

KIC 008892303

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 008892303-01 | OBS | 2688.01 | 5.424750 | 133.728973 | 7697.3 | 1.156 | 75.2 | 83.0 | 0.59 | 4137 | 5.09 | 36.10 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--------------|
| 008892303-01 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |

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

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

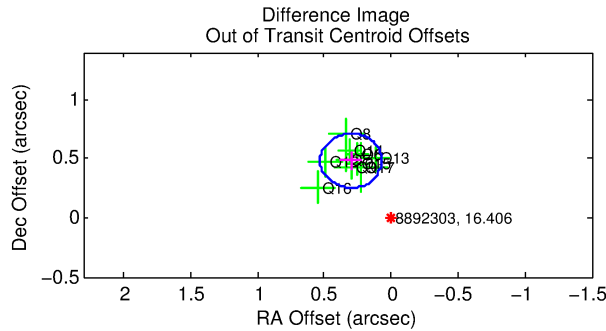
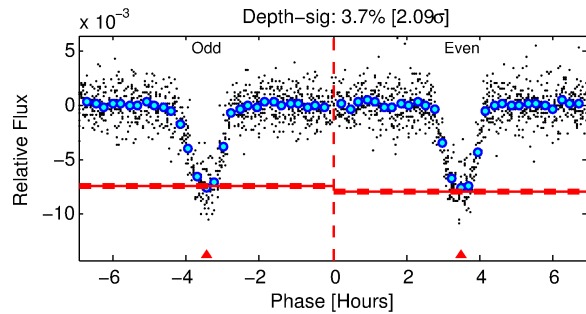
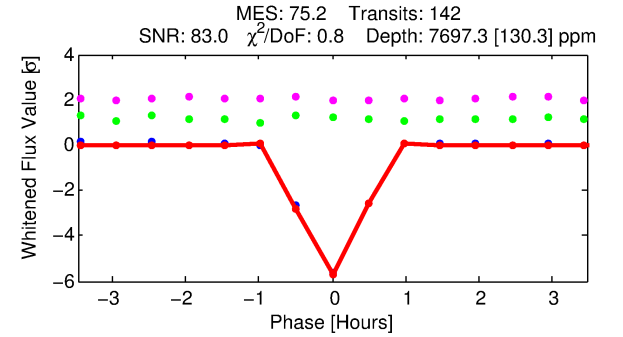
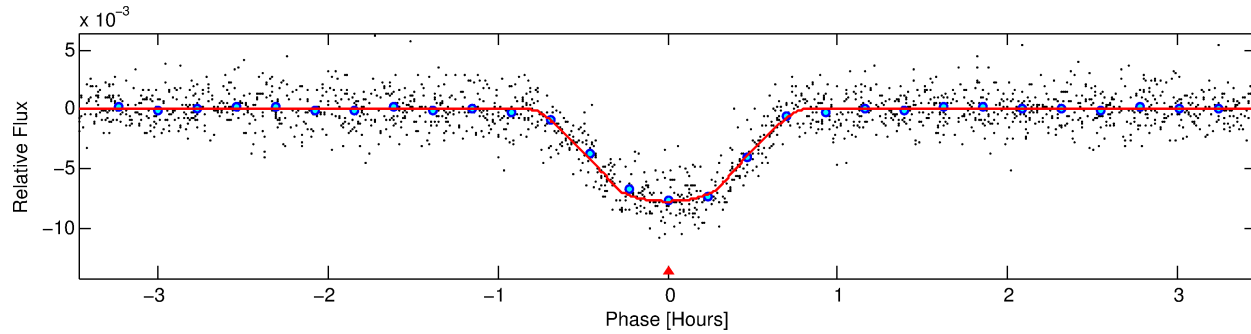
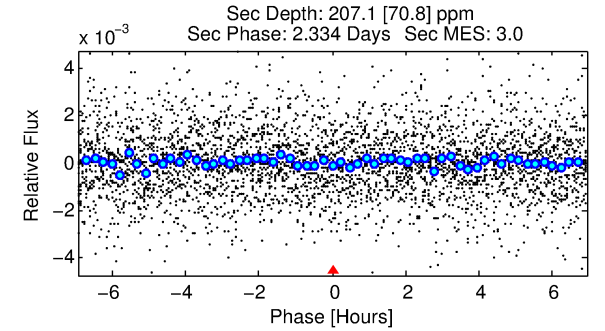
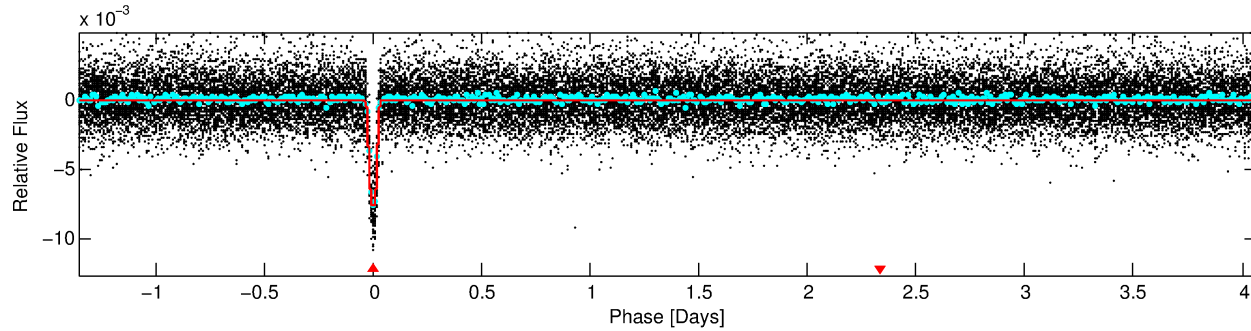
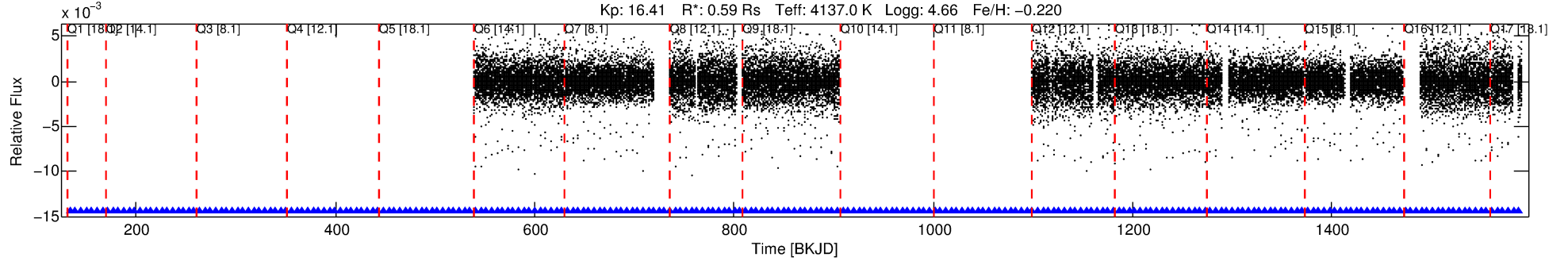
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008892303-01

No Significant Match Found

DV One-Page Summary

KIC: 8892303 Candidate: 1 of 1 Period: 5.425 d
KOI: K02688.01 Corr: 0.995



DV Fit Results:

Period = 5.42475 [0.00000] d
Epoch = 133.7290 [0.0004] BKJD
Rp/R* = 0.0790 [0.0187]
a/R* = 38.69 [30.89]
b = 0.02 [54.12]
Seff = 36.10 [7.21]
Teq = 625 [31] K
Rp = 5.09 [1.36] Re
a = 0.0504 [0.0048] AU
Ag = 11.15 [6.67] [1.52σ]
Teffp = 1766 [267] K [4.24σ]

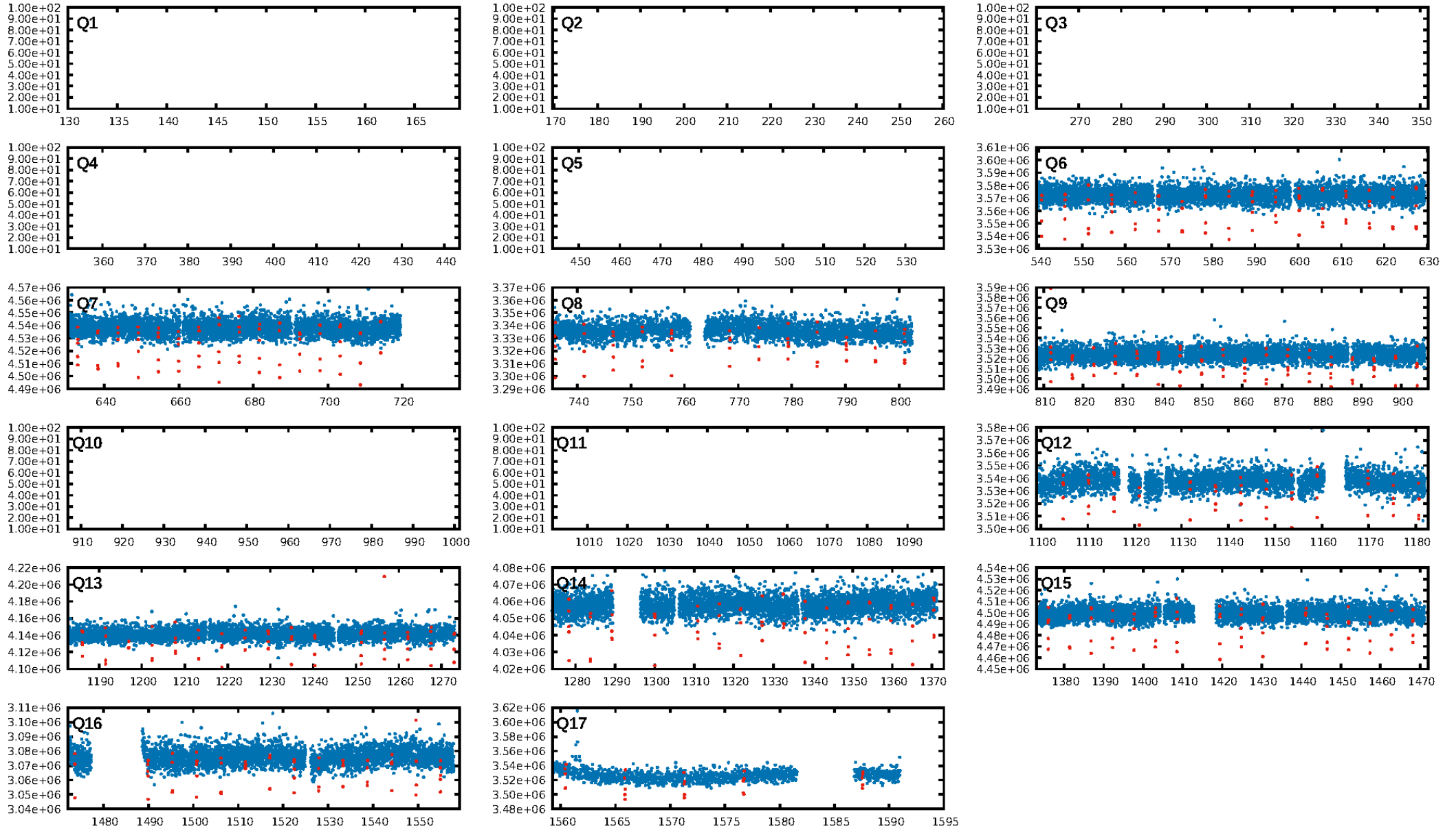
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [137/137]
GhostDiagnostic-chr: 4.636
Centroid-sig: 0.0%
Centroid-so: 1.060 arcsec [7.67σ]
OotOffset-rm: 0.570 arcsec [7.44σ]
KicOffset-rm: 0.693 arcsec [7.53σ]
OotOffset-st: 2/2/3/3 [10]
KicOffset-st: 2/2/3/3 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [10/10]

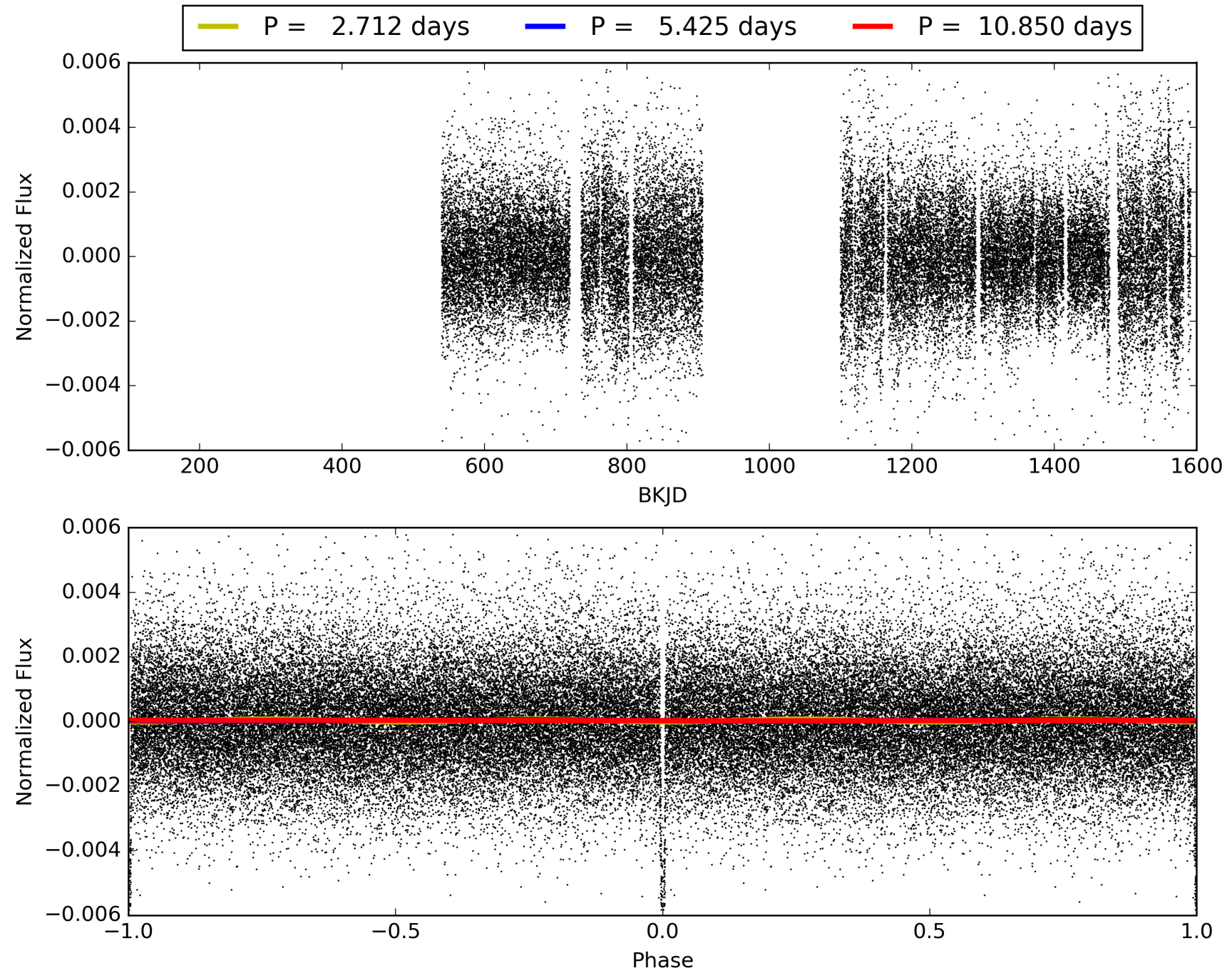
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:38:48 Z

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

TCE 008892303-01, PDC Light Curves

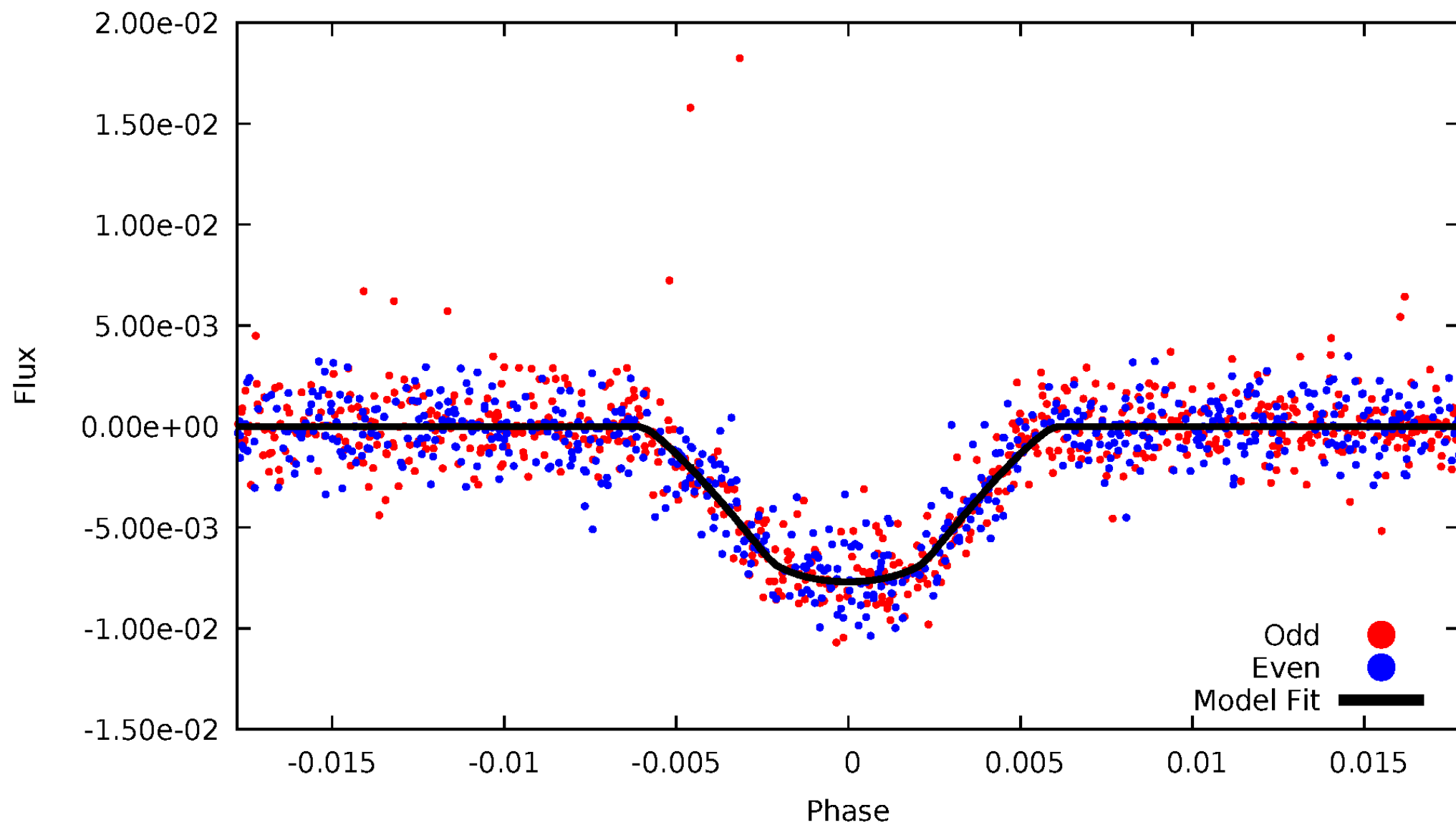


TCE 008892303-01



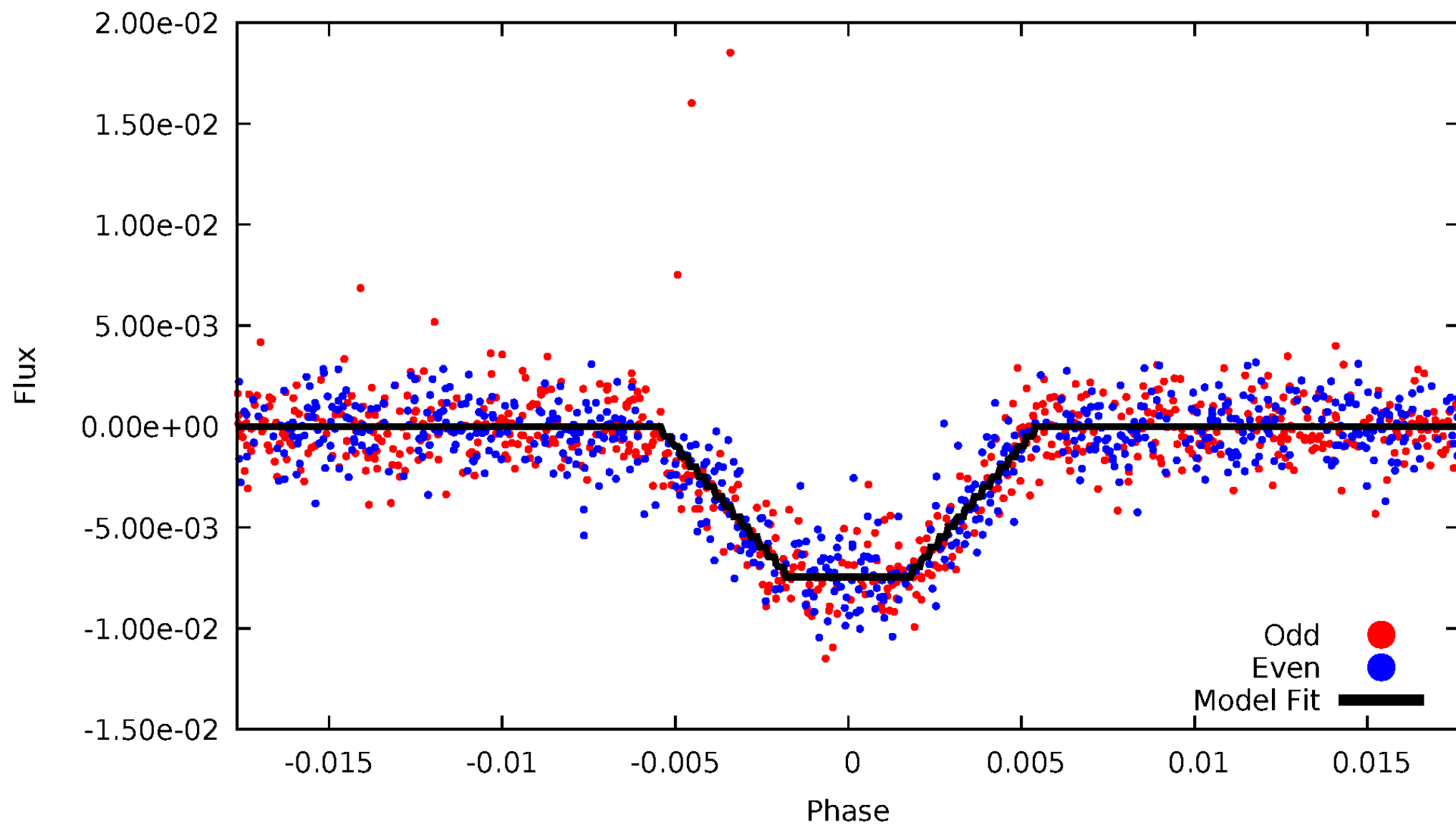
DV Odd/Even

TCE 008892303-01



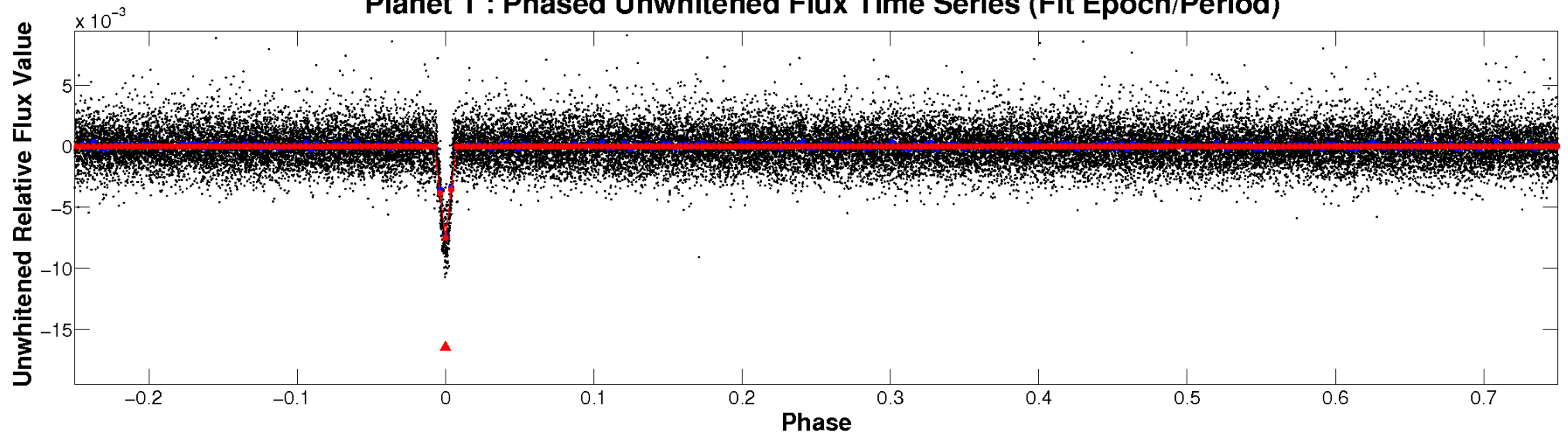
ALT Odd/Even

TCE 008892303-01

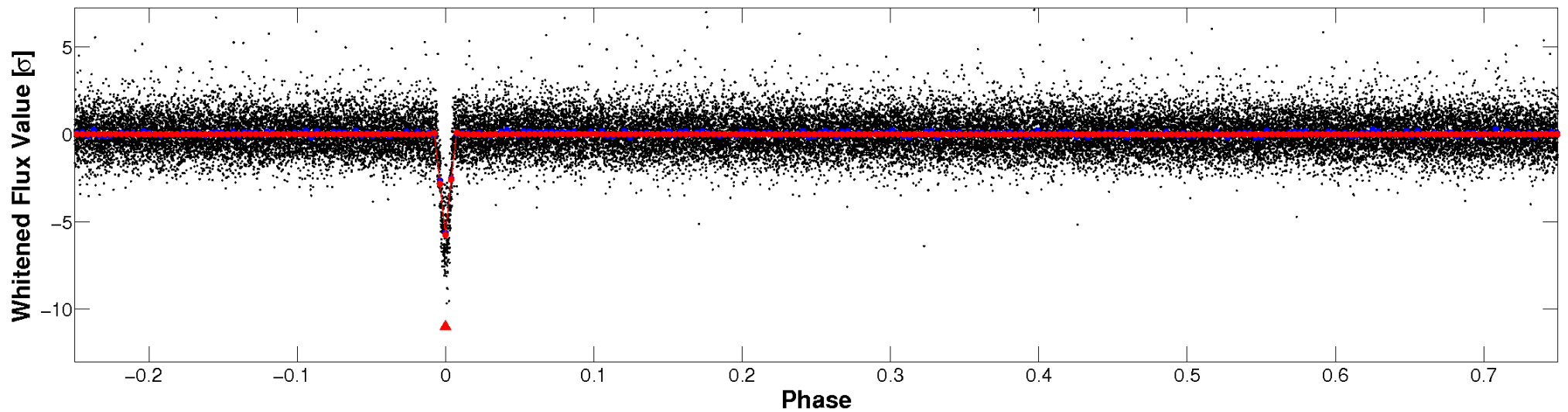


Non-Whitened Vs. Whitened Light Curve

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

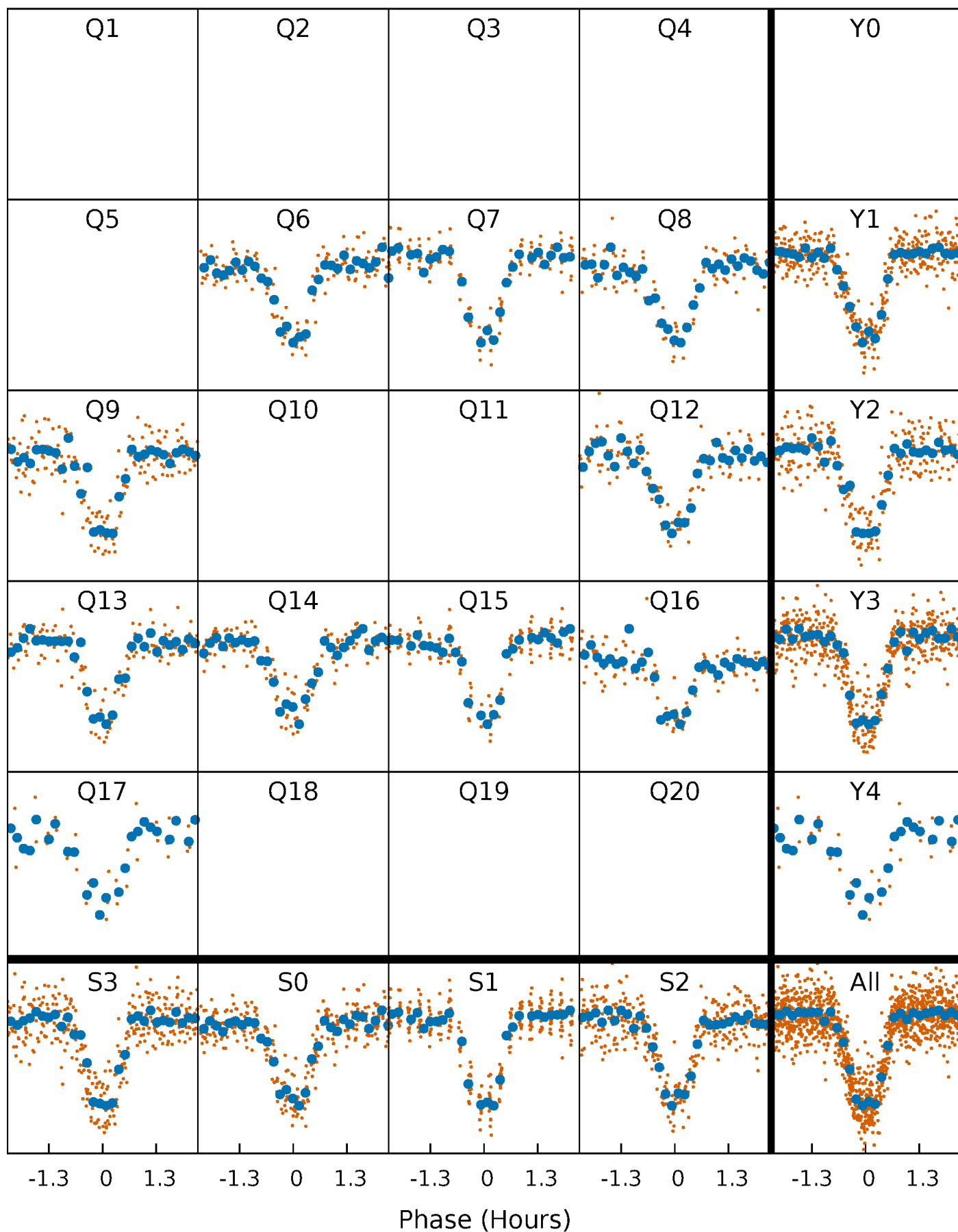


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



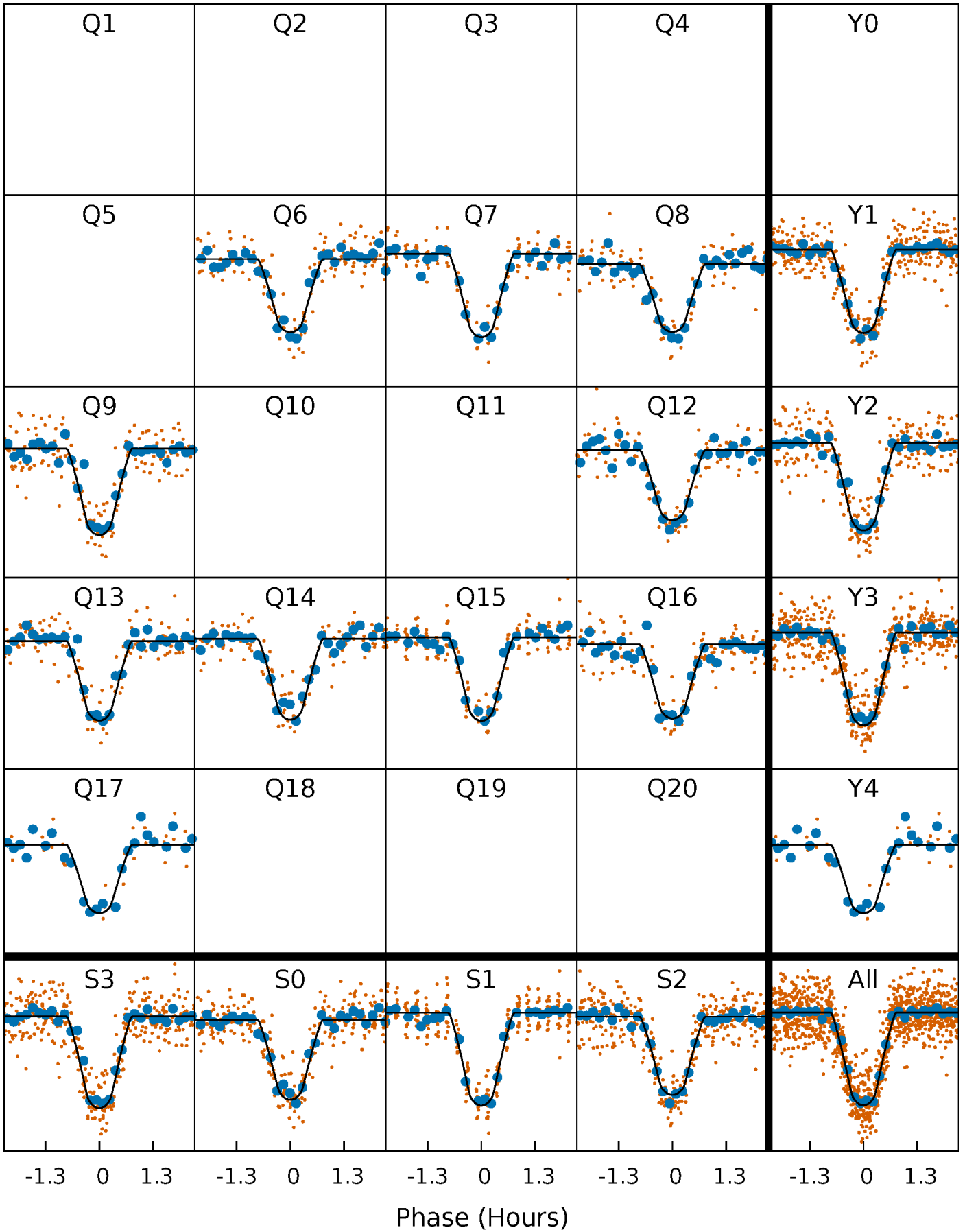
PDC Quarter-Phased Transit Curves

TCE 008892303-01 P= 5.424750 Days $T_0=133.728973$ (BKJD)



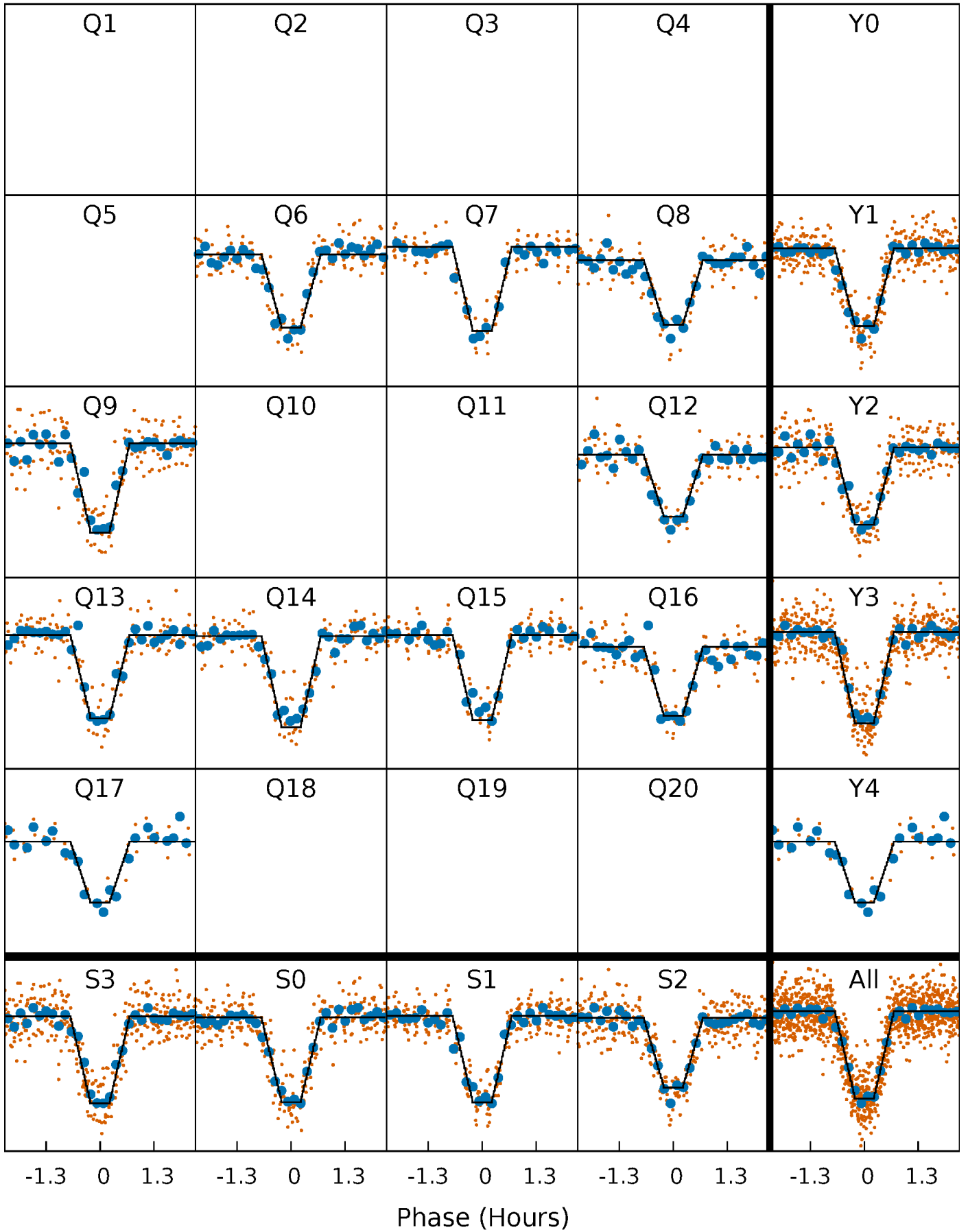
DV Quarter-Phased Transit Curves

TCE 008892303-01 P= 5.424750 Days $T_0=133.728973$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

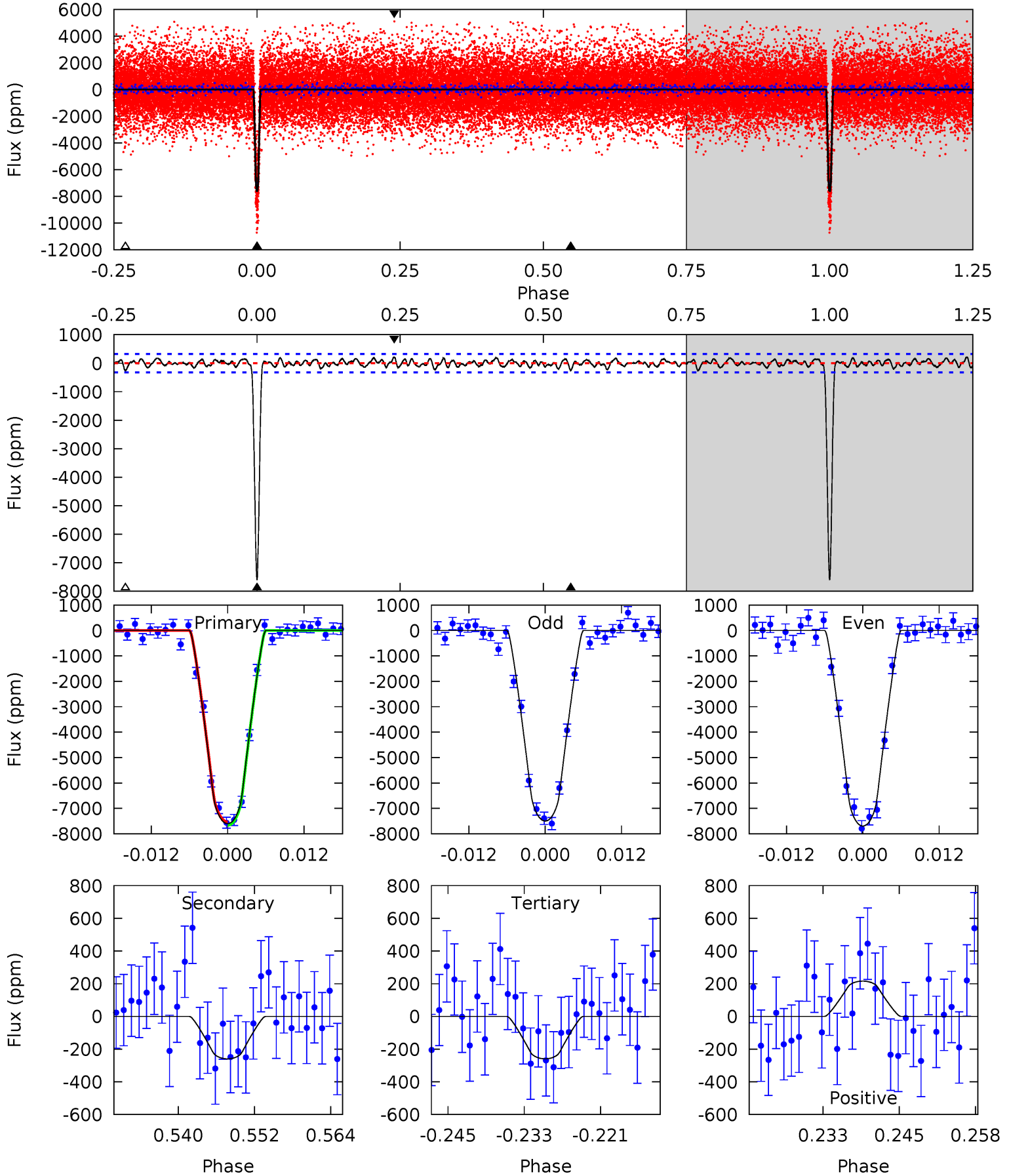
TCE 008892303-01 P= 5.424729 Days $T_0=133.732992$ (BKJD)



DV Model-Shift Uniqueness Test

008892303-01, P = 5.424750 Days, E = 133.728973 Days

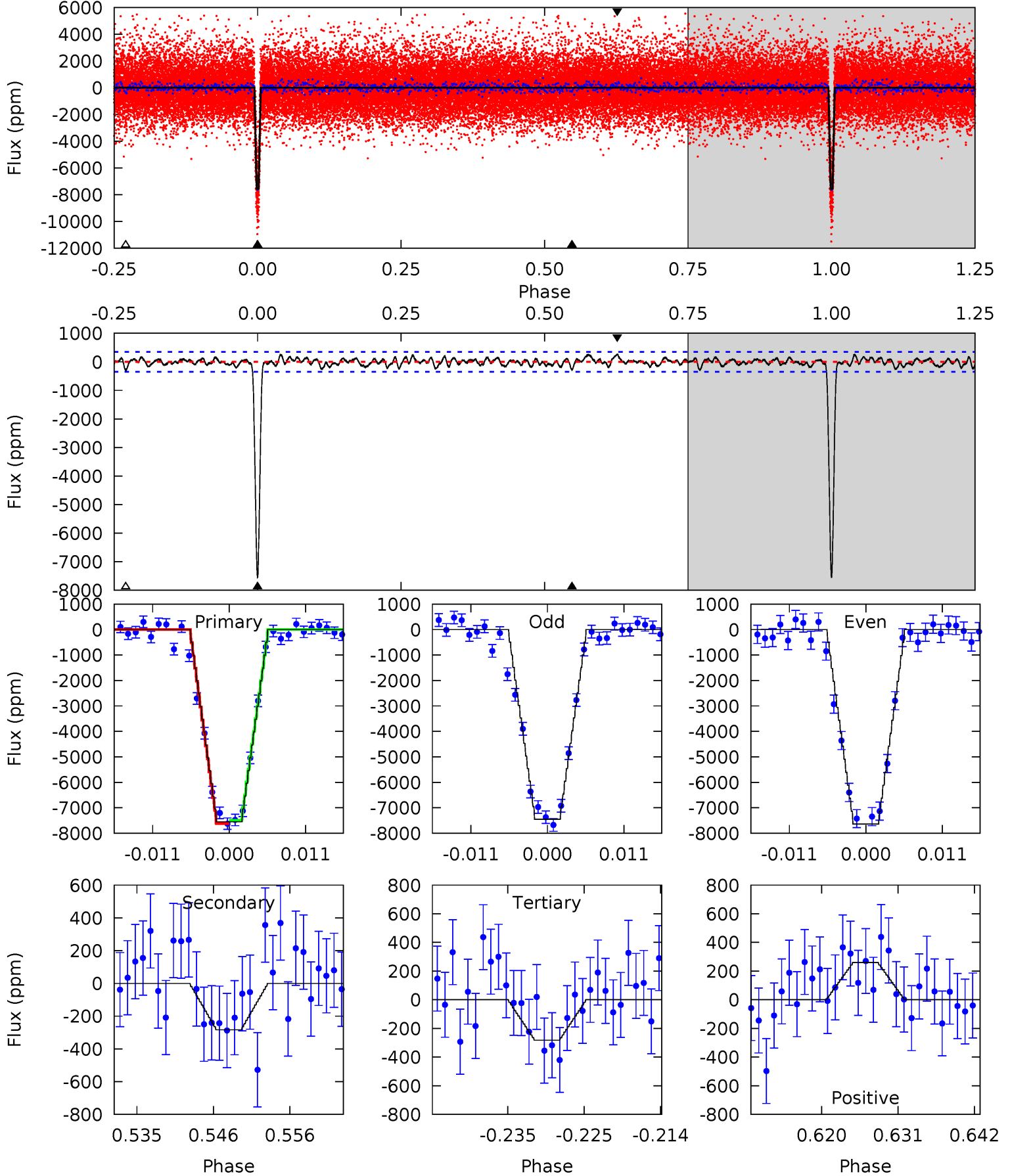
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 118.0 | 4.03 | 4.03 | 3.35 | 4.99 | 2.50 | 1.35 | 114.0 | 114.6 | 0.00 | 0.68 | 1.53 | 0.97 | 0.03 | 1.00 |



Alt Model-Shift Uniqueness Test

008892303-01, P = 5.424729 Days, E = 133.732992 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 108.4 | 4.07 | 4.06 | 3.73 | 5.01 | 2.55 | 1.38 | 104.4 | 104.7 | 0.01 | 0.34 | 1.38 | 0.98 | 0.03 | 0.92 |



Stellar Parameters For KIC 008892303

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 4137^{+145}_{-160} | $4.658^{+0.063}_{-0.027}$ | $-0.220^{+0.300}_{-0.300}$ | $0.591^{+0.042}_{-0.072}$ | $0.580^{+0.065}_{-0.059}$ | $3.963^{+1.155}_{-0.510}$ |
| | +4%/-4% | +1%/-1% | +136%/-136% | +7%/-12% | +11%/-10% | +29%/-13% |
| 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 008892303-01 / KOI 2688.01

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|---------------|------------------------|-------------------|----------------------|-----------------|
| DV | -260 ± 64 | $5.01^{+1.30}_{-1.20}$ | 865^{+34}_{-35} | 2554^{+213}_{-153} | 14^{+11}_{-6} |
| Alt. | -283 ± 70 | $5.46^{+1.24}_{-1.16}$ | 869^{+34}_{-40} | 2541^{+184}_{-151} | 13^{+9}_{-5} |

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 $A_{obs} \gg 1.0$

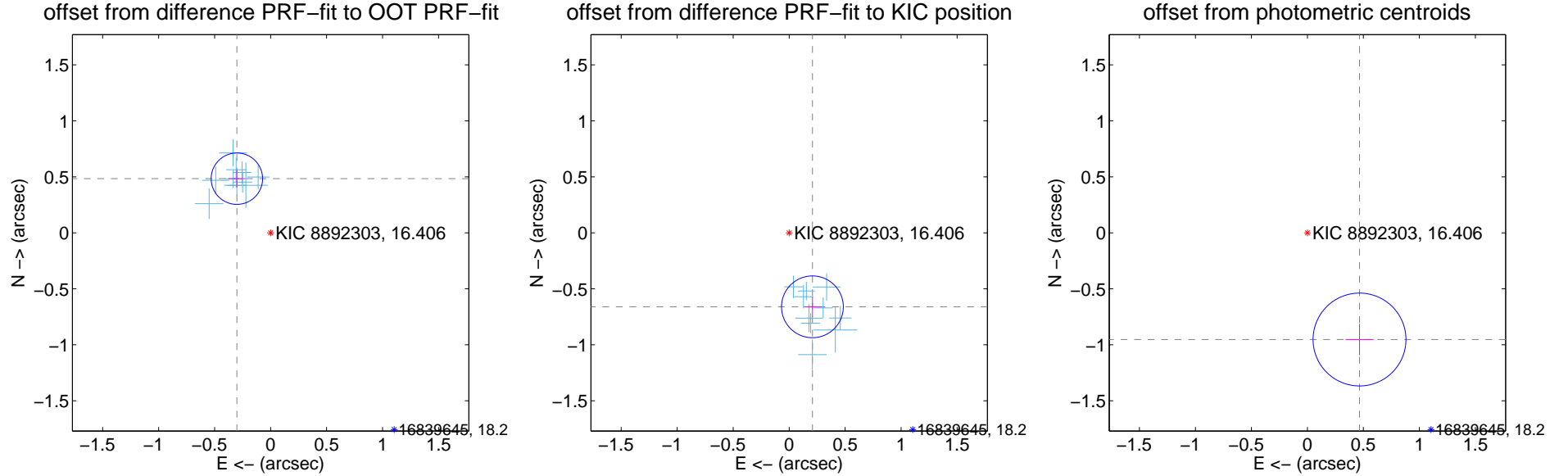
DV Centroid Data

Supplemental centroid analysis for 008892303-01. Kepler magnitude: 16.41. Transit SNR 82.96

There are 10 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.44 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.570 ± 0.077 | 7.44 | 0.301 ± 0.076 | 0.483 ± 0.077 |
| PRF-fit source offset from KIC position | 0.693 ± 0.092 | 7.53 | -0.208 ± 0.077 | -0.661 ± 0.090 |
| photometric centroid source offset | 1.06 ± 0.14 | 7.67 | -0.47 ± 0.13 | -0.95 ± 0.14 |

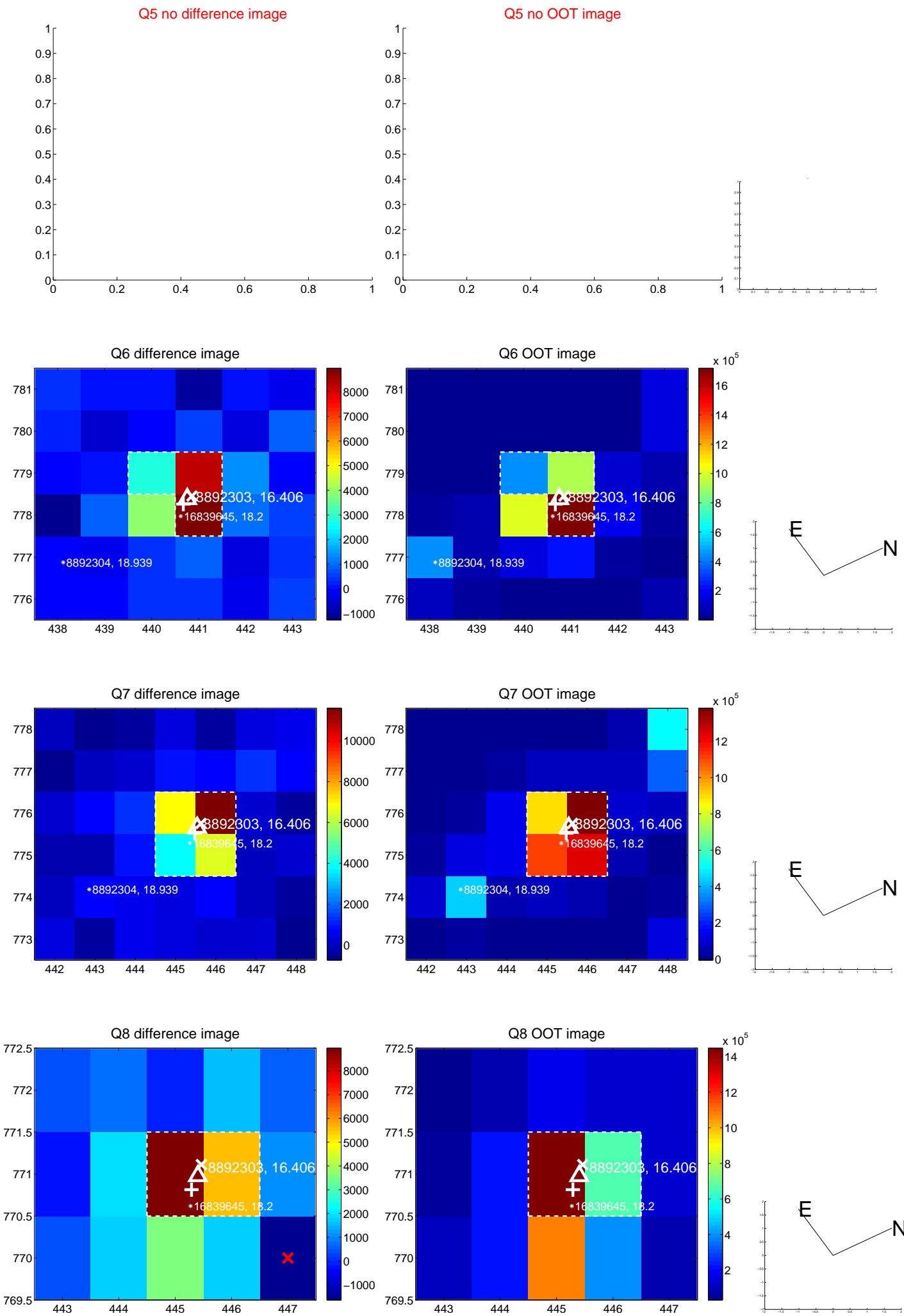


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

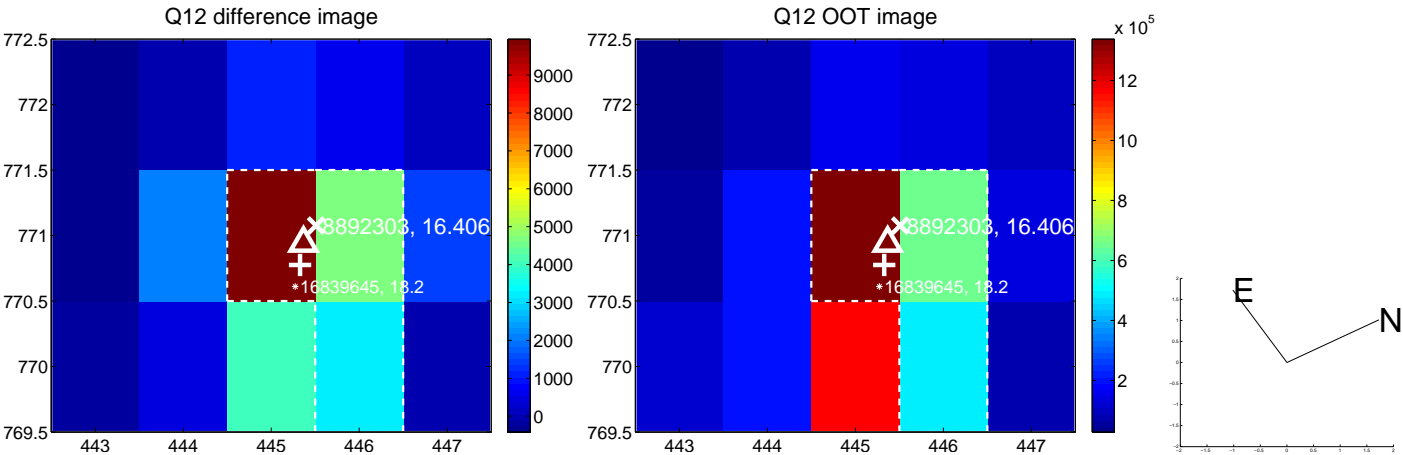
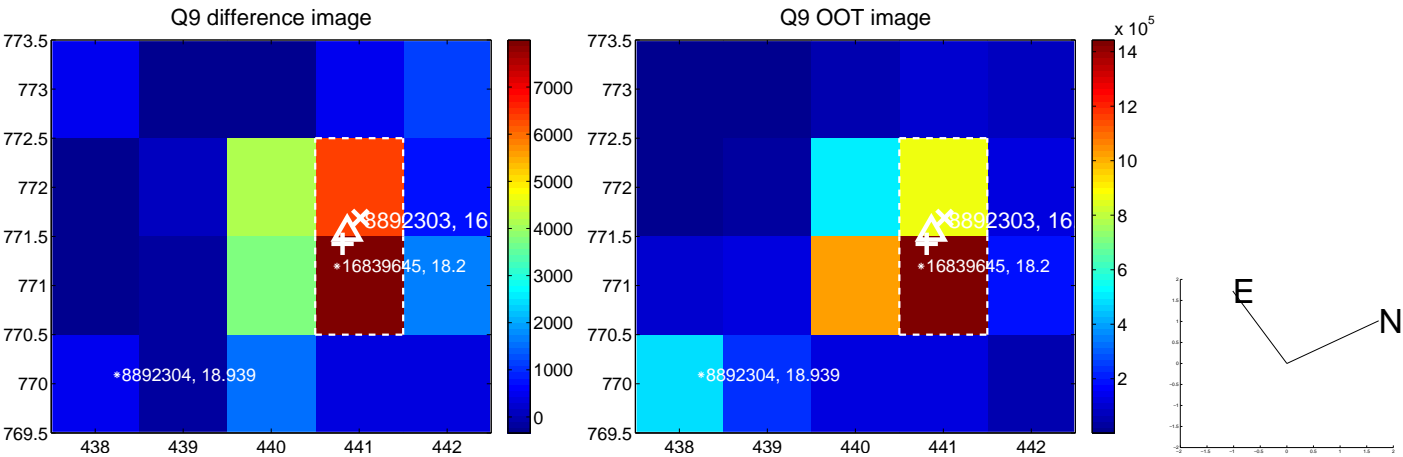
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



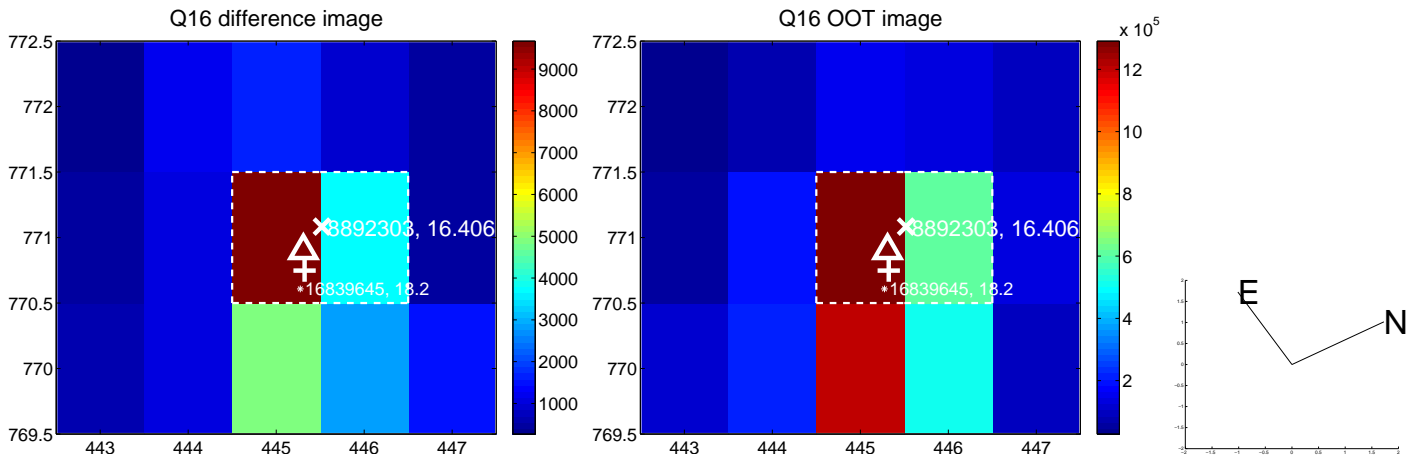
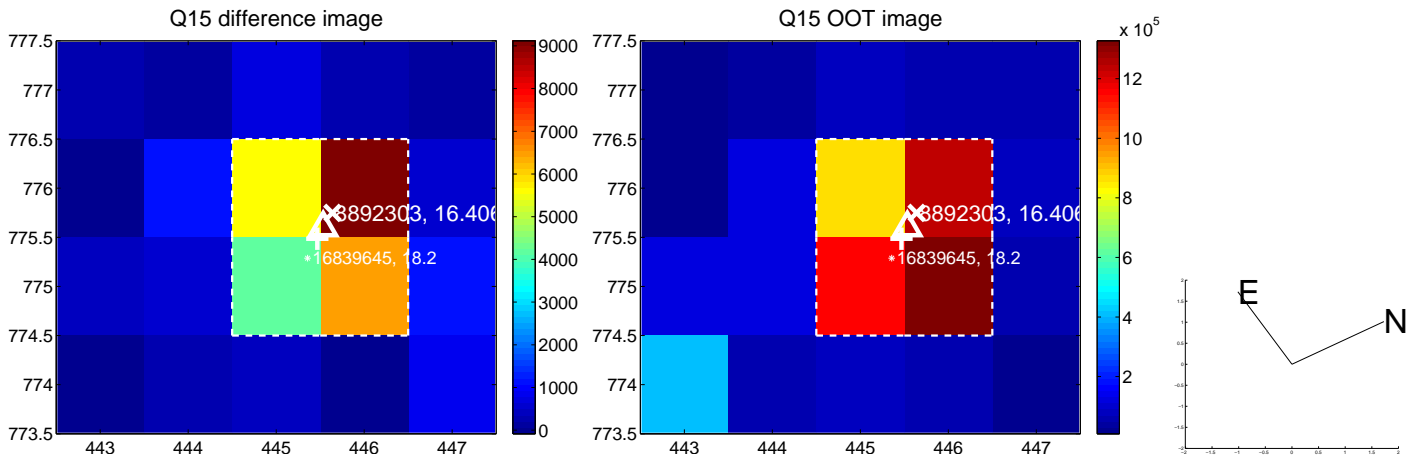
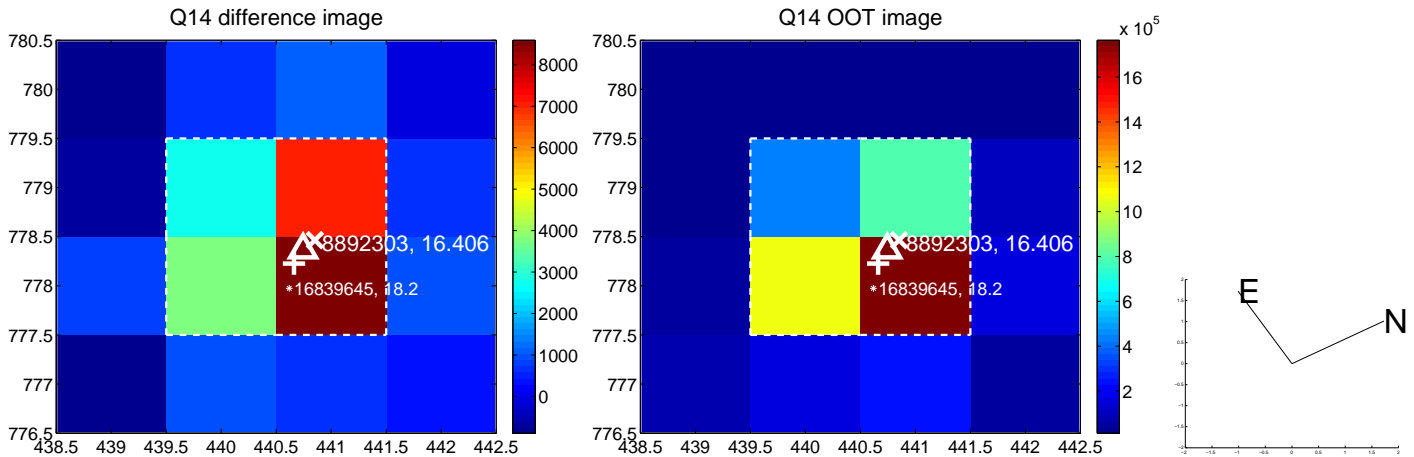
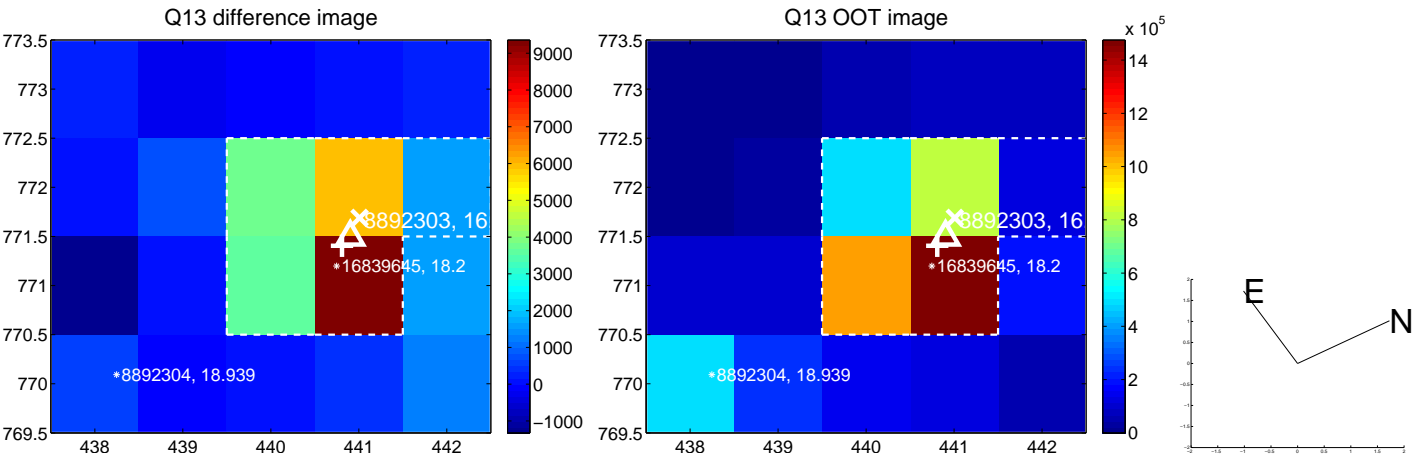
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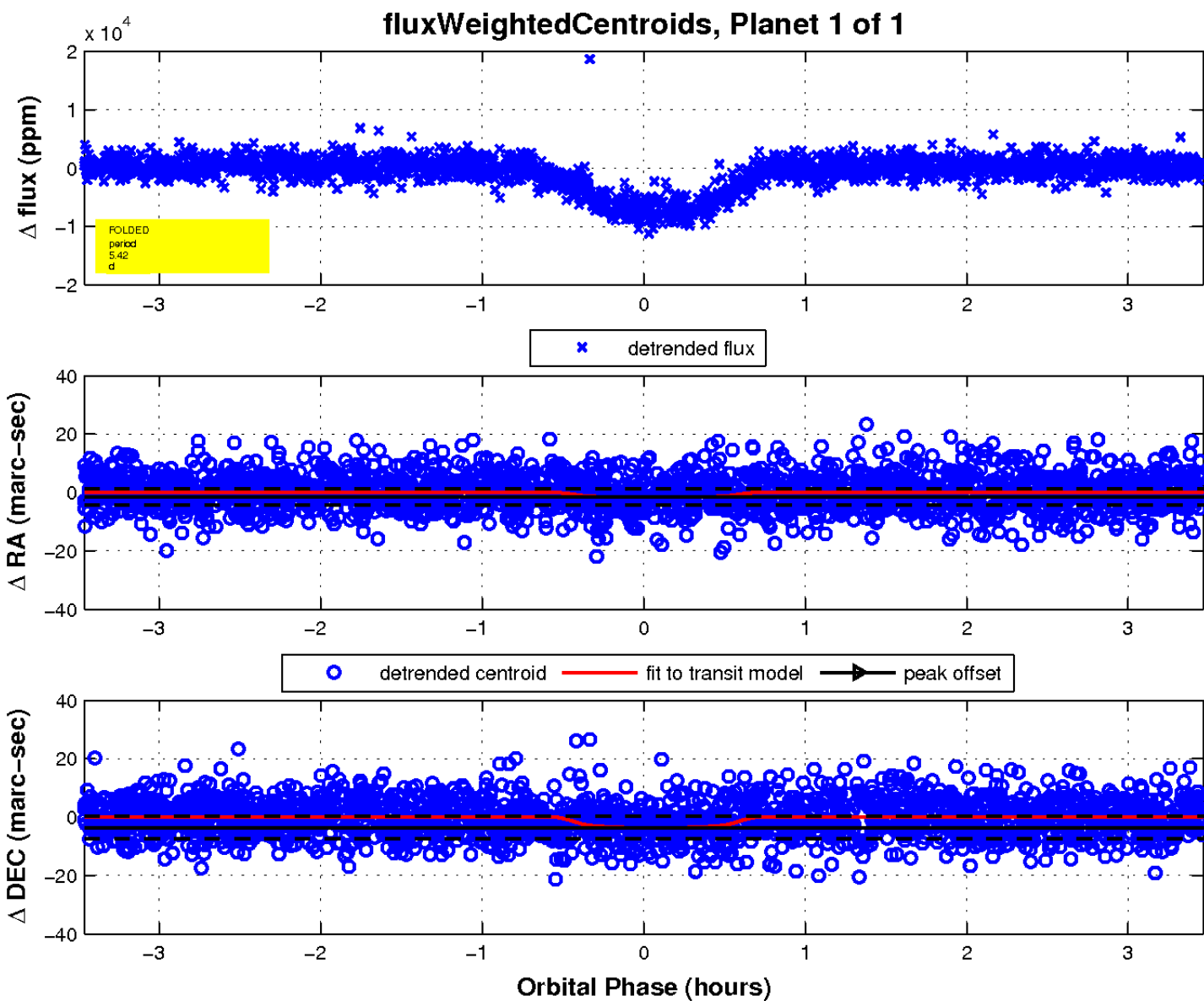
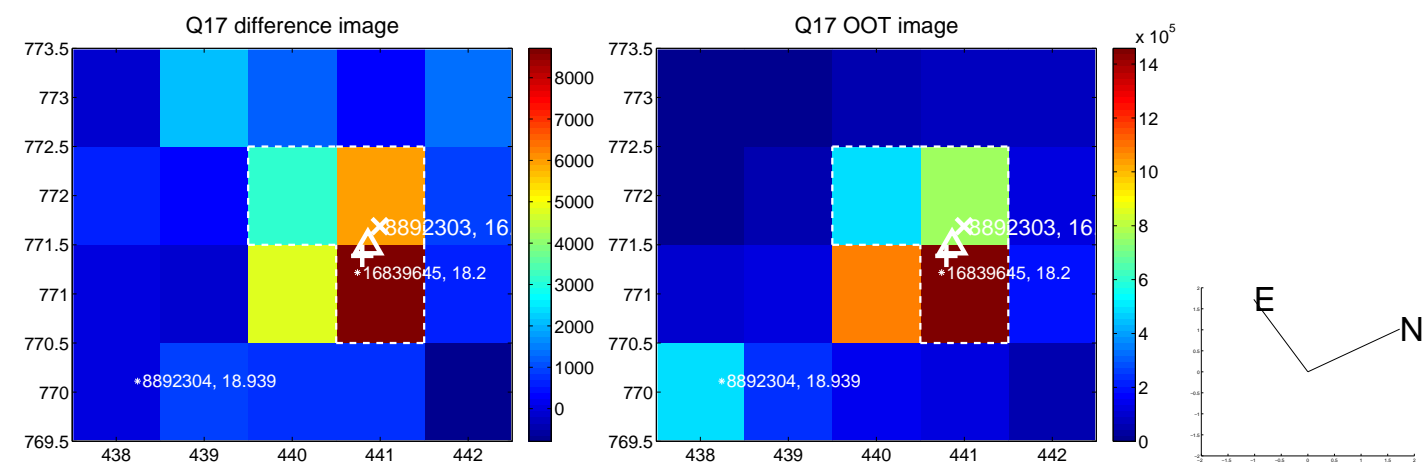
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UKIRT Image

Declination

