

# KIC 007899663

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007899663-01	OBS	No	438.922497	184.998419	1161.9	35.437	13.5	17.3	0.82	5547	5.02	0.47

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007899663-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—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.

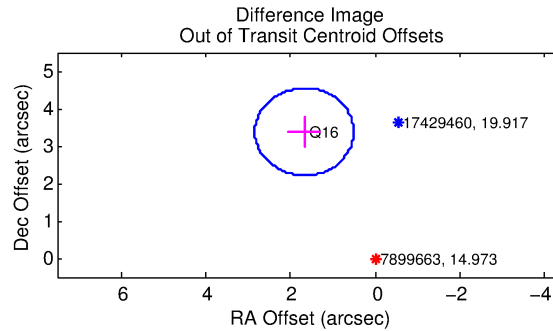
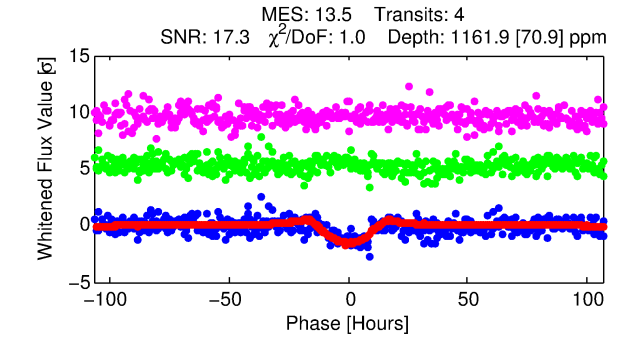
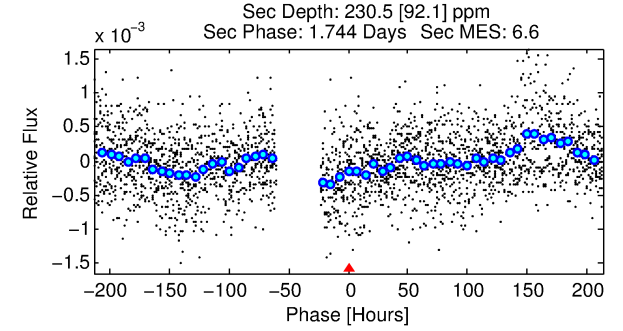
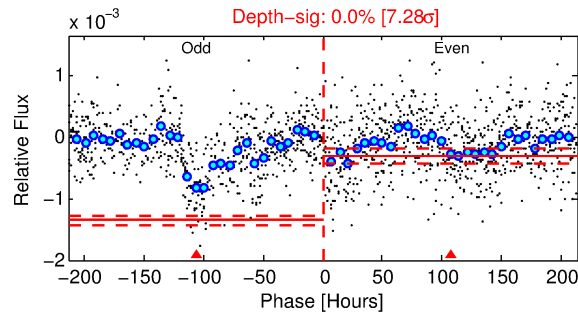
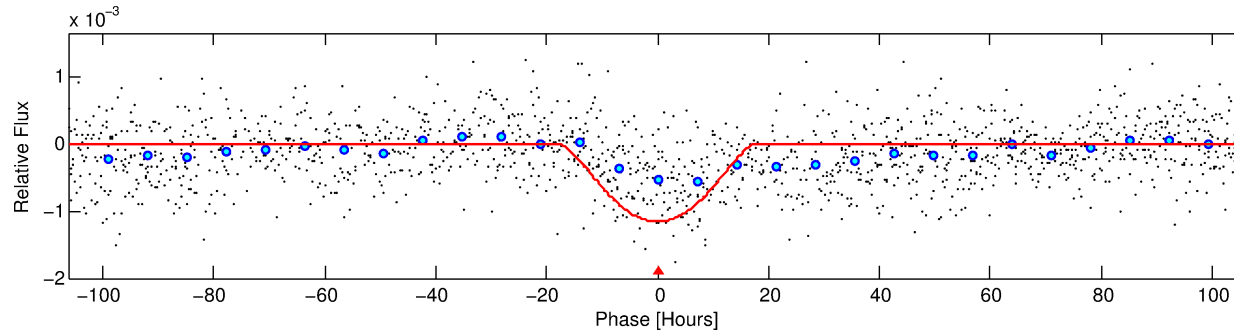
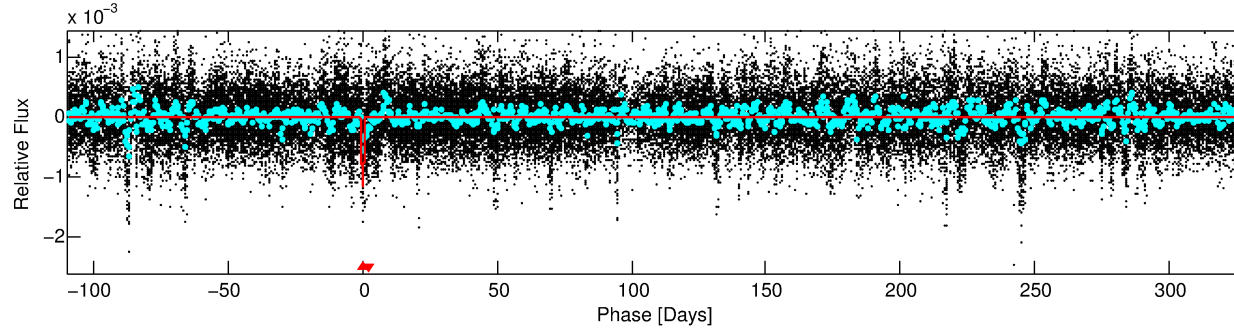
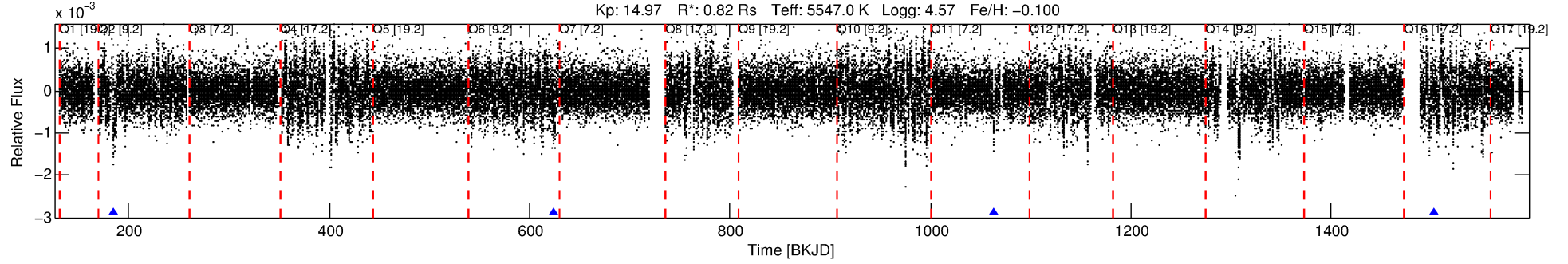
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007899663-01

No Significant Match Found

# DV One-Page Summary

KIC: 7899663 Candidate: 1 of 1 Period: 438.922 d



## DV Fit Results:

Period = 438.92250 [0.02310] d  
Epoch = 184.9984 [0.0408] BKJD  
Rp/R\* = 0.0561 [0.0645]  
a/R\* = 34.24 [10.46]  
b = 0.99 [0.10]  
Seff = 0.47 [0.13]  
Teq = 212 [14] K  
Rp = 5.02 [5.86] Re  
a = 1.0969 [0.1857] AU  
Ag = 6053.04 [14204.29] [0.43σ]  
Teff = 2885 [1685] K [1.59σ]

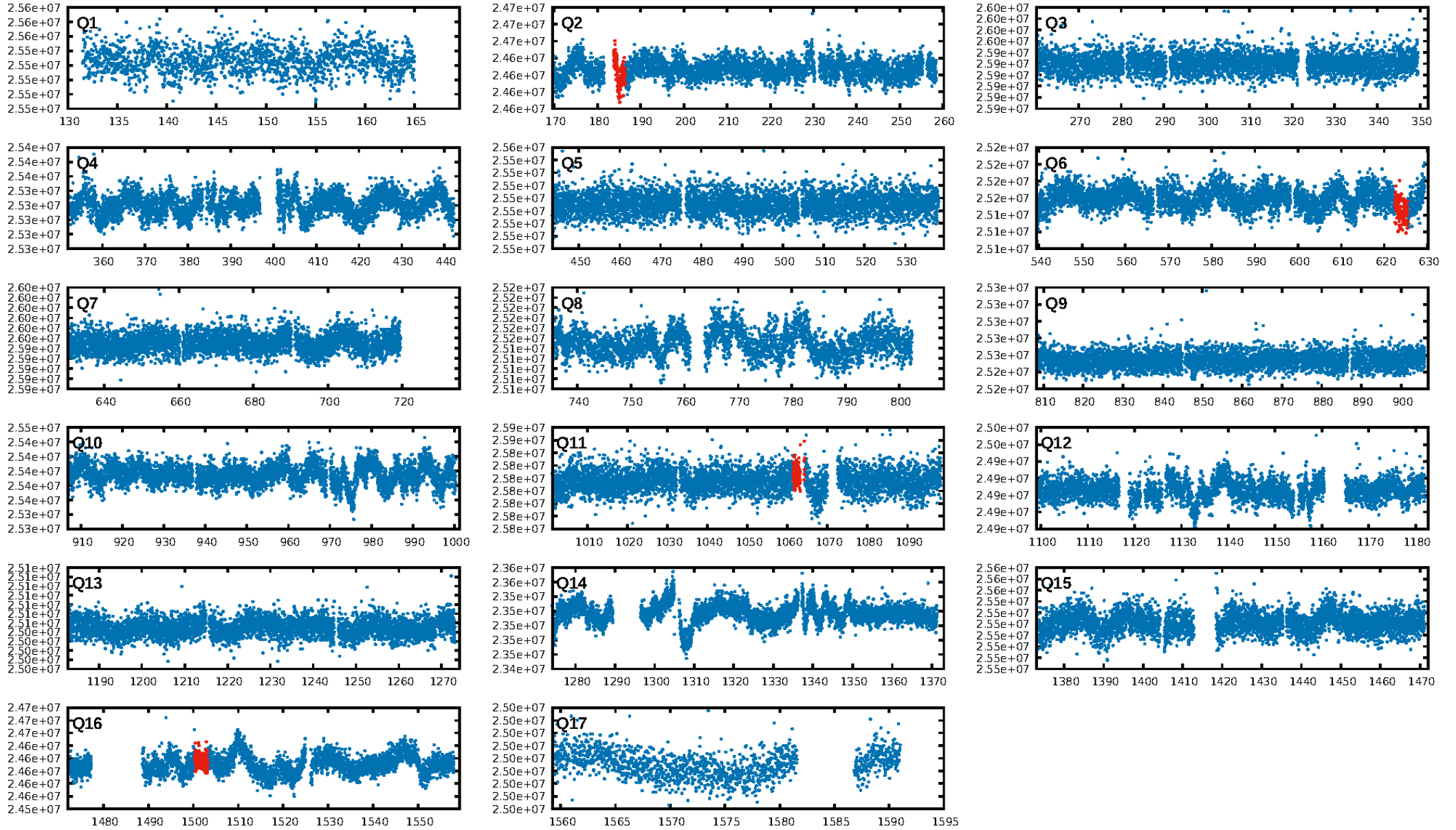
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.35e-20  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 1.325  
Centroid-sig: 17.6%  
Centroid-so: 0.349 arcsec [0.51σ]  
OotOffset-rm: 3.768 arcsec [9.70σ]  
KicOffset-rm: 3.730 arcsec [9.60σ]  
OotOffset-st: 0/0/1/0 [1]  
KicOffset-st: 0/0/1/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [2/2]

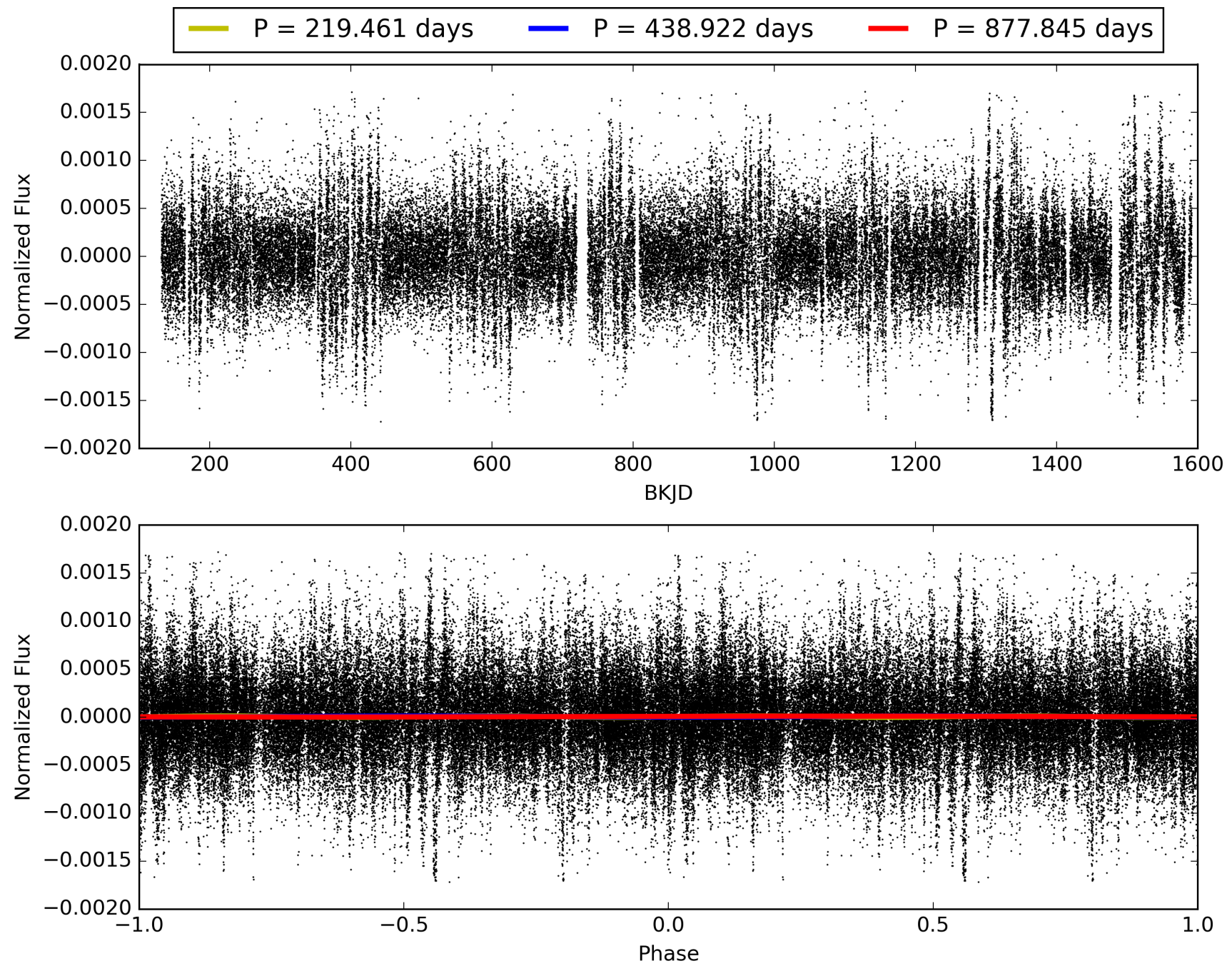
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:15:41 Z

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

# TCE 007899663-01, PDC Light Curves

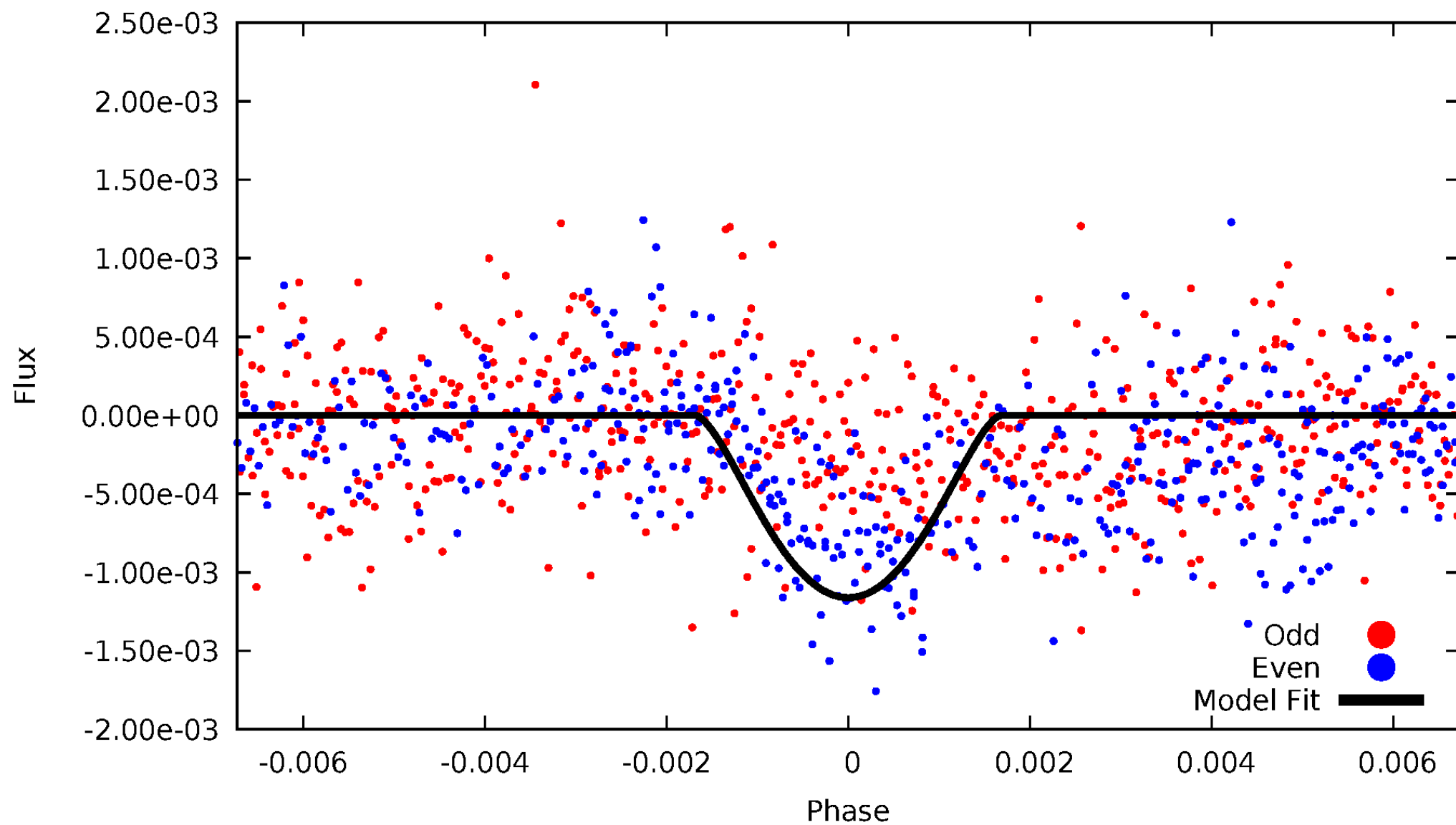


TCE 007899663-01



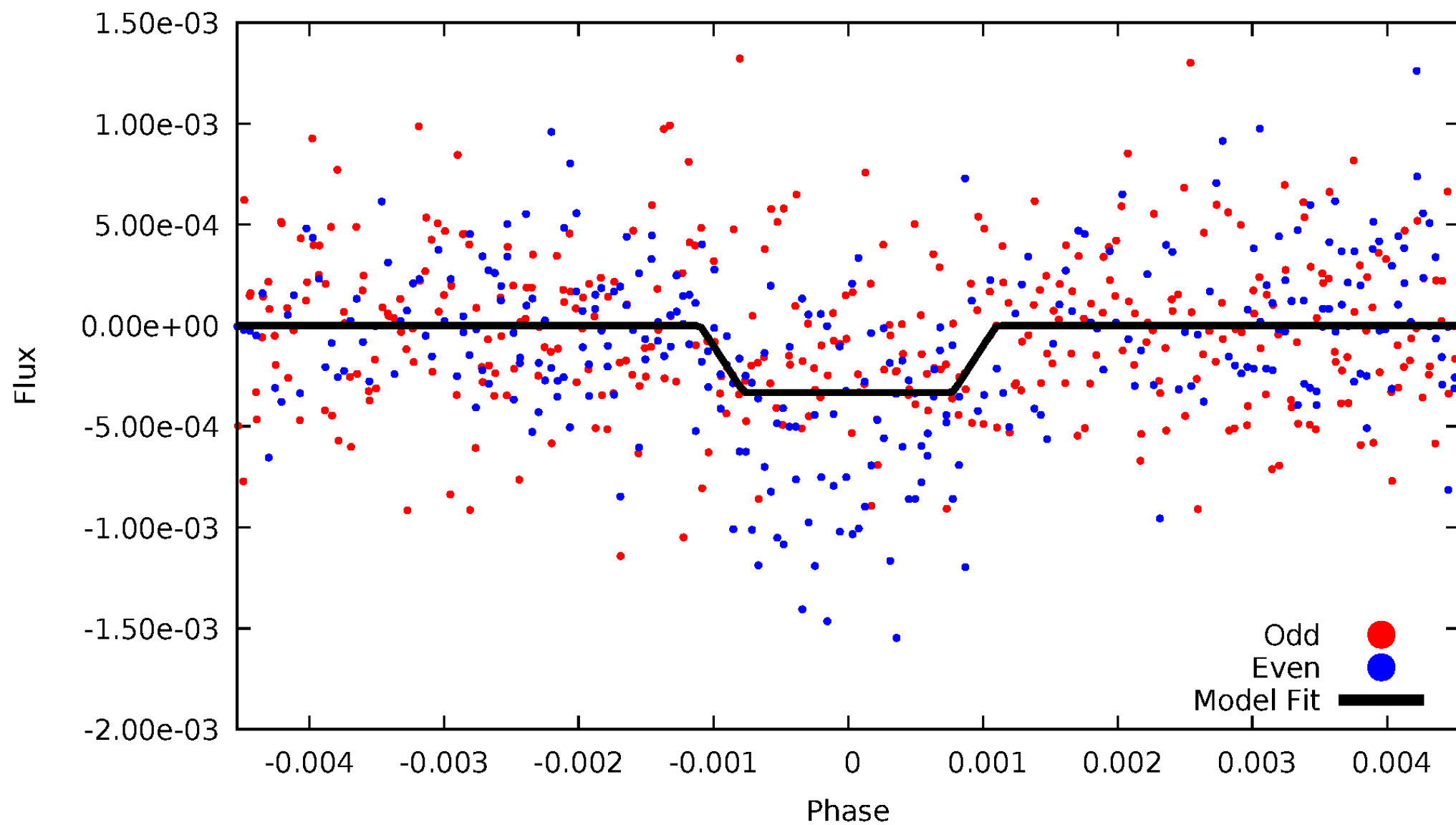
# DV Odd/Even

TCE 007899663-01



# ALT Odd/Even

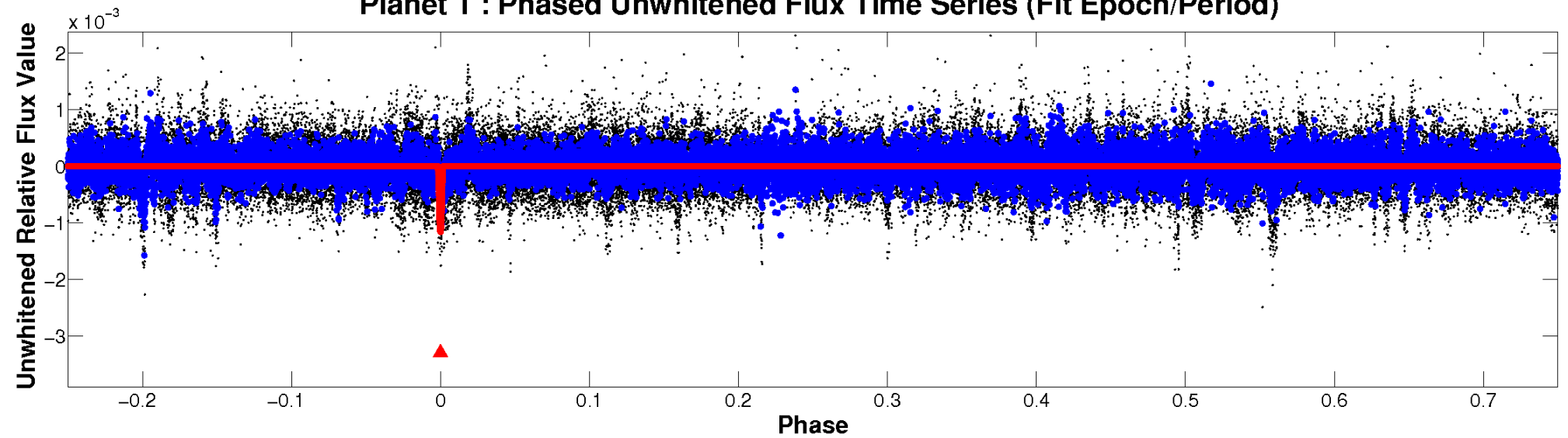
TCE 007899663-01



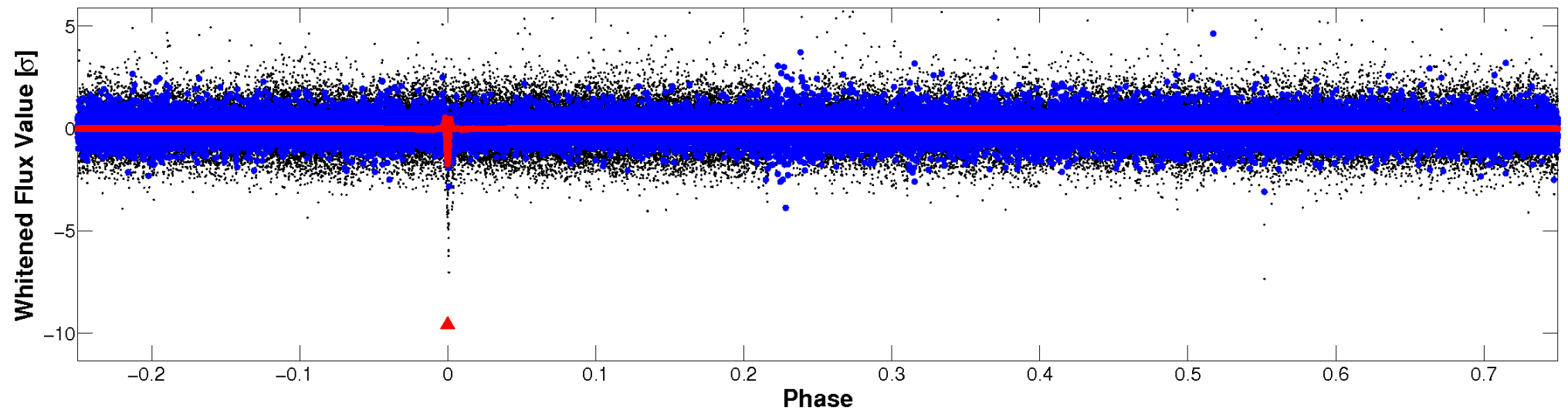


# Non-Whitened Vs. Whitened Light Curve

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

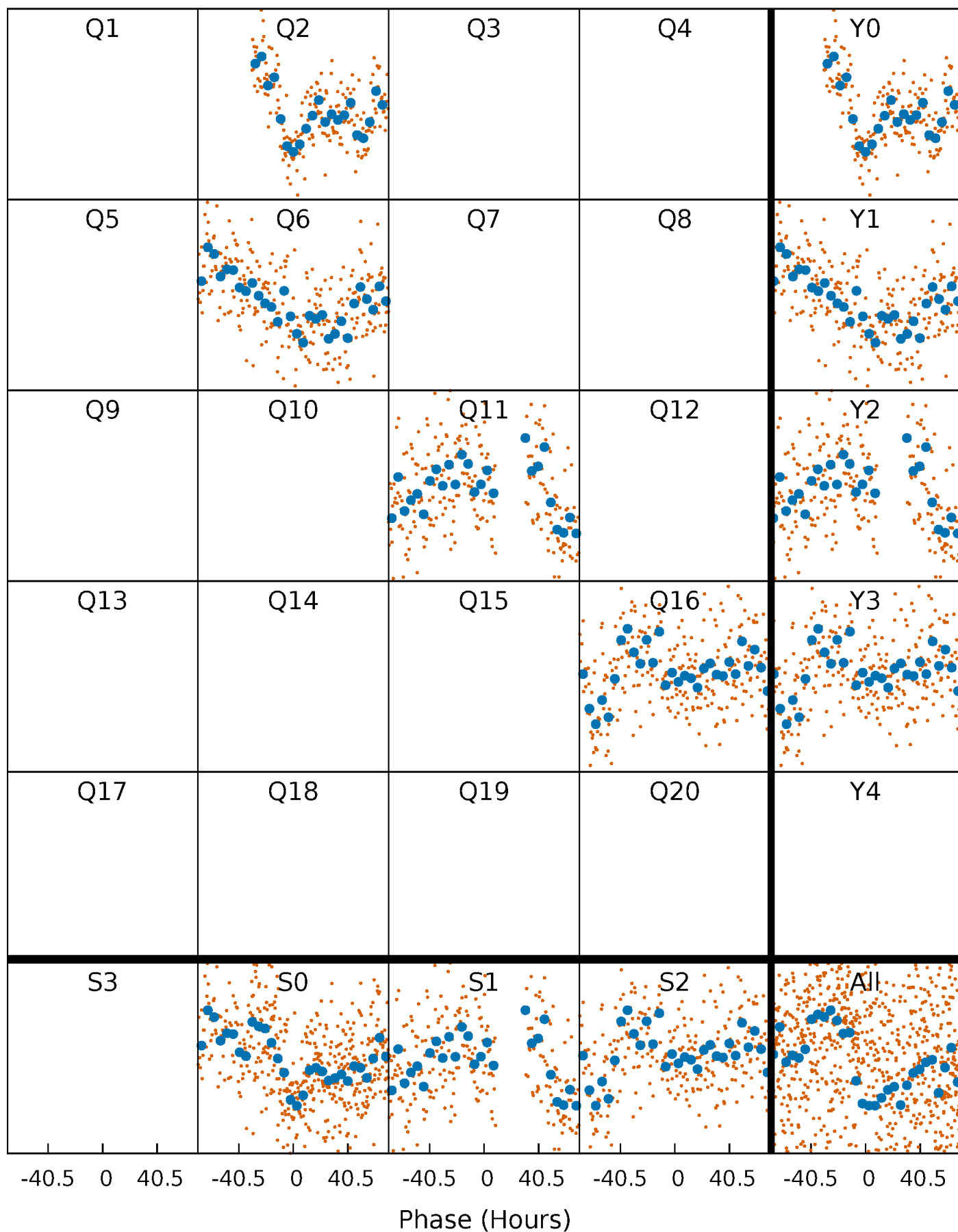


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

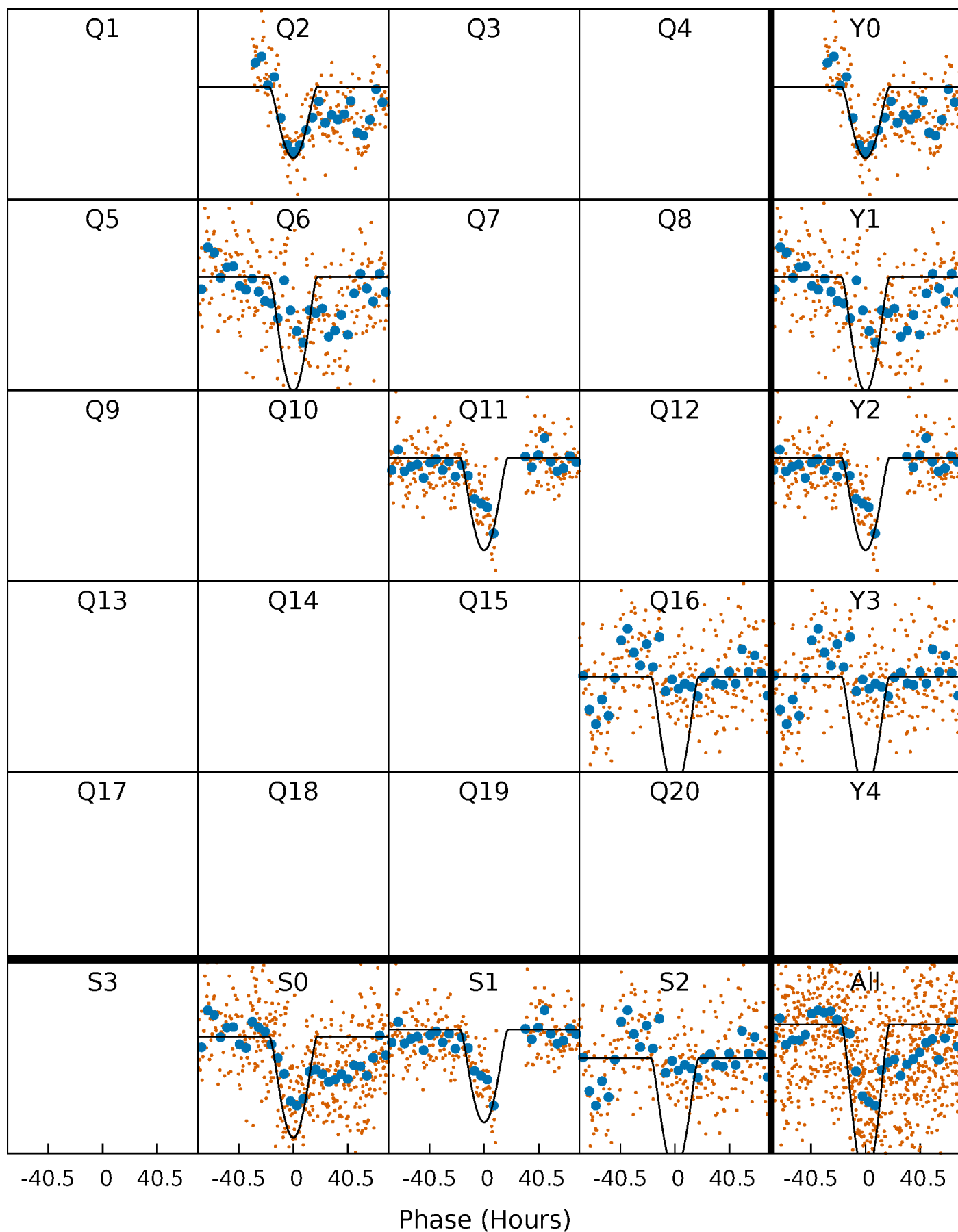
TCE 007899663-01 P=438.922497 Days  $T_0=184.998419$  (BKJD)





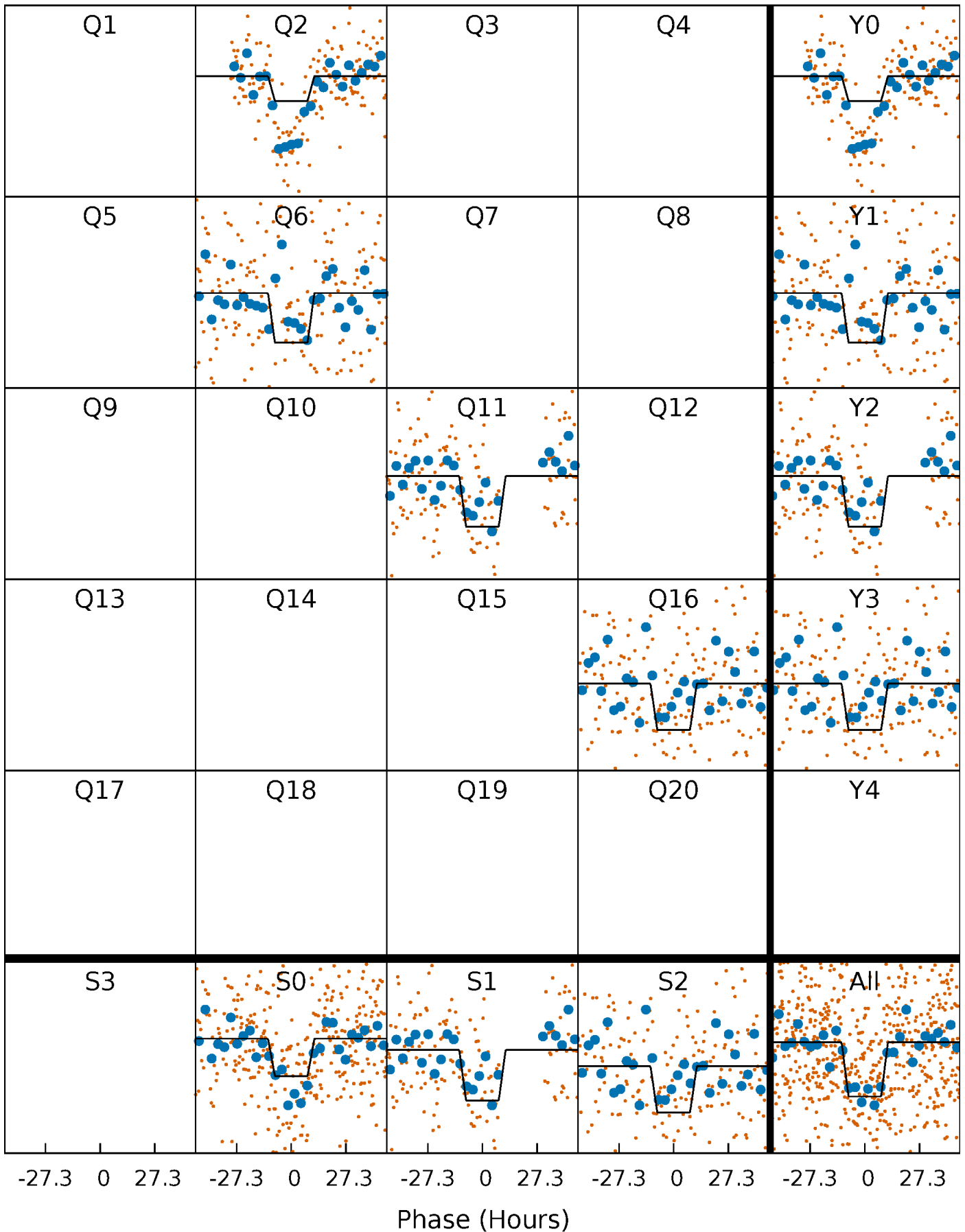
# DV Quarter-Phased Transit Curves

TCE 007899663-01 P=438.922497 Days  $T_0=184.998419$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

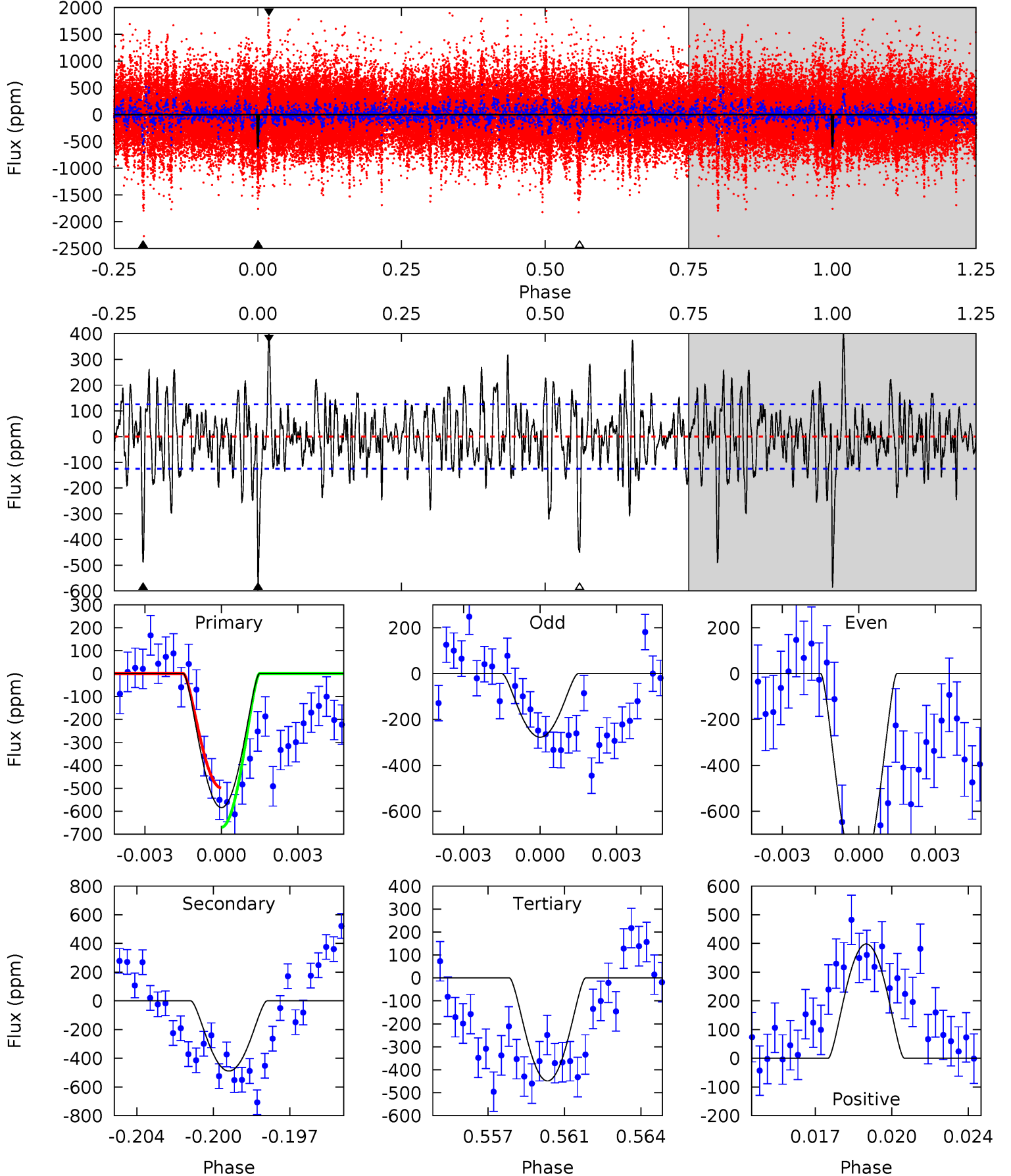
TCE 007899663-01 P=438.933302 Days  $T_0=184.975191$  (BKJD)



# DV Model-Shift Uniqueness Test

007899663-01, P = 438.922497 Days, E = 184.998419 Days

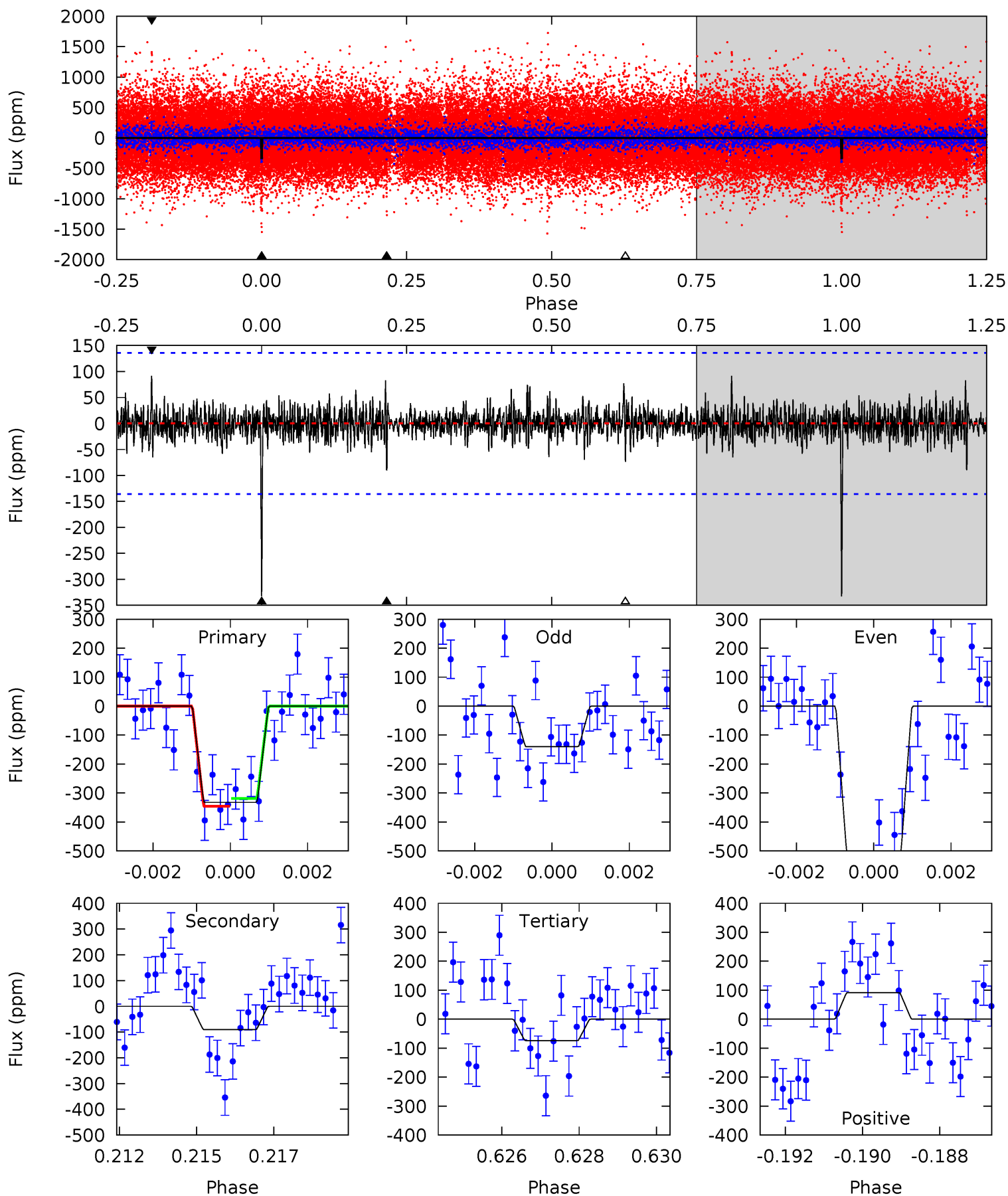
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.4	20.4	18.8	16.7	5.23	2.93	4.54	5.64	7.76	1.67	3.79	13.0	0.94	0.41	3.59



# Alt Model-Shift Uniqueness Test

007899663-01, P = 438.933302 Days, E = 184.975191 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
13.0	3.52	2.88	3.57	5.31	3.06	0.76	10.1	9.41	0.64	-0.05	7.51	1.76	0.22	0.54



### Stellar Parameters For KIC 007899663

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5547^{+149}_{-149}$	$4.571^{+0.034}_{-0.136}$	$-0.100^{+0.300}_{-0.300}$	$0.820^{+0.164}_{-0.070}$	$0.918^{+0.074}_{-0.111}$	$2.348^{+0.428}_{-0.927}$
	+3%/-3%	+1%/-3%	+300%/-300%	+20%/-9%	+8%/-12%	+18%/-39%
Source	PHO1	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 007899663-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-489 \pm 24$	$6.58^{+5.25}_{-4.18}$	$300^{+14}_{-11}$	$3545^{+1669}_{-550}$	$7452^{+48781}_{-5174}$
Alt.	$-90 \pm 26$	$4.79^{+4.62}_{-3.33}$	$301^{+14}_{-11}$	$3022^{+1481}_{-503}$	$2539^{+24985}_{-1914}$

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

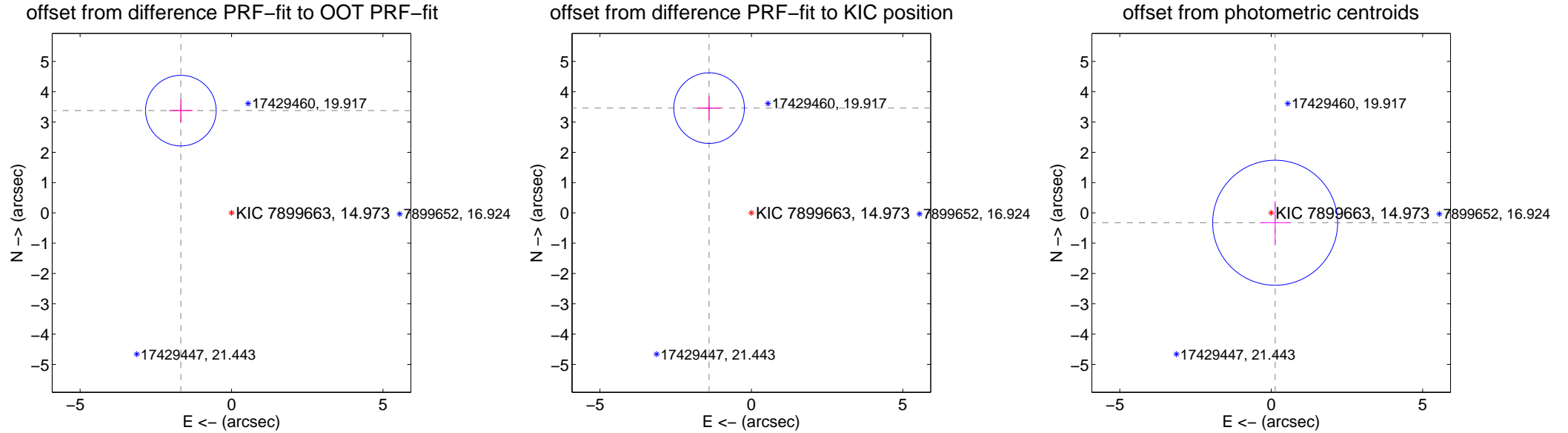
## DV Centroid Data

Supplemental centroid analysis for 007899663-01. Kepler magnitude: 14.97. Transit SNR 17.31

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.768 \pm 0.388$	9.70	$1.673 \pm 0.386$	$3.376 \pm 0.389$
PRF-fit source offset from KIC position	$3.730 \pm 0.389$	9.60	$1.397 \pm 0.386$	$3.458 \pm 0.389$
photometric centroid source offset	$0.35 \pm 0.69$	0.51	$-0.13 \pm 0.50$	$-0.32 \pm 0.71$



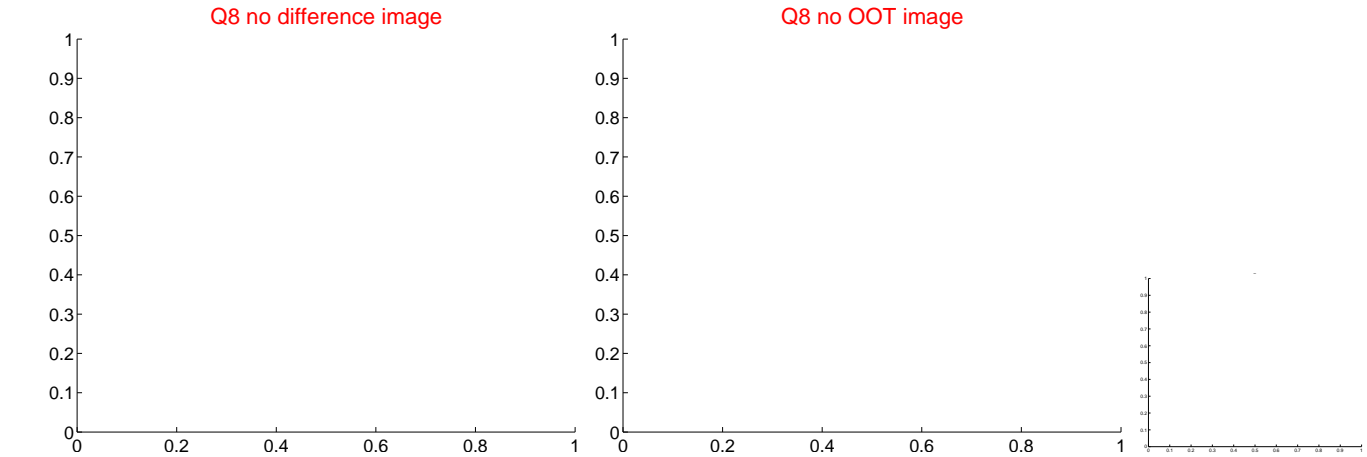
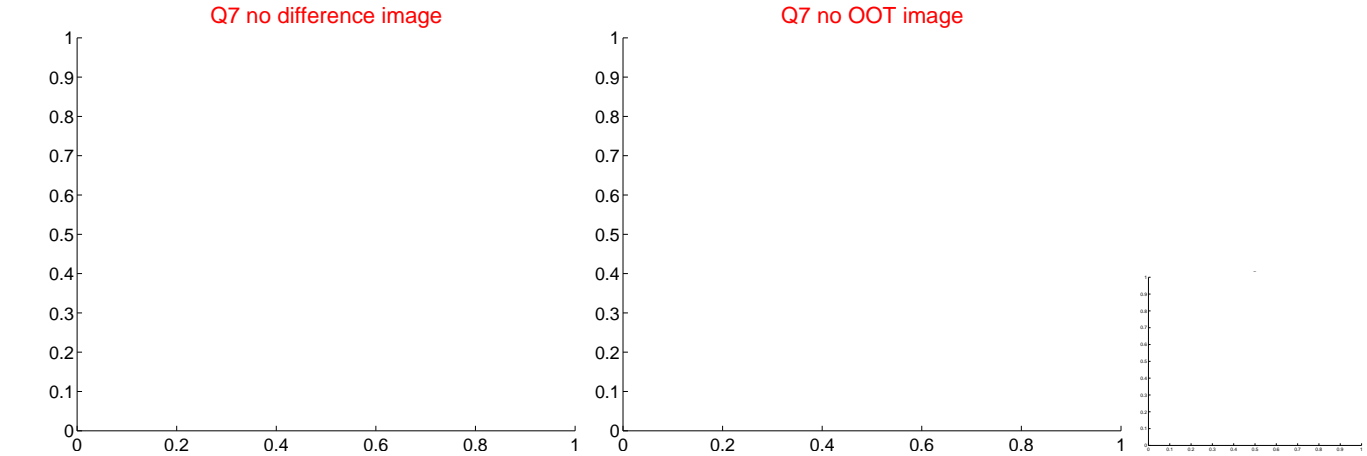
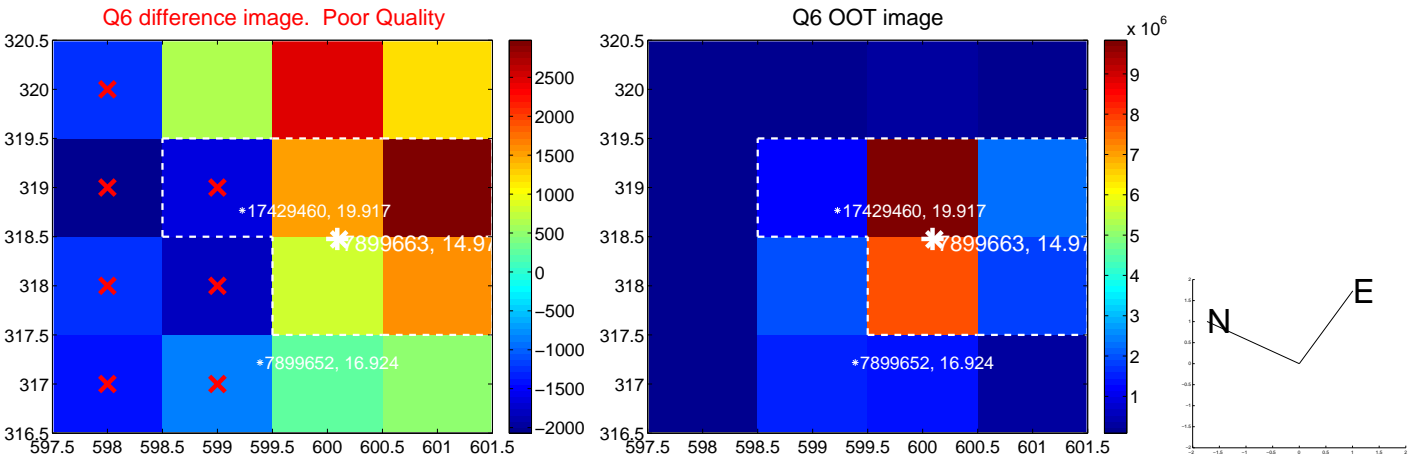
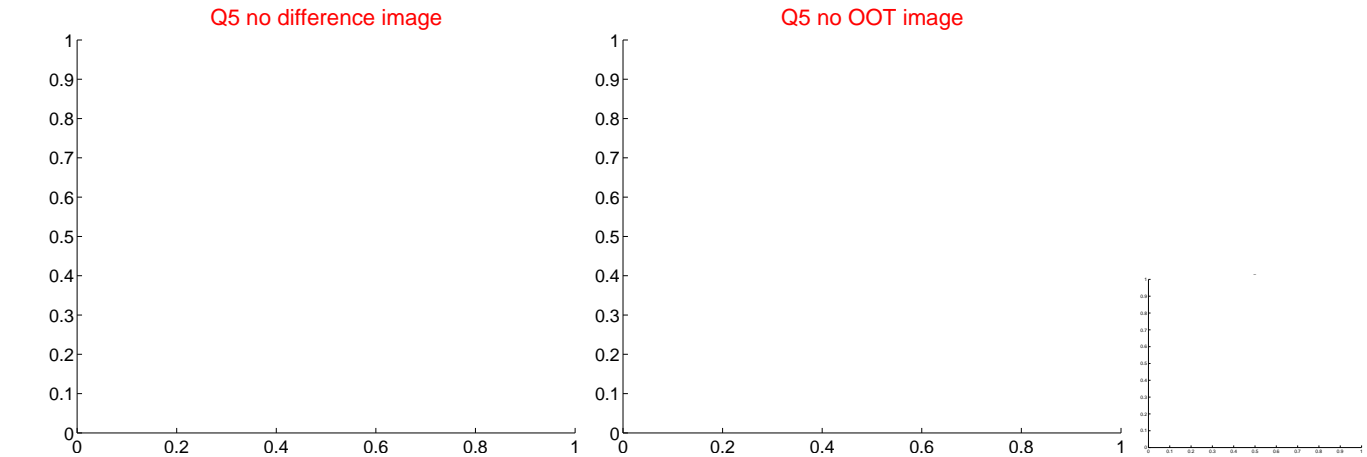
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



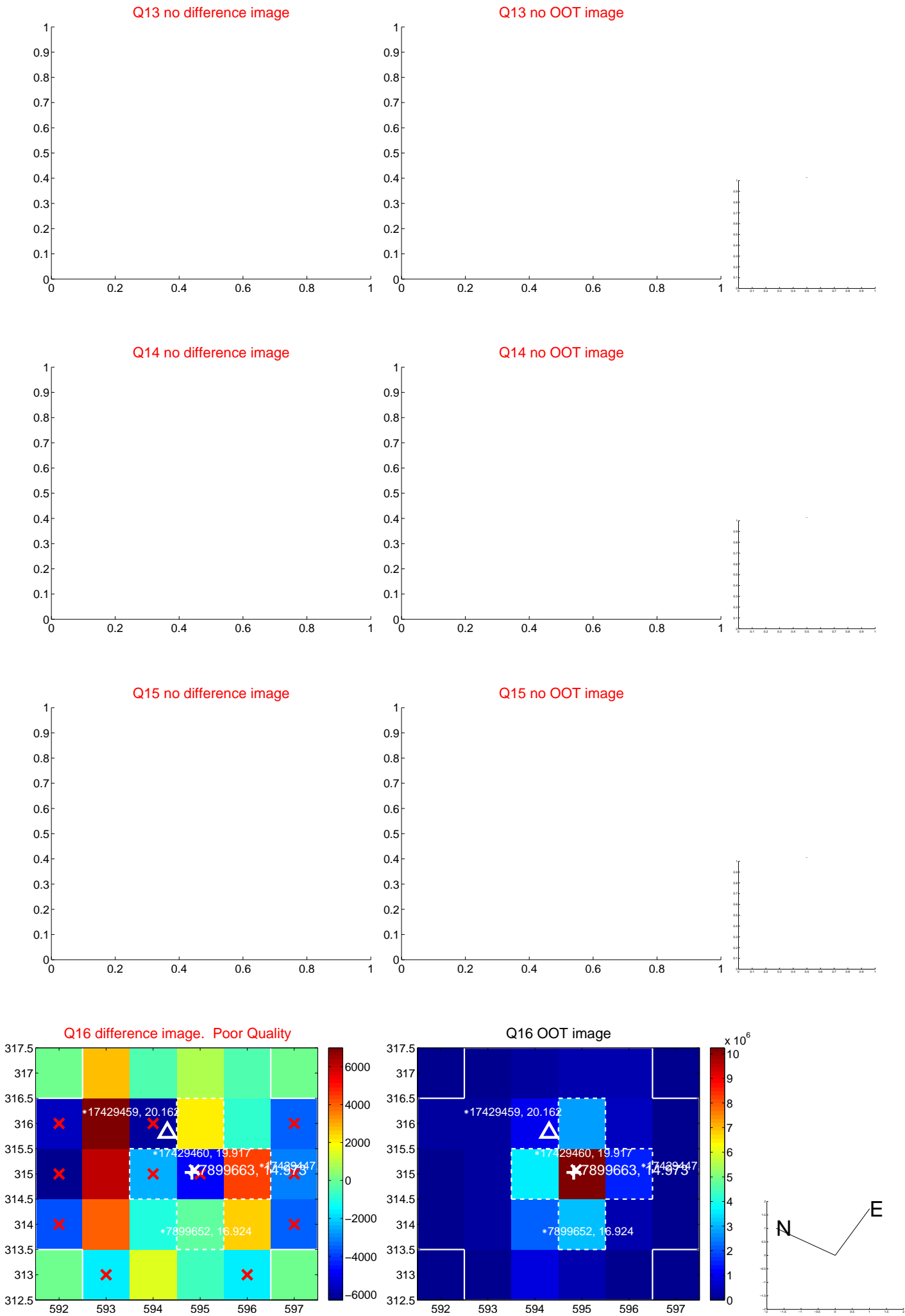
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



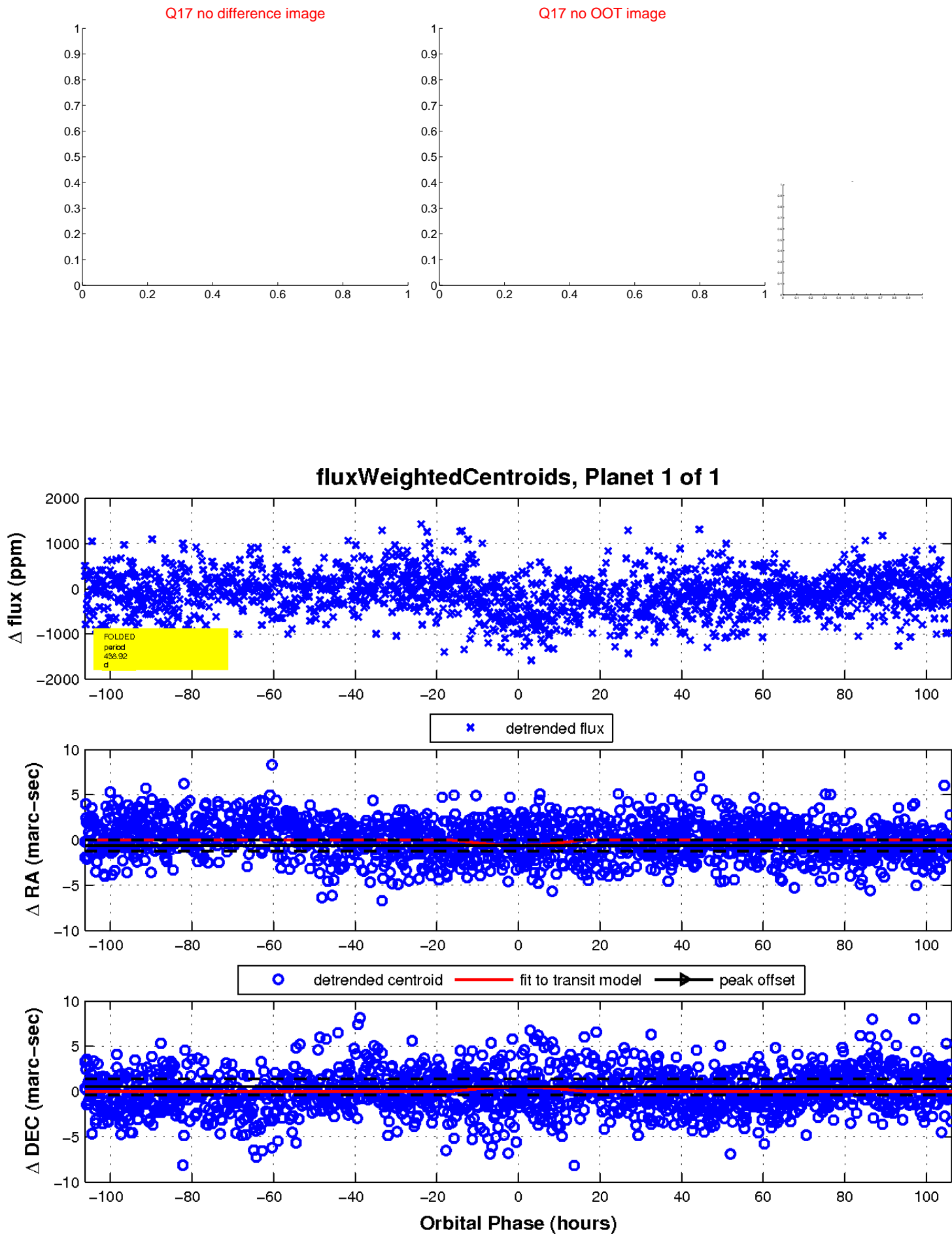
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



# UKIRT Image

Declination

