

KIC 010617362

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 010617362-01 | OBS | No | 485.191661 | 308.241953 | 162.7 | 16.962 | 10.2 | 10.1 | 1.12 | 6203 | 1.58 | 1.05 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 010617362-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—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.

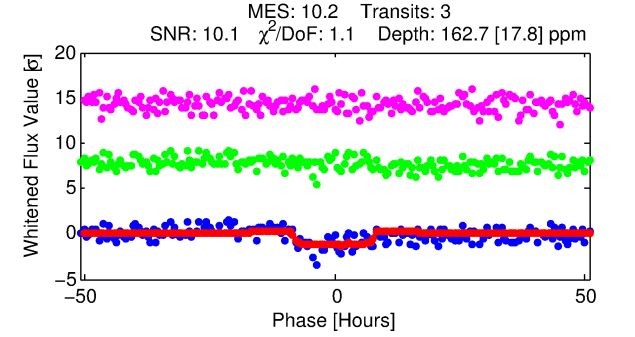
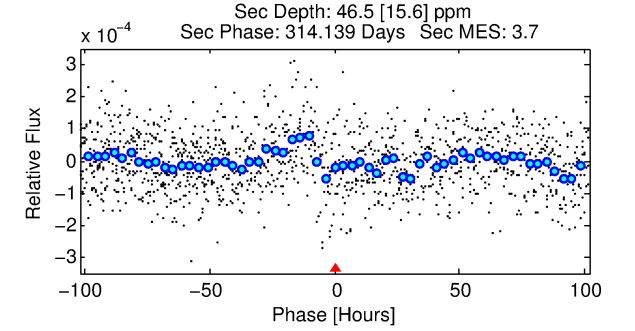
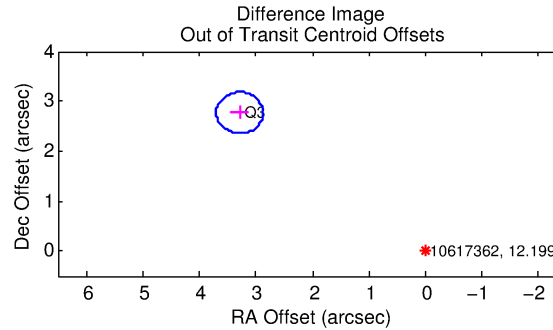
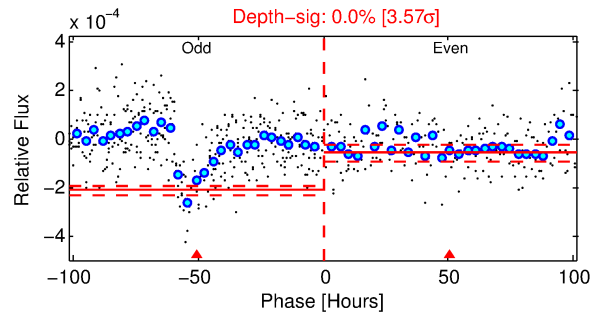
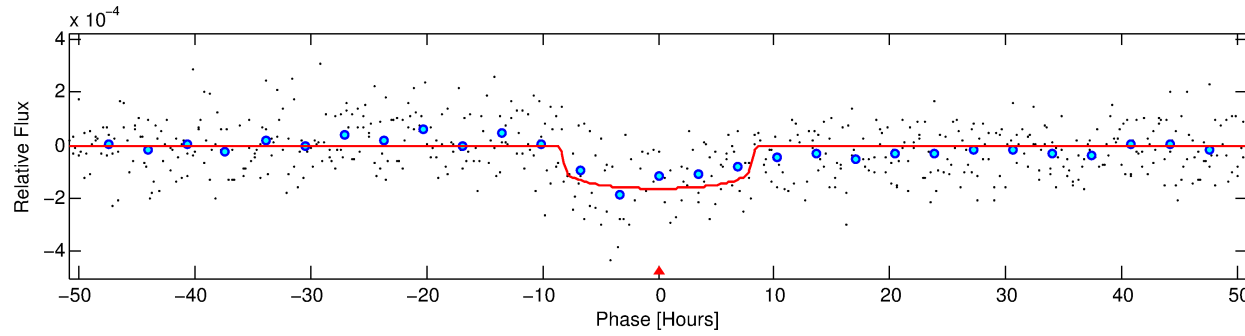
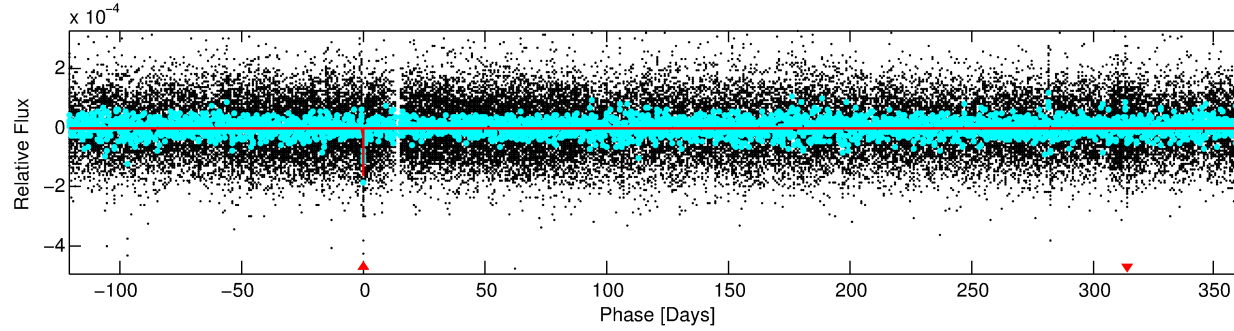
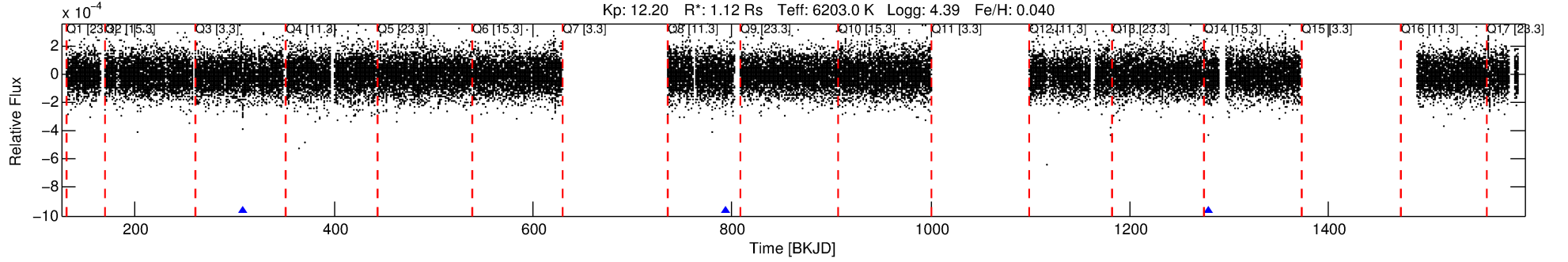
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010617362-01

No Significant Match Found

DV One-Page Summary

KIC: 10617362 Candidate: 1 of 1 Period: 485.192 d



DV Fit Results:

Period = 485.19166 [0.01169] d
Epoch = 308.2420 [0.0160] BKJD
Rp/R* = 0.0129 [0.0025]
a/R* = 139.60 [129.53]
b = 0.79 [0.46]
Seff = 1.05 [0.46]
Teq = 258 [28] K
Rp = 1.58 [0.61] Re
a = 1.2605 [0.3505] AU
Ag = 16384.52 [10648.96] [1.54 σ]
Teffp = 4518 [608] K [7.00 σ]

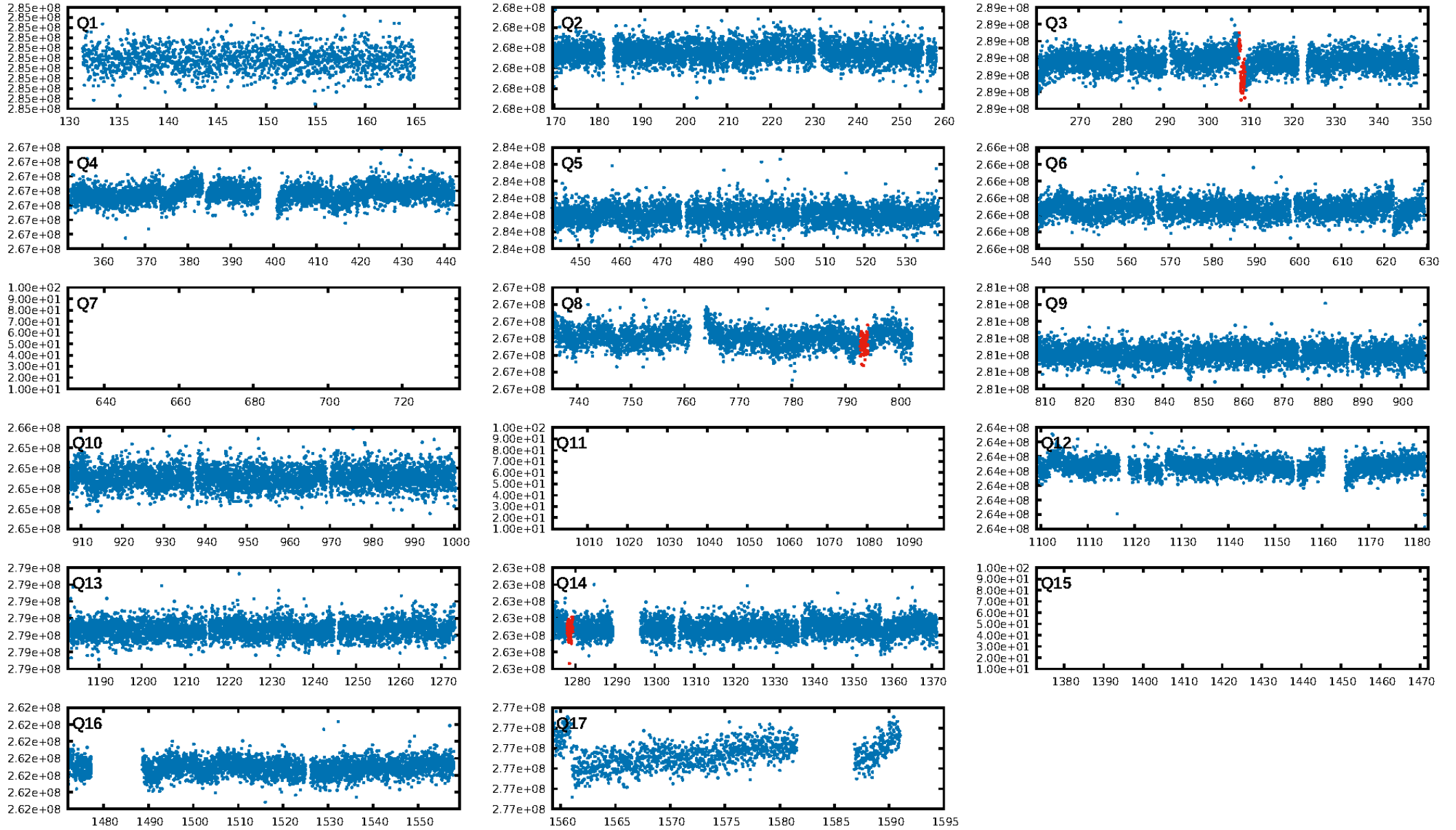
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 1.68e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -6.382
Centroid-sig: 0.0%
Centroid-so: 3.720 arcsec [3.14 σ]
OotOffset-rm: 4.298 arcsec [31.19 σ]
KicOffset-rm: 4.277 arcsec [30.80 σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

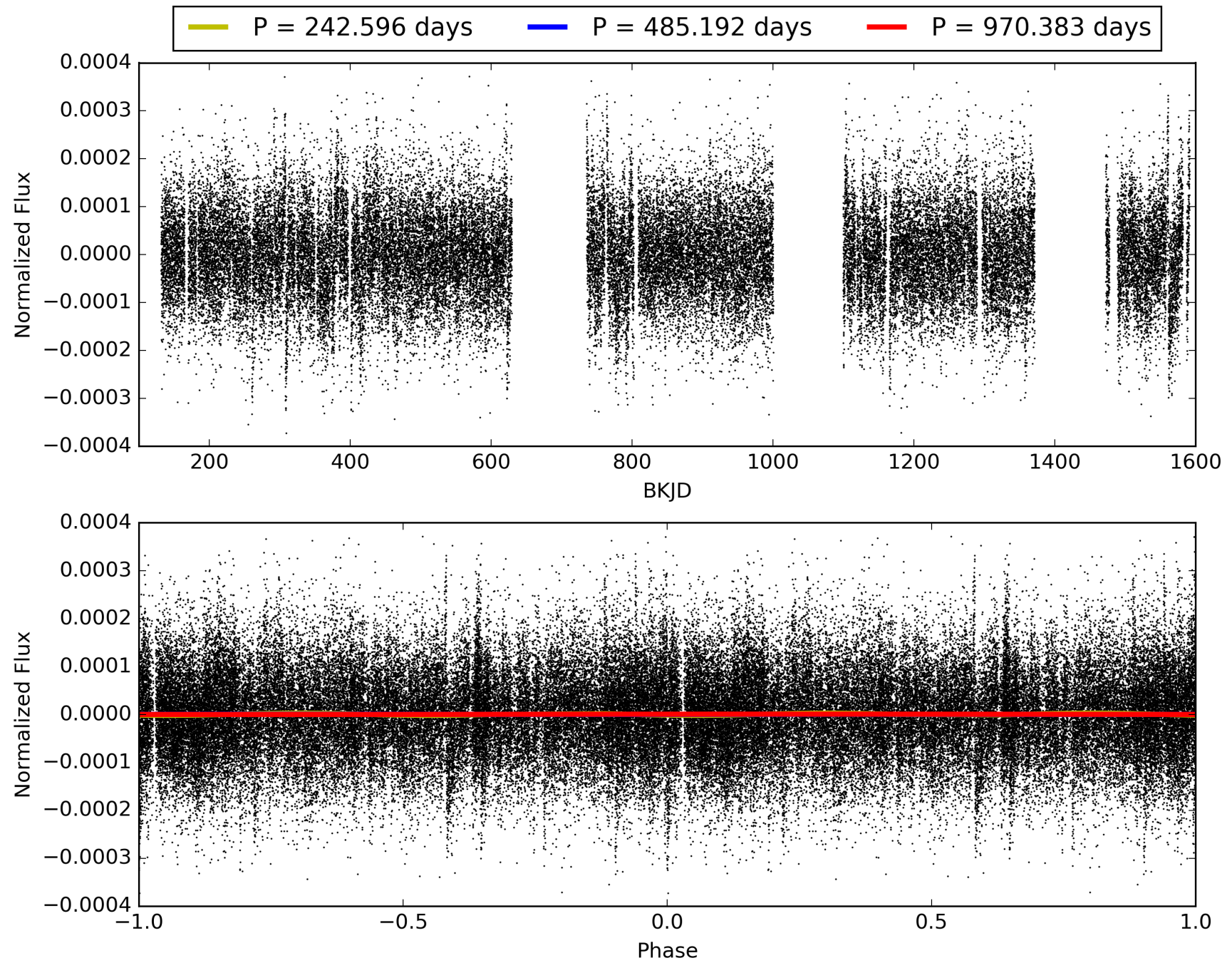
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:13:29 Z

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

TCE 010617362-01, PDC Light Curves

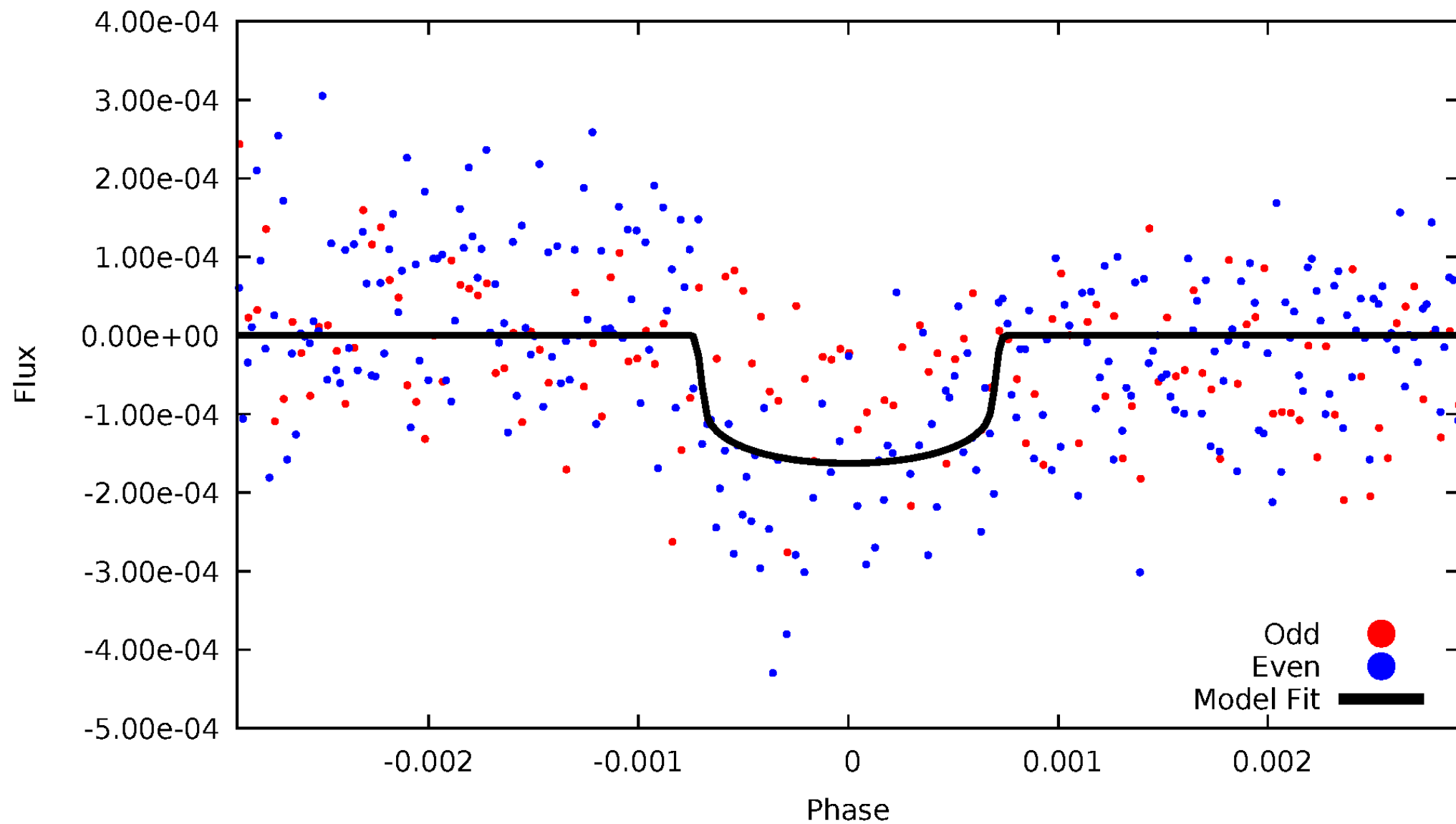


TCE 010617362-01



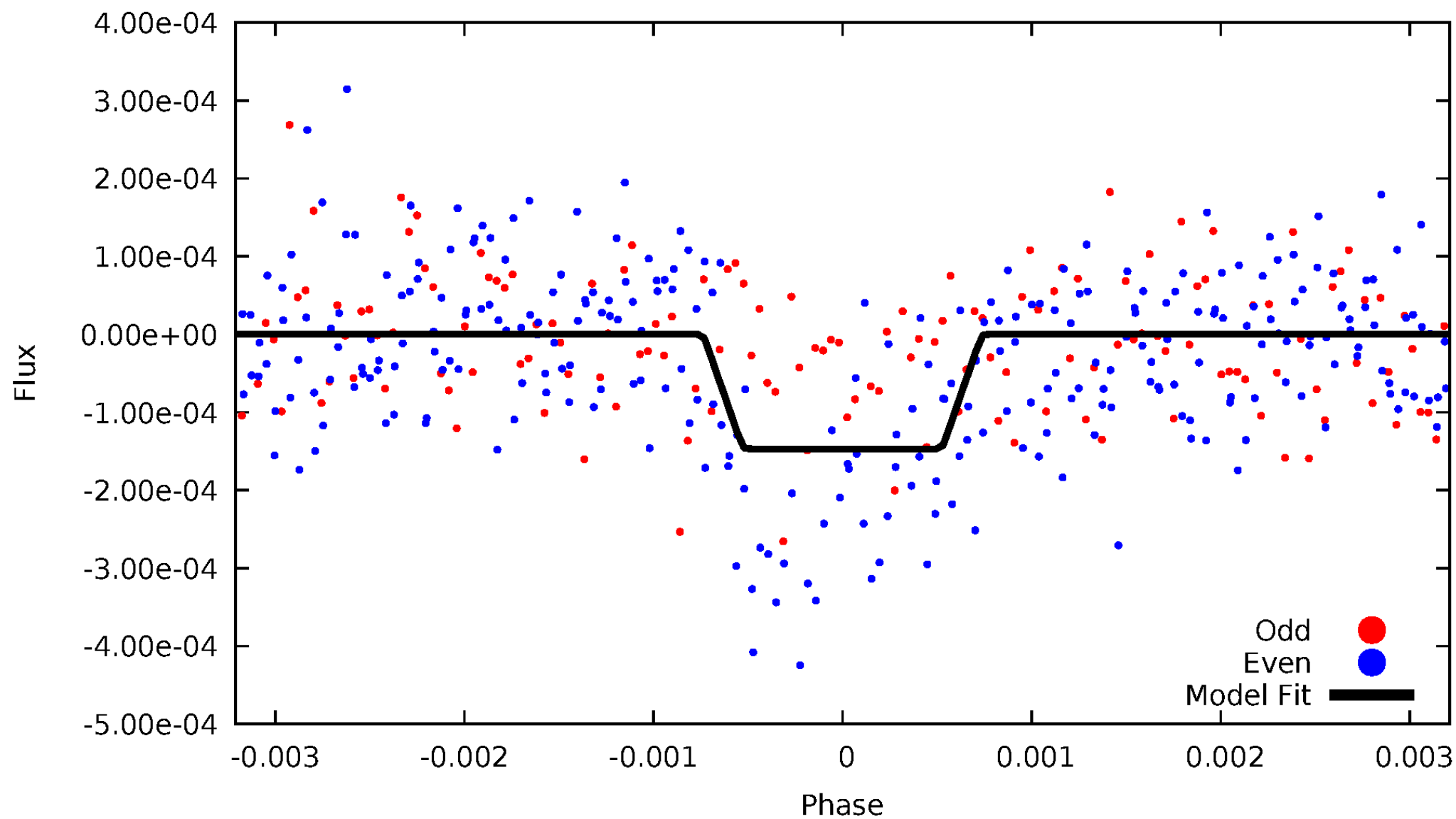
DV Odd/Even

TCE 010617362-01

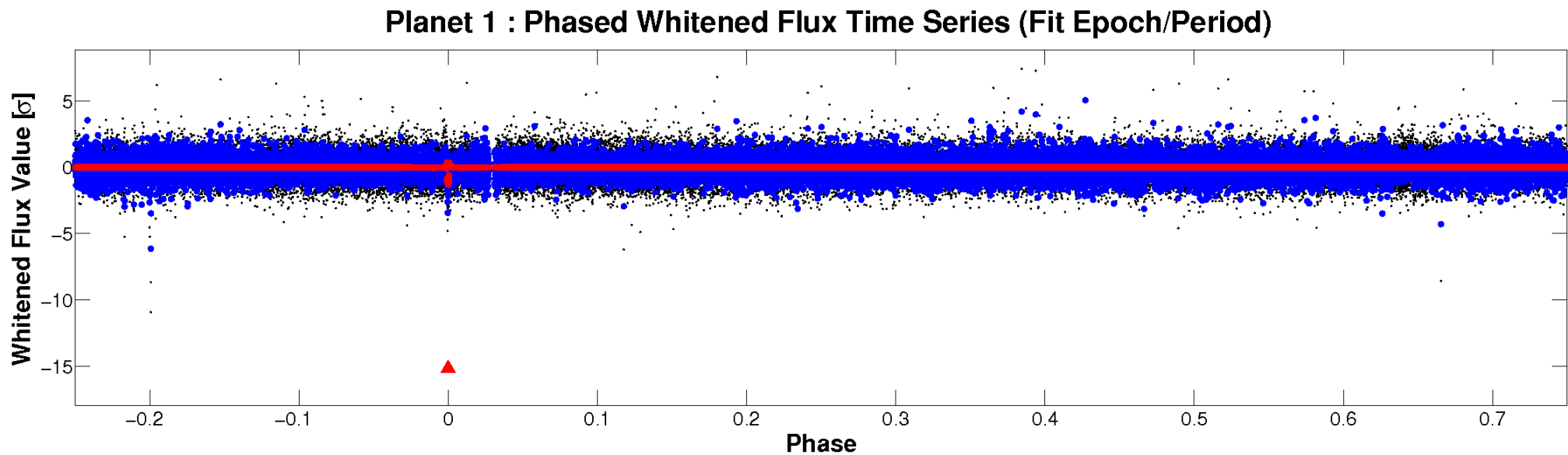
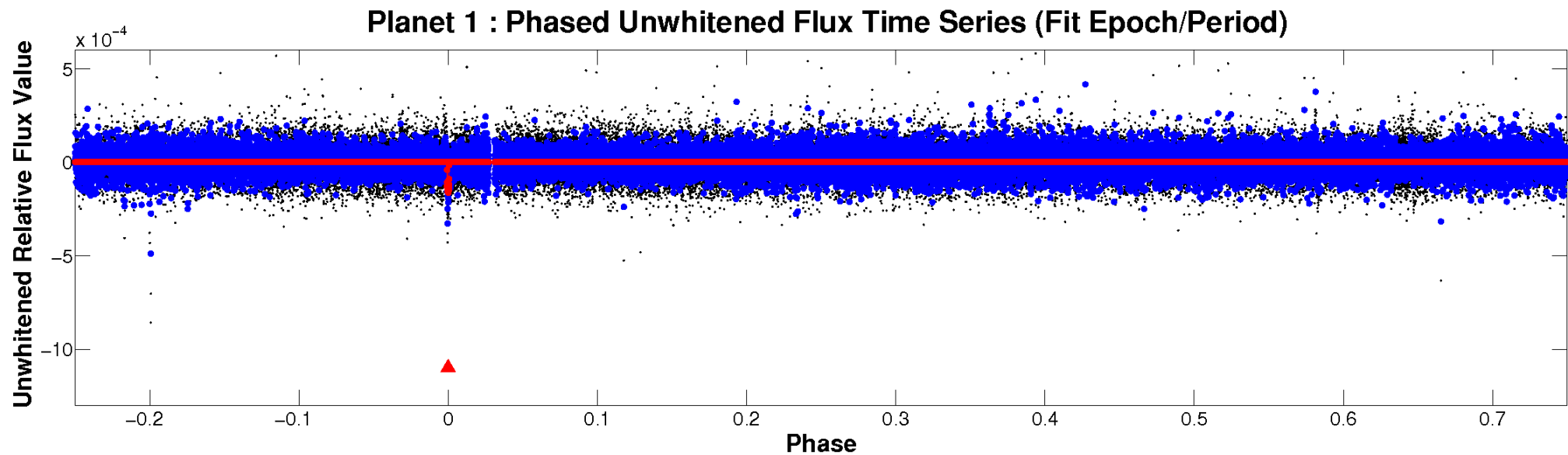


ALT Odd/Even

TCE 010617362-01

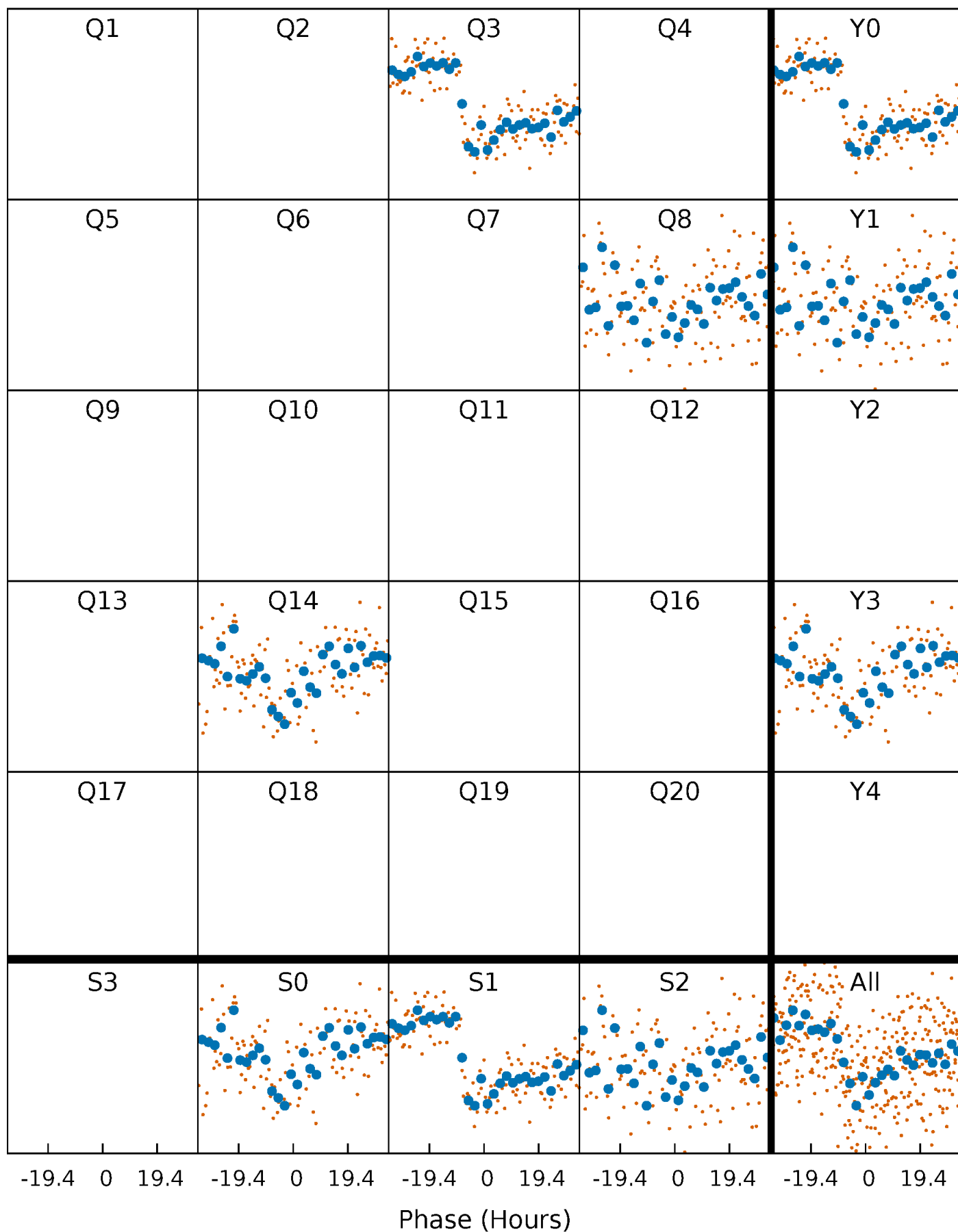


Non-Whitened Vs. Whitened Light Curve



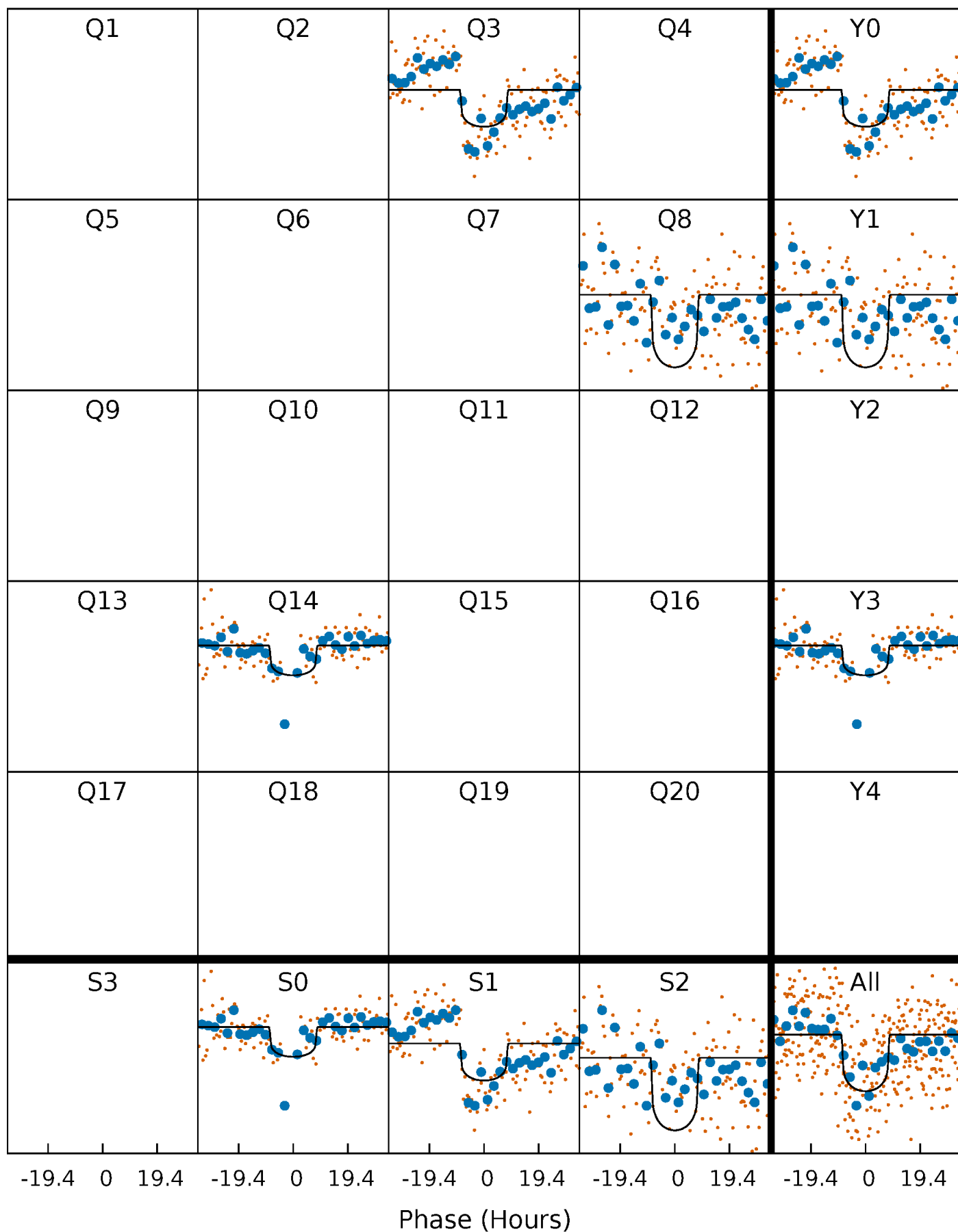
PDC Quarter-Phased Transit Curves

TCE 010617362-01 P=485.191661 Days $T_0=308.241953$ (BKJD)



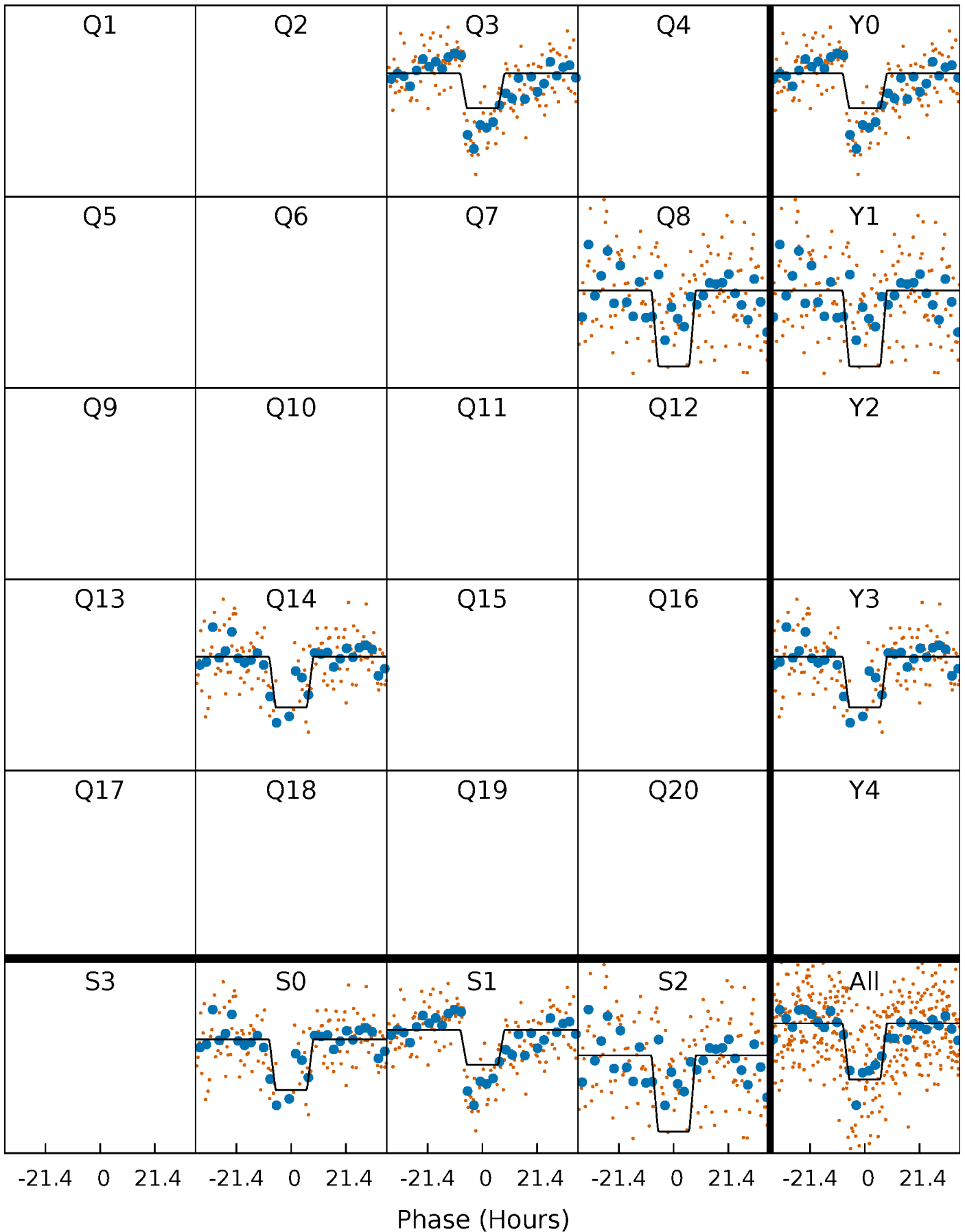
DV Quarter-Phased Transit Curves

TCE 010617362-01 P=485.191661 Days $T_0=308.241953$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

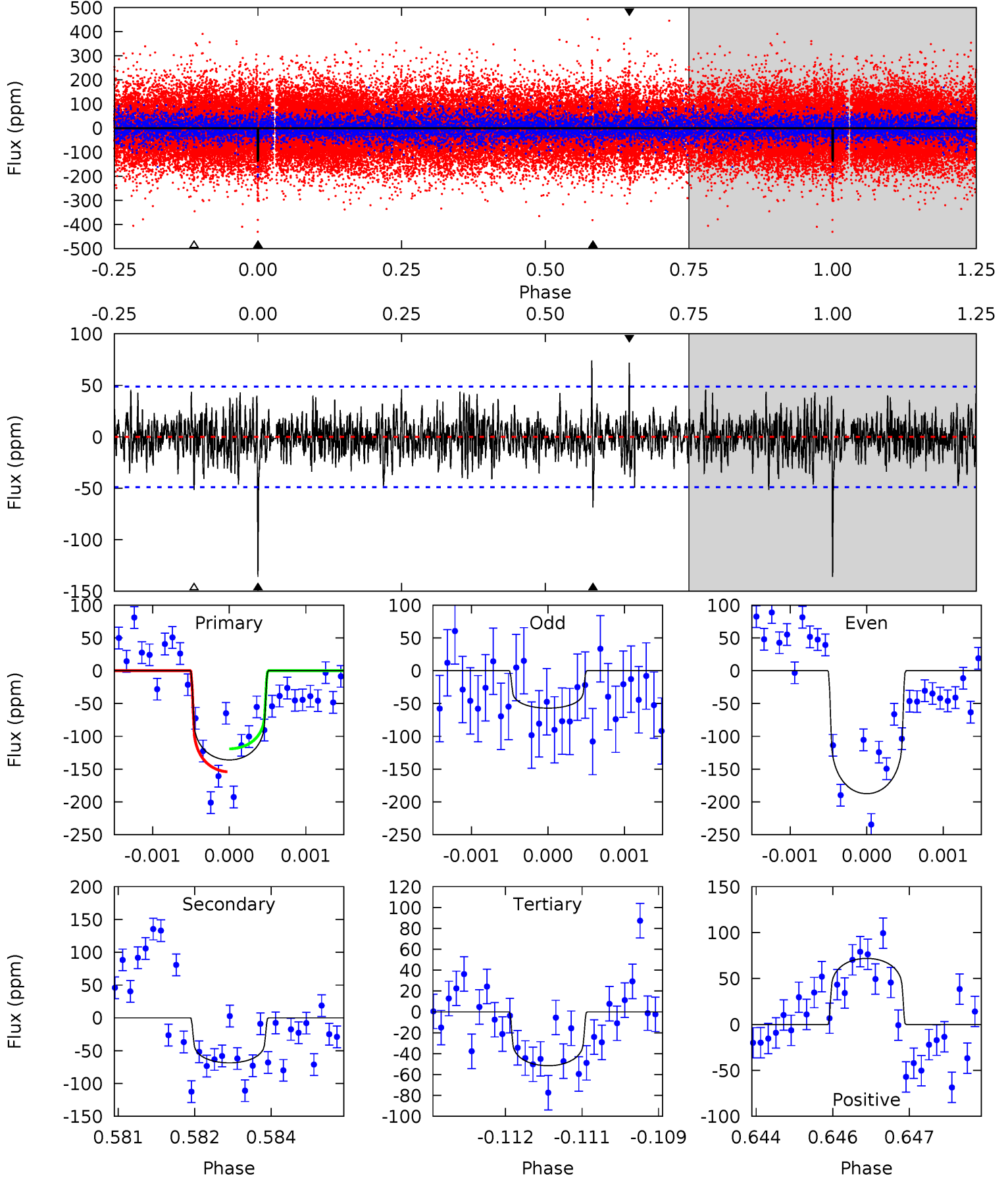
TCE 010617362-01 P=485.235749 Days $T_0=308.208623$ (BKJD)



DV Model-Shift Uniqueness Test

010617362-01, P = 485.191661 Days, E = 308.241953 Days

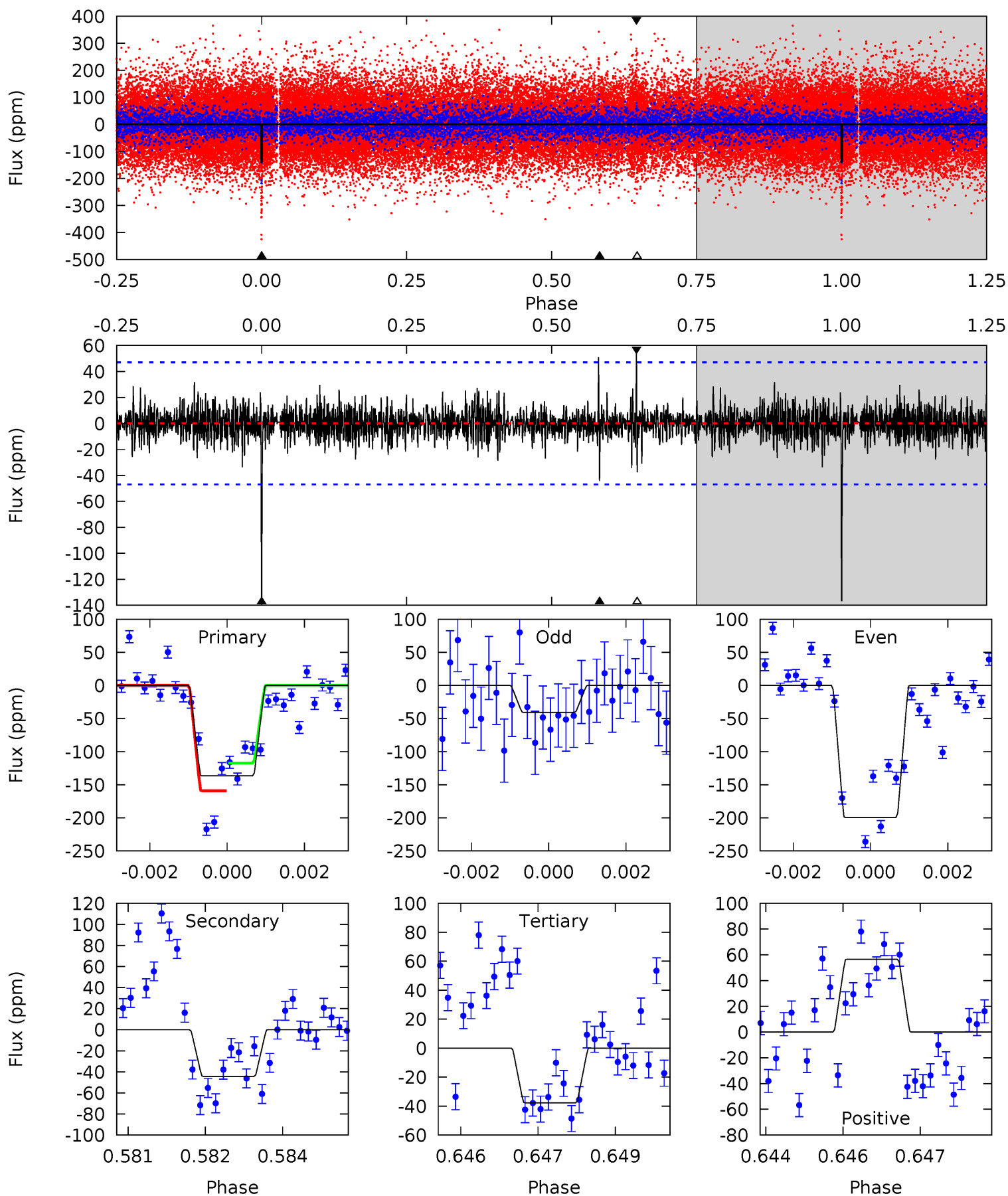
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 15.0 | 7.55 | 5.68 | 7.92 | 5.38 | 3.18 | 1.62 | 9.31 | 7.07 | 1.87 | -0.37 | 7.04 | 0.99 | 0.35 | 1.93 |



Alt Model-Shift Uniqueness Test

010617362-01, P = 485.235749 Days, E = 308.208623 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 15.6 | 5.06 | 4.31 | 6.47 | 5.38 | 3.17 | 1.01 | 11.3 | 9.17 | 0.76 | -1.40 | 8.87 | 1.09 | 0.29 | 2.40 |



Stellar Parameters For KIC 010617362

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 6203^{+195}_{-260} | $4.392^{+0.072}_{-0.217}$ | $0.040^{+0.250}_{-0.300}$ | $1.123^{+0.375}_{-0.161}$ | $1.132^{+0.173}_{-0.158}$ | $1.126^{+0.435}_{-0.597}$ |
| | +3%/-4% | +2%/-5% | +625%/-750% | +33%/-14% | +15%/-14% | +39%/-53% |
| Source | PHO54 | PHO54 | PHO54 | DSEP | | |

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010617362-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|-------------------|----------------------|--------------------------|
| DV | -69 ± 9 | $1.66^{+0.40}_{-0.38}$ | 366^{+31}_{-20} | 5021^{+549}_{-402} | 21400^{+14200}_{-7762} |
| Alt. | -44 ± 9 | $1.53^{+0.40}_{-0.35}$ | 368^{+28}_{-22} | 4720^{+565}_{-398} | 15775^{+11540}_{-5990} |

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

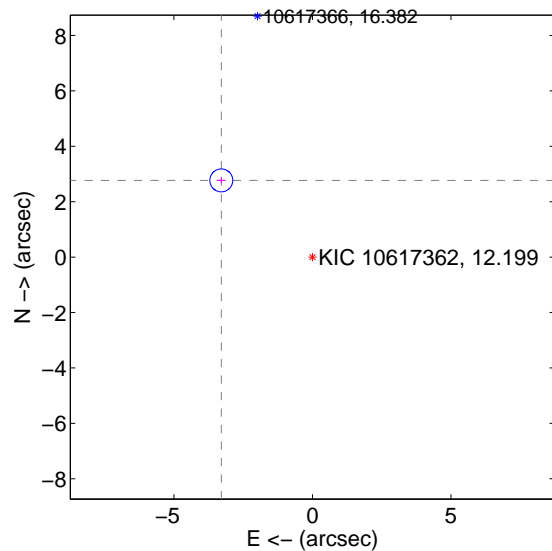
Supplemental centroid analysis for 010617362-01. Kepler magnitude: 12.20. Transit SNR 10.14

There are 1 quarters with good PRF difference image offsets

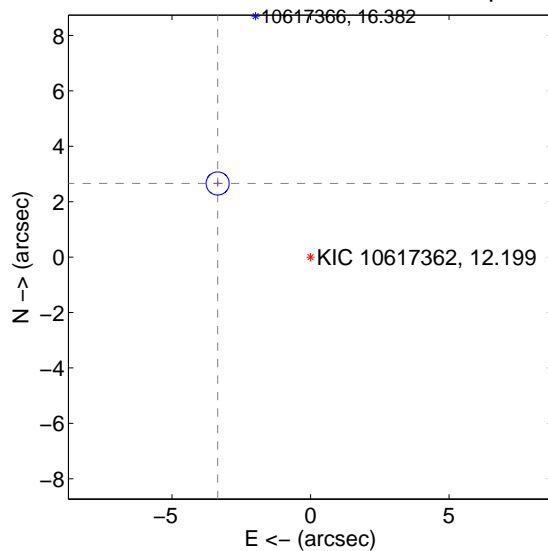
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 4.298 ± 0.138 | 31.19 | 3.288 ± 0.152 | 2.768 ± 0.114 |
| PRF-fit source offset from KIC position | 4.277 ± 0.139 | 30.80 | 3.351 ± 0.152 | 2.658 ± 0.114 |
| photometric centroid source offset | 3.72 ± 1.19 | 3.14 | 1.89 ± 1.44 | 3.20 ± 1.08 |

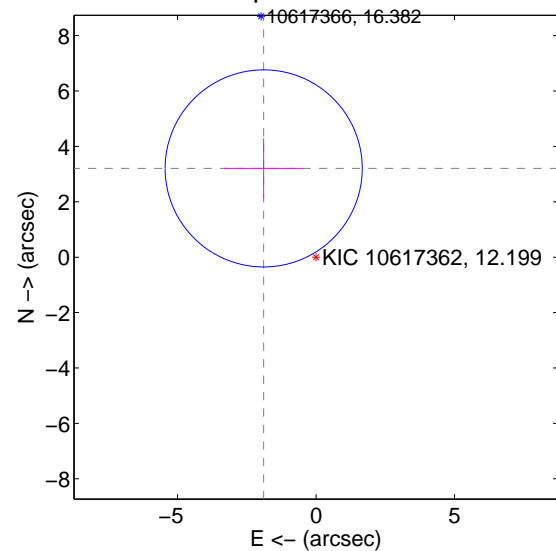
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

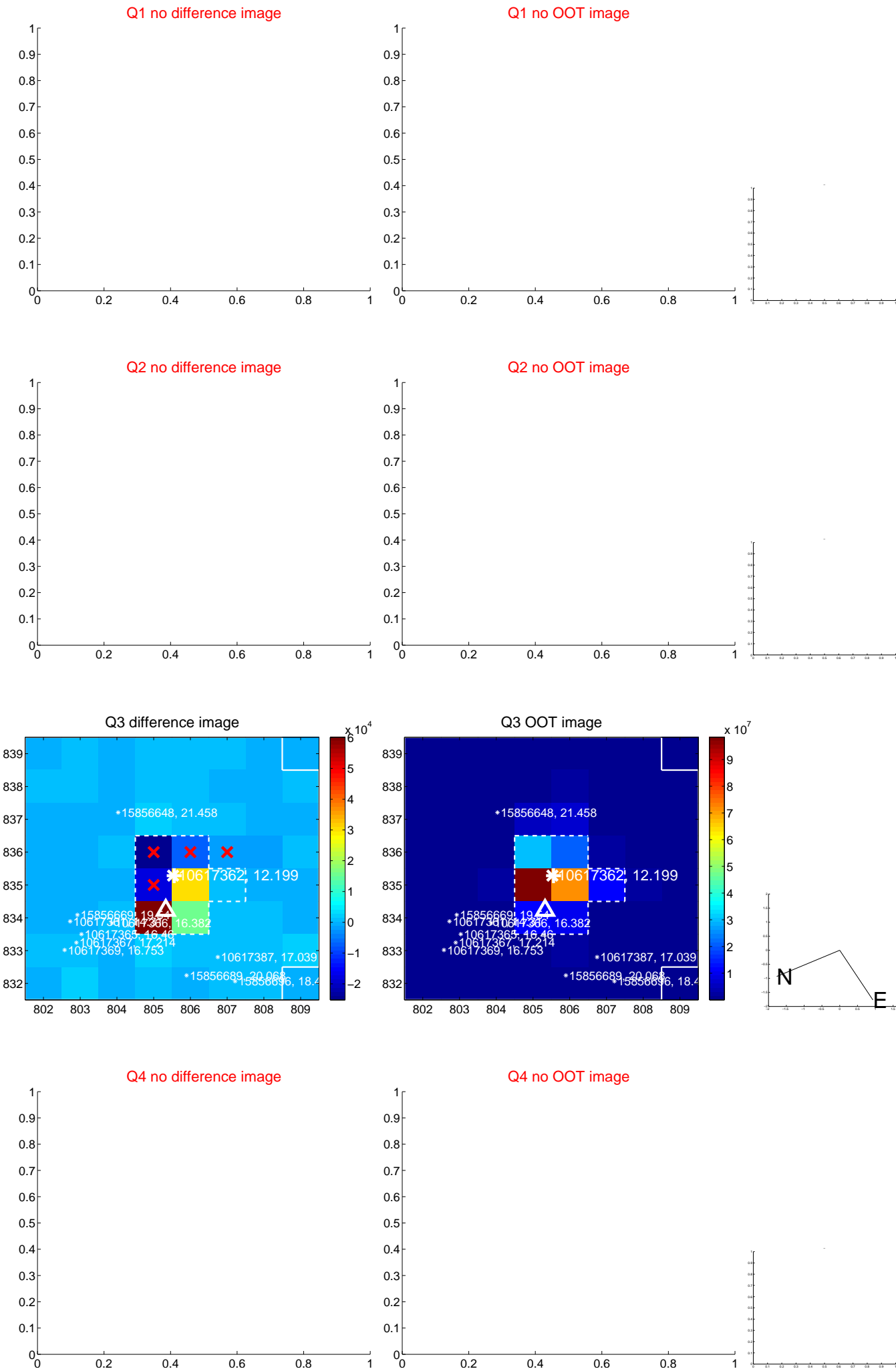


offset from photometric centroids

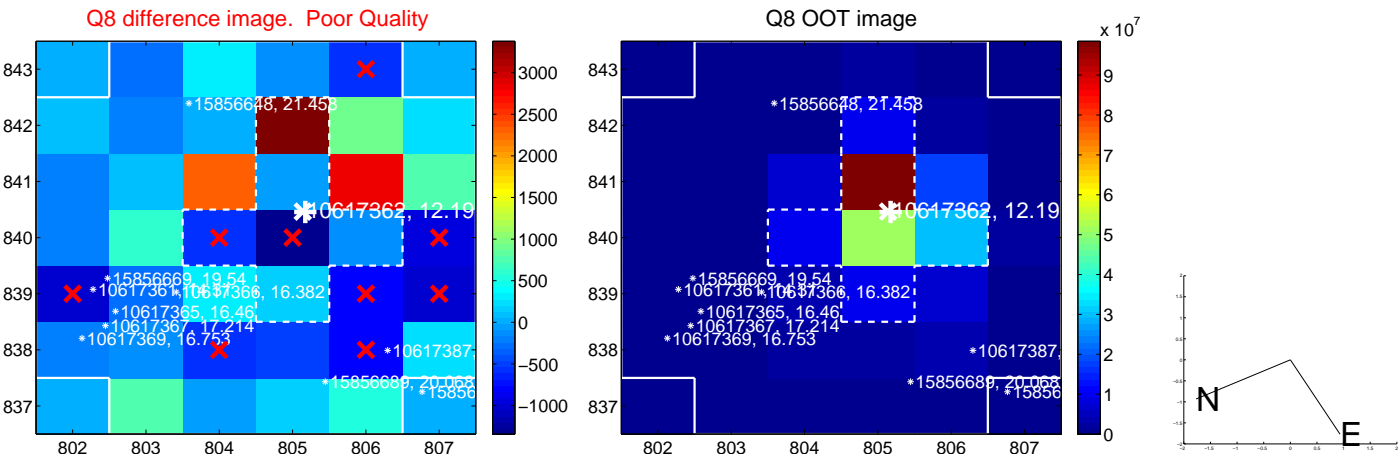
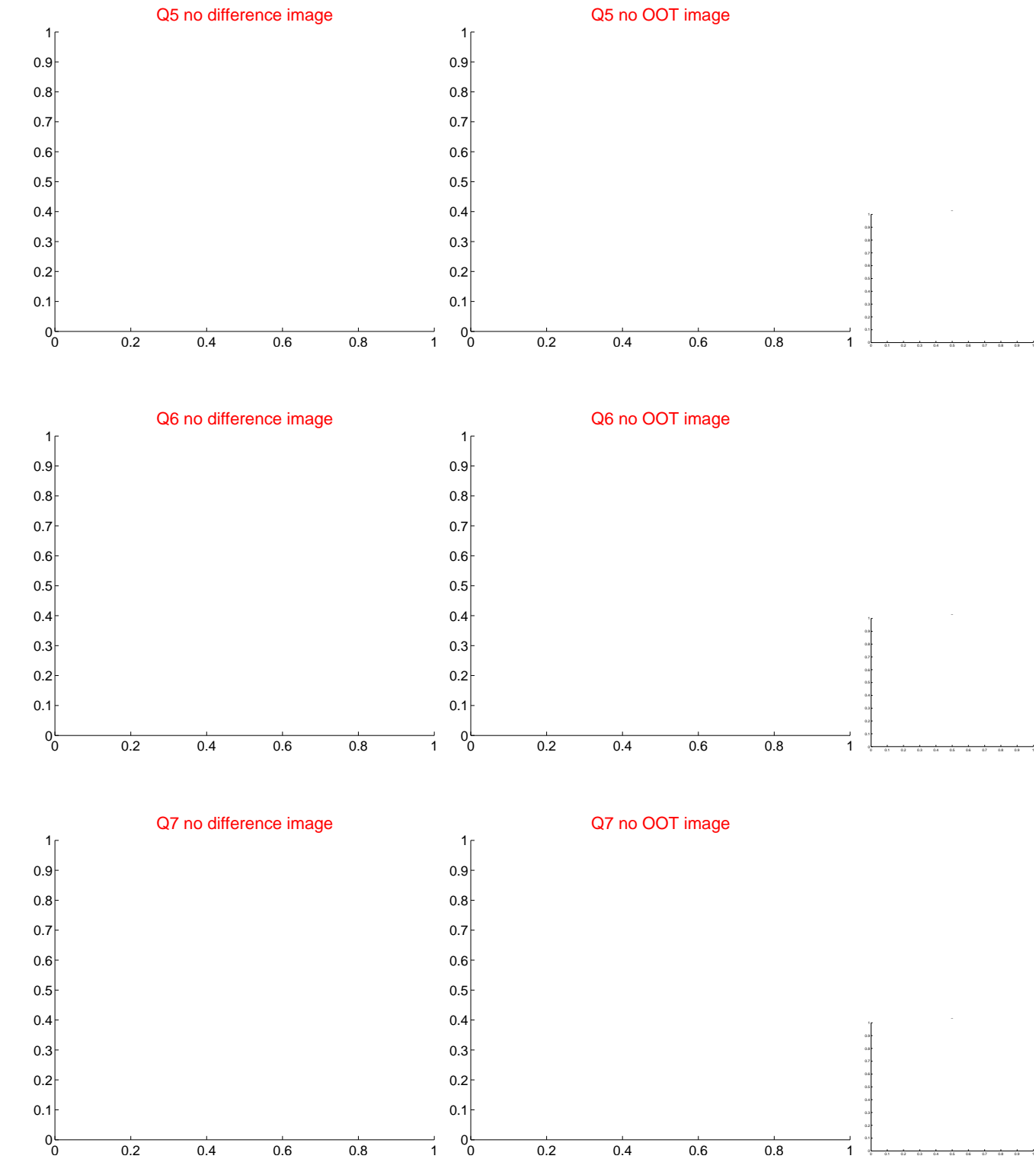


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



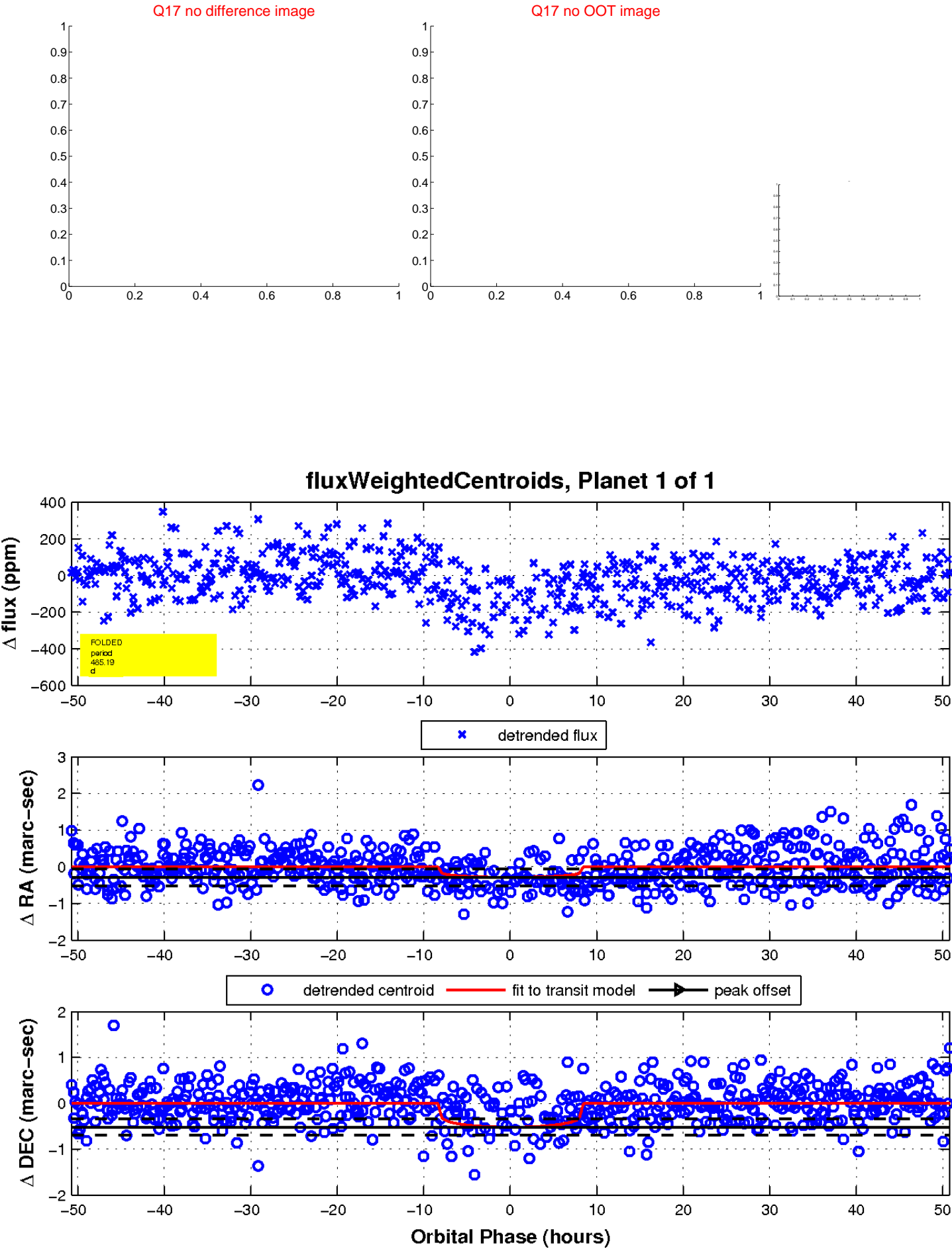
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

