

# KIC 010323824

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010323824-01	OBS	No	481.575053	268.748557	298.3	5.495	8.2	7.8	1.13	6373	2.10	1.17

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010323824-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—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.

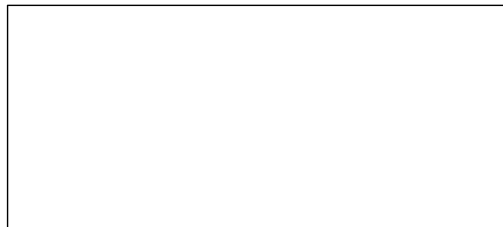
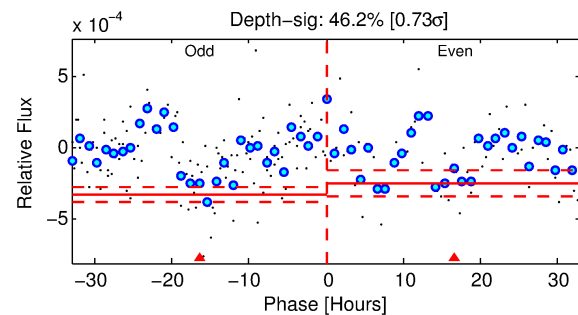
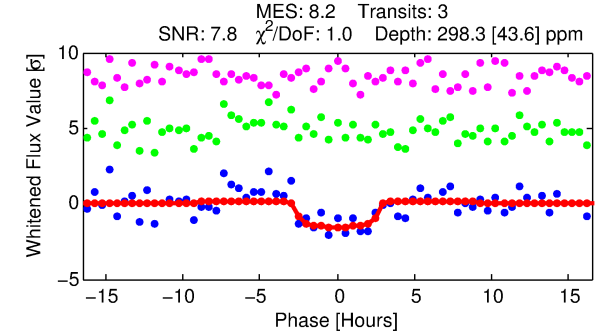
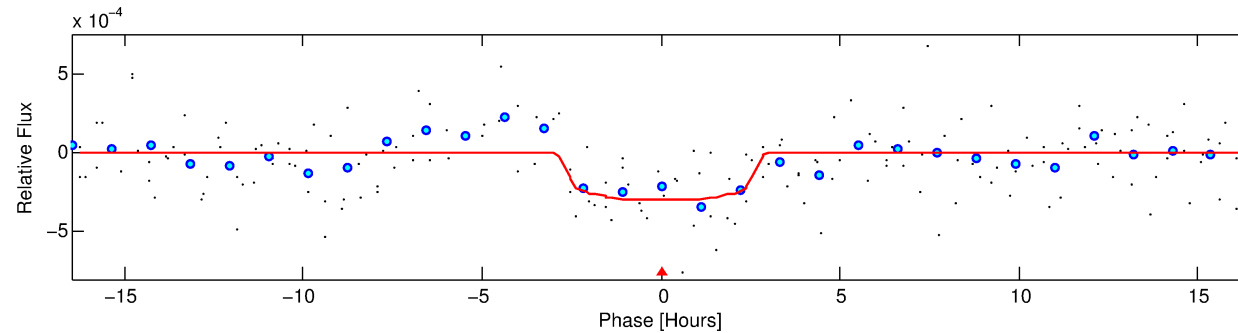
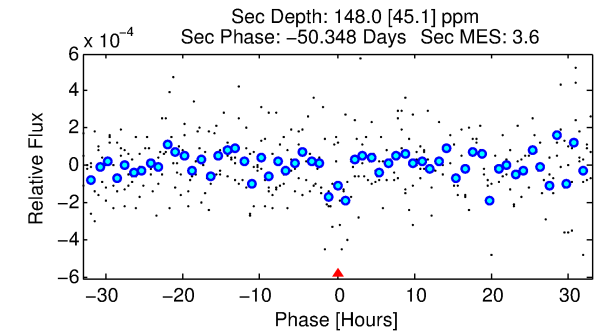
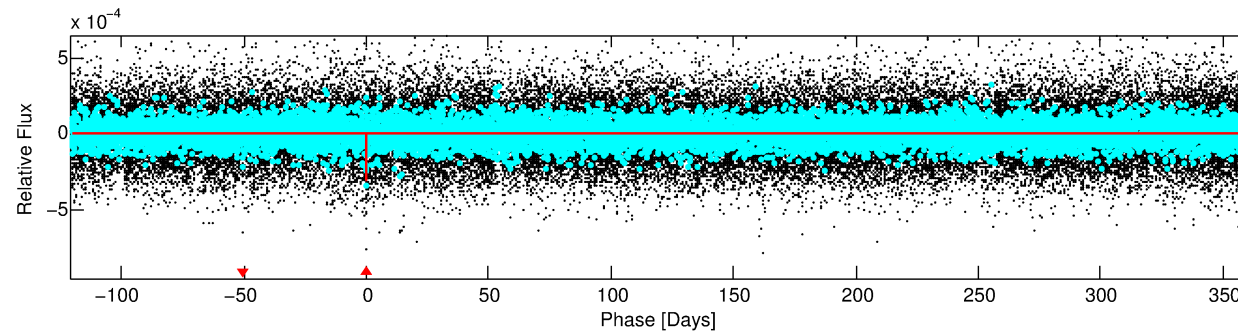
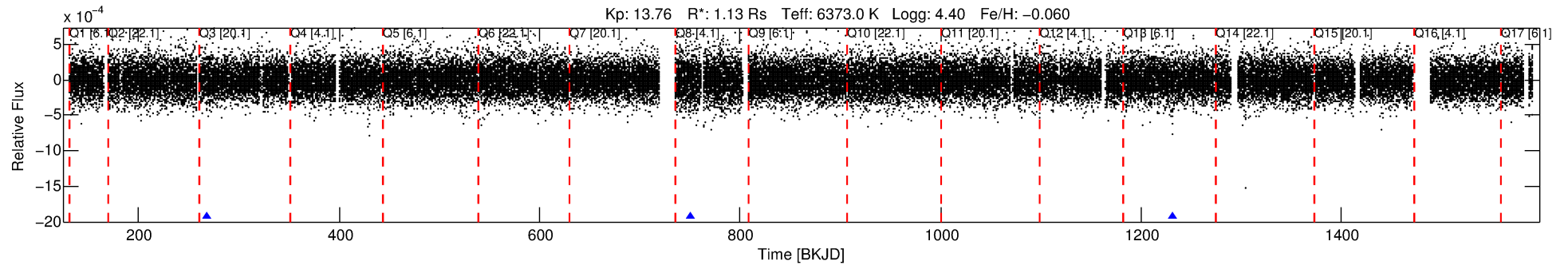
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010323824-01

No Significant Match Found

# DV One-Page Summary

KIC: 10323824 Candidate: 1 of 1 Period: 481.575 d



## DV Fit Results:

Period = 481.57505 [0.00973] d  
Epoch = 268.7486 [0.0126] BKJD  
Rp/R\* = 0.0171 [0.0167]  
a/R\* = 474.53 [2418.12]  
b = 0.73 [3.31]  
Seff = 1.17 [0.49]  
Teq = 265 [28] K  
Rp = 2.10 [2.17] Re  
a = 1.2652 [0.3476] AU  
Ag = 29631.80 [59934.18] [0.49σ]  
Teffp = 5380 [2673] K [1.91σ]

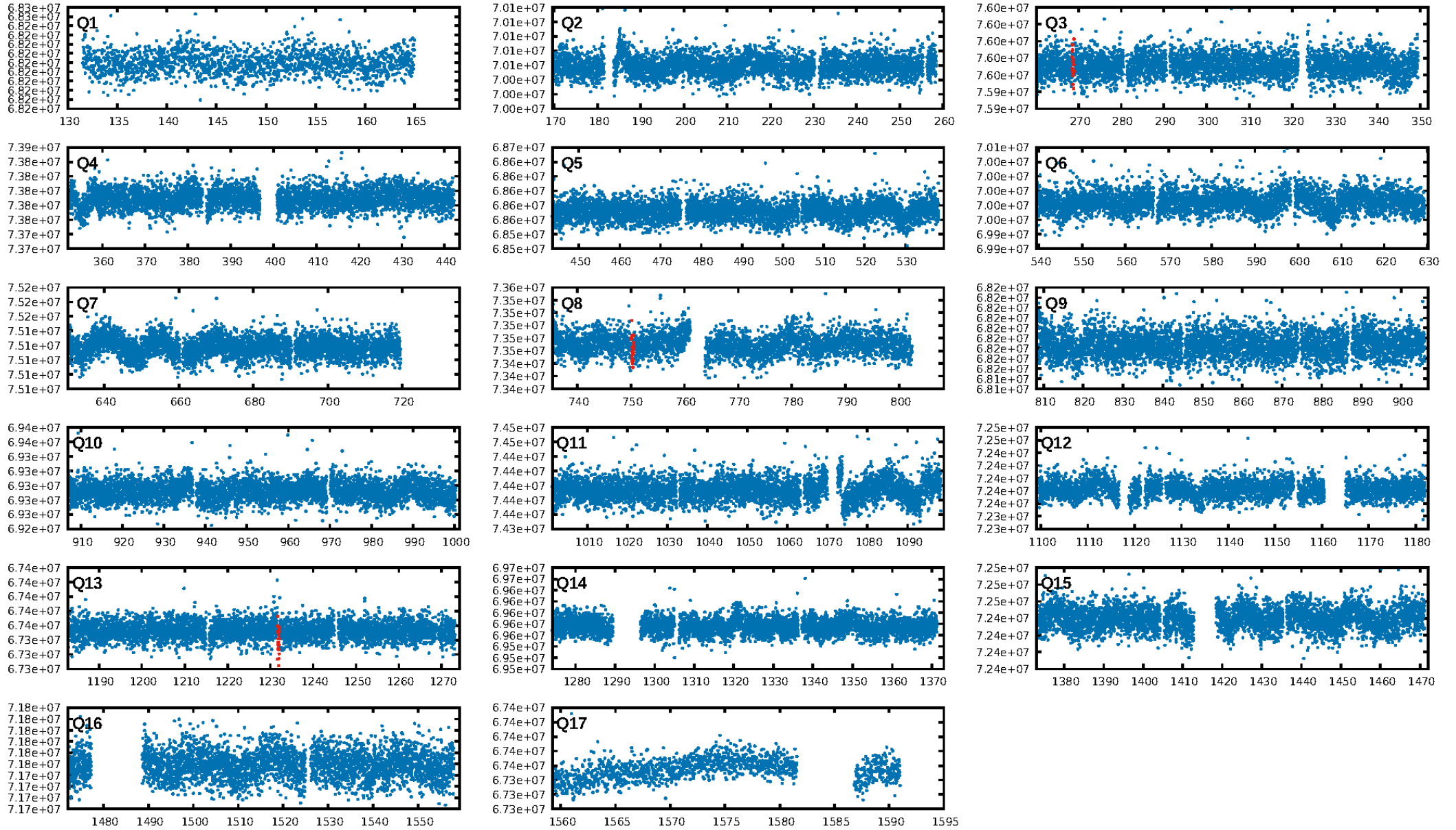
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 6.6%  
ModelChiSquareGof-sig: 90.8%  
**Bootstrap-pfa: 5.93e-11**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 2.751  
Centroid-sig: 65.7%  
Centroid-so: 0.864 arcsec [0.60σ]  
OotOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-rm: N/A  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [2/2]

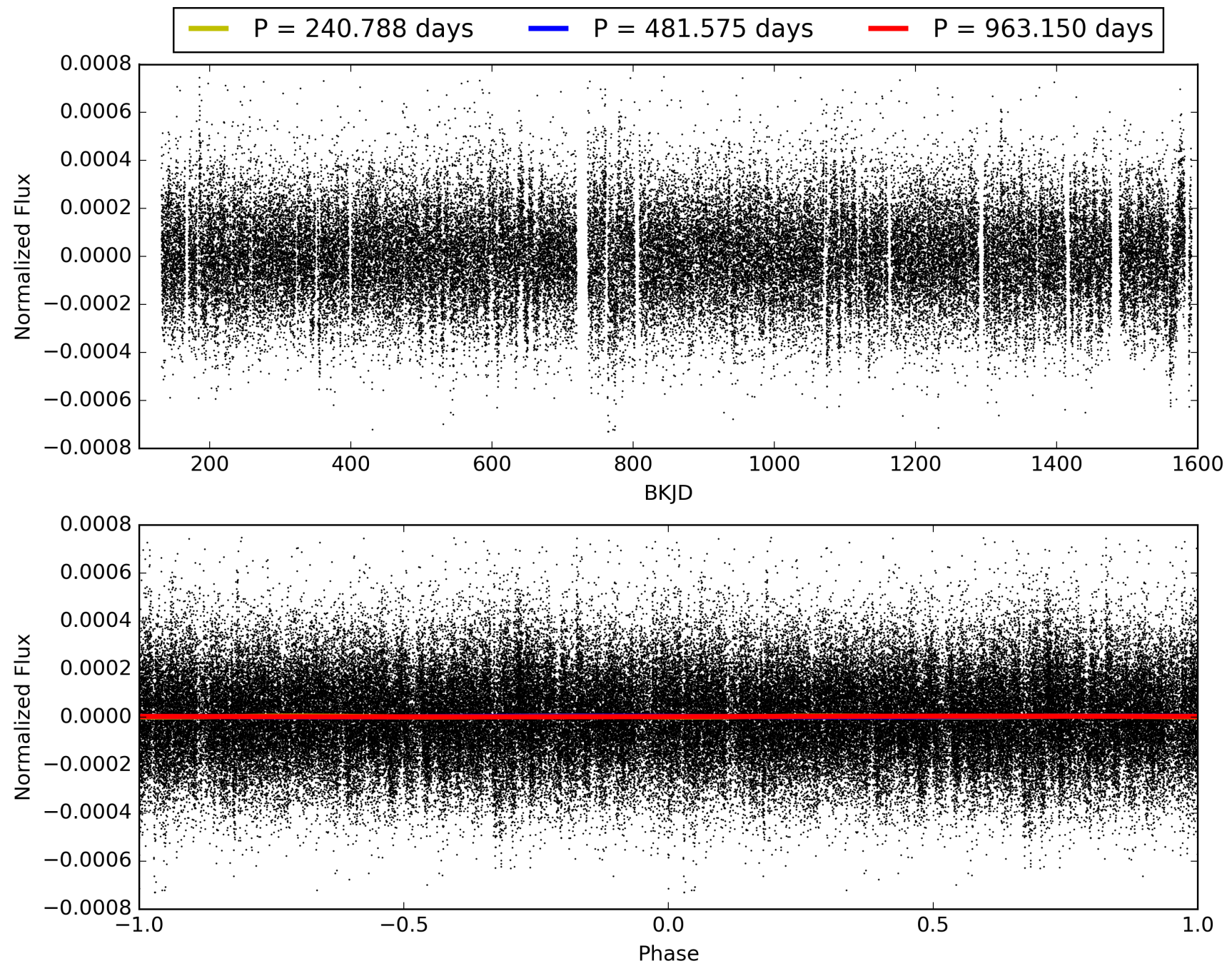
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 18:56:07 Z

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

# TCE 010323824-01, PDC Light Curves

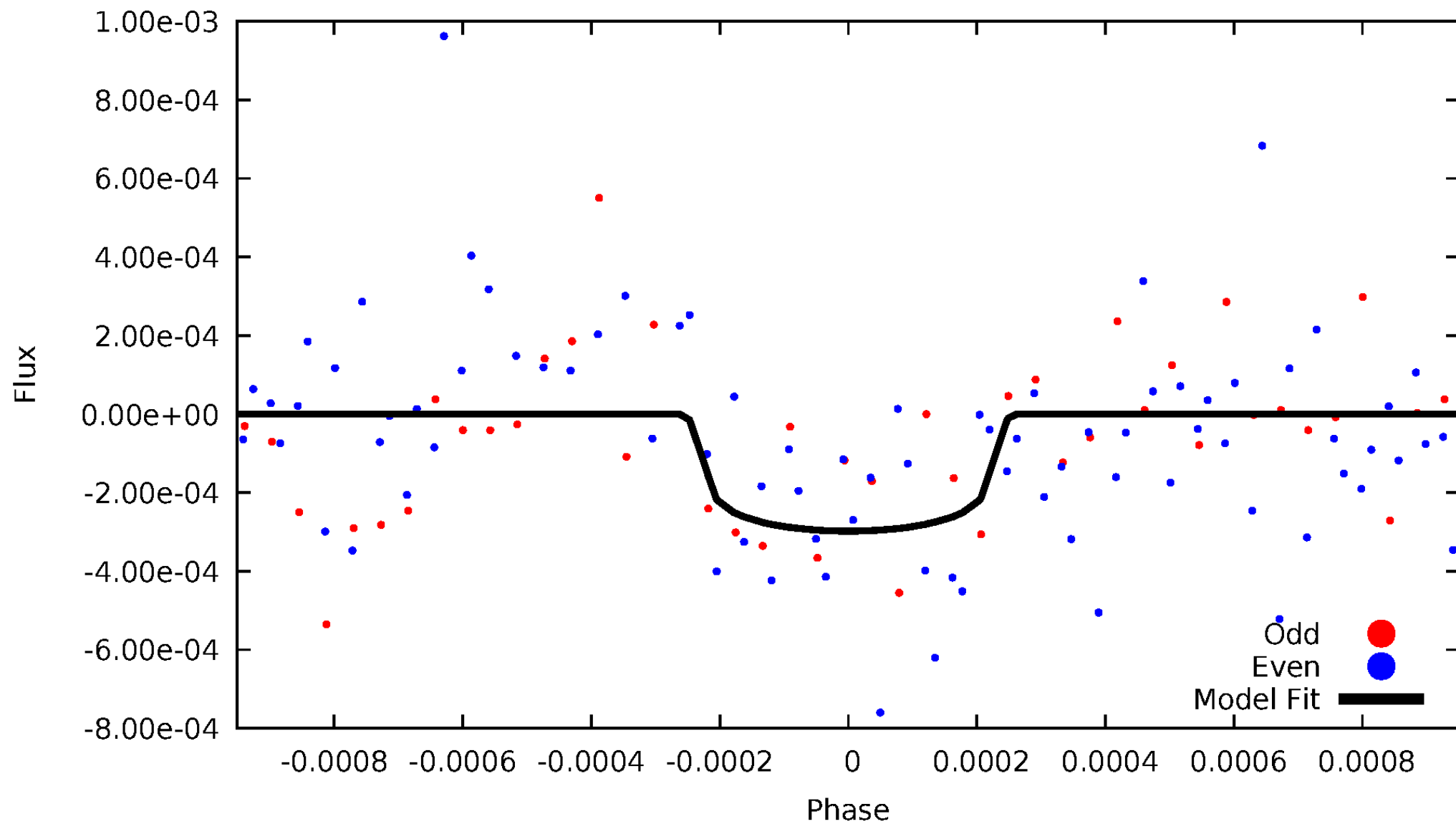


# TCE 010323824-01



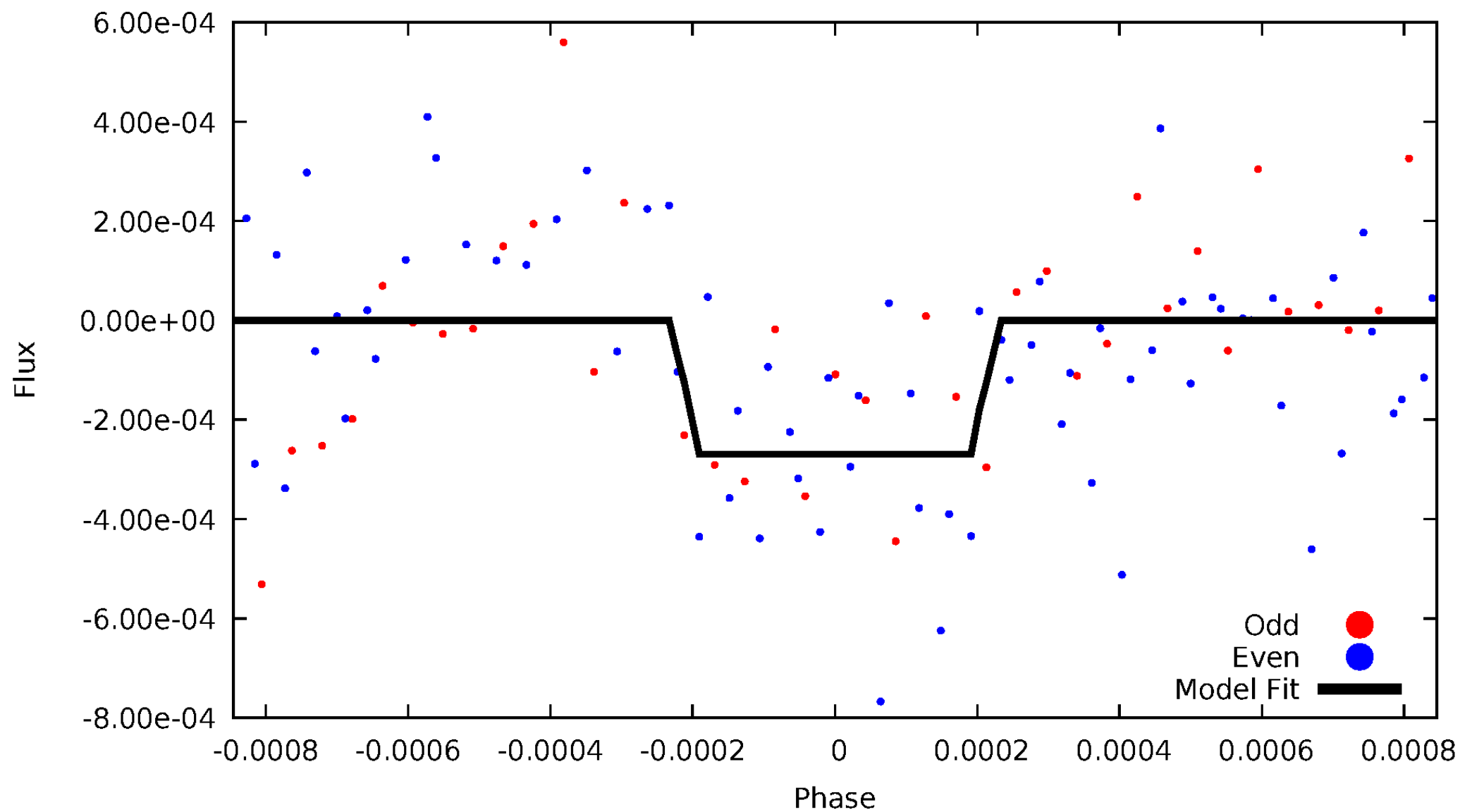
# DV Odd/Even

TCE 010323824-01



# ALT Odd/Even

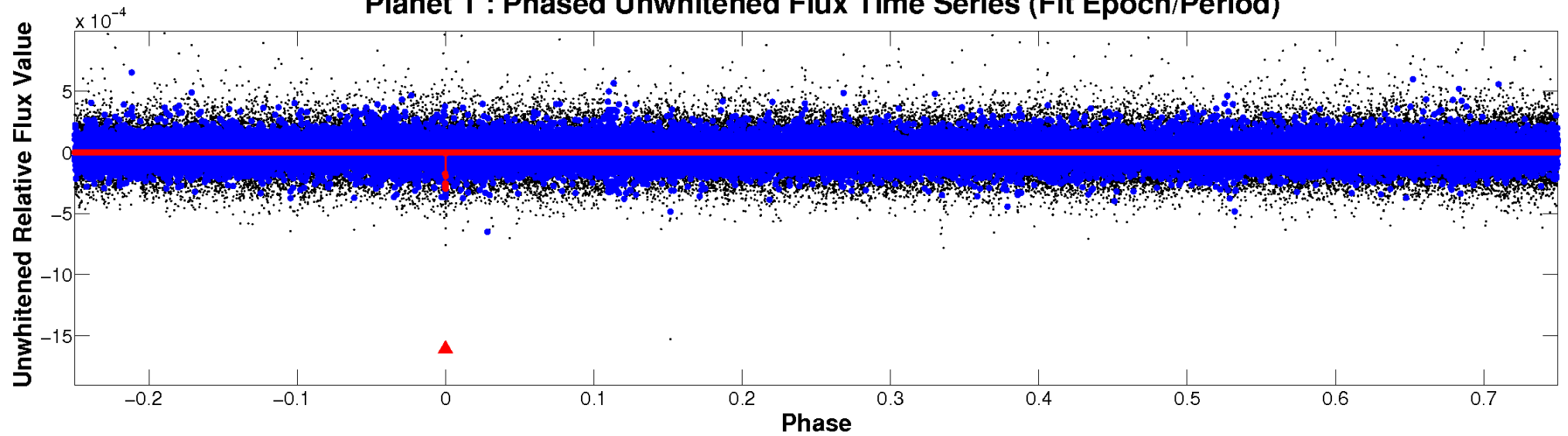
TCE 010323824-01



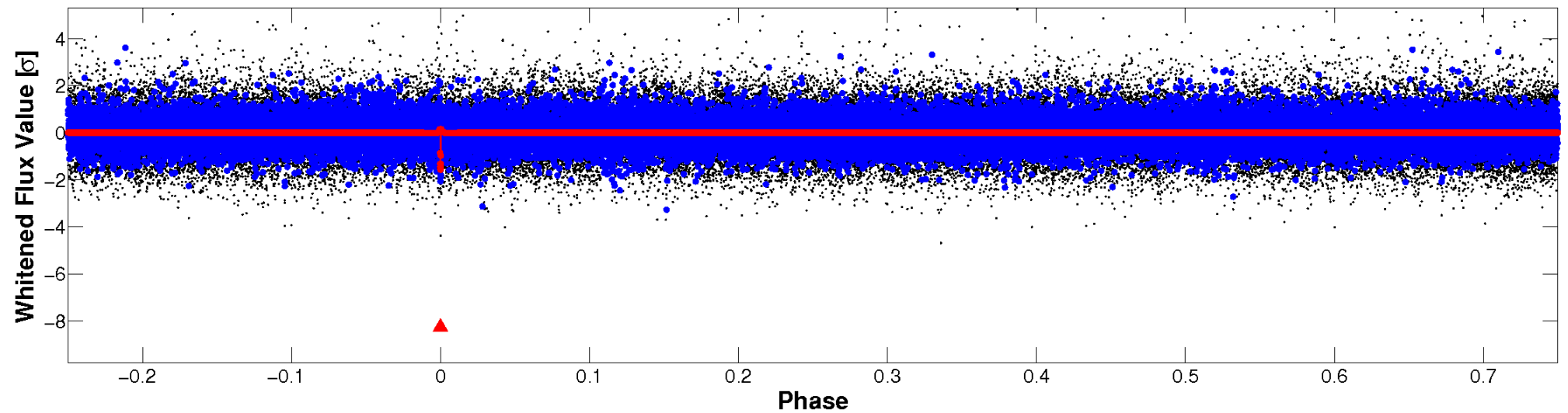


# Non-Whitened Vs. Whitened Light Curve

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

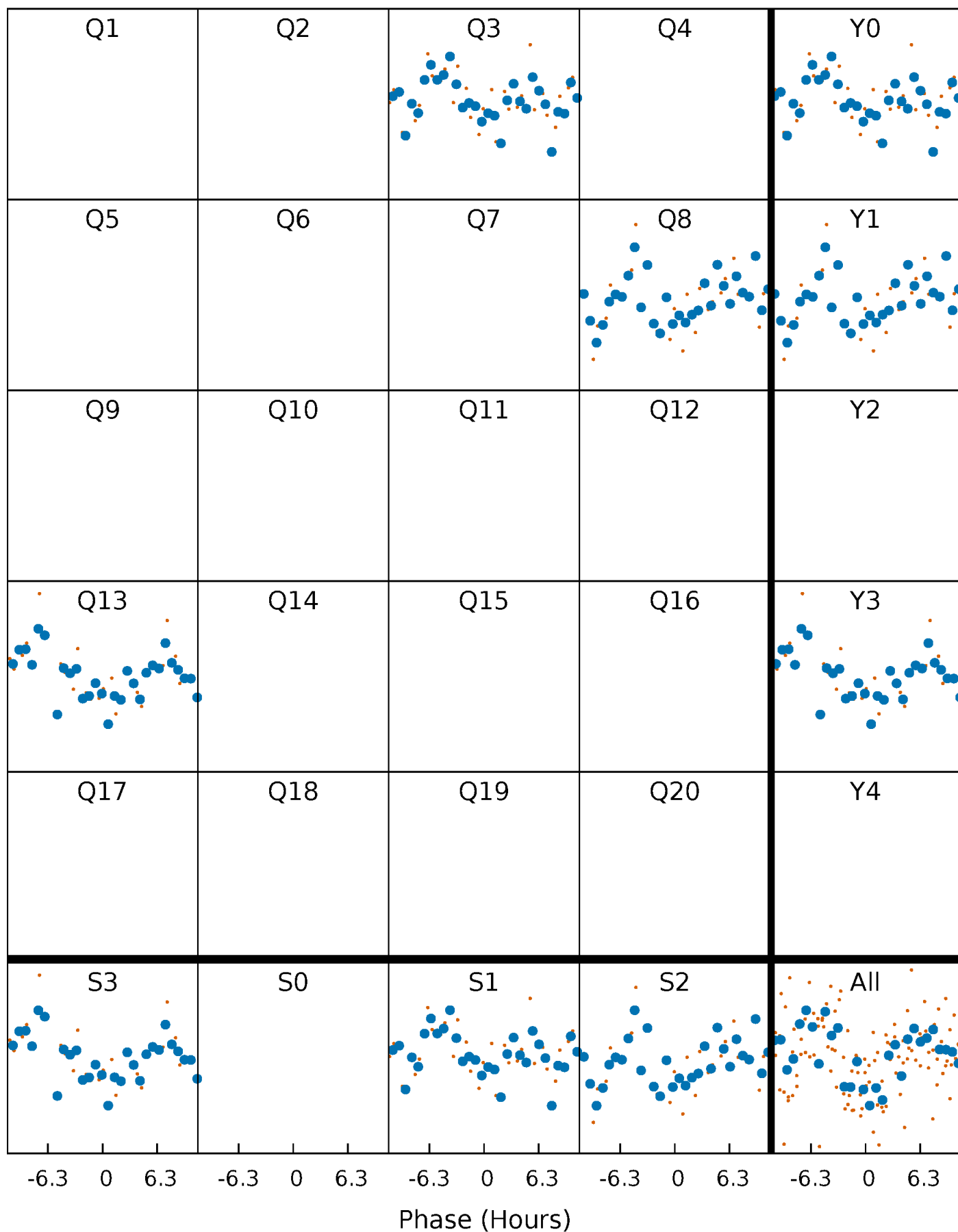


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

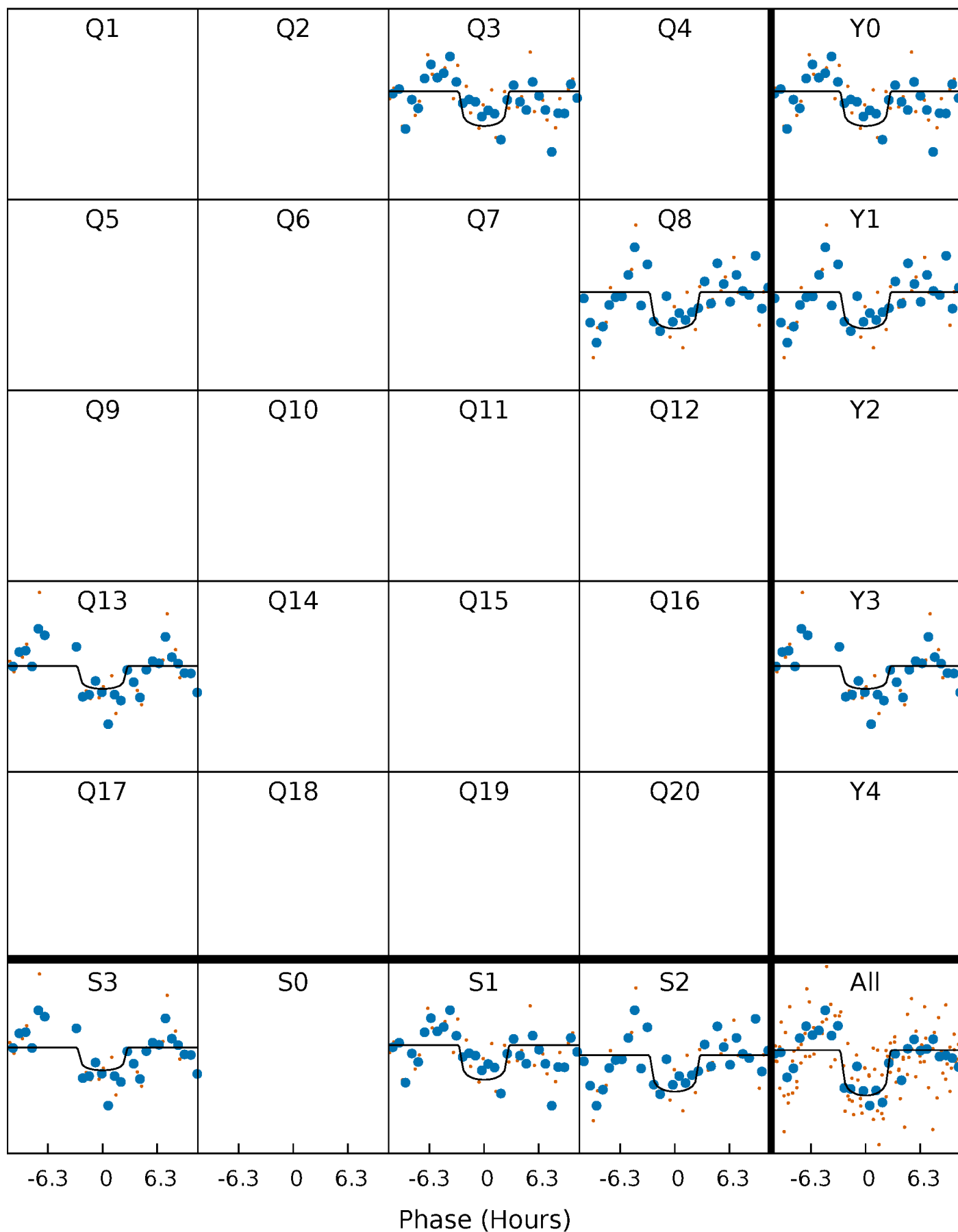
TCE 010323824-01 P=481.575053 Days  $T_0=268.748557$  (BKJD)





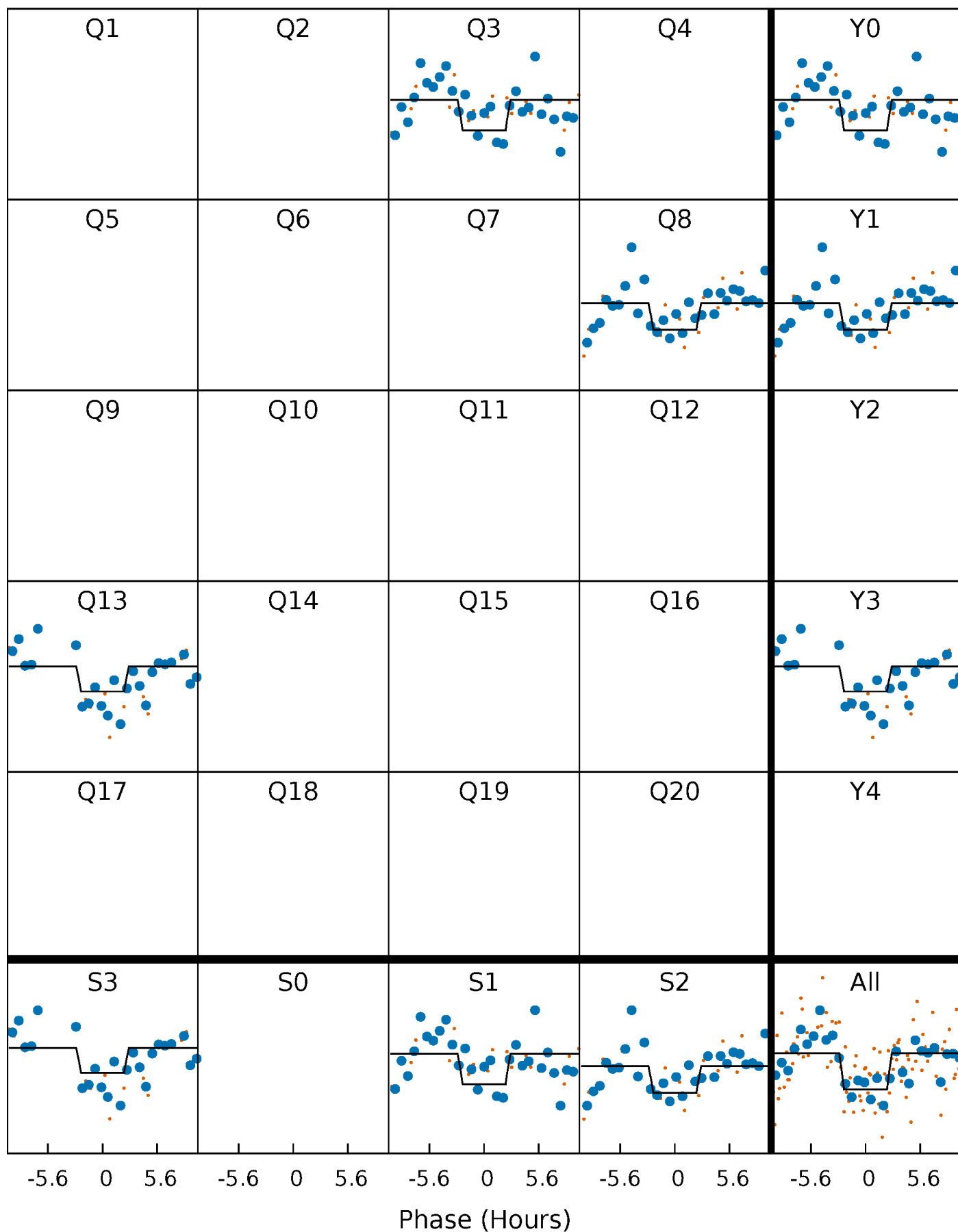
# DV Quarter-Phased Transit Curves

TCE 010323824-01     $P=481.575053$  Days     $T_0=268.748557$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

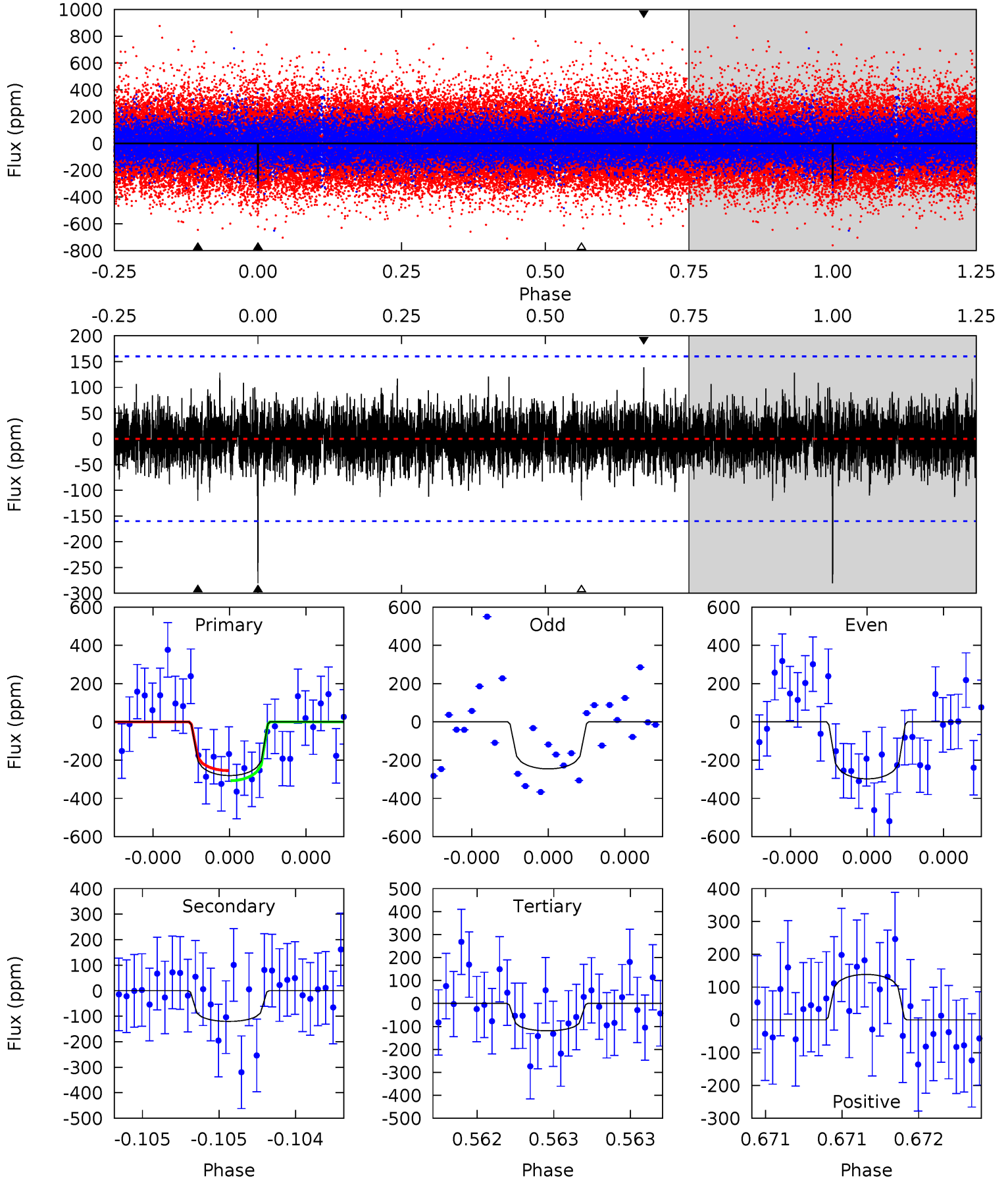
TCE 010323824-01 P=481.571331 Days  $T_0=268.749270$  (BKJD)



# DV Model-Shift Uniqueness Test

010323824-01, P = 481.575053 Days, E = 268.748557 Days

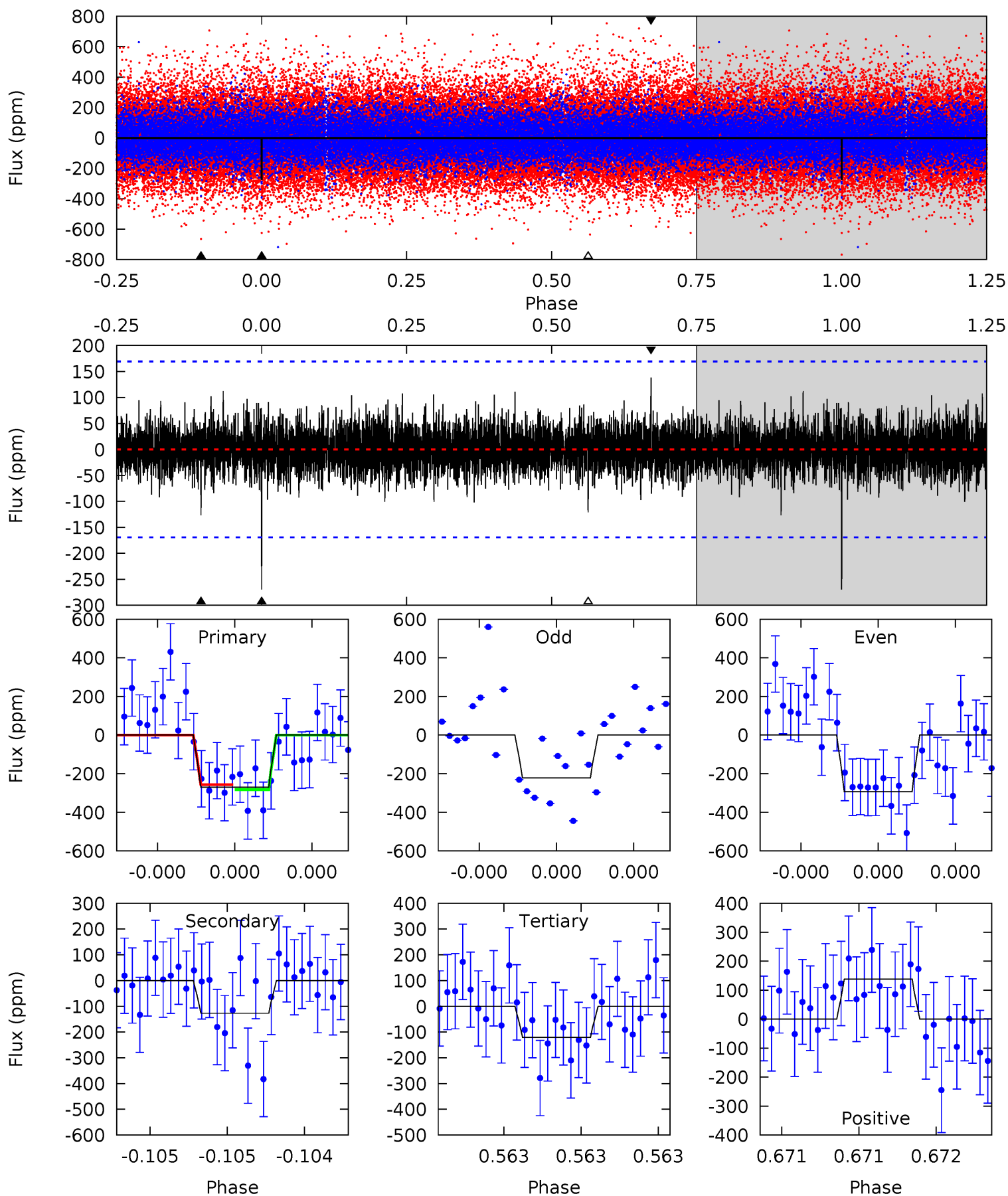
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.79	4.20	4.15	4.83	5.57	3.48	1.11	5.64	4.96	0.05	-0.63	0.85	1.14	0.33	0.92



# Alt Model-Shift Uniqueness Test

010323824-01, P = 481.571331 Days, E = 268.749270 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
8.93	4.20	4.01	4.57	5.60	3.52	0.97	4.92	4.36	0.19	-0.37	1.10	1.20	0.34	0.42



### Stellar Parameters For KIC 010323824

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6373^{+153}_{-192}$	$4.401^{+0.067}_{-0.216}$	$-0.060^{+0.250}_{-0.300}$	$1.126^{+0.370}_{-0.123}$	$1.165^{+0.172}_{-0.157}$	$1.149^{+0.337}_{-0.622}$
	+2%/-3%	+2%/-5%	+417%/-500%	+33%/-11%	+15%/-13%	+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 010323824-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-120 \pm 29$	$2.61^{+2.26}_{-1.61}$	$377^{+29}_{-19}$	$4770^{+2732}_{-957}$	$14789^{+86537}_{-10371}$
Alt.	$-127 \pm 30$	$2.66^{+1.90}_{-1.52}$	$376^{+29}_{-18}$	$4789^{+2495}_{-873}$	$15285^{+69713}_{-10337}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming A=0.3)

$A_{\text{obs}}$  = 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

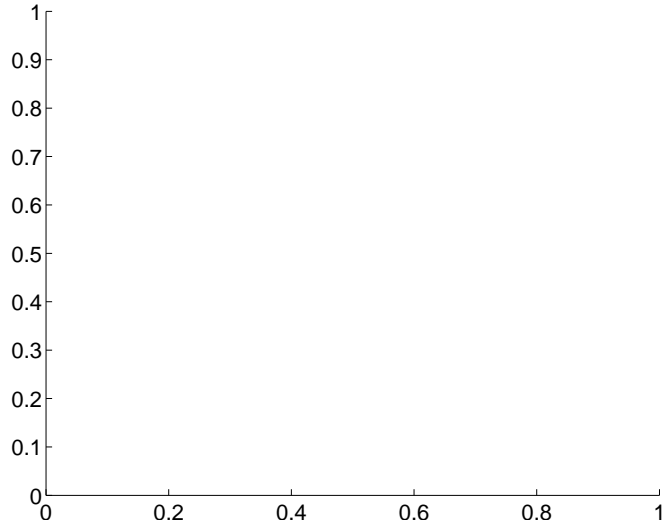
Supplemental centroid analysis for 010323824-01. Kepler magnitude: 13.76. Transit SNR 7.82

There are 0 quarters with good PRF difference image offsets

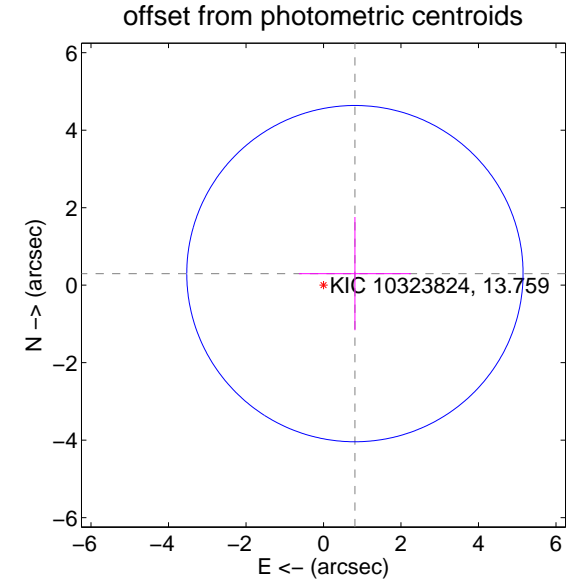
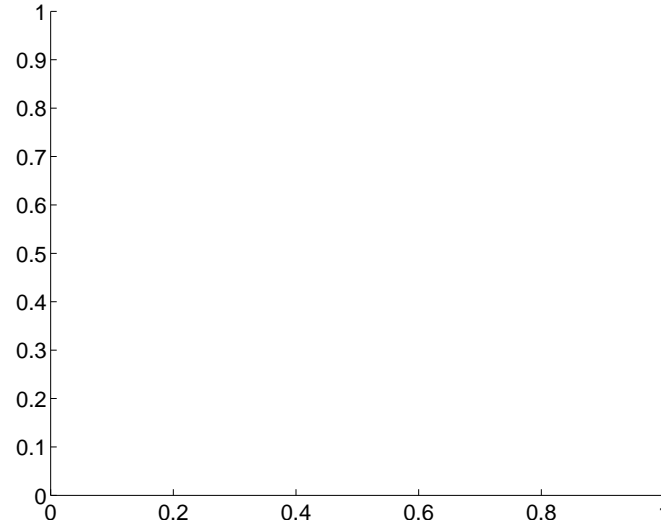
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$0.86 \pm 1.45$	0.60	$-0.81 \pm 1.44$	$0.30 \pm 1.46$

There is no PRF-fit offset from OOT-fit

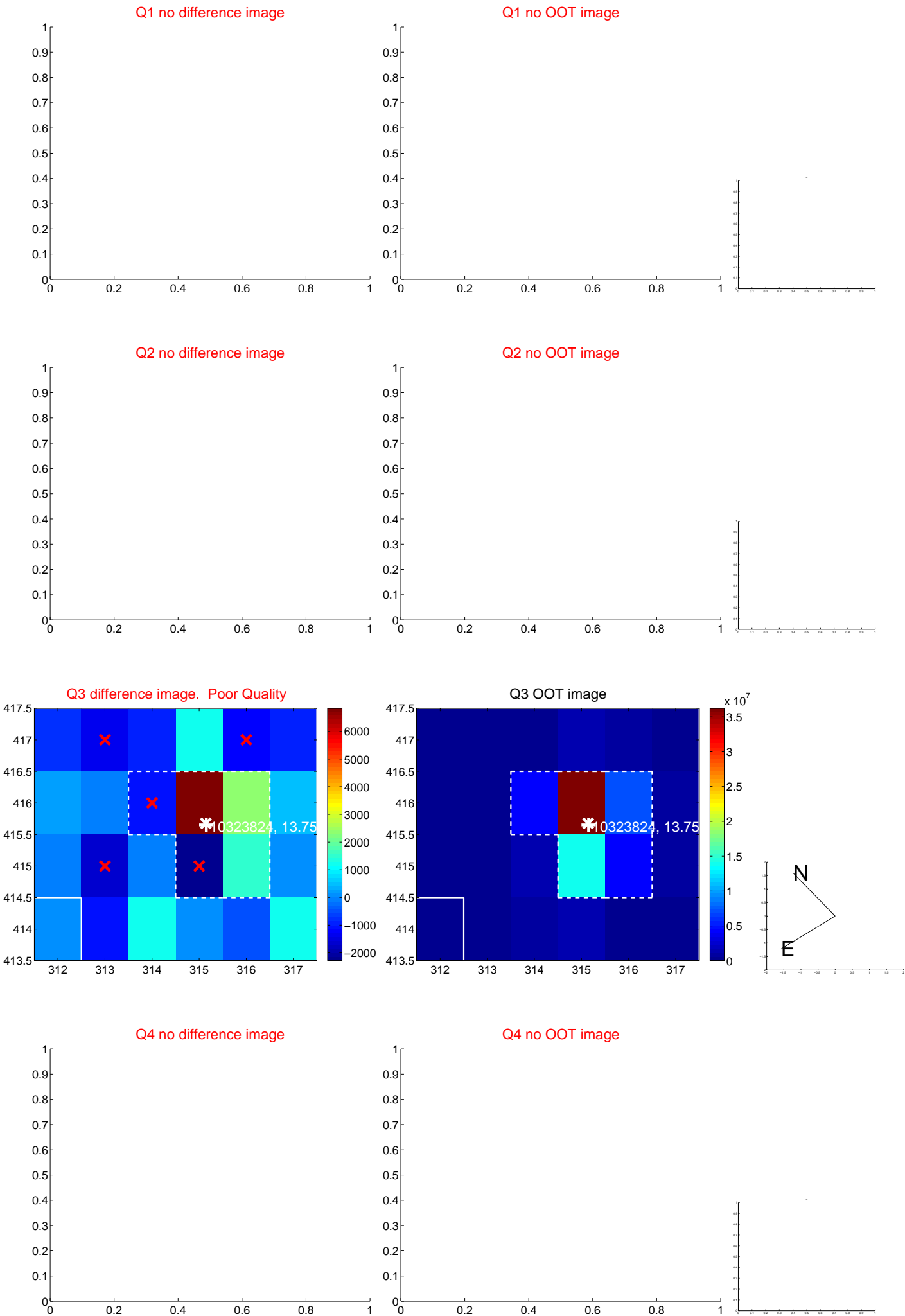


There is no PRF-fit offset from KIC



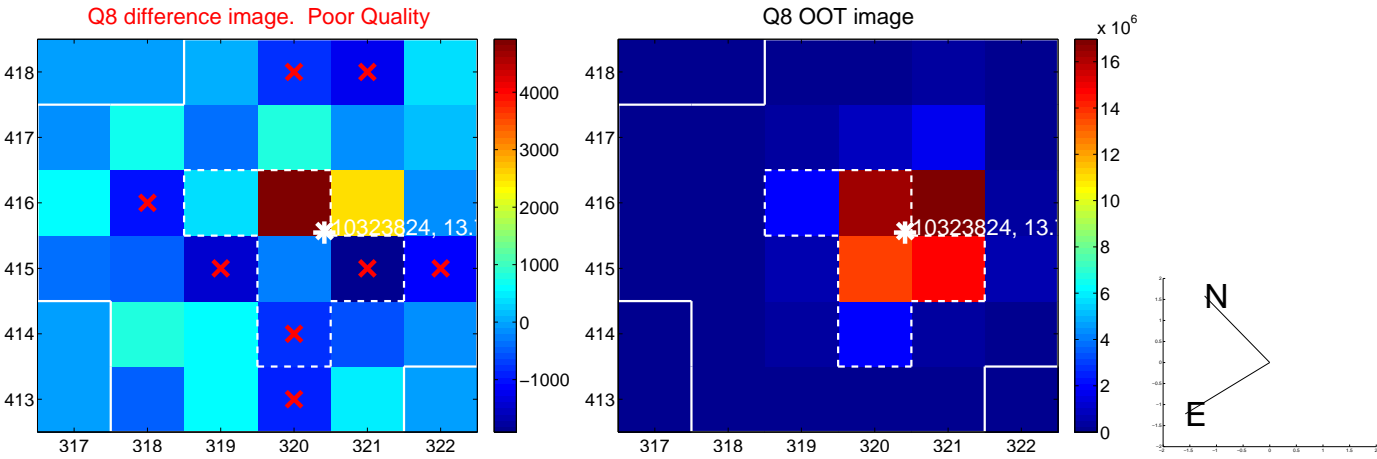
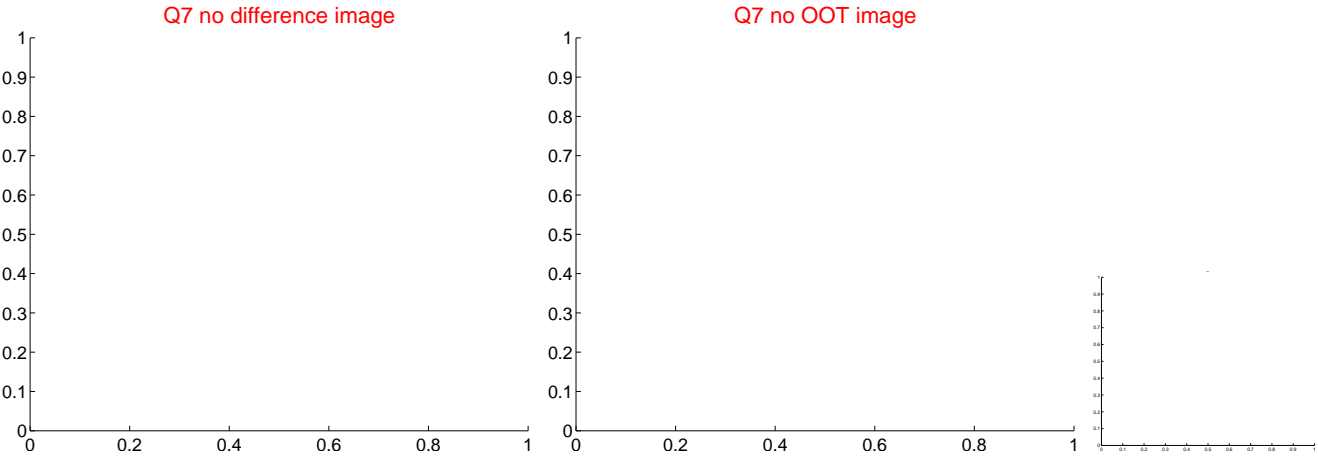
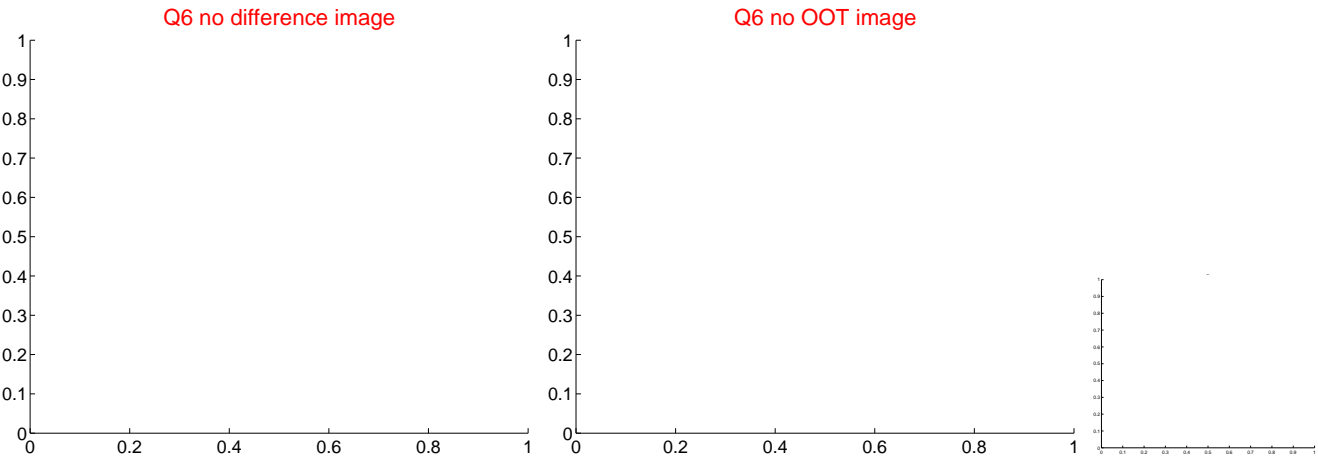
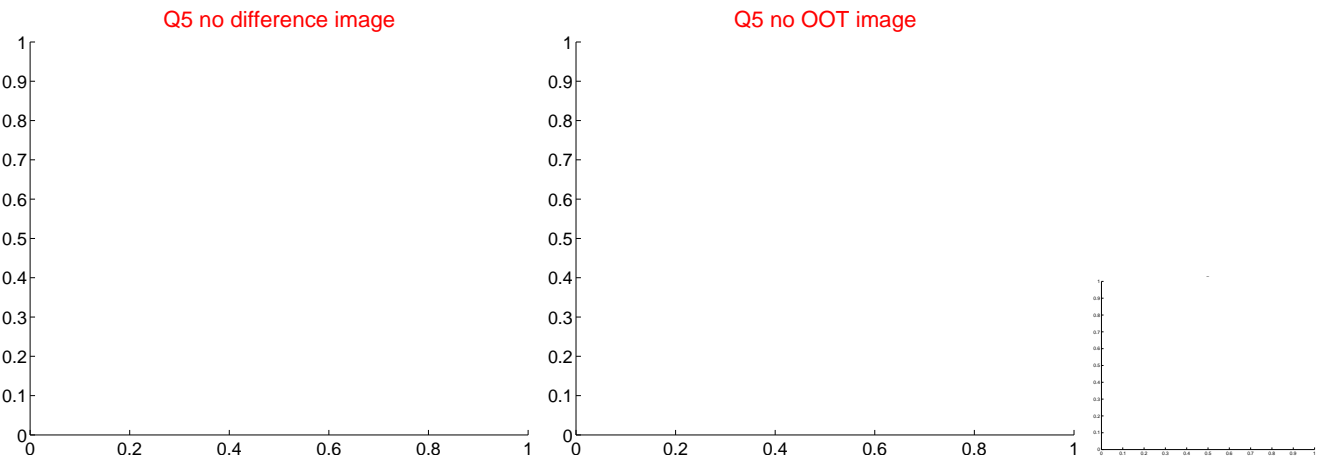
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



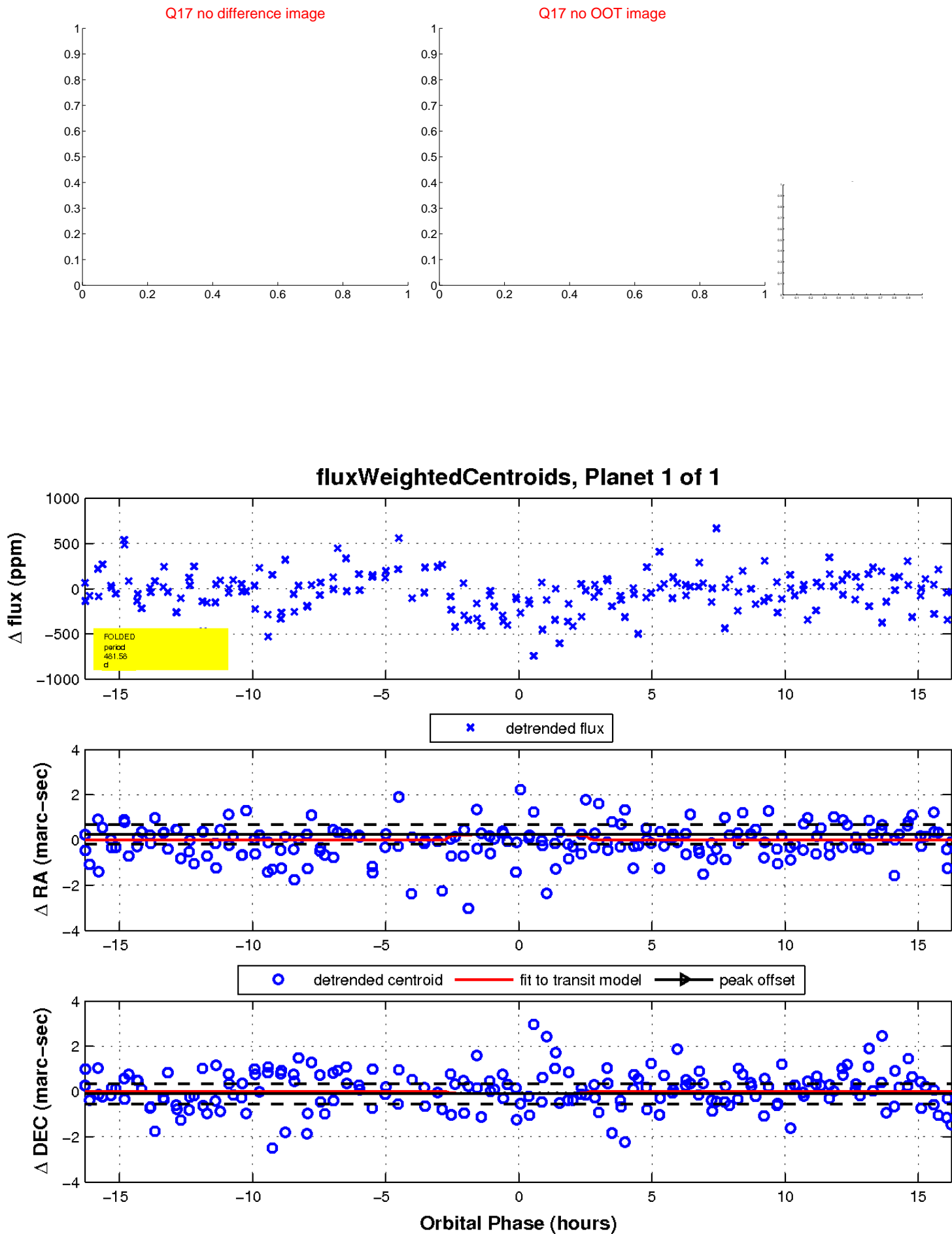
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

