

# KIC 004367611

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004367611-01	OBS	No	367.991736	494.395513	781.6	20.721	8.5	8.6	0.97	6068	2.76	1.11

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004367611-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—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.

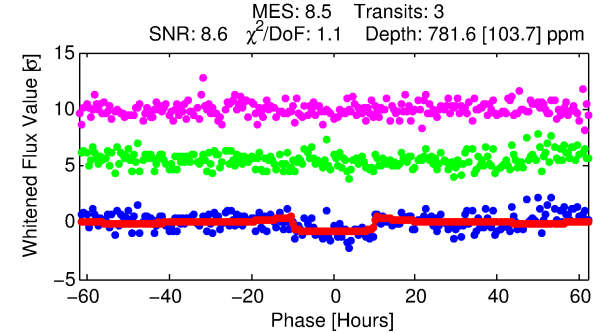
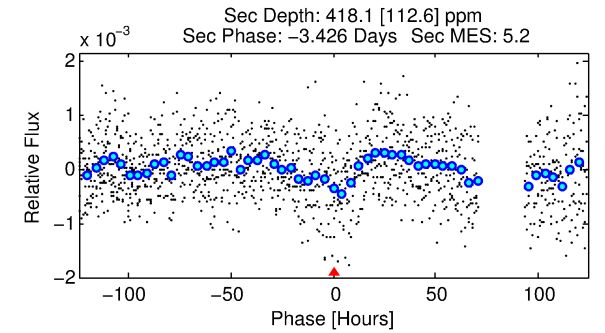
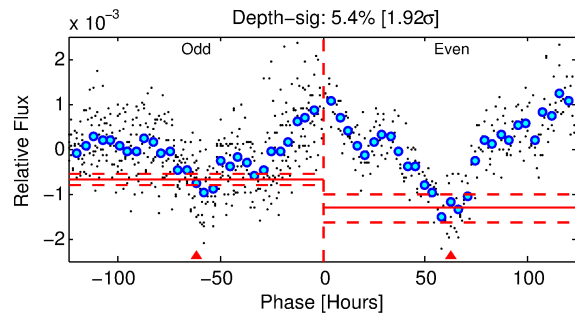
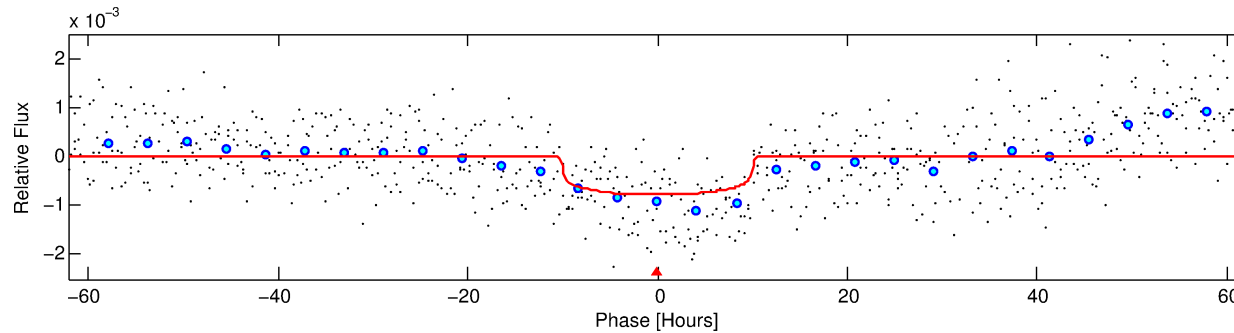
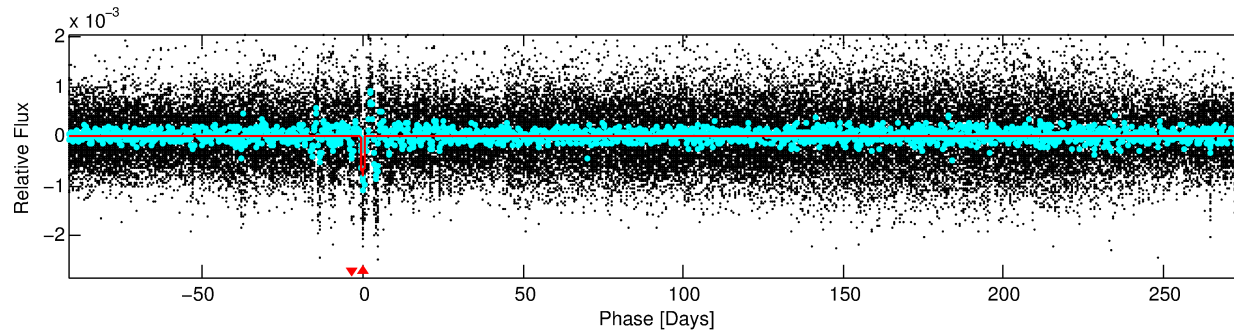
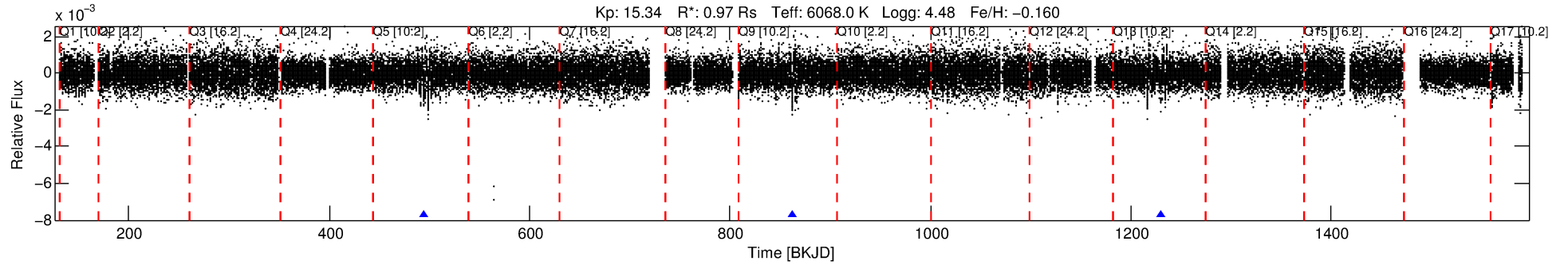
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004367611-01

No Significant Match Found

# DV One-Page Summary

KIC: 4367611 Candidate: 1 of 1 Period: 367.992 d



## DV Fit Results:

Period = 367.99174 [0.01467] d  
Epoch = 494.3955 [0.0204] BKJD  
Rp/R\* = 0.0261 [0.0099]  
a/R\* = 125.64 [225.16]  
b = 0.44 [3.28]  
Seff = 1.11 [0.48]  
Teq = 262 [28] K  
Rp = 2.76 [1.39] Re  
a = 1.0142 [0.2828] AU  
Ag = 30986.49 [27968.12] [1.11 $\sigma$ ]  
Teffp = 5367 [1096] K [4.66 $\sigma$ ]

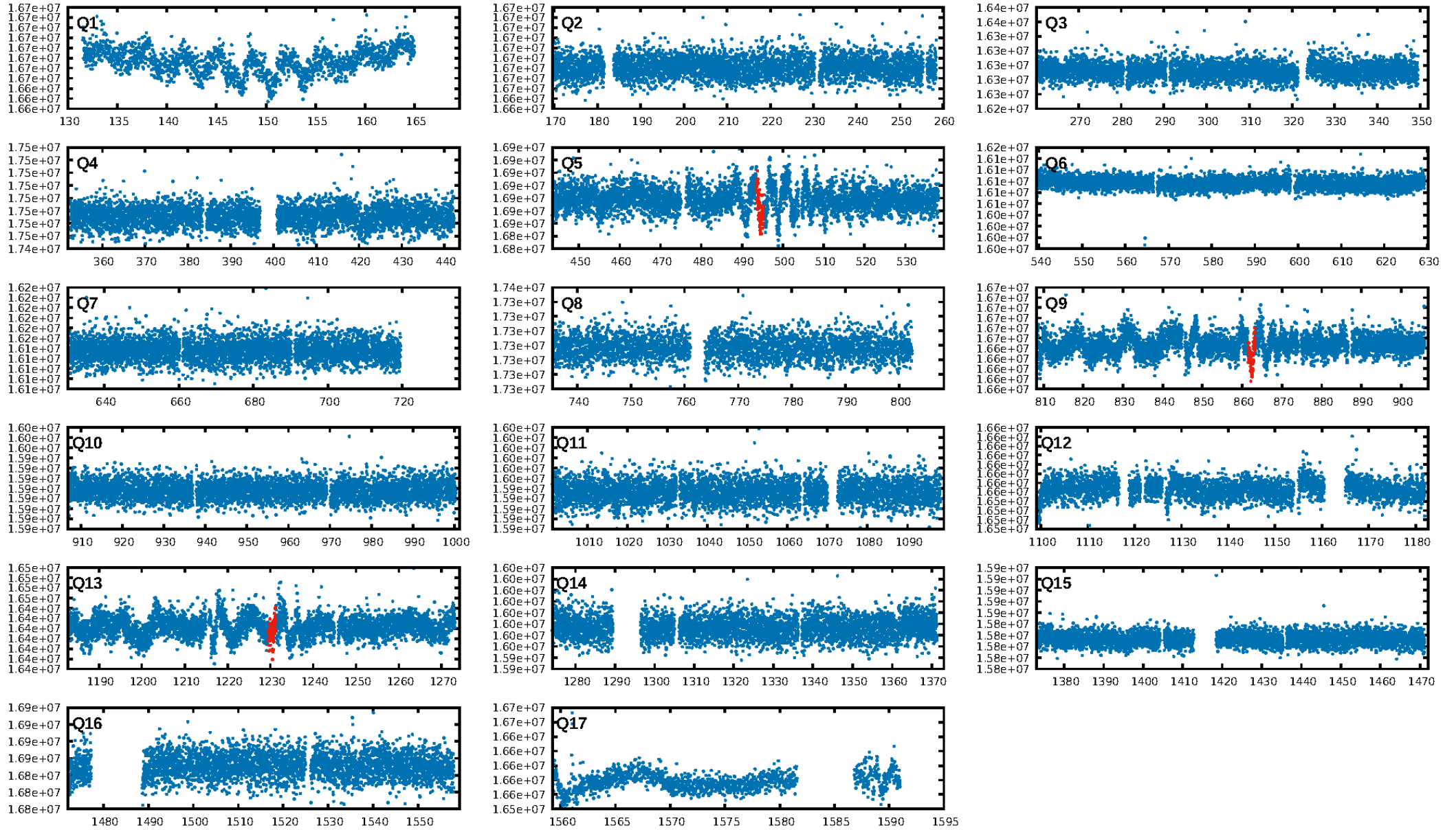
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 3.8%  
ModelChiSquareGof-sig: 98.8%  
**Bootstrap-pfa: 6.19e-10**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 8.223  
Centroid-sig: 5.9%  
Centroid-so: 2.162 arcsec [1.31 $\sigma$ ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0 [0]  
KicOffset-st: 0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [2/2]

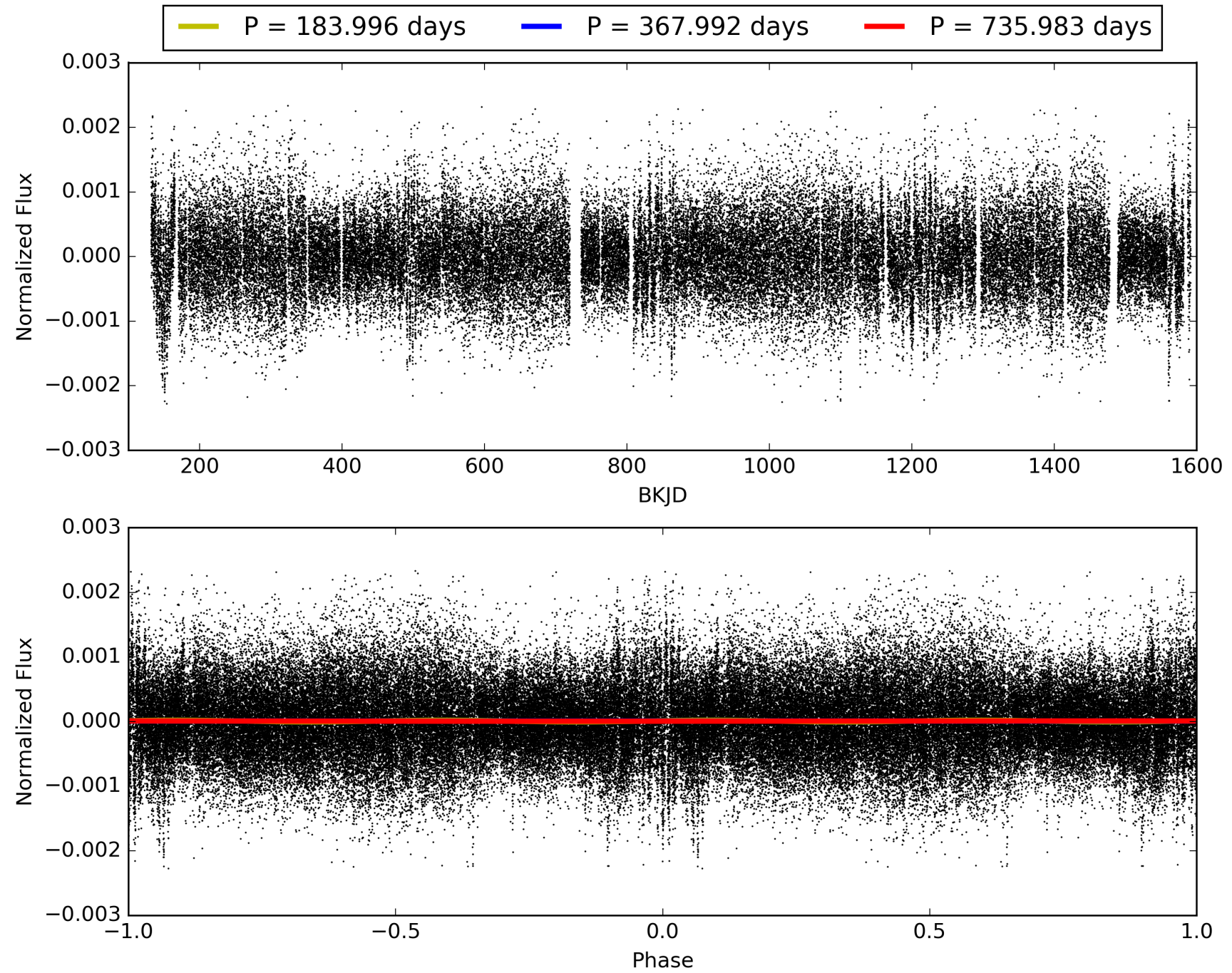
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:23:10 Z

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

# TCE 004367611-01, PDC Light Curves

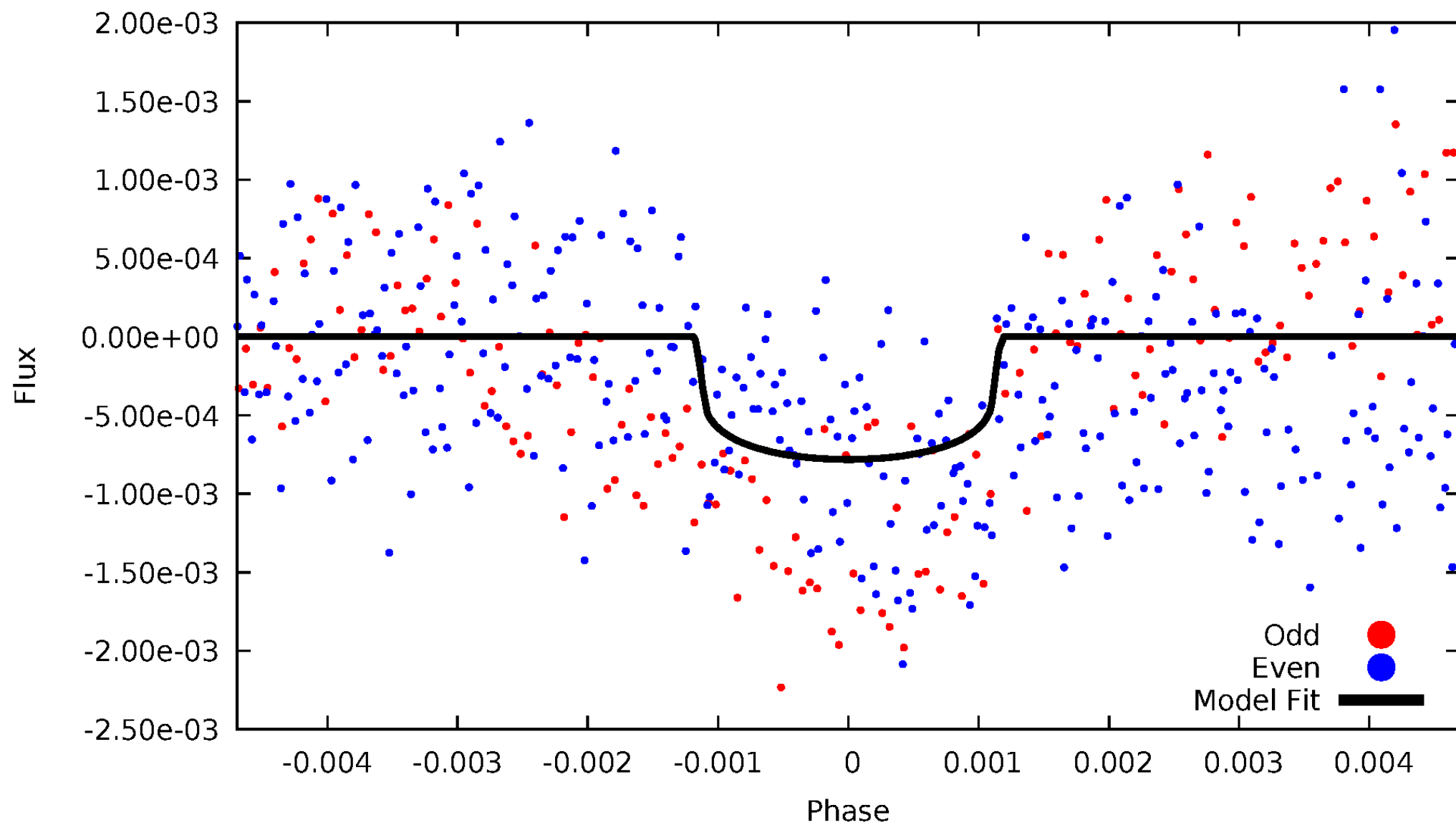


TCE 004367611-01



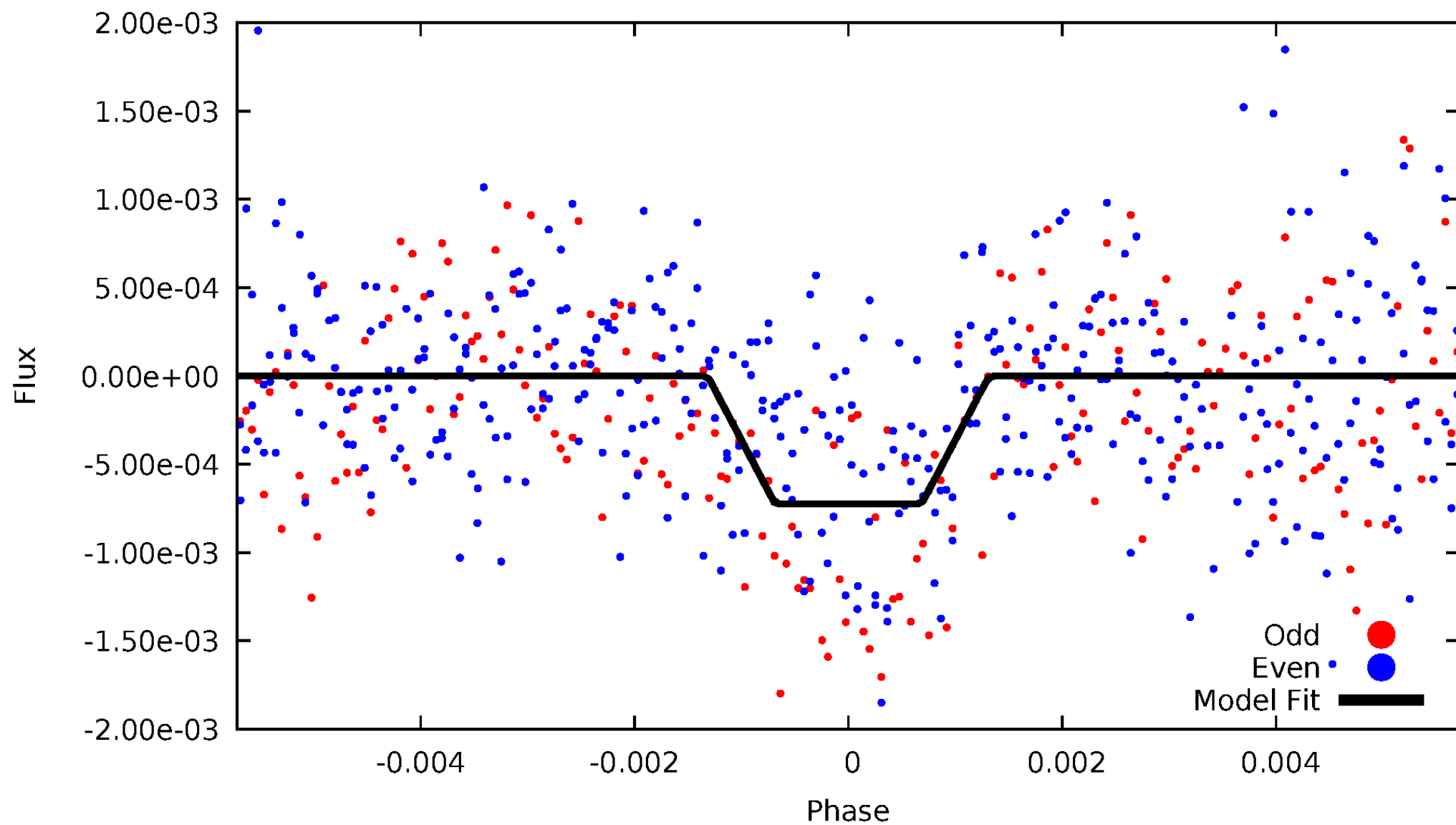
# DV Odd/Even

TCE 004367611-01



# ALT Odd/Even

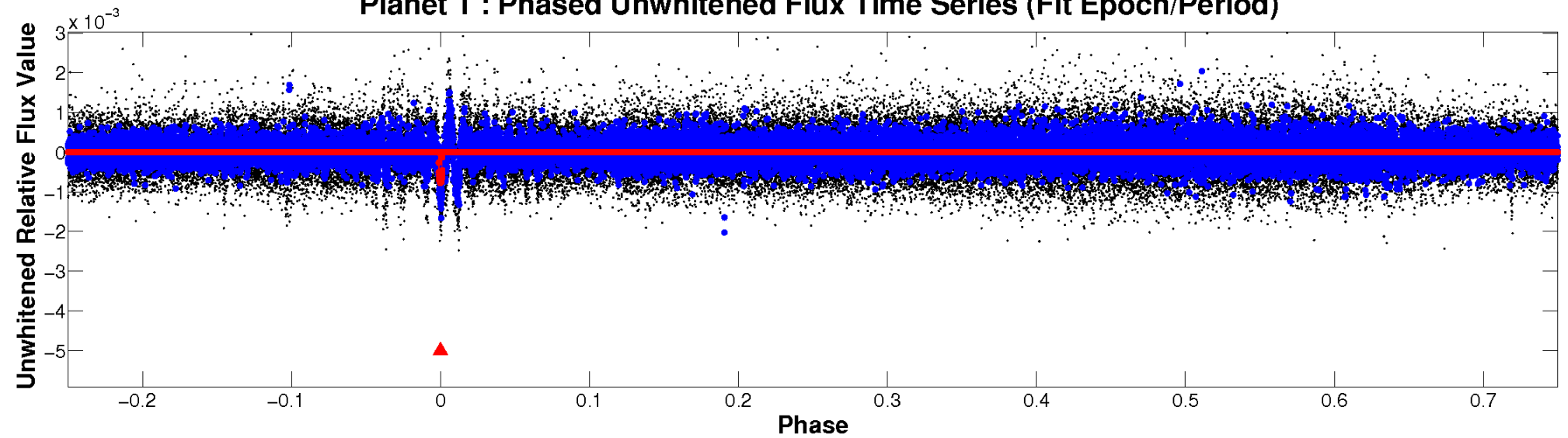
TCE 004367611-01



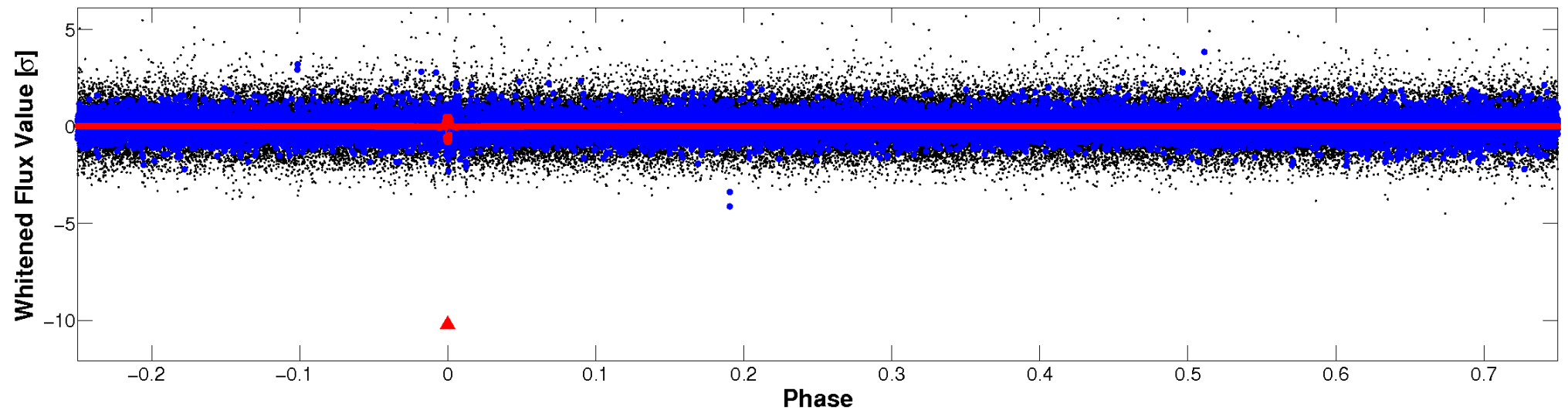


# Non-Whitened Vs. Whitened Light Curve

**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

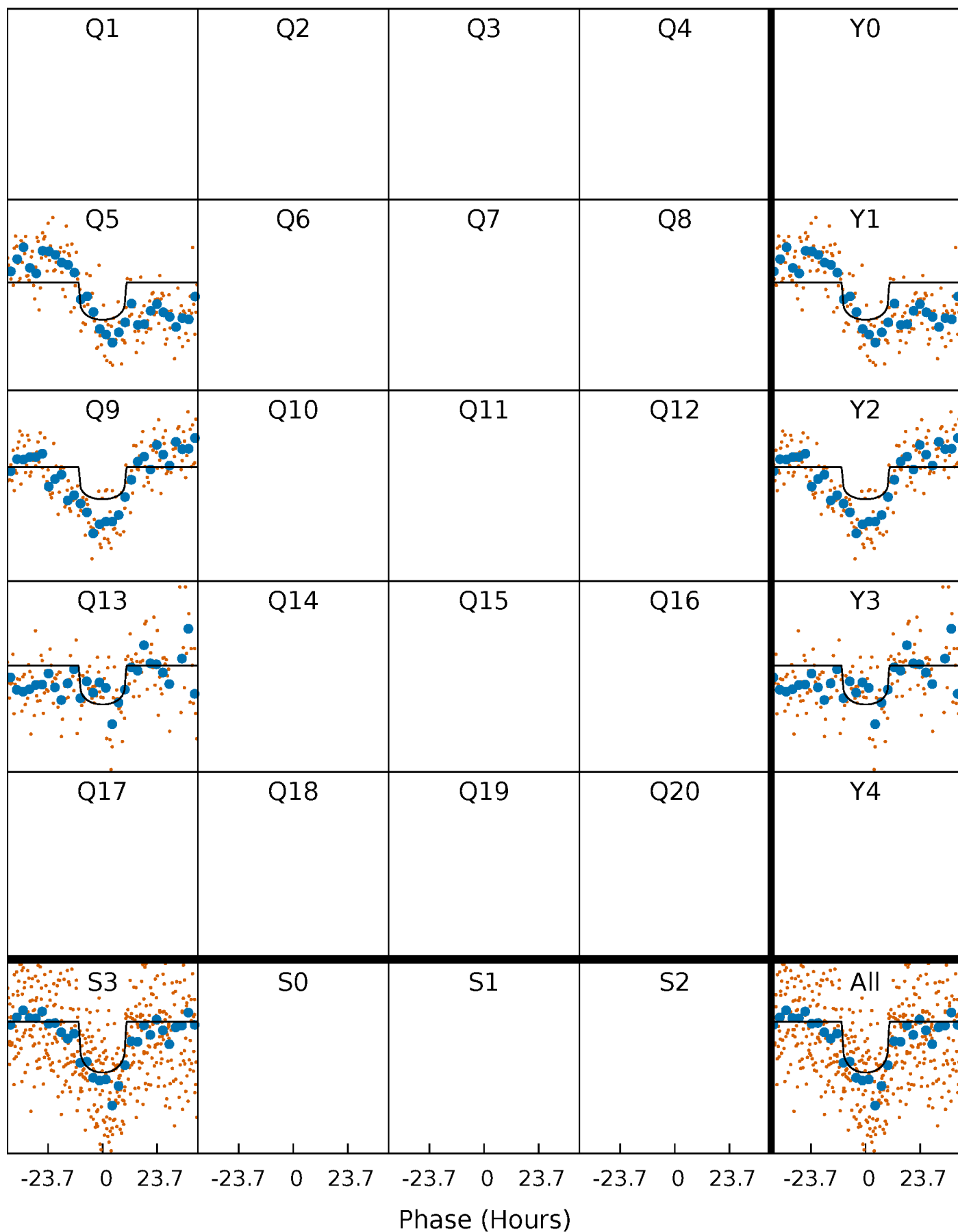
TCE 004367611-01 P=367.991736 Days  $T_0=494.395513$  (BKJD)





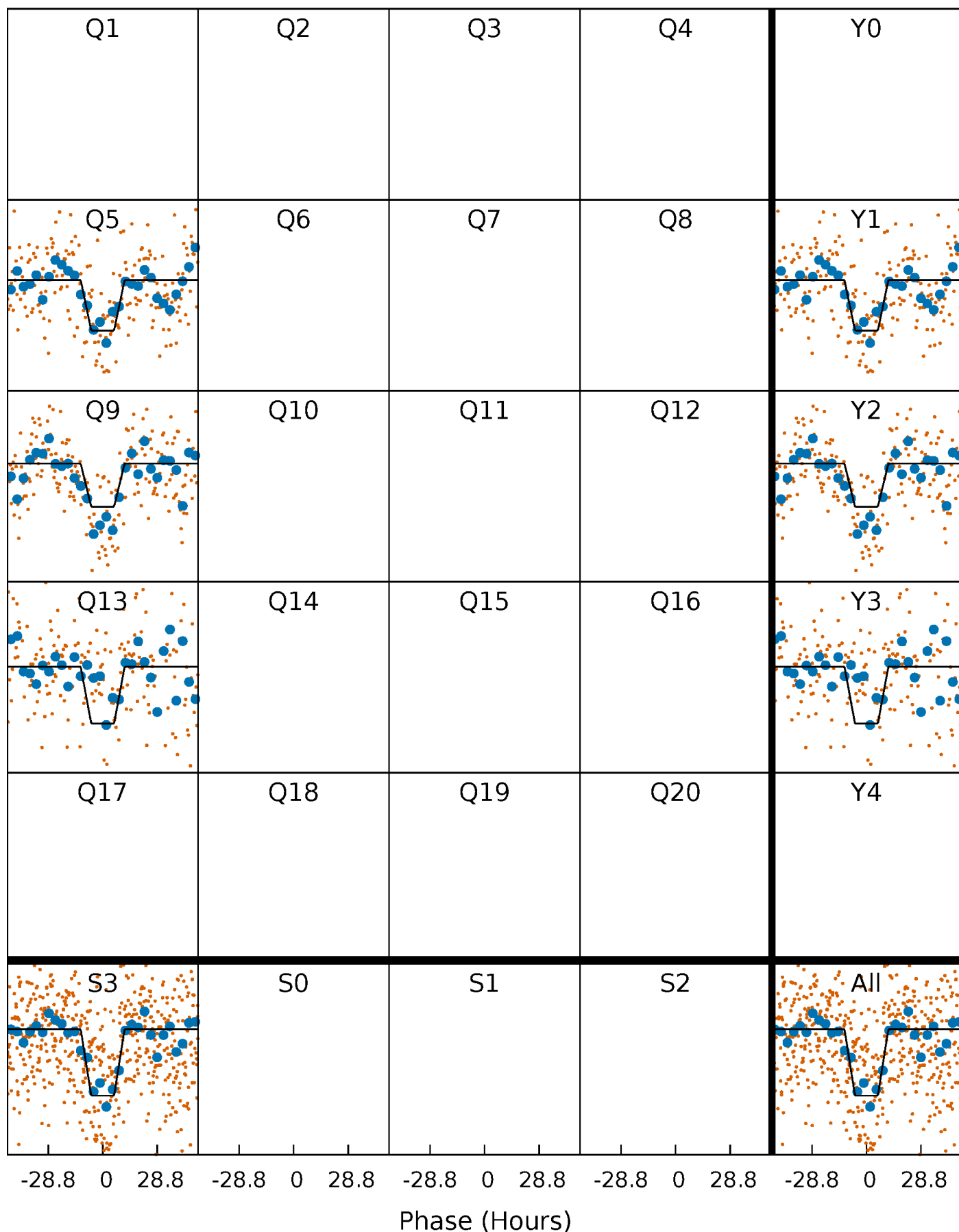
# DV Quarter-Phased Transit Curves

TCE 004367611-01 P=367.991736 Days  $T_0=494.395513$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

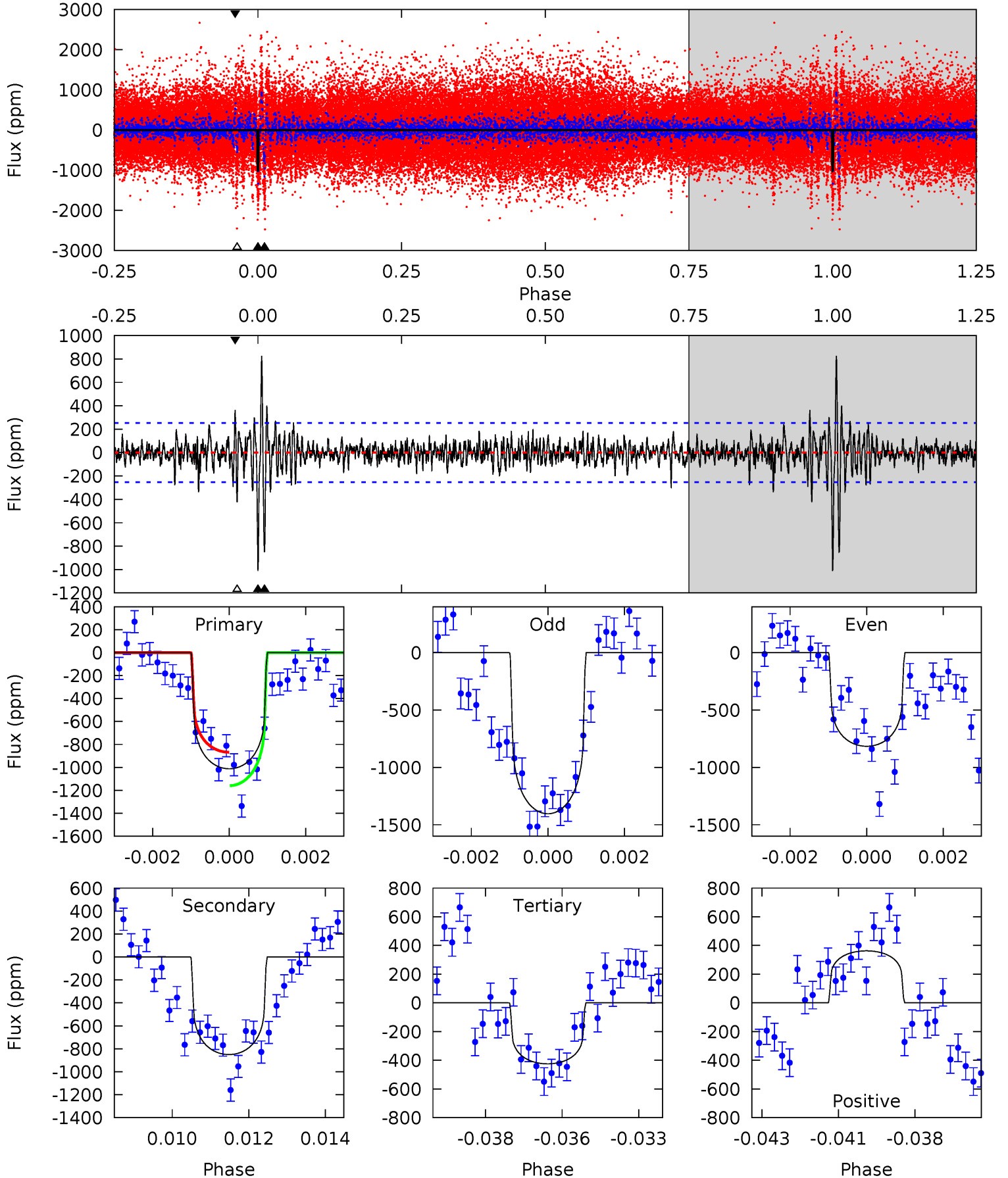
TCE 004367611-01 P=367.987982 Days  $T_0=494.442787$  (BKJD)



# DV Model-Shift Uniqueness Test

004367611-01, P = 367.991736 Days, E = 126.403777 Days

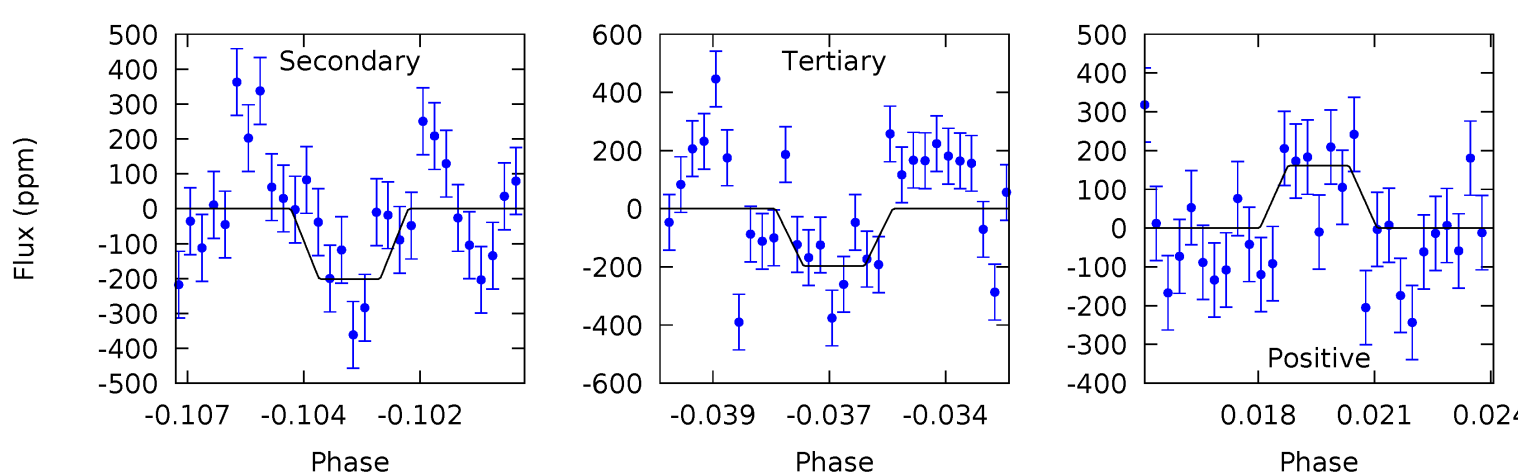
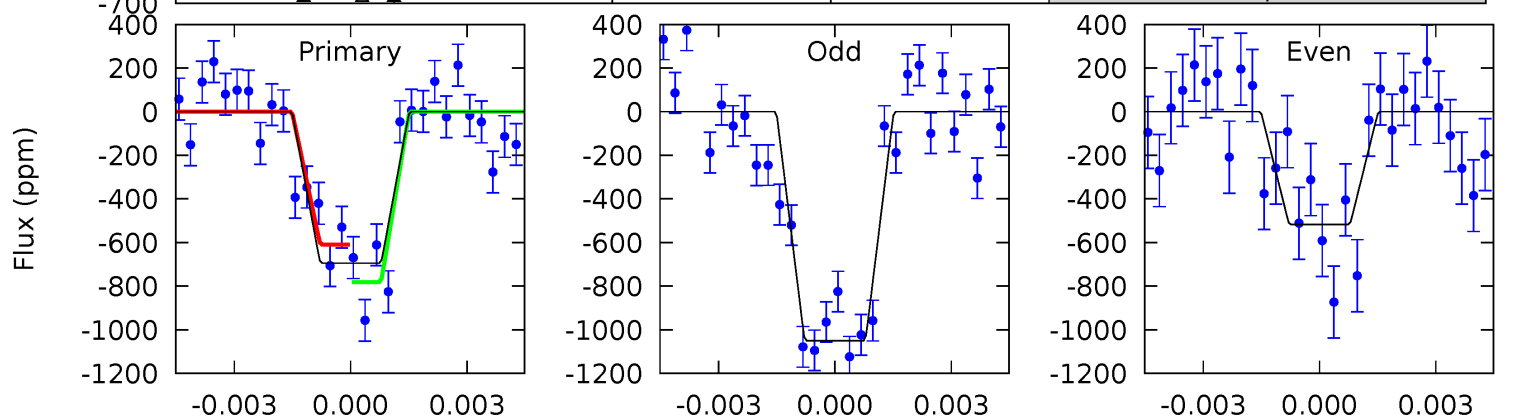
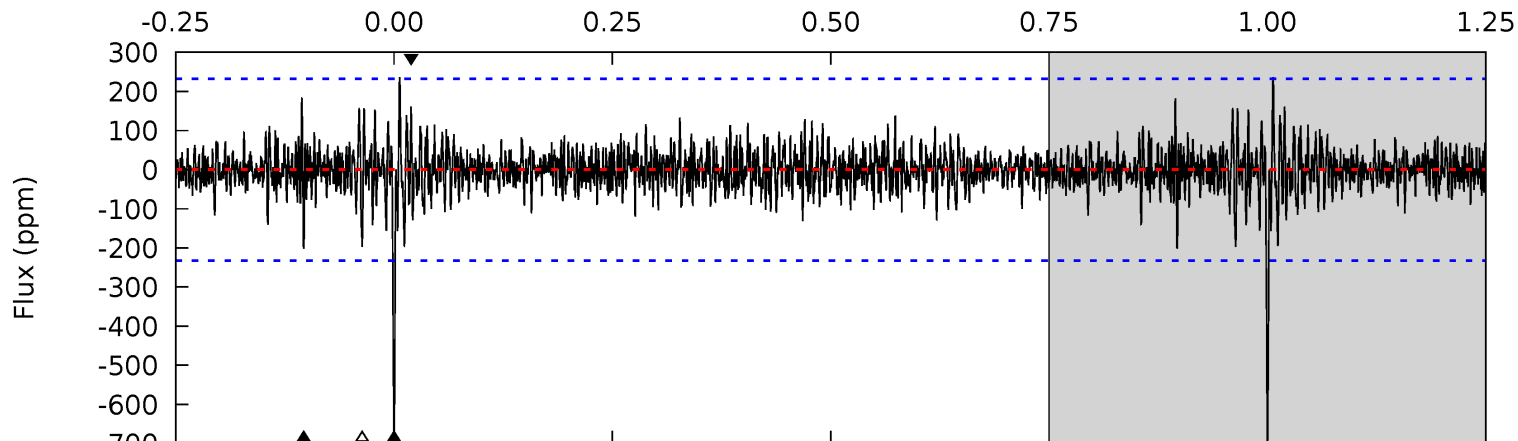
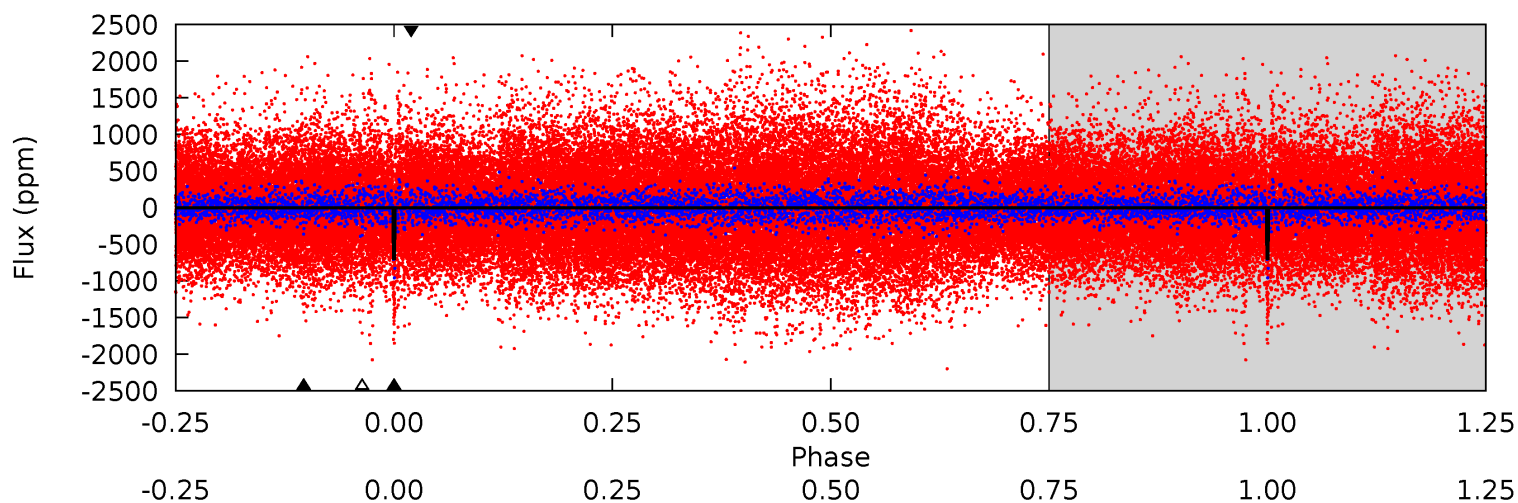
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.2	17.8	8.89	7.59	5.29	3.04	1.83	12.3	13.6	8.90	10.2	5.81	1.04	0.45	3.04



# Alt Model-Shift Uniqueness Test

004367611-01, P = 367.987982 Days, E = 126.454805 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
15.8	4.58	4.48	3.66	5.28	3.01	1.00	11.3	12.1	0.10	0.92	5.69	1.04	0.25	1.96



### Stellar Parameters For KIC 004367611

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6068^{+168}_{-210}$	$4.477^{+0.056}_{-0.224}$	$-0.160^{+0.300}_{-0.300}$	$0.969^{+0.319}_{-0.106}$	$1.026^{+0.140}_{-0.140}$	$1.590^{+0.454}_{-0.837}$
	+3%/-3%	+1%/-5%	+188%/-188%	+33%/-11%	+14%/-14%	+29%/-53%
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 004367611-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-850 \pm 48$	$3.00^{+1.22}_{-1.06}$	$374^{+30}_{-19}$	$6313^{+1890}_{-886}$	$52640^{+73870}_{-25589}$
Alt.	$-202 \pm 44$	$3.04^{+1.18}_{-1.18}$	$373^{+27}_{-19}$	$4531^{+1074}_{-524}$	$11995^{+18913}_{-5824}$

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

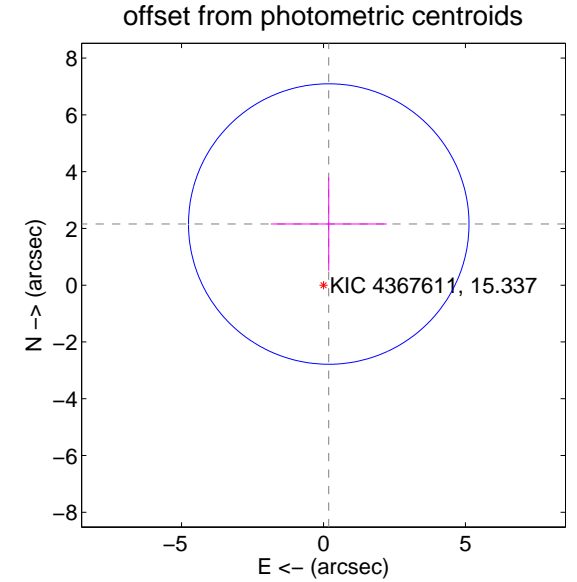
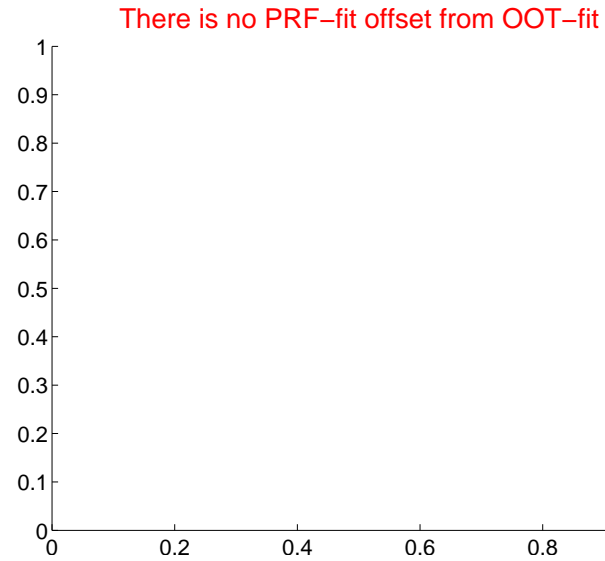
## DV Centroid Data

Supplemental centroid analysis for 004367611-01. Kepler magnitude: 15.34. Transit SNR 8.59

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	$2.16 \pm 1.65$	1.31	$-0.19 \pm 2.04$	$2.15 \pm 1.64$



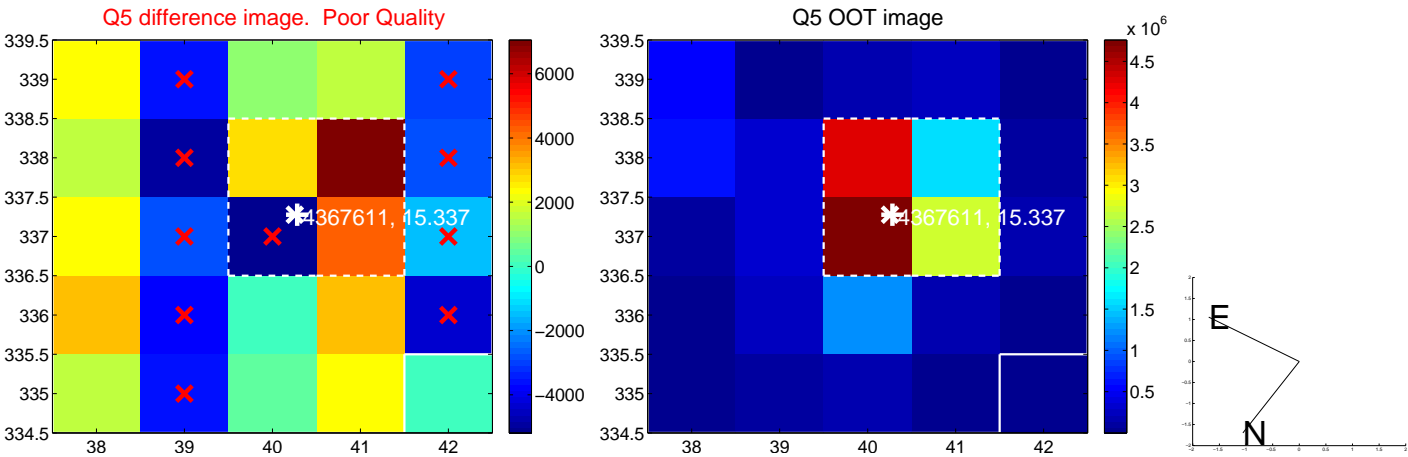
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

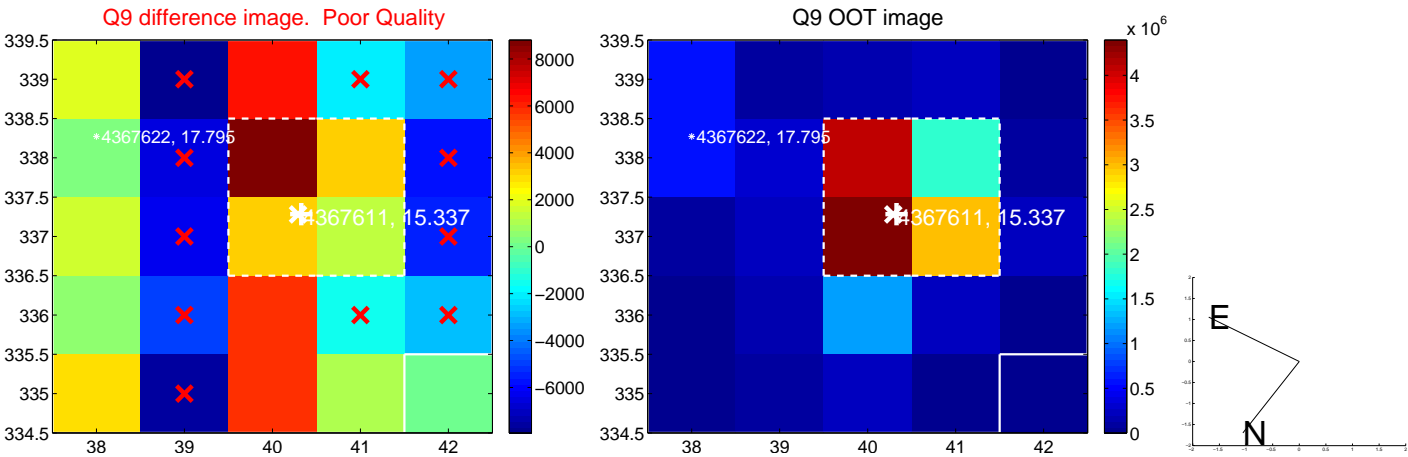




white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



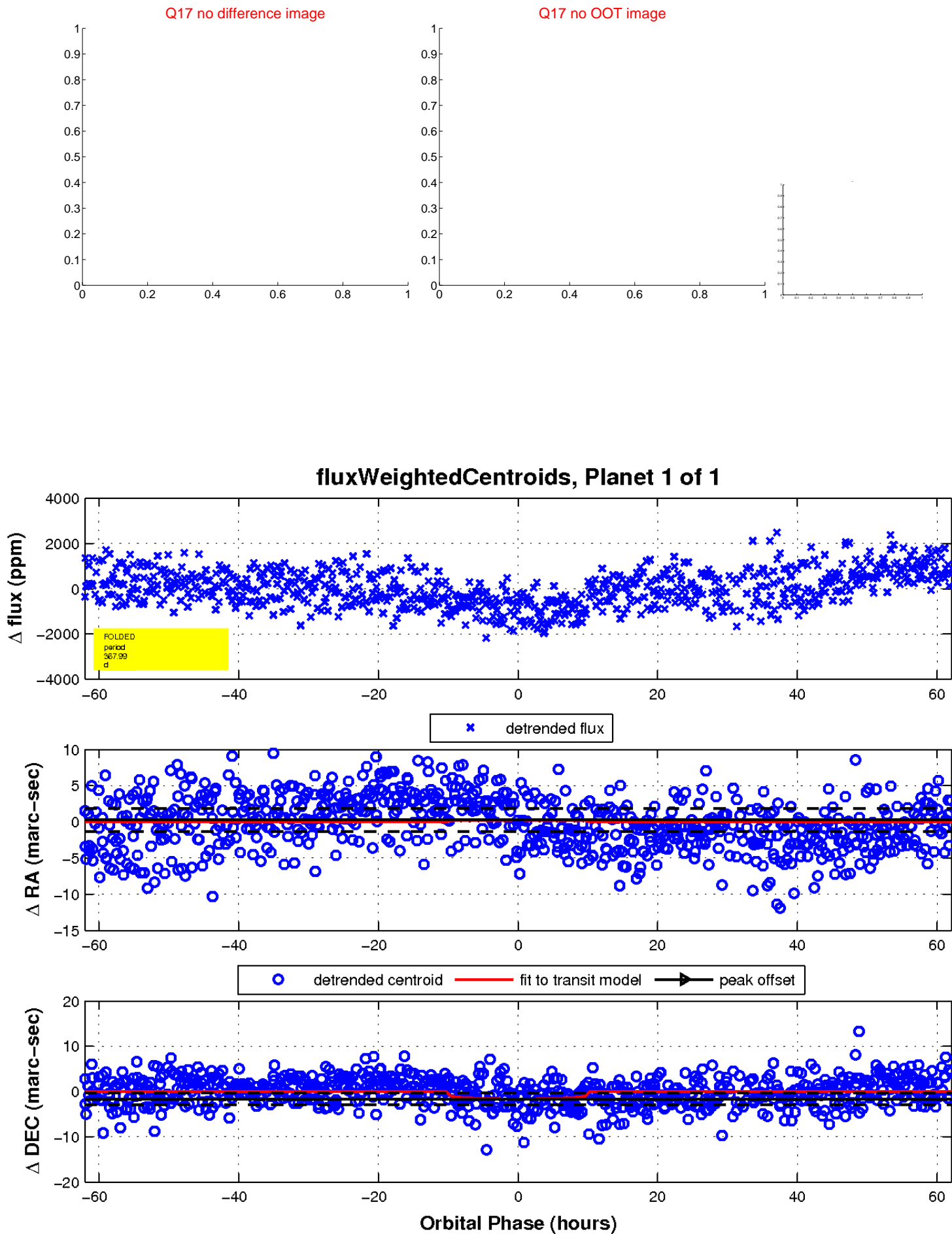
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



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



# UKIRT Image

Declination

