

# KIC 007348863

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007348863-01	OBS	No	406.587835	280.729431	359.5	11.333	7.3	7.3	1.01	5618	2.12	0.88

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007348863-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—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.

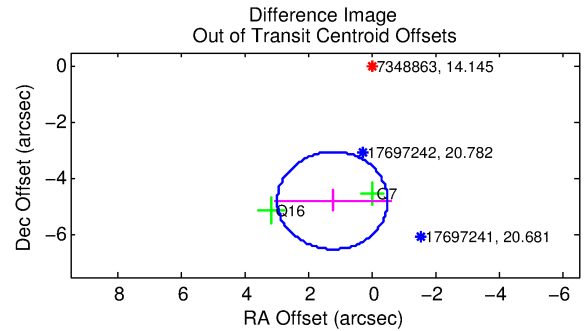
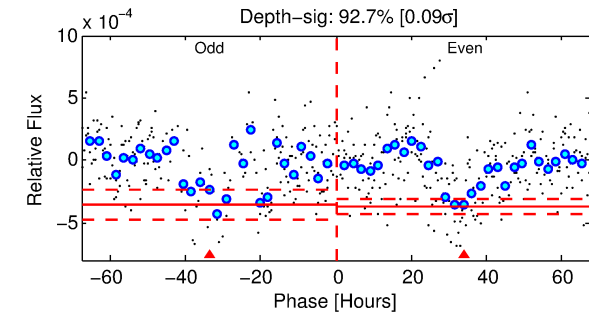
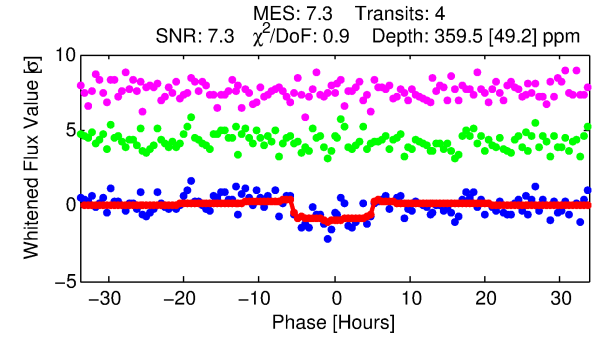
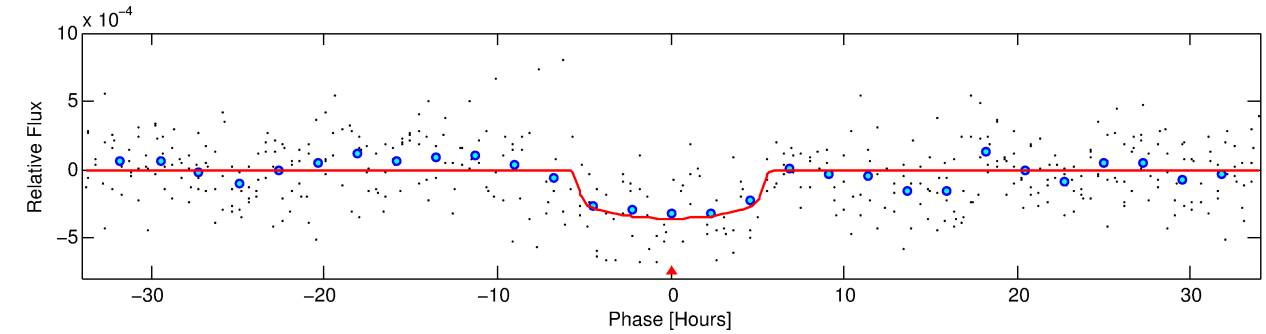
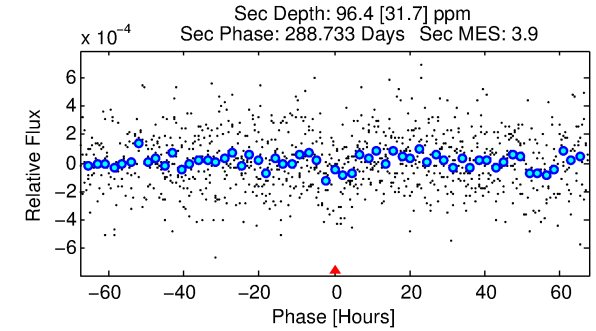
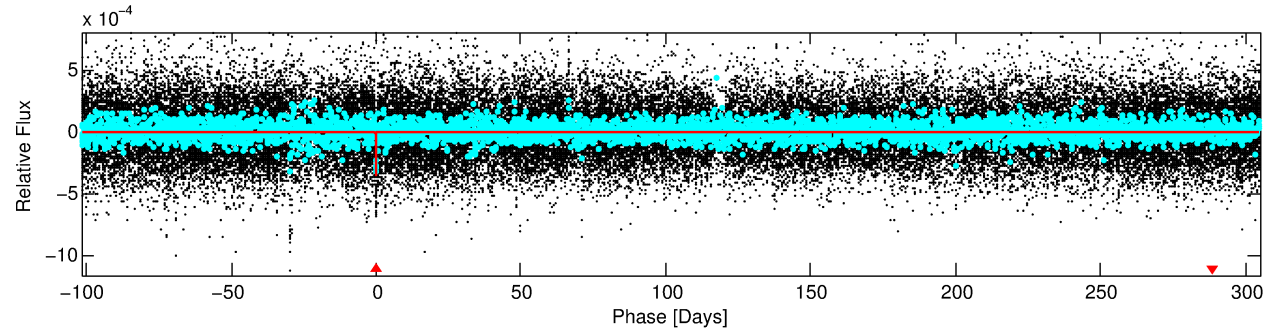
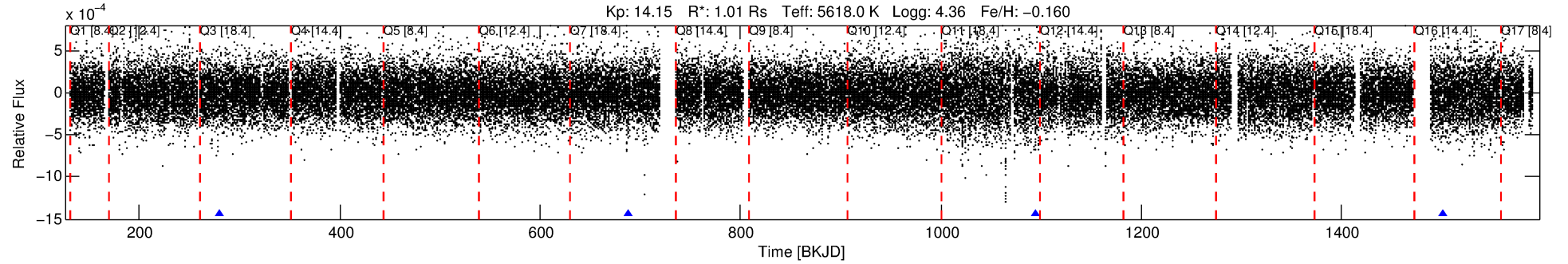
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007348863-01

No Significant Match Found

# DV One-Page Summary

KIC: 7348863 Candidate: 1 of 1 Period: 406.588 d



## DV Fit Results:

Period = 406.58783 [0.00976] d  
Epoch = 280.7294 [0.0181] BKJD  
Rp/R\* = 0.0192 [0.0056]  
a/R\* = 174.95 [218.78]  
b = 0.79 [0.58]  
Seff = 0.88 [0.33]  
Teq = 247 [23] K  
Rp = 2.12 [0.87] Re  
a = 1.0177 [0.2486] AU  
Ag = 12183.34 [9289.93] [1.31σ]  
Teffp = 4013 [683] K [5.51σ]

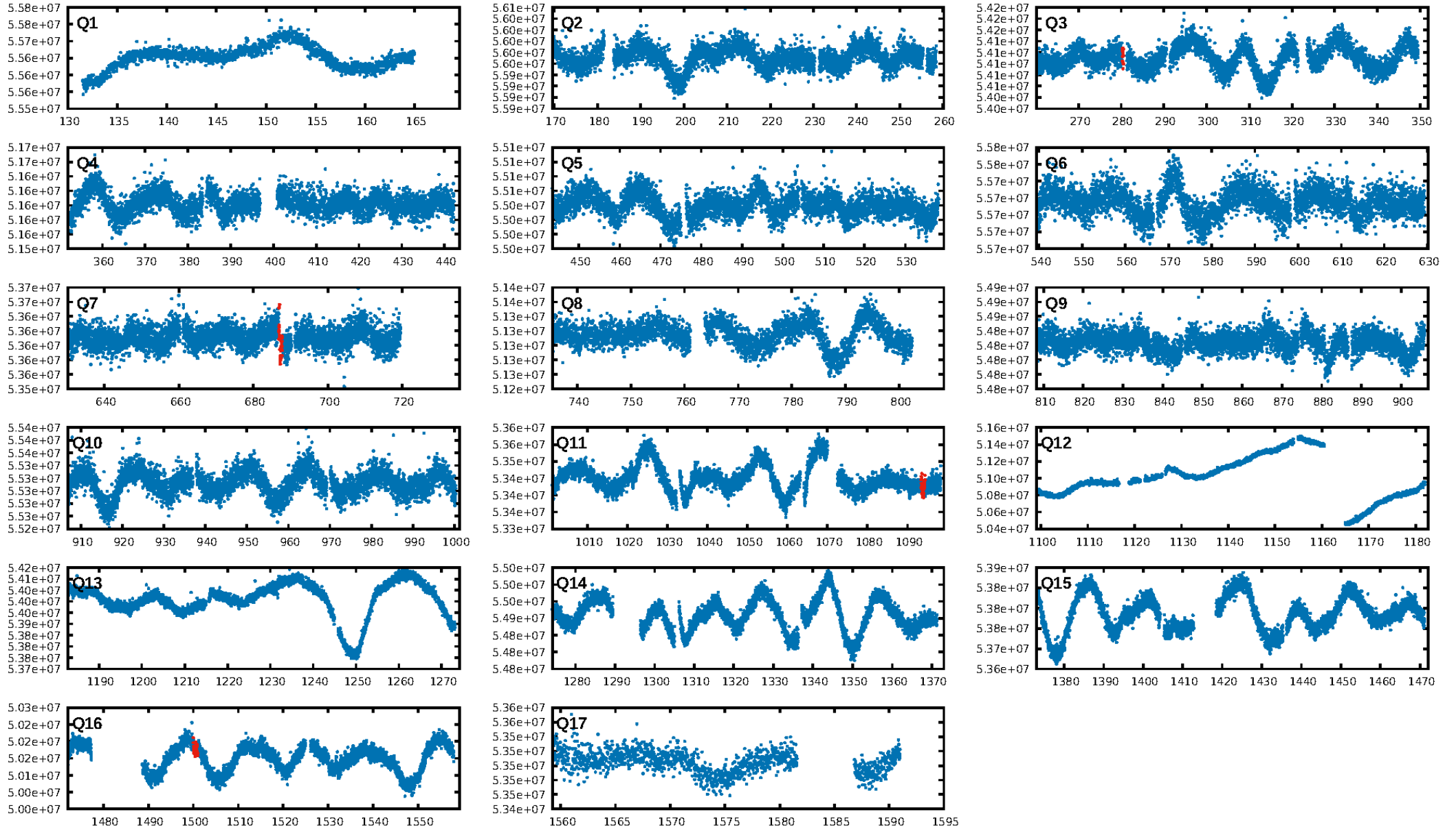
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 73.8%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 7.20e-10**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -1.654  
Centroid-sig: 15.2%  
Centroid-so: 1.273 arcsec [1.14σ]  
**OotOffset-rm: 4.939 arcsec [8.54σ]**  
**KicOffset-rm: 4.721 arcsec [7.34σ]**  
OotOffset-st: 0/1/1/0 [2]  
KicOffset-st: 0/1/1/0 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [2/2]

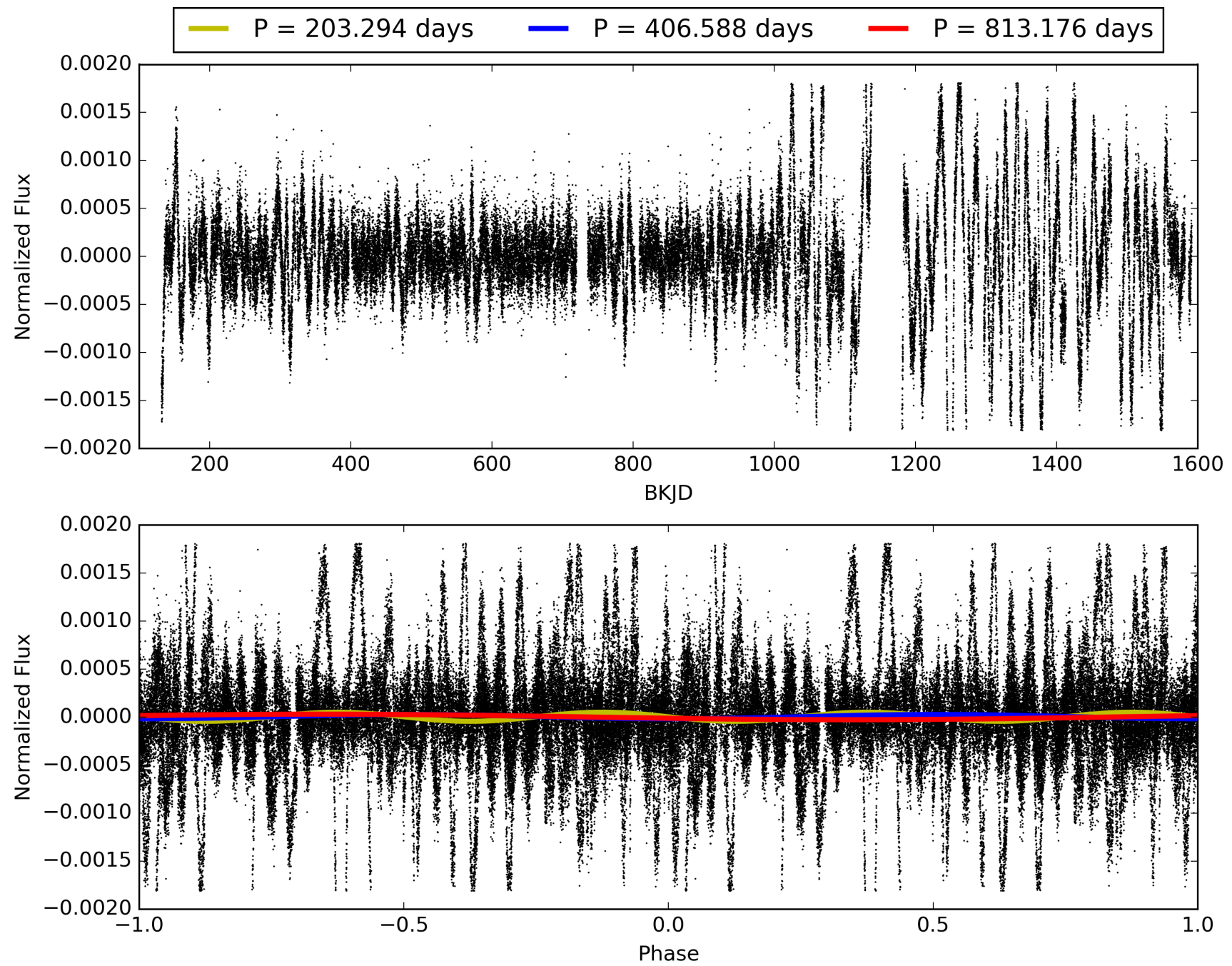
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:09:58 Z

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

# TCE 007348863-01, PDC Light Curves

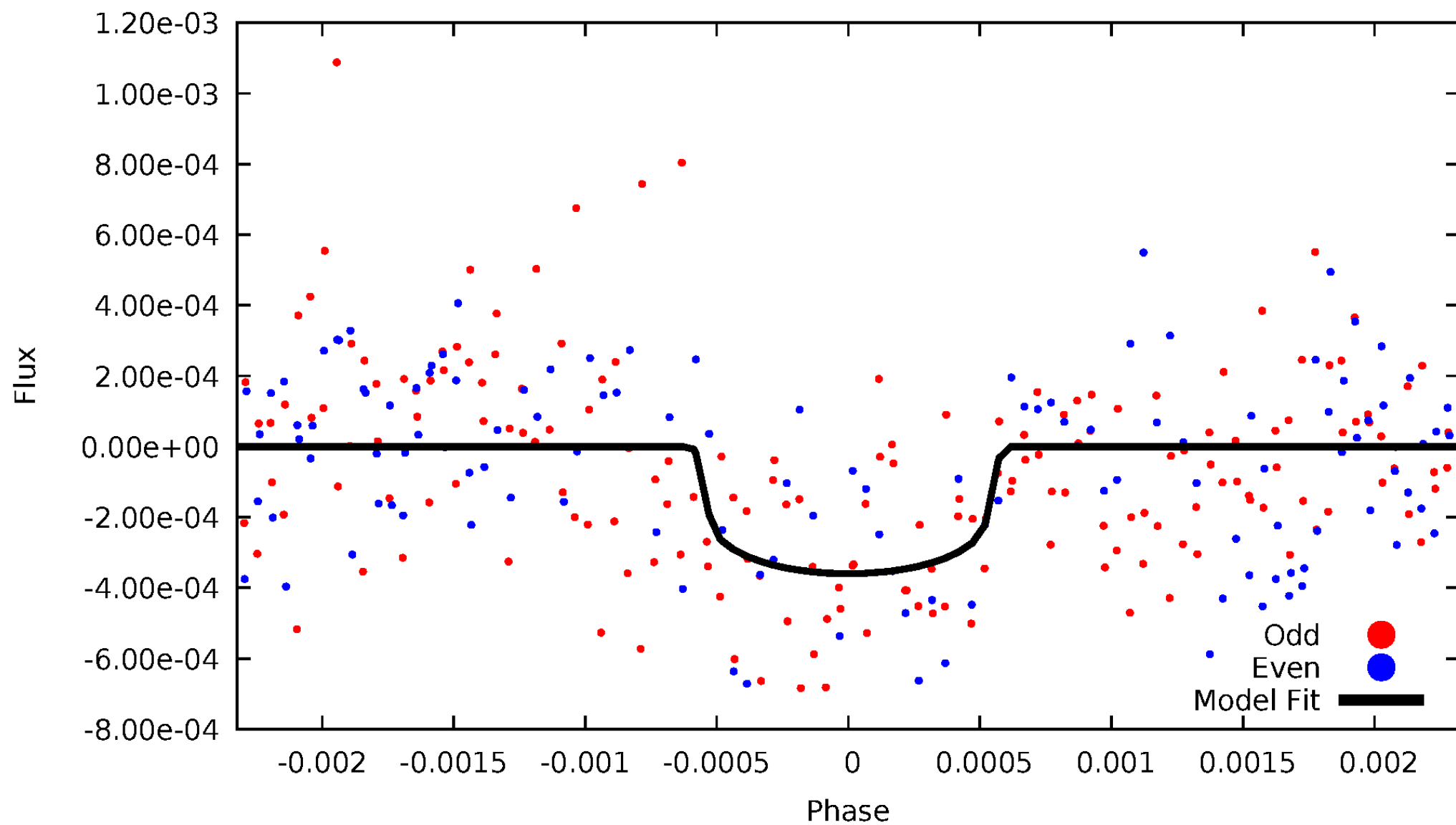


# TCE 007348863-01



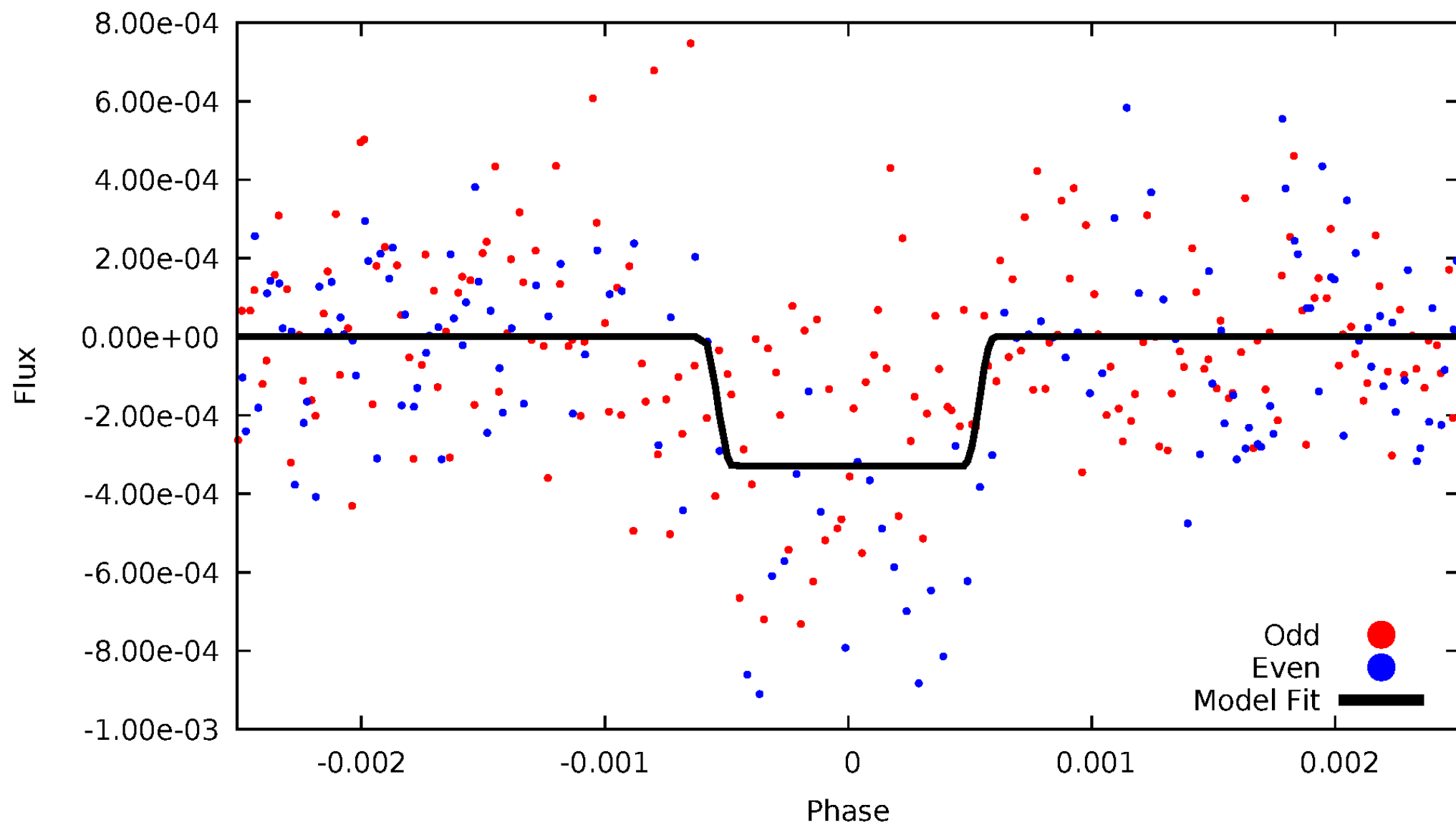
# DV Odd/Even

TCE 007348863-01



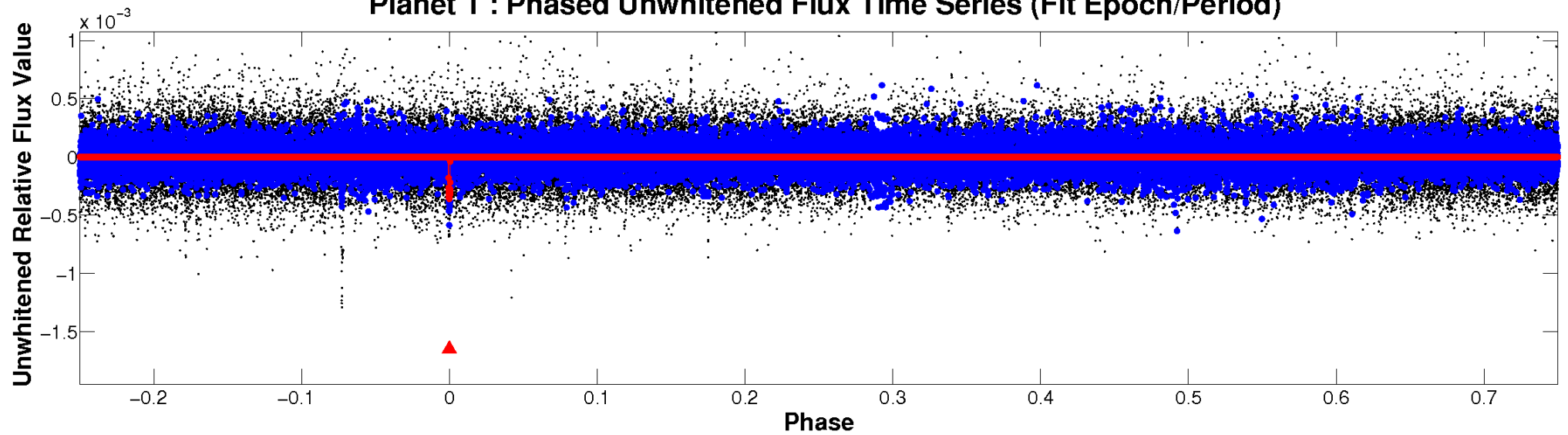
# ALT Odd/Even

TCE 007348863-01

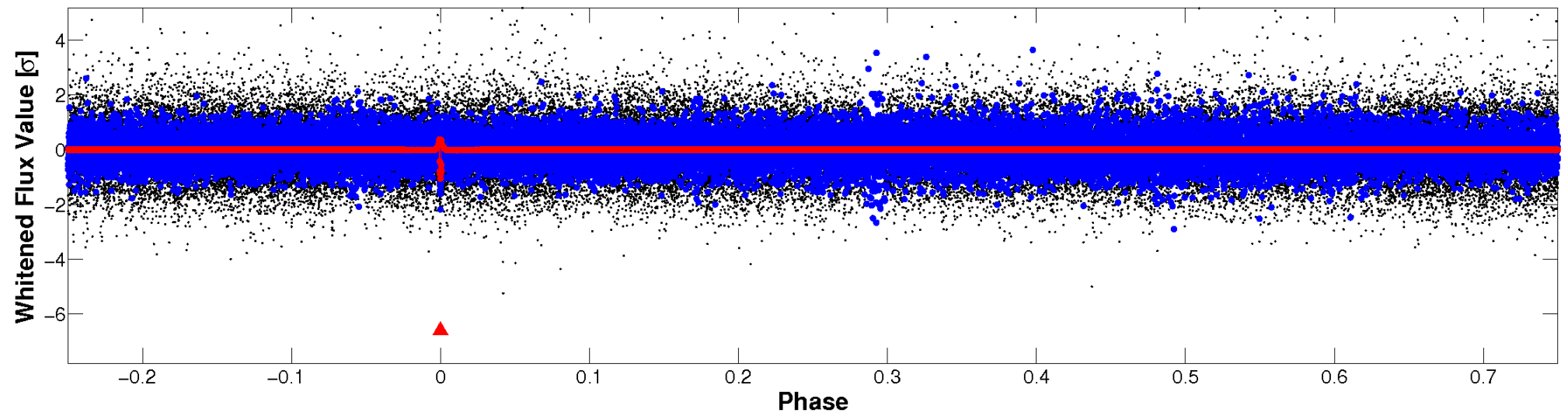


# Non-Whitened Vs. Whitened Light Curve

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



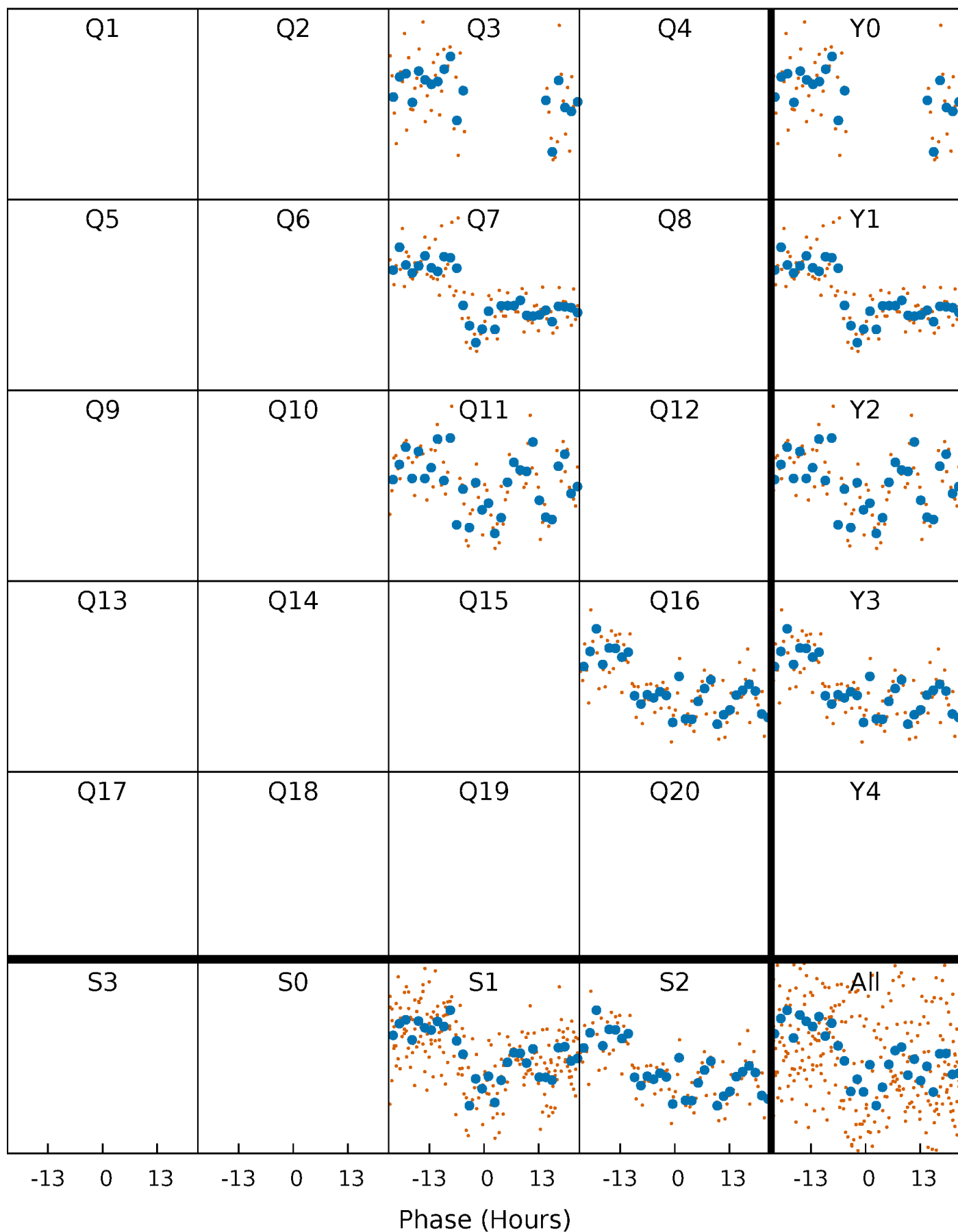
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

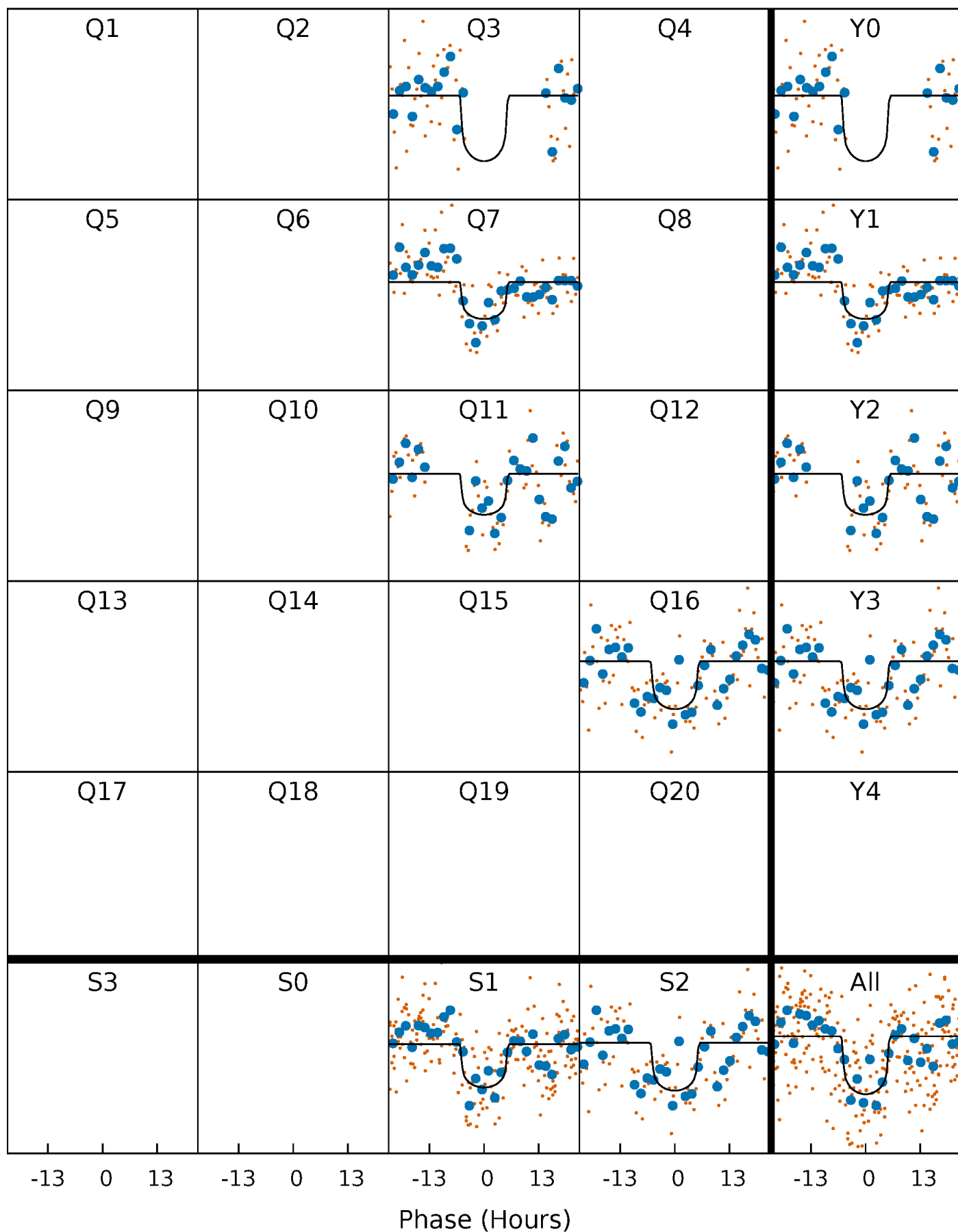
TCE 007348863-01 P=406.587835 Days  $T_0=280.729431$  (BKJD)





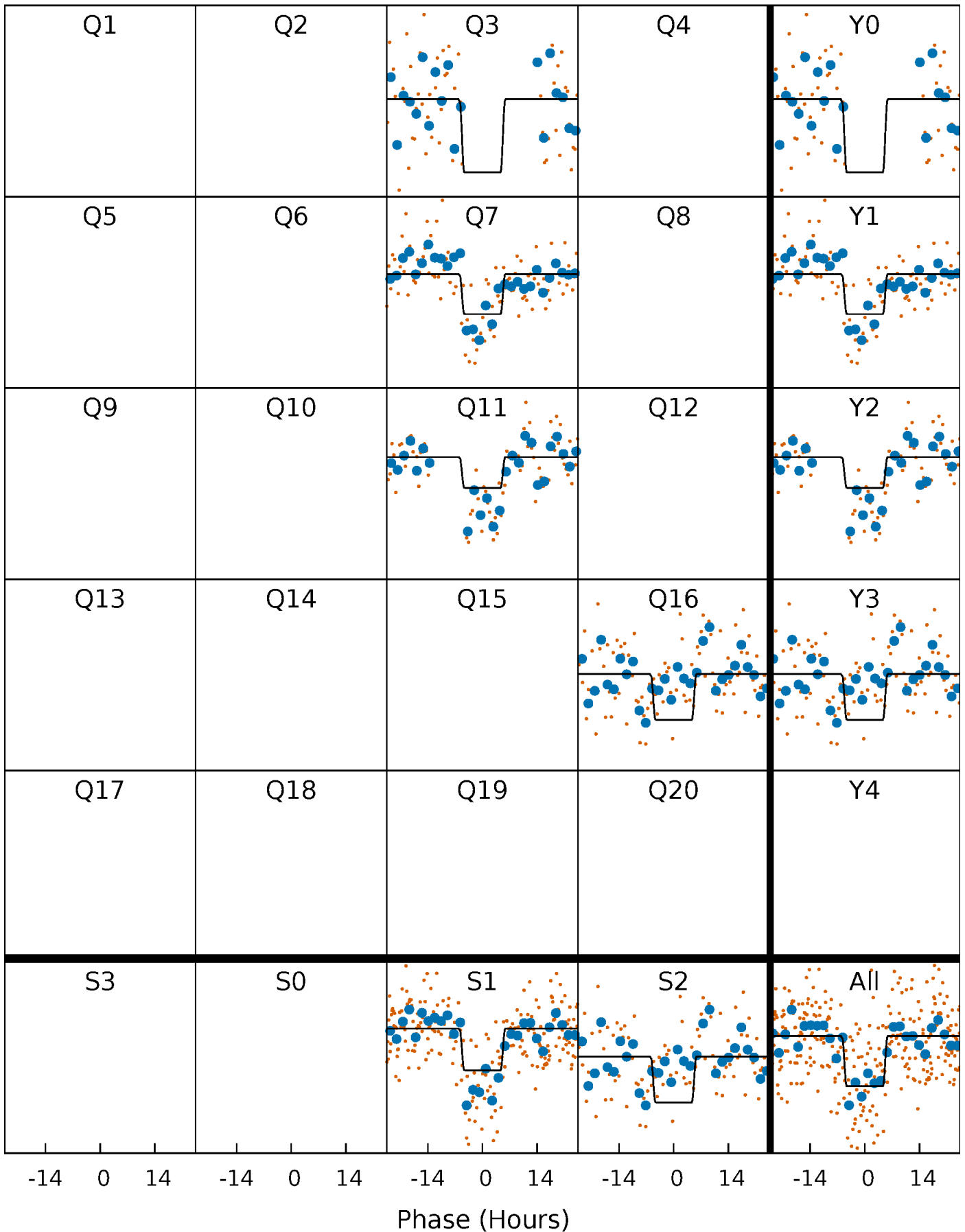
# DV Quarter-Phased Transit Curves

TCE 007348863-01 P=406.587835 Days  $T_0=280.729431$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

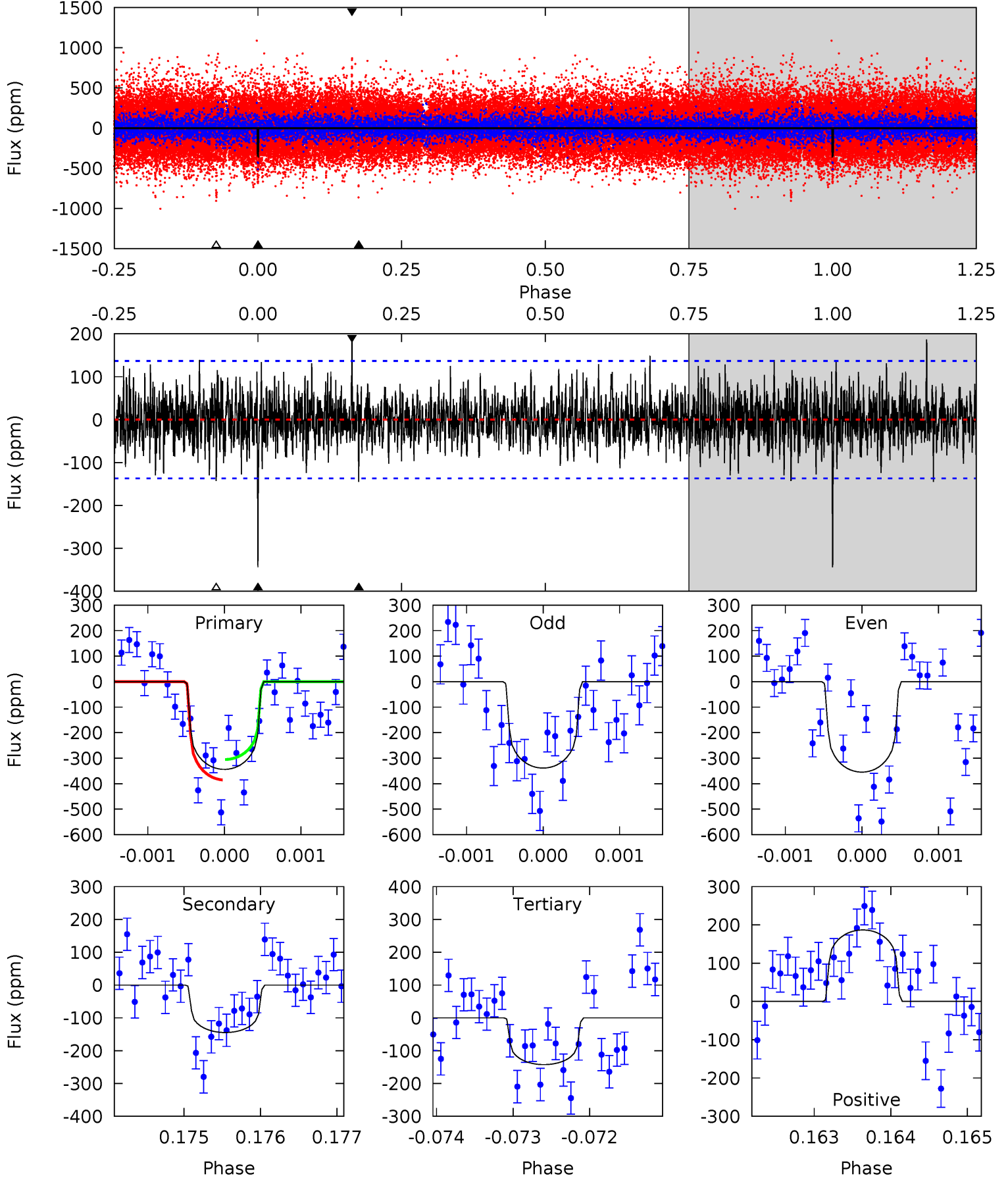
TCE 007348863-01 P=406.573354 Days  $T_0=280.749780$  (BKJD)



# DV Model-Shift Uniqueness Test

007348863-01, P = 406.587835 Days, E = 280.729431 Days

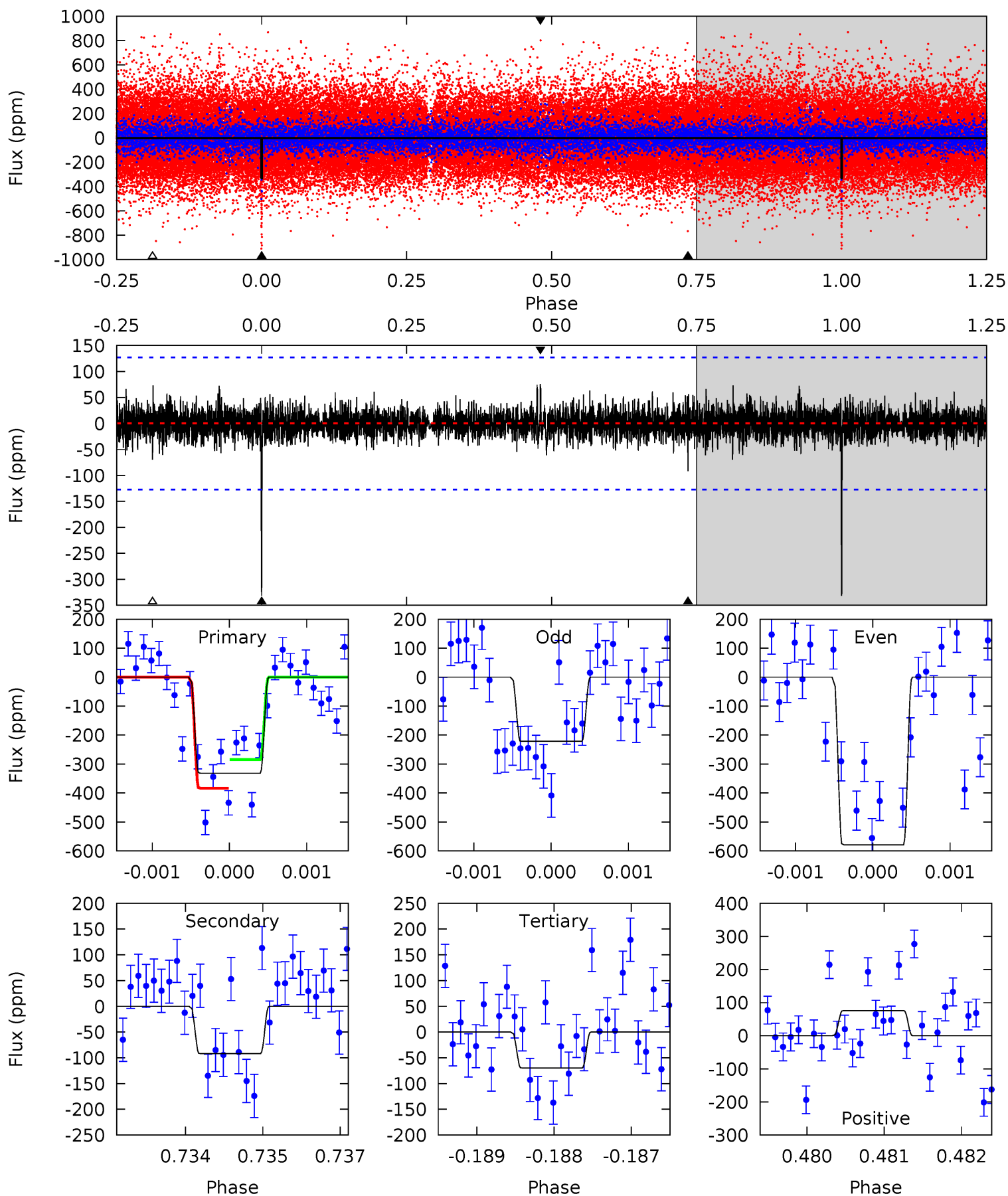
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	5.74	5.65	7.40	5.42	3.24	1.61	7.98	6.23	0.09	-1.66	0.30	0.90	0.35	1.58



# Alt Model-Shift Uniqueness Test

007348863-01, P = 406.573354 Days, E = 280.749780 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
14.1	3.91	2.97	3.23	5.42	3.24	0.79	11.2	10.9	0.94	0.68	7.11	0.88	0.19	2.11



### Stellar Parameters For KIC 007348863

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5618^{+152}_{-152}$	$4.358^{+0.180}_{-0.198}$	$-0.160^{+0.300}_{-0.250}$	$1.011^{+0.290}_{-0.193}$	$0.850^{+0.123}_{-0.066}$	$1.159^{+0.900}_{-0.581}$
	+3%/-3%	+4%/-5%	+188%/-156%	+29%/-19%	+14%/-8%	+78%/-50%
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 007348863-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-145 \pm 25$	$2.15^{+0.66}_{-0.71}$	$346^{+24}_{-22}$	$4610^{+707}_{-475}$	$17788^{+21663}_{-7768}$
Alt.	$-92 \pm 23$	$1.99^{+0.69}_{-0.65}$	$344^{+27}_{-20}$	$4312^{+736}_{-454}$	$13014^{+18804}_{-6303}$

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

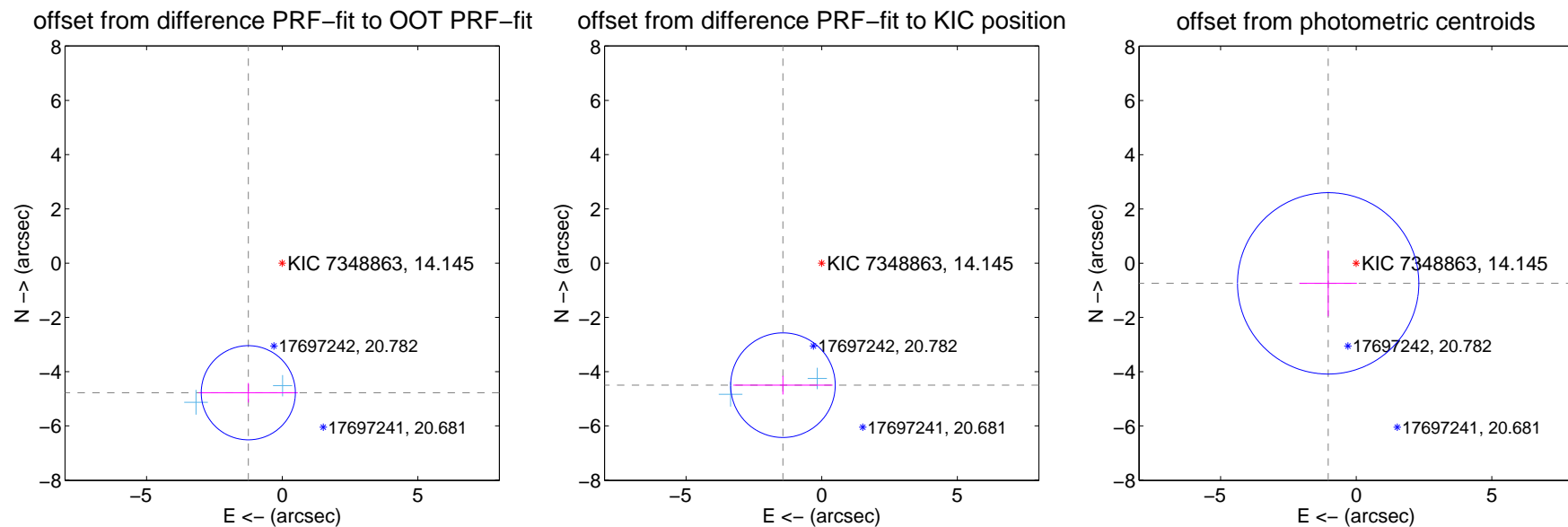
## DV Centroid Data

Supplemental centroid analysis for 007348863-01. Kepler magnitude: 14.14. Transit SNR 7.28

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.939 \pm 0.579$	8.54	$1.251 \pm 1.825$	$-4.778 \pm 0.360$
PRF-fit source offset from KIC position	$4.721 \pm 0.643$	7.34	$1.430 \pm 1.828$	$-4.499 \pm 0.343$
photometric centroid source offset	$1.27 \pm 1.11$	1.14	$1.03 \pm 1.06$	$-0.74 \pm 1.21$



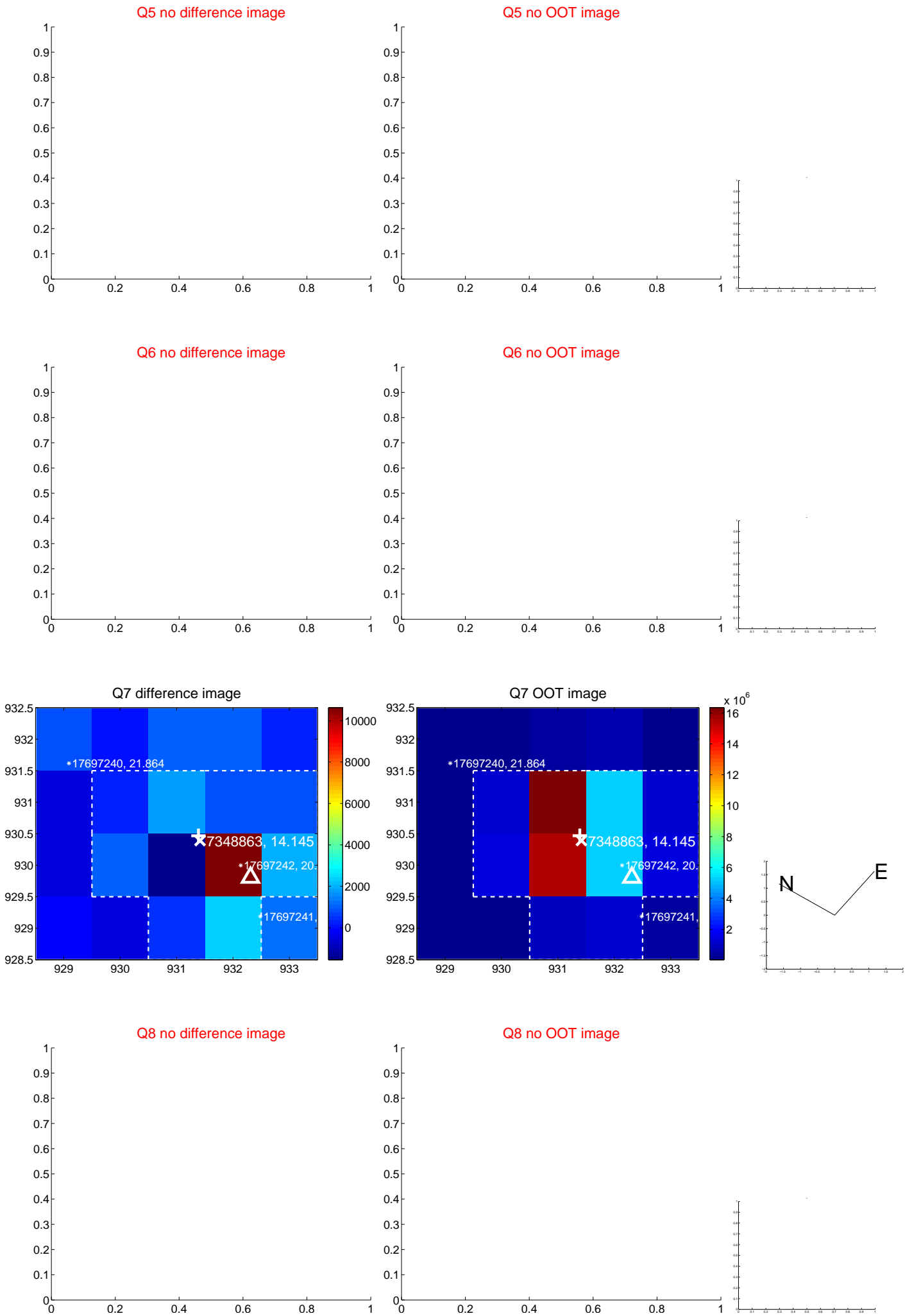
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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





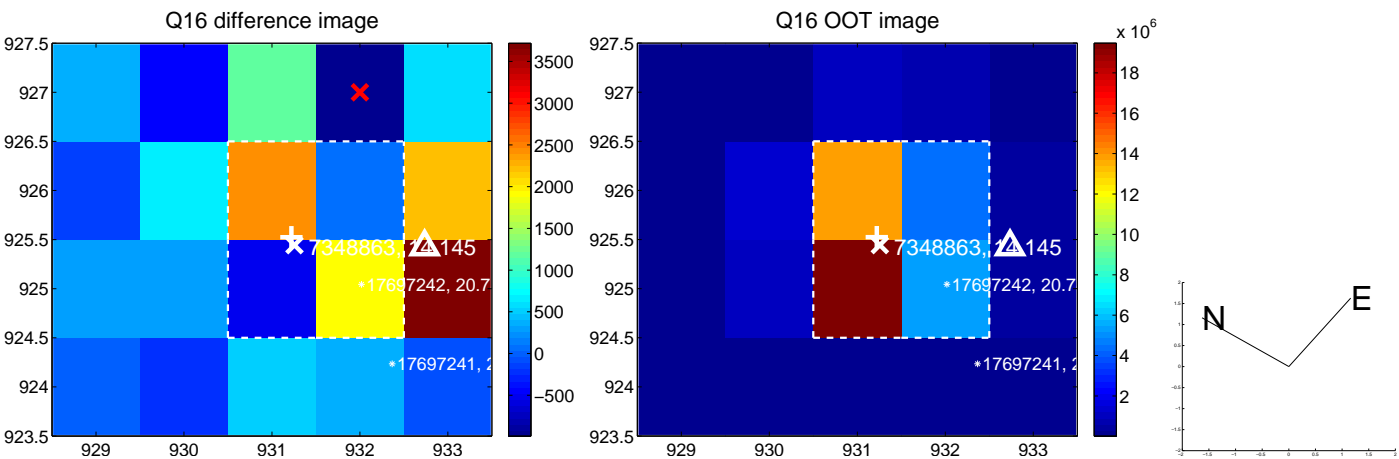
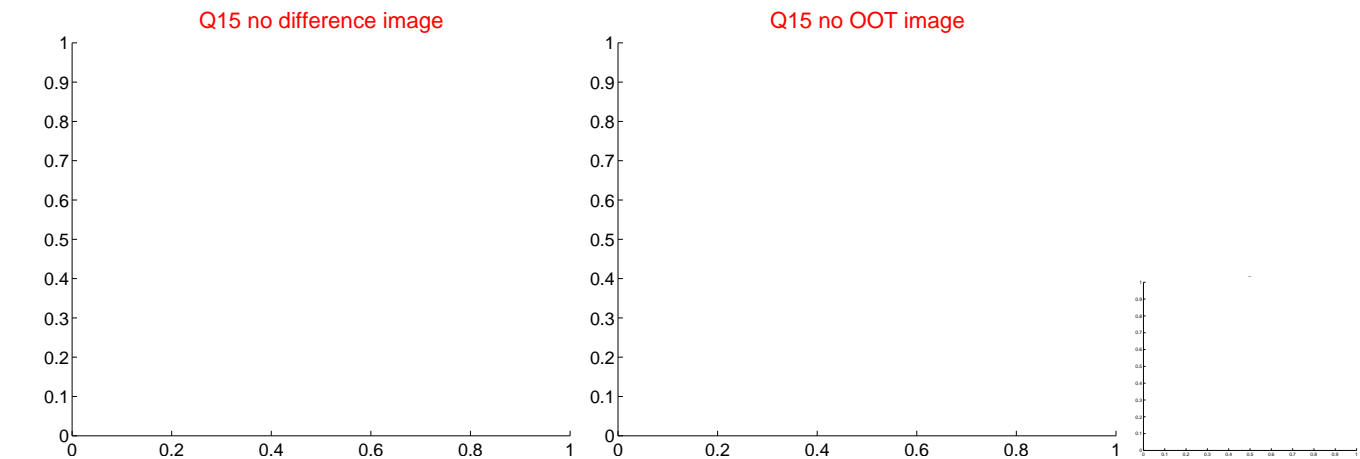
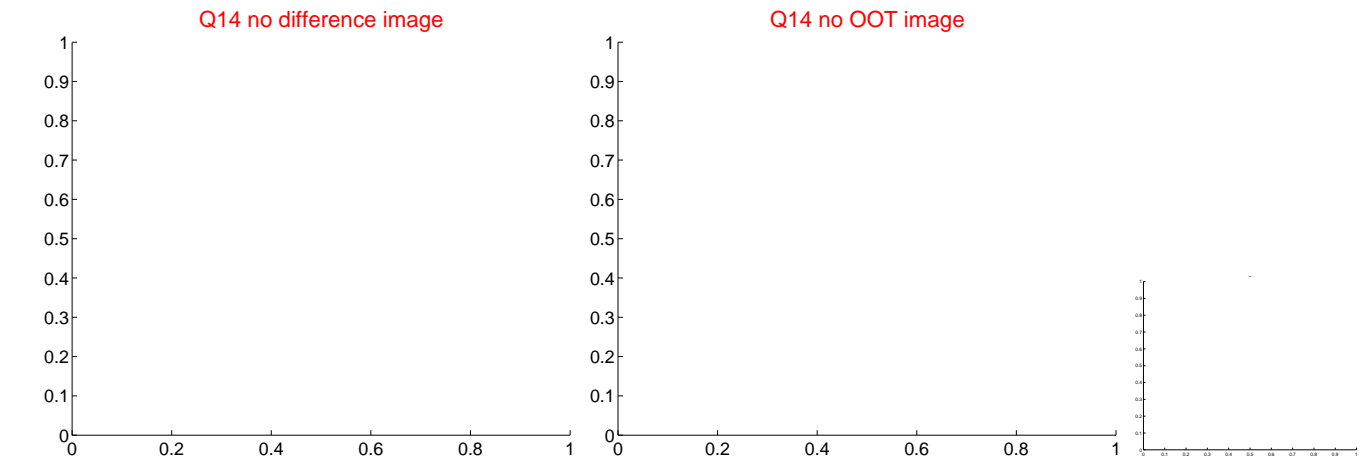
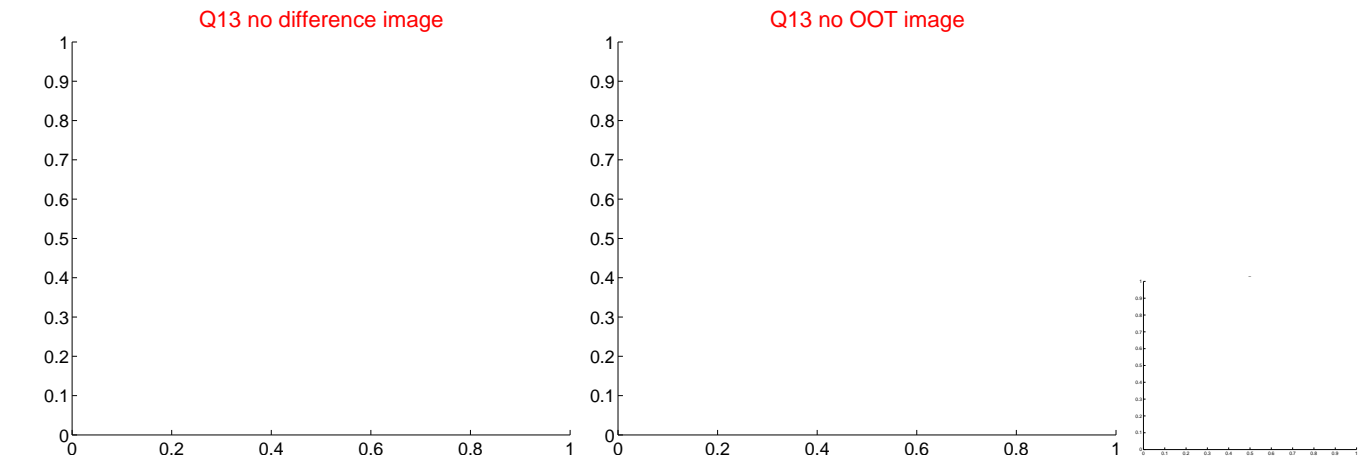
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



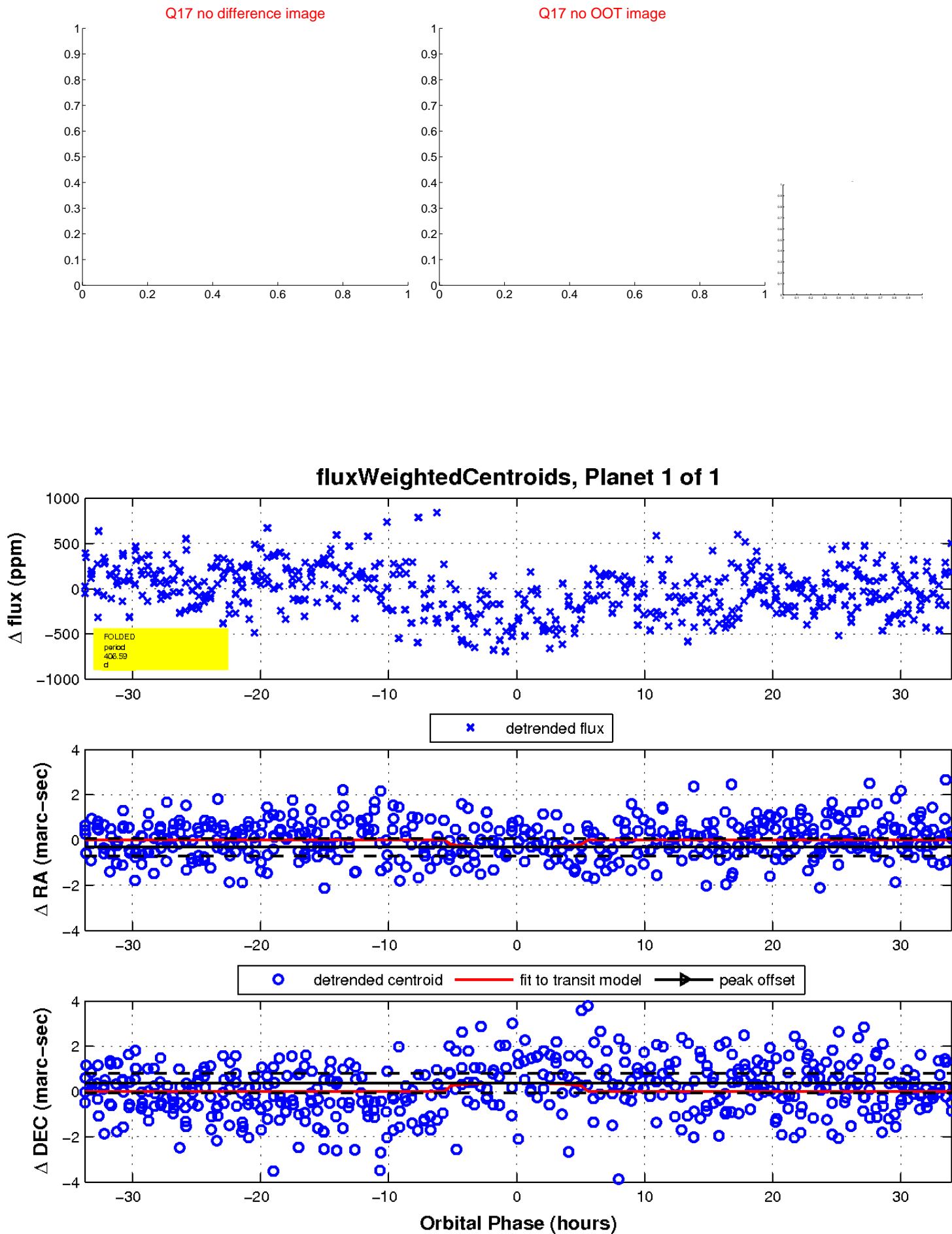
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: 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

