

# KIC 008880162

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008880162-01	OBS	No	1.025869	131.785858	2.2	10.637	10.3	1.9	4.29	7120	0.67	65523.53

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008880162-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_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.

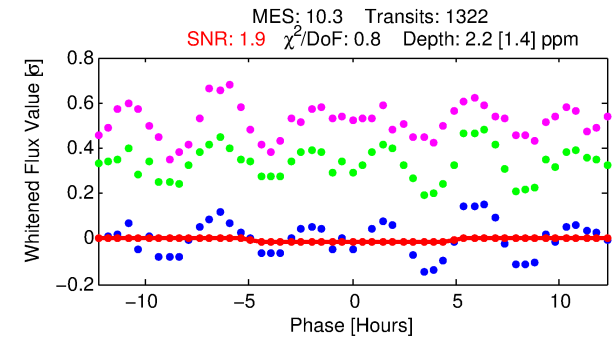
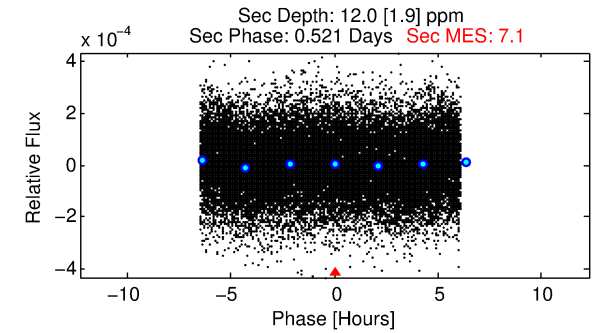
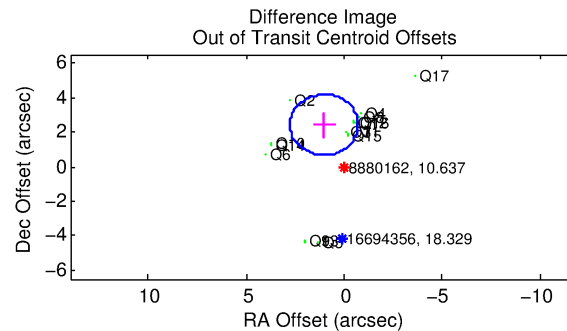
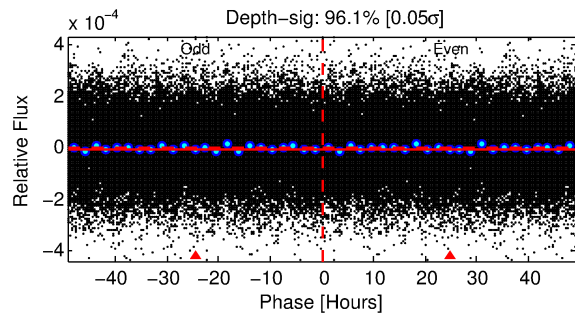
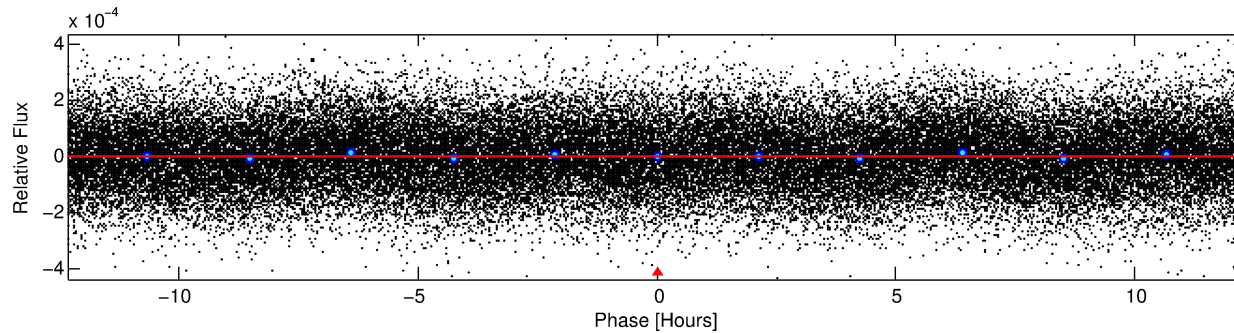
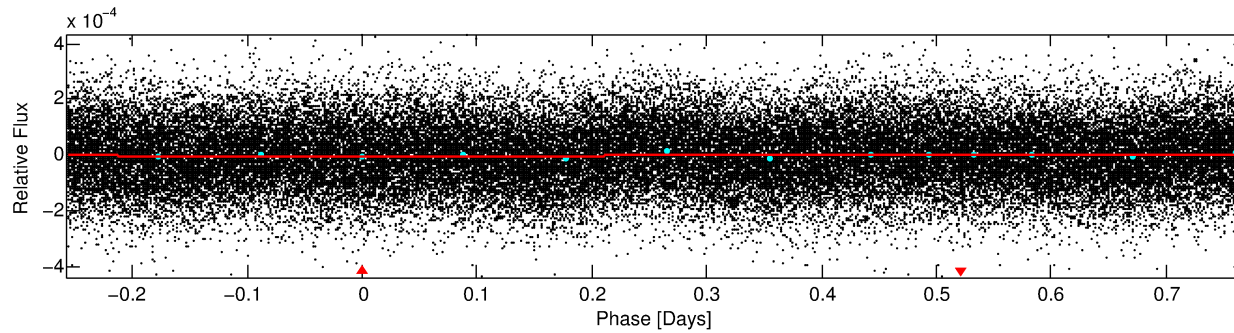
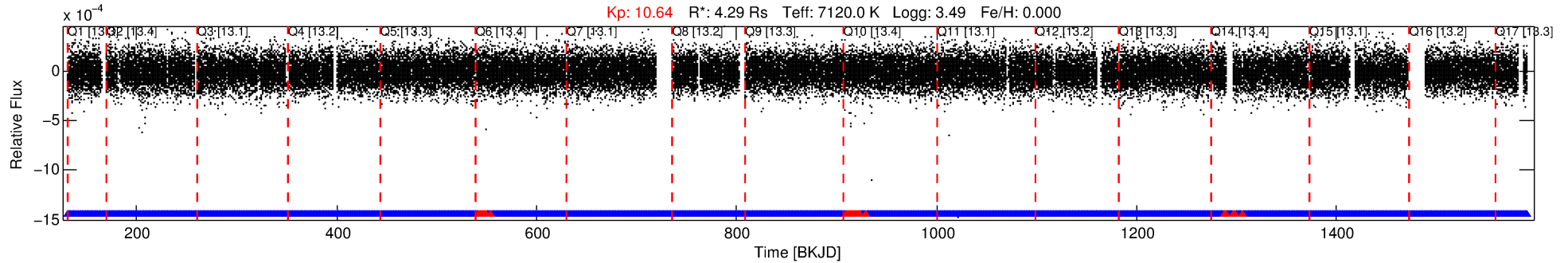
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008880162-01

No Significant Match Found

# DV One-Page Summary

KIC: 8880162 Candidate: 1 of 1 Period: 1.026 d



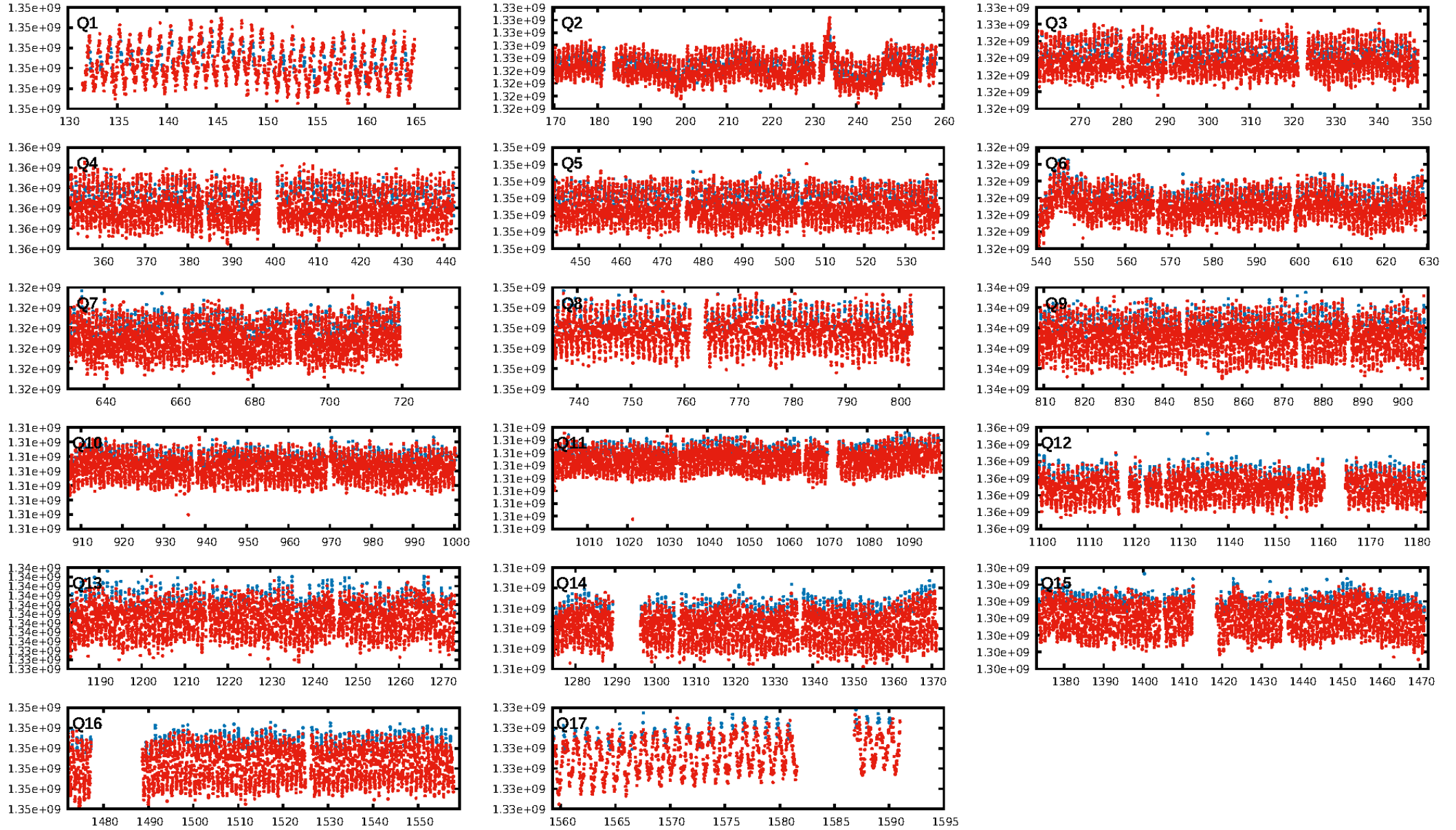
## DV Fit Results:

Period = 1.02587 [0.00011] d  
Epoch = 131.7859 [0.0318] BKJD  
Rp/R\* = 0.0014 [0.0056]  
a/R\* = 1.02 [0.80]  
b = 0.56 [28.86]  
Seff = 65523.53 [42588.62]  
Teq = 4080 [663] K  
Rp = 0.67 [2.62] Re  
a = 0.0254 [0.0100] AU  
Ag = 9.63 [75.52] [0.11 $\sigma$ ]  
Teffp = 11112 [21715] K [0.32 $\sigma$ ]

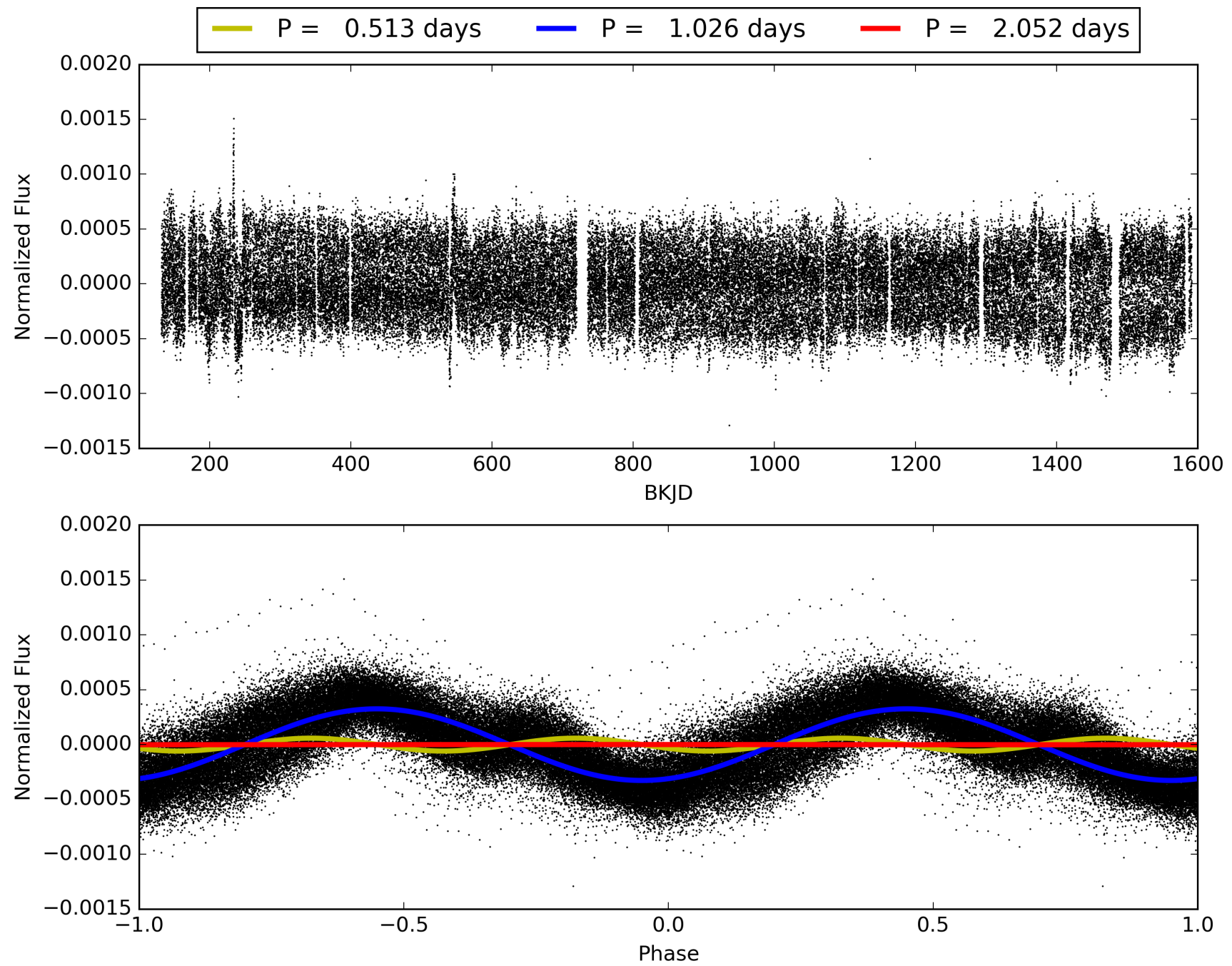
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.98 [1238/1263]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 2.632 arcsec [4.52 $\sigma$ ]  
KicOffset-rm: 1.872 arcsec [2.97 $\sigma$ ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 0.31 [5/16]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 008880162-01, PDC Light Curves

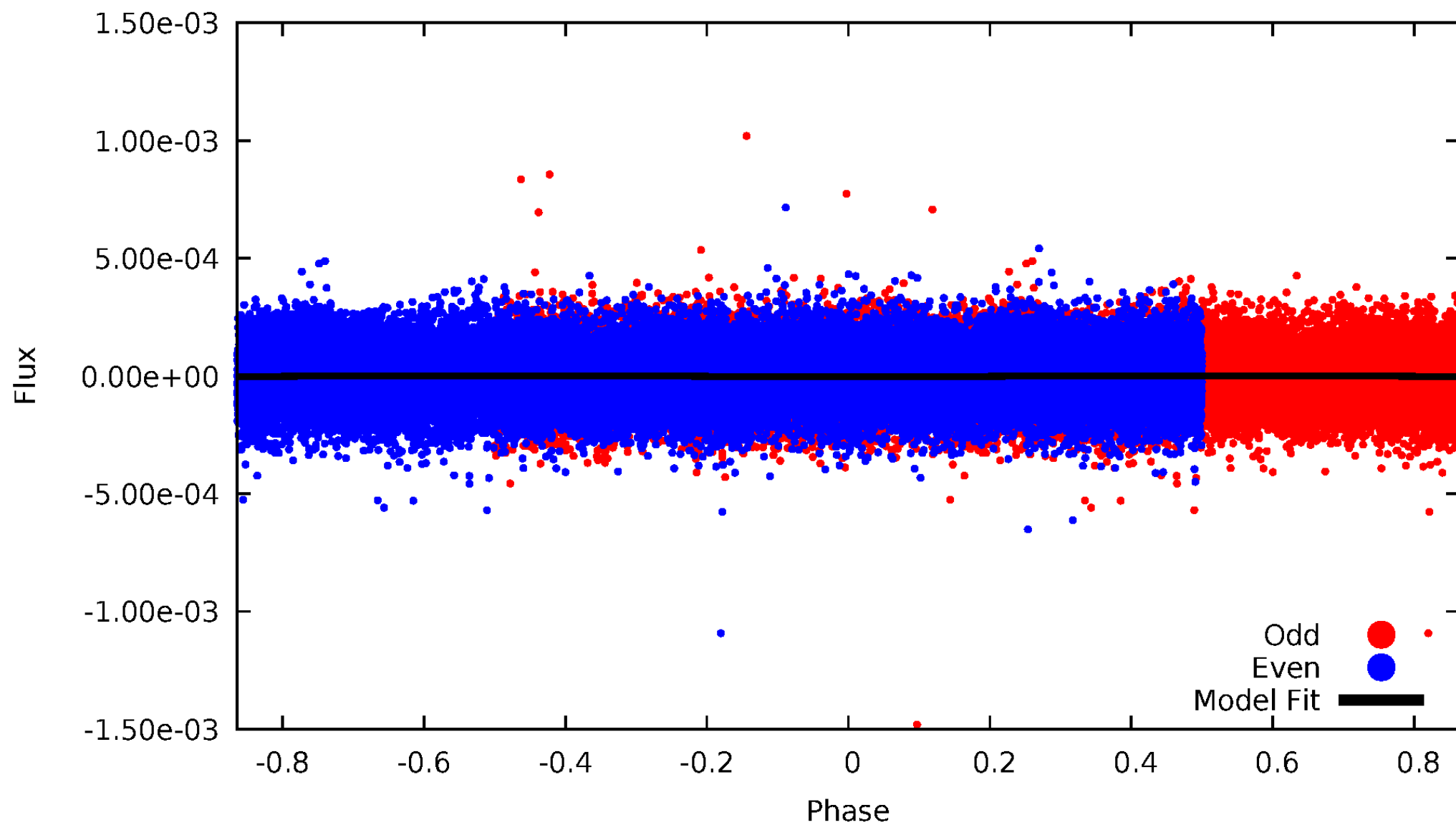


TCE 008880162-01



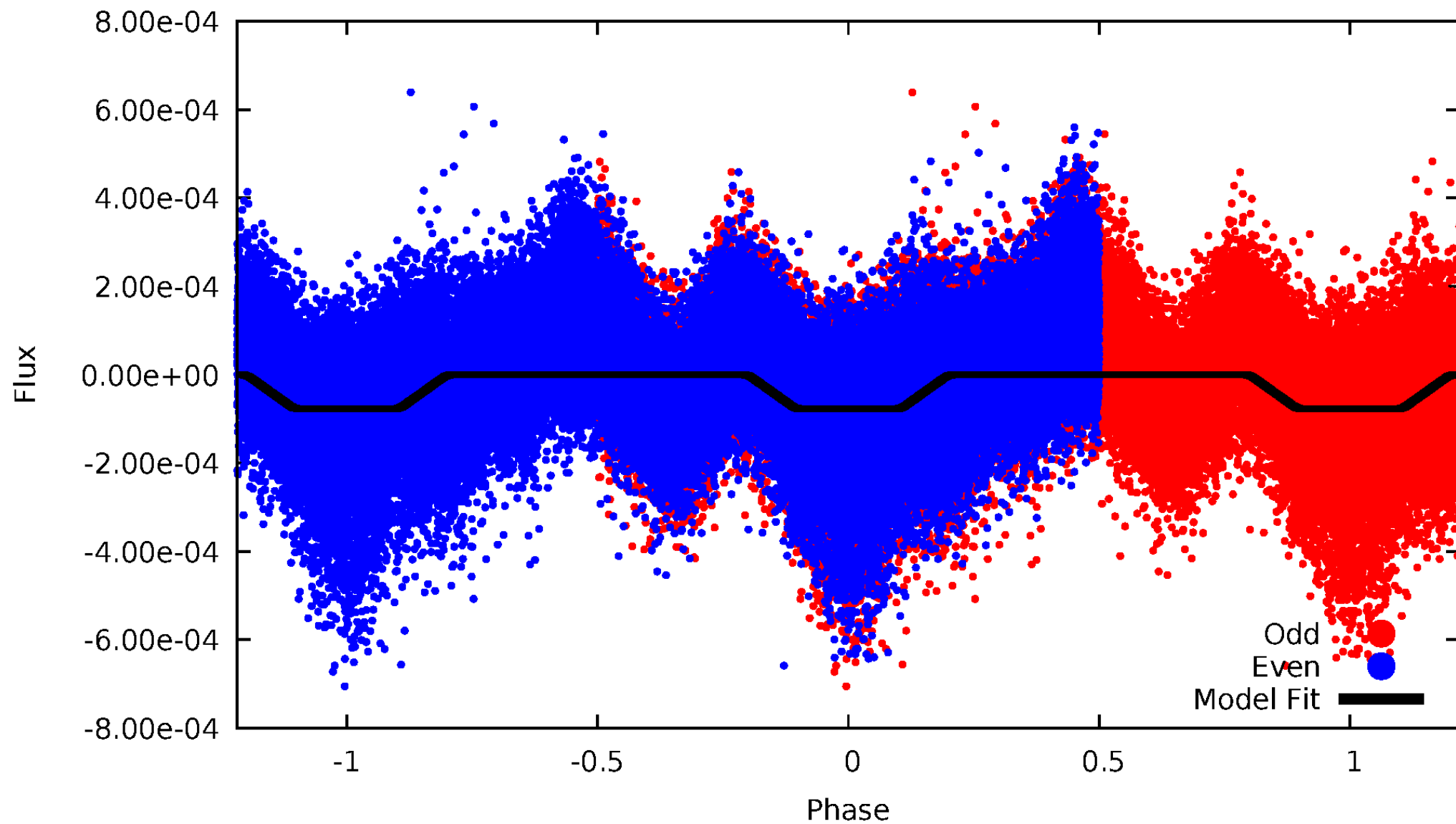
# DV Odd/Even

TCE 008880162-01



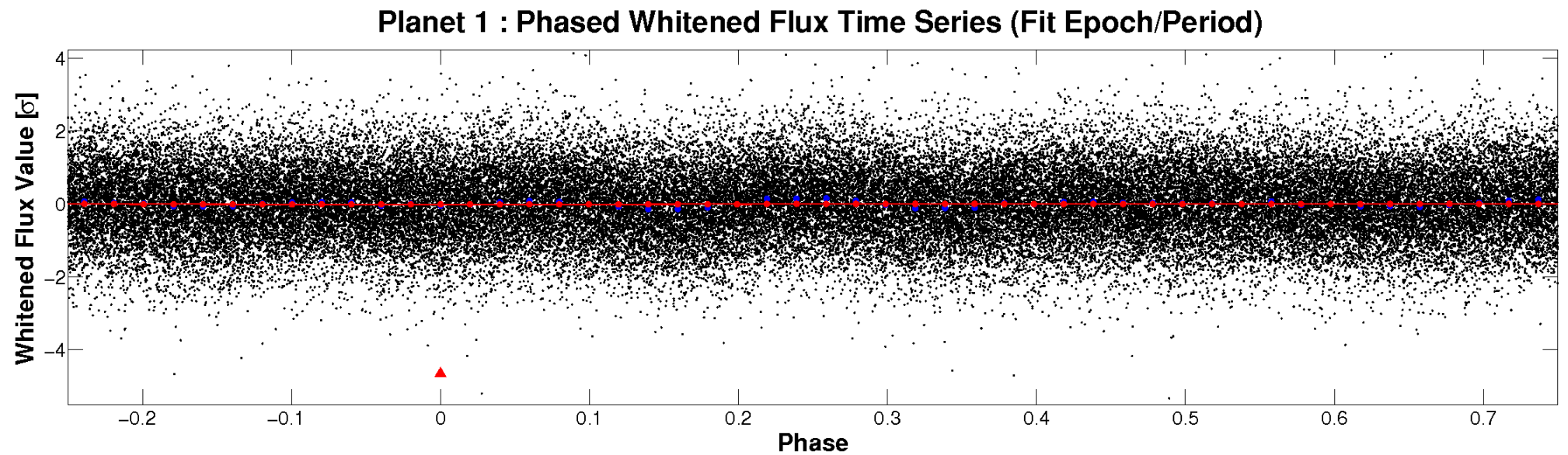
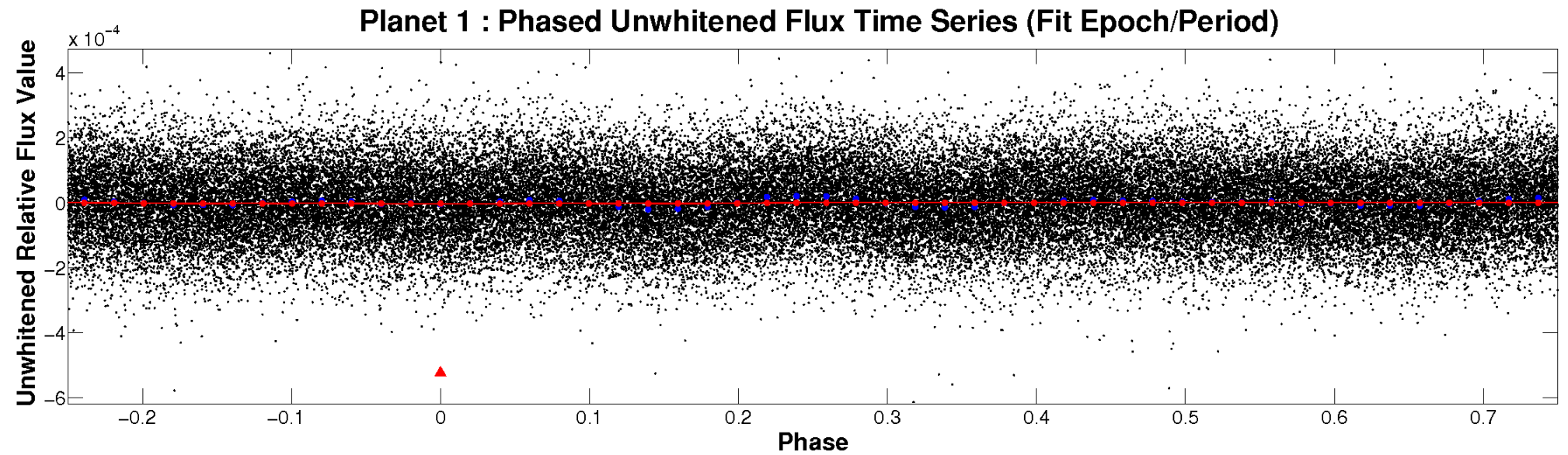
# ALT Odd/Even

TCE 008880162-01



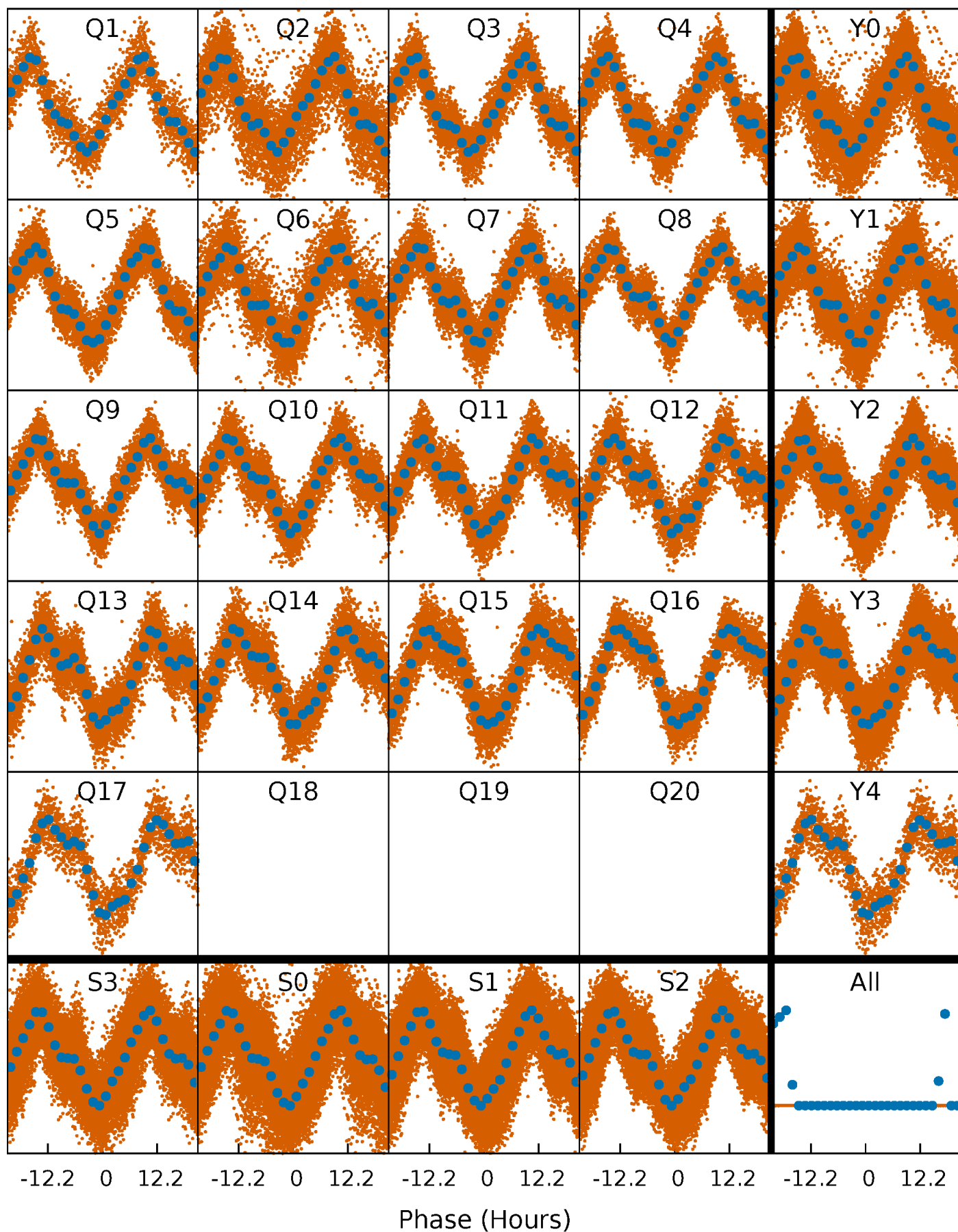


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

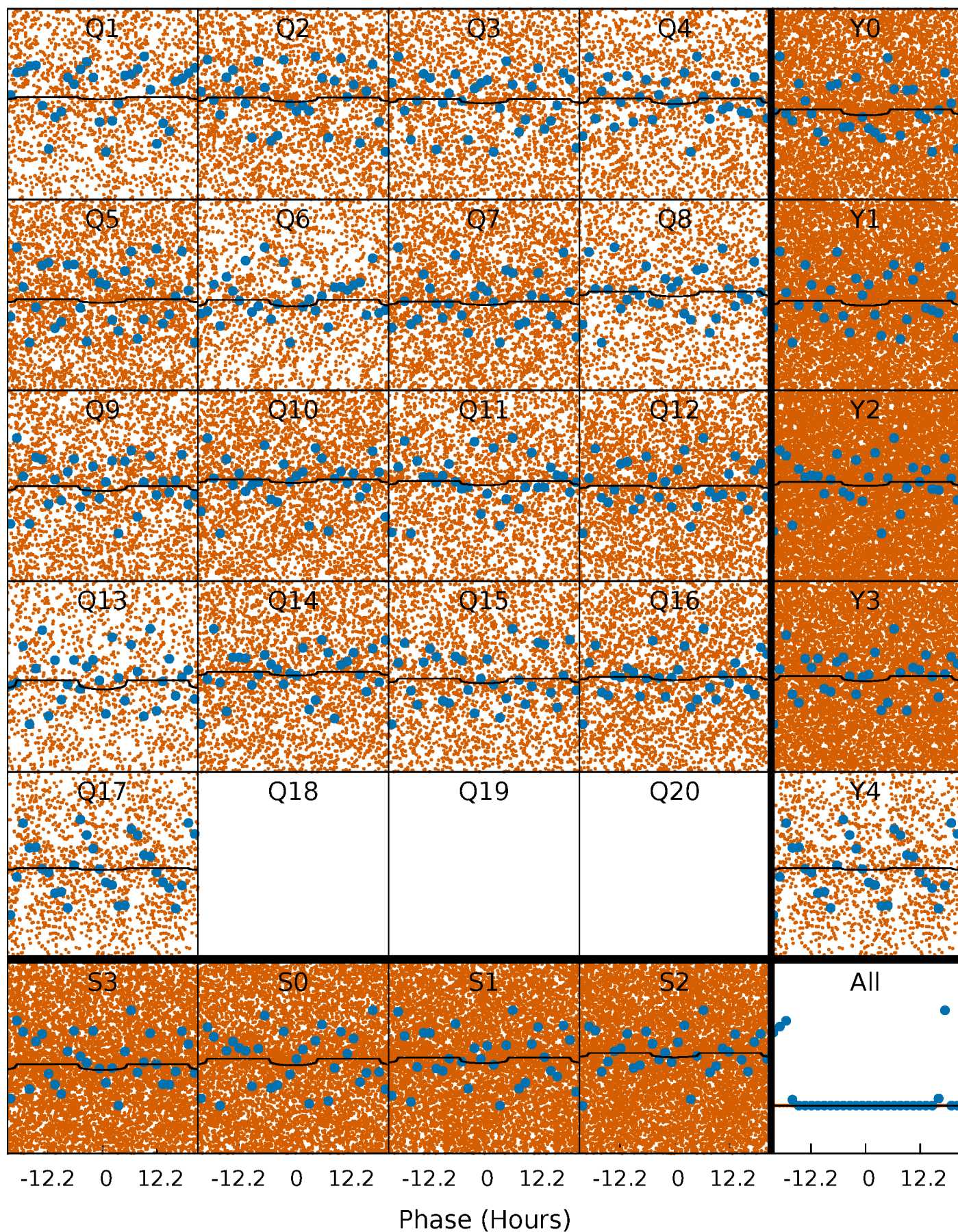
TCE 008880162-01   P= 1.025869 Days    $T_0=131.785858$  (BKJD)





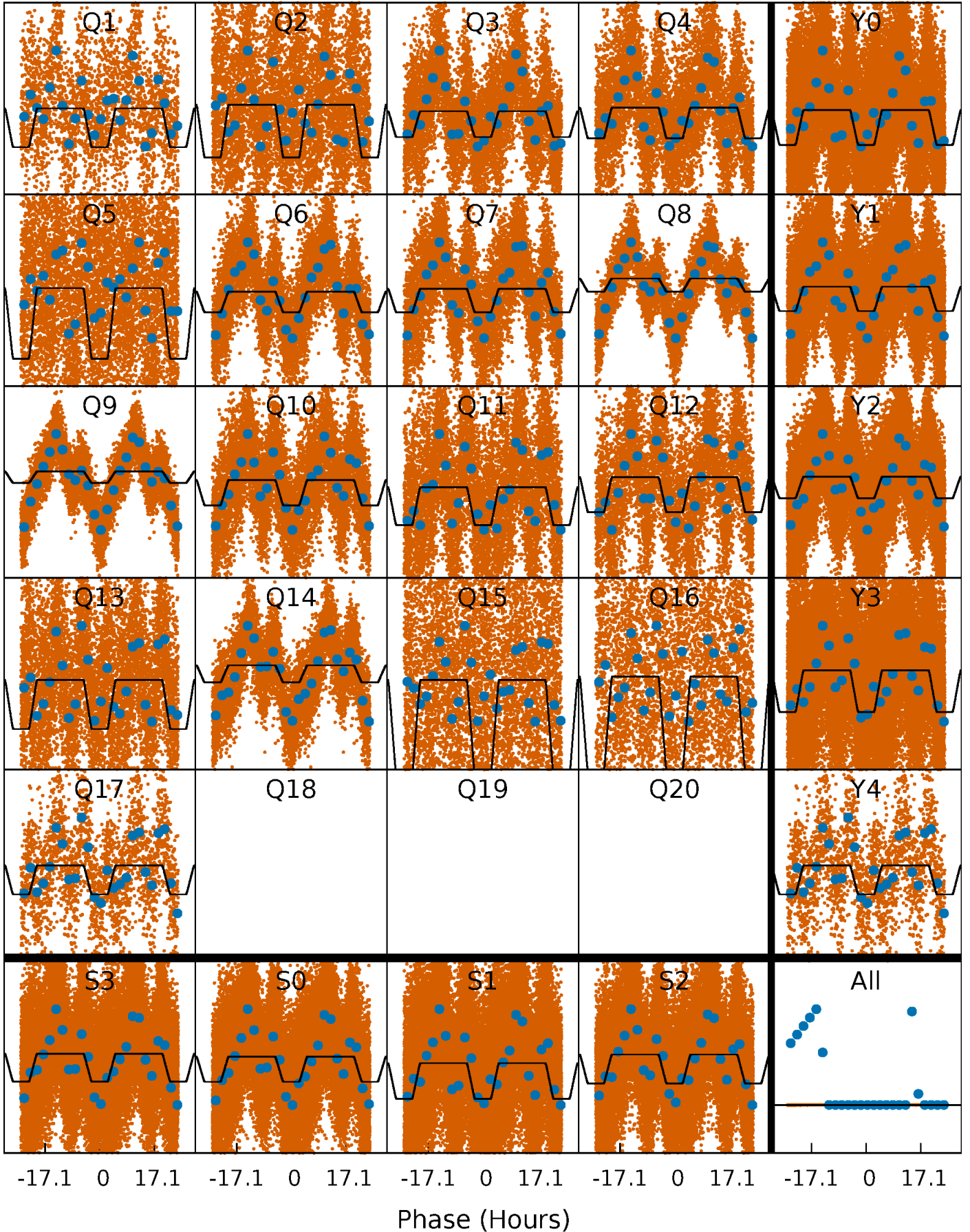
# DV Quarter-Phased Transit Curves

TCE 008880162-01 P= 1.025869 Days  $T_0=131.785858$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

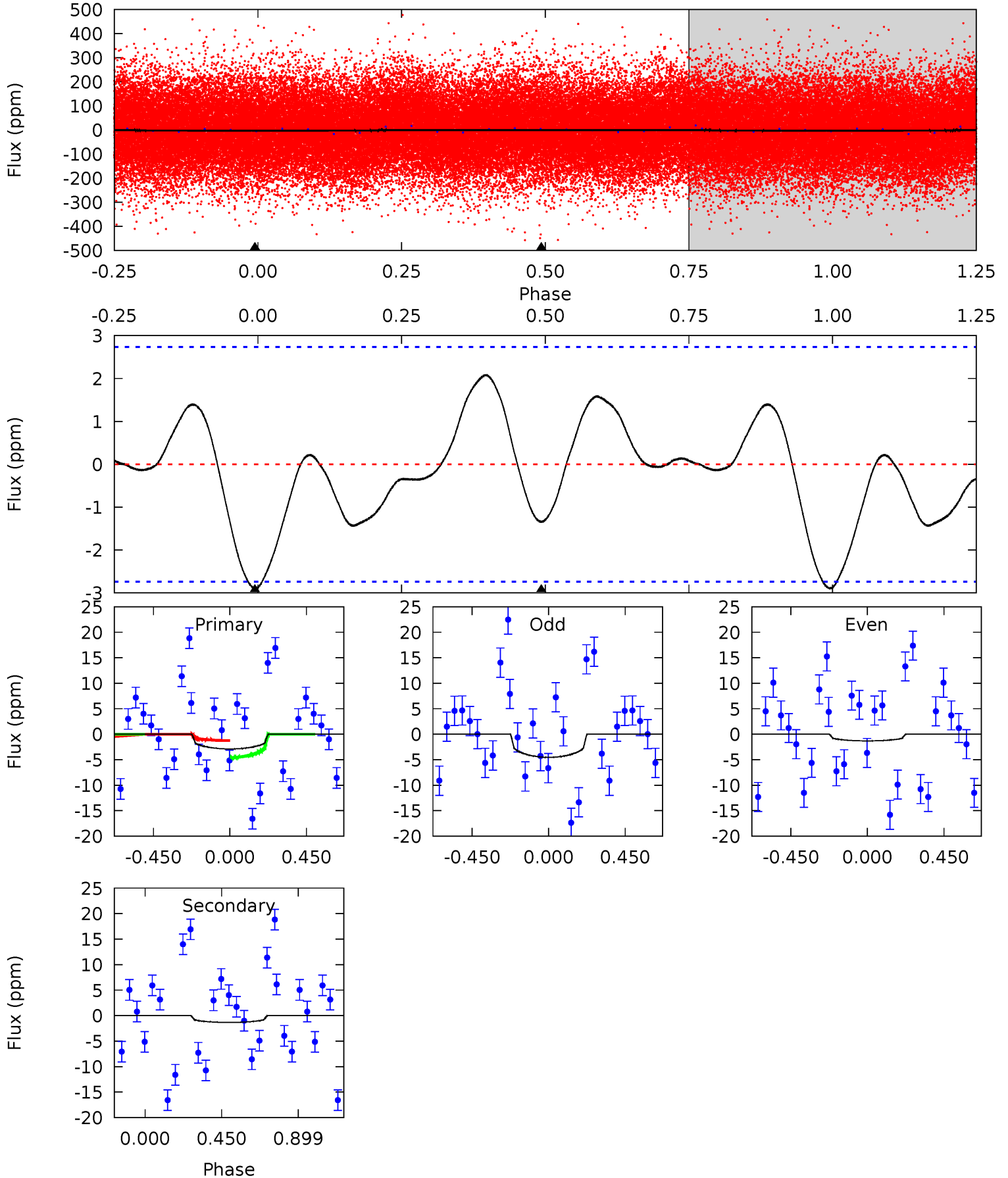
TCE 008880162-01 P= 1.025922 Days  $T_0=131.712919$  (BKJD)



# DV Model-Shift Uniqueness Test

008880162-01, P = 1.025869 Days, E = 130.759989 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
4.48	2.08	0	0	4.24	0.76	0.46	4.48	4.48	2.08	2.08	2.47	1.07	0.42	2.54

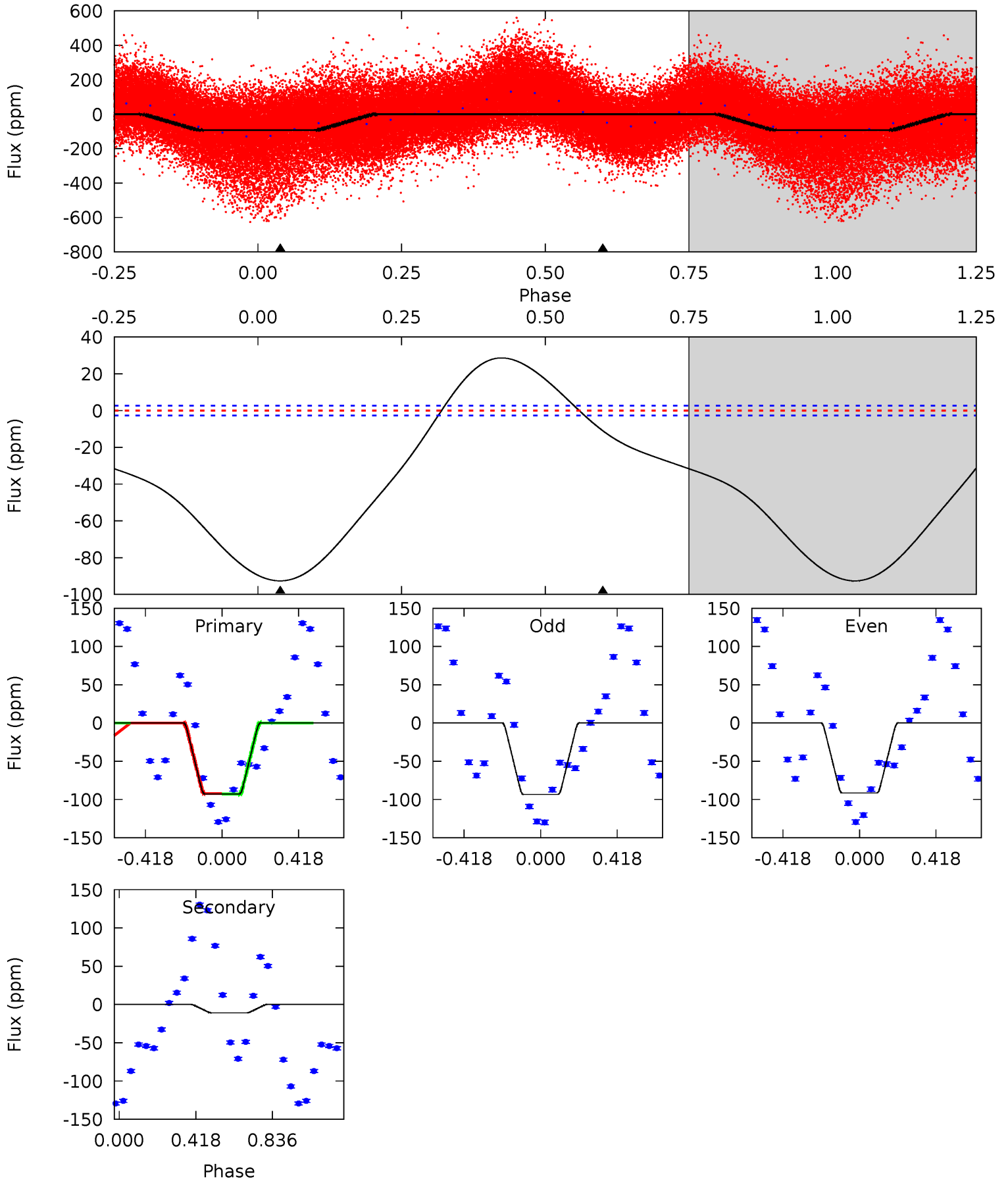




# Alt Model-Shift Uniqueness Test

008880162-01, P = 1.025922 Days, E = 130.686997 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
148.2	17.5	0	0	4.25	0.81	20.8	148.2	148.2	17.5	17.5	1.50	1.50	0.24	0.41



### Stellar Parameters For KIC 008880162

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7120^{+168}_{-253}$	$3.492^{+0.374}_{-0.066}$	$0.000^{+0.250}_{-0.250}$	$4.291^{+0.306}_{-1.735}$	$2.082^{+0.103}_{-0.387}$	$0.037^{+0.112}_{-0.005}$
	+2%/-4%	+11%/-2%	+inf%/-inf%	+7%/-40%	+5%/-19%	+303%/-14%
Source	PHO1	FLK73	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 008880162-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1 \pm 1$	$1.78^{+1.90}_{-1.19}$	$5561^{+282}_{-526}$	$-4055^{+10019}_{-578}$	$0.130^{+1.116}_{-0.104}$
Alt.	$-11 \pm 1$	$3.70^{+2.55}_{-2.00}$	$5525^{+330}_{-560}$	$-2971^{+8961}_{-1388}$	$0.276^{+1.058}_{-0.178}$

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



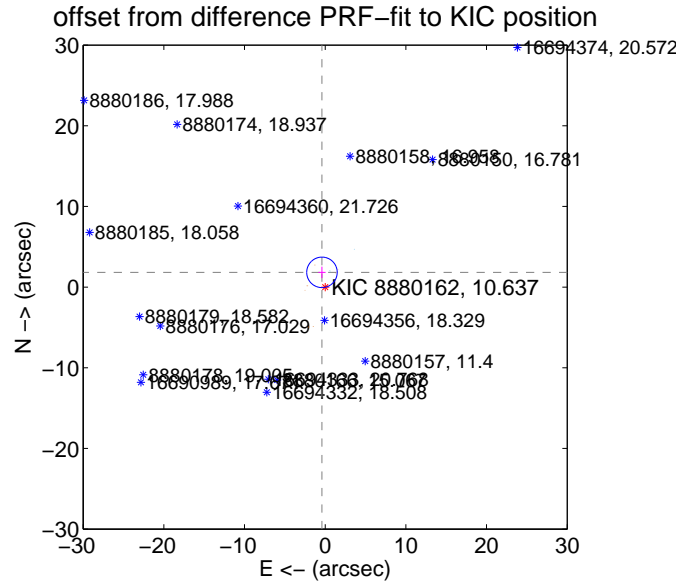
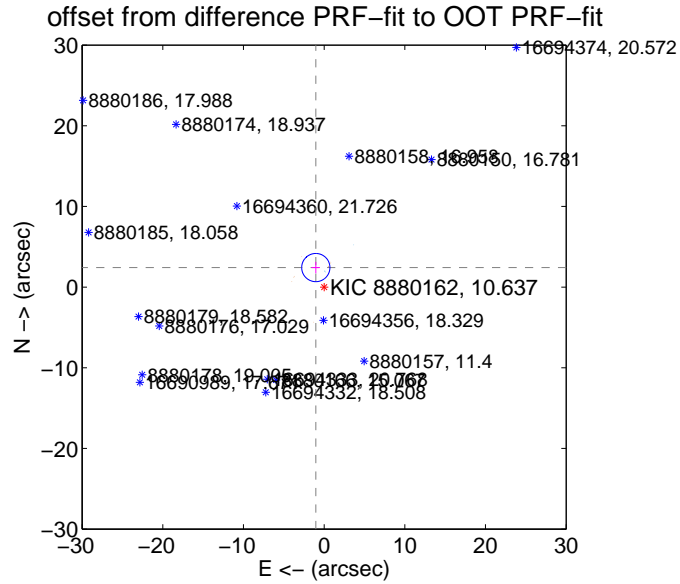
## DV Centroid Data

Supplemental centroid analysis for 008880162-01. **Kepler magnitude: 10.64.** Transit SNR 1.91

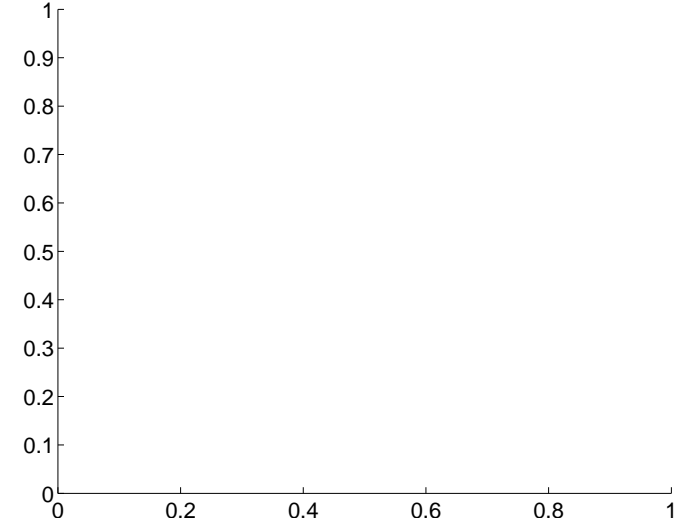
There are 5 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.54 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>2.632 \pm 0.583</math></b>	<b>4.52</b>	$1.033 \pm 0.521$	$2.421 \pm 0.708$
PRF-fit source offset from KIC position	$1.872 \pm 0.630$	2.97	$0.399 \pm 0.449$	$1.829 \pm 0.711$
photometric centroid source offset	—	—	—	—

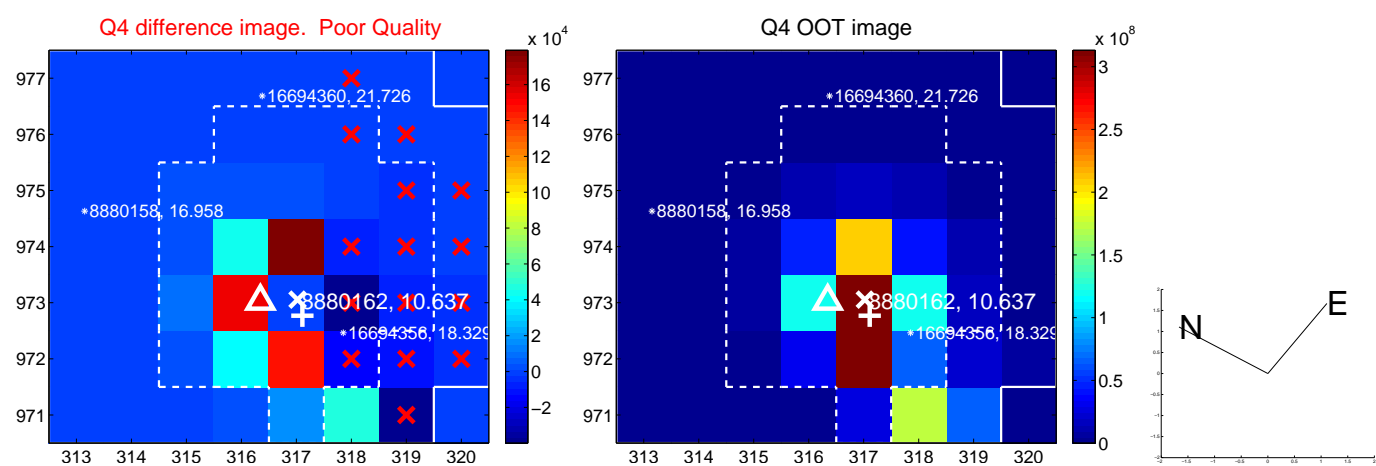
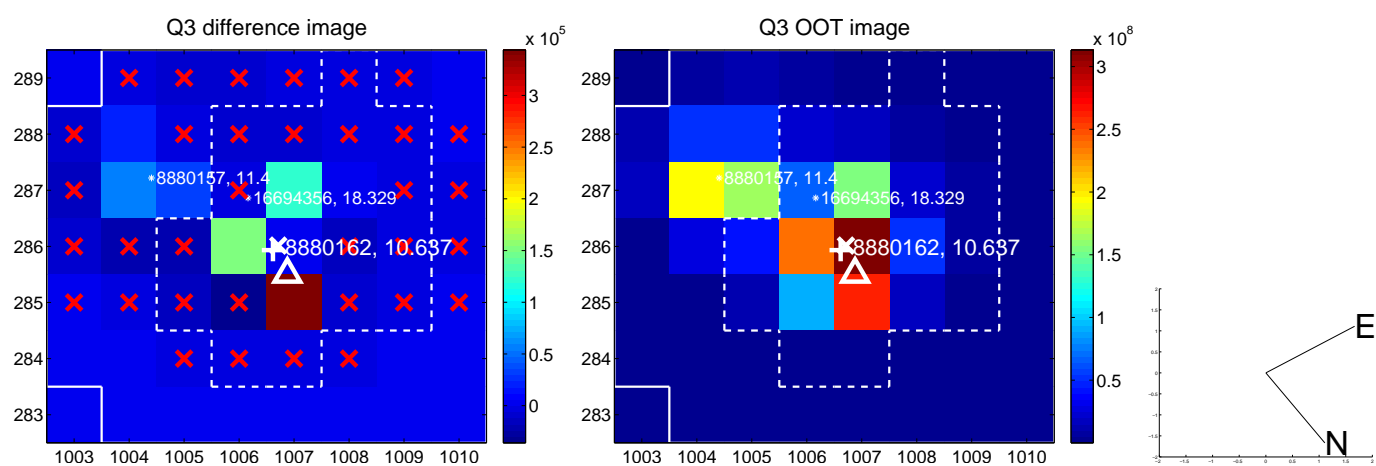
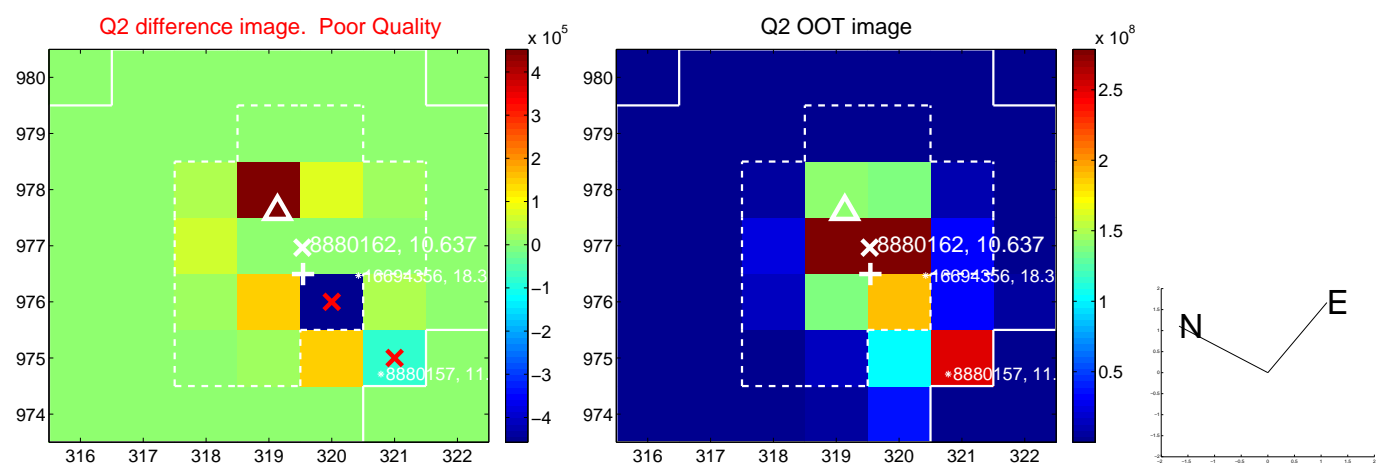
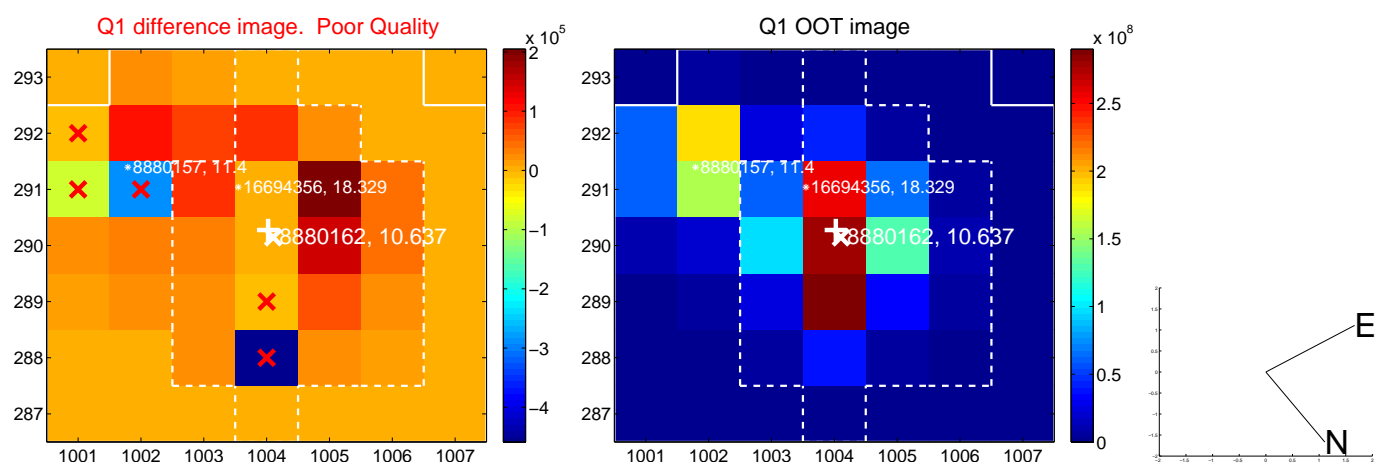


There are no photometric centroids

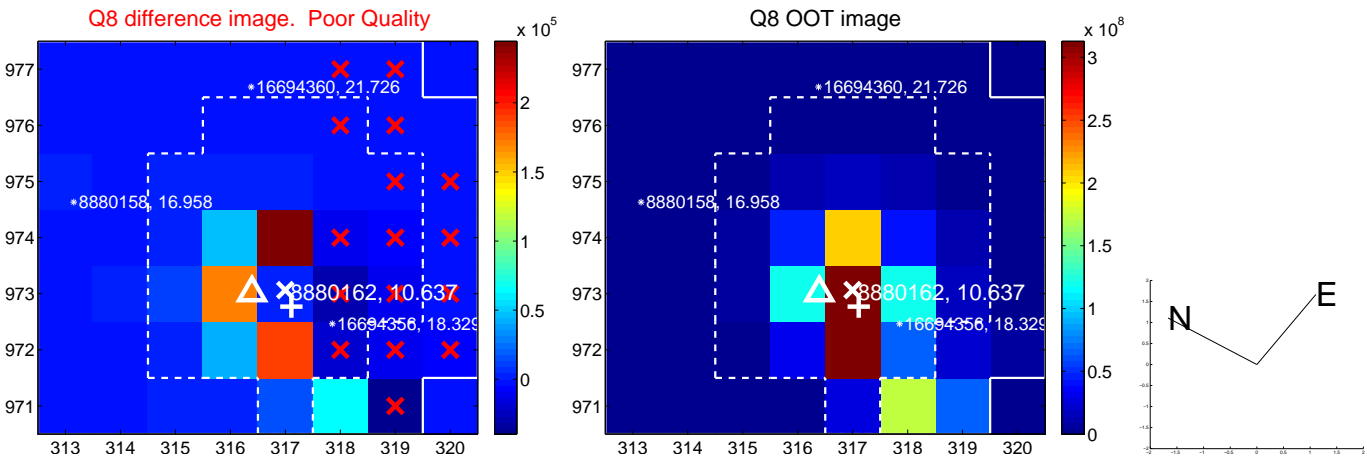
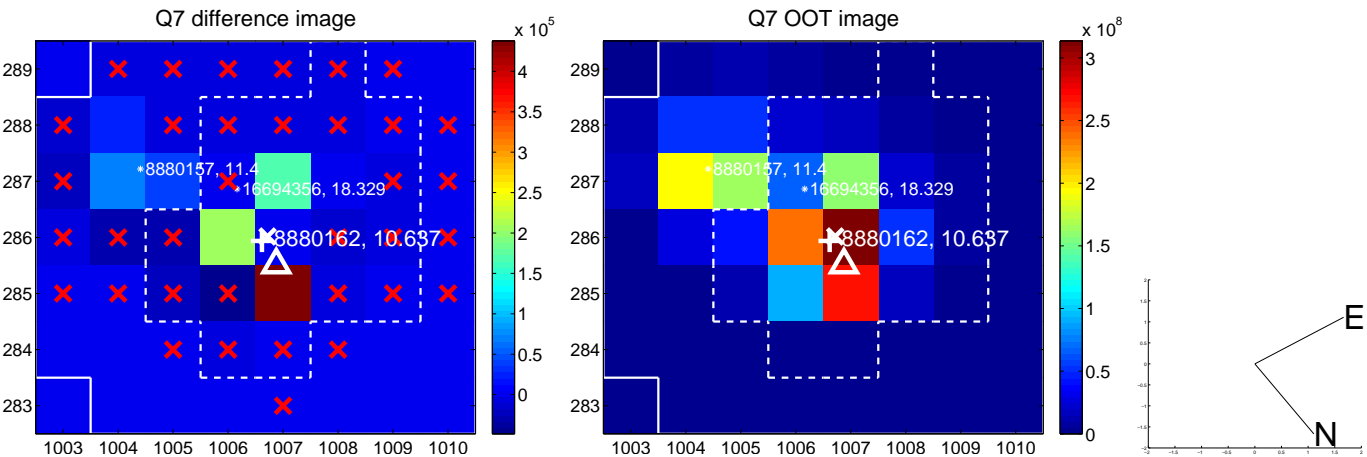
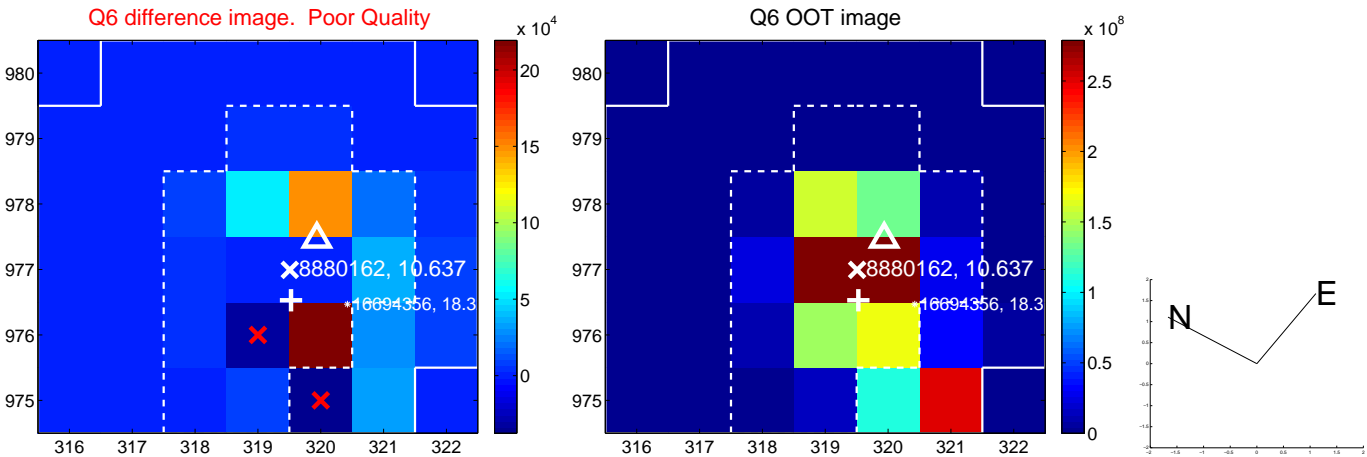
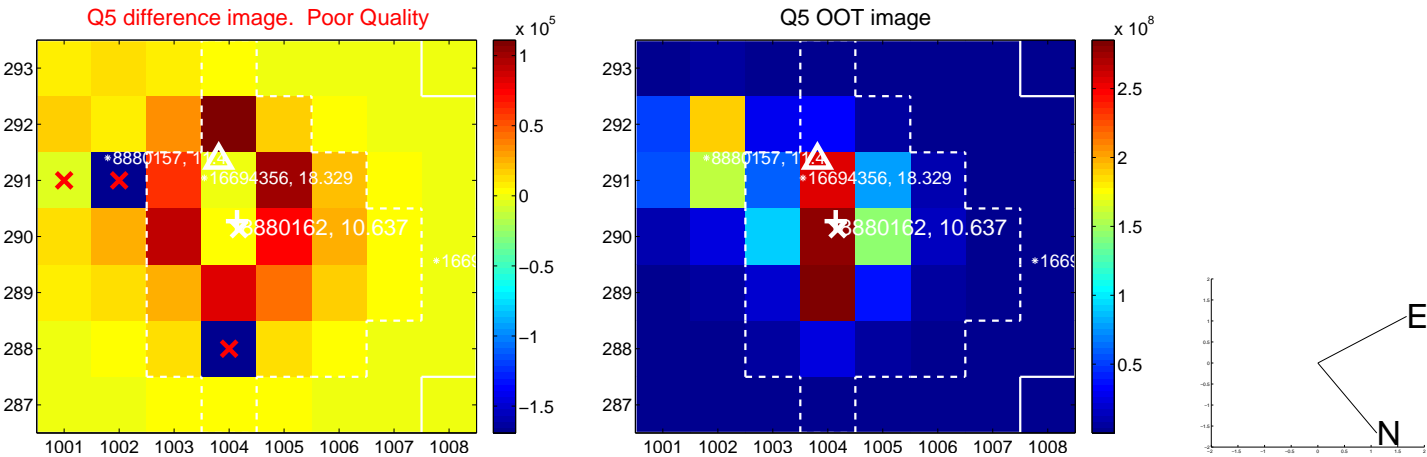


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

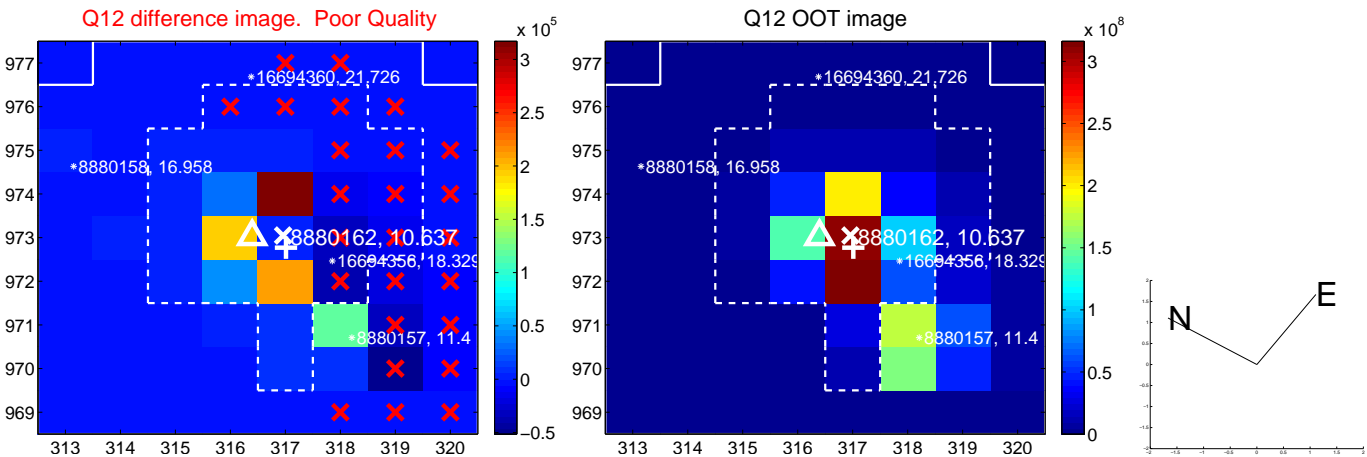
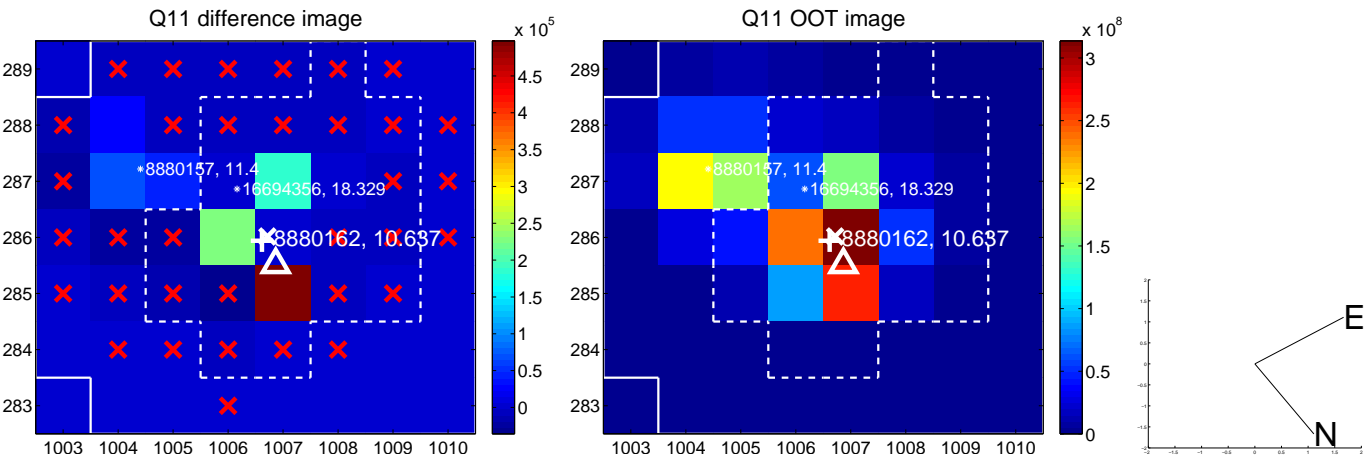
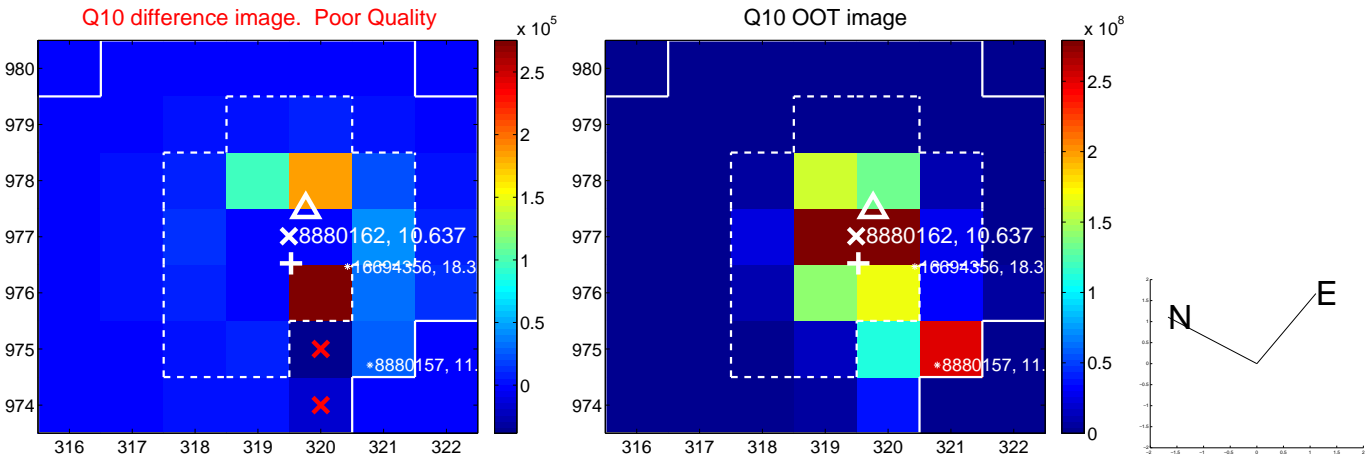
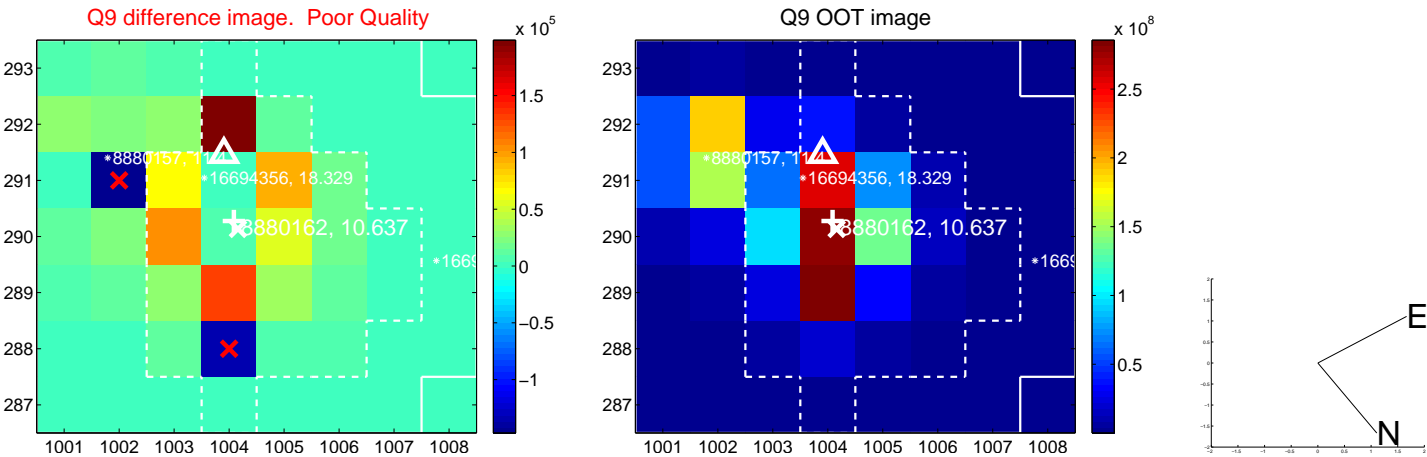
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



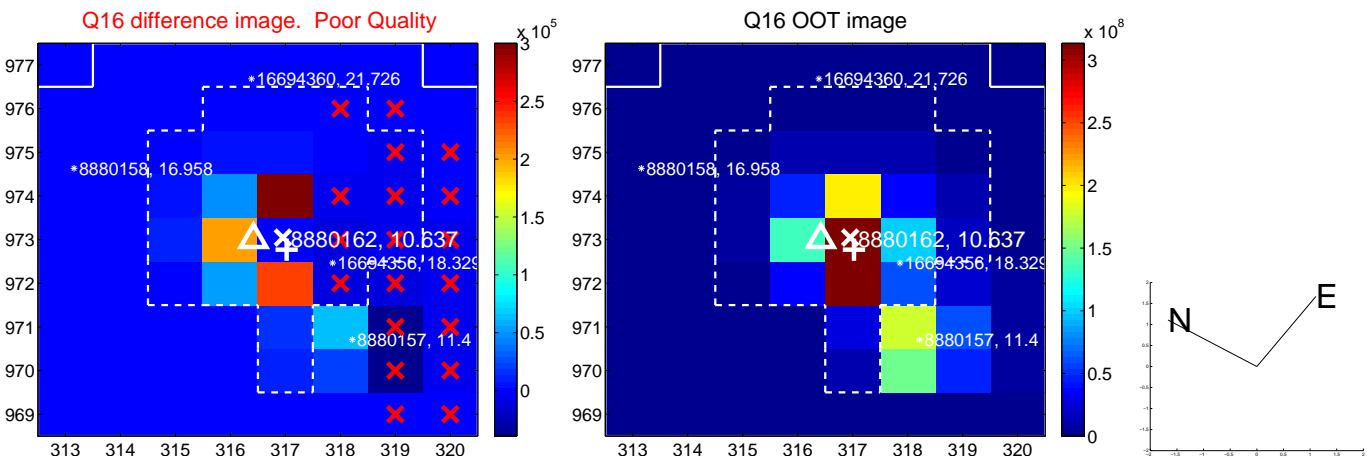
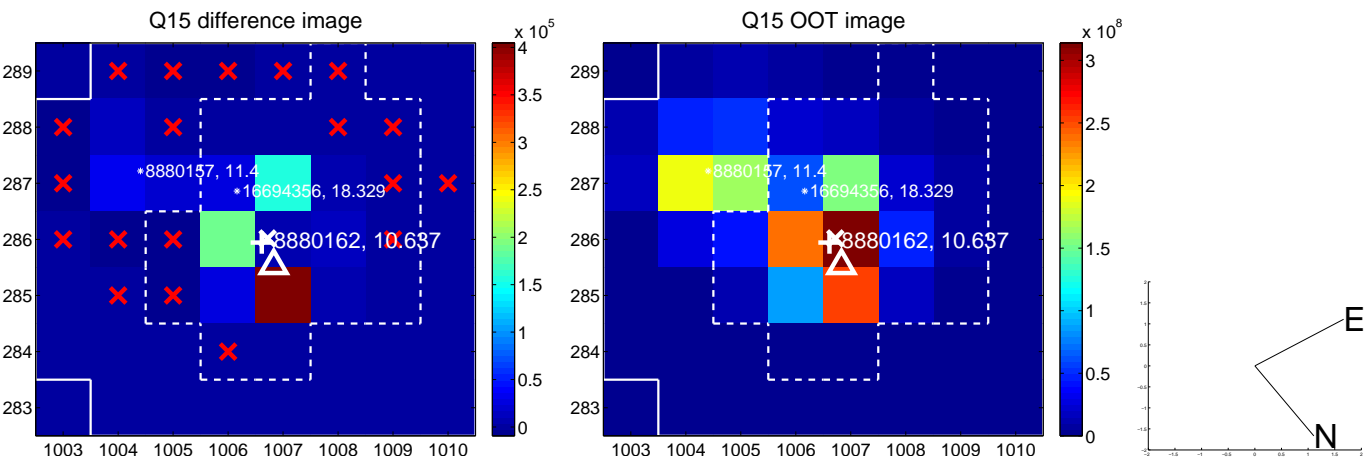
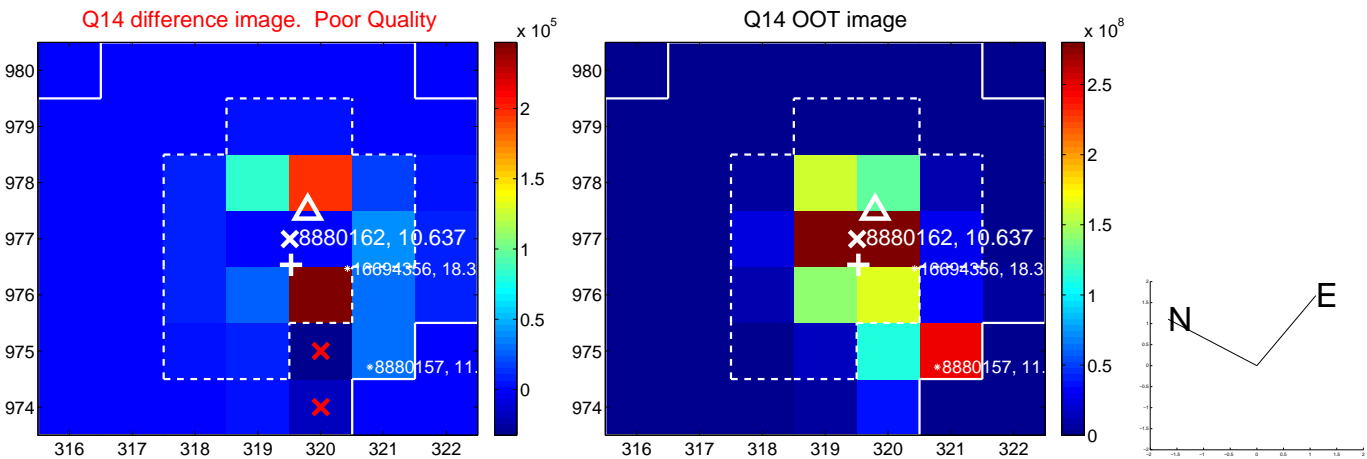
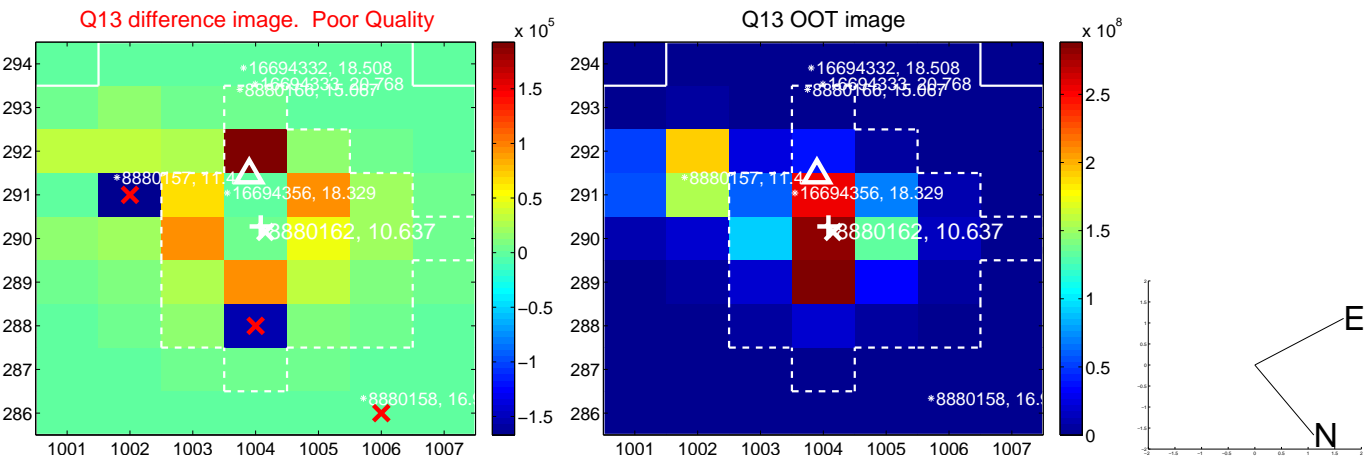
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

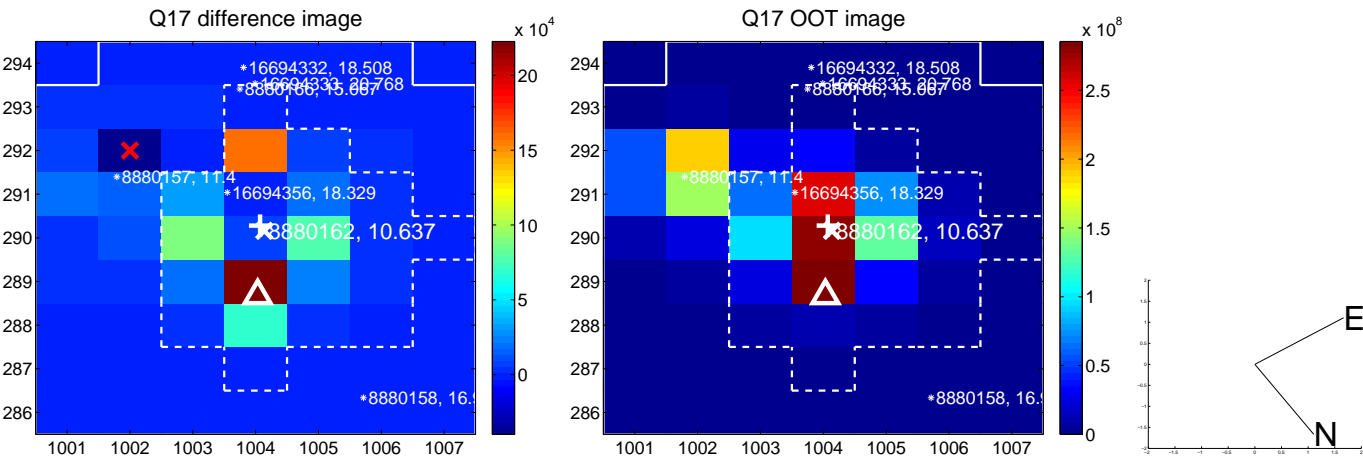


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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

