

# KIC 006947623

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006947623-01	OBS	6793.01	3.626590	133.570904	86.0	2.047	8.5	9.6	0.80	5416	0.87	250.61

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006947623-01	OBS	PC	0.97	0	0	0	0	CENT_KIC_POS

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

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

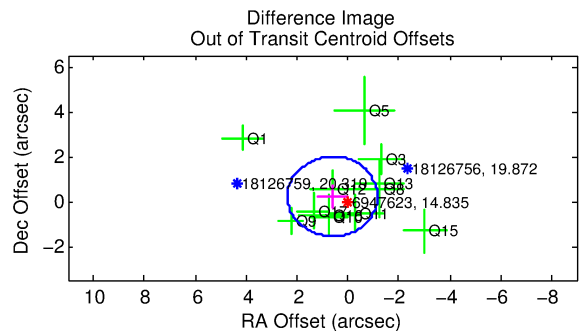
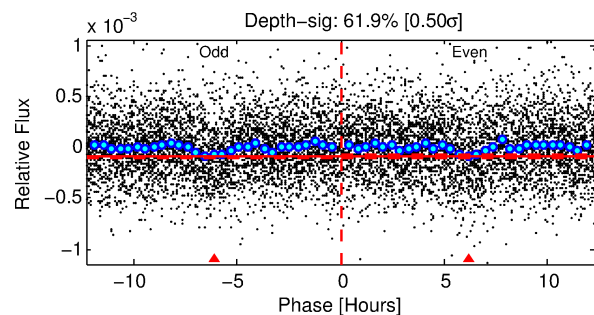
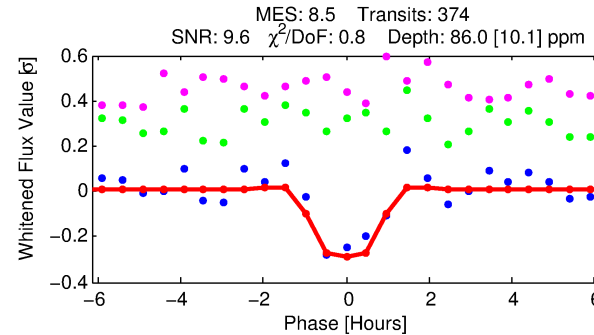
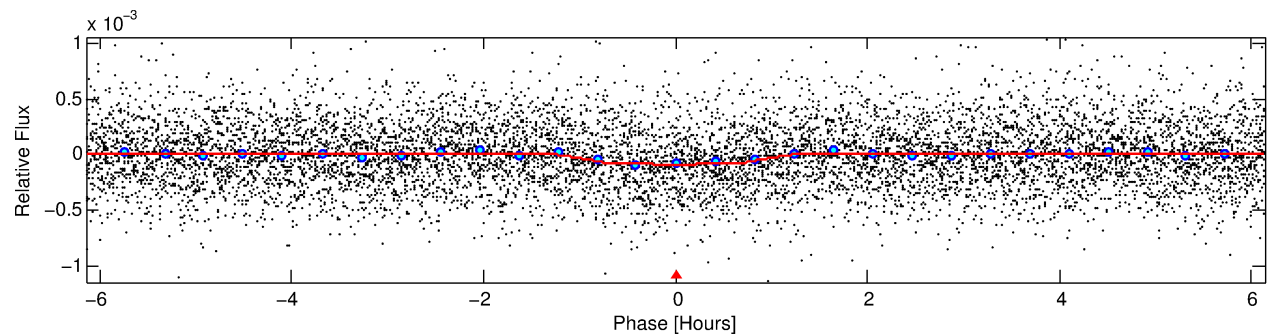
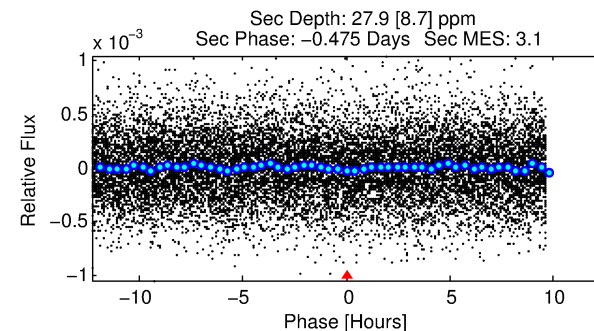
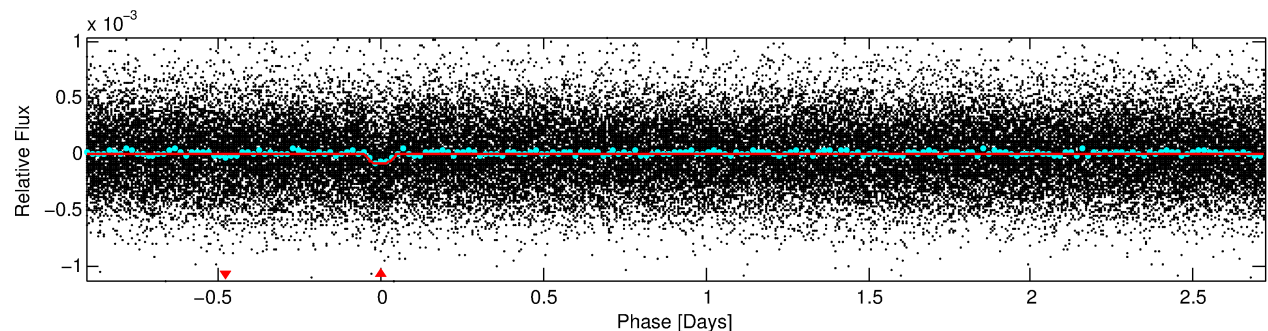
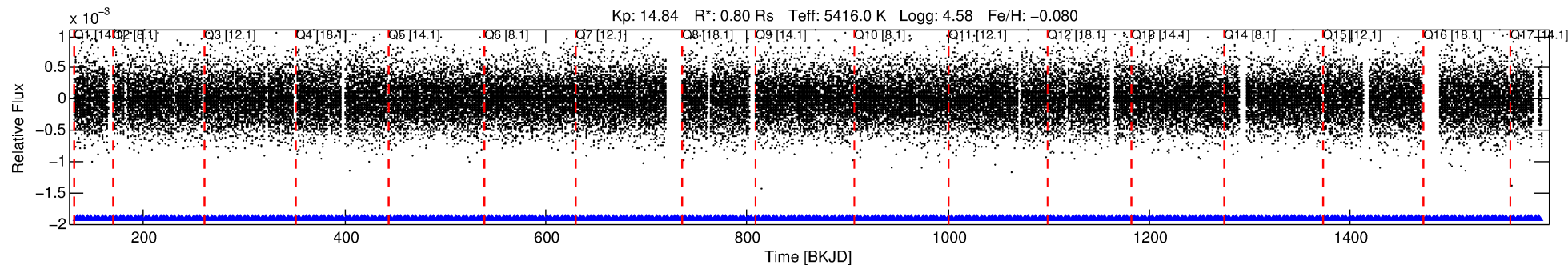
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006947623-01

No Significant Match Found

# DV One-Page Summary

KIC: 6947623 Candidate: 1 of 1 Period: 3.627 d  
KOI: K06793.01 Corr: 0.940



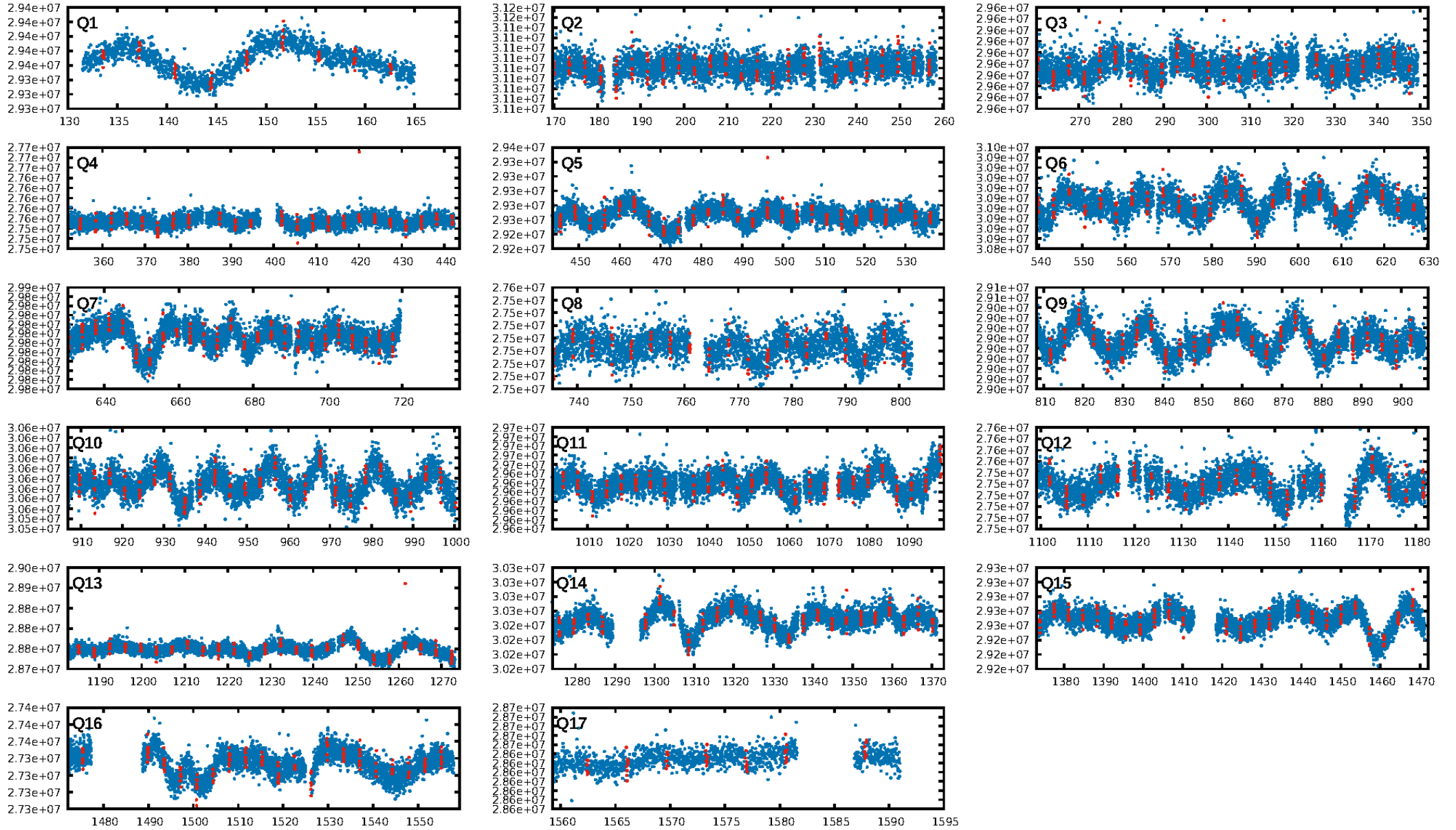
## DV Fit Results:

Period = 3.62659 [0.00002] d  
Epoch = 133.5709 [0.0038] BKJD  
Rp/R\* = 0.0100 [0.0070]  
a/R\* = 6.83 [20.08]  
b = 0.88 [0.81]  
Seff = 250.61 [68.76]  
Teff = 1015 [70] K  
Rp = 0.87 [0.63] Re  
a = 0.0444 [0.0075] AU  
Ag = 39.63 [57.44] [0.67σ]  
Teffp = 3936 [1410] K [2.07σ]

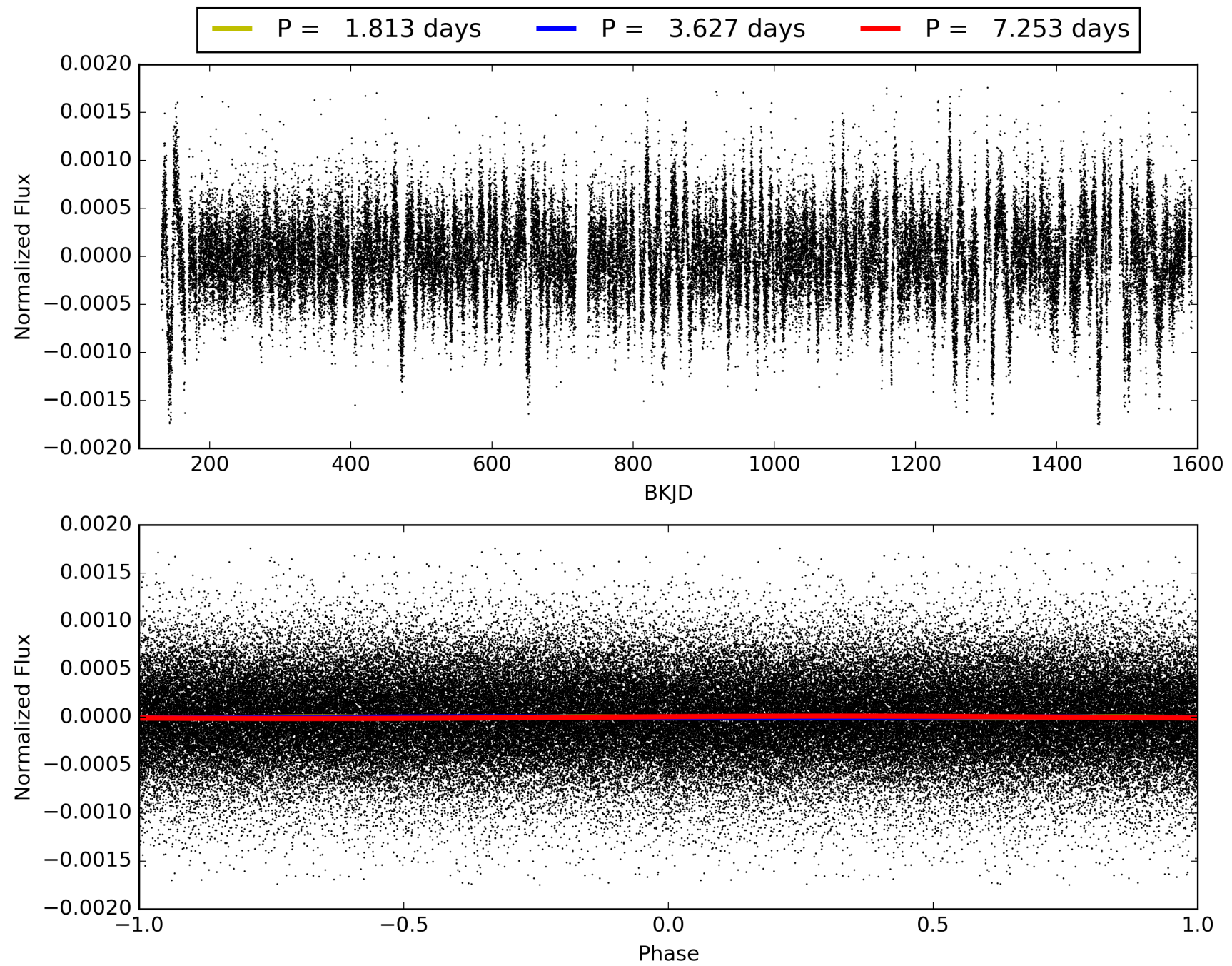
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.74e-17  
RollingBand-fgt: 1.00 [358/358]  
GhostDiagnostic-chr: 21.37  
Centroid-sig: 0.0%  
Centroid-so: 2.494 arcsec [1.96σ]  
OotOffset-rm: 0.644 arcsec [1.09σ]  
KicOffset-rm: 0.475 arcsec [0.80σ]  
OotOffset-st: 1/3/3/5 [12]  
KicOffset-st: 1/3/3/5 [12]  
DiffImageQuality-fgm: 0.58 [7/12]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 006947623-01, PDC Light Curves

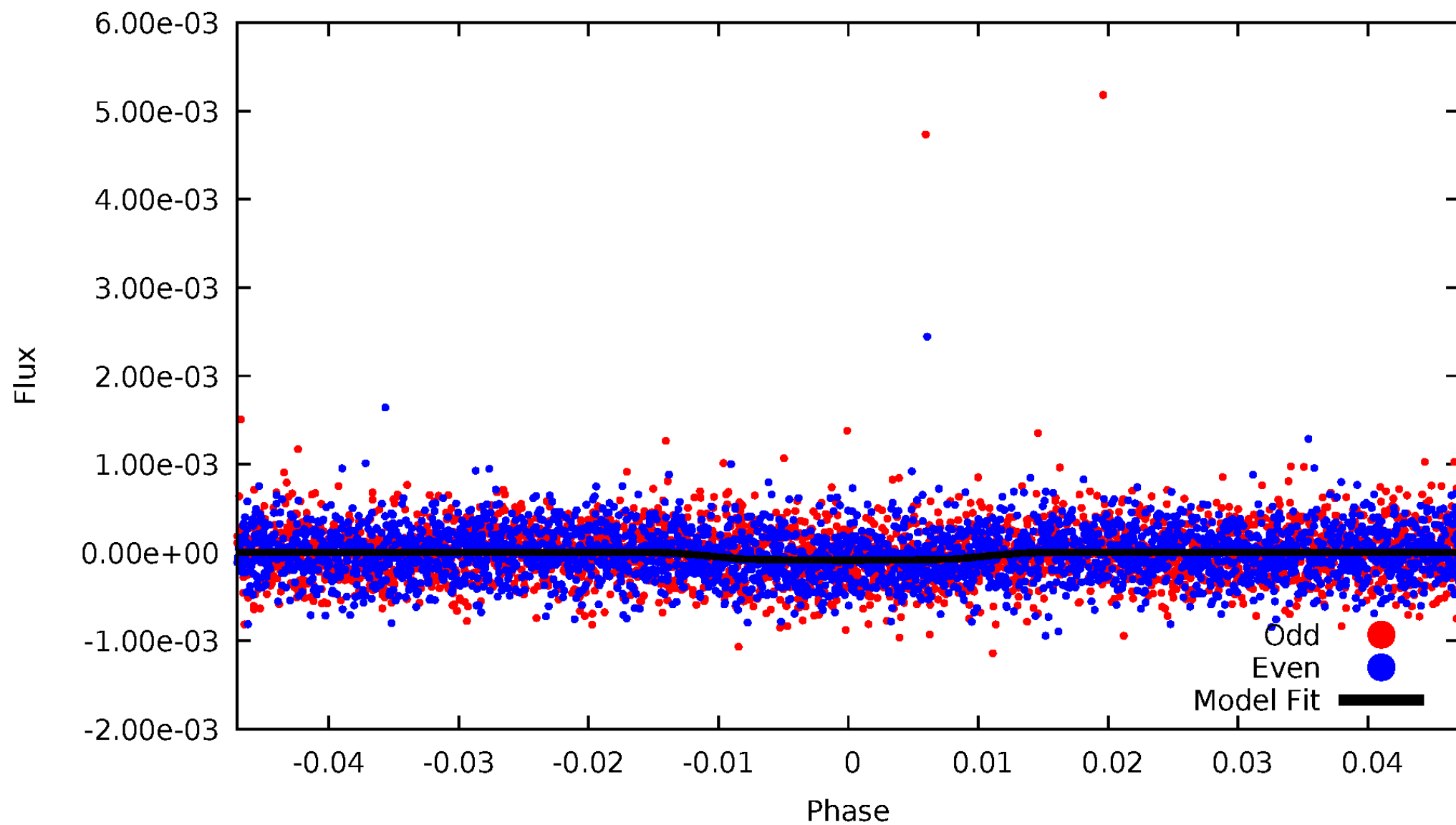


TCE 006947623-01



# DV Odd/Even

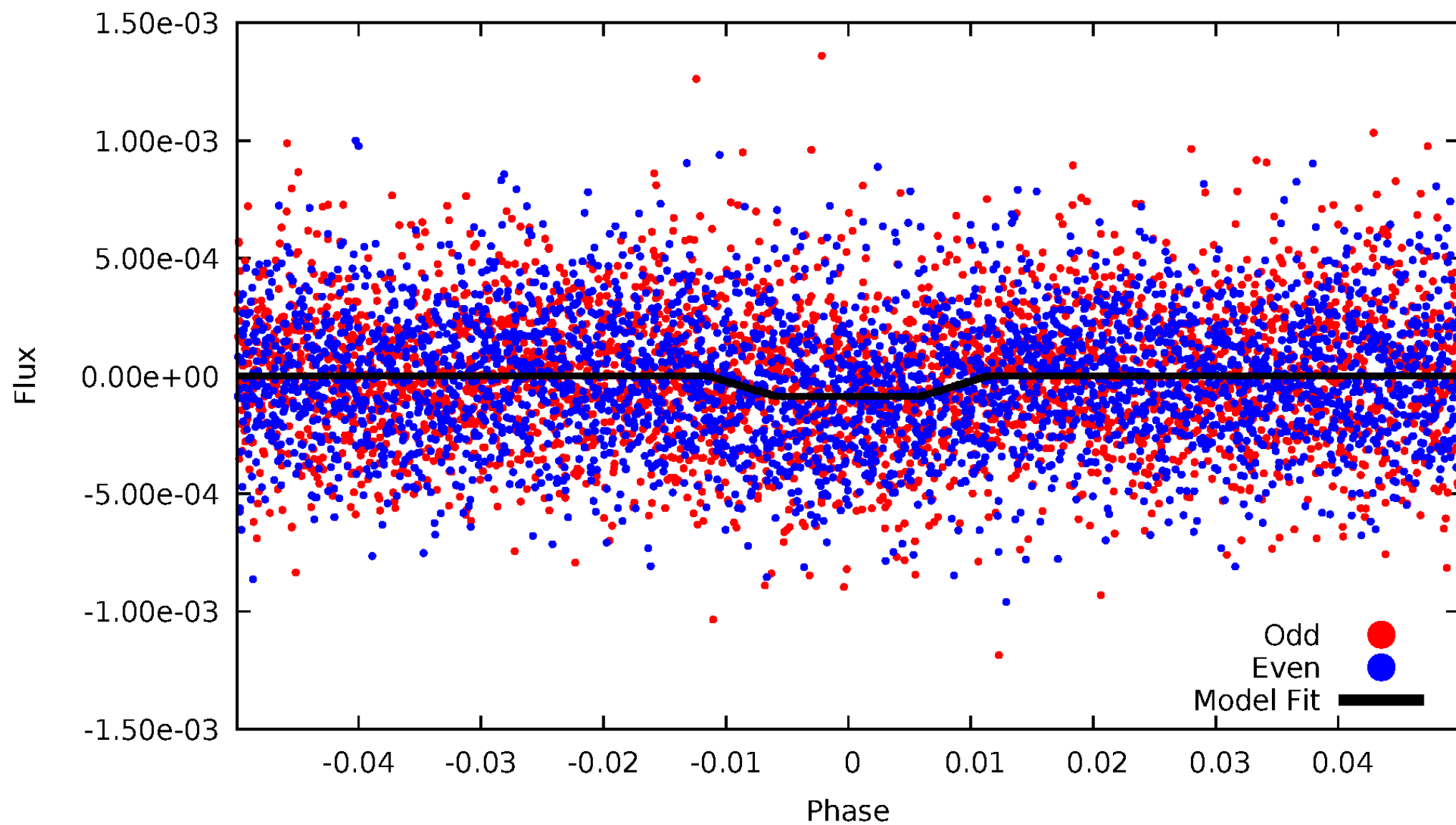
TCE 006947623-01



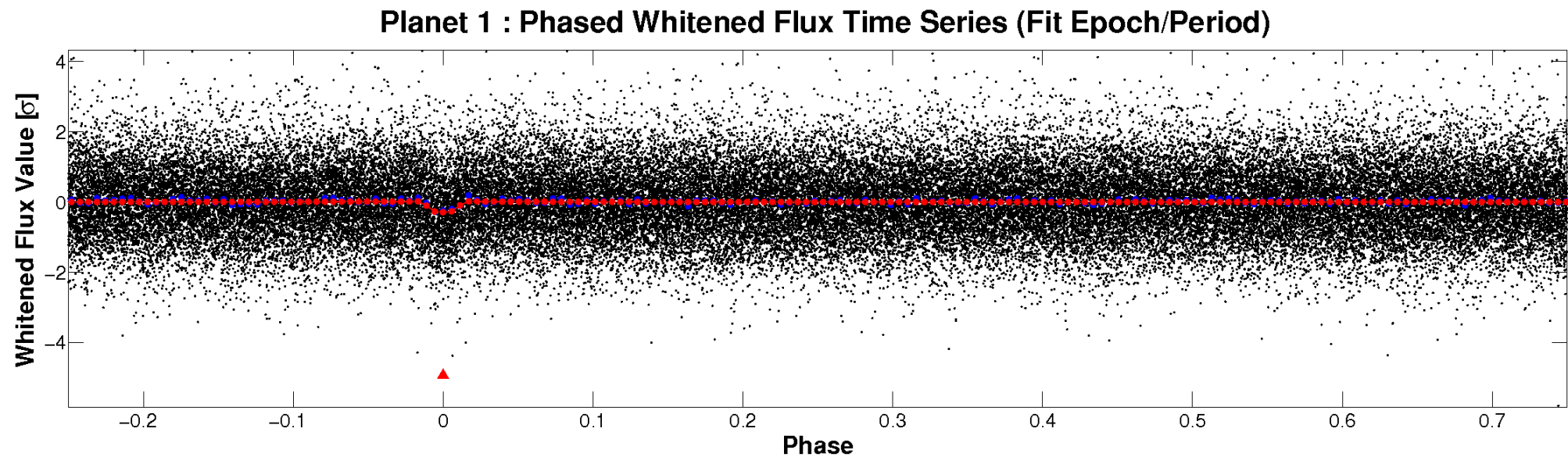
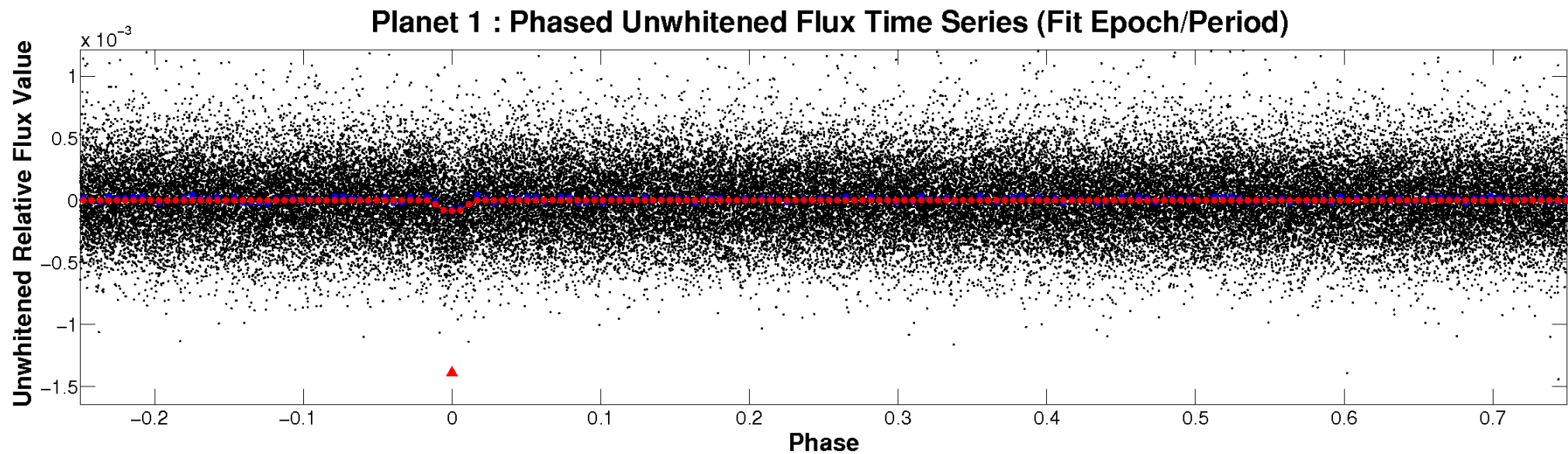


# ALT Odd/Even

TCE 006947623-01

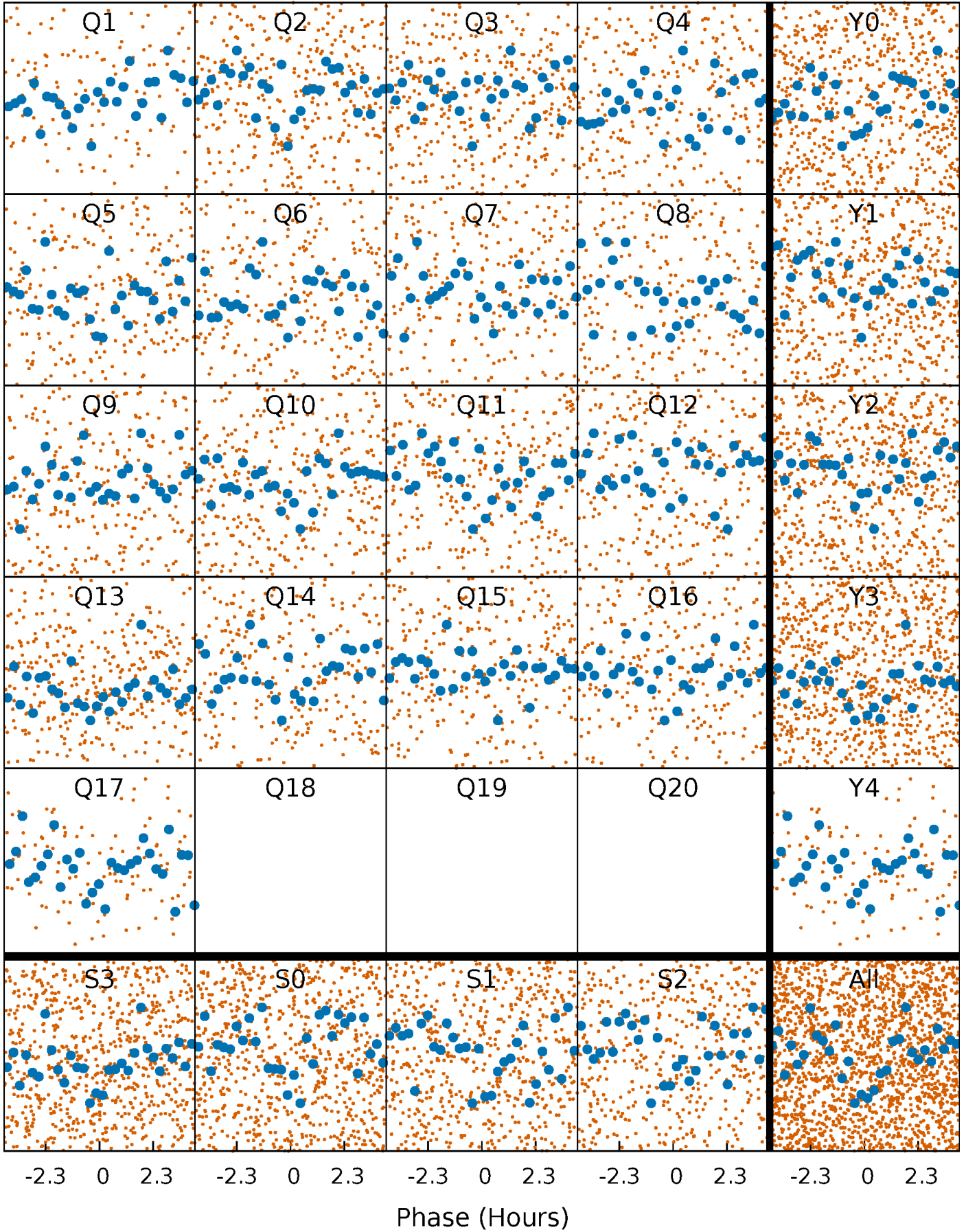


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

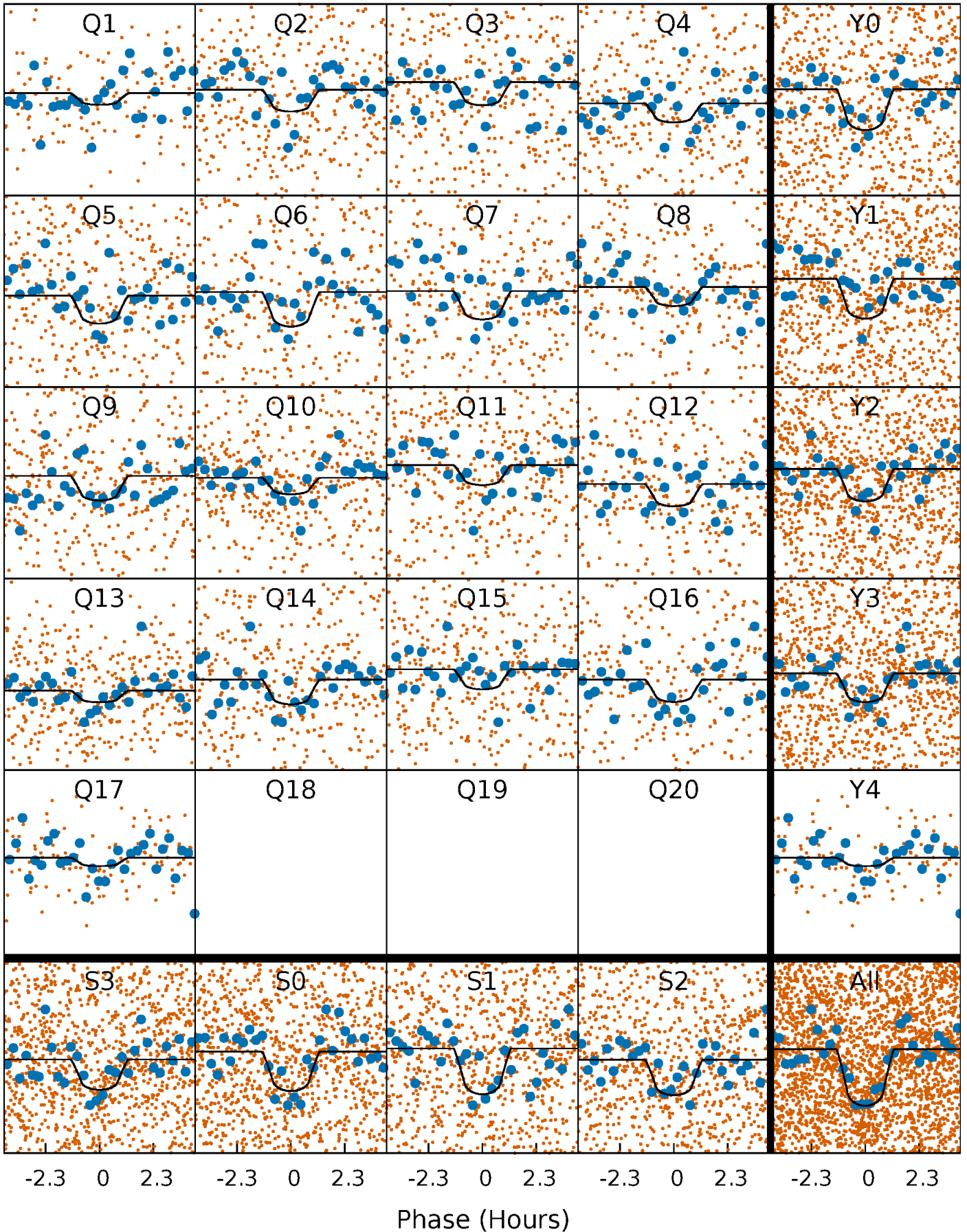
TCE 006947623-01   P= 3.626590 Days    $T_0=133.570905$  (BKJD)





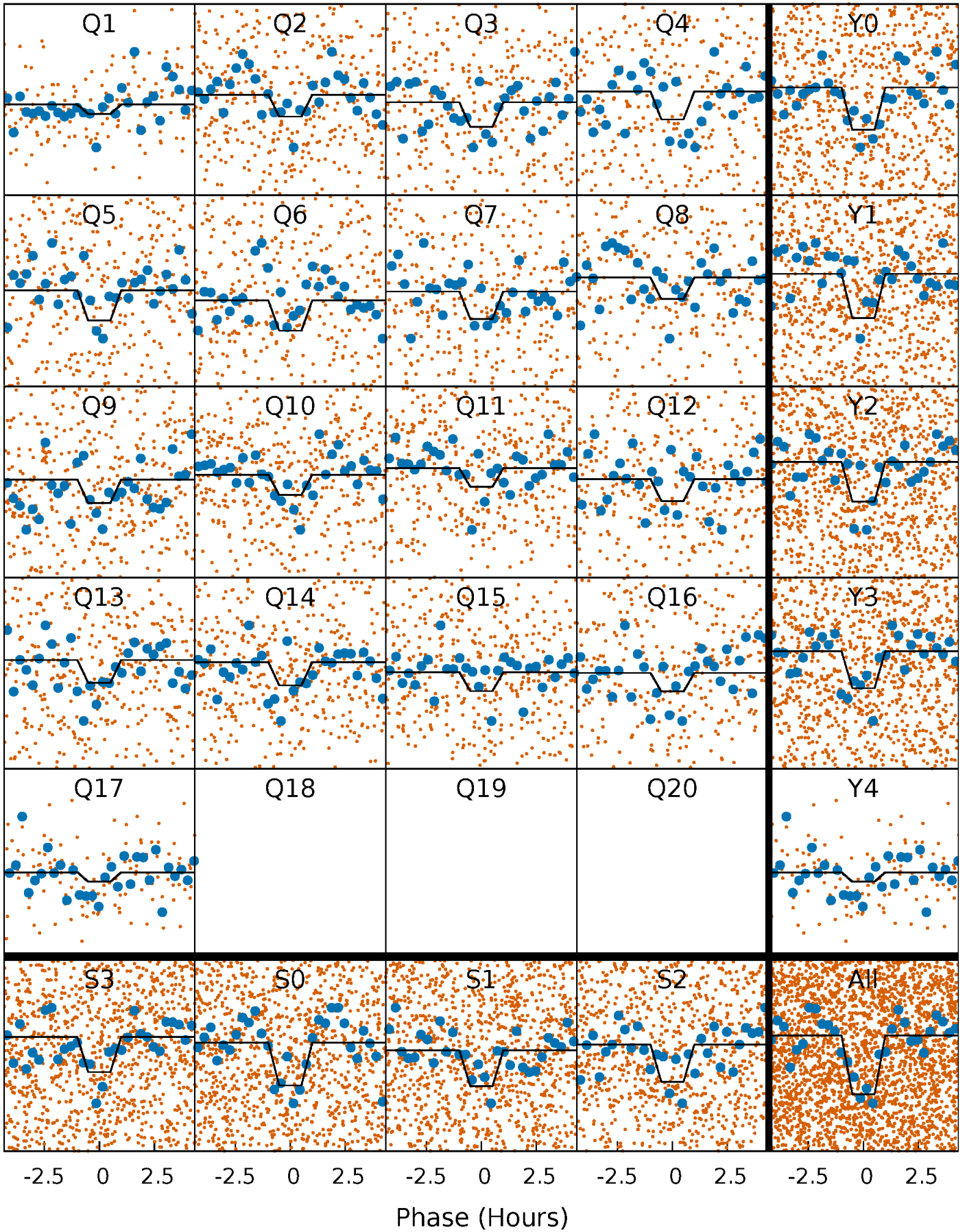
# DV Quarter-Phased Transit Curves

TCE 006947623-01 P= 3.626590 Days  $T_0=133.570905$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

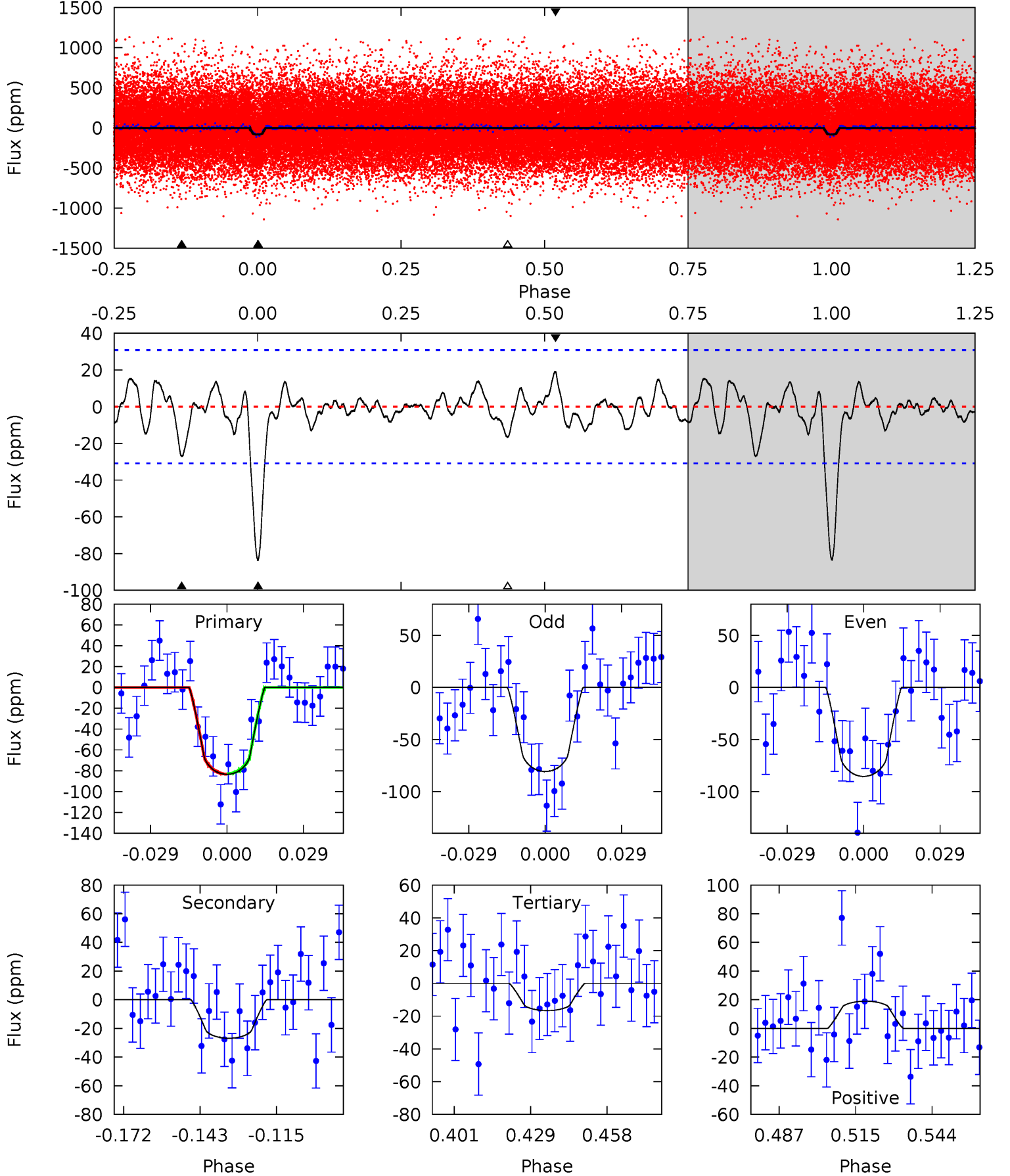
TCE 006947623-01 P= 3.626635 Days  $T_0=133.563219$  (BKJD)



# DV Model-Shift Uniqueness Test

006947623-01, P = 3.626590 Days, E = 129.944315 Days

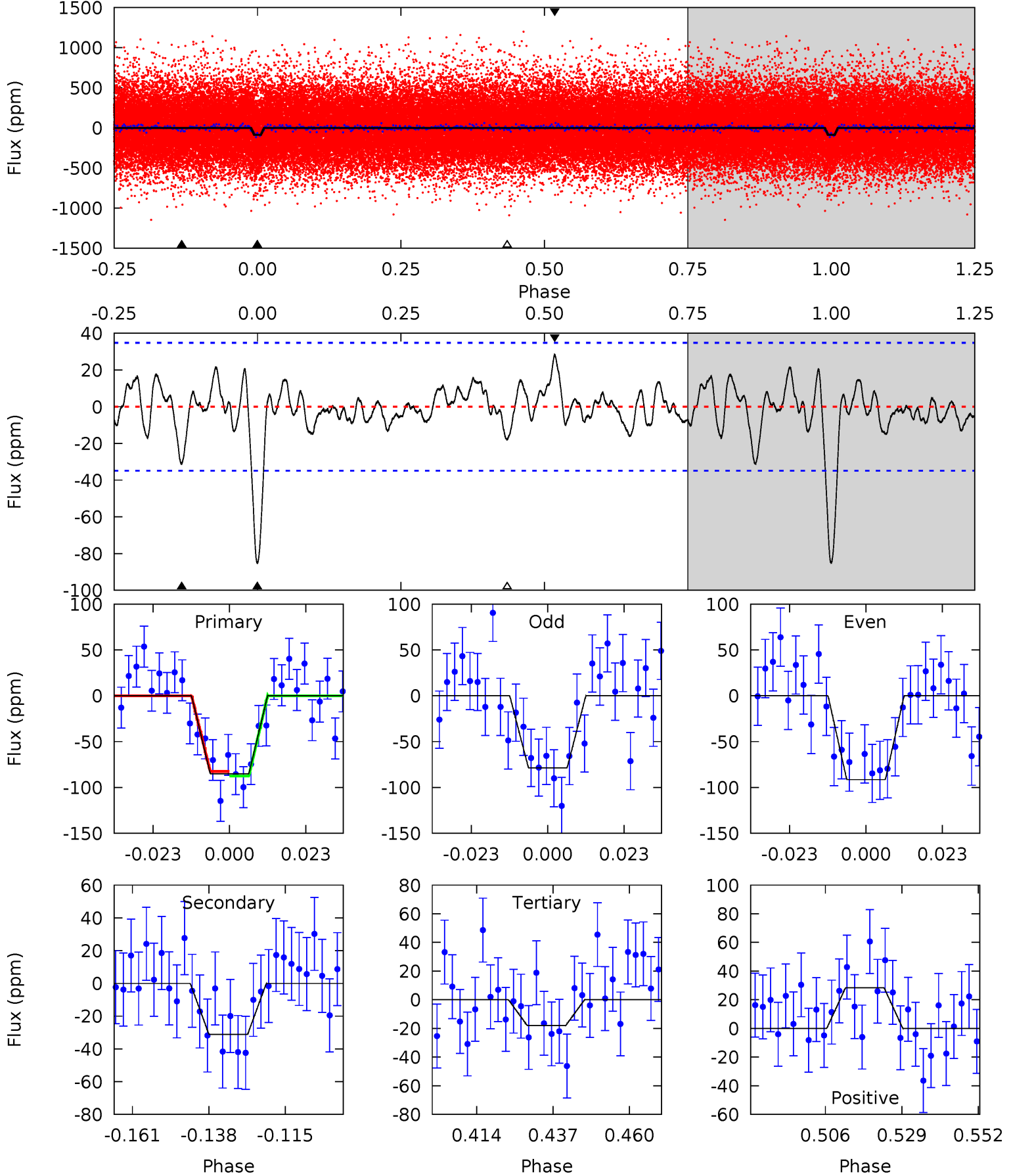
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	4.20	2.59	2.97	4.82	2.19	1.09	10.4	10.1	1.61	1.24	0.37	0.93	0.19	0.03



# Alt Model-Shift Uniqueness Test

006947623-01, P = 3.626635 Days, E = 129.936584 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
11.9	4.35	2.51	3.96	4.86	2.27	1.17	9.37	7.91	1.84	0.39	0.89	0.93	0.25	0.35





### Stellar Parameters For KIC 006947623

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5416^{+161}_{-161}$	$4.579^{+0.034}_{-0.136}$	$-0.080^{+0.300}_{-0.300}$	$0.800^{+0.159}_{-0.068}$	$0.890^{+0.081}_{-0.099}$	$2.451^{+0.441}_{-0.955}$
	+3%/-3%	+1%/-3%	+375%/-375%	+20%/-8%	+9%/-11%	+18%/-39%
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 006947623-01 / KOI 6793.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-27 \pm 6$	$0.95^{+0.61}_{-0.53}$	$1447^{+74}_{-60}$	$4087^{+1485}_{-675}$	$31^{+122}_{-21}$
Alt.	$-31 \pm 7$	$0.98^{+0.58}_{-0.62}$	$1446^{+75}_{-61}$	$4186^{+2034}_{-674}$	$37^{+198}_{-23}$

$T_{\text{max}}$  = 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

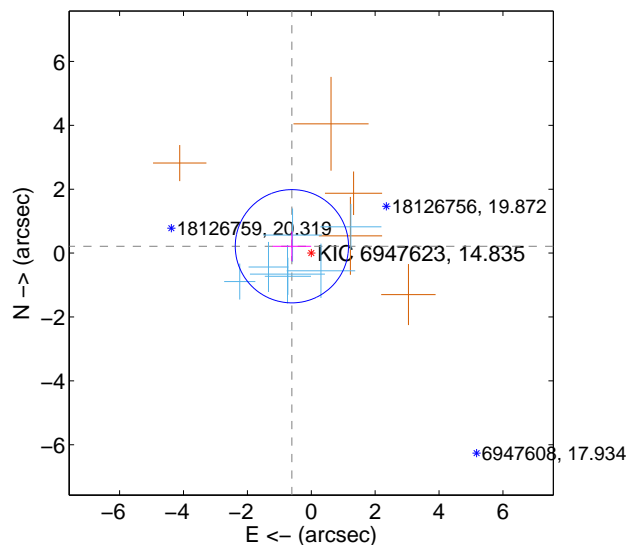
Supplemental centroid analysis for 006947623-01. Kepler magnitude: 14.84. Transit SNR 9.56

There are 7 quarters with good PRF difference image offsets

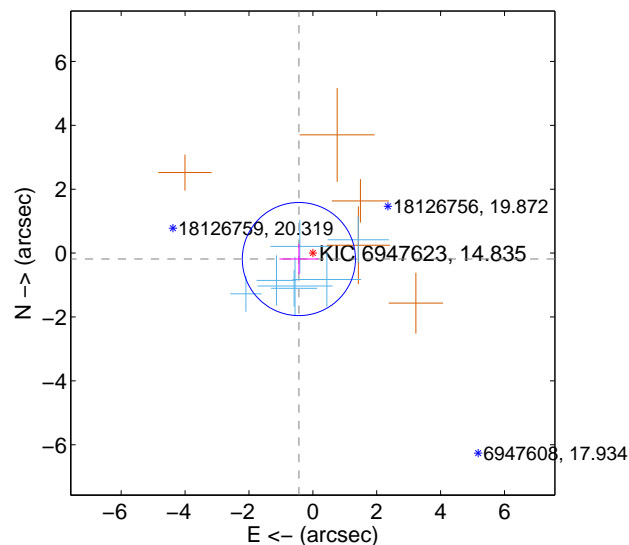
The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.644 \pm 0.591$	1.09	$0.607 \pm 0.605$	$0.215 \pm 0.467$
PRF-fit source offset from KIC position	$0.475 \pm 0.590$	0.80	$0.437 \pm 0.609$	$-0.186 \pm 0.473$
photometric centroid source offset	$2.49 \pm 1.27$	1.96	$-1.25 \pm 1.41$	$2.16 \pm 1.22$

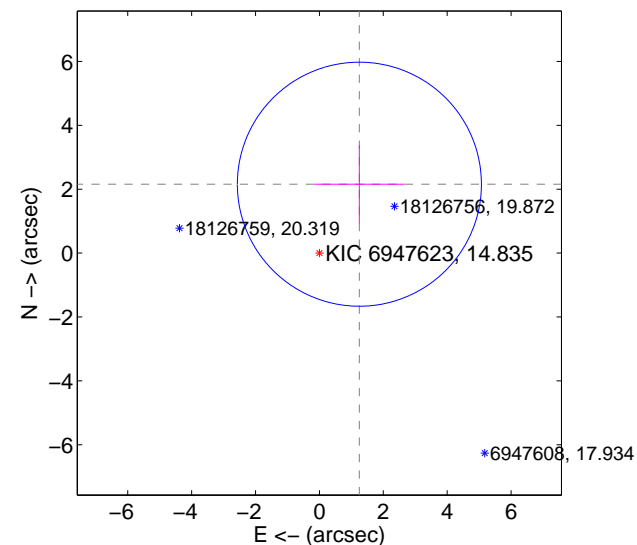
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

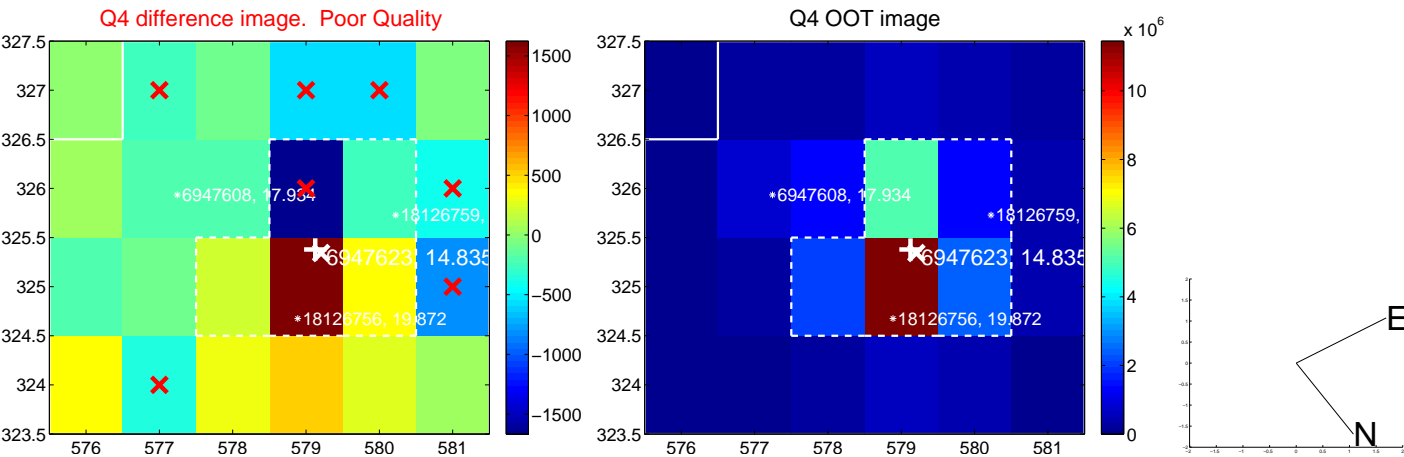
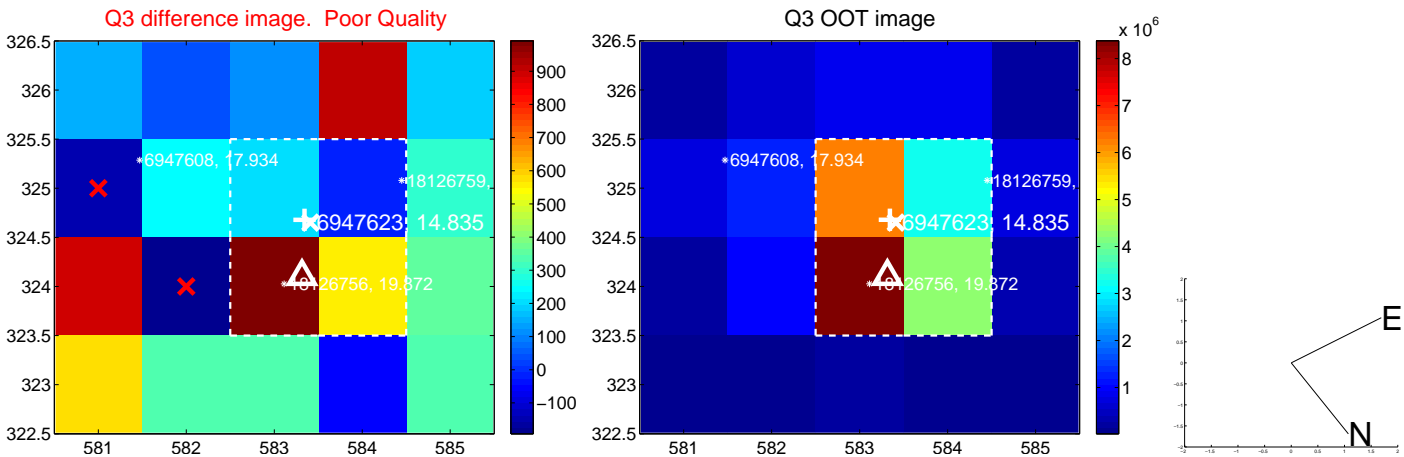
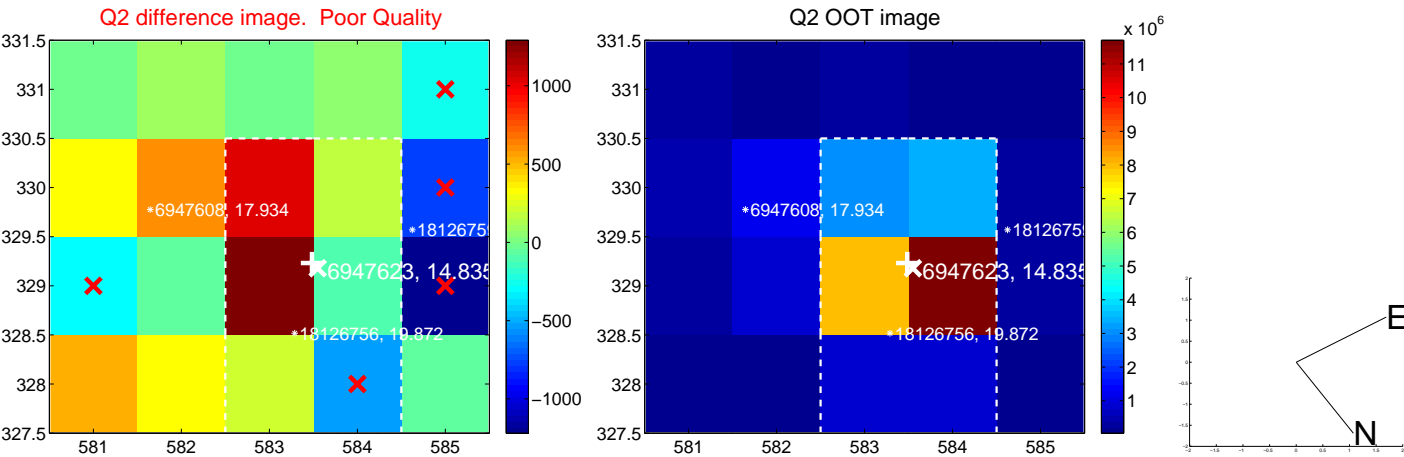
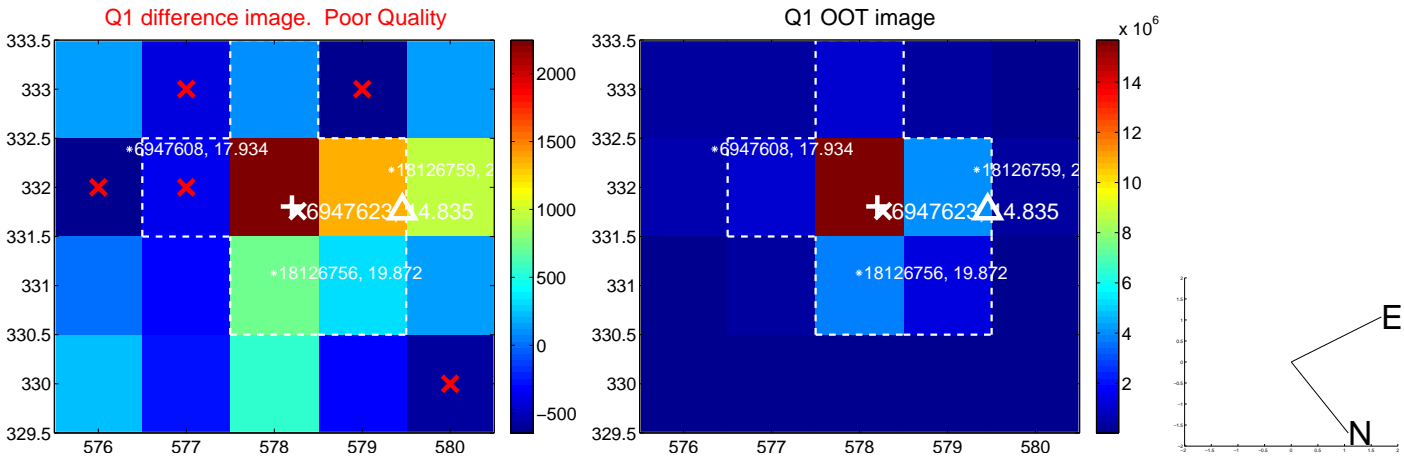


offset from photometric centroids

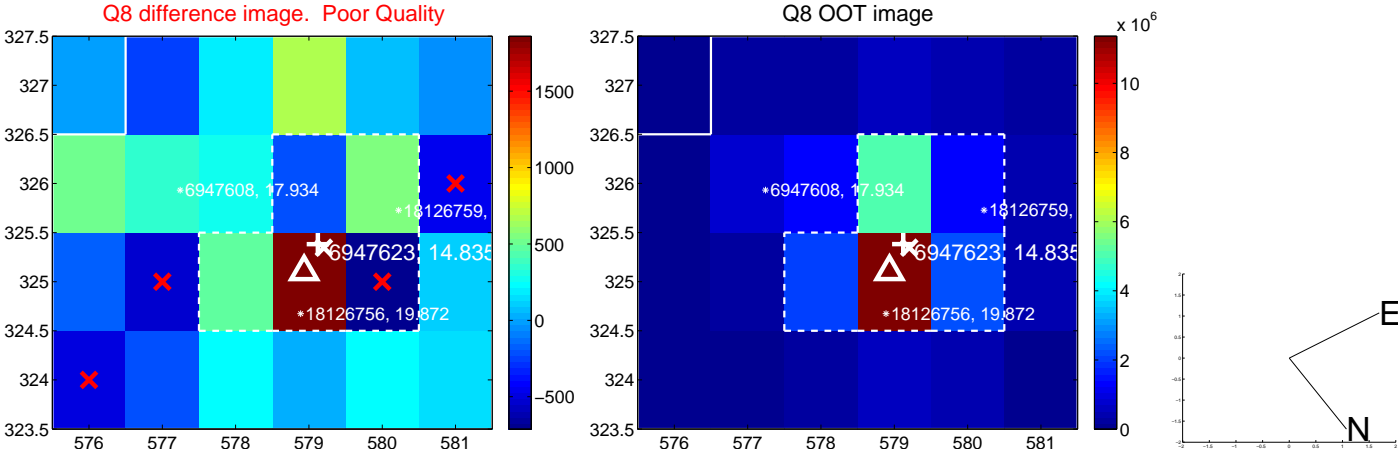
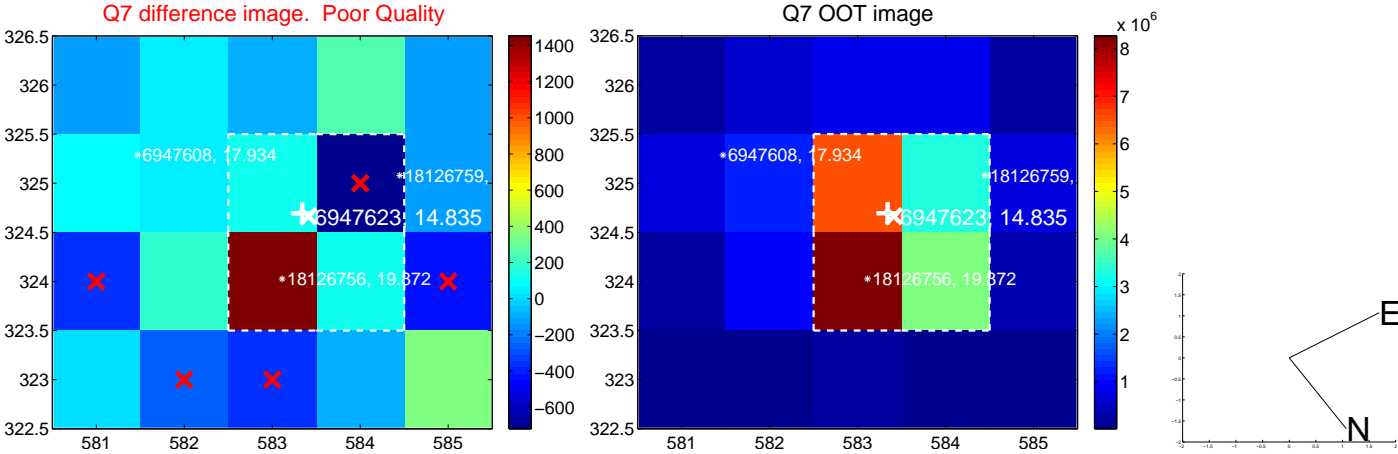
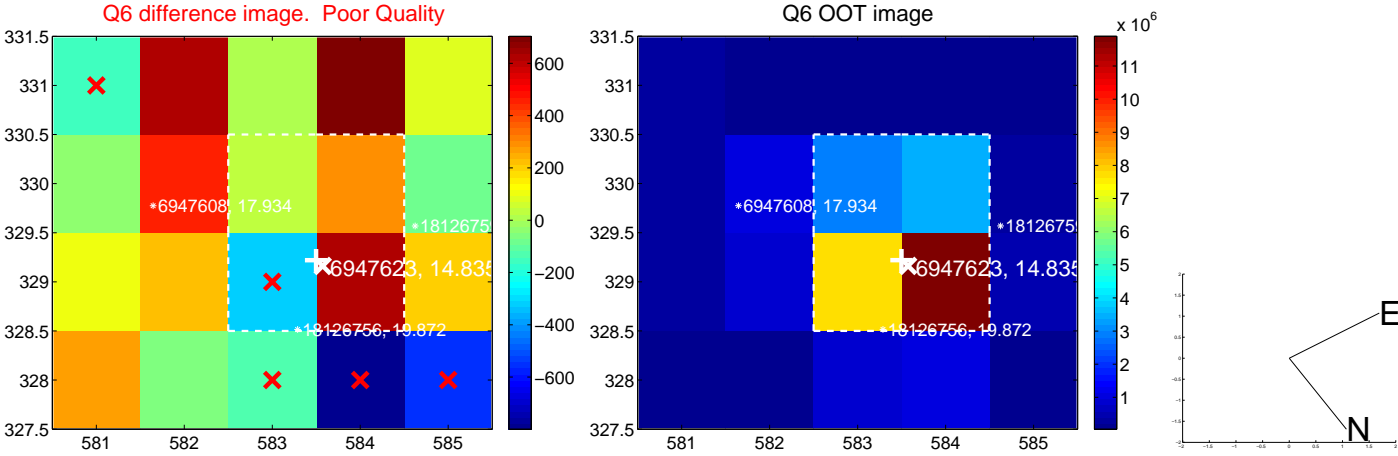
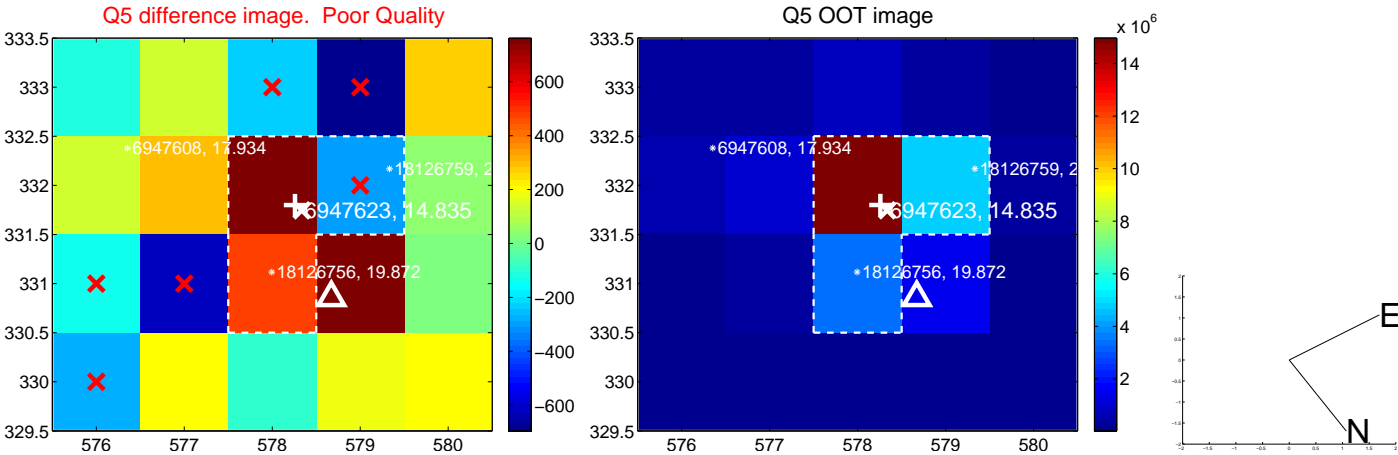


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

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

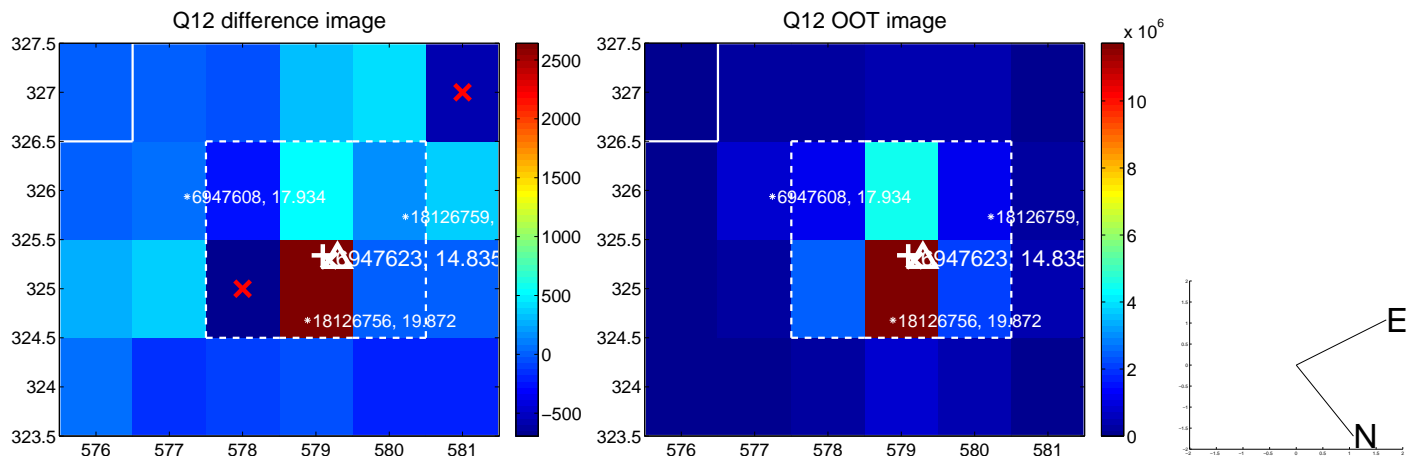
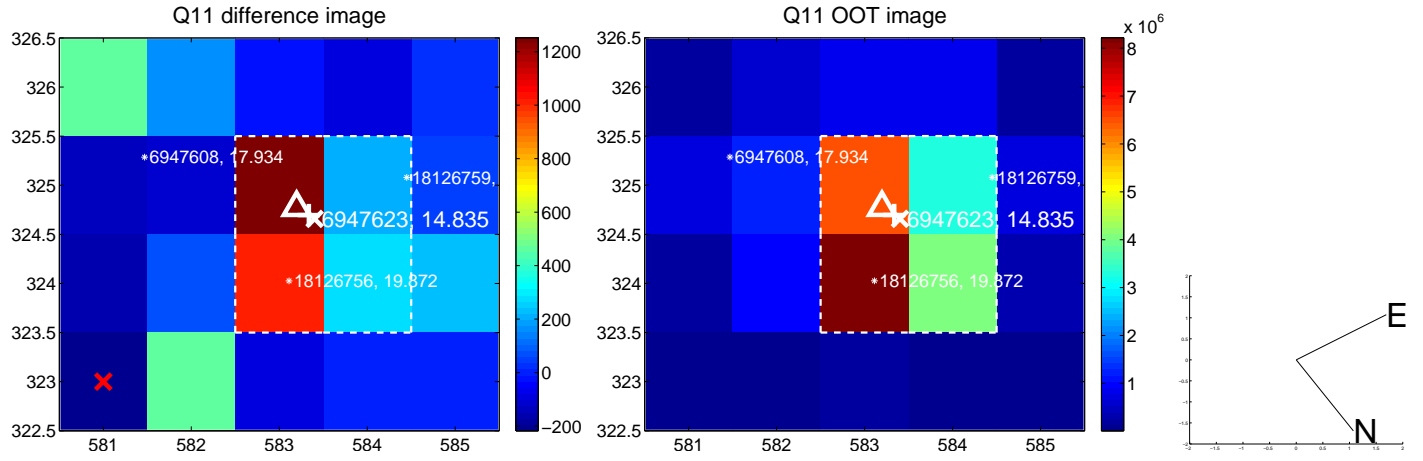
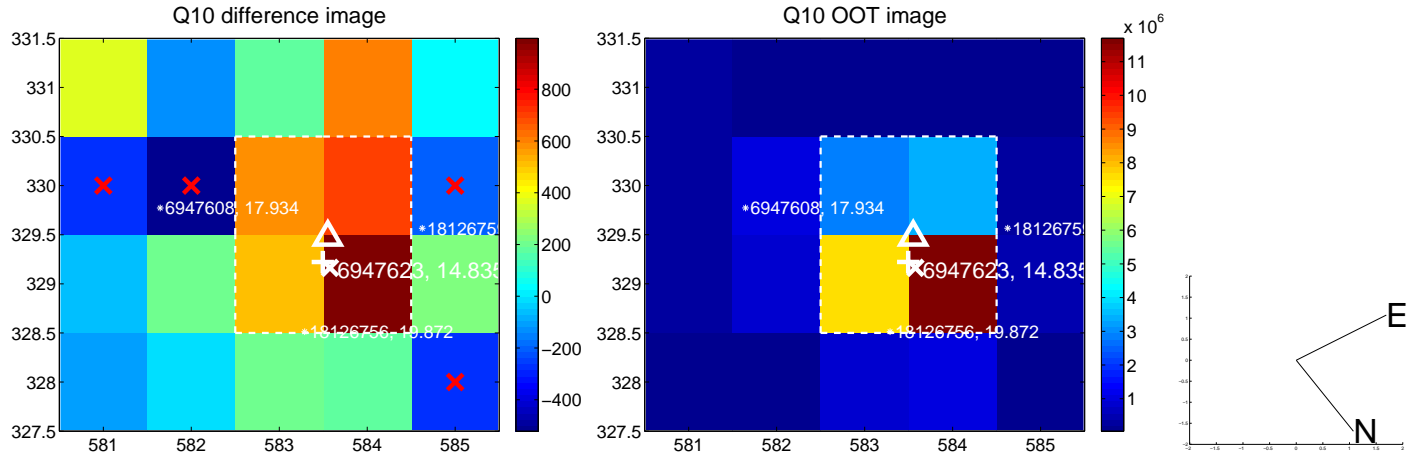
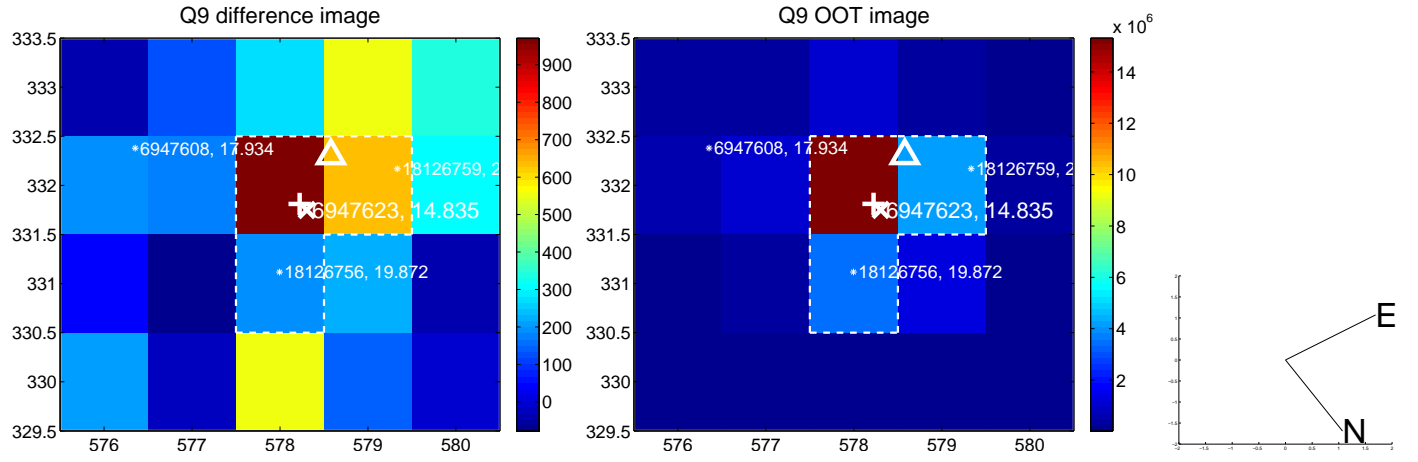


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

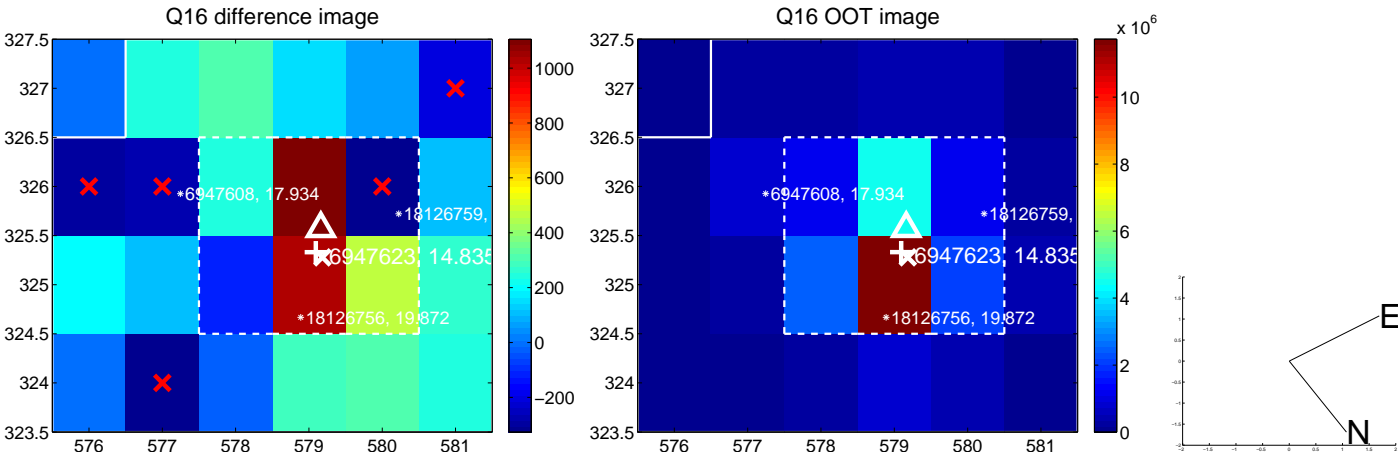
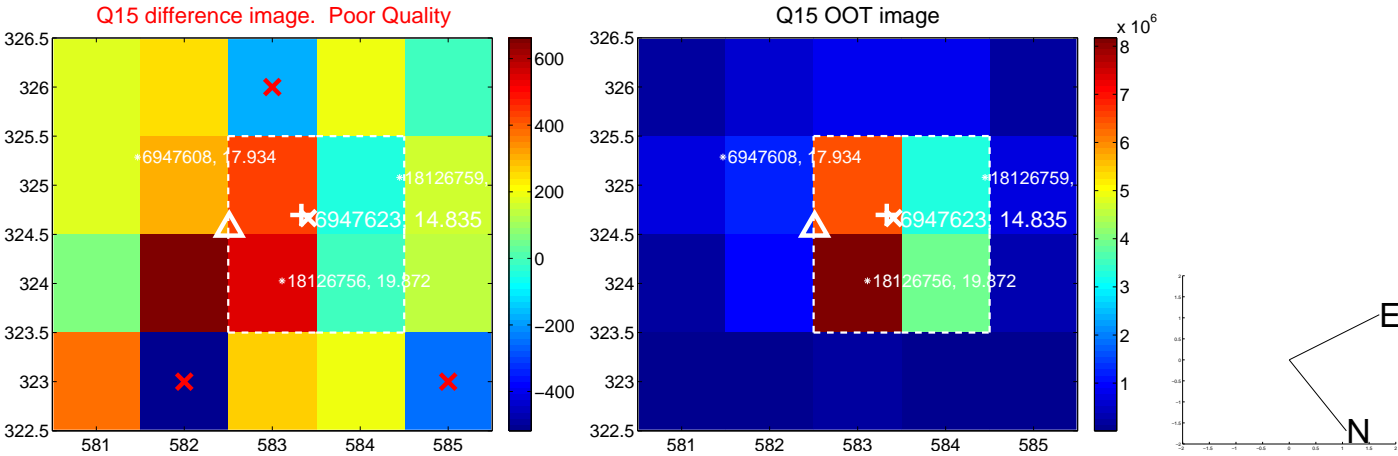
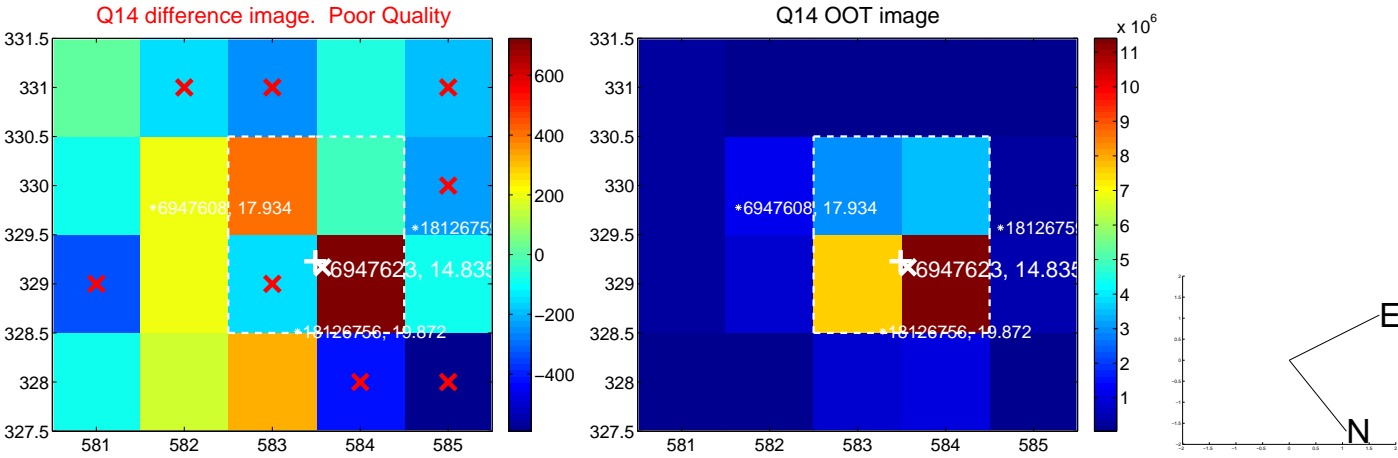
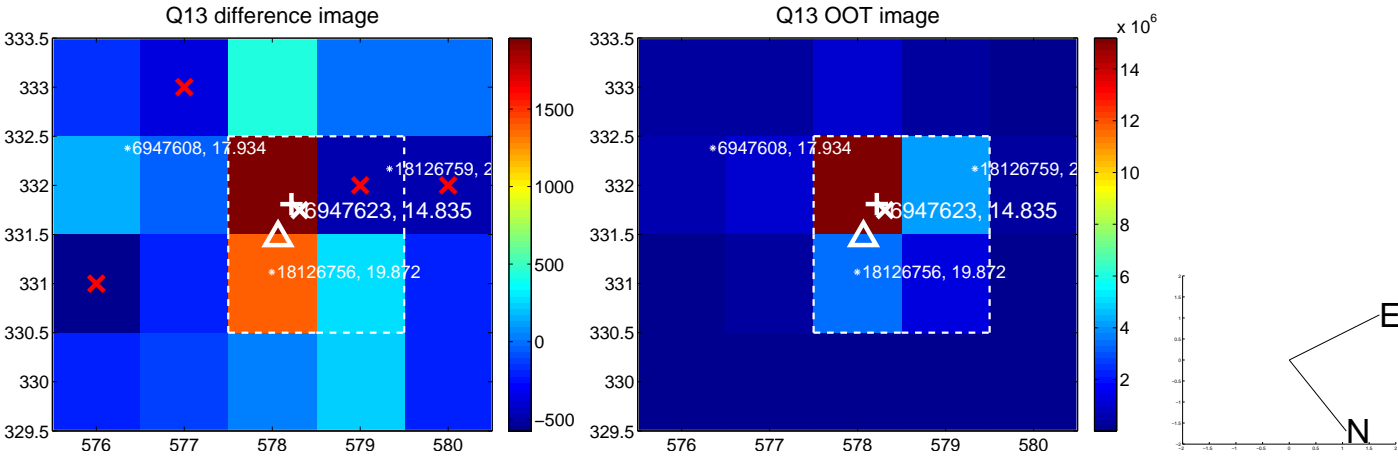




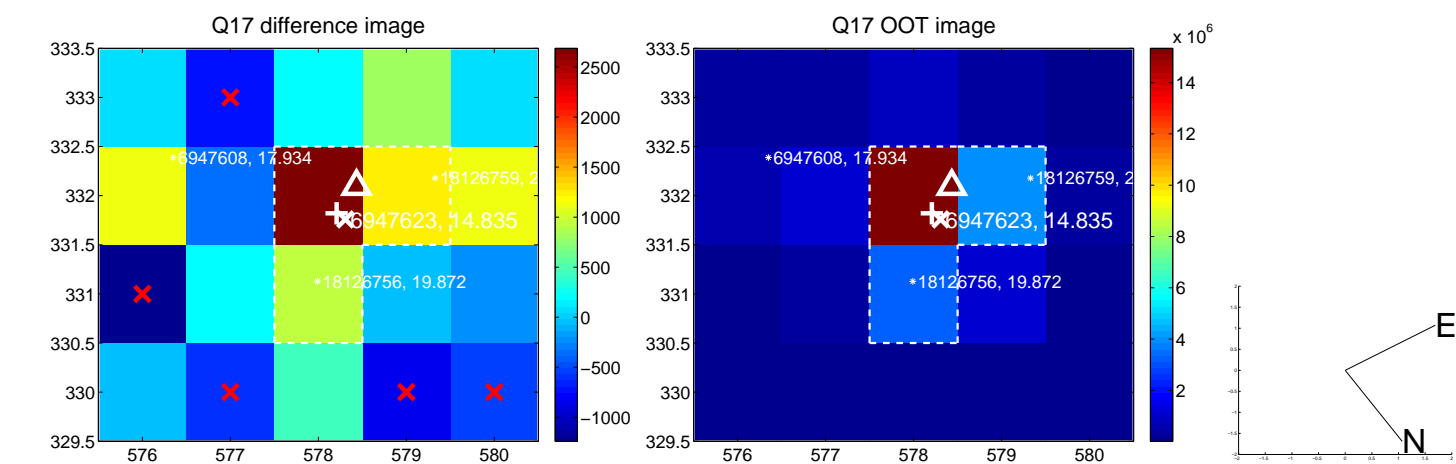
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



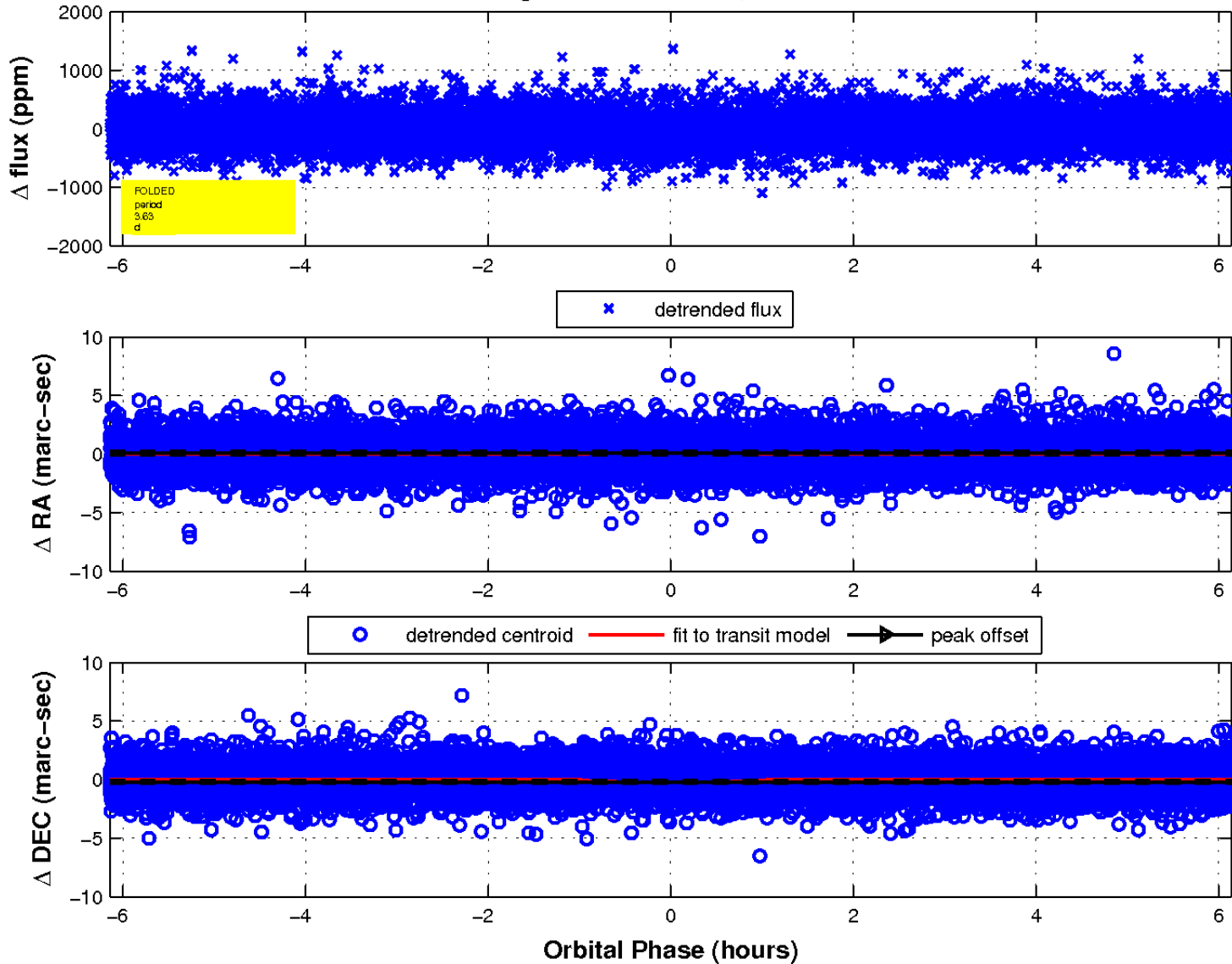
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



# UKIRT Image

Declination

