

# KIC 011124436

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011124436-01	OBS	4442.01	13.948167	132.754528	111.7	7.913	11.3	11.4	2.35	5529	2.87	302.23

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011124436-01	OBS	PC	0.97	0	0	0	0	NO_COMMENT

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

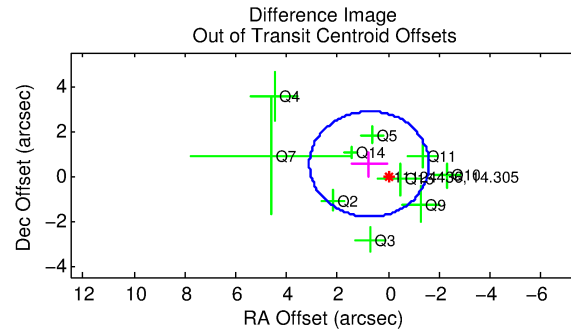
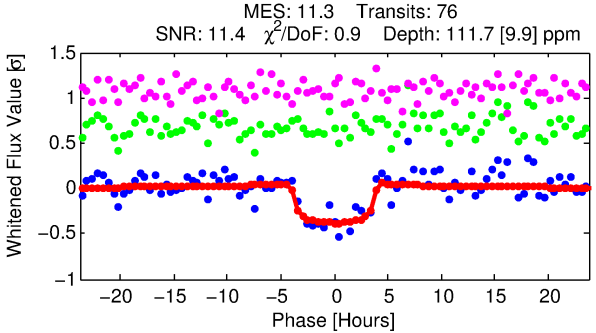
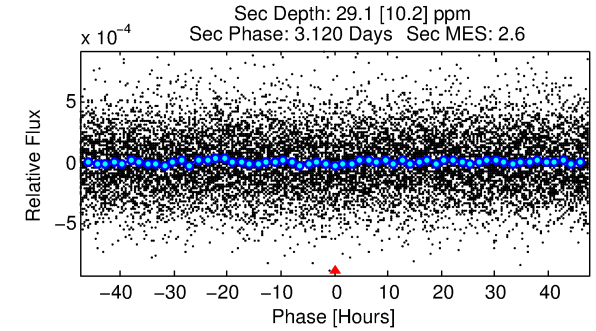
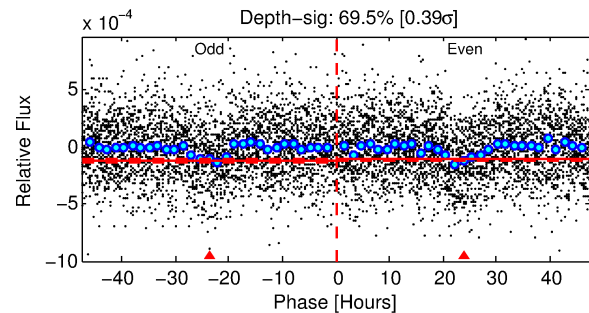
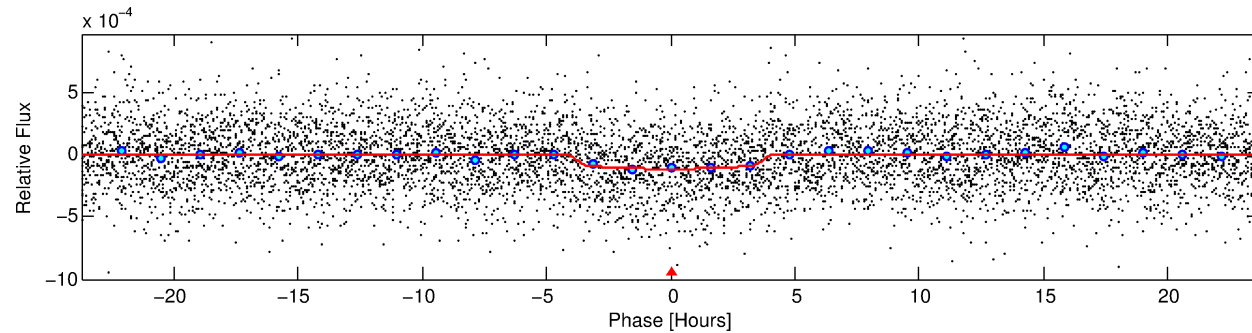
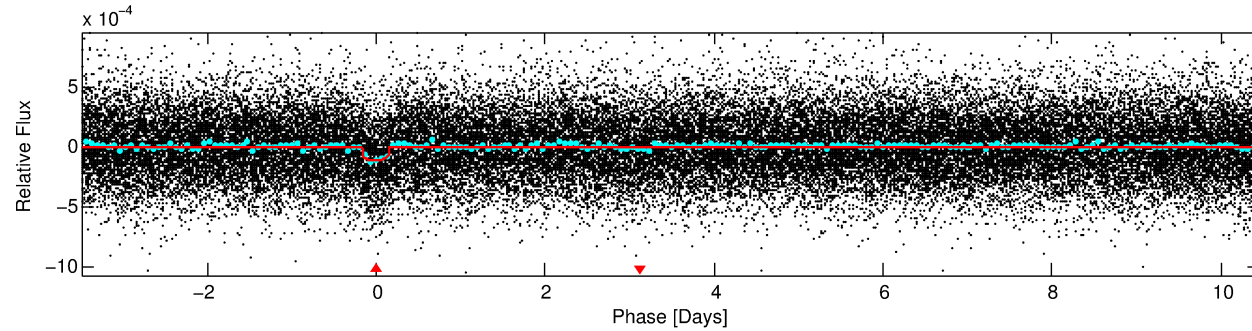
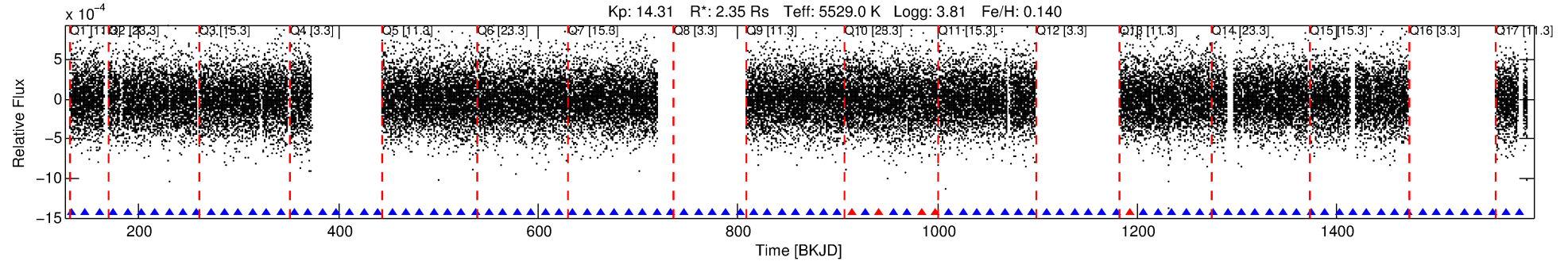
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011124436-01

No Significant Match Found

# DV One-Page Summary

KIC: 11124436 Candidate: 1 of 1 Period: 13.948 d  
KOI: K04442.01 Corr: 0.992



## DV Fit Results:

Period = 13.94817 [0.00020] d  
Epoch = 132.7545 [0.0111] BKJD  
Rp/R\* = 0.0112 [0.0041]  
a/R\* = 7.15 [11.22]  
b = 0.86 [0.48]  
Seff = 302.23 [119.90]  
Teq = 1063 [105] K  
Rp = 2.87 [1.37] Re  
a = 0.1235 [0.0326] AU  
Ag = 29.59 [26.66] [1.07σ]  
Teffp = 3834 [780] K [3.52σ]

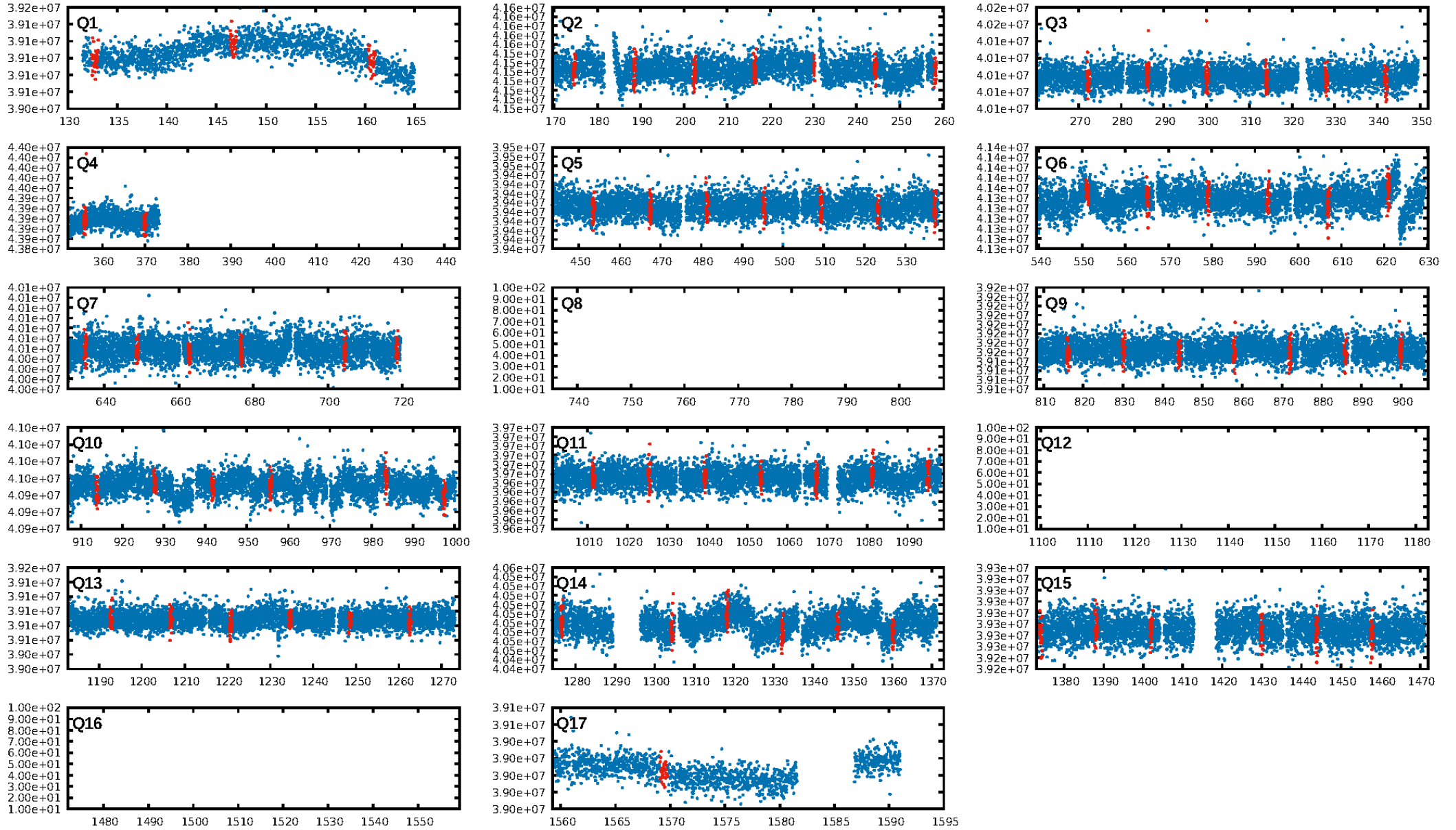
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.08e-28  
RollingBand-fgt: 0.93 [65/70]  
**GhostDiagnostic-chr: 0.8501**  
Centroid-sig: 37.3%  
Centroid-so: 1.071 arcsec [0.81σ]  
OotOffset-rm: 0.914 arcsec [1.17σ]  
OotOffset-st: 3/4/1/2 [10]  
KicOffset-rm: 0.790 arcsec [0.97σ]  
KicOffset-st: 3/4/1/2 [10]  
DiffImageQuality-fgm: 0.60 [6/10]  
DiffImageOverlap-fno: 1.00 [14/14]

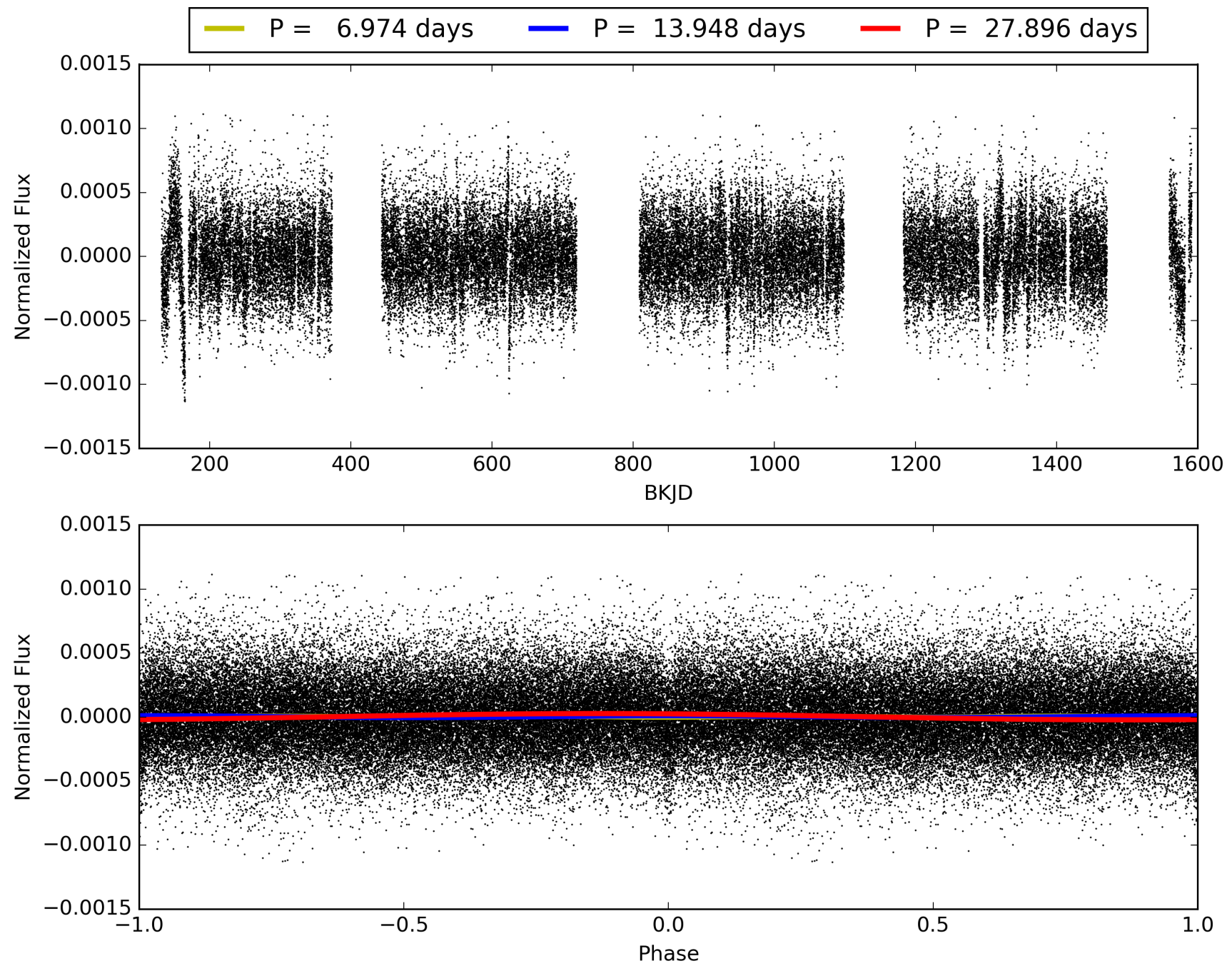
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:16:04 Z

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

# TCE 011124436-01, PDC Light Curves

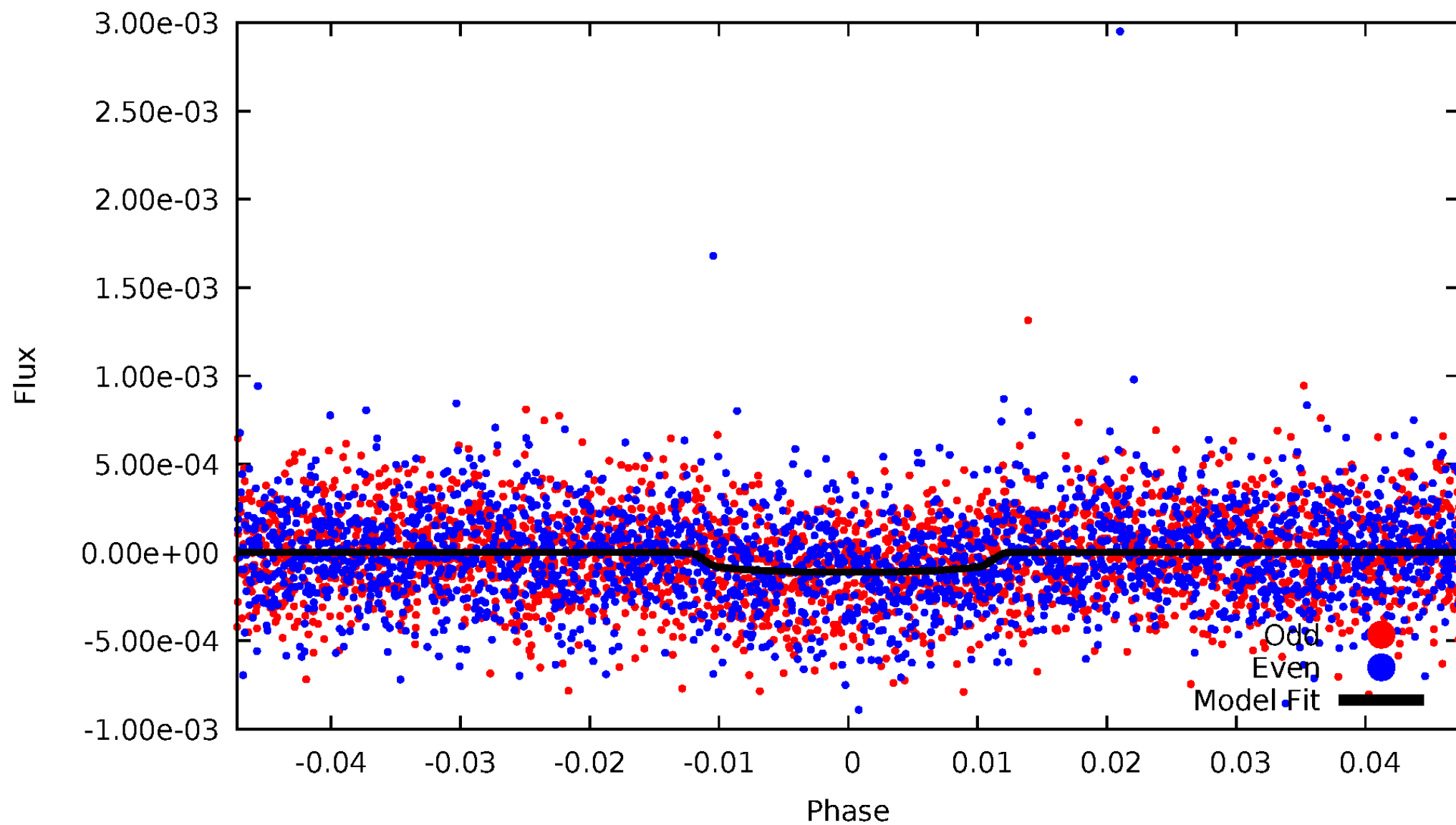


TCE 011124436-01



# DV Odd/Even

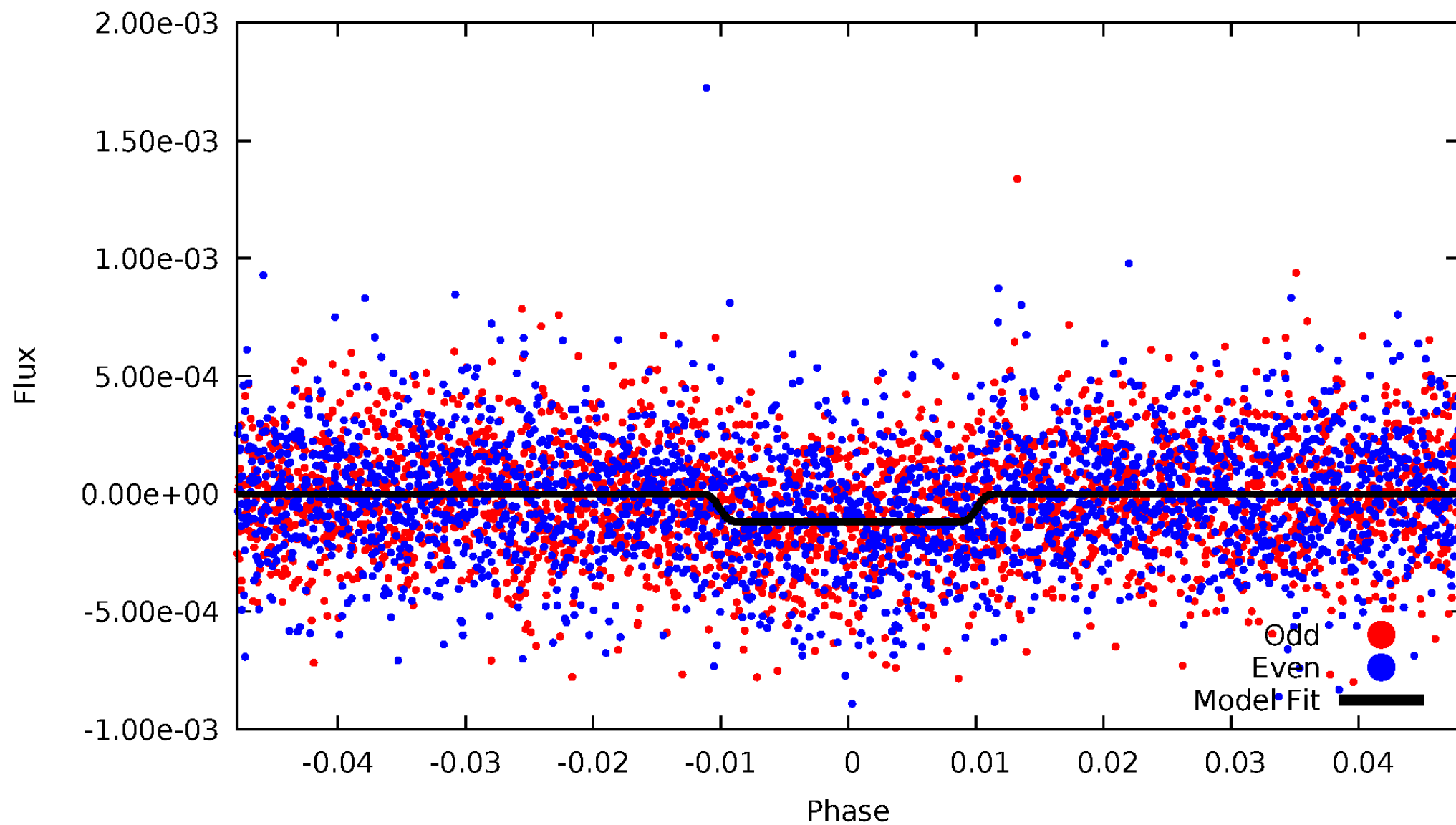
TCE 011124436-01



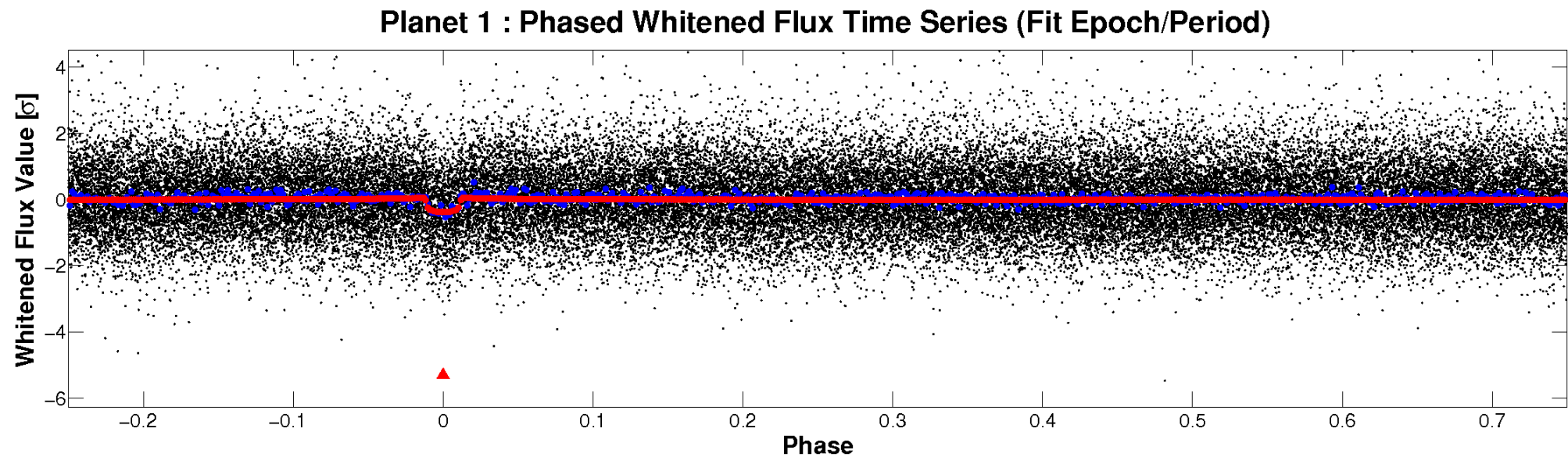
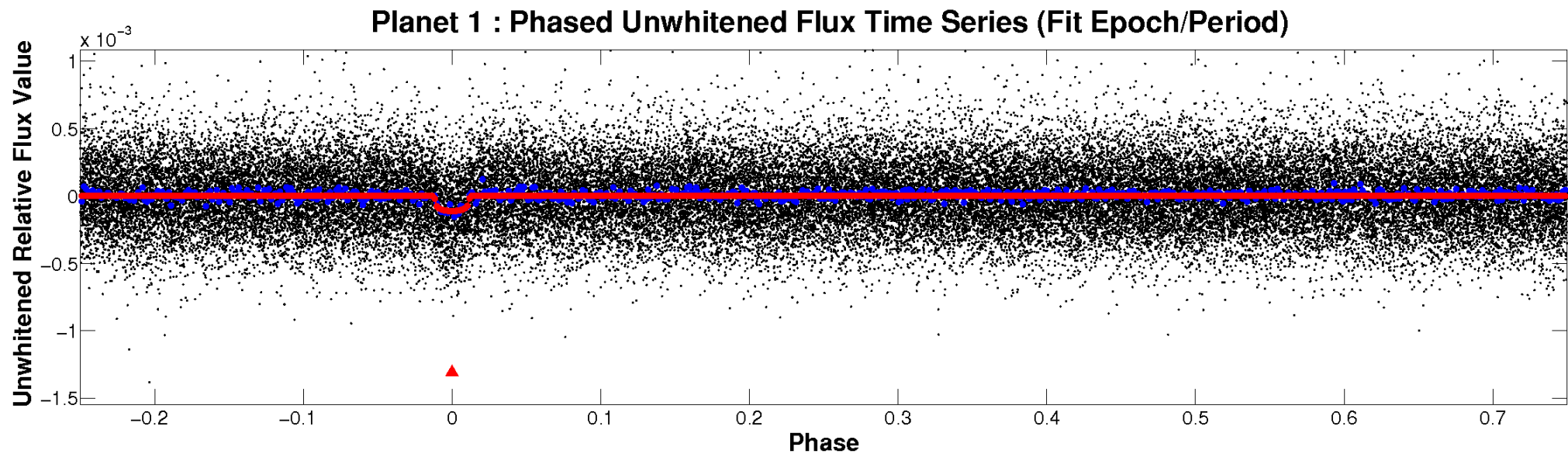


# ALT Odd/Even

TCE 011124436-01

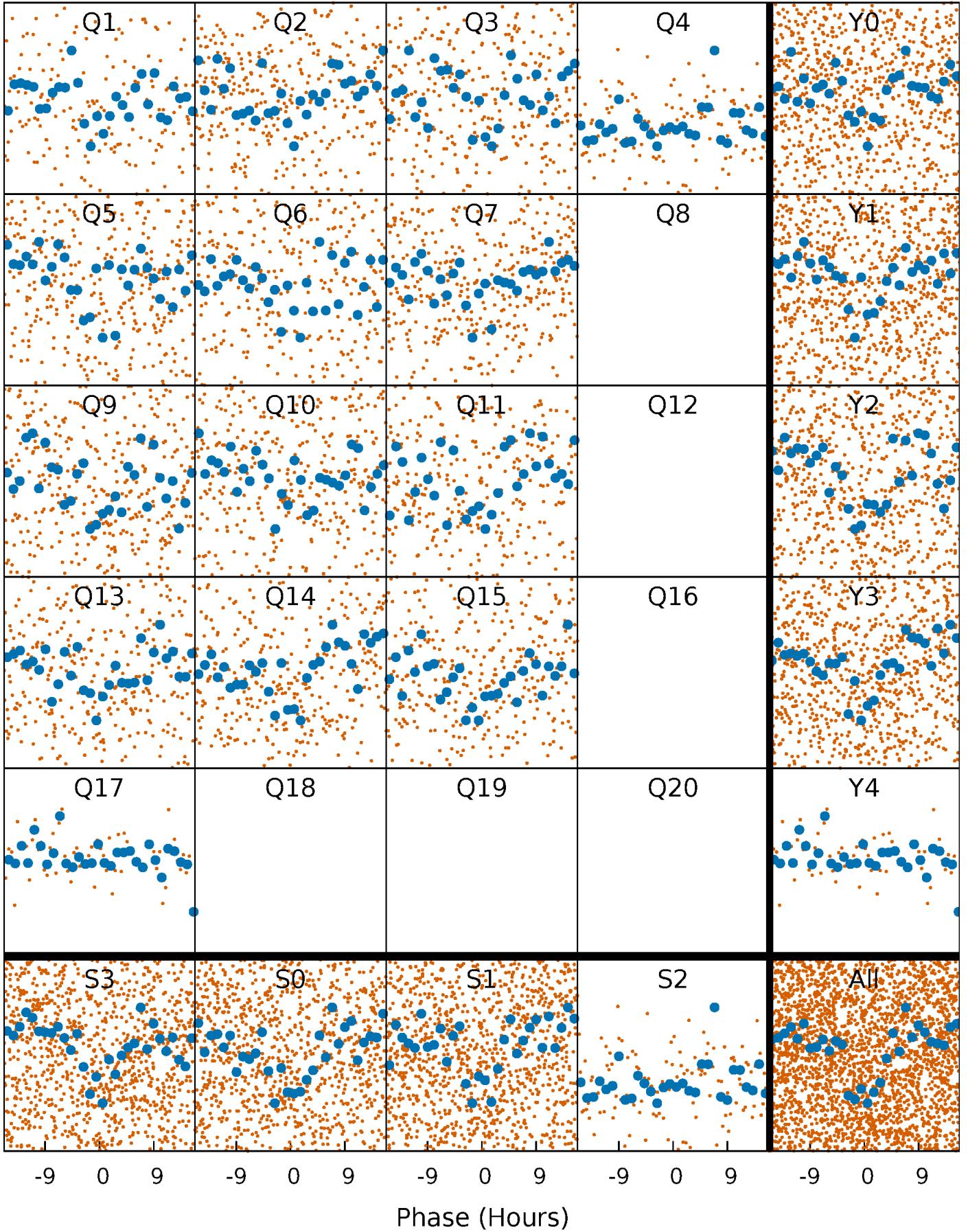


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

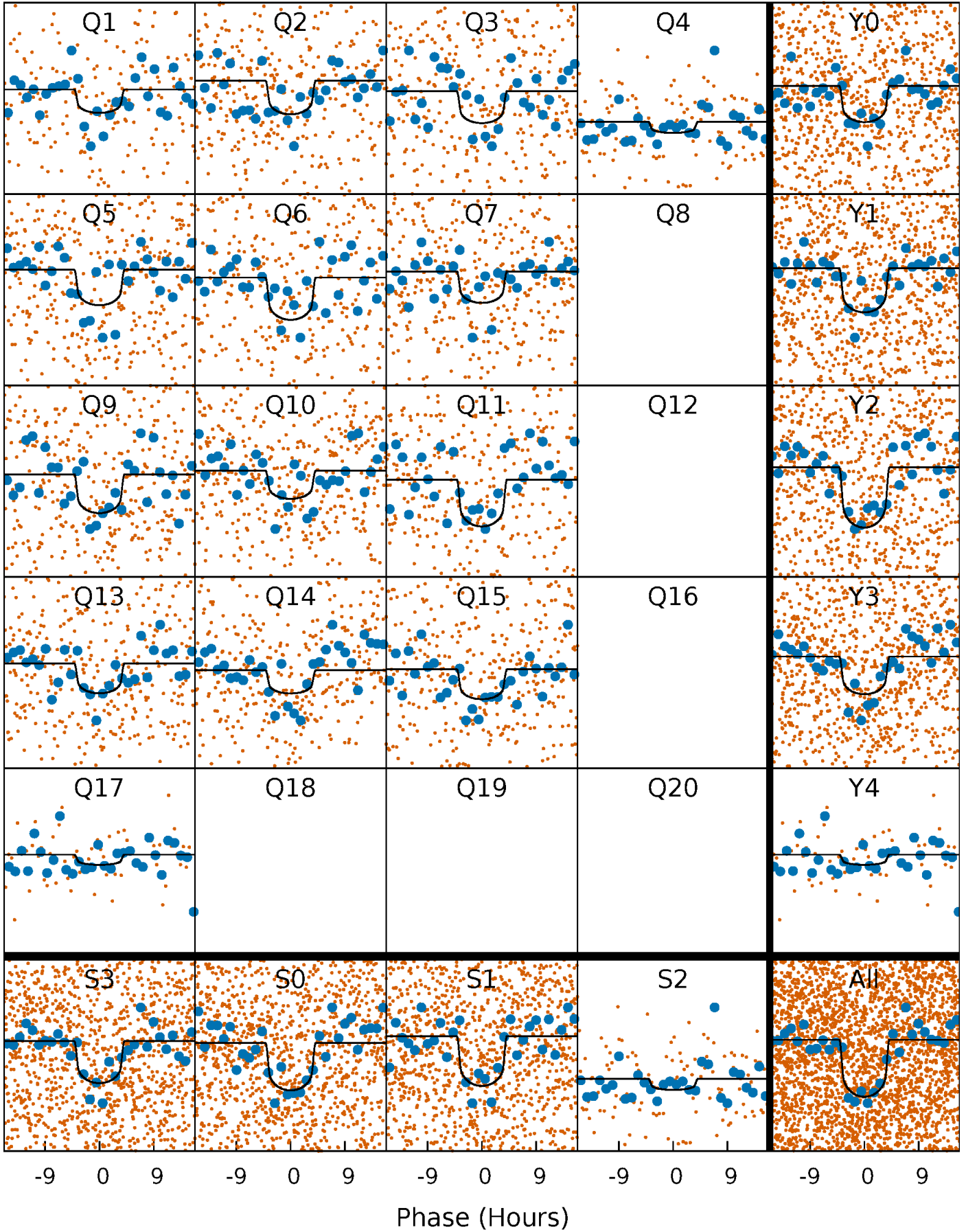
TCE 011124436-01 P= 13.948167 Days  $T_0=132.754528$  (BKJD)





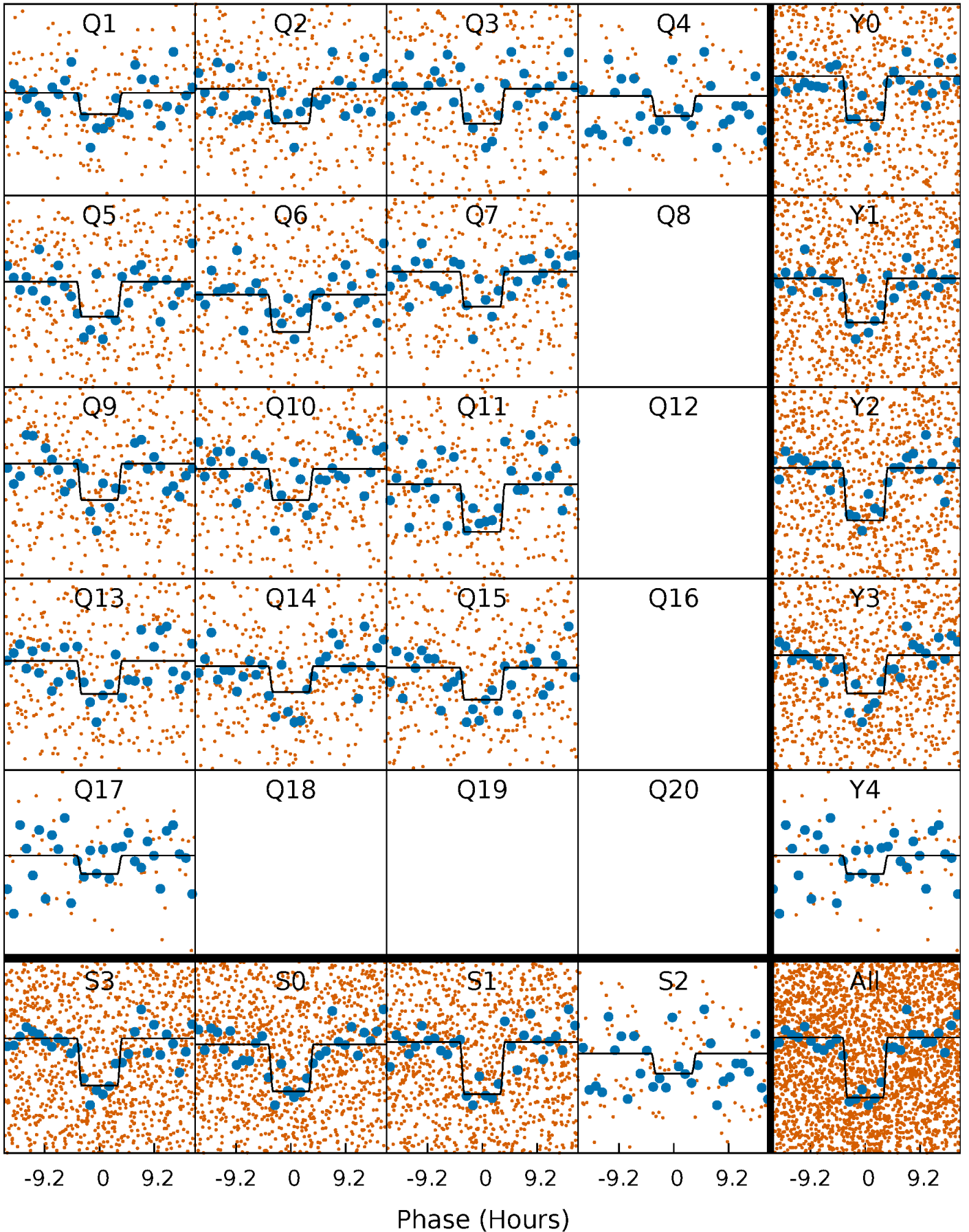
# DV Quarter-Phased Transit Curves

TCE 011124436-01 P= 13.948167 Days  $T_0=132.754528$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

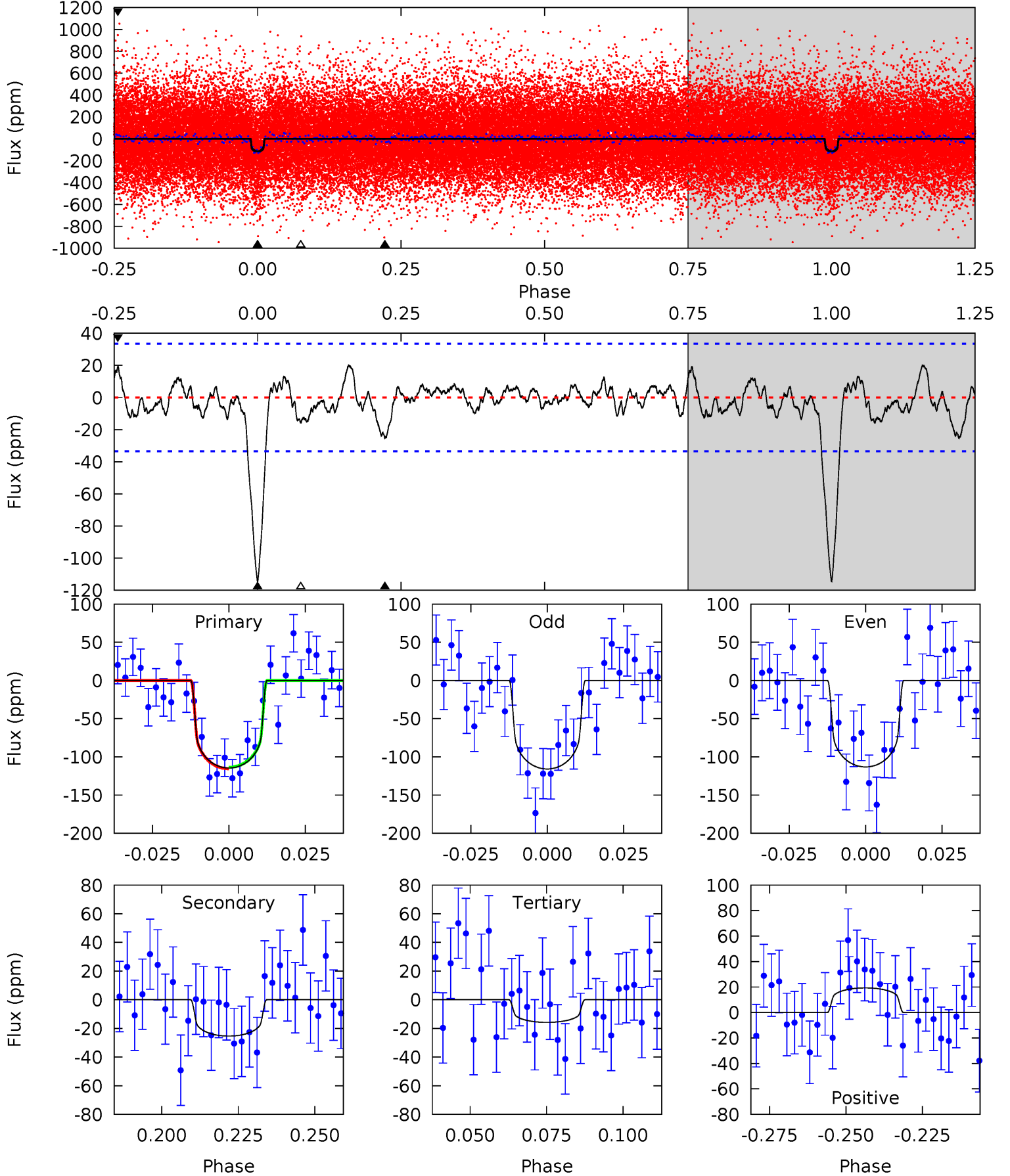
TCE 011124436-01 P= 13.948056 Days  $T_0=132.765243$  (BKJD)



# DV Model-Shift Uniqueness Test

011124436-01,  $P = 13.948167$  Days,  $E = 118.806361$  Days

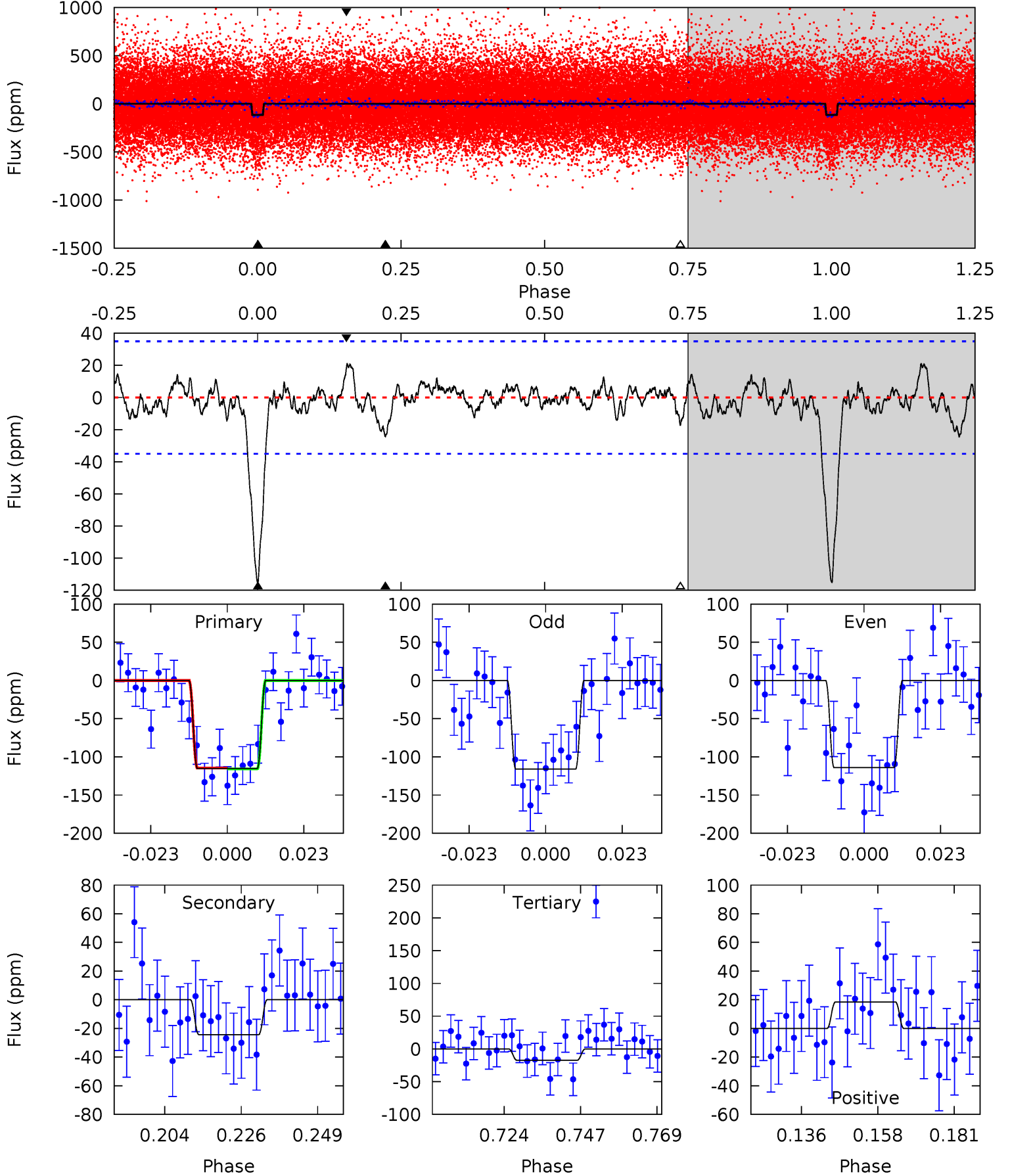
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	3.67	2.29	2.80	4.85	2.24	0.96	14.3	13.8	1.38	0.87	0.19	1.08	0.15	0.14



# Alt Model-Shift Uniqueness Test

011124436-01, P = 13.948056 Days, E = 118.817187 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
16.0	3.38	2.42	2.56	4.87	2.28	0.86	13.6	13.4	0.96	0.81	0.14	1.12	0.15	0.07



### Stellar Parameters For KIC 011124436

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5529^{+91}_{-75}$	$3.808^{+0.217}_{-0.078}$	$0.140^{+0.150}_{-0.150}$	$2.346^{+0.389}_{-0.722}$	$1.291^{+0.129}_{-0.257}$	$0.141^{+0.193}_{-0.044}$
	+2%/-1%	+6%/-2%	+107%/-107%	+17%/-31%	+10%/-20%	+137%/-31%
Source	SPE90	SPE90	SPE90	DSEP		

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

### Secondary Eclipse Parameters for KIC 011124436-01 / KOI 4442.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-25 \pm 7$	$2.66^{+1.12}_{-1.05}$	$1464^{+65}_{-94}$	$4006^{+836}_{-460}$	$29^{+50}_{-15}$
Alt.	$-24 \pm 7$	$2.75^{+1.08}_{-1.04}$	$1468^{+70}_{-99}$	$3939^{+767}_{-423}$	$26^{+38}_{-13}$

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



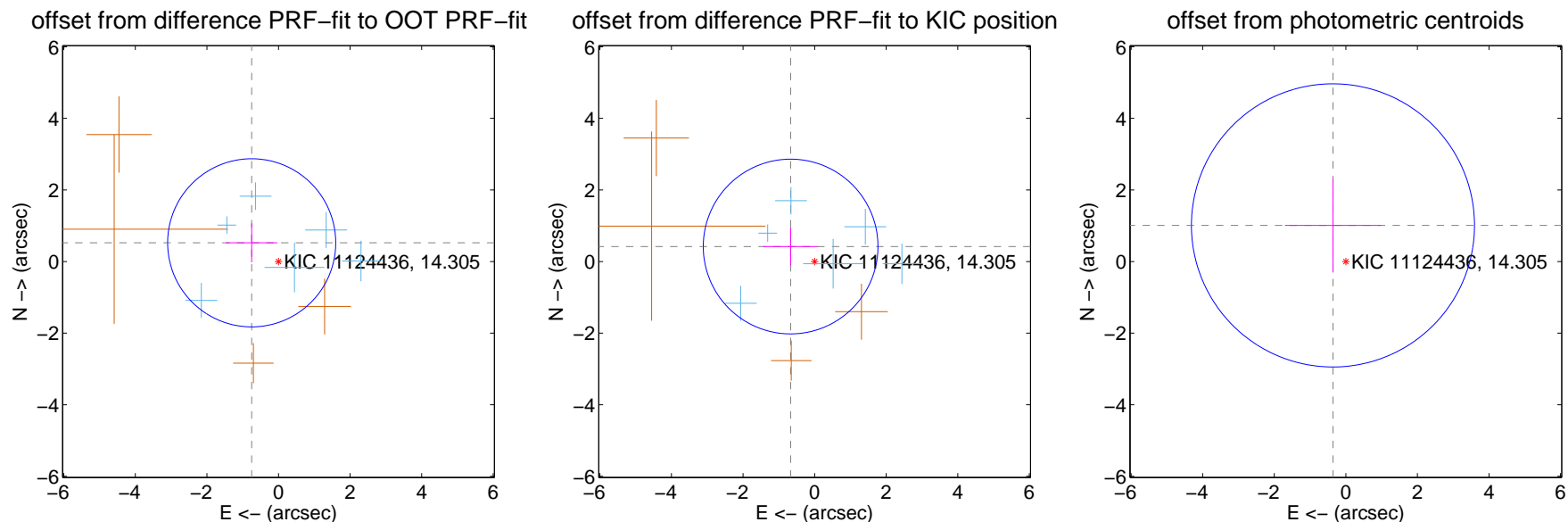
## DV Centroid Data

Supplemental centroid analysis for 011124436-01. Kepler magnitude: 14.30. Transit SNR 11.35

There are 6 quarters with good PRF difference image offsets

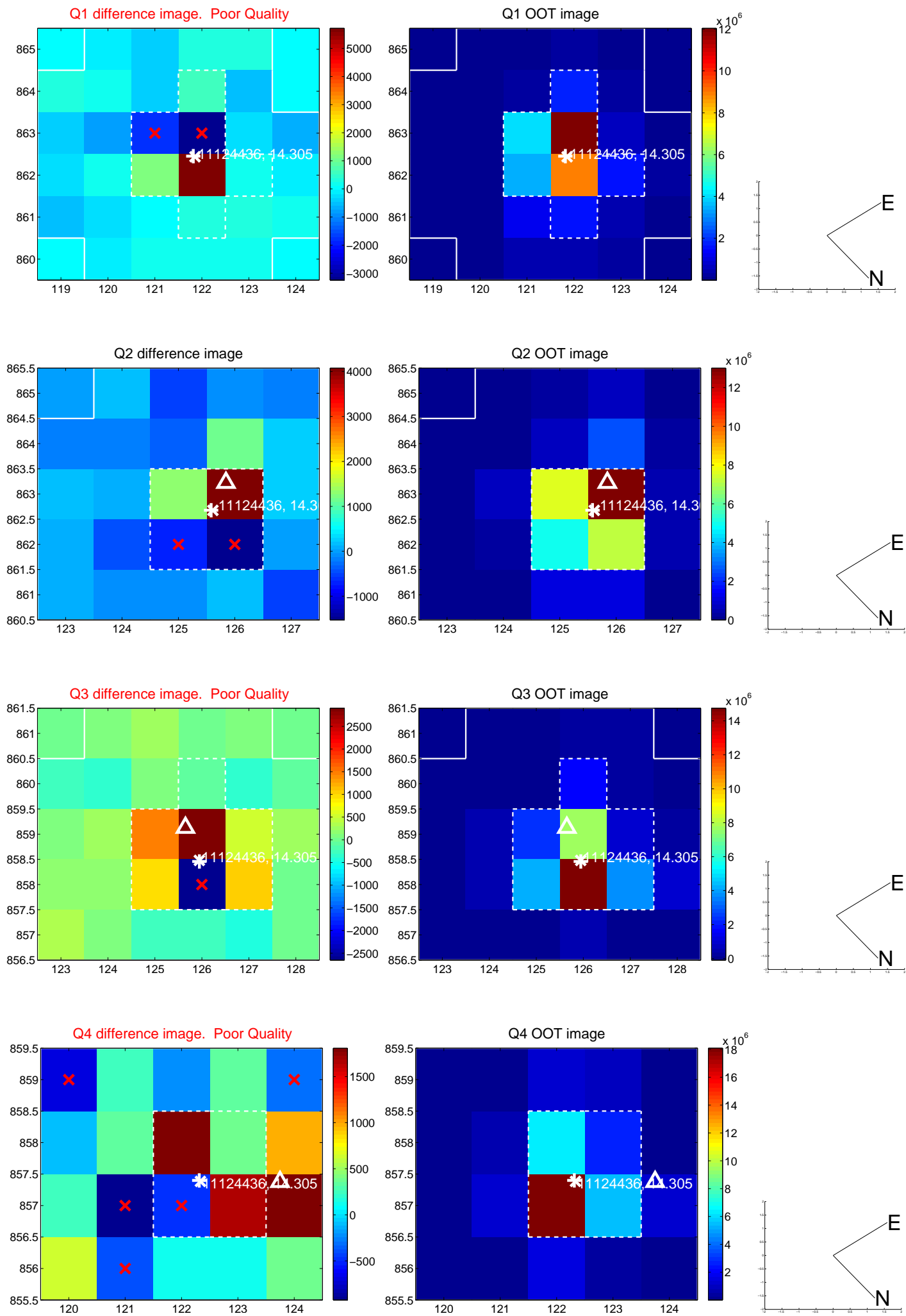
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.914 \pm 0.783$	1.17	$0.749 \pm 0.719$	$0.523 \pm 0.544$
PRF-fit source offset from KIC position	$0.790 \pm 0.813$	0.97	$0.670 \pm 0.763$	$0.419 \pm 0.531$
photometric centroid source offset	$1.07 \pm 1.32$	0.81	$0.36 \pm 1.34$	$1.01 \pm 1.31$

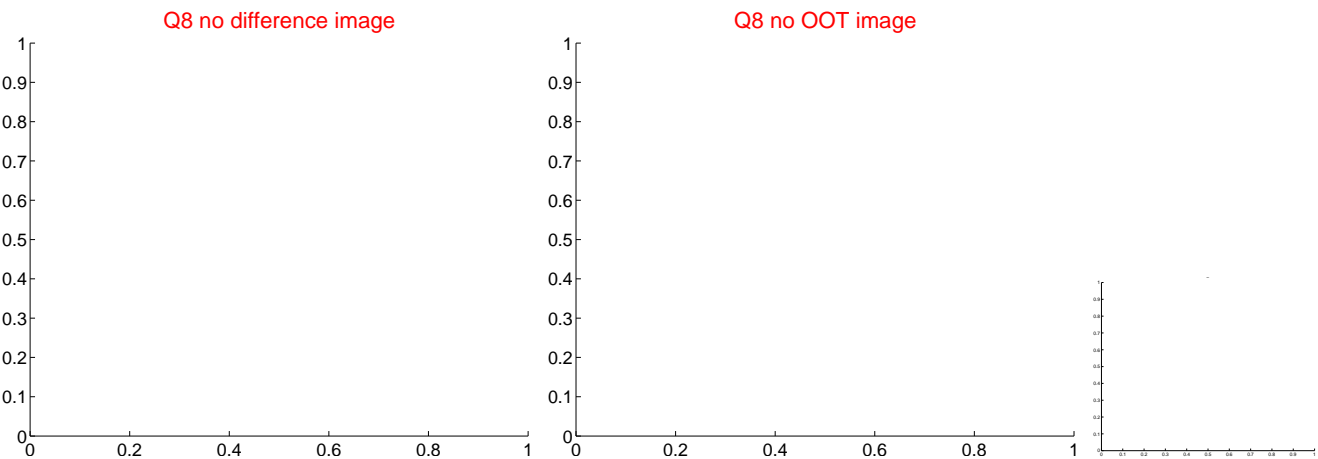
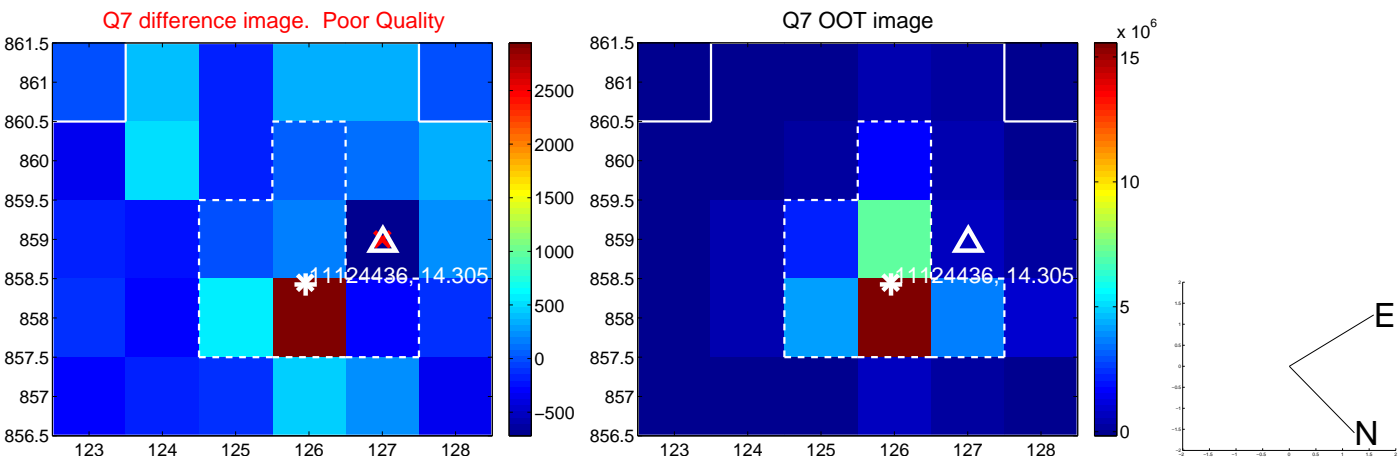
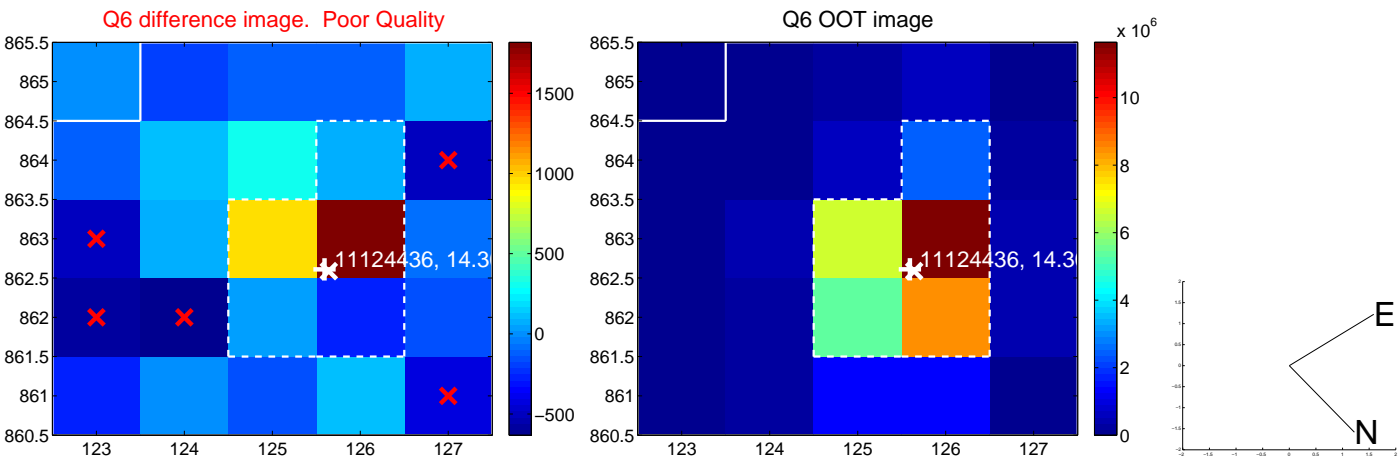
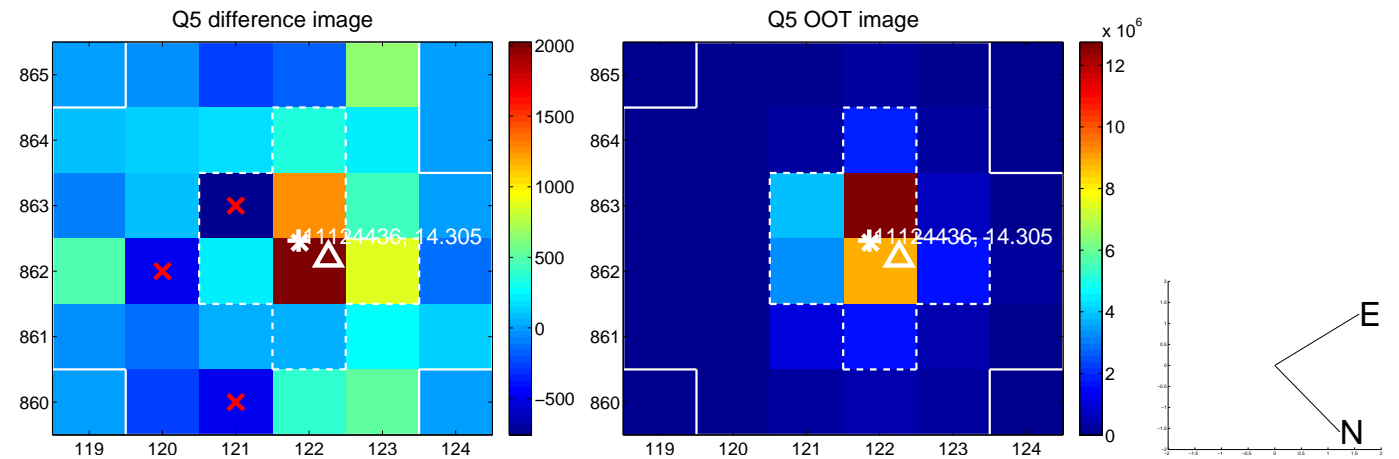


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

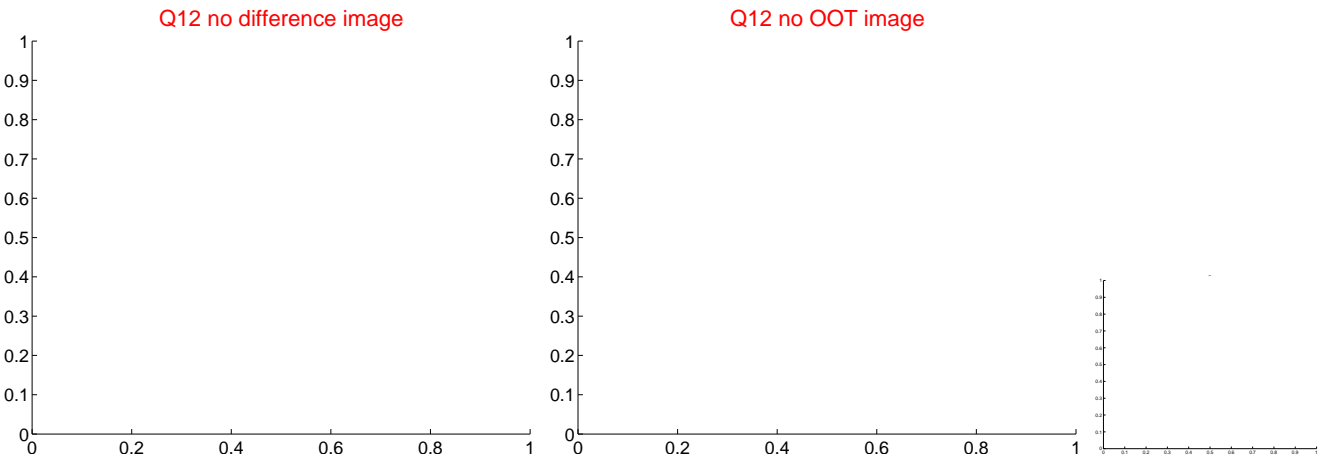
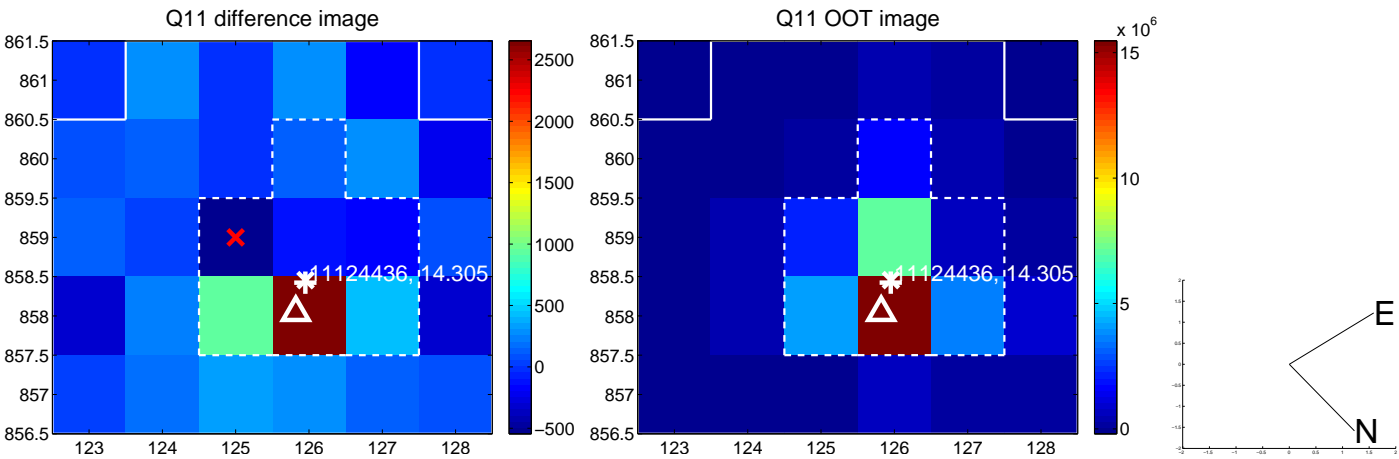
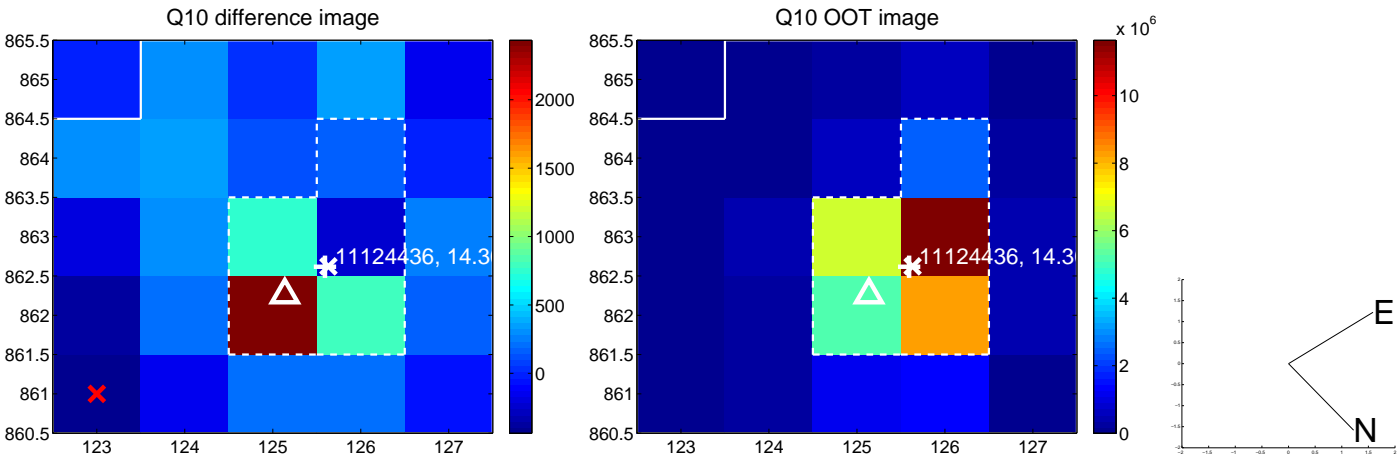
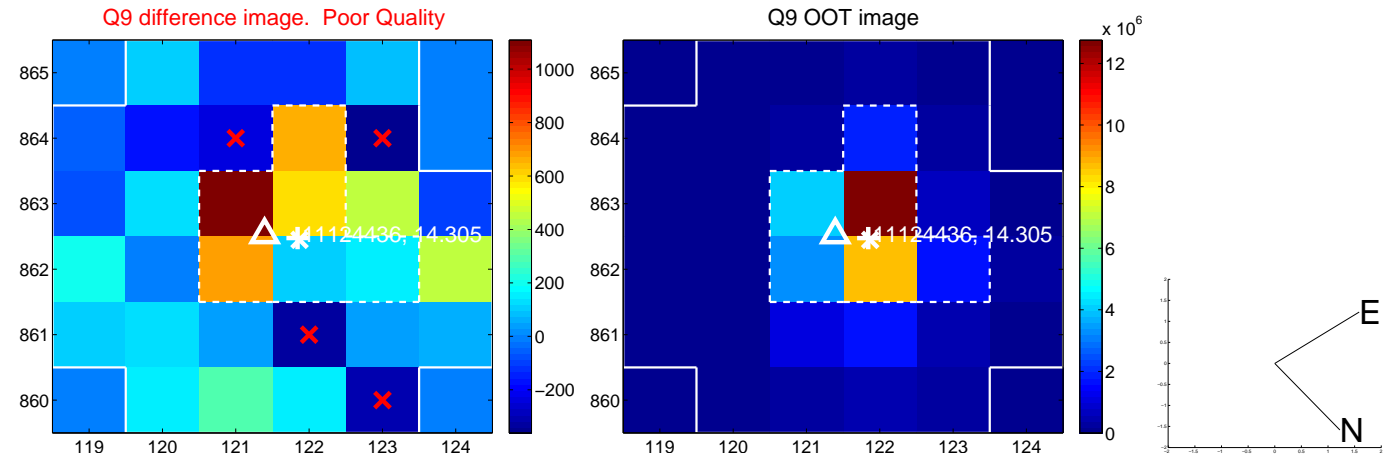
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



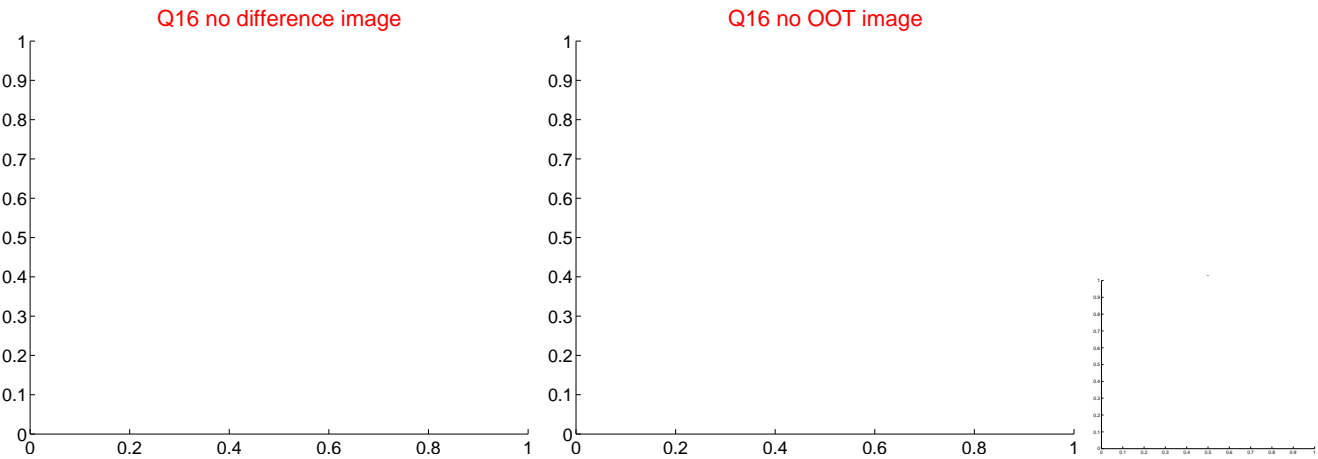
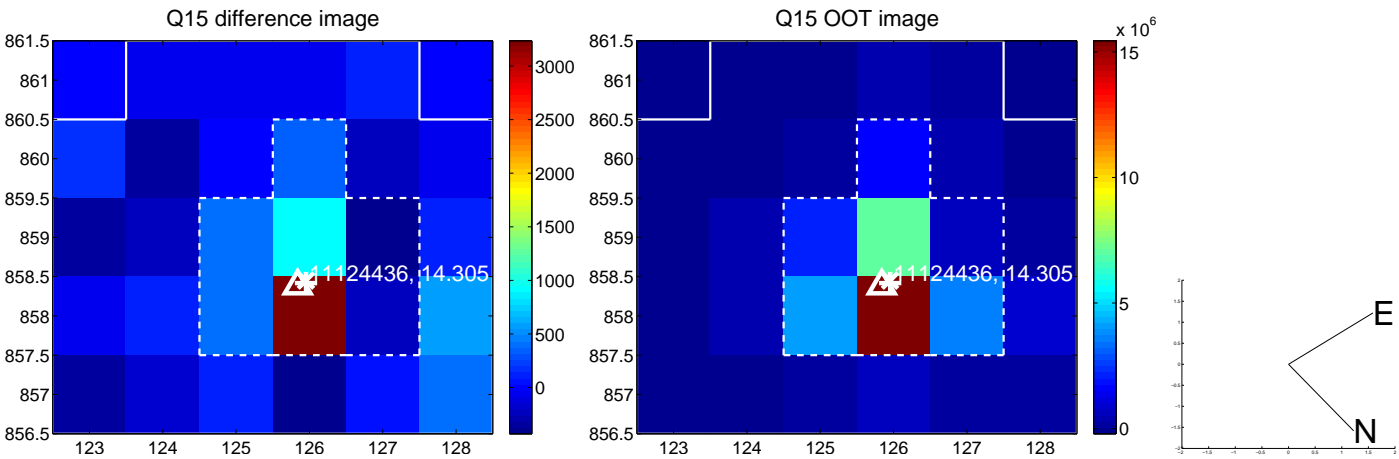
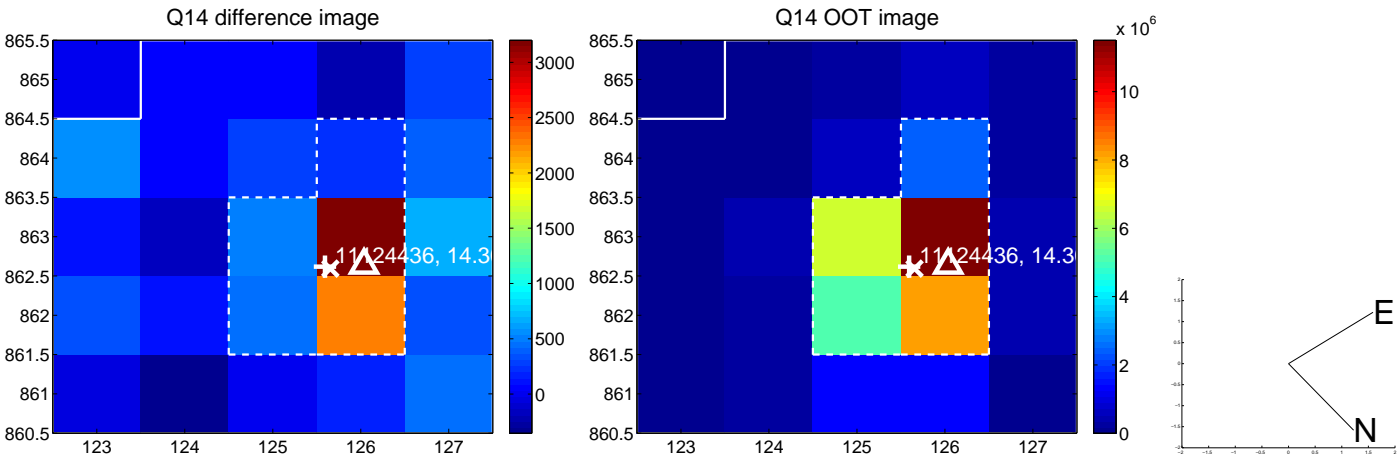
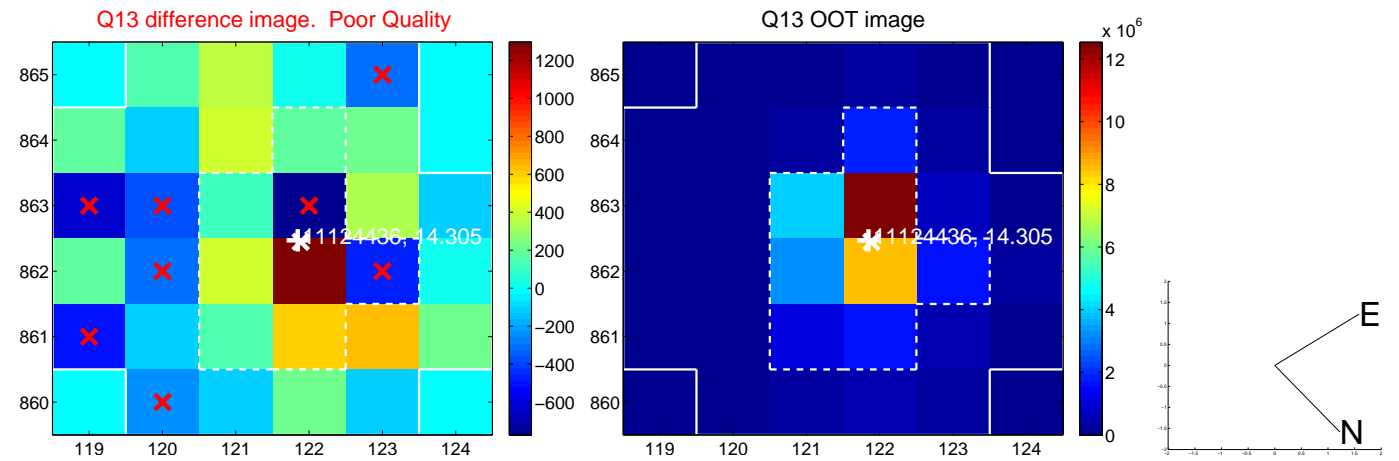
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

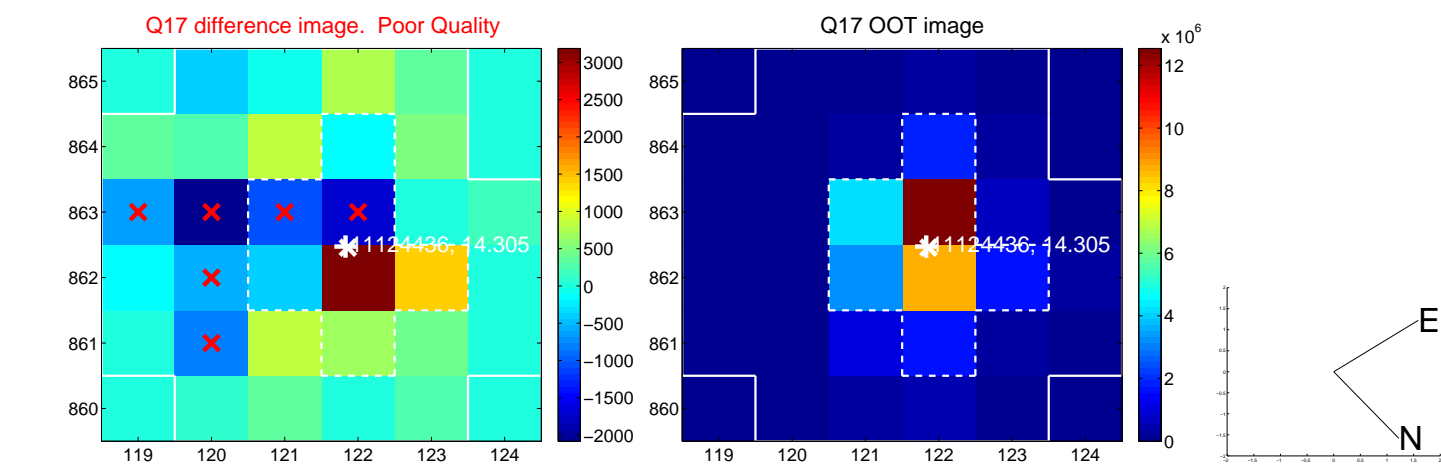


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

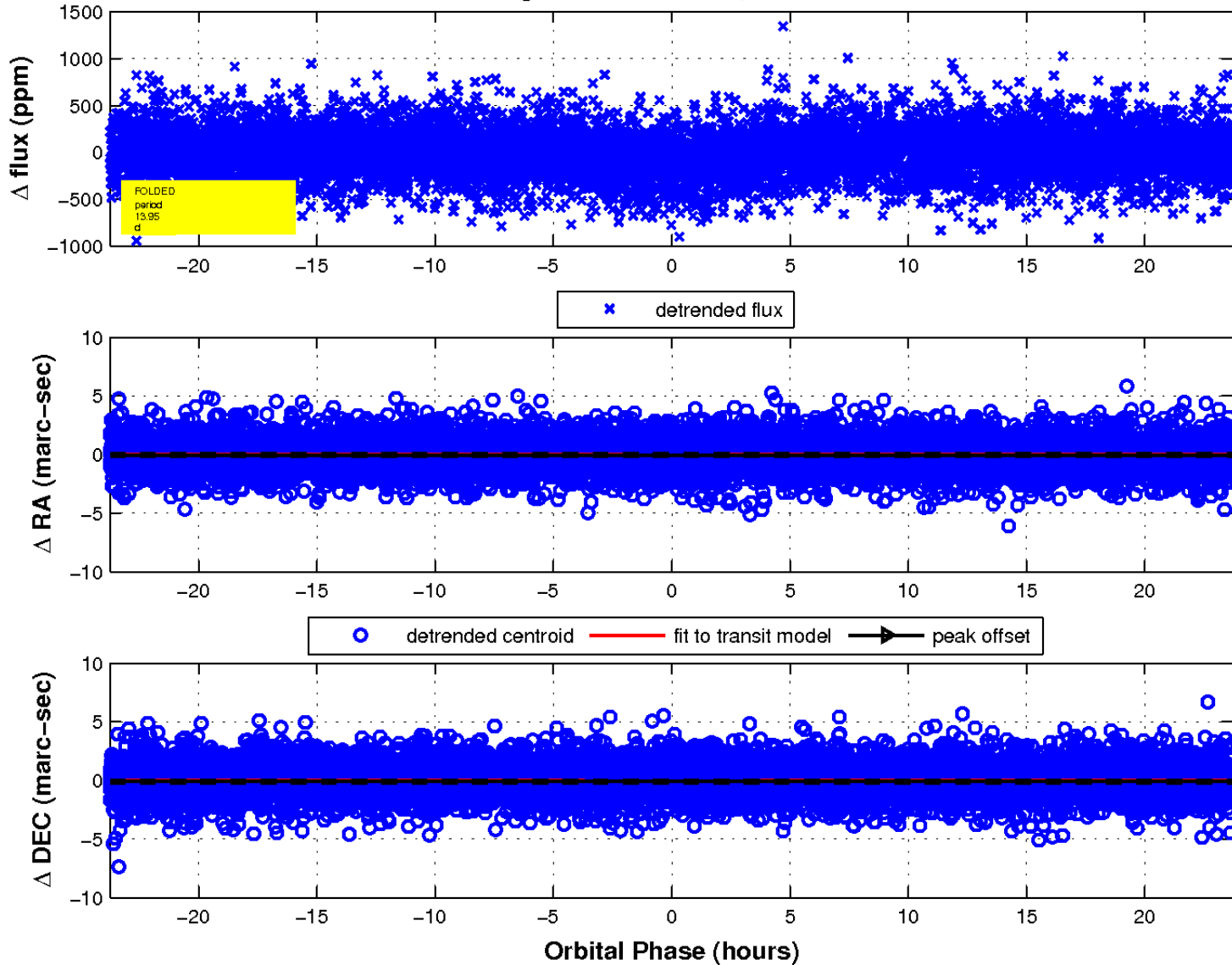




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

