

# KIC 008092644

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008092644-01	OBS	No	374.358048	262.864024	5674.7	23.839	8.7	9.3	1.00	5780	7.45	0.97

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008092644-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—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.

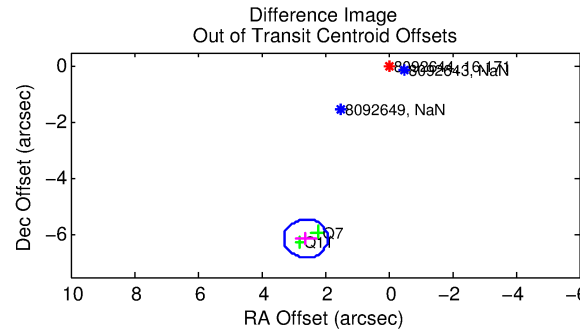
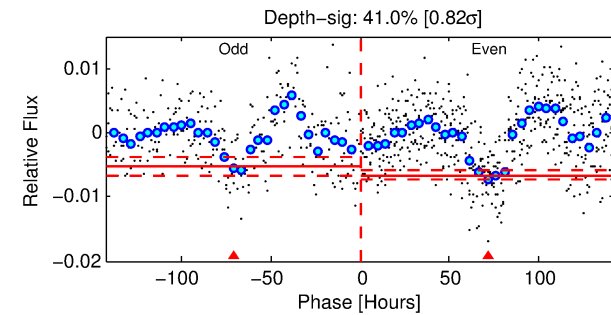
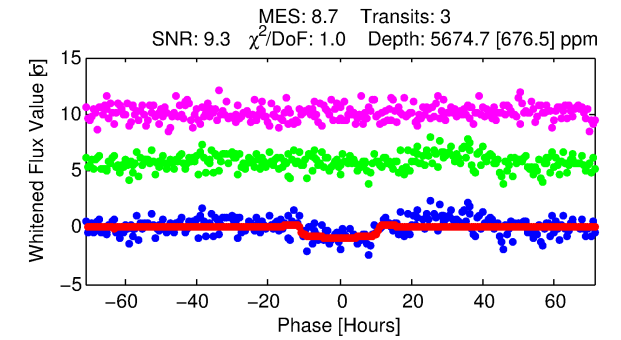
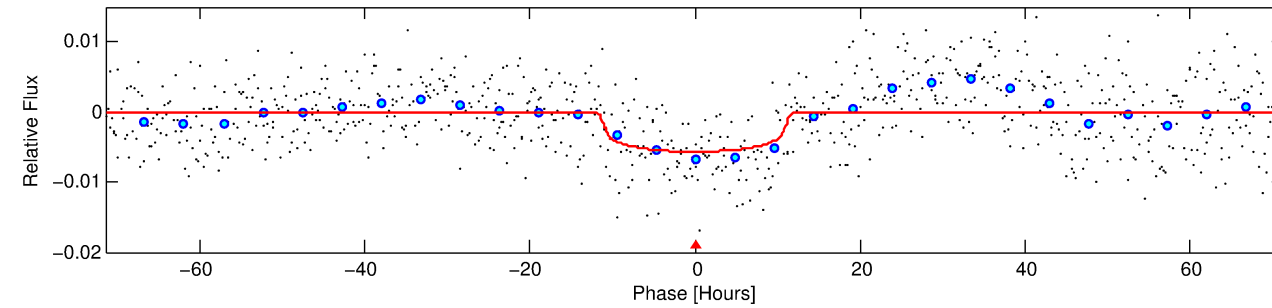
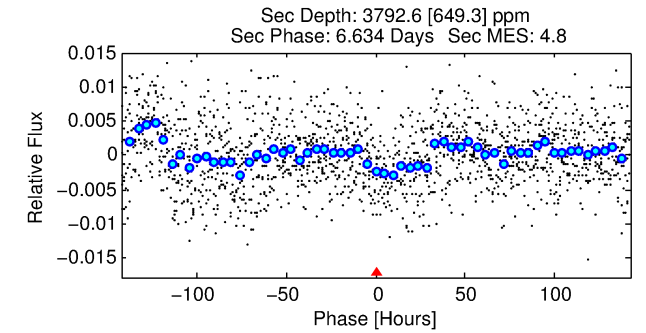
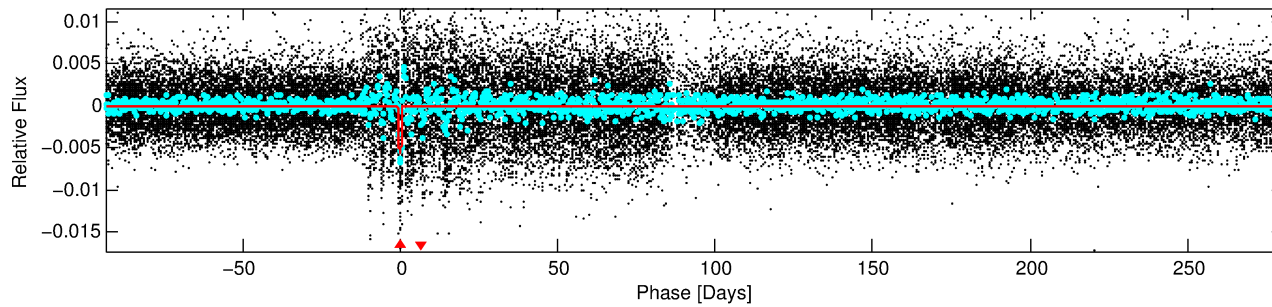
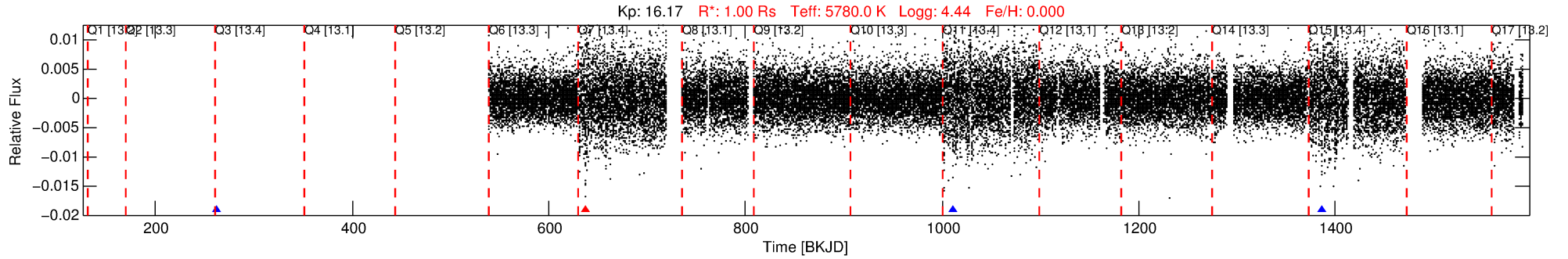
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008092644-01

No Significant Match Found

# DV One-Page Summary

KIC: 8092644 Candidate: 1 of 1 Period: 374.358 d



## DV Fit Results:

Period = 374.35805 [0.02205] d  
Epoch = 262.8640 [0.0480] BKJD  
Rp/R\* = 0.0683 [0.0132]  
a/R\* = 128.05 [99.80]  
b = 0.04 [17.58]  
Seff = 0.97 [0.00]  
Teq = 253 [0] K  
Rp = 7.45 [1.44] Re  
a = 1.0168 [0.0000] AU  
Ag = 38835.94 [16436.92] [2.36σ]  
Teffp = 5489 [581] K [9.02σ]

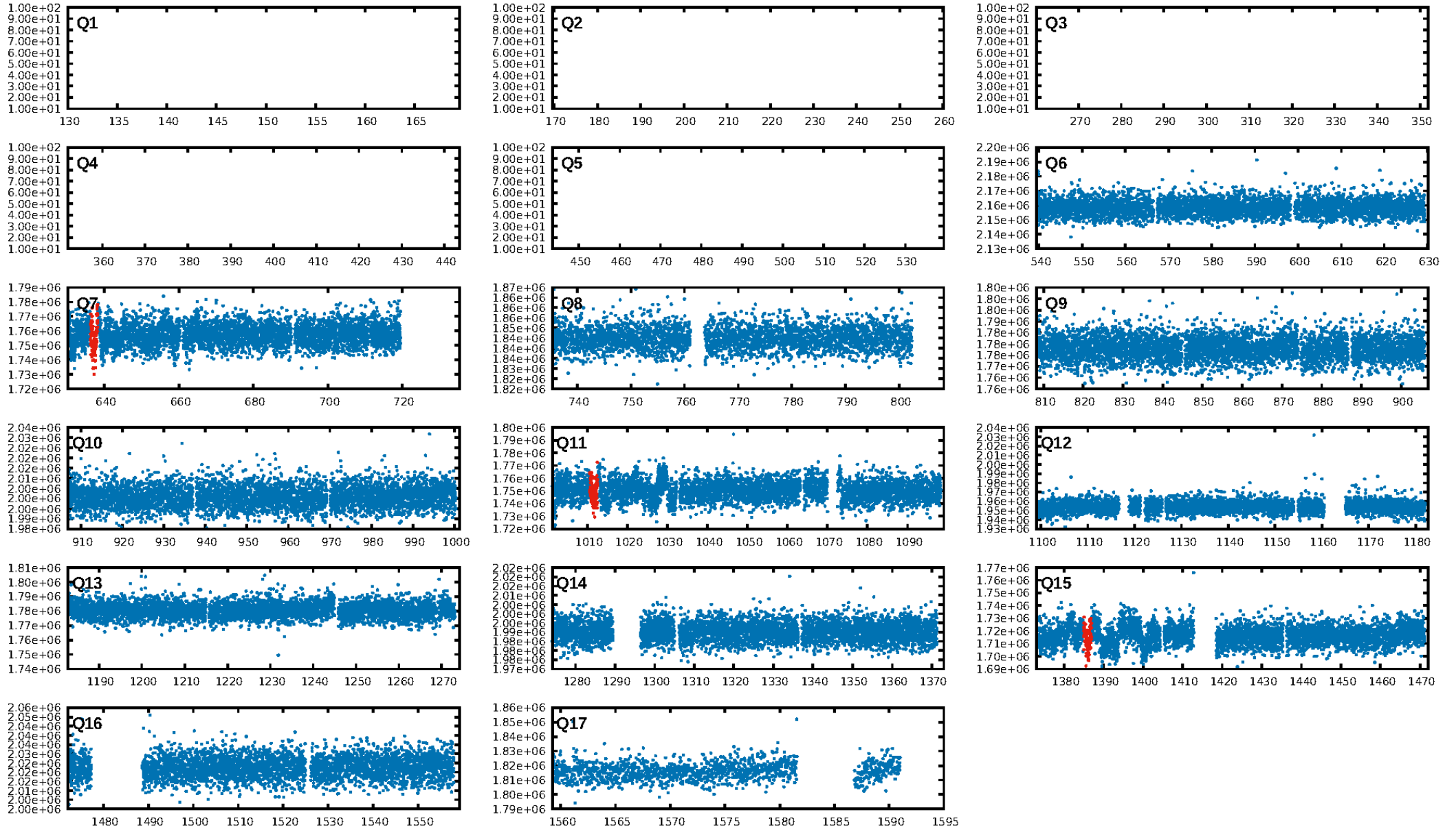
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 13.2%  
ModelChiSquareGof-sig: 99.9%  
Bootstrap-pfa: 1.07e-11  
RollingBand-fgt: 0.67 [2/3]  
GhostDiagnostic-chr: 1.6  
Centroid-sig: 0.0%  
Centroid-so: 8.138 arcsec [4.64σ]  
OotOffset-rm: 6.658 arcsec [29.05σ]  
KicOffset-rm: 6.932 arcsec [28.67σ]  
OotOffset-st: 0/2/0/0 [2]  
KicOffset-st: 0/2/0/0 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [2/2]

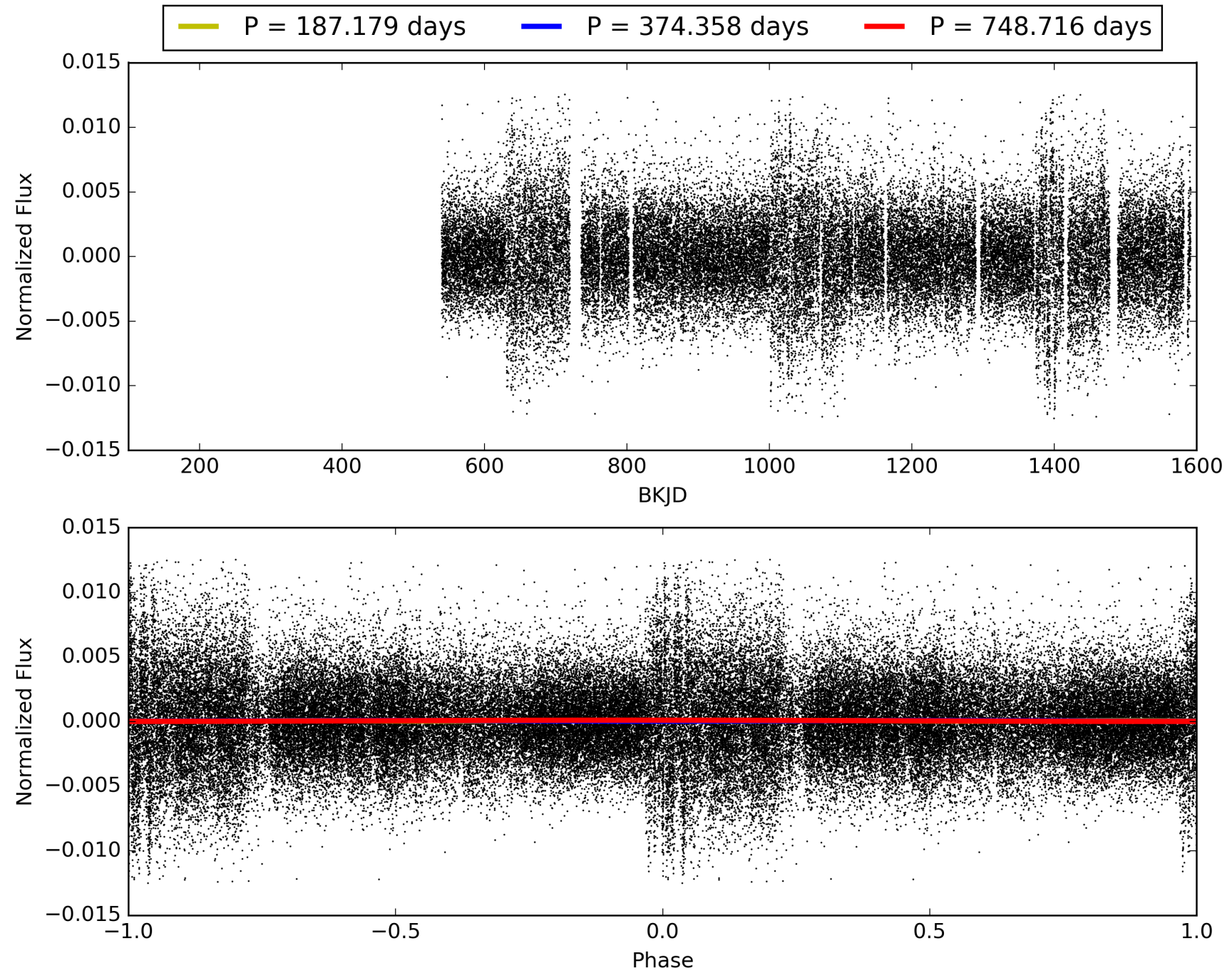
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:12:53 Z

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

# TCE 008092644-01, PDC Light Curves

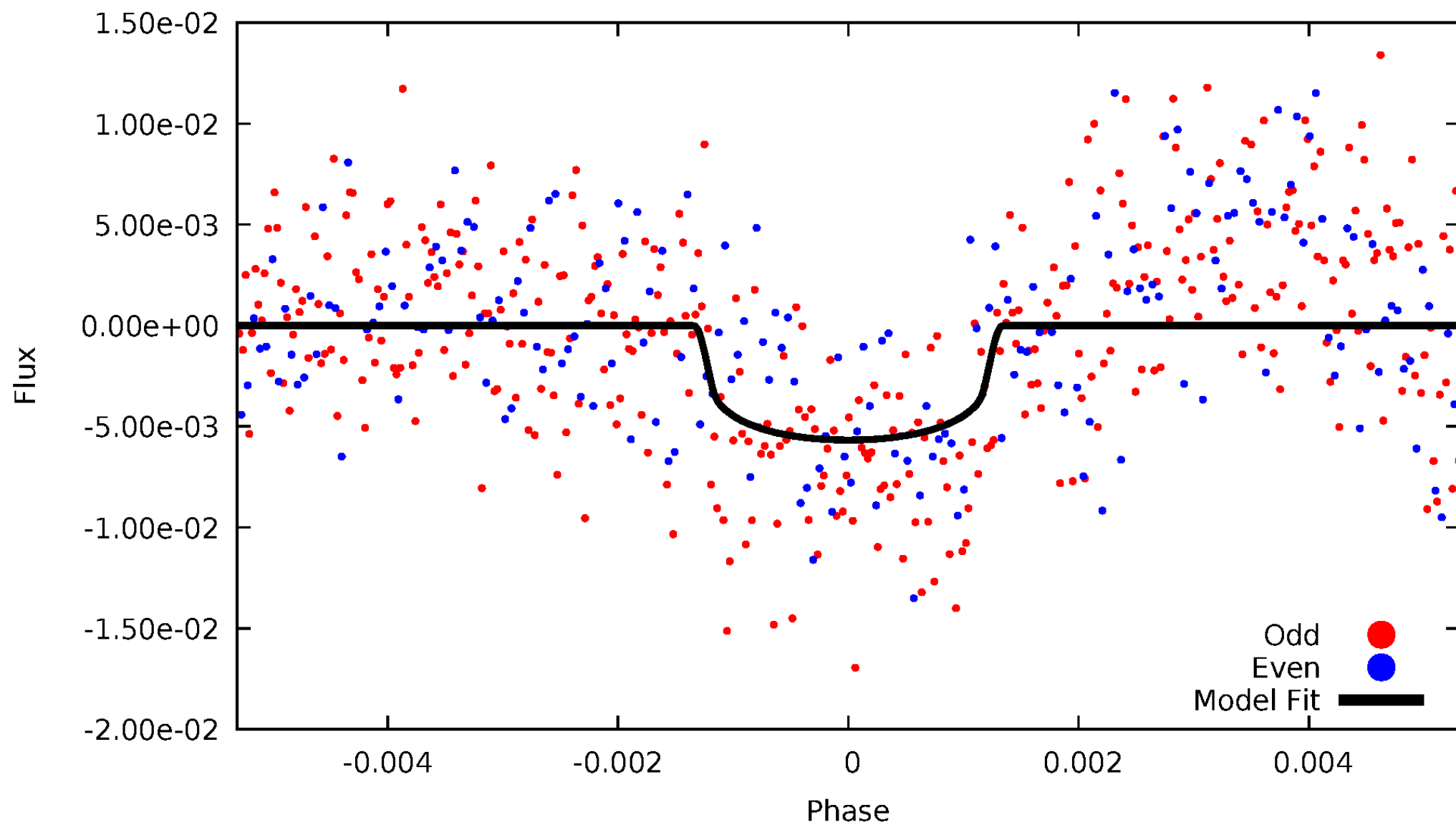


TCE 008092644-01



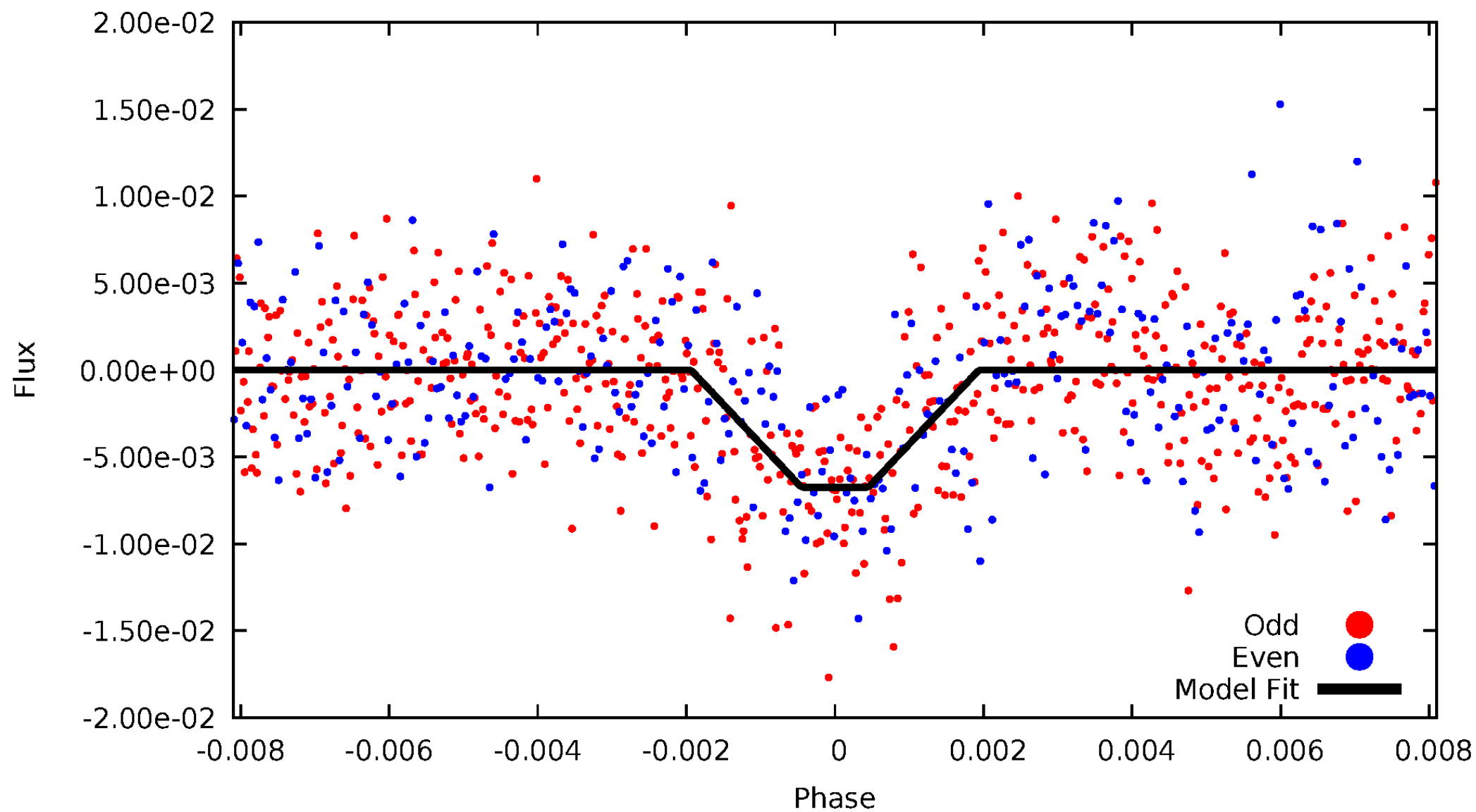
# DV Odd/Even

TCE 008092644-01



# ALT Odd/Even

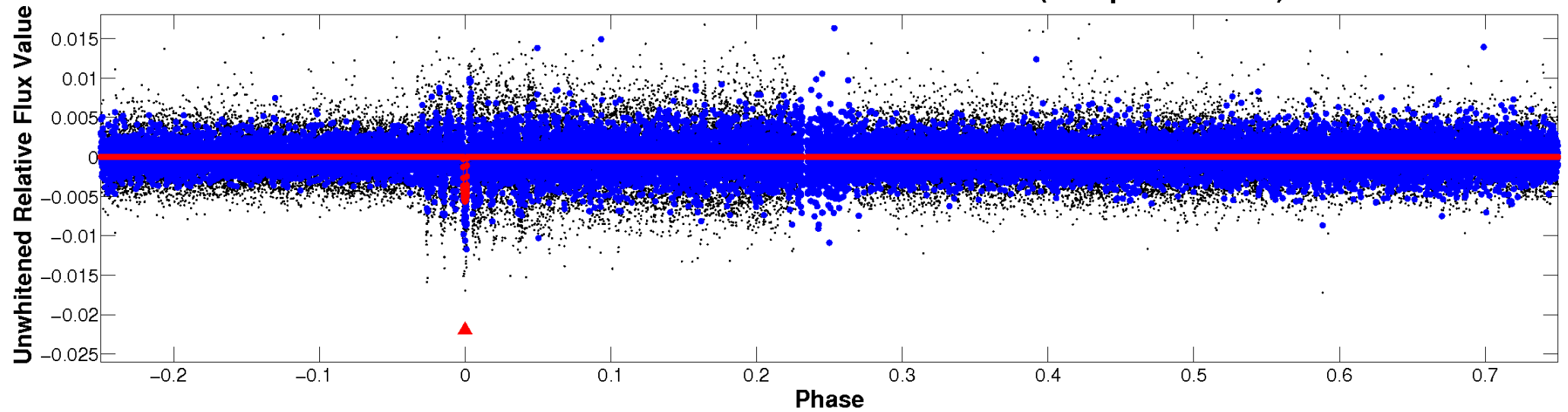
TCE 008092644-01



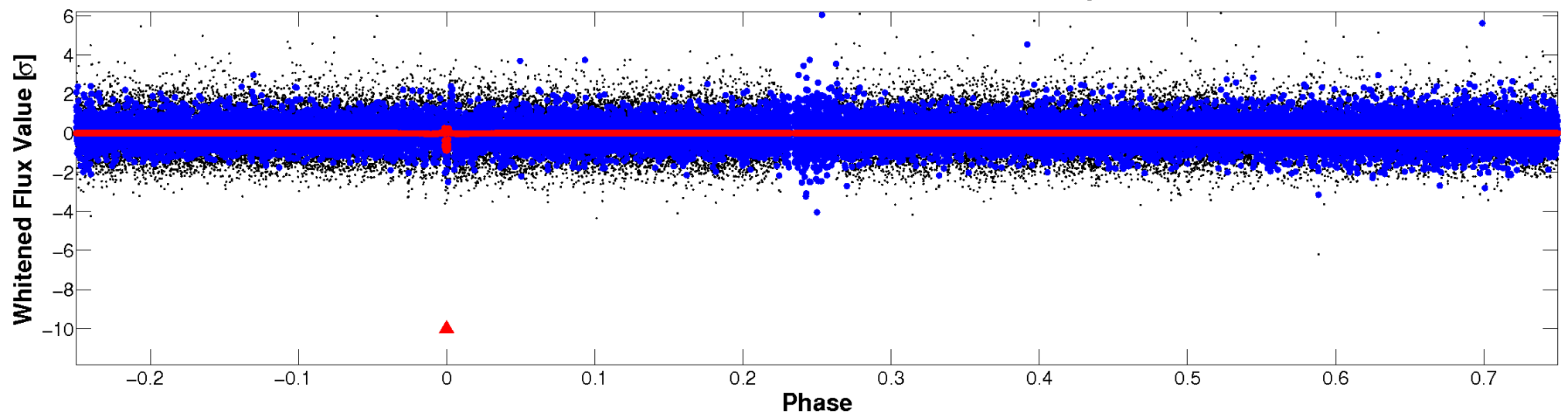


# Non-Whitened Vs. Whitened Light Curve

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

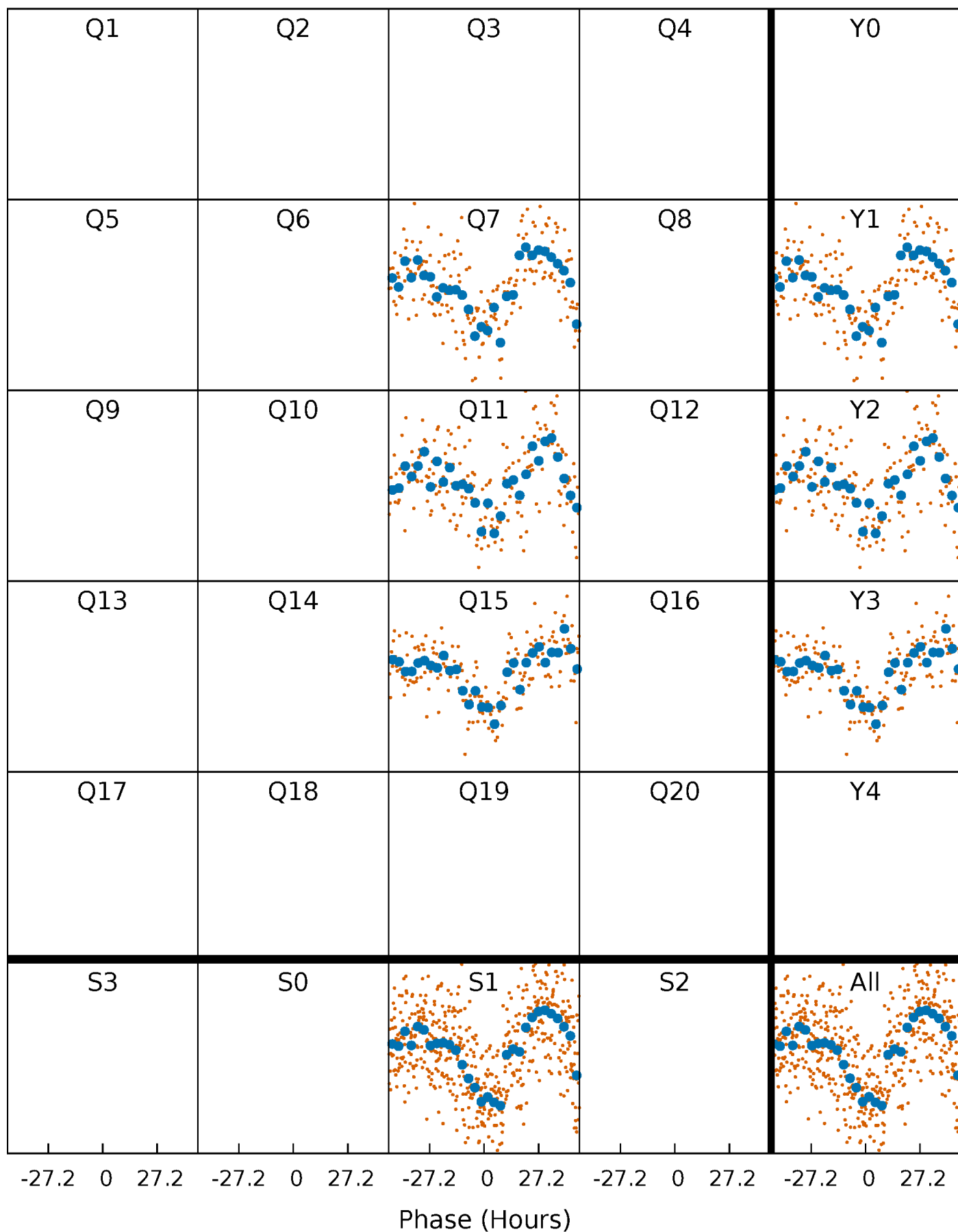


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

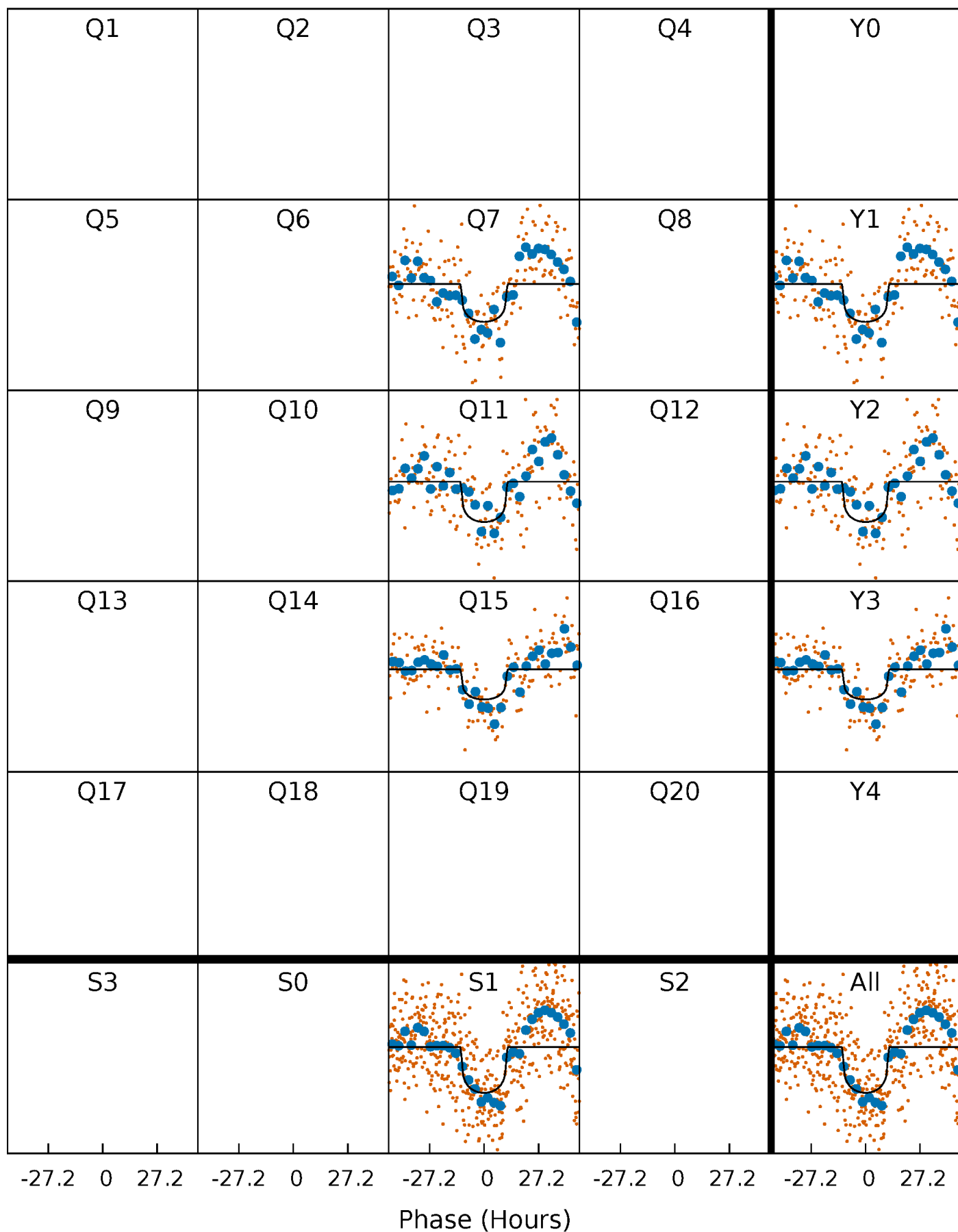
TCE 008092644-01 P=374.358048 Days  $T_0=262.864024$  (BKJD)





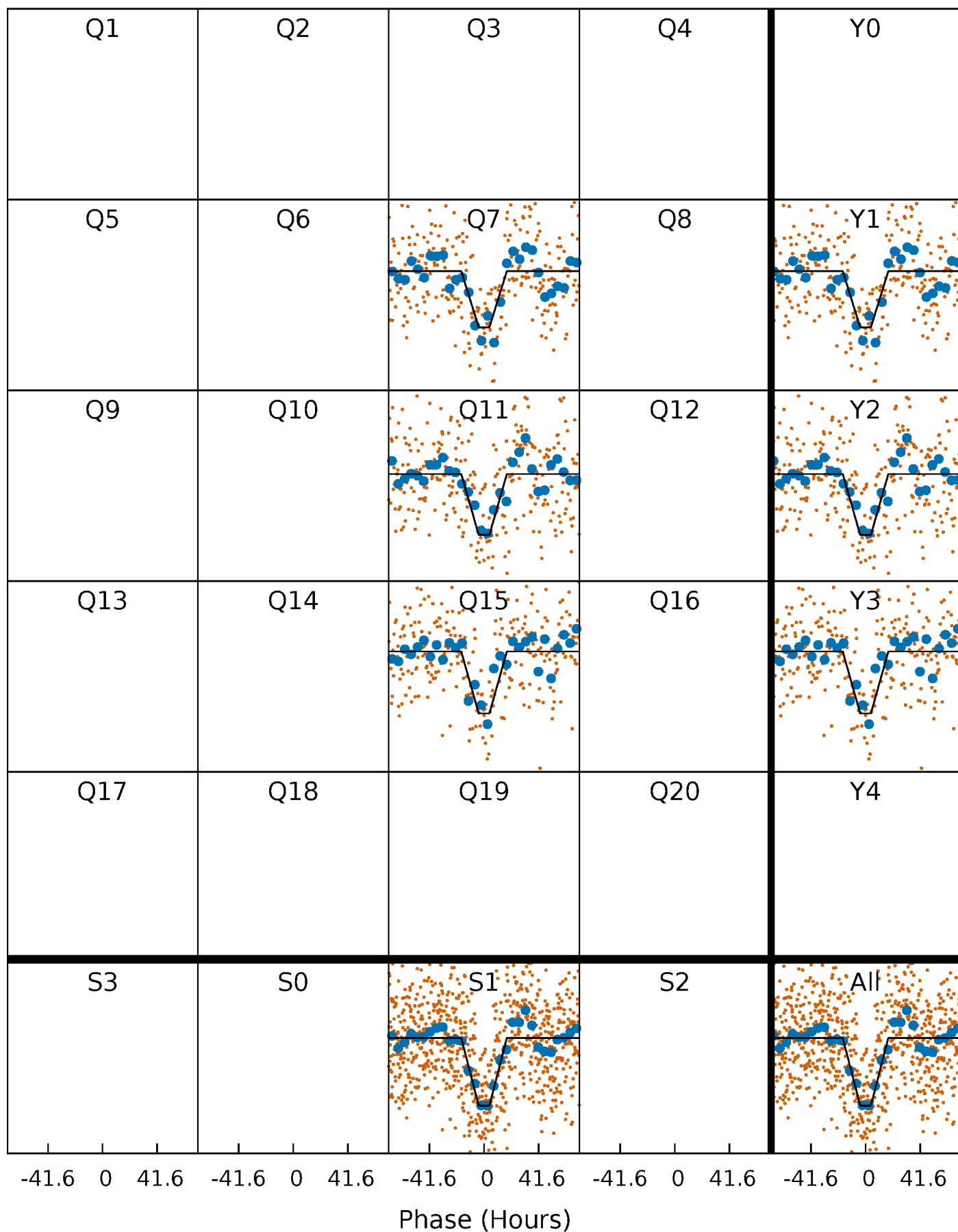
# DV Quarter-Phased Transit Curves

TCE 008092644-01 P=374.358048 Days  $T_0=262.864024$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

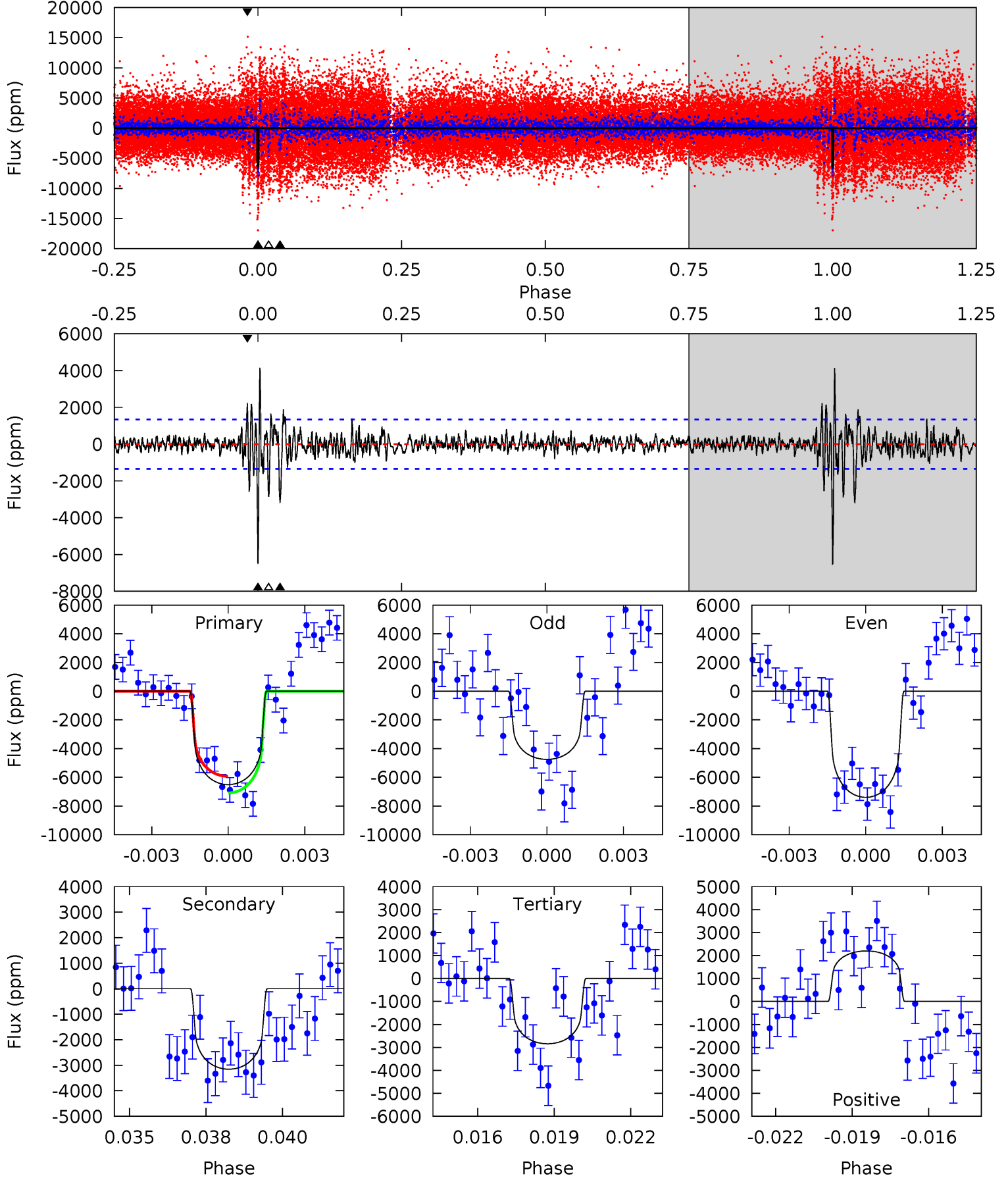
TCE 008092644-01 P=374.397309 Days  $T_0=262.879217$  (BKJD)



# DV Model-Shift Uniqueness Test

008092644-01, P = 374.358048 Days, E = 262.864024 Days

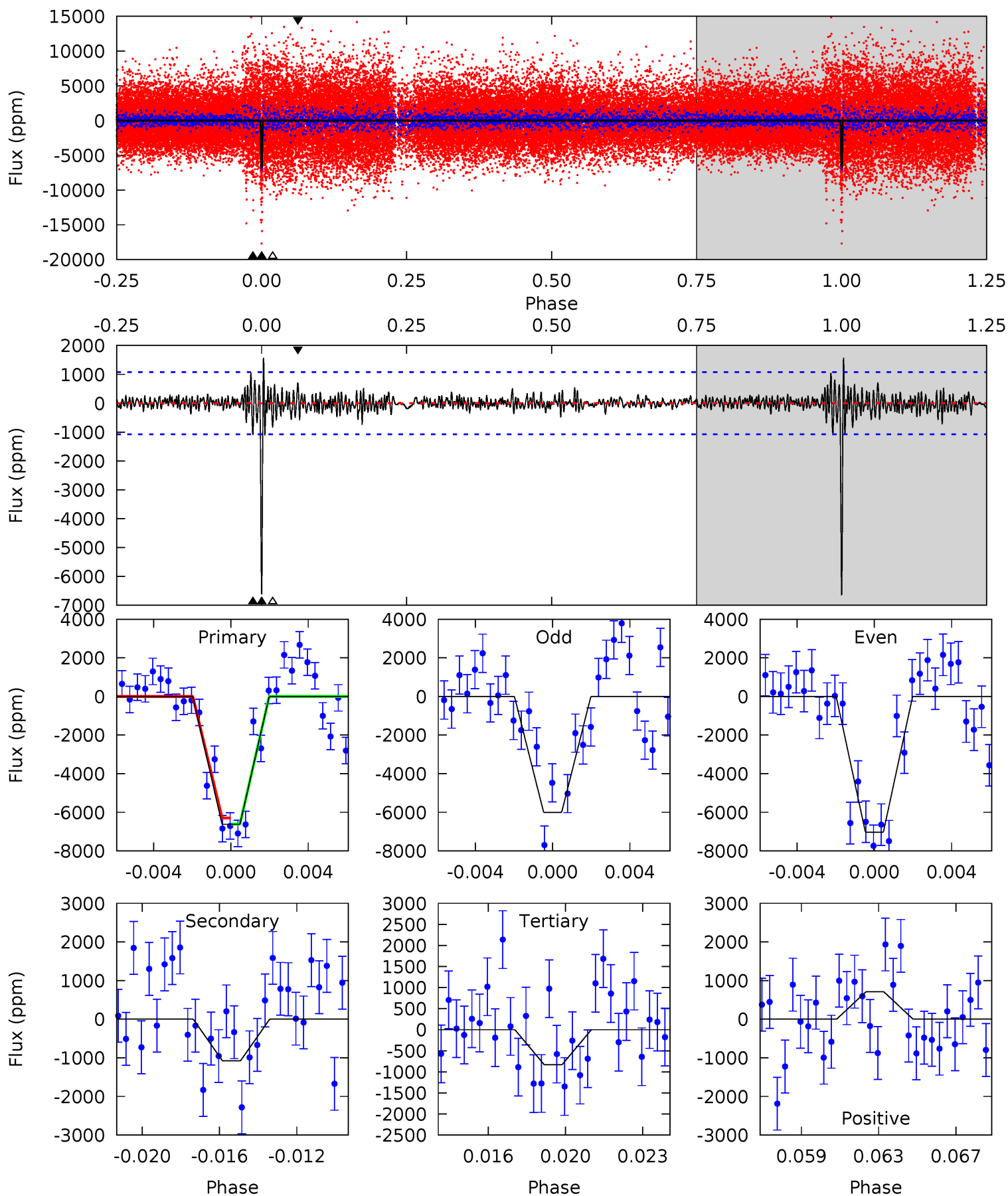
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.5	12.3	11.1	8.61	5.27	3.00	1.76	14.4	16.9	1.22	3.74	4.87	0.94	0.39	2.26



# Alt Model-Shift Uniqueness Test

008092644-01, P = 374.397309 Days, E = 262.879217 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
32.0	5.22	4.01	3.43	5.20	2.88	0.89	28.0	28.6	1.21	1.79	2.35	1.11	0.19	0.77



### Stellar Parameters For KIC 008092644

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5780^{+1}_{-1}$	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

### Secondary Eclipse Parameters for KIC 008092644-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-3153 \pm 255$	$7.38^{+1.54}_{-1.44}$	$354^{+16}_{-17}$	$5282^{+623}_{-409}$	$32813^{+18384}_{-10087}$
Alt.	$-1080 \pm 207$	$9.00^{+1.51}_{-1.59}$	$353^{+16}_{-15}$	$3981^{+310}_{-251}$	$7651^{+3883}_{-2388}$

$T_{max}$  = 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

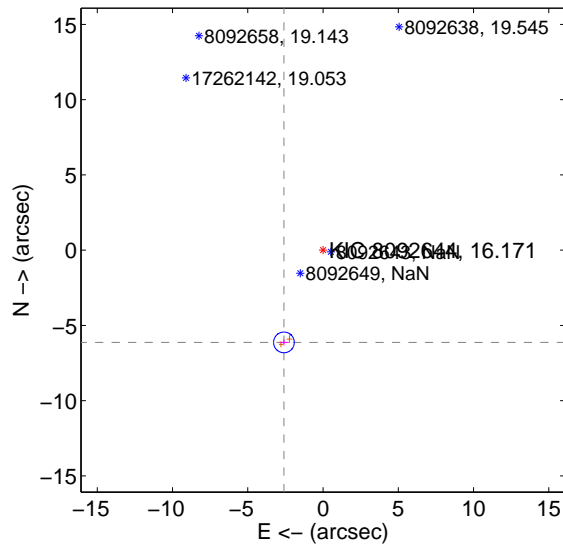
Supplemental centroid analysis for 008092644-01. Kepler magnitude: 16.17. Transit SNR 9.27

There are 0 quarters with good PRF difference image offsets

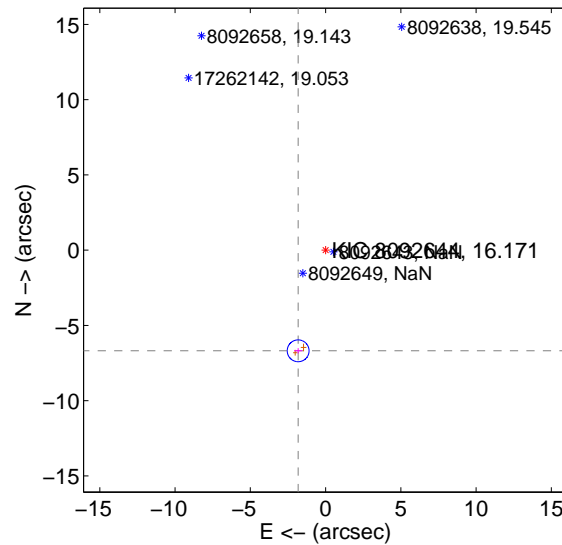
The direct PRF centroid is offset from the target star catalog position by about 0.96 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$6.658 \pm 0.229$	29.05	$2.599 \pm 0.323$	$-6.130 \pm 0.208$
PRF-fit source offset from KIC position	$6.932 \pm 0.242$	28.67	$1.823 \pm 0.277$	$-6.688 \pm 0.181$
photometric centroid source offset	$8.14 \pm 1.75$	4.64	$-5.82 \pm 1.46$	$5.68 \pm 2.01$

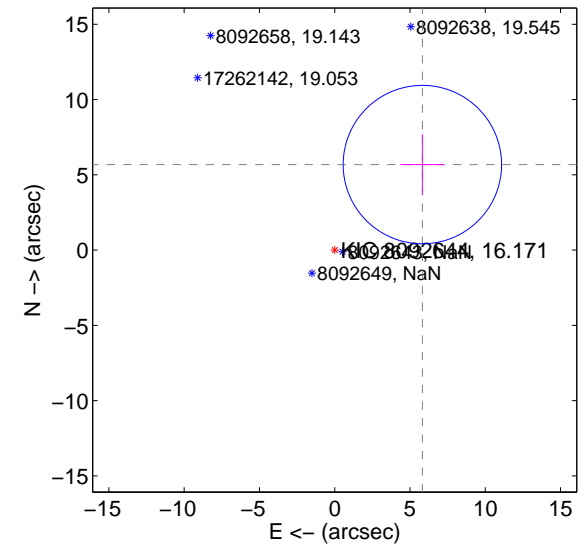
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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.

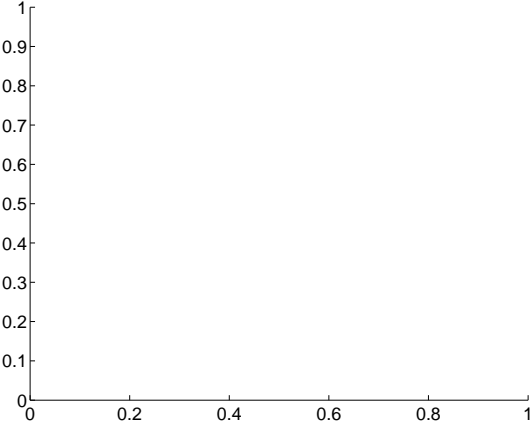
Q5 no difference image



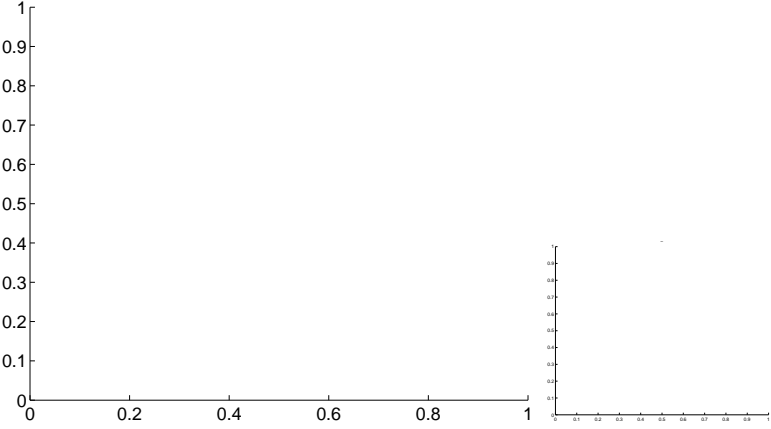
Q5 no OOT image



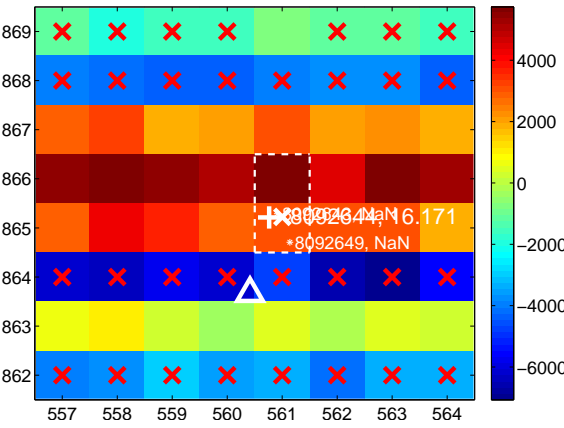
Q6 no difference image



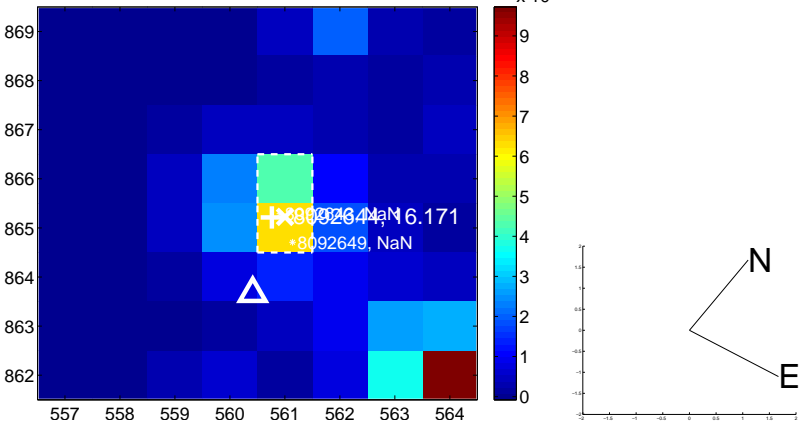
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image



Q8 no OOT image



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

Q9 no difference image



Q9 no OOT image



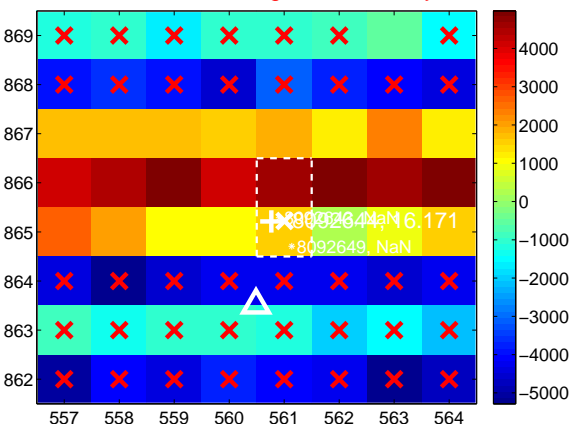
Q10 no difference image



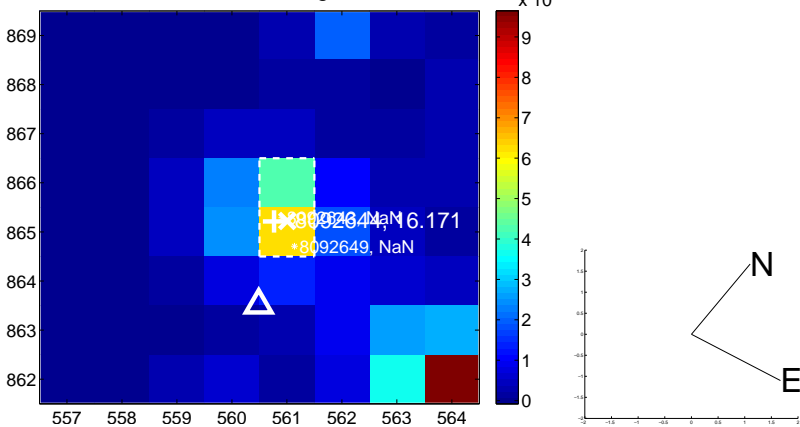
Q10 no OOT image



Q11 difference image. Poor Quality



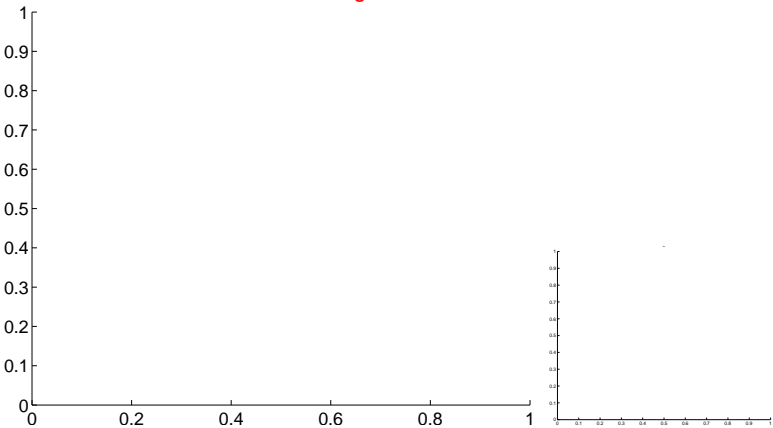
Q11 OOT image



Q12 no difference image



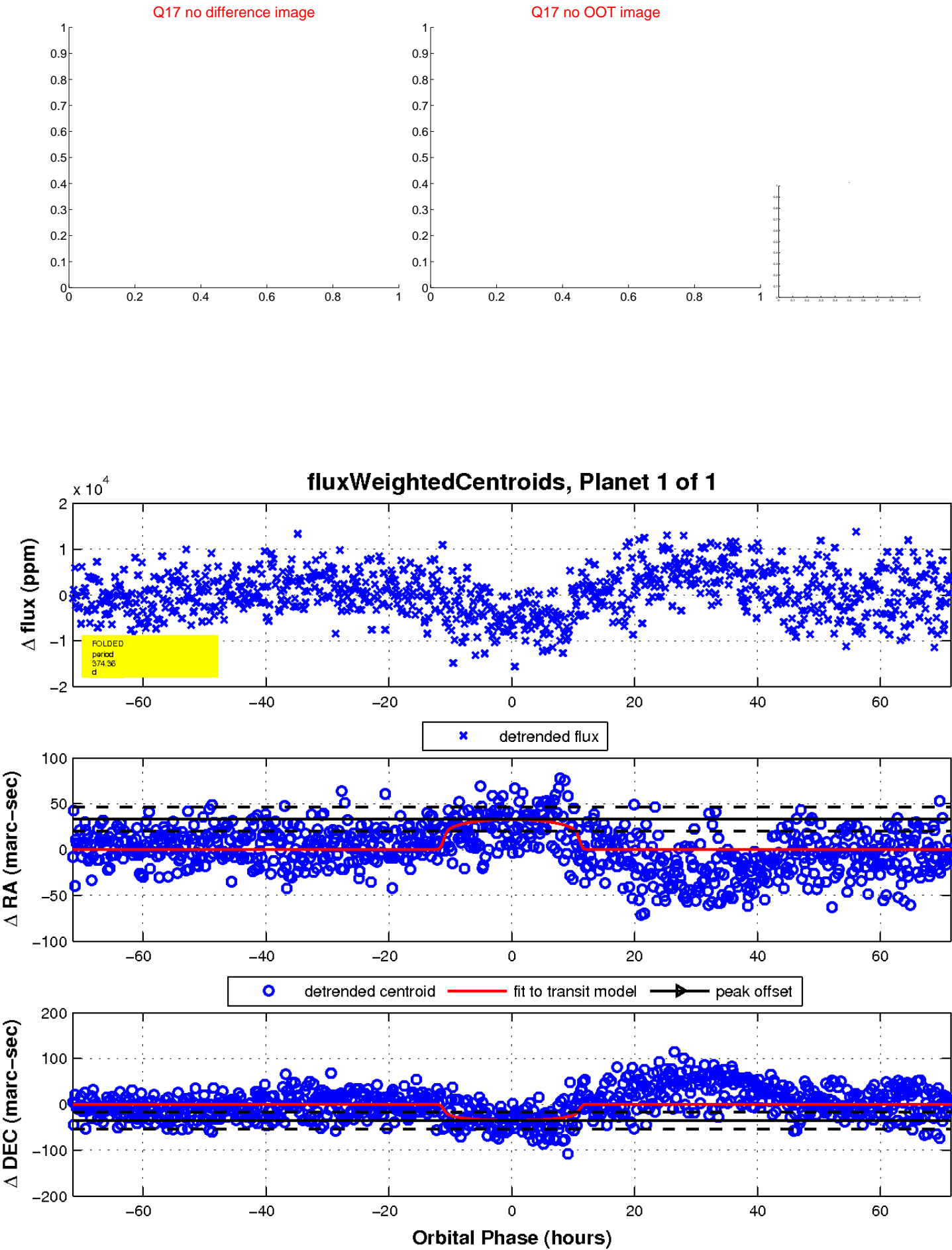
Q12 no OOT image



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

