

# KIC 007270711

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007270711-01	OBS	No	472.666321	233.736380	129.8	17.035	8.2	8.1	1.32	6187	1.60	1.56

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007270711-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

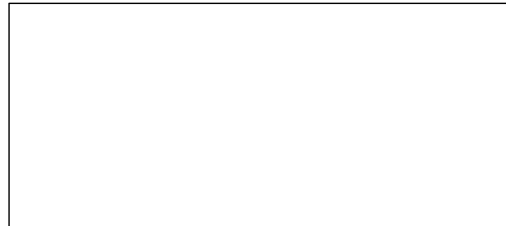
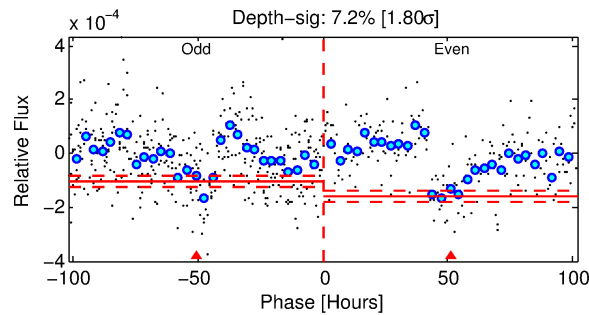
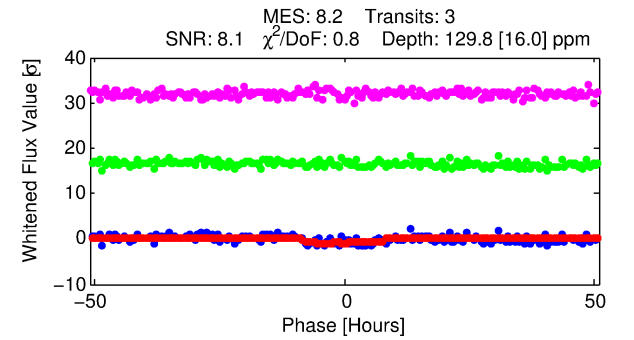
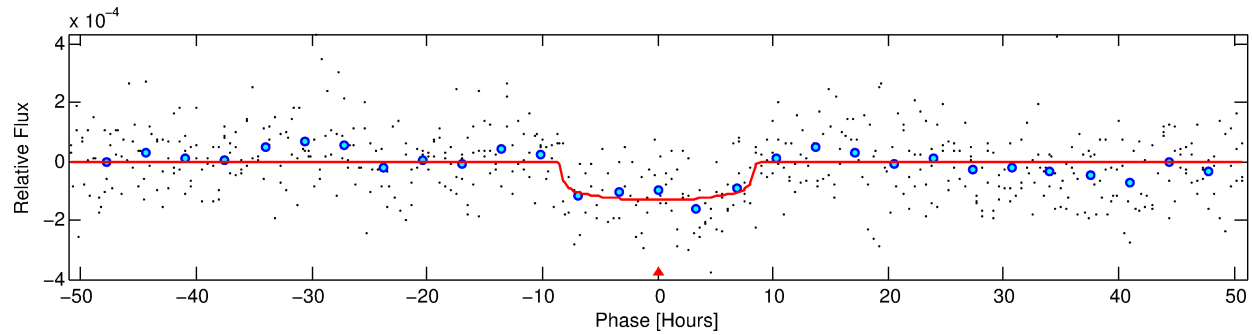
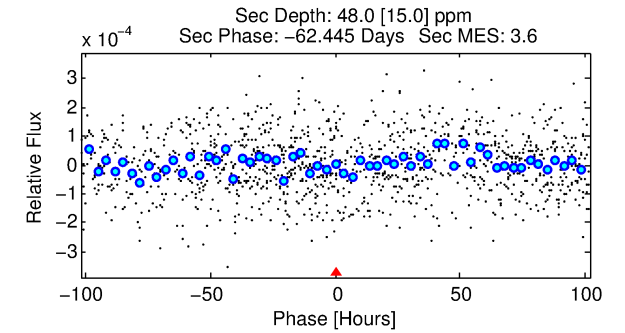
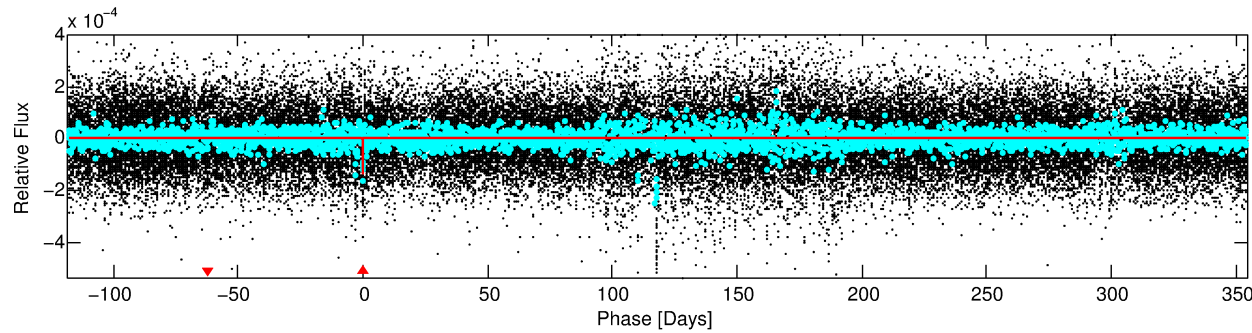
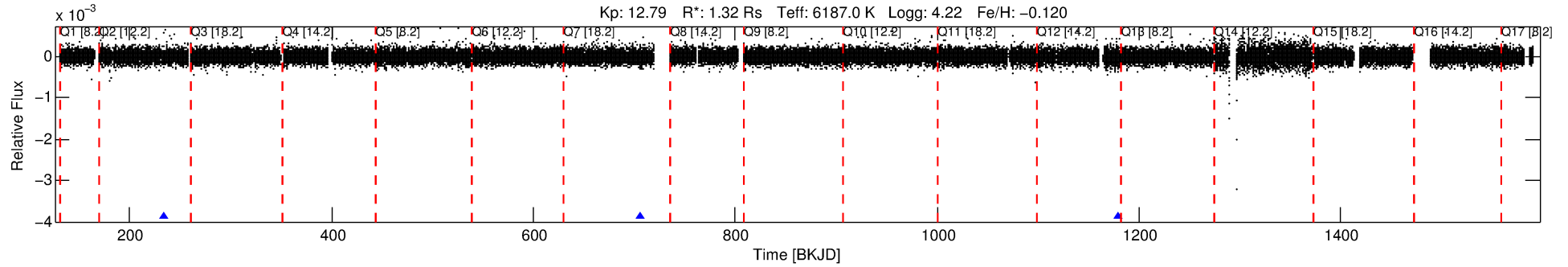
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007270711-01

No Significant Match Found

# DV One-Page Summary

KIC: 7270711 Candidate: 1 of 1 Period: 472.666 d



## DV Fit Results:

Period = 472.66632 [0.01646] d  
Epoch = 233.7364 [0.0190] BKJD  
Rp/R\* = 0.0111 [0.0040]  
a/R\* = 159.94 [285.89]  
b = 0.67 [1.46]  
Seff = 1.56 [0.49]  
Teq = 285 [22] K  
Rp = 1.60 [0.67] Re  
a = 1.2158 [0.2303] AU  
Ag = 15193.16 [12677.34] [1.20σ]  
Teffp = 4891 [968] K [4.76σ]

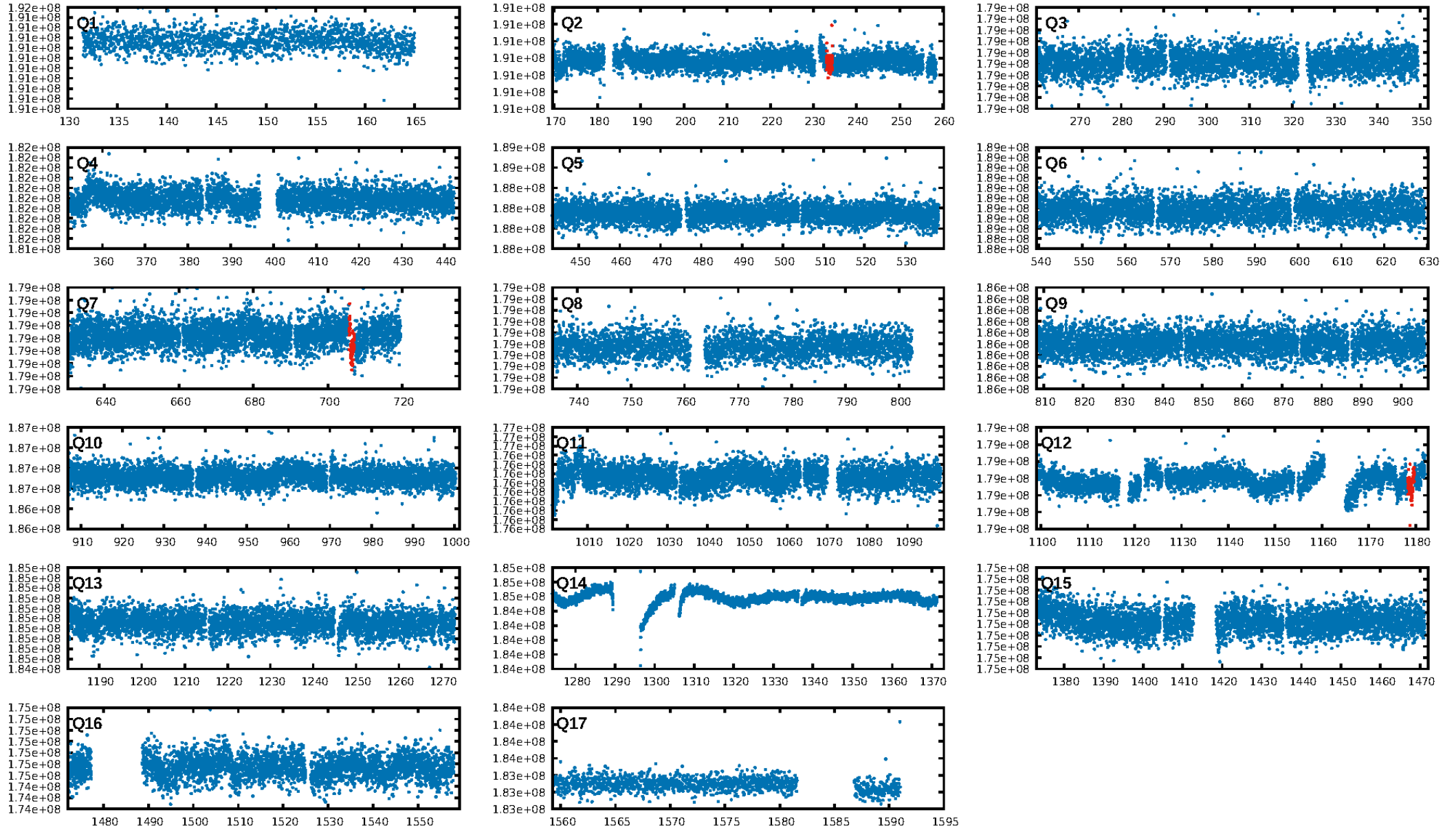
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 9.1%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 5.56e-10**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.9685  
Centroid-sig: 92.4%  
Centroid-so: 0.612 arcsec [0.35σ]  
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 [2/2]

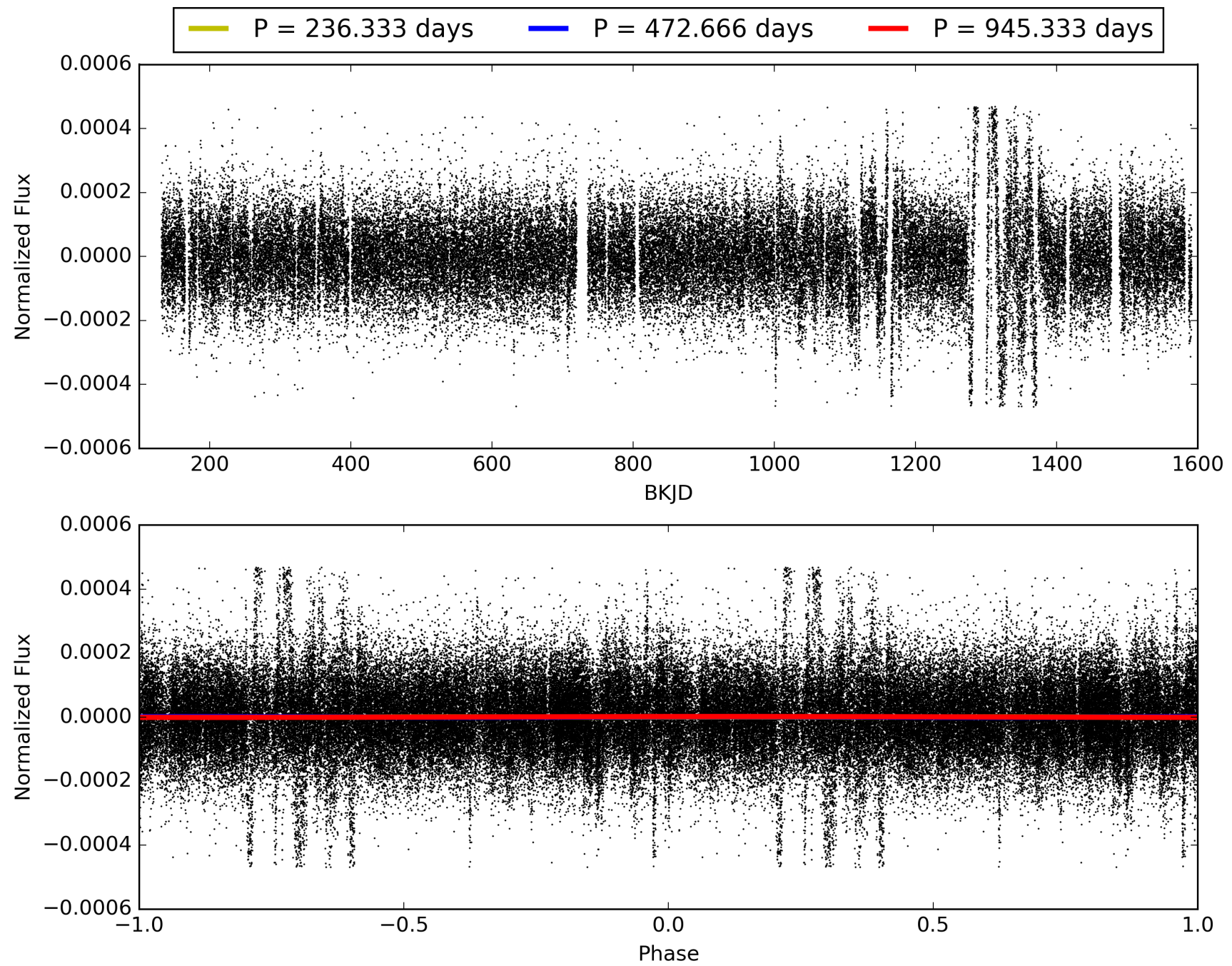
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:26:17 Z

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

# TCE 007270711-01, PDC Light Curves

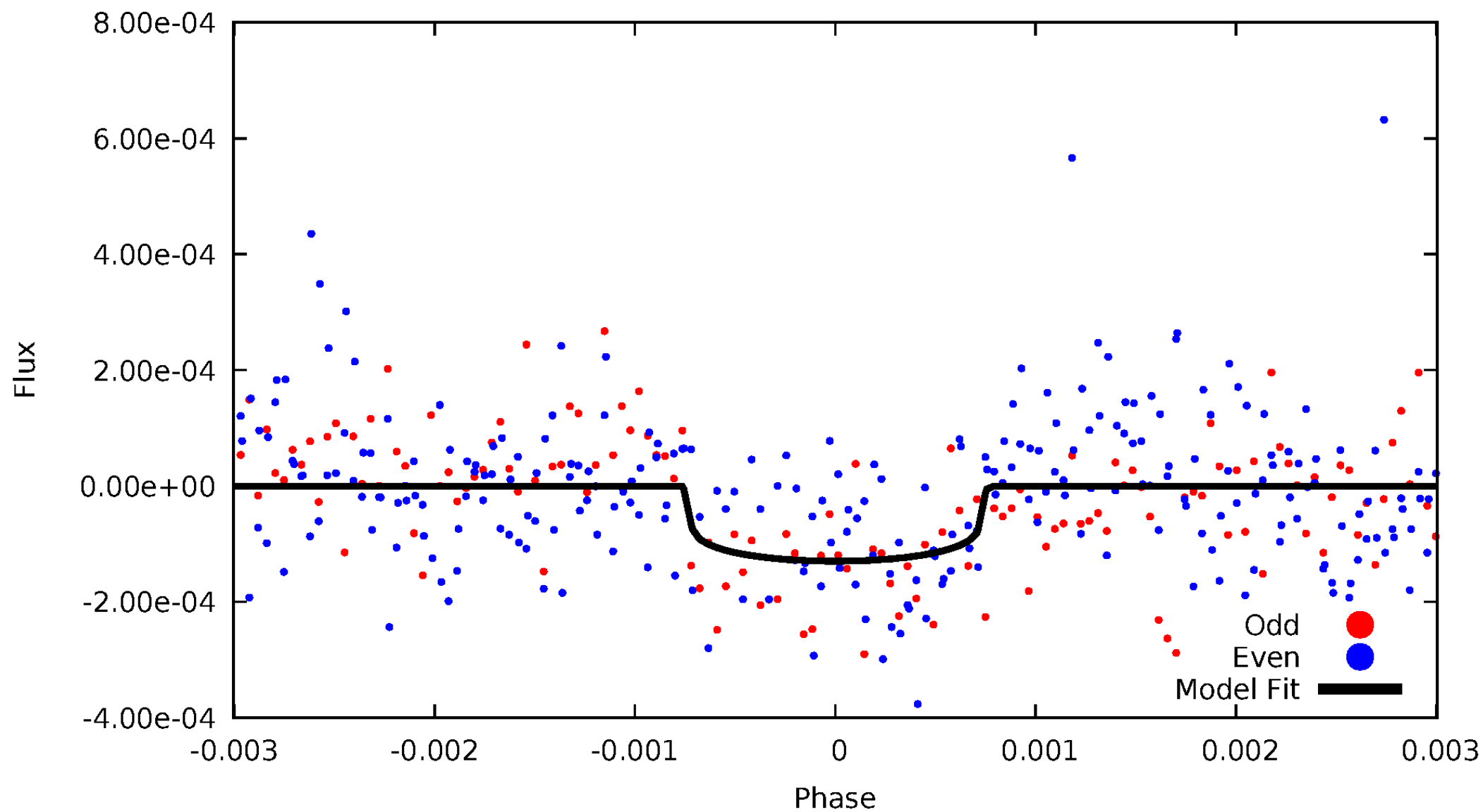


TCE 007270711-01



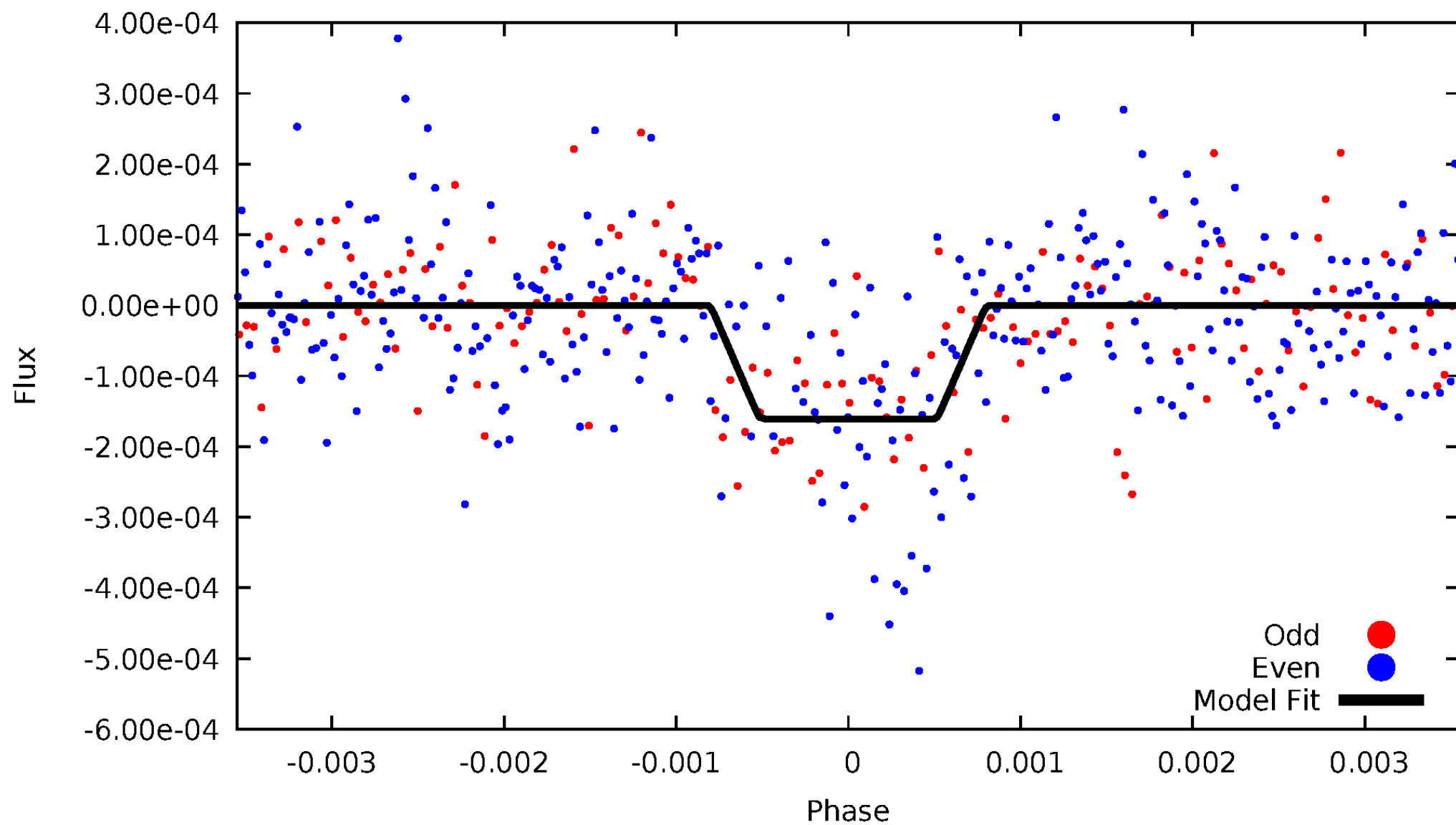
# DV Odd/Even

TCE 007270711-01



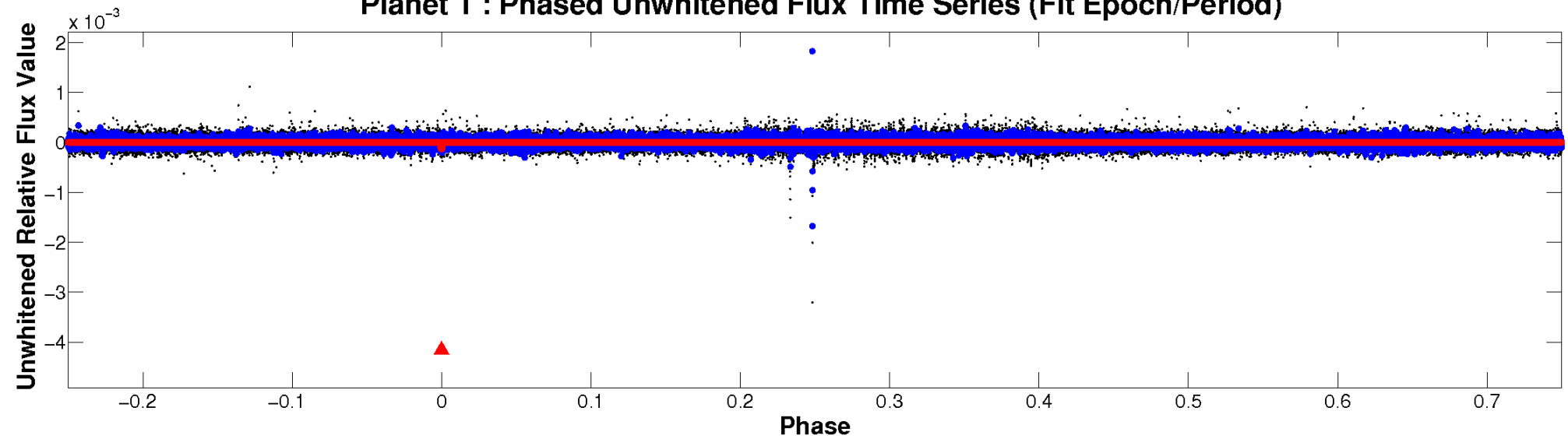
# ALT Odd/Even

TCE 007270711-01

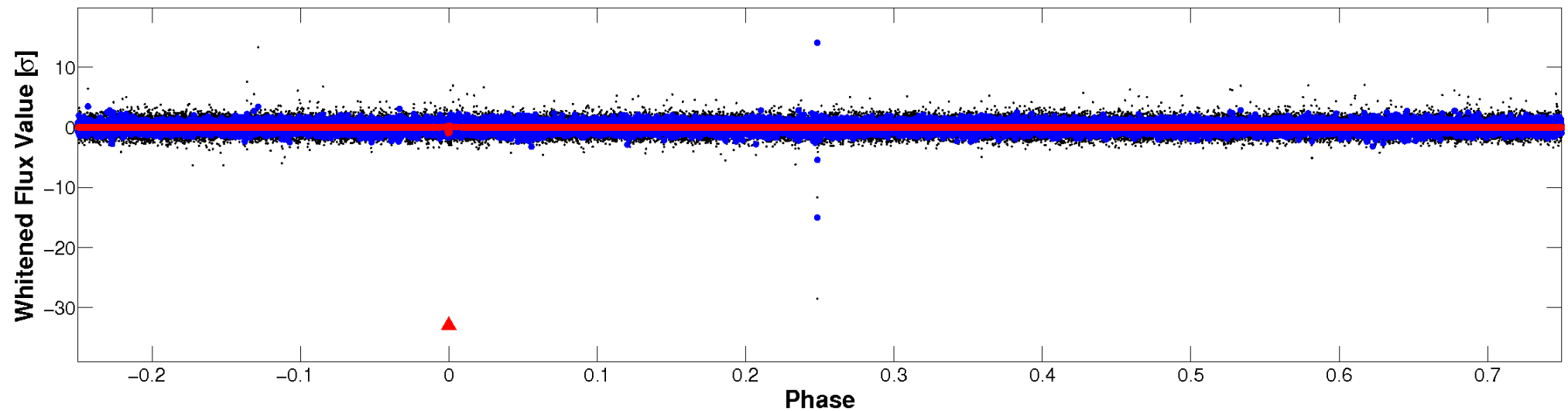


# Non-Whitened Vs. Whitened Light Curve

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

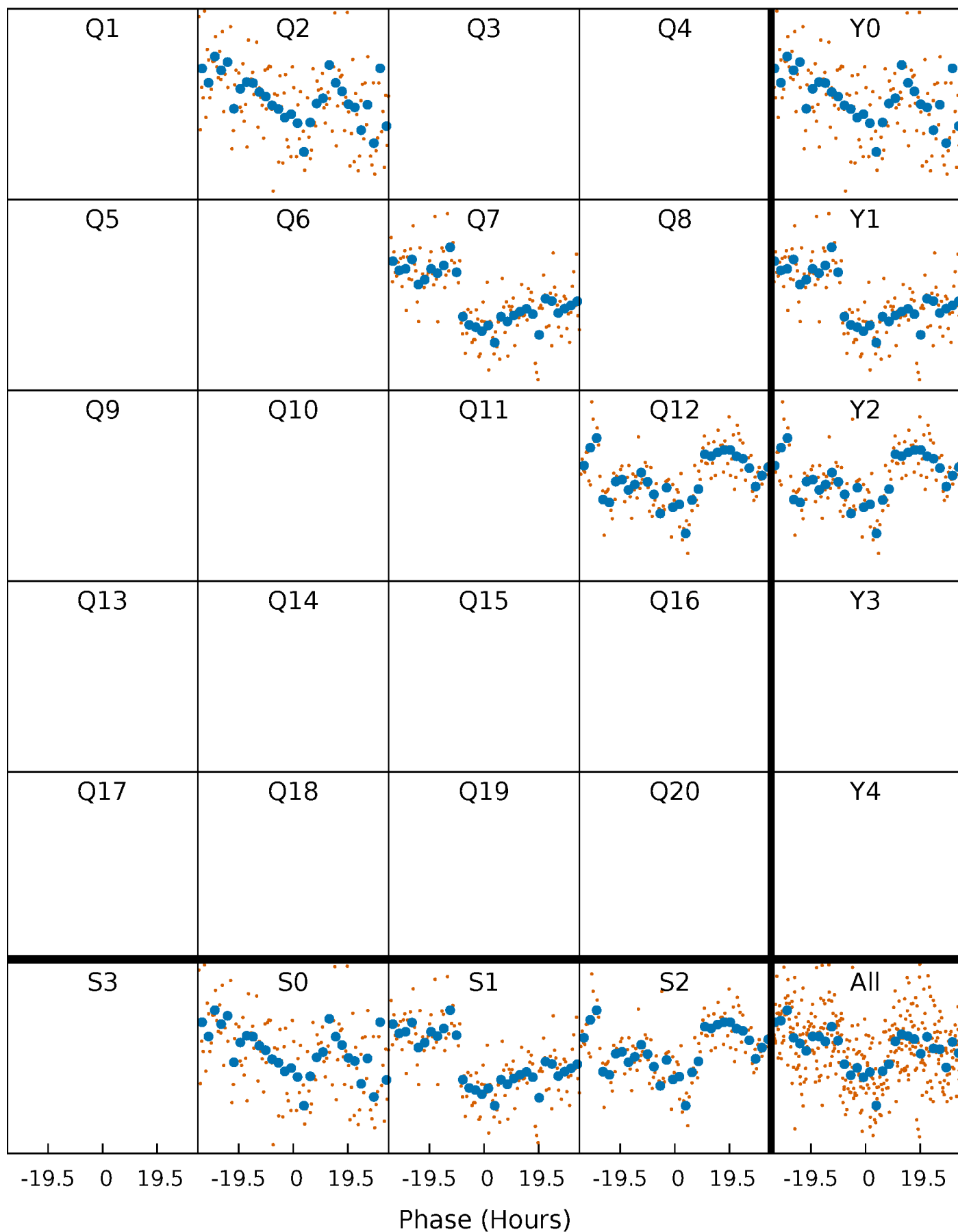


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

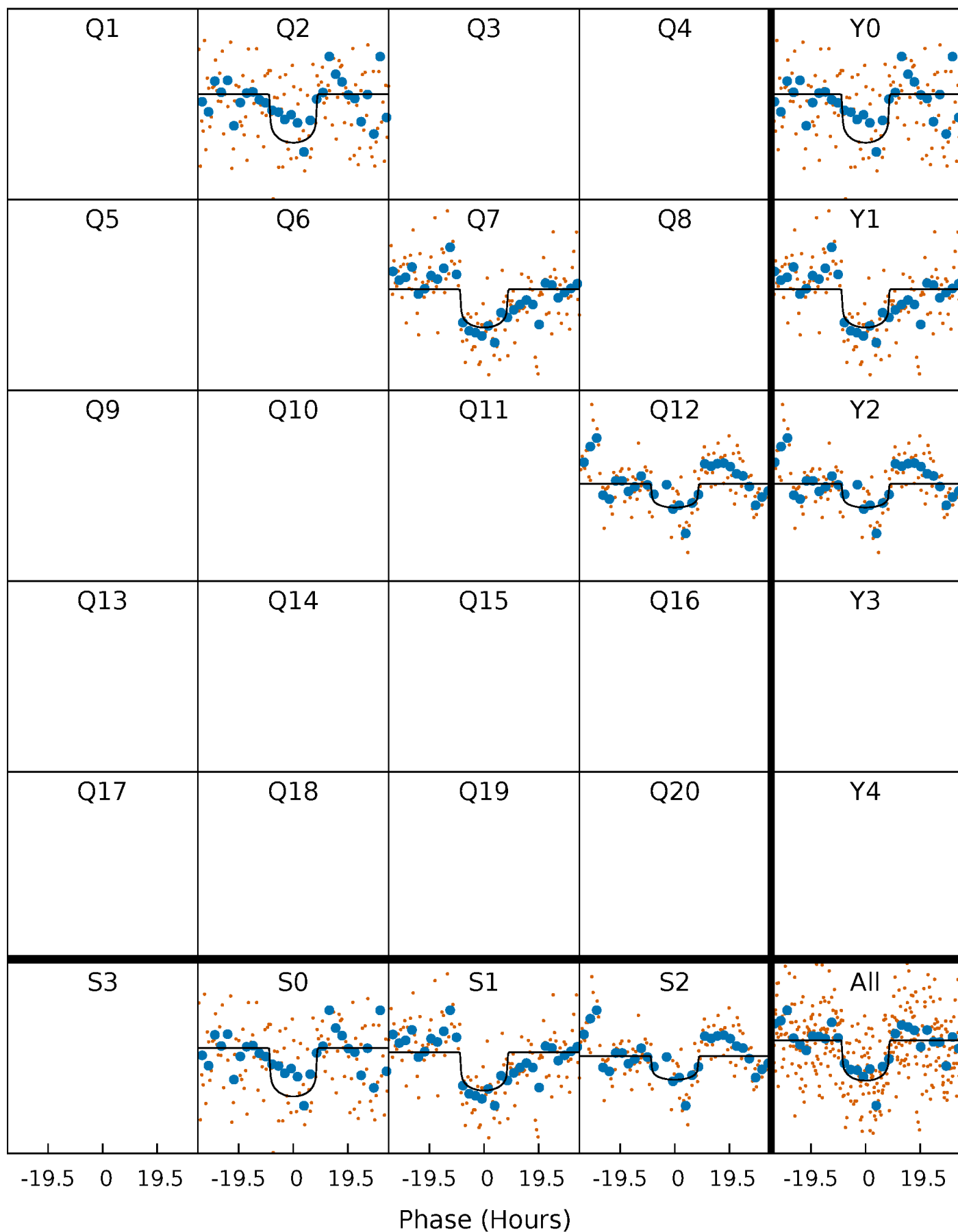
TCE 007270711-01 P=472.666321 Days  $T_0=233.736380$  (BKJD)





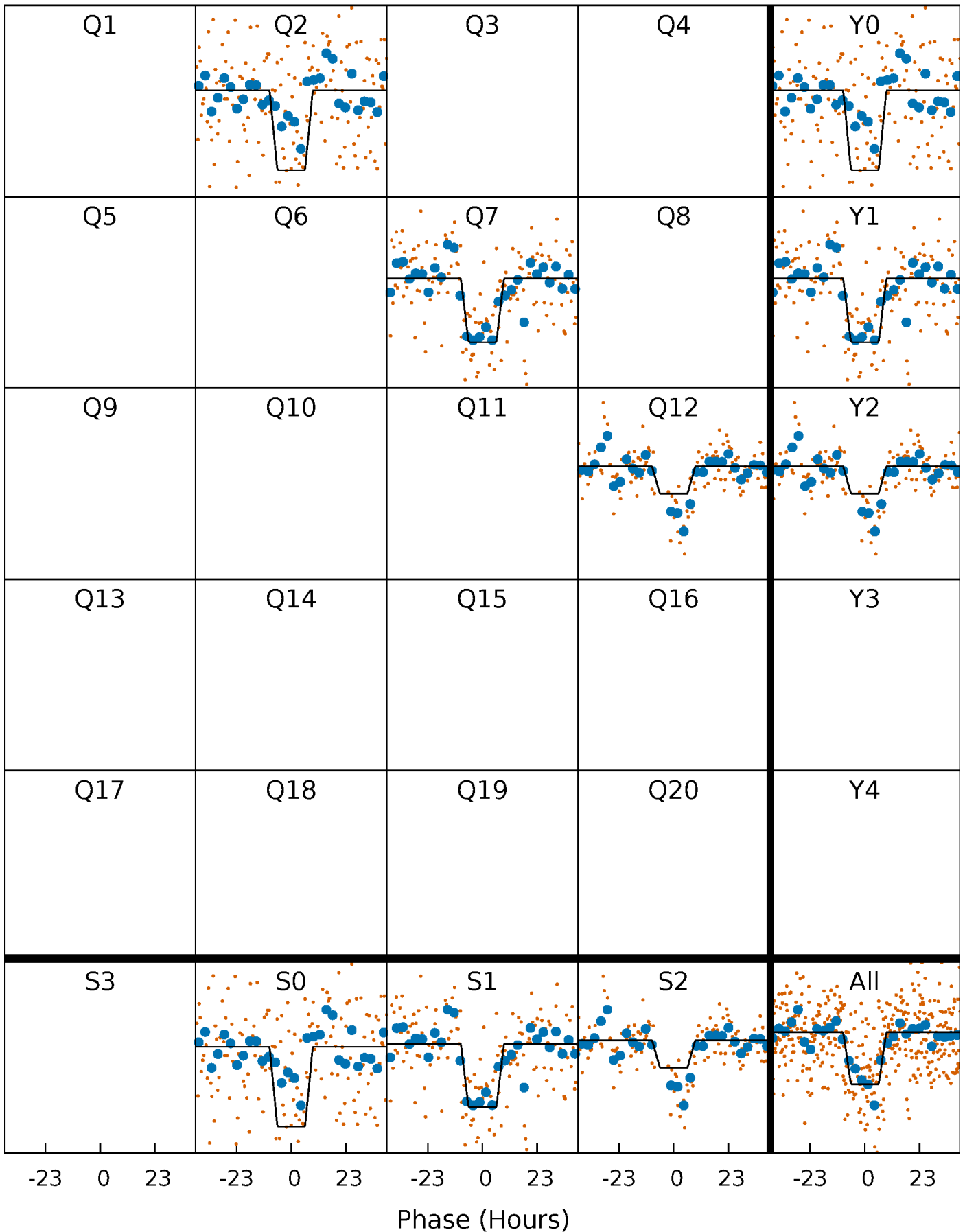
# DV Quarter-Phased Transit Curves

TCE 007270711-01 P=472.666321 Days  $T_0=233.736380$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

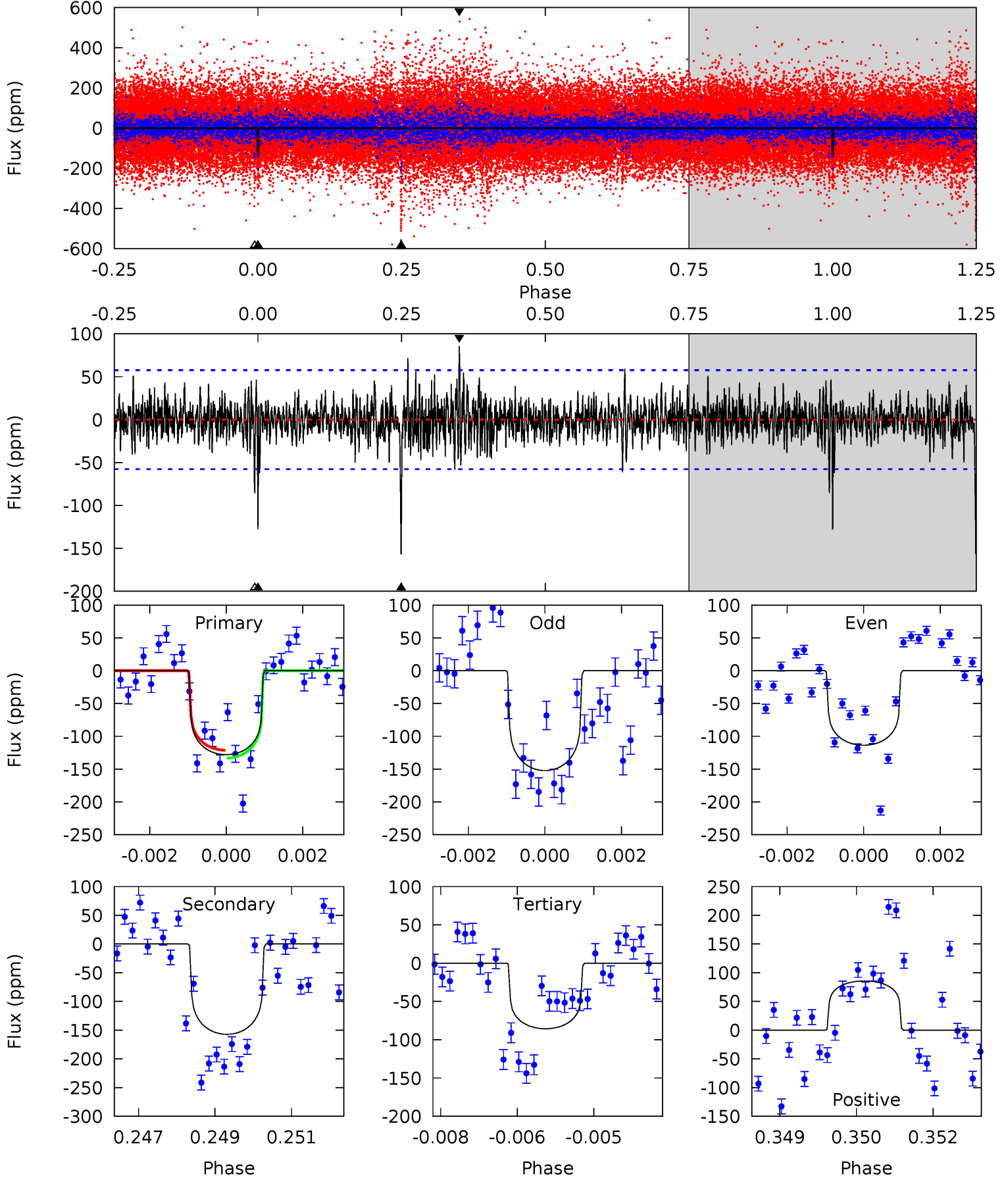
TCE 007270711-01 P=472.641865 Days  $T_0=233.785383$  (BKJD)



# DV Model-Shift Uniqueness Test

007270711-01, P = 472.666321 Days, E = 233.736380 Days

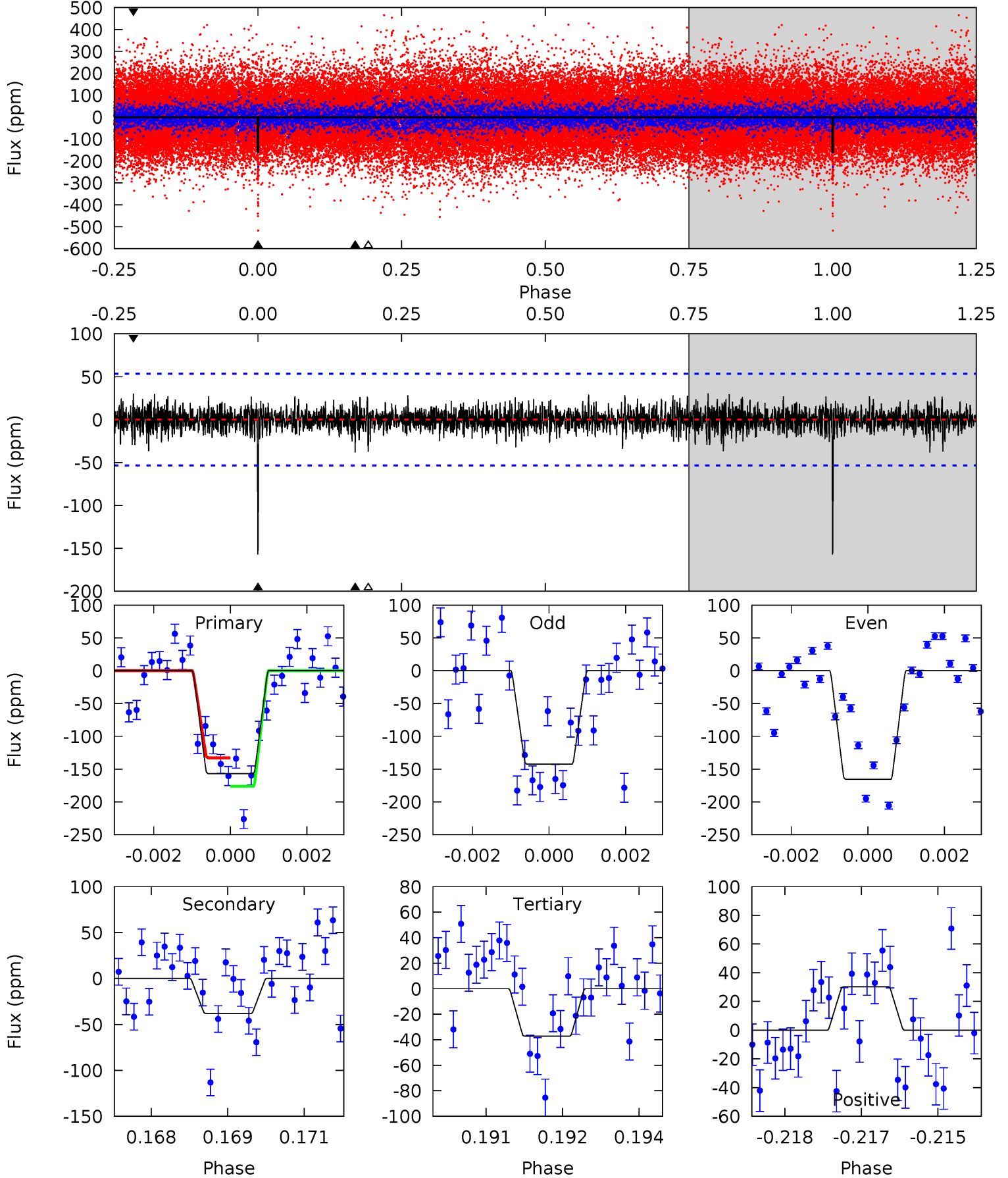
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	14.6	7.97	7.98	5.37	3.16	1.51	3.94	3.93	6.66	6.65	1.76	0.86	0.35	0.55



# Alt Model-Shift Uniqueness Test

007270711-01, P = 472.641865 Days, E = 233.785383 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
15.8	3.83	3.73	3.03	5.36	3.15	0.92	12.0	12.7	0.09	0.79	1.14	1.22	0.16	2.16



### Stellar Parameters For KIC 007270711

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6187^{+167}_{-186}$	$4.224^{+0.165}_{-0.135}$	$-0.120^{+0.300}_{-0.300}$	$1.325^{+0.280}_{-0.252}$	$1.072^{+0.160}_{-0.131}$	$0.649^{+0.519}_{-0.246}$
	+3%/-3%	+4%/-3%	+250%/-250%	+21%/-19%	+15%/-12%	+80%/-38%
Source	PHO1	FLK73	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 007270711-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-157 \pm 11$	$1.59^{+0.57}_{-0.55}$	$396^{+25}_{-23}$	$6569^{+1889}_{-921}$	$49619^{+70868}_{-22480}$
Alt.	$-38 \pm 10$	$1.78^{+0.64}_{-0.57}$	$398^{+24}_{-25}$	$4516^{+856}_{-507}$	$9480^{+12577}_{-4630}$

$T_{max}$  = 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

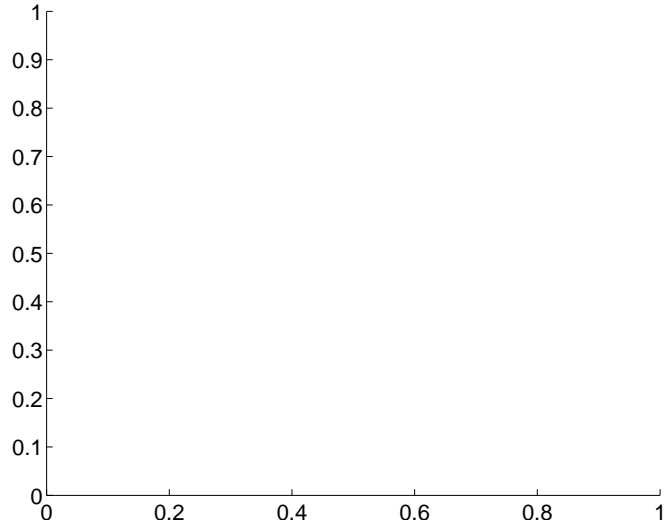
Supplemental centroid analysis for 007270711-01. Kepler magnitude: 12.79. Transit SNR 8.11

There are 0 quarters with good PRF difference image offsets

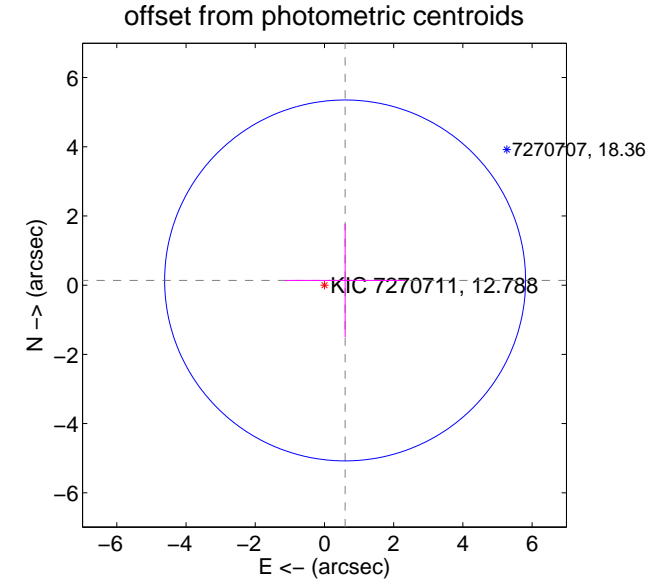
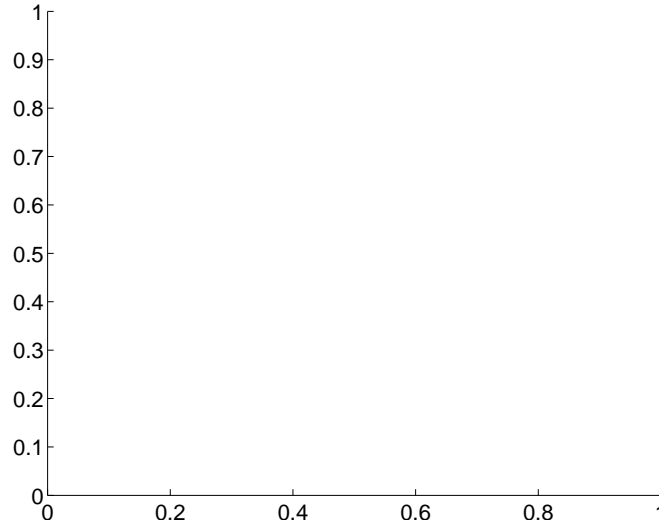
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	$0.61 \pm 1.74$	0.35	$-0.60 \pm 1.74$	$0.14 \pm 1.64$

There is no PRF-fit offset from OOT-fit

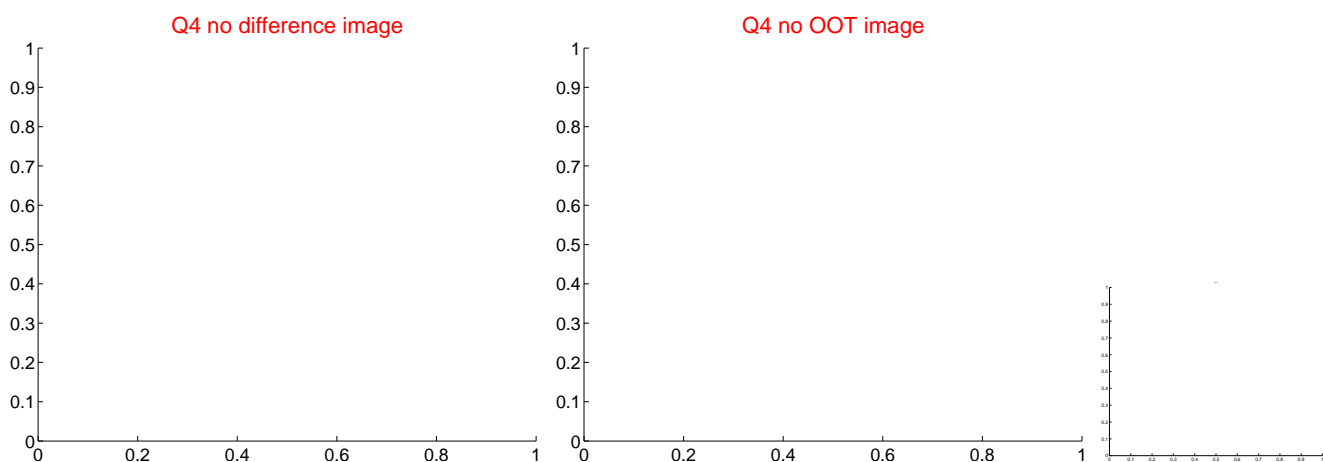
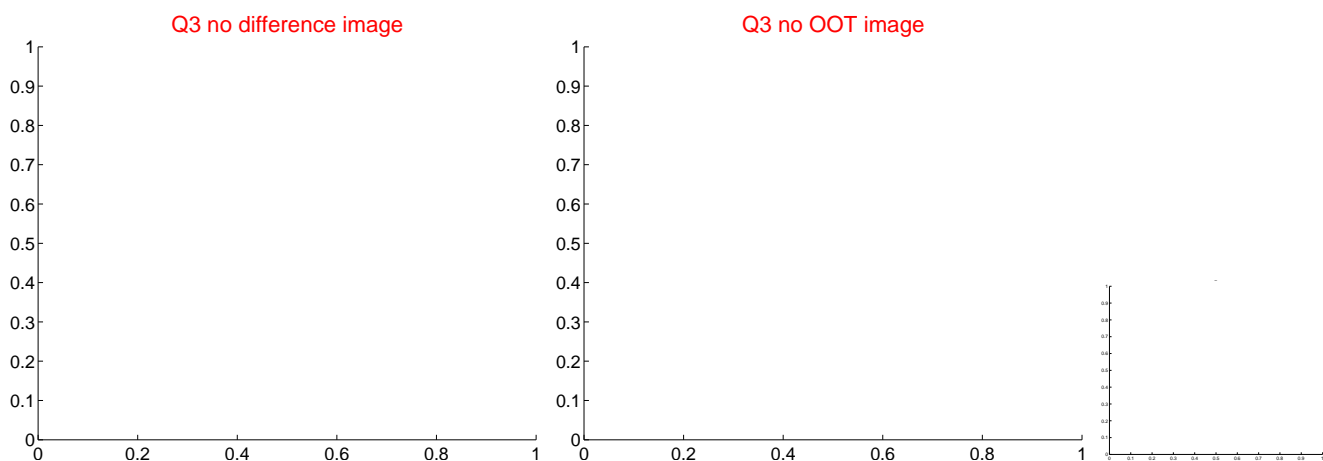
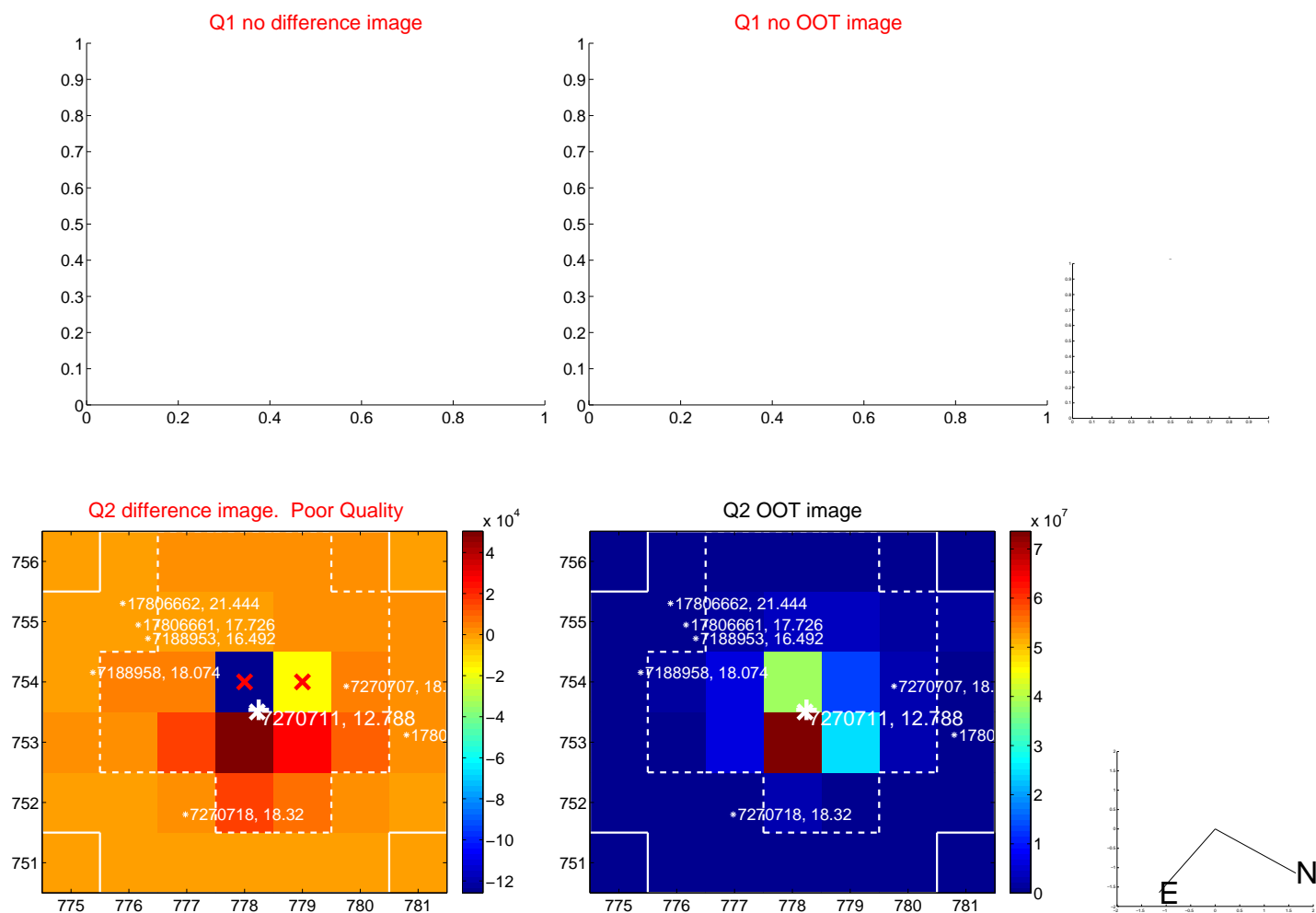


There is no PRF-fit offset from KIC

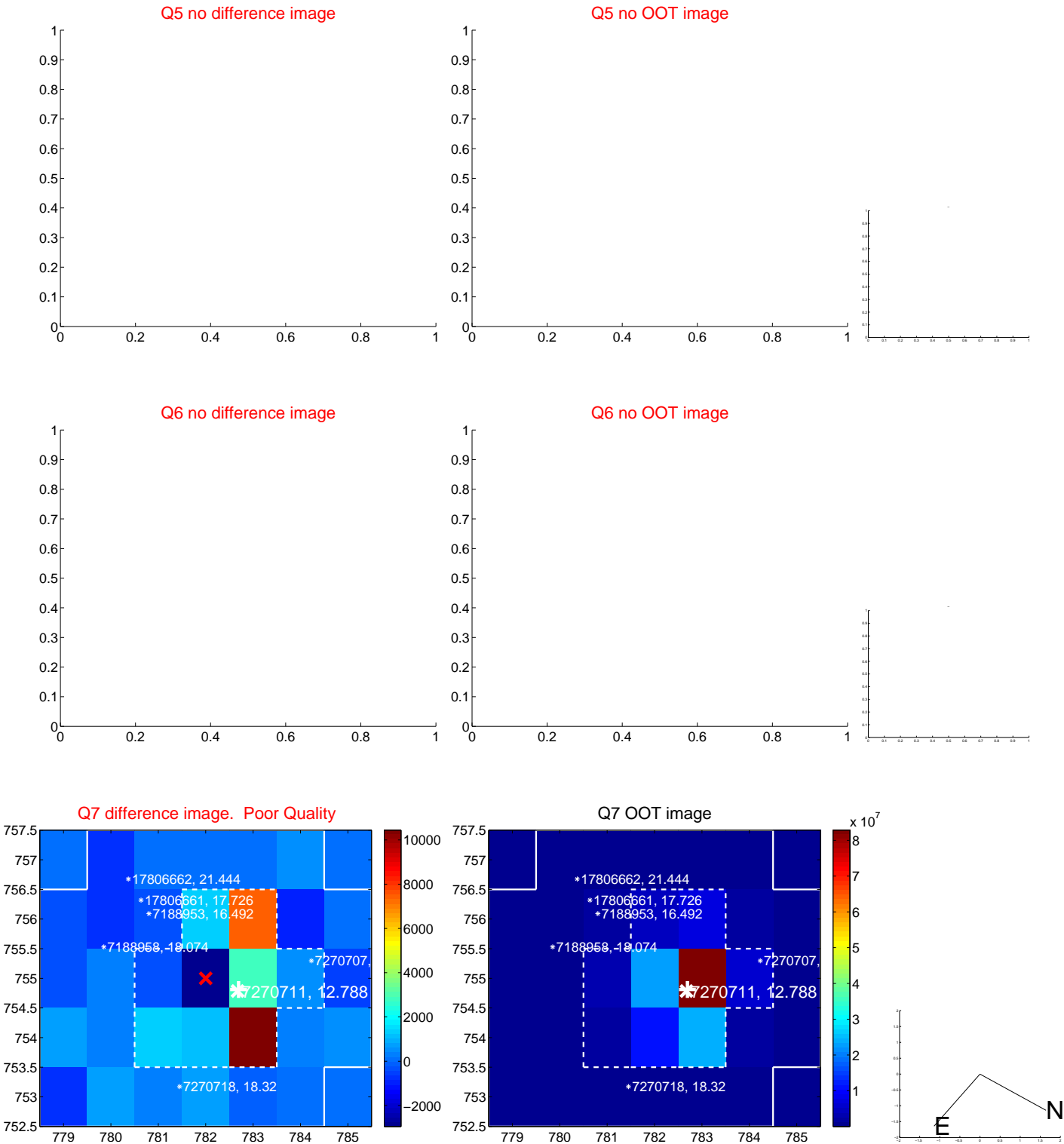


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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





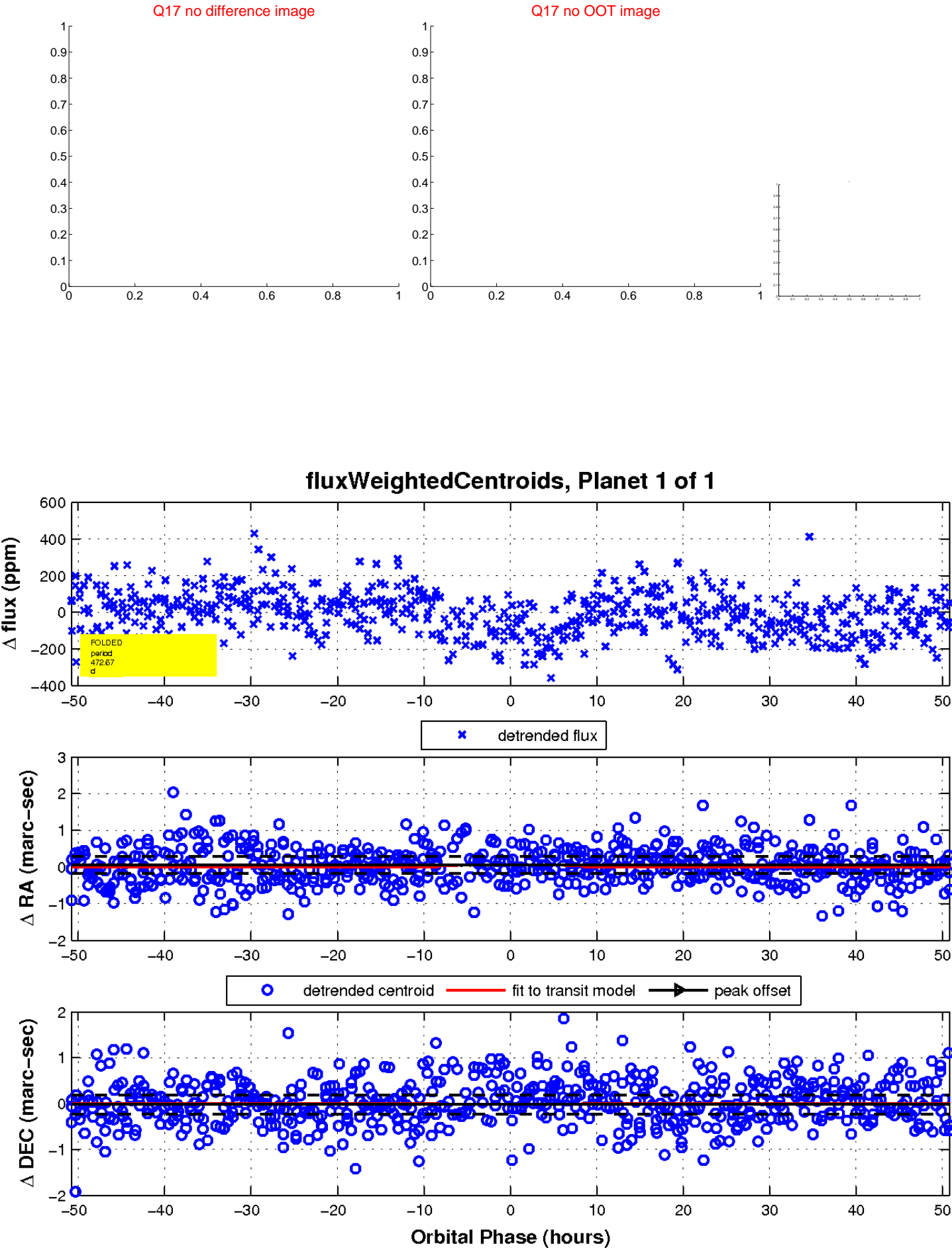
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : 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

