

# KIC 008374658

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008374658-01	OBS	No	369.194579	200.810032	1442.4	19.045	7.5	9.8	1.07	6078	5.34	1.41

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008374658-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_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.

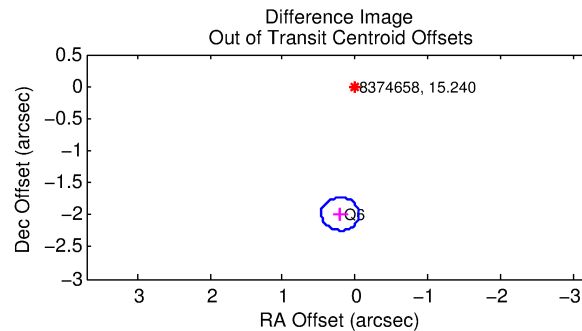
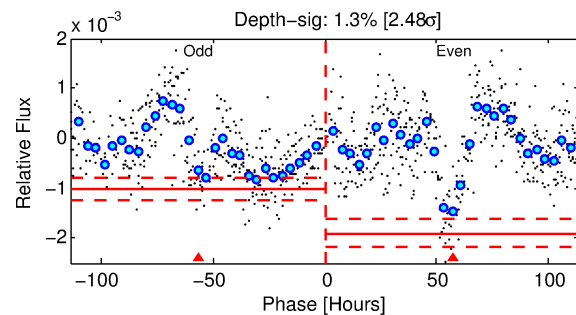
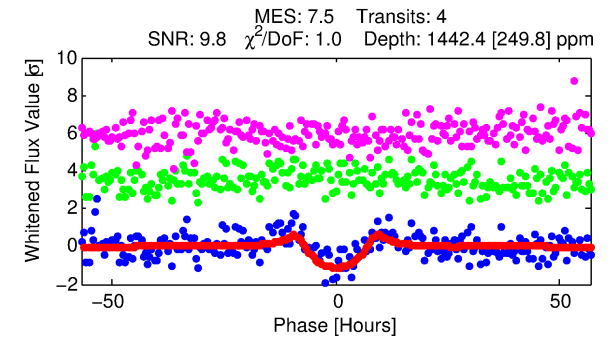
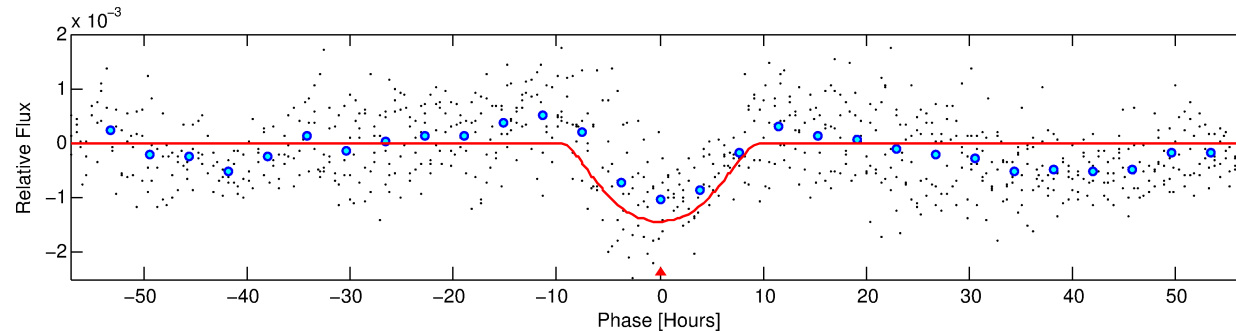
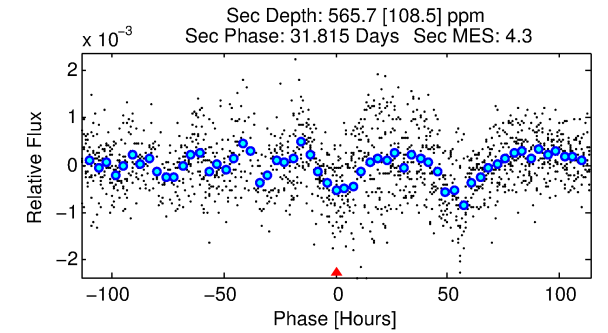
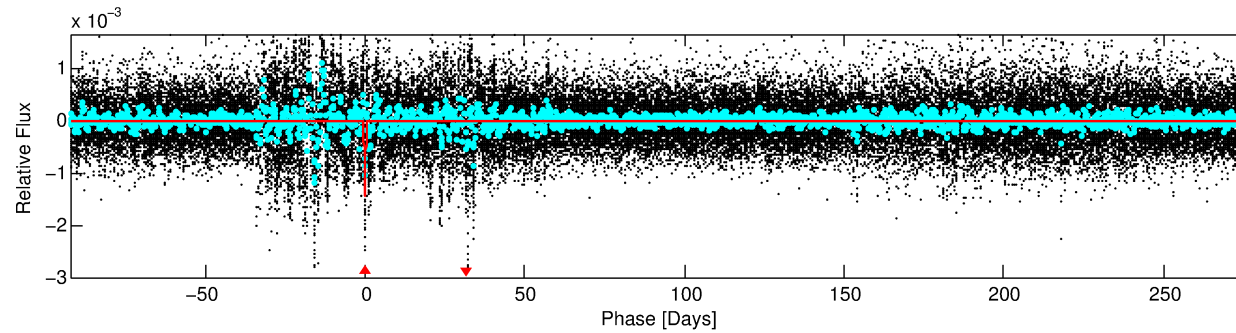
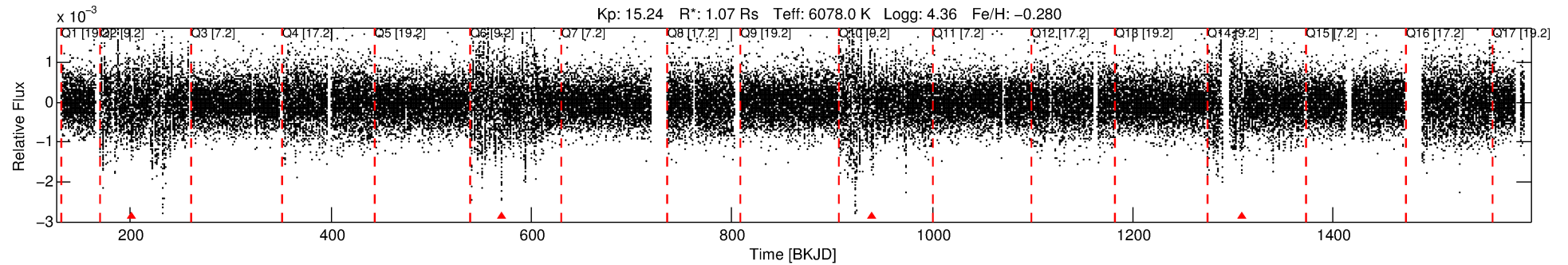
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008374658-01

No Significant Match Found

# DV One-Page Summary

KIC: 8374658 Candidate: 1 of 1 Period: 369.195 d



## DV Fit Results:

Period = 369.19458 [0.01425] d  
Epoch = 200.8100 [0.0290] BKJD  
Rp/R\* = 0.0458 [0.0105]  
a/R\* = 60.65 [9.54]  
b = 0.96 [0.03]  
Seff = 1.41 [0.53]  
Teq = 278 [26] K  
Rp = 5.34 [1.98] Re  
a = 0.9944 [0.2419] AU  
Ag = 10784.32 [6579.72] [1.64σ]  
Teff = 4378 [566] K [7.24σ]

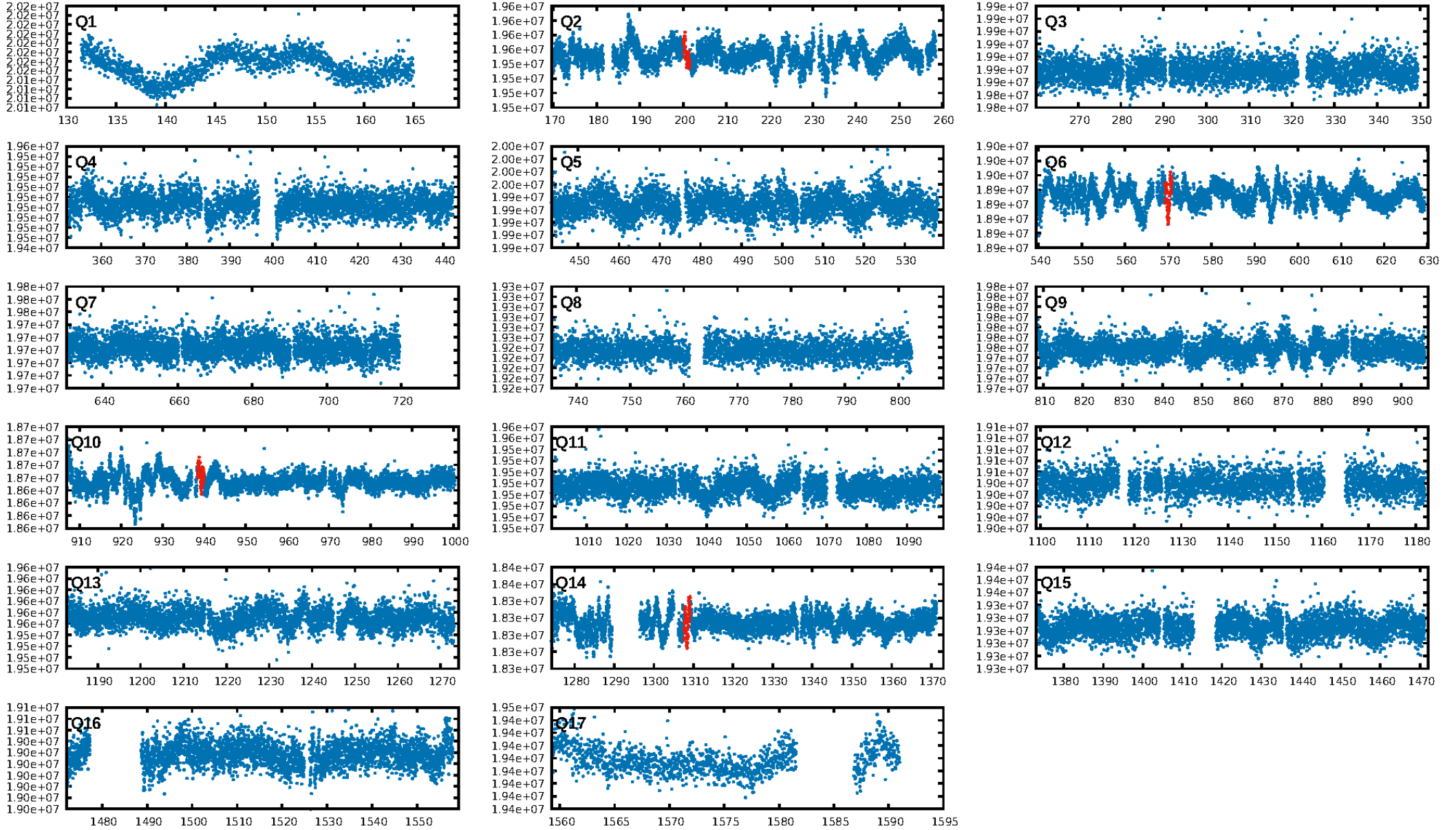
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 19.7%  
ModelChiSquareGoF-sig: 99.6%  
Bootstrap-pfa: 4.38e-09  
RollingBand-fgt: 0.00 [0/4]  
GhostDiagnostic-chr: 0.3632  
Centroid-sig: 0.2%  
Centroid-so: 3.116 arcsec [2.16σ]  
OotOffset-rm: 1.999 arcsec [23.36σ]  
KicOffset-rm: 1.889 arcsec [22.07σ]  
OotOffset-st: 1/0/0/0 [1]  
KicOffset-st: 1/0/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [1/1]

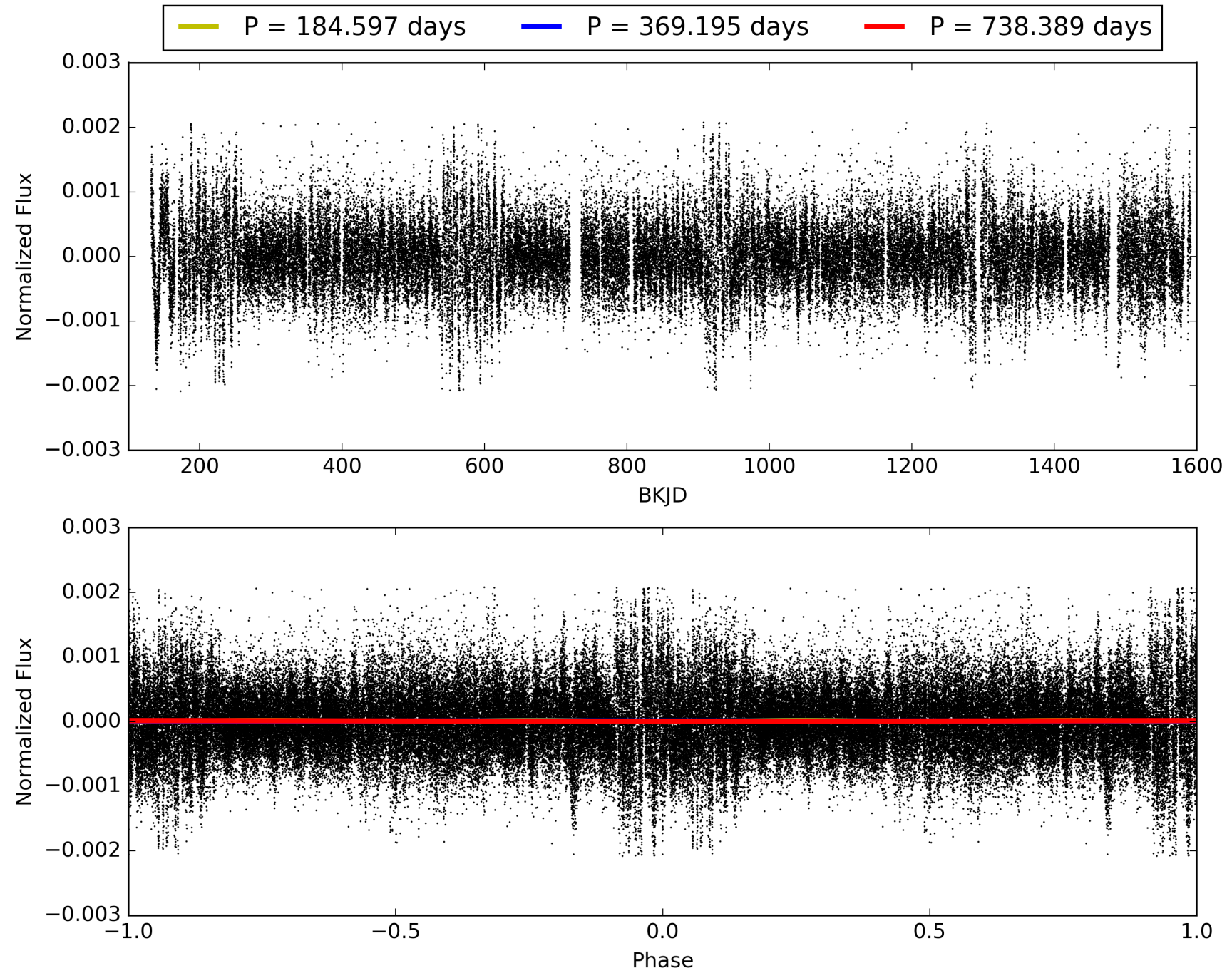
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:01:12 Z

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

# TCE 008374658-01, PDC Light Curves

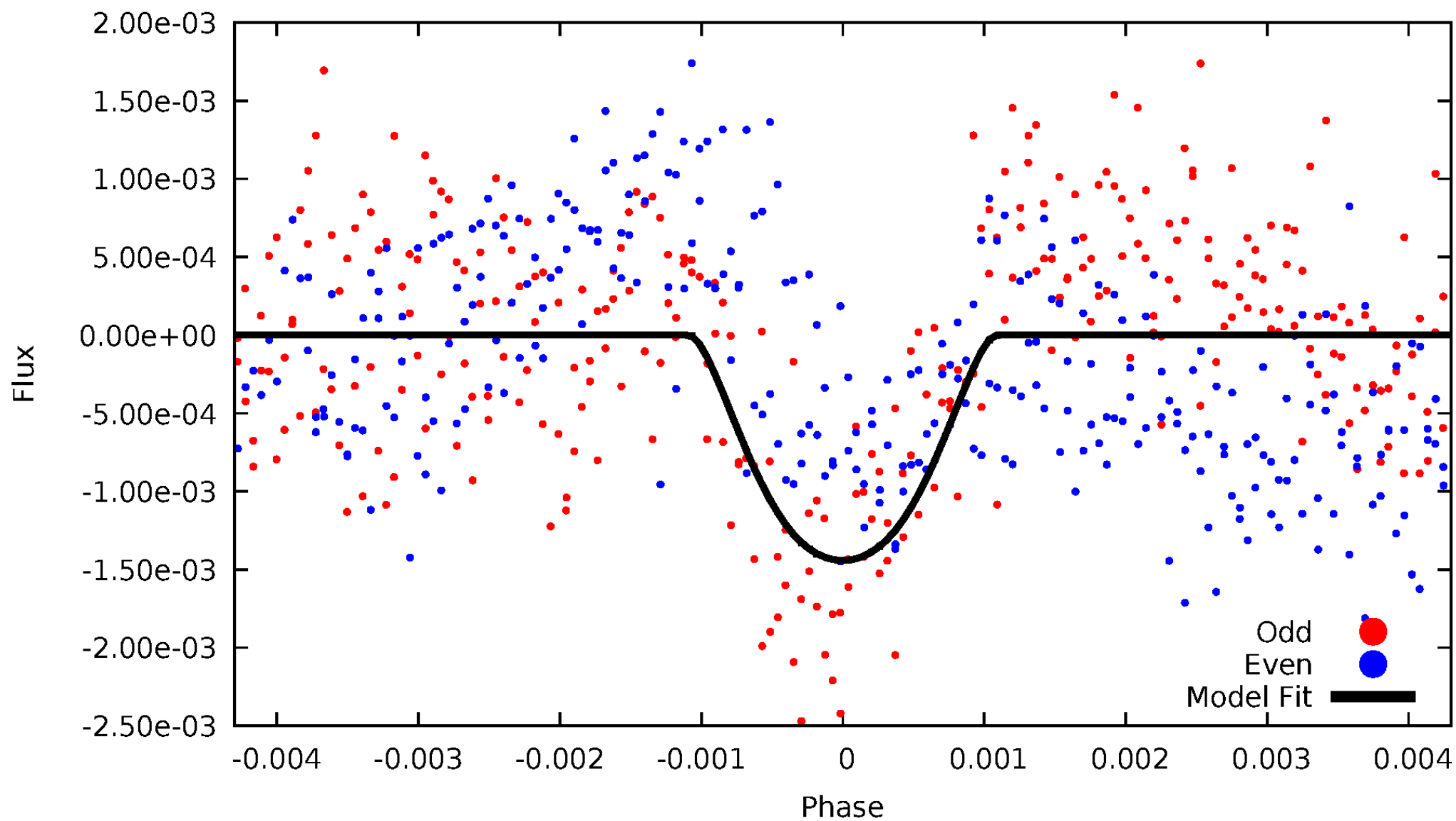


TCE 008374658-01



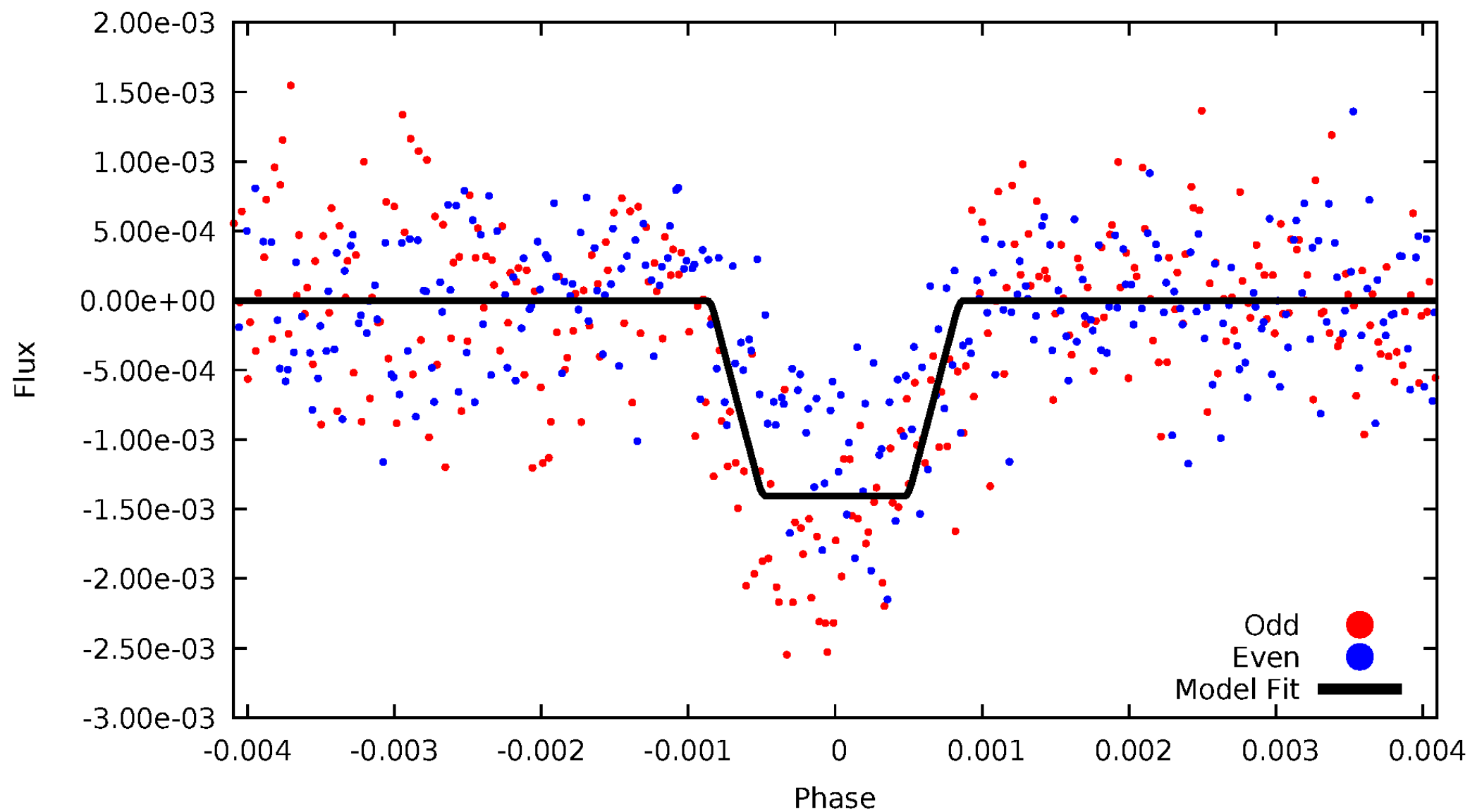
# DV Odd/Even

TCE 008374658-01



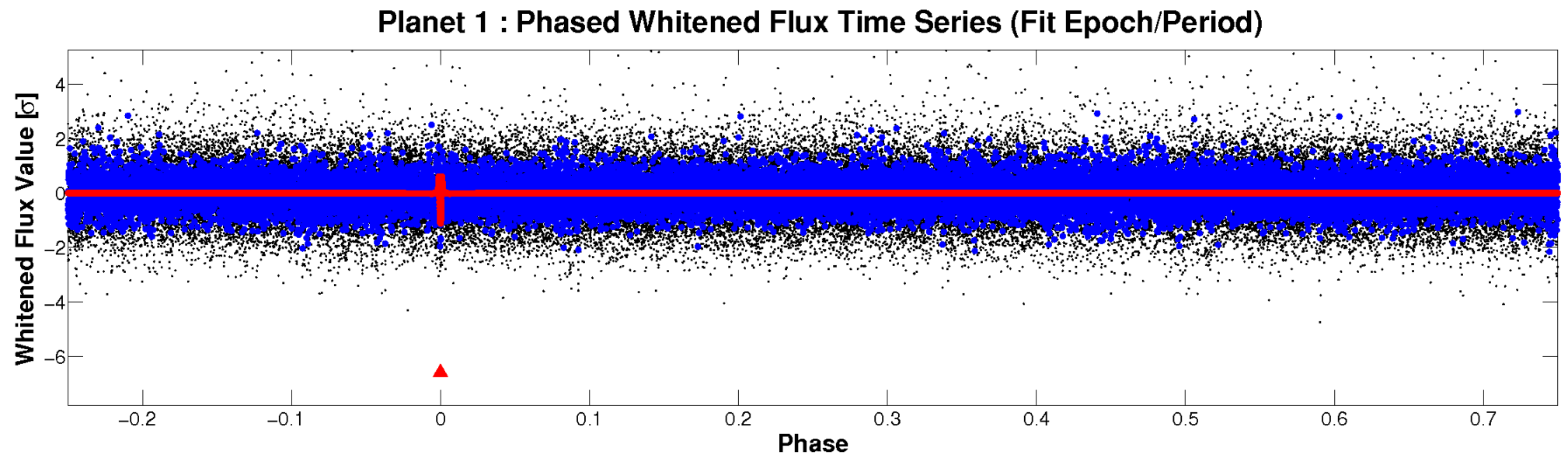
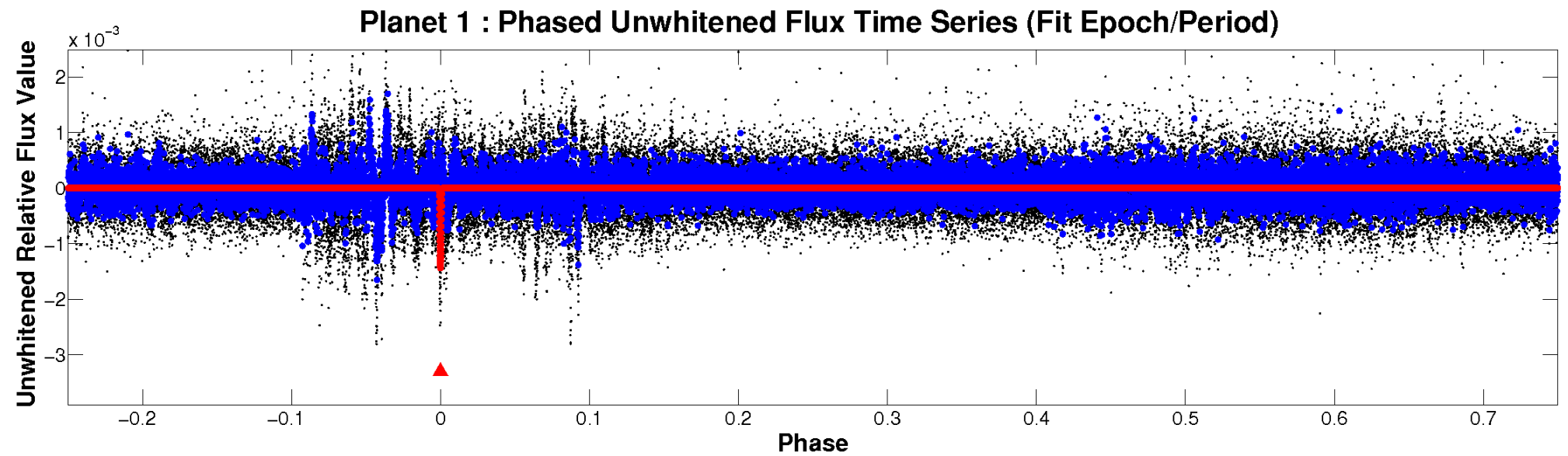
# ALT Odd/Even

TCE 008374658-01



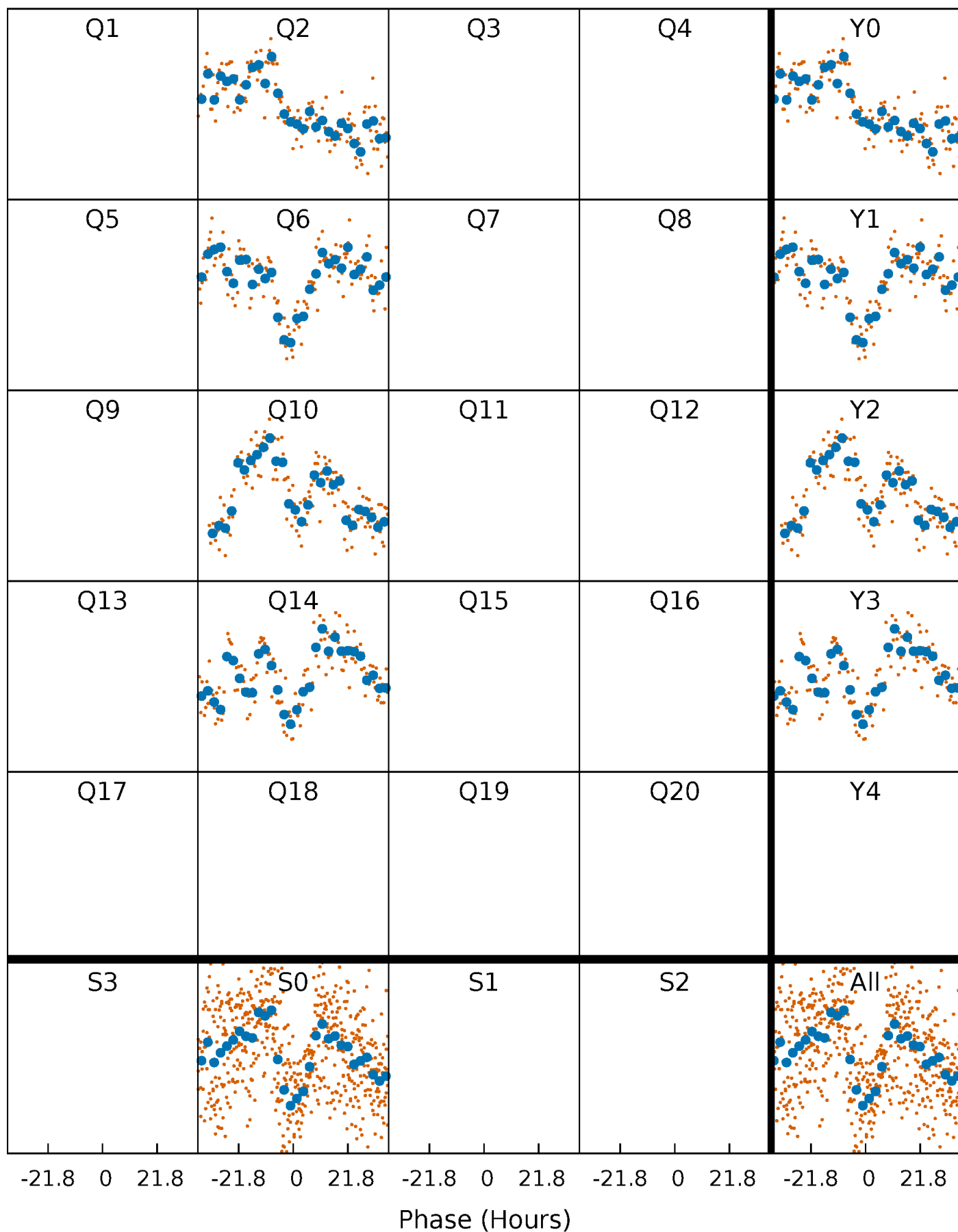


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

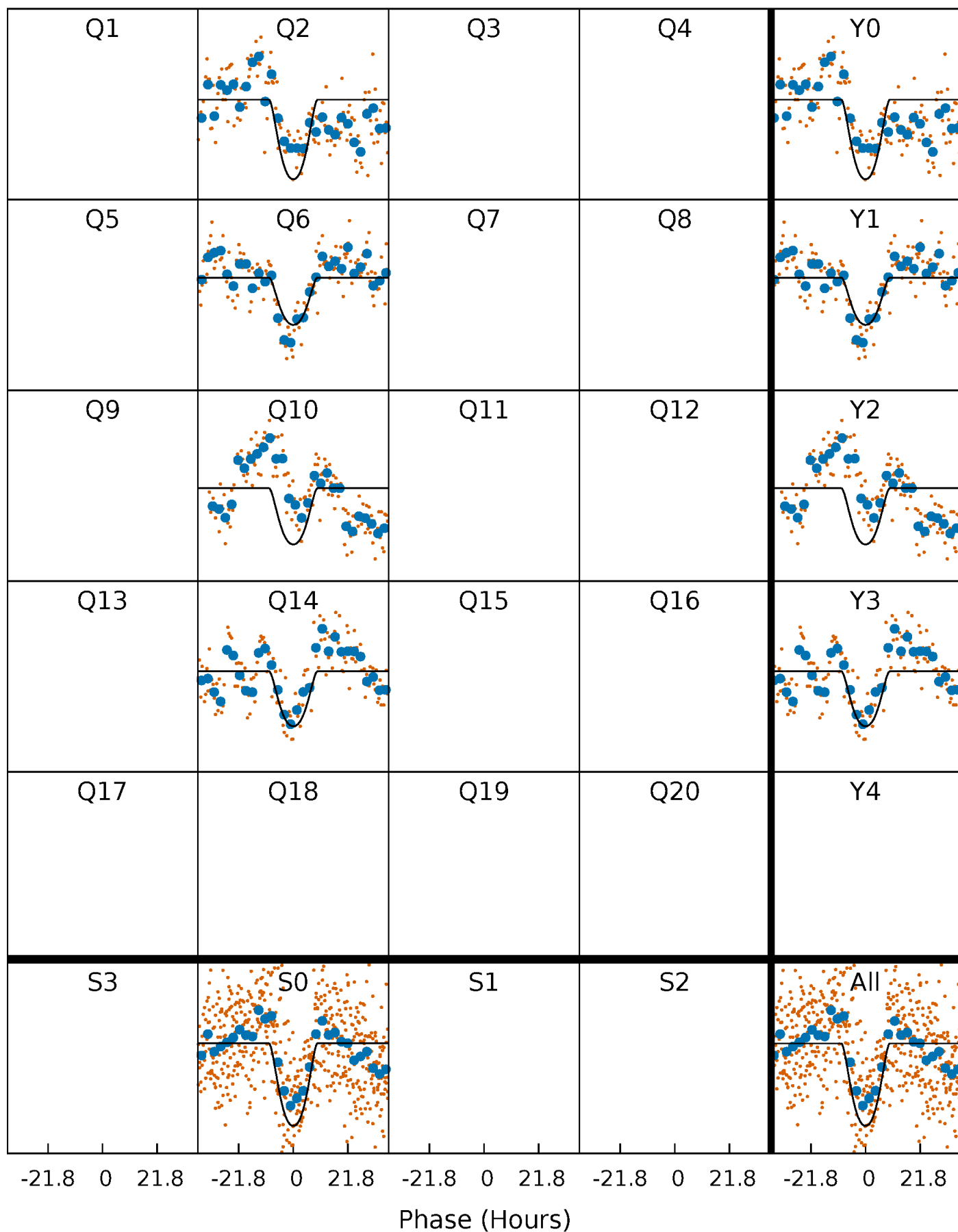
TCE 008374658-01 P=369.194579 Days  $T_0=200.810032$  (BKJD)





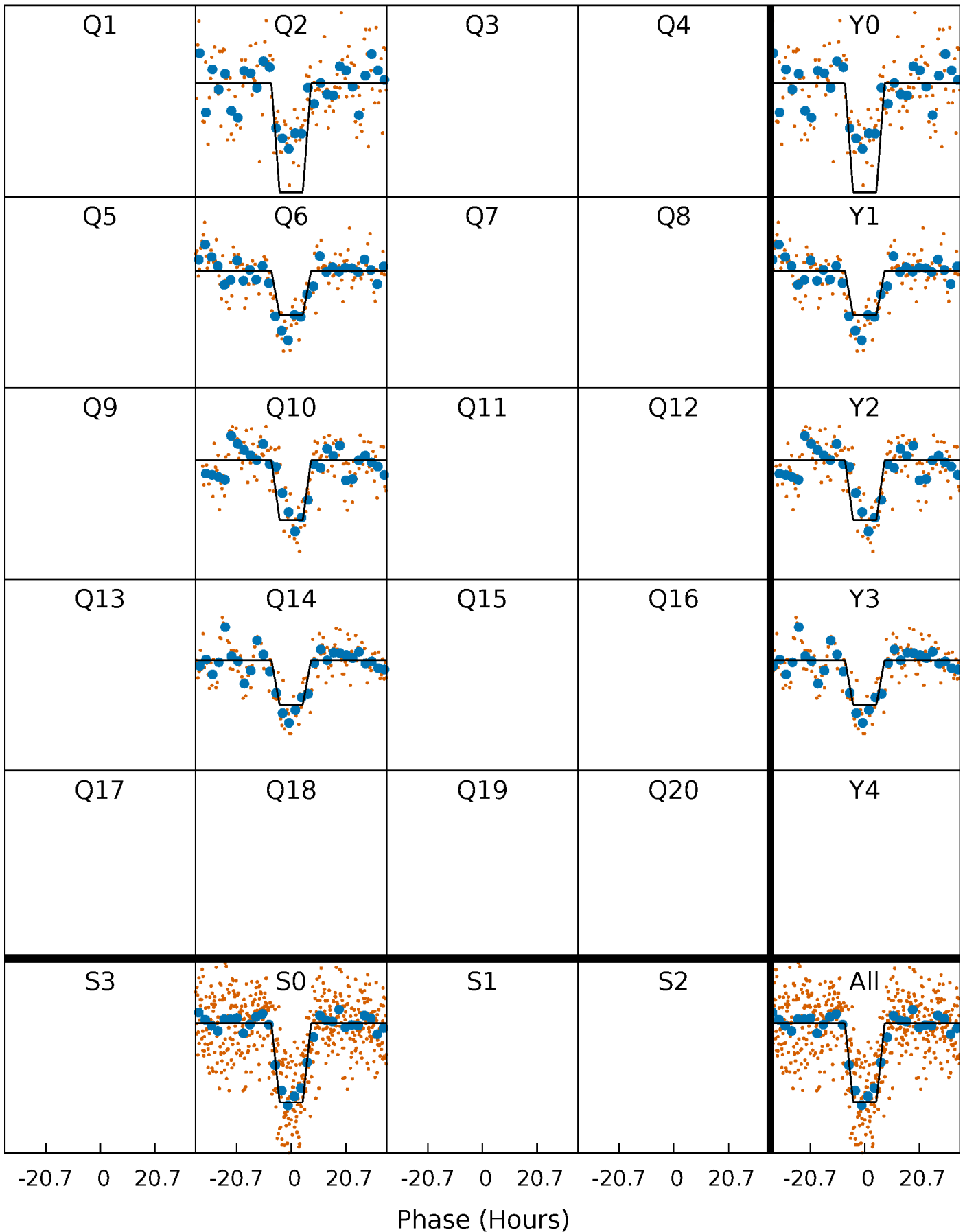
# DV Quarter-Phased Transit Curves

TCE 008374658-01 P=369.194579 Days  $T_0=200.810032$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

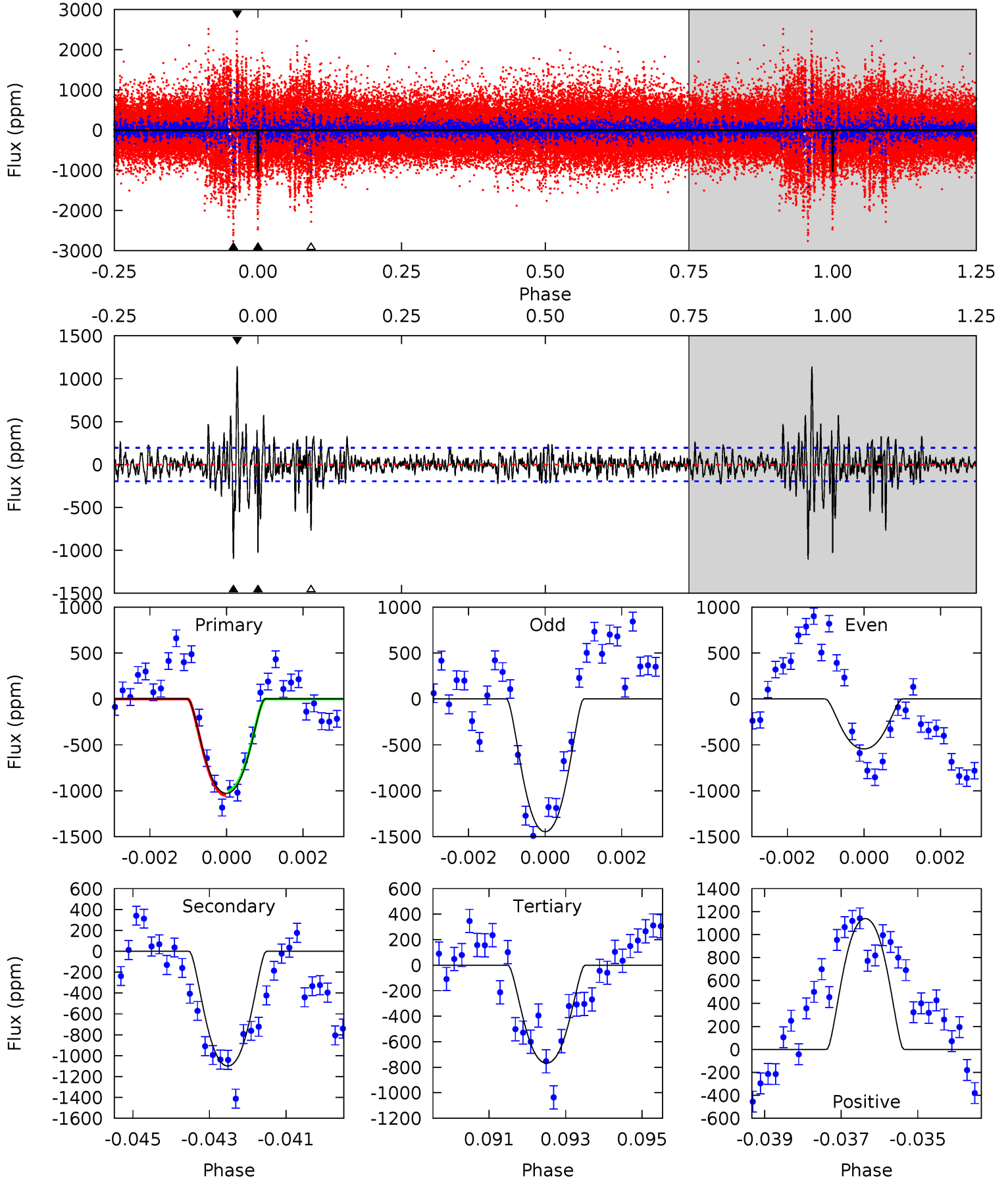
TCE 008374658-01 P=369.186751 Days  $T_0=200.831156$  (BKJD)



# DV Model-Shift Uniqueness Test

008374658-01, P = 369.194579 Days, E = 200.810032 Days

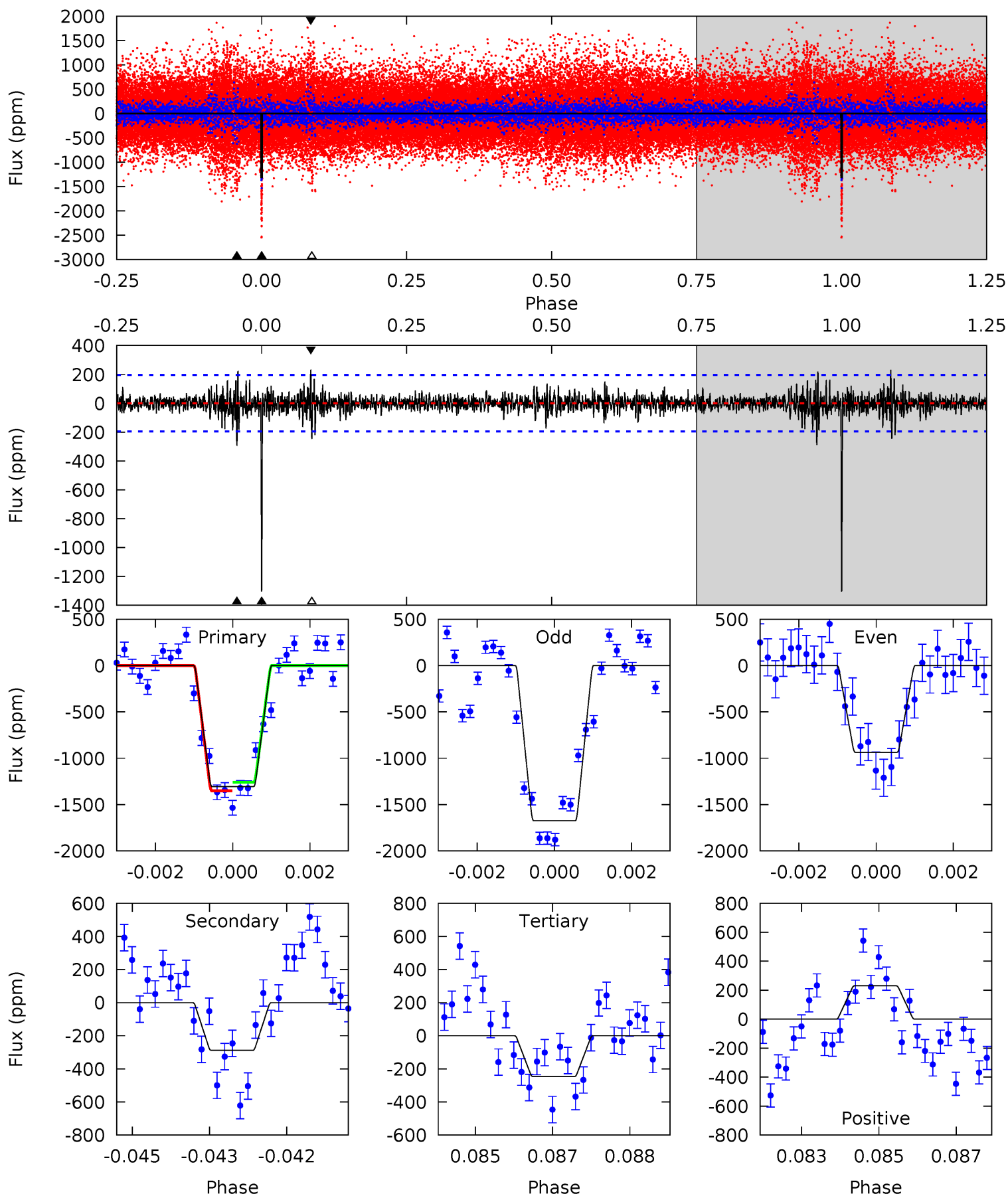
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.1	30.0	21.0	31.1	5.31	3.07	3.48	7.09	-3.04	9.04	-1.08	12.3	0.98	0.51	0.64



# Alt Model-Shift Uniqueness Test

008374658-01, P = 369.186751 Days, E = 200.831156 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
35.7	7.88	6.73	6.29	5.35	3.13	1.17	28.9	29.4	1.15	1.58	10.1	0.94	0.15	1.27



### Stellar Parameters For KIC 008374658

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6078^{+190}_{-212}$	$4.364^{+0.128}_{-0.192}$	$-0.280^{+0.300}_{-0.300}$	$1.068^{+0.310}_{-0.167}$	$0.964^{+0.143}_{-0.107}$	$1.114^{+0.652}_{-0.550}$
	+3%/-3%	+3%/-4%	+107%/-107%	+29%/-16%	+15%/-11%	+58%/-49%
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 008374658-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1100 \pm 37$	$5.32^{+1.52}_{-1.24}$	$392^{+29}_{-25}$	$5267^{+719}_{-466}$	$21429^{+15177}_{-8197}$
Alt.	$-288 \pm 37$	$4.49^{+1.31}_{-1.32}$	$392^{+27}_{-25}$	$4326^{+603}_{-398}$	$7878^{+7622}_{-3216}$

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

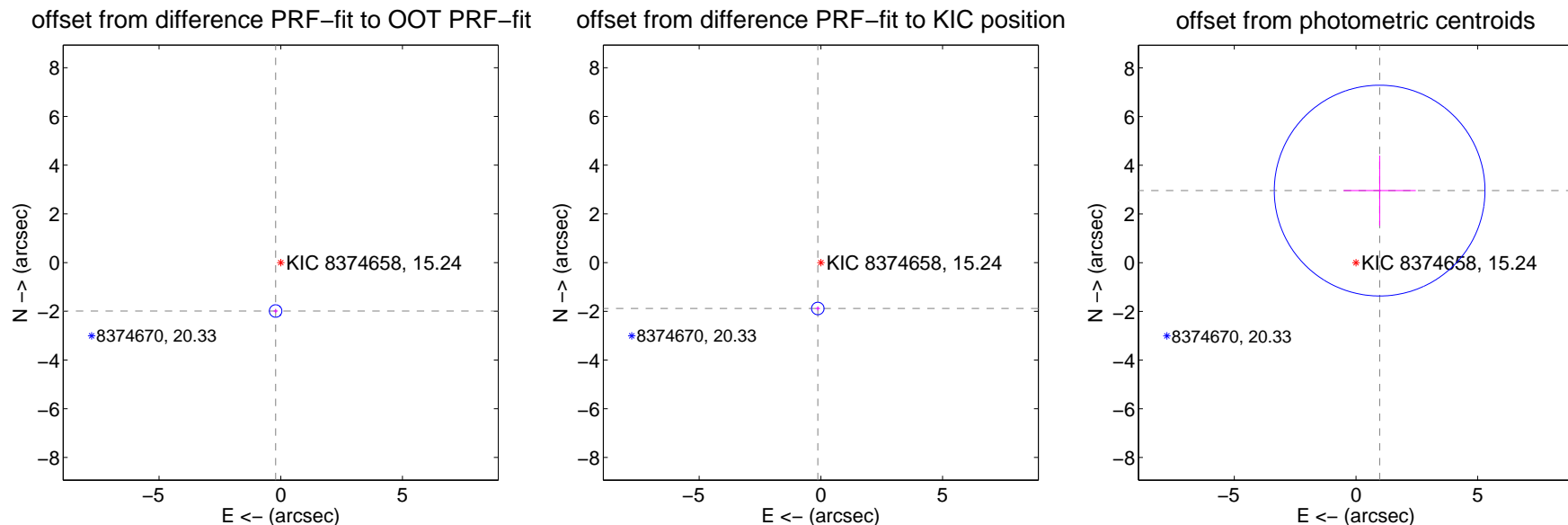
## DV Centroid Data

Supplemental centroid analysis for 008374658-01. Kepler magnitude: 15.24. Transit SNR 9.76

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.999 \pm 0.086$	23.36	$0.211 \pm 0.089$	$-1.988 \pm 0.086$
PRF-fit source offset from KIC position	$1.889 \pm 0.086$	22.07	$0.125 \pm 0.089$	$-1.884 \pm 0.086$
photometric centroid source offset	$3.12 \pm 1.44$	2.16	$-0.97 \pm 1.49$	$2.96 \pm 1.44$



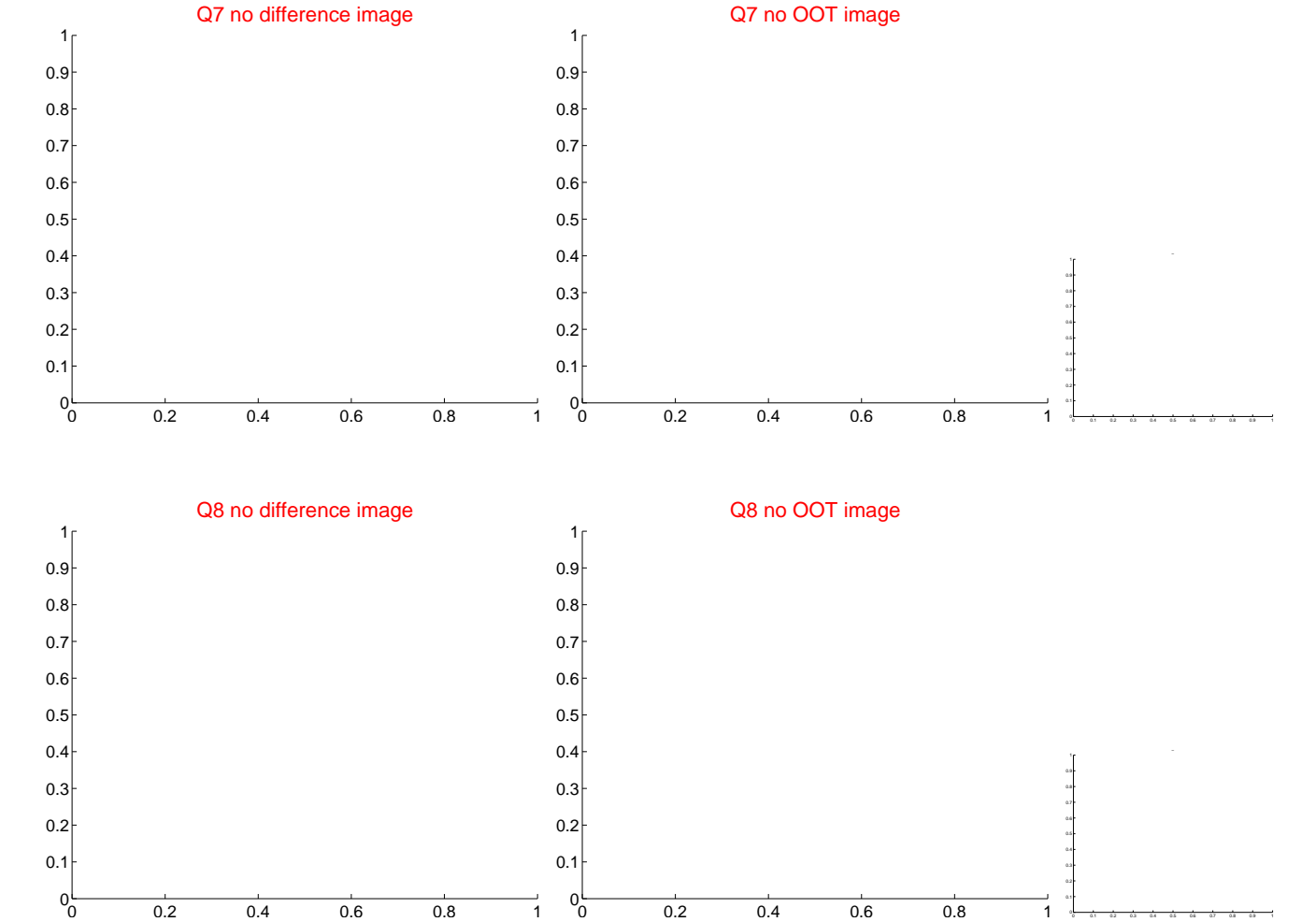
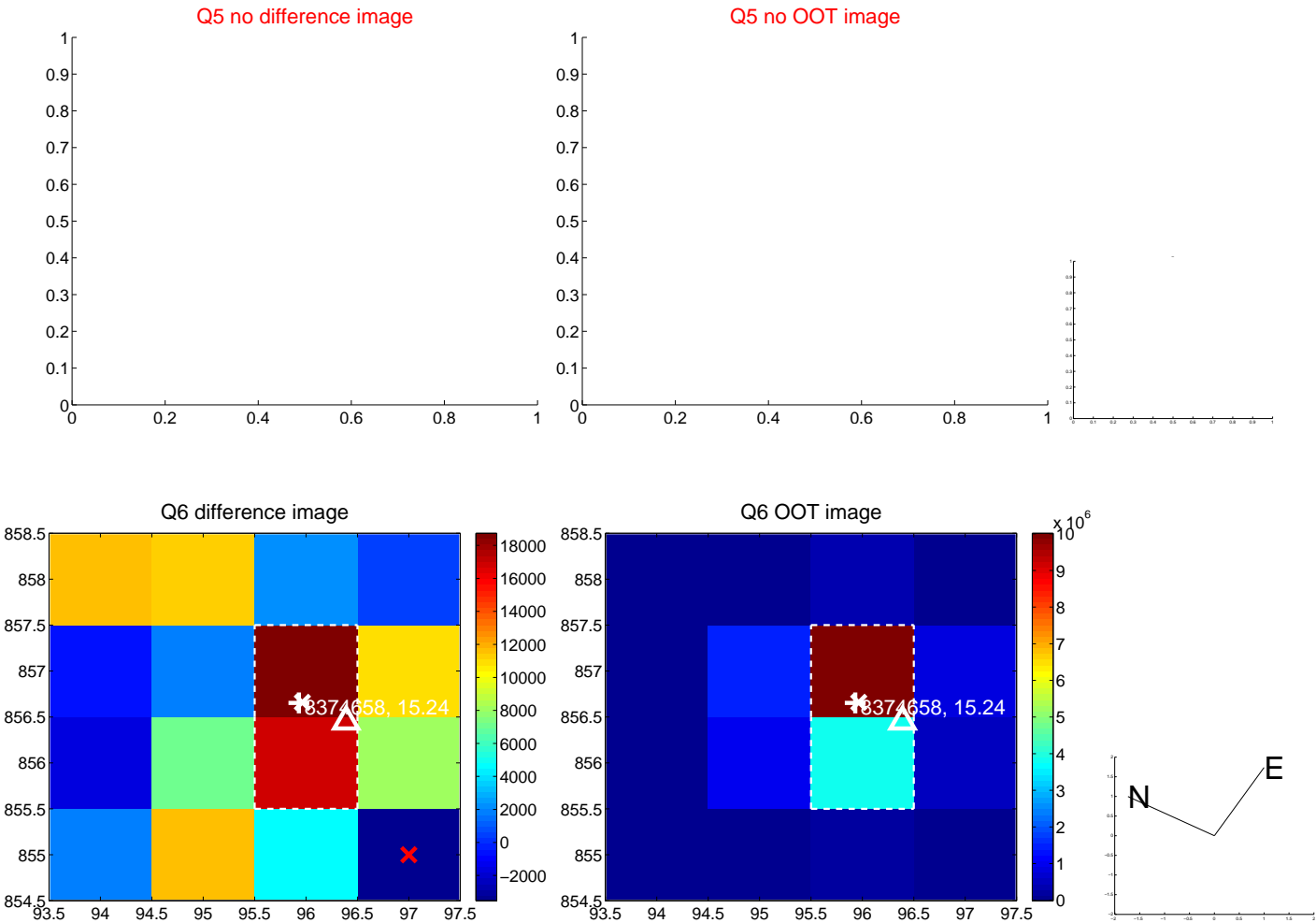
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



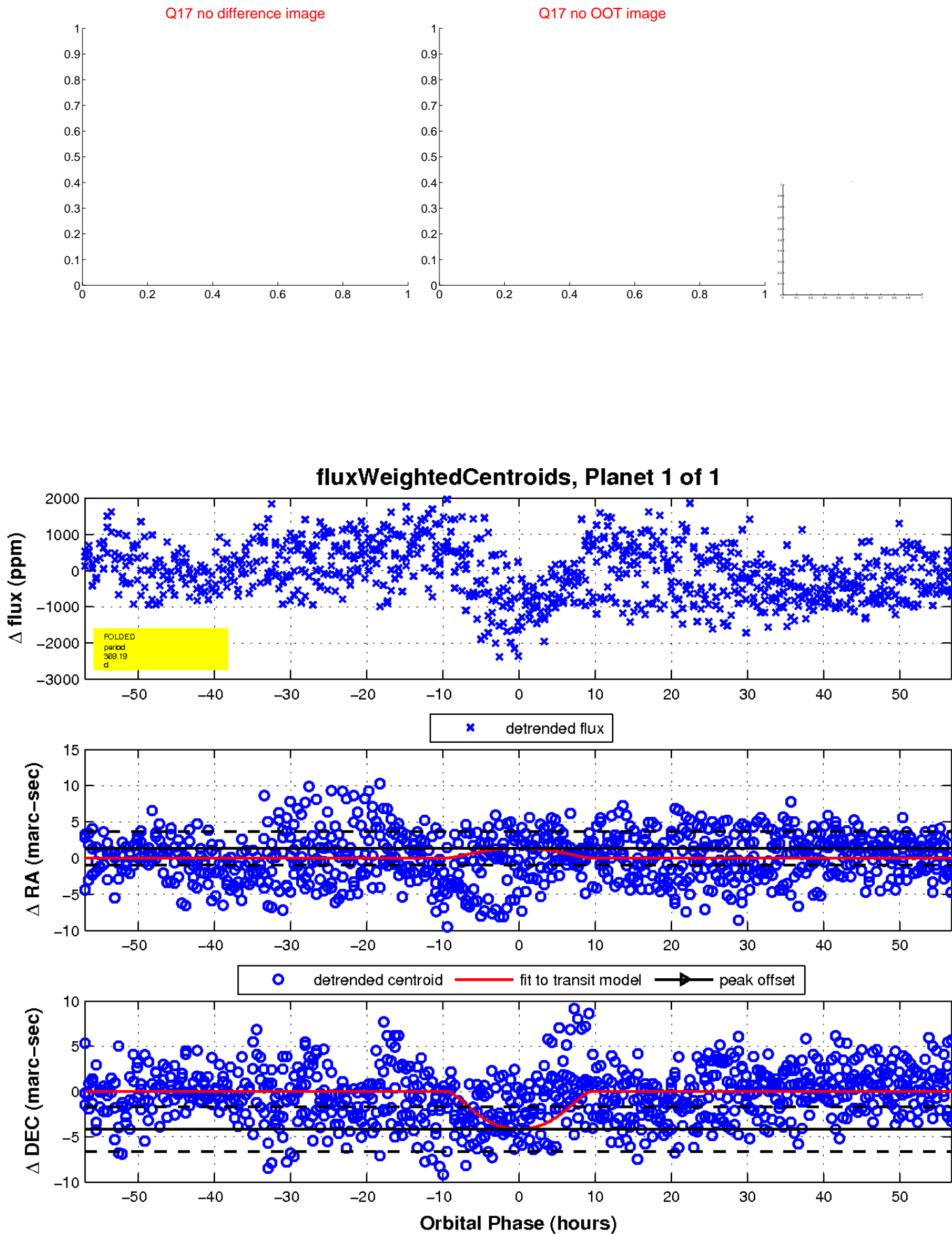
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

