

# KIC 006342333

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006342333-01	OBS	2065.01	80.231887	162.395621	860.7	4.522	21.9	23.8	0.89	5436	3.11	4.92

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006342333-01	OBS	PC	0.97	0	0	0	0	NO_COMMENT

**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](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006342333-01

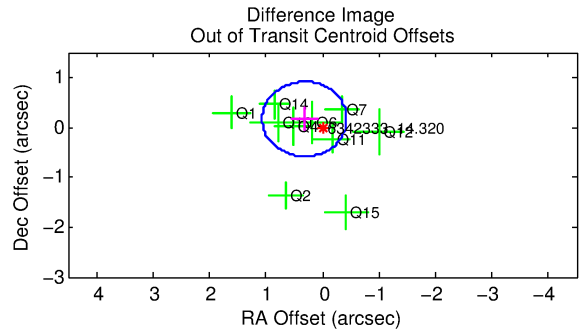
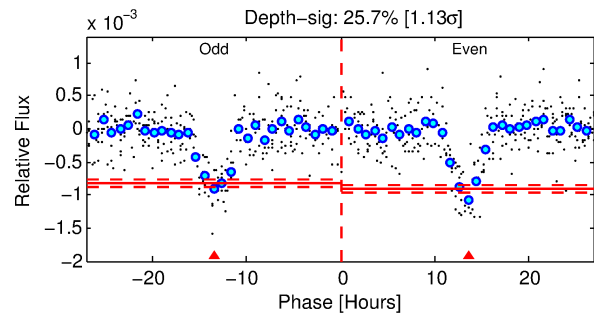
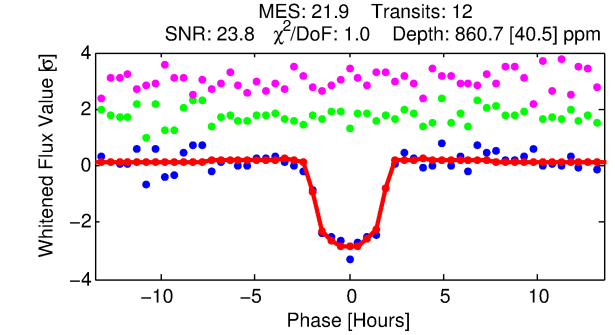
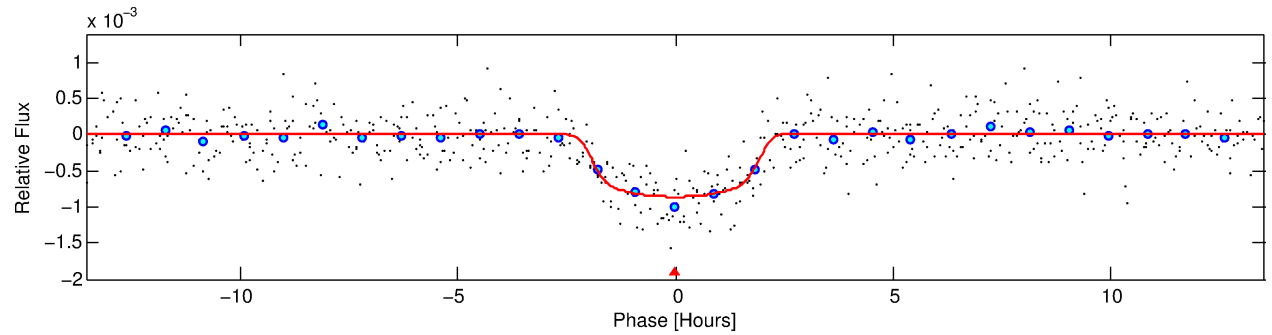
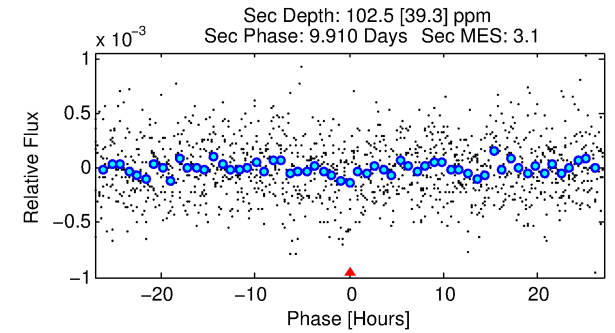
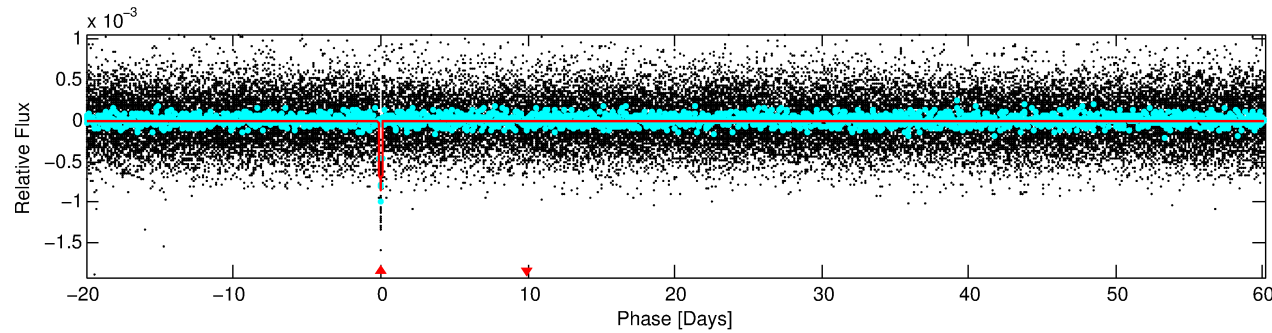
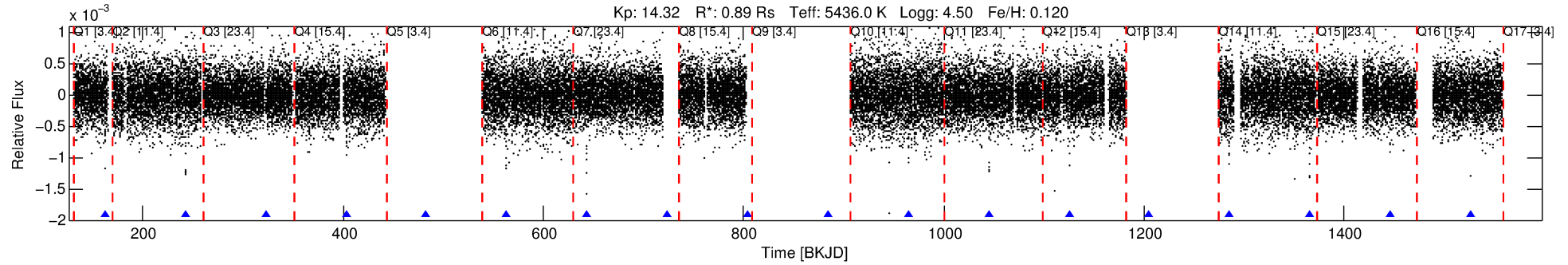
No Significant Match Found

# DV One-Page Summary

KIC: 6342333 Candidate: 1 of 1 Period: 80.232 d

KOI: K02065.01 Corr: 0.993

Kp: 14.32 R\*: 0.89 Rs Teff: 5436.0 K Logg: 4.50 Fe/H: 0.120



## DV Fit Results:

Period = 80.23189 [0.00039] d  
Epoch = 162.3956 [0.0042] BKJD  
Rp/R\* = 0.0321 [0.0029]  
a/R\* = 70.61 [24.43]  
b = 0.89 [0.08]  
Seff = 4.92 [0.88]  
Teq = 380 [17] K  
Rp = 3.11 [0.46] Re  
a = 0.3542 [0.0382] AU  
Ag = 732.67 [333.65] [2.19σ]  
Teffp = 3055 [326] K [8.18σ]

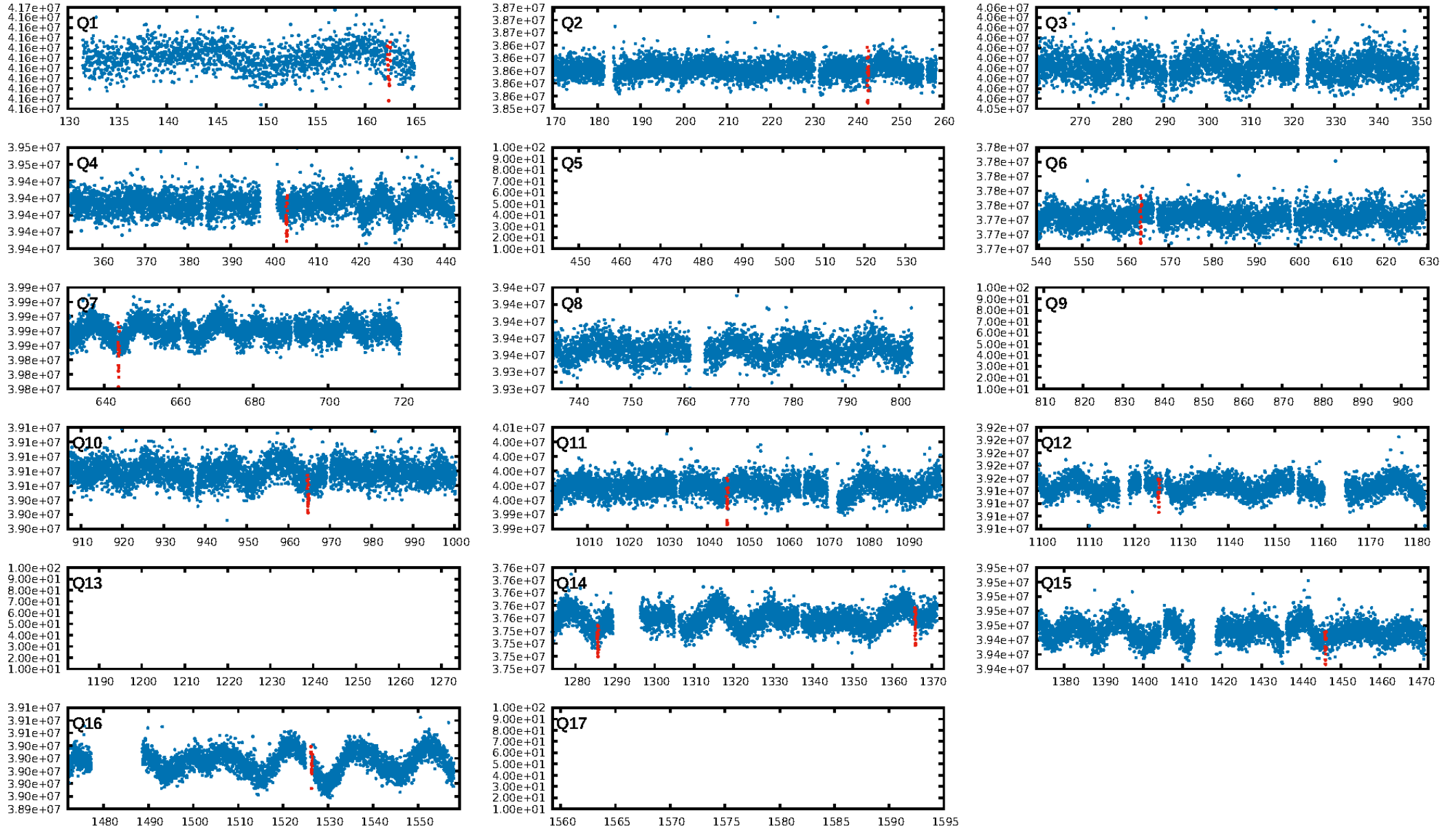
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 10.2%  
ModelChiSquareGof-sig: 99.8%  
Bootstrap-pfa: 1.33e-106  
RollingBand-fgt: 1.00 [11/11]  
GhostDiagnostic-chr: 3.291  
Centroid-sig: 2.3%  
Centroid-so: 1.319 arcsec [2.29σ]  
OotOffset-rm: 0.359 arcsec [1.44σ]  
KicOffset-rm: 0.366 arcsec [1.37σ]  
OotOffset-st: 4/3/2/1 [10]  
KicOffset-st: 4/3/2/1 [10]  
DiffImageQuality-fgm: 1.00 [10/10]  
DiffImageOverlap-fno: 1.00 [10/10]

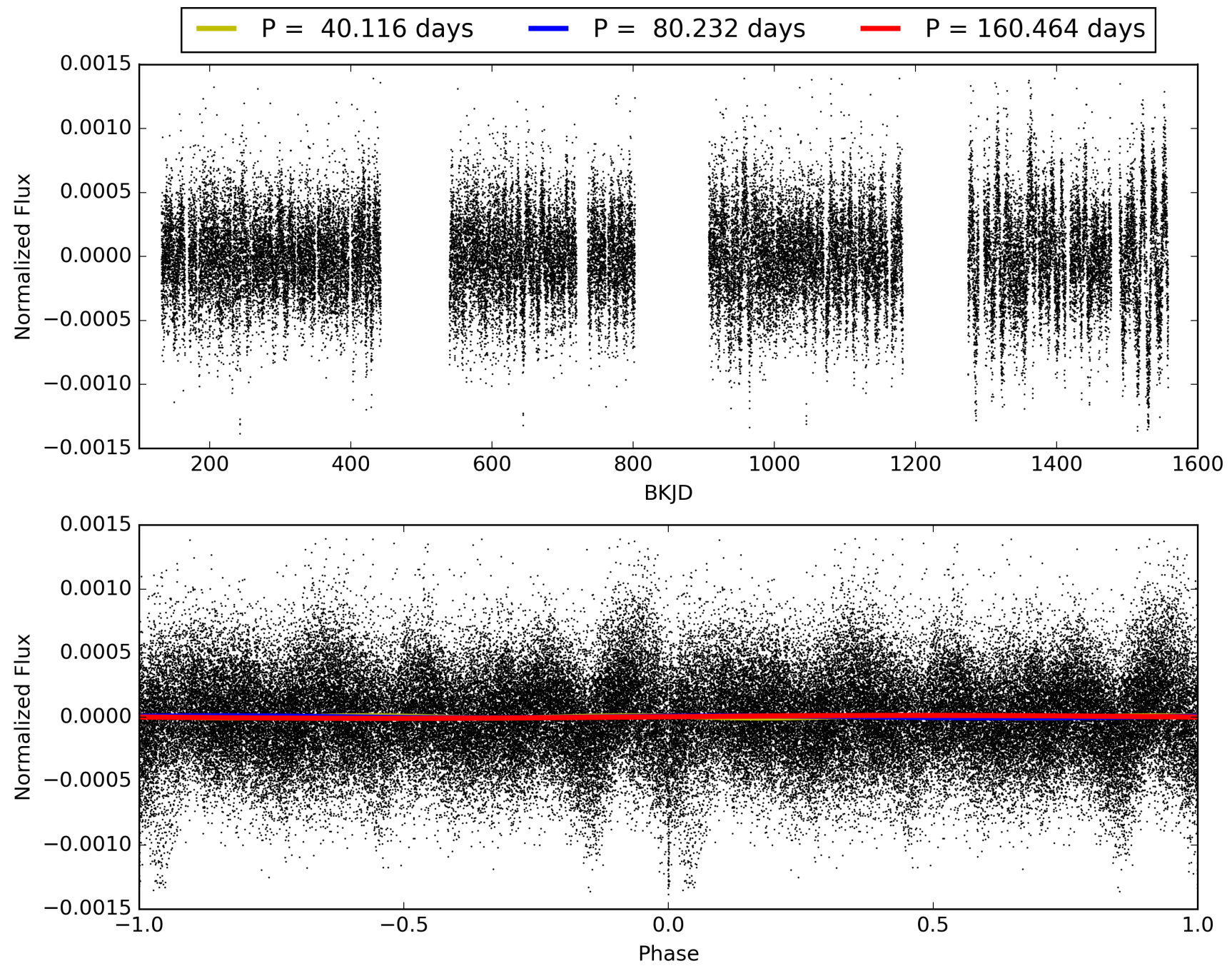
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:33:50 Z

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

# TCE 006342333-01, PDC Light Curves

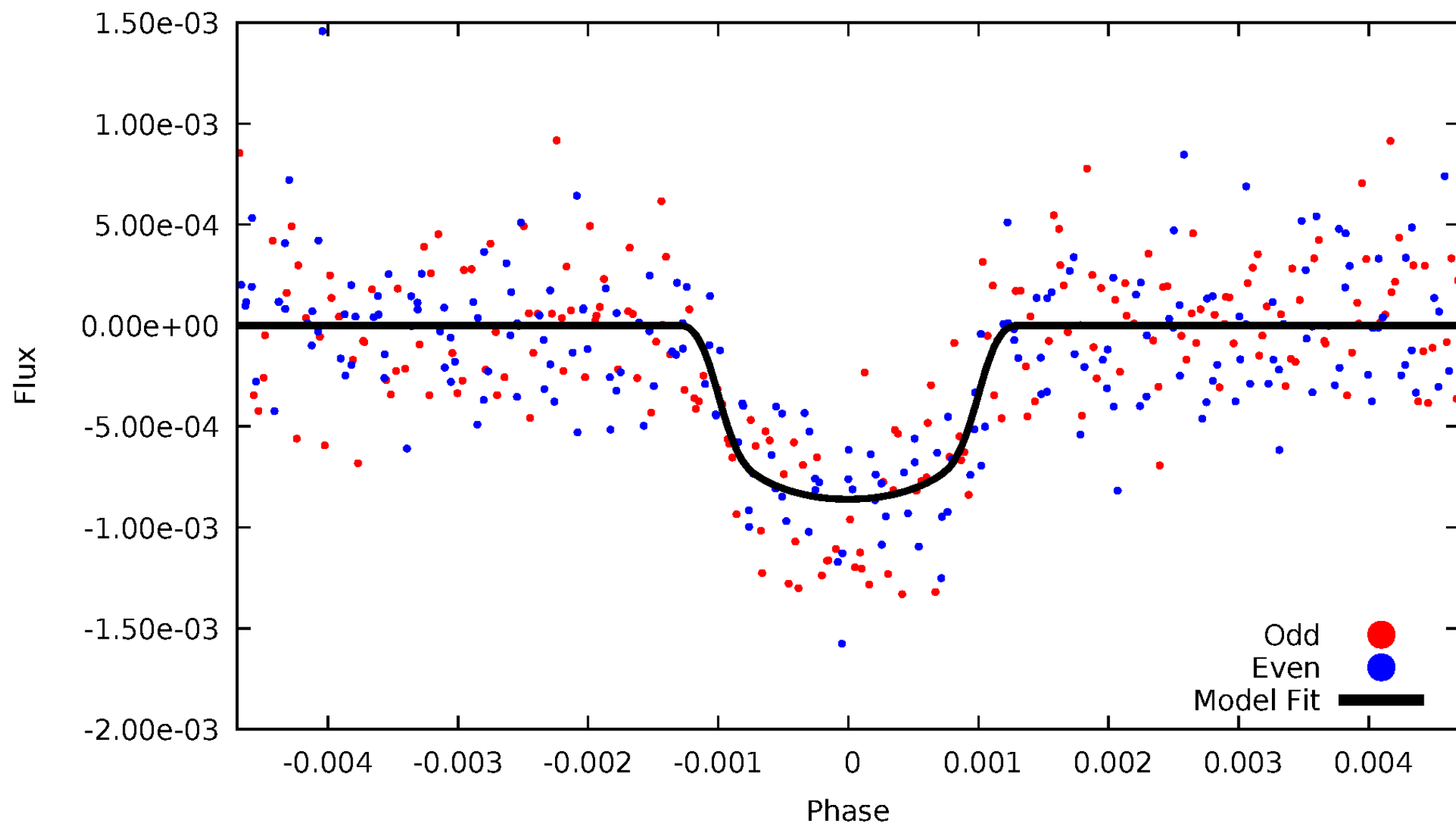


TCE 006342333-01



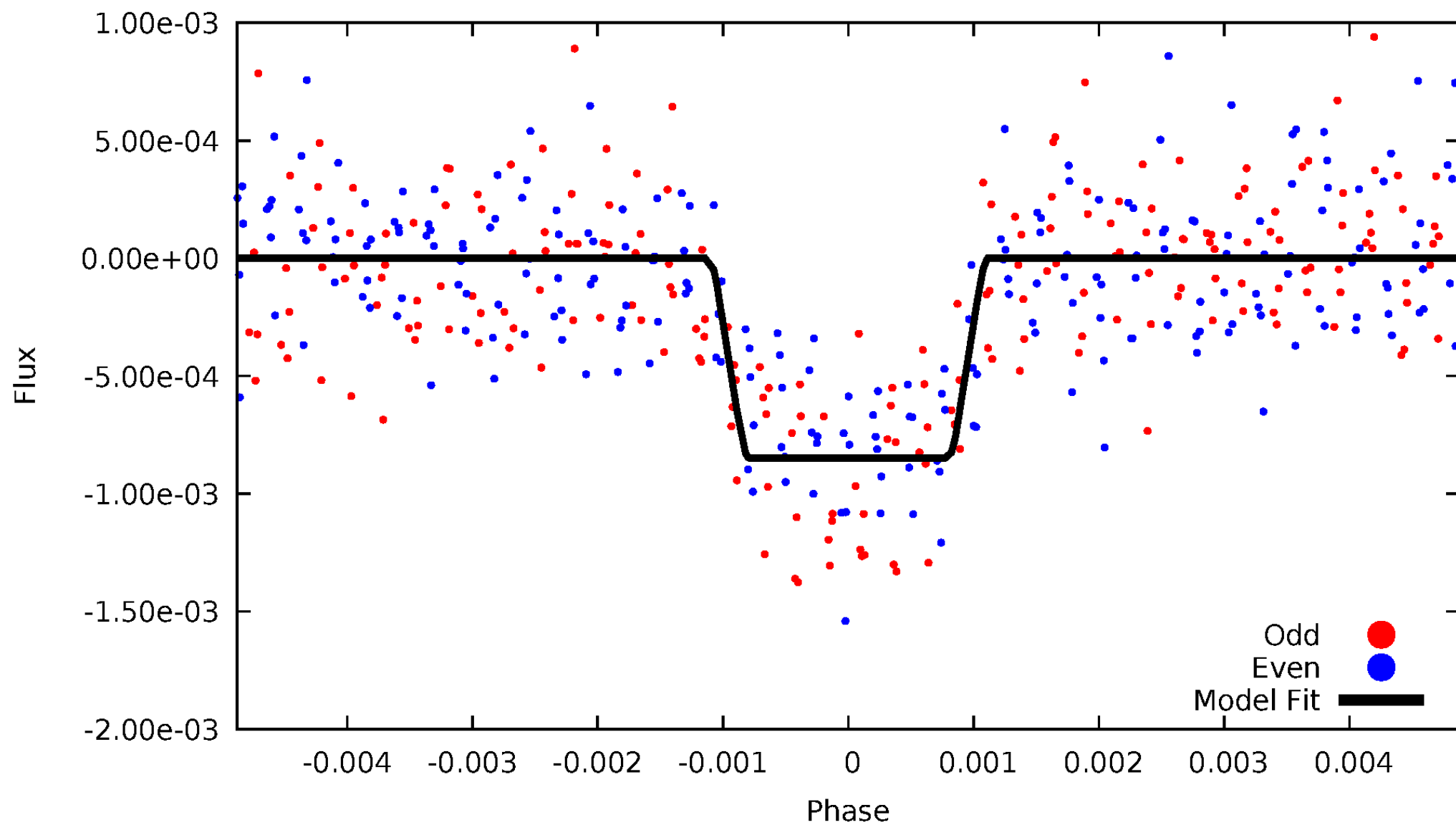
# DV Odd/Even

TCE 006342333-01



# ALT Odd/Even

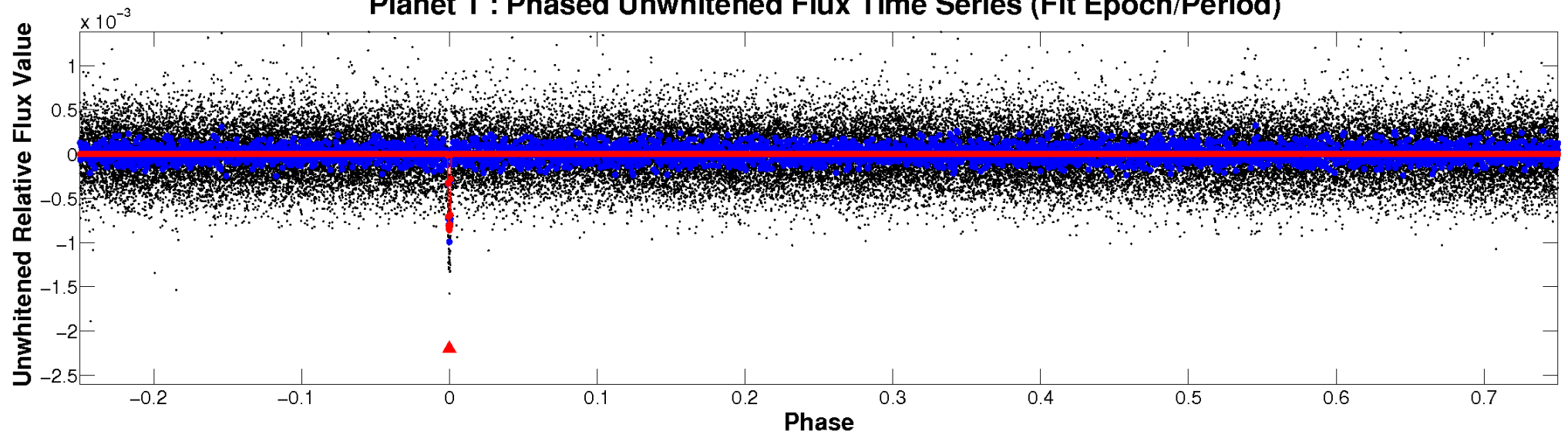
TCE 006342333-01



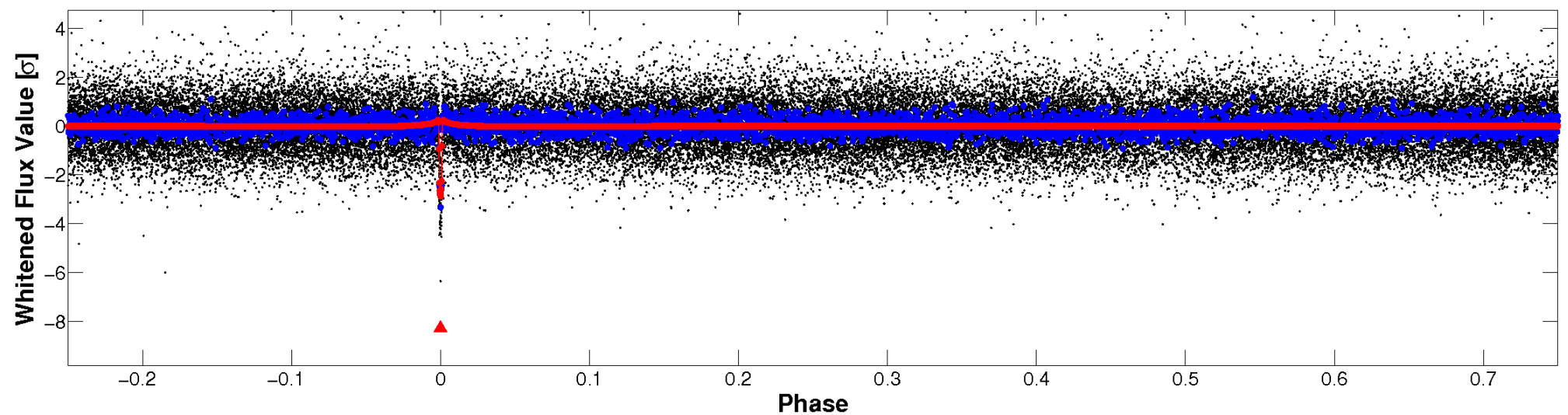


# Non-Whitened Vs. Whitened Light Curve

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

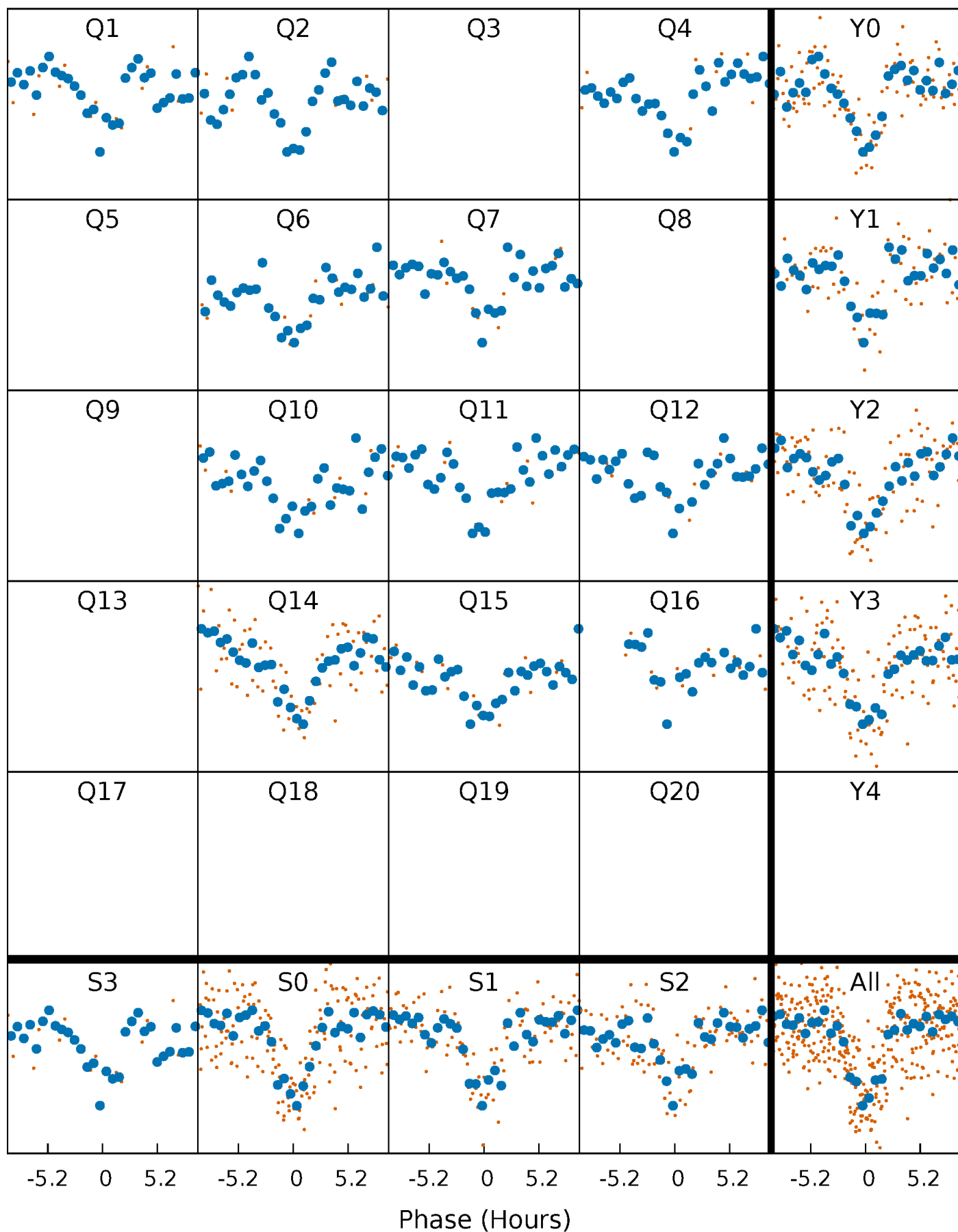


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

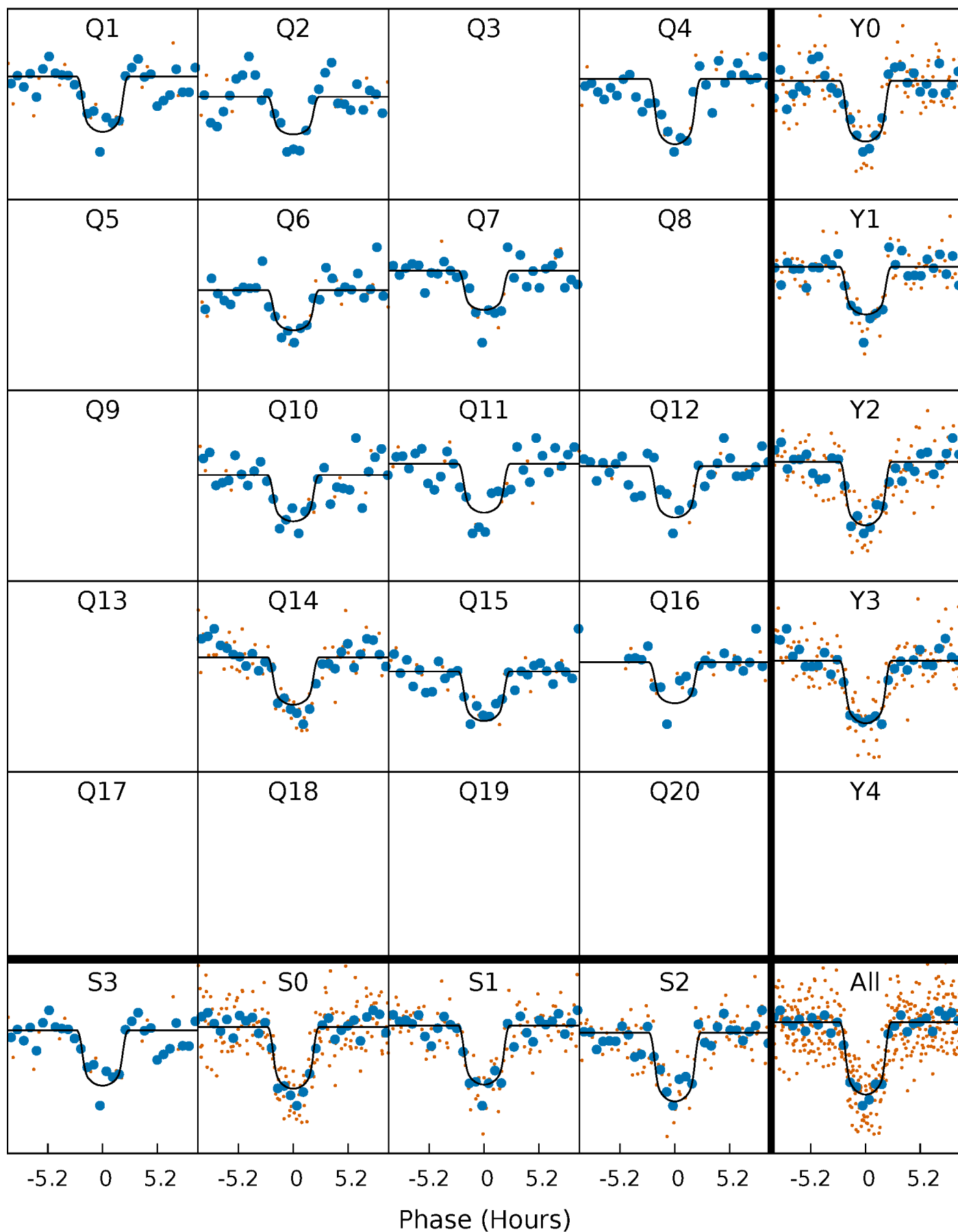
TCE 006342333-01 P= 80.231887 Days  $T_0=162.395621$  (BKJD)





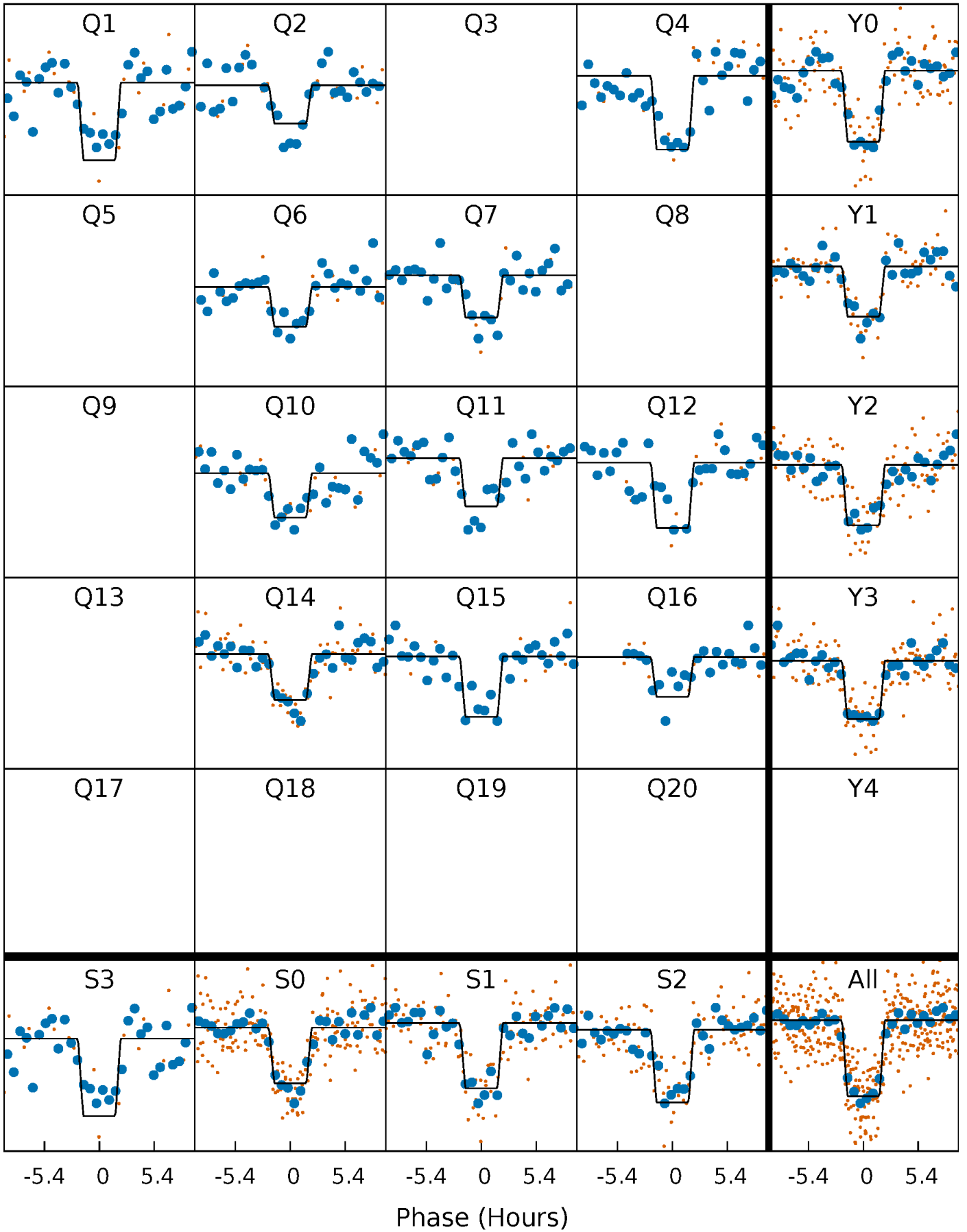
# DV Quarter-Phased Transit Curves

TCE 006342333-01 P= 80.231887 Days  $T_0=162.395621$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

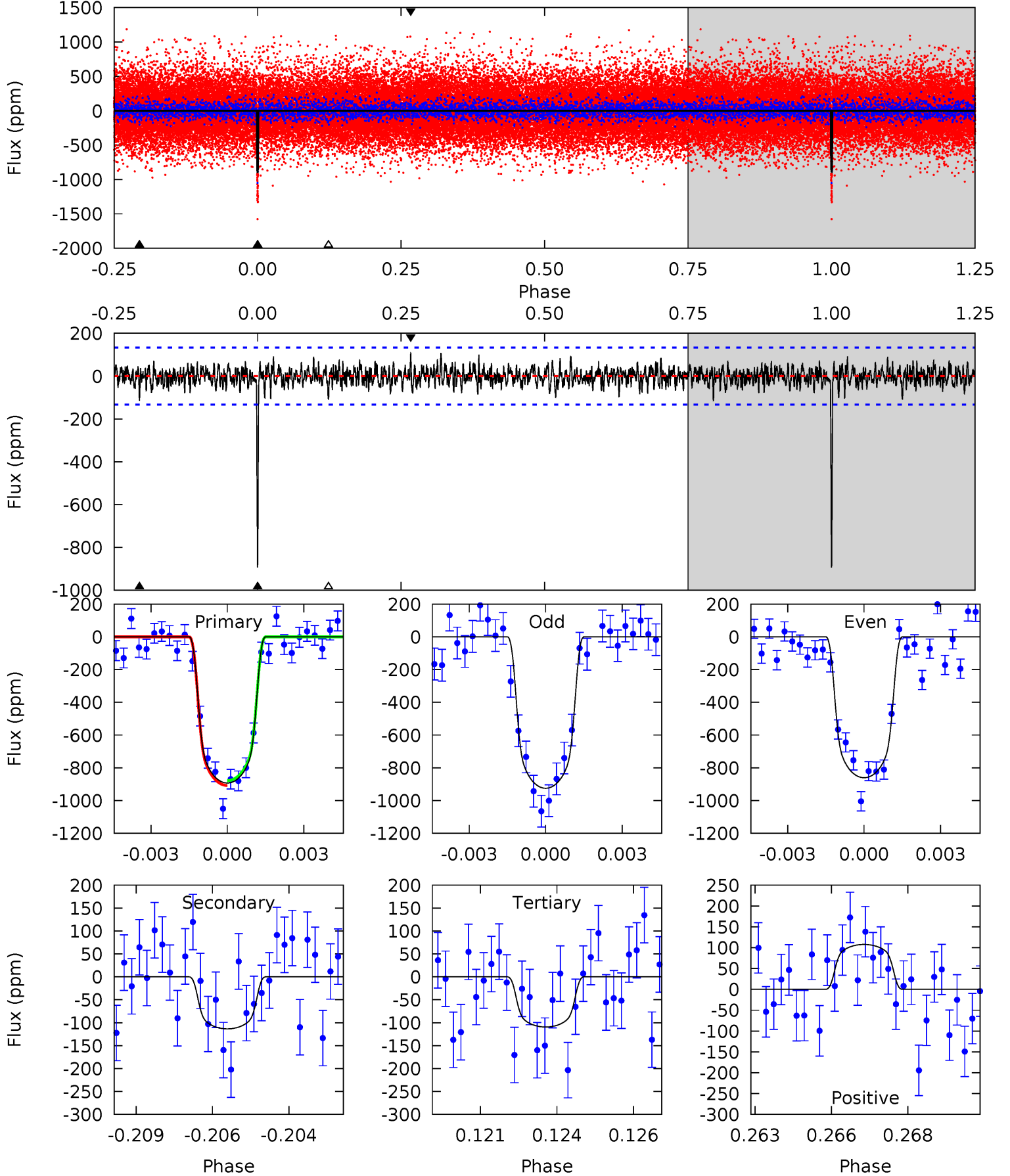
TCE 006342333-01 P= 80.232384 Days  $T_0=162.390581$  (BKJD)



# DV Model-Shift Uniqueness Test

006342333-01, P = 80.231887 Days, E = 82.163734 Days

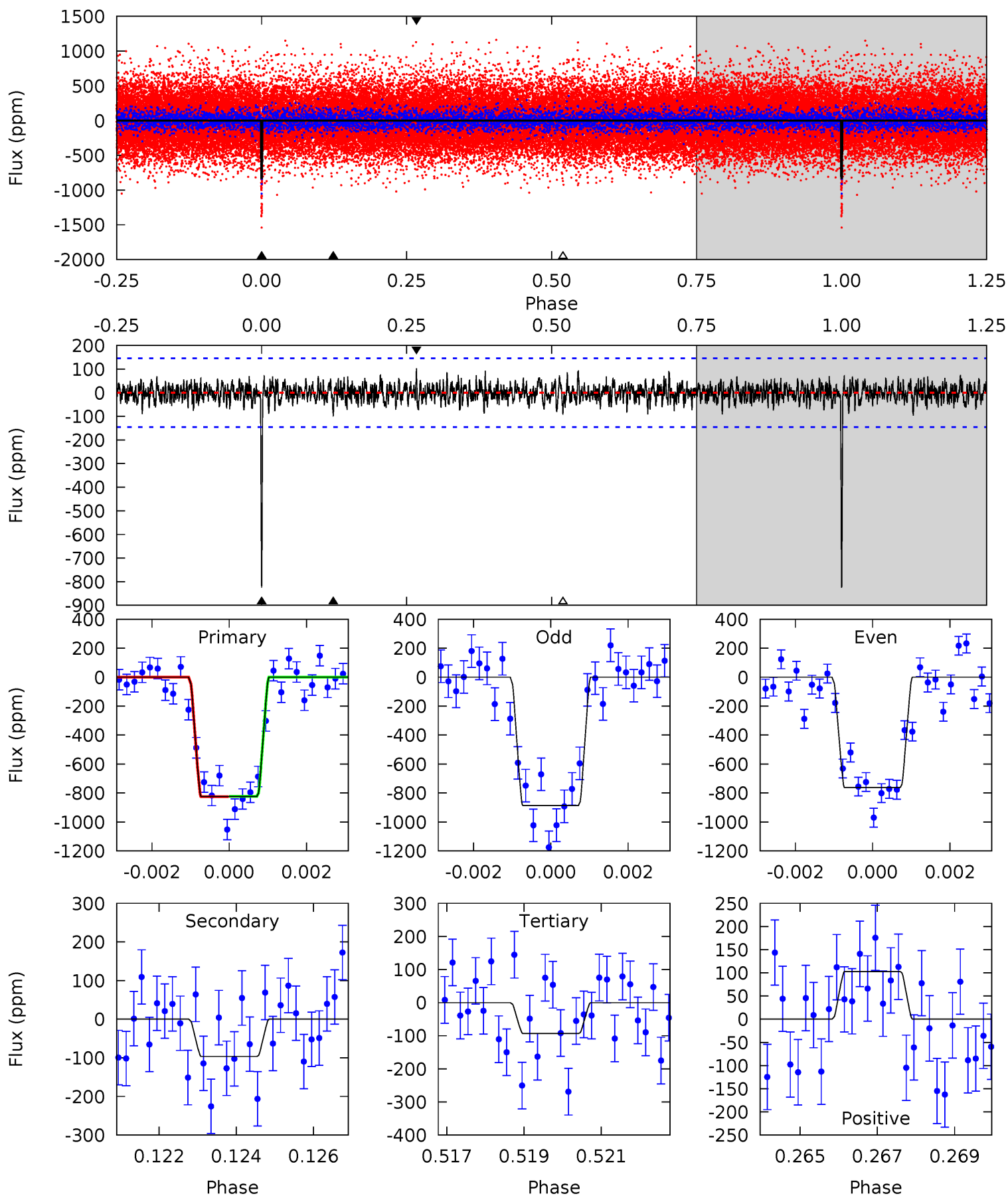
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.5	4.51	4.35	4.28	5.28	3.01	1.26	31.1	31.2	0.16	0.23	1.29	0.99	0.11	0.59



# Alt Model-Shift Uniqueness Test

006342333-01, P = 80.232384 Days, E = 82.158197 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.1	3.53	3.40	3.75	5.31	3.07	1.05	26.7	26.3	0.13	-0.23	2.26	1.00	0.11	0.04



### Stellar Parameters For KIC 006342333

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5436^{+81}_{-81}$	$4.505^{+0.039}_{-0.097}$	$0.120^{+0.150}_{-0.150}$	$0.888^{+0.104}_{-0.052}$	$0.920^{+0.046}_{-0.051}$	$1.849^{+0.291}_{-0.535}$
	+1%/-1%	+1%/-2%	+125%/-125%	+12%/-6%	+5%/-6%	+16%/-29%
Source	SPE90	SPE90	SPE90	DSEP		

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

### Secondary Eclipse Parameters for KIC 006342333-01 / KOI 2065.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-114 \pm 25$	$3.15^{+0.37}_{-0.33}$	$535^{+17}_{-13}$	$3571^{+164}_{-169}$	$761^{+265}_{-206}$
Alt.	$-97 \pm 27$	$2.88^{+0.34}_{-0.31}$	$535^{+16}_{-13}$	$3589^{+198}_{-222}$	$793^{+325}_{-261}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

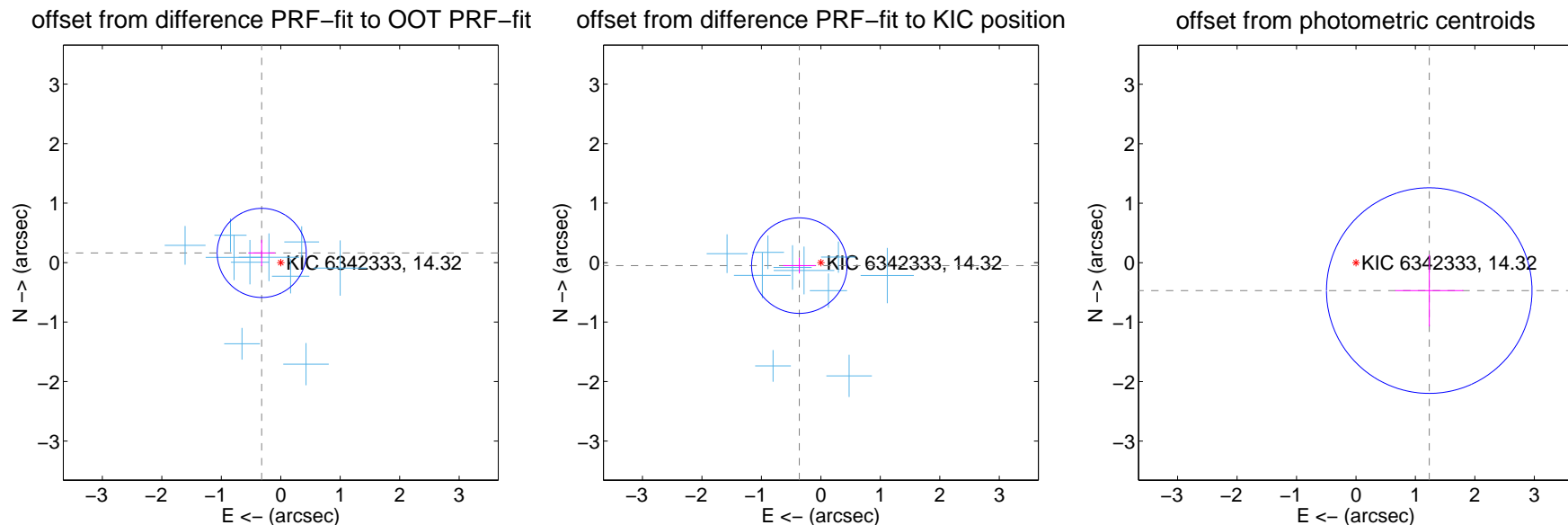
## DV Centroid Data

Supplemental centroid analysis for 006342333-01. Kepler magnitude: 14.32. Transit SNR 23.78

There are 10 quarters with good PRF difference image offsets

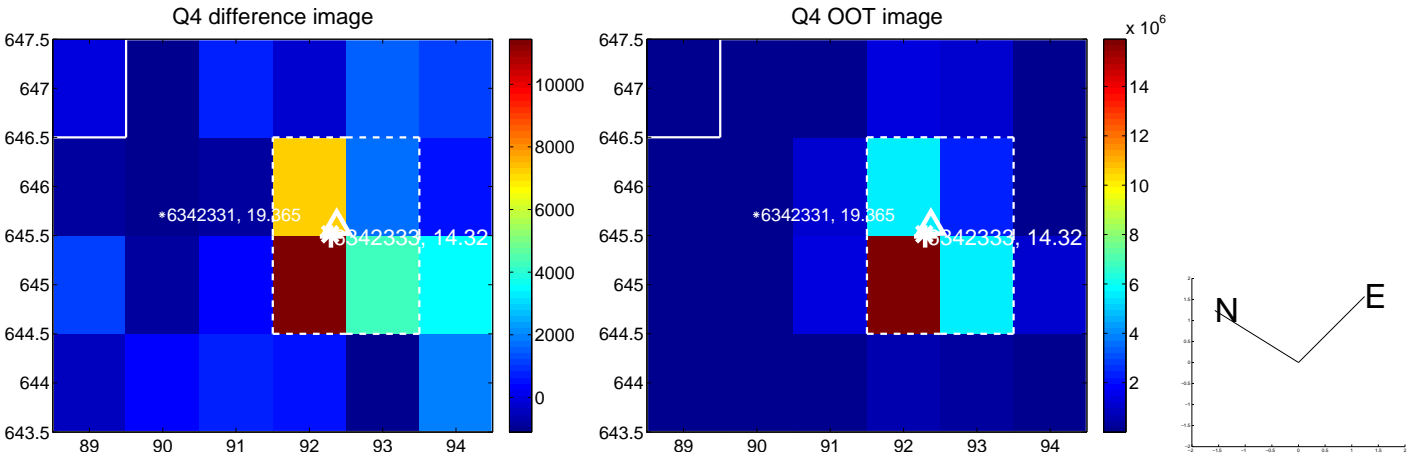
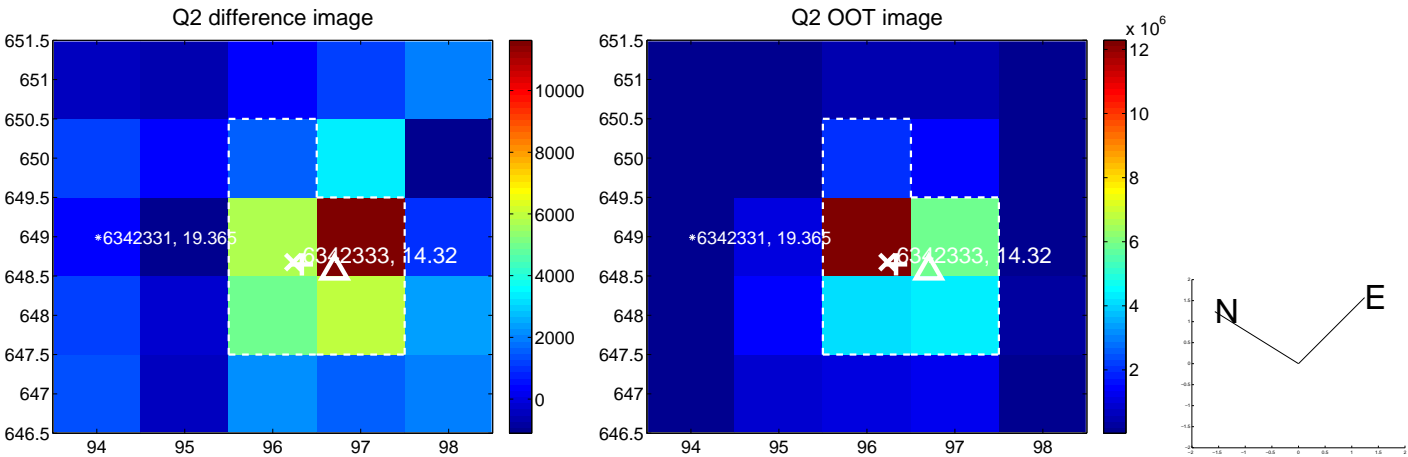
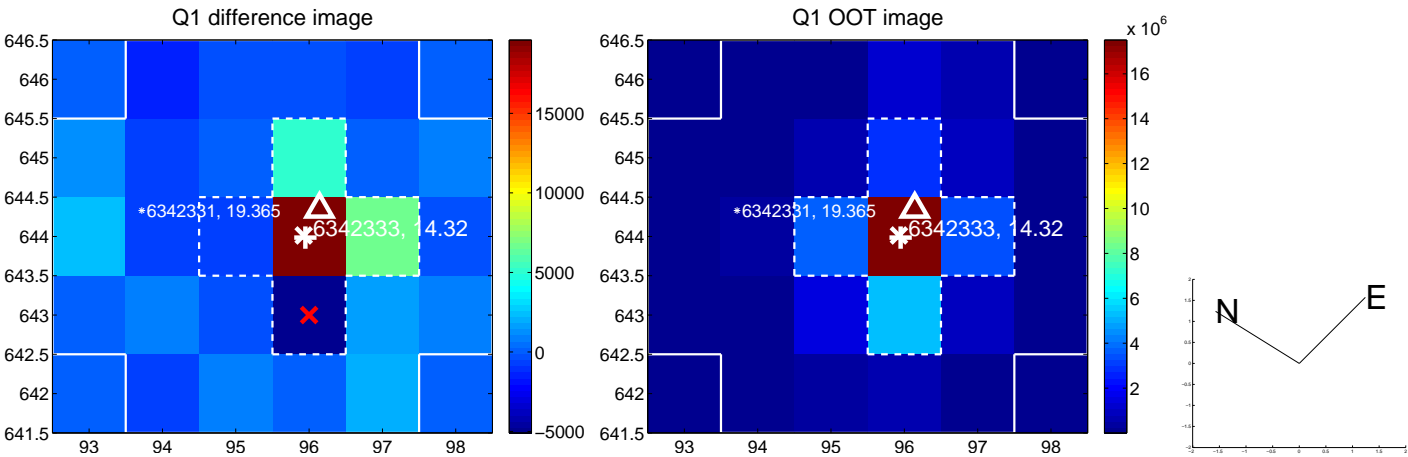
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.359 \pm 0.250$	1.44	$0.320 \pm 0.226$	$0.162 \pm 0.220$
PRF-fit source offset from KIC position	$0.366 \pm 0.268$	1.37	$0.362 \pm 0.270$	$-0.051 \pm 0.132$
photometric centroid source offset	$1.32 \pm 0.58$	2.29	$-1.23 \pm 0.57$	$-0.47 \pm 0.60$



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- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . 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.

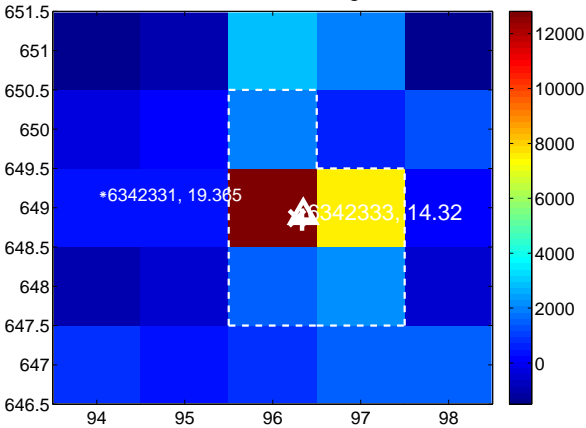
Q5 no difference image



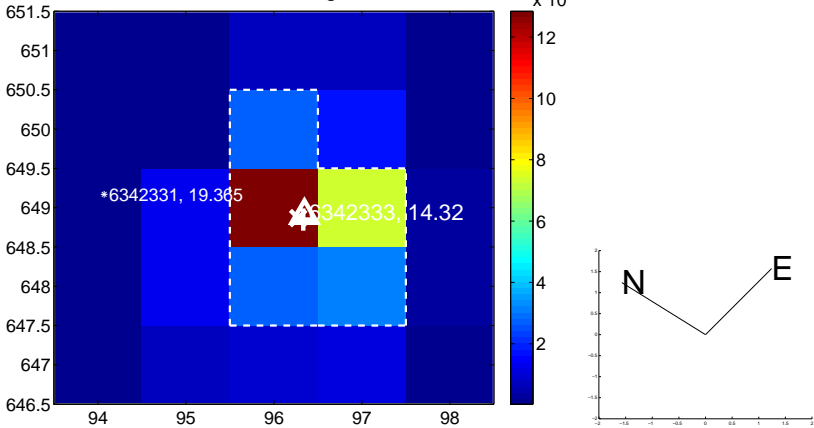
Q5 no OOT image



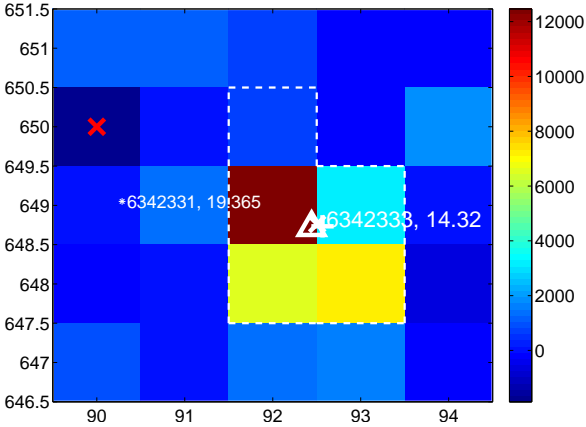
Q6 difference image



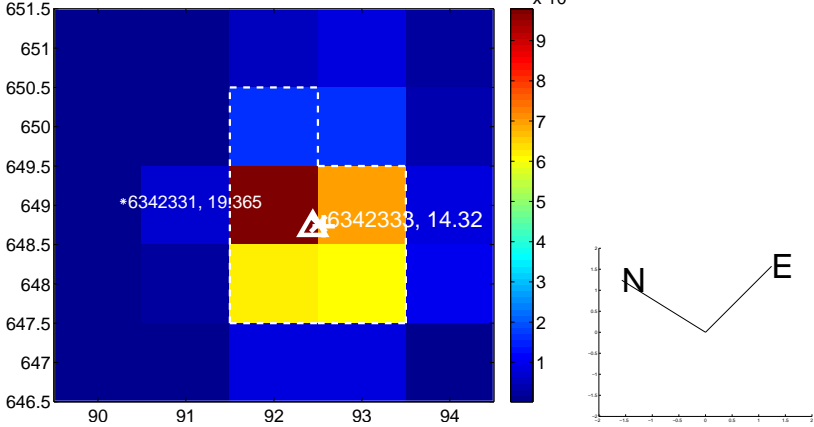
Q6 OOT image



Q7 difference image



Q7 OOT image



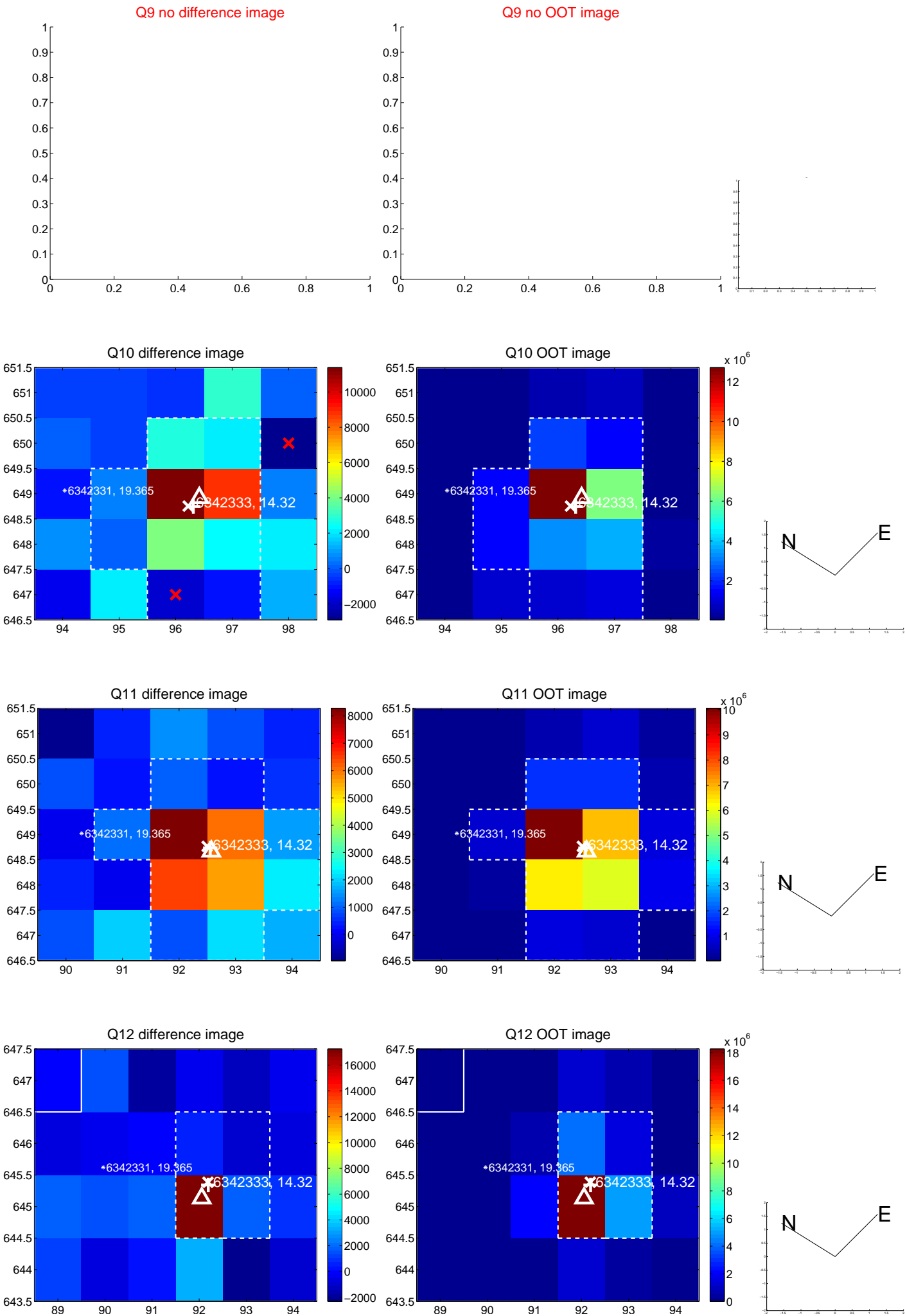
Q8 no difference image



Q8 no OOT image



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.

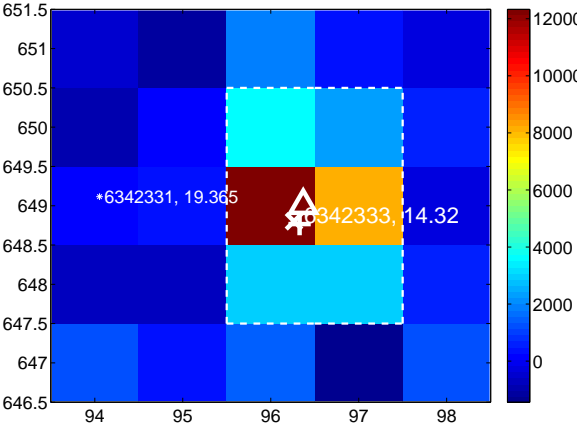
Q13 no difference image



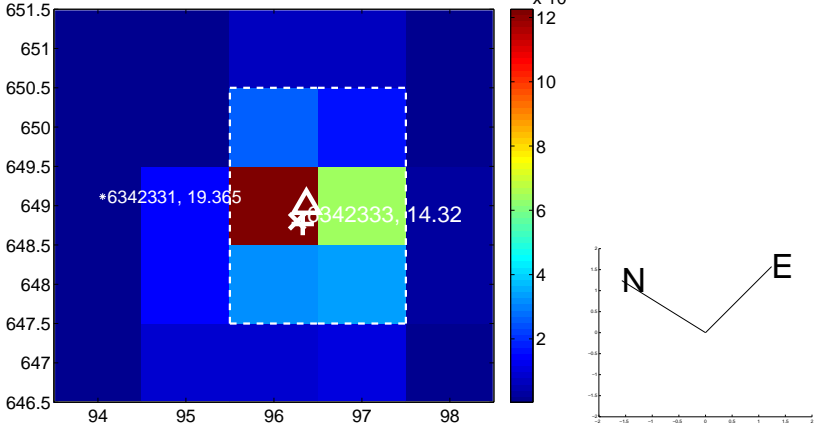
Q13 no OOT image



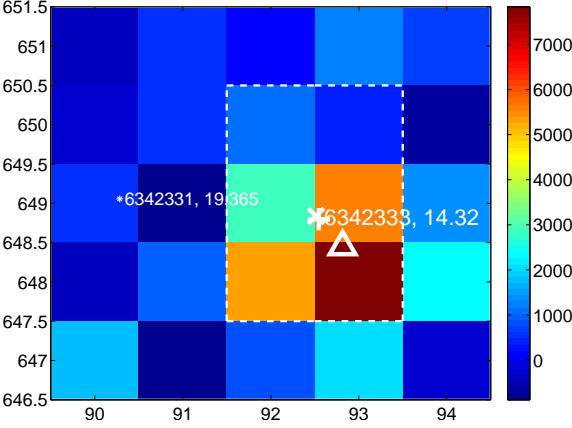
Q14 difference image



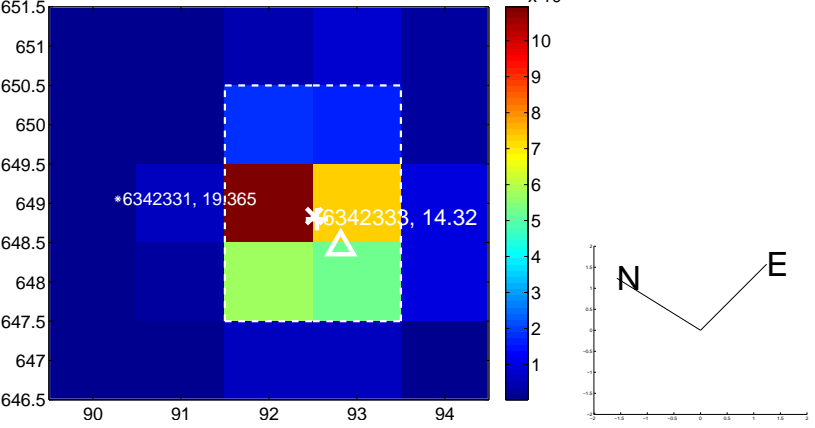
Q14 OOT image



Q15 difference image



Q15 OOT image



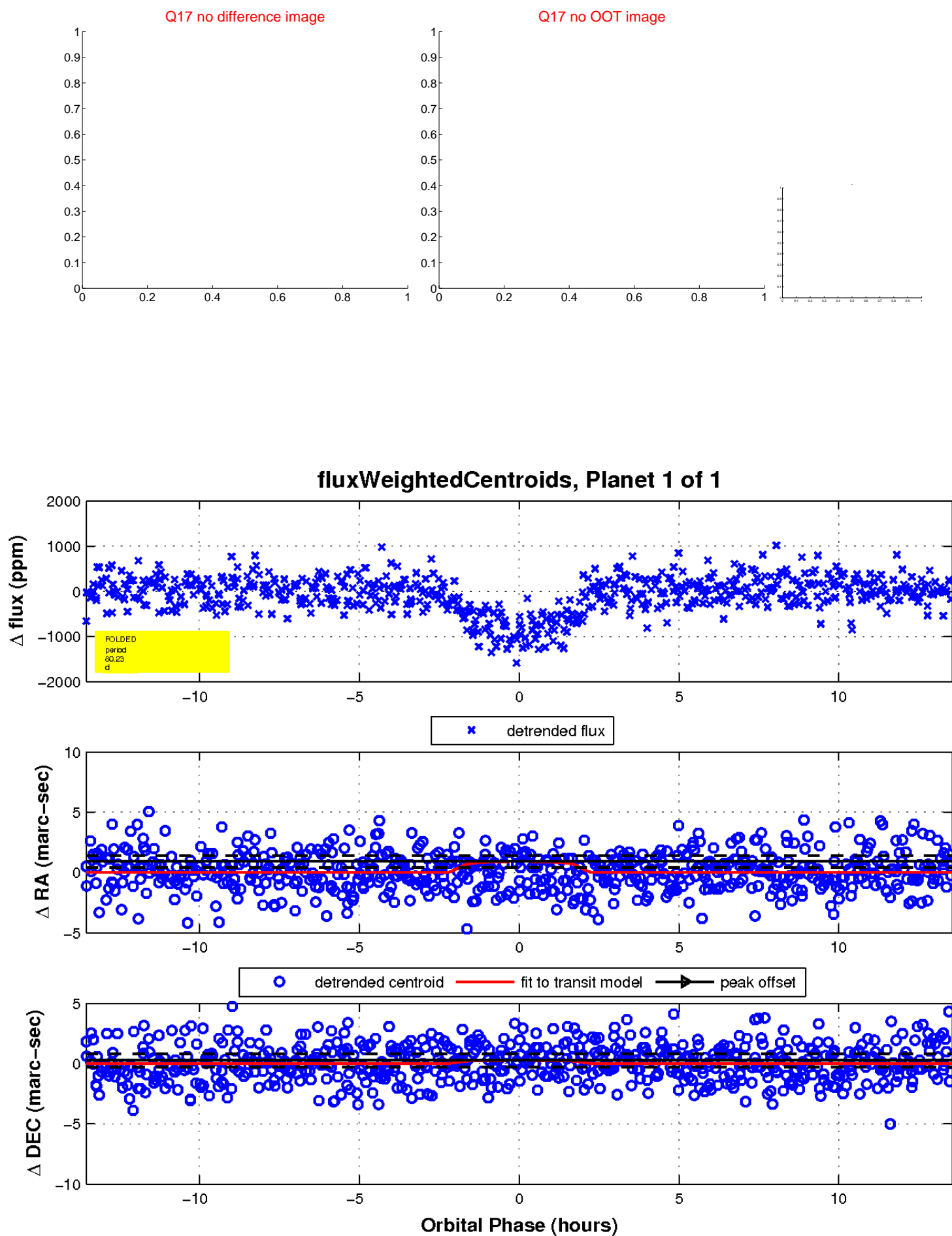
Q16 no difference image



Q16 no OOT image



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



# UKIRT Image

Declination

