

# KIC 003114747

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003114747-01	OBS	No	651.198714	248.151862	106.0	14.674	8.9	8.2	3.17	8361	3.55	12.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003114747-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS—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.

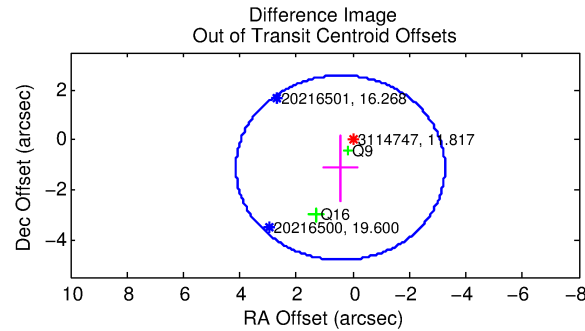
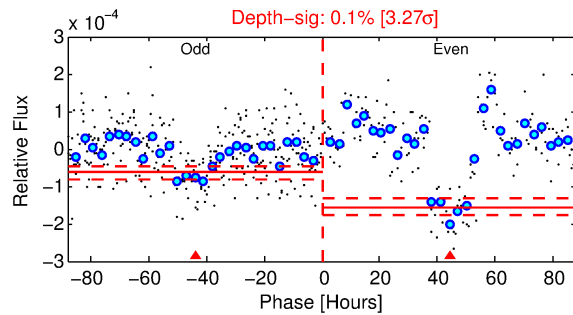
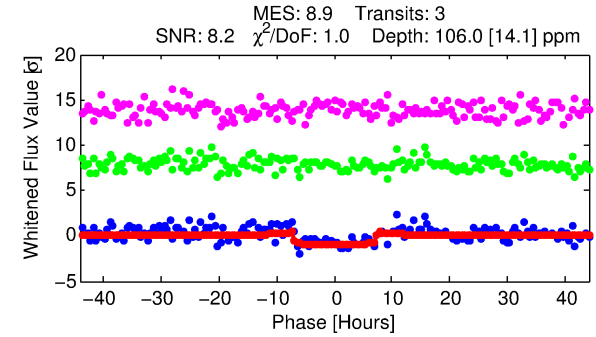
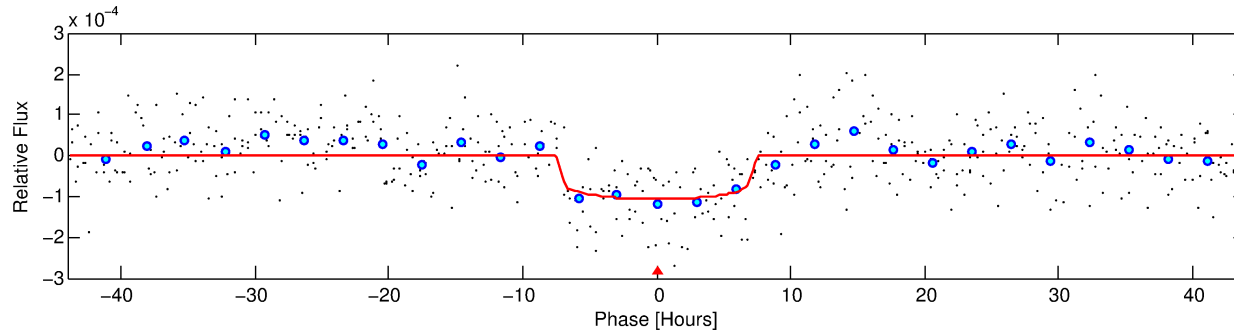
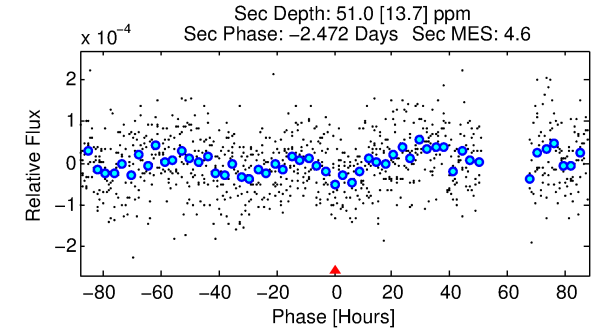
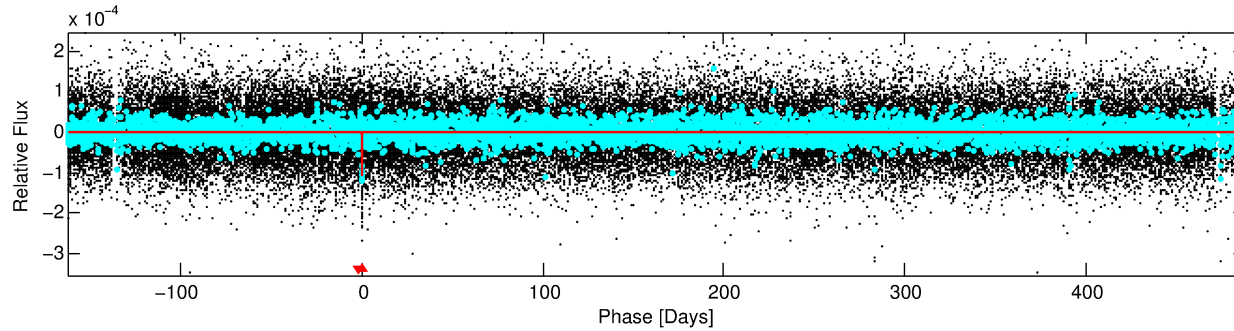
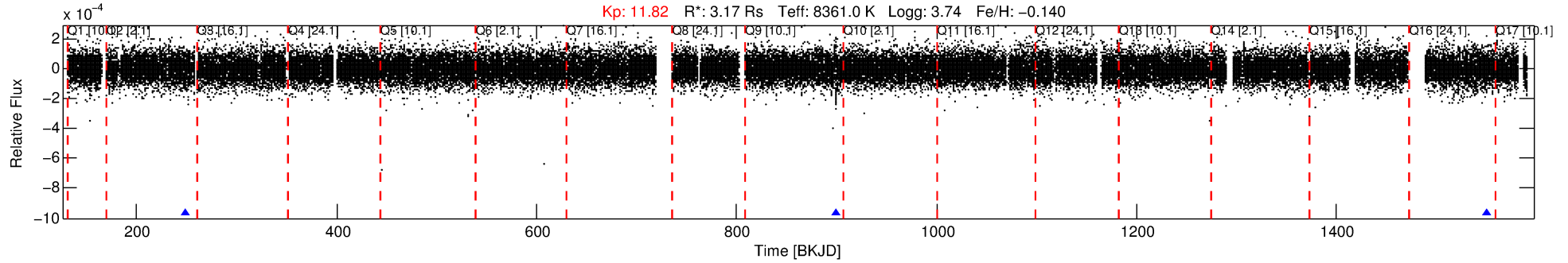
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003114747-01

No Significant Match Found

# DV One-Page Summary

KIC: 3114747 Candidate: 1 of 1 Period: 651.199 d



## DV Fit Results:

Period = 651.19871 [0.01090] d  
Epoch = 248.1519 [0.0164] BKJD  
Rp/R\* = 0.0103 [0.0025]  
a/R\* = 228.04 [314.25]  
b = 0.75 [0.79]  
Seff = 12.71 [9.32]  
Teq = 481 [88] K  
Rp = 3.55 [1.81] Re  
a = 1.8631 [0.8206] AU  
Ag = 7720.30 [6944.00] [1.11σ]  
Teffp = 6977 [1011] K [6.40σ]

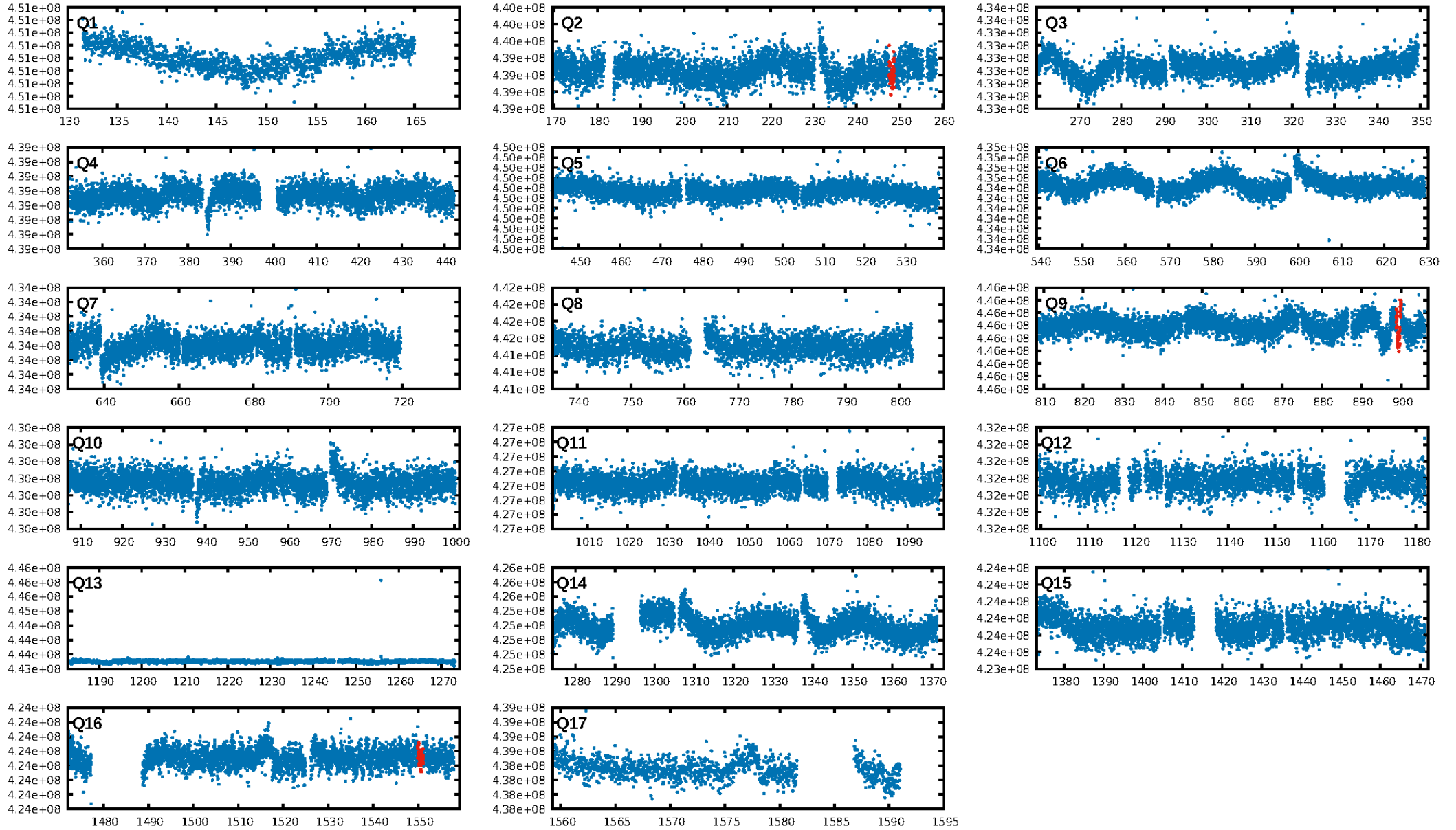
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 1.2%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 9.43e-12**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -5.569  
Centroid-sig: 1.5%  
Centroid-so: 2.600 arcsec [1.54σ]  
OotOffset-rm: 1.206 arcsec [0.98σ]  
KicOffset-rm: 1.214 arcsec [0.97σ]  
OotOffset-st: 0/0/1/1 [2]  
KicOffset-st: 0/0/1/1 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [3/3]

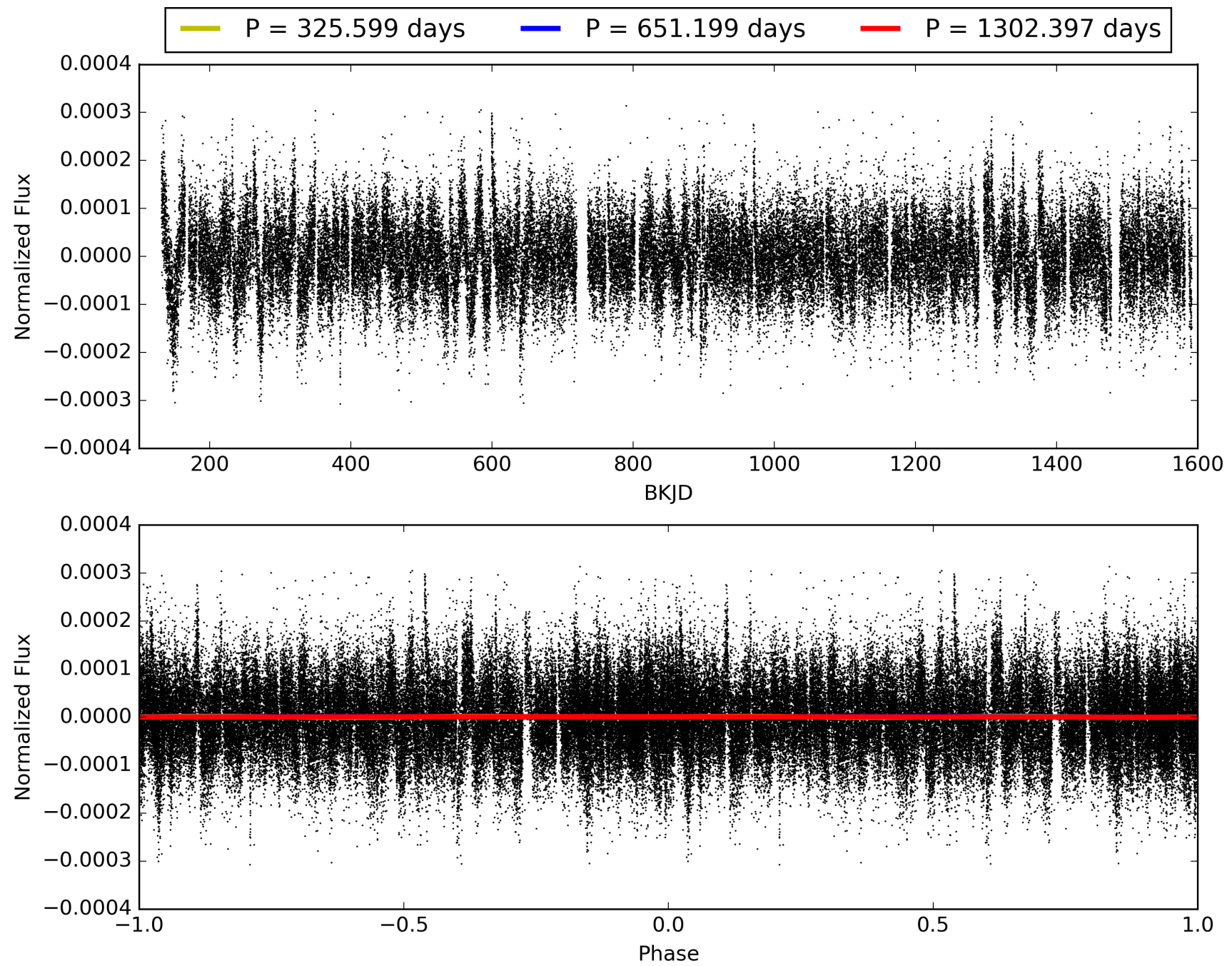
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:32:49 Z

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

# TCE 003114747-01, PDC Light Curves

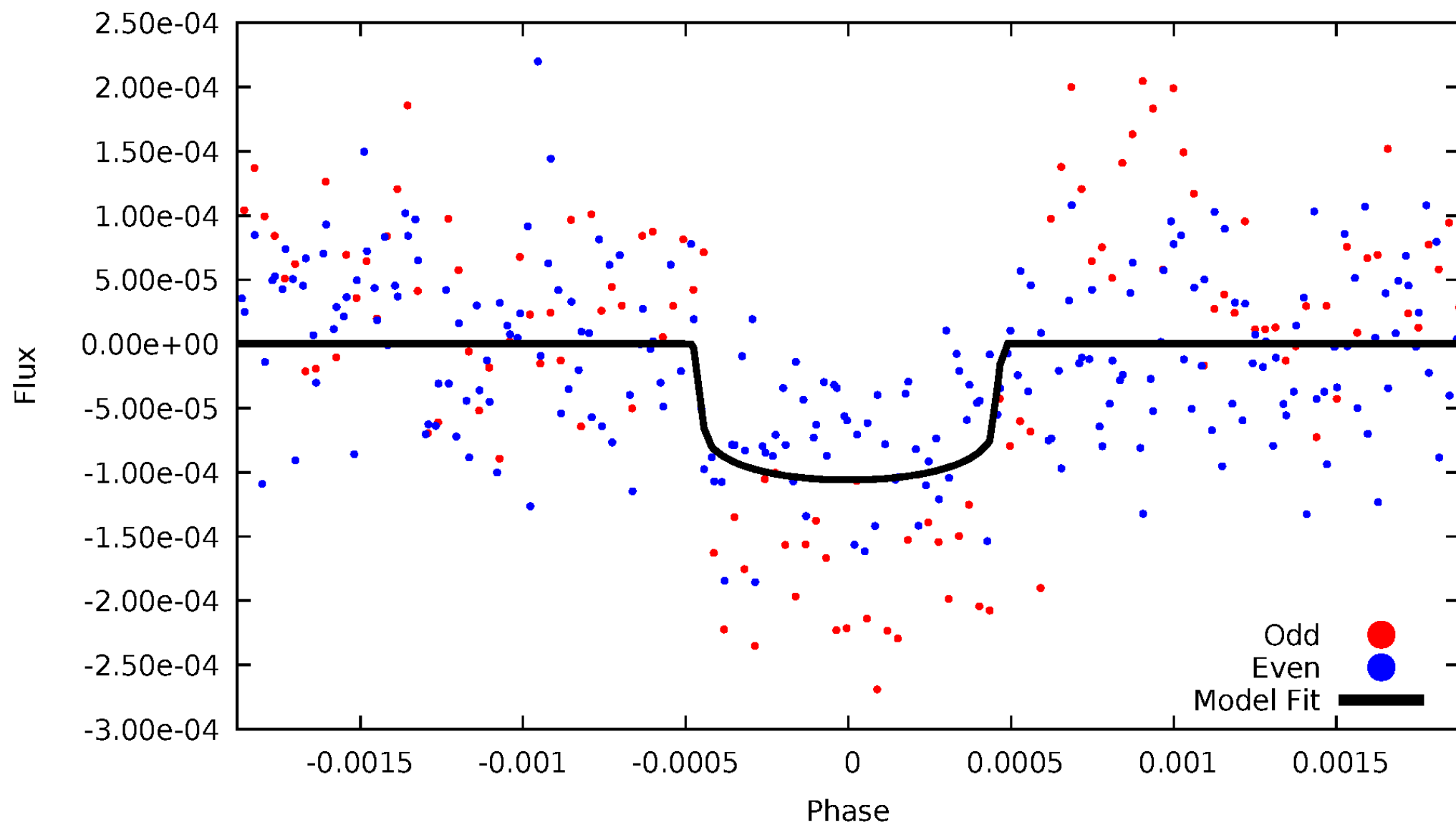


TCE 003114747-01



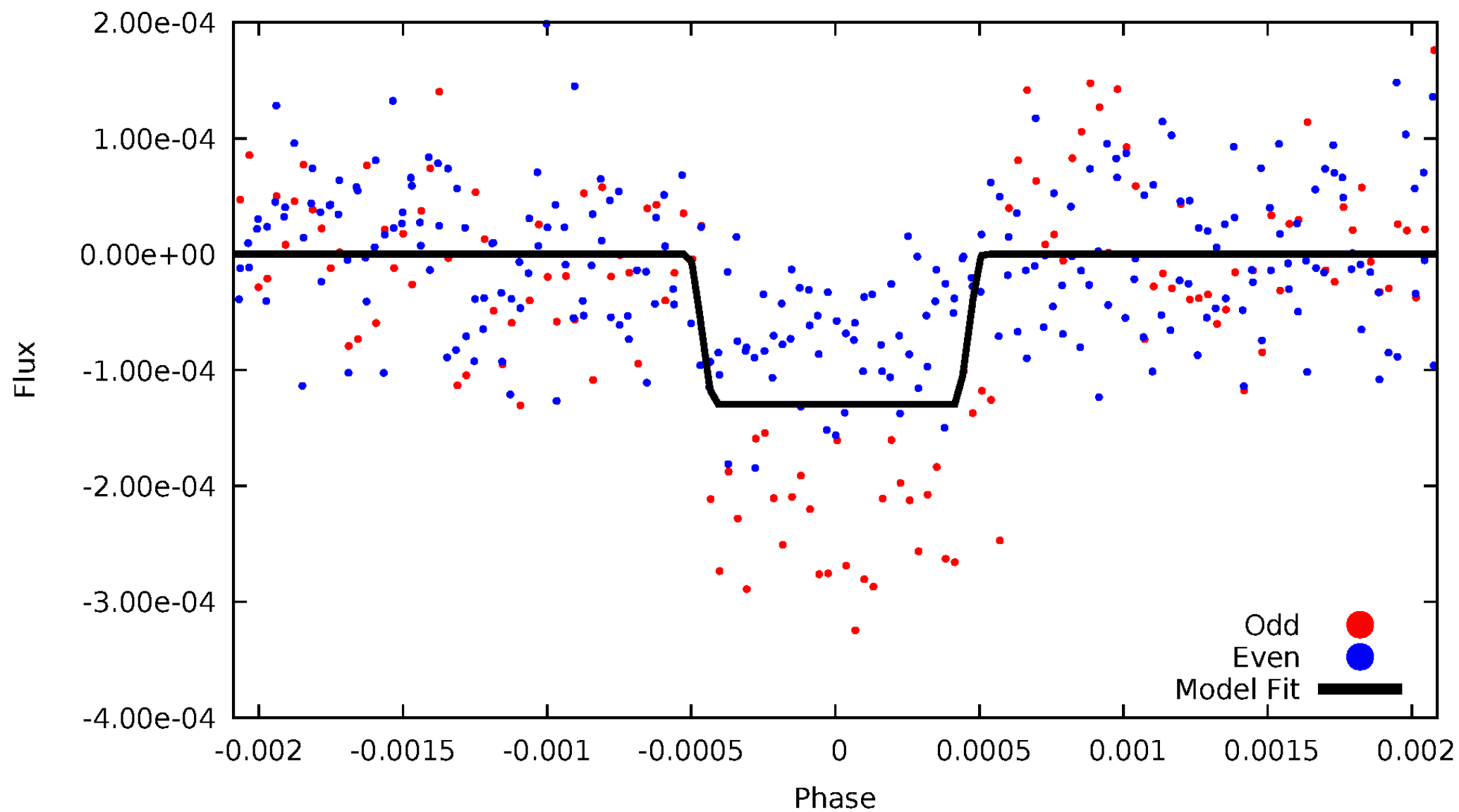
# DV Odd/Even

TCE 003114747-01



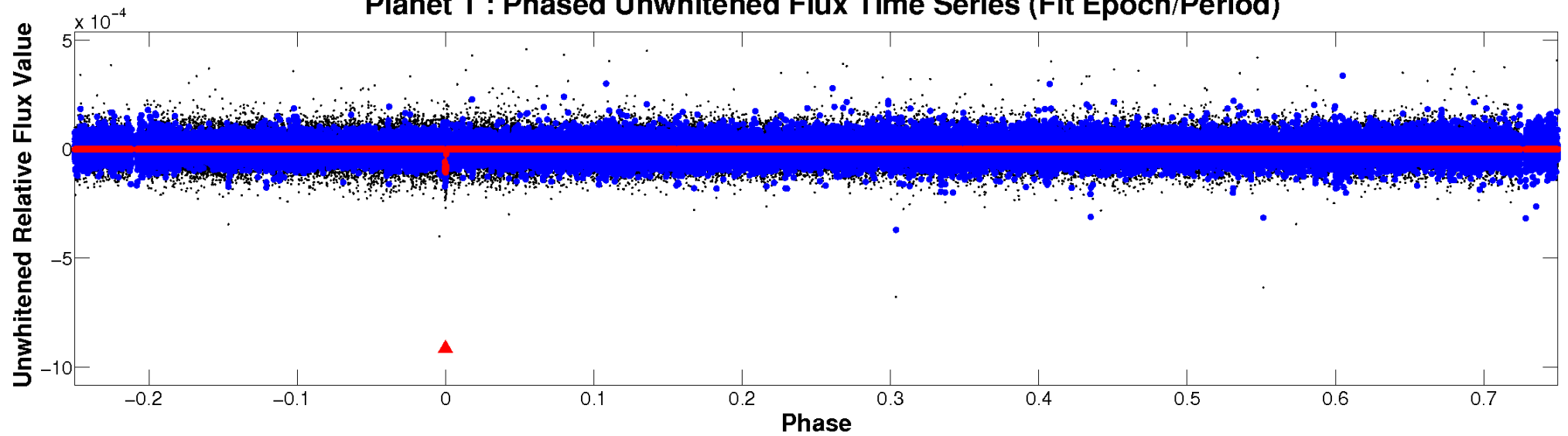
# ALT Odd/Even

TCE 003114747-01

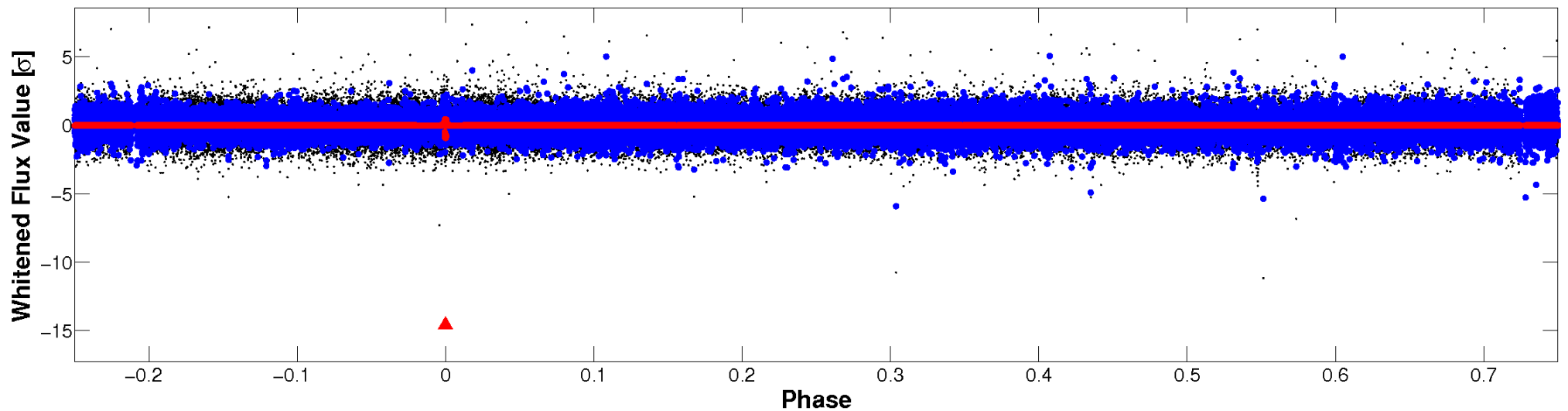


# Non-Whitened Vs. Whitened Light Curve

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

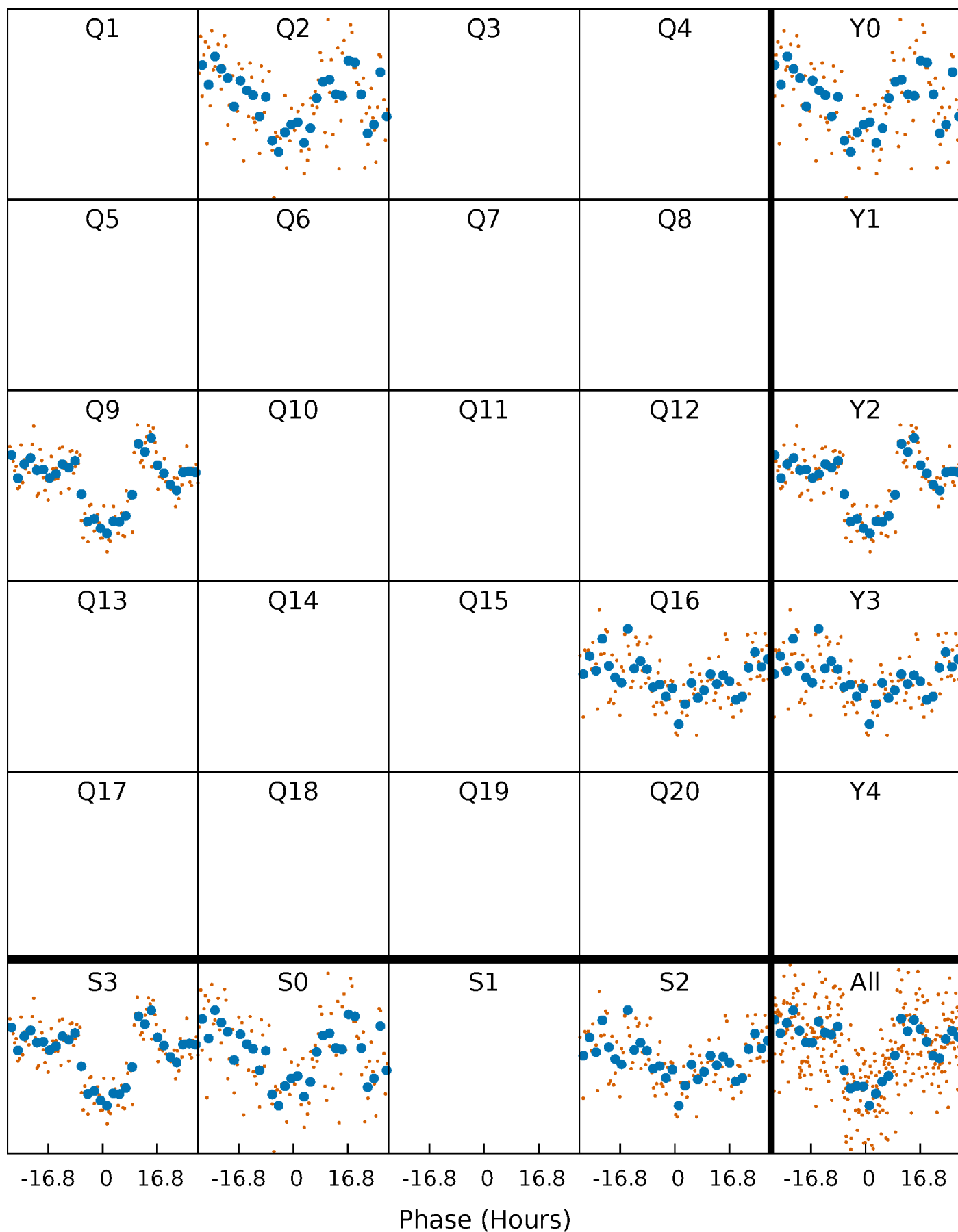


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

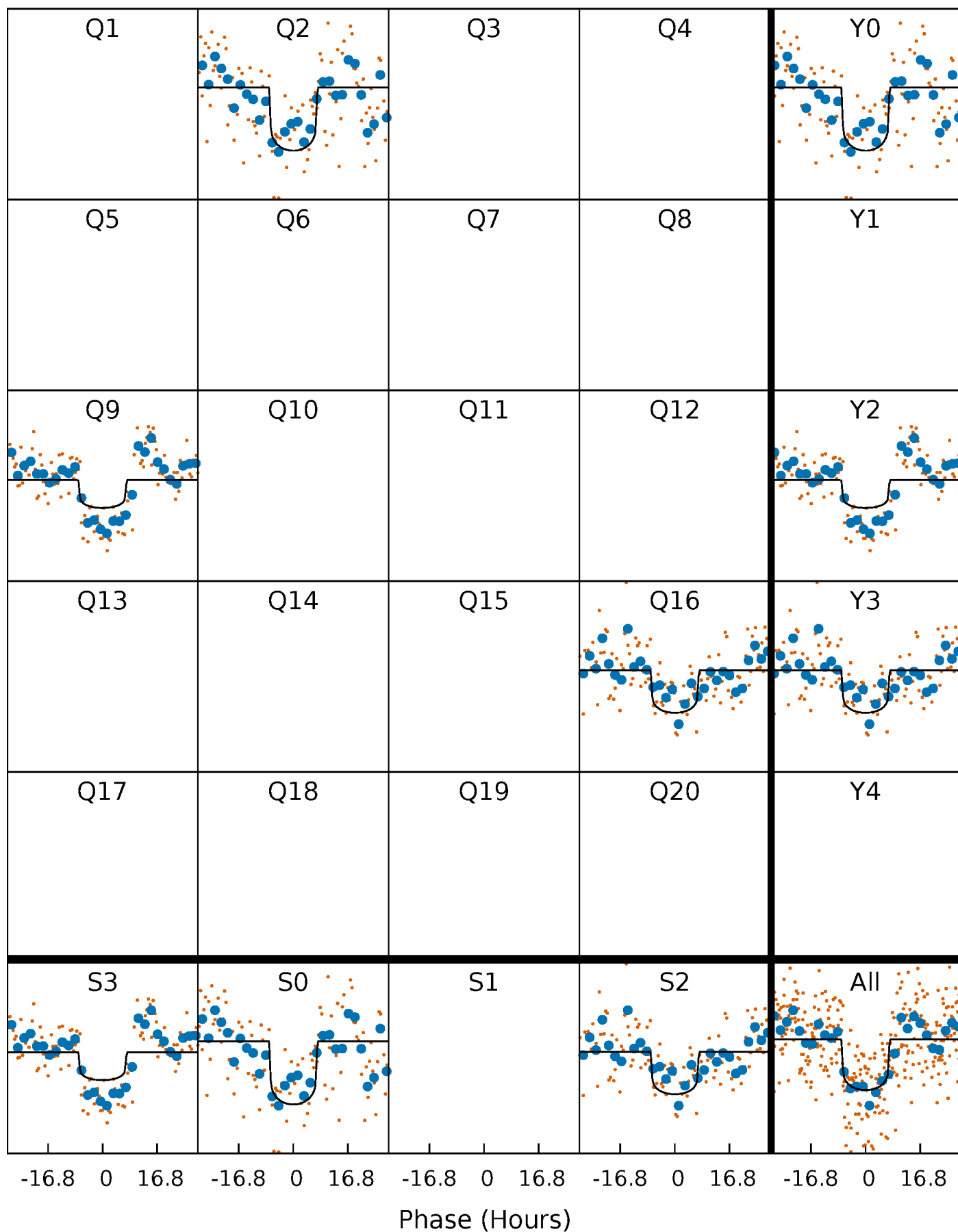
TCE 003114747-01 P=651.198714 Days  $T_0=248.151862$  (BKJD)





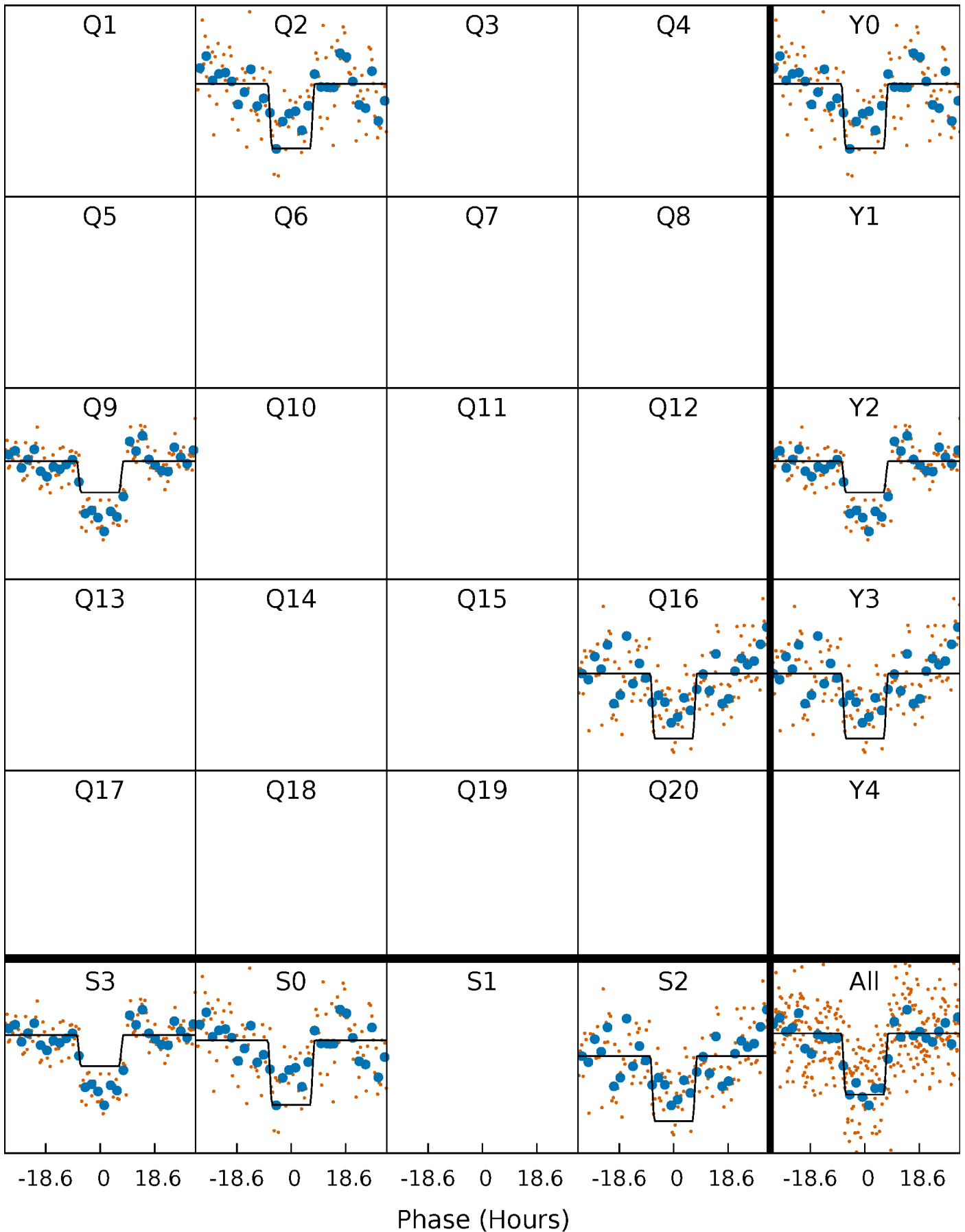
# DV Quarter-Phased Transit Curves

TCE 003114747-01 P=651.198714 Days  $T_0=248.151862$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

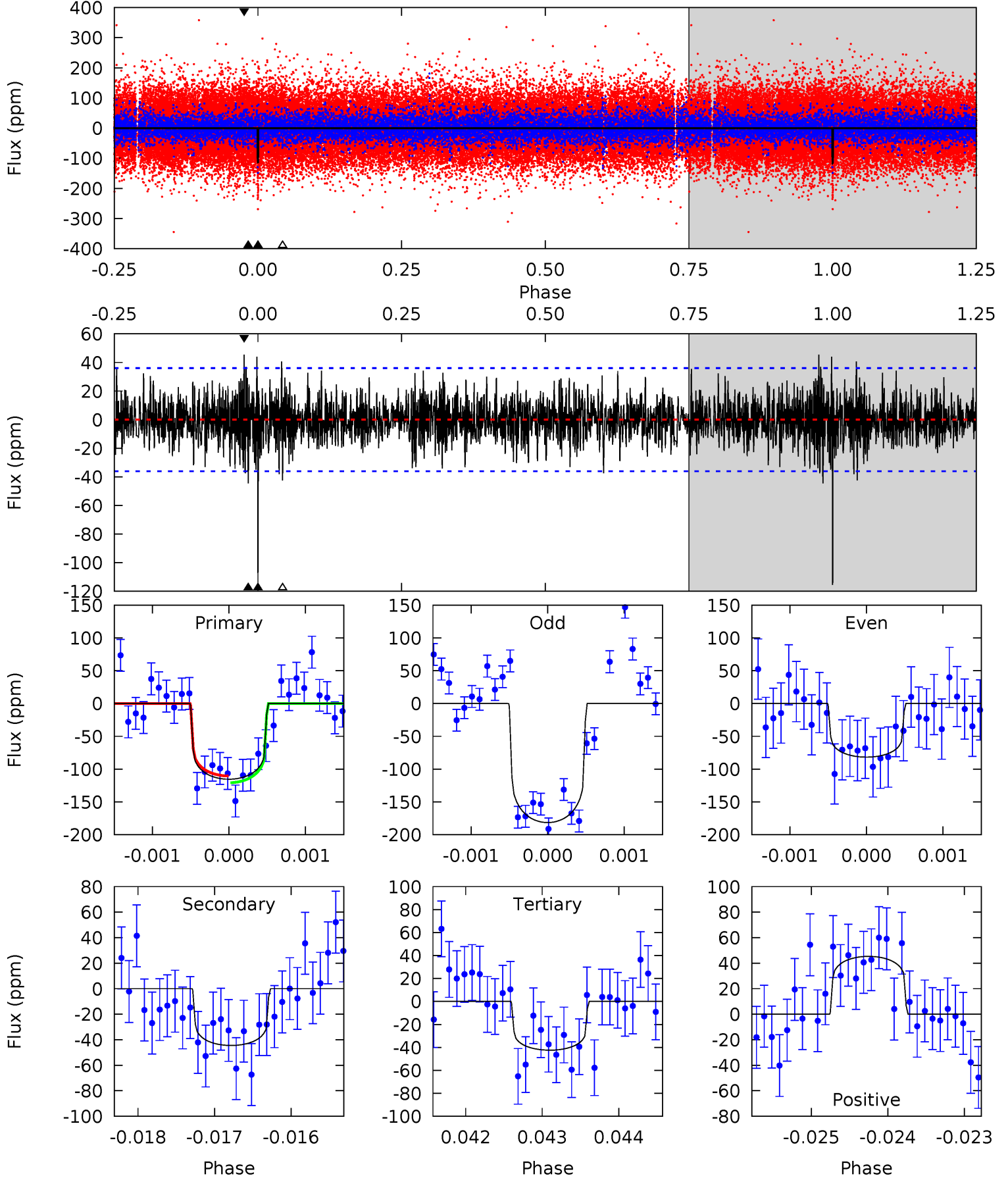
TCE 003114747-01 P=651.217557 Days  $T_0=248.145681$  (BKJD)



# DV Model-Shift Uniqueness Test

003114747-01, P = 651.198714 Days, E = 248.151862 Days

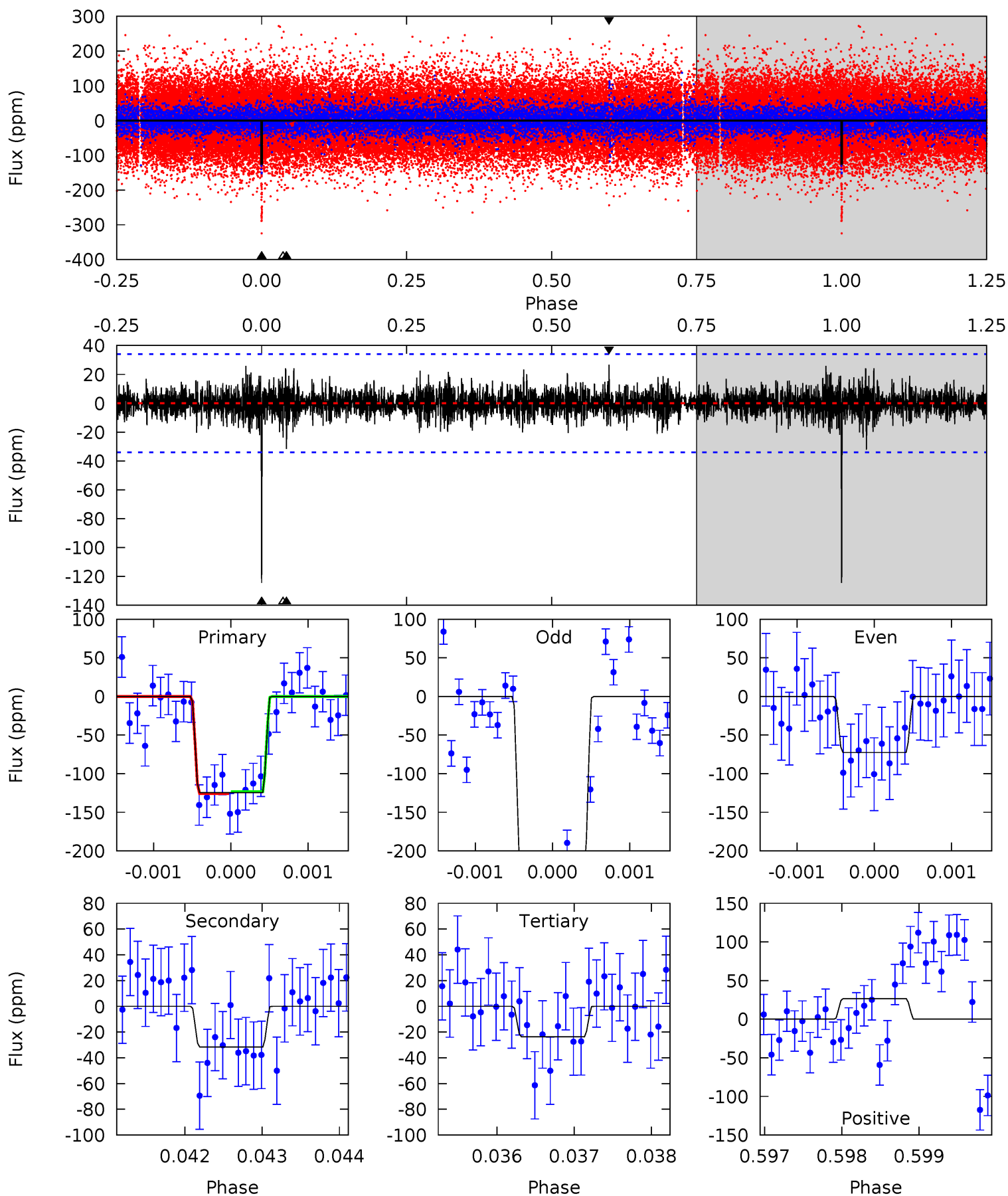
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.5	6.73	6.42	6.86	5.46	3.31	1.76	11.1	10.6	0.31	-0.13	7.24	1.34	0.28	0.77



# Alt Model-Shift Uniqueness Test

003114747-01, P = 651.217557 Days, E = 248.145681 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
19.9	5.07	3.79	4.28	5.45	3.29	1.07	16.1	15.6	1.28	0.79	11.6	1.62	0.18	0.19



### Stellar Parameters For KIC 003114747

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$8361^{+202}_{-376}$	$3.743^{+0.420}_{-0.140}$	$-0.140^{+0.300}_{-0.400}$	$3.174^{+0.833}_{-1.429}$	$2.031^{+0.385}_{-0.471}$	$0.090^{+0.349}_{-0.036}$
	+2%/-4%	+11%/-4%	+214%/-286%	+26%/-45%	+19%/-23%	+390%/-40%
Source	KIC0	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 003114747-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-44 \pm 7$	$3.36^{+1.07}_{-1.11}$	$652^{+56}_{-76}$	$6449^{+1267}_{-738}$	$7740^{+8943}_{-3418}$
Alt.	$-32 \pm 6$	$3.65^{+1.16}_{-1.11}$	$649^{+57}_{-78}$	$5616^{+760}_{-554}$	$4411^{+4766}_{-1993}$

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

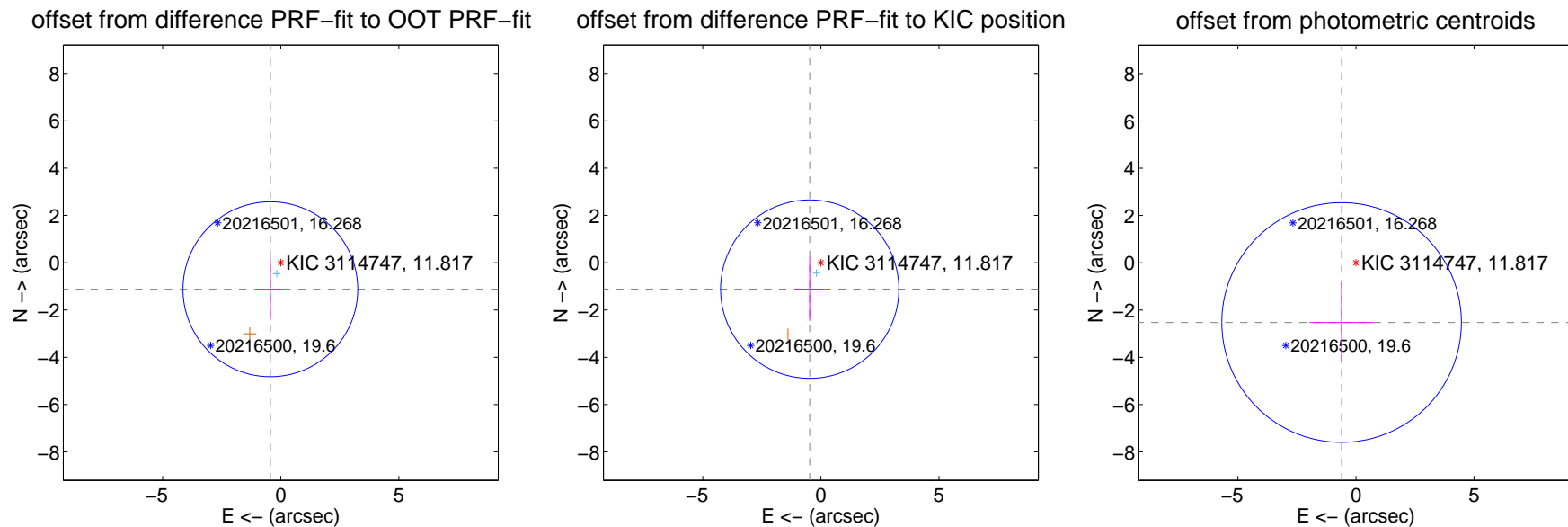
## DV Centroid Data

Supplemental centroid analysis for 003114747-01. **Kepler magnitude: 11.82.** Transit SNR 8.23

**There are 1 quarters with good PRF difference image offsets**

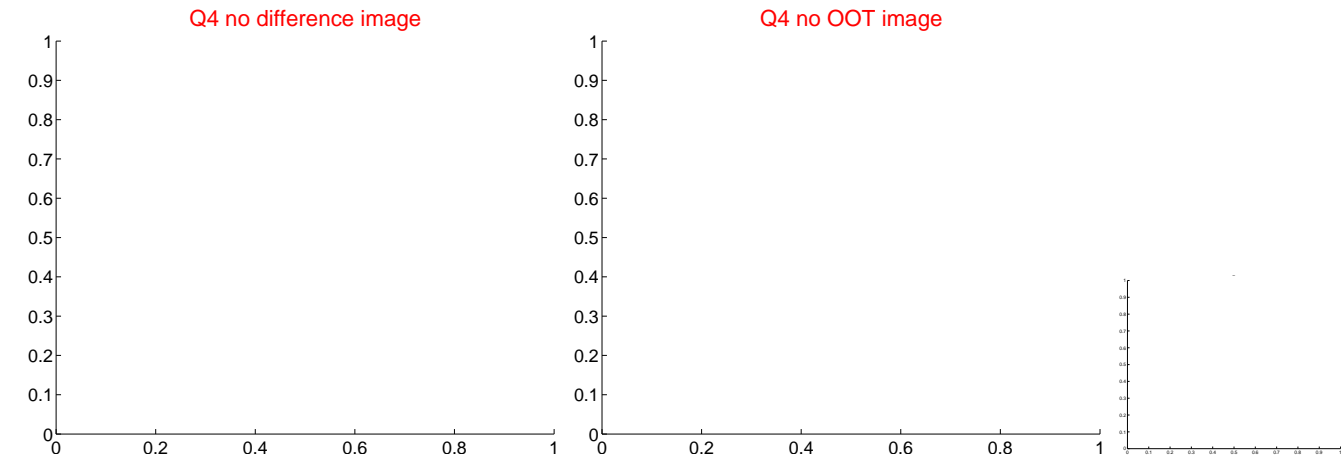
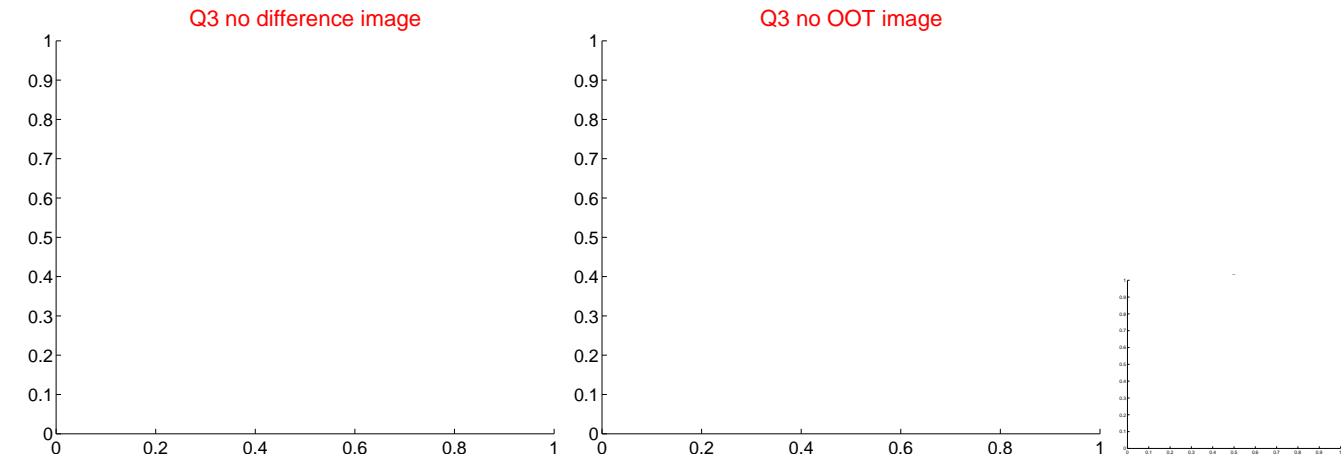
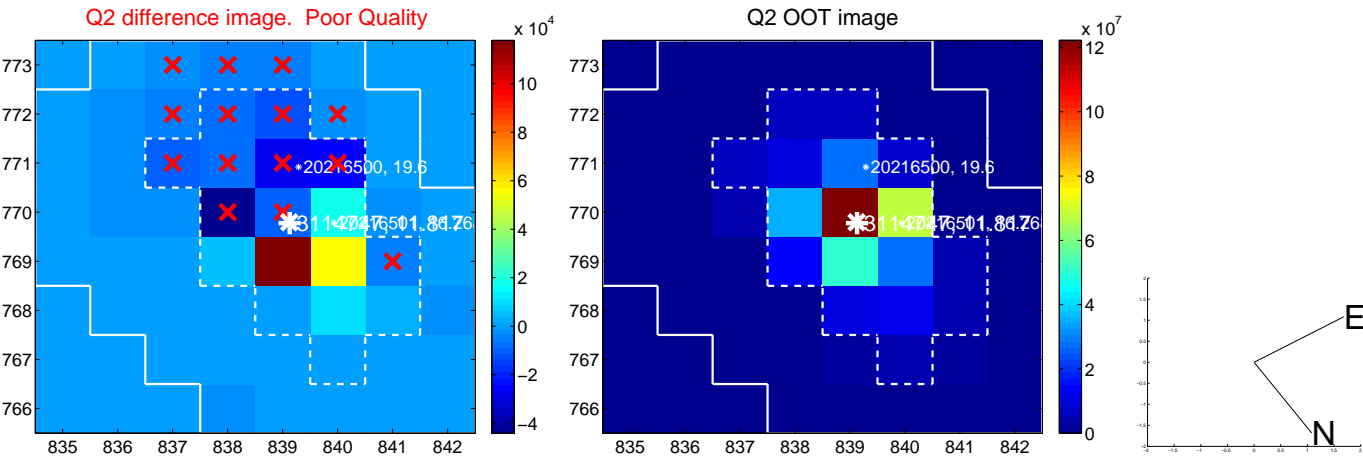
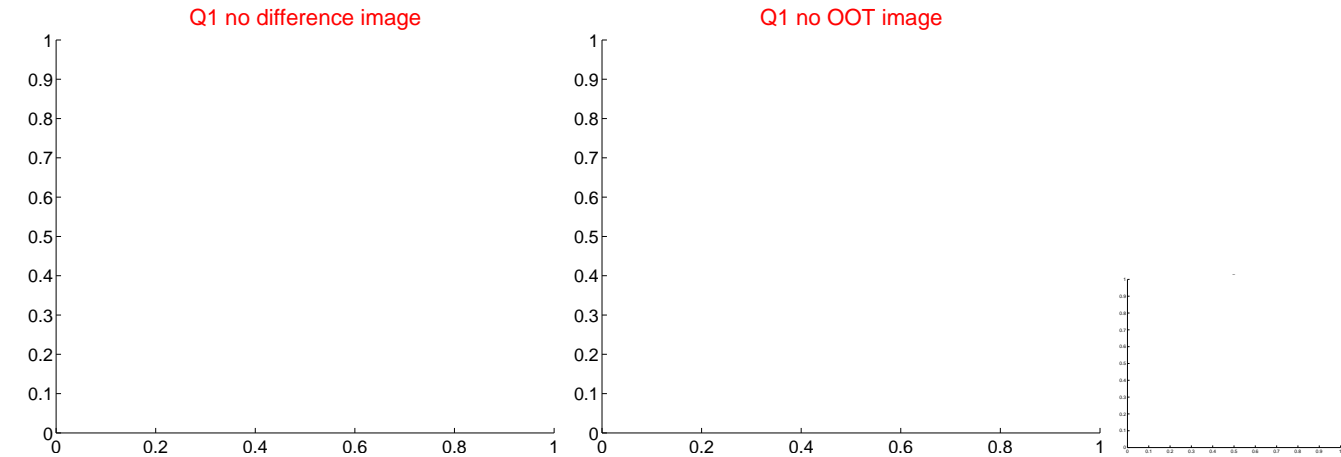
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.206 \pm 1.233$	0.98	$0.440 \pm 0.571$	$-1.123 \pm 1.305$
PRF-fit source offset from KIC position	$1.214 \pm 1.258$	0.97	$0.471 \pm 0.603$	$-1.119 \pm 1.341$
photometric centroid source offset	$2.60 \pm 1.69$	1.54	$0.61 \pm 1.36$	$-2.53 \pm 1.71$



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.

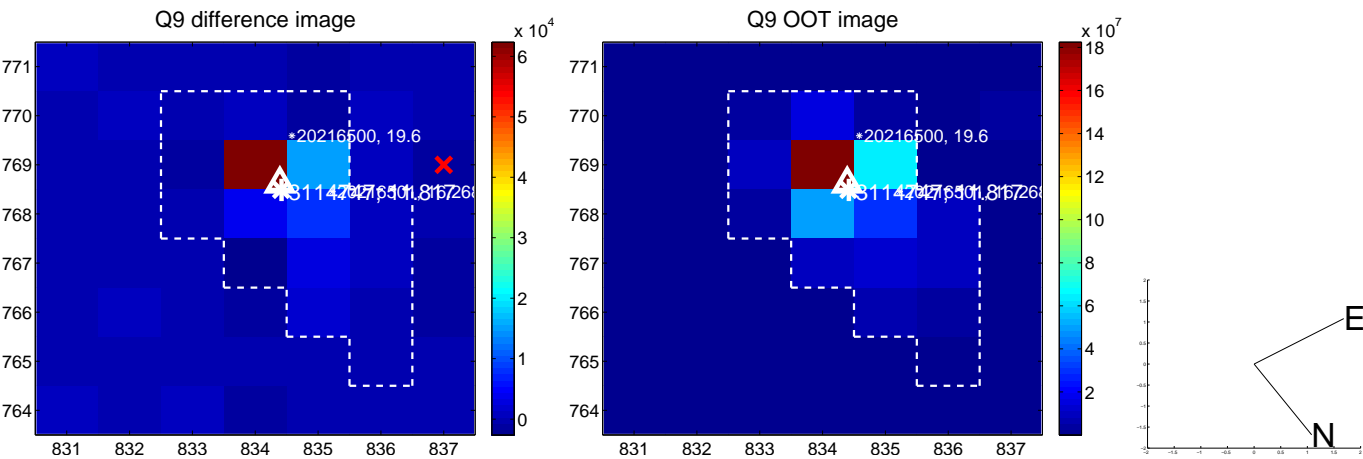


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

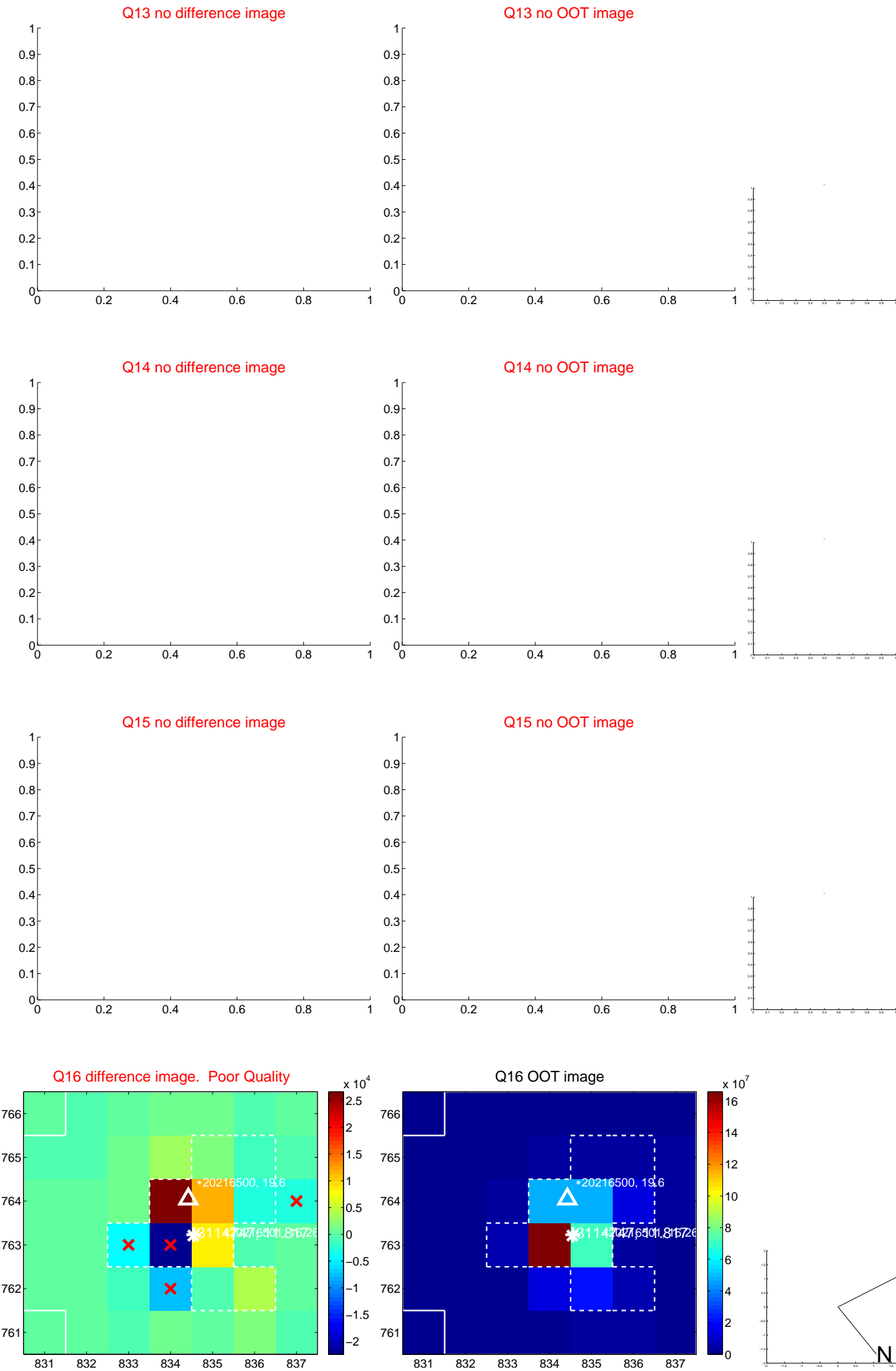




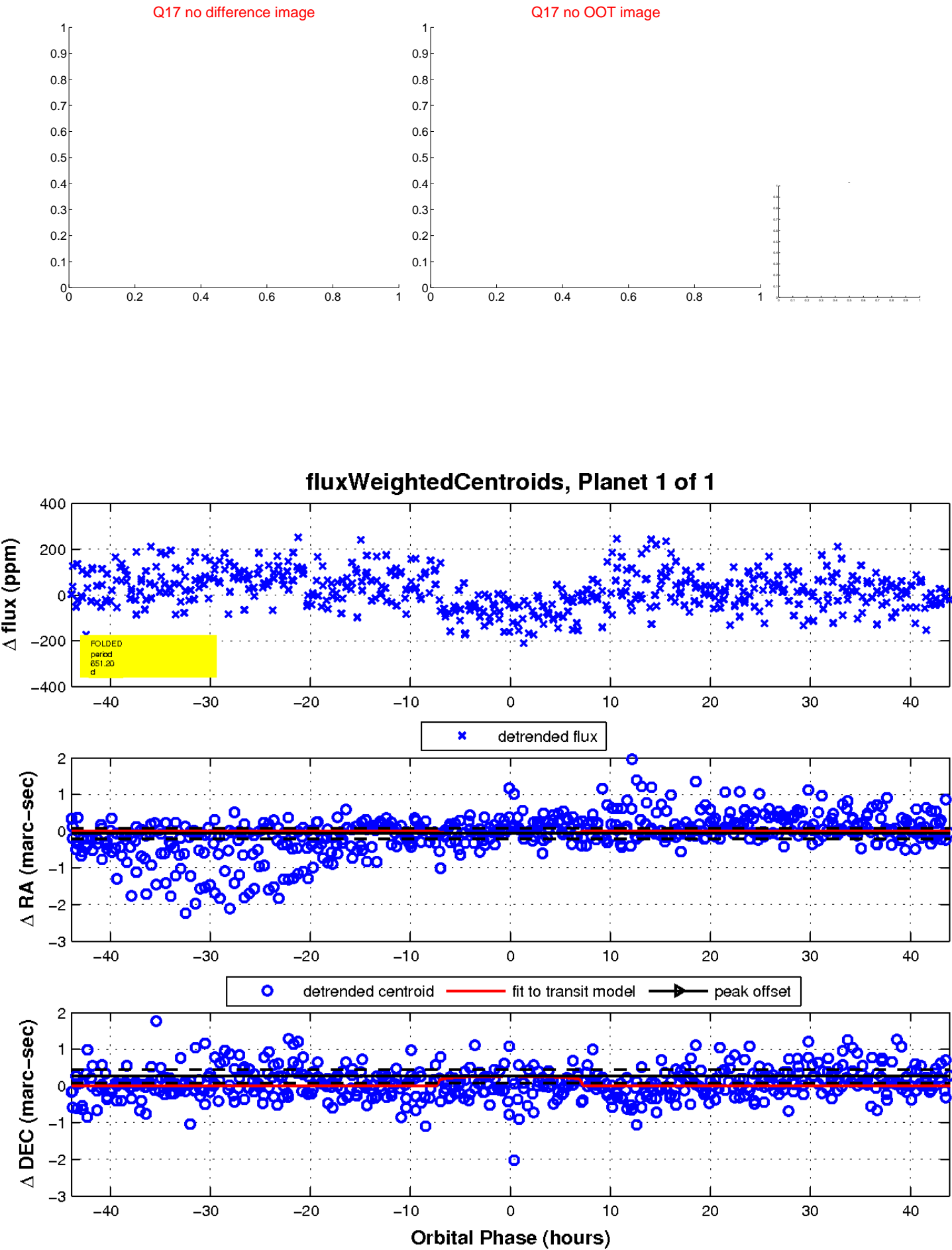
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

