

# KIC 006697817

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006697817-01	OBS	3508.01	190.800452	236.085736	290.3	5.986	10.6	9.9	0.99	5993	1.91	2.52

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006697817-01	OBS	PC	0.97	0	0	0	0	CENT_FEW_DIFFS

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

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

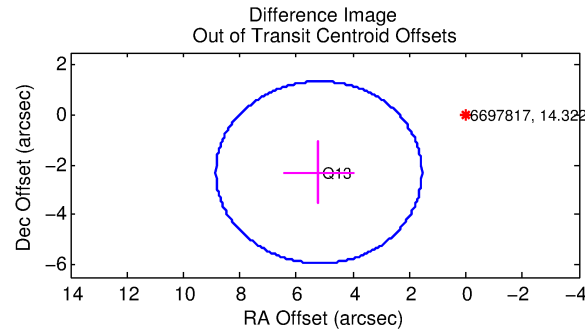
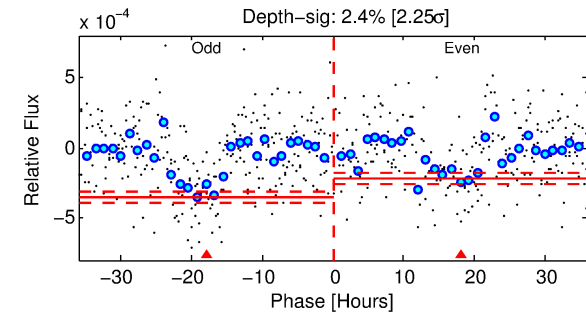
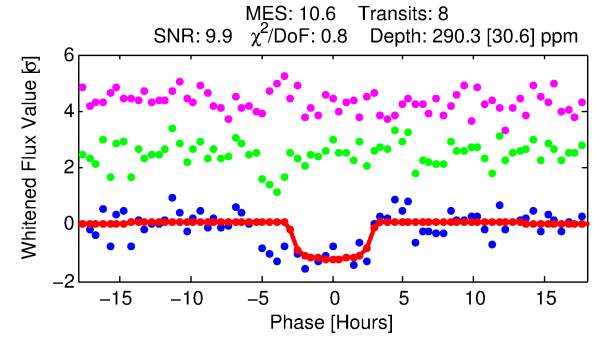
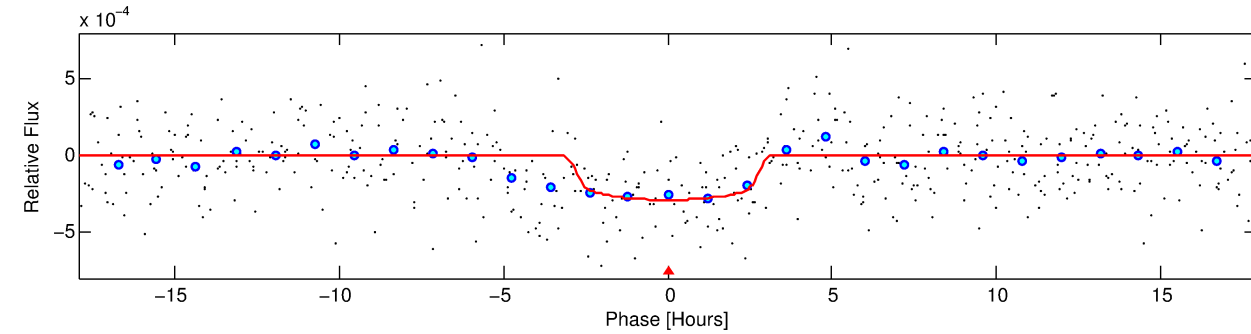
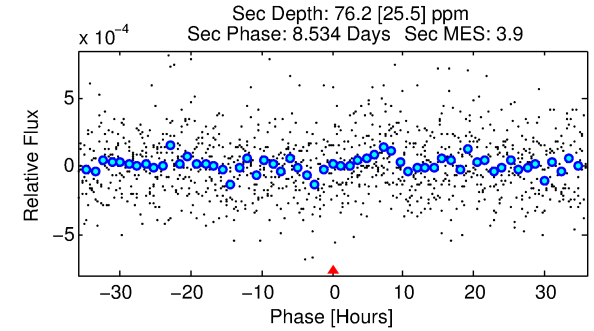
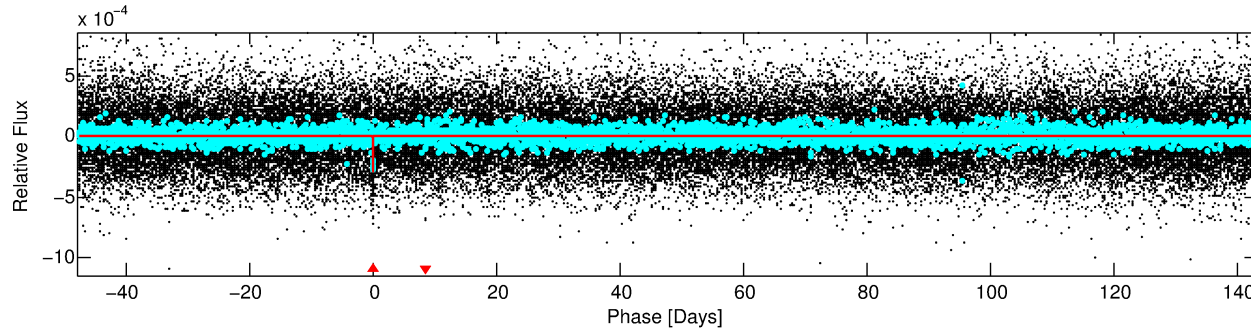
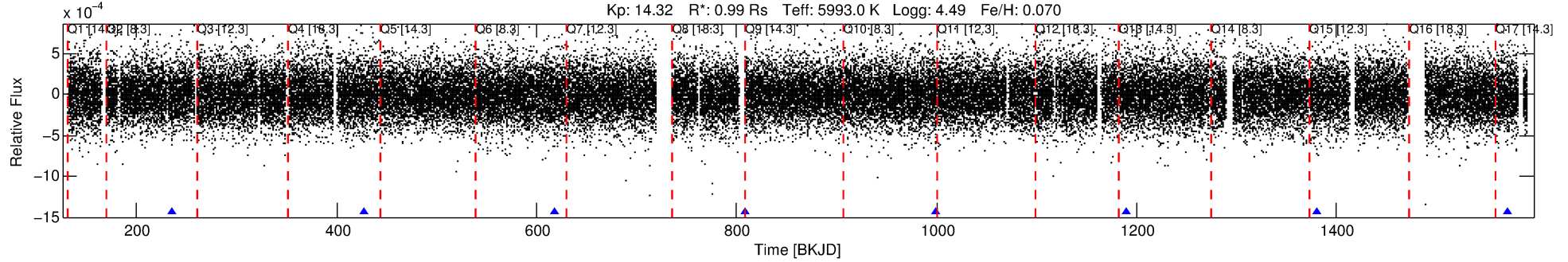
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006697817-01

No Significant Match Found

# DV One-Page Summary

KIC: 6697817 Candidate: 1 of 1 Period: 190.800 d  
KOI: K03508.01 Corr: 0.851



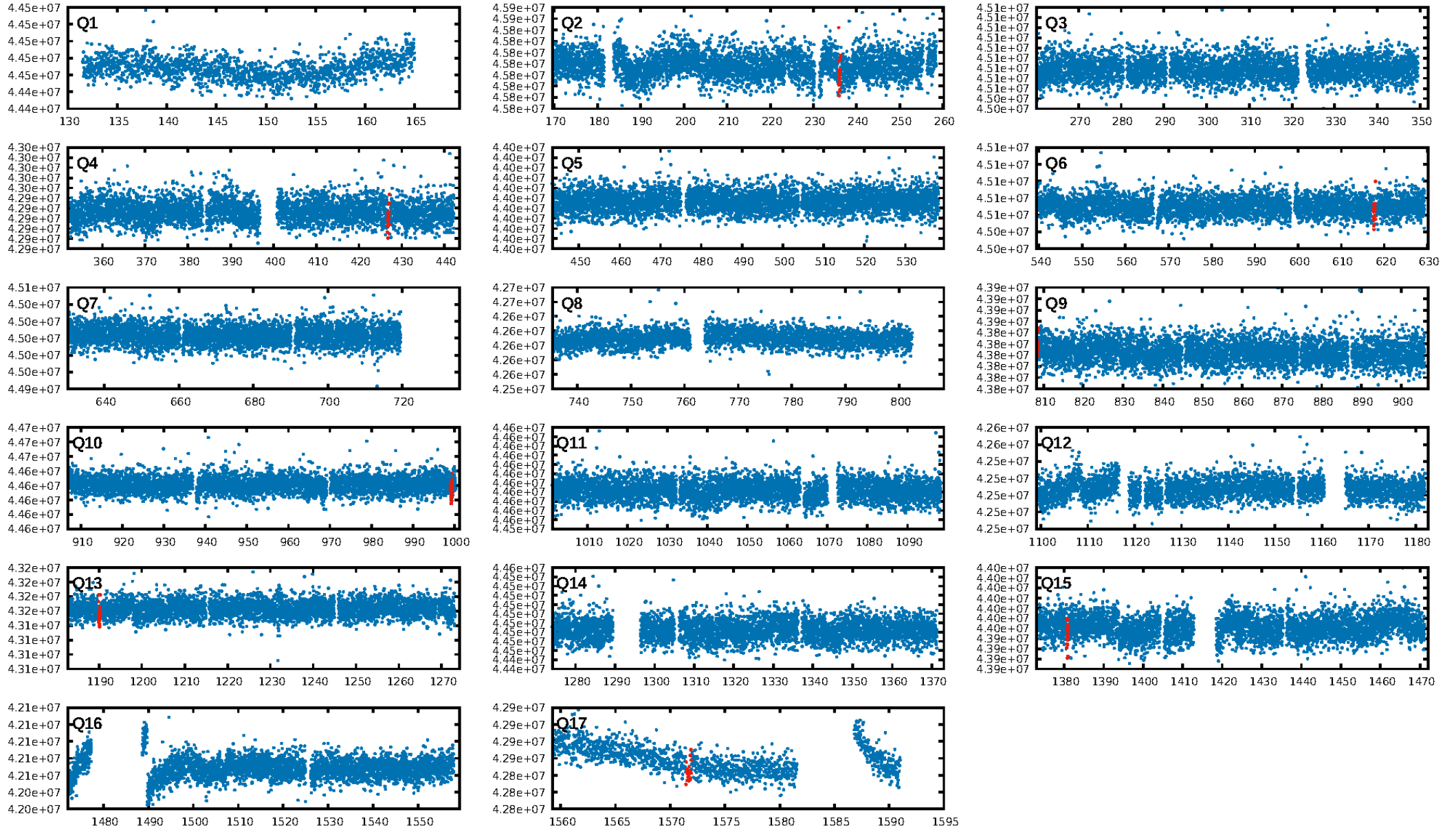
## DV Fit Results:

Period = 190.80045 [0.00255] d  
Epoch = 236.0857 [0.0104] BKJD  
Rp/R\* = 0.0178 [0.0072]  
a/R\* = 136.57 [263.73]  
b = 0.85 [0.64]  
Seff = 2.52 [0.55]  
Teq = 321 [18] K  
Rp = 1.91 [0.83] Re  
a = 0.6683 [0.0946] AU  
Ag = 5122.73 [4612.99] [1.11σ]  
Teffp = 4200 [921] K [4.21σ]

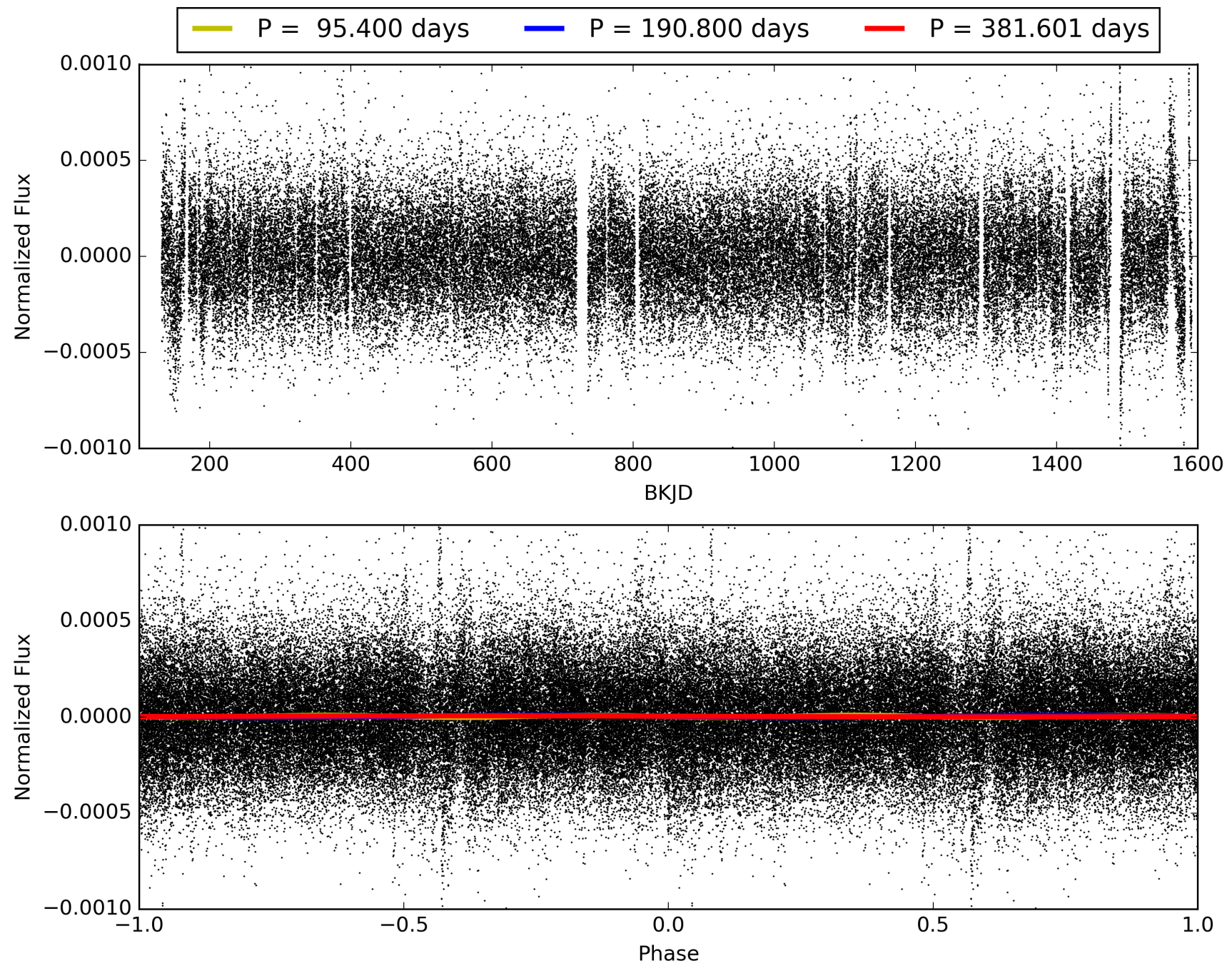
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 34.5%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 8.89e-25  
RollingBand-fgt: 1.00 [7/7]  
GhostDiagnostic-chr: -9.565  
Centroid-sig: 7.8%  
Centroid-so: 0.707 arcsec [0.64σ]  
**OotOffset-rm: 5.690 arcsec [4.68σ]**  
KicOffset-rm: 0.888 arcsec [1.00σ]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 2/0/0/1 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [7/7]

# TCE 006697817-01, PDC Light Curves

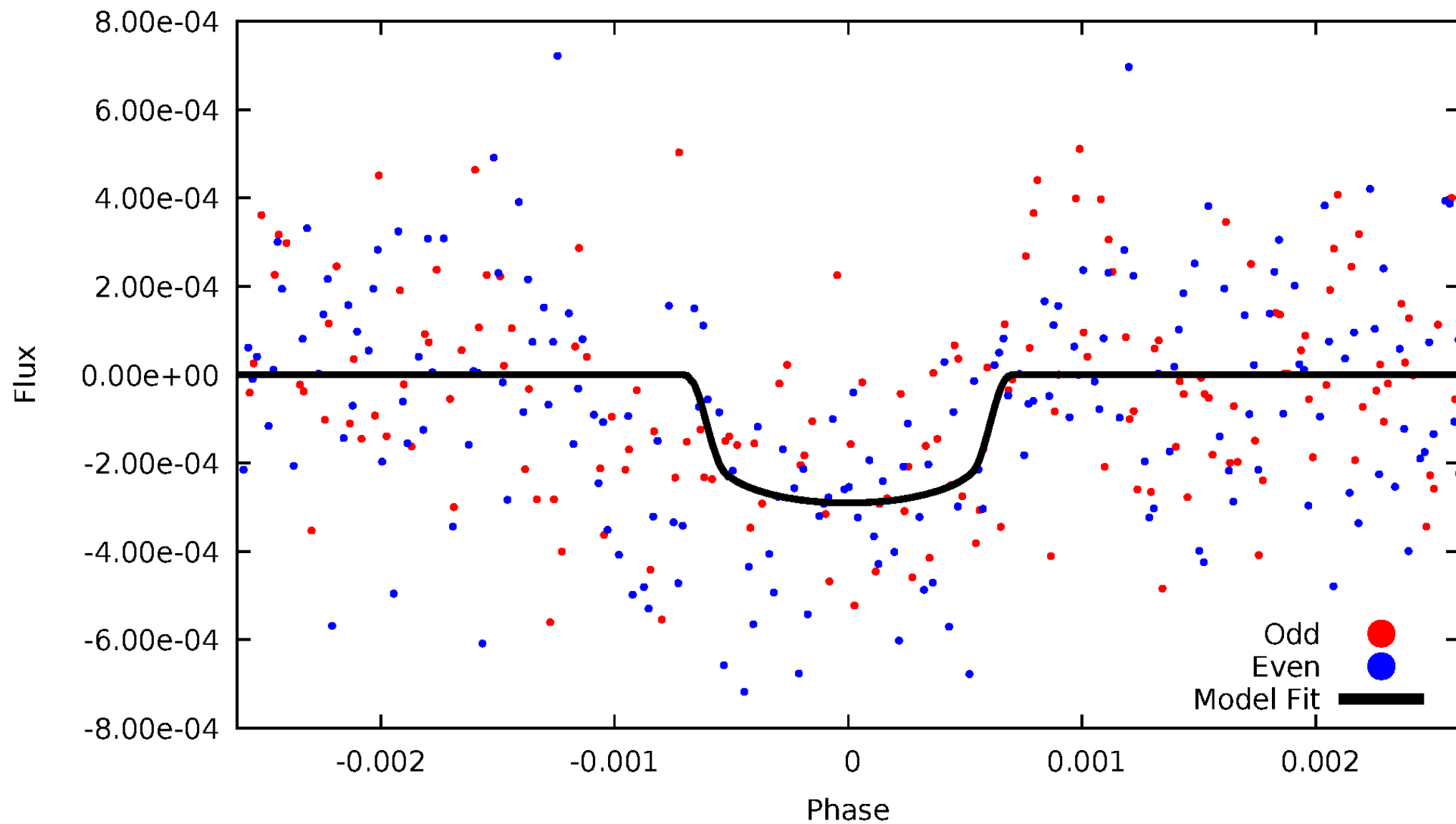


TCE 006697817-01



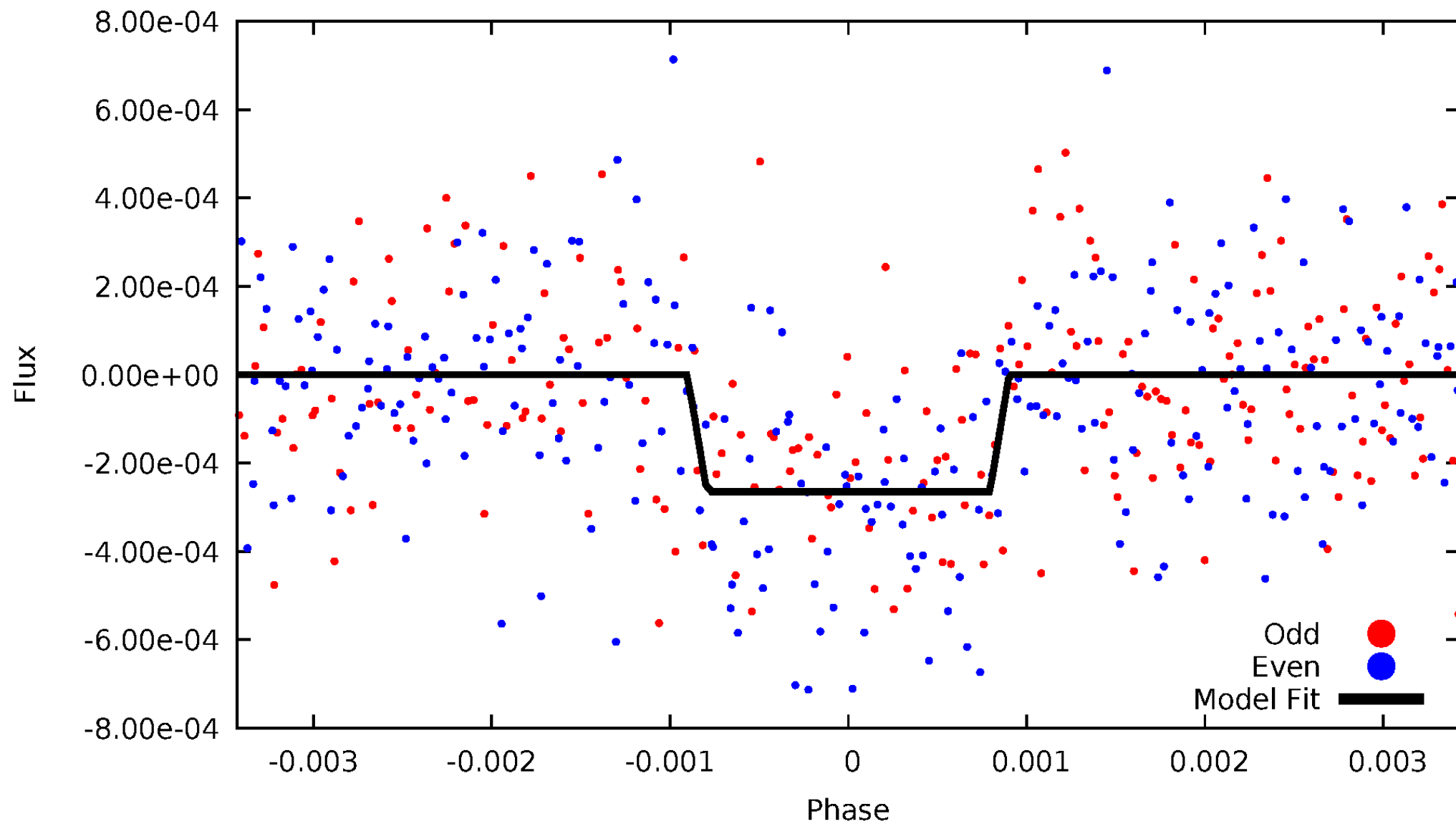
# DV Odd/Even

TCE 006697817-01



# ALT Odd/Even

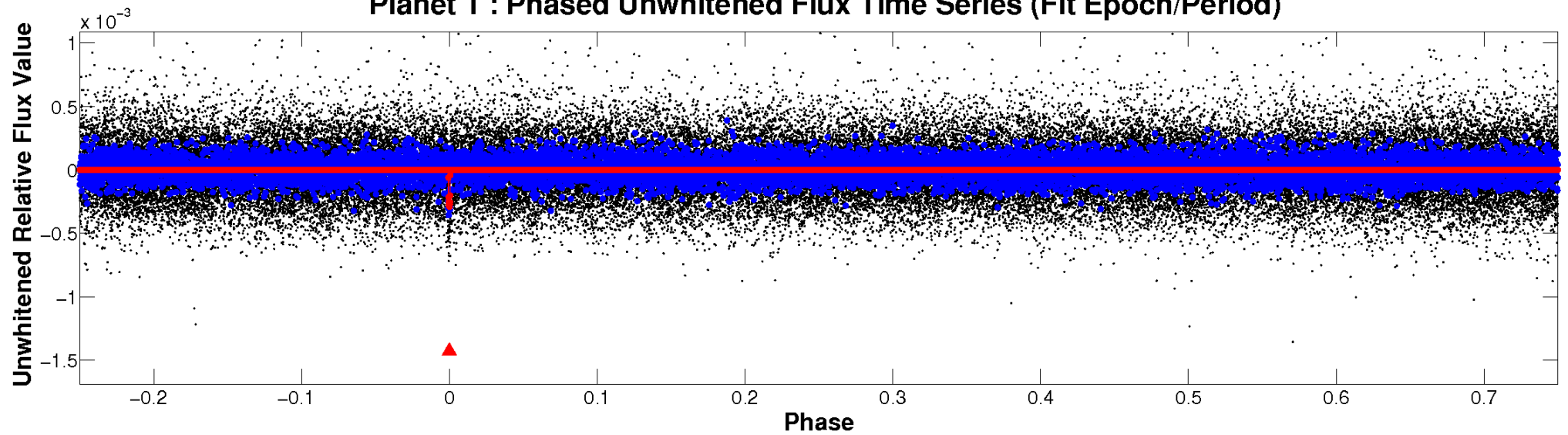
TCE 006697817-01



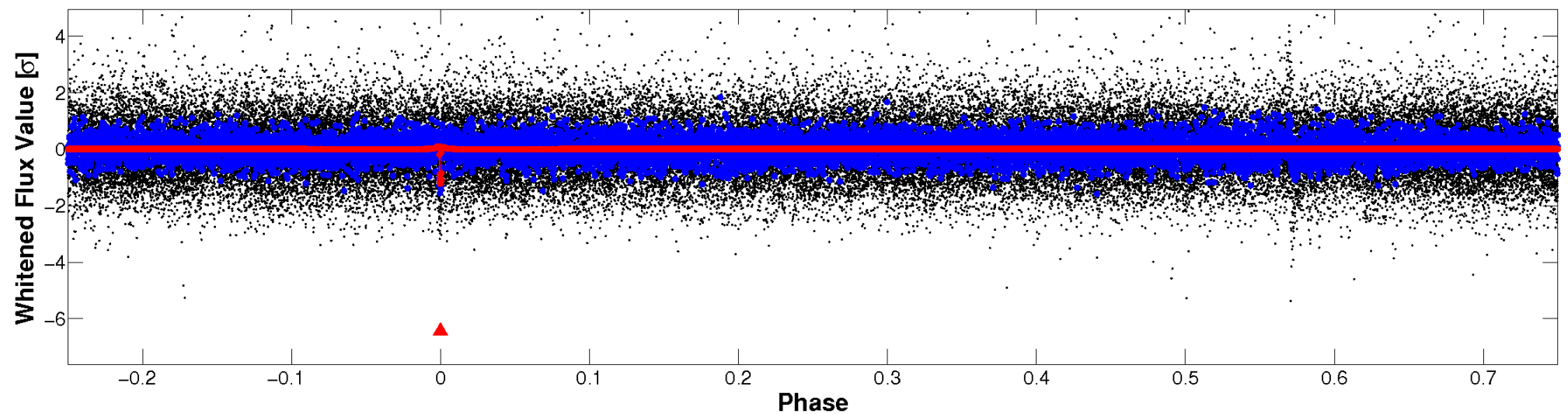


# Non-Whitened Vs. Whitened Light Curve

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

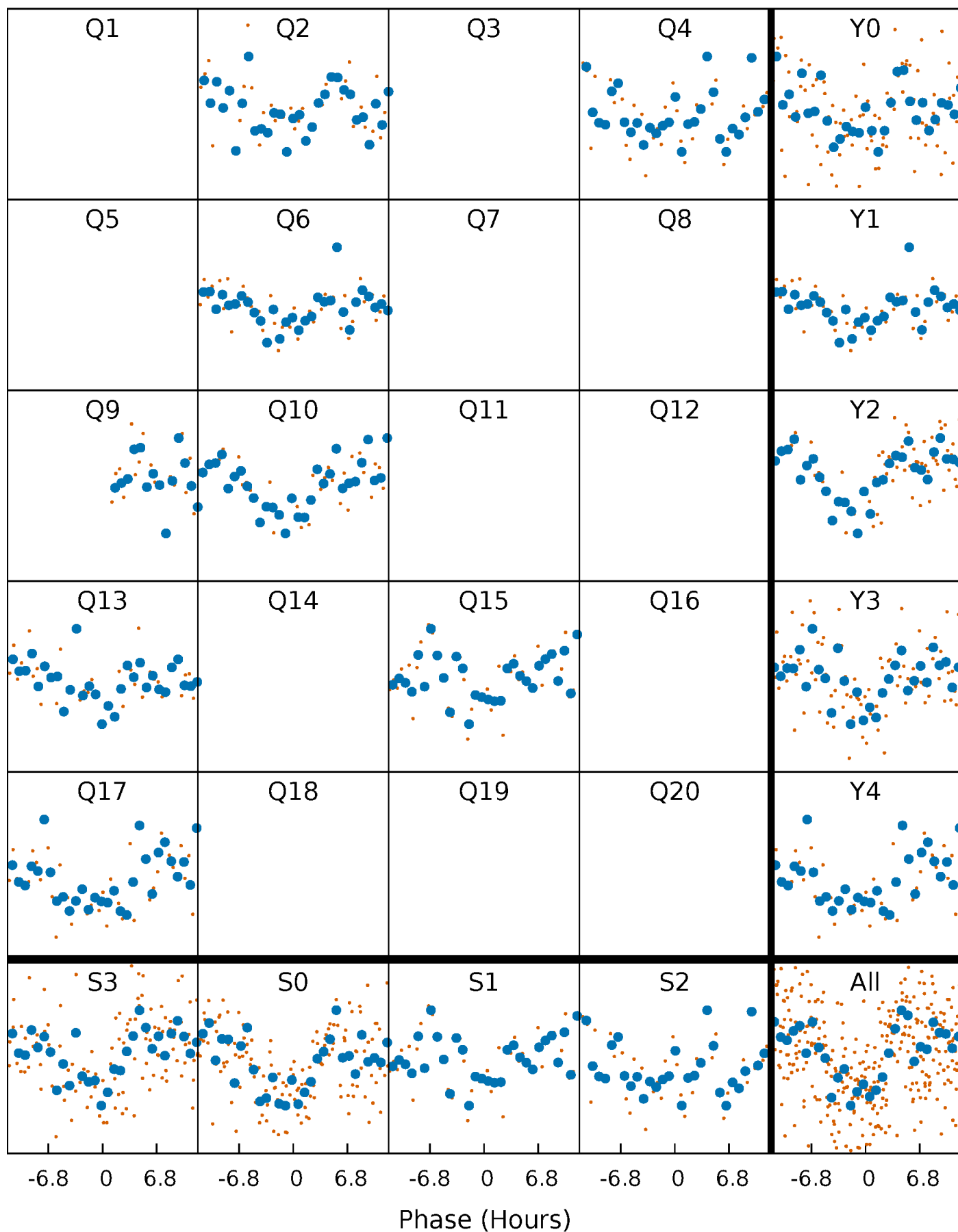


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

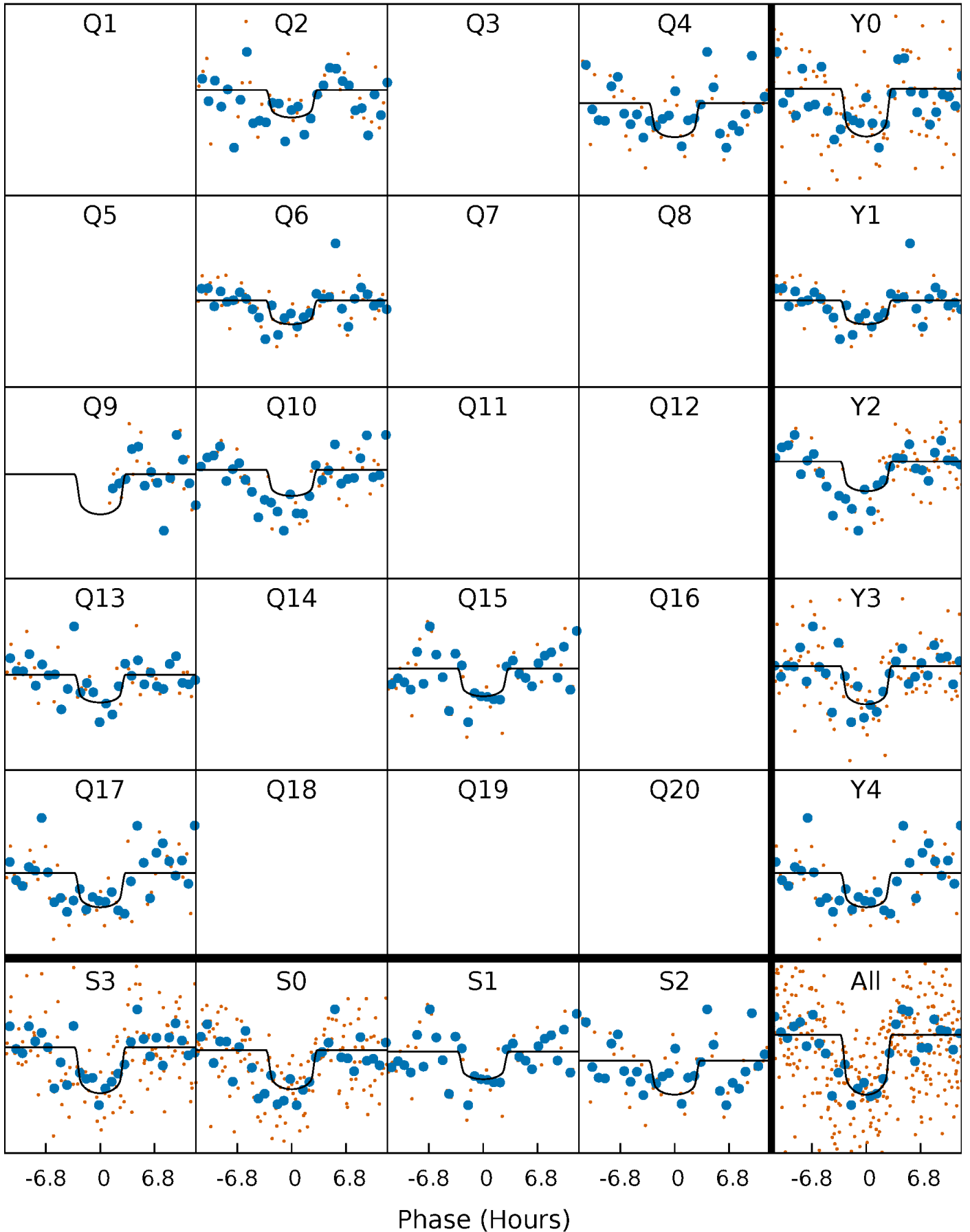
TCE 006697817-01 P=190.800452 Days  $T_0=236.085736$  (BKJD)





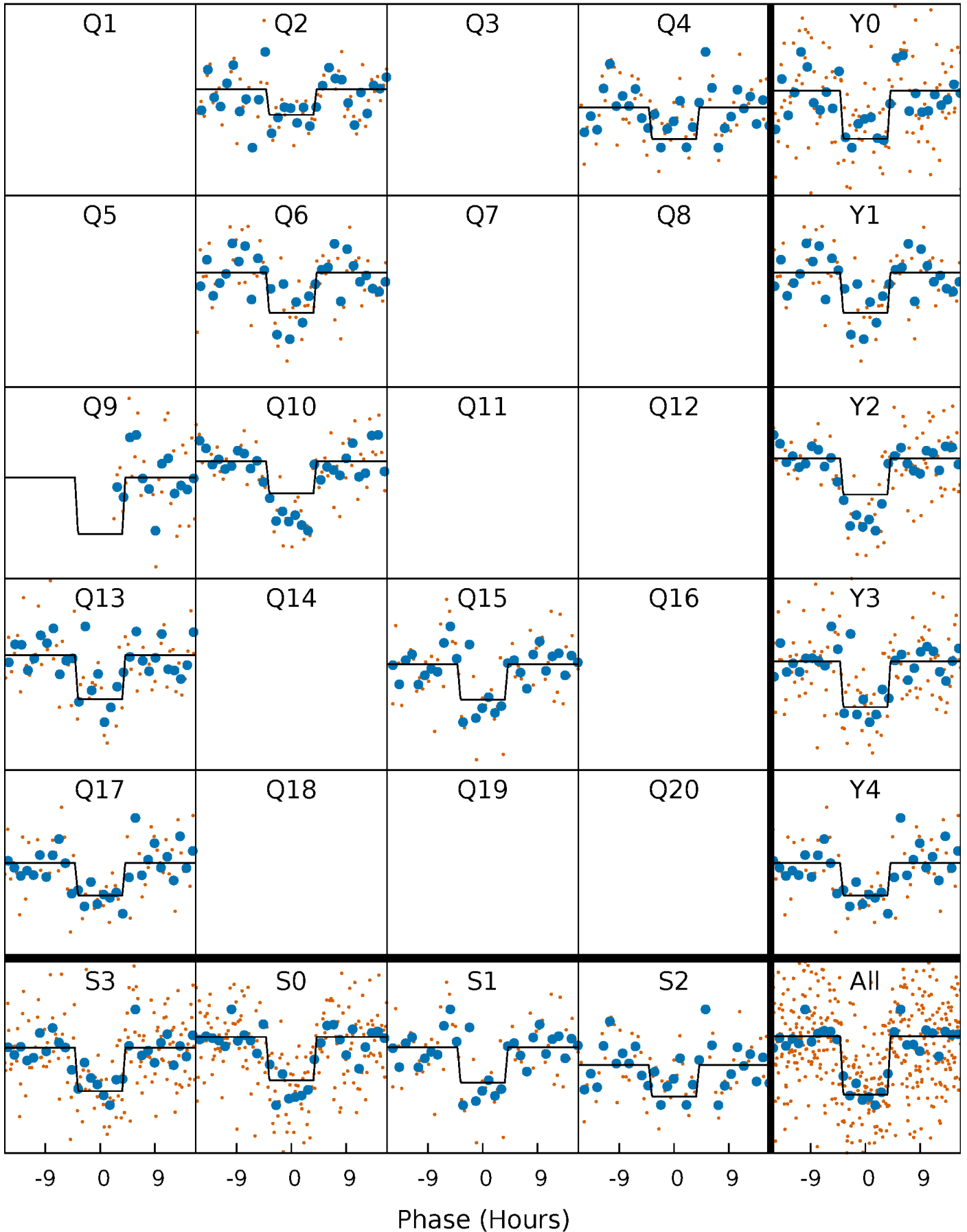
# DV Quarter-Phased Transit Curves

TCE 006697817-01 P=190.800452 Days  $T_0=236.085736$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

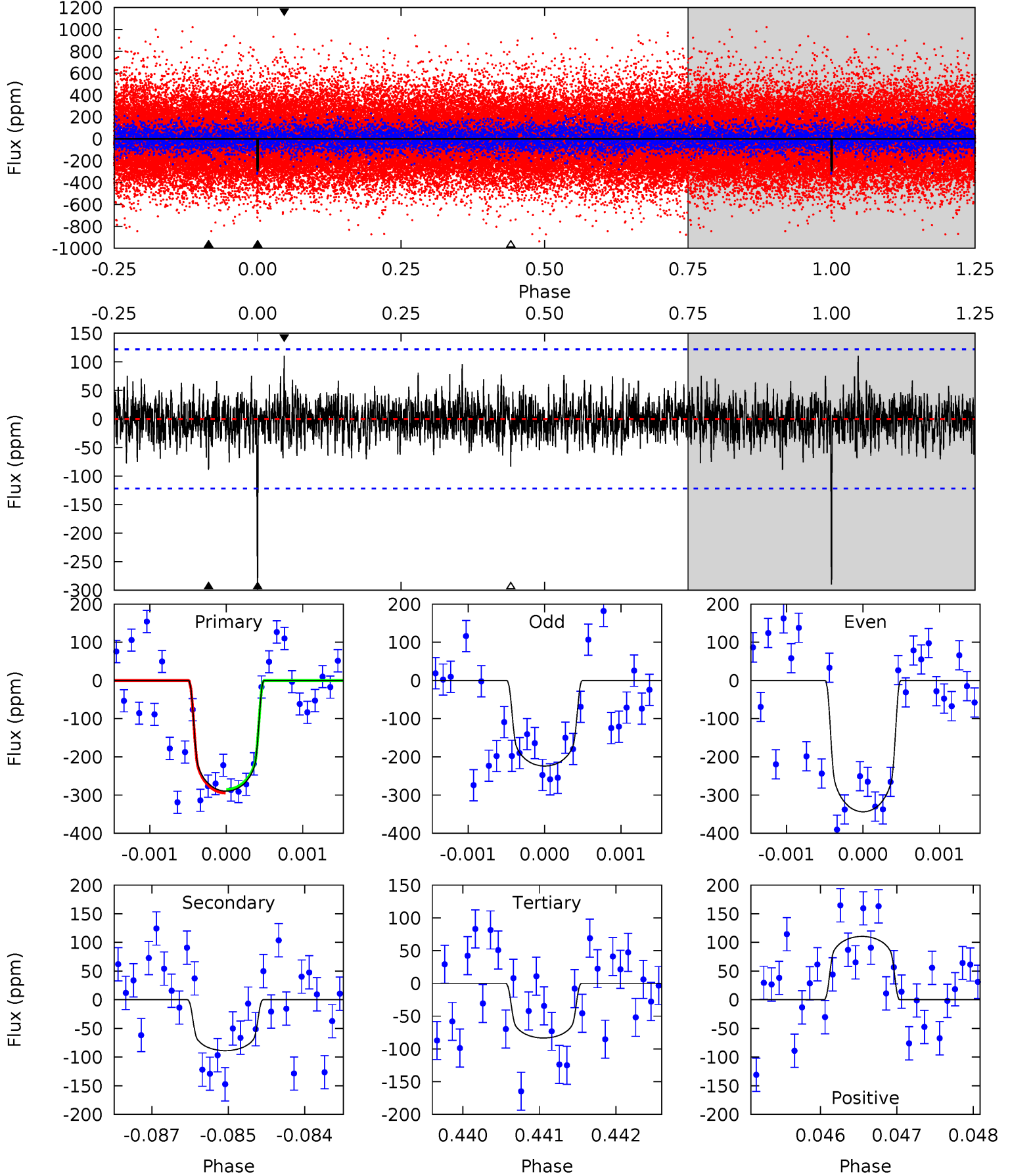
TCE 006697817-01 P=190.801772 Days  $T_0=236.035502$  (BKJD)



# DV Model-Shift Uniqueness Test

006697817-01, P = 190.800452 Days, E = 45.285284 Days

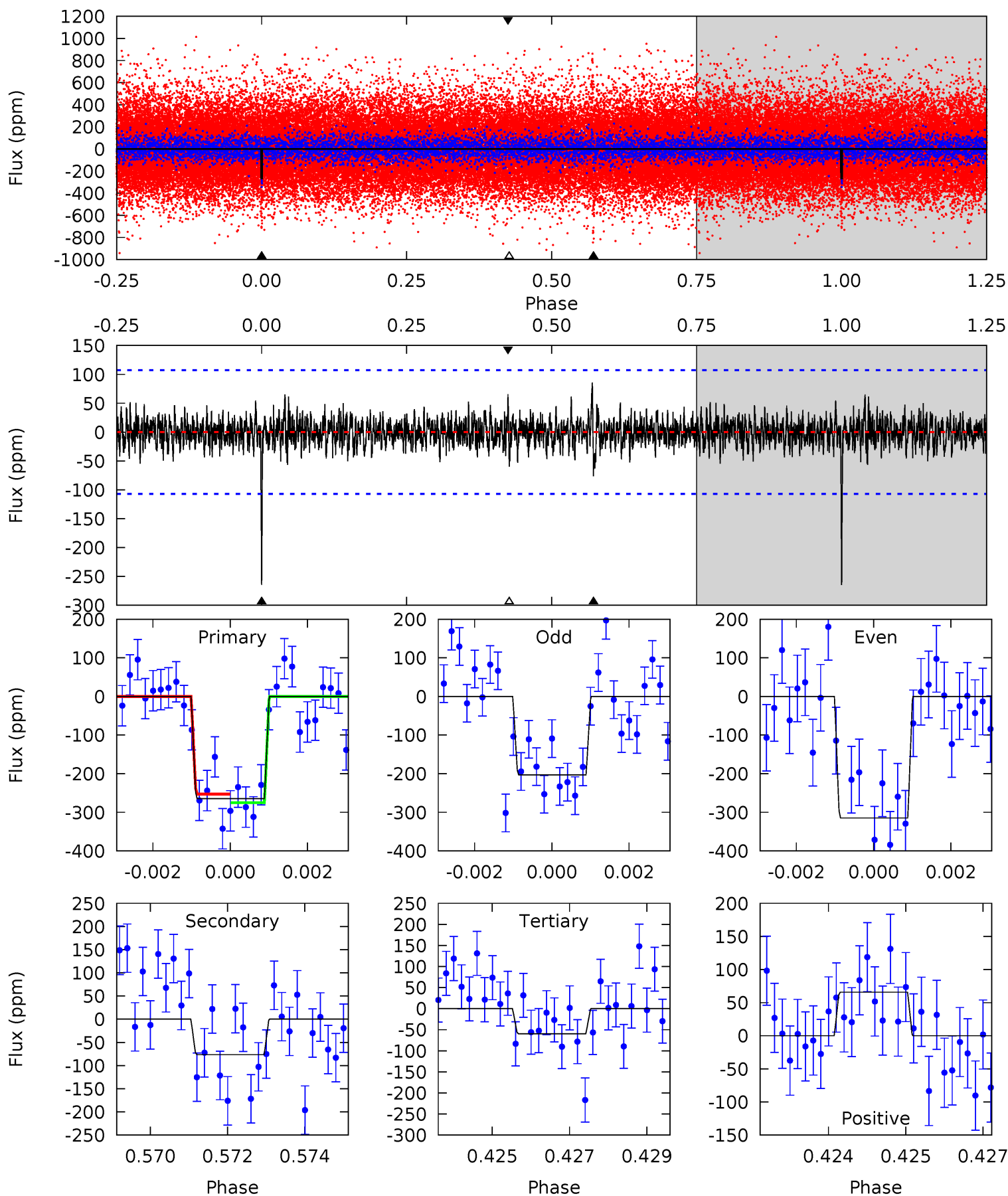
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	3.93	3.69	4.89	5.39	3.19	1.09	9.12	7.92	0.24	-0.96	2.64	0.98	0.28	0.22



# Alt Model-Shift Uniqueness Test

006697817-01,  $P = 190.801772$  Days,  $E = 45.233730$  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	3.81	2.98	3.28	5.35	3.12	0.91	10.2	9.91	0.82	0.53	2.78	0.97	0.24	0.56



### Stellar Parameters For KIC 006697817

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$5993^{+72}_{-84}$	$4.489^{+0.021}_{-0.119}$	$0.070^{+0.150}_{-0.150}$	$0.986^{+0.160}_{-0.038}$	$1.093^{+0.060}_{-0.067}$	$1.607^{+0.122}_{-0.572}$
	+1%/-1%	+0%/-3%	+214%/-214%	+16%/-4%	+5%/-6%	+8%/-36%
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 006697817-01 / KOI 3508.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-89 \pm 23$	$2.01^{+0.85}_{-0.81}$	$454^{+19}_{-10}$	$4486^{+1098}_{-561}$	$5231^{+9843}_{-2721}$
Alt.	$-76 \pm 20$	$1.85^{+0.84}_{-0.77}$	$454^{+17}_{-11}$	$4521^{+1166}_{-620}$	$5400^{+10944}_{-2983}$

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

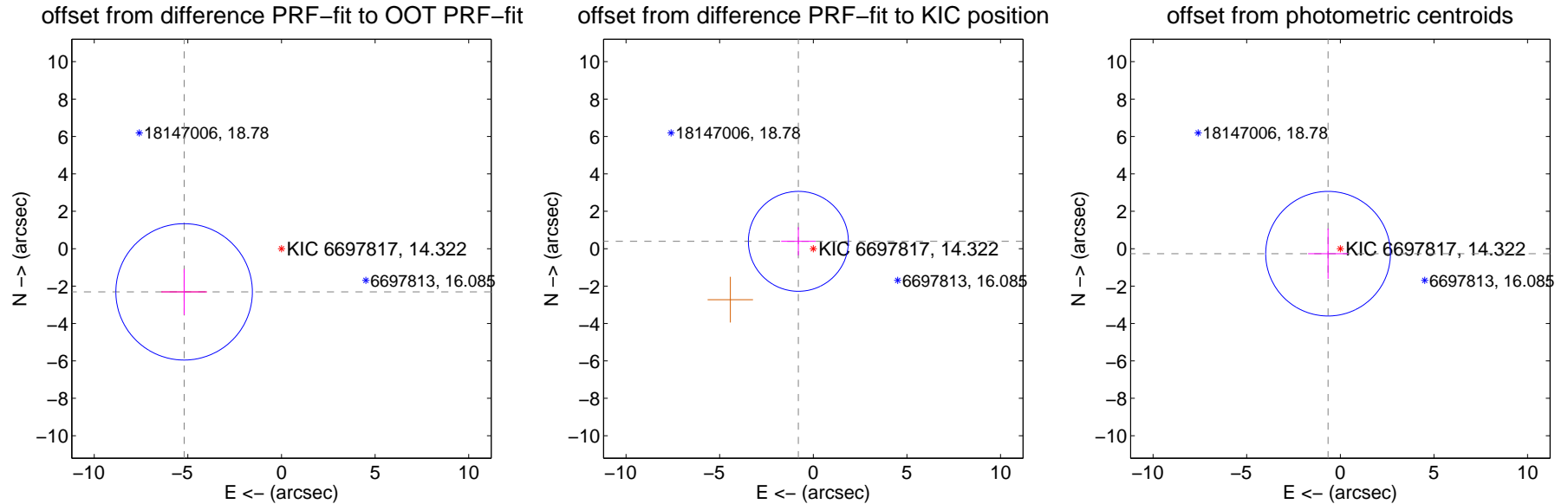
## DV Centroid Data

Supplemental centroid analysis for 006697817-01. Kepler magnitude: 14.32. Transit SNR 9.87

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.88 arcsec

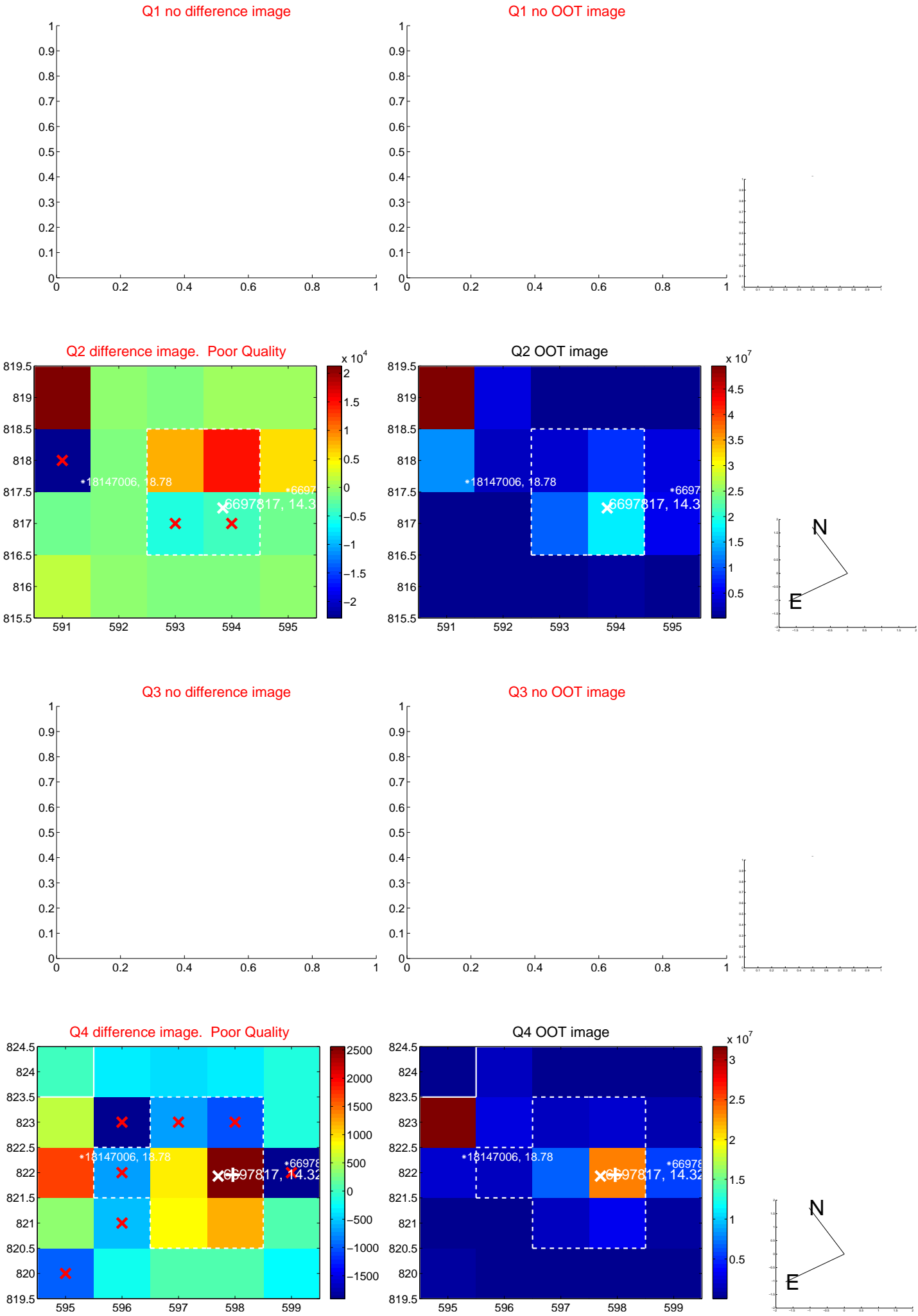
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$5.690 \pm 1.215$	4.68	$5.201 \pm 1.214$	$-2.309 \pm 1.224$
PRF-fit source offset from KIC position	$0.888 \pm 0.890$	1.00	$0.796 \pm 0.921$	$0.394 \pm 0.754$
photometric centroid source offset	$0.71 \pm 1.11$	0.64	$0.65 \pm 1.07$	$-0.27 \pm 1.34$



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.

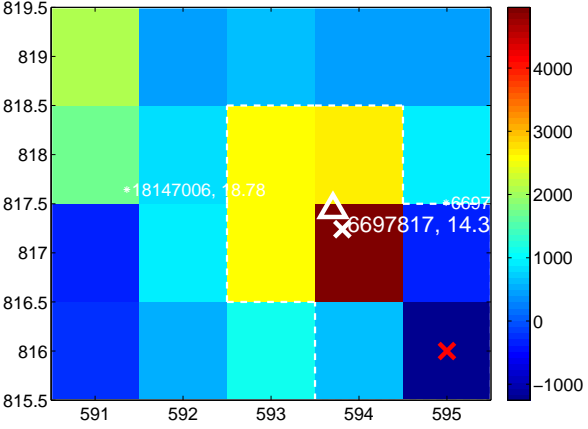
Q5 no difference image



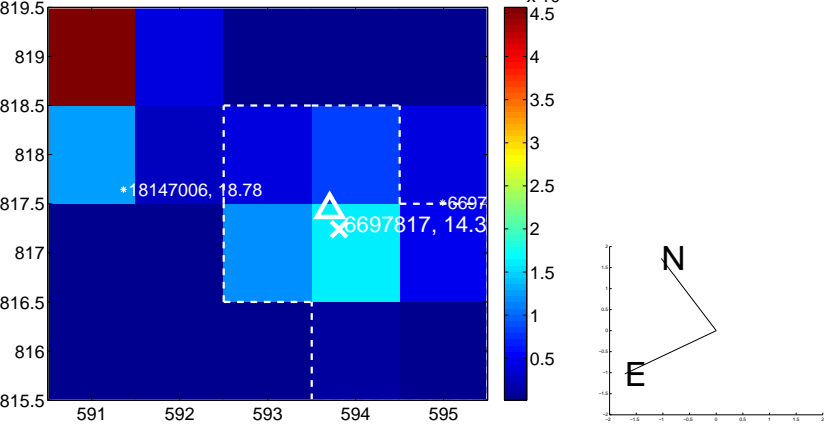
Q5 no OOT image



Q6 difference image



Q6 OOT image



Q7 no difference image



Q7 no OOT image



Q8 no difference image



Q8 no OOT image



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

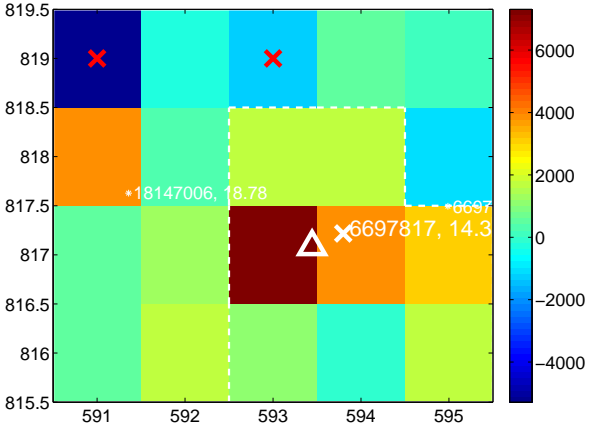
Q9 no difference image



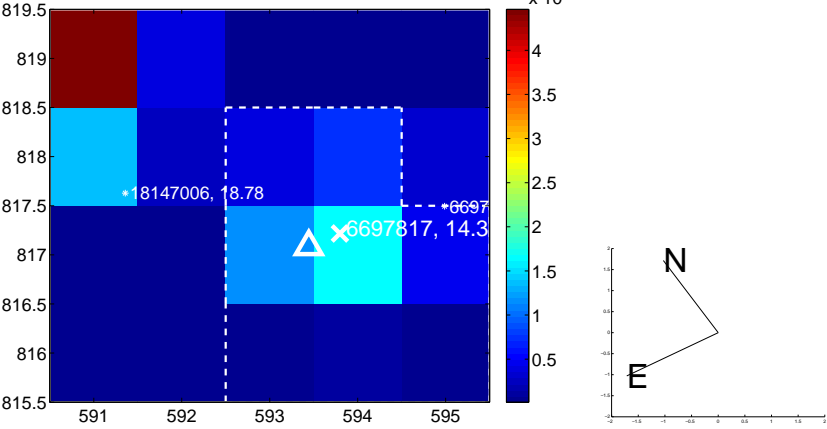
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



Q11 no difference image



Q11 no OOT image



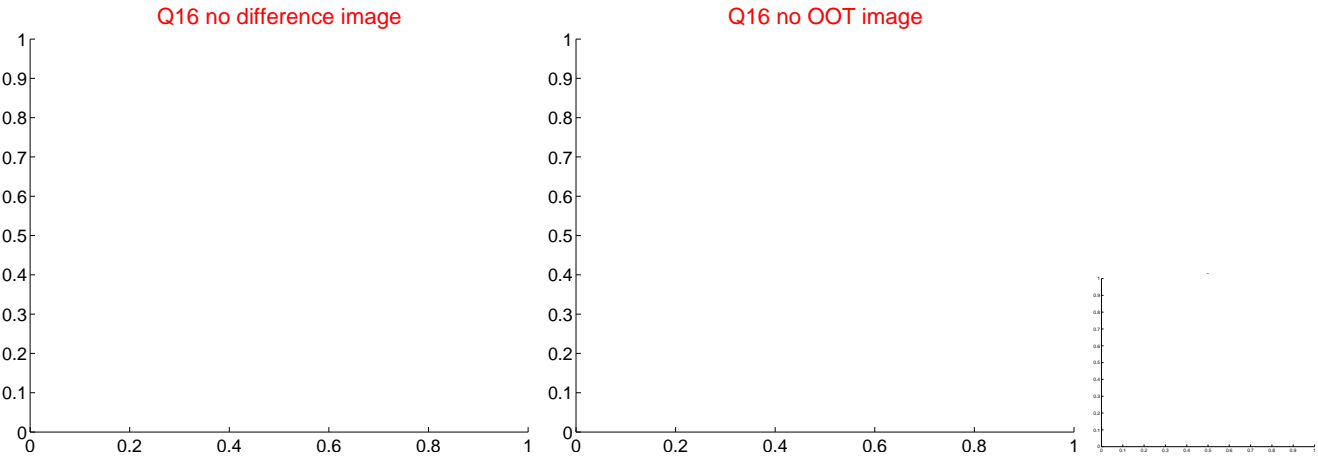
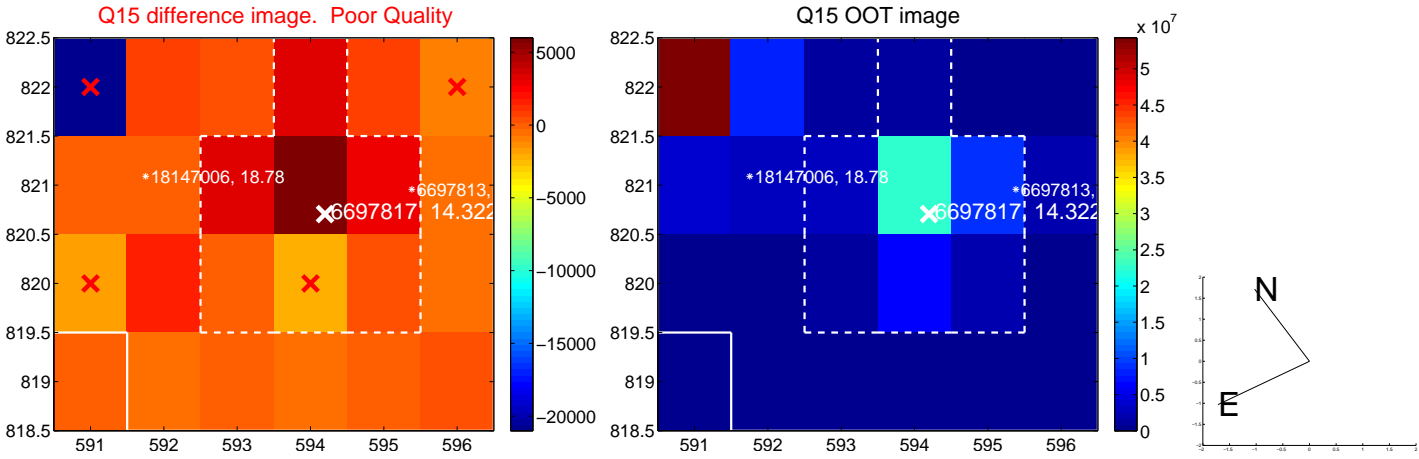
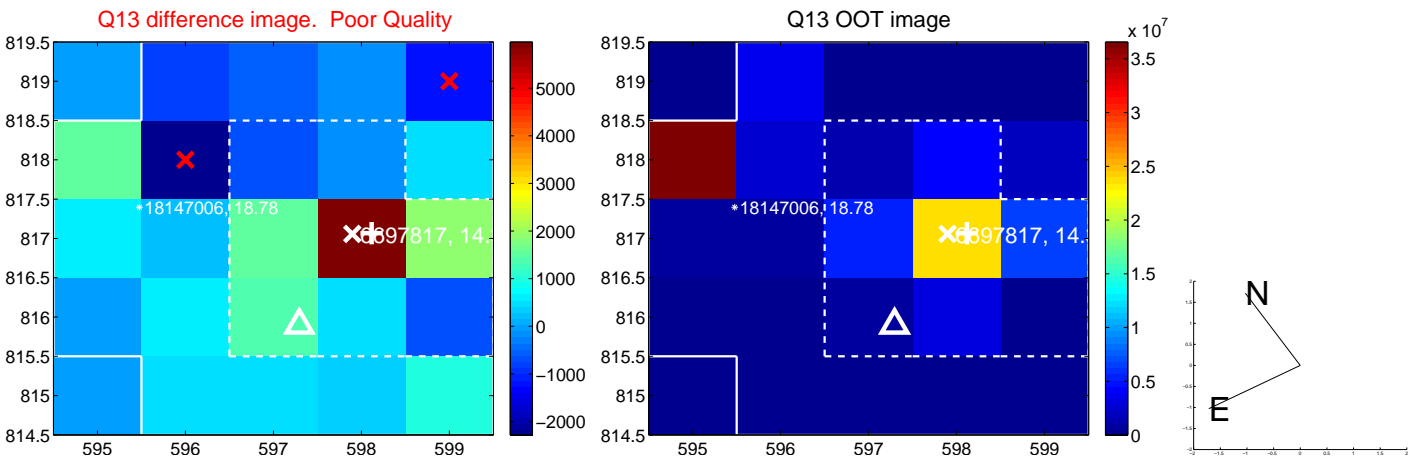
Q12 no difference image



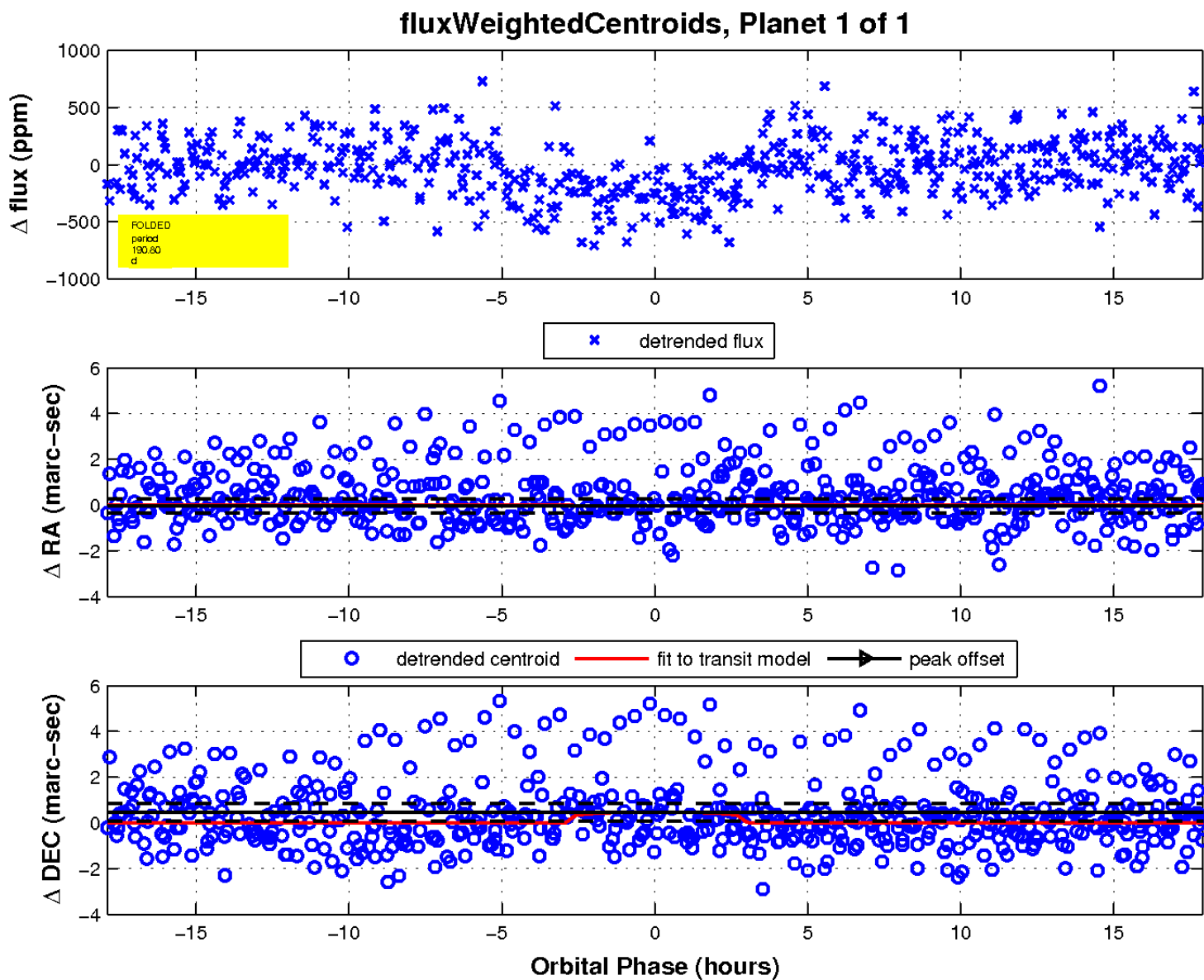
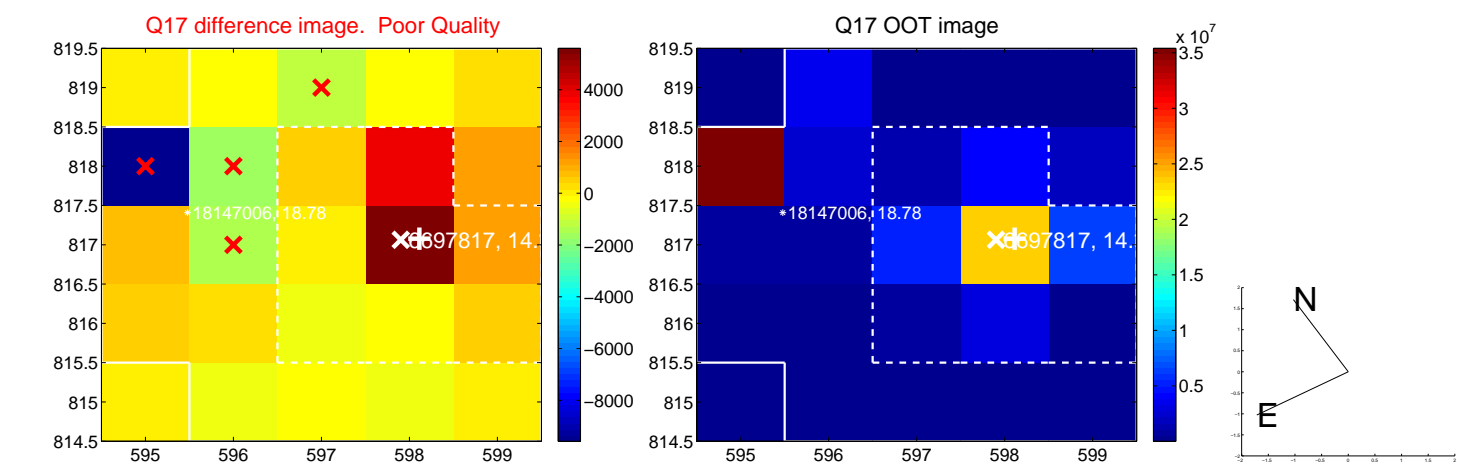
Q12 no OOT image



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

