

# KIC 006372194

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006372194-01	OBS	5278.01	281.592500	261.816873	9314.3	5.678	79.6	77.3	0.71	5330	7.30	0.61

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006372194-01	OBS	PC	1.00	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.

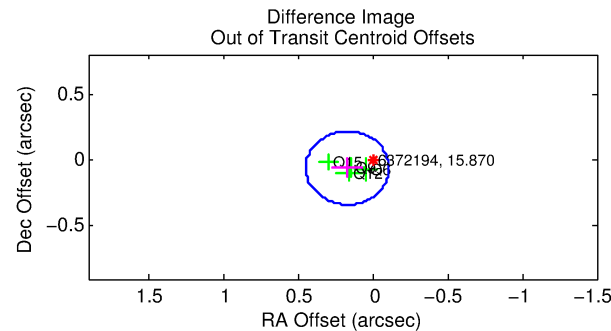
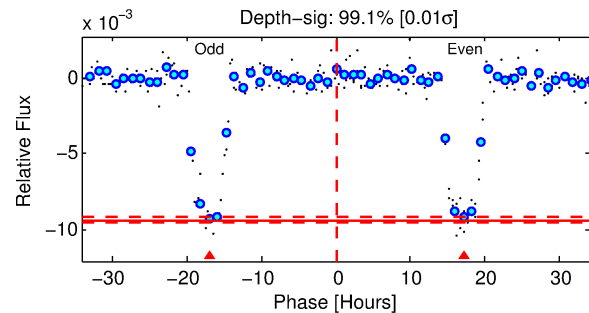
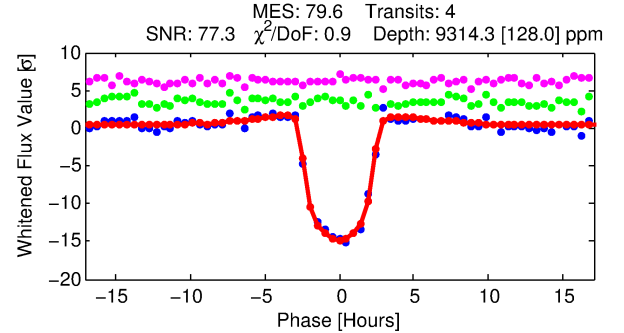
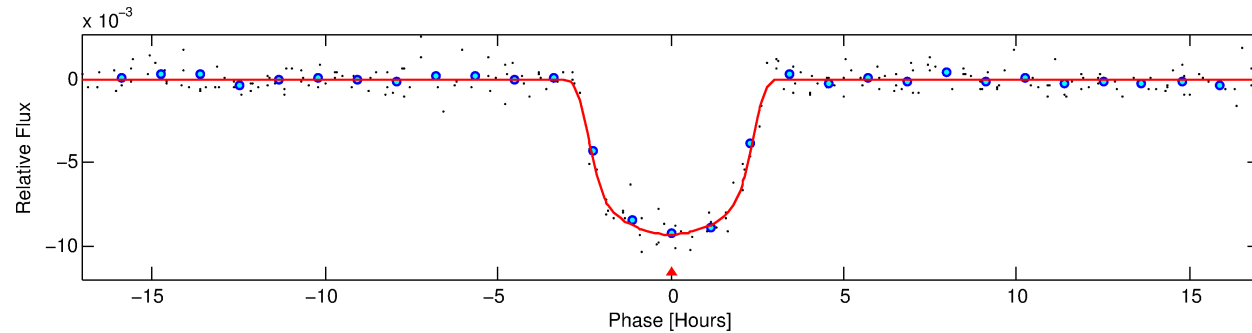
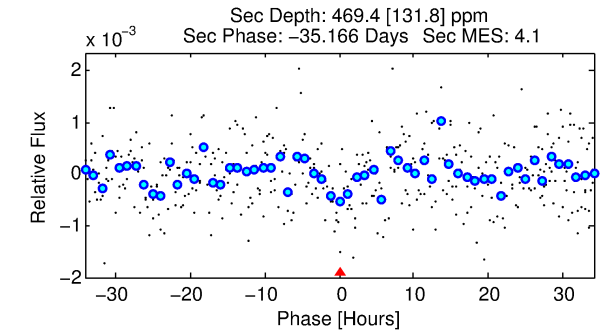
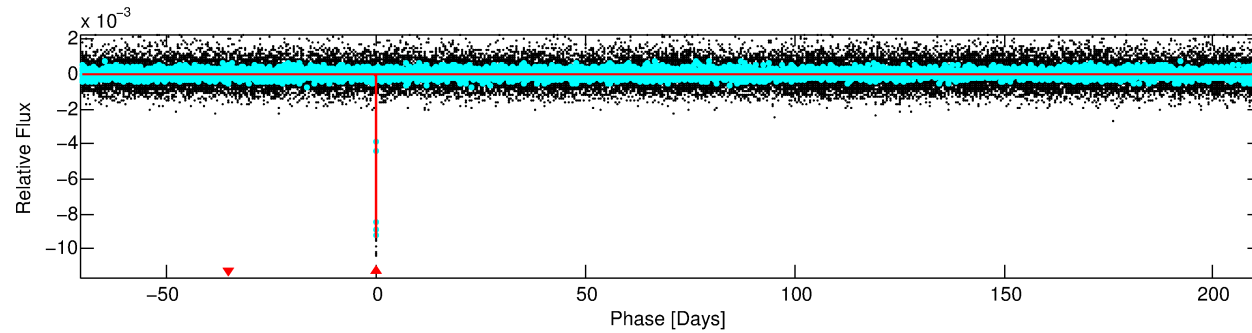
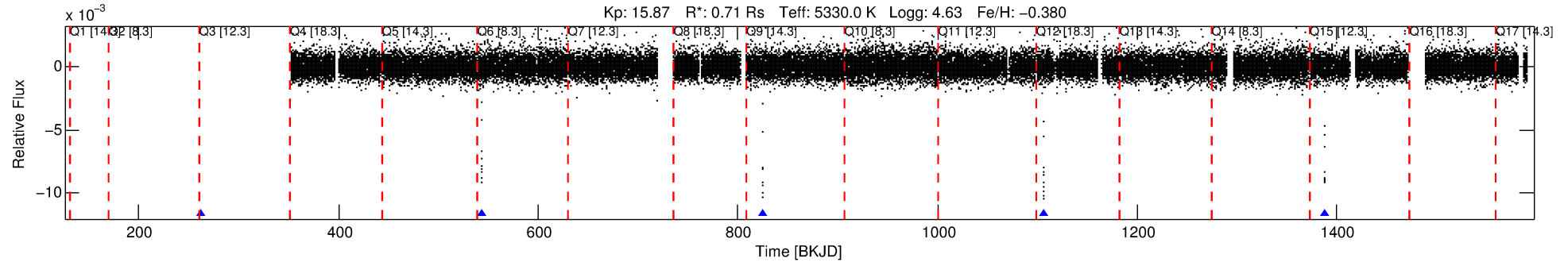
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006372194-01

No Significant Match Found

# DV One-Page Summary

KIC: 6372194 Candidate: 1 of 1 Period: 281.592 d  
KOI: K05278.01 Corr: 0.992



## DV Fit Results:

Period = 281.59250 [0.00074] d  
Epoch = 261.8169 [0.0022] BKJD  
Rp/R\* = 0.0939 [0.0024]  
a/R\* = 324.92 [29.76]  
b = 0.68 [0.07]  
Seff = 0.61 [0.14]  
Teq = 225 [13] K  
Rp = 7.30 [1.18] Re  
a = 0.7760 [0.1009] AU  
Ag = 2915.87 [988.97] [2.95 $\sigma$ ]  
Teffp = 2561 [204] K [11.44 $\sigma$ ]

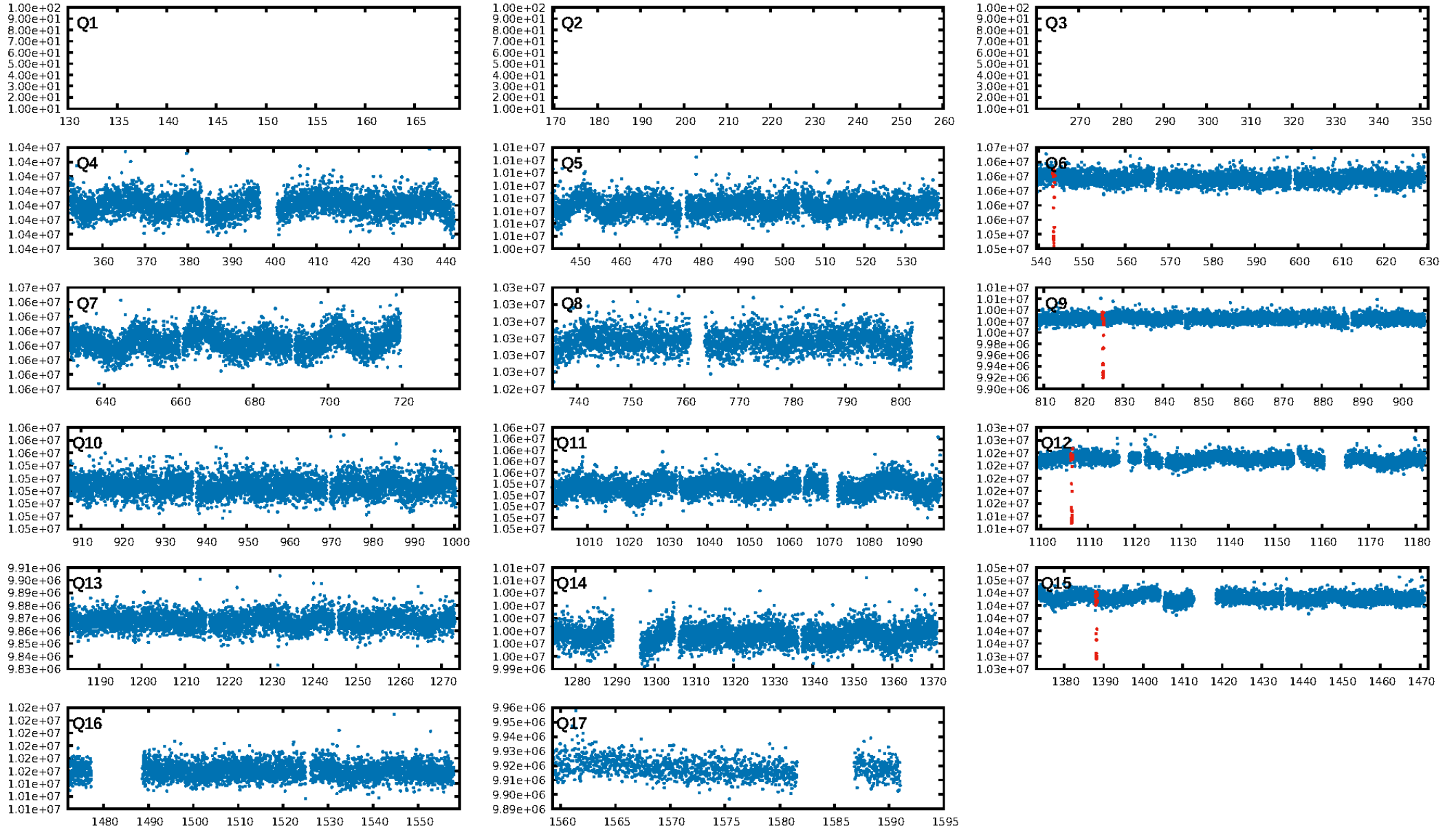
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 10.3%  
ModelChiSquareGof-sig: 96.7%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 7.52  
Centroid-sig: 2.4%  
Centroid-so: 0.615 arcsec [3.78 $\sigma$ ]  
OotOffset-rm: 0.180 arcsec [1.94 $\sigma$ ]  
KicOffset-rm: 0.246 arcsec [3.14 $\sigma$ ]  
OotOffset-st: 1/1/1/1 [4]  
KicOffset-st: 1/1/1/1 [4]  
DiffImageQuality-fgm: 1.00 [4/4]  
DiffImageOverlap-fno: 1.00 [4/4]

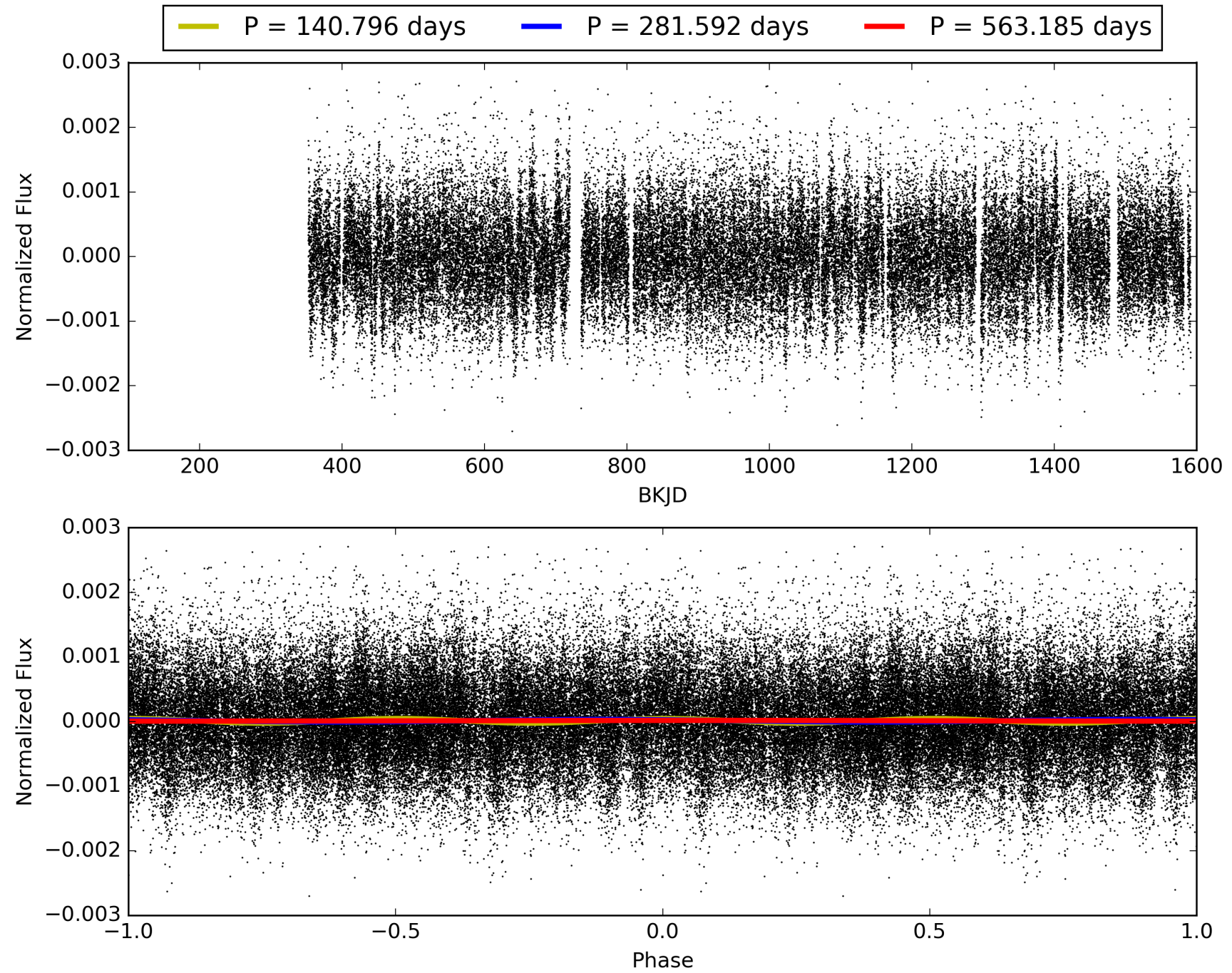
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:33:38 Z

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

# TCE 006372194-01, PDC Light Curves

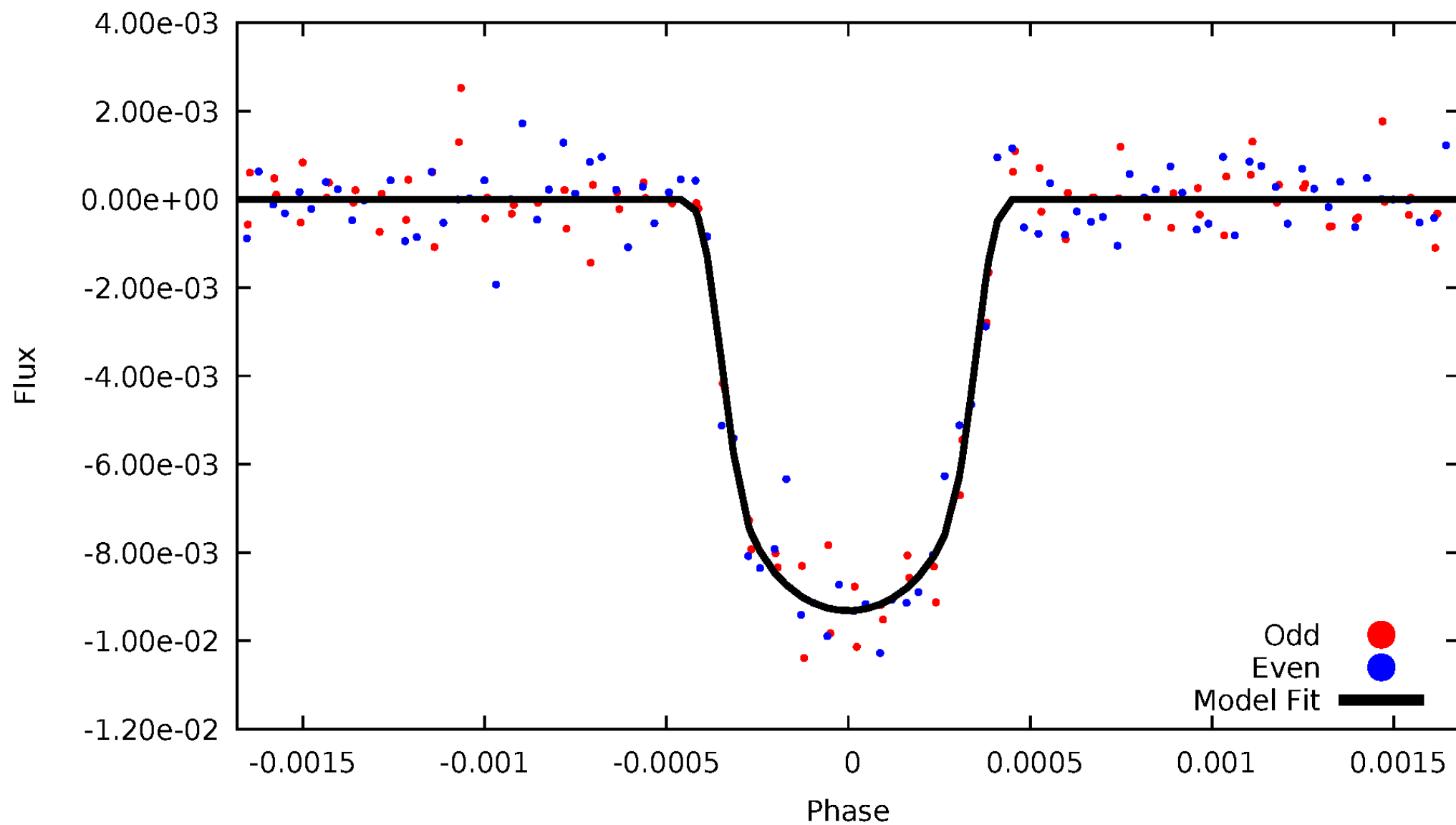


TCE 006372194-01



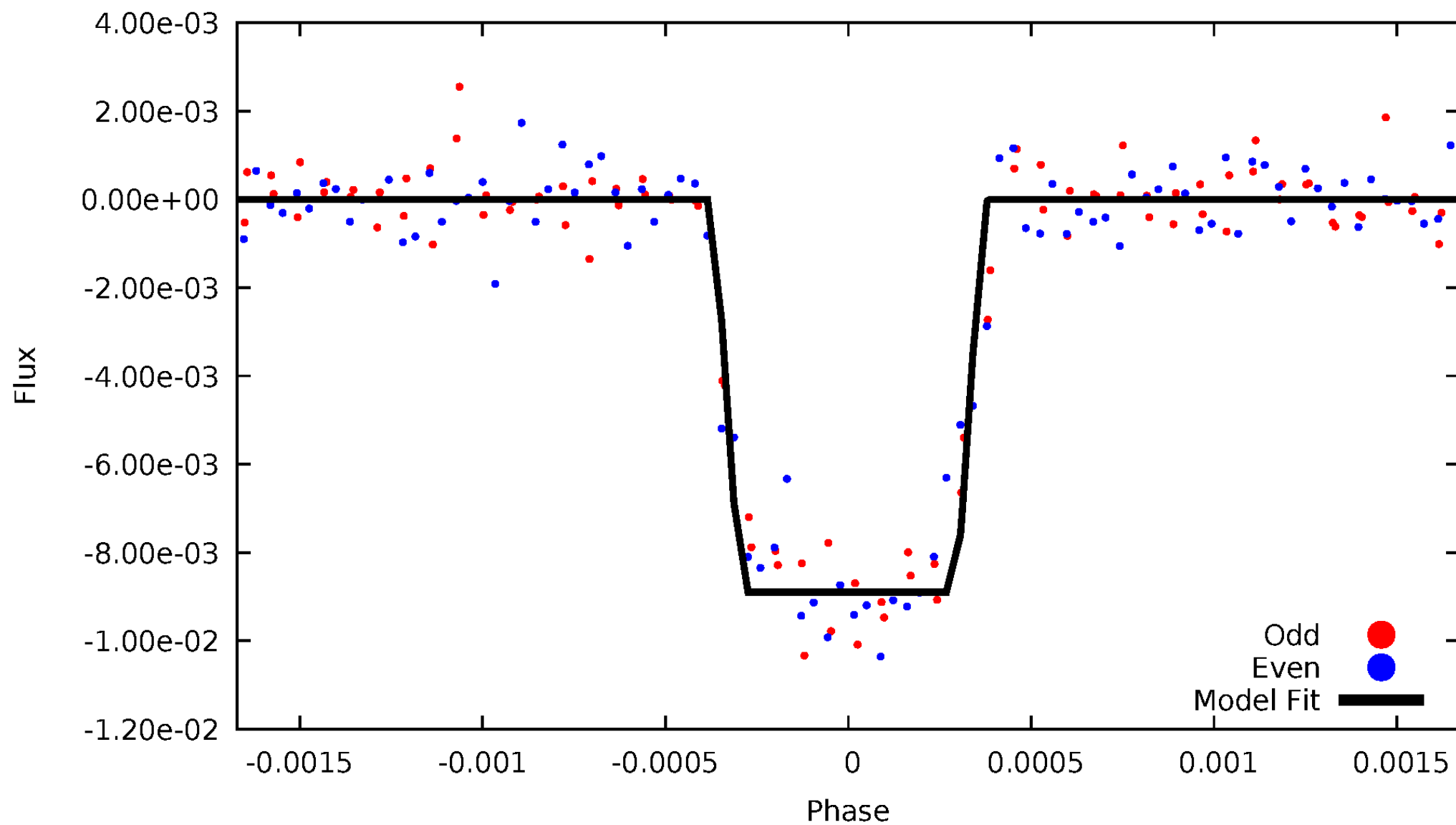
# DV Odd/Even

TCE 006372194-01



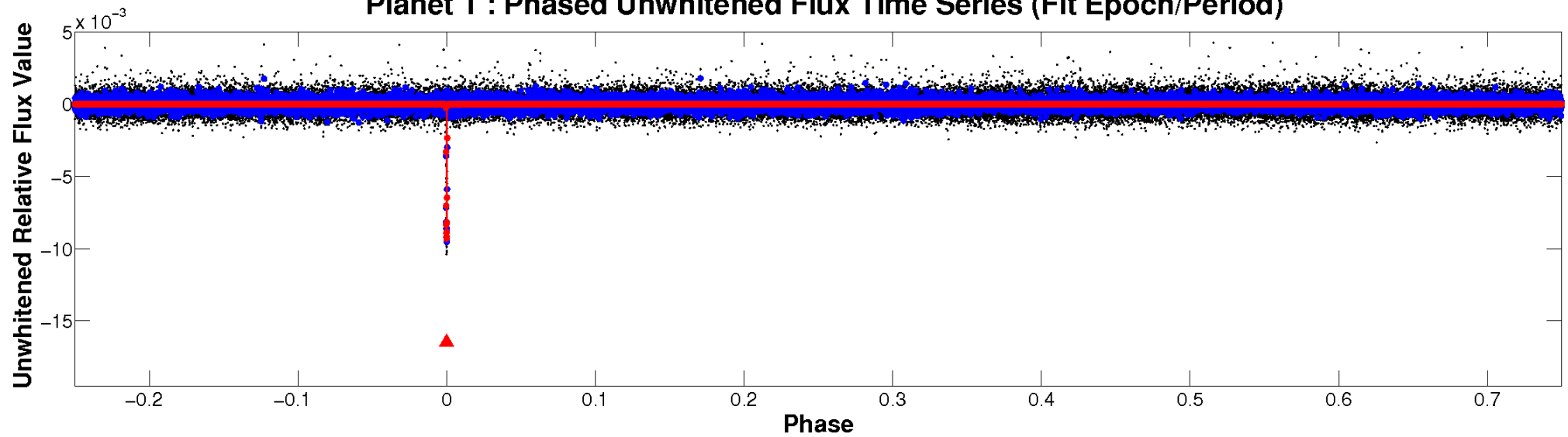
# ALT Odd/Even

TCE 006372194-01

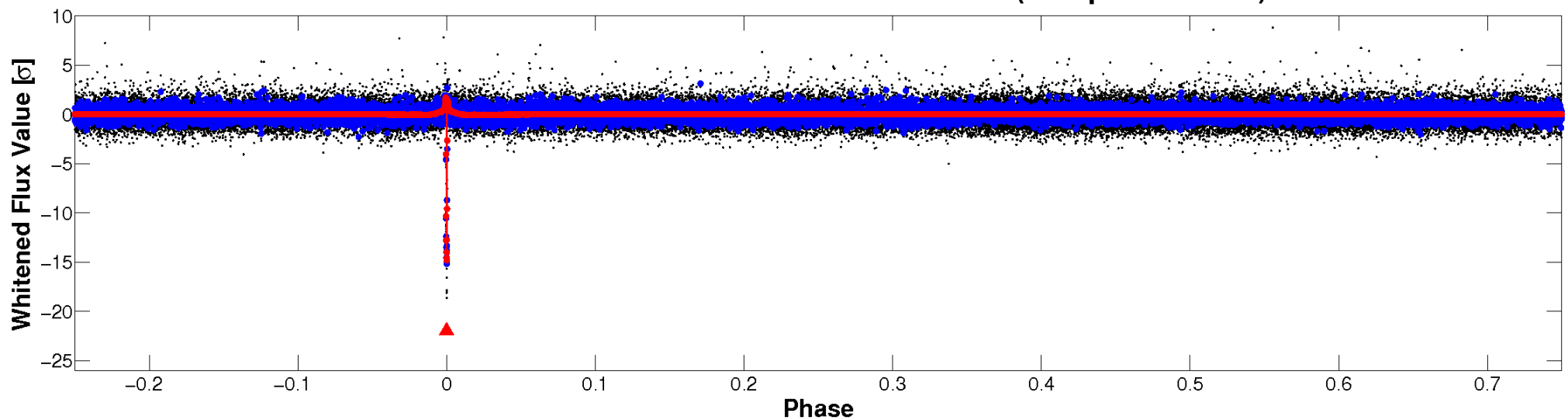


# Non-Whitened Vs. Whitened Light Curve

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

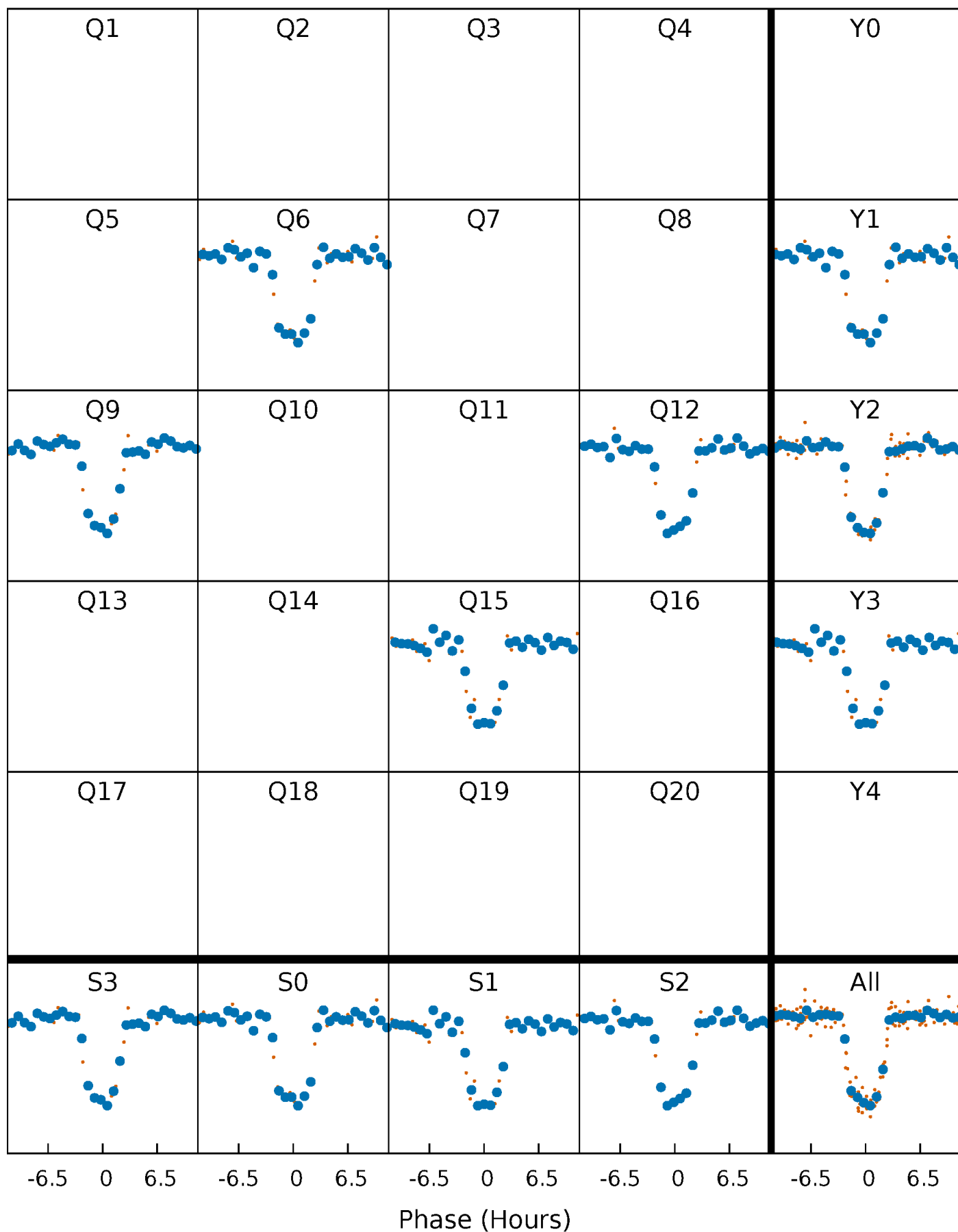


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

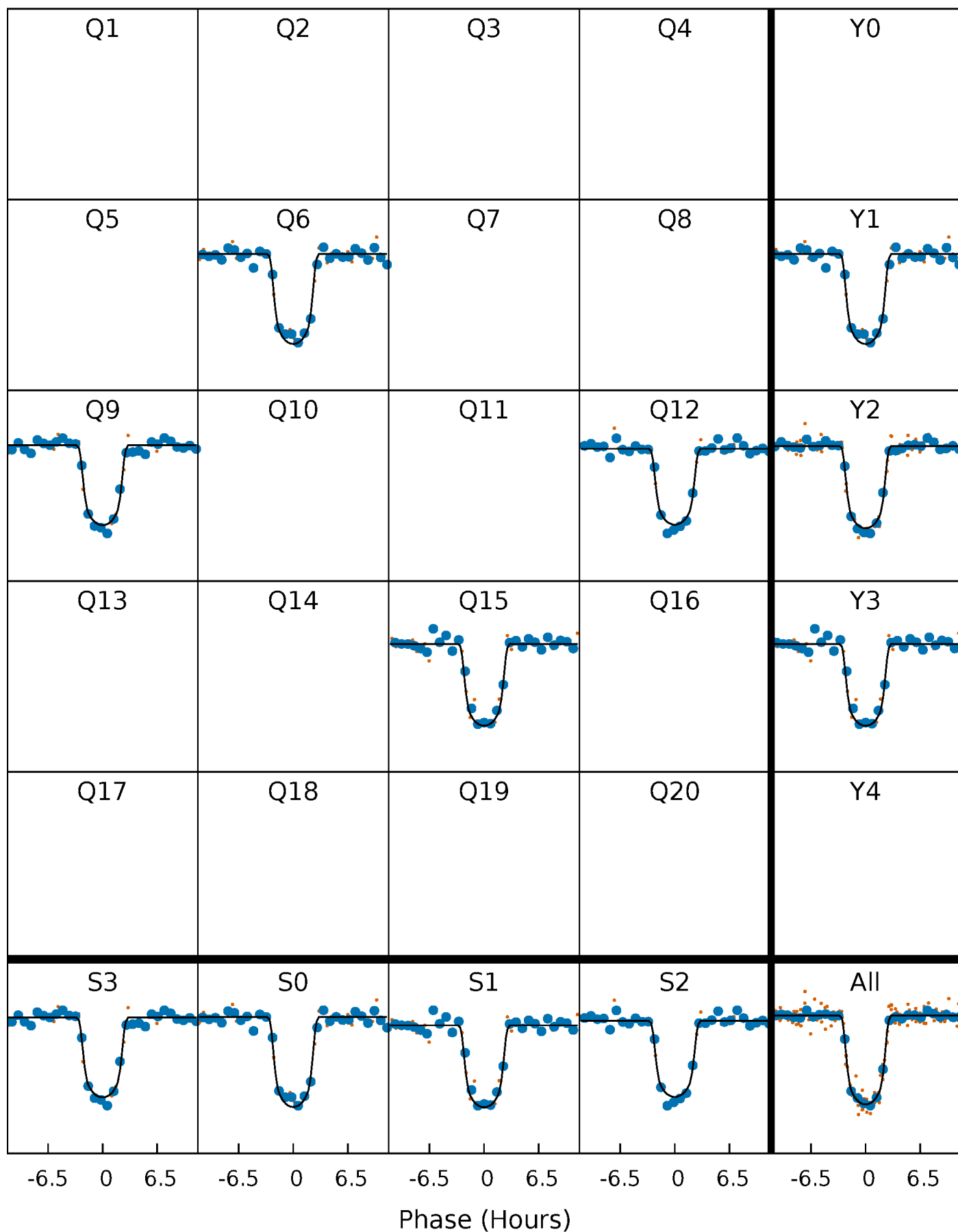
TCE 006372194-01 P=281.592500 Days  $T_0=261.816873$  (BKJD)





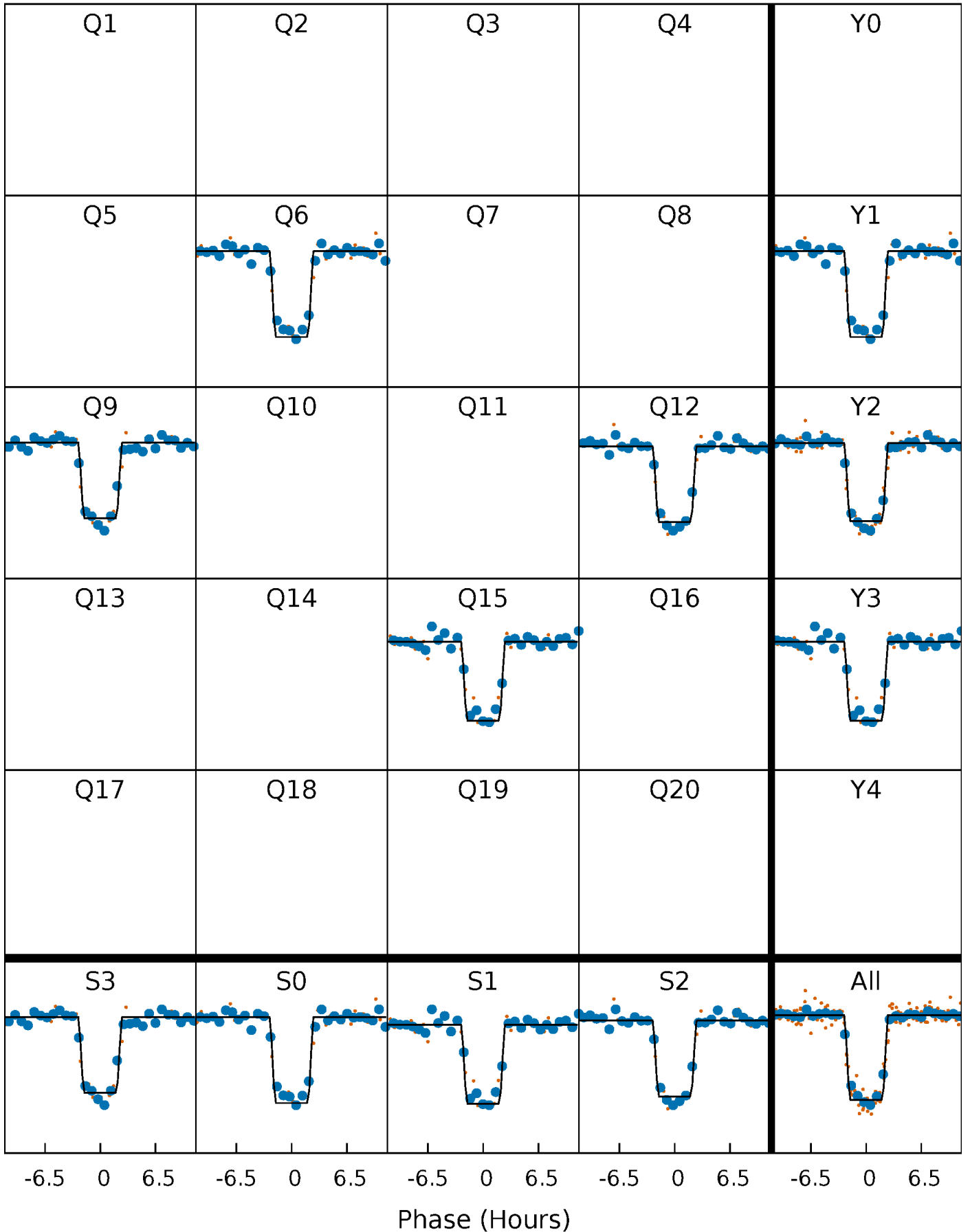
# DV Quarter-Phased Transit Curves

TCE 006372194-01 P=281.592500 Days  $T_0=261.816873$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

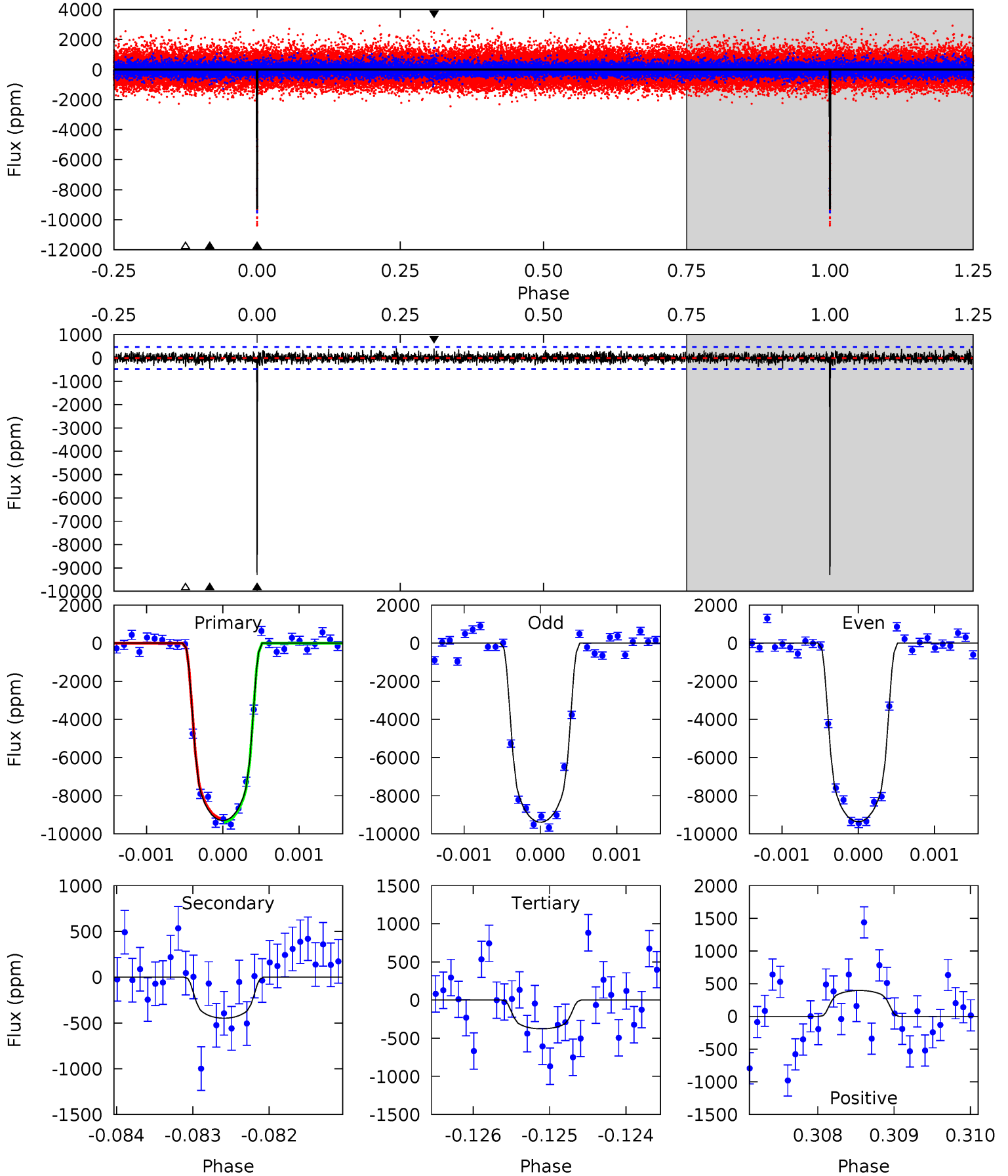
TCE 006372194-01 P=281.592303 Days  $T_0=261.816886$  (BKJD)



# DV Model-Shift Uniqueness Test

006372194-01, P = 281.592500 Days, E = 261.816873 Days

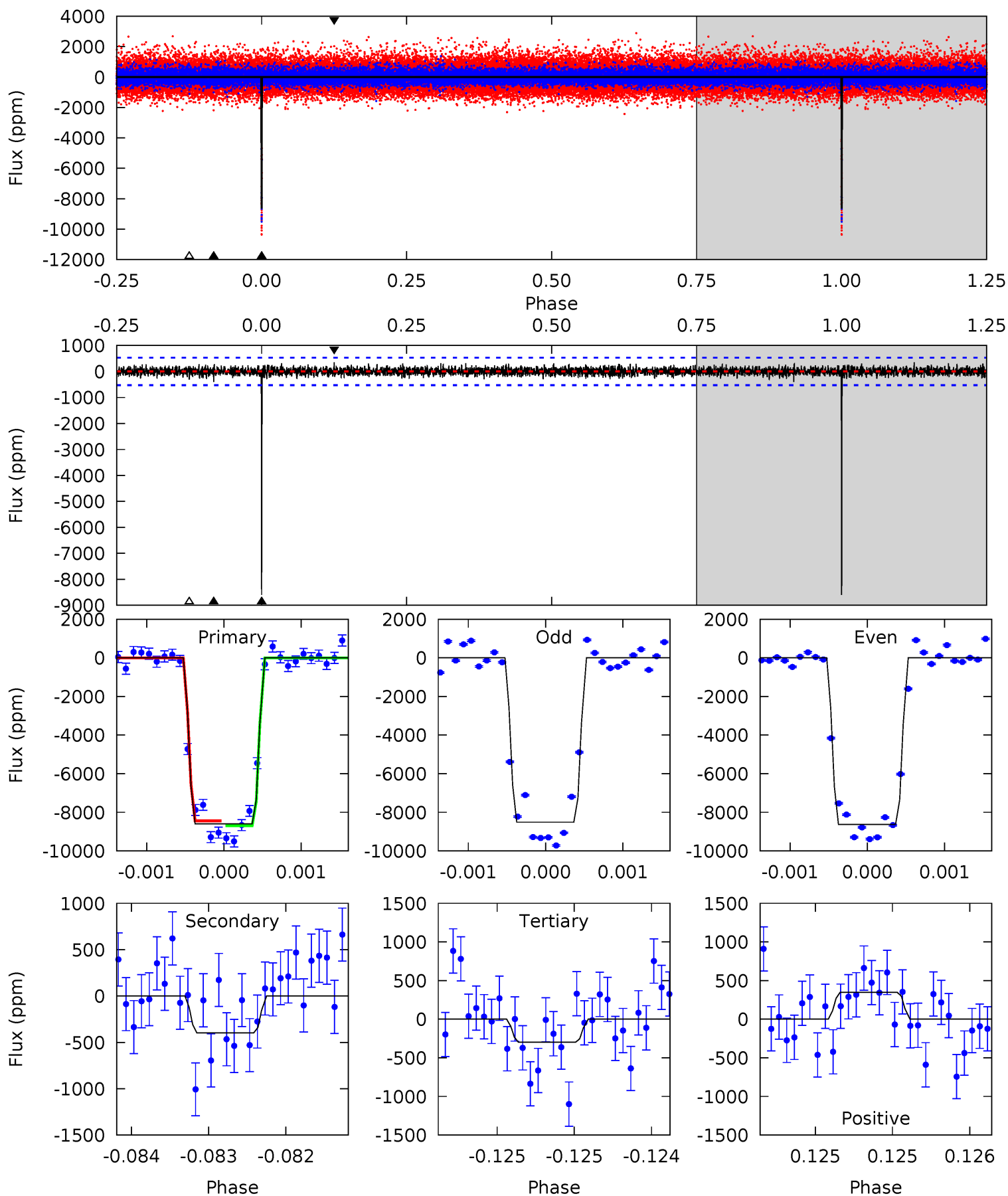
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
107.9	5.20	4.38	4.60	5.48	3.33	1.20	103.5	103.3	0.82	0.60	0.16	1.00	0.04	1.17



# Alt Model-Shift Uniqueness Test

006372194-01, P = 281.592303 Days, E = 261.816886 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
89.4	4.12	3.11	3.63	5.51	3.38	0.96	86.3	85.8	1.01	0.50	0.65	1.00	0.04	1.28



### Stellar Parameters For KIC 006372194

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5330^{+187}_{-187}$	$4.627^{+0.032}_{-0.097}$	$-0.380^{+0.300}_{-0.300}$	$0.713^{+0.114}_{-0.061}$	$0.797^{+0.076}_{-0.093}$	$3.091^{+0.537}_{-0.967}$
	+4%/-4%	+1%/-2%	+79%/-79%	+16%/-9%	+10%/-12%	+17%/-31%
Source	KIC0	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 006372194-01 / KOI 5278.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-448 \pm 86$	$7.50^{+0.62}_{-0.49}$	$320^{+15}_{-15}$	$3130^{+115}_{-119}$	$2609^{+643}_{-558}$
Alt.	$-396 \pm 96$	$7.52^{+0.63}_{-0.48}$	$319^{+16}_{-13}$	$3058^{+126}_{-141}$	$2270^{+672}_{-642}$

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

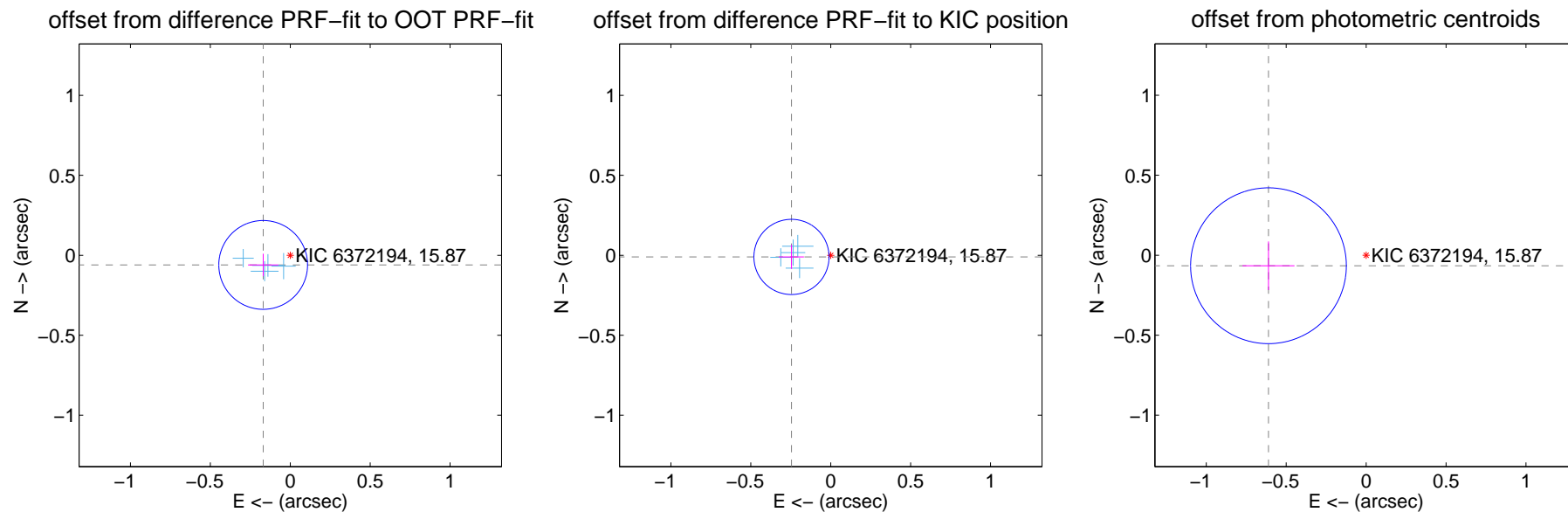
## DV Centroid Data

Supplemental centroid analysis for 006372194-01. Kepler magnitude: 15.87. Transit SNR 77.32

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.180 \pm 0.093$	1.94	$0.170 \pm 0.095$	$-0.060 \pm 0.070$
PRF-fit source offset from KIC position	$0.246 \pm 0.078$	3.14	$0.246 \pm 0.078$	$-0.010 \pm 0.075$
photometric centroid source offset	$0.61 \pm 0.16$	3.78	$0.61 \pm 0.16$	$-0.07 \pm 0.15$



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.

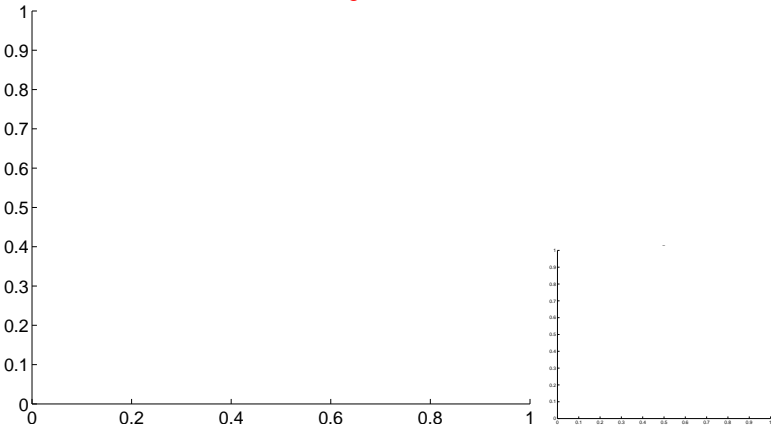


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

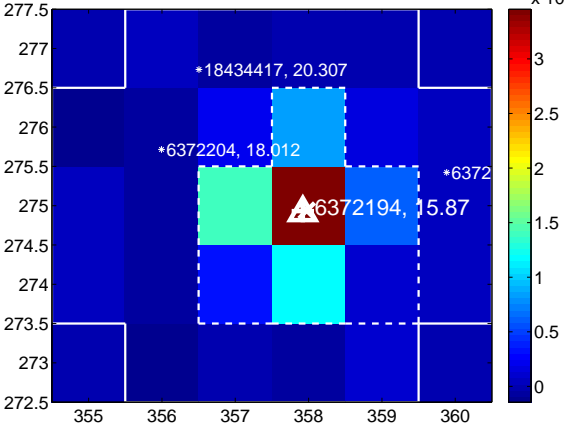
Q5 no difference image



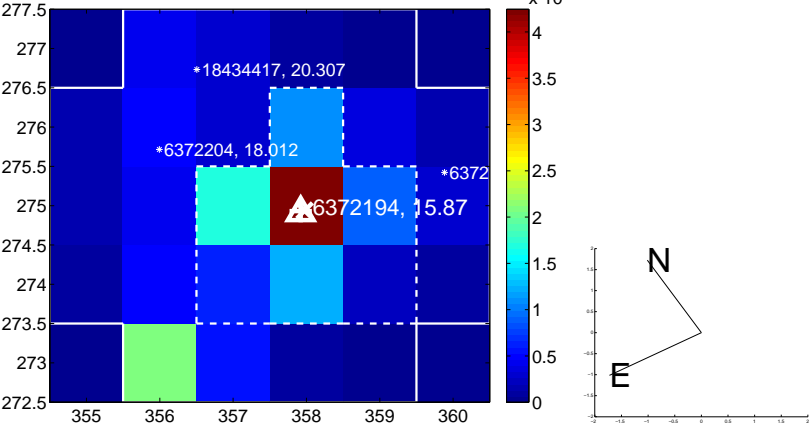
Q5 no OOT image



Q6 difference image



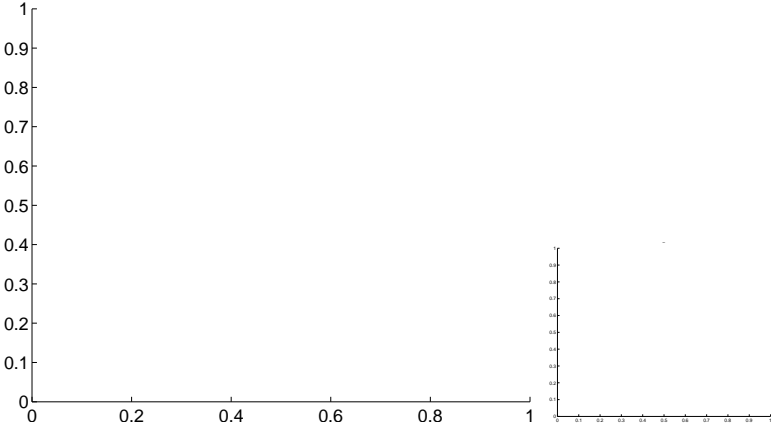
Q6 OOT image



Q7 no difference image



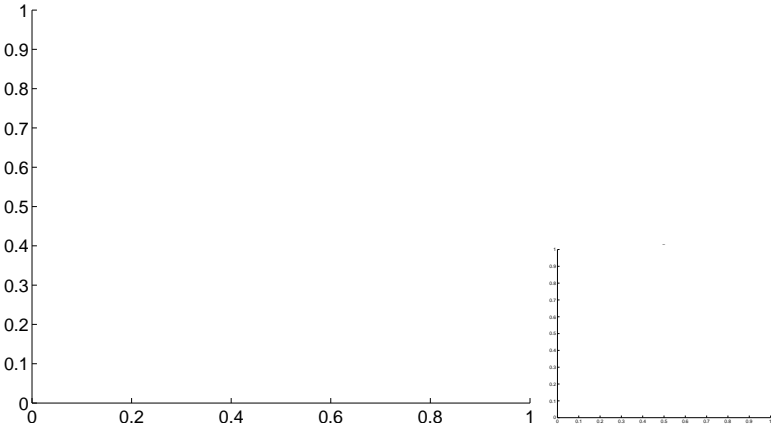
Q7 no OOT image



Q8 no difference image

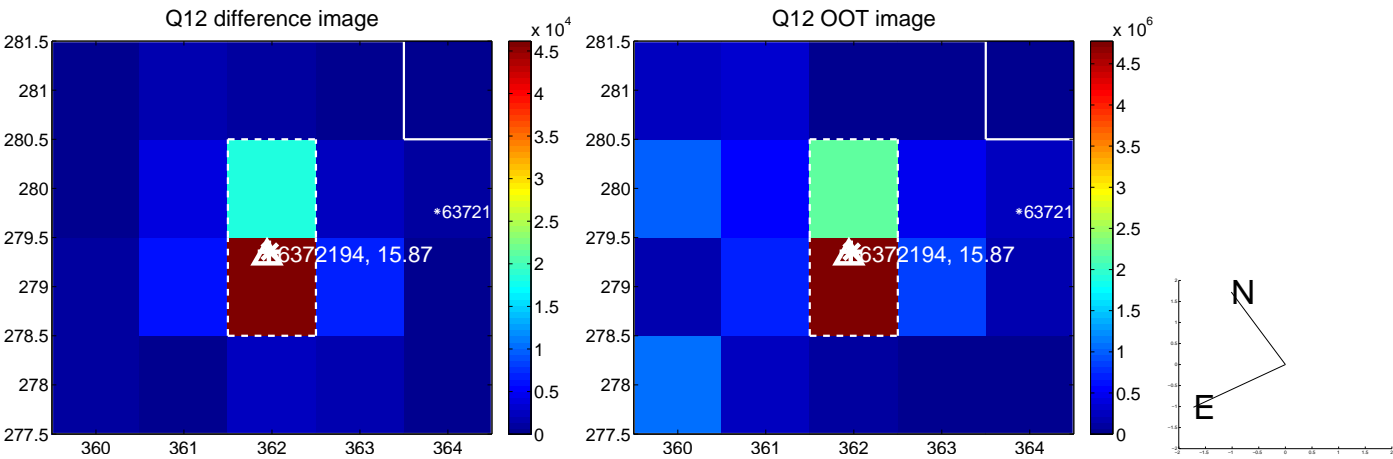
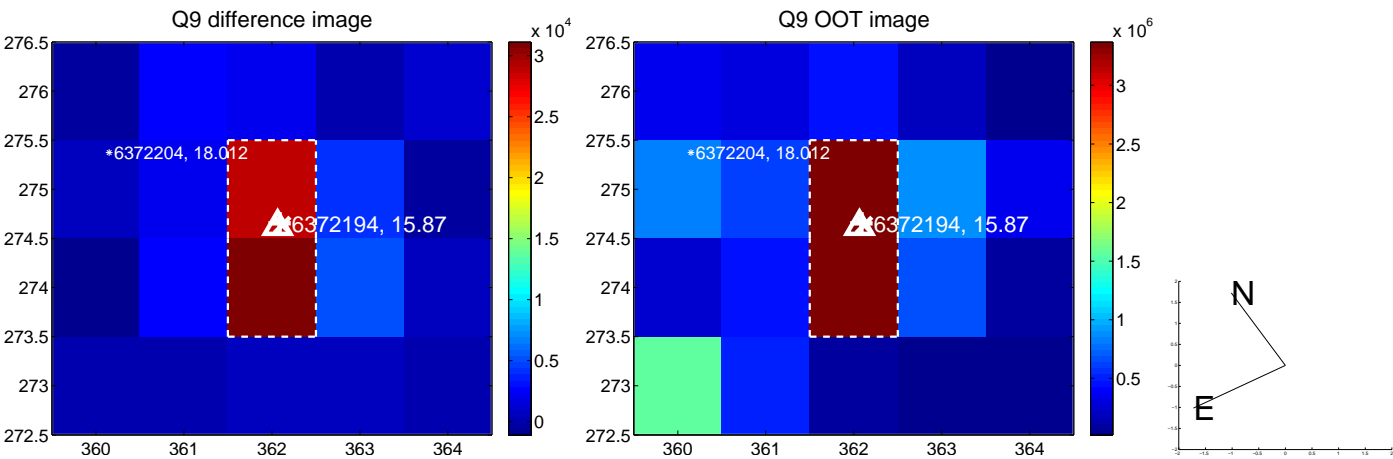


Q8 no OOT image

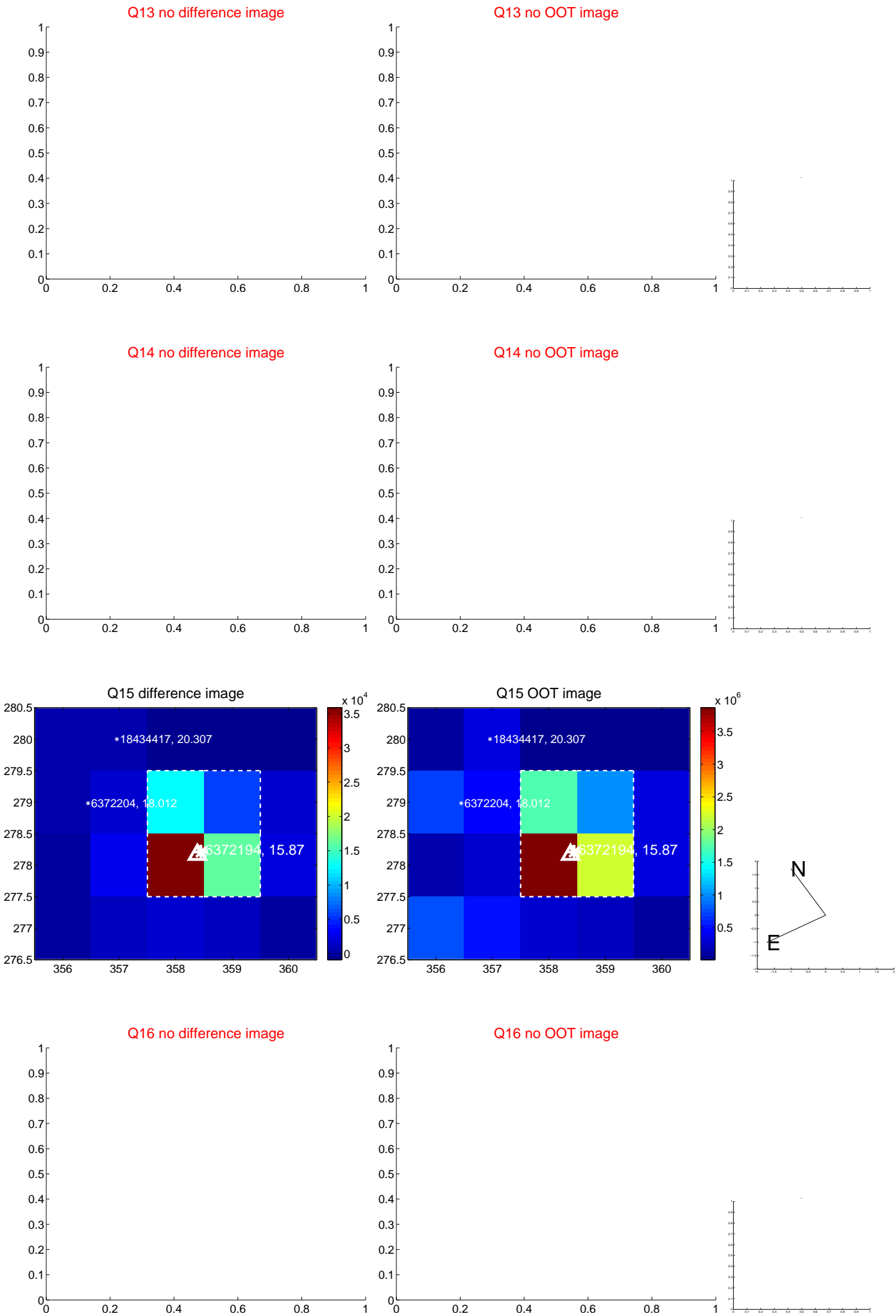




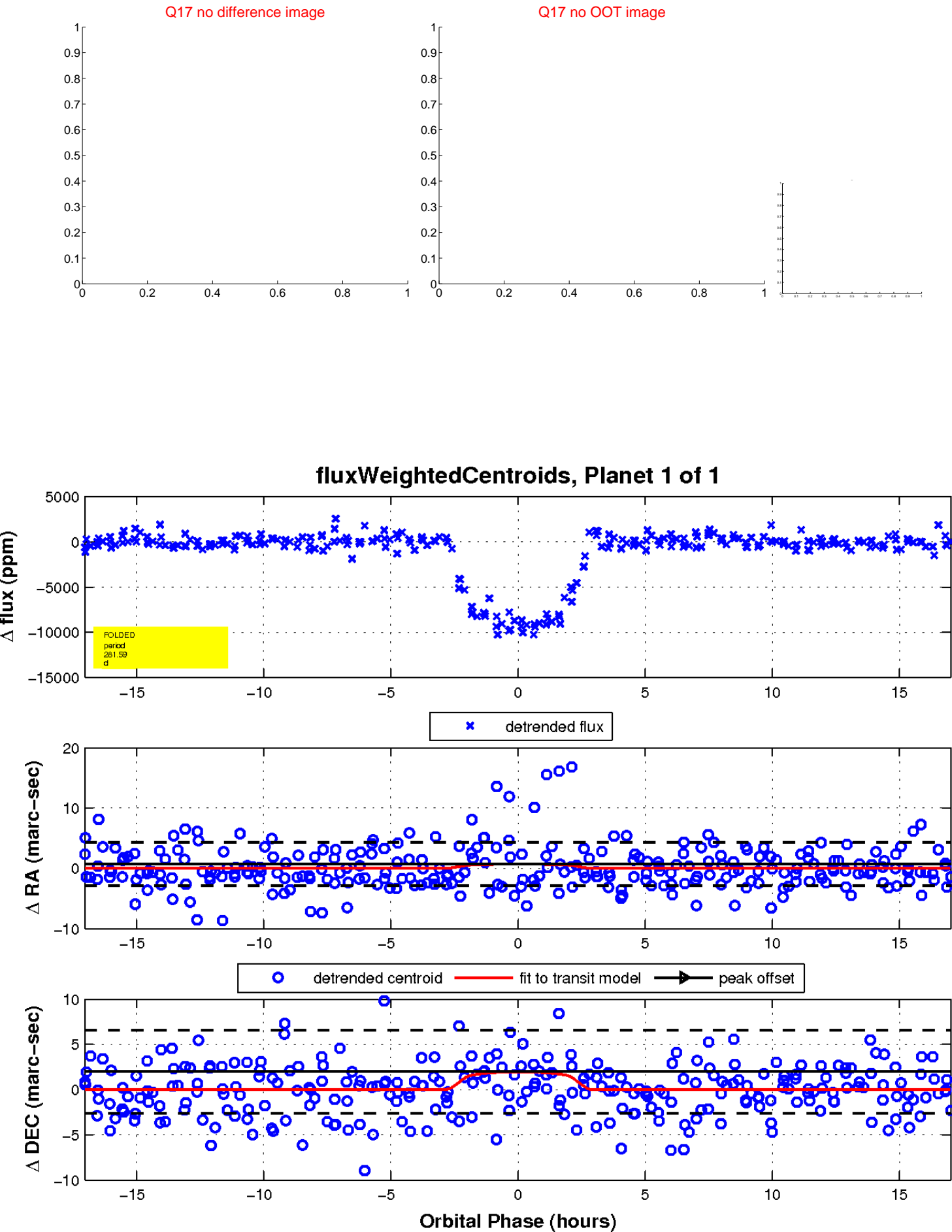
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

