

# KIC 001995323

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
001995323-01	OBS	No	480.223666	224.630651	643.4	13.743	8.1	7.2	1.03	6102	2.74	0.85

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001995323-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_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.

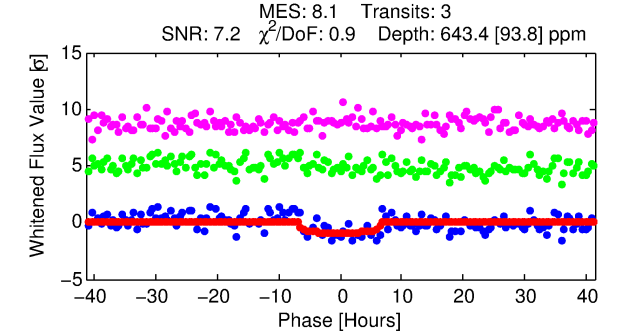
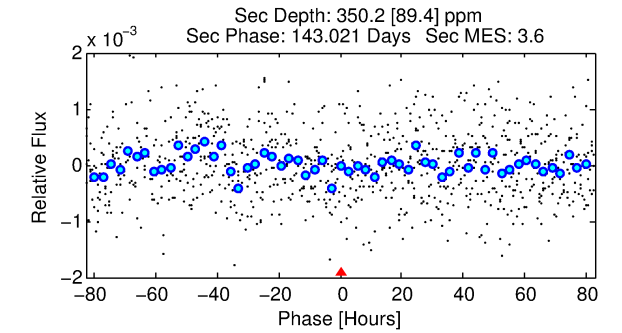
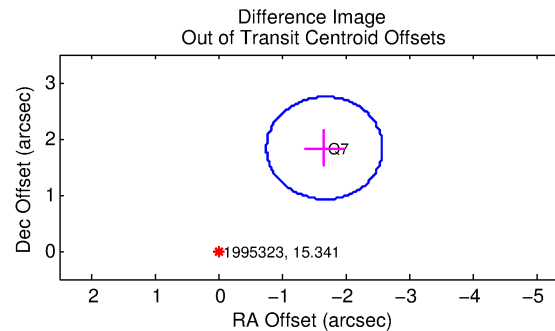
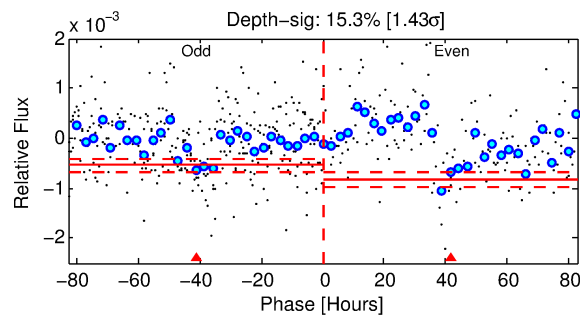
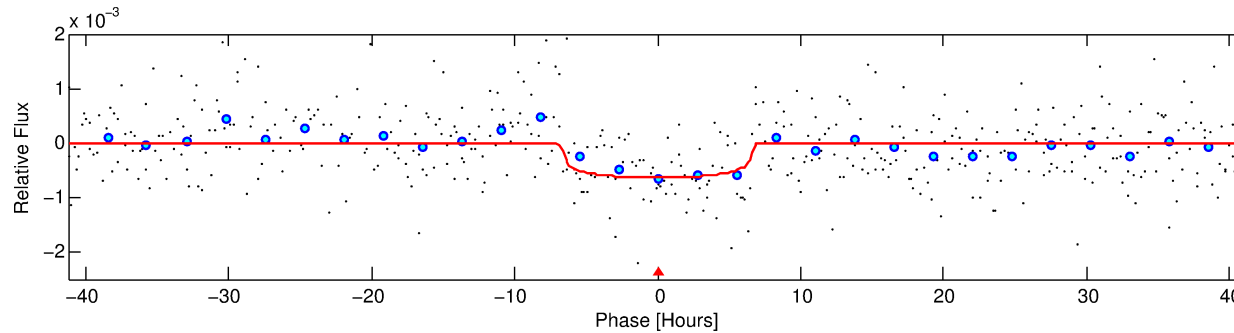
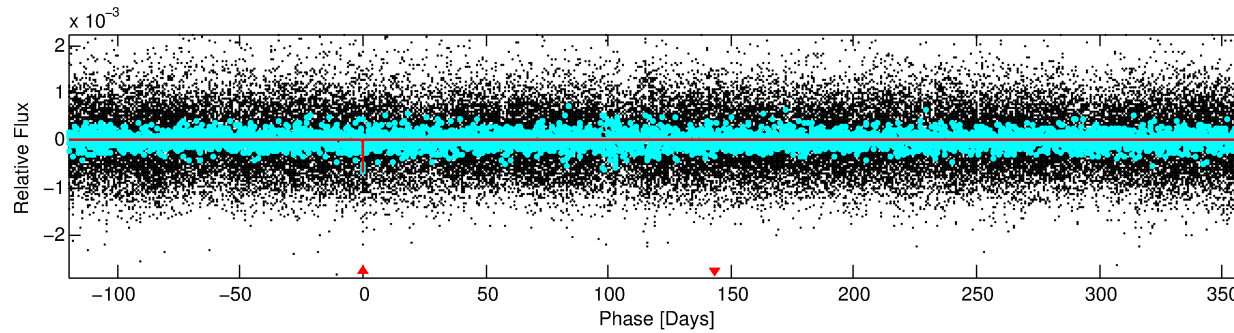
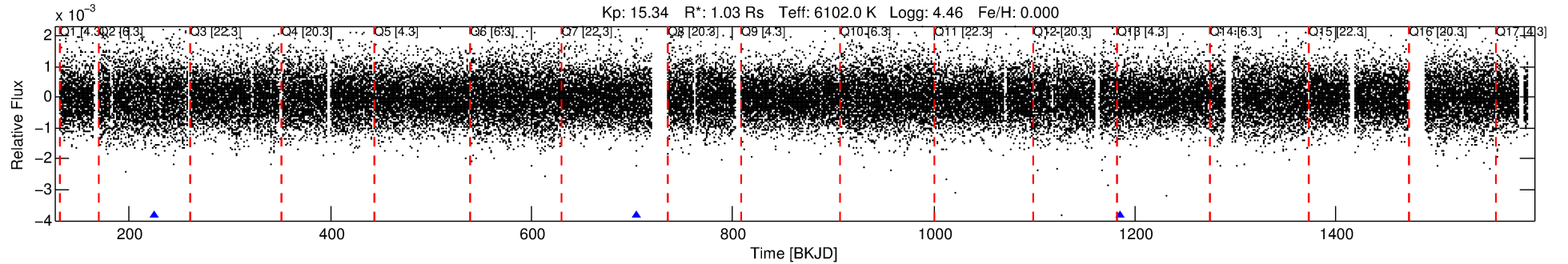
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 001995323-01

No Significant Match Found

# DV One-Page Summary

KIC: 1995323 Candidate: 1 of 1 Period: 480.224 d



## DV Fit Results:

Period = 480.22367 [0.01845] d  
Epoch = 224.6307 [0.0273] BKJD  
Rp/R\* = 0.0245 [0.0113]  
a/R\* = 211.96 [465.20]  
b = 0.65 [1.98]  
Seff = 0.85 [0.35]  
Teq = 245 [25] K  
Rp = 2.74 [1.54] Re  
a = 1.2391 [0.3285] AU  
Ag = 39299.65 [40630.61] [0.97 $\sigma$ ]  
Teffp = 5333 [1296] K [3.93 $\sigma$ ]

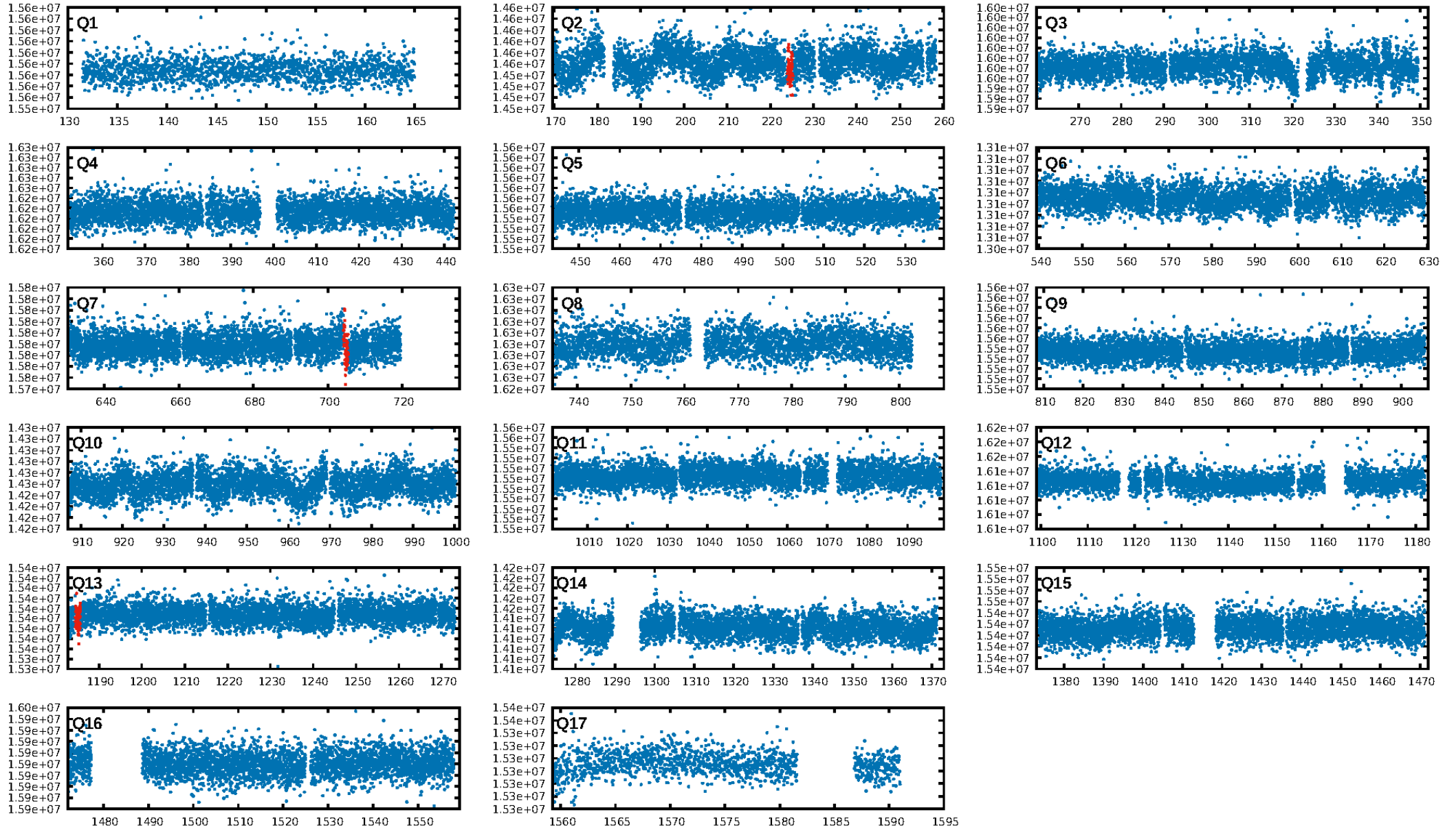
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 42.5%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 3.04e-11**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 2.218  
Centroid-sig: 16.7%  
Centroid-so: 2.806 arcsec [1.59 $\sigma$ ]  
**OotOffset-rm: 2.480 arcsec [8.16 $\sigma$ ]**  
**KicOffset-rm: 2.486 arcsec [8.18 $\sigma$ ]**  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [1/1]

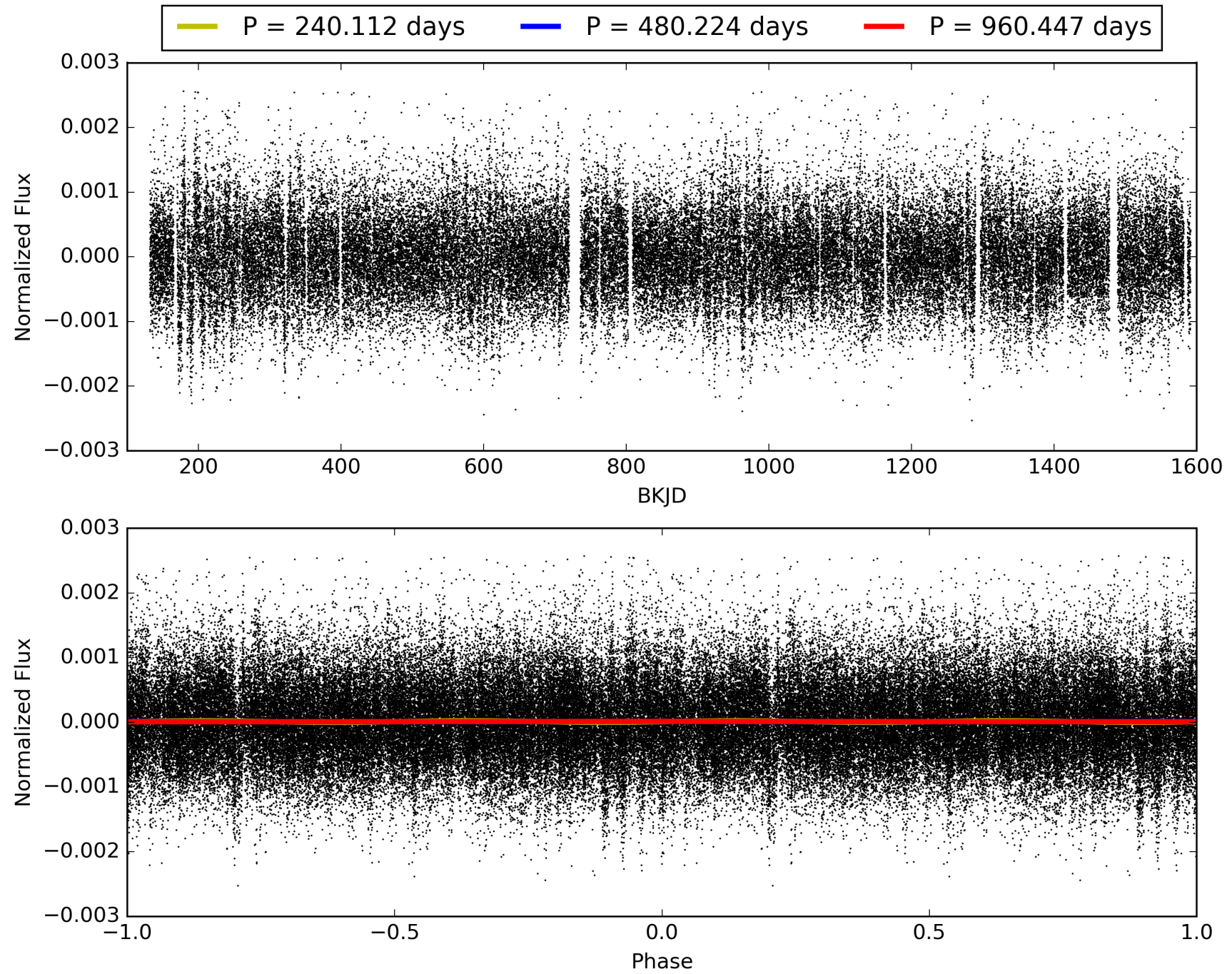
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:36:41 Z

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

# TCE 001995323-01, PDC Light Curves

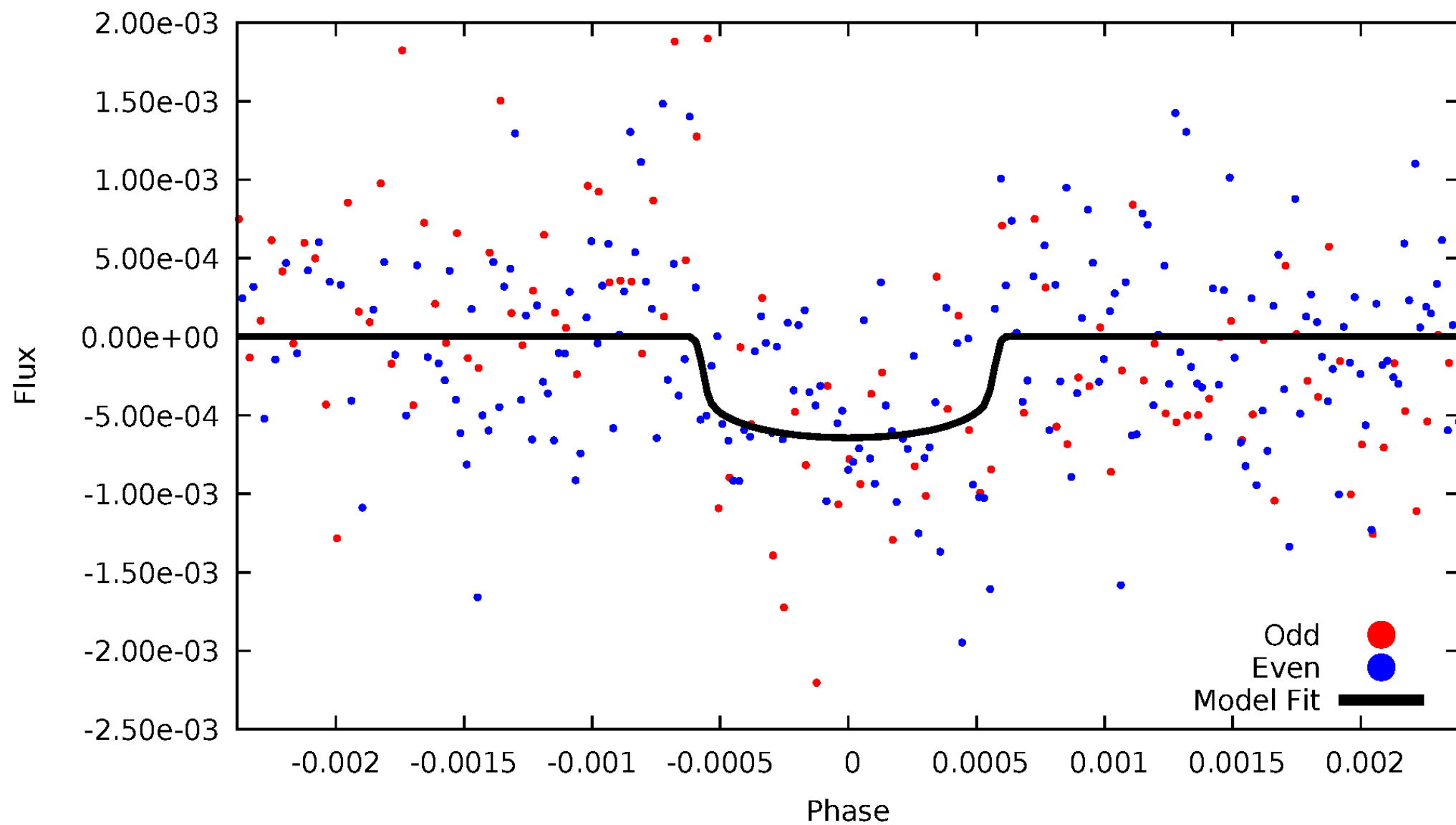


TCE 001995323-01



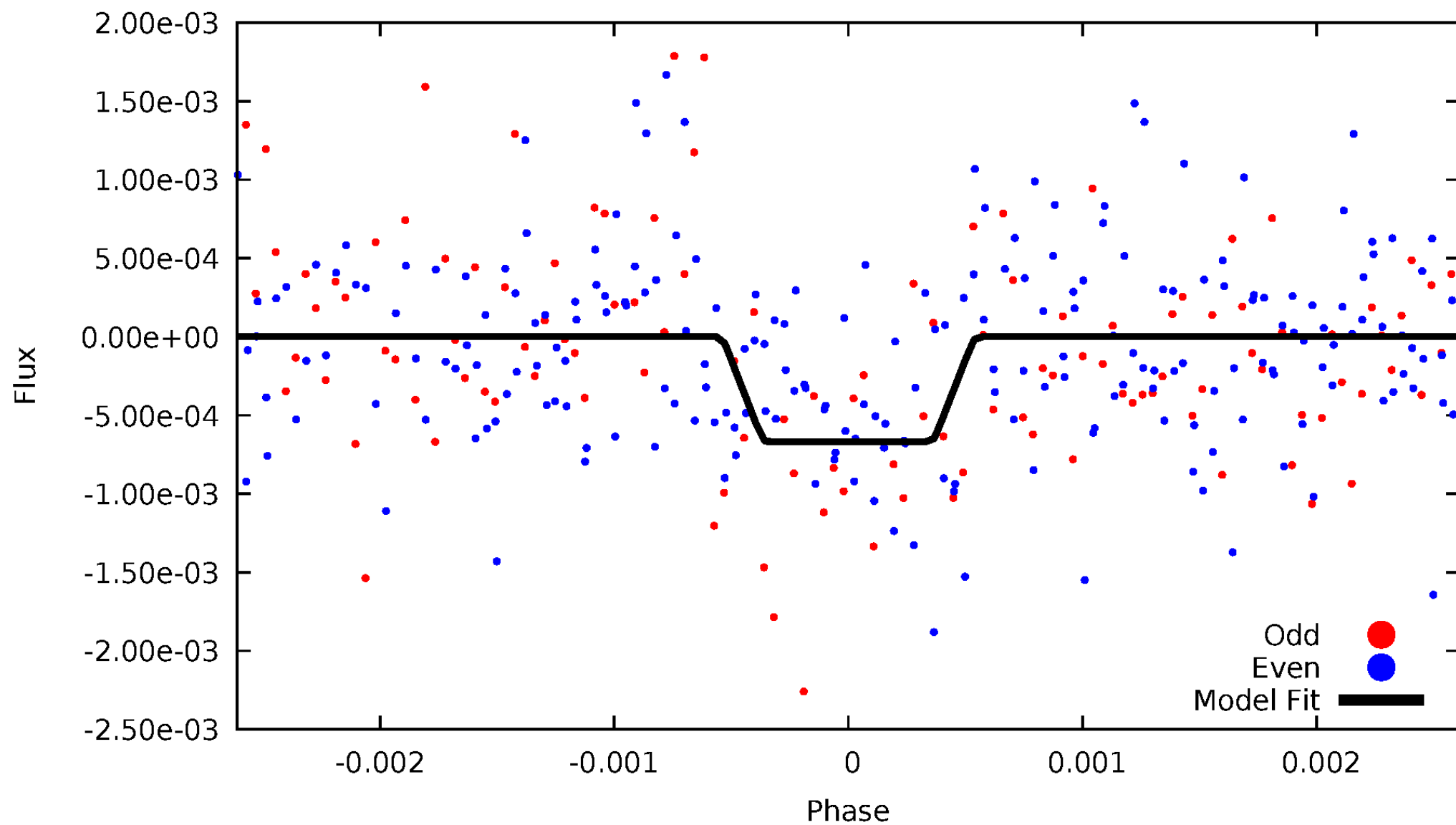
# DV Odd/Even

TCE 001995323-01



# ALT Odd/Even

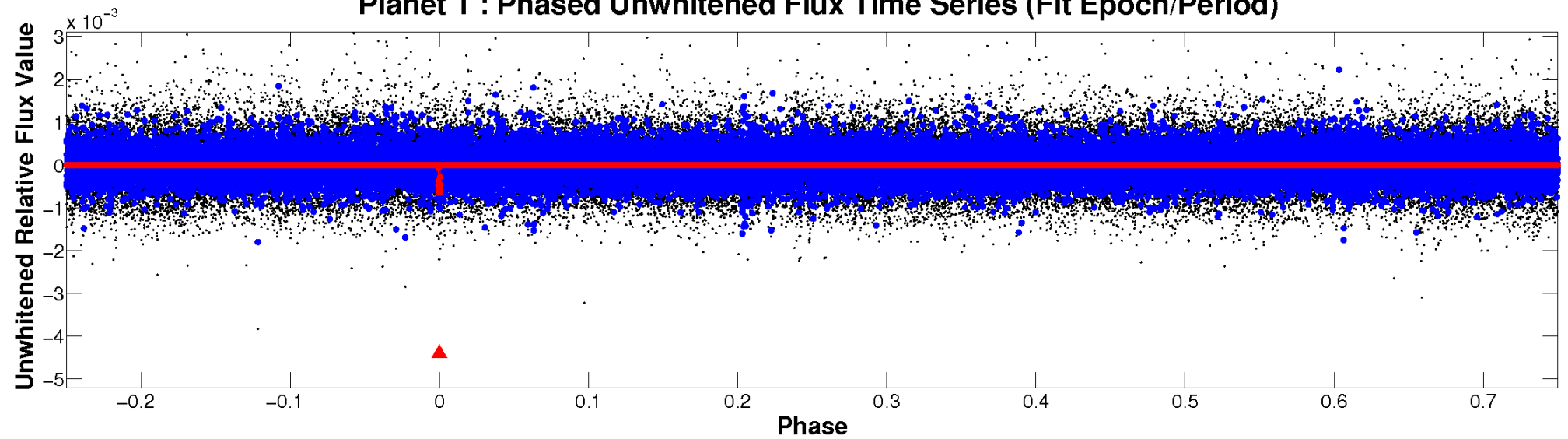
TCE 001995323-01



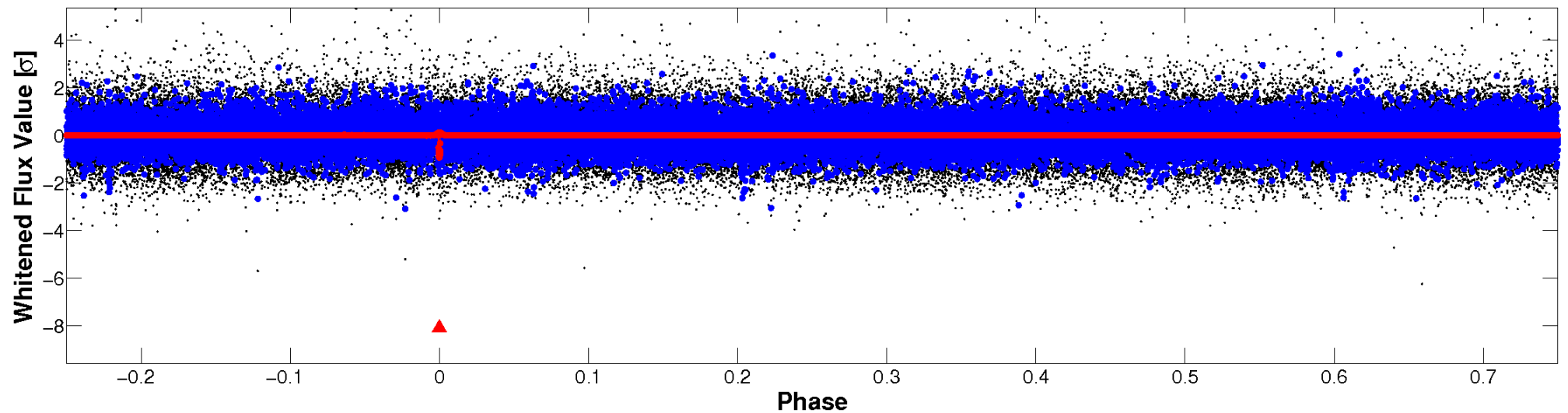


# Non-Whitened Vs. Whitened Light Curve

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

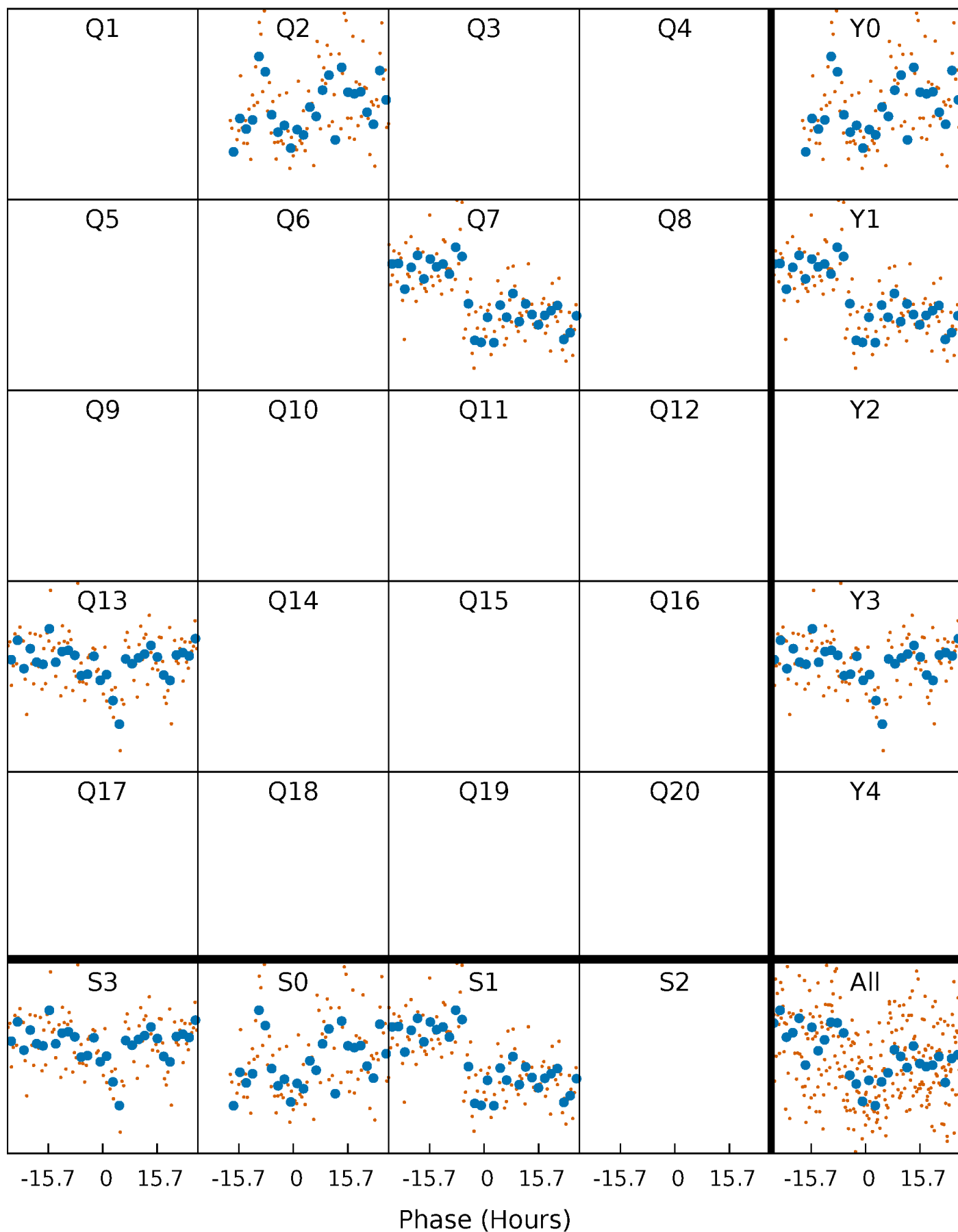


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

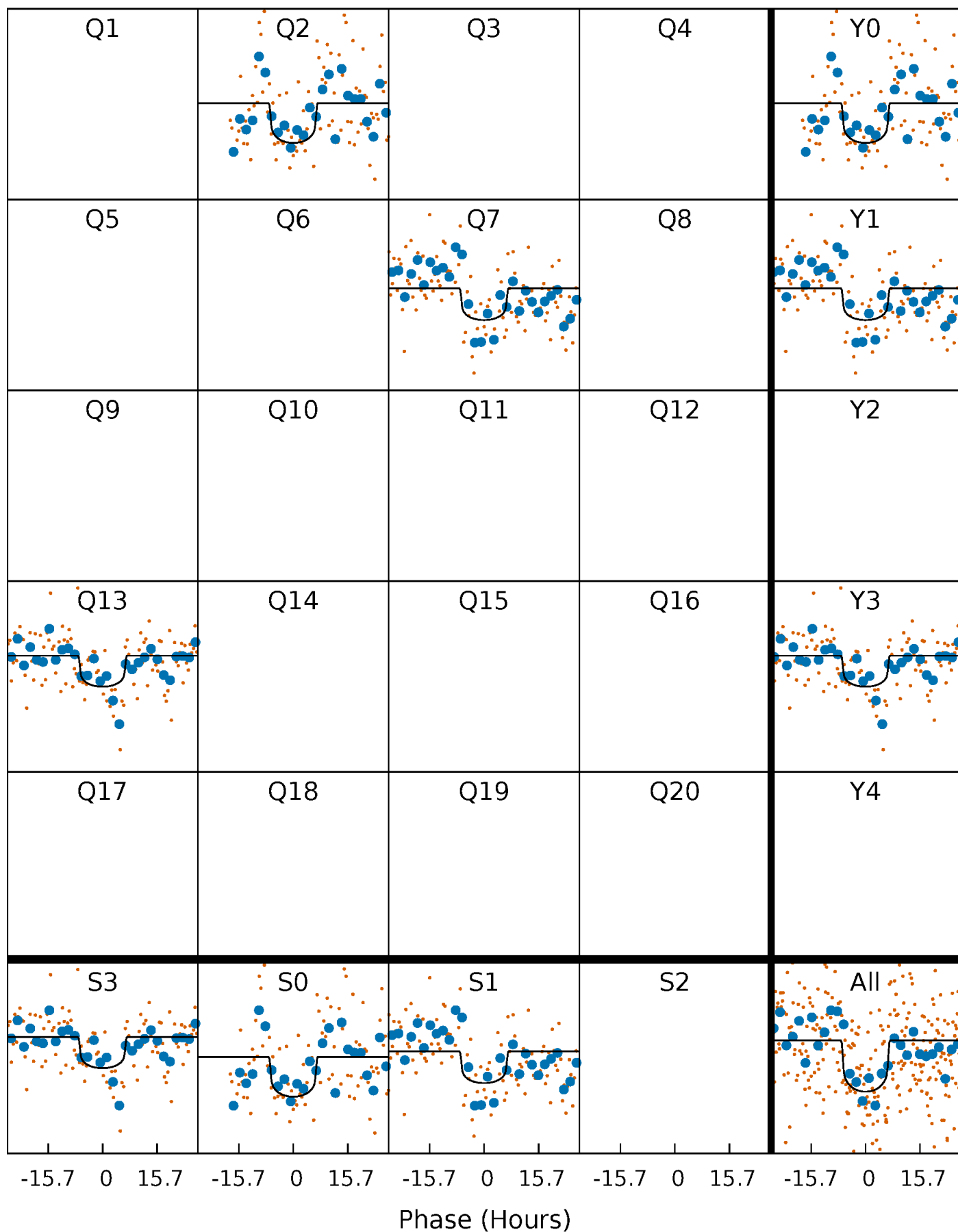
TCE 001995323-01 P=480.223666 Days  $T_0=224.630651$  (BKJD)





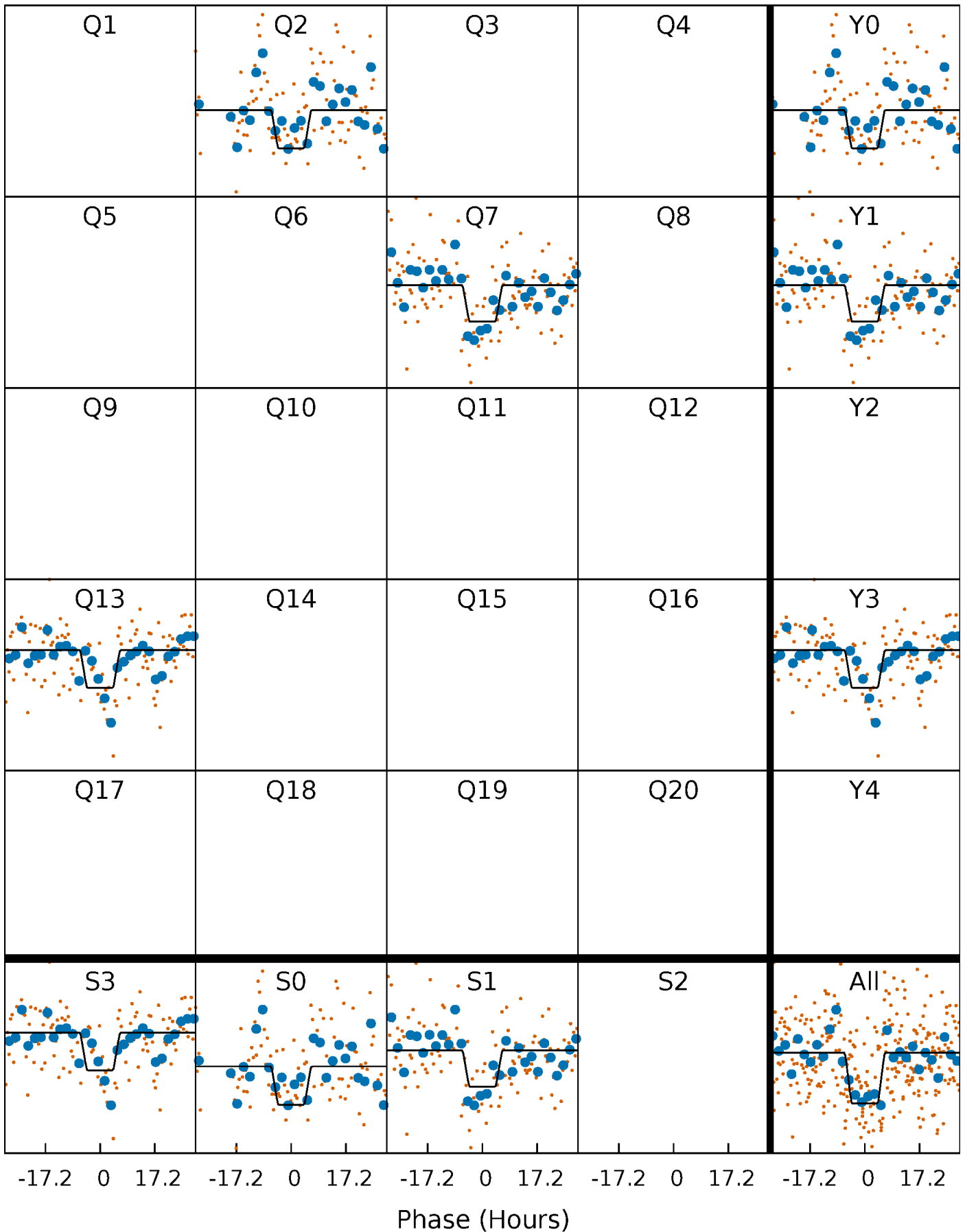
# DV Quarter-Phased Transit Curves

TCE 001995323-01   P=480.223666 Days    $T_0=224.630651$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

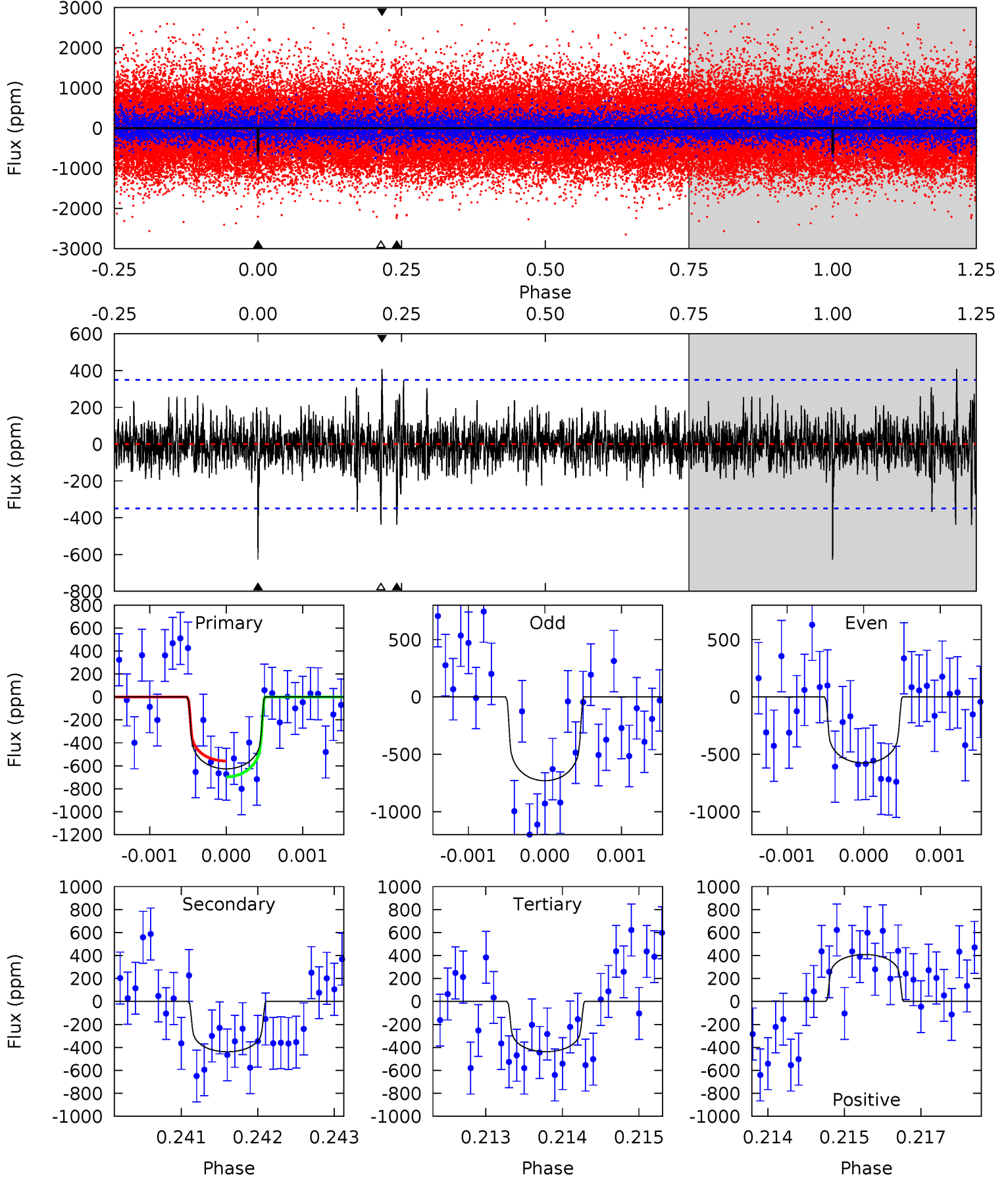
TCE 001995323-01 P=480.229527 Days  $T_0=224.656743$  (BKJD)



# DV Model-Shift Uniqueness Test

001995323-01, P = 480.223666 Days, E = 224.630651 Days

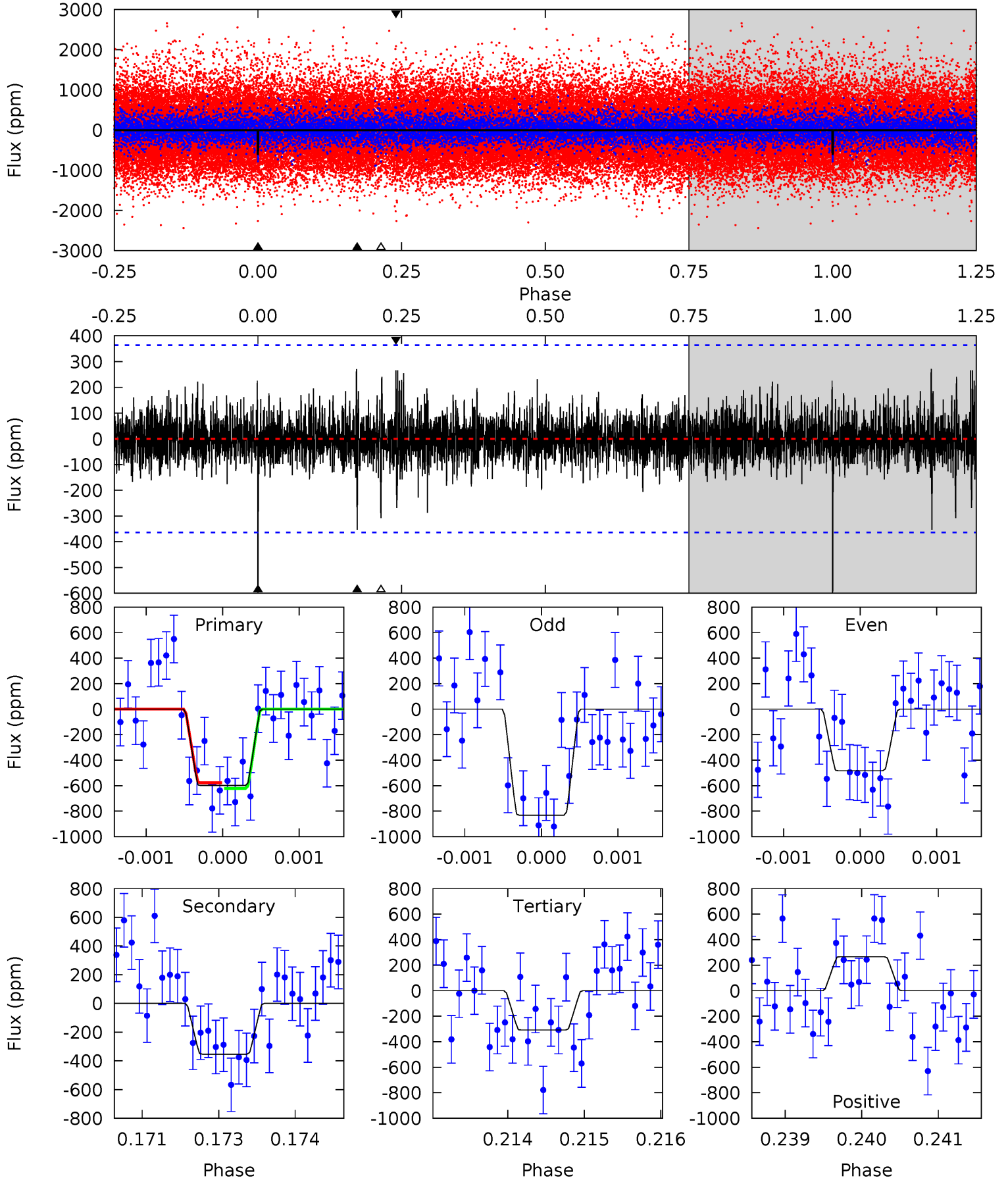
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.70	6.79	6.78	6.33	5.42	3.24	1.23	2.93	3.37	0.01	0.46	1.15	0.98	0.39	1.07



# Alt Model-Shift Uniqueness Test

001995323-01, P = 480.229527 Days, E = 224.656743 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
8.95	5.27	4.61	3.98	5.43	3.26	0.97	4.35	4.98	0.67	1.30	2.45	0.96	0.31	0.34



### Stellar Parameters For KIC 001995323

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6102^{+193}_{-236}$	$4.457^{+0.056}_{-0.210}$	$0.000^{+0.250}_{-0.350}$	$1.026^{+0.324}_{-0.130}$	$1.099^{+0.135}_{-0.151}$	$1.433^{+0.420}_{-0.776}$
	+3%/-4%	+1%/-5%	+inf%/-inf%	+32%/-13%	+12%/-14%	+29%/-54%
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 001995323-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-438 \pm 65$	$2.91^{+1.31}_{-1.39}$	$350^{+25}_{-20}$	$5655^{+2404}_{-898}$	$43071^{+114912}_{-22906}$
Alt.	$-353 \pm 67$	$3.06^{+1.37}_{-1.35}$	$350^{+27}_{-19}$	$5195^{+1552}_{-710}$	$30863^{+63350}_{-16980}$

$T_{max}$  = 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

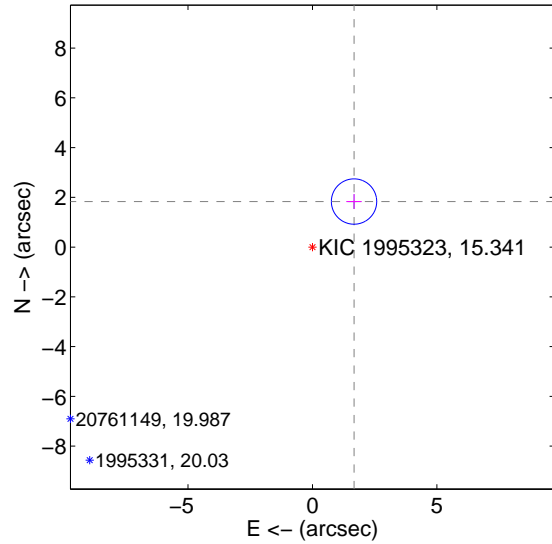
Supplemental centroid analysis for 001995323-01. Kepler magnitude: 15.34. Transit SNR 7.21

There are 1 quarters with good PRF difference image offsets

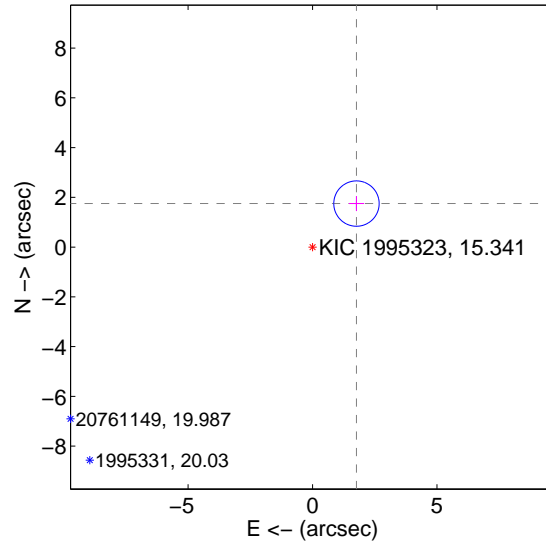
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	2.480 $\pm$ 0.304	8.16	-1.672 $\pm$ 0.305	1.831 $\pm$ 0.302
PRF-fit source offset from KIC position	2.486 $\pm$ 0.304	8.18	-1.766 $\pm$ 0.305	1.749 $\pm$ 0.302
photometric centroid source offset	2.81 $\pm$ 1.77	1.59	-2.74 $\pm$ 1.77	-0.63 $\pm$ 1.79

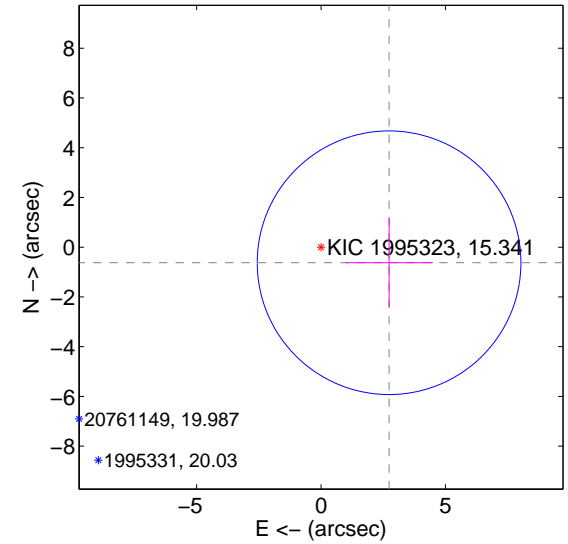
offset from difference PRF-fit to OOT PRF-fit



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- $\sigma$  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



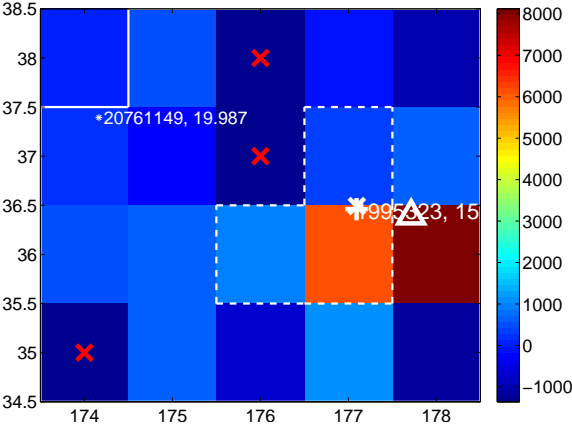
Q6 no difference image



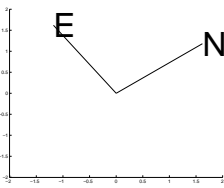
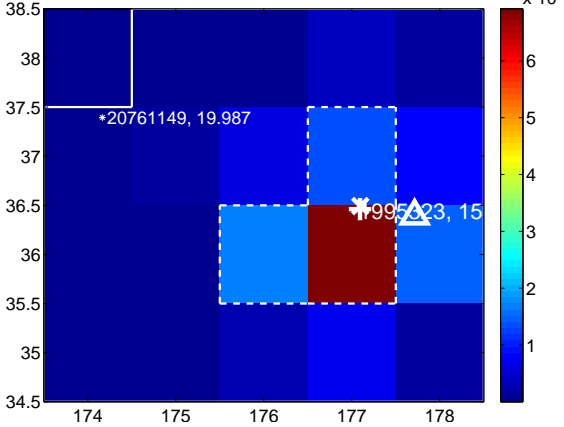
Q6 no OOT image



Q7 difference image



Q7 OOT image



Q8 no difference image



Q8 no OOT image



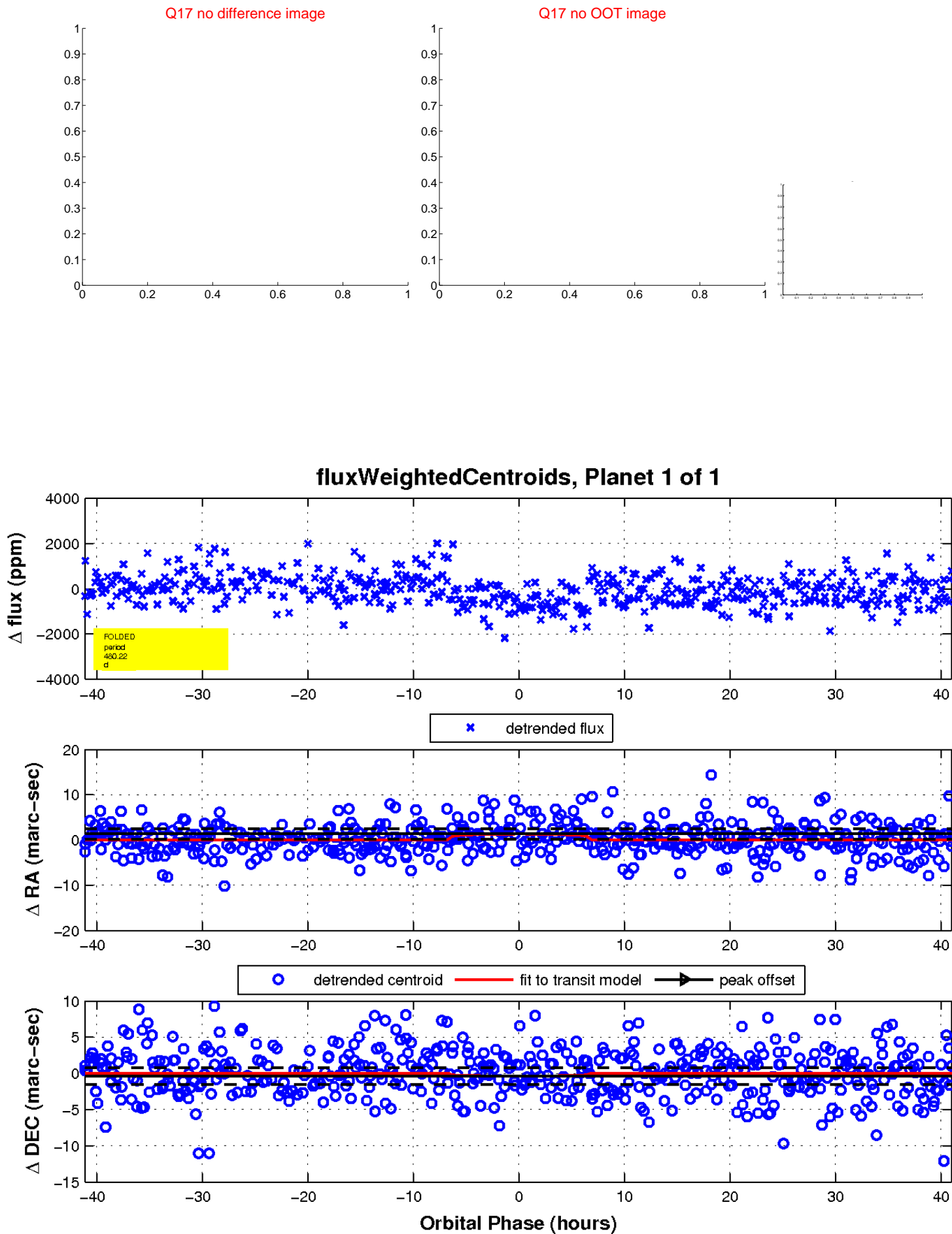
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



# UKIRT Image

Declination

