

# KIC 005294064

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005294064-01	OBS	No	0.681079	131.773709	24.7	4.218	7.9	7.6	0.95	6039	0.48	4612.59

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005294064-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_UNRESOLVED_OFFSET

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

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

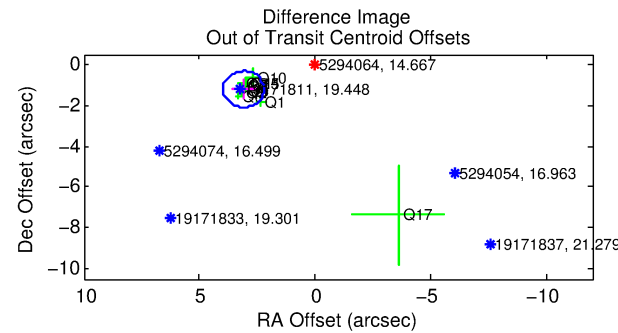
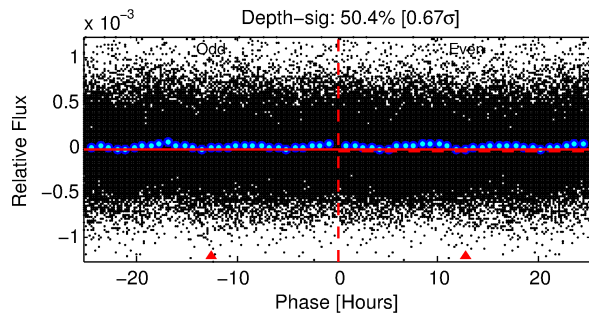
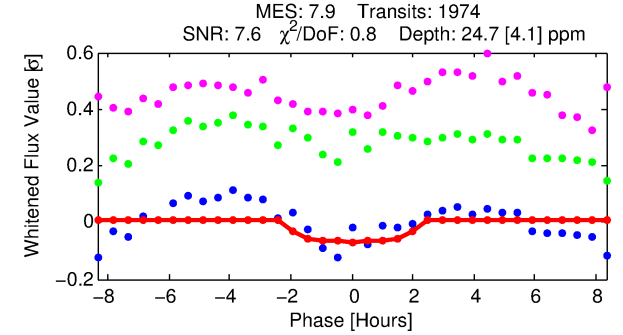
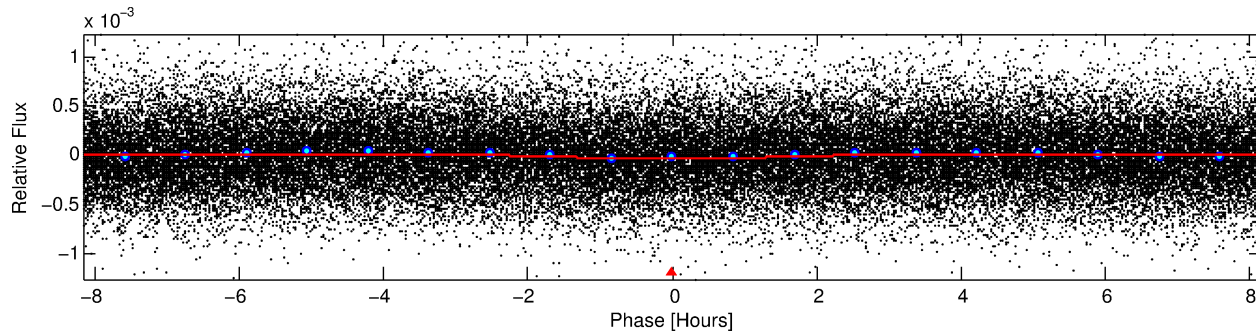
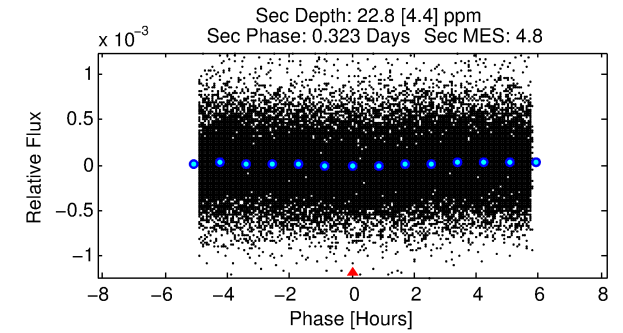
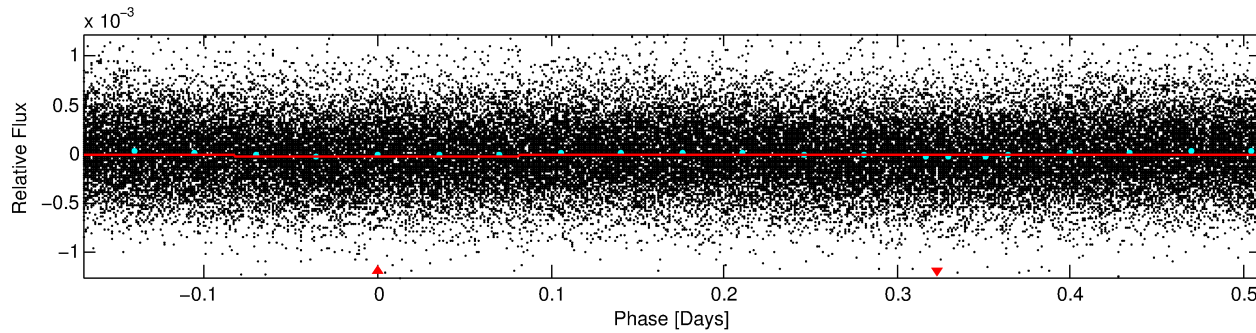
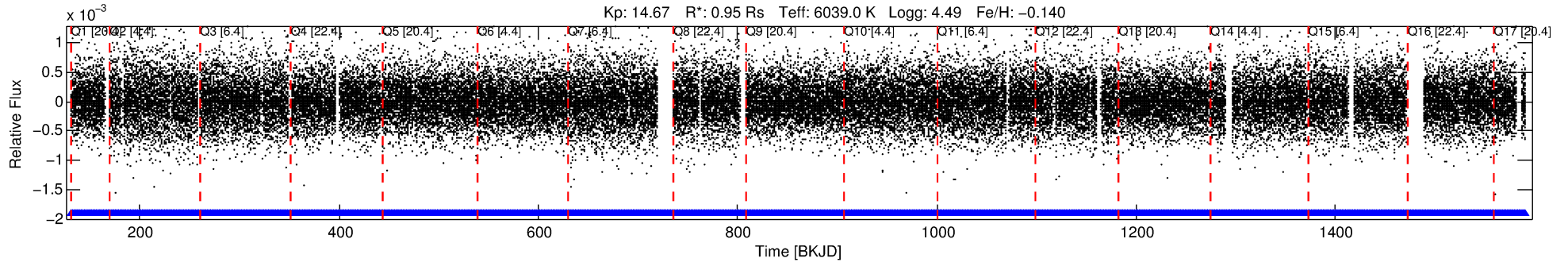
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005294064-01

No Significant Match Found

# DV One-Page Summary

KIC: 5294064 Candidate: 1 of 1 Period: 0.681 d



## DV Fit Results:

Period = 0.68108 [0.00001] d  
Epoch = 131.7737 [0.0061] BKJD  
Rp/R\* = 0.0046 [0.0066]  
a/R\* = 1.36 [4.27]  
b = 0.30 [20.95]  
Seff = 4612.59 [1919.39]  
Teq = 2101 [219] K  
Rp = 0.48 [0.70] Re  
a = 0.0153 [0.0041] AU  
Ag = 12.94 [37.56] [0.32σ]  
Teffp = 6162 [4436] K [0.91σ]

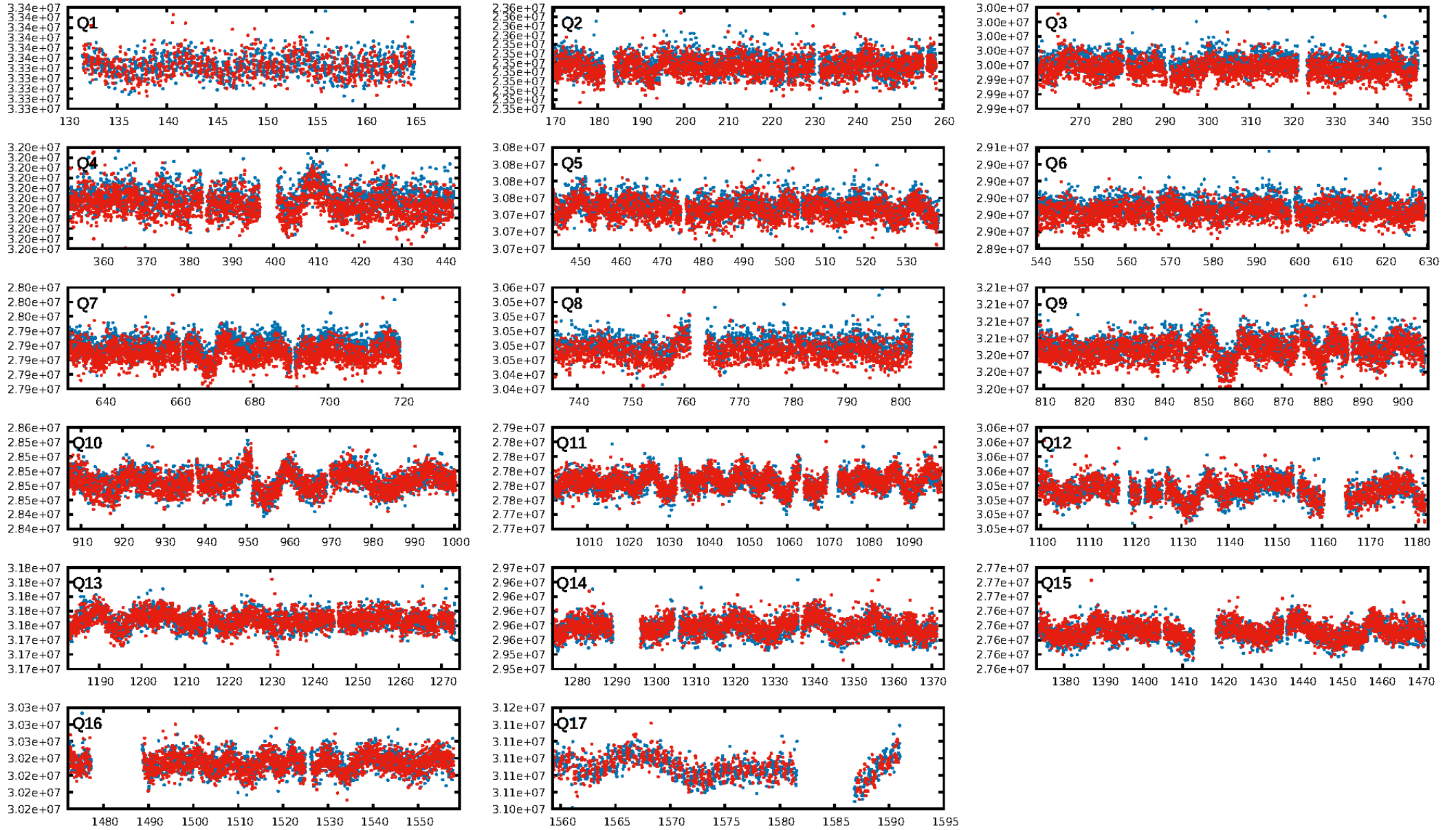
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
**Bootstrap-pfa: 1.47e-11**  
RollingBand-fgt: 1.00 [1886/1886]  
**GhostDiagnostic-chr: 0.405**  
Centroid-sig: 0.0%  
Centroid-so: 4.281 arcsec [3.21σ]  
OotOffset-rm: 3.324 arcsec [11.25σ]  
KicOffset-rm: 3.495 arcsec [12.19σ]  
OotOffset-st: 3/4/2/4 [13]  
KicOffset-st: 3/4/2/4 [13]  
DiffImageQuality-fgm: 0.77 [10/13]  
DiffImageOverlap-fno: 1.00 [17/17]

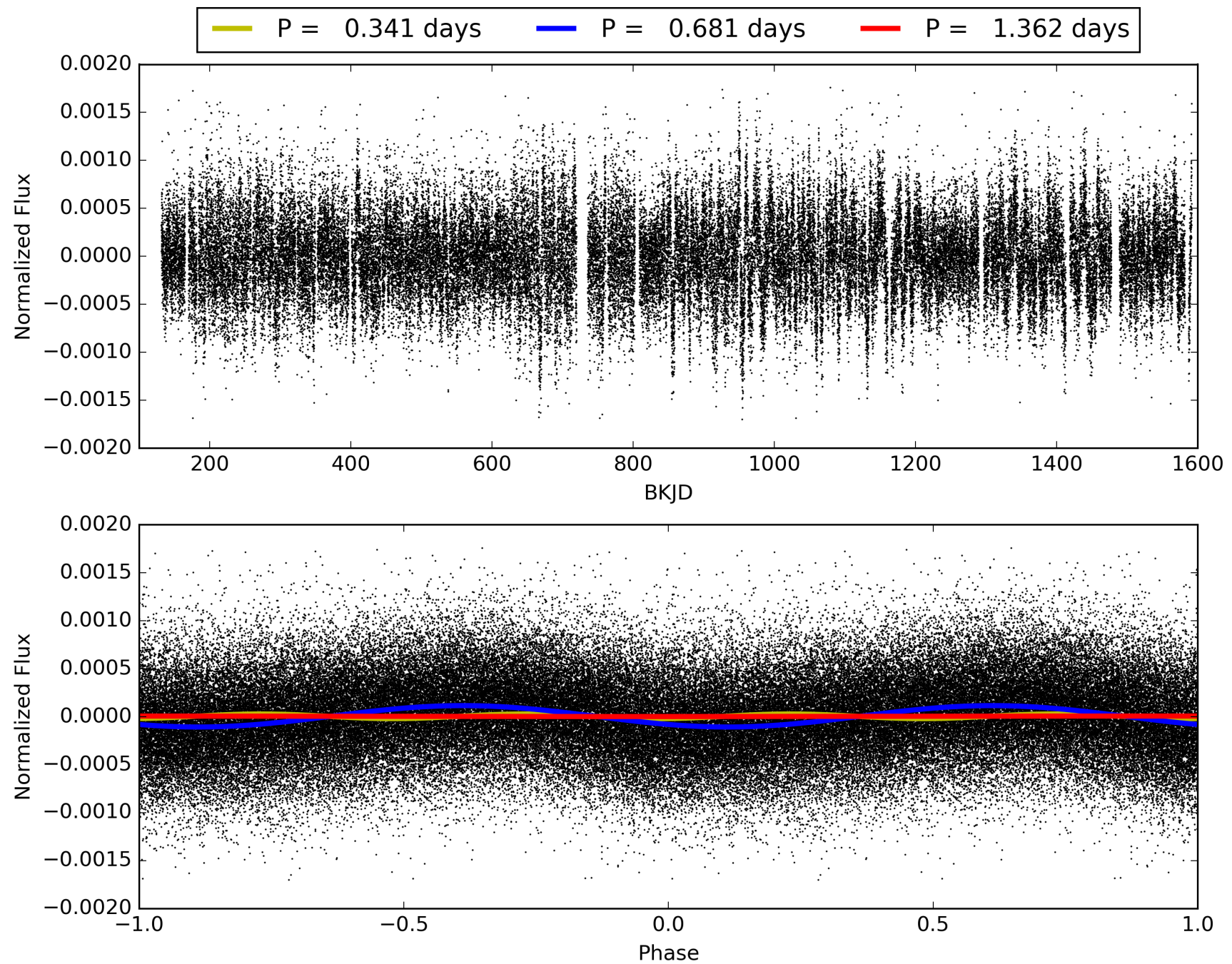
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:48:14 Z

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

# TCE 005294064-01, PDC Light Curves



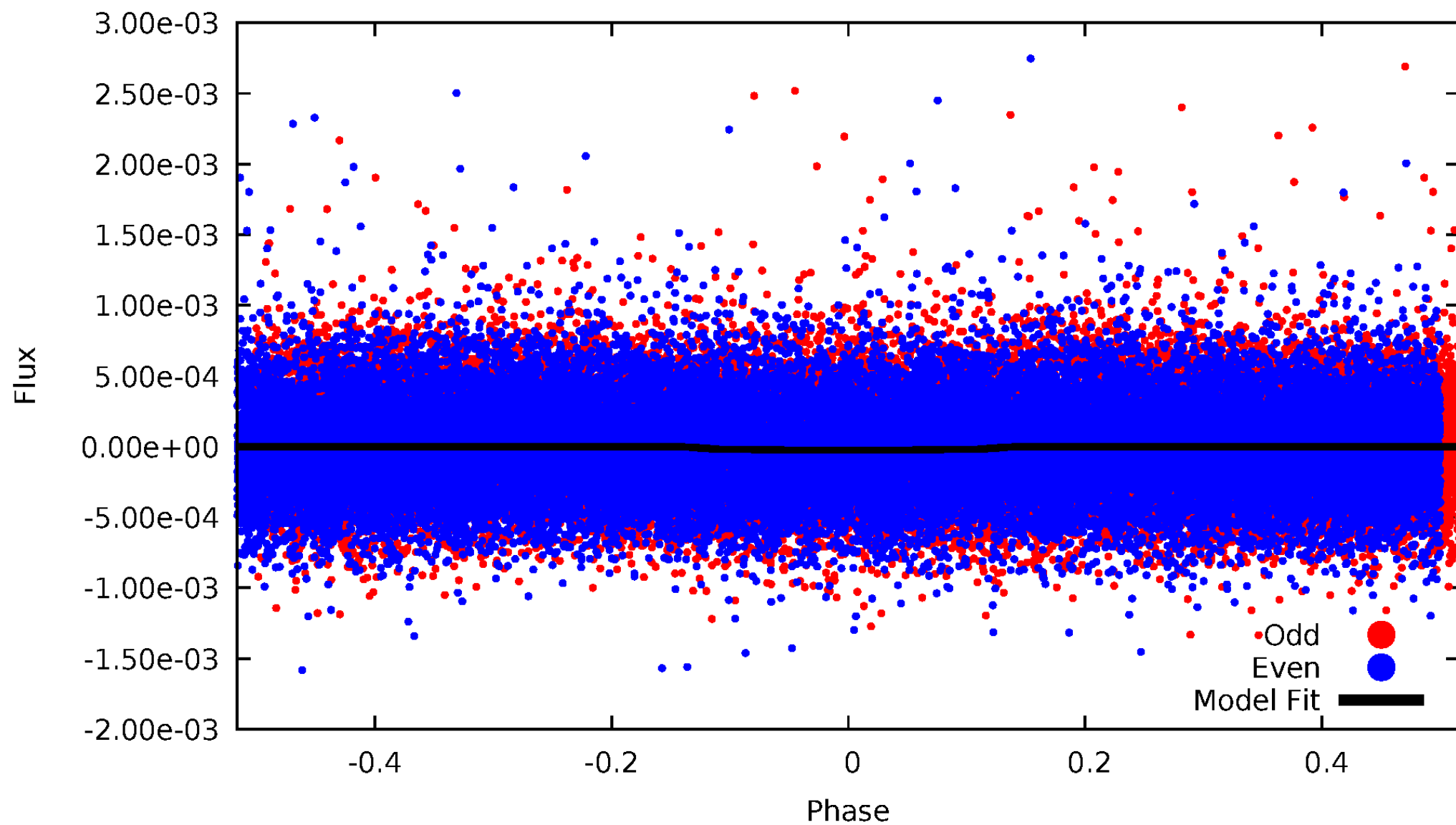
TCE 005294064-01





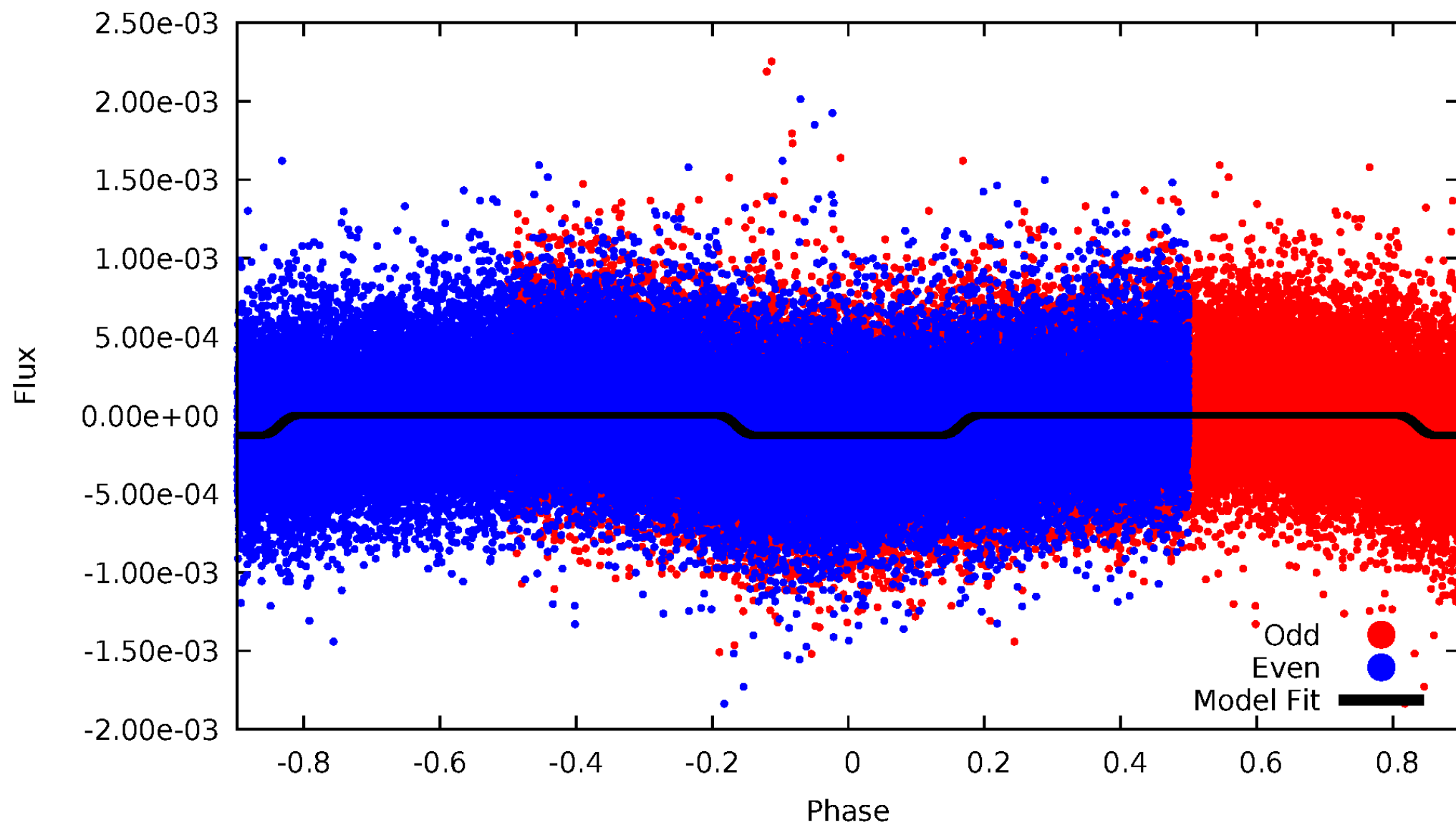
# DV Odd/Even

TCE 005294064-01

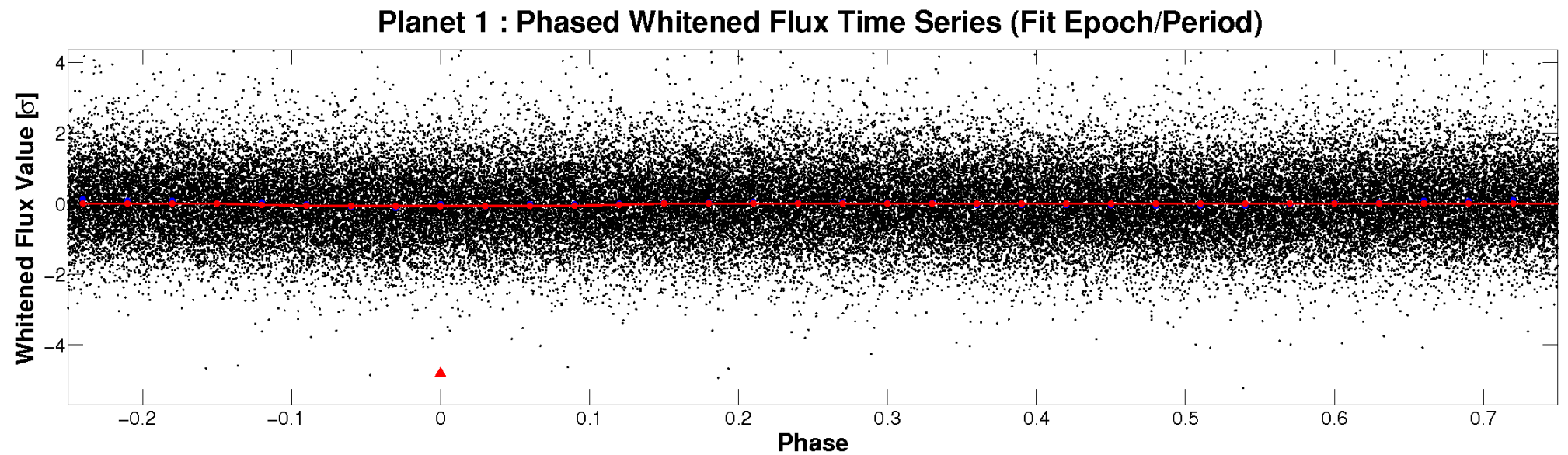
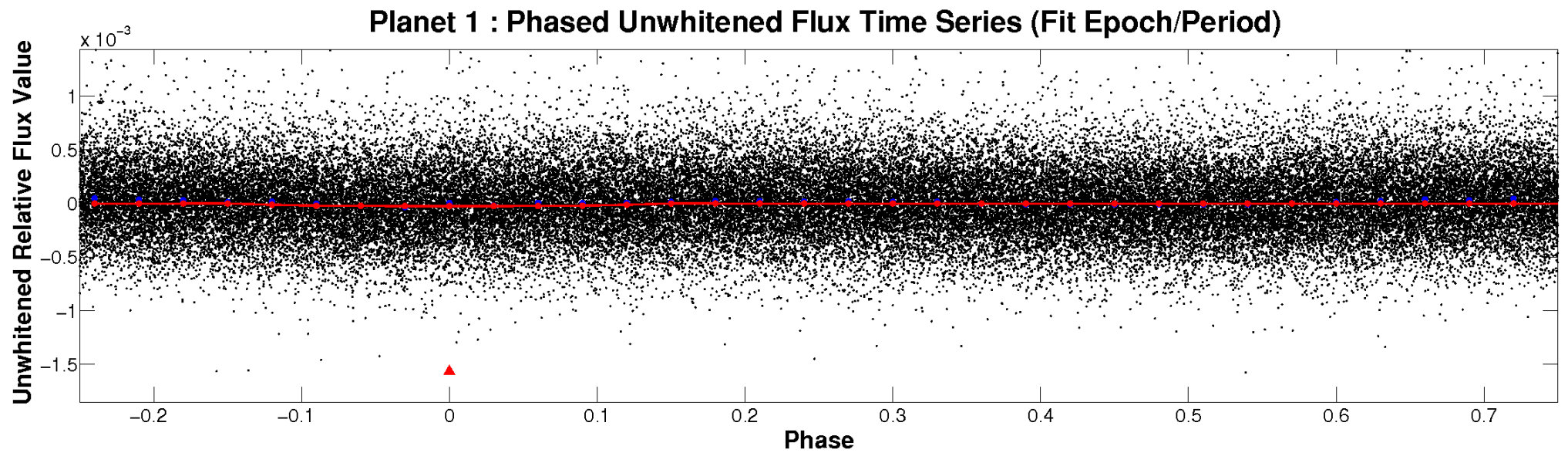


# ALT Odd/Even

TCE 005294064-01

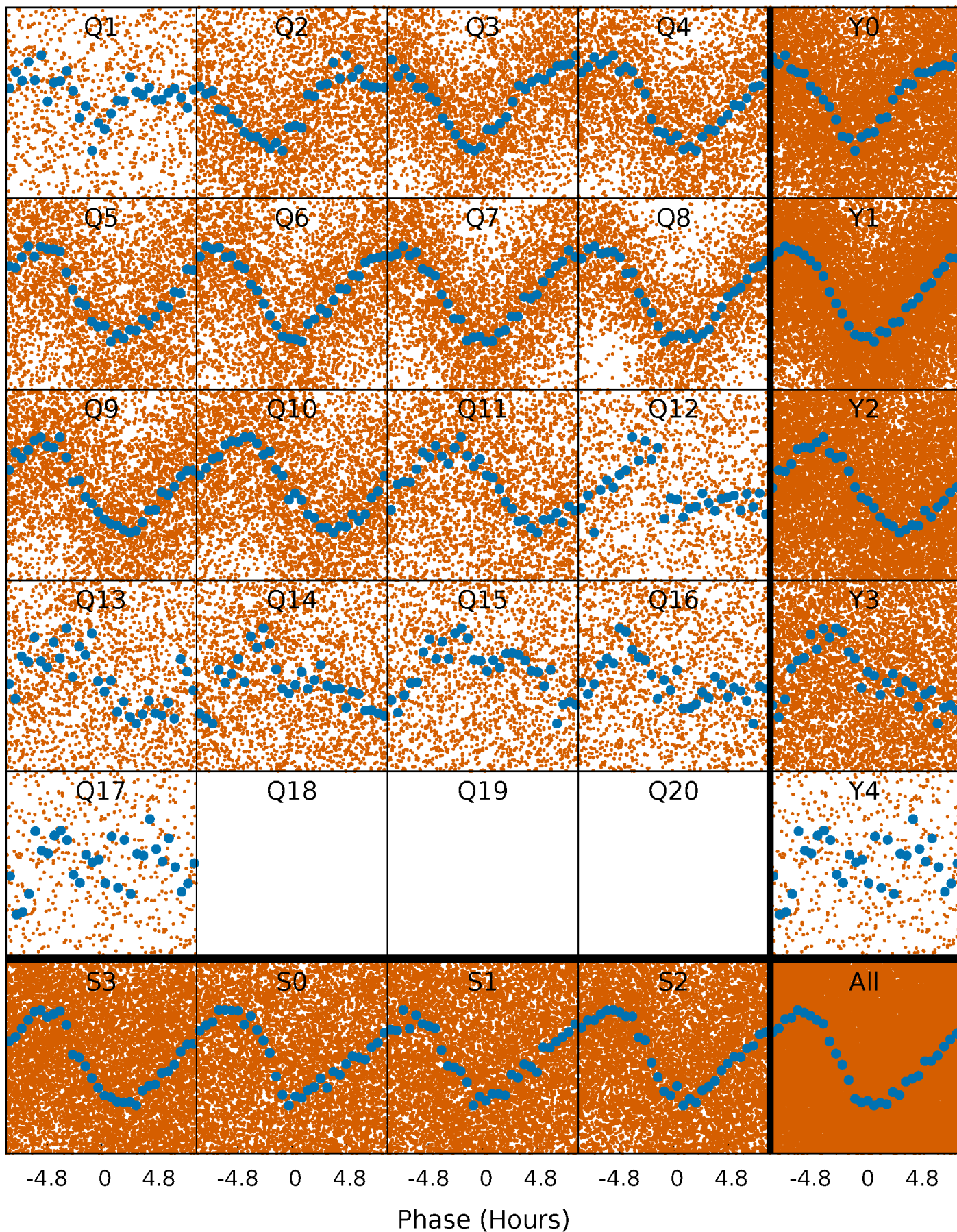


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

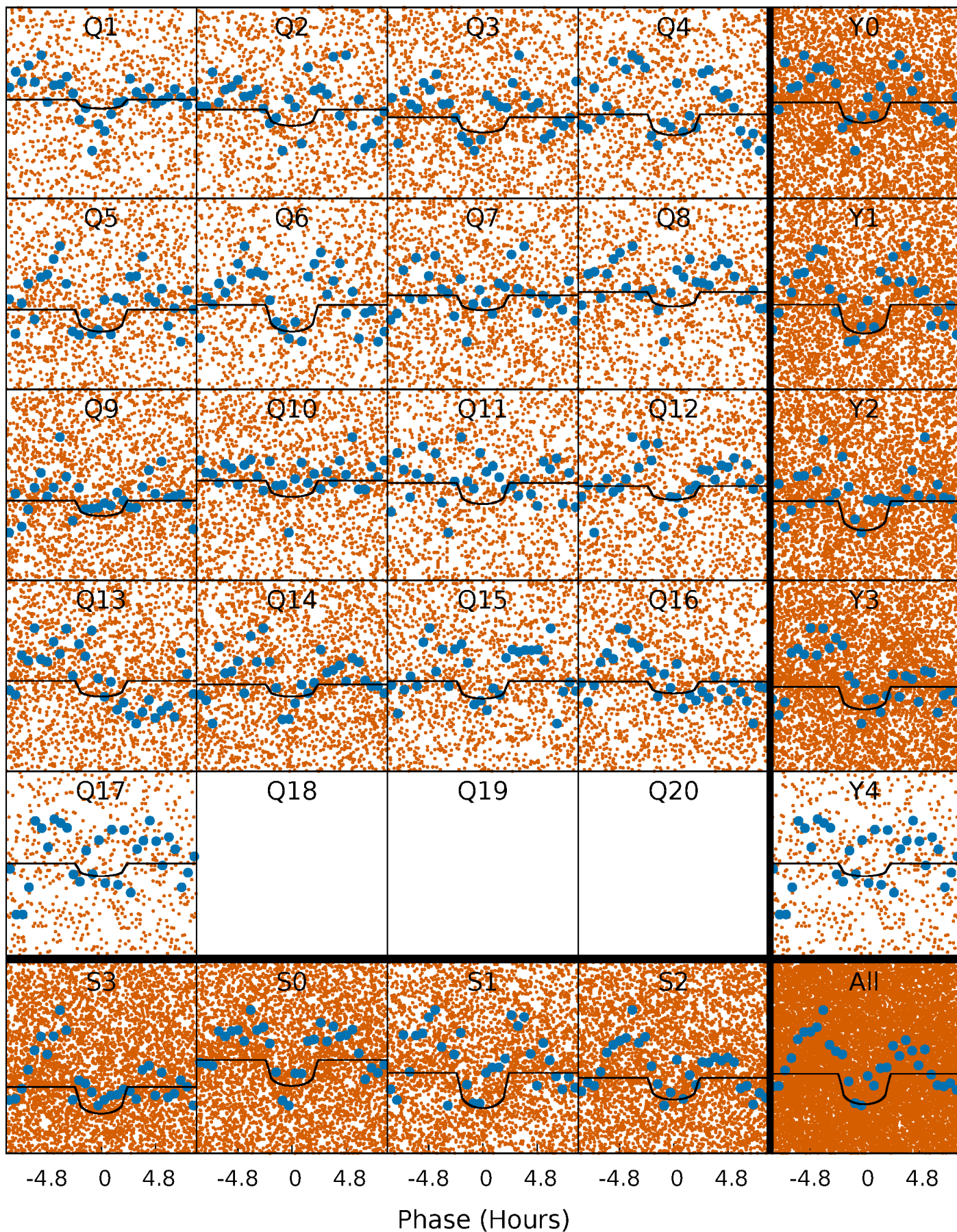
TCE 005294064-01 P= 0.681079 Days  $T_0=131.773709$  (BKJD)





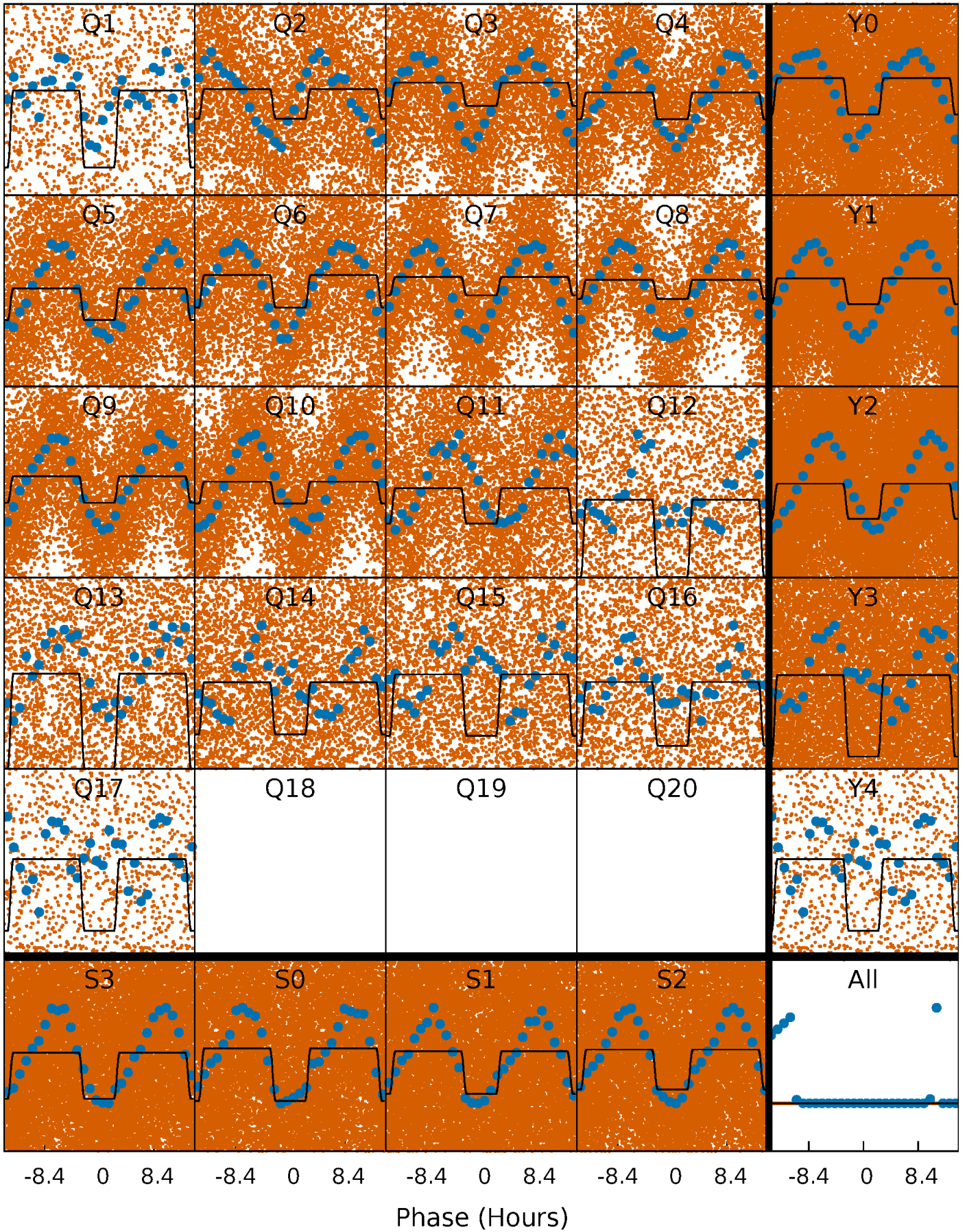
# DV Quarter-Phased Transit Curves

TCE 005294064-01 P= 0.681079 Days  $T_0=131.773709$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005294064-01 P= 0.681122 Days  $T_0=131.787912$  (BKJD)

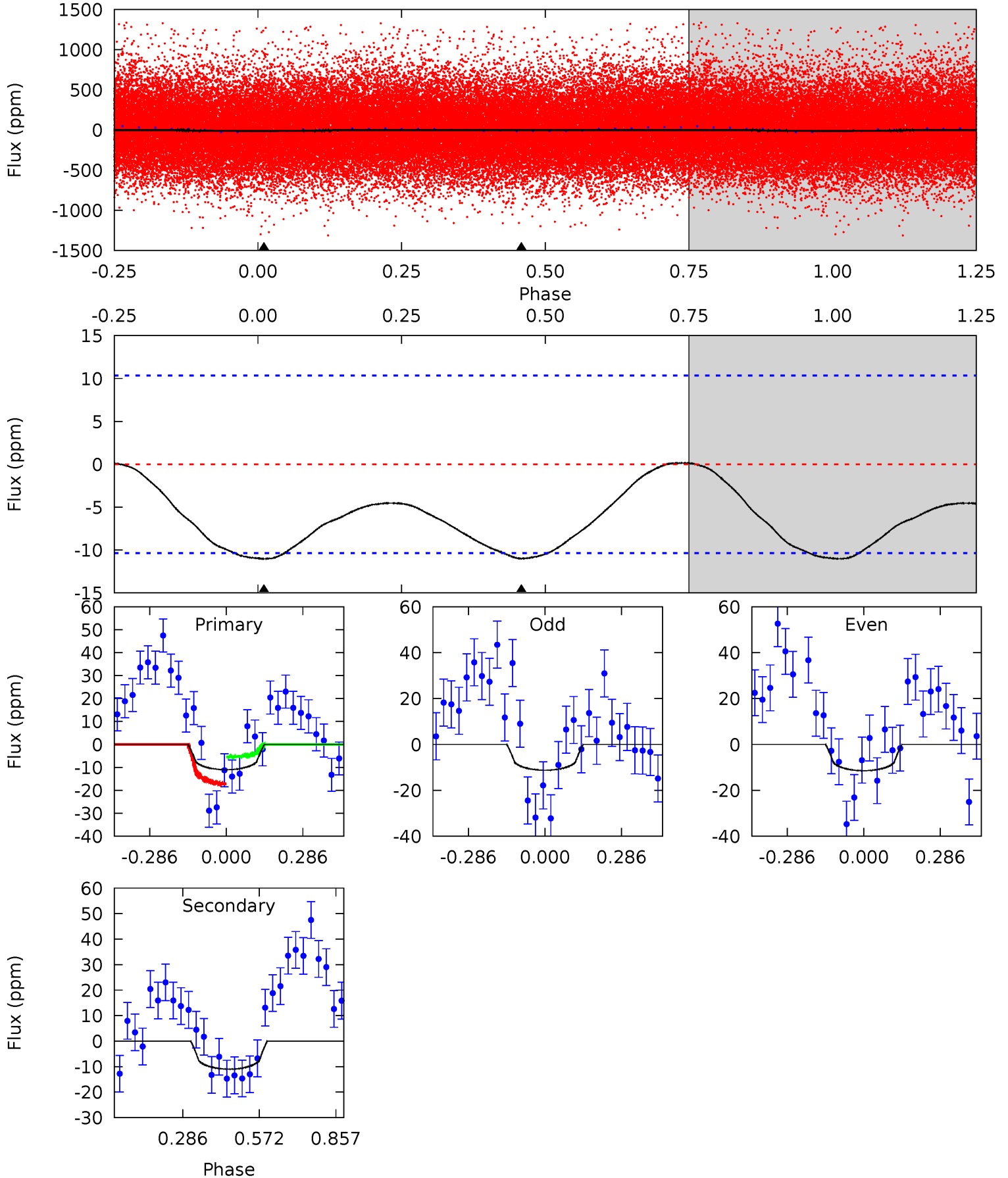




# DV Model-Shift Uniqueness Test

005294064-01, P = 0.681079 Days, E = 131.092630 Days

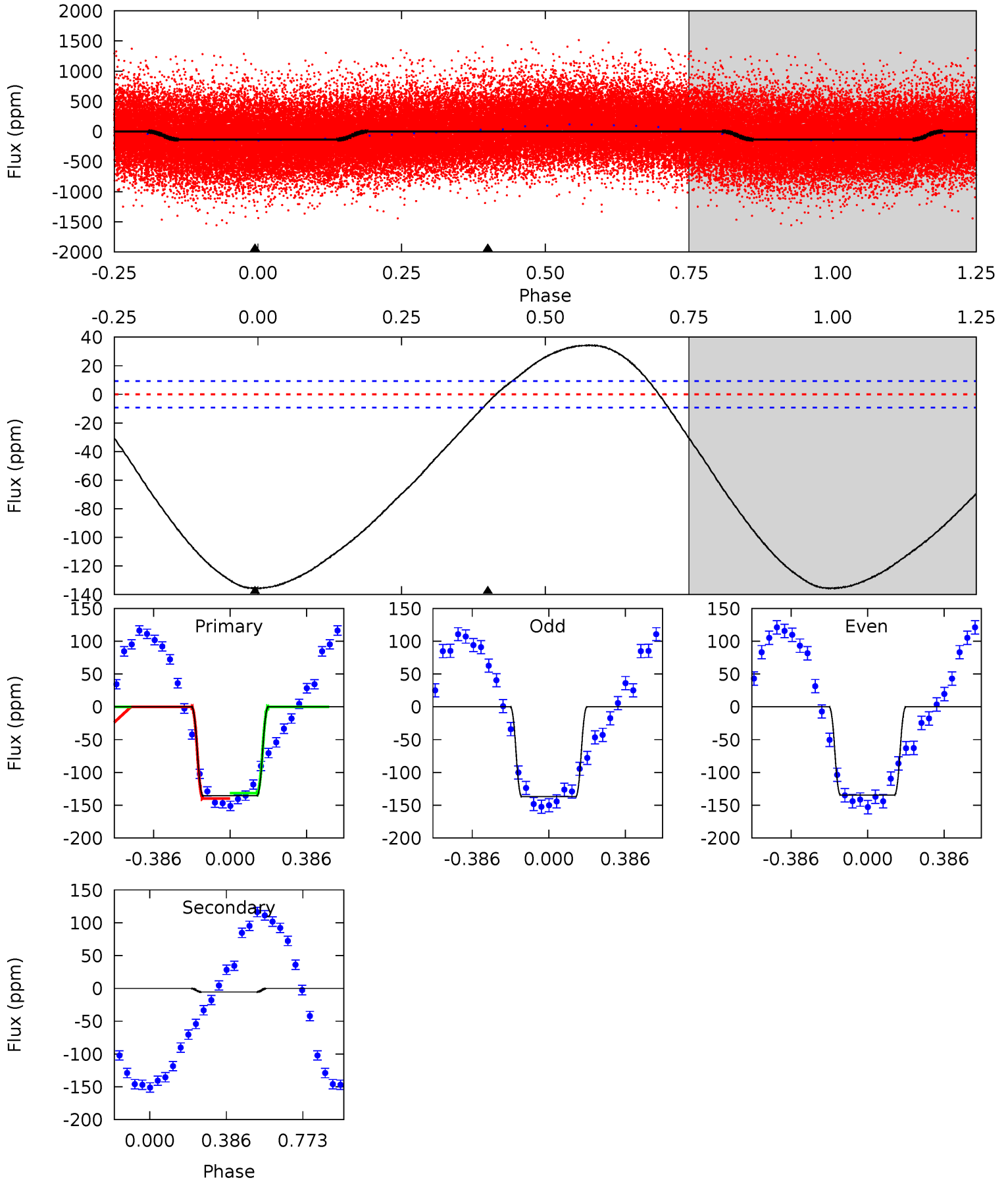
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.62	4.61	0	0	4.34	1.07	0.11	4.62	4.62	4.61	4.61	0.04	0.89	0.01	2.48



# Alt Model-Shift Uniqueness Test

005294064-01, P = 0.681122 Days, E = 131.106790 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
62.5	2.61	0	0	4.27	0.87	7.09	62.5	62.5	2.61	2.61	0.58	1.05	0.20	1.88





### Stellar Parameters For KIC 005294064

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6039^{+180}_{-198}$	$4.493^{+0.054}_{-0.216}$	$-0.140^{+0.250}_{-0.350}$	$0.951^{+0.306}_{-0.102}$	$1.027^{+0.141}_{-0.141}$	$1.685^{+0.383}_{-0.907}$
	+3%/-3%	+1%/-5%	+179%/-250%	+32%/-11%	+14%/-14%	+23%/-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 005294064-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-11 \pm 2$	$0.70^{+0.68}_{-0.46}$	$3019^{+249}_{-166}$	$4386^{+3087}_{-1140}$	$2.643^{+21.431}_{-1.945}$
Alt.	$-6 \pm 2$	$1.27^{+0.76}_{-0.64}$	$2999^{+226}_{-138}$	$2692^{+1253}_{-5546}$	$0.412^{+1.183}_{-0.269}$

$T_{max}$  = 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

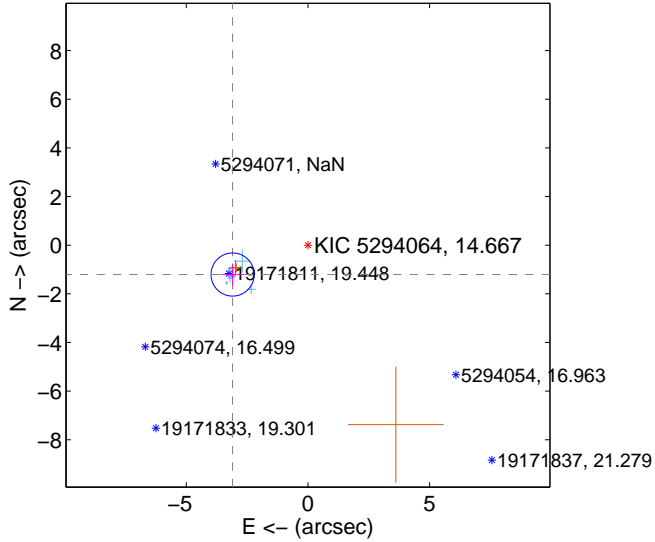
Supplemental centroid analysis for 005294064-01. Kepler magnitude: 14.67. Transit SNR 7.56

There are 10 quarters with good PRF difference image offsets

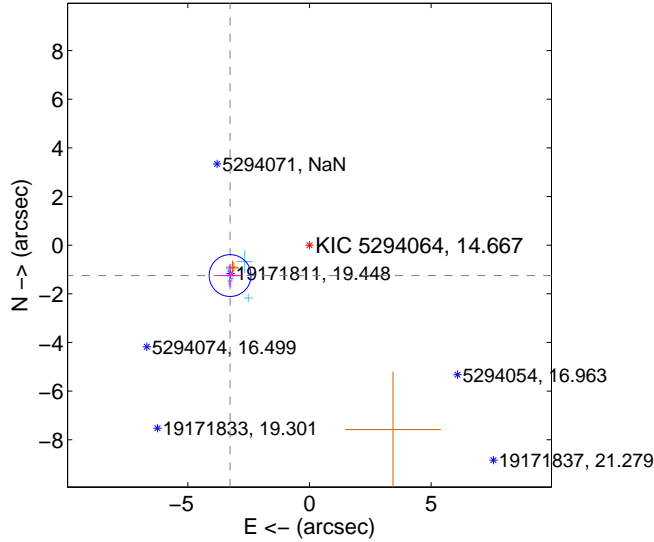
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.324 \pm 0.295$	11.25	$3.097 \pm 0.482$	$-1.207 \pm 0.453$
PRF-fit source offset from KIC position	$3.495 \pm 0.287$	12.19	$3.264 \pm 0.474$	$-1.249 \pm 0.475$
photometric centroid source offset	$4.28 \pm 1.34$	3.21	$3.53 \pm 1.36$	$-2.42 \pm 1.28$

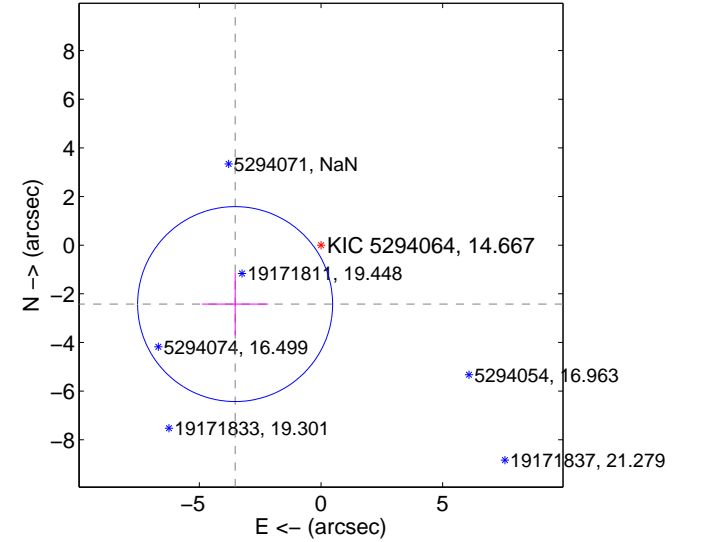
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

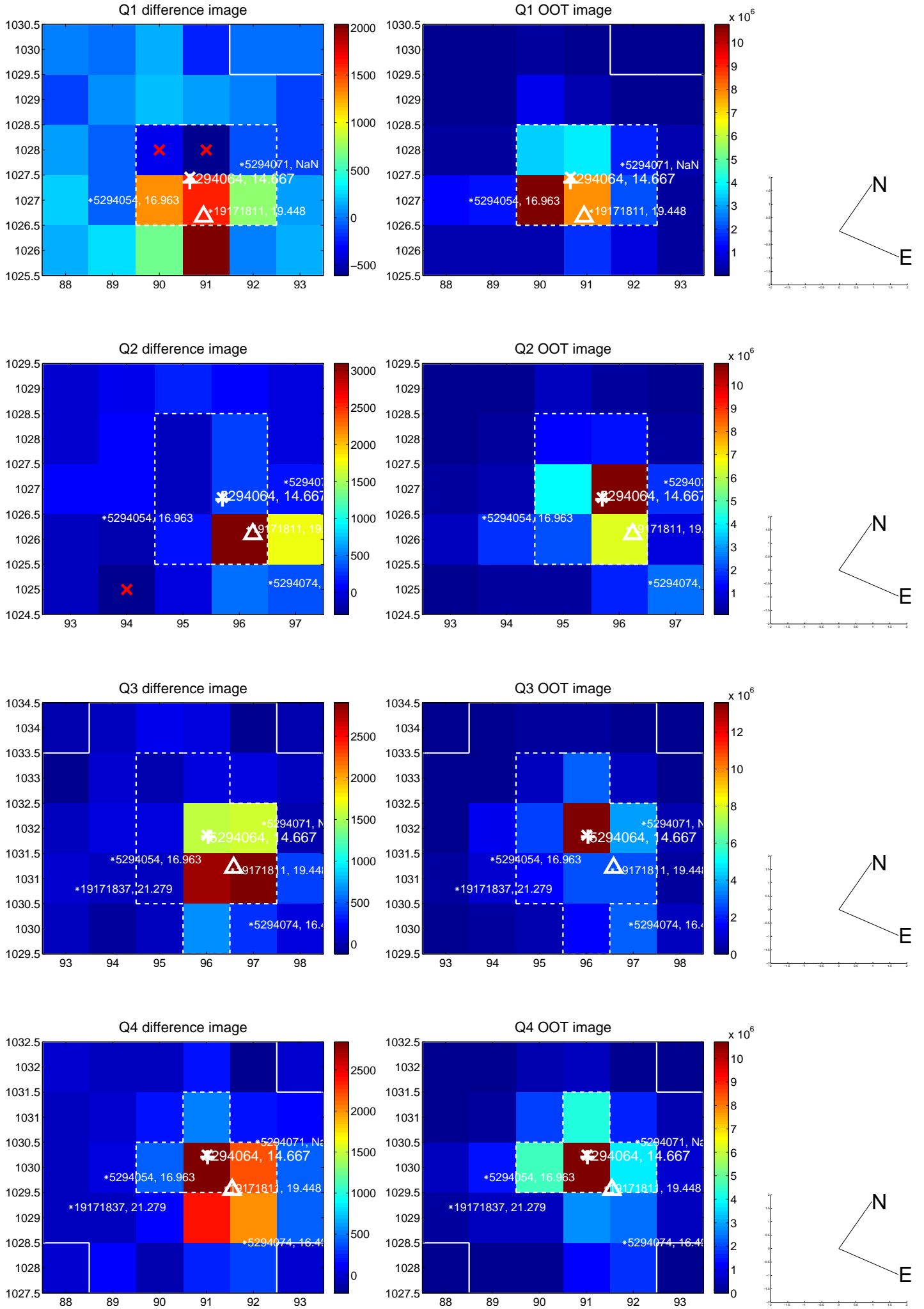


offset from photometric centroids

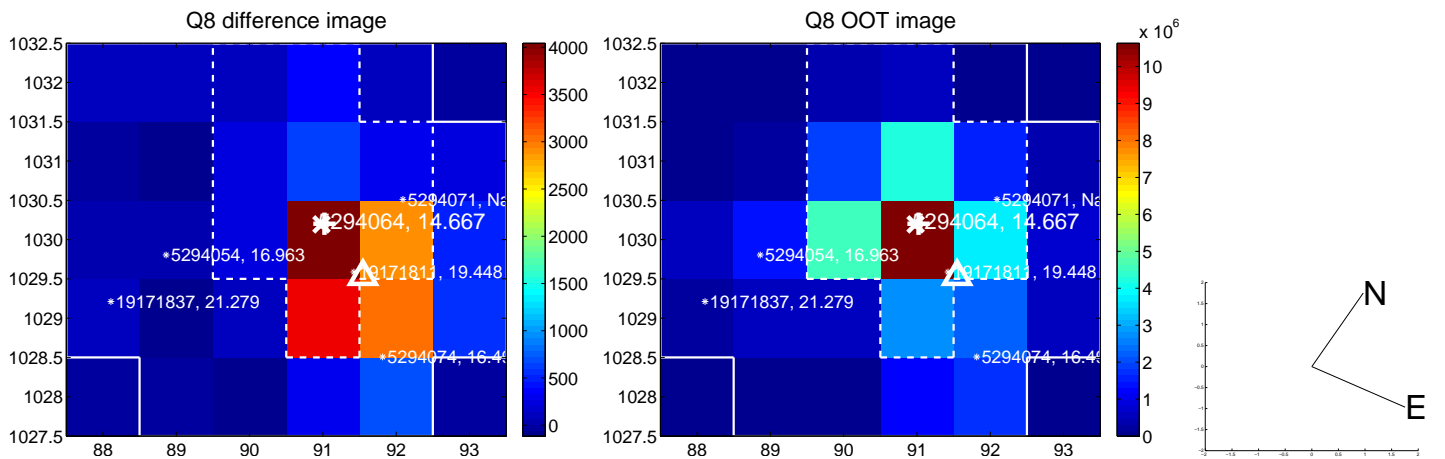
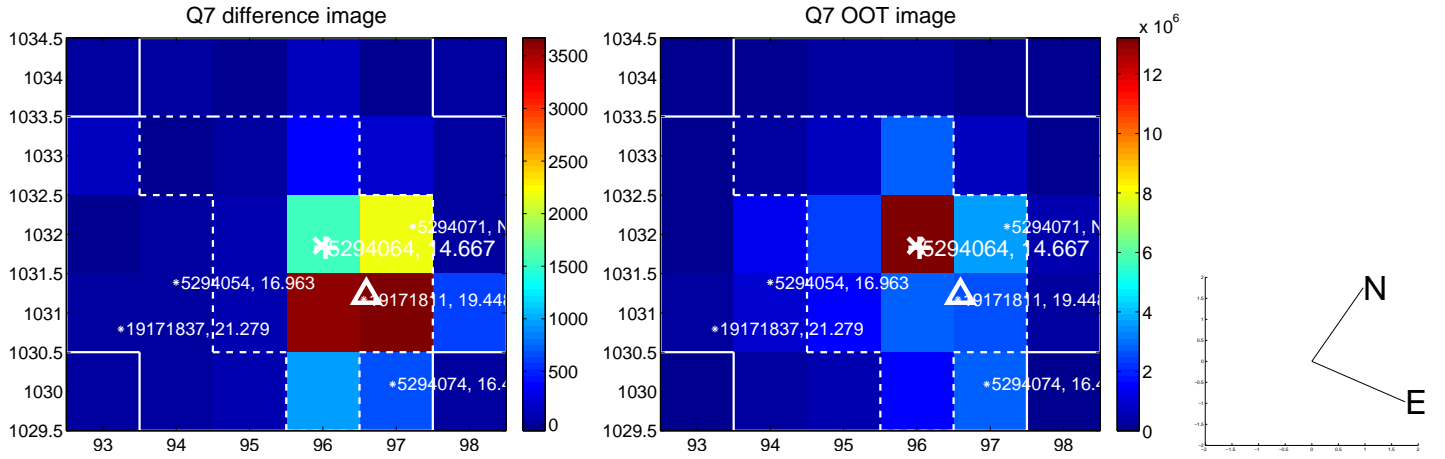
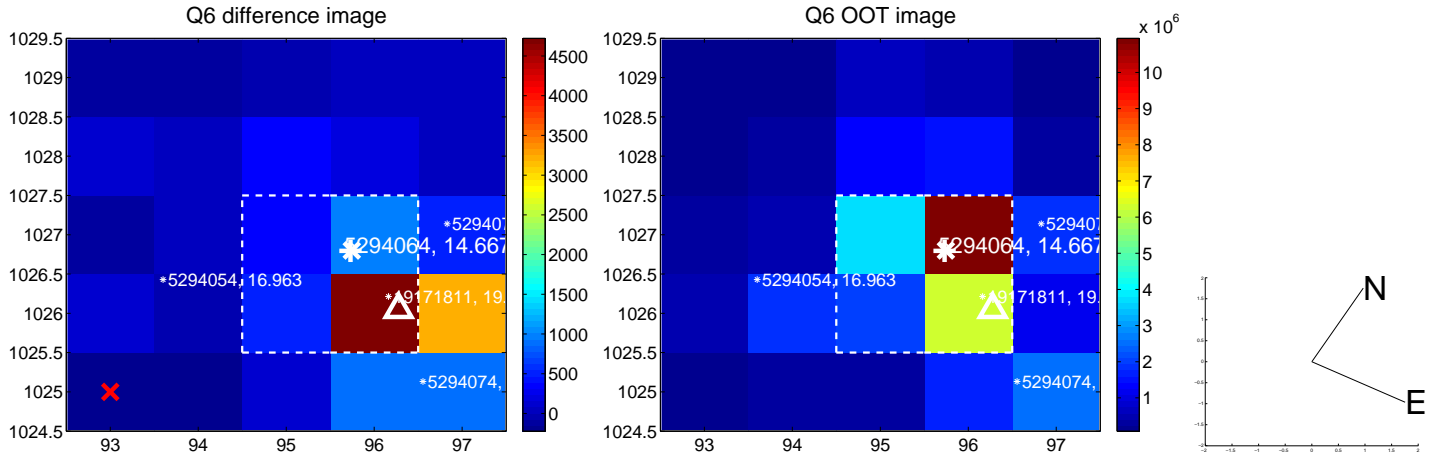
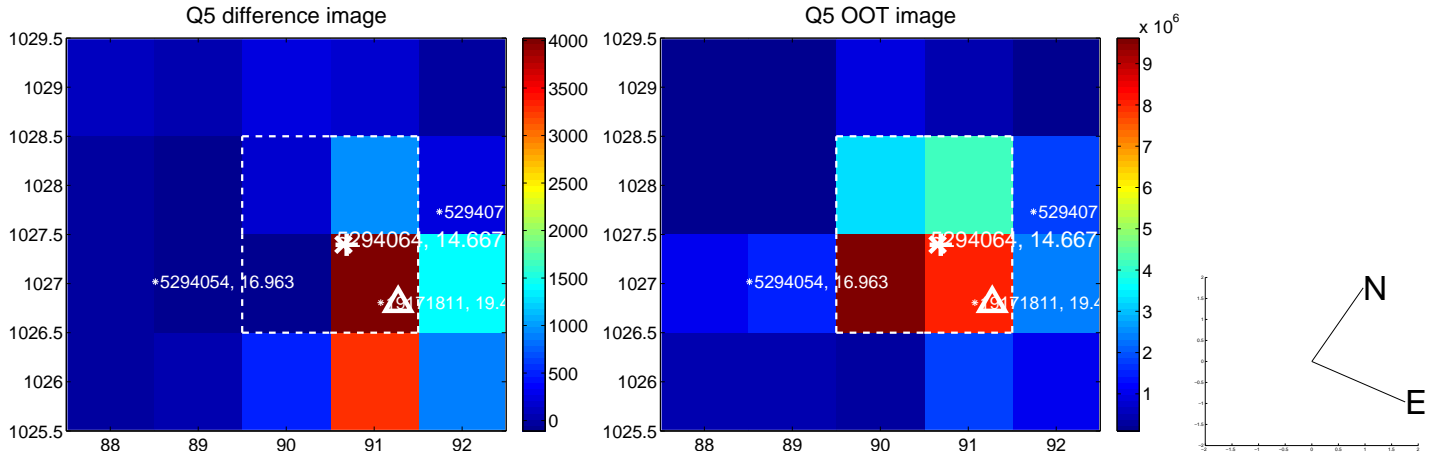


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

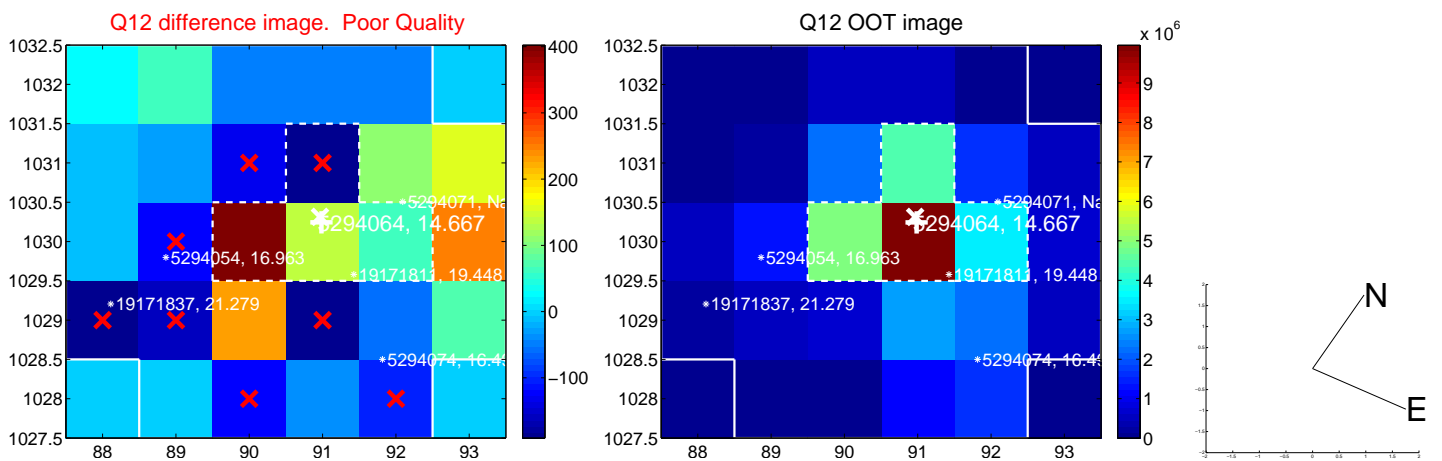
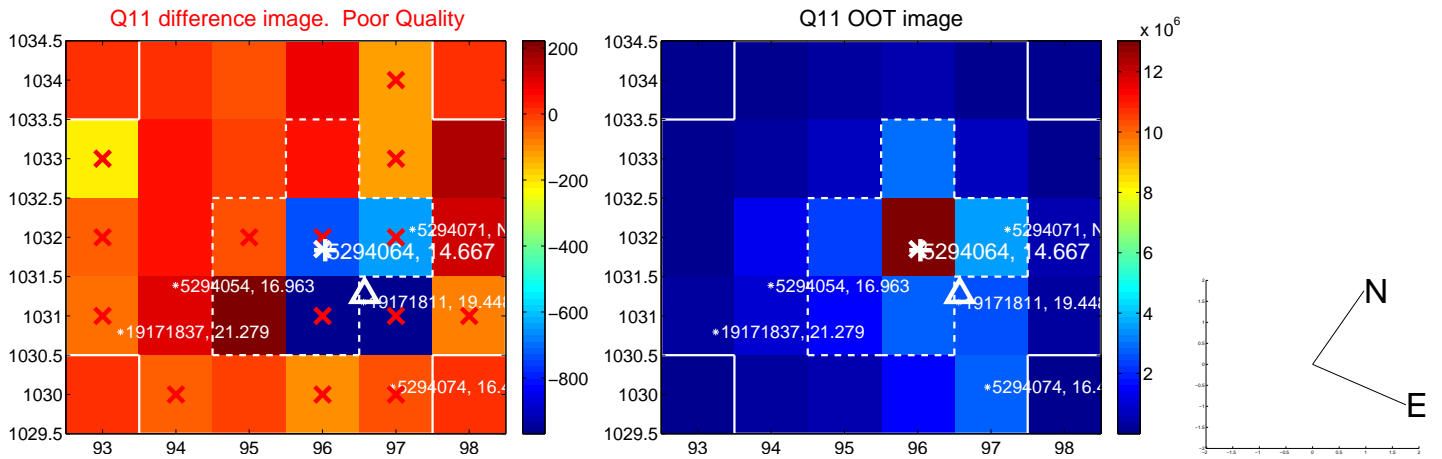
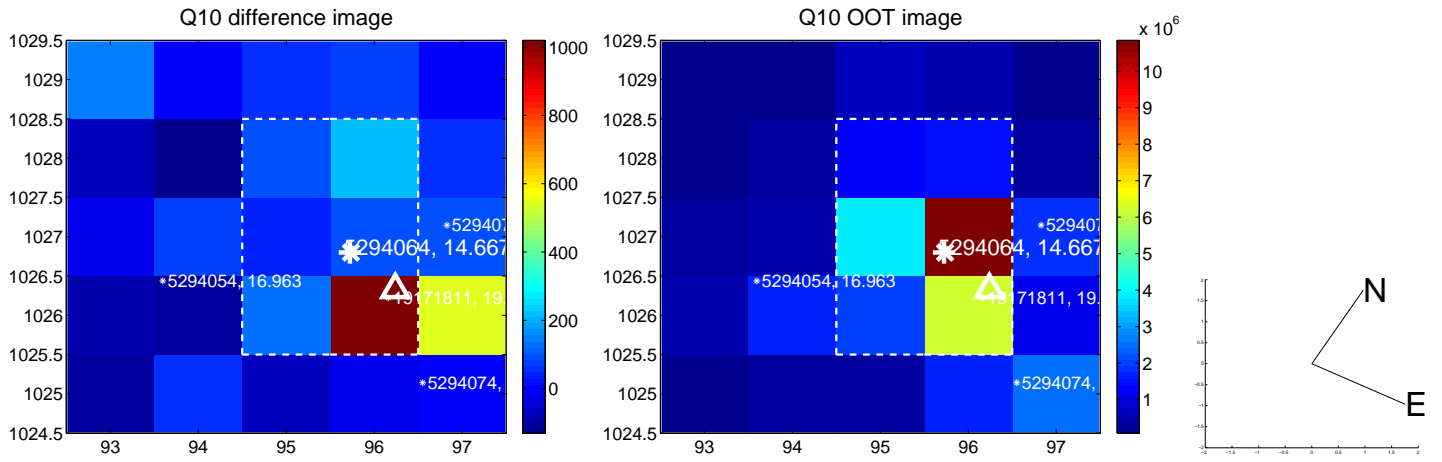
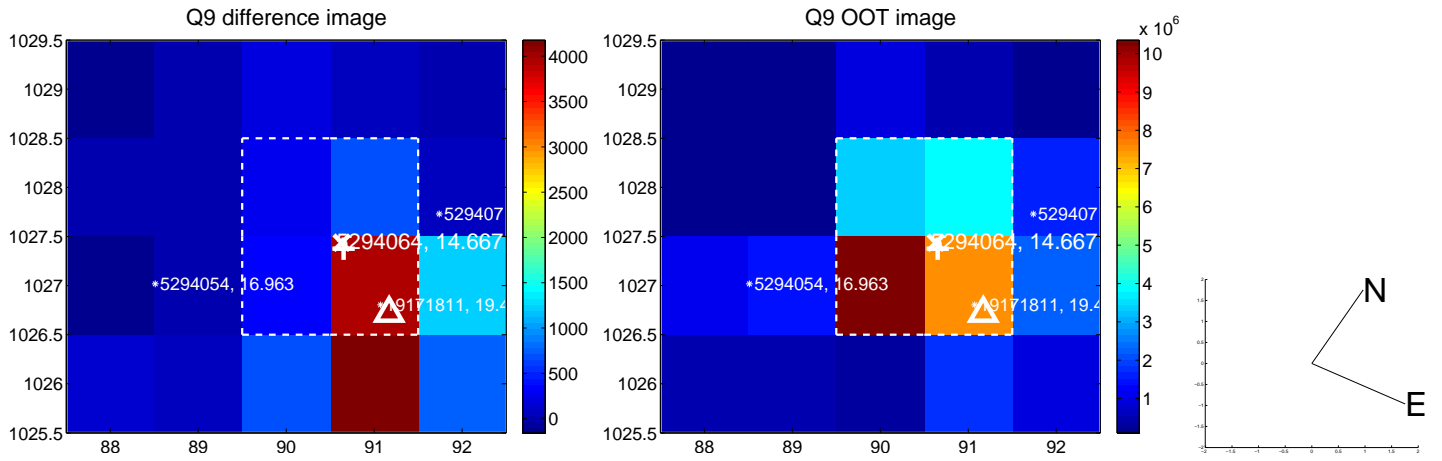


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

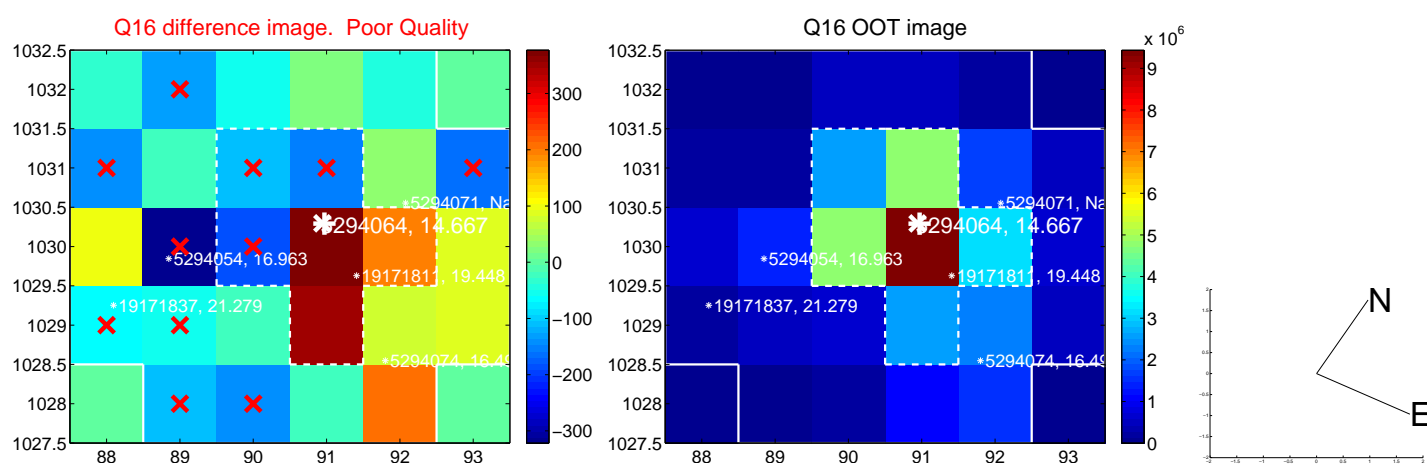
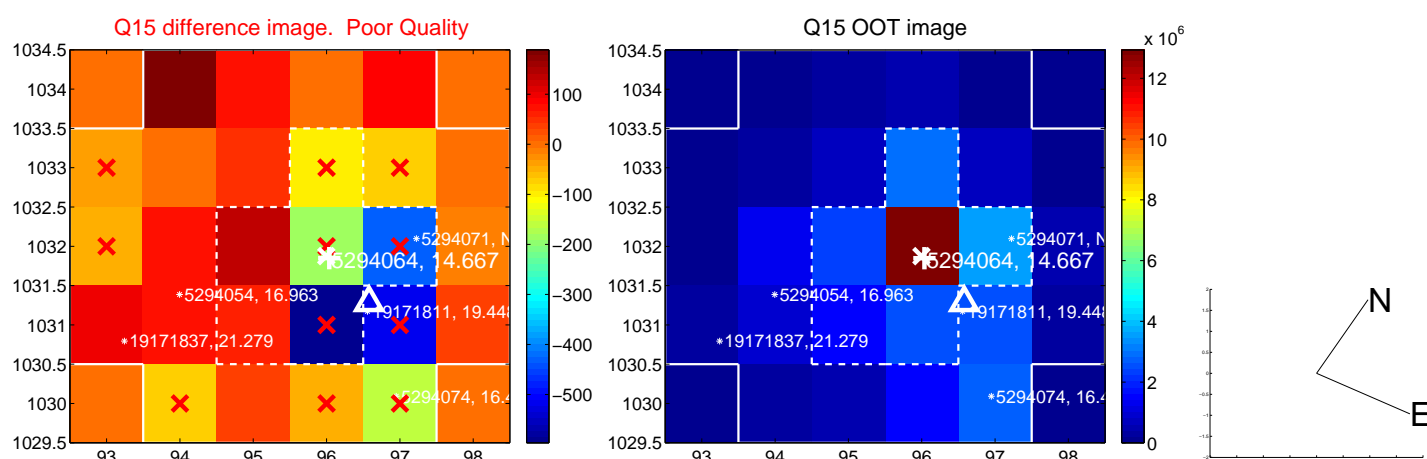
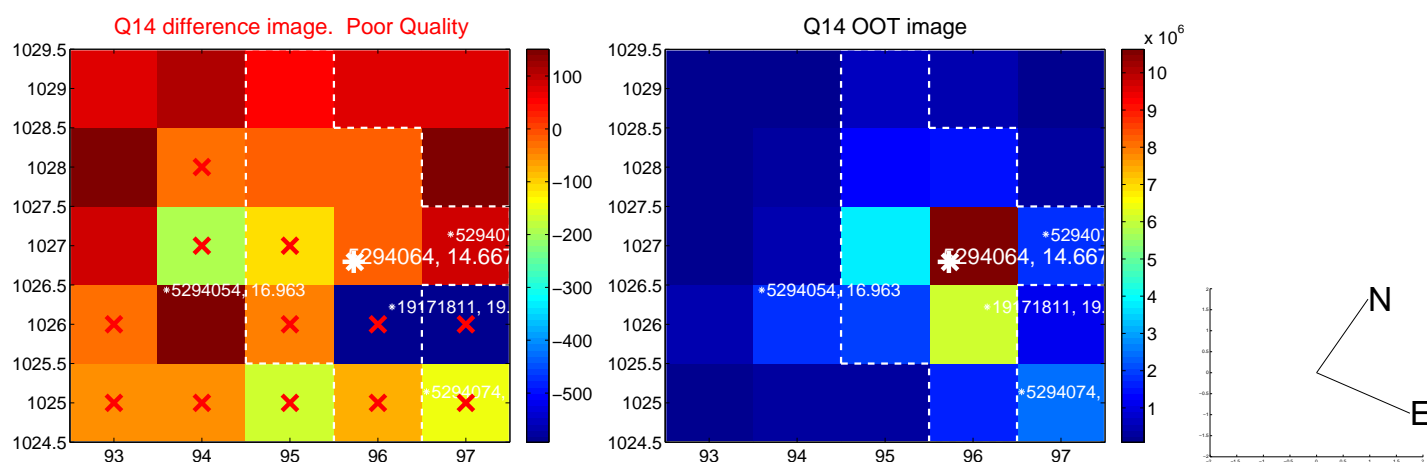
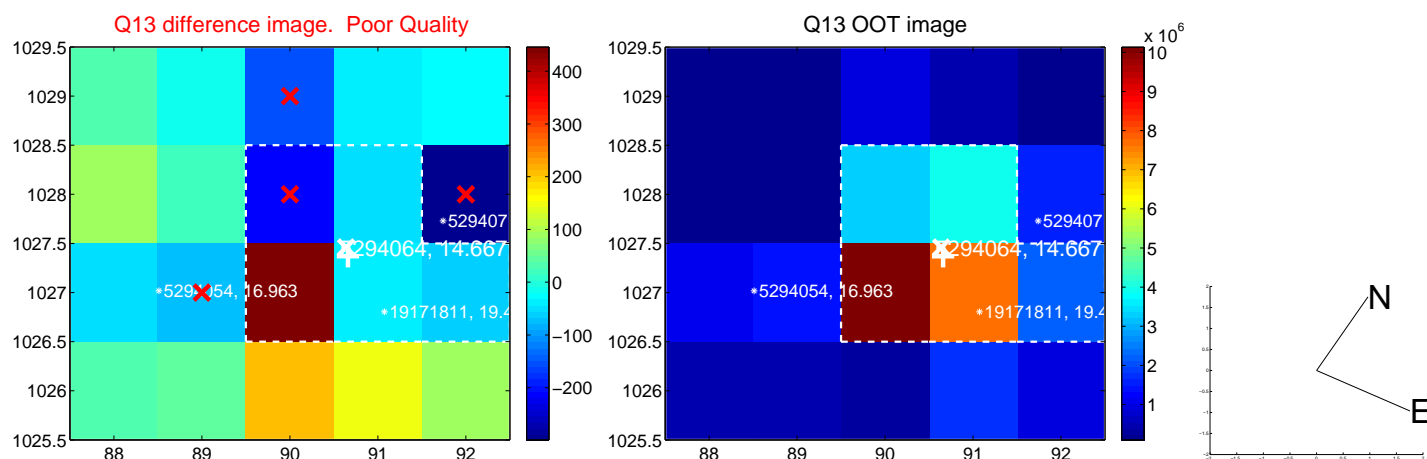




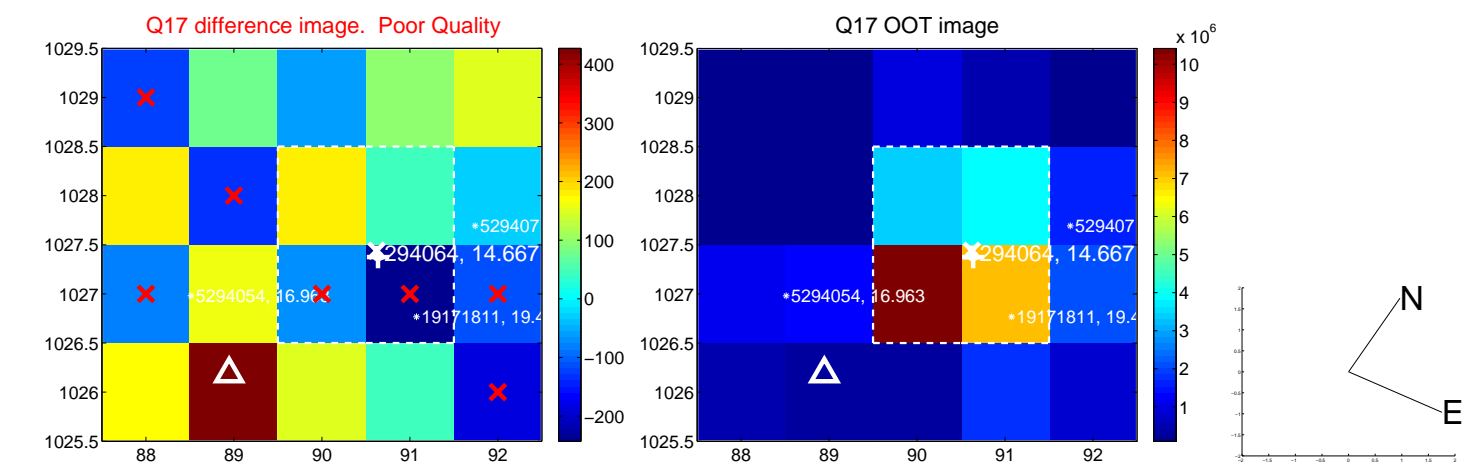
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



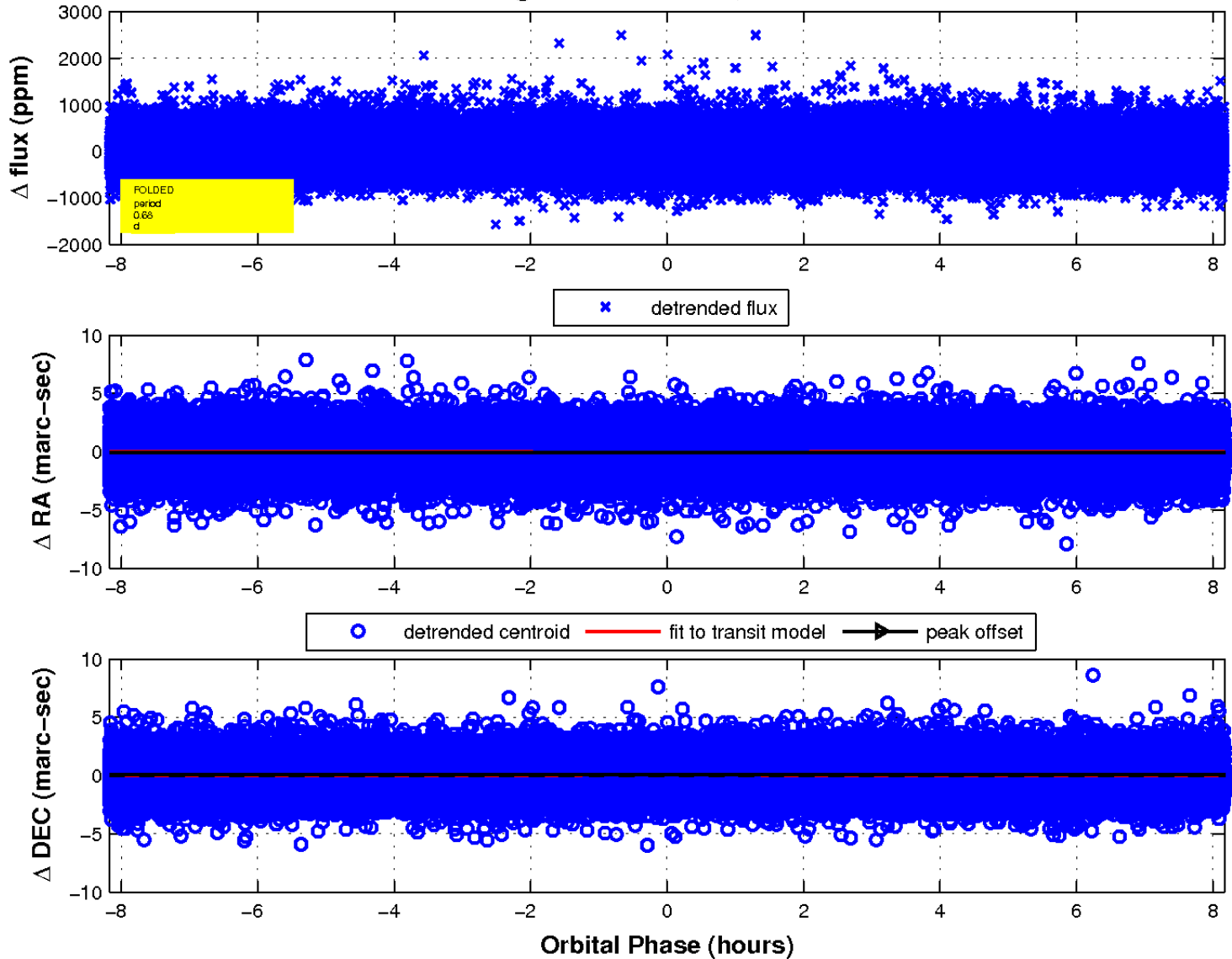
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

