

KIC 006508291

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 006508291-01 | OBS | No | 498.028101 | 513.460720 | 246.0 | 10.344 | 7.2 | 7.2 | 1.02 | 6090 | 1.74 | 0.80 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 006508291-01 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST |

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

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

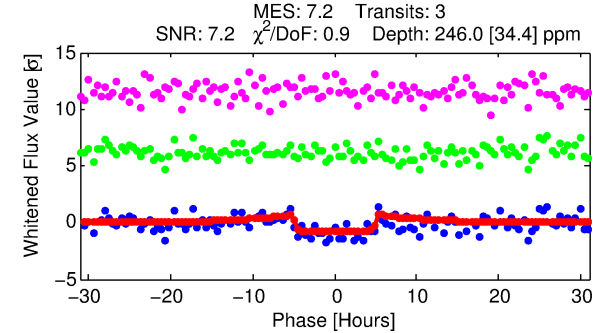
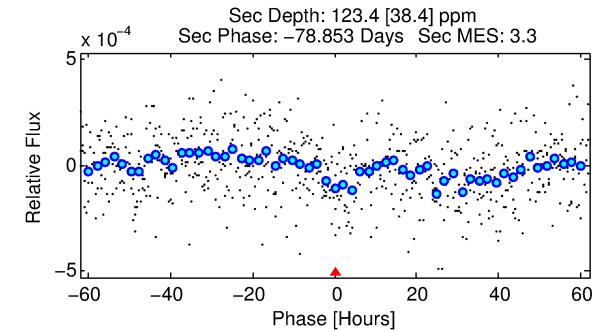
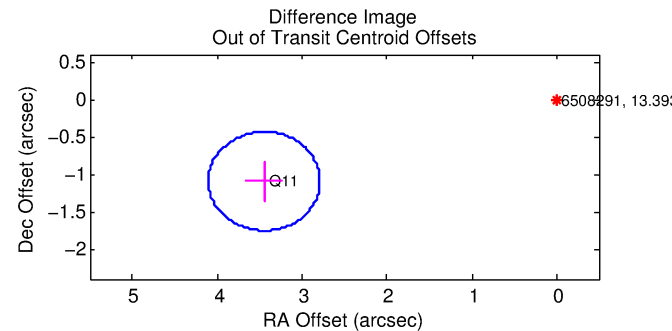
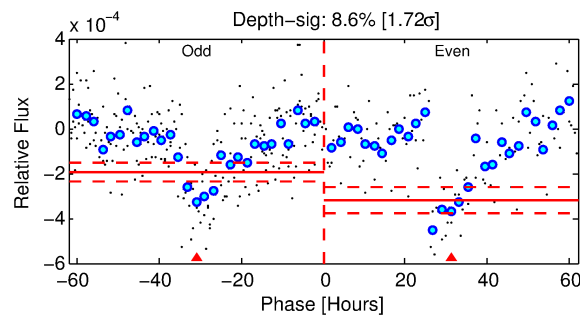
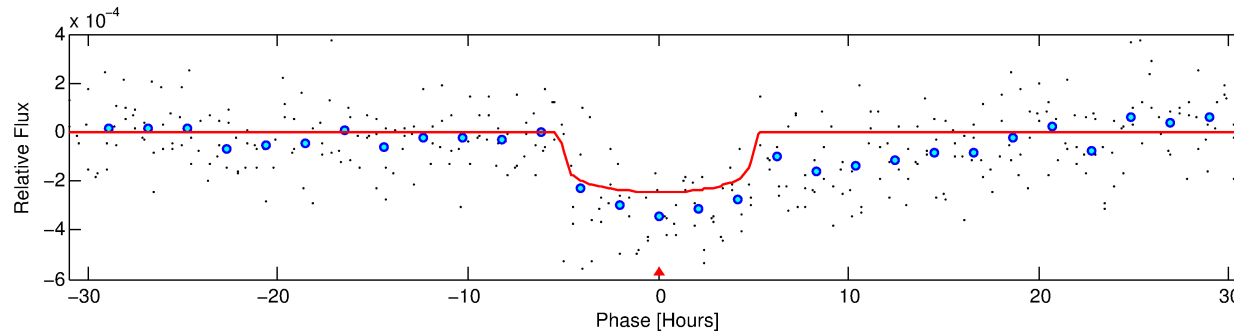
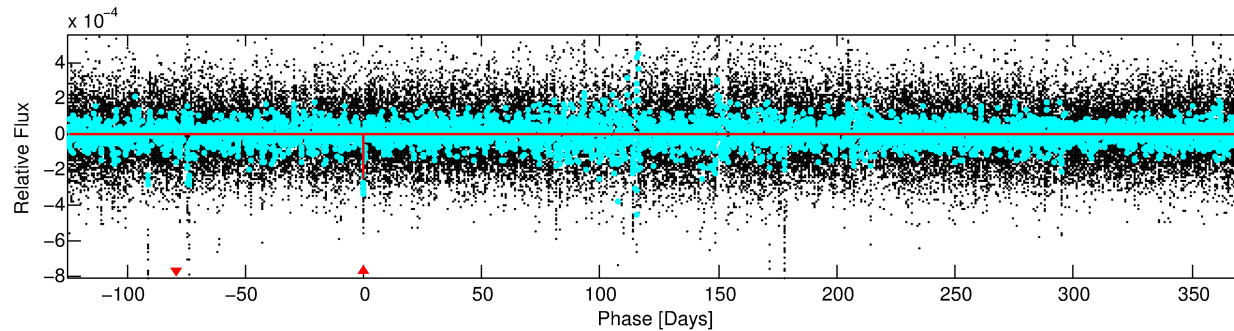
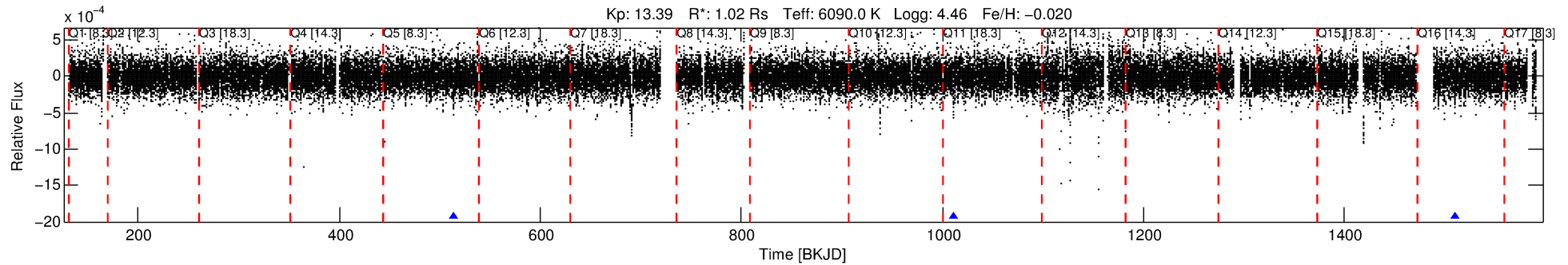
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006508291-01

No Significant Match Found

DV One-Page Summary

KIC: 6508291 Candidate: 1 of 1 Period: 498.028 d



DV Fit Results:

Period = 498.02810 [0.00920] d
Epoch = 513.4607 [0.0116] BKJD
Rp/R* = 0.0157 [0.0069]
a/R* = 246.90 [518.49]
b = 0.76 [1.16]
Seff = 0.80 [0.24]
Teq = 241 [18] K
Rp = 1.74 [0.86] Re
a = 1.2645 [0.2394] AU
Ag = 35691.84 [34576.55] [1.03σ]
Teffp = 5128 [1202] K [4.07σ]

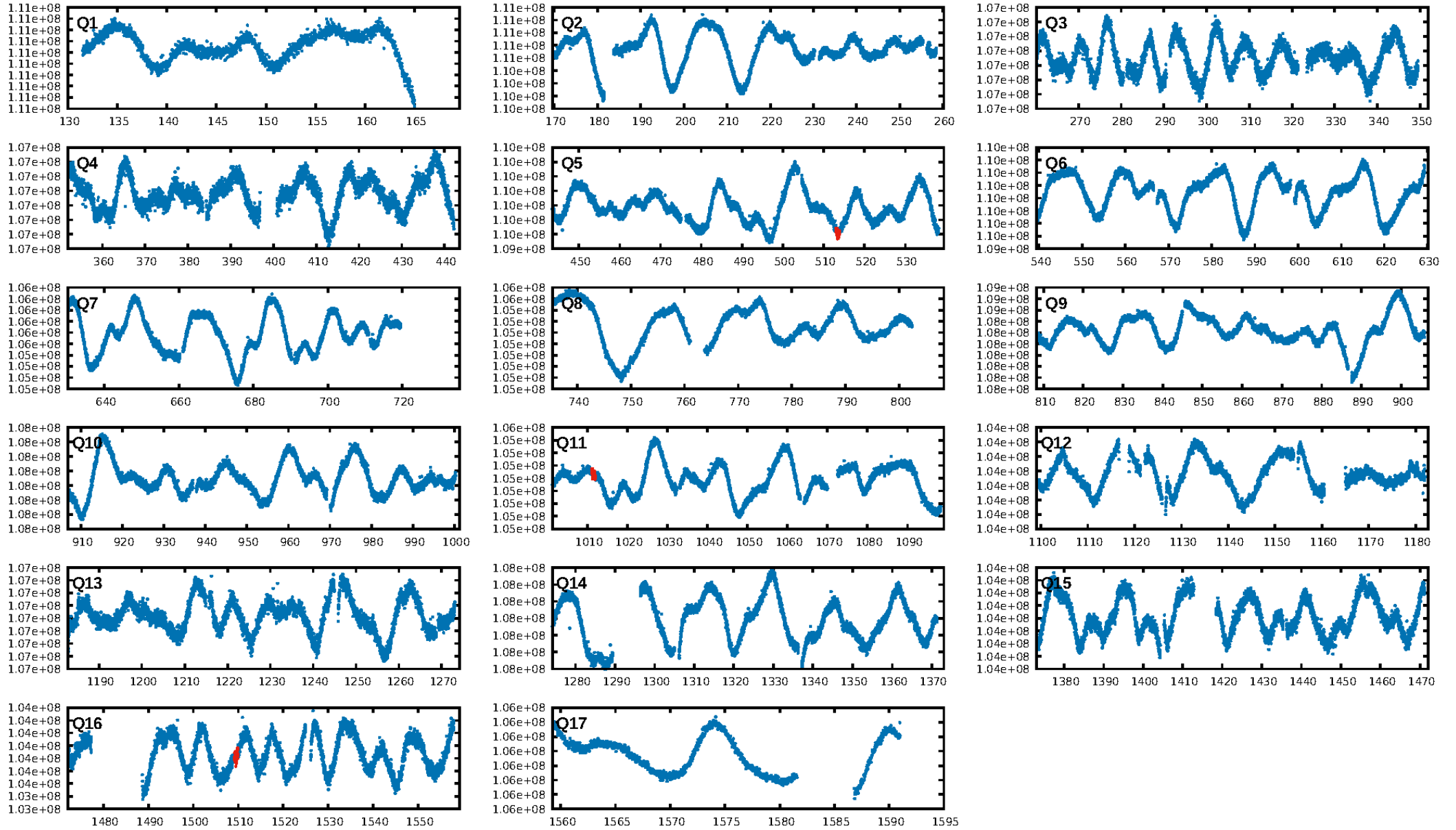
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 44.4%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 3.81e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.04639
Centroid-sig: 0.1%
Centroid-so: 3.496 arcsec [2.75σ]
OotOffset-rm: 3.617 arcsec [16.46σ]
KicOffset-rm: 3.509 arcsec [16.07σ]
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]

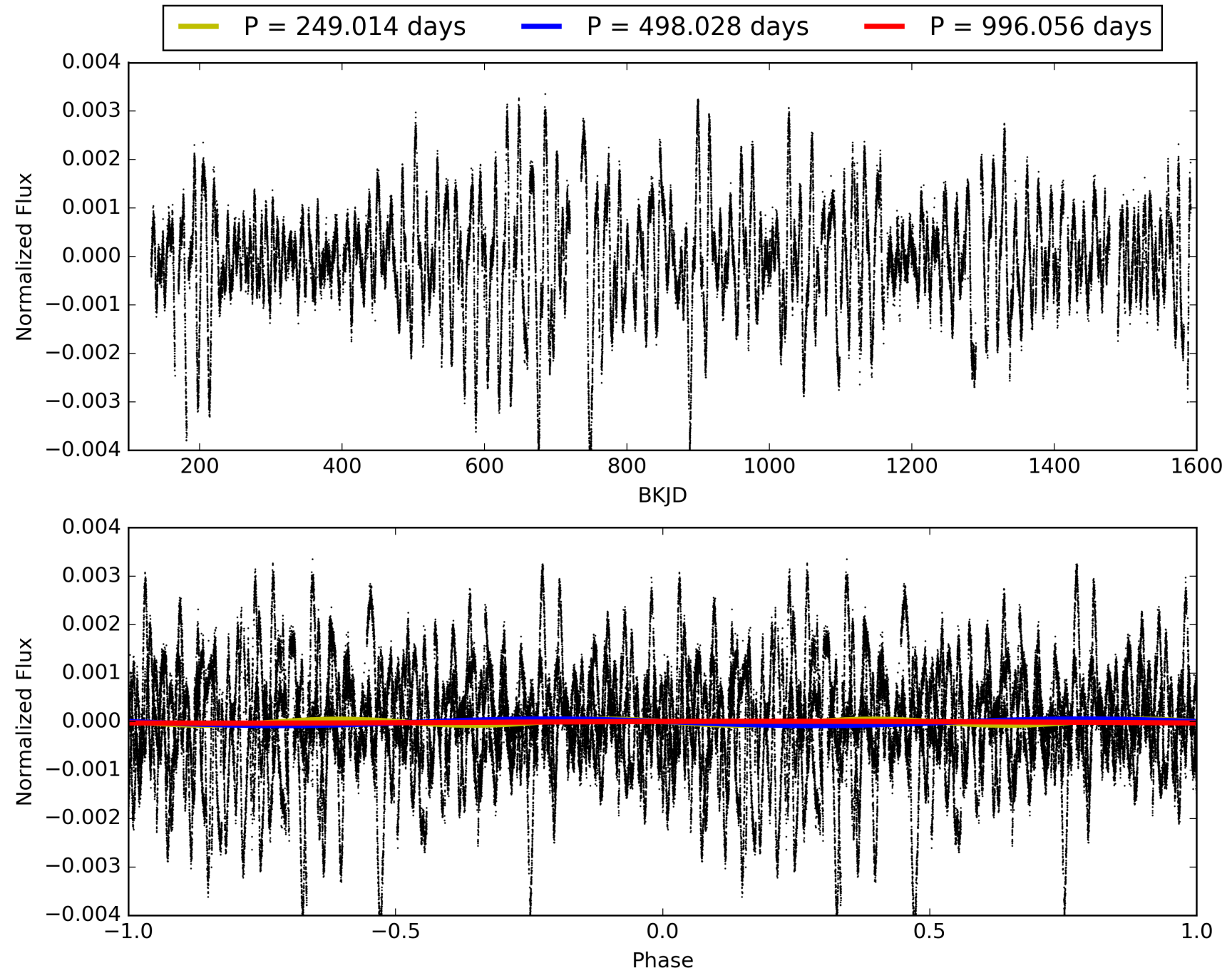
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:20:40 Z

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

TCE 006508291-01, PDC Light Curves

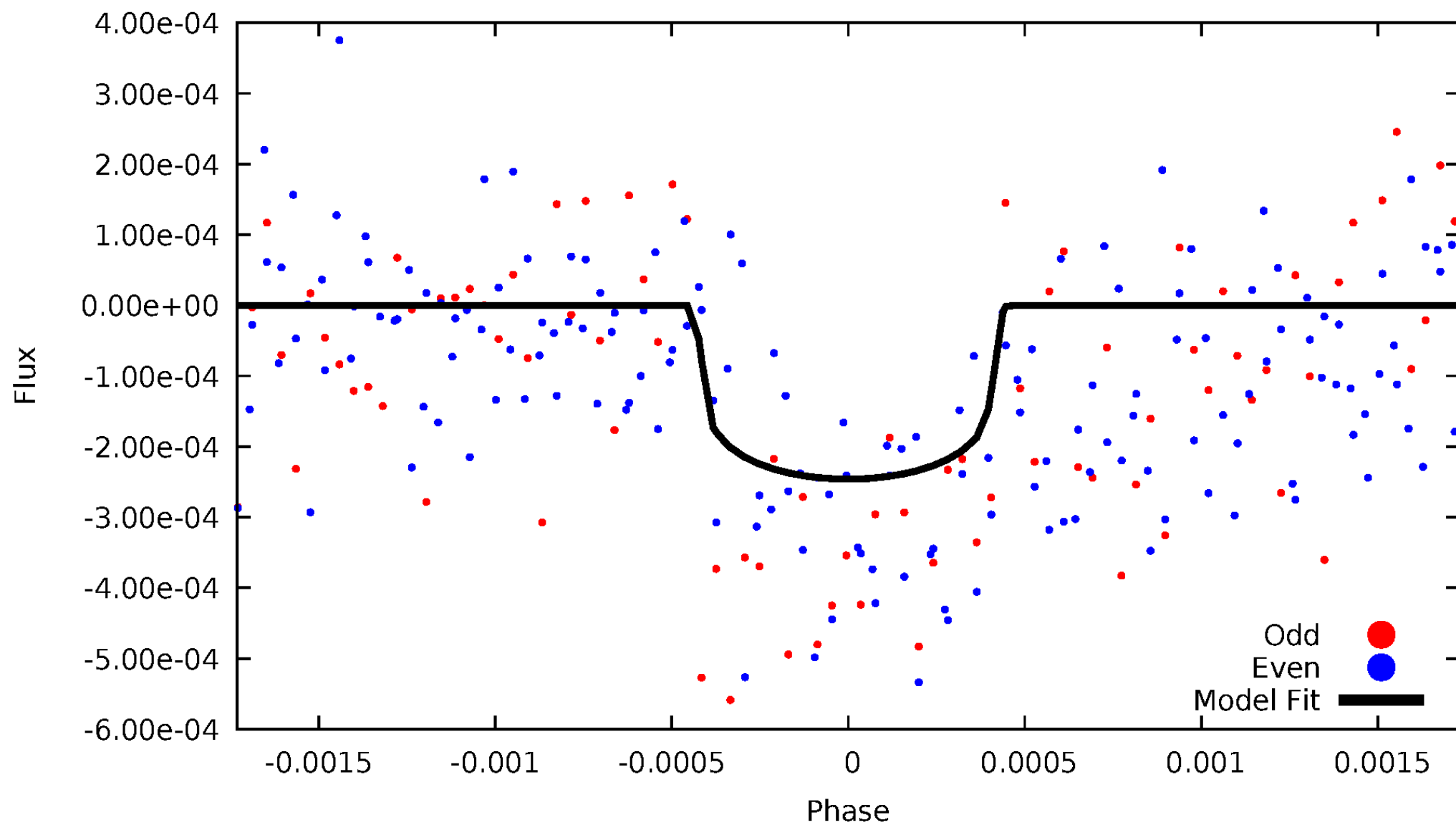


TCE 006508291-01



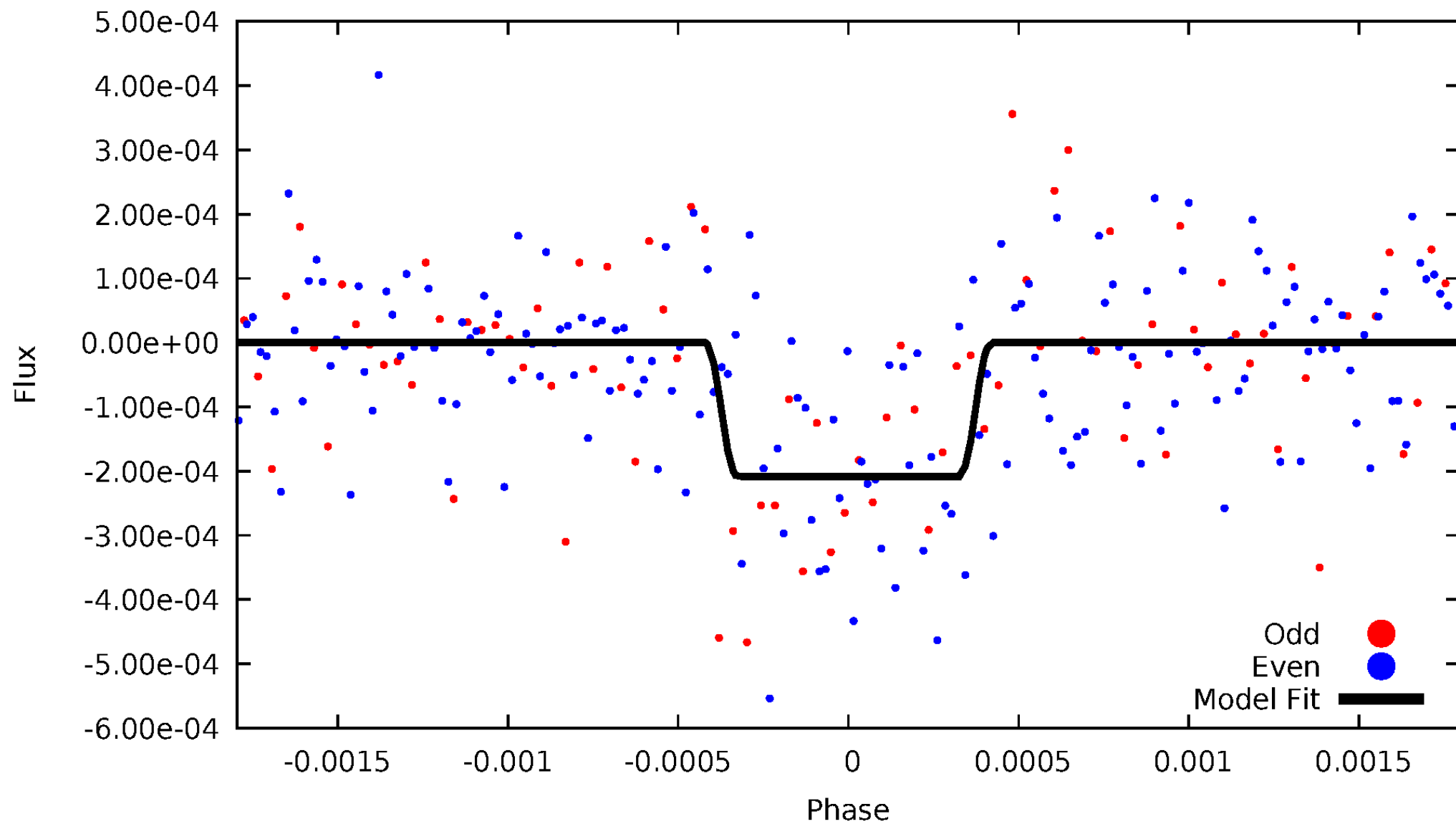
DV Odd/Even

TCE 006508291-01



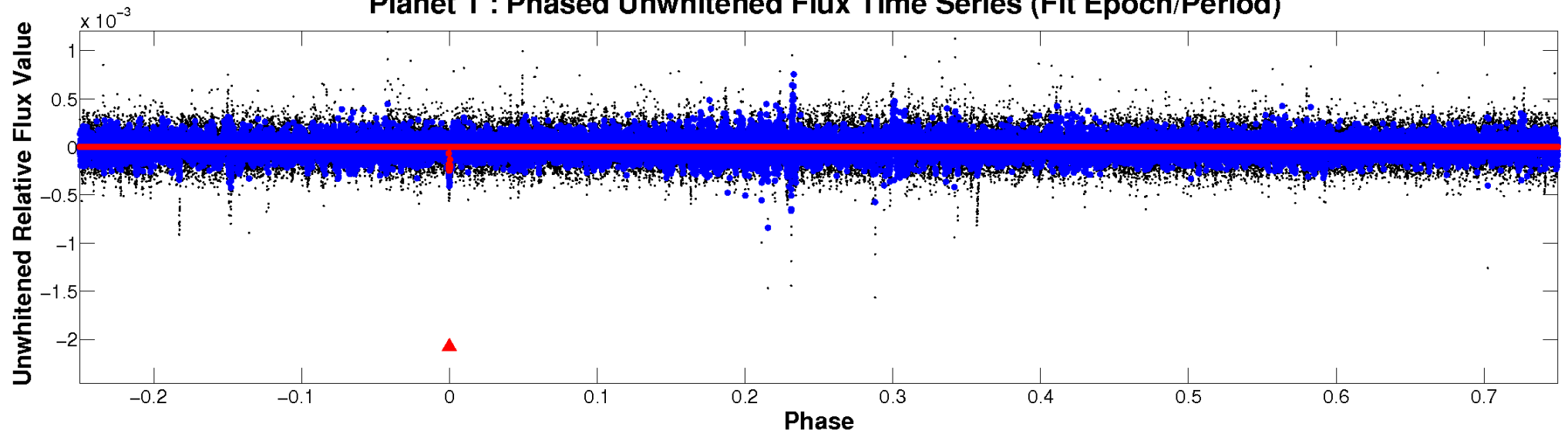
ALT Odd/Even

TCE 006508291-01

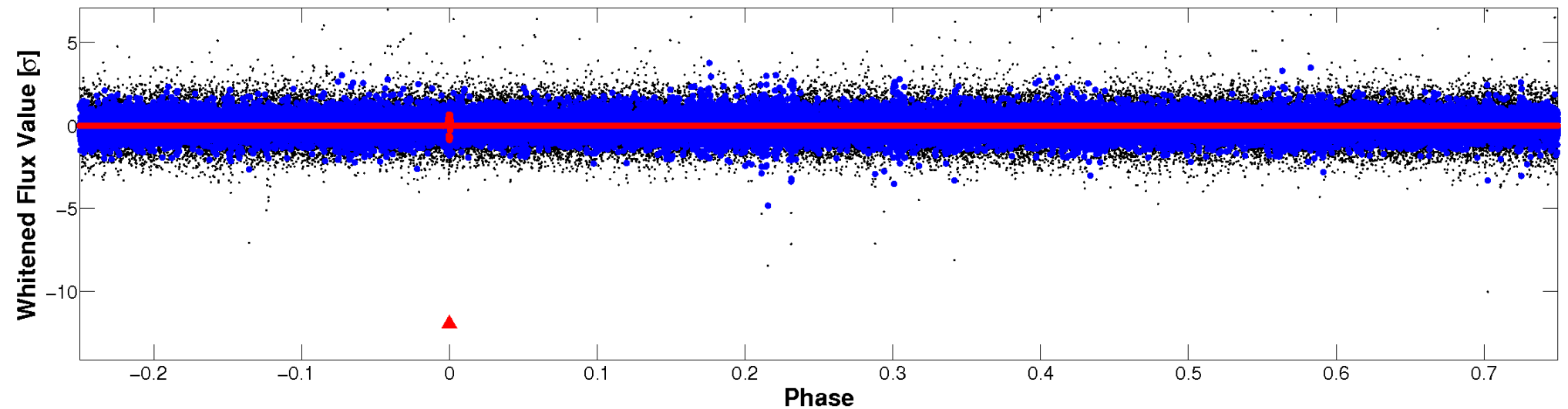


Non-Whitened Vs. Whitened Light Curve

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

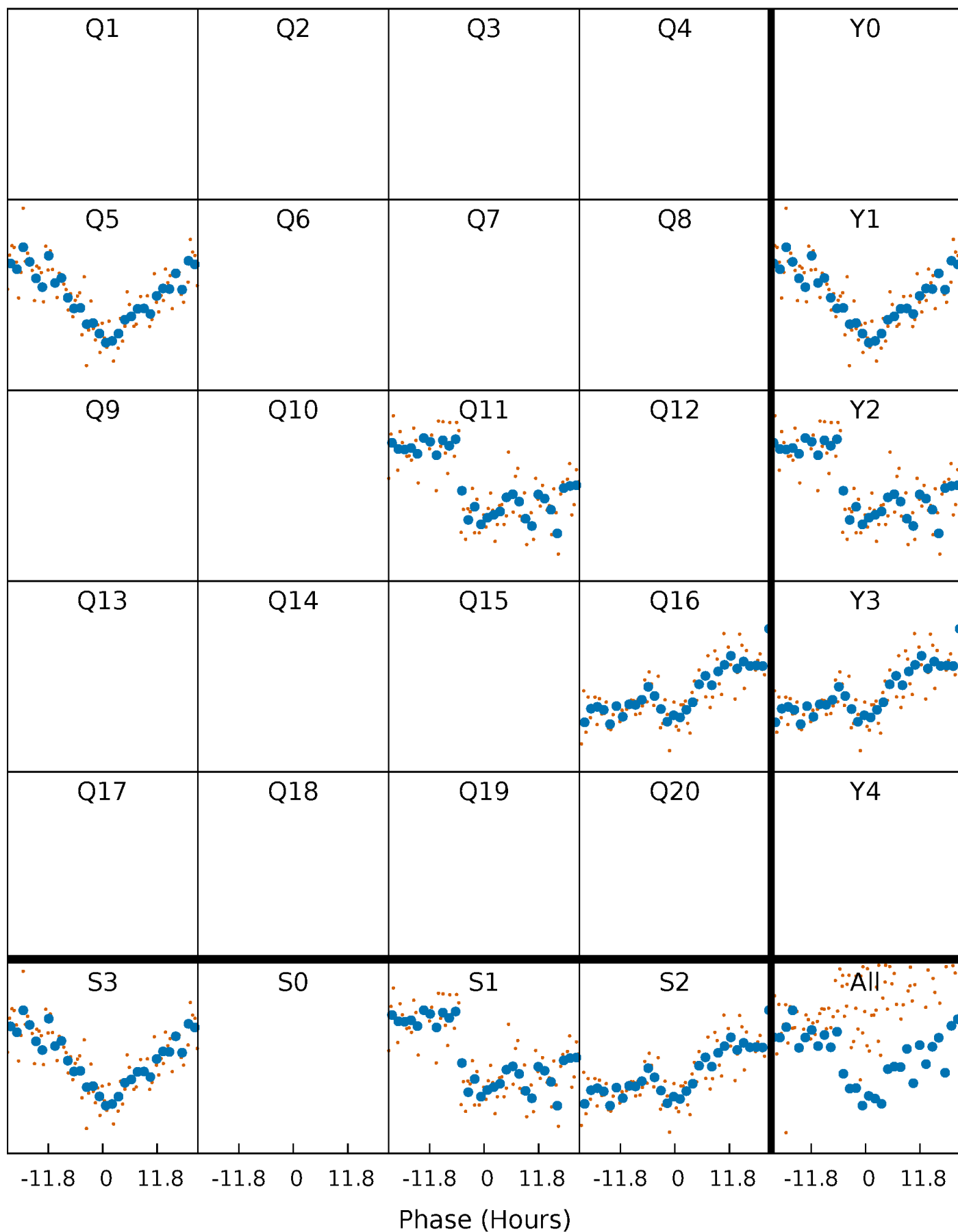


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



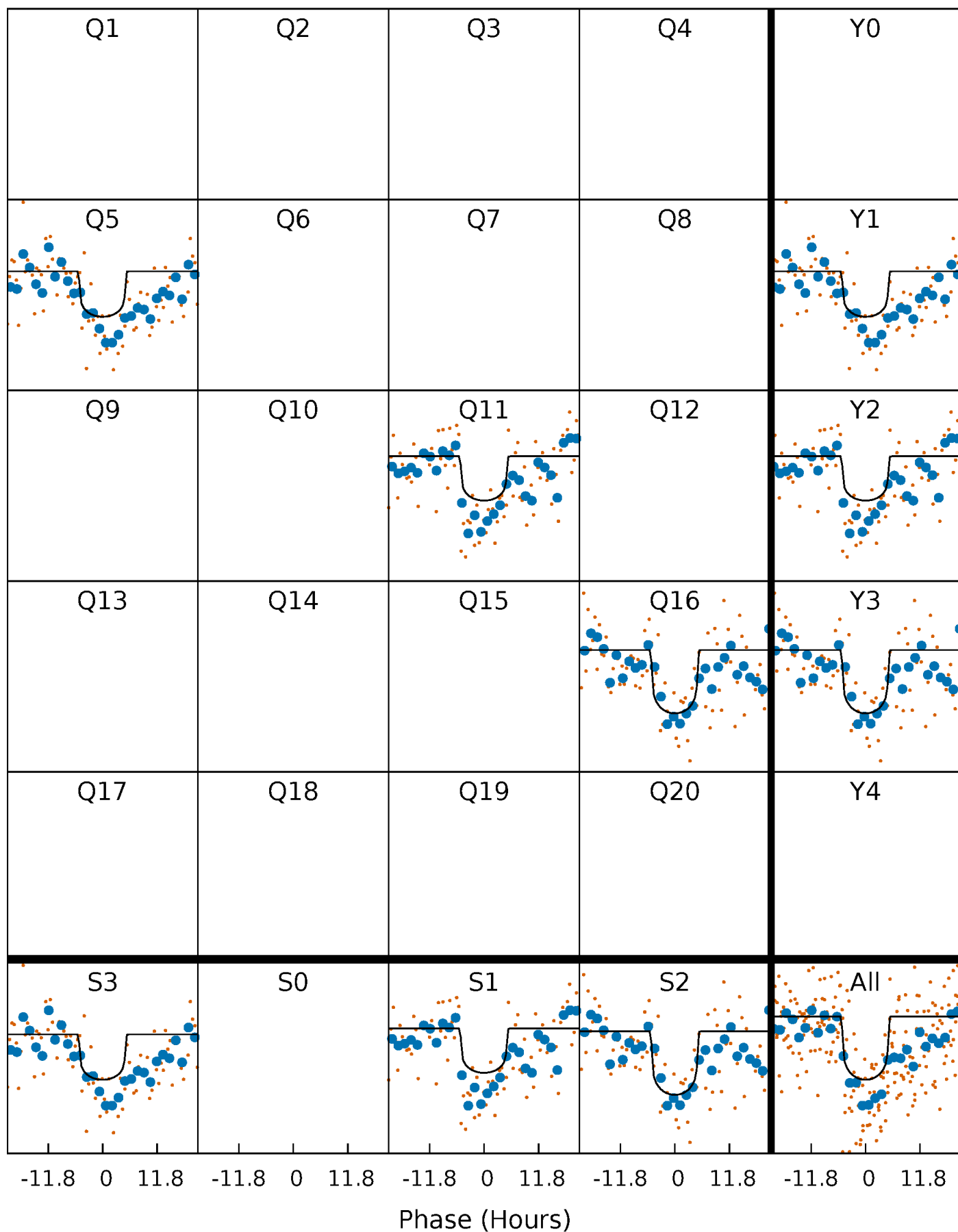
PDC Quarter-Phased Transit Curves

TCE 006508291-01 P=498.028101 Days $T_0=513.460720$ (BKJD)



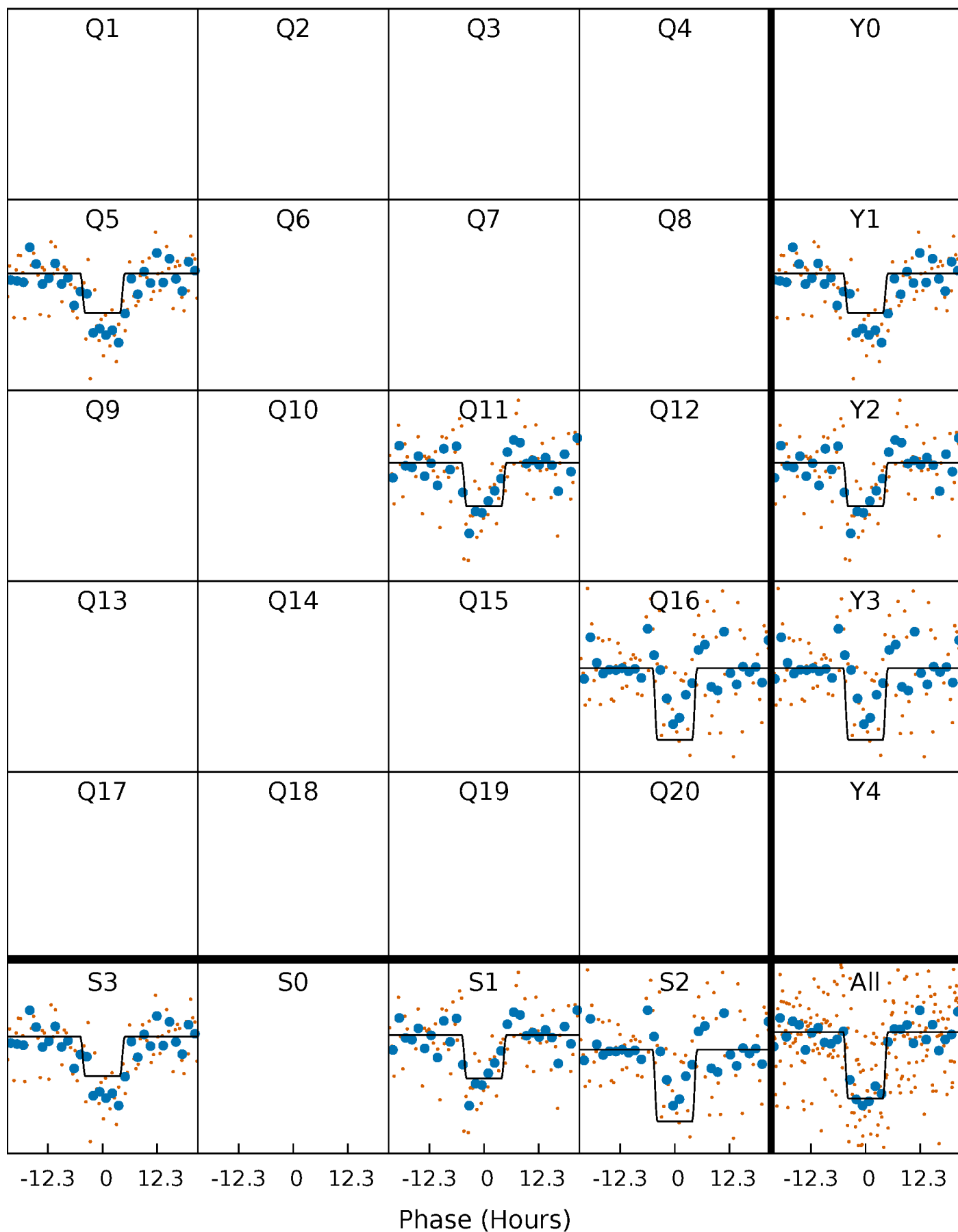
DV Quarter-Phased Transit Curves

TCE 006508291-01 P=498.028101 Days $T_0=513.460720$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

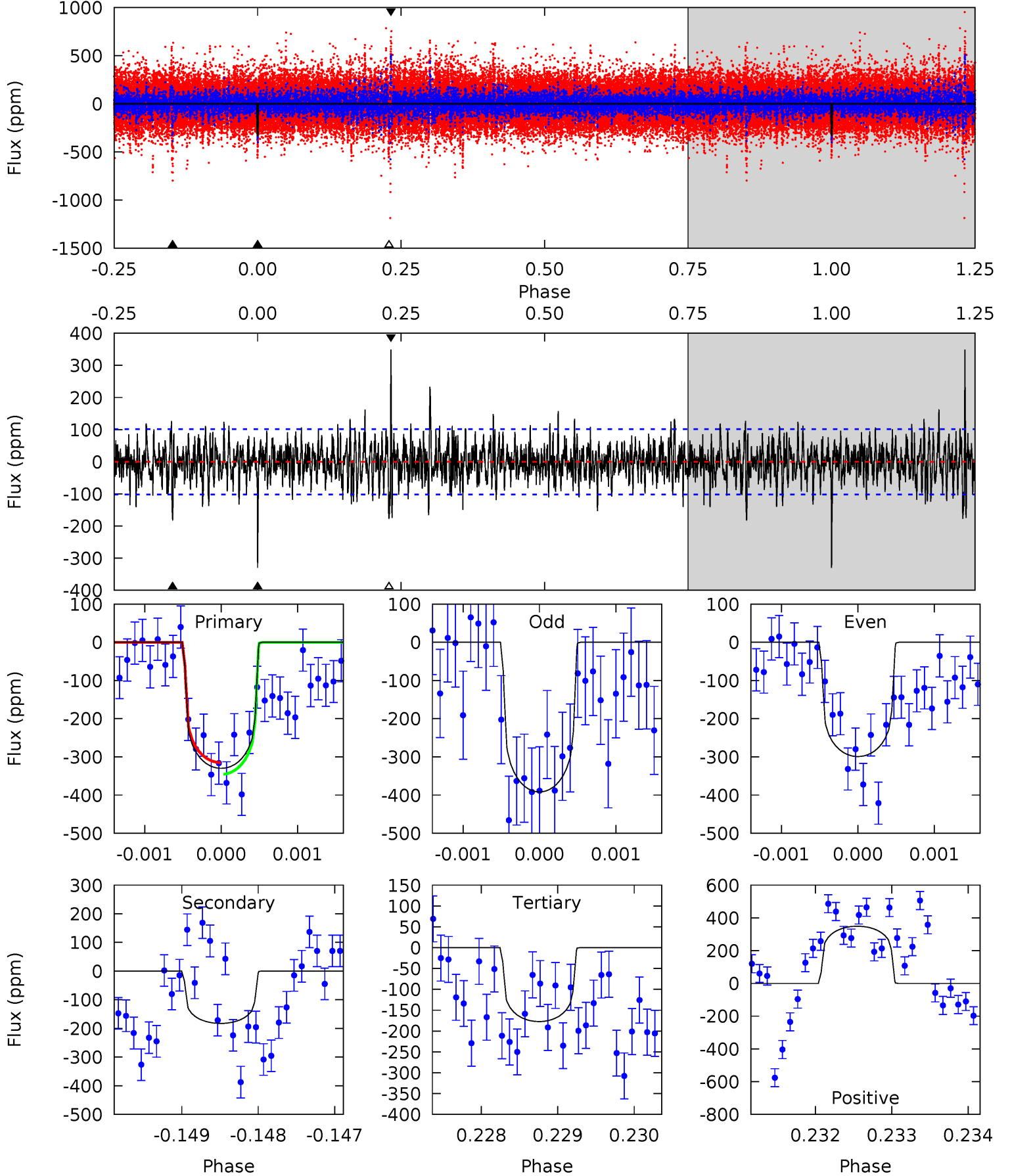
TCE 006508291-01 P=498.040780 Days $T_0=513.429981$ (BKJD)



DV Model-Shift Uniqueness Test

006508291-01, P = 498.028101 Days, E = 15.432619 Days

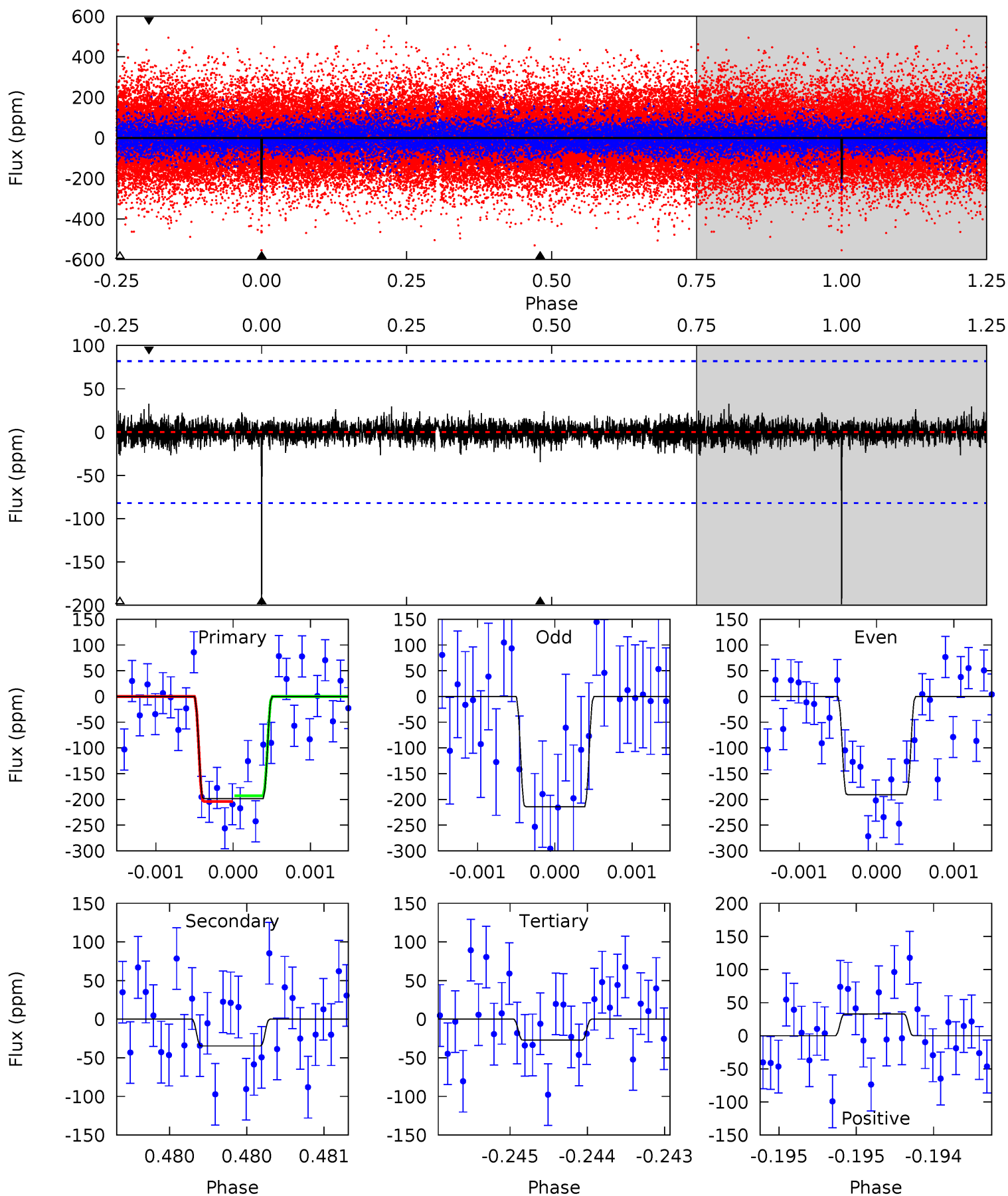
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 17.7 | 9.81 | 9.54 | 18.8 | 5.47 | 3.32 | 2.46 | 8.21 | -1.03 | 0.28 | -8.95 | 2.33 | 0.96 | 0.51 | 0.82 |



Alt Model-Shift Uniqueness Test

006508291-01, $P = 498.040780$ Days, $E = 15.389201$ Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 13.3 | 2.32 | 1.81 | 2.19 | 5.48 | 3.34 | 0.45 | 11.5 | 11.1 | 0.51 | 0.13 | 0.74 | 0.93 | 0.14 | 0.37 |



Stellar Parameters For KIC 006508291

| | $T_{\text{eff}}(K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6090^{+171}_{-192} | $4.457^{+0.050}_{-0.150}$ | $-0.020^{+0.250}_{-0.350}$ | $1.020^{+0.230}_{-0.115}$ | $1.086^{+0.113}_{-0.150}$ | $1.443^{+0.382}_{-0.609}$ |
| | +3%/-3% | +1%/-3% | +1250%/-1750% | +23%/-11% | +10%/-14% | +26%/-42% |
| Source | PHO1 | FLK73 | 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 006508291-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|------------------------|----------------------|-----------------------|----------------------------|
| DV | -183 ± 19 | $1.80^{+0.84}_{-0.83}$ | 343^{+20}_{-16} | 5701^{+2272}_{-924} | $48729^{+123231}_{-26113}$ |
| Alt. | -35 ± 15 | $1.67^{+0.75}_{-0.77}$ | 343^{+18}_{-16} | 4105^{+1002}_{-594} | 9861^{+21184}_{-6000} |

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 $A_{\text{obs}} \gg 1.0$

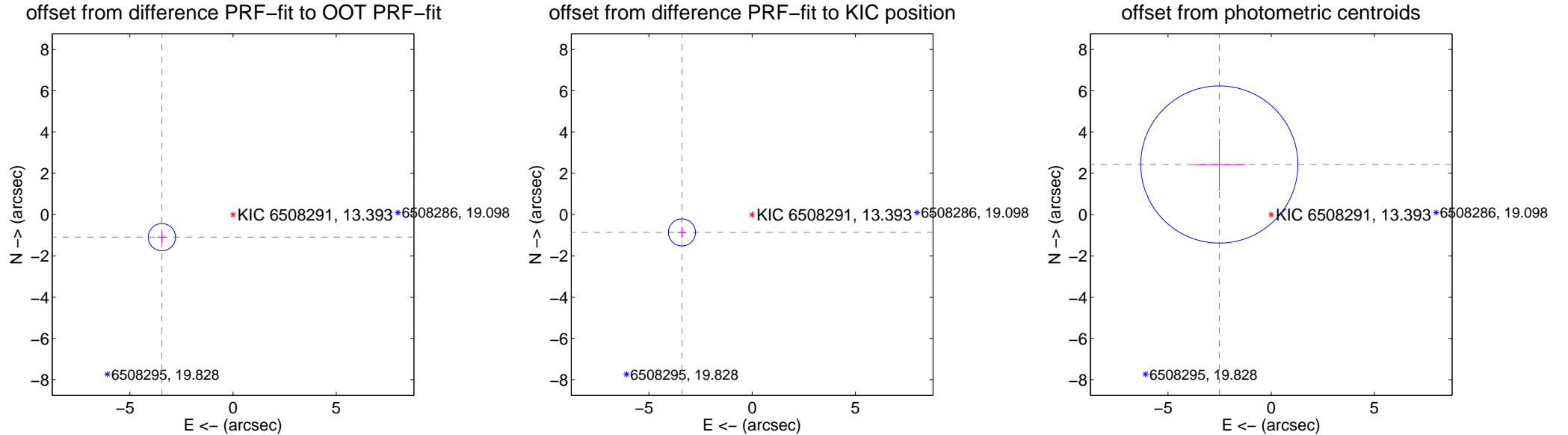
DV Centroid Data

Supplemental centroid analysis for 006508291-01. Kepler magnitude: 13.39. Transit SNR 7.20

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 3.617 ± 0.220 | 16.46 | 3.447 ± 0.216 | -1.095 ± 0.256 |
| PRF-fit source offset from KIC position | 3.509 ± 0.218 | 16.07 | 3.401 ± 0.216 | -0.864 ± 0.256 |
| photometric centroid source offset | 3.50 ± 1.27 | 2.75 | 2.52 ± 1.28 | 2.43 ± 1.26 |

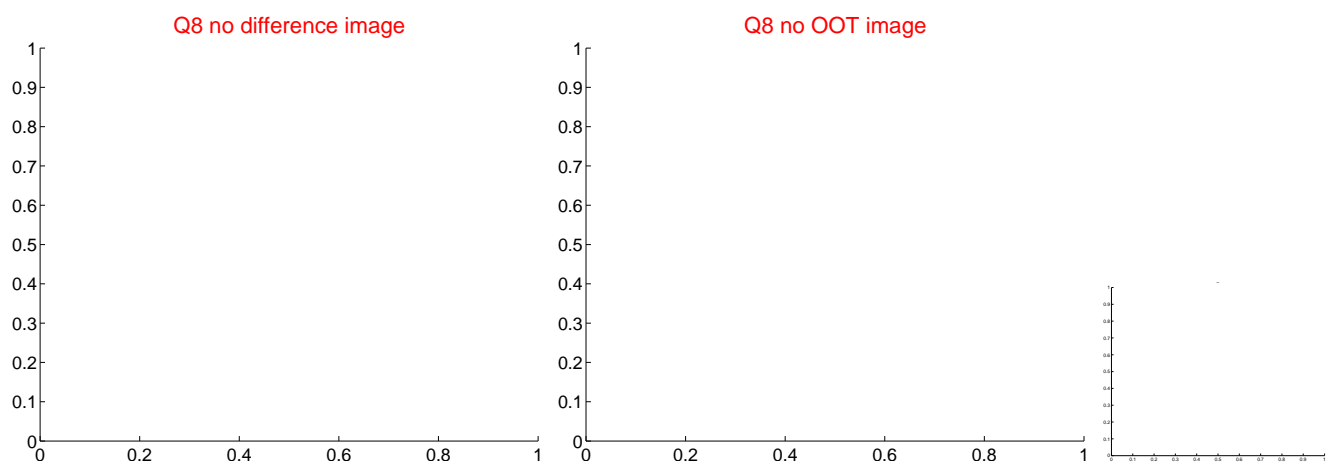
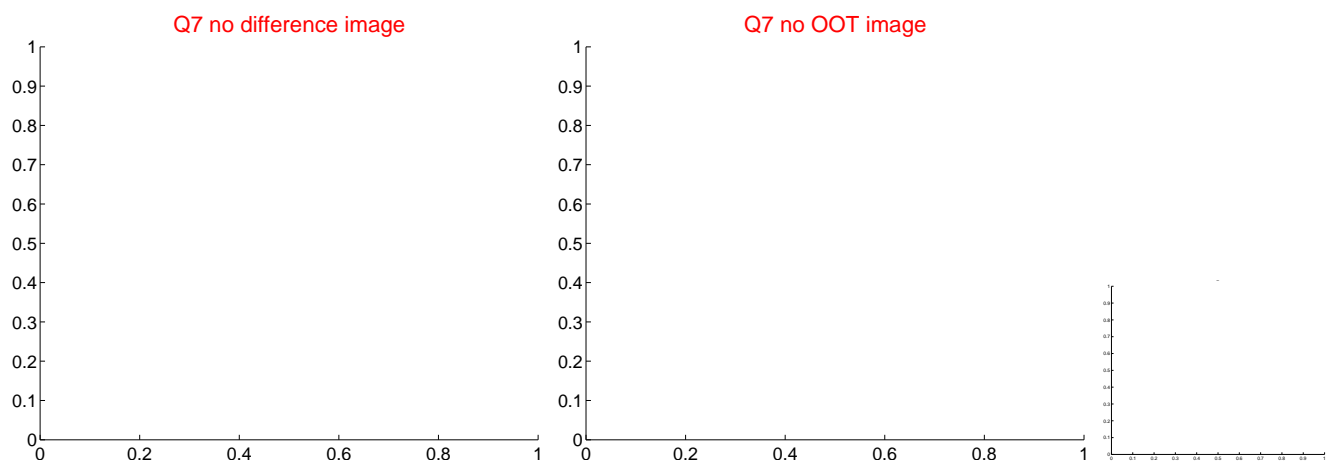
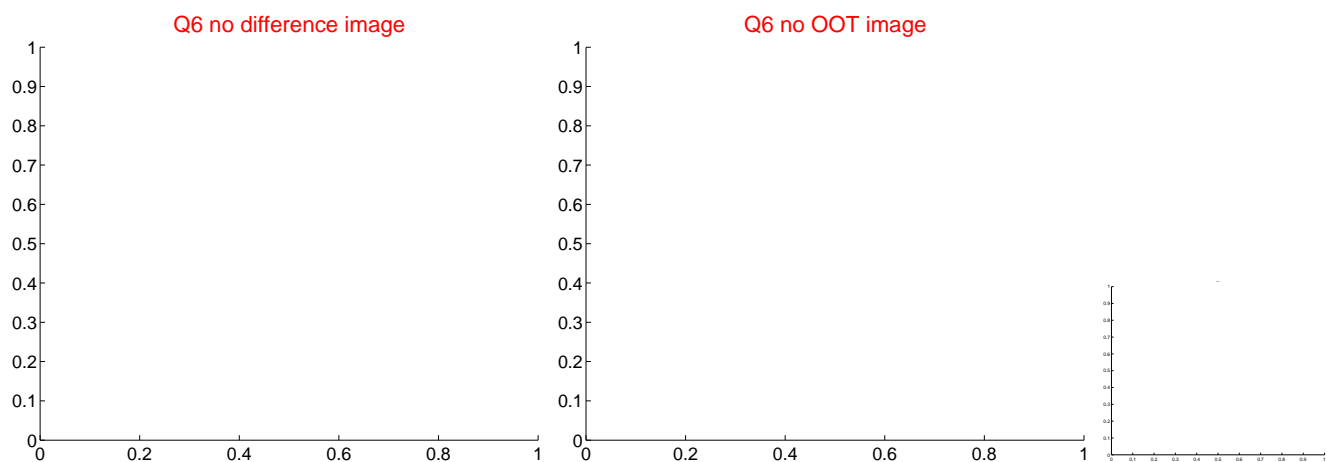
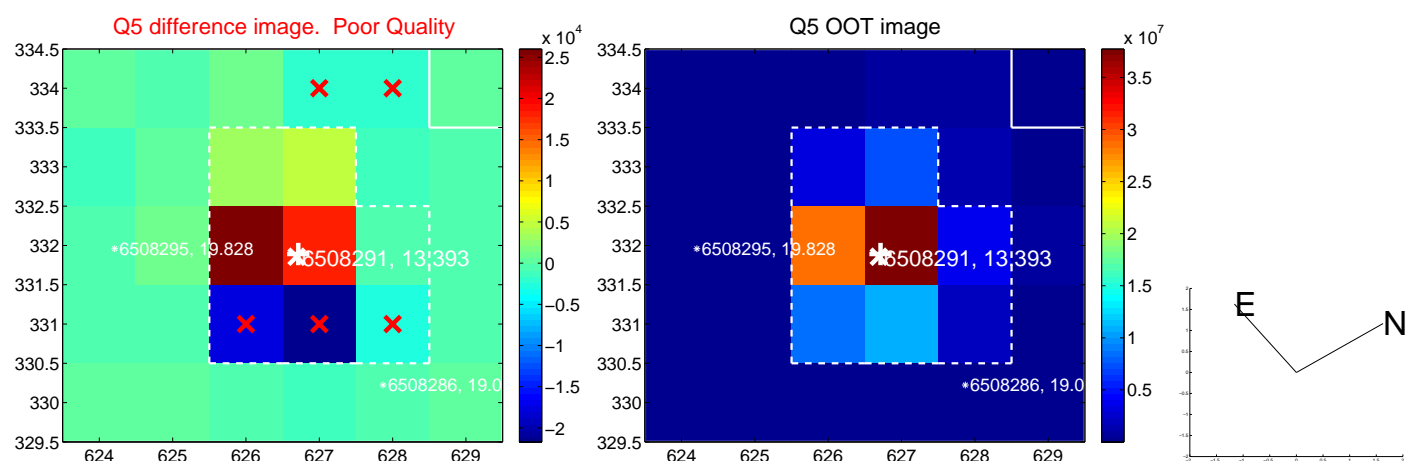


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

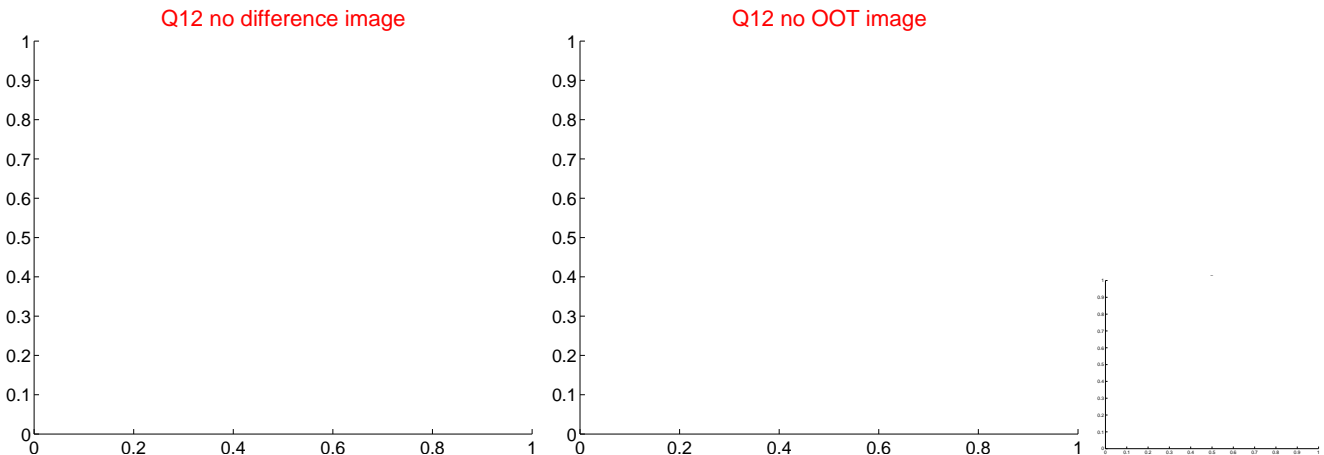
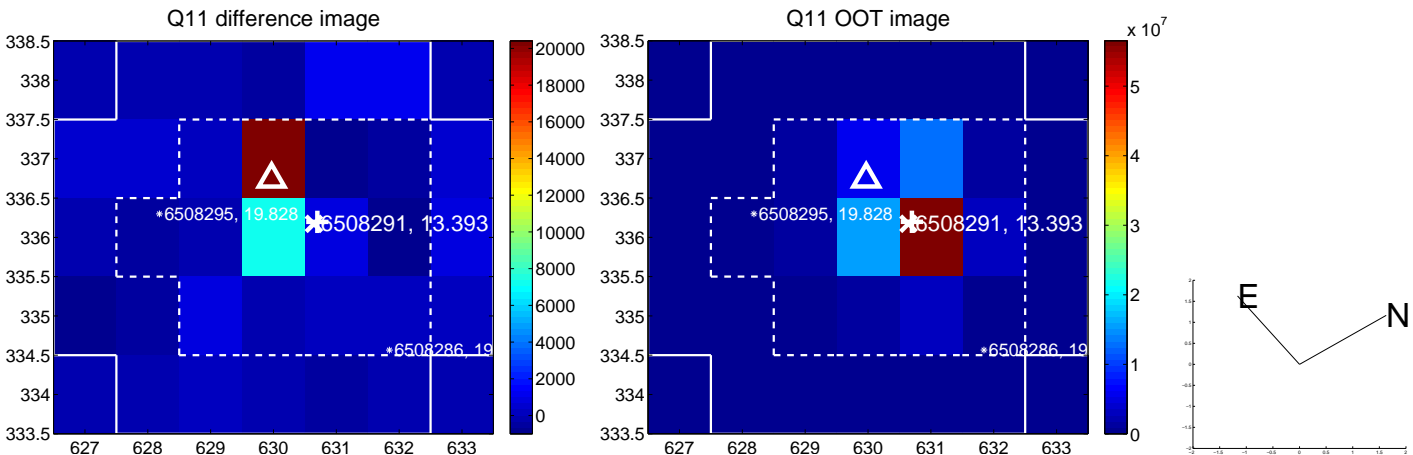
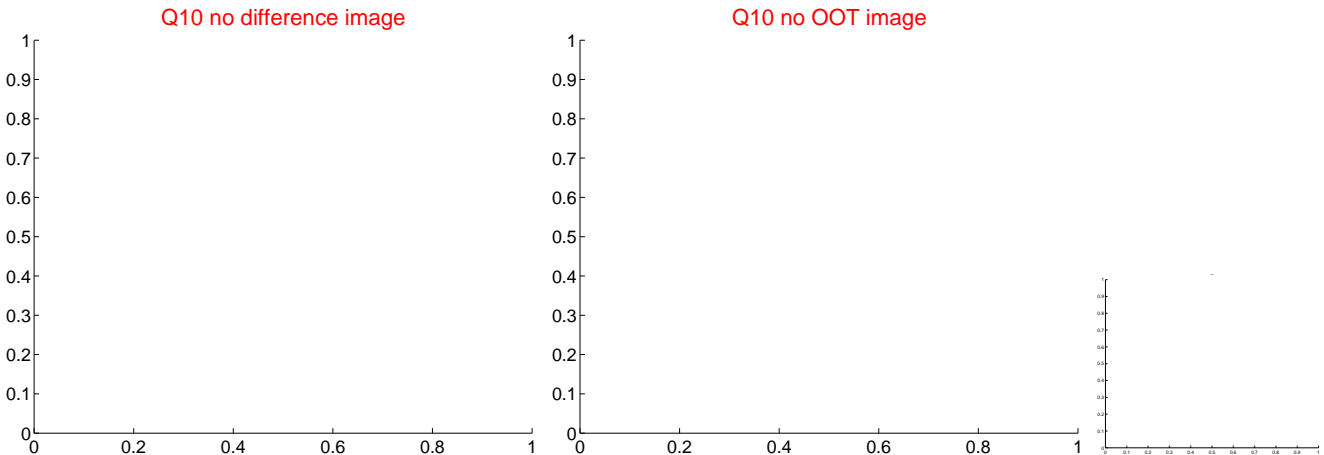
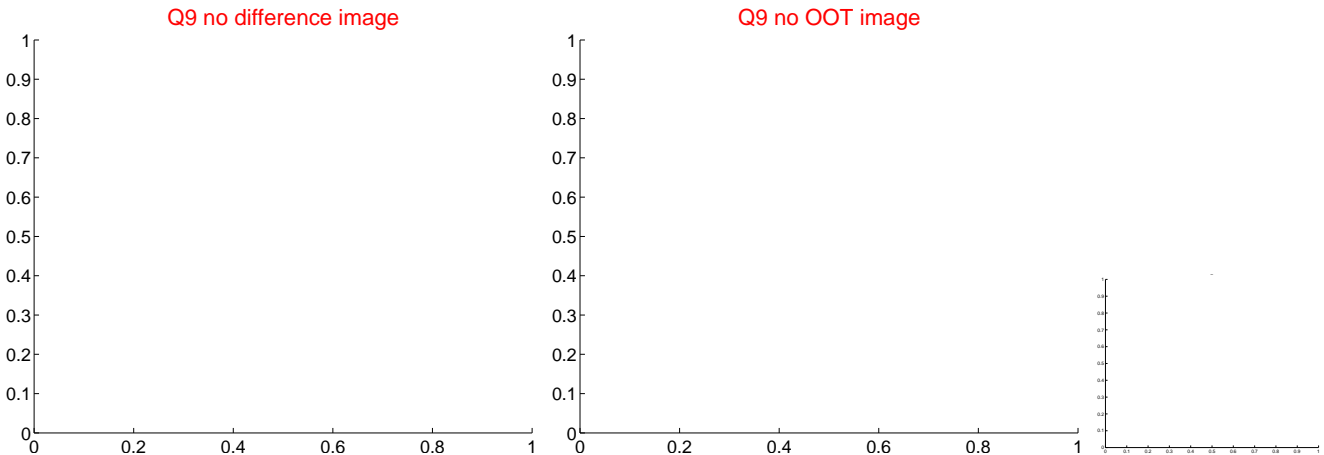
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



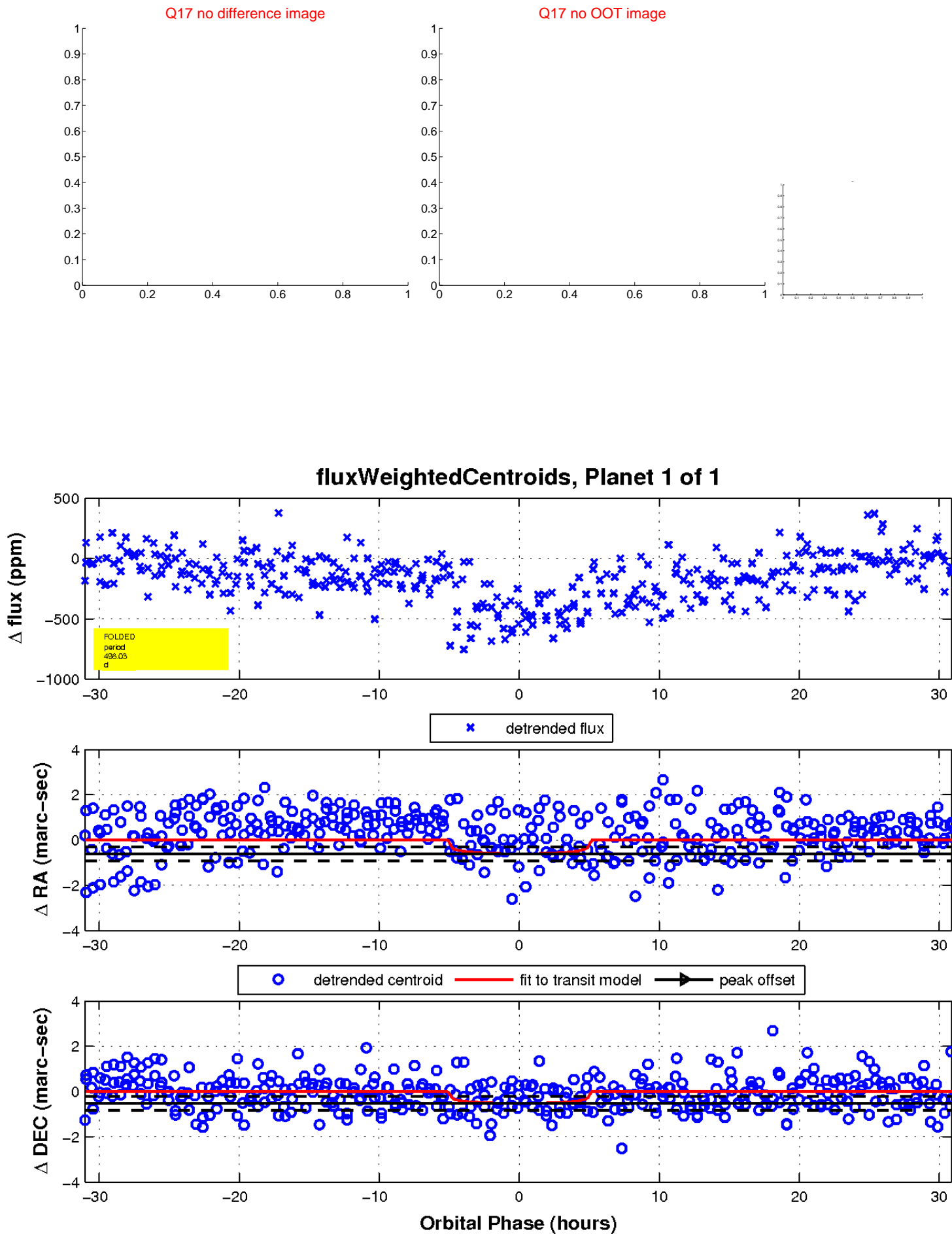
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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UKIRT Image

Declination

