

KIC 008162062

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 008162062-01 | OBS | No | 375.055627 | 263.894427 | 1686.5 | 36.807 | 9.0 | 9.7 | 1.00 | 6092 | 7.74 | 1.13 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 008162062-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—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.

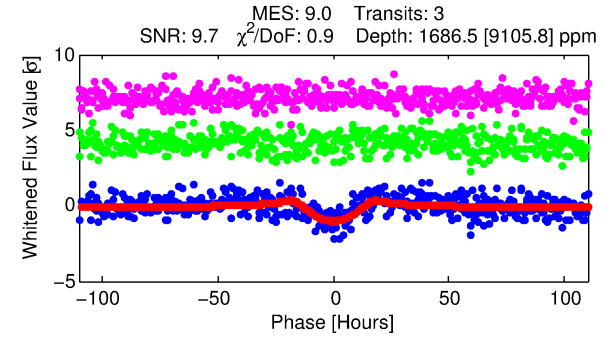
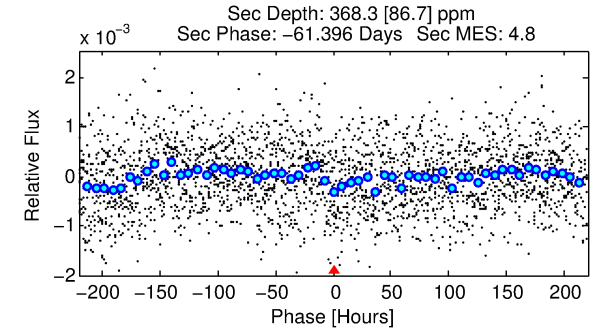
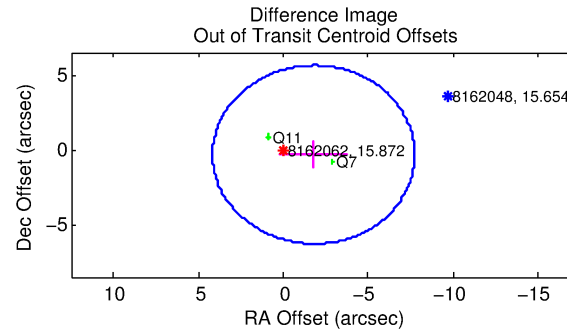
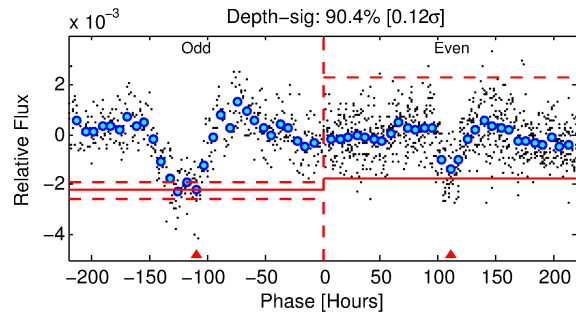
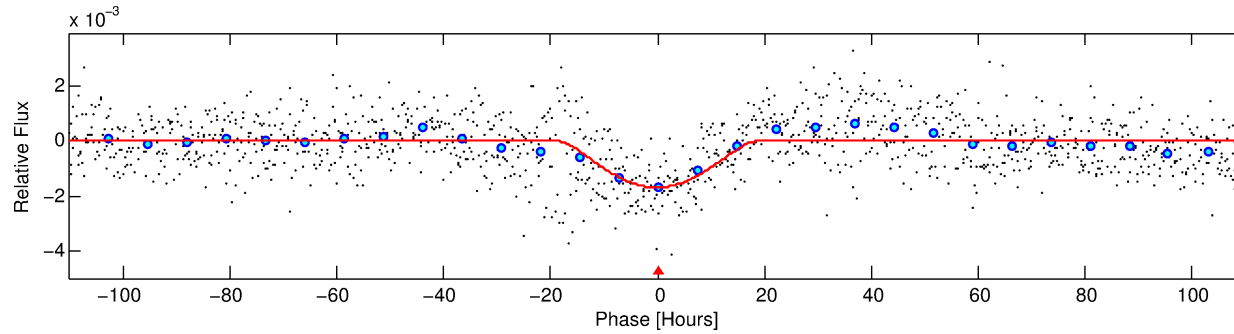
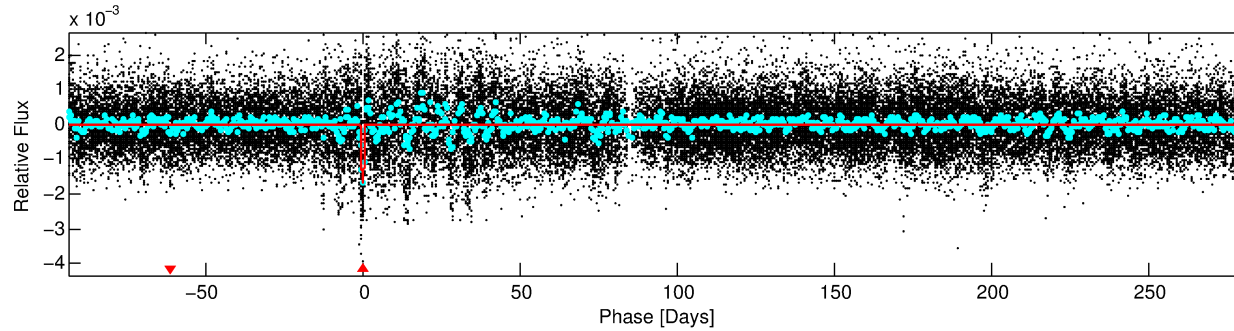
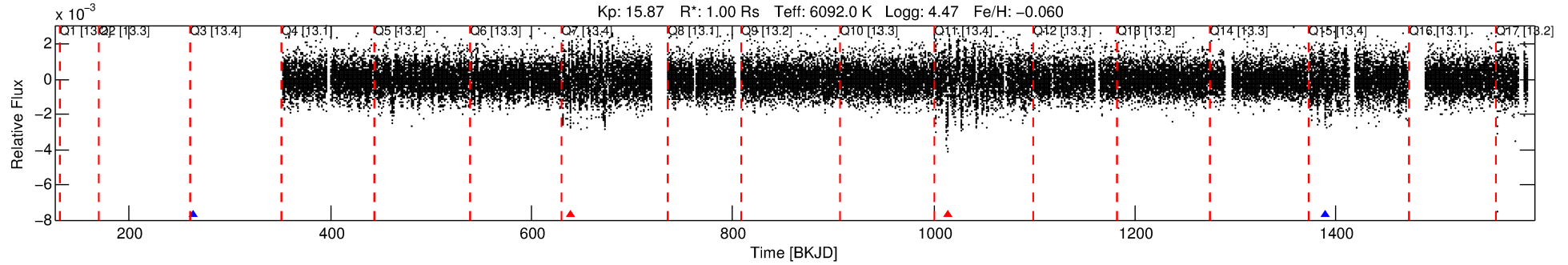
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008162062-01

No Significant Match Found

DV One-Page Summary

KIC: 8162062 Candidate: 1 of 1 Period: 375.056 d



DV Fit Results:

Period = 375.05563 [0.04136] d
Epoch = 263.8944 [0.0899] BKJD
Rp/R* = 0.0710 [0.1808]
a/R* = 29.88 [16.98]
b = 1.00 [0.52]
Seff = 1.13 [0.45]
Teq = 263 [26] K
Rp = 7.74 [19.82] Re
a = 1.0428 [0.2610] AU
Ag = 3680.00 [18795.88] [0.20 σ]
Teffp = 3166 [4034] K [0.72 σ]

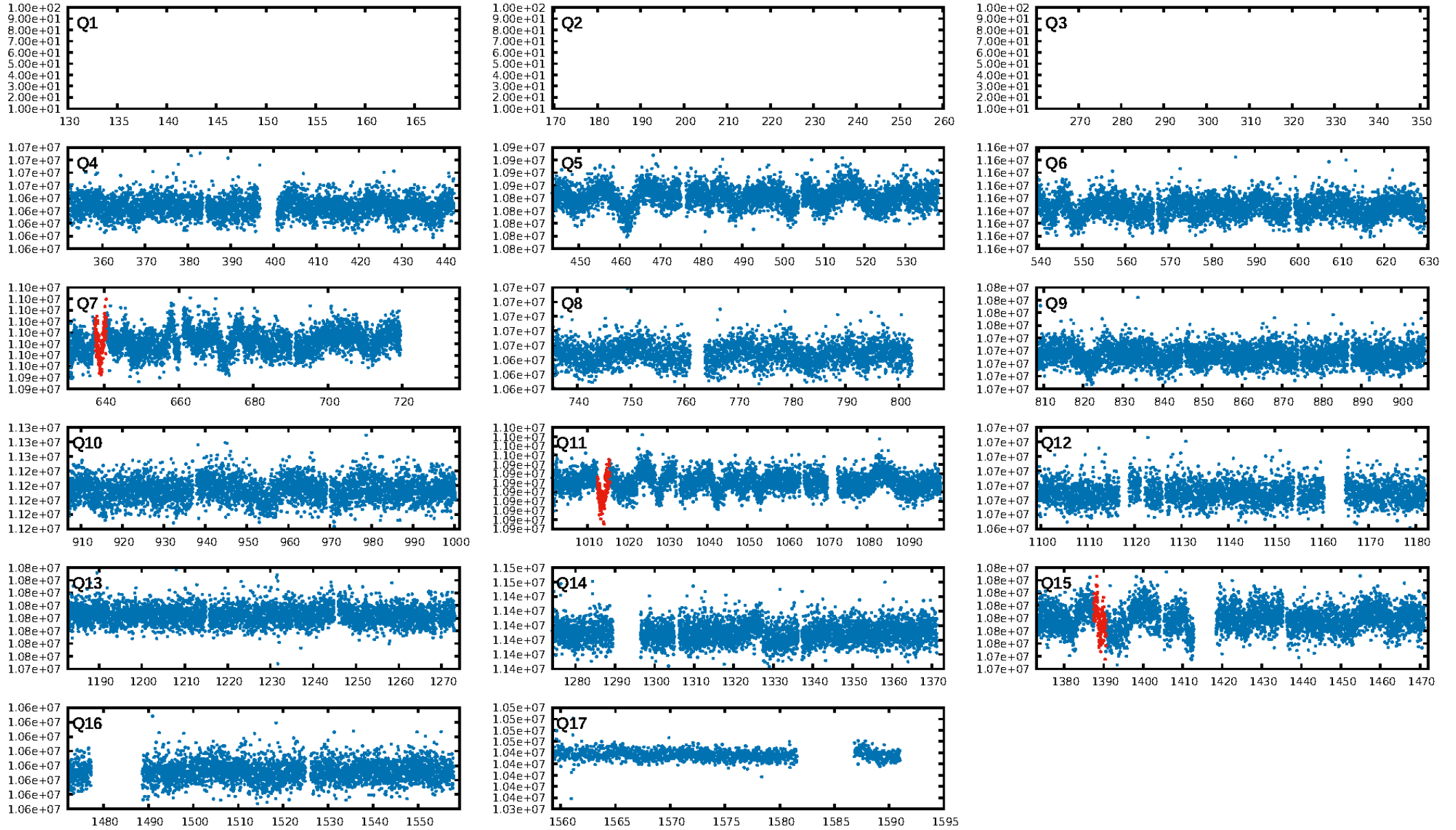
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.79e-13
RollingBand-fgt: 0.33 [1/3]
GhostDiagnostic-chr: 2.38
Centroid-sig: 0.0%
Centroid-so: 4.133 arcsec [2.39 σ]
OotOffset-rm: 1.836 arcsec [0.92 σ]
KicOffset-rm: 2.131 arcsec [1.07 σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

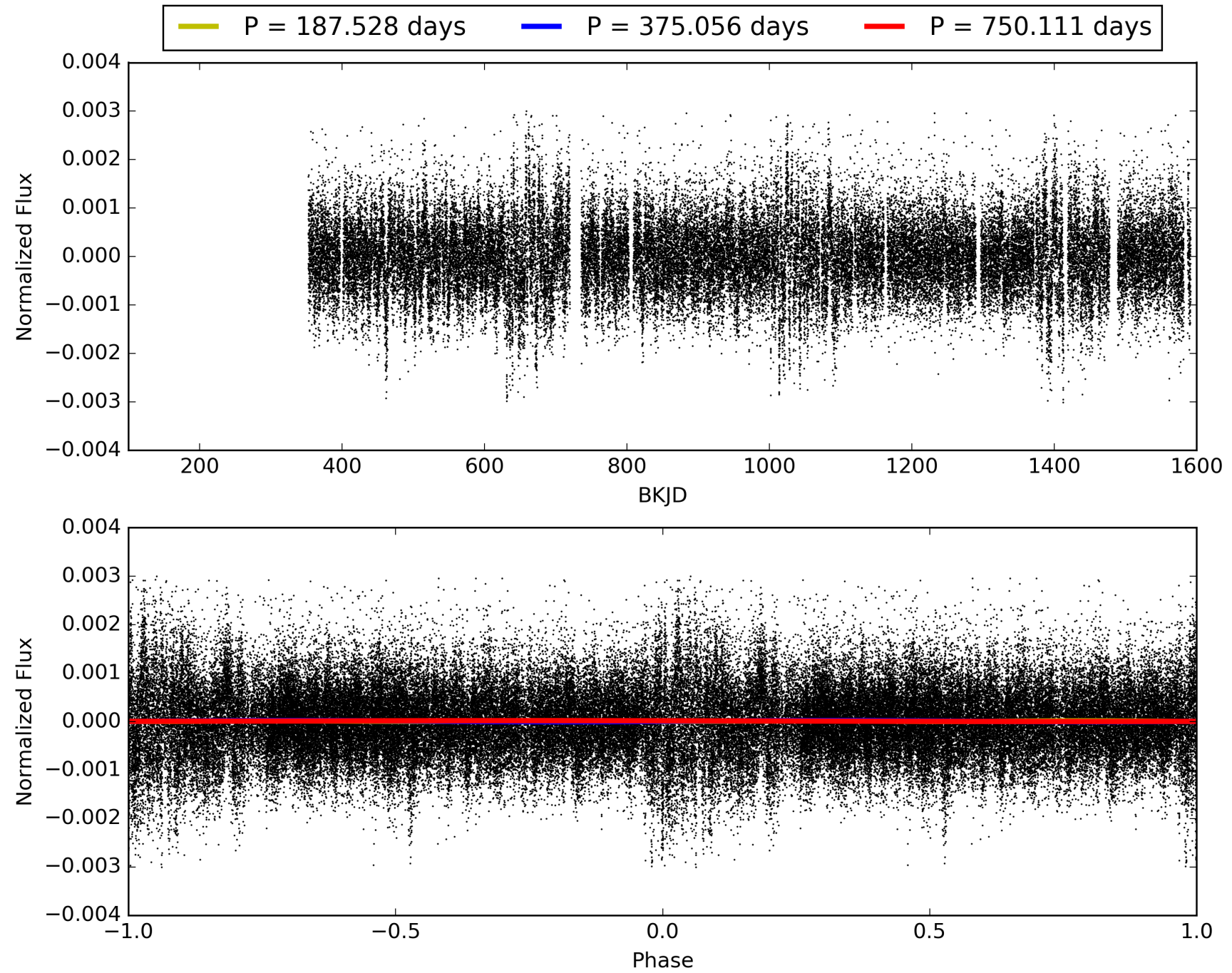
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:42:10 Z

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

TCE 008162062-01, PDC Light Curves

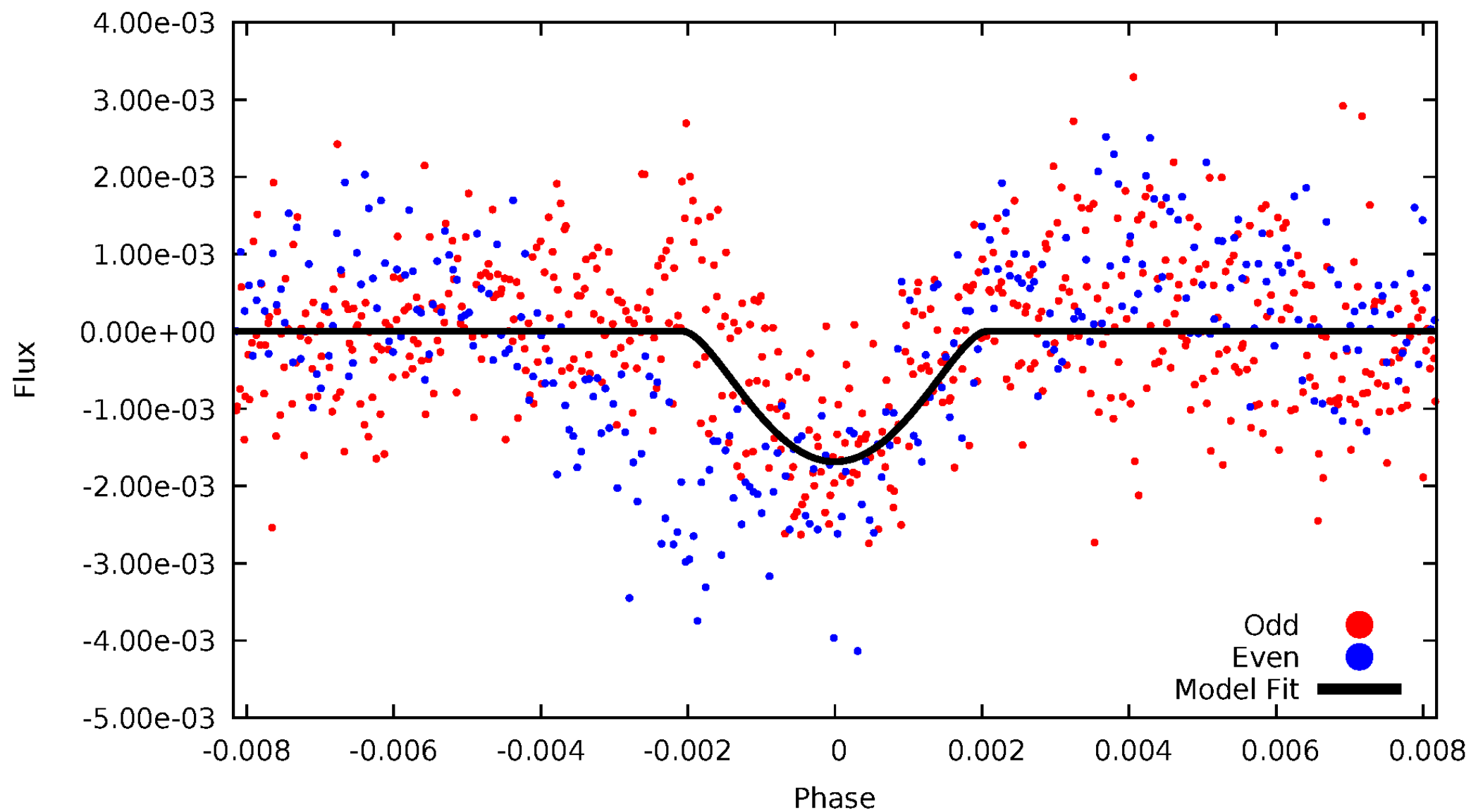


TCE 008162062-01



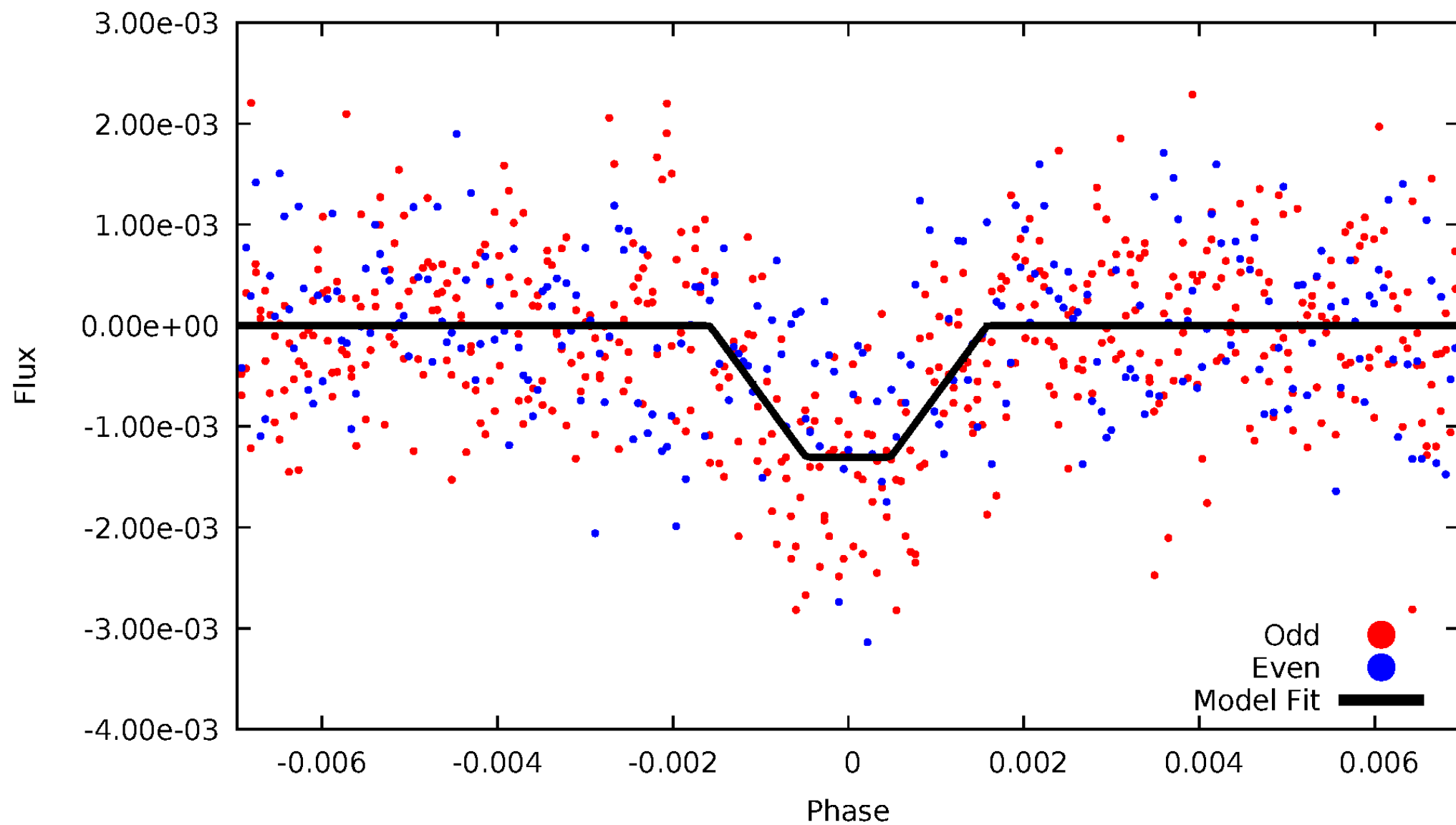
DV Odd/Even

TCE 008162062-01

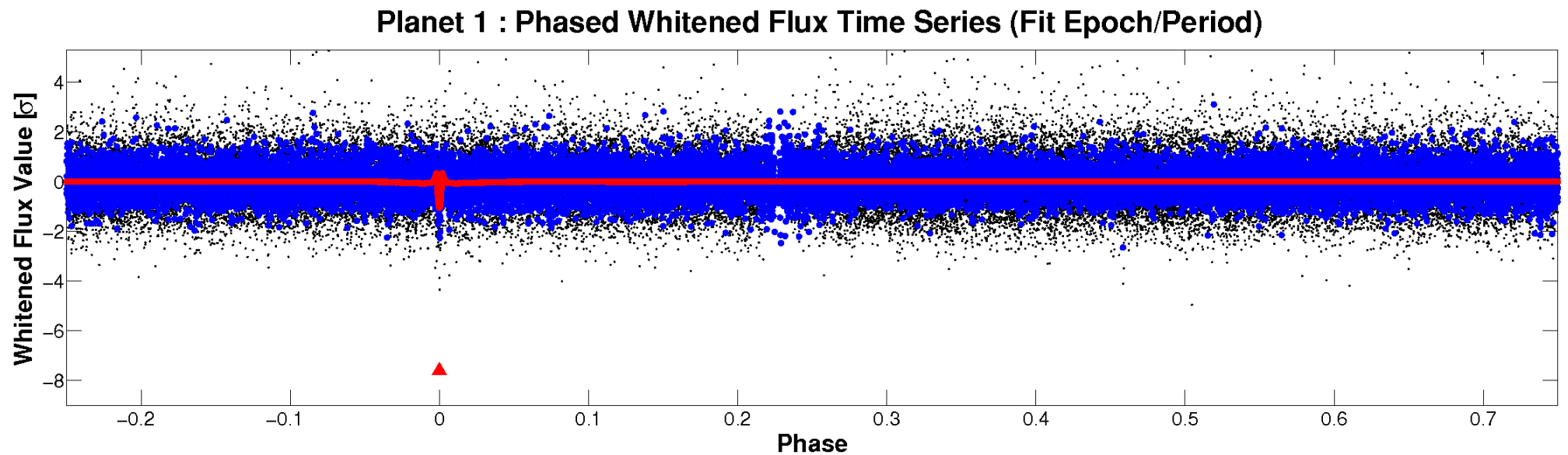
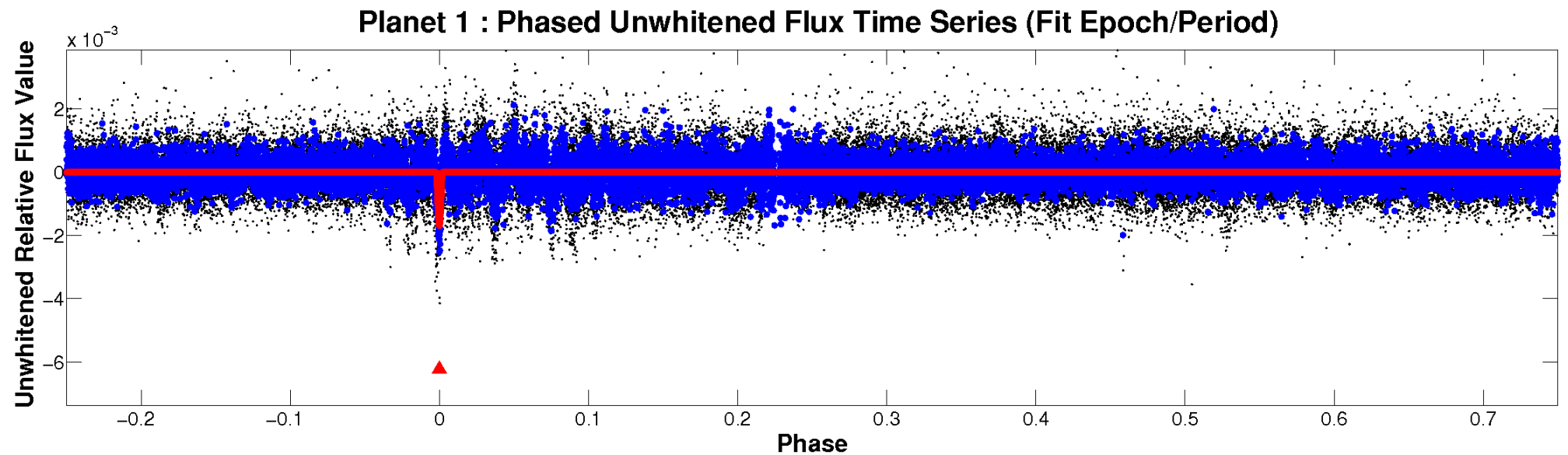


ALT Odd/Even

TCE 008162062-01

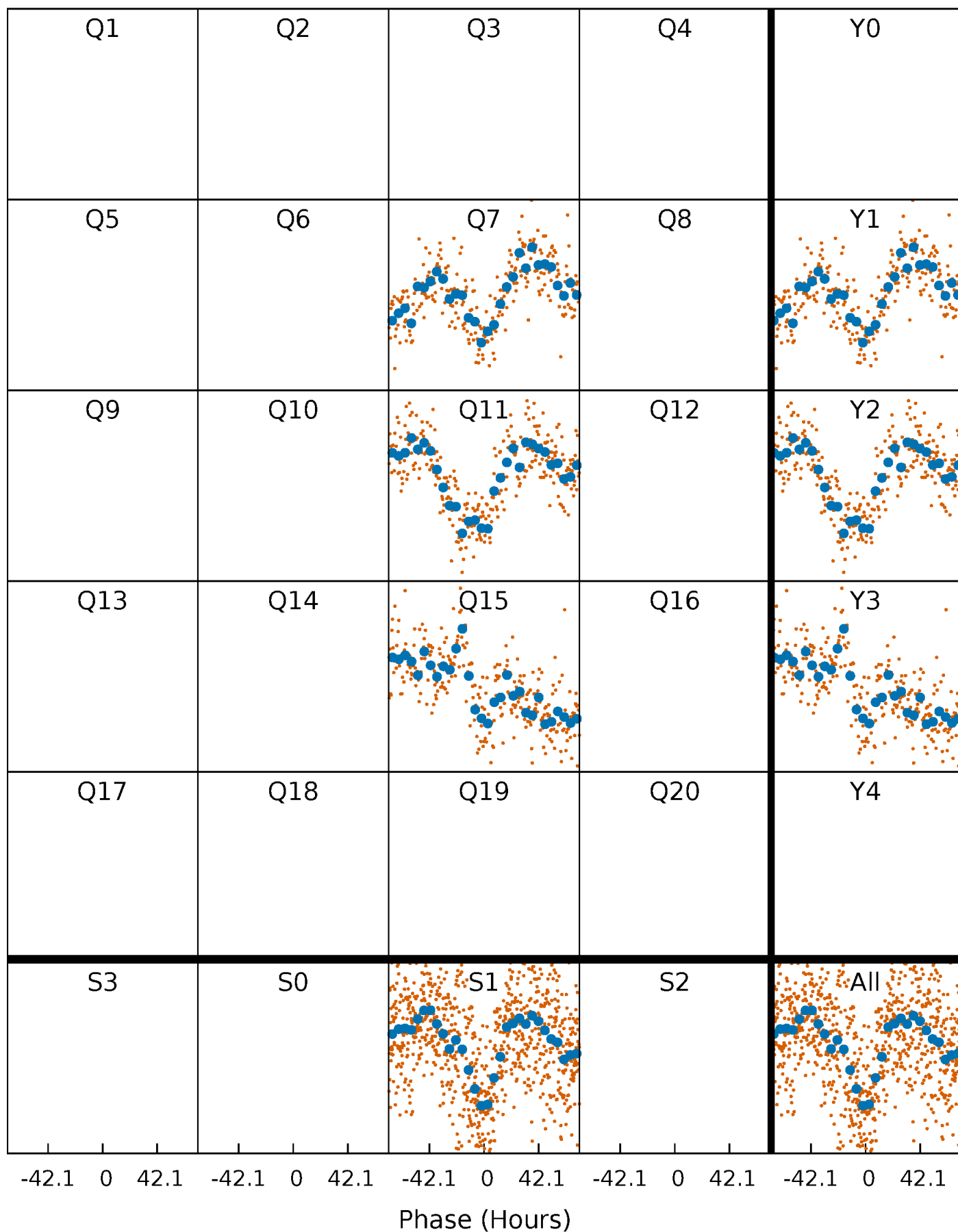


Non-Whitened Vs. Whitened Light Curve



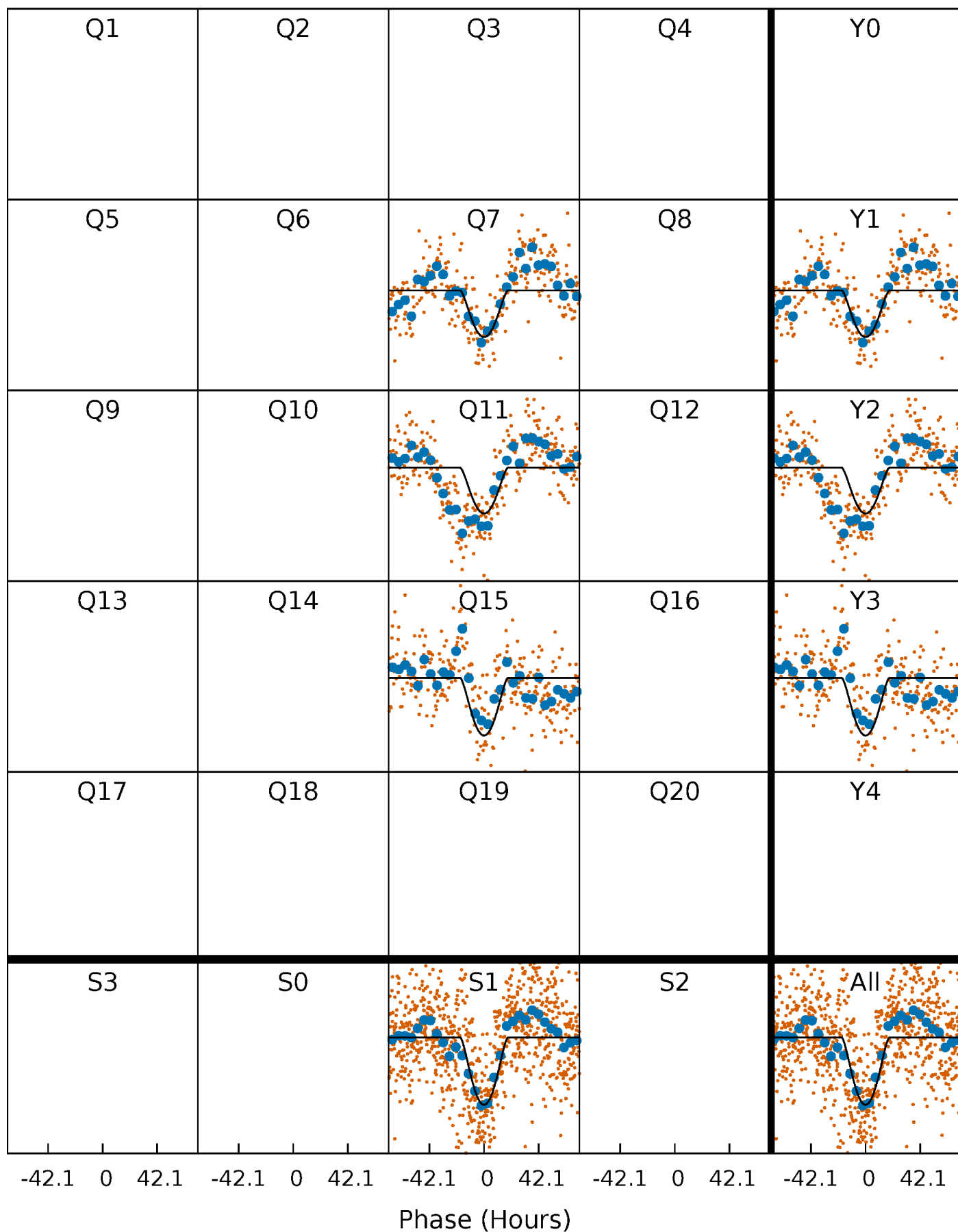
PDC Quarter-Phased Transit Curves

TCE 008162062-01 P=375.055627 Days $T_0=263.894427$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008162062-01 P=375.055627 Days $T_0=263.894427$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

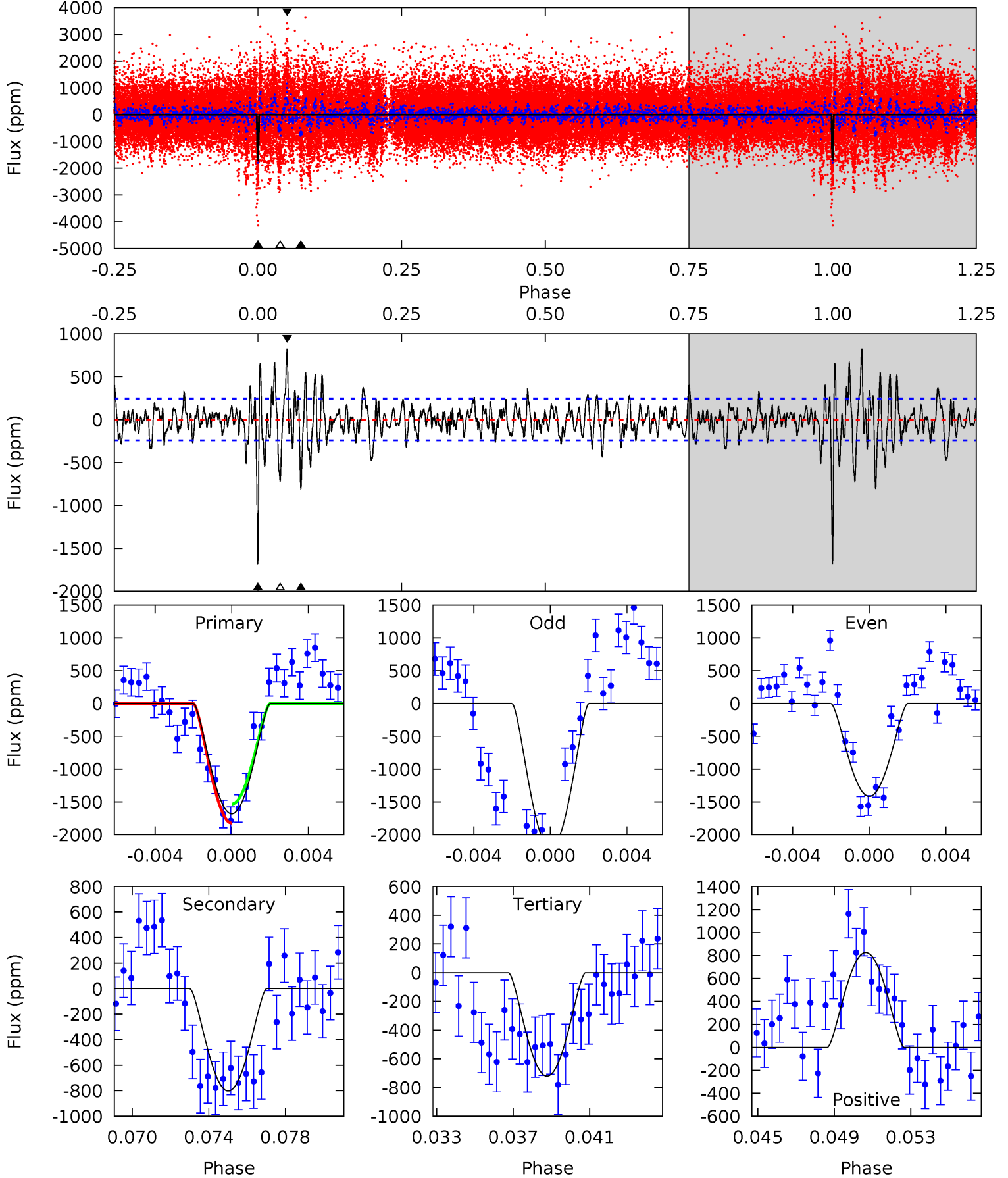
TCE 008162062-01 P=375.037560 Days $T_0=263.964936$ (BKJD)



DV Model-Shift Uniqueness Test

008162062-01, P = 375.055627 Days, E = 263.894427 Days

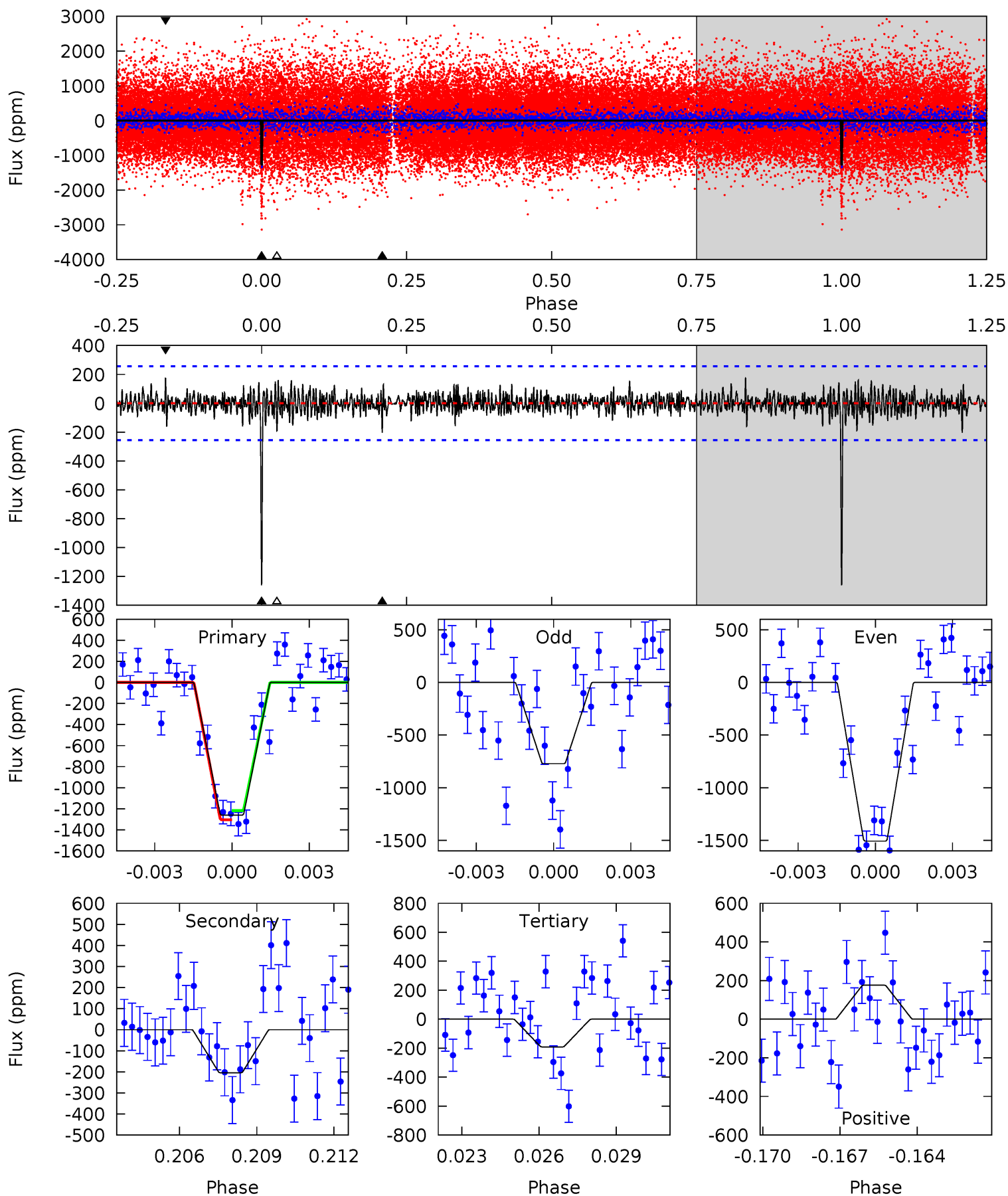
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 36.3 | 17.3 | 15.5 | 17.8 | 5.20 | 2.87 | 3.59 | 20.7 | 18.4 | 1.76 | -0.53 | 8.14 | 0.98 | 0.33 | 3.13 |



Alt Model-Shift Uniqueness Test

008162062-01, P = 375.037560 Days, E = 263.964936 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 25.9 | 4.19 | 3.92 | 3.60 | 5.24 | 2.95 | 0.98 | 21.9 | 22.2 | 0.27 | 0.58 | 7.13 | 0.93 | 0.12 | 0.89 |



Stellar Parameters For KIC 008162062

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6092^{+192}_{-235} | $4.471^{+0.050}_{-0.200}$ | $-0.060^{+0.250}_{-0.300}$ | $0.998^{+0.296}_{-0.099}$ | $1.074^{+0.137}_{-0.150}$ | $1.522^{+0.398}_{-0.723}$ |
| | +3%/-4% | +1%/-4% | +417%/-500% | +30%/-10% | +13%/-14% | +26%/-48% |
| 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 008162062-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|---------------|---------------------------|-------------------|-----------------------|-------------------------|
| DV | -802 ± 46 | $17.70^{+17.18}_{-11.92}$ | 375^{+24}_{-20} | 3209^{+1527}_{-563} | 1513^{+11558}_{-1120} |
| Alt. | -204 ± 49 | $15.19^{+15.42}_{-10.63}$ | 374^{+27}_{-20} | 2739^{+1185}_{-442} | 520^{+5400}_{-400} |

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 $A_{obs} \gg 1.0$

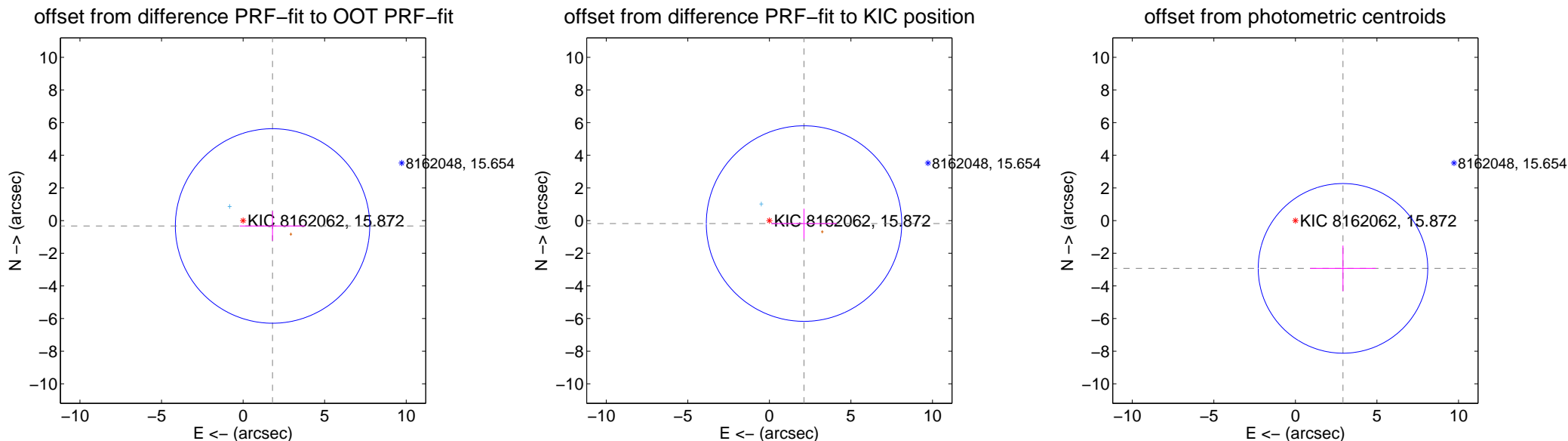
DV Centroid Data

Supplemental centroid analysis for 008162062-01. Kepler magnitude: 15.87. Transit SNR 9.69

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 1.836 ± 1.986 | 0.92 | -1.806 ± 2.012 | -0.330 ± 0.908 |
| PRF-fit source offset from KIC position | 2.131 ± 1.996 | 1.07 | -2.123 ± 2.002 | -0.184 ± 0.910 |
| photometric centroid source offset | 4.13 ± 1.73 | 2.39 | -2.92 ± 2.01 | -2.93 ± 1.40 |

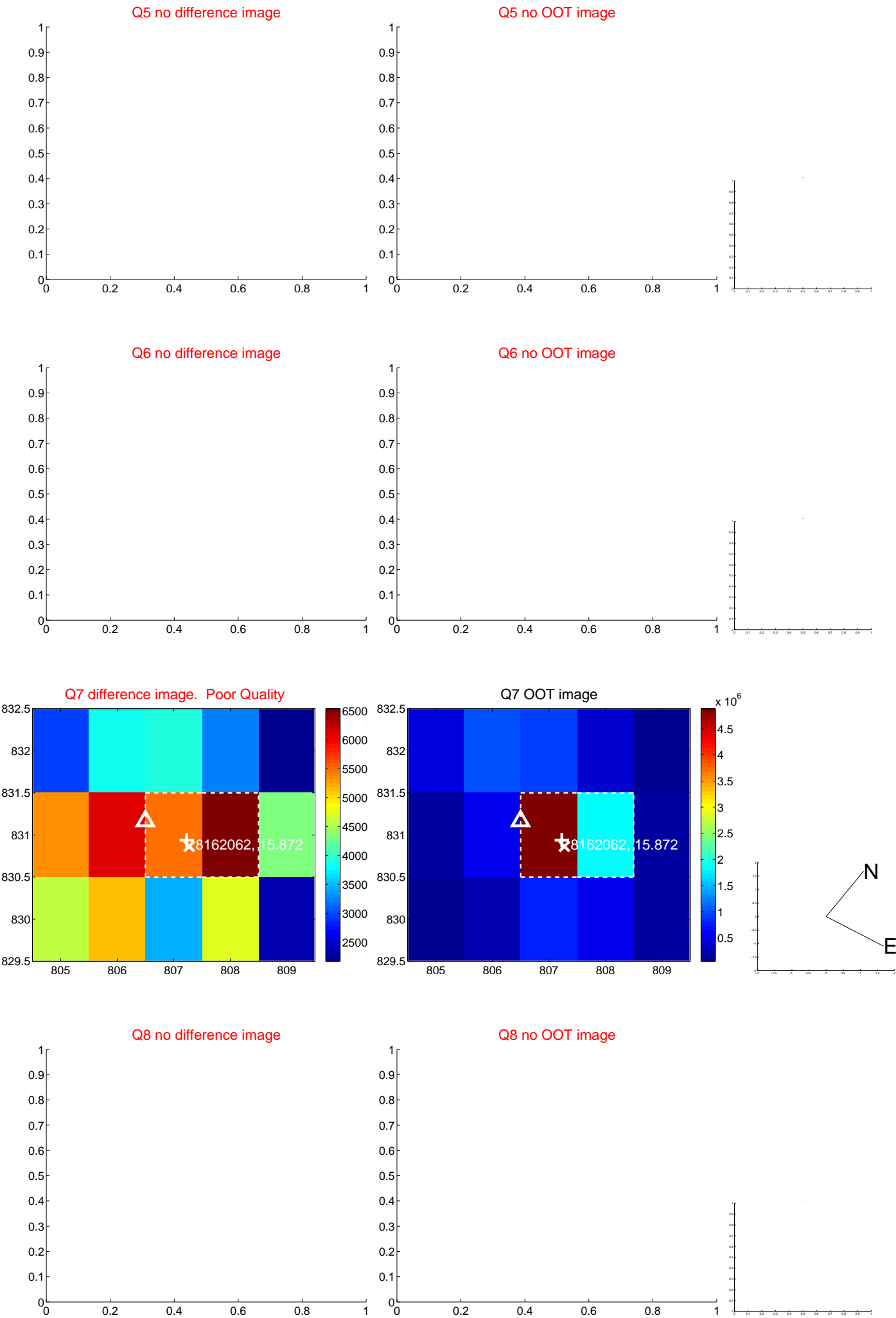


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

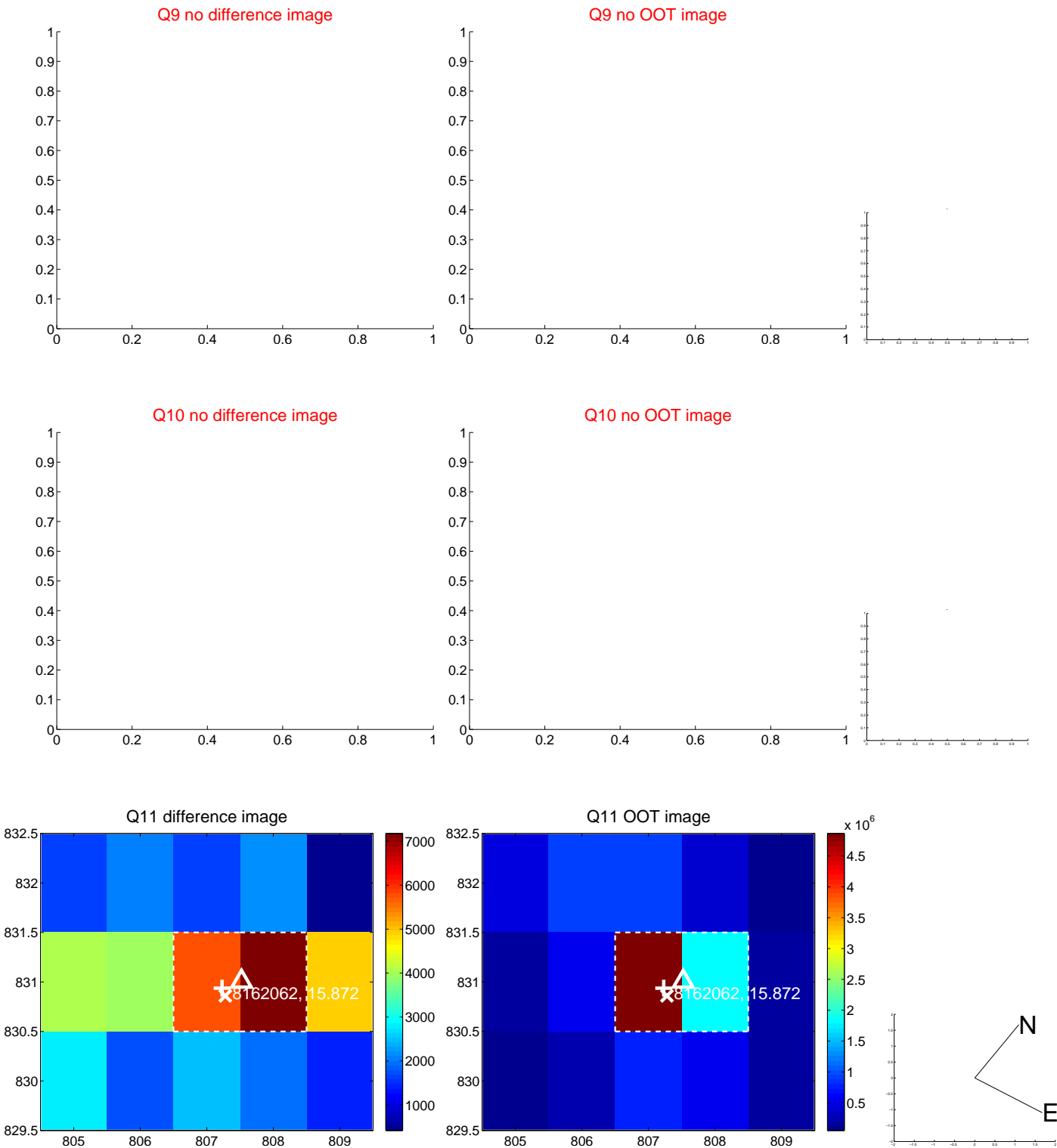
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



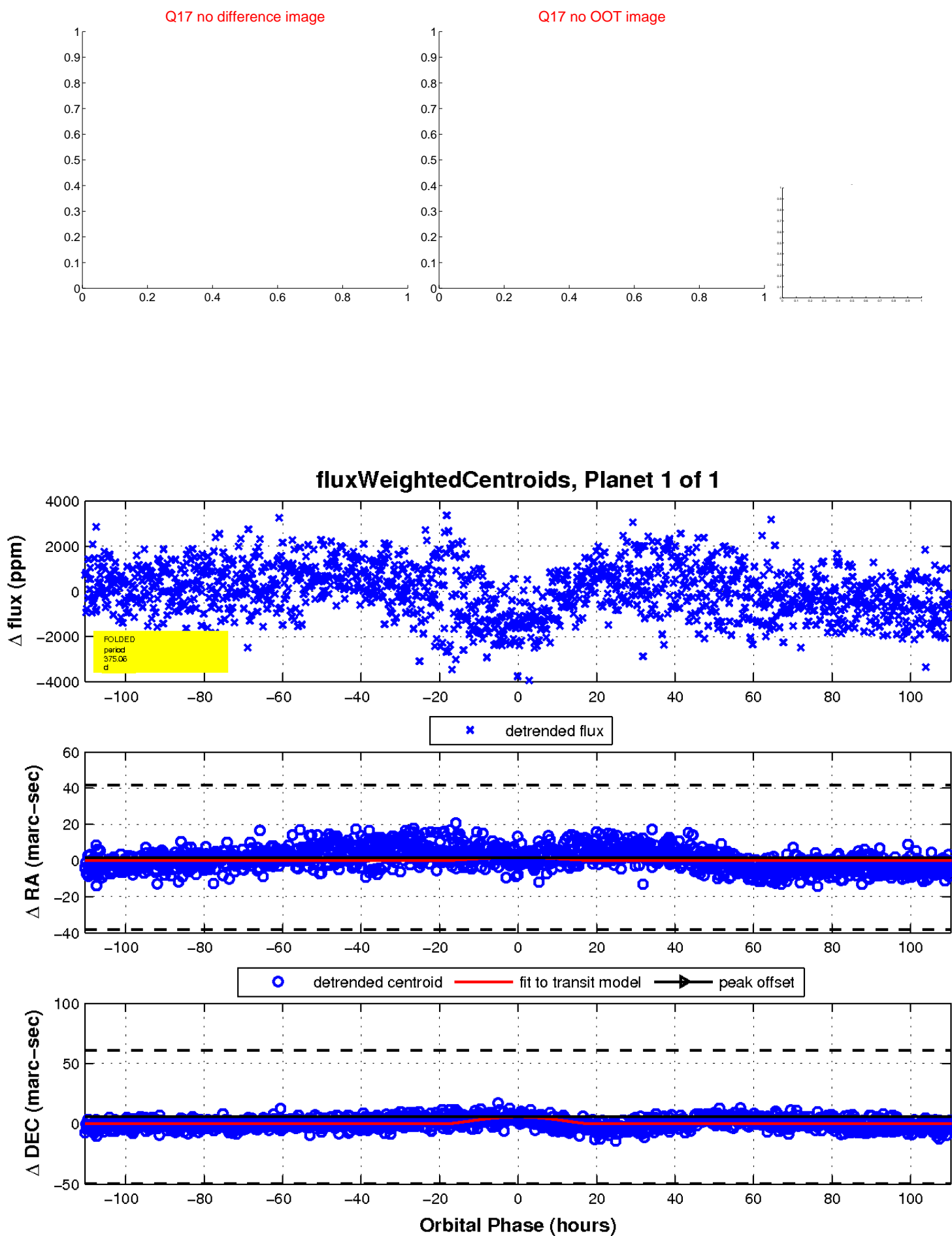
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



white \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

