

KIC 006351097

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 006351097-01 | OBS | 2618.01 | 12.491208 | 136.314423 | 185.1 | 2.926 | 13.8 | 15.2 | 0.91 | 5753 | 1.47 | 80.17 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------------------|
| 006351097-01 | OBS | FP | 0.00 | 0 | 0 | 1 | 0 | CENT_UNRESOLVED_OFFSET |

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

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

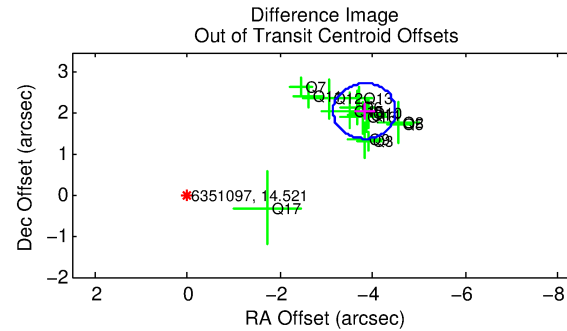
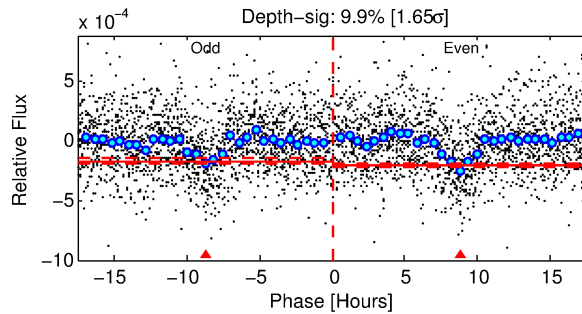
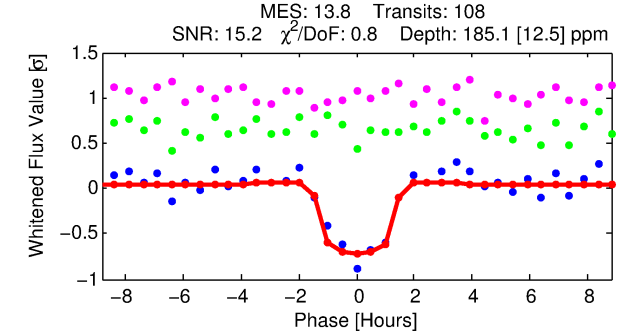
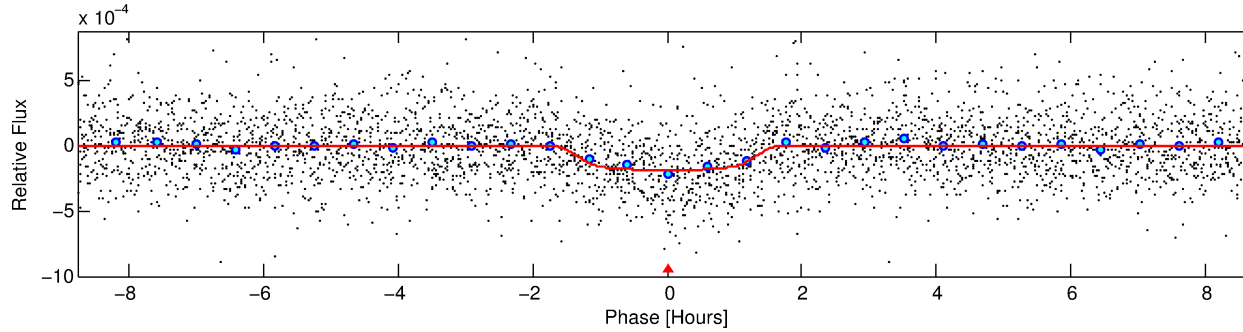
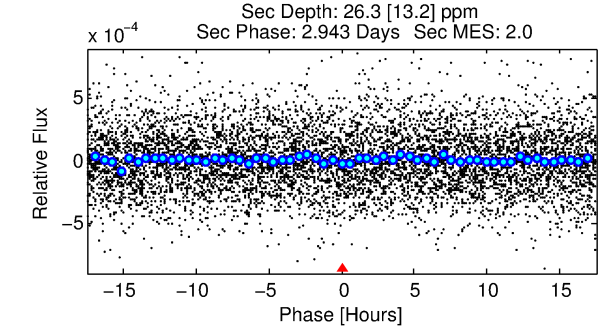
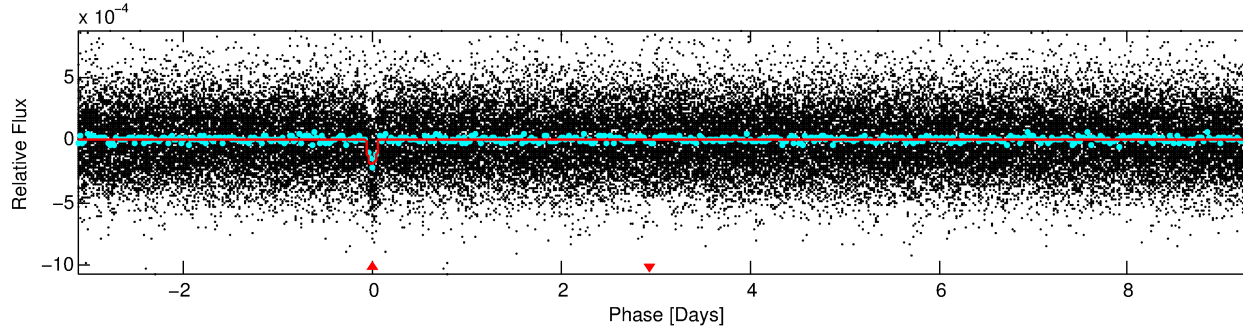
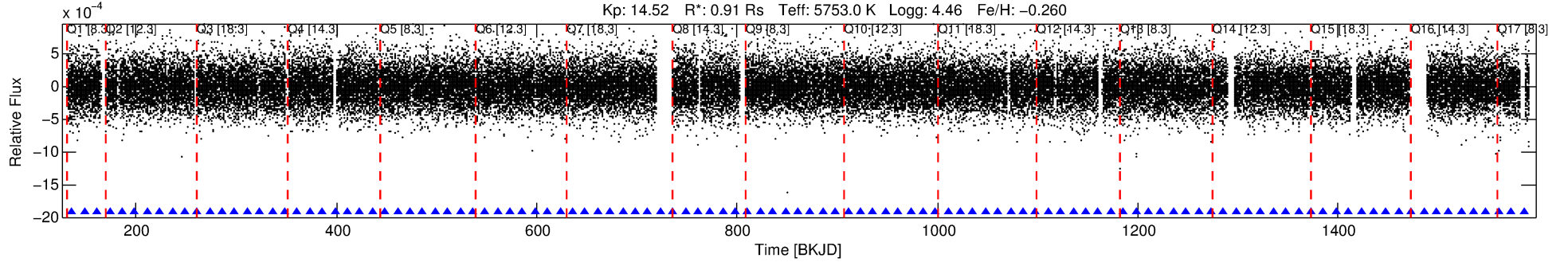
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006351097-01

No Significant Match Found

DV One-Page Summary

KIC: 6351097 Candidate: 1 of 1 Period: 12.491 d
KOI: K02618.01 Corr: 0.977



DV Fit Results:

Period = 12.49121 [0.00006] d
Epoch = 136.3144 [0.0042] BKJD
Rp/R* = 0.0148 [0.0051]
a/R* = 15.28 [25.63]
b = 0.90 [0.36]
Seff = 80.17 [27.05]
Teff = 763 [64] K
Rp = 1.47 [0.64] Re
a = 0.1008 [0.0221] AU
Ag = 67.85 [61.83] [1.08σ]
Teffp = 3386 [728] K [3.59σ]

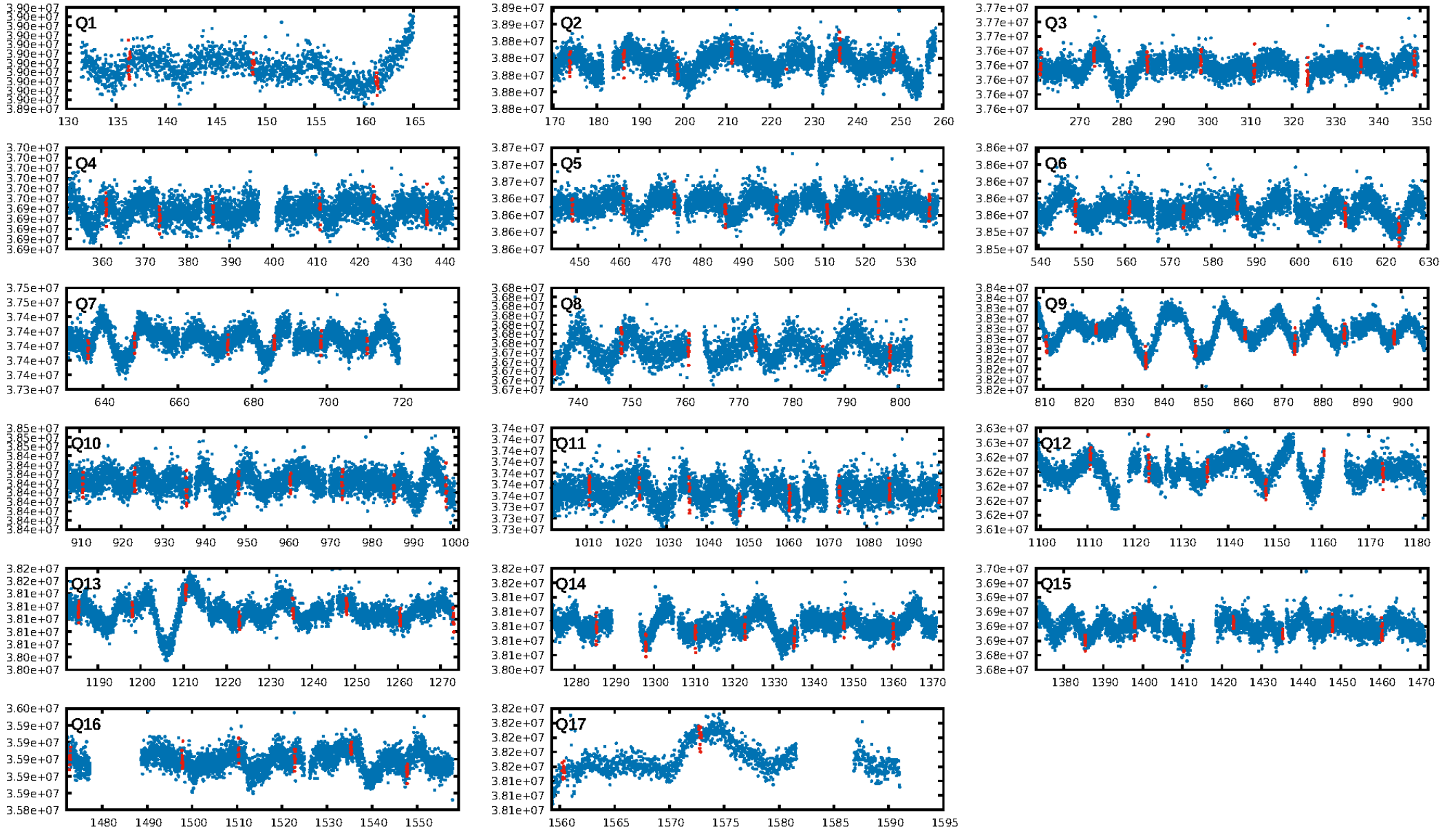
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 91.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.33e-42
RollingBand-fgt: 1.00 [103/103]
GhostDiagnostic-chr: 1.26
Centroid-sig: 0.0%
Centroid-so: 6.784 arcsec [9.26σ]
OotOffset-rm: 4.341 arcsec [19.24σ]
KicOffset-rm: 4.244 arcsec [17.54σ]
OotOffset-st: 4/4/2/4 [14]
KicOffset-st: 4/4/2/4 [14]
DiffImageQuality-fgm: 0.93 [13/14]
DiffImageOverlap-fno: 1.00 [17/17]

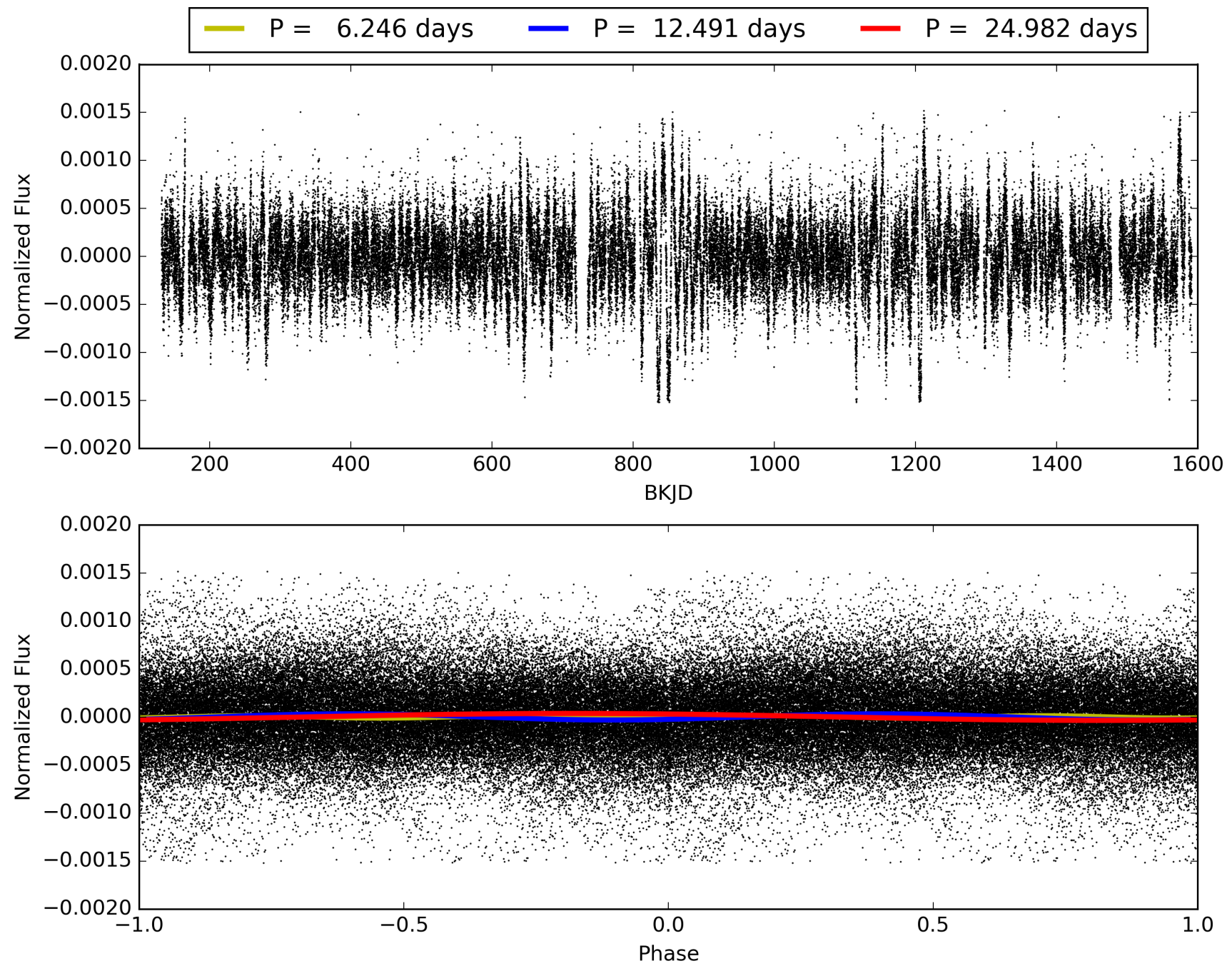
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:24:50 Z

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

TCE 006351097-01, PDC Light Curves

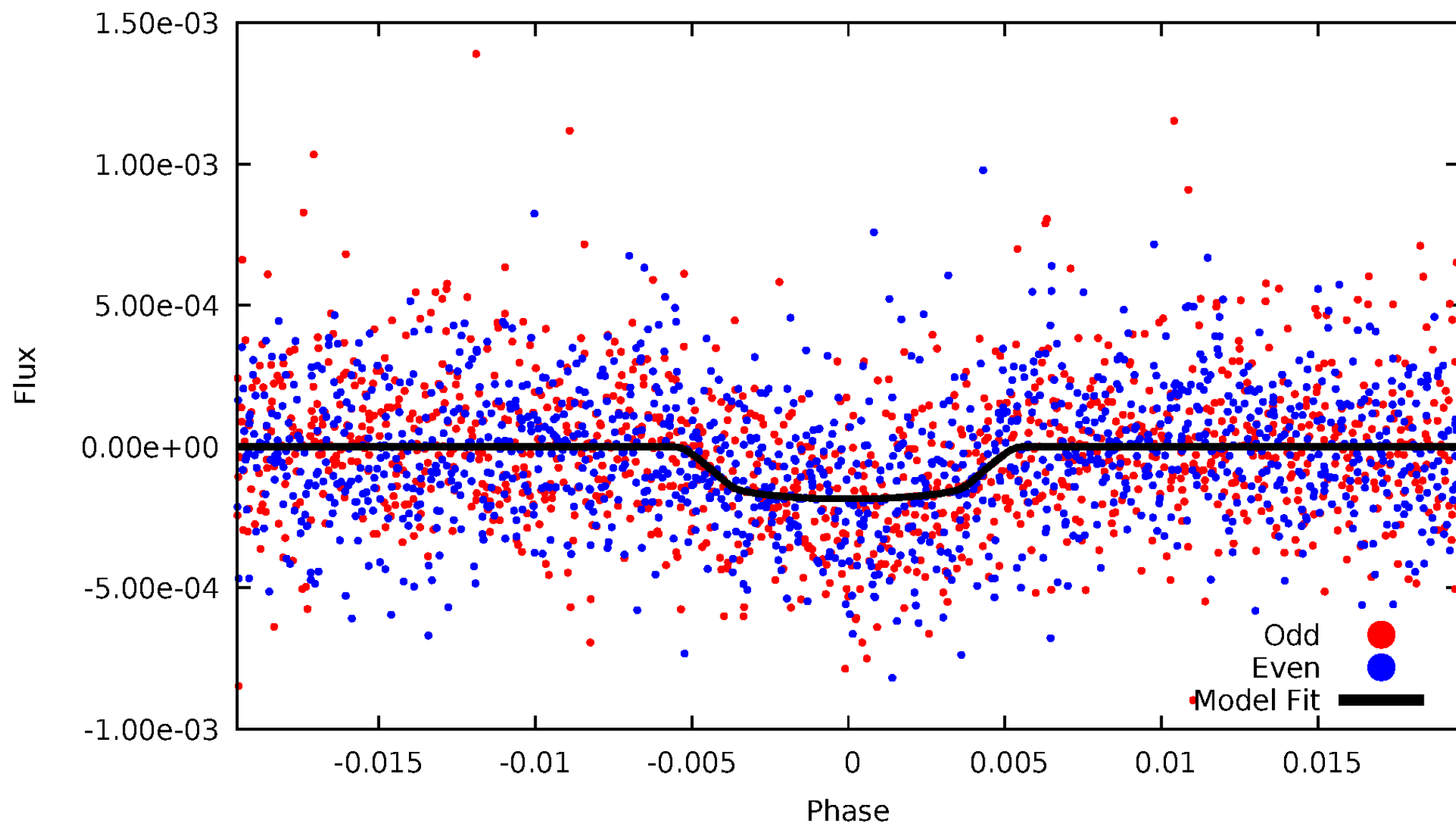


TCE 006351097-01



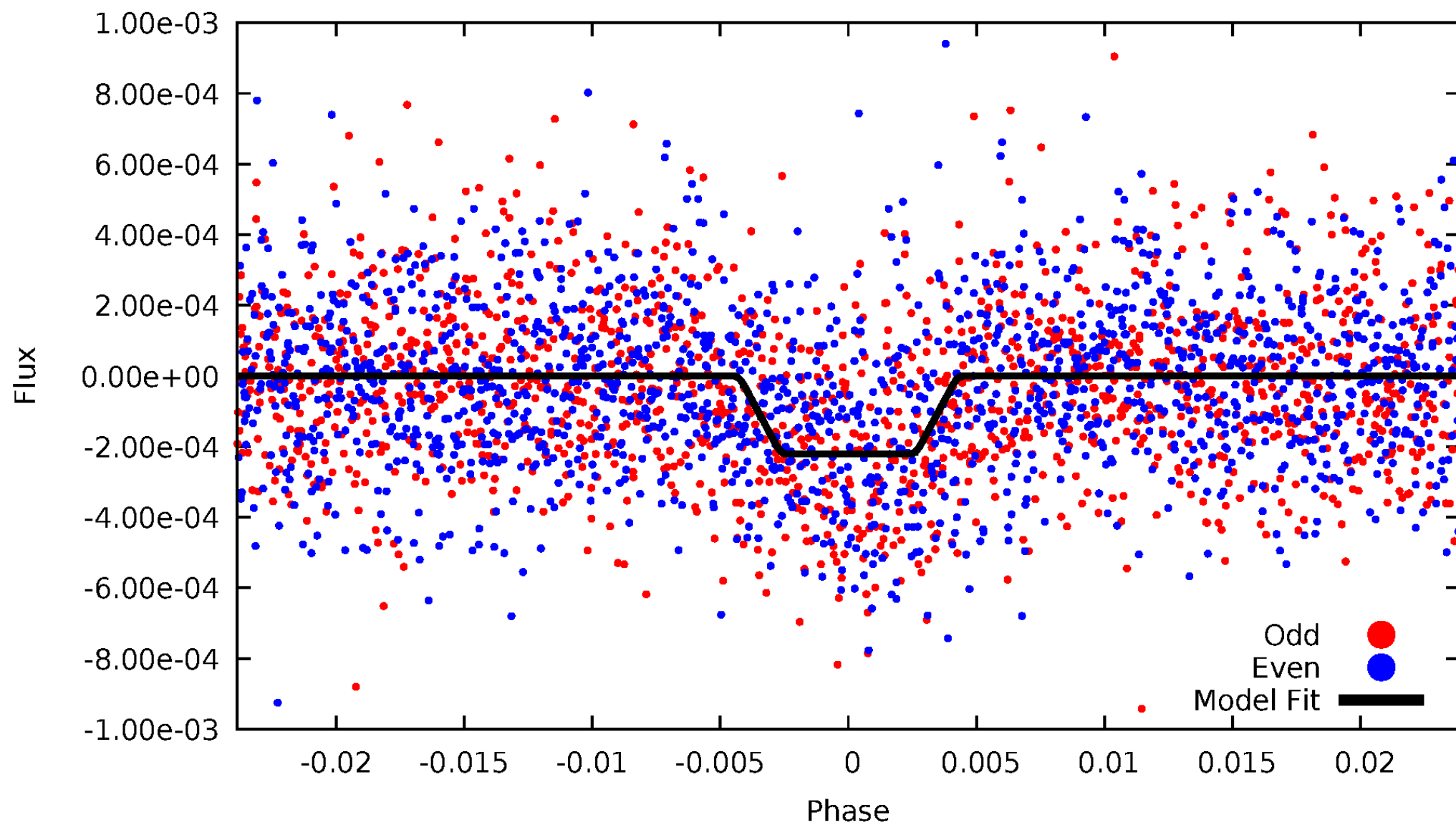
DV Odd/Even

TCE 006351097-01



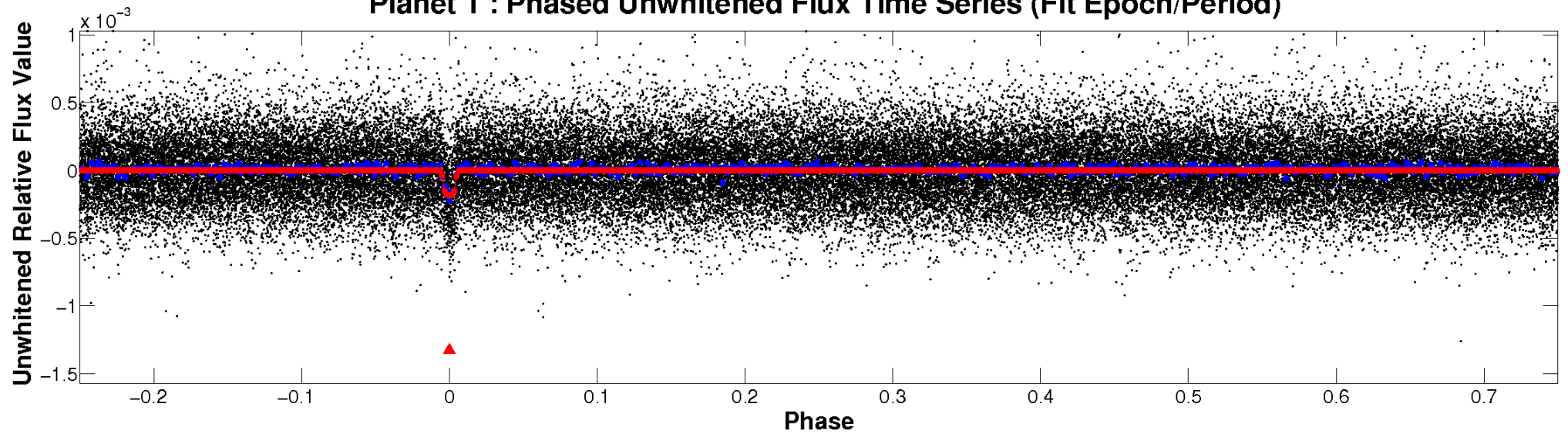
ALT Odd/Even

TCE 006351097-01

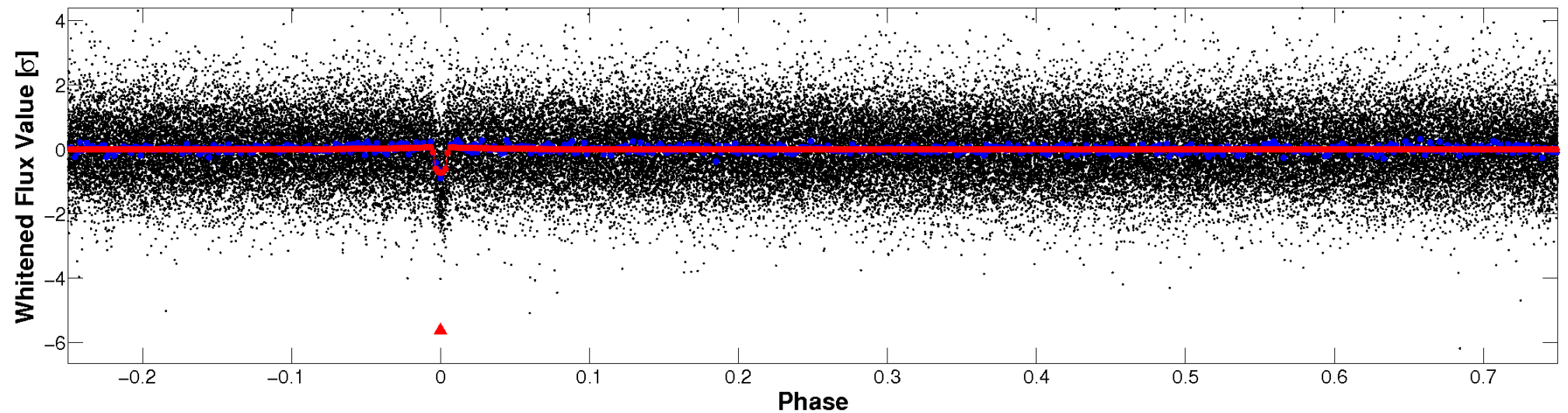


Non-Whitened Vs. Whitened Light Curve

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

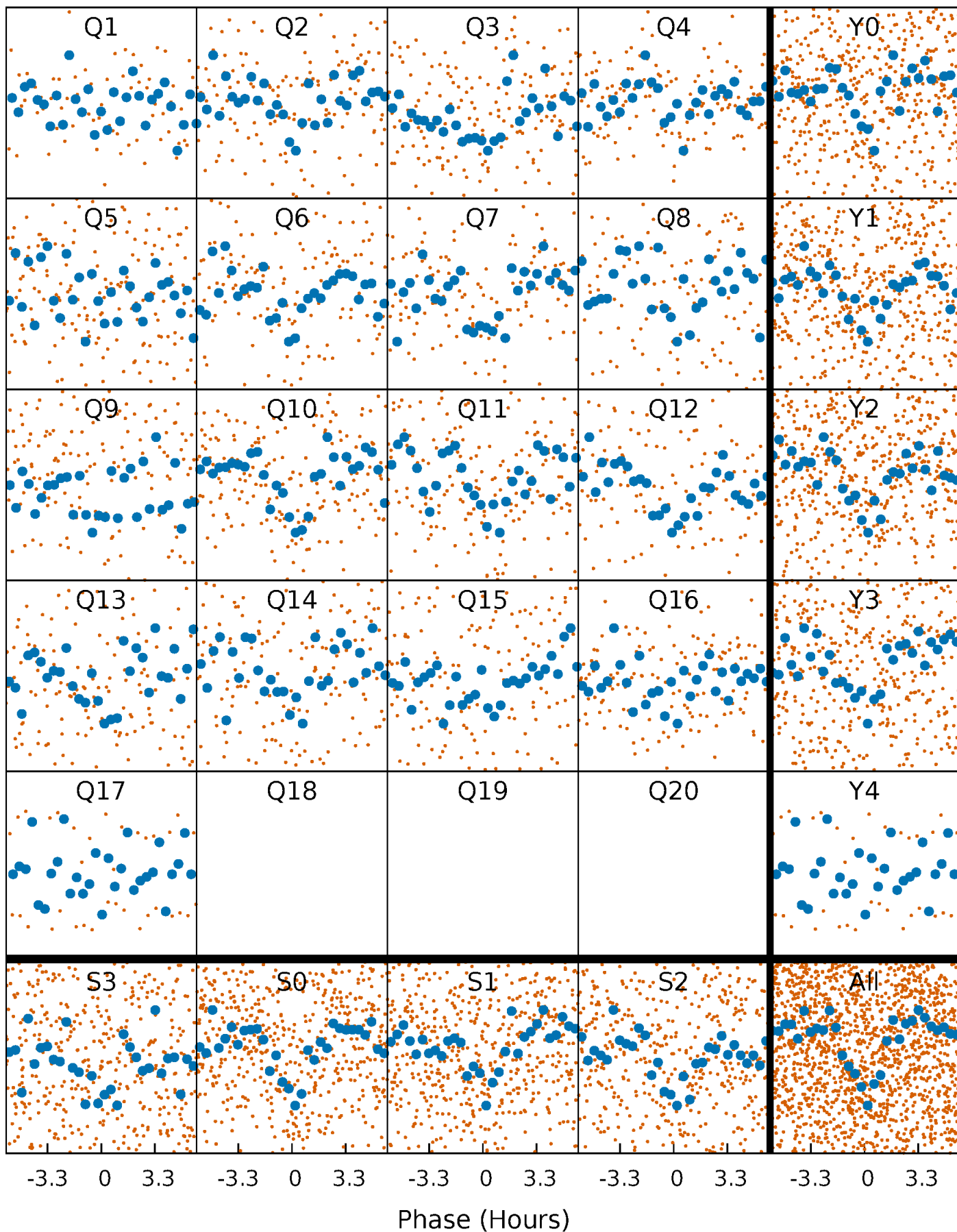


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



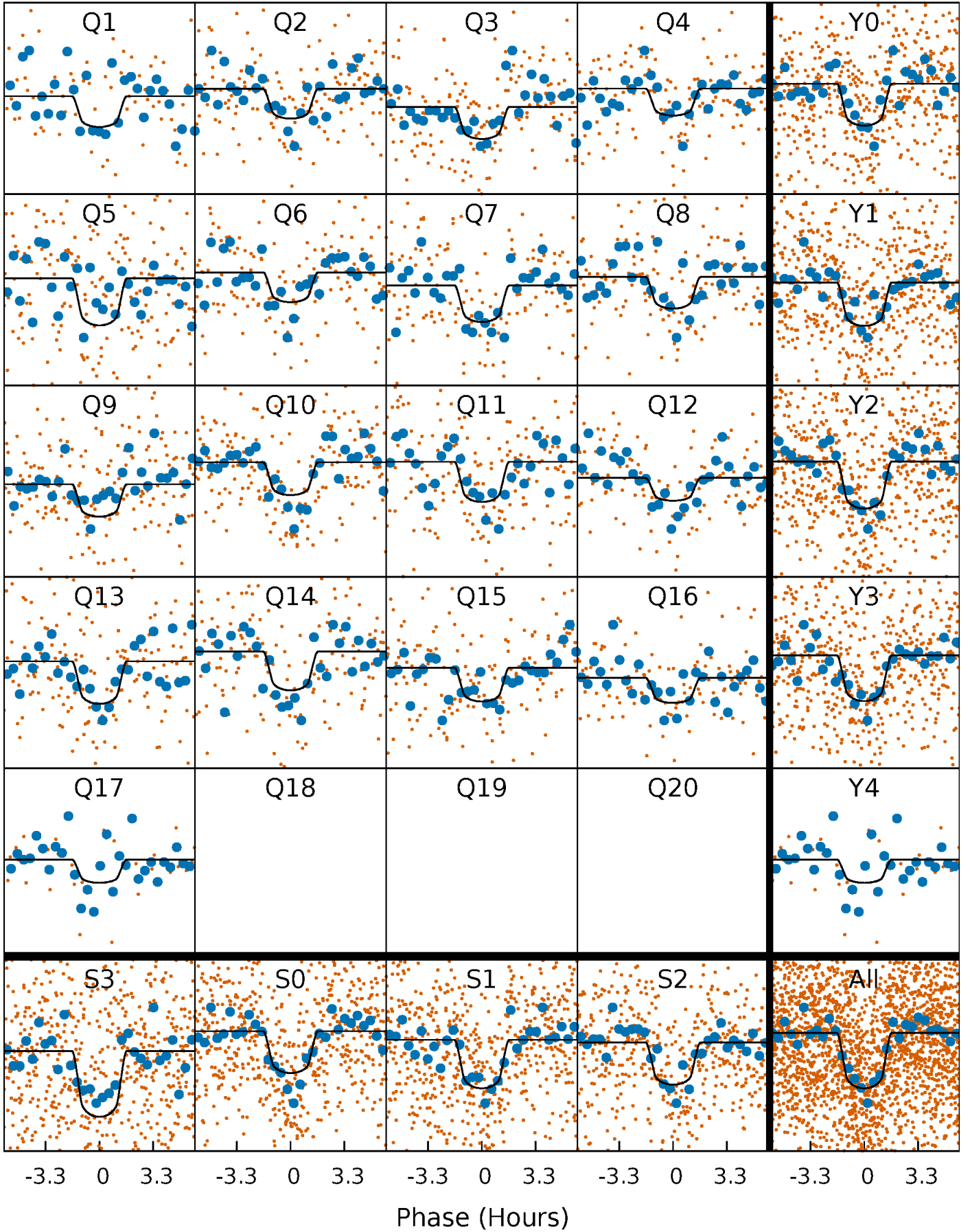
PDC Quarter-Phased Transit Curves

TCE 006351097-01 P= 12.491208 Days $T_0=136.314423$ (BKJD)



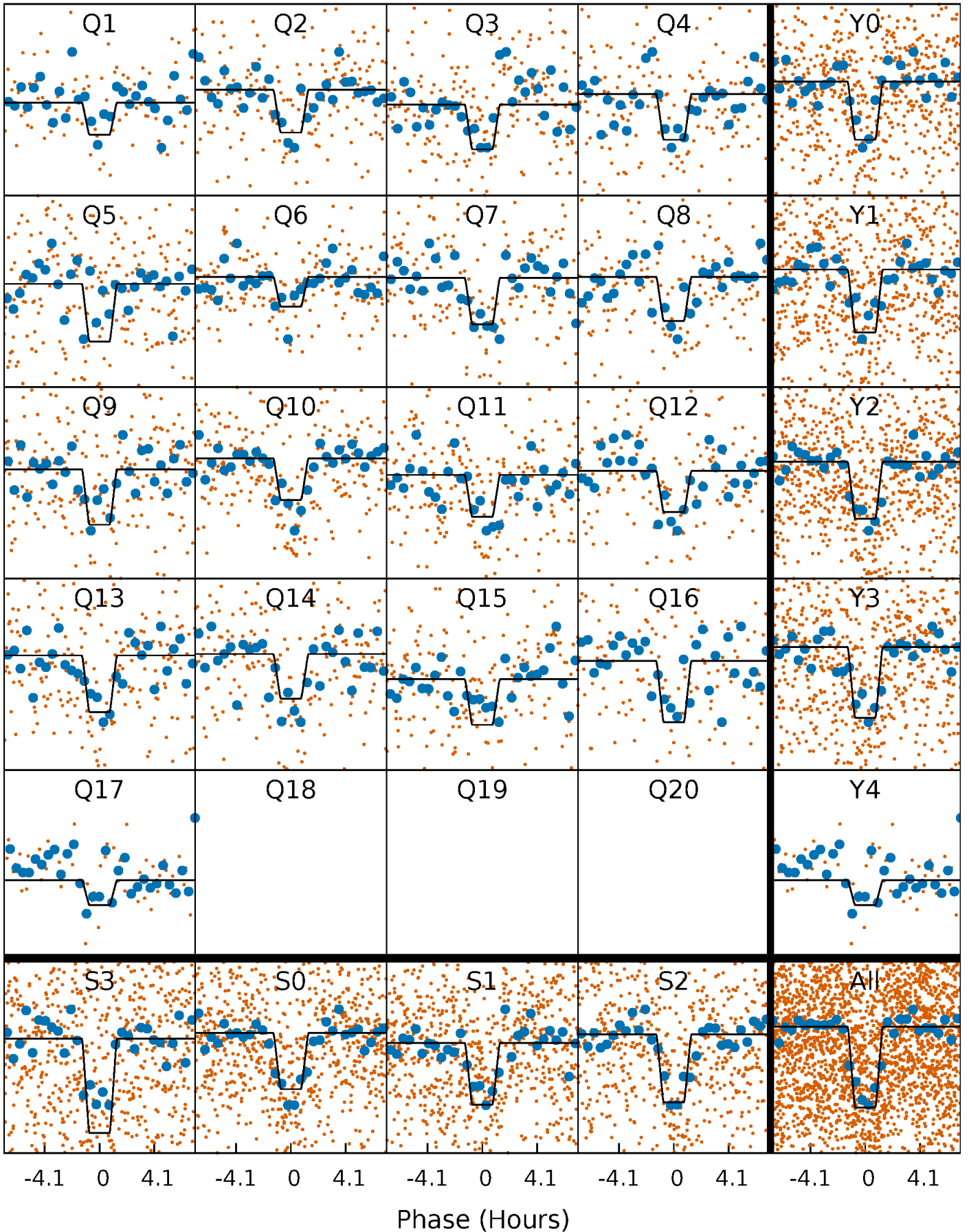
DV Quarter-Phased Transit Curves

TCE 006351097-01 P= 12.491208 Days $T_0=136.314423$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

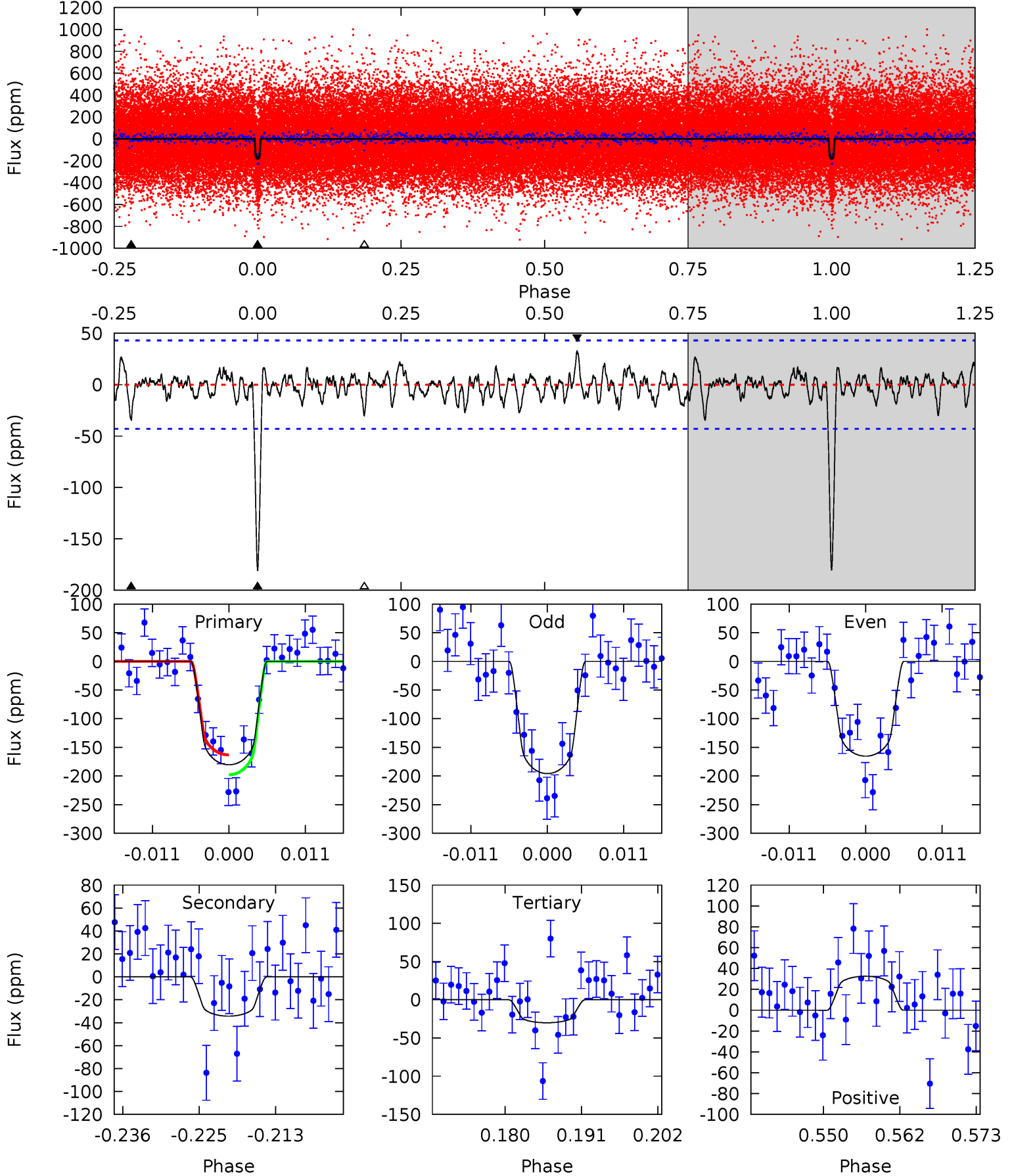
TCE 006351097-01 P= 12.491084 Days $T_0=136.322514$ (BKJD)



DV Model-Shift Uniqueness Test

006351097-01, P = 12.491208 Days, E = 123.823215 Days

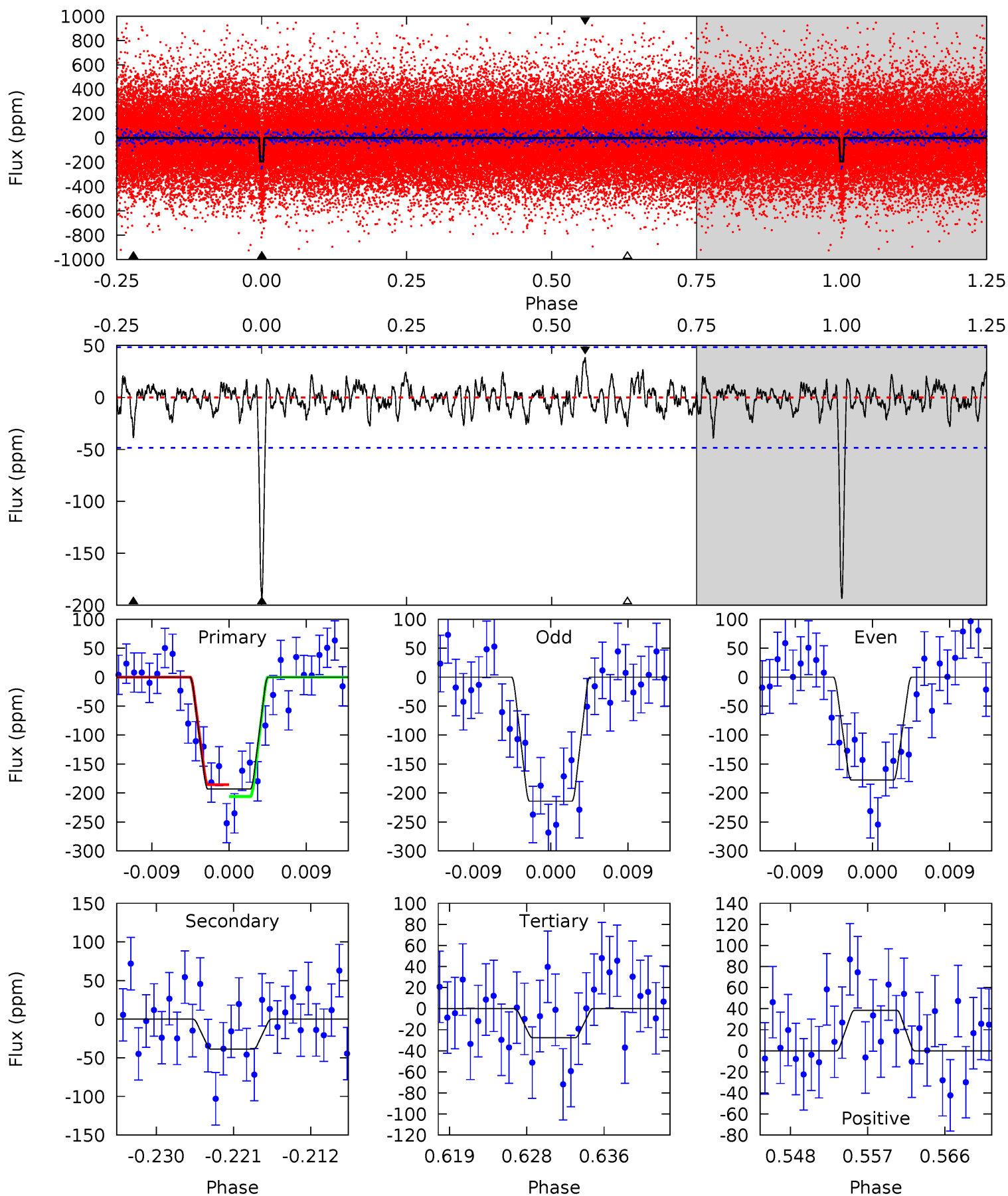
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 21.0 | 3.99 | 3.50 | 3.79 | 5.00 | 2.54 | 1.13 | 17.5 | 17.2 | 0.49 | 0.20 | 1.77 | 0.94 | 0.15 | 2.02 |



Alt Model-Shift Uniqueness Test

006351097-01, $P = 12.491084$ Days, $E = 123.831430$ Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 20.2 | 4.05 | 2.88 | 4.00 | 5.05 | 2.62 | 1.08 | 17.3 | 16.2 | 1.17 | 0.05 | 1.90 | 0.94 | 0.17 | 1.06 |



Stellar Parameters For KIC 006351097

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 5753^{+155}_{-155} | $4.461^{+0.094}_{-0.175}$ | $-0.260^{+0.300}_{-0.300}$ | $0.911^{+0.237}_{-0.110}$ | $0.875^{+0.109}_{-0.082}$ | $1.631^{+0.667}_{-0.764}$ |
| | +3%/-3% | +2%/-4% | +115%/-115% | +26%/-12% | +12%/-9% | +41%/-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 006351097-01 / KOI 2618.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|--------------|------------------------|----------------------|----------------------|-------------------|
| DV | -34 ± 9 | $1.55^{+0.52}_{-0.55}$ | 1077^{+68}_{-55} | 3905^{+697}_{-396} | 80^{+113}_{-40} |
| Alt. | -39 ± 10 | $1.51^{+0.57}_{-0.53}$ | 1076^{+73}_{-51} | 4019^{+773}_{-397} | 93^{+134}_{-47} |

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

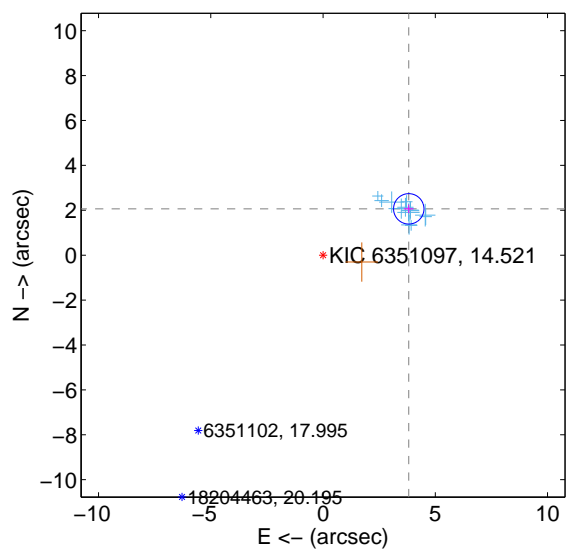
Supplemental centroid analysis for 006351097-01. Kepler magnitude: 14.52. Transit SNR 15.17

There are 13 quarters with good PRF difference image offsets

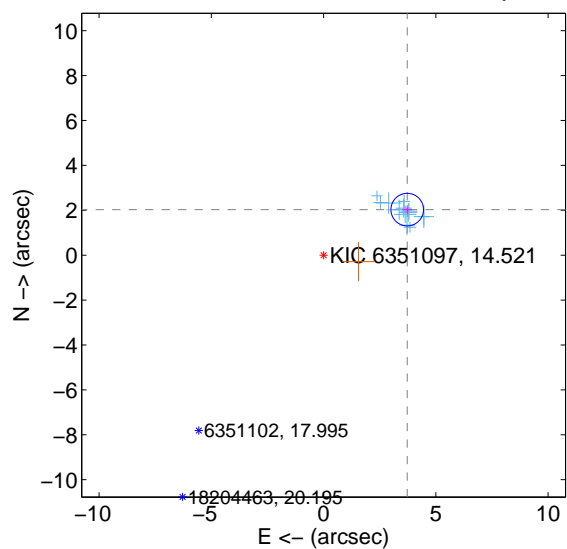
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 4.341 ± 0.226 | 19.24 | -3.819 ± 0.208 | 2.064 ± 0.190 |
| PRF-fit source offset from KIC position | 4.244 ± 0.242 | 17.54 | -3.727 ± 0.226 | 2.030 ± 0.193 |
| photometric centroid source offset | 6.78 ± 0.73 | 9.26 | -6.22 ± 0.73 | 2.70 ± 0.76 |

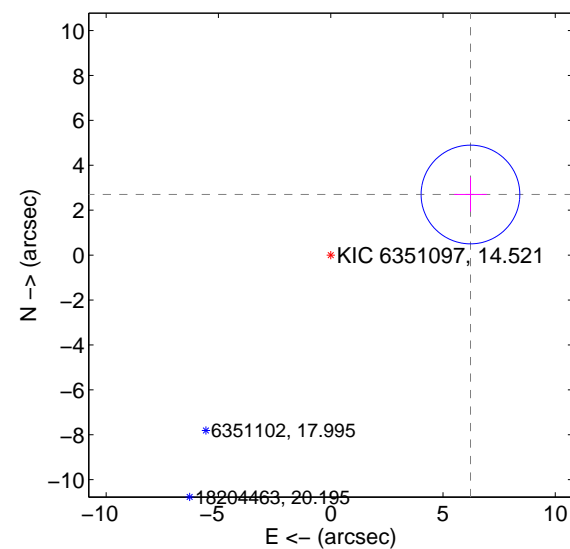
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

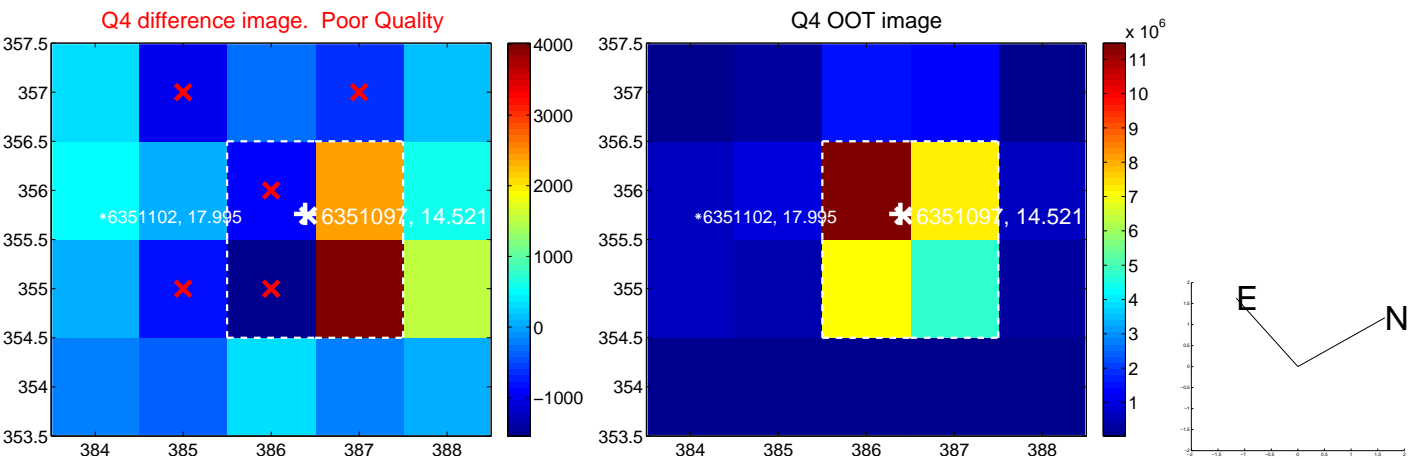
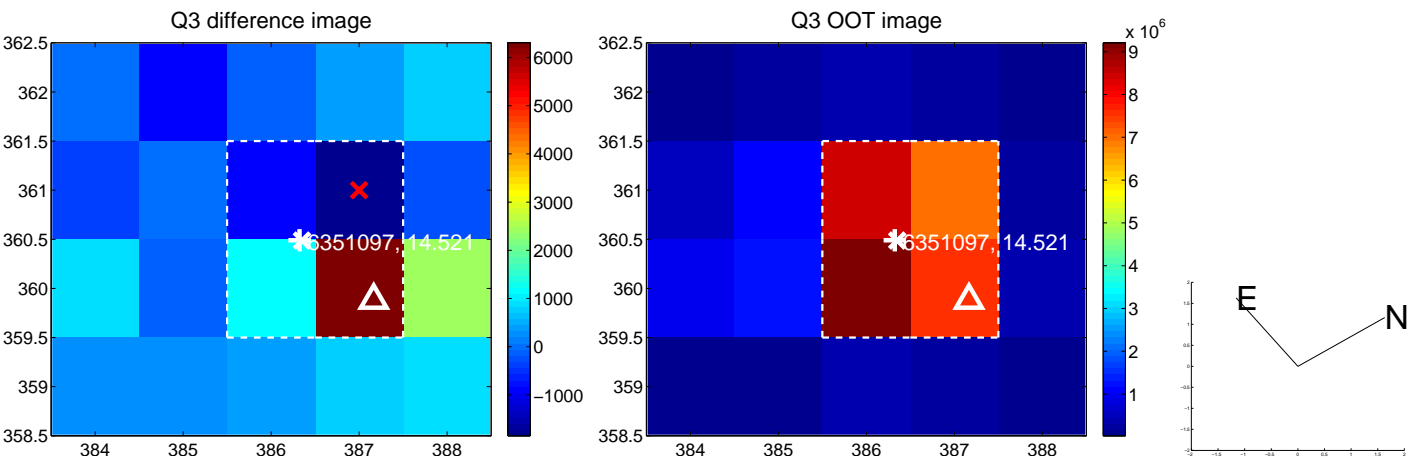
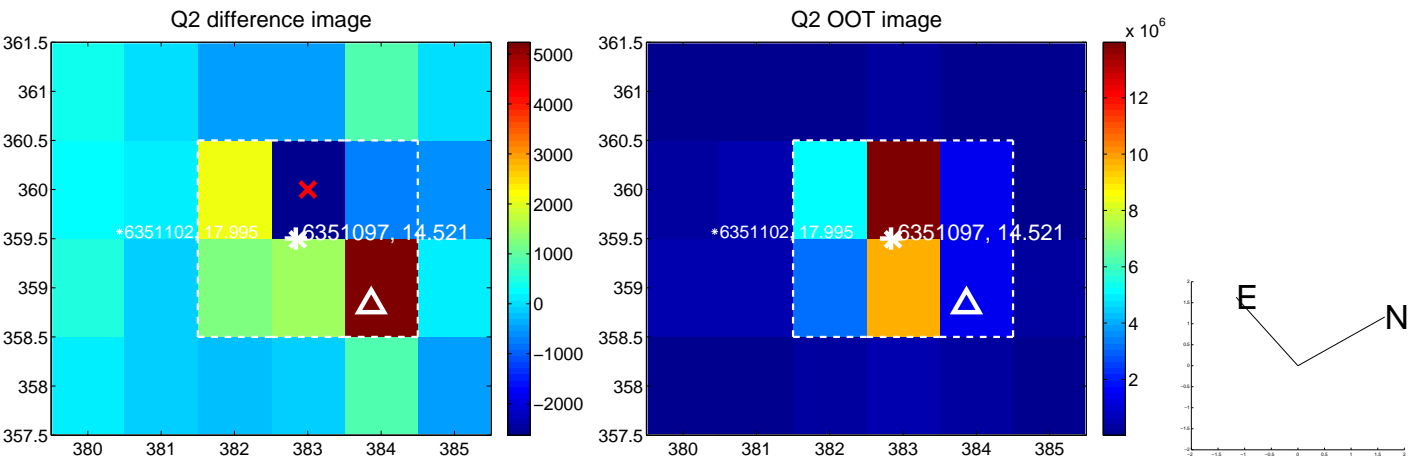
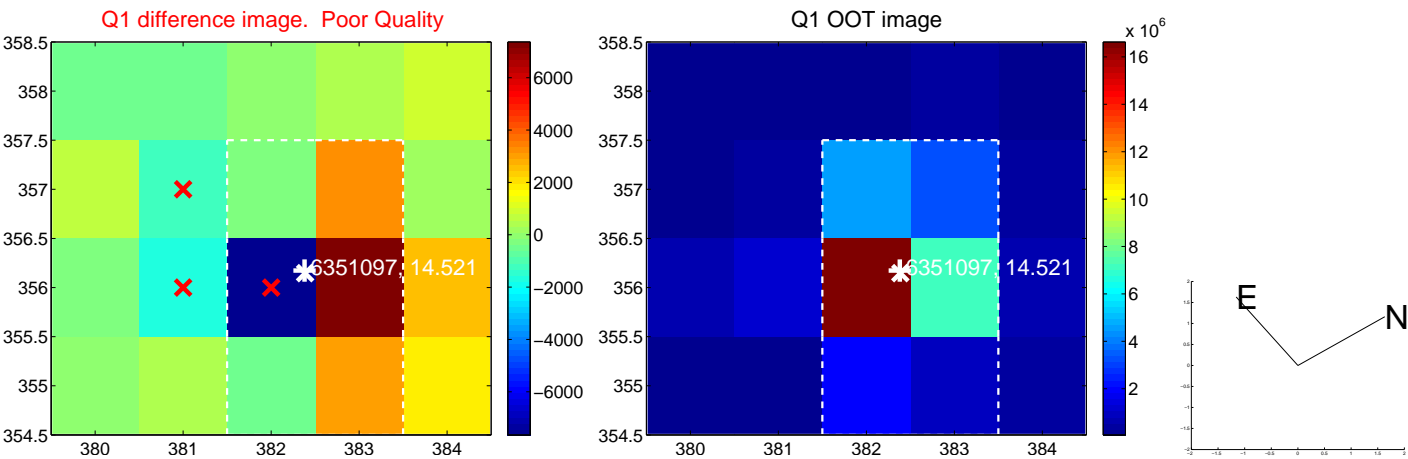


offset from photometric centroids

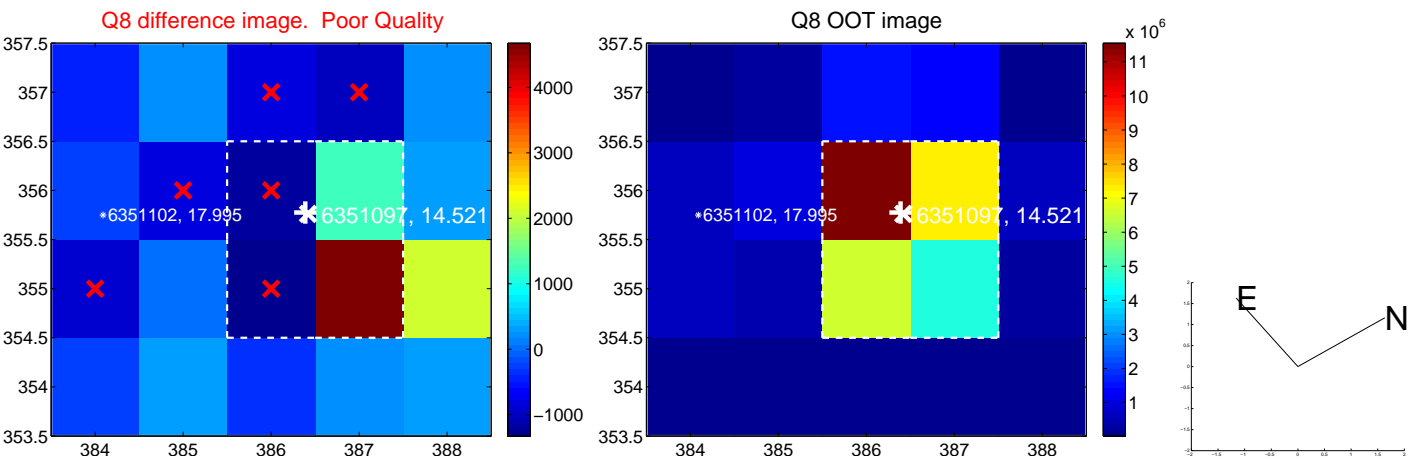
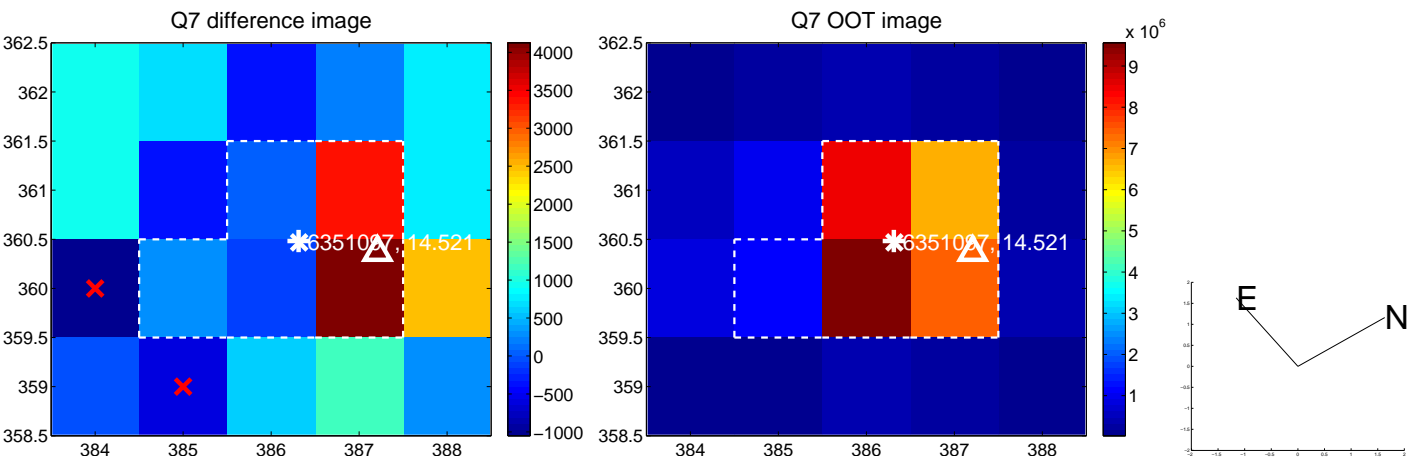
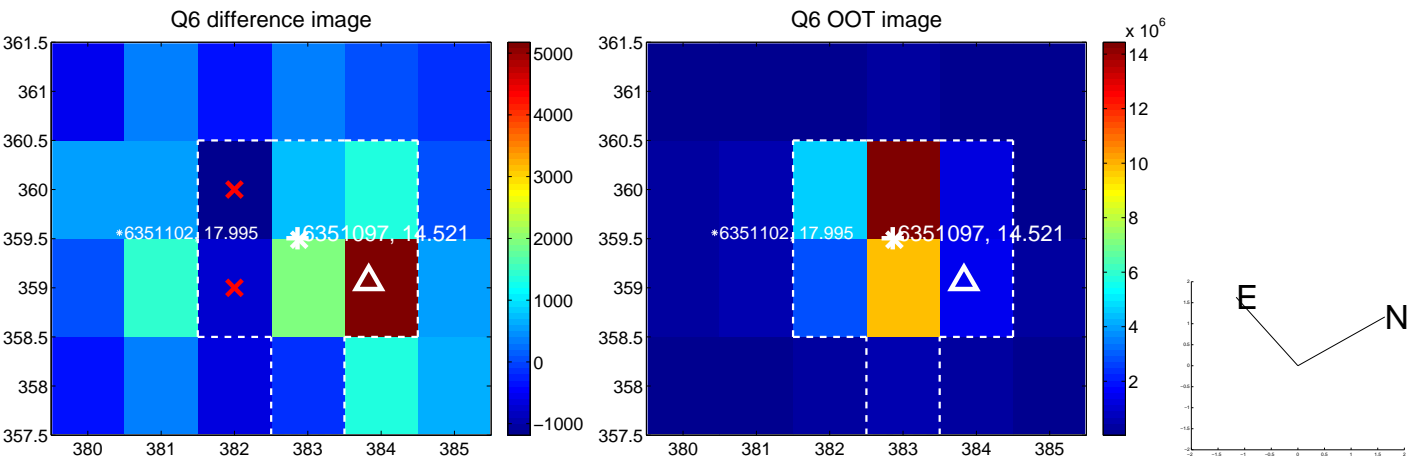
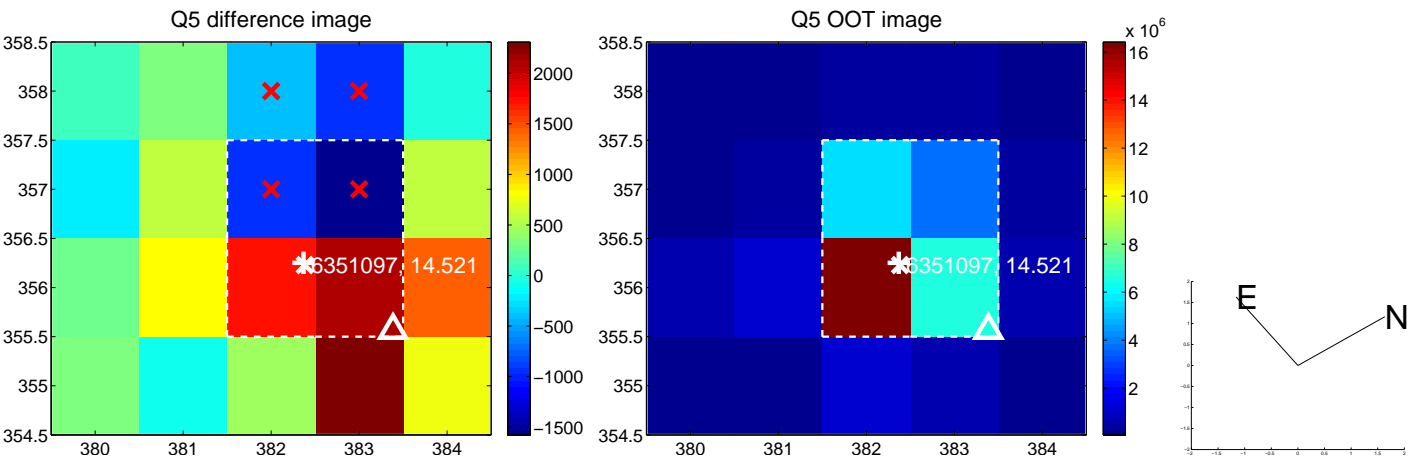


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

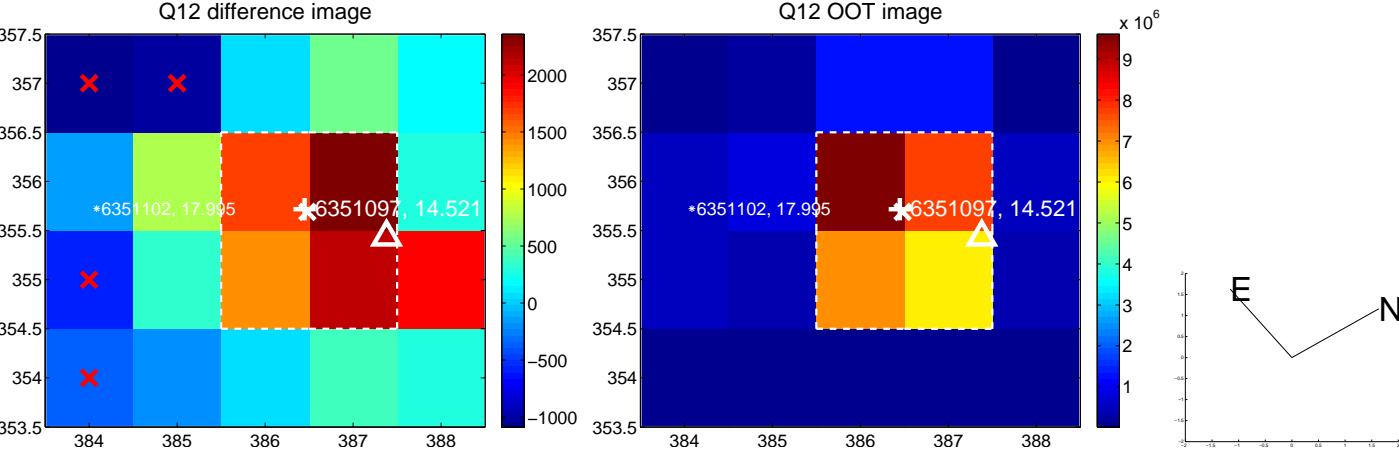
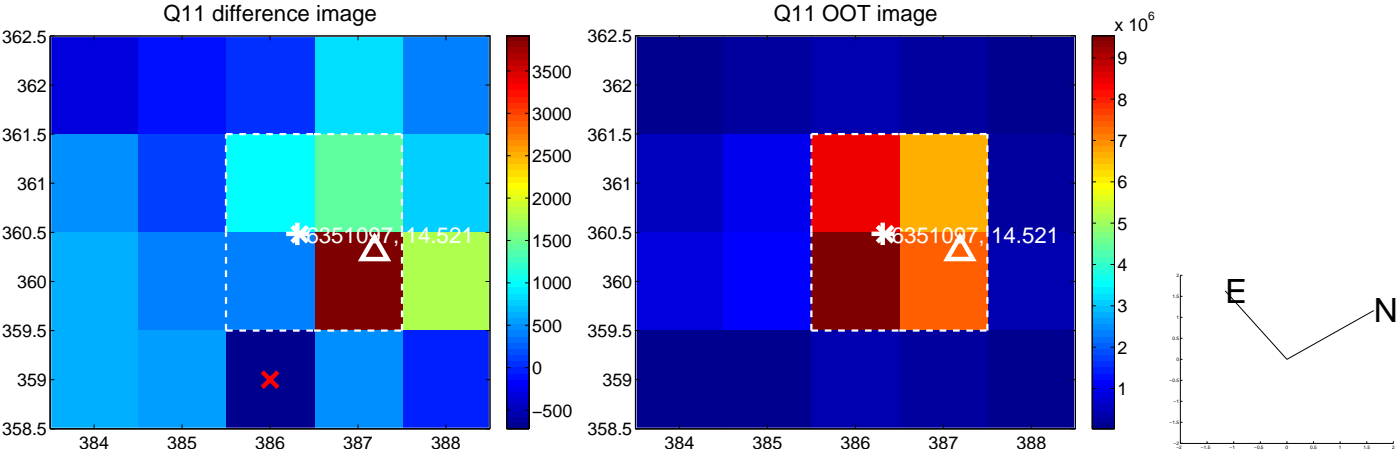
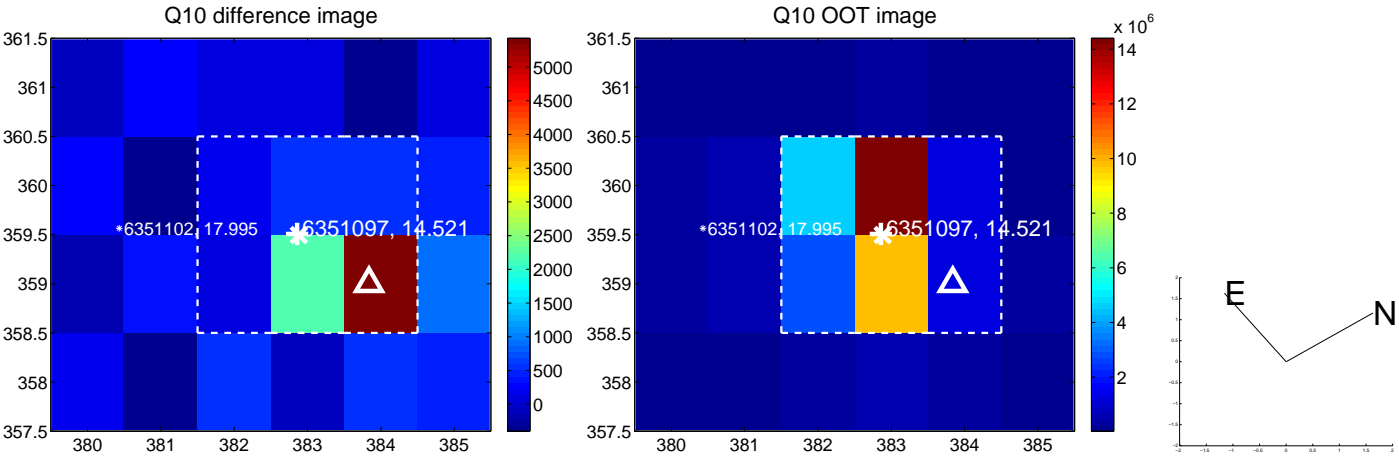
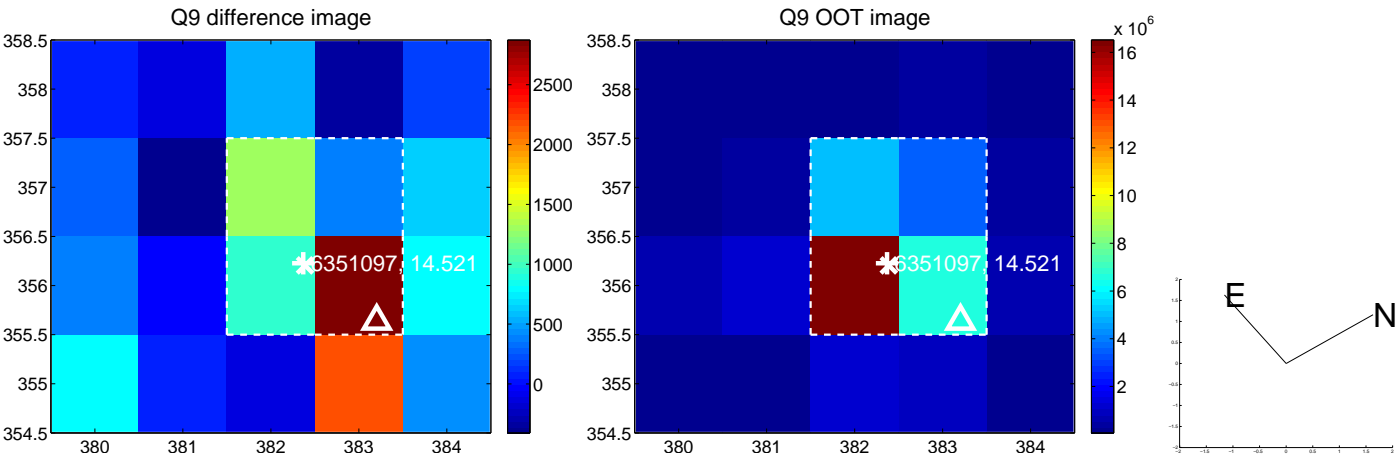
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



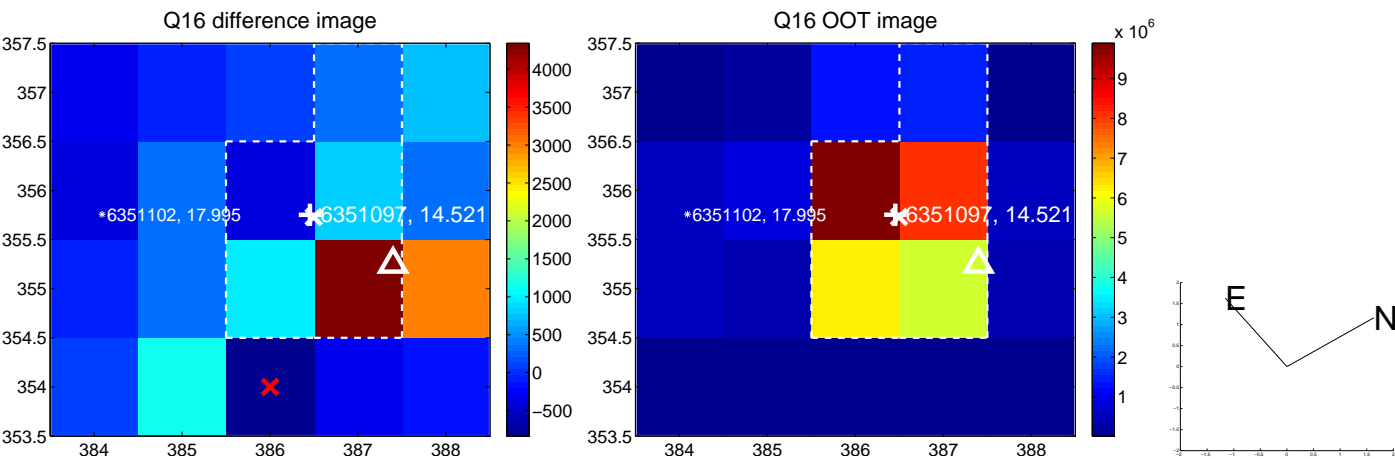
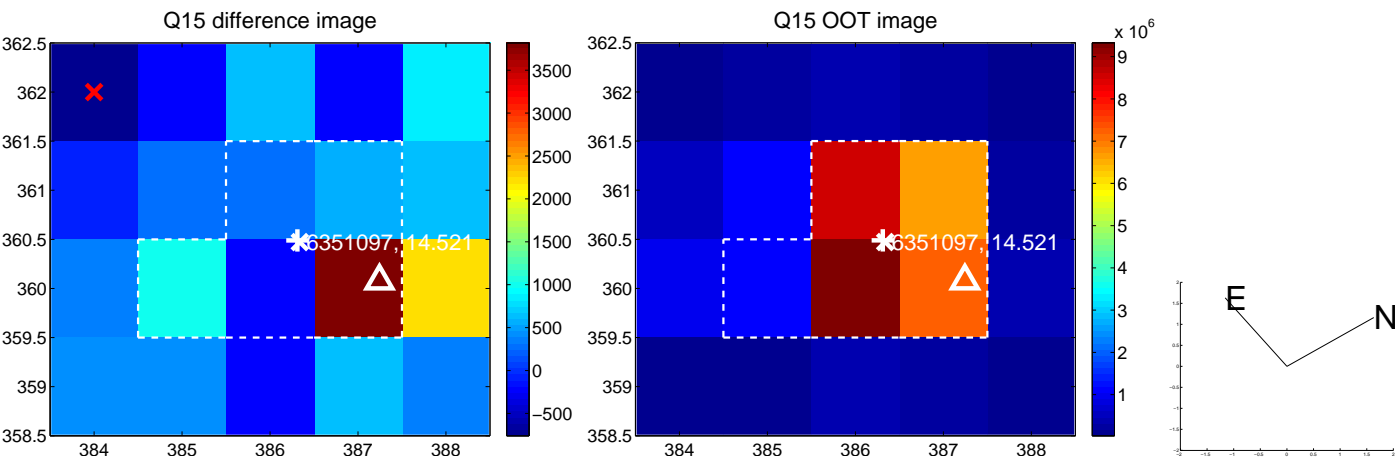
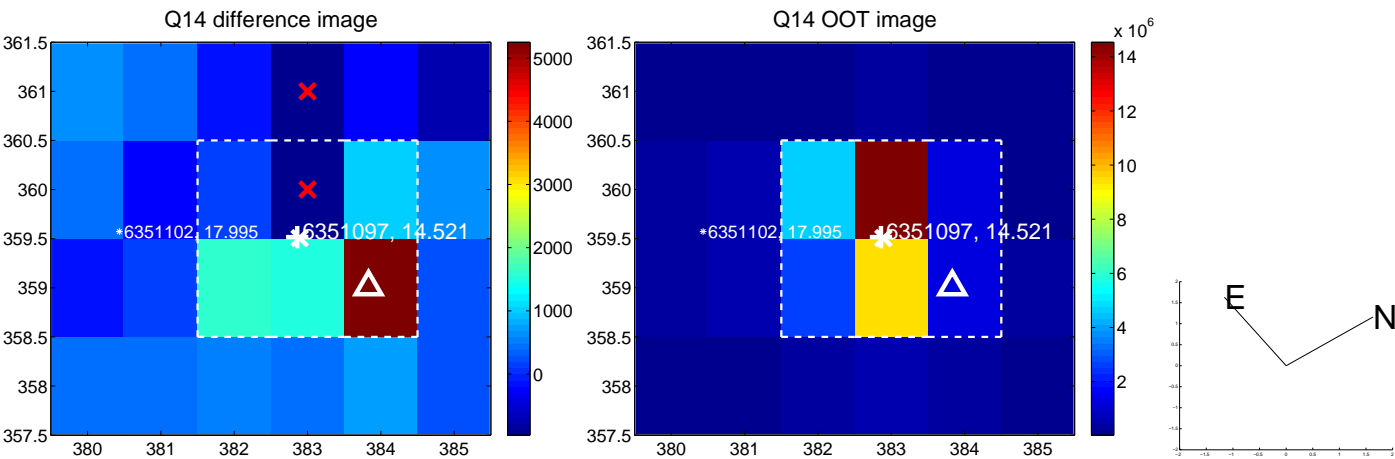
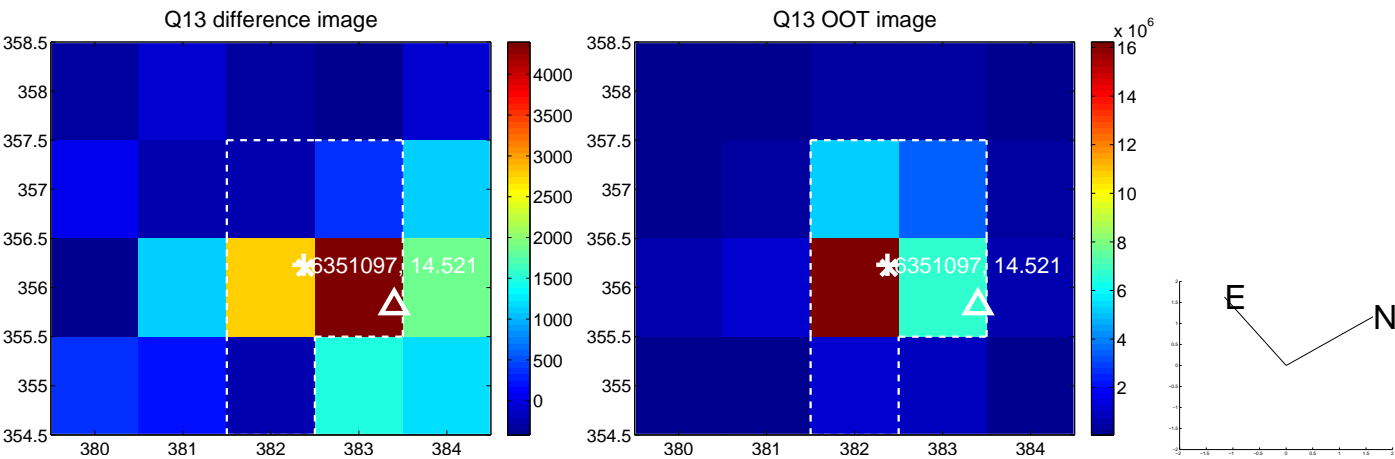
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

