

# KIC 005956837

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005956837-01	OBS	No	368.713352	143.925763	1223.7	20.235	7.3	8.1	0.85	6131	3.04	0.94

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005956837-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

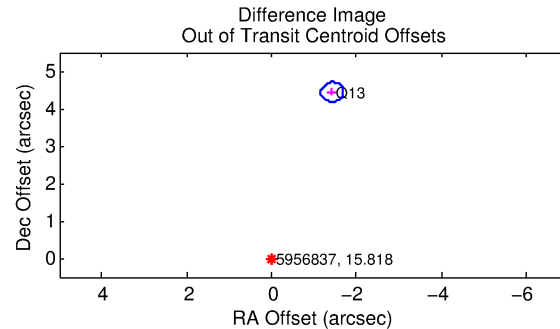
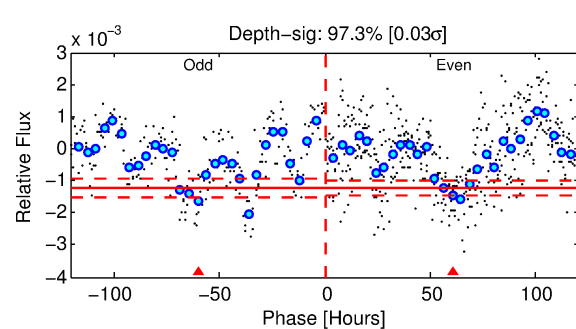
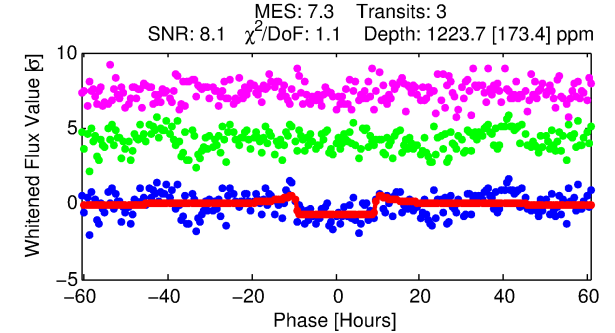
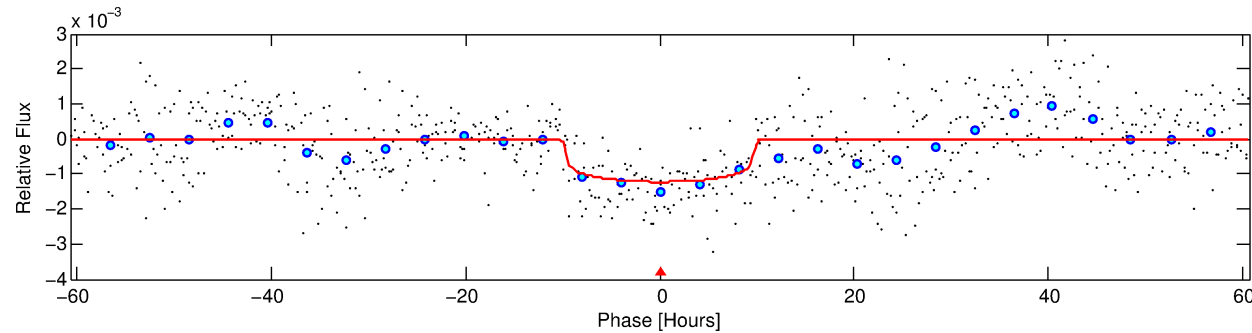
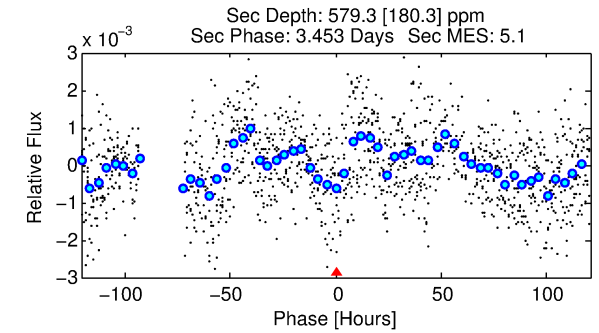
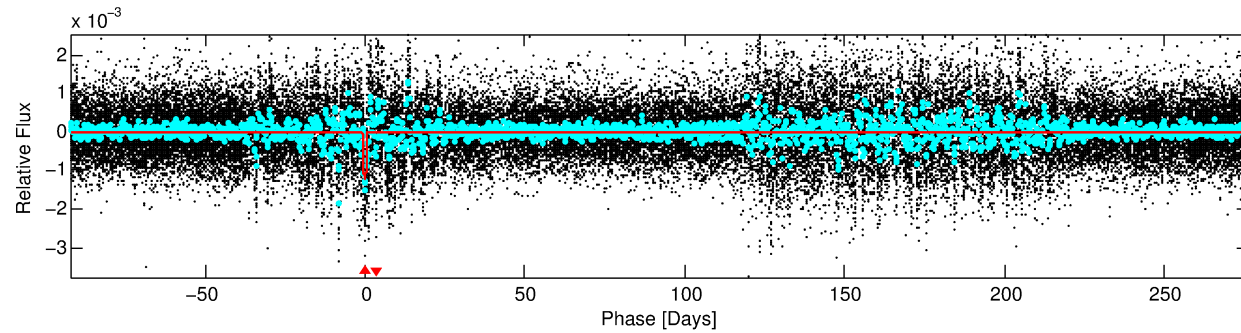
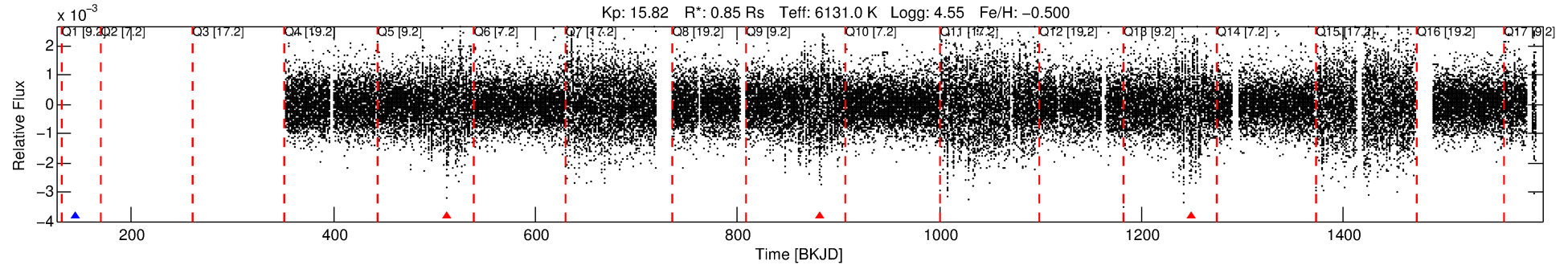
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005956837-01

No Significant Match Found

# DV One-Page Summary

KIC: 5956837 Candidate: 1 of 1 Period: 368.713 d



## DV Fit Results:

Period = 368.71335 [0.01308] d  
Epoch = 143.9258 [0.0289] BKJD  
Rp/R\* = 0.0327 [0.0071]  
a/R\* = 131.07 [132.25]  
b = 0.42 [1.96]  
Seff = 0.94 [0.37]  
Teq = 251 [25] K  
Rp = 3.04 [1.08] Re  
a = 0.9865 [0.2421] AU  
Ag = 33612.45 [21695.97] [1.55σ]  
Teff = 5256 [723] K [6.92σ]

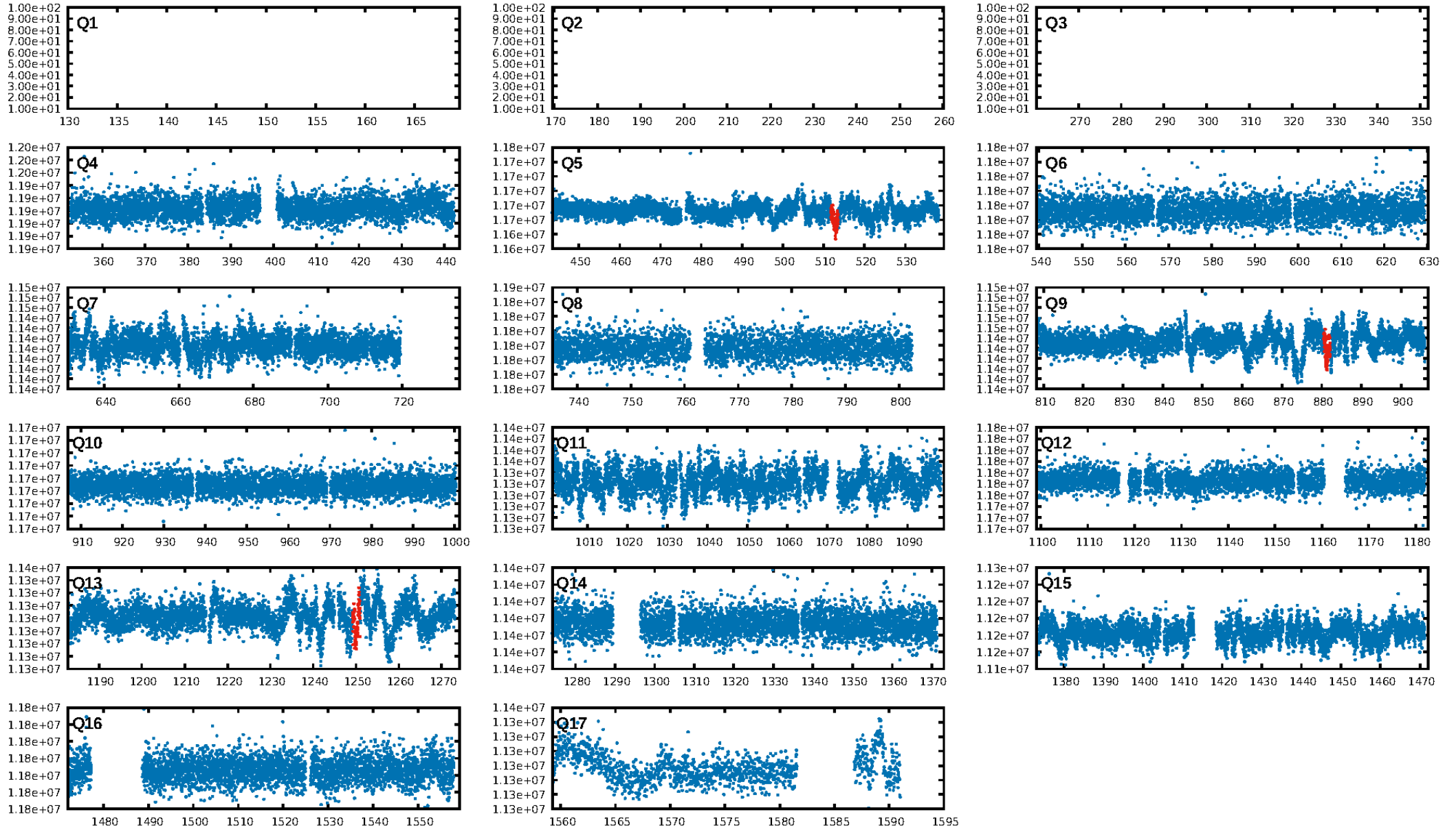
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 58.7%  
ModelChiSquareGoF-sig: 99.9%  
Bootstrap-pfa: 5.44e-09  
RollingBand-fgt: 0.00 [0/3]  
GhostDiagnostic-chr: 1.157  
Centroid-sig: 0.0%  
Centroid-so: 7.801 arcsec [3.13σ]  
OotOffset-rm: 4.667 arcsec [53.81σ]  
KicOffset-rm: 4.591 arcsec [52.92σ]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [3/3]

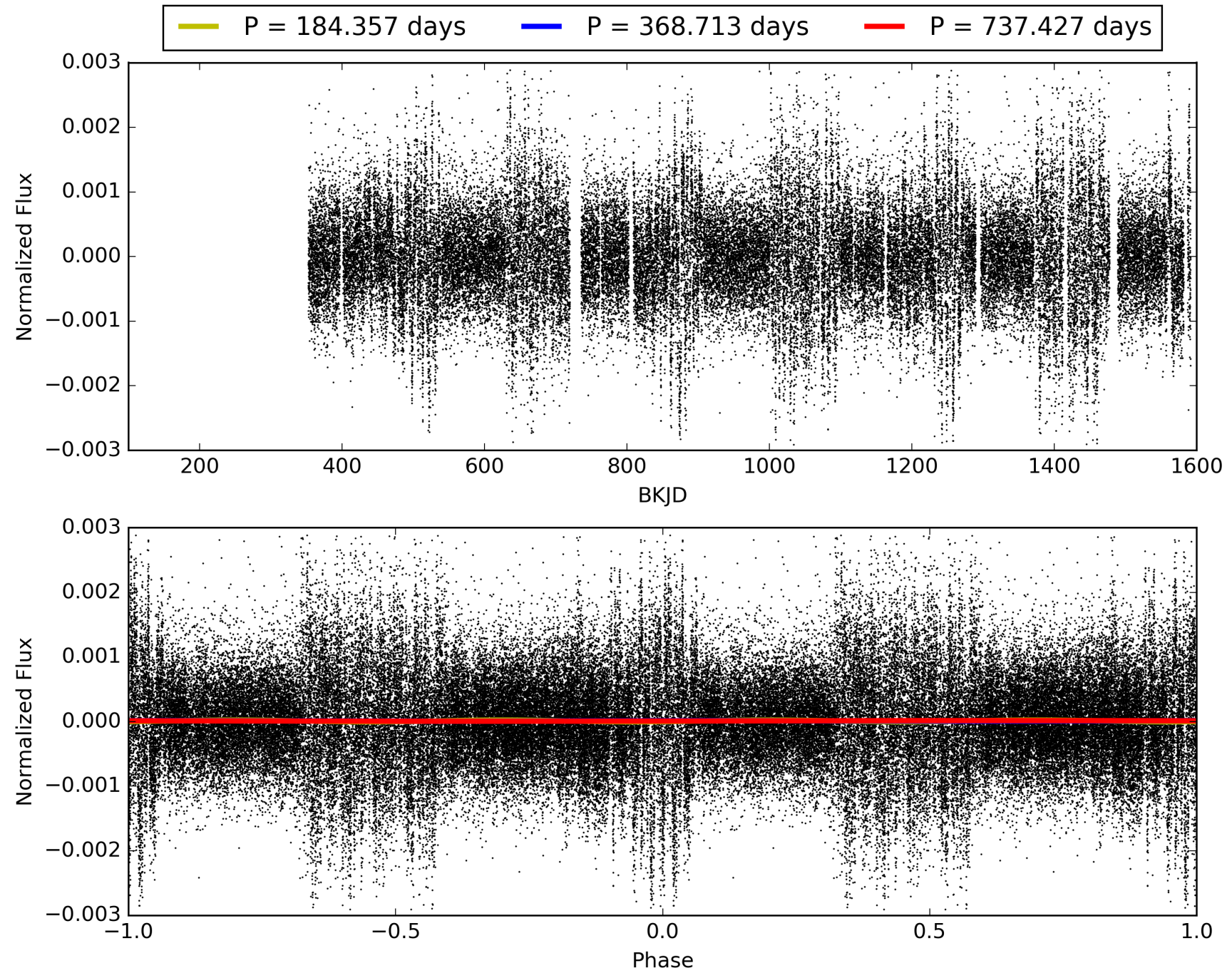
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:11:31 Z

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

# TCE 005956837-01, PDC Light Curves

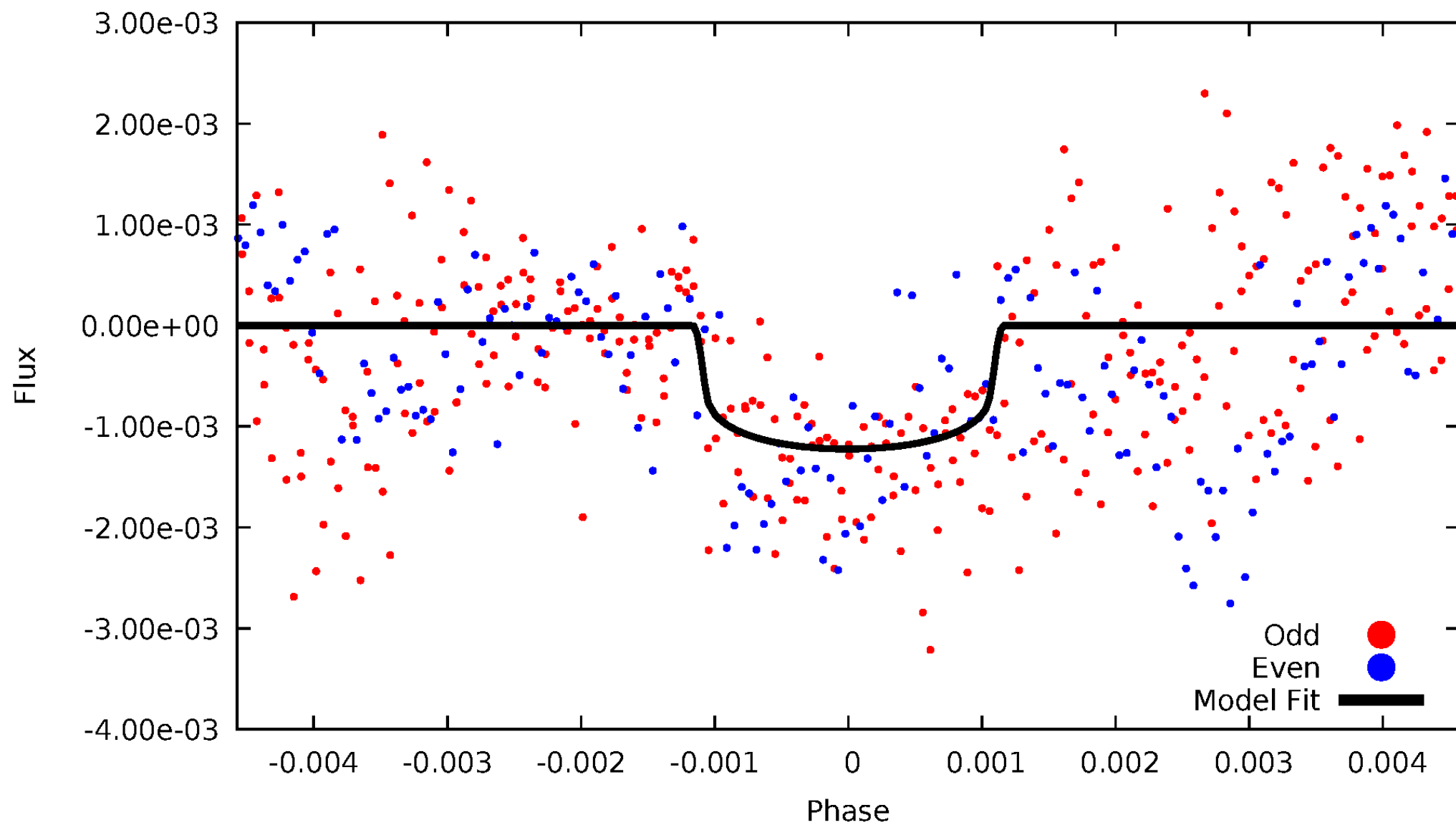


TCE 005956837-01



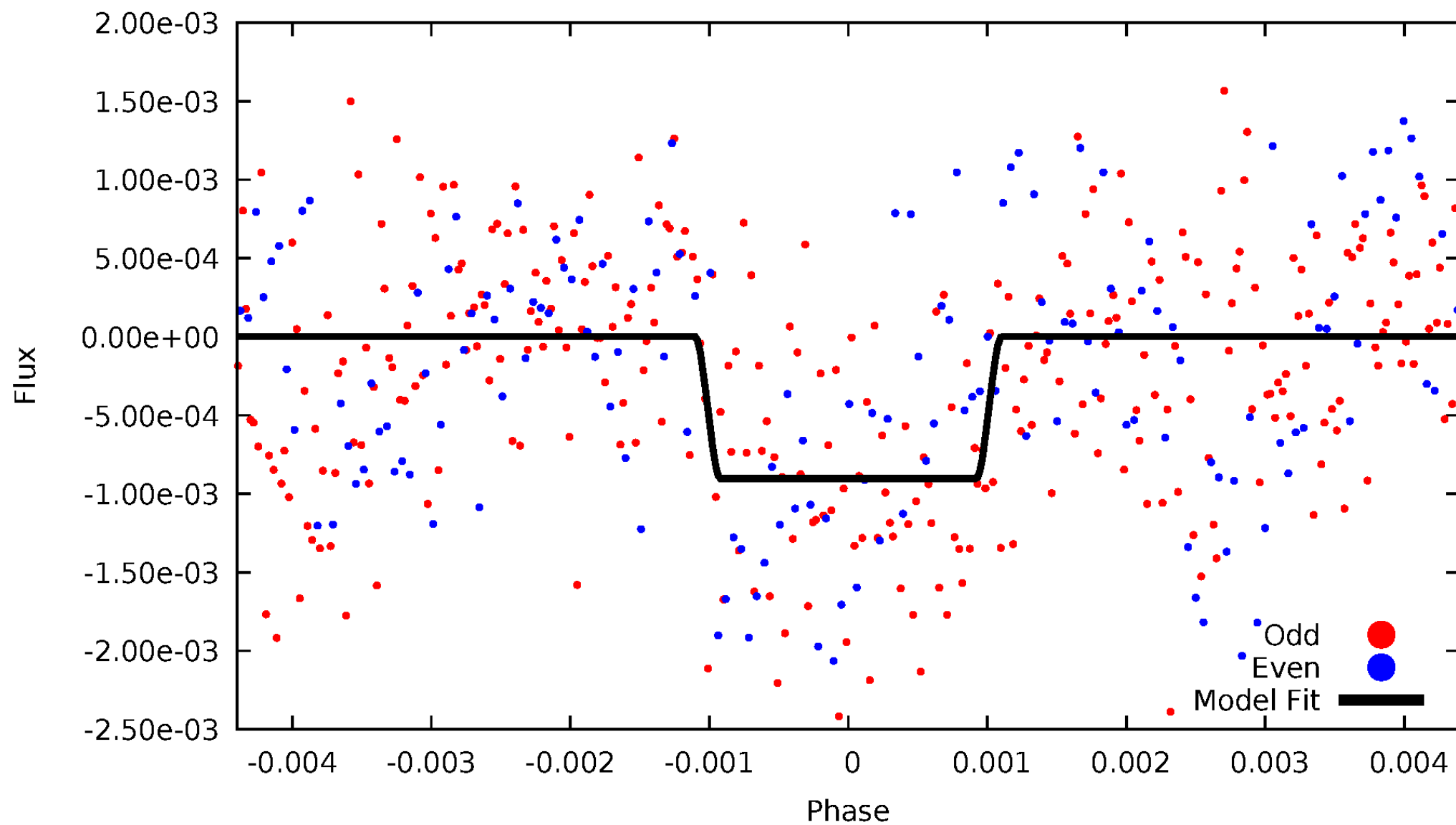
# DV Odd/Even

TCE 005956837-01



# ALT Odd/Even

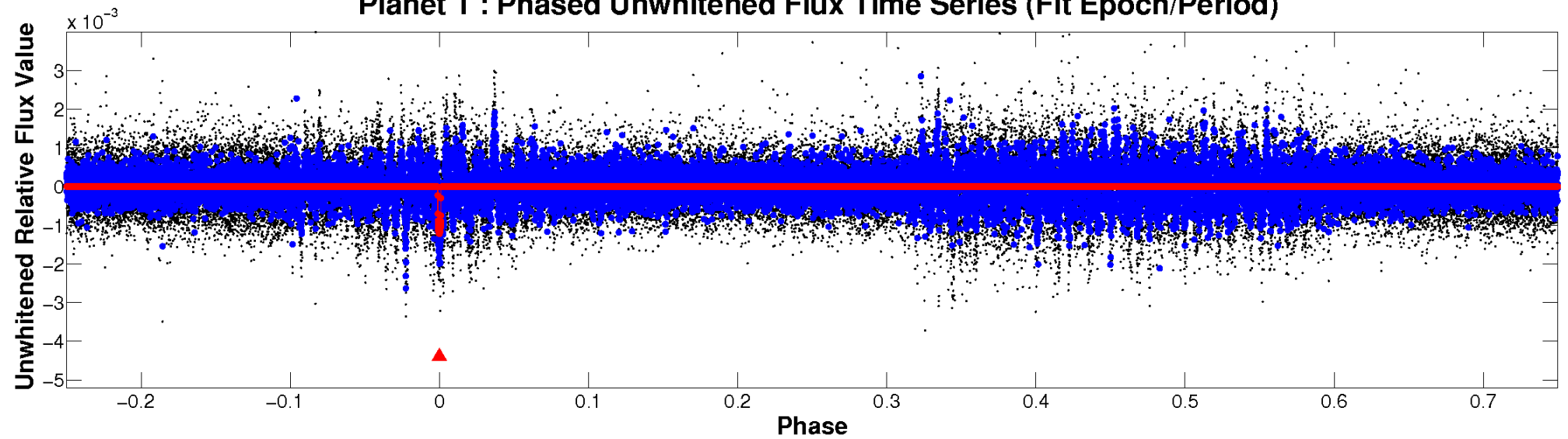
TCE 005956837-01



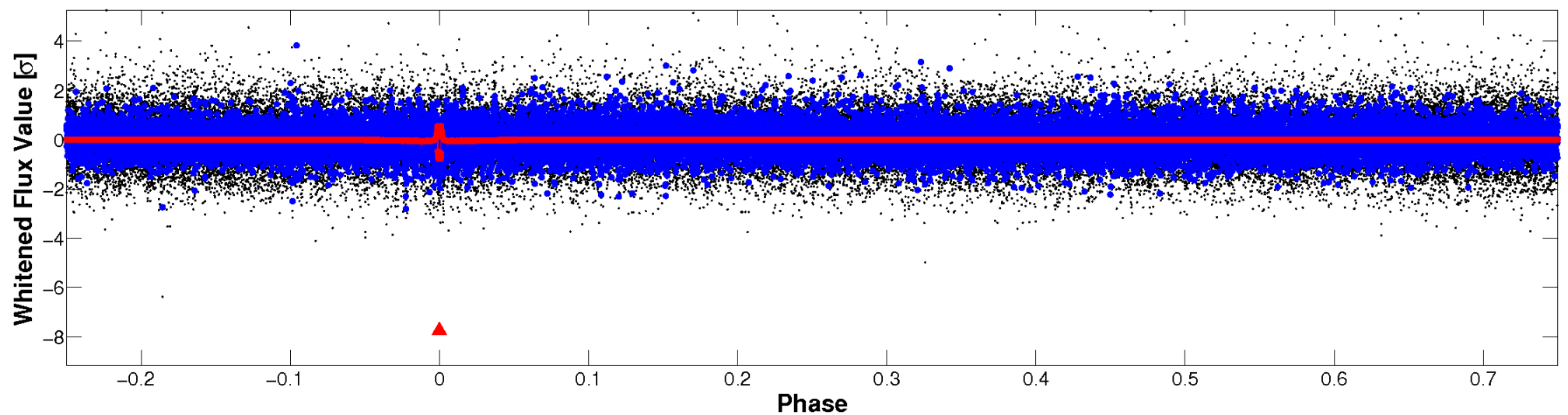


# Non-Whitened Vs. Whitened Light Curve

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

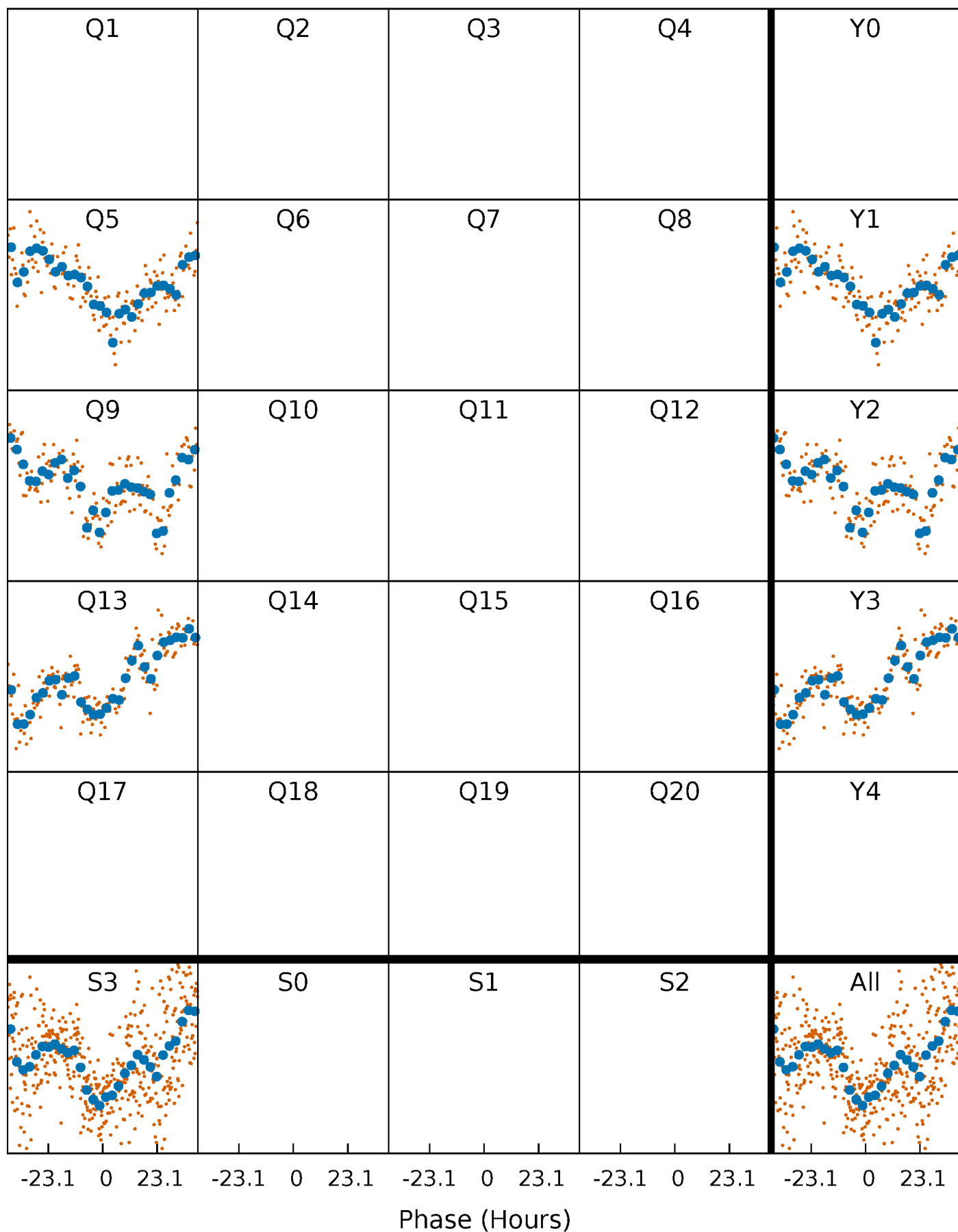


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

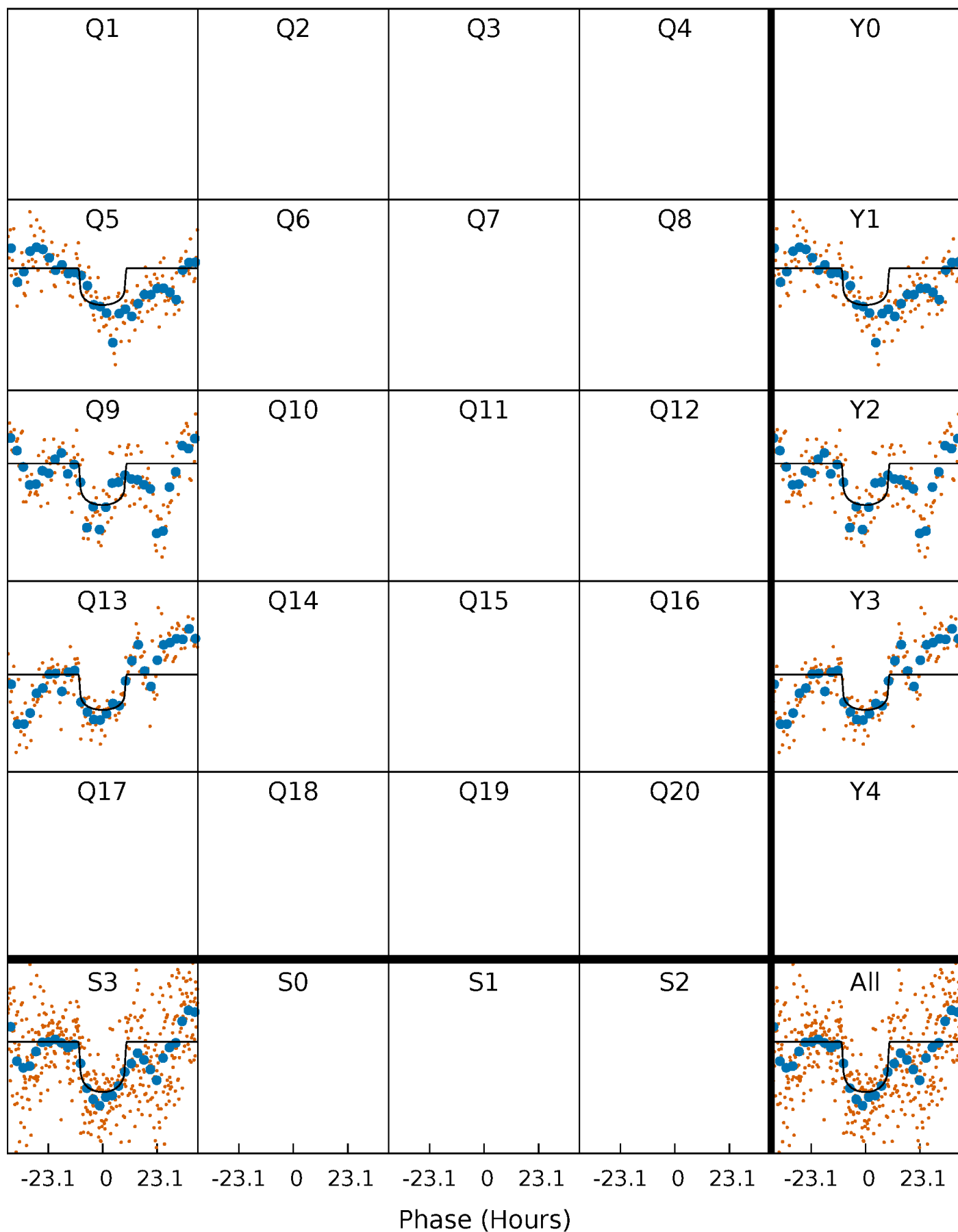
TCE 005956837-01 P=368.713352 Days  $T_0=143.925763$  (BKJD)





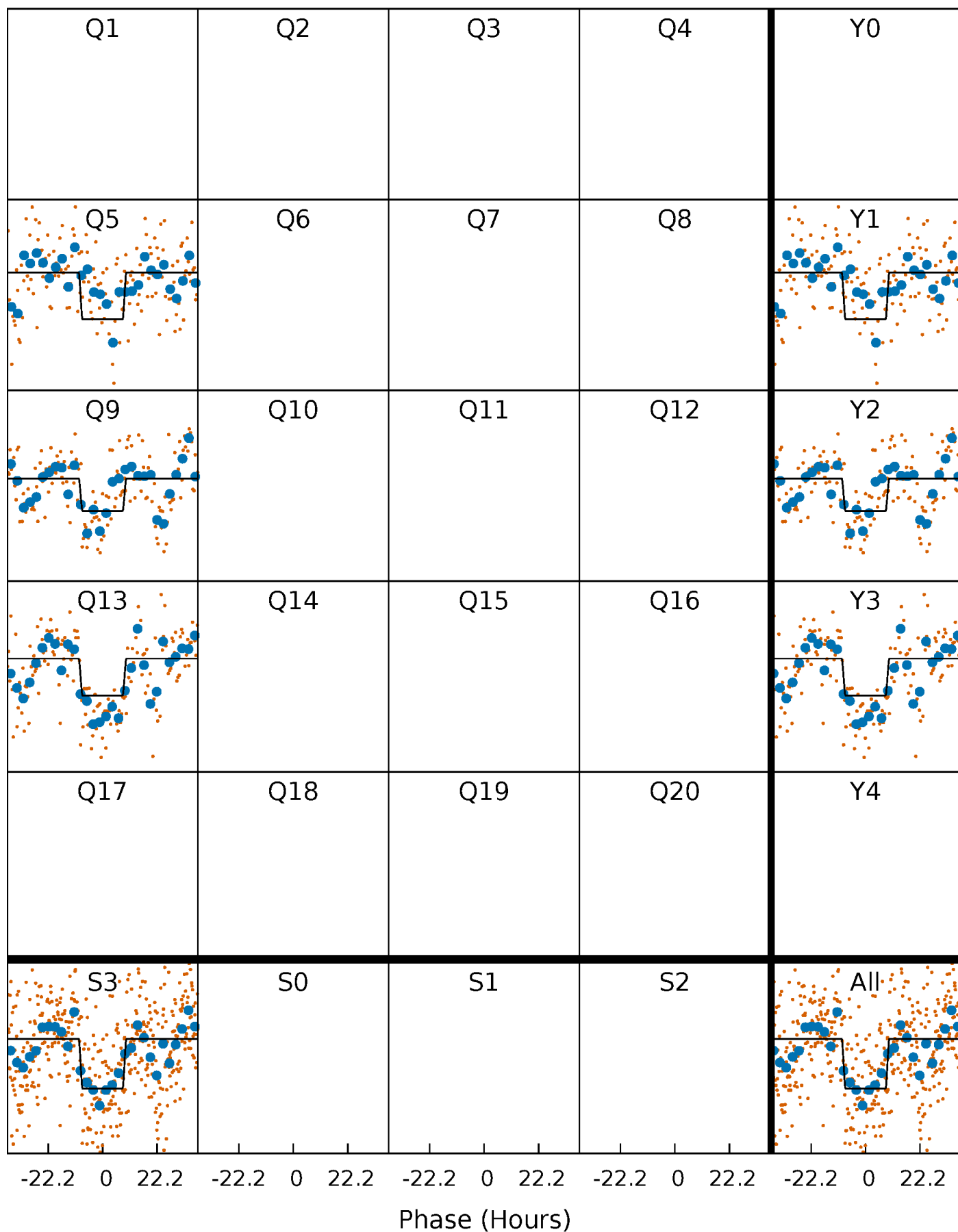
# DV Quarter-Phased Transit Curves

TCE 005956837-01     $P=368.713352$  Days     $T_0=143.925763$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

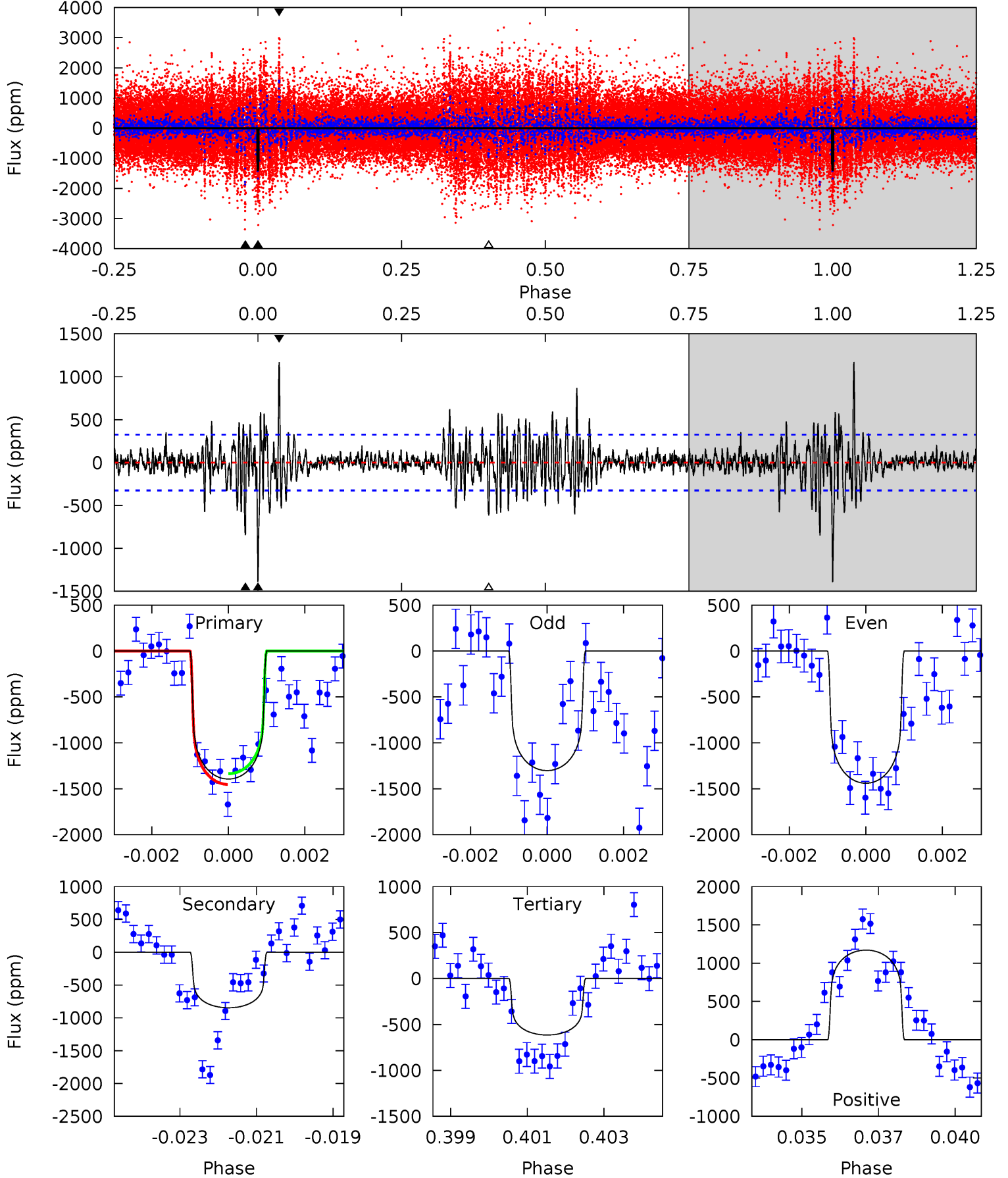
TCE 005956837-01 P=368.689534 Days  $T_0=143.983568$  (BKJD)



# DV Model-Shift Uniqueness Test

005956837-01, P = 368.713352 Days, E = 143.925763 Days

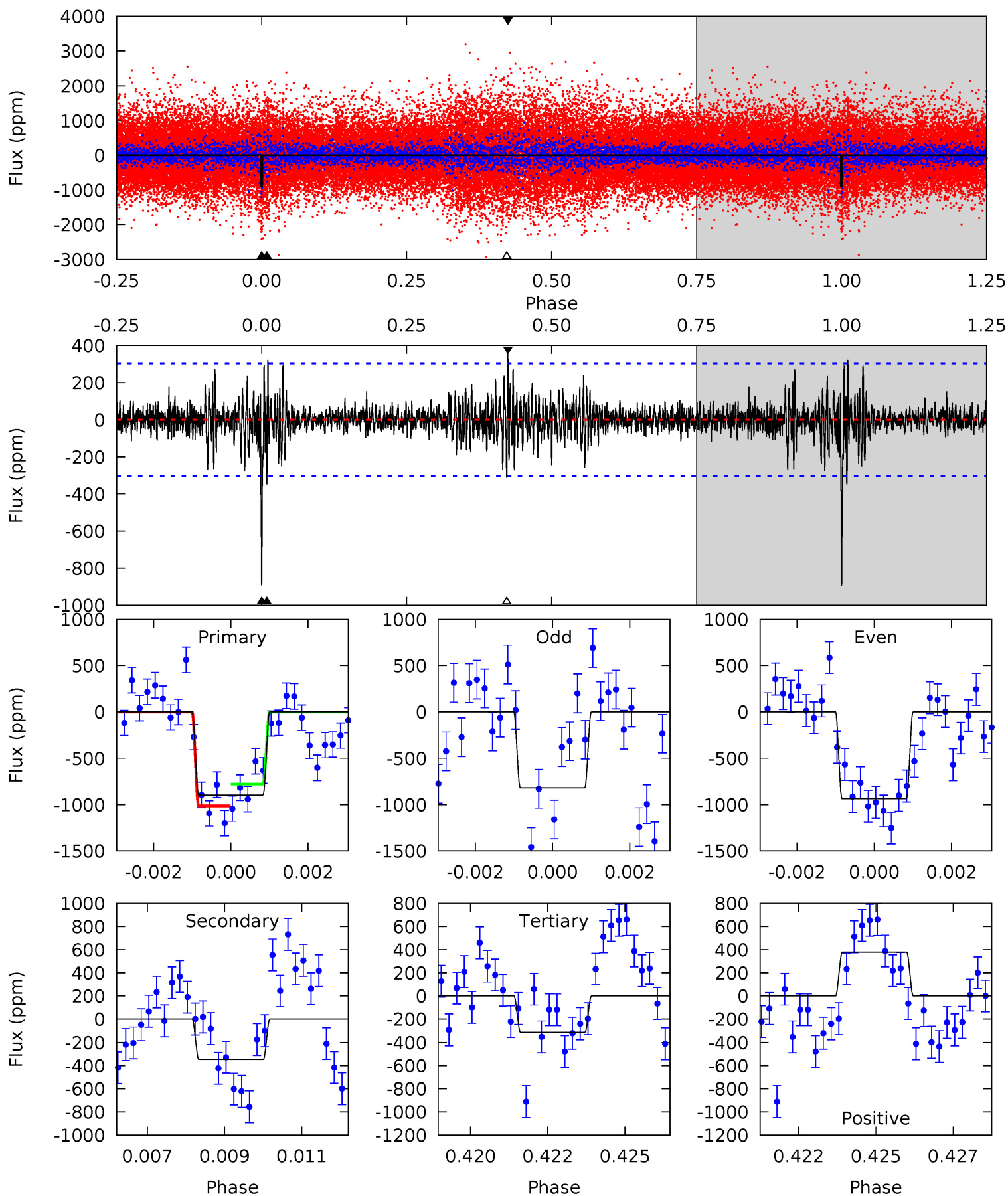
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.7	13.8	10.0	19.1	5.30	3.04	2.80	12.7	3.64	3.77	-5.28	1.06	0.98	0.46	0.95



# Alt Model-Shift Uniqueness Test

005956837-01, P = 368.689534 Days, E = 143.983568 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
15.6	6.06	5.45	6.58	5.31	3.06	1.15	10.2	9.03	0.62	-0.52	0.94	1.09	0.30	2.04



### Stellar Parameters For KIC 005956837

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6131^{+194}_{-216}$	$4.553^{+0.036}_{-0.204}$	$-0.500^{+0.300}_{-0.300}$	$0.850^{+0.241}_{-0.080}$	$0.943^{+0.104}_{-0.115}$	$2.159^{+0.429}_{-1.118}$
	+3%/-4%	+1%/-4%	+60%/-60%	+28%/-9%	+11%/-12%	+20%/-52%
Source	KIC0	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 005956837-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-847 \pm 61$	$3.25^{+0.90}_{-0.78}$	$361^{+25}_{-17}$	$5764^{+758}_{-536}$	$42407^{+29480}_{-16074}$
Alt.	$-348 \pm 57$	$2.92^{+0.85}_{-0.71}$	$361^{+25}_{-17}$	$4910^{+668}_{-438}$	$21011^{+15484}_{-8142}$

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

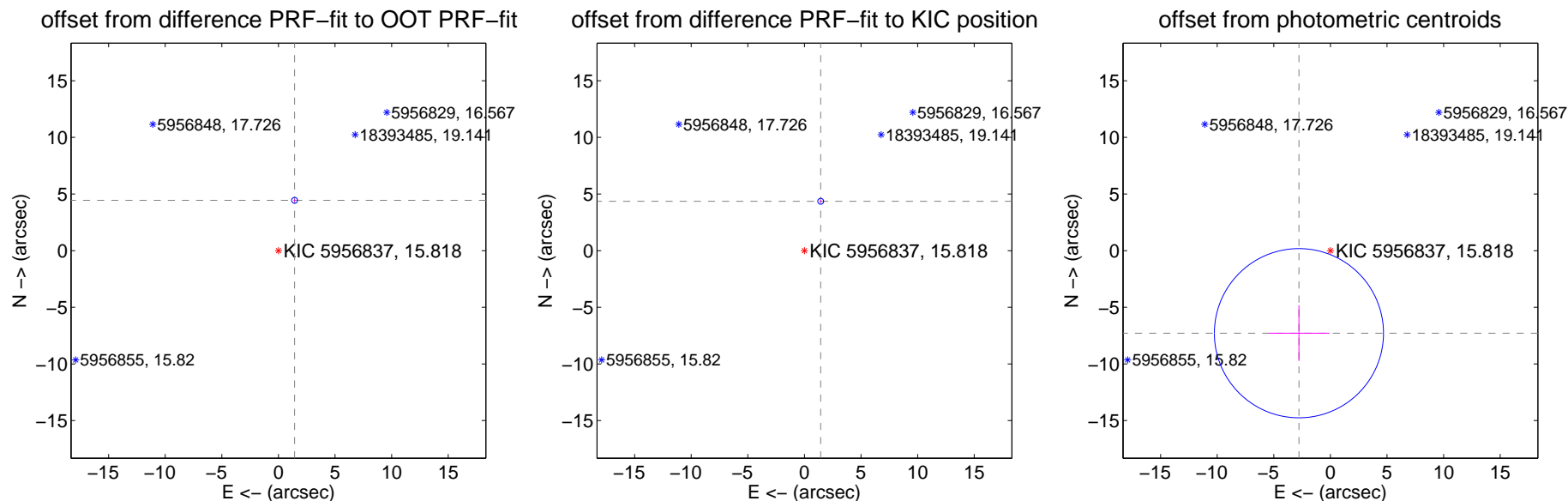
## DV Centroid Data

Supplemental centroid analysis for 005956837-01. Kepler magnitude: 15.82. 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 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.667 \pm 0.087$	53.81	$-1.429 \pm 0.092$	$4.442 \pm 0.086$
PRF-fit source offset from KIC position	$4.591 \pm 0.087$	52.92	$-1.439 \pm 0.092$	$4.359 \pm 0.086$
photometric centroid source offset	$7.80 \pm 2.49$	3.13	$2.78 \pm 2.69$	$-7.29 \pm 2.46$



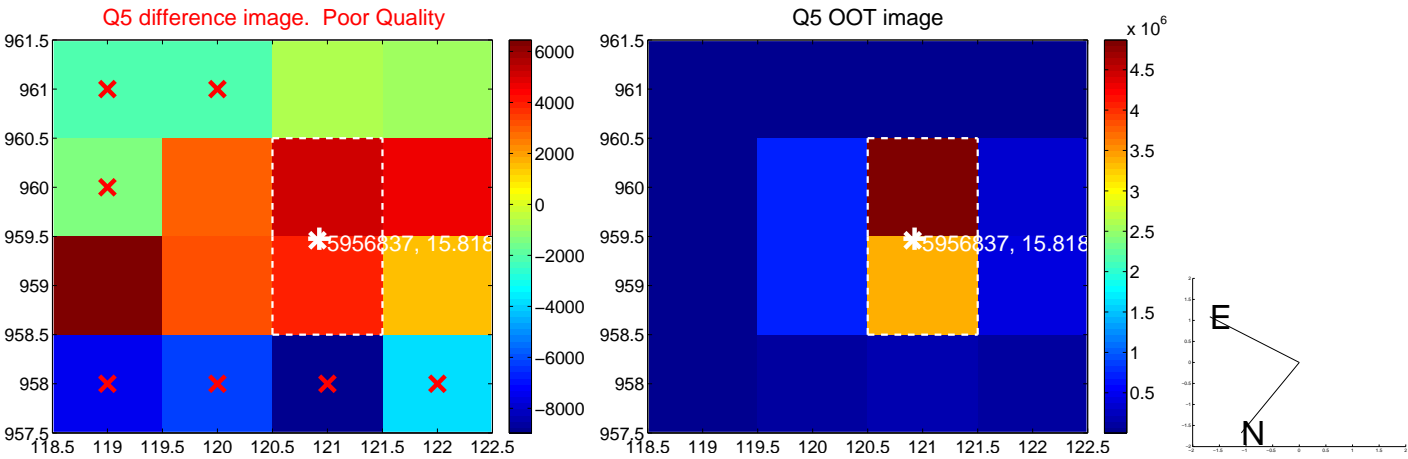
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



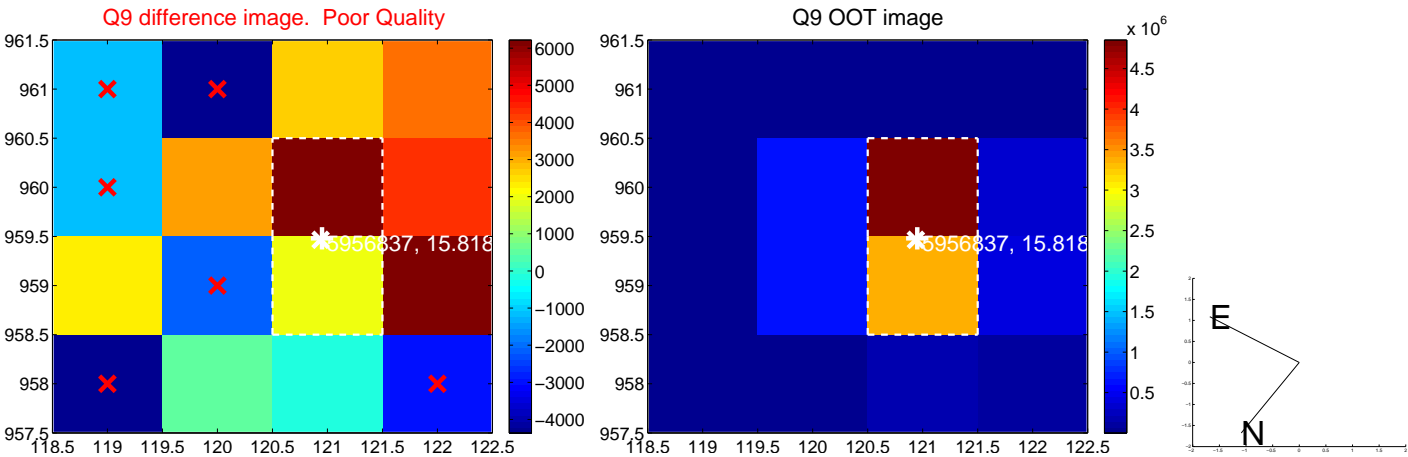
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



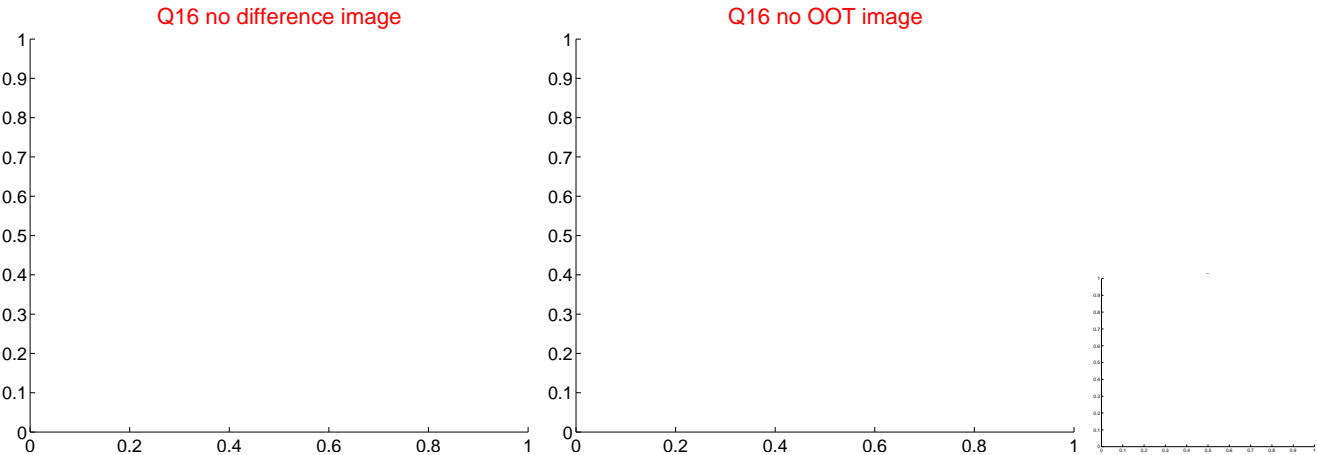
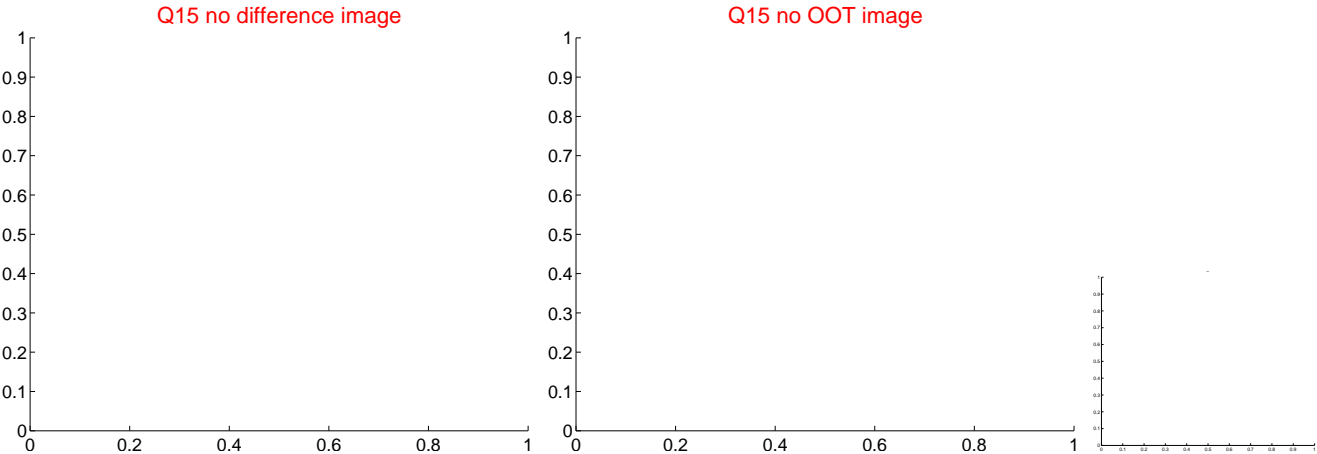
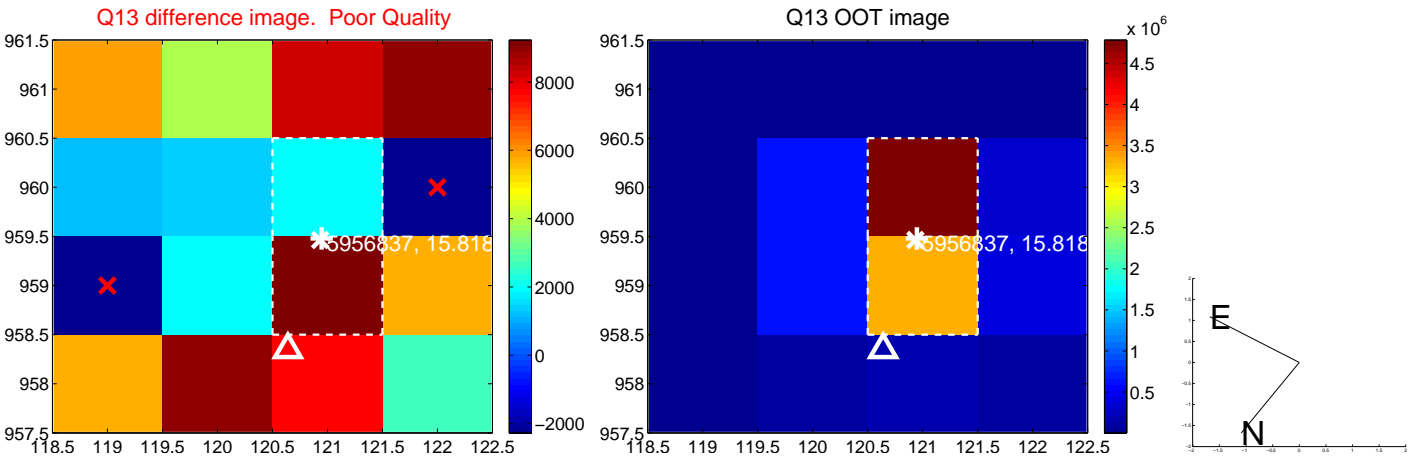
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



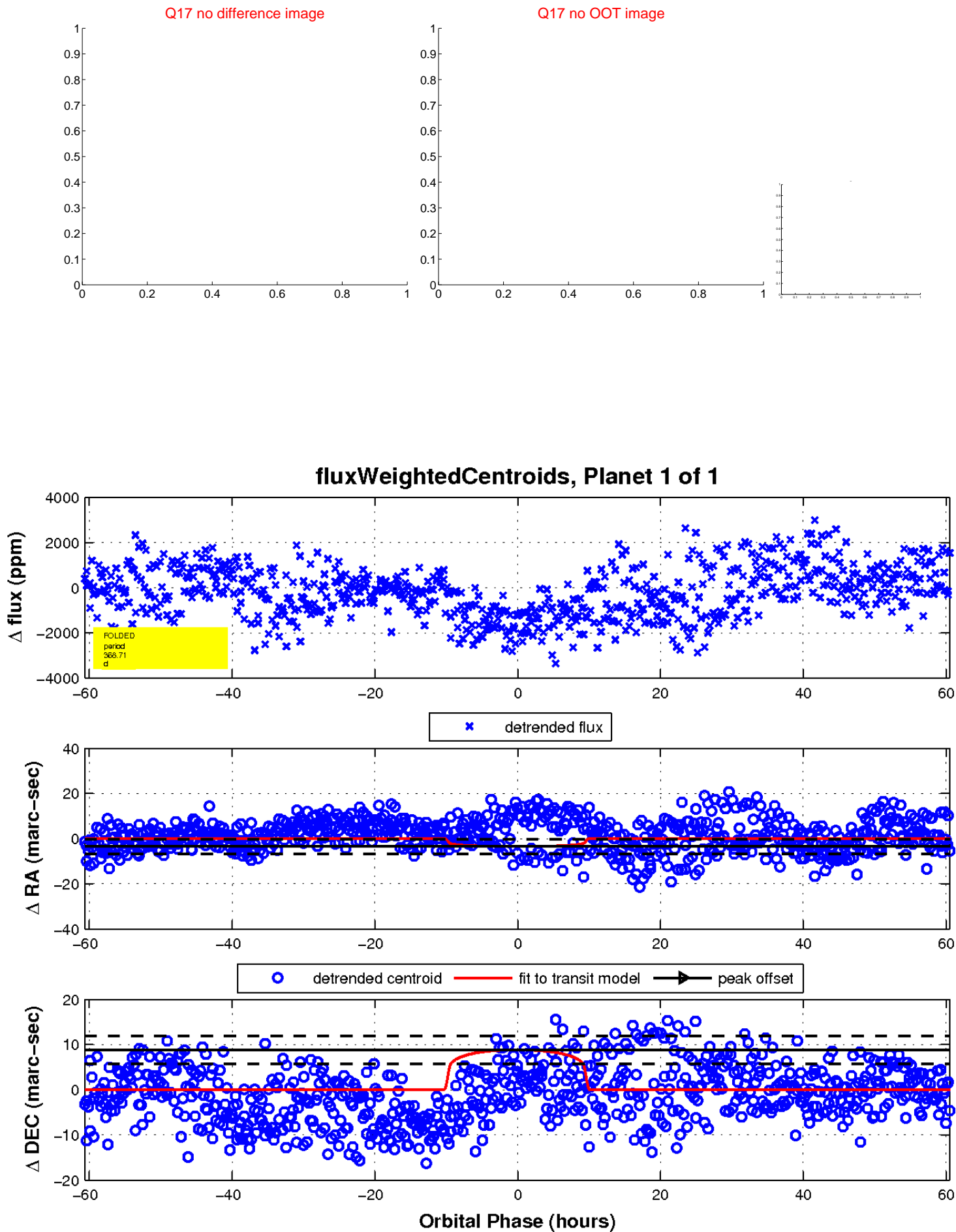
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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.



UKIRT Image

Declination

