

# KIC 008197343

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008197343-01	OBS	1746.01	11.791570	134.544156	411.8	3.227	16.8	19.0	1.20	5619	2.76	128.03

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008197343-01	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.

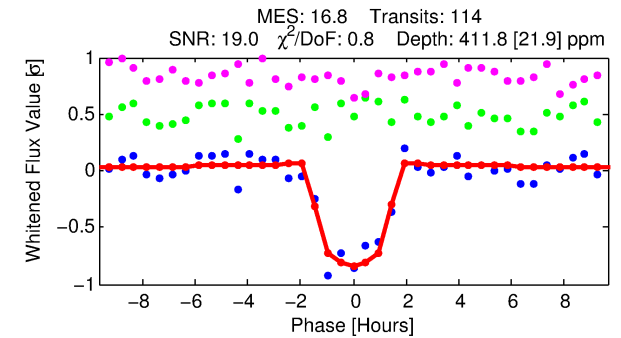
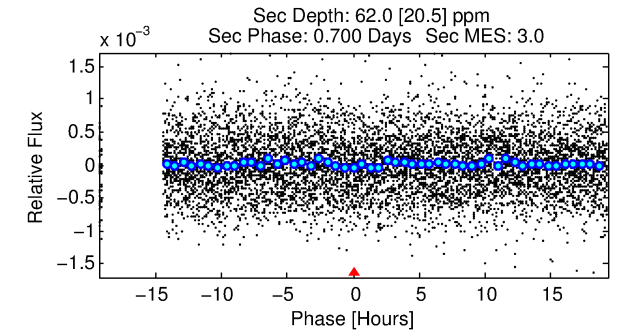
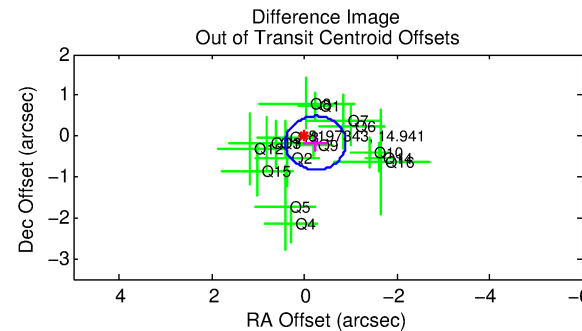
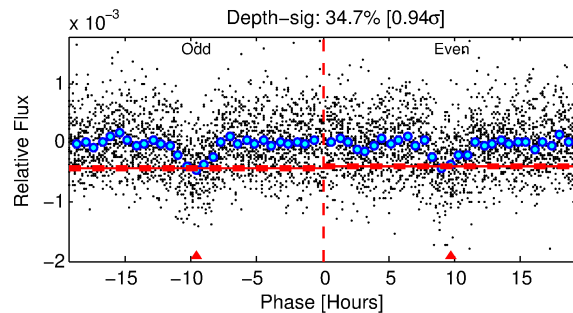
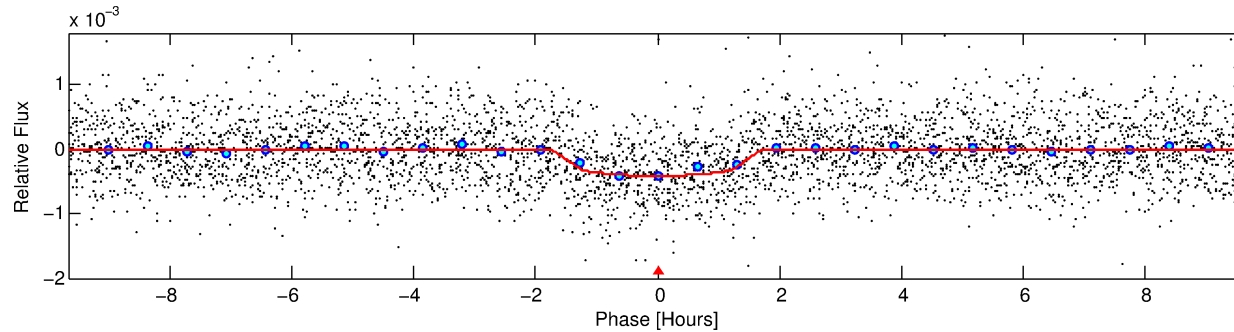
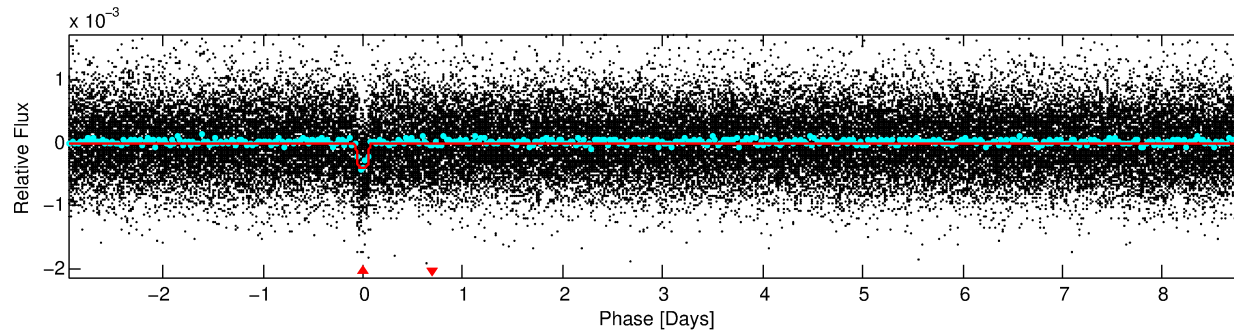
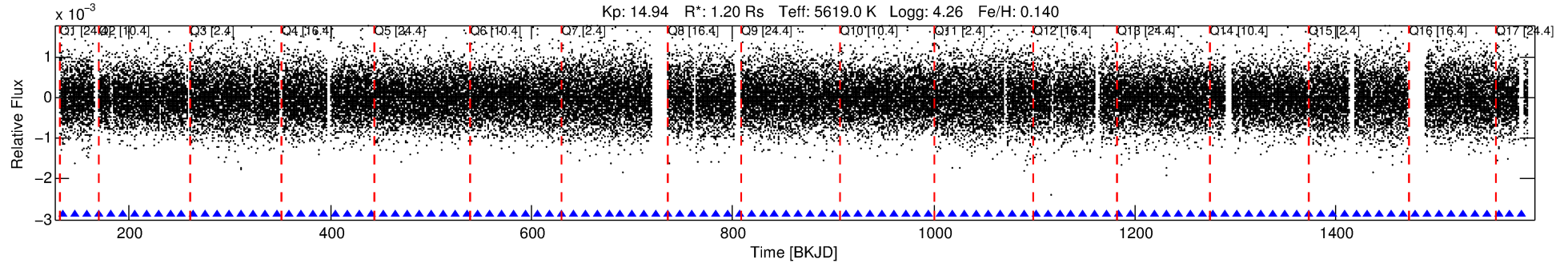
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008197343-01

No Significant Match Found

# DV One-Page Summary

KIC: 8197343 Candidate: 1 of 1 Period: 11.792 d  
KOI: K01746.01 Corr: 0.965



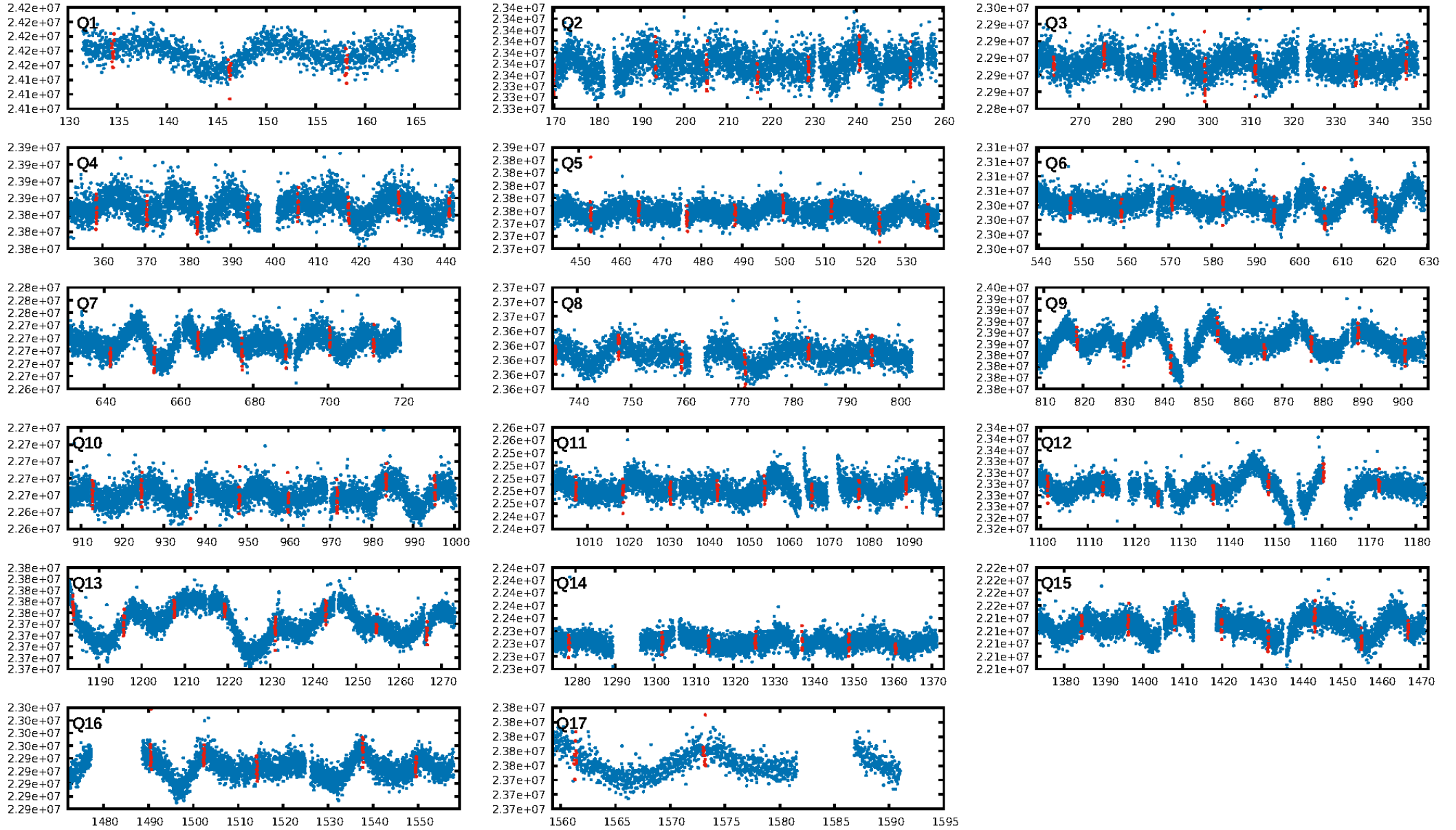
## DV Fit Results:

Period = 11.79157 [0.00005] d  
Epoch = 134.5442 [0.0037] BKJD  
Rp/R\* = 0.0211 [0.0087]  
a/R\* = 16.60 [29.08]  
b = 0.83 [0.67]  
Seff = 128.03 [35.74]  
Teq = 858 [60] K  
Rp = 2.76 [1.23] Re  
a = 0.1001 [0.0170] AU  
Ag = 45.03 [41.82] [1.05 $\sigma$ ]  
Teffp = 3435 [764] K [3.37 $\sigma$ ]

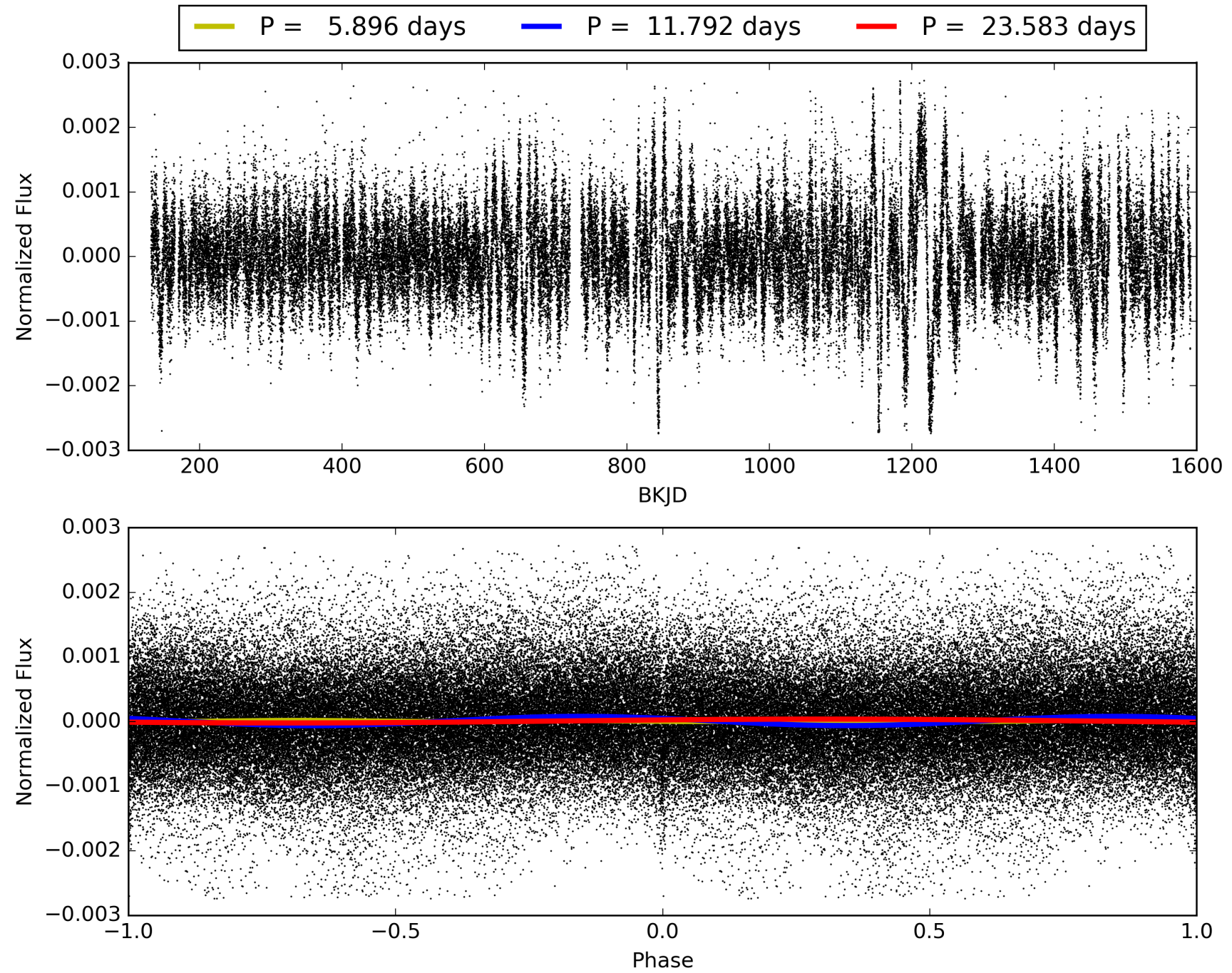
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.38e-62  
RollingBand-fgt: 1.00 [109/109]  
GhostDiagnostic-chr: 7.247  
Centroid-sig: 0.6%  
**Centroid-so: 2.218 arcsec [3.64 $\sigma$ ]**  
OotOffset-rm: 0.294 arcsec [1.34 $\sigma$ ]  
KicOffset-rm: 0.510 arcsec [2.52 $\sigma$ ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 0.88 [14/16]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 008197343-01, PDC Light Curves

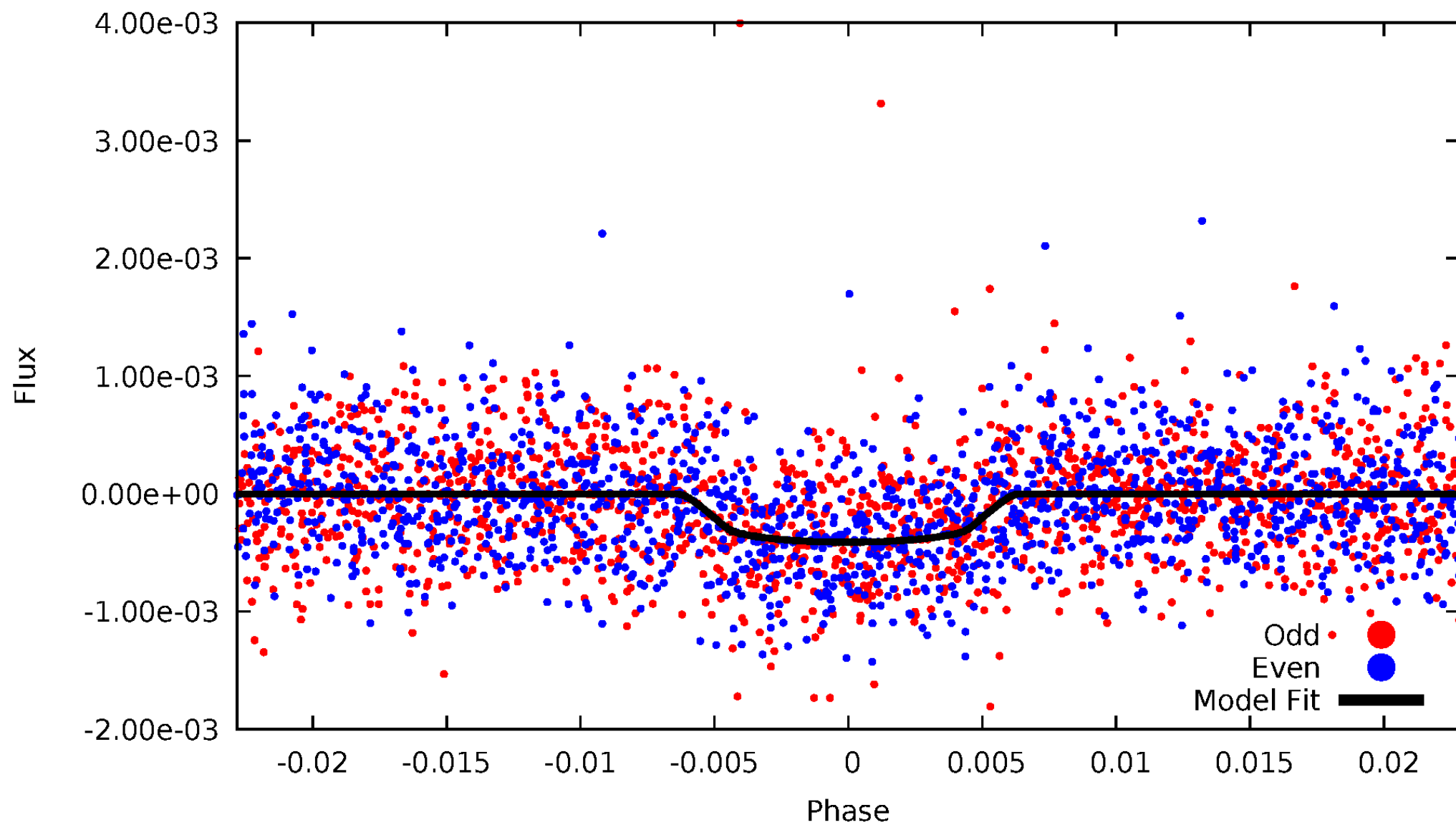


TCE 008197343-01



# DV Odd/Even

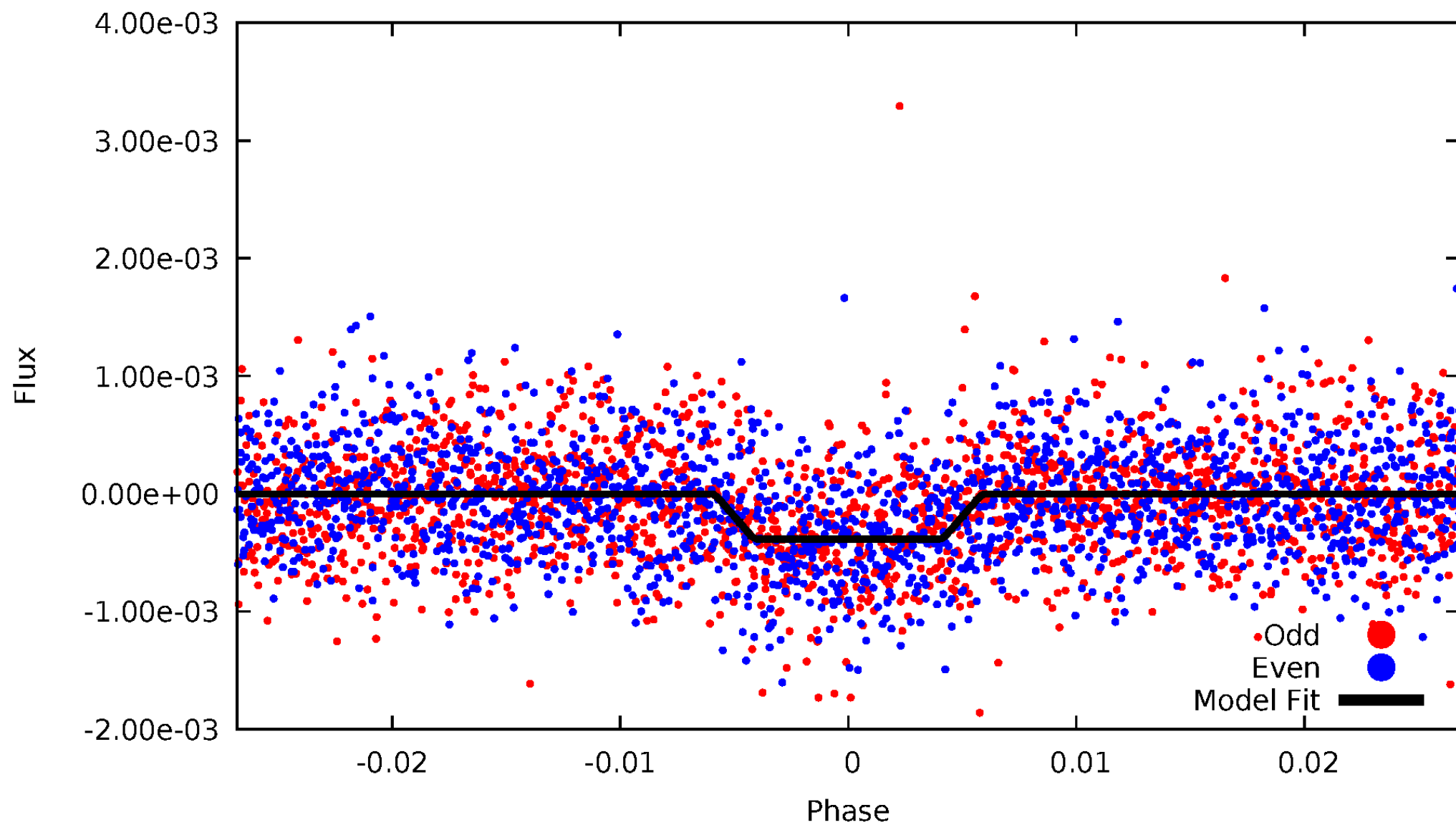
TCE 008197343-01





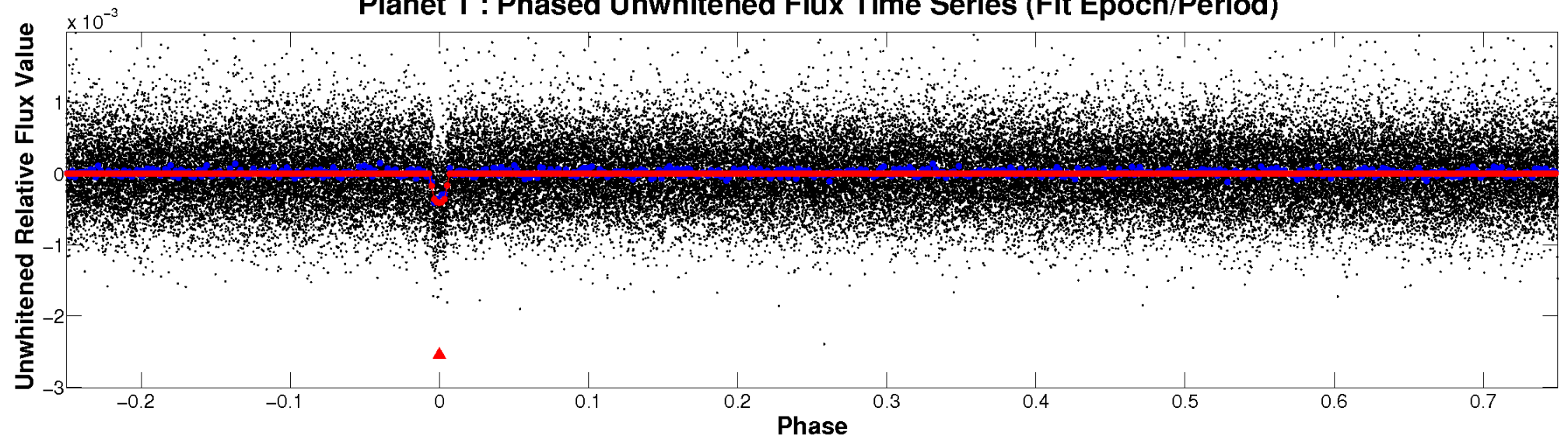
# ALT Odd/Even

TCE 008197343-01

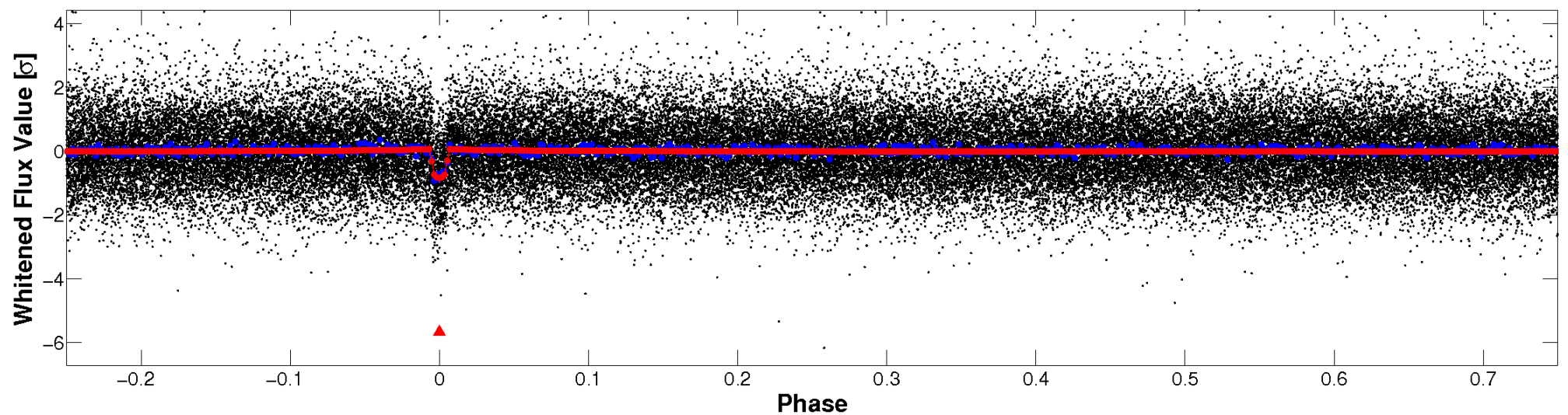


# Non-Whitened Vs. Whitened Light Curve

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

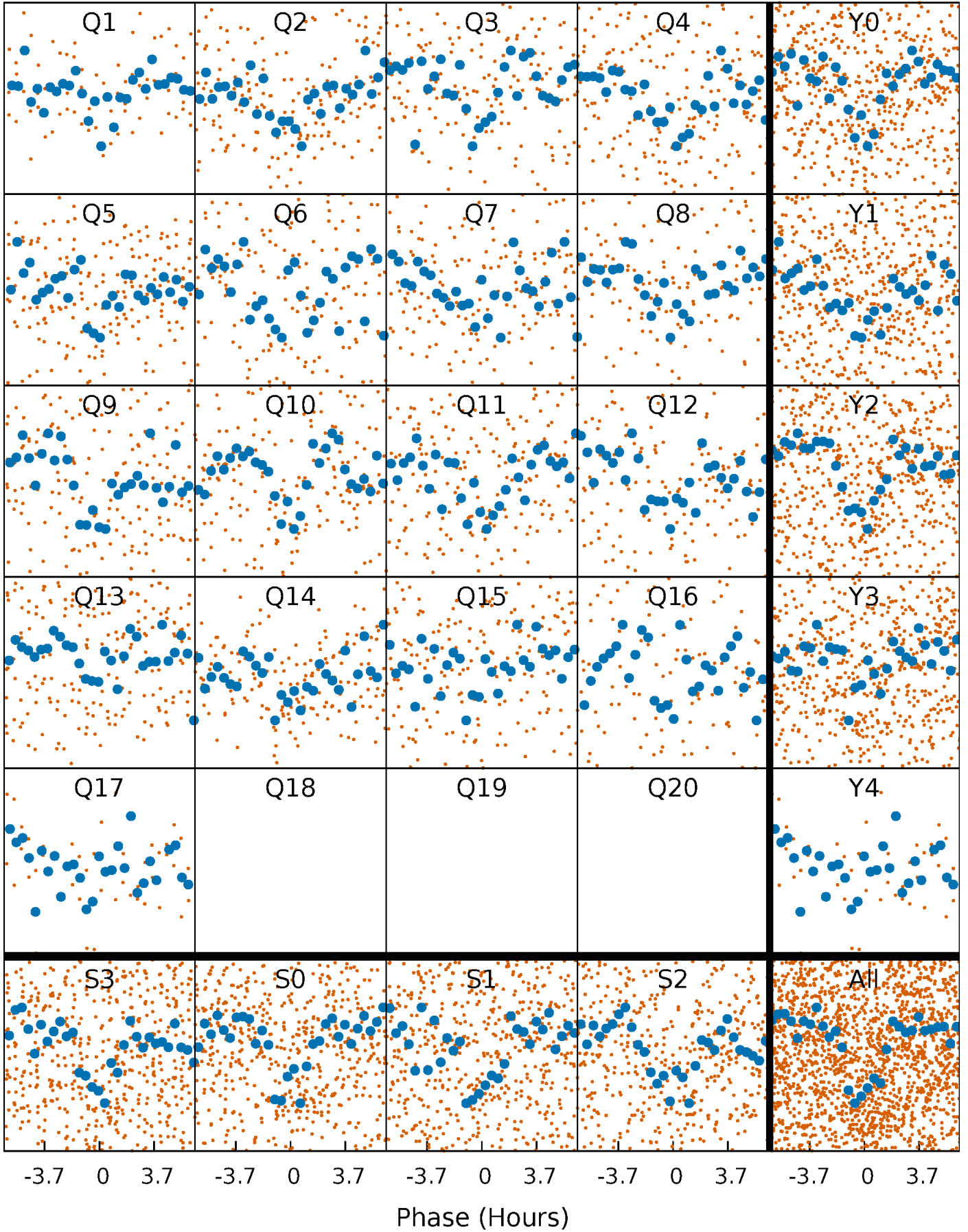


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

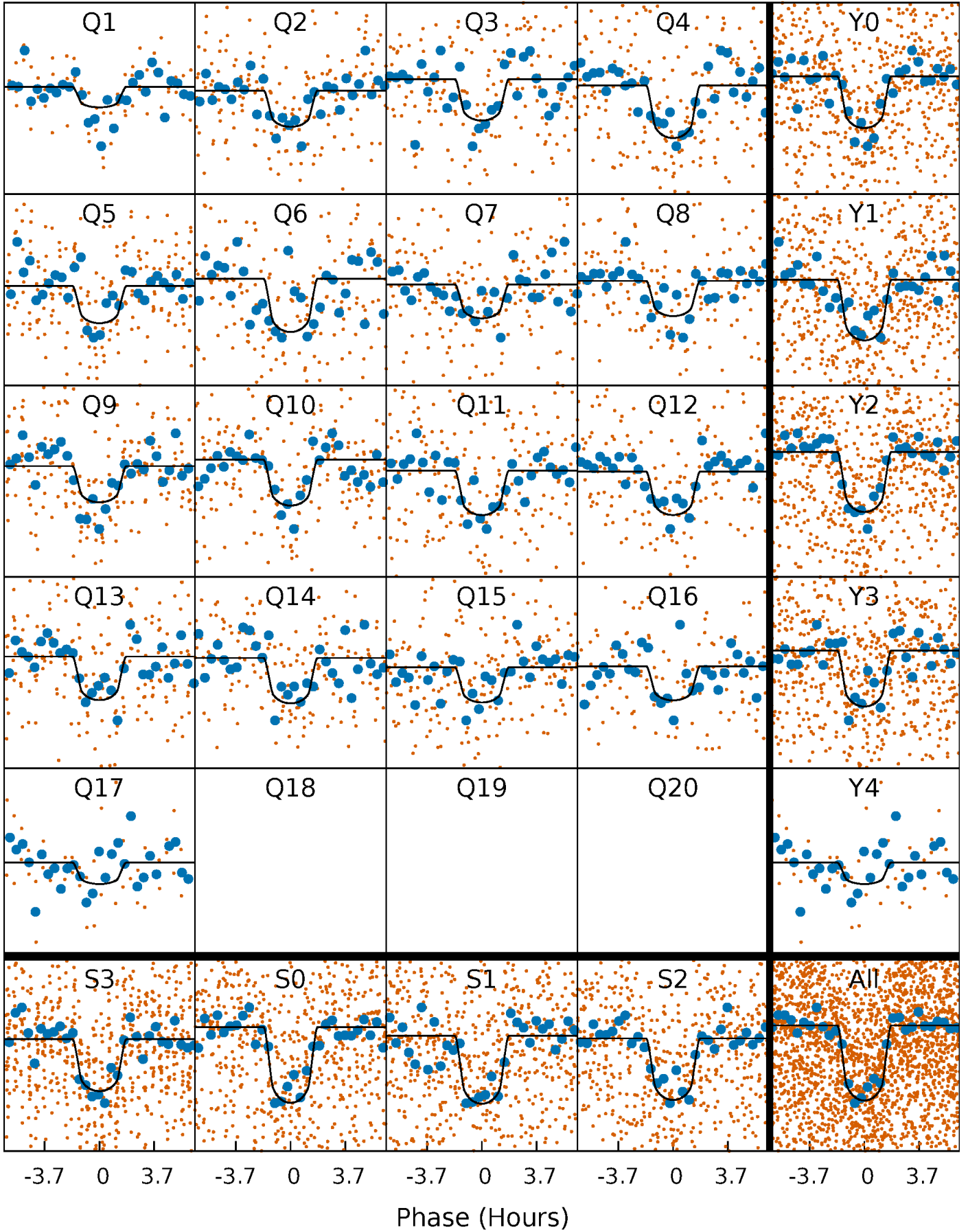
TCE 008197343-01 P= 11.791570 Days  $T_0=134.544156$  (BKJD)





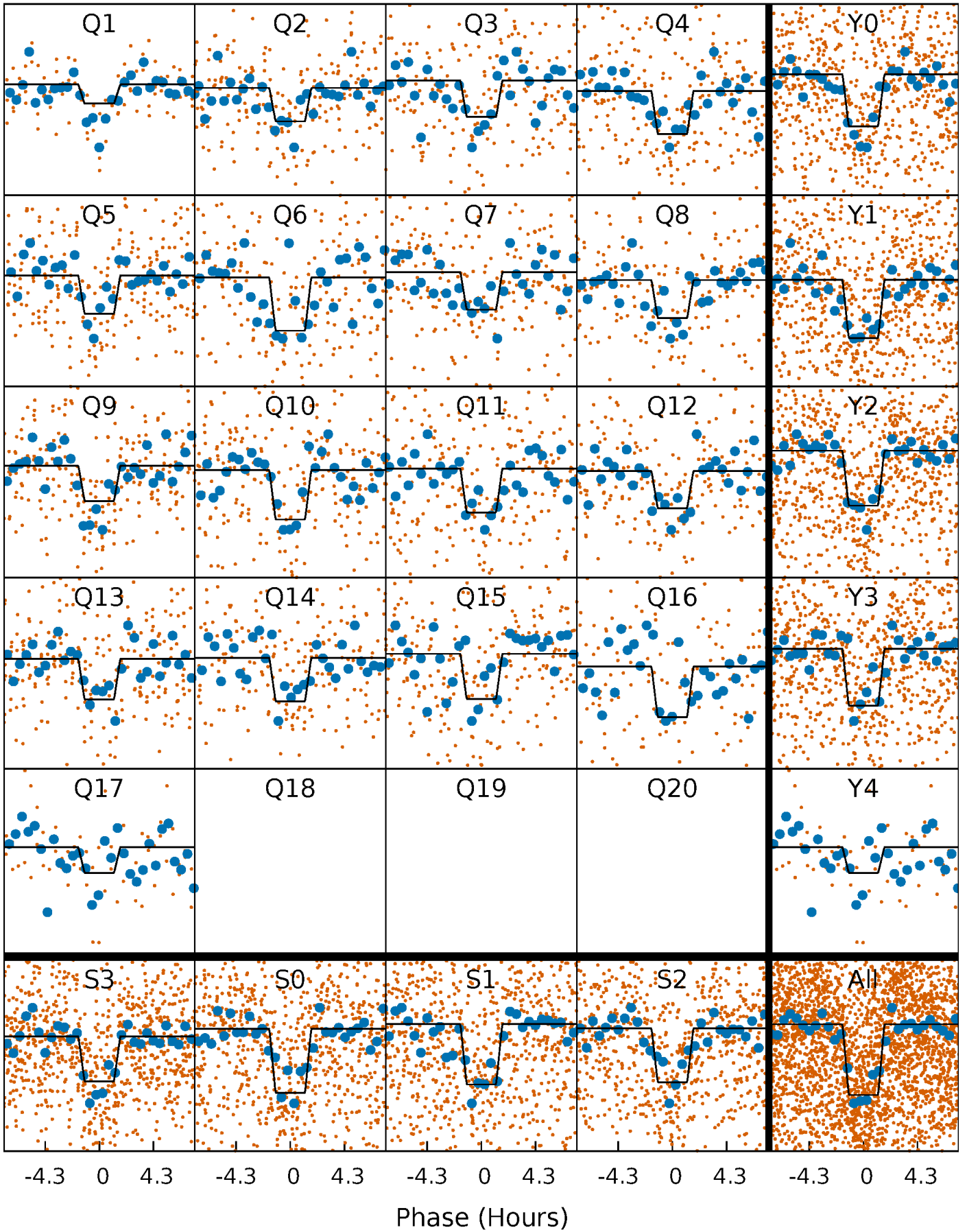
# DV Quarter-Phased Transit Curves

TCE 008197343-01 P= 11.791570 Days  $T_0=134.544156$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

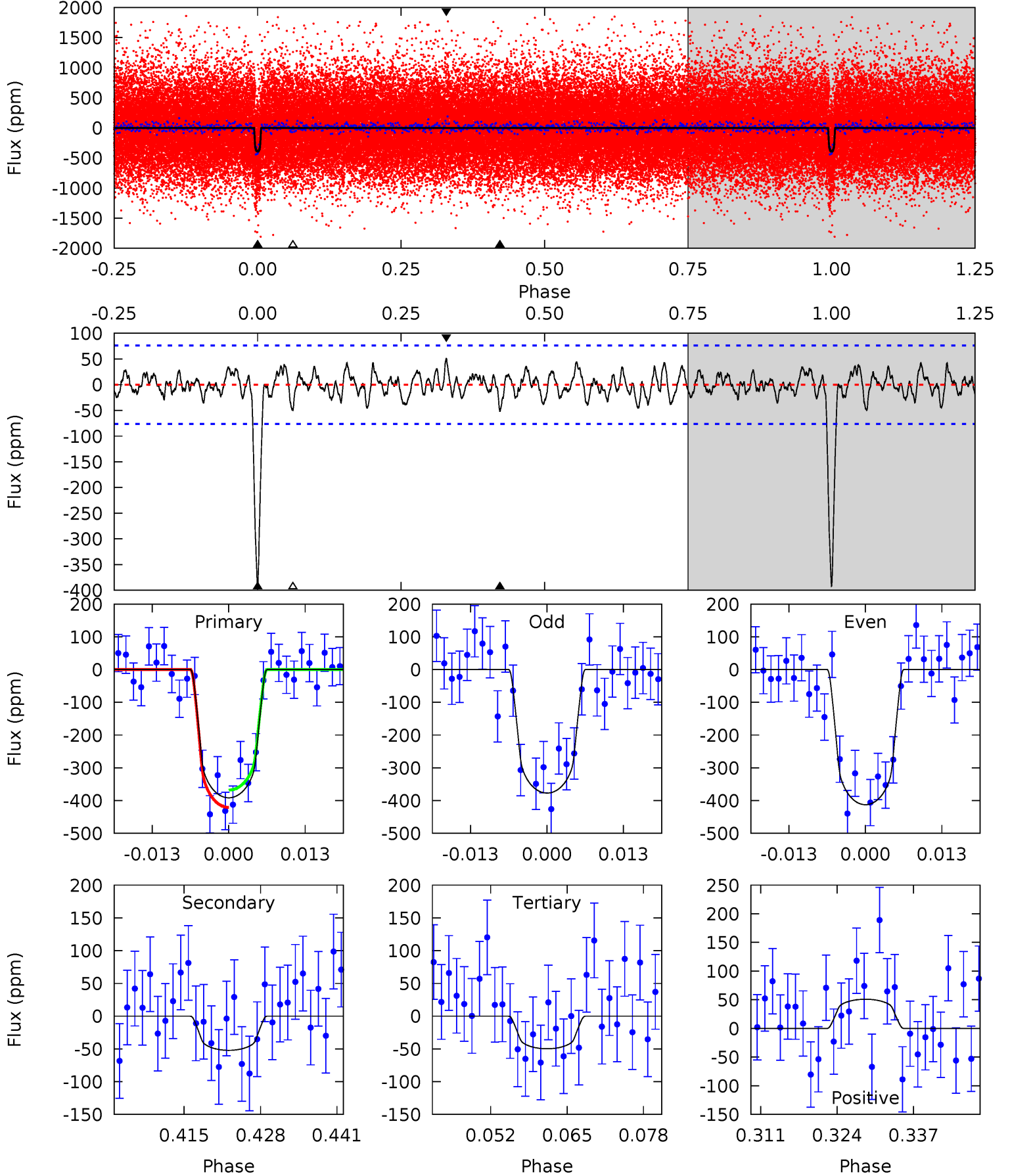
TCE 008197343-01 P= 11.791374 Days  $T_0=134.554521$  (BKJD)



# DV Model-Shift Uniqueness Test

008197343-01, P = 11.791570 Days, E = 122.752586 Days

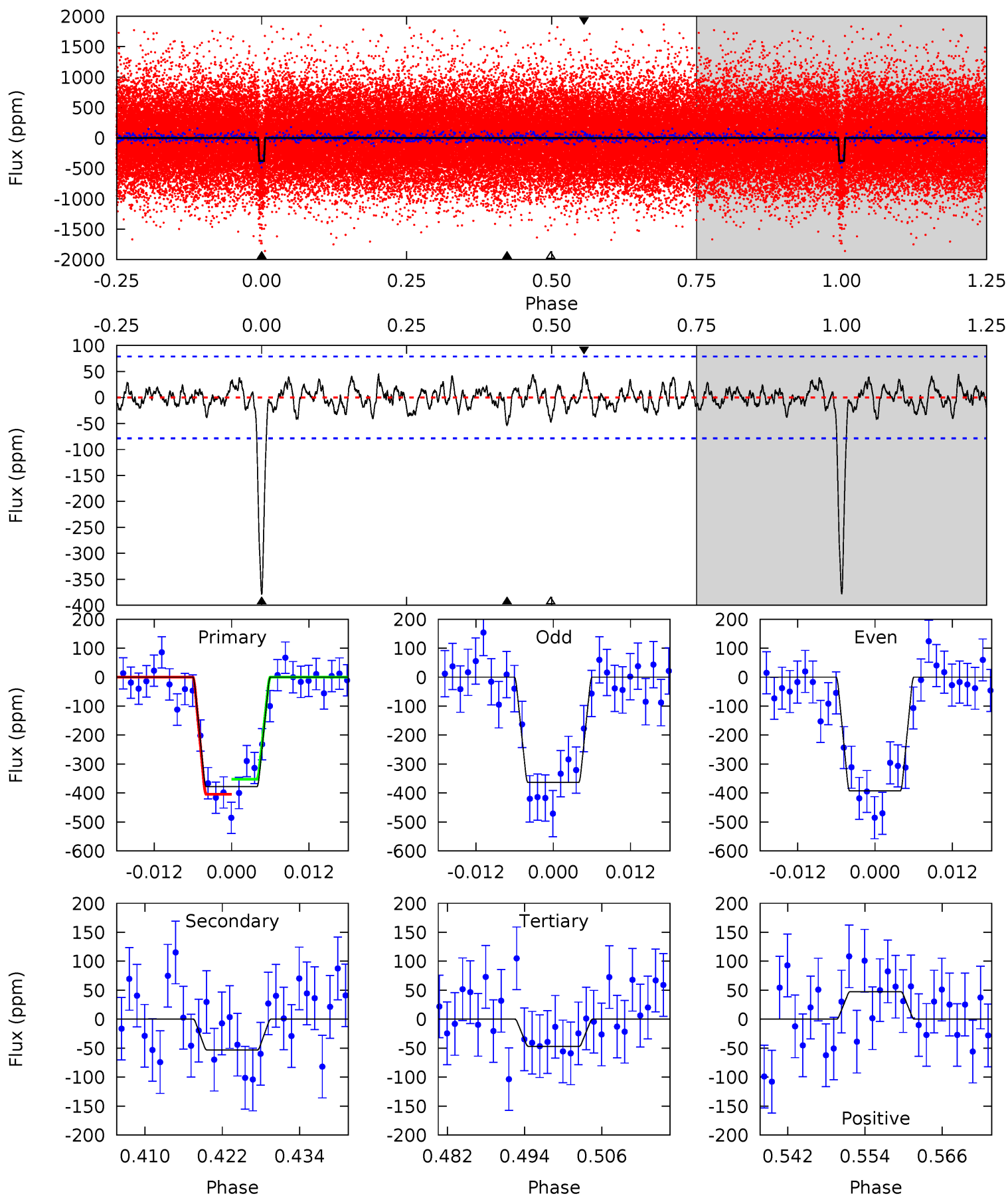
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.6	3.40	3.25	3.32	4.98	2.48	1.22	22.3	22.2	0.15	0.09	1.16	0.93	0.11	1.73



# Alt Model-Shift Uniqueness Test

008197343-01,  $P = 11.791374$  Days,  $E = 122.763147$  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
23.9	3.36	2.97	3.01	4.99	2.51	1.09	21.0	20.9	0.39	0.35	0.91	0.94	0.11	1.64



### Stellar Parameters For KIC 008197343

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5619^{+75}_{-75}$	$4.264^{+0.162}_{-0.108}$	$0.140^{+0.150}_{-0.150}$	$1.199^{+0.188}_{-0.207}$	$0.962^{+0.068}_{-0.054}$	$0.787^{+0.548}_{-0.253}$
	+1%/-1%	+4%/-3%	+107%/-107%	+16%/-17%	+7%/-6%	+70%/-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 008197343-01 / KOI 1746.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-52 \pm 15$	$2.74^{+1.12}_{-1.06}$	$1192^{+55}_{-61}$	$3647^{+763}_{-397}$	$37^{+65}_{-20}$
Alt.	$-53 \pm 16$	$2.49^{+1.20}_{-1.05}$	$1196^{+51}_{-57}$	$3841^{+887}_{-546}$	$49^{+104}_{-30}$

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



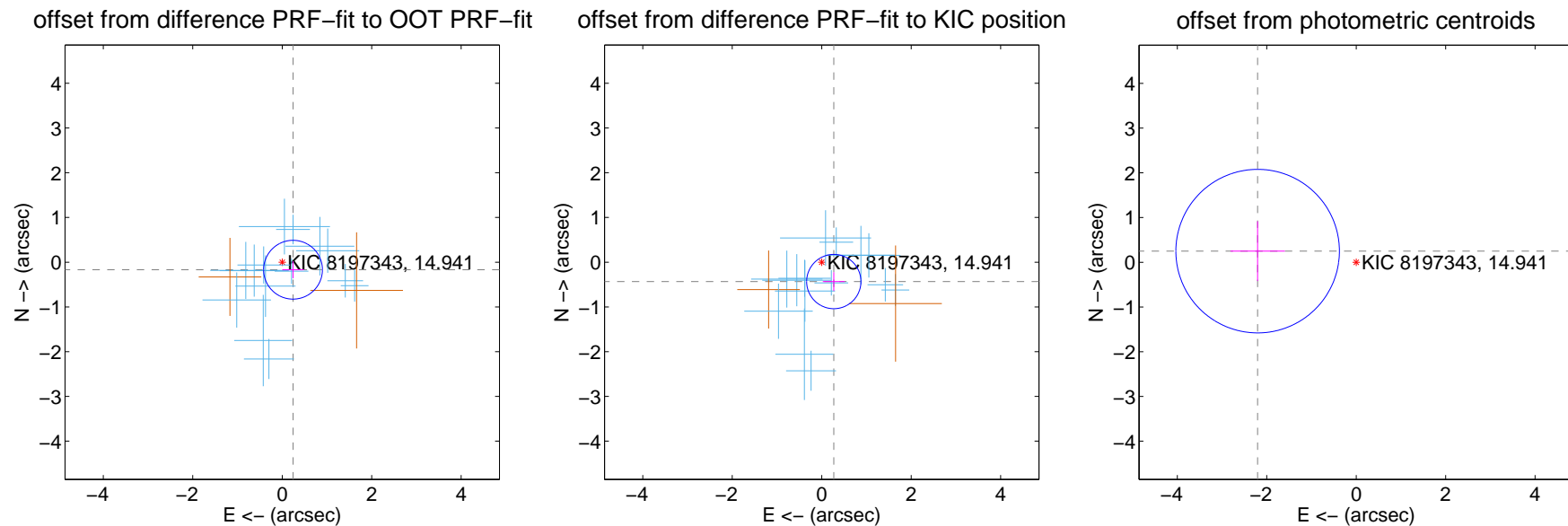
## DV Centroid Data

Supplemental centroid analysis for 008197343-01. Kepler magnitude: 14.94. Transit SNR 19.04

There are 14 quarters with good PRF difference image offsets

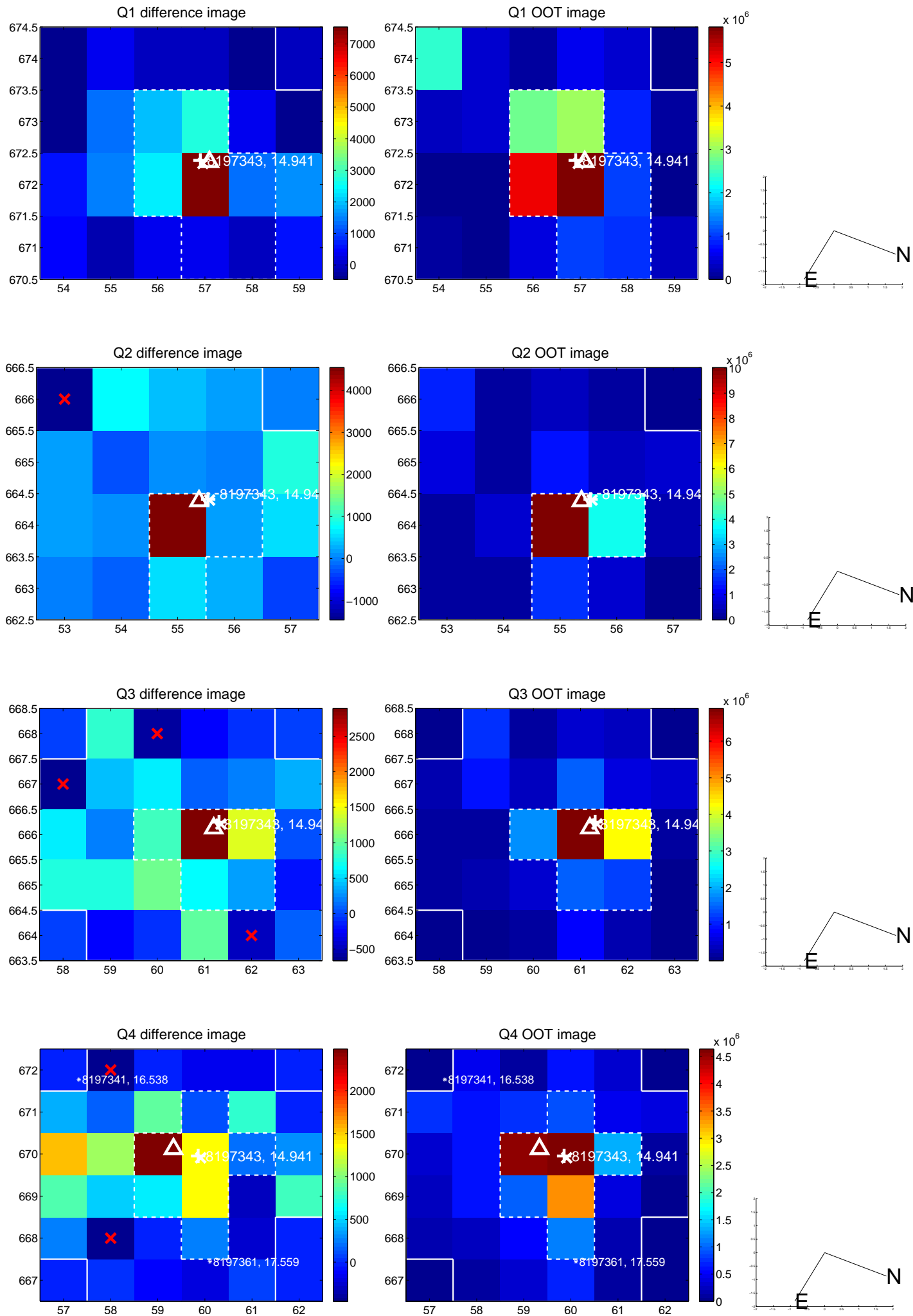
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.294 \pm 0.219$	1.34	$-0.241 \pm 0.244$	$-0.168 \pm 0.192$
PRF-fit source offset from KIC position	$0.510 \pm 0.202$	2.52	$-0.270 \pm 0.245$	$-0.433 \pm 0.209$
photometric centroid source offset	$2.22 \pm 0.61$	3.64	$2.20 \pm 0.61$	$0.25 \pm 0.67$

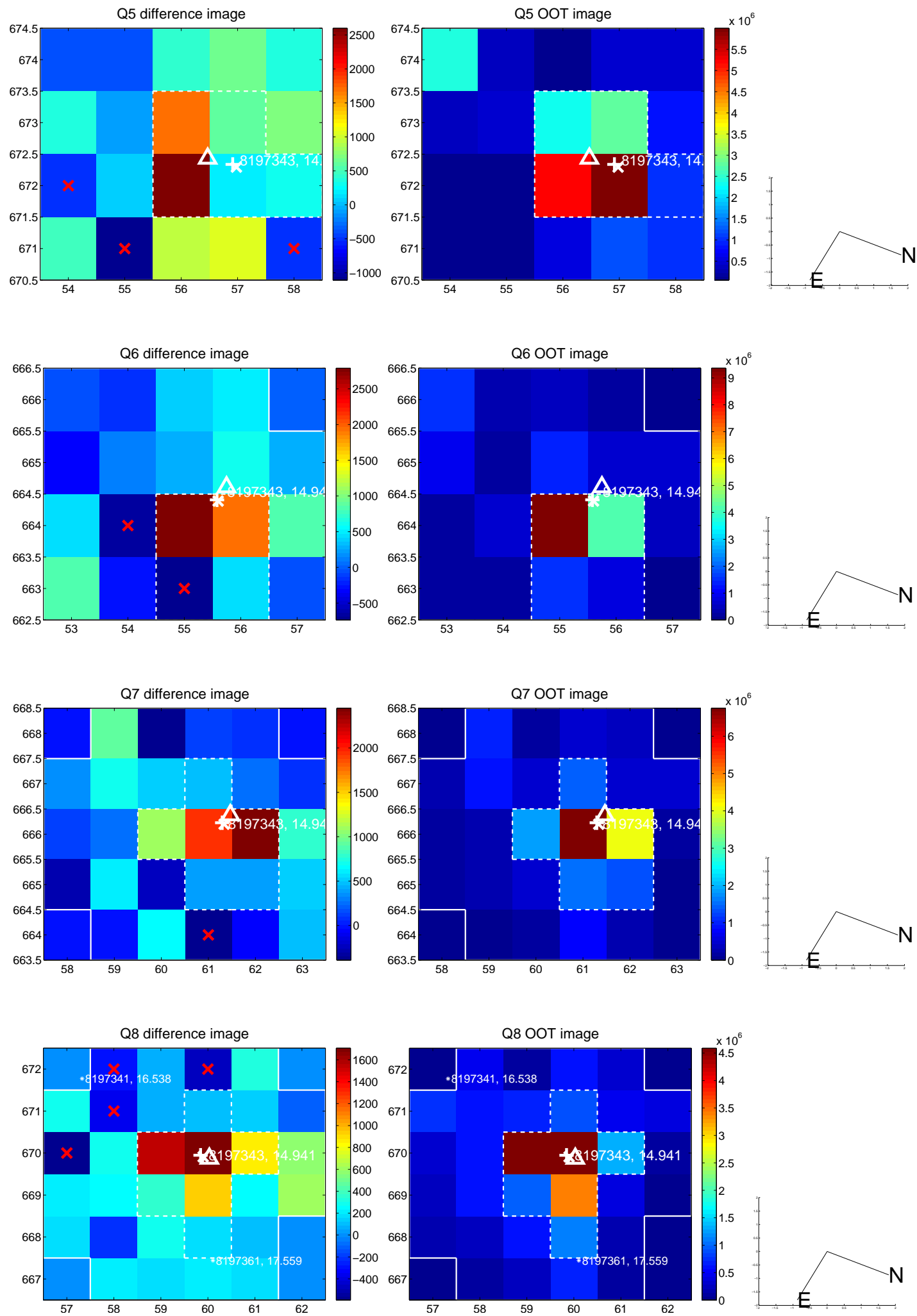


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

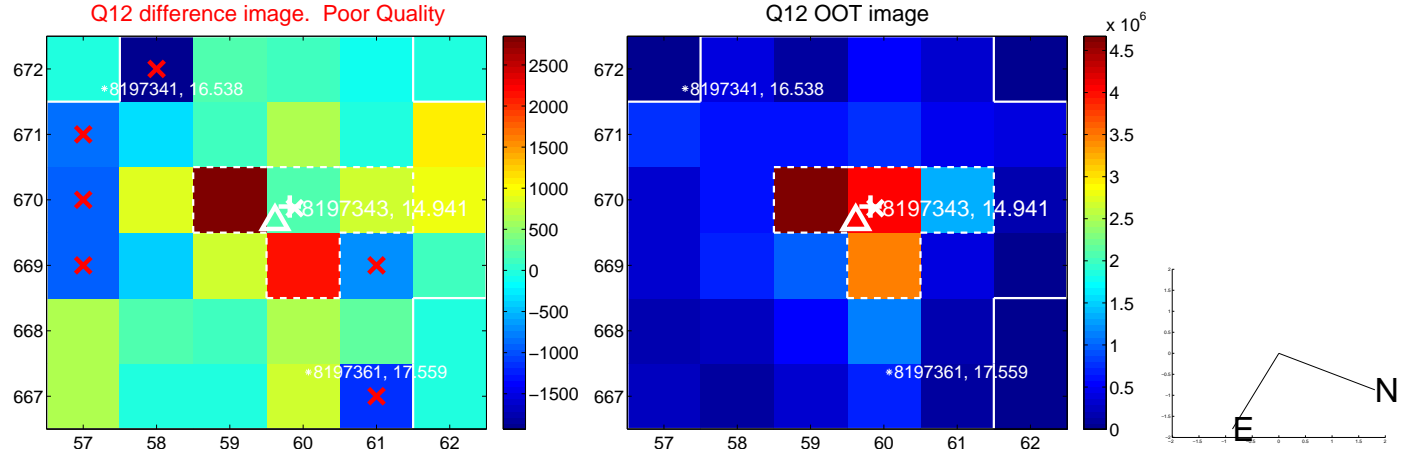
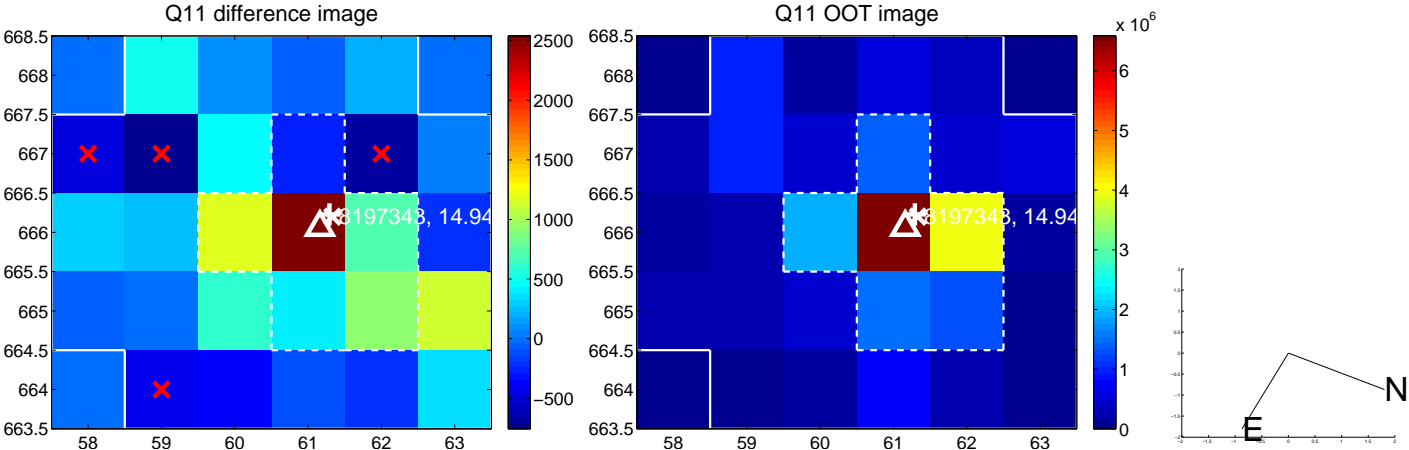
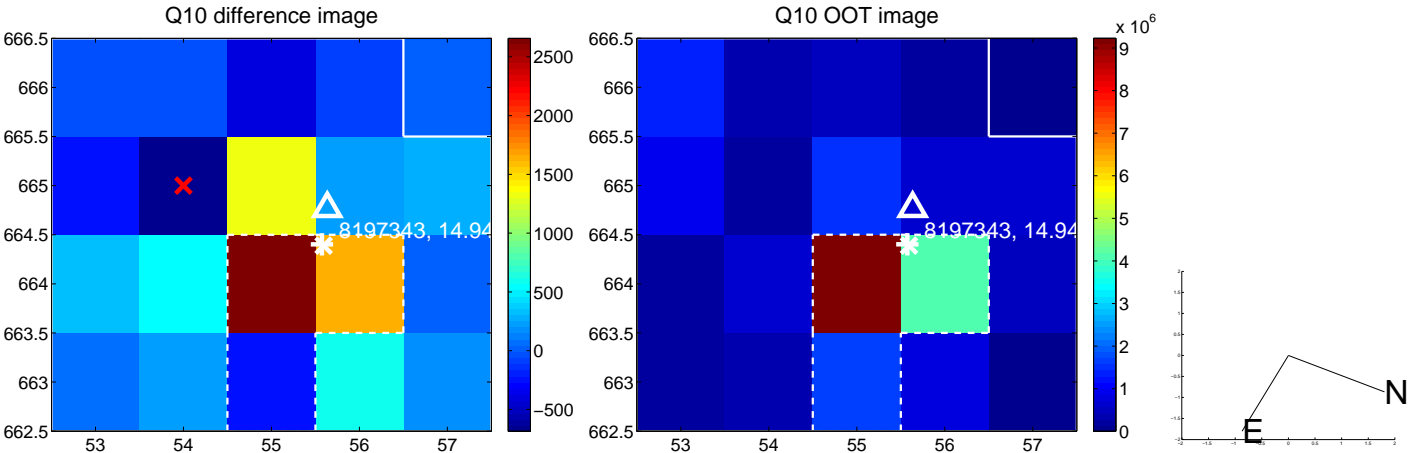
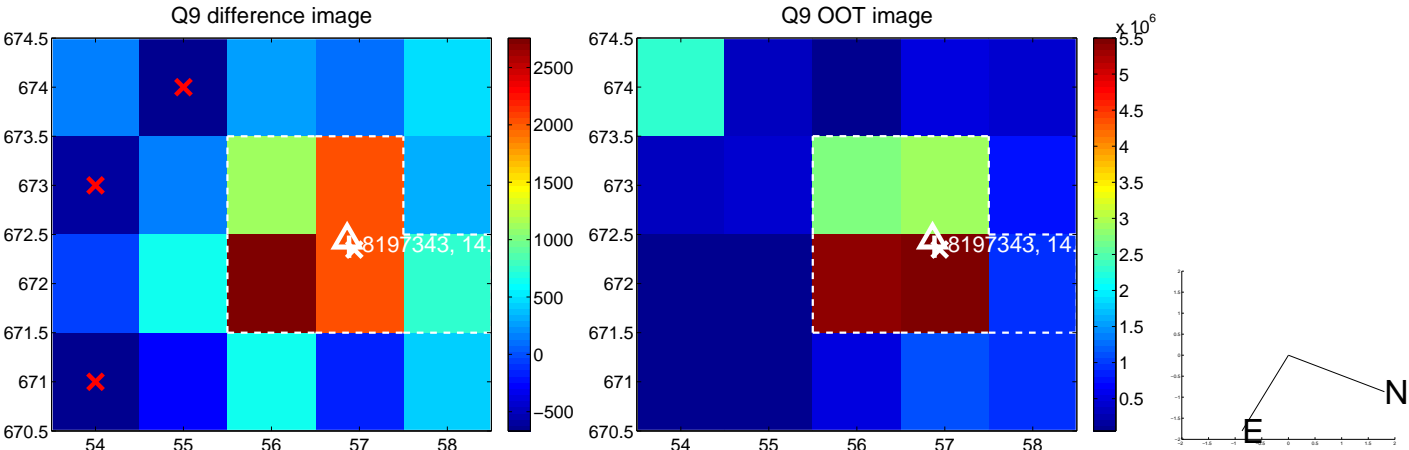
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



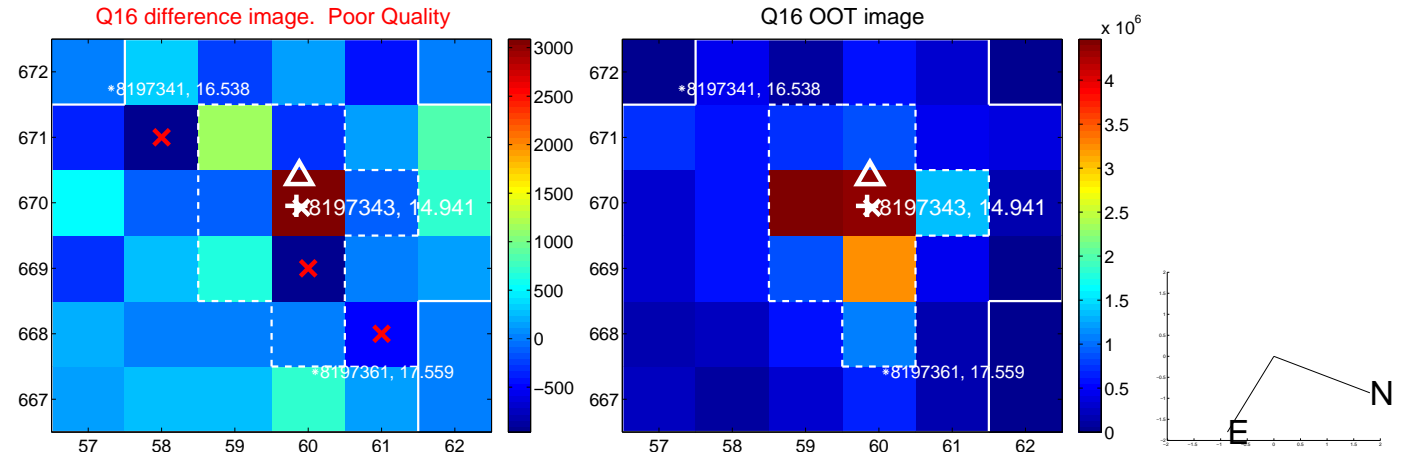
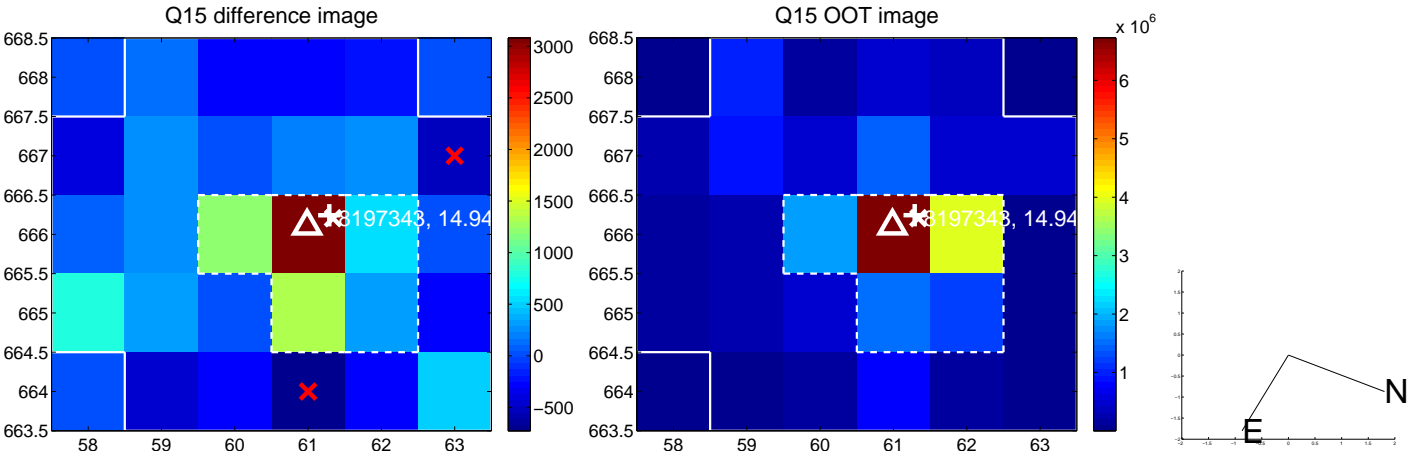
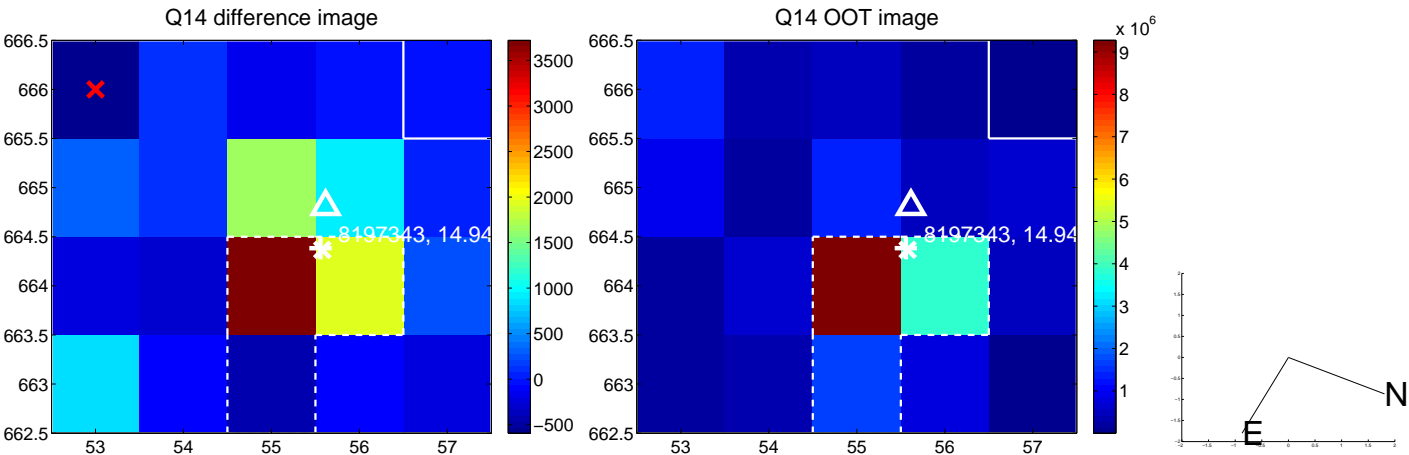
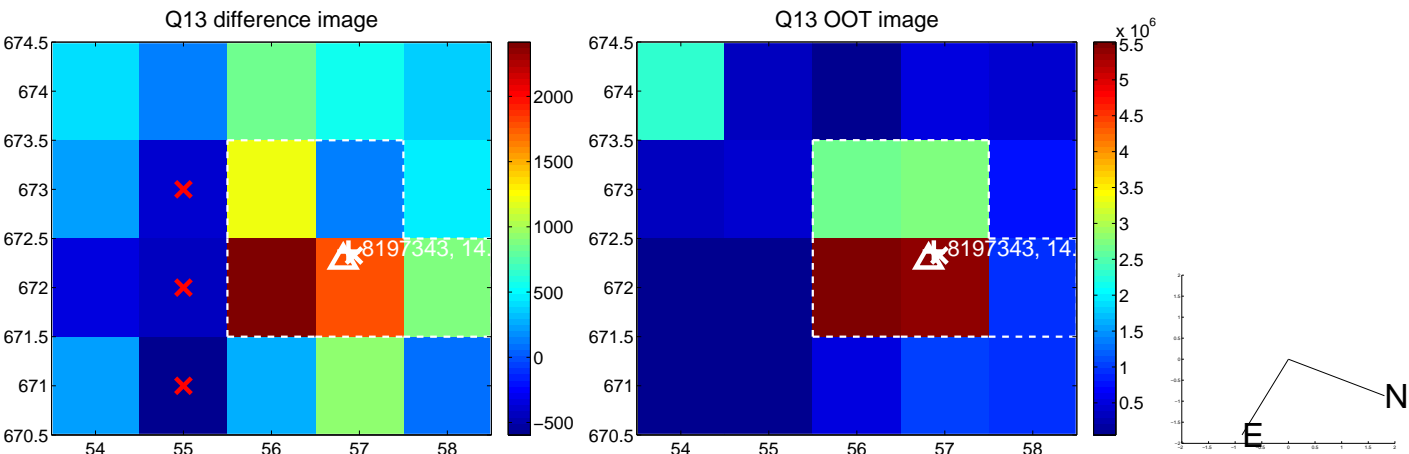
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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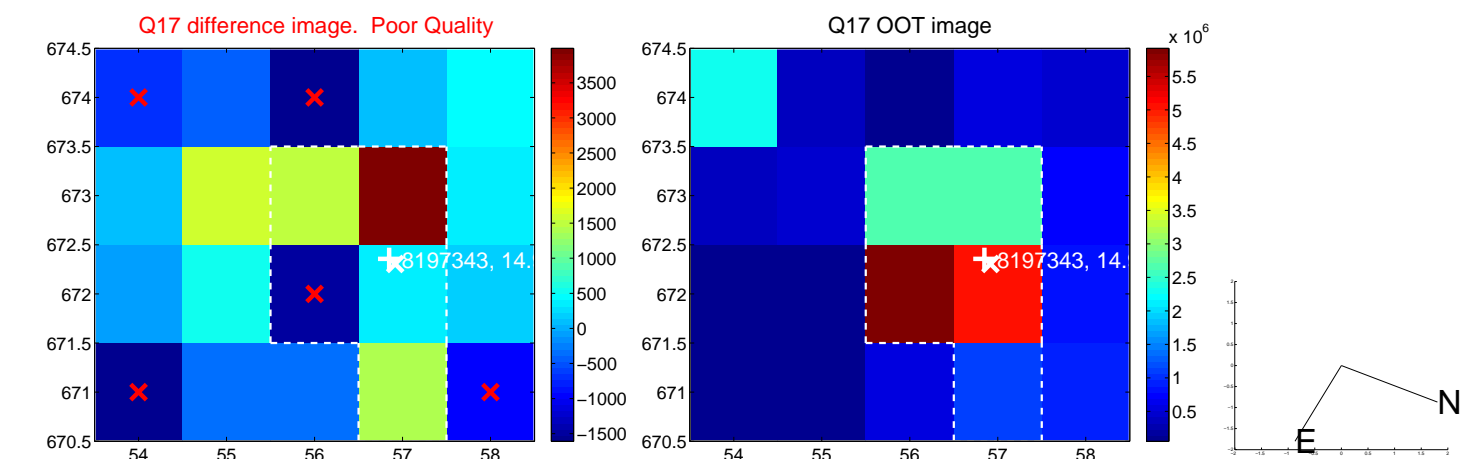


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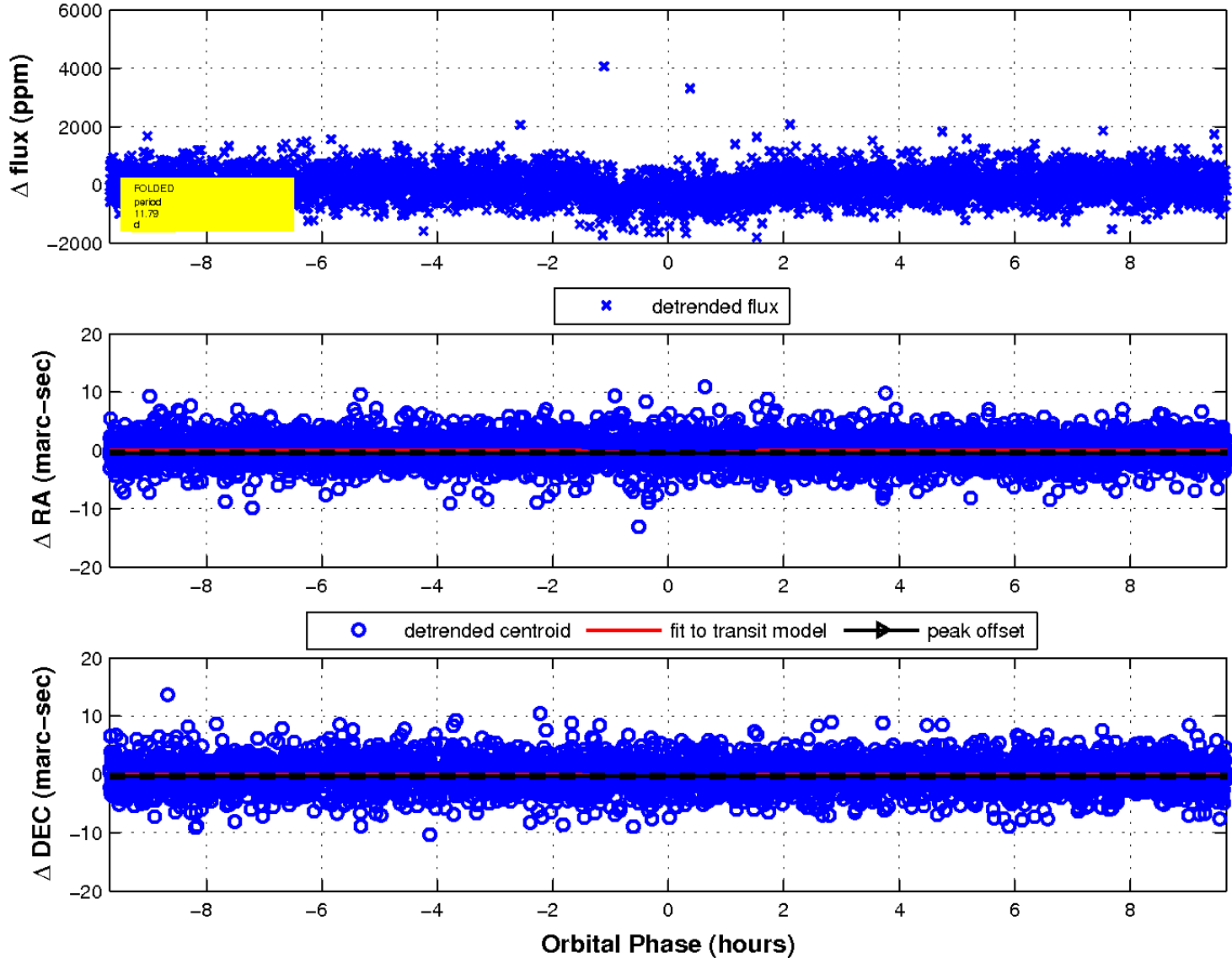




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

