

KIC 010389280

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 010389280-01 | OBS | 8005.01 | 375.464807 | 364.402939 | 32.5 | 14.871 | 9.8 | 5.3 | 4.53 | 11357 | 2.78 | 128.37 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 010389280-01 | OBS | FP | 0.07 | 1 | 0 | 0 | 0 | ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED |

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

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

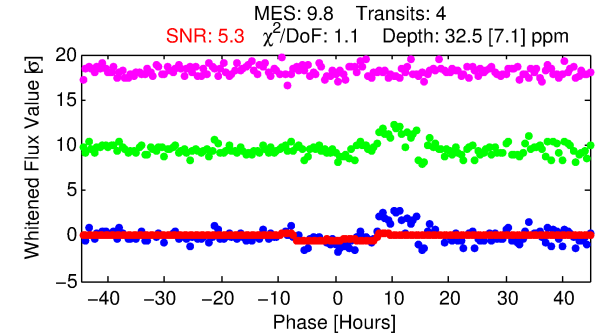
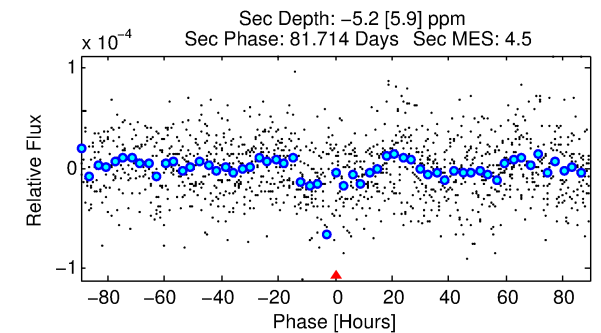
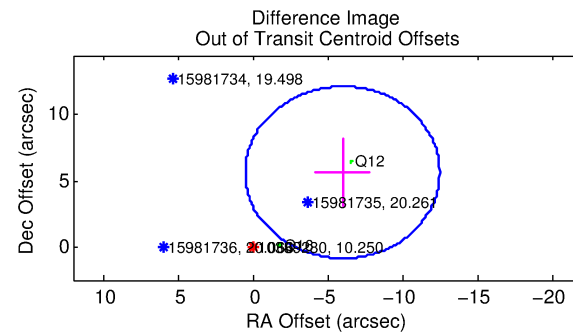
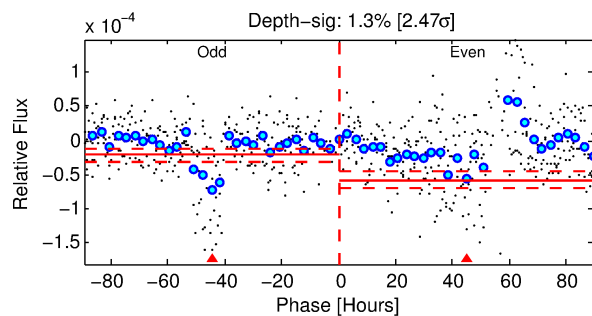
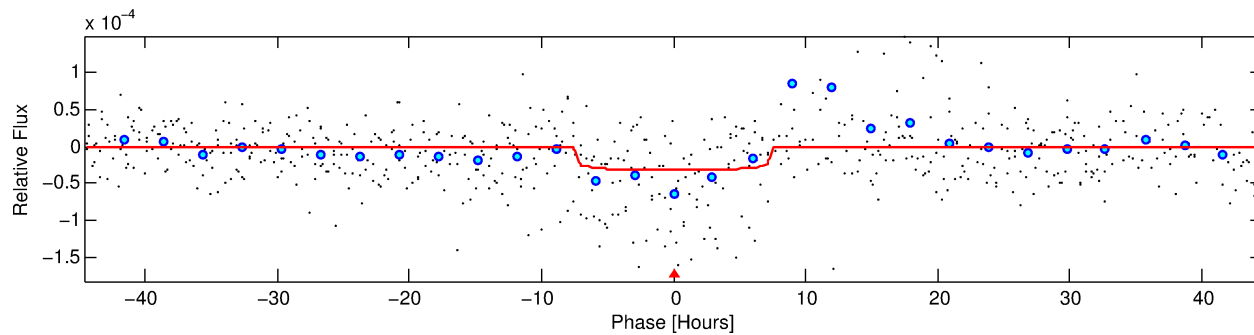
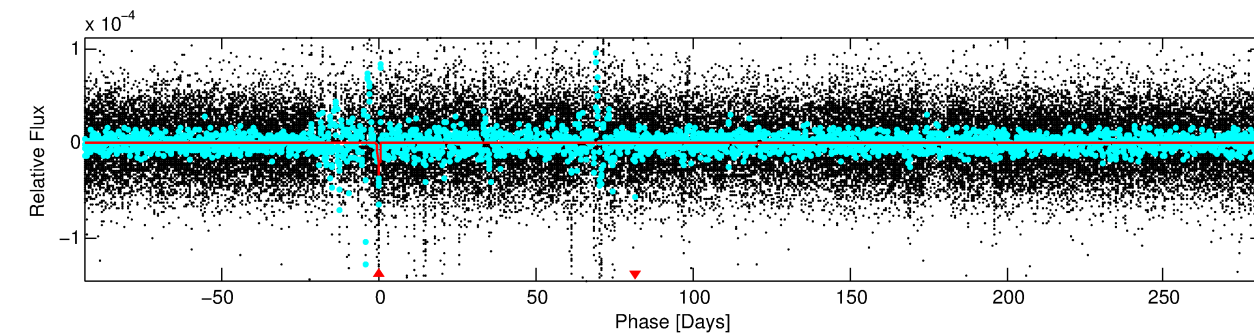
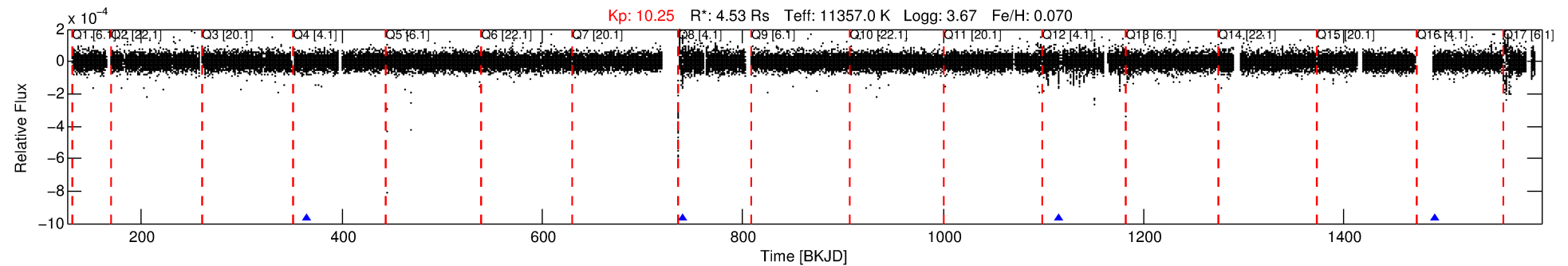
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010389280-01

No Significant Match Found

DV One-Page Summary

KIC: 10389280 Candidate: 1 of 1 Period: 375.465 d



DV Fit Results:

Period = 375.46481 [0.01102] d
Epoch = 364.4029 [0.0239] BKJD
Rp/R* = 0.0056 [0.0012]
a/R* = 138.36 [195.05]
b = 0.70 [1.00]
Seff = 128.37 [111.47]
Teff = 858 [186] K
Rp = 2.78 [1.64] Re
a = 1.5429 [0.8165] AU
Ag = N/A
Teffp = N/A

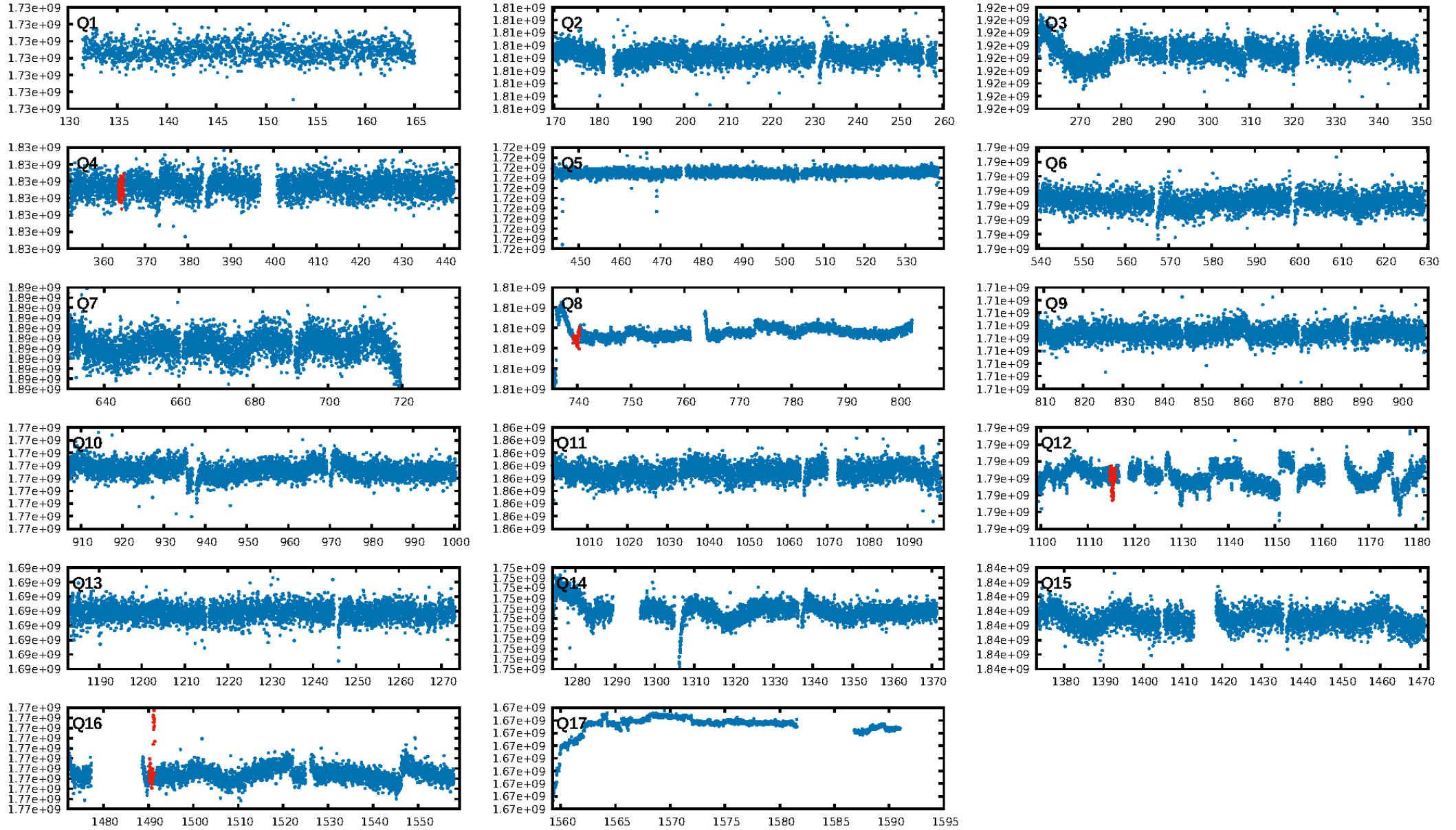
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 53.0%
Bootstrap-pfa: 3.22e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: N/A
Centroid-sig: 6.1%
Centroid-so: 9.599 arcsec [1.32 σ]
OotOffset-rm: 8.238 arcsec [3.80 σ]
KicOffset-rm: 8.107 arcsec [3.68 σ]
OotOffset-st: 0/0/2/0 [2]
KicOffset-st: 0/0/2/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [4/4]

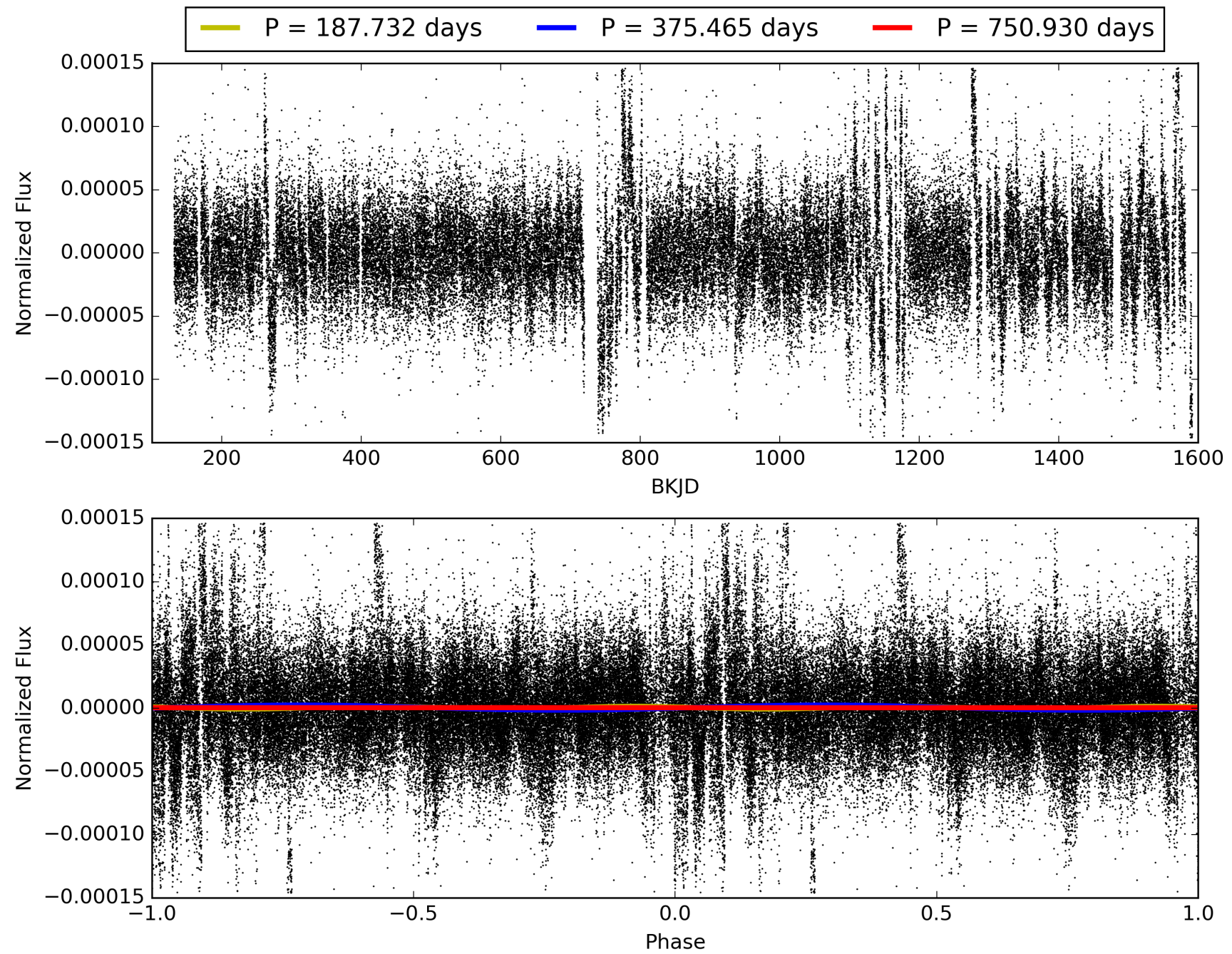
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:00:47 Z

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

TCE 010389280-01, PDC Light Curves

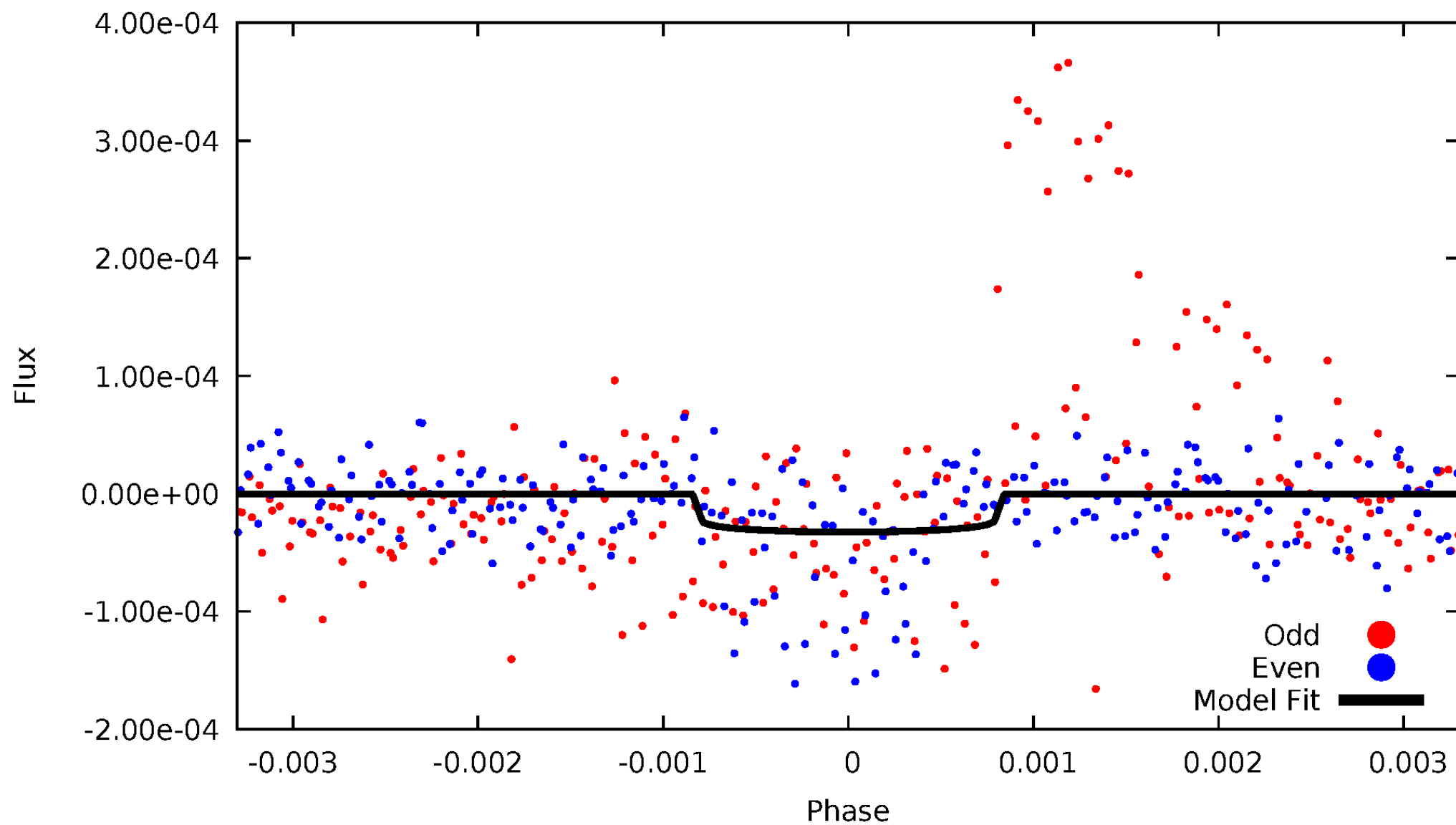


TCE 010389280-01



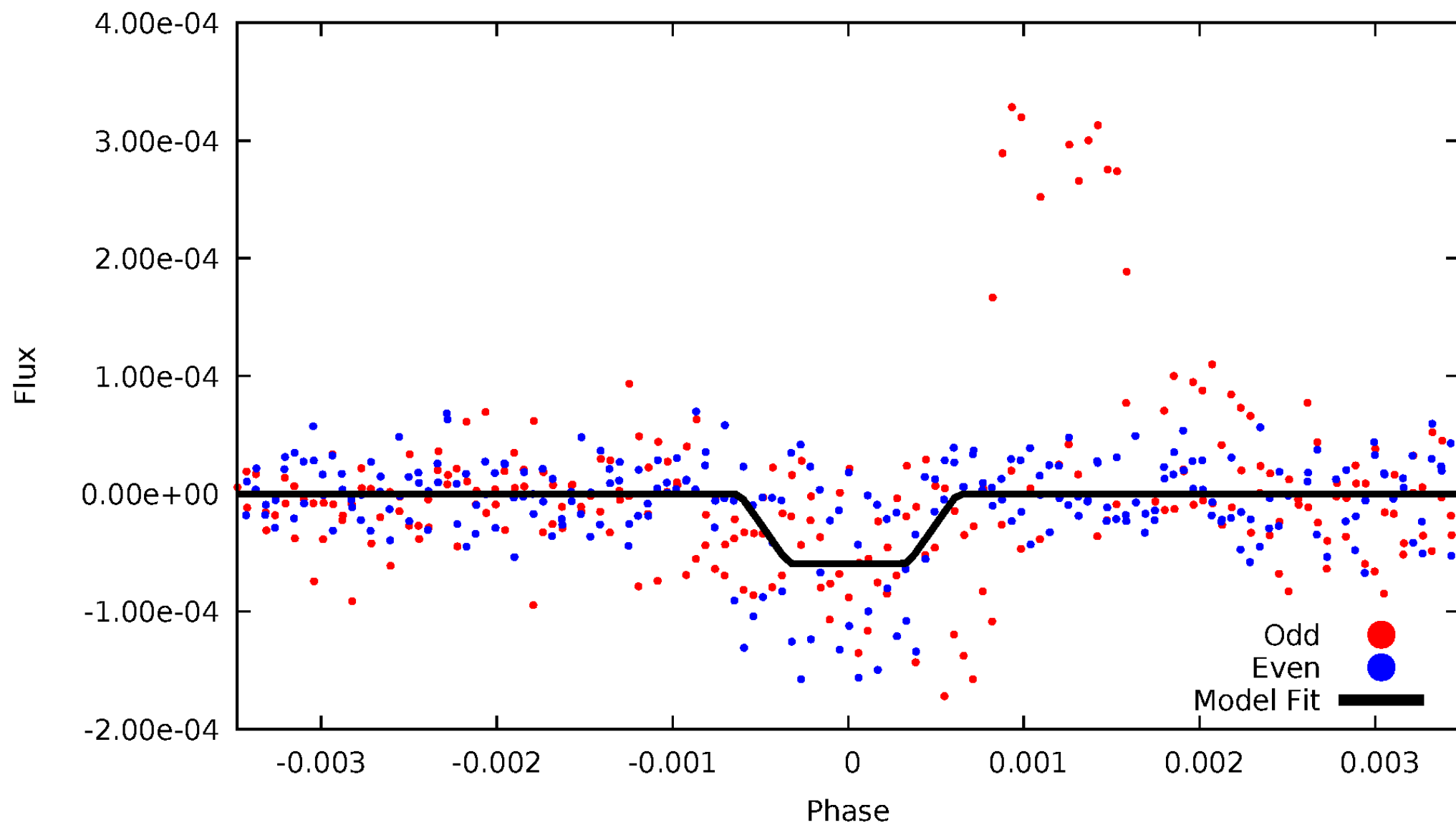
DV Odd/Even

TCE 010389280-01



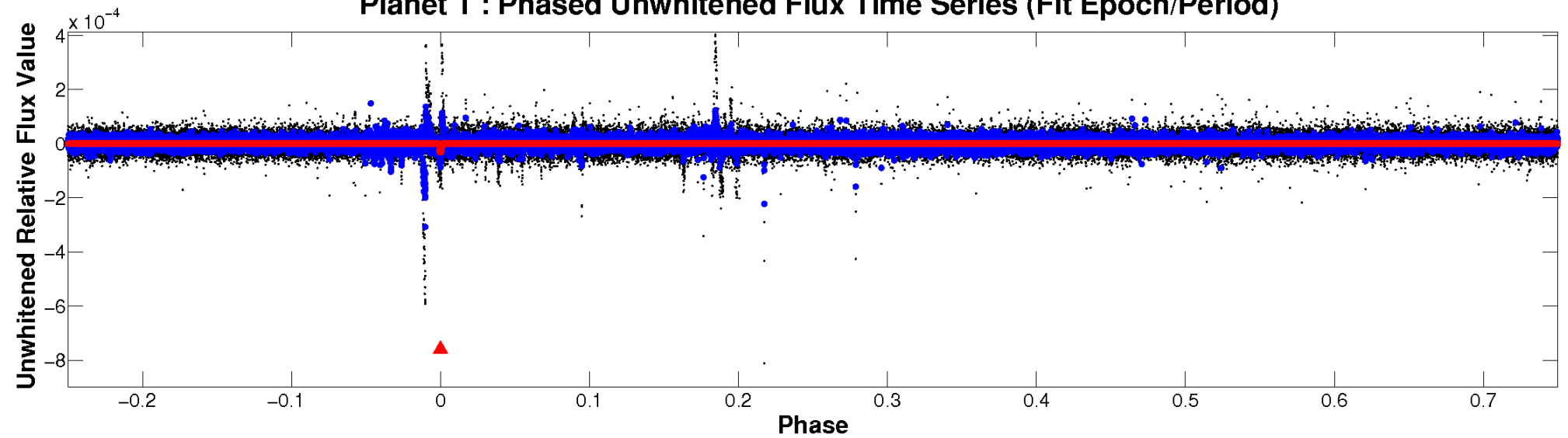
ALT Odd/Even

TCE 010389280-01

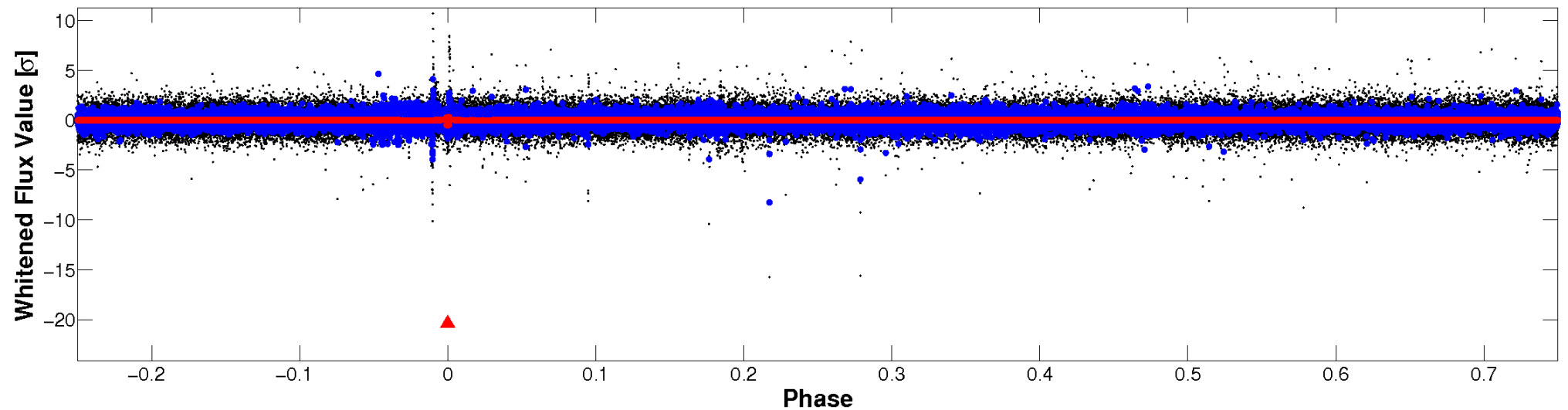


Non-Whitened Vs. Whitened Light Curve

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

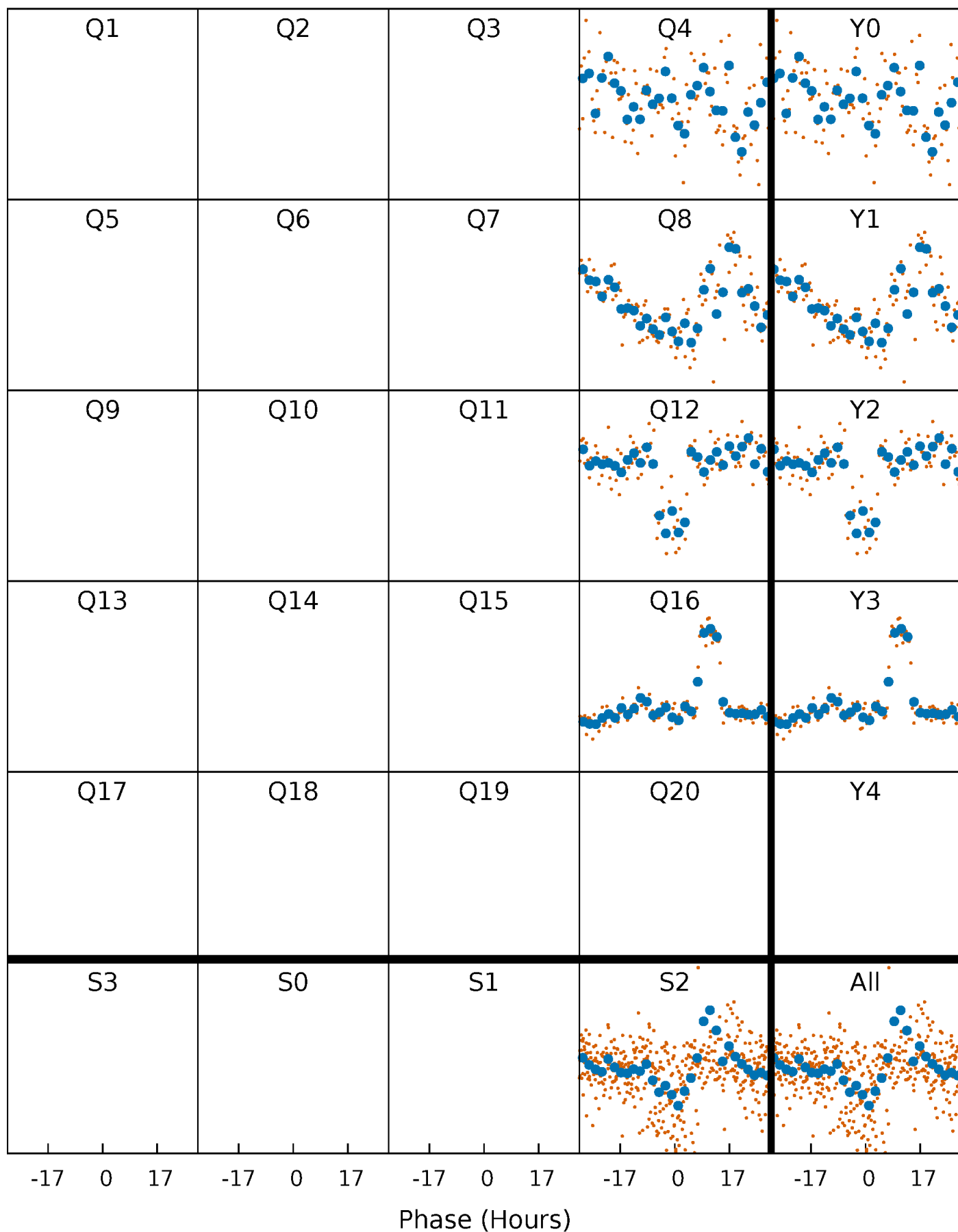


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



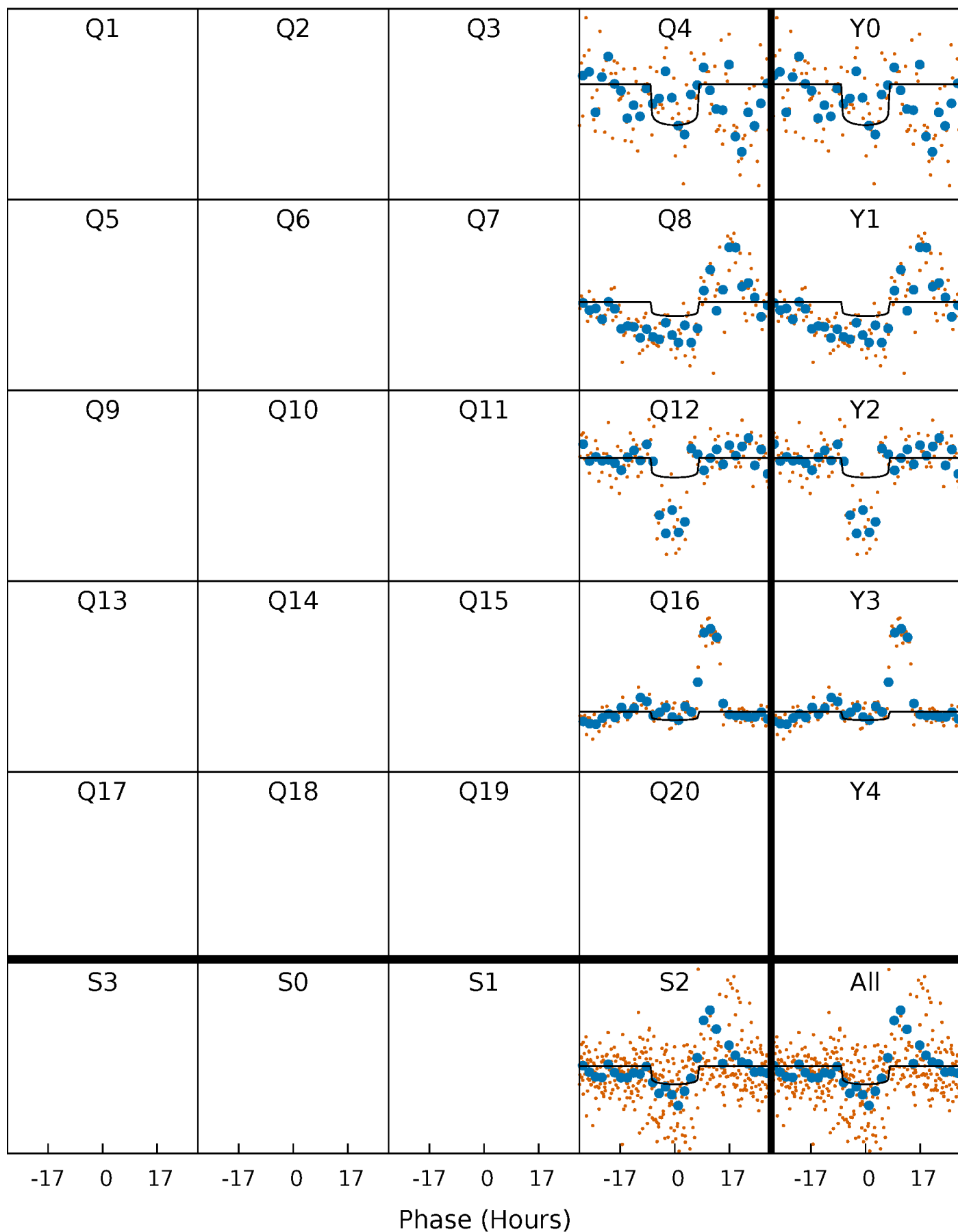
PDC Quarter-Phased Transit Curves

TCE 010389280-01 P=375.464807 Days $T_0=364.402939$ (BKJD)



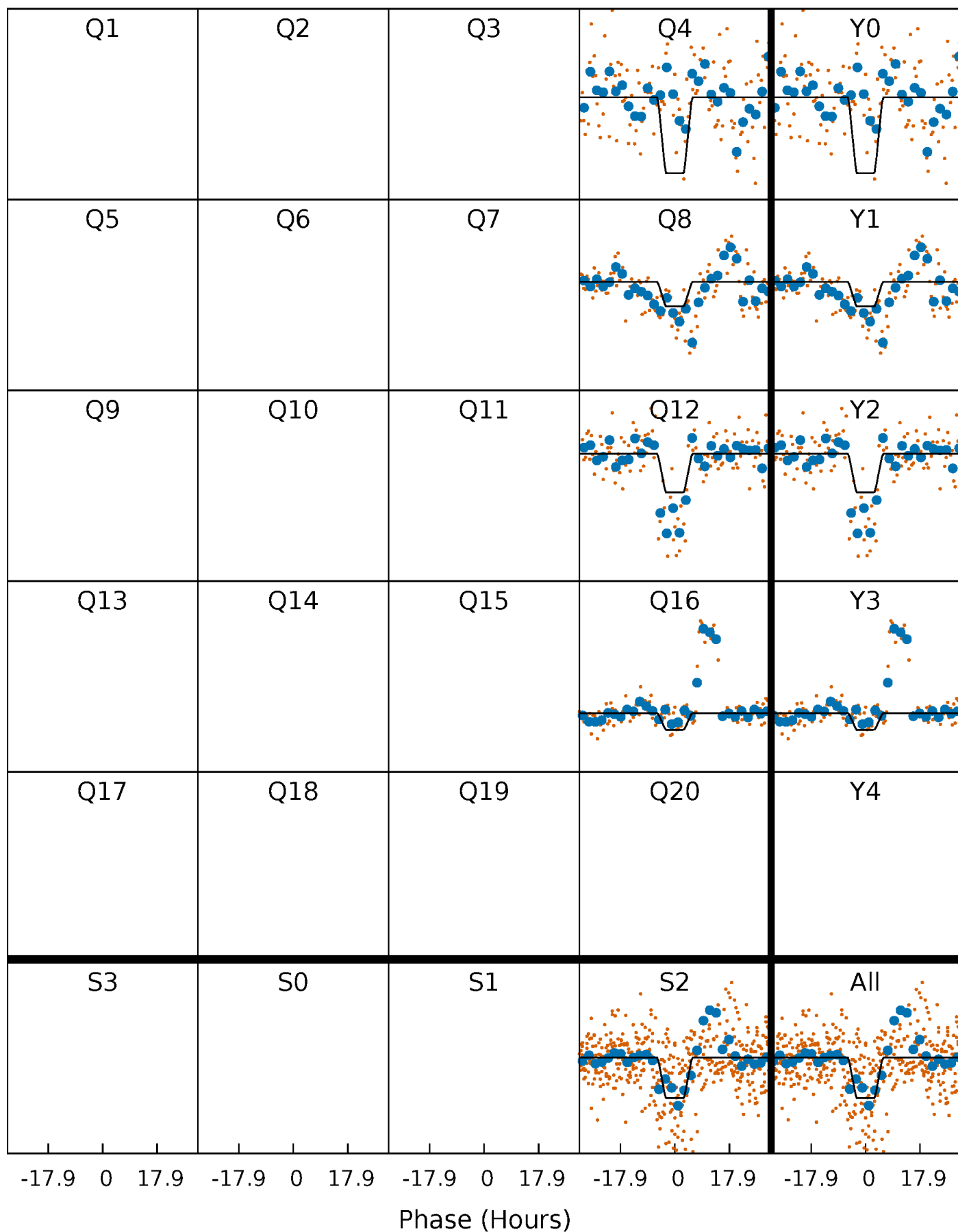
DV Quarter-Phased Transit Curves

TCE 010389280-01 $P=375.464807$ Days $T_0=364.402939$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

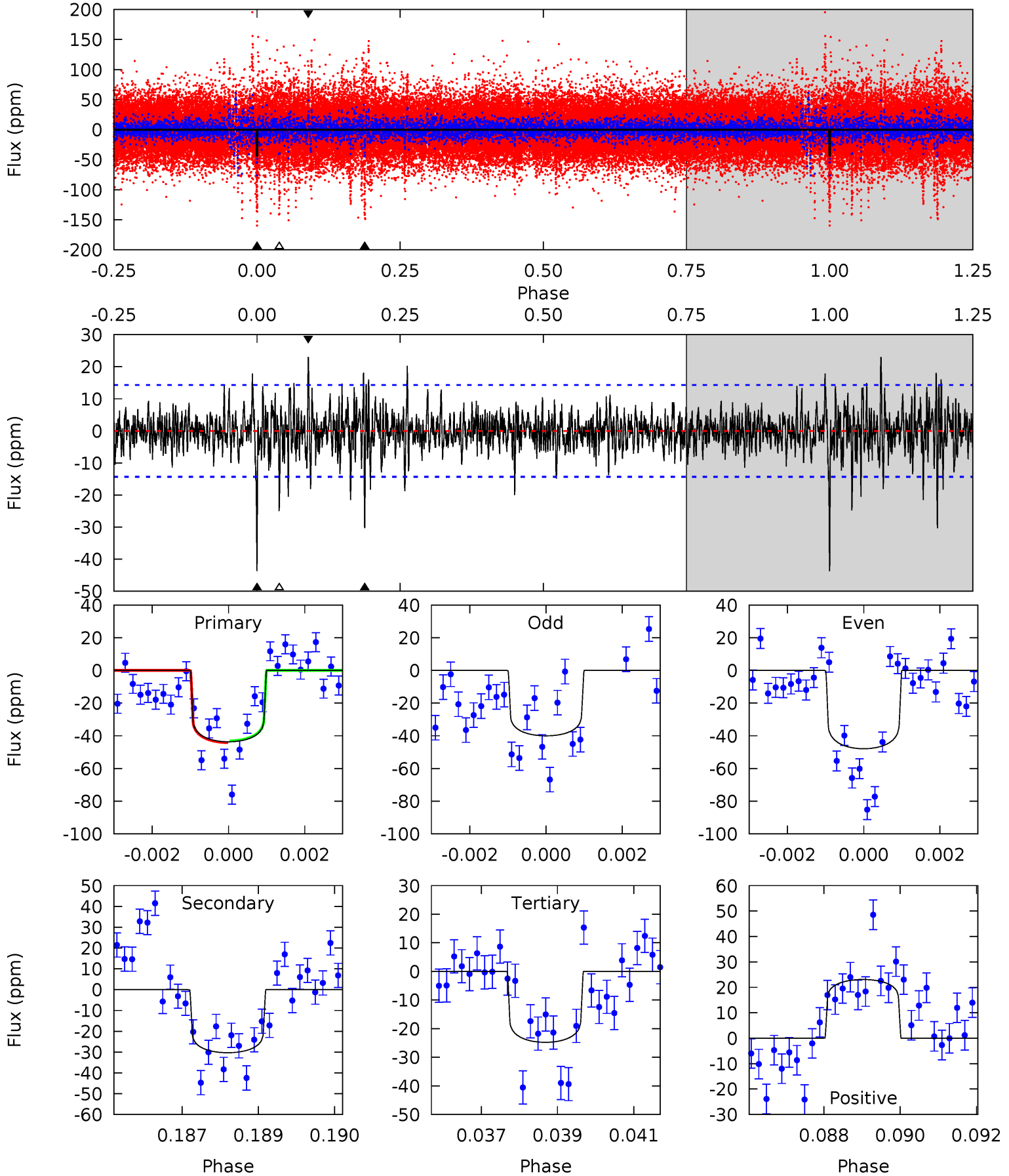
TCE 010389280-01 $P=375.466665$ Days $T_0=364.391290$ (BKJD)



DV Model-Shift Uniqueness Test

010389280-01, P = 375.464807 Days, E = 364.402939 Days

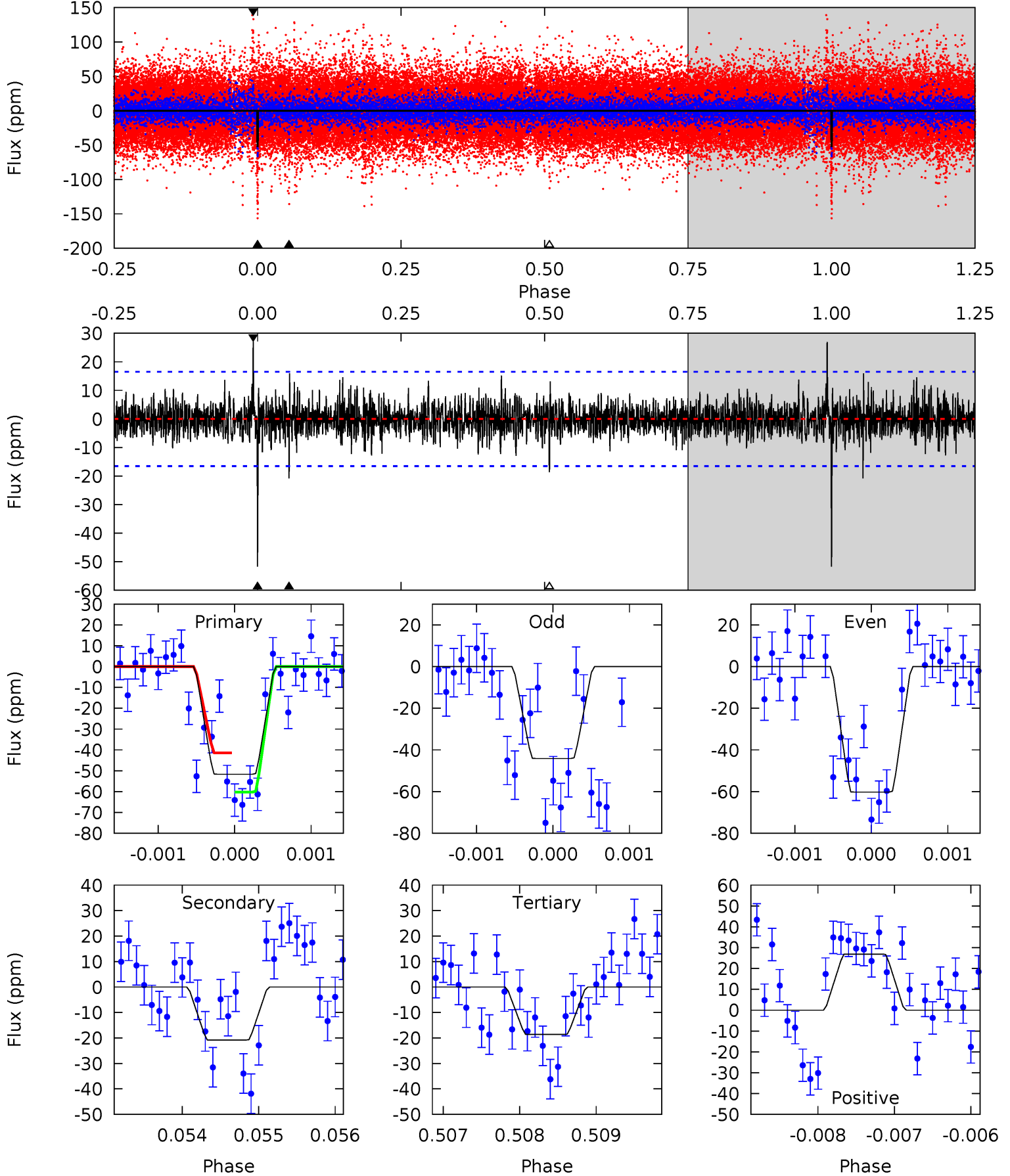
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 16.4 | 11.4 | 9.27 | 8.64 | 5.36 | 3.14 | 1.81 | 7.08 | 7.71 | 2.08 | 2.71 | 1.41 | 0.94 | 0.35 | 0.19 |



Alt Model-Shift Uniqueness Test

010389280-01, P = 375.466665 Days, E = 364.391290 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 16.9 | 6.82 | 6.10 | 8.82 | 5.42 | 3.24 | 1.33 | 10.8 | 8.11 | 0.71 | -2.00 | 2.65 | 1.11 | 0.34 | 3.07 |



Stellar Parameters For KIC 010389280

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|-----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 11357^{+265}_{-575} | $3.667^{+0.495}_{-0.055}$ | $0.070^{+0.050}_{-0.700}$ | $4.528^{+0.417}_{-2.502}$ | $3.472^{+0.069}_{-1.134}$ | $0.053^{+0.292}_{-0.010}$ |
| | +2%/-5% | +13%/-1% | +71%/-1000% | +9%/-55% | +2%/-33% | +555%/-18% |
| Source | KIC0 | 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 010389280-01 / KOI 8005.01

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|---------------------|-------------------------|------------------------|
| DV | -30 ± 3 | $2.39^{+0.77}_{-0.74}$ | 1143^{+85}_{-148} | 11100^{+2415}_{-1600} | 6551^{+6883}_{-2743} |
| Alt. | -21 ± 3 | $3.42^{+0.76}_{-1.05}$ | 1142^{+85}_{-156} | 7799^{+981}_{-713} | 2244^{+2182}_{-766} |

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 $A_{obs} \gg 1.0$

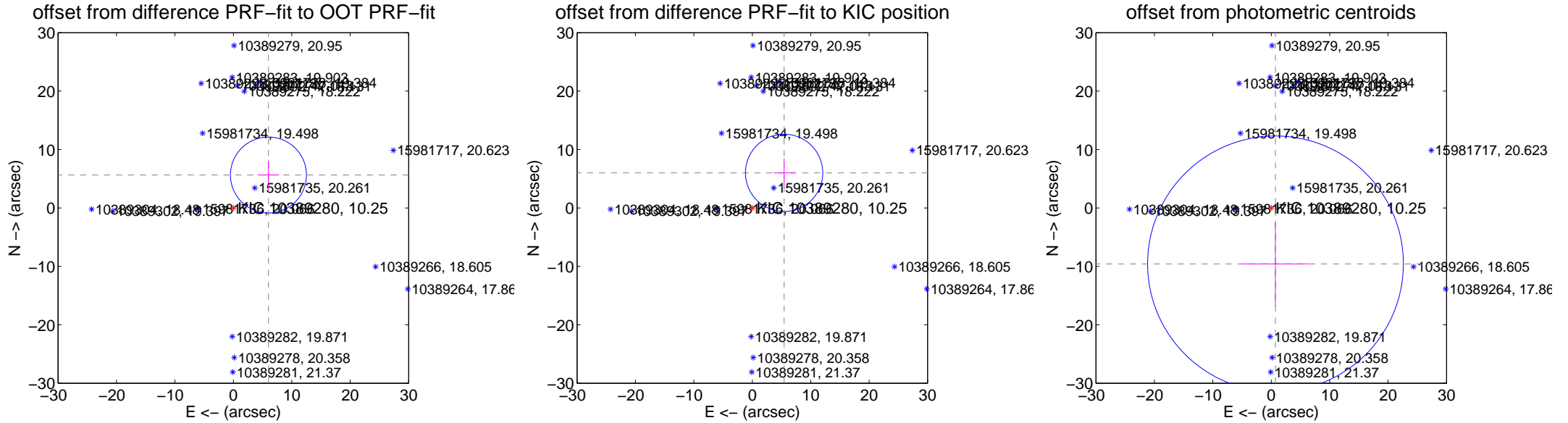
DV Centroid Data

Supplemental centroid analysis for 010389280-01. **Kepler magnitude: 10.25.** Transit SNR 5.30

There are 0 quarters with good PRF difference image offsets

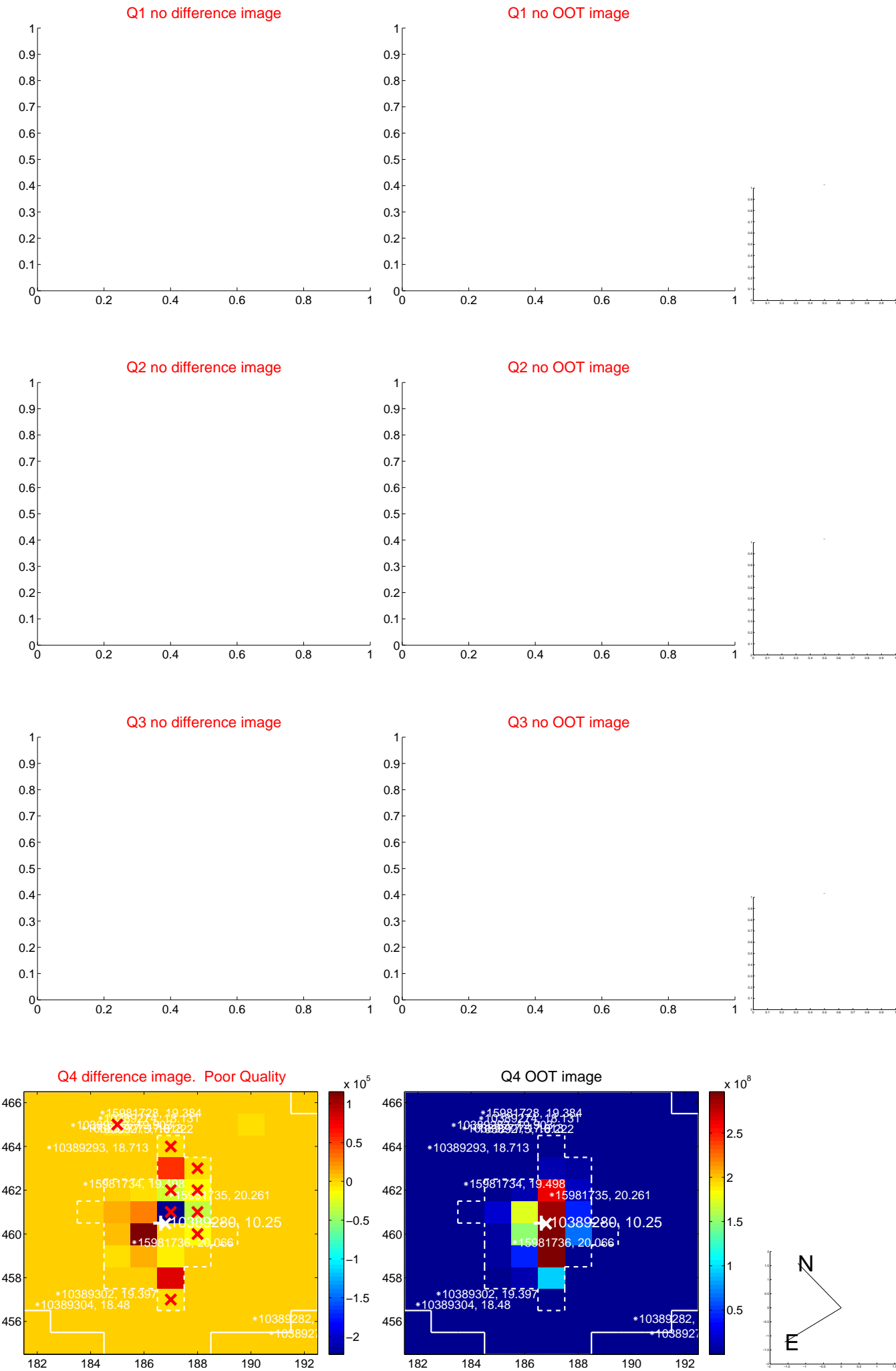
The direct PRF centroid is offset from the target star catalog position by about 0.67 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|-------------------------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 8.238 \pm 2.167 | 3.80 | -6.007 \pm 1.836 | 5.637 \pm 2.491 |
| PRF-fit source offset from KIC position | 8.107 \pm 2.205 | 3.68 | -5.446 \pm 1.822 | 6.005 \pm 2.475 |
| photometric centroid source offset | 9.60 \pm 7.30 | 1.32 | -0.72 \pm 5.71 | -9.57 \pm 7.30 |

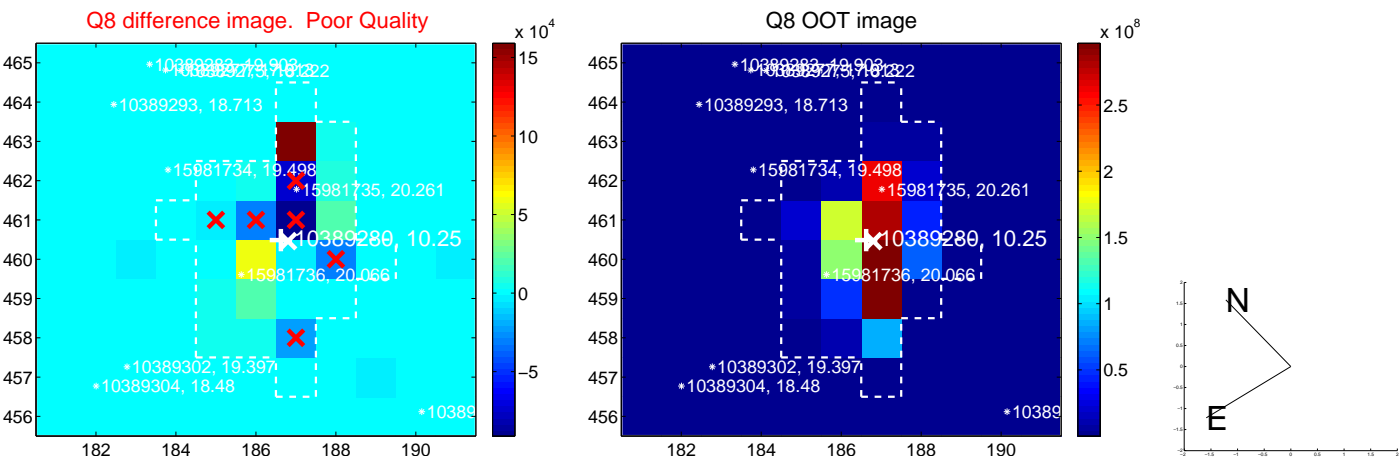
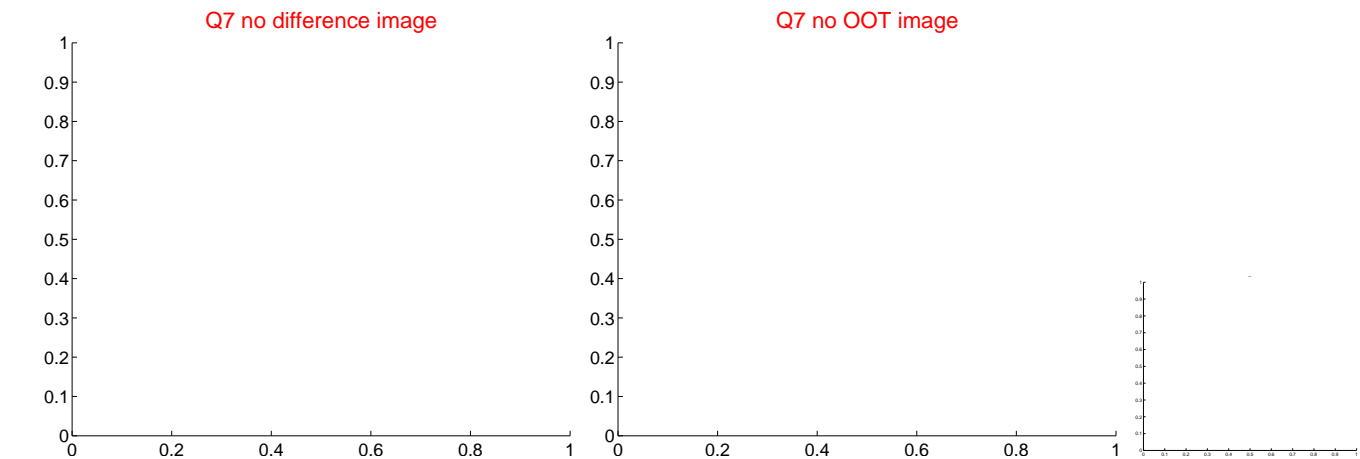
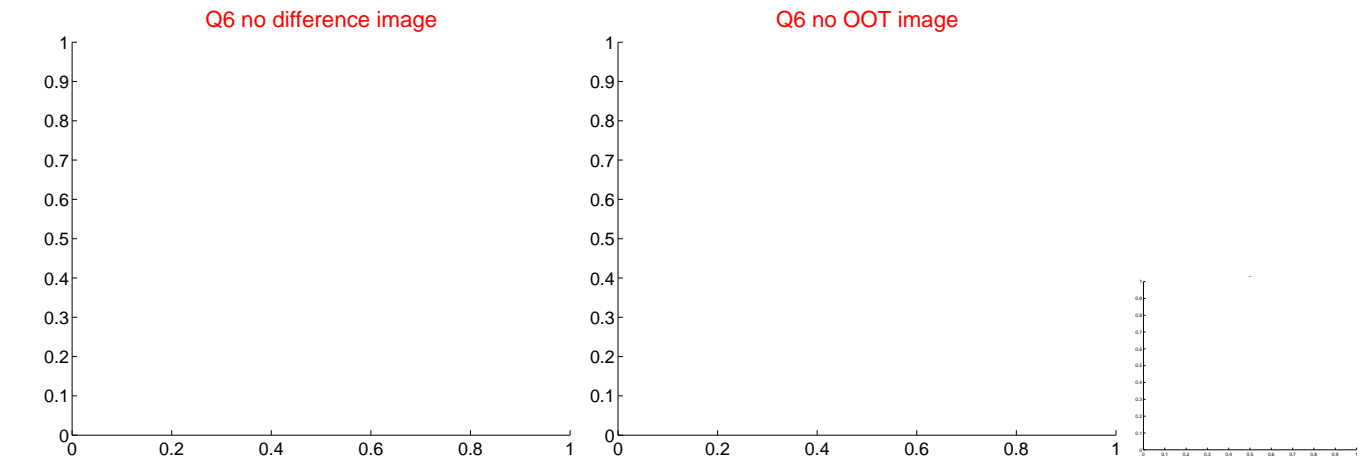
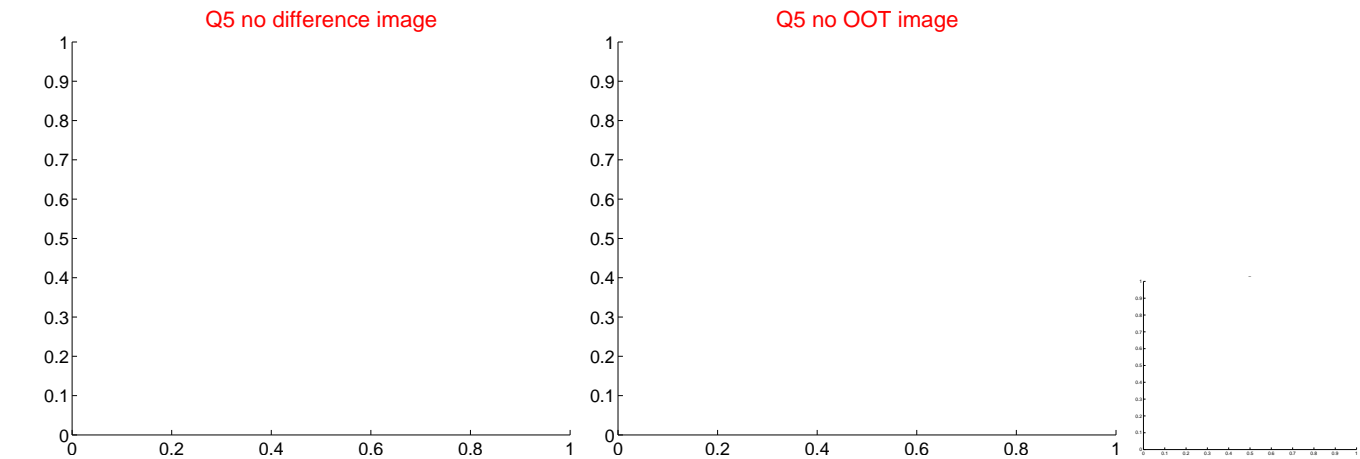


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

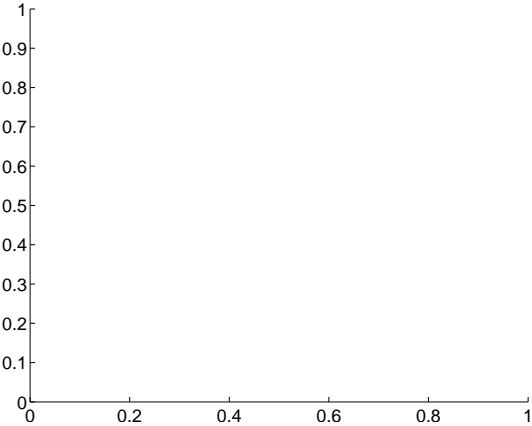


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

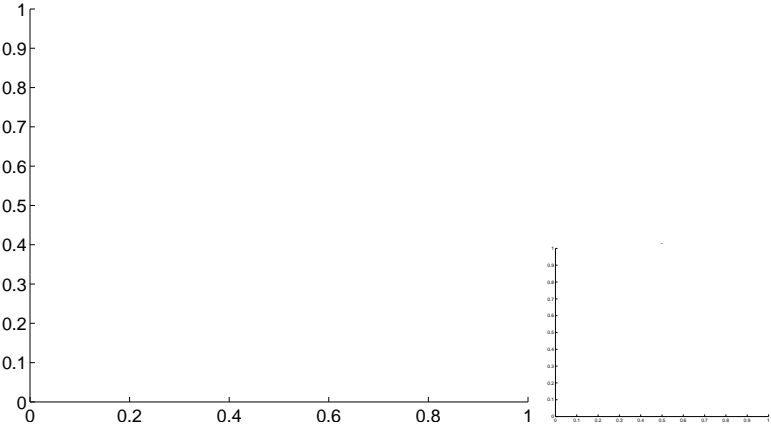


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

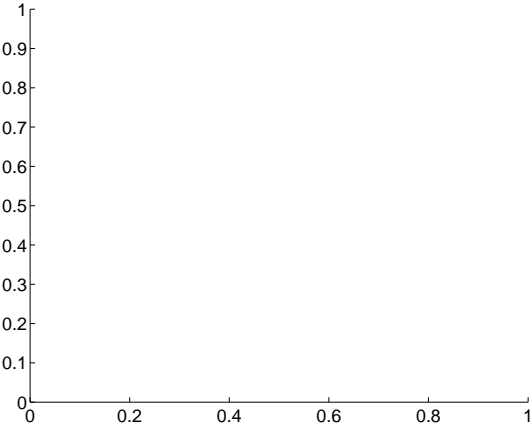
Q9 no difference image



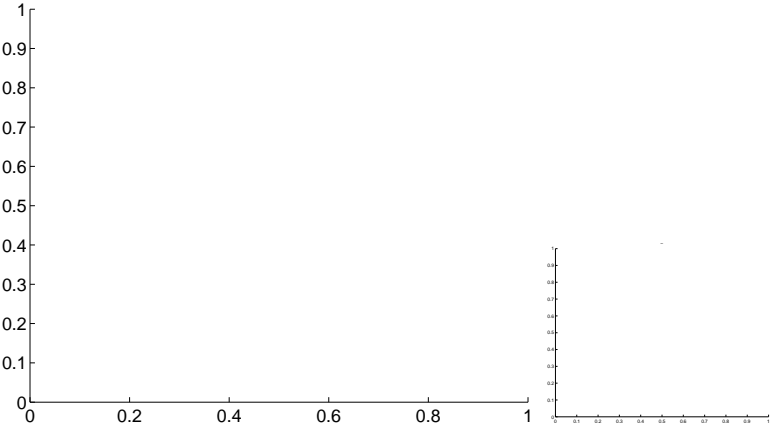
Q9 no OOT image



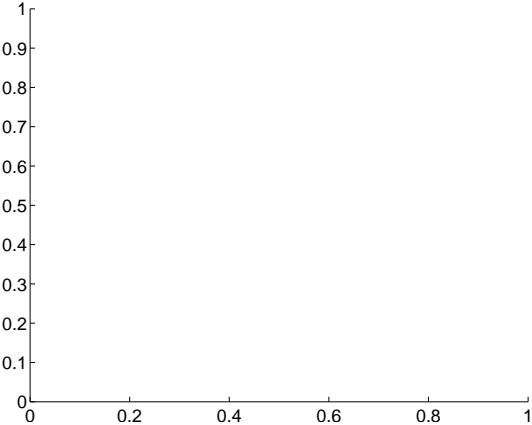
Q10 no difference image



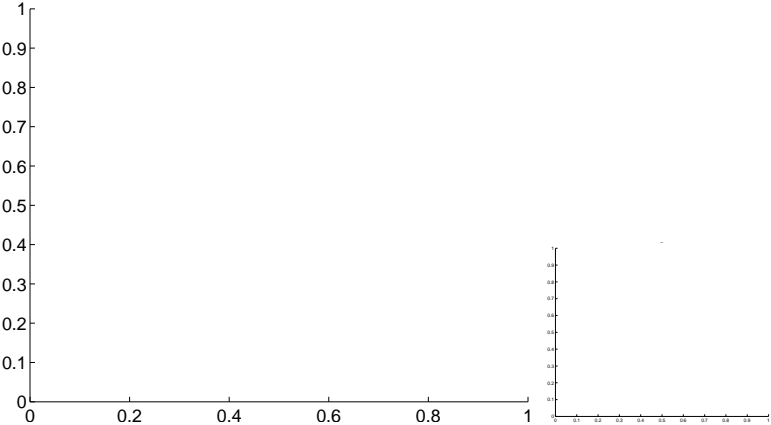
Q10 no OOT image



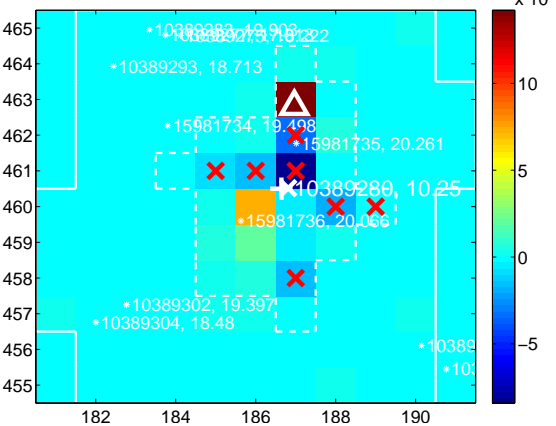
Q11 no difference image



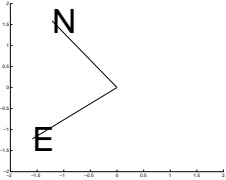
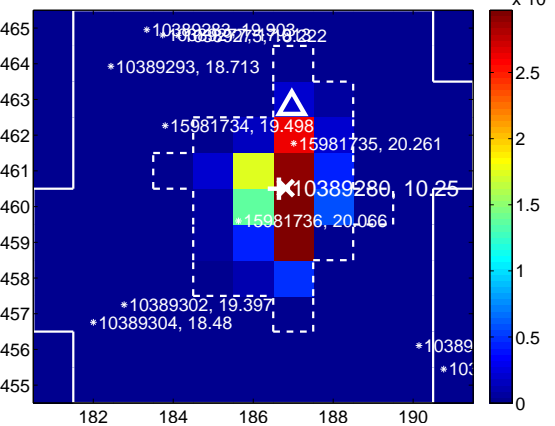
Q11 no OOT image



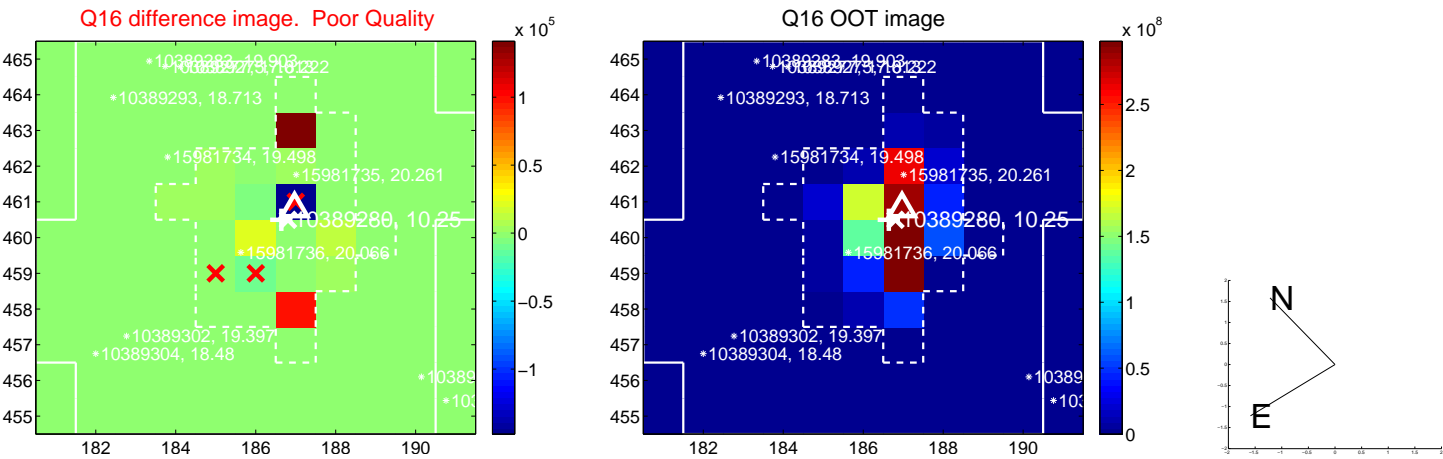
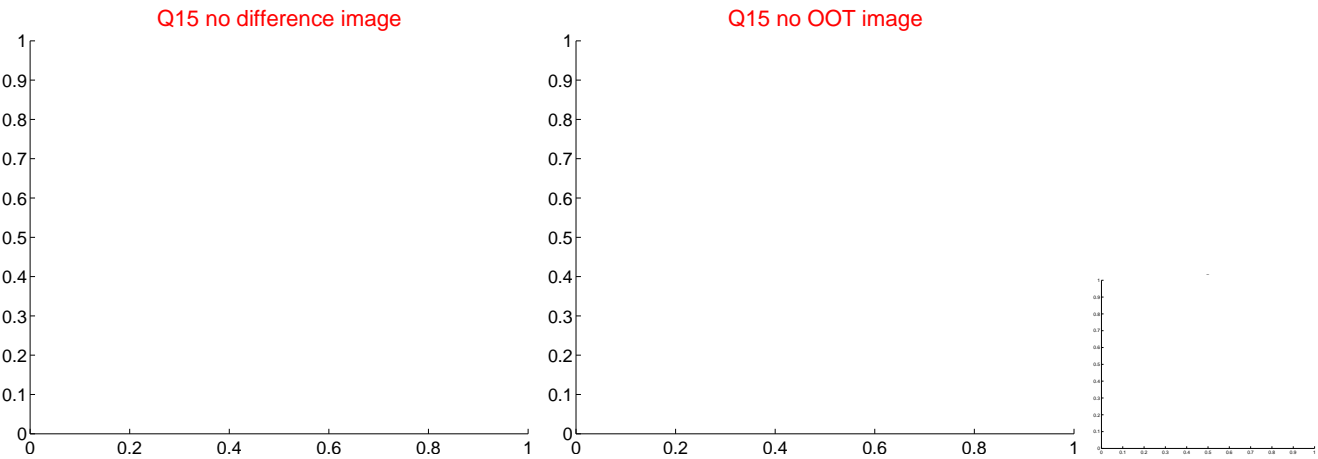
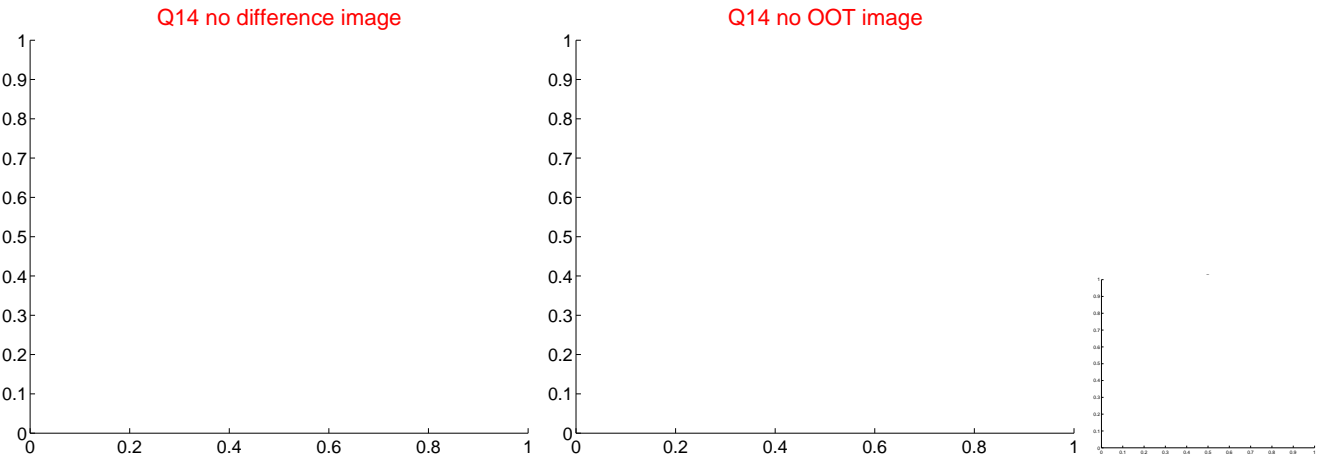
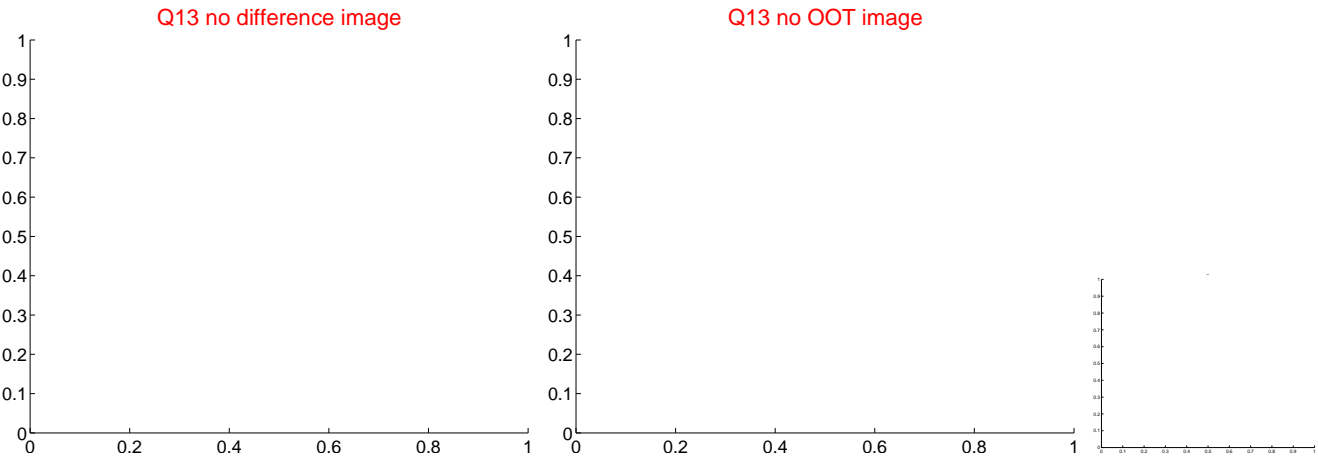
Q12 difference image. Poor Quality



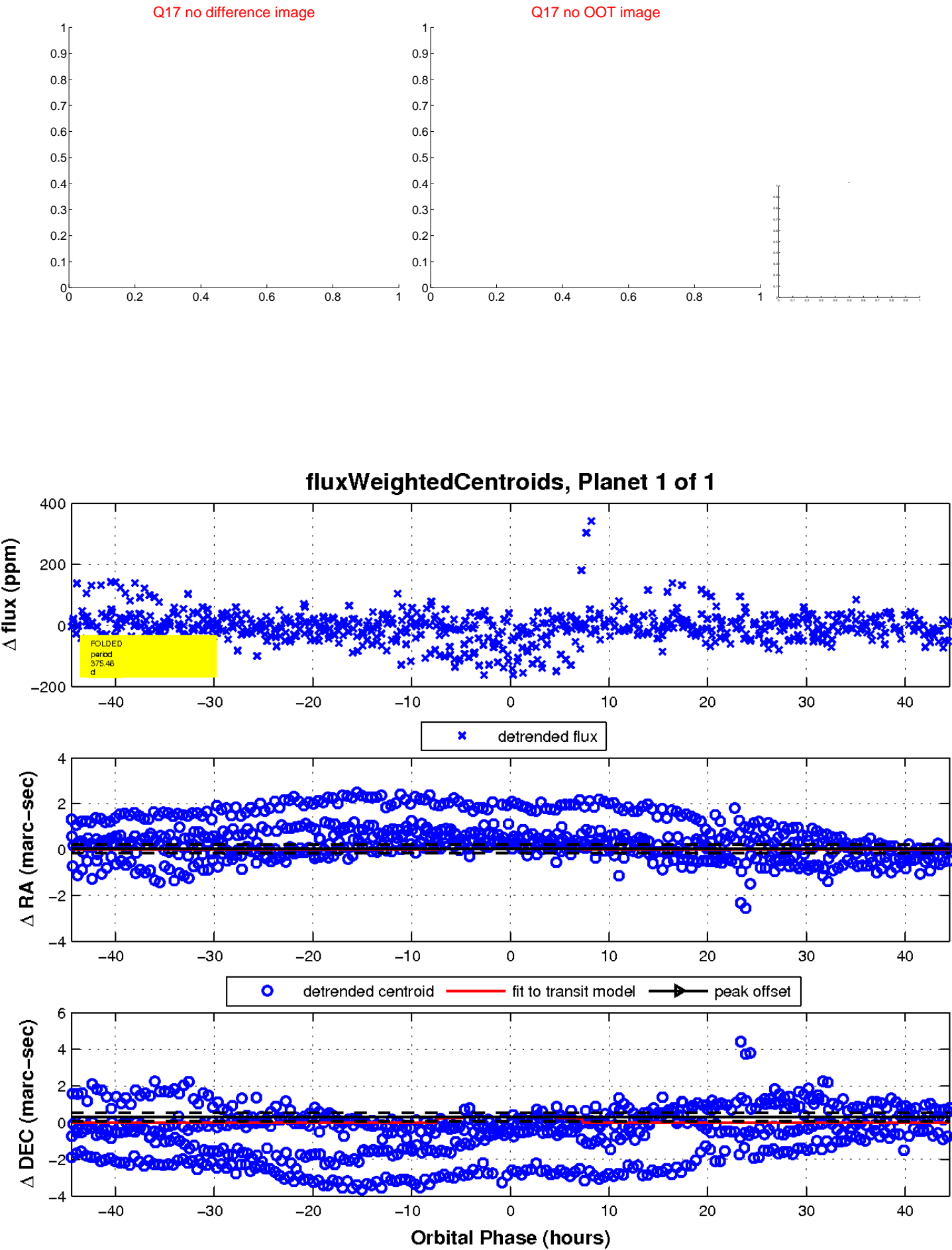
Q12 OOT image



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.



UKIRT Image

Declination

