

# KIC 004772095

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004772095-01	OBS	8250.01	99.299449	138.714347	435.7	3.788	7.2	6.6	2.58	6832	5.95	51.29

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004772095-01	OBS	FP	0.11	1	0	0	0	MOD_NONUNIQ_ALT—CENT_KIC_POS

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

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

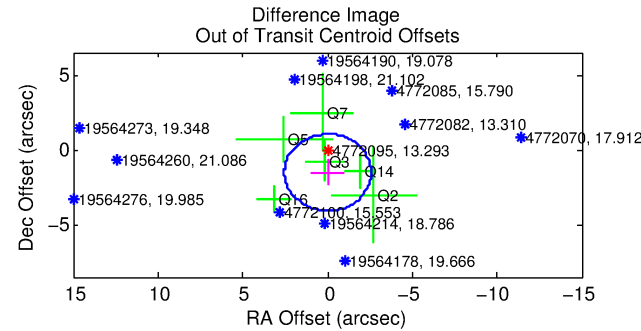
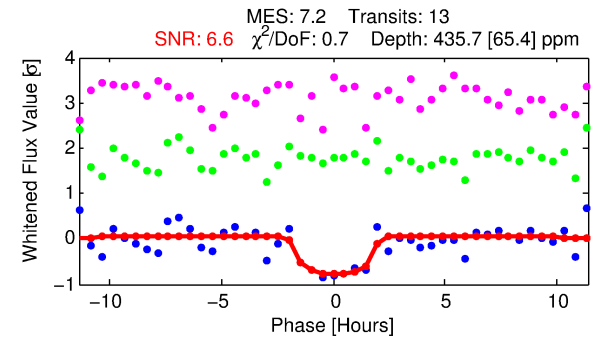
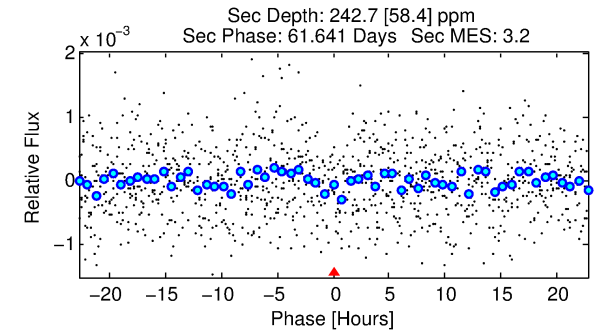
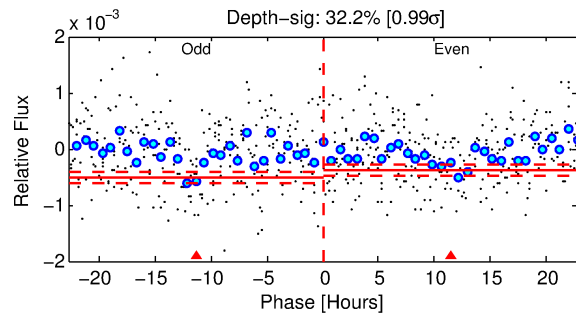
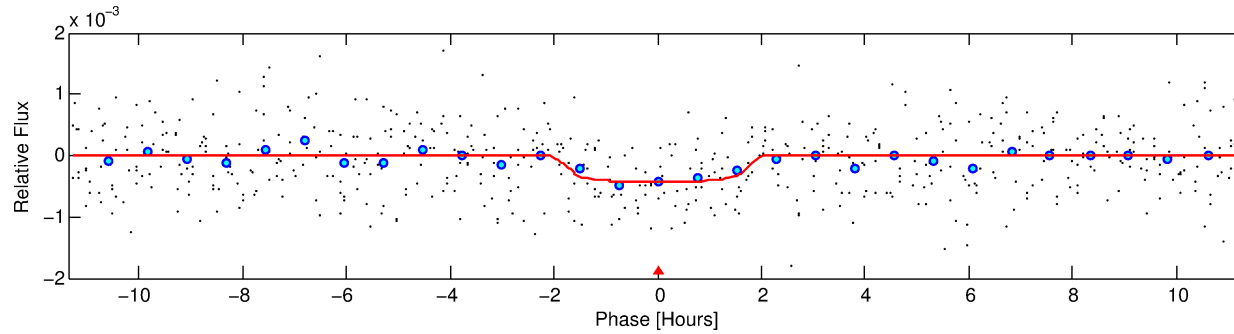
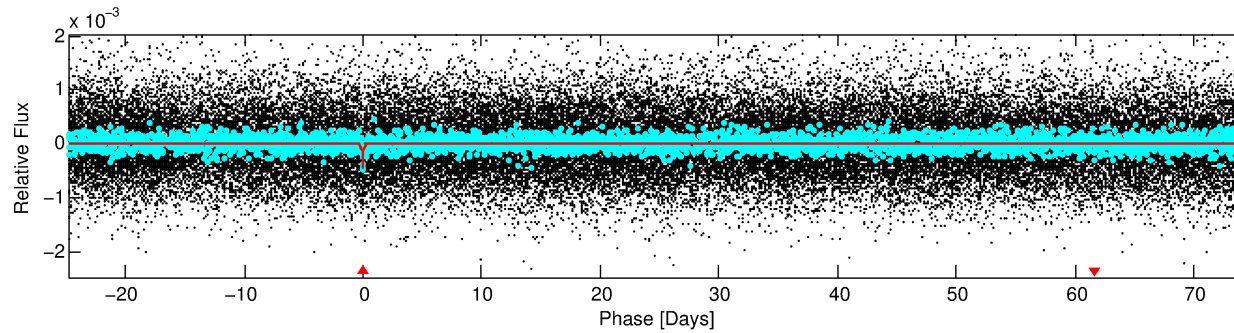
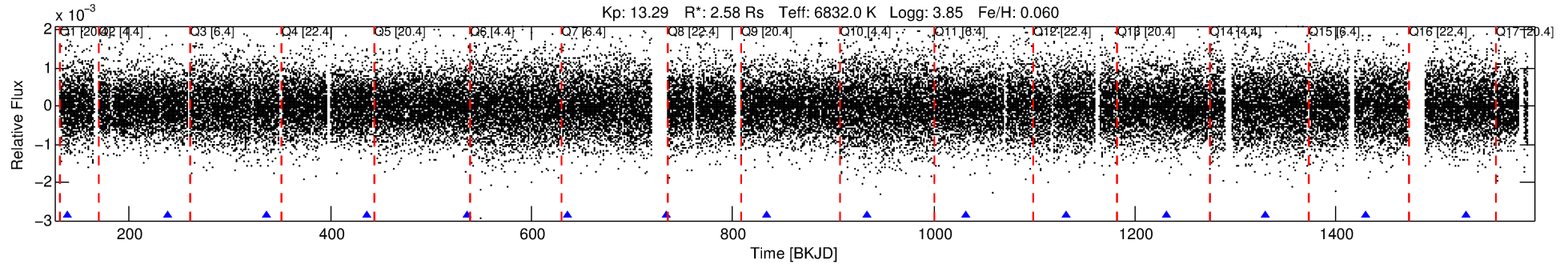
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004772095-01

No Significant Match Found

# DV One-Page Summary

KIC: 4772095 Candidate: 1 of 1 Period: 99.299 d



## DV Fit Results:

Period = 99.29945 [0.00132] d  
Epoch = 138.7143 [0.0109] BKJD  
Rp/R\* = 0.0212 [0.0172]  
a/R\* = 125.88 [589.74]  
b = 0.80 [2.06]  
Seff = 51.29 [32.26]  
Teq = 682 [107] K  
Rp = 5.95 [5.44] Re  
a = 0.5029 [0.1955] AU  
Ag = 953.50 [1668.67] [0.57 $\sigma$ ]  
Teffp = 5863 [2419] K [2.14 $\sigma$ ]

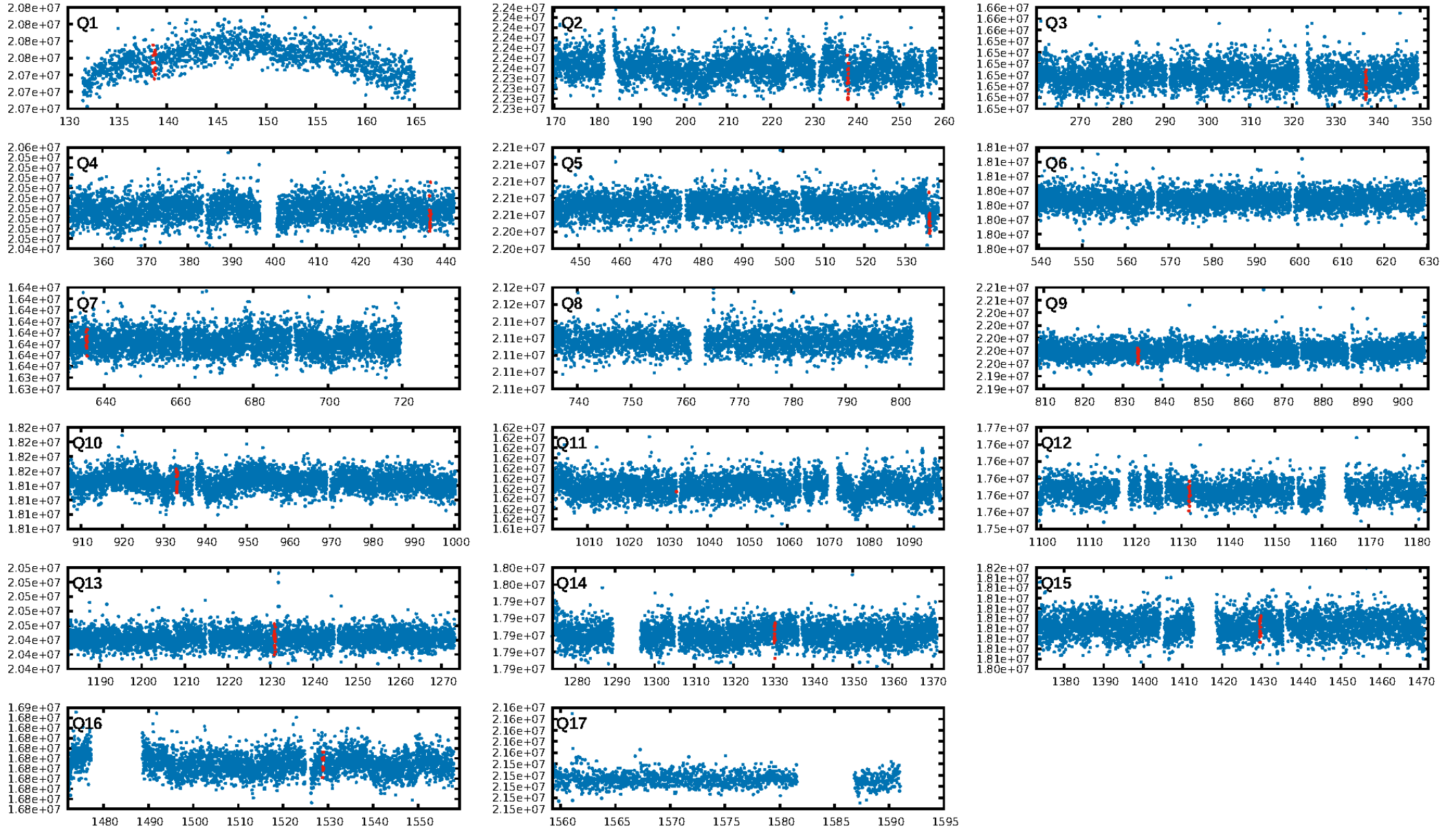
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 59.1%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 5.72e-13  
RollingBand-fgt: 1.00 [12/12]  
GhostDiagnostic-chr: 3.56  
Centroid-sig: 2.1%  
Centroid-so: 1.967 arcsec [2.04 $\sigma$ ]  
OotOffset-rm: 1.521 arcsec [1.78 $\sigma$ ]  
KicOffset-rm: 0.328 arcsec [0.33 $\sigma$ ]  
OotOffset-st: 2/2/1/1 [6]  
KicOffset-st: 2/2/1/1 [6]  
DiffImageQuality-fgm: 0.00 [0/6]  
DiffImageOverlap-fno: 1.00 [12/12]

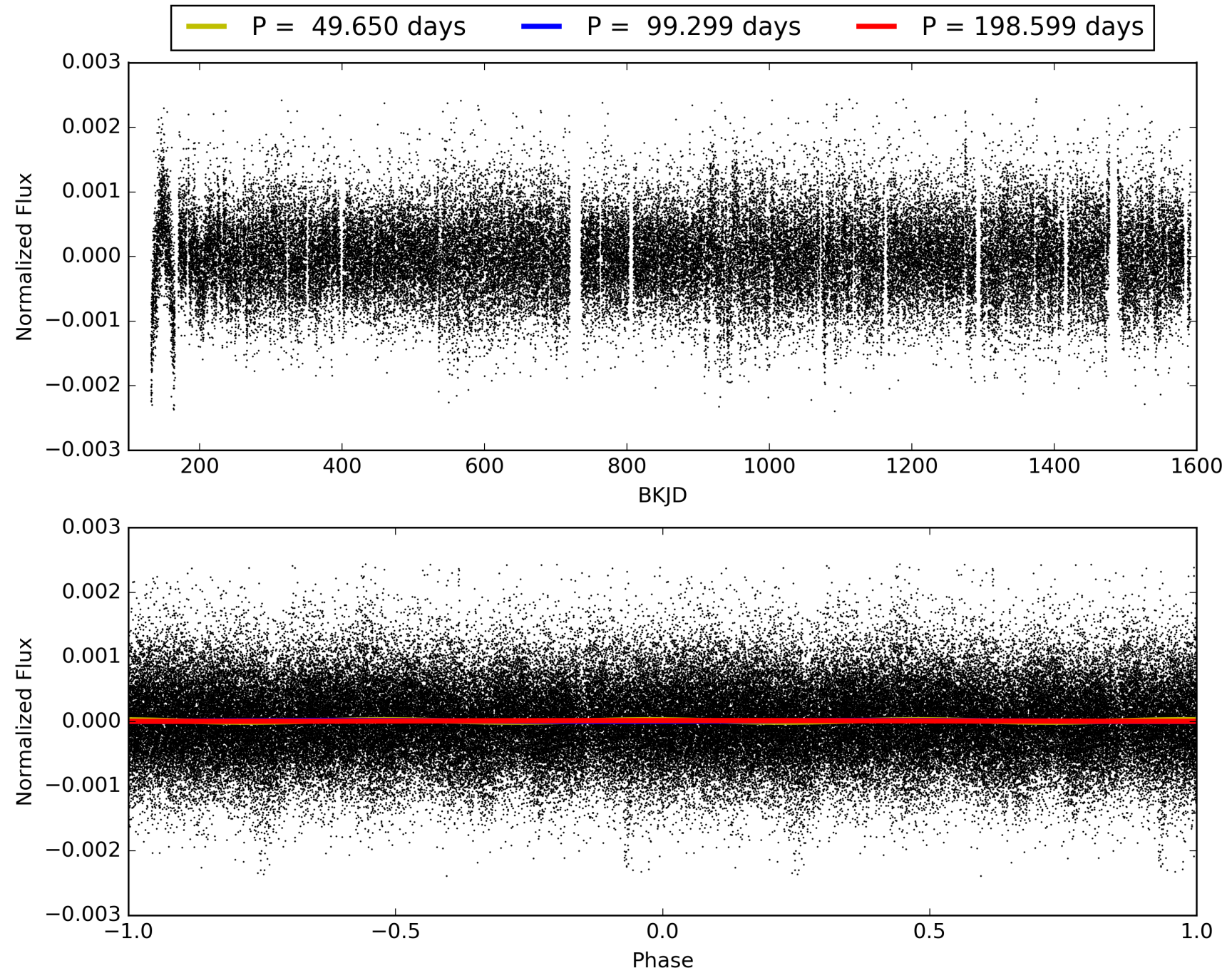
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:26:44 Z

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

# TCE 004772095-01, PDC Light Curves

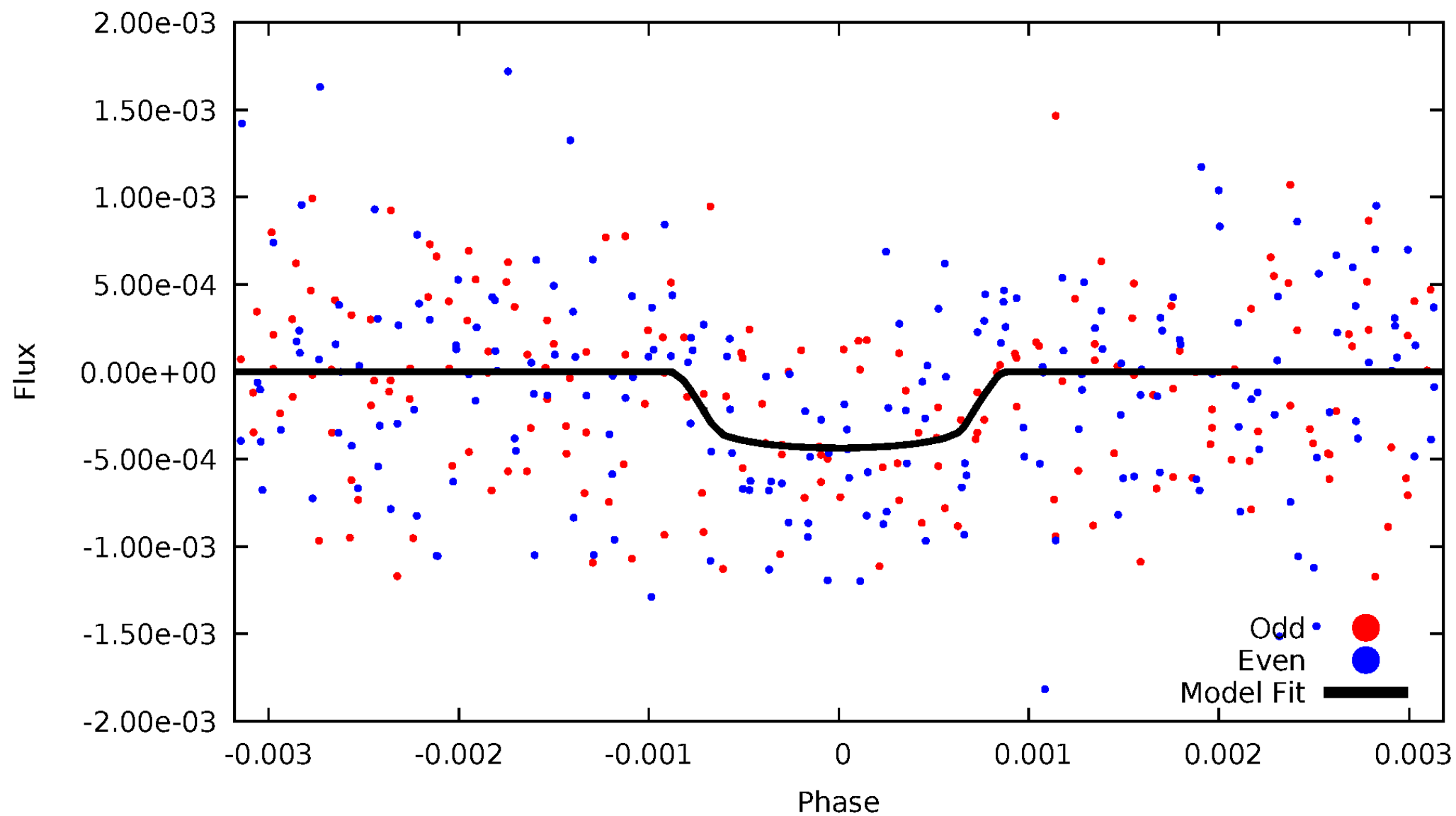


TCE 004772095-01



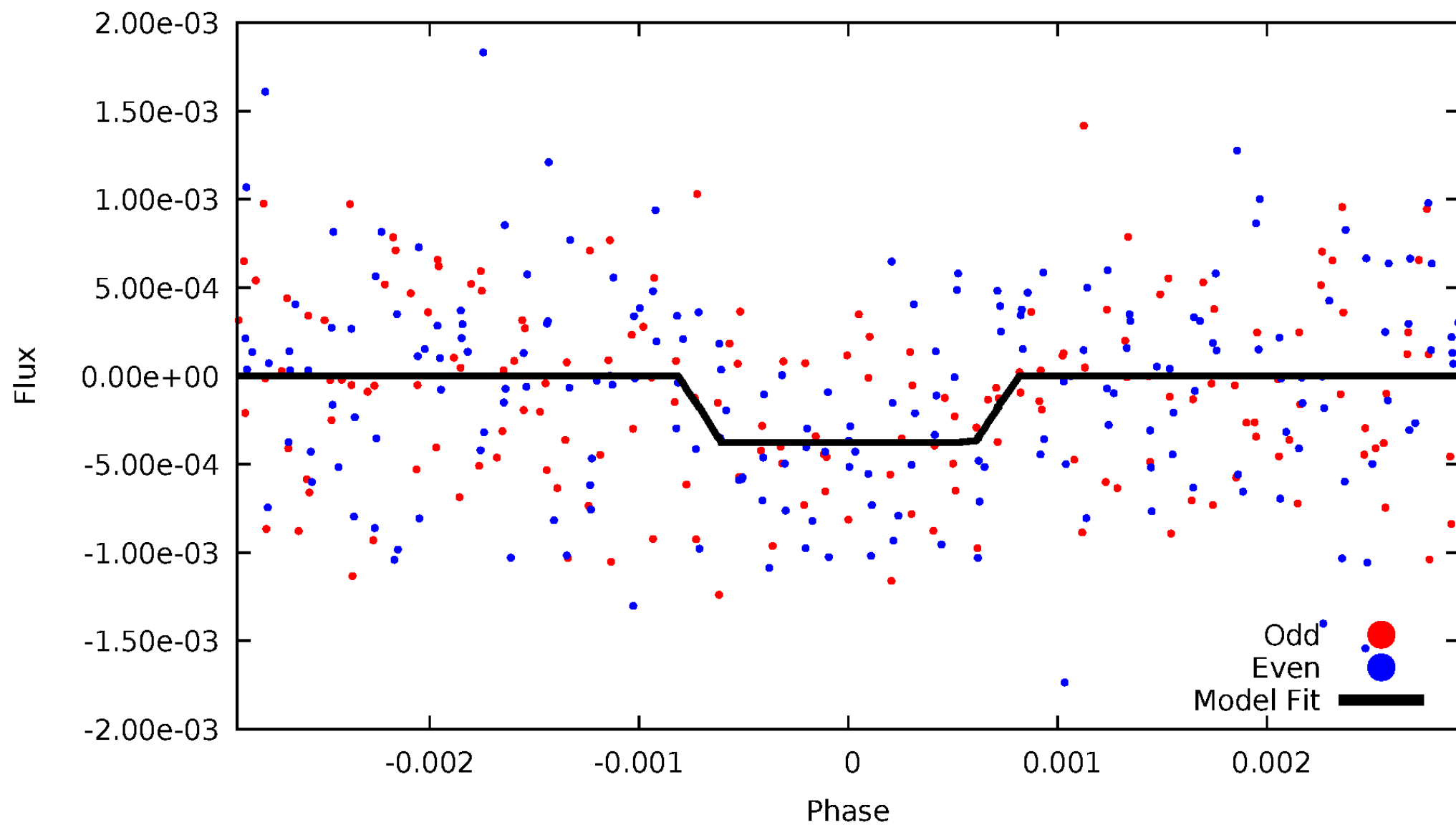
# DV Odd/Even

TCE 004772095-01



# ALT Odd/Even

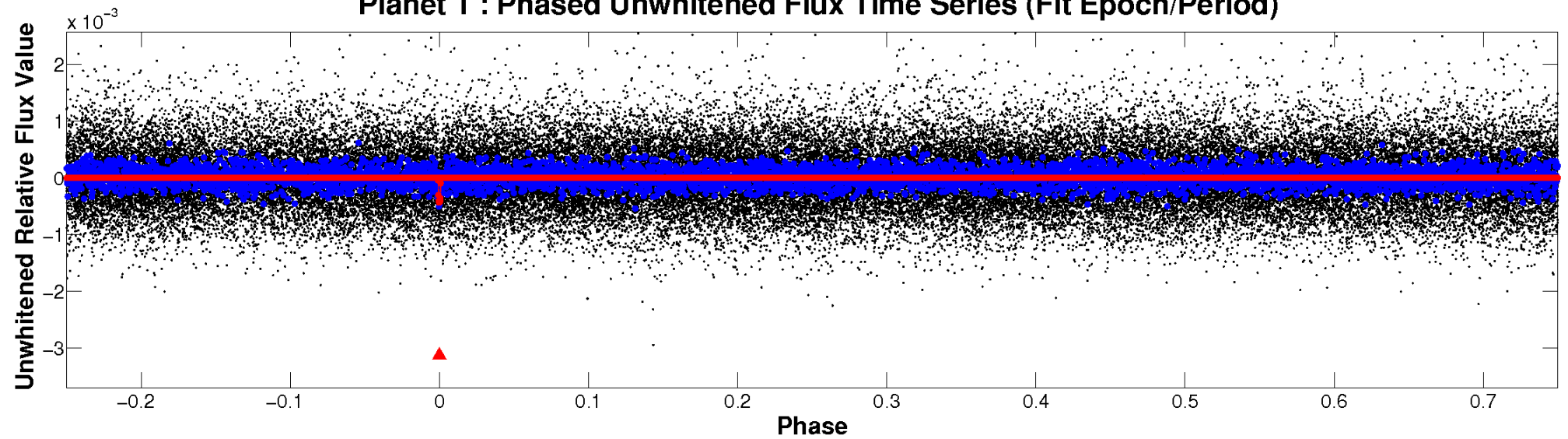
TCE 004772095-01



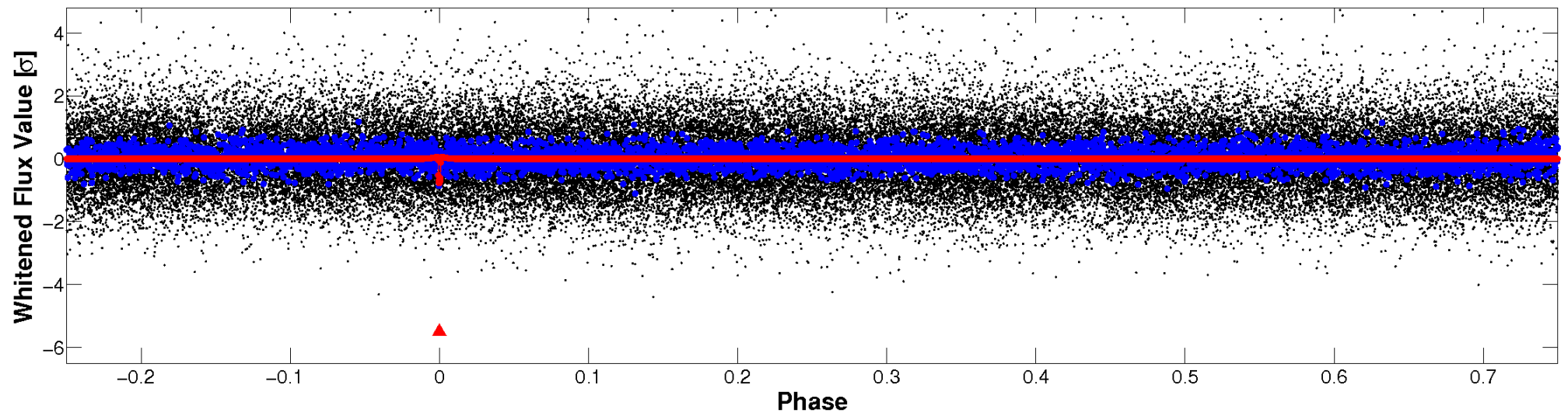


# Non-Whitened Vs. Whitened Light Curve

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

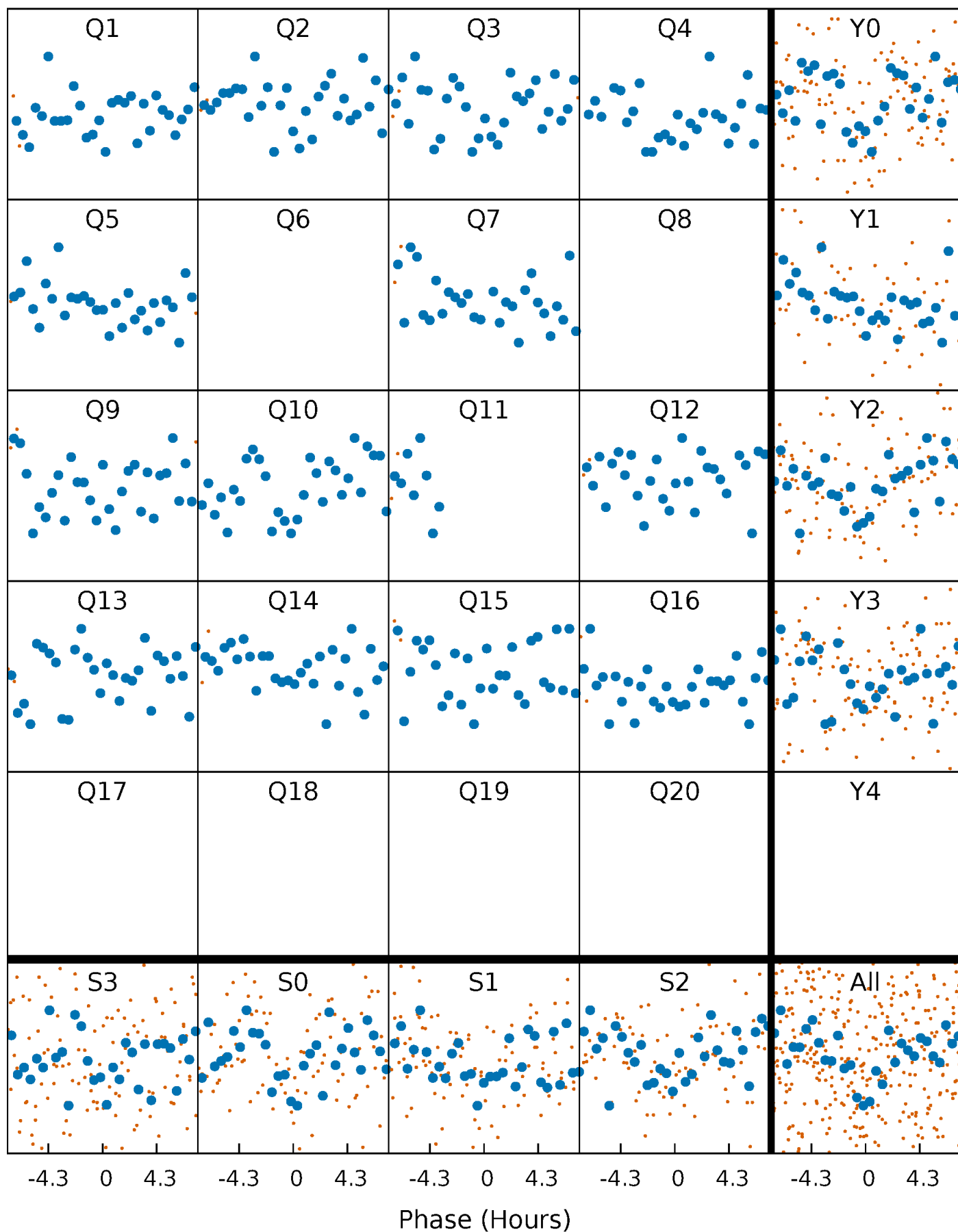


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

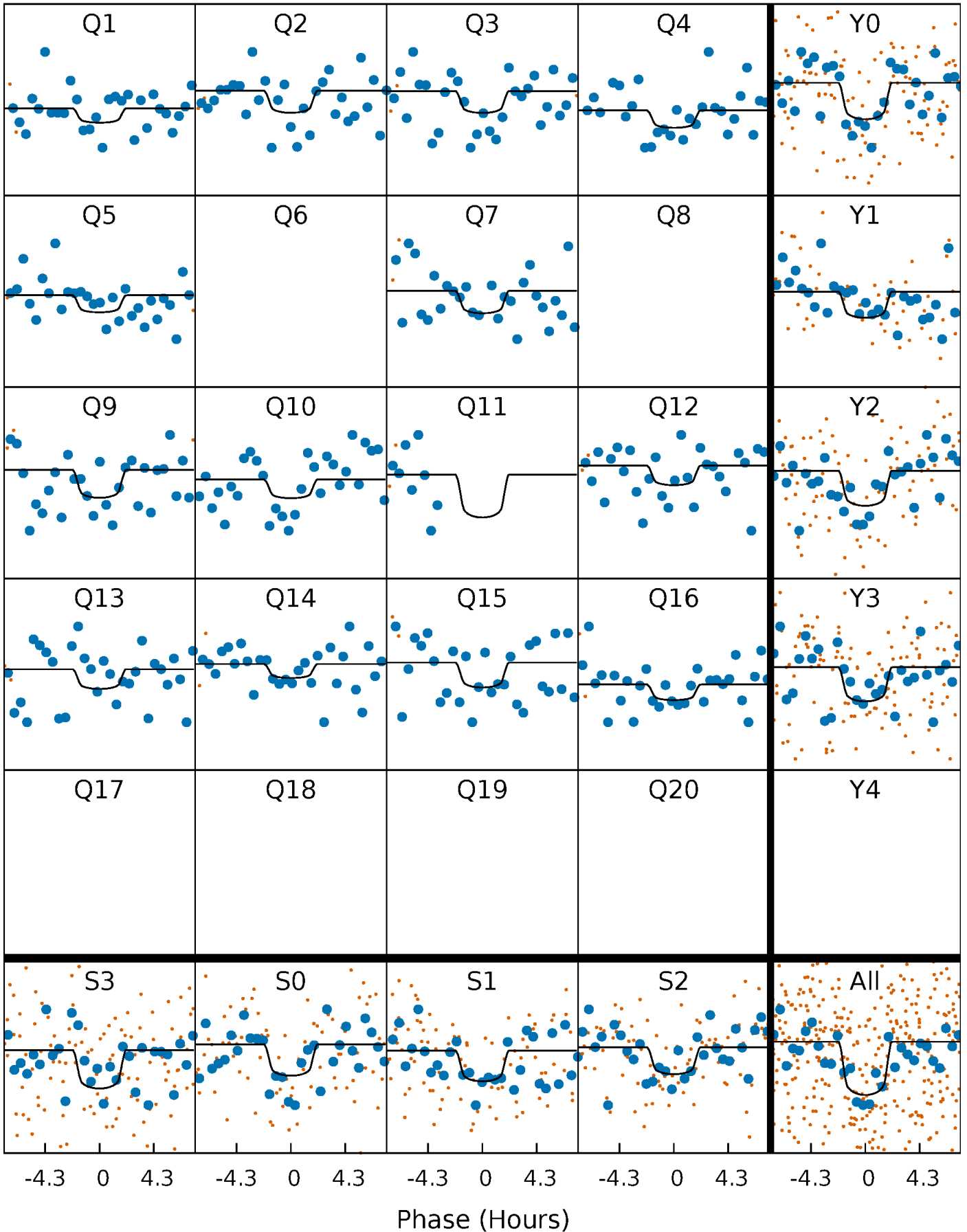
TCE 004772095-01 P= 99.299449 Days  $T_0=138.714347$  (BKJD)





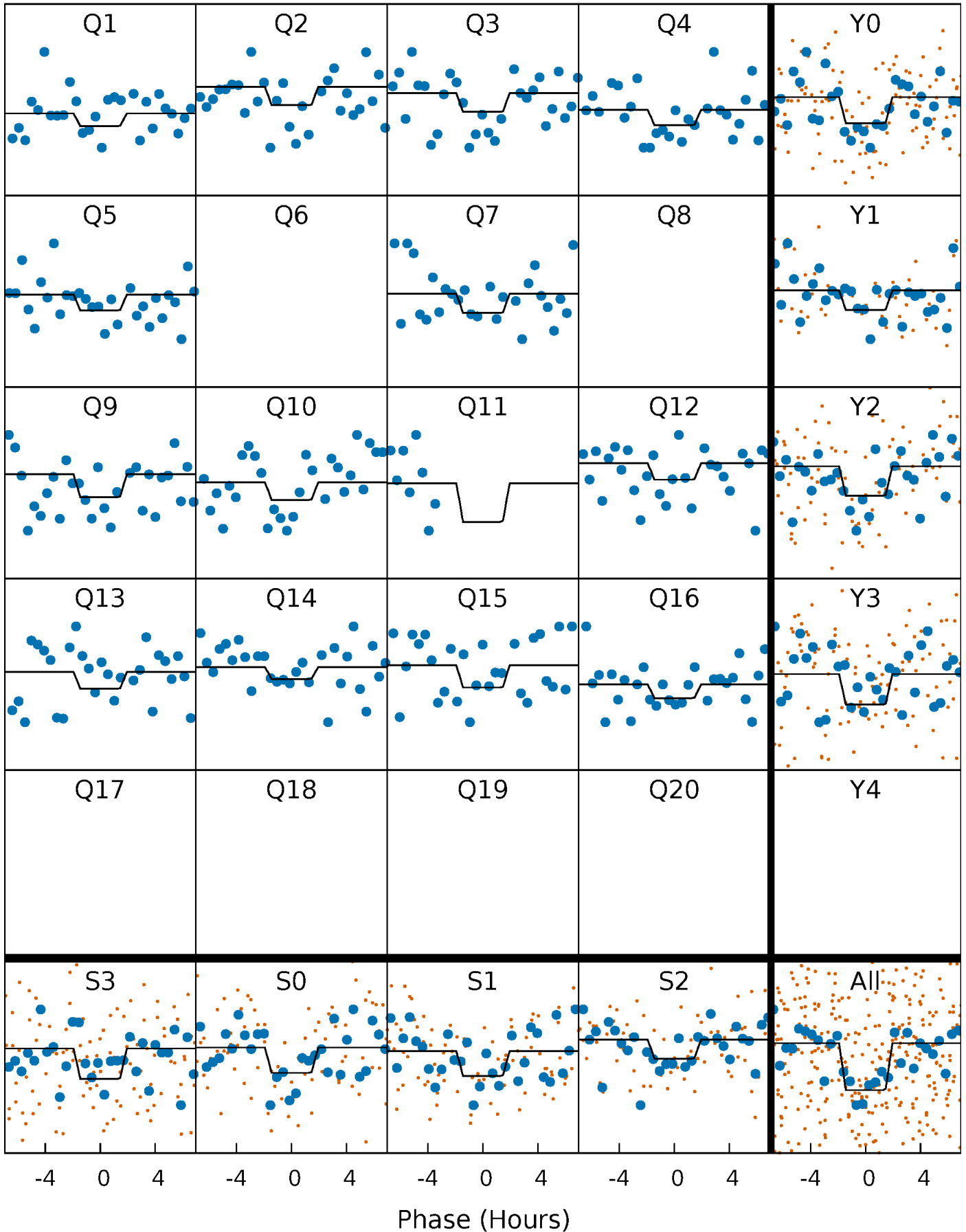
# DV Quarter-Phased Transit Curves

TCE 004772095-01 P= 99.299449 Days  $T_0=138.714347$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

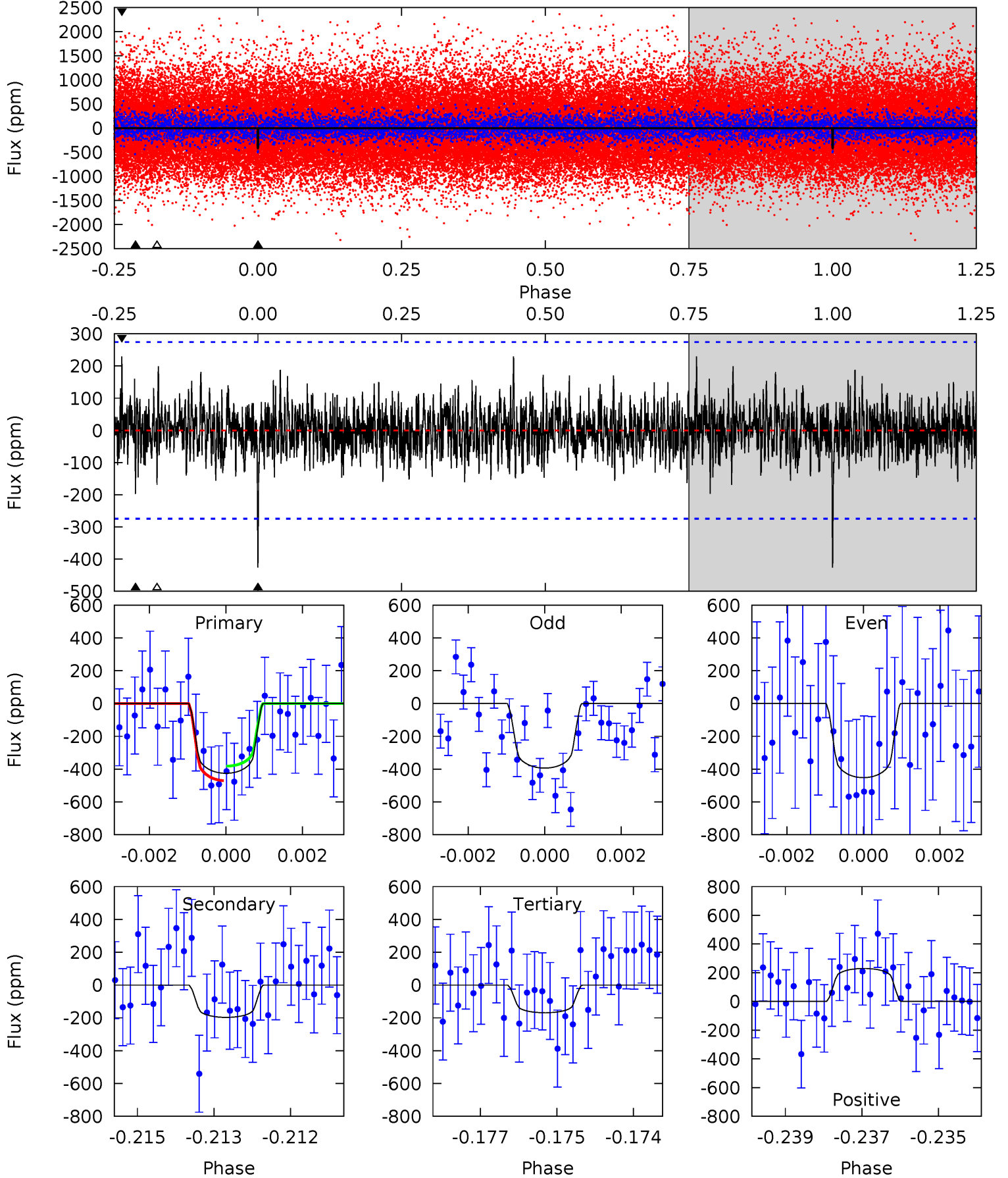
TCE 004772095-01     $P = 99.299823$  Days     $T_0 = 138.714777$  (BKJD)



# DV Model-Shift Uniqueness Test

004772095-01, P = 99.299449 Days, E = 39.414898 Days

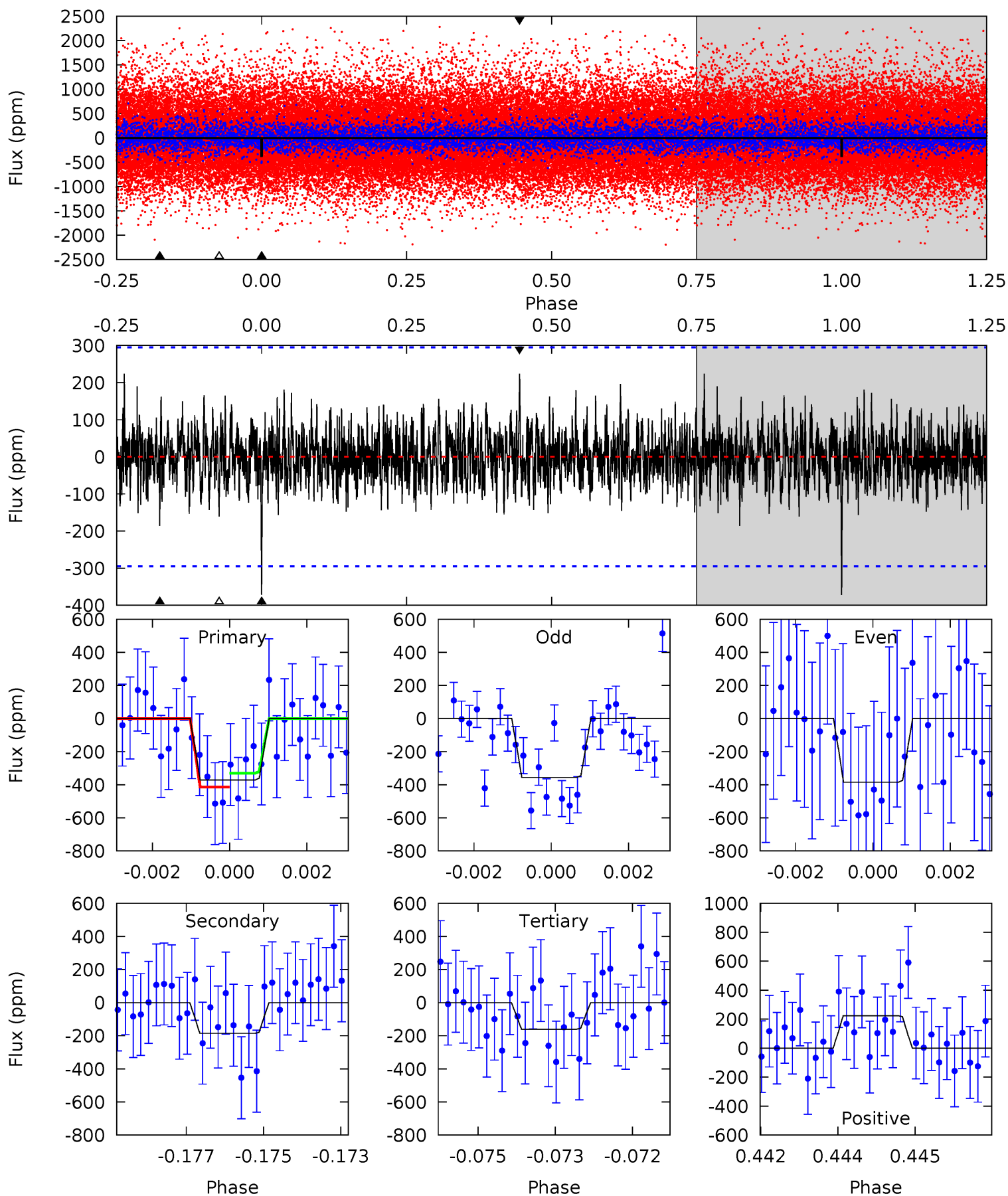
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.29	3.84	3.29	4.48	5.35	3.12	1.13	5.00	3.81	0.55	-0.64	0.57	0.99	0.35	0.86



# Alt Model-Shift Uniqueness Test

004772095-01, P = 99.299823 Days, E = 39.414954 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
6.77	3.38	2.92	4.08	5.37	3.16	1.03	3.85	2.69	0.46	-0.70	0.27	1.08	0.38	0.76



### Stellar Parameters For KIC 004772095

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6832^{+191}_{-287}$	$3.851^{+0.350}_{-0.150}$	$0.060^{+0.250}_{-0.350}$	$2.578^{+0.585}_{-1.086}$	$1.717^{+0.177}_{-0.414}$	$0.141^{+0.387}_{-0.061}$
	+3%/-4%	+9%/-4%	+417%/-583%	+23%/-42%	+10%/-24%	+274%/-43%
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 004772095-01 / KOI 8250.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-197 \pm 51$	$6.38^{+4.75}_{-3.71}$	$941^{+65}_{-92}$	$5161^{+3103}_{-991}$	$626^{+3212}_{-423}$
Alt.	$-186 \pm 55$	$5.72^{+4.58}_{-3.63}$	$936^{+69}_{-105}$	$5379^{+4313}_{-1185}$	$755^{+4978}_{-534}$

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

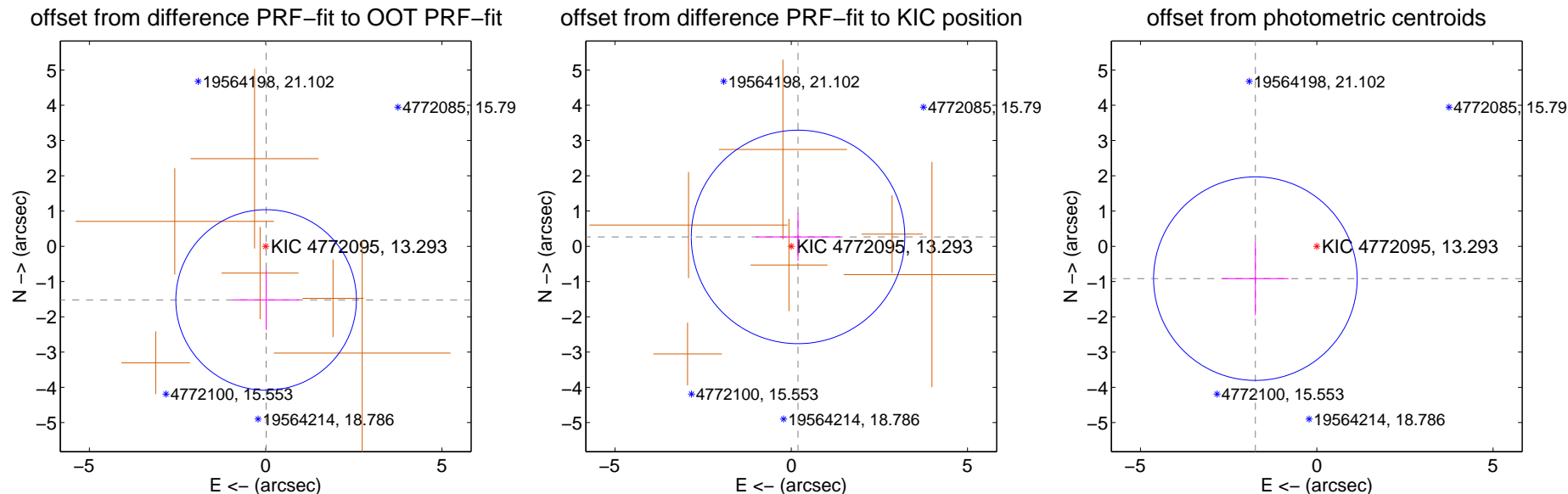
## DV Centroid Data

Supplemental centroid analysis for 004772095-01. Kepler magnitude: 13.29. Transit SNR 6.57

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

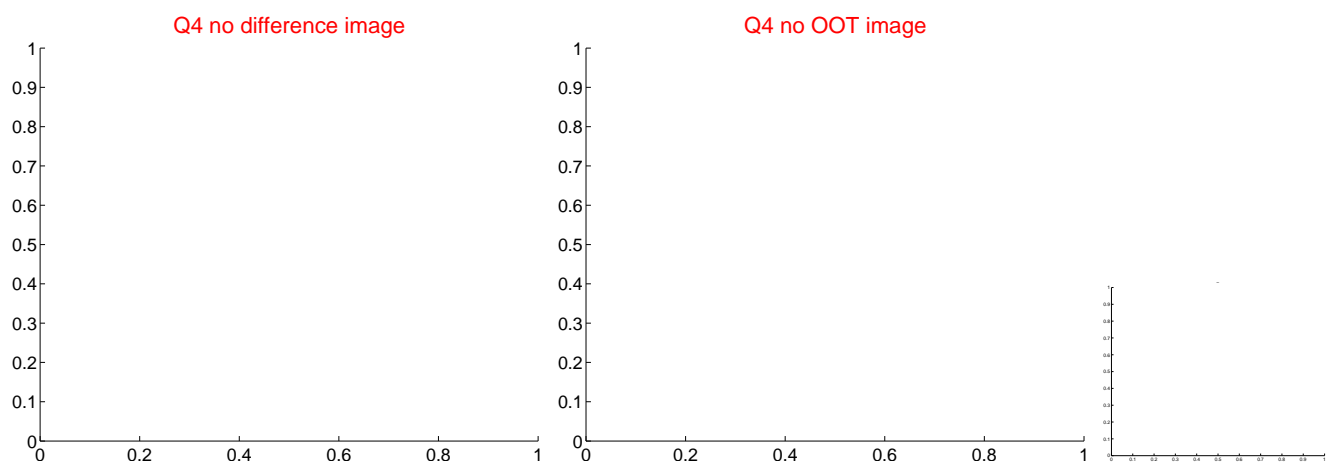
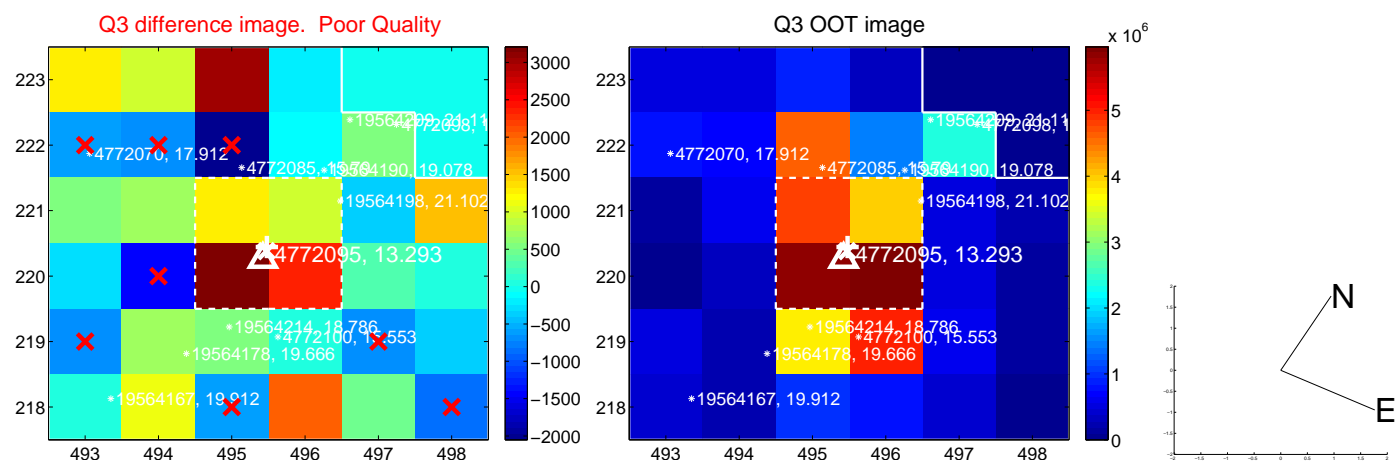
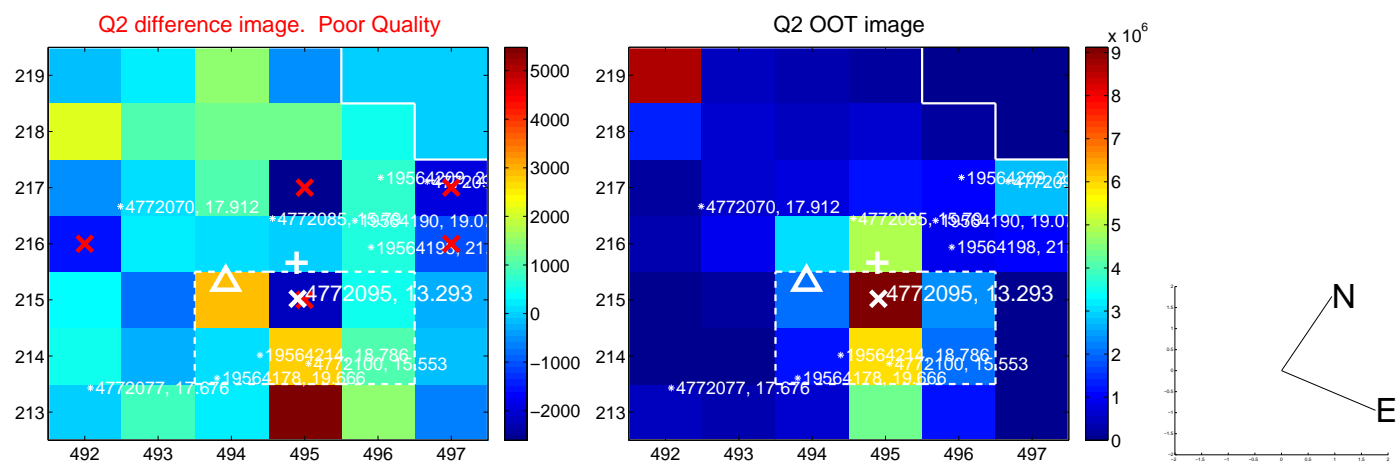
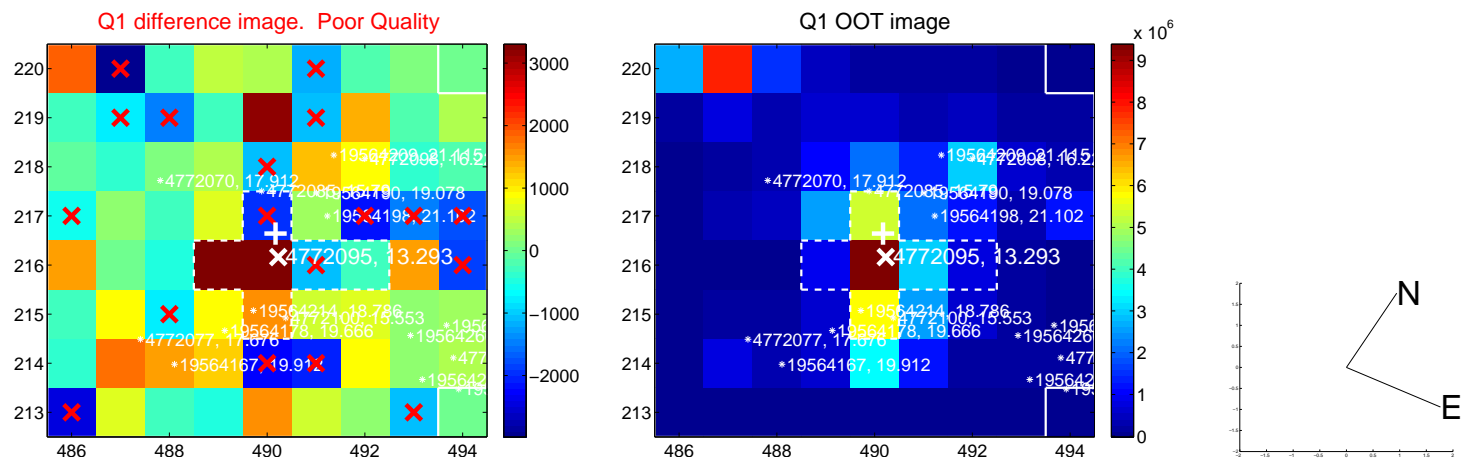
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.521 \pm 0.853$	1.78	$-0.012 \pm 0.943$	$-1.521 \pm 0.851$
PRF-fit source offset from KIC position	$0.328 \pm 1.009$	0.33	$-0.193 \pm 1.204$	$0.266 \pm 0.680$
photometric centroid source offset	$1.97 \pm 0.96$	2.04	$1.74 \pm 0.94$	$-0.92 \pm 1.04$



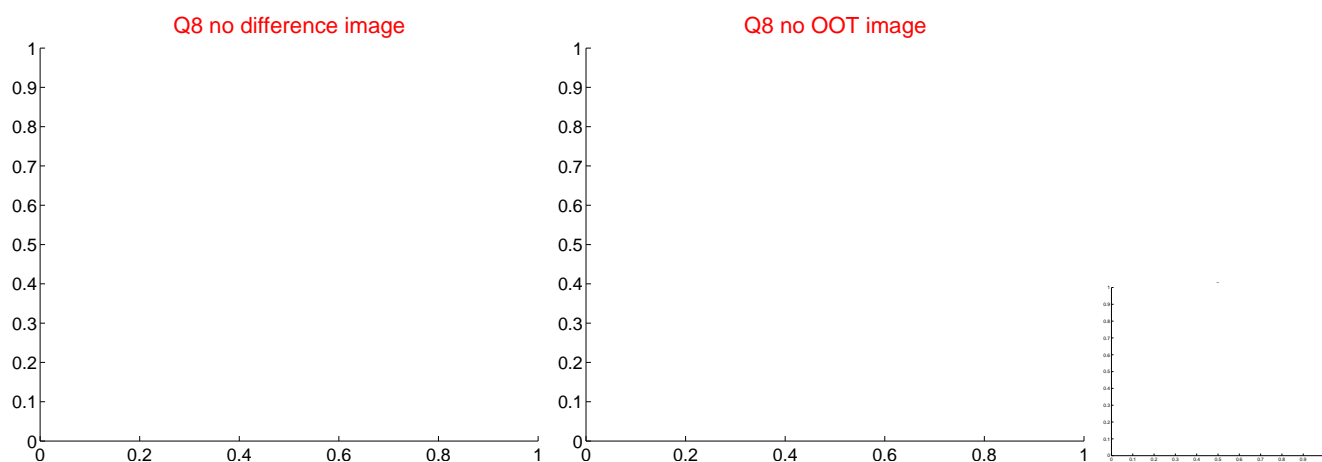
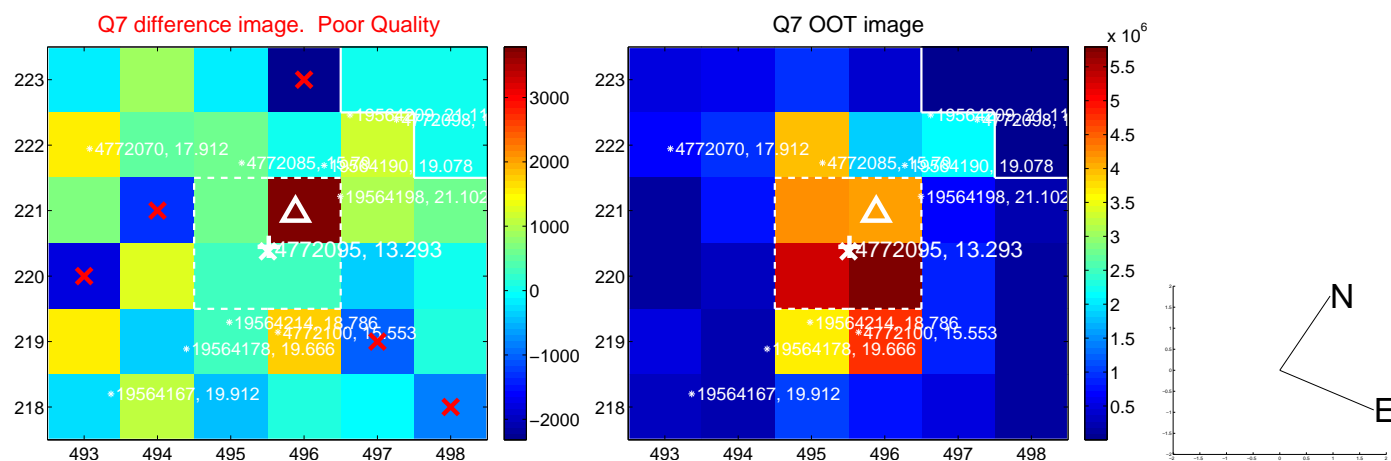
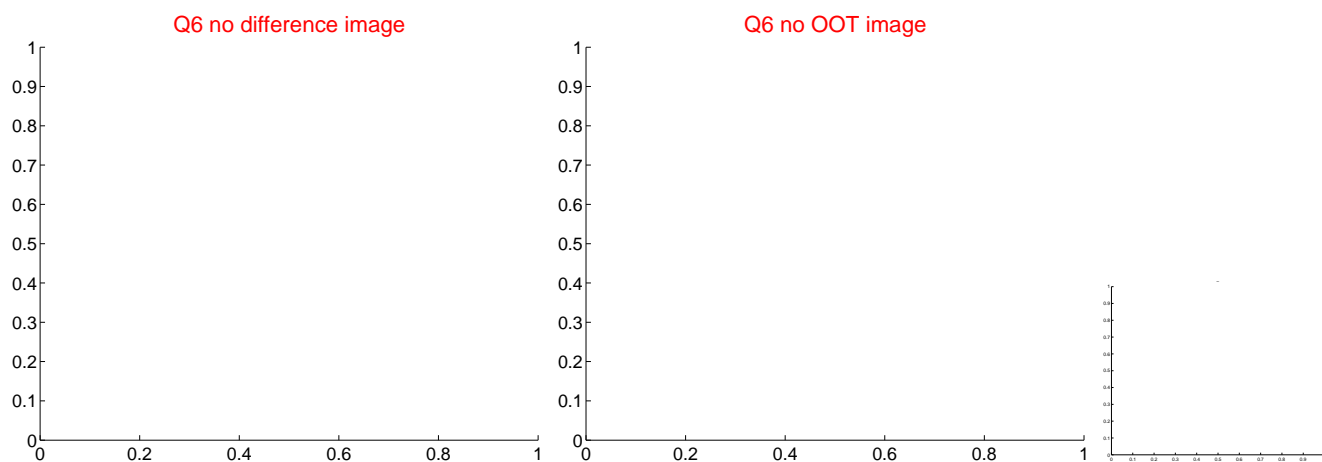
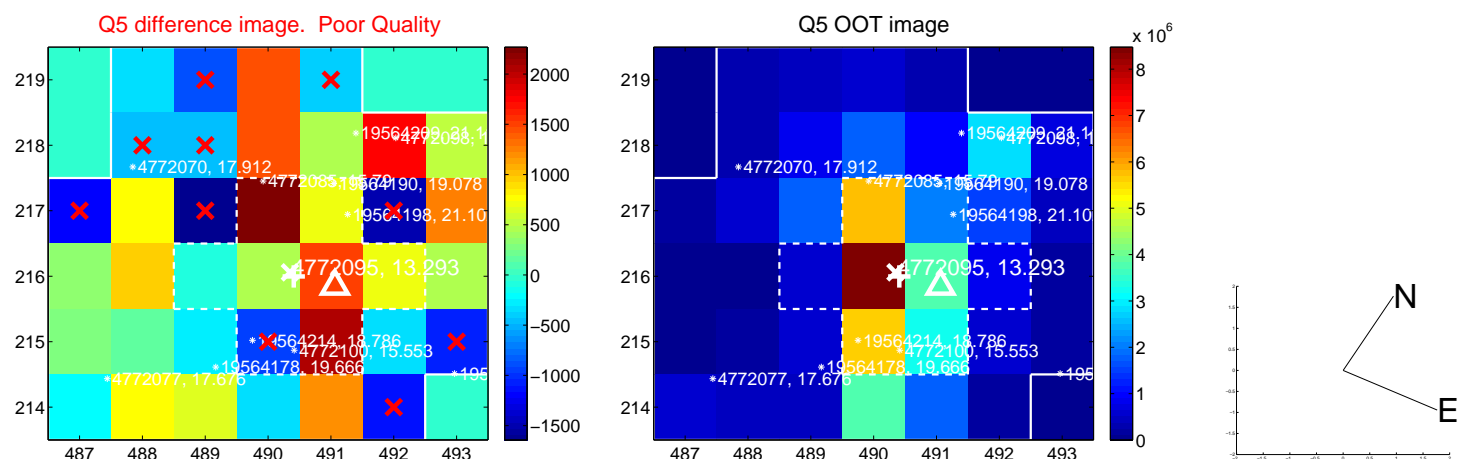
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



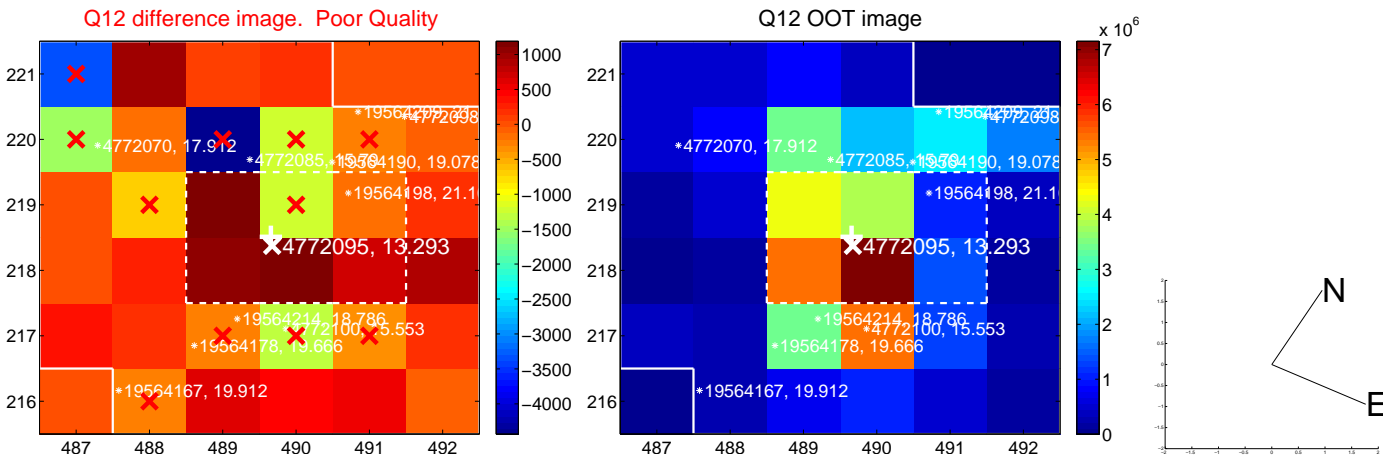
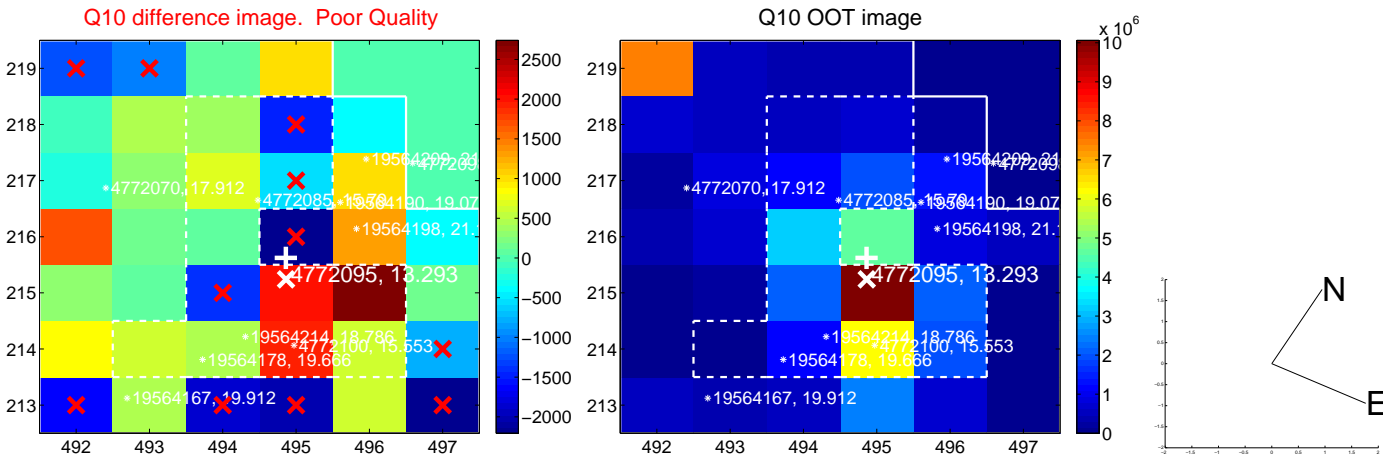
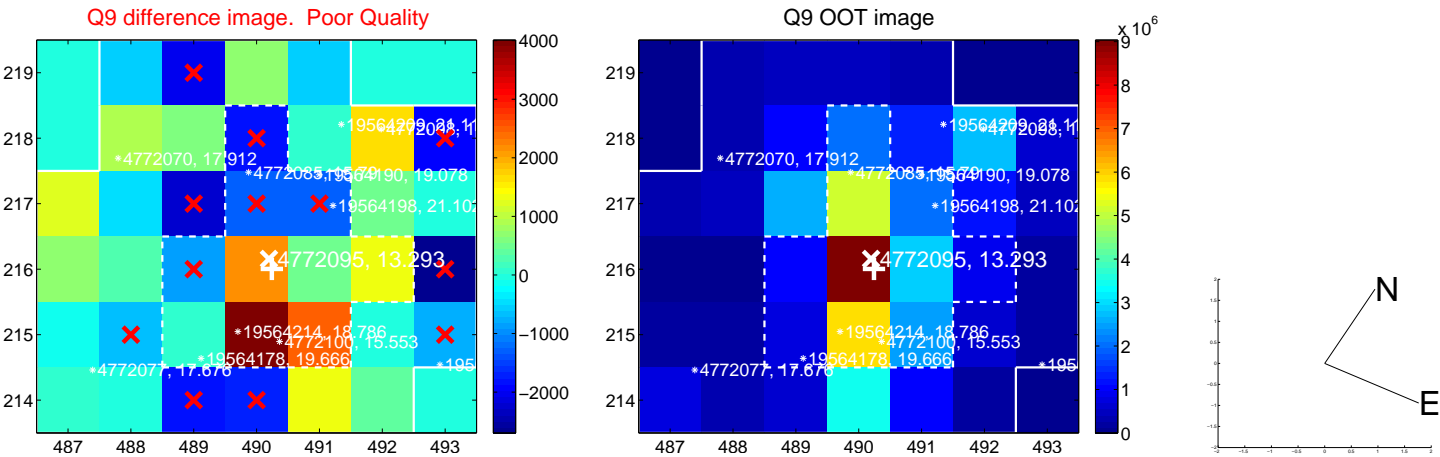
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



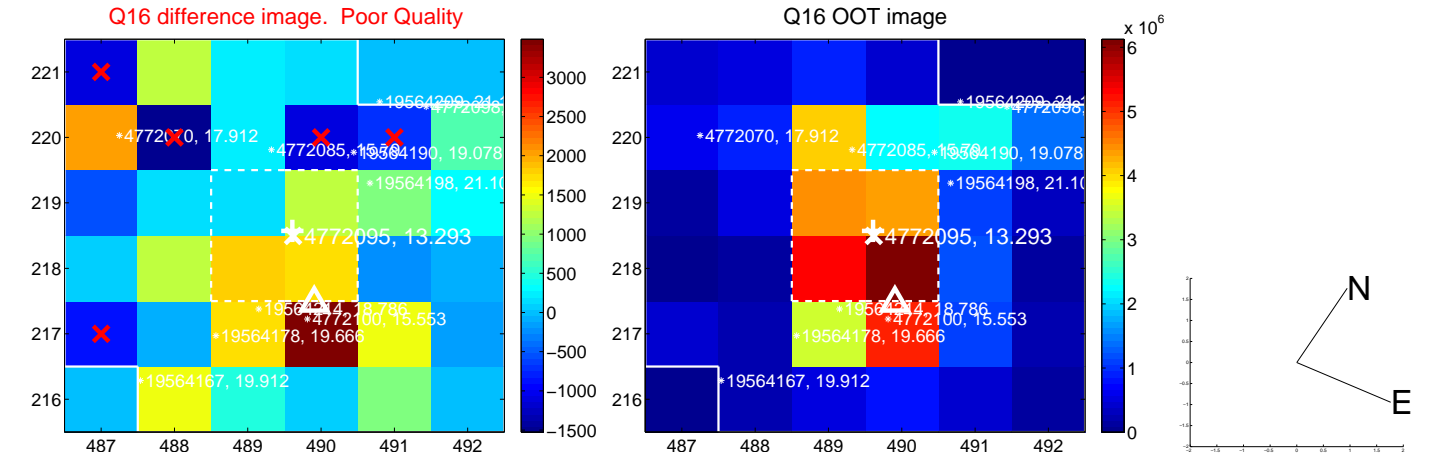
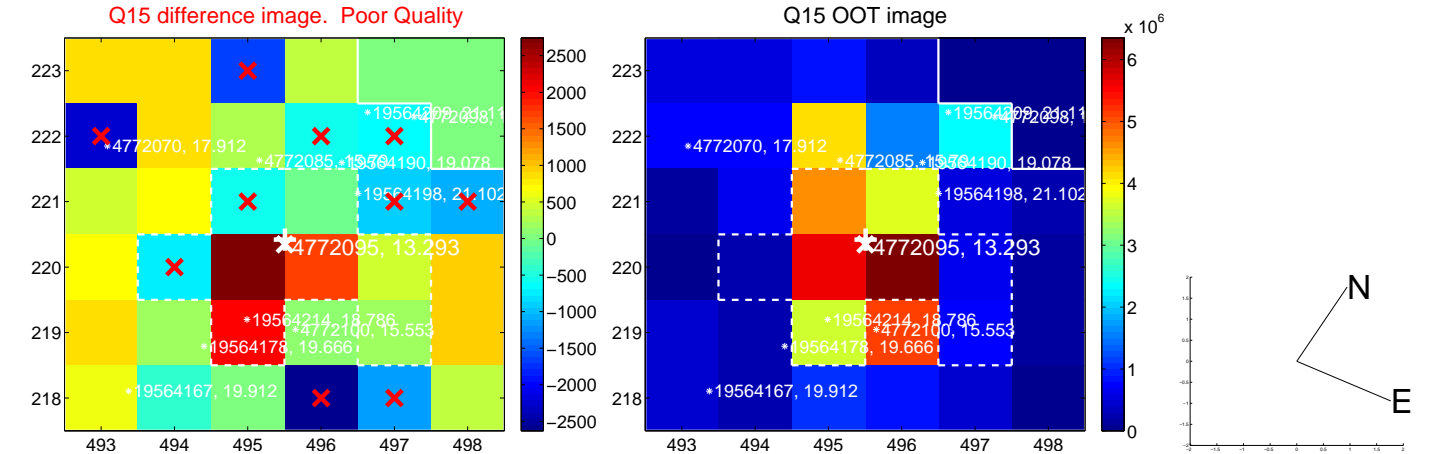
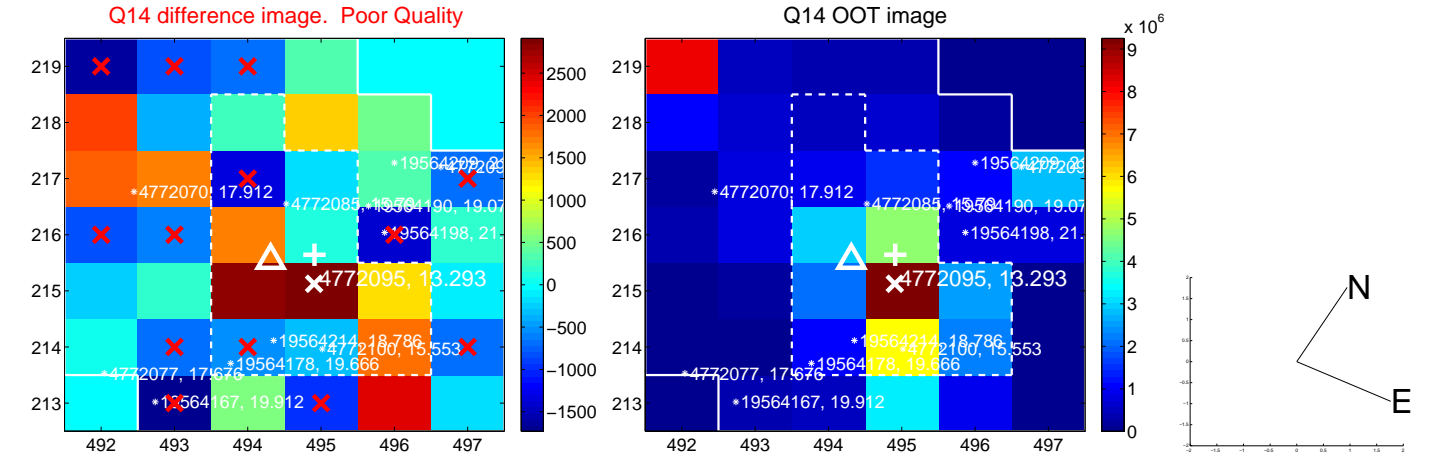
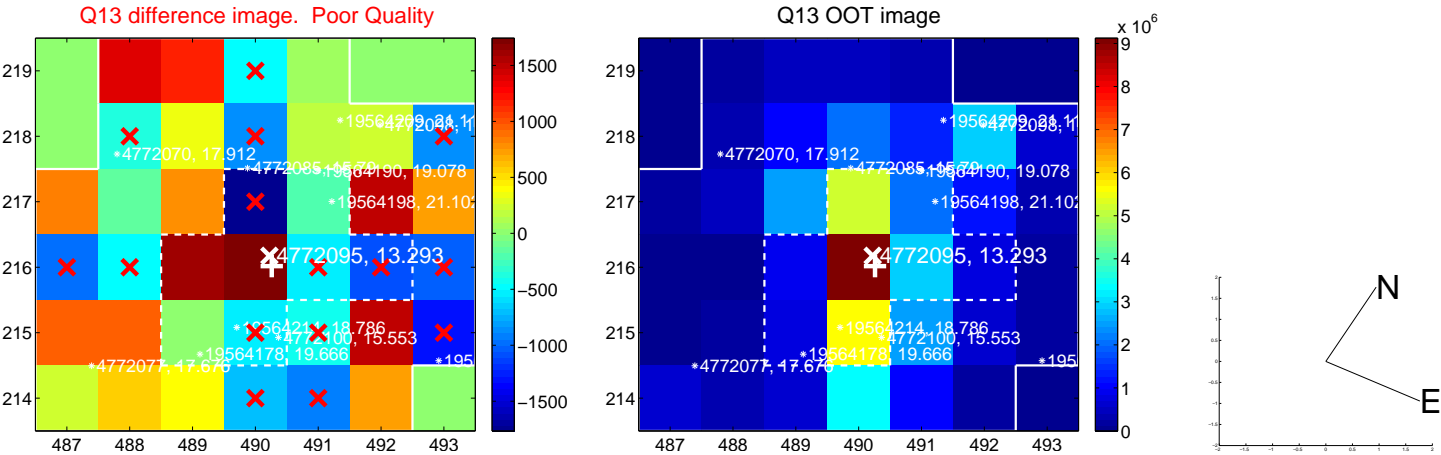
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



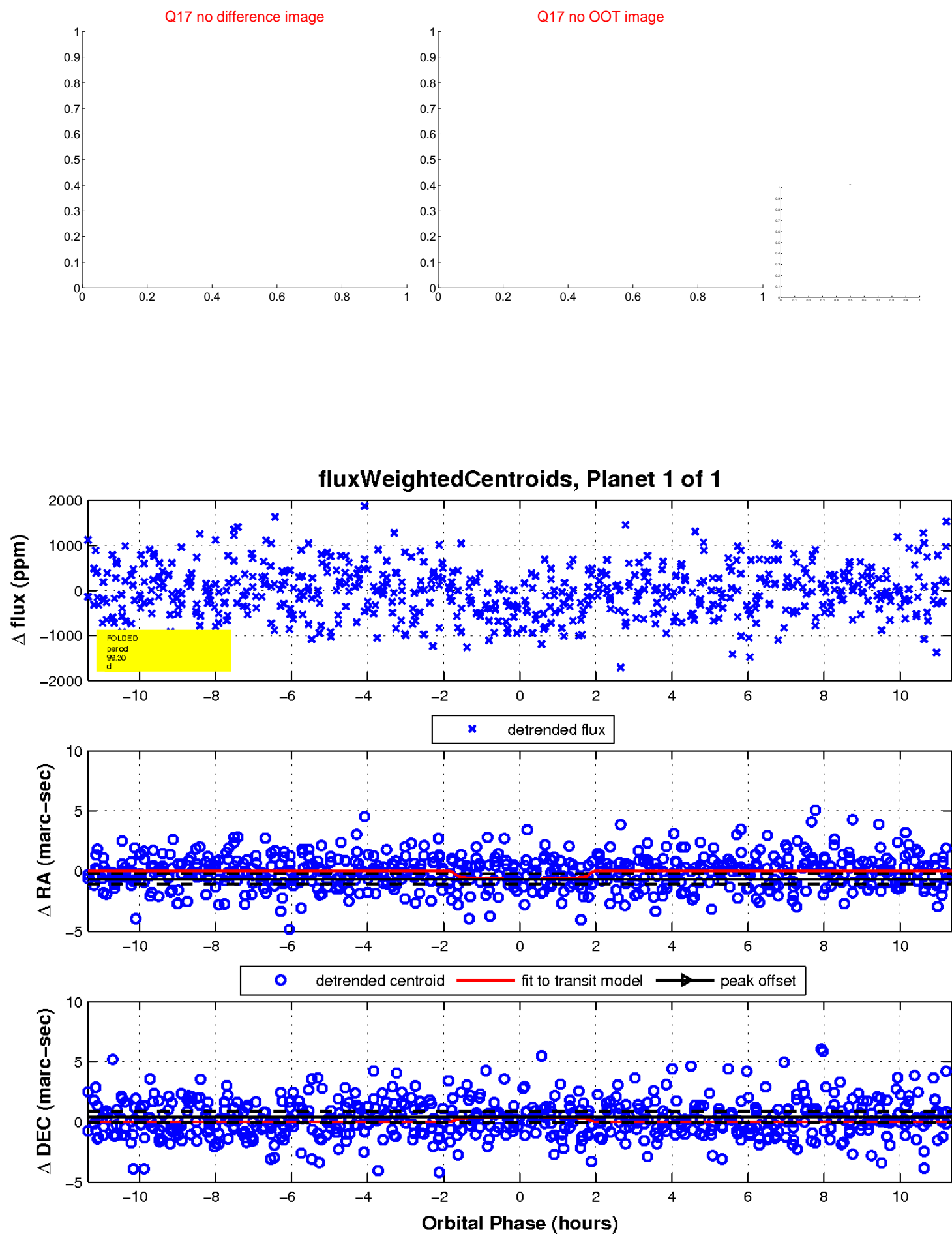
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



# UKIRT Image

Declination

