

# KIC 009332668

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009332668-01	OBS	No	362.788162	401.589346	1294.0	16.433	8.0	10.1	1.03	6197	6.92	1.34

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009332668-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

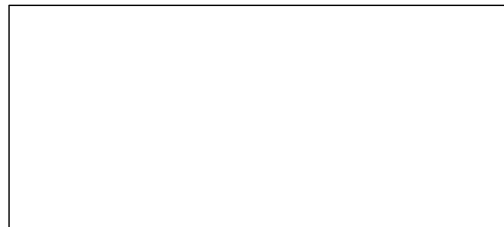
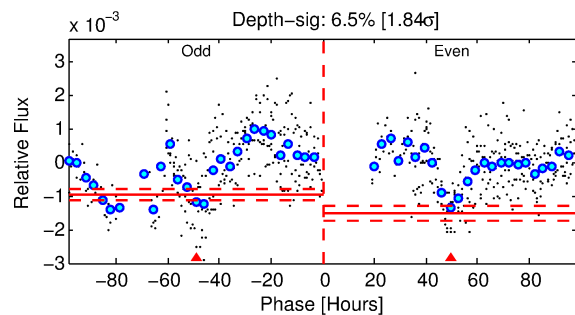
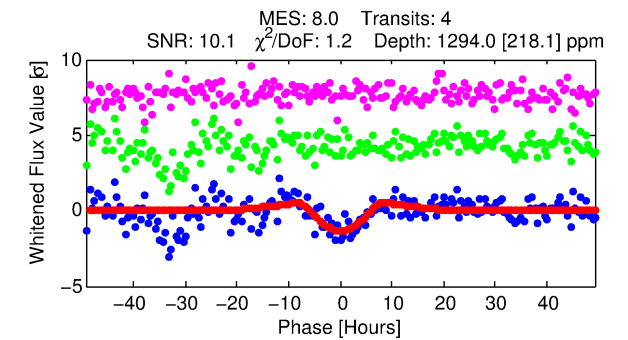
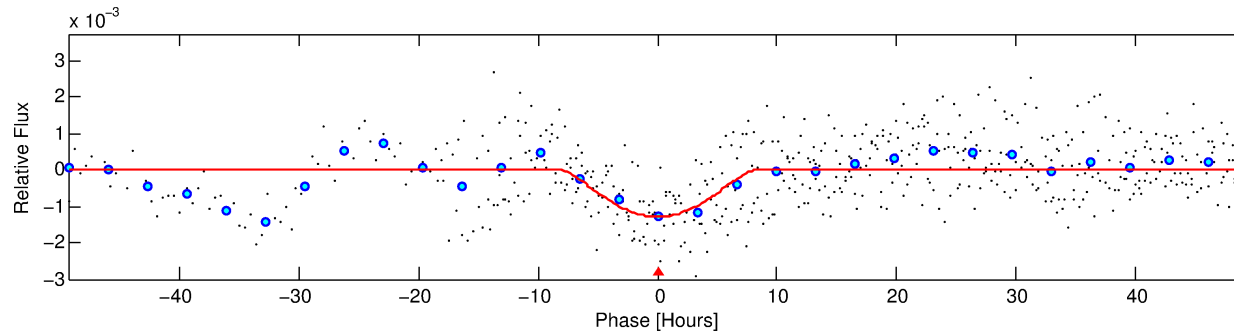
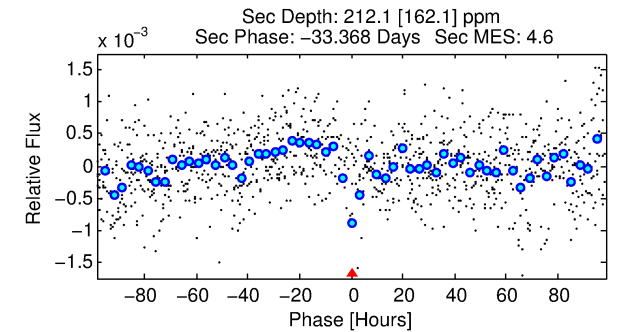
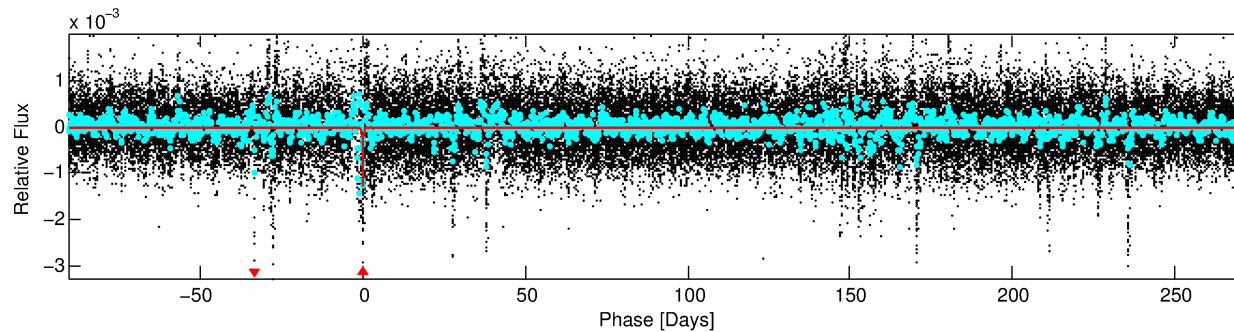
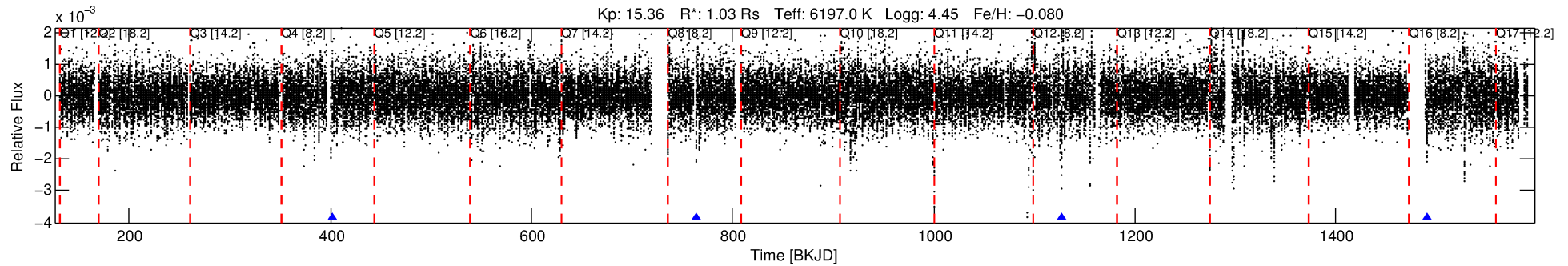
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009332668-01

No Significant Match Found

# DV One-Page Summary

KIC: 9332668 Candidate: 1 of 1 Period: 362.788 d



## DV Fit Results:

Period = 362.78816 [0.01543] d  
Epoch = 401.5893 [0.0276] BKJD  
Rp/R\* = 0.0613 [0.1694]  
a/R\* = 60.77 [39.90]  
b = 1.00 [0.25]  
Seff = 1.34 [0.58]  
Teq = 274 [30] K  
Rp = 6.92 [19.28] Re  
a = 1.0274 [0.2908] AU  
Ag = 2571.04 [14392.58] [0.18σ]  
Teffp = 3021 [4218] K [0.65σ]

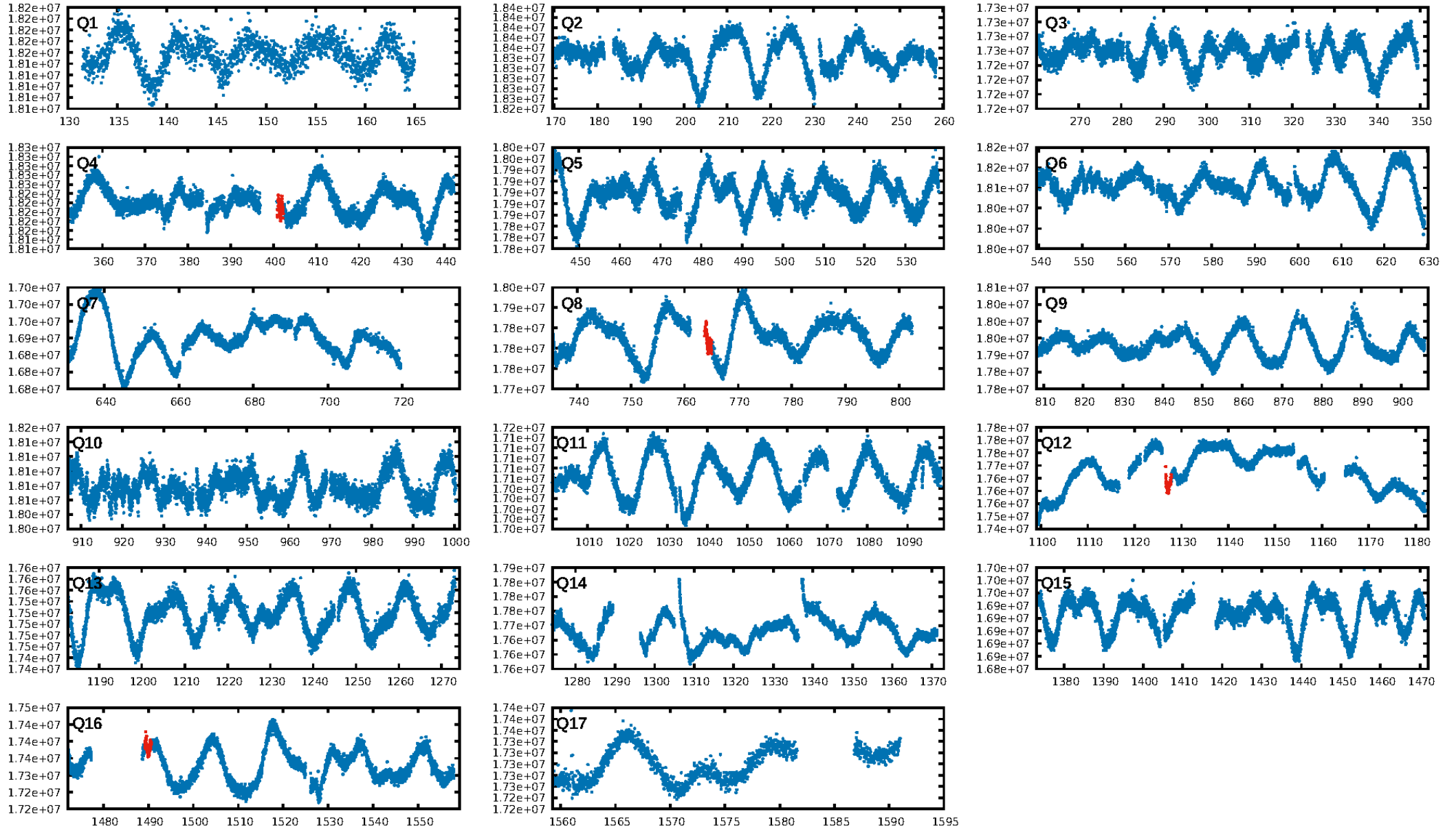
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 34.3%  
ModelChiSquareGoF-sig: 95.8%  
**Bootstrap-pfa: 1.38e-10**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -2.368  
**Centroid-sig: 0.0%**  
**Centroid-so: 3.250 arcsec [3.24σ]**  
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: N/A

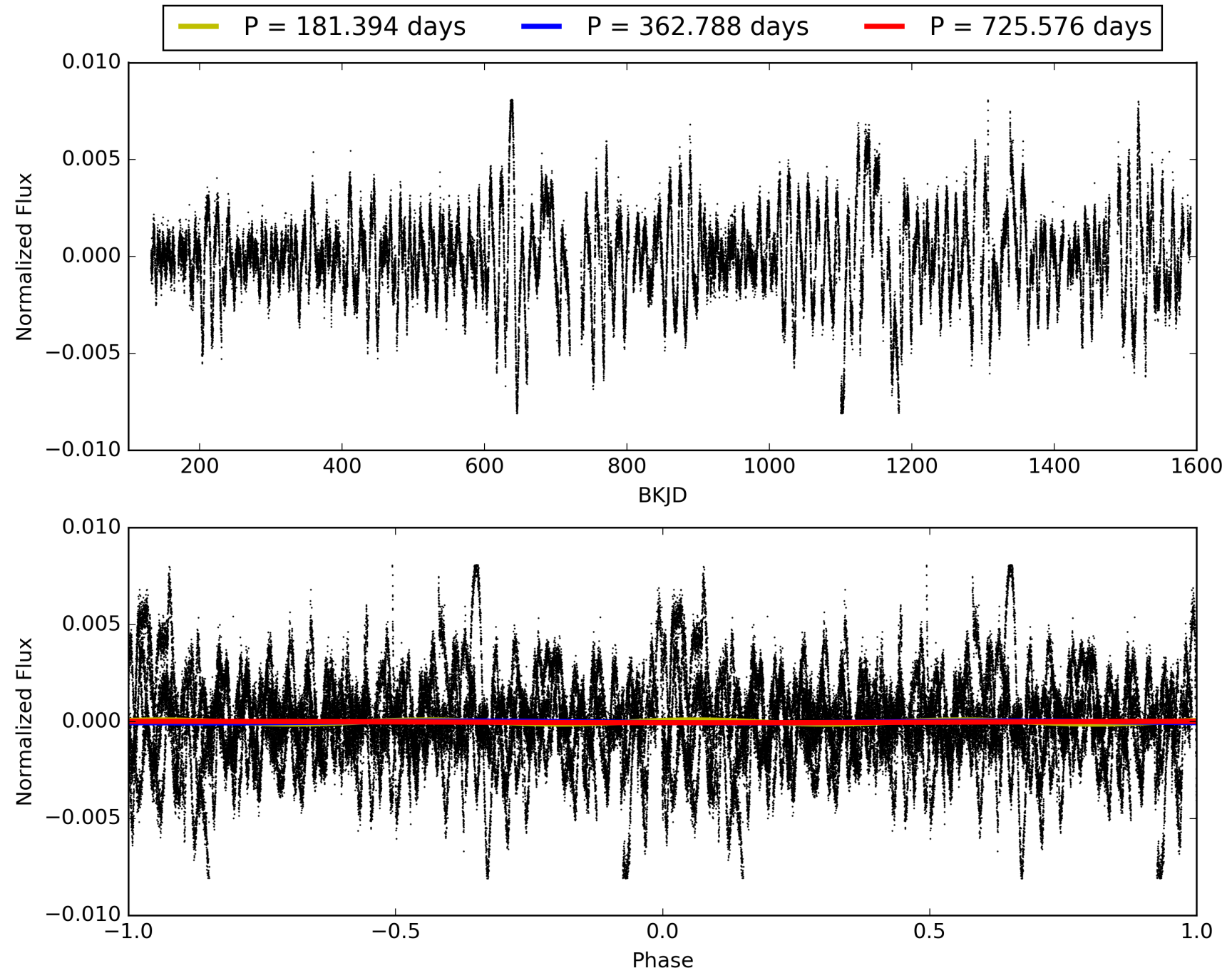
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:23:49 Z

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

# TCE 009332668-01, PDC Light Curves

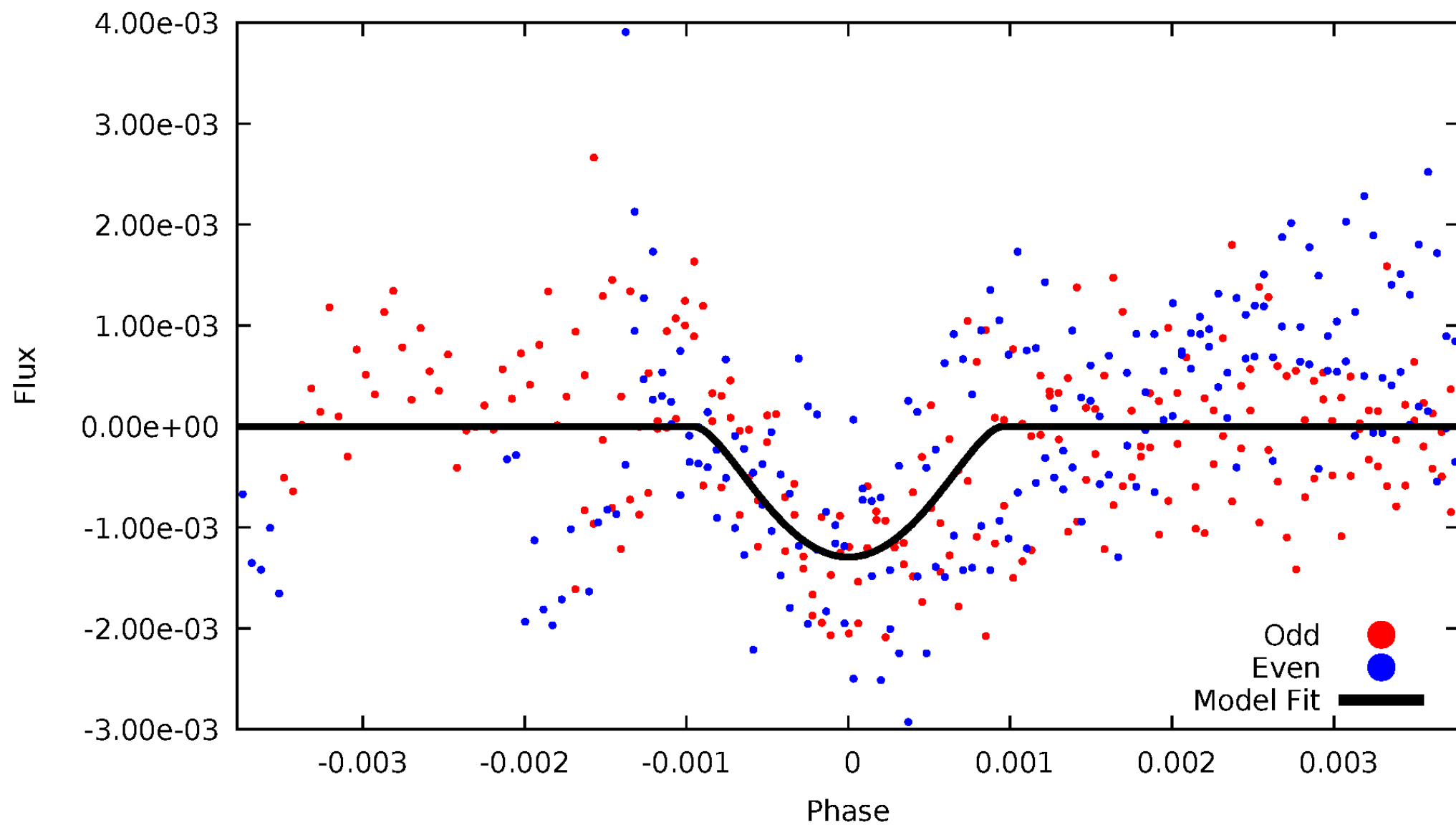


TCE 009332668-01



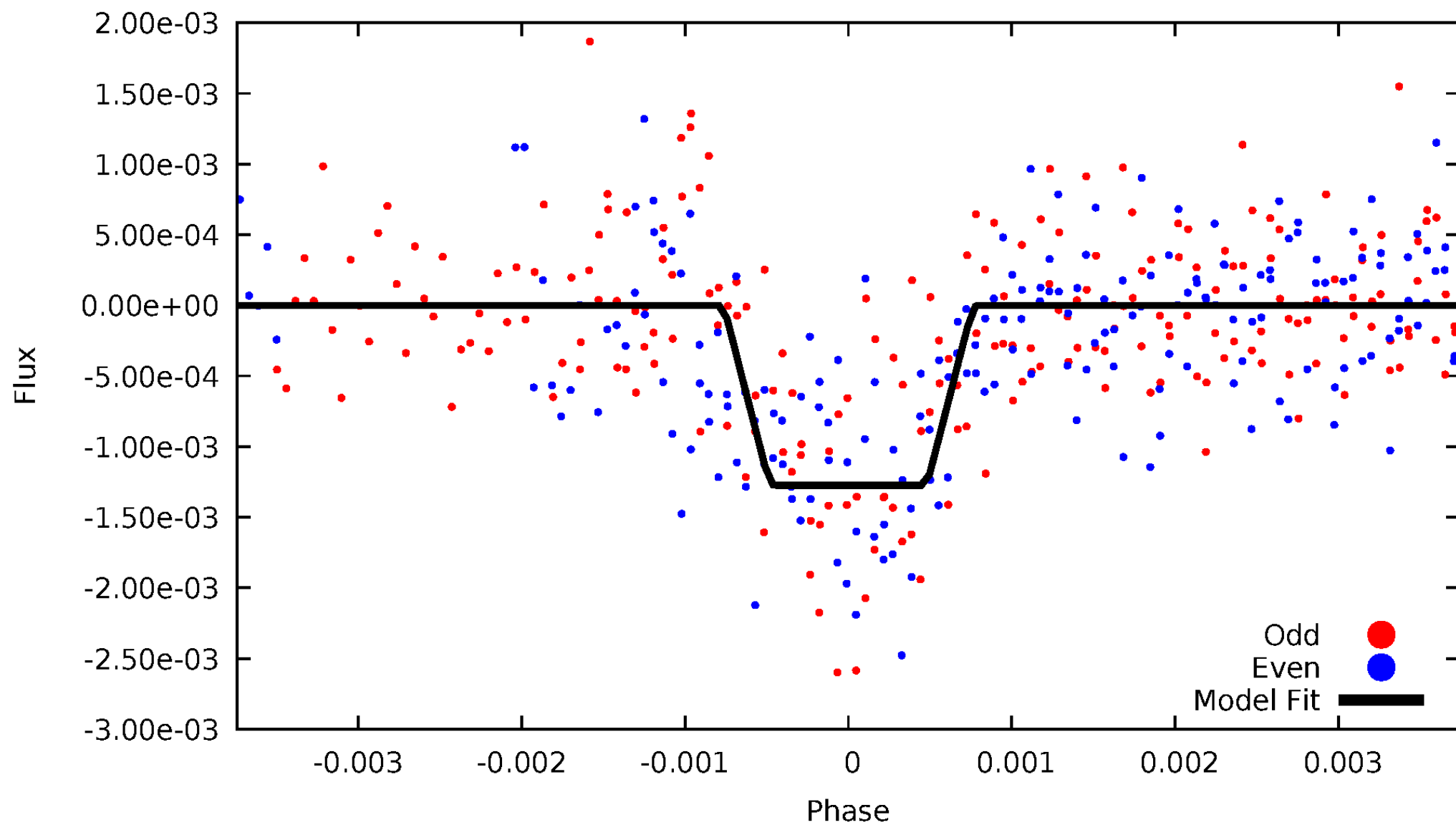
# DV Odd/Even

TCE 009332668-01



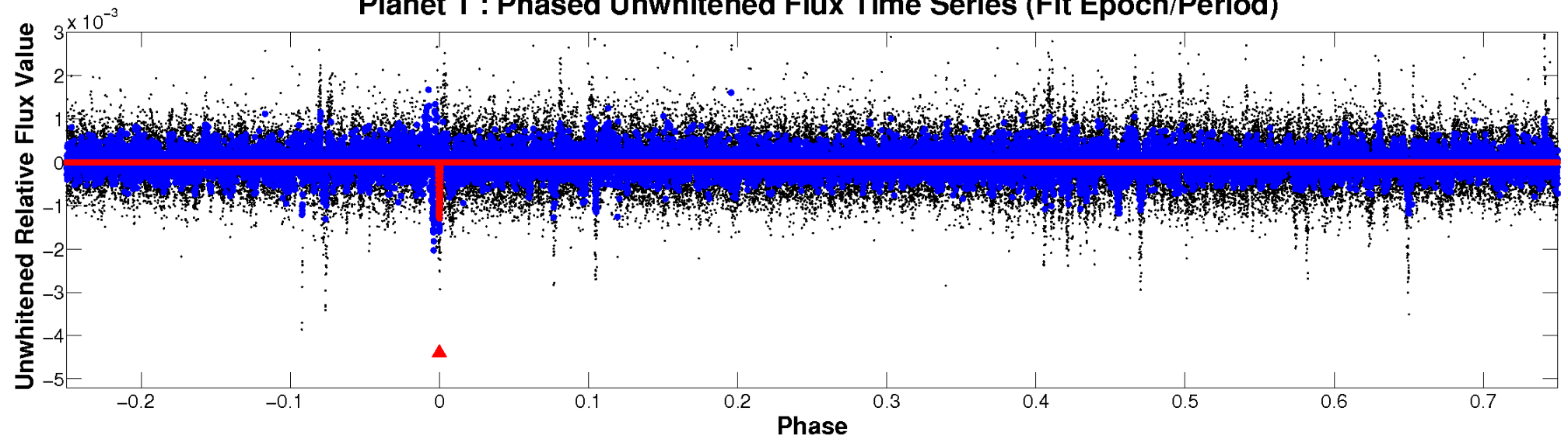
# ALT Odd/Even

TCE 009332668-01

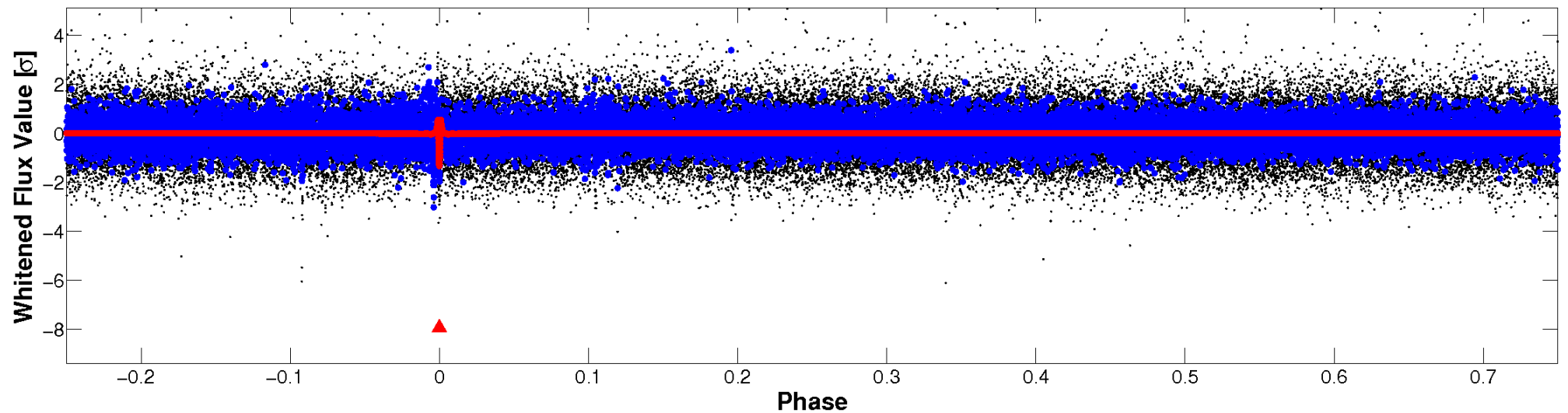


# Non-Whitened Vs. Whitened Light Curve

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

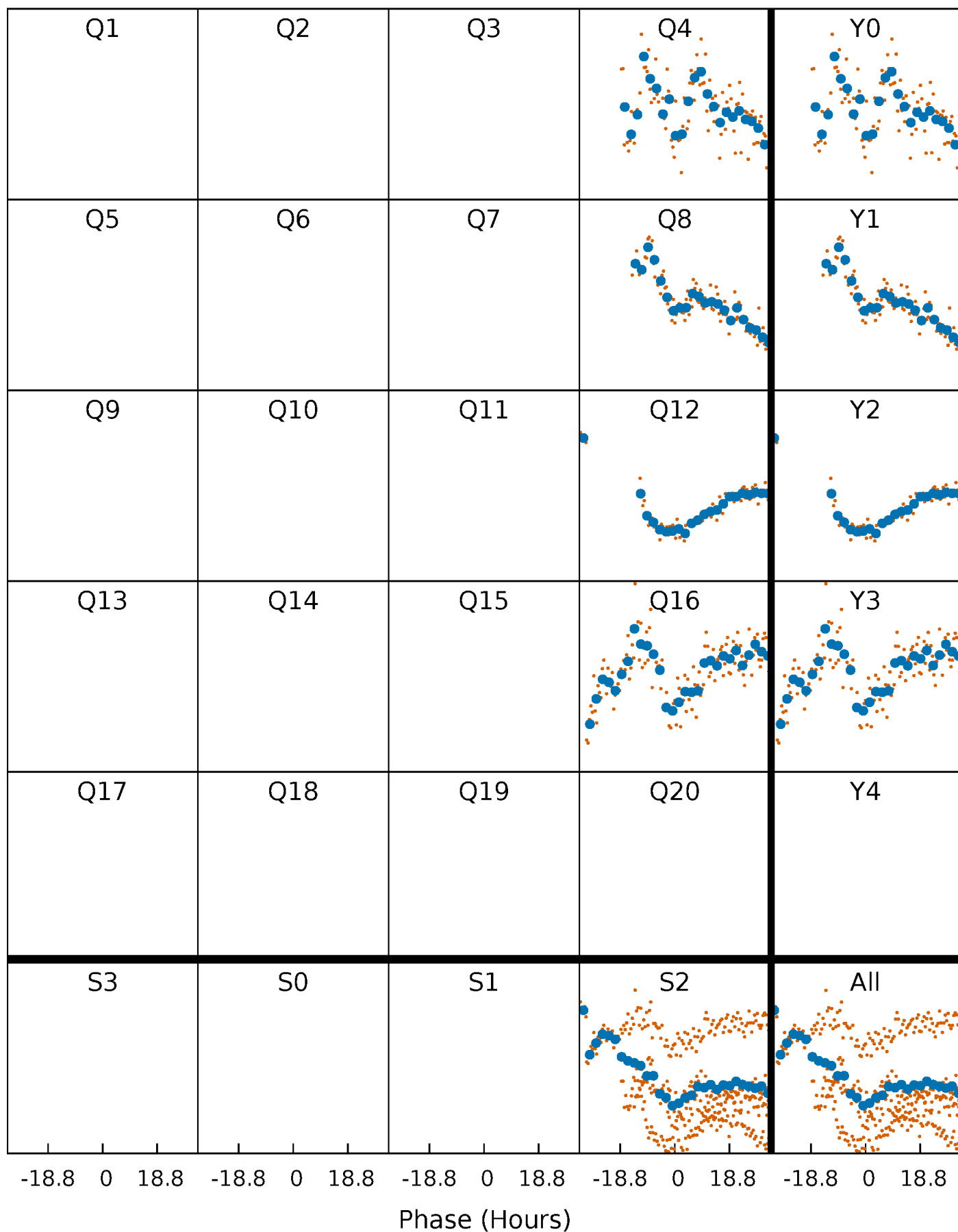


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

TCE 009332668-01 P=362.788162 Days  $T_0=401.589346$  (BKJD)





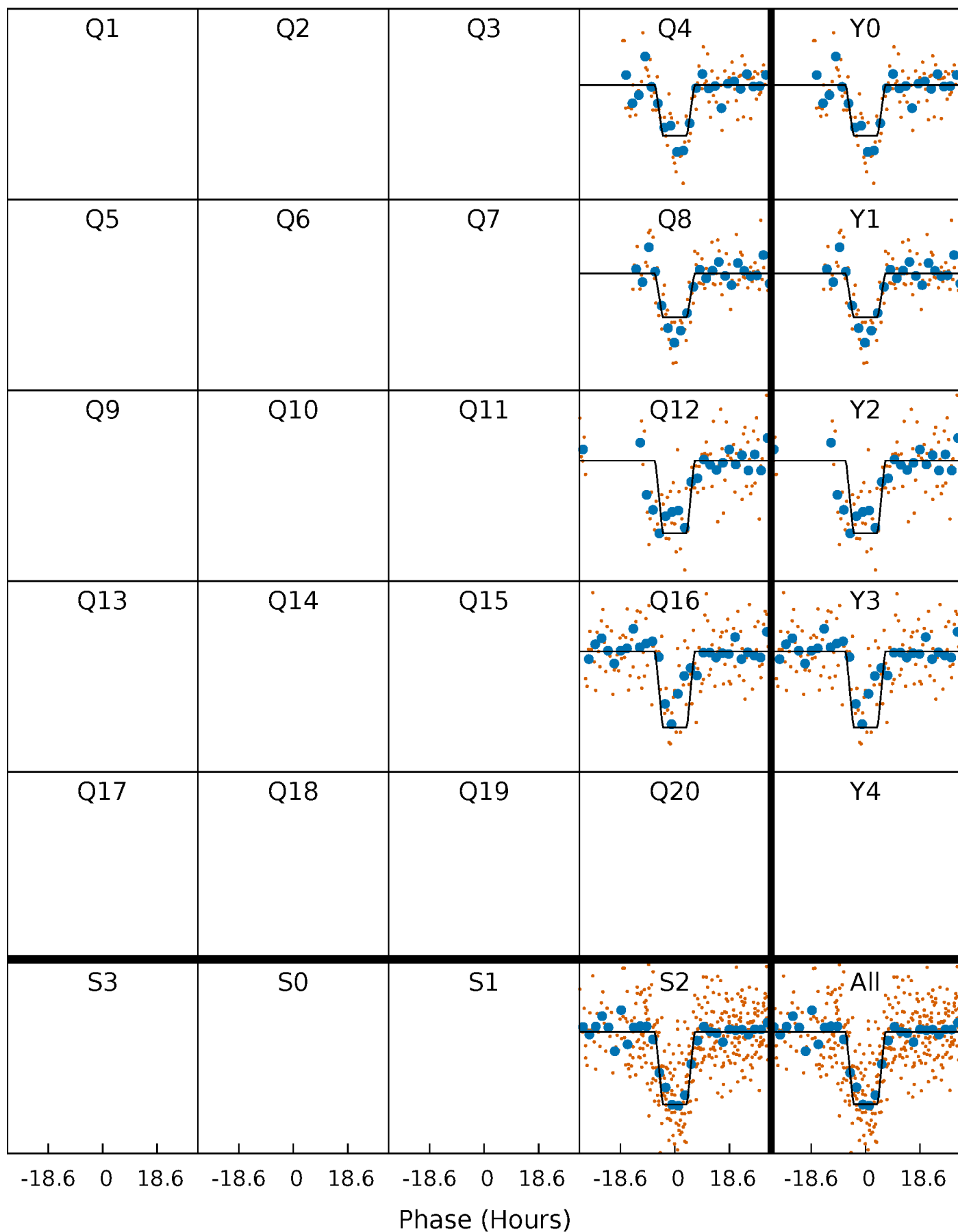
# DV Quarter-Phased Transit Curves

TCE 009332668-01 P=362.788162 Days  $T_0=401.589346$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

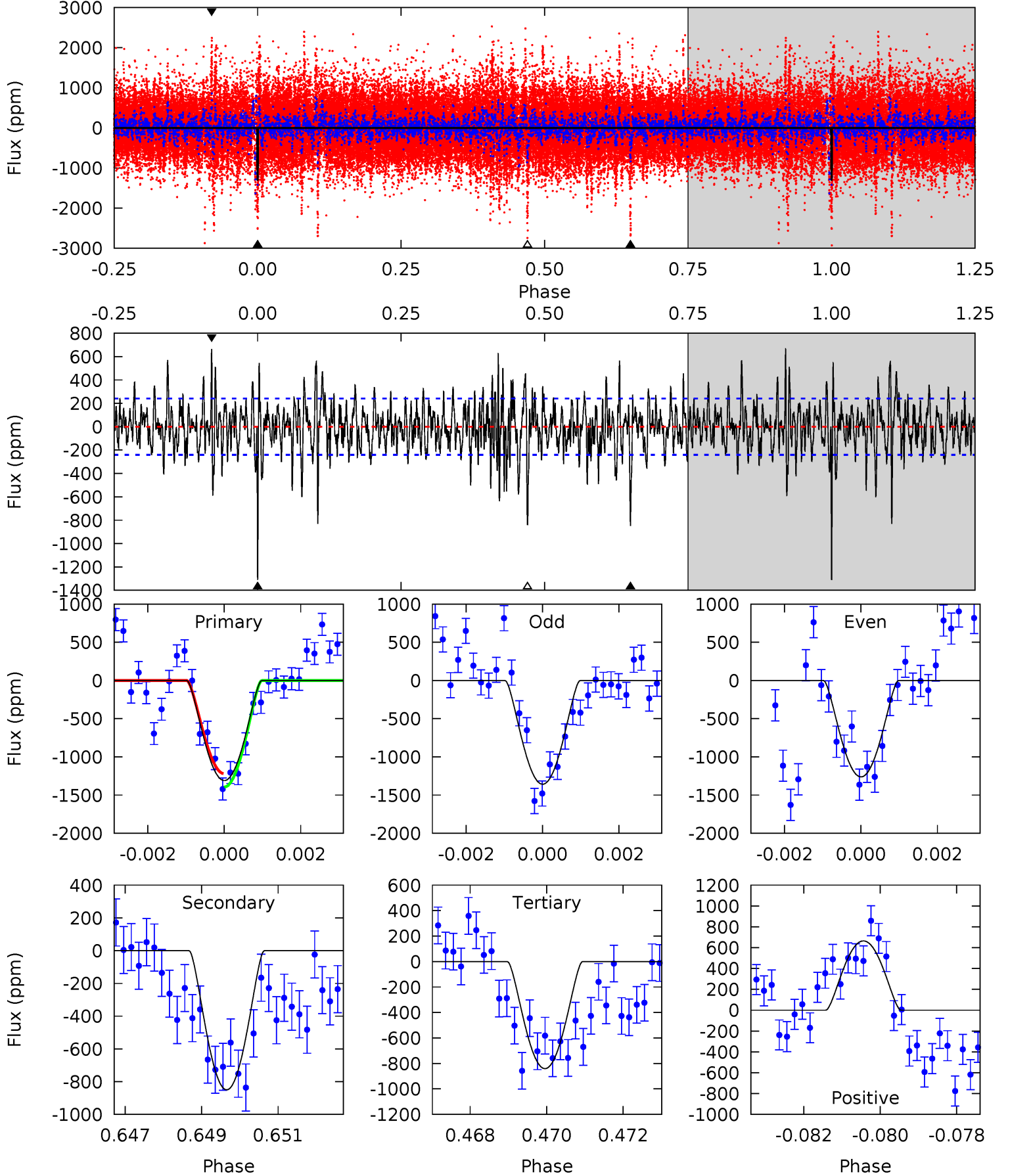
TCE 009332668-01 P=362.797858 Days  $T_0=401.563818$  (BKJD)



# DV Model-Shift Uniqueness Test

009332668-01, P = 362.788162 Days, E = 38.801184 Days

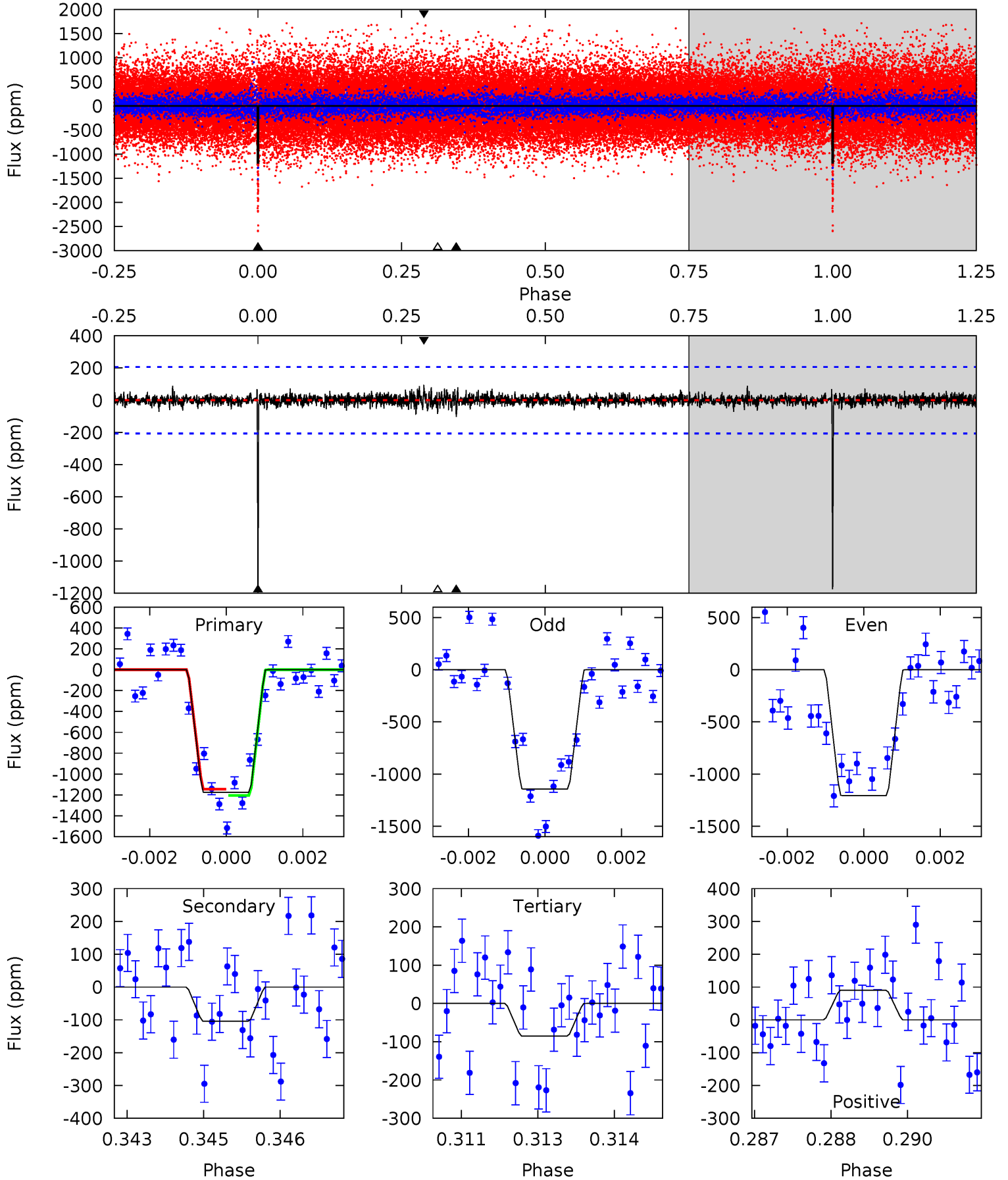
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.0	18.8	18.6	14.7	5.33	3.10	3.96	10.4	14.3	0.20	4.09	1.05	0.96	0.34	1.94



# Alt Model-Shift Uniqueness Test

009332668-01,  $P = 362.797858$  Days,  $E = 38.765960$  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
30.5	2.70	2.22	2.35	5.38	3.17	0.52	28.3	28.2	0.48	0.35	0.82	0.97	0.07	0.79



### Stellar Parameters For KIC 009332668

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6197^{+172}_{-216}$	$4.449^{+0.056}_{-0.224}$	$-0.080^{+0.250}_{-0.300}$	$1.035^{+0.349}_{-0.116}$	$1.096^{+0.155}_{-0.141}$	$1.394^{+0.415}_{-0.759}$
	+3%/-3%	+1%/-5%	+312%/-375%	+34%/-11%	+14%/-13%	+30%/-54%
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 009332668-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-850 \pm 45$	$16.71^{+17.43}_{-11.32}$	$390^{+28}_{-20}$	$3336^{+1649}_{-592}$	$1719^{+15144}_{-1302}$
Alt.	$-104 \pm 38$	$15.83^{+16.49}_{-11.02}$	$392^{+31}_{-19}$	$2538^{+1021}_{-397}$	$226^{+2118}_{-176}$

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

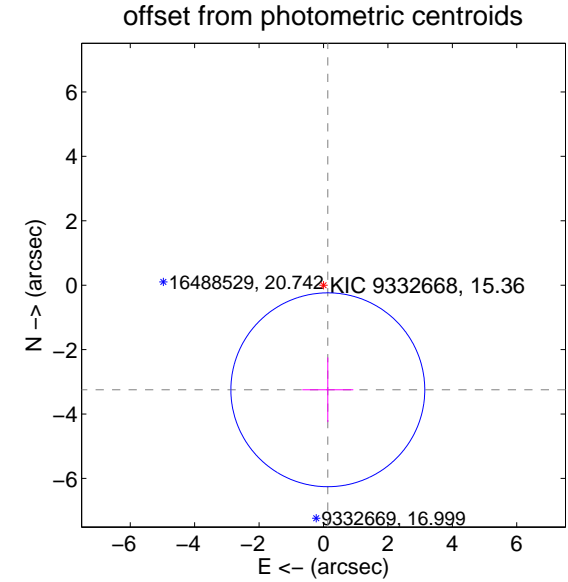
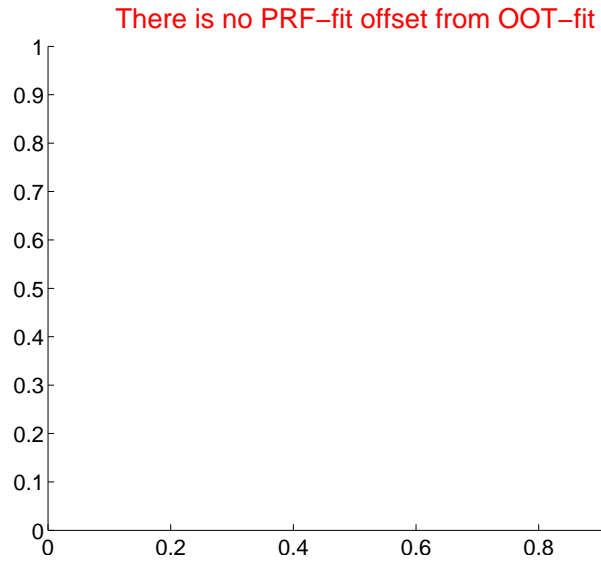
## DV Centroid Data

Supplemental centroid analysis for 009332668-01. Kepler magnitude: 15.36. Transit SNR 10.07

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	$3.25 \pm 1.00$	3.24	$-0.13 \pm 0.79$	$-3.25 \pm 1.00$



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.



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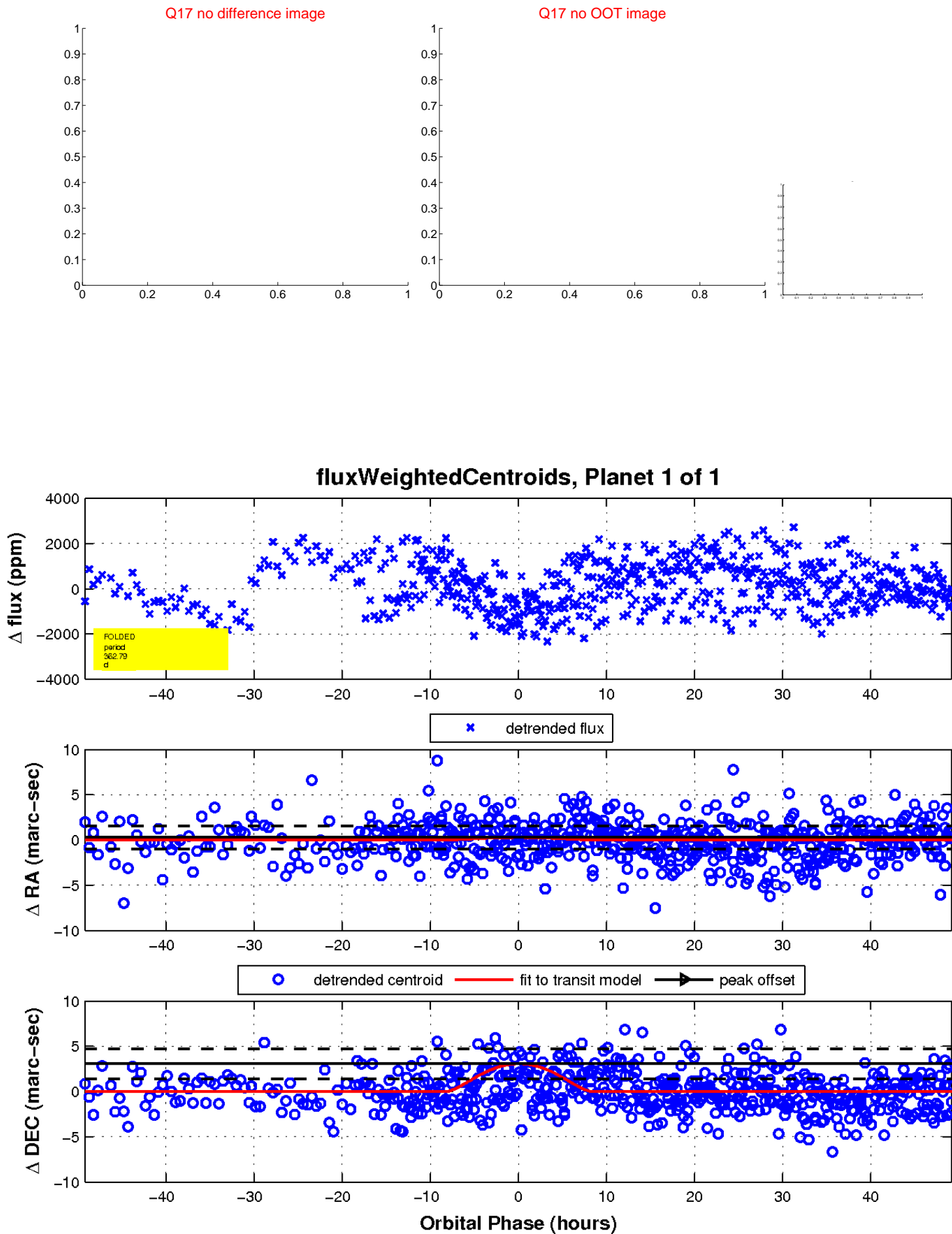
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UKIRT Image

Declination

