

# KIC 008245366

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008245366-01	OBS	No	1.349608	131.809242	293.4	15.296	14.1	21.0	1.85	6770	3.78	9010.17

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008245366-01	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.

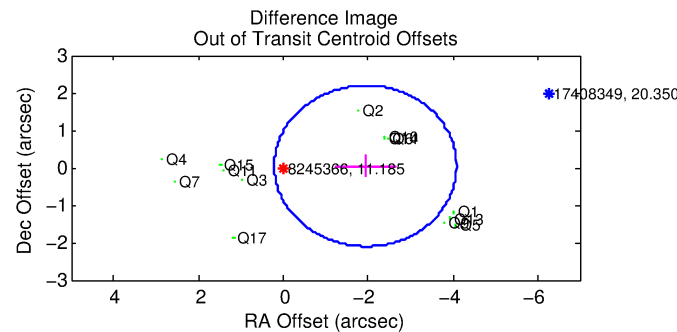
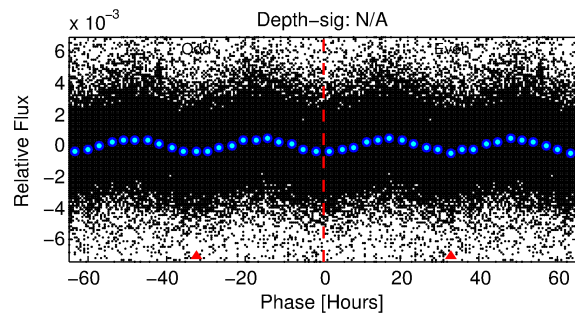
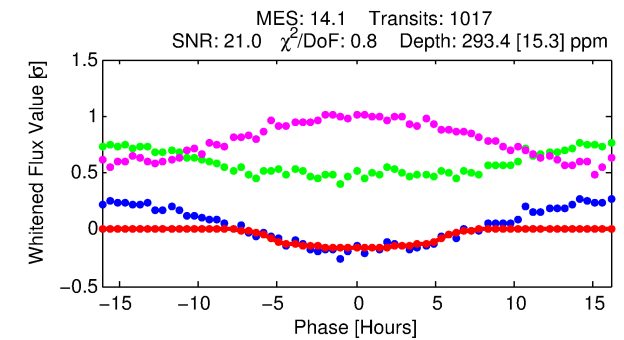
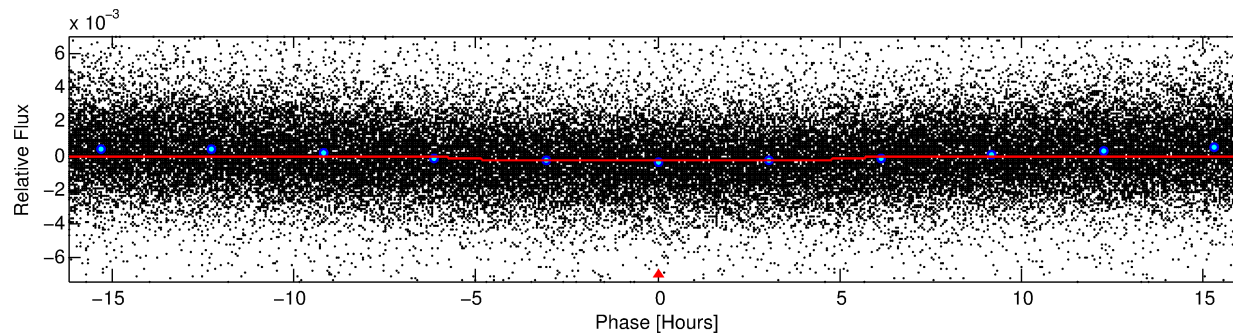
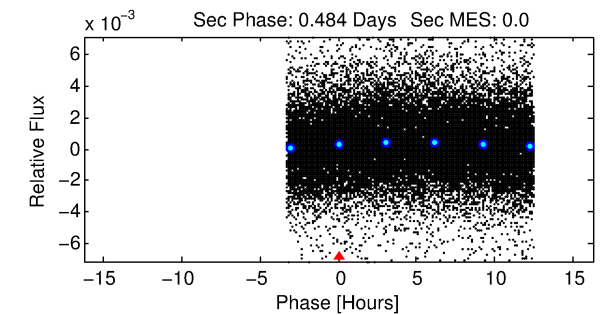
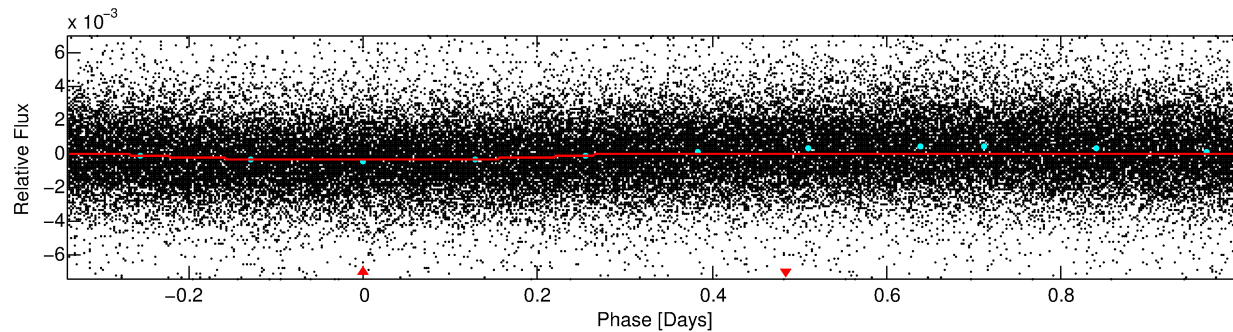
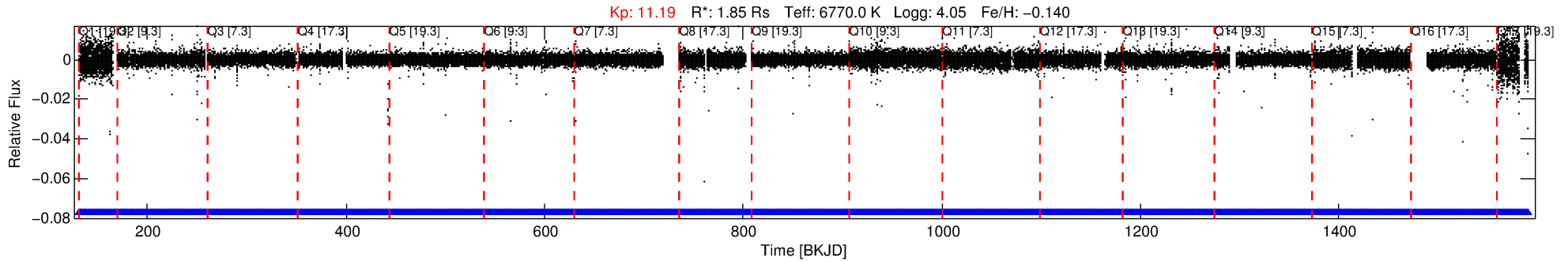
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008245366-01

No Significant Match Found

# DV One-Page Summary

KIC: 8245366 Candidate: 1 of 1 Period: 1.350 d



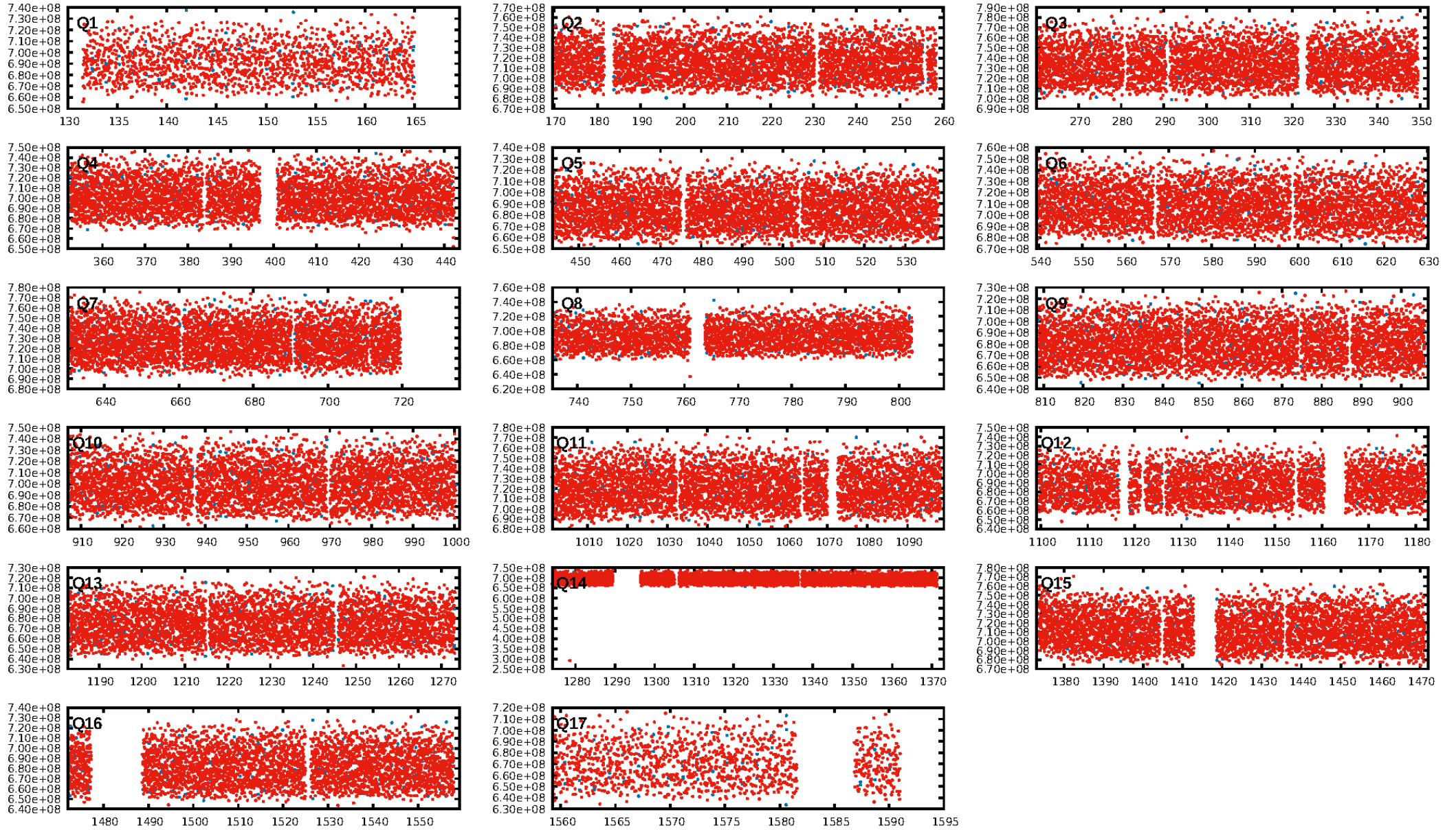
## DV Fit Results:

Period = 1.34961 [0.00002] d  
Epoch = 131.8092 [0.0125] BKJD  
Rp/R\* = 0.0187 [0.0008]  
a/R\* = 1.02 [0.01]  
b = 0.93 [0.03]  
Seff = 9010.17 [4075.83]  
Teff = 2484 [281] K  
Rp = 3.78 [1.12] Re  
a = 0.0268 [0.0073] AU  
Ag = N/A  
Teffp = N/A

## DV Diagnostic Results:

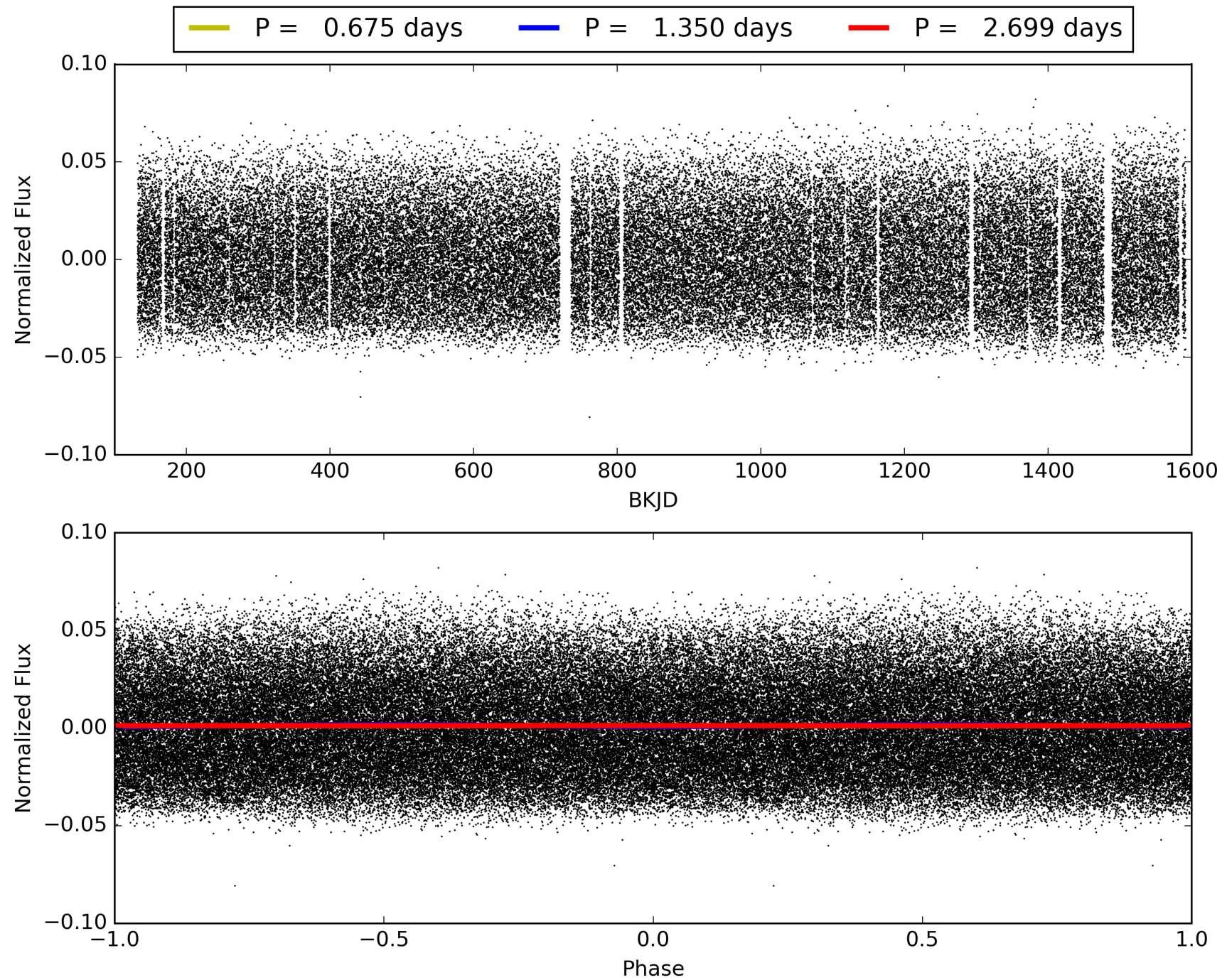
ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [971/971]  
**GhostDiagnostic-chr: 0.9732**  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 1.943 arcsec [2.71σ]  
KicOffset-rm: 1.660 arcsec [2.54σ]  
OotOffset-st: 4/4/1/5 [14]  
KicOffset-st: 4/4/1/5 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 008245366-01, PDC Light Curves



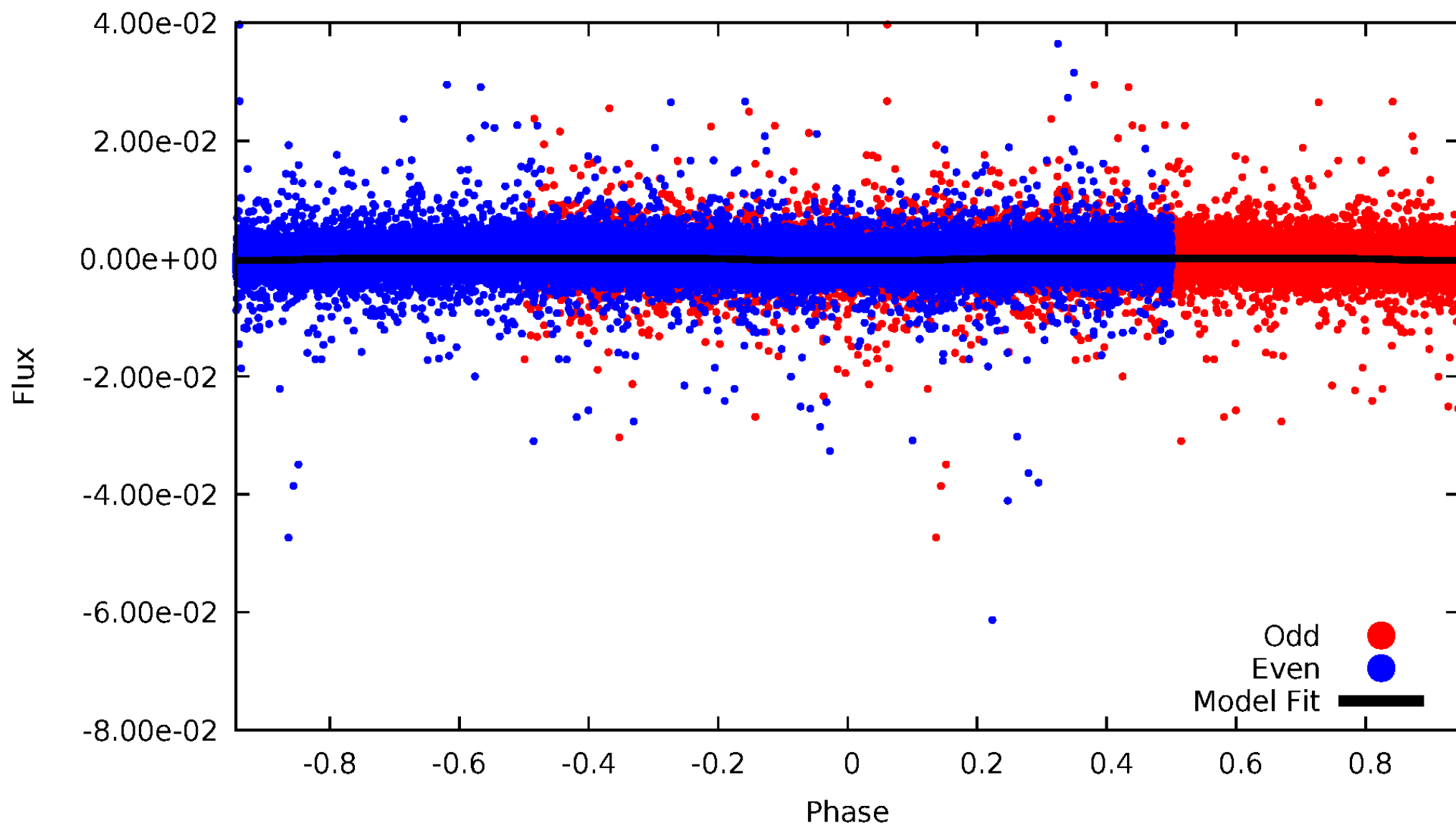


TCE 008245366-01



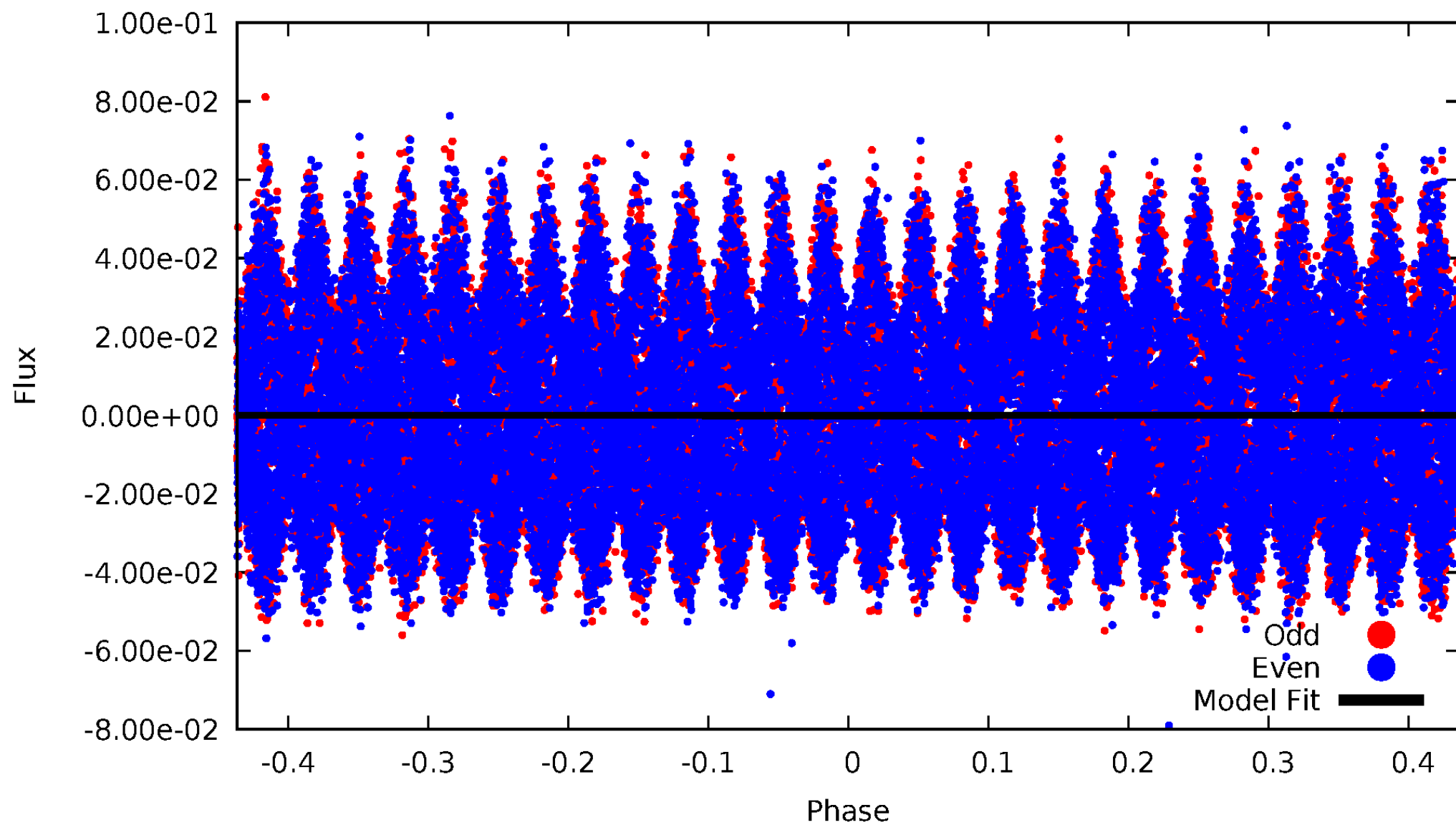
# DV Odd/Even

TCE 008245366-01



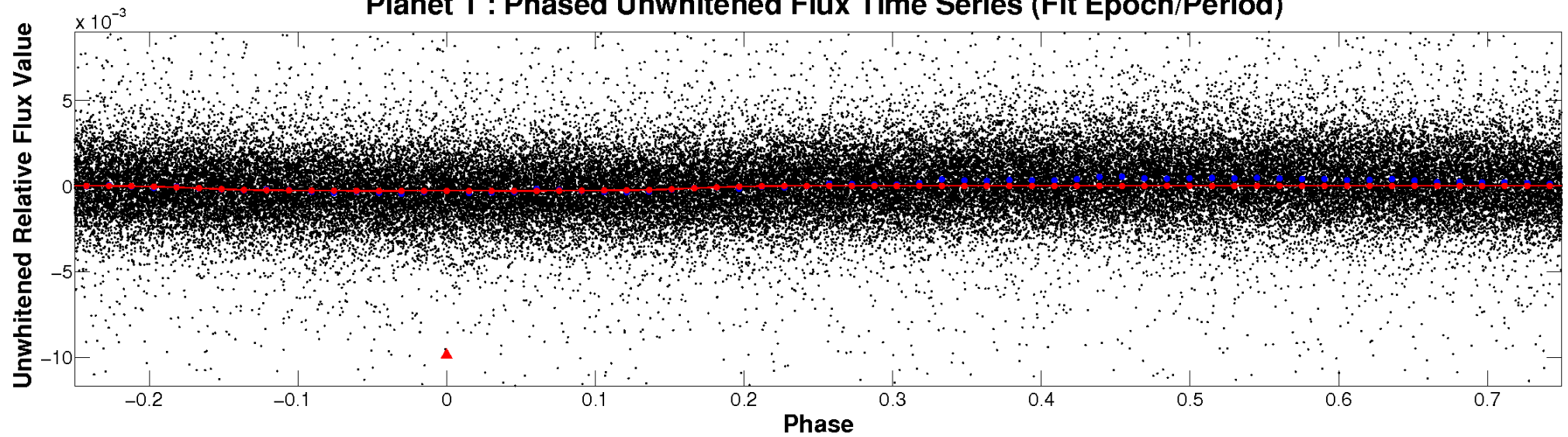
# ALT Odd/Even

TCE 008245366-01

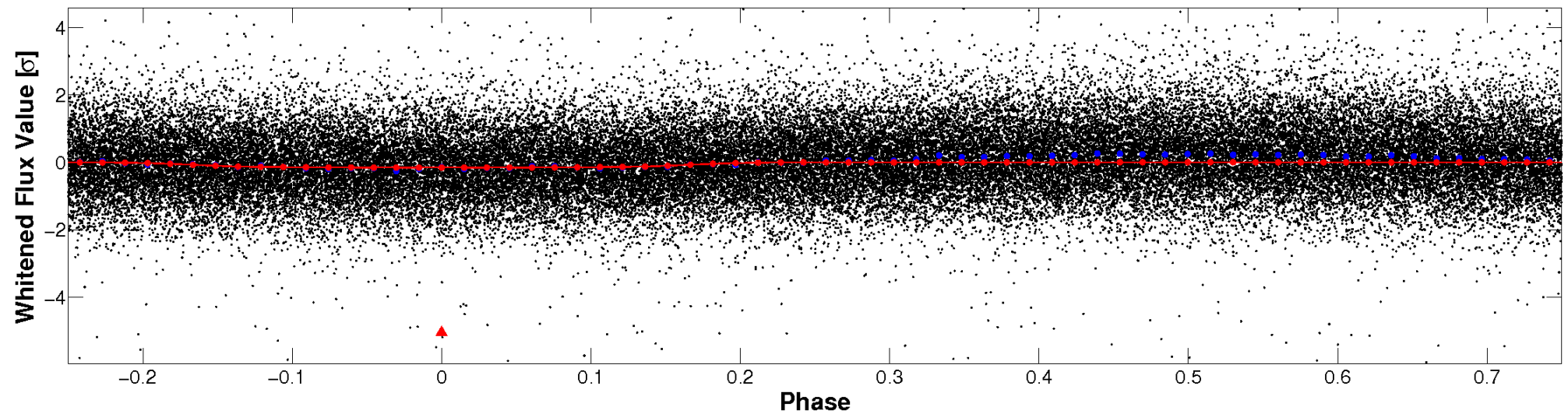


# Non-Whitened Vs. Whitened Light Curve

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



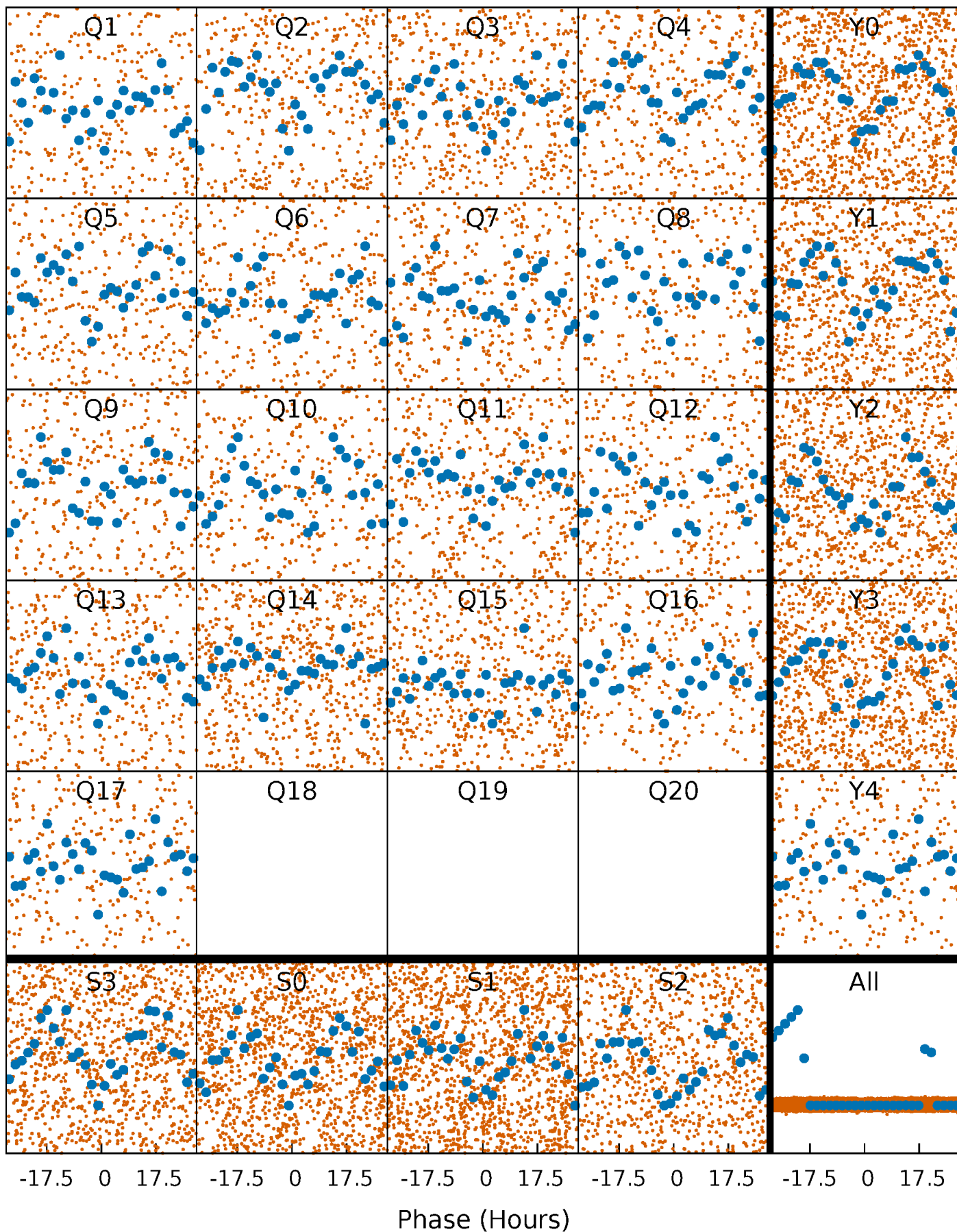
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

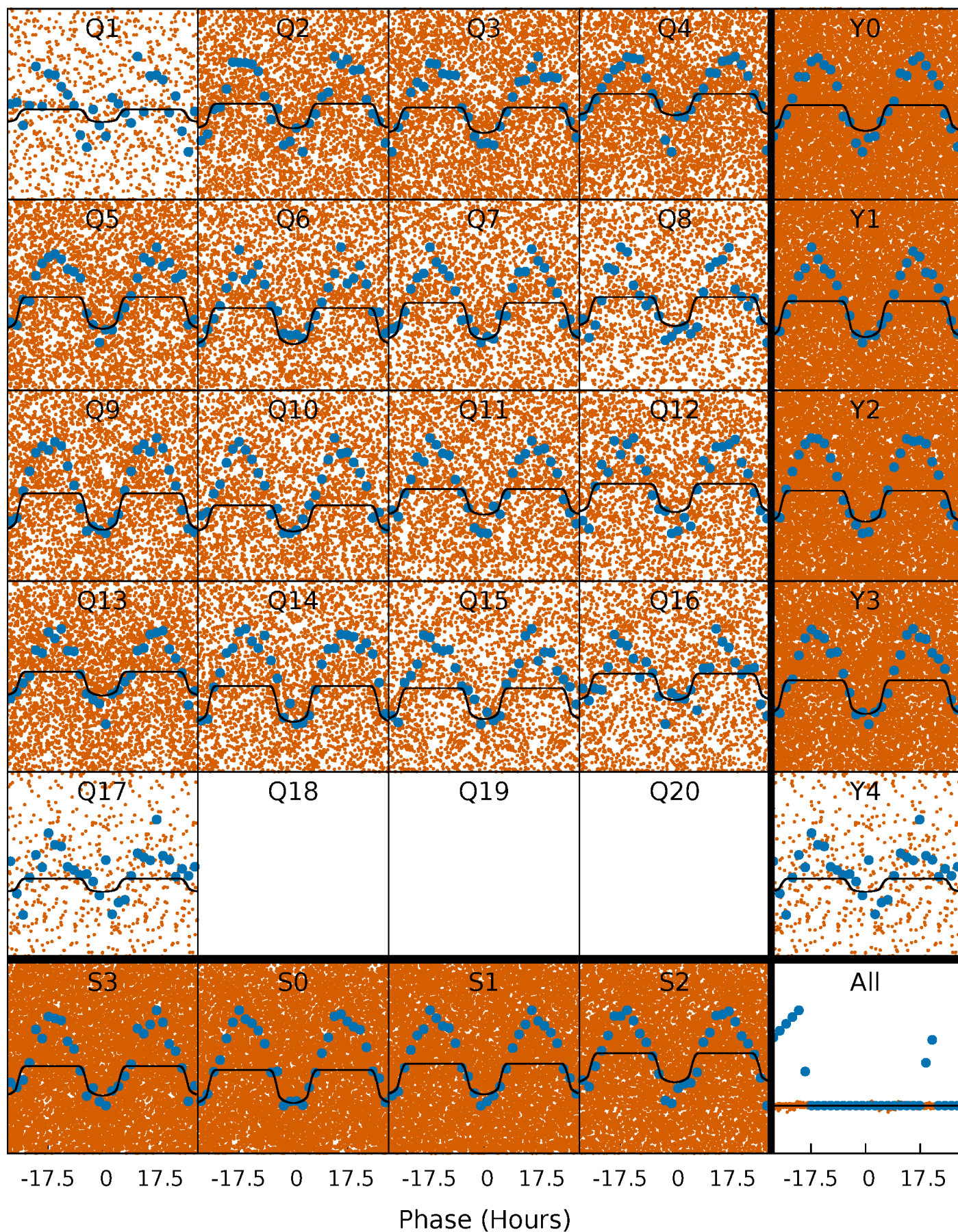
TCE 008245366-01 P= 1.349608 Days  $T_0=131.809242$  (BKJD)





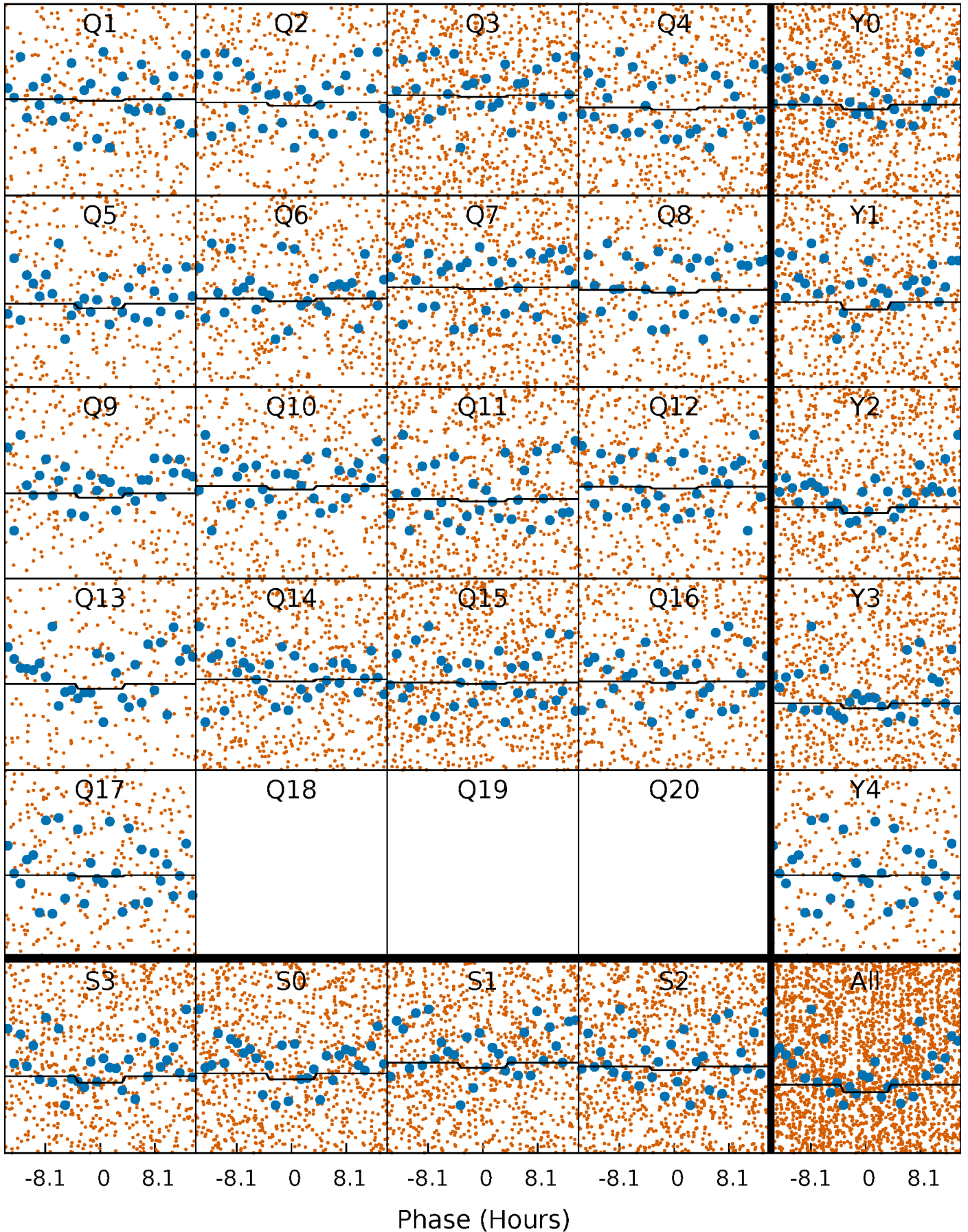
# DV Quarter-Phased Transit Curves

TCE 008245366-01 P= 1.349608 Days  $T_0=131.809242$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

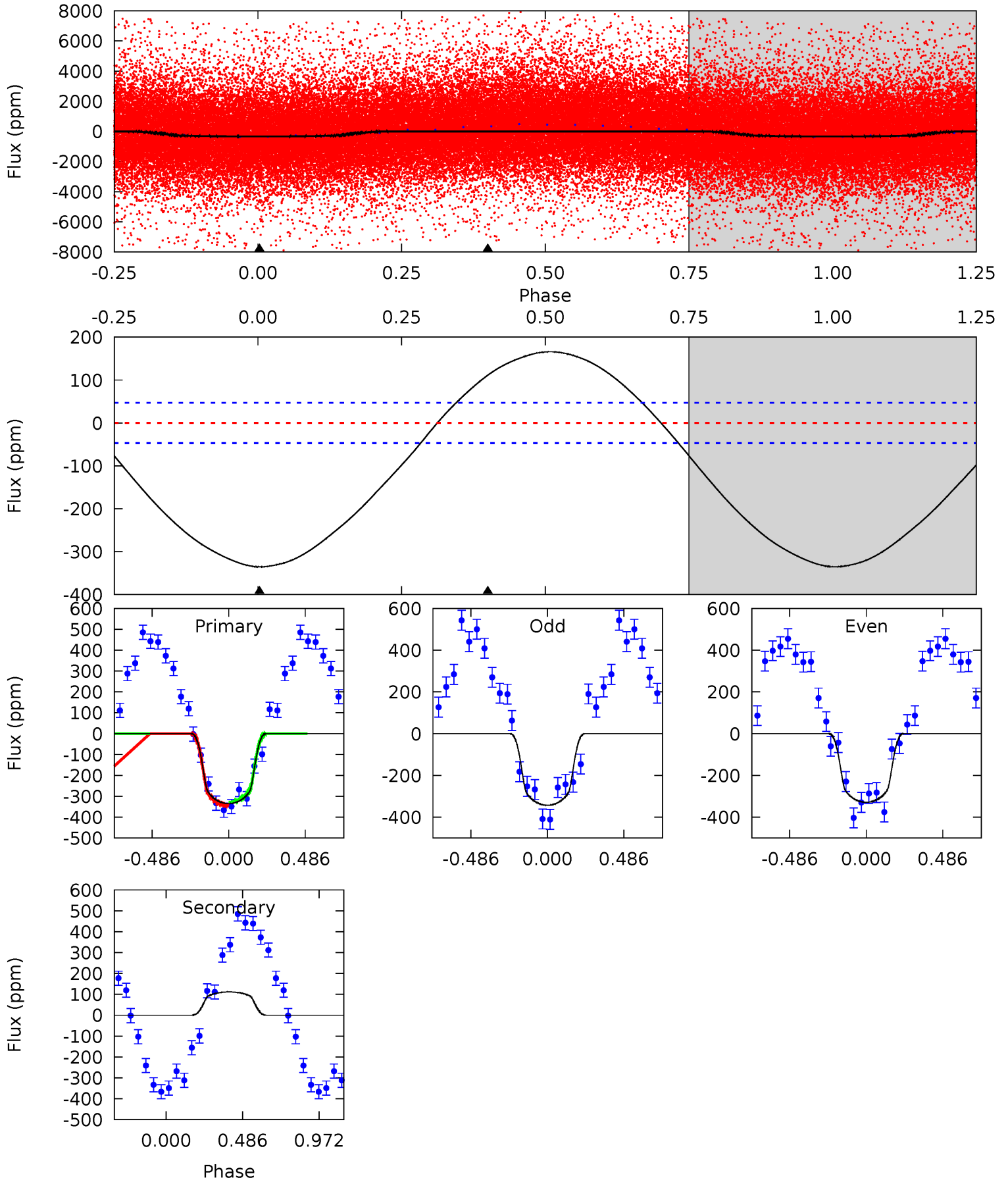
TCE 008245366-01 P= 1.349674 Days  $T_0=131.770842$  (BKJD)



# DV Model-Shift Uniqueness Test

008245366-01, P = 1.349608 Days, E = 130.459634 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
30.1	-10.00	0	0	4.22	0.70	3.95	30.1	30.1	-10.00	-10.00	0.64	-0.56	0.33	0.69

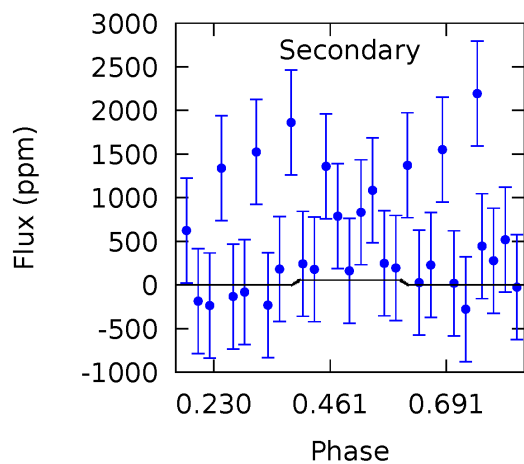
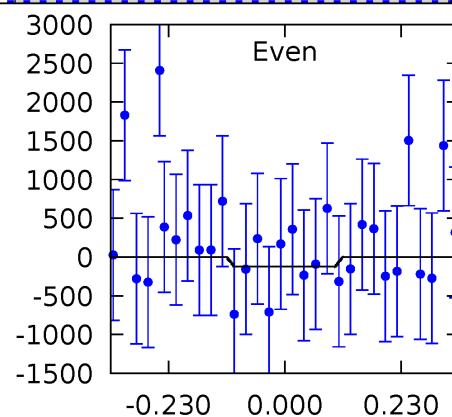
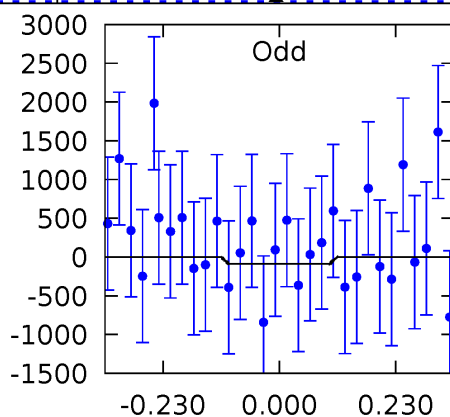
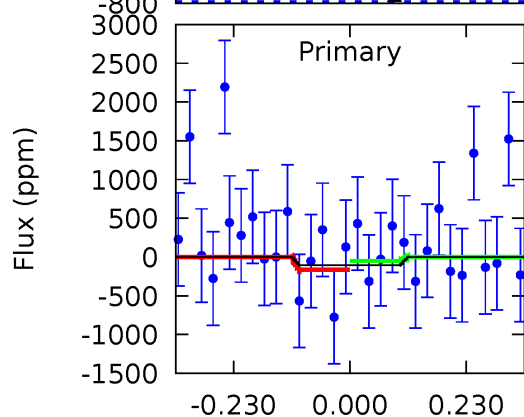
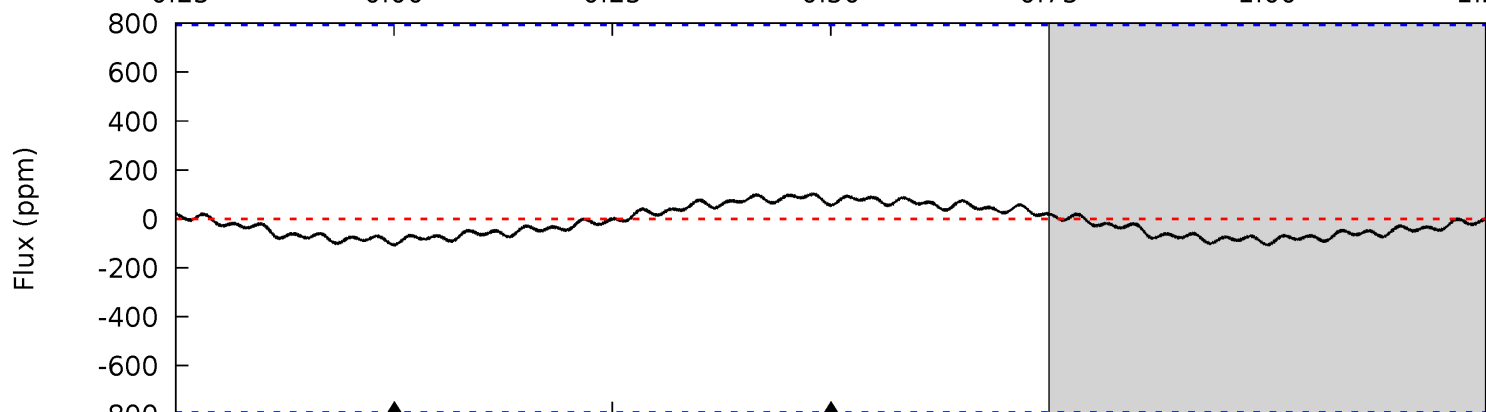
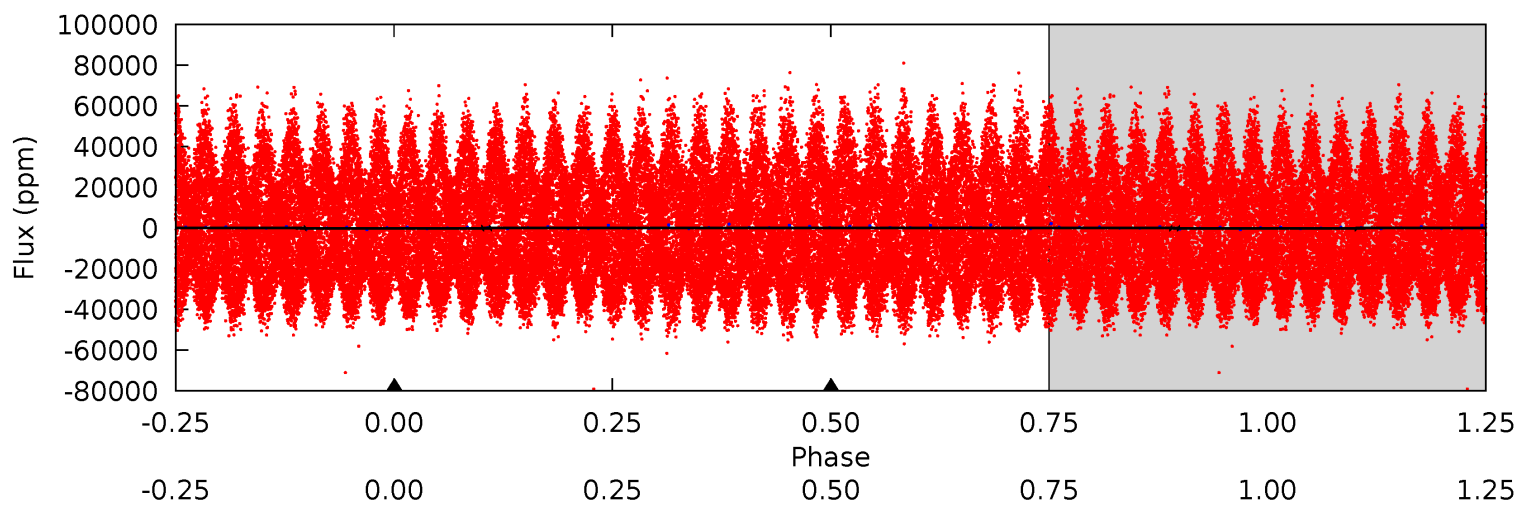




# Alt Model-Shift Uniqueness Test

008245366-01, P = 1.349674 Days, E = 130.421168 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
0.59	-0.31	0	0	4.39	1.20	0.08	0.59	0.59	-0.31	-0.31	0.10	1.24	0.49	0.31





### Stellar Parameters For KIC 008245366

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6770^{+190}_{-262}$	$4.050^{+0.246}_{-0.164}$	$-0.140^{+0.250}_{-0.300}$	$1.852^{+0.542}_{-0.542}$	$1.408^{+0.215}_{-0.262}$	$0.312^{+0.472}_{-0.143}$
	+3%/-4%	+6%/-4%	+179%/-214%	+29%/-29%	+15%/-19%	+151%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 008245366-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$111 \pm 11$	$3.73^{+0.62}_{-0.56}$	$3433^{+272}_{-295}$	$-5222^{+213}_{-187}$	$-3.121^{+0.825}_{-1.278}$
Alt.	$56 \pm 181$	$2.21^{+0.41}_{-0.39}$	$3427^{+254}_{-290}$	$-5696^{+12323}_{-2385}$	$-4.512^{+13.279}_{-15.774}$

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

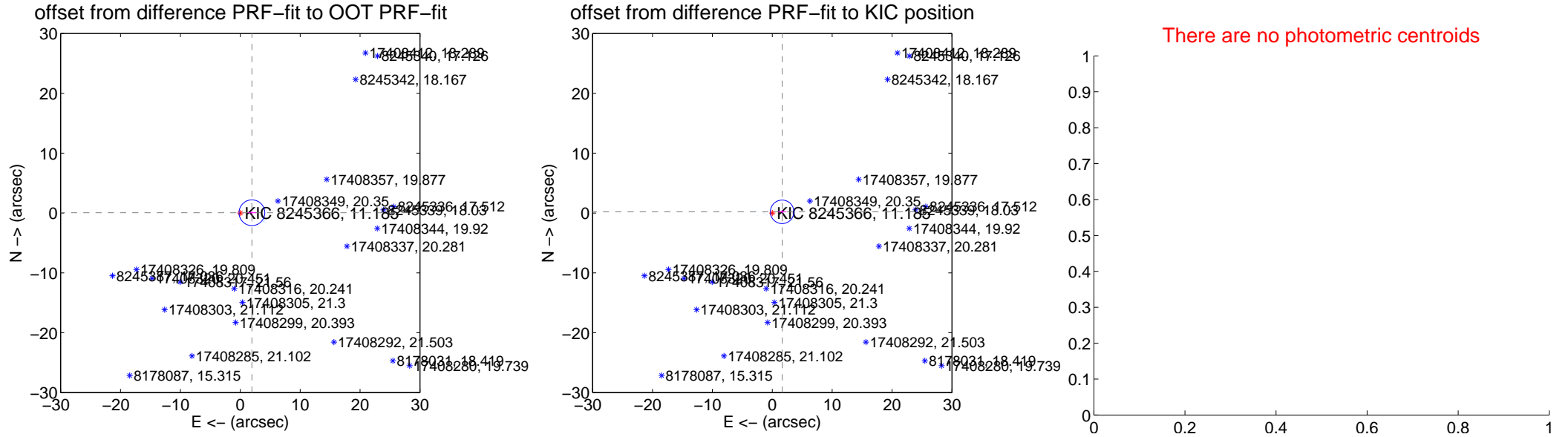
## DV Centroid Data

Supplemental centroid analysis for 008245366-01. **Kepler magnitude: 11.19.** Transit SNR 20.96

There are 14 quarters with good PRF difference image offsets

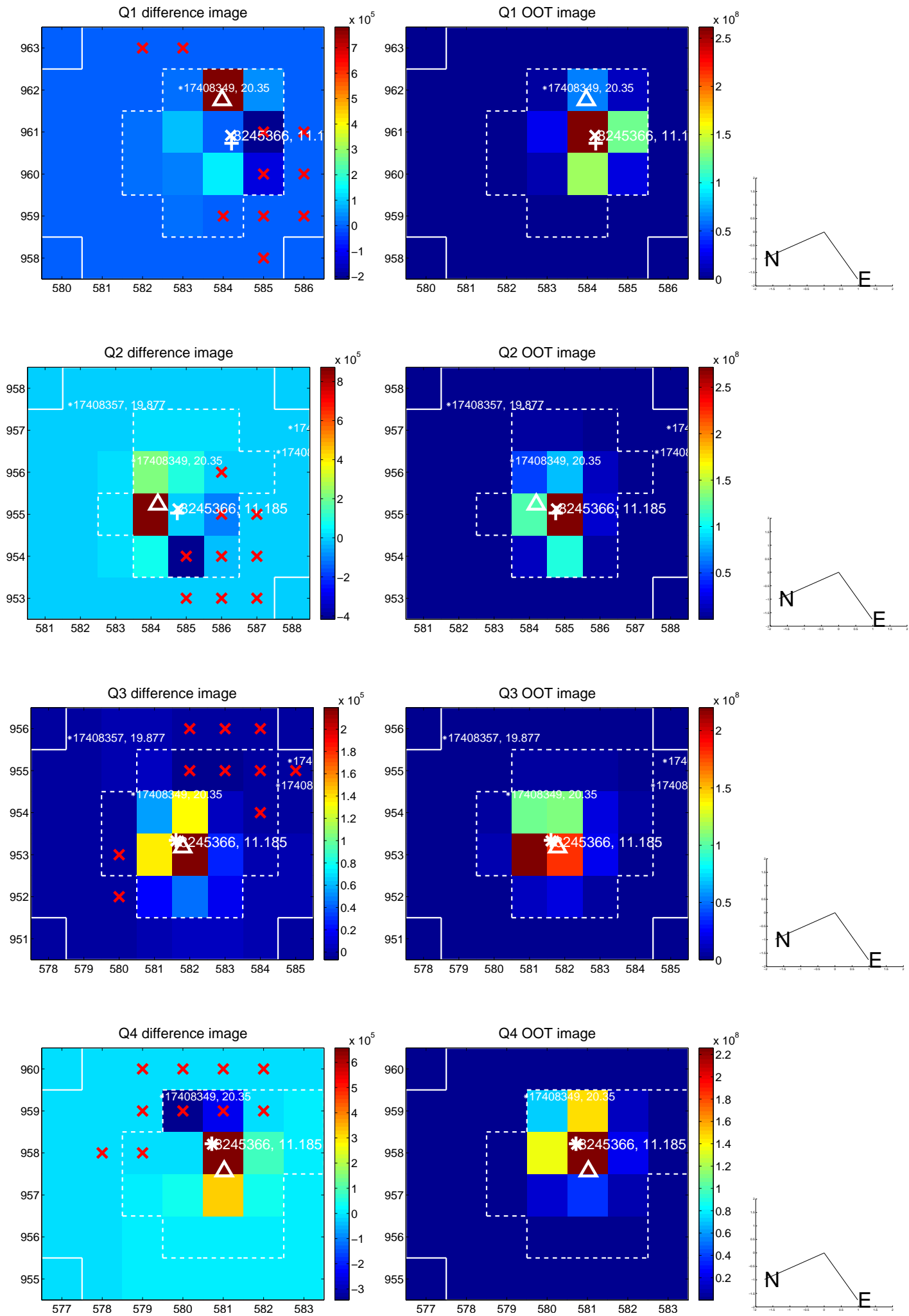
The direct PRF centroid is offset from the target star catalog position by about 0.64 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.943 \pm 0.716$	2.71	$-1.942 \pm 0.718$	$0.045 \pm 0.267$
PRF-fit source offset from KIC position	$1.660 \pm 0.654$	2.54	$-1.648 \pm 0.657$	$0.198 \pm 0.290$
photometric centroid source offset	—	—	—	—

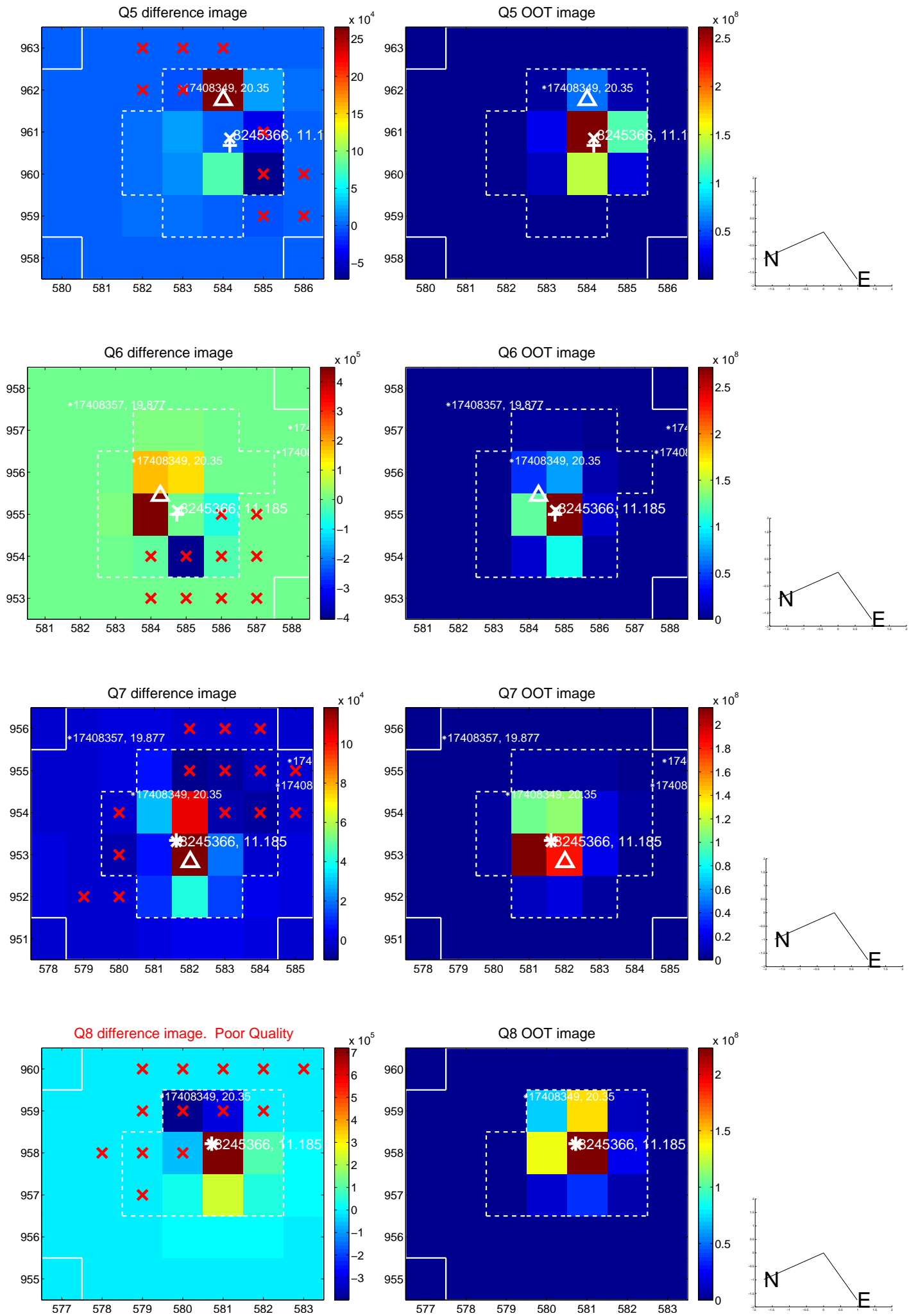


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

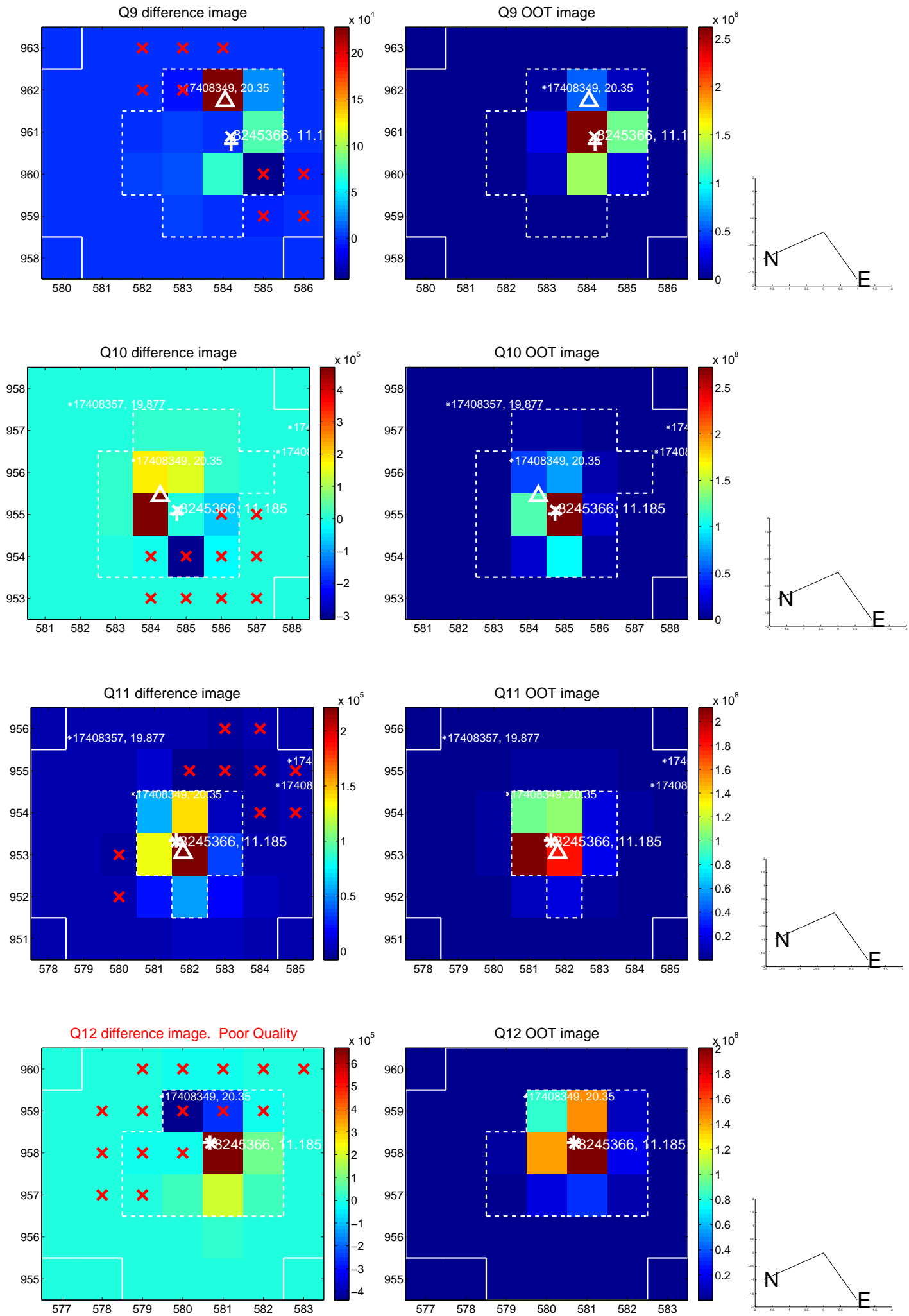


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

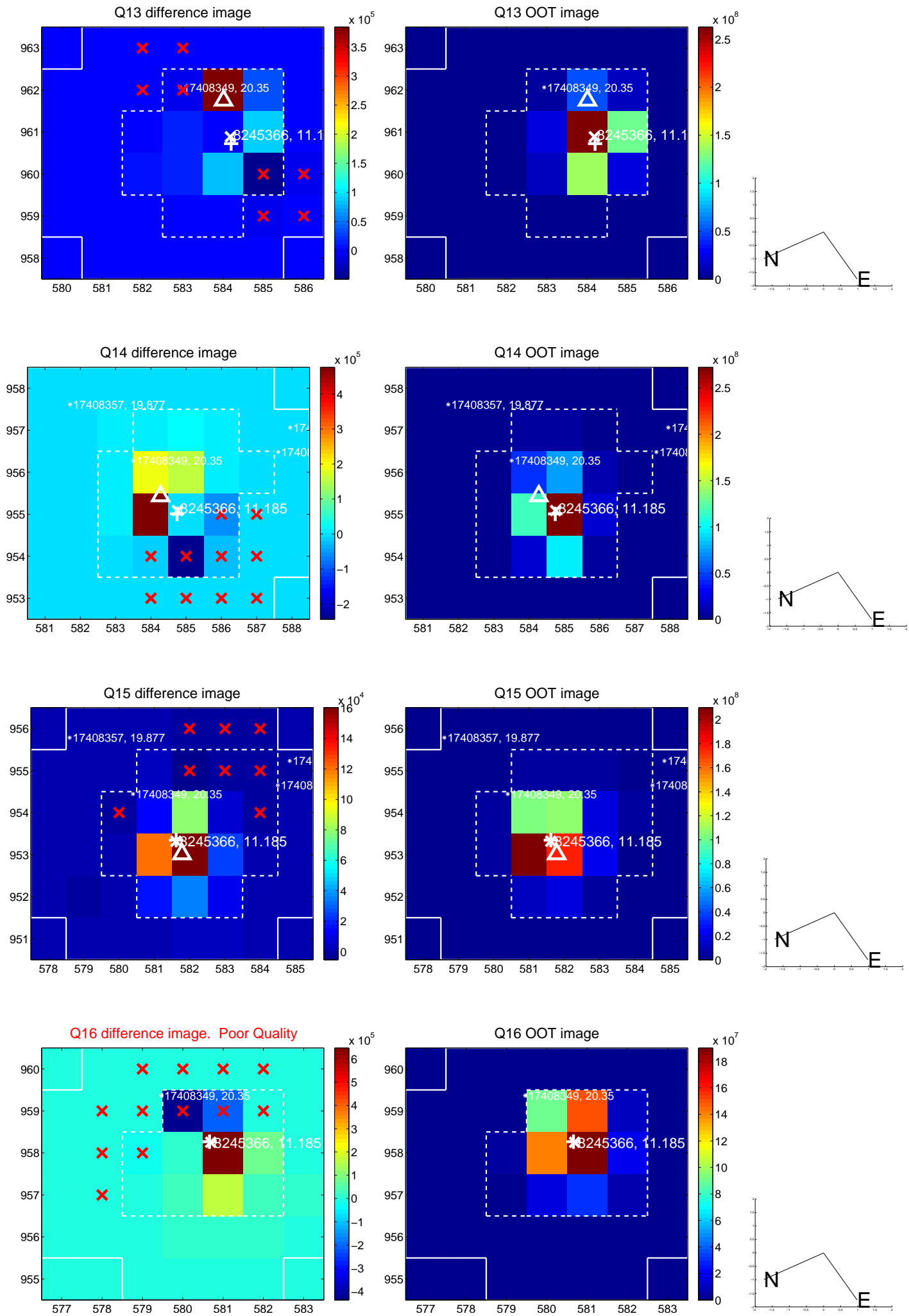




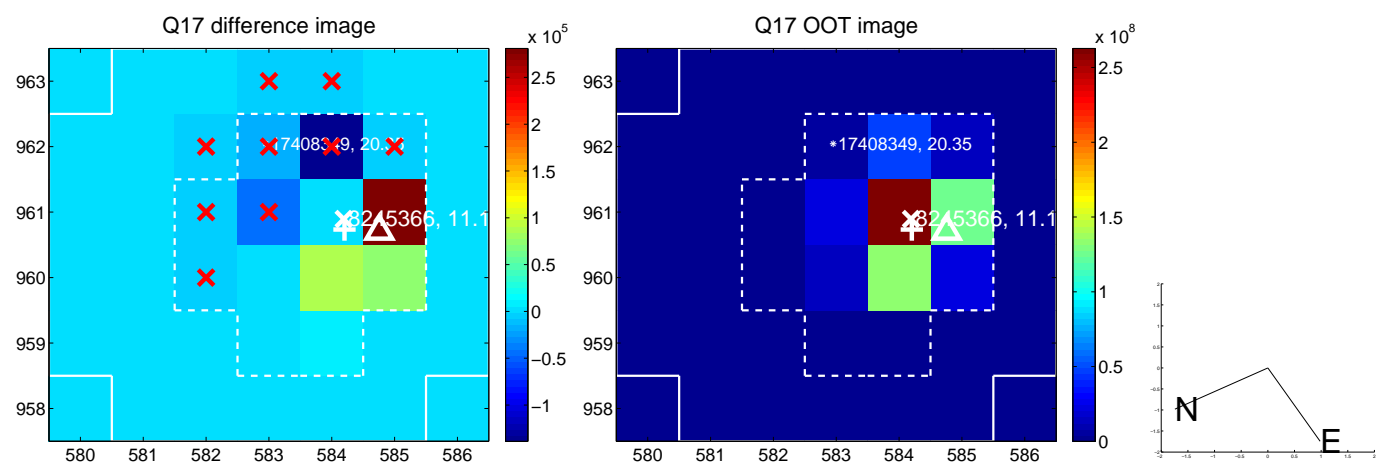
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

