

# KIC 011724094

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011724094-01	OBS	8064.01	1.476232	131.595955	30.8	2.283	8.2	7.9	1.11	6325	0.72	2498.43

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011724094-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT

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

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

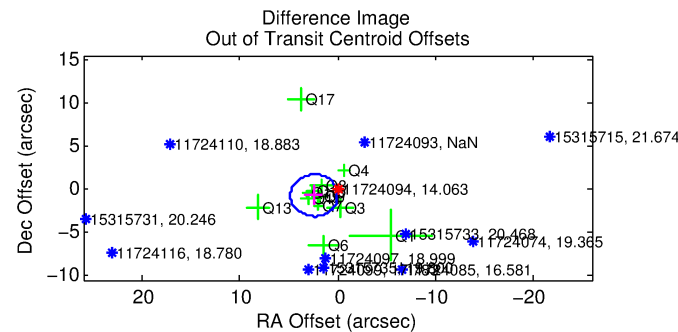
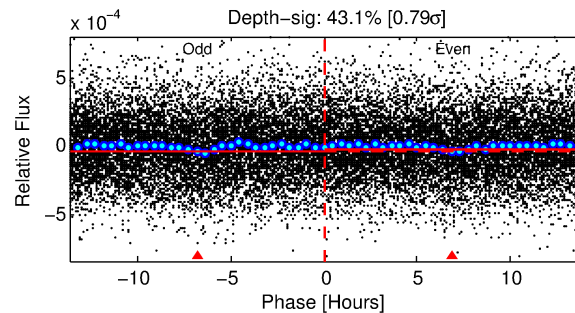
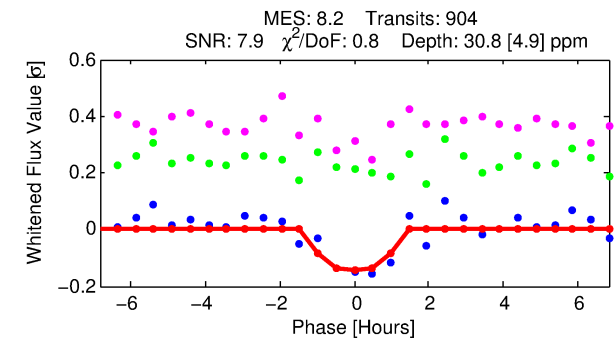
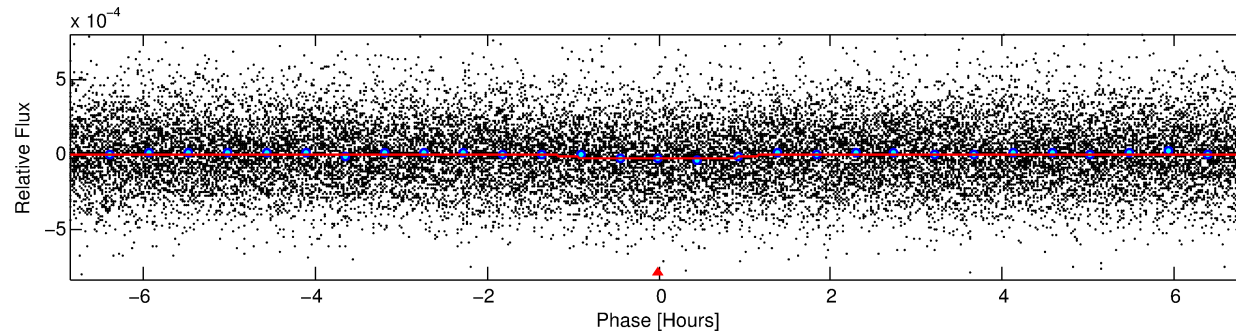
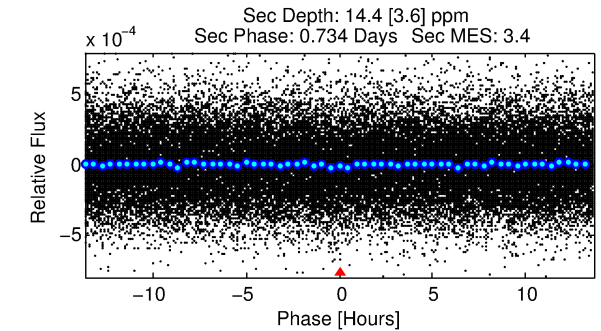
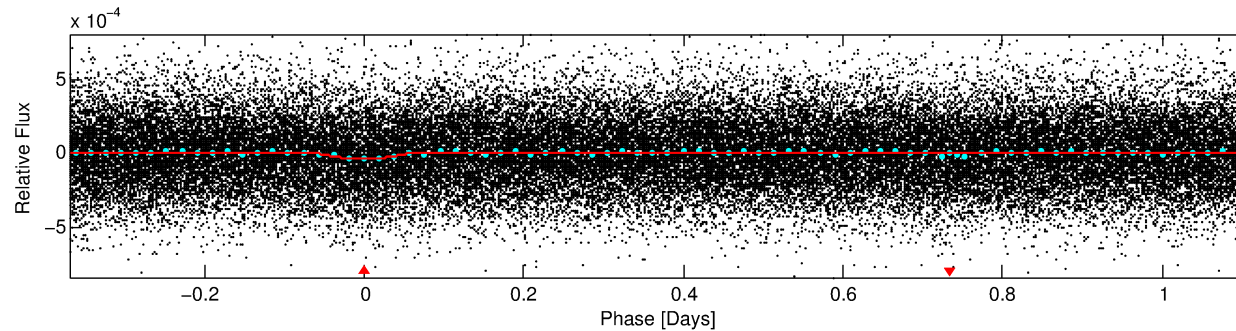
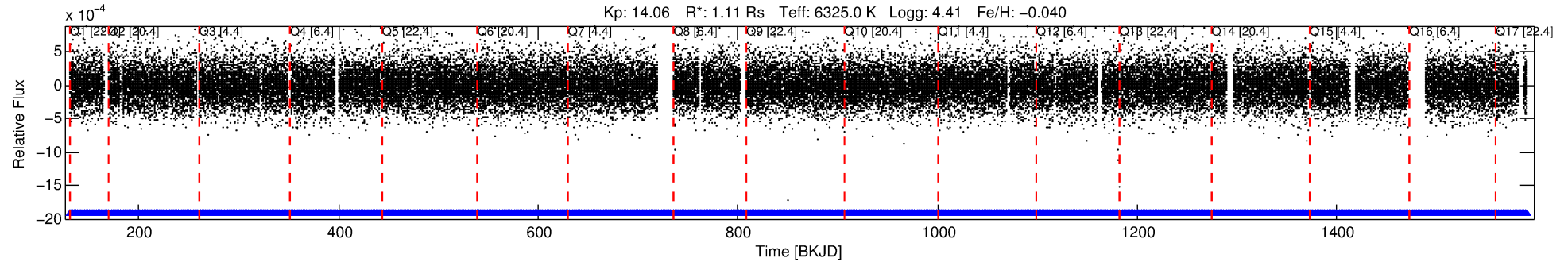
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011724094-01

No Significant Match Found

# DV One-Page Summary

KIC: 11724094 Candidate: 1 of 1 Period: 1.476 d



## DV Fit Results:

Period = 1.47623 [0.00002] d  
Epoch = 131.5960 [0.0043] BKJD  
Rp/R\* = 0.0060 [0.0033]  
a/R\* = 2.41 [6.08]  
b = 0.90 [0.66]  
Seff = 2498.43 [992.31]  
Teq = 1803 [179] K  
Rp = 0.72 [0.46] Re  
a = 0.0266 [0.0070] AU  
Ag = 10.71 [12.76] [0.76σ]  
Teffp = 5042 [1435] K [2.24σ]

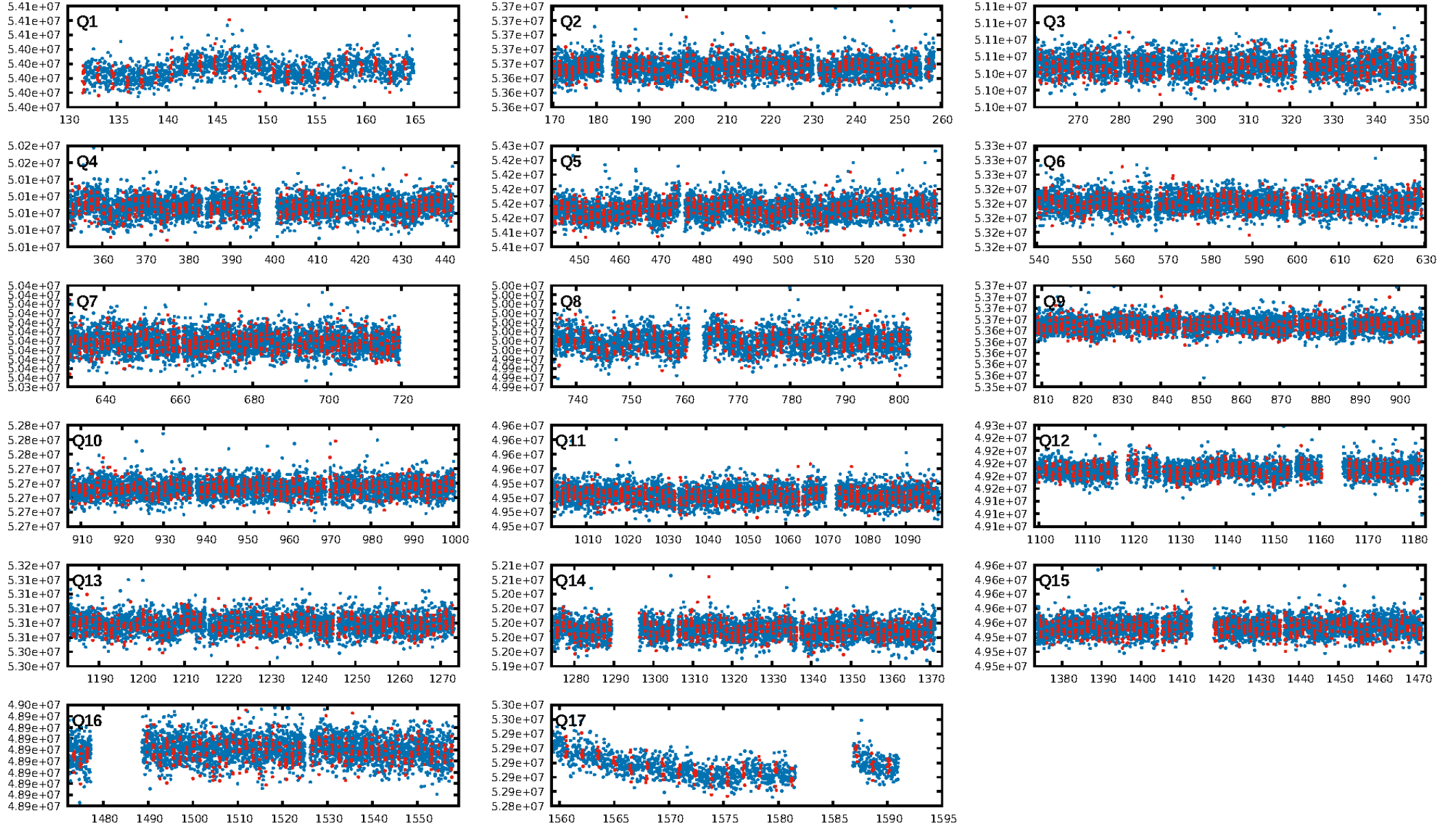
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.24e-16  
RollingBand-fgt: 1.00 [863/863]  
GhostDiagnostic-chr: 4.421  
Centroid-sig: 0.3%  
Centroid-so: 4.264 arcsec [2.21σ]  
OotOffset-rm: 2.524 arcsec [3.13σ]  
KicOffset-rm: 2.476 arcsec [3.10σ]  
OotOffset-st: 1/4/3/4 [12]  
KicOffset-st: 1/4/3/4 [12]  
DiffImageQuality-fgm: 0.67 [8/12]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:11:33 Z

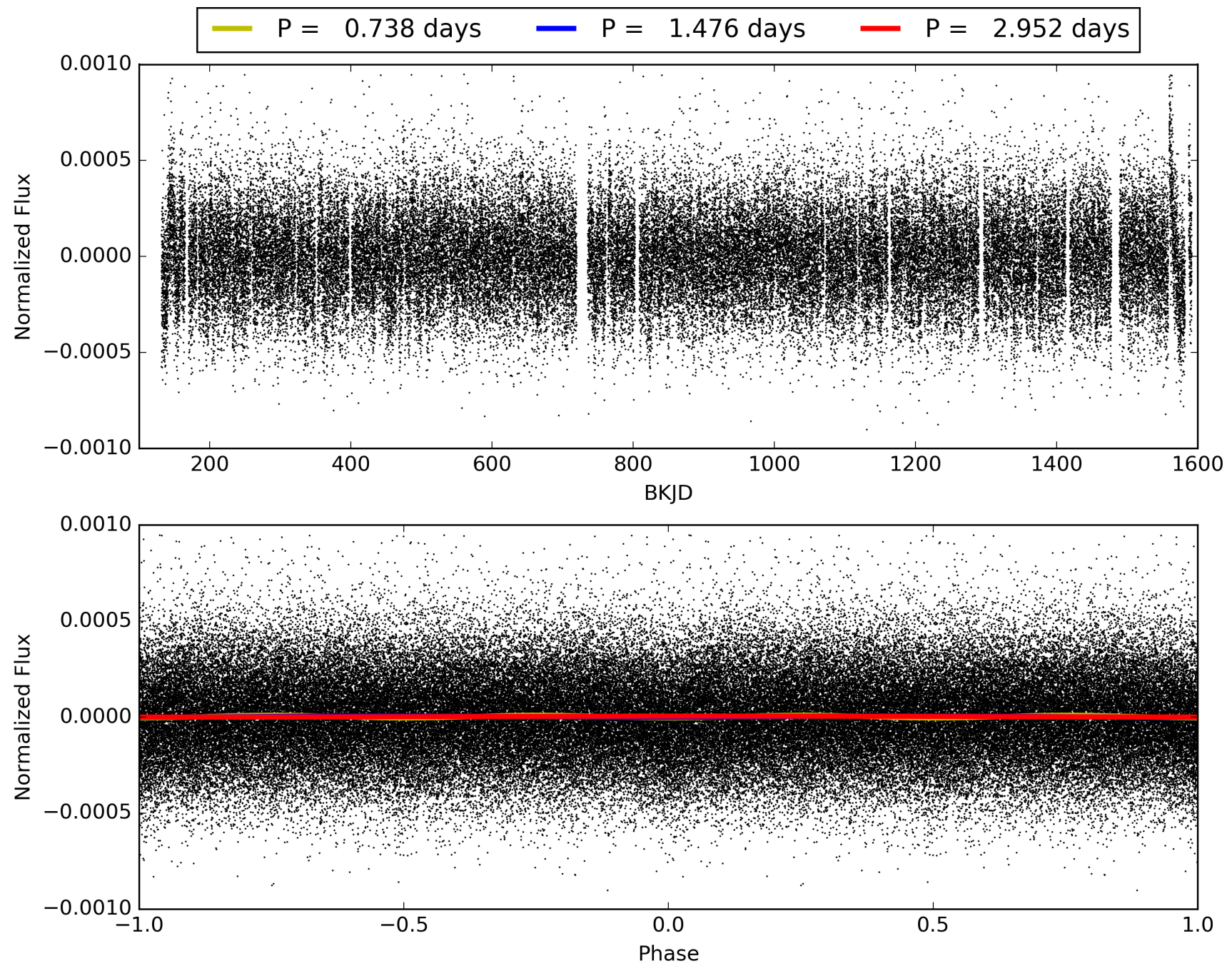
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 011724094-01, PDC Light Curves



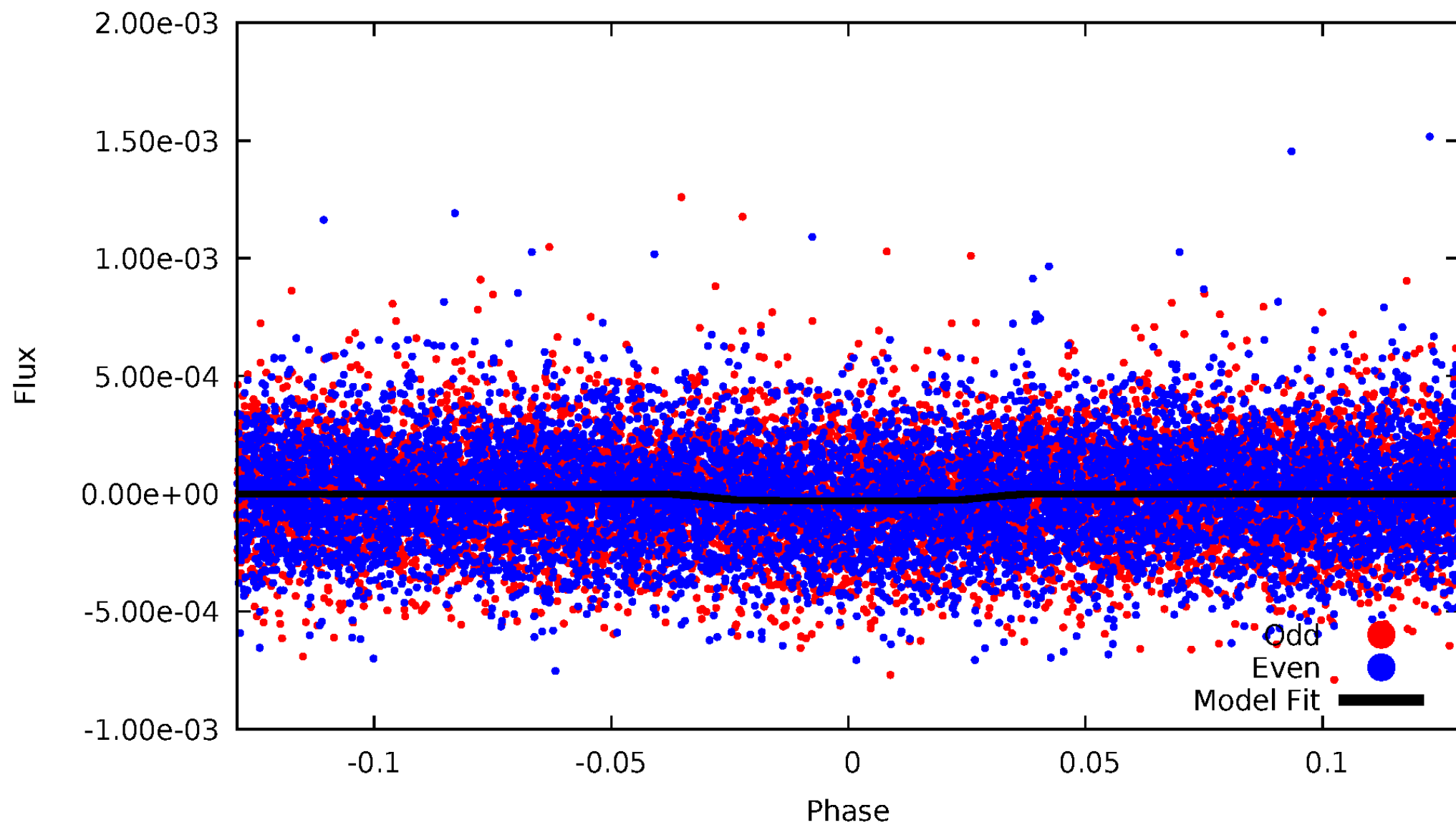


TCE 011724094-01



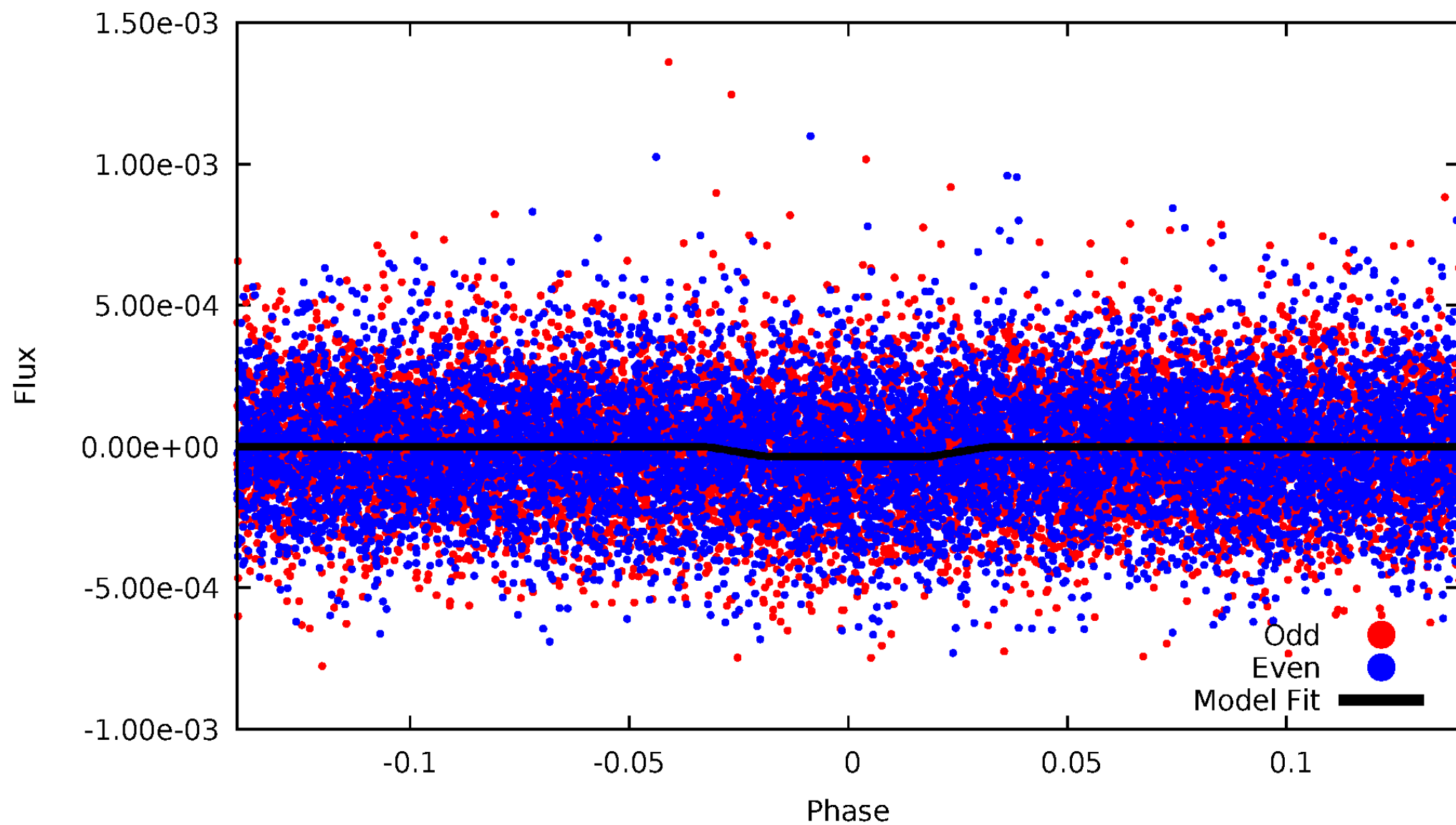
# DV Odd/Even

TCE 011724094-01



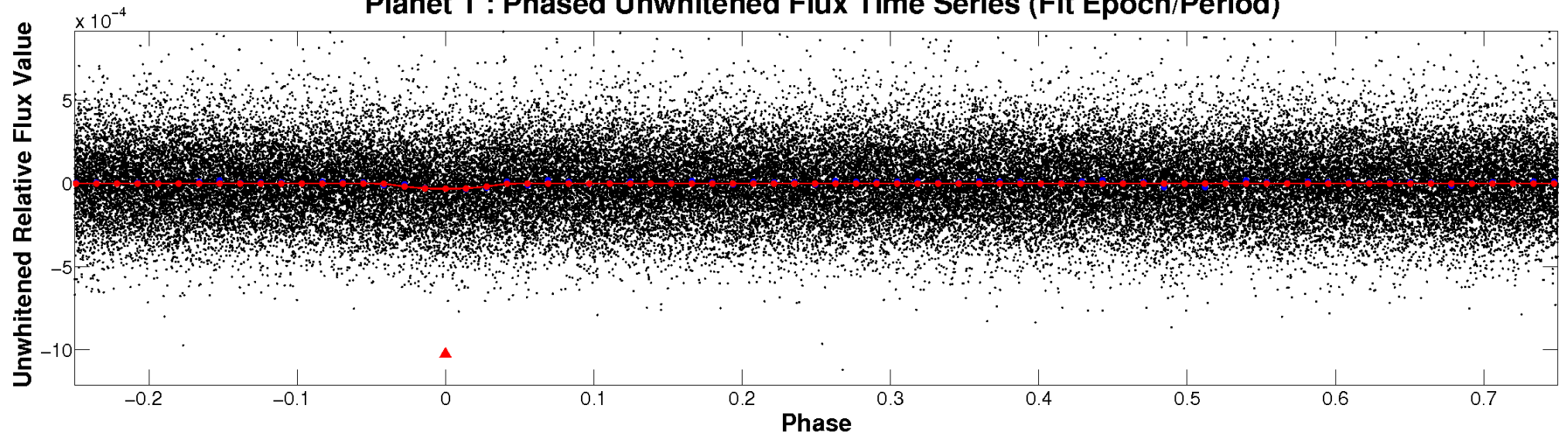
# ALT Odd/Even

TCE 011724094-01

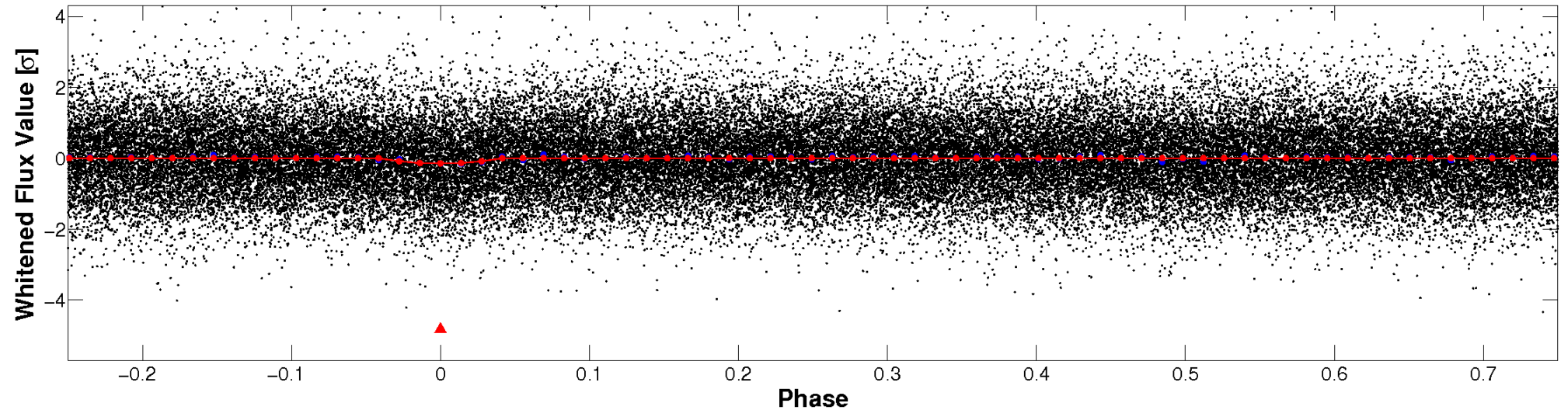


# Non-Whitened Vs. Whitened Light Curve

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



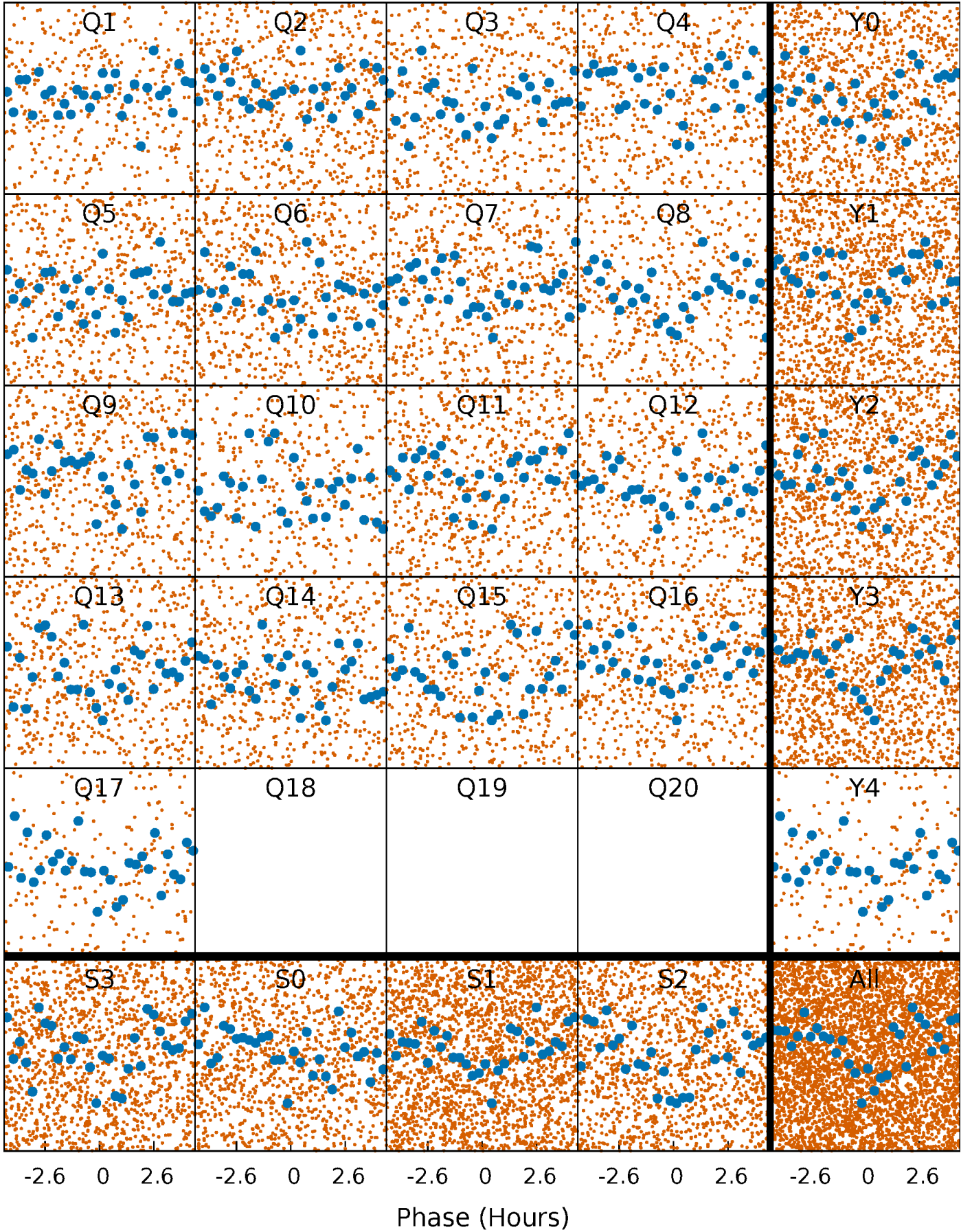
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

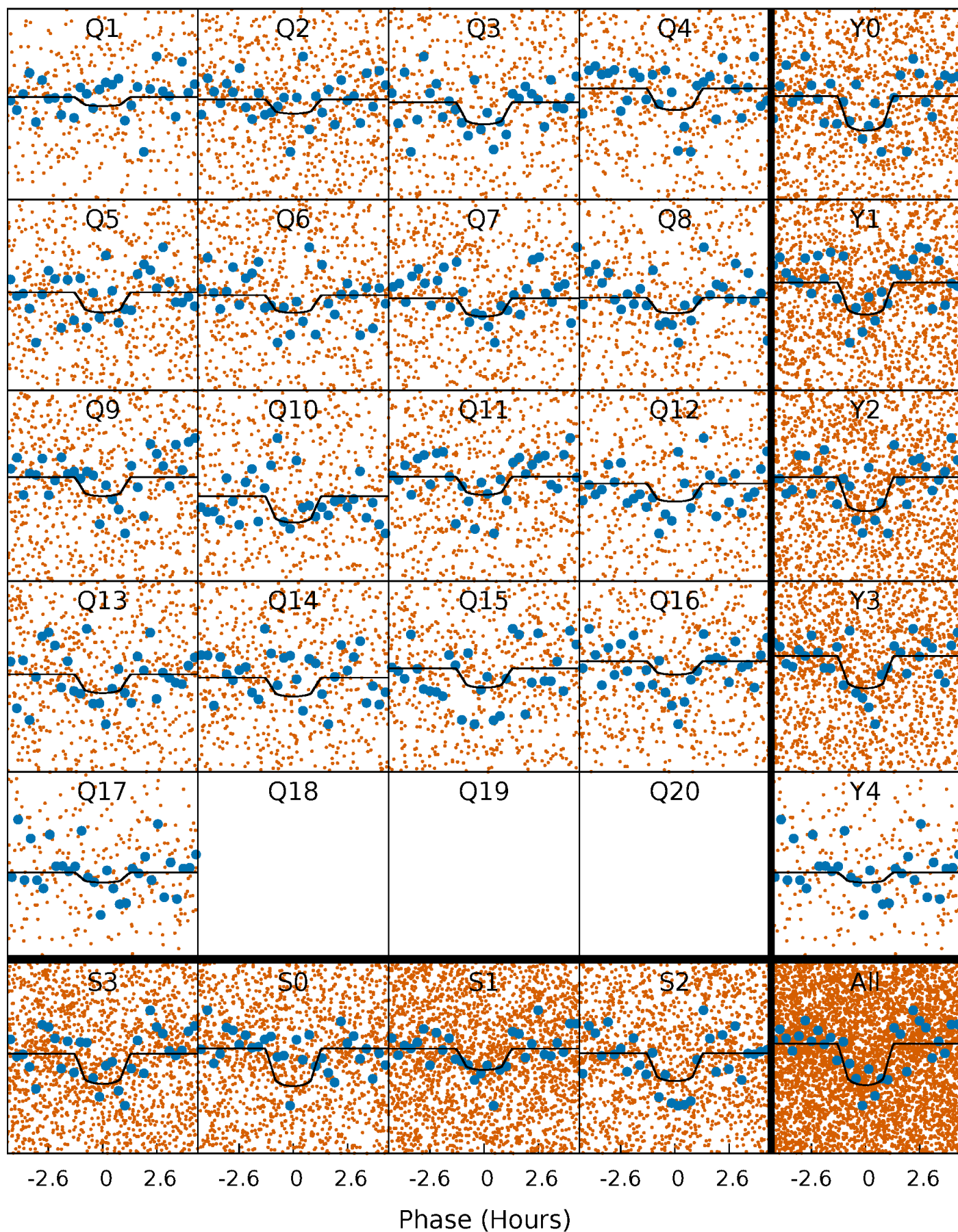
TCE 011724094-01   P= 1.476232 Days    $T_0=131.595955$  (BKJD)





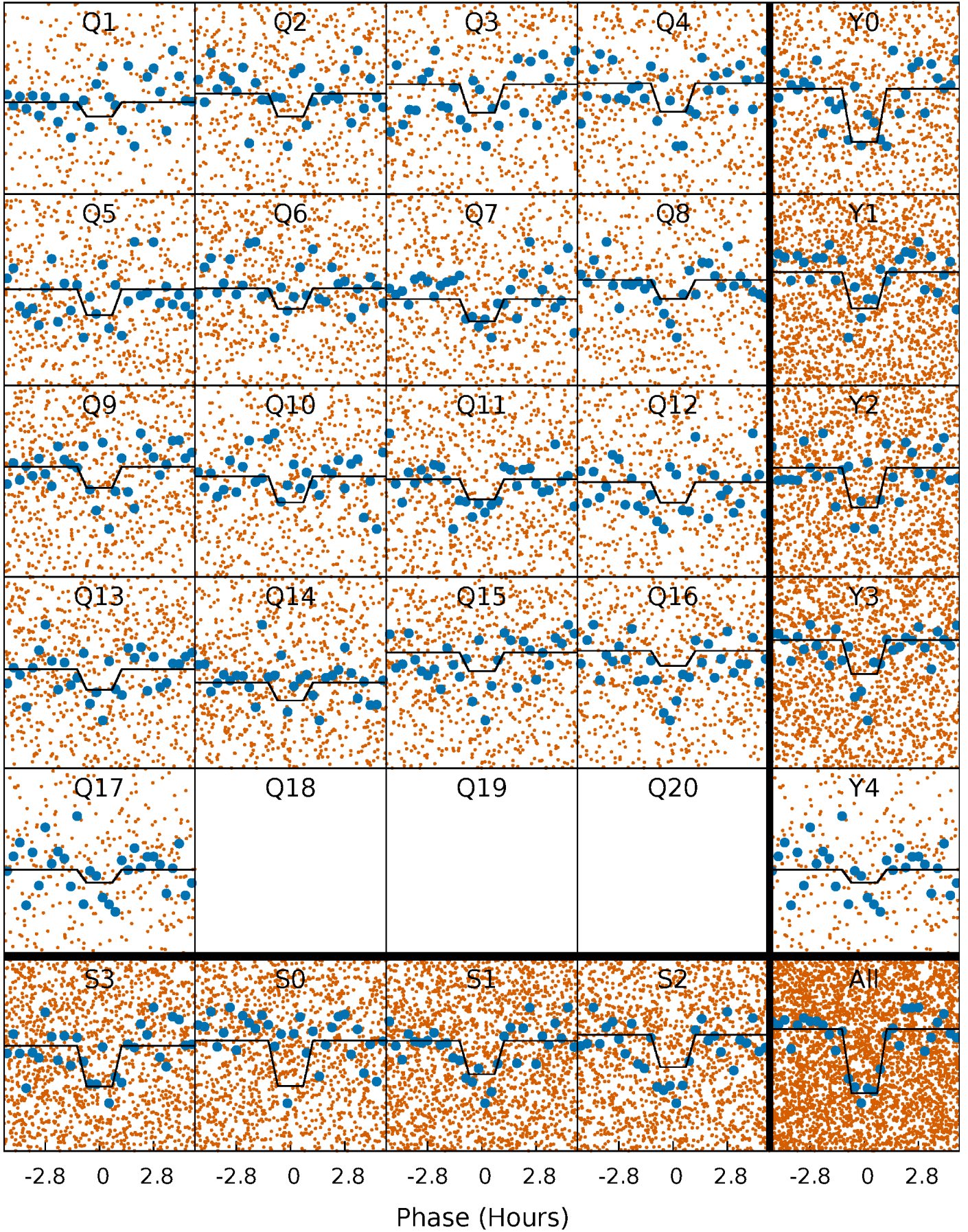
# DV Quarter-Phased Transit Curves

TCE 011724094-01 P= 1.476232 Days  $T_0=131.595955$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

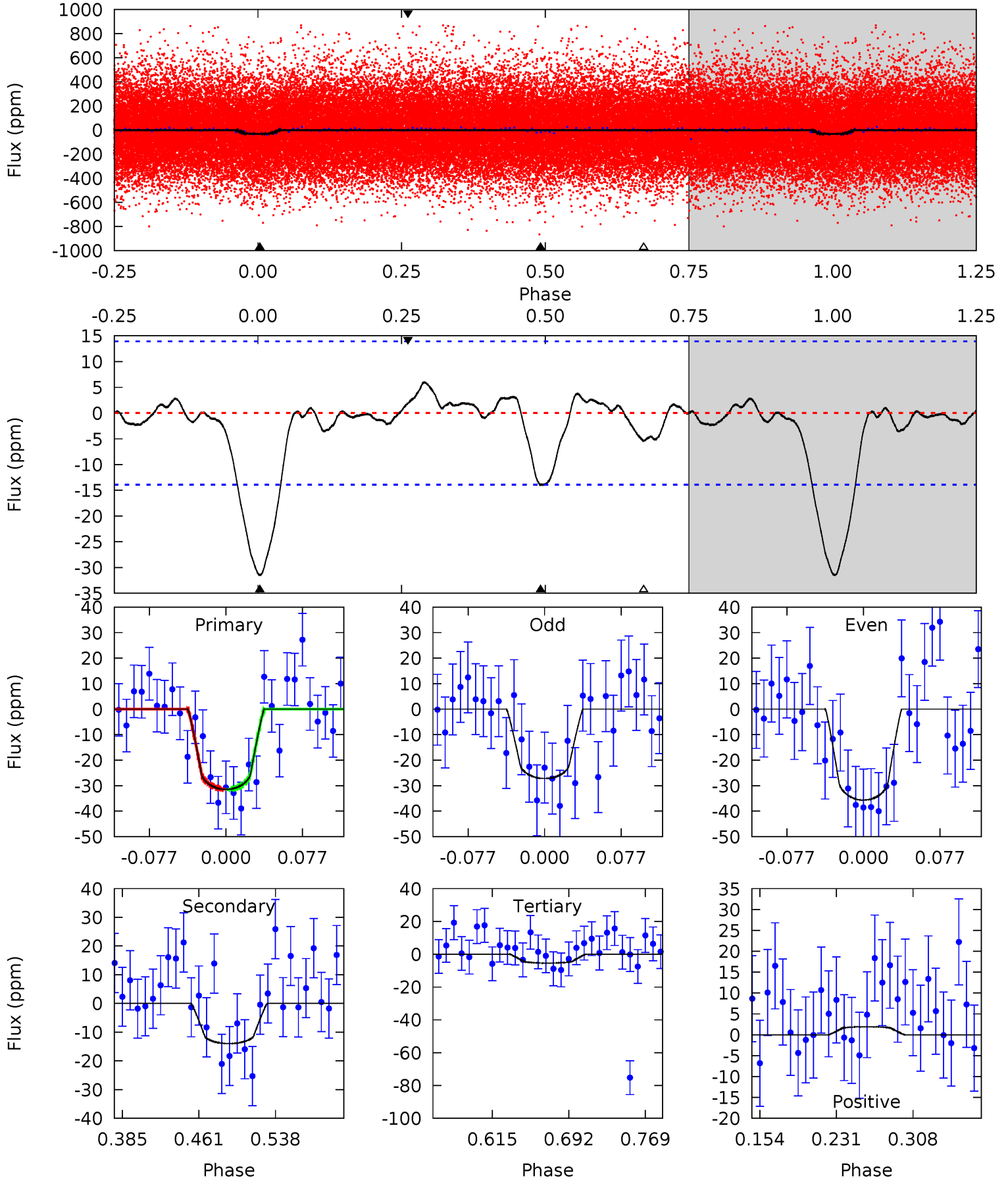
TCE 011724094-01 P= 1.476241 Days  $T_0=131.597325$  (BKJD)



# DV Model-Shift Uniqueness Test

011724094-01, P = 1.476232 Days, E = 130.119723 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
10.4	4.64	1.80	0.64	4.62	1.77	0.72	8.64	9.80	2.84	4.00	1.41	1.09	0.16	0.03

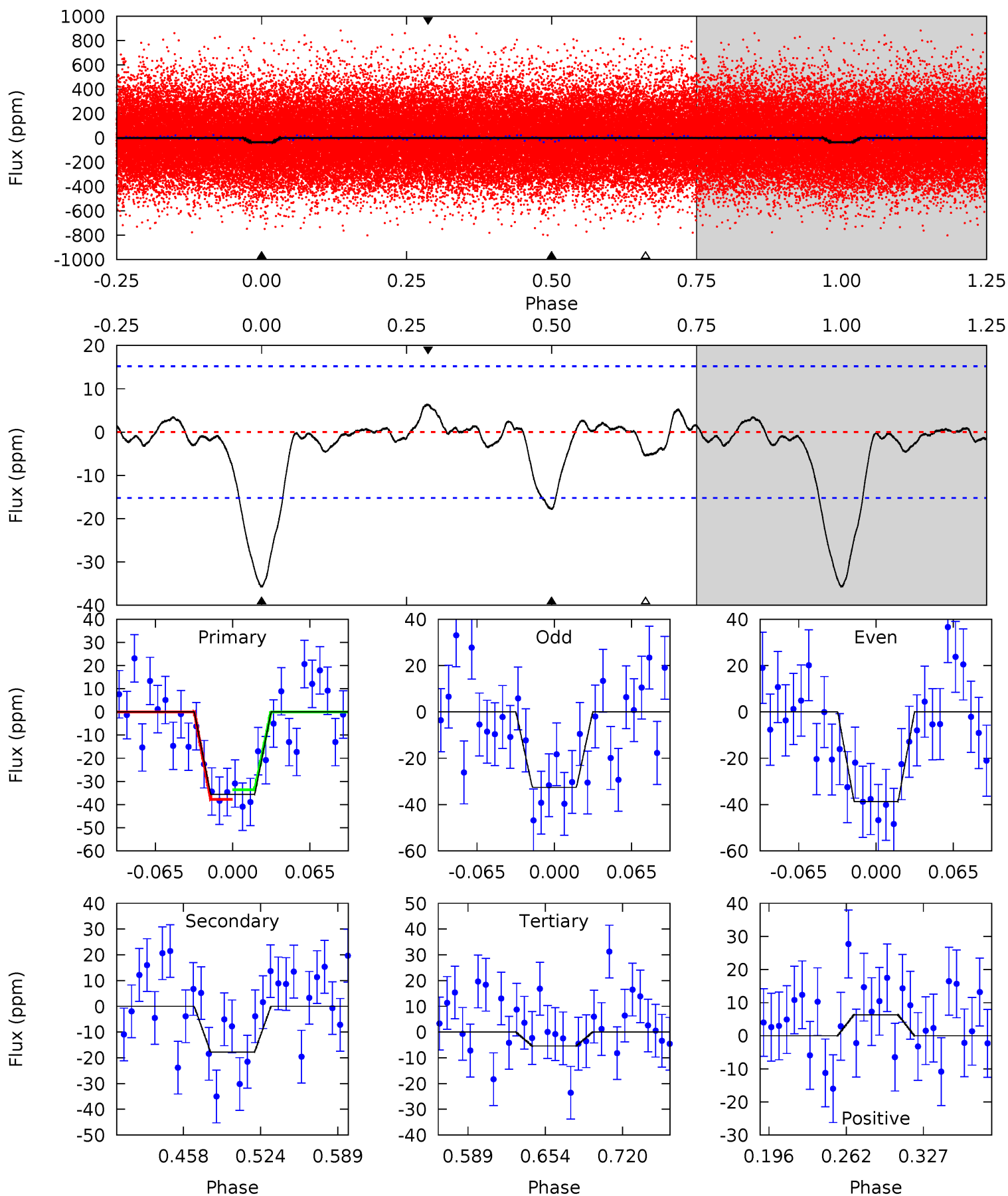




# Alt Model-Shift Uniqueness Test

011724094-01, P = 1.476241 Days, E = 130.121084 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
10.9	5.42	1.65	1.94	4.65	1.84	0.72	9.25	8.96	3.77	3.49	0.94	0.89	0.15	0.63





### Stellar Parameters For KIC 011724094

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6325^{+168}_{-205}$	$4.409^{+0.067}_{-0.202}$	$-0.040^{+0.250}_{-0.300}$	$1.112^{+0.353}_{-0.118}$	$1.157^{+0.157}_{-0.157}$	$1.184^{+0.343}_{-0.634}$
	+3%/-3%	+2%/-5%	+625%/-750%	+32%/-11%	+14%/-14%	+29%/-54%
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 011724094-01 / KOI 8064.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-14 \pm 3$	$0.80^{+0.43}_{-0.40}$	$2561^{+189}_{-127}$	$4921^{+1923}_{-826}$	$8.498^{+23.991}_{-5.033}$
Alt.	$-18 \pm 3$	$0.75^{+0.43}_{-0.37}$	$2573^{+190}_{-130}$	$5295^{+2295}_{-890}$	$12^{+35}_{-7}$

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

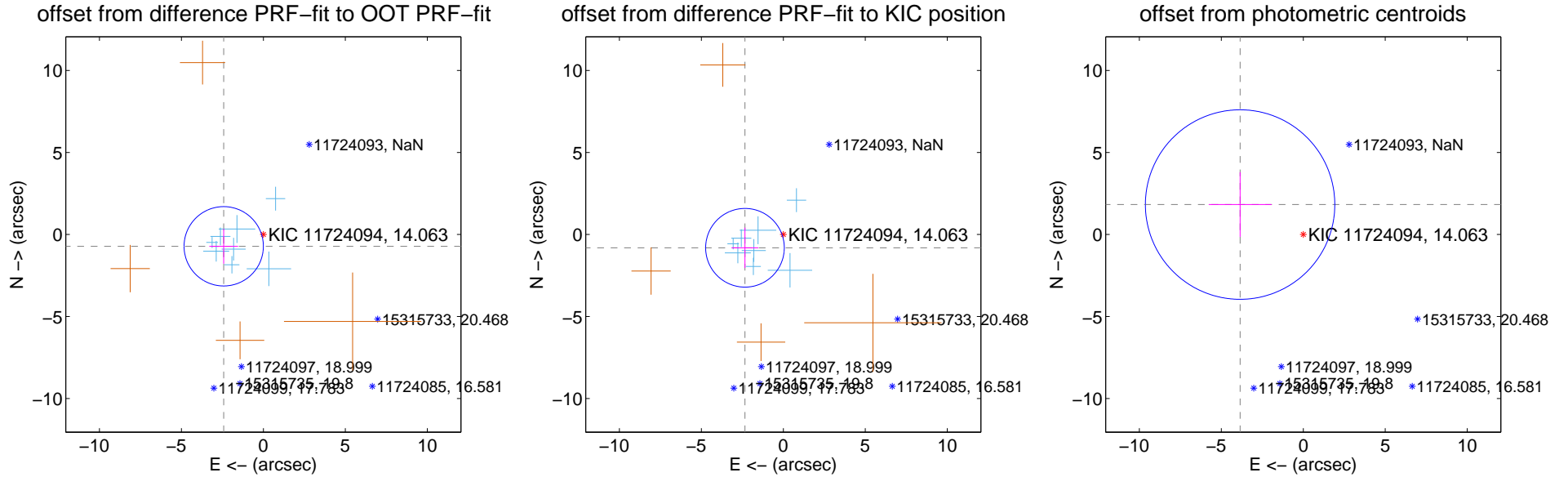
## DV Centroid Data

Supplemental centroid analysis for 011724094-01. Kepler magnitude: 14.06. Transit SNR 7.94

There are 8 quarters with good PRF difference image offsets

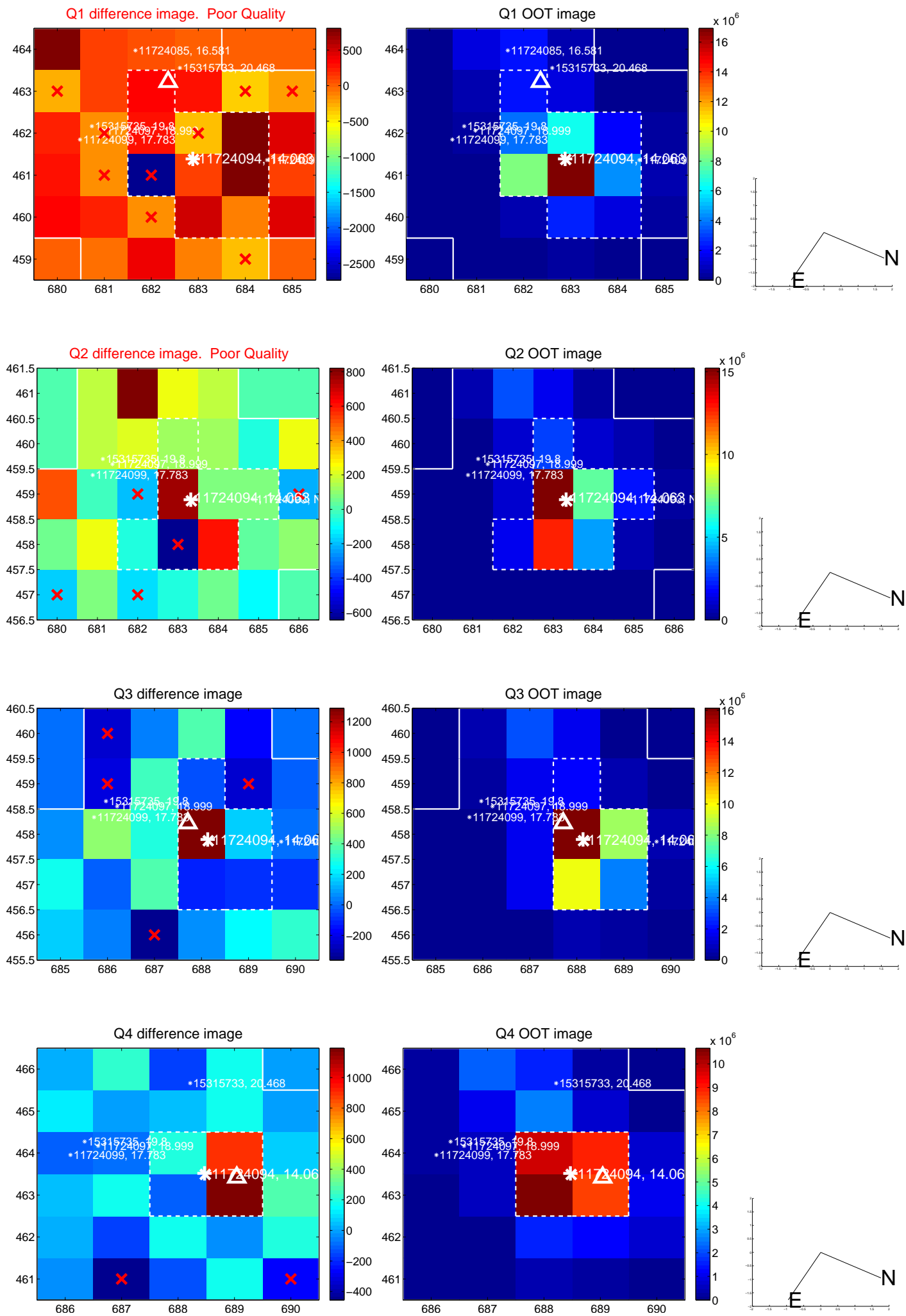
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.524 \pm 0.806$	3.13	$2.419 \pm 0.877$	$-0.719 \pm 1.065$
PRF-fit source offset from KIC position	$2.476 \pm 0.799$	3.10	$2.340 \pm 0.814$	$-0.810 \pm 1.231$
photometric centroid source offset	$4.26 \pm 1.93$	2.21	$3.85 \pm 1.92$	$1.83 \pm 1.97$

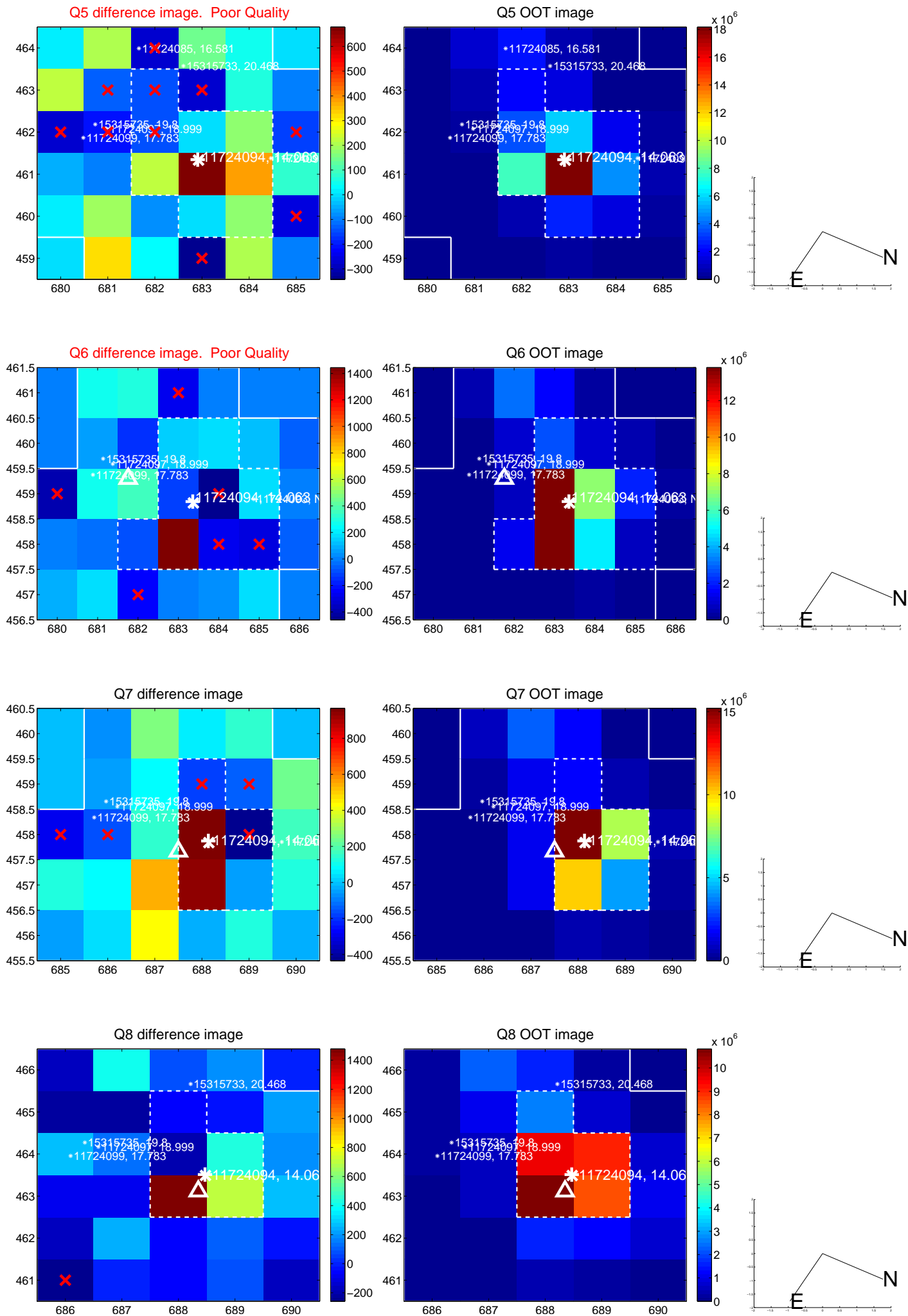


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

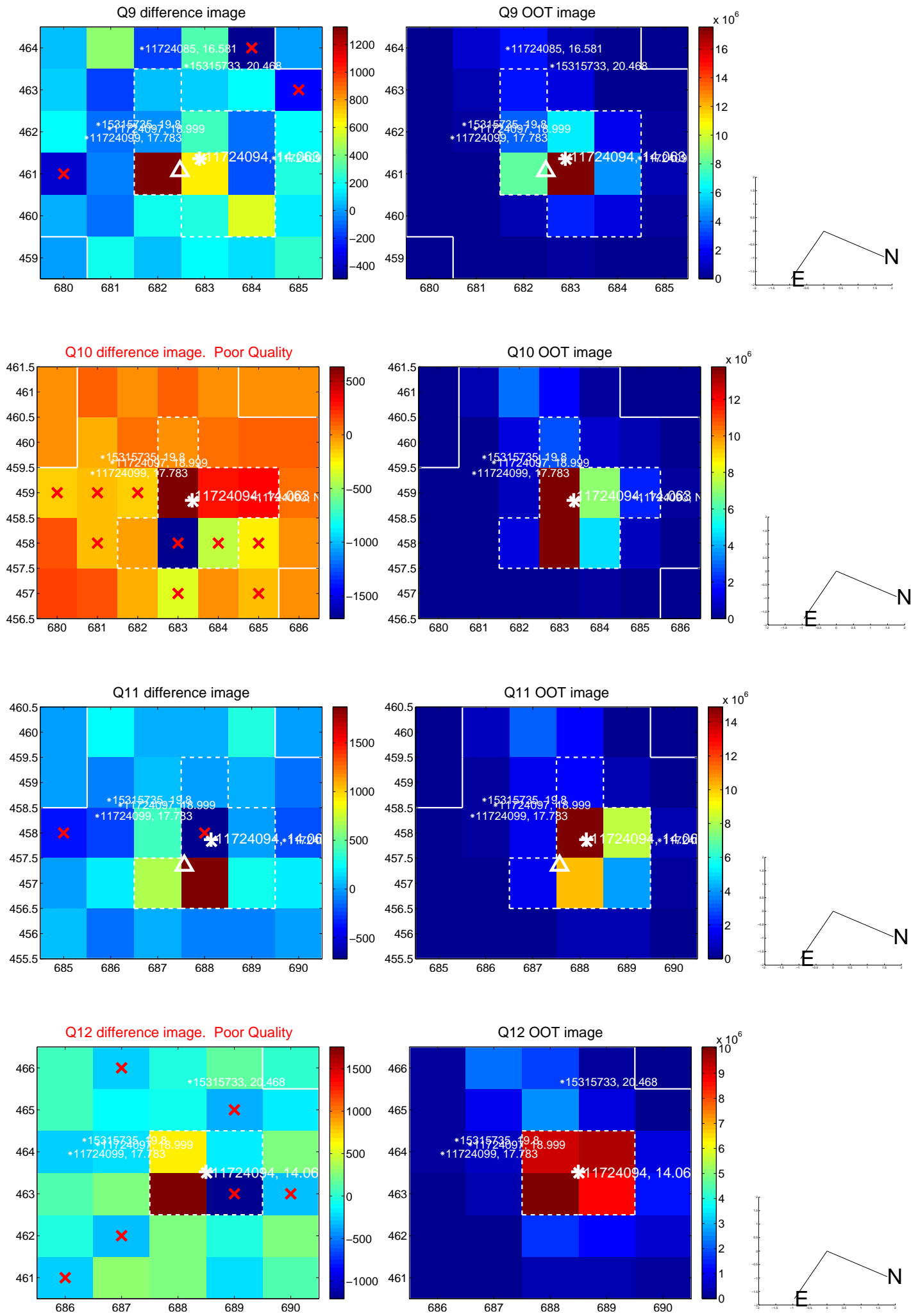


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

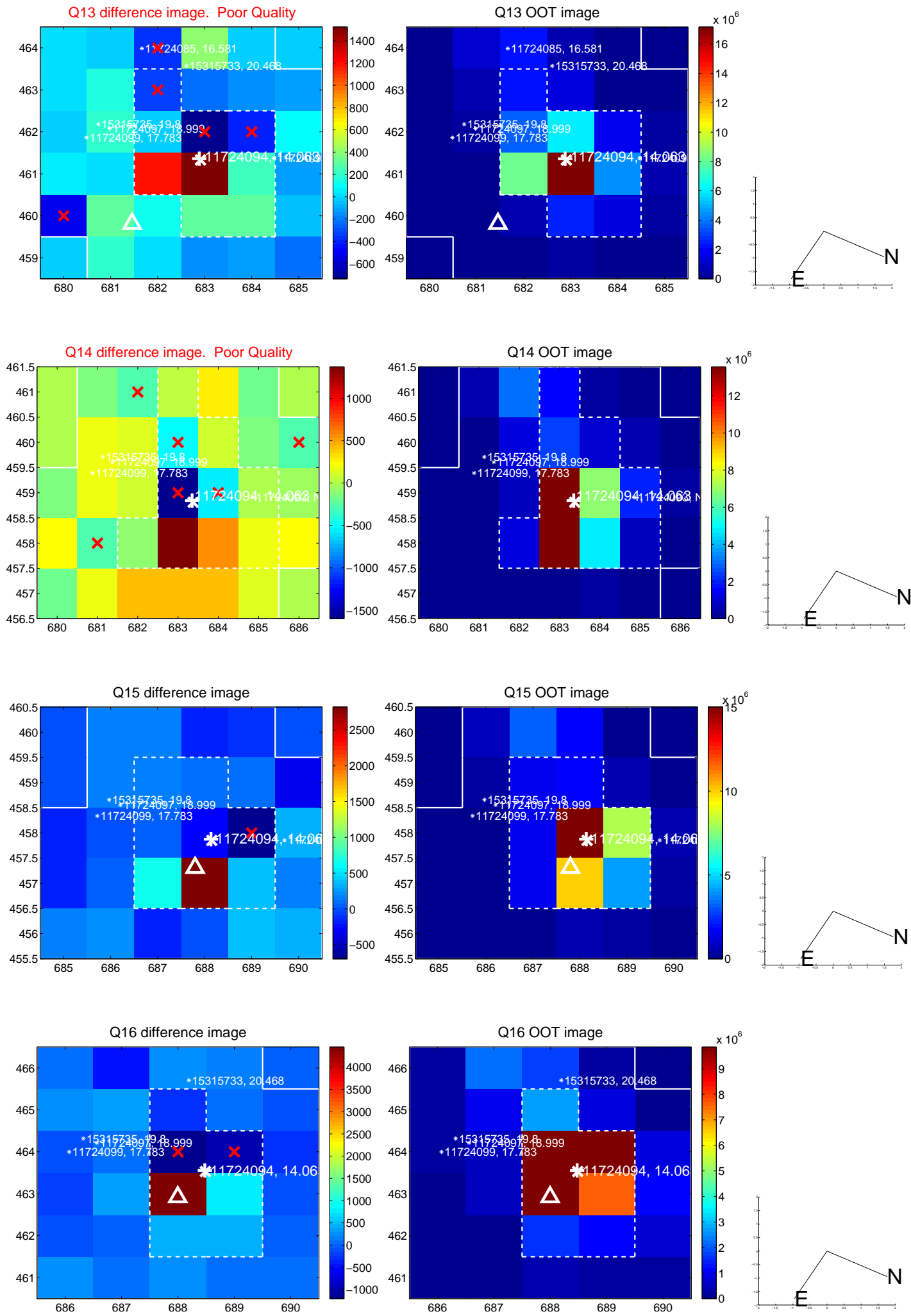




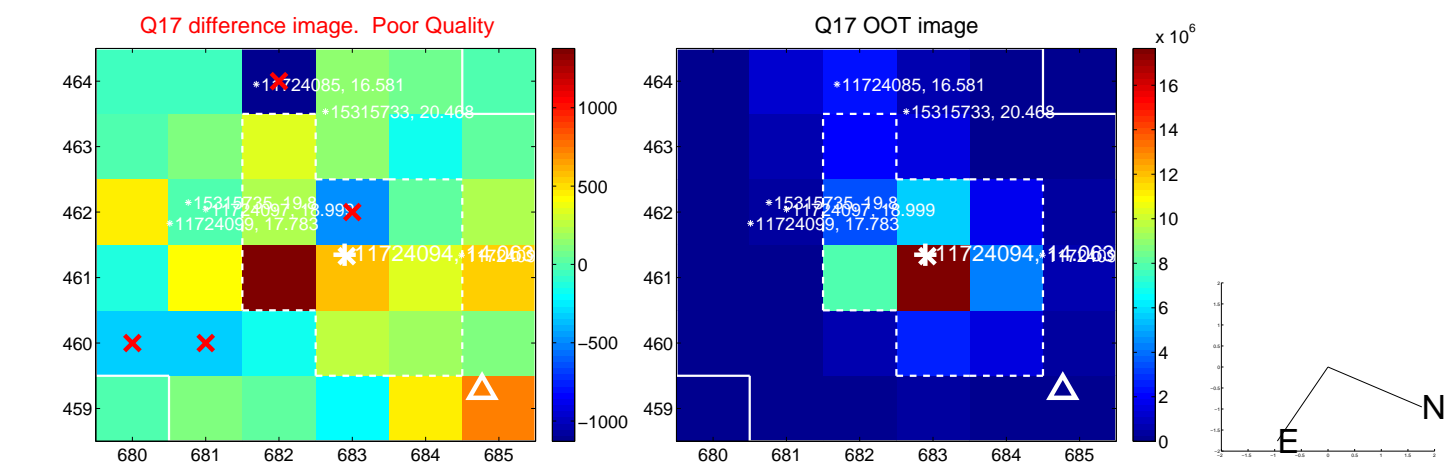
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



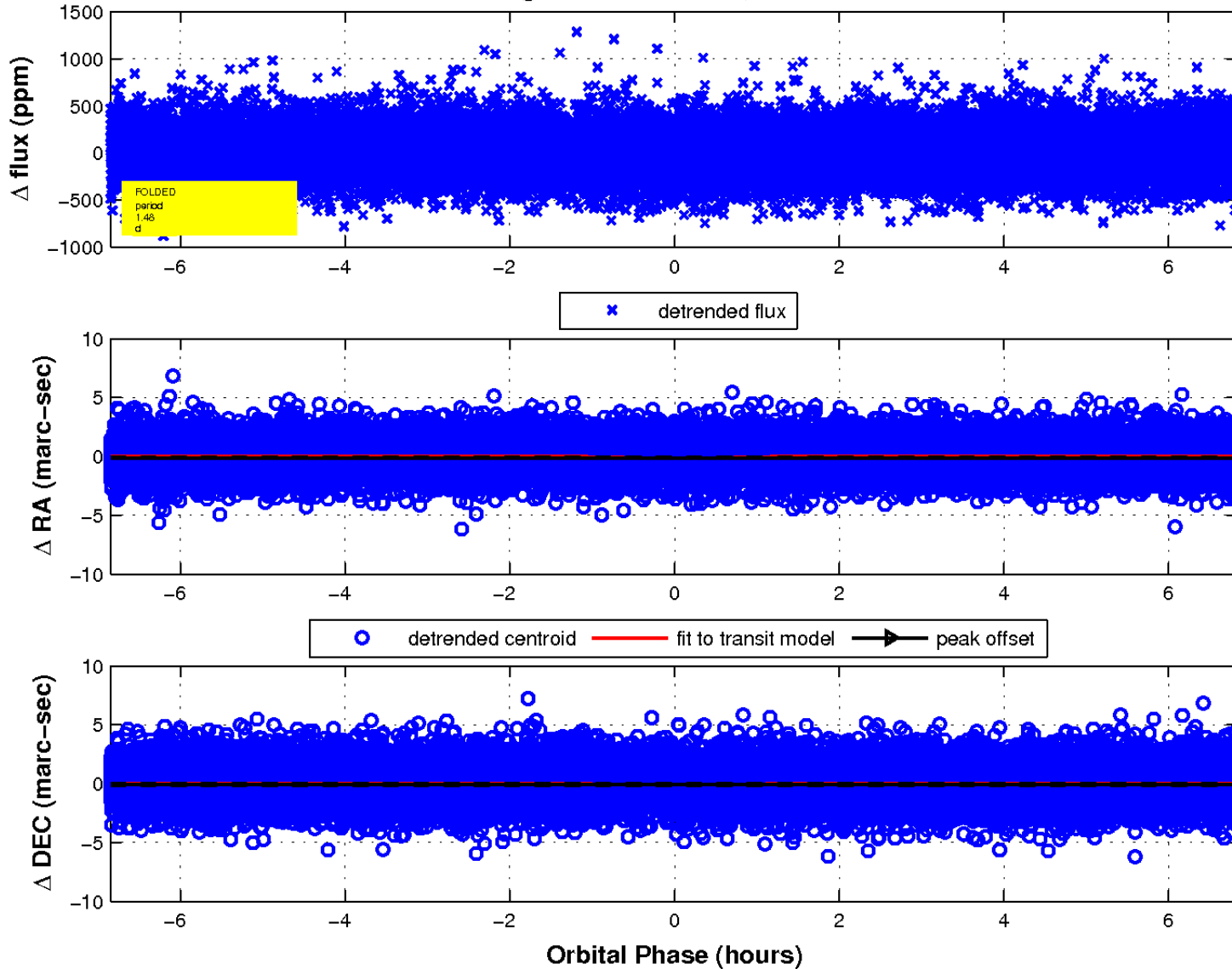
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



# UKIRT Image

Declination

