

# KIC 008242836

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008242836-01	OBS	No	368.277213	235.023273	736.4	20.596	7.4	7.0	1.07	6476	3.09	1.66

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008242836-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—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.

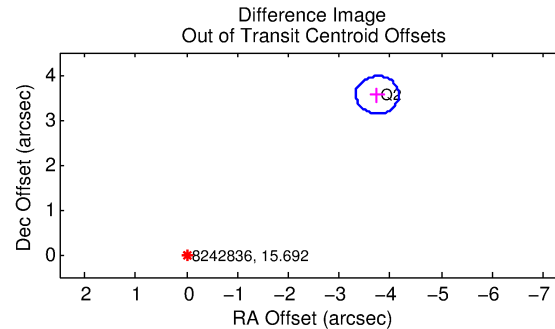
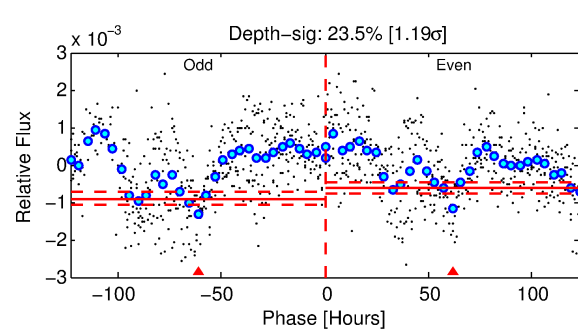
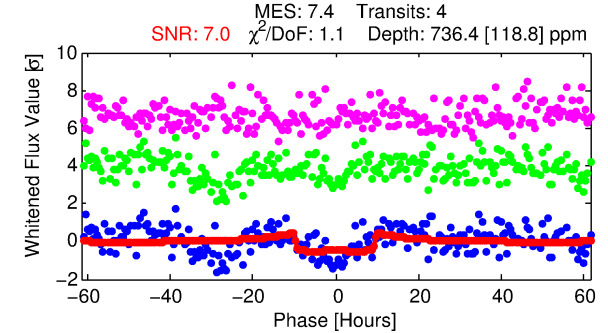
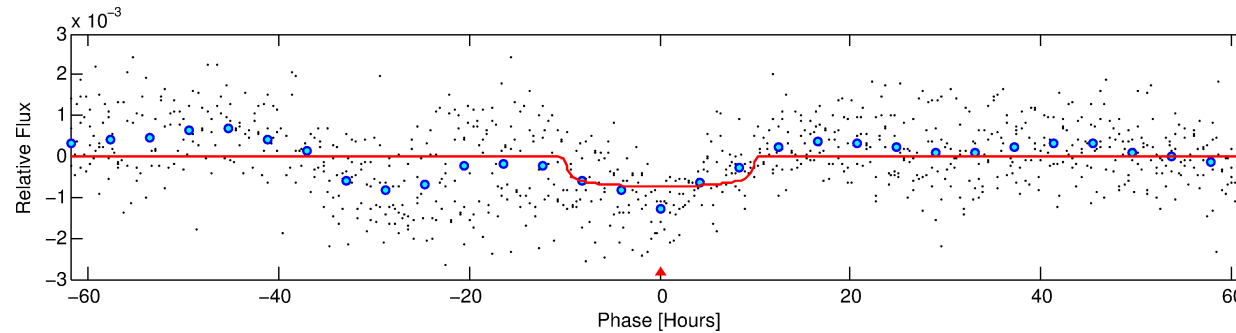
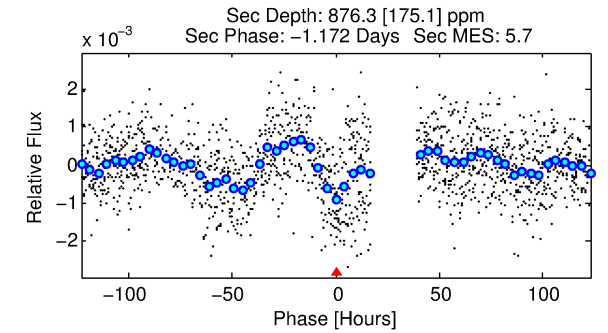
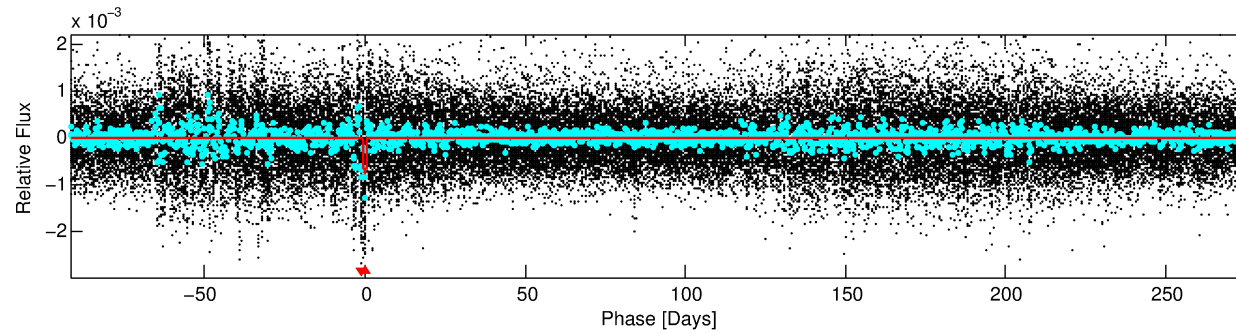
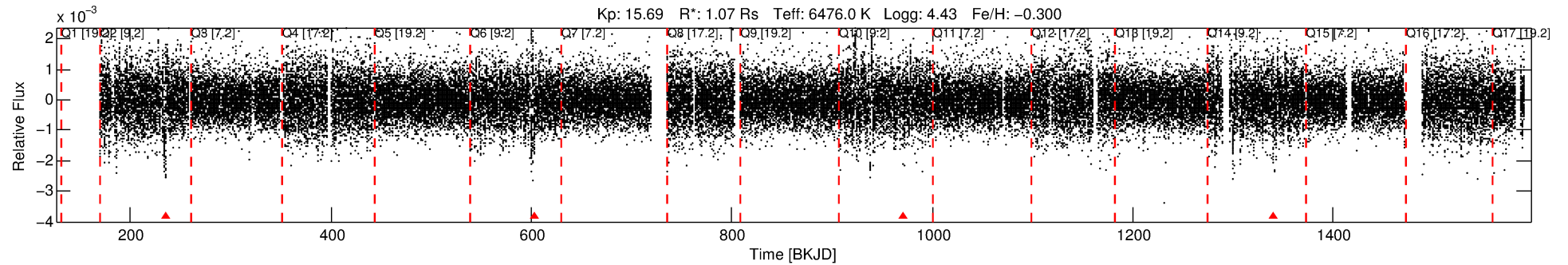
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008242836-01

No Significant Match Found

# DV One-Page Summary

KIC: 8242836 Candidate: 1 of 1 Period: 368.277 d



## DV Fit Results:

Period = 368.27721 [0.01301] d  
Epoch = 235.0233 [0.0240] BKJD  
Rp/R\* = 0.0265 [0.0050]  
a/R\* = 103.81 [91.76]  
b = 0.69 [0.67]  
Seff = 1.66 [0.64]  
Teq = 289 [28] K  
Rp = 3.09 [1.07] Re  
a = 1.0405 [0.2547] AU  
Ag = 54629.74 [30324.84] [1.80σ]  
Teff = 6838 [768] K [8.5σ]

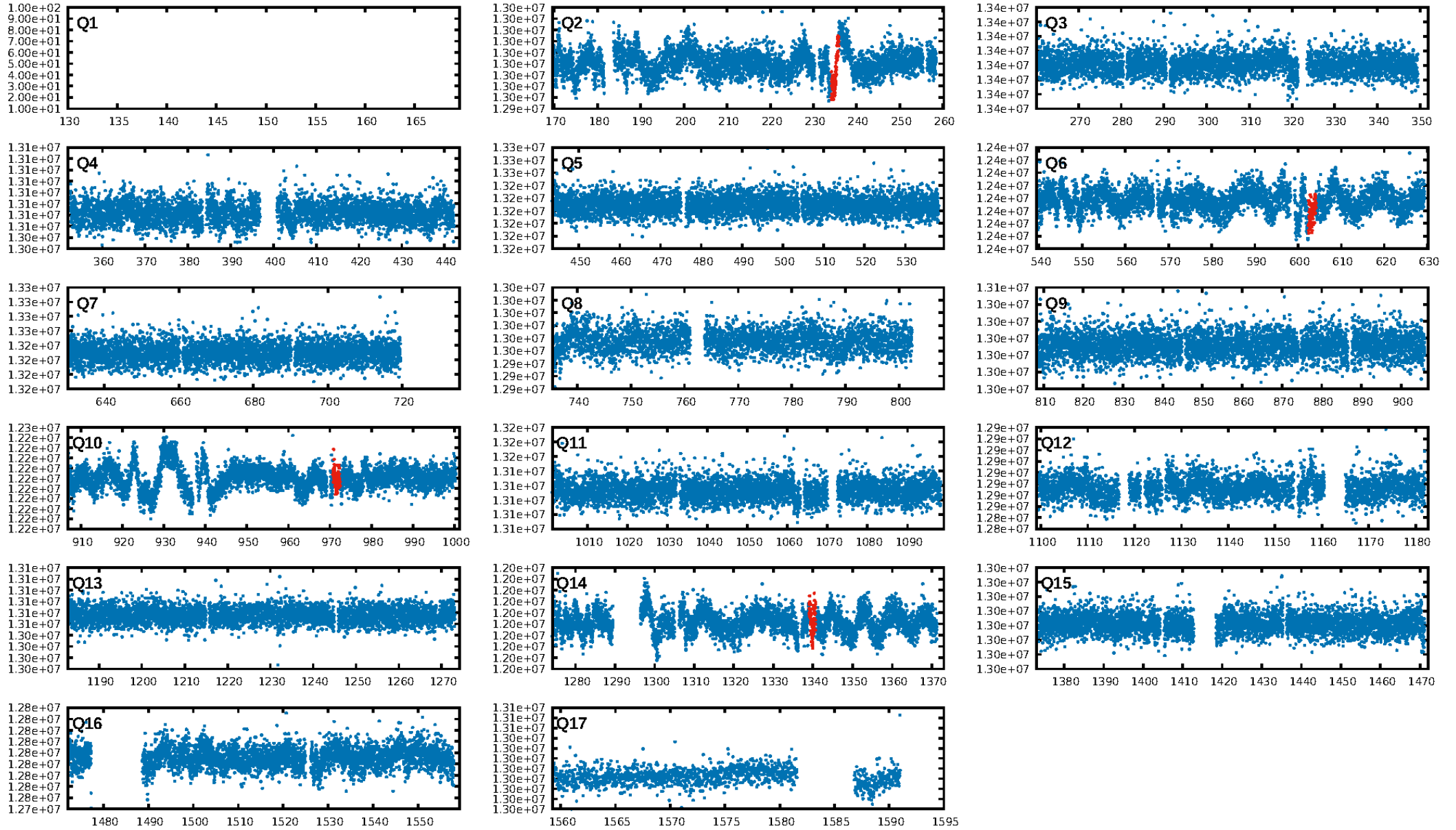
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 19.7%  
ModelChiSquareGoF-sig: 100.0%  
Bootstrap-pfa: 1.26e-10  
RollingBand-fgt: 0.00 [0/4]  
GhostDiagnostic-chr: -0.5243  
Centroid-sig: 1.6%  
Centroid-so: 4.762 arcsec [1.95σ]  
OotOffset-rm: 5.162 arcsec [36.82σ]  
KicOffset-rm: 5.094 arcsec [36.31σ]  
OotOffset-st: 1/0/0/0 [1]  
KicOffset-st: 1/0/0/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [3/3]

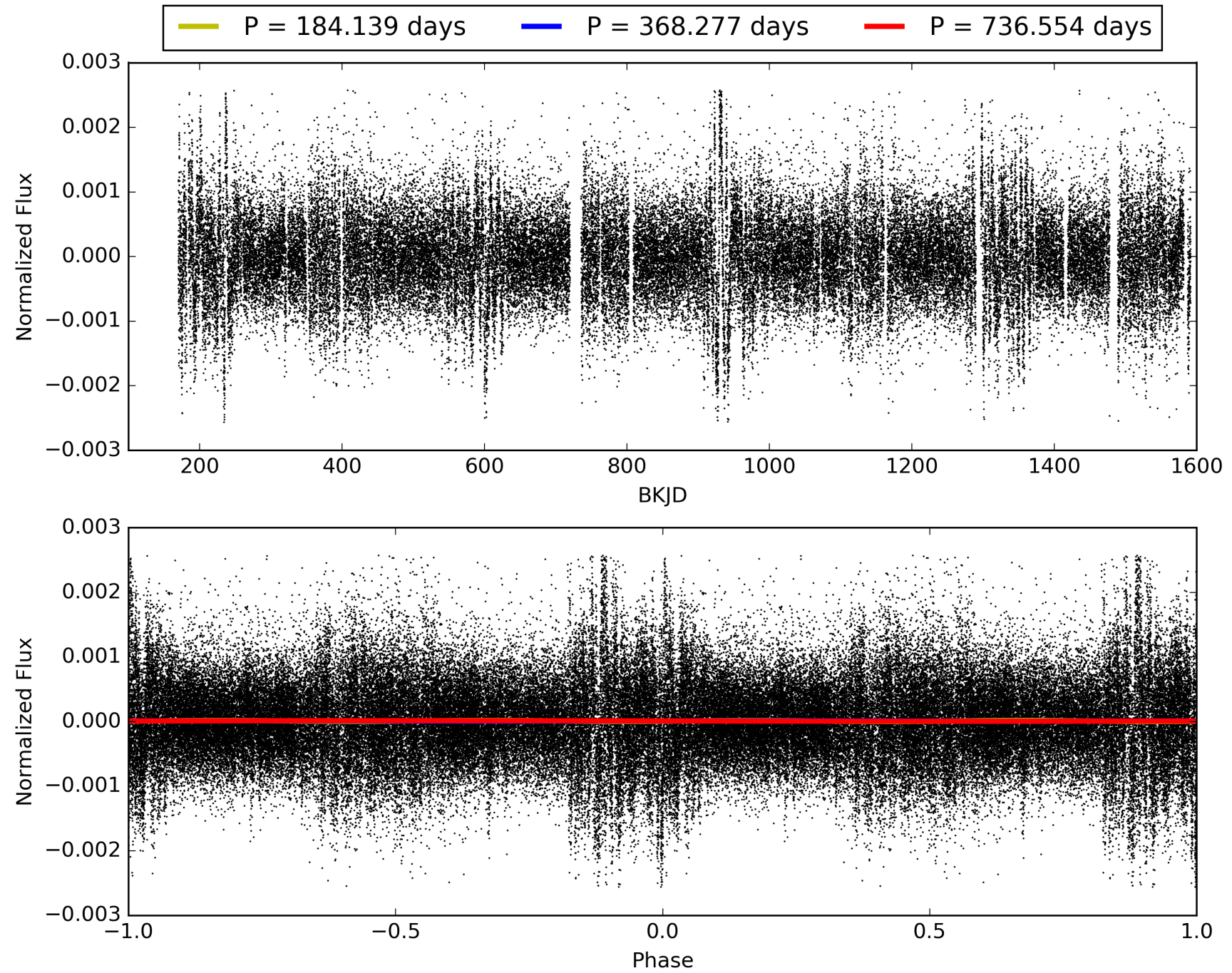
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:45:51 Z

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

# TCE 008242836-01, PDC Light Curves

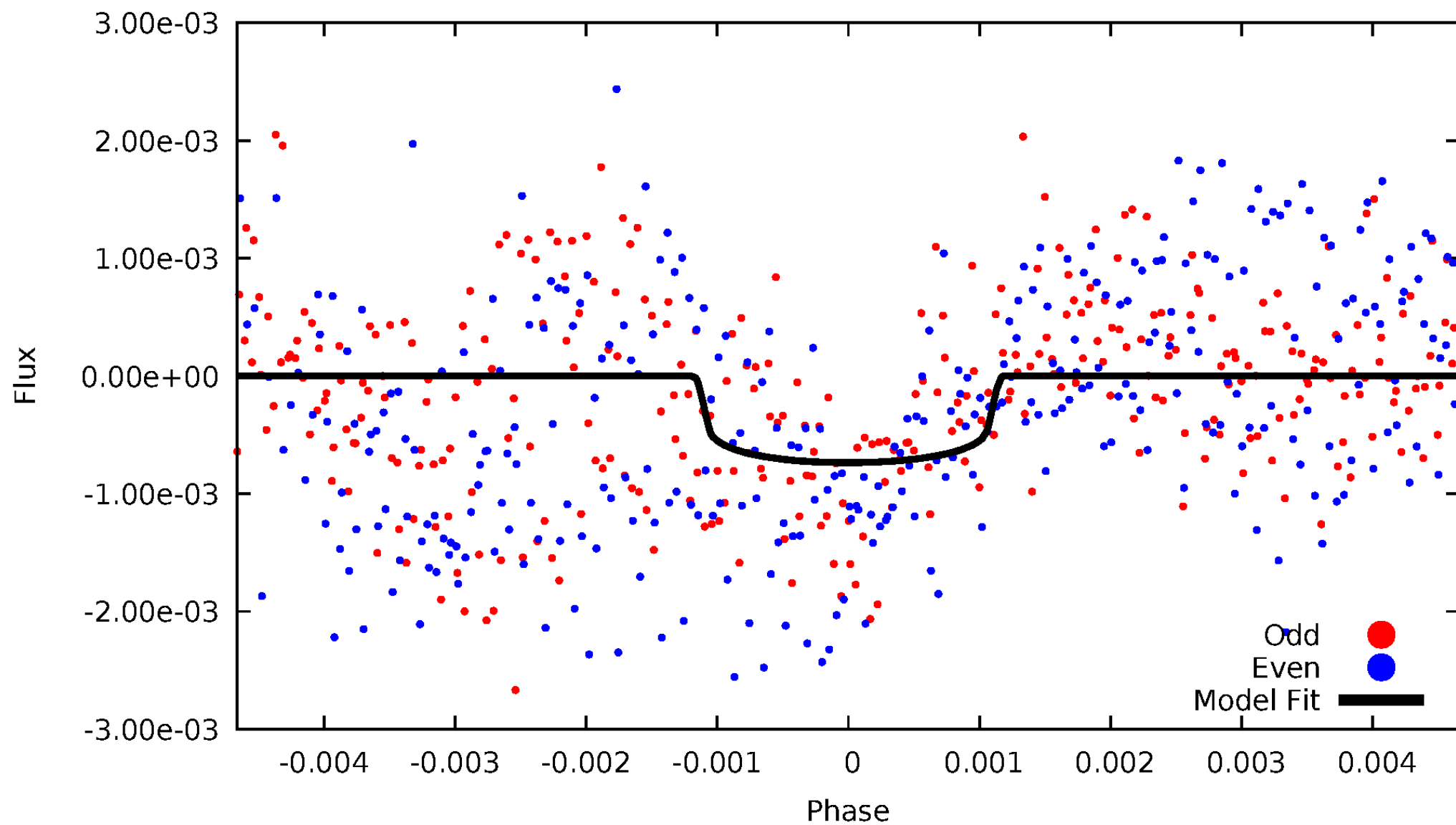


TCE 008242836-01



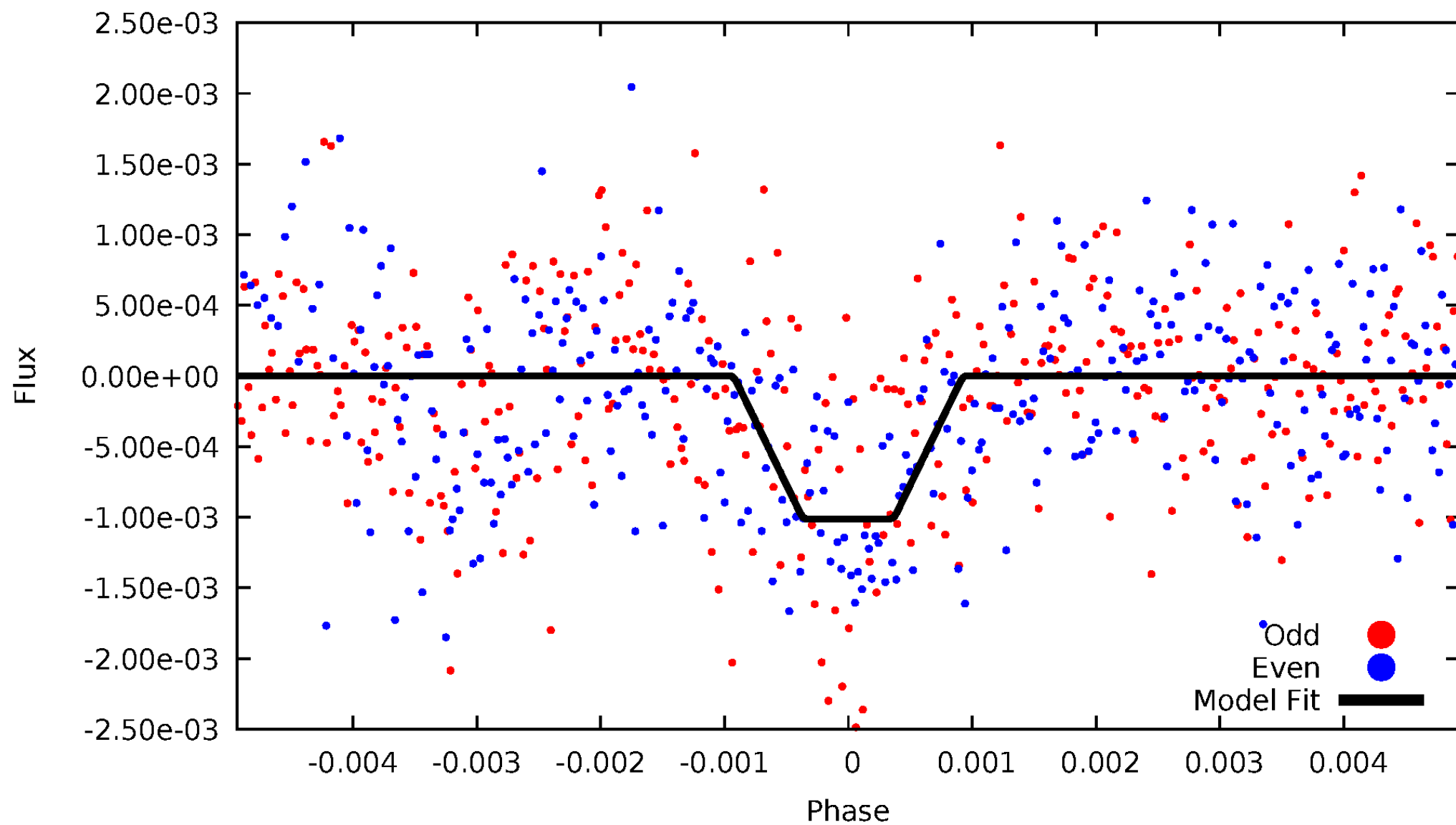
# DV Odd/Even

TCE 008242836-01



# ALT Odd/Even

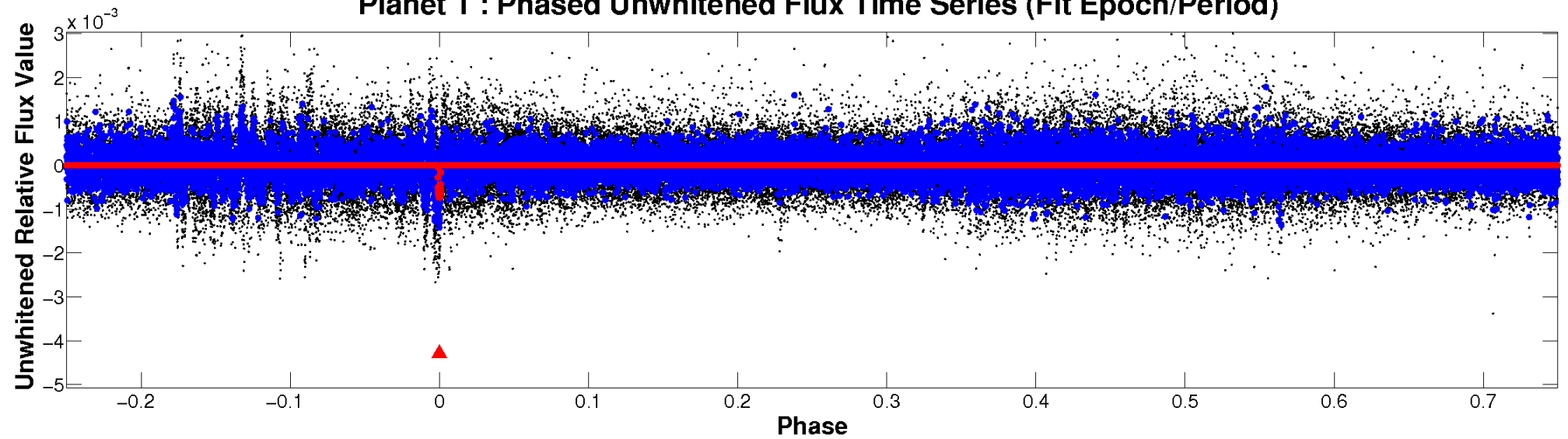
TCE 008242836-01



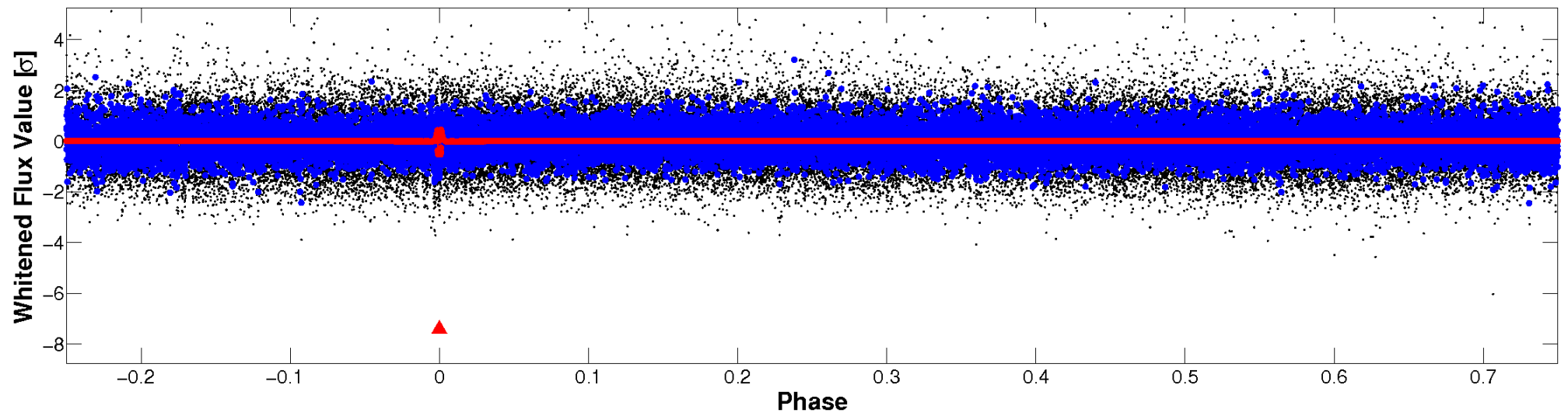


# Non-Whitened Vs. Whitened Light Curve

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

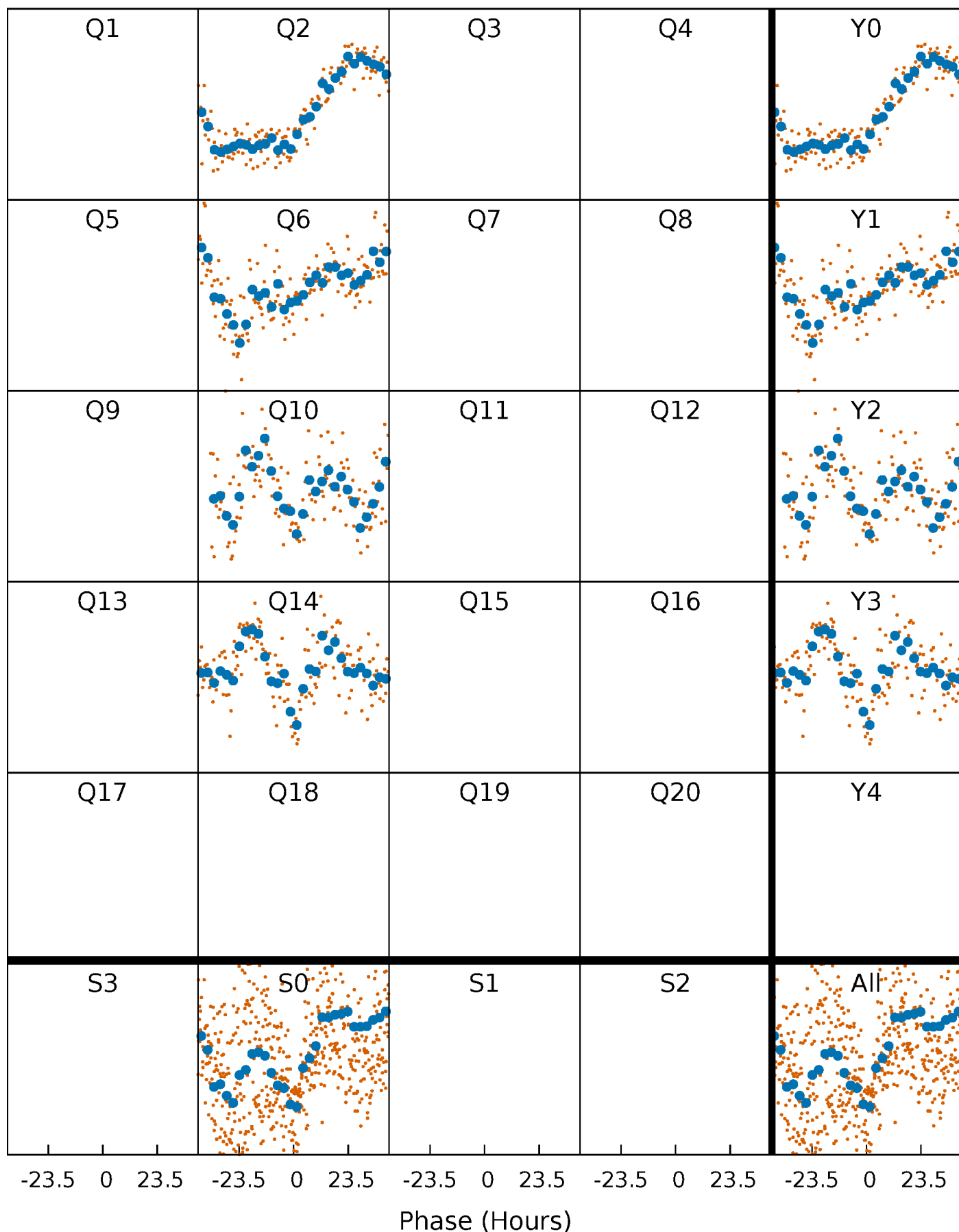


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

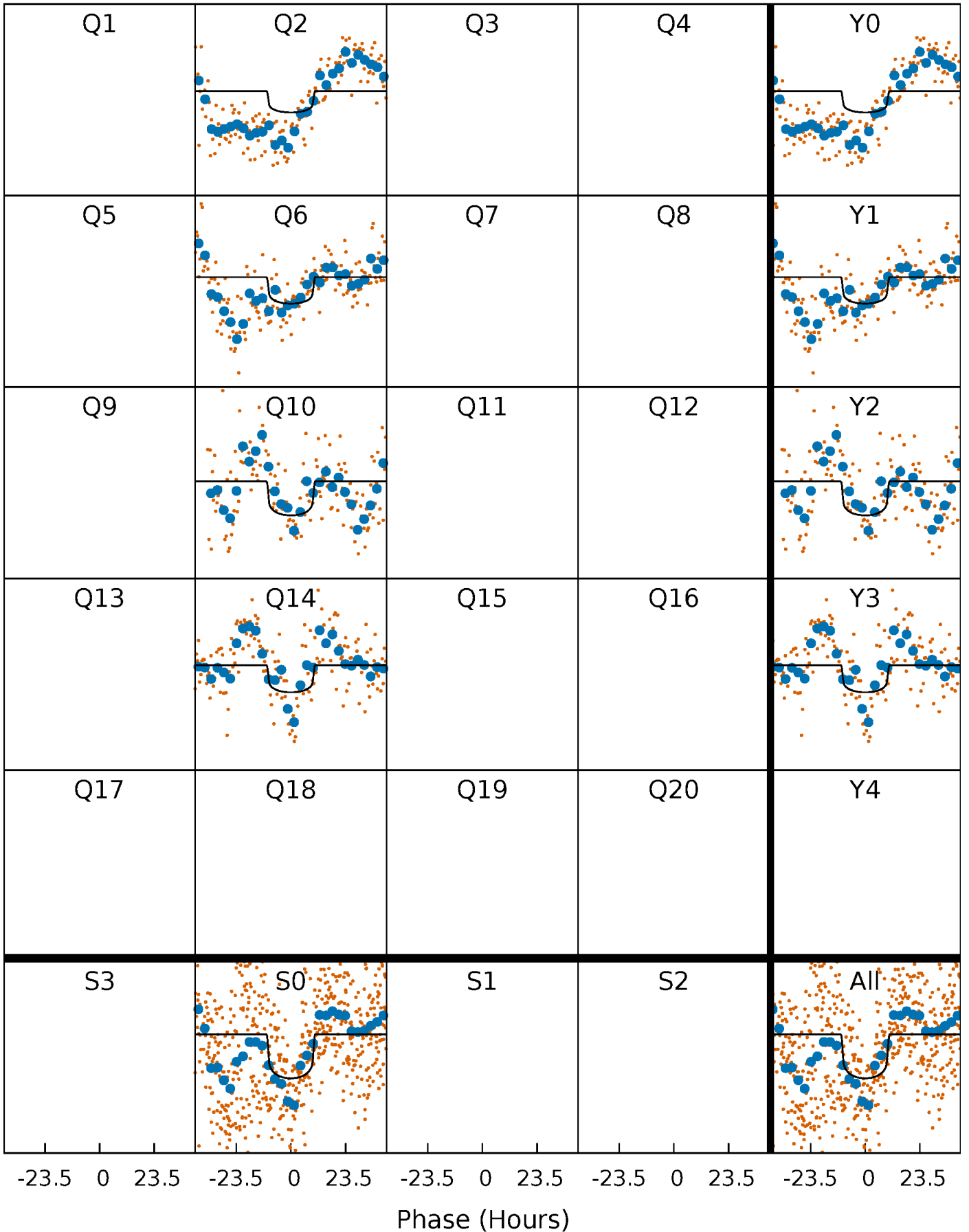
TCE 008242836-01 P=368.277213 Days  $T_0=235.023273$  (BKJD)





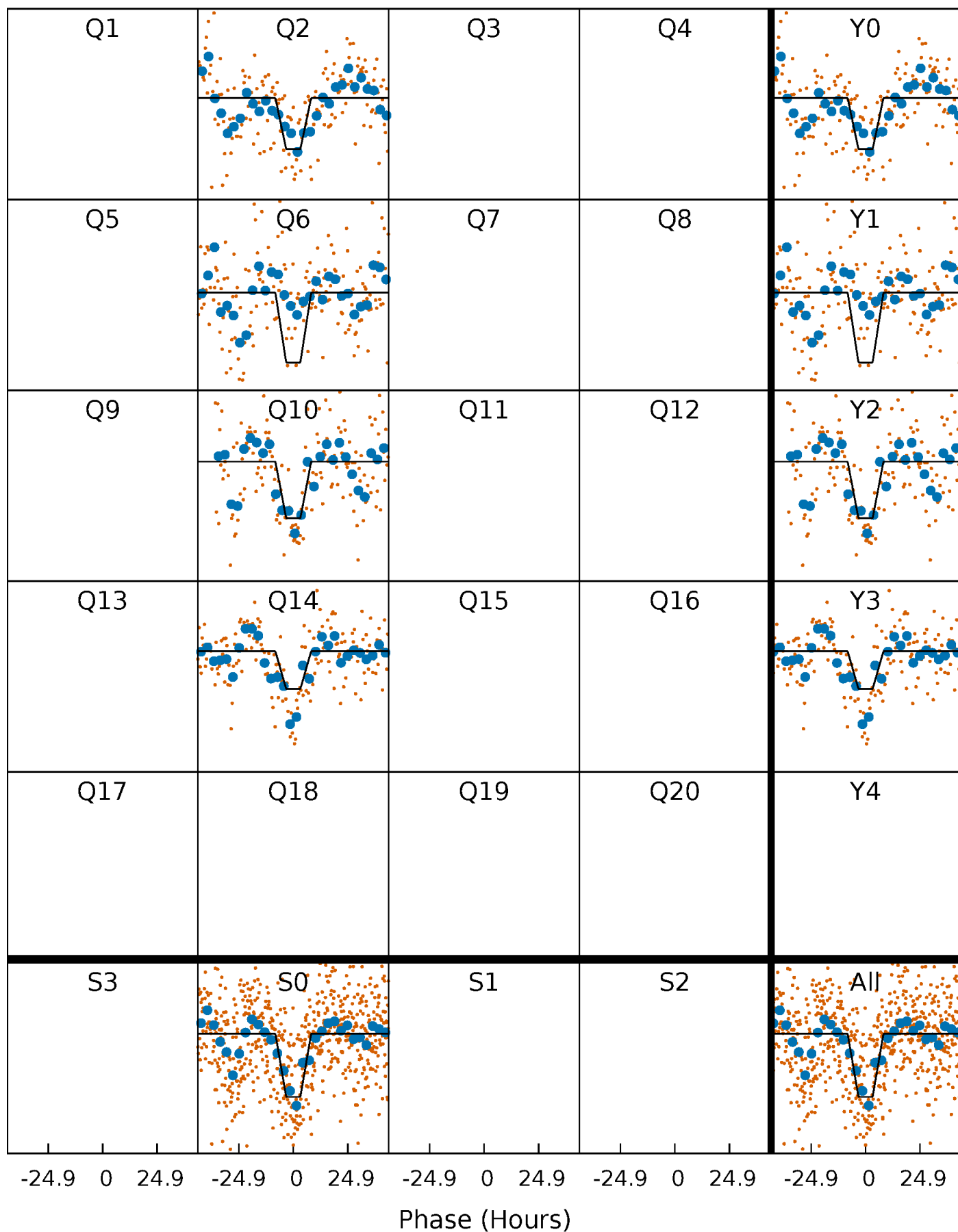
# DV Quarter-Phased Transit Curves

TCE 008242836-01   P=368.277213 Days    $T_0=235.023273$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

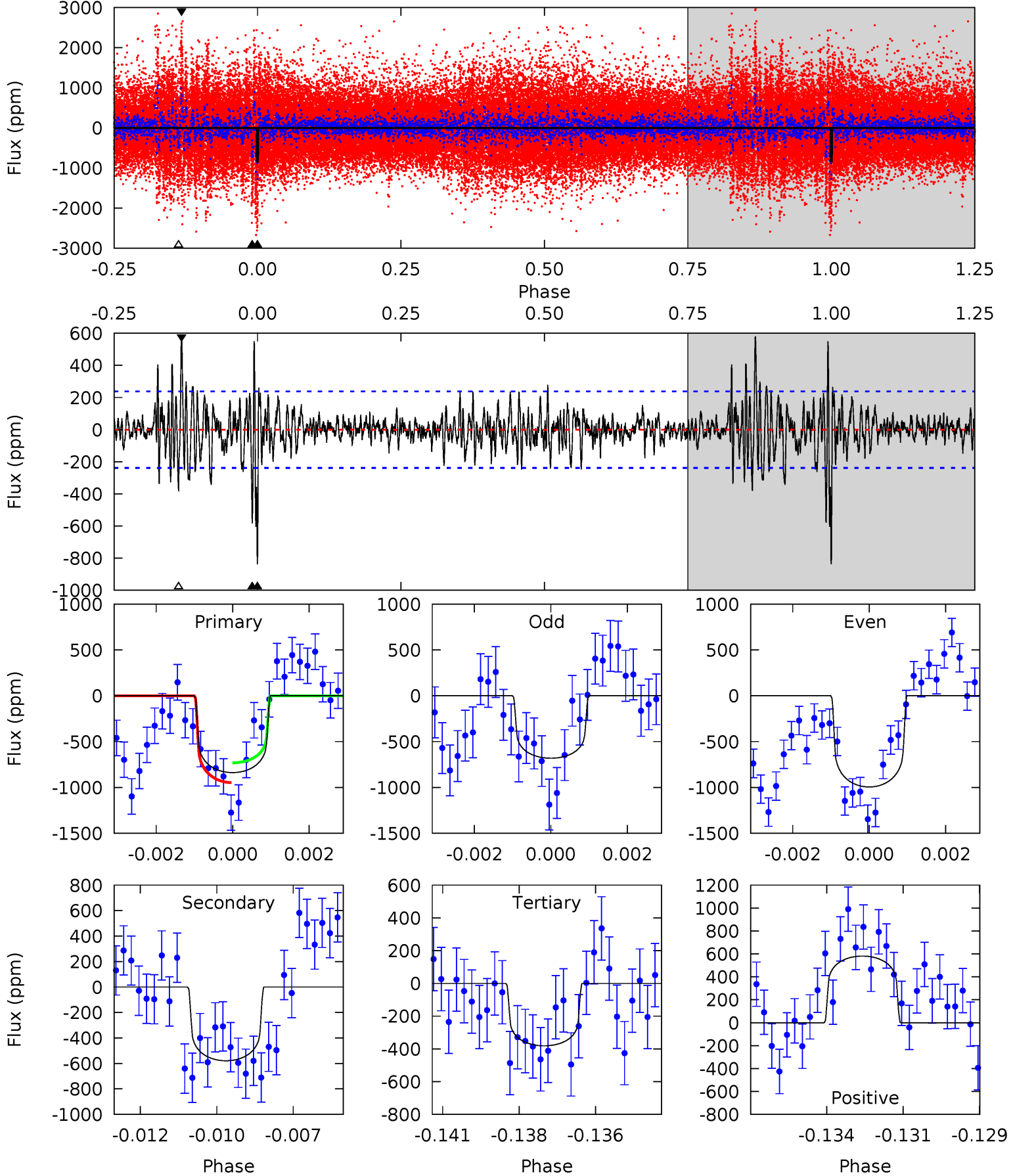
TCE 008242836-01 P=368.321730 Days  $T_0=234.928852$  (BKJD)



# DV Model-Shift Uniqueness Test

008242836-01, P = 368.277213 Days, E = 235.023273 Days

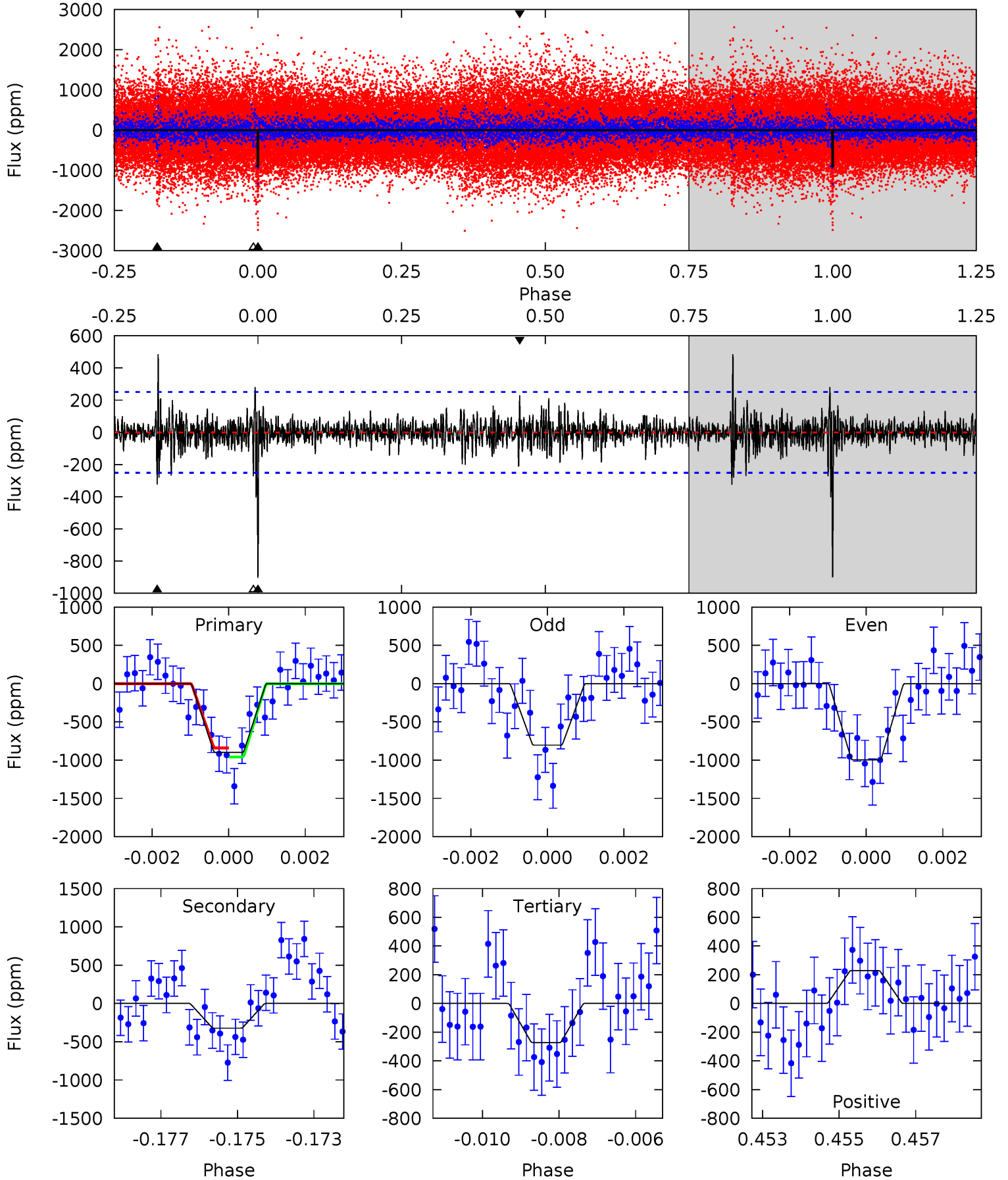
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	12.9	8.46	12.9	5.29	3.04	2.18	10.1	5.71	4.39	-0.05	3.48	1.23	0.41	2.40



# Alt Model-Shift Uniqueness Test

008242836-01, P = 368.321730 Days, E = 234.928852 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
19.1	6.86	5.78	4.86	5.34	3.10	1.26	13.3	14.3	1.08	2.00	2.04	0.90	0.35	1.26



### Stellar Parameters For KIC 008242836

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6476^{+175}_{-233}$	$4.426^{+0.065}_{-0.195}$	$-0.300^{+0.250}_{-0.300}$	$1.067^{+0.310}_{-0.133}$	$1.105^{+0.146}_{-0.146}$	$1.282^{+0.422}_{-0.617}$
	+3%/-4%	+1%/-4%	+83%/-100%	+29%/-12%	+13%/-13%	+33%/-48%
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 008242836-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-579 \pm 45$	$3.26^{+0.70}_{-0.67}$	$411^{+28}_{-21}$	$6123^{+661}_{-547}$	$32092^{+17769}_{-10521}$
Alt.	$-323 \pm 47$	$3.85^{+0.91}_{-0.66}$	$412^{+28}_{-22}$	$4921^{+437}_{-336}$	$12528^{+6210}_{-4263}$

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

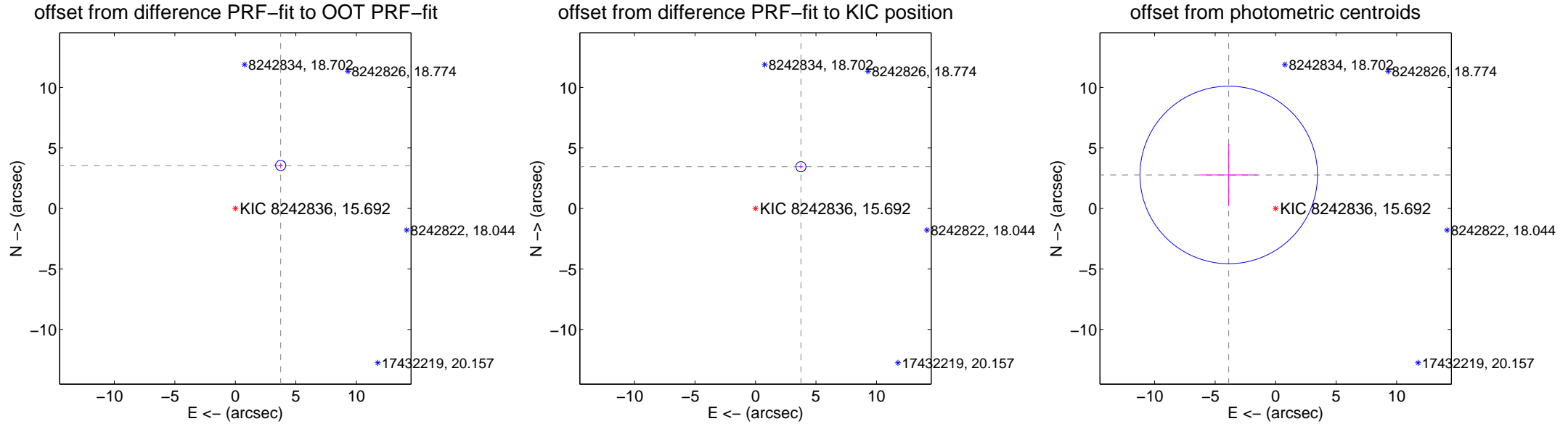
## DV Centroid Data

Supplemental centroid analysis for 008242836-01. Kepler magnitude: 15.69. Transit SNR 6.97

There are 0 quarters with good PRF difference image offsets

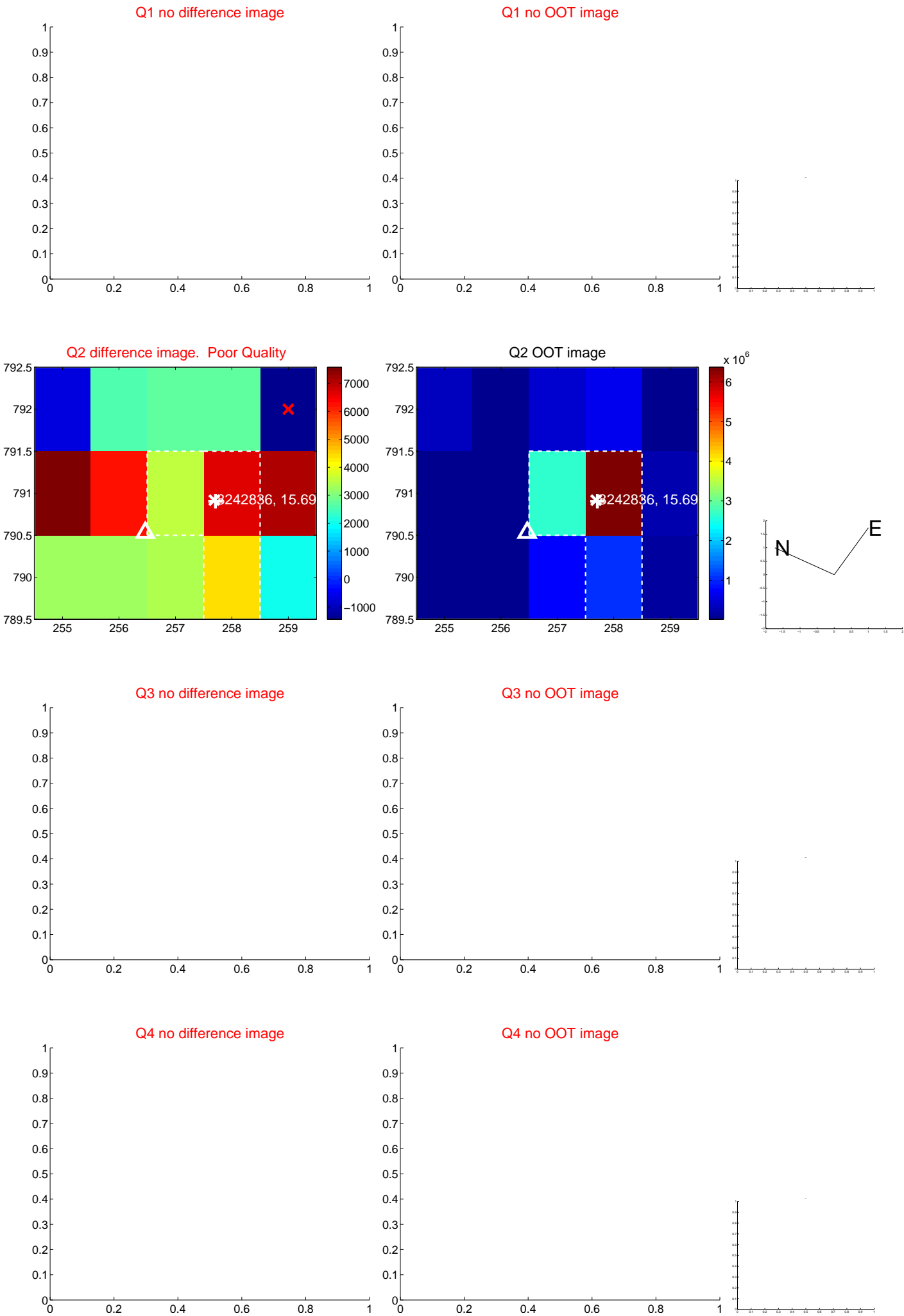
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	5.162 $\pm$ 0.140	36.82	-3.747 $\pm$ 0.144	3.551 $\pm$ 0.136
PRF-fit source offset from KIC position	5.094 $\pm$ 0.140	36.31	-3.752 $\pm$ 0.144	3.446 $\pm$ 0.136
photometric centroid source offset	4.76 $\pm$ 2.44	1.95	3.88 $\pm$ 2.37	2.77 $\pm$ 2.58

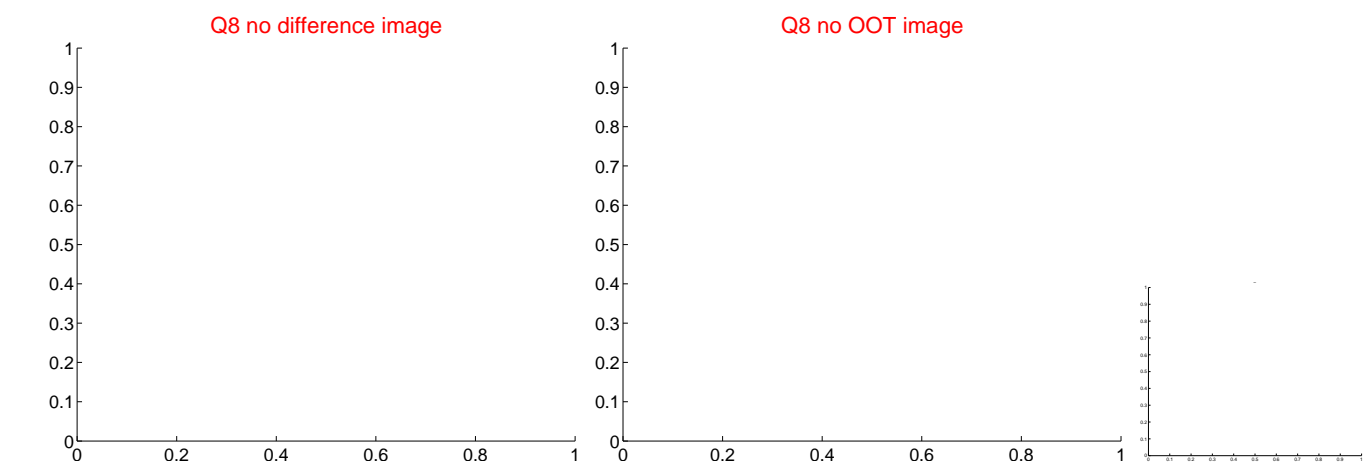
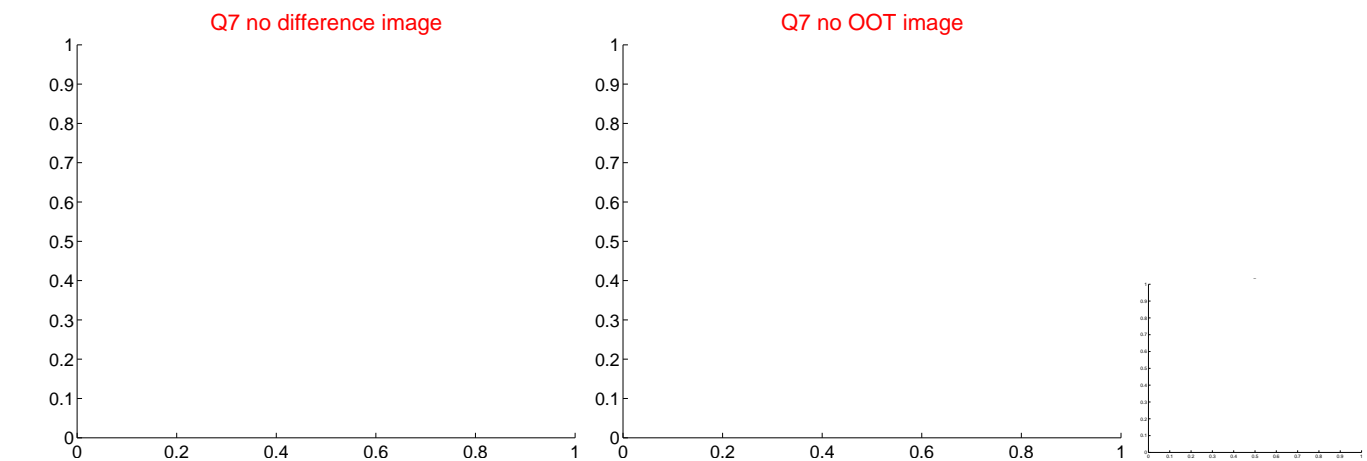
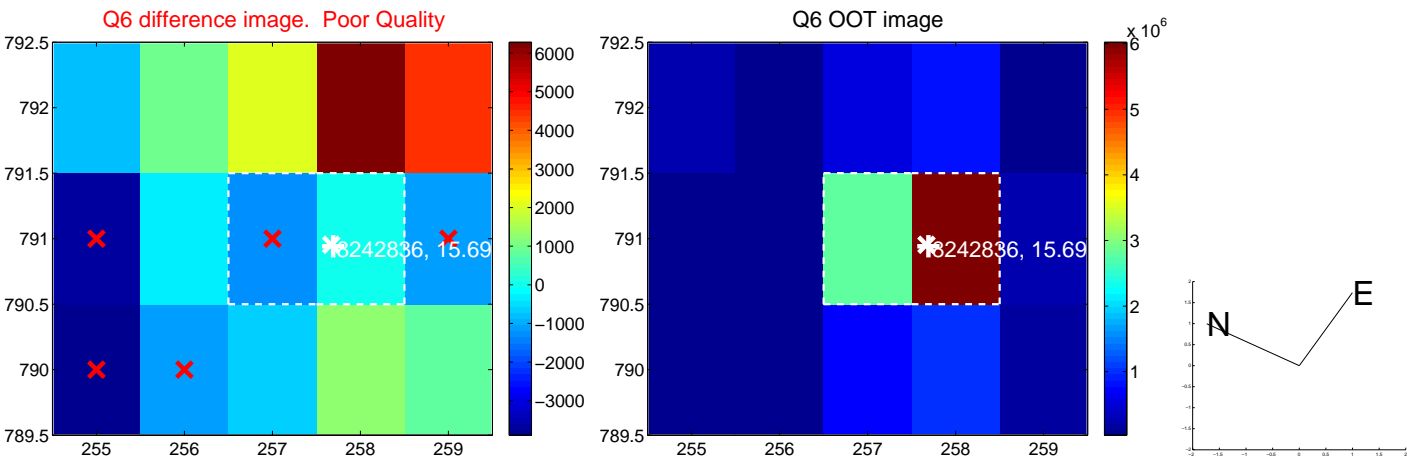
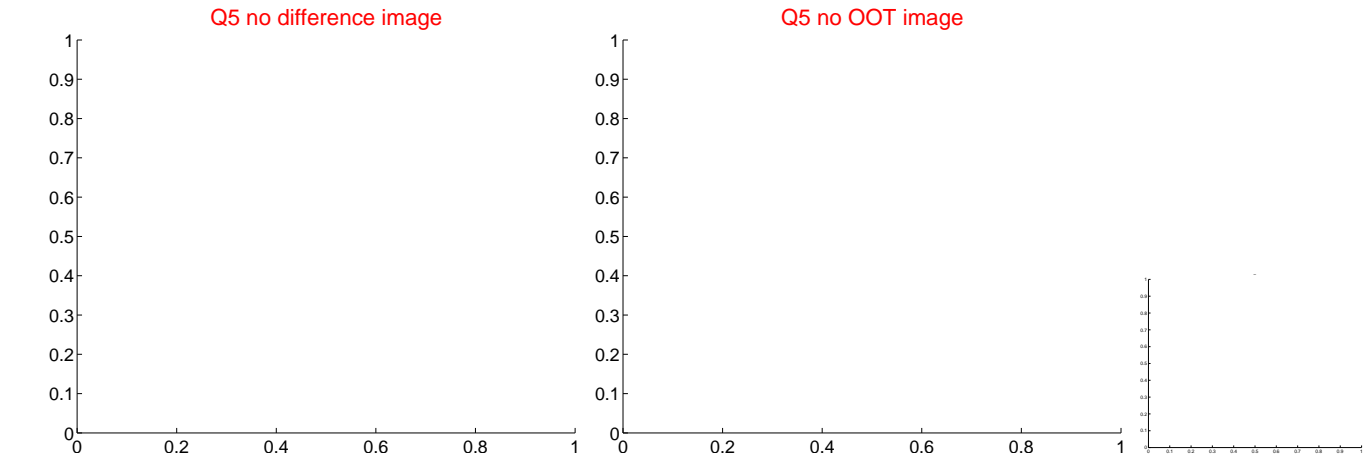




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



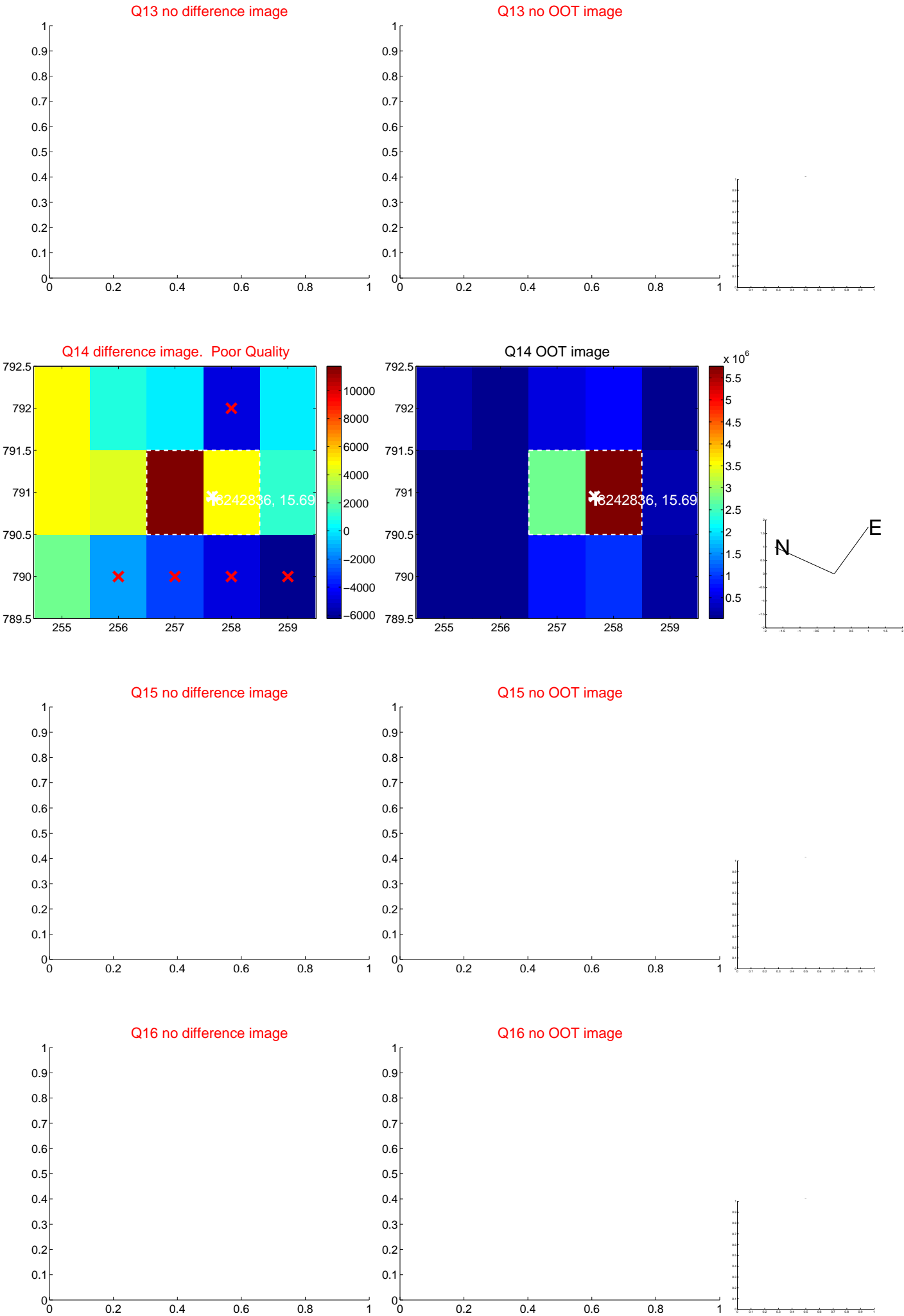
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



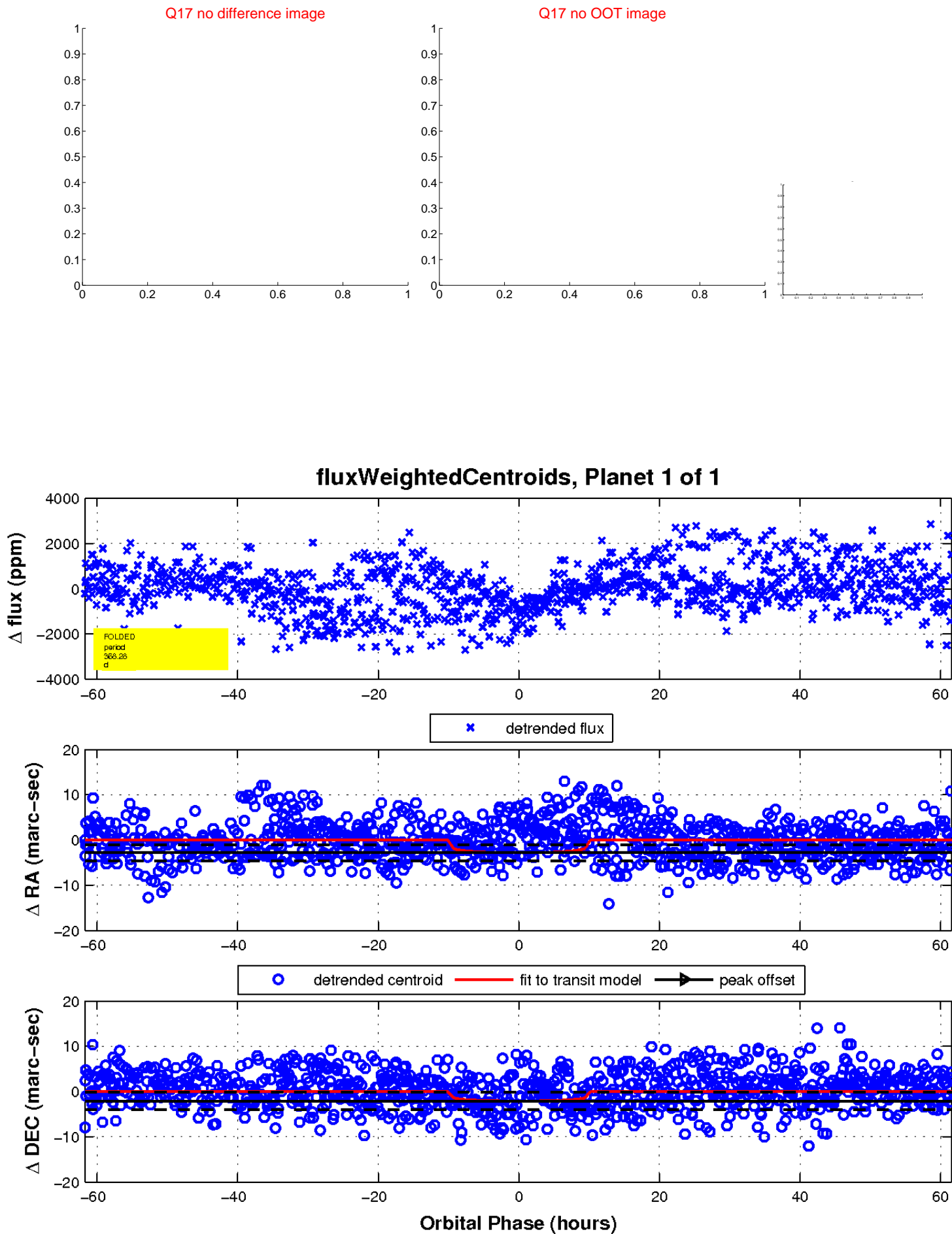
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

