

KIC 005388690

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 005388690-01 | OBS | No | 421.990628 | 368.662067 | 748.5 | 12.306 | 7.7 | 7.5 | 0.90 | 5605 | 2.62 | 0.63 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 005388690-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

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

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

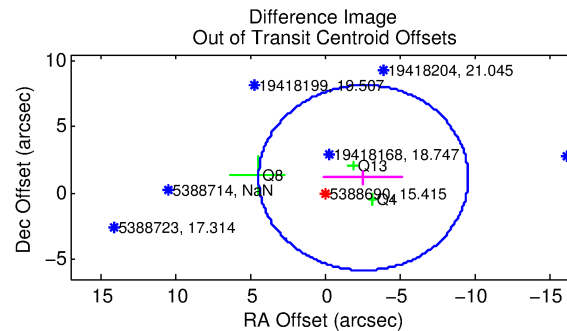
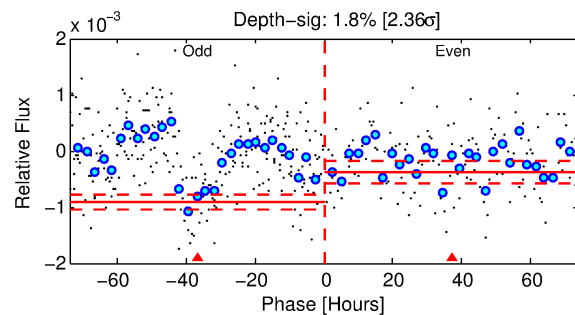
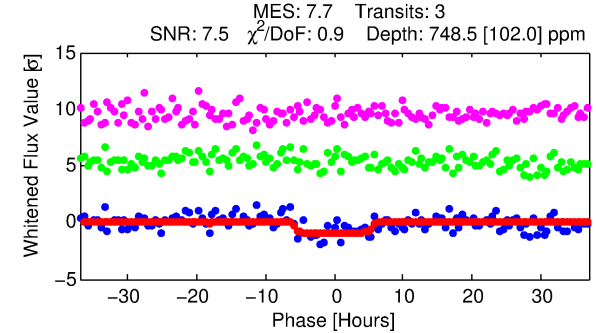
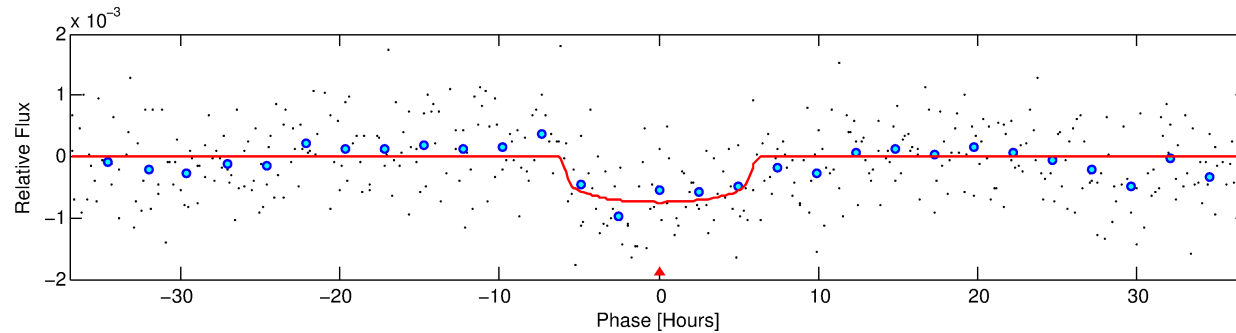
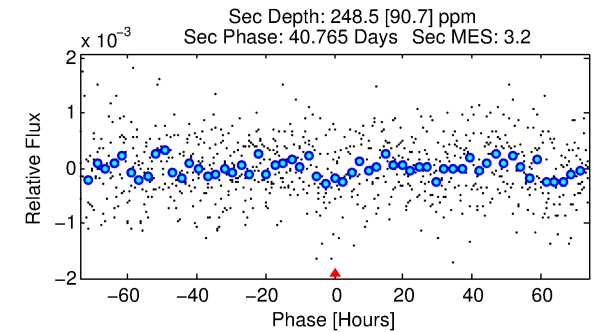
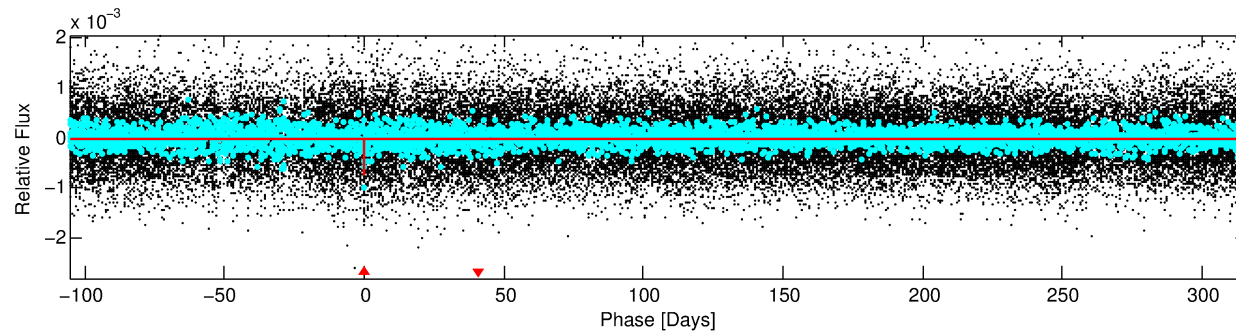
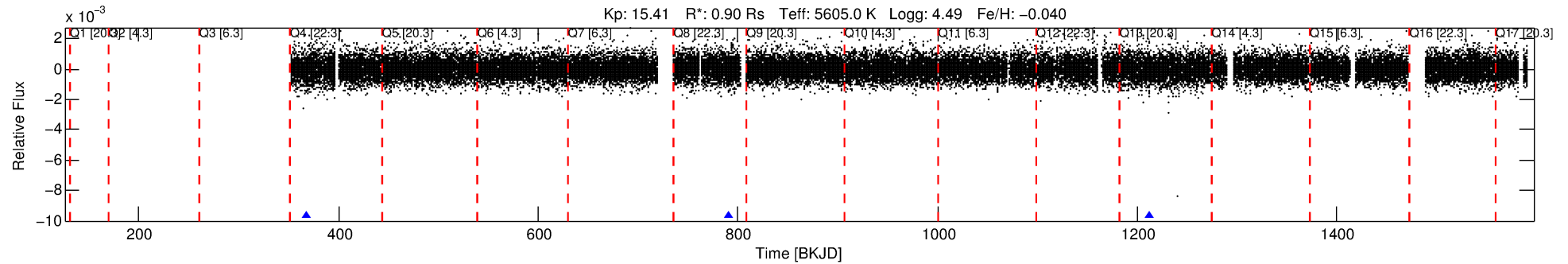
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005388690-01

No Significant Match Found

DV One-Page Summary

KIC: 5388690 Candidate: 1 of 1 Period: 421.991 d



DV Fit Results:

Period = 421.99063 [0.01545] d
Epoch = 368.6621 [0.0194] BKJD
Rp/R* = 0.0266 [0.0129]
a/R* = 200.15 [401.12]
b = 0.69 [1.57]
Seff = 0.63 [0.22]
Teq = 227 [20] K
Rp = 2.62 [1.46] Re
a = 1.0683 [0.2388] AU
Ag = 22659.82 [24626.06] [0.92σ]
Teffp = 4312 [1128] K [3.62σ]

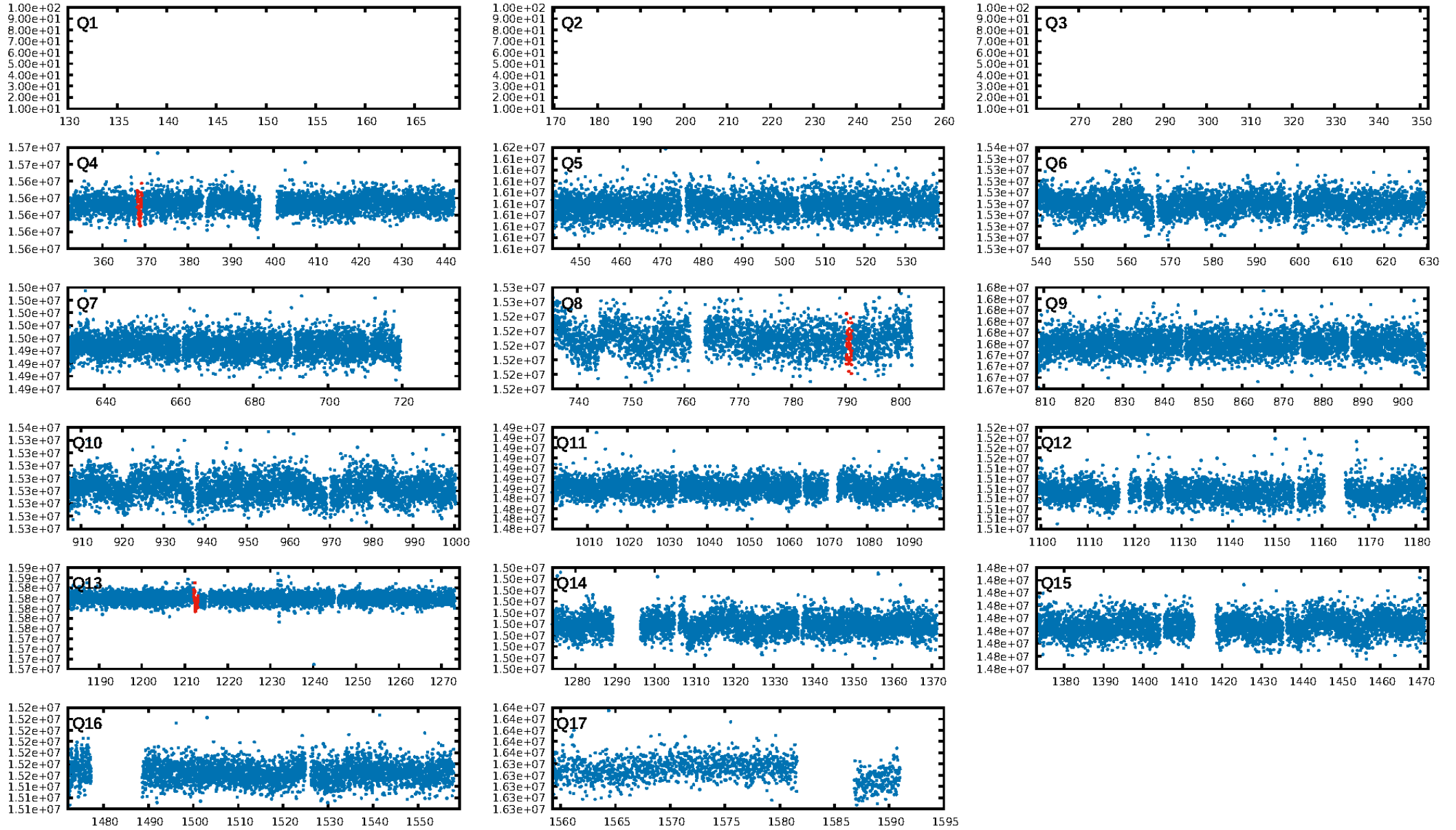
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 7.6%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 2.35e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -43.31
Centroid-sig: 65.7%
Centroid-so: 0.857 arcsec [0.56σ]
OotOffset-rm: 2.838 arcsec [1.22σ]
KicOffset-rm: 2.938 arcsec [2.19σ]
OotOffset-st: 0/0/2/1 [3]
KicOffset-st: 0/0/2/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

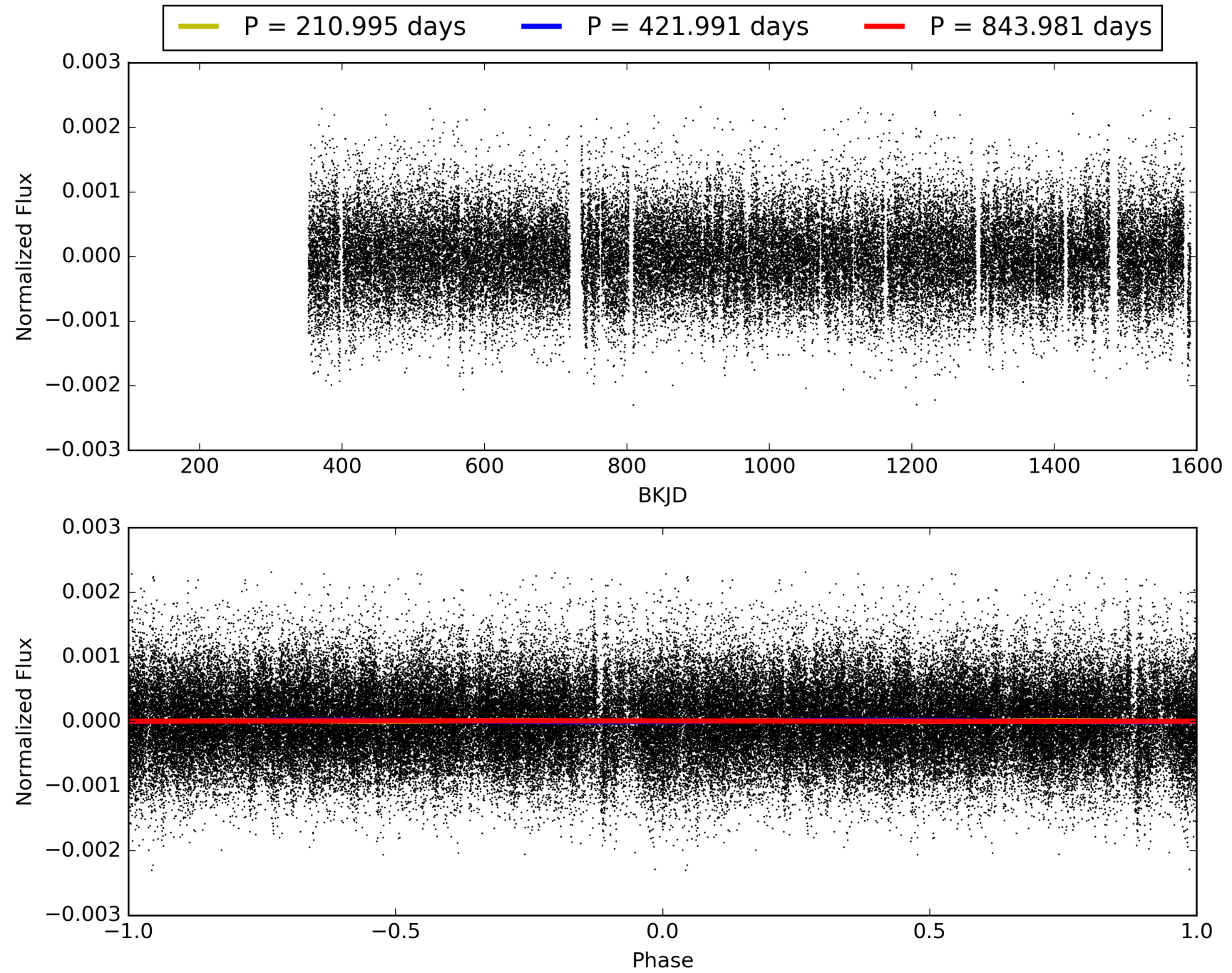
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:28:42 Z

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

TCE 005388690-01, PDC Light Curves

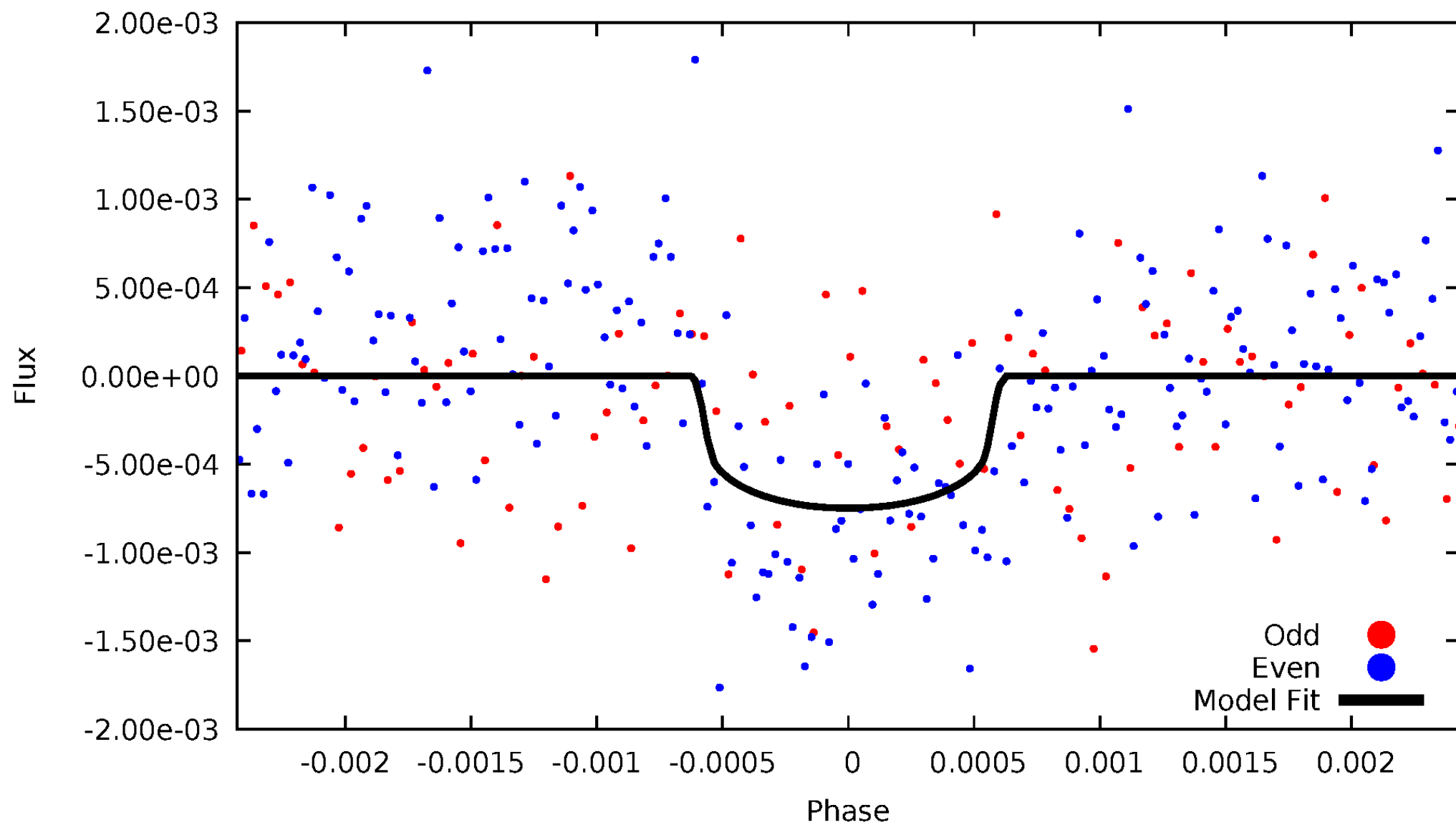


TCE 005388690-01



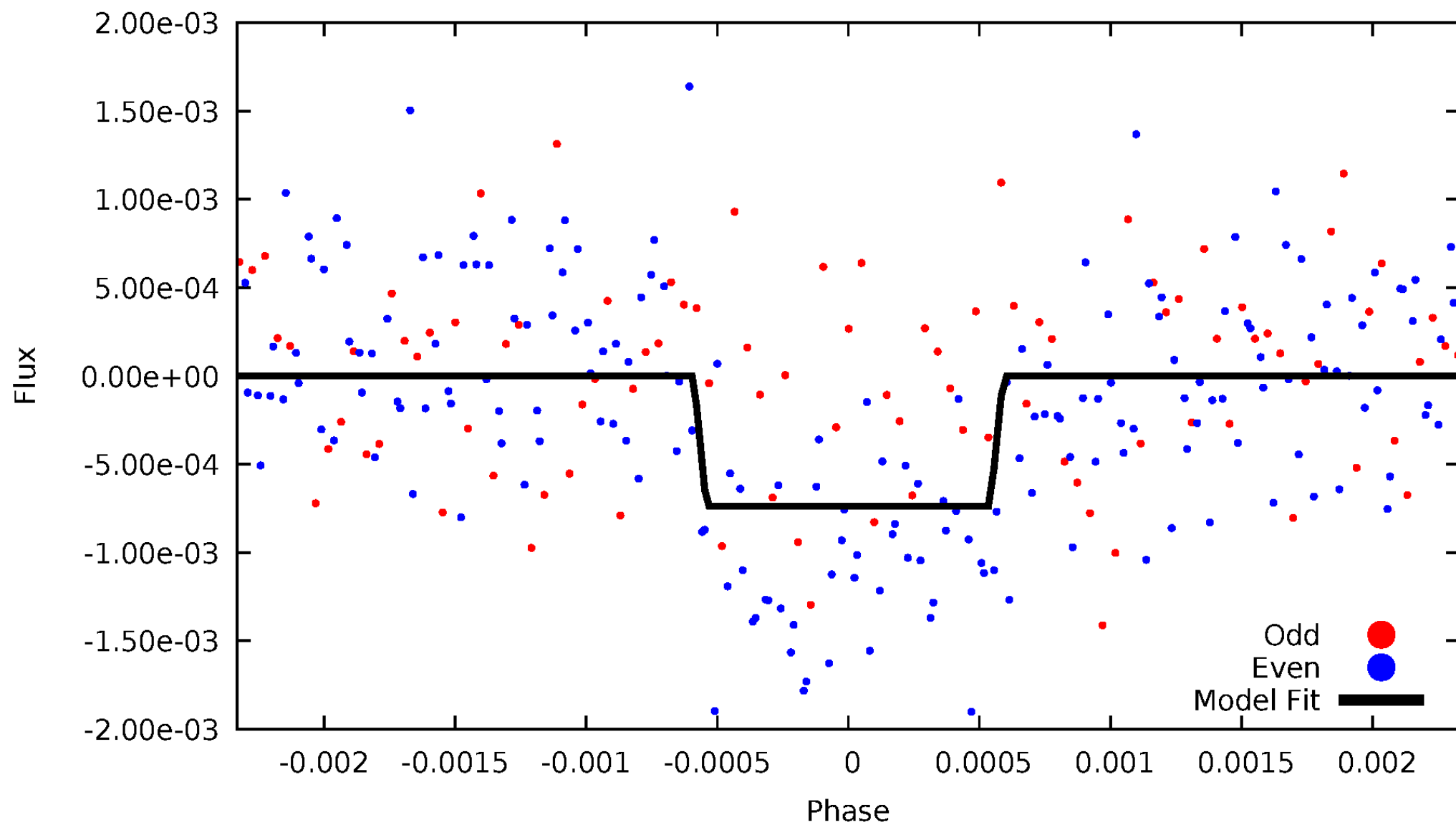
DV Odd/Even

TCE 005388690-01



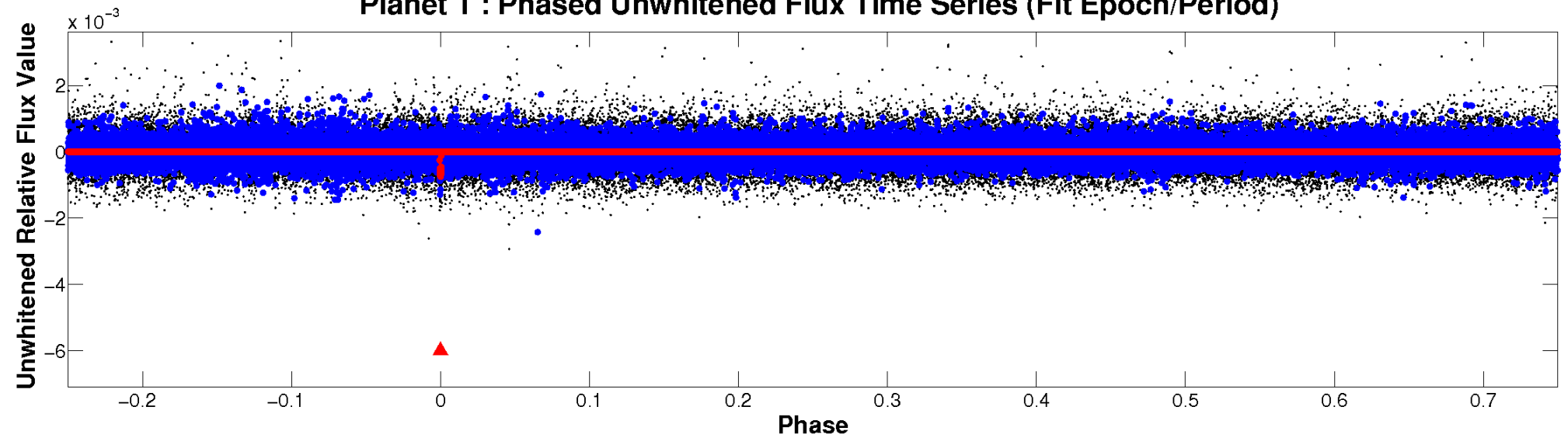
ALT Odd/Even

TCE 005388690-01

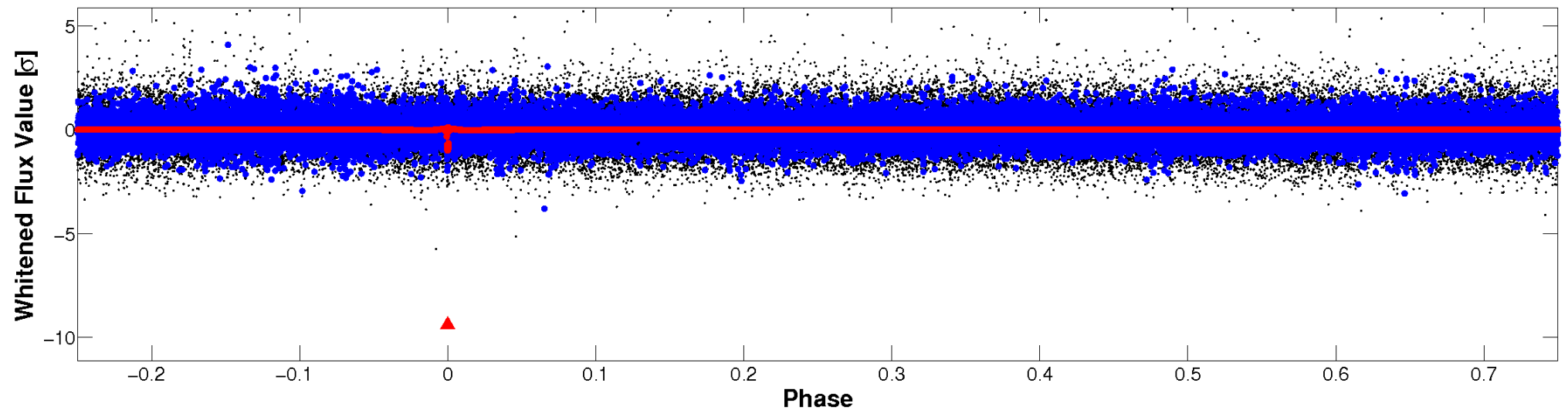


Non-Whitened Vs. Whitened Light Curve

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

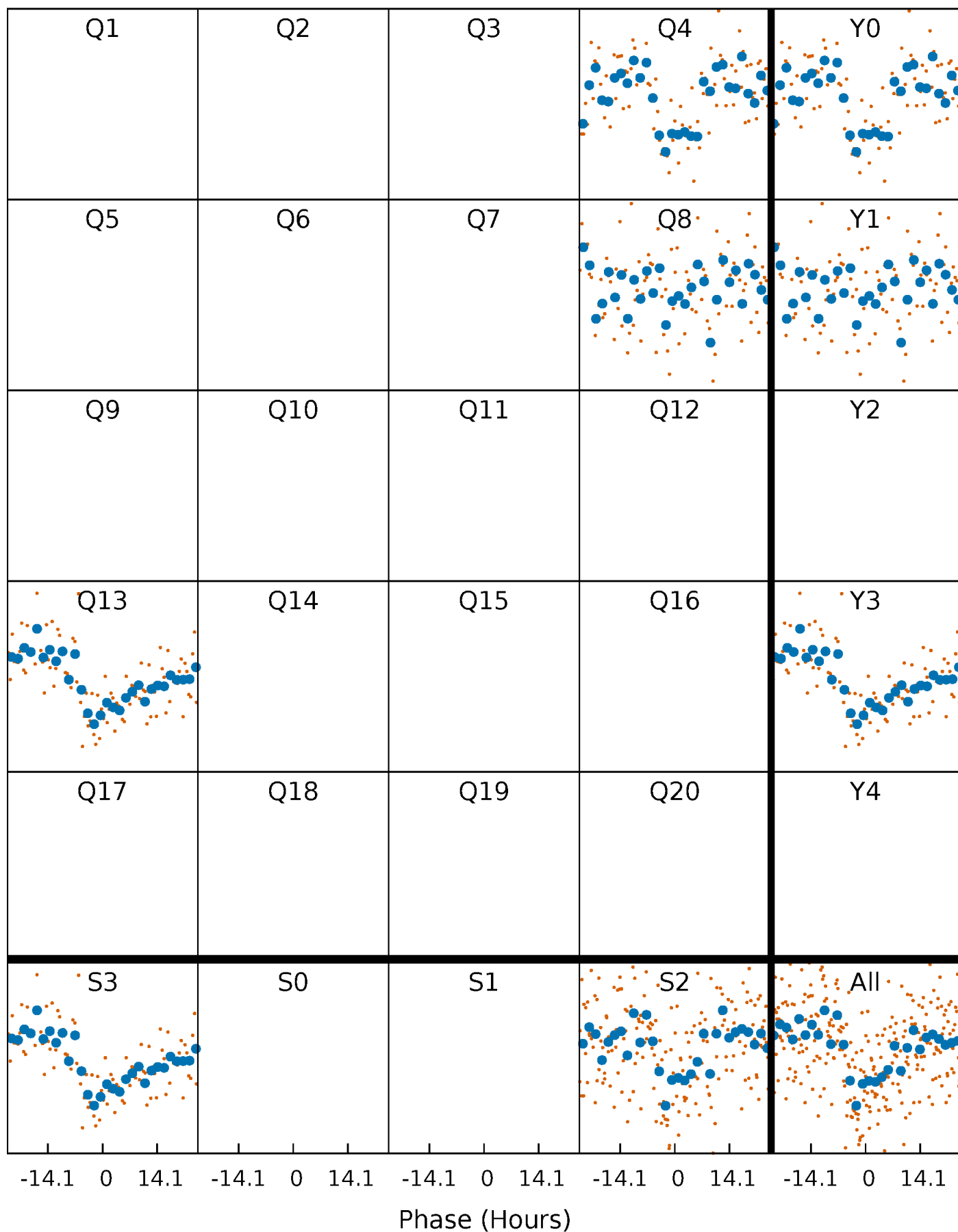


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 005388690-01 P=421.990628 Days $T_0=368.662067$ (BKJD)



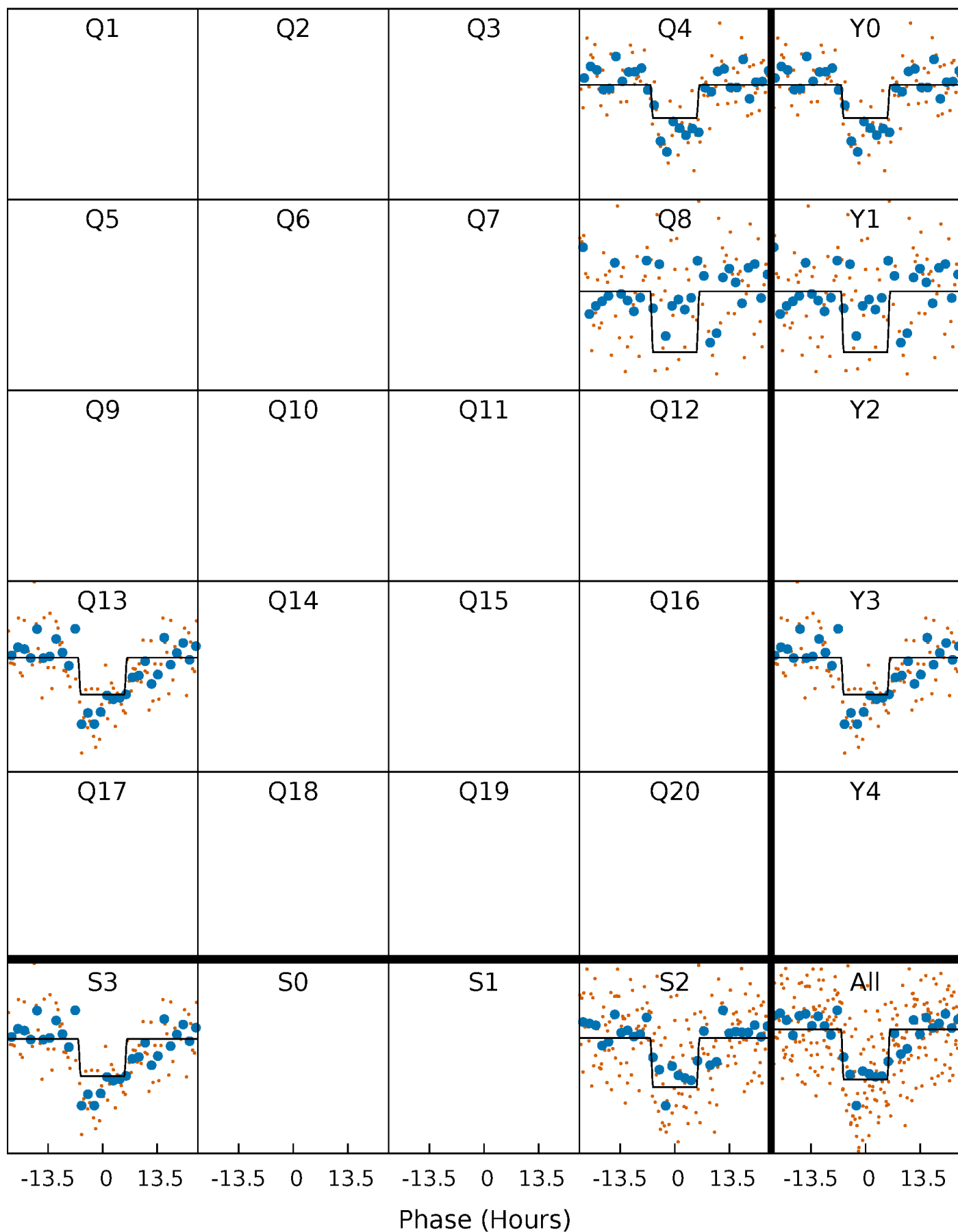
DV Quarter-Phased Transit Curves

TCE 005388690-01 P=421.990628 Days $T_0=368.662067$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

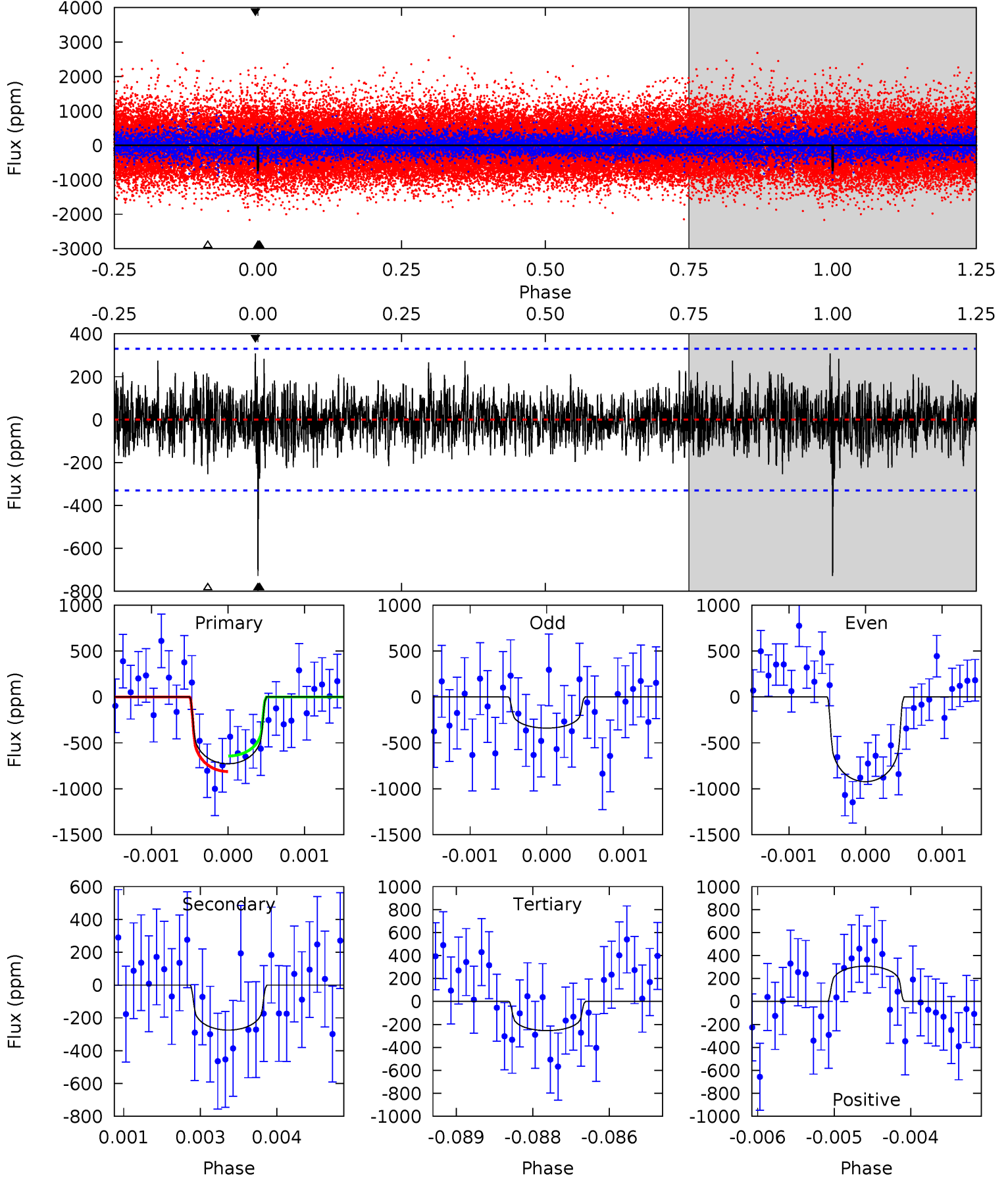
TCE 005388690-01 P=421.987070 Days $T_0=368.668134$ (BKJD)



DV Model-Shift Uniqueness Test

005388690-01, P = 421.990628 Days, E = 368.662067 Days

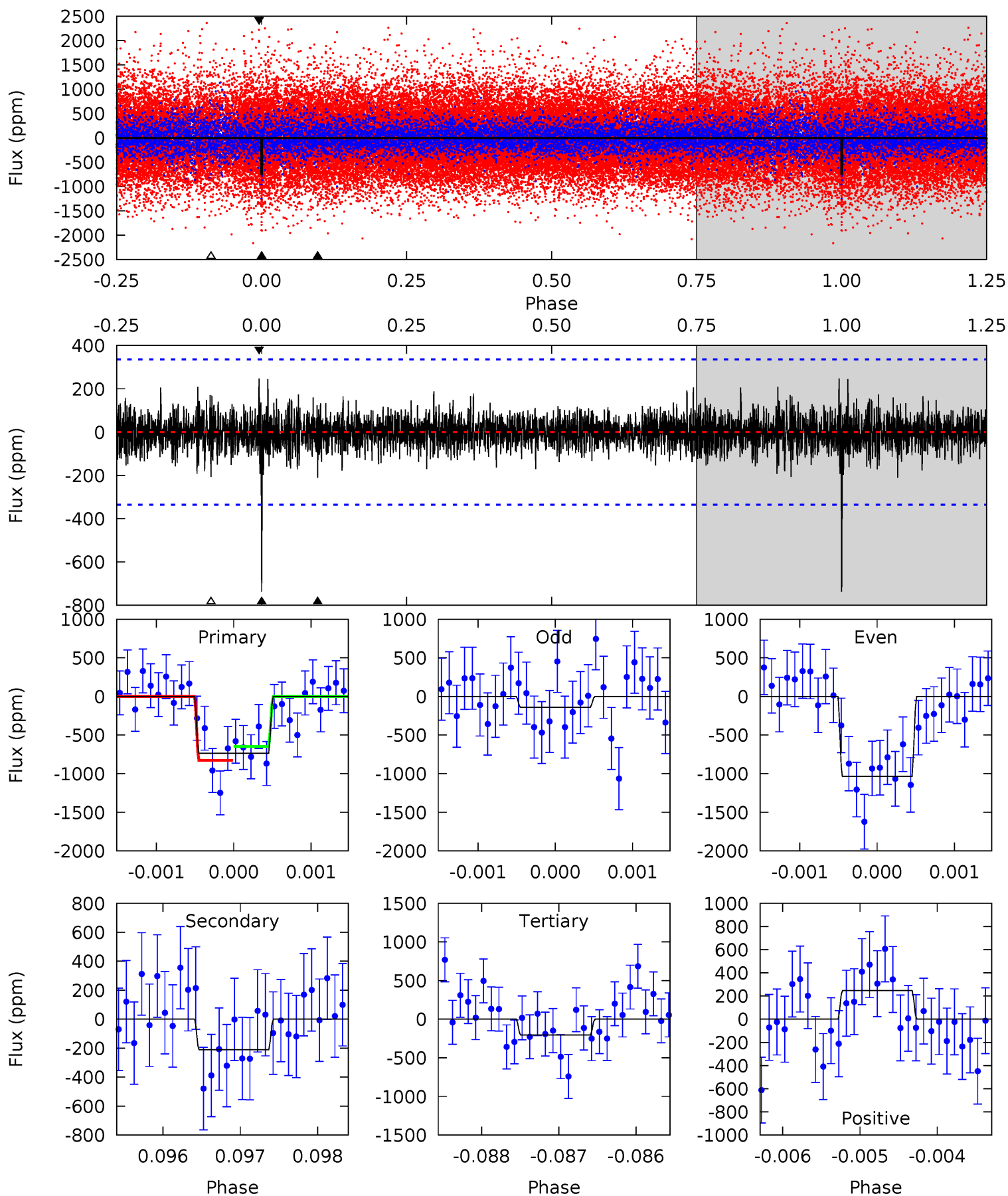
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 11.9 | 4.50 | 4.16 | 5.04 | 5.41 | 3.23 | 1.25 | 7.77 | 6.89 | 0.34 | -0.54 | 4.50 | 0.88 | 0.30 | 1.38 |



Alt Model-Shift Uniqueness Test

005388690-01, P = 421.987070 Days, E = 368.668134 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 11.9 | 3.40 | 3.32 | 3.99 | 5.42 | 3.24 | 0.88 | 8.58 | 7.91 | 0.08 | -0.59 | 6.87 | 0.73 | 0.25 | 1.45 |



Stellar Parameters For KIC 005388690

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 5605^{+186}_{-186} | $4.487^{+0.075}_{-0.175}$ | $-0.040^{+0.300}_{-0.300}$ | $0.903^{+0.242}_{-0.104}$ | $0.912^{+0.104}_{-0.095}$ | $1.745^{+0.552}_{-0.824}$ |
| | +3%/-3% | +2%/-4% | +750%/-750% | +27%/-12% | +11%/-10% | +32%/-47% |
| 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 005388690-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|------------------------|----------------------|-----------------------|---------------------------|
| DV | -275 ± 61 | $2.81^{+1.52}_{-1.32}$ | 323^{+22}_{-17} | 4508^{+1508}_{-653} | 22317^{+59112}_{-13502} |
| Alt. | -210 ± 62 | $2.79^{+1.46}_{-1.36}$ | 322^{+23}_{-17} | 4282^{+1462}_{-603} | 16284^{+49851}_{-9633} |

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

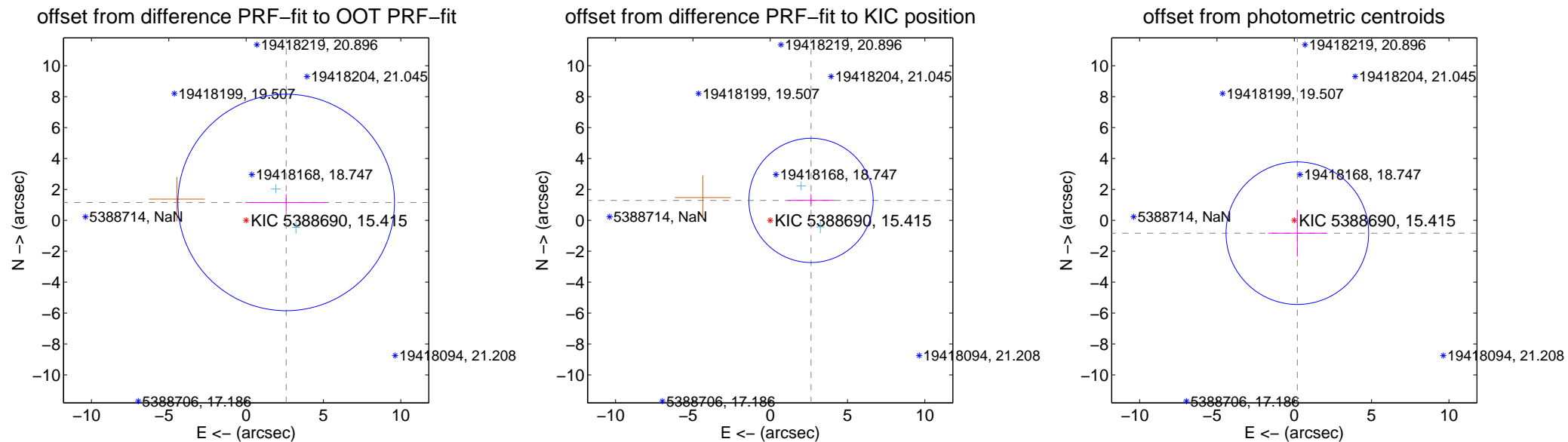
DV Centroid Data

Supplemental centroid analysis for 005388690-01. Kepler magnitude: 15.41. Transit SNR 7.52

There are 2 quarters with good PRF difference image offsets

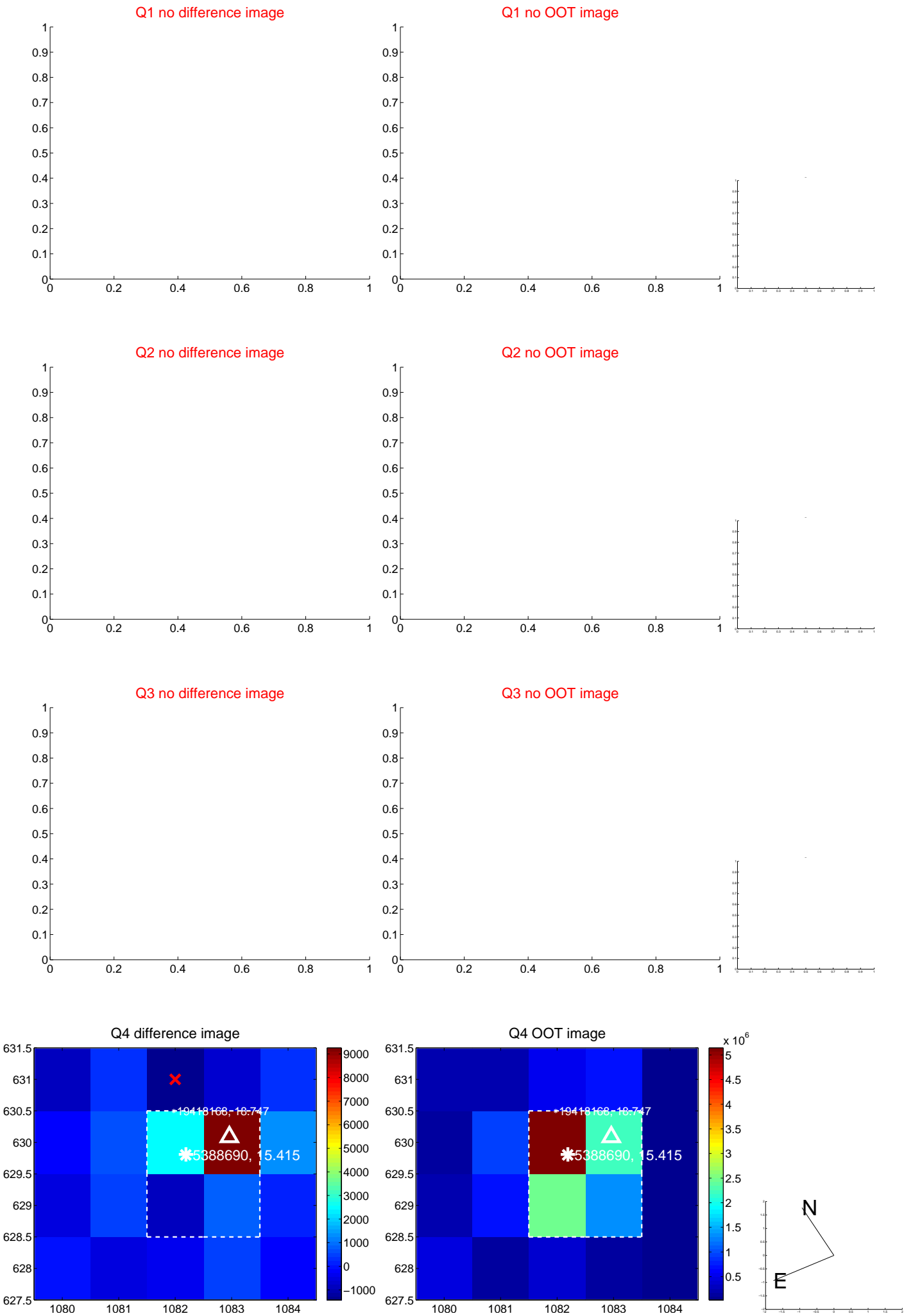
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 2.838 ± 2.334 | 1.22 | -2.592 ± 2.639 | 1.156 ± 0.532 |
| PRF-fit source offset from KIC position | 2.938 ± 1.339 | 2.19 | -2.640 ± 1.527 | 1.289 ± 0.394 |
| photometric centroid source offset | 0.86 ± 1.54 | 0.56 | -0.20 ± 1.88 | -0.83 ± 1.52 |

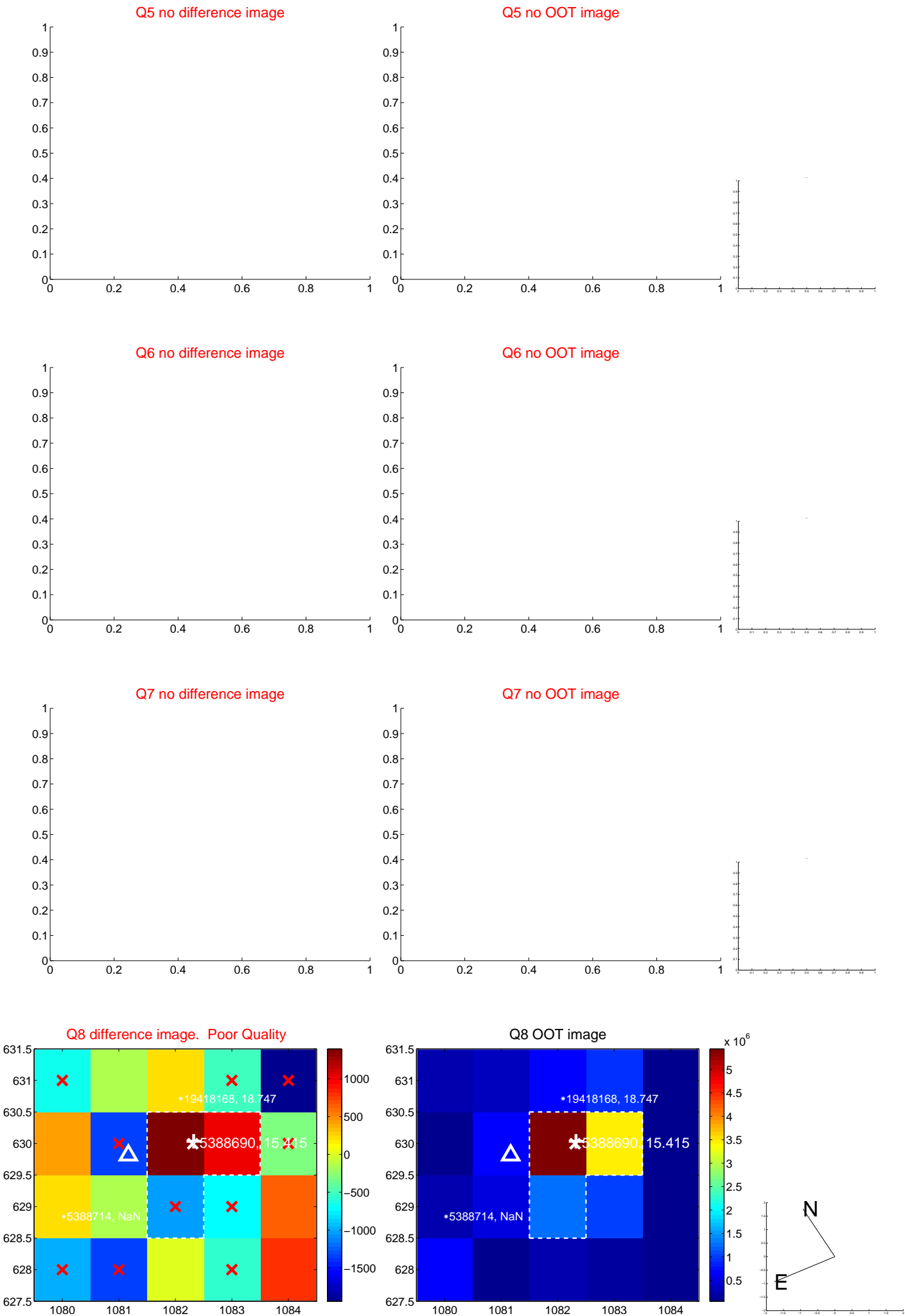


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



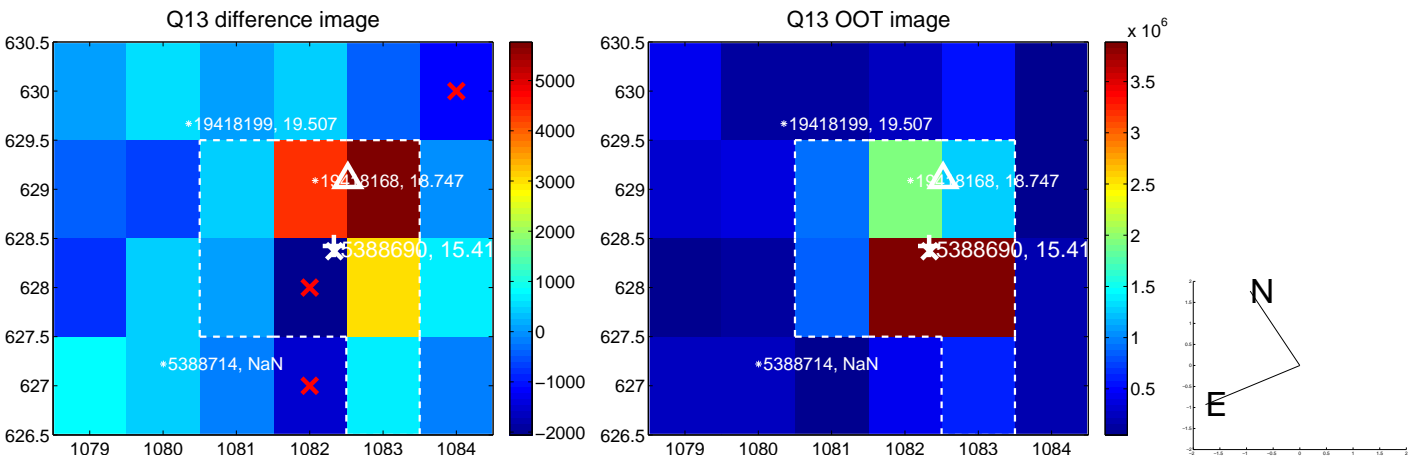
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



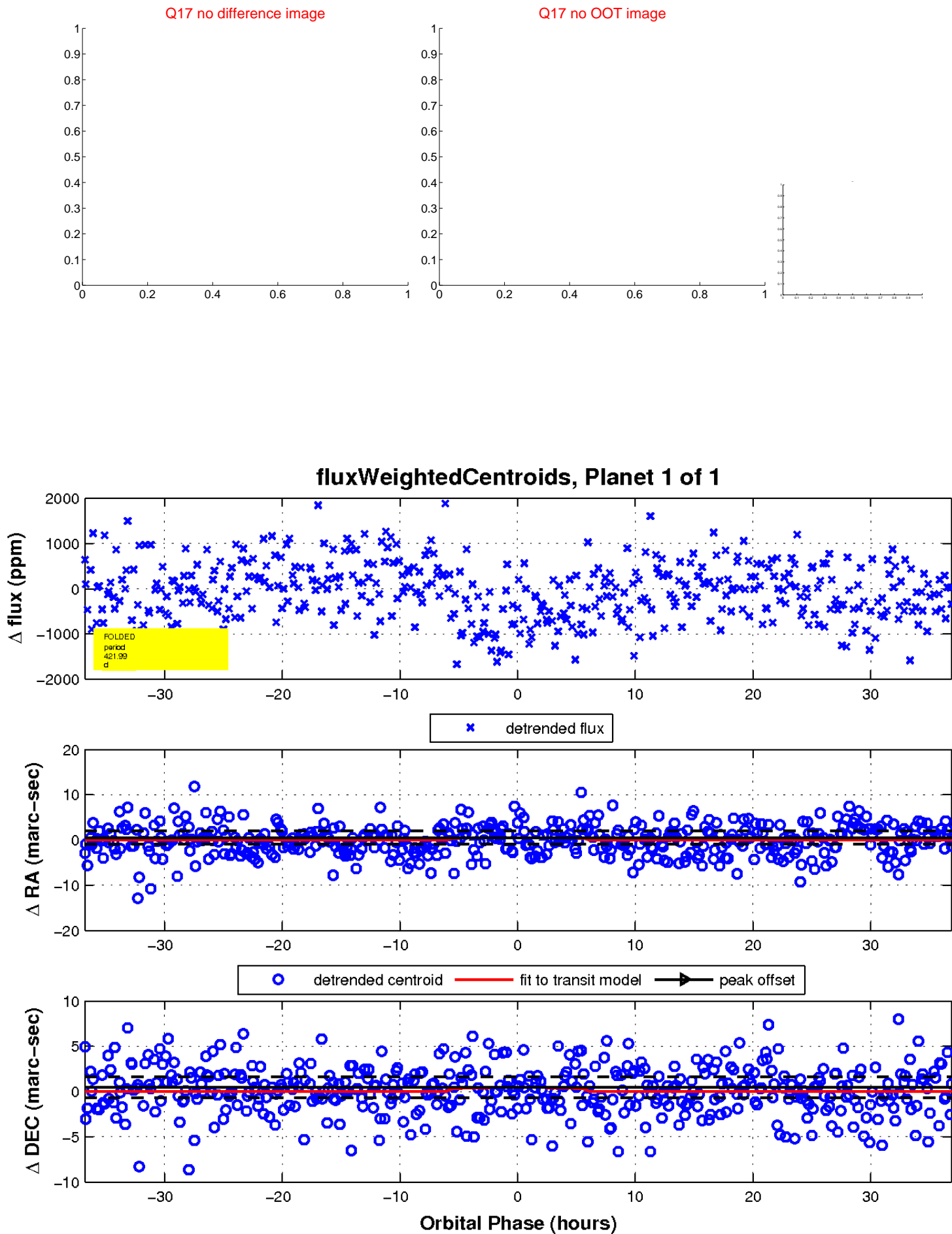
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

