

# KIC 007017604

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007017604-01	OBS	No	497.018720	448.045549	518.9	4.837	12.3	3.2	0.68	4969	1.71	0.22

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007017604-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_POS_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.

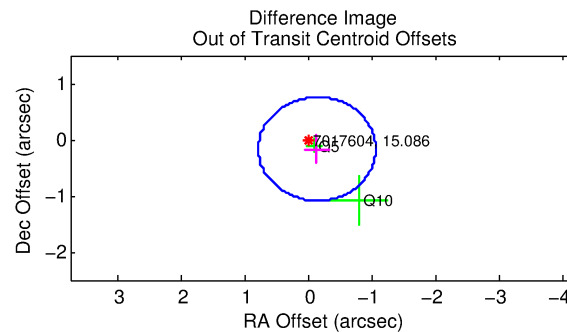
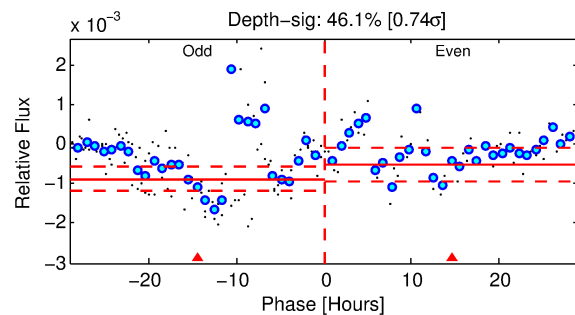
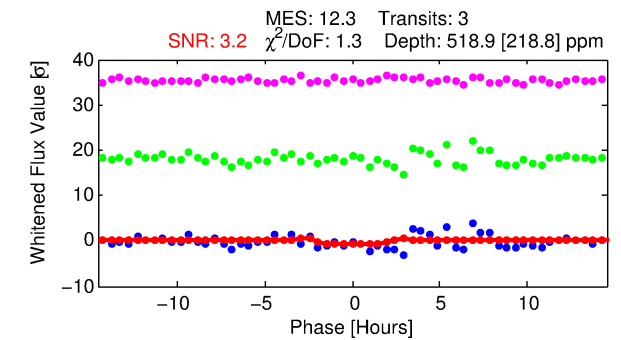
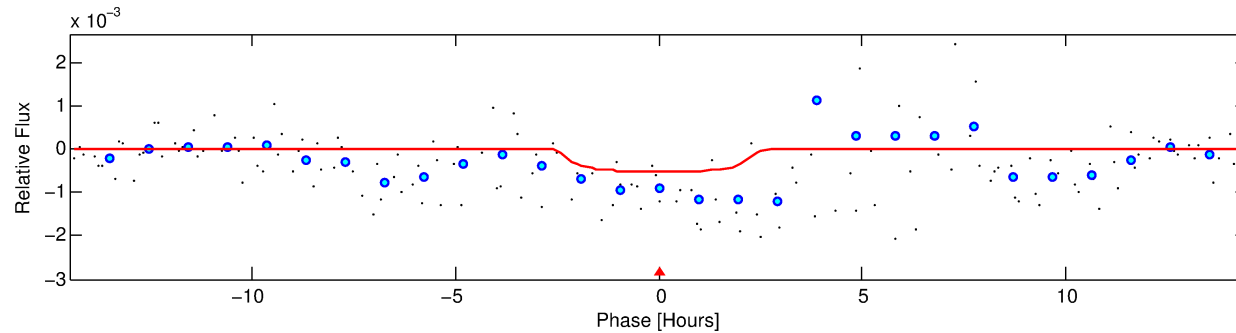
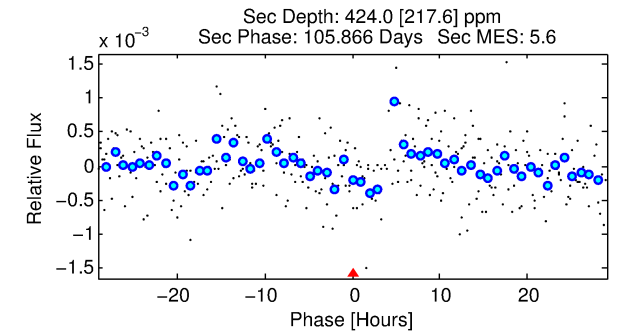
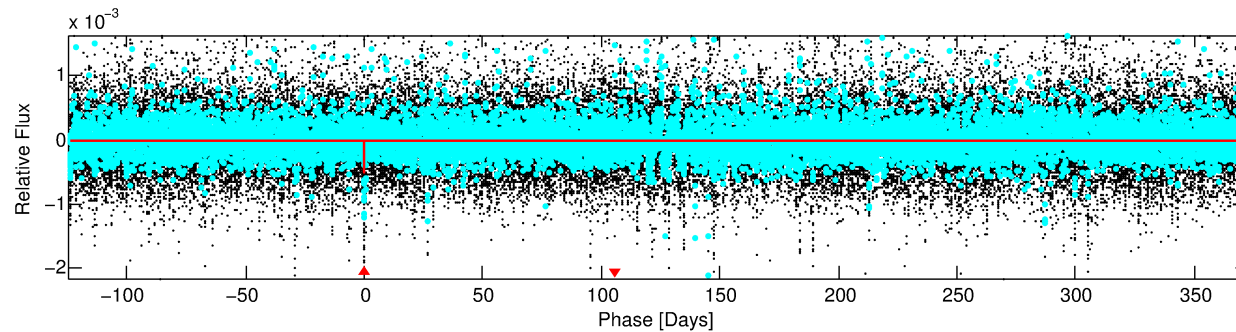
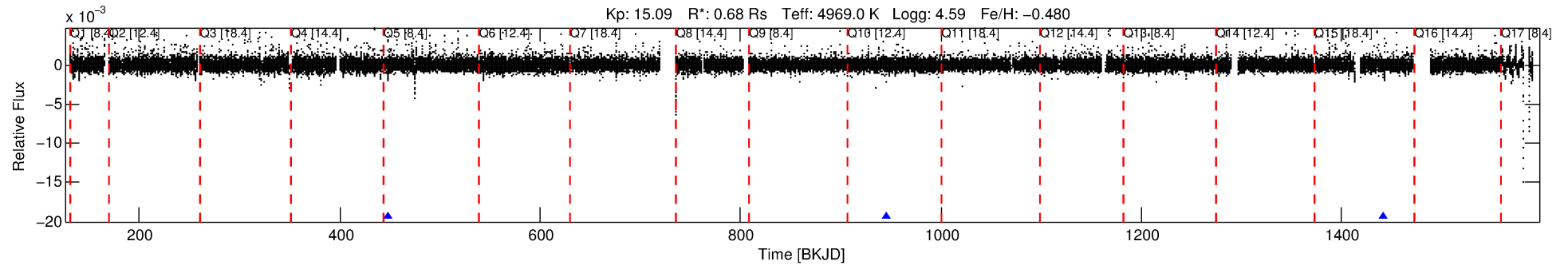
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007017604-01

No Significant Match Found

# DV One-Page Summary

KIC: 7017604 Candidate: 1 of 1 Period: 497.019 d



## DV Fit Results:

Period = 497.01872 [0.02286] d  
Epoch = 448.0455 [0.0322] BKJD  
Rp/R\* = 0.0232 [0.0348]  
a/R\* = 512.95 [2812.12]  
b = 0.79 [2.69]  
Seff = 0.22 [0.04]  
Teq = 175 [7] K  
Rp = 1.71 [2.58] Re  
a = 1.0682 [0.0867] AU  
Ag = 90933.29 [277479.18] [0.33 $\sigma$ ]  
Teffp = 4685 [3574] K [1.26 $\sigma$ ]

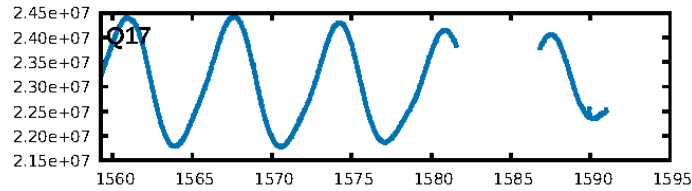
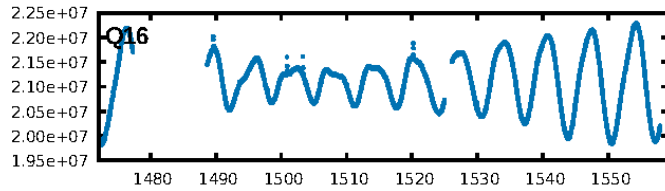
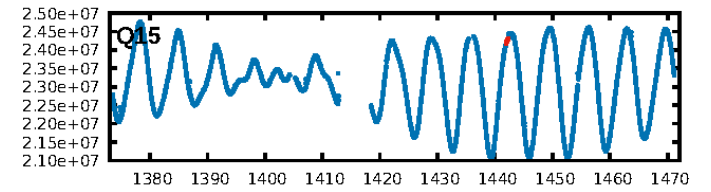
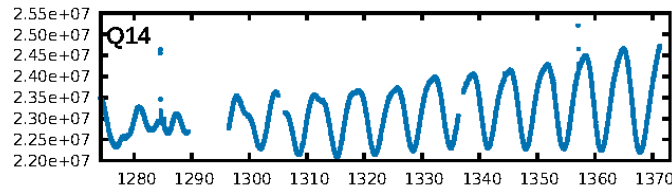
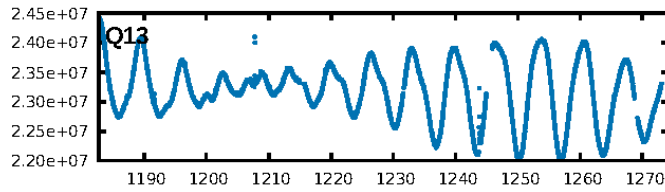
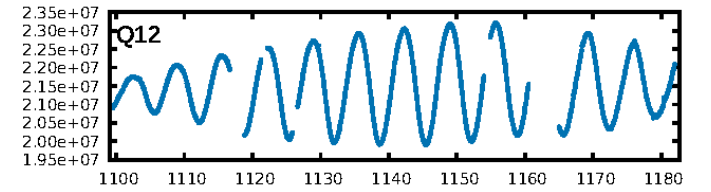
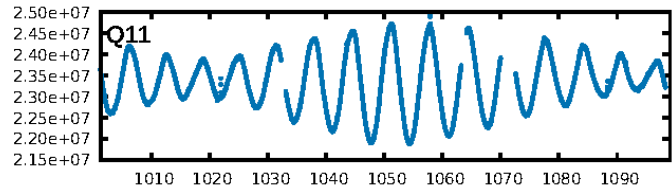
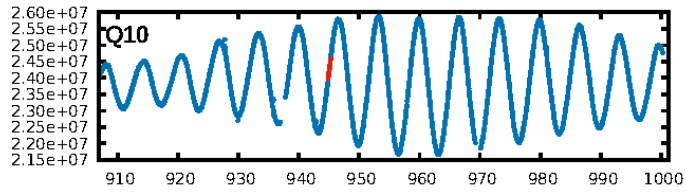
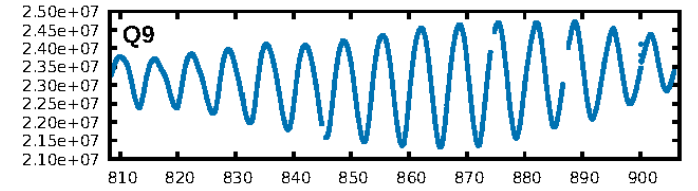
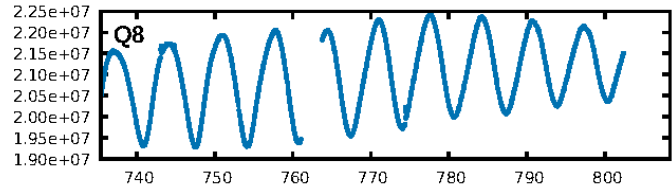
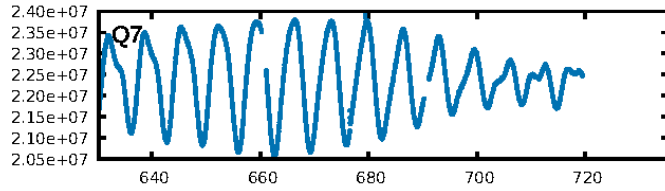
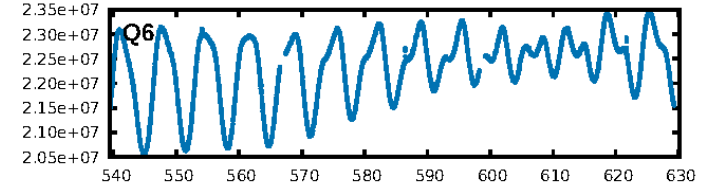
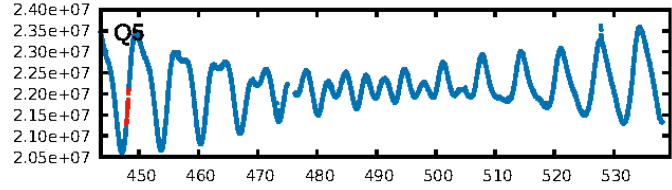
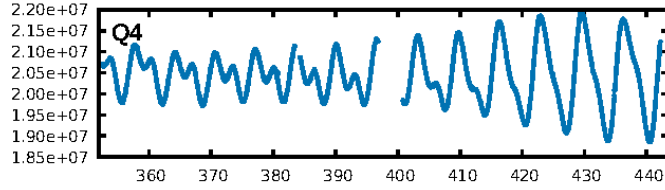
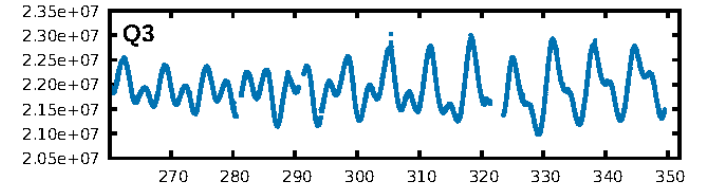
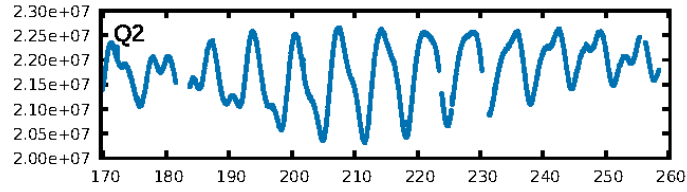
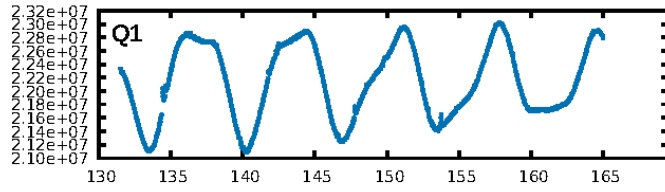
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 6.8%  
ModelChiSquareGof-sig: 77.2%  
**Bootstrap-pfa: 8.72e-09**  
RollingBand-fgt: 1.00 [3/3]  
**GhostDiagnostic-chr: -3.743**  
Centroid-sig: 42.2%  
Centroid-so: 2.271 arcsec [0.98 $\sigma$ ]  
OotOffset-rm: 0.213 arcsec [0.69 $\sigma$ ]  
OotOffset-st: 1/0/0/1 [2]  
KicOffset-rm: 0.077 arcsec [0.22 $\sigma$ ]  
KicOffset-st: 1/0/0/1 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [3/3]

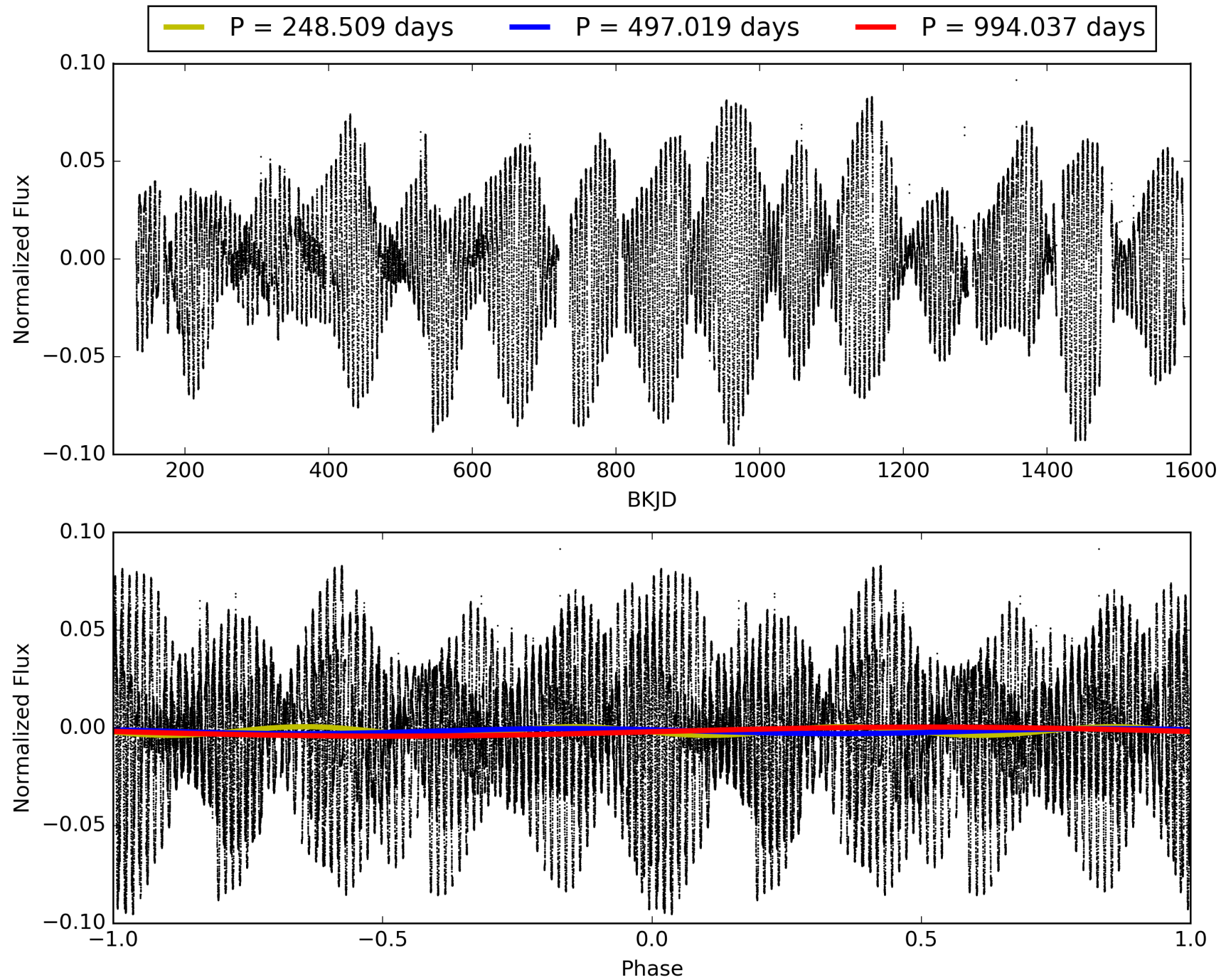
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:09:02 Z

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

# TCE 007017604-01, PDC Light Curves

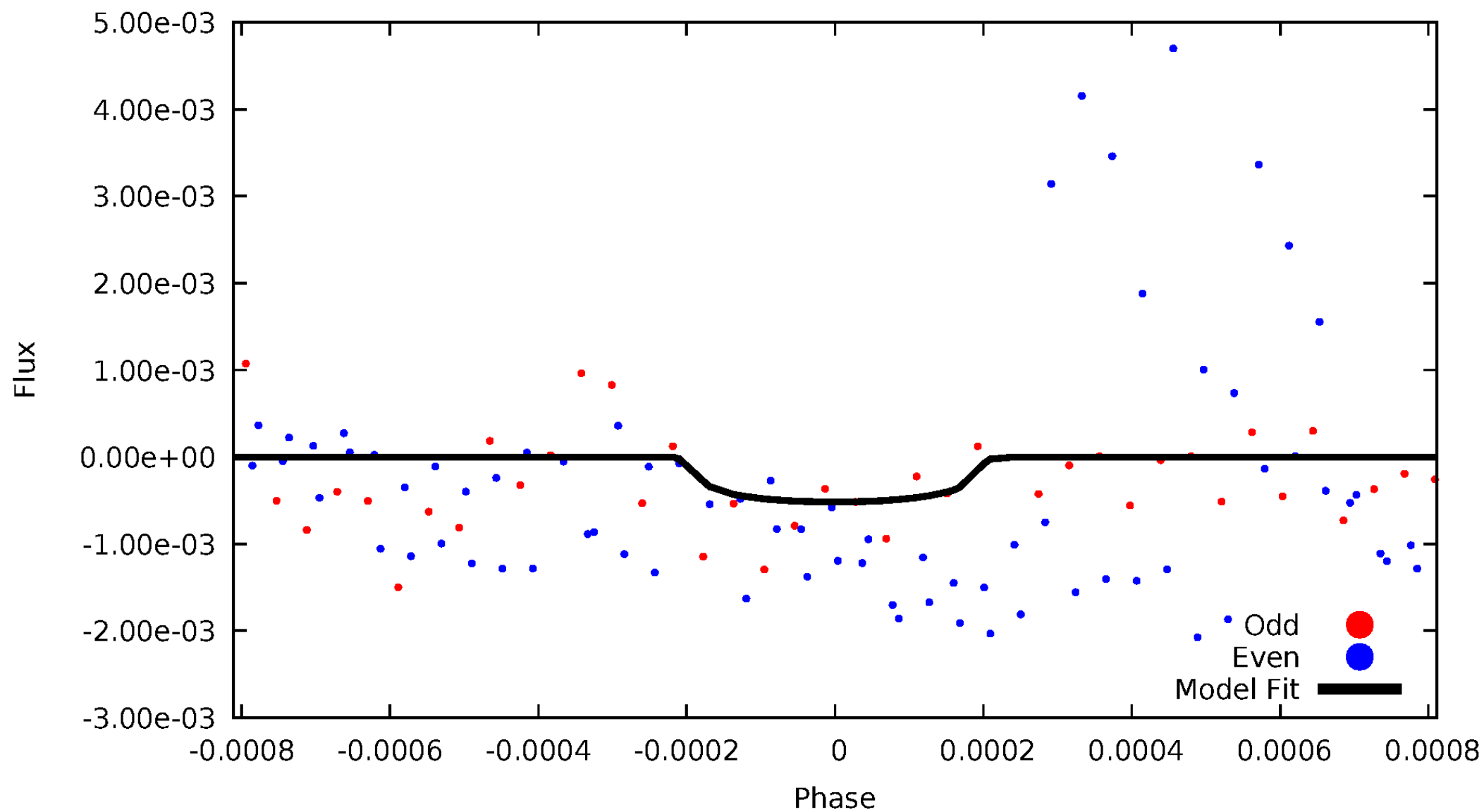


TCE 007017604-01



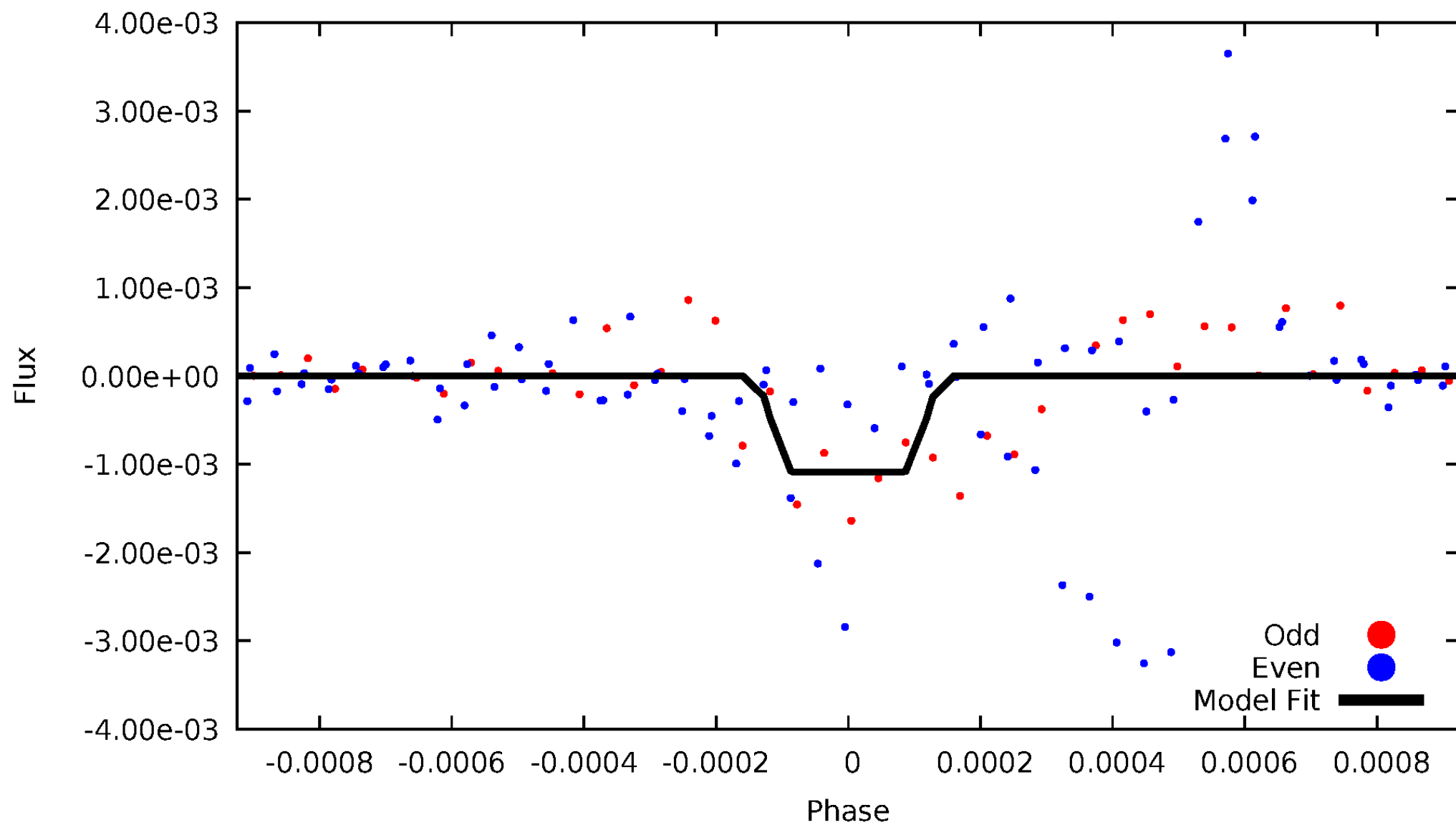
# DV Odd/Even

TCE 007017604-01

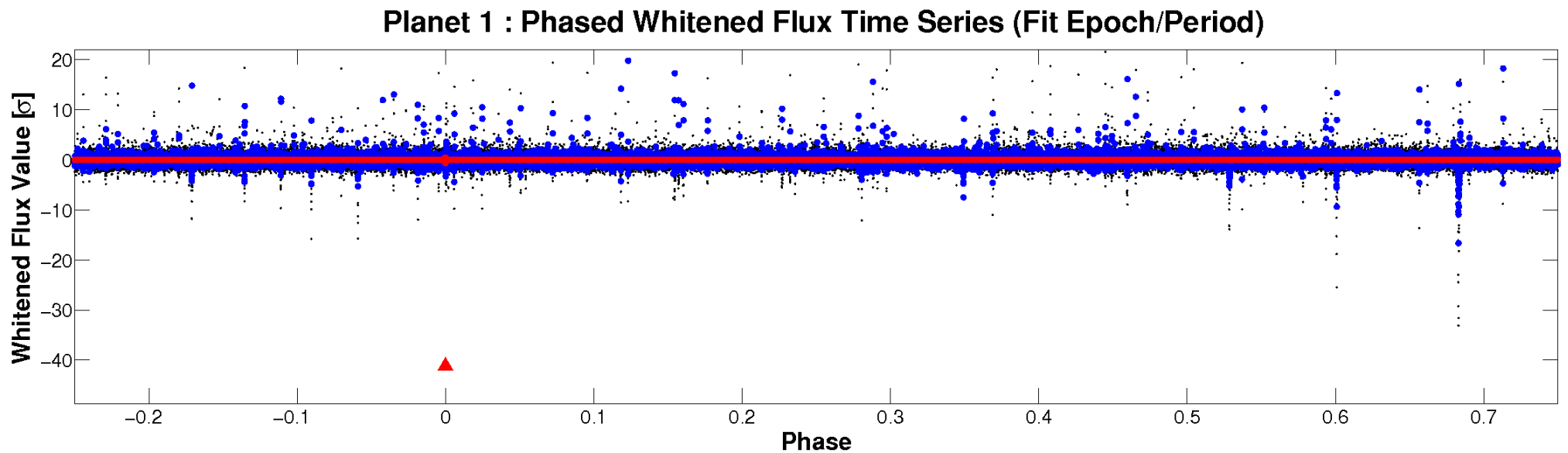
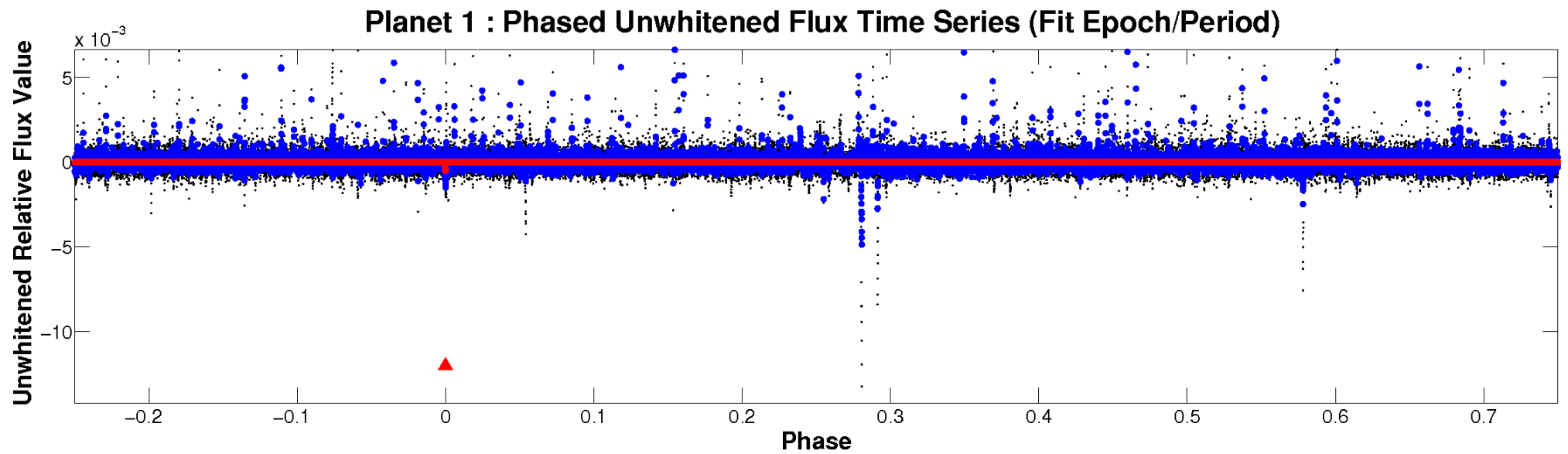


# ALT Odd/Even

TCE 007017604-01

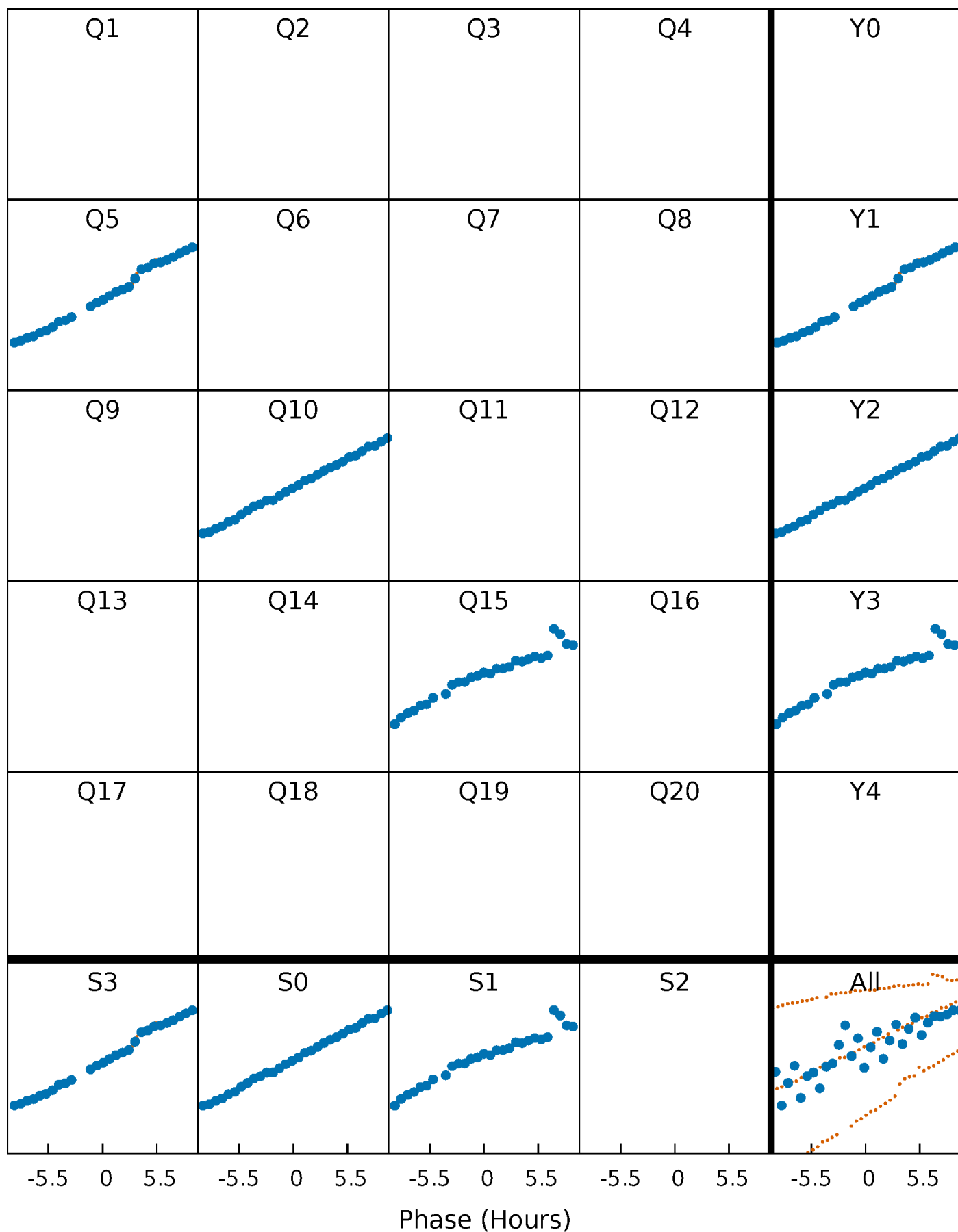


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

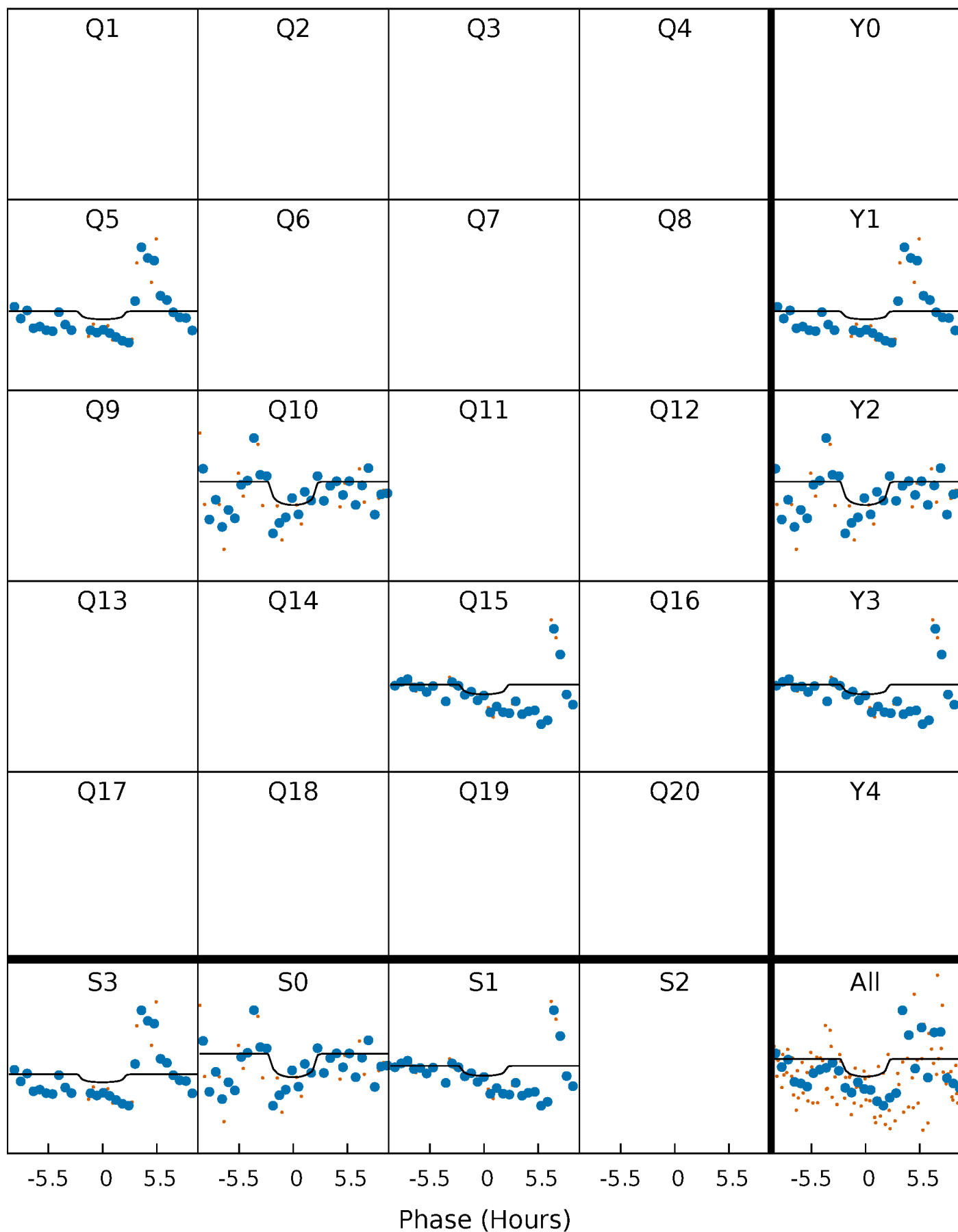
TCE 007017604-01 P=497.018720 Days  $T_0=448.045549$  (BKJD)





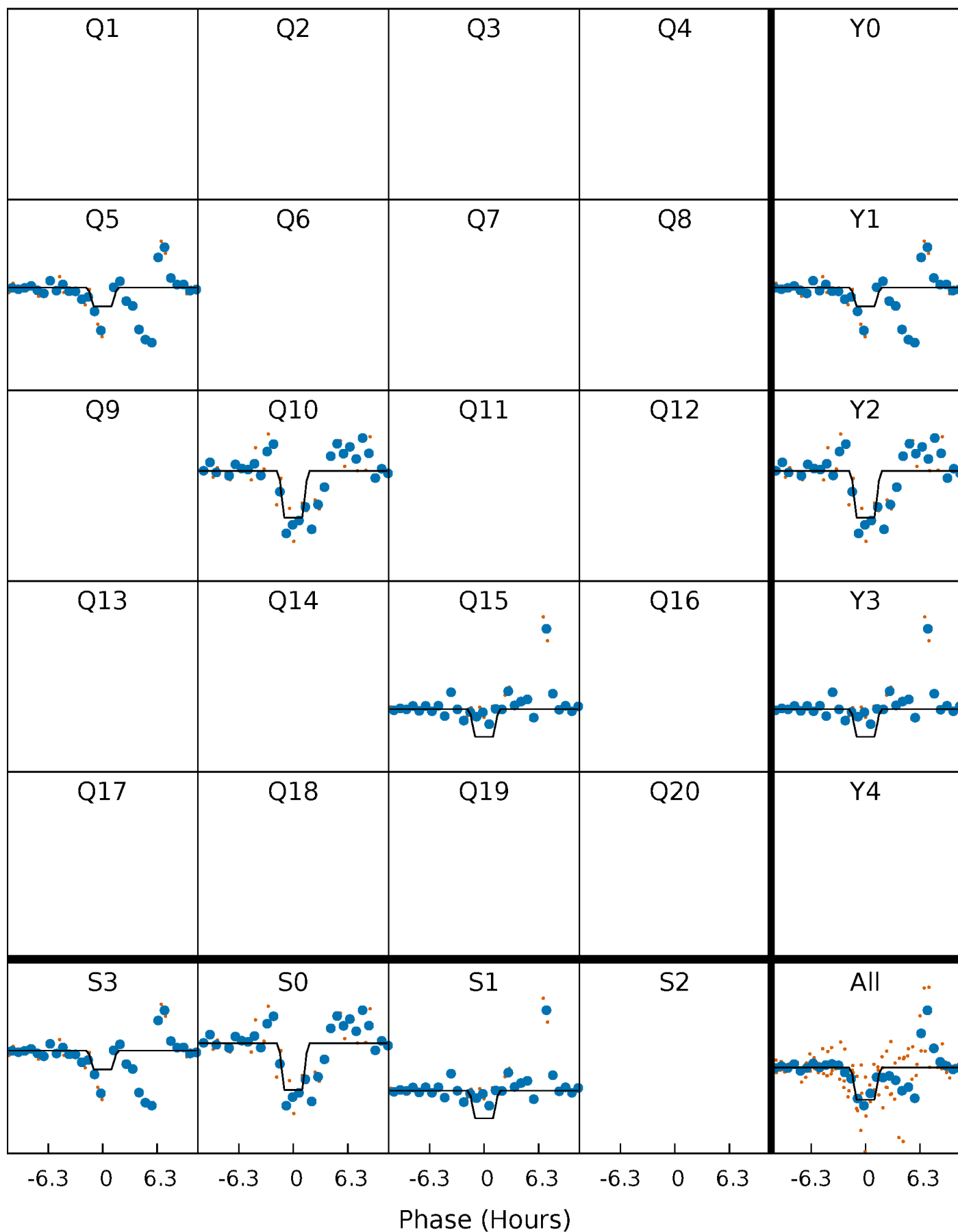
# DV Quarter-Phased Transit Curves

TCE 007017604-01     $P=497.018720$  Days     $T_0=448.045549$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

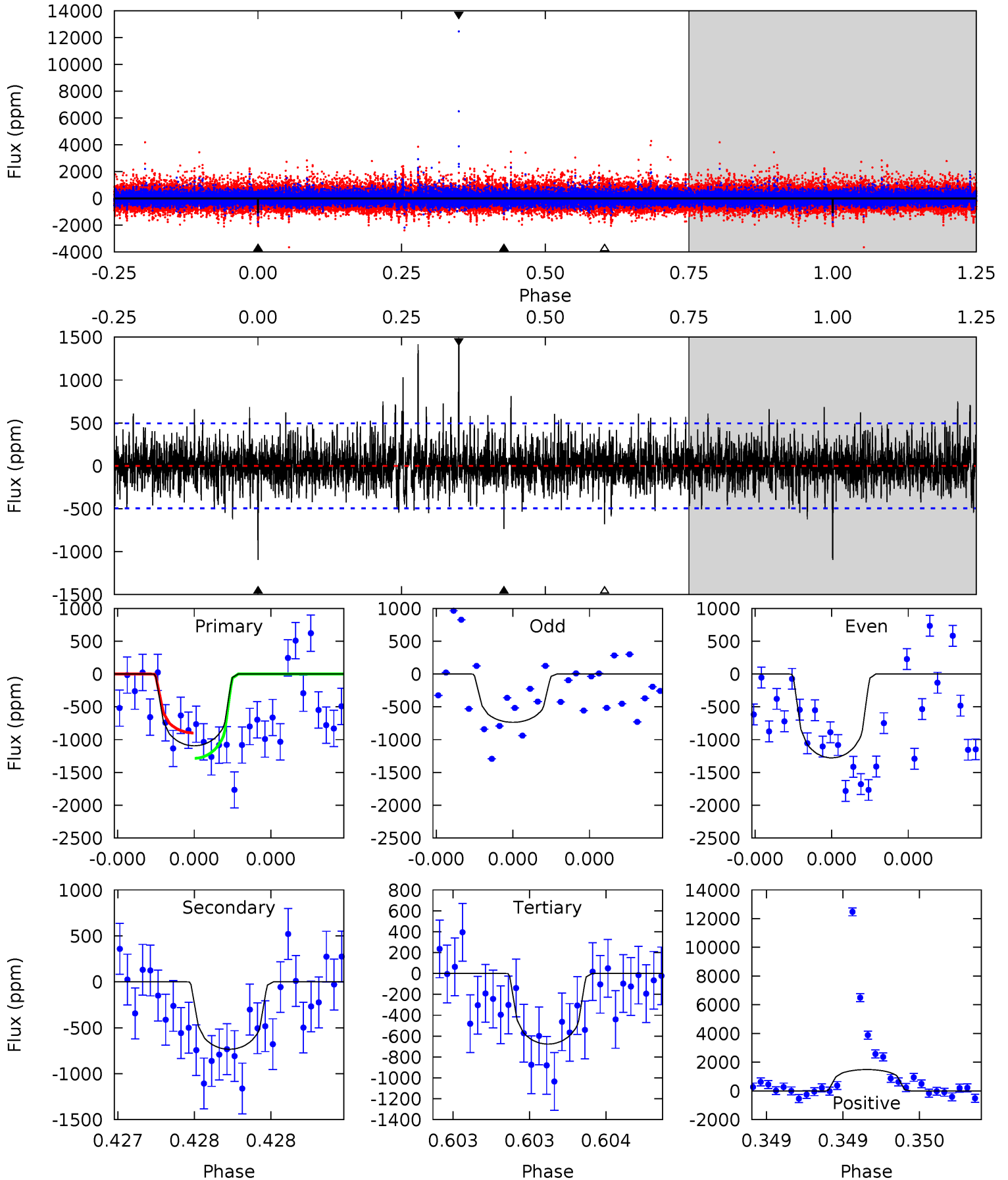
TCE 007017604-01 P=497.087214 Days  $T_0=447.927303$  (BKJD)



# DV Model-Shift Uniqueness Test

007017604-01, P = 497.018720 Days, E = 448.045549 Days

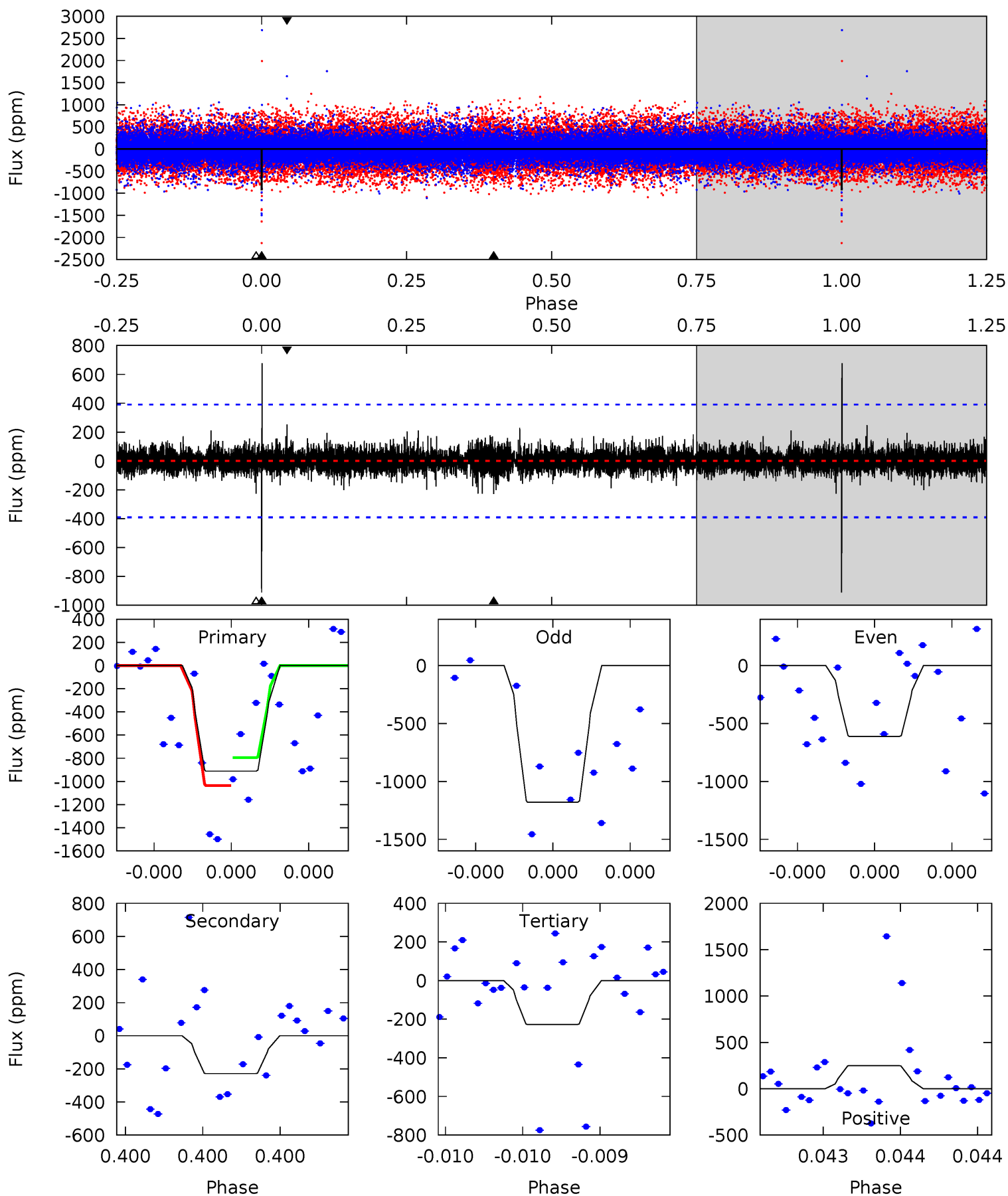
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	8.31	7.66	16.8	5.60	3.53	1.94	4.73	-4.45	0.65	-8.52	2.62	1.06	0.58	2.20



# Alt Model-Shift Uniqueness Test

007017604-01, P = 497.087214 Days, E = 447.927303 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
13.3	3.33	3.31	3.62	5.69	3.66	0.62	9.97	9.66	0.02	-0.29	4.32	0.95	0.43	1.76



### Stellar Parameters For KIC 007017604

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4969^{+148}_{-134}$	$4.595^{+0.065}_{-0.040}$	$-0.480^{+0.300}_{-0.300}$	$0.677^{+0.065}_{-0.065}$	$0.658^{+0.090}_{-0.036}$	$2.991^{+0.809}_{-0.477}$
	+3%/-3%	+1%/-1%	+62%/-62%	+10%/-10%	+14%/-5%	+27%/-16%
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 007017604-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-734 \pm 88$	$2.43^{+2.31}_{-1.60}$	$243^{+8}_{-9}$	$4613^{+3331}_{-1032}$	$78537^{+587048}_{-58140}$
Alt.	$-229 \pm 69$	$3.05^{+2.32}_{-1.90}$	$243^{+9}_{-8}$	$3454^{+1482}_{-576}$	$15518^{+94582}_{-10870}$

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

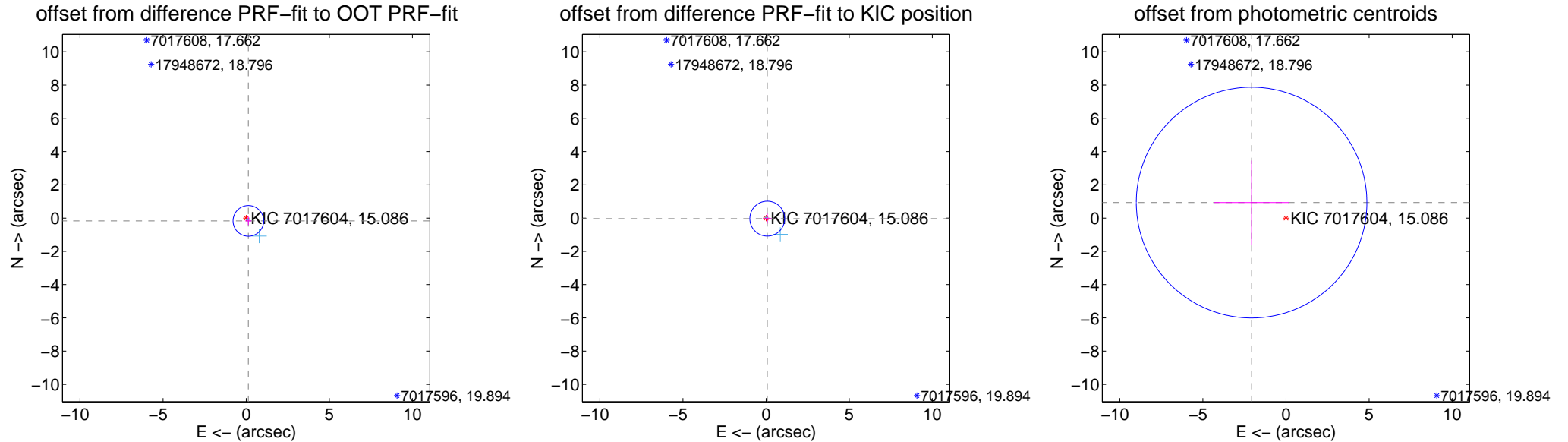
## DV Centroid Data

Supplemental centroid analysis for 007017604-01. Kepler magnitude: 15.09. Transit SNR 3.23

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.213 \pm 0.307$	0.69	$-0.130 \pm 0.186$	$-0.168 \pm 0.254$
PRF-fit source offset from KIC position	$0.077 \pm 0.350$	0.22	$-0.070 \pm 0.250$	$-0.033 \pm 0.300$
photometric centroid source offset	$2.27 \pm 2.31$	0.98	$2.07 \pm 2.27$	$0.93 \pm 2.52$

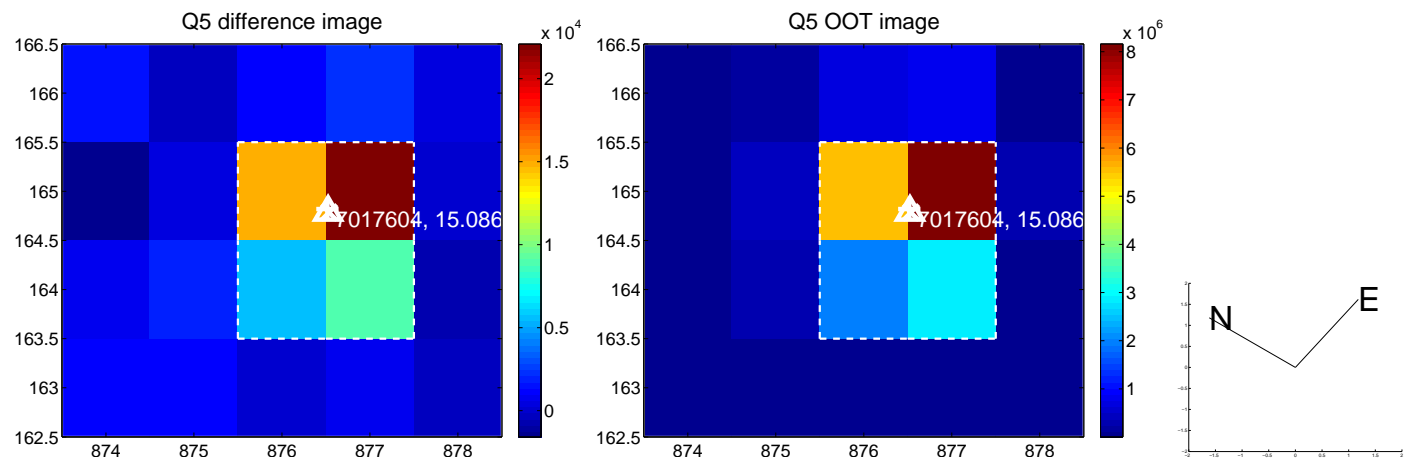


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

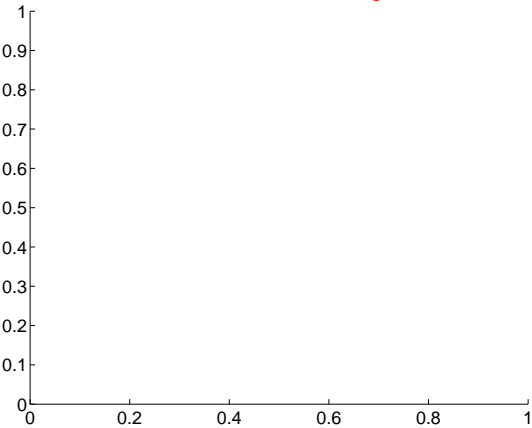
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



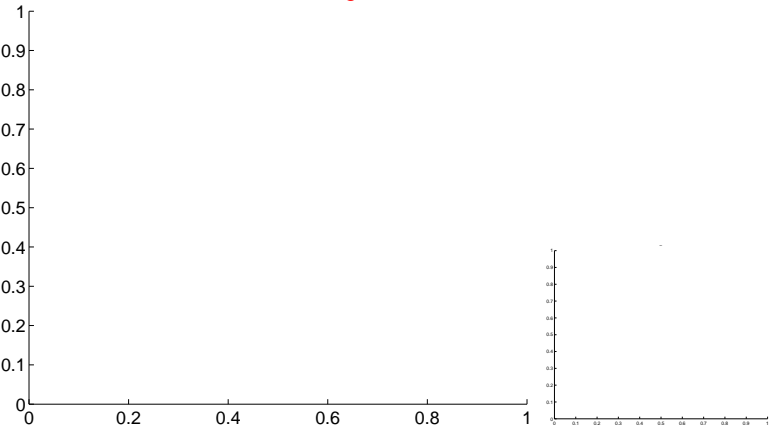
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



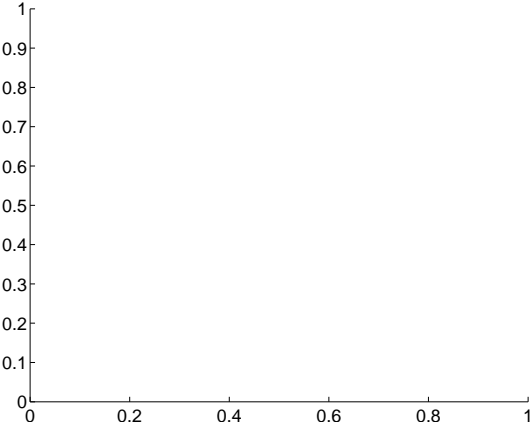
Q6 no difference image



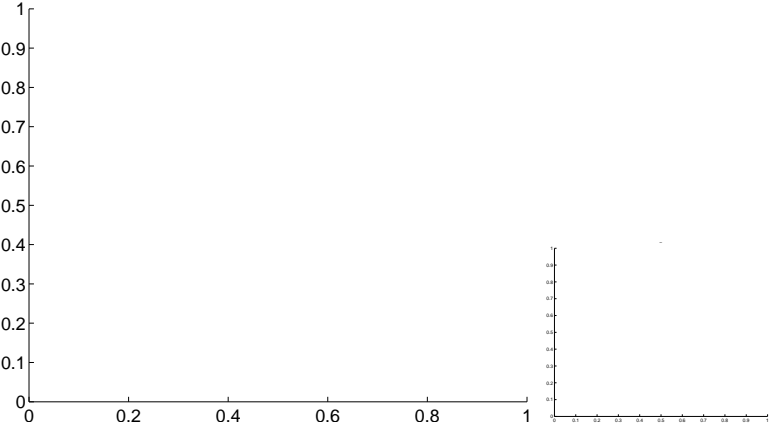
Q6 no OOT image



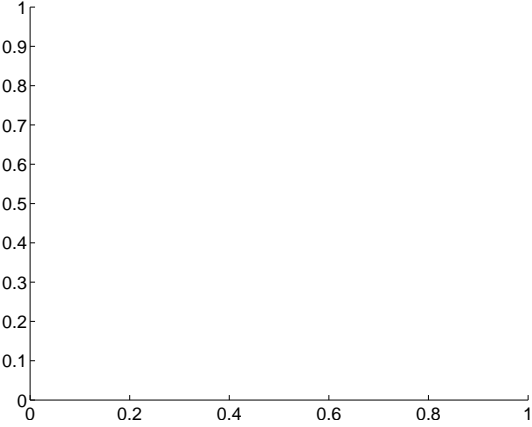
Q7 no difference image



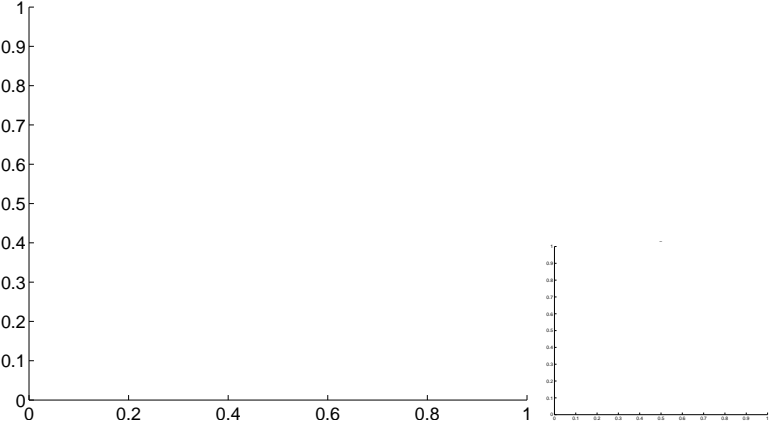
Q7 no OOT image



Q8 no difference image

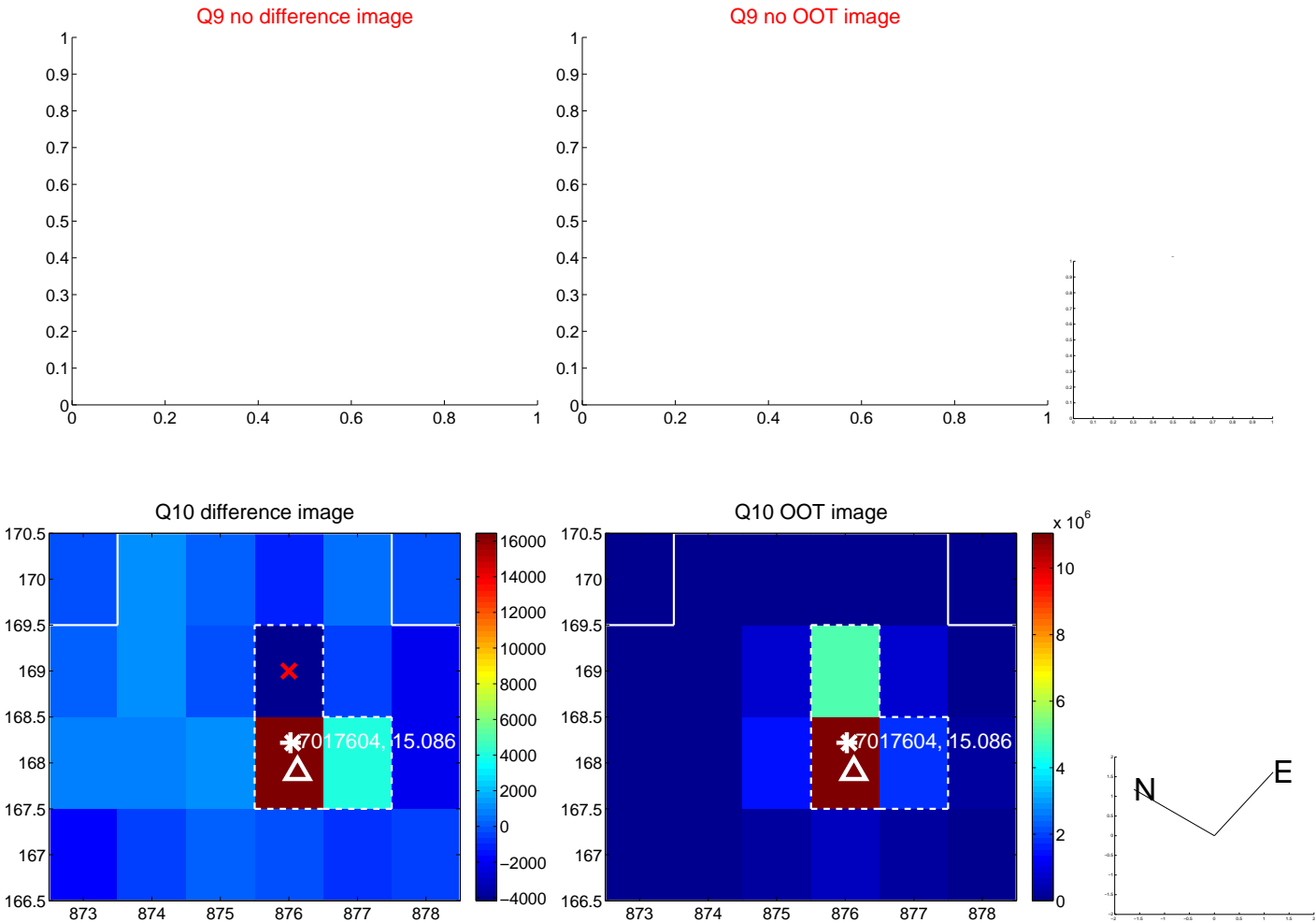


Q8 no OOT image

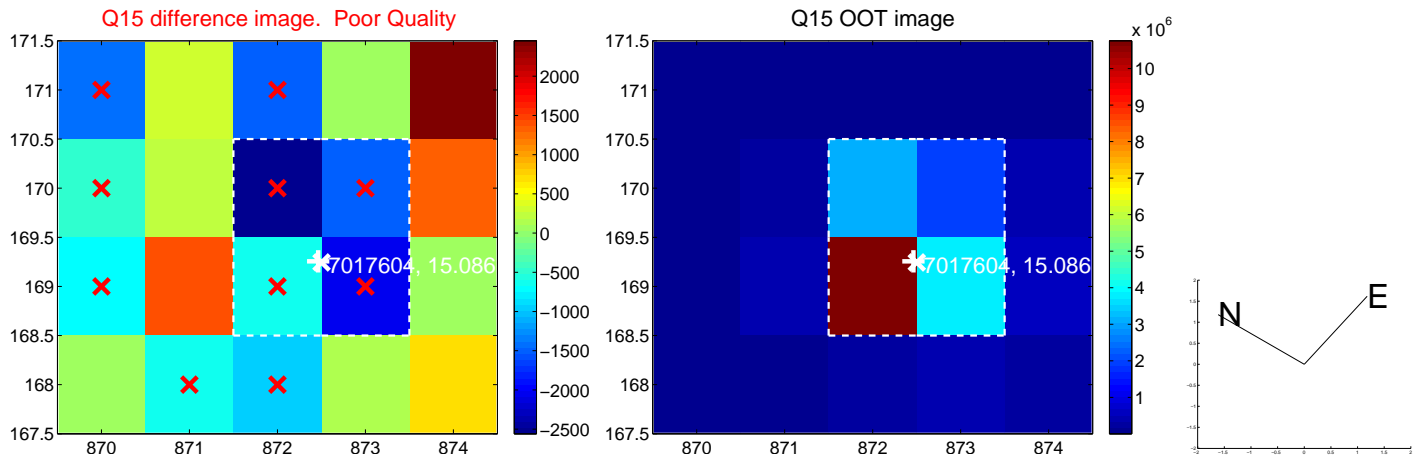




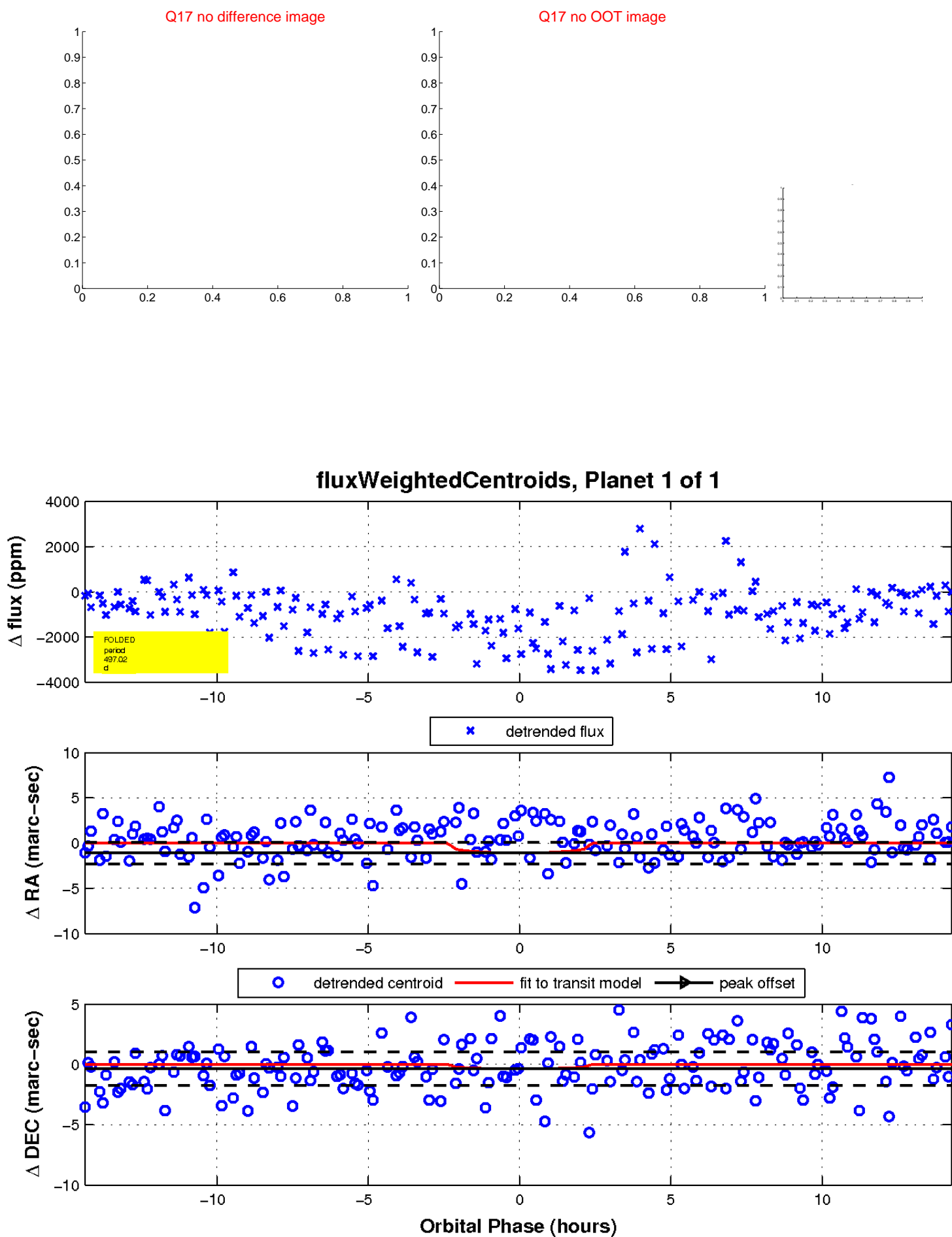
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



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



UKIRT Image

Declination

