

# KIC 003330368

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003330368-01	OBS	No	1.692210	132.933945	448.7	9.397	7.6	9.1	1.88	6447	5.00	6436.43

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003330368-01	OBS	FP	0.00	1	0	0	0	LPP_DV—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.

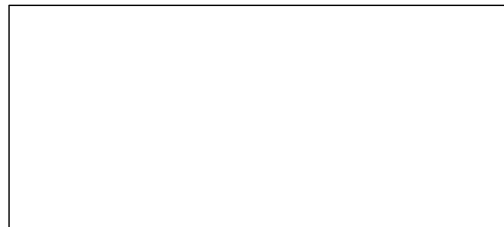
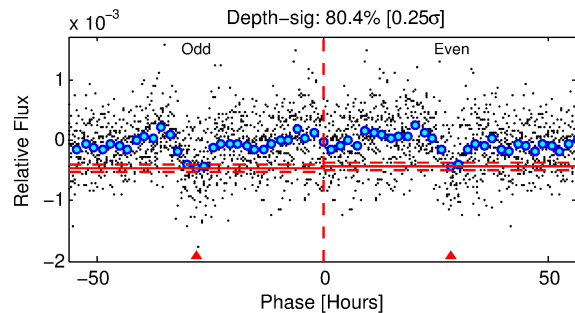
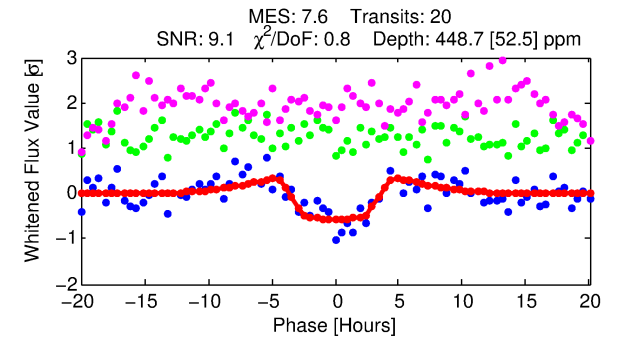
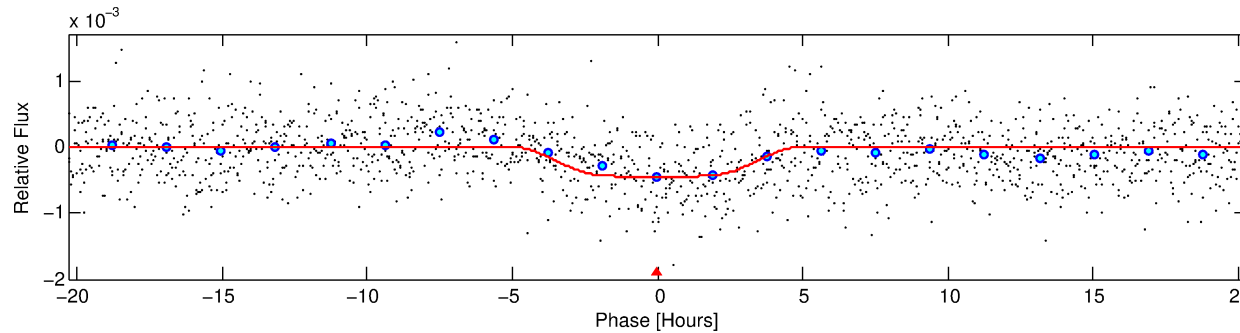
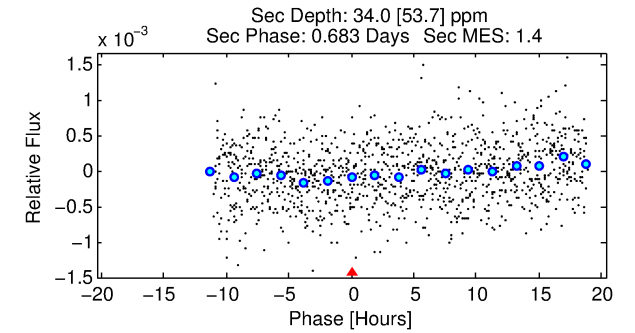
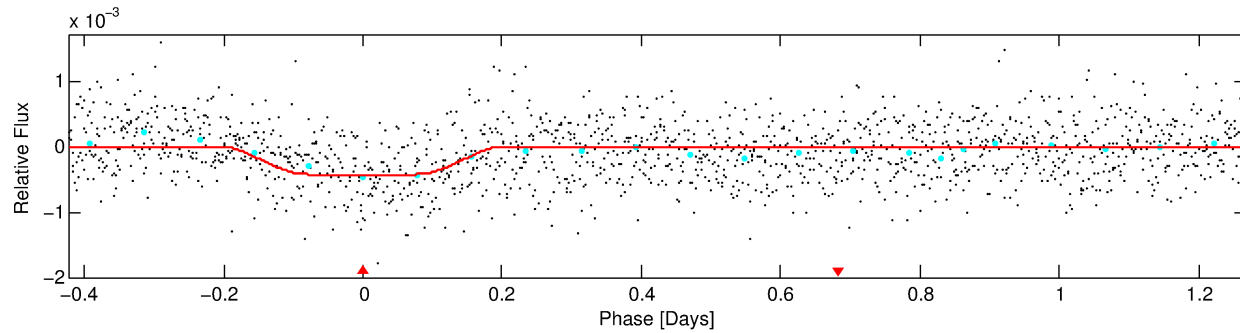
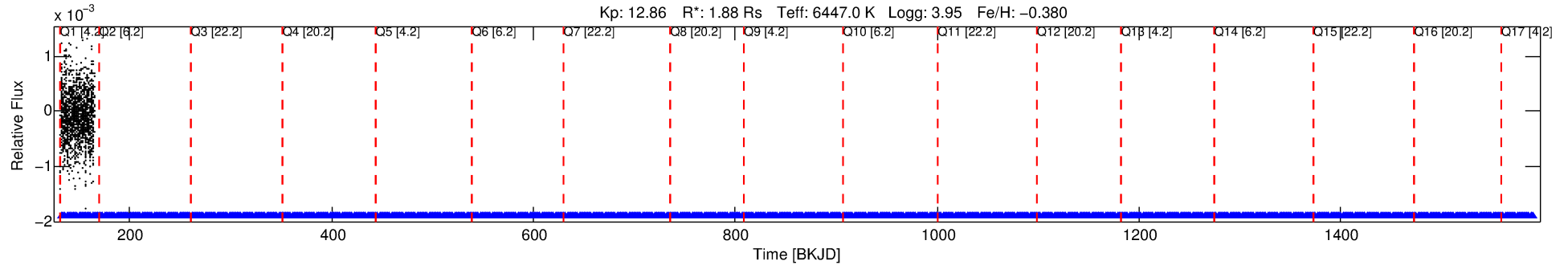
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003330368-01

No Significant Match Found

# DV One-Page Summary

KIC: 3330368 Candidate: 1 of 1 Period: 1.692 d



## DV Fit Results:

Period = 1.69221 [0.00147] d  
Epoch = 132.9339 [0.0162] BKJD  
Rp/R\* = 0.0244 [0.0017]  
a/R\* = 1.10 [0.03]  
b = 0.96 [0.01]  
Seff = 6436.43 [4360.39]  
Teq = 2284 [387] K  
Rp = 5.00 [1.96] Re  
a = 0.0292 [0.0116] AU  
Ag = 0.64 [1.09] [-0.33σ]  
Teffp = 3155 [1253] K [0.66σ]

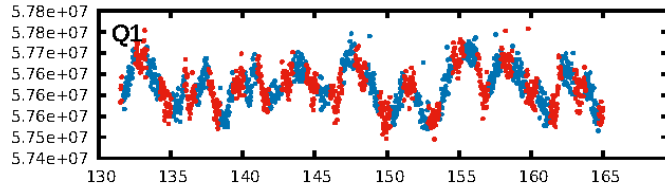
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 44.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 4.48e-15  
RollingBand-fgt: N/A  
GhostDiagnostic-chr: -0.3204  
Centroid-sig: N/A  
Centroid-so: 0.472 arcsec [0.74σ]  
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 [1/1]

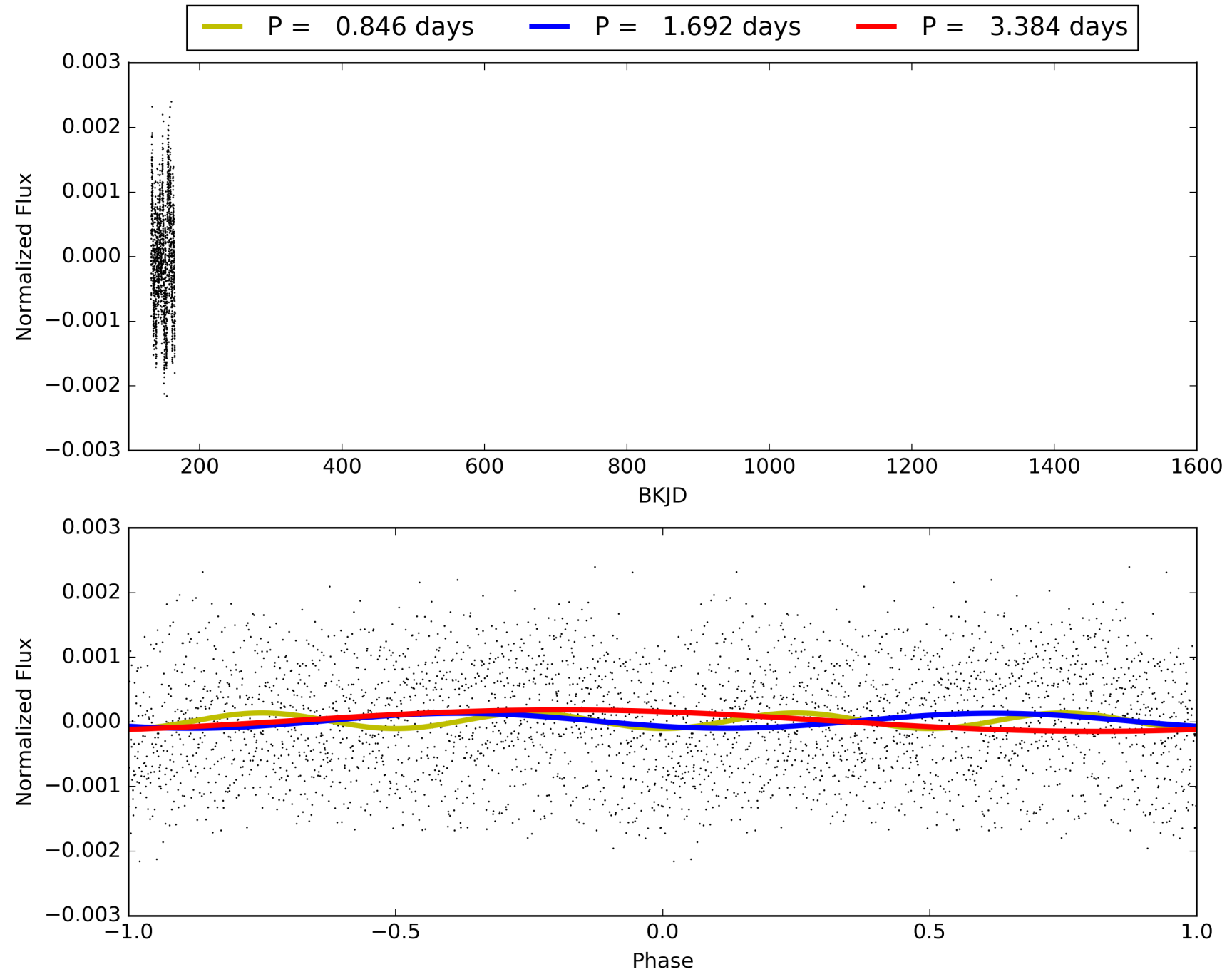
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 15:29:21 Z

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

# TCE 003330368-01, PDC Light Curves

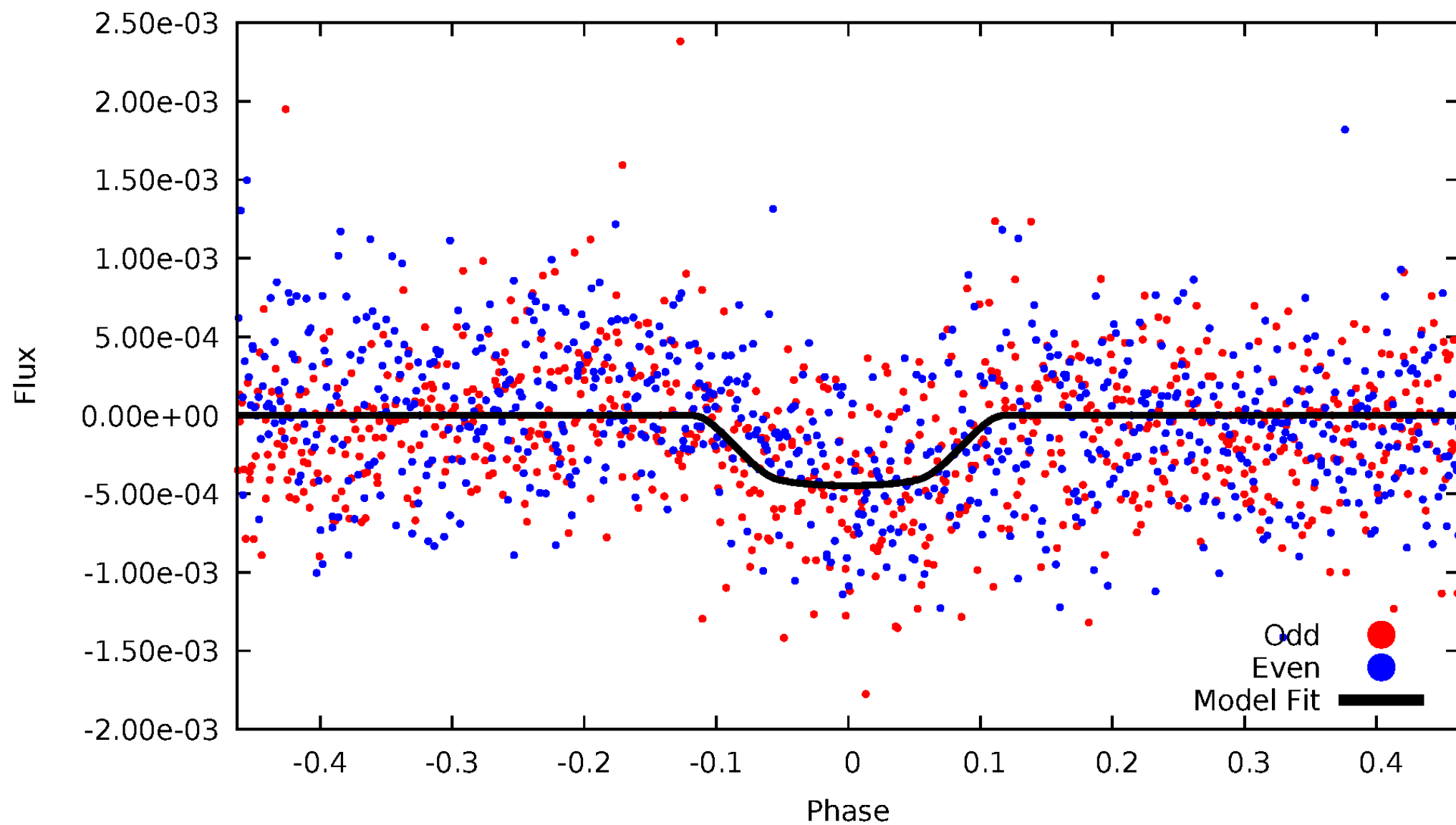


# TCE 003330368-01



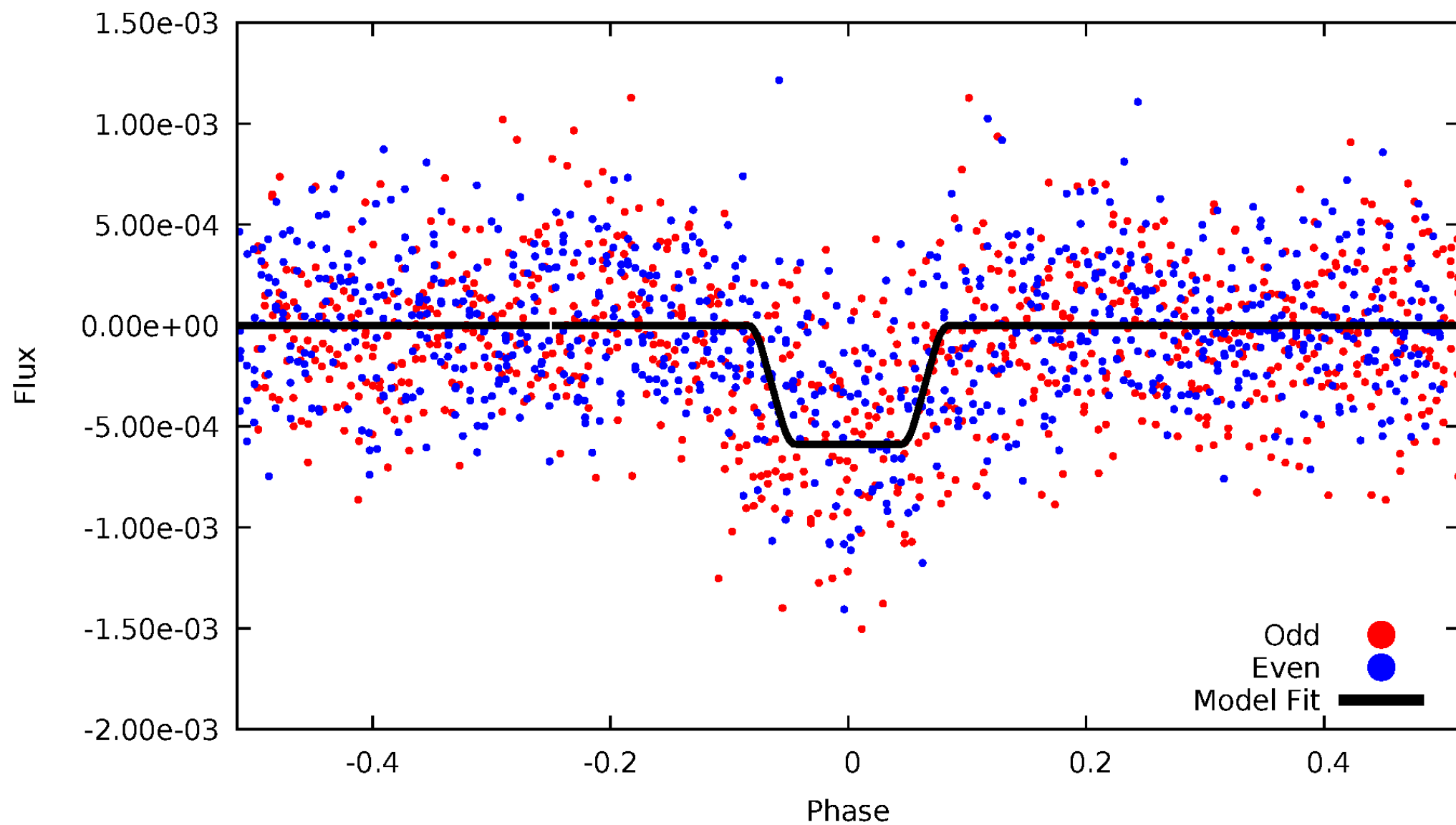
# DV Odd/Even

TCE 003330368-01



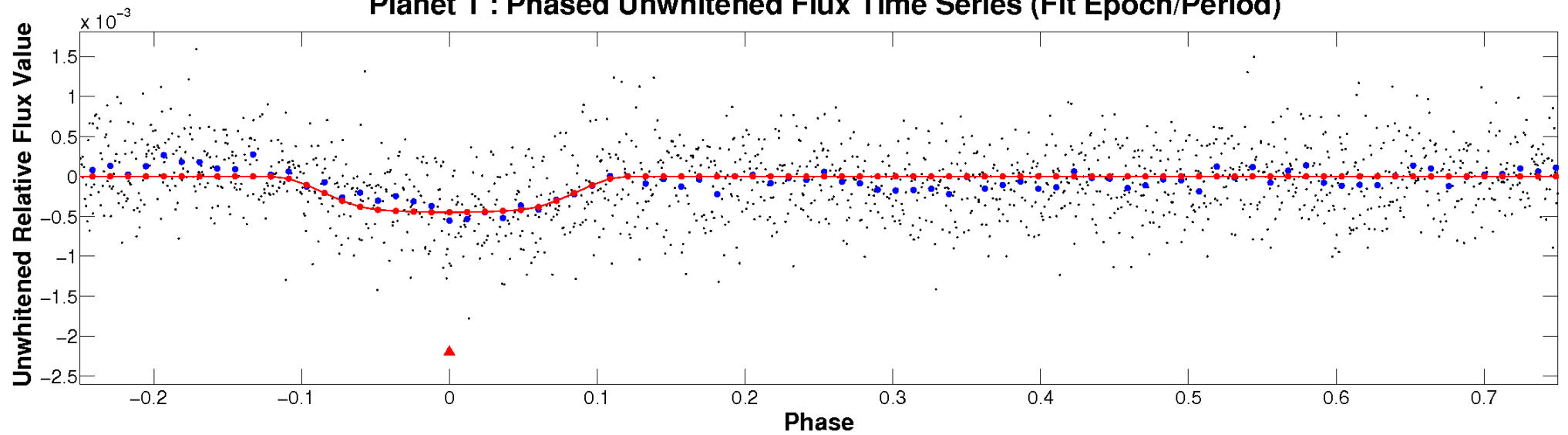
# ALT Odd/Even

TCE 003330368-01

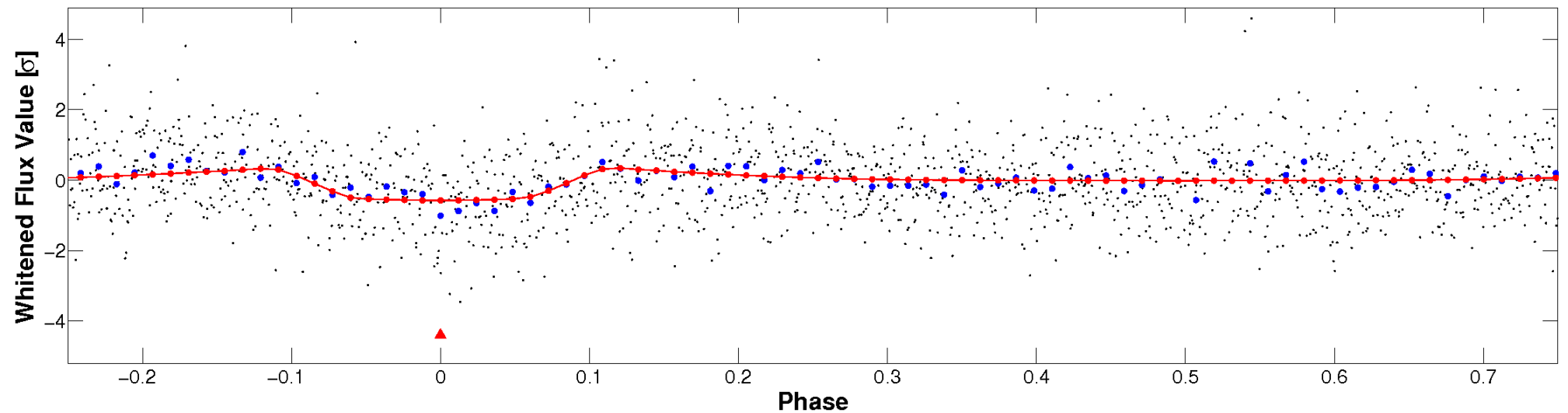


# Non-Whitened Vs. Whitened Light Curve

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

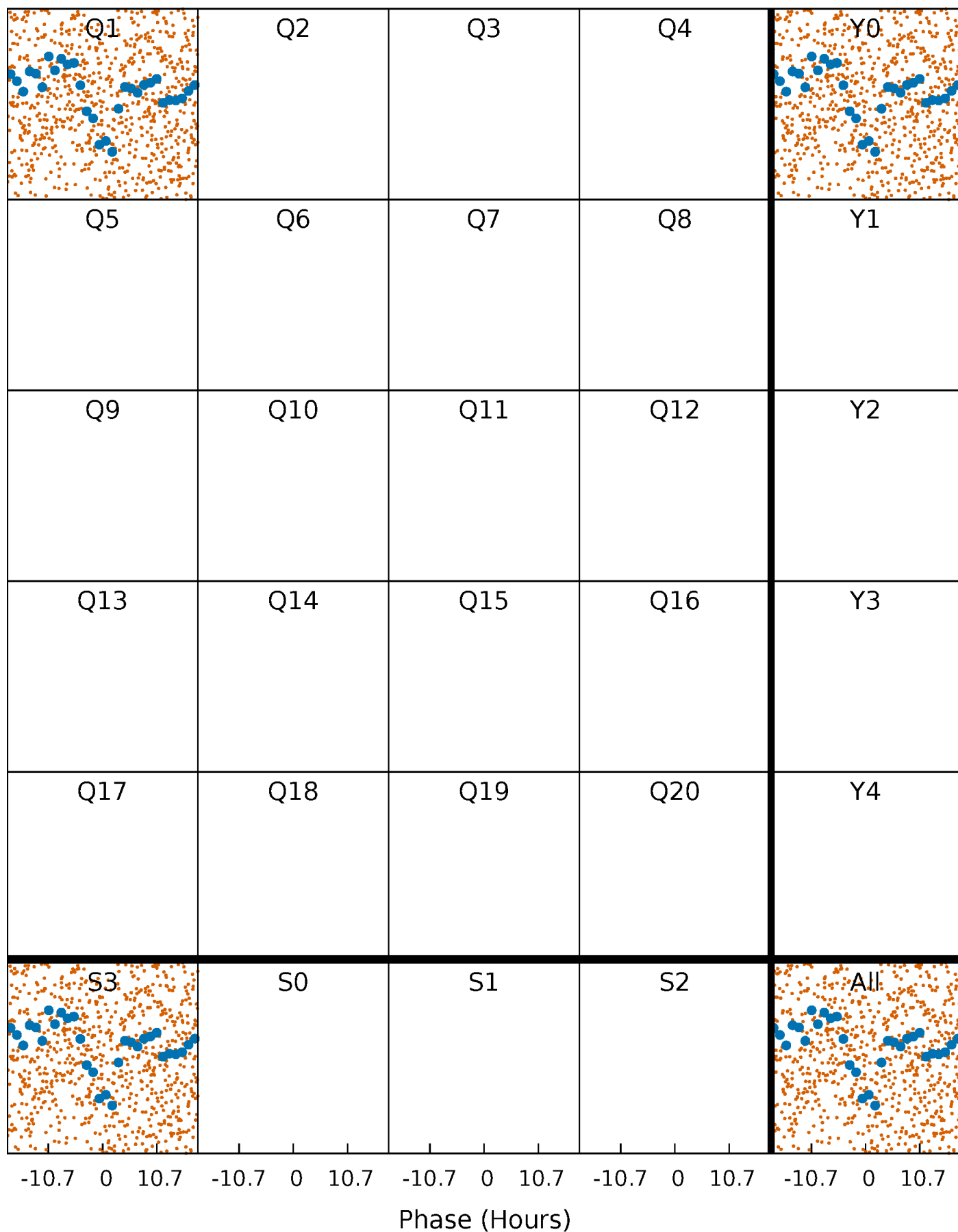


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

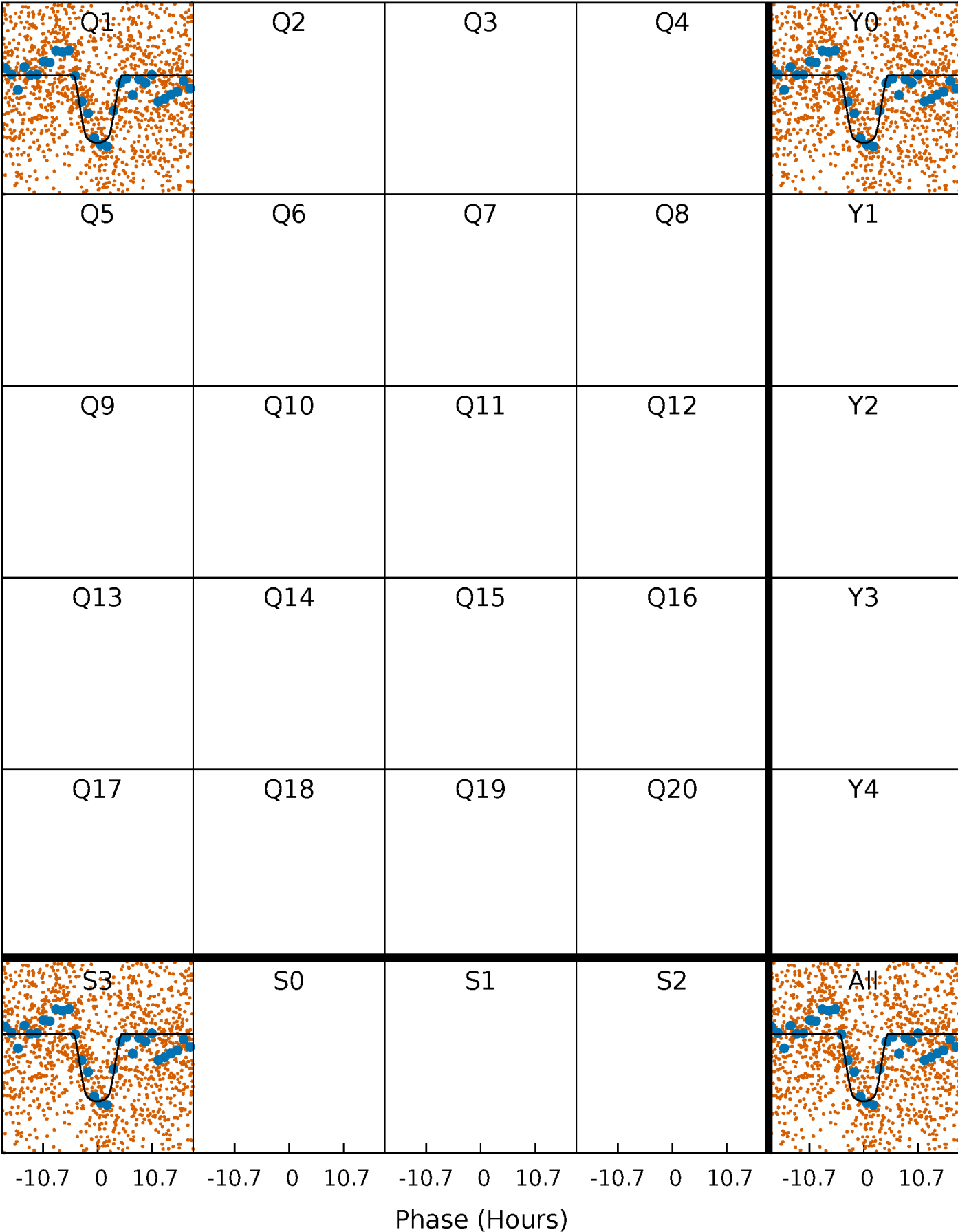
TCE 003330368-01   P= 1.692210 Days    $T_0=132.933945$  (BKJD)





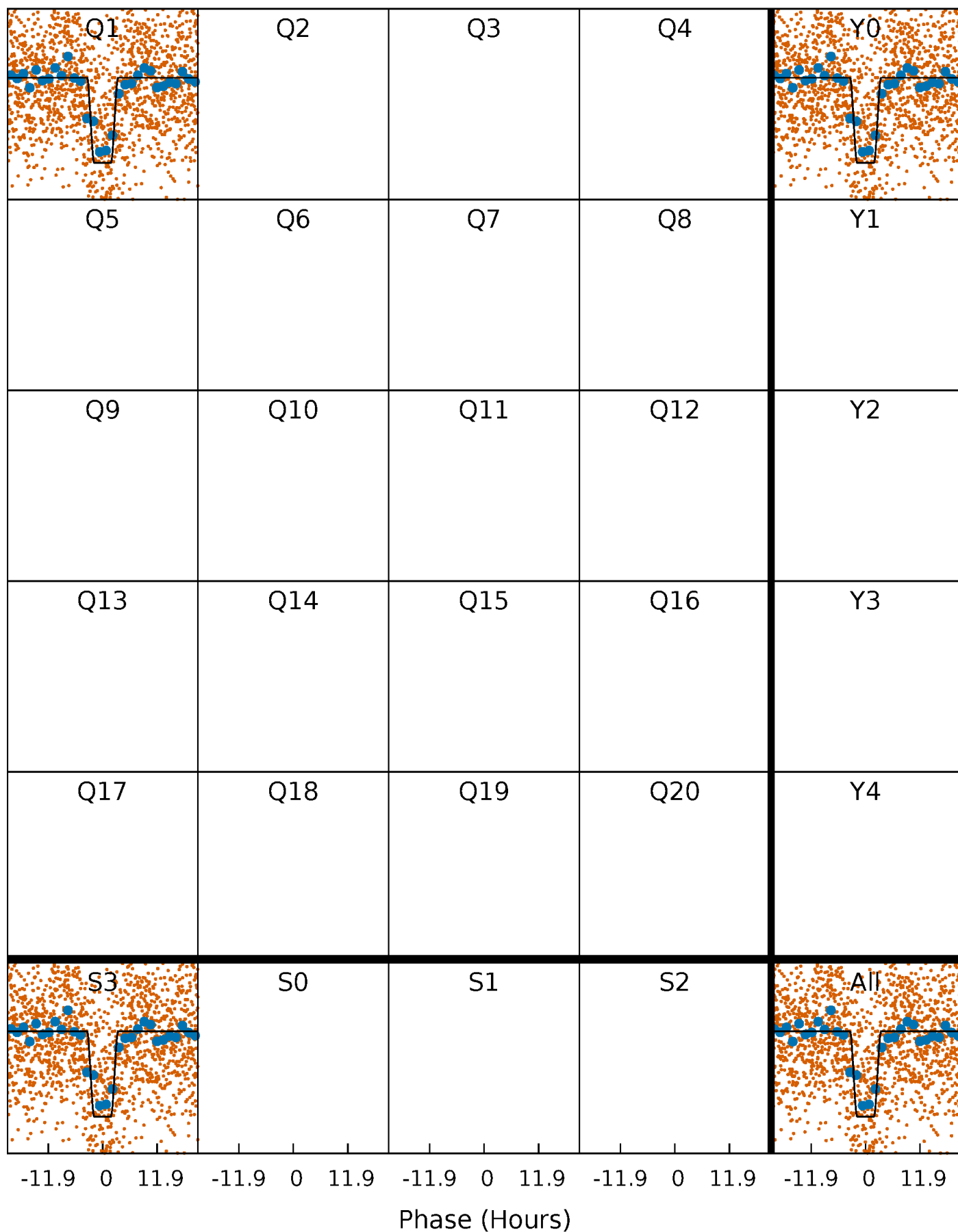
DV Quarter-Phased Transit Curves

TCE 003330368-01    P= 1.692210 Days    T<sub>0</sub>=132.933945 (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

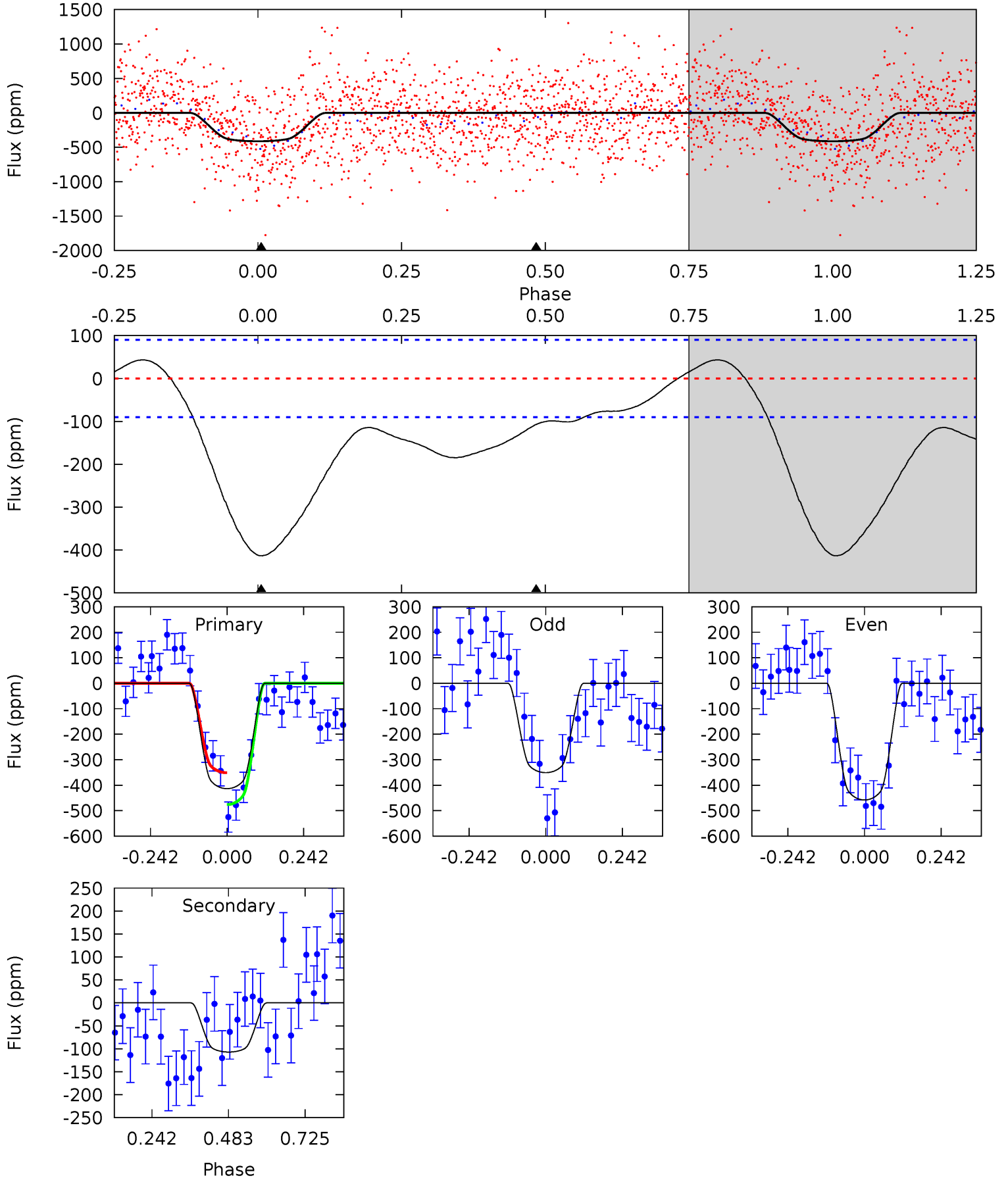
TCE 003330368-01 P= 1.690867 Days  $T_0=132.955843$  (BKJD)



# DV Model-Shift Uniqueness Test

003330368-01, P = 1.692210 Days, E = 131.241735 Days

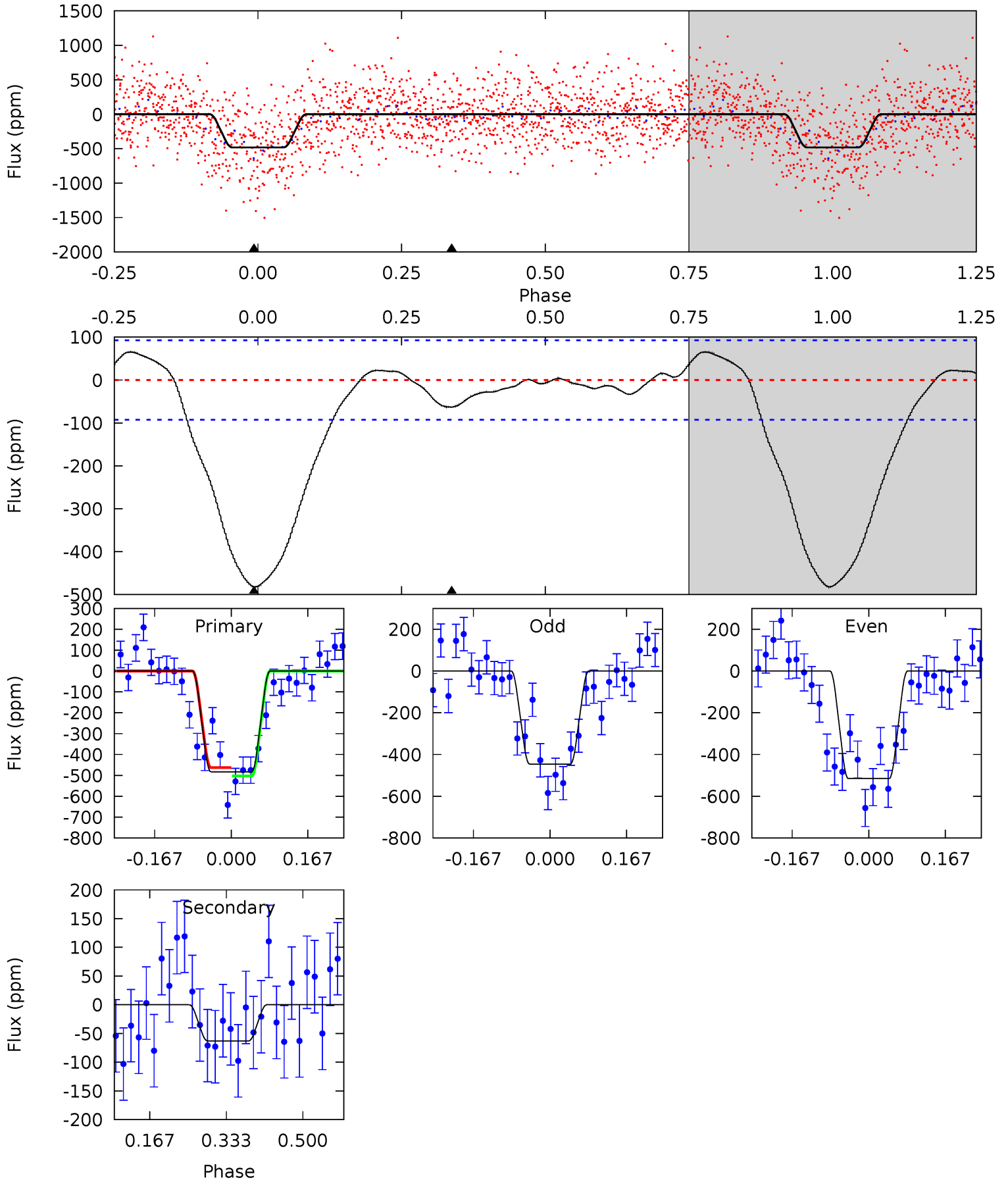
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	5.20	0	0	4.38	1.17	3.39	20.1	20.1	5.20	5.20	2.60	0.99	0.10	2.97



# Alt Model-Shift Uniqueness Test

003330368-01, P = 1.690867 Days, E = 131.264976 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
23.2	3.04	0	0	4.46	1.38	1.43	23.2	23.2	3.04	3.04	1.67	1.05	0.12	1.00



### Stellar Parameters For KIC 003330368

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6447^{+181}_{-227}$	$3.952^{+0.398}_{-0.133}$	$-0.380^{+0.300}_{-0.300}$	$1.881^{+0.483}_{-0.724}$	$1.155^{+0.181}_{-0.201}$	$0.244^{+0.811}_{-0.108}$
	+3%/-4%	+10%/-3%	+79%/-79%	+26%/-38%	+16%/-17%	+332%/-44%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 003330368-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-107 \pm 21$	$4.79^{+0.88}_{-1.07}$	$3102^{+250}_{-331}$	$4272^{+255}_{-244}$	$2.212^{+1.338}_{-0.670}$
Alt.	$-63 \pm 21$	$4.79^{+0.86}_{-1.02}$	$3115^{+254}_{-337}$	$3830^{+282}_{-380}$	$1.304^{+0.878}_{-0.502}$

$T_{\text{max}}$  = 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

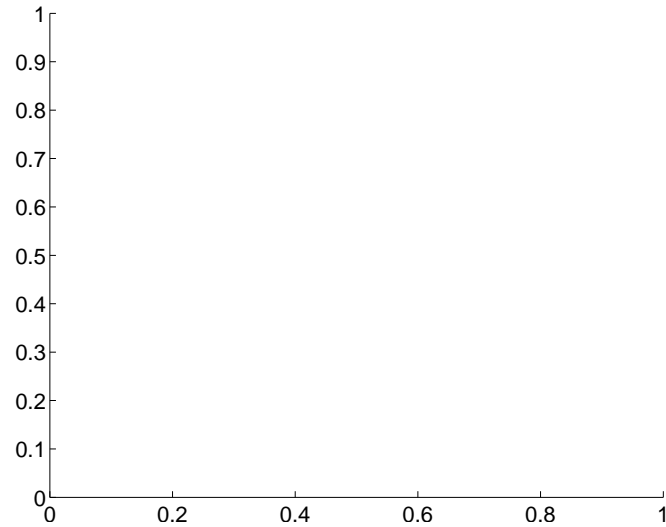
Supplemental centroid analysis for 003330368-01. Kepler magnitude: 12.86. Transit SNR 9.11

There are 0 quarters with good PRF difference image offsets

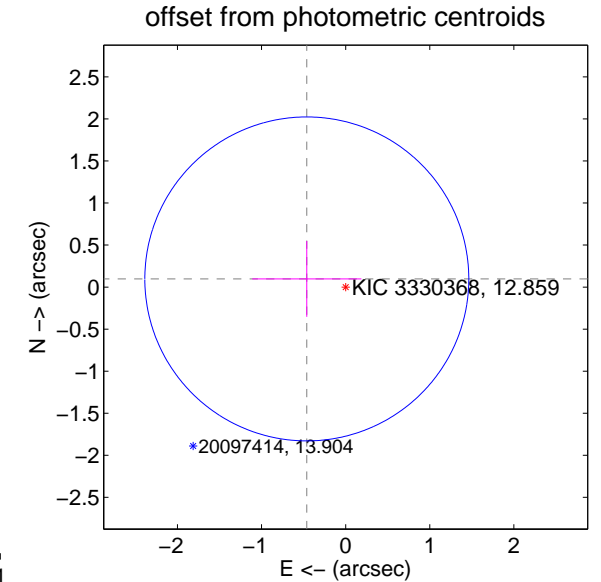
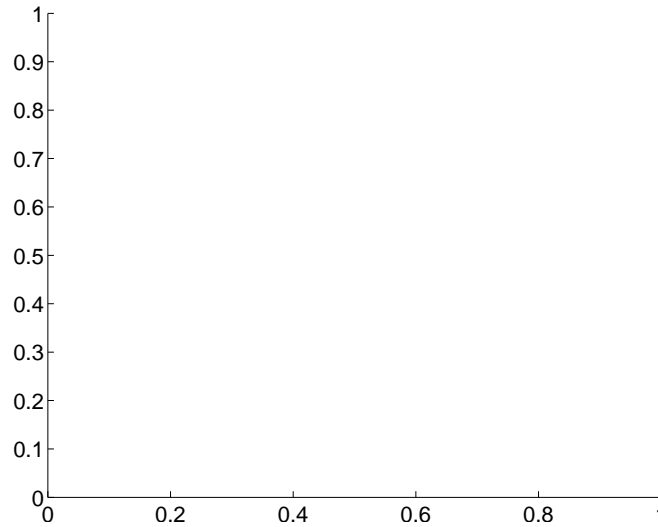
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	$0.47 \pm 0.64$	0.74	$0.46 \pm 0.65$	$0.10 \pm 0.45$

There is no PRF-fit offset from OOT-fit

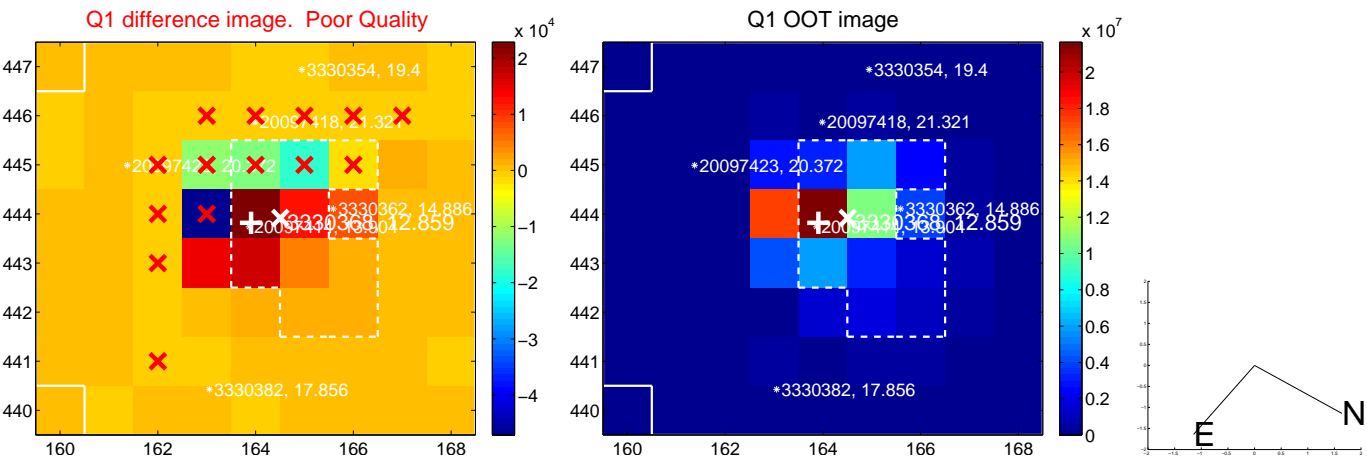


There is no PRF-fit offset from KIC



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.





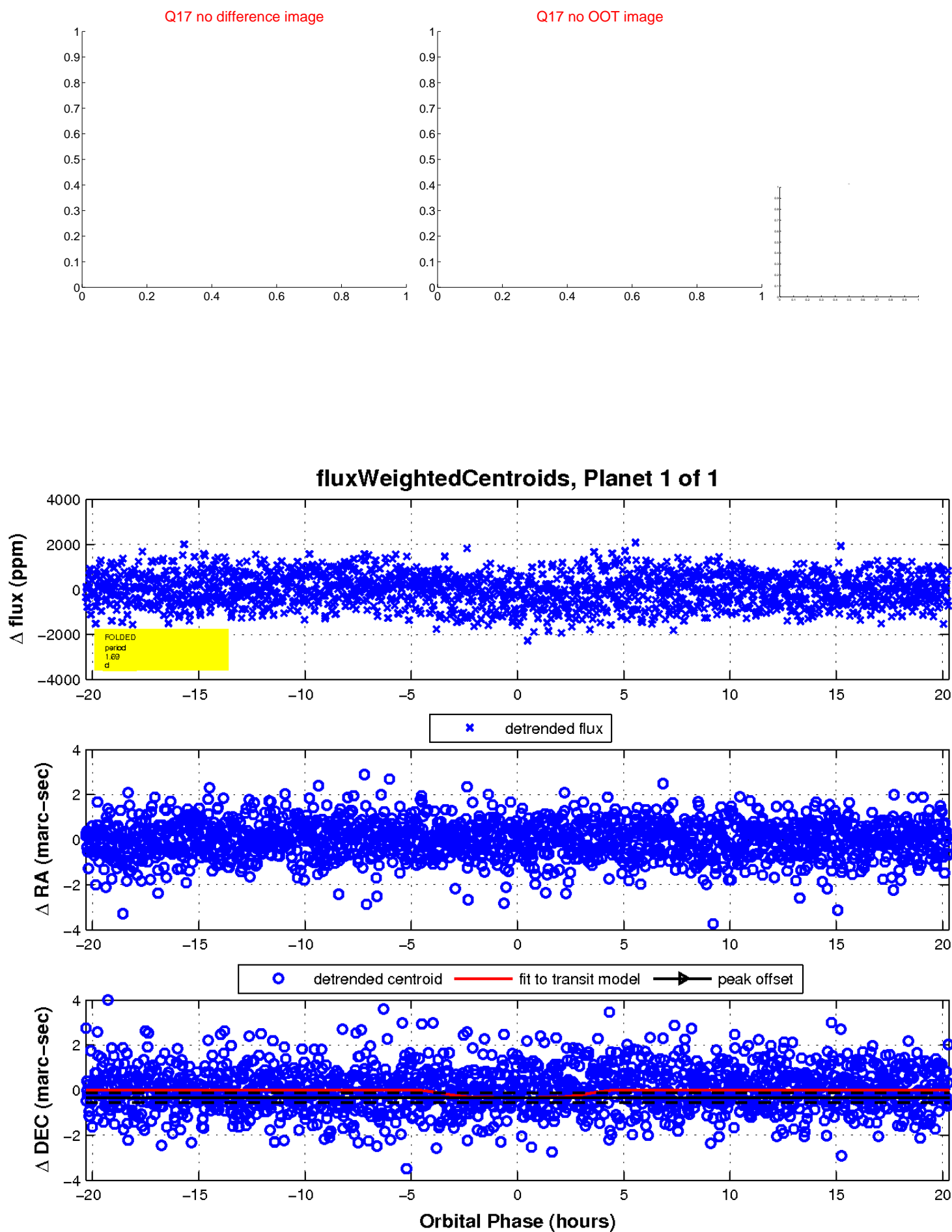
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



# UKIRT Image

Declination

