

# KIC 007118364

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007118364-01	OBS	0873.01	4.347270	133.111307	433.7	2.213	34.4	38.9	1.12	5754	2.79	449.93

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007118364-01	OBS	PC	1.00	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.

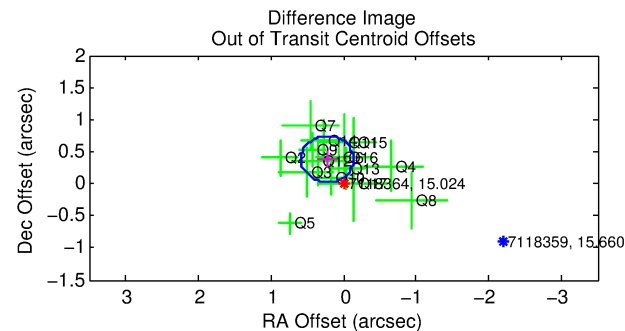
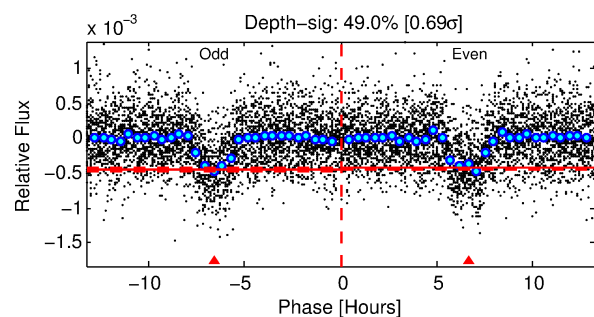
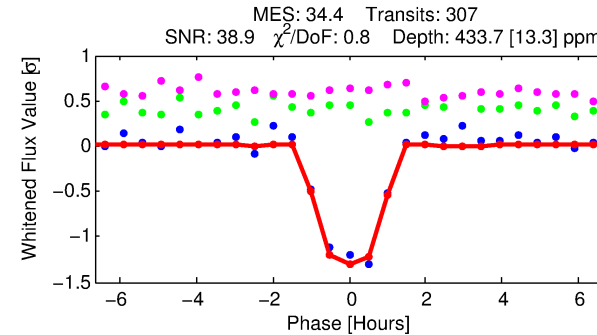
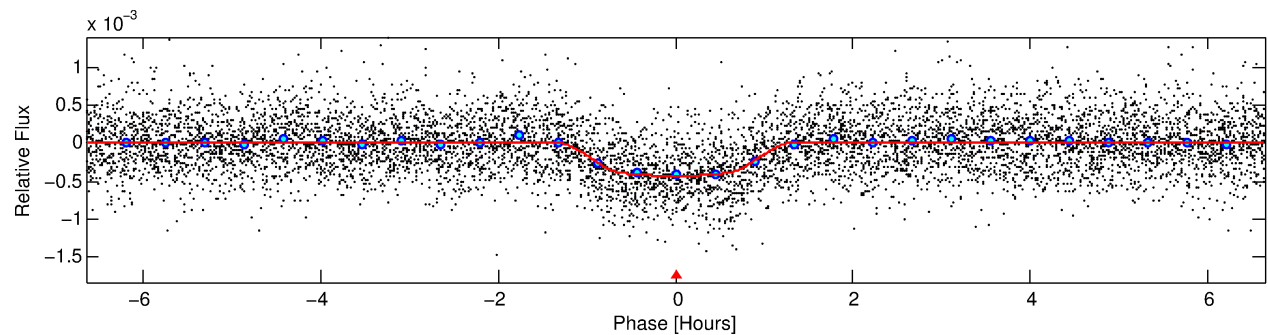
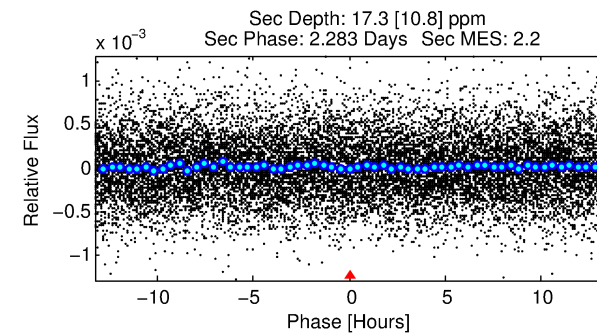
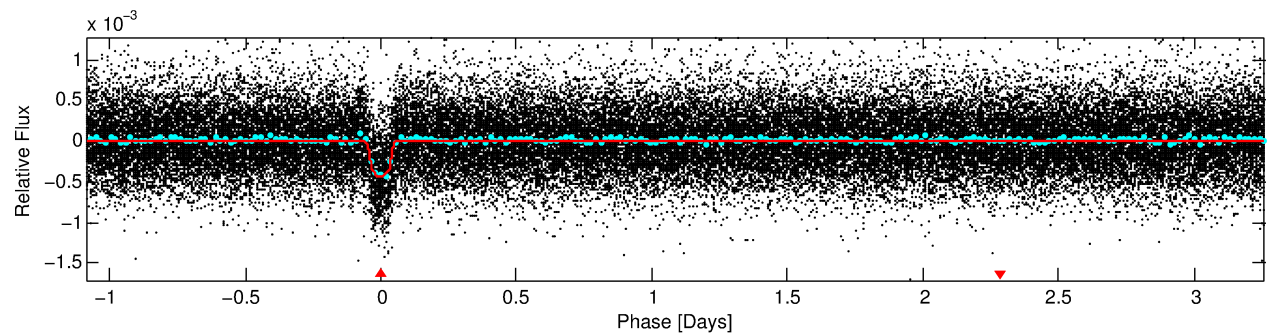
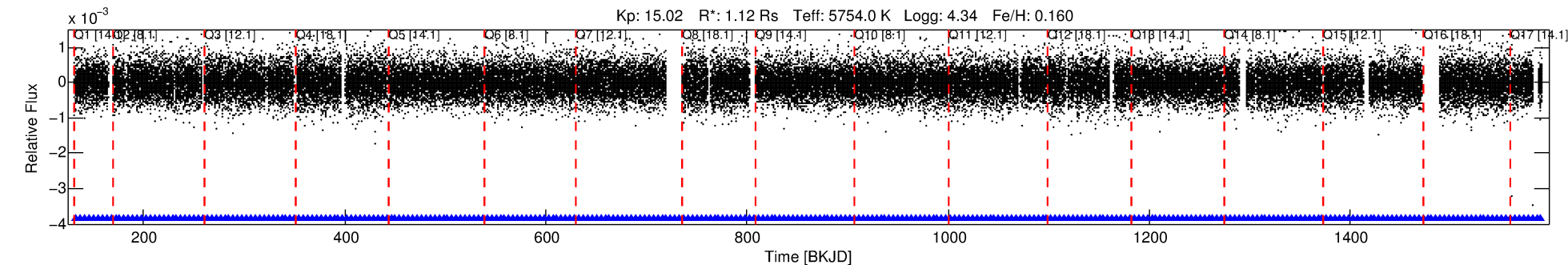
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007118364-01

No Significant Match Found

# DV One-Page Summary

KIC: 7118364 Candidate: 1 of 1 Period: 4.347 d  
KOI: K00873.01 Corr: 0.968



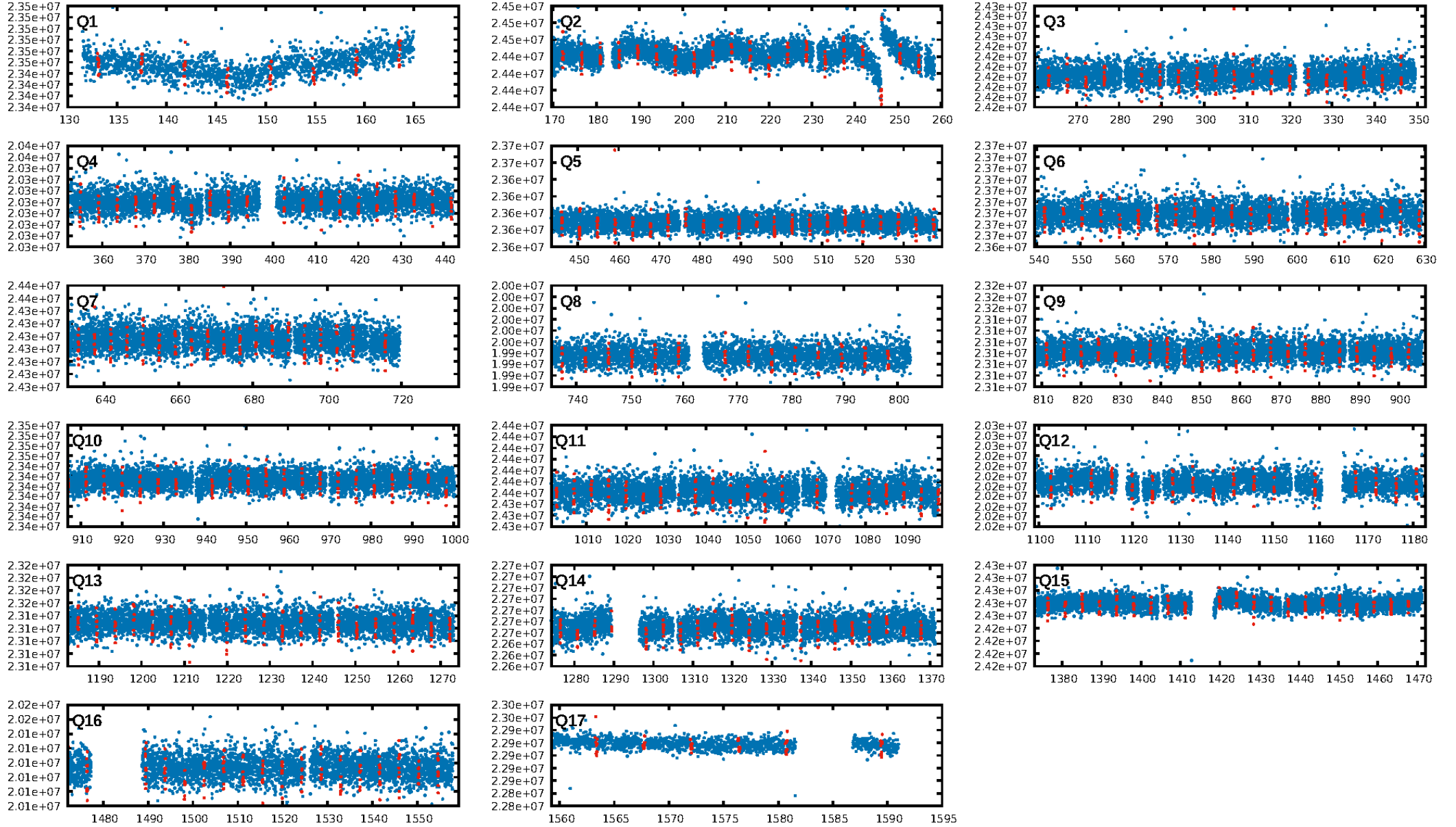
## DV Fit Results:

Period = 4.34727 [0.00001] d  
Epoch = 133.1113 [0.0011] BKJD  
Rp/R\* = 0.0228 [0.0031]  
a/R\* = 7.33 [4.45]  
b = 0.90 [0.13]  
Seff = 449.93 [93.74]  
Teff = 1174 [61] K  
Rp = 2.79 [0.59] Re  
a = 0.0524 [0.0072] AU  
Ag = 3.36 [2.38] [0.99σ]  
Teffp = 2458 [419] K [3.03σ]

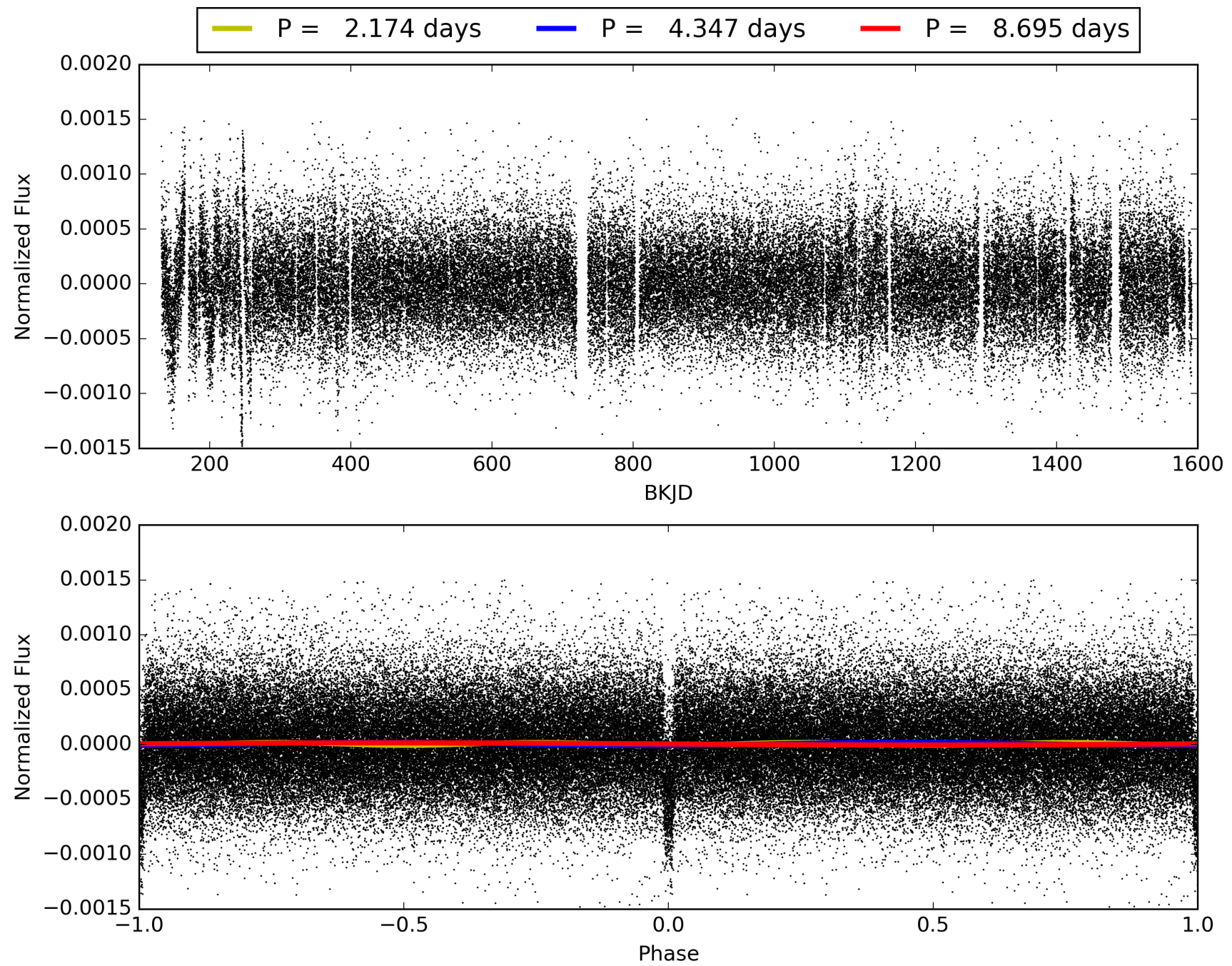
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.30e-249  
RollingBand-fgt: 1.00 [293/293]  
GhostDiagnostic-chr: 3.625  
Centroid-sig: 11.7%  
Centroid-so: 0.252 arcsec [0.78σ]  
OotOffset-rm: 0.444 arcsec [3.67σ]  
KicOffset-rm: 0.357 arcsec [3.21σ]  
OotOffset-st: 4/4/4 [16]  
KicOffset-st: 4/4/4 [16]  
DiffImageQuality-fgm: 1.00 [16/16]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 007118364-01, PDC Light Curves

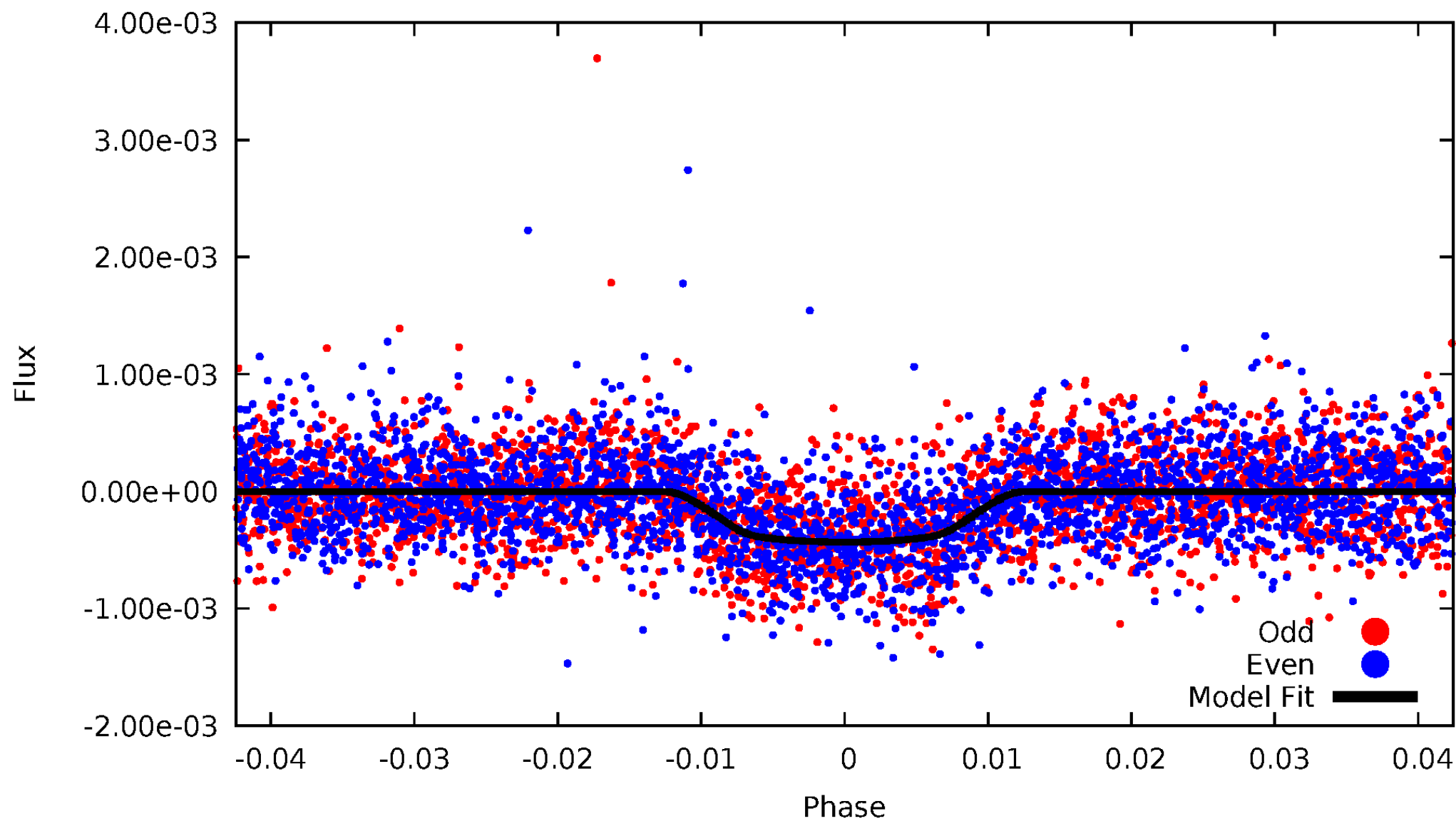


TCE 007118364-01



# DV Odd/Even

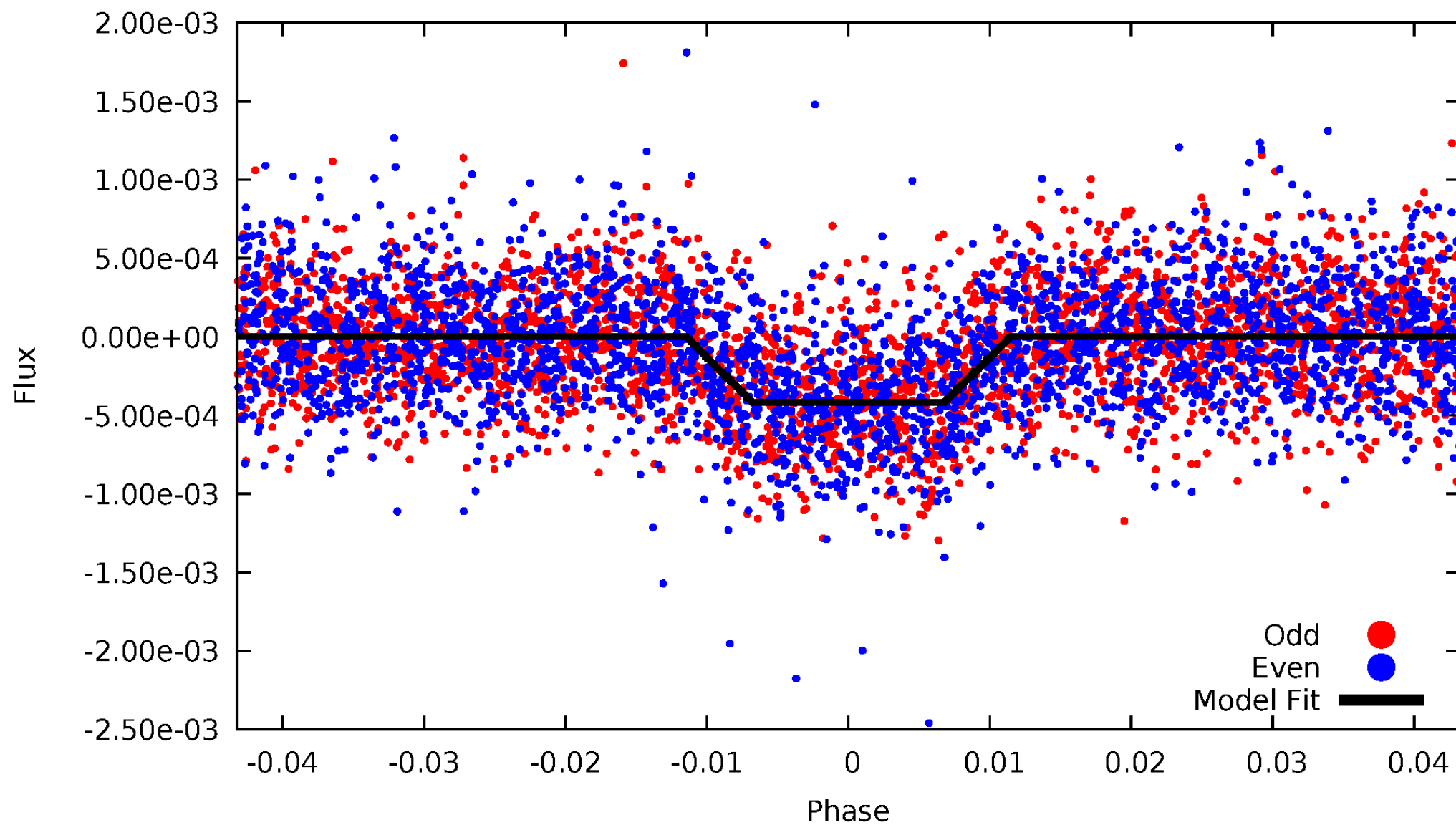
TCE 007118364-01





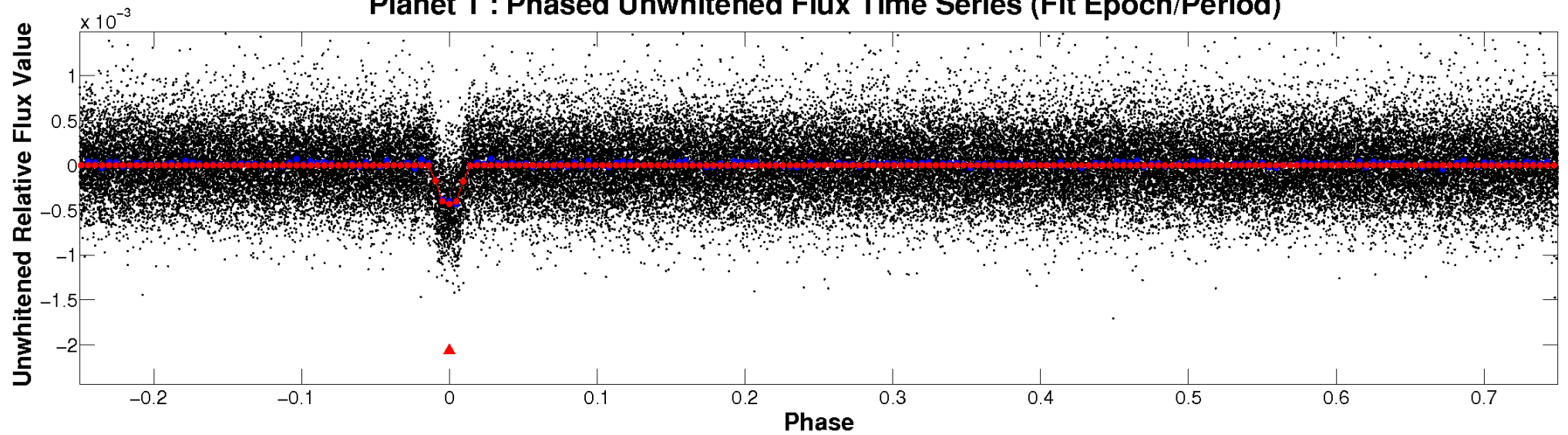
# ALT Odd/Even

TCE 007118364-01

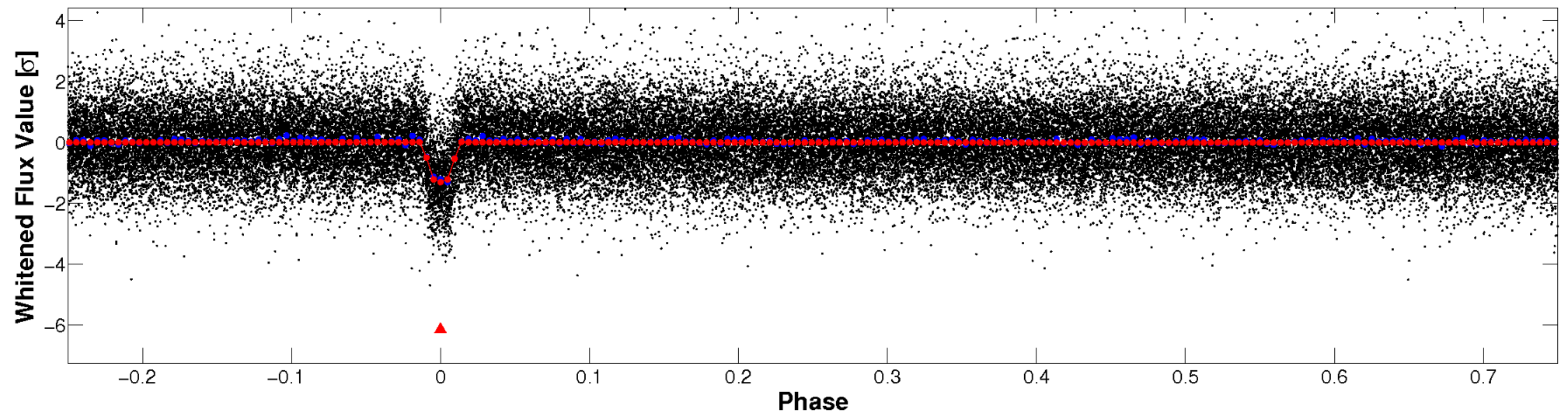


# Non-Whitened Vs. Whitened Light Curve

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

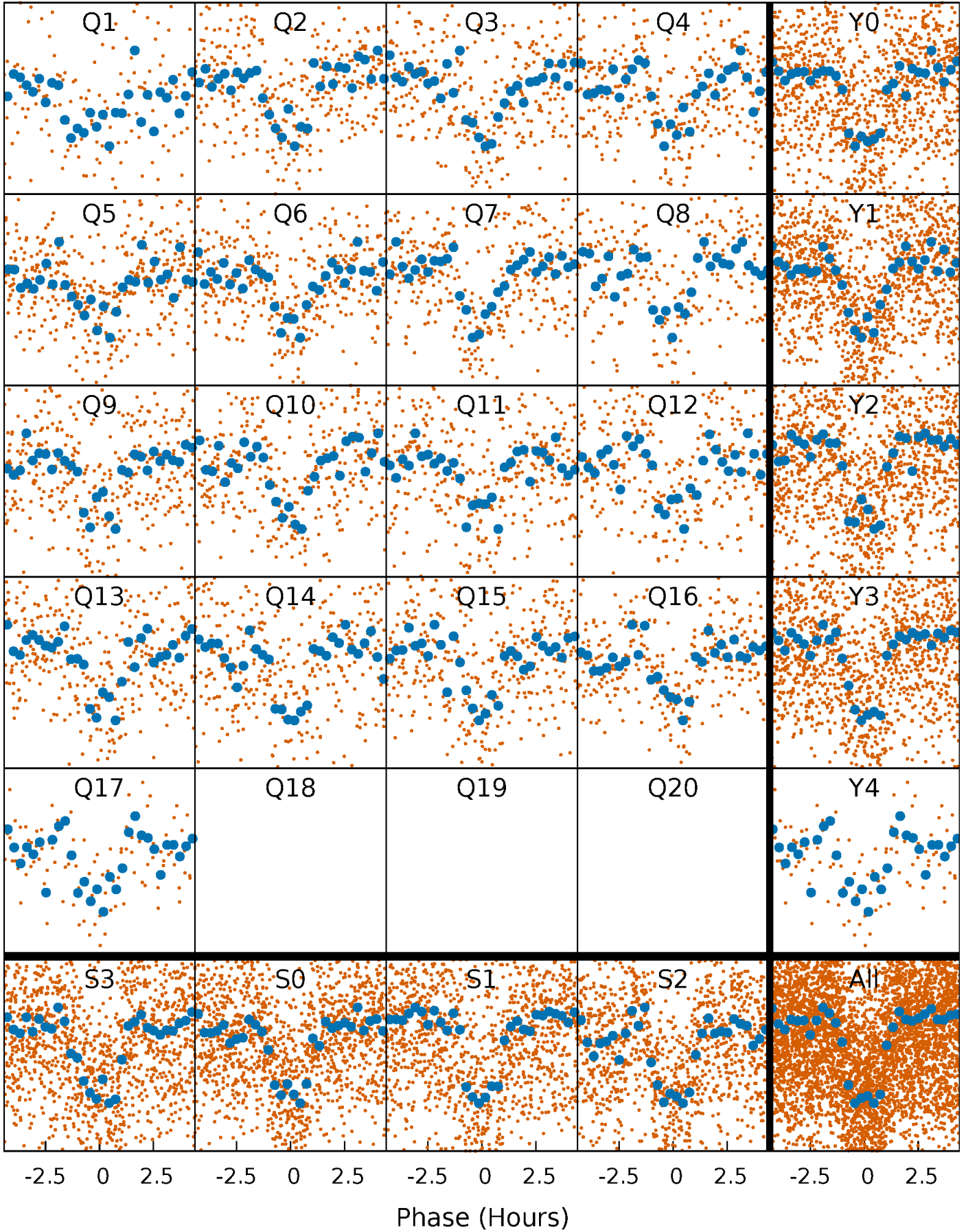


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

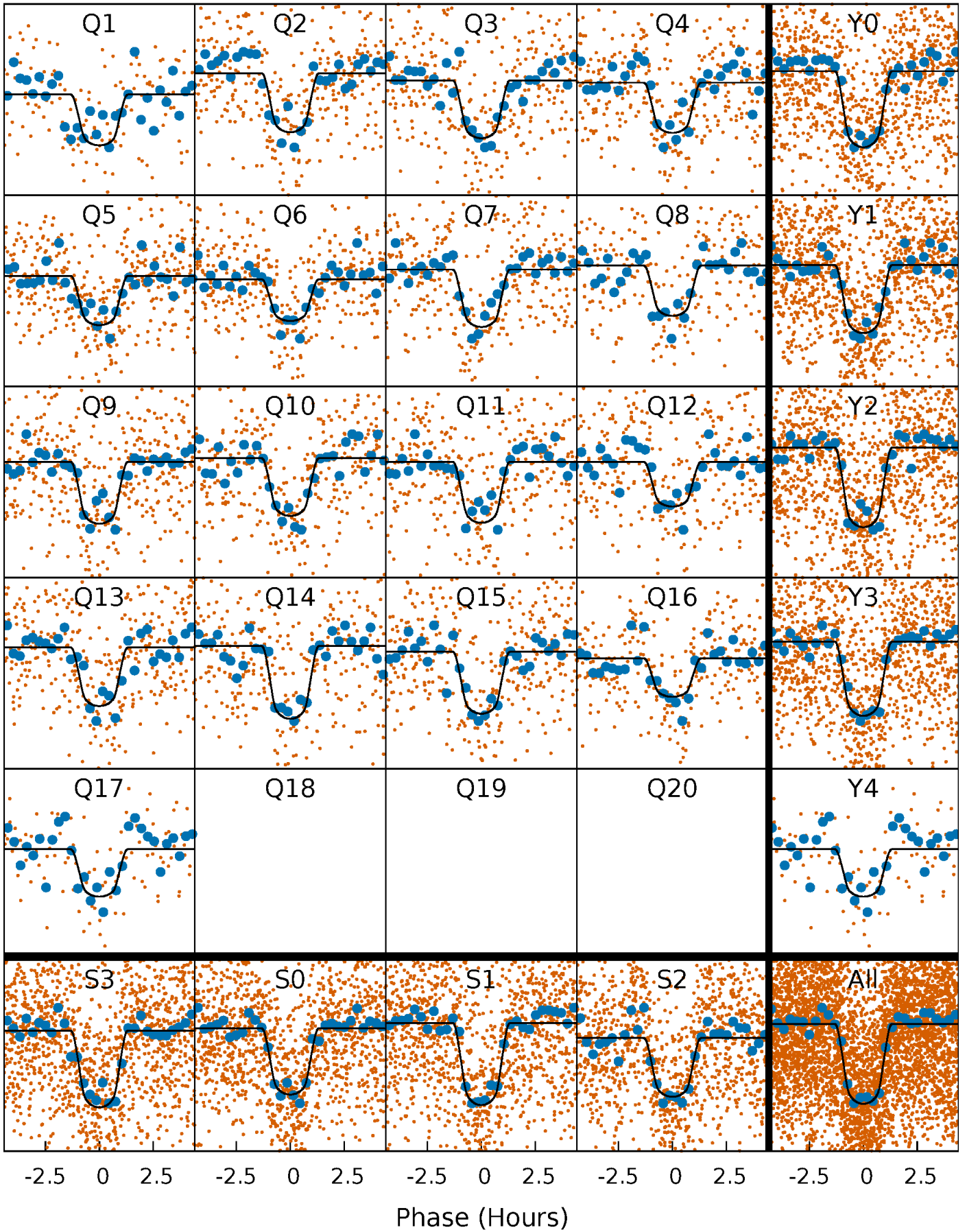
TCE 007118364-01 P= 4.347270 Days  $T_0=133.111307$  (BKJD)





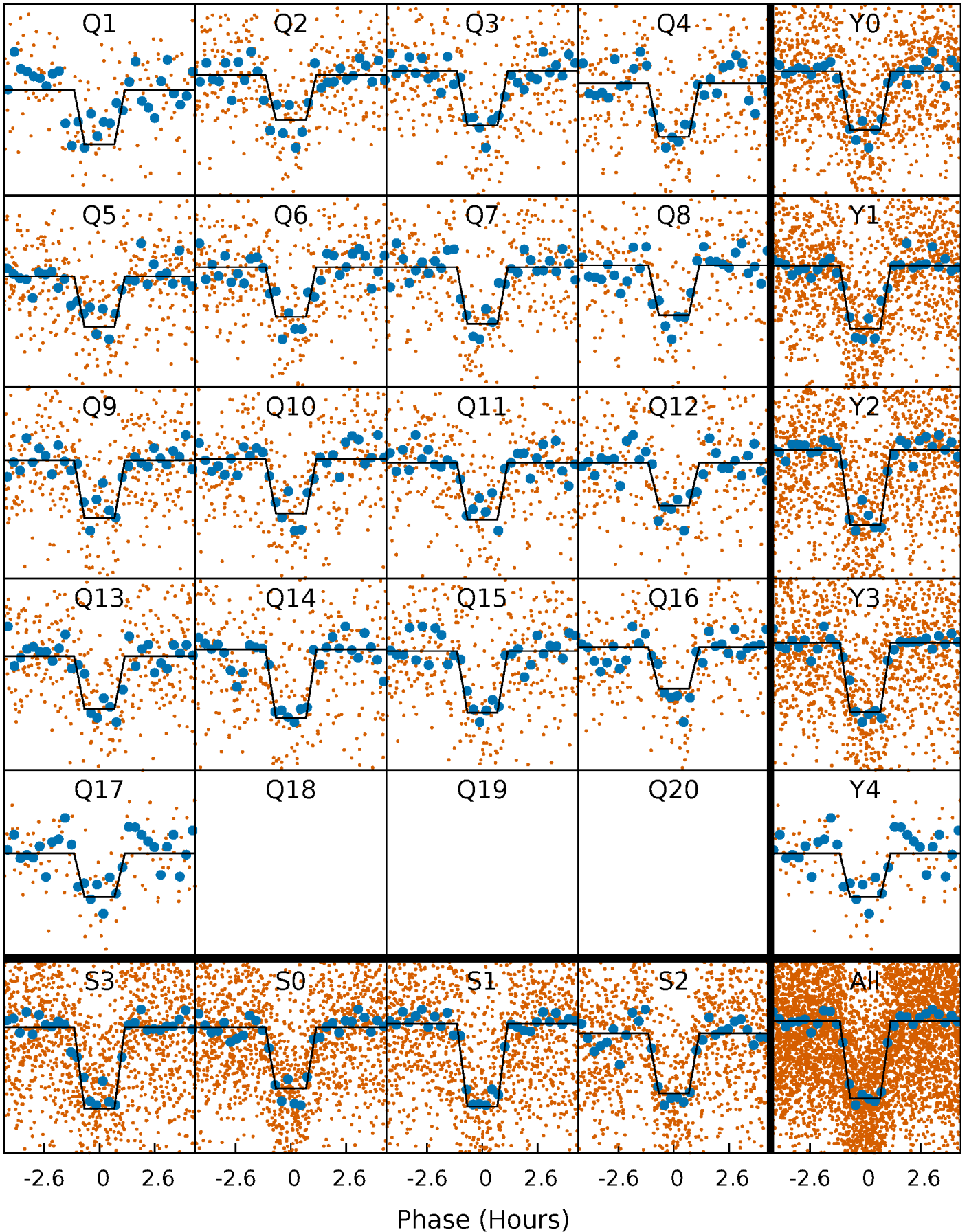
# DV Quarter-Phased Transit Curves

TCE 007118364-01 P= 4.347270 Days  $T_0=133.111307$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

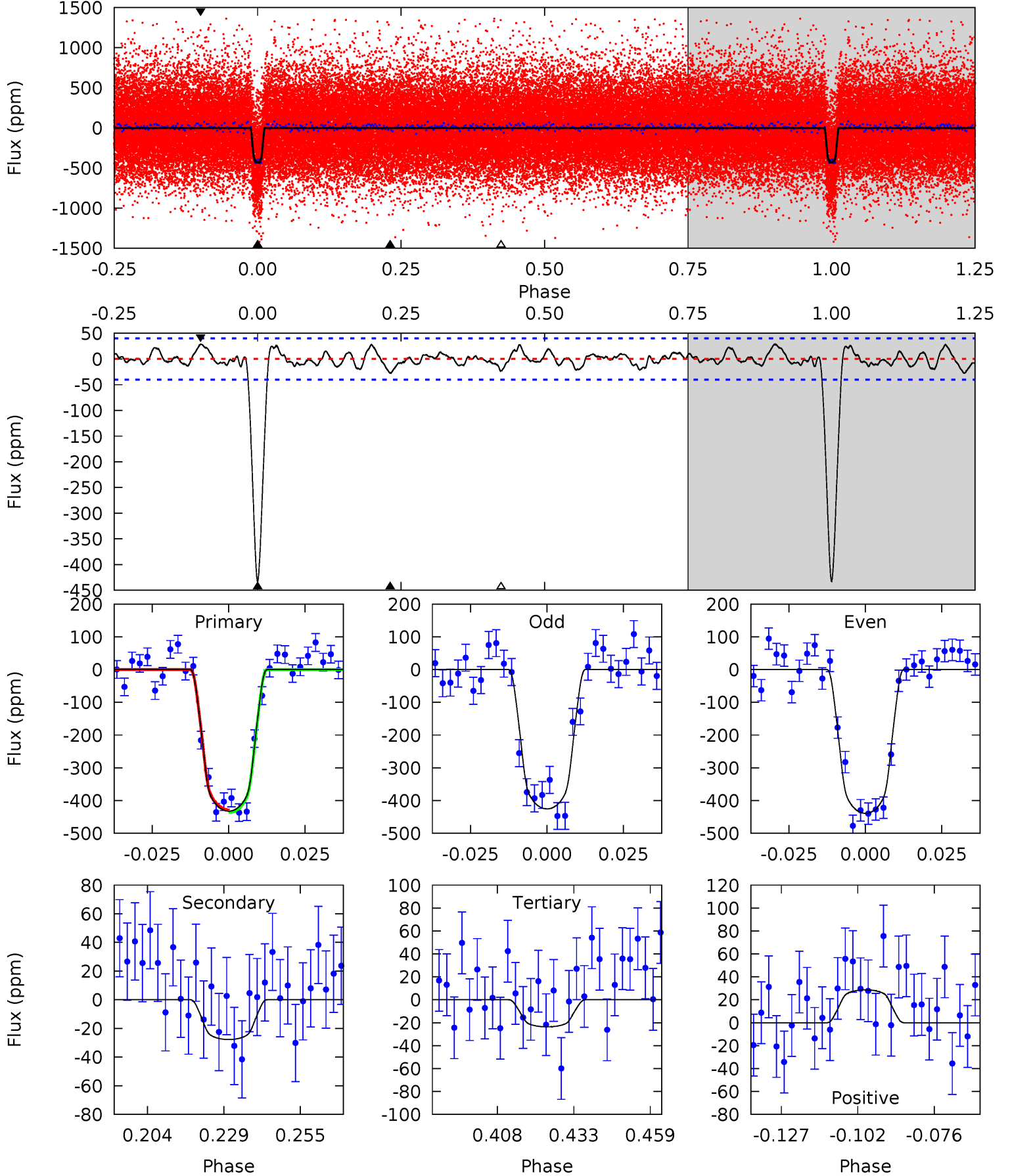
TCE 007118364-01 P= 4.347259 Days  $T_0=133.113426$  (BKJD)



# DV Model-Shift Uniqueness Test

007118364-01, P = 4.347270 Days, E = 128.764037 Days

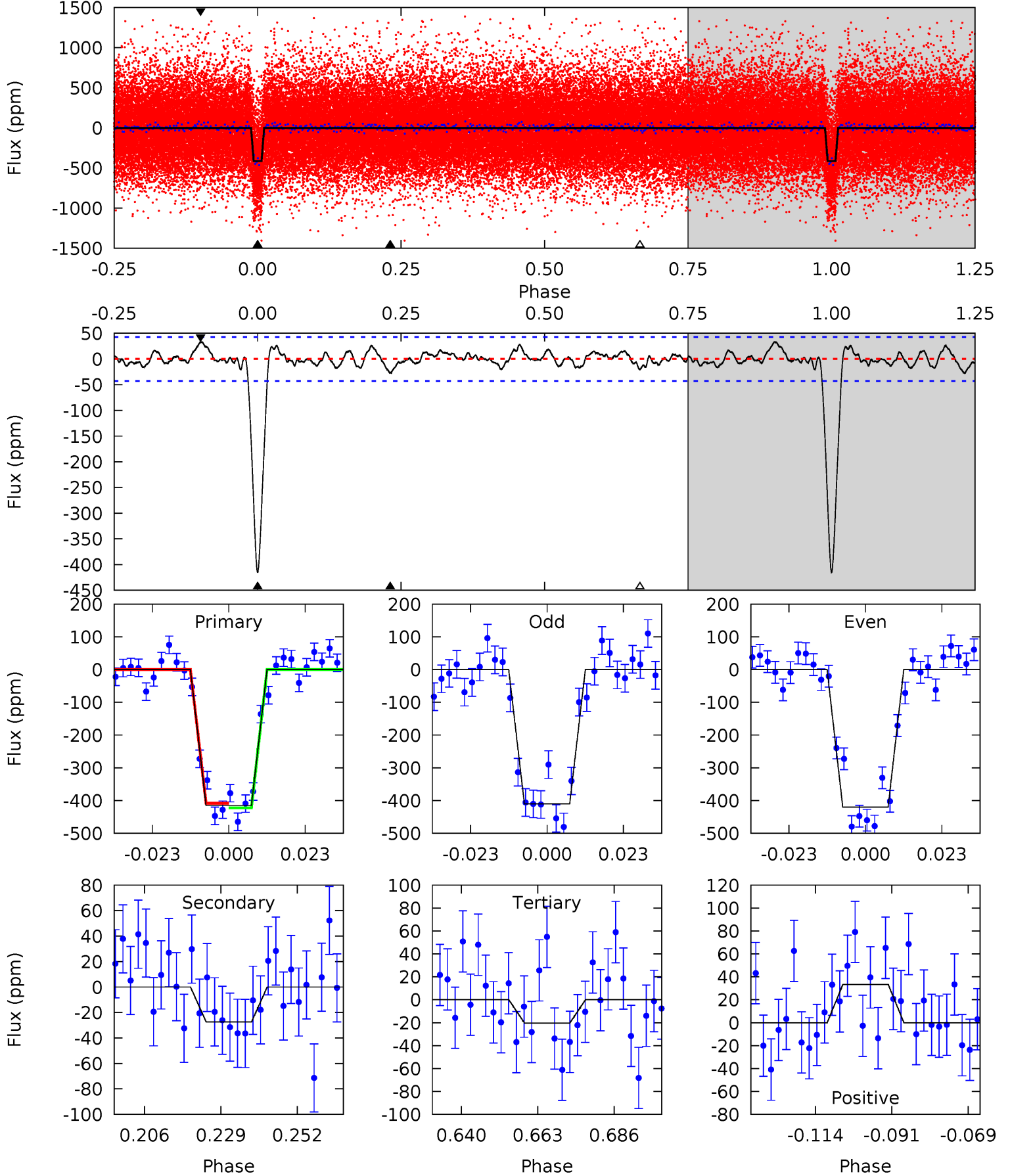
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.0	3.34	2.85	3.45	4.84	2.23	1.27	49.2	48.6	0.50	-0.10	0.82	0.98	0.06	0.47



# Alt Model-Shift Uniqueness Test

007118364-01, P = 4.347259 Days, E = 128.766167 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
47.2	3.13	2.31	3.80	4.87	2.28	1.19	44.9	43.4	0.81	-0.68	0.62	1.01	0.07	0.79





### Stellar Parameters For KIC 007118364

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5754^{+78}_{-78}$	$4.345^{+0.110}_{-0.110}$	$0.160^{+0.150}_{-0.150}$	$1.122^{+0.184}_{-0.138}$	$1.014^{+0.074}_{-0.056}$	$1.012^{+0.484}_{-0.327}$
	+1%/-1%	+3%/-3%	+94%/-94%	+16%/-12%	+7%/-6%	+48%/-32%
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 007118364-01 / KOI 0873.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-28 \pm 8$	$2.79^{+0.45}_{-0.41}$	$1639^{+70}_{-67}$	$3278^{+214}_{-230}$	$5.307^{+2.736}_{-1.994}$
Alt.	$-27 \pm 9$	$2.51^{+0.42}_{-0.44}$	$1642^{+67}_{-60}$	$3374^{+284}_{-257}$	$6.269^{+4.095}_{-2.621}$

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

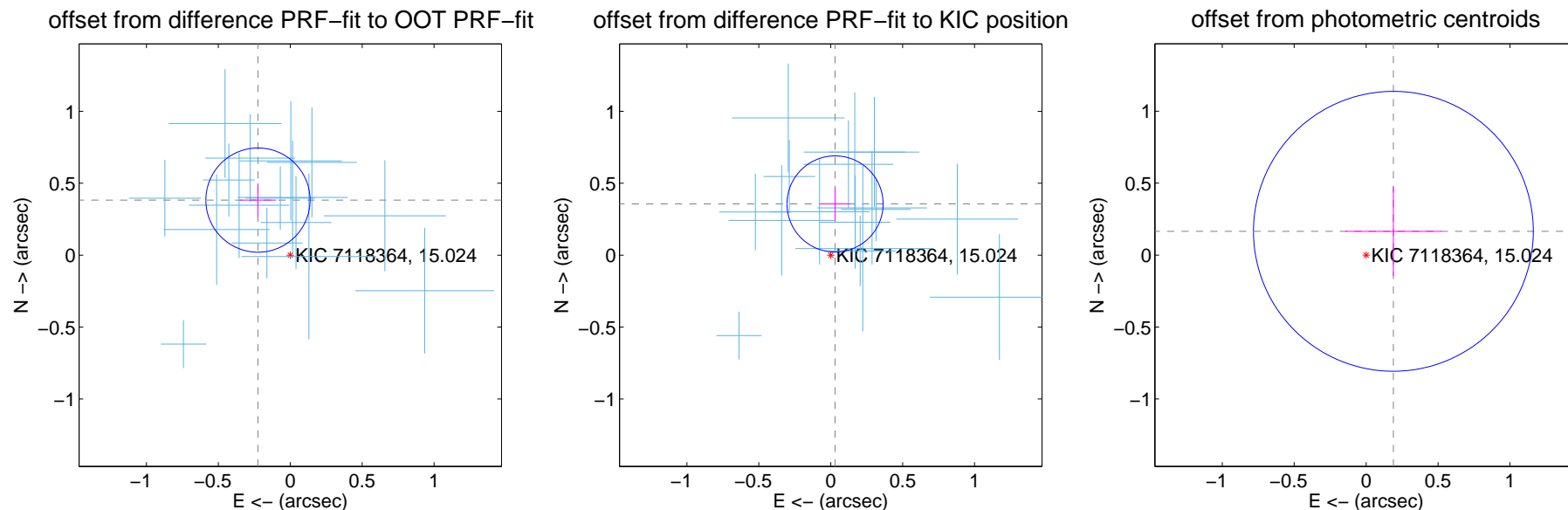
## DV Centroid Data

Supplemental centroid analysis for 007118364-01. Kepler magnitude: 15.02. Transit SNR 38.93

There are 16 quarters with good PRF difference image offsets

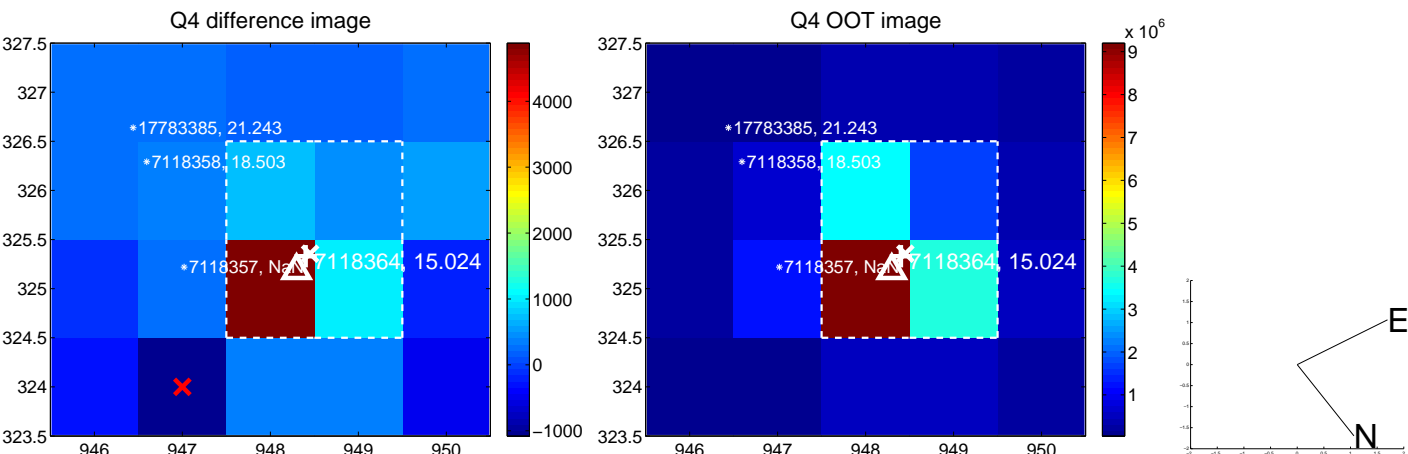
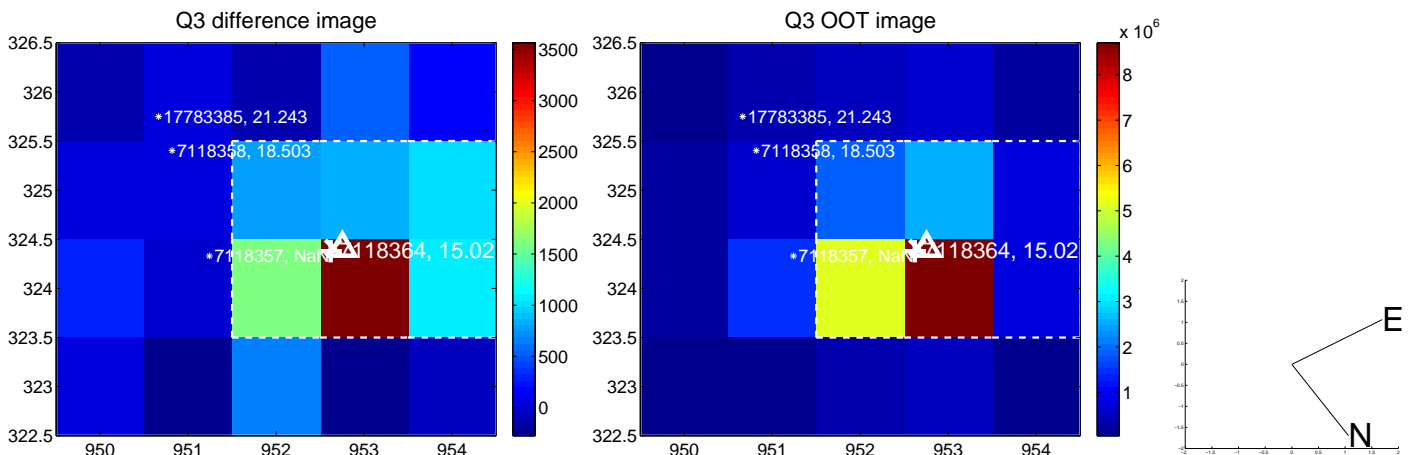
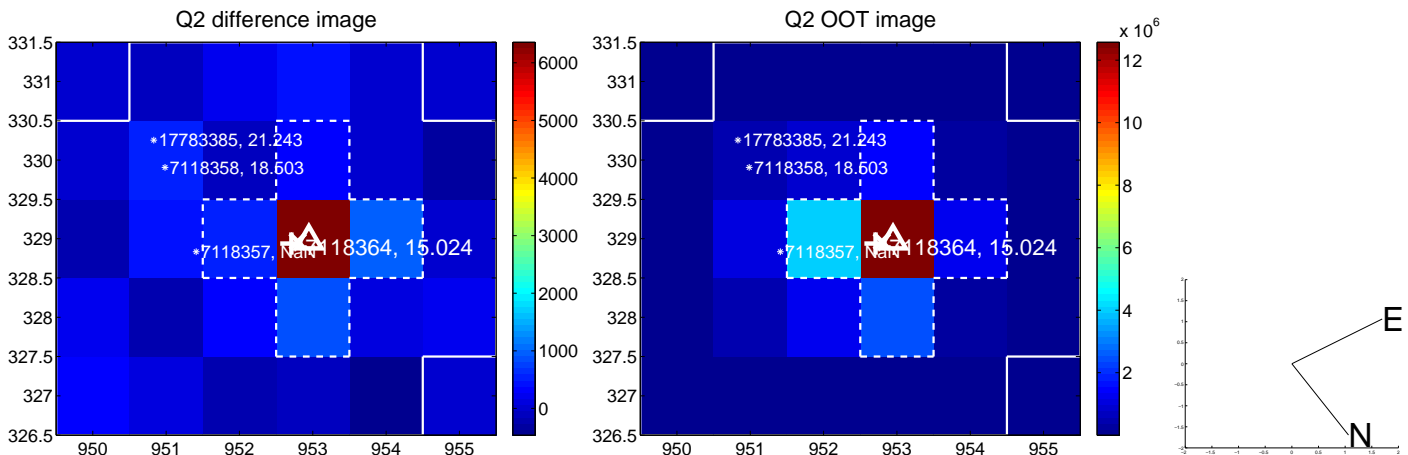
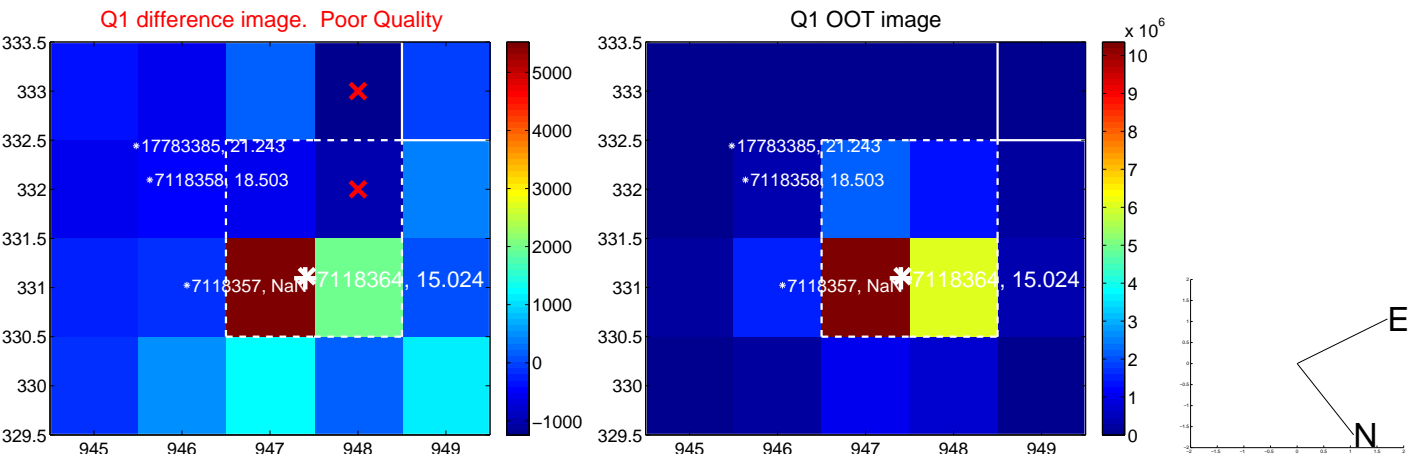
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.444 \pm 0.121$	<b>3.67</b>	$0.225 \pm 0.127$	$0.383 \pm 0.116$
PRF-fit source offset from KIC position	$0.357 \pm 0.111$	<b>3.21</b>	$-0.030 \pm 0.107$	$0.356 \pm 0.111$
photometric centroid source offset	$0.25 \pm 0.32$	0.78	$-0.19 \pm 0.34$	$0.17 \pm 0.31$

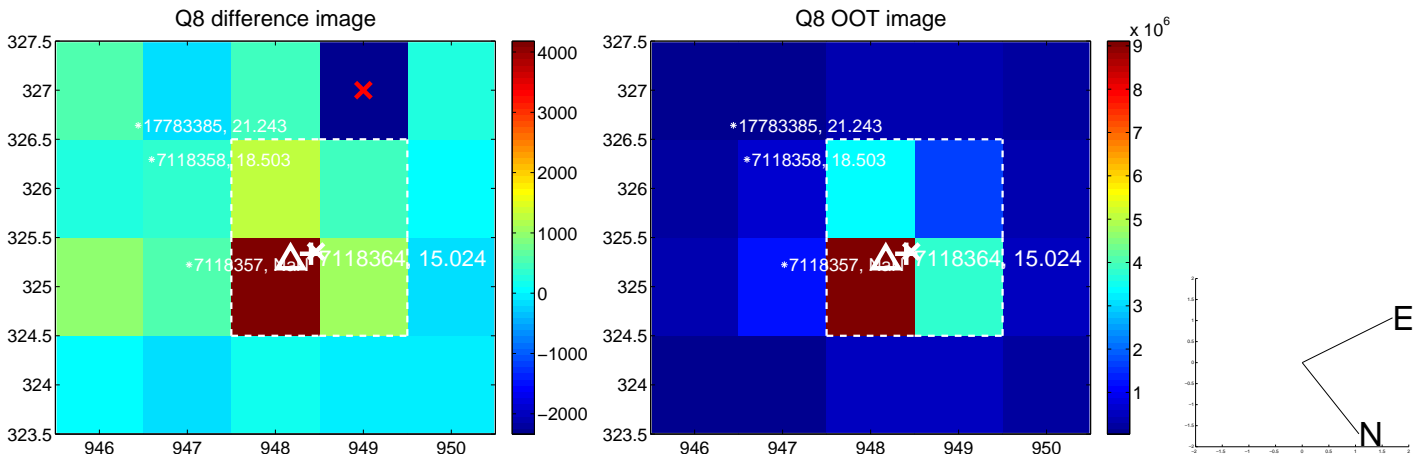
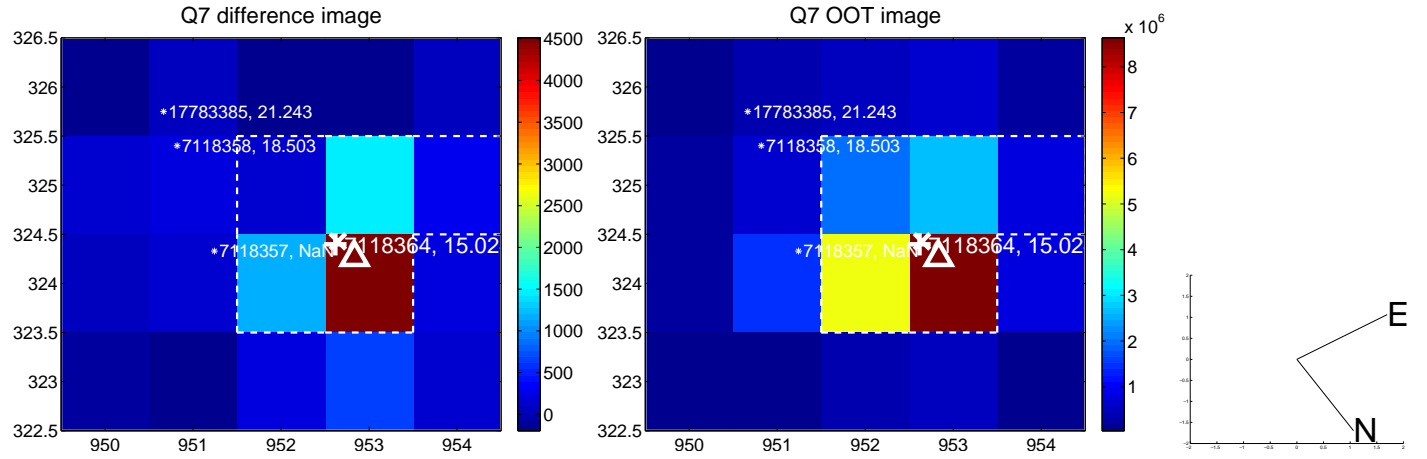
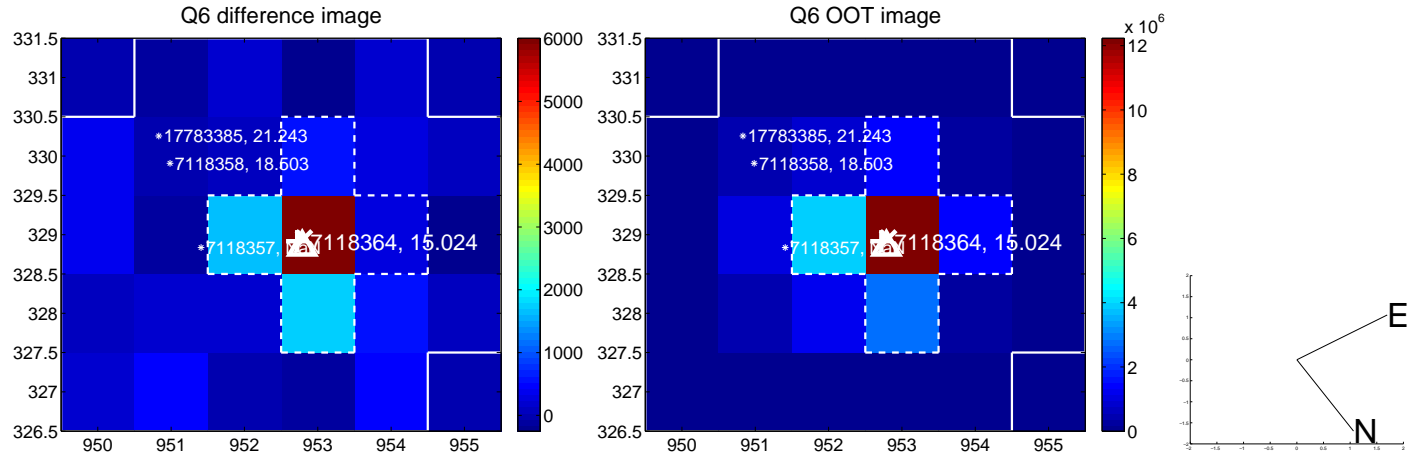
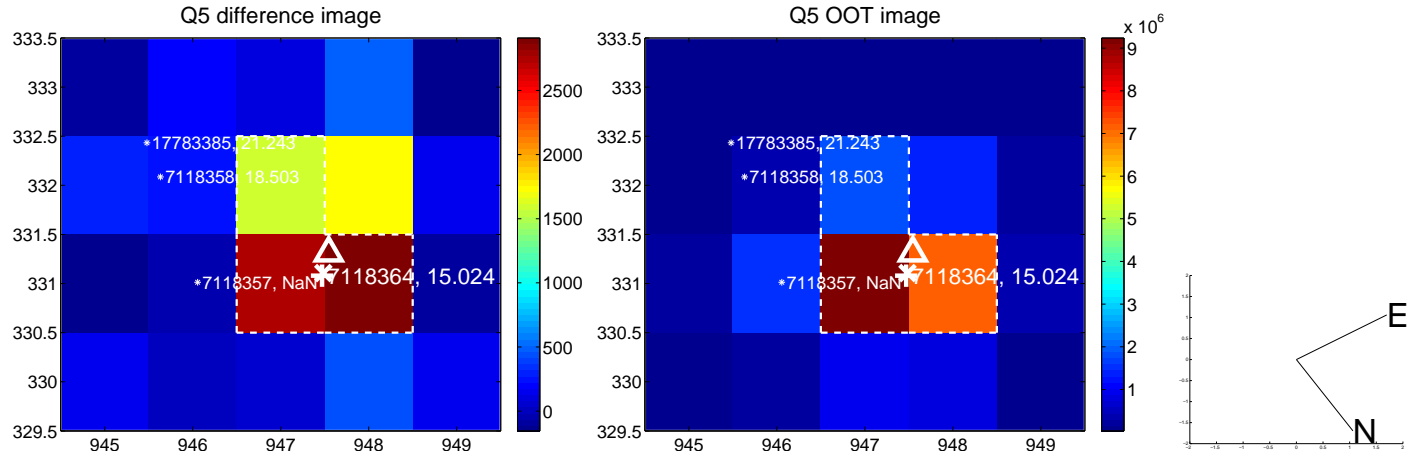


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

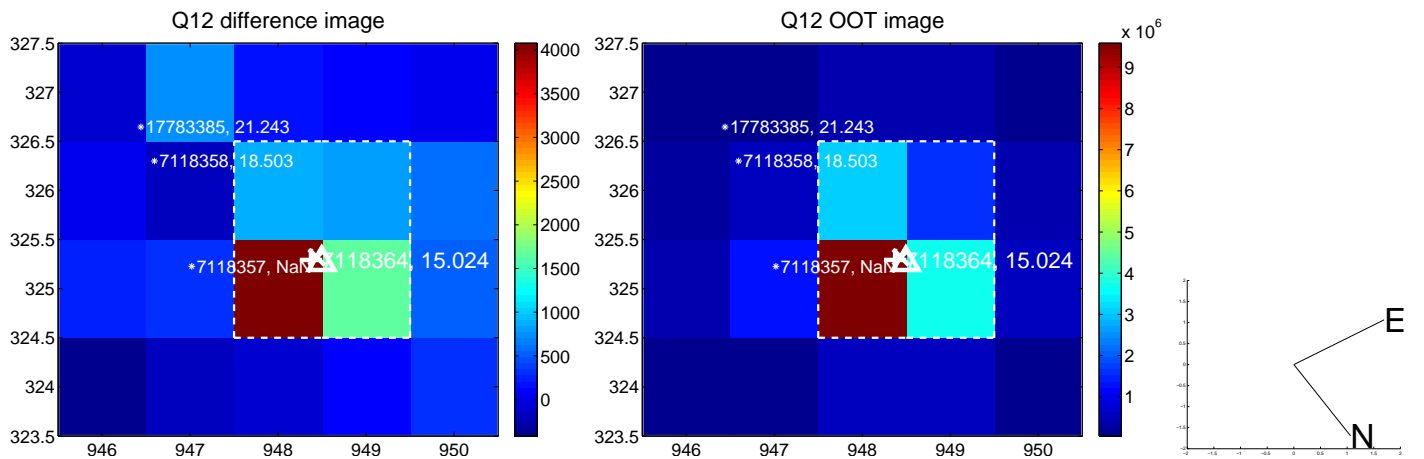
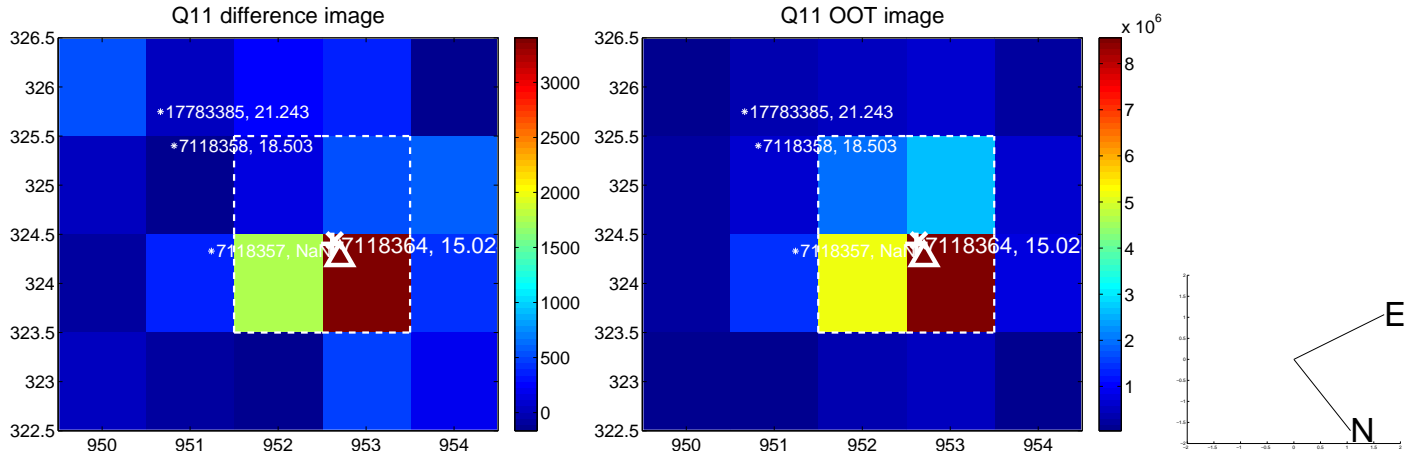
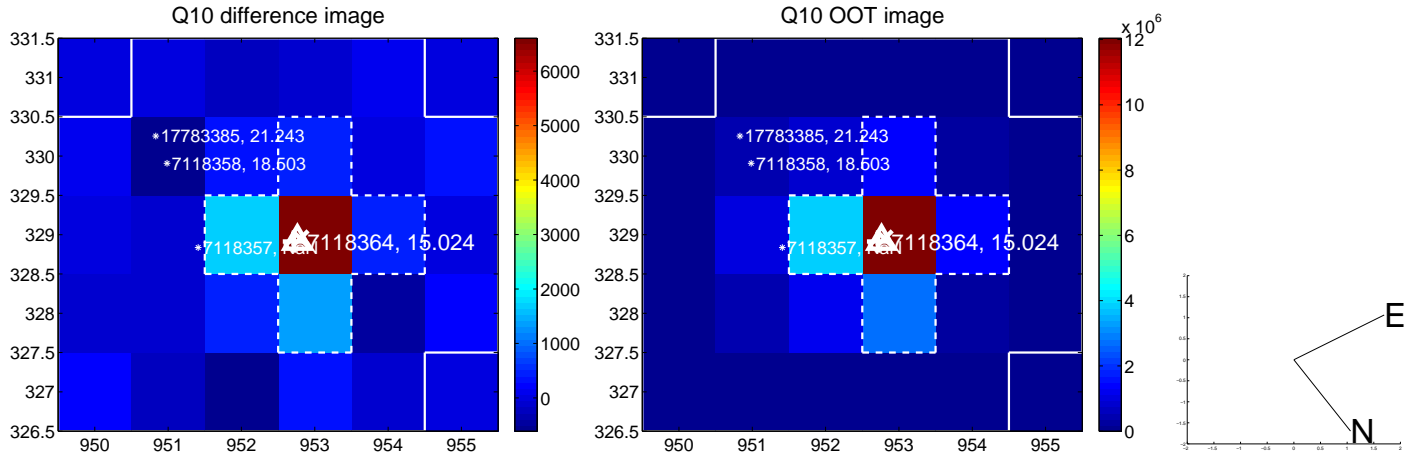
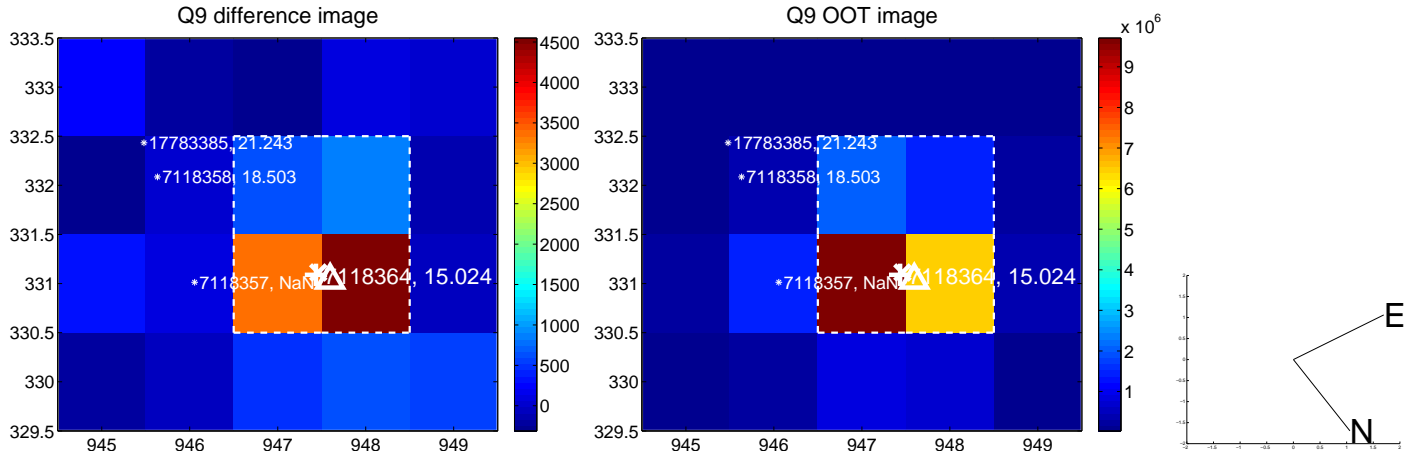


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

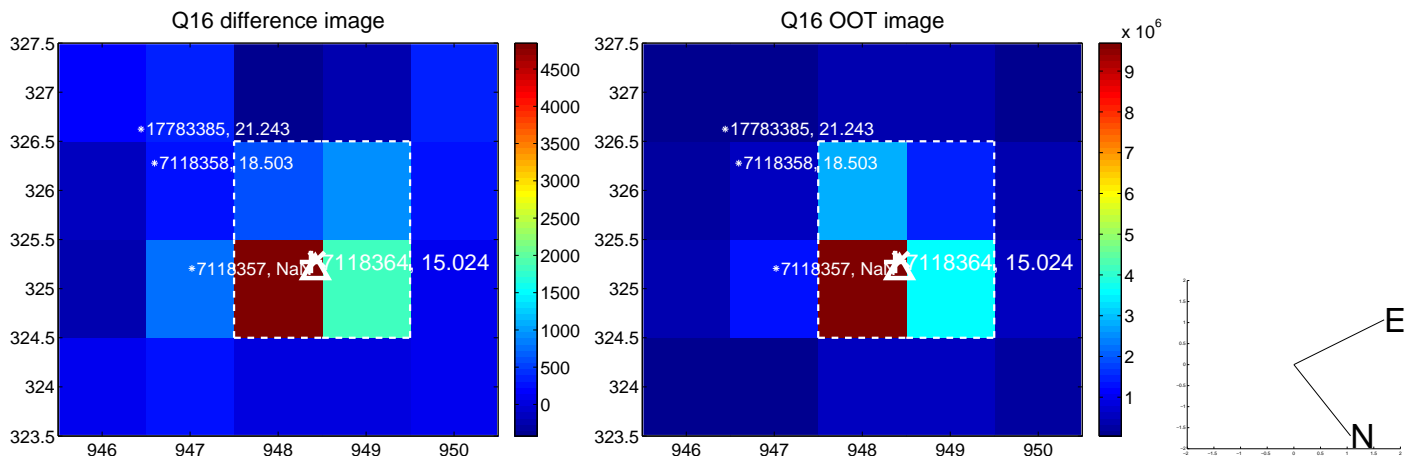
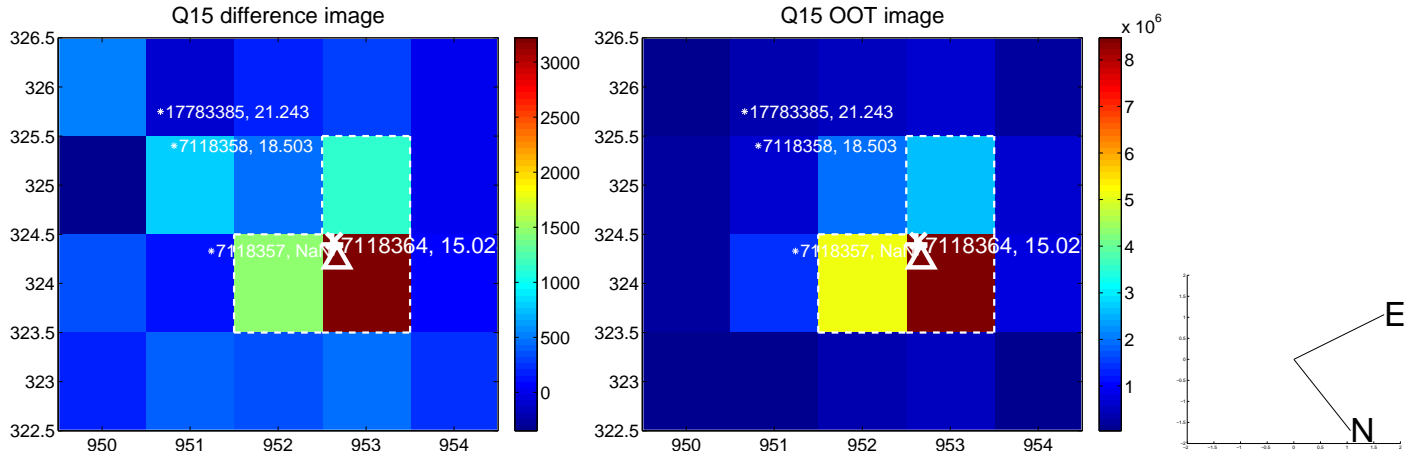
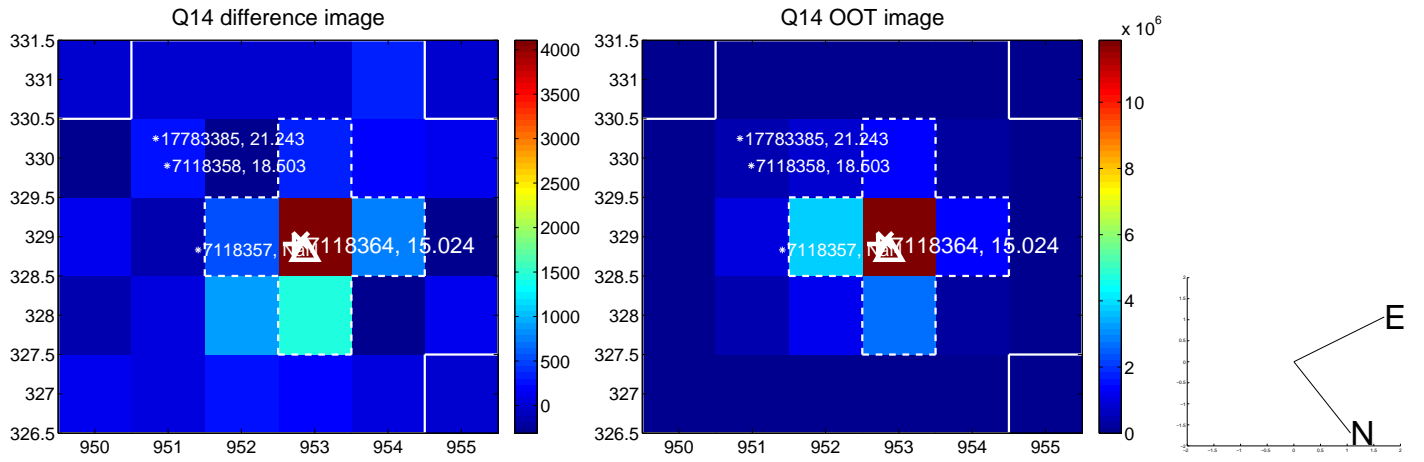
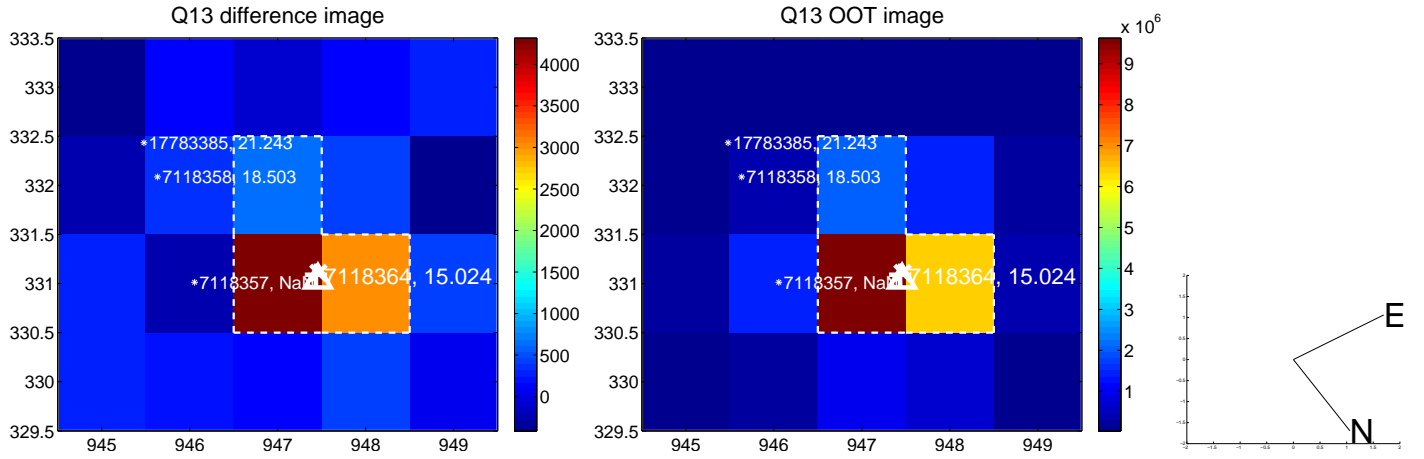




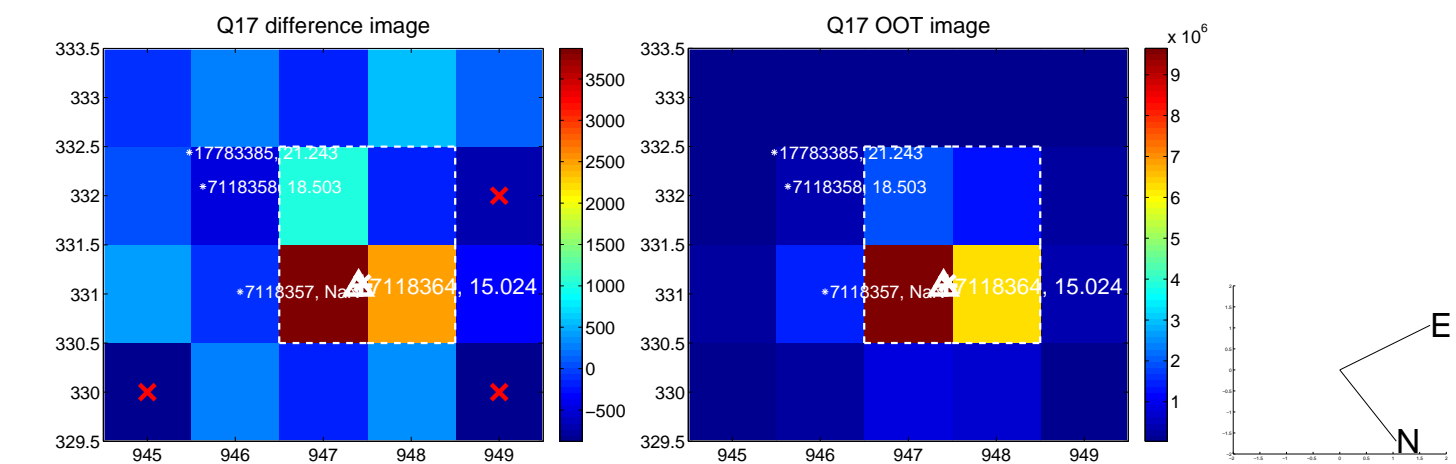
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



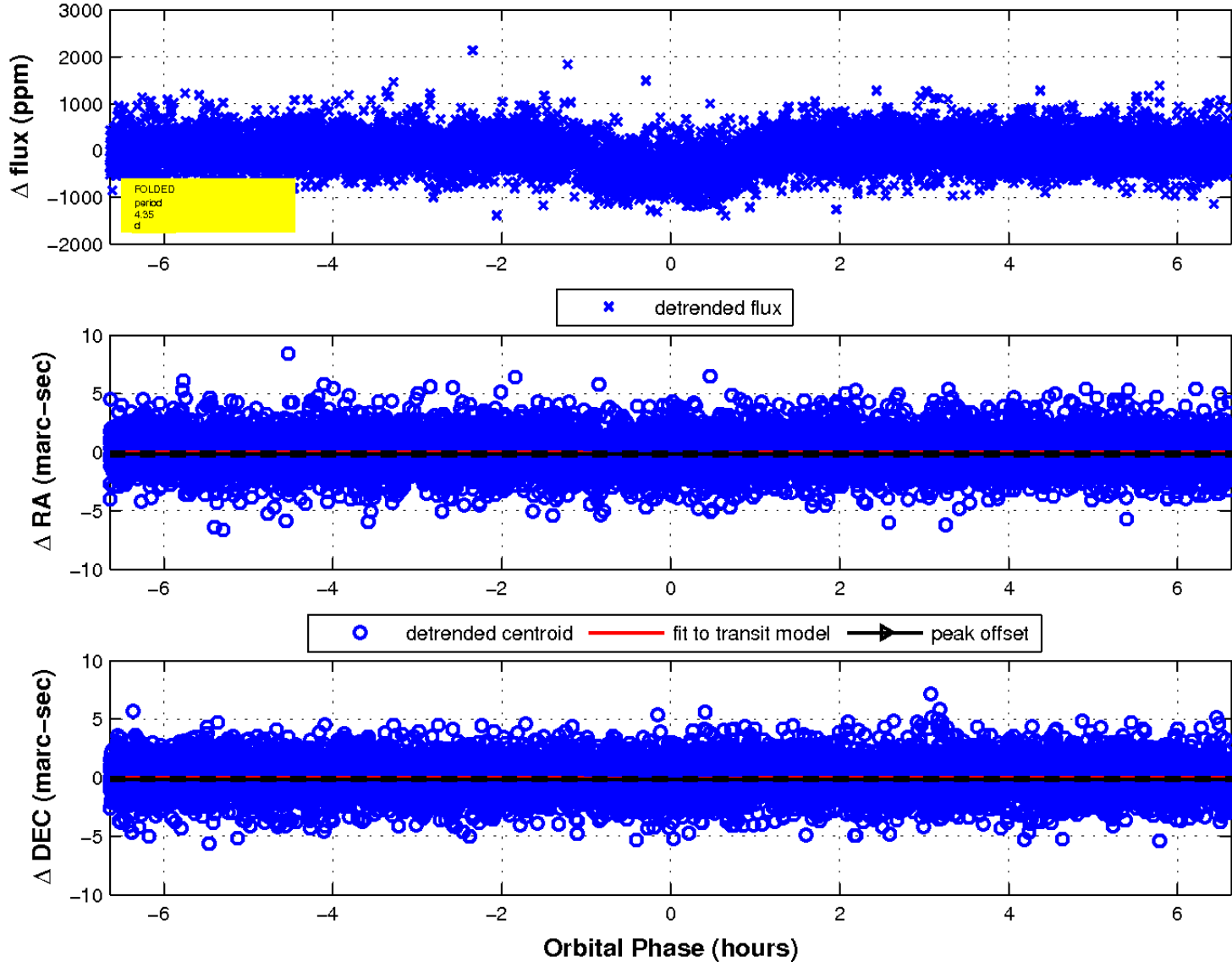
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

