

KIC 005253014

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 005253014-01 | OBS | No | 388.109521 | 342.898123 | 35.2 | 1.237 | 9.2 | 0.3 | 62.42 | 4077 | 39.92 | 437.07 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 005253014-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

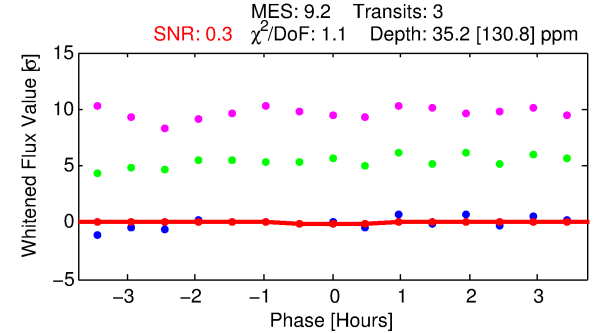
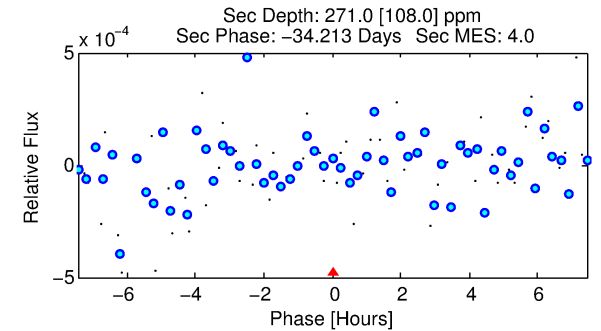
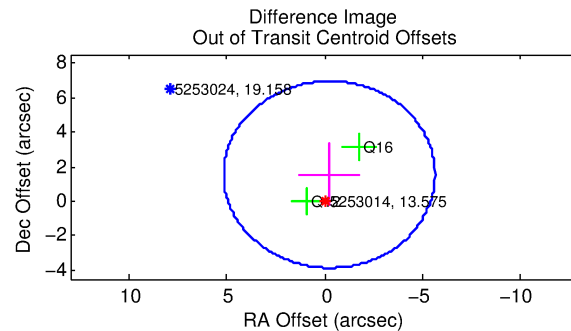
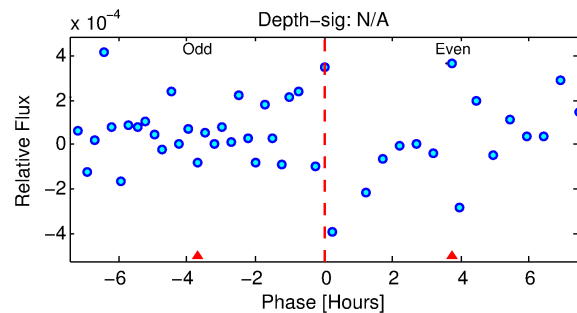
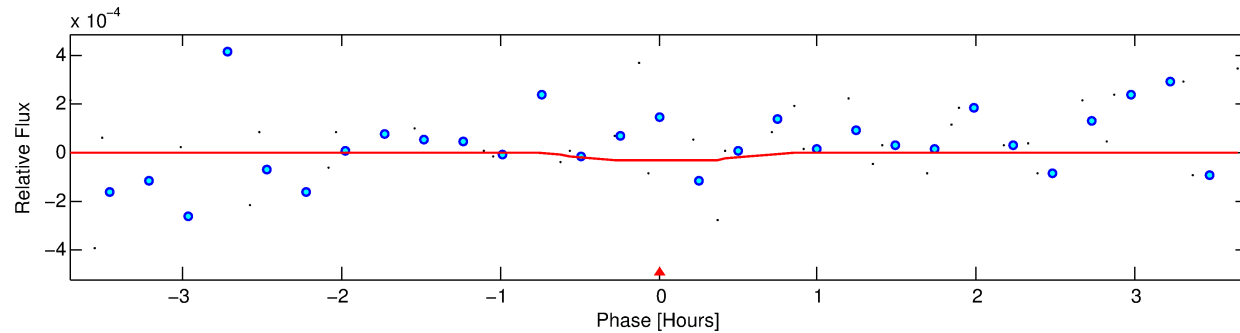
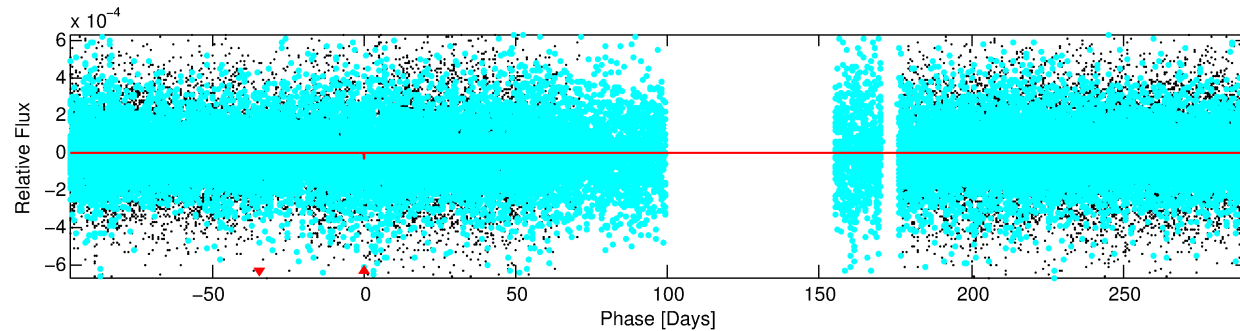
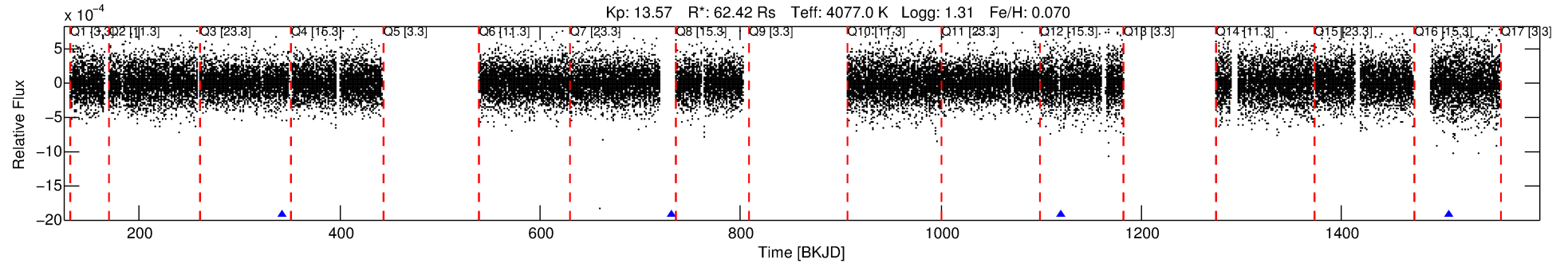
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005253014-01

No Significant Match Found

DV One-Page Summary

KIC: 5253014 Candidate: 1 of 1 Period: 388.110 d



DV Fit Results:

Period = 388.10952 [0.04690] d
Epoch = 342.8981 [0.0795] BKJD
Rp/R* = 0.0059 [0.5876]
a/R* = 1736.99 [460286.60]
b = 0.70 [205.14]
Seff = 437.07 [120.08]
Teq = 1166 [80] K
Rp = 39.92 [4002.76] Re
a = 1.4856 [0.3459] AU
Ag = 206.47 [41407.86] [0.00σ]
Teffp = 6833 [342595] K [0.02σ]

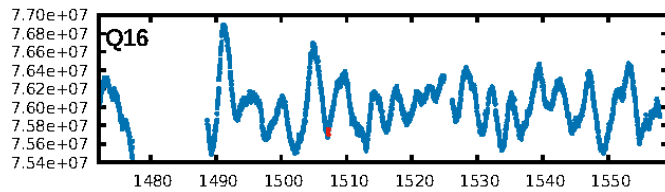
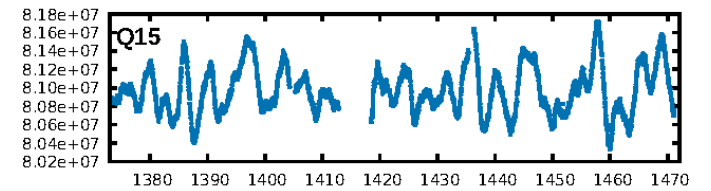
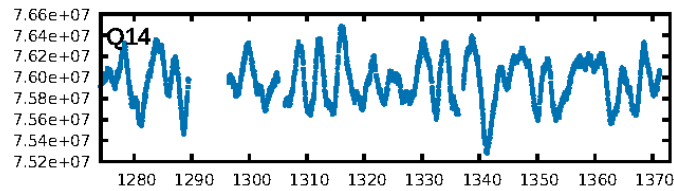
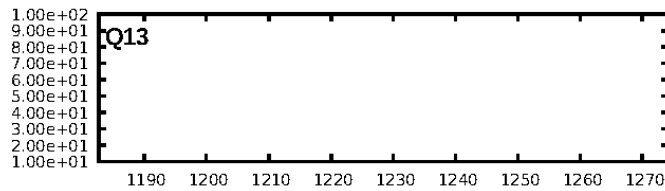
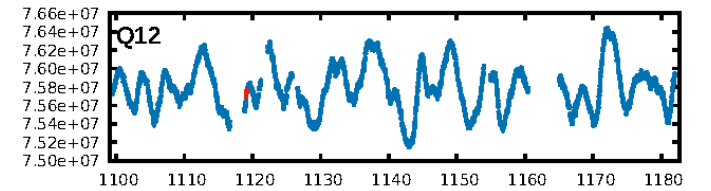
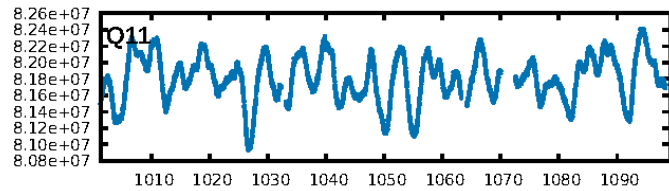
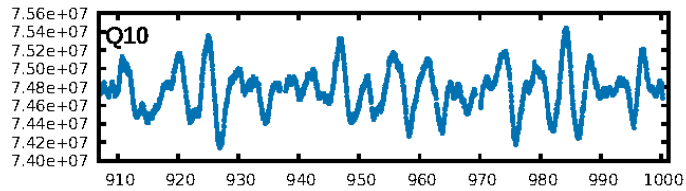
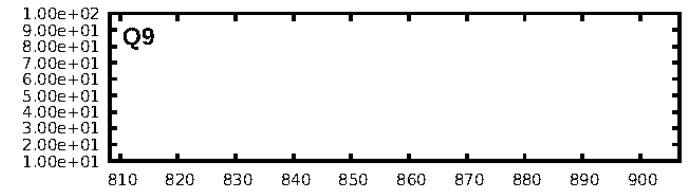
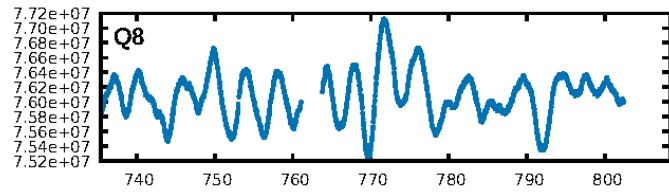
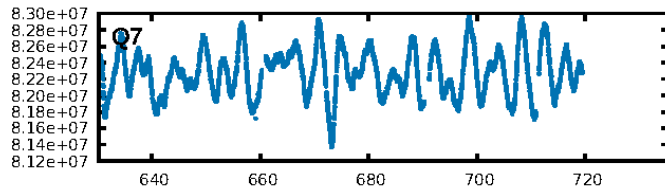
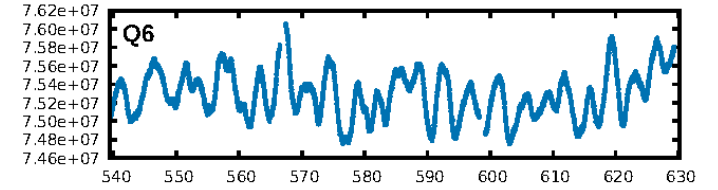
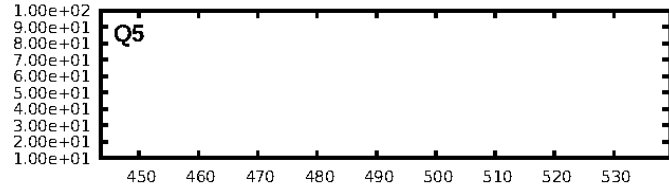
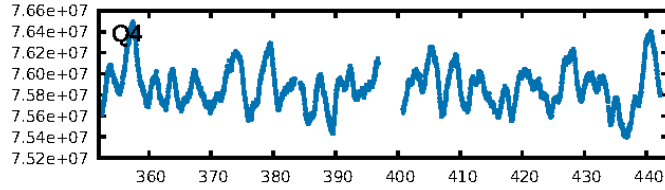
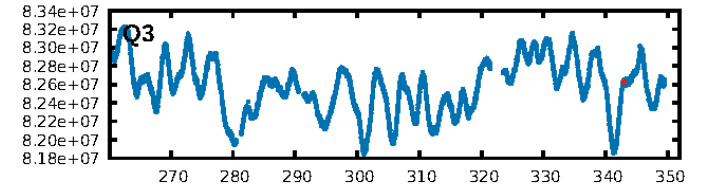
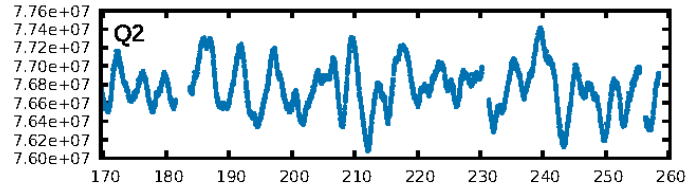
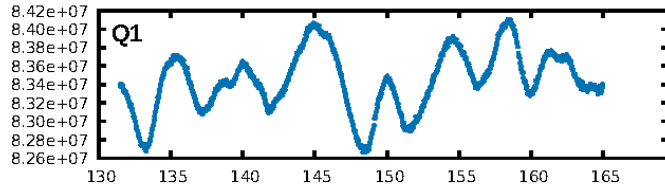
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 52.6%
ModelChiSquareGof-sig: 83.5%
Bootstrap-pfa: 7.40e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.802
Centroid-sig: 73.5%
Centroid-so: 14.663 arcsec [0.42σ]
OotOffset-rm: 1.563 arcsec [0.87σ]
OotOffset-st: 0/0/2/0 [2]
KicOffset-rm: 1.448 arcsec [0.81σ]
KicOffset-st: 0/0/2/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

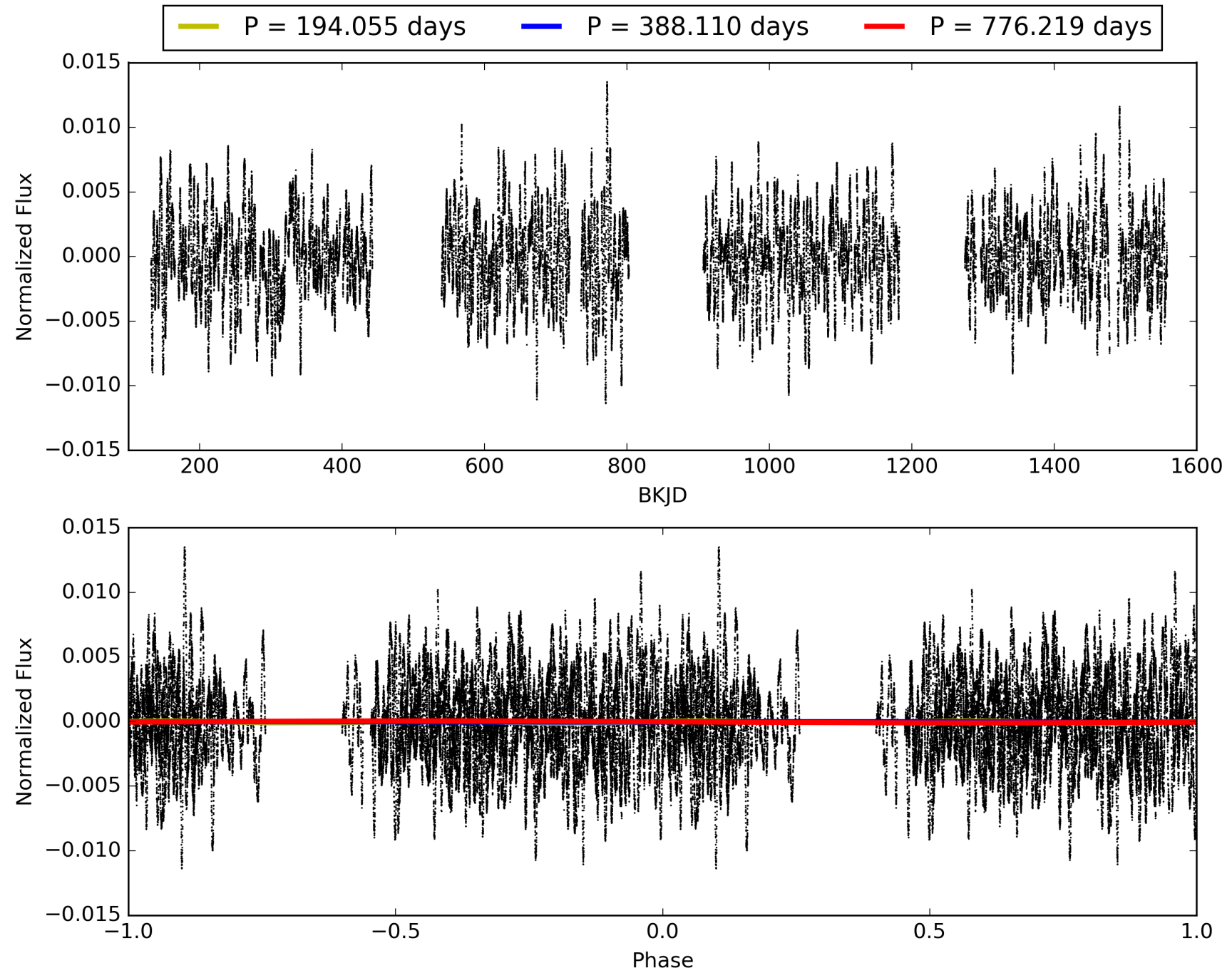
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:54:23 Z

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

TCE 005253014-01, PDC Light Curves

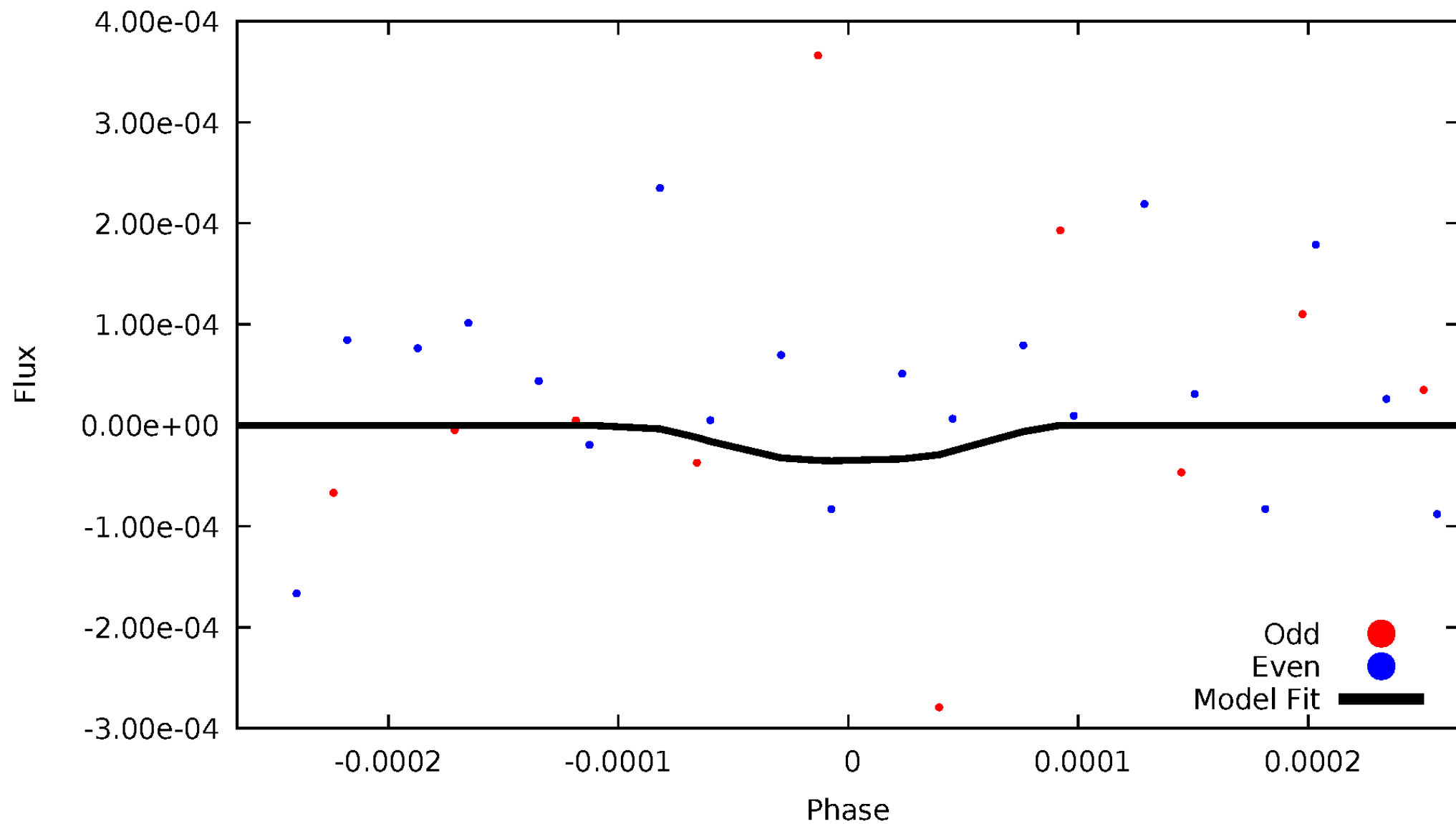


TCE 005253014-01



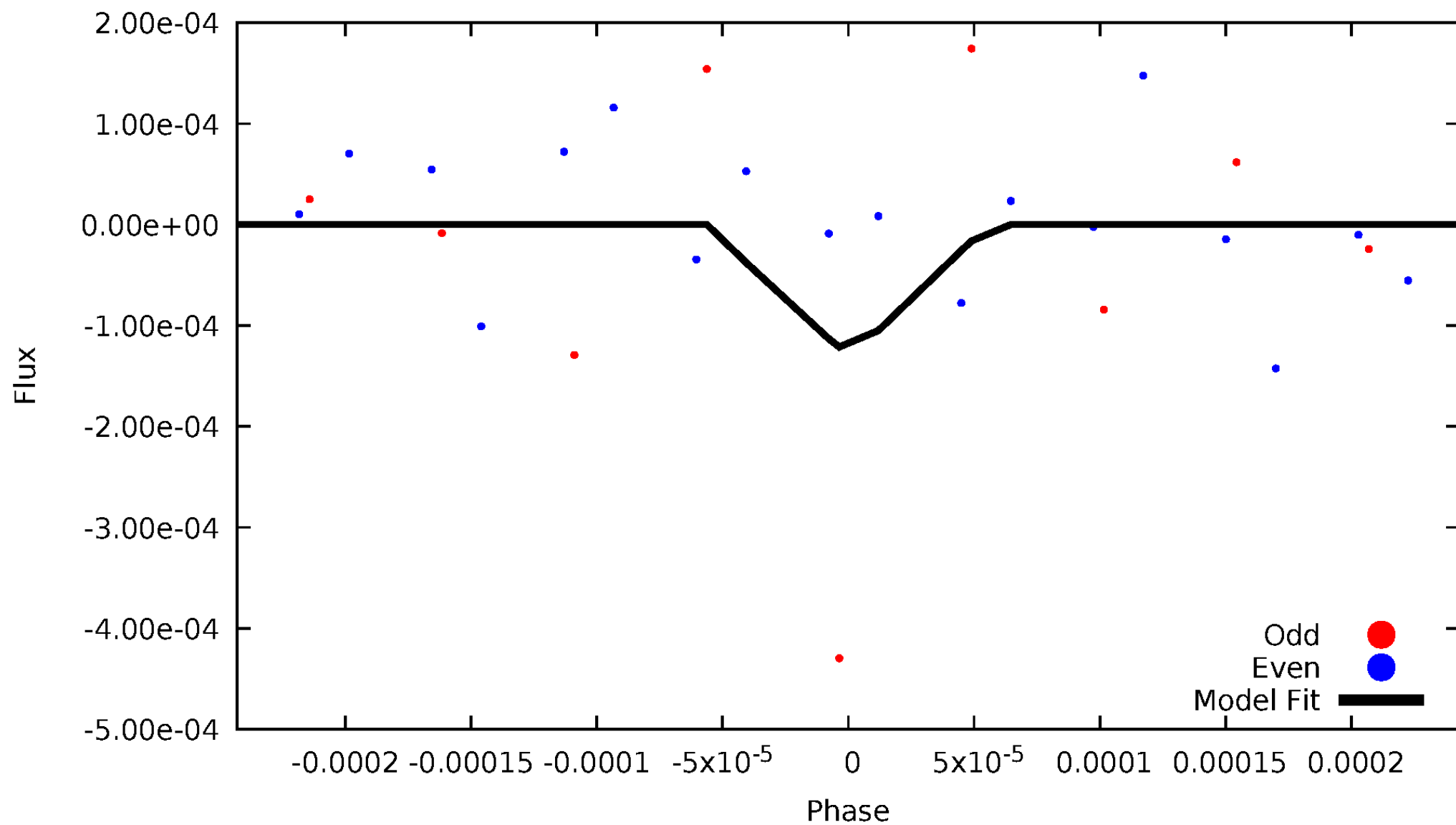
DV Odd/Even

TCE 005253014-01

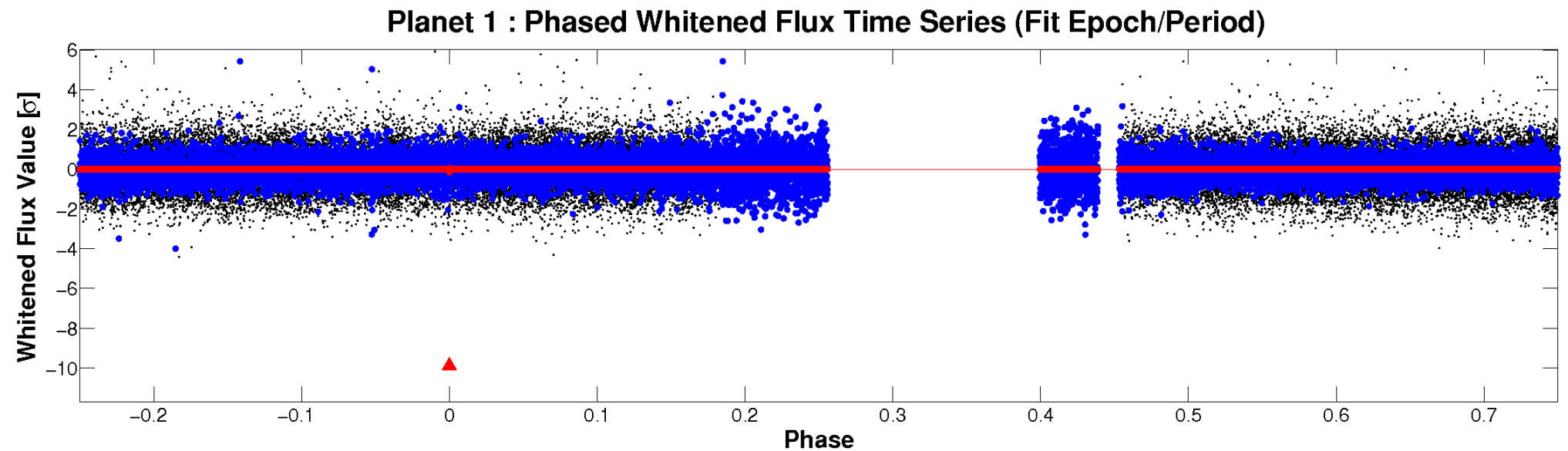
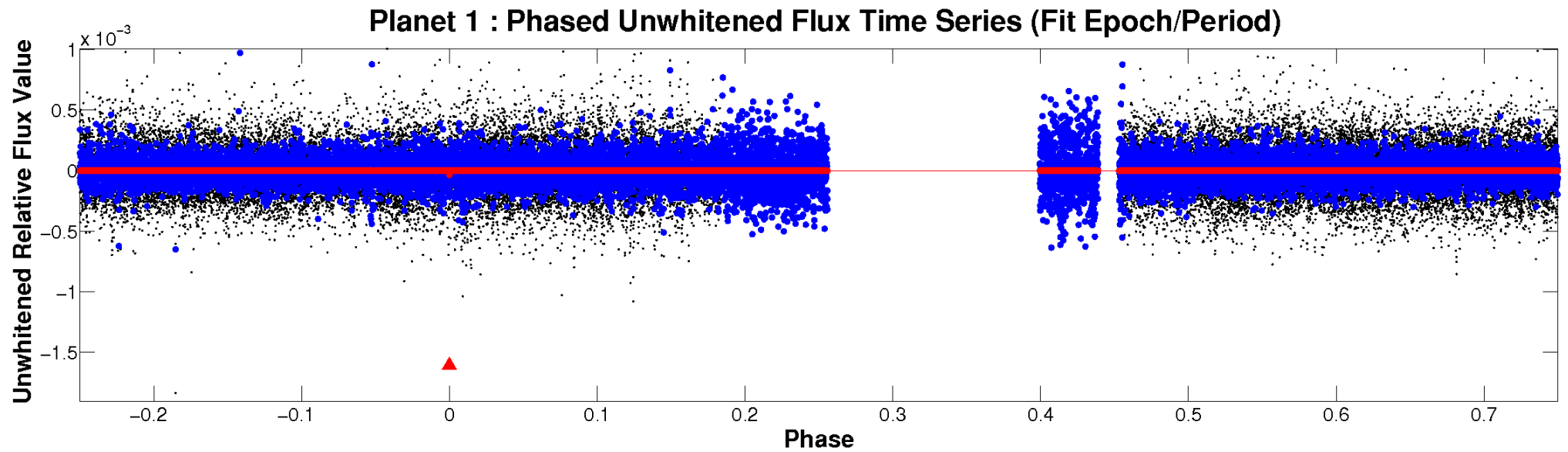


ALT Odd/Even

TCE 005253014-01

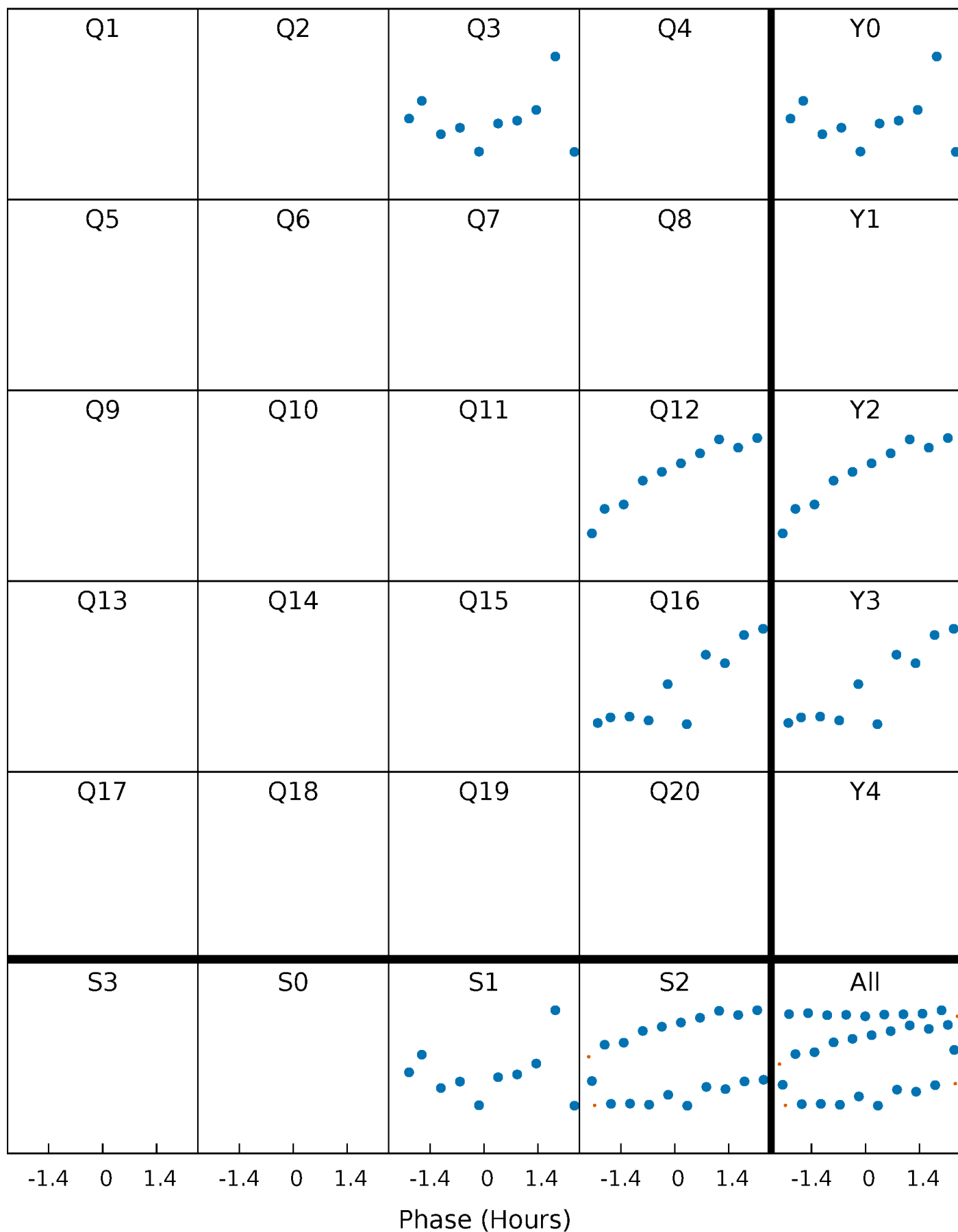


Non-Whitened Vs. Whitened Light Curve



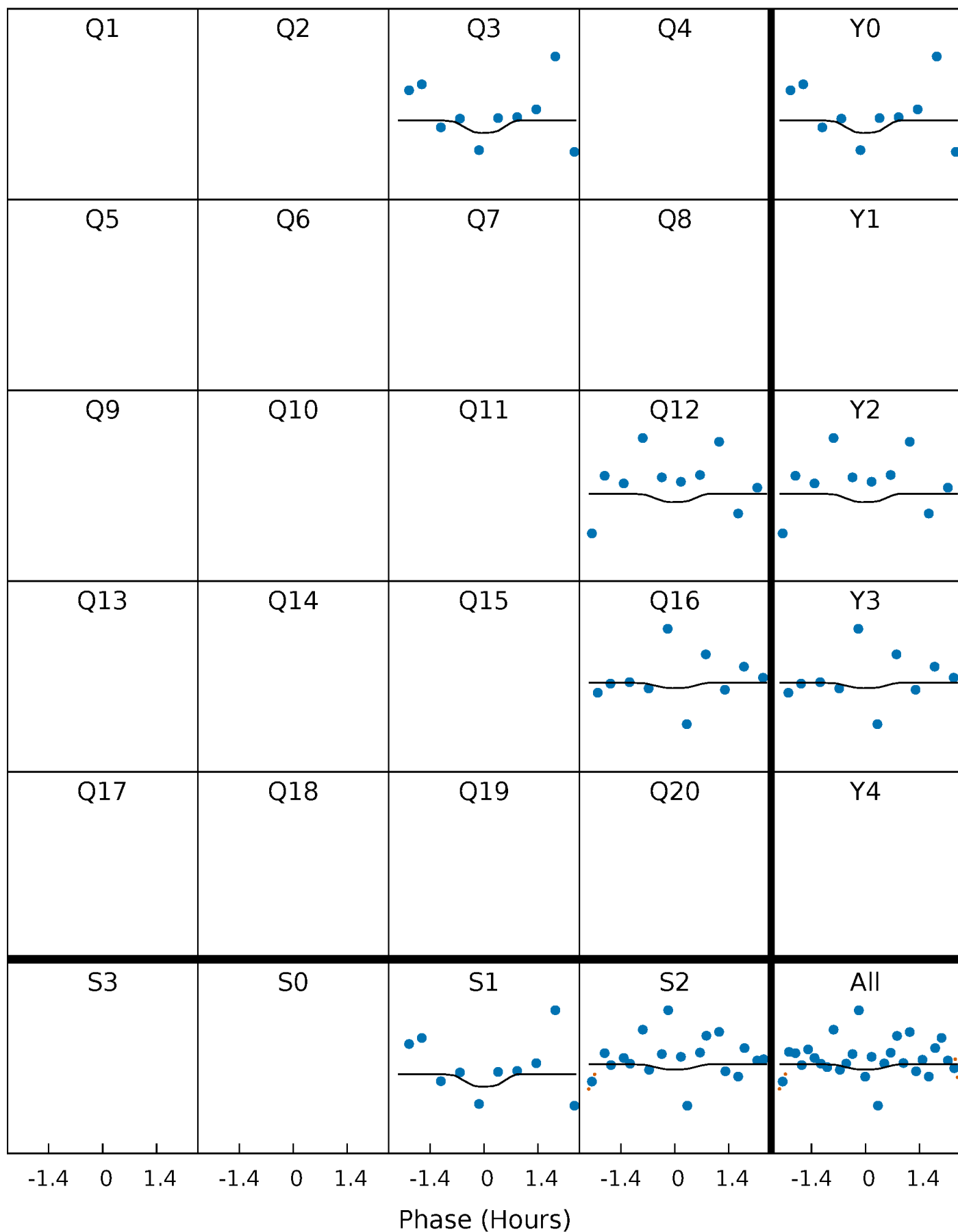
PDC Quarter-Phased Transit Curves

TCE 005253014-01 P=388.109521 Days $T_0=342.898123$ (BKJD)



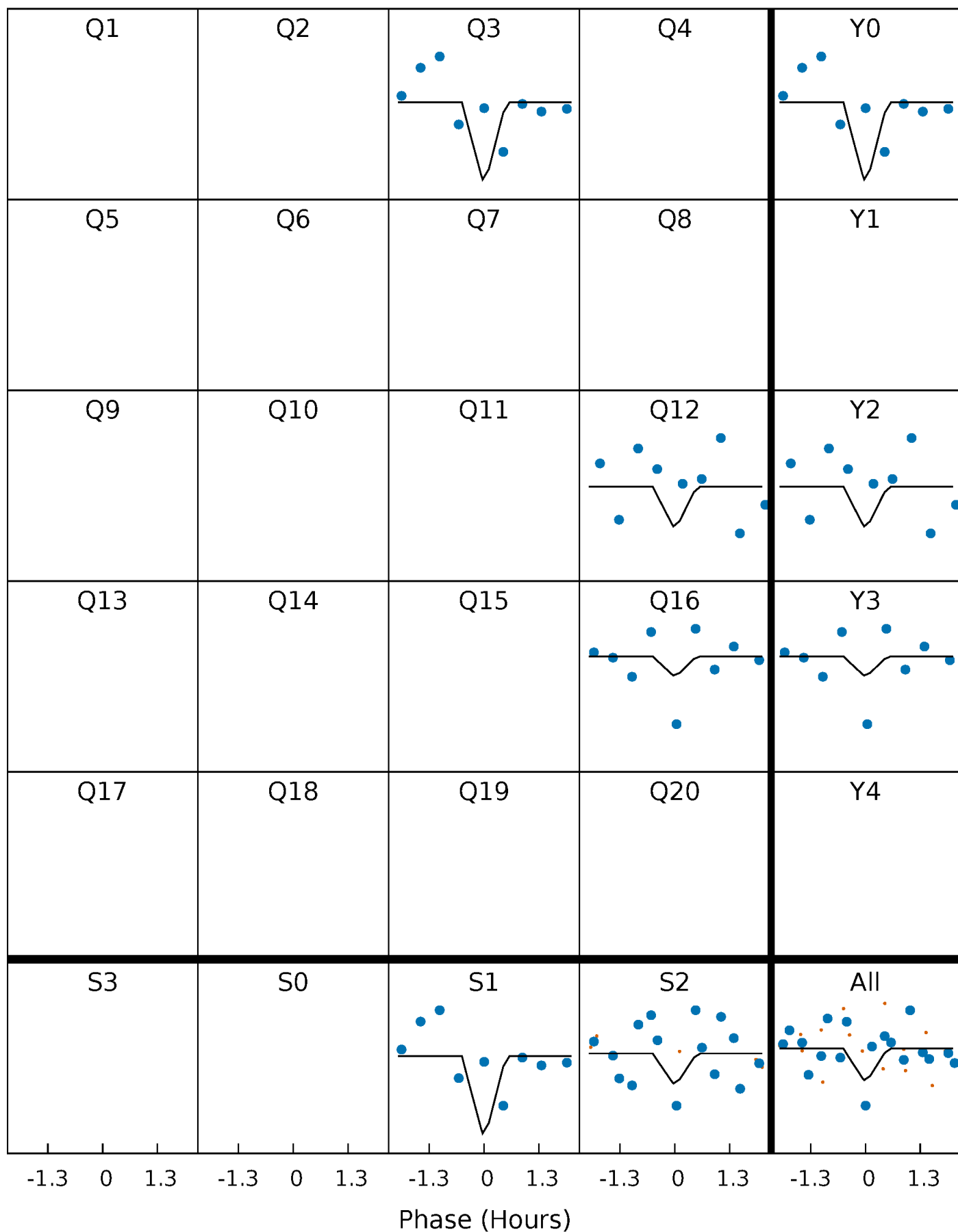
DV Quarter-Phased Transit Curves

TCE 005253014-01 P=388.109521 Days $T_0=342.898123$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

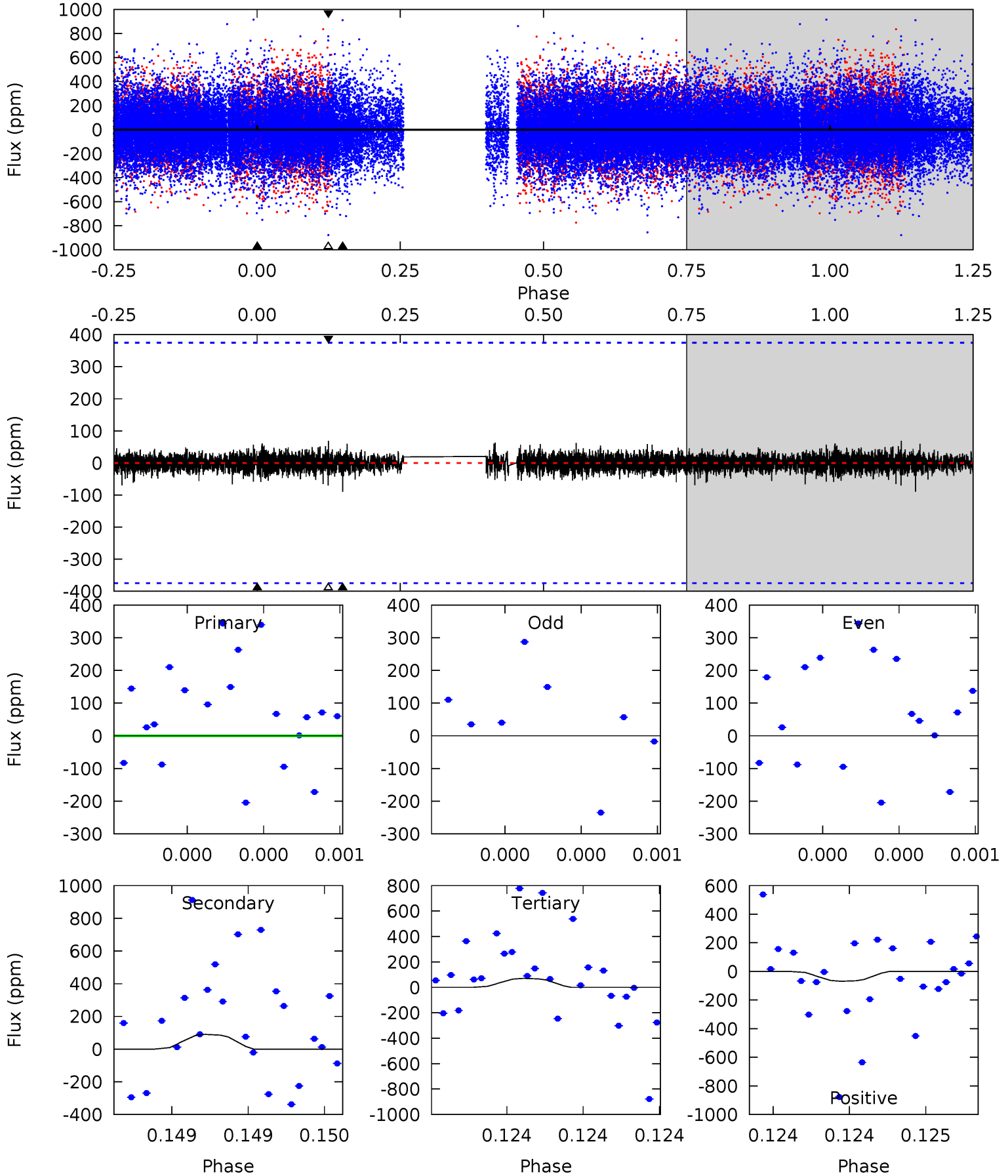
TCE 005253014-01 P=388.121850 Days $T_0=342.877882$ (BKJD)



DV Model-Shift Uniqueness Test

005253014-01, P = 388.109521 Days, E = 342.898123 Days

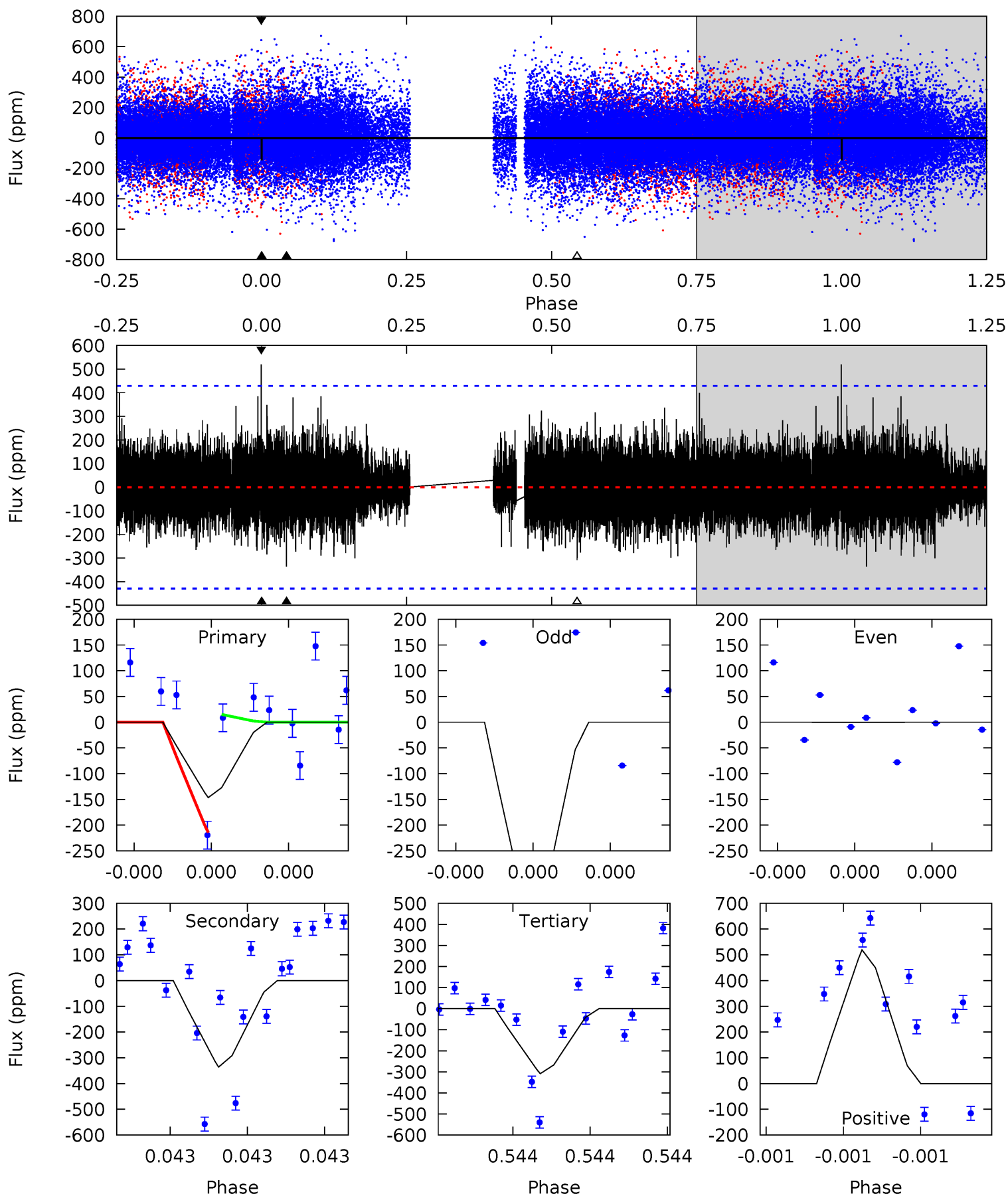
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 0.56 | 1.38 | 1.08 | 1.06 | 5.77 | 3.78 | 0.23 | -0.52 | -0.50 | 0.30 | 0.32 | 0.29 | 0.54 | 0.43 | 0.31 |



Alt Model-Shift Uniqueness Test

005253014-01, P = 388.121850 Days, E = 342.877882 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 2.00 | 4.60 | 4.22 | 7.10 | 5.87 | 3.92 | 1.03 | -2.22 | -5.10 | 0.38 | -2.50 | 2.40 | 4.90 | 0.61 | 1.35 |



Stellar Parameters For KIC 005253014

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|---------------------|---------------------------|---------------------------|-----------------------------|---------------------------|---|
| | 4077^{+71}_{-143} | $1.310^{+0.030}_{-0.027}$ | $0.070^{+0.150}_{-0.300}$ | $62.424^{+5.785}_{-21.694}$ | $2.899^{+0.428}_{-1.713}$ | $0.000^{+0.000}_{-0.000}$ |
| | +2%/-4% | +2%/-2% | +214%/-429% | +9%/-35% | +15%/-59% | +62%/-11% |
| Source | KIC0 | AST71 | 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 005253014-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|---------------------------------|----------------------|-----------------------|---------------------------|
| DV | -90 ± 65 | $2880.84^{+2791.91}_{-2066.70}$ | 1626^{+48}_{-60} | -2165^{+114}_{-48} | $0.012^{+0.104}_{-0.010}$ |
| Alt. | -336 ± 73 | $2603.45^{+2834.69}_{-1853.99}$ | 1629^{+41}_{-68} | -2107^{+4353}_{-80} | $0.062^{+0.647}_{-0.049}$ |

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

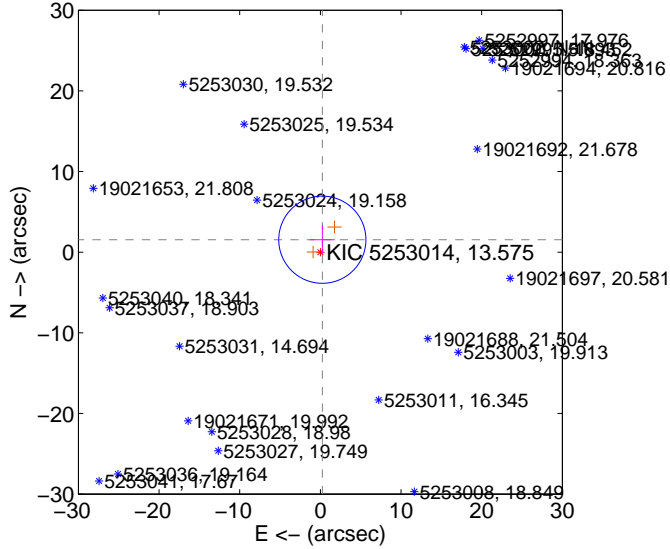
Supplemental centroid analysis for 005253014-01. Kepler magnitude: 13.57. Transit SNR 0.35

There are 0 quarters with good PRF difference image offsets

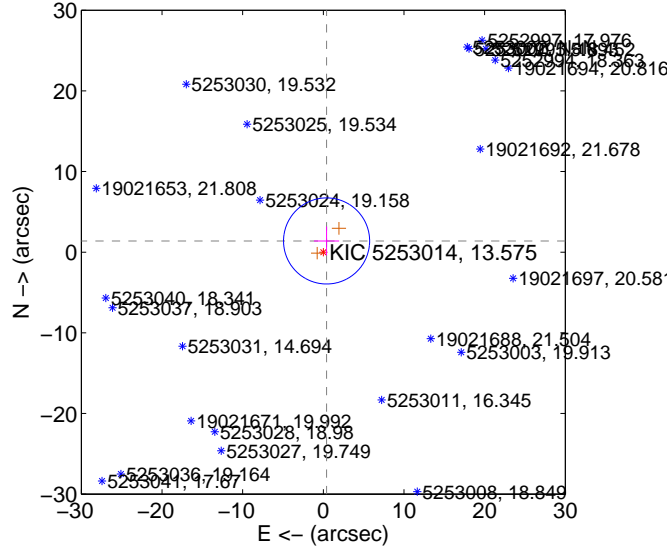
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 1.563 ± 1.801 | 0.87 | -0.243 ± 1.540 | 1.544 ± 1.807 |
| PRF-fit source offset from KIC position | 1.448 ± 1.779 | 0.81 | -0.405 ± 1.562 | 1.390 ± 1.796 |
| photometric centroid source offset | 14.66 ± 34.88 | 0.42 | 14.66 ± 34.88 | -0.18 ± 32.41 |

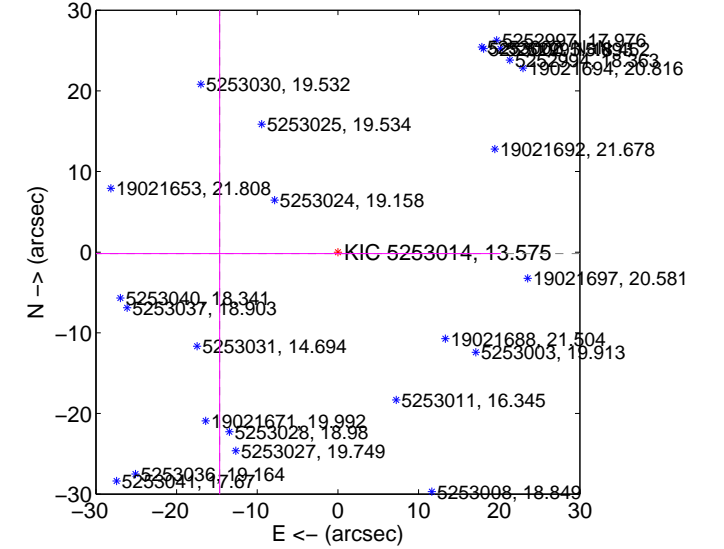
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

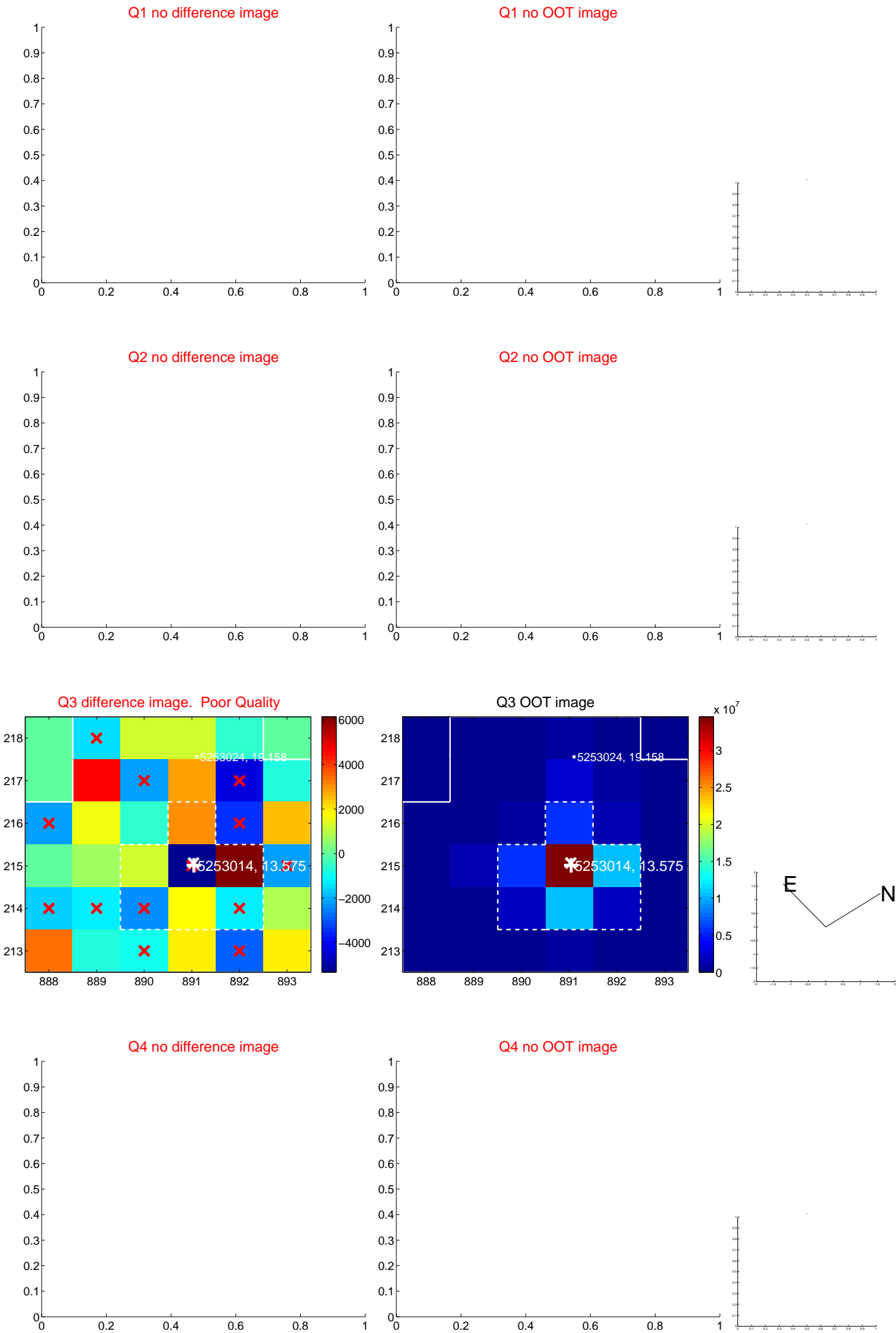


offset from photometric centroids



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.

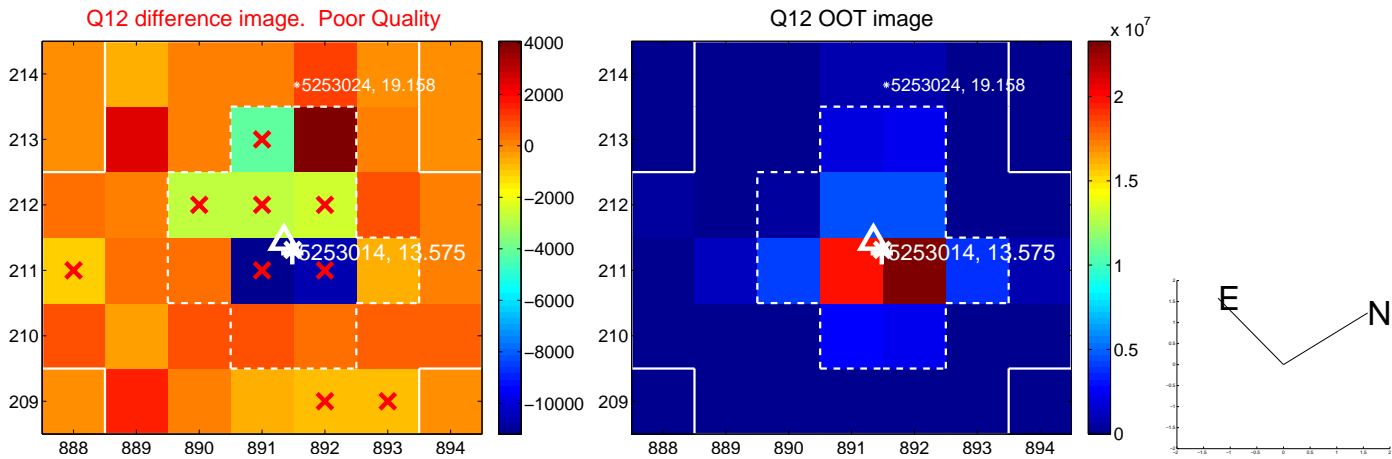
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



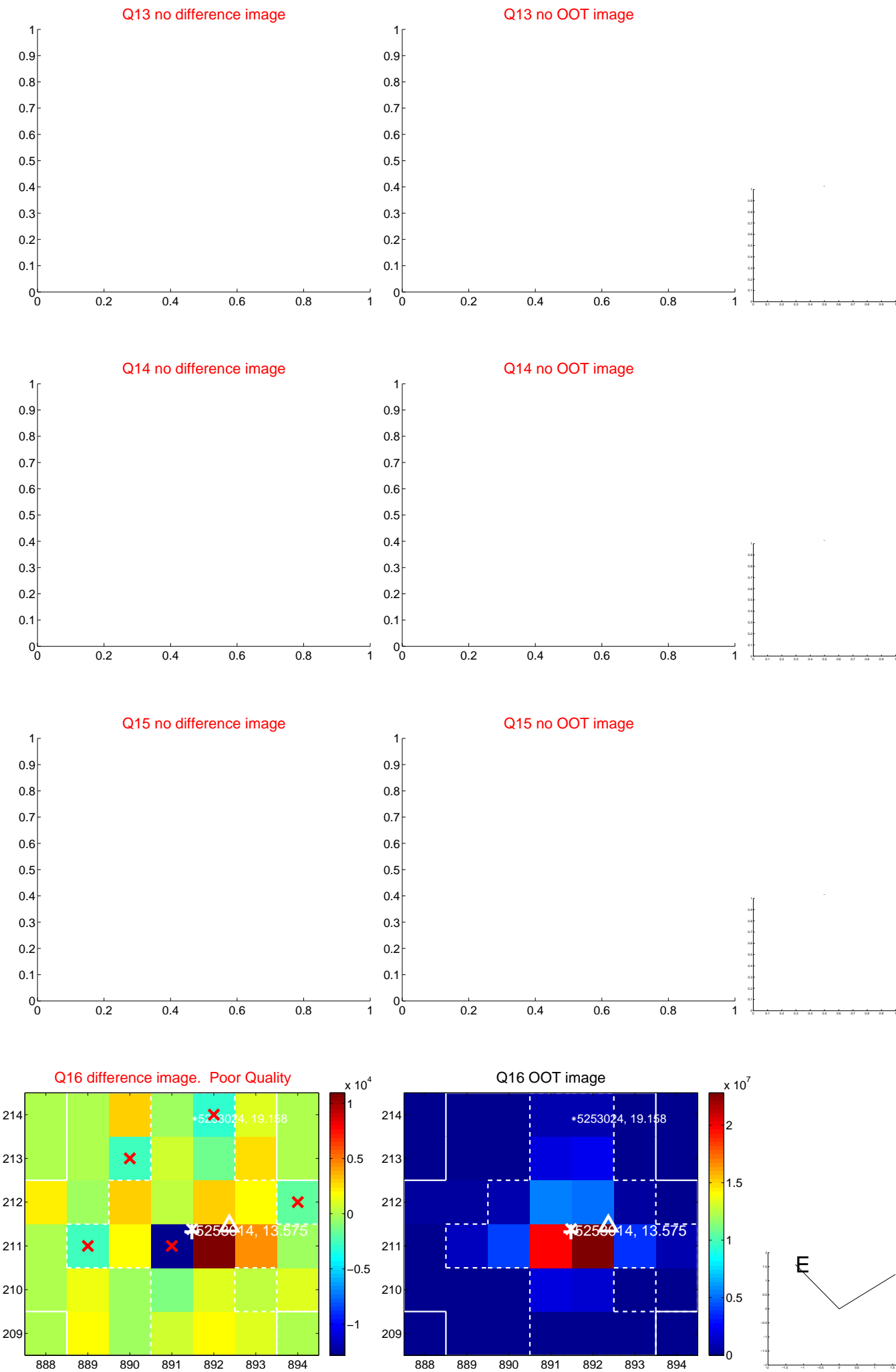
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



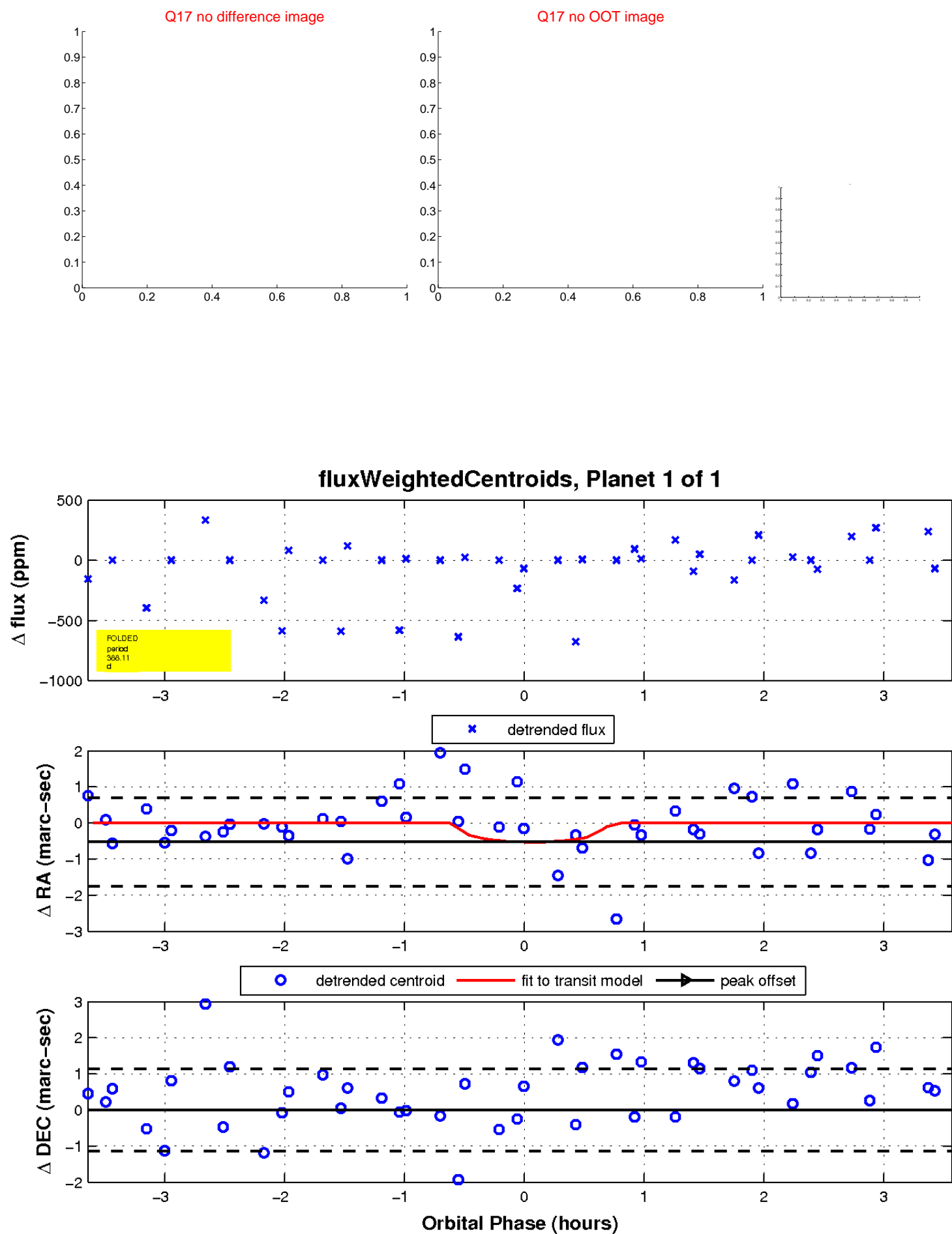
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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.



UKIRT Image

Declination

