

# KIC 006777360

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006777360-01	OBS	No	6.459614	136.232100	38.2	16.085	7.7	8.4	1.06	6271	0.78	315.67

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006777360-01	OBS	FP	0.00	1	0	0	0	LPP_DV—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.

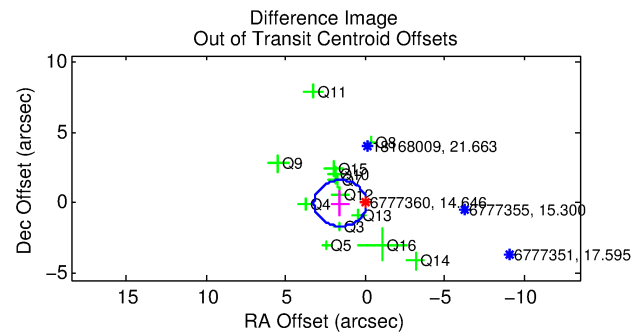
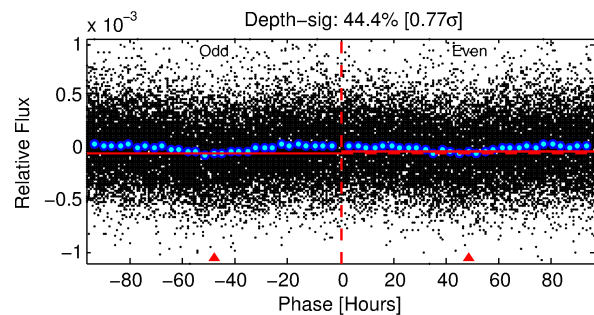
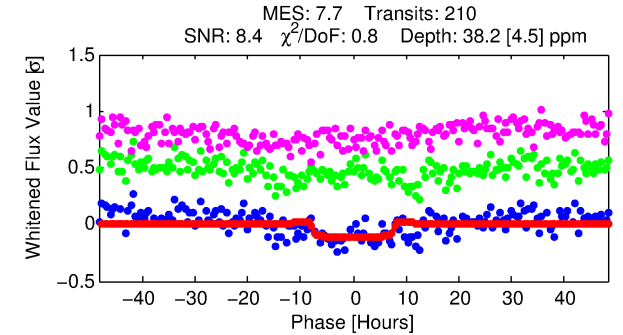
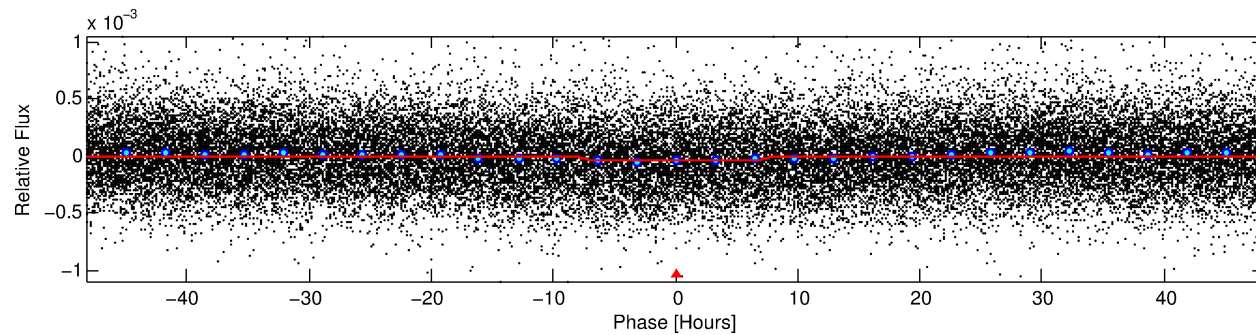
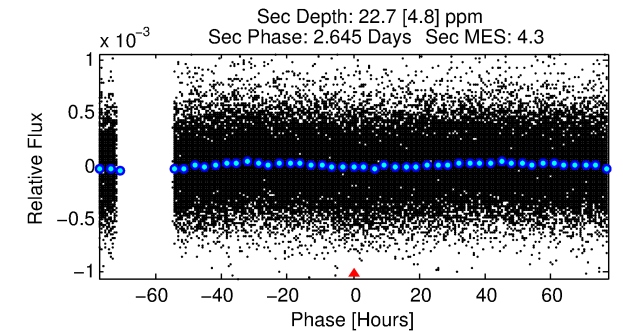
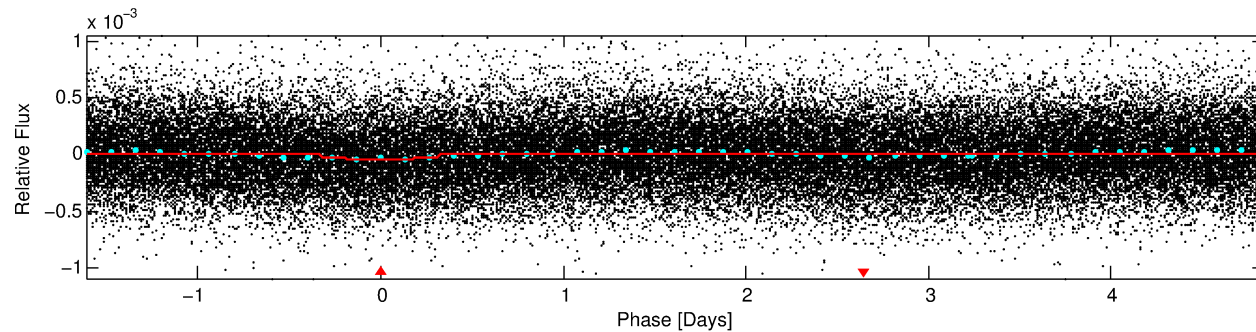
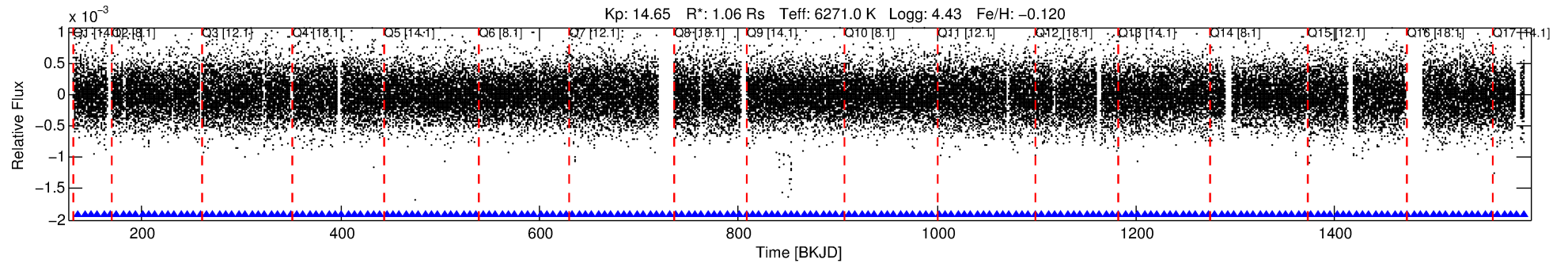
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006777360-01

No Significant Match Found

# DV One-Page Summary

KIC: 6777360 Candidate: 1 of 1 Period: 6.460 d



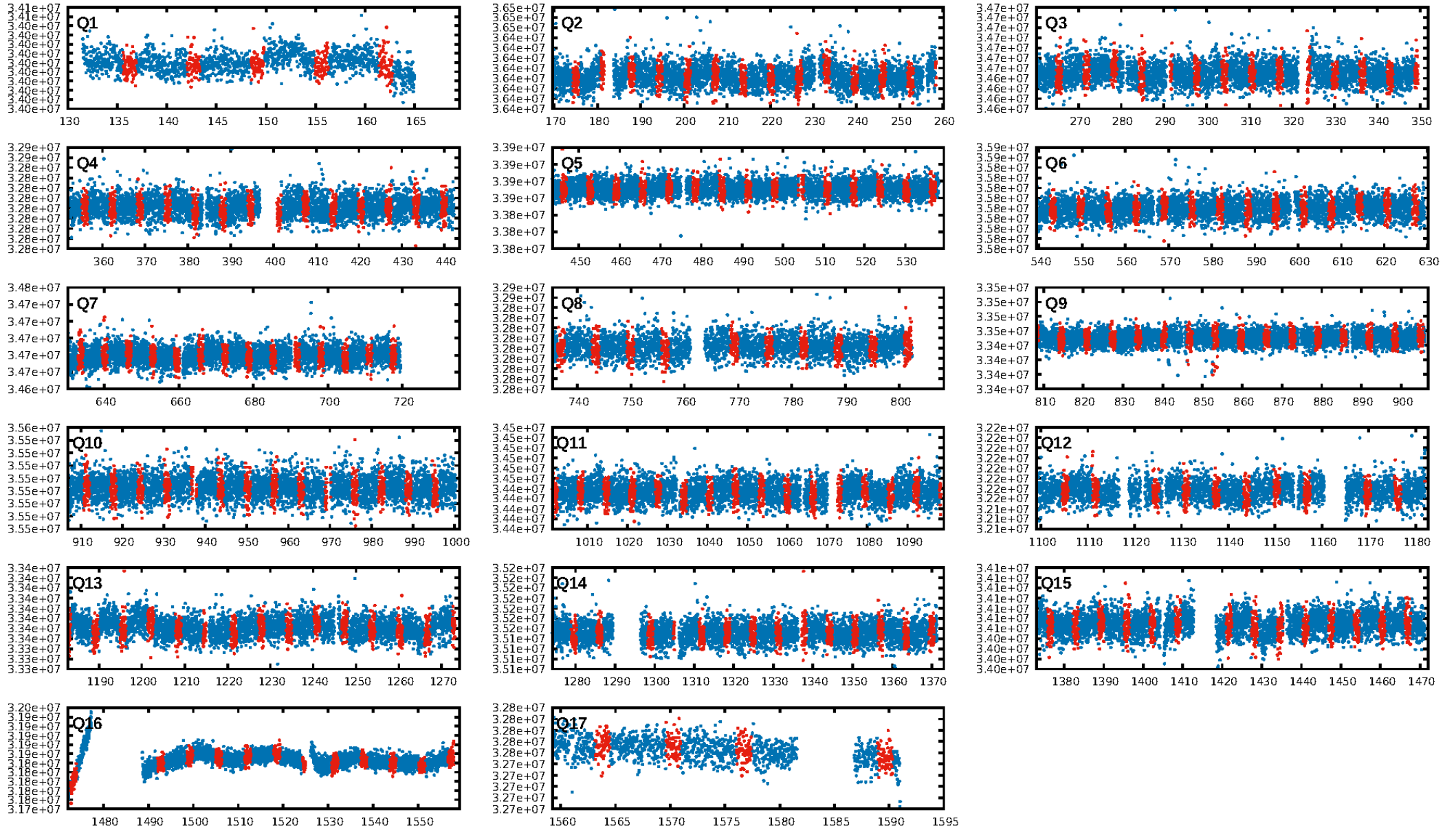
## DV Fit Results:

Period = 6.45961 [0.00020] d  
Epoch = 136.2321 [0.0236] BKJD  
Rp/R\* = 0.0068 [0.0012]  
a/R\* = 1.57 [0.85]  
b = 0.92 [0.15]  
Seff = 315.67 [138.08]  
Teq = 1075 [118] K  
Rp = 0.78 [0.30] Re  
a = 0.0702 [0.0201] AU  
Ag = 100.23 [57.86] [1.72σ]  
Teffp = 5258 [562] K [7.28σ]

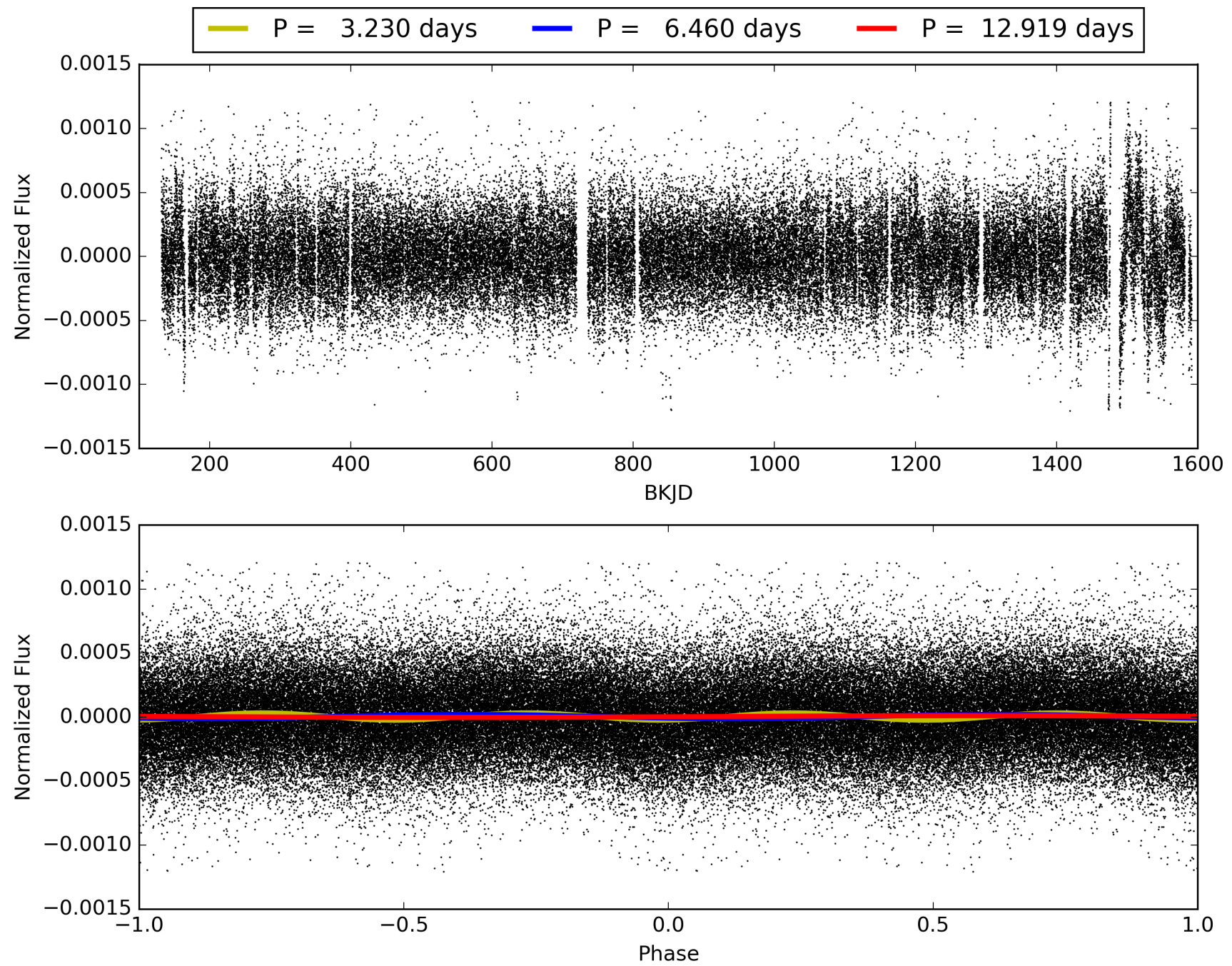
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.88e-14  
RollingBand-fgt: 1.00 [201/201]  
**GhostDiagnostic-chr: 0.4605**  
**Centroid-sig: 0.0%**  
Centroid-so: 2.786 arcsec [2.43σ]  
OotOffset-rm: 1.576 arcsec [2.88σ]  
KicOffset-rm: 0.902 arcsec [1.46σ]  
OotOffset-st: 2/4/4/3 [13]  
KicOffset-st: 2/4/4/3 [13]  
DiffImageQuality-fgm: 0.31 [4/13]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 006777360-01, PDC Light Curves



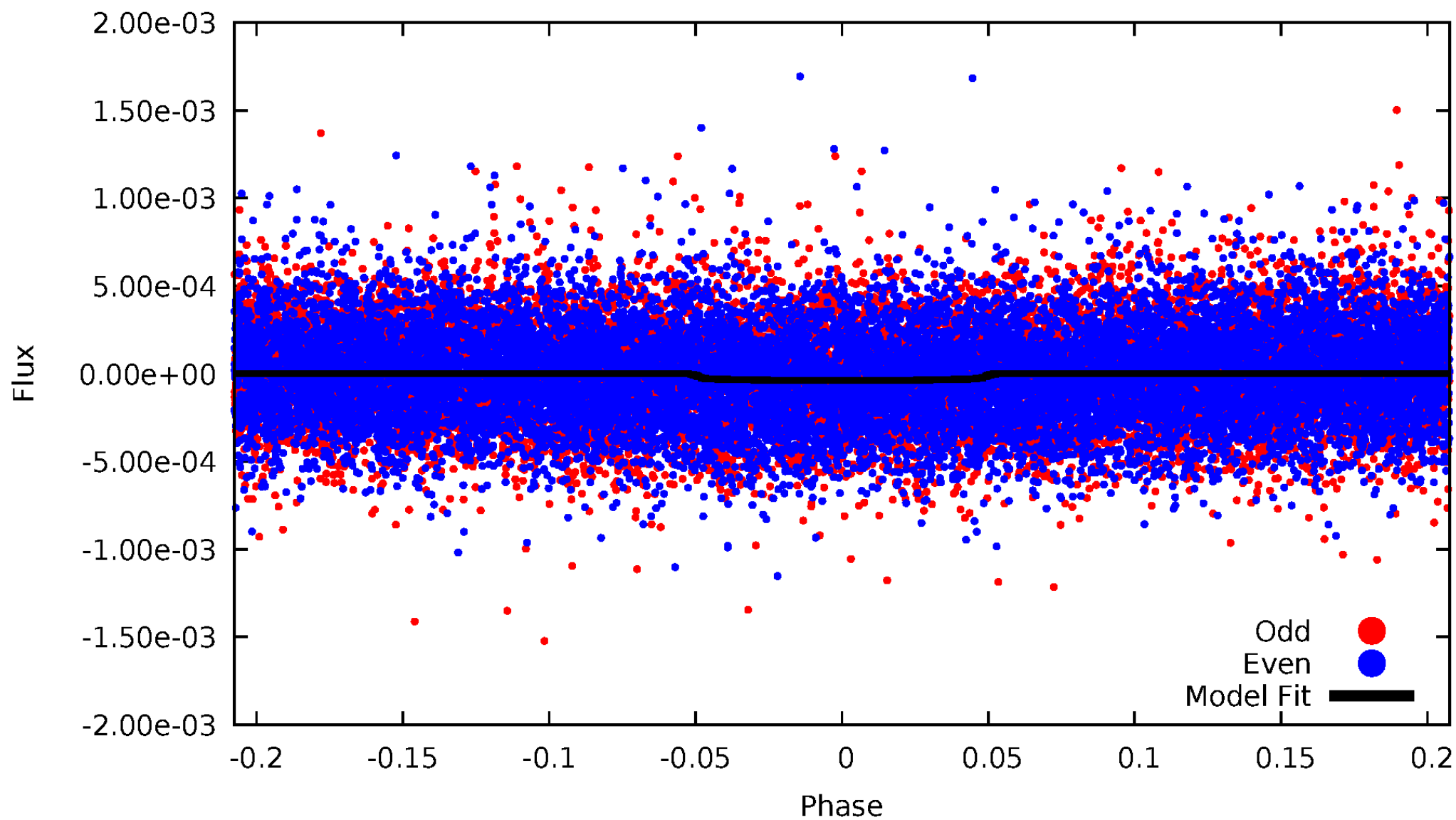
TCE 006777360-01





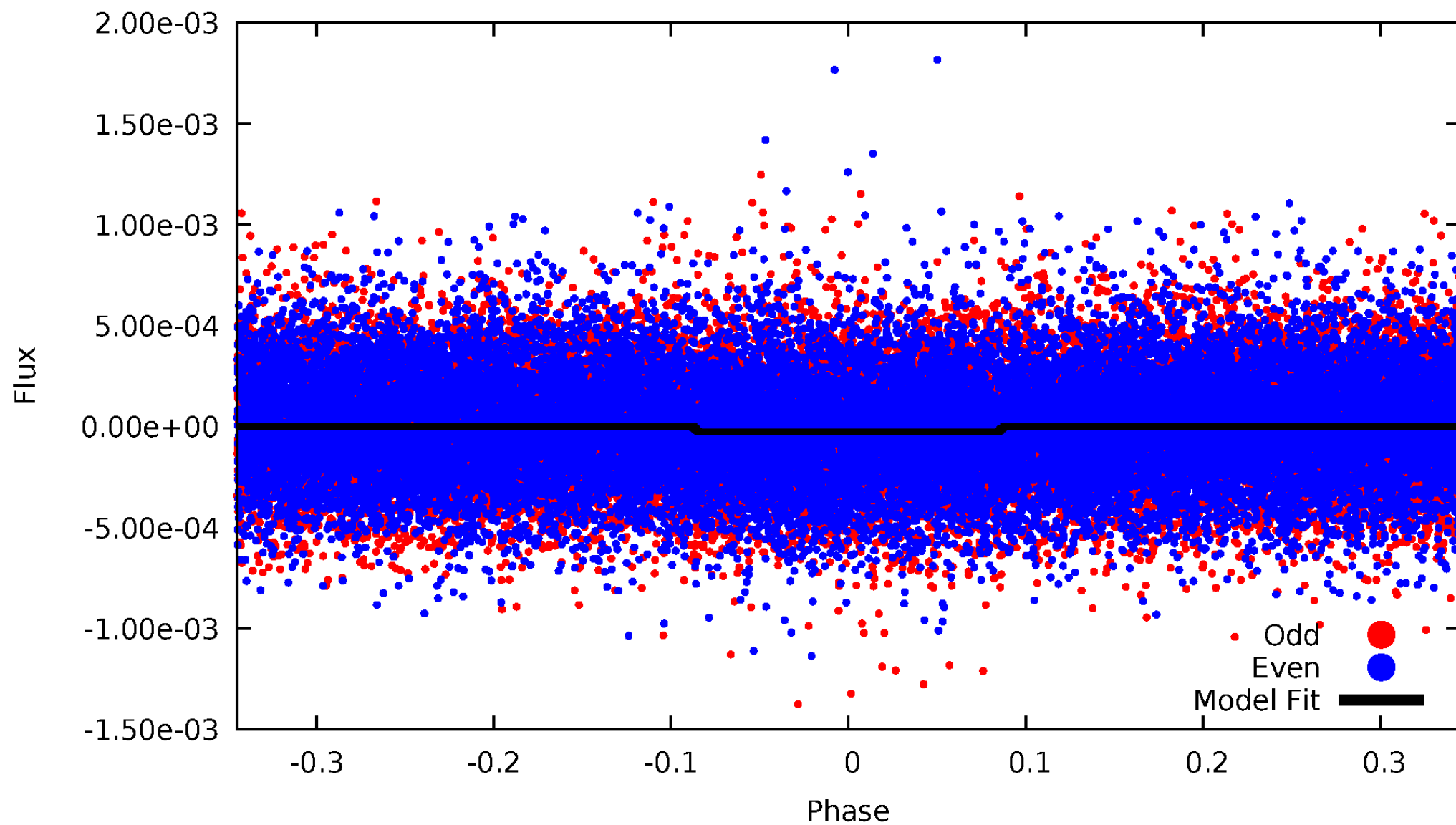
# DV Odd/Even

TCE 006777360-01



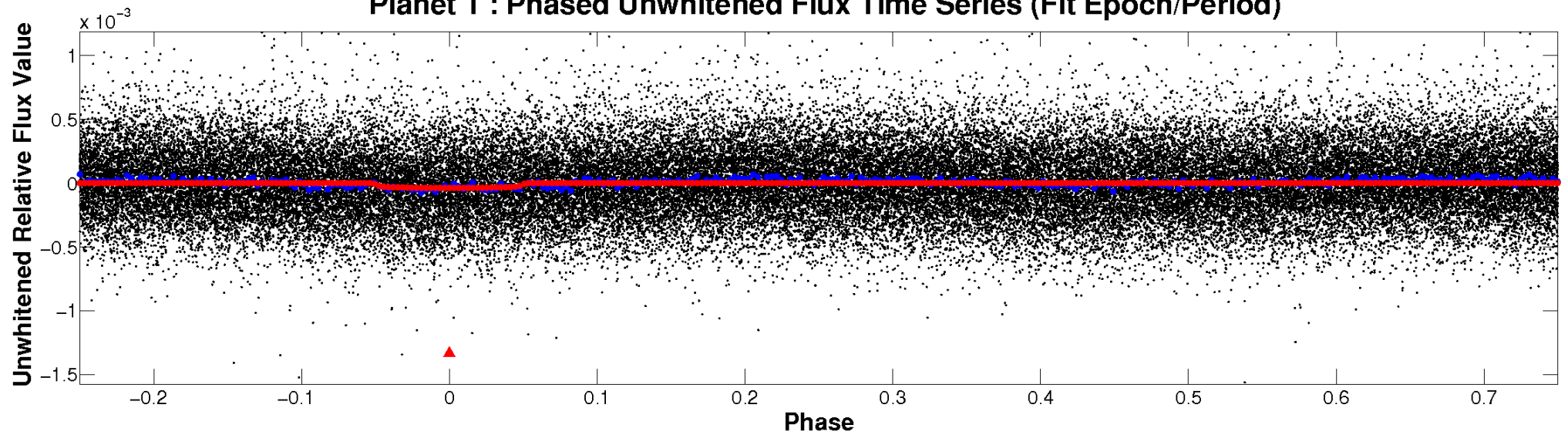
# ALT Odd/Even

TCE 006777360-01

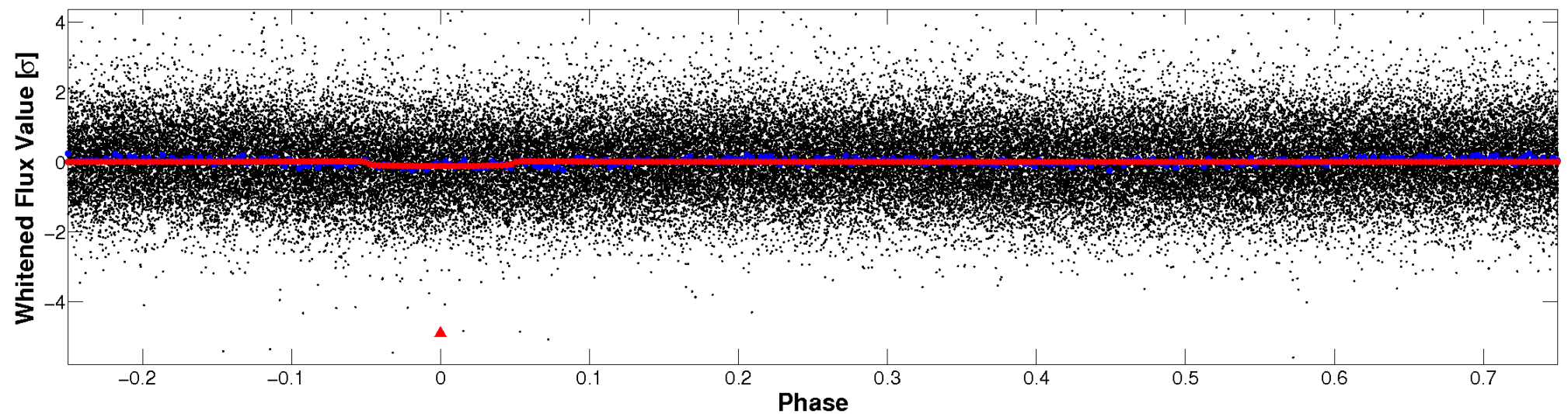


# Non-Whitened Vs. Whitened Light Curve

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

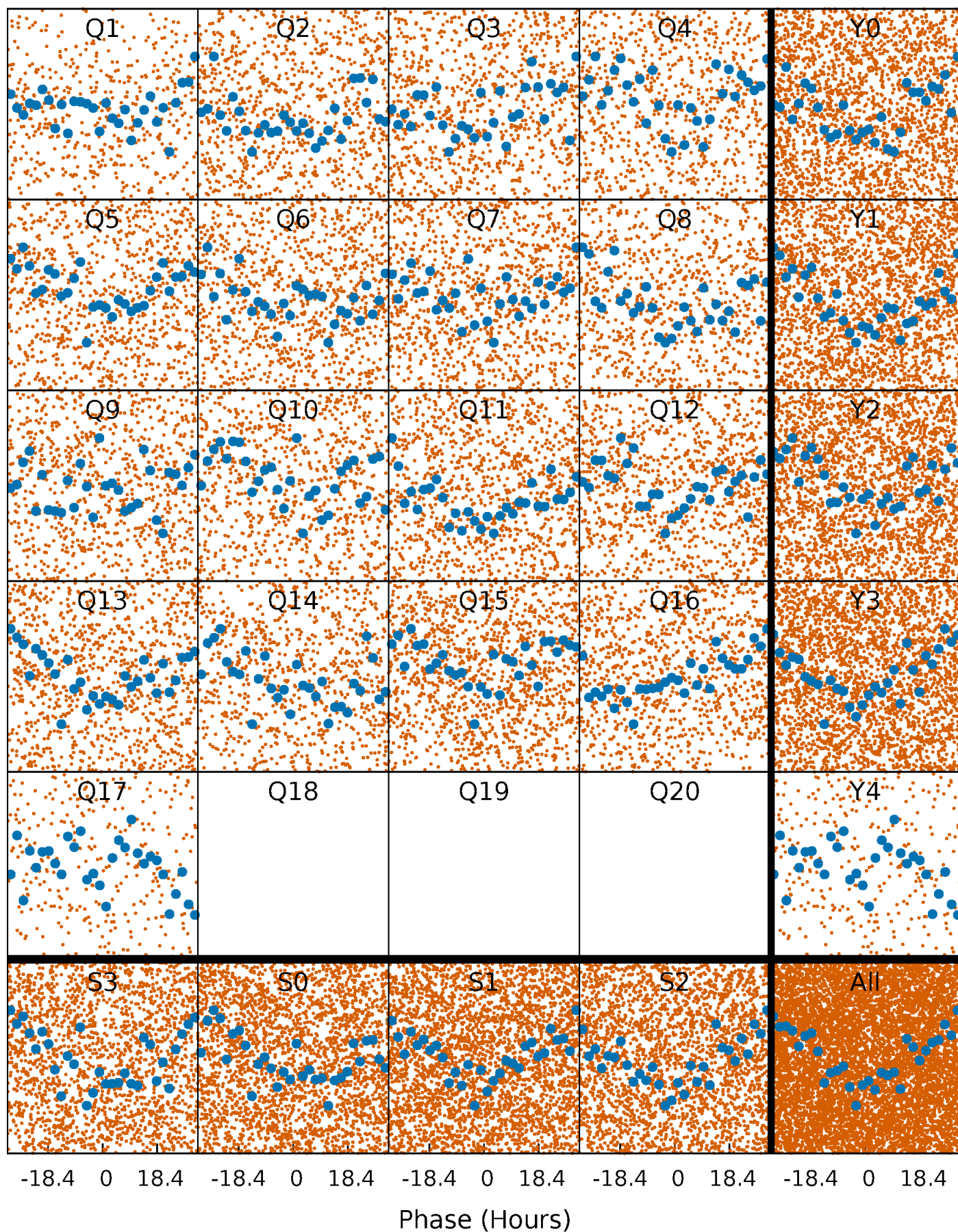


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

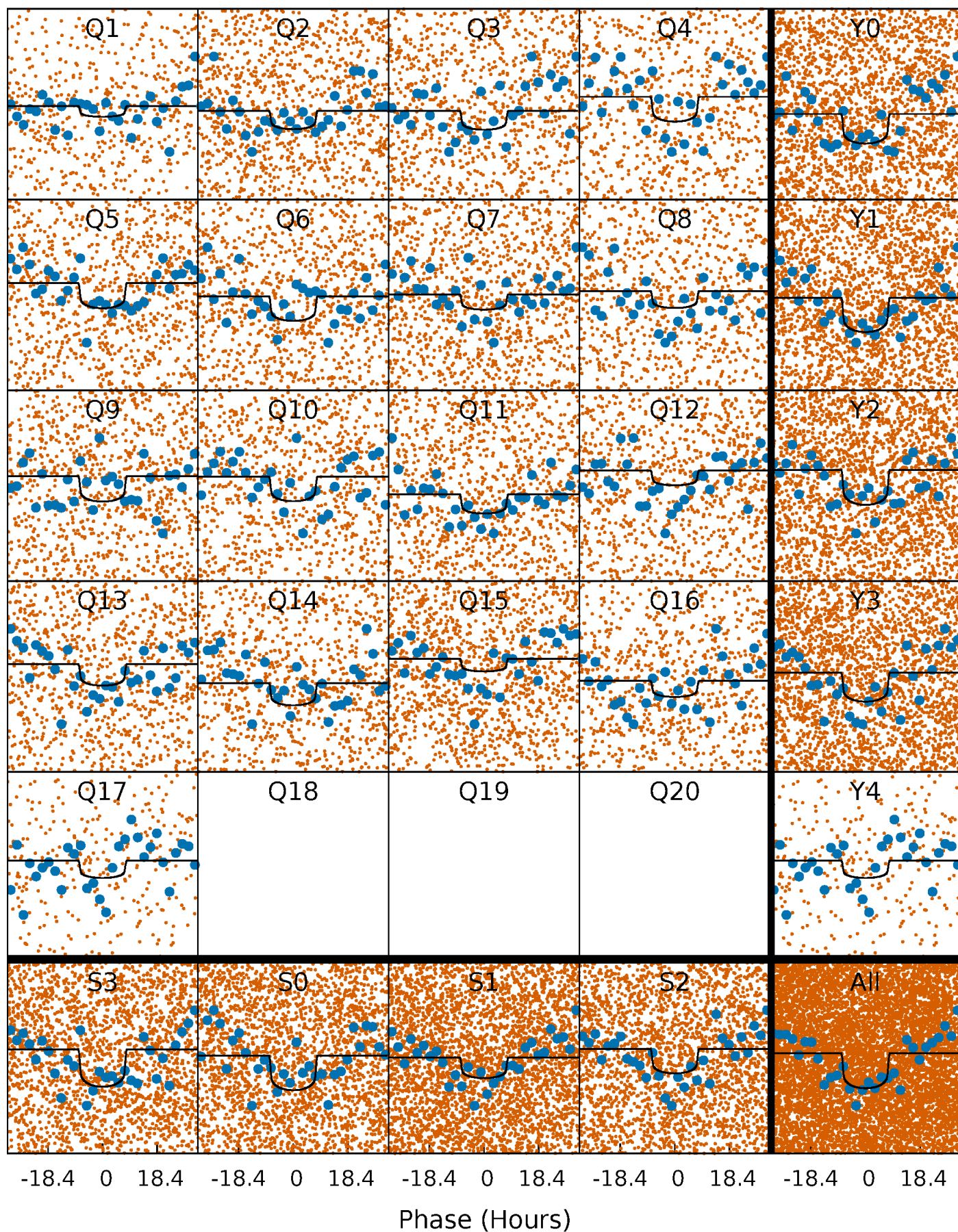
TCE 006777360-01 P= 6.459614 Days  $T_0=136.232100$  (BKJD)





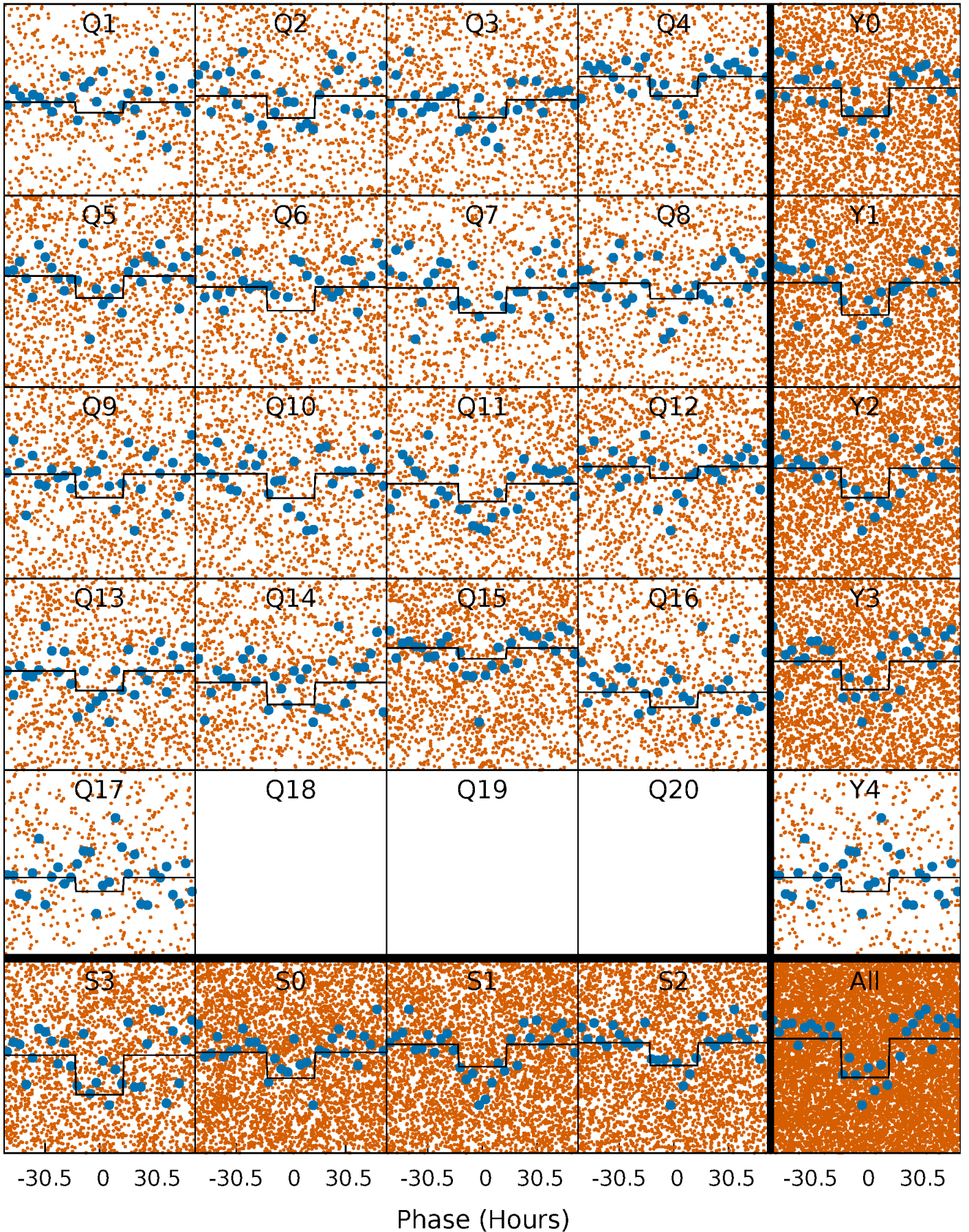
# DV Quarter-Phased Transit Curves

TCE 006777360-01 P= 6.459614 Days  $T_0=136.232100$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 006777360-01 P= 6.459368 Days  $T_0=136.235701$  (BKJD)

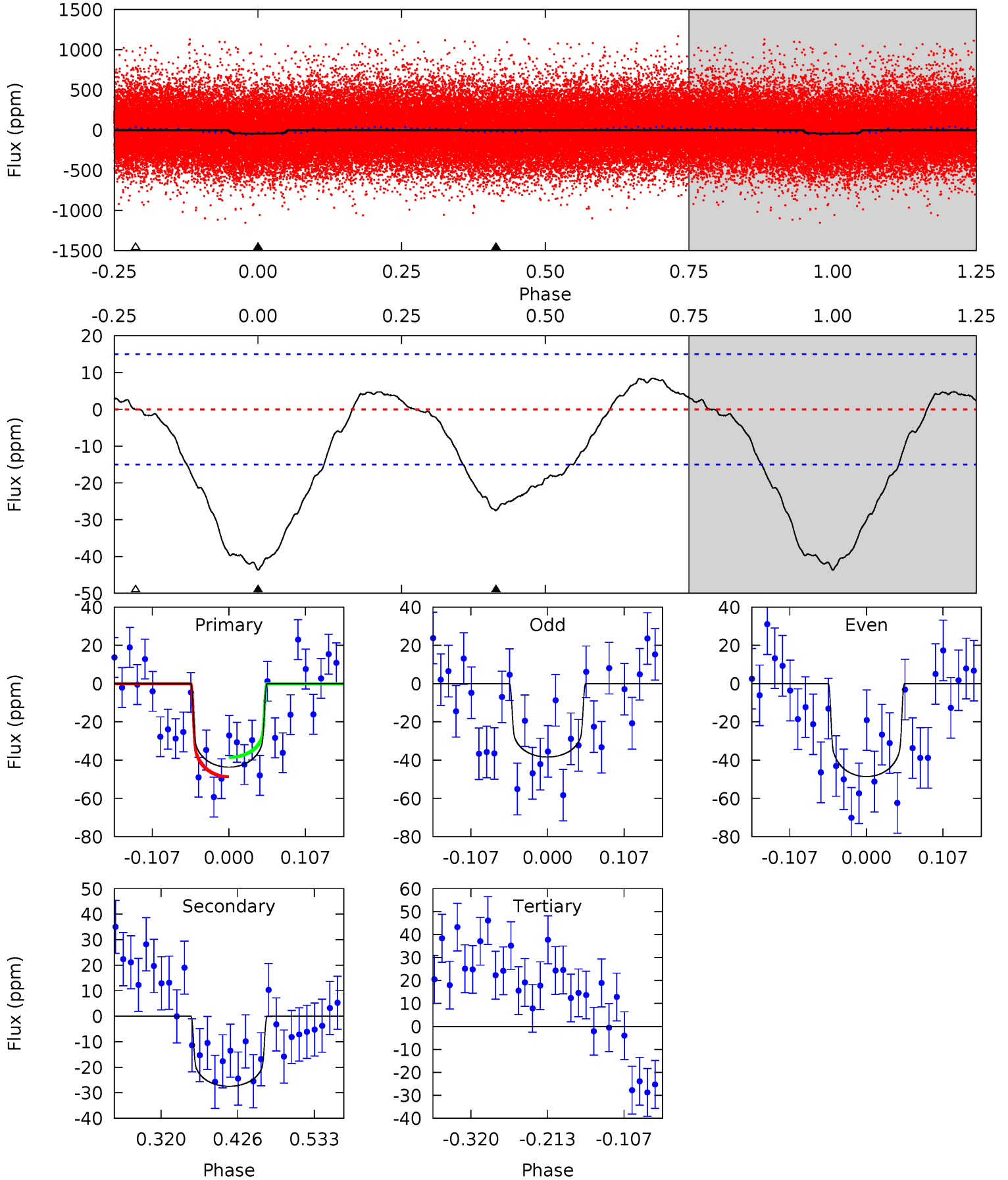




# DV Model-Shift Uniqueness Test

006777360-01, P = 6.459614 Days, E = 129.772486 Days

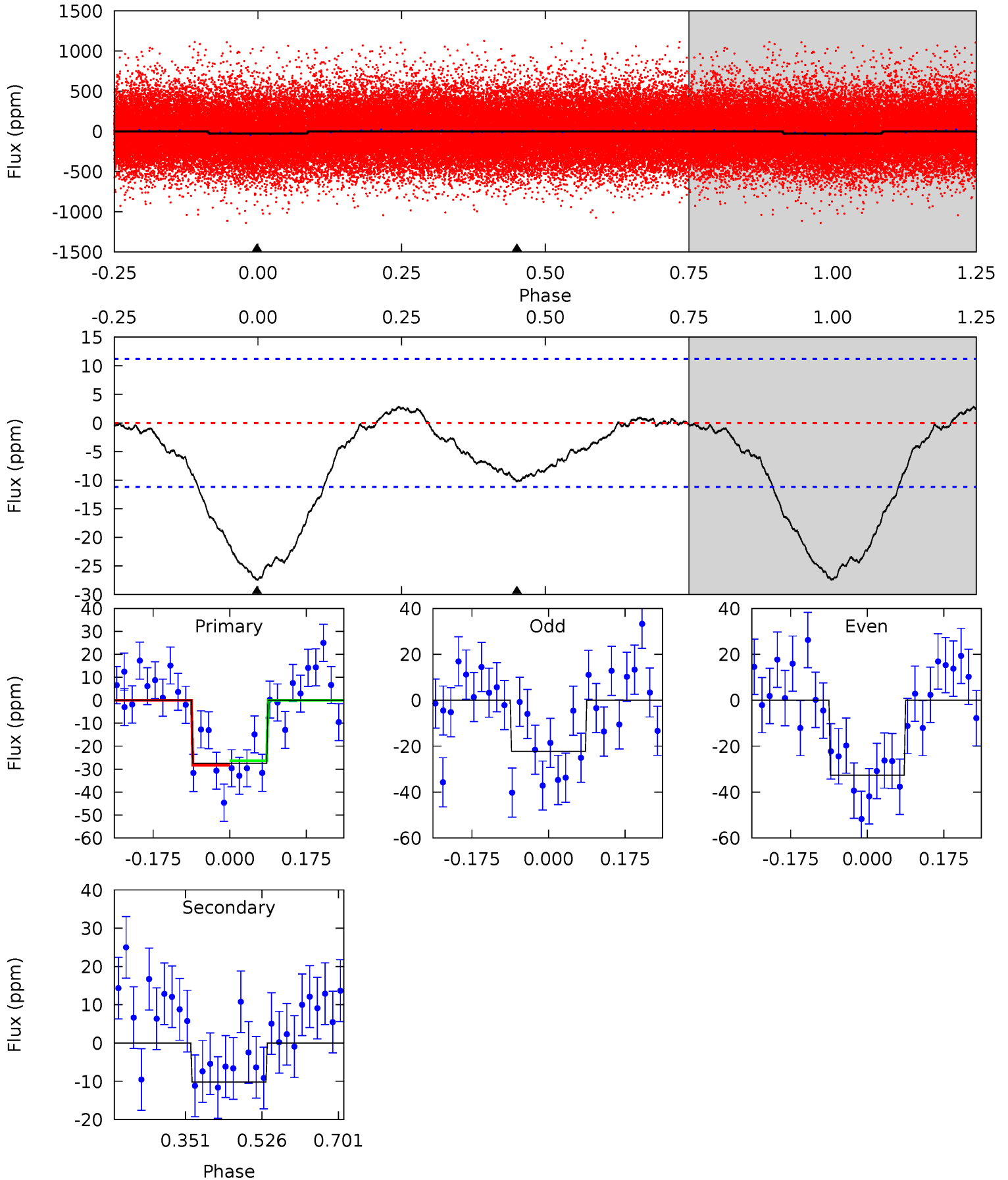
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	8.33	0	0	4.55	1.61	2.26	13.2	13.2	8.33	8.33	1.55	0.96	0.16	1.54



# Alt Model-Shift Uniqueness Test

006777360-01, P = 6.459368 Days, E = 129.776333 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	4.04	0	0	4.45	1.36	0.46	10.9	10.9	4.04	4.04	2.07	1.02	0.09	0.38





### Stellar Parameters For KIC 006777360

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6271^{+169}_{-225}$	$4.431^{+0.070}_{-0.224}$	$-0.120^{+0.250}_{-0.300}$	$1.059^{+0.364}_{-0.121}$	$1.103^{+0.154}_{-0.154}$	$1.308^{+0.388}_{-0.702}$
	+3%/-4%	+2%/-5%	+208%/-250%	+34%/-11%	+14%/-14%	+30%/-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 006777360-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-27 \pm 3$	$0.81^{+0.20}_{-0.15}$	$1532^{+118}_{-86}$	$5519^{+583}_{-419}$	$108^{+63}_{-36}$
Alt.	$-10 \pm 3$	$0.62^{+0.16}_{-0.15}$	$1527^{+122}_{-86}$	$5014^{+671}_{-489}$	$70^{+56}_{-29}$

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

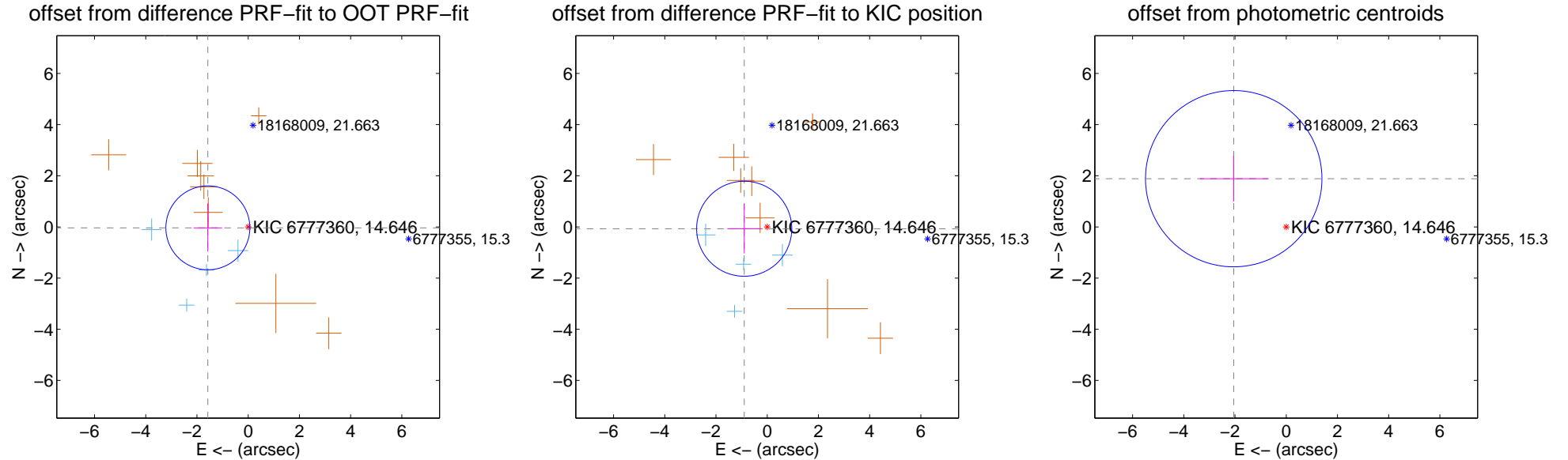
## DV Centroid Data

Supplemental centroid analysis for 006777360-01. Kepler magnitude: 14.65. Transit SNR 8.41

There are 4 quarters with good PRF difference image offsets

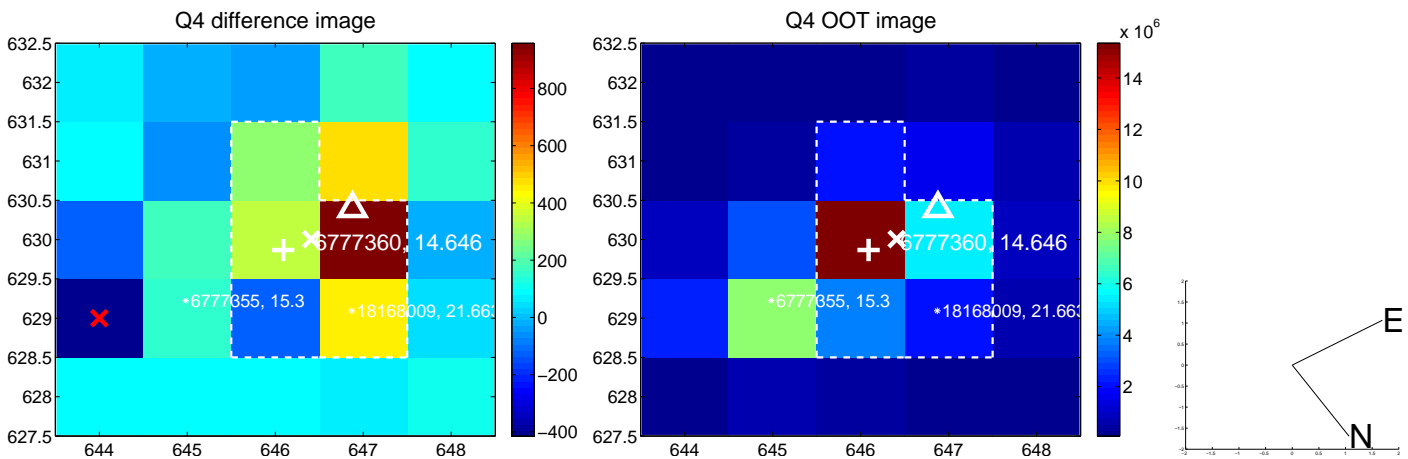
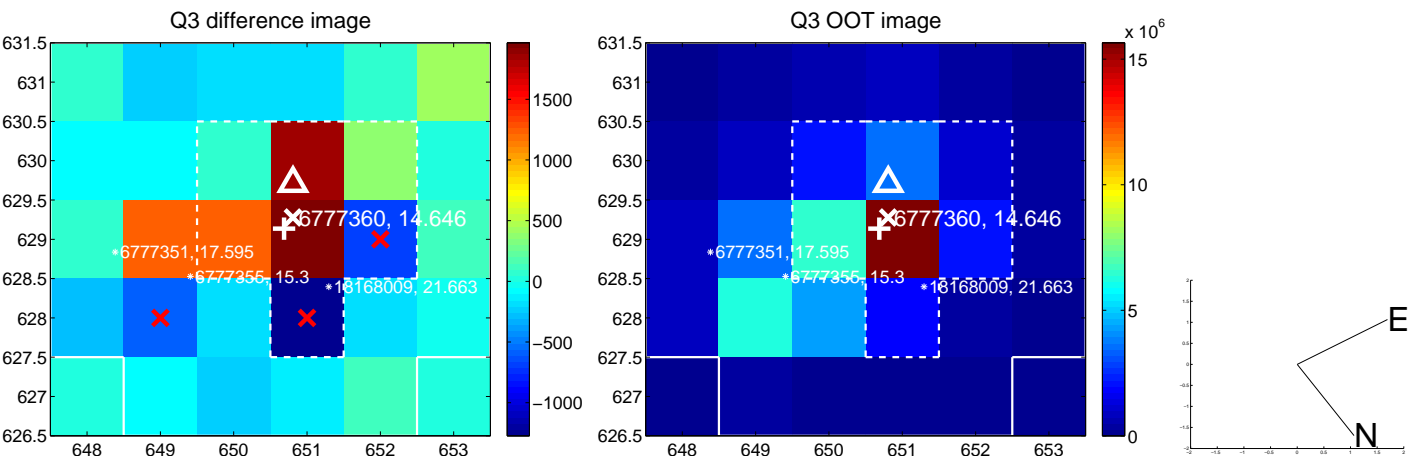
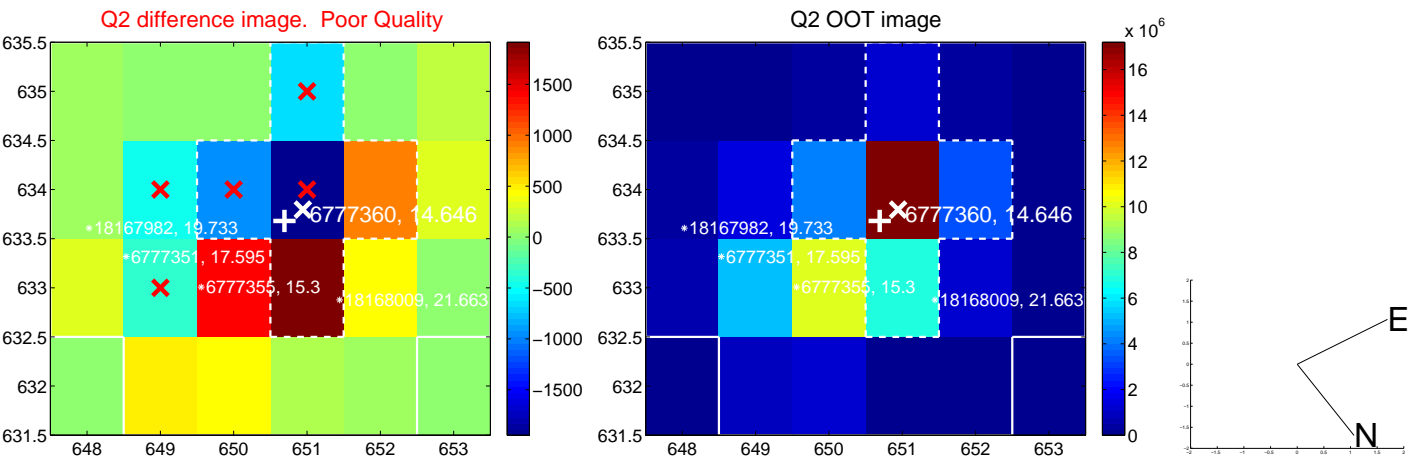
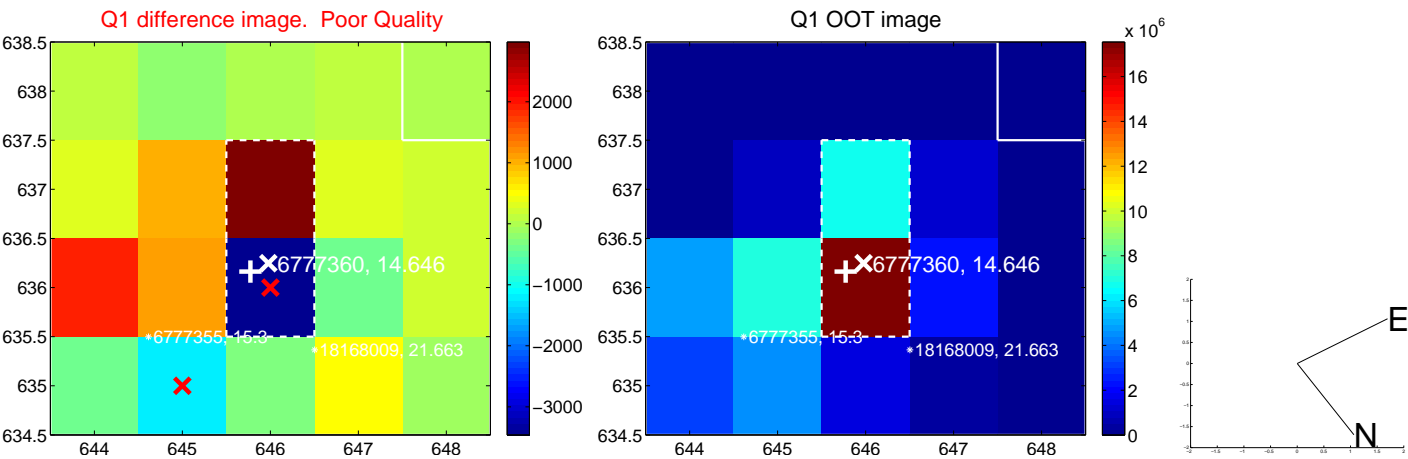
The direct PRF centroid is offset from the target star catalog position by about 1.29 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.576 \pm 0.547$	2.88	$1.575 \pm 0.557$	$-0.036 \pm 0.928$
PRF-fit source offset from KIC position	$0.902 \pm 0.619$	1.46	$0.899 \pm 0.658$	$-0.071 \pm 0.964$
photometric centroid source offset	$2.79 \pm 1.15$	2.43	$2.05 \pm 1.33$	$1.89 \pm 0.89$

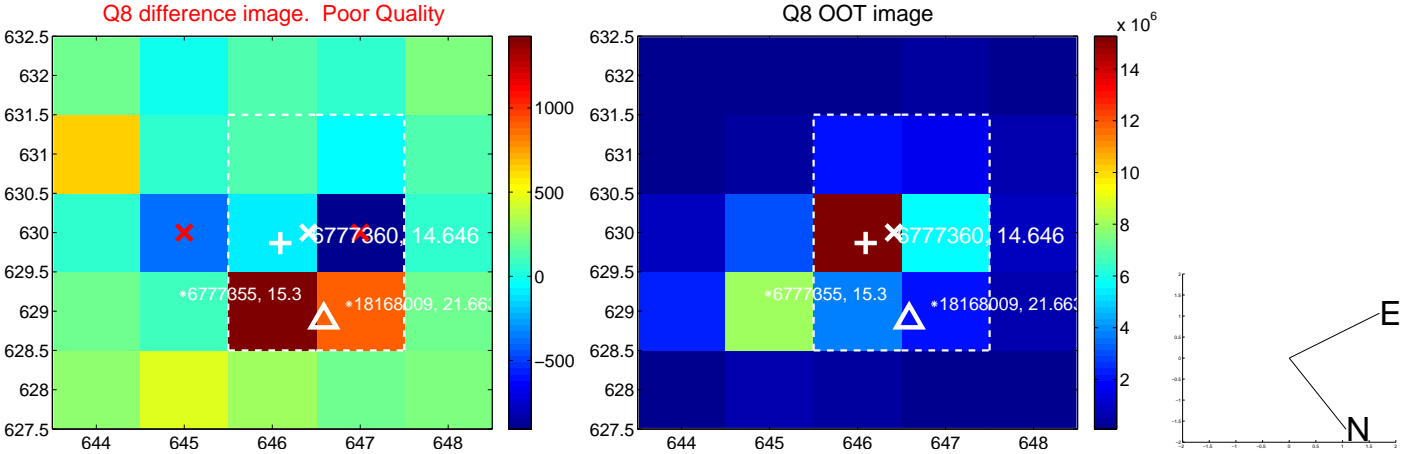
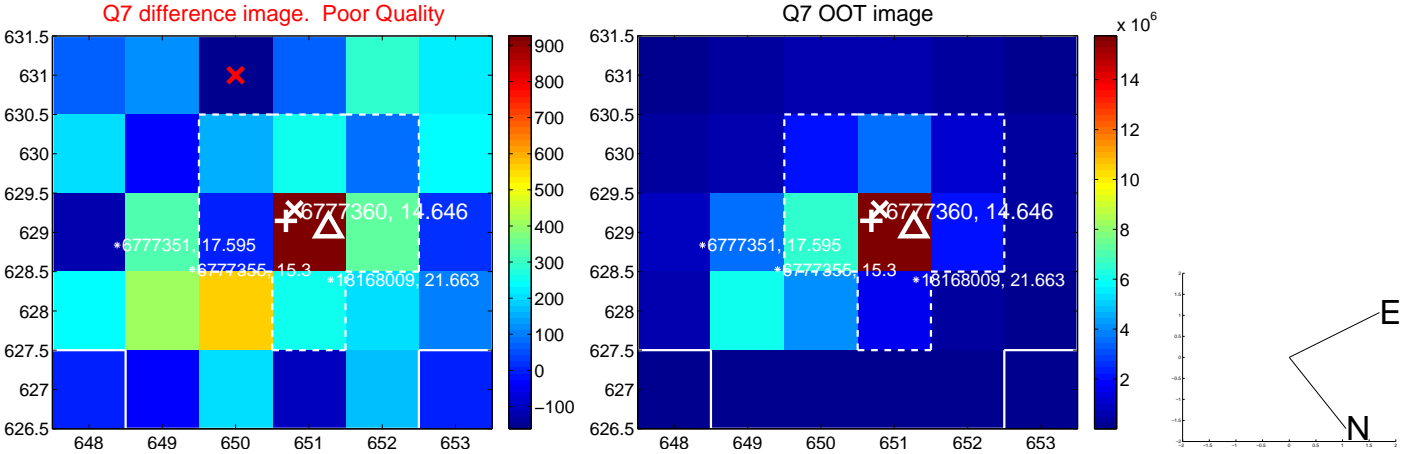
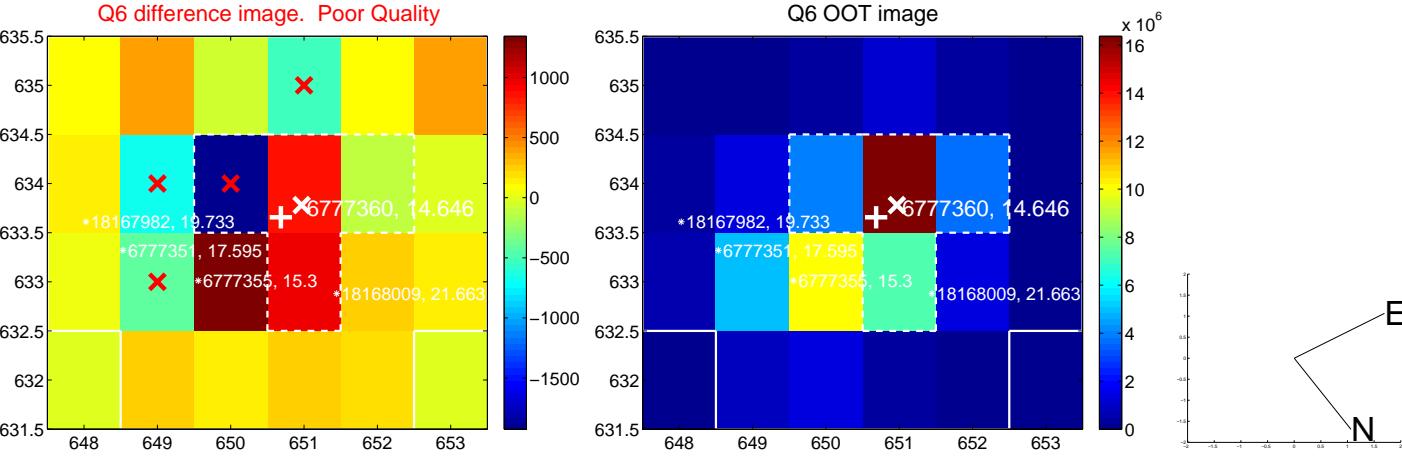
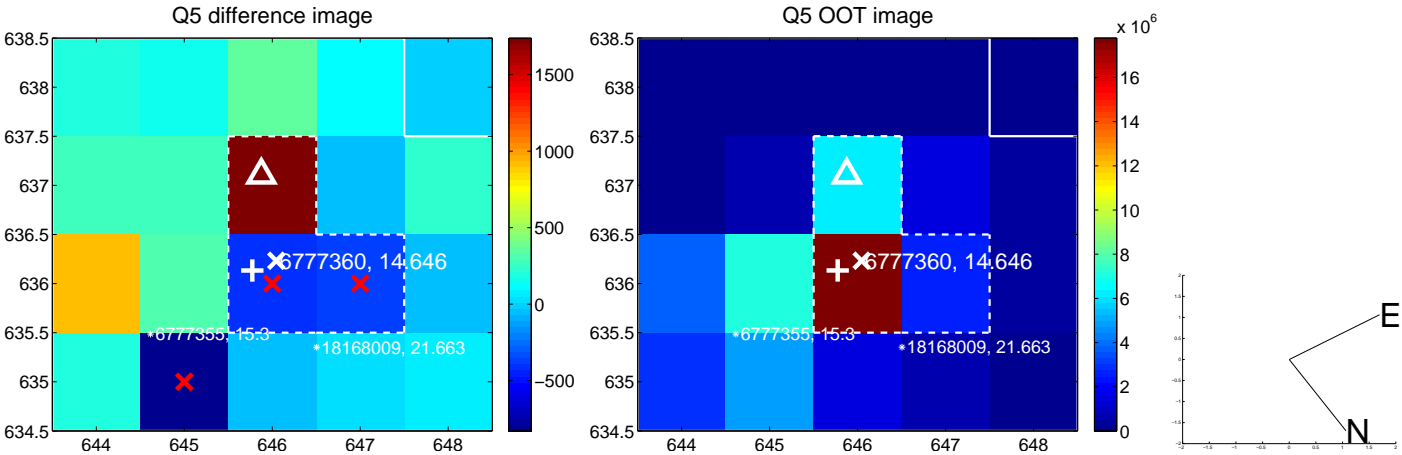


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

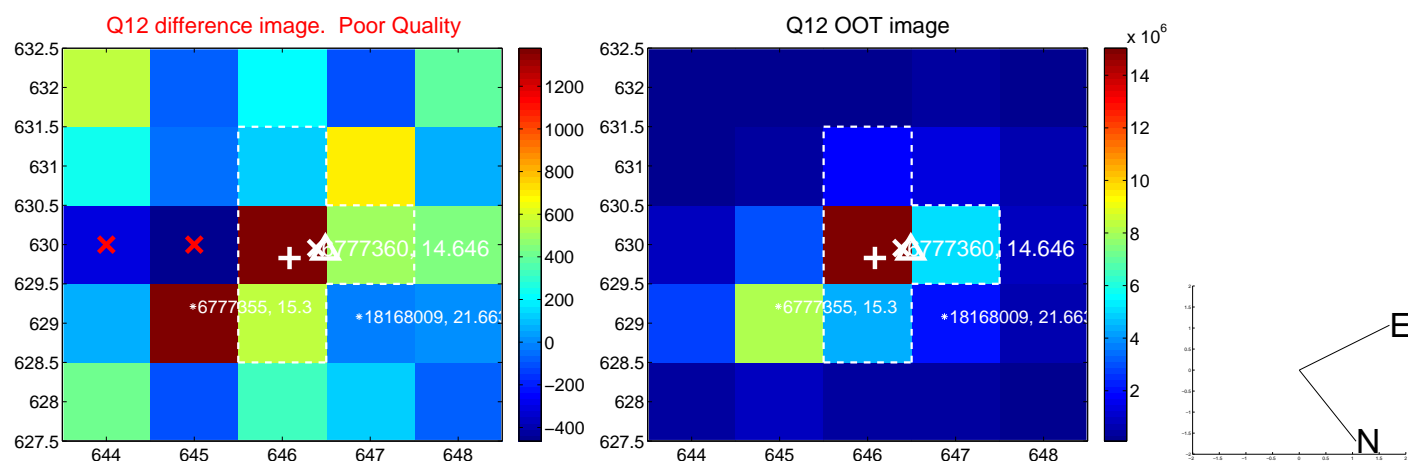
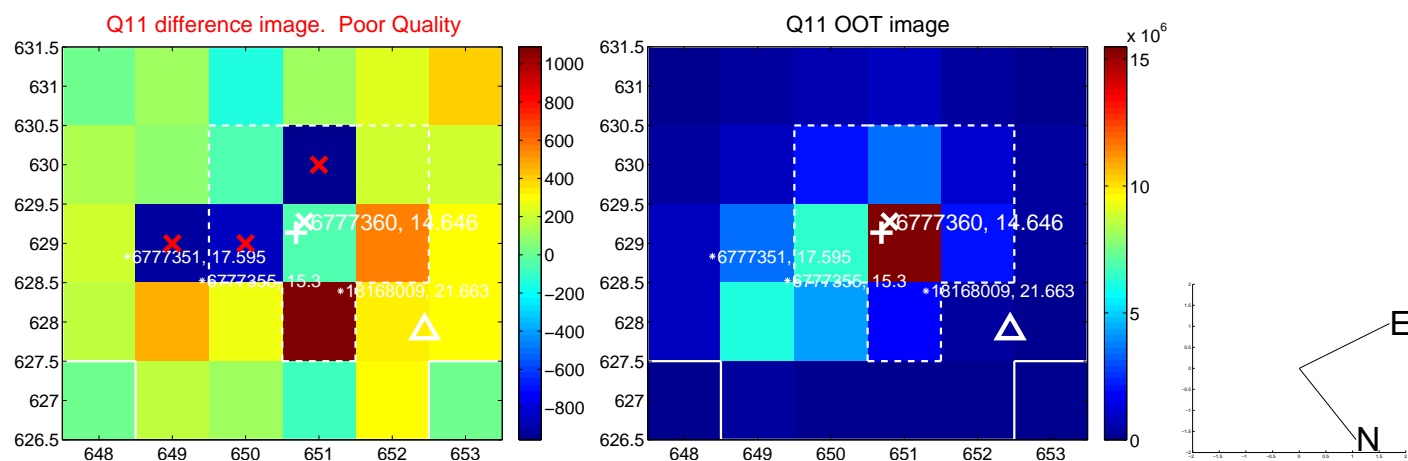
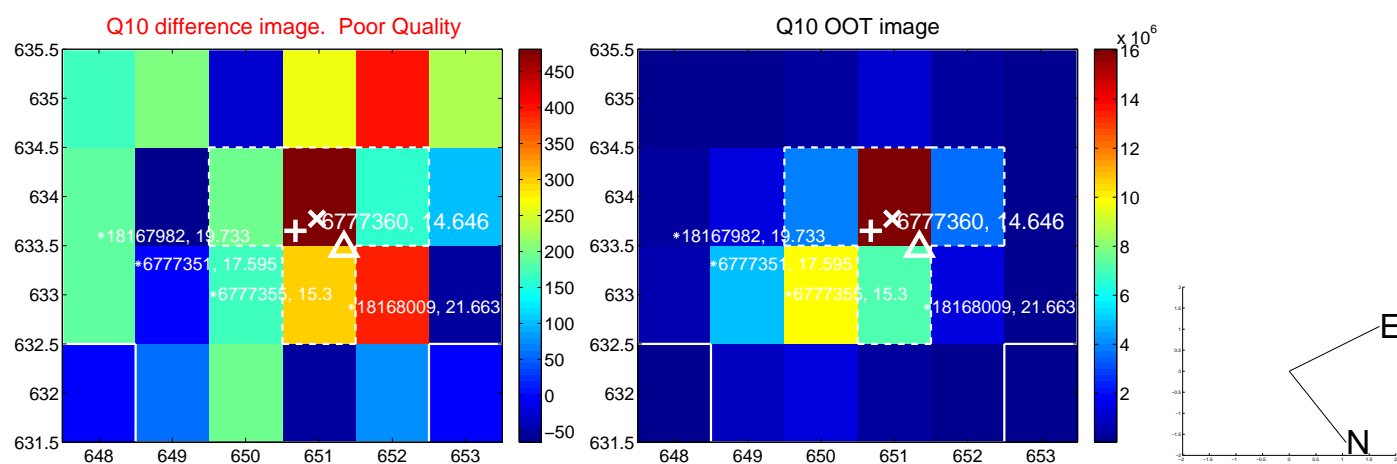
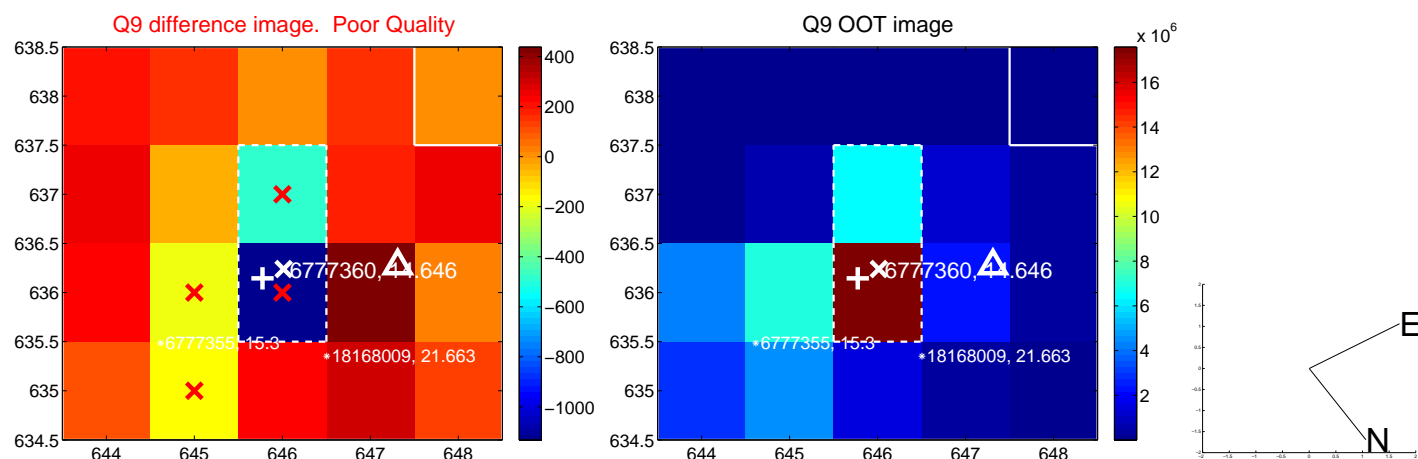


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

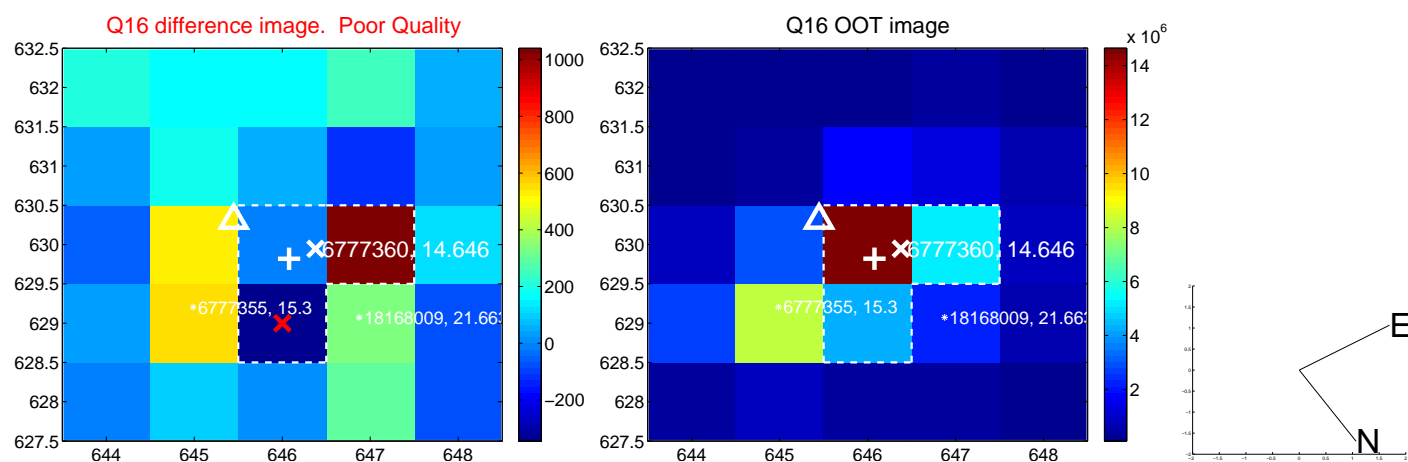
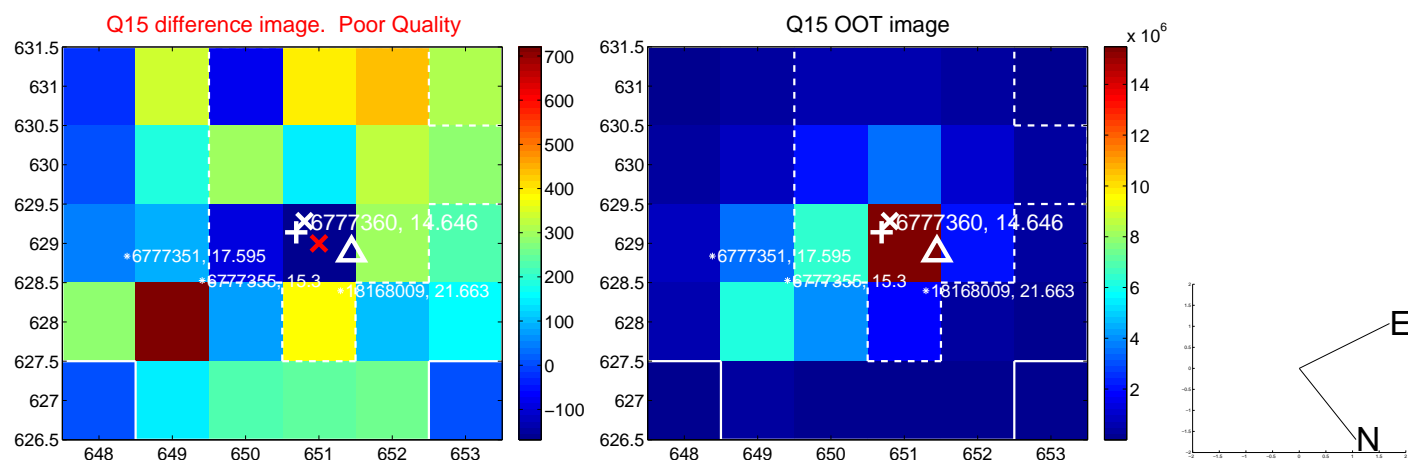
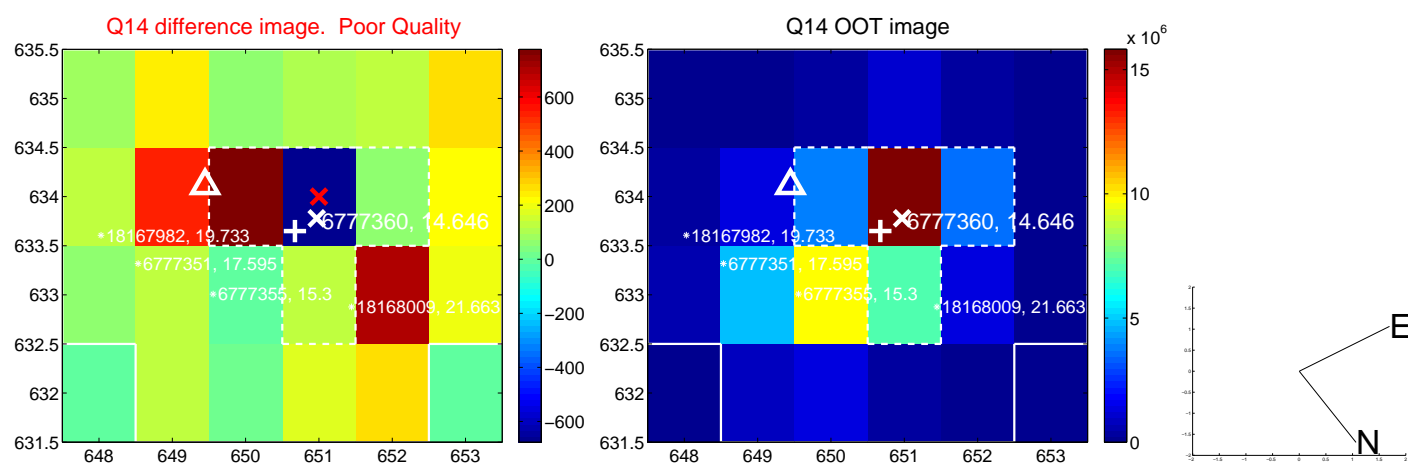
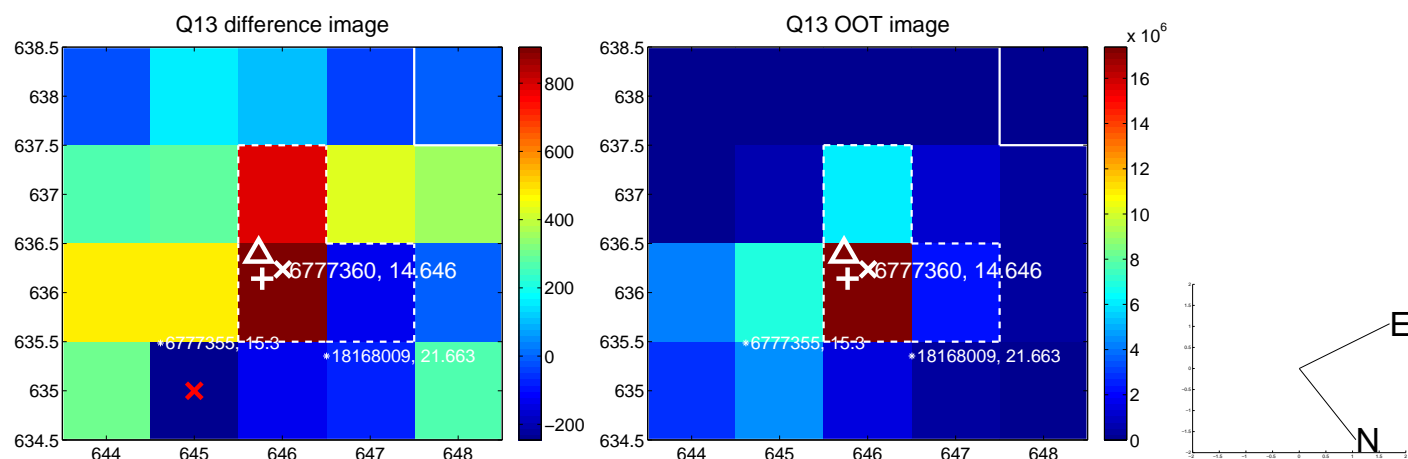




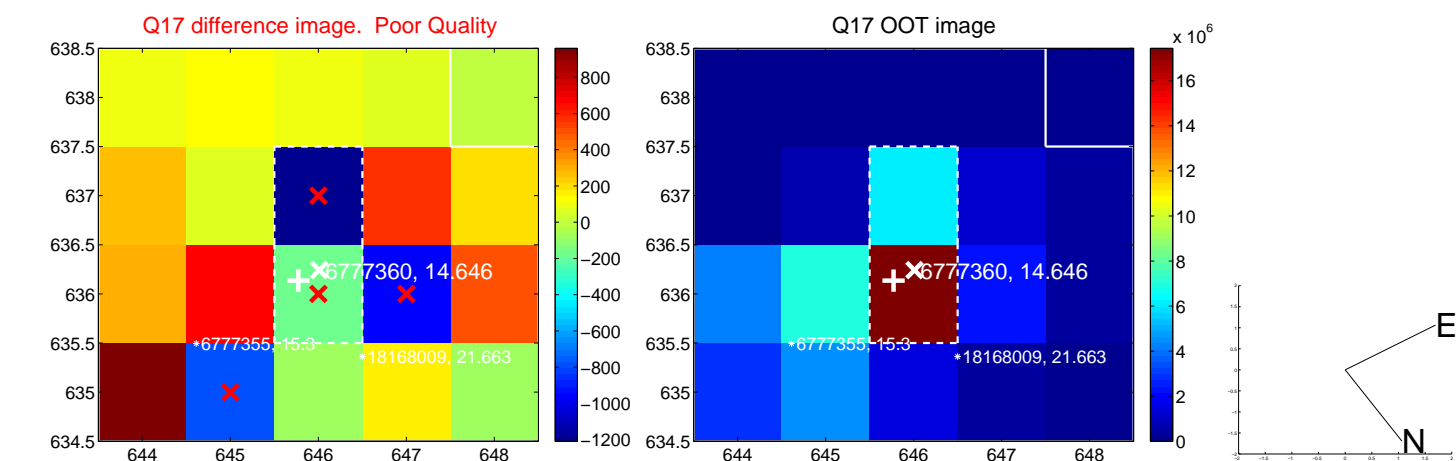
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



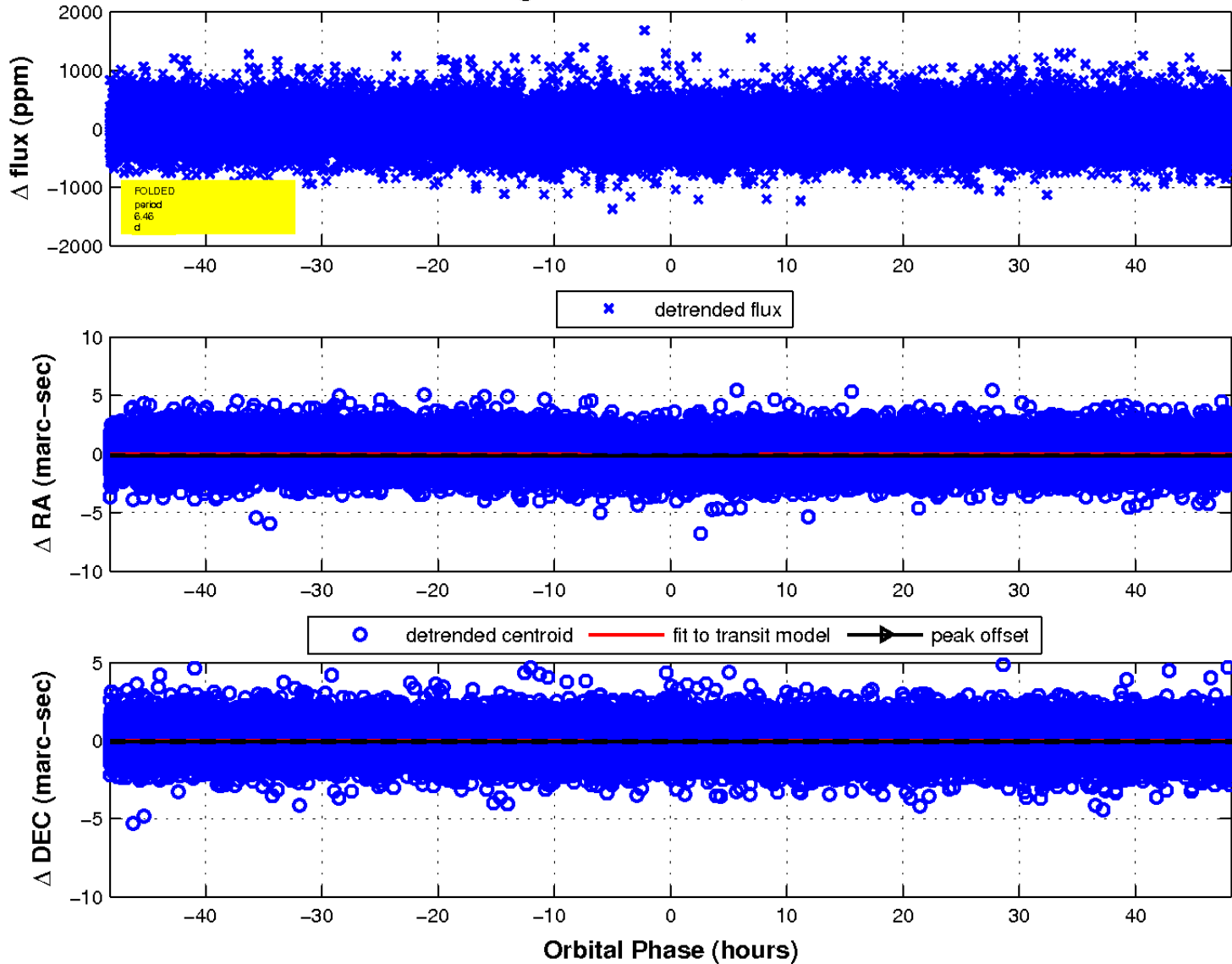
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

