

# KIC 008374741

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008374741-01	OBS	No	367.400038	376.549607	174.8	13.746	10.5	10.4	0.92	5780	1.32	0.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008374741-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—CENT_KIC_POS

**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 008374741-01

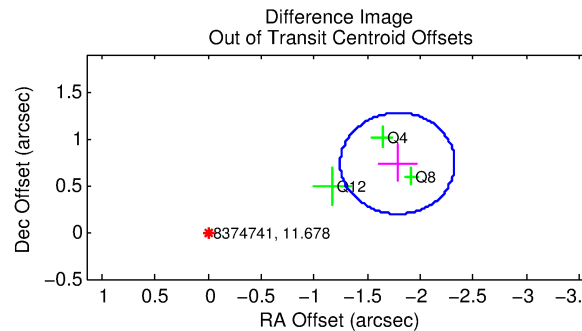
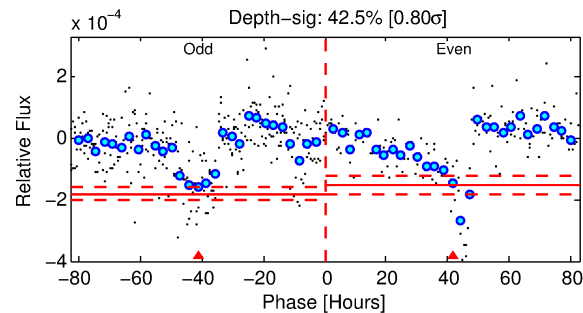
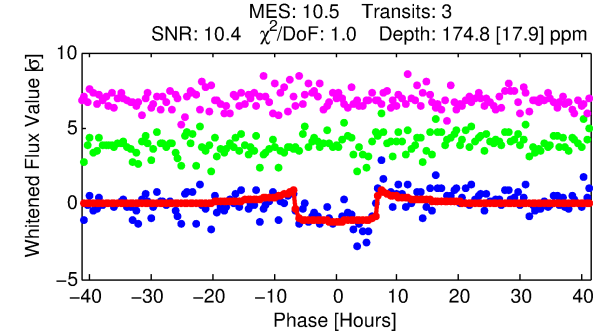
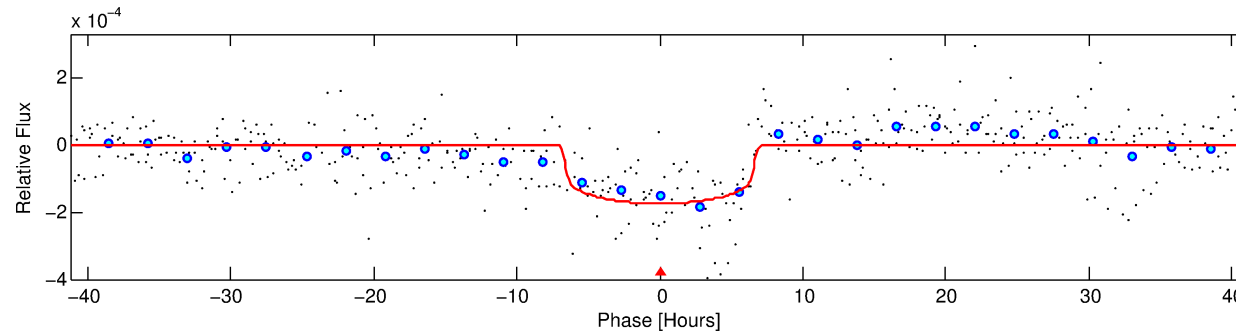
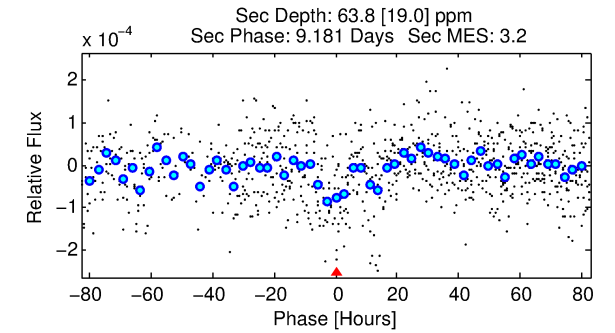
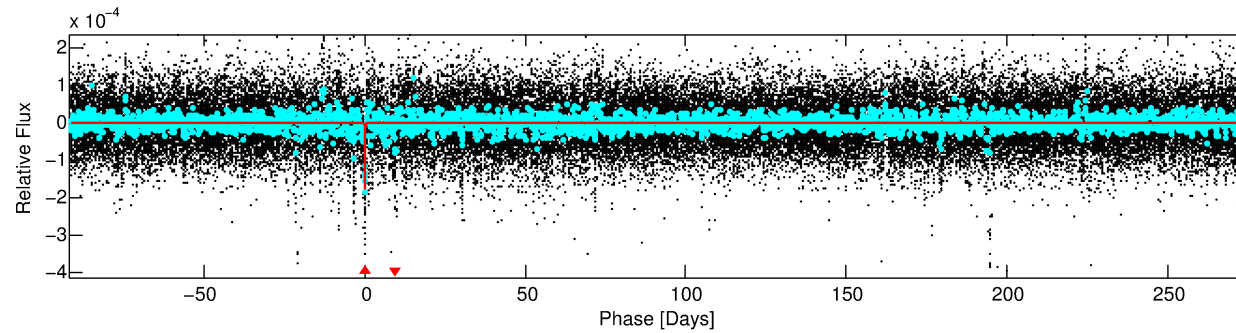
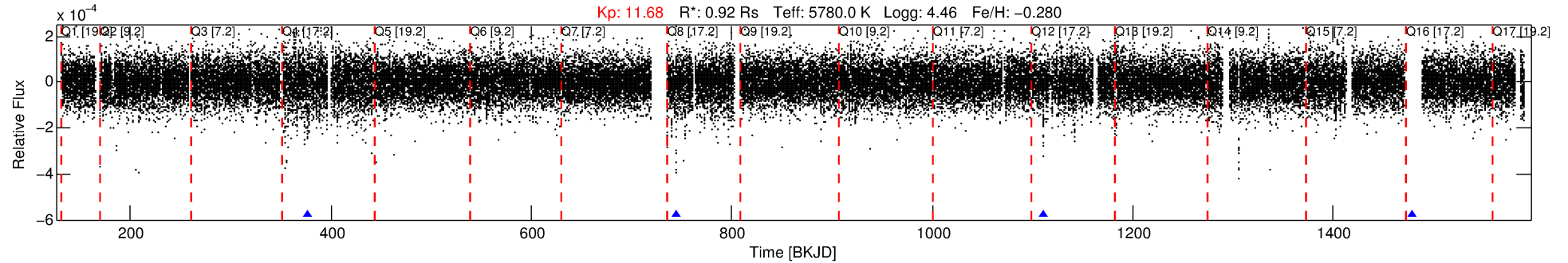
No Significant Match Found

# DV One-Page Summary

KIC: 8374741 Candidate: 1 of 1 Period: 367.400 d

KOI: K04330 Corr: No Ephemeris Match

Kp: 11.68 R\*: 0.92 Rs Teff: 5780.0 K Logg: 4.46 Fe/H: -0.280



## DV Fit Results:

Period = 367.40004 [0.00844] d  
Epoch = 376.5496 [0.0128] BKJD  
Rp/R\* = 0.0132 [0.0029]  
a/R\* = 136.19 [133.46]  
b = 0.76 [0.54]  
Seff = 0.91 [0.24]  
Teq = 249 [16] K  
Rp = 1.32 [0.38] Re  
a = 0.9610 [0.1530] AU  
Ag = 18529.12 [10706.93] [1.73σ]  
Teff = 4493 [605] K [7.02σ]

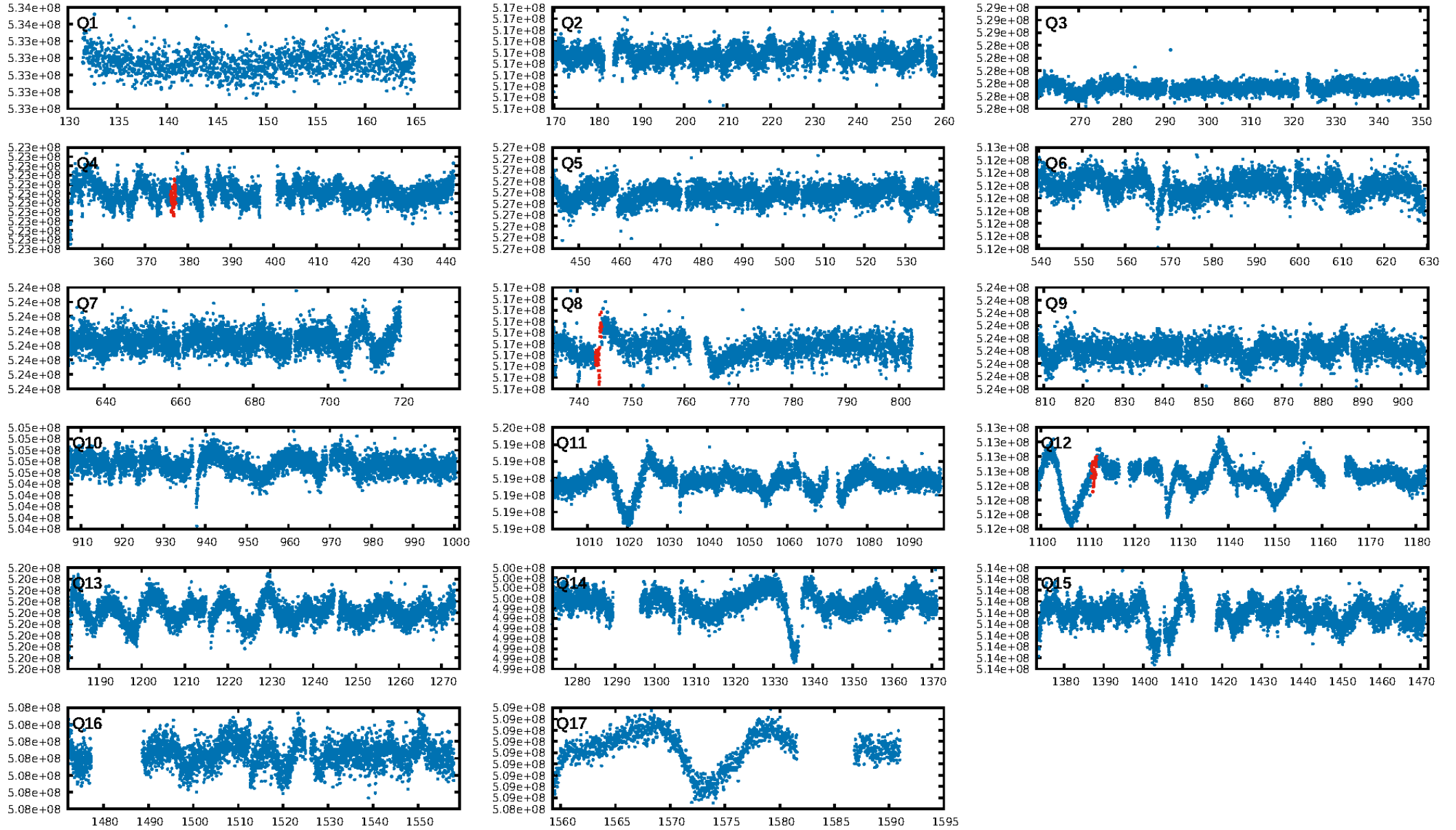
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 72.1%  
ModelChiSquareGof-sig: 95.0%  
Bootstrap-pfa: 7.98e-13  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 2.606  
Centroid-sig: 0.3%  
Centroid-so: 1.923 arcsec [2.47σ]  
OotOffset-rm: 1.931 arcsec [10.72σ]  
KicOffset-rm: 1.679 arcsec [8.13σ]  
OotOffset-st: 0/0/3/0 [3]  
KicOffset-st: 0/0/3/0 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

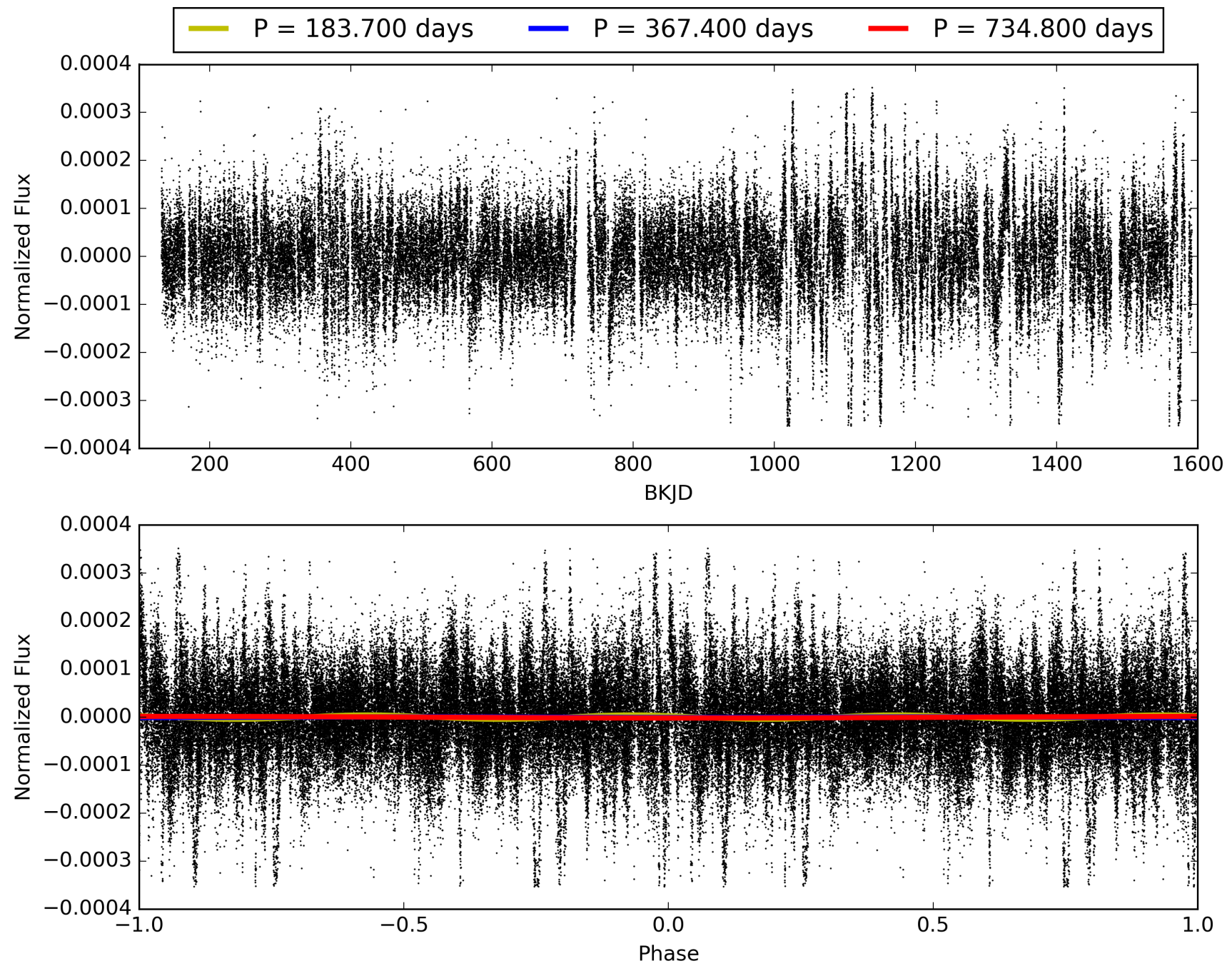
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:51:49 Z

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

# TCE 008374741-01, PDC Light Curves

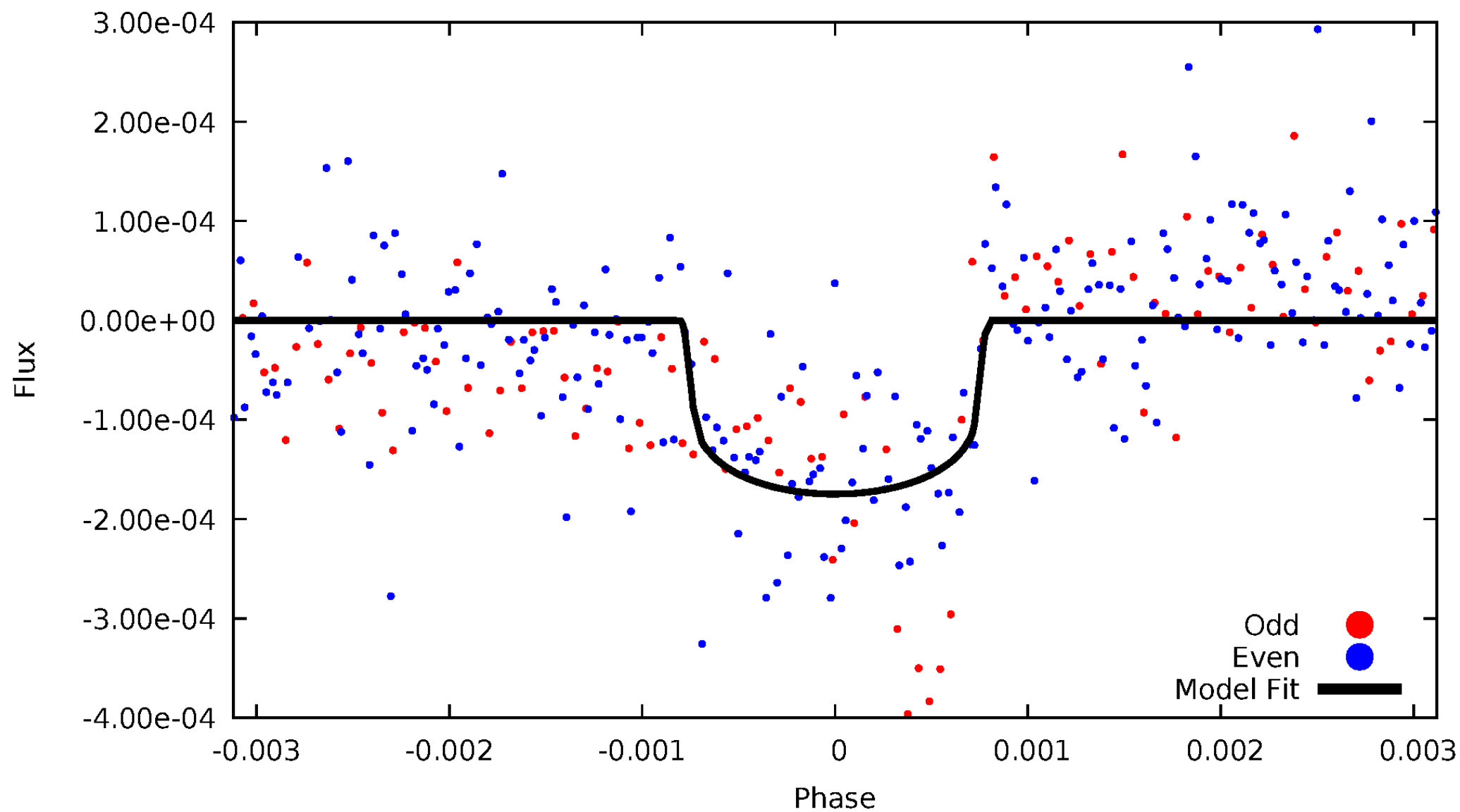


TCE 008374741-01



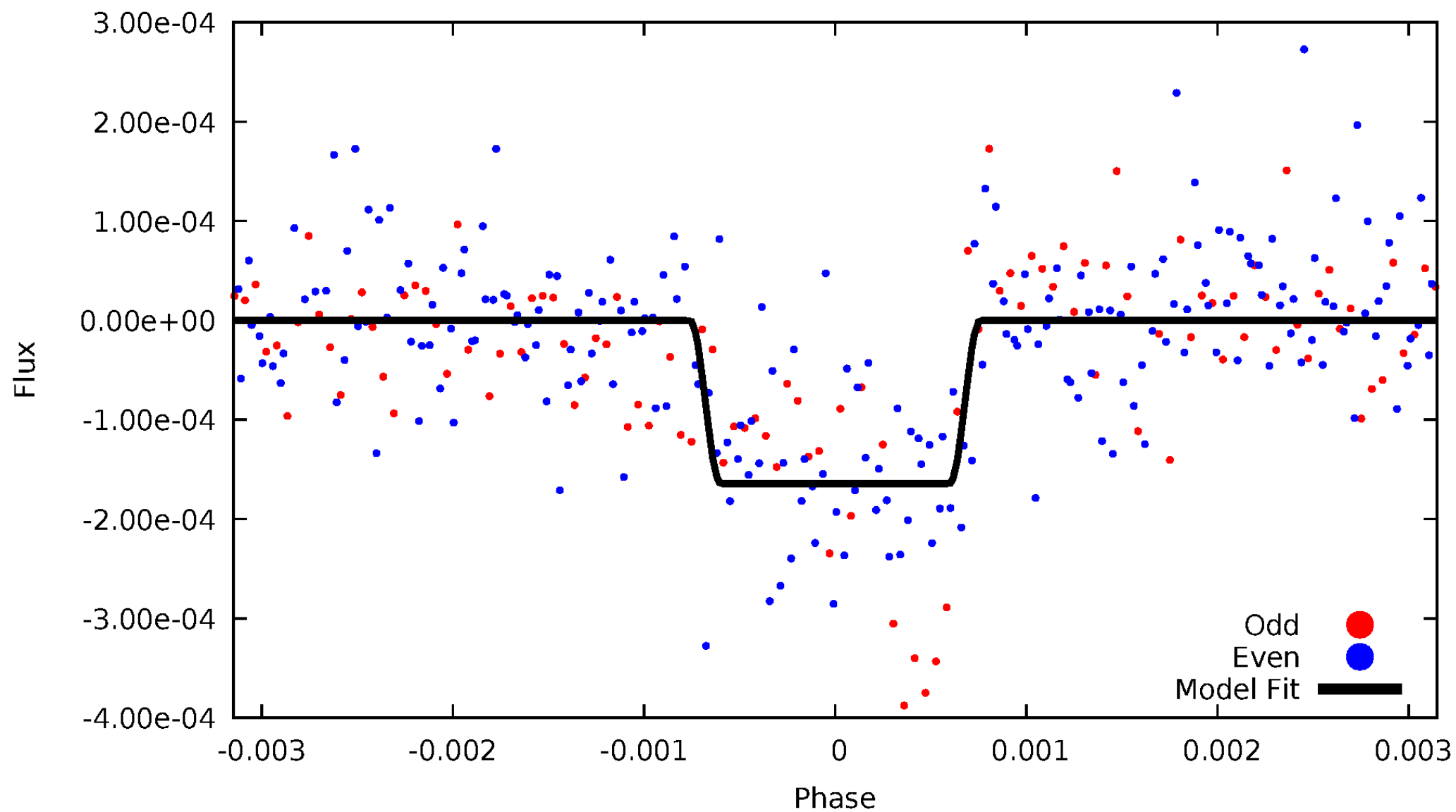
# DV Odd/Even

TCE 008374741-01



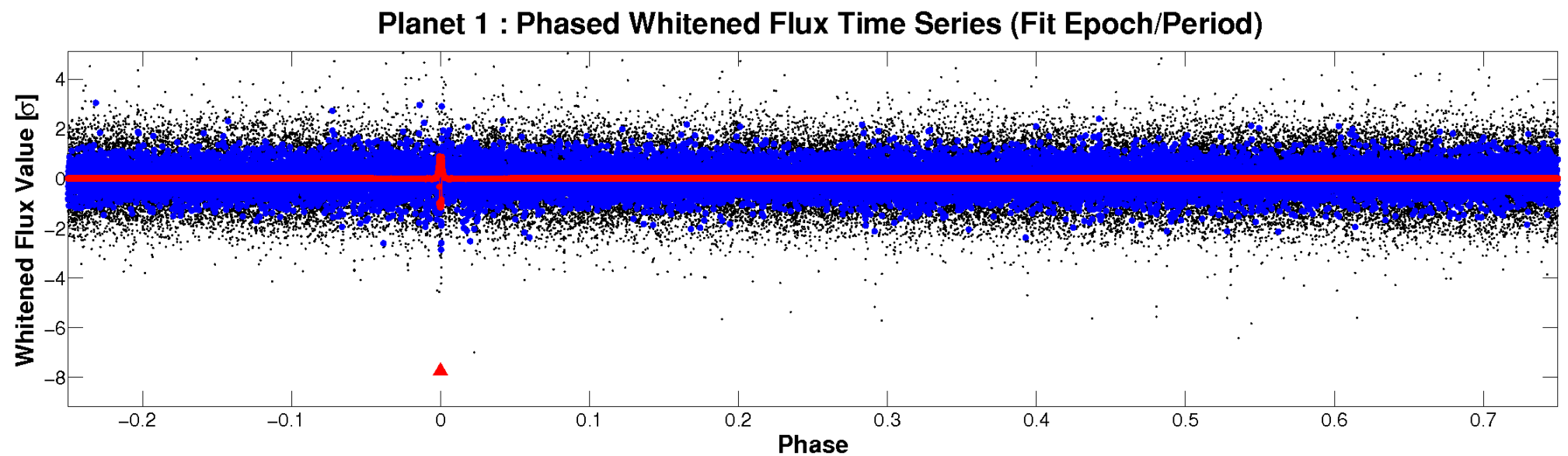
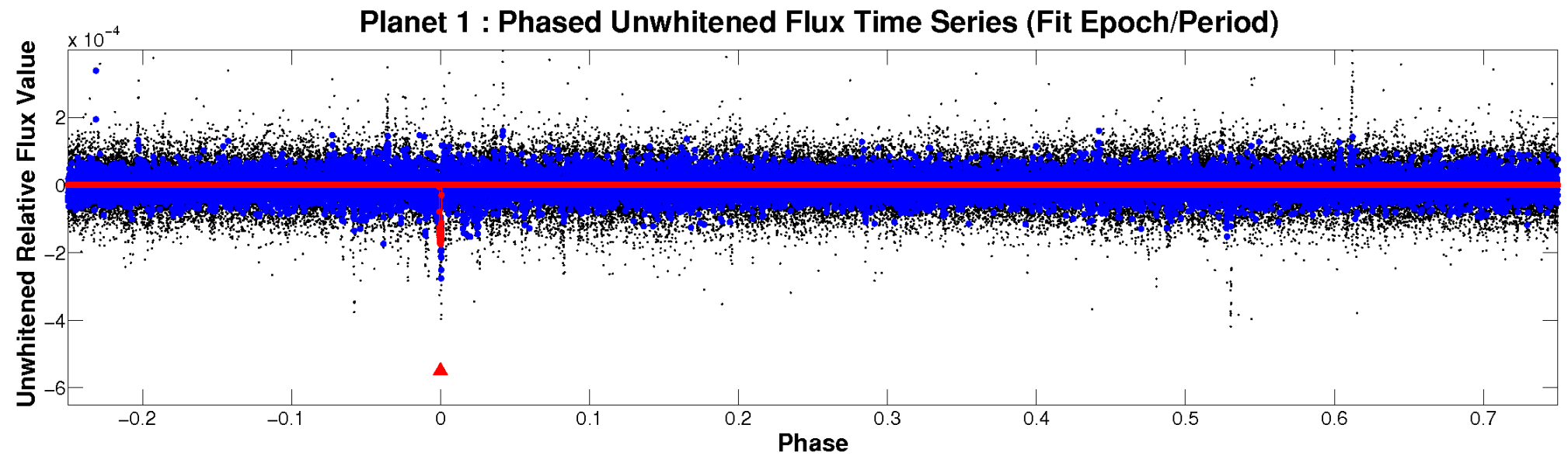
# ALT Odd/Even

TCE 008374741-01



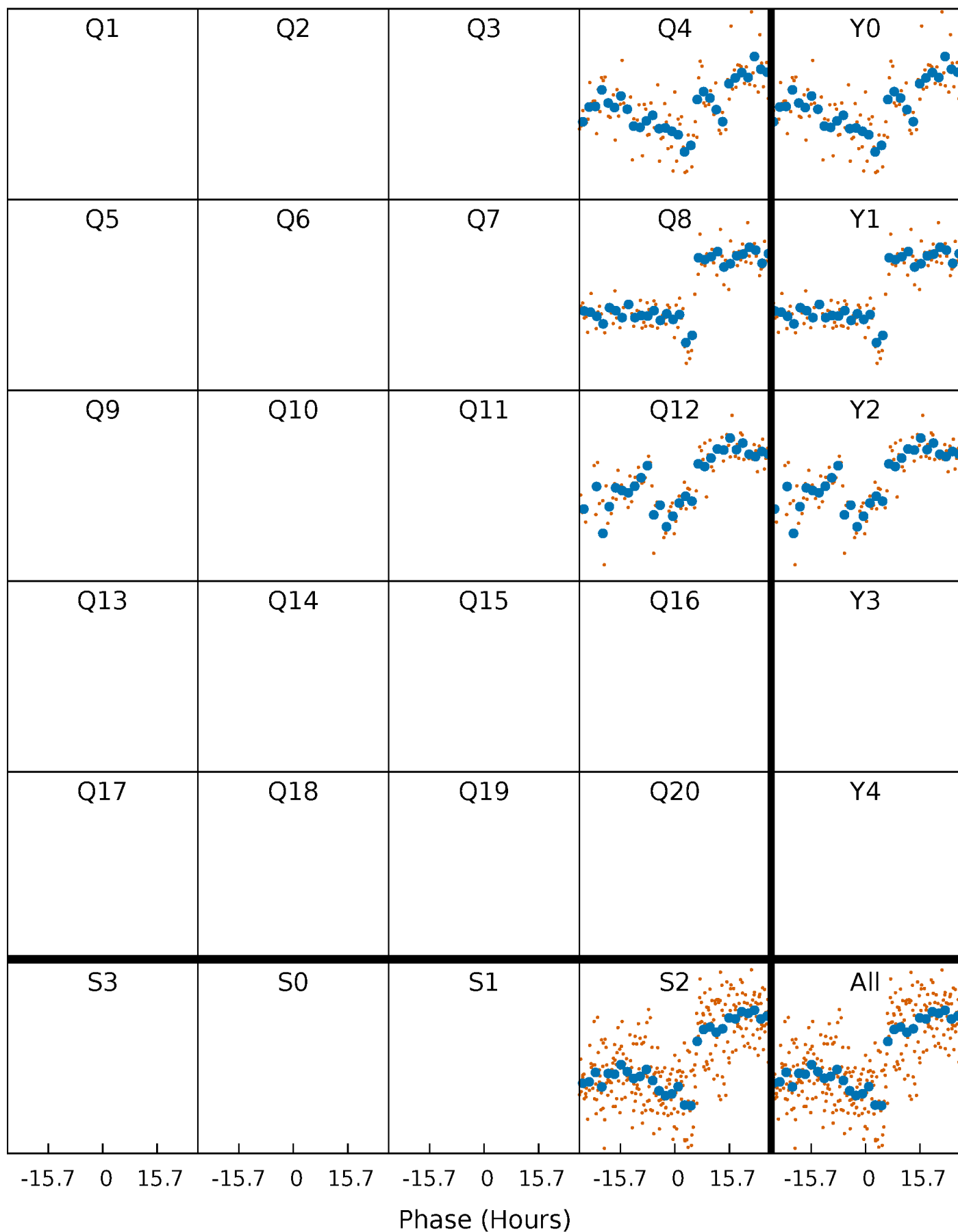


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

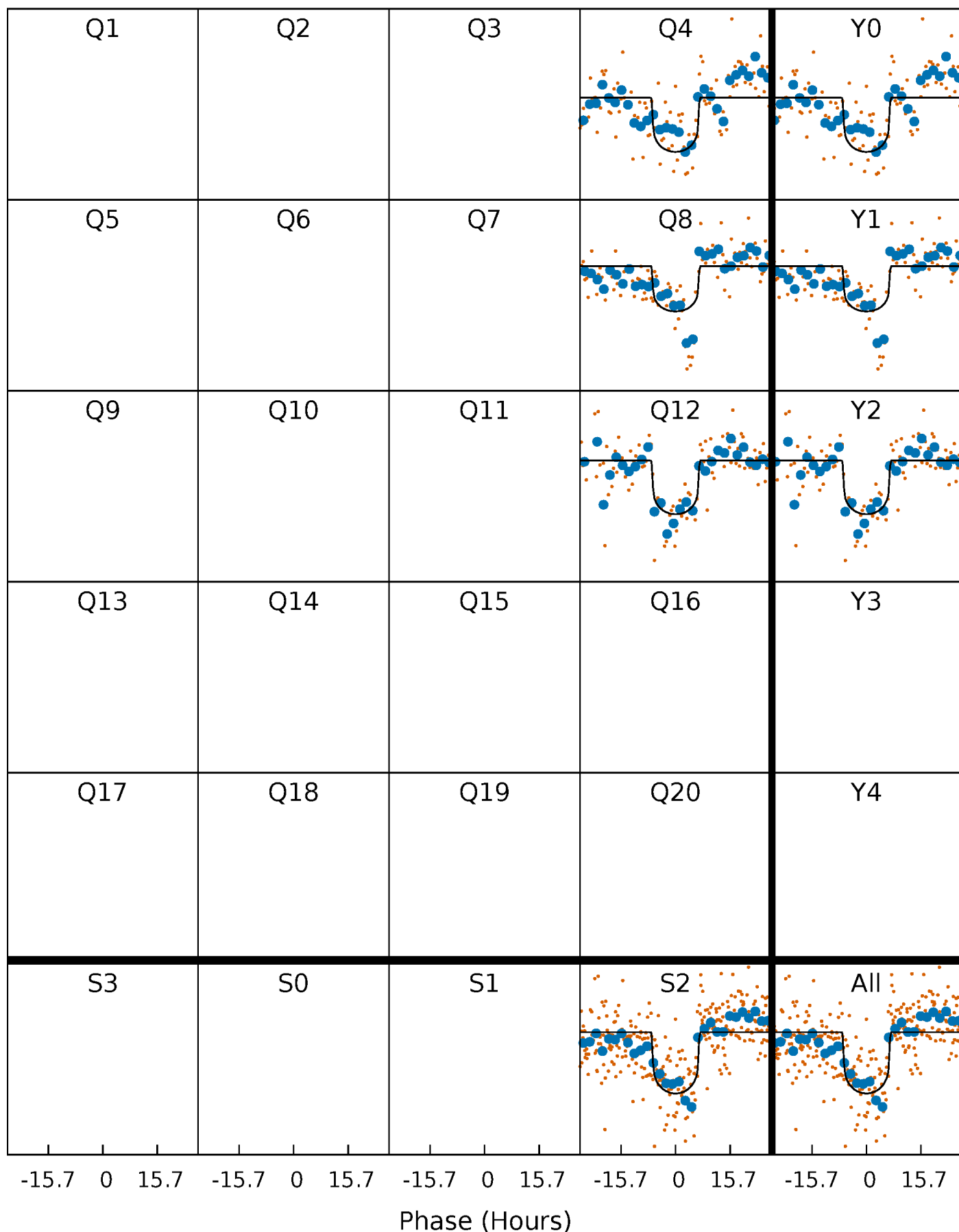
TCE 008374741-01 P=367.400038 Days  $T_0=376.549606$  (BKJD)





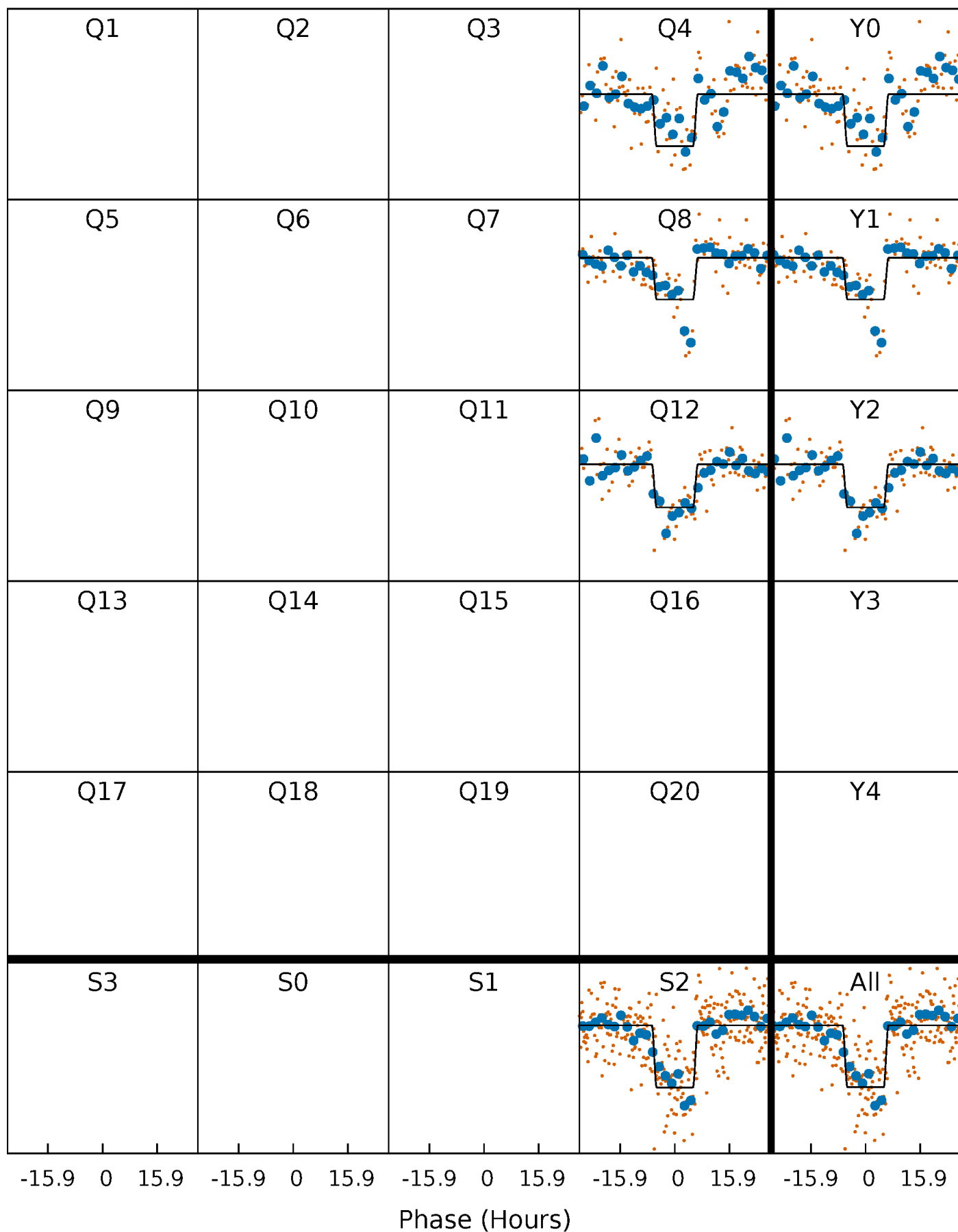
# DV Quarter-Phased Transit Curves

TCE 008374741-01 P=367.400038 Days  $T_0=376.549606$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

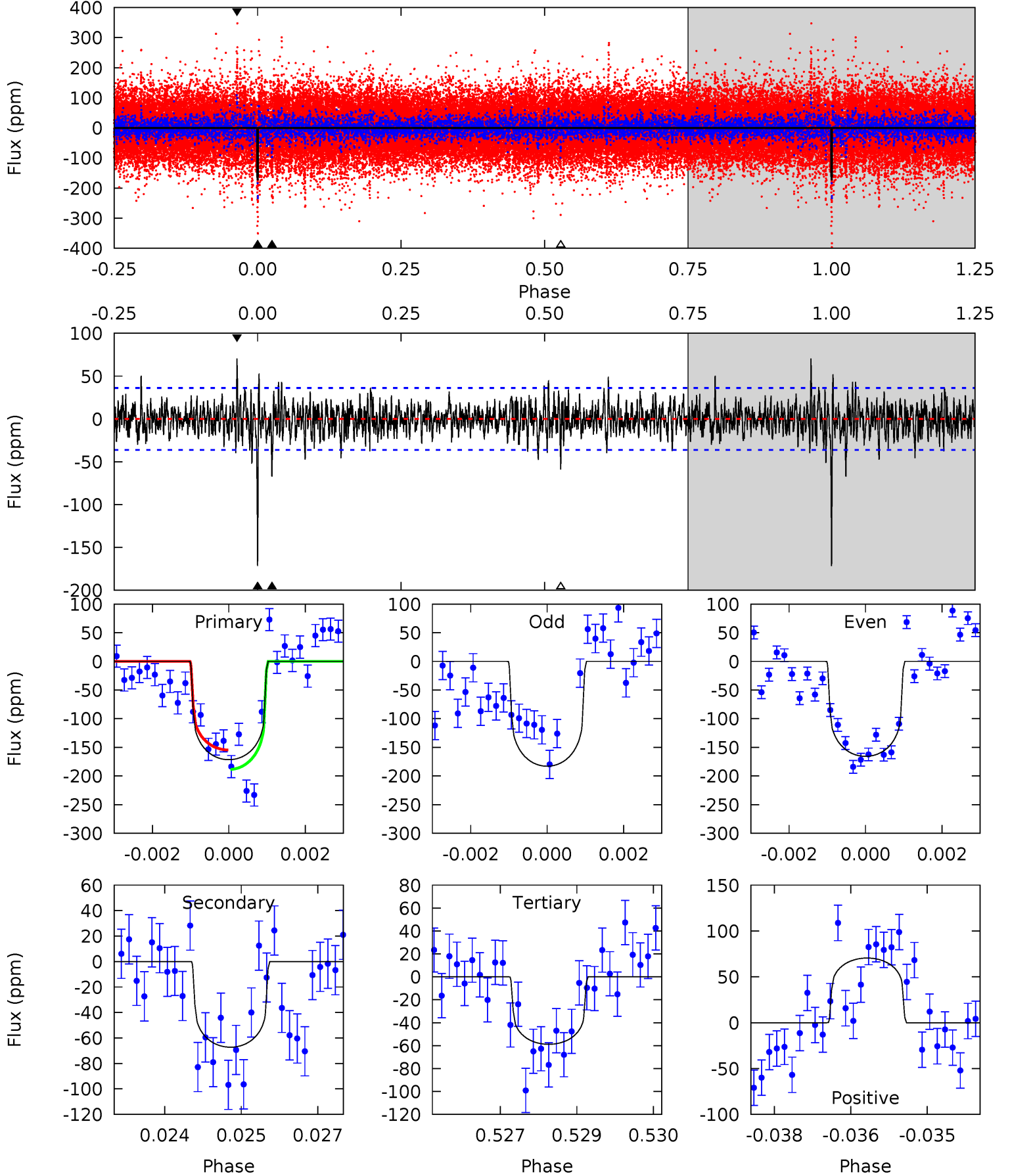
TCE 008374741-01 P=367.388598 Days  $T_0=376.567384$  (BKJD)



# DV Model-Shift Uniqueness Test

008374741-01, P = 367.400038 Days, E = 9.149568 Days

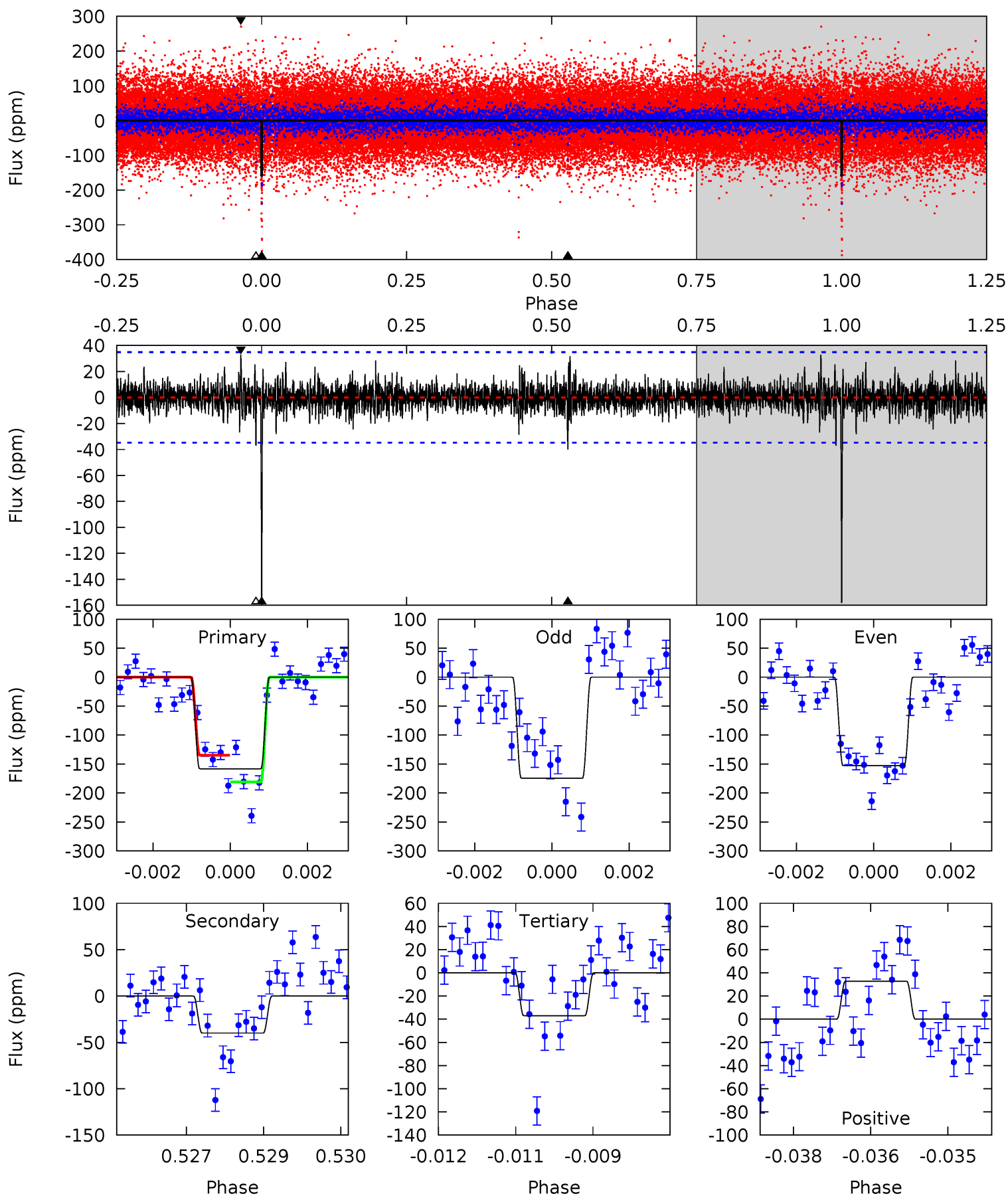
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.5	9.98	8.74	10.5	5.37	3.16	1.99	16.7	15.0	1.24	-0.48	1.22	0.92	0.29	0



# Alt Model-Shift Uniqueness Test

008374741-01, P = 367.388598 Days, E = 9.178786 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
24.4	6.16	5.70	5.04	5.38	3.17	1.08	18.7	19.4	0.46	1.12	1.59	0.90	0.17	3.56



### Stellar Parameters For KIC 008374741

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5780^{+143}_{-158}$	$4.456^{+0.088}_{-0.132}$	$-0.280^{+0.300}_{-0.300}$	$0.917^{+0.169}_{-0.113}$	$0.876^{+0.109}_{-0.082}$	$1.602^{+0.592}_{-0.603}$
	+2%/-3%	+2%/-3%	+107%/-107%	+18%/-12%	+12%/-9%	+37%/-38%
Source	PHO1	FLK73	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 008374741-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-67 \pm 7$	$1.32^{+0.34}_{-0.32}$	$349^{+18}_{-17}$	$4705^{+562}_{-405}$	$19239^{+13415}_{-6979}$
Alt.	$-40 \pm 6$	$1.30^{+0.32}_{-0.28}$	$350^{+19}_{-15}$	$4288^{+436}_{-324}$	$11553^{+7771}_{-3997}$

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

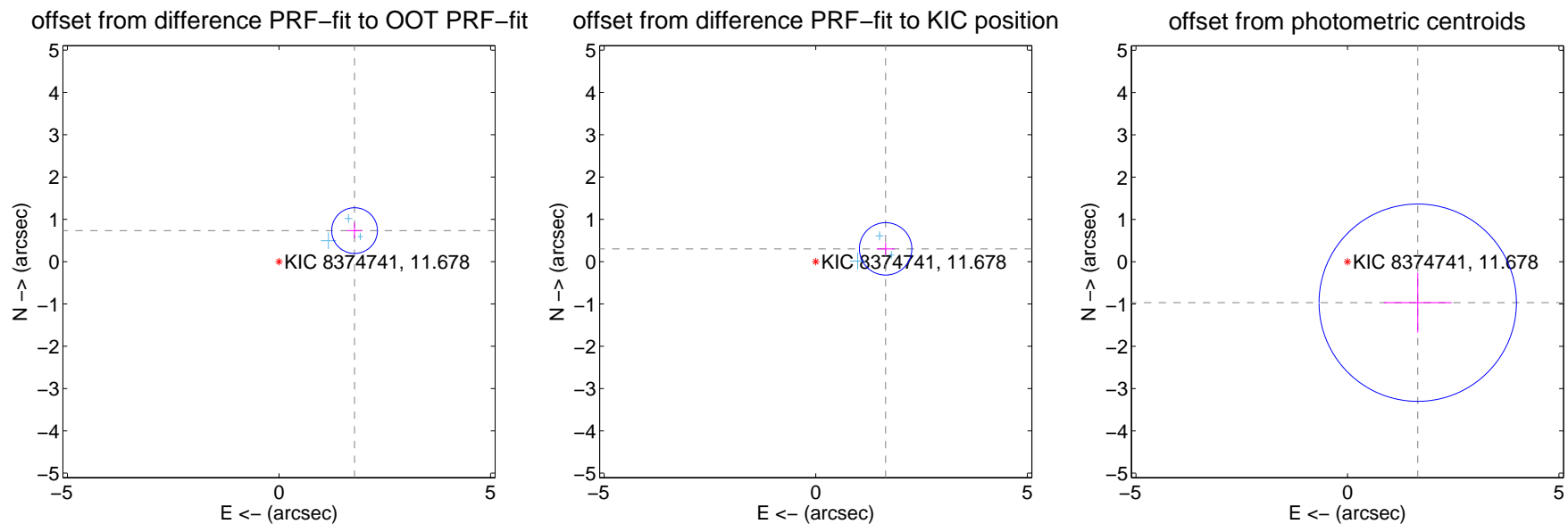
## DV Centroid Data

Supplemental centroid analysis for 008374741-01. **Kepler magnitude: 11.68.** Transit SNR 10.40

**There are 3 quarters with good PRF difference image offsets**

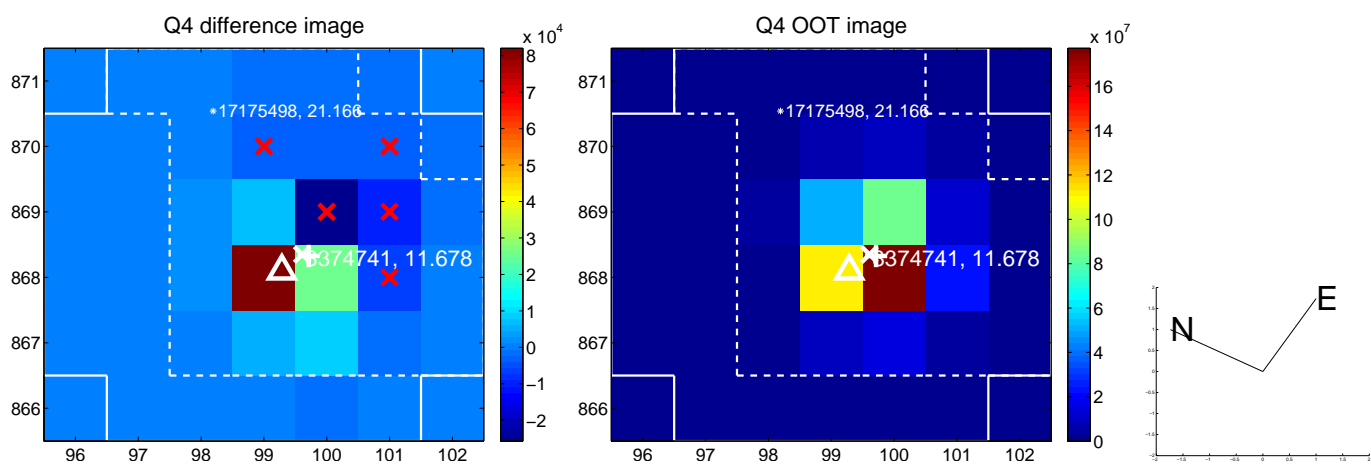
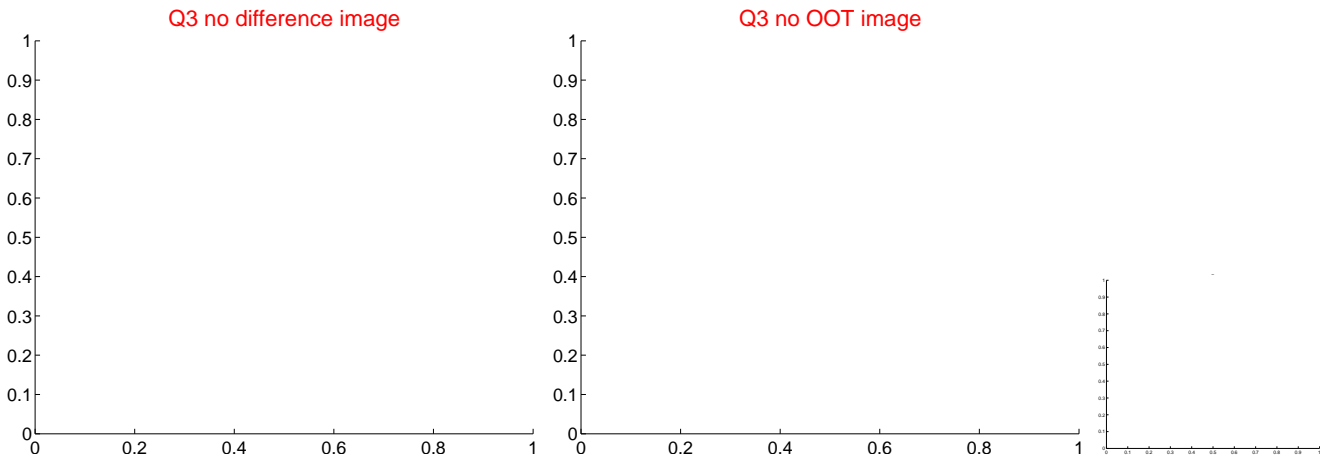
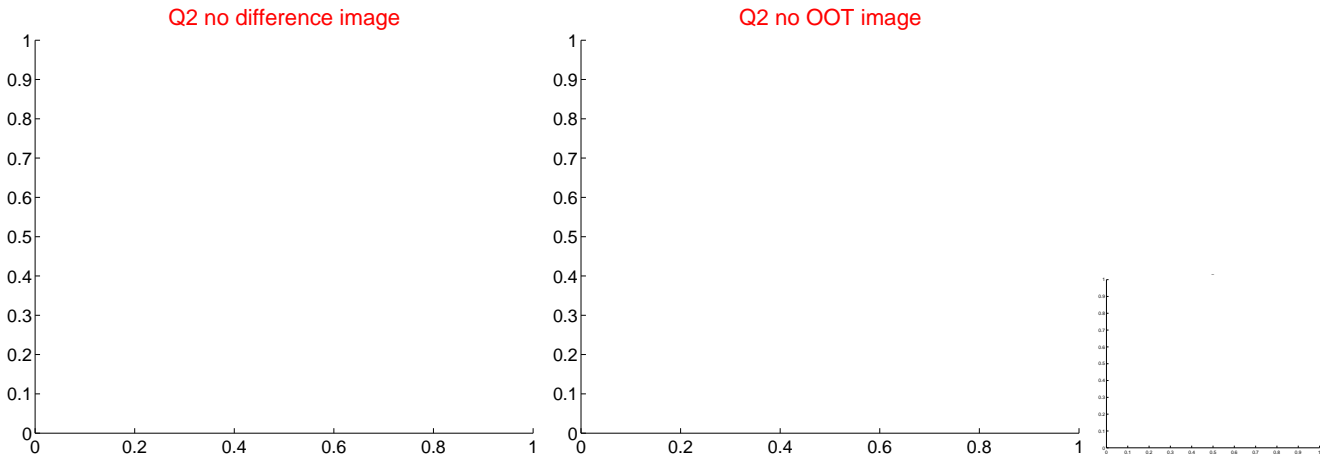
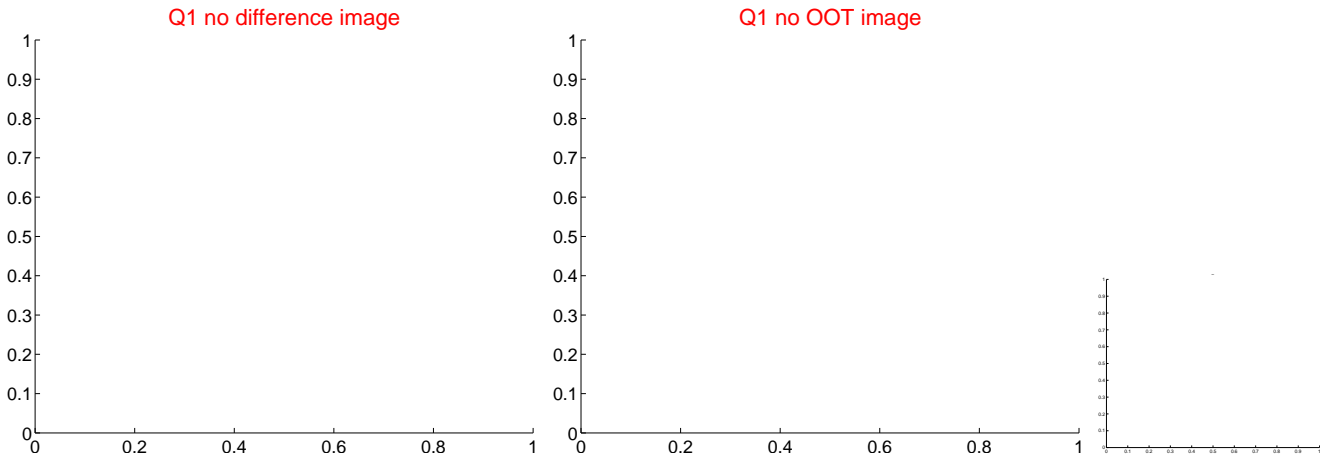
The direct PRF centroid is offset from the target star catalog position by about 0.51 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>1.931 \pm 0.180</math></b>	<b>10.72</b>	$-1.786 \pm 0.179$	$0.734 \pm 0.186$
PRF-fit source offset from KIC position	<b><math>1.679 \pm 0.206</math></b>	<b>8.13</b>	$-1.652 \pm 0.210$	$0.302 \pm 0.148$
photometric centroid source offset	$1.92 \pm 0.78$	2.47	$-1.66 \pm 0.80$	$-0.97 \pm 0.71$



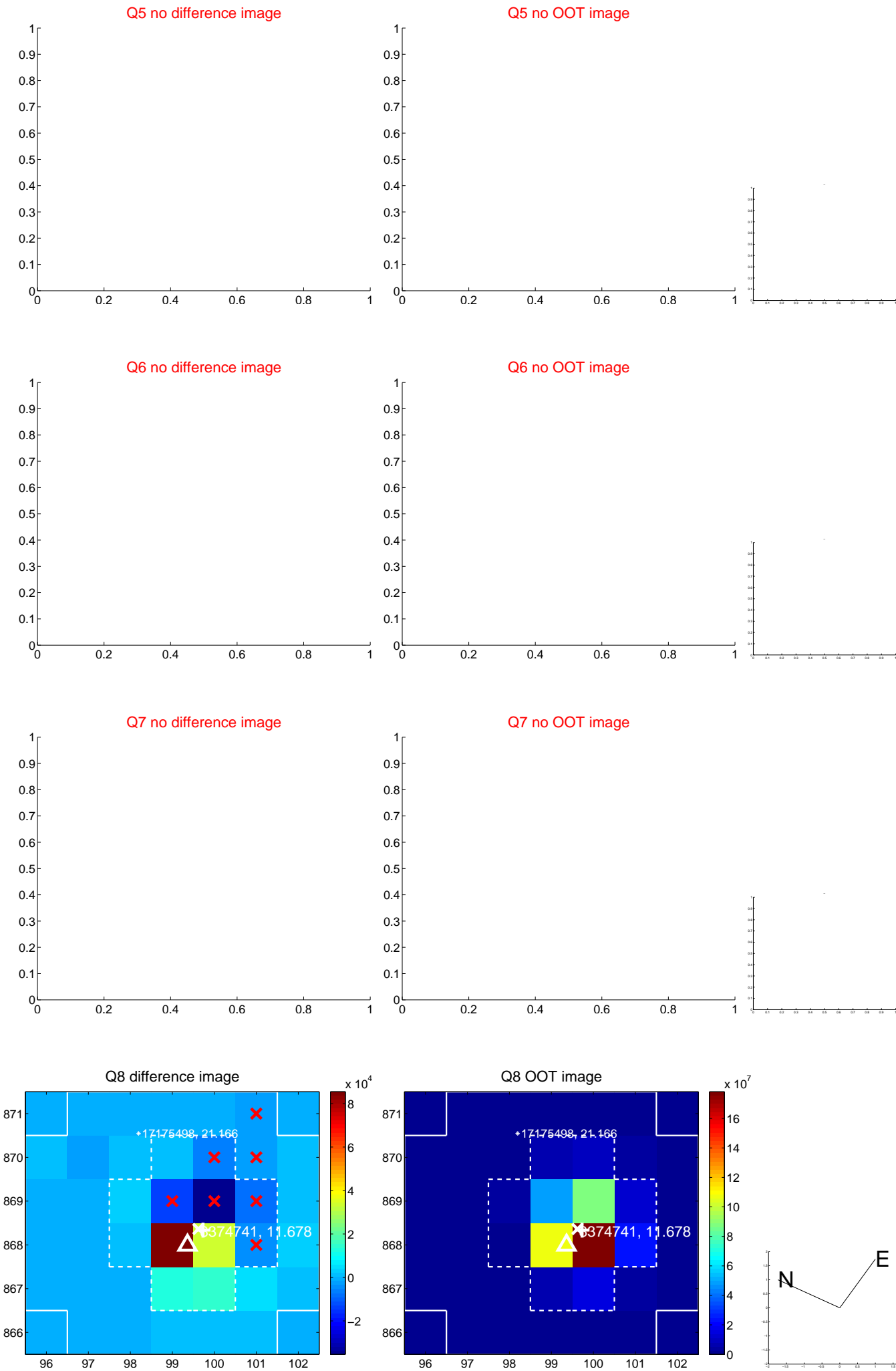
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

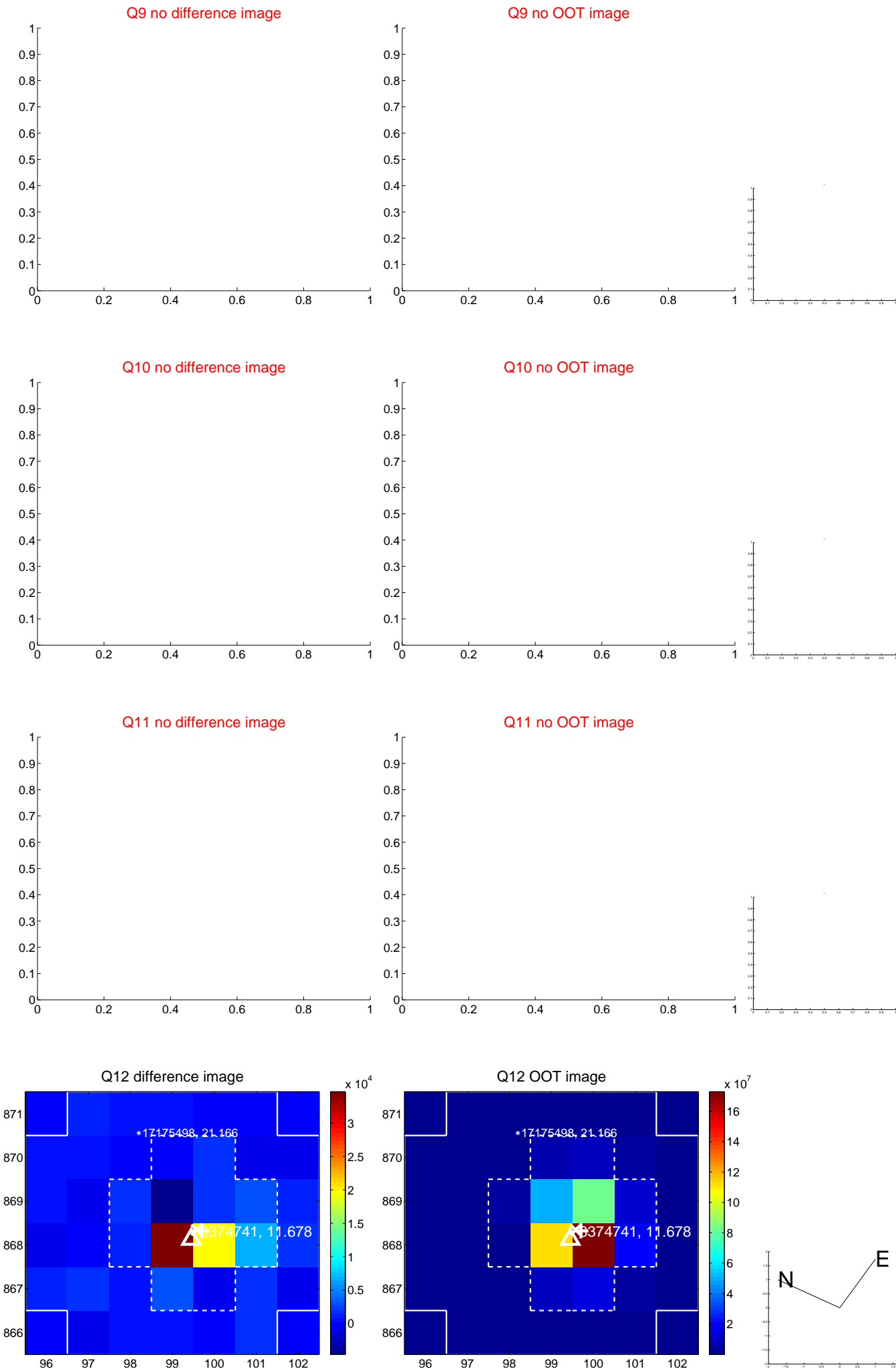




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



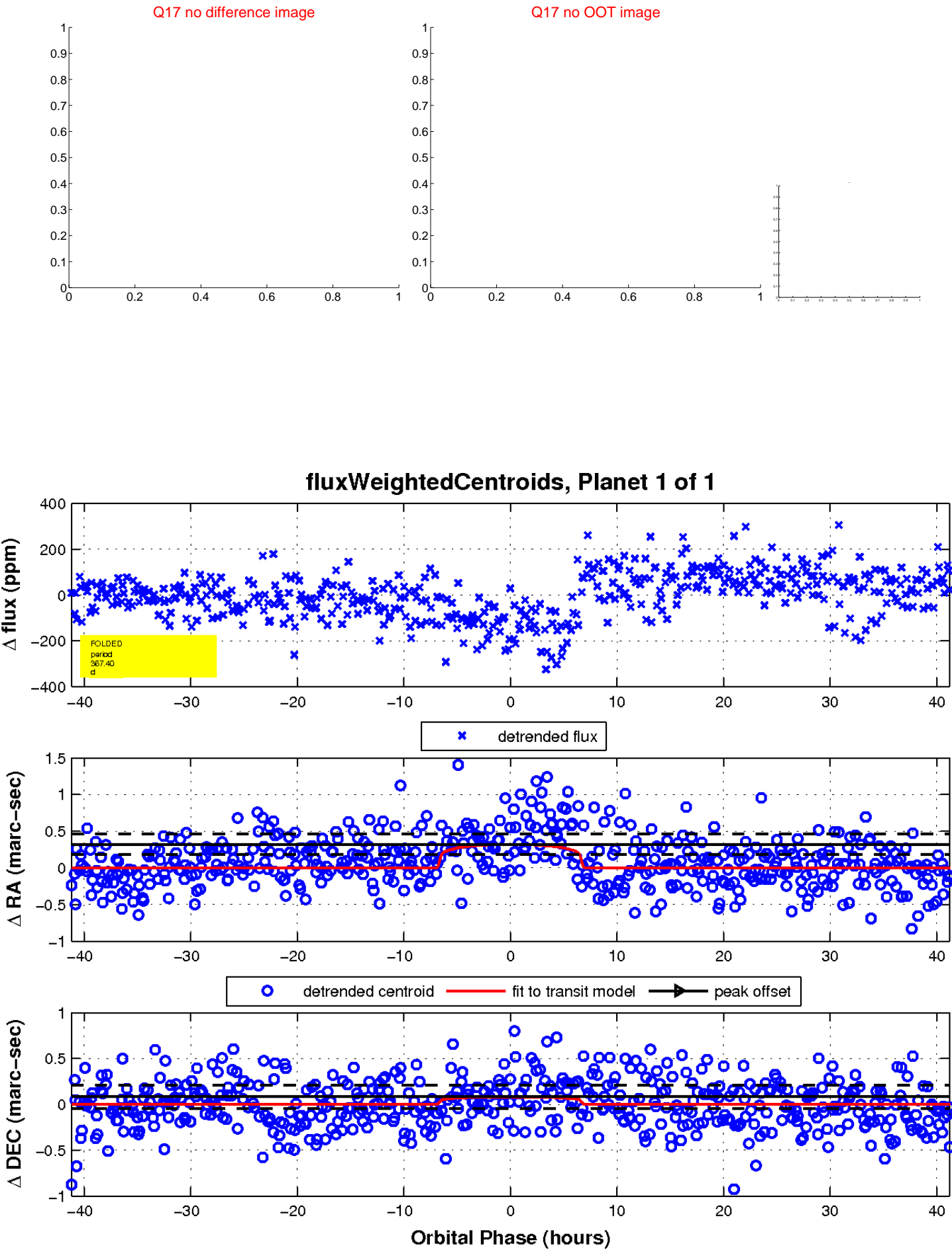
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

