

# KIC 005288744

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005288744-01	OBS	8099.01	333.702924	336.799067	394.5	3.876	7.5	6.9	1.72	6045	3.92	4.06

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005288744-01	OBS	FP	0.06	1	0	0	0	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.

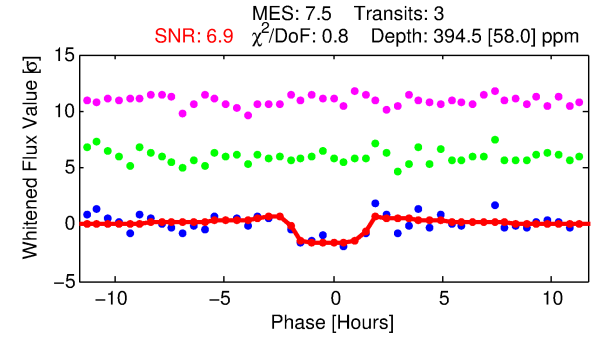
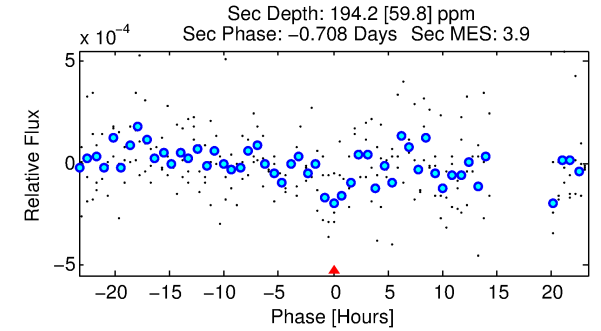
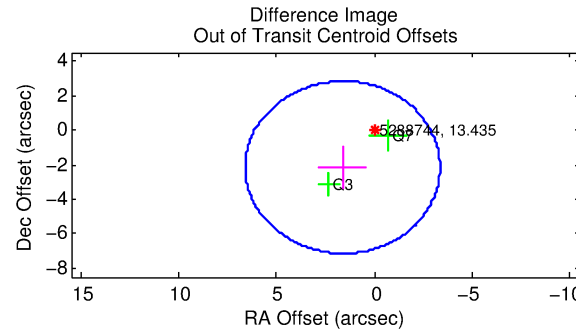
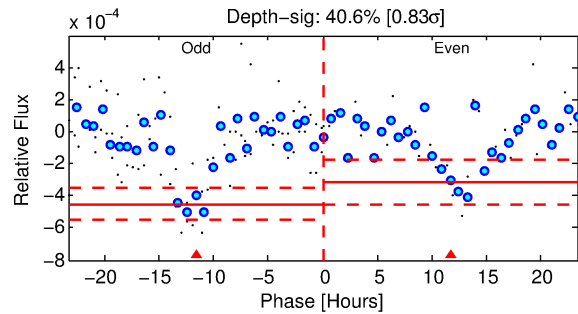
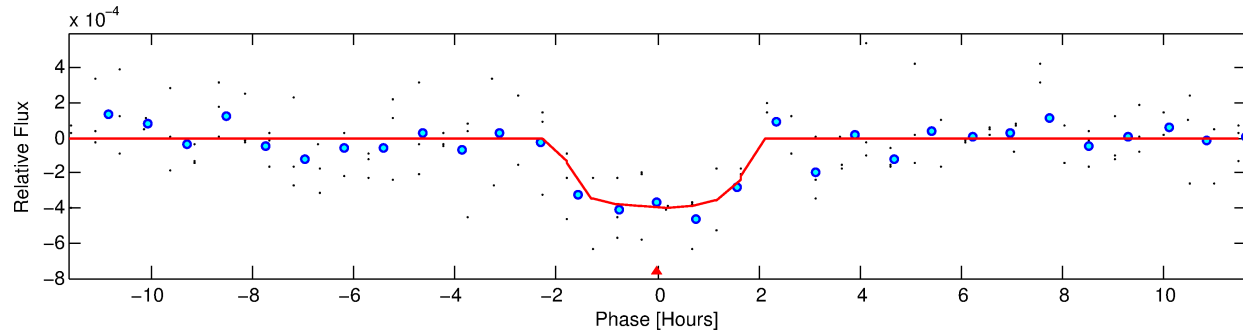
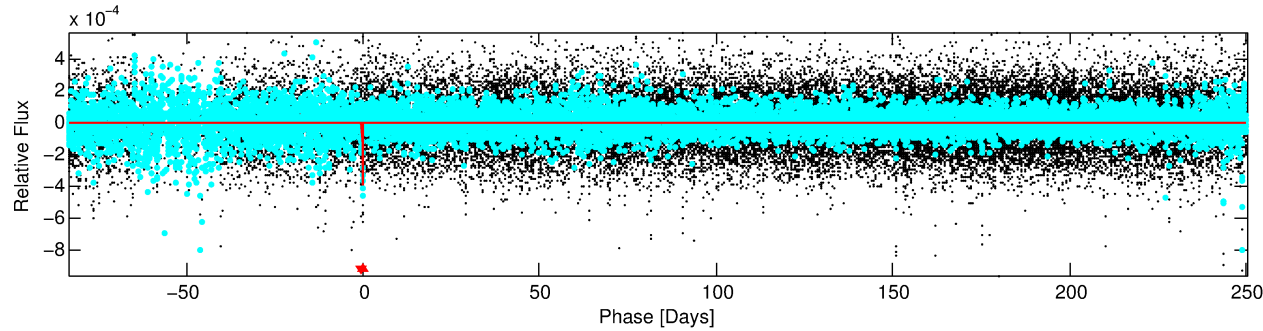
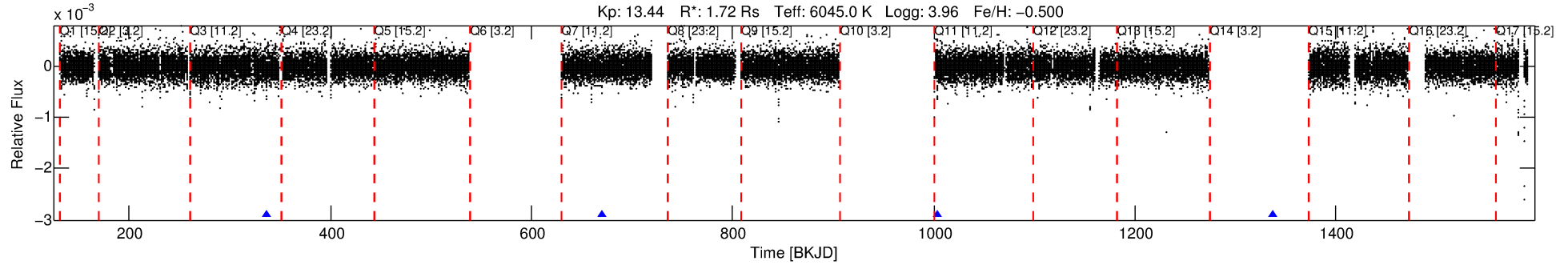
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005288744-01

No Significant Match Found

# DV One-Page Summary

KIC: 5288744 Candidate: 1 of 1 Period: 333.703 d



## DV Fit Results:

Period = 333.70292 [0.00549] d  
Epoch = 336.7991 [0.0071] BKJD  
Rp/R\* = 0.0209 [0.0297]  
a/R\* = 349.84 [2670.40]  
b = 0.87 [2.13]  
Seff = 4.06 [2.20]  
Teq = 362 [49] K  
Rp = 3.93 [5.72] Re  
a = 0.9335 [0.3029] AU  
Ag = 6041.24 [17546.84] [0.34σ]  
Teffp = 4933 [3525] K [1.30σ]

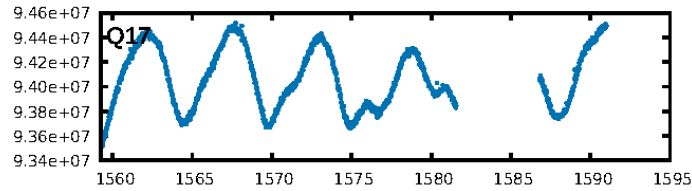
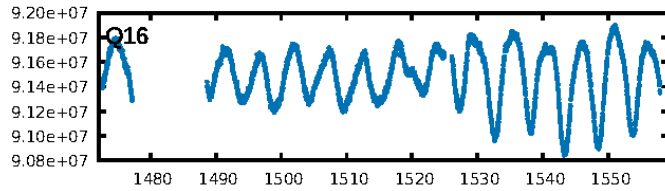
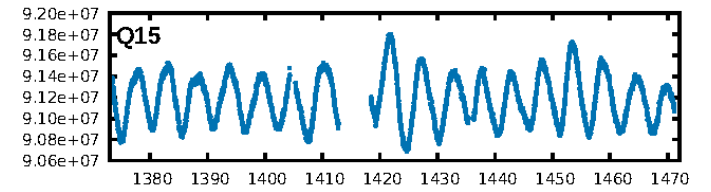
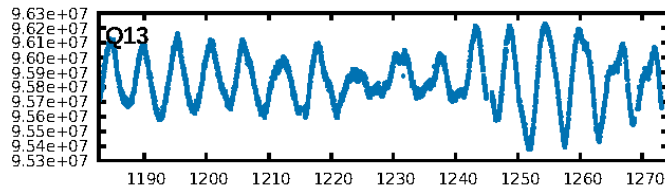
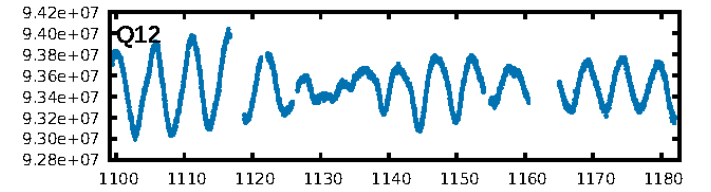
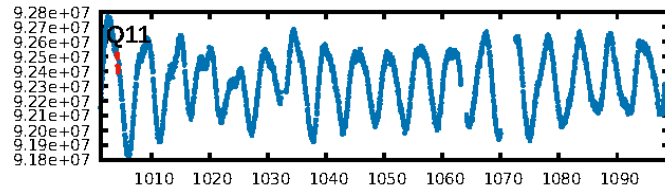
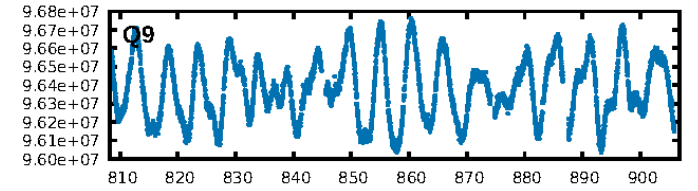
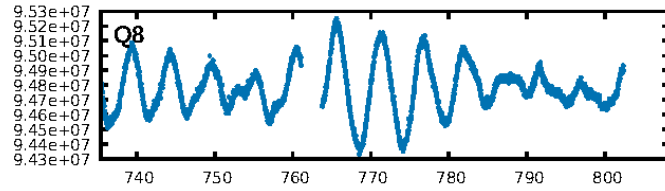
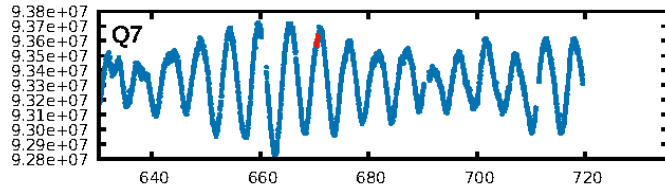
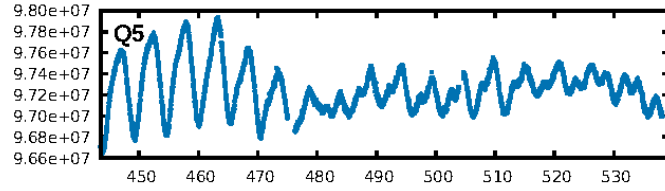
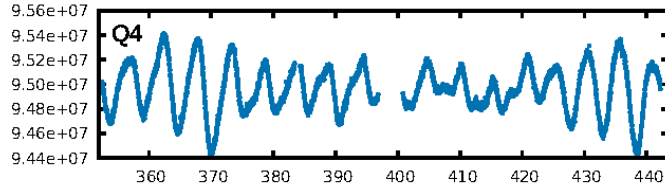
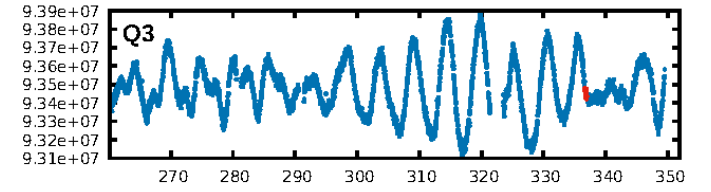
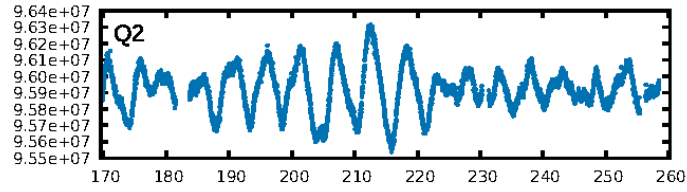
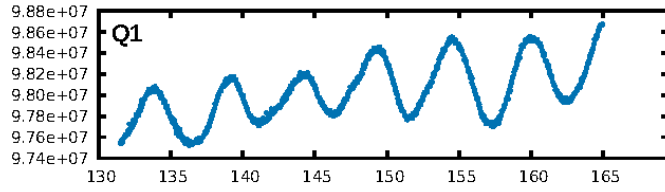
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 23.1%  
ModelChiSquareGof-sig: 97.5%  
**Bootstrap-pfa: 4.34e-09**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.9527  
Centroid-sig: 24.3%  
Centroid-so: 1.168 arcsec [0.91σ]  
OotOffset-rm: 2.700 arcsec [1.63σ]  
KicOffset-rm: 2.621 arcsec [1.58σ]  
OotOffset-st: 0/2/0/0 [2]  
KicOffset-st: 0/2/0/0 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [2/2]

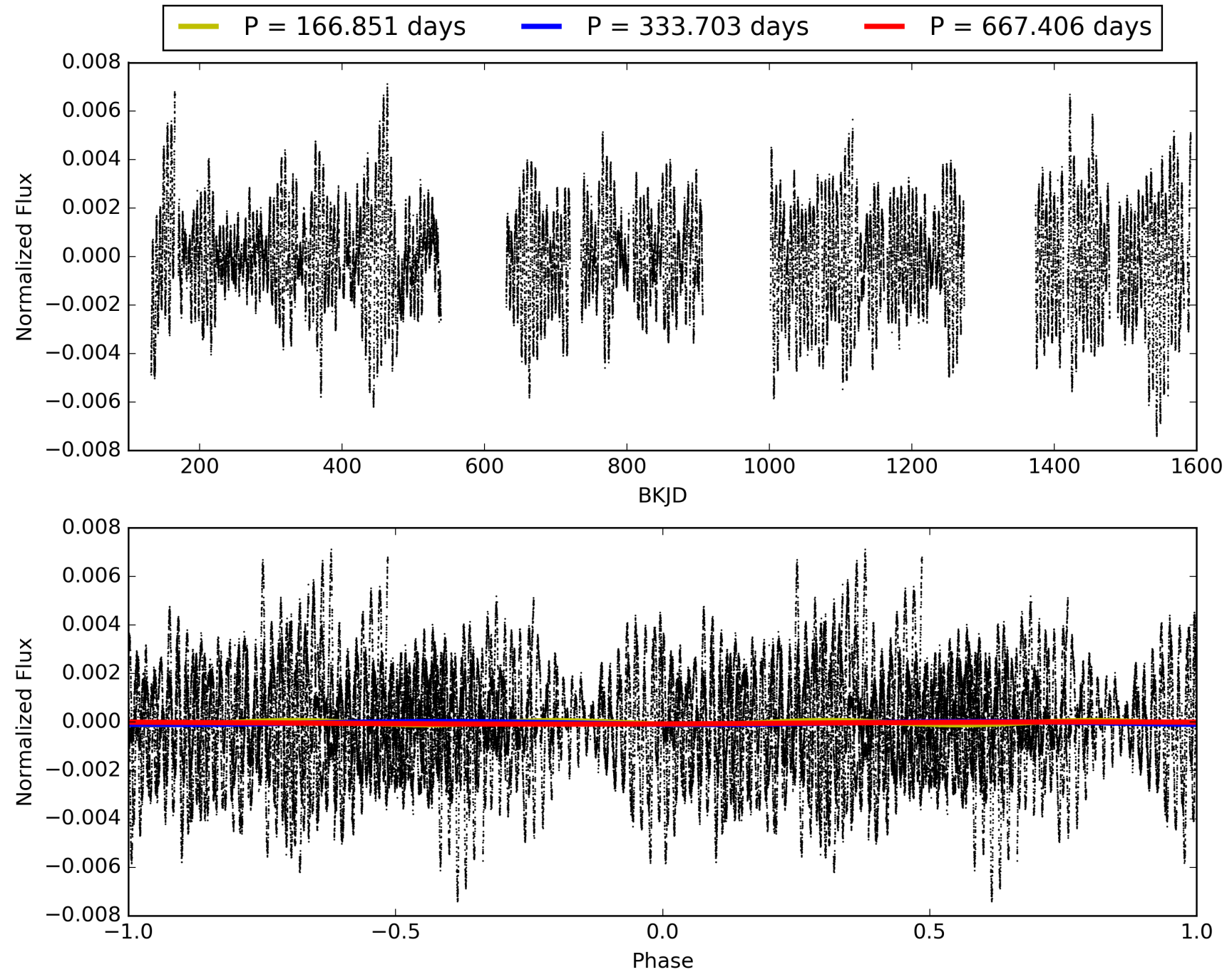
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:17:34 Z

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

# TCE 005288744-01, PDC Light Curves

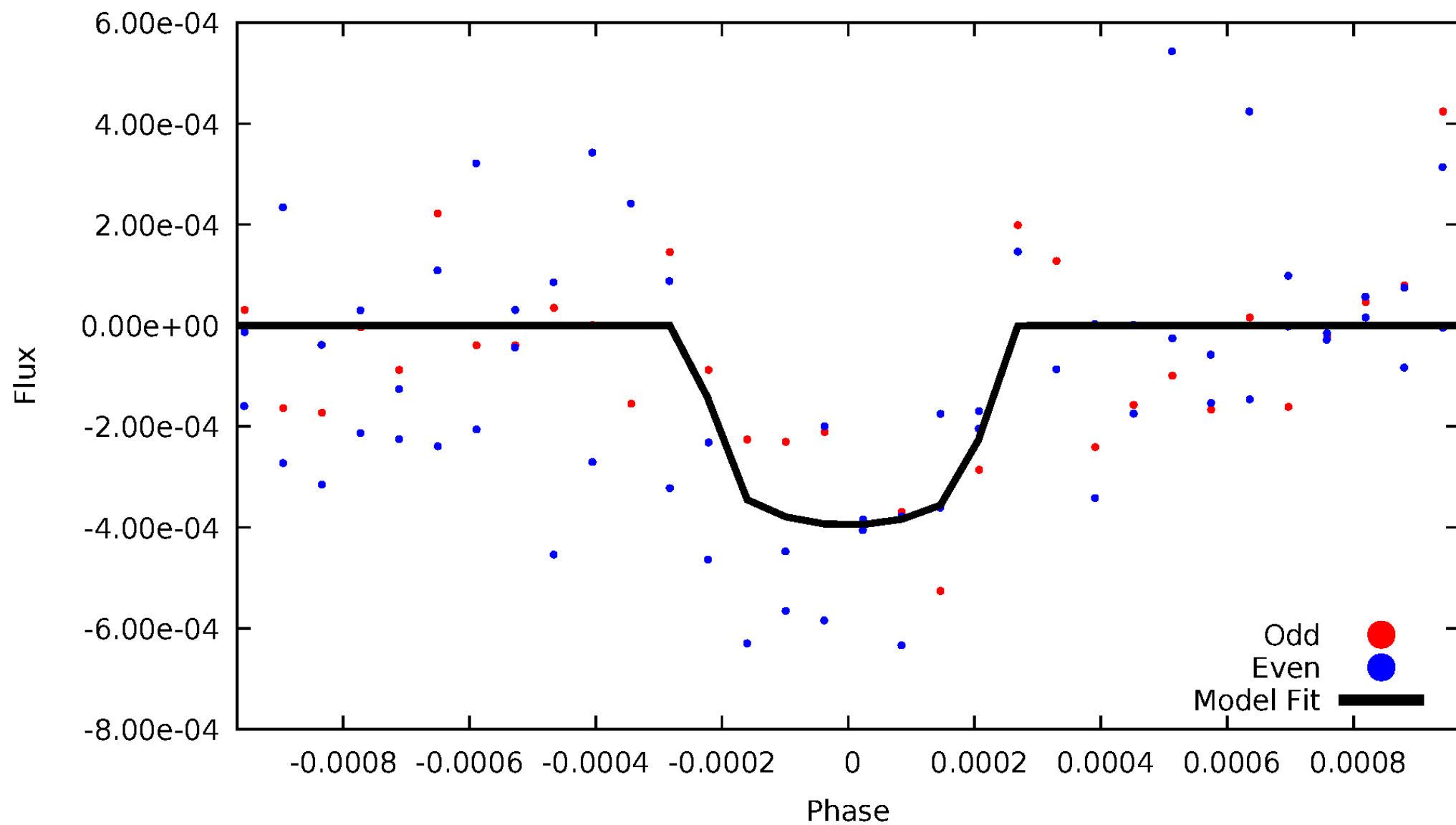


TCE 005288744-01



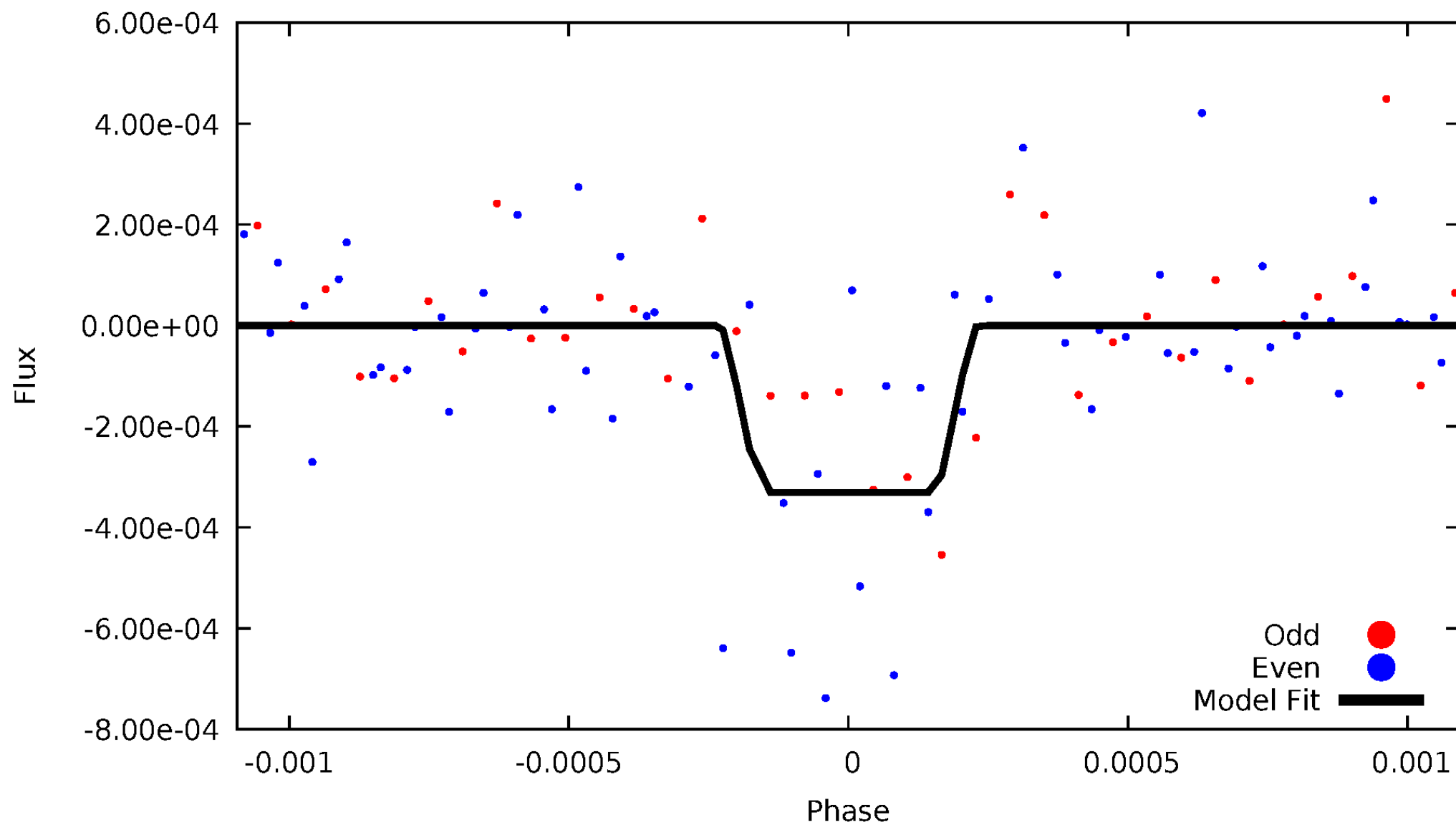
# DV Odd/Even

TCE 005288744-01

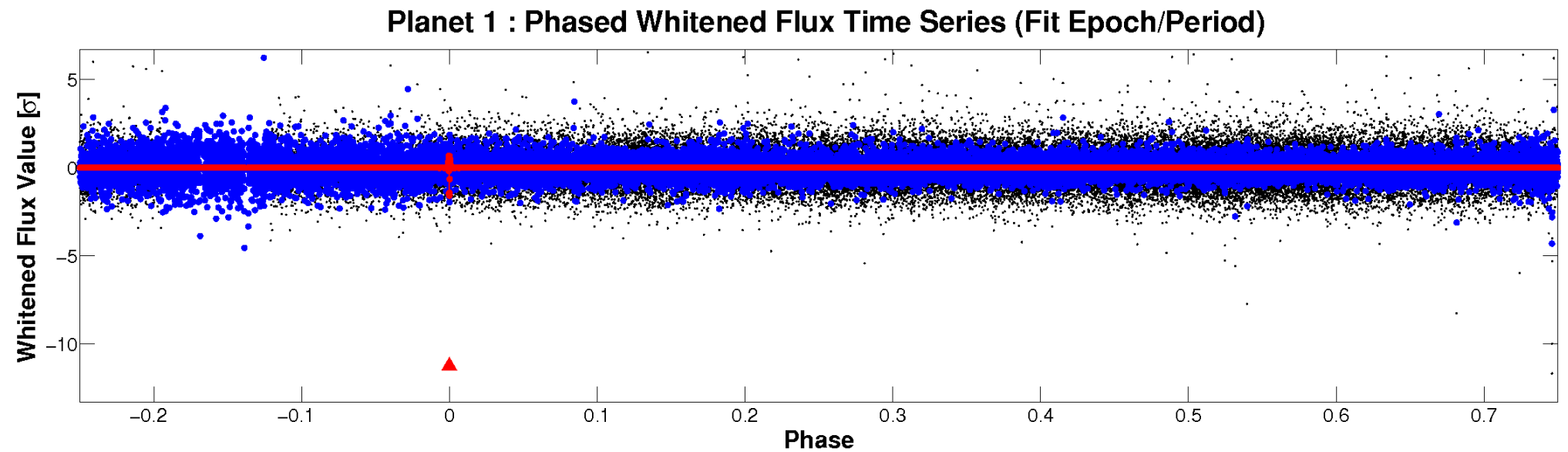
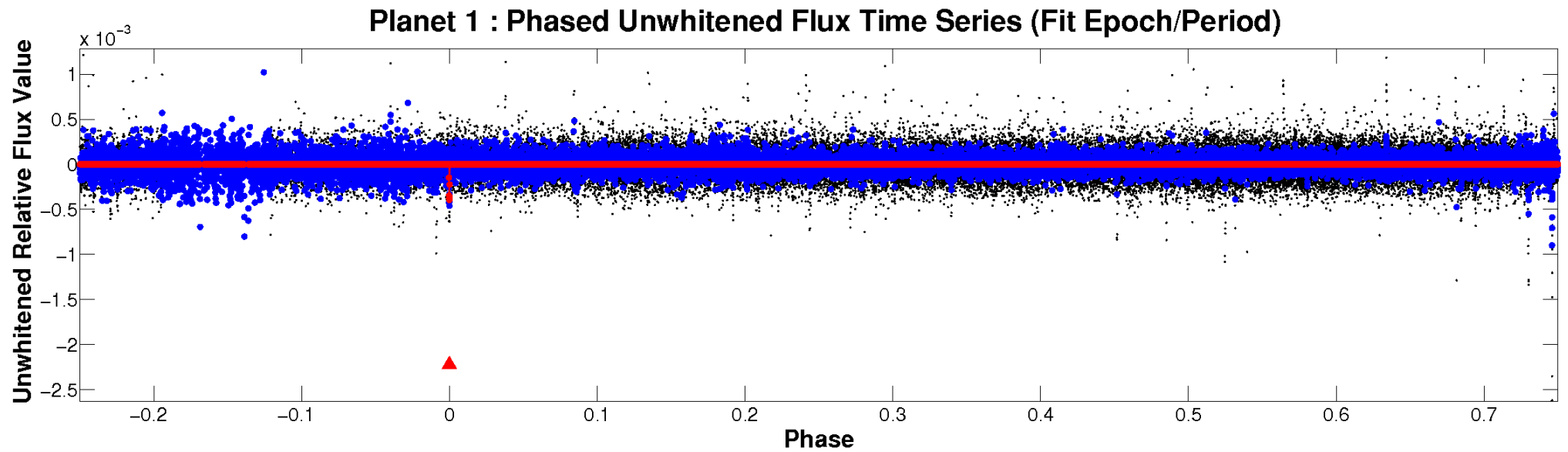


# ALT Odd/Even

TCE 005288744-01

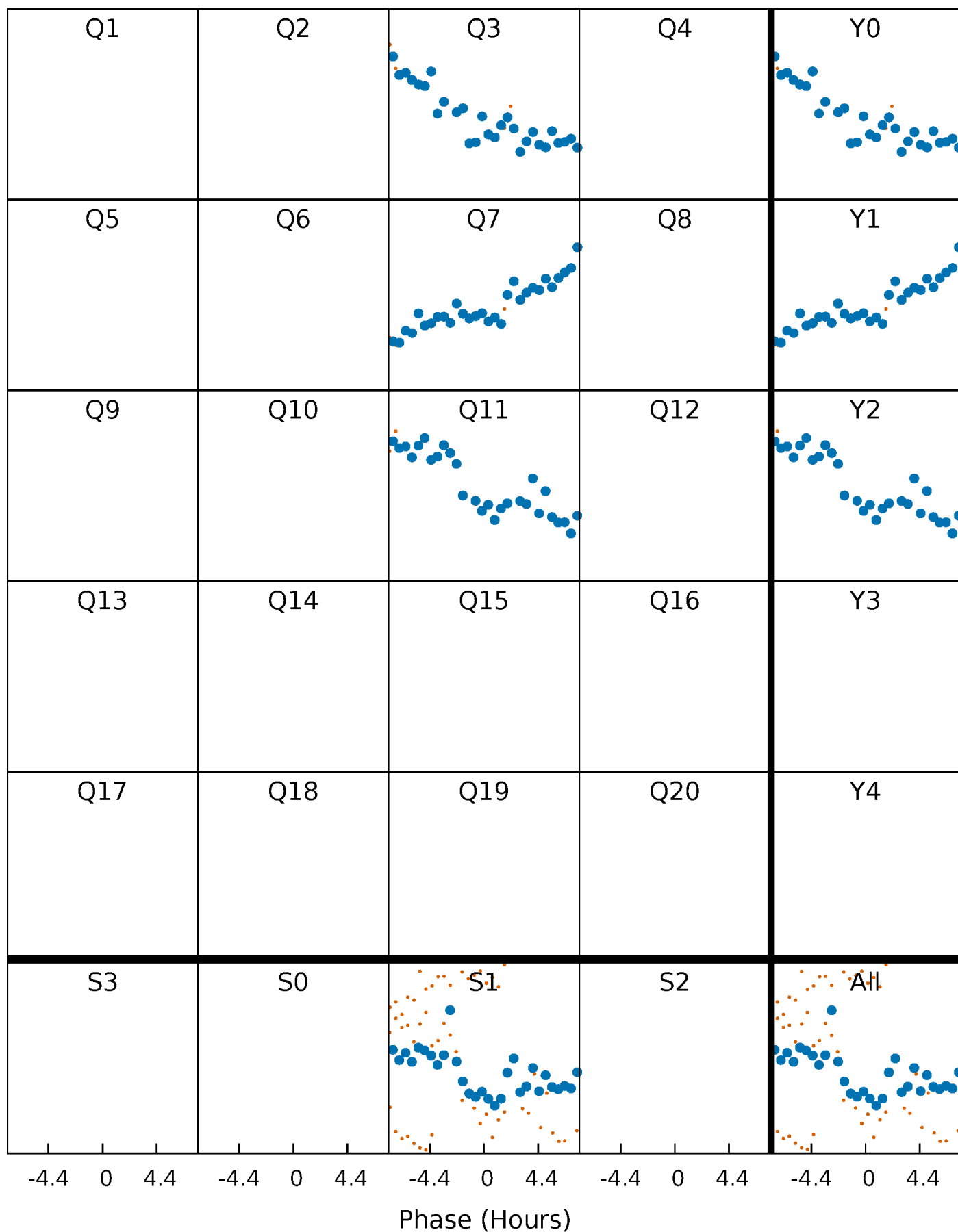


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

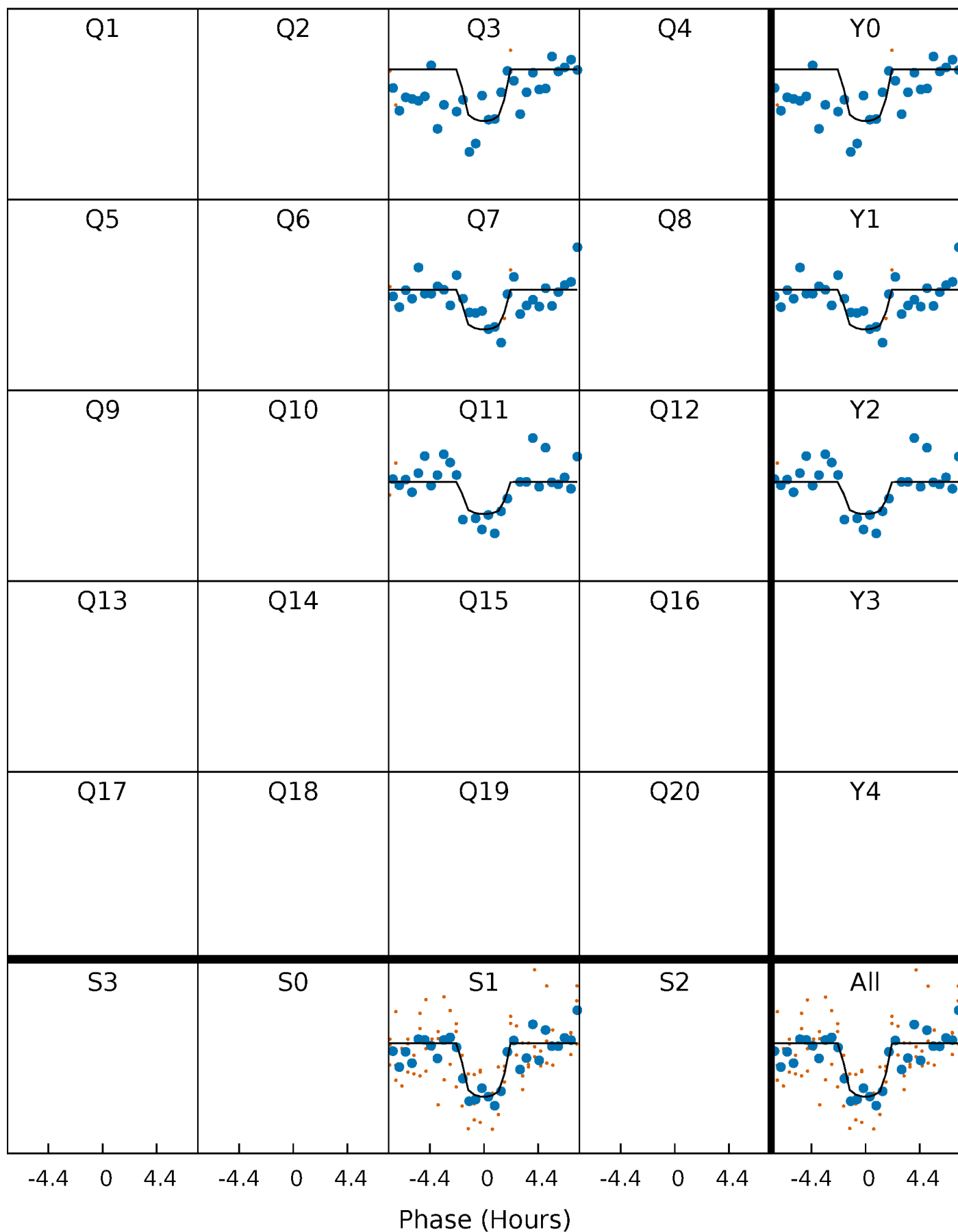
TCE 005288744-01 P=333.702924 Days  $T_0=336.799067$  (BKJD)





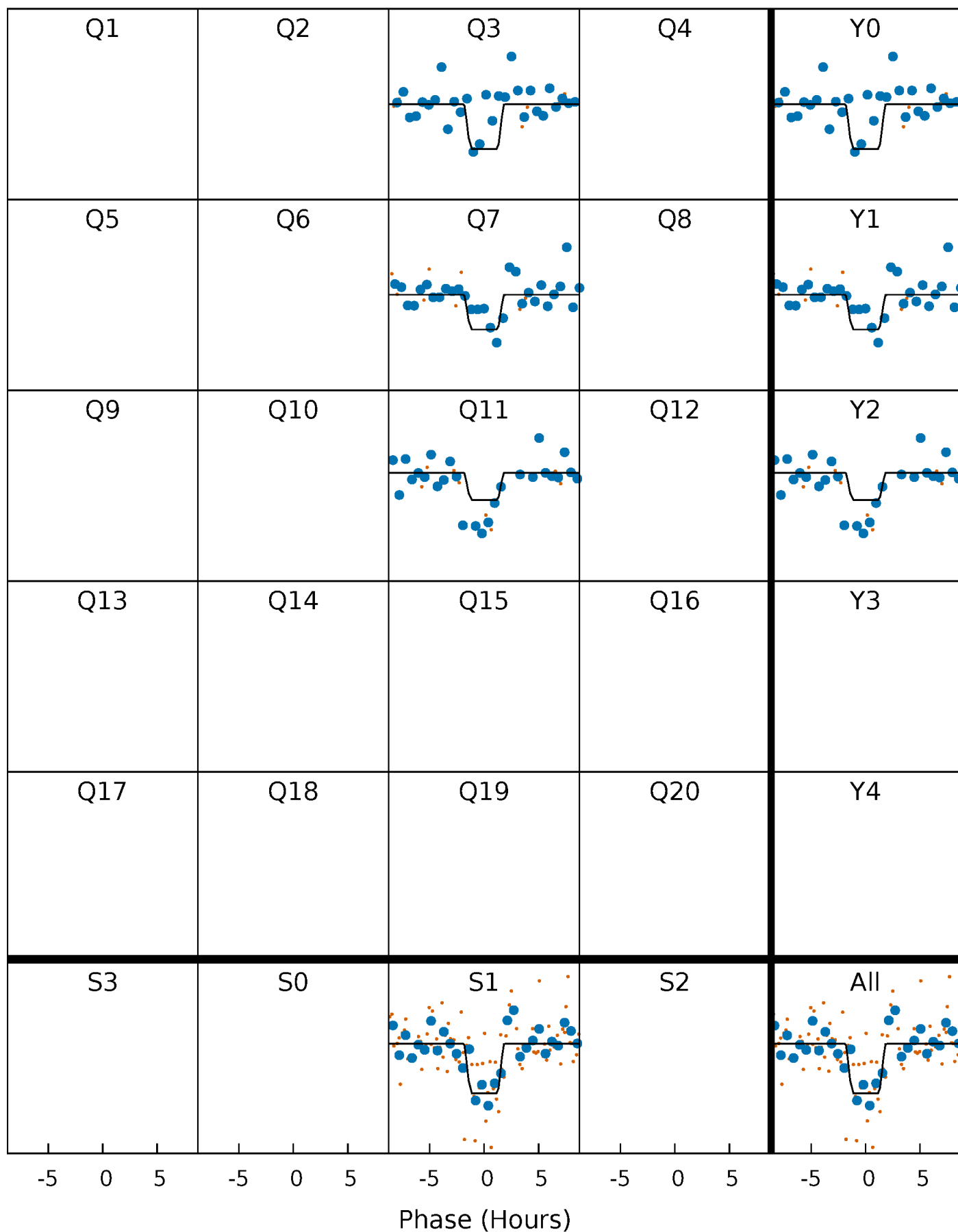
# DV Quarter-Phased Transit Curves

TCE 005288744-01 P=333.702924 Days  $T_0=336.799067$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

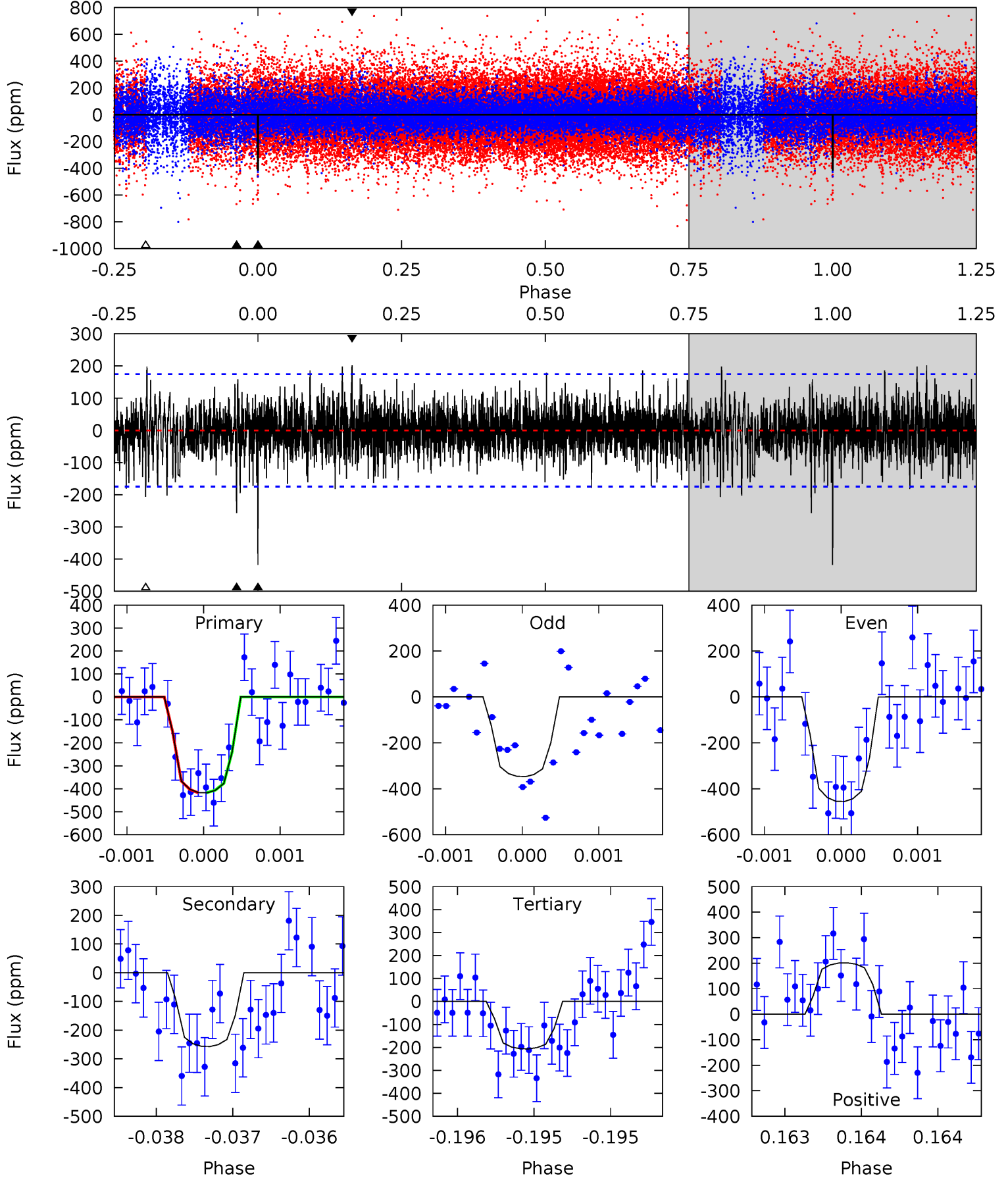
TCE 005288744-01 P=333.710739 Days  $T_0=336.784212$  (BKJD)



# DV Model-Shift Uniqueness Test

005288744-01, P = 333.702924 Days, E = 3.096143 Days

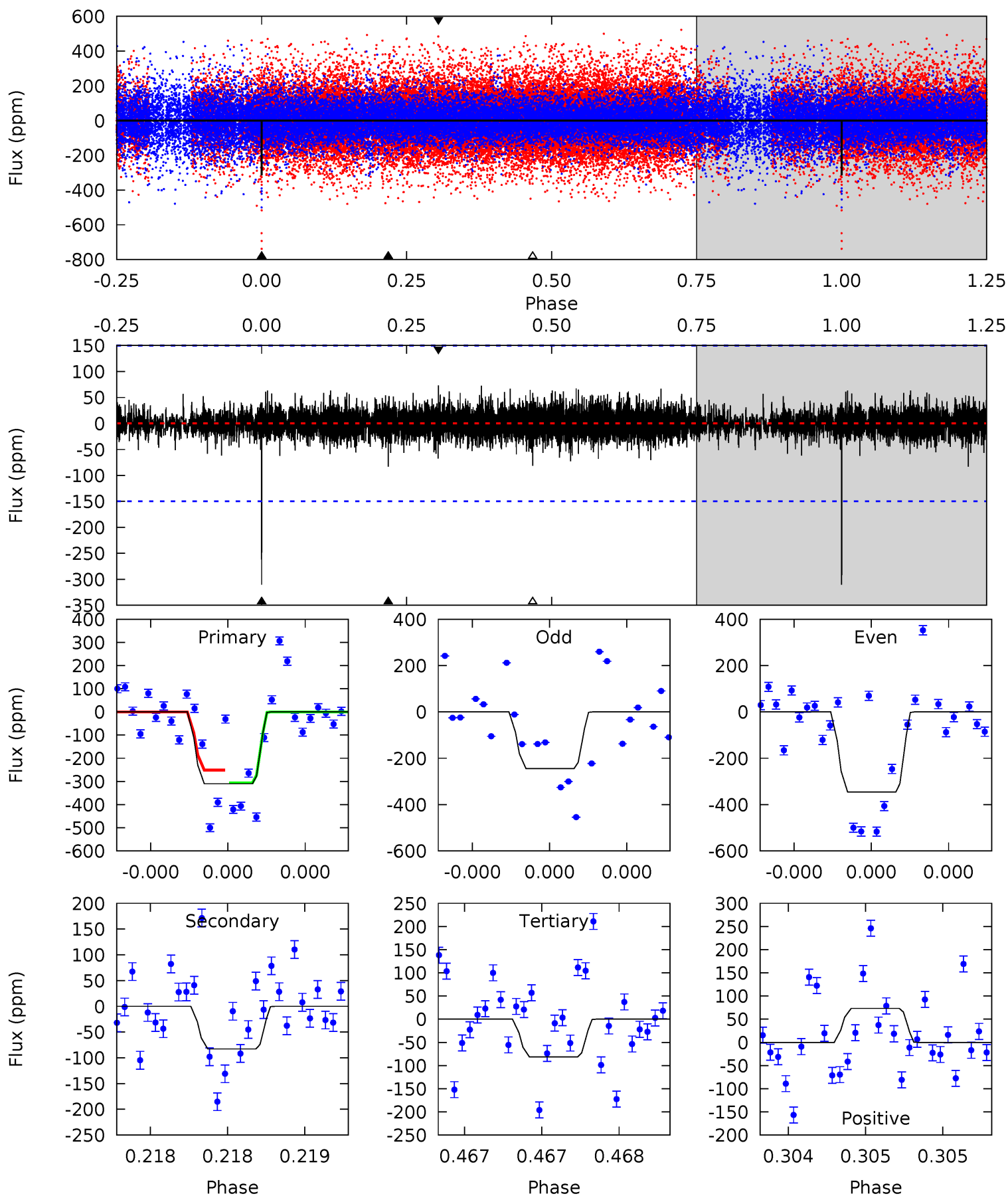
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	8.18	6.57	6.41	5.56	3.45	1.52	6.73	6.89	1.61	1.77	1.68	1.04	0.33	0.01



# Alt Model-Shift Uniqueness Test

005288744-01, P = 333.710739 Days, E = 3.073473 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
11.6	3.09	3.04	2.73	5.59	3.51	0.64	8.53	8.84	0.05	0.36	1.83	1.33	0.19	0.99



### Stellar Parameters For KIC 005288744

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6045^{+181}_{-163}$	$3.956^{+0.315}_{-0.126}$	$-0.500^{+0.350}_{-0.250}$	$1.719^{+0.372}_{-0.558}$	$0.975^{+0.155}_{-0.127}$	$0.270^{+0.531}_{-0.101}$
	+3%/-3%	+8%/-3%	+70%/-50%	+22%/-32%	+16%/-13%	+197%/-37%
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 005288744-01 / KOI 8099.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-257 \pm 31$	$5.20^{+4.97}_{-3.64}$	$498^{+35}_{-48}$	$4665^{+3986}_{-1037}$	$4626^{+47502}_{-3454}$
Alt.	$-83 \pm 27$	$4.81^{+4.59}_{-3.20}$	$498^{+35}_{-47}$	$3822^{+2238}_{-737}$	$1638^{+13472}_{-1227}$

$T_{max}$  = 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

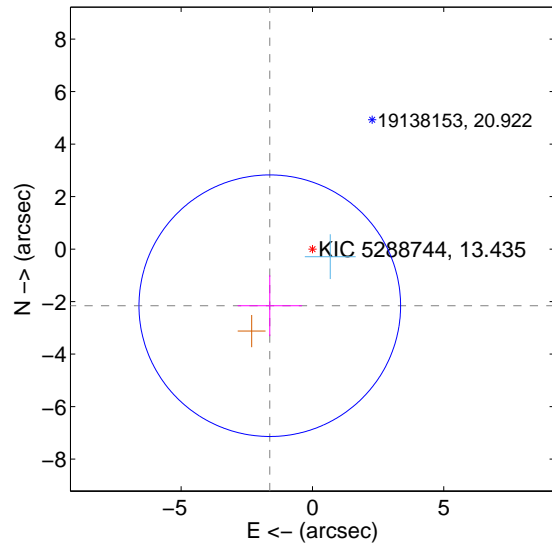
Supplemental centroid analysis for 005288744-01. Kepler magnitude: 13.44. Transit SNR 6.87

There are 1 quarters with good PRF difference image offsets

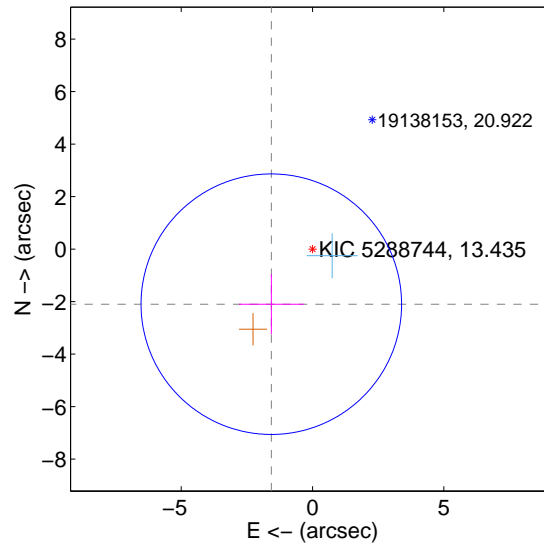
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.700 \pm 1.661$	1.63	$1.625 \pm 1.224$	$-2.157 \pm 1.159$
PRF-fit source offset from KIC position	$2.621 \pm 1.654$	1.58	$1.570 \pm 1.233$	$-2.099 \pm 1.145$
photometric centroid source offset	$1.17 \pm 1.28$	0.91	$0.96 \pm 1.33$	$-0.66 \pm 1.19$

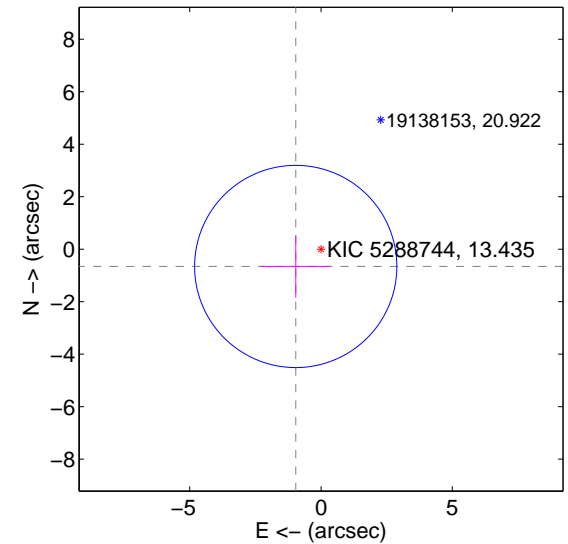
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

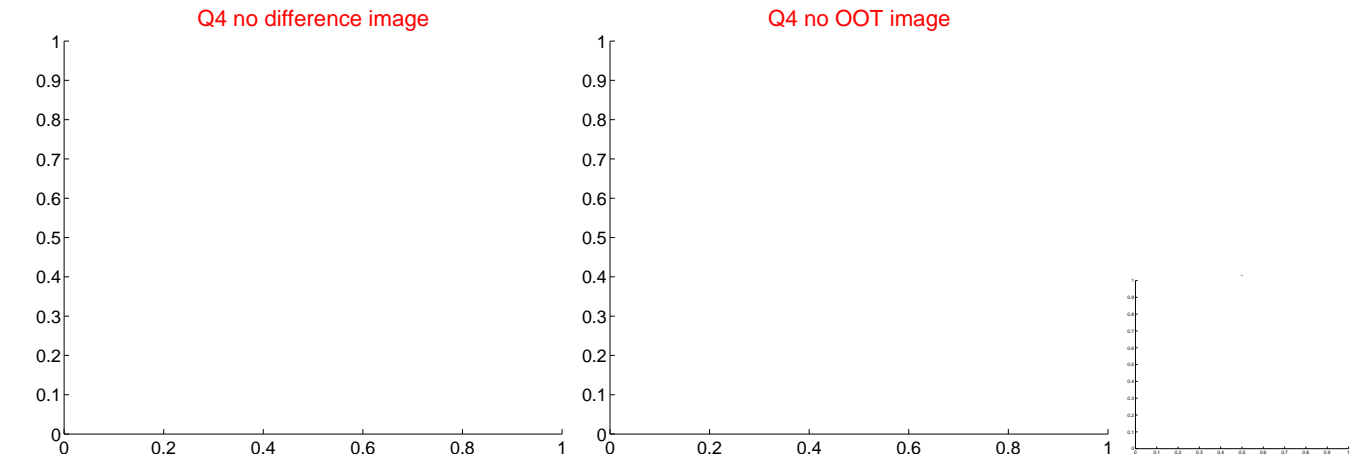
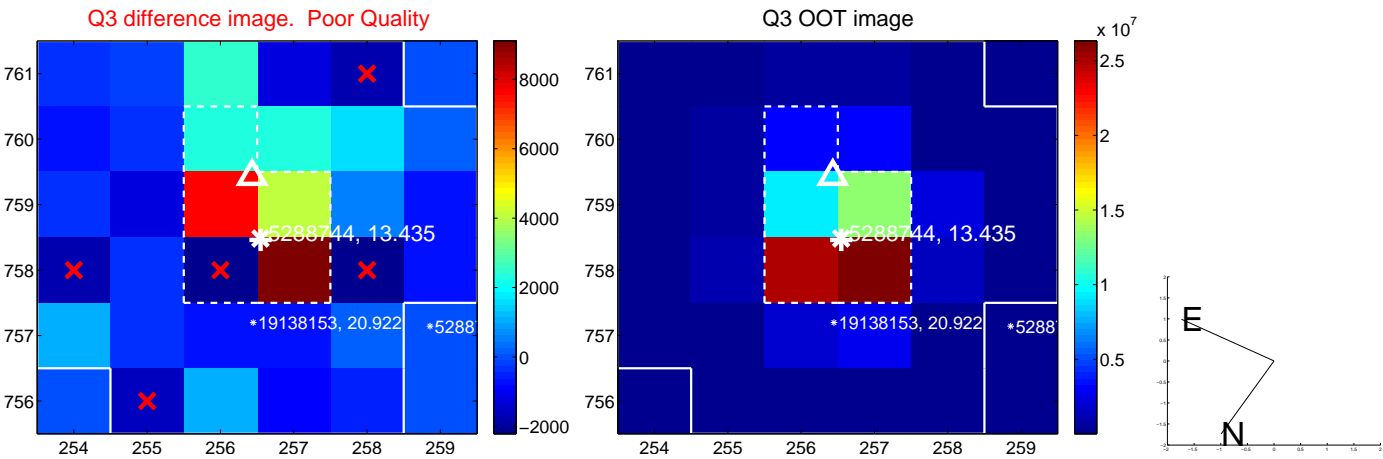
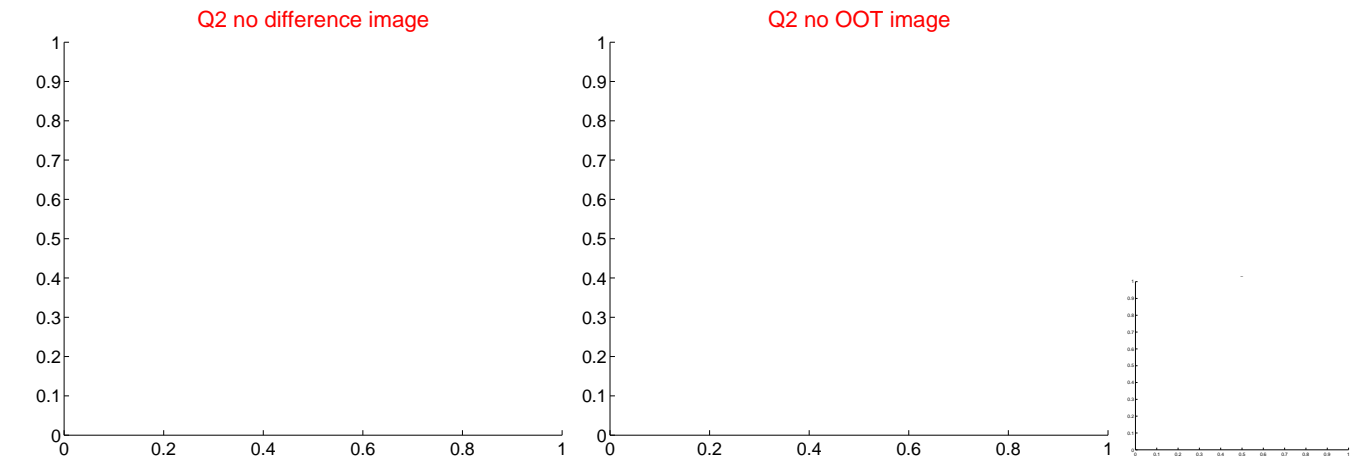
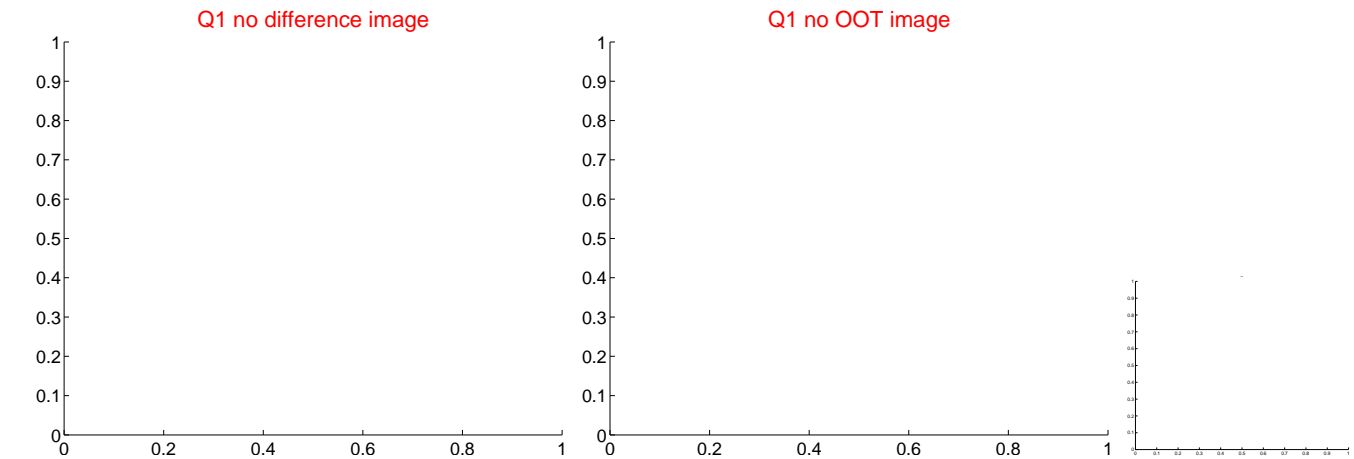


offset from photometric centroids



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.

Q5 no difference image



Q5 no OOT image



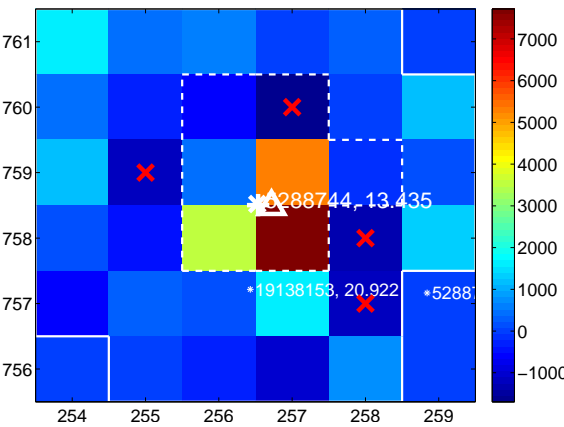
Q6 no difference image



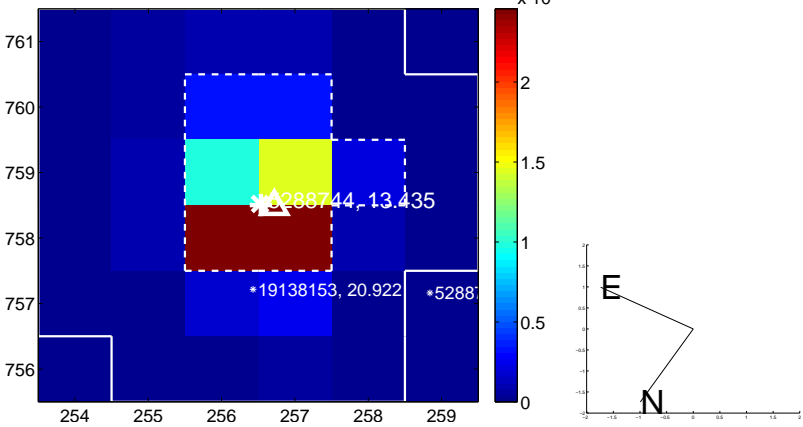
Q6 no OOT image



Q7 difference image



Q7 OOT image



Q8 no difference image



Q8 no OOT image





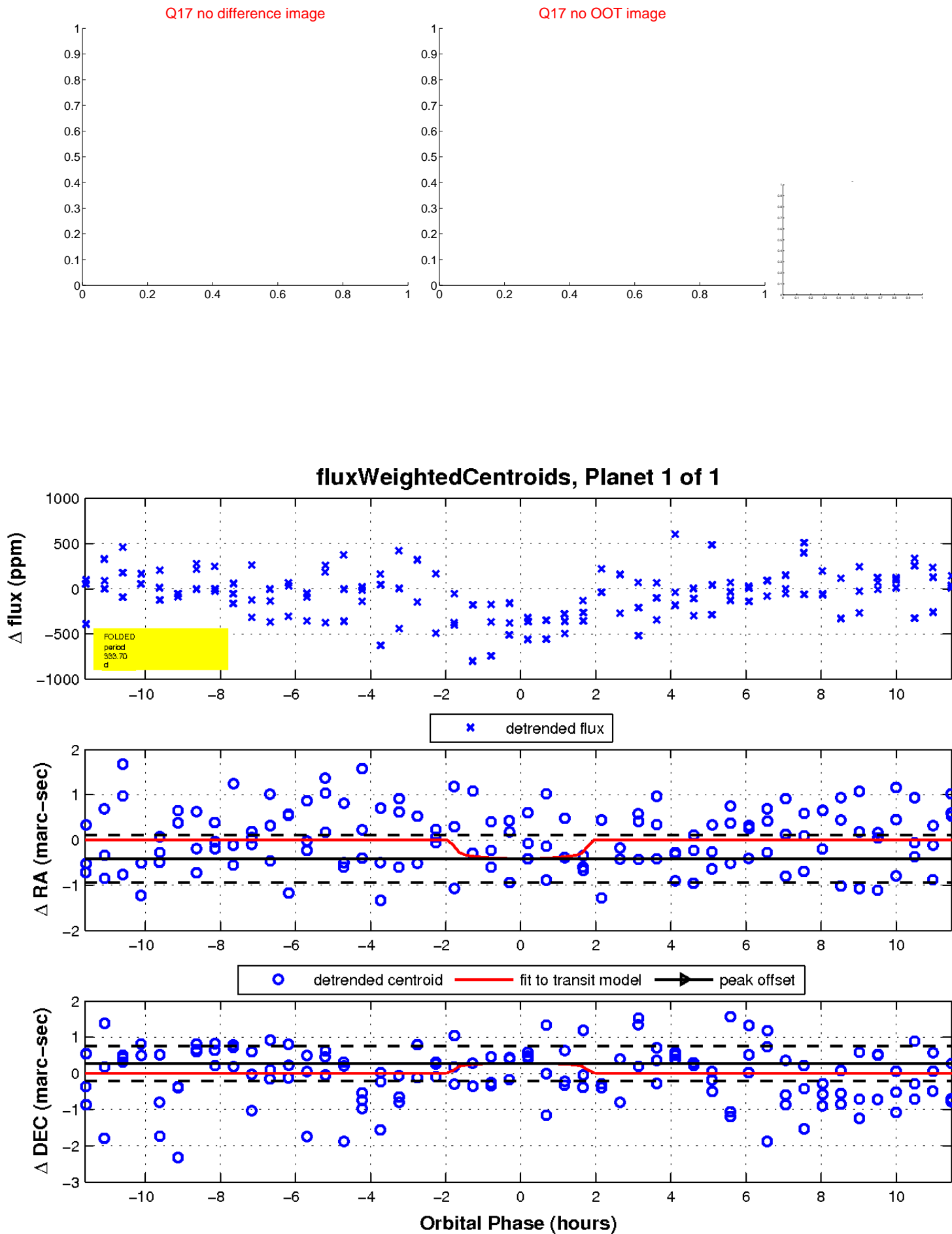
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

