

# KIC 008308996

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008308996-01	OBS	No	369.081610	233.612271	630.1	28.040	9.6	10.7	0.79	5913	3.81	0.73

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008308996-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_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.

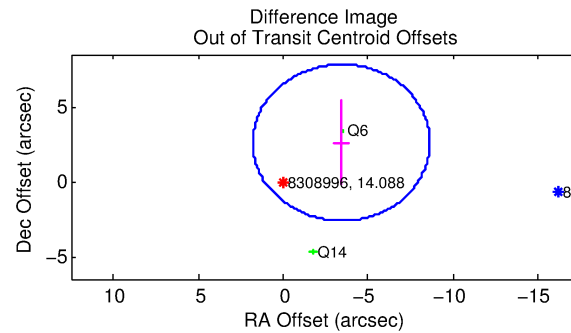
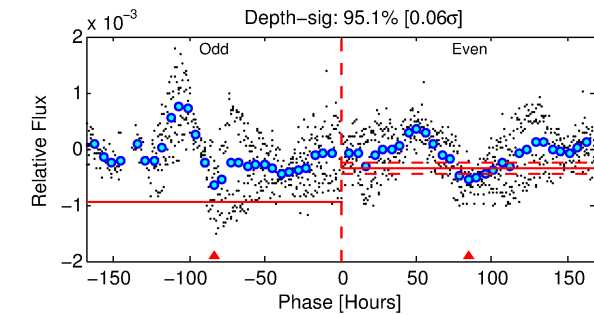
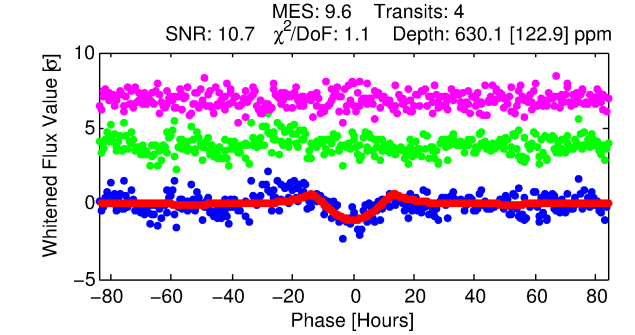
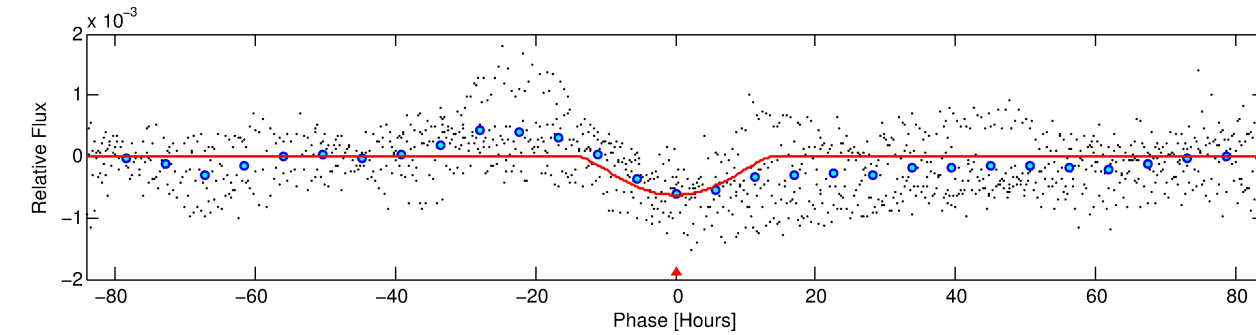
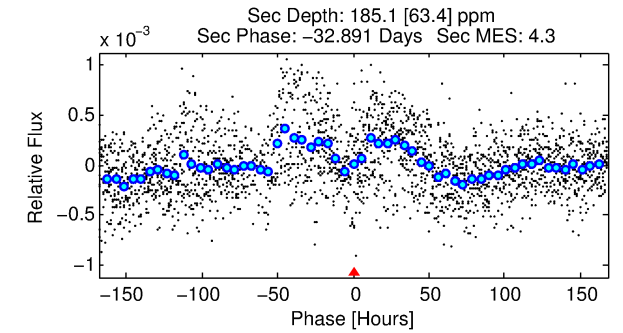
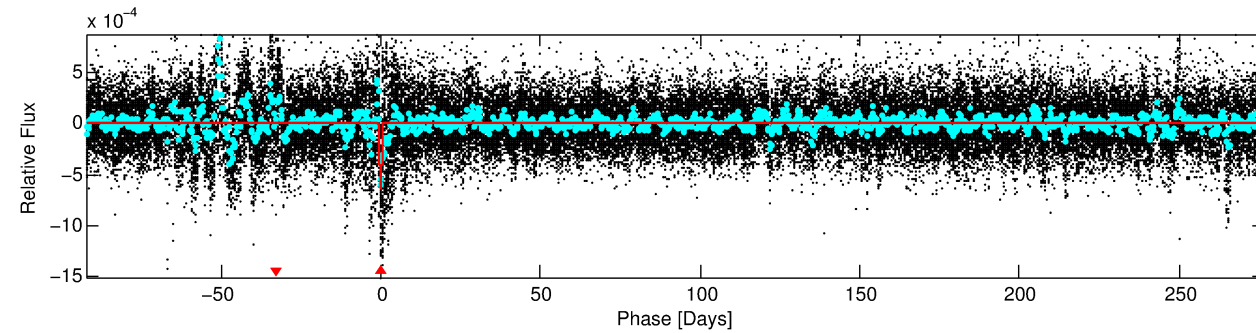
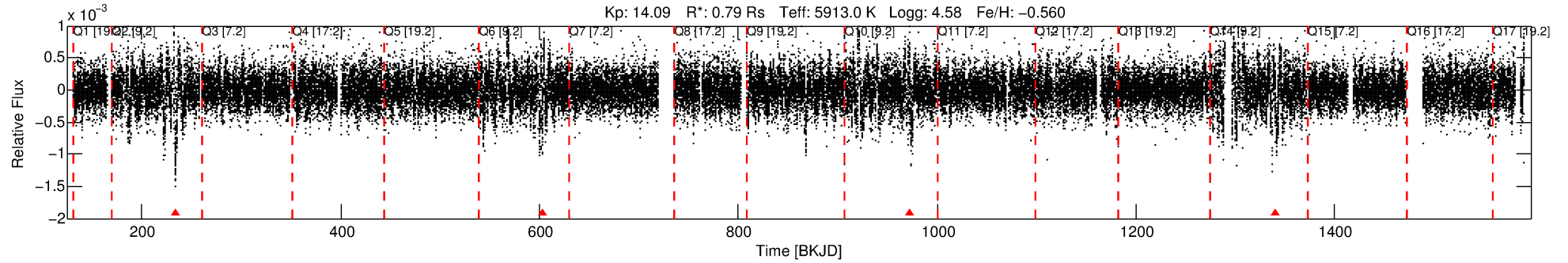
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008308996-01

No Significant Match Found

# DV One-Page Summary

KIC: 8308996 Candidate: 1 of 1 Period: 369.082 d



## DV Fit Results:

Period = 369.08161 [0.02017] d  
Epoch = 233.6123 [0.0385] BKJD  
Rp/R\* = 0.0444 [0.0805]  
a/R\* = 30.42 [13.71]  
b = 1.00 [0.12]  
Seff = 0.73 [0.23]  
Teff = 236 [18] K  
Rp = 3.81 [6.97] Re  
a = 0.9611 [0.1894] AU  
Ag = 6468.89 [23634.58] [0.27 $\sigma$ ]  
Teffp = 3273 [2982] K [1.02 $\sigma$ ]

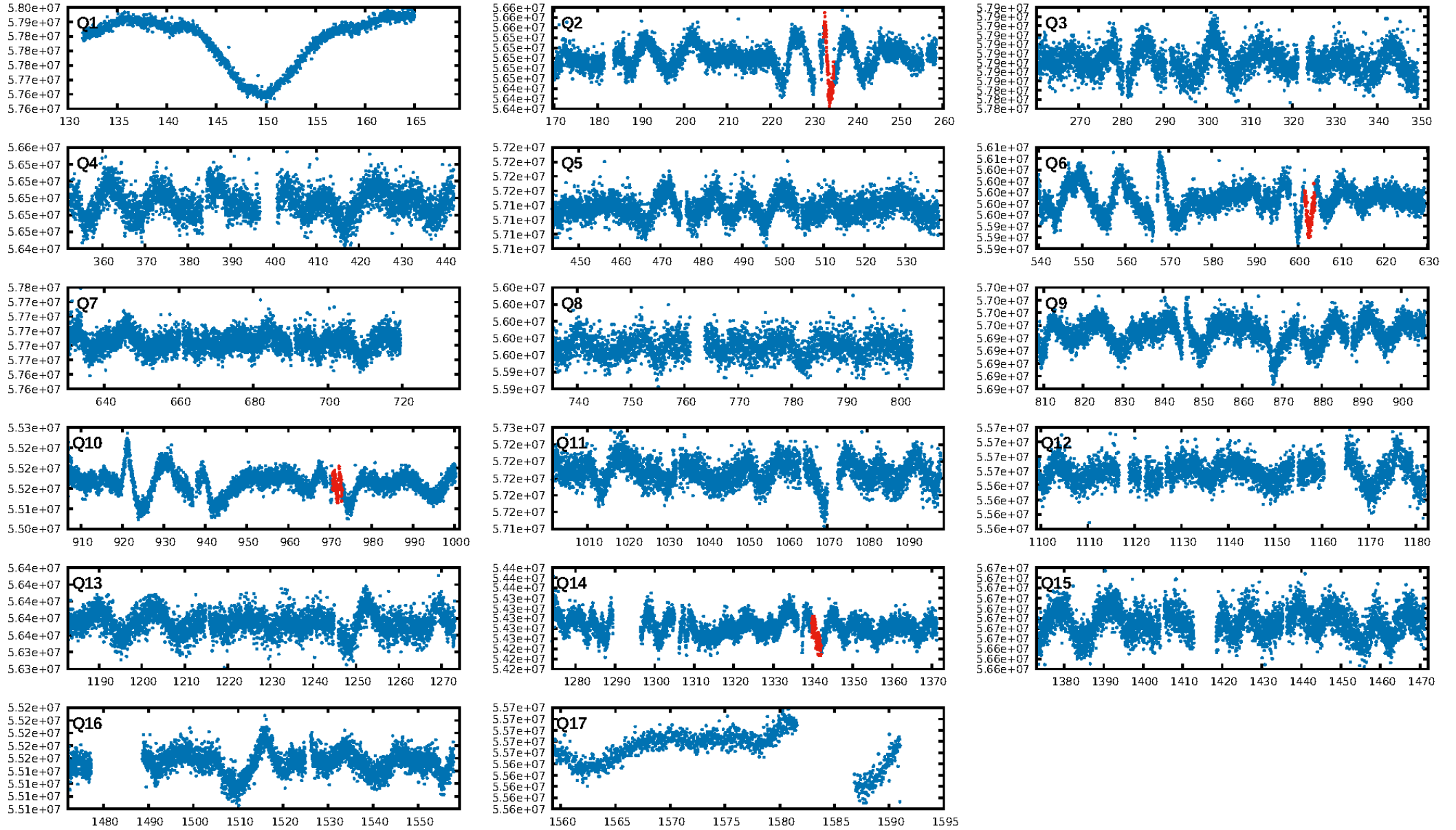
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 1.6%  
ModelChiSquareGof-sig: 98.4%  
Bootstrap-pfa: 2.03e-16  
RollingBand-fgt: 0.00 [0/4]  
GhostDiagnostic-chr: 0.712  
Centroid-sig: 0.0%  
Centroid-so: 5.083 arcsec [2.86 $\sigma$ ]  
OotOffset-rm: 4.310 arcsec [2.48 $\sigma$ ]  
KicOffset-rm: 4.284 arcsec [1.81 $\sigma$ ]  
OotOffset-st: 2/0/0/0 [2]  
KicOffset-st: 2/0/0/0 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [2/2]

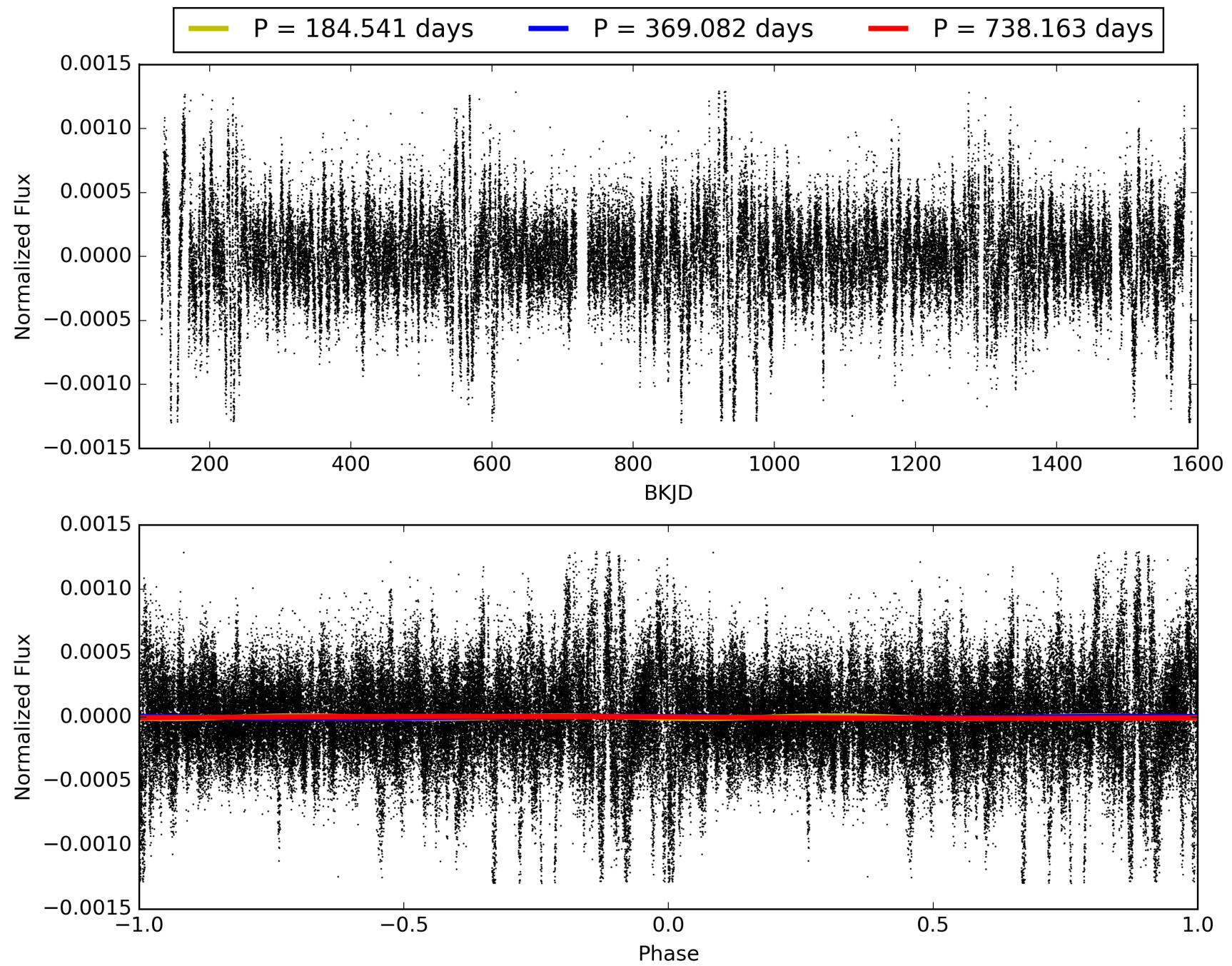
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:49:53 Z

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

# TCE 008308996-01, PDC Light Curves

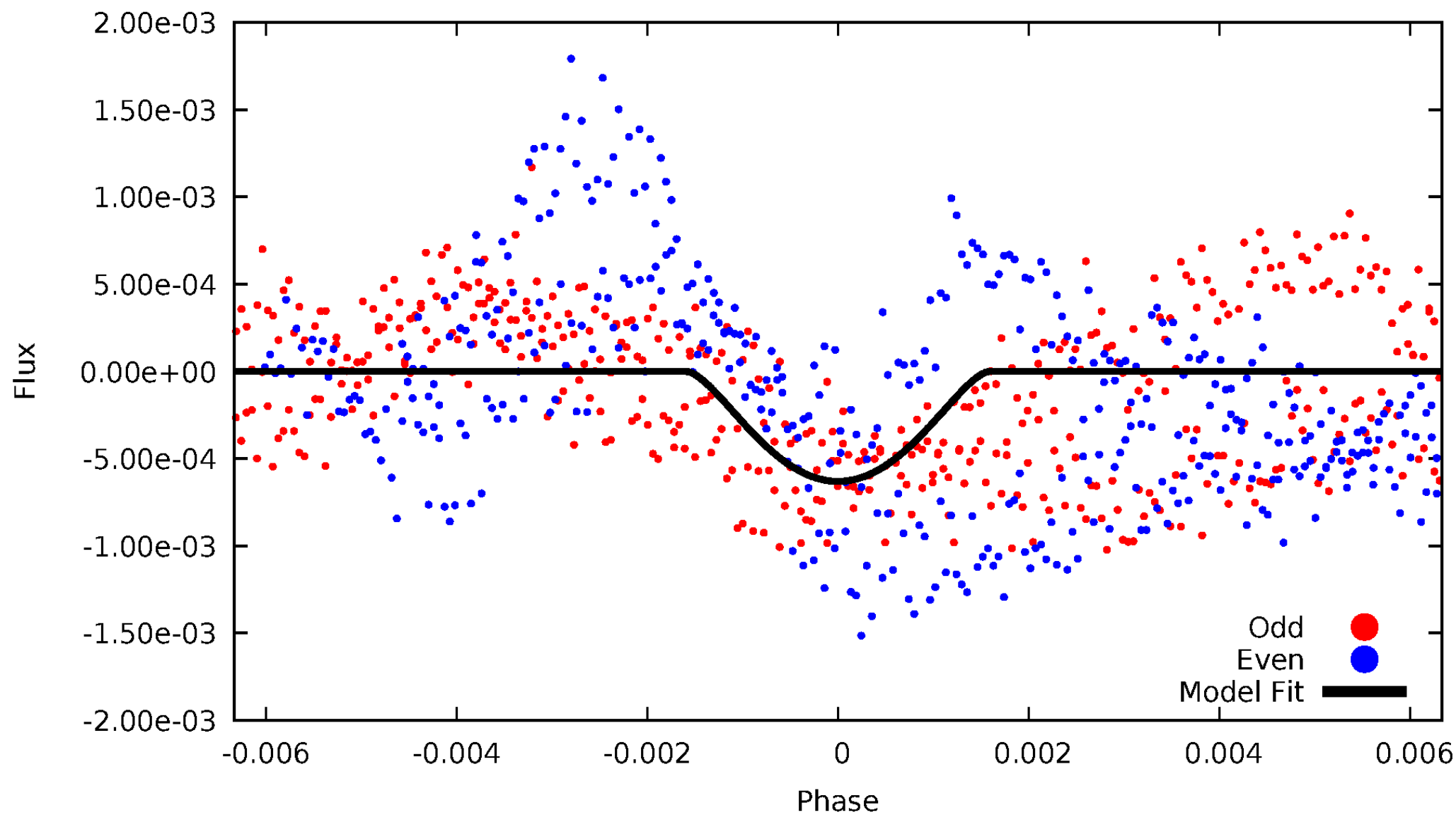


TCE 008308996-01



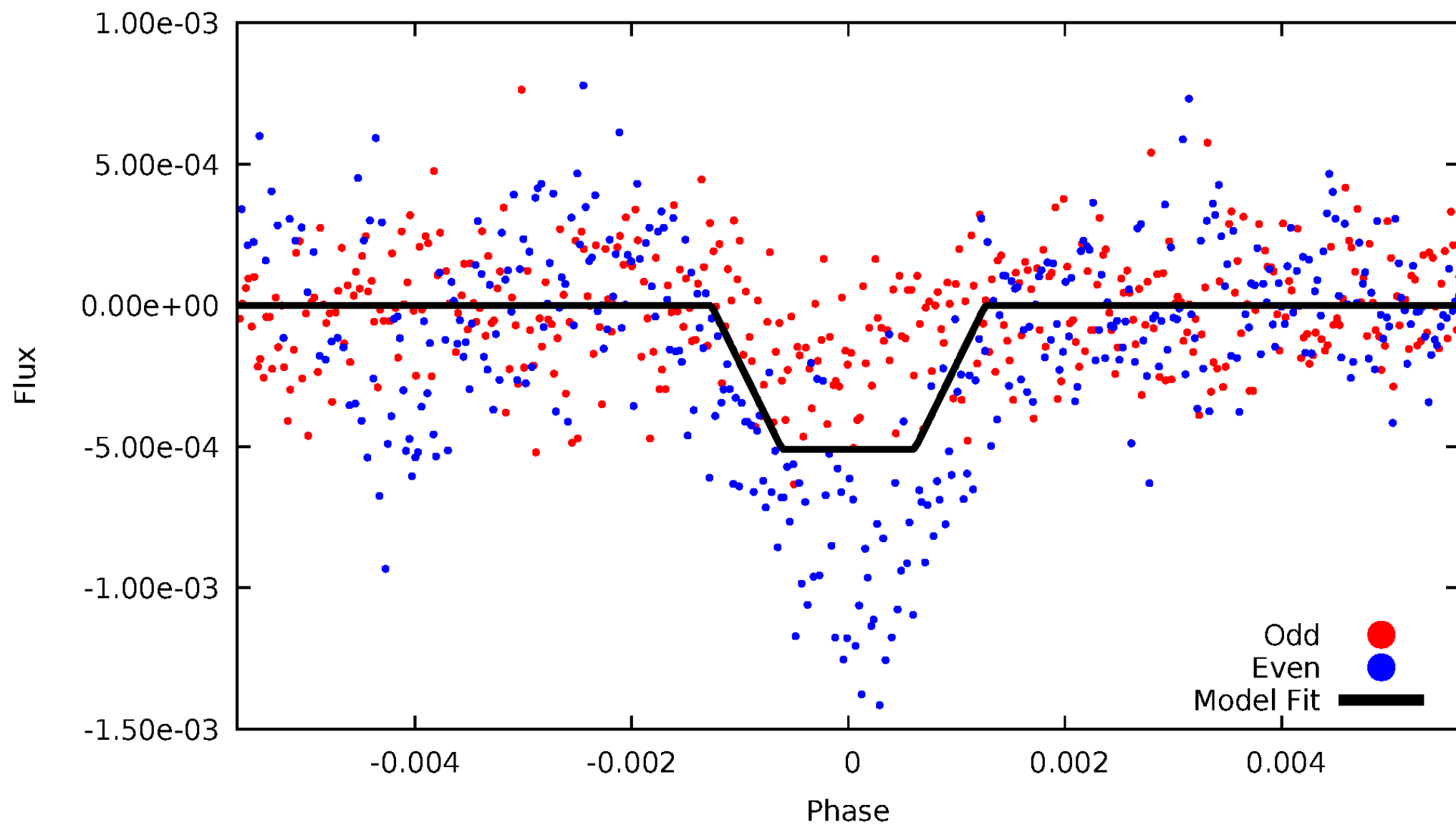
# DV Odd/Even

TCE 008308996-01



# ALT Odd/Even

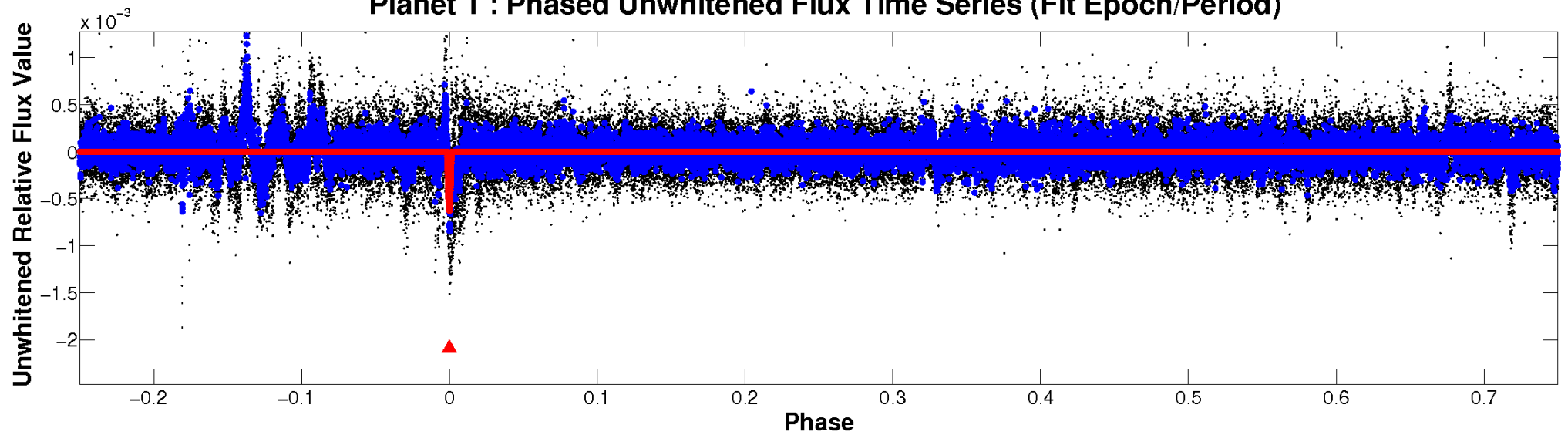
TCE 008308996-01



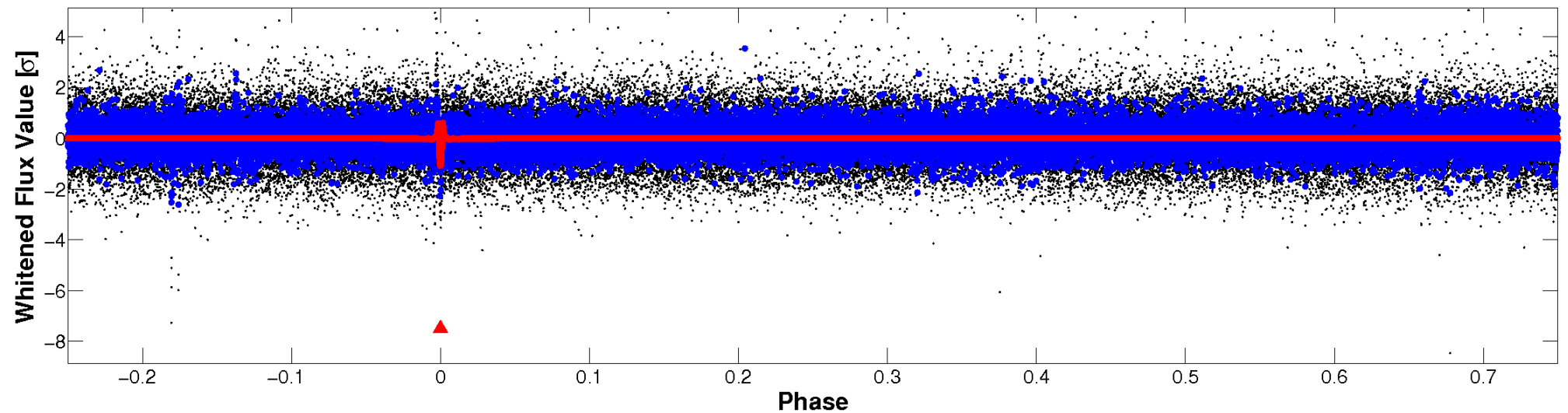


# Non-Whitened Vs. Whitened Light Curve

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

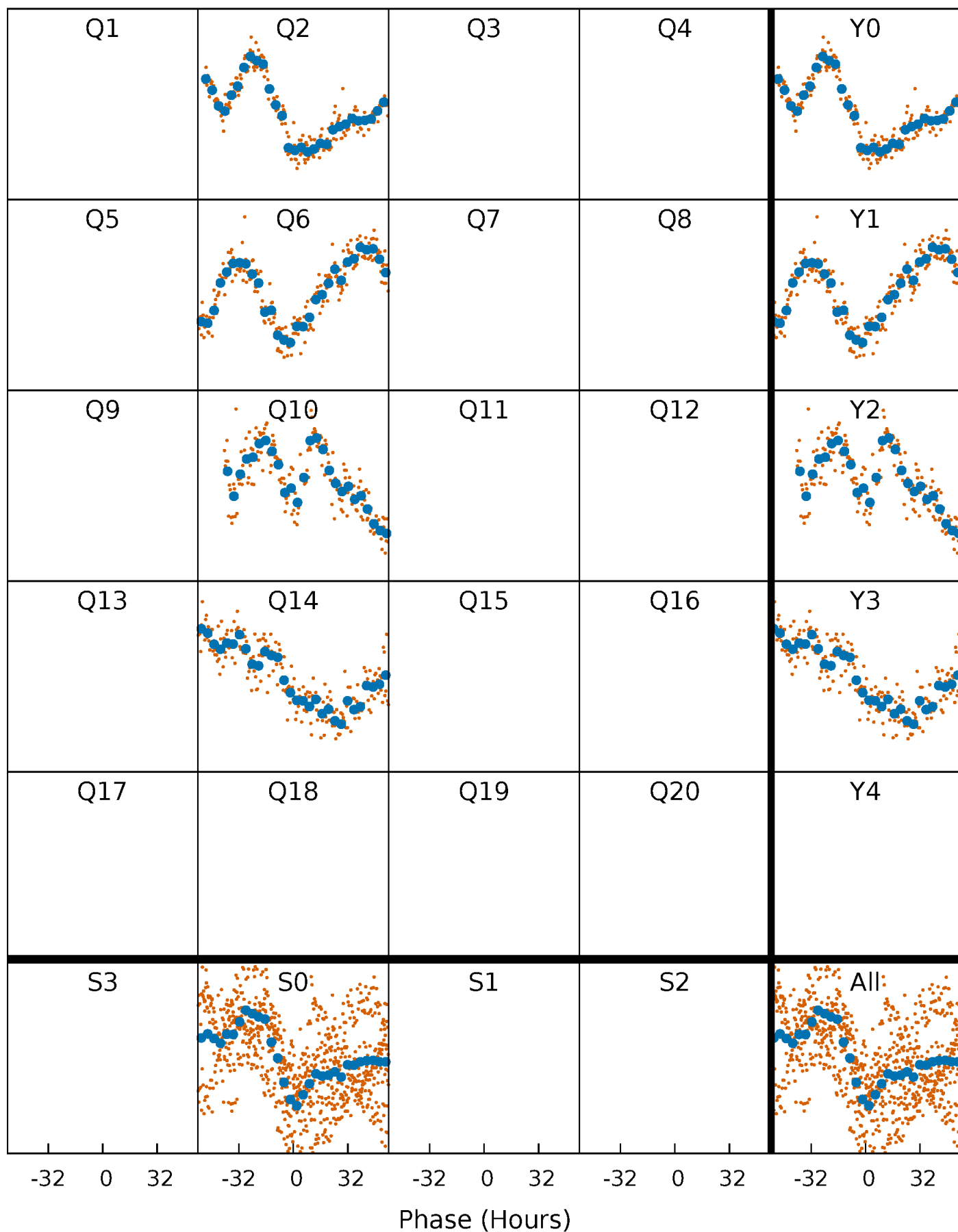


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

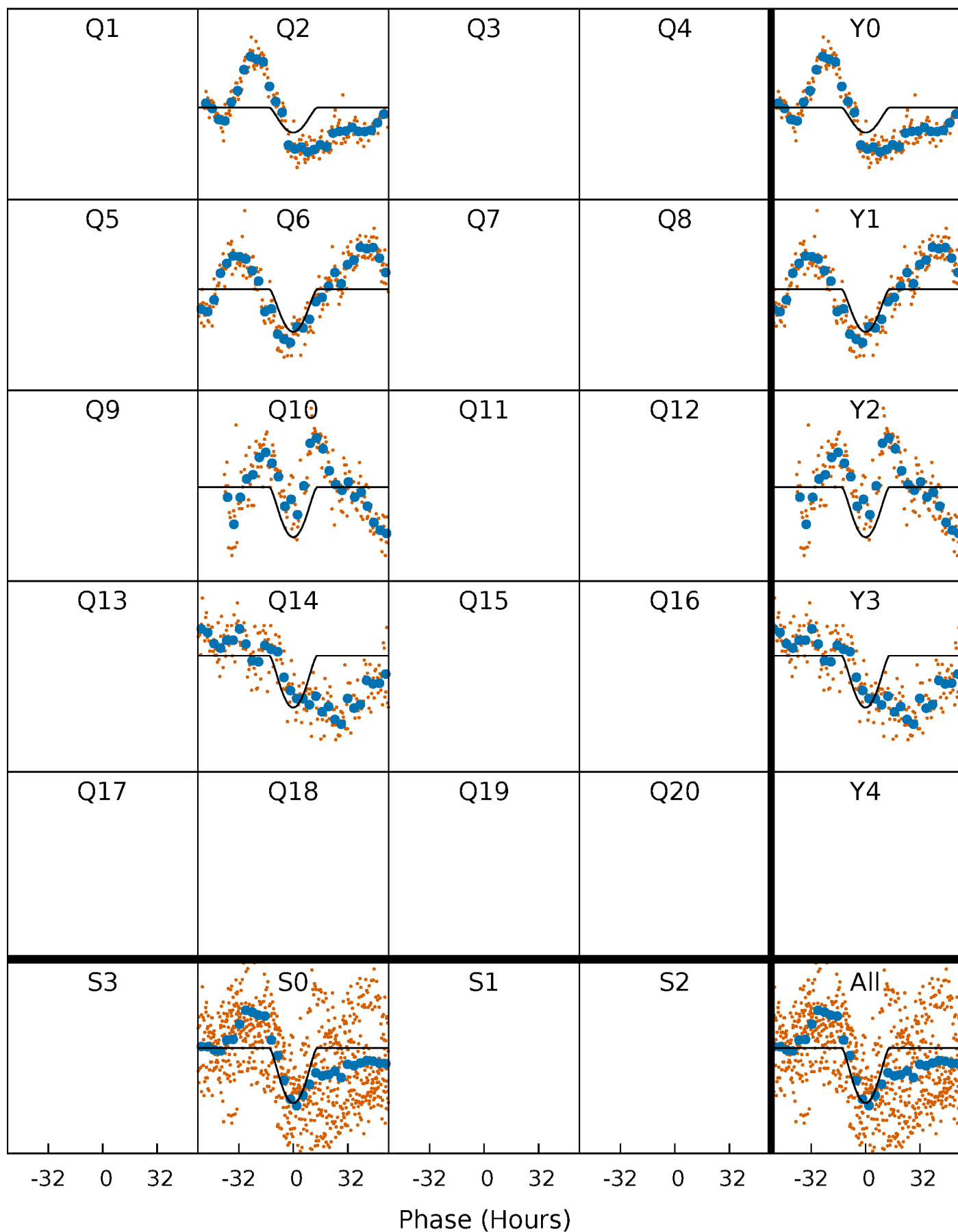
TCE 008308996-01 P=369.081610 Days  $T_0=233.612271$  (BKJD)





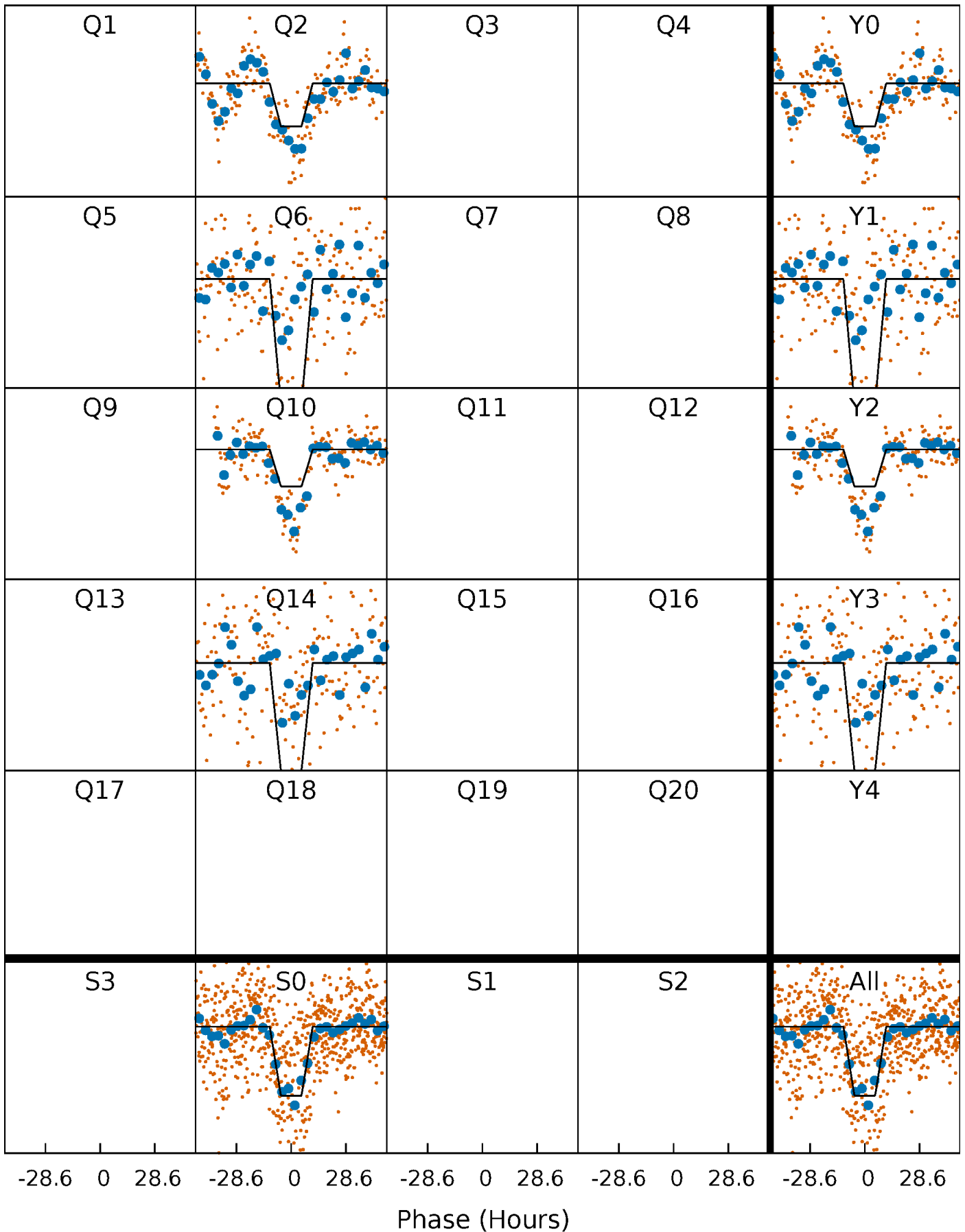
# DV Quarter-Phased Transit Curves

TCE 008308996-01 P=369.081610 Days  $T_0=233.612271$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

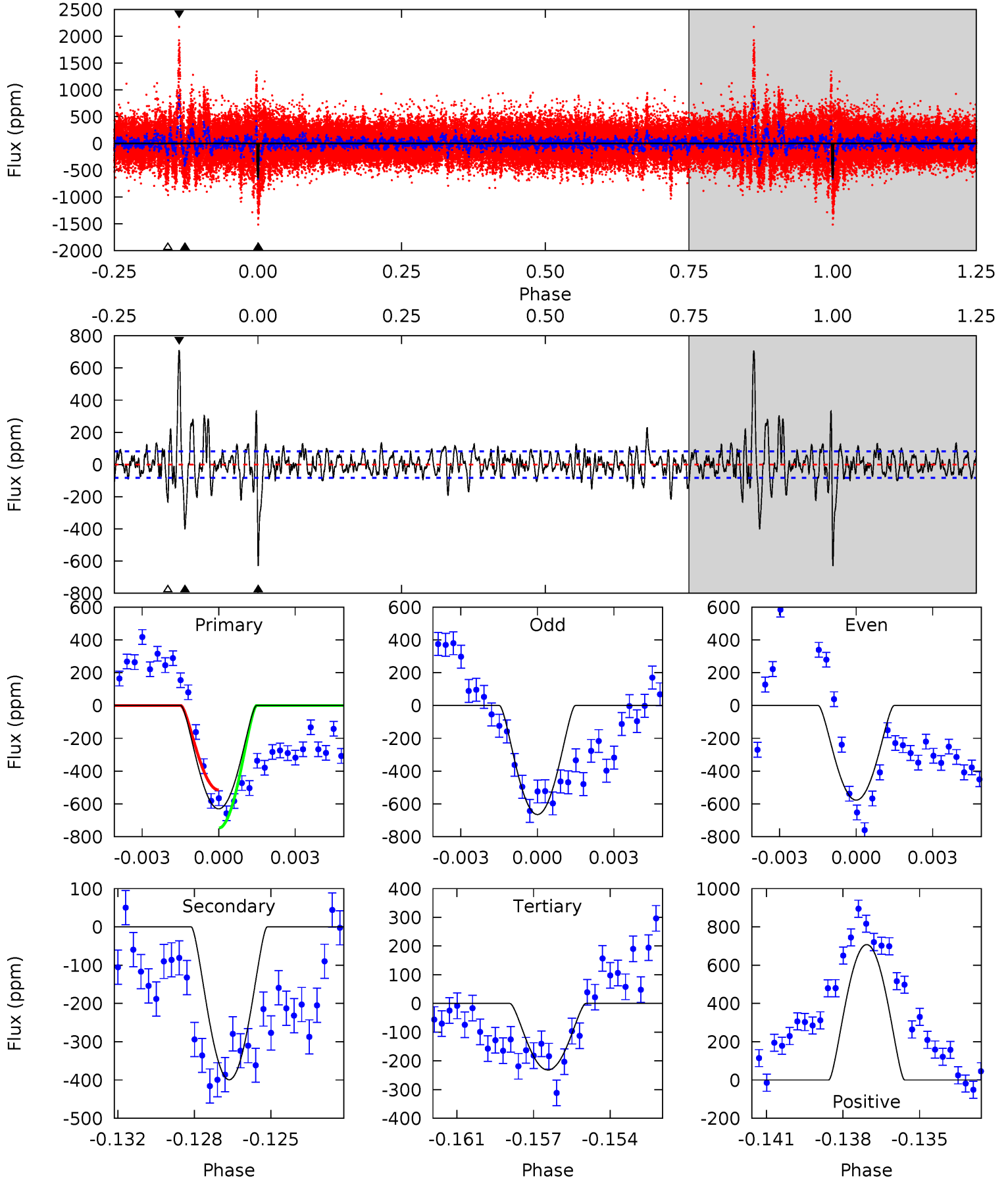
TCE 008308996-01 P=369.139073 Days  $T_0=233.481924$  (BKJD)



# DV Model-Shift Uniqueness Test

008308996-01, P = 369.081610 Days, E = 233.612271 Days

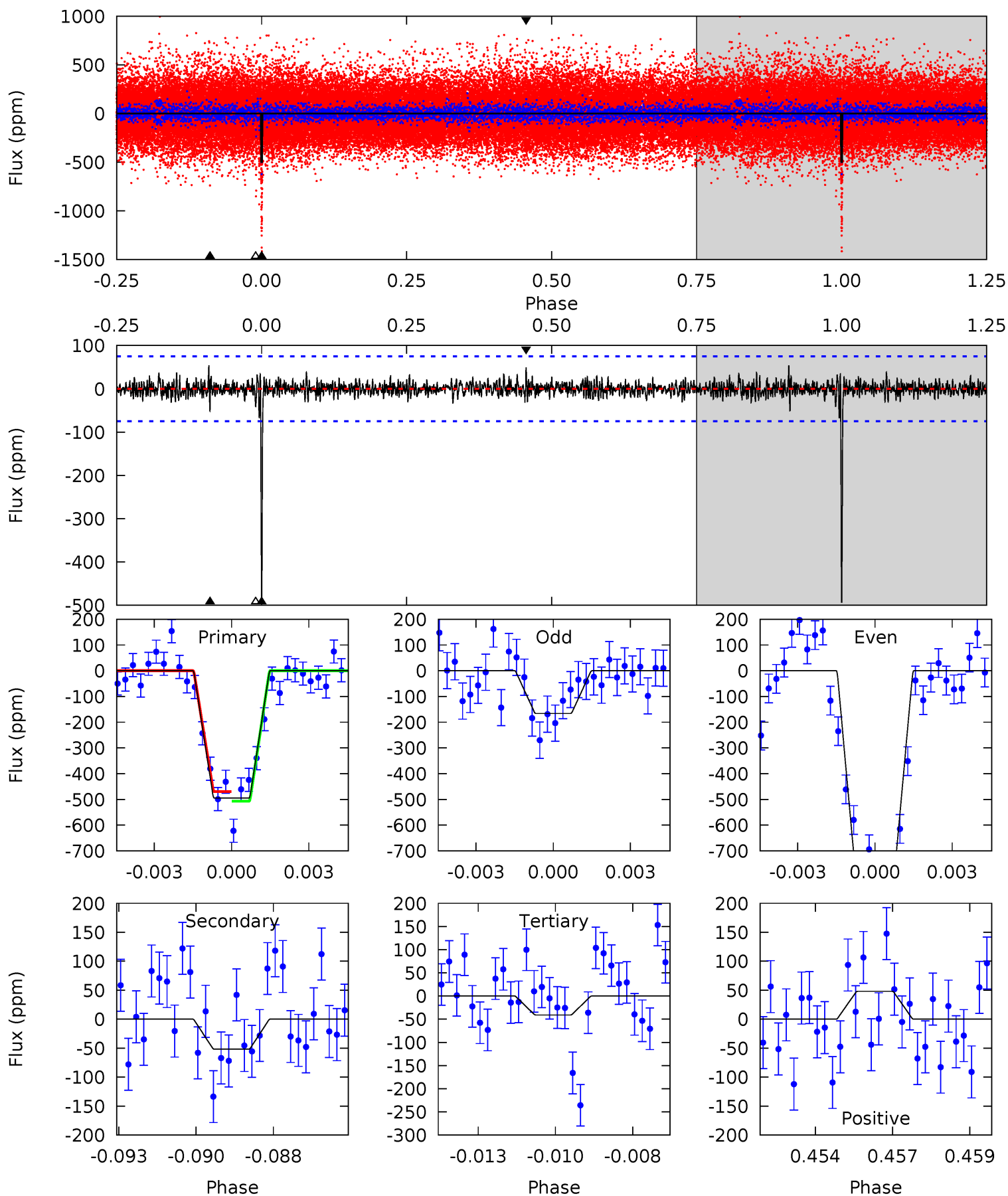
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.2	25.5	14.8	45.2	5.24	2.95	5.04	25.4	-4.95	10.7	-19.7	2.82	0.93	0.53	7.34



# Alt Model-Shift Uniqueness Test

008308996-01, P = 369.139073 Days, E = 233.481924 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
34.9	3.65	2.89	3.40	5.28	3.01	0.80	32.0	31.5	0.76	0.25	23.9	1.11	0.10	1.30



### Stellar Parameters For KIC 008308996

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5913^{+141}_{-159}$	$4.585^{+0.040}_{-0.160}$	$-0.560^{+0.300}_{-0.300}$	$0.787^{+0.182}_{-0.061}$	$0.874^{+0.079}_{-0.096}$	$2.527^{+0.402}_{-1.074}$
	+2%/-3%	+1%/-3%	+54%/-54%	+23%/-8%	+9%/-11%	+16%/-43%
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 008308996-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-399 \pm 16$	$6.55^{+5.77}_{-4.47}$	$335^{+18}_{-13}$	$3559^{+1863}_{-632}$	$4658^{+42539}_{-3314}$
Alt.	$-52 \pm 14$	$5.25^{+5.90}_{-3.42}$	$337^{+18}_{-14}$	$2793^{+1070}_{-454}$	$906^{+6353}_{-701}$

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

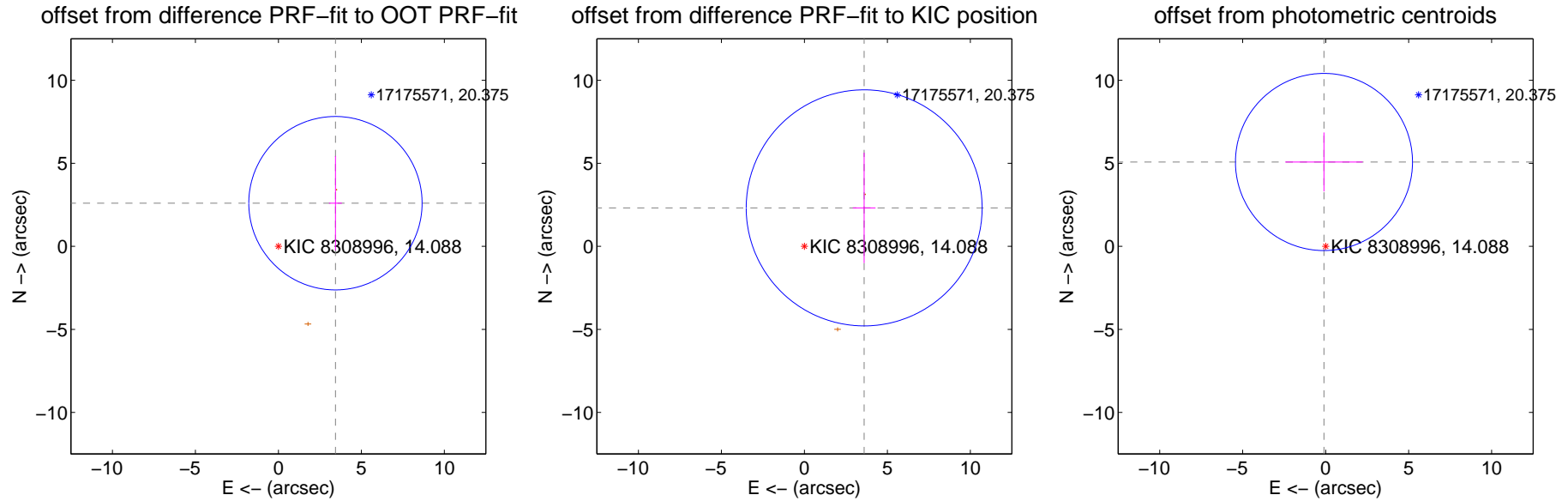
## DV Centroid Data

Supplemental centroid analysis for 008308996-01. Kepler magnitude: 14.09. Transit SNR 10.74

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.39 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.310 \pm 1.741$	2.48	$-3.437 \pm 0.390$	$2.600 \pm 2.839$
PRF-fit source offset from KIC position	$4.284 \pm 2.370$	1.81	$-3.602 \pm 0.683$	$2.319 \pm 3.321$
photometric centroid source offset	$5.08 \pm 1.78$	2.86	$0.10 \pm 2.33$	$5.08 \pm 1.78$



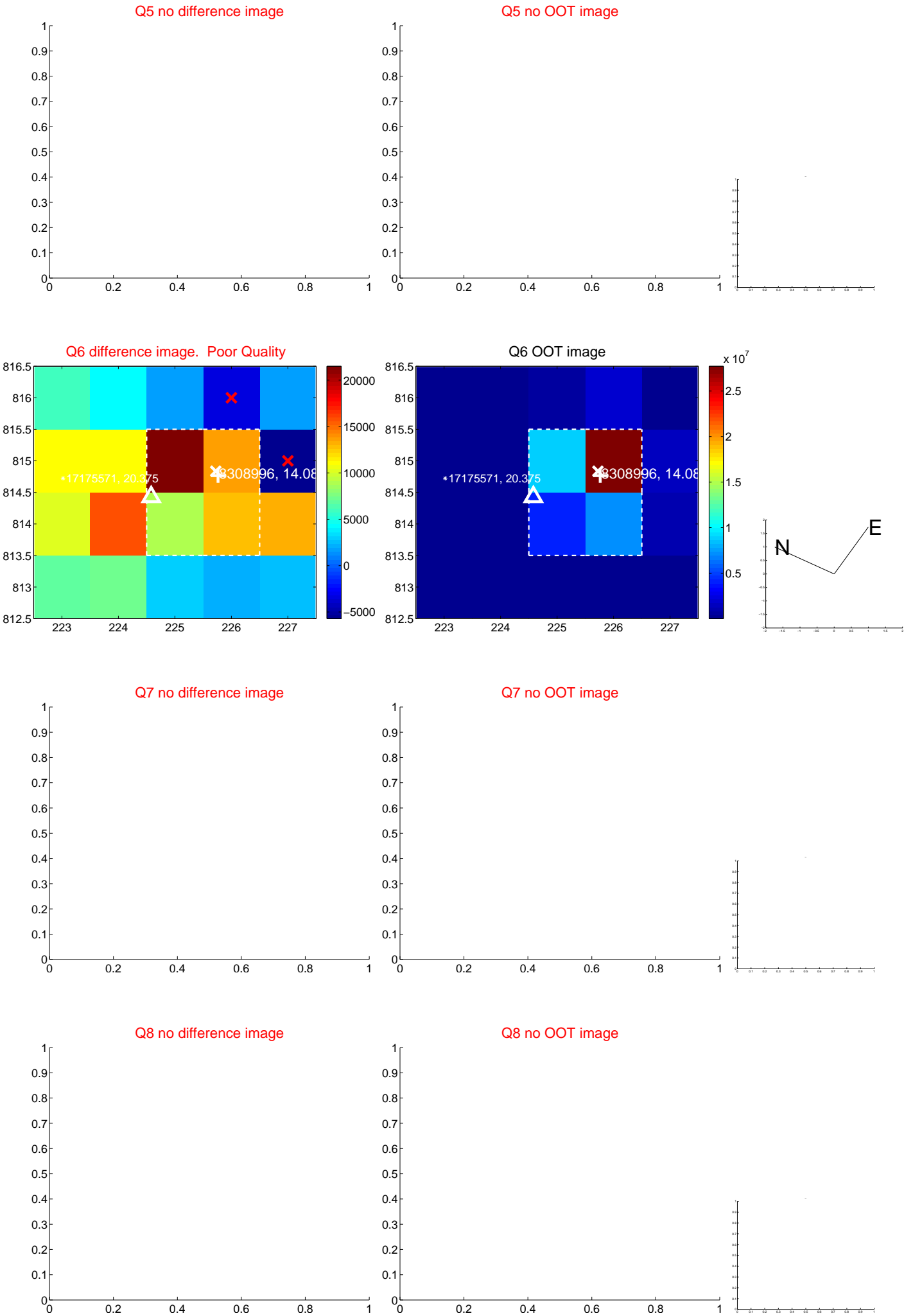
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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





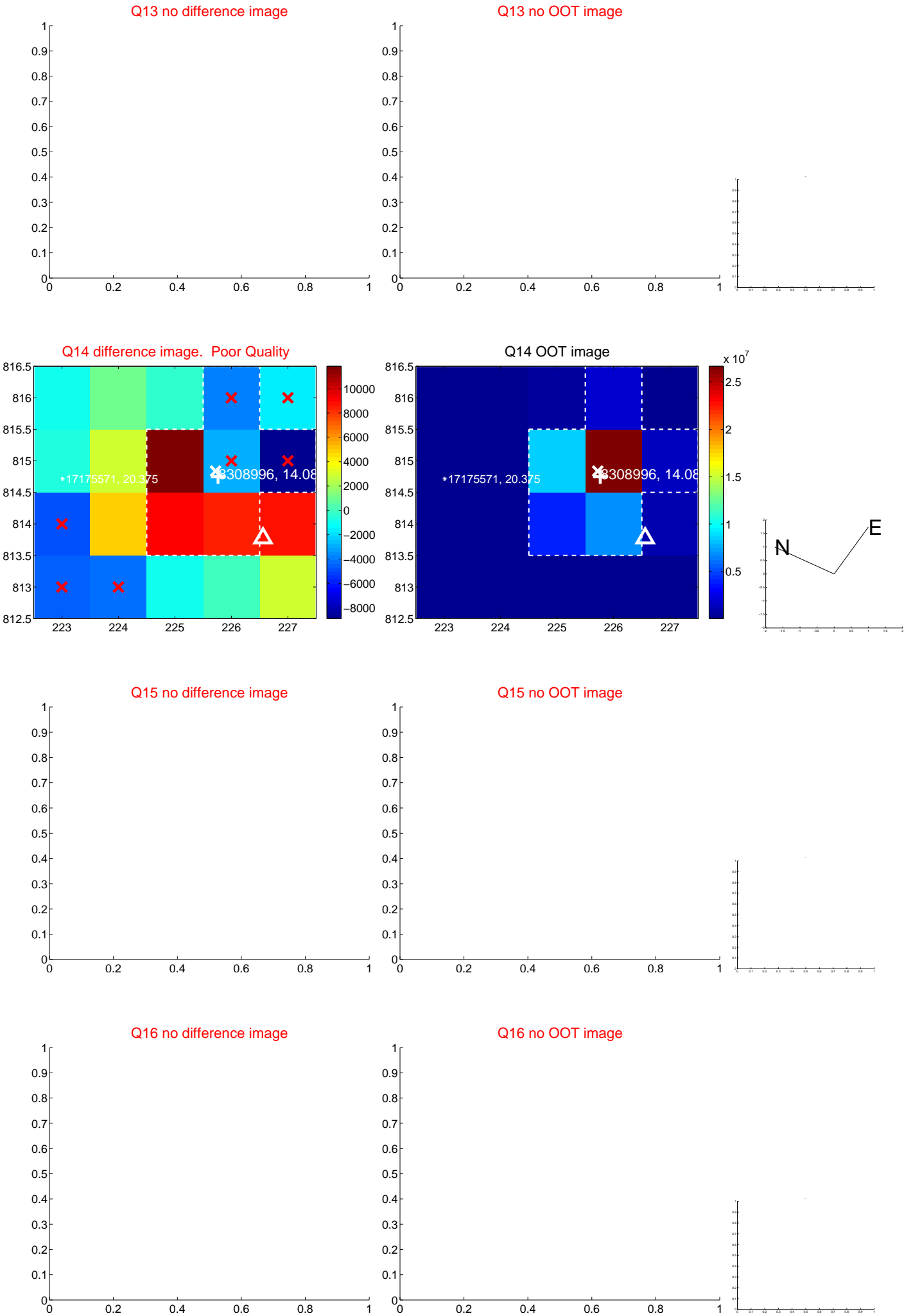
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



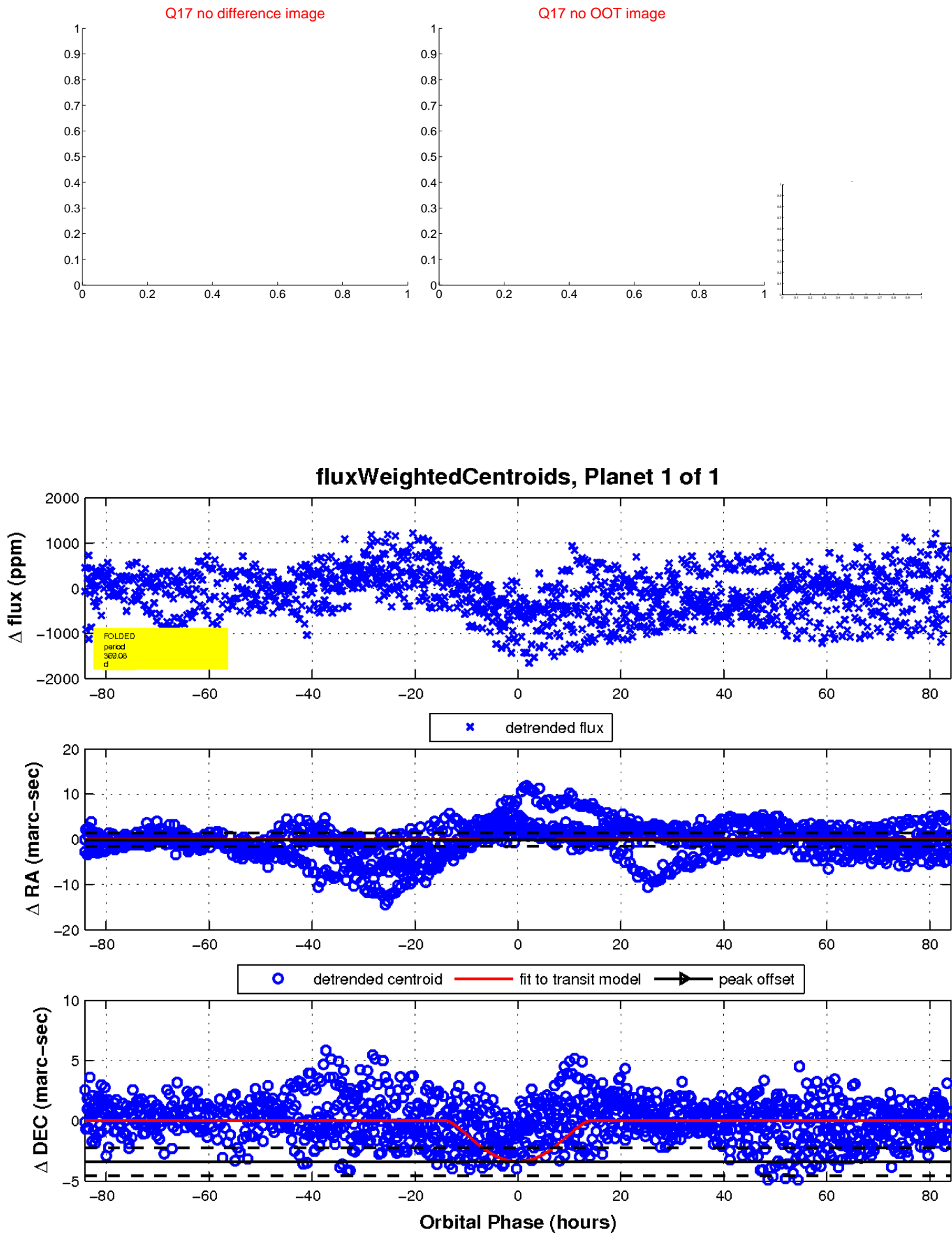
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : 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

