

# KIC 006062681

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006062681-01	OBS	No	287.122776	210.261604	230.3	6.782	7.4	7.3	0.80	5372	1.36	0.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006062681-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_MEAS

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

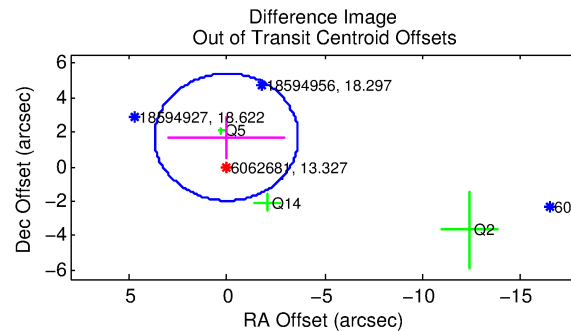
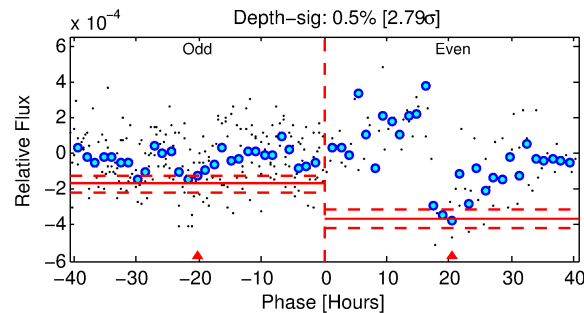
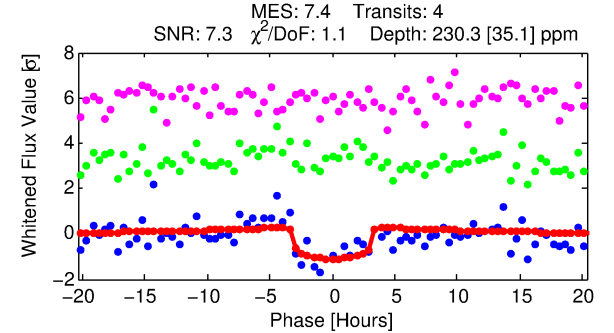
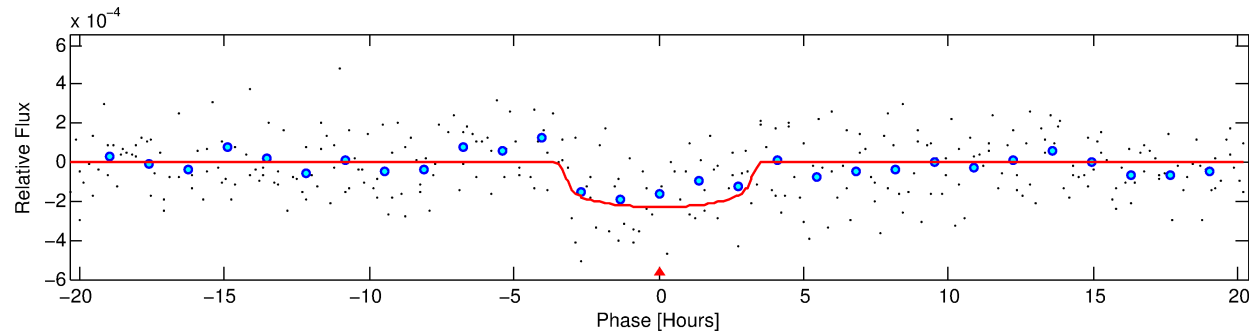
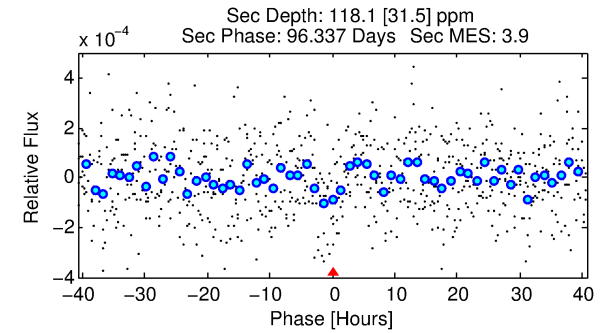
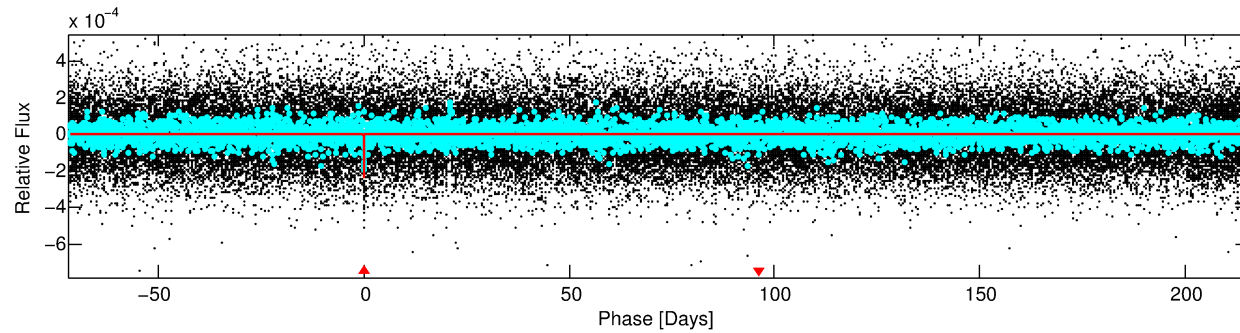
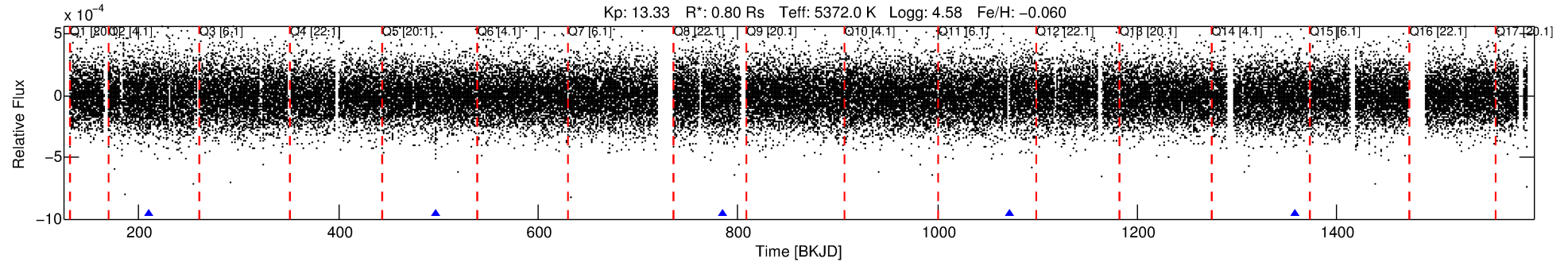
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006062681-01

No Significant Match Found

# DV One-Page Summary

KIC: 6062681 Candidate: 1 of 1 Period: 287.123 d



## DV Fit Results:

Period = 287.12278 [0.00570] d  
Epoch = 210.2616 [0.0128] BKJD  
Rp/R\* = 0.0156 [0.0104]  
a/R\* = 195.64 [528.97]  
b = 0.82 [1.13]  
Seff = 0.71 [0.17]  
Teq = 234 [14] K  
Rp = 1.36 [0.93] Re  
a = 0.8185 [0.1163] AU  
Ag = 23592.36 [32330.47] [0.73σ]  
Teffp = 4478 [1523] K [2.79σ]

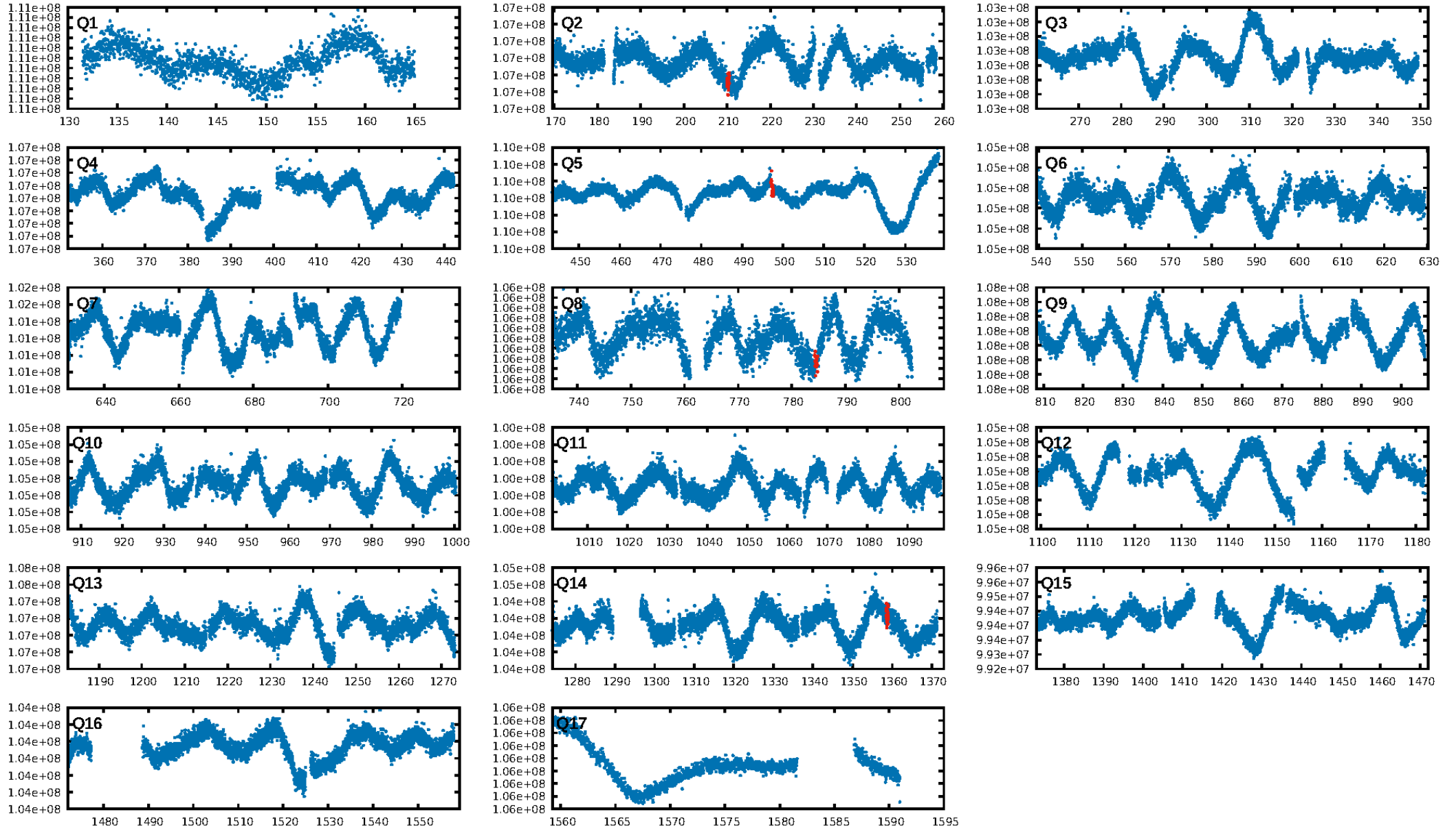
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 9.2%  
ModelChiSquareGof-sig: 91.9%  
**Bootstrap-pfa: 1.28e-12**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -50.72  
Centroid-sig: 3.6%  
Centroid-so: 1.932 arcsec [1.34σ]  
OotOffset-rm: 1.712 arcsec [1.40σ]  
KicOffset-rm: 1.871 arcsec [1.22σ]  
OotOffset-st: 2/0/0/1 [3]  
KicOffset-st: 2/0/0/1 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 1.00 [4/4]

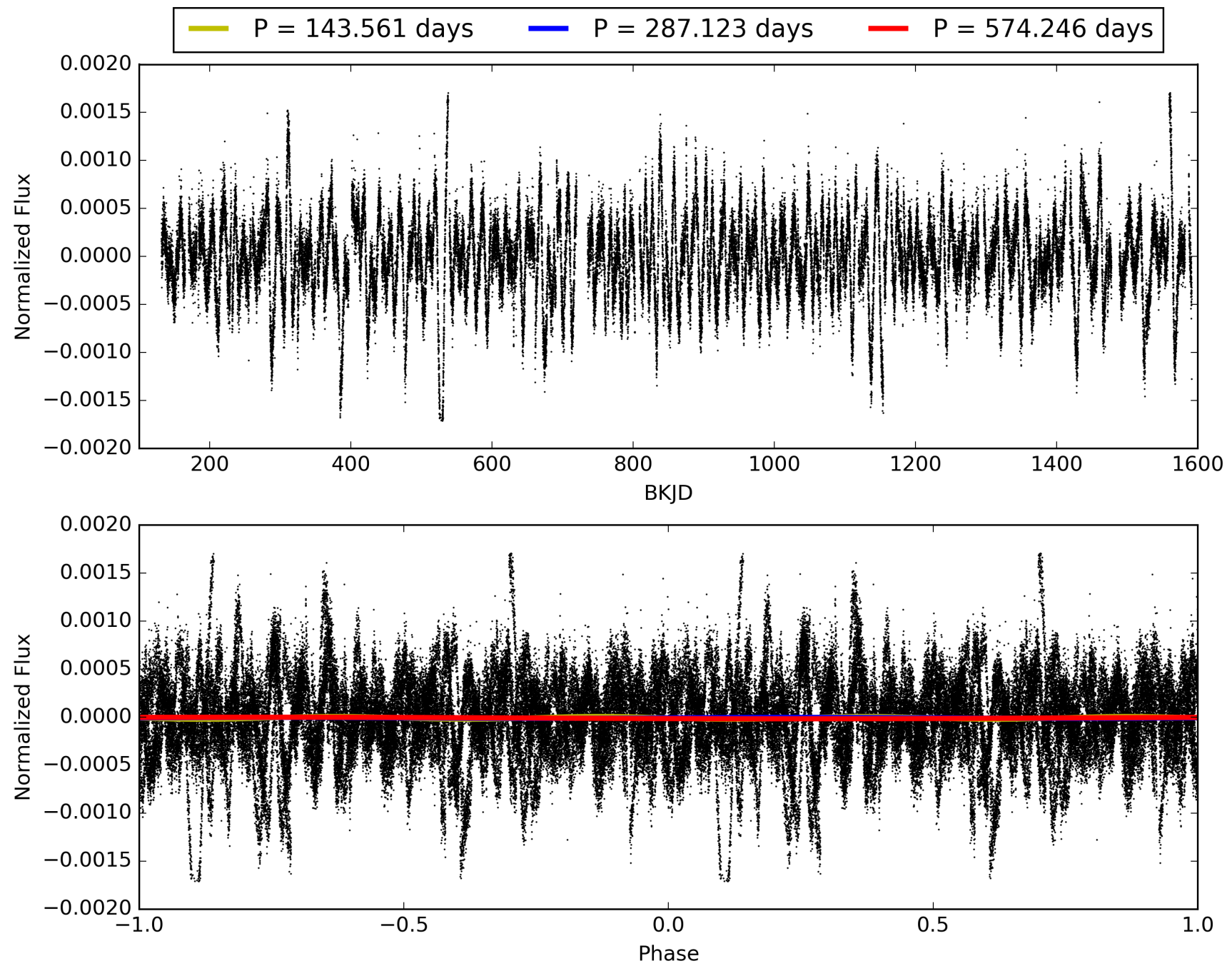
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:57:51 Z

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

# TCE 006062681-01, PDC Light Curves

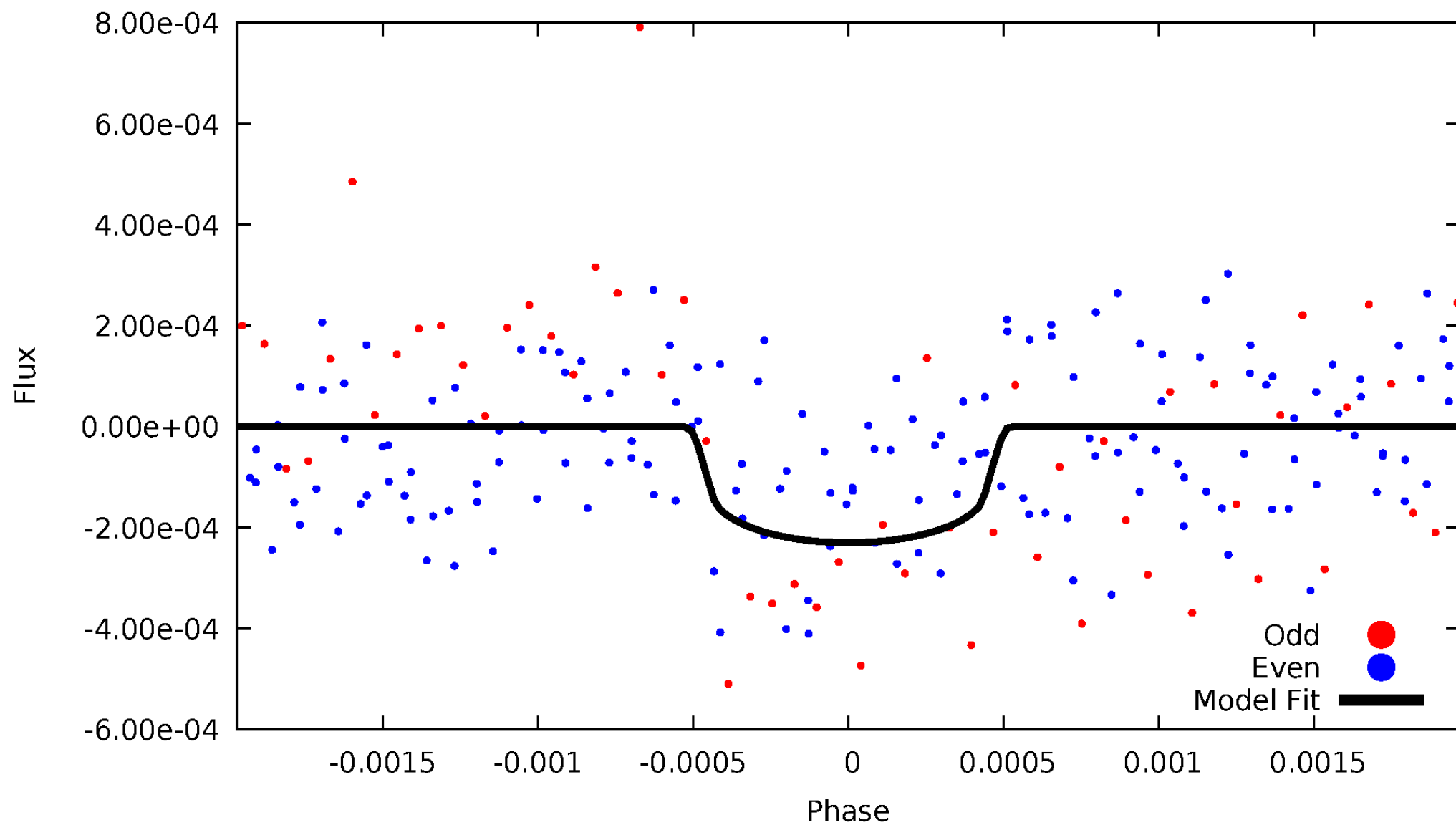


TCE 006062681-01



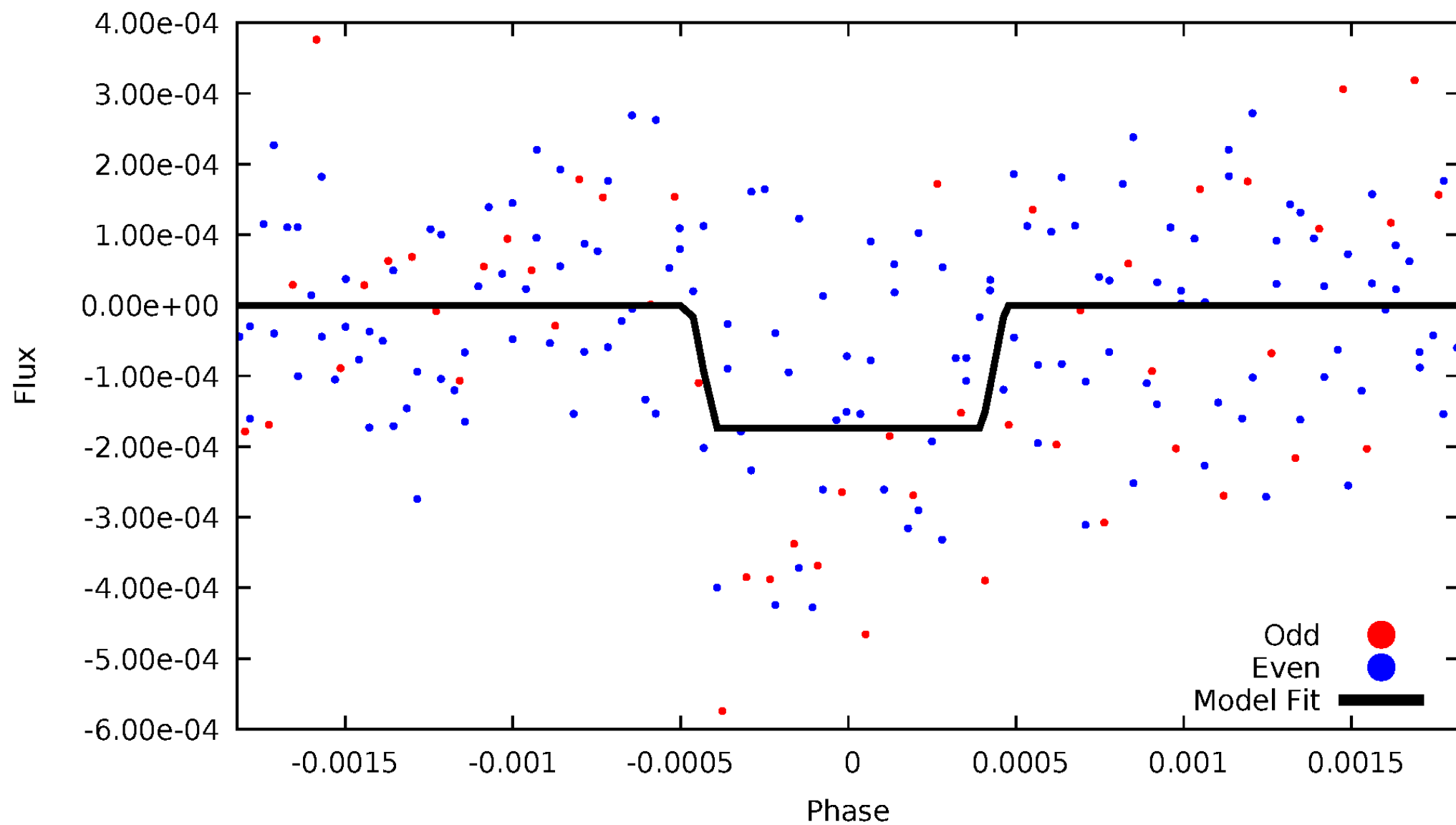
# DV Odd/Even

TCE 006062681-01



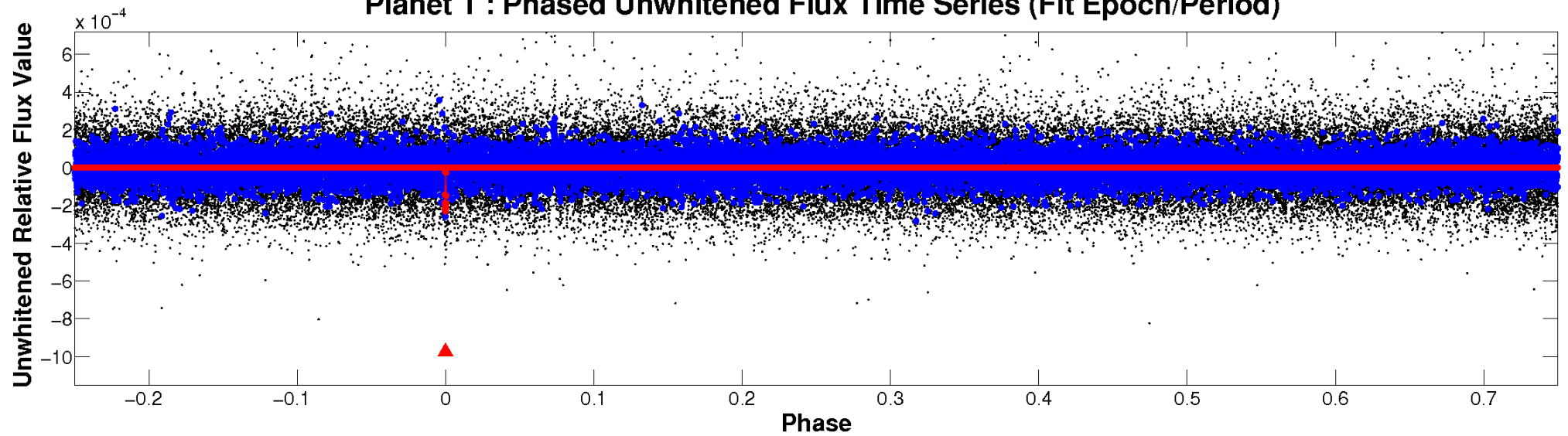
# ALT Odd/Even

TCE 006062681-01

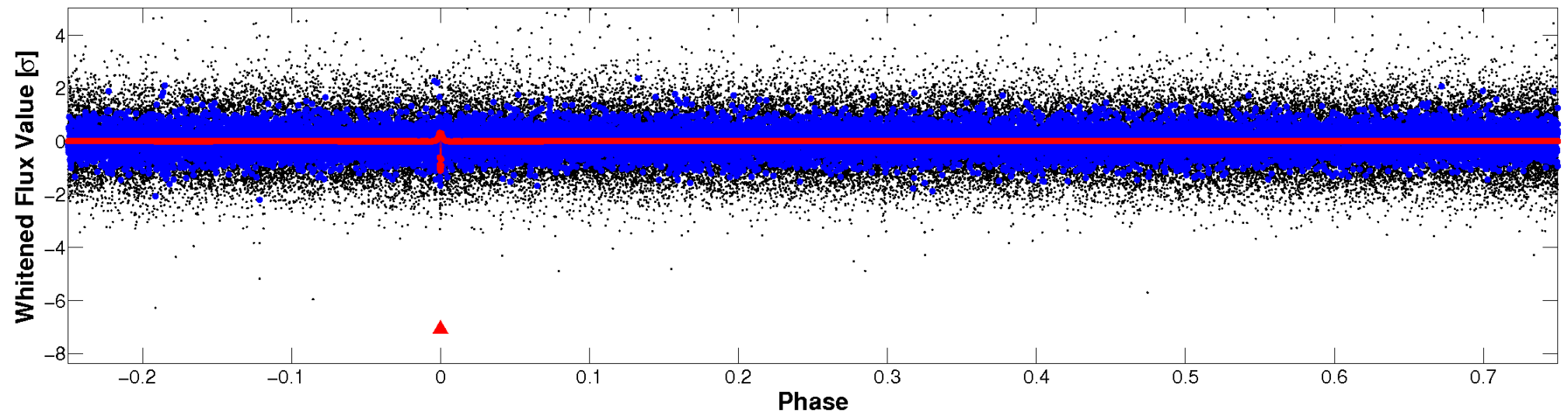


# Non-Whitened Vs. Whitened Light Curve

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

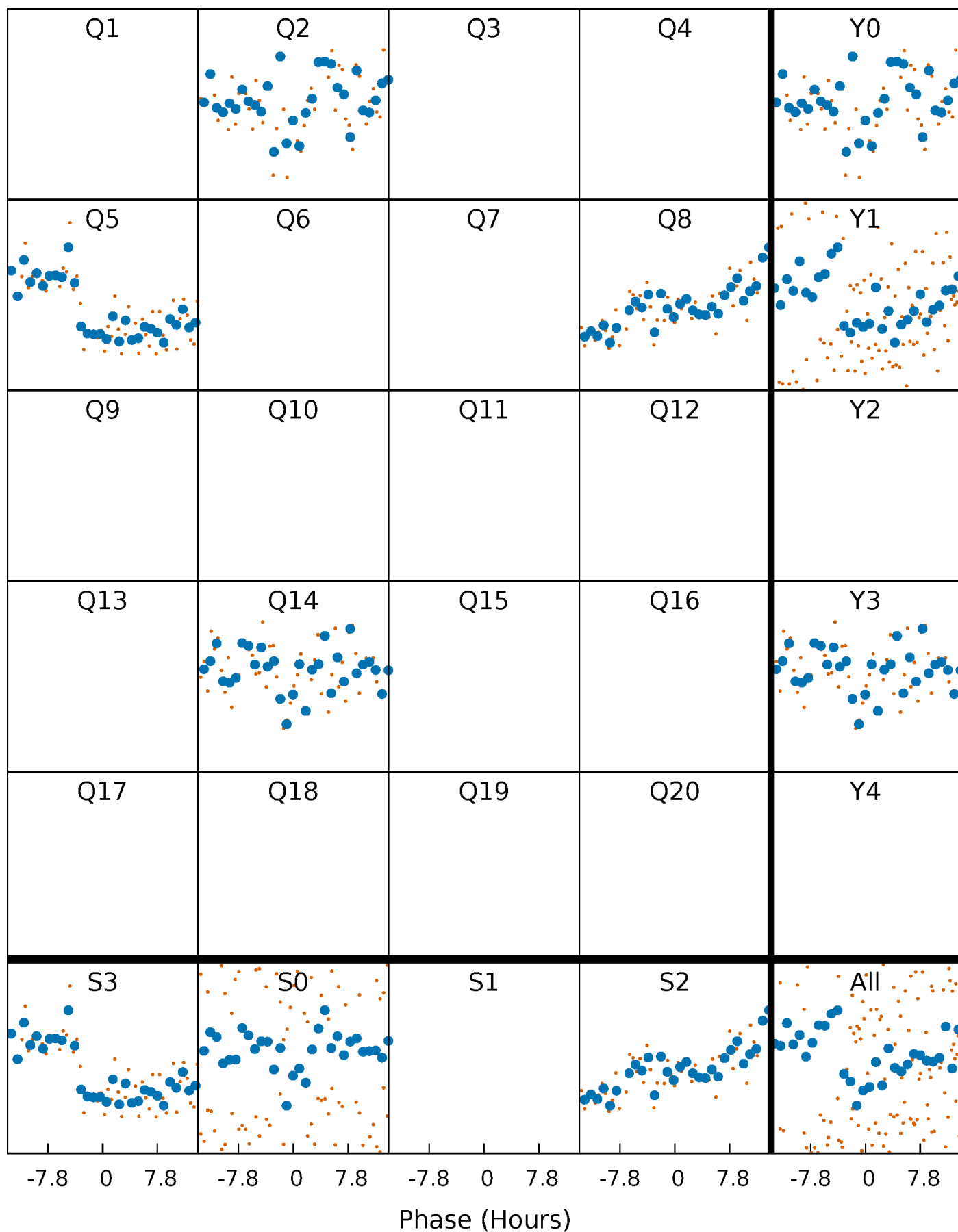


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

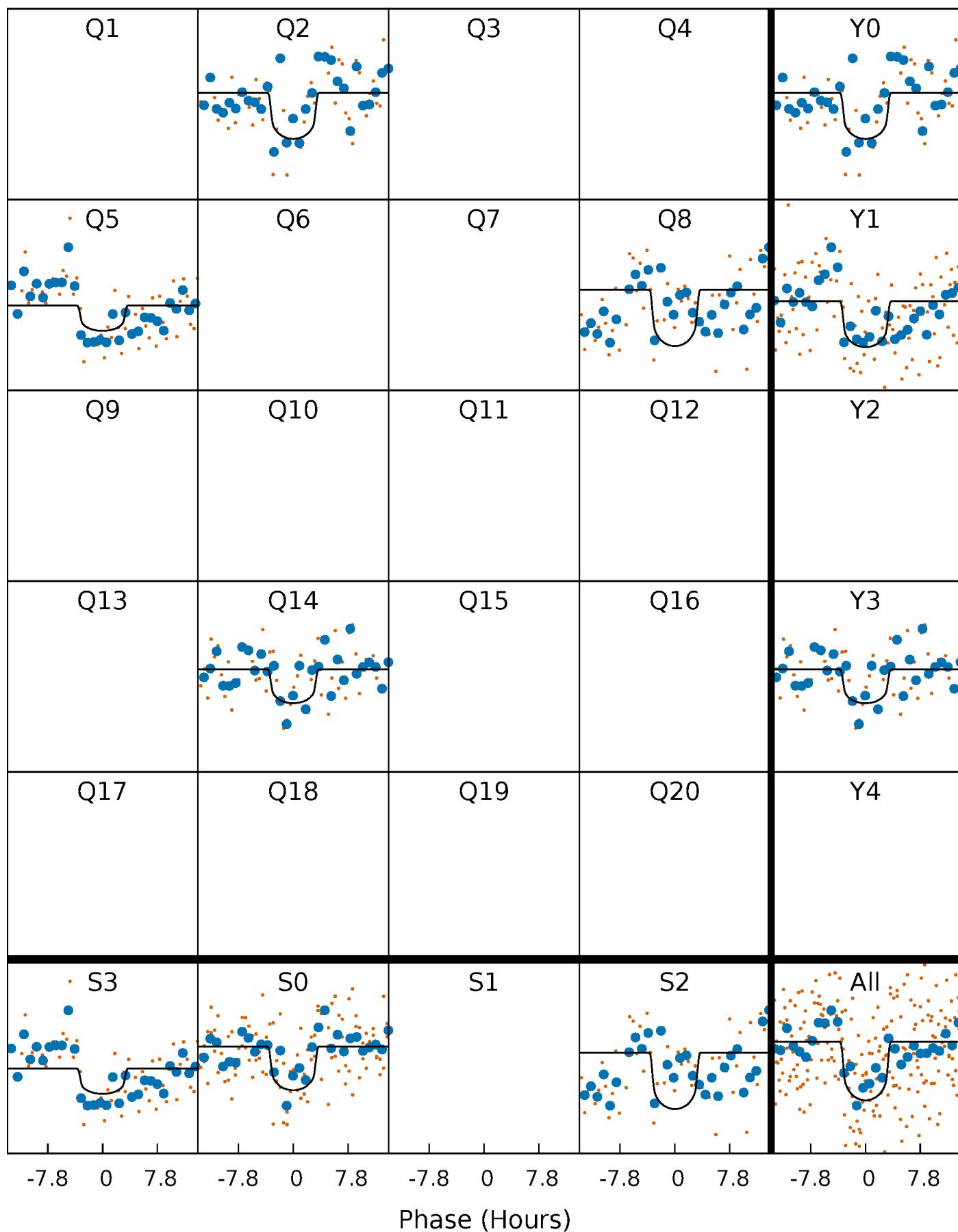
TCE 006062681-01 P=287.122776 Days  $T_0=210.261604$  (BKJD)





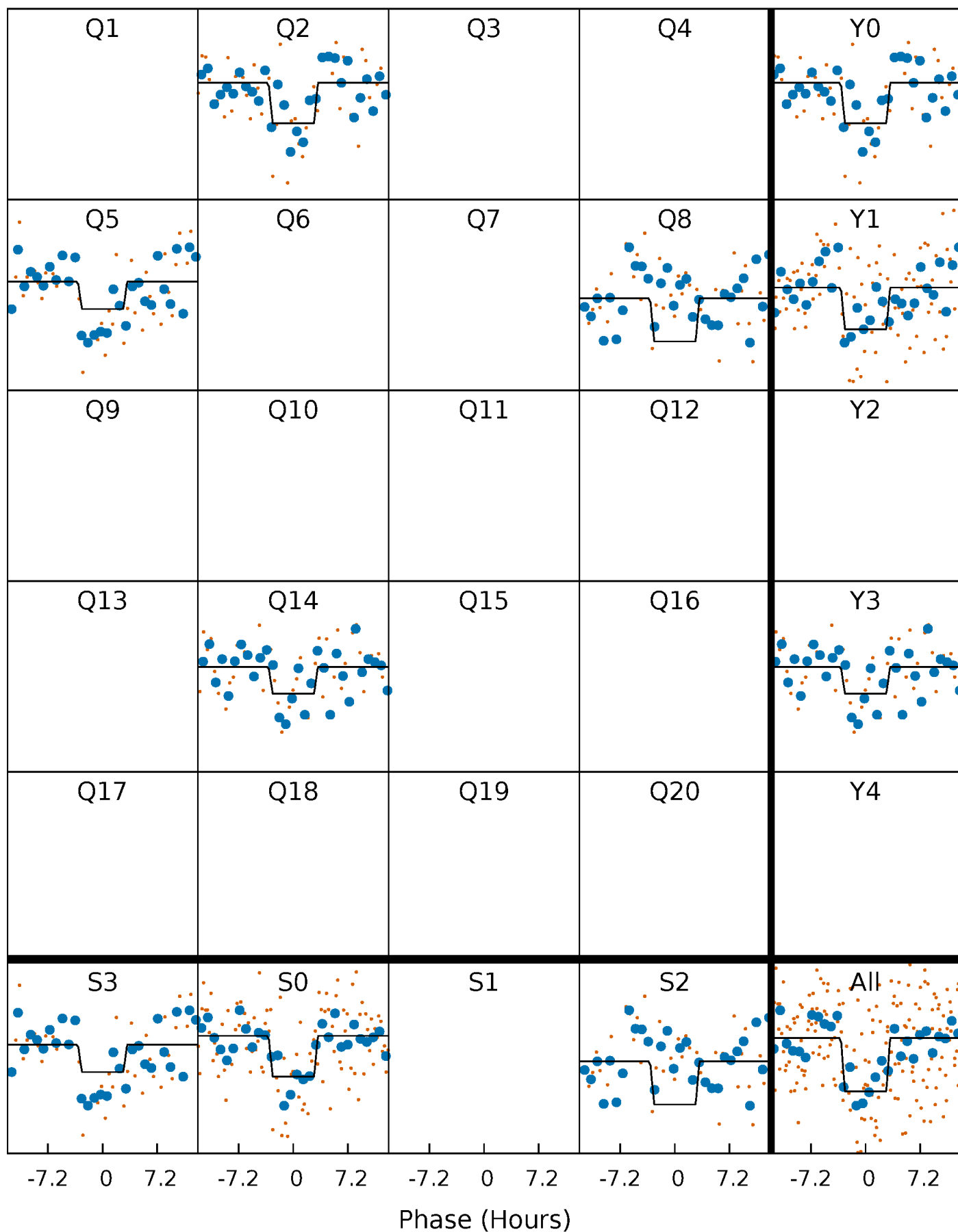
# DV Quarter-Phased Transit Curves

TCE 006062681-01 P=287.122776 Days  $T_0=210.261604$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

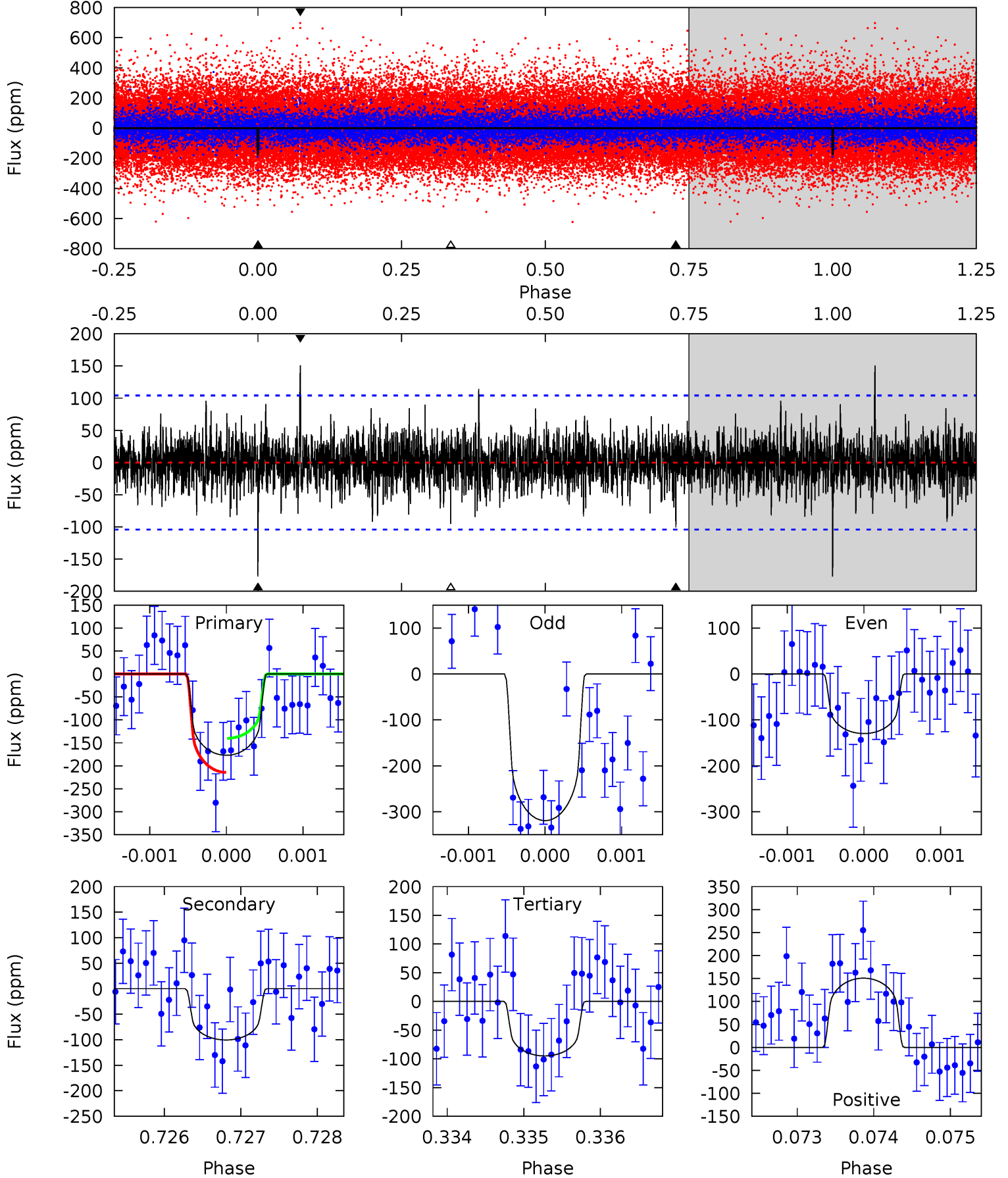
TCE 006062681-01 P=287.125574 Days  $T_0=210.255488$  (BKJD)



# DV Model-Shift Uniqueness Test

006062681-01, P = 287.122776 Days, E = 210.261604 Days

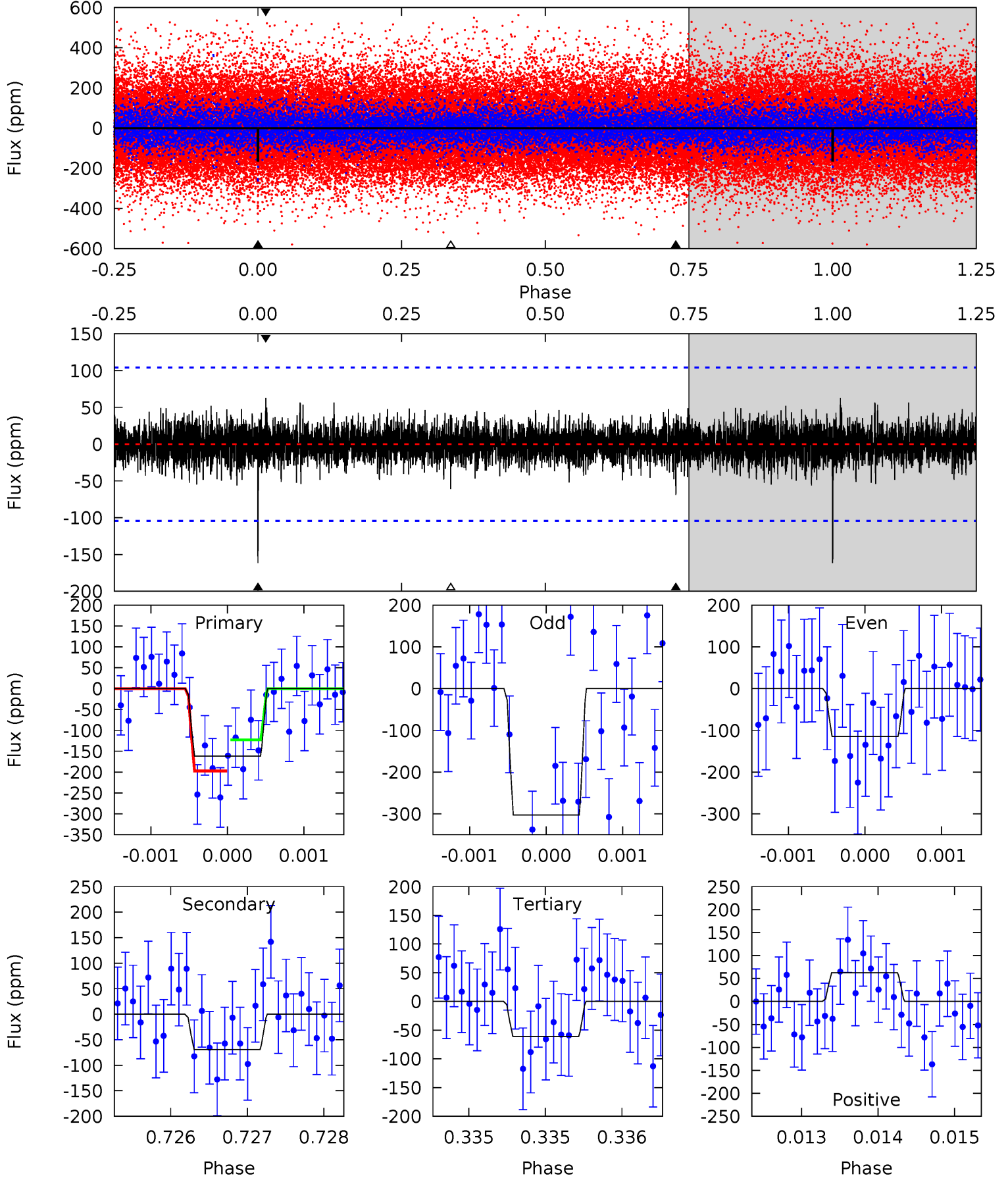
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.26	5.26	4.96	7.88	5.45	3.29	1.34	4.30	1.38	0.29	-2.63	4.35	1.11	0.46	1.94



# Alt Model-Shift Uniqueness Test

006062681-01, P = 287.125574 Days, E = 210.255488 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
8.49	3.63	3.19	3.28	5.47	3.32	0.81	5.31	5.21	0.45	0.35	4.28	0.88	0.28	1.95



### Stellar Parameters For KIC 006062681

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5372^{+160}_{-144}$	$4.584^{+0.030}_{-0.112}$	$-0.060^{+0.300}_{-0.300}$	$0.796^{+0.135}_{-0.062}$	$0.892^{+0.062}_{-0.106}$	$2.497^{+0.404}_{-0.857}$
	+3%/-3%	+1%/-2%	+500%/-500%	+17%/-8%	+7%/-12%	+16%/-34%
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 006062681-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-100 \pm 19$	$1.45^{+0.96}_{-0.76}$	$332^{+14}_{-13}$	$4403^{+1608}_{-718}$	$17308^{+57649}_{-11210}$
Alt.	$-69 \pm 19$	$1.25^{+0.94}_{-0.73}$	$332^{+15}_{-13}$	$4372^{+1795}_{-859}$	$16400^{+64270}_{-11599}$

$T_{\text{max}}$  = 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

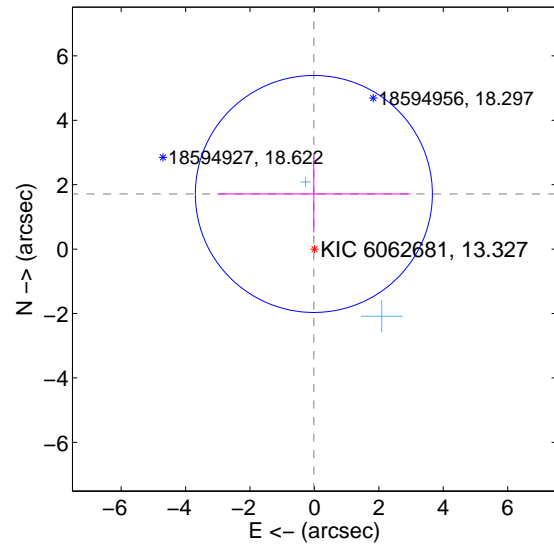
Supplemental centroid analysis for 006062681-01. Kepler magnitude: 13.33. Transit SNR 7.30

There are 2 quarters with good PRF difference image offsets

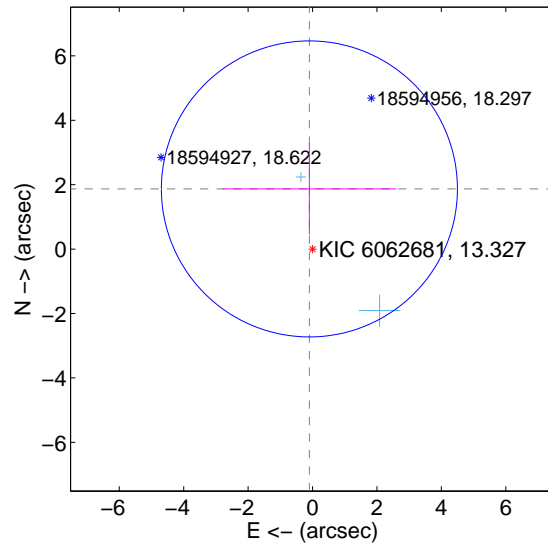
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.712 \pm 1.227$	1.40	$0.018 \pm 3.001$	$1.712 \pm 1.200$
PRF-fit source offset from KIC position	$1.871 \pm 1.532$	1.22	$0.097 \pm 2.701$	$1.869 \pm 1.416$
photometric centroid source offset	$1.93 \pm 1.44$	1.34	$-1.34 \pm 1.53$	$1.39 \pm 1.36$

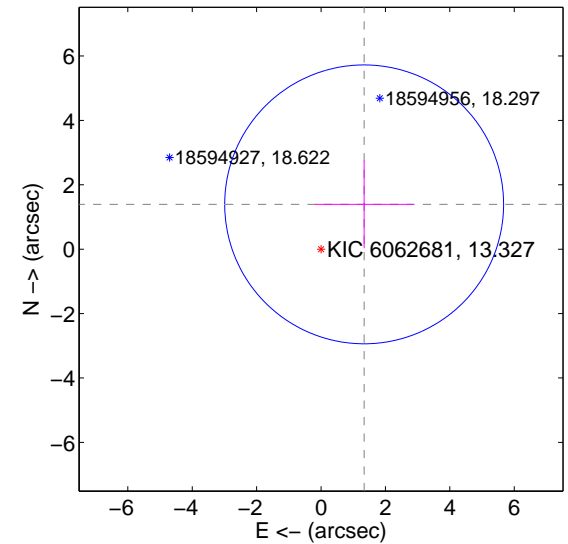
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

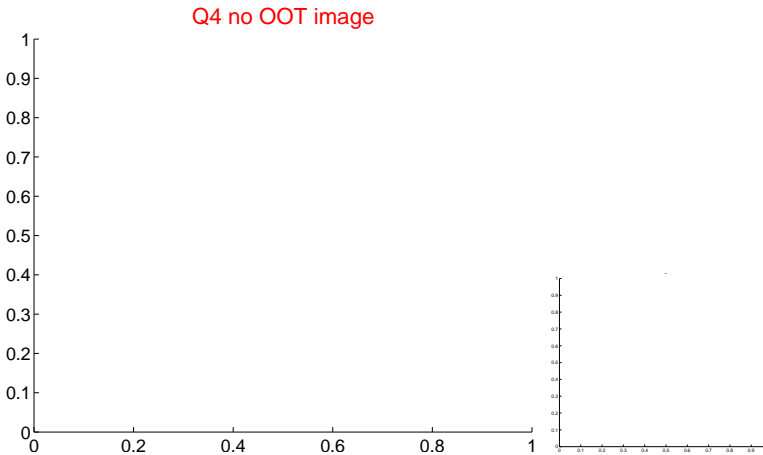
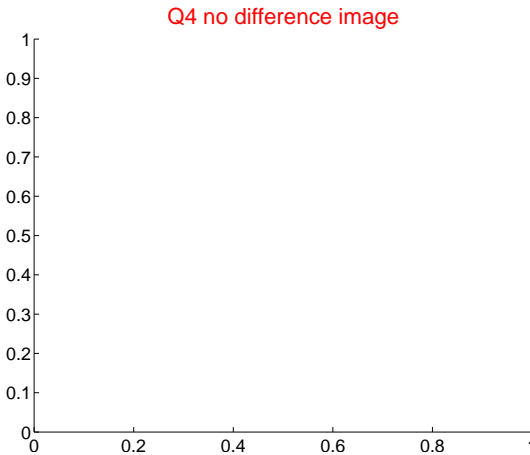
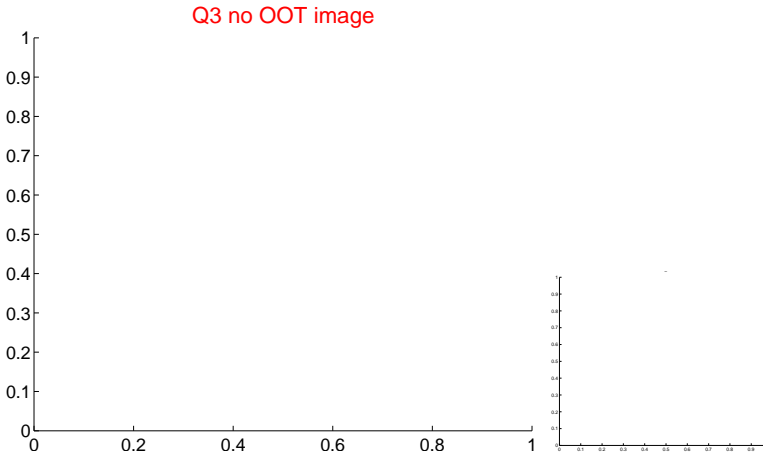
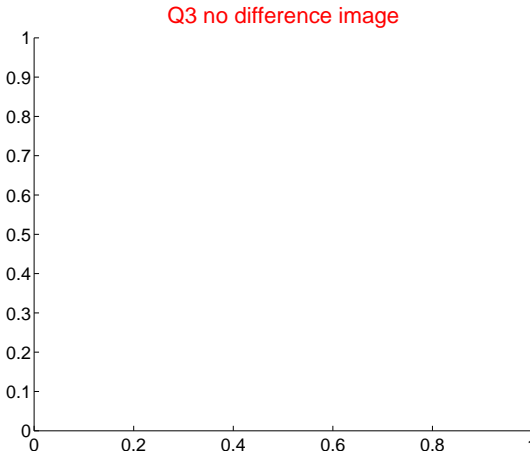
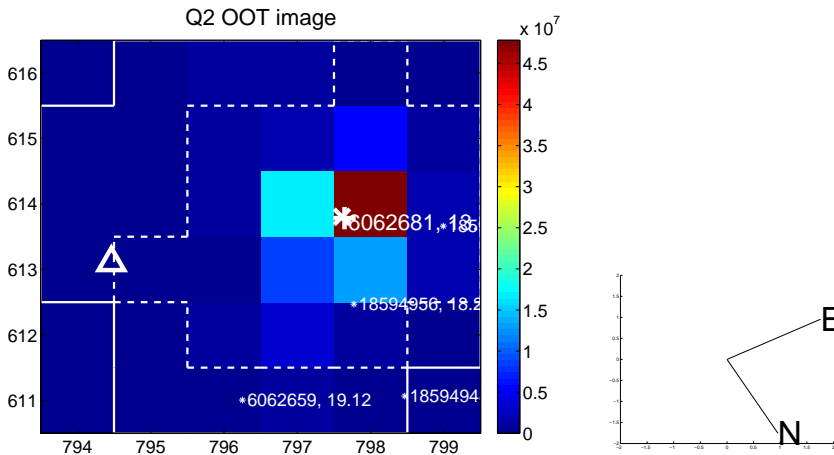
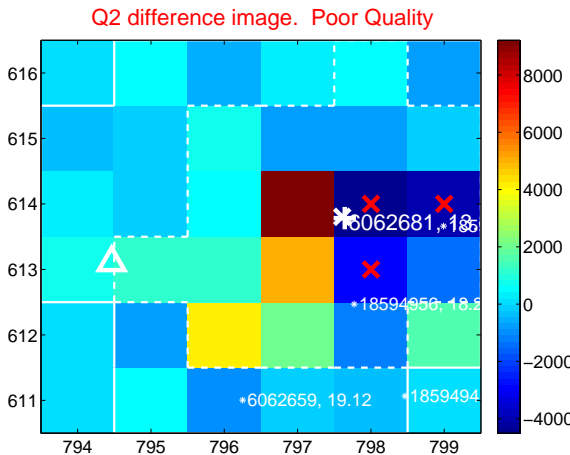
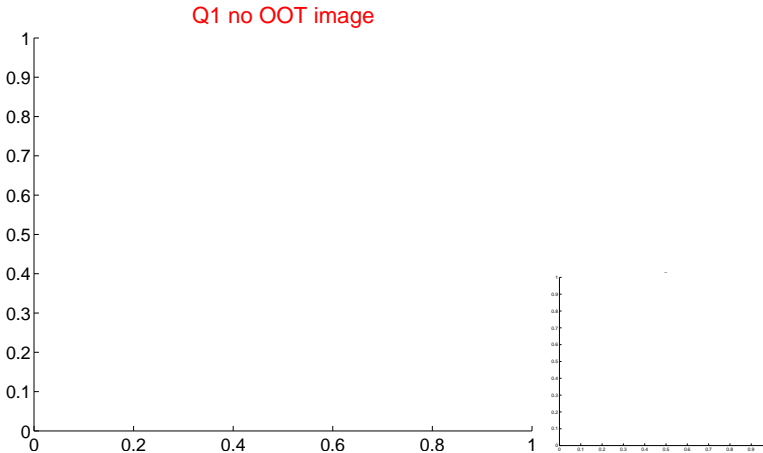
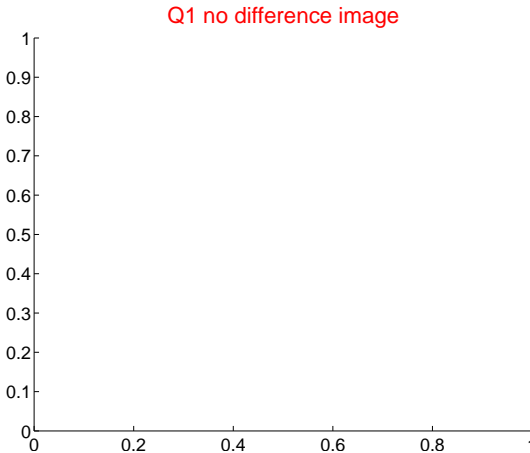


offset from photometric centroids

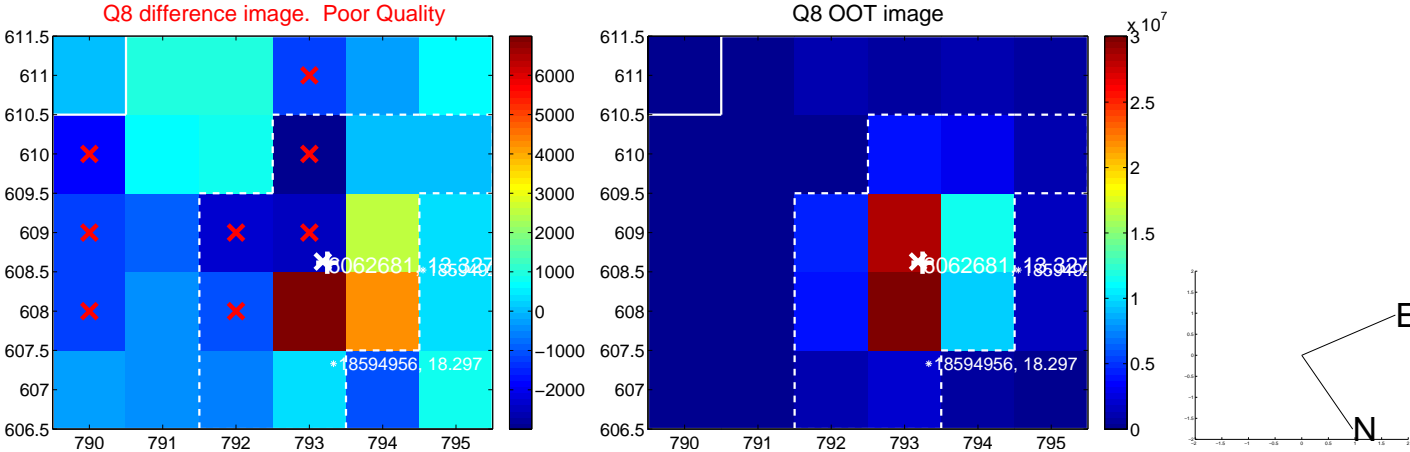
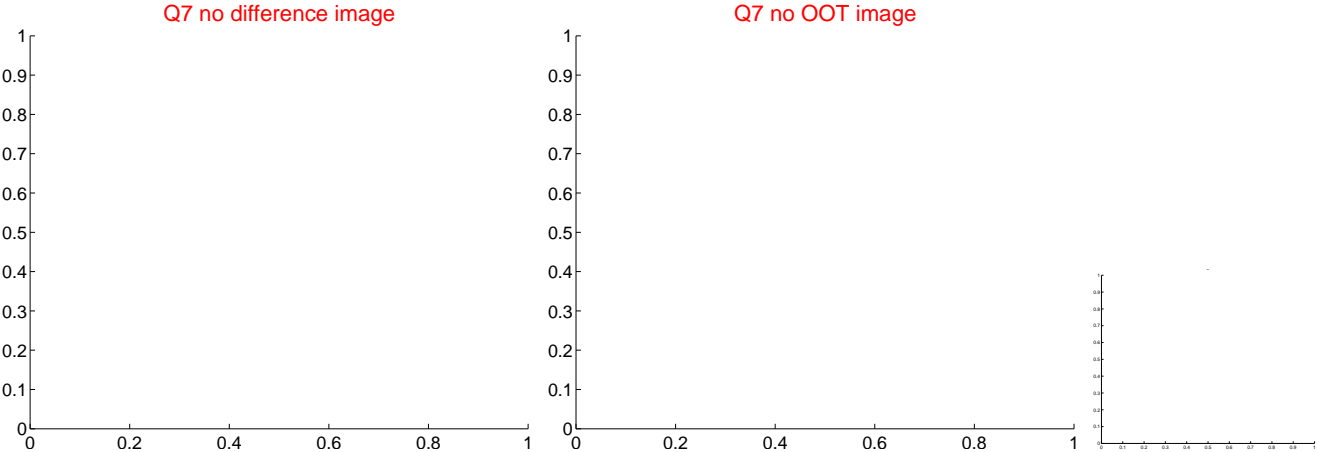
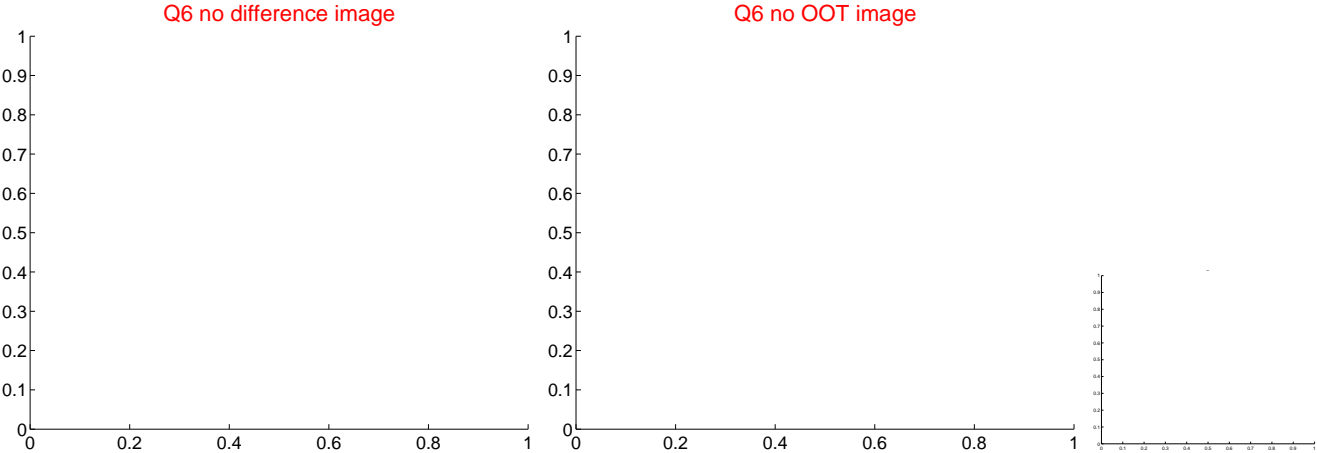
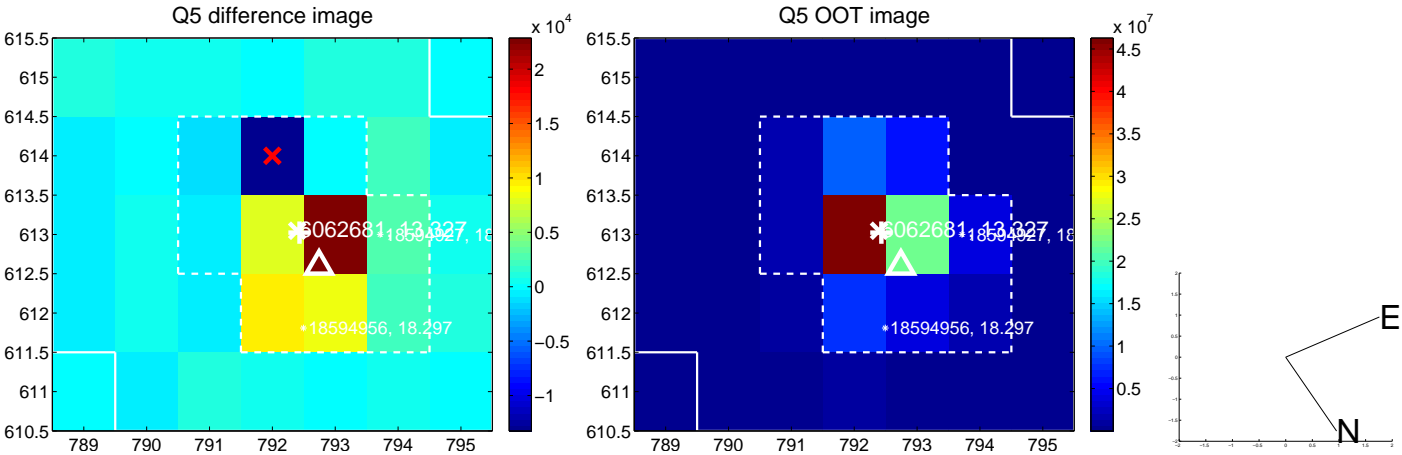


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

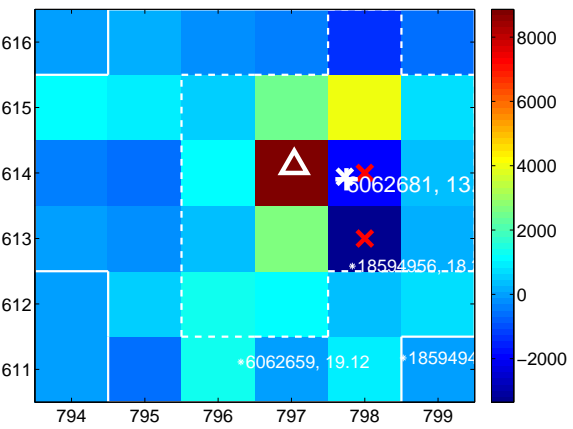
Q13 no difference image



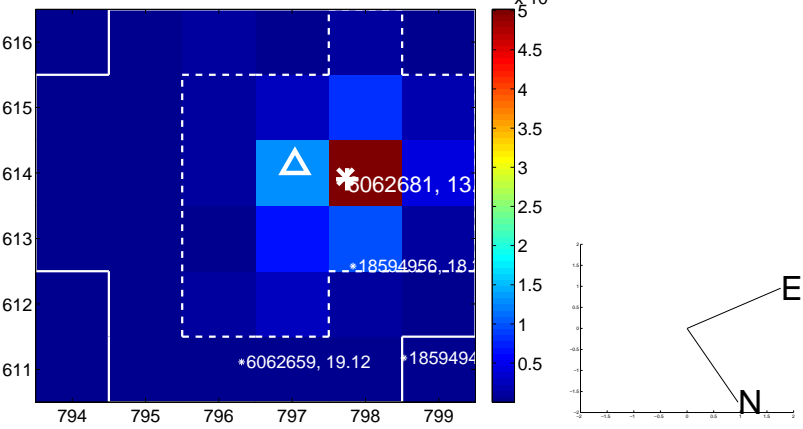
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



Q15 no OOT image



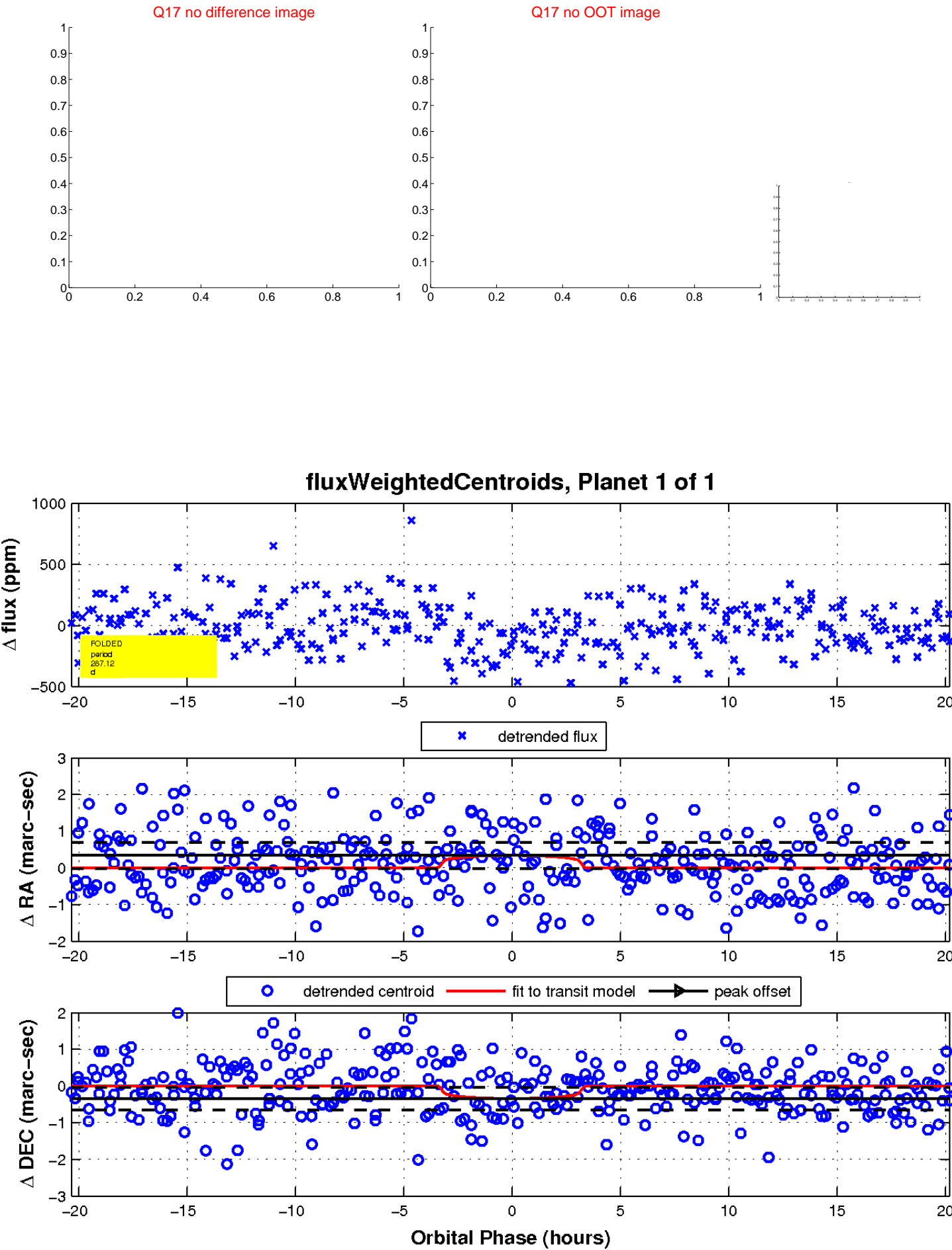
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

