

# KIC 011493732

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011493732-01	OBS	0772.01	61.256236	173.839389	5157.2	7.506	73.1	76.2	1.09	6144	13.58	15.45

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011493732-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_ALT—DEEP_V_SHAPED

**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.

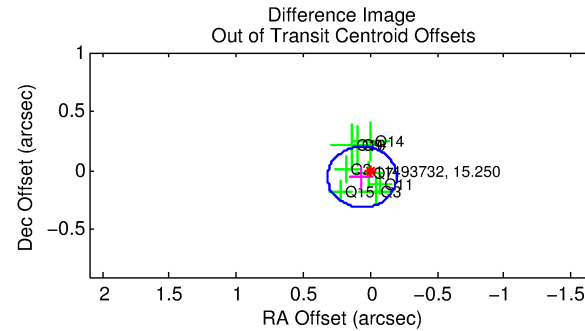
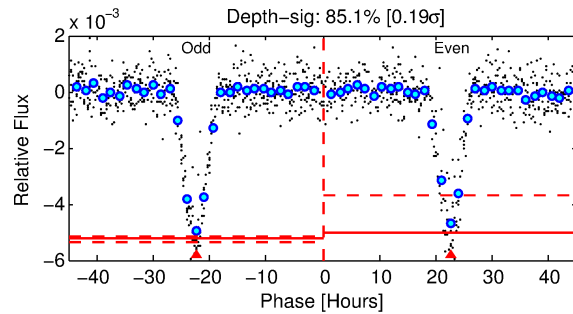
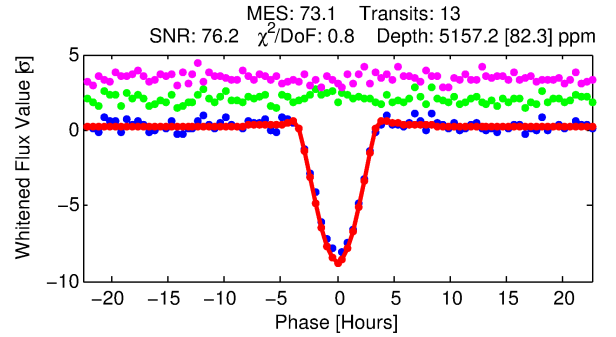
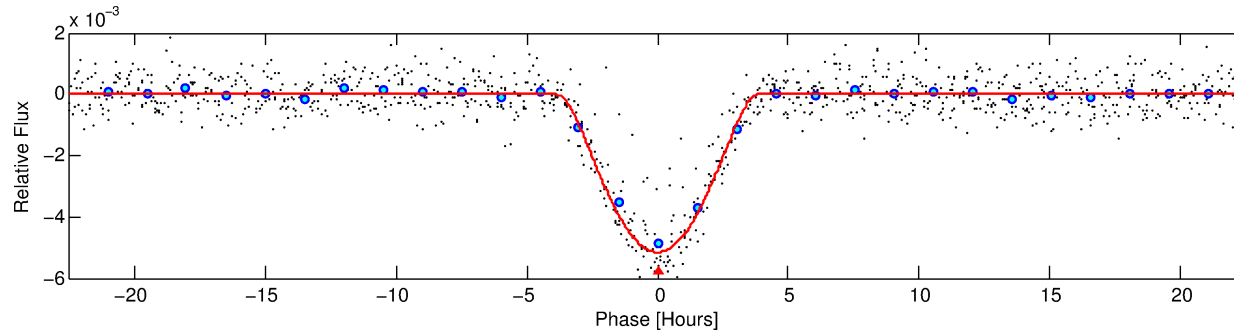
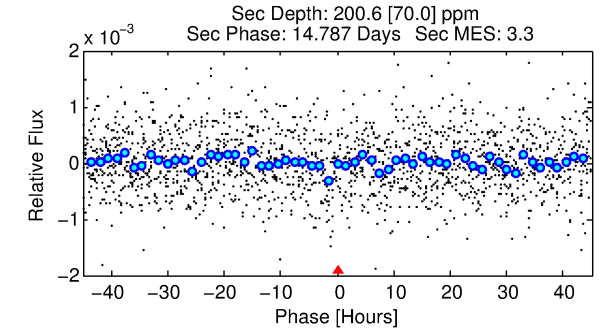
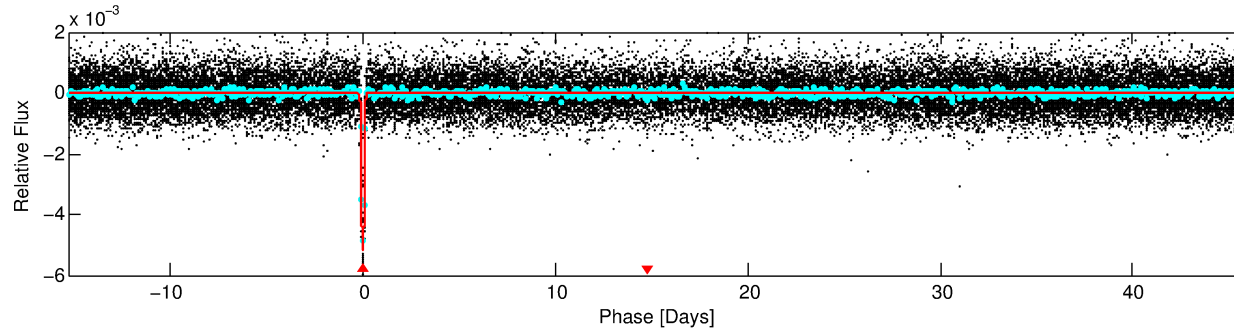
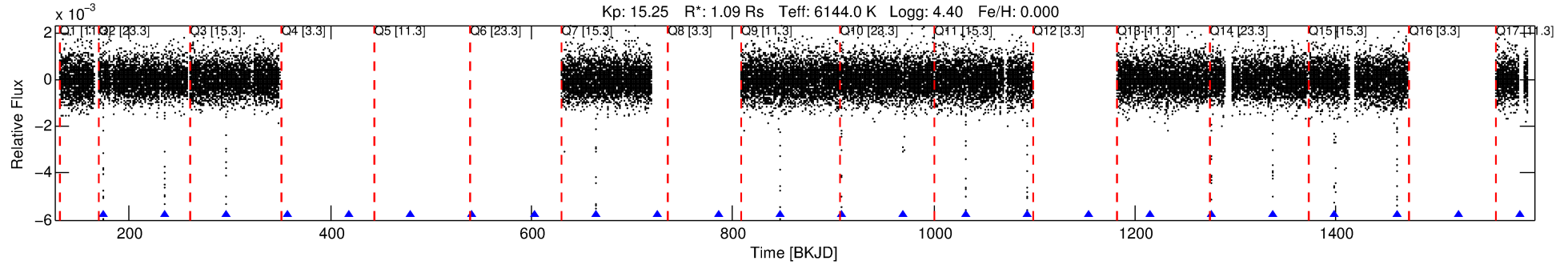
## Ephemeris Match Information For 011493732-01

No Significant Match Found

# DV One-Page Summary

KIC: 11493732 Candidate: 1 of 1 Period: 61.256 d

KOI: K00772.01 Corr: 0.989



## DV Fit Results:

Period = 61.25624 [0.00015] d  
Epoch = 173.8394 [0.0020] BKJD  
Rp/R\* = 0.1141 [0.0515]  
a/R\* = 31.71 [2.88]  
b = 0.99 [0.08]  
Seff = 15.45 [6.51]  
Teq = 506 [53] K  
Rp = 13.58 [7.53] Re  
a = 0.3136 [0.0850] AU  
Ag = 58.85 [61.58] [0.94σ]  
Teffp = 2165 [530] K [3.12σ]

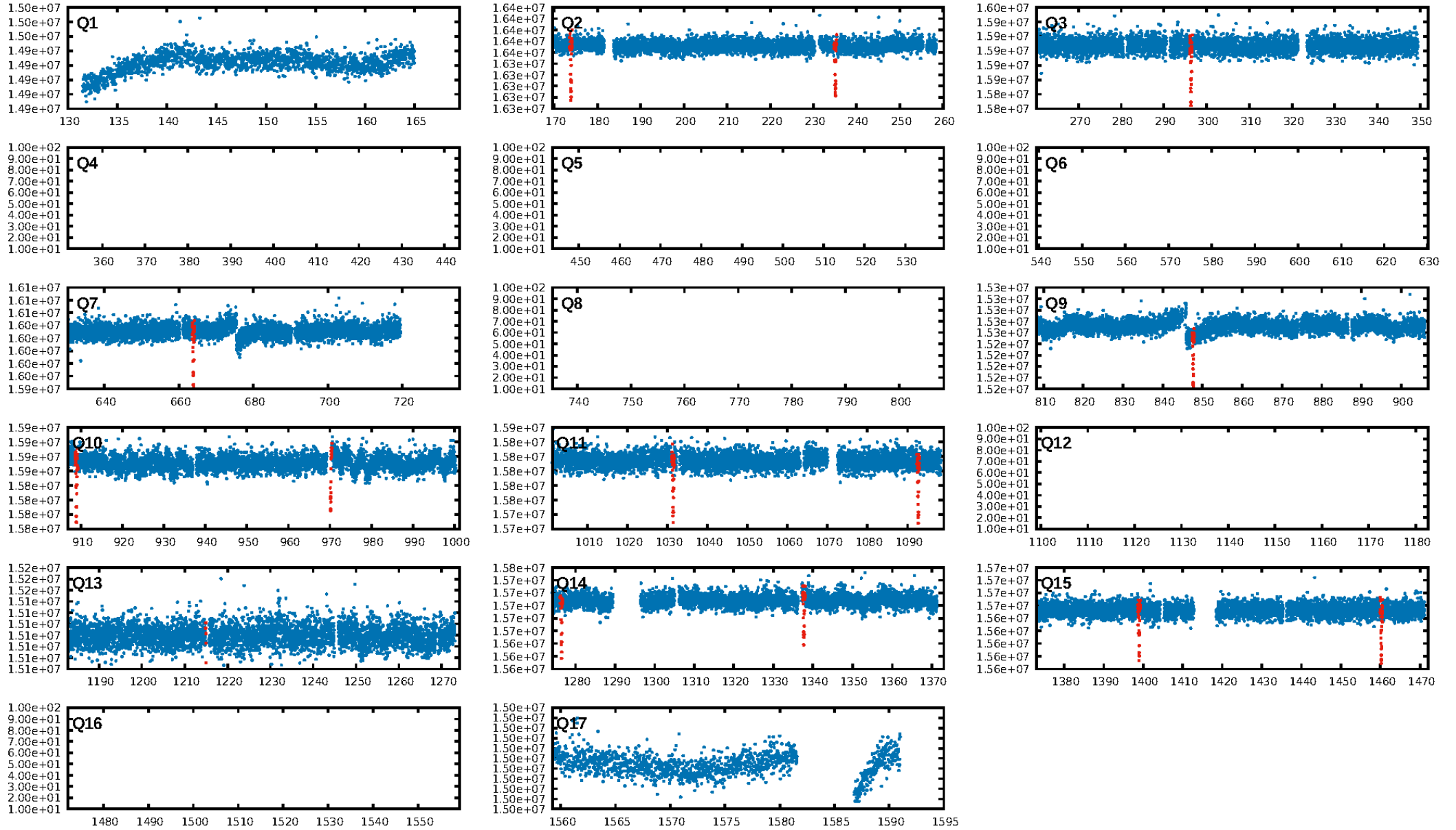
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 3.7%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [13/13]  
GhostDiagnostic-chr: 10.14  
Centroid-sig: 15.6%  
Centroid-so: 0.512 arcsec [2.57σ]  
OotOffset-rm: 0.083 arcsec [0.97σ]  
KicOffset-rm: 0.074 arcsec [0.85σ]  
OotOffset-st: 3/4/0/1 [8]  
KicOffset-st: 3/4/0/1 [8]  
DiffImageQuality-fgm: 1.00 [8/8]  
DiffImageOverlap-fno: 1.00 [8/8]

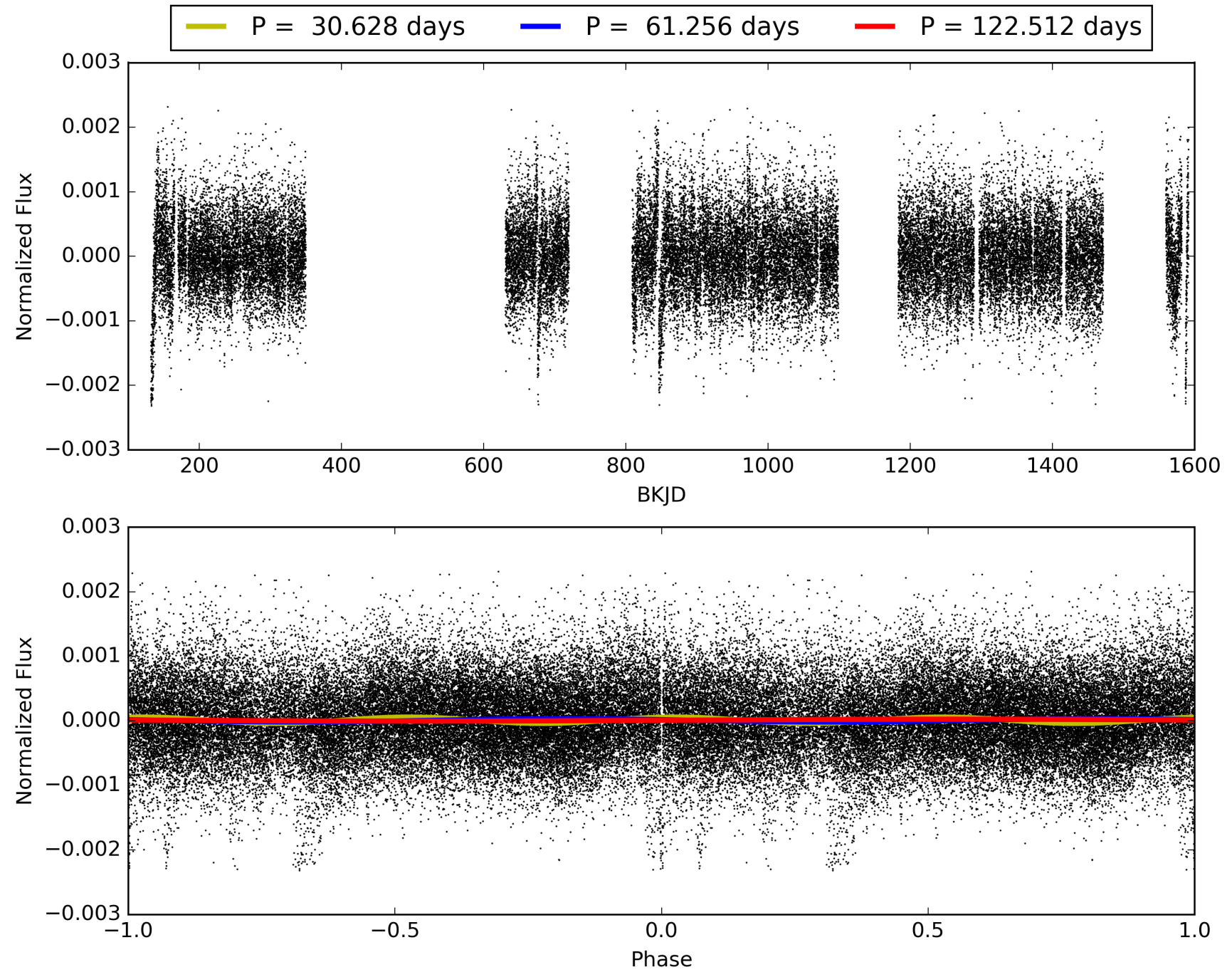
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:34:26 Z

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

# TCE 011493732-01, PDC Light Curves

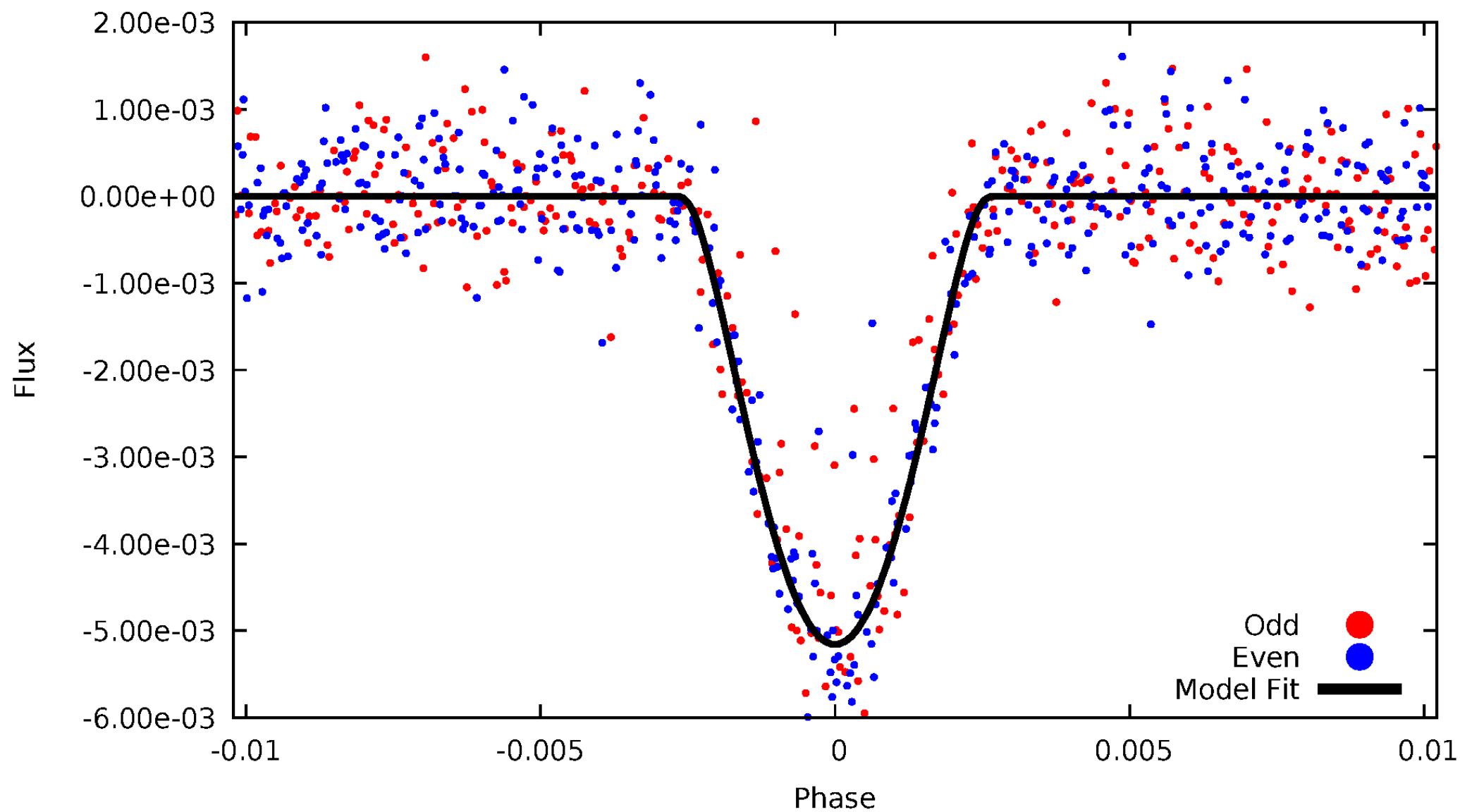


# TCE 011493732-01



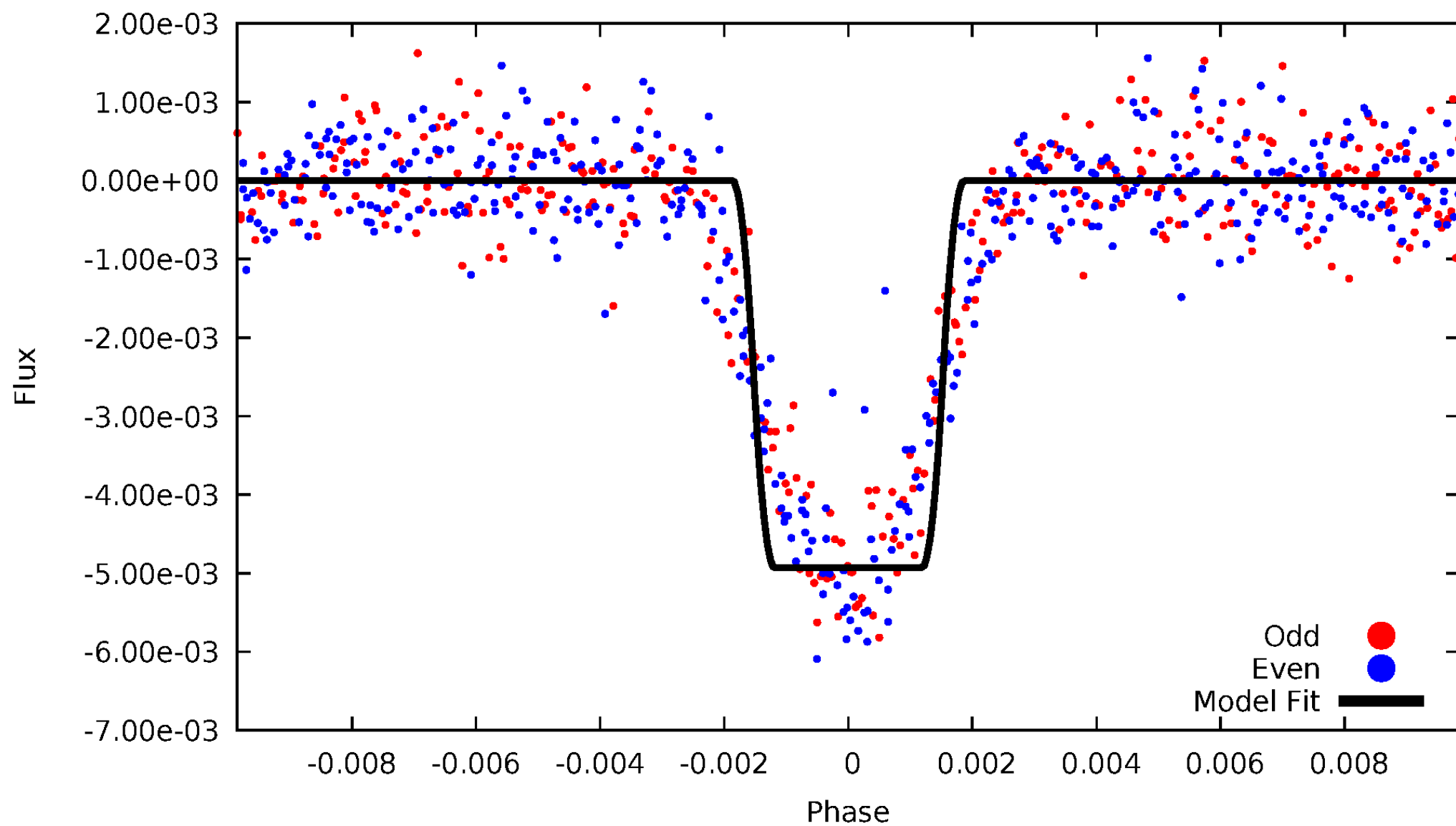
# DV Odd/Even

TCE 011493732-01



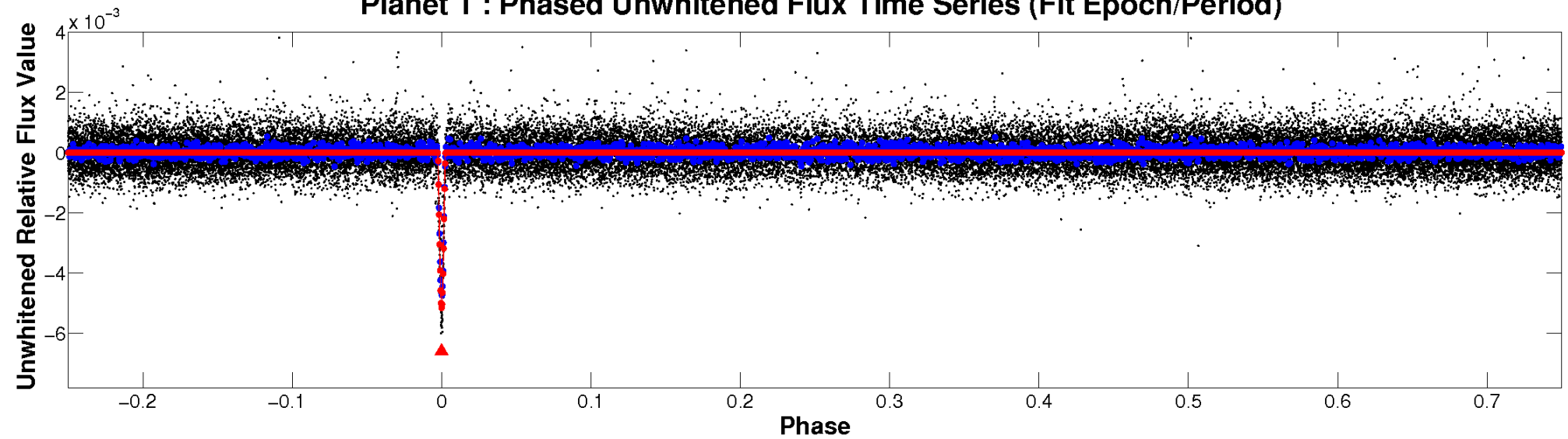
# ALT Odd/Even

TCE 011493732-01

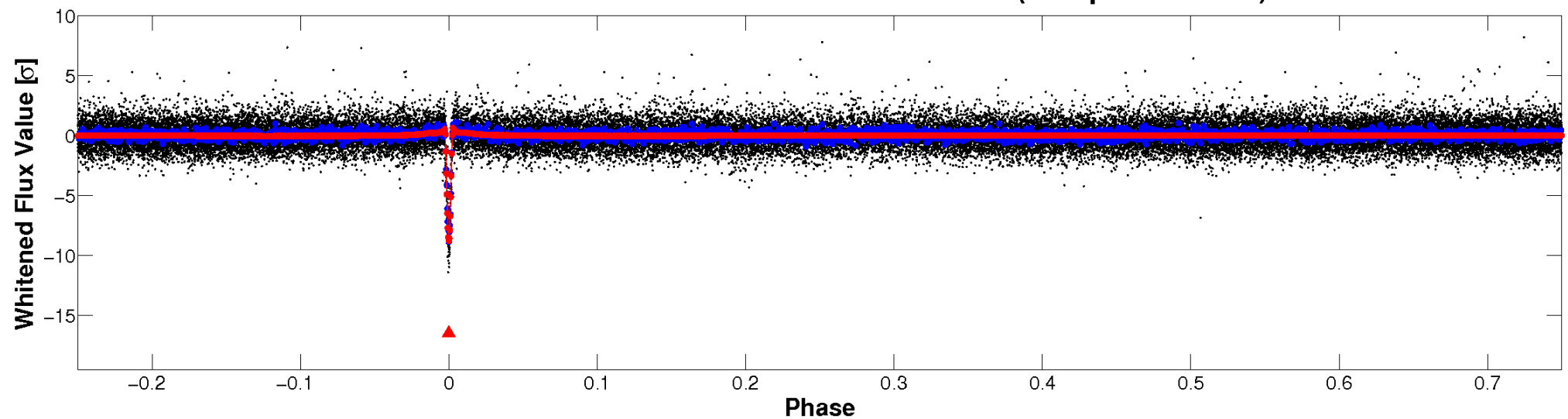


# Non-Whitened Vs. Whitened Light Curve

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

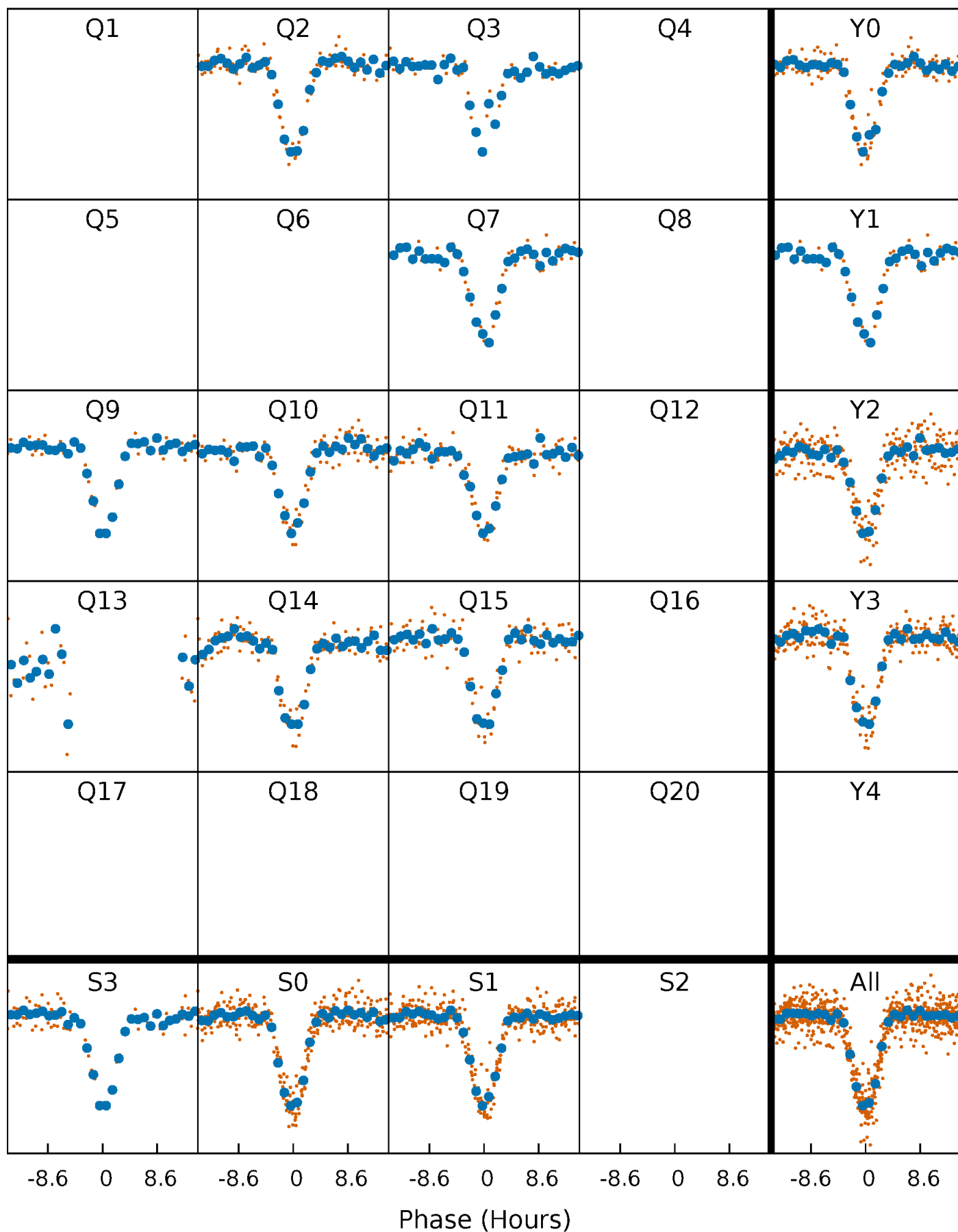


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

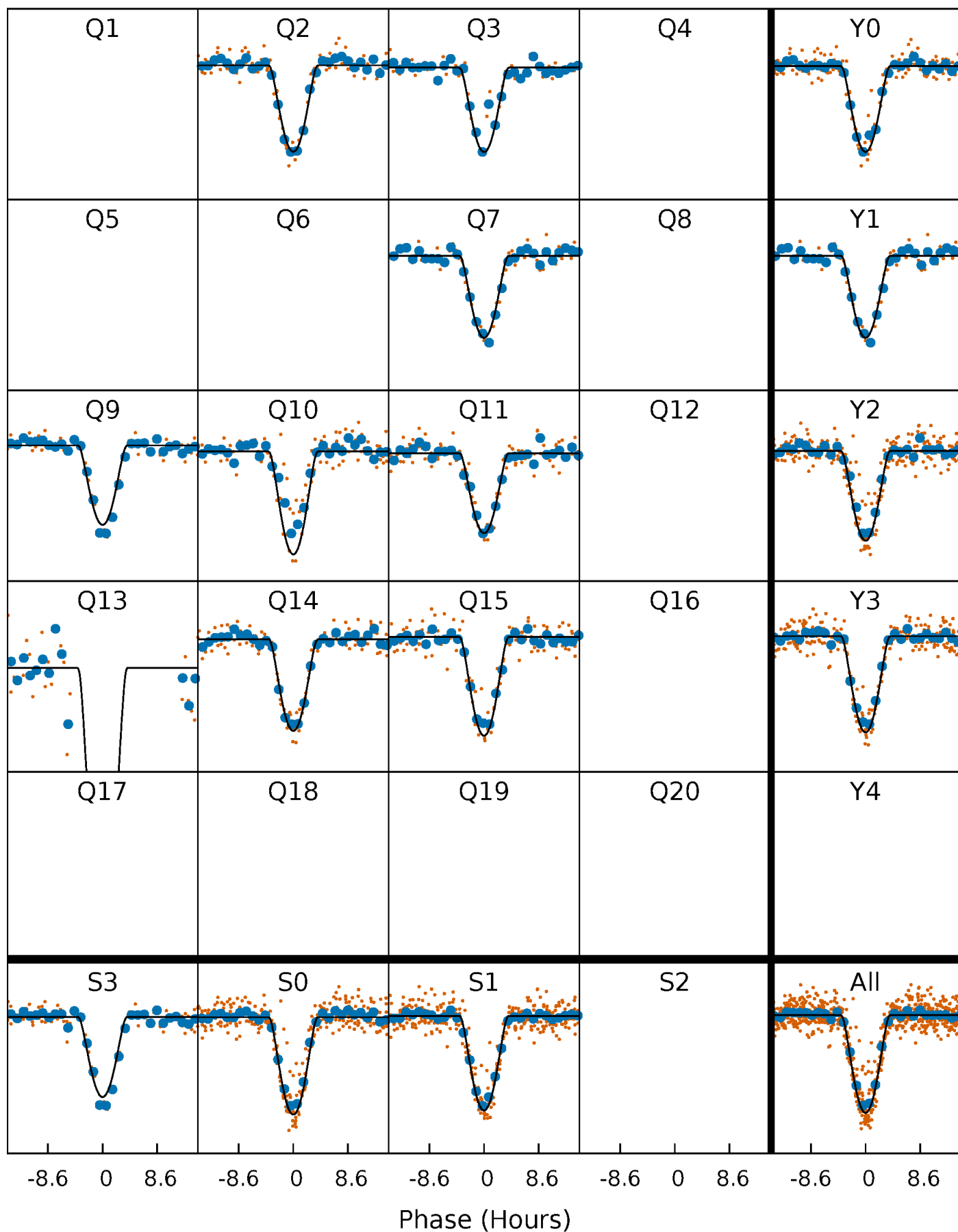
TCE 011493732-01   P= 61.256236 Days    $T_0=173.839389$  (BKJD)





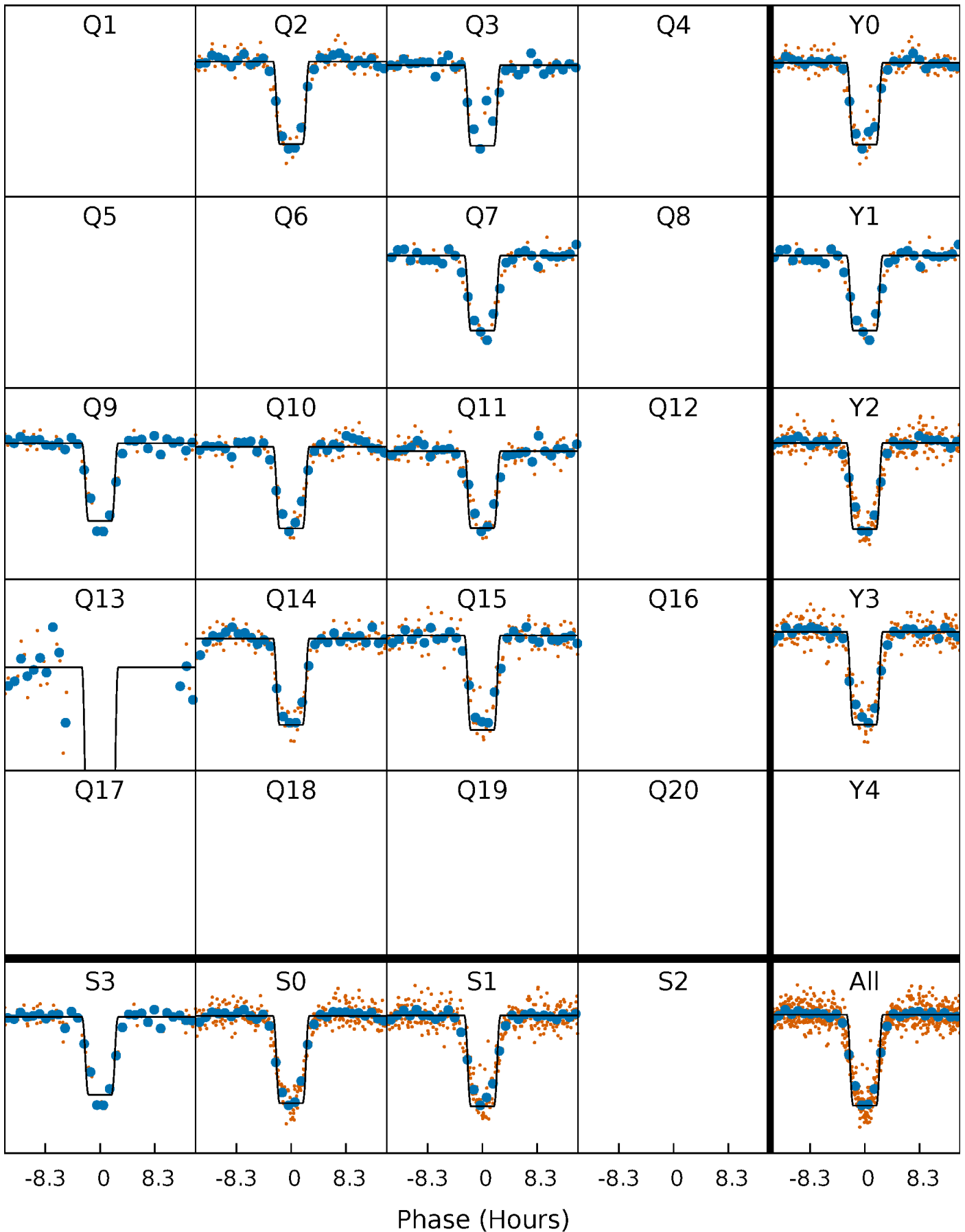
# DV Quarter-Phased Transit Curves

TCE 011493732-01 P= 61.256236 Days  $T_0=173.839389$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

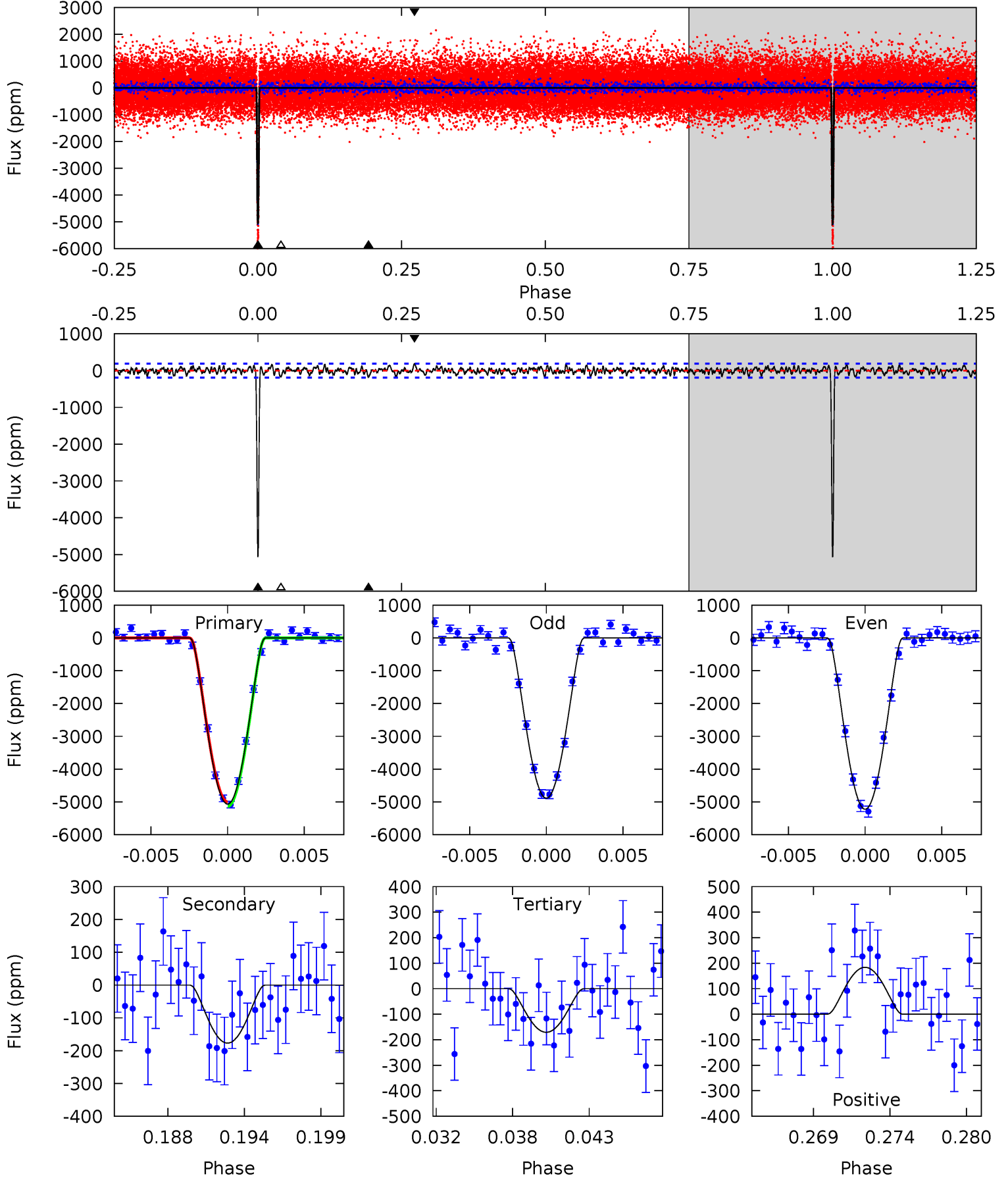
TCE 011493732-01 P= 61.256010 Days  $T_0=173.842165$  (BKJD)



# DV Model-Shift Uniqueness Test

011493732-01, P = 61.256236 Days, E = 112.583153 Days

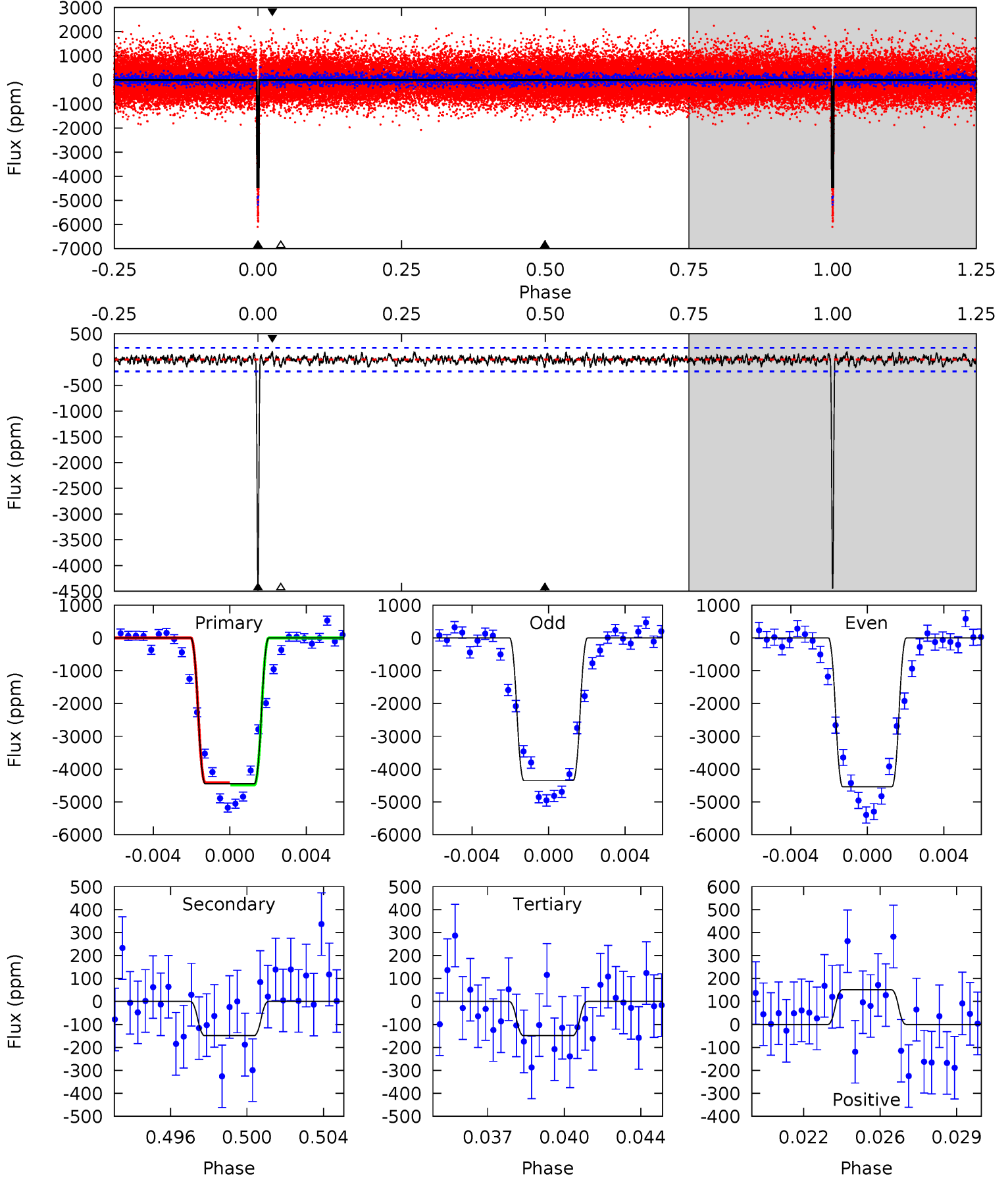
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
136.4	4.77	4.60	4.95	5.14	2.78	1.60	131.8	131.5	0.17	-0.18	4.52	0.95	0.04	1.93



# Alt Model-Shift Uniqueness Test

011493732-01, P = 61.256010 Days, E = 112.586155 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
100.6	3.37	3.37	3.41	5.21	2.90	1.08	97.2	97.2	0.00	-0.04	2.13	1.01	0.03	0.81



### Stellar Parameters For KIC 011493732

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6144^{+184}_{-220}$	$4.402^{+0.072}_{-0.217}$	$0.000^{+0.250}_{-0.300}$	$1.091^{+0.350}_{-0.150}$	$1.093^{+0.166}_{-0.135}$	$1.185^{+0.449}_{-0.658}$
	+3%/-4%	+2%/-5%	+inf%/-inf%	+32%/-14%	+15%/-12%	+38%/-56%
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 011493732-01 / KOI 0772.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-177 \pm 37$	$14.64^{+7.08}_{-6.45}$	$717^{+56}_{-36}$	$2782^{+547}_{-257}$	$43^{+101}_{-24}$
Alt.	$-149 \pm 44$	$9.19^{+6.83}_{-4.98}$	$719^{+53}_{-36}$	$3080^{+937}_{-415}$	$89^{+349}_{-60}$

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

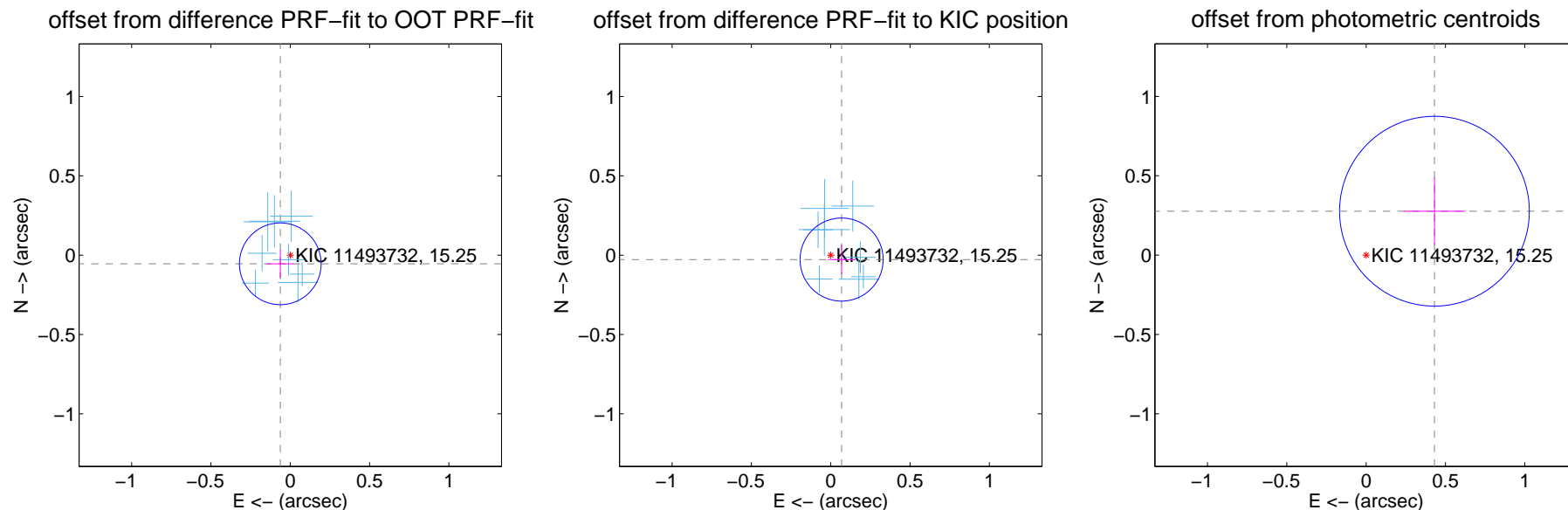
## DV Centroid Data

Supplemental centroid analysis for 011493732-01. Kepler magnitude: 15.25. Transit SNR 76.24

There are 8 quarters with good PRF difference image offsets

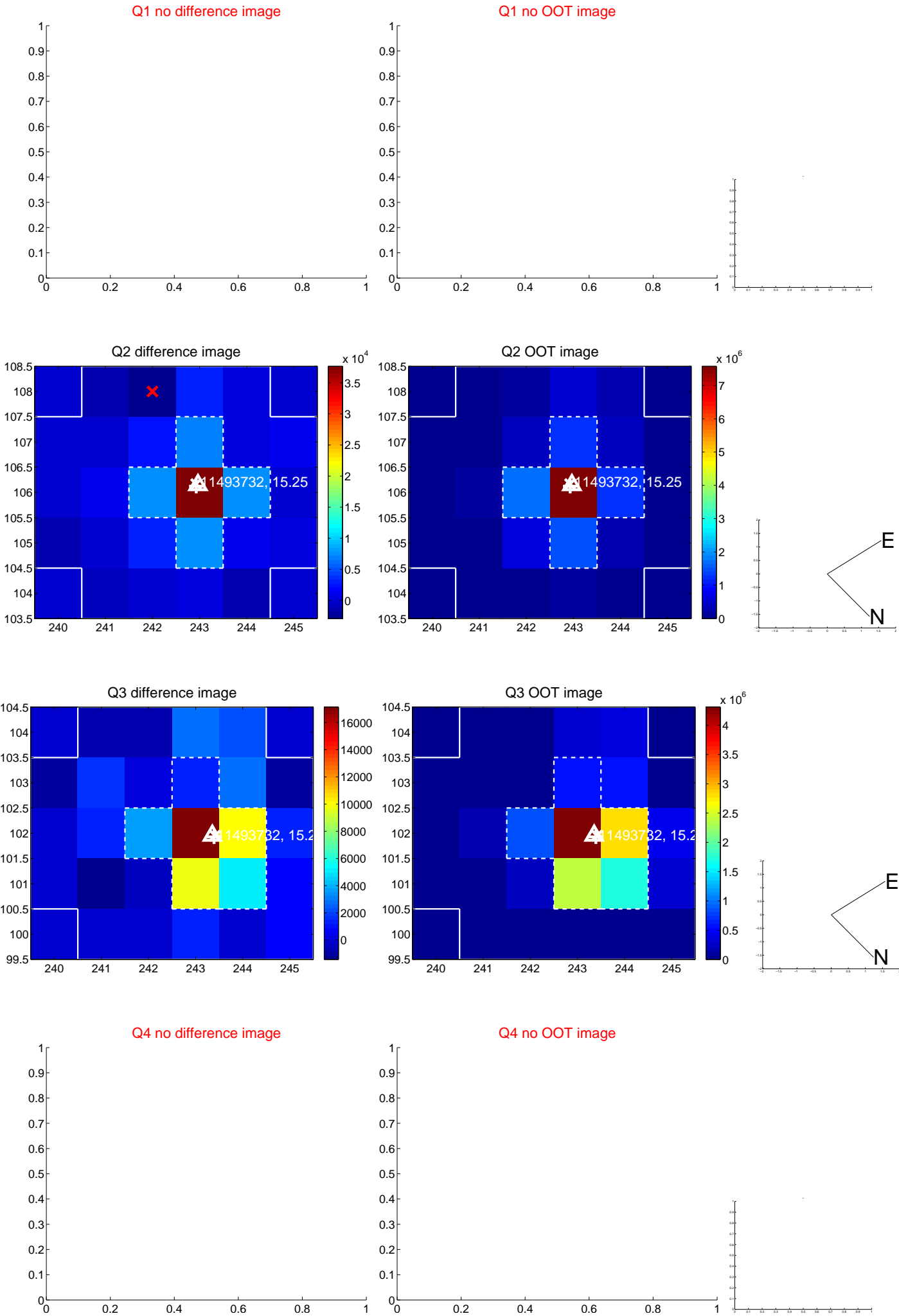
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.083 \pm 0.086$	0.97	$0.063 \pm 0.085$	$-0.055 \pm 0.087$
PRF-fit source offset from KIC position	$0.074 \pm 0.087$	0.85	$-0.069 \pm 0.086$	$-0.028 \pm 0.093$
photometric centroid source offset	$0.51 \pm 0.20$	2.57	$-0.43 \pm 0.19$	$0.28 \pm 0.21$

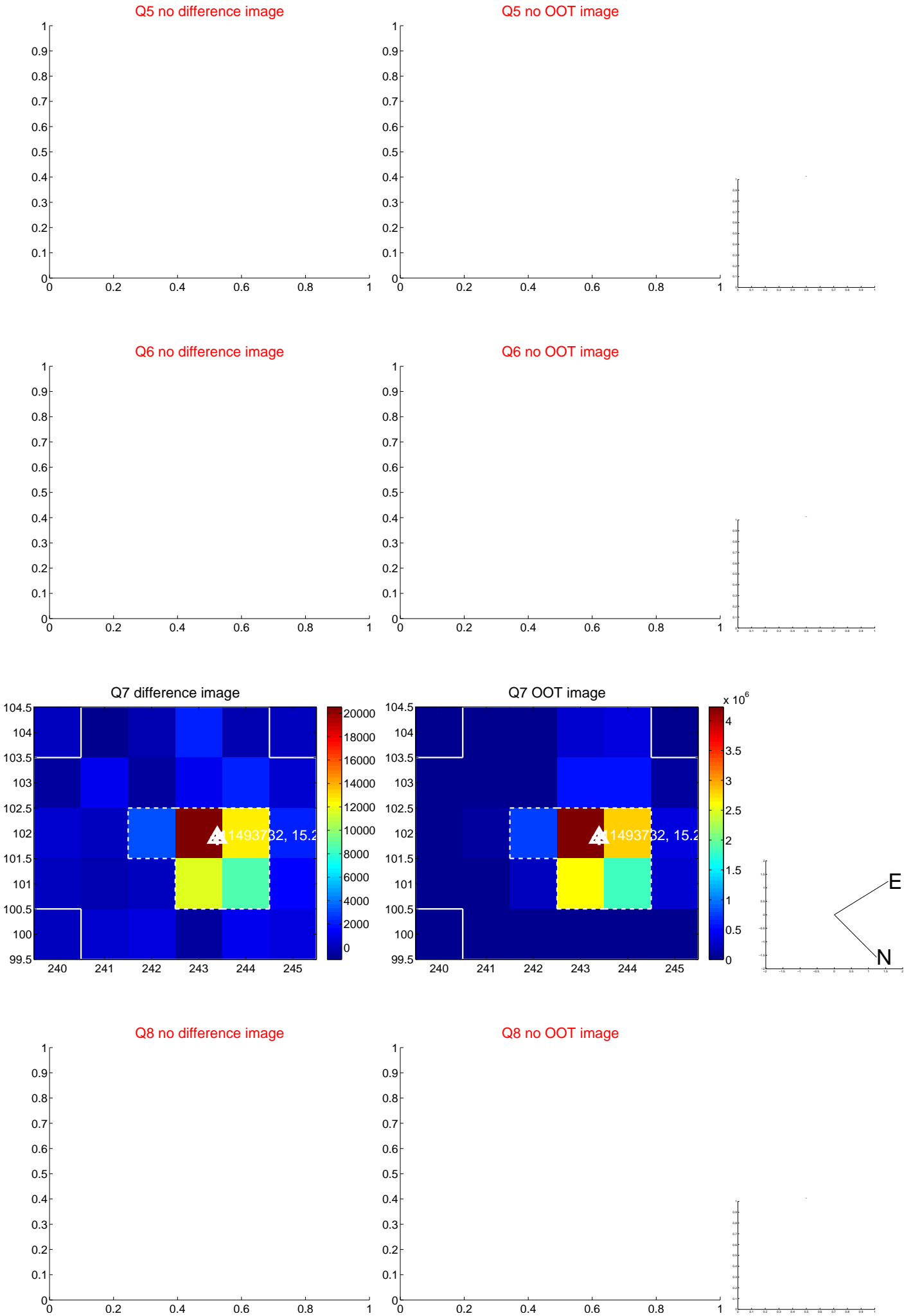


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

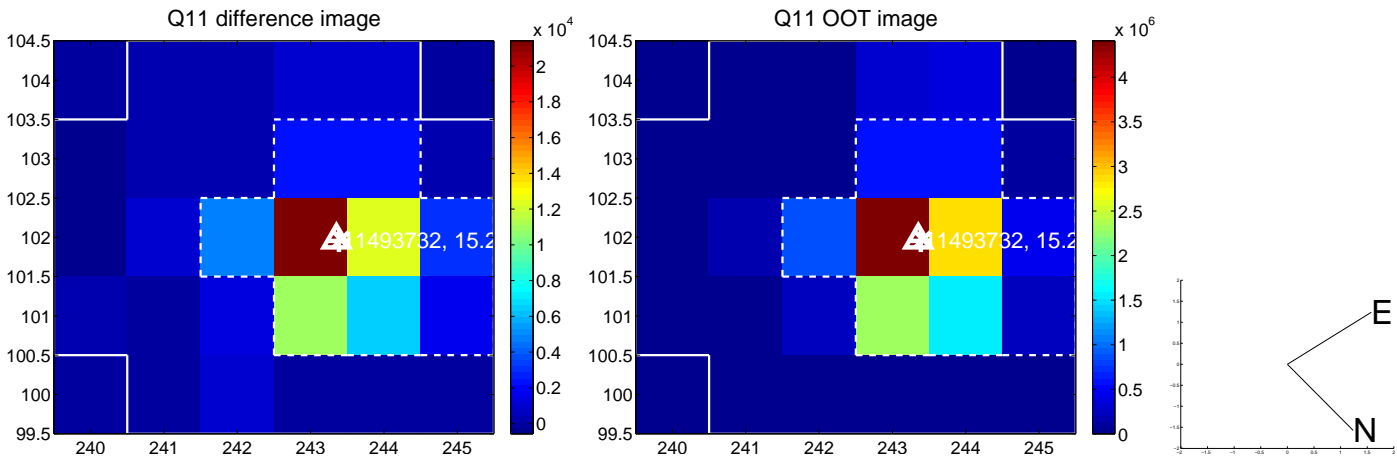
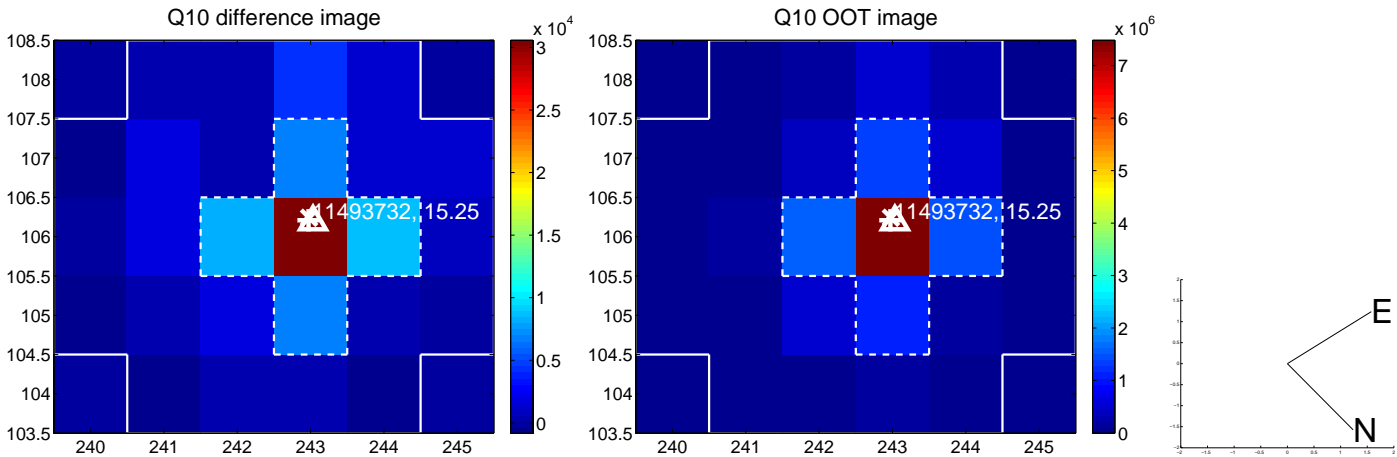
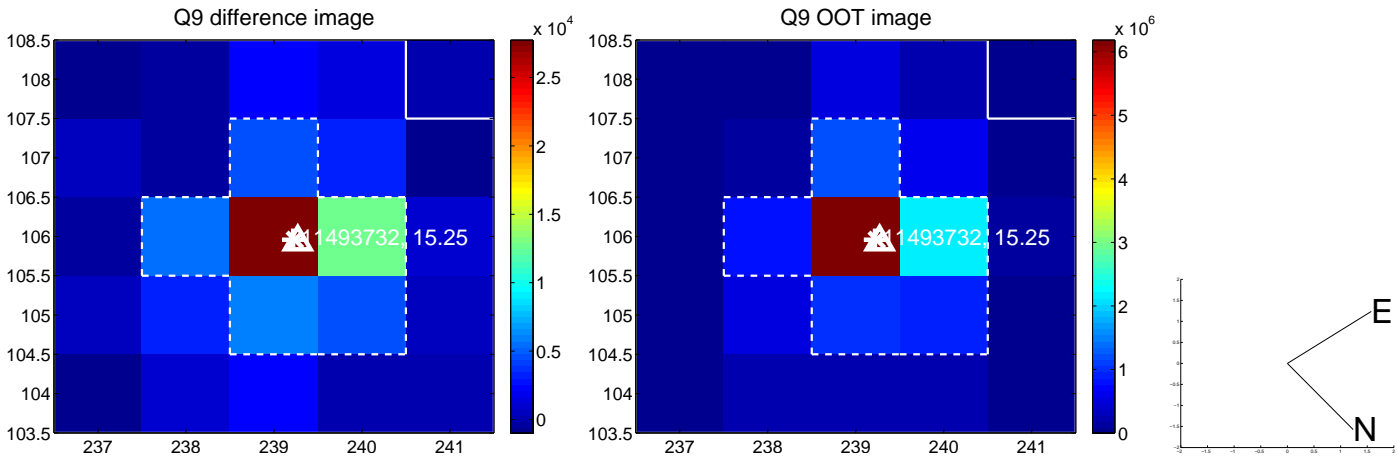


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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.

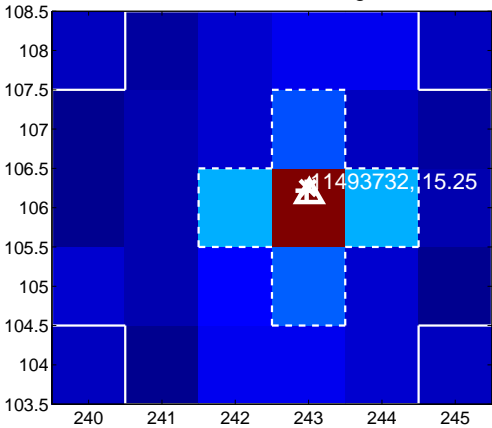
Q13 no difference image



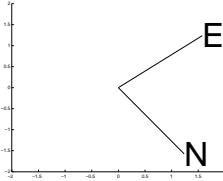
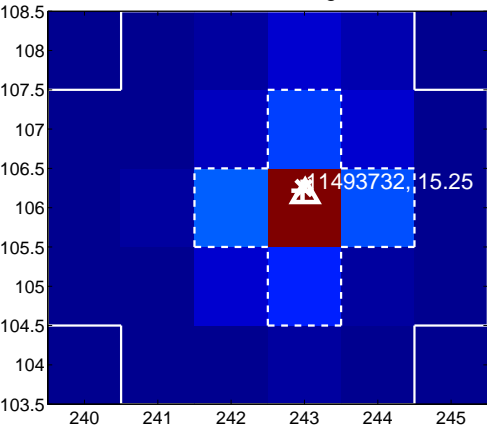
Q13 no OOT image



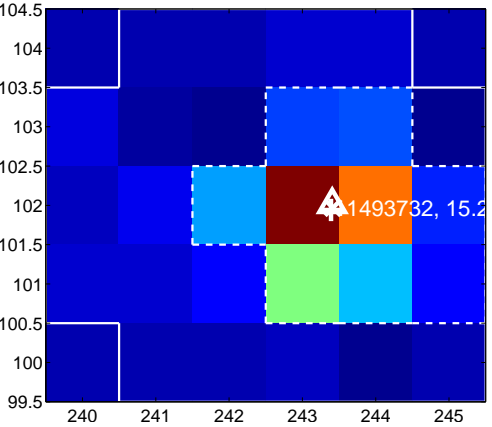
Q14 difference image



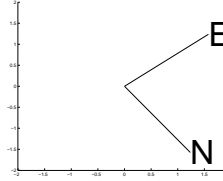
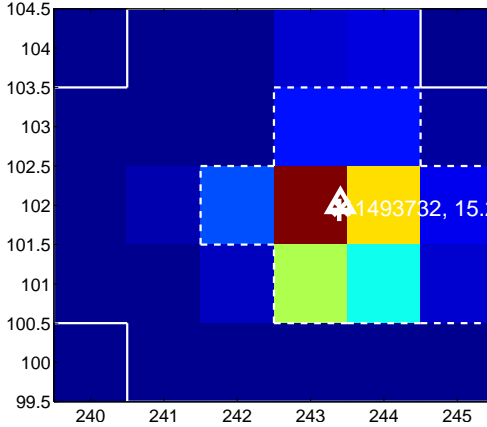
Q14 OOT image



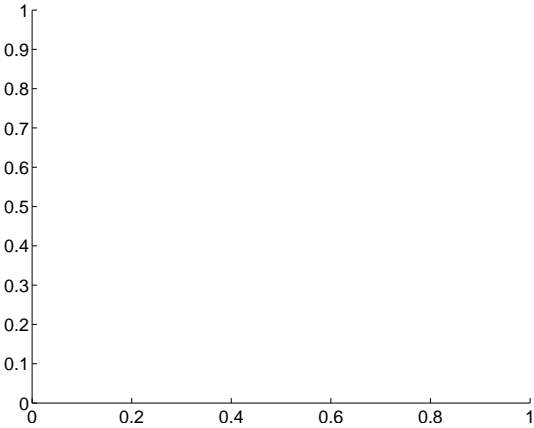
Q15 difference image



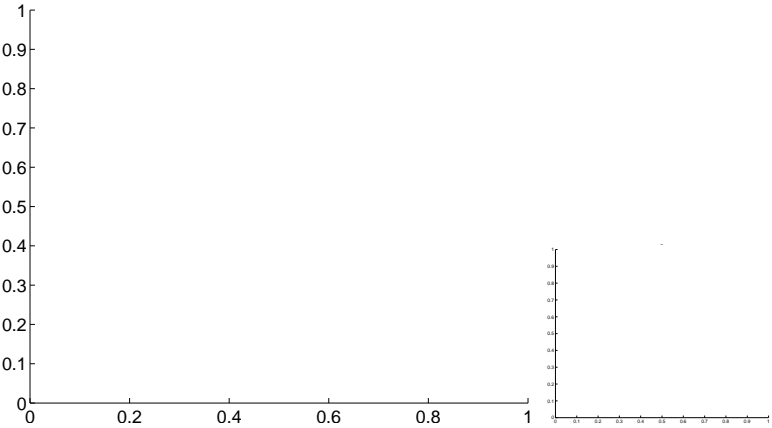
Q15 OOT image



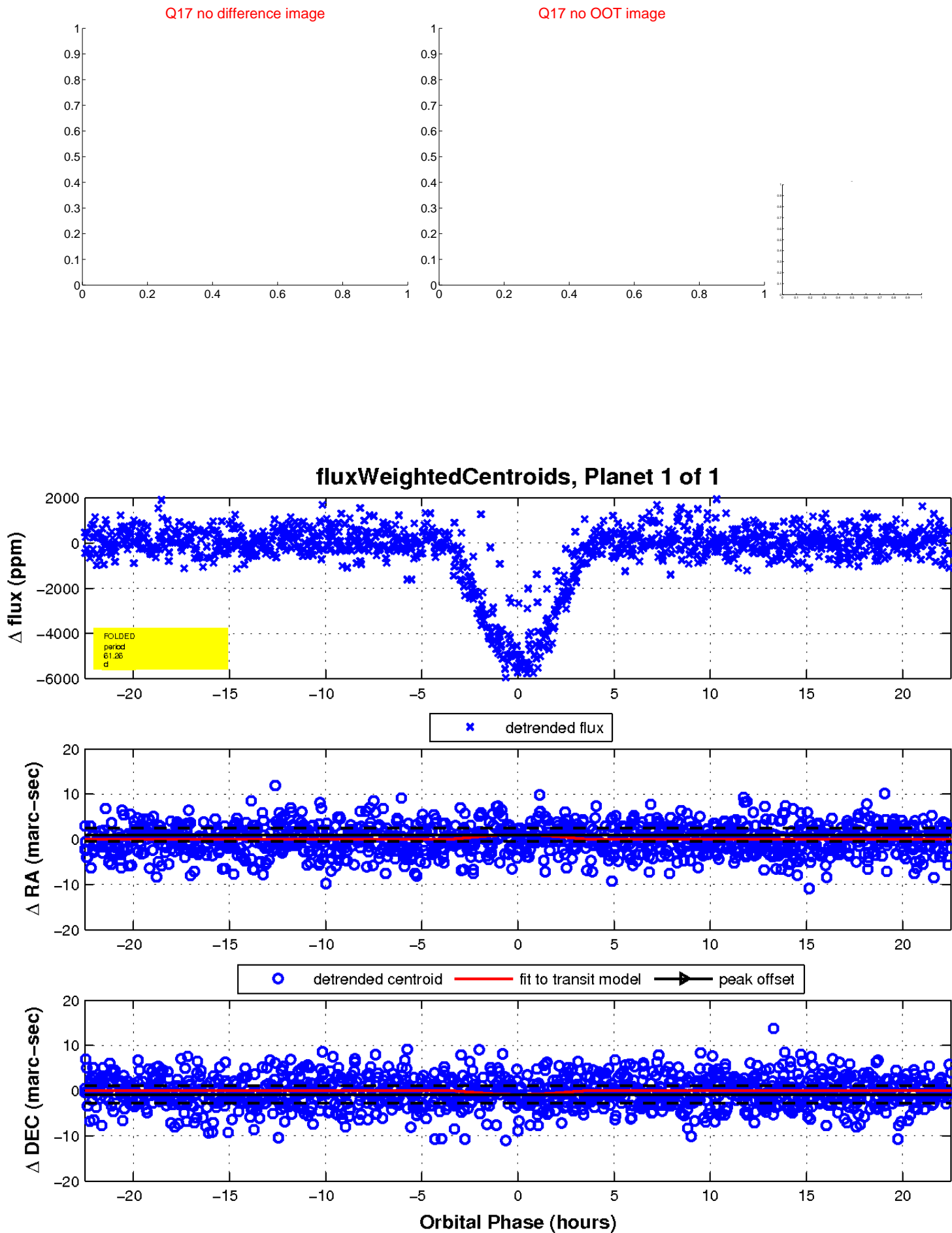
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

