

# KIC 009895694

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009895694-01	OBS	No	125.359259	182.356386	2661.1	10.153	7.8	8.0	1.00	5780	9.00	4.16

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009895694-01	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

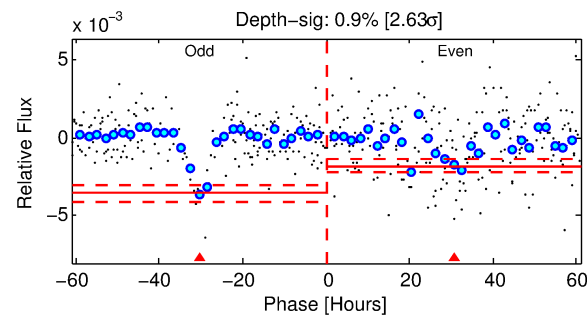
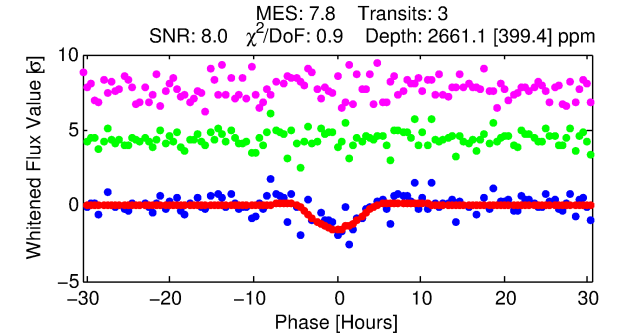
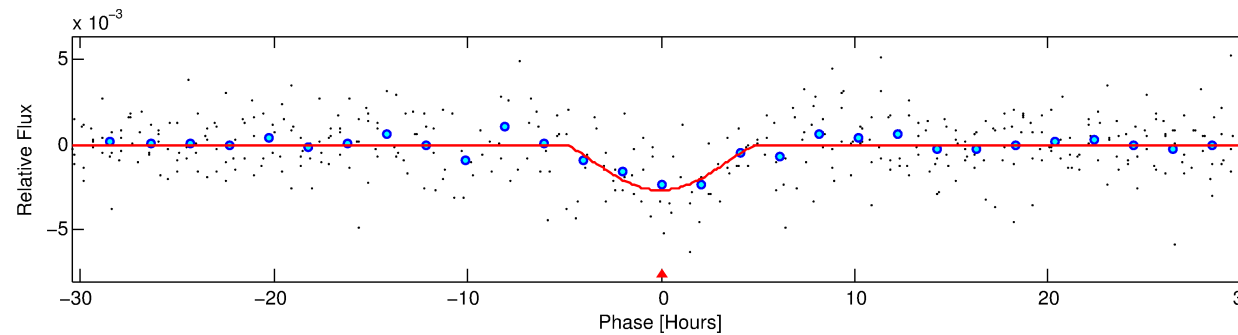
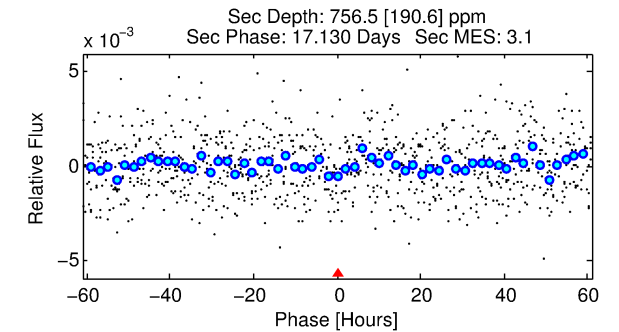
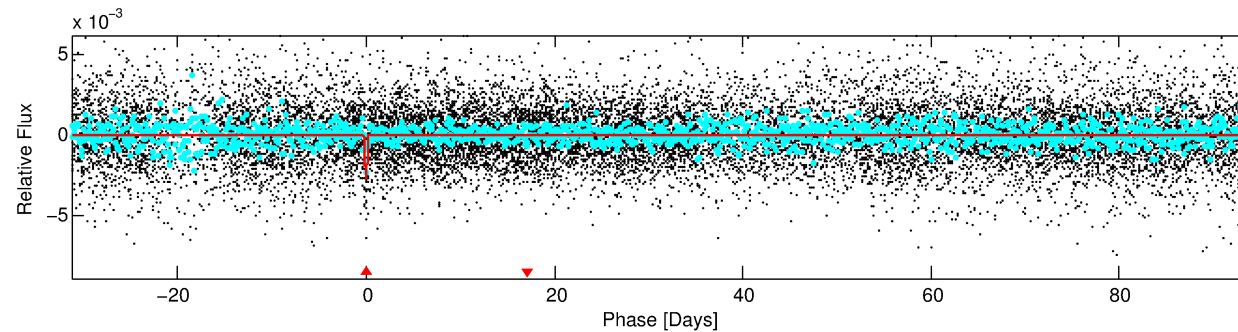
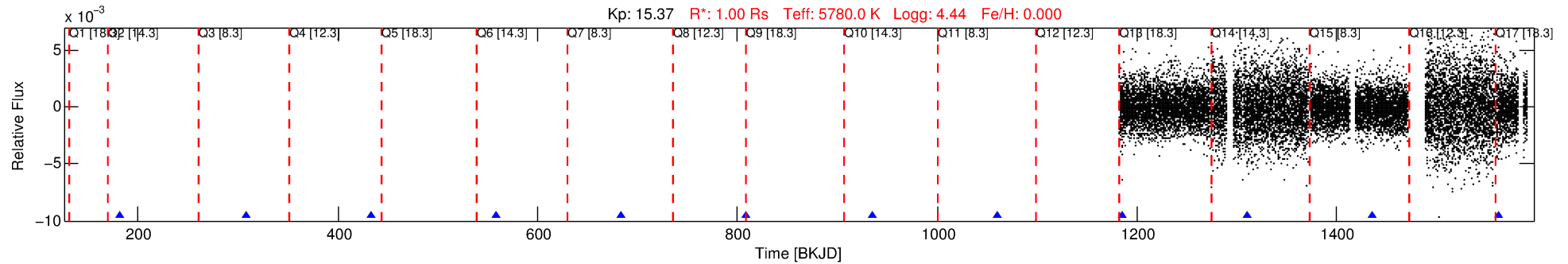
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009895694-01

No Significant Match Found

# DV One-Page Summary

KIC: 9895694 Candidate: 1 of 1 Period: 125.359 d



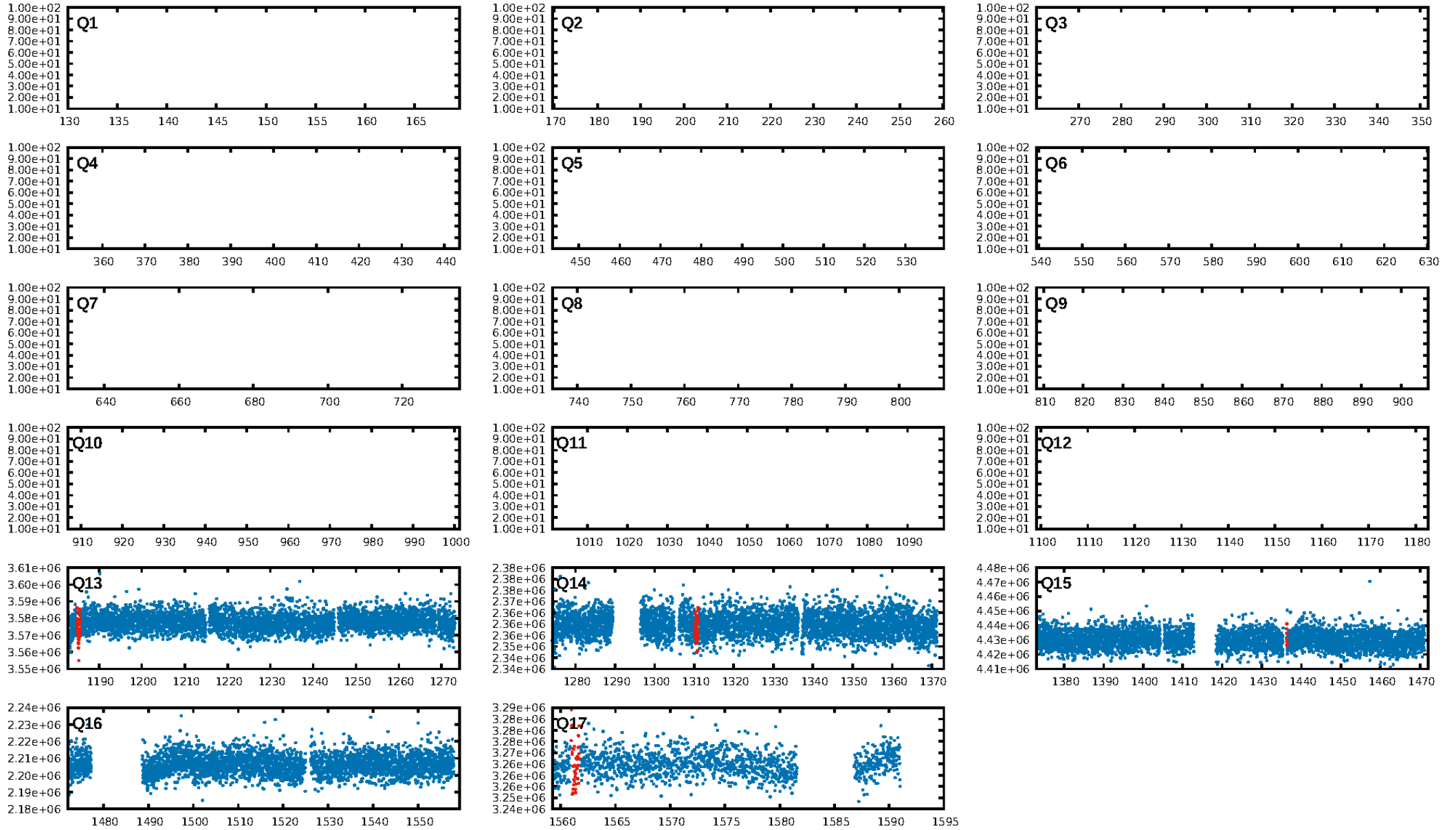
## DV Fit Results:

Period = 125.35926 [0.01109] d  
Epoch = 182.3564 [0.1032] BKJD  
Rp/R\* = 0.0825 [0.3483]  
a/R\* = 41.35 [42.10]  
b = 0.99 [0.54]  
Seff = 4.16 [0.00]  
Teq = 364 [0] K  
Rp = 9.00 [38.00] Re  
a = 0.4903 [0.0000] AU  
Ag = 1234.79 [10431.16] [0.12σ]  
Teffp = 3338 [7049] K [0.42σ]

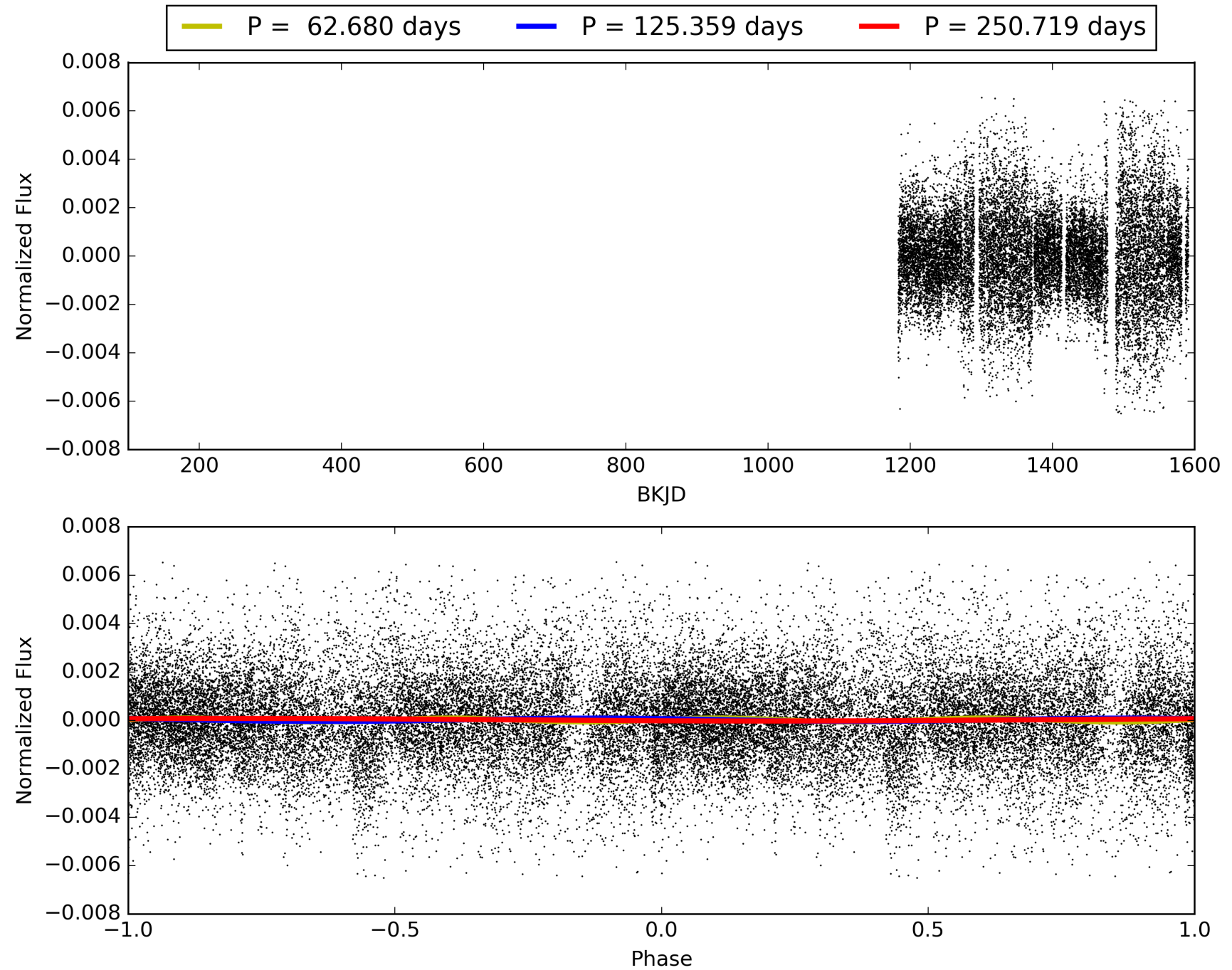
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 14.8%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.97e-17  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: 1.67  
Centroid-sig: 91.6%  
Centroid-so: 2.208 arcsec [3.65σ]  
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 [1/1]

# TCE 009895694-01, PDC Light Curves

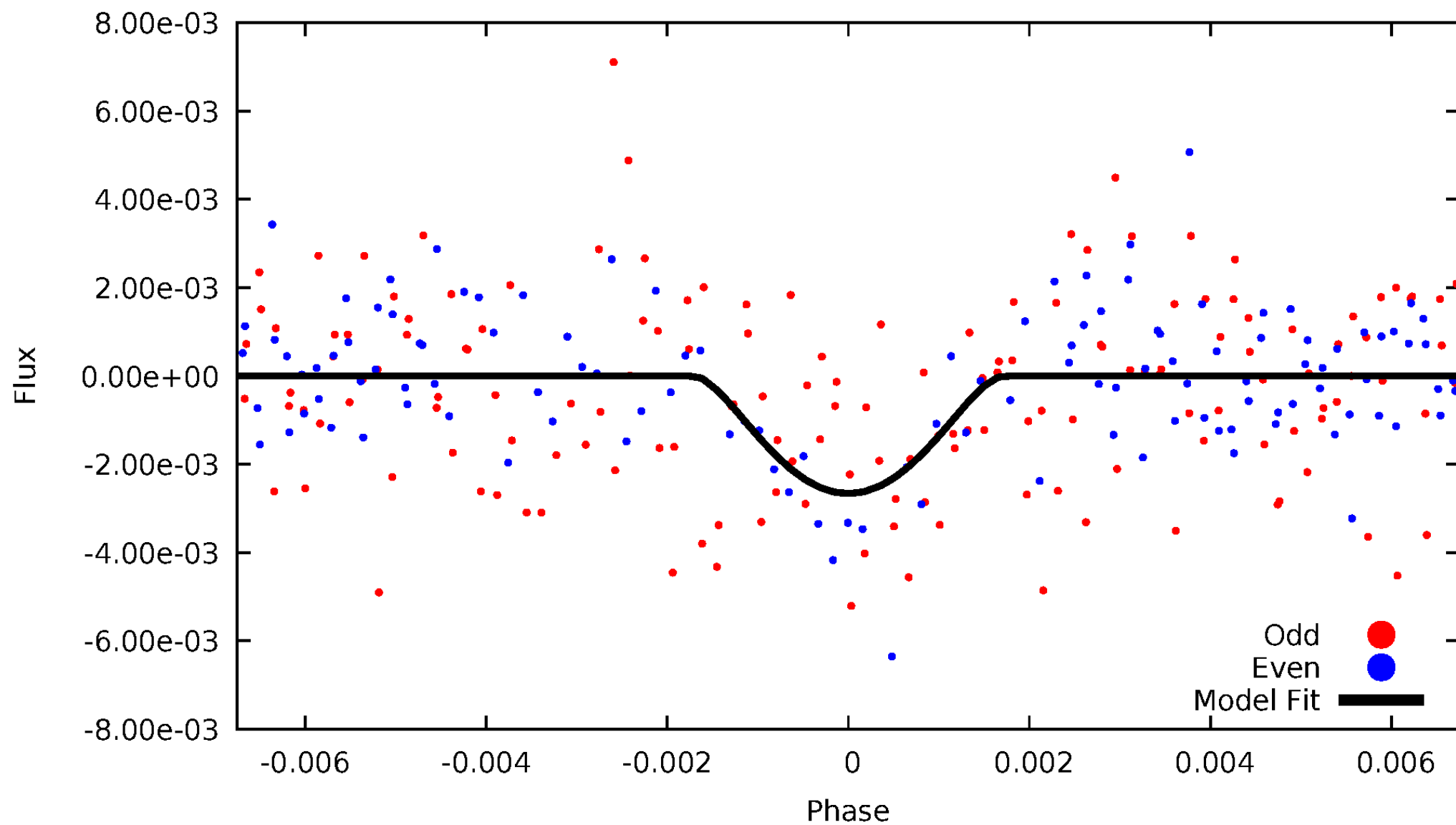


# TCE 009895694-01



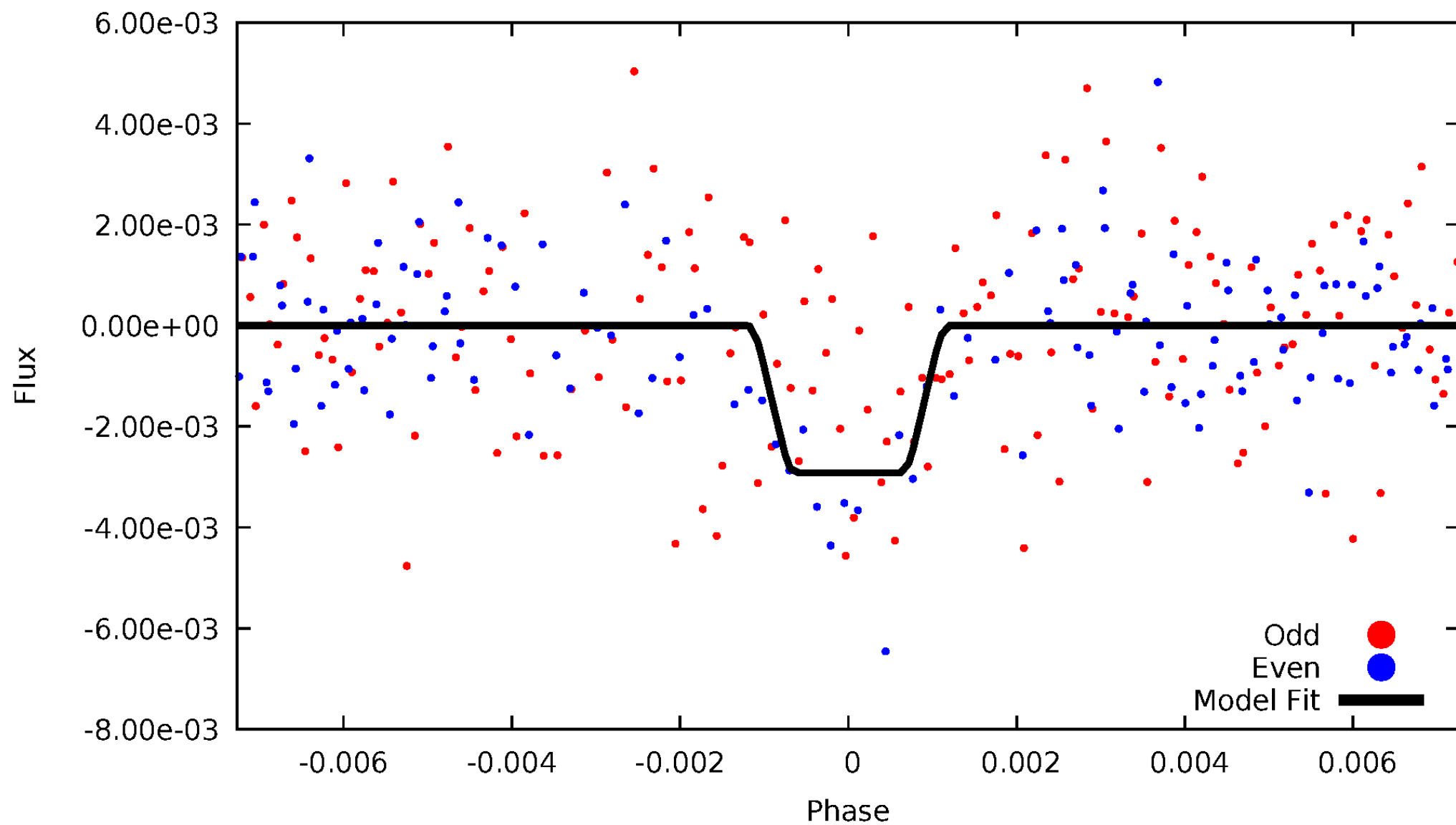
# DV Odd/Even

TCE 009895694-01



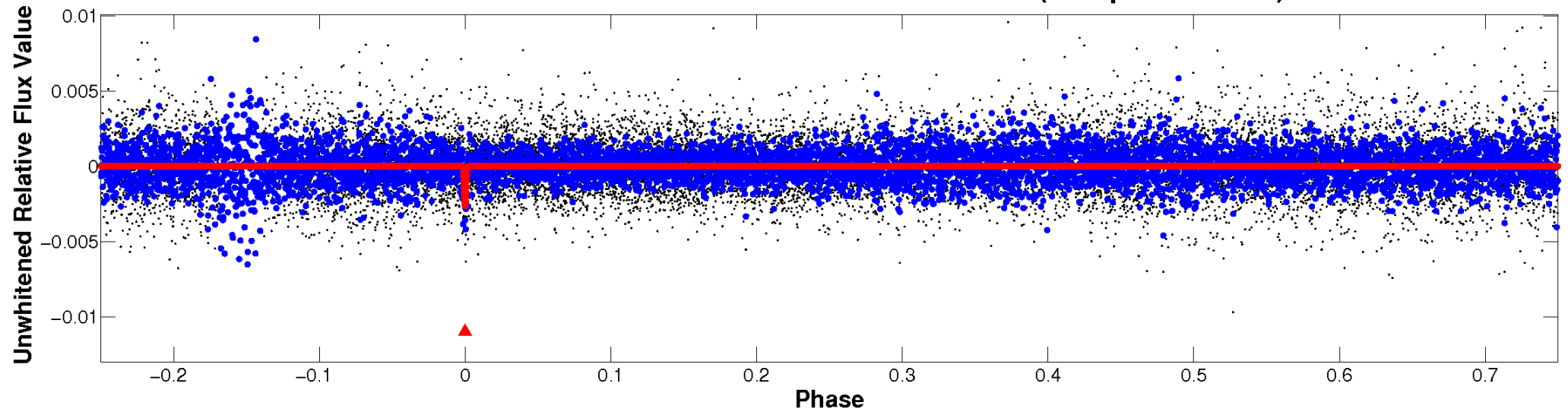
# ALT Odd/Even

TCE 009895694-01

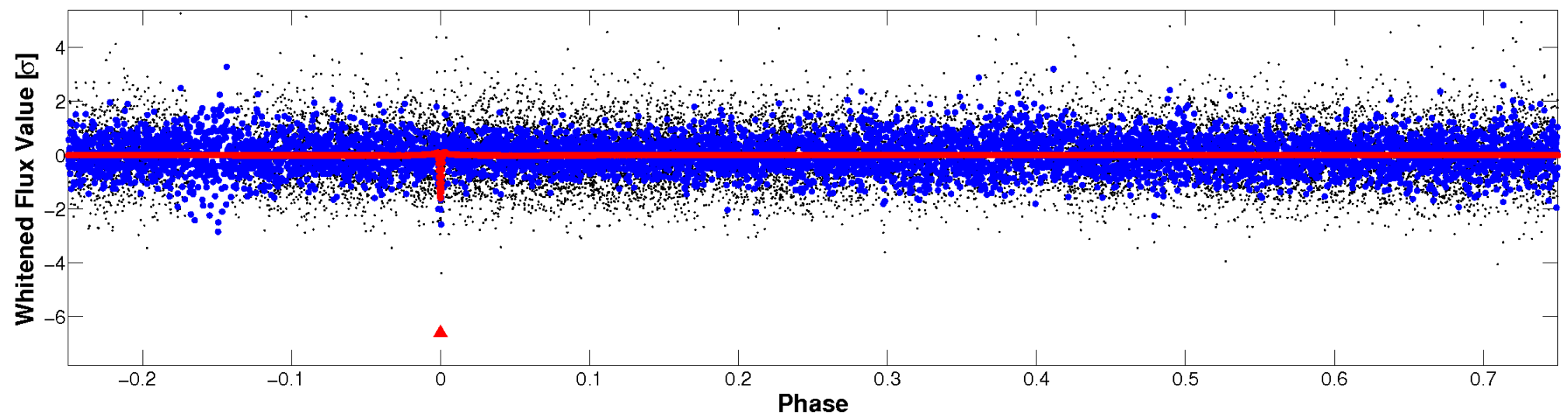


# Non-Whitened Vs. Whitened Light Curve

**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

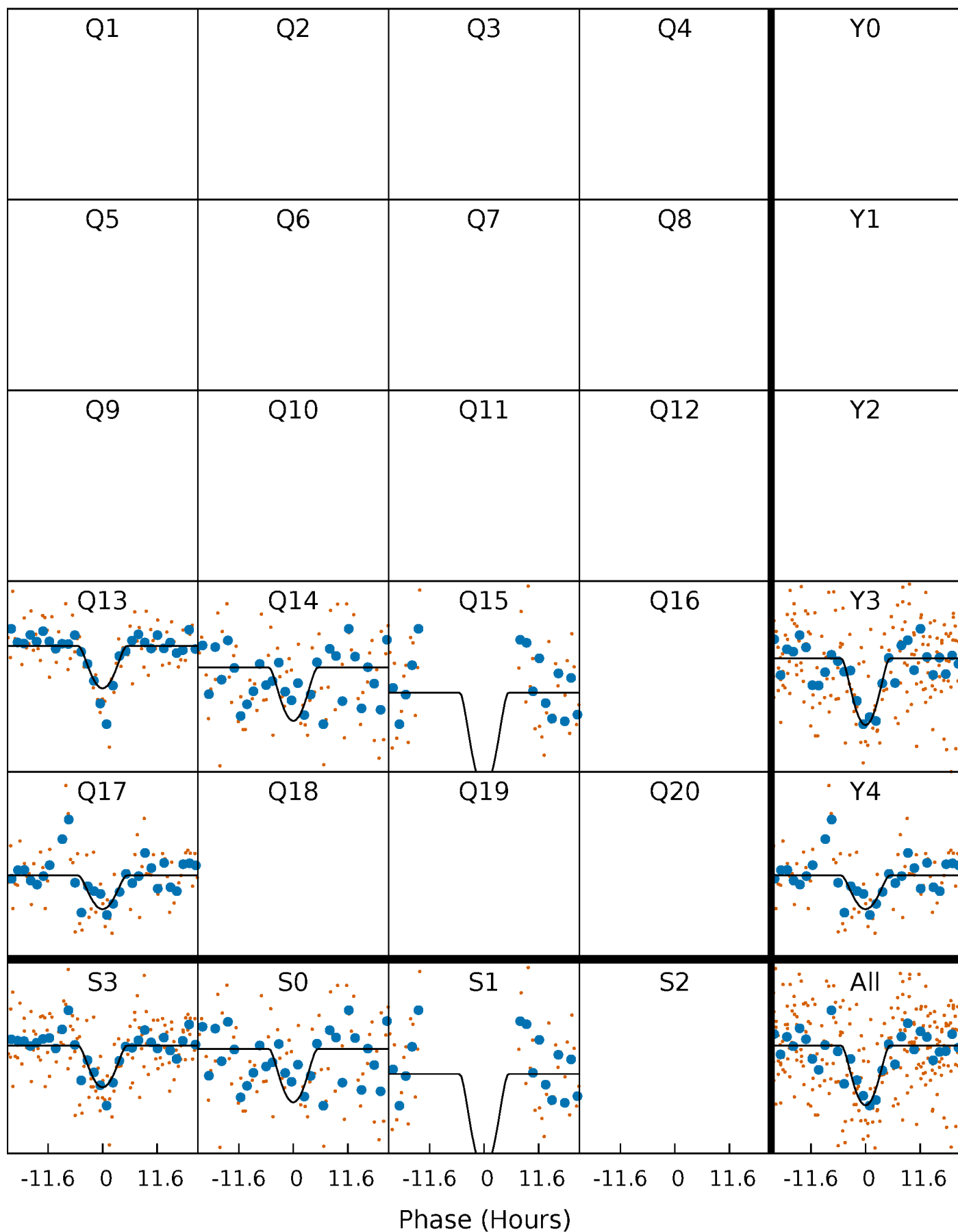
TCE 009895694-01 P=125.359259 Days  $T_0=182.356386$  (BKJD)





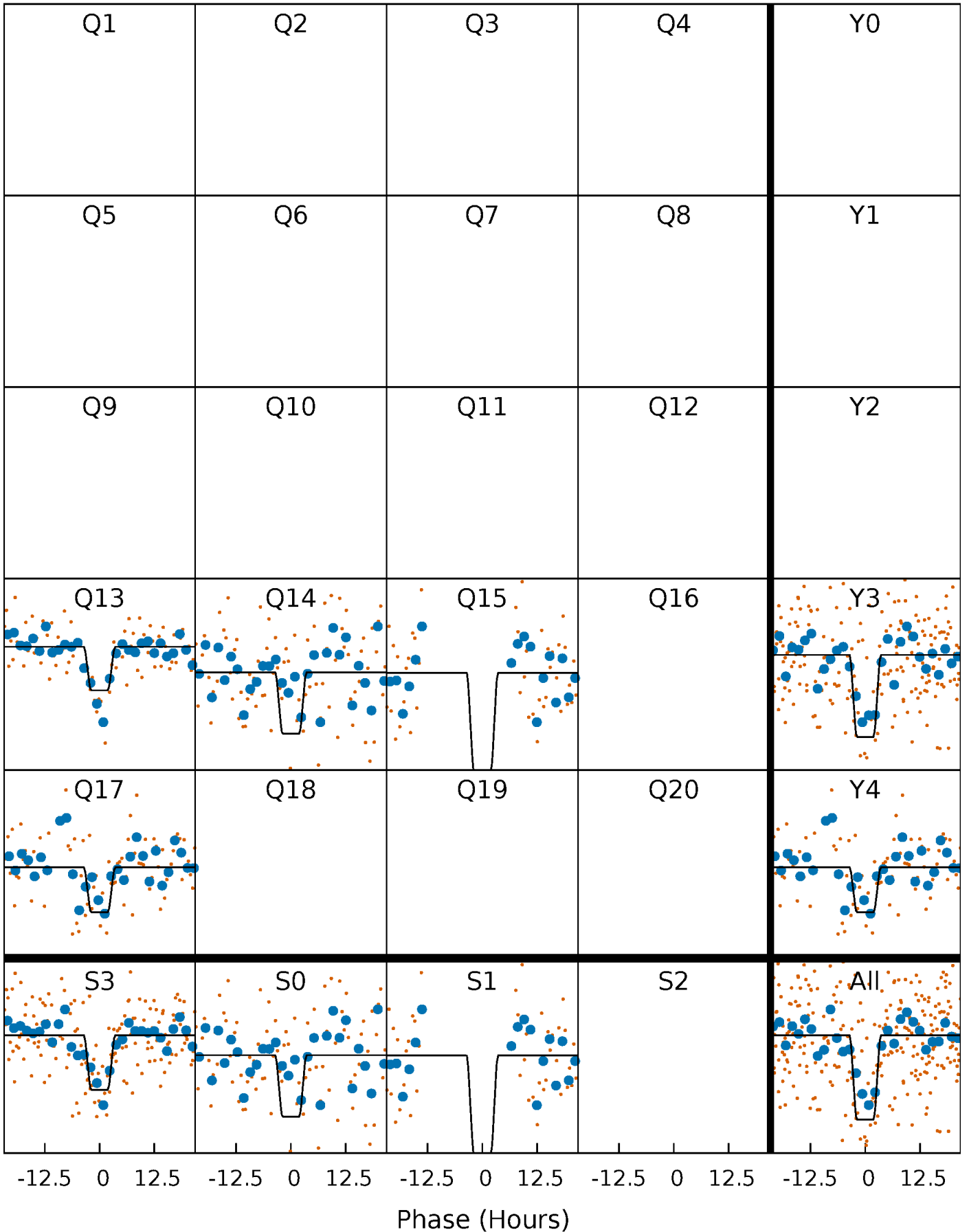
# DV Quarter-Phased Transit Curves

TCE 009895694-01 P=125.359259 Days  $T_0=182.356386$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

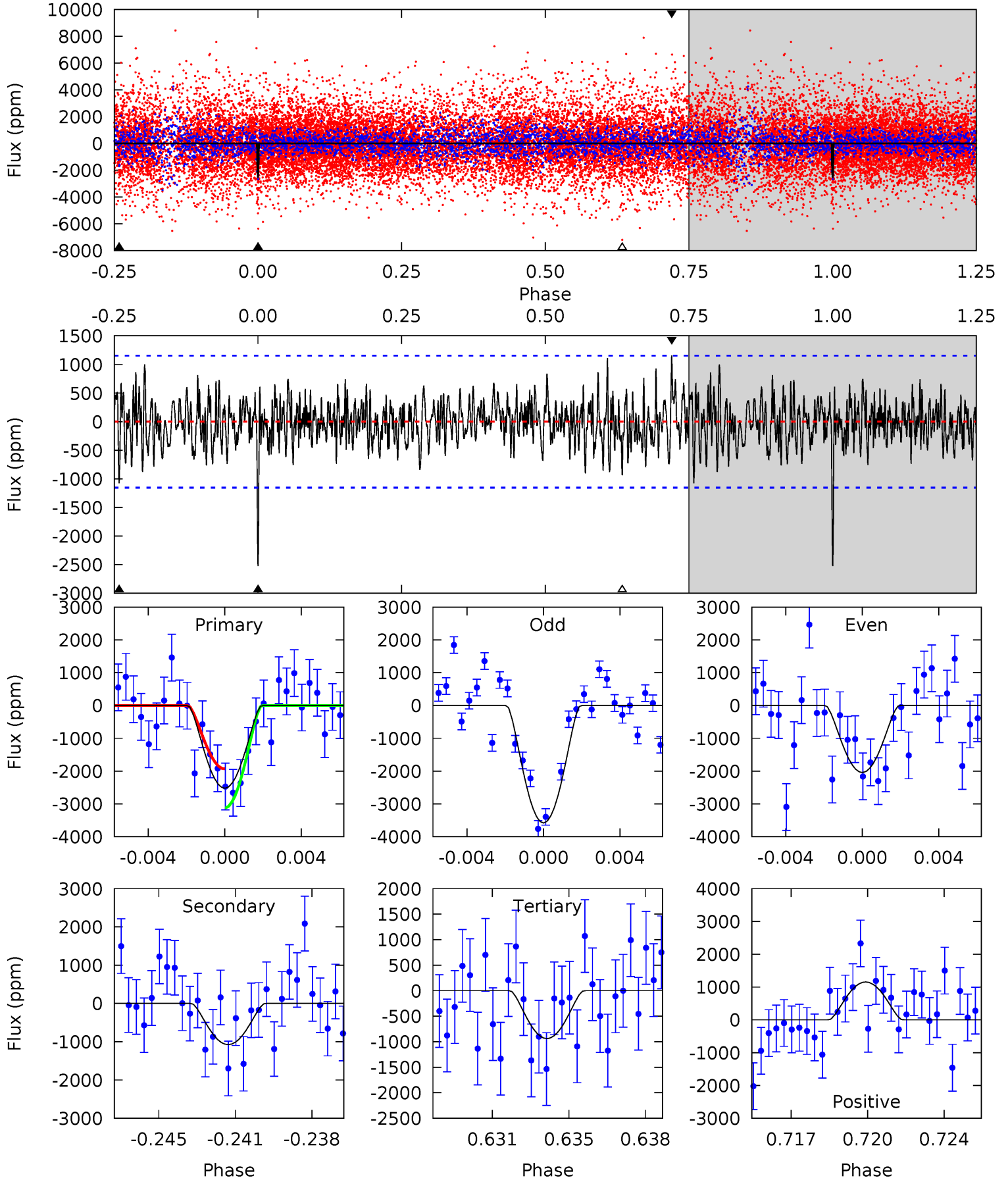
TCE 009895694-01 P=125.362312 Days  $T_0=182.337141$  (BKJD)



# DV Model-Shift Uniqueness Test

009895694-01, P = 125.359259 Days, E = 182.356386 Days

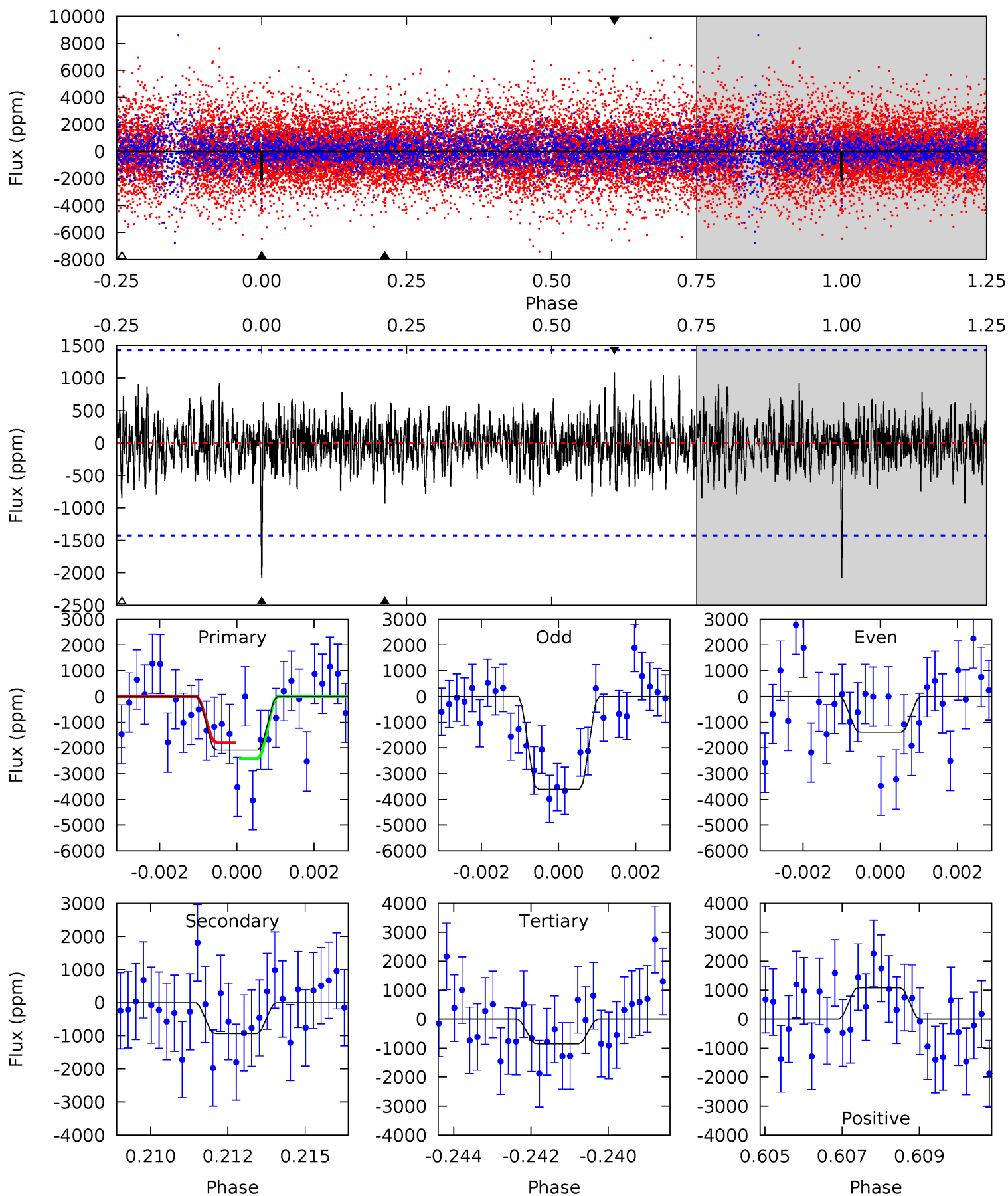
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	4.86	4.24	5.22	5.22	2.92	1.46	7.16	6.18	0.62	-0.36	3.51	1.05	0.31	2.69



# Alt Model-Shift Uniqueness Test

009895694-01, P = 125.362312 Days, E = 182.337141 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
7.76	3.47	3.16	4.04	5.30	3.05	1.05	4.60	3.72	0.32	-0.57	4.20	1.12	0.34	1.14



### Stellar Parameters For KIC 009895694

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5780^{+1}_{-1}$	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

### Secondary Eclipse Parameters for KIC 009895694-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1074 \pm 221$	$27.63^{+32.17}_{-18.26}$	$510^{+21}_{-25}$	$2799^{+1208}_{-472}$	$184^{+1513}_{-143}$
Alt.	$-933 \pm 269$	$27.06^{+29.76}_{-18.81}$	$508^{+26}_{-22}$	$2765^{+1299}_{-470}$	$159^{+1712}_{-123}$

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

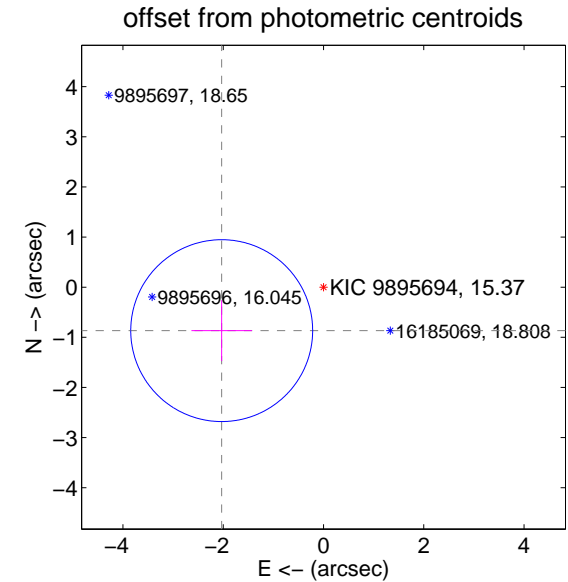
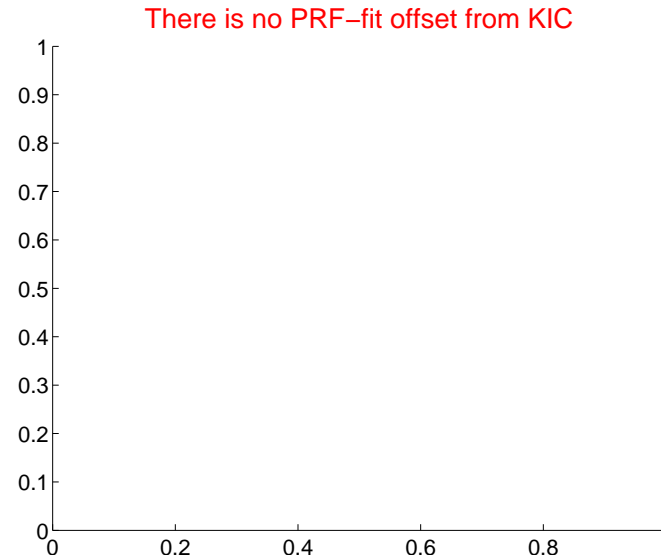
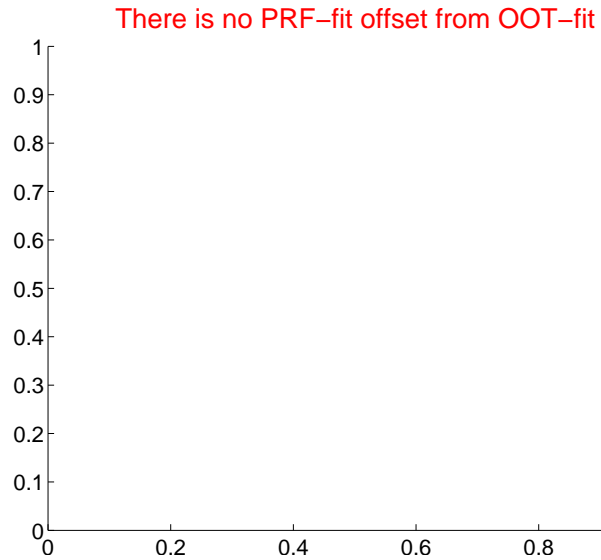
## DV Centroid Data

Supplemental centroid analysis for 009895694-01. Kepler magnitude: 15.37. Transit SNR 7.99

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	$2.21 \pm 0.60$	$3.65$	$2.03 \pm 0.60$	$-0.87 \pm 0.61$



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.



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

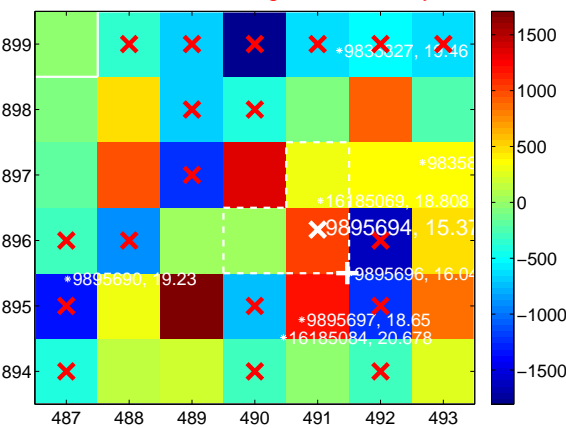
Q13 no difference image



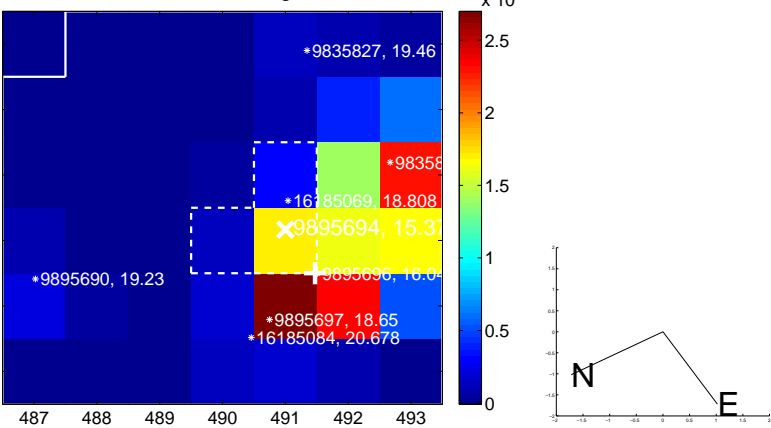
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



Q15 no difference image



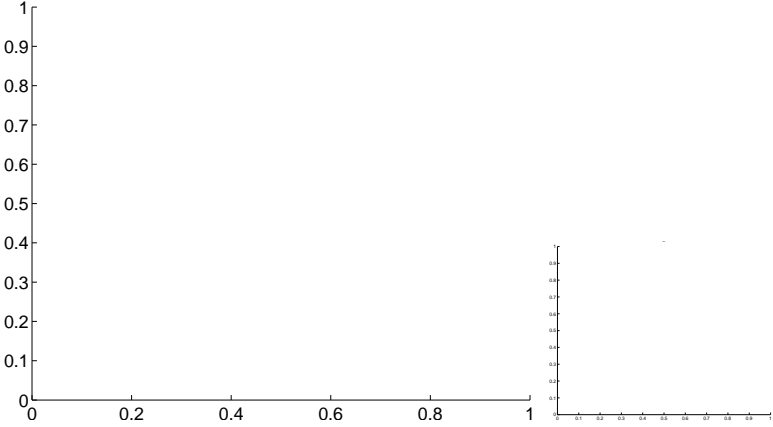
Q15 no OOT image



Q16 no difference image



Q16 no OOT image



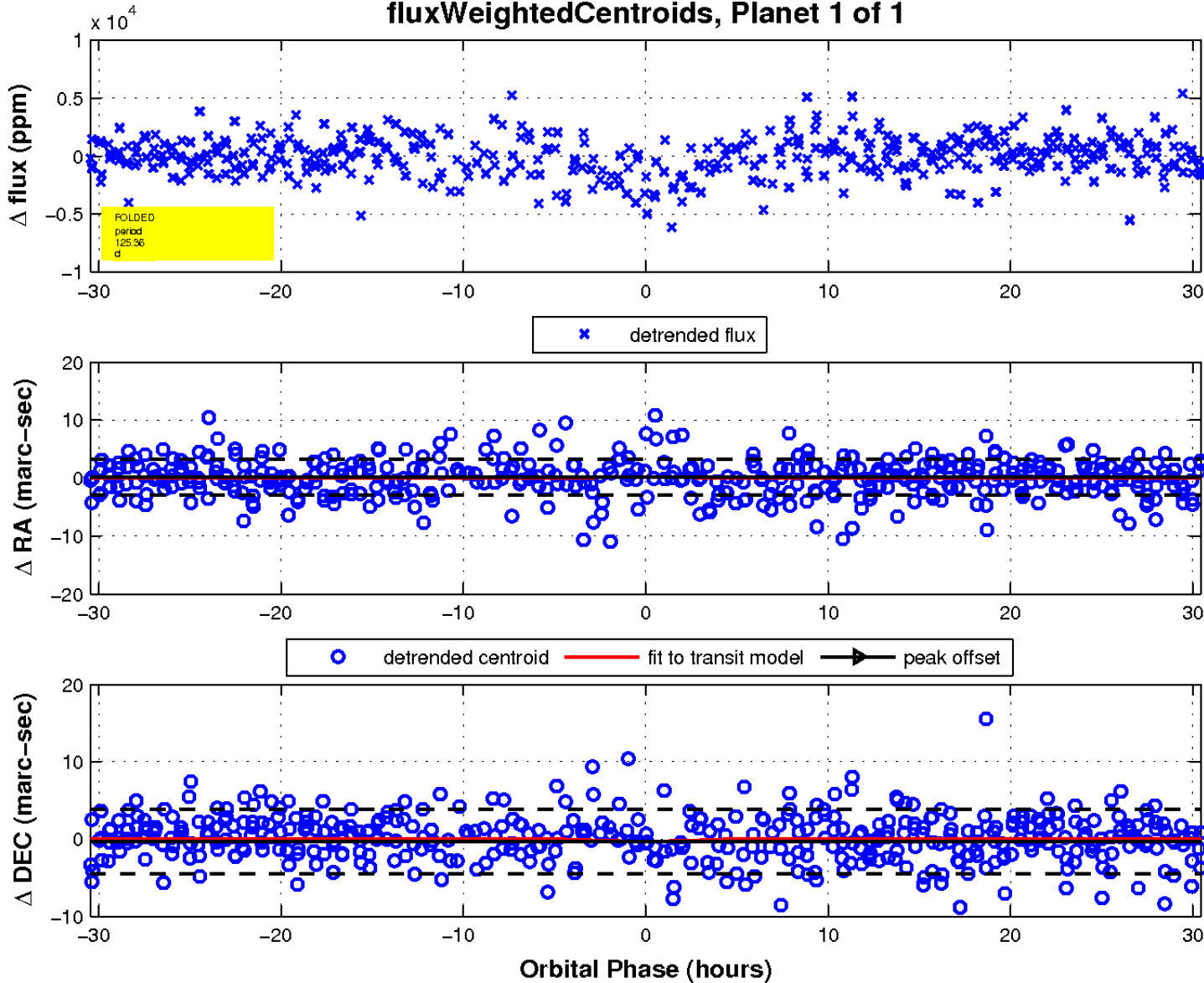
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

Q17 no difference image

Q17 no OOT image



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

