

# KIC 010232693

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010232693-01	OBS	2341.01	0.990524	131.839958	78.9	1.756	15.7	17.9	2.40	5975	2.51	15432.86

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010232693-01	OBS	FP	0.01	0	0	1	0	CENT_RESOLVED_OFFSET

**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 010232693-01

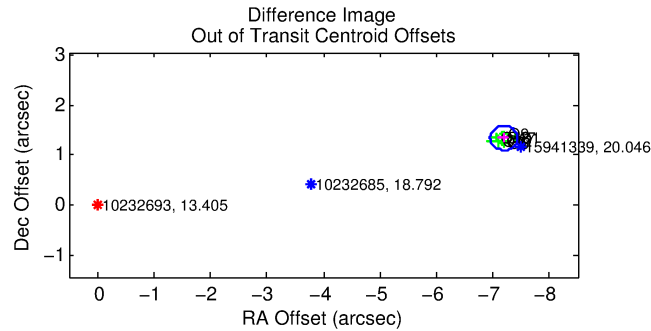
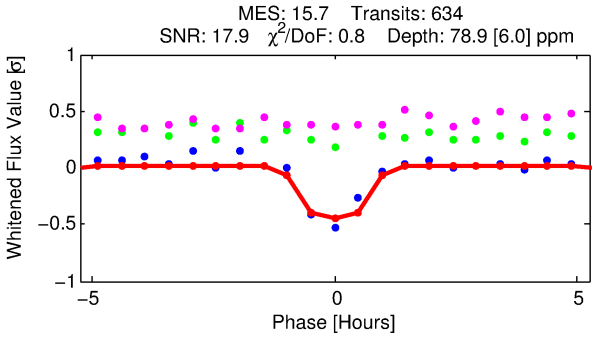
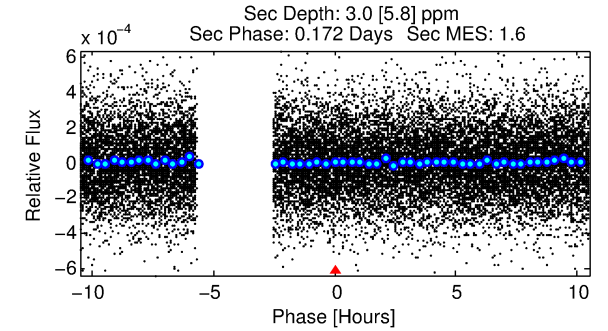
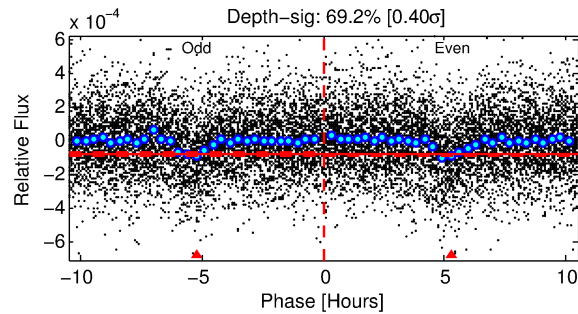
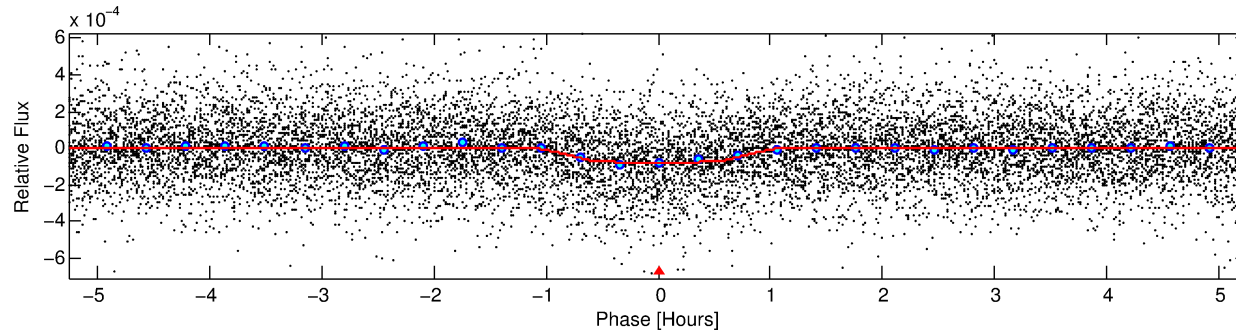
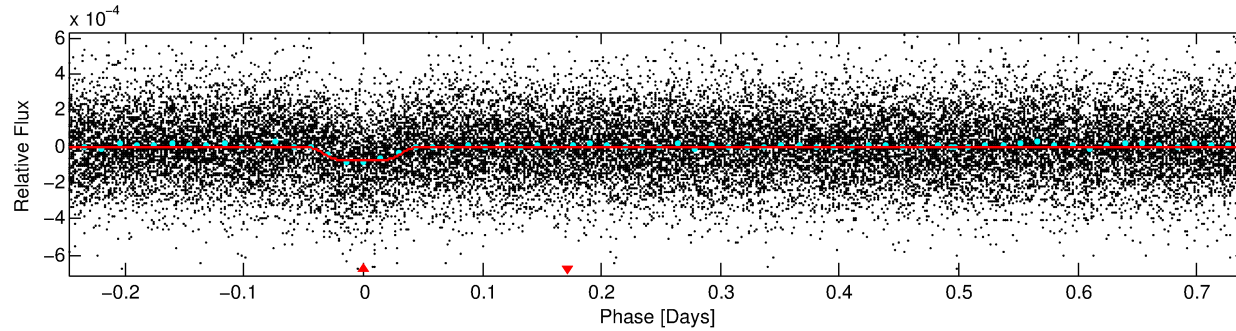
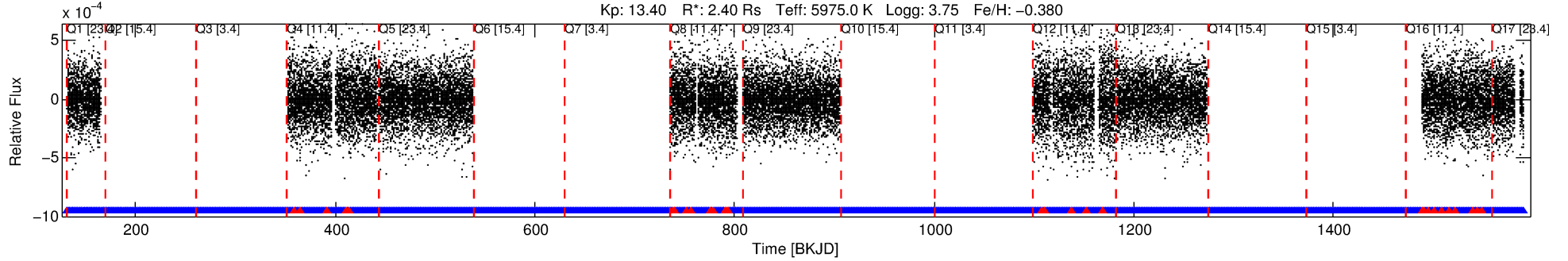
No Significant Match Found

# DV One-Page Summary

KIC: 10232693 Candidate: 1 of 1 Period: 0.991 d

KOI: K02341.01 Corr: 0.921

Kp: 13.40 R\*: 2.40 Rs Teff: 5975.0 K Logg: 3.75 Fe/H: -0.380



## DV Fit Results:

Period = 0.99052 [0.00001] d  
Epoch = 131.8400 [0.0014] BKJD  
Rp/R\* = 0.0096 [0.0029]  
a/R\* = 2.18 [2.80]  
b = 0.90 [0.35]  
Seff = 15432.86 [15871.87]  
Teq = 2842 [731] K  
Rp = 2.51 [1.62] Re  
a = 0.0206 [0.0125] AU  
Ag = 0.11 [0.25] [-3.52σ]  
Teffp = 2539 [1286] K [-0.20σ]

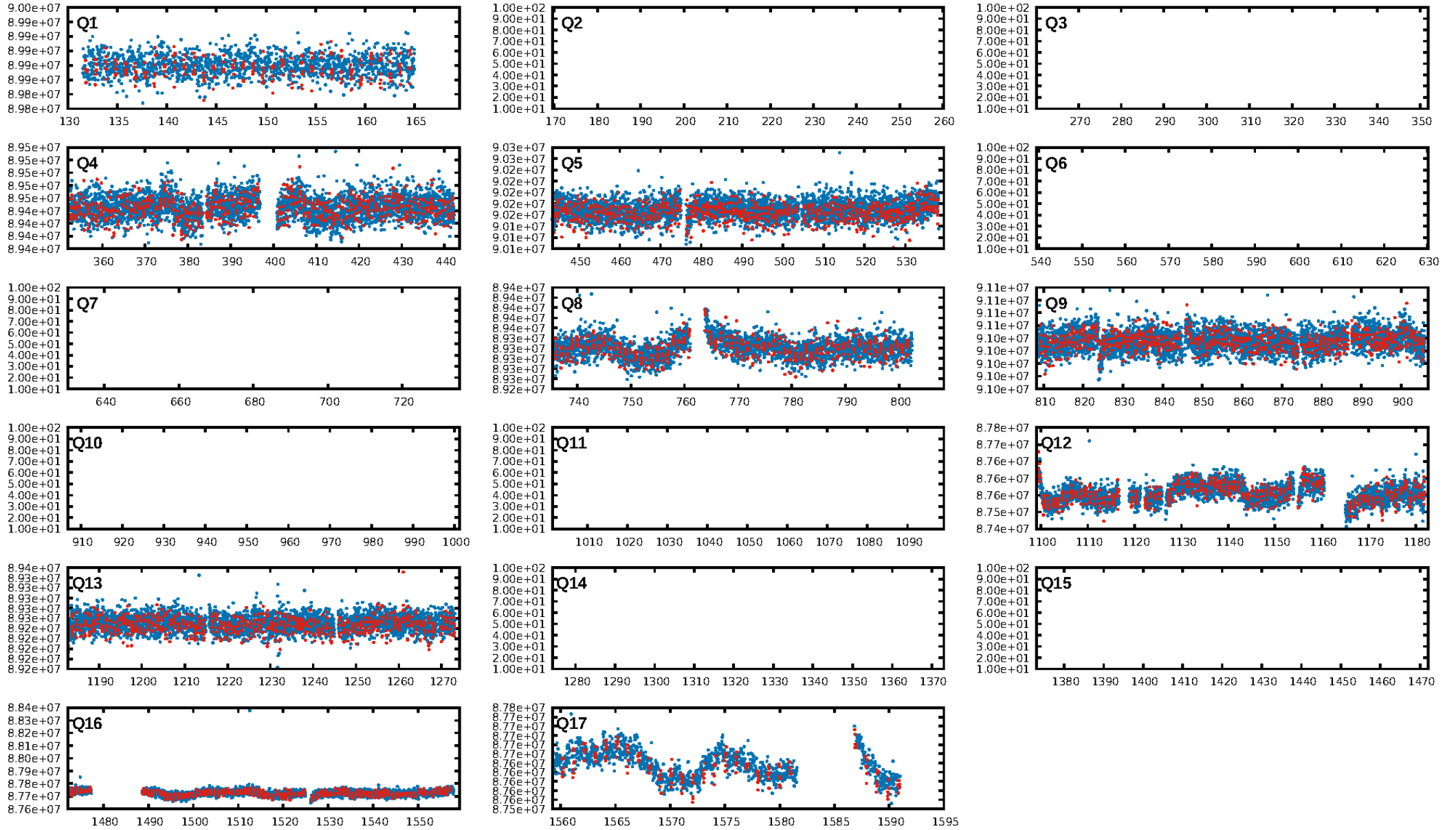
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 8.59e-53  
RollingBand-fgt: 0.95 [543/573]  
GhostDiagnostic-chr: -0.5362  
Centroid-sig: 0.0%  
Centroid-so: 7.282 arcsec [10.88σ]  
OotOffset-rm: 7.310 arcsec [89.82σ]  
KicOffset-rm: 7.360 arcsec [90.42σ]  
OotOffset-st: 0/0/2/5 [7]  
KicOffset-st: 0/0/2/5 [7]  
DiffImageQuality-fgm: 1.00 [7/7]  
DiffImageOverlap-fno: 1.00 [9/9]

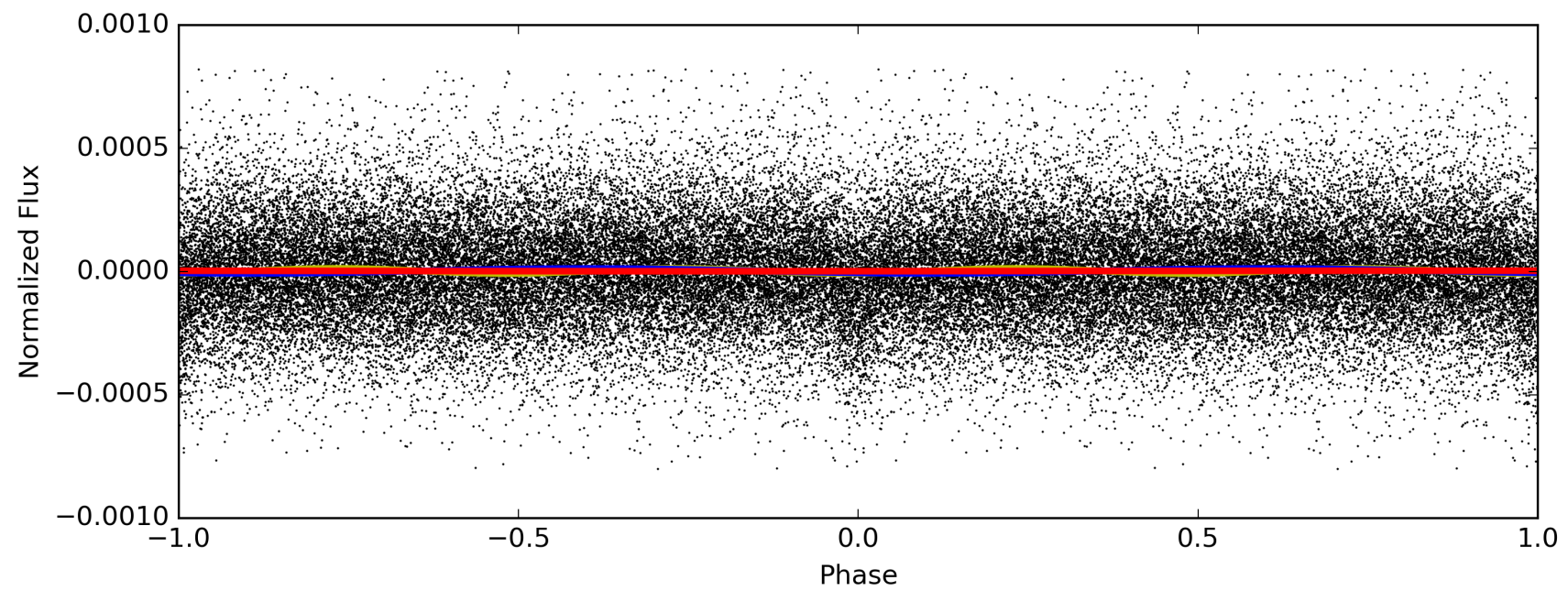
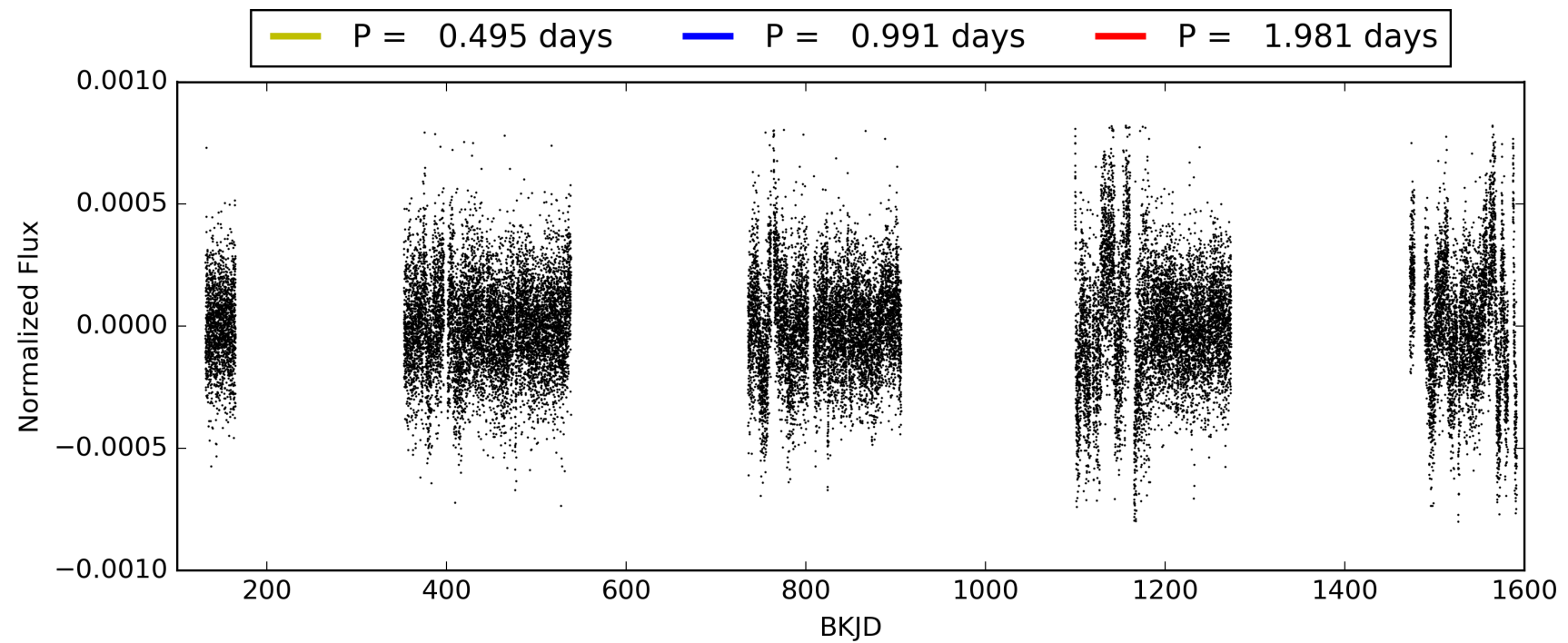
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:40:06 Z

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

# TCE 010232693-01, PDC Light Curves

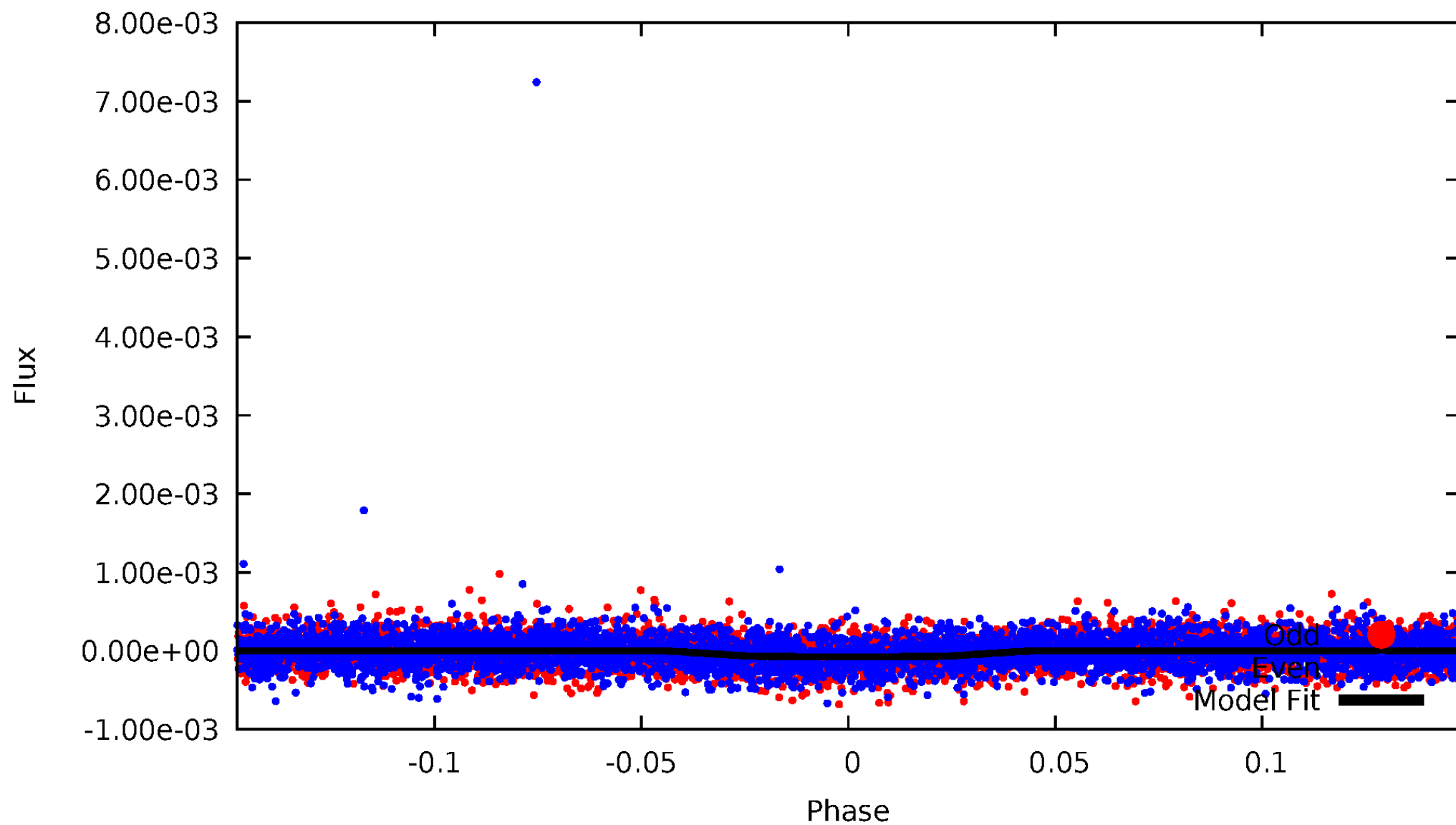


TCE 010232693-01



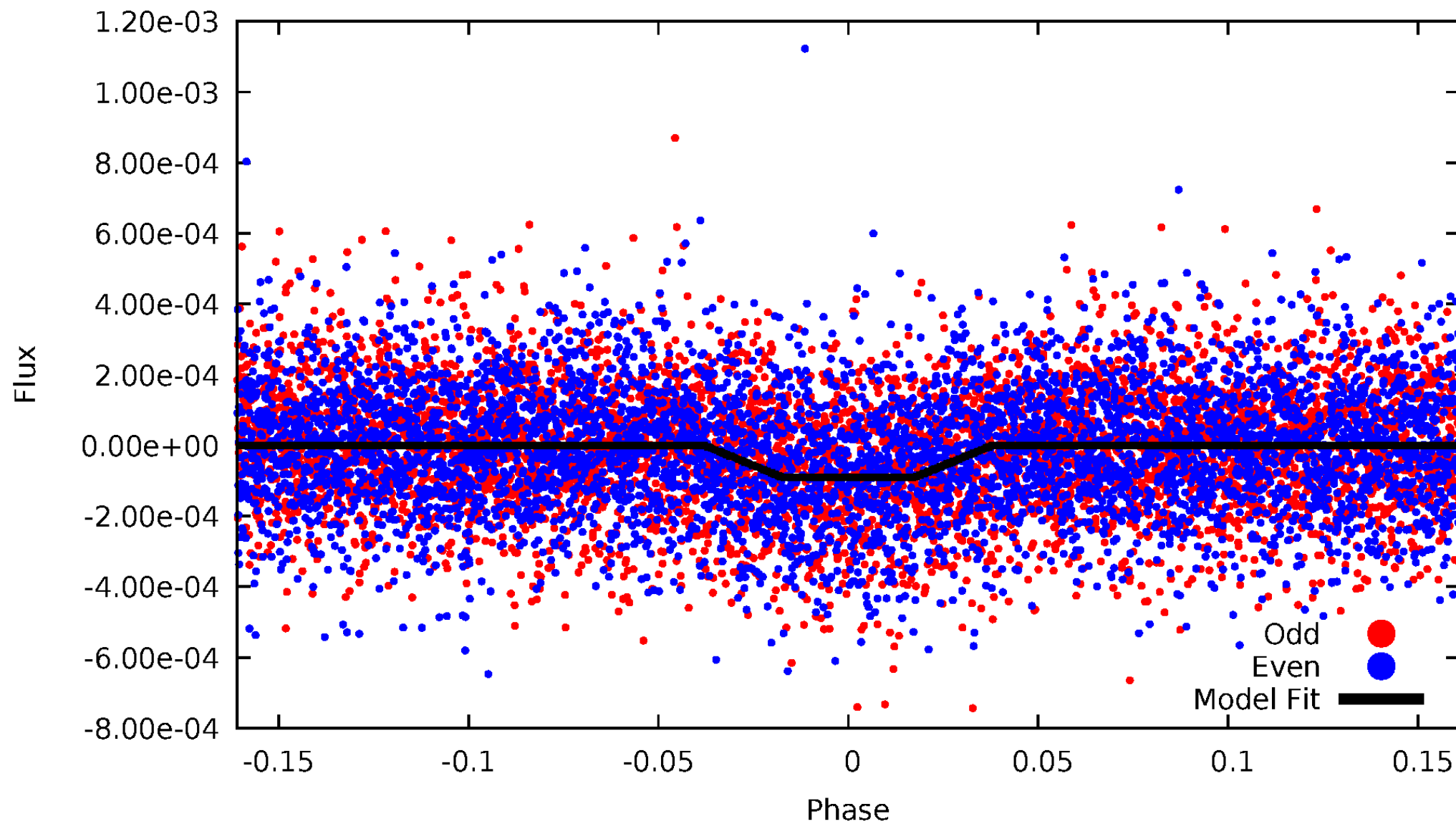
# DV Odd/Even

TCE 010232693-01



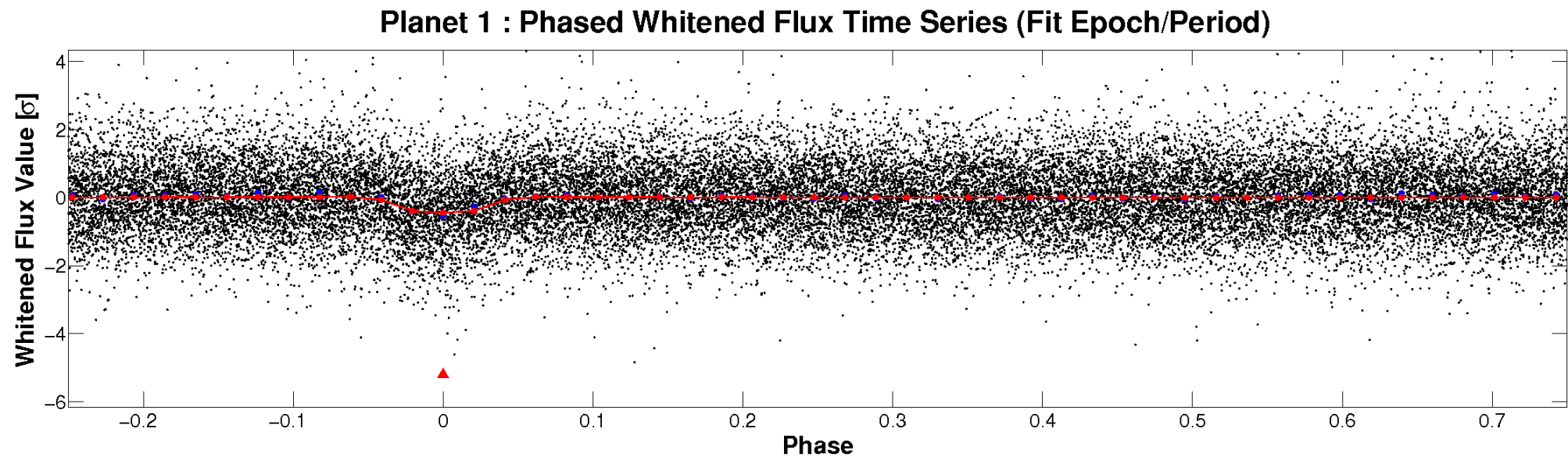
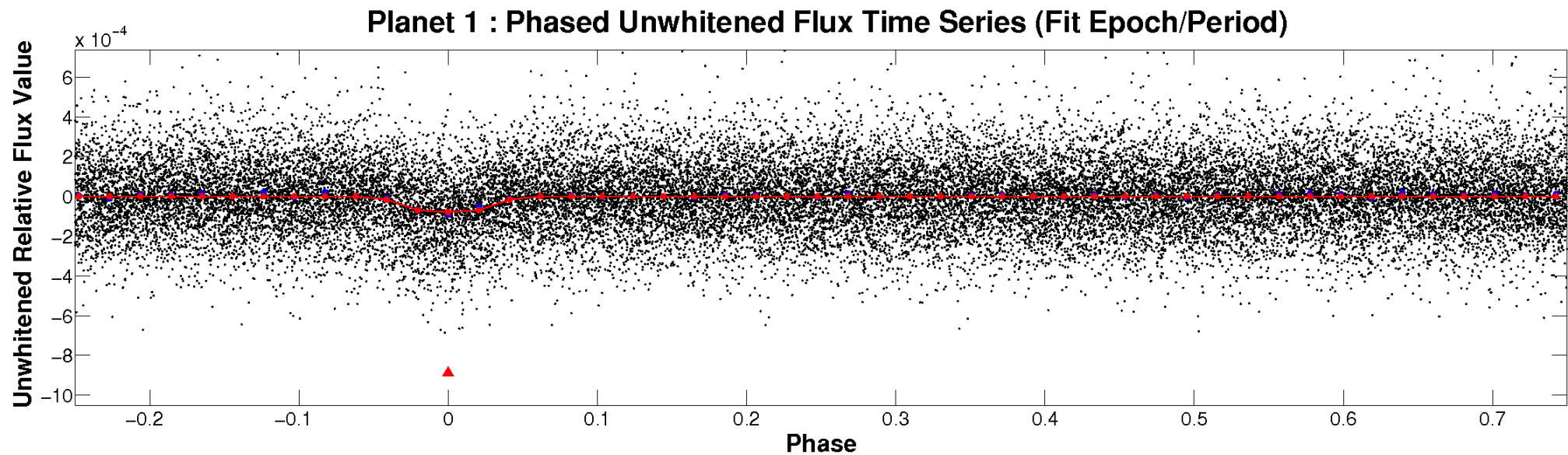
# ALT Odd/Even

TCE 010232693-01



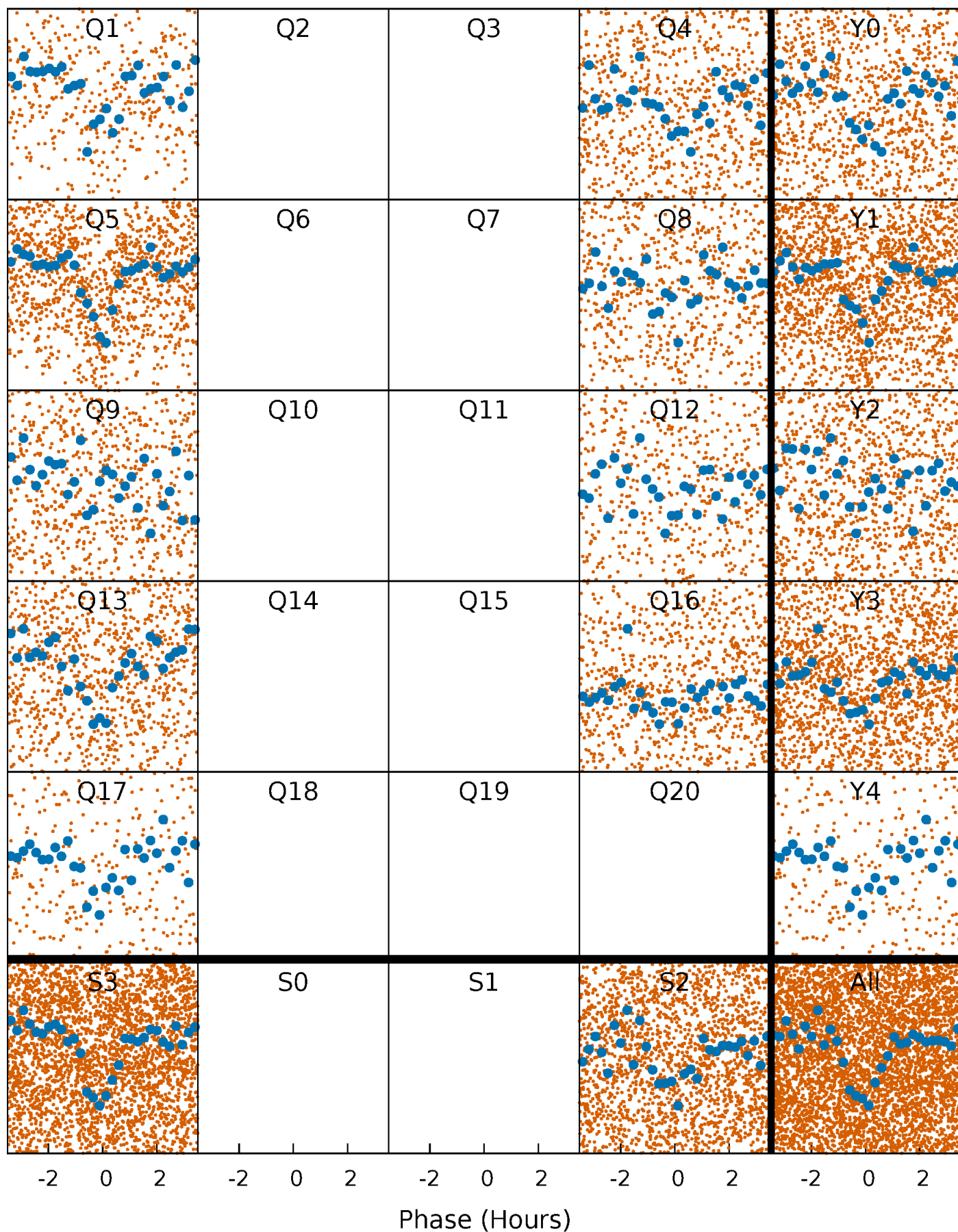


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

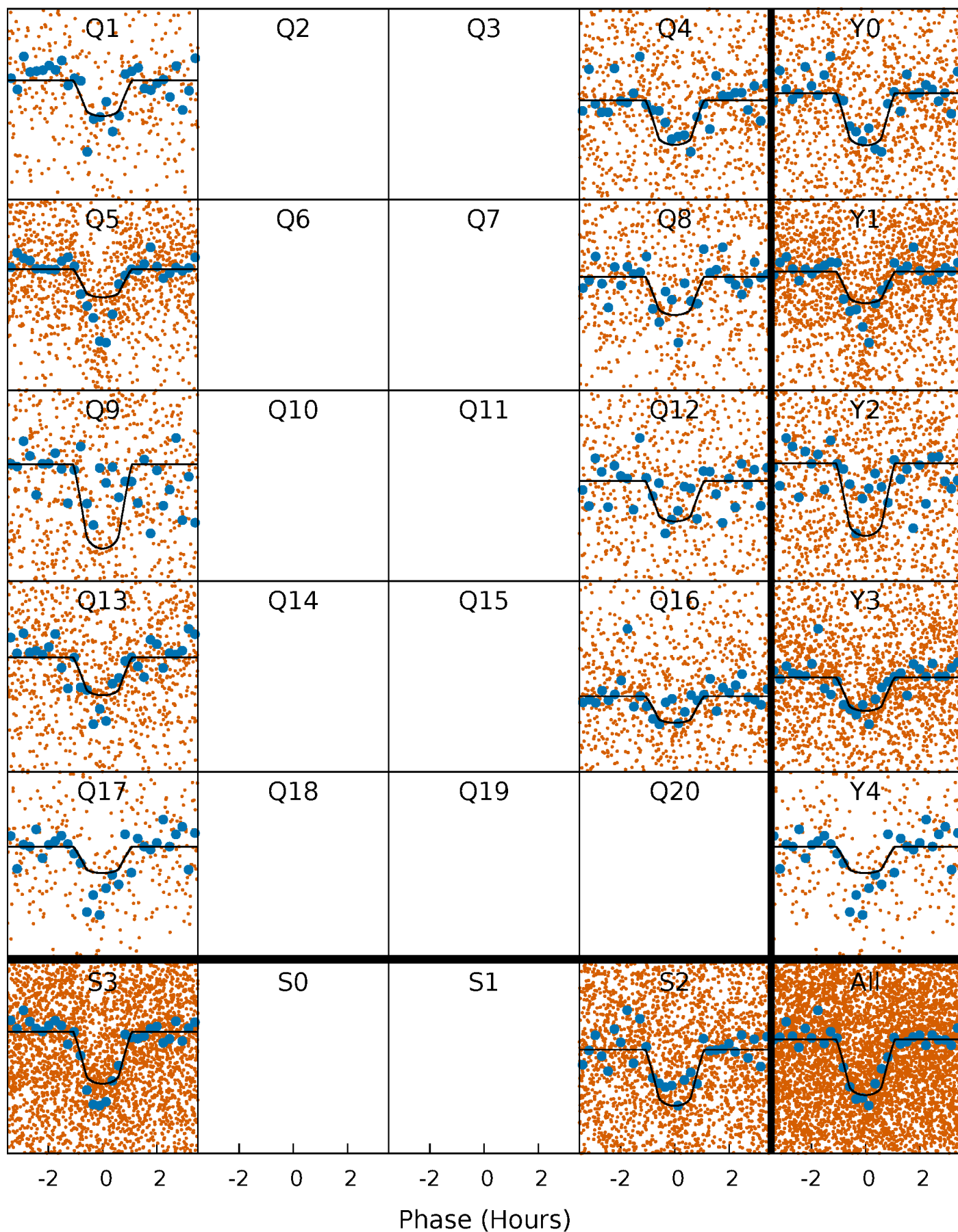
TCE 010232693-01     $P = 0.990524$  Days     $T_0 = 131.839958$  (BKJD)





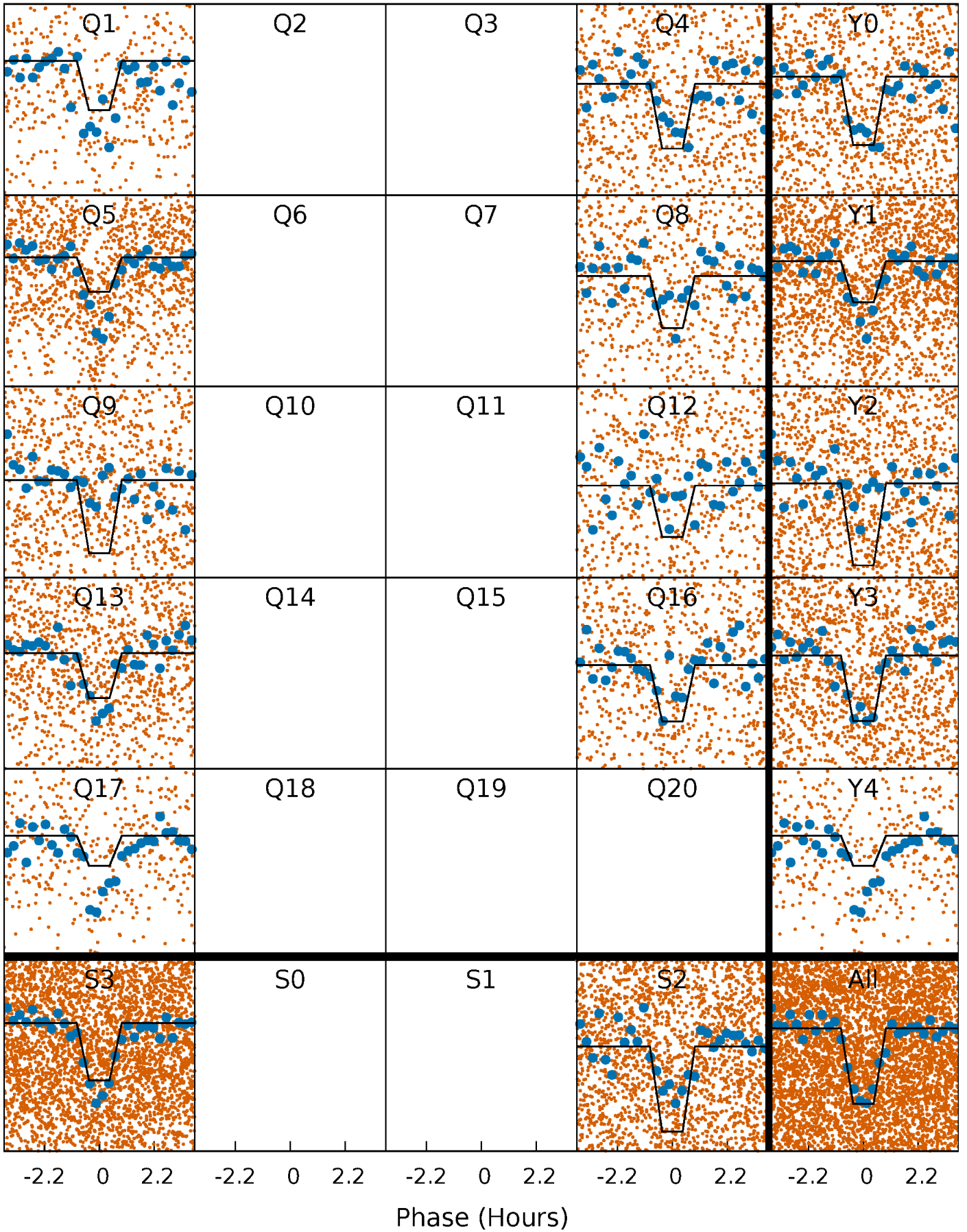
# DV Quarter-Phased Transit Curves

TCE 010232693-01   P= 0.990524 Days    $T_0=131.839958$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

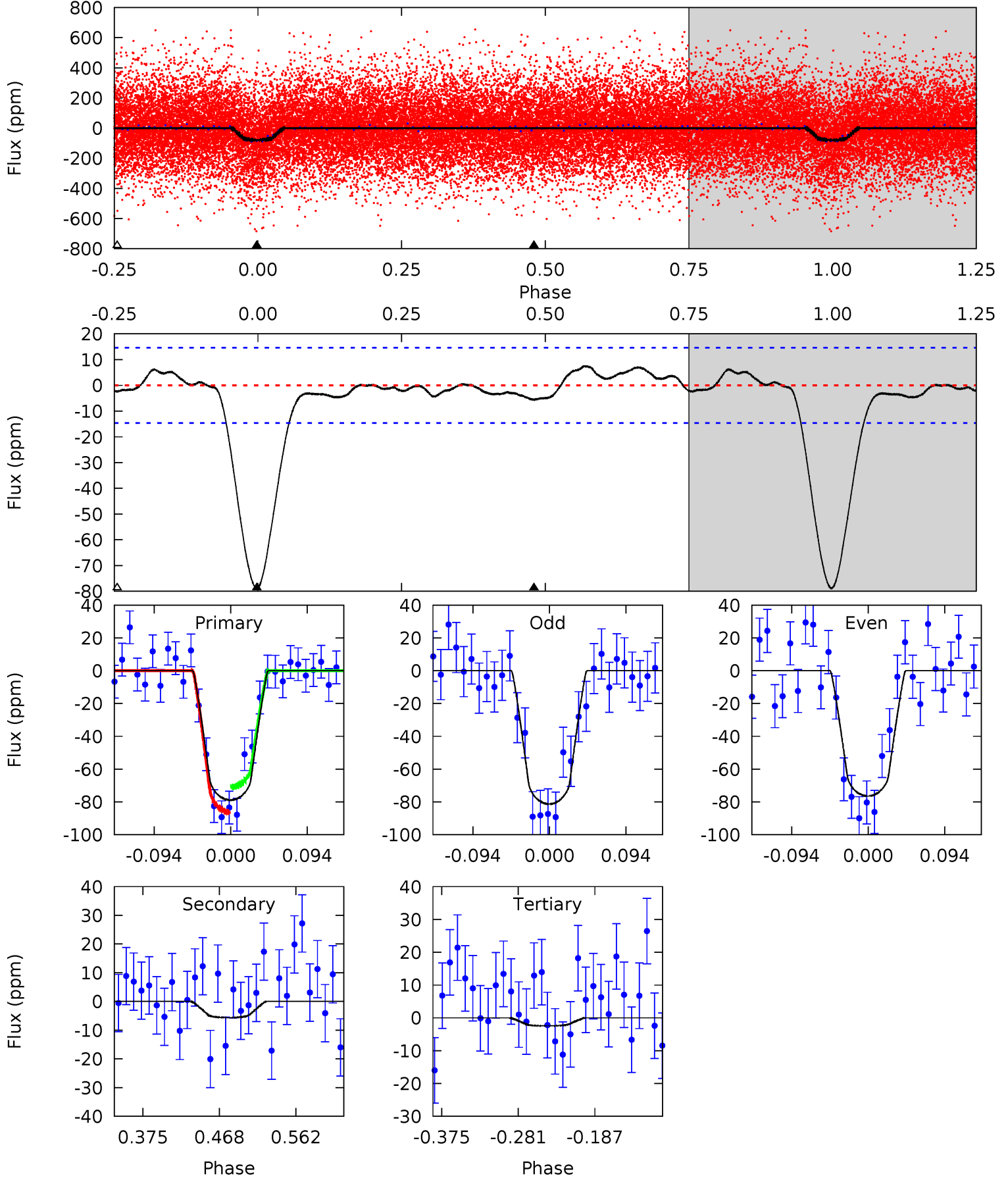
TCE 010232693-01   P= 0.990519 Days    $T_0=131.839471$  (BKJD)



# DV Model-Shift Uniqueness Test

010232693-01, P = 0.990524 Days, E = 130.849434 Days

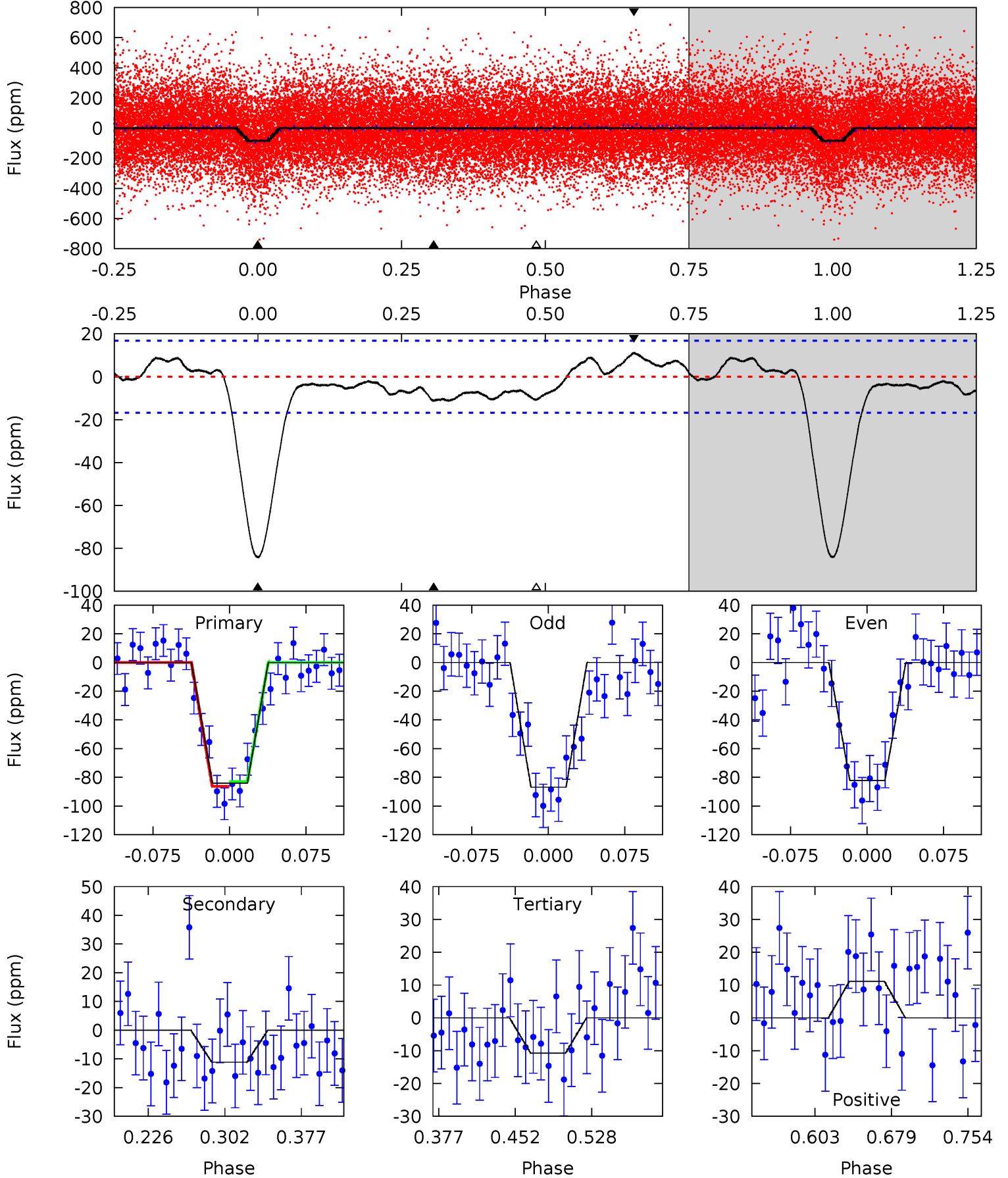
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.7	1.77	0.77	0	4.58	1.68	1.01	23.9	24.7	1.00	1.77	0.76	0.99	0.09	2.43



# Alt Model-Shift Uniqueness Test

010232693-01, P = 0.990519 Days, E = 130.848952 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
23.2	3.08	2.95	3.06	4.62	1.78	1.68	20.2	20.1	0.12	0.02	0.64	1.00	0.12	0.46



### Stellar Parameters For KIC 010232693

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5975^{+215}_{-179}$	$3.755^{+0.616}_{-0.154}$	$-0.380^{+0.350}_{-0.250}$	$2.399^{+0.583}_{-1.360}$	$1.194^{+0.177}_{-0.303}$	$0.122^{+1.158}_{-0.050}$
	+4%/-3%	+16%/-4%	+92%/-66%	+24%/-57%	+15%/-25%	+951%/-41%
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 010232693-01 / KOI 2341.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-6 \pm 3$	$2.30^{+0.98}_{-0.88}$	$3888^{+338}_{-612}$	$-2824^{+6350}_{-706}$	$0.233^{+0.456}_{-0.149}$
Alt.	$-11 \pm 4$	$2.23^{+1.06}_{-0.86}$	$3890^{+359}_{-585}$	$3340^{+845}_{-6386}$	$0.515^{+0.763}_{-0.298}$

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



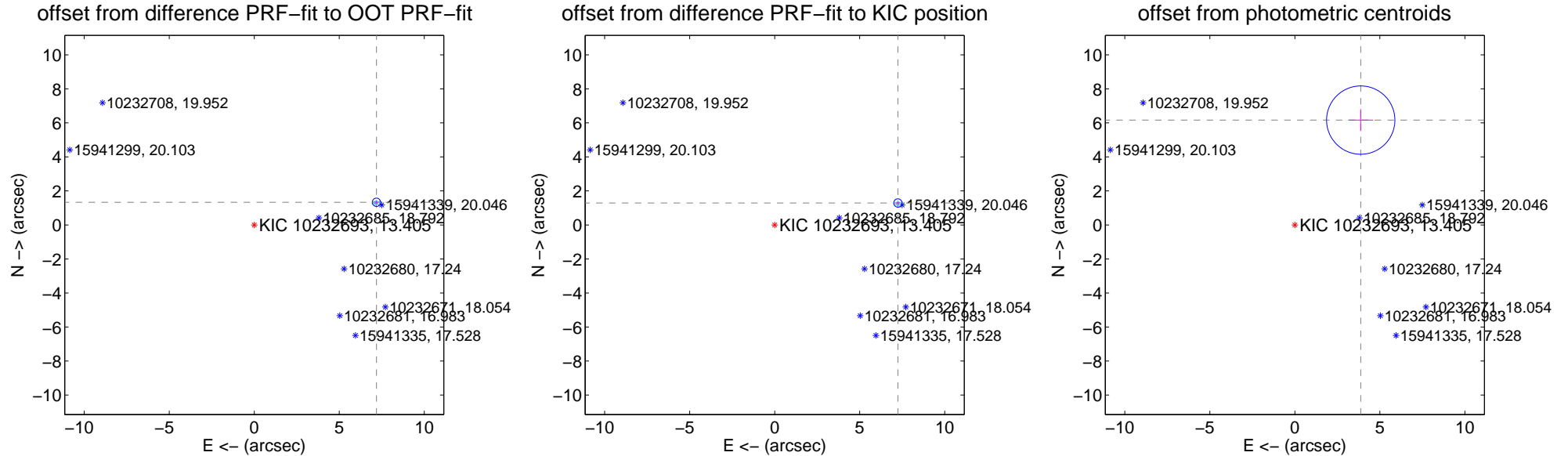
## DV Centroid Data

Supplemental centroid analysis for 010232693-01. Kepler magnitude: 13.40. Transit SNR 17.94

There are 7 quarters with good PRF difference image offsets

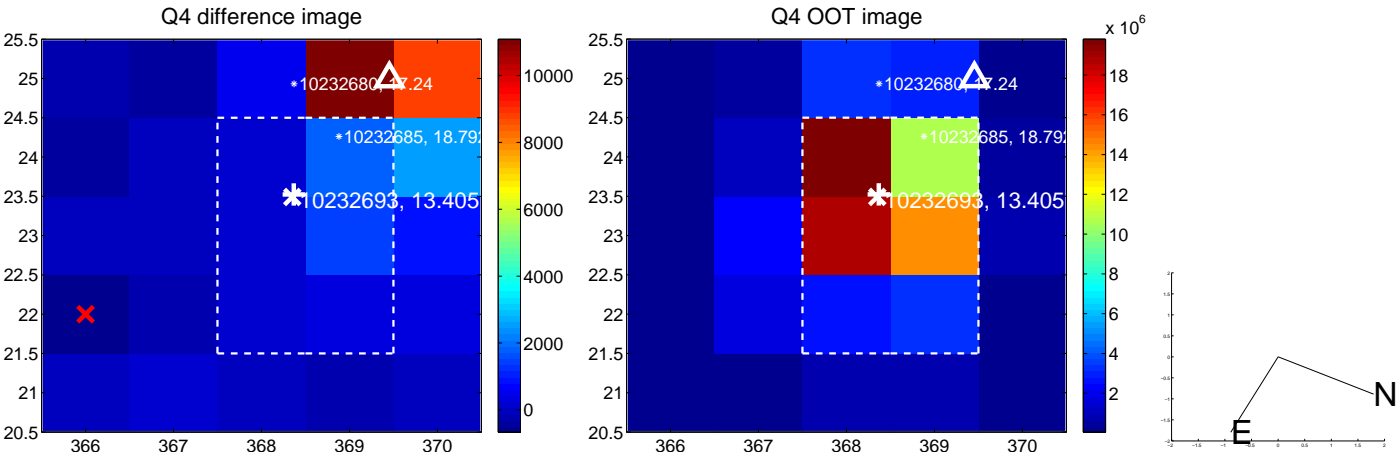
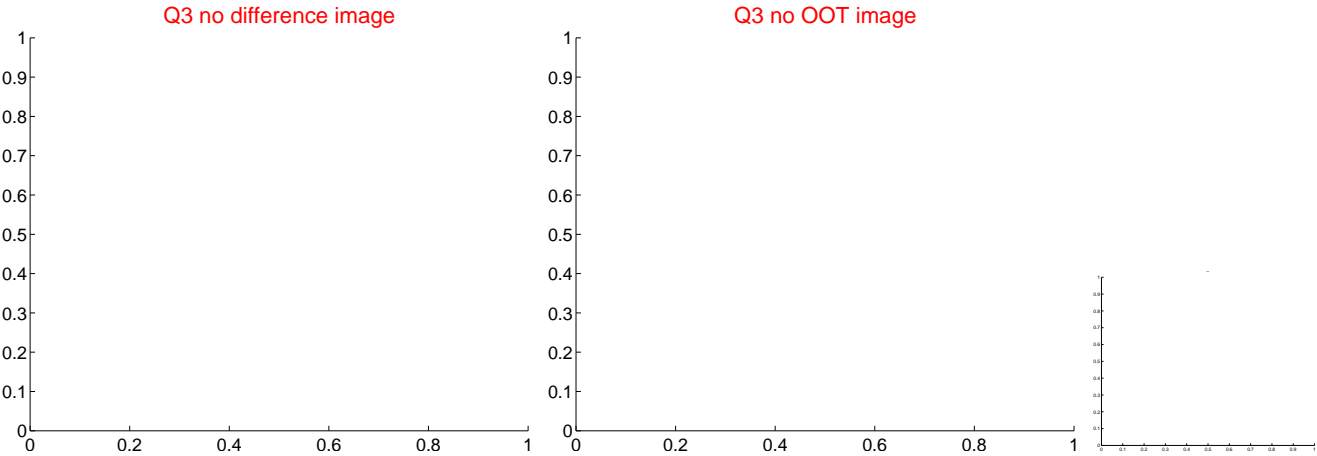
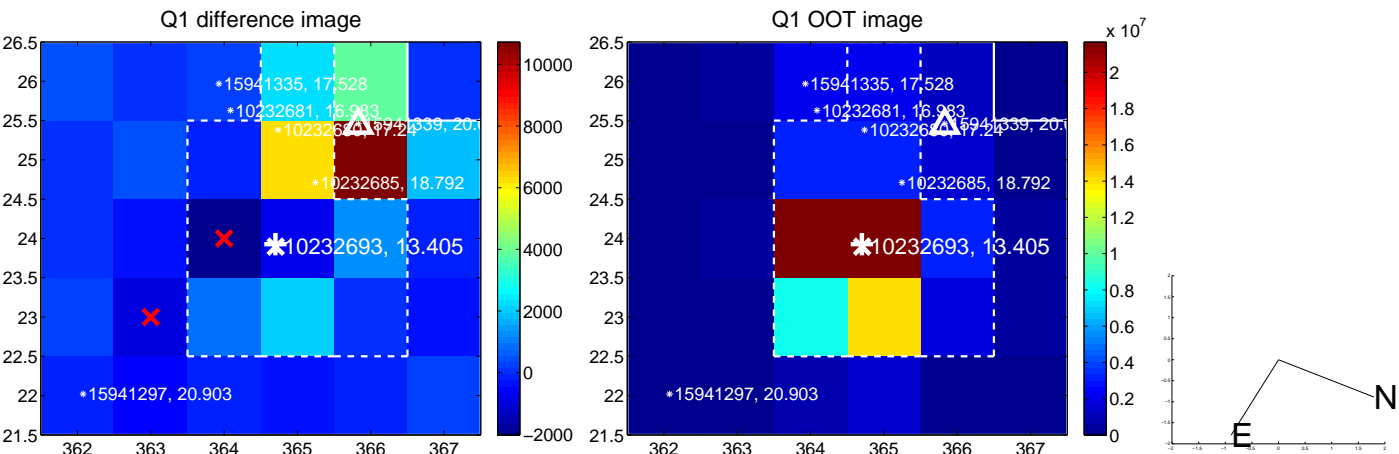
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>7.310 <math>\pm</math> 0.081</b>	<b>89.82</b>	-7.187 $\pm$ 0.082	1.333 $\pm$ 0.074
PRF-fit source offset from KIC position	<b>7.360 <math>\pm</math> 0.081</b>	<b>90.42</b>	-7.246 $\pm$ 0.082	1.290 $\pm$ 0.074
photometric centroid source offset	<b>7.28 <math>\pm</math> 0.67</b>	<b>10.88</b>	-3.88 $\pm$ 0.73	6.17 $\pm$ 0.64

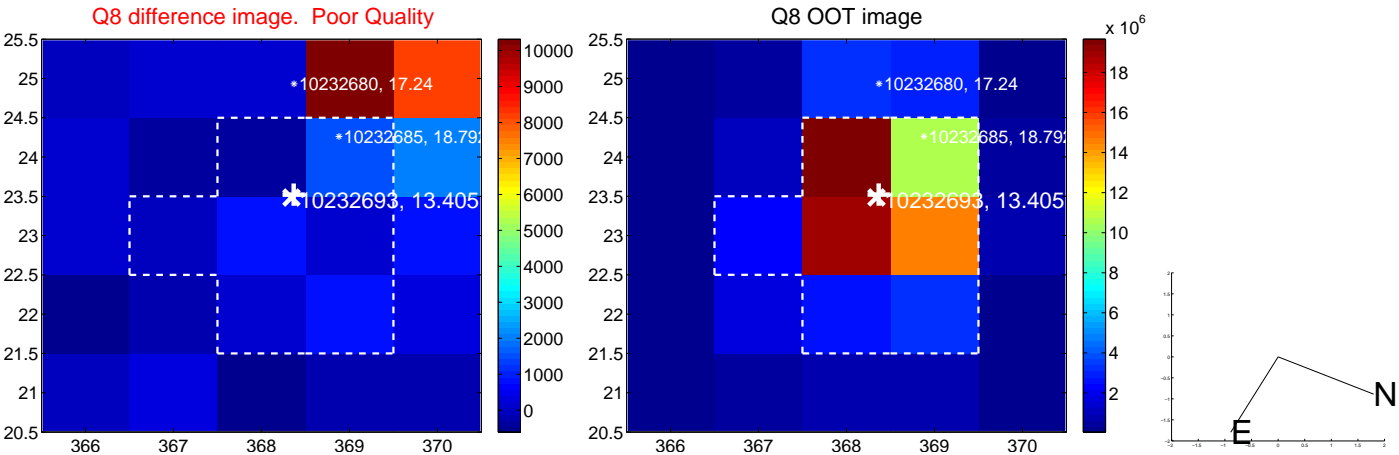
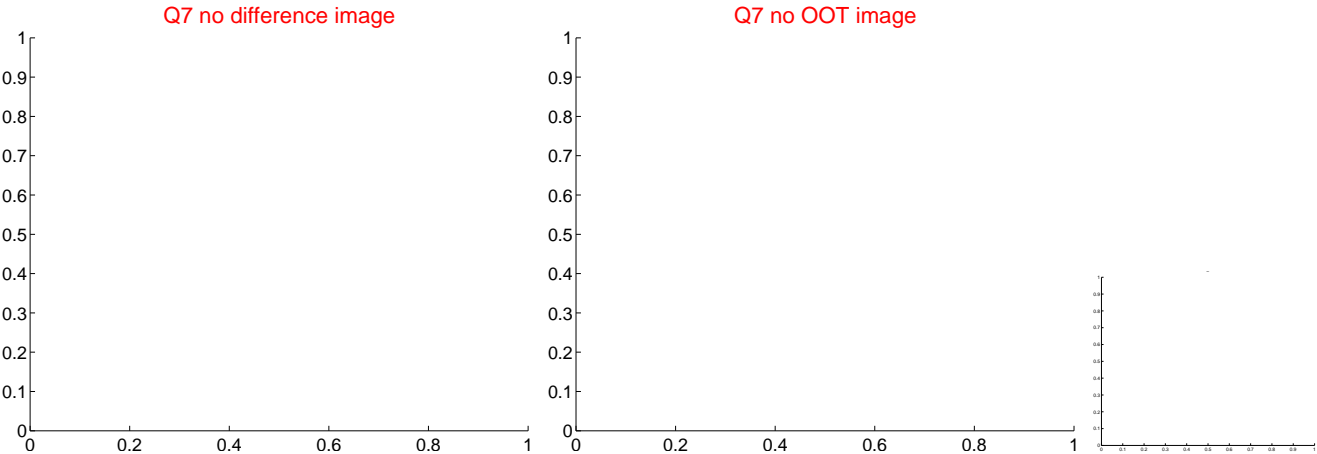
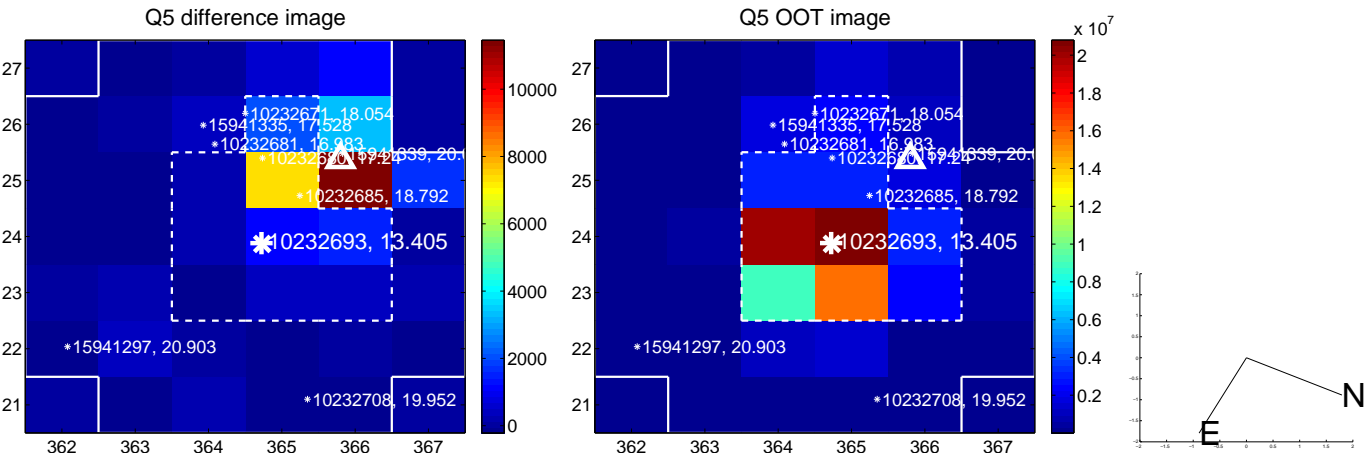


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

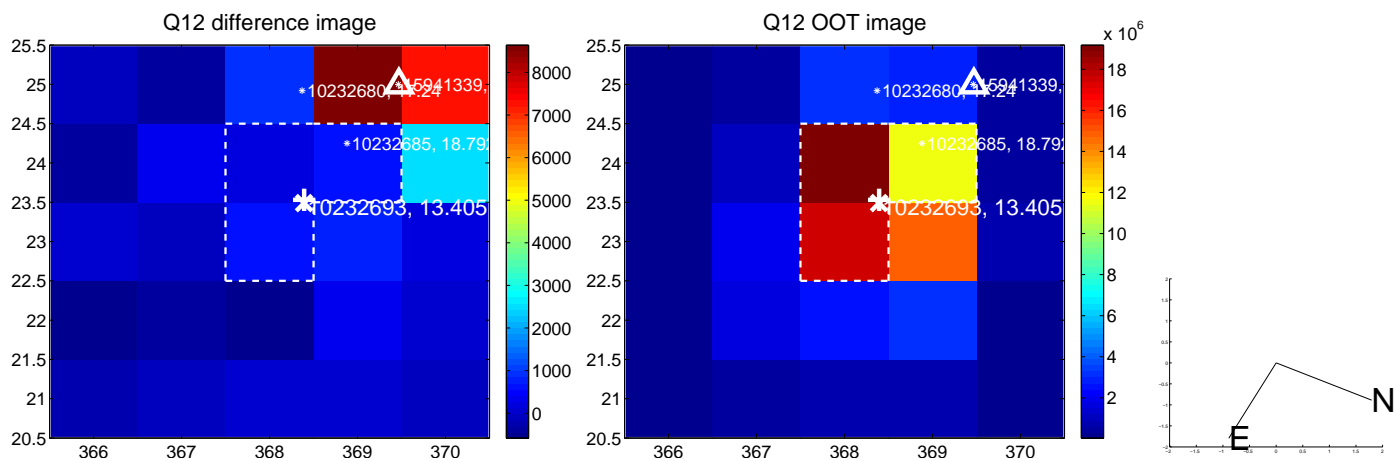
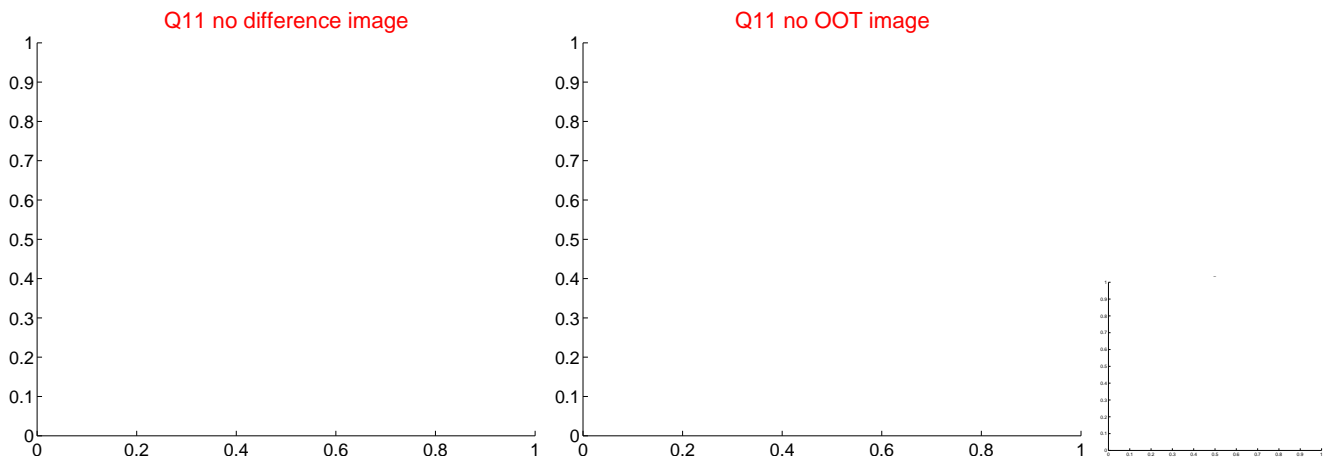
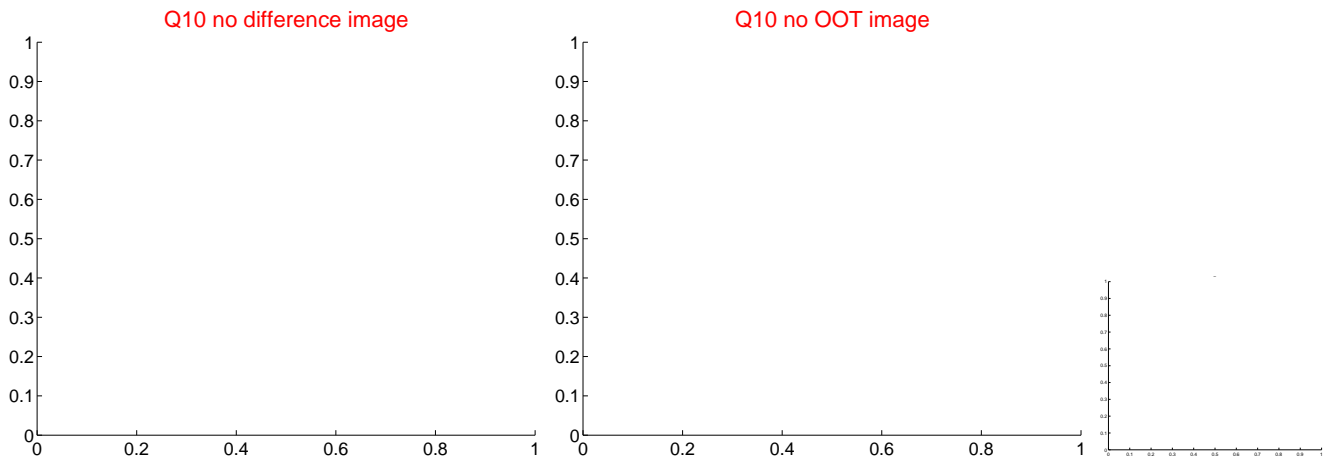
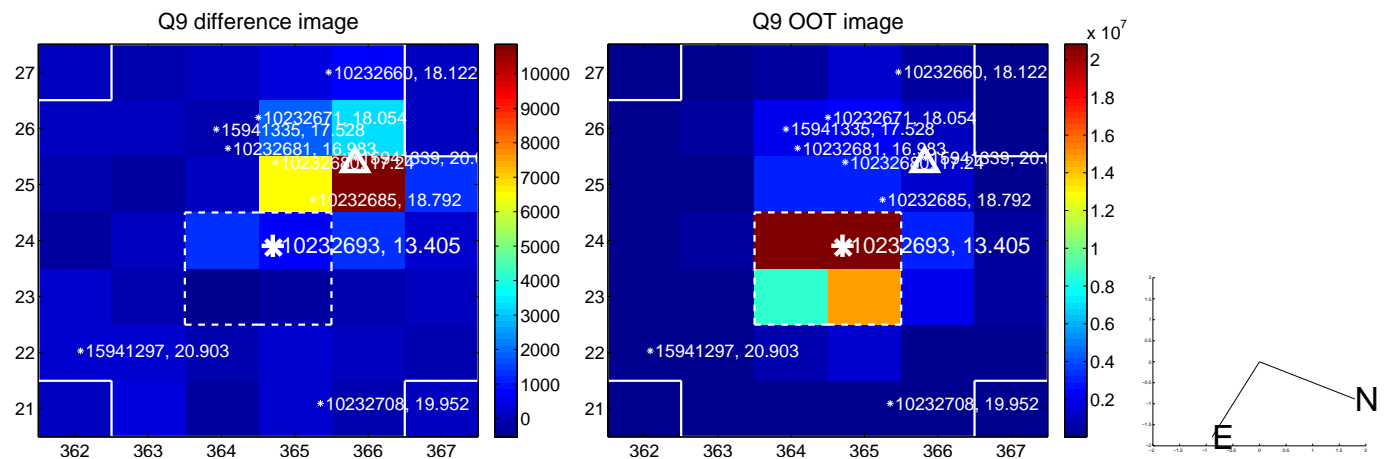
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



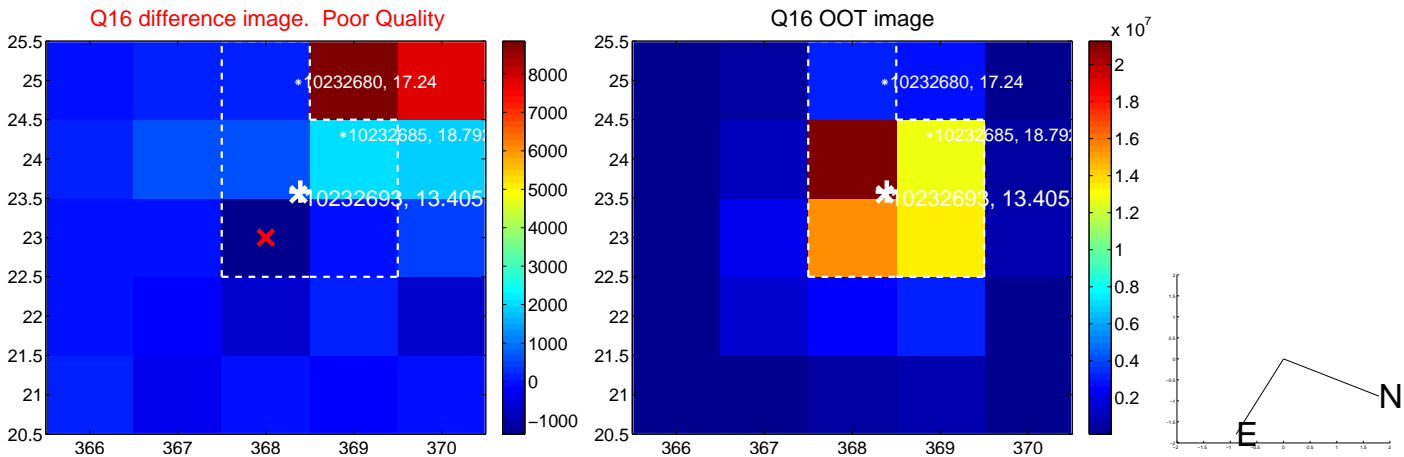
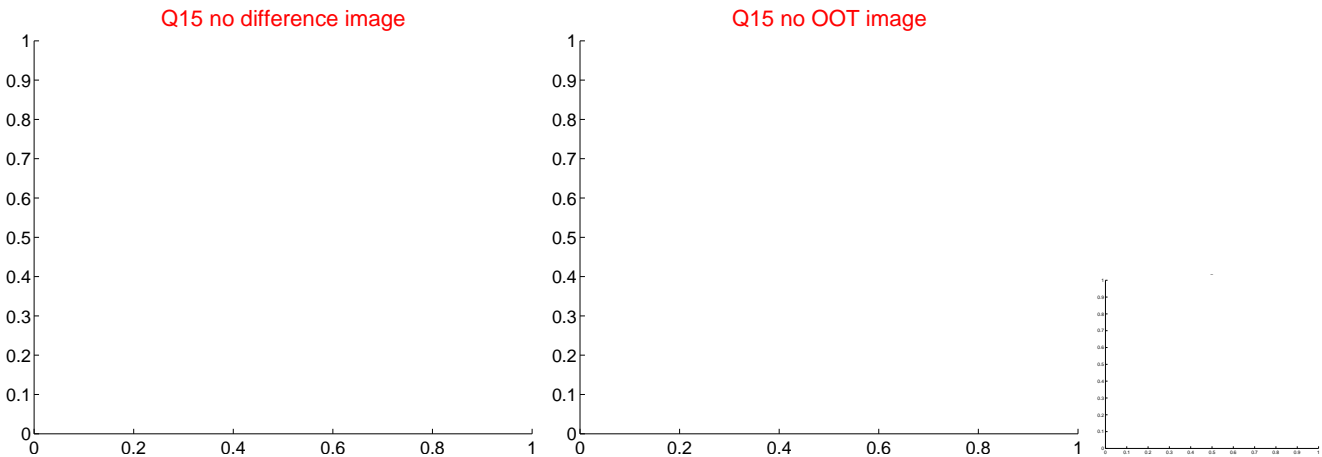
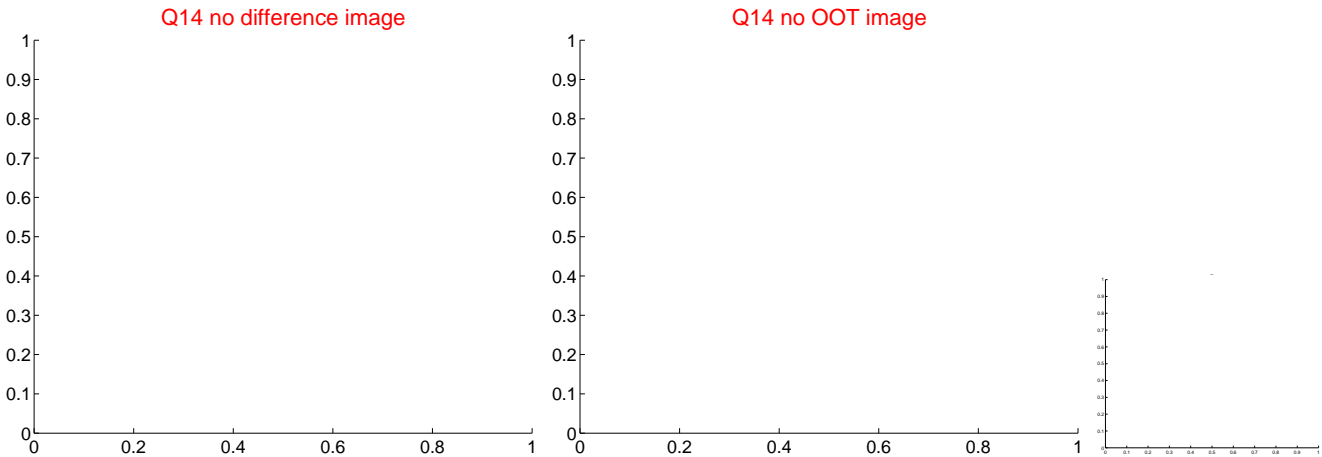
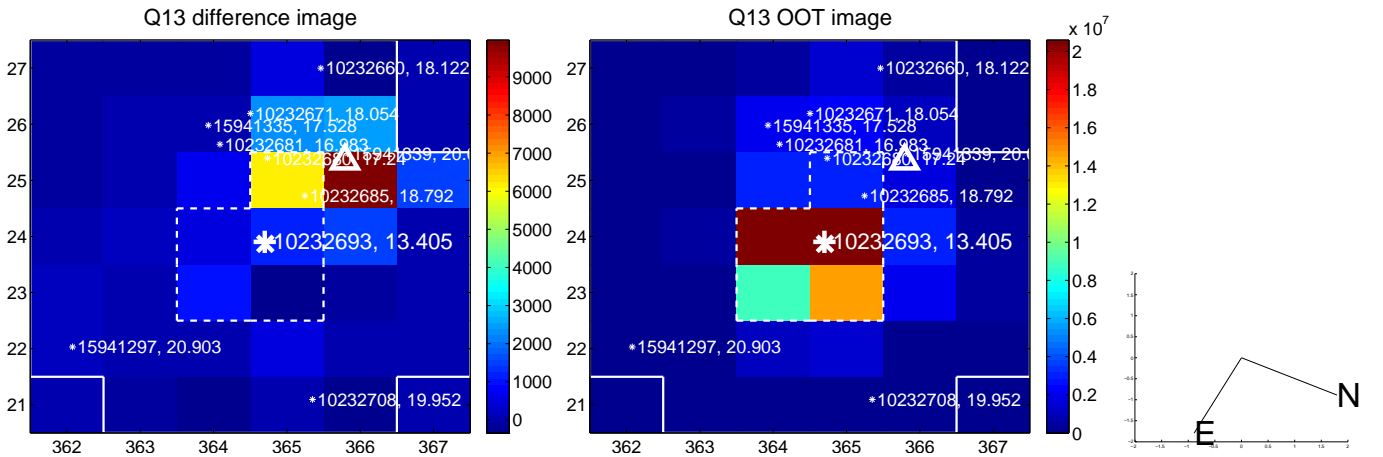
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

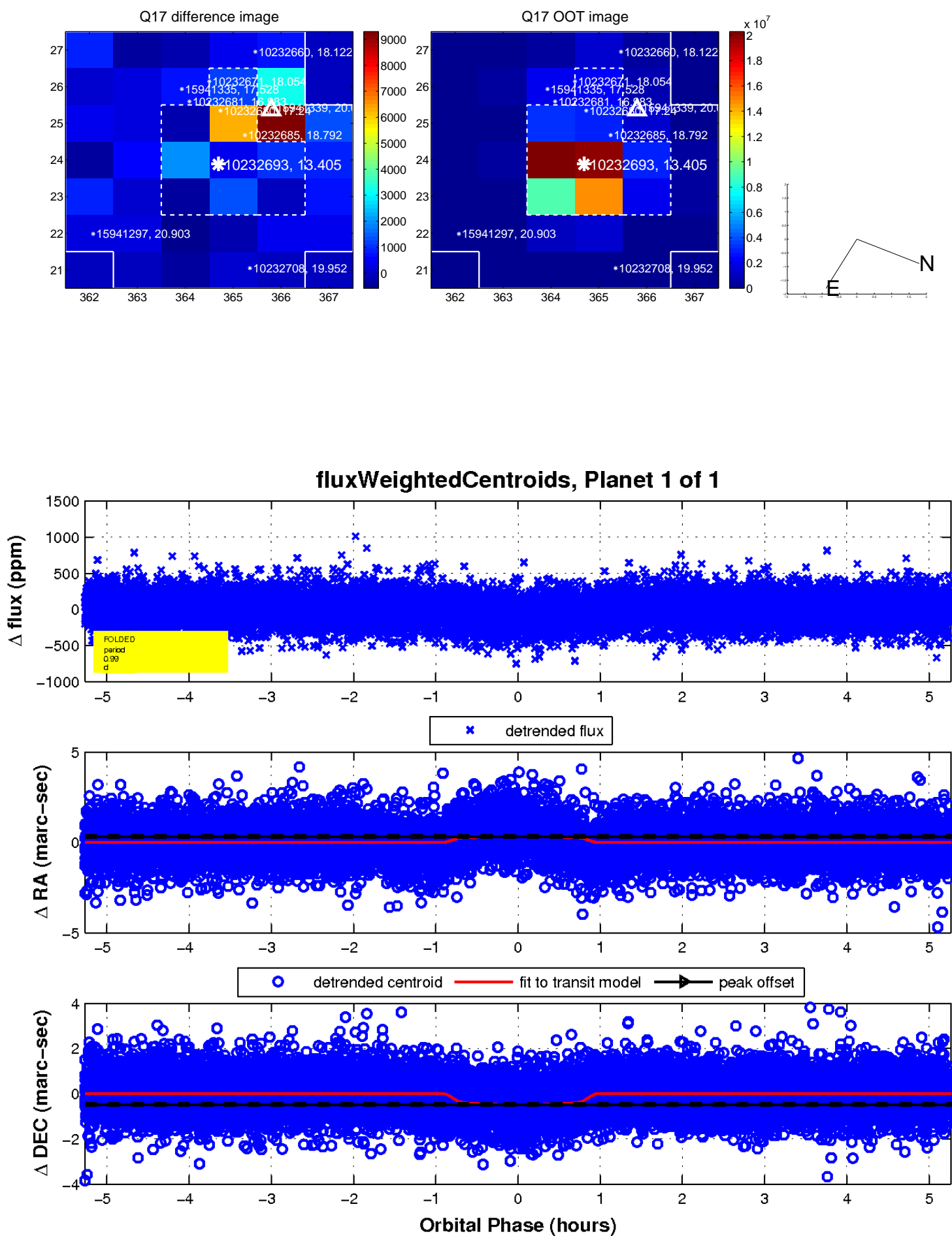


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





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



UKIRT Image

Declination

