

# KIC 009896797

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009896797-01	OBS	No	290.225097	225.494021	1325.1	9.356	9.1	7.2	0.82	5357	3.22	0.77

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009896797-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

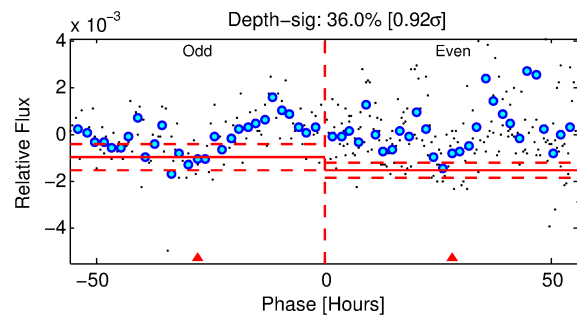
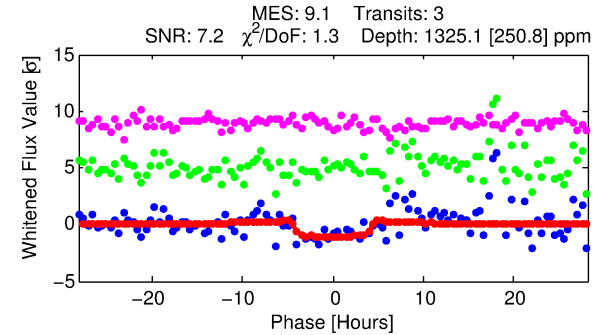
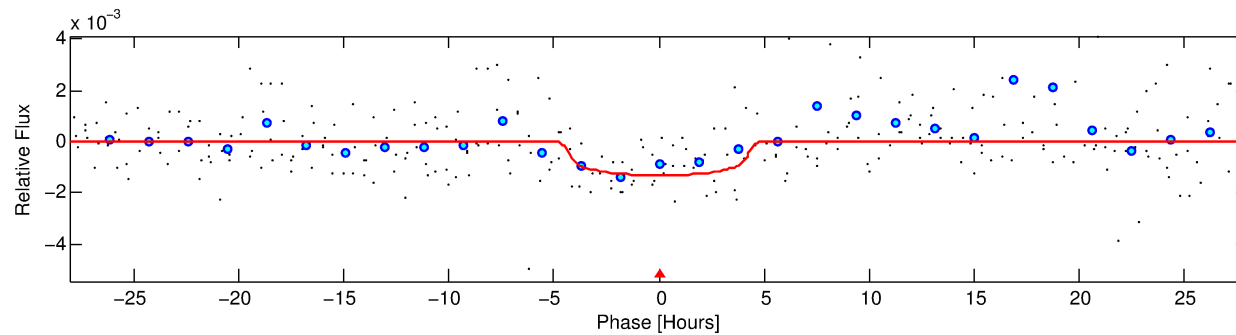
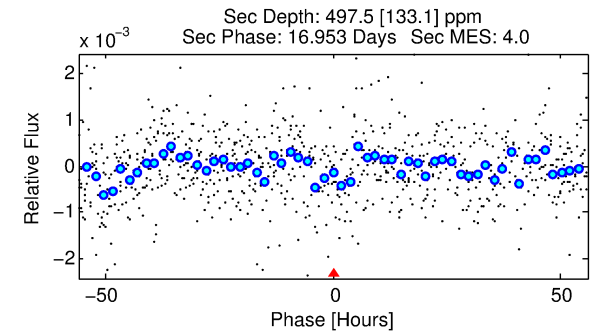
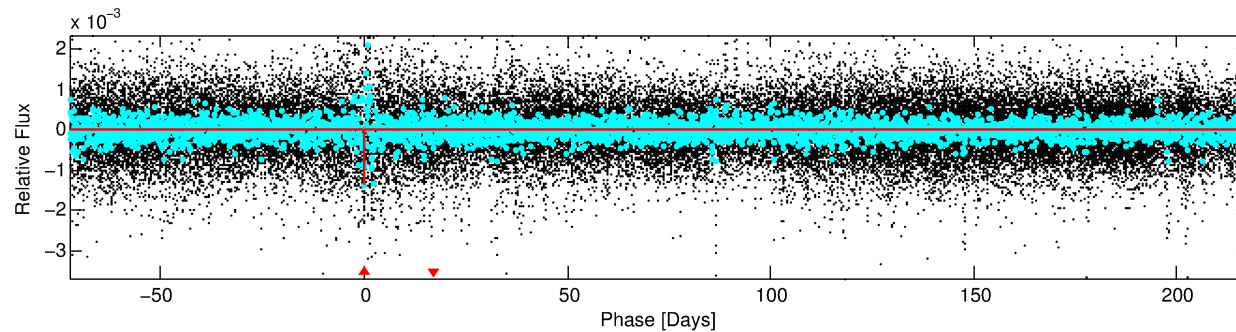
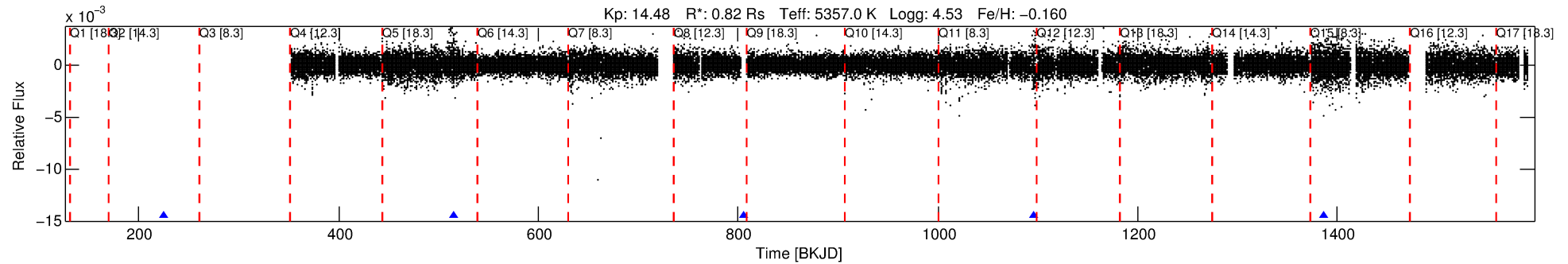
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009896797-01

No Significant Match Found

# DV One-Page Summary

KIC: 9896797 Candidate: 1 of 1 Period: 290.225 d



## DV Fit Results:

Period = 290.22510 [0.01096] d  
Epoch = 225.4940 [0.0325] BKJD  
Rp/R\* = 0.0362 [0.0153]  
a/R\* = 171.05 [278.58]  
b = 0.74 [0.98]  
Seff = 0.77 [0.19]  
Teq = 239 [15] K  
Rp = 3.22 [1.47] Re  
a = 0.8010 [0.1137] AU  
Ag = 16925.71 [15424.69] [1.10σ]  
Teffp = 4206 [948] K [4.18σ]

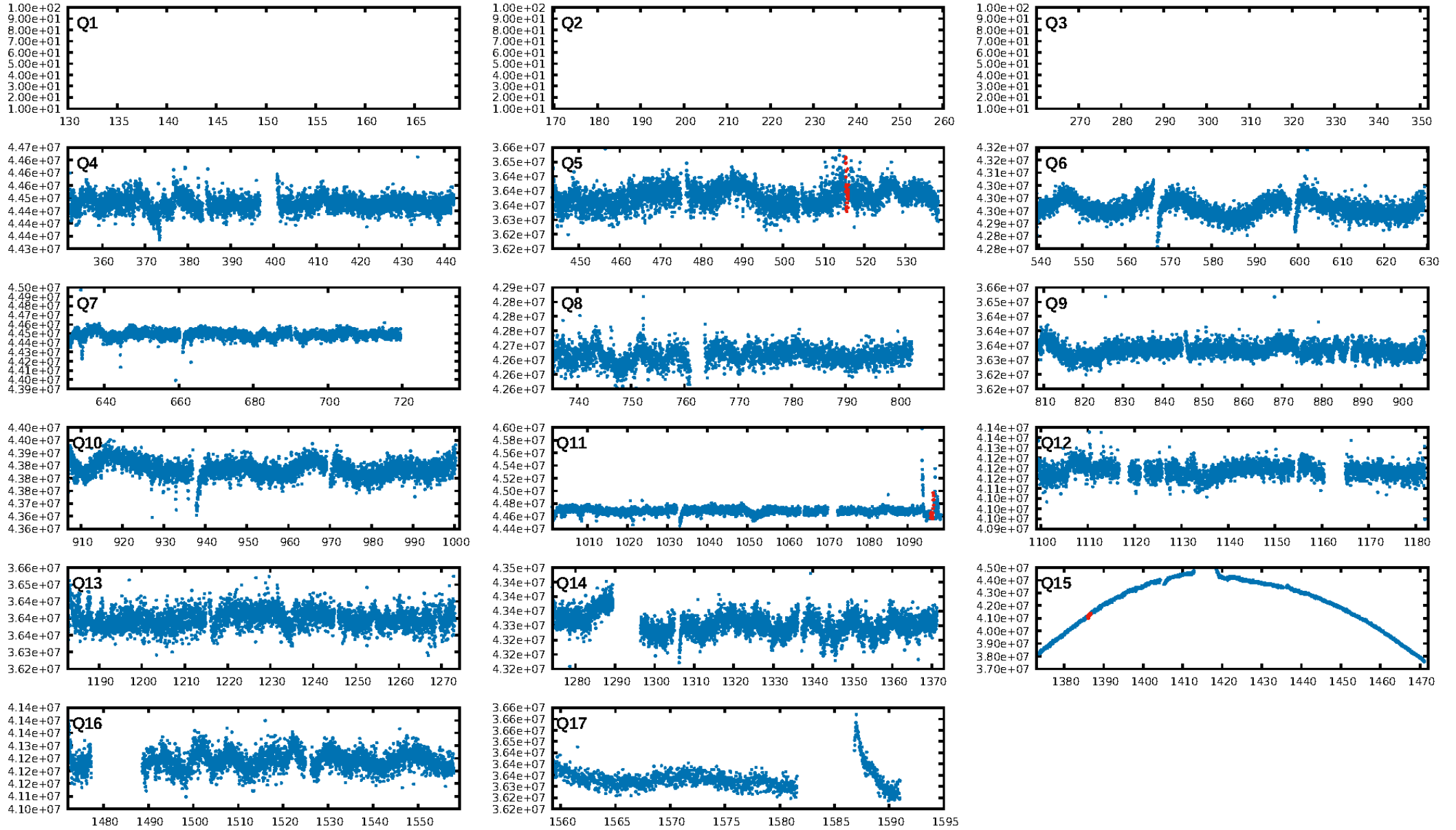
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 6.1%  
ModelChiSquareGof-sig: 96.7%  
**Bootstrap-pfa: 2.64e-11**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.7304  
Centroid-sig: 90.3%  
**Centroid-so: 2.843 arcsec [29.08σ]**  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [2/2]

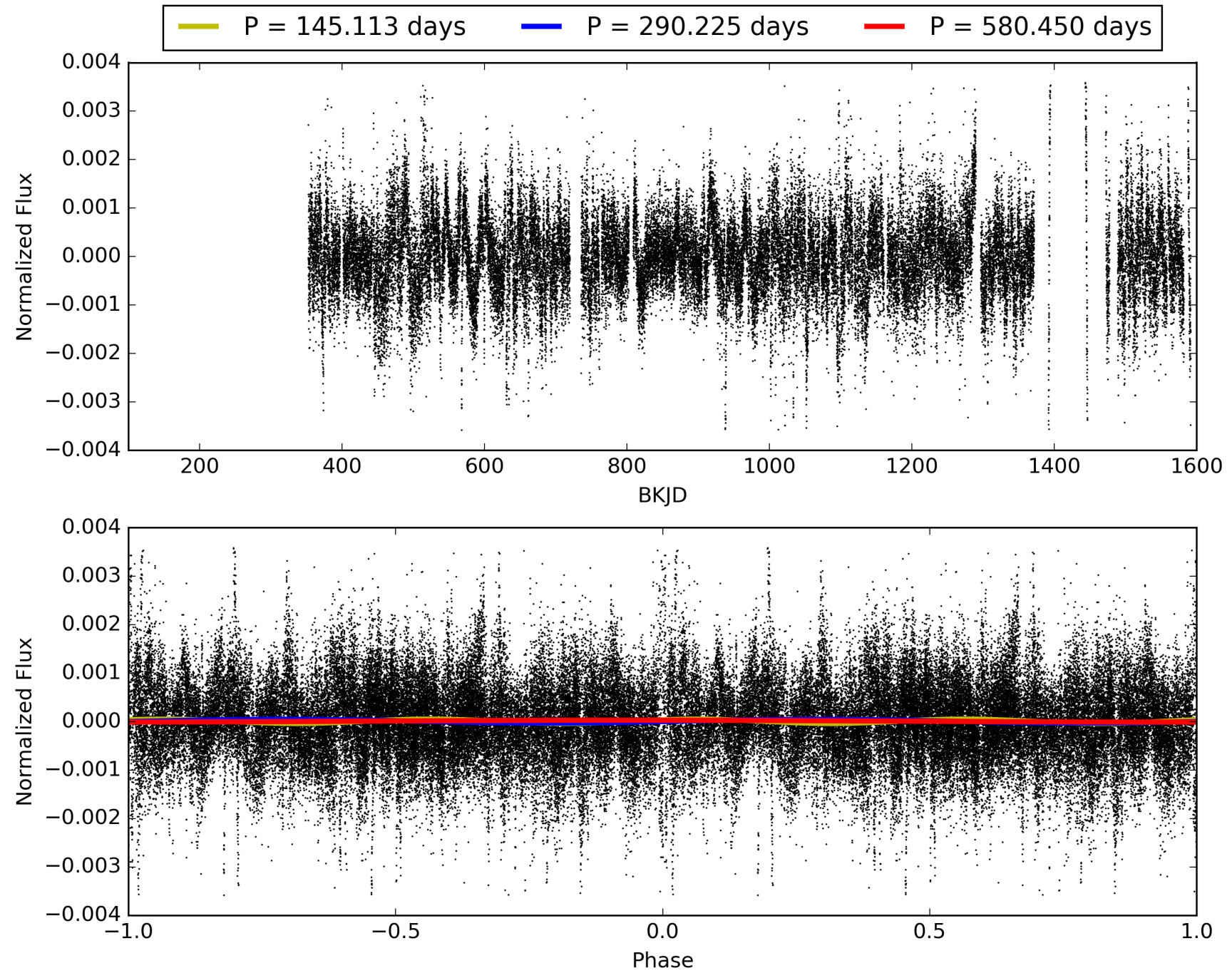
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:58:50 Z

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

# TCE 009896797-01, PDC Light Curves

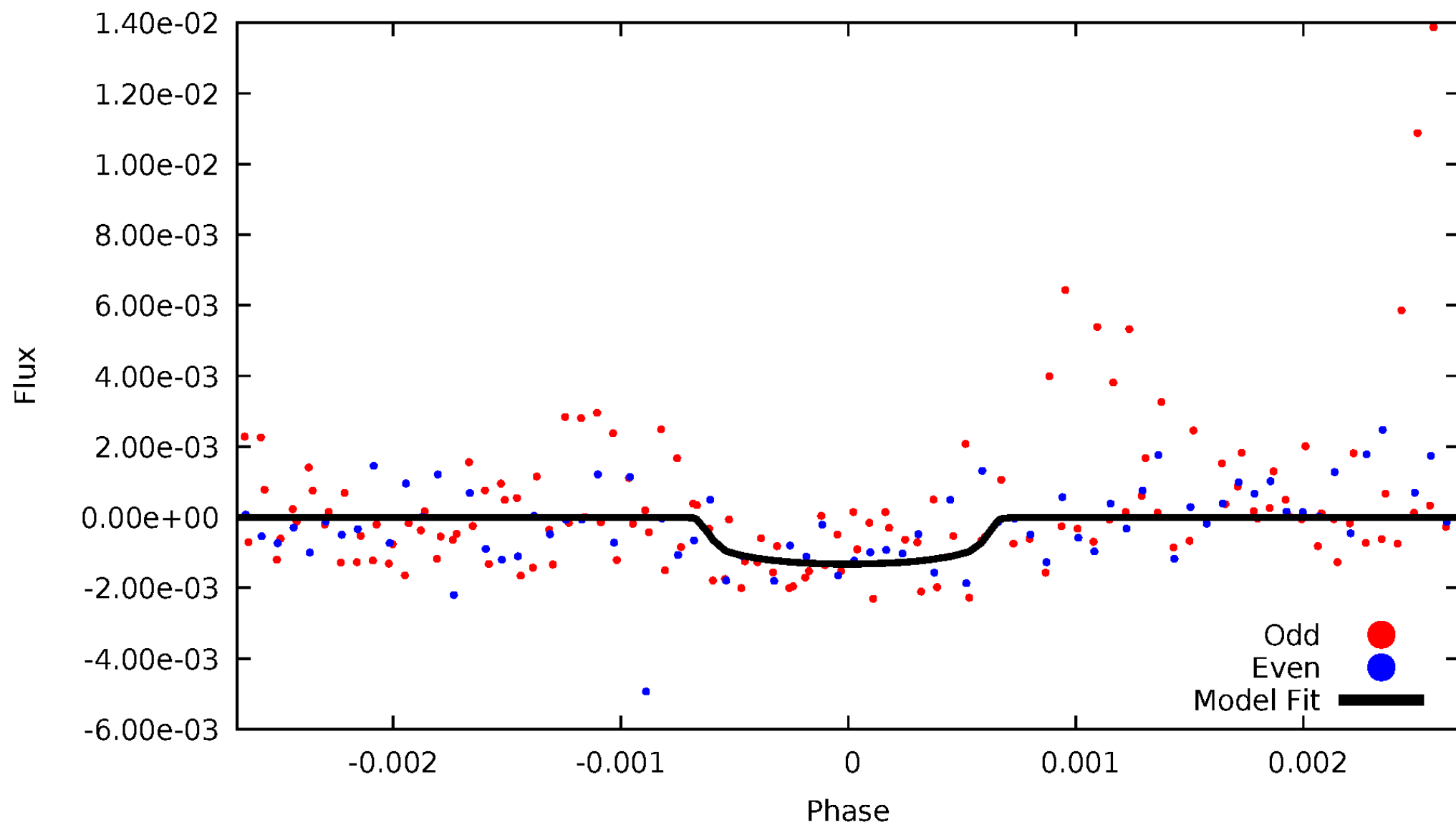


TCE 009896797-01



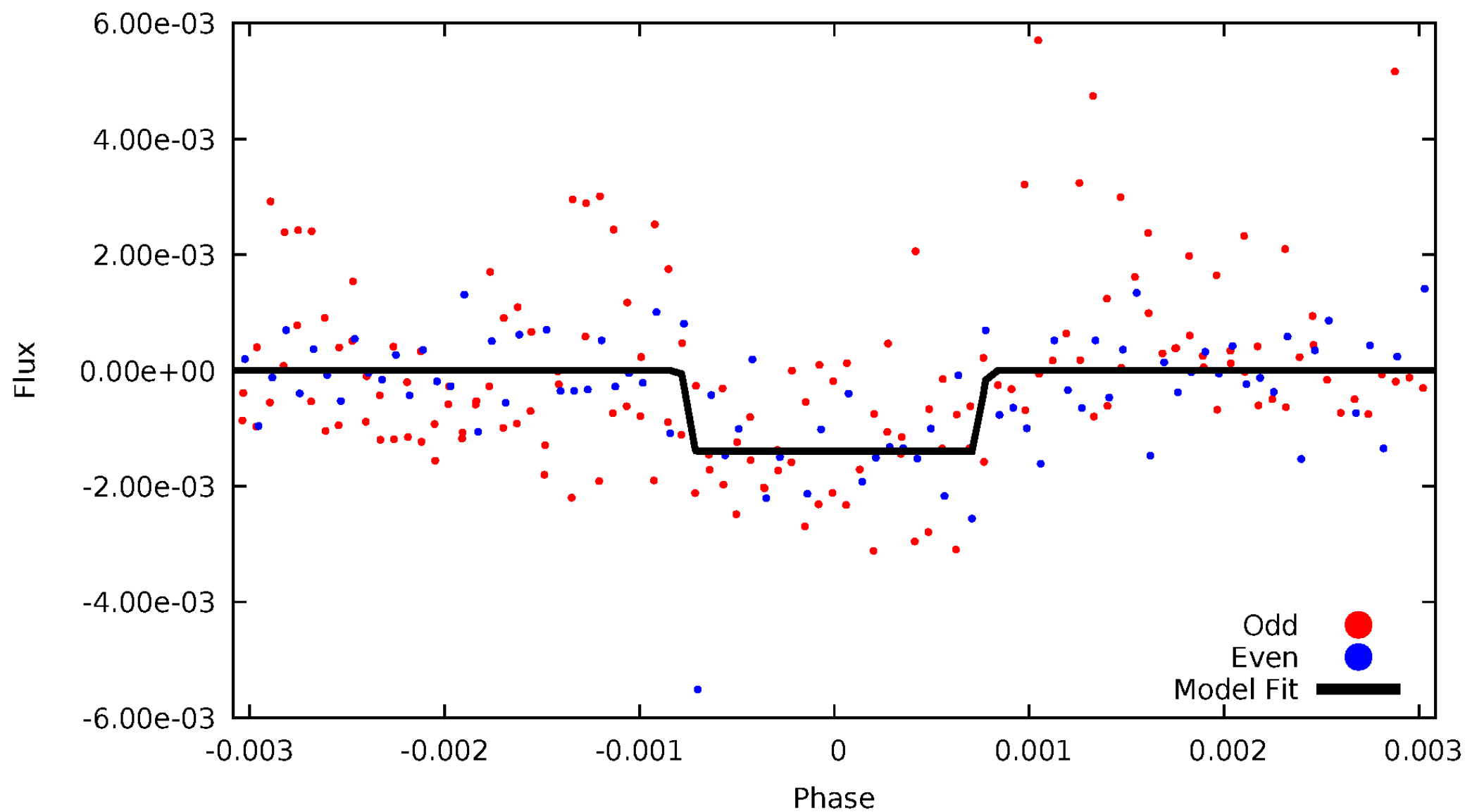
# DV Odd/Even

TCE 009896797-01



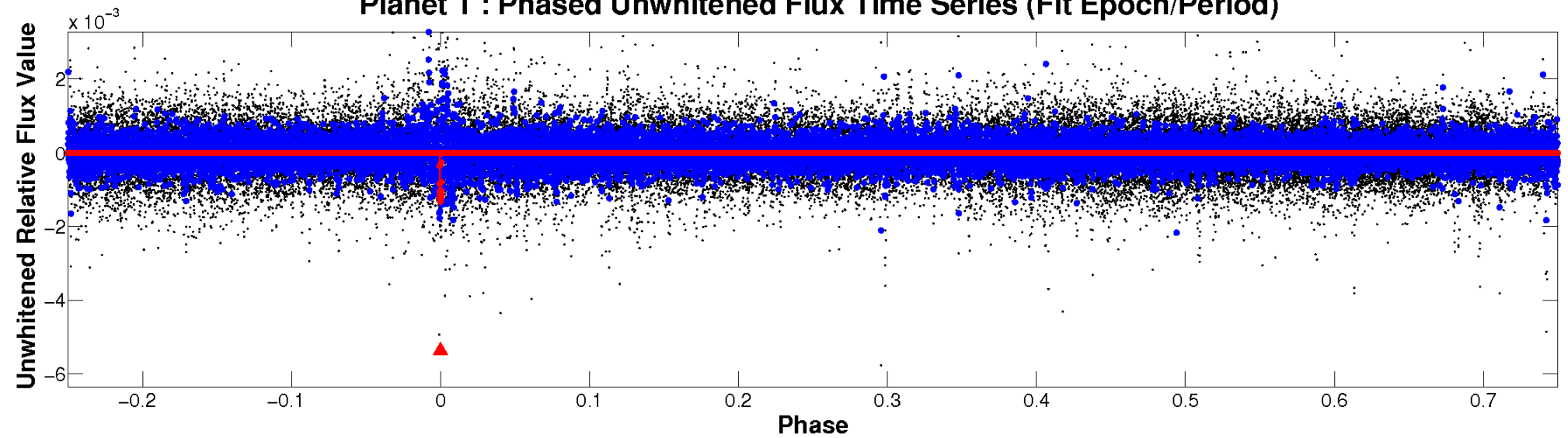
# ALT Odd/Even

TCE 009896797-01

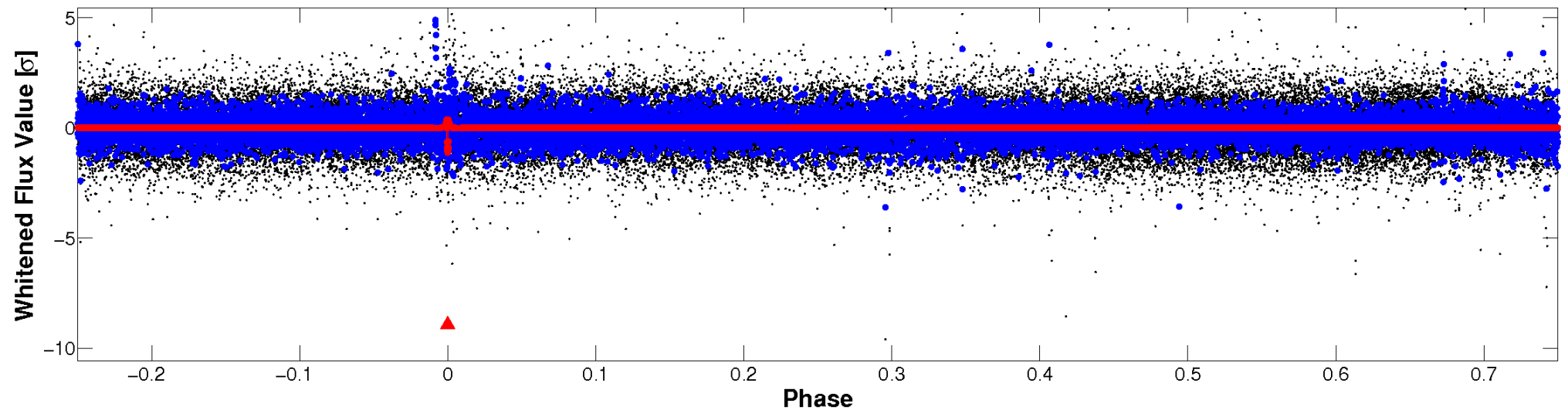


# Non-Whitened Vs. Whitened Light Curve

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

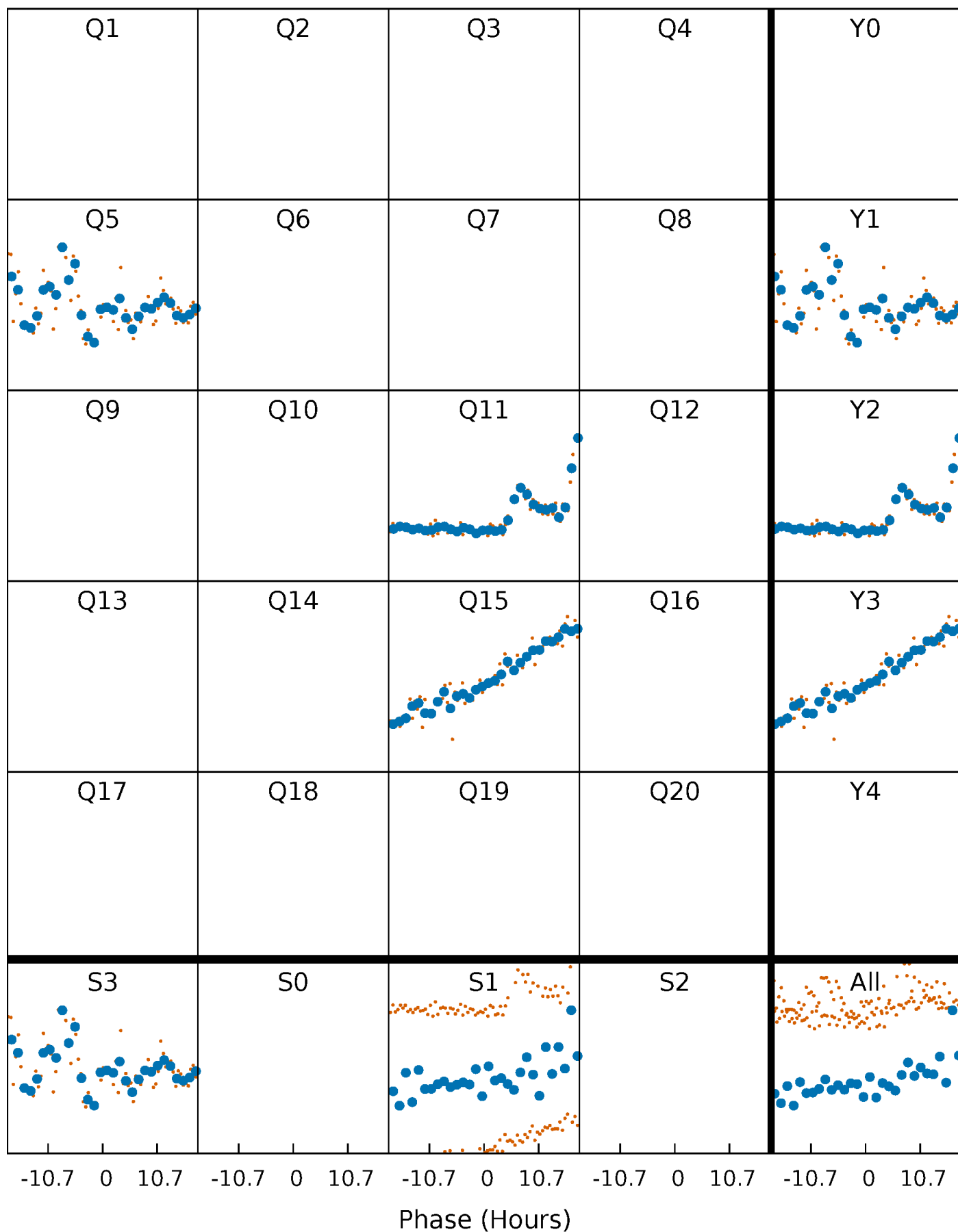


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

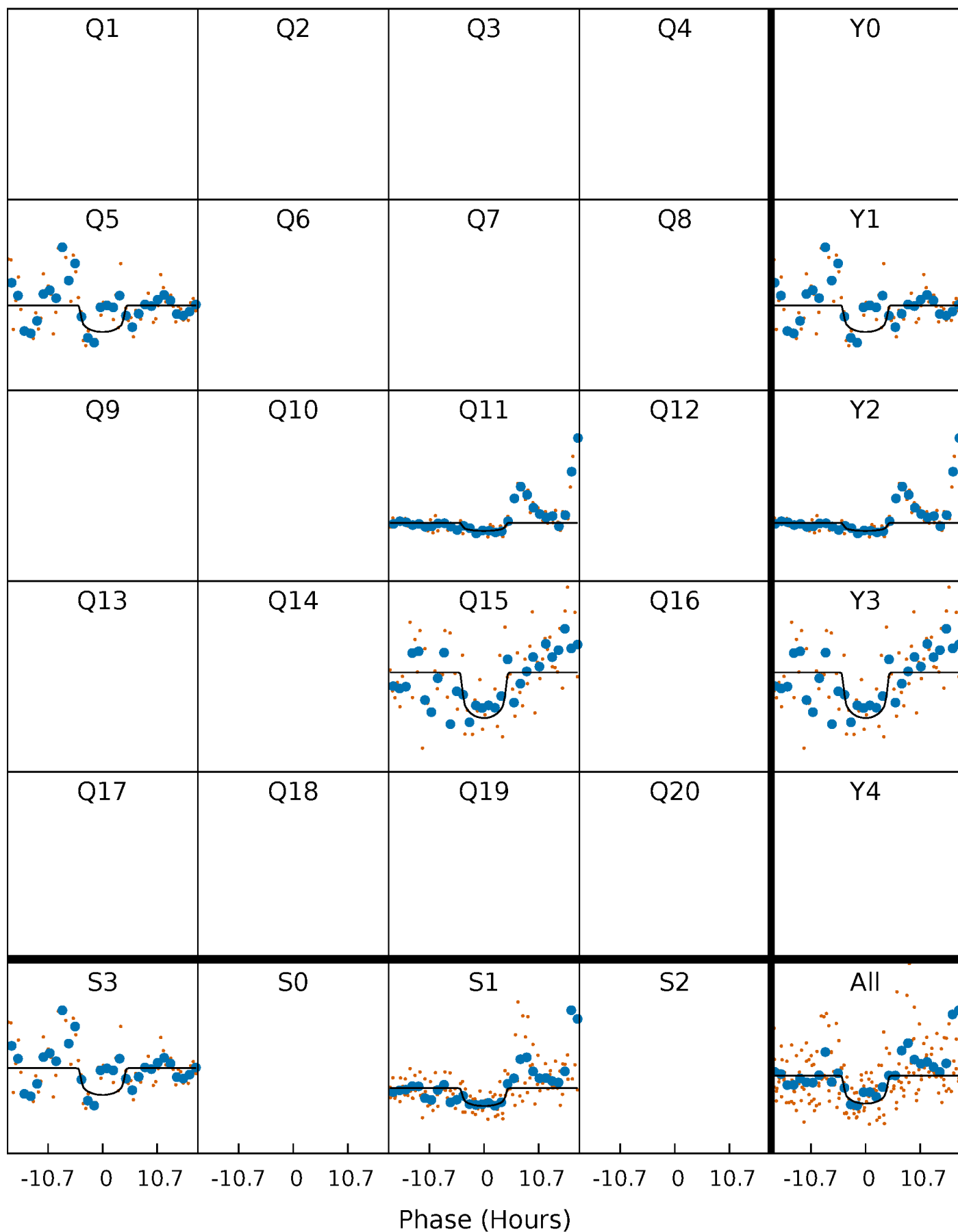
TCE 009896797-01   P=290.225097 Days    $T_0=225.494021$  (BKJD)





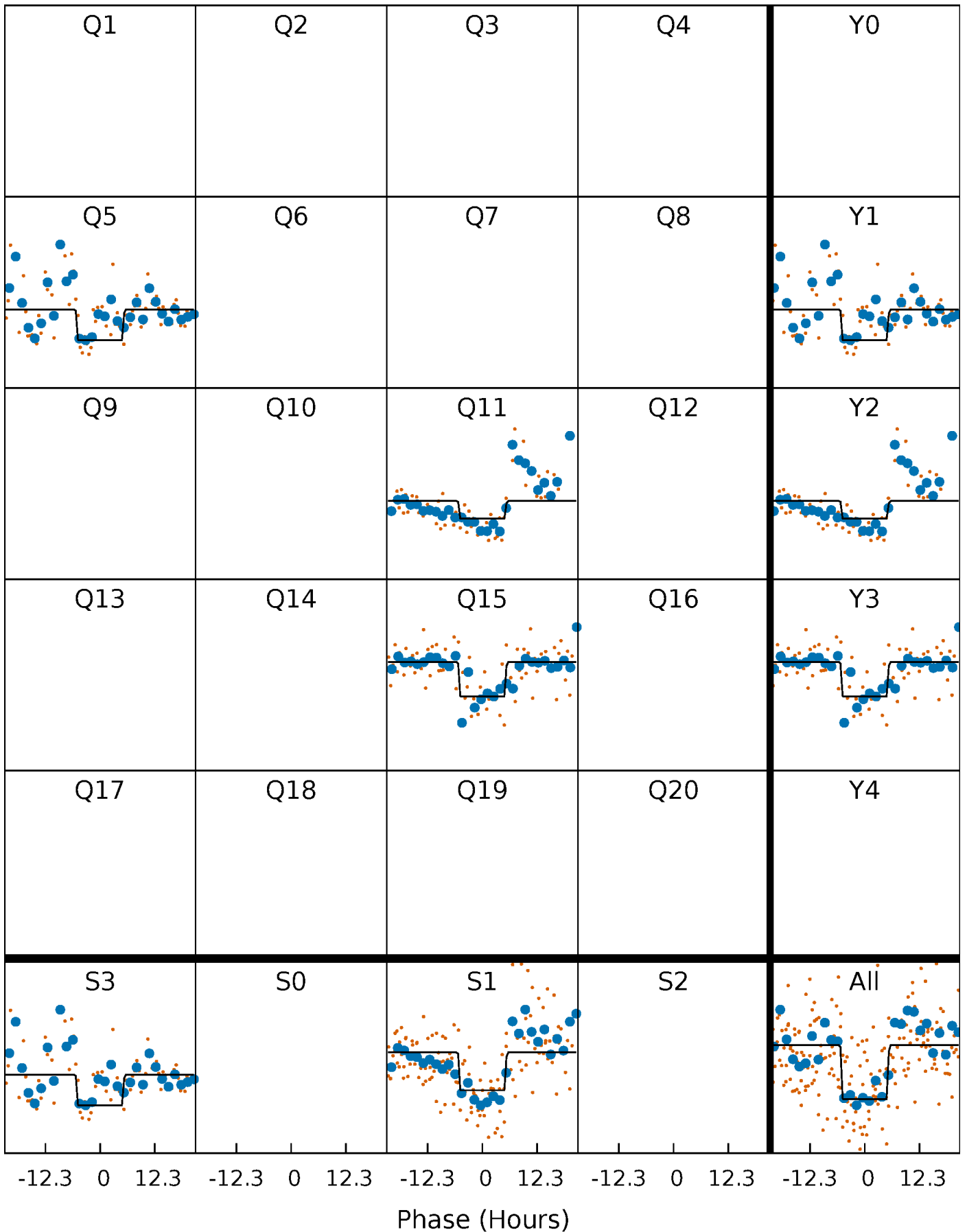
# DV Quarter-Phased Transit Curves

TCE 009896797-01     $P=290.225097$  Days     $T_0=225.494021$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

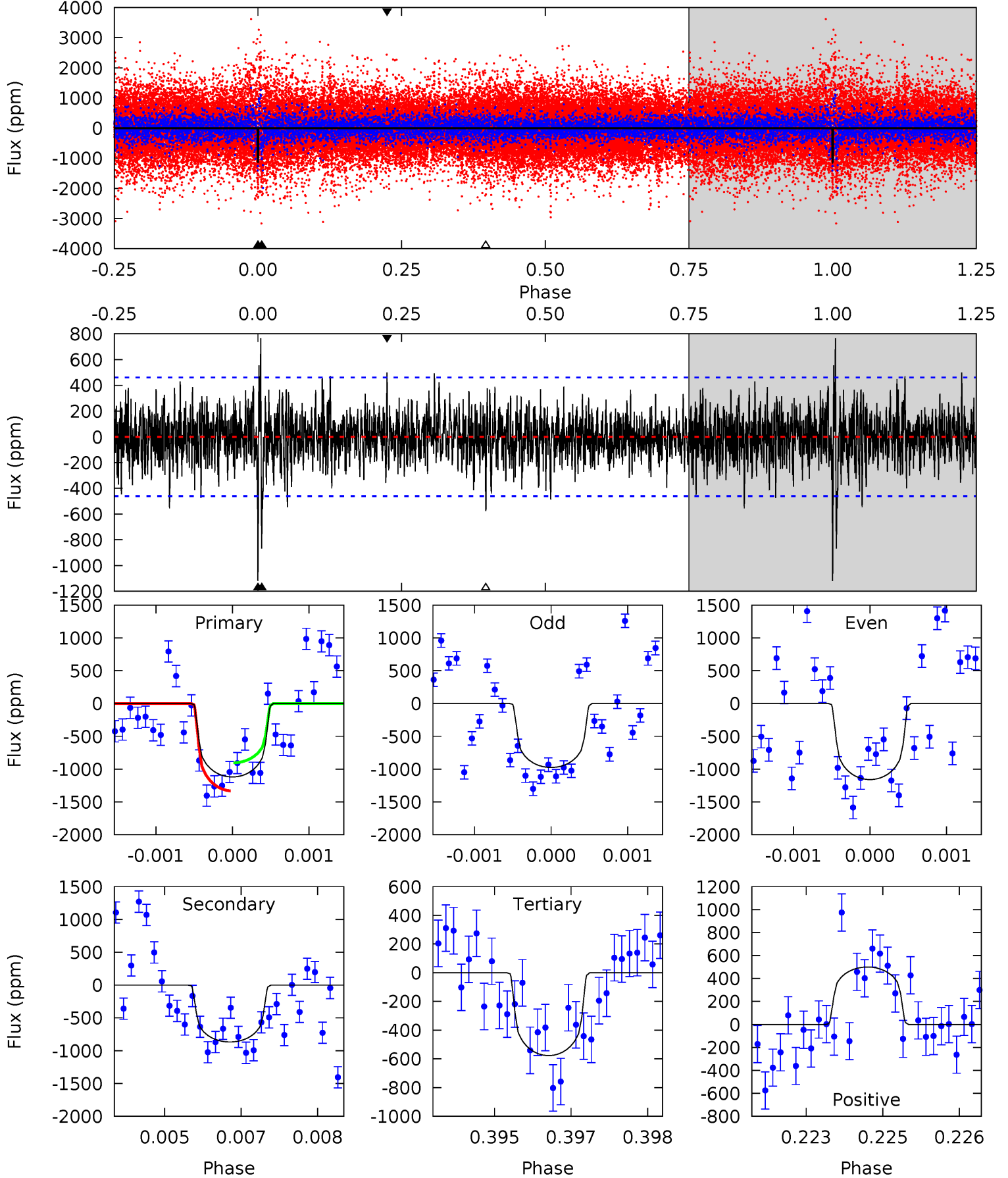
TCE 009896797-01     $P=290.197419$  Days     $T_0=225.550198$  (BKJD)



# DV Model-Shift Uniqueness Test

009896797-01, P = 290.225097 Days, E = 225.494021 Days

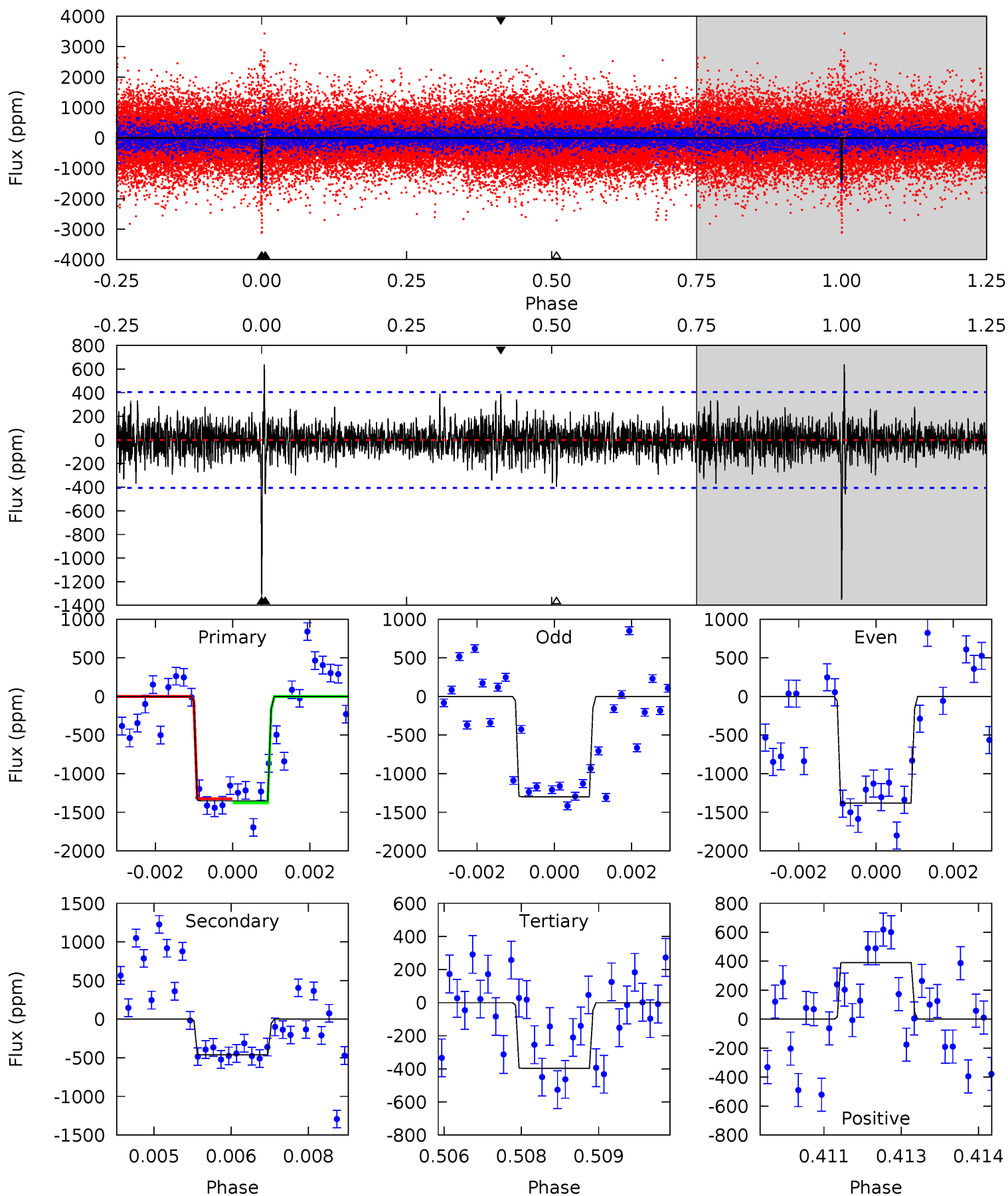
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	10.2	6.76	5.86	5.40	3.20	1.67	6.36	7.26	3.40	4.30	1.00	1.02	0.41	2.51



# Alt Model-Shift Uniqueness Test

009896797-01, P = 290.197419 Days, E = 225.550198 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
17.9	6.08	5.25	5.18	5.37	3.16	1.22	12.6	12.7	0.83	0.91	0.50	0.90	0.32	0.34



### Stellar Parameters For KIC 009896797

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5357^{+204}_{-185}$	$4.525^{+0.072}_{-0.108}$	$-0.160^{+0.300}_{-0.300}$	$0.816^{+0.141}_{-0.094}$	$0.813^{+0.104}_{-0.078}$	$2.109^{+0.650}_{-0.701}$
	+4%/-3%	+2%/-2%	+188%/-188%	+17%/-12%	+13%/-10%	+31%/-33%
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 009896797-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-867 \pm 85$	$3.28^{+1.39}_{-1.40}$	$338^{+18}_{-17}$	$4911^{+1376}_{-659}$	$28043^{+58240}_{-14152}$
Alt.	$-460 \pm 76$	$3.27^{+1.38}_{-1.35}$	$337^{+18}_{-17}$	$4344^{+1031}_{-551}$	$15416^{+28960}_{-8319}$

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

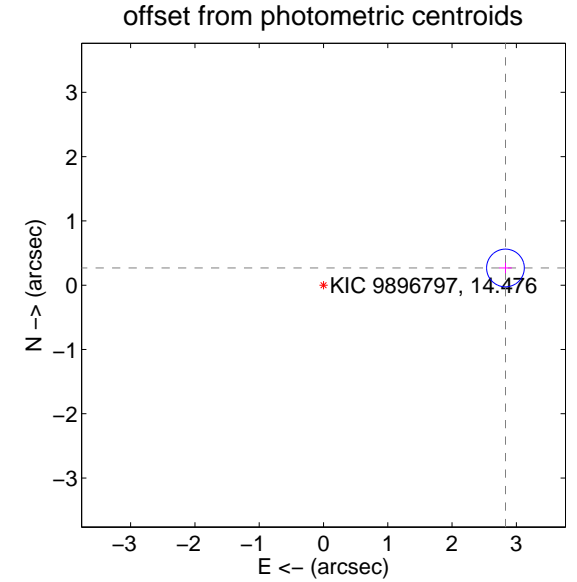
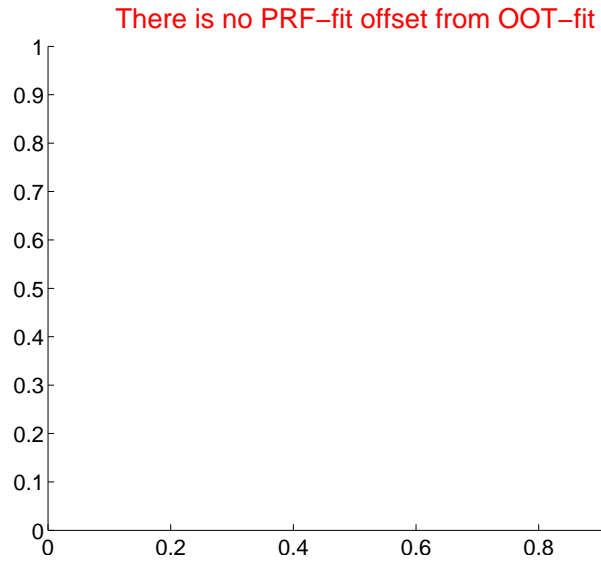
## DV Centroid Data

Supplemental centroid analysis for 009896797-01. Kepler magnitude: 14.48. Transit SNR 7.16

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$2.84 \pm 0.10$	29.08	$-2.83 \pm 0.10$	$0.27 \pm 0.08$

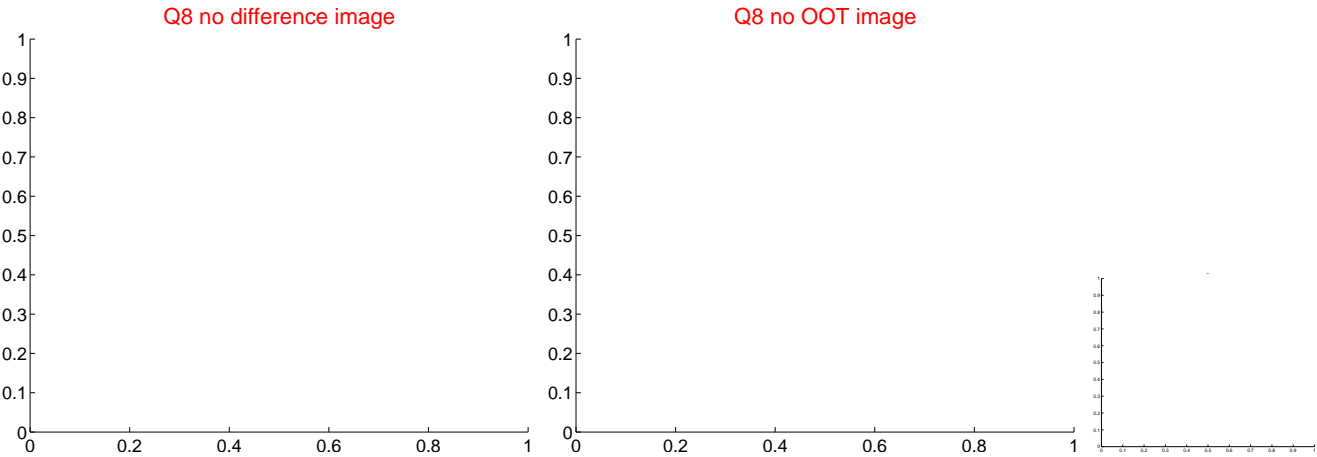
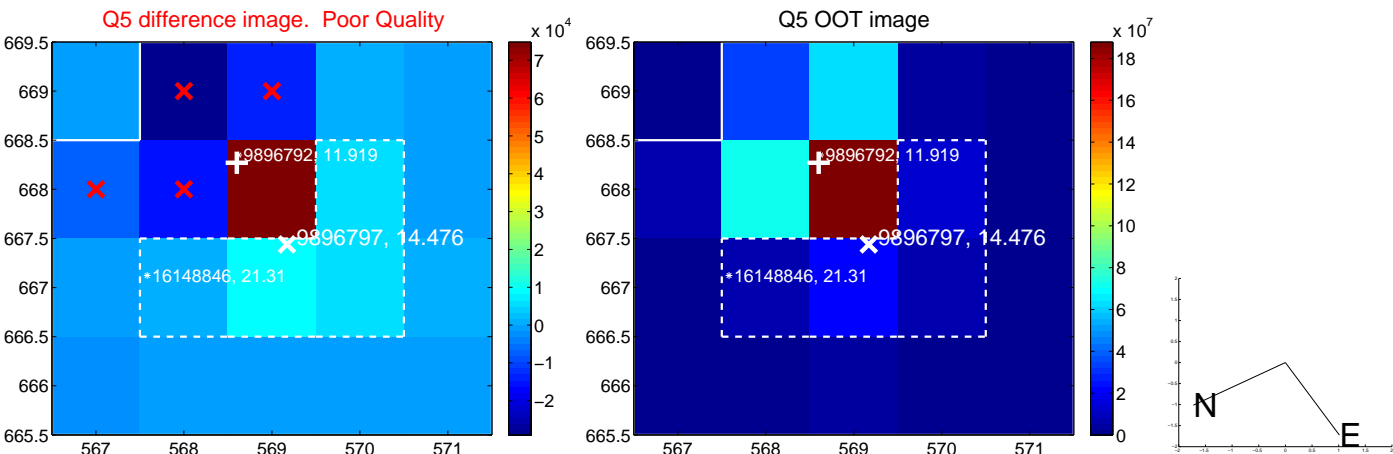


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

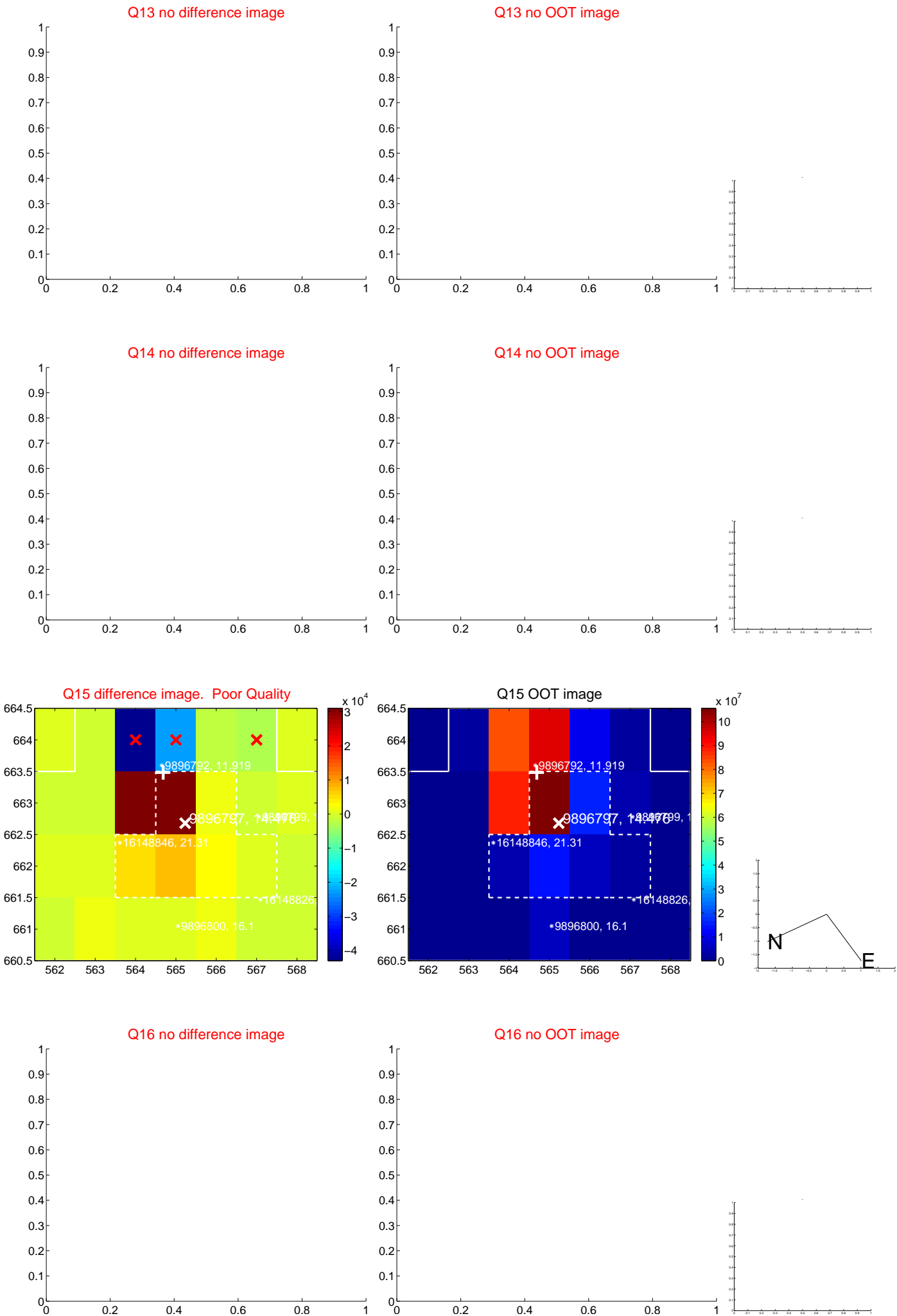




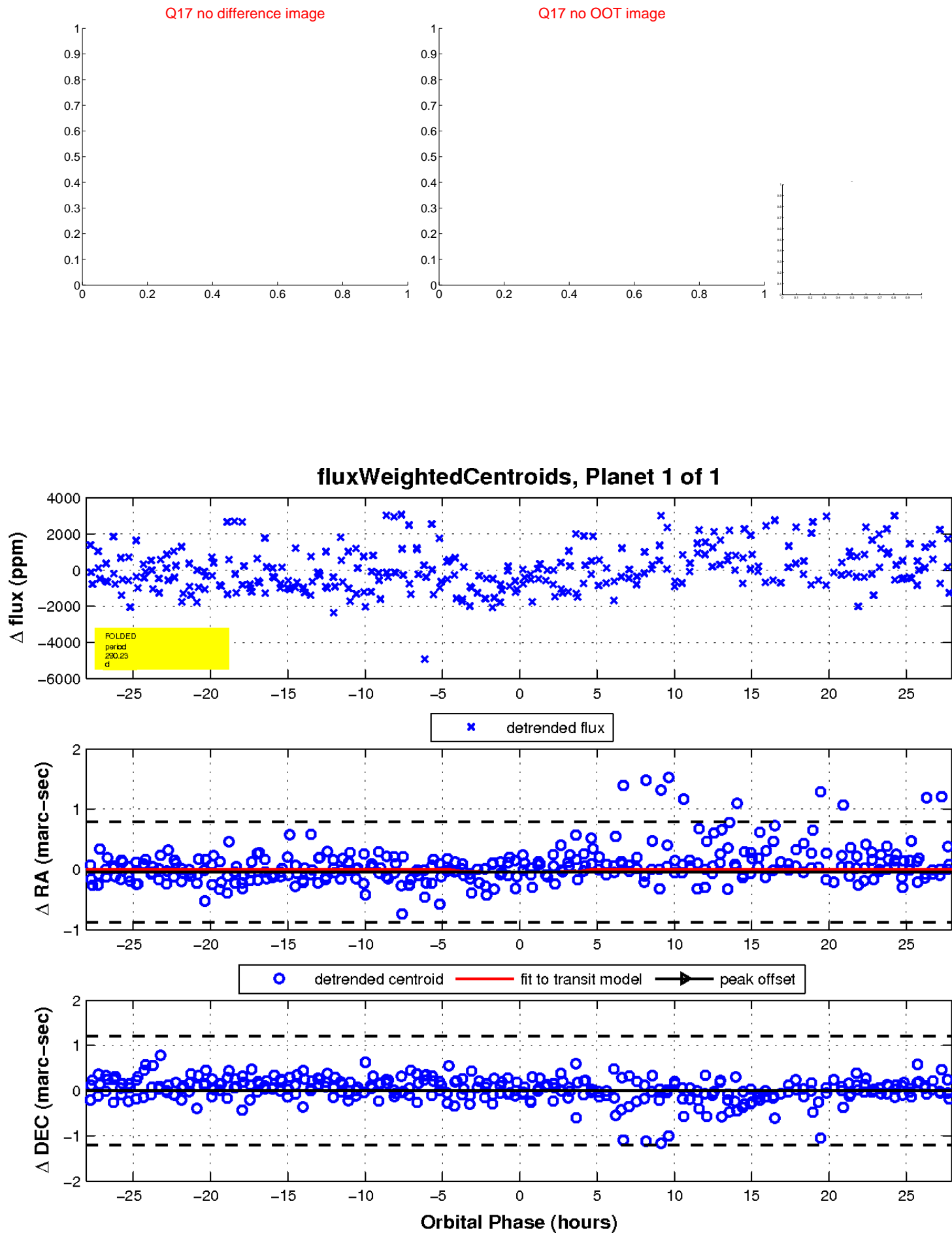
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: 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

