

KIC 007900811

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 007900811-01 | OBS | No | 494.585008 | 373.649650 | 894.8 | 8.269 | 9.3 | 8.5 | 0.65 | 4556 | 1.97 | 0.14 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 007900811-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_SKYE—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.

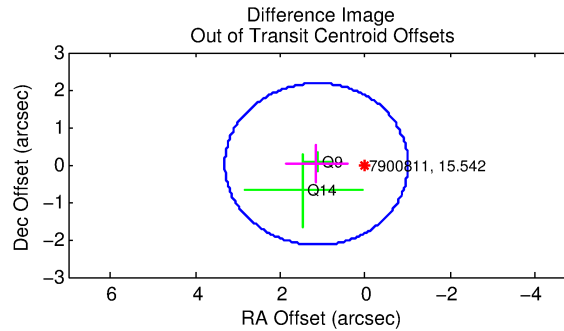
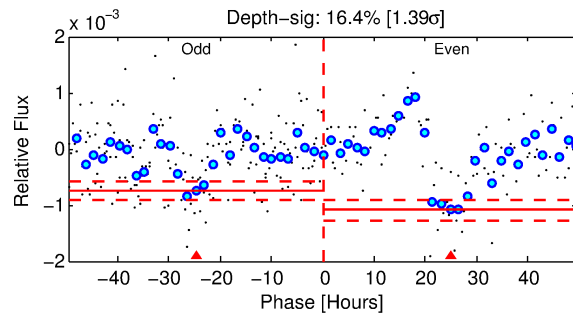
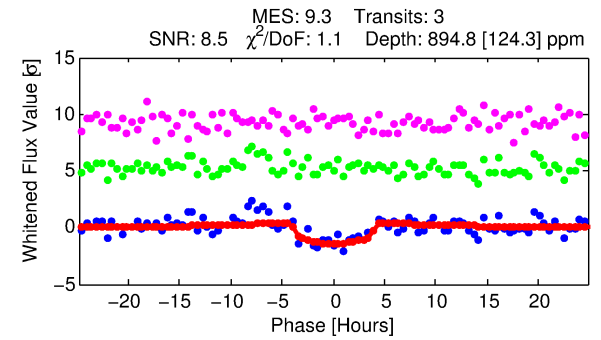
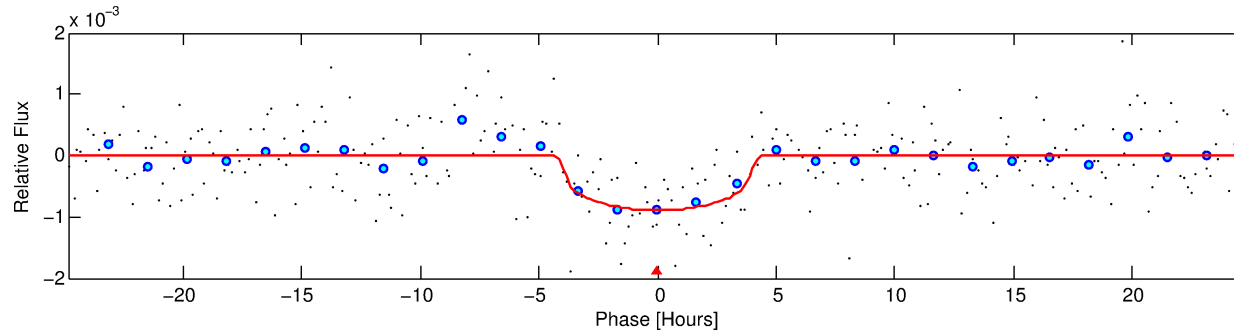
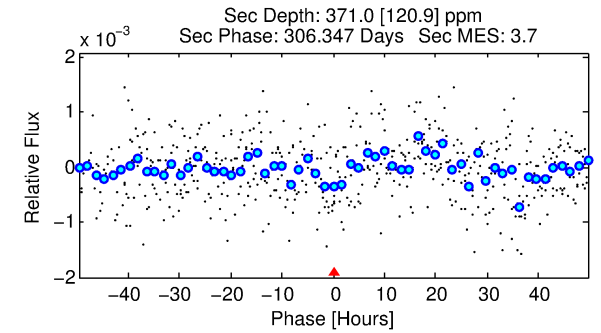
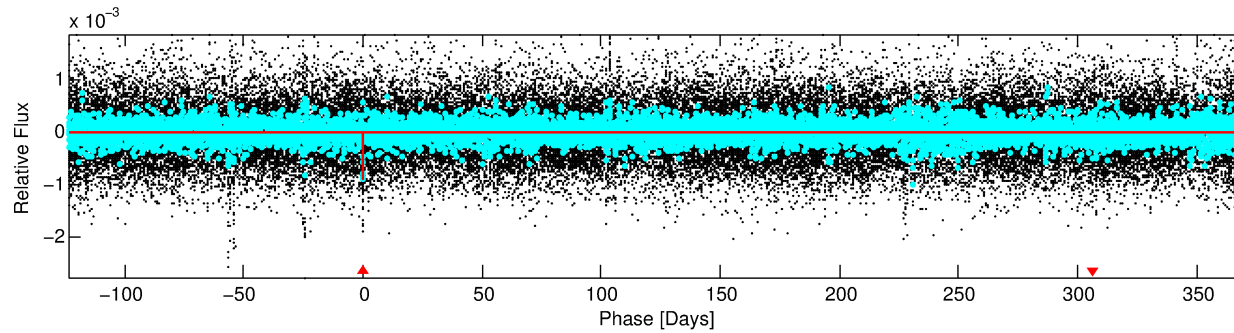
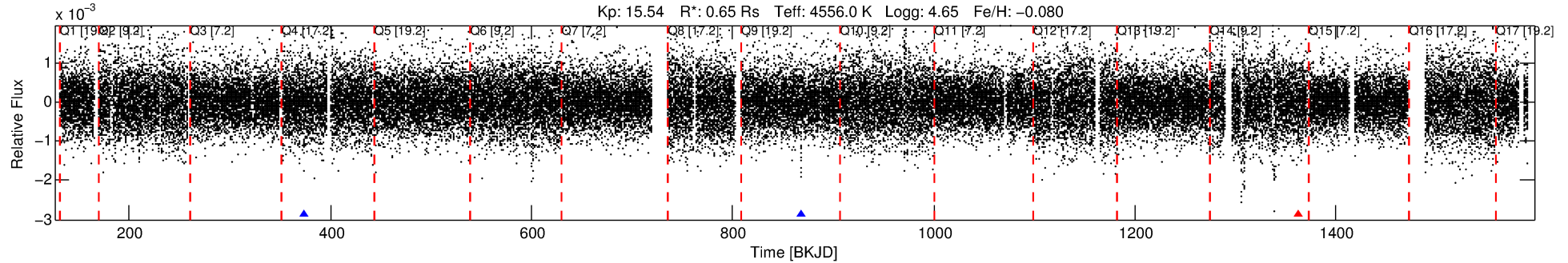
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007900811-01

No Significant Match Found

DV One-Page Summary

KIC: 7900811 Candidate: 1 of 1 Period: 494.585 d



DV Fit Results:

Period = 494.58501 [0.01161] d
Epoch = 373.6497 [0.0149] BKJD
Rp/R* = 0.0277 [0.0334]
a/R* = 400.10 [1473.93]
b = 0.54 [4.98]
Seff = 0.14 [0.02]
Teq = 156 [6] K
Rp = 1.97 [2.38] Re
a = 1.0820 [0.0780] AU
Ag = 61606.59 [150030.45] [0.41σ]
Teffp = 3797 [2313] K [1.57σ]

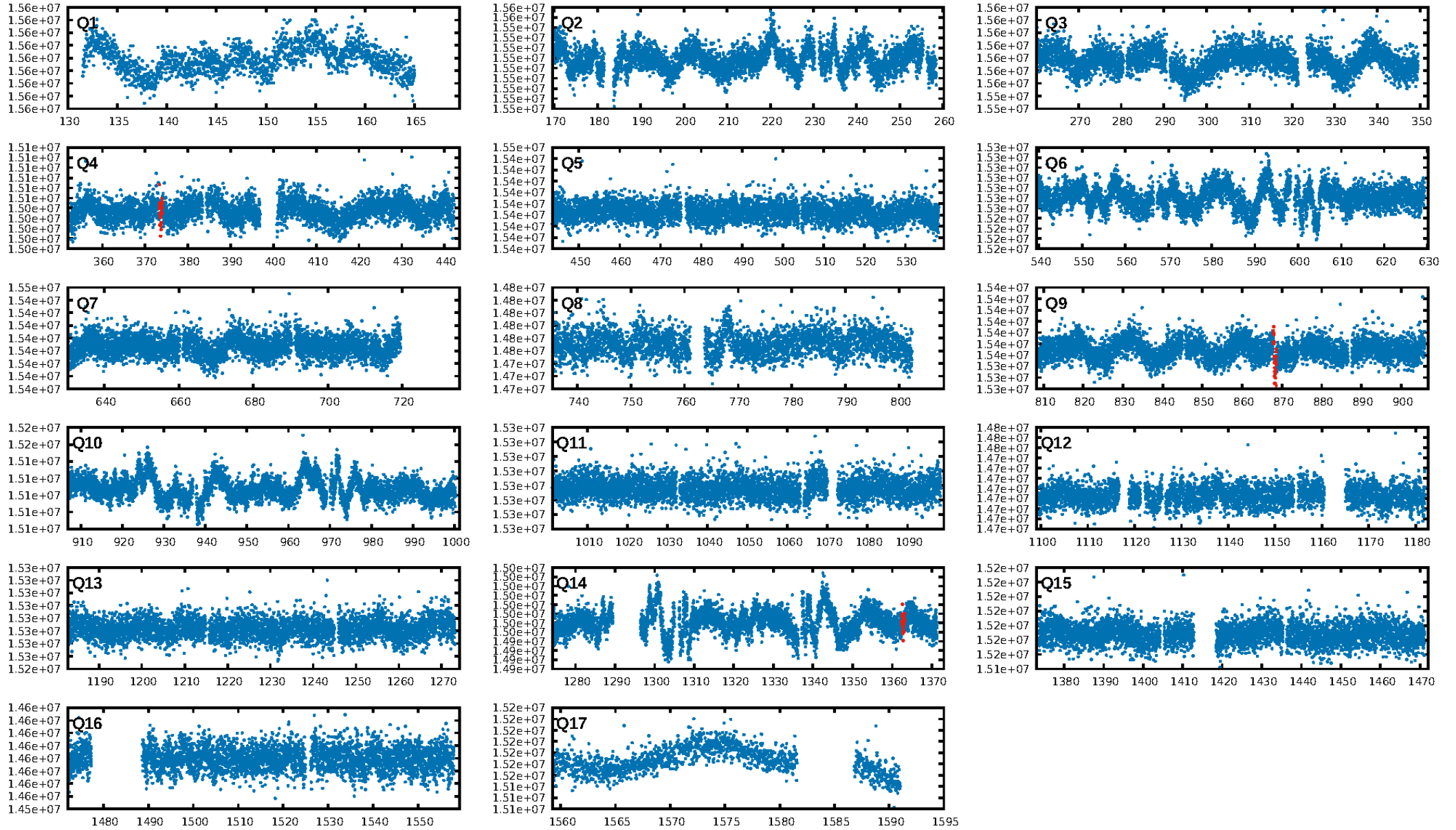
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 38.9%
ModelChiSquareGof-sig: 94.1%
Bootstrap-pfa: 2.27e-11
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: -2.515
Centroid-sig: 68.5%
Centroid-so: 0.612 arcsec [0.37σ]
OotOffset-rm: 1.141 arcsec [1.58σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-rm: 1.218 arcsec [1.77σ]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

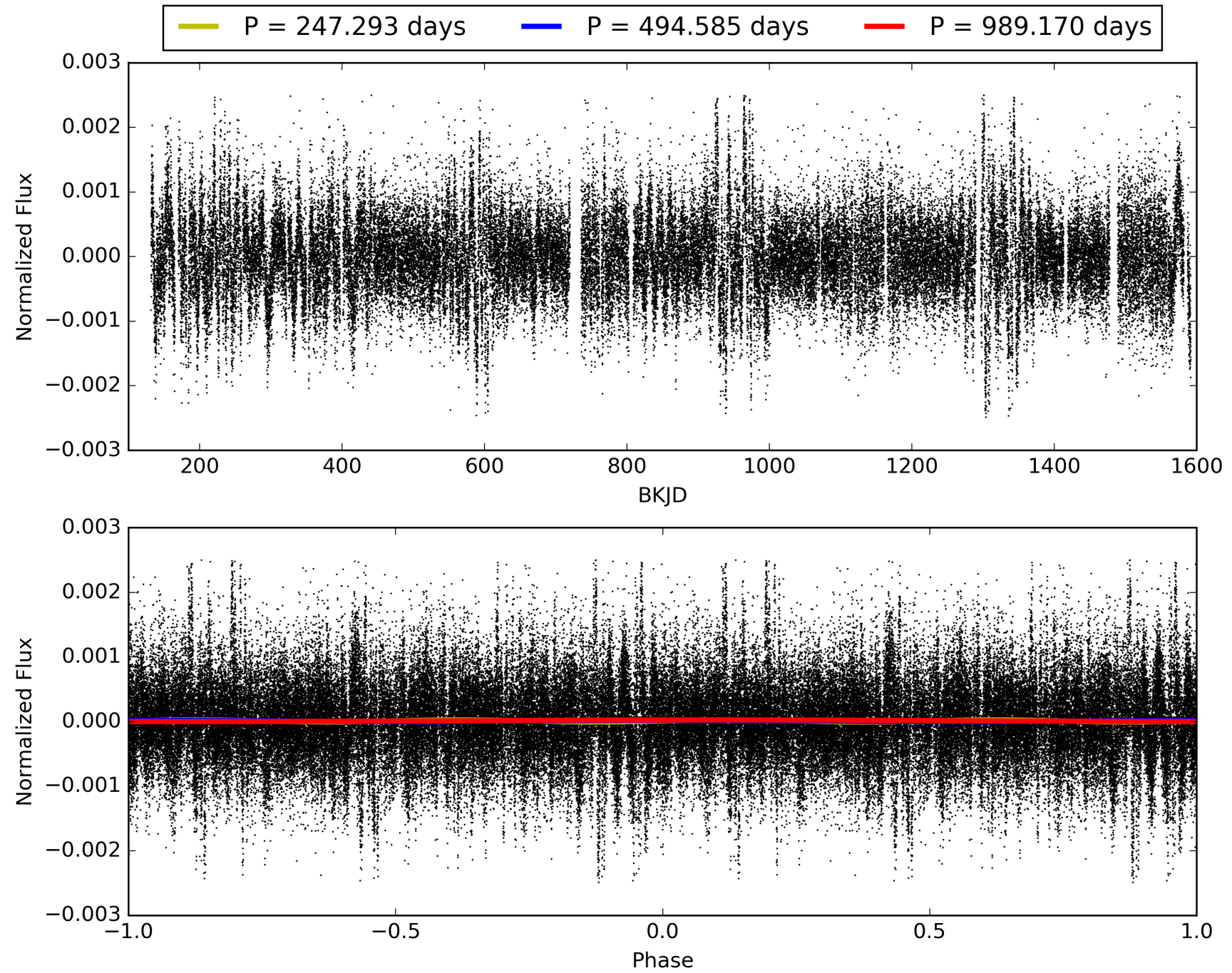
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:44:54 Z

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

TCE 007900811-01, PDC Light Curves

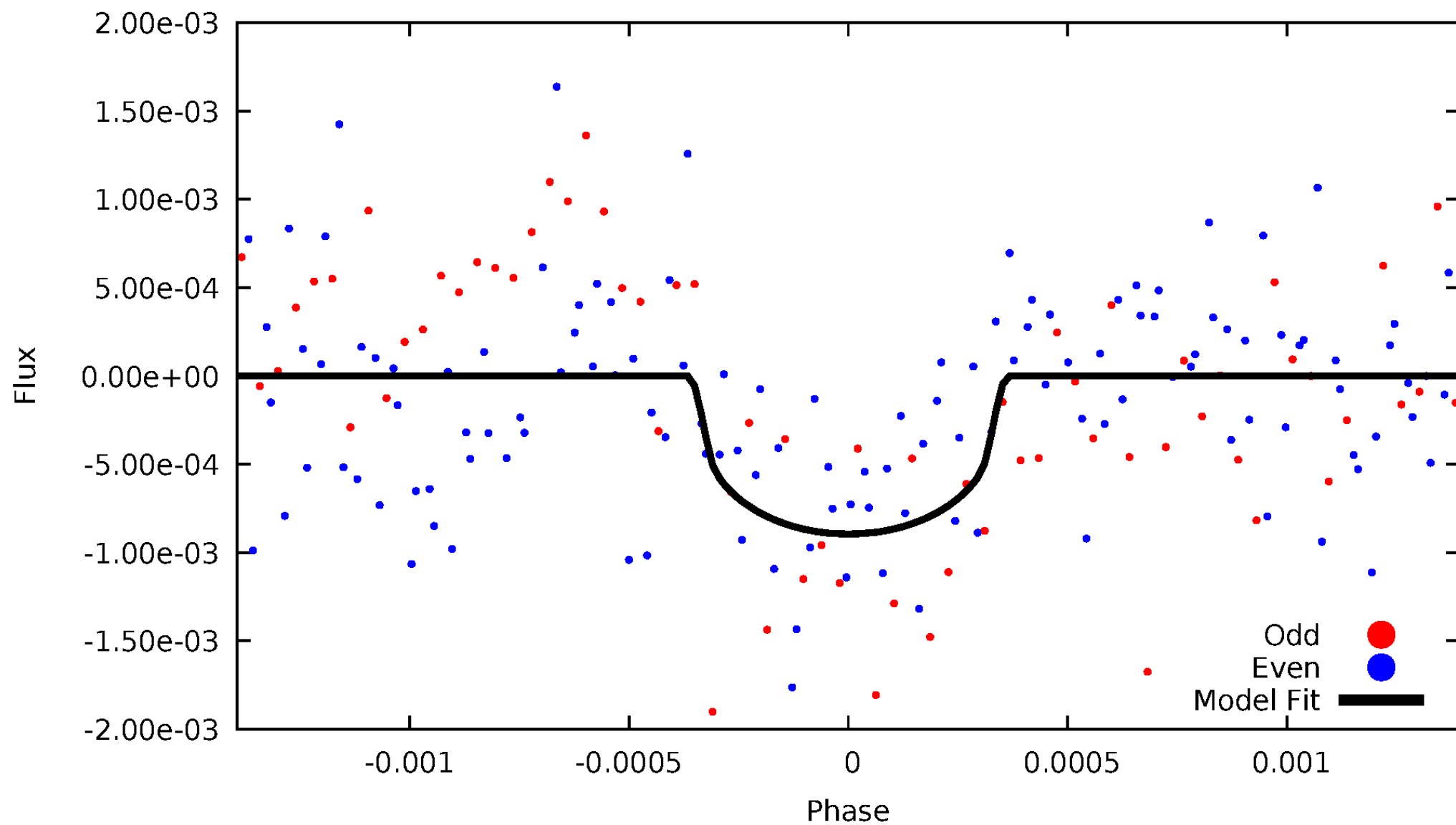


TCE 007900811-01



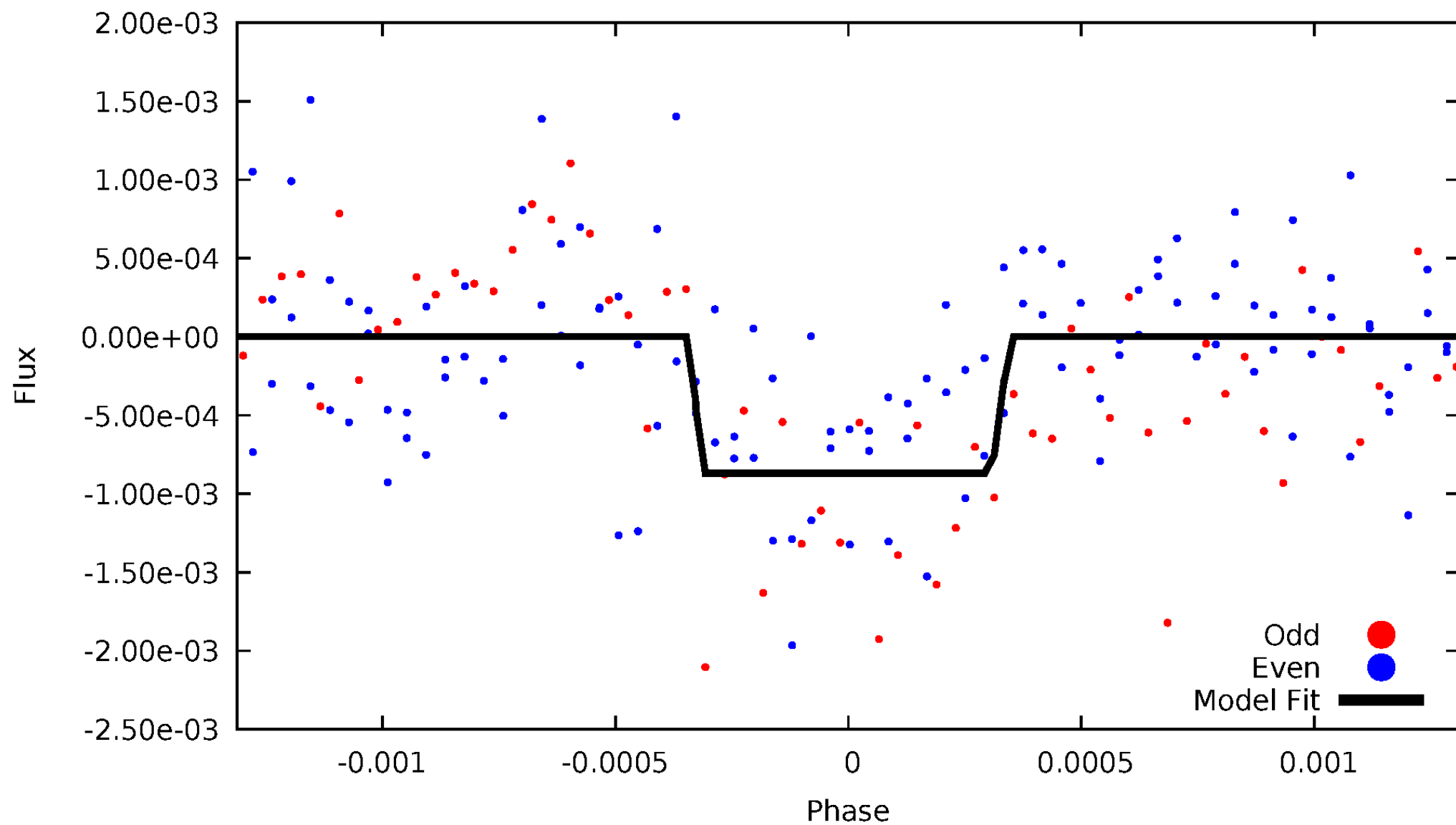
DV Odd/Even

TCE 007900811-01



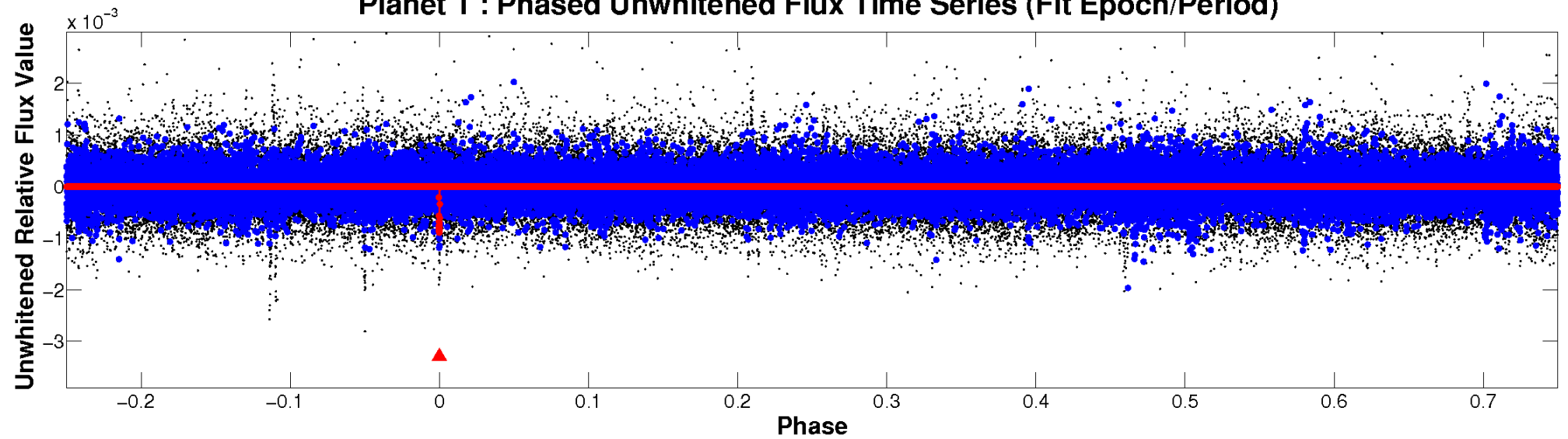
ALT Odd/Even

TCE 007900811-01

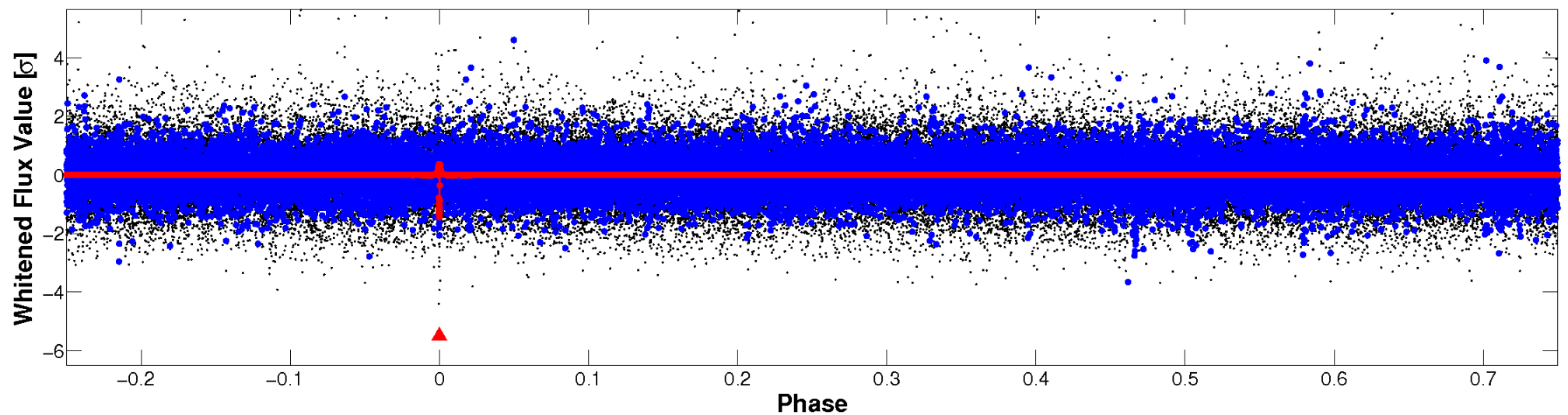


Non-Whitened Vs. Whitened Light Curve

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

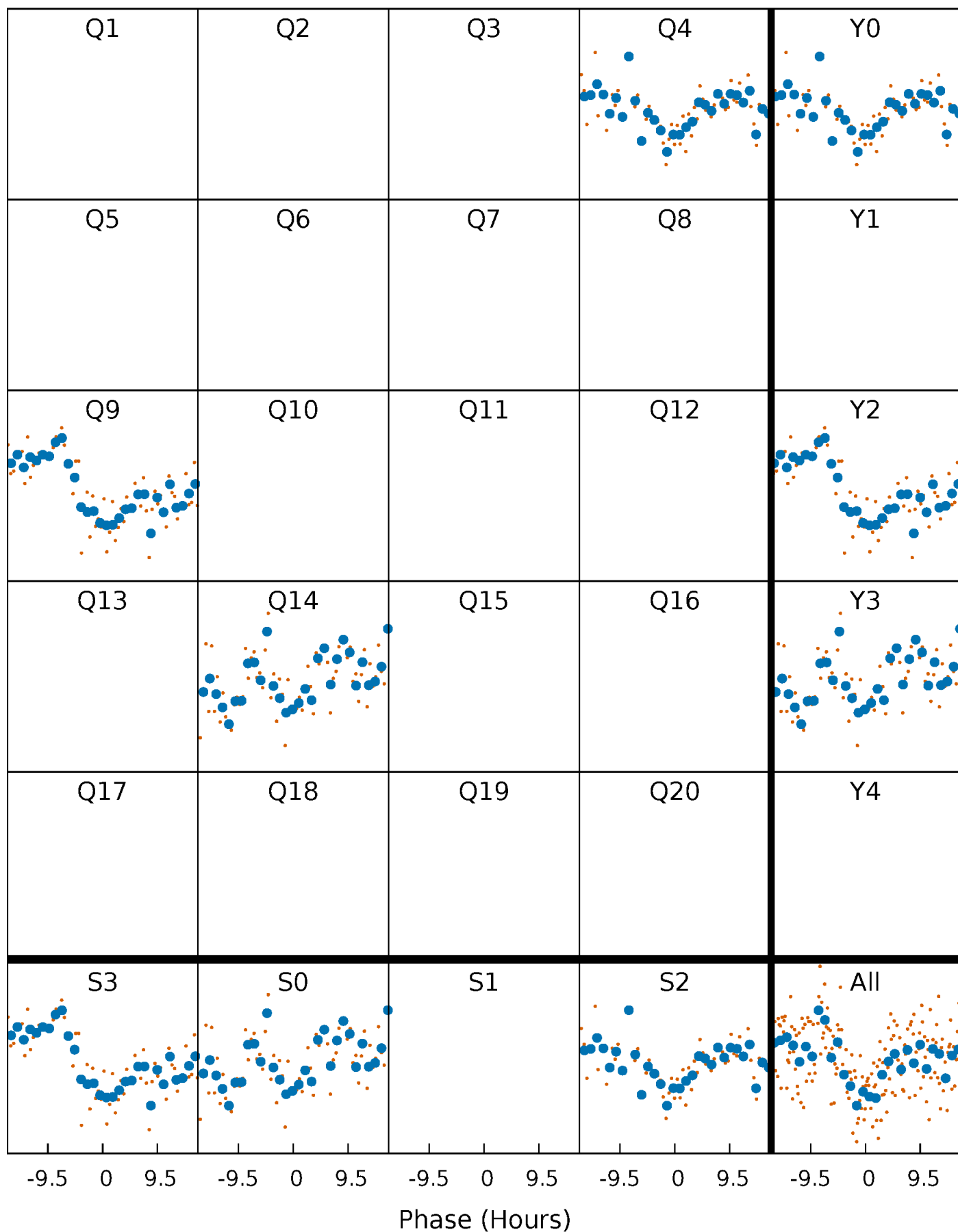


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



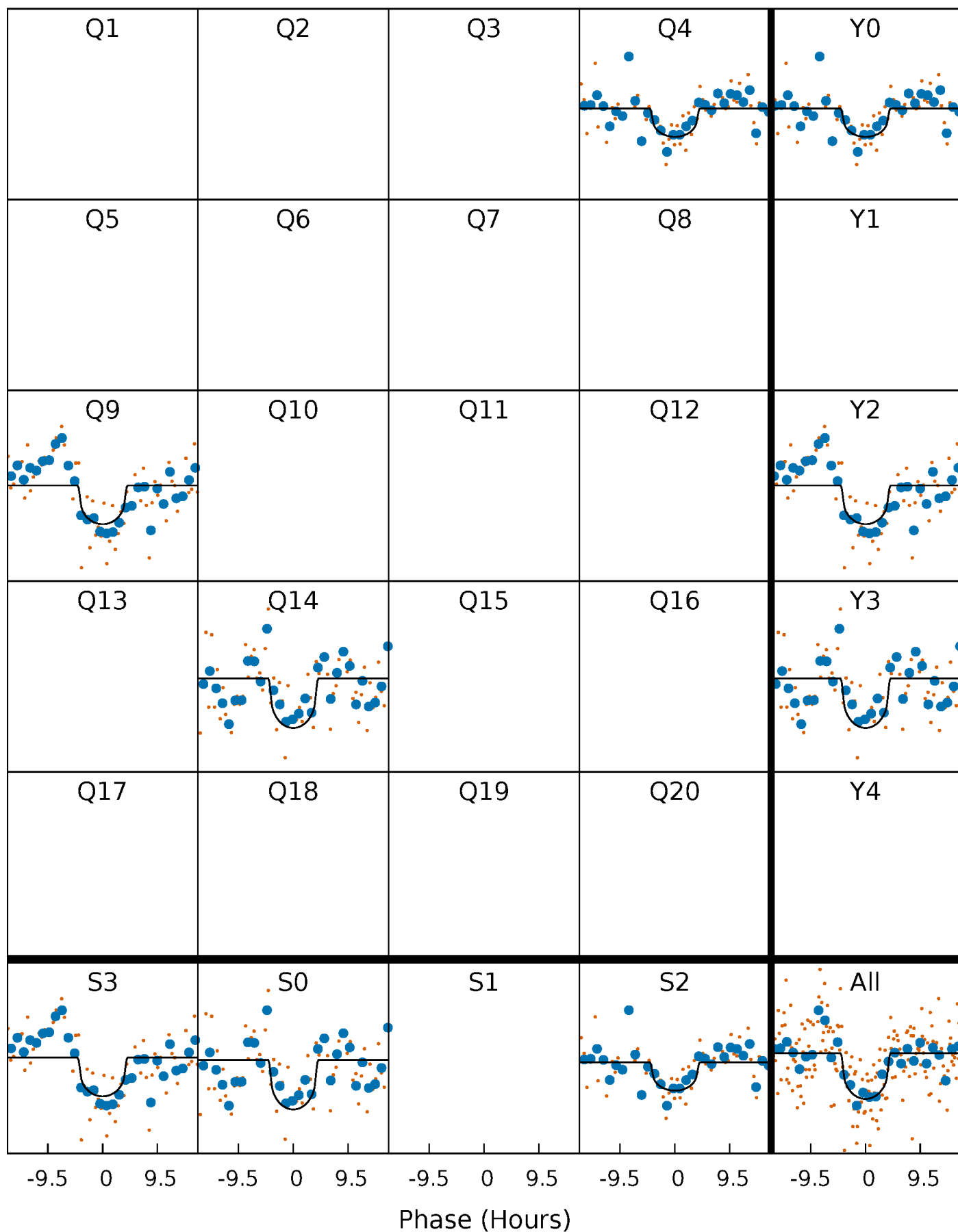
PDC Quarter-Phased Transit Curves

TCE 007900811-01 P=494.585008 Days $T_0=373.649650$ (BKJD)



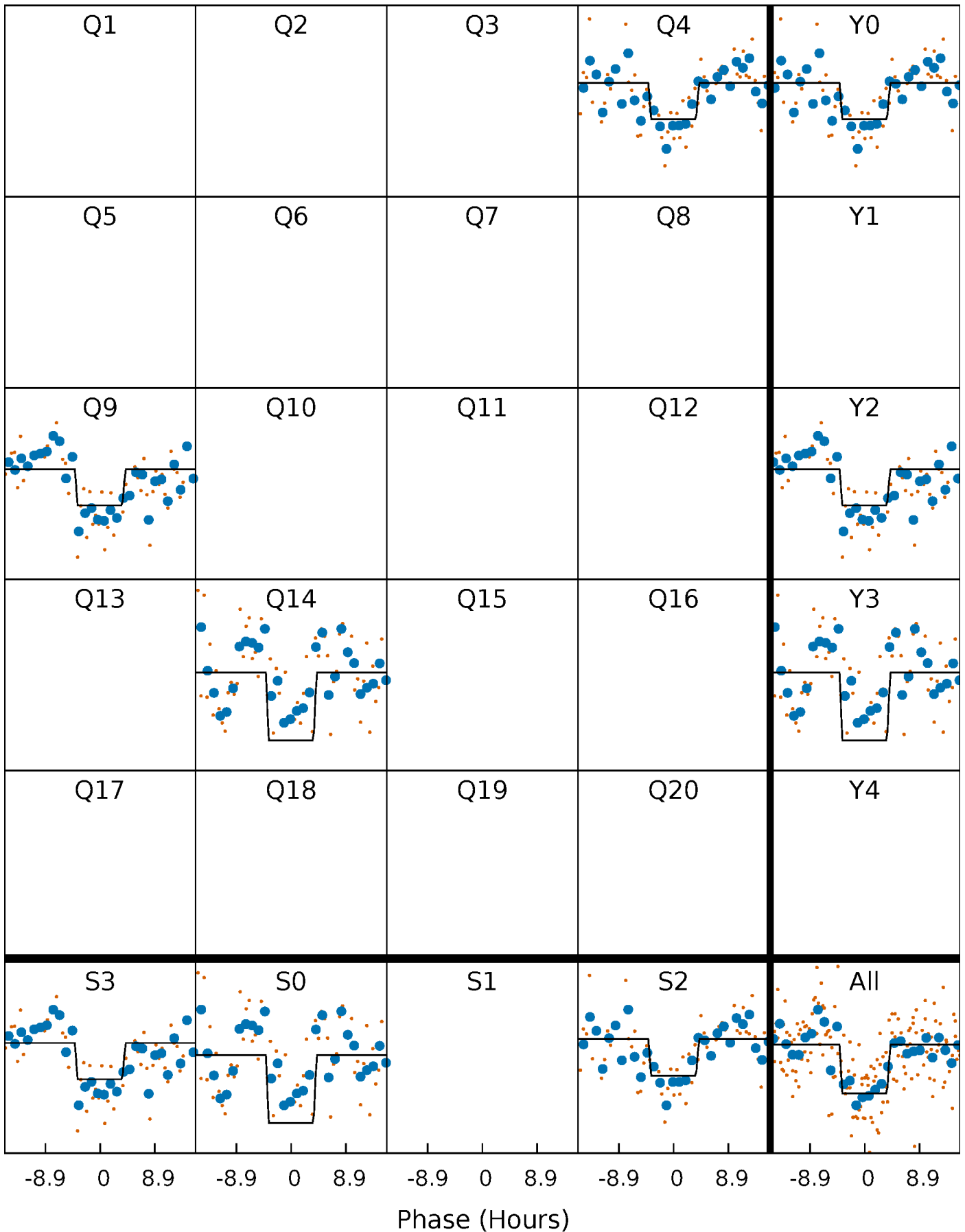
DV Quarter-Phased Transit Curves

TCE 007900811-01 P=494.585008 Days $T_0=373.649650$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

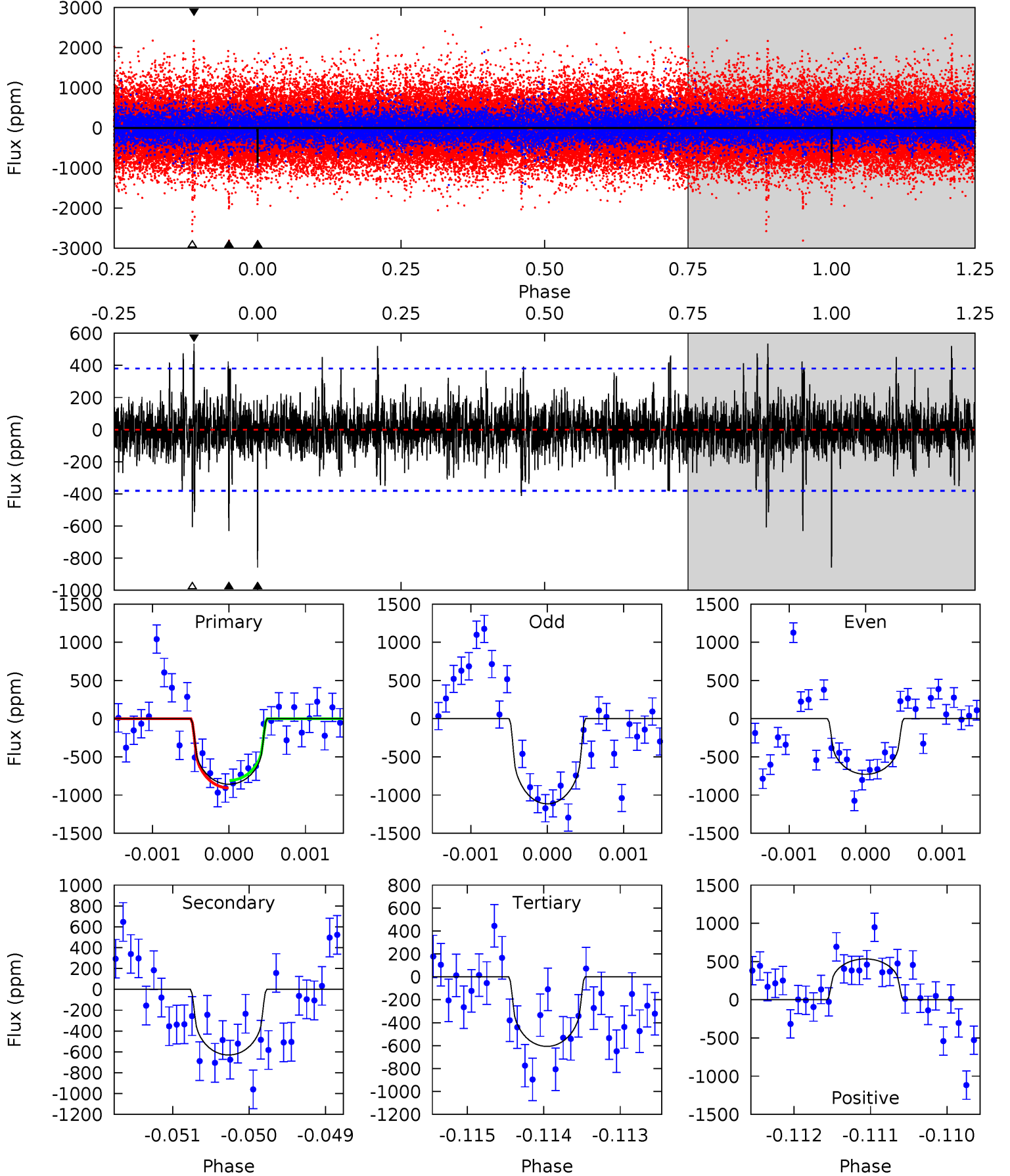
TCE 007900811-01 $P=494.587509$ Days $T_0=373.645935$ (BKJD)



DV Model-Shift Uniqueness Test

007900811-01, P = 494.585008 Days, E = 373.649650 Days

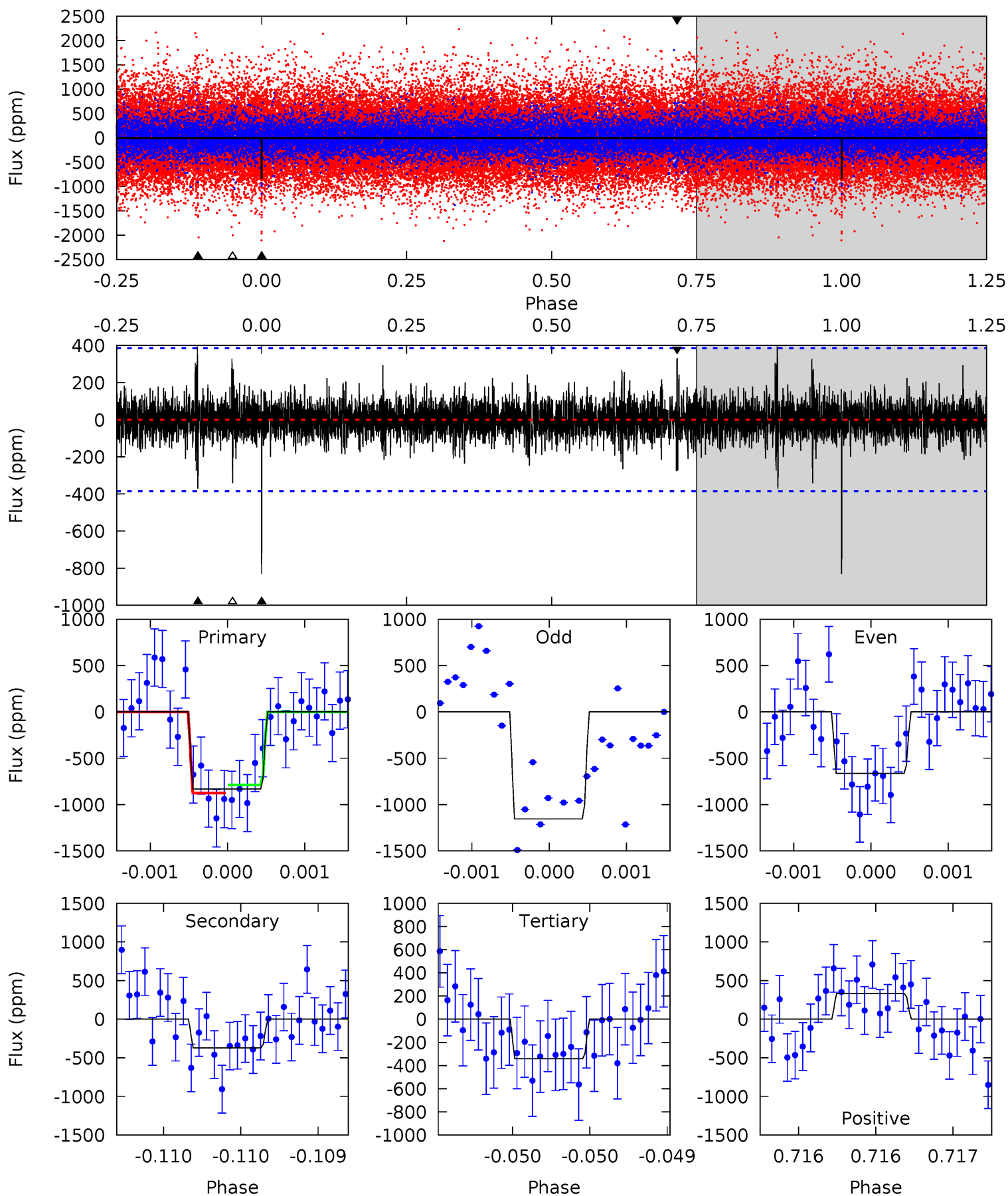
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 12.4 | 9.12 | 8.78 | 7.74 | 5.51 | 3.38 | 1.53 | 3.63 | 4.68 | 0.34 | 1.38 | 2.71 | 1.01 | 0.38 | 0.71 |



Alt Model-Shift Uniqueness Test

007900811-01, P = 494.587509 Days, E = 373.645935 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 | 5.32 | 4.88 | 4.75 | 5.52 | 3.40 | 0.98 | 7.02 | 7.15 | 0.44 | 0.57 | 3.35 | 0.88 | 0.32 | 0.62 |



Stellar Parameters For KIC 007900811

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (g \cdot \text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|--------------------------------------|
| | 4556^{+134}_{-134} | $4.650^{+0.025}_{-0.049}$ | $-0.080^{+0.300}_{-0.300}$ | $0.651^{+0.060}_{-0.044}$ | $0.709^{+0.048}_{-0.072}$ | $3.614^{+0.435}_{-0.735}$ |
| | +3%/-3% | +1%/-1% | +375%/-375% | +9%/-7% | +7%/-10% | +12%/-20% |
| Source | PHO1 | 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 007900811-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|---------------|------------------------|-----------------|-----------------------|----------------------------|
| DV | -630 ± 69 | $2.63^{+2.04}_{-1.68}$ | 219^{+8}_{-7} | 3982^{+2111}_{-709} | $60552^{+401848}_{-42354}$ |
| Alt. | -371 ± 70 | $2.62^{+2.16}_{-1.70}$ | 220^{+8}_{-7} | 3616^{+1725}_{-603} | $33491^{+235377}_{-23488}$ |

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

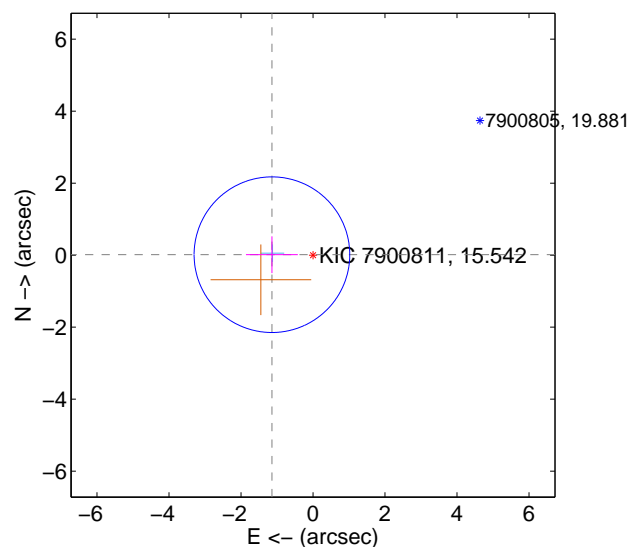
Supplemental centroid analysis for 007900811-01. Kepler magnitude: 15.54. Transit SNR 8.52

There are 1 quarters with good PRF difference image offsets

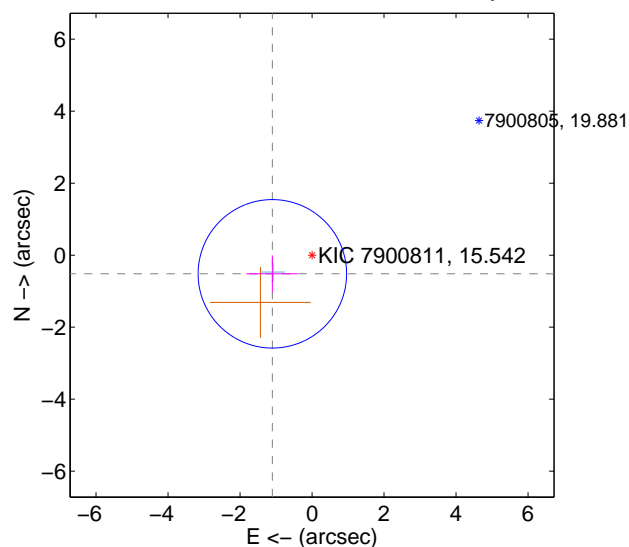
The direct PRF centroid is offset from the target star catalog position by about 0.63 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 1.141 ± 0.721 | 1.58 | 1.141 ± 0.721 | 0.013 ± 0.511 |
| PRF-fit source offset from KIC position | 1.218 ± 0.687 | 1.77 | 1.102 ± 0.721 | -0.518 ± 0.511 |
| photometric centroid source offset | 0.61 ± 1.66 | 0.37 | 0.60 ± 1.66 | -0.10 ± 1.82 |

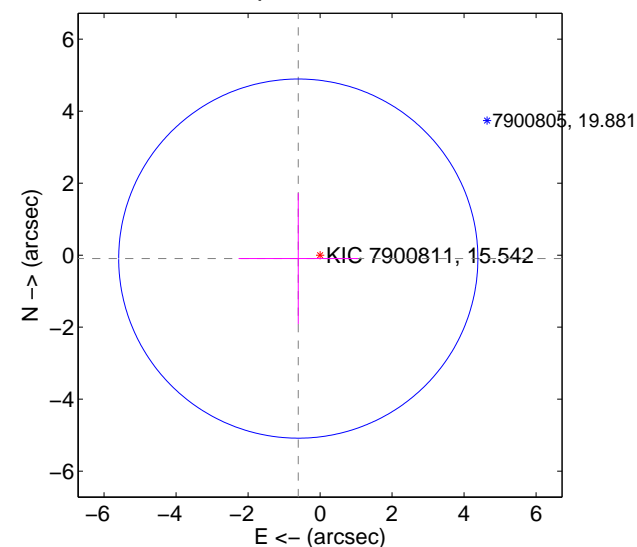
offset from difference PRF-fit to OOT PRF-fit



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.

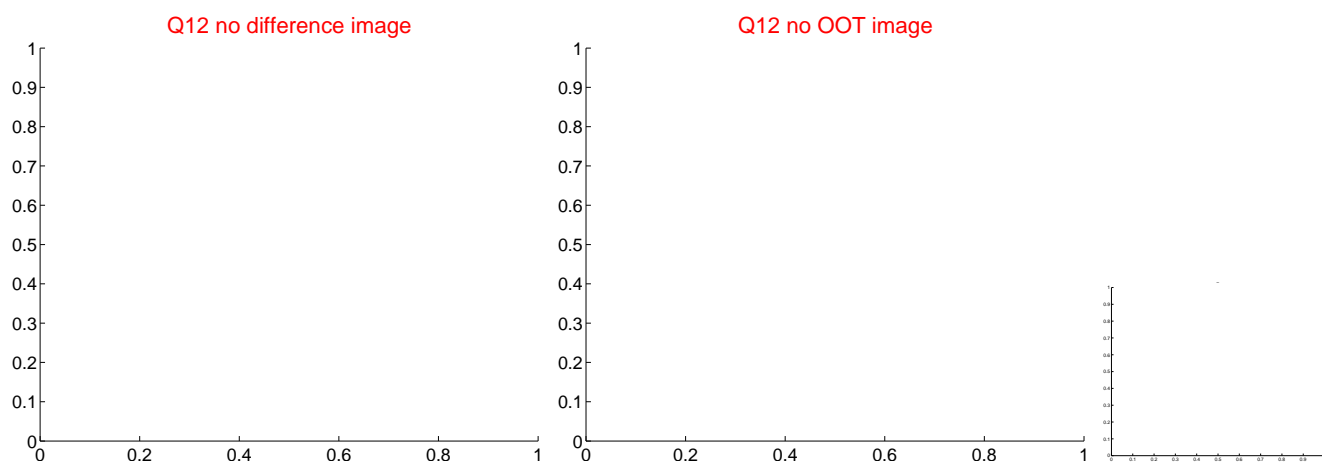
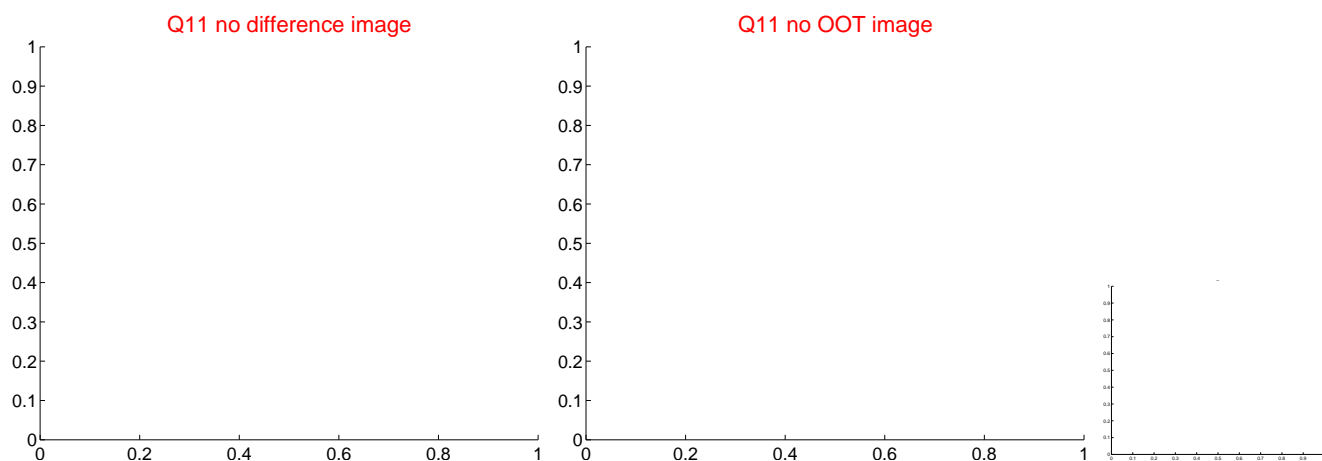
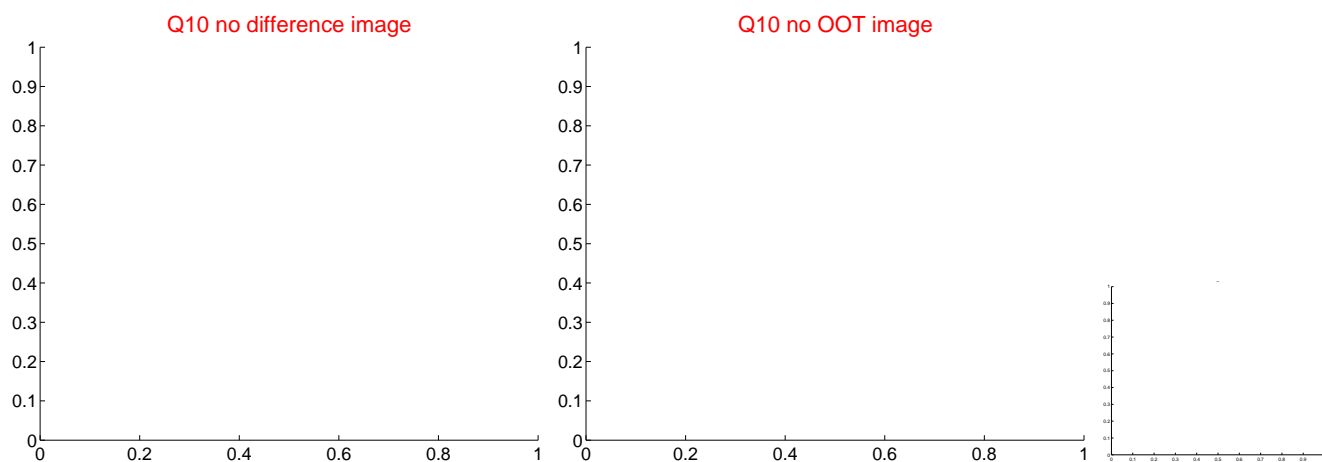
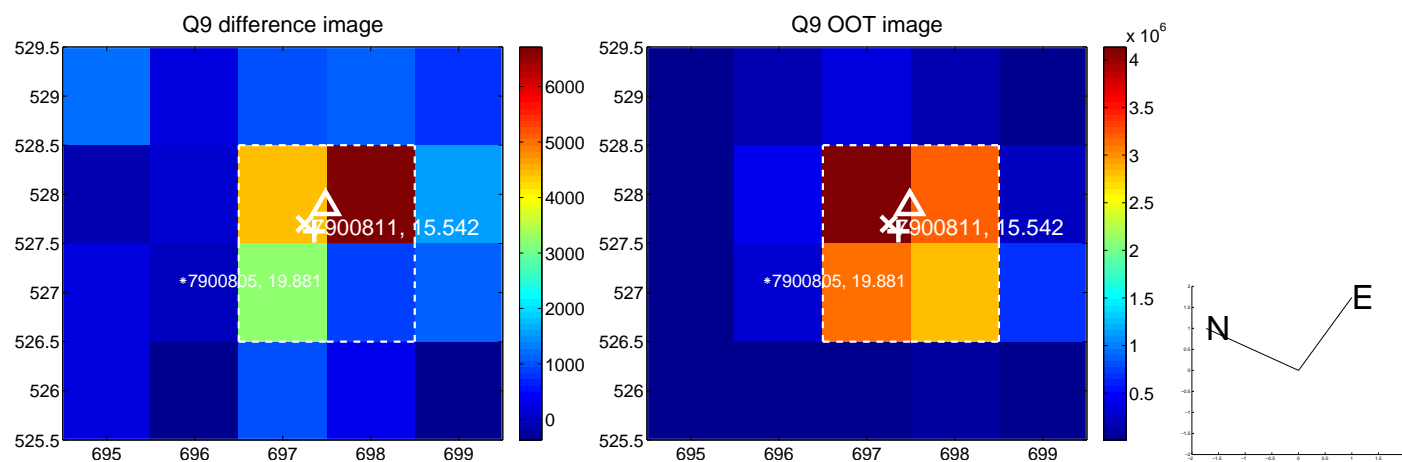
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



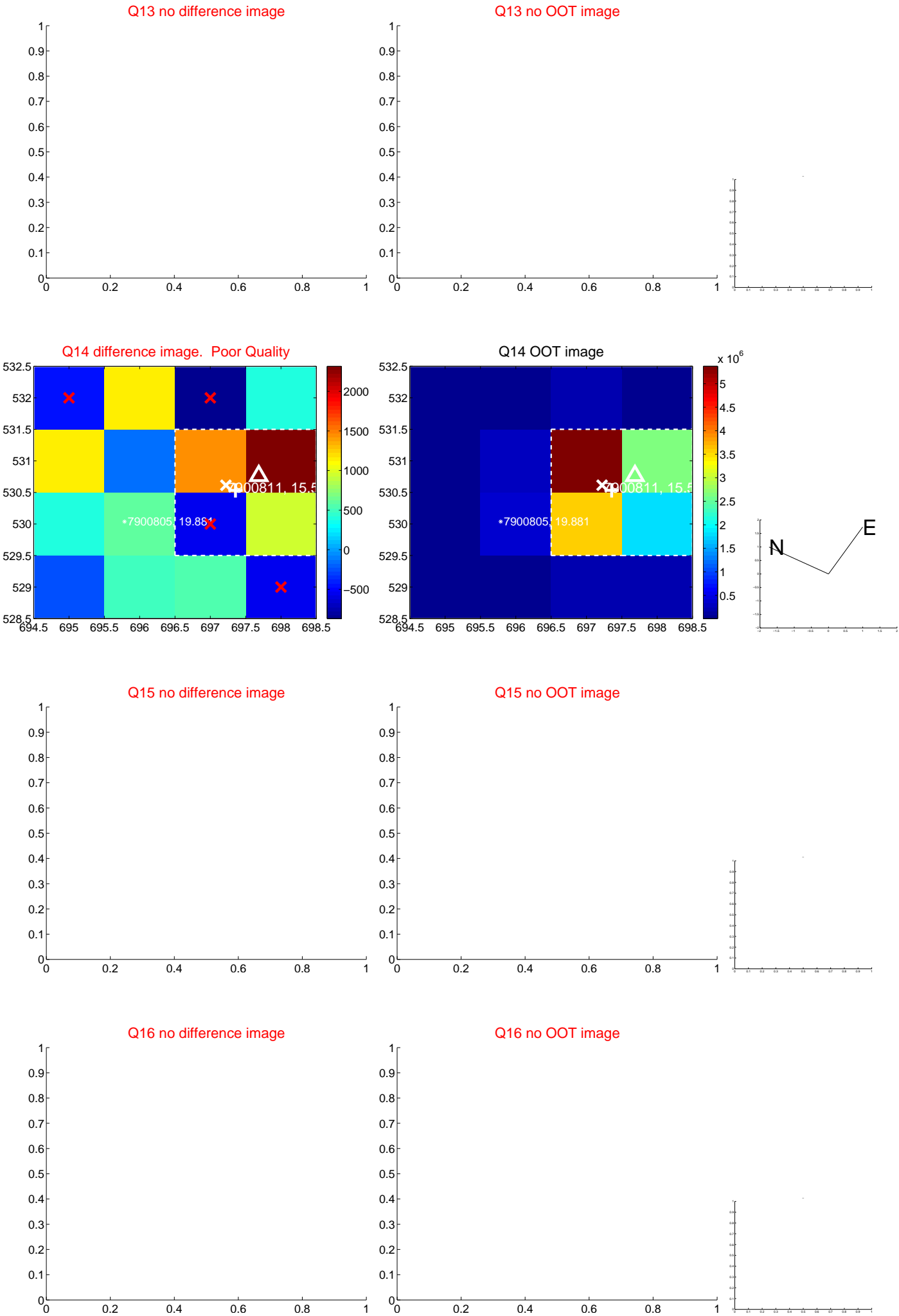
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



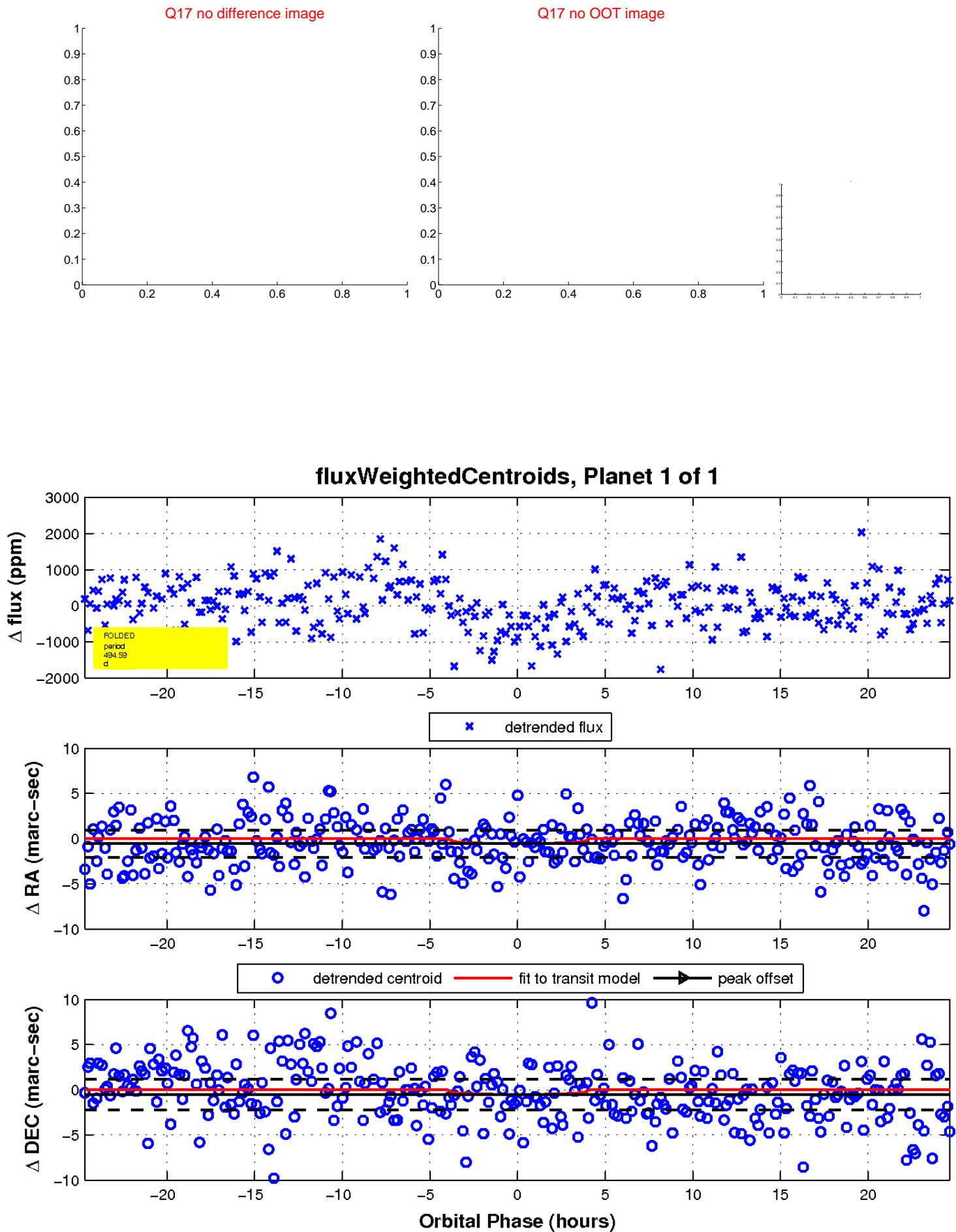
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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.



UKIRT Image

Declination

