

# KIC 008082478

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008082478-01	OBS	No	1.391576	132.213553	28.0	13.711	16.4	9.0	3.52	7367	1.93	37259.80

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008082478-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

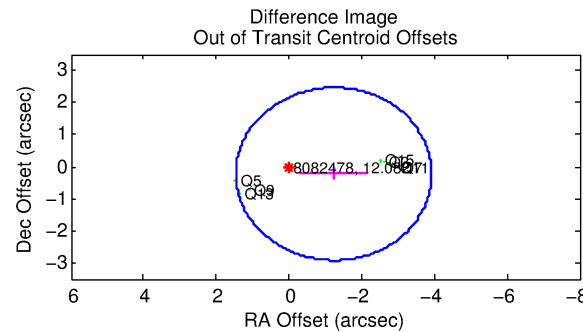
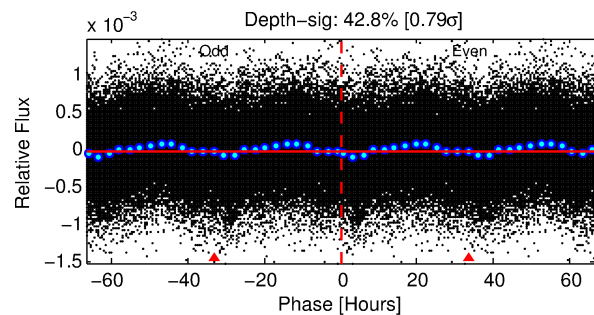
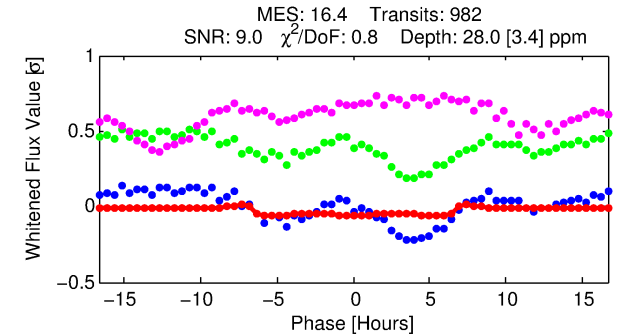
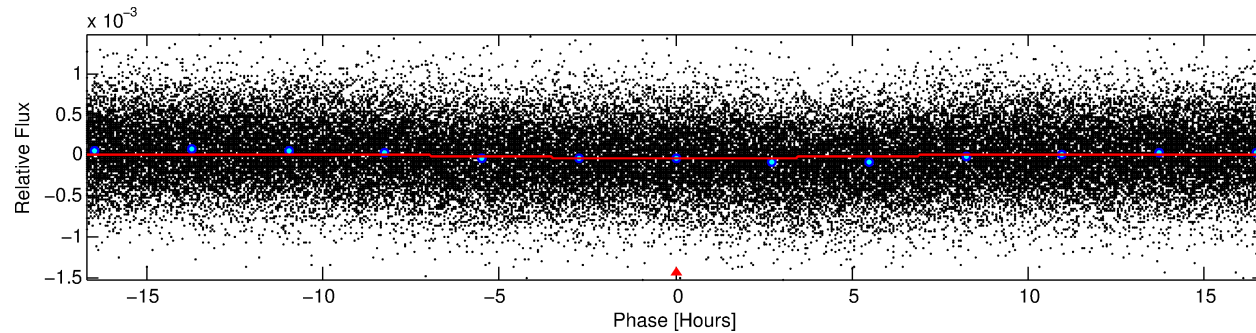
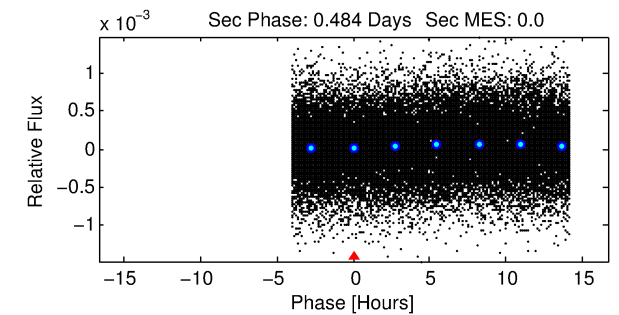
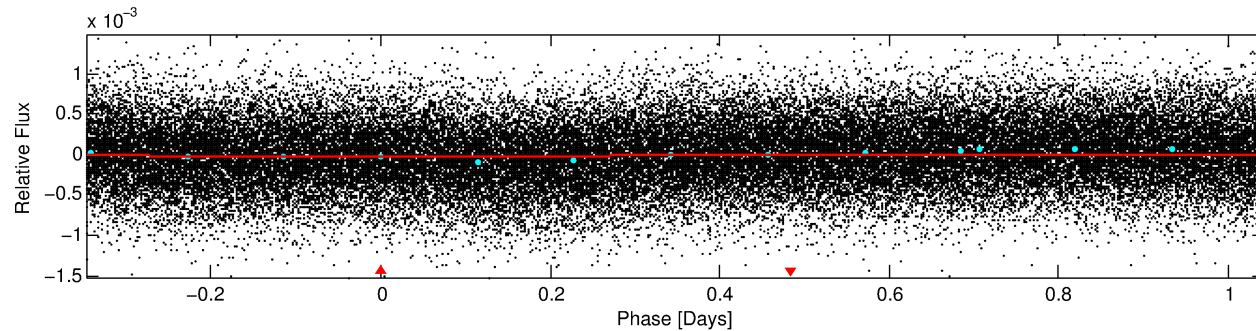
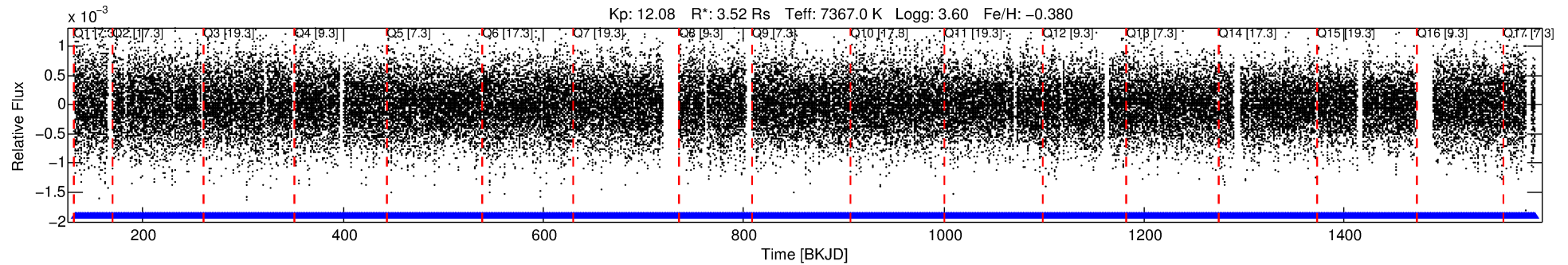
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008082478-01

No Significant Match Found

# DV One-Page Summary

KIC: 8082478 Candidate: 1 of 1 Period: 1.392 d



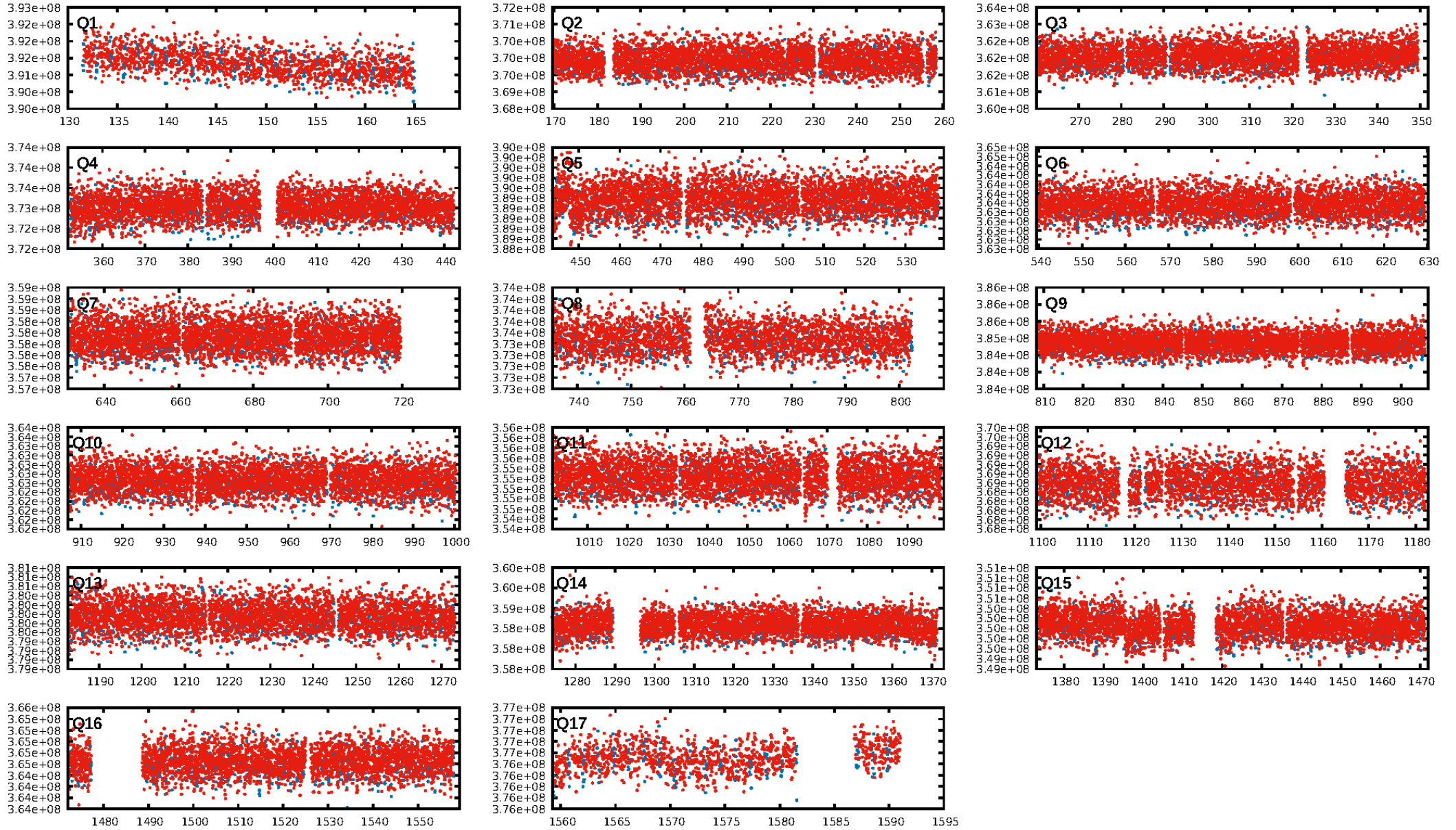
## DV Fit Results:

Period = 1.39158 [0.00003] d  
 Epoch = 132.2136 [0.0096] BKJD  
 Rp/R\* = 0.0050 [0.0039]  
 a/R\* = 1.03 [0.30]  
 b = 0.53 [6.12]  
 Seff = 37259.80 [35979.17]  
 Teq = 3543 [855] K  
 Rp = 1.93 [1.86] Re  
 a = 0.0296 [0.0171] AU  
 Ag = N/A  
 Tefp = N/A

## DV Diagnostic Results:

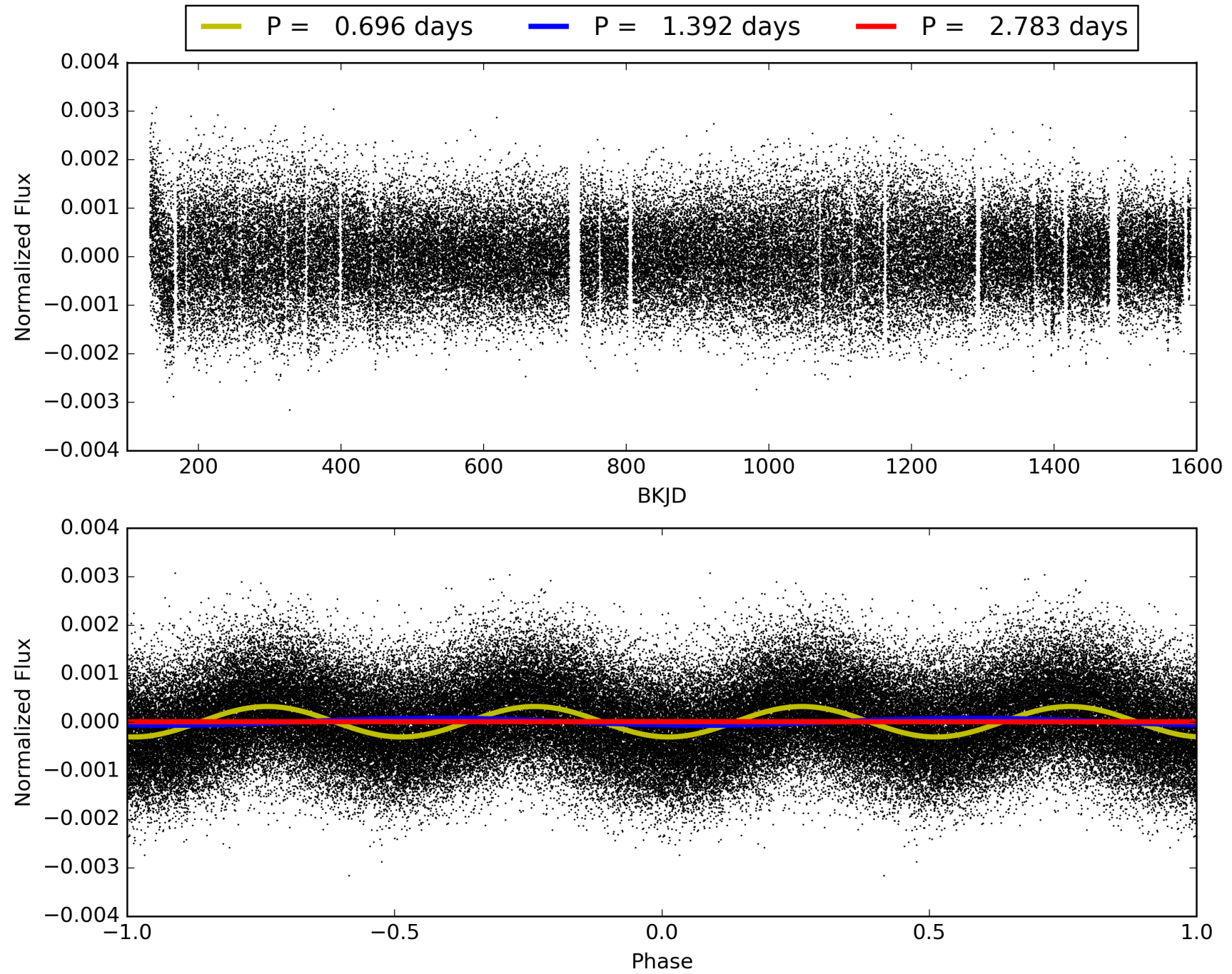
ShortPeriod-sig: N/A  
 LongPeriod-sig: N/A  
 ModelChiSquare2-sig: N/A  
 ModelChiSquareGof-sig: N/A  
 Bootstrap-pfa: N/A  
 RollingBand-fgt: 1.00 [939/939]  
 GhostDiagnostic-chr: 1.47  
 Centroid-sig: 5.1%  
 Centroid-so: 0.241 arcsec [1.19σ]  
 OotOffset-rm: 1.250 arcsec [1.39σ]  
 KicOffset-rm: 1.270 arcsec [1.46σ]  
 OotOffset-st: 0/4/0/3 [7]  
 KicOffset-st: 0/4/0/3 [7]  
 DiffImageQuality-fgm: 0.71 [5/7]  
 DiffImageOverlap-fno: 1.00 [17/17]

# TCE 008082478-01, PDC Light Curves



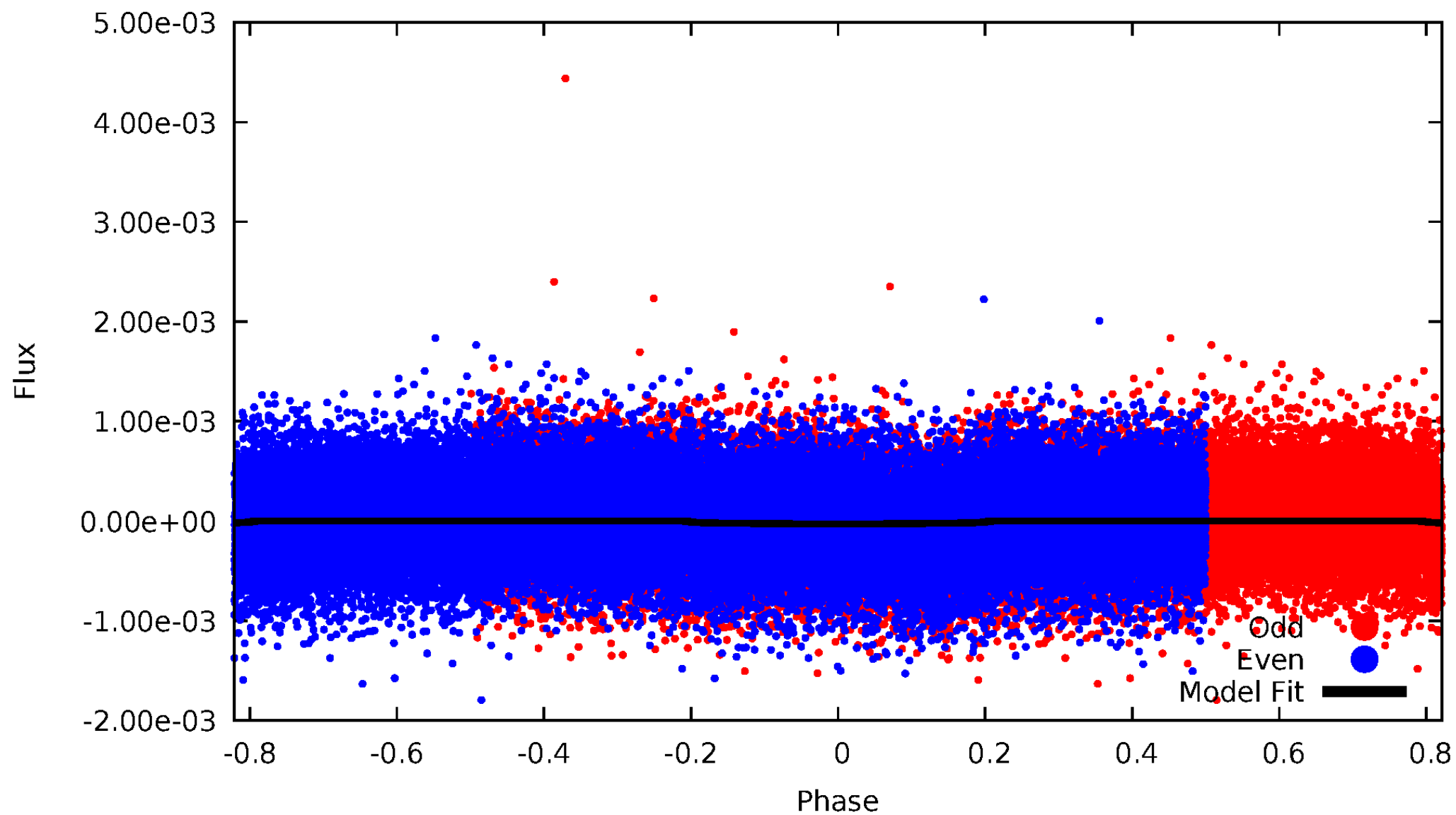


TCE 008082478-01



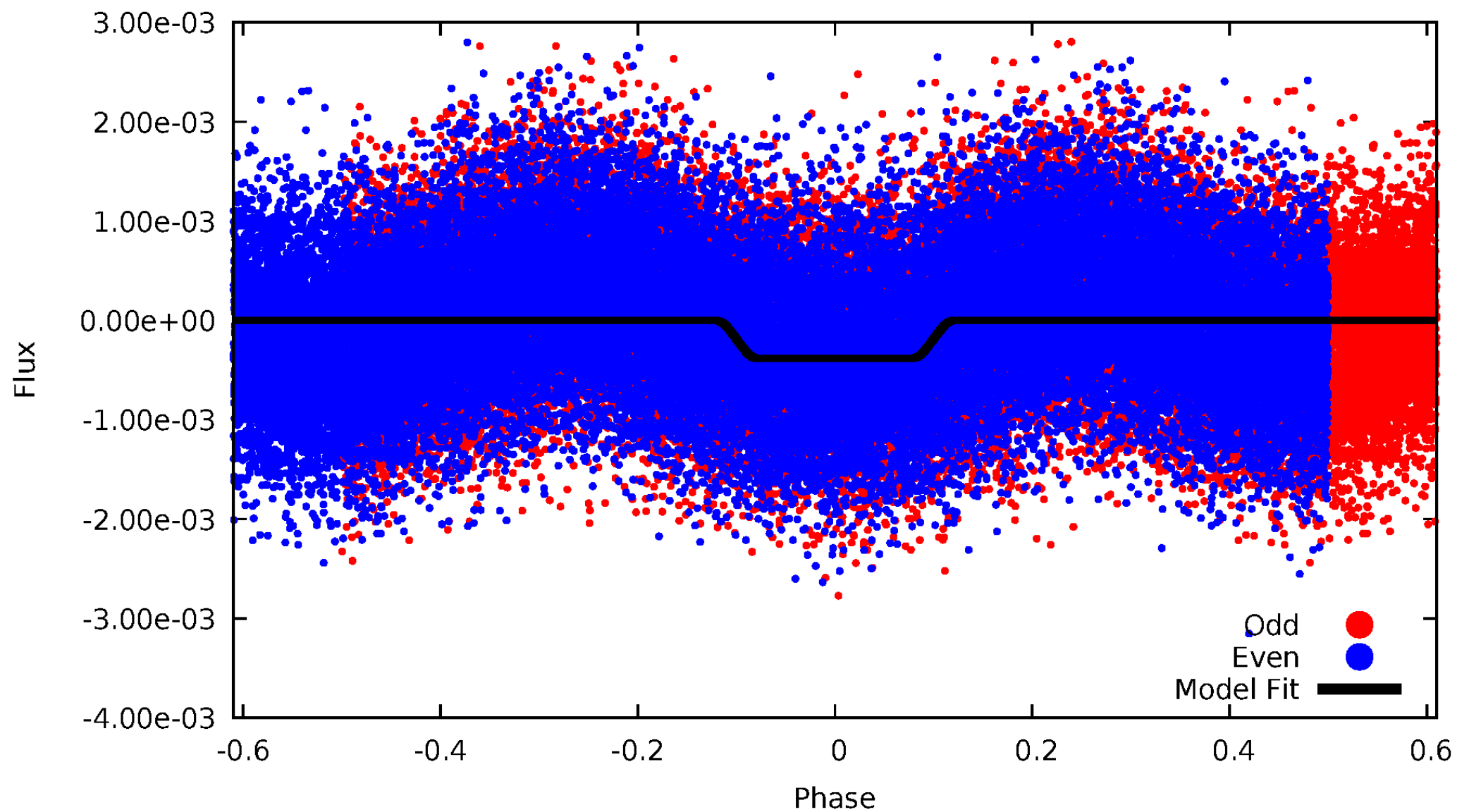
# DV Odd/Even

TCE 008082478-01

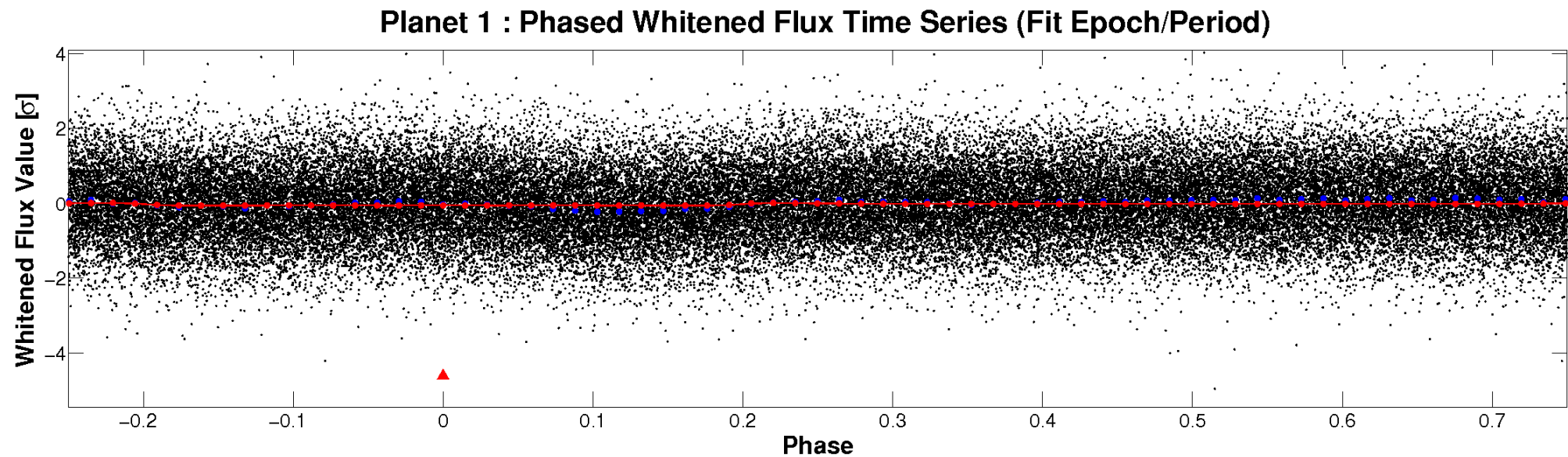
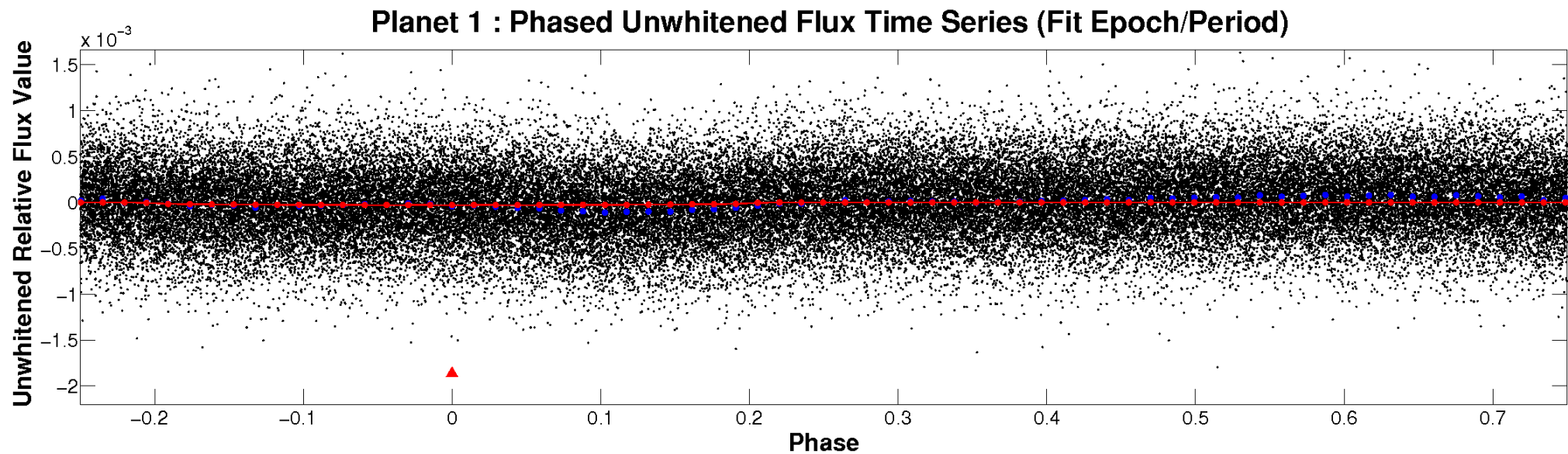


# ALT Odd/Even

TCE 008082478-01



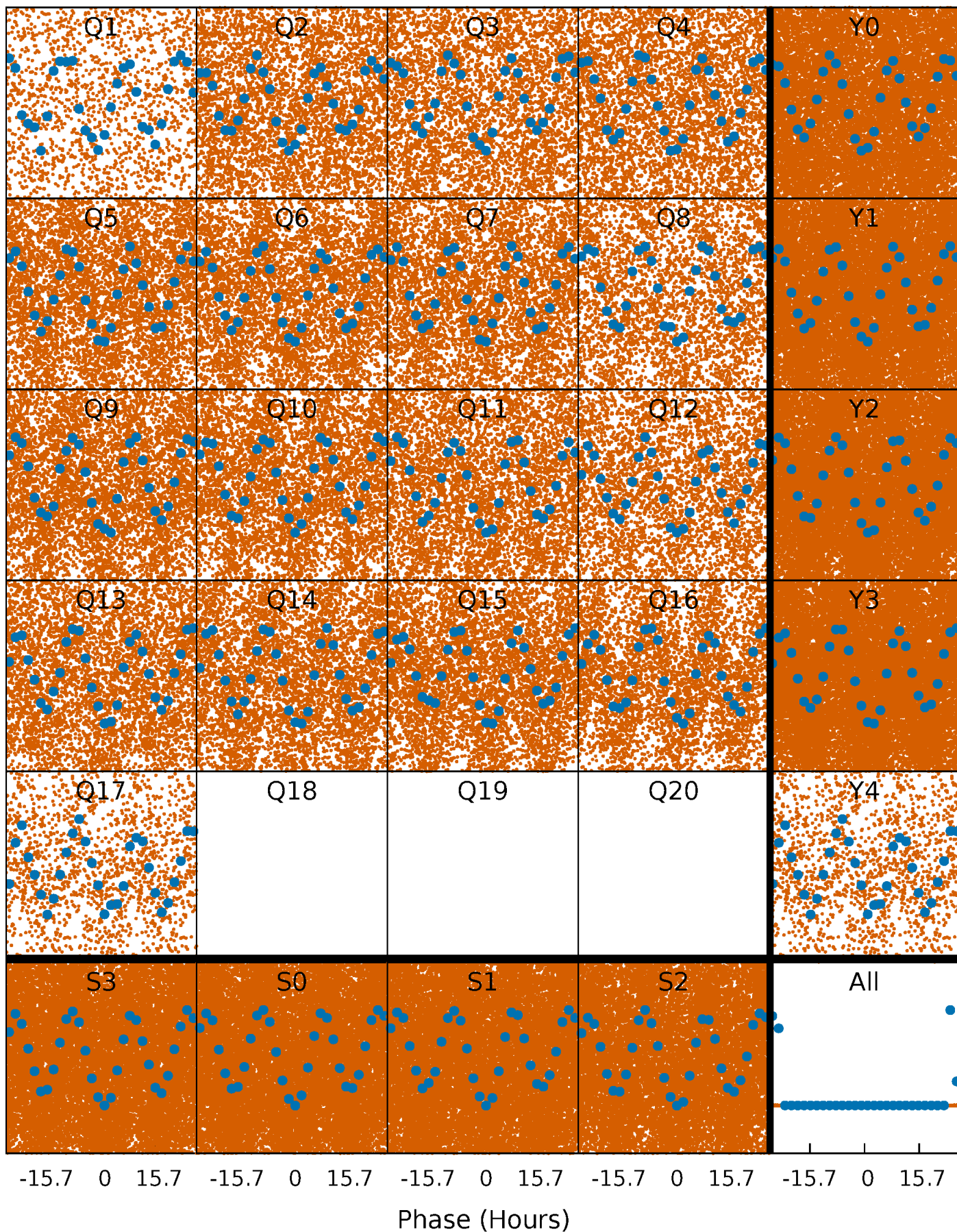
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

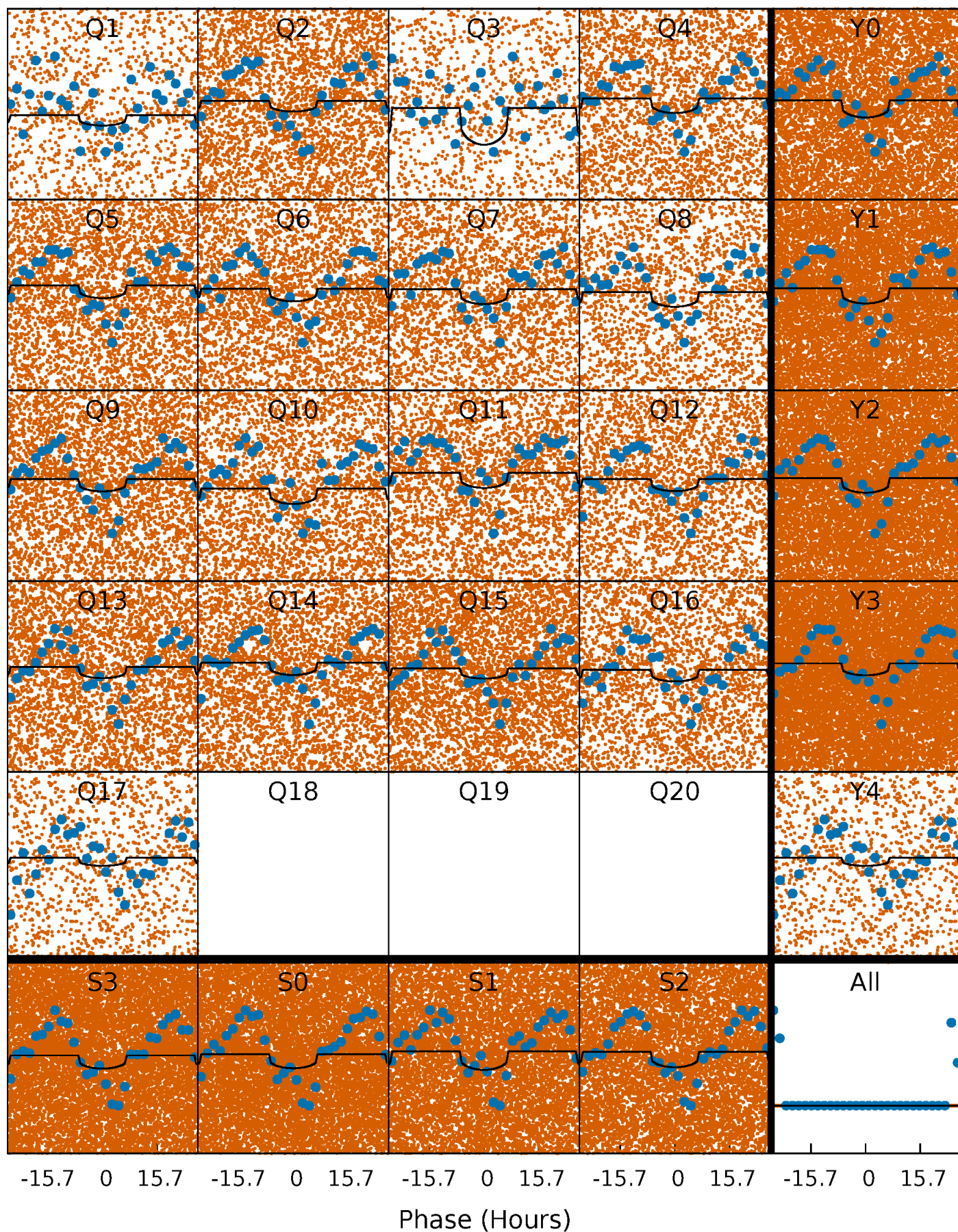
TCE 008082478-01   P= 1.391576 Days    $T_0=132.213553$  (BKJD)





# DV Quarter-Phased Transit Curves

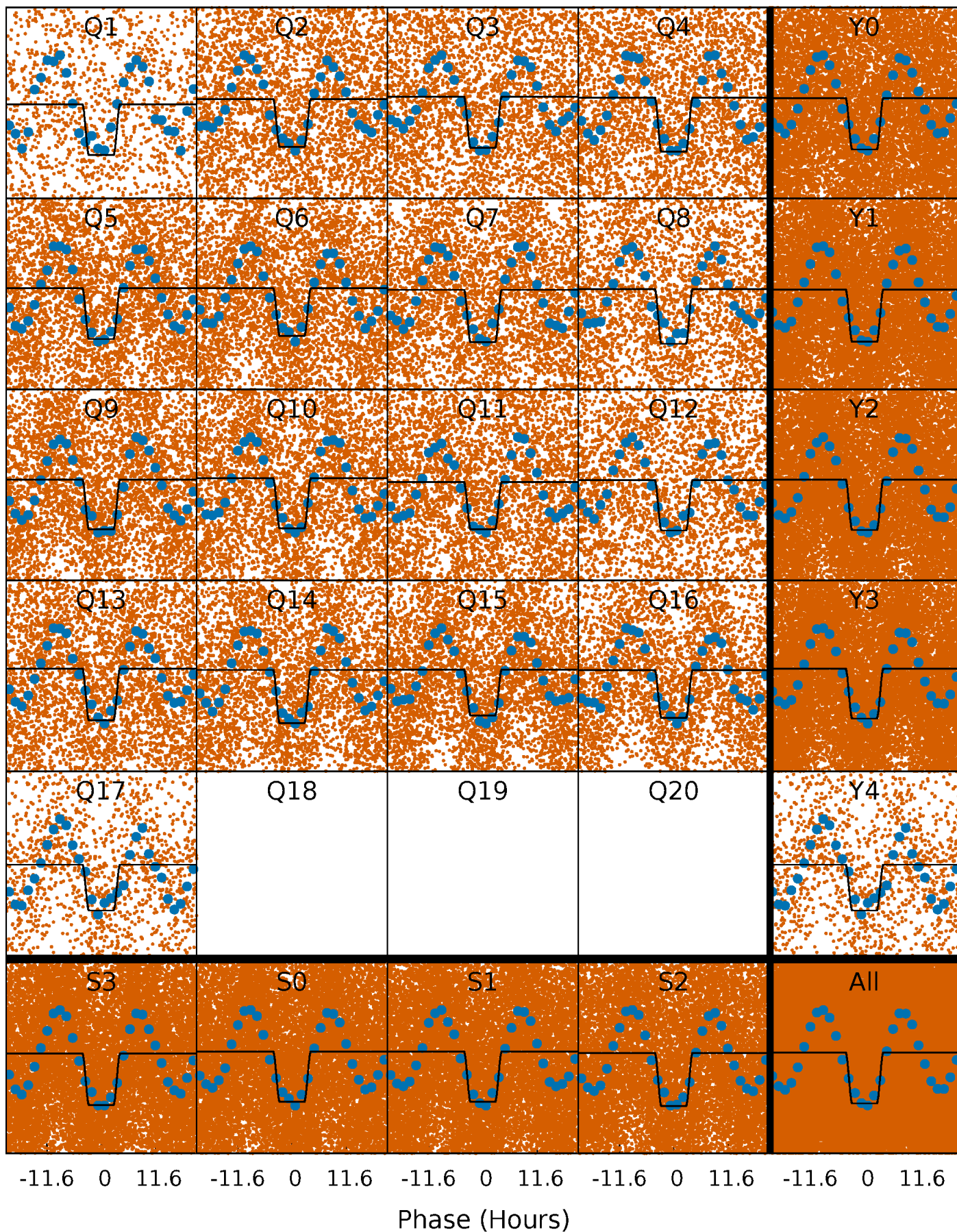
TCE 008082478-01 P= 1.391576 Days  $T_0=132.213553$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

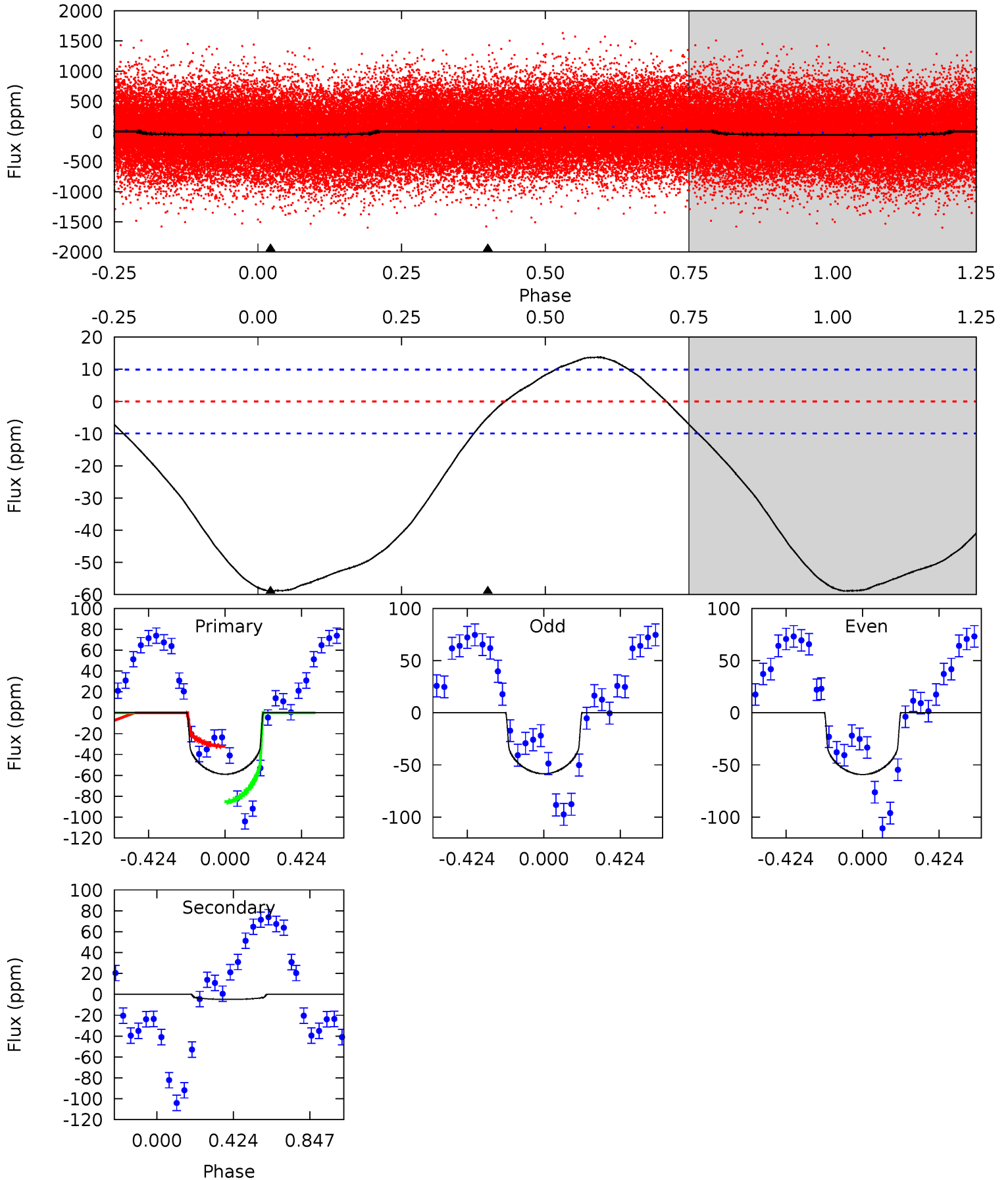
TCE 008082478-01 P= 1.391676 Days  $T_0=132.192733$  (BKJD)



# DV Model-Shift Uniqueness Test

008082478-01, P = 1.391576 Days, E = 130.821977 Days

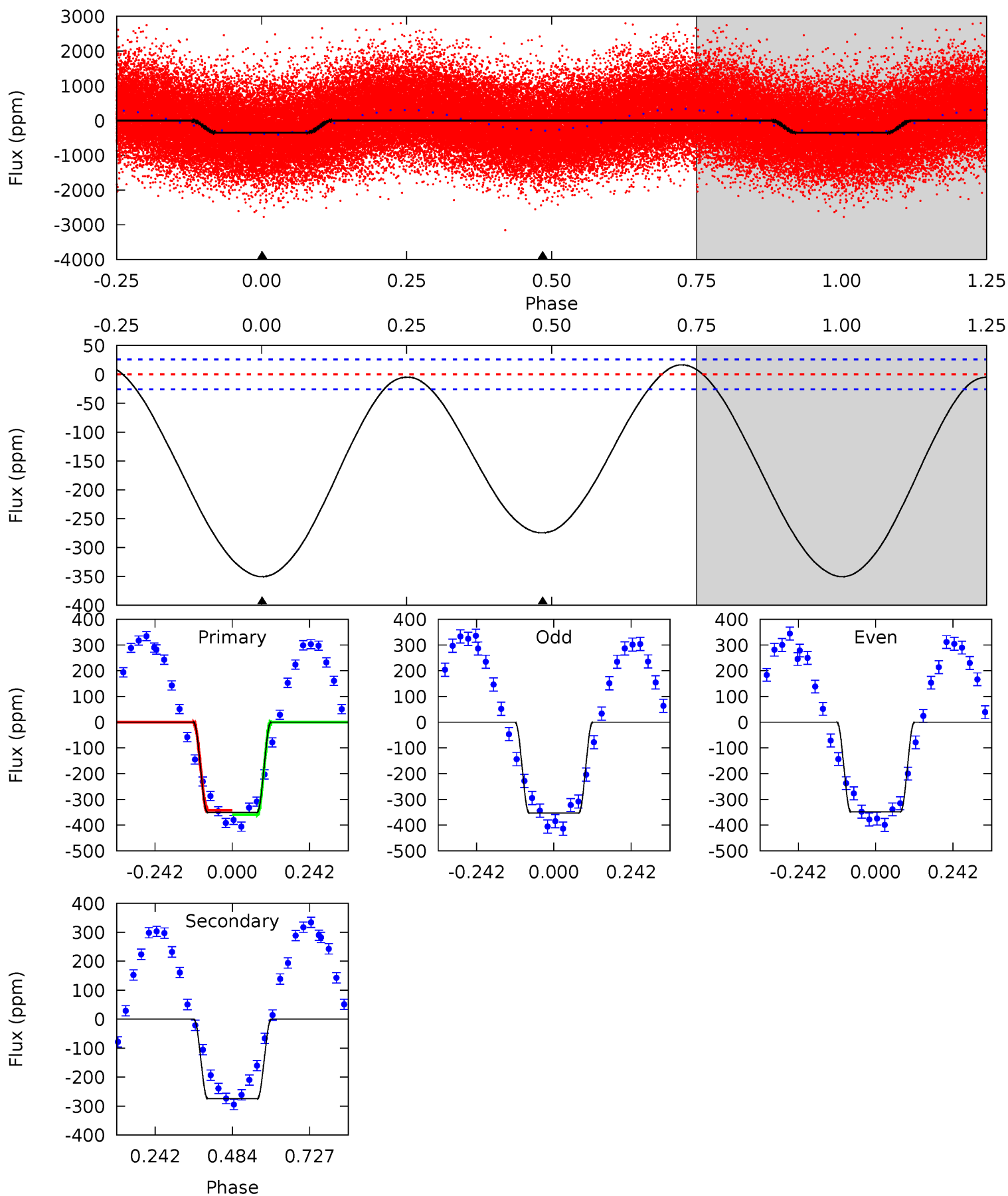
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.3	2.10	0	0	4.25	0.80	2.16	25.3	25.3	2.10	2.10	0.17	1.01	0.19	11.4



# Alt Model-Shift Uniqueness Test

008082478-01, P = 1.391676 Days, E = 130.801057 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
59.2	46.4	0	0	4.38	1.17	1.80	59.2	59.2	46.4	46.4	0.36	1.02	0.05	1.56





### Stellar Parameters For KIC 008082478

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7367^{+205}_{-307}$	$3.598^{+0.569}_{-0.067}$	$-0.380^{+0.300}_{-0.300}$	$3.522^{+0.351}_{-1.989}$	$1.792^{+0.177}_{-0.531}$	$0.058^{+0.440}_{-0.012}$
	+3%/-4%	+16%/-2%	+79%/-79%	+10%/-56%	+10%/-30%	+762%/-21%
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 008082478-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-5 \pm 2$	$1.77^{+1.55}_{-1.09}$	$4769^{+331}_{-651}$	$4105^{+3218}_{-7715}$	$0.643^{+4.334}_{-0.476}$
Alt.	$-275 \pm 6$	$6.77^{+2.13}_{-2.06}$	$4789^{+314}_{-686}$	$6467^{+952}_{-693}$	$2.915^{+2.910}_{-1.163}$

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

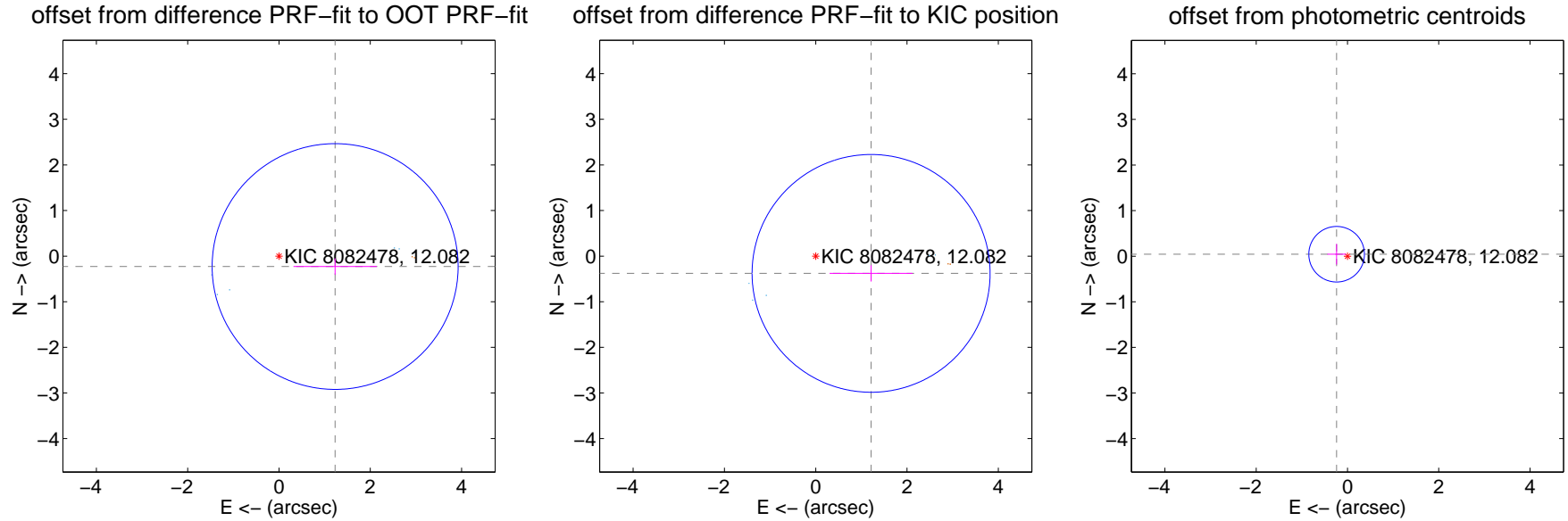
## DV Centroid Data

Supplemental centroid analysis for 008082478-01. Kepler magnitude: 12.08. Transit SNR 8.99

There are 5 quarters with good PRF difference image offsets

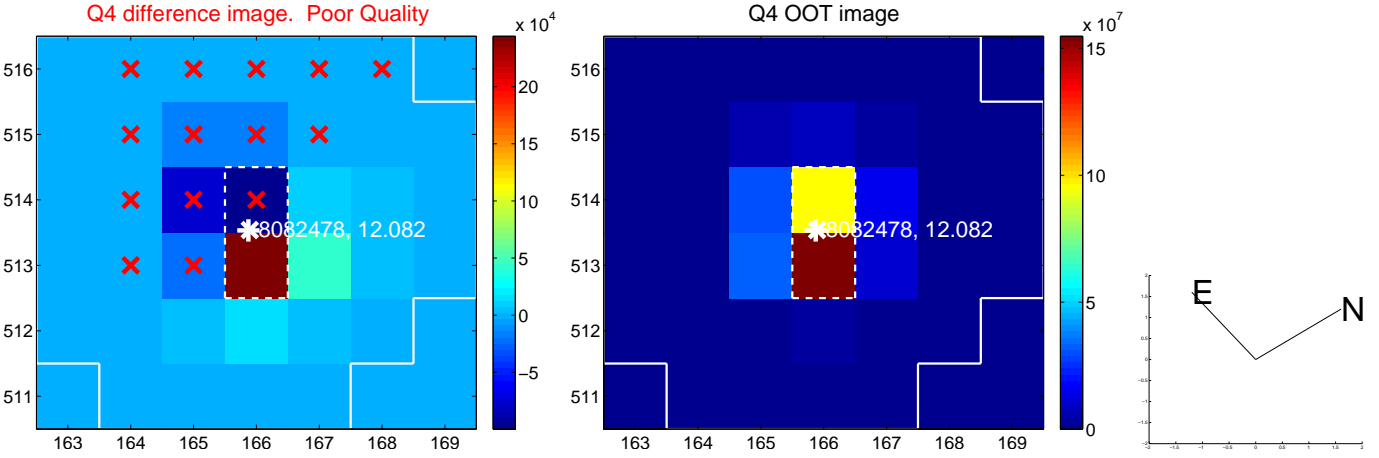
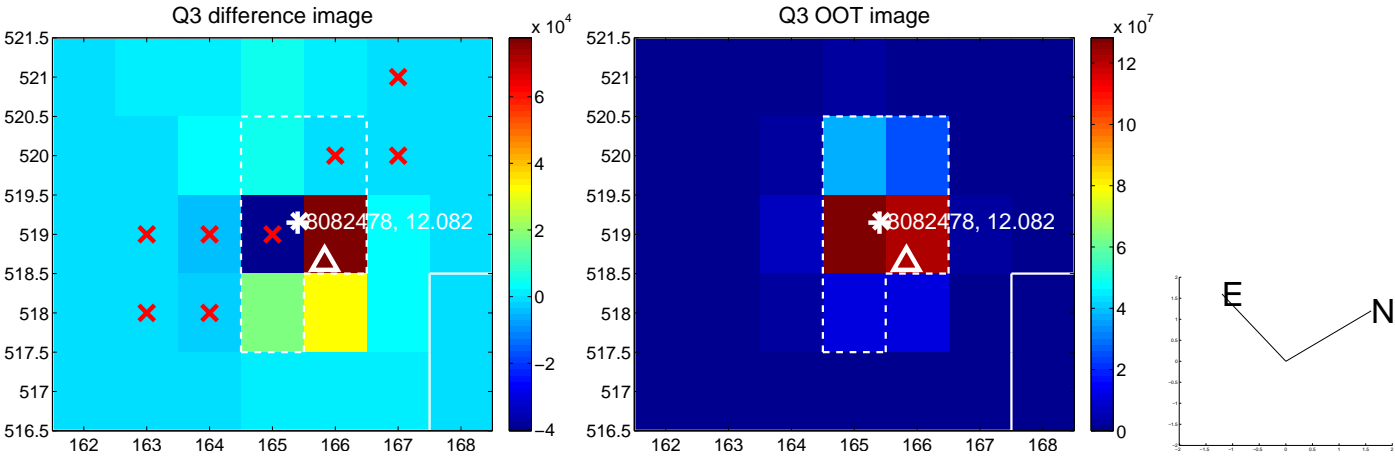
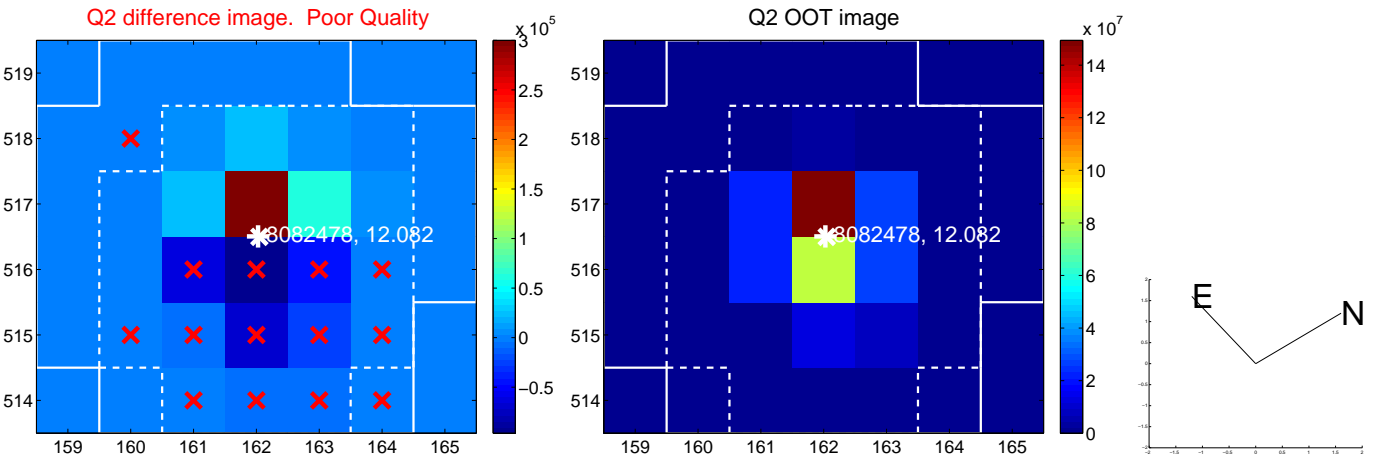
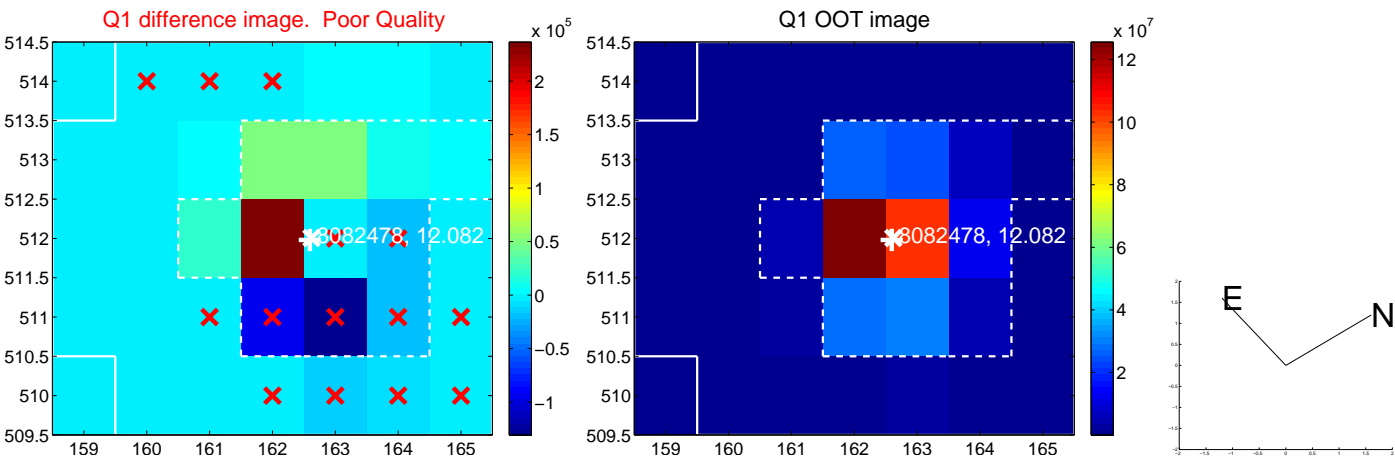
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.250 \pm 0.898$	1.39	$-1.229 \pm 0.913$	$-0.228 \pm 0.179$
PRF-fit source offset from KIC position	$1.270 \pm 0.869$	1.46	$-1.213 \pm 0.908$	$-0.378 \pm 0.178$
photometric centroid source offset	$0.24 \pm 0.20$	1.19	$0.24 \pm 0.20$	$0.04 \pm 0.23$

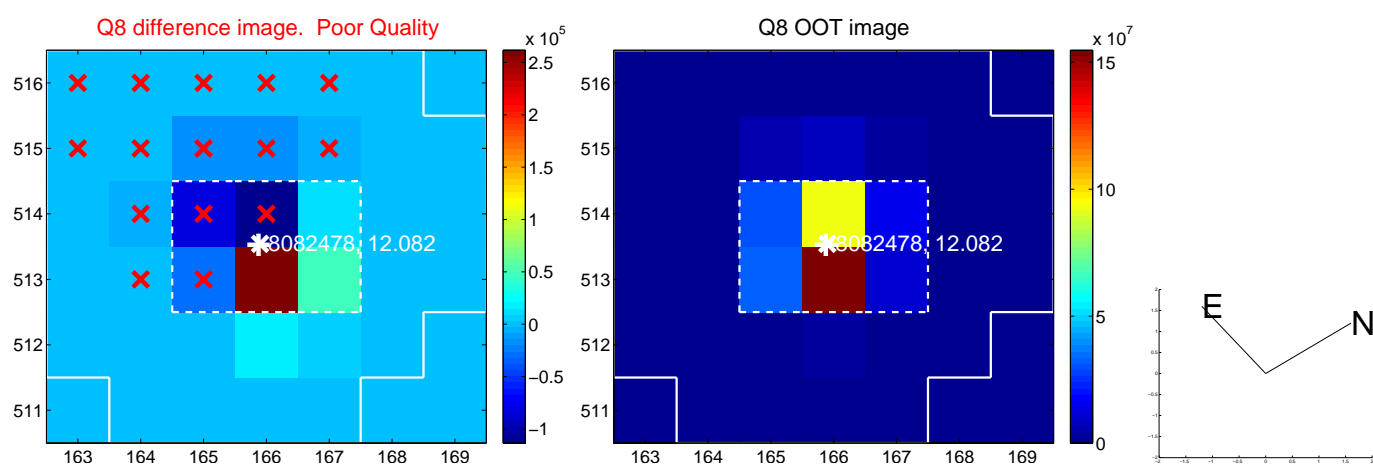
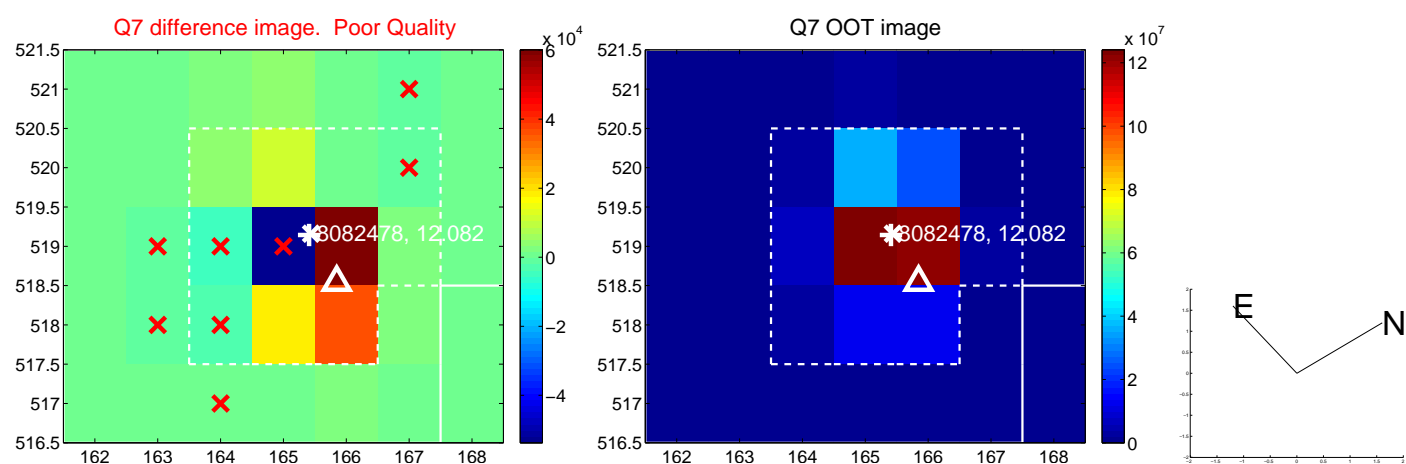
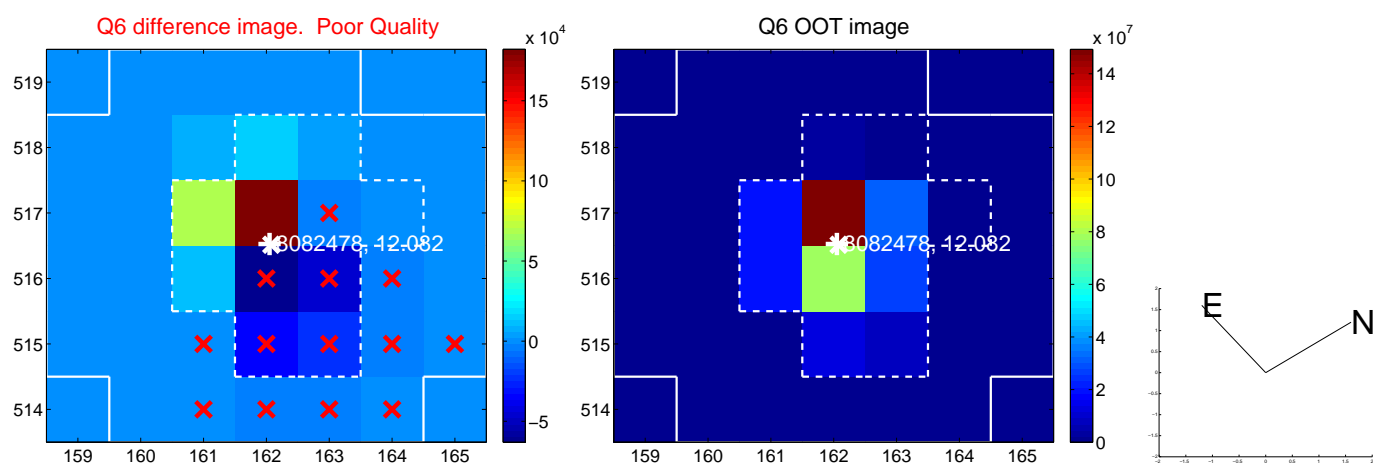
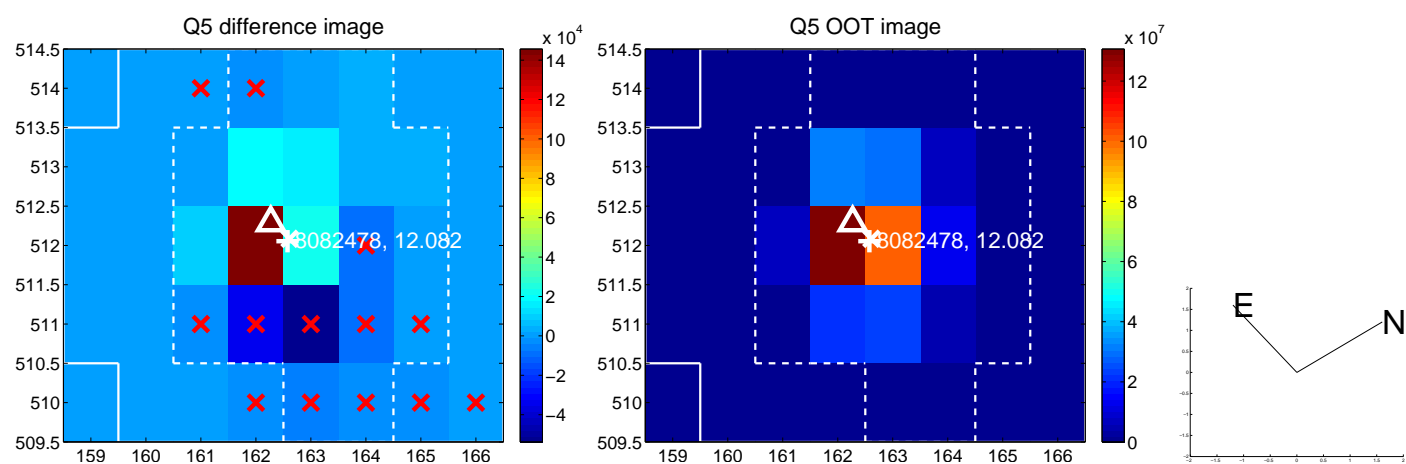


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

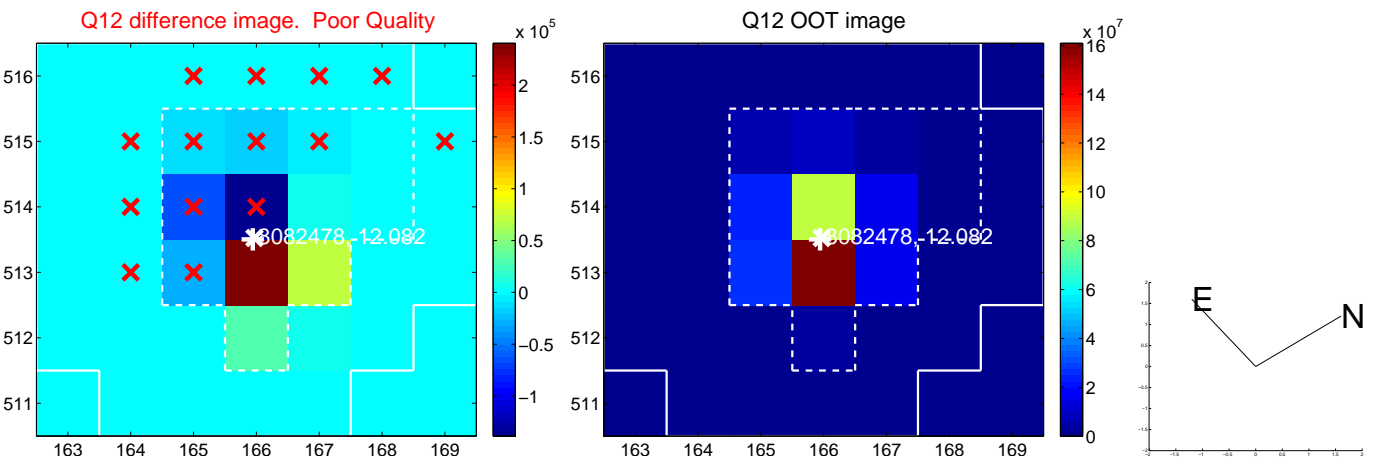
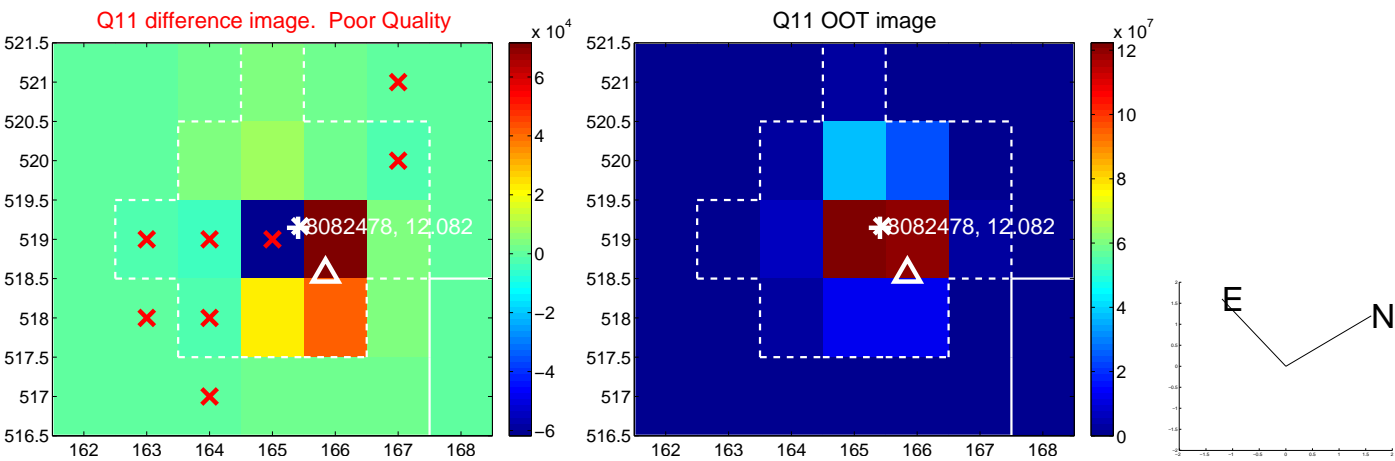
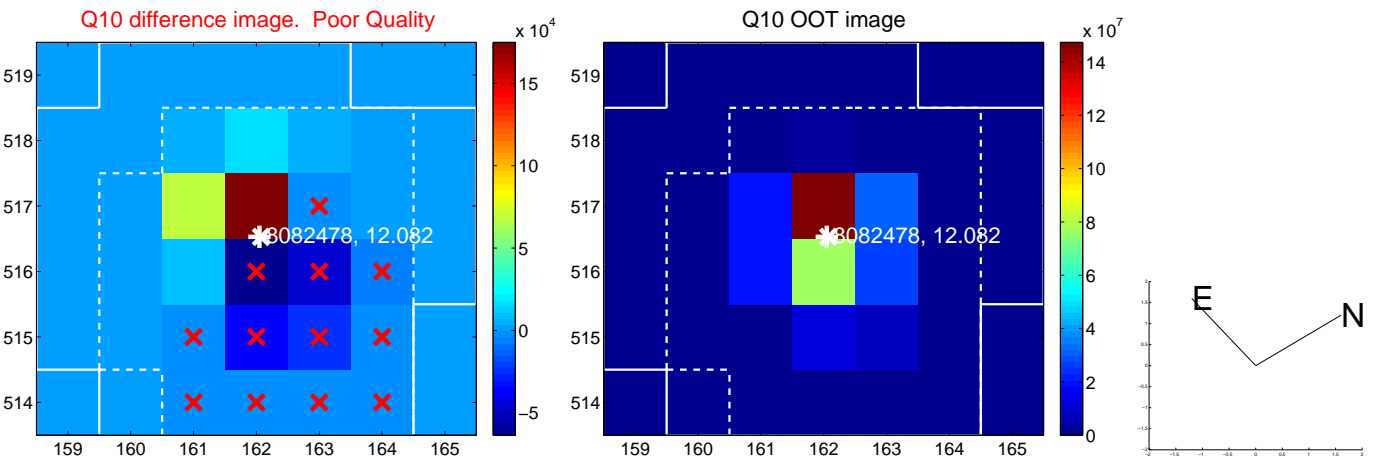
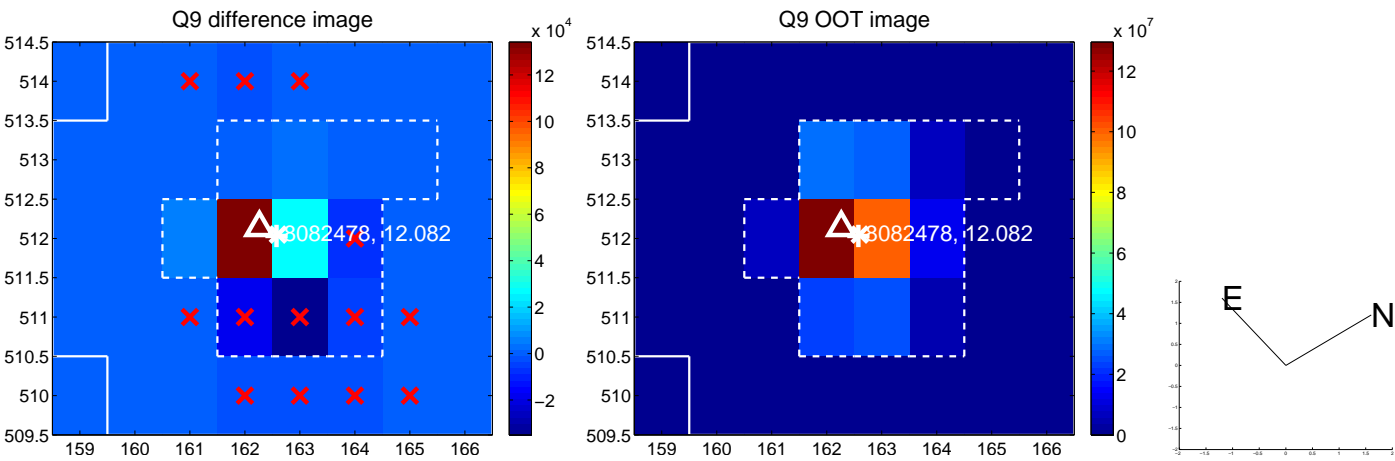


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



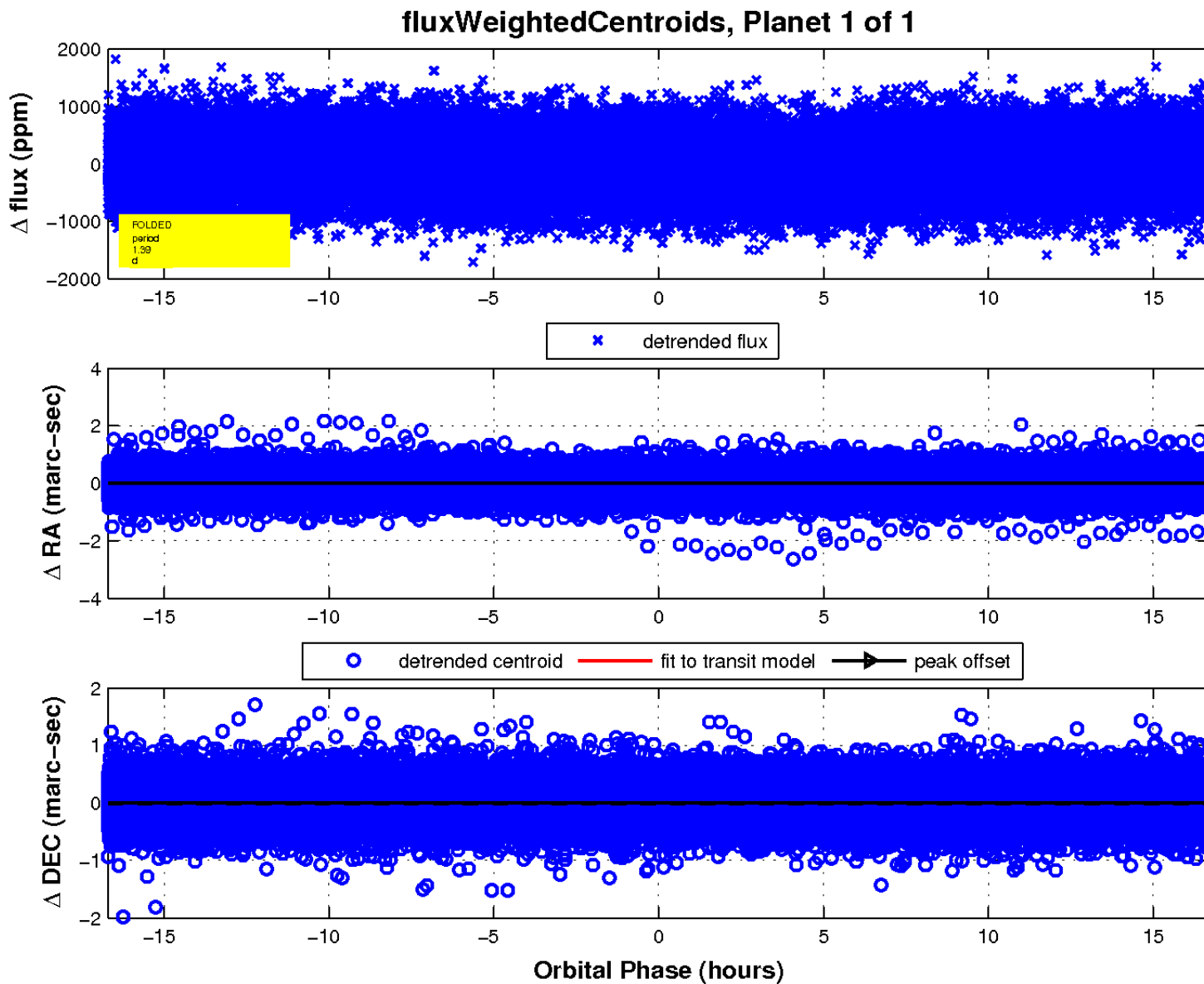
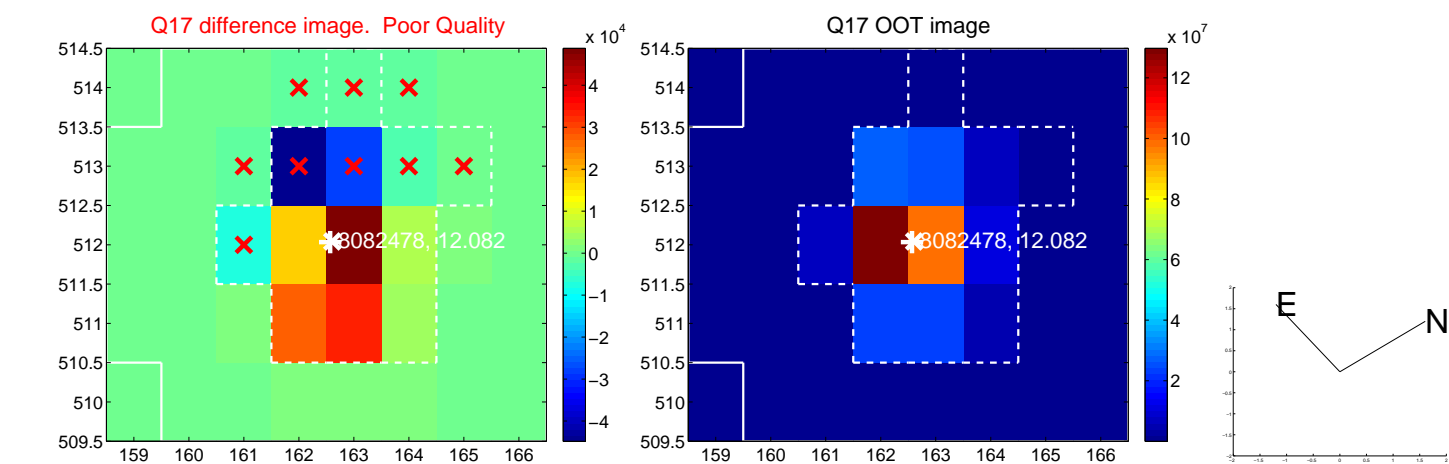


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

