

# KIC 010717871

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010717871-01	OBS	No	0.677869	132.112369	160.7	4.019	10.1	9.3	4.34	7485	6.41	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010717871-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED

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

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

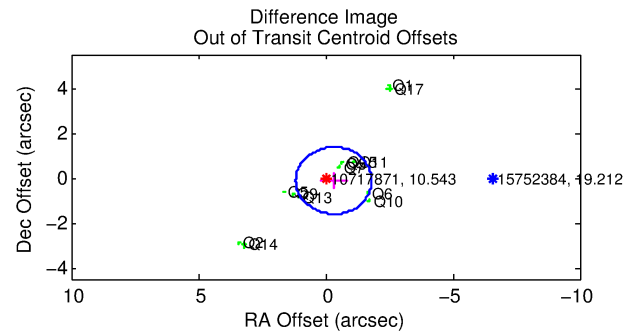
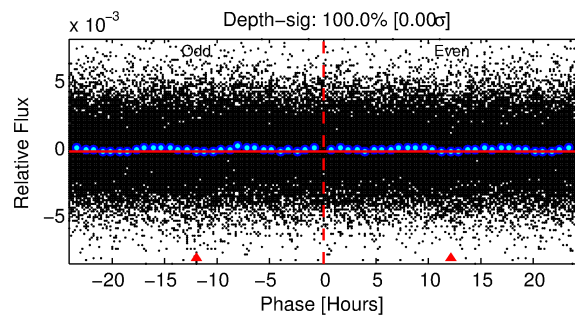
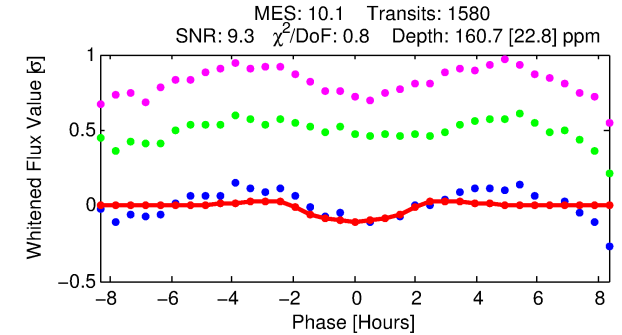
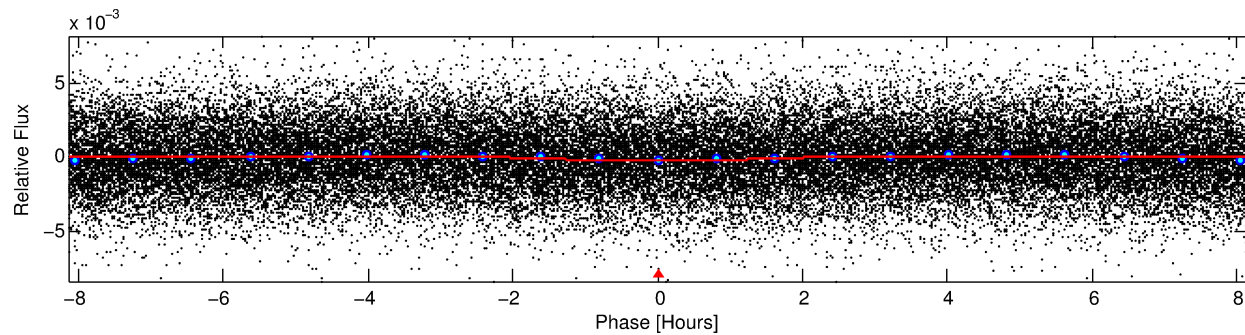
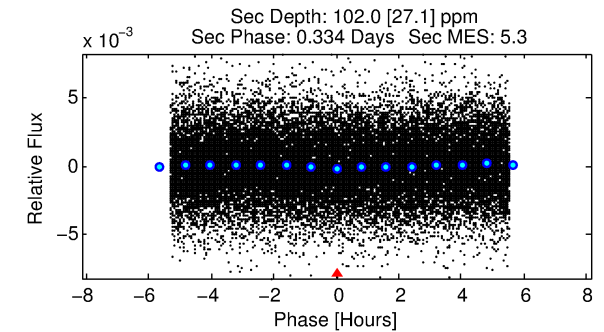
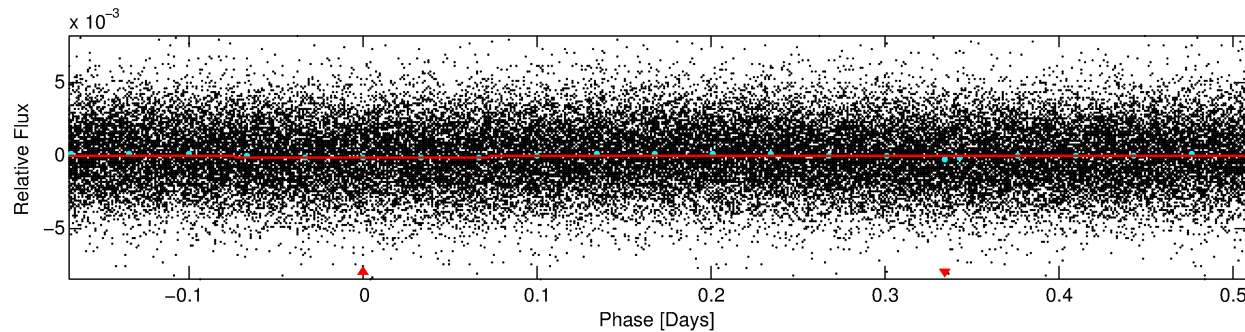
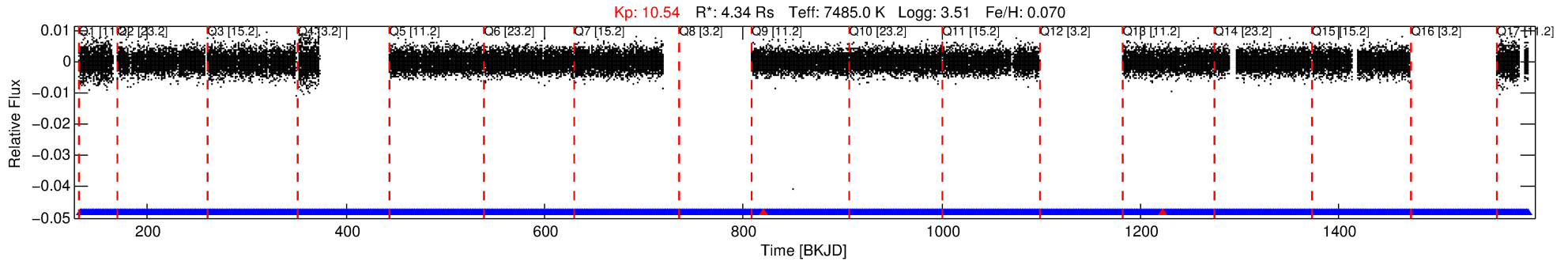
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010717871-01

No Significant Match Found

# DV One-Page Summary

KIC: 10717871 Candidate: 1 of 1 Period: 0.678 d



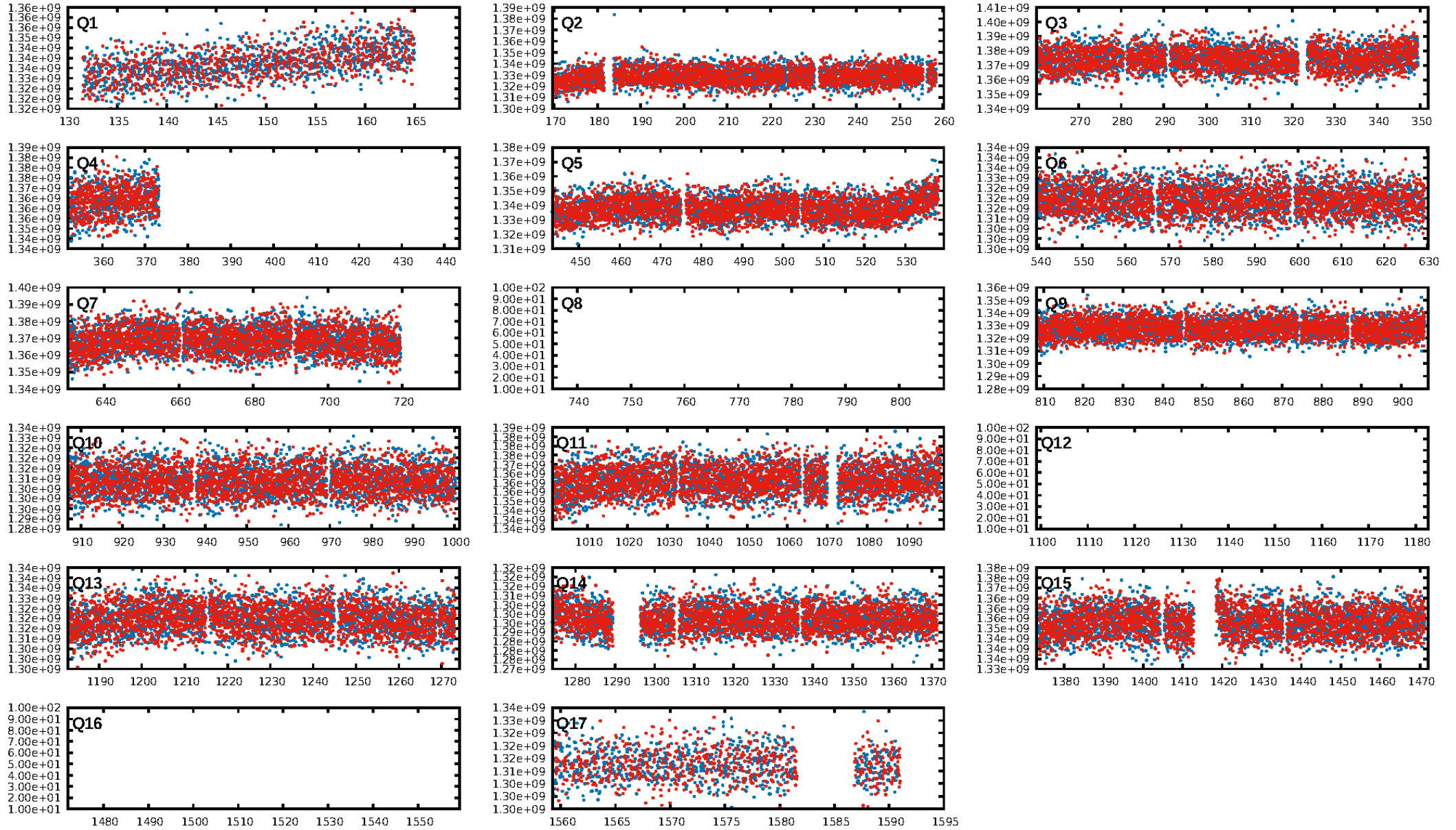
## DV Fit Results:

Period = 0.67787 [0.00001] d  
Epoch = 132.1124 [0.0049] BKJD  
Rp/R\* = 0.0135 [0.0064]  
a/R\* = 1.12 [0.64]  
b = 0.90 [0.61]  
Seff = N/A  
Teq = N/A  
Rp = 6.41 [4.62] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

## DV Diagnostic Results:

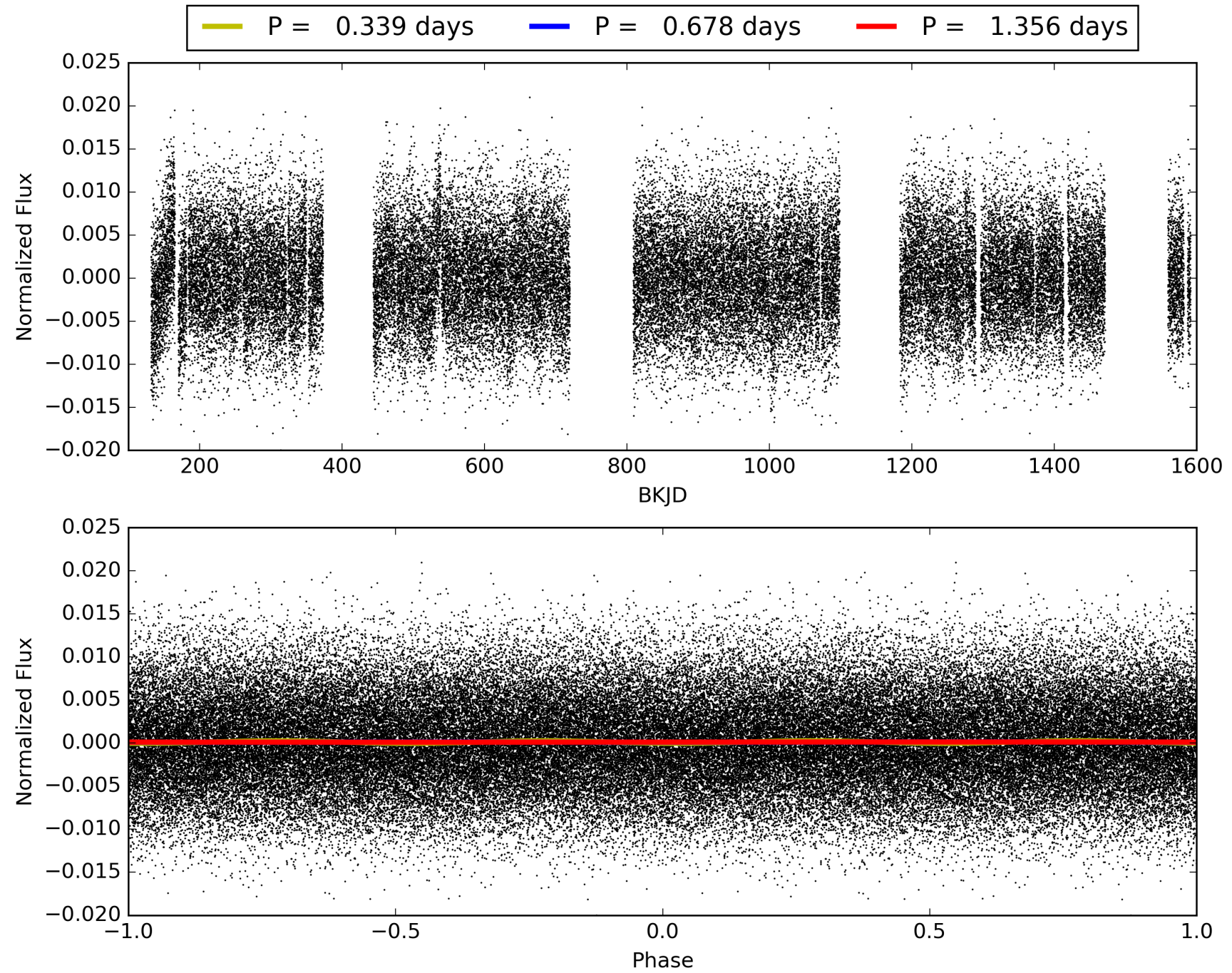
ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.90e-19  
RollingBand-fgt: 1.00 [1457/1459]  
GhostDiagnostic-chr: 1.937  
Centroid-sig: 2.1%  
Centroid-so: 0.111 arcsec [0.68σ]  
OotOffset-rm: 0.336 arcsec [0.68σ]  
KicOffset-rm: 0.074 arcsec [0.14σ]  
OotOffset-st: 4/4/0/5 [13]  
KicOffset-st: 4/4/0/5 [13]  
DiffImageQuality-fgm: 0.62 [8/13]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 010717871-01, PDC Light Curves



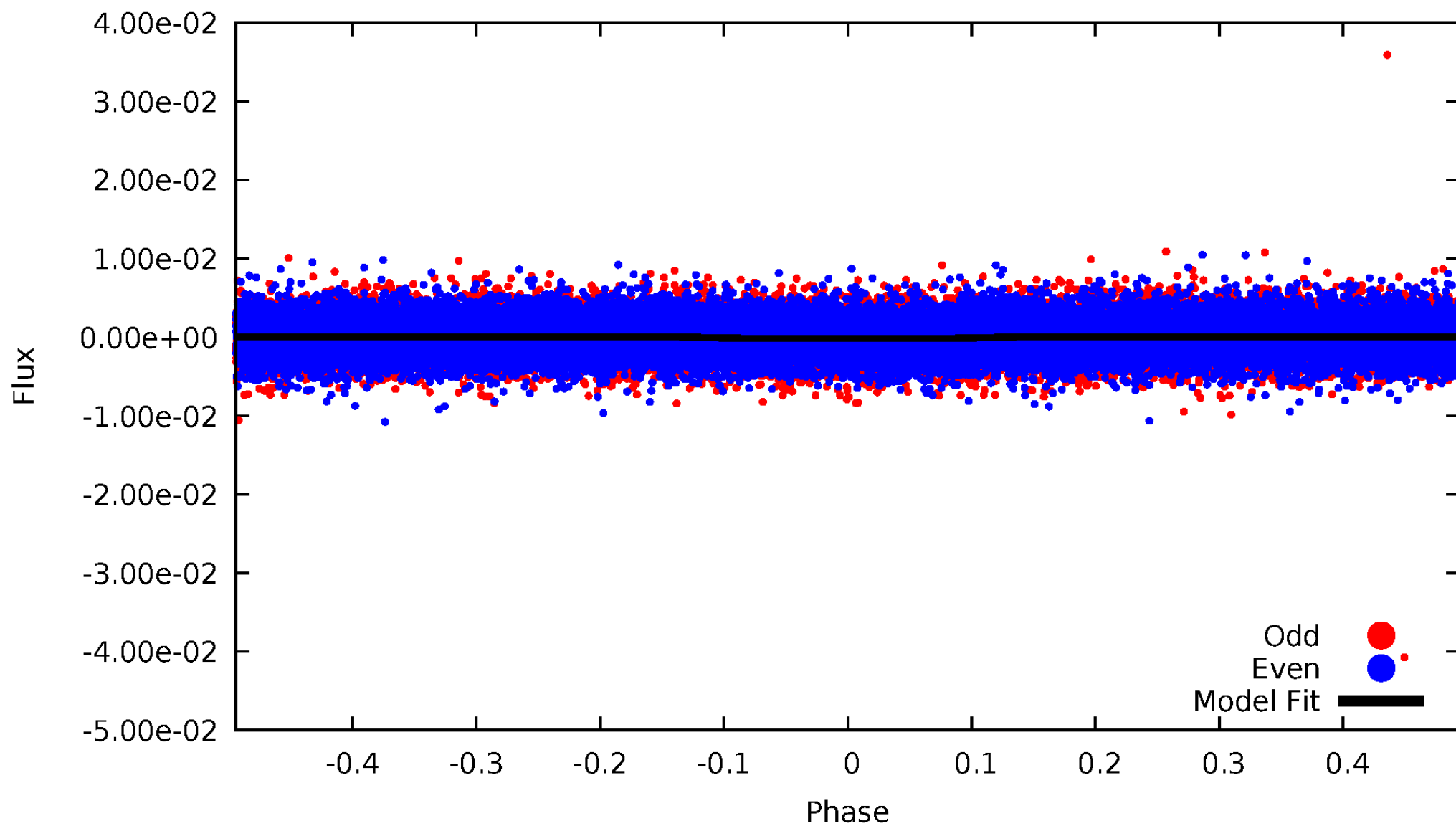


TCE 010717871-01



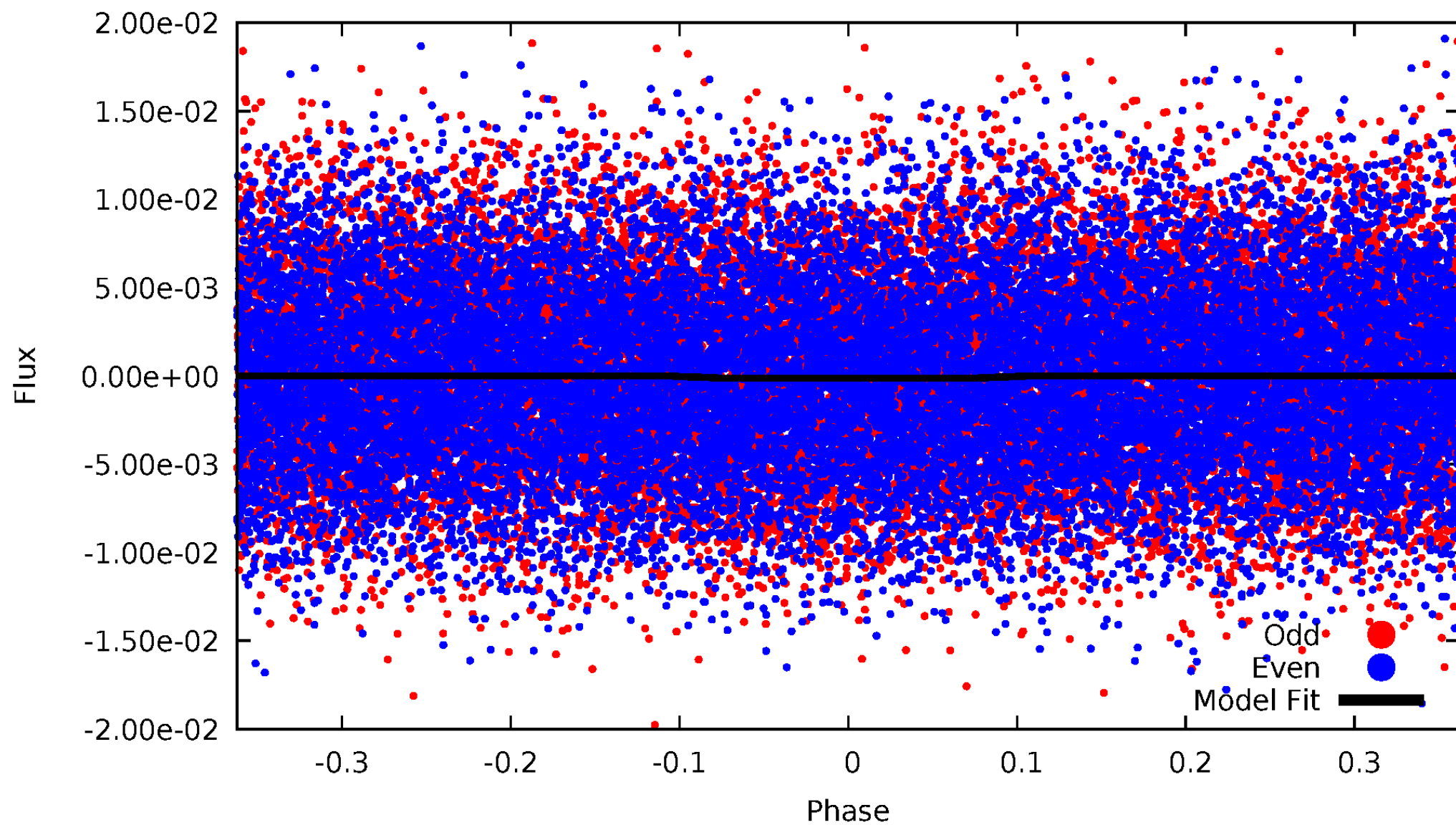
# DV Odd/Even

TCE 010717871-01

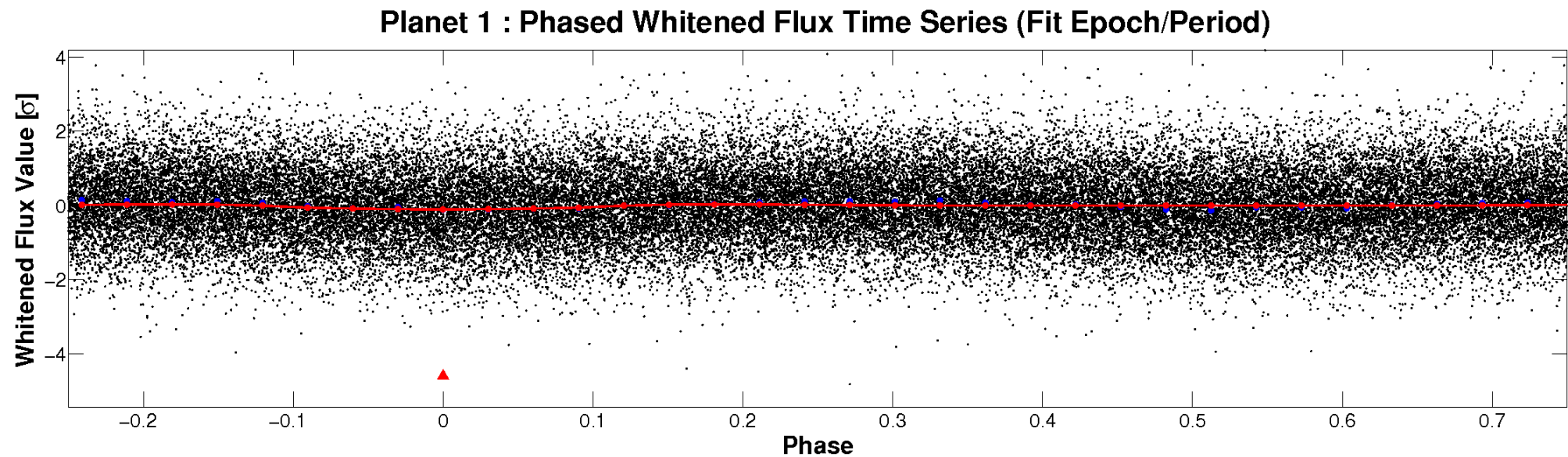
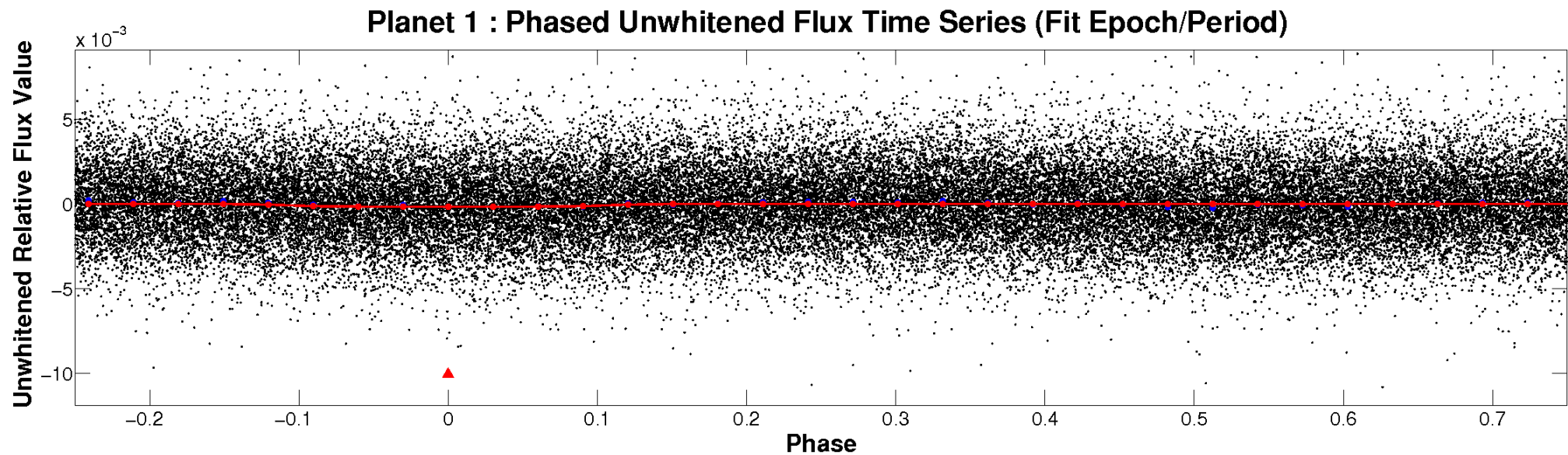


# ALT Odd/Even

TCE 010717871-01



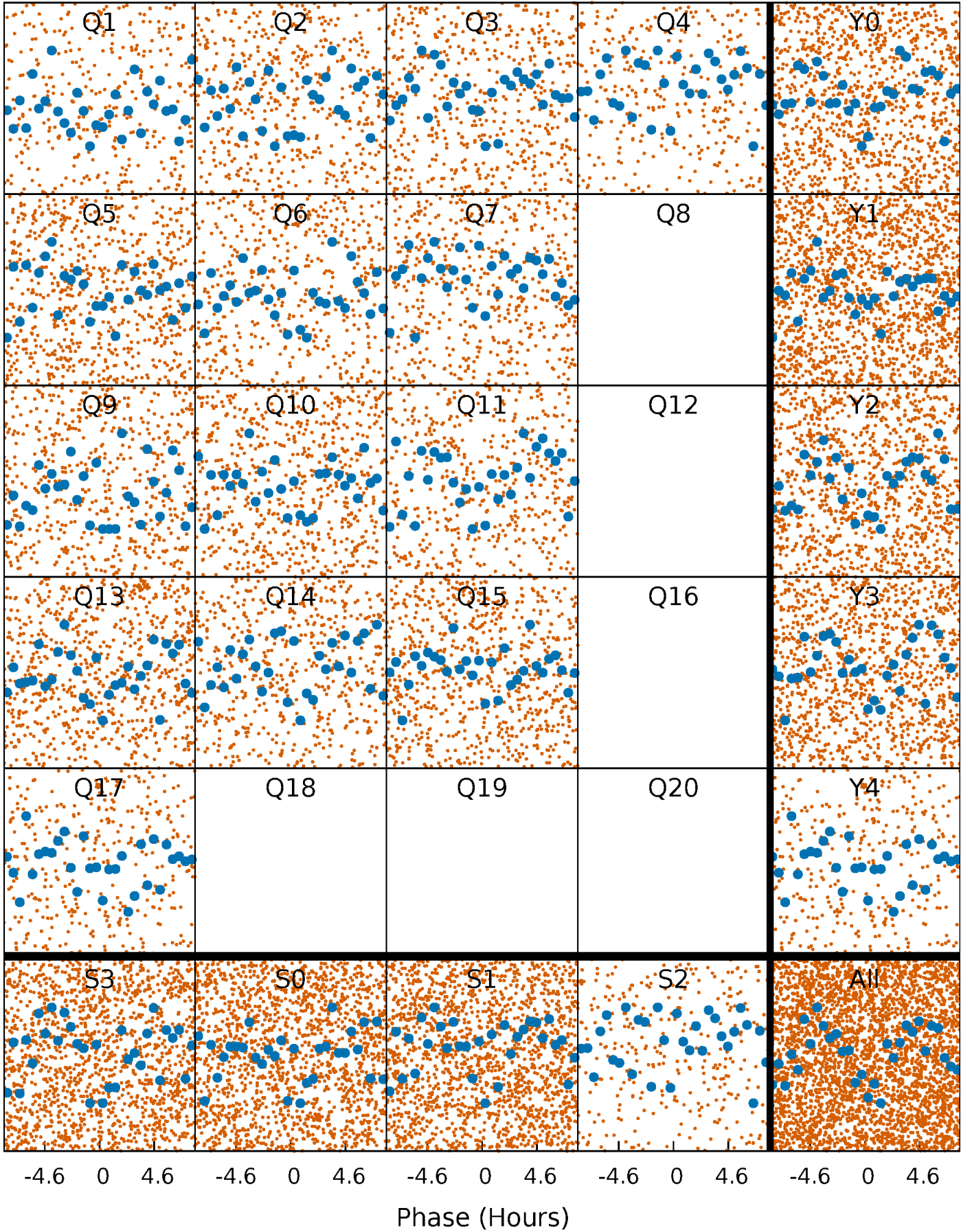
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

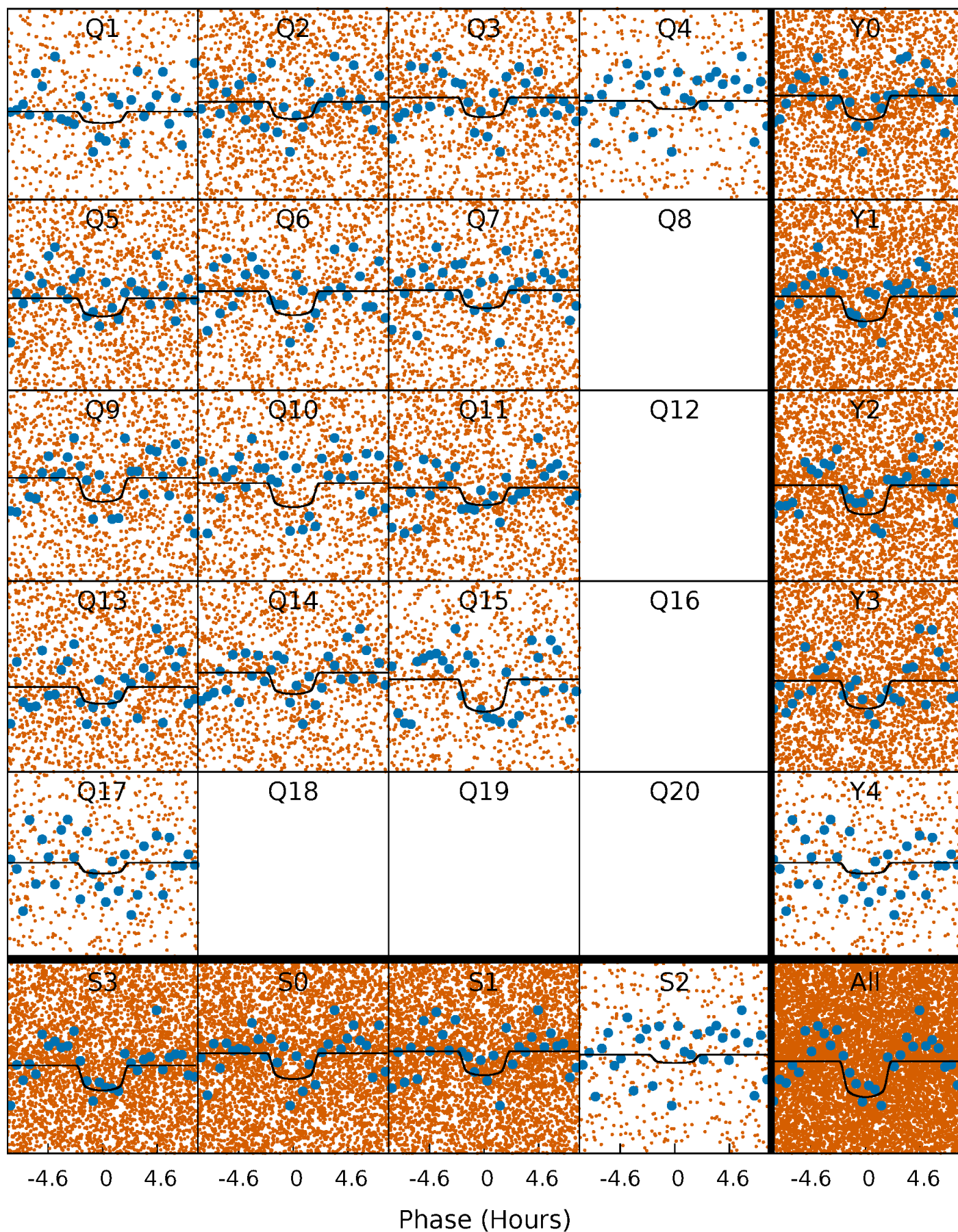
TCE 010717871-01 P= 0.677869 Days  $T_0=132.112369$  (BKJD)





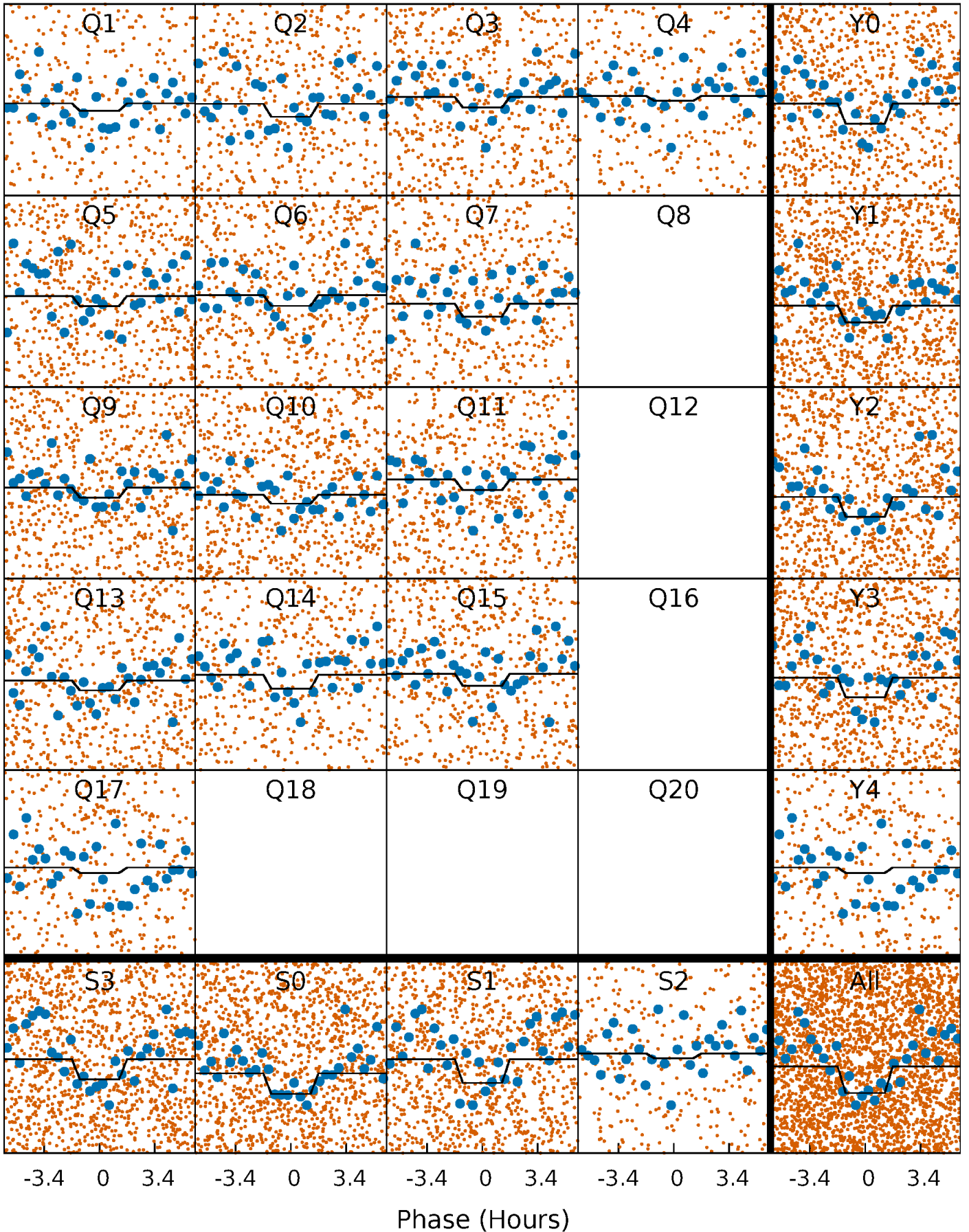
# DV Quarter-Phased Transit Curves

TCE 010717871-01 P= 0.677869 Days  $T_0=132.112369$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

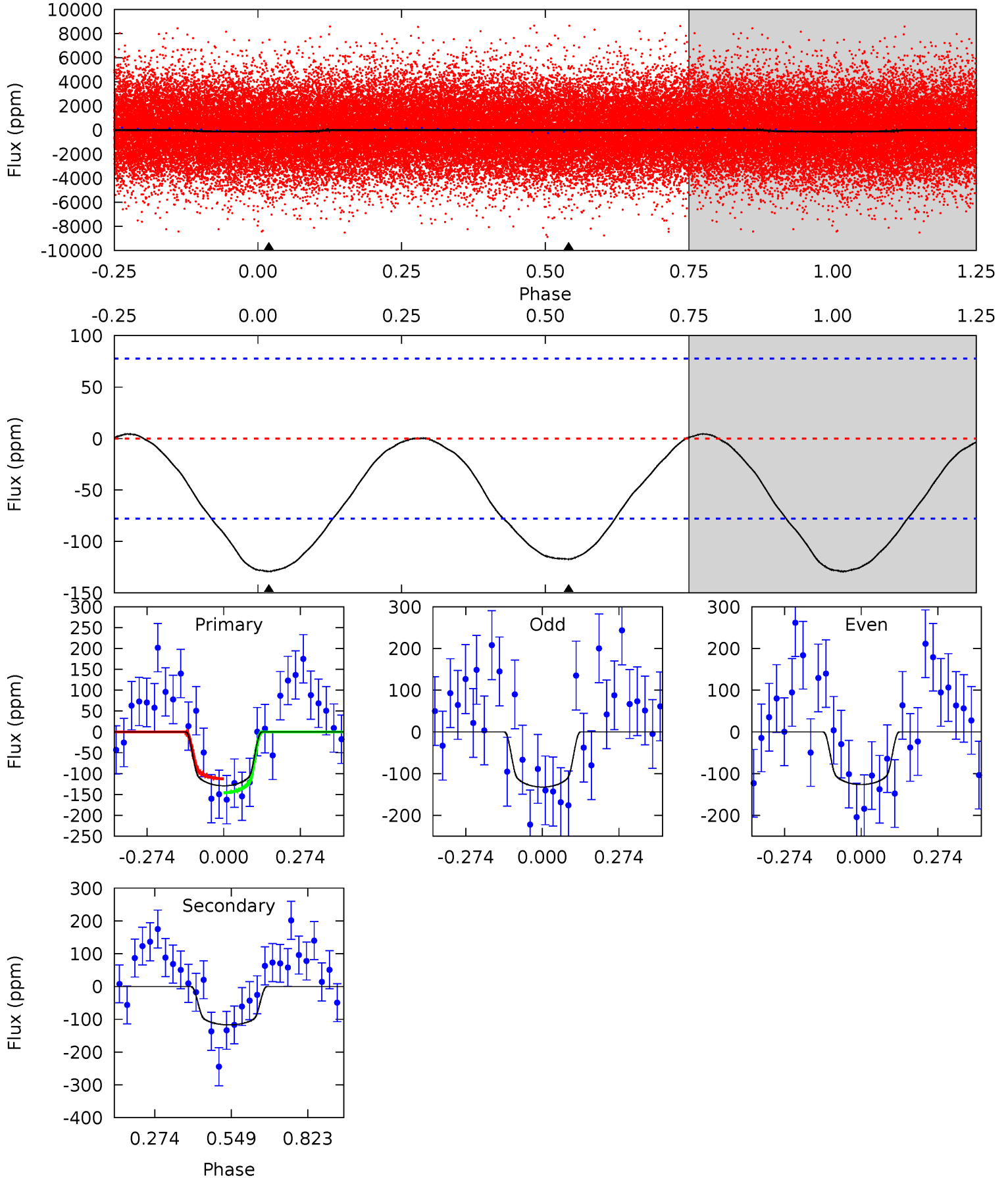
TCE 010717871-01 P= 0.677893 Days  $T_0=132.099802$  (BKJD)



# DV Model-Shift Uniqueness Test

010717871-01, P = 0.677869 Days, E = 131.434500 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
7.22	6.55	0	0	4.35	1.09	0.16	7.22	7.22	6.55	6.55	0.17	1.11	0.03	0.92

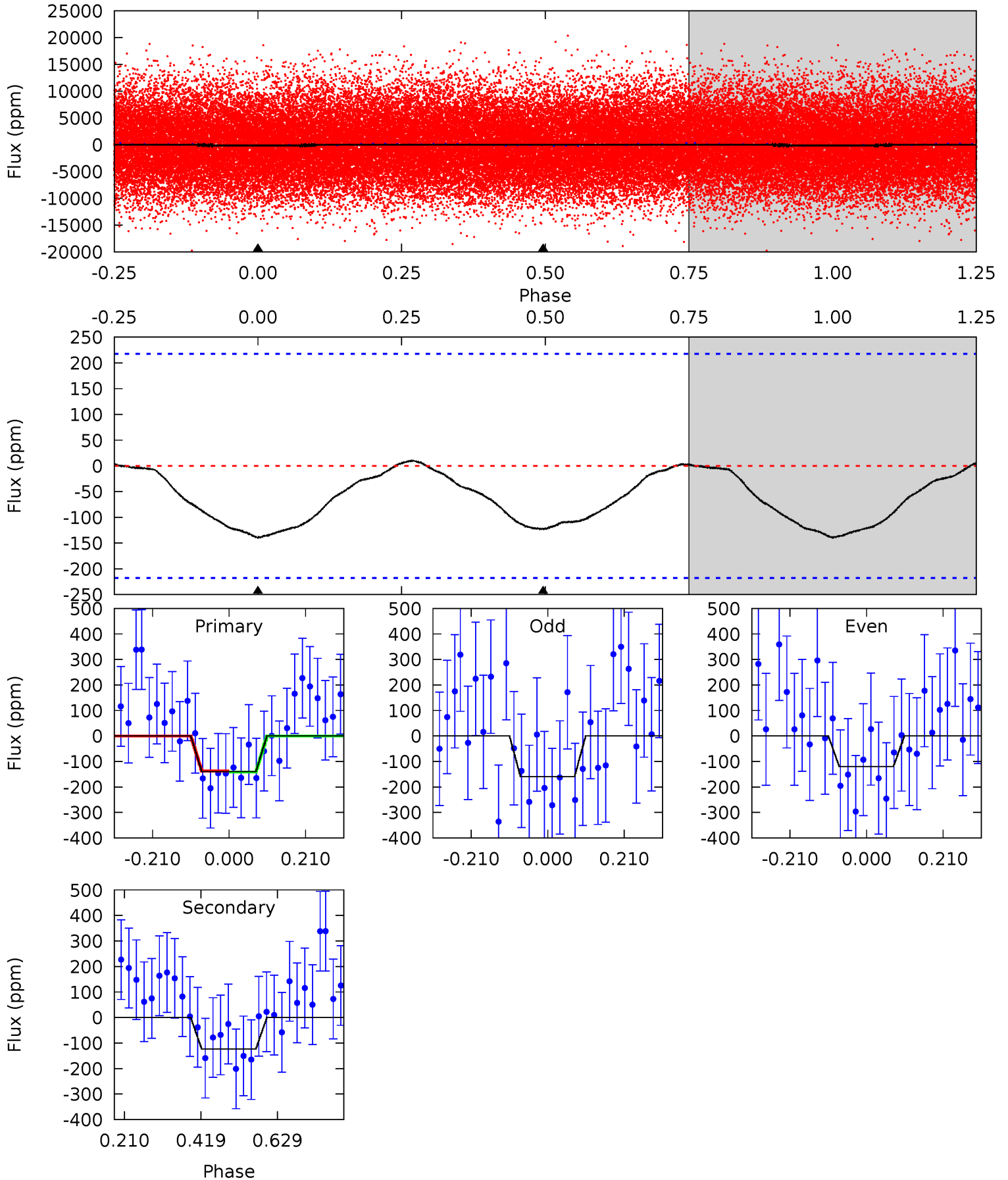




# Alt Model-Shift Uniqueness Test

010717871-01, P = 0.677893 Days, E = 131.421909 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
2.83	2.50	0	0	4.41	1.25	0.14	2.83	2.83	2.50	2.50	0.40	0.98	0.07	0.04





### Stellar Parameters For KIC 010717871

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7485^{+207}_{-311}$	$3.510^{+0.590}_{-0.030}$	$0.070^{+0.200}_{-0.350}$	$4.344^{+0.419}_{-2.372}$	$2.225^{+0.263}_{-0.659}$	$0.038^{+0.284}_{-0.004}$
	+3%/-4%	+17%/-1%	+286%/-500%	+10%/-55%	+12%/-30%	+744%/-11%
Source	KIC0	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 010717871-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-117 \pm 18$	$5.50^{+3.14}_{-2.70}$	$6482^{+422}_{-928}$	$5750^{+3220}_{-2167}$	$0.842^{+2.166}_{-0.507}$
Alt.	$-124 \pm 49$	$4.54^{+3.15}_{-2.35}$	$6464^{+464}_{-924}$	$6588^{+4334}_{-2512}$	$1.170^{+3.689}_{-0.795}$

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

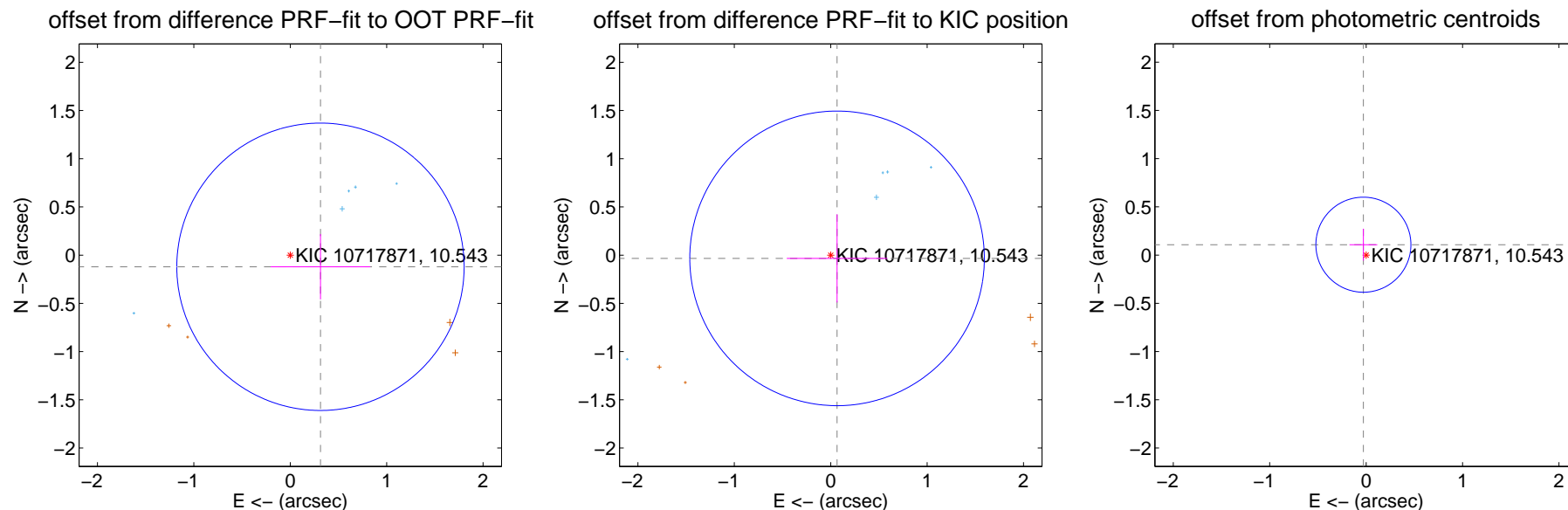
## DV Centroid Data

Supplemental centroid analysis for 010717871-01. **Kepler magnitude: 10.54.** Transit SNR 9.30

There are 8 quarters with good PRF difference image offsets

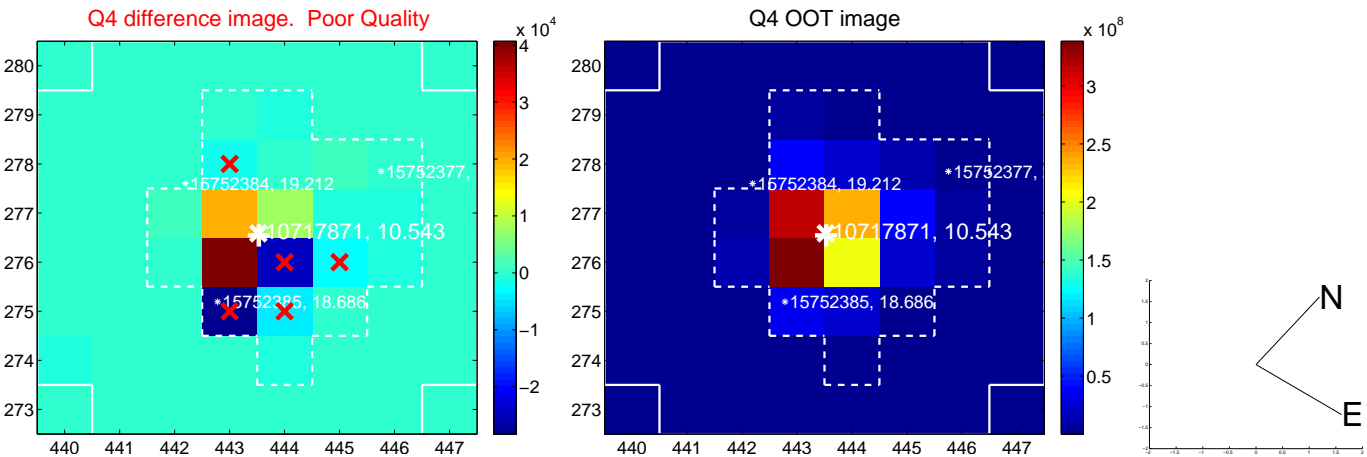
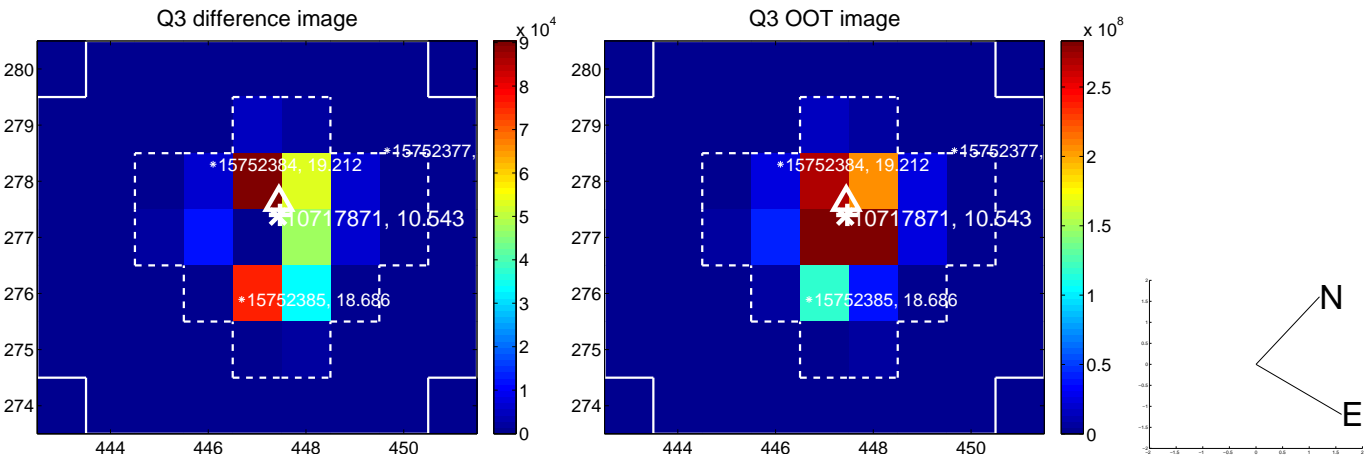
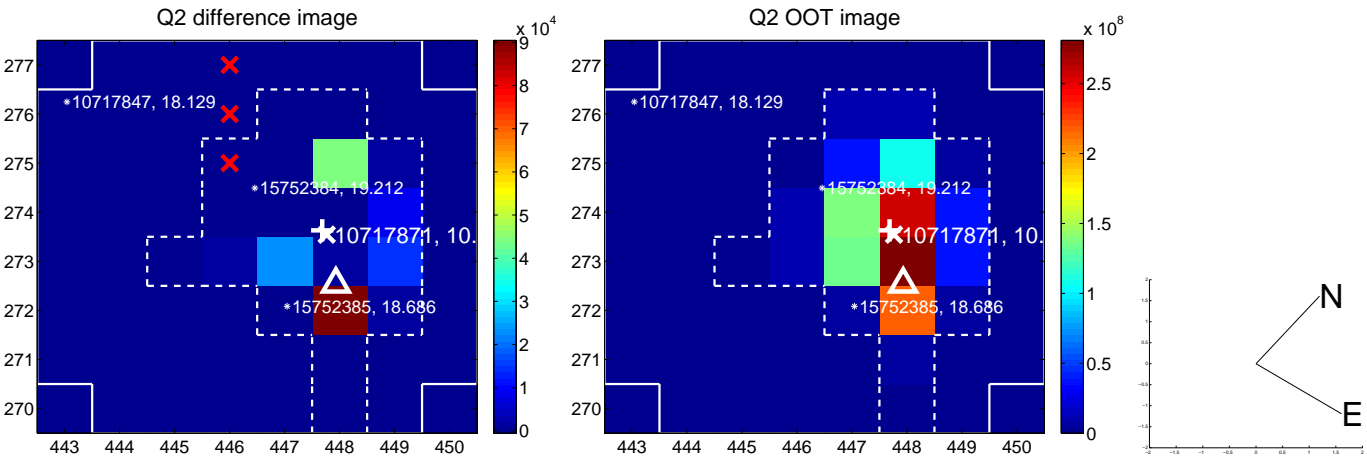
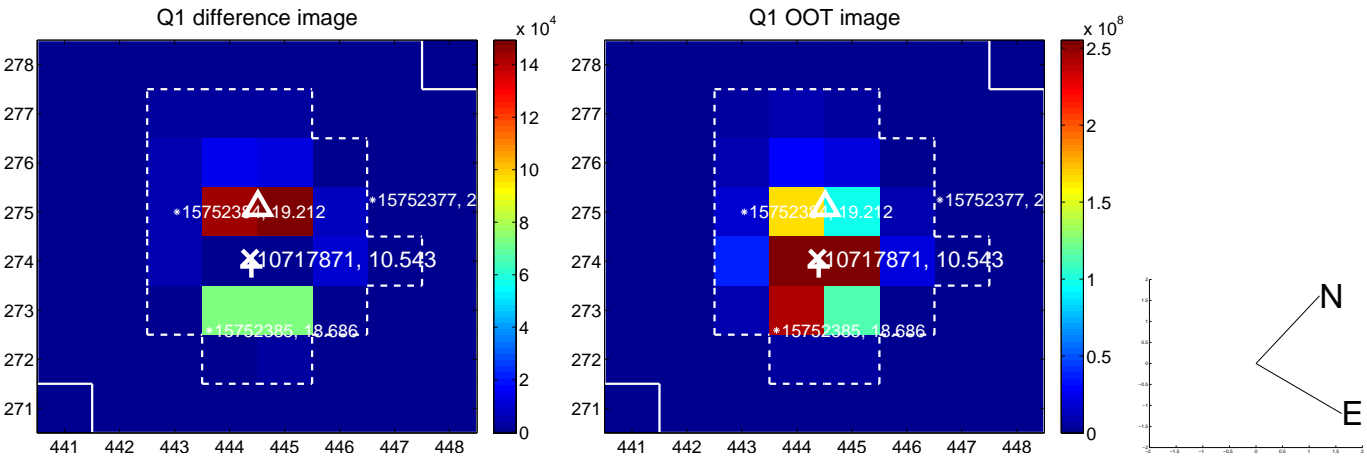
The direct PRF centroid is offset from the target star catalog position by about 0.63 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.336 \pm 0.497$	0.68	$-0.313 \pm 0.516$	$-0.121 \pm 0.338$
PRF-fit source offset from KIC position	$0.074 \pm 0.509$	0.14	$-0.066 \pm 0.522$	$-0.033 \pm 0.457$
photometric centroid source offset	$0.11 \pm 0.16$	0.68	$0.03 \pm 0.14$	$0.11 \pm 0.17$

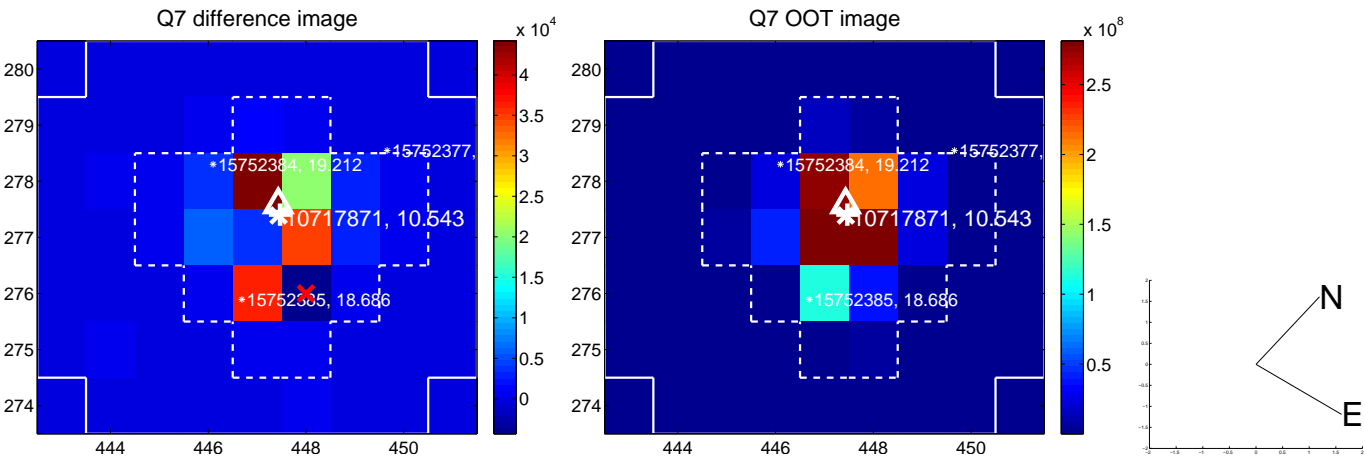
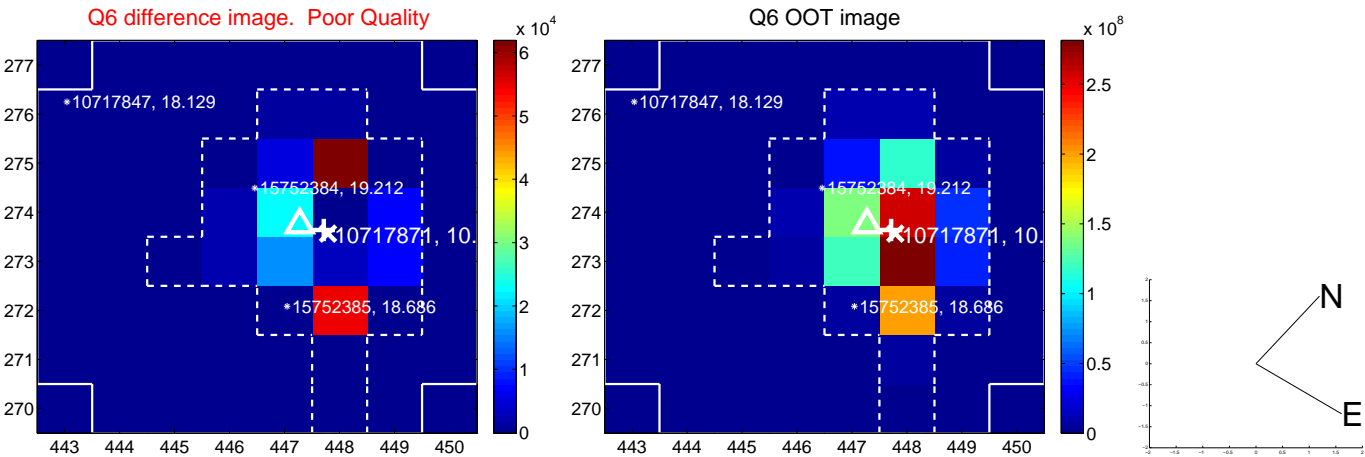
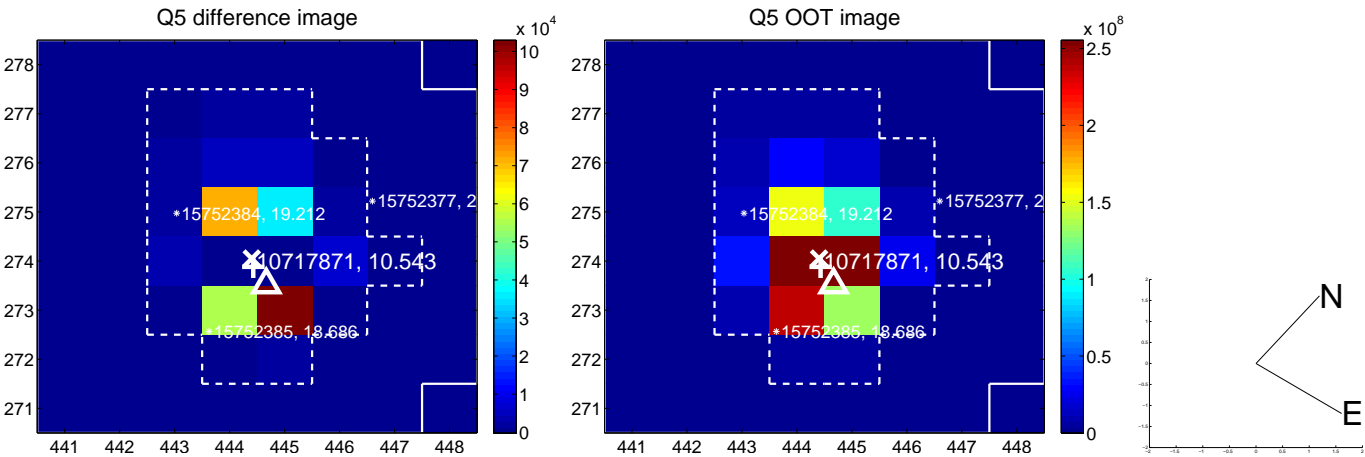


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

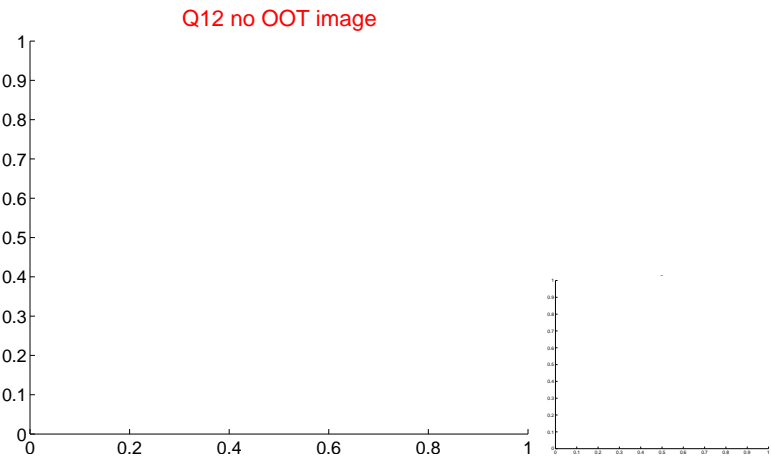
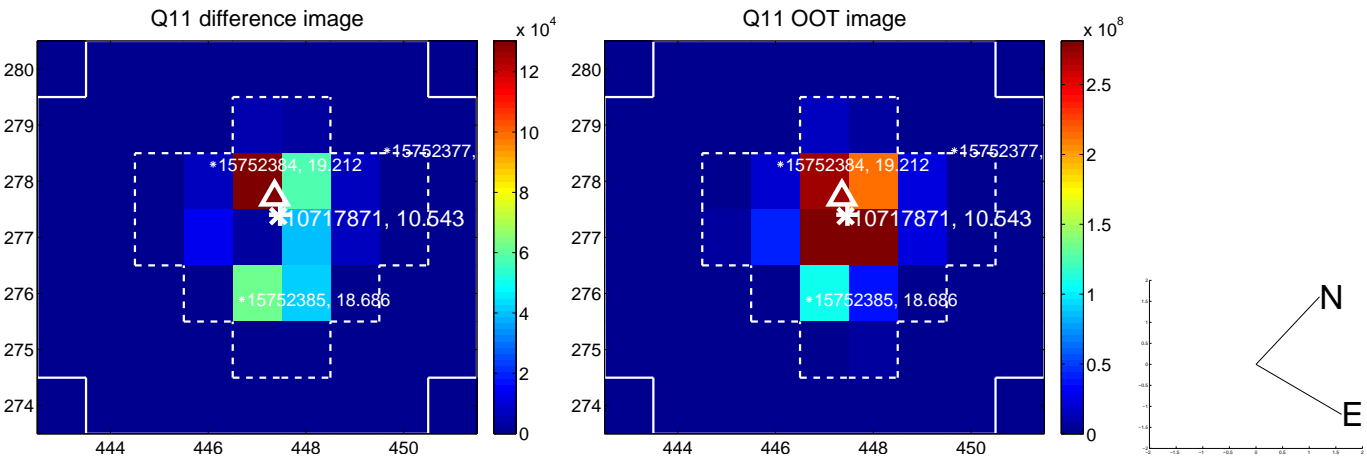
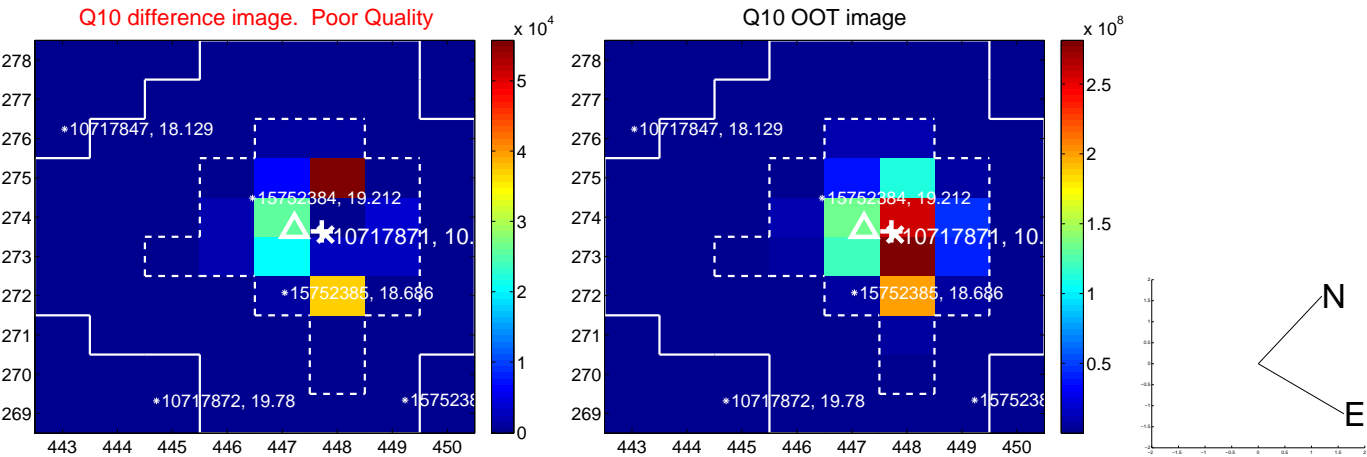
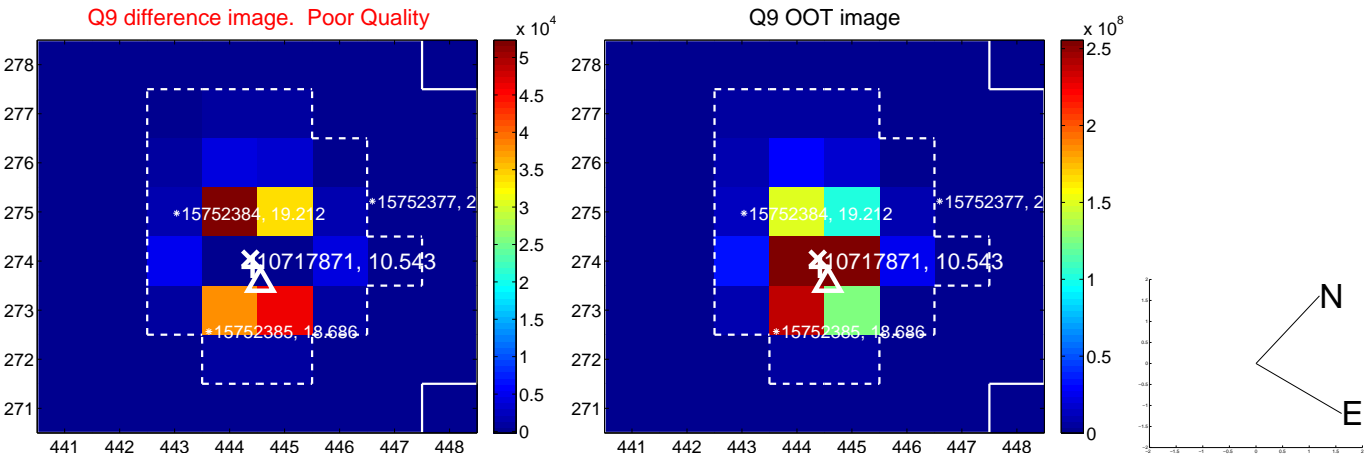


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

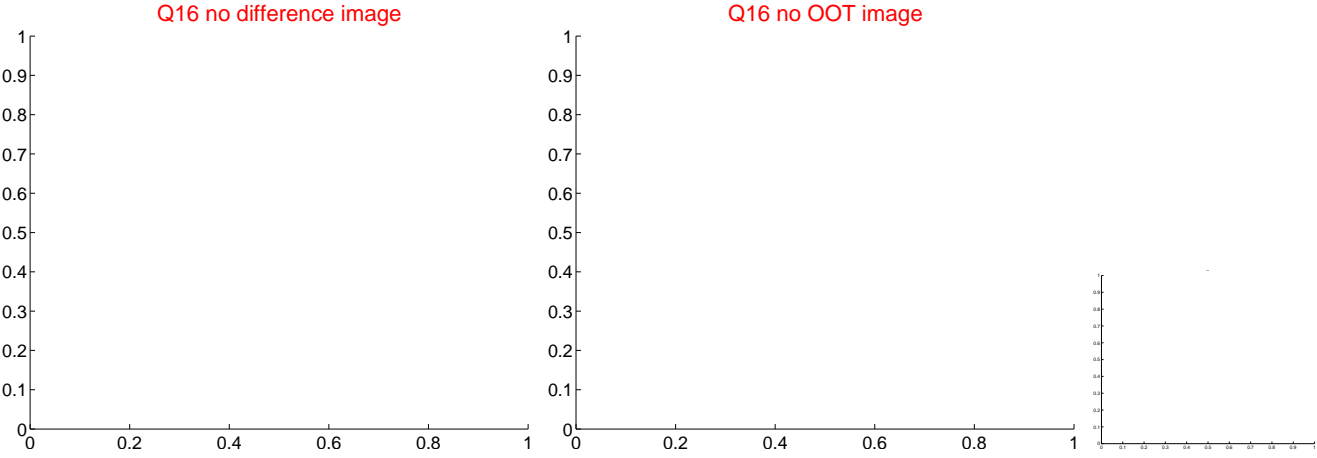
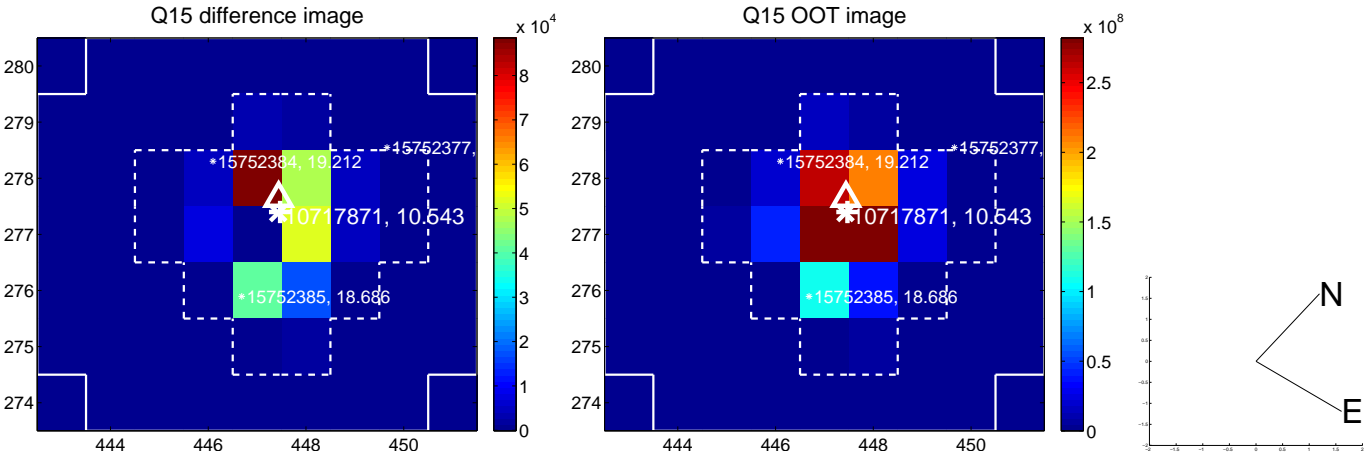
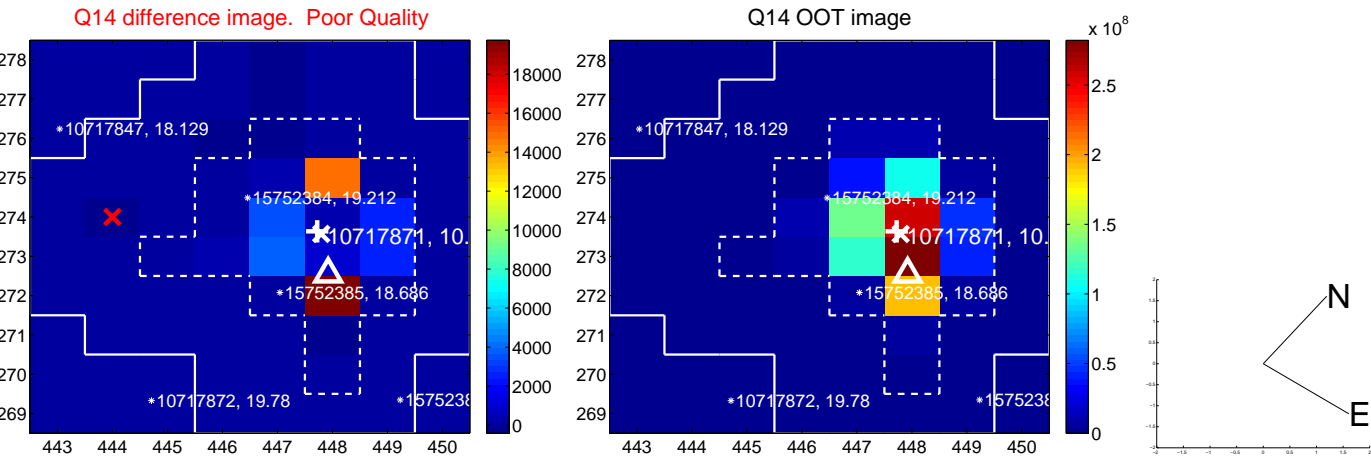
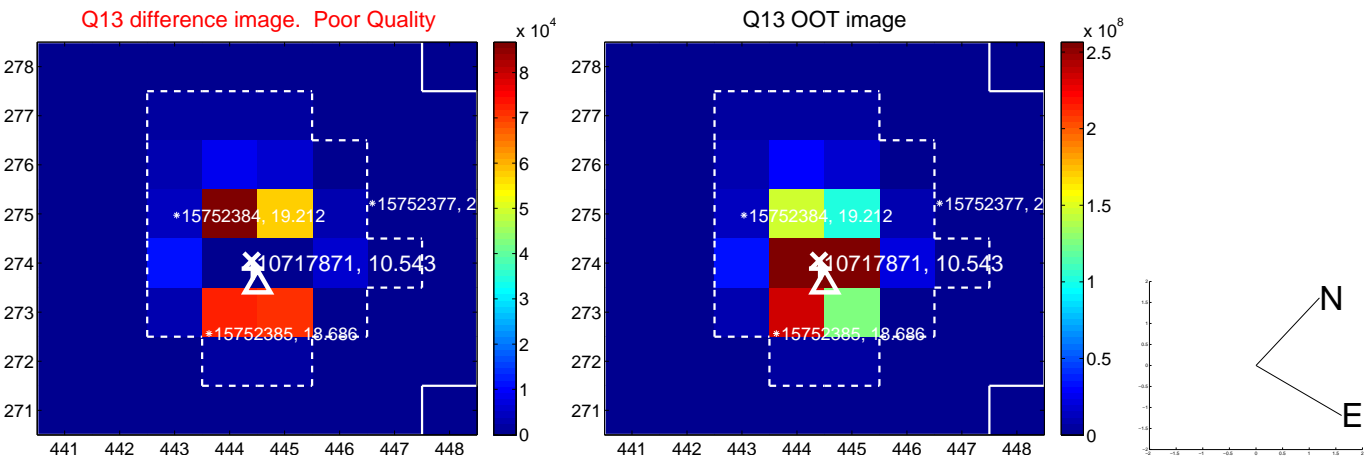




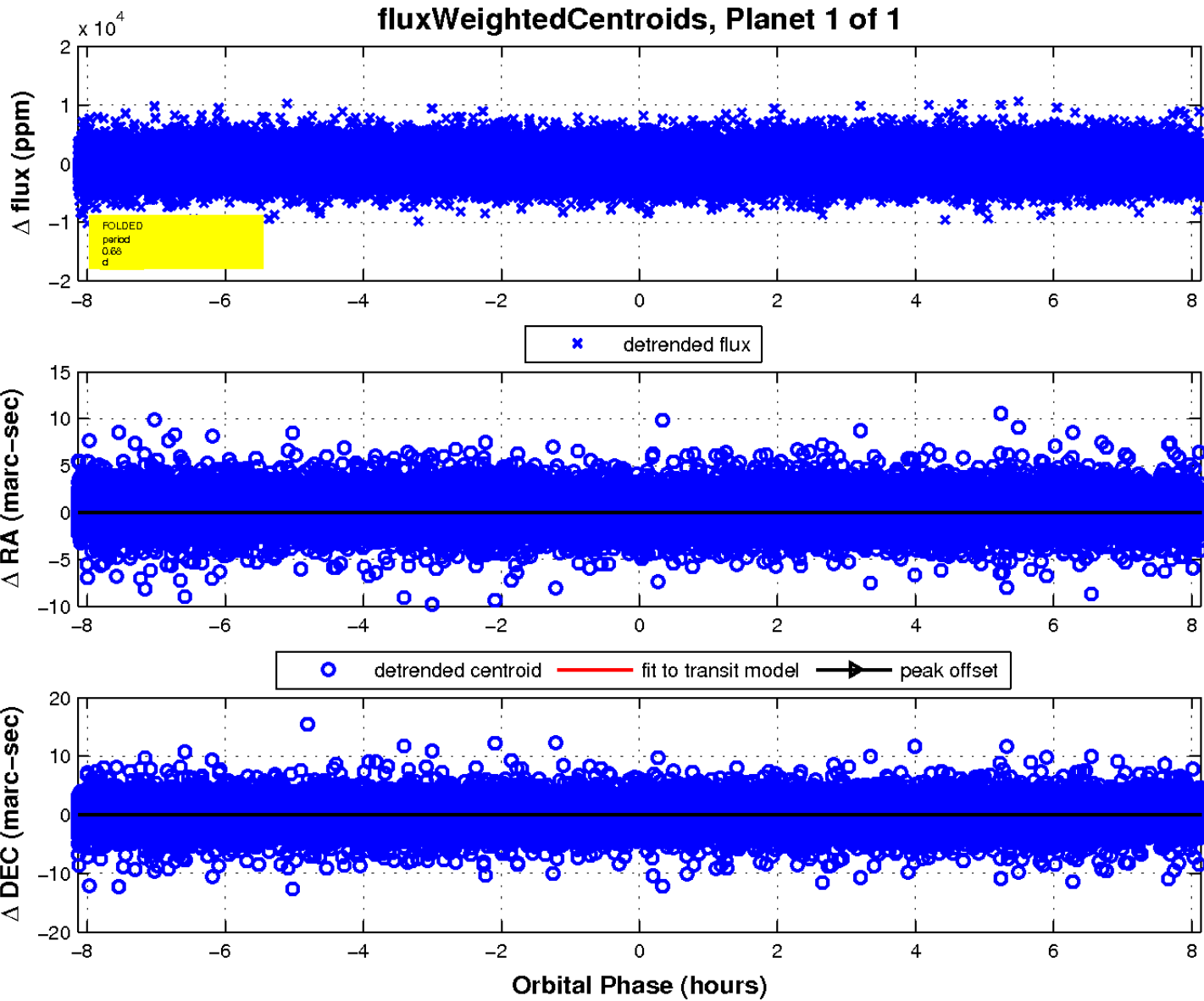
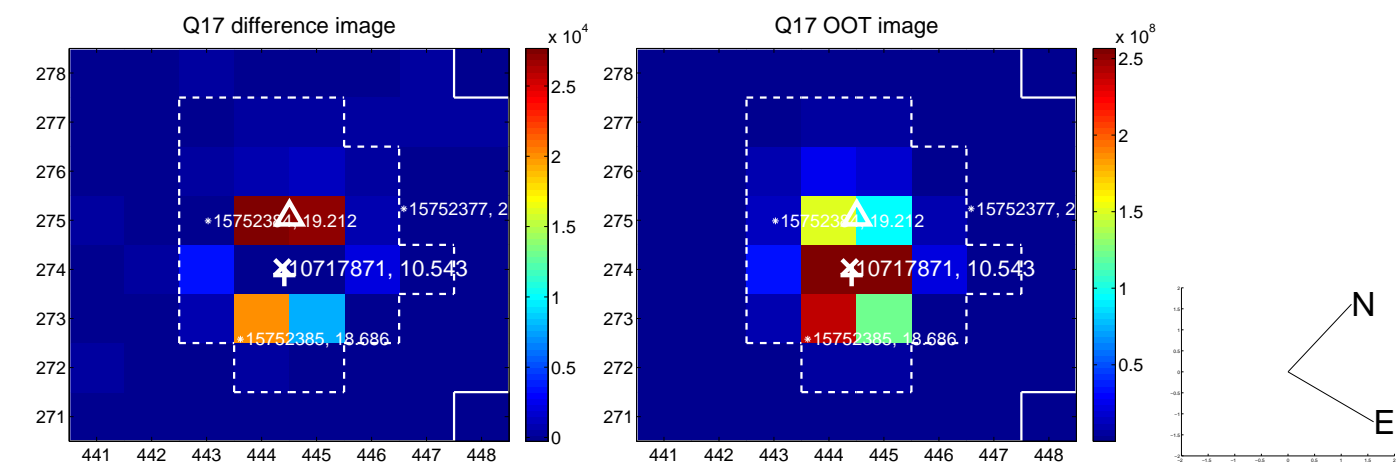
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

