

# KIC 005263687

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005263687-01	OBS	No	642.638114	247.436256	563.8	9.027	7.3	7.2	1.00	6406	2.97	0.69

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005263687-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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.

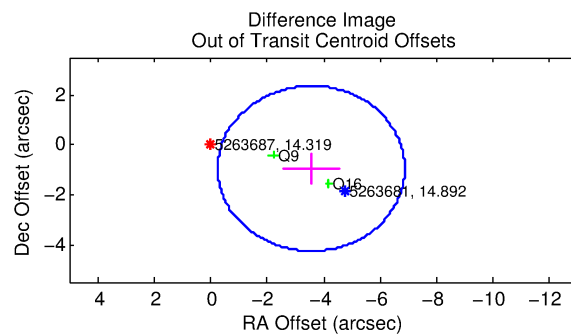
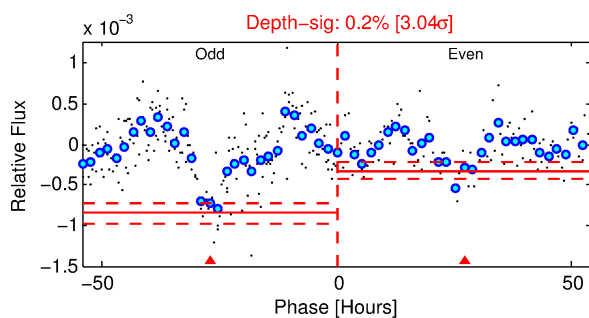
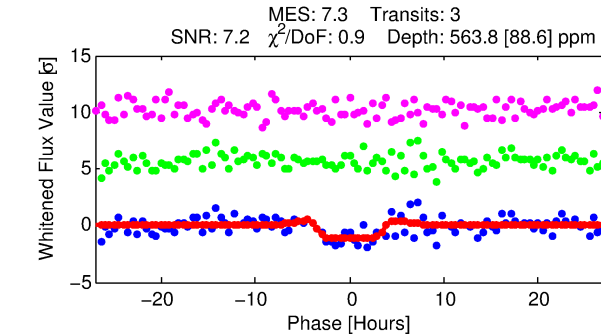
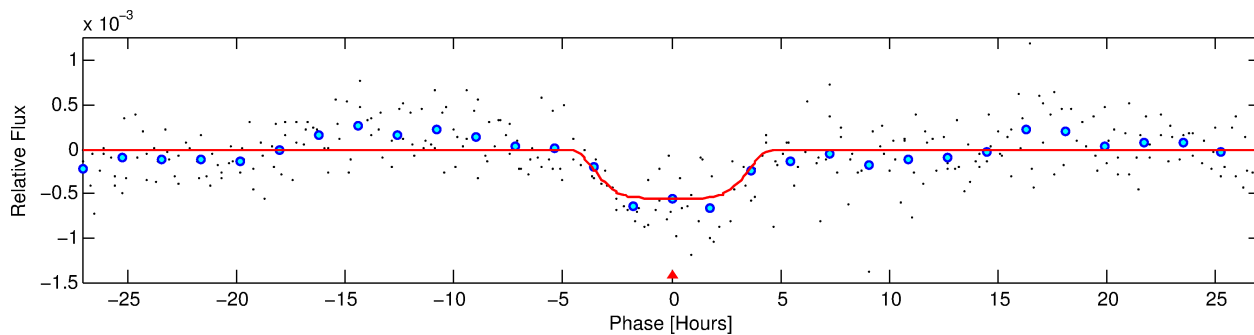
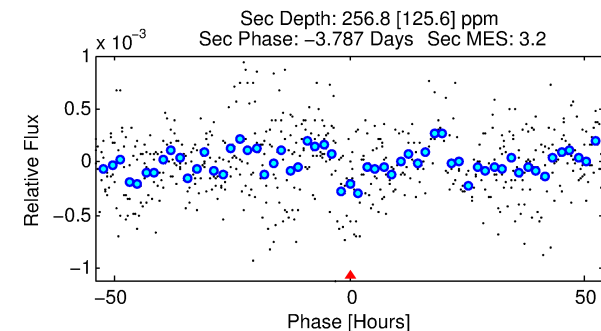
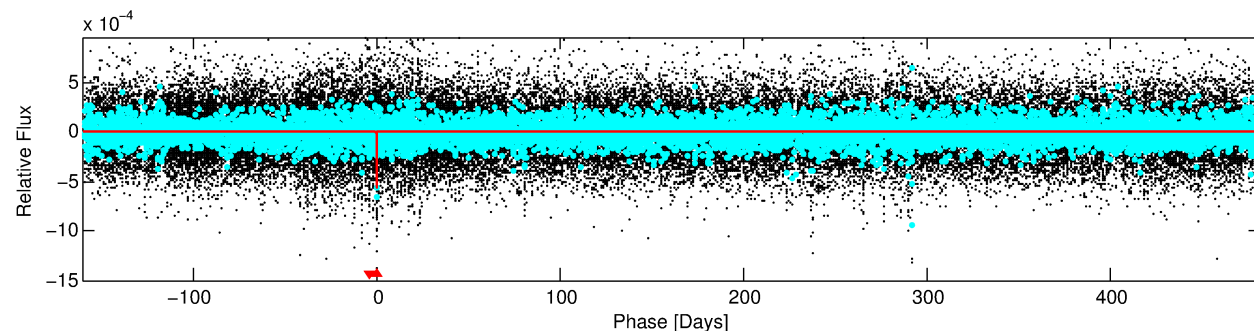
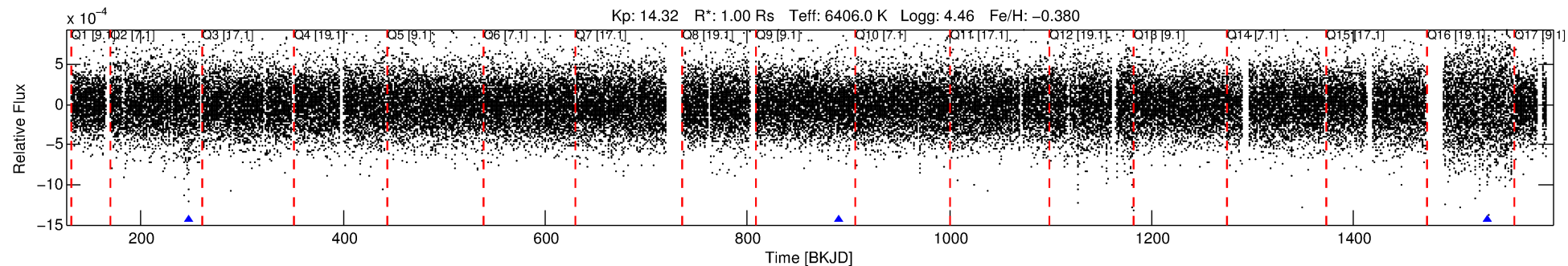
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005263687-01

No Significant Match Found

# DV One-Page Summary

KIC: 5263687 Candidate: 1 of 1 Period: 642.638 d



## DV Fit Results:

Period = 642.63811 [0.01490] d  
Epoch = 247.4363 [0.0166] BKJD  
Rp/R\* = 0.0270 [0.0027]  
a/R\* = 208.84 [53.79]  
b = 0.95 [0.03]  
Seff = 0.69 [0.27]  
Teq = 232 [23] K  
Rp = 2.97 [0.94] Re  
a = 1.4852 [0.3756] AU  
Ag = 35439.34 [22811.21] [1.55σ]  
Teffp = 4932 [671] K [7.00σ]

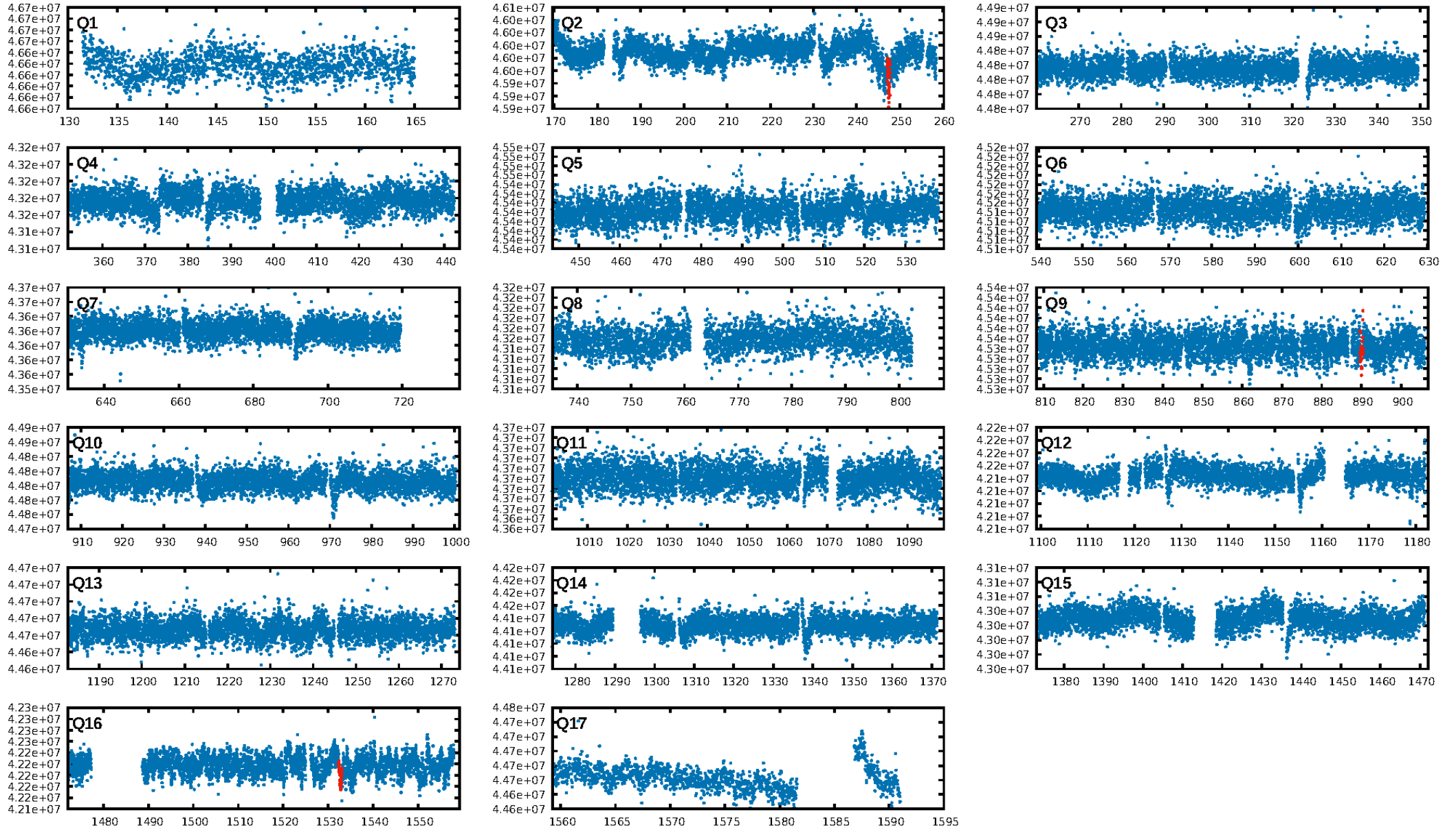
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 7.5%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 1.16e-08**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.04  
Centroid-sig: 48.4%  
Centroid-so: 2.553 arcsec [1.36σ]  
**OotOffset-rm: 3.684 arcsec [3.34σ]**  
**KicOffset-rm: 5.019 arcsec [14.87σ]**  
OotOffset-st: 0/0/1/1 [2]  
KicOffset-st: 0/0/1/1 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [3/3]

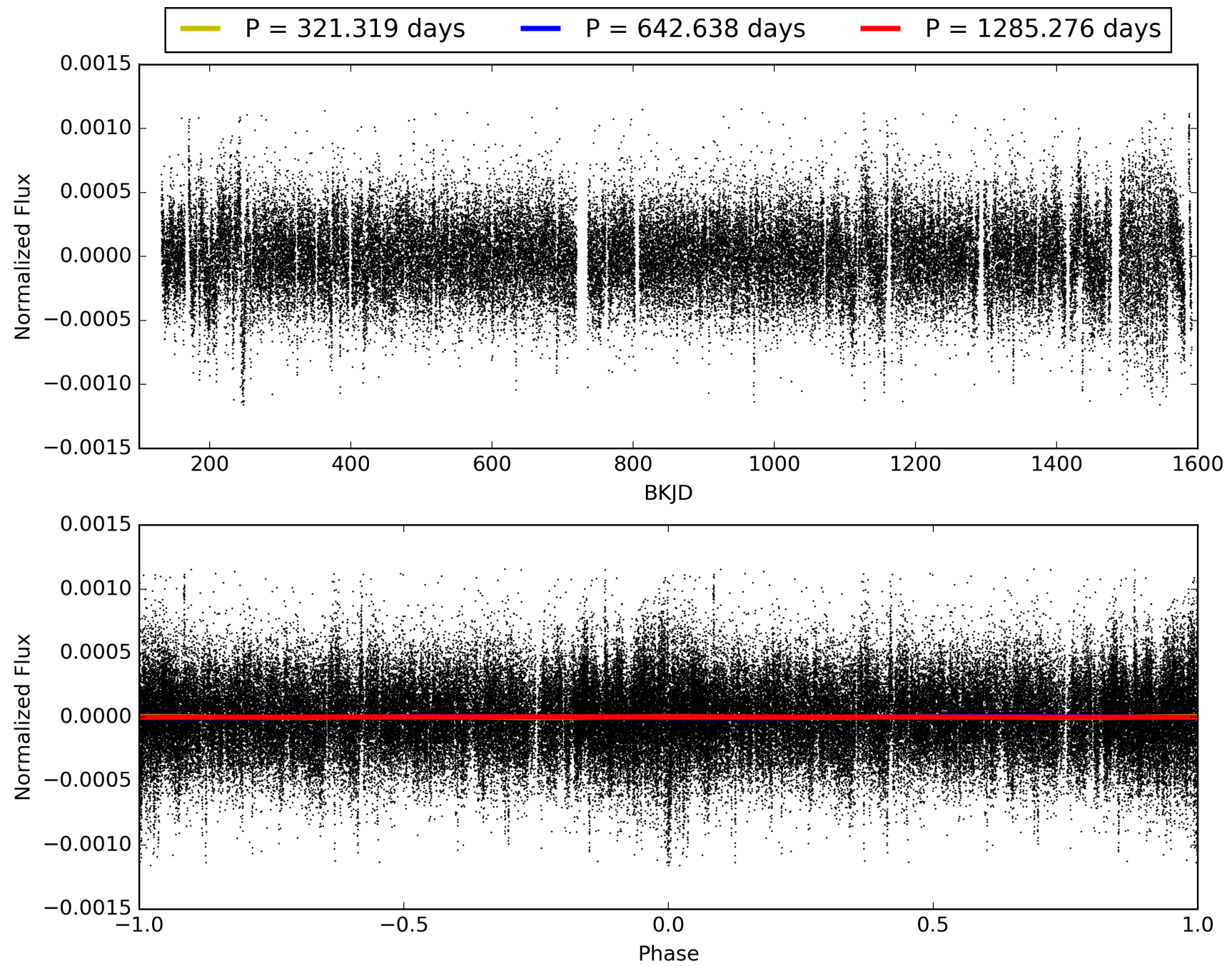
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:07:43 Z

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

# TCE 005263687-01, PDC Light Curves

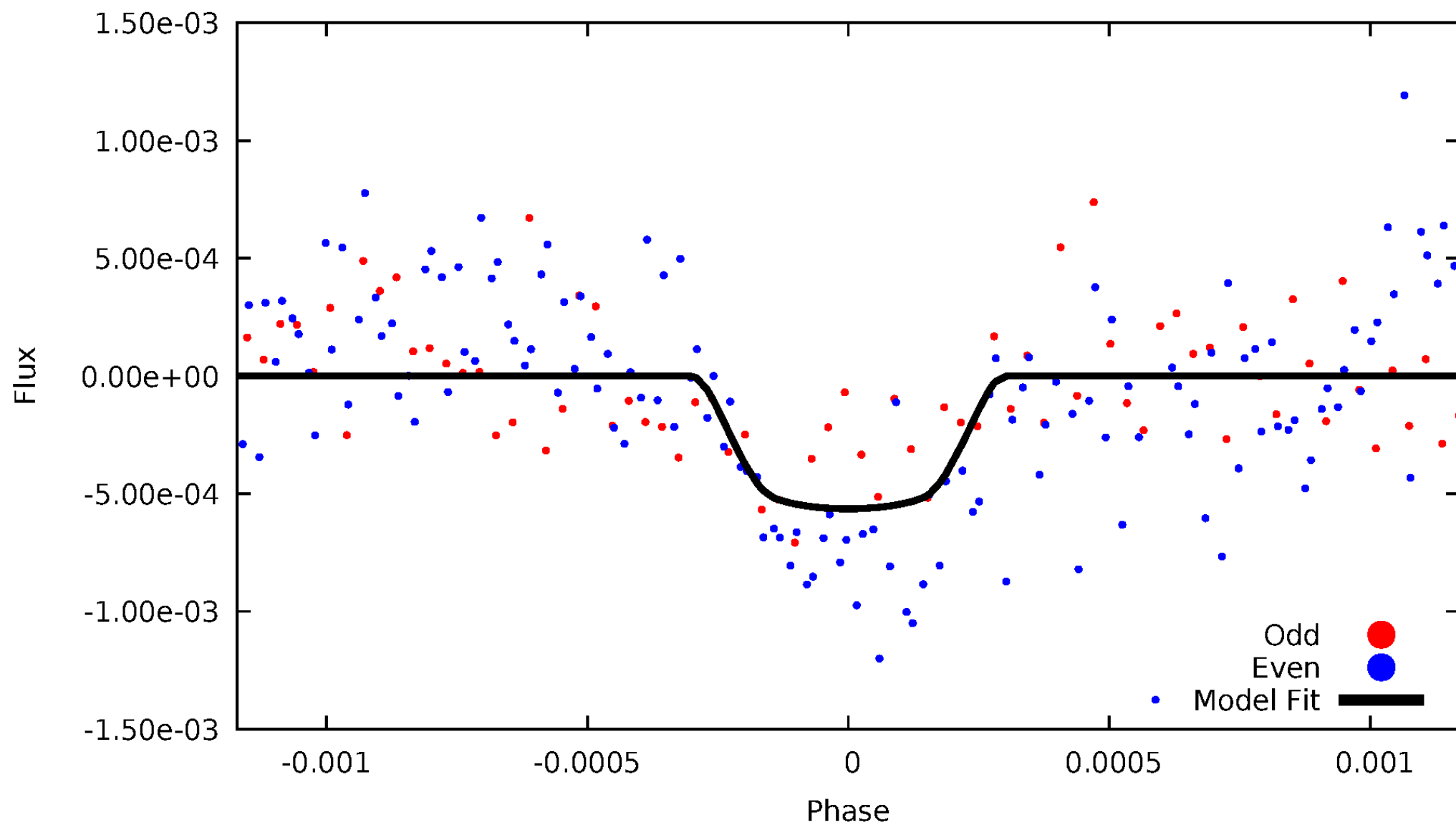


TCE 005263687-01



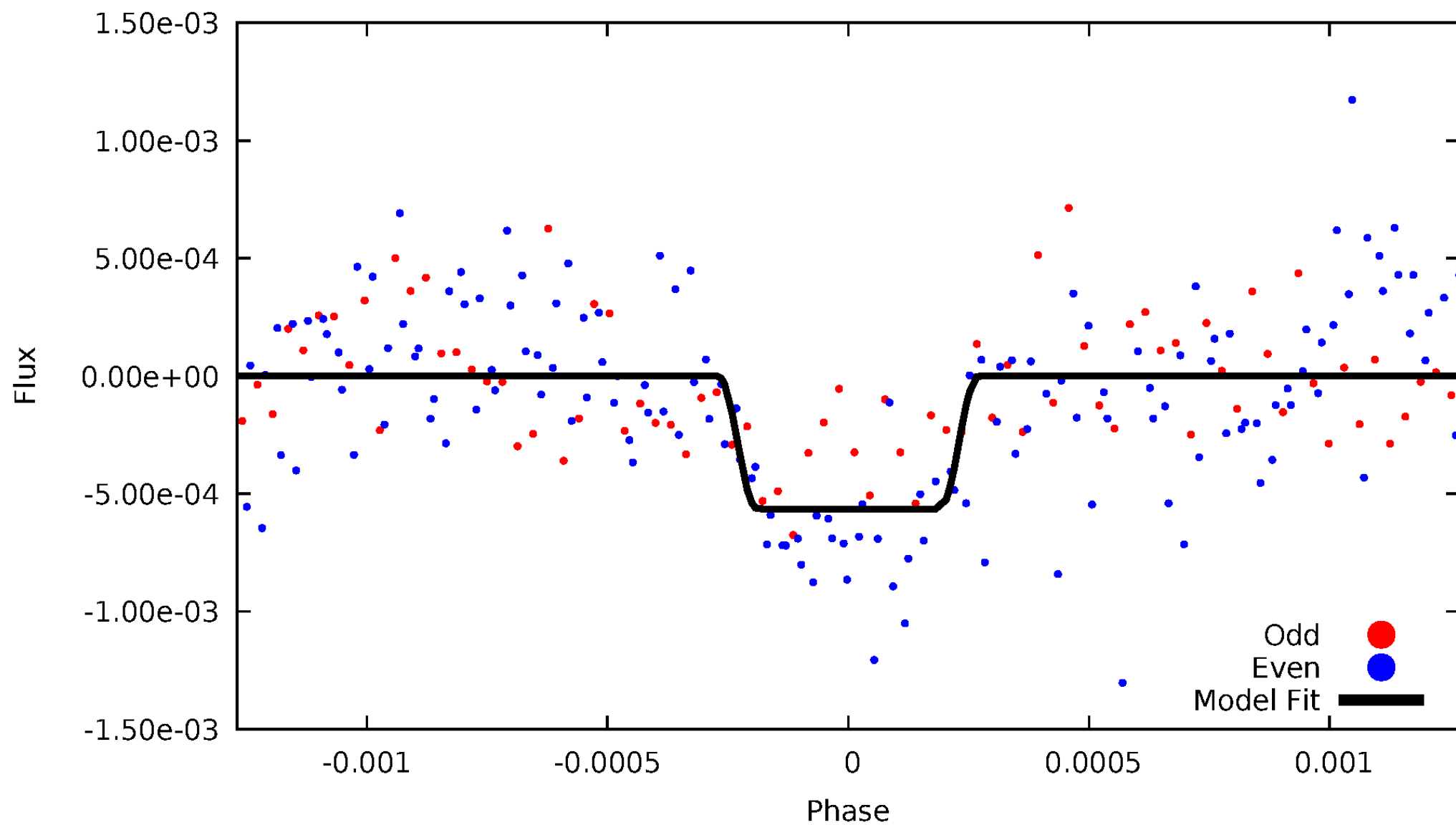
# DV Odd/Even

TCE 005263687-01



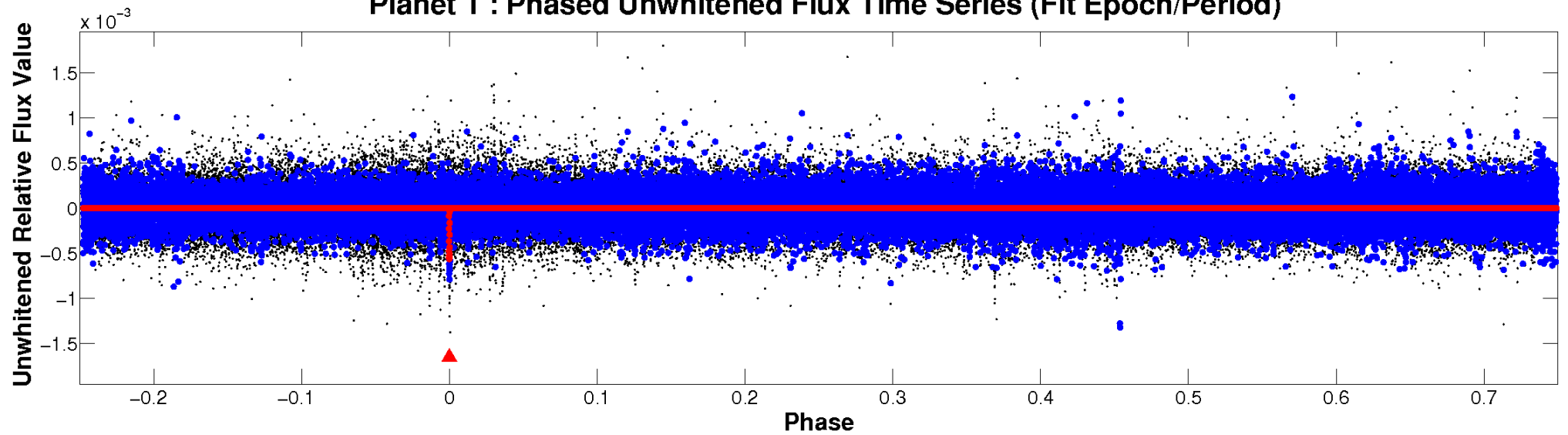
# ALT Odd/Even

TCE 005263687-01

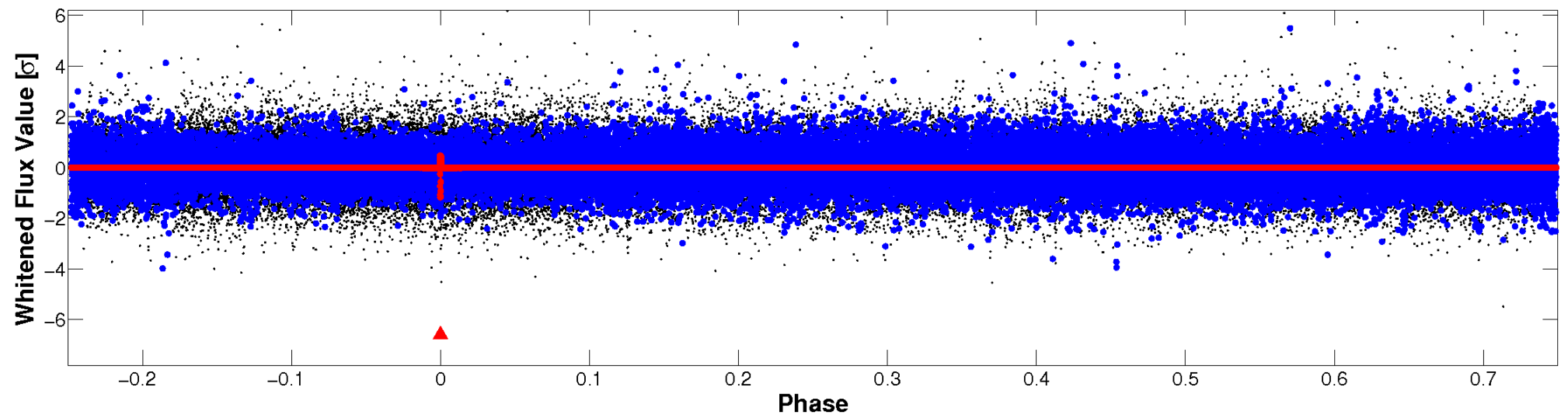


# Non-Whitened Vs. Whitened Light Curve

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



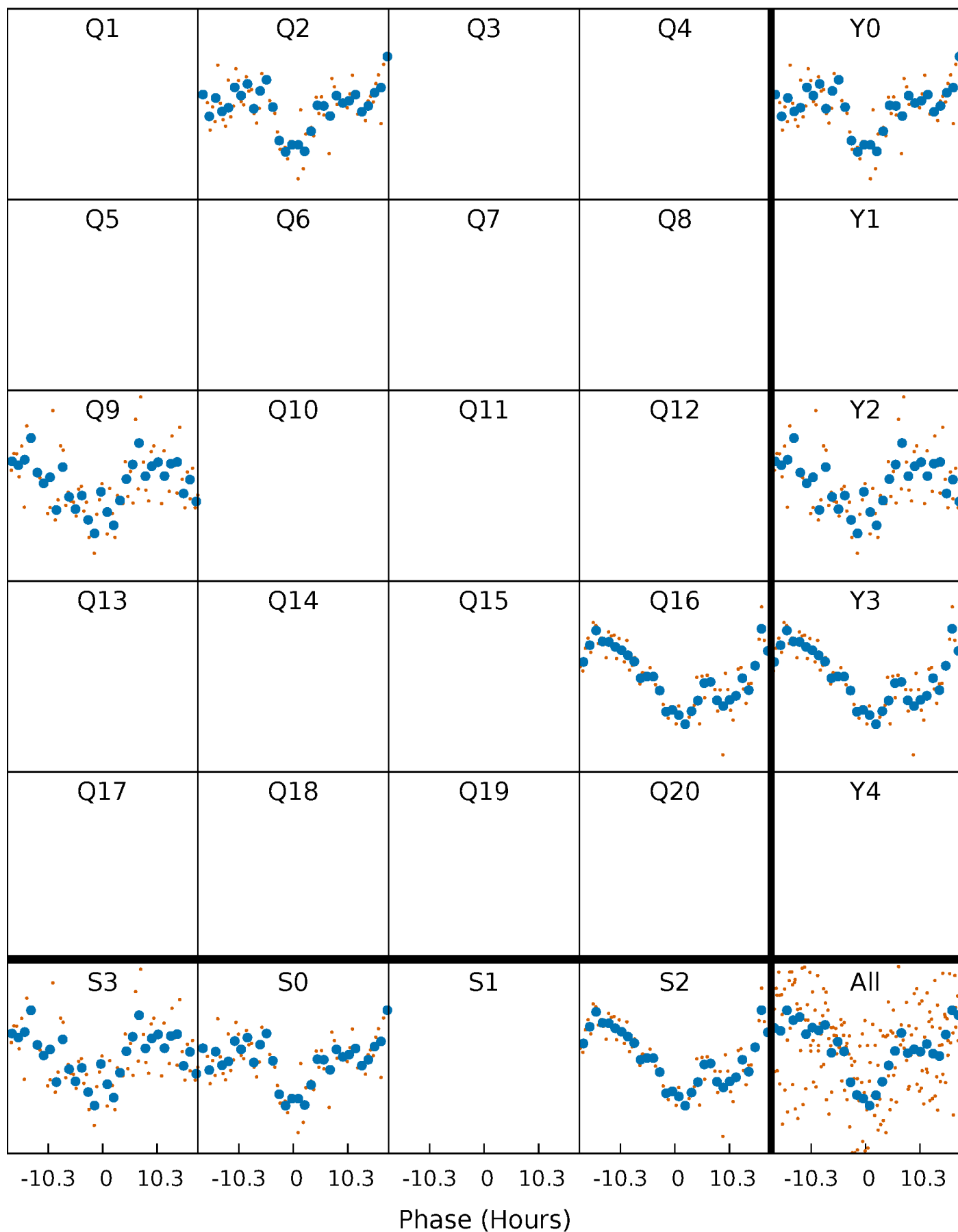
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

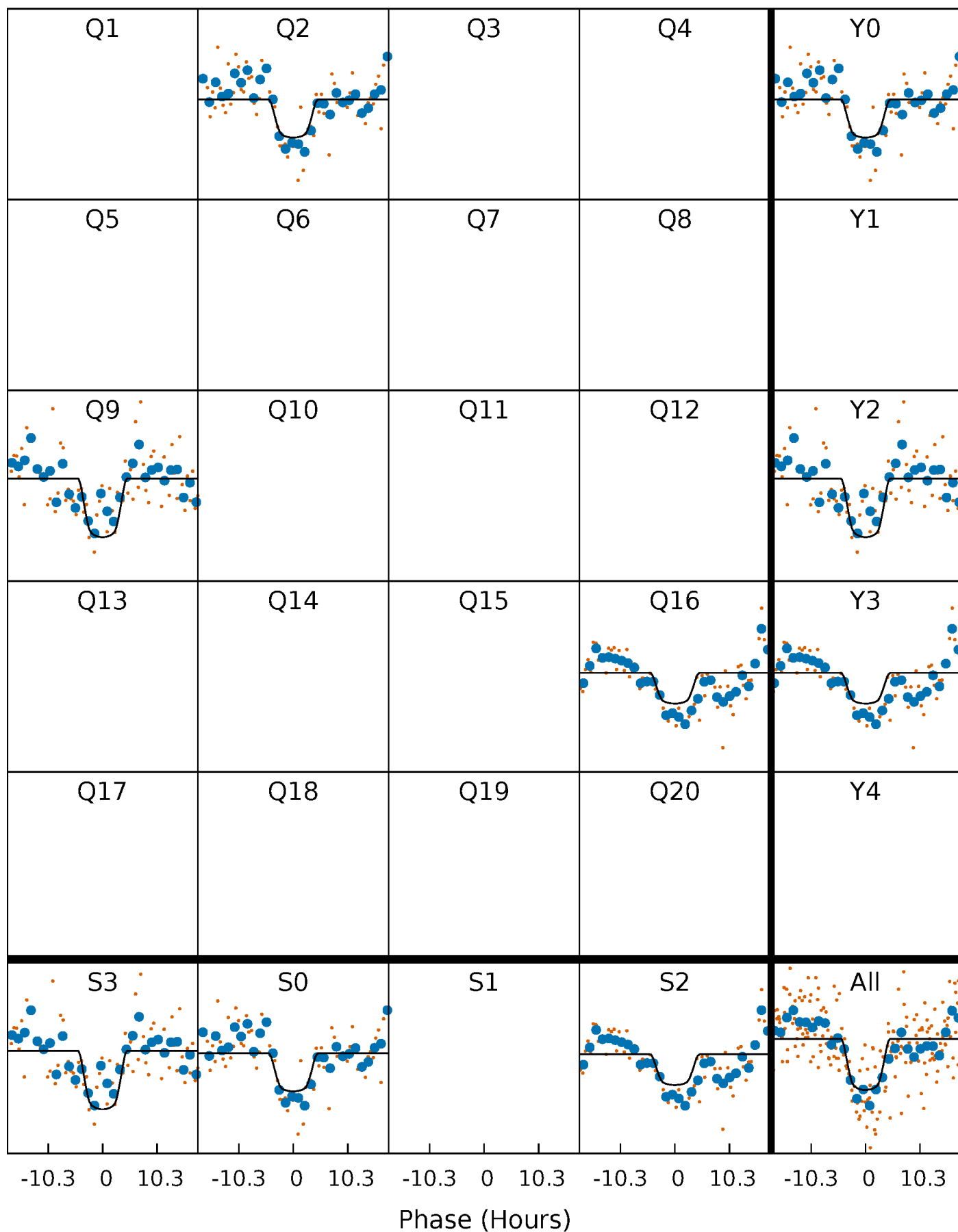
TCE 005263687-01 P=642.638114 Days  $T_0=247.436256$  (BKJD)





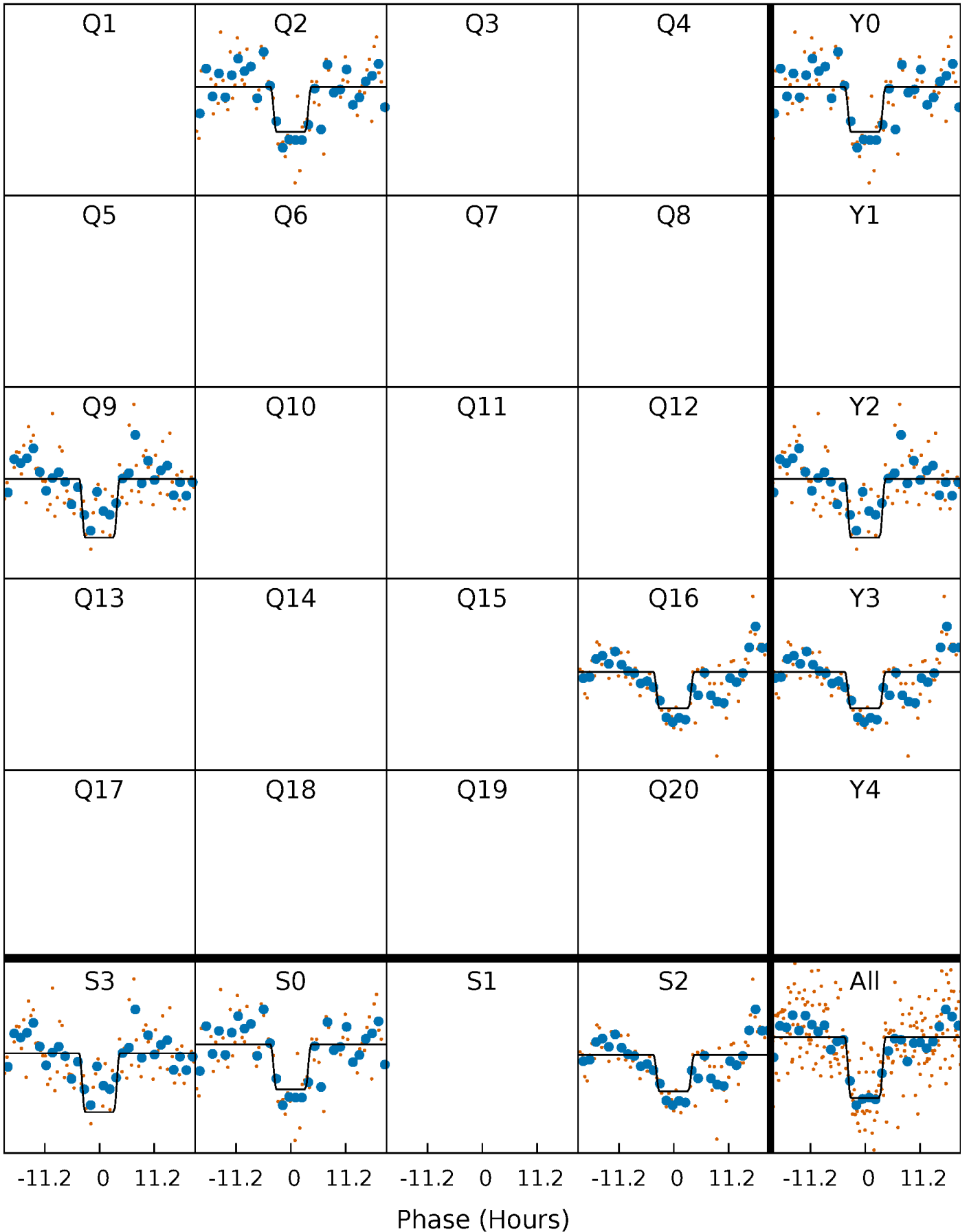
# DV Quarter-Phased Transit Curves

TCE 005263687-01 P=642.638114 Days  $T_0=247.436256$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

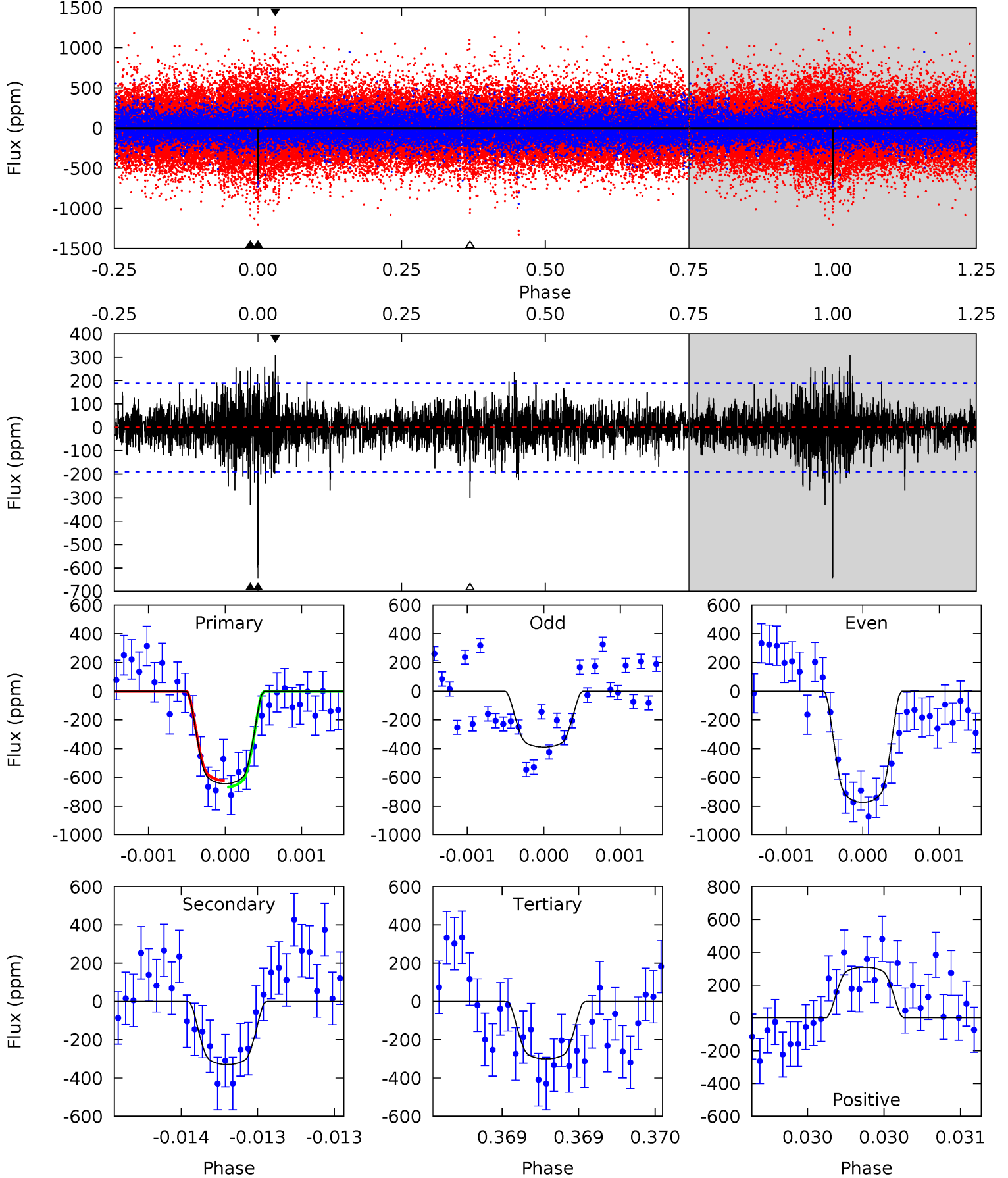
TCE 005263687-01 P=642.642273 Days  $T_0=247.439964$  (BKJD)



# DV Model-Shift Uniqueness Test

005263687-01, P = 642.638114 Days, E = 247.436256 Days

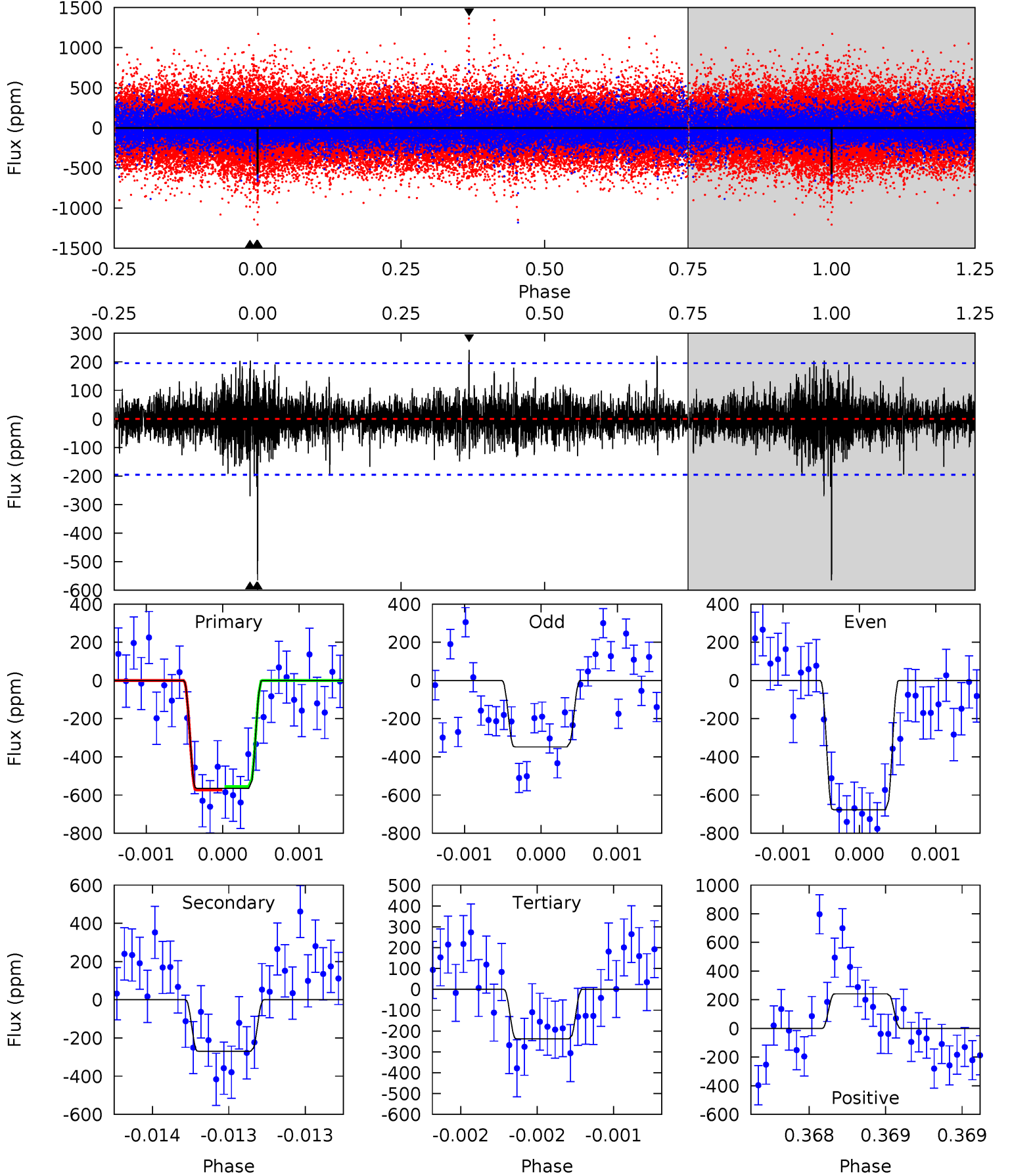
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.0	9.71	8.84	9.08	5.54	3.43	1.86	10.2	9.92	0.87	0.63	5.40	0.90	0.32	0.68



# Alt Model-Shift Uniqueness Test

005263687-01, P = 642.642273 Days, E = 247.439964 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
16.1	7.69	6.77	6.88	5.56	3.46	1.36	9.32	9.22	0.92	0.81	4.53	0.85	0.30	0.28



### Stellar Parameters For KIC 005263687

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6406^{+158}_{-206}$	$4.458^{+0.050}_{-0.200}$	$-0.380^{+0.300}_{-0.300}$	$1.005^{+0.303}_{-0.101}$	$1.057^{+0.145}_{-0.132}$	$1.467^{+0.381}_{-0.727}$
	+2%/-3%	+1%/-4%	+79%/-79%	+30%/-10%	+14%/-12%	+26%/-50%
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 005263687-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-330 \pm 34$	$3.10^{+0.52}_{-0.40}$	$332^{+23}_{-15}$	$5279^{+315}_{-284}$	$40617^{+14147}_{-11037}$
Alt.	$-270 \pm 35$	$2.71^{+0.48}_{-0.37}$	$332^{+21}_{-16}$	$5348^{+379}_{-316}$	$43007^{+17440}_{-11672}$

$T_{\text{max}}$  = 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

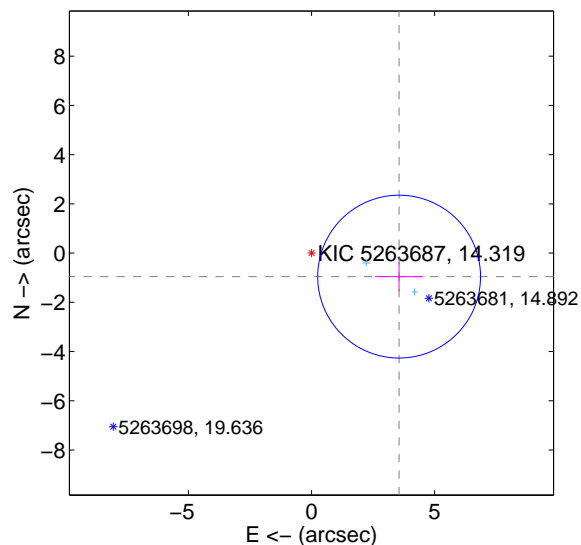
Supplemental centroid analysis for 005263687-01. Kepler magnitude: 14.32. Transit SNR 7.21

There are 2 quarters with good PRF difference image offsets

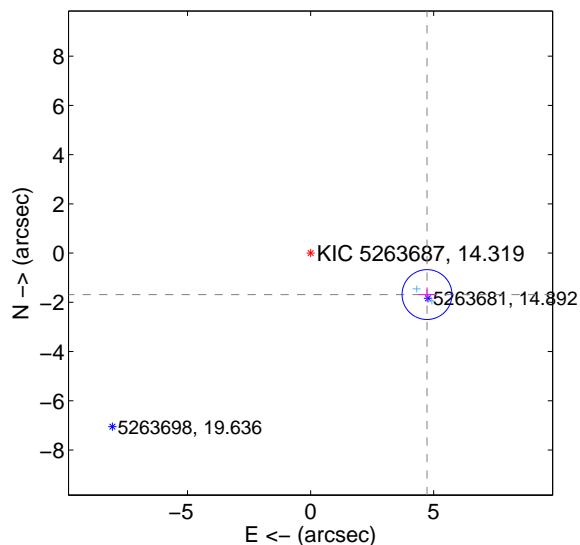
The direct PRF centroid is offset from the target star catalog position by about 0.83 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.684 \pm 1.102$	3.34	$-3.558 \pm 0.984$	$-0.956 \pm 0.590$
PRF-fit source offset from KIC position	$5.019 \pm 0.338$	14.87	$-4.728 \pm 0.343$	$-1.684 \pm 0.292$
photometric centroid source offset	$2.55 \pm 1.88$	1.36	$-2.35 \pm 1.98$	$-0.99 \pm 1.15$

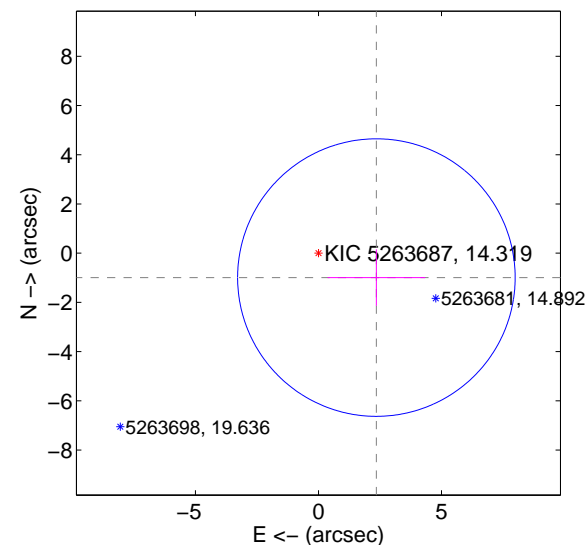
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

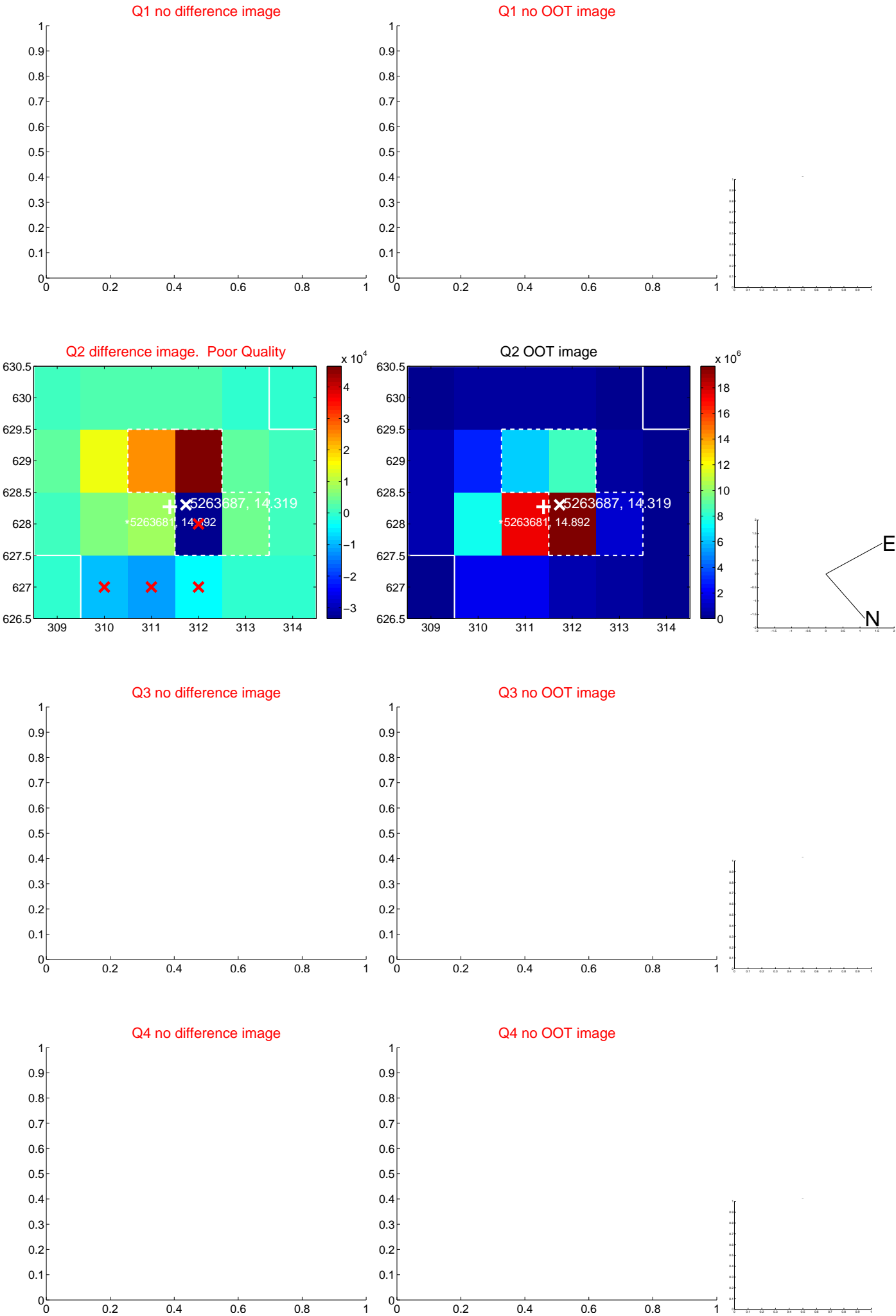


offset from photometric centroids



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.

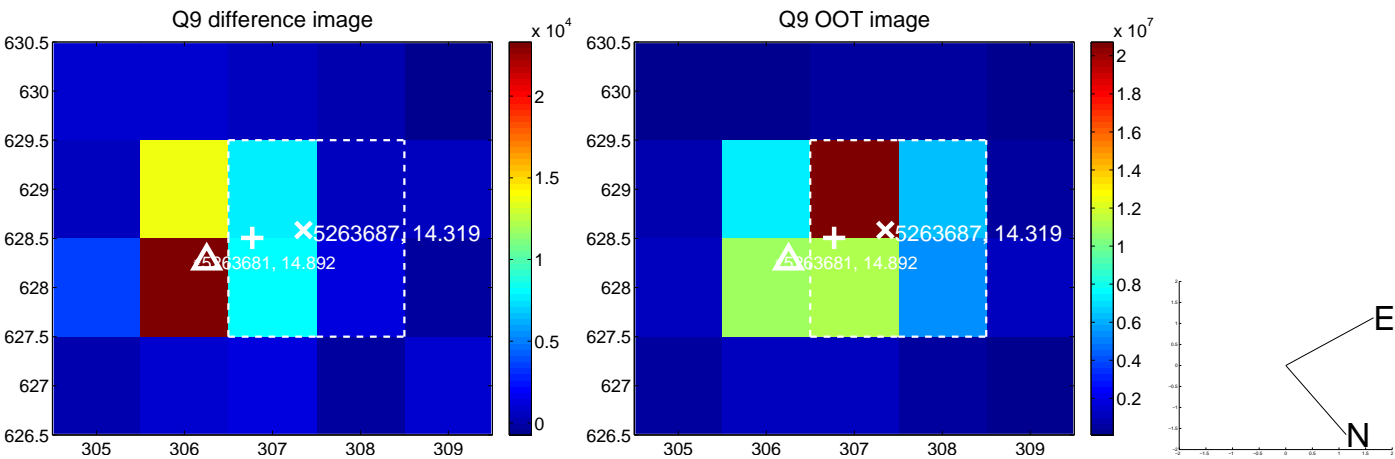




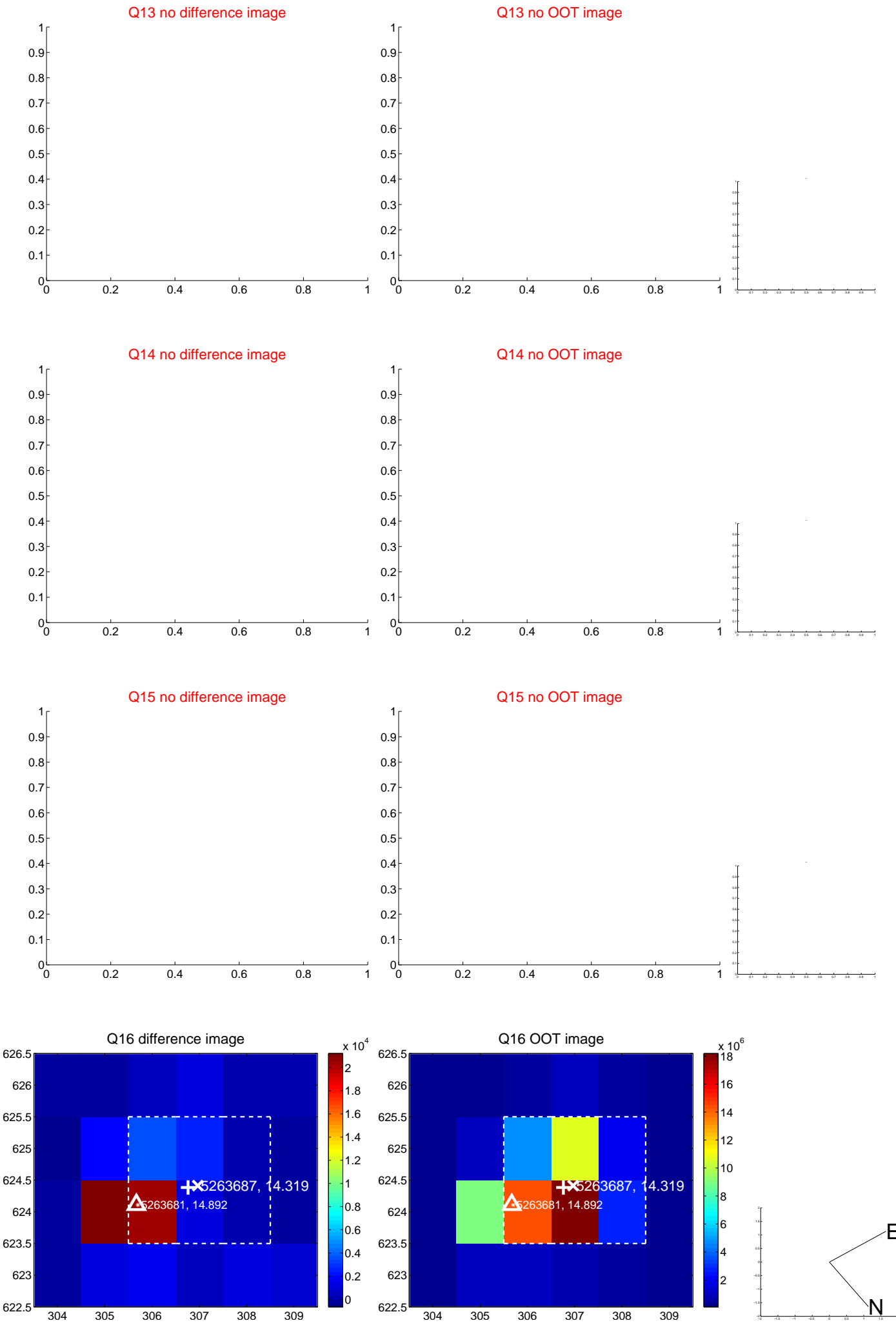
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



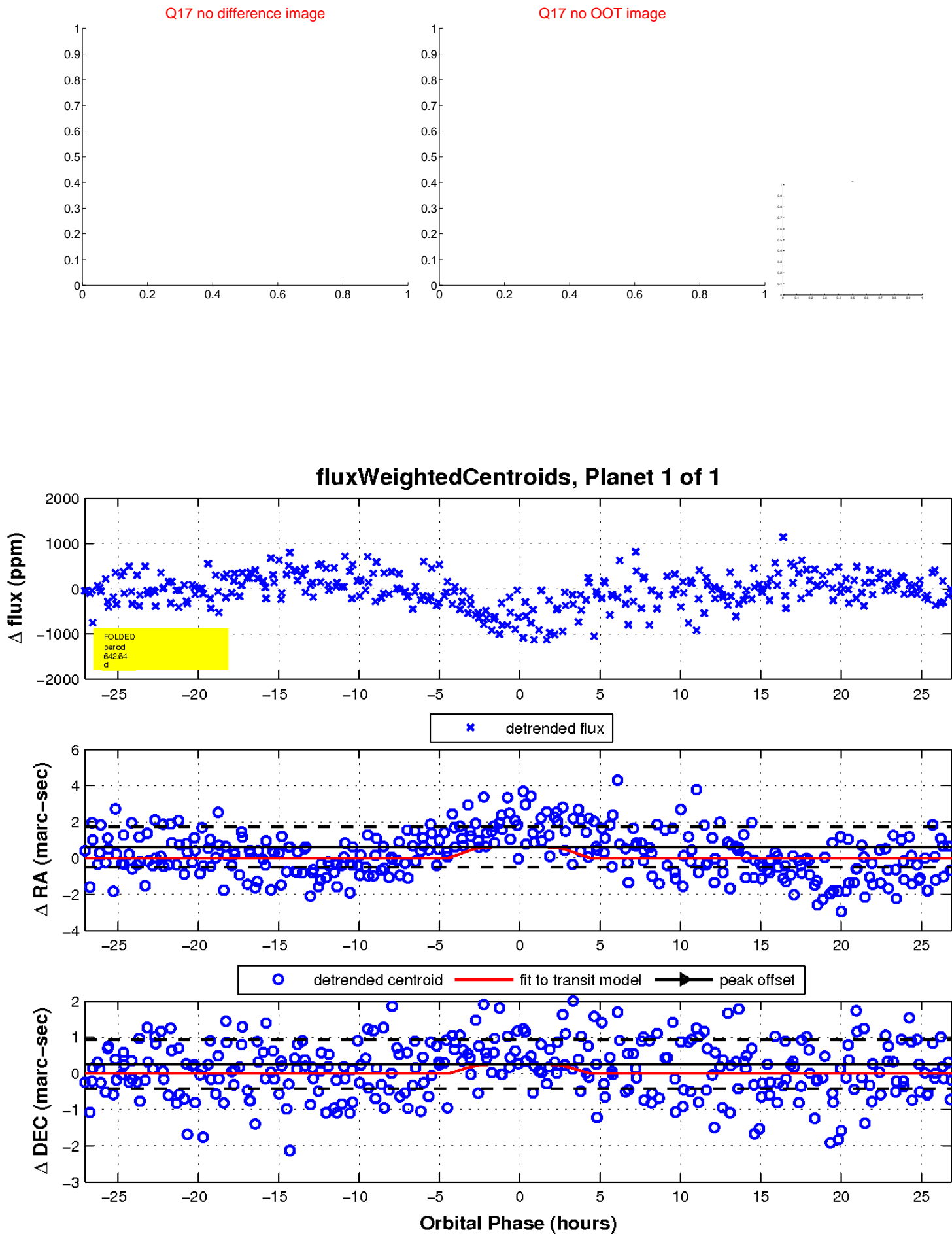
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



UKIRT Image

Declination

