

# KIC 009094763

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009094763-01	OBS	4779.01	1.084683	131.745162	59.0	3.762	8.3	7.6	0.94	5942	0.84	2257.82

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009094763-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_ALT—CENT_RESOLVED_OFFSET

**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.

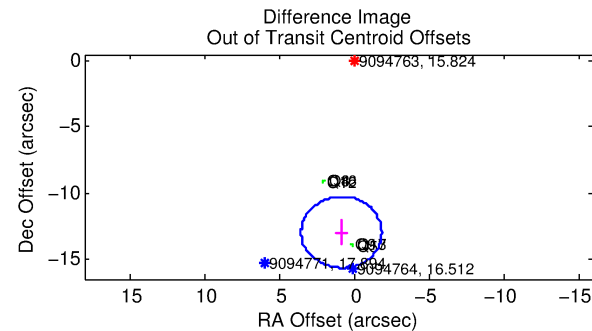
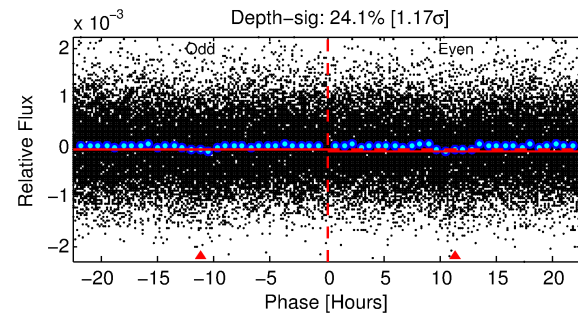
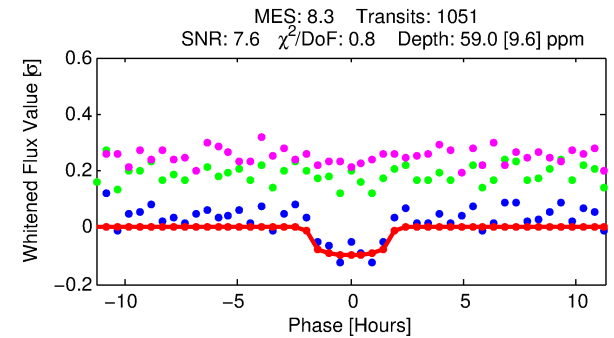
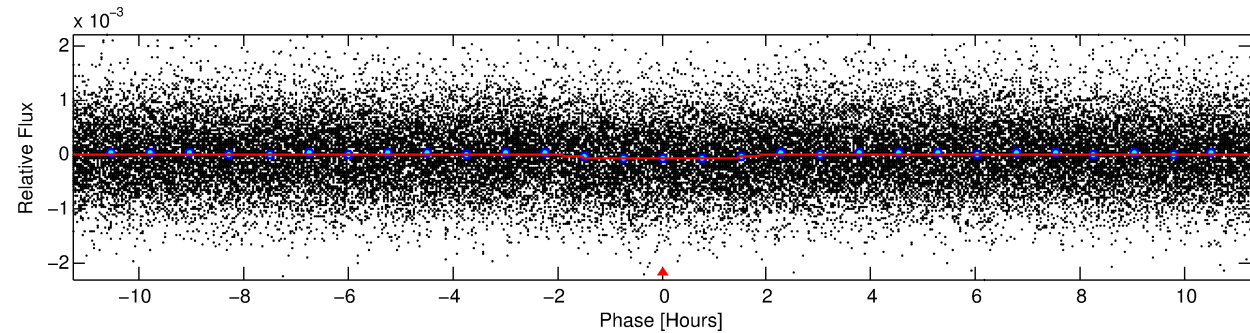
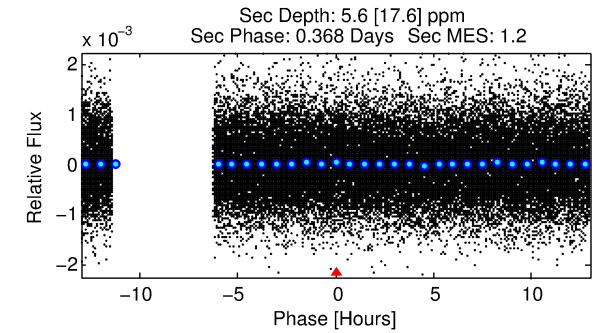
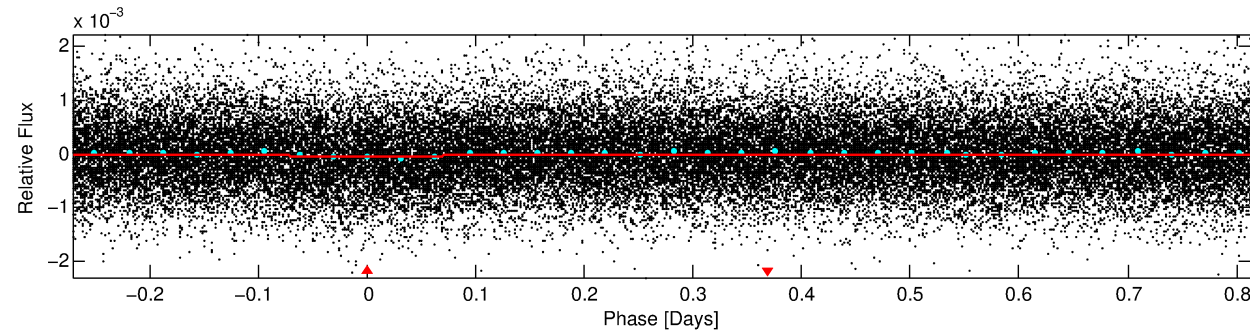
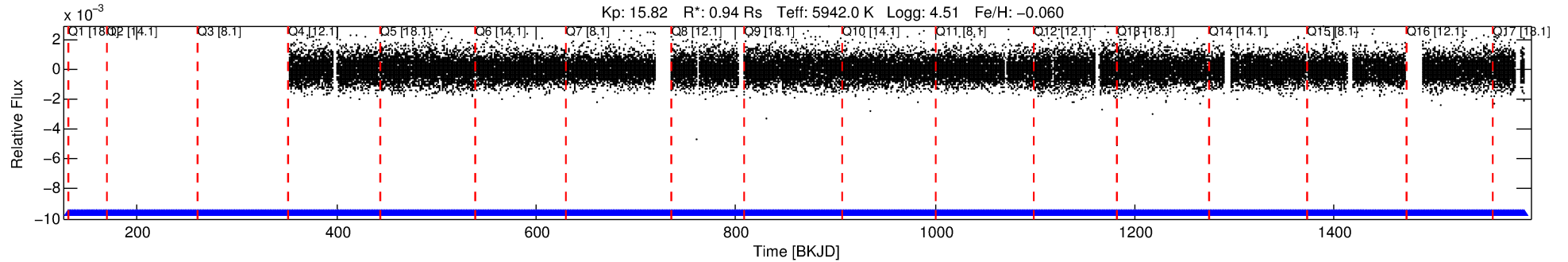
## Ephemeris Match Information For 009094763-01

No Significant Match Found

# DV One-Page Summary

KIC: 9094763 Candidate: 1 of 1 Period: 1.085 d  
KOI: K04779.01 Corr: 0.954

Kp: 15.82 R\*: 0.94 Rs Teff: 5942.0 K Logg: 4.51 Fe/H: -0.060



## DV Fit Results:

Period = 1.08468 [0.00002] d  
Epoch = 131.7452 [0.0064] BKJD  
Rp/R\* = 0.0082 [0.0078]  
a/R\* = 1.41 [3.36]  
b = 0.89 [1.18]  
Seff = 2257.82 [918.66]  
Teq = 1758 [179] K  
Rp = 0.84 [0.84] Re  
a = 0.0209 [0.0055] AU  
Ag = 1.90 [7.00] [0.13σ]  
Teffp = 3192 [2921] K [0.49σ]

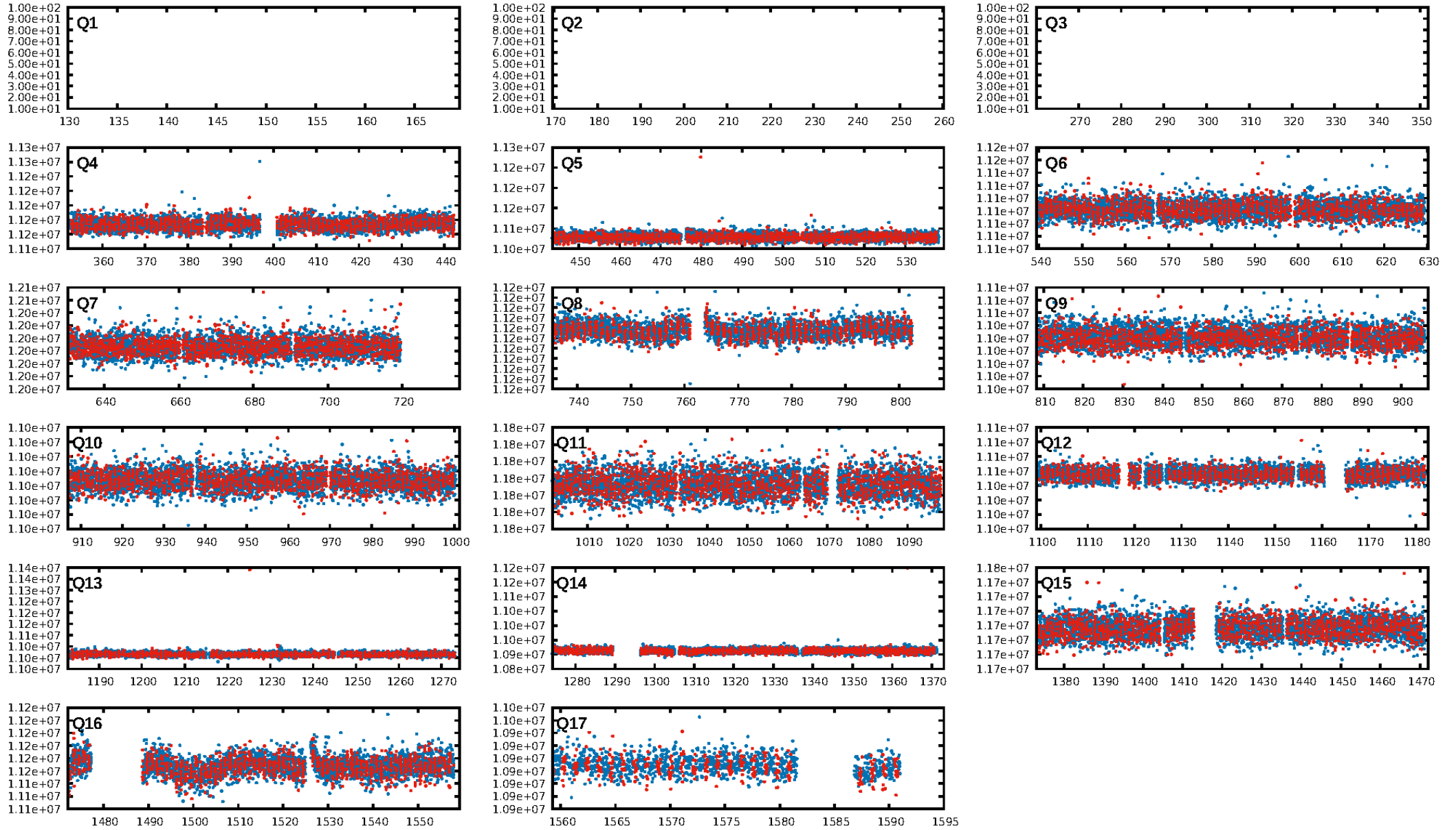
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: 1.57e-17  
RollingBand-fgt: 1.00 [1026/1026]  
GhostDiagnostic-chr: -1.29  
Centroid-sig: 0.0%  
Centroid-so: 46.525 arcsec [17.97σ]  
OotOffset-rm: 12.994 arcsec [14.47σ]  
KicOffset-rm: 12.837 arcsec [15.91σ]  
OotOffset-st: 0/0/4/4 [8]  
KicOffset-st: 0/0/4/4 [8]  
DiffImageQuality-fgm: 1.00 [8/8]  
DiffImageOverlap-fno: 1.00 [14/14]

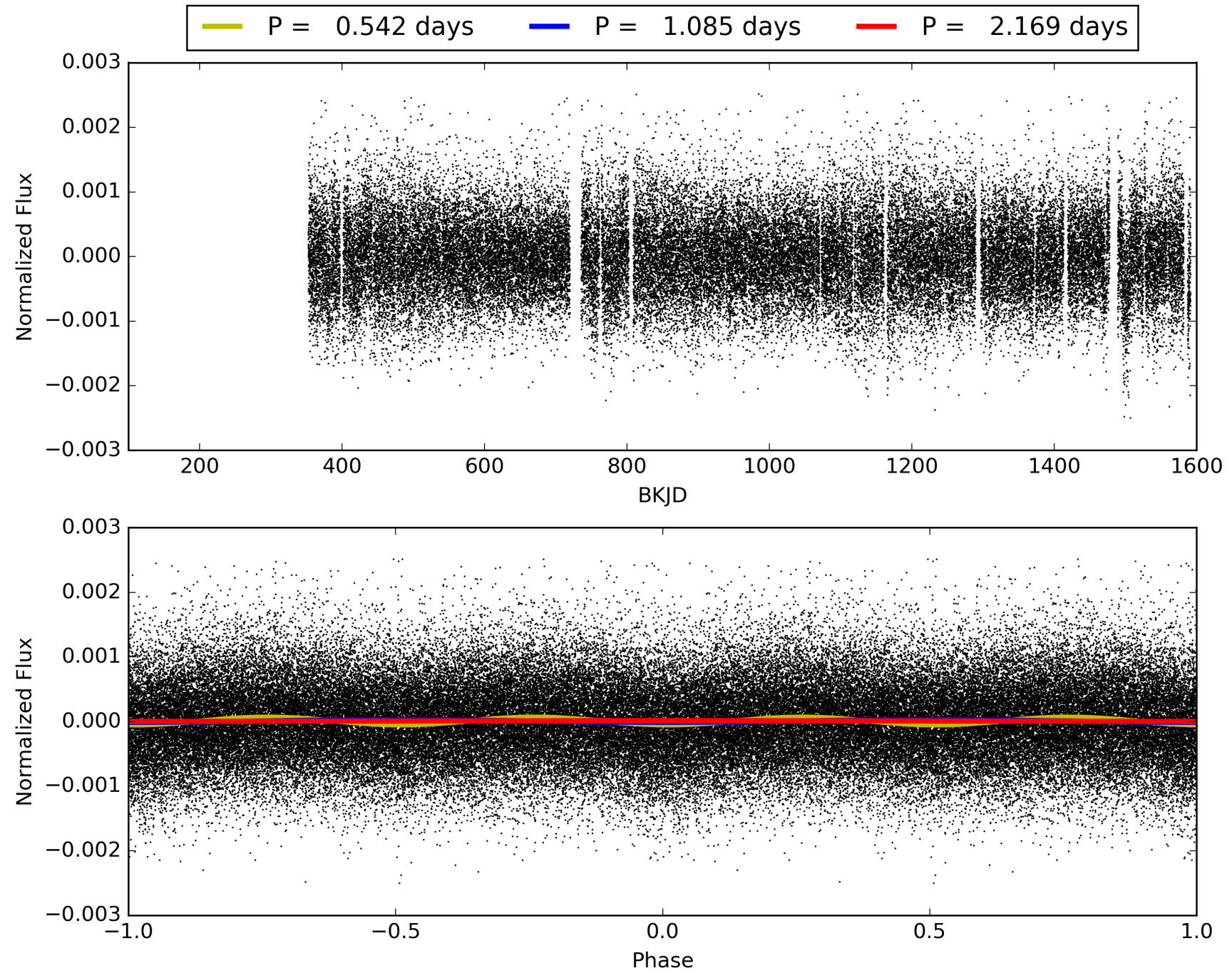
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:36:54 Z

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

# TCE 009094763-01, PDC Light Curves

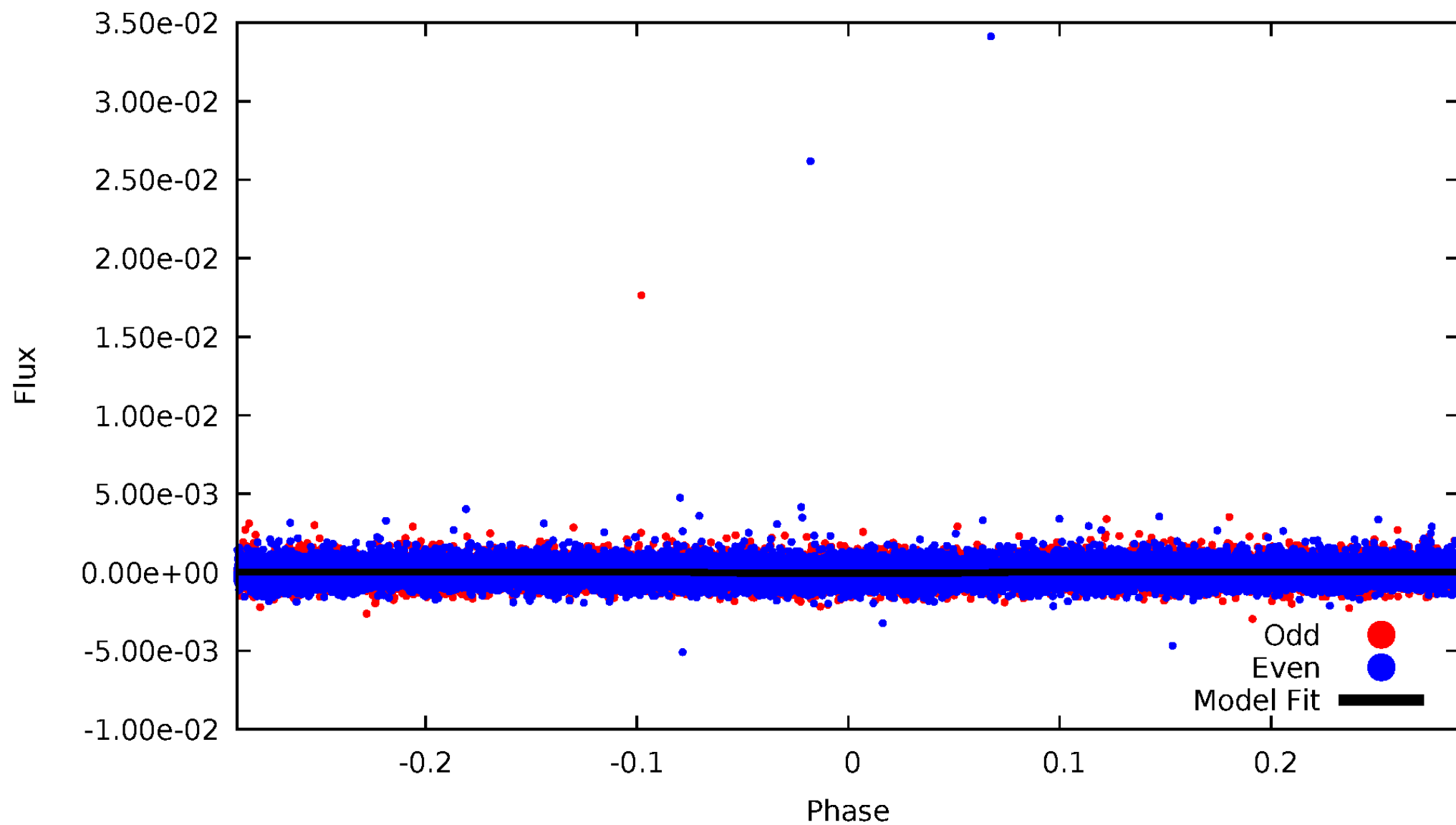


TCE 009094763-01



# DV Odd/Even

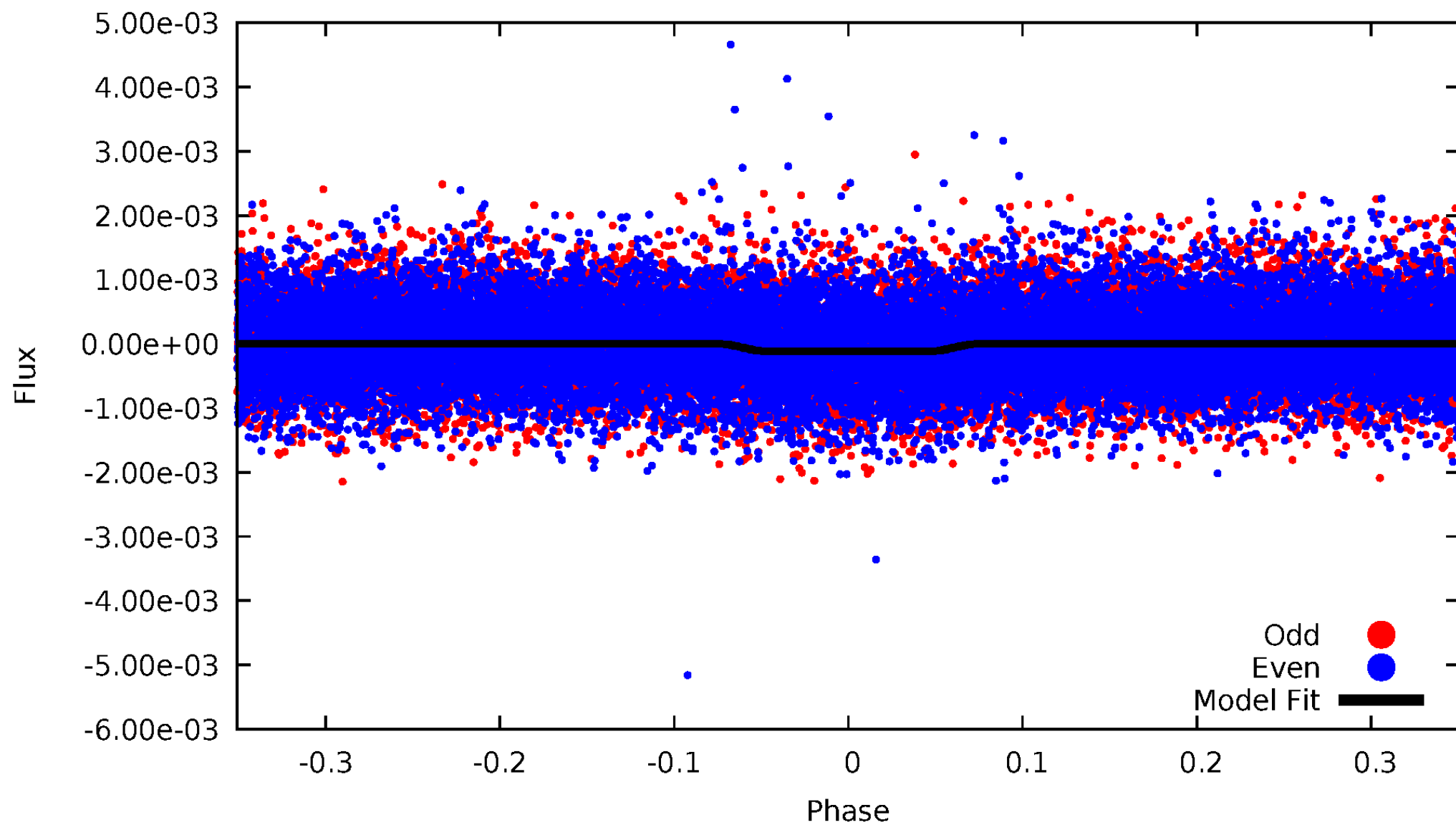
TCE 009094763-01





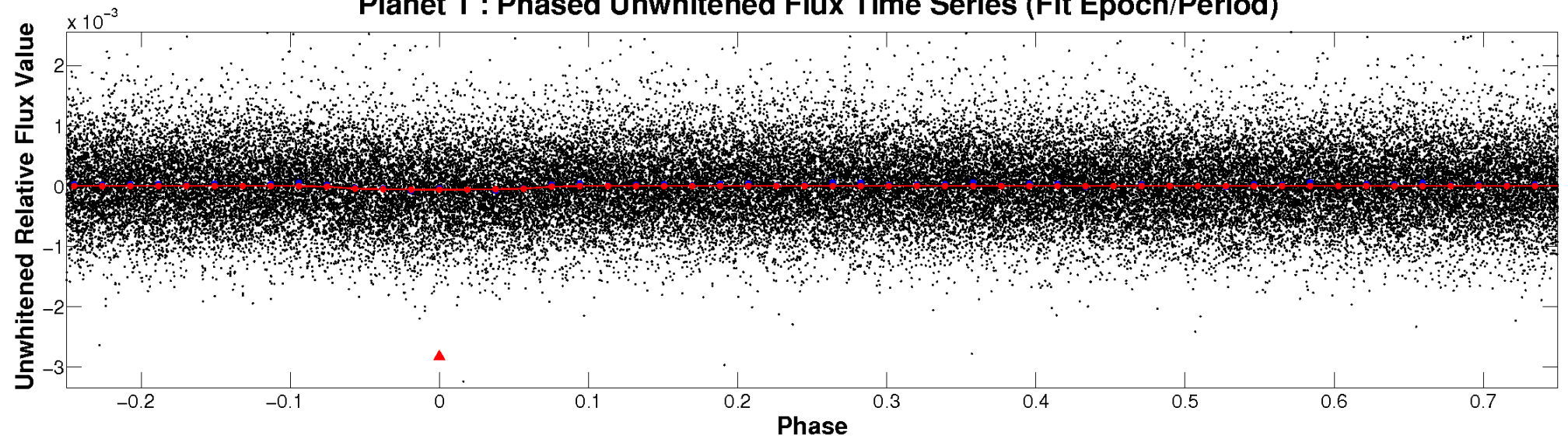
# ALT Odd/Even

TCE 009094763-01

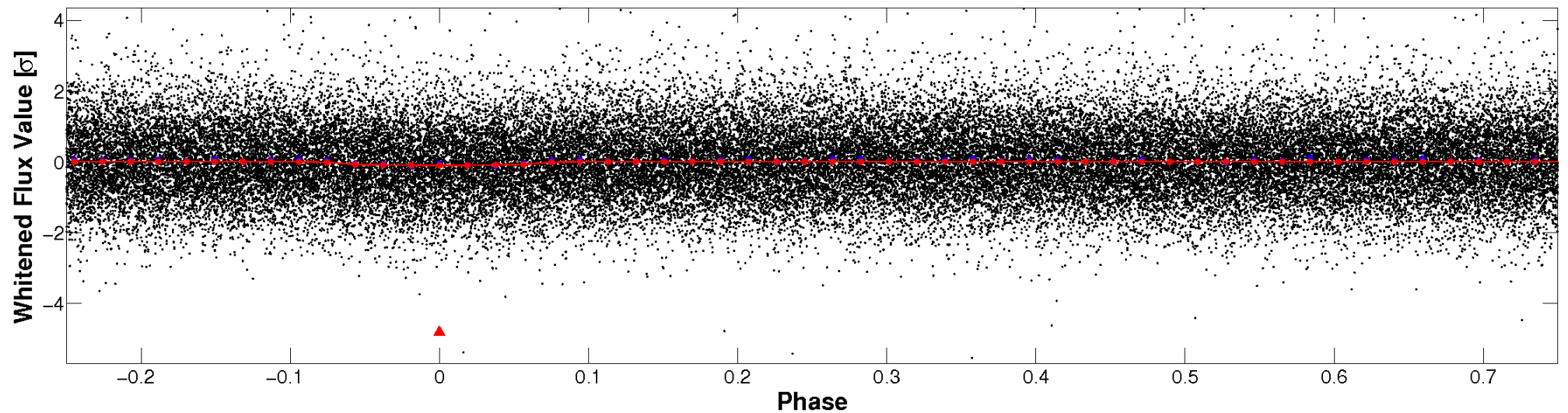


# Non-Whitened Vs. Whitened Light Curve

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

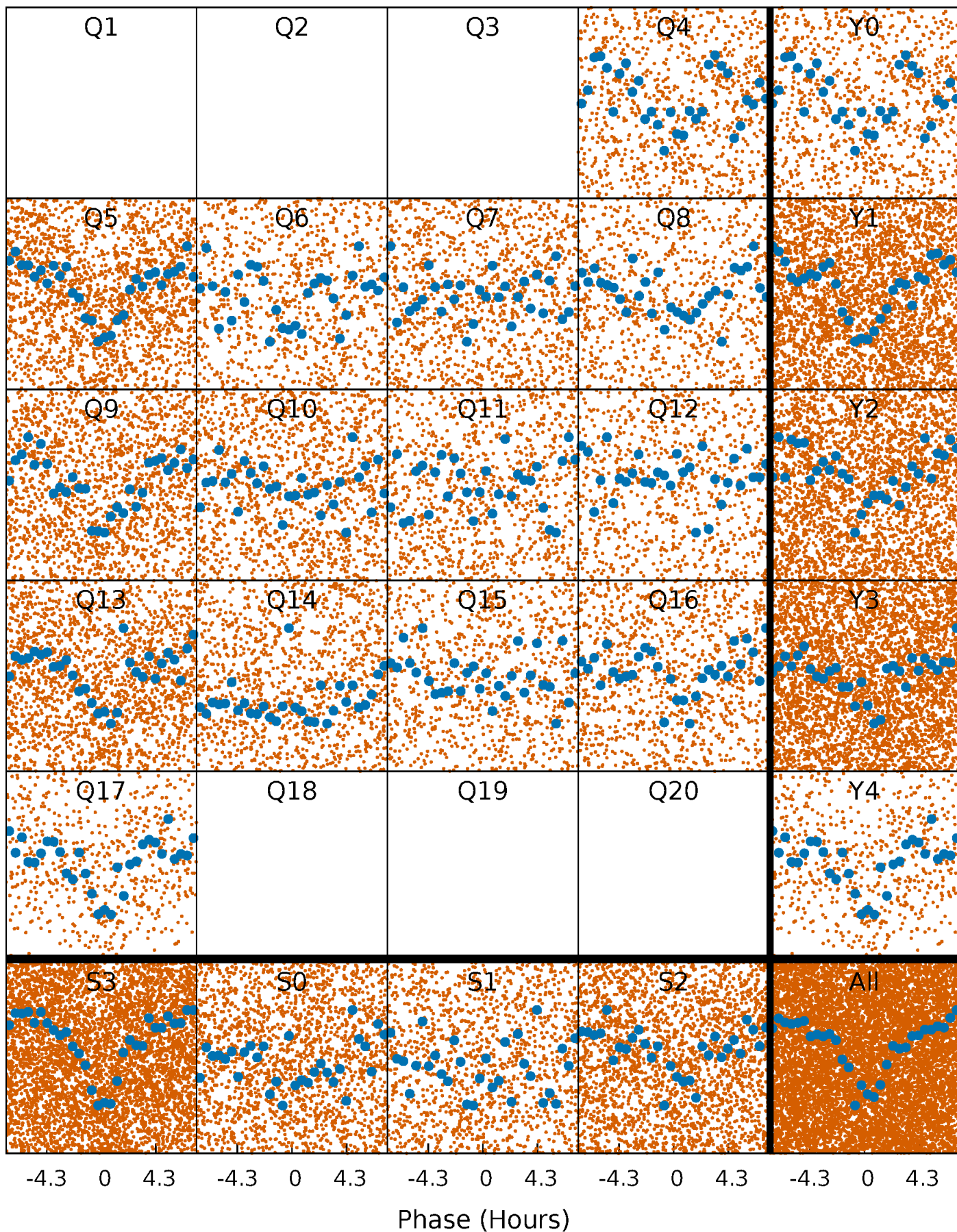


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

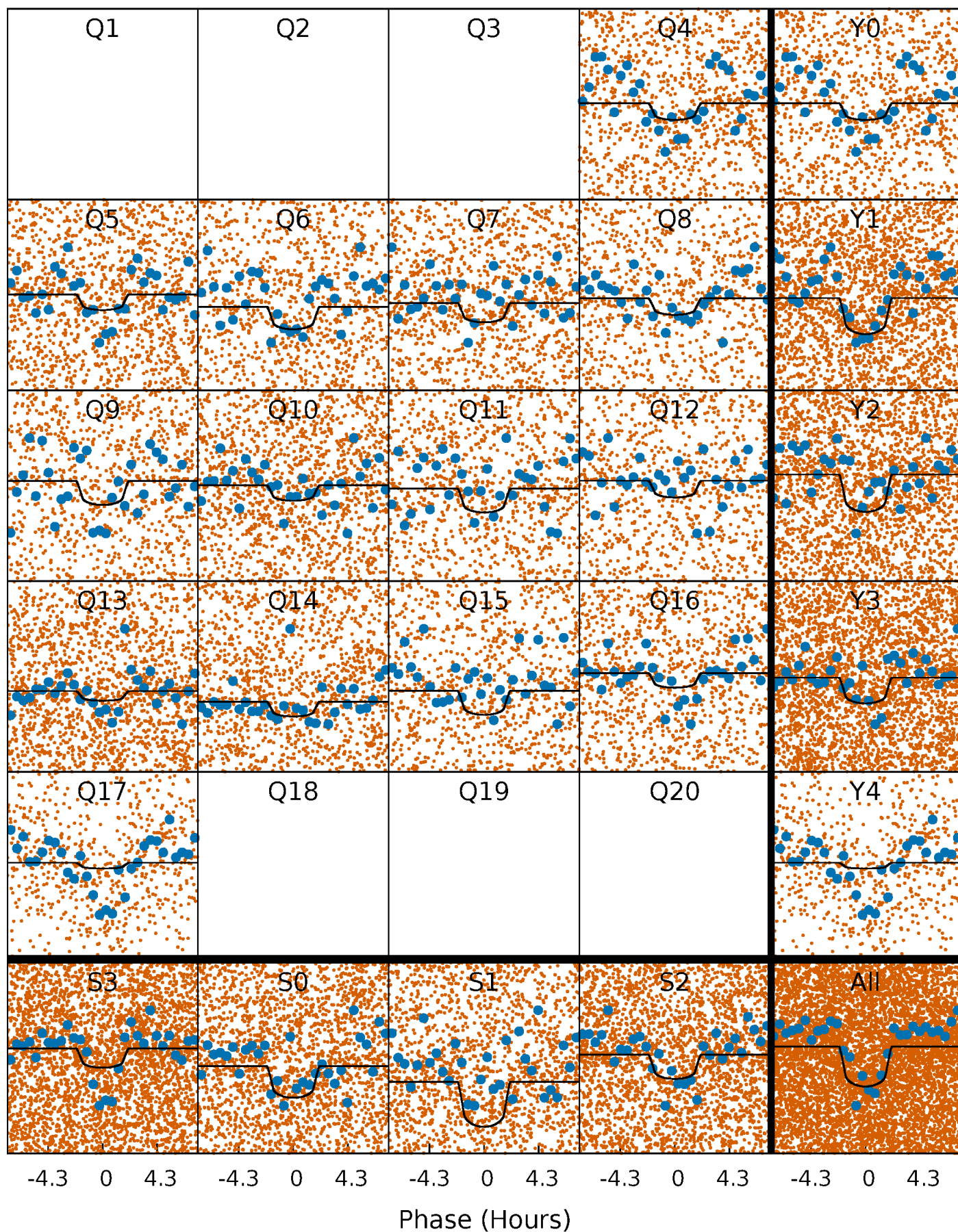
TCE 009094763-01 P= 1.084683 Days  $T_0=131.745162$  (BKJD)





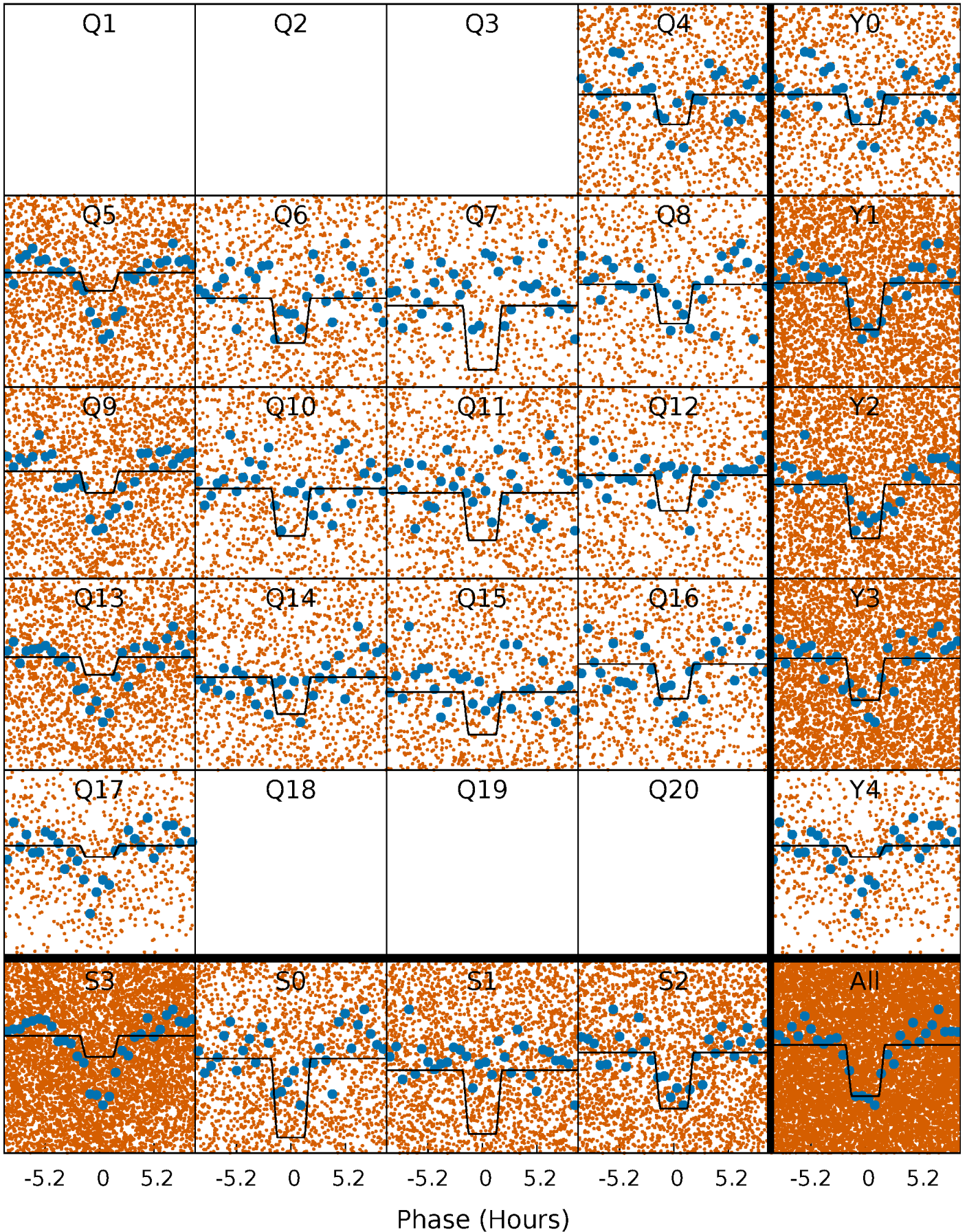
# DV Quarter-Phased Transit Curves

TCE 009094763-01 P= 1.084683 Days  $T_0=131.745162$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 009094763-01 P= 1.084728 Days  $T_0=131.716589$  (BKJD)

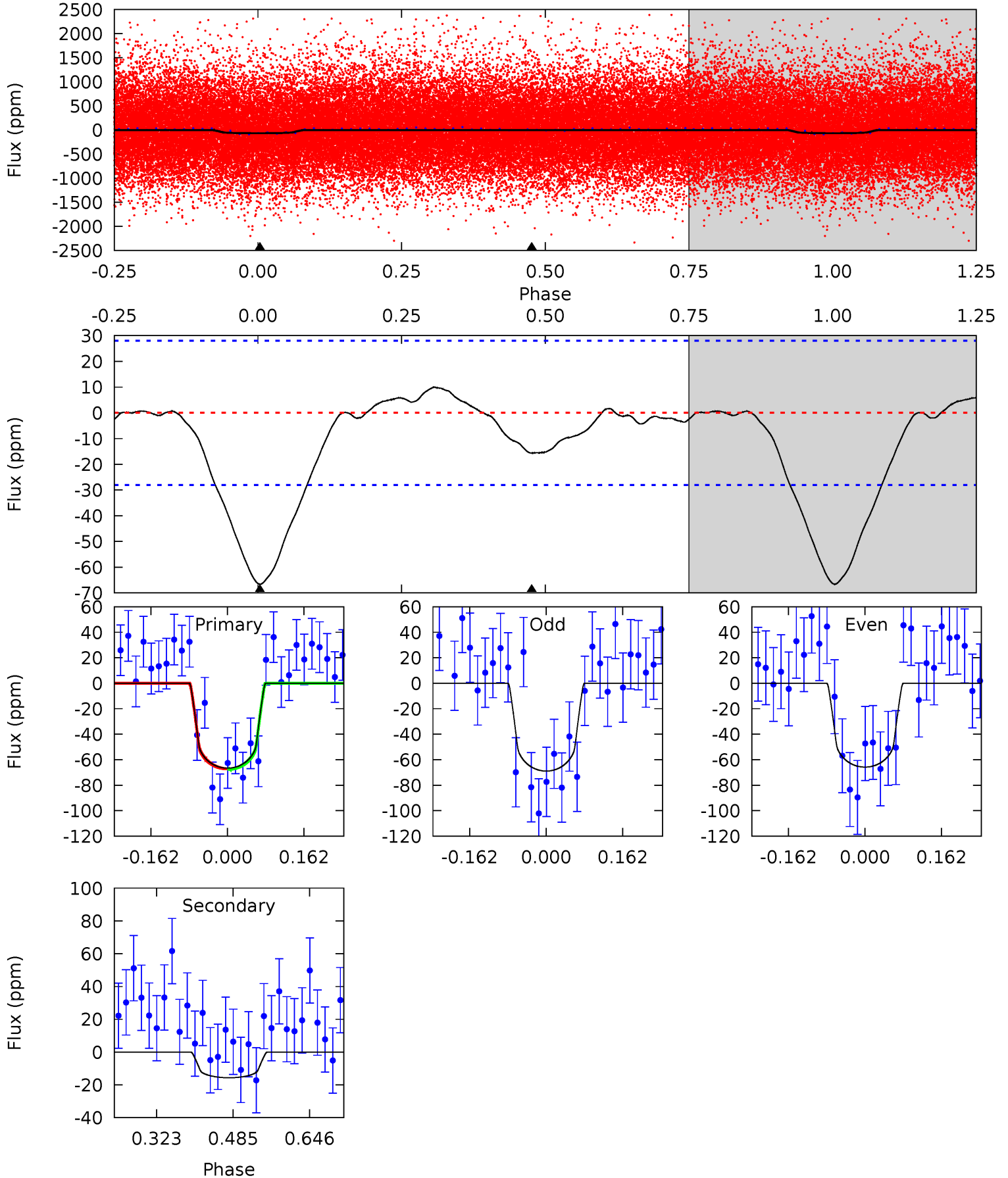




# DV Model-Shift Uniqueness Test

009094763-01, P = 1.084683 Days, E = 131.745162 Days

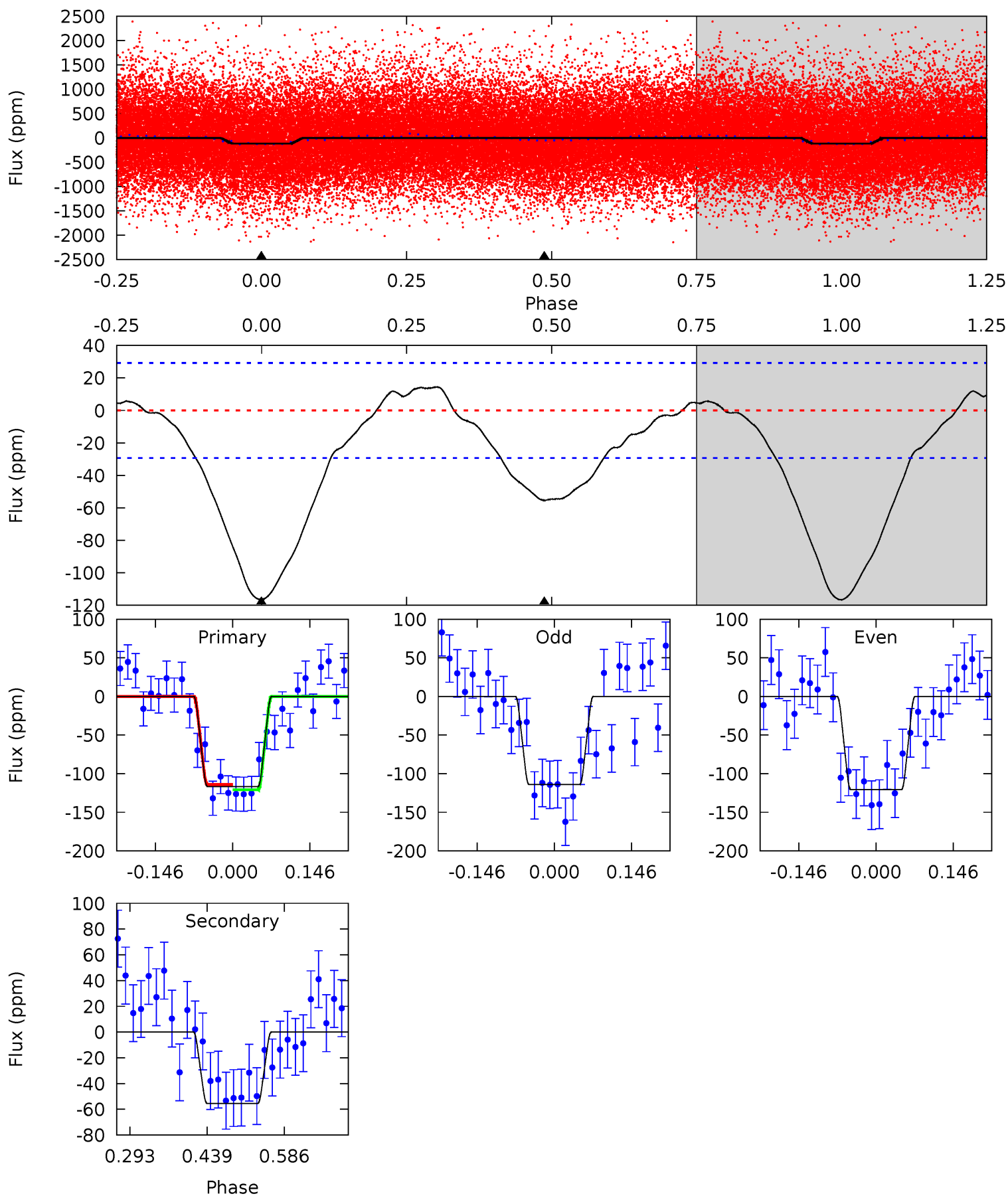
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	2.50	0	0	4.46	1.40	0.60	10.6	10.6	2.50	2.50	0.25	0.85	0.13	0.04



# Alt Model-Shift Uniqueness Test

009094763-01, P = 1.084728 Days, E = 131.716589 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
17.9	8.49	0	0	4.48	1.45	1.36	17.9	17.9	8.49	8.49	0.51	1.04	0.11	0.51





### Stellar Parameters For KIC 009094763

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5942^{+184}_{-205}$	$4.506^{+0.052}_{-0.208}$	$-0.060^{+0.250}_{-0.300}$	$0.938^{+0.297}_{-0.099}$	$1.028^{+0.124}_{-0.138}$	$1.756^{+0.372}_{-0.950}$
	+3%/-3%	+1%/-5%	+417%/-500%	+32%/-11%	+12%/-13%	+21%/-54%
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 009094763-01 / KOI 4779.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-16 \pm 6$	$1.04^{+0.84}_{-0.65}$	$2514^{+188}_{-125}$	$3949^{+2077}_{-879}$	$3.080^{+19.408}_{-2.218}$
Alt.	$-55 \pm 7$	$1.18^{+0.83}_{-0.71}$	$2510^{+181}_{-128}$	$4984^{+2718}_{-991}$	$9.215^{+47.563}_{-5.978}$

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

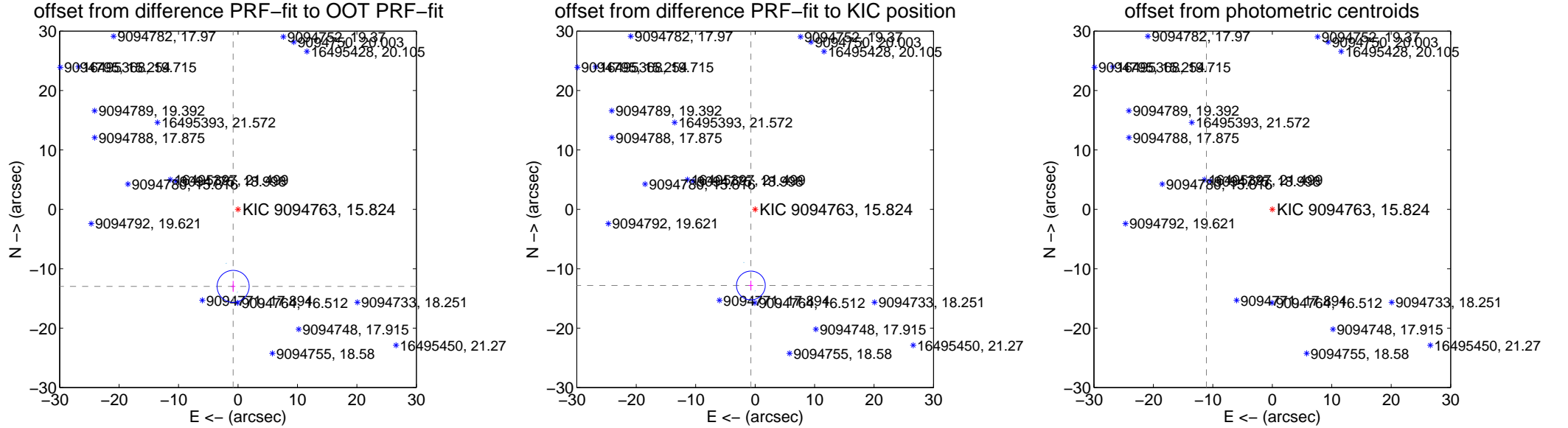
## DV Centroid Data

Supplemental centroid analysis for 009094763-01. Kepler magnitude: 15.82. Transit SNR 7.57

There are 8 quarters with good PRF difference image offsets

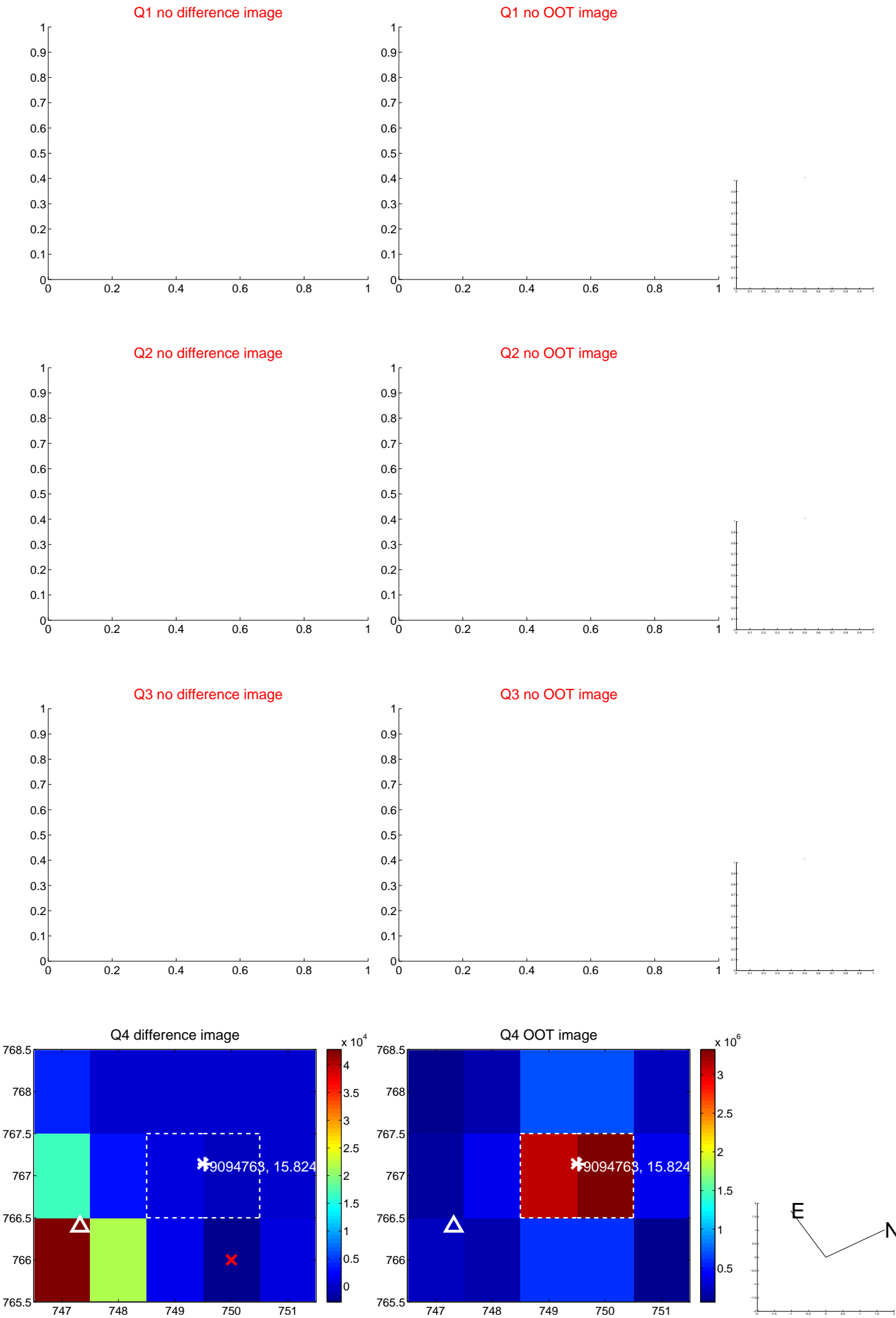
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$12.994 \pm 0.898$	14.47	$0.818 \pm 0.368$	$-12.968 \pm 0.923$
PRF-fit source offset from KIC position	$12.837 \pm 0.807$	15.91	$0.717 \pm 0.380$	$-12.817 \pm 0.808$
photometric centroid source offset	$46.53 \pm 2.59$	17.97	$11.08 \pm 1.84$	$-45.19 \pm 2.63$

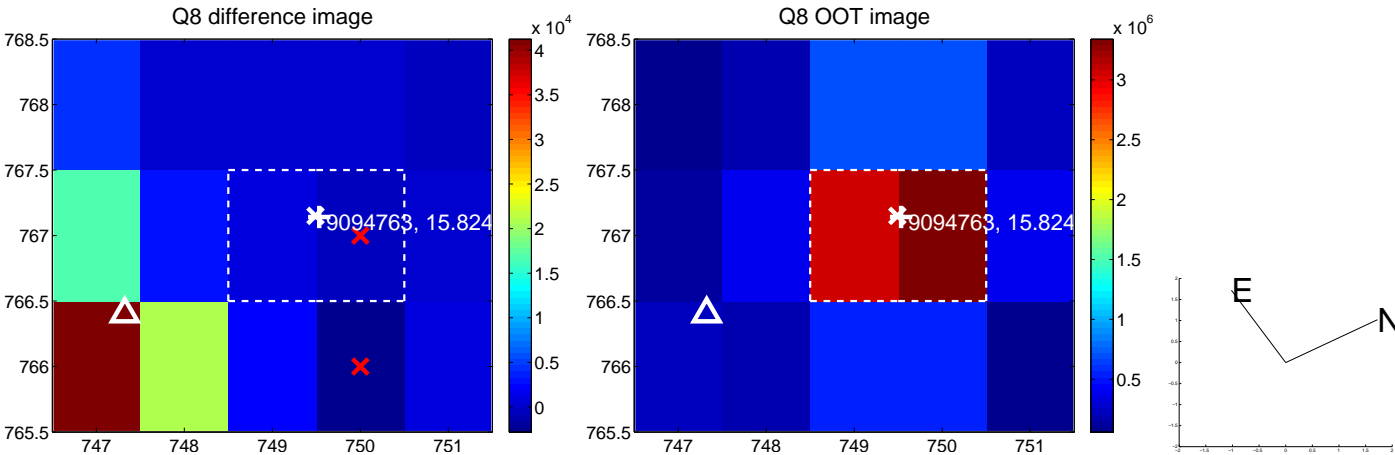
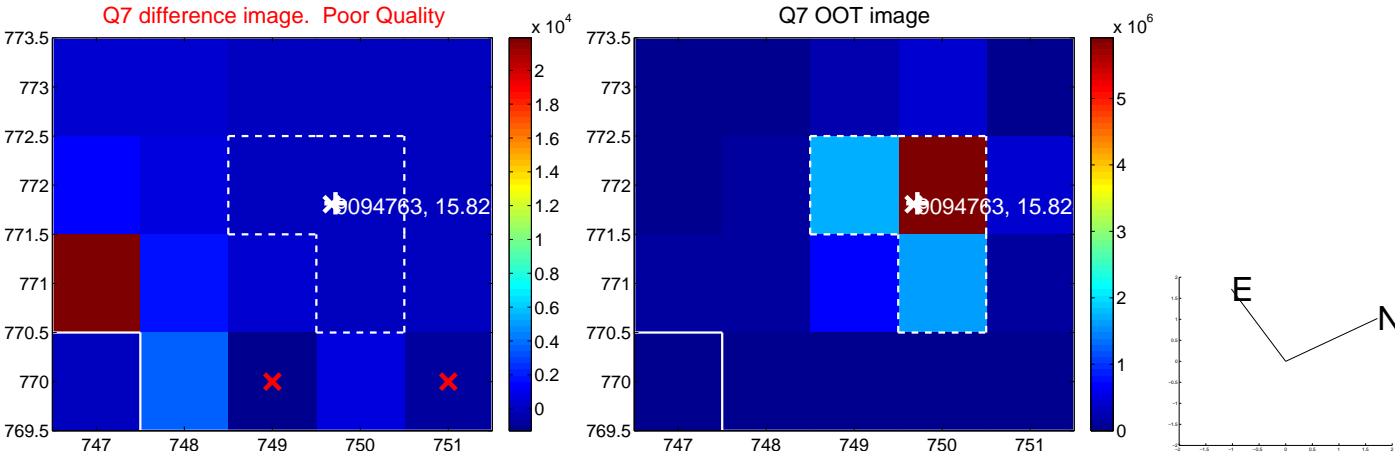
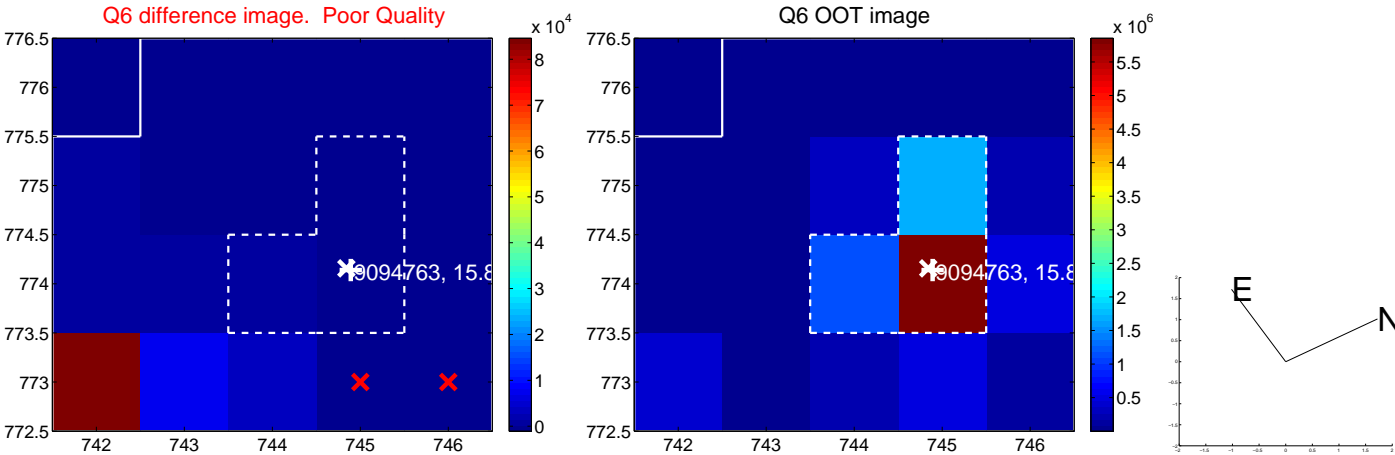
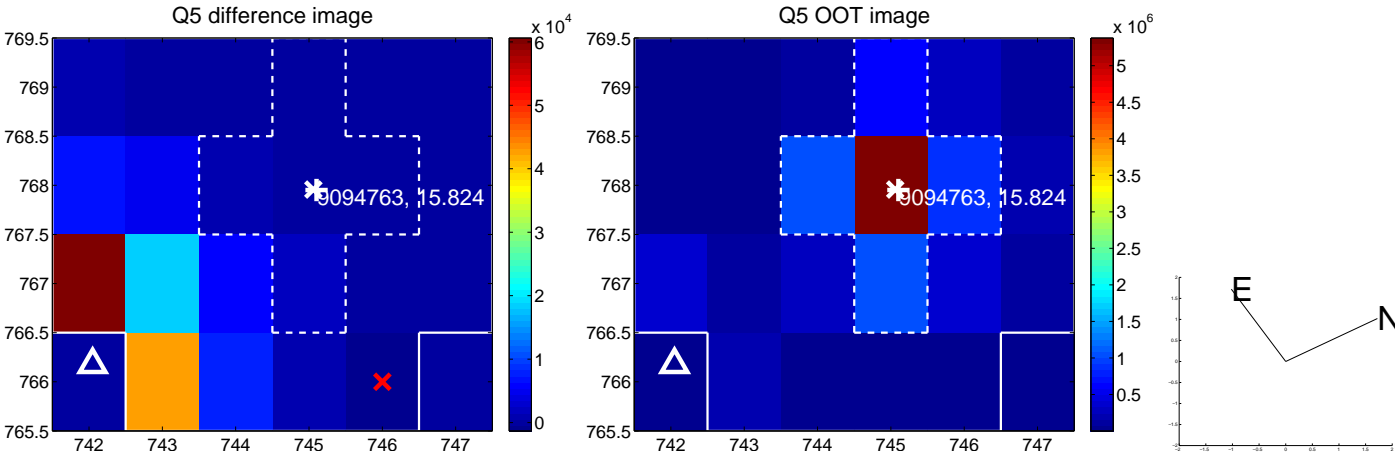


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

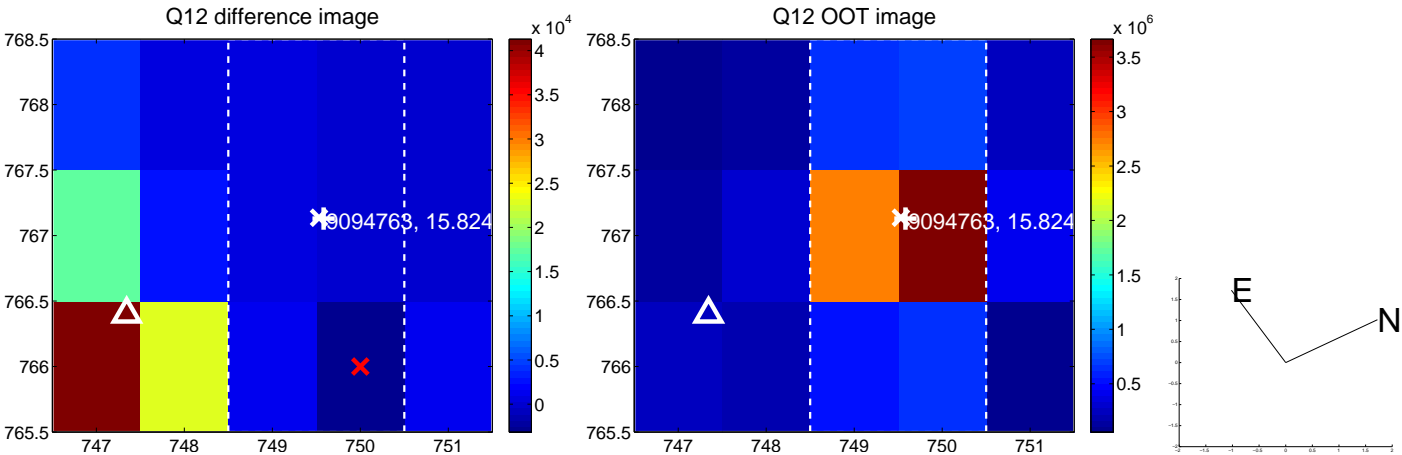
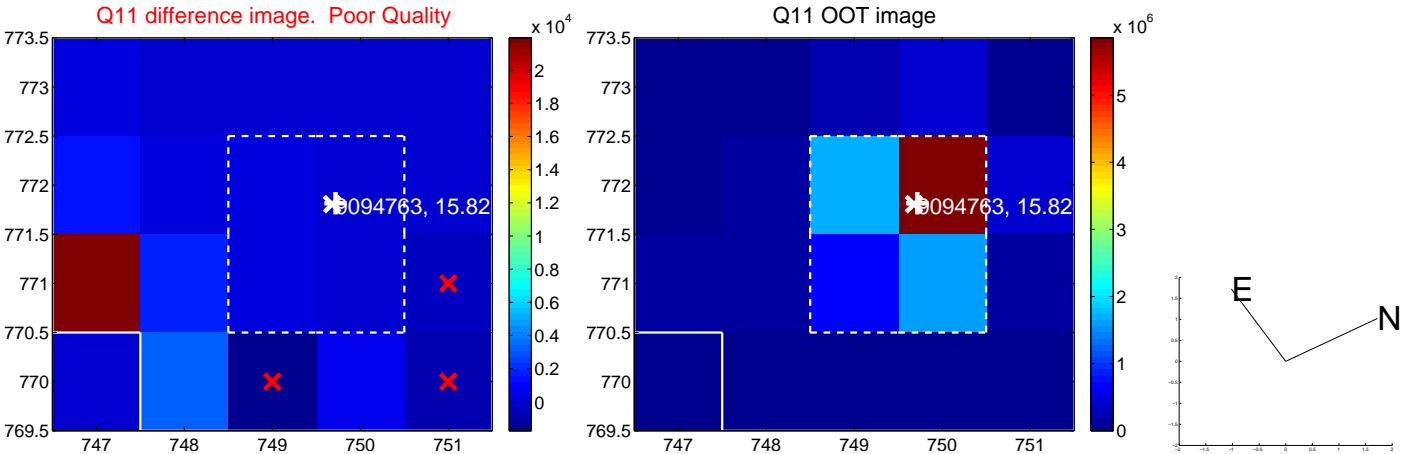
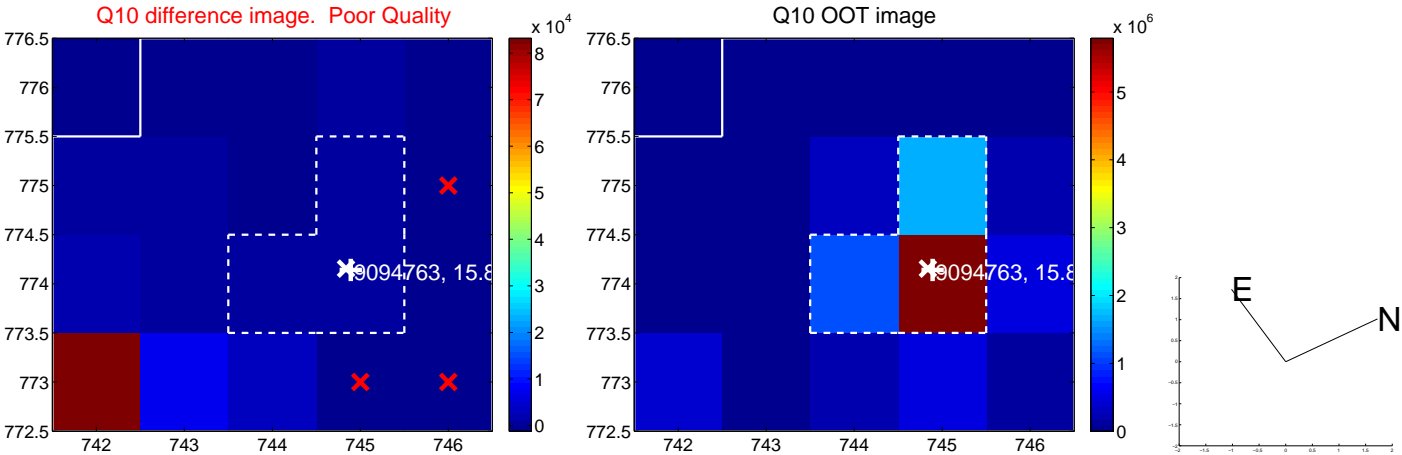
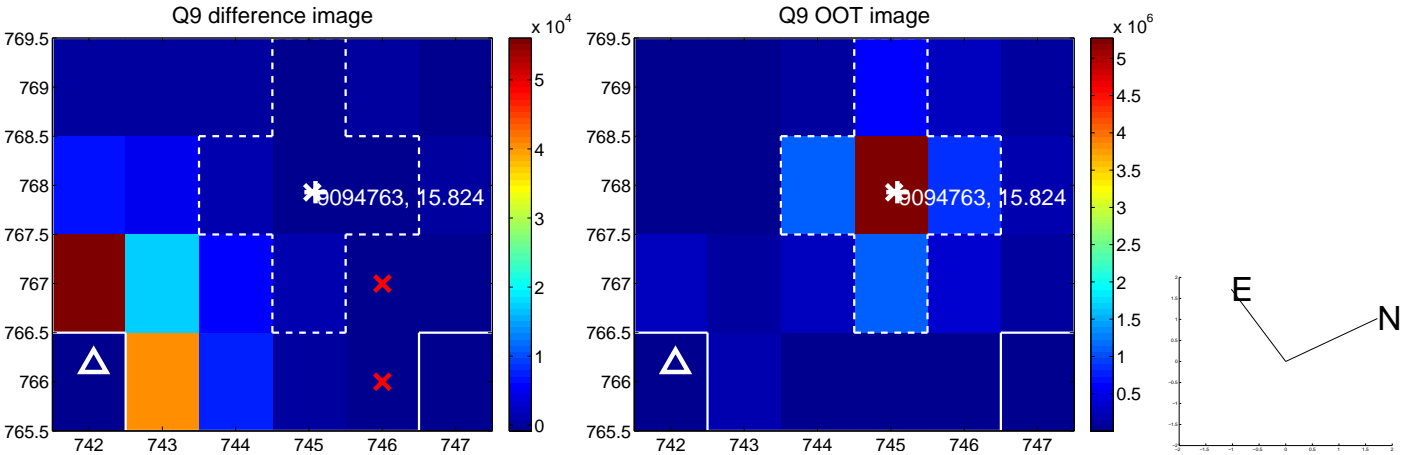


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

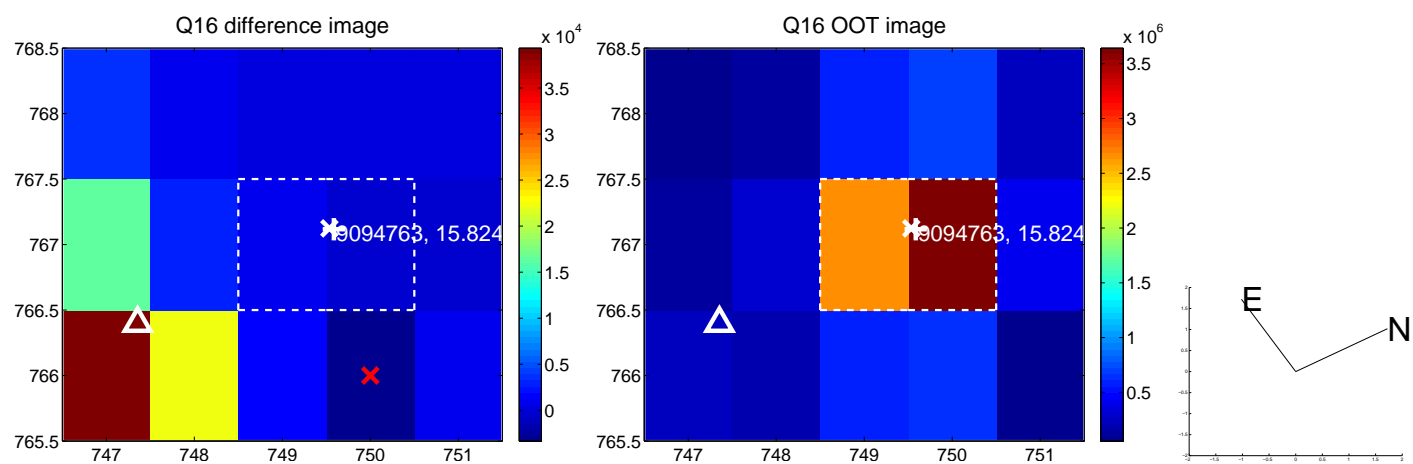
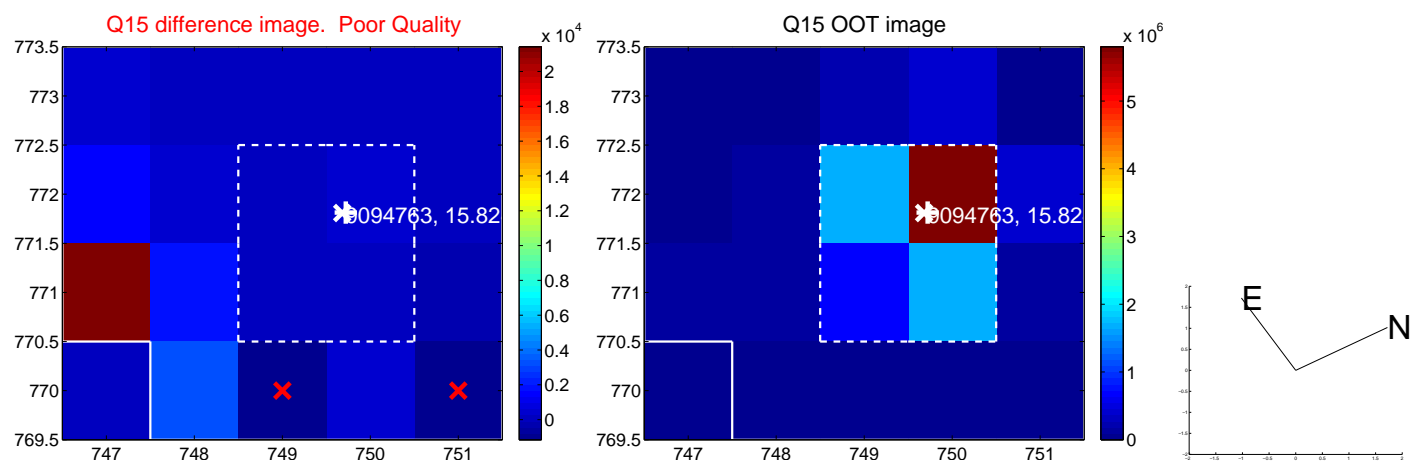
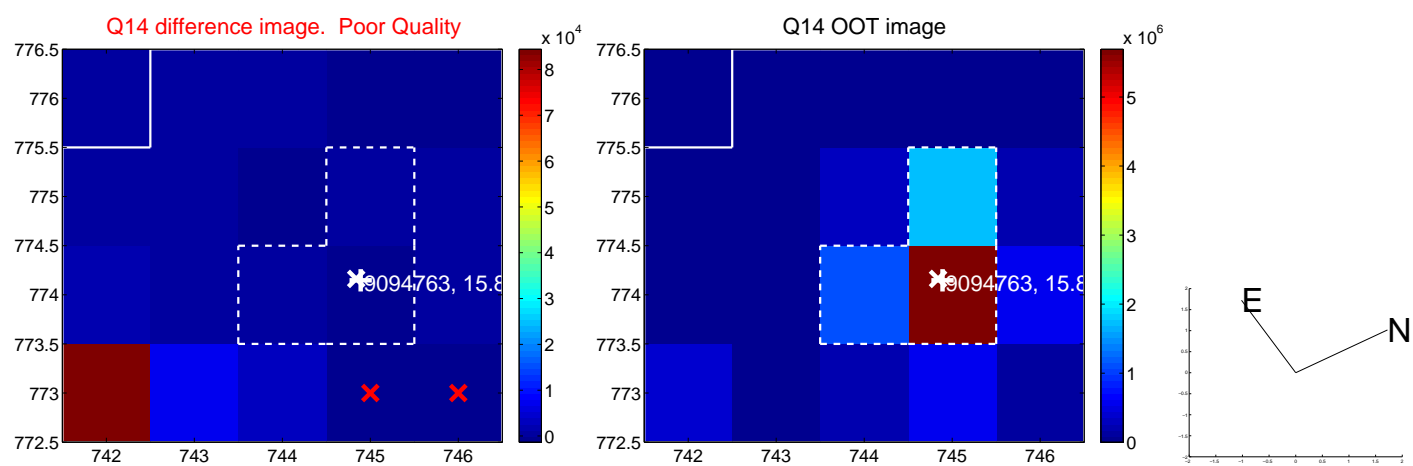
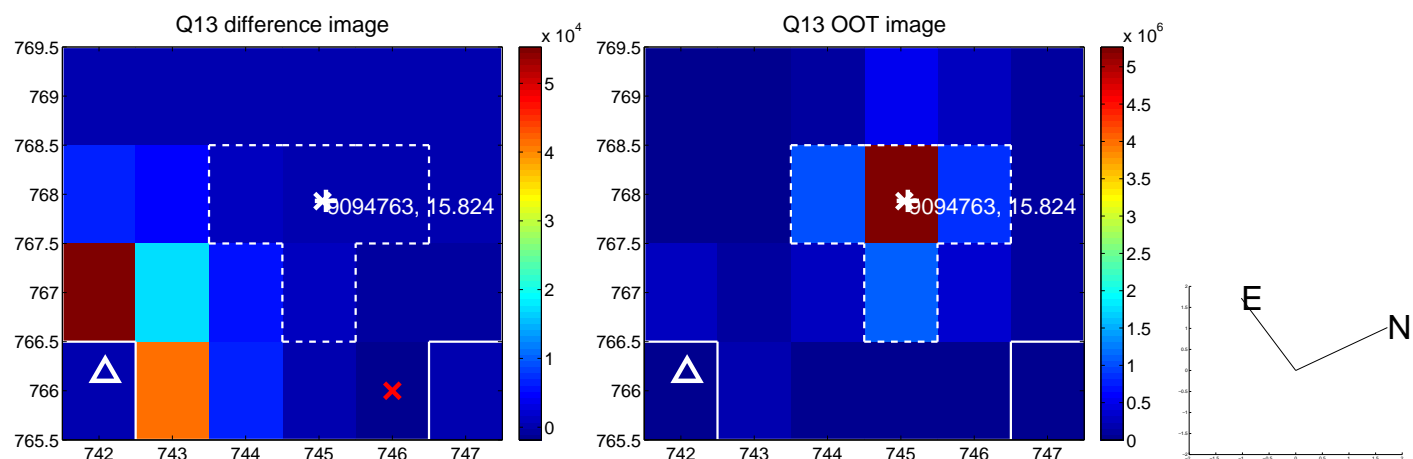




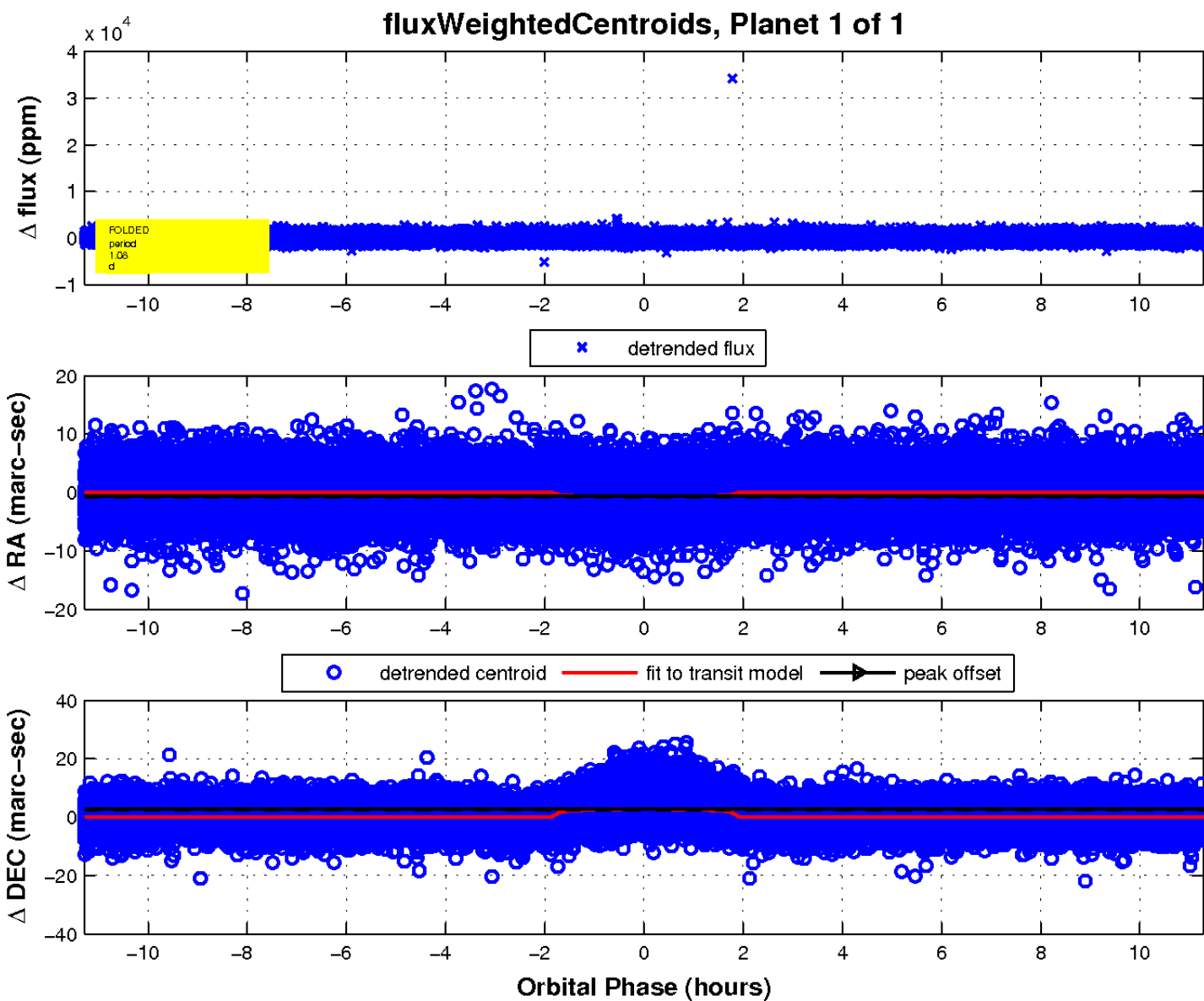
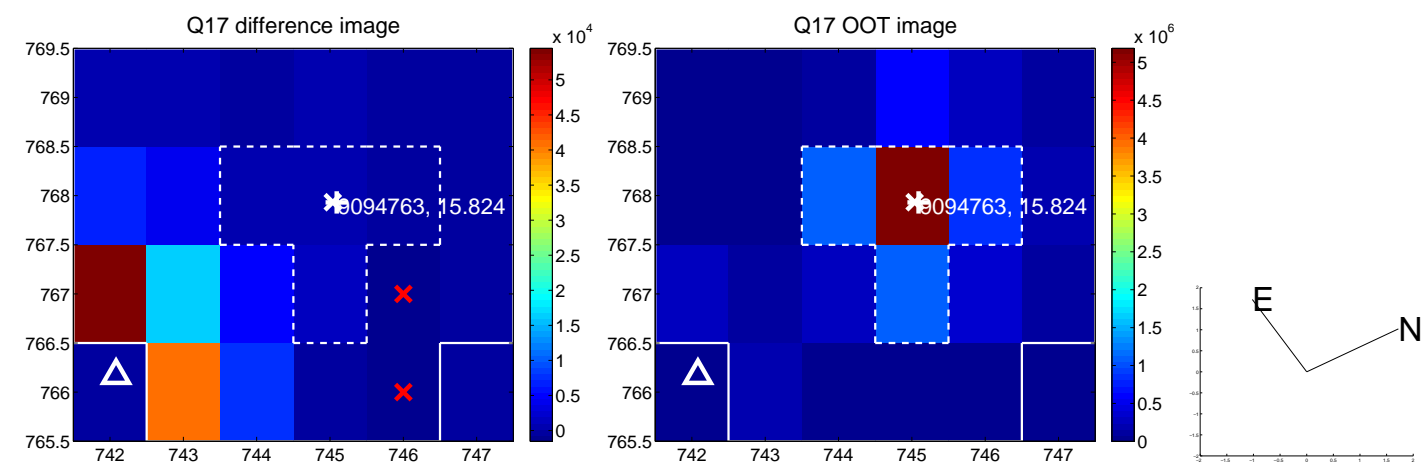
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

