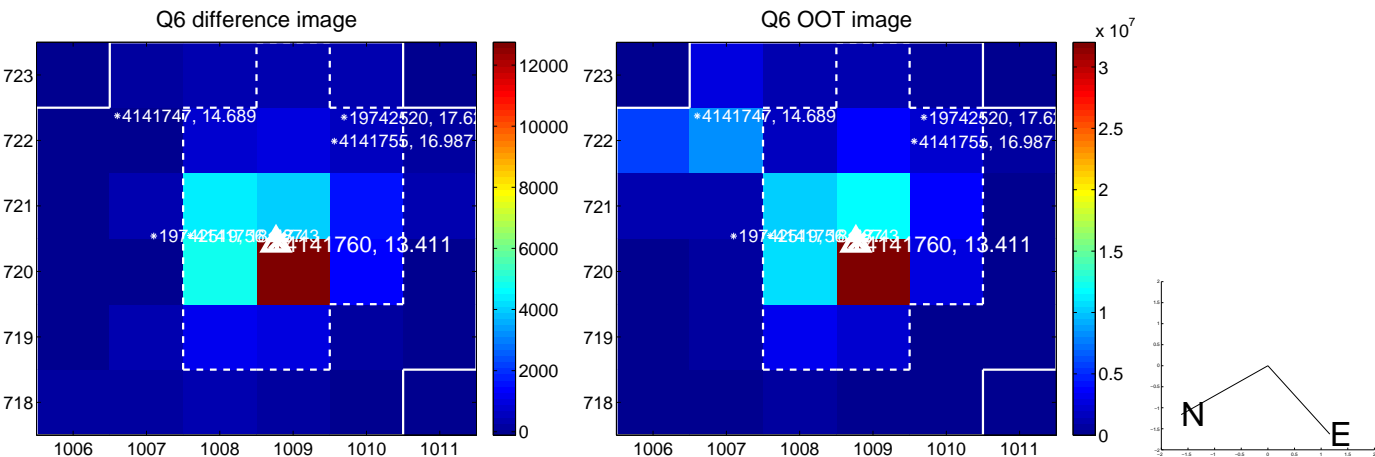
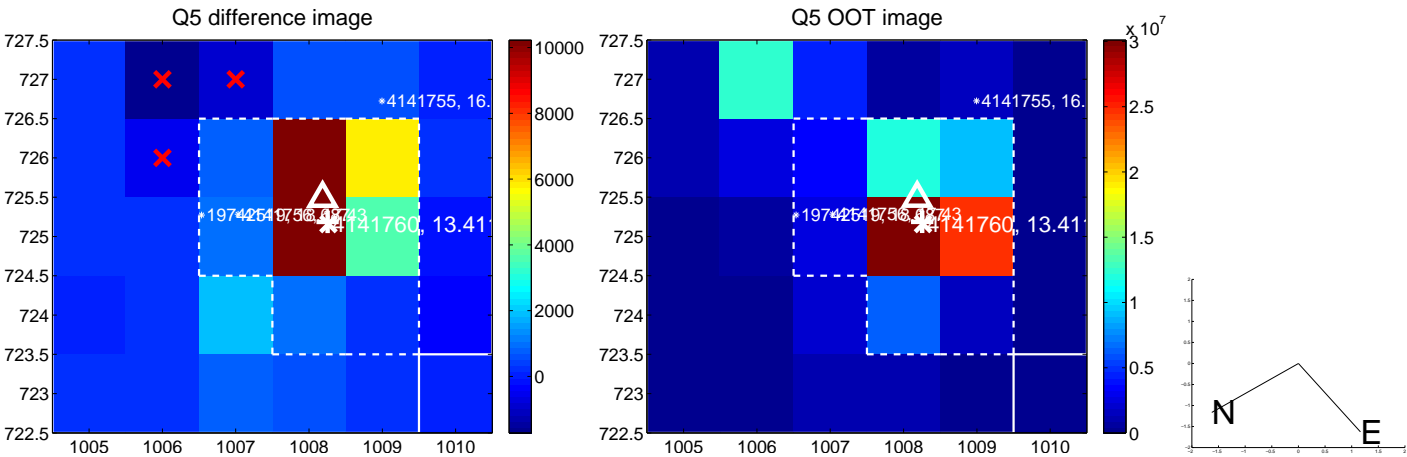


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

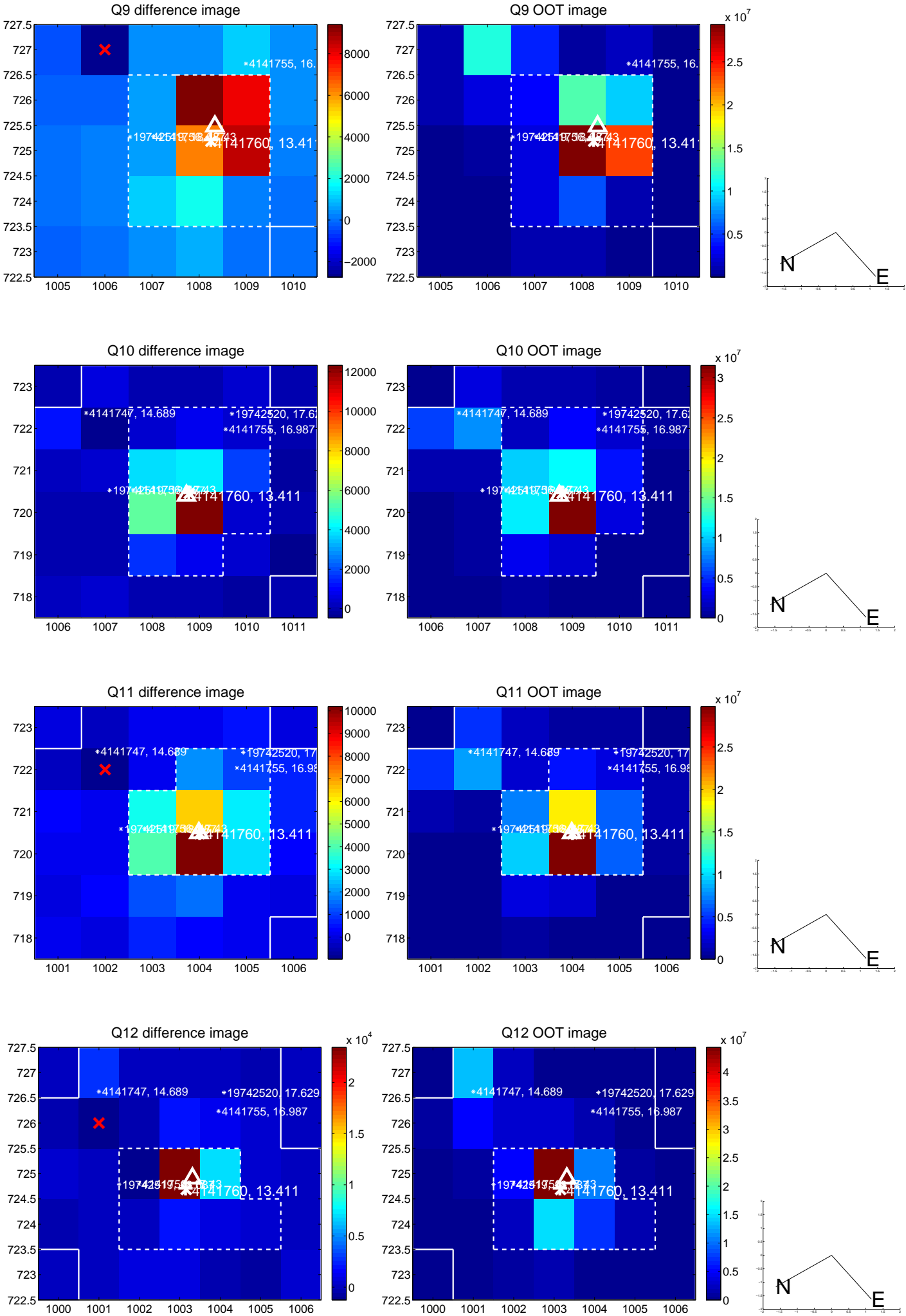
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



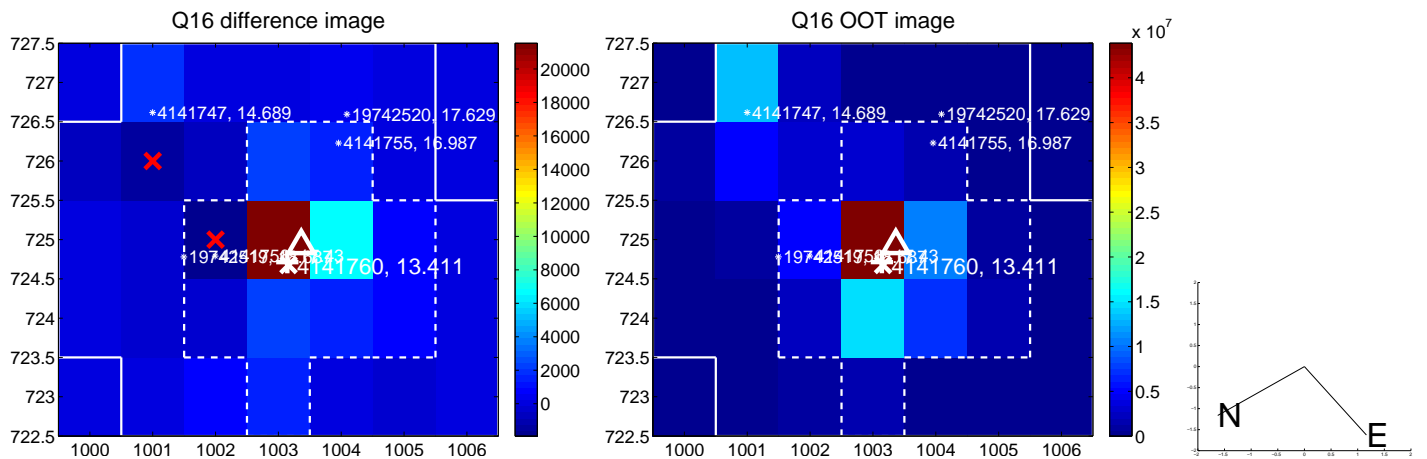
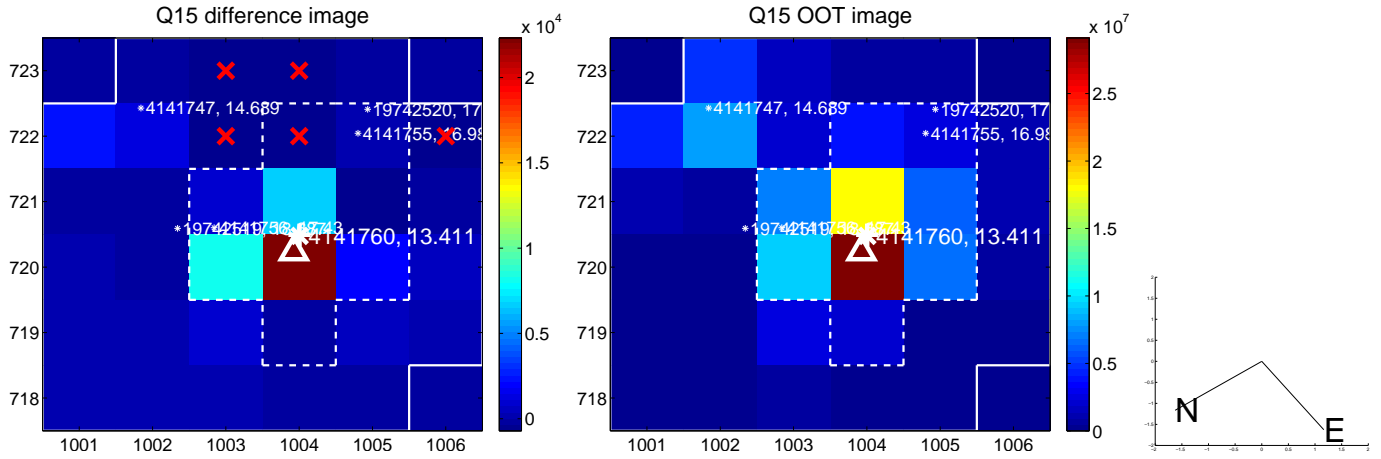
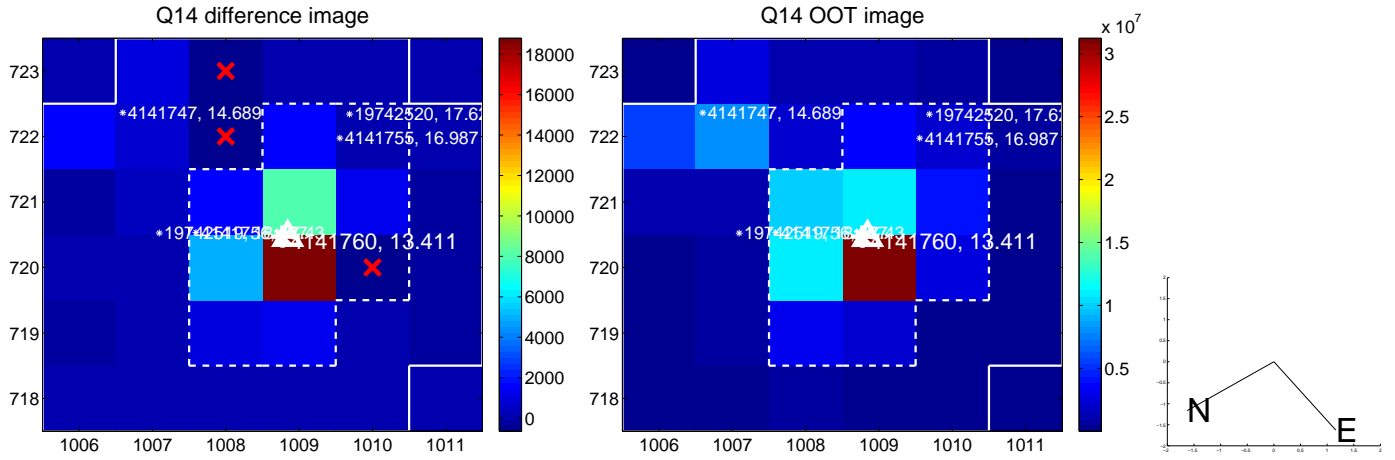
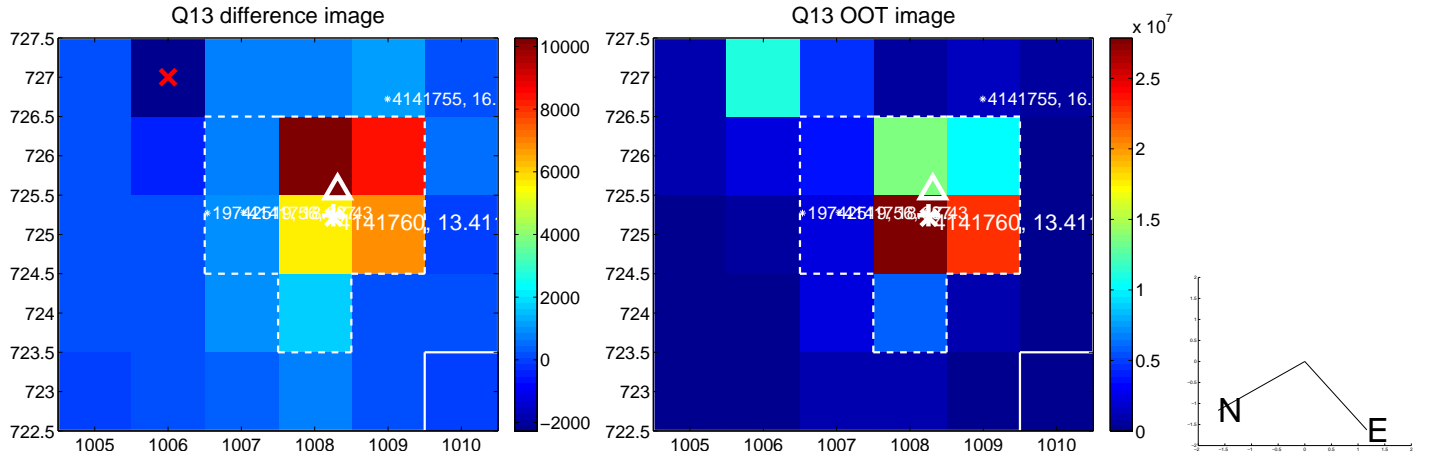
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



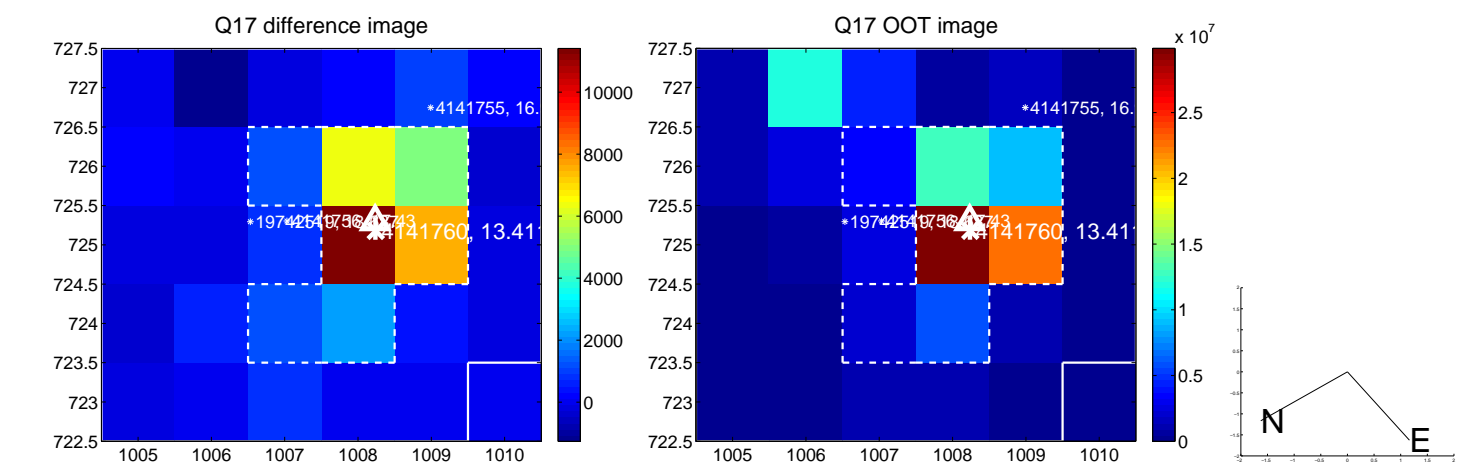
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



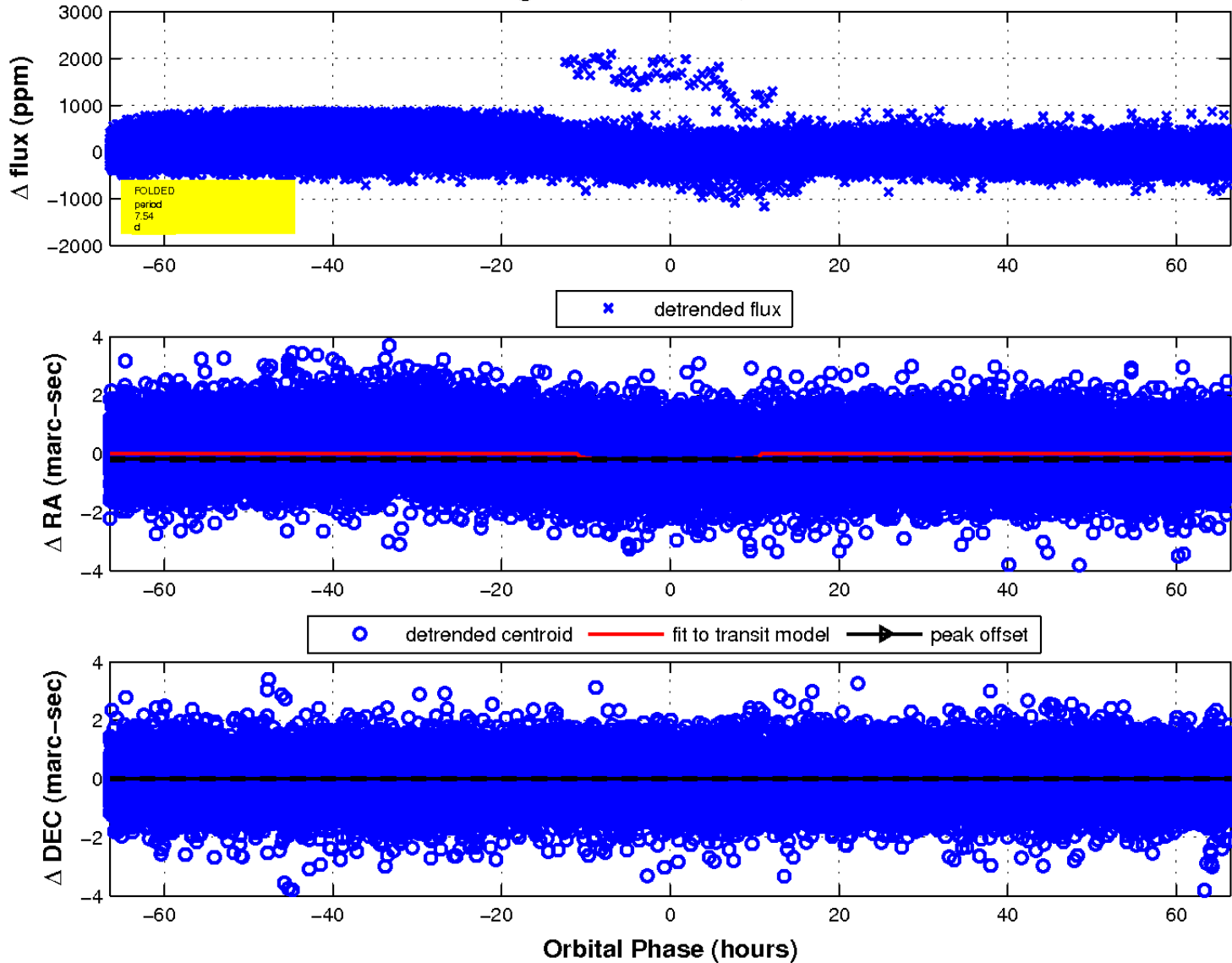
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

