

# KIC 004768677

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004768677-01	OBS	No	0.698252	132.236784	6.0	7.226	9.5	8.4	3.01	8657	0.75	126019.15

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004768677-01	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.

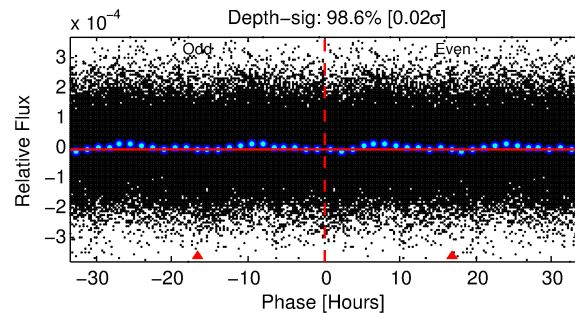
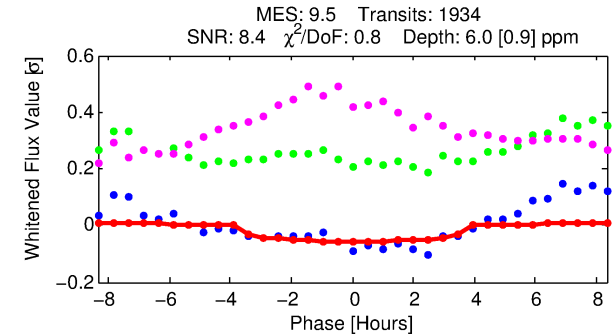
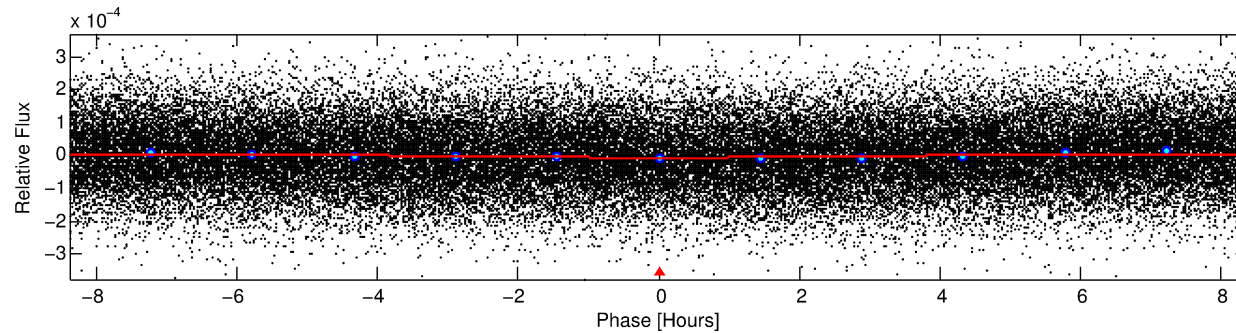
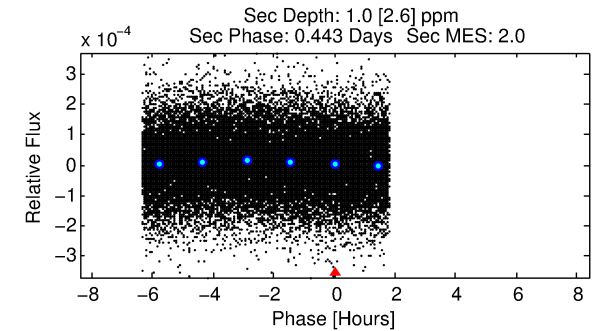
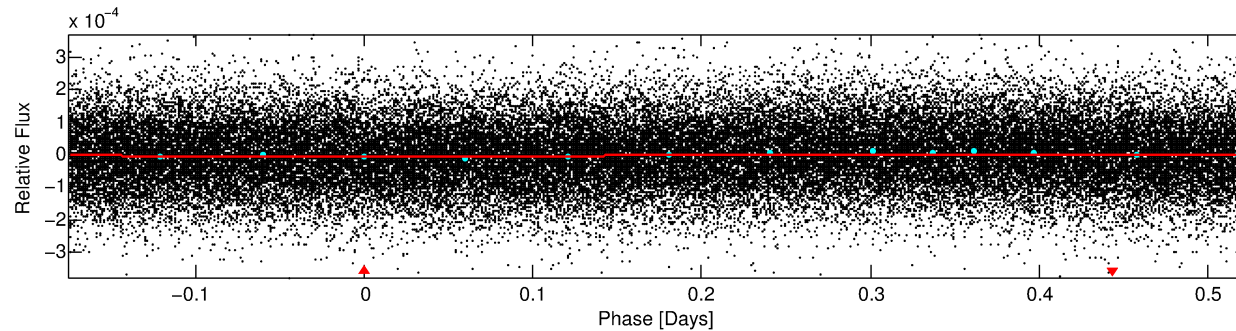
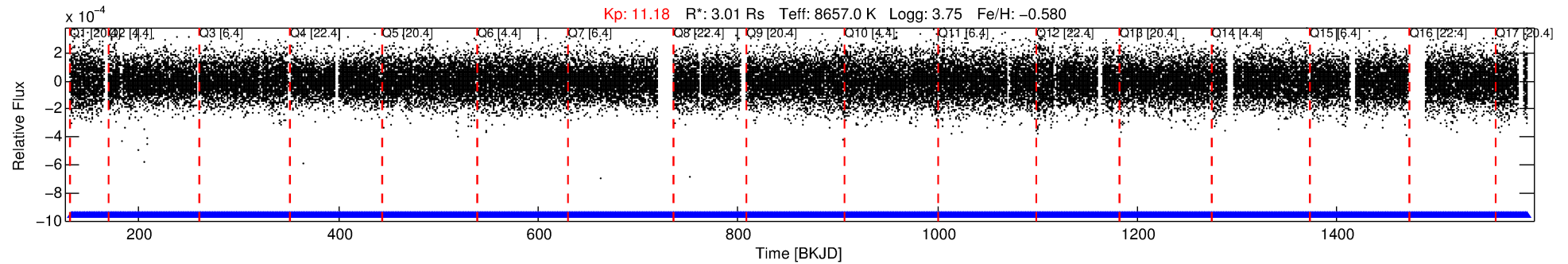
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004768677-01

No Significant Match Found

# DV One-Page Summary

KIC: 4768677 Candidate: 1 of 1 Period: 0.698 d



## DV Fit Results:

Period = 0.69825 [0.00002] d  
Epoch = 132.2368 [0.0084] BKJD  
 $R_p/R^* = 0.0023$  [0.0022]  
 $a/R^* = 1.03$  [0.29]  
 $b = 0.05$  [109.16]  
 $S_{\text{eff}} = 126019.15$  [57080.15]  
 $T_{\text{eq}} = 4804$  [544] K  
 $R_p = 0.75$  [0.74]  $R_{\text{e}}$   
 $a = 0.0190$  [0.0055] AU  
 $A_g = 0.35$  [1.16] [-0.56σ]  
 $T_{\text{eff}} = 5710$  [4697] K [0.19σ]

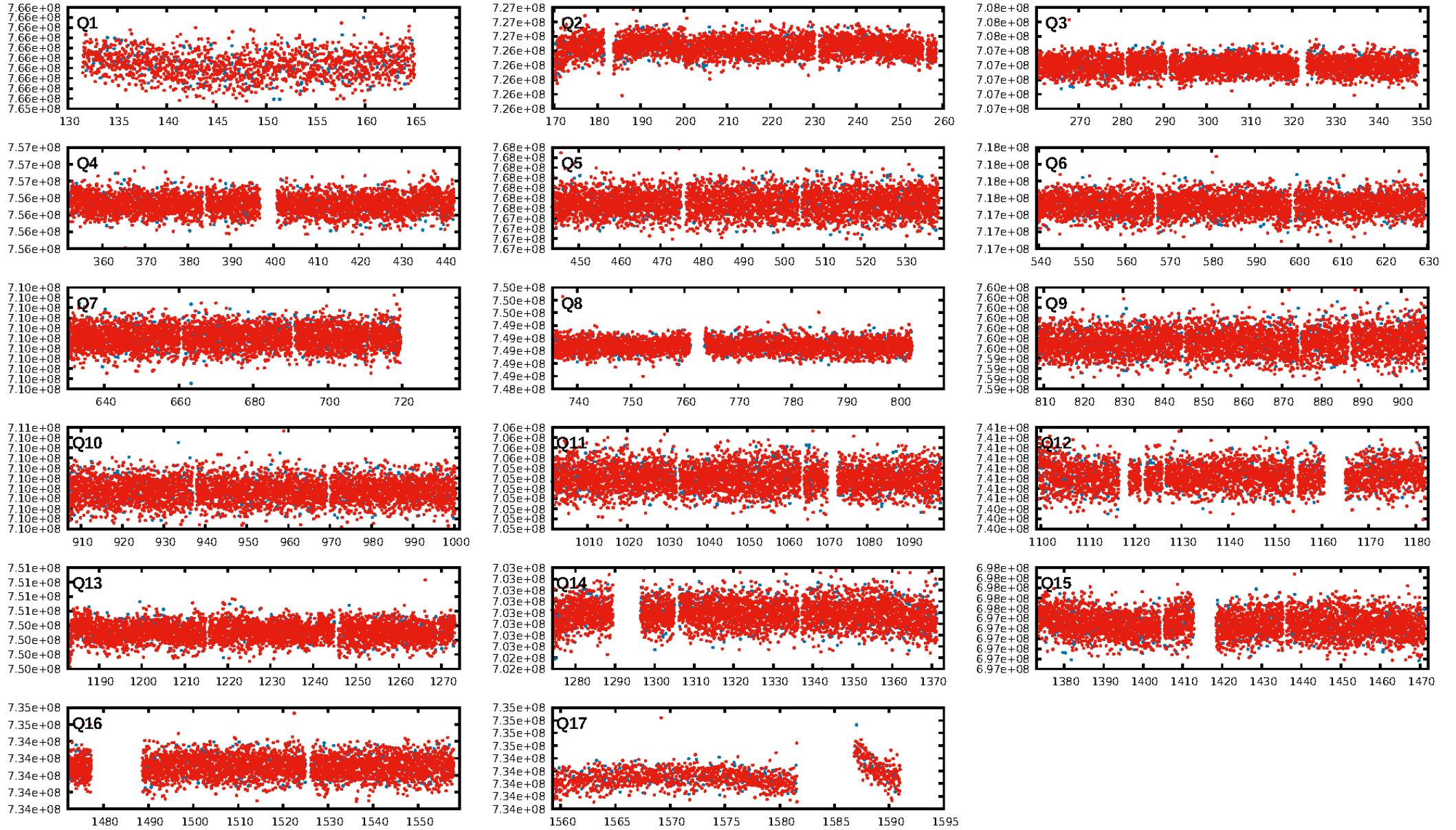
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1846/1846]  
GhostDiagnostic-chr: 2.358  
Centroid-sig: 0.0%  
Centroid-so: 3.092 arcsec [2.91σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0 [0]  
KicOffset-st: 0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [17/17]

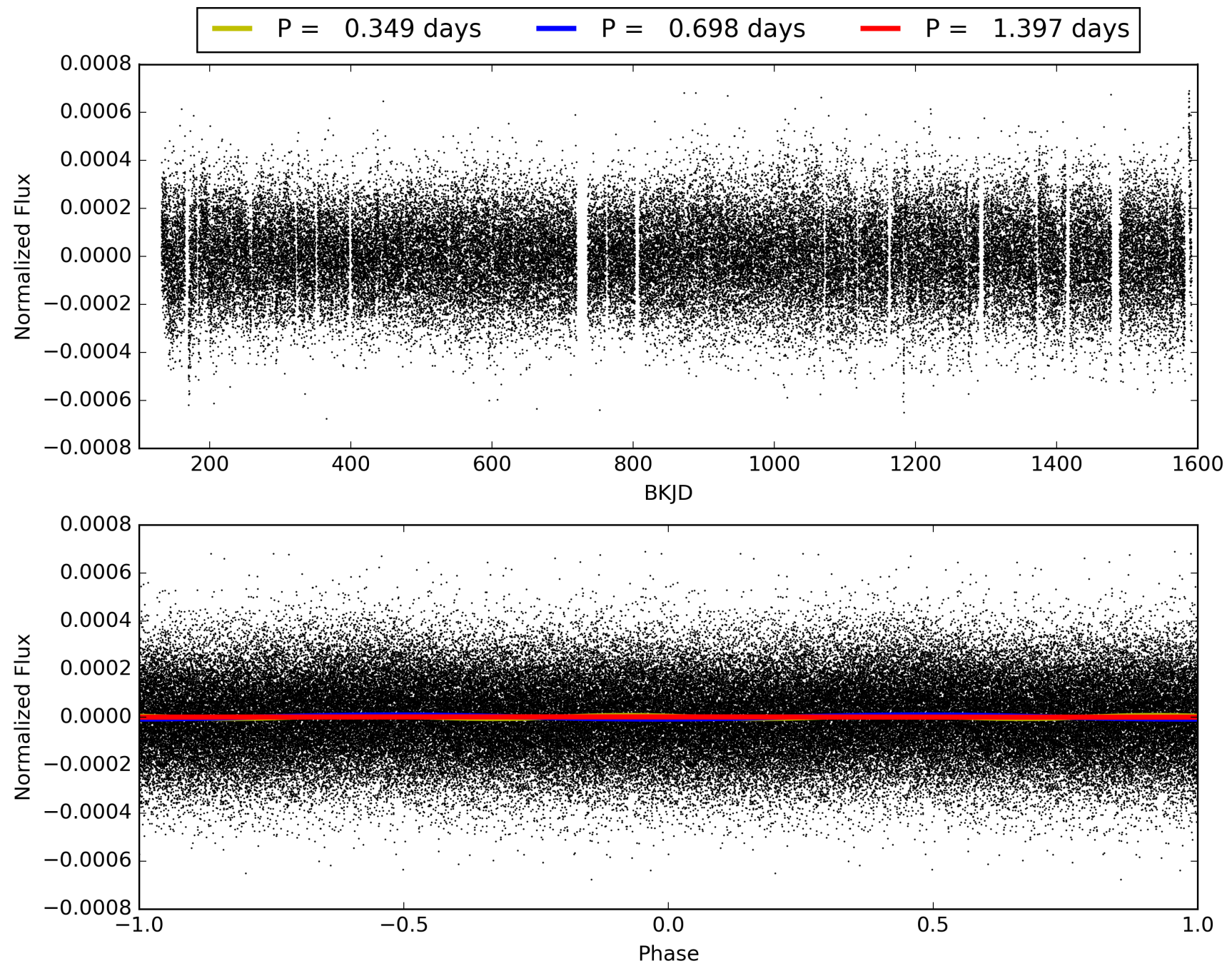
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:26:31 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 004768677-01, PDC Light Curves

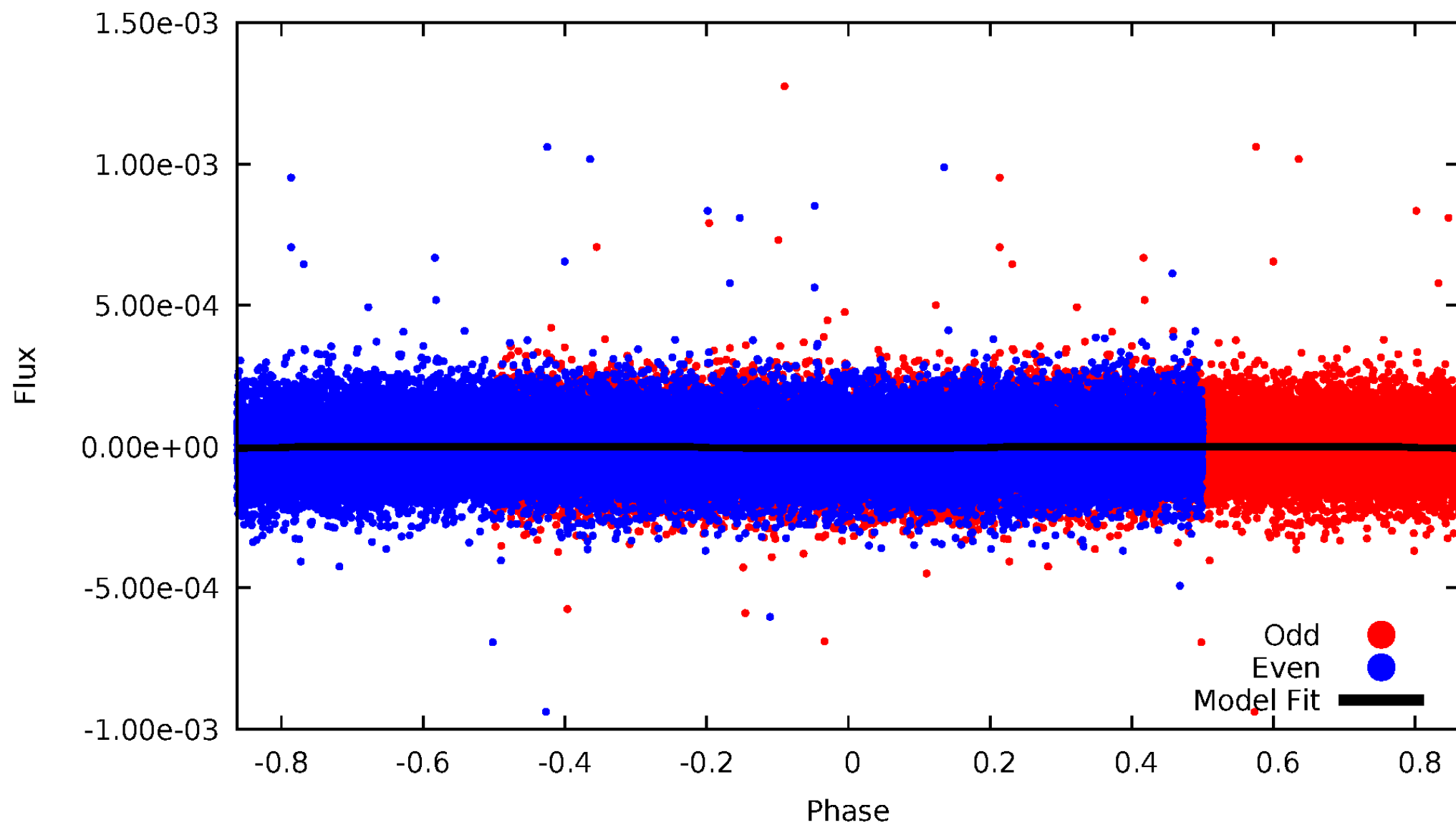


TCE 004768677-01



# DV Odd/Even

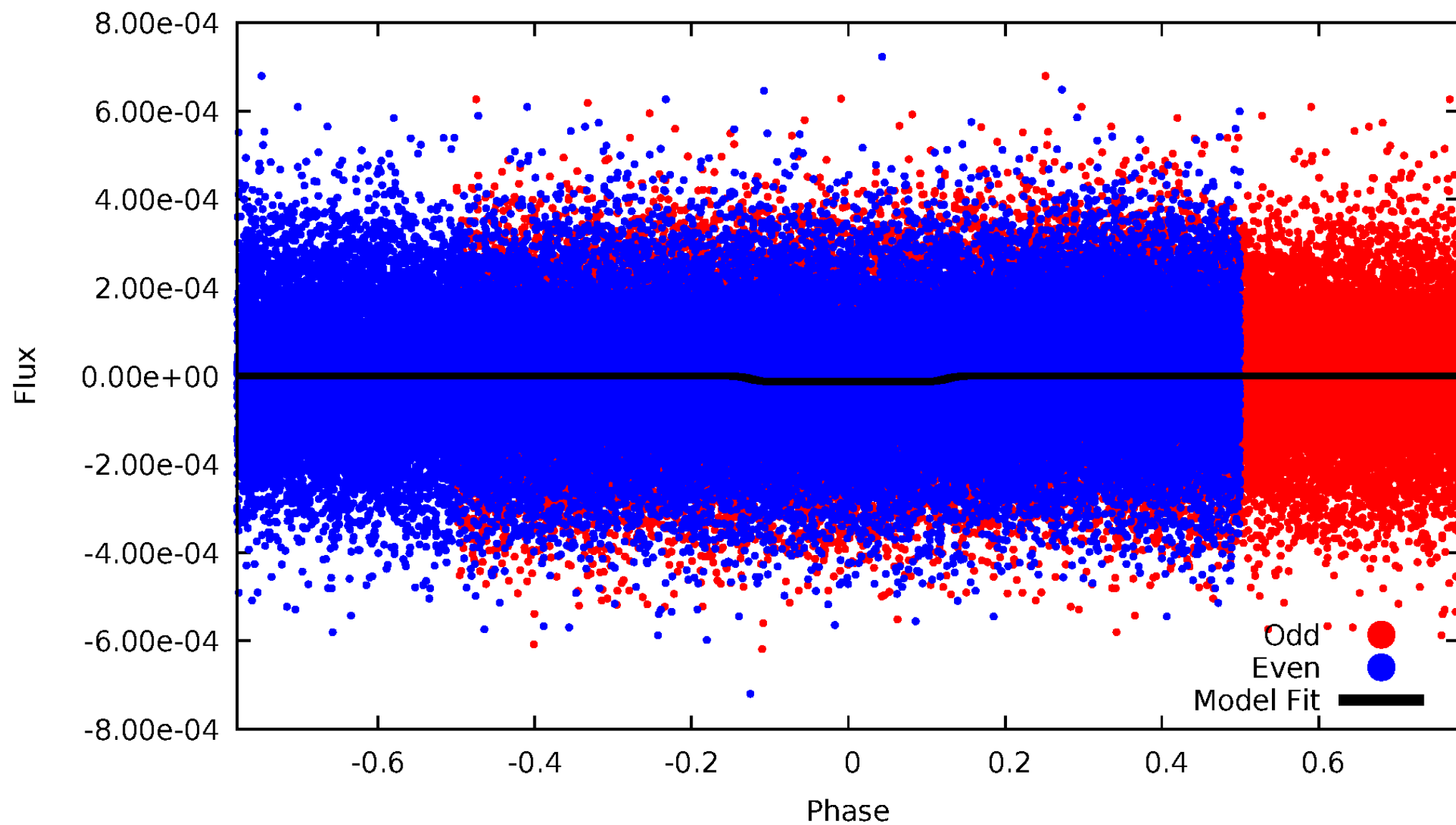
TCE 004768677-01





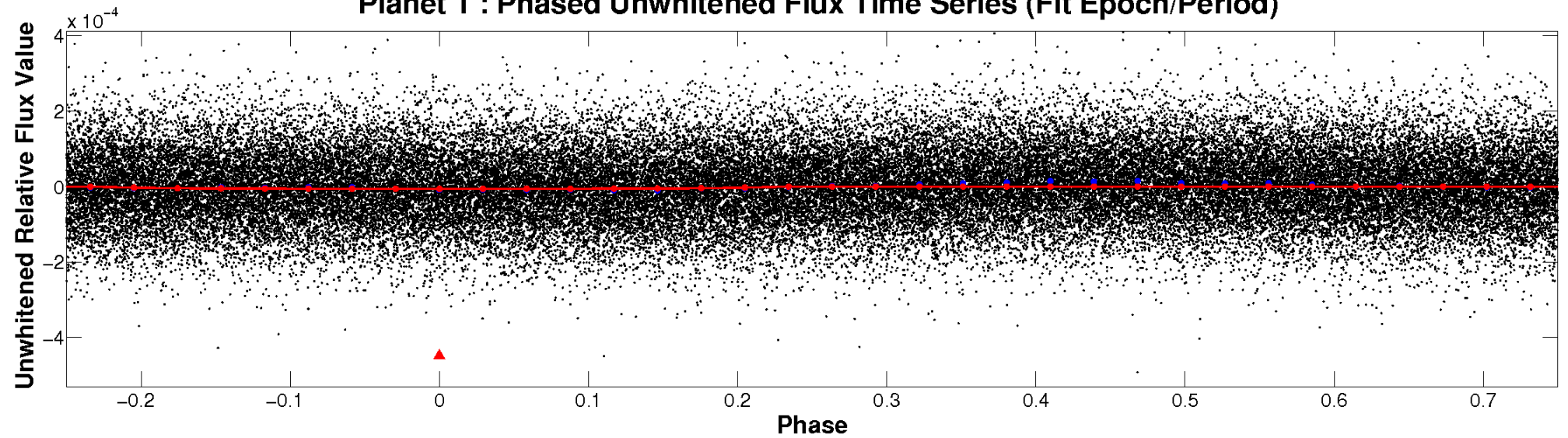
# ALT Odd/Even

TCE 004768677-01

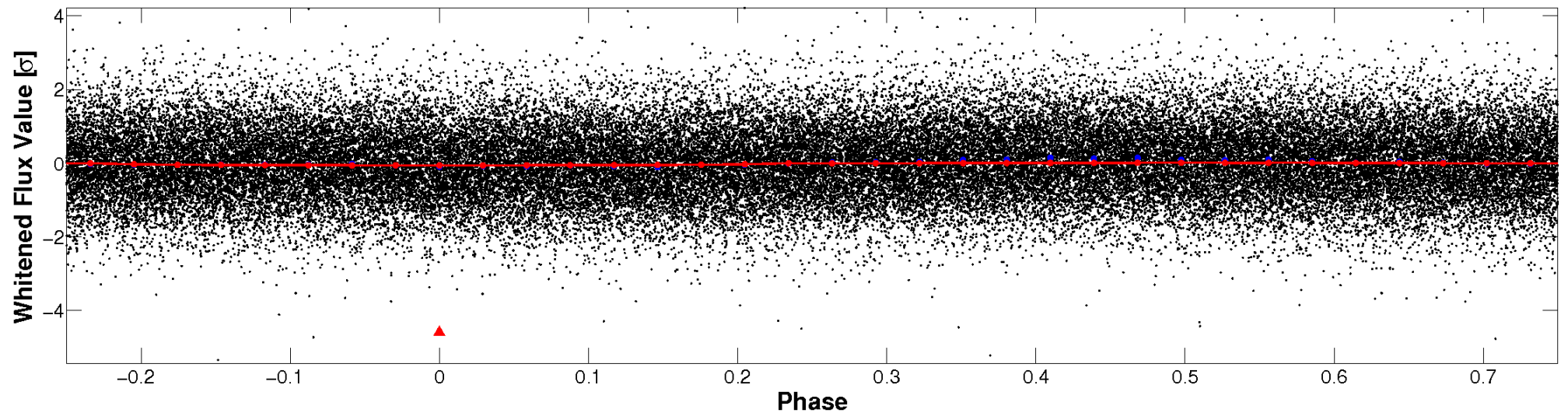


# Non-Whitened Vs. Whitened Light Curve

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

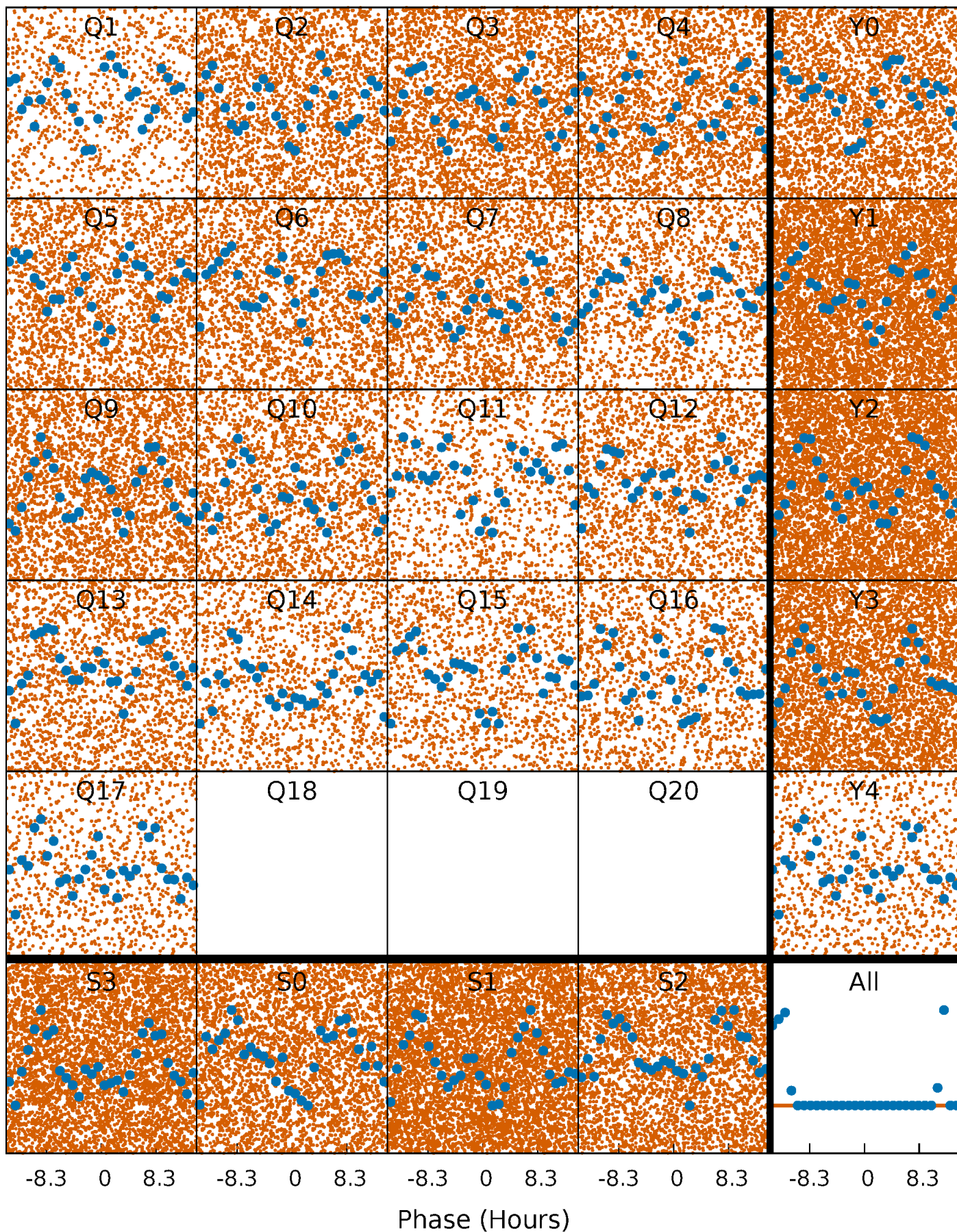


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

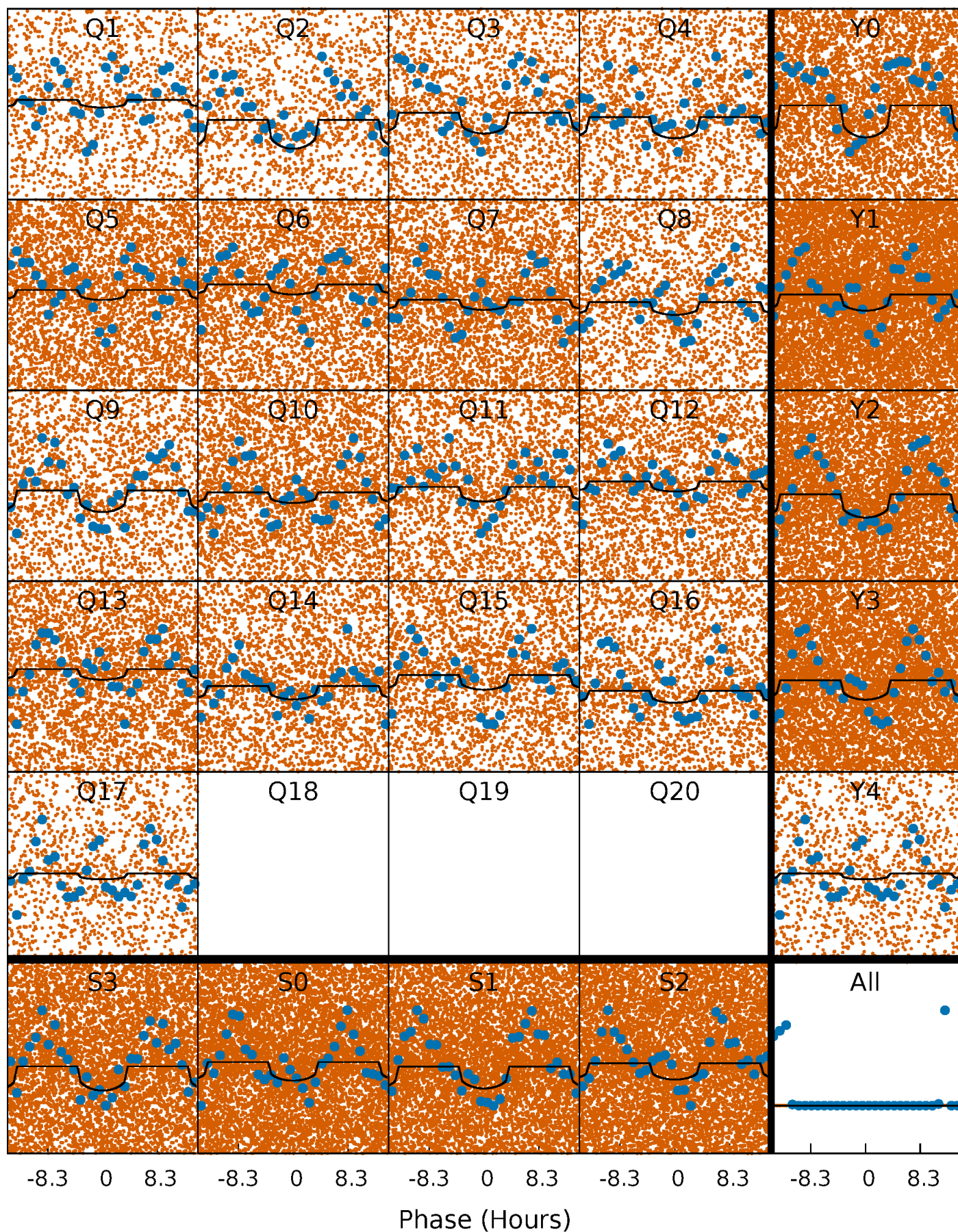
TCE 004768677-01 P= 0.698252 Days  $T_0=132.236784$  (BKJD)





# DV Quarter-Phased Transit Curves

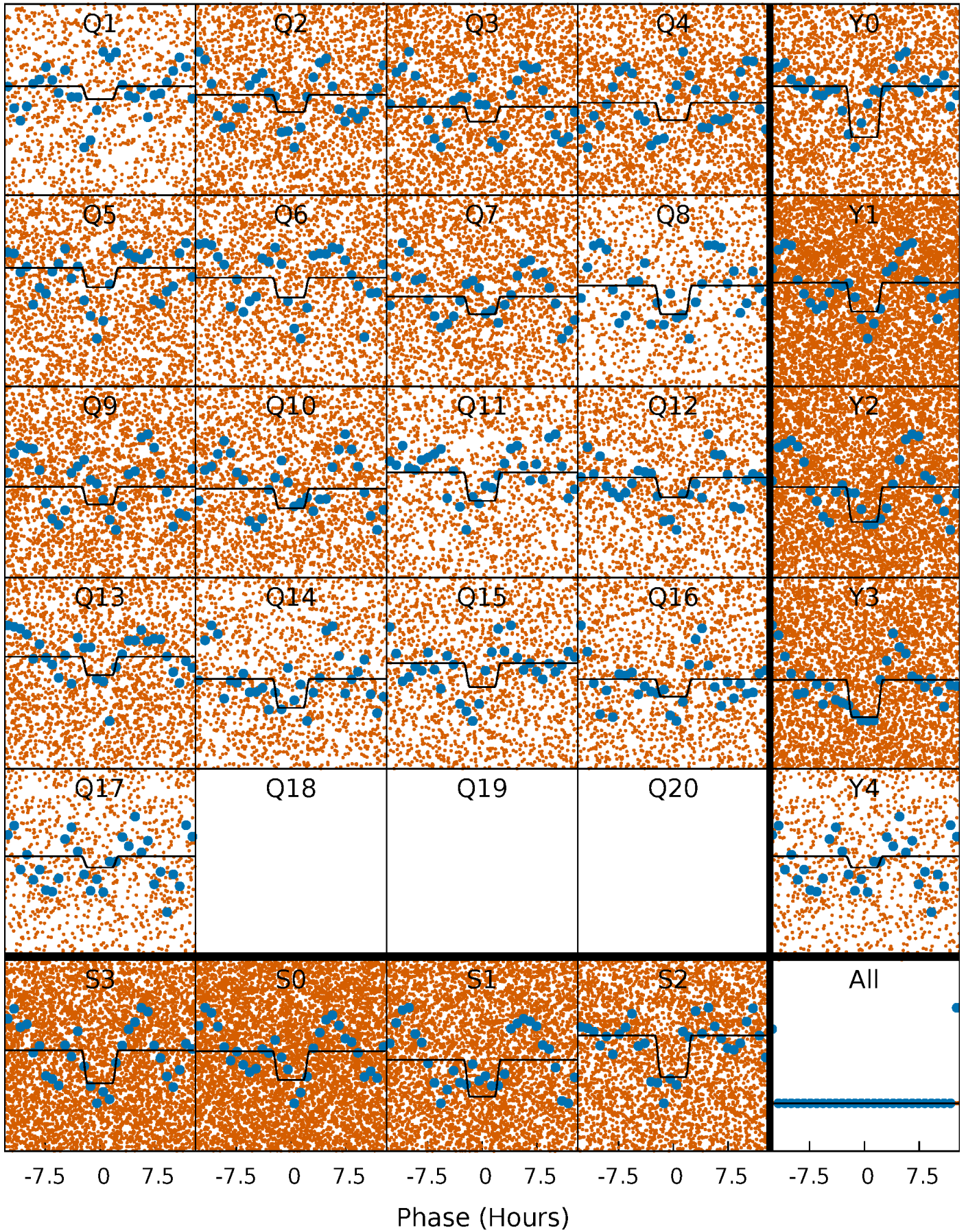
TCE 004768677-01   P= 0.698252 Days    $T_0=132.236784$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

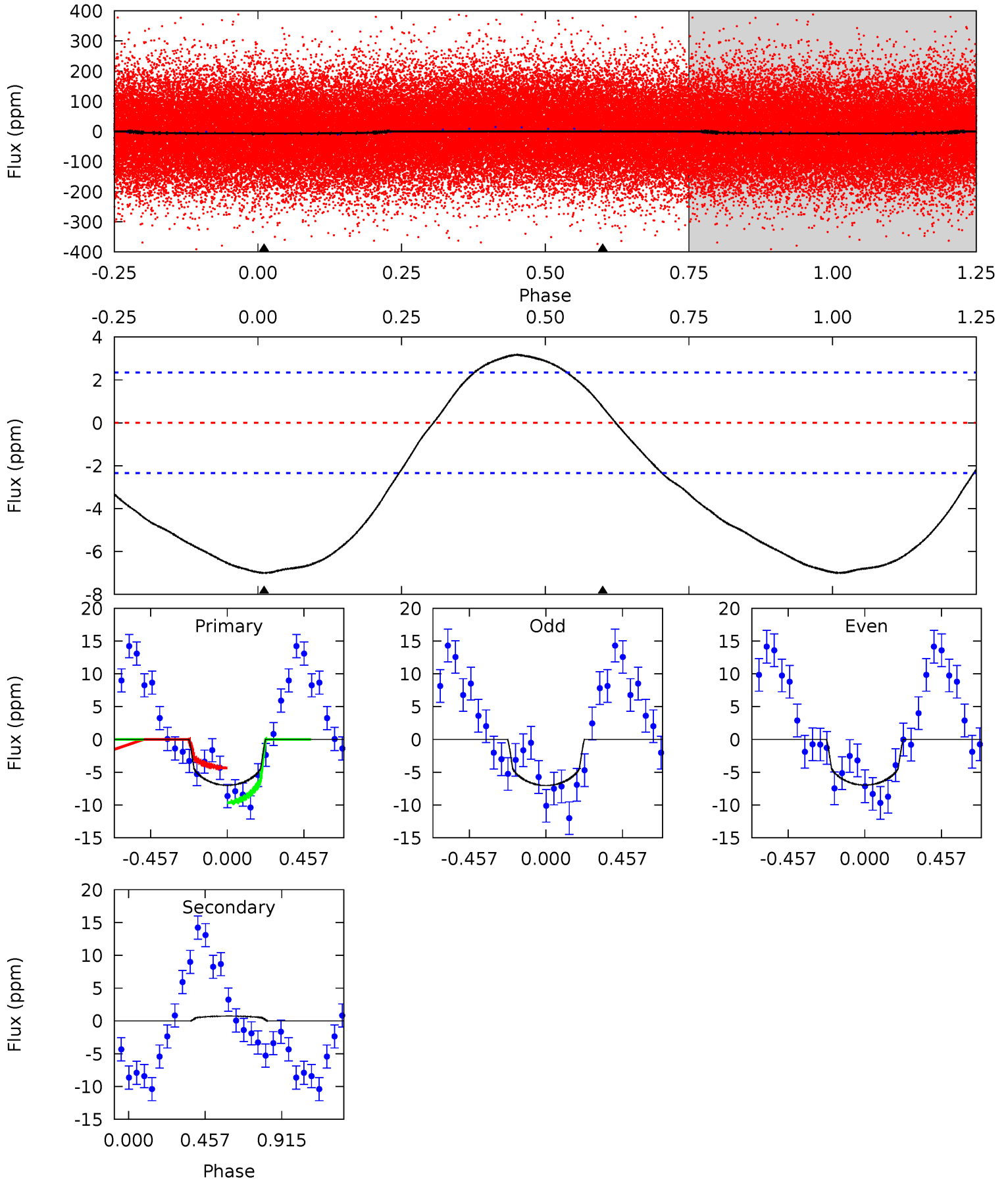
TCE 004768677-01 P= 0.698316 Days  $T_0=132.233442$  (BKJD)



# DV Model-Shift Uniqueness Test

004768677-01, P = 0.698252 Days, E = 130.840280 Days

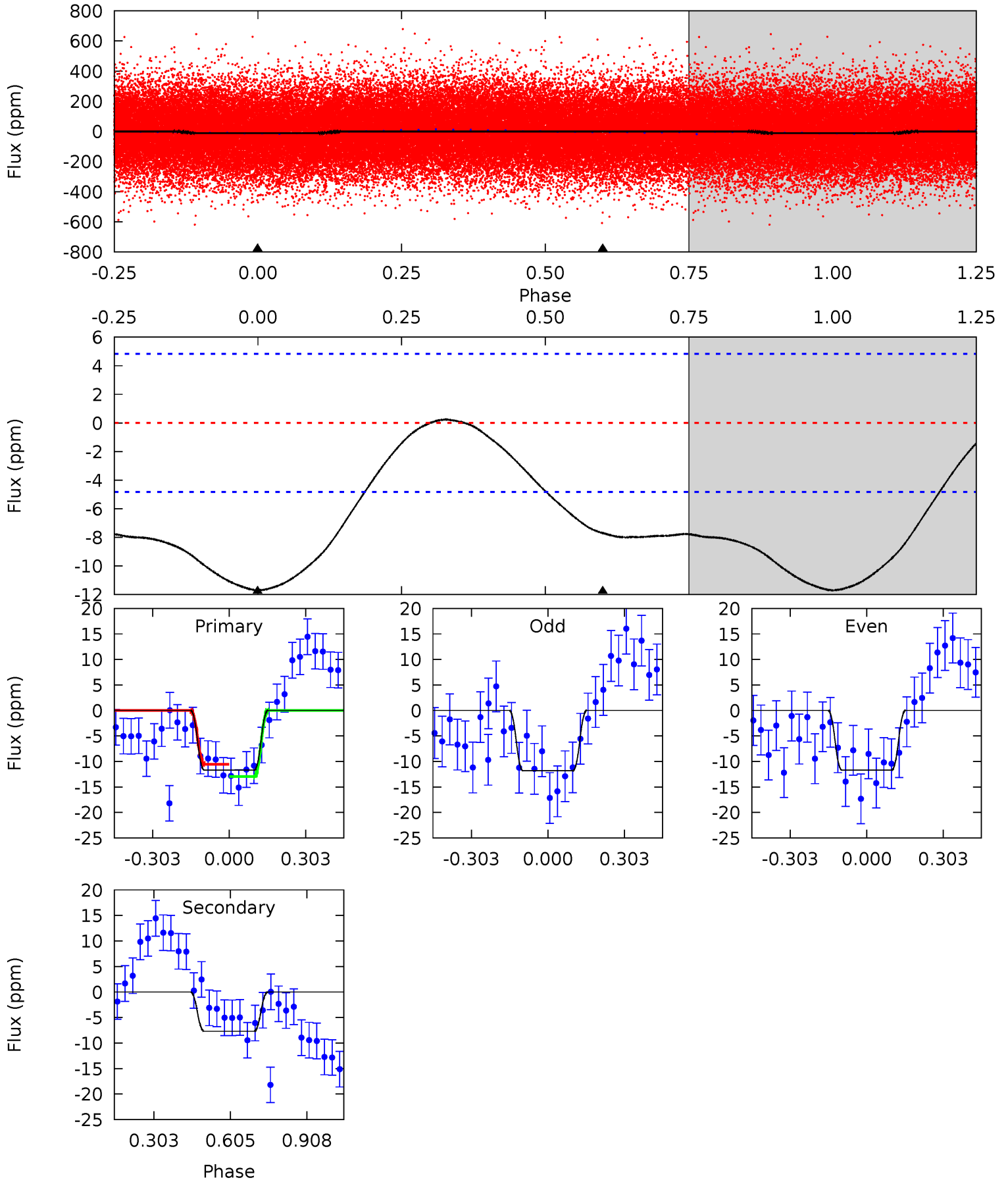
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	-1.32	0	0	4.23	0.74	2.01	12.7	12.7	-1.32	-1.32	0.06	1.11	0.31	4.80



# Alt Model-Shift Uniqueness Test

004768677-01, P = 0.698316 Days, E = 130.836810 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
10.5	6.91	0	0	4.33	1.03	0.44	10.5	10.5	6.91	6.91	0.06	1.00	0.02	1.07





### Stellar Parameters For KIC 004768677

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$8657^{+77}_{-86}$	$3.755^{+0.261}_{-0.029}$	$-0.580^{+0.100}_{-0.150}$	$3.007^{+0.104}_{-0.936}$	$1.877^{+0.146}_{-0.218}$	$0.097^{+0.154}_{-0.005}$
	+1%/-1%	+7%/-1%	+17%/-26%	+3%/-31%	+8%/-12%	+158%/-5%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 004768677-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$1\pm1$	$0.86^{+0.62}_{-0.53}$	$6634^{+133}_{-500}$	$-5761^{+507}_{-2056}$	$-0.172^{+0.143}_{-1.150}$
Alt.	$-8\pm1$	$1.12^{+0.75}_{-0.59}$	$6631^{+150}_{-489}$	$6796^{+4879}_{-2305}$	$1.250^{+4.101}_{-0.800}$

$T_{max}$  = 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

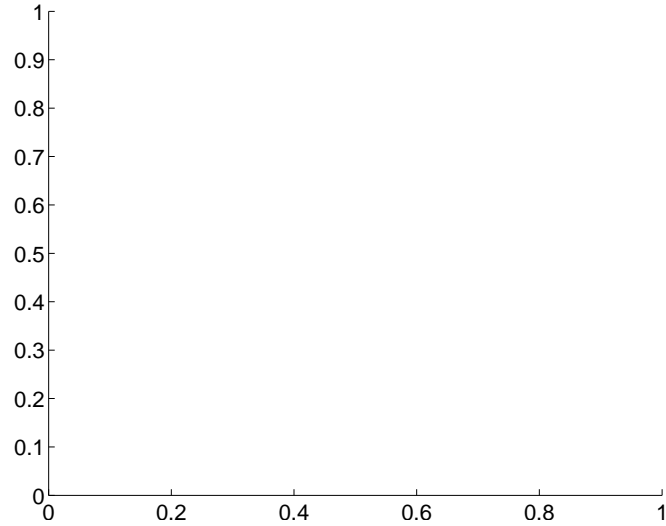
Supplemental centroid analysis for 004768677-01. **Kepler magnitude: 11.18.** Transit SNR 8.38

**There are 0 quarters with good PRF difference image offsets**

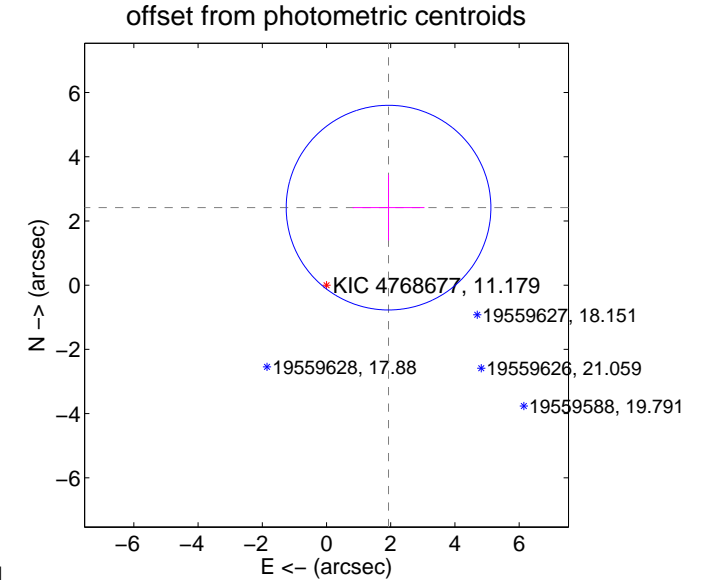
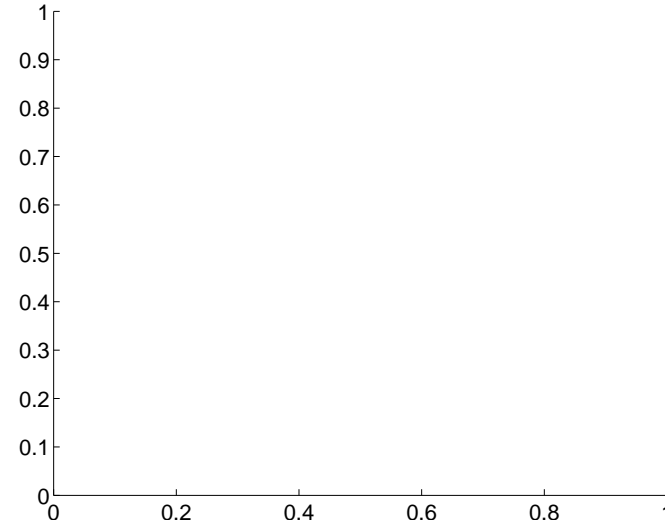
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$3.09 \pm 1.06$	2.91	$-1.93 \pm 1.12$	$2.41 \pm 1.02$

There is no PRF-fit offset from OOT-fit

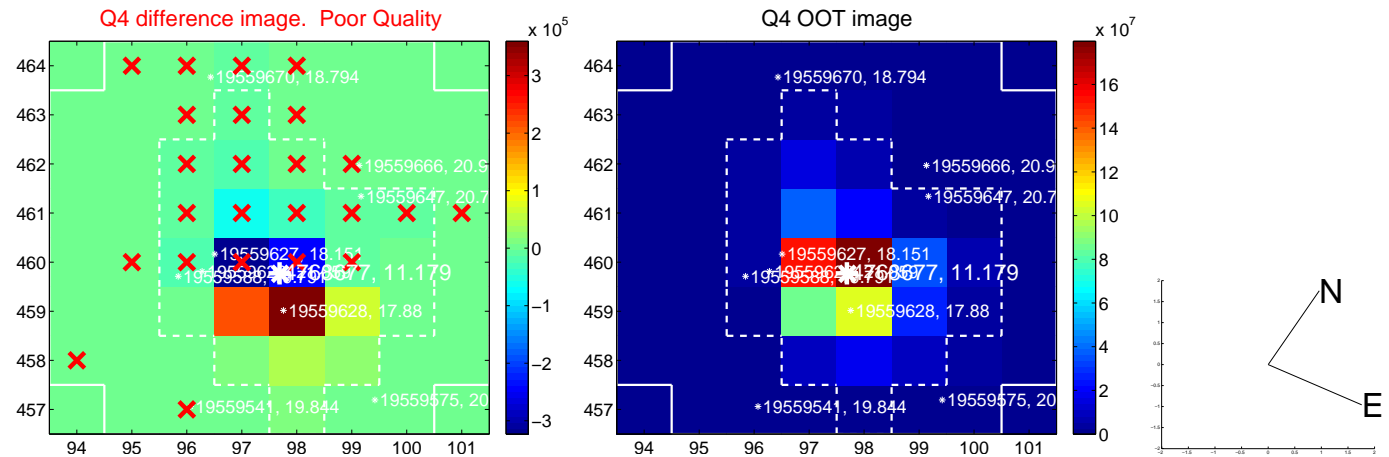
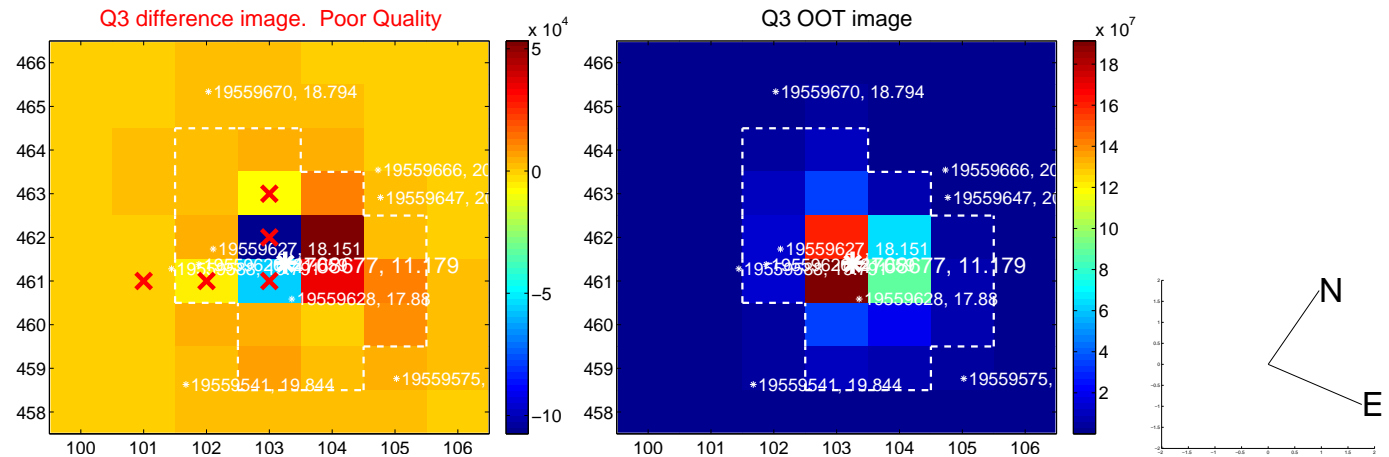
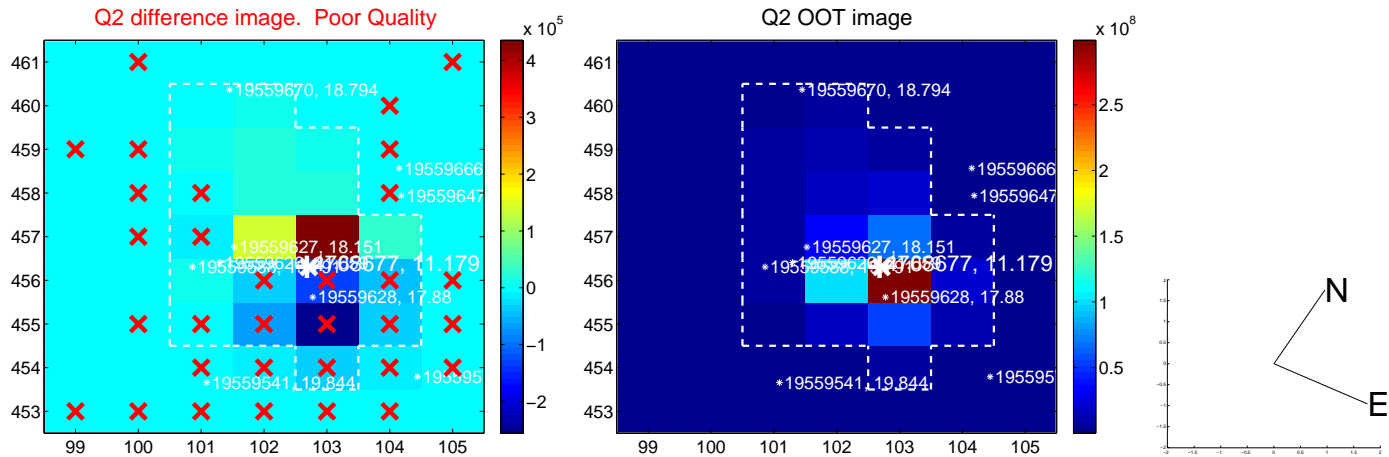
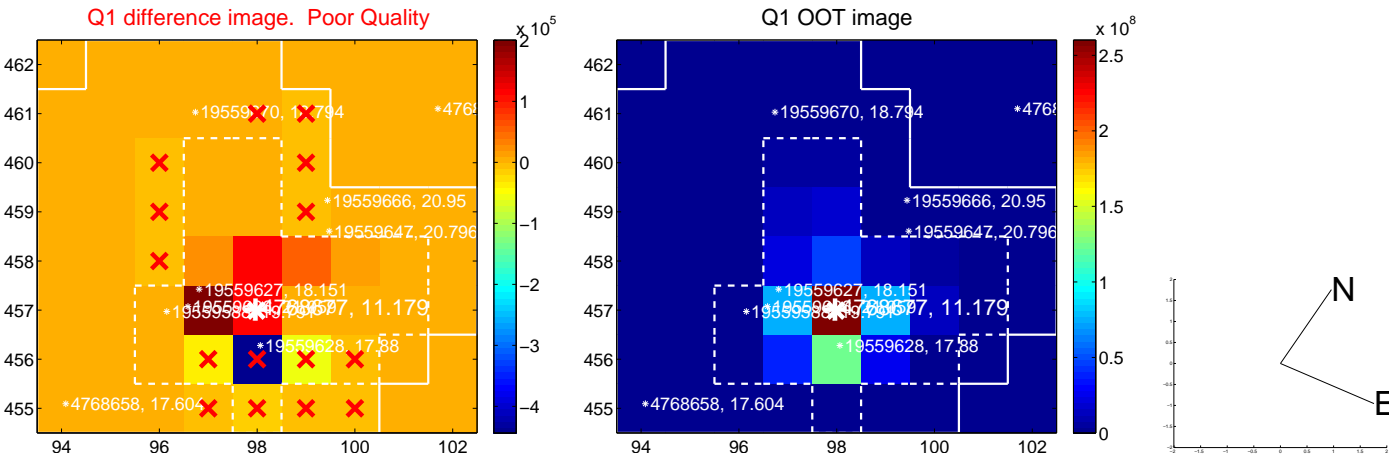


There is no PRF-fit offset from KIC

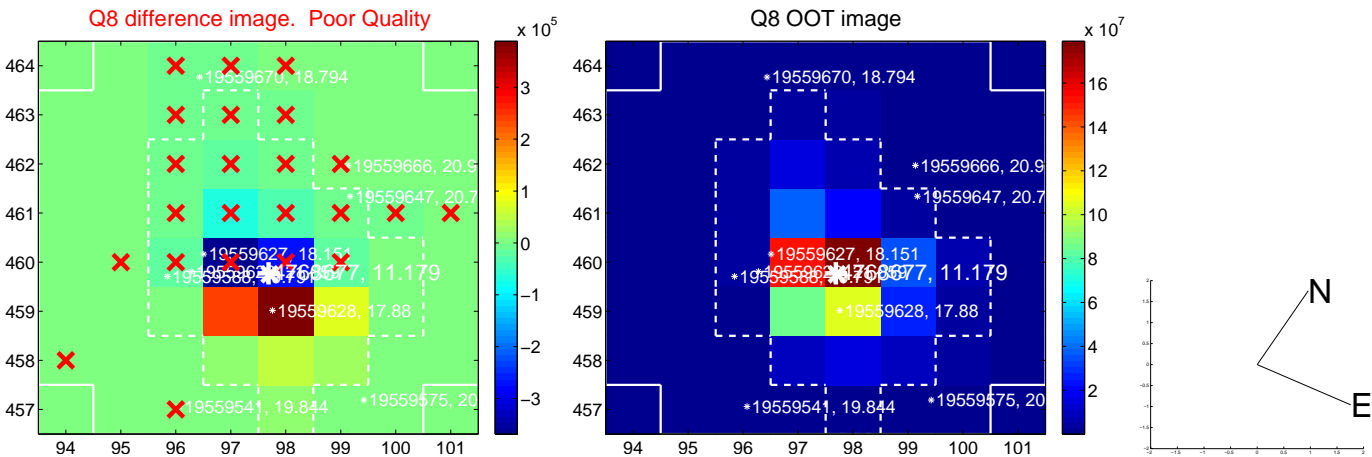
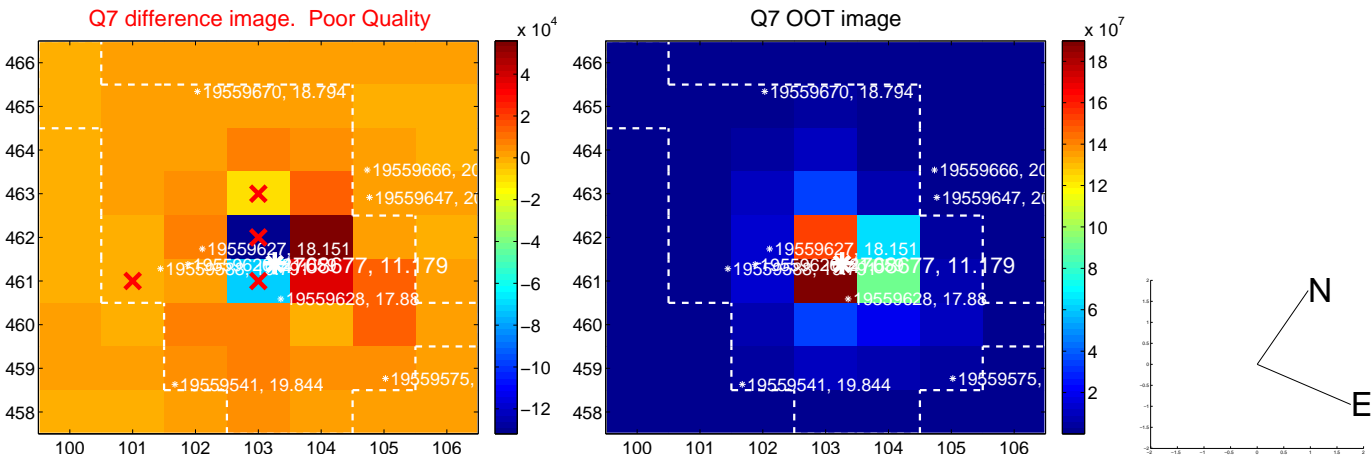
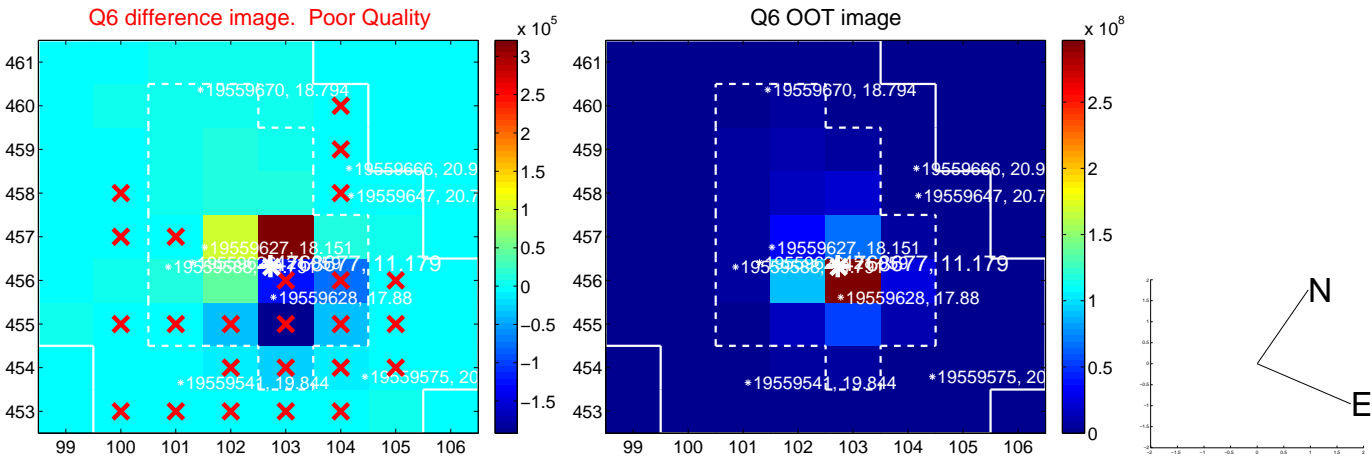
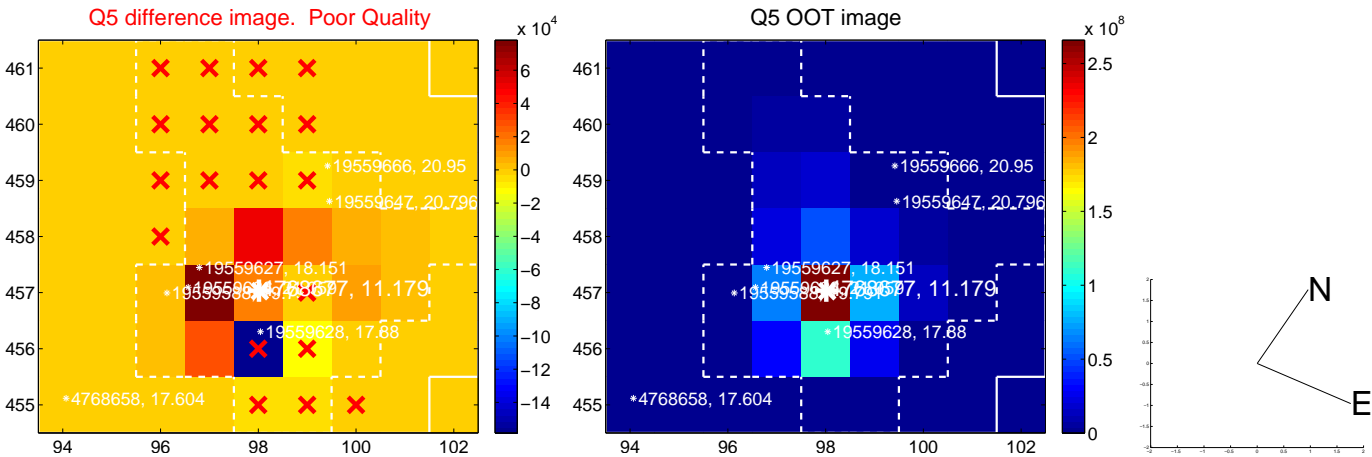


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

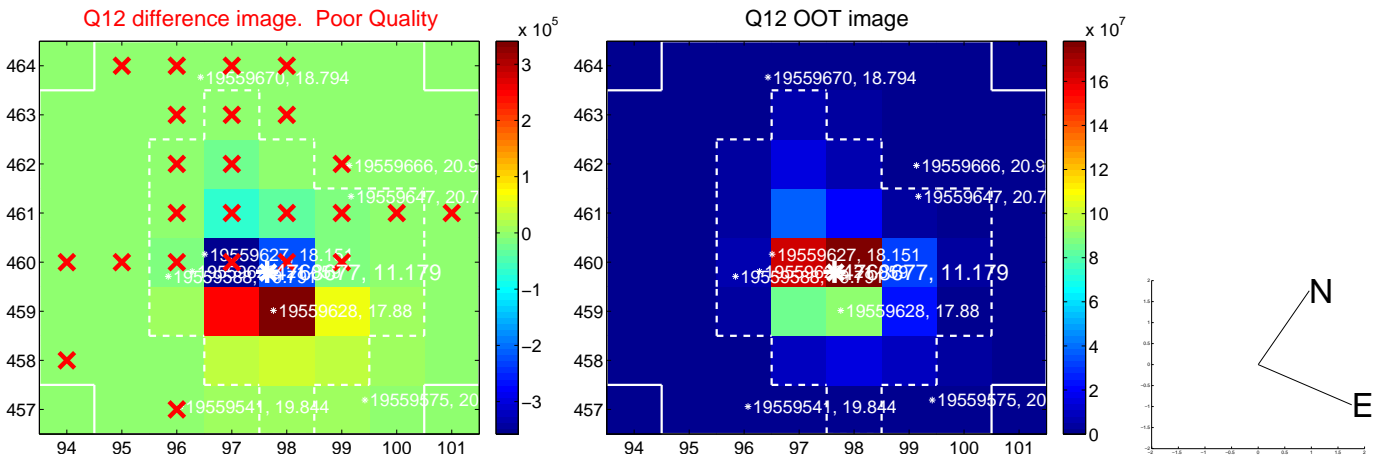
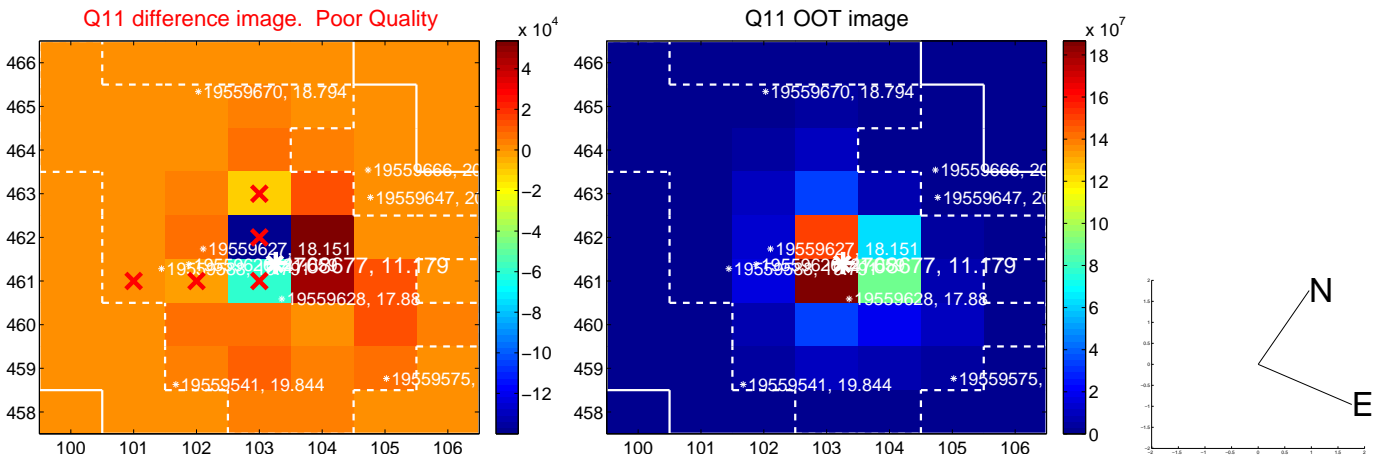
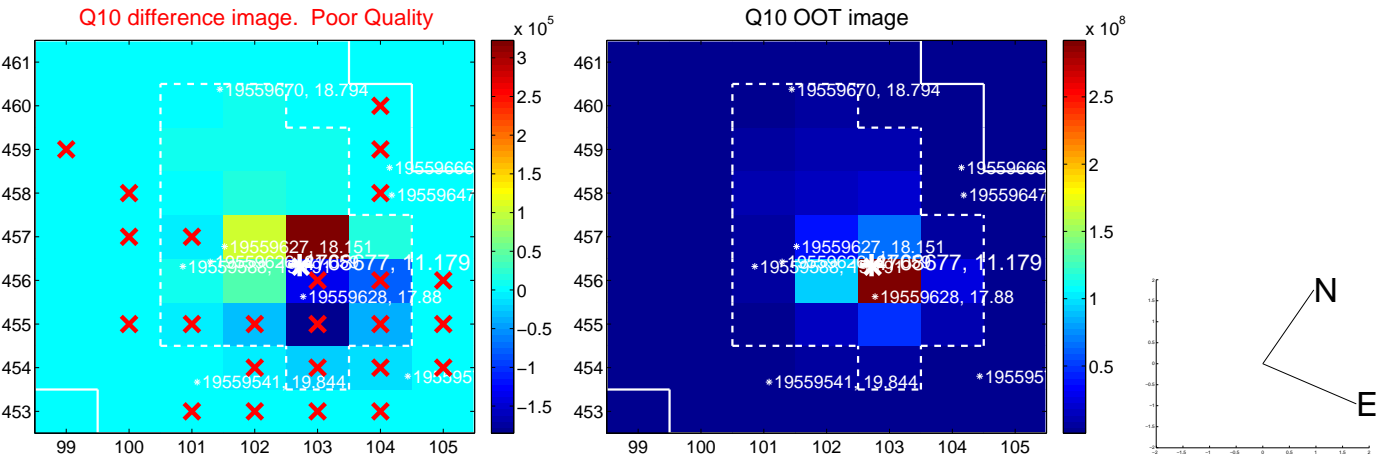
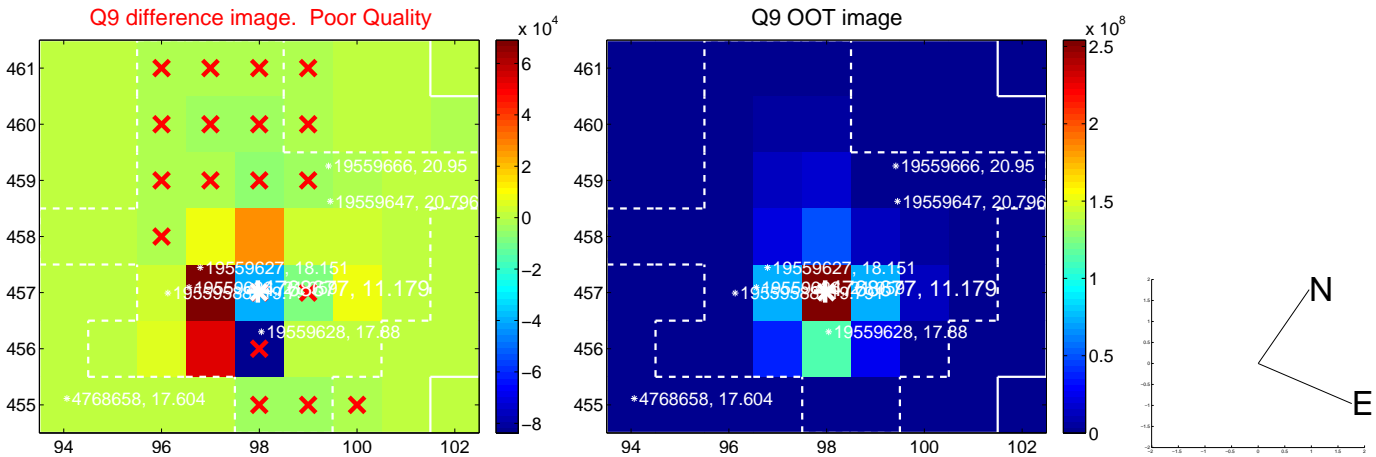


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

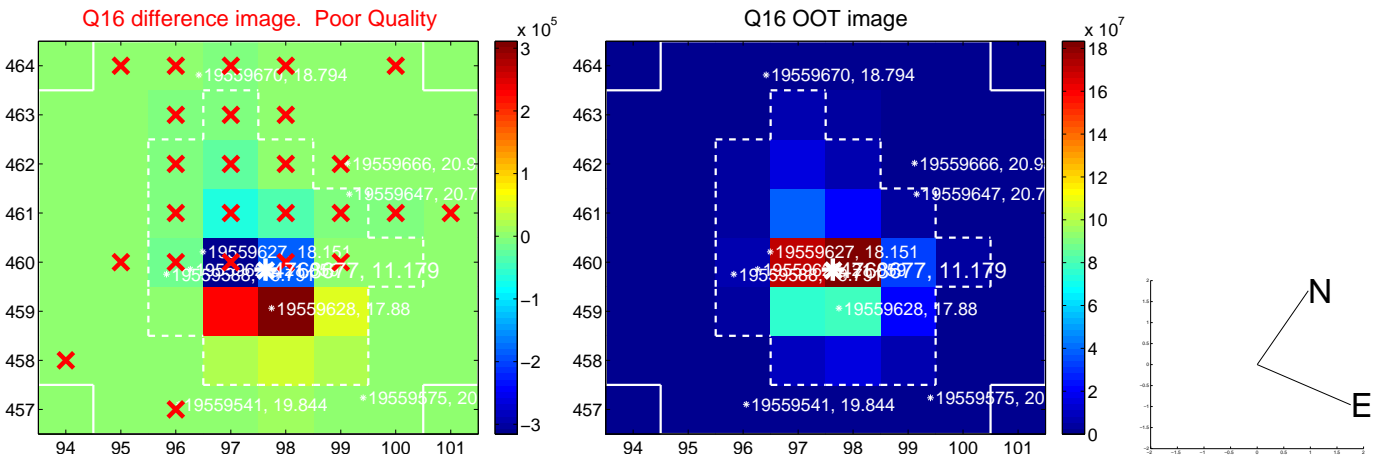
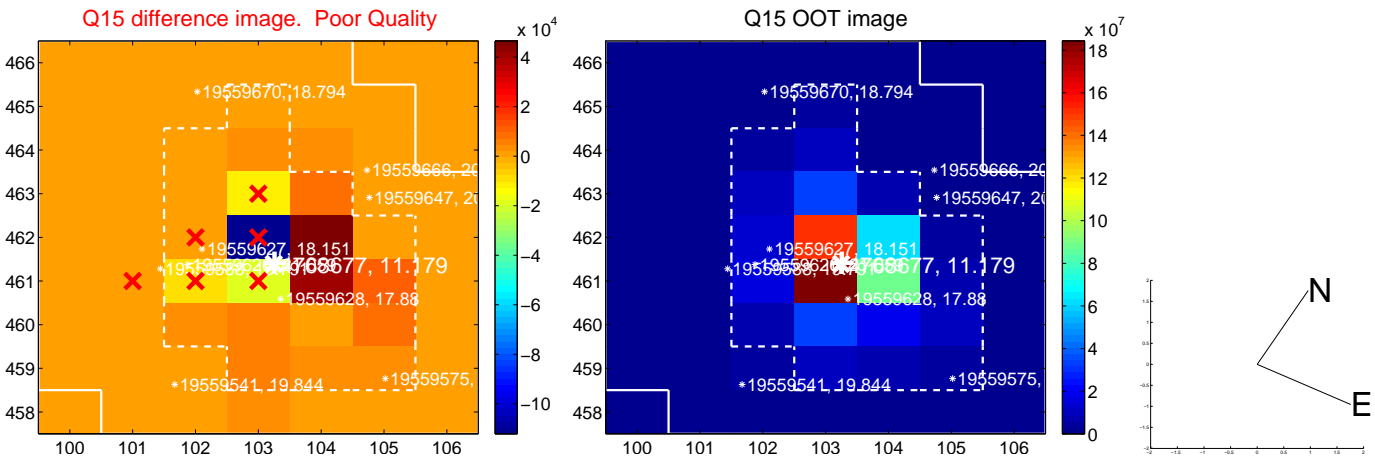
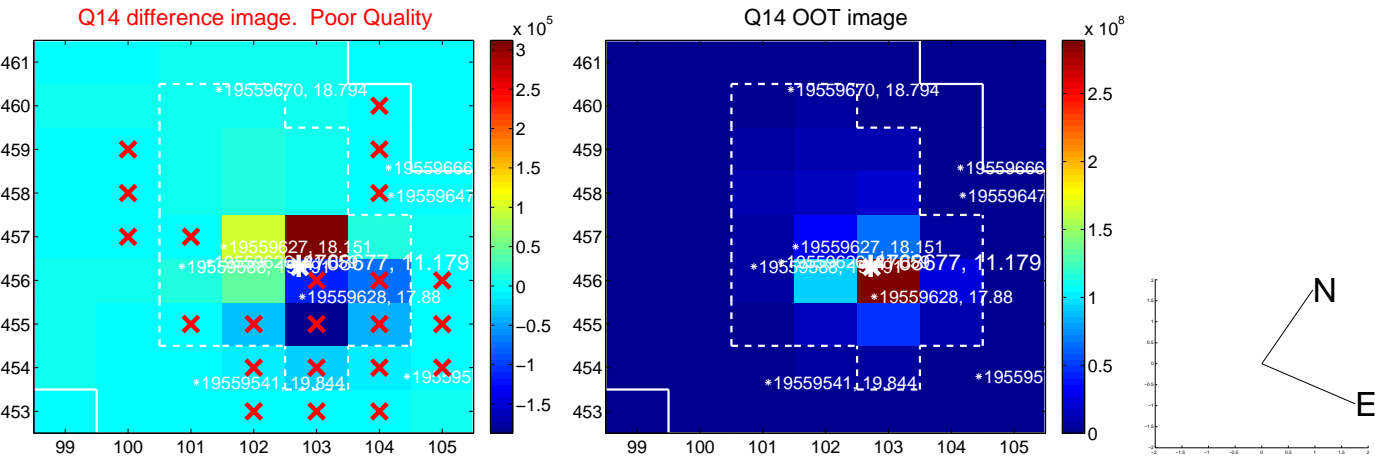
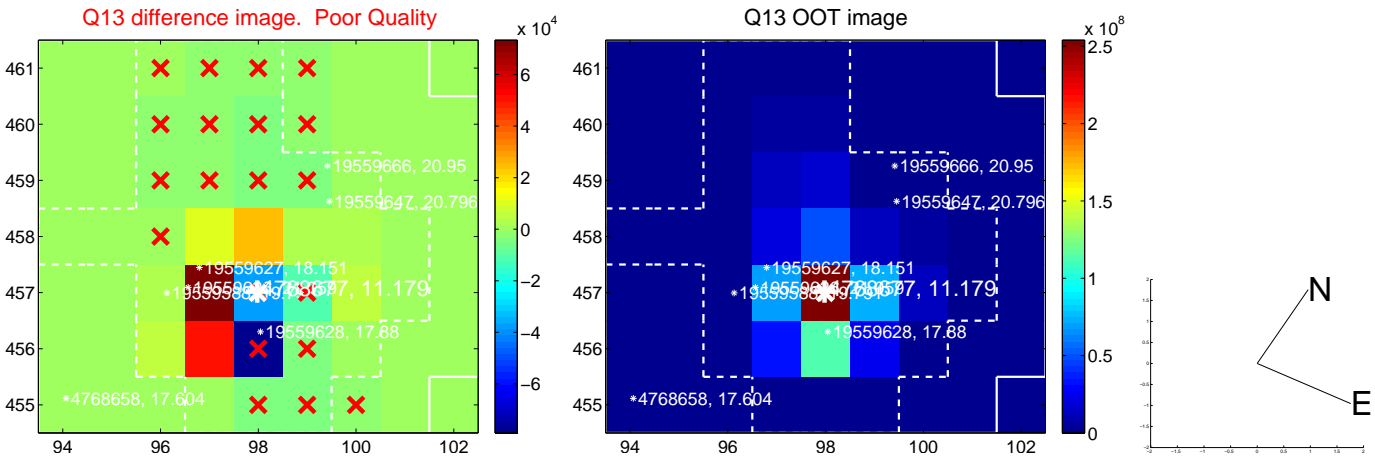




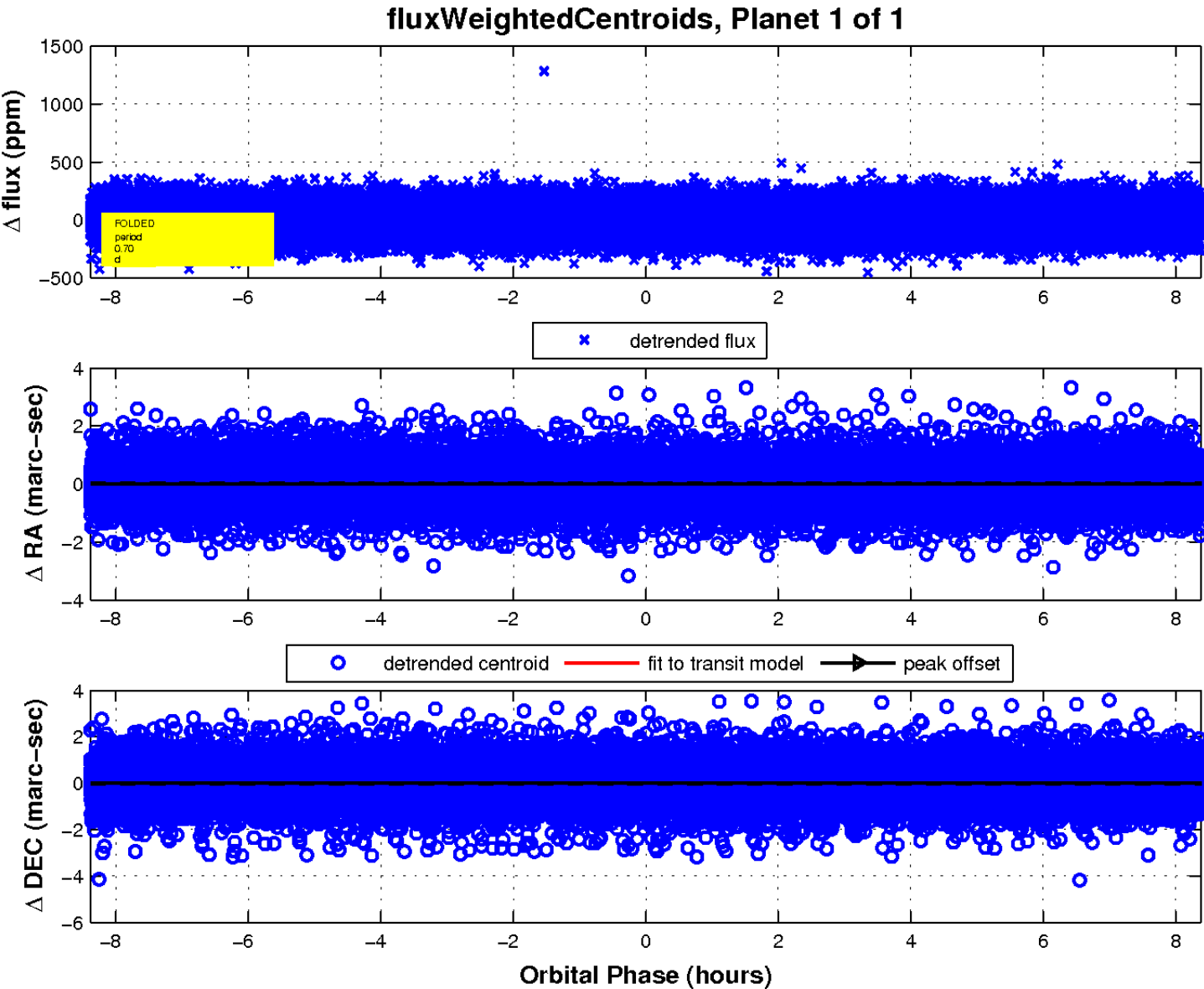
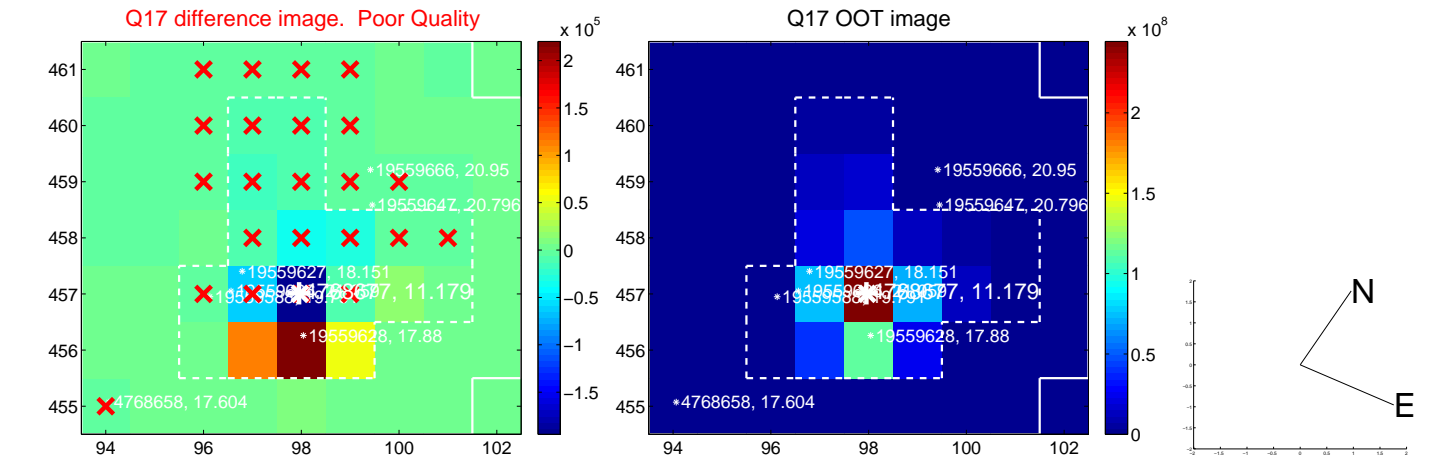
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

