

# KIC 011868738

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011868738-01	OBS	No	367.421315	172.650852	1771.3	8.704	8.2	11.7	0.80	5410	3.31	0.53

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011868738-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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.

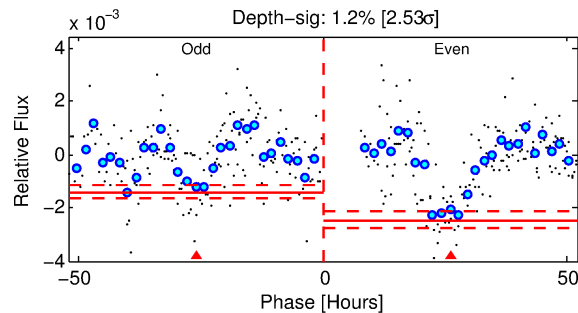
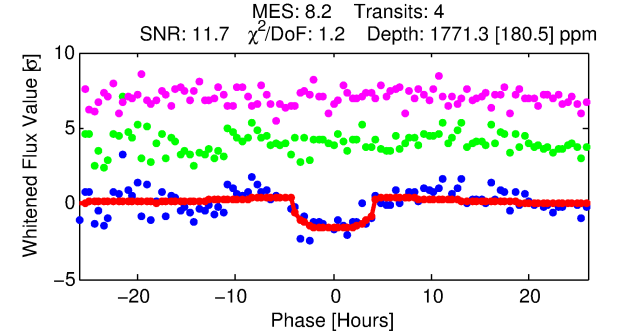
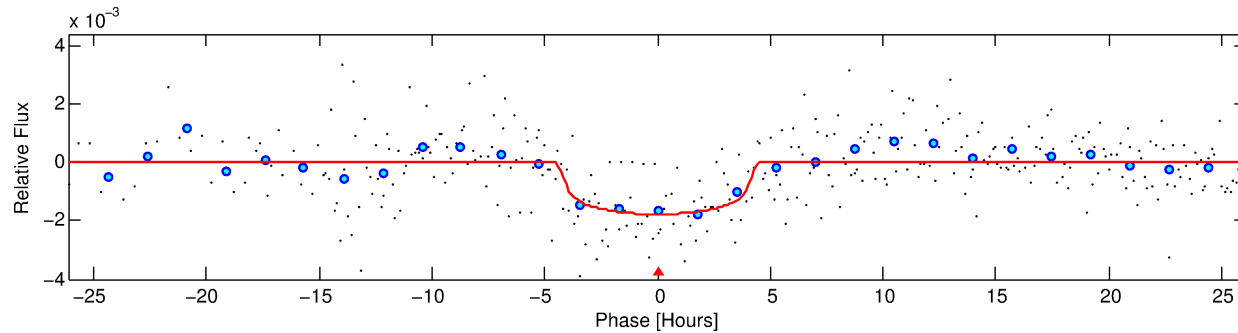
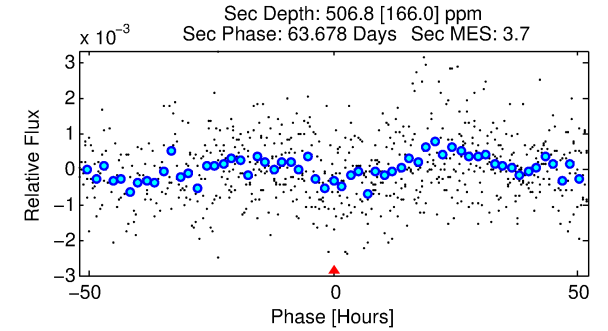
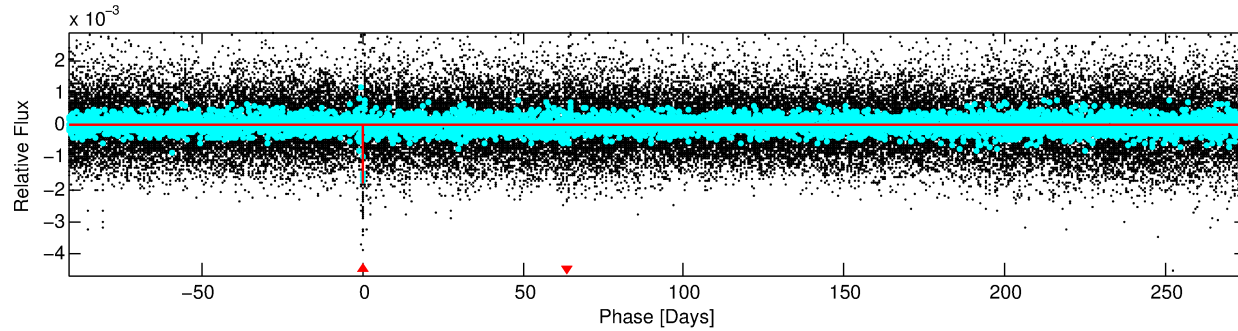
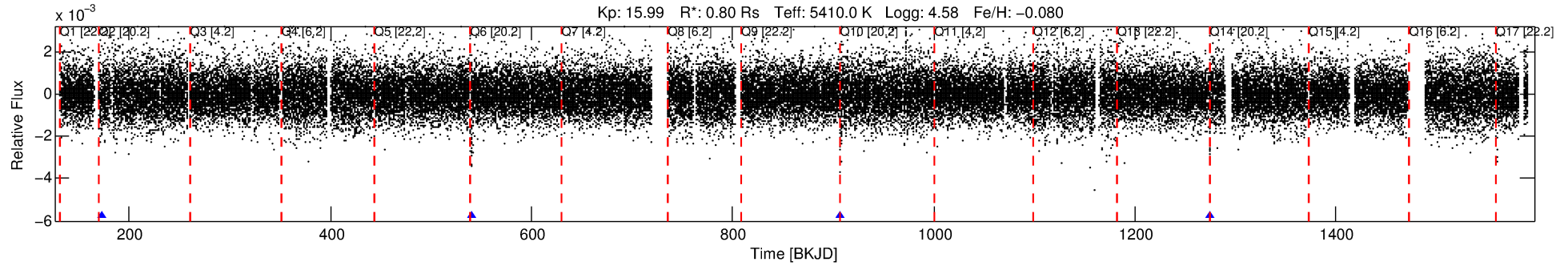
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011868738-01

No Significant Match Found

# DV One-Page Summary

KIC: 11868738 Candidate: 1 of 1 Period: 367.421 d



## DV Fit Results:

Period = 367.42131 [0.00665] d  
Epoch = 172.6509 [0.0118] BKJD  
Rp/R\* = 0.0380 [0.0333]  
a/R\* = 327.32 [1123.20]  
b = 0.22 [15.17]  
Seff = 0.52 [0.12]  
Teq = 217 [13] K  
Rp = 3.31 [2.95] Re  
a = 0.9649 [0.1368] AU  
Ag = 23670.73 [42472.88] [0.56 $\sigma$ ]  
Teffp = 4162 [1859] K [2.12 $\sigma$ ]

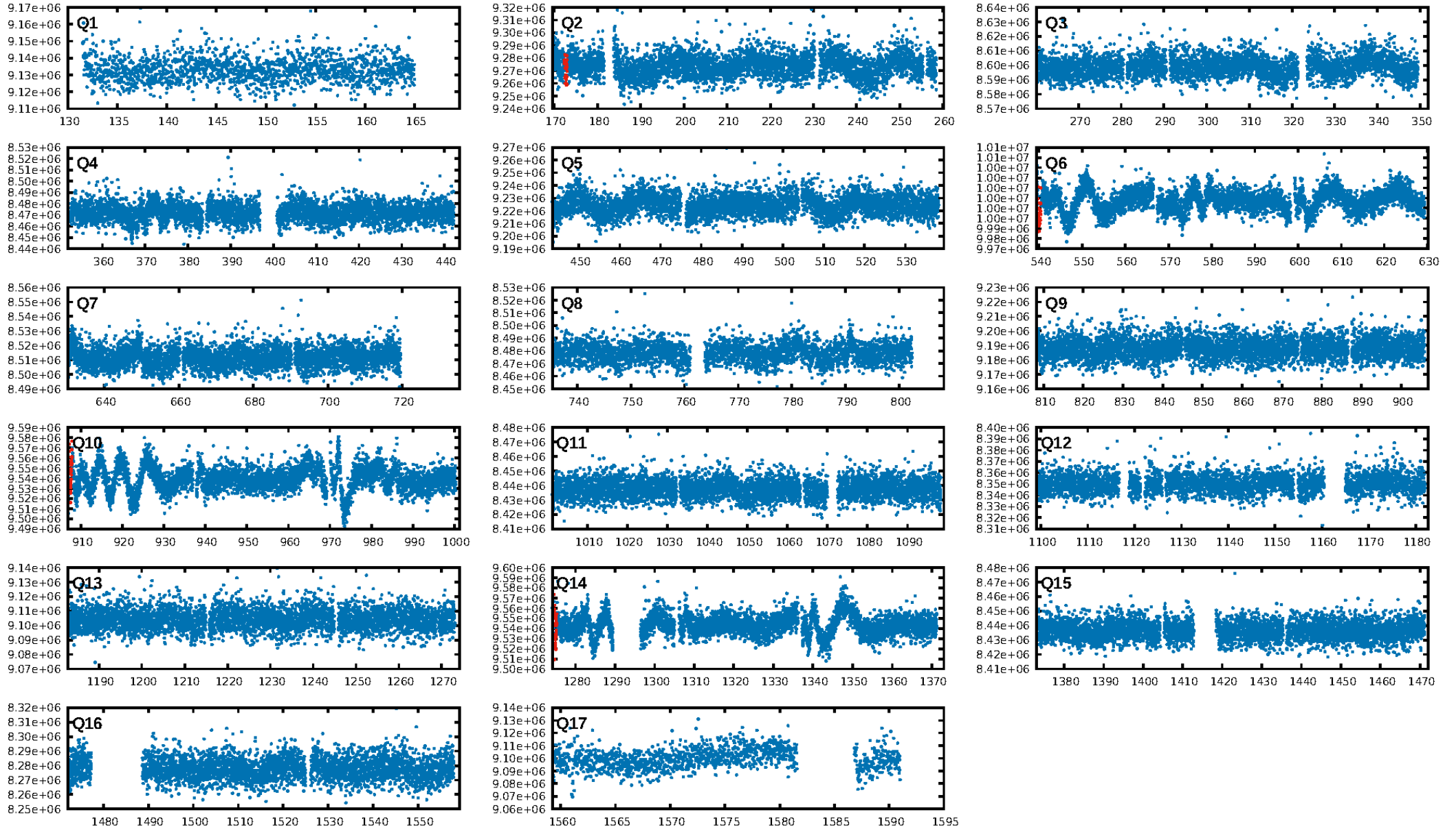
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.4%  
ModelChiSquareGof-sig: 93.6%  
**Bootstrap-pfa: 6.56e-12**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 2.295  
**Centroid-sig: 0.0%**  
**Centroid-so: 6.564 arcsec [4.47 $\sigma$ ]**  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [1/1]

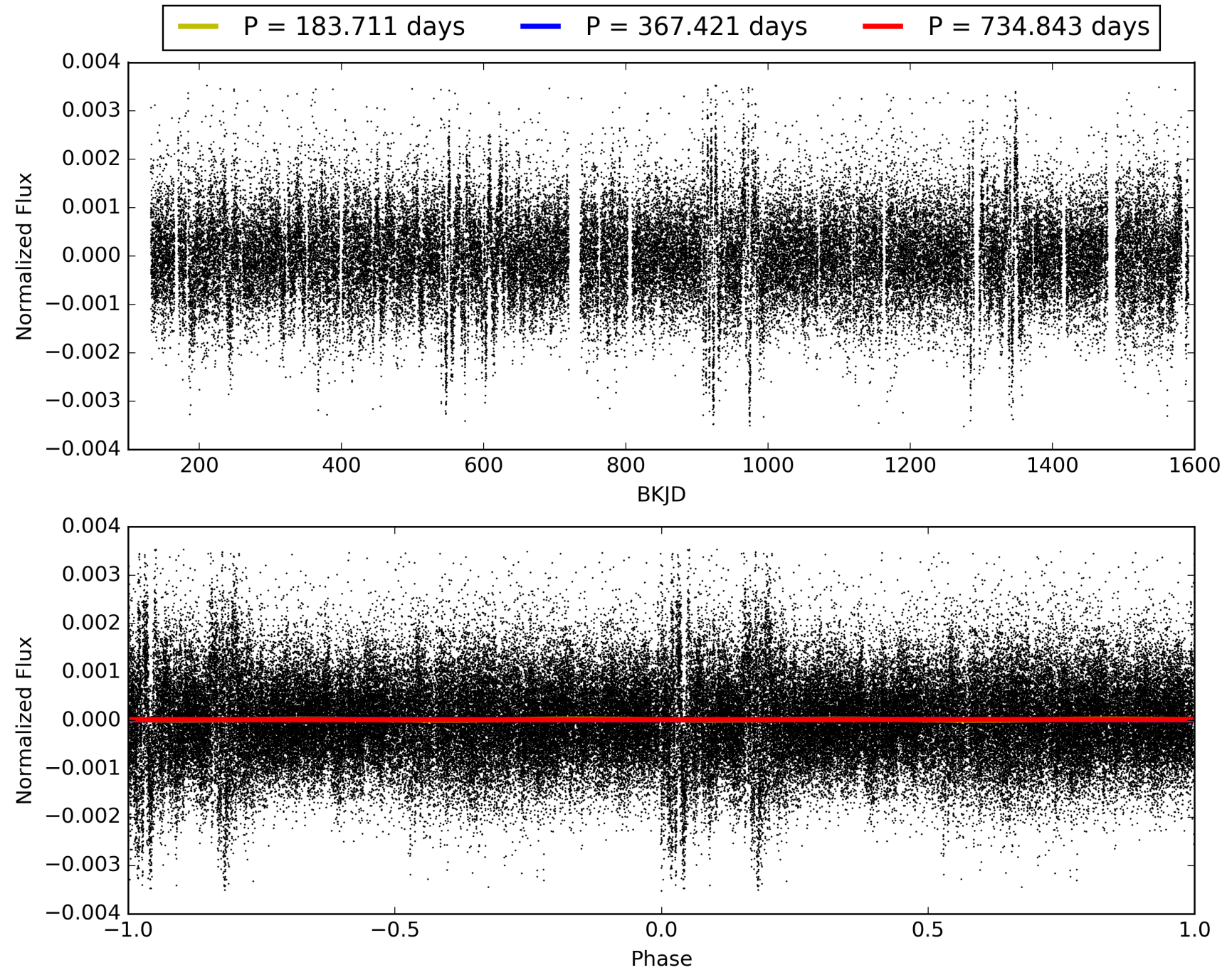
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:07:14 Z

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

# TCE 011868738-01, PDC Light Curves

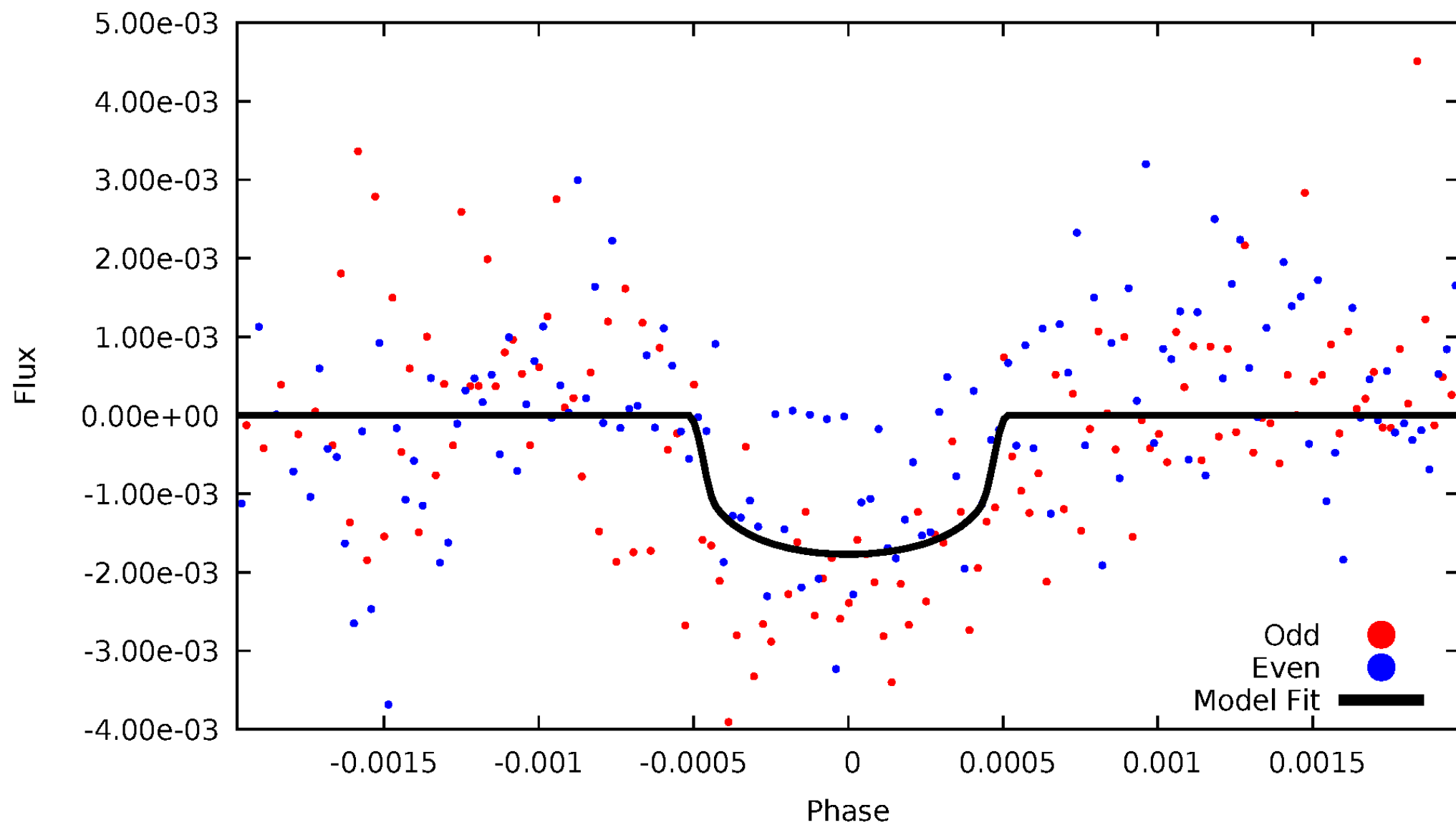


# TCE 011868738-01



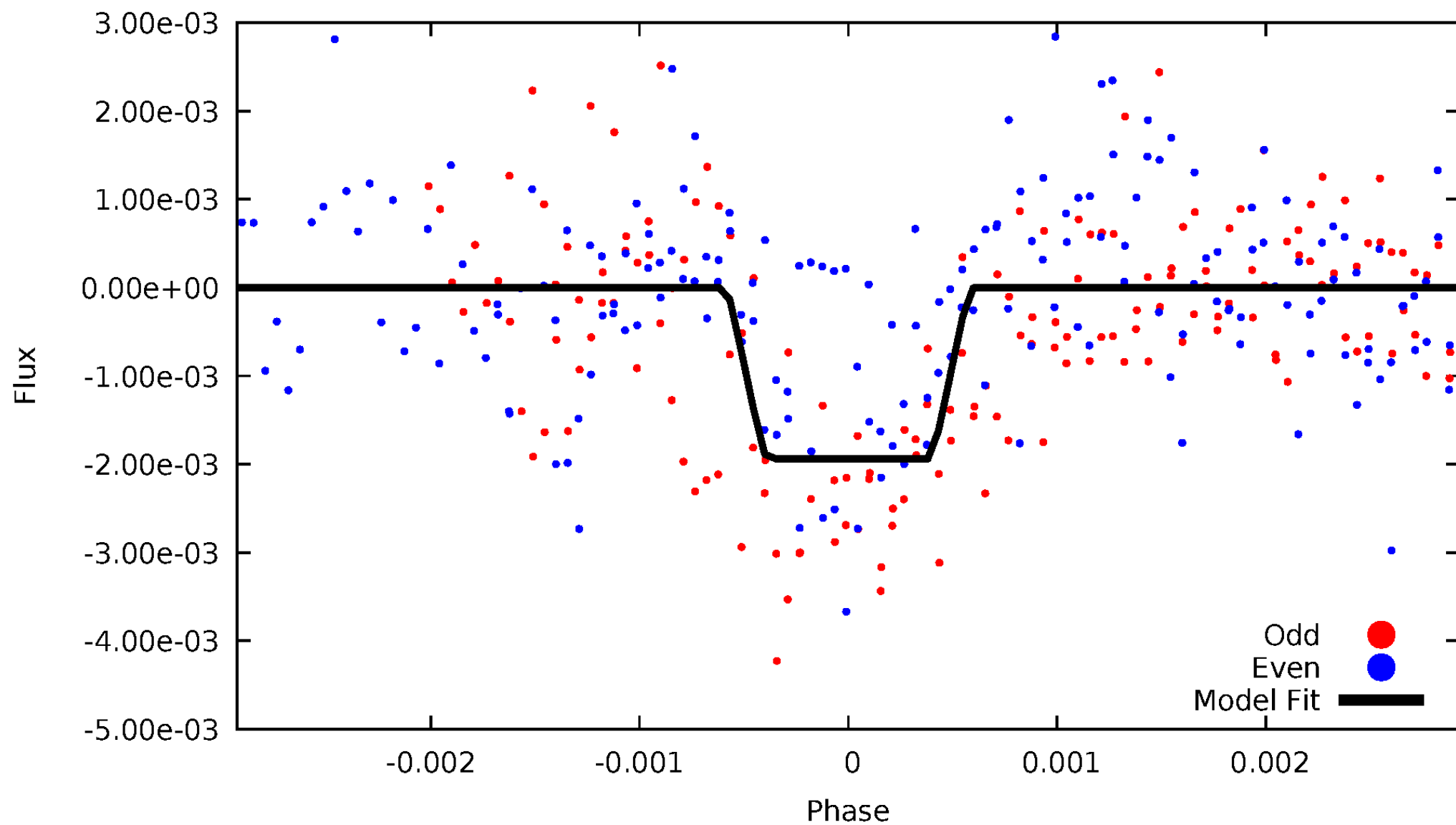
# DV Odd/Even

TCE 011868738-01



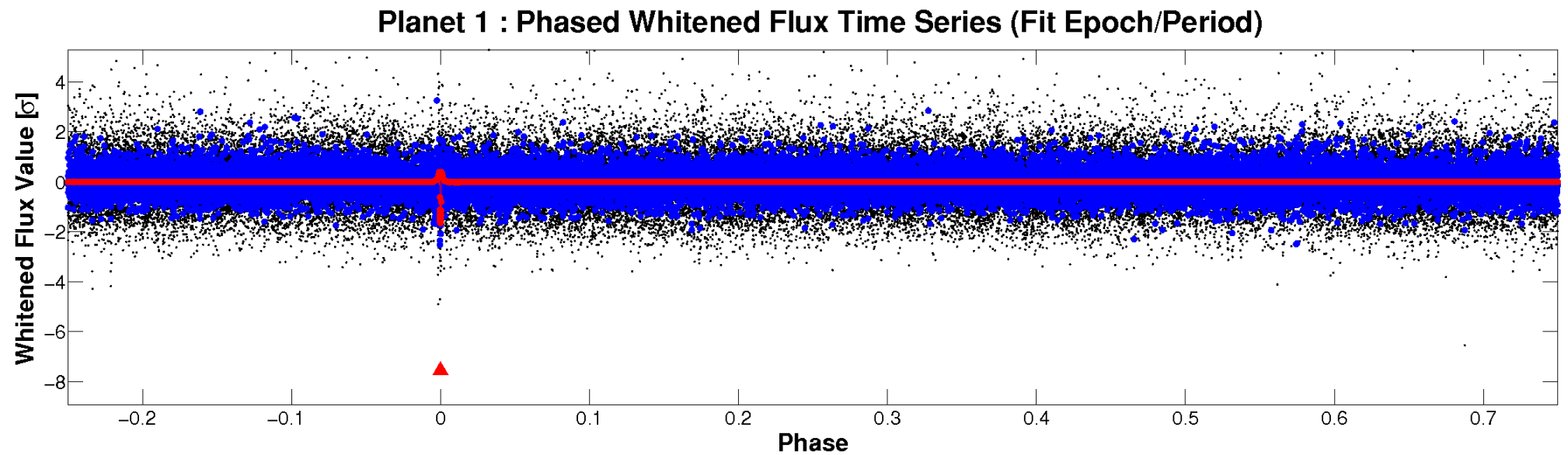
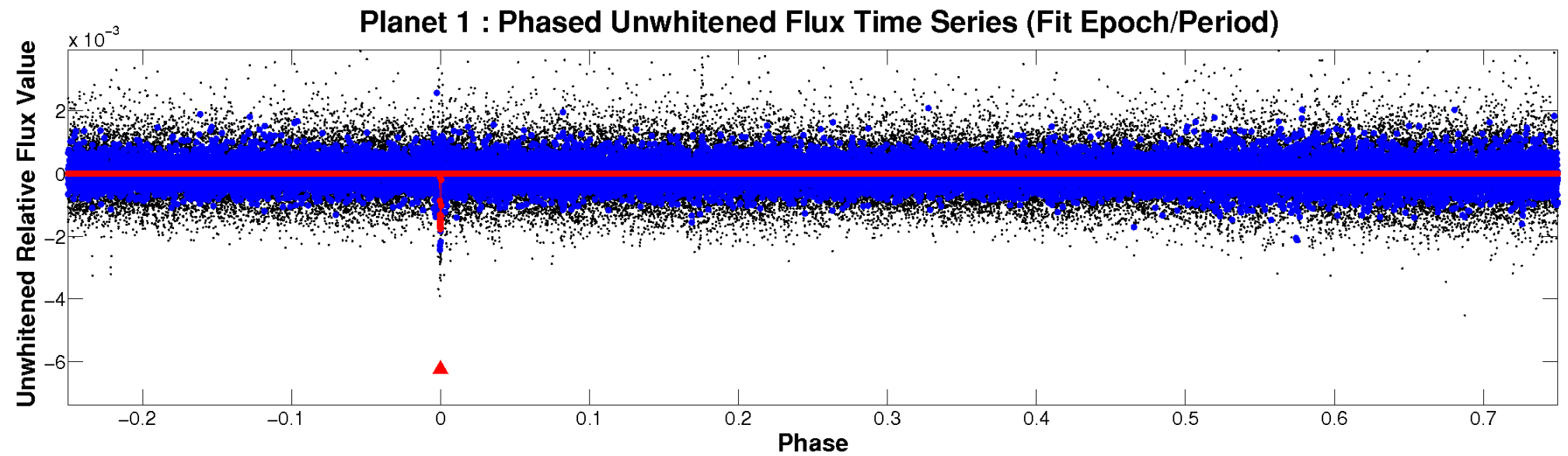
# ALT Odd/Even

TCE 011868738-01



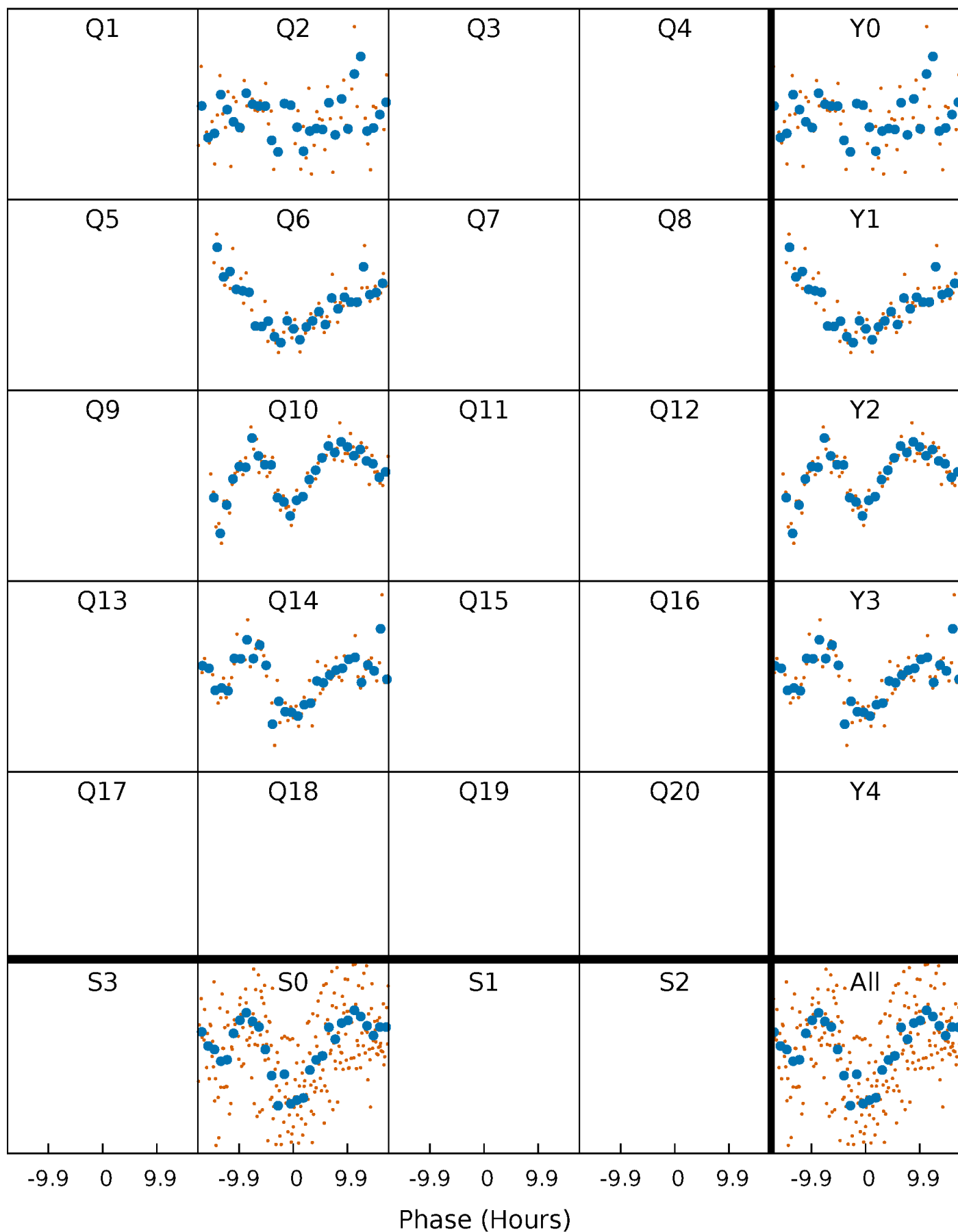


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

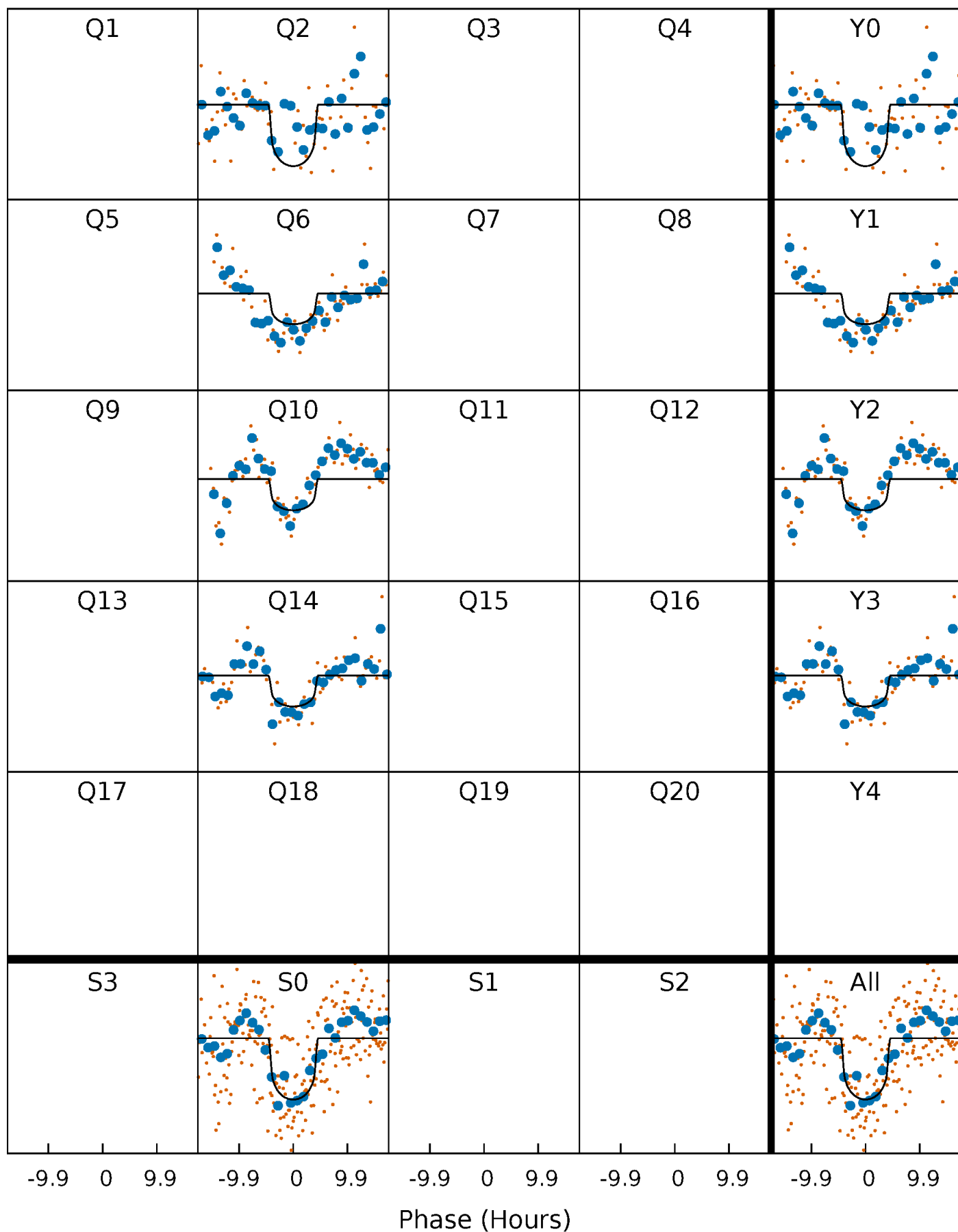
TCE 011868738-01 P=367.421315 Days  $T_0=172.650851$  (BKJD)





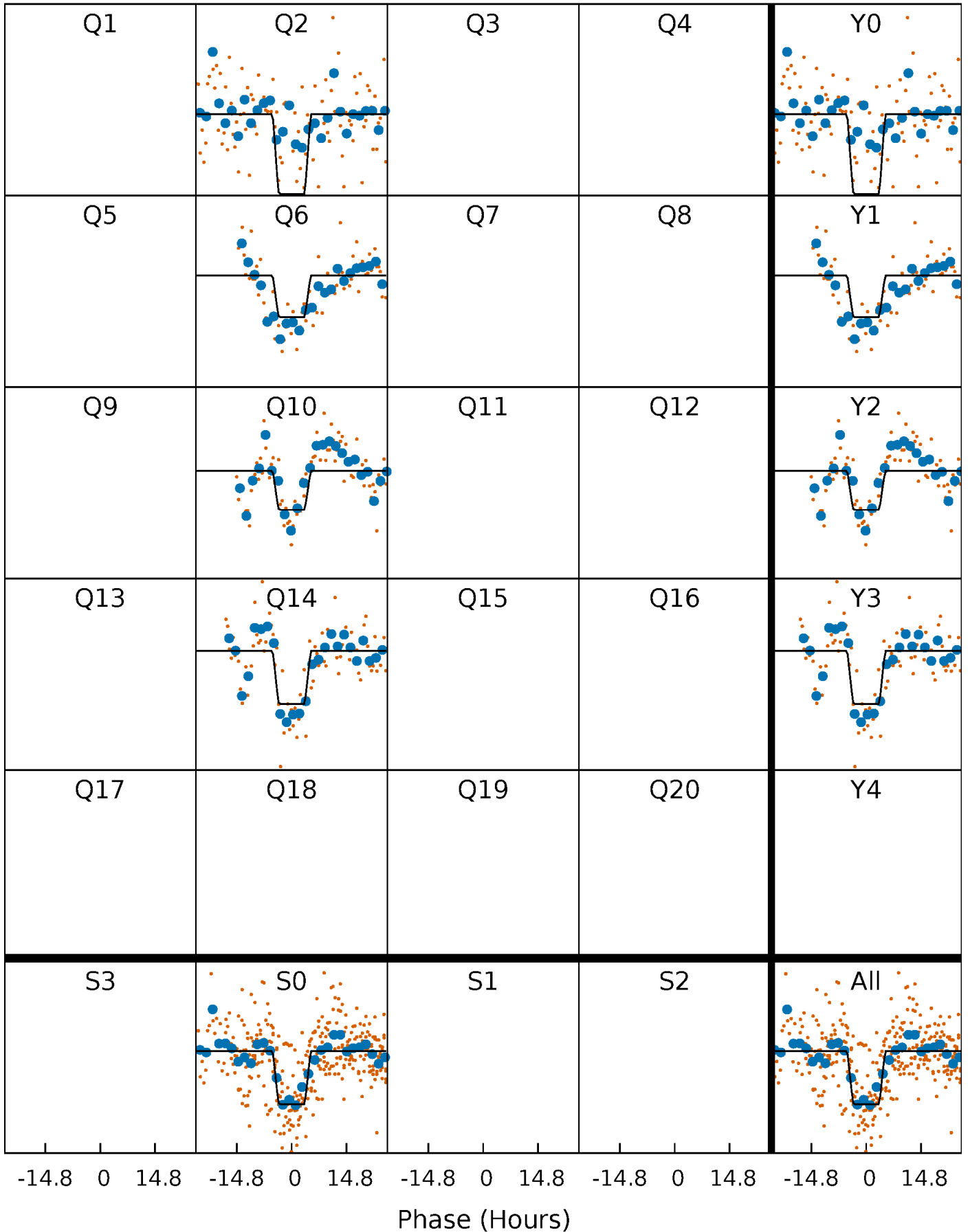
# DV Quarter-Phased Transit Curves

TCE 011868738-01 P=367.421315 Days  $T_0=172.650851$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

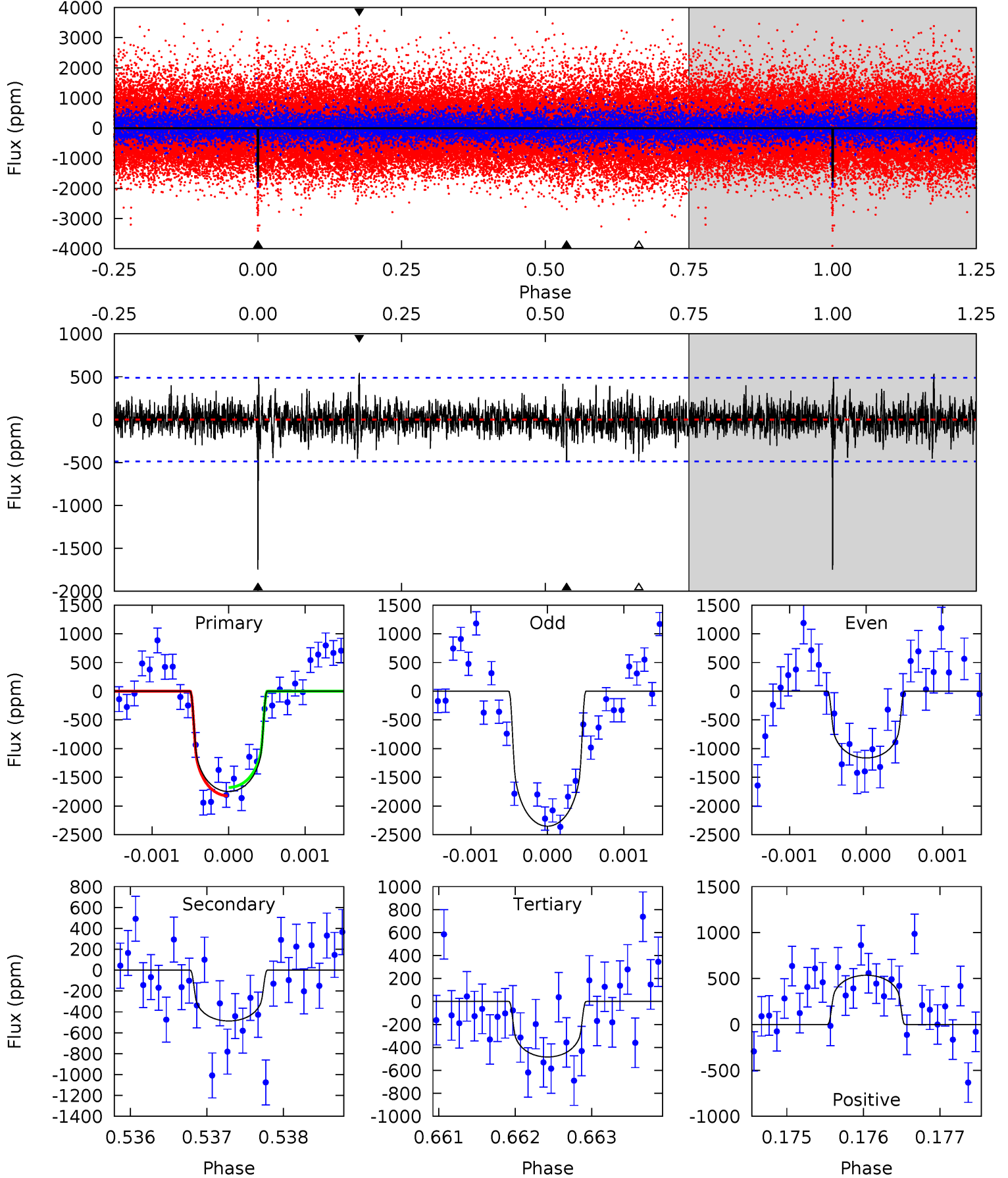
TCE 011868738-01 P=367.415842 Days  $T_0=172.650803$  (BKJD)



# DV Model-Shift Uniqueness Test

011868738-01, P = 367.421315 Days, E = 172.650851 Days

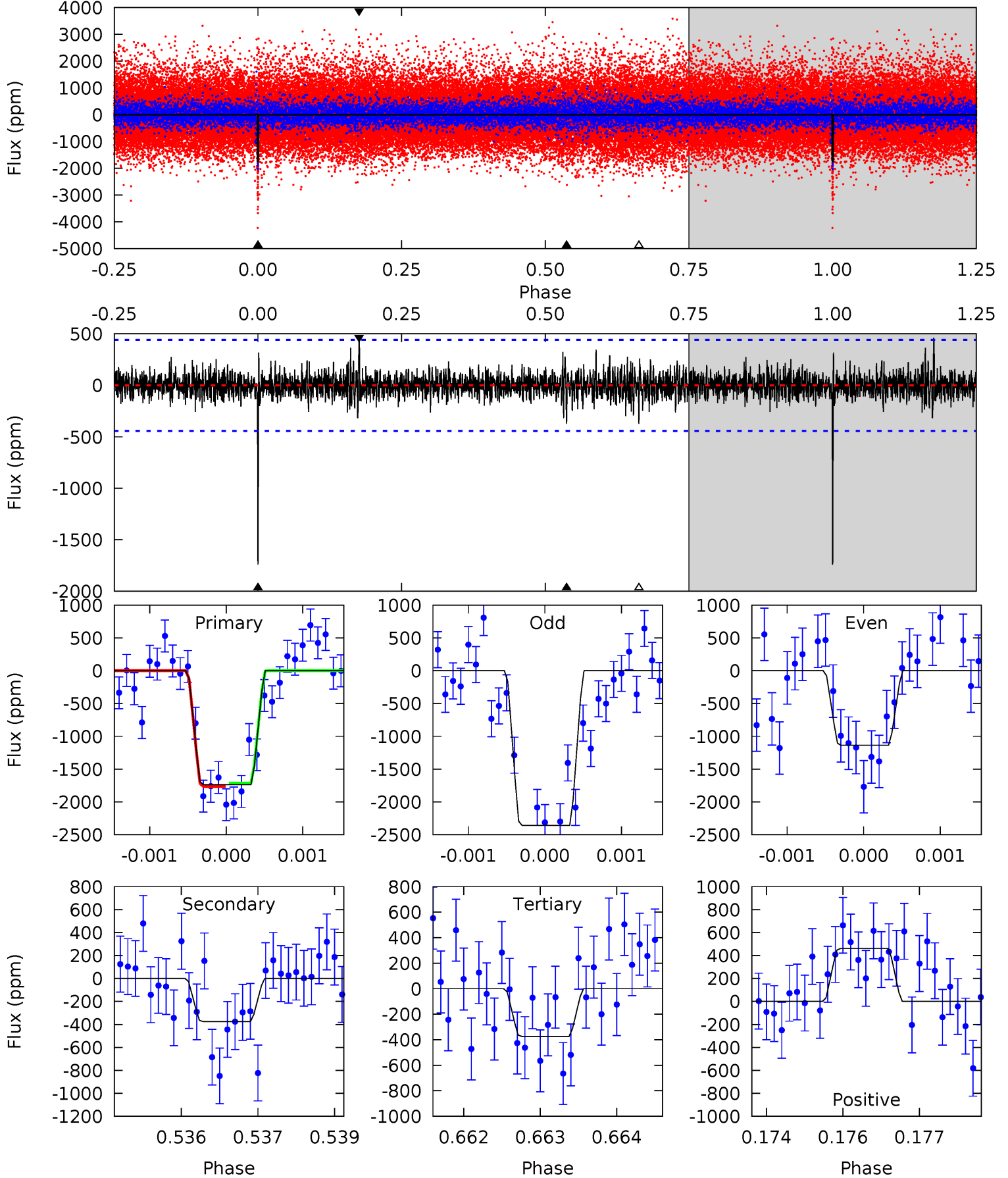
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.5	5.44	5.40	5.98	5.45	3.28	1.30	14.1	13.6	0.04	-0.54	6.64	0.95	0.23	0.82



# Alt Model-Shift Uniqueness Test

011868738-01, P = 367.415842 Days, E = 172.650803 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
21.3	4.59	4.57	5.65	5.42	3.25	1.05	16.7	15.7	0.02	-1.05	7.52	0.88	0.21	0.32



### Stellar Parameters For KIC 011868738

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5410^{+160}_{-160}$	$4.582^{+0.030}_{-0.112}$	$-0.080^{+0.300}_{-0.300}$	$0.798^{+0.135}_{-0.068}$	$0.895^{+0.072}_{-0.108}$	$2.482^{+0.472}_{-0.879}$
	+3%/-3%	+1%/-2%	+375%/-375%	+17%/-9%	+8%/-12%	+19%/-35%
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 011868738-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-487 \pm 89$	$3.85^{+2.87}_{-2.27}$	$309^{+14}_{-13}$	$4127^{+1904}_{-697}$	$16259^{+79885}_{-10912}$
Alt.	$-375 \pm 82$	$4.20^{+3.03}_{-2.47}$	$308^{+13}_{-12}$	$3807^{+1581}_{-595}$	$10588^{+50044}_{-7106}$

$T_{\text{max}}$  = 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

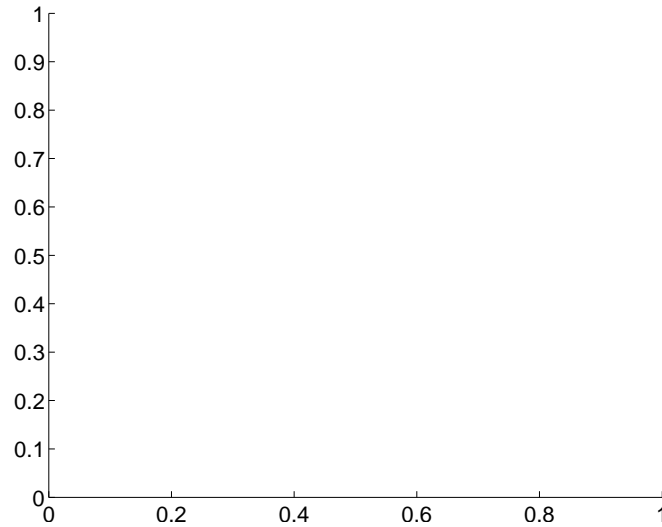
Supplemental centroid analysis for 011868738-01. Kepler magnitude: 15.99. Transit SNR 11.66

There are 0 quarters with good PRF difference image offsets

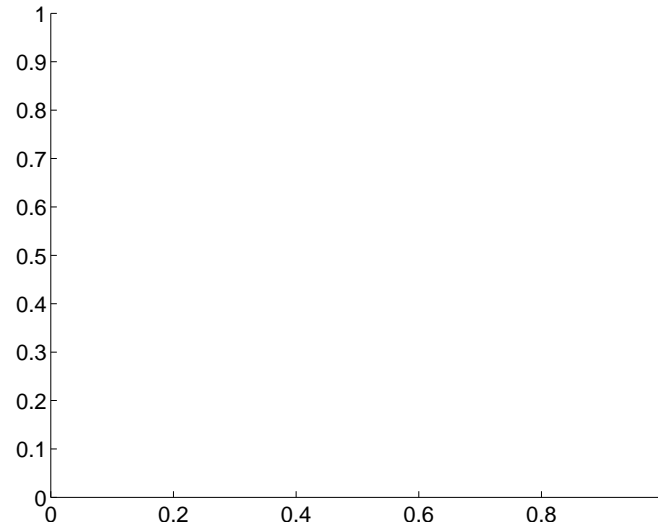
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	$6.56 \pm 1.47$	4.47	$2.13 \pm 1.34$	$-6.21 \pm 1.48$

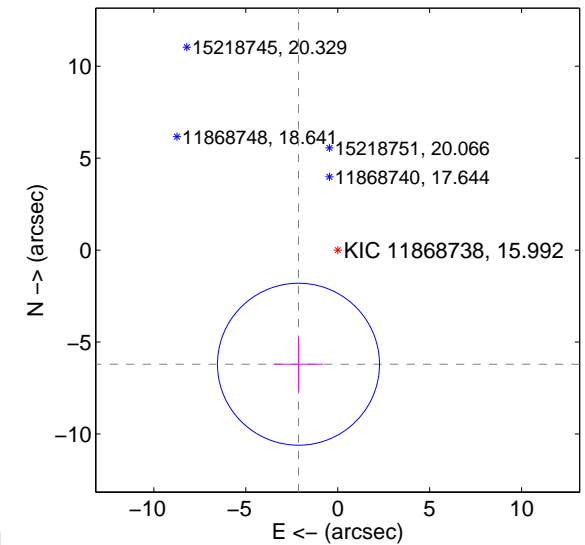
There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

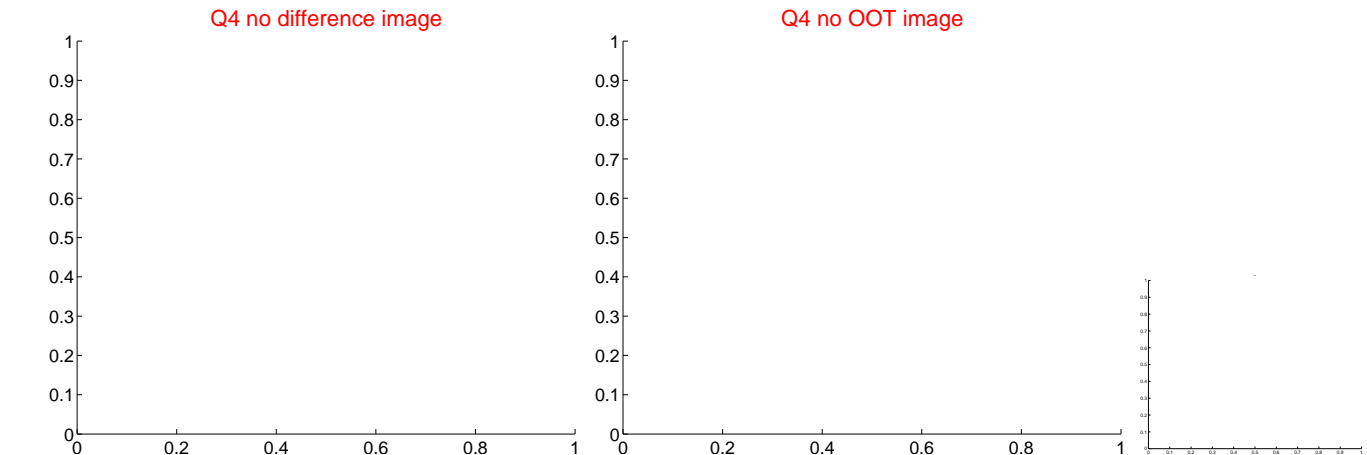
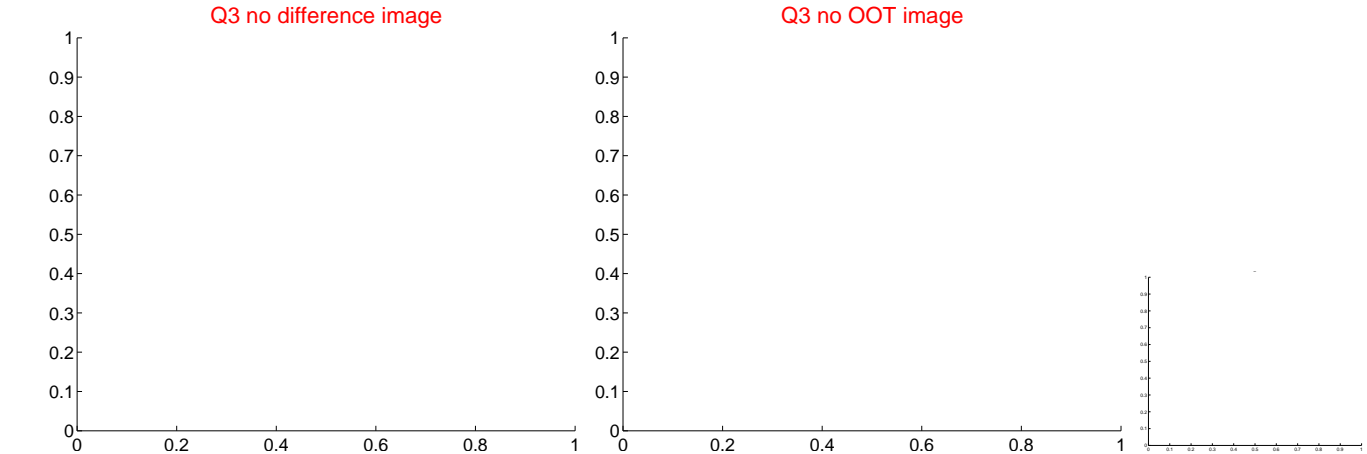
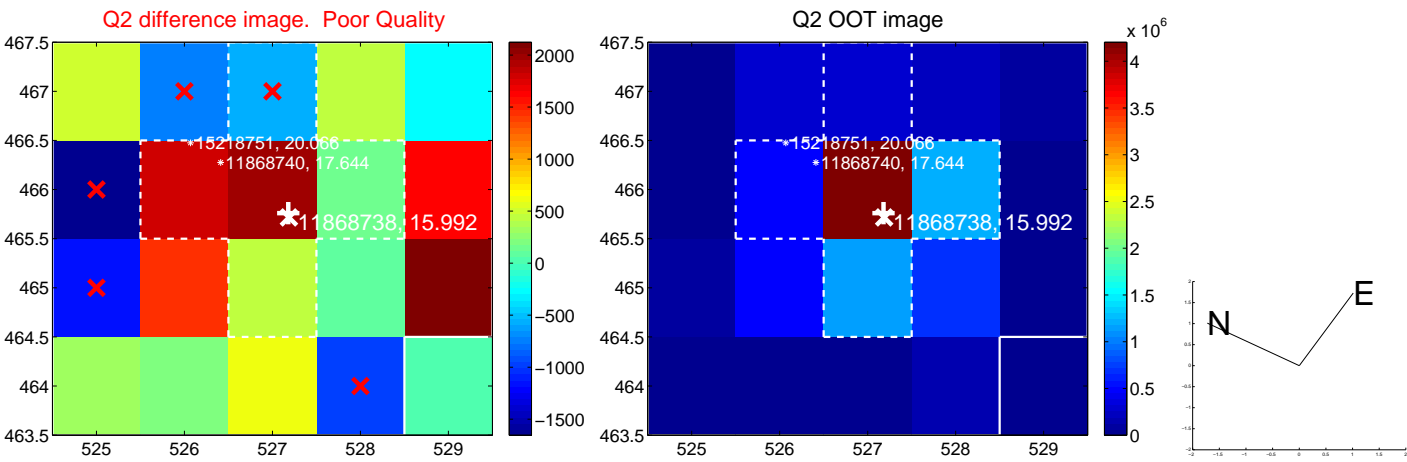
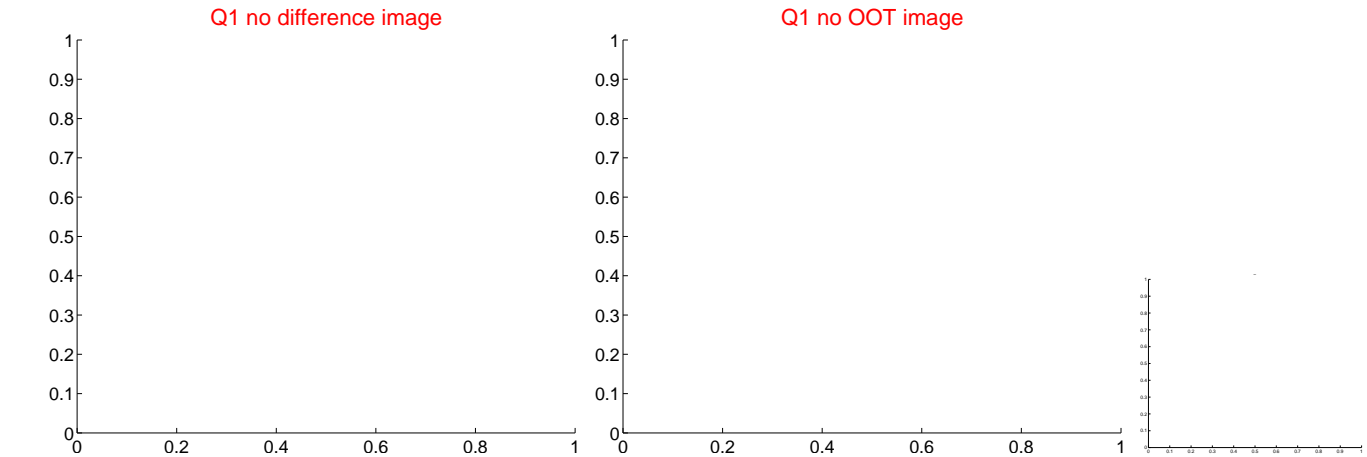


offset from photometric centroids



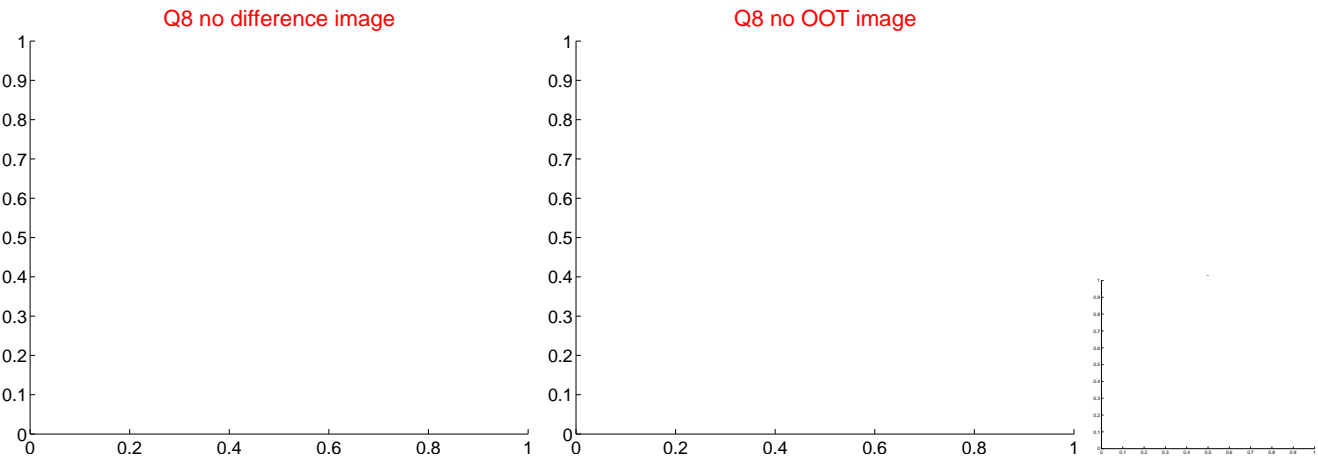
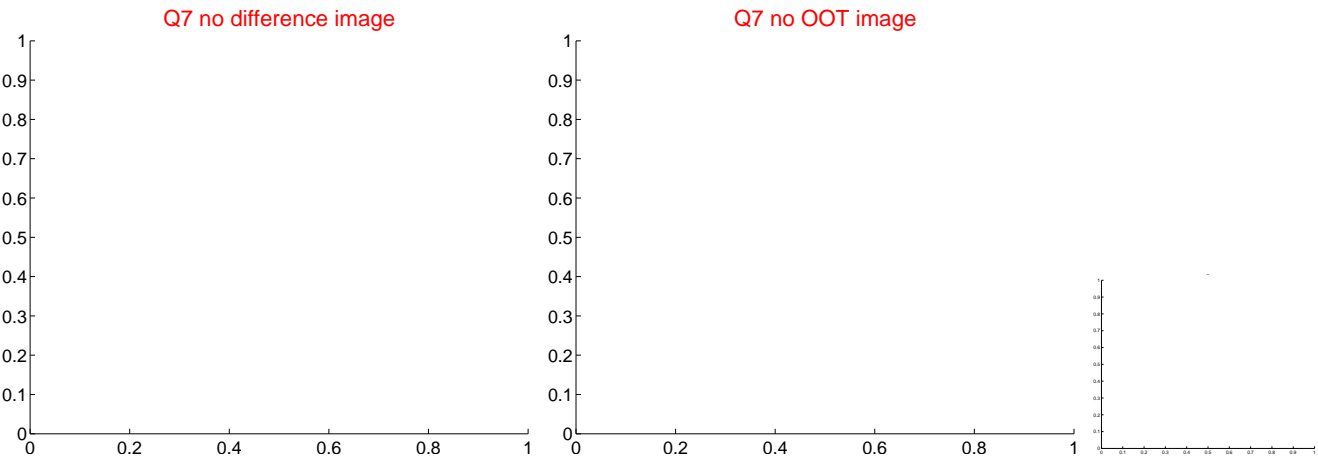
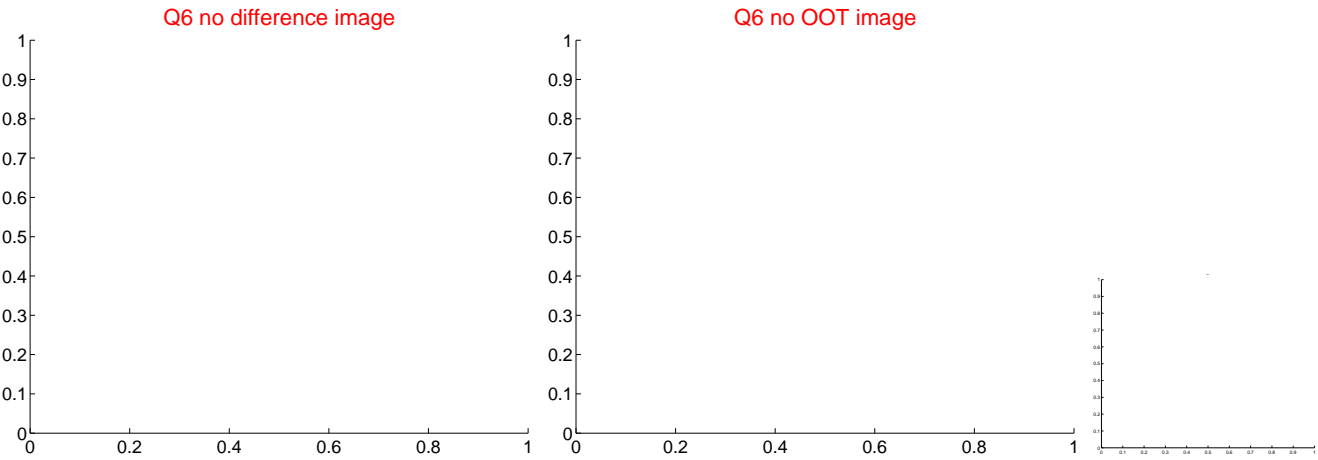
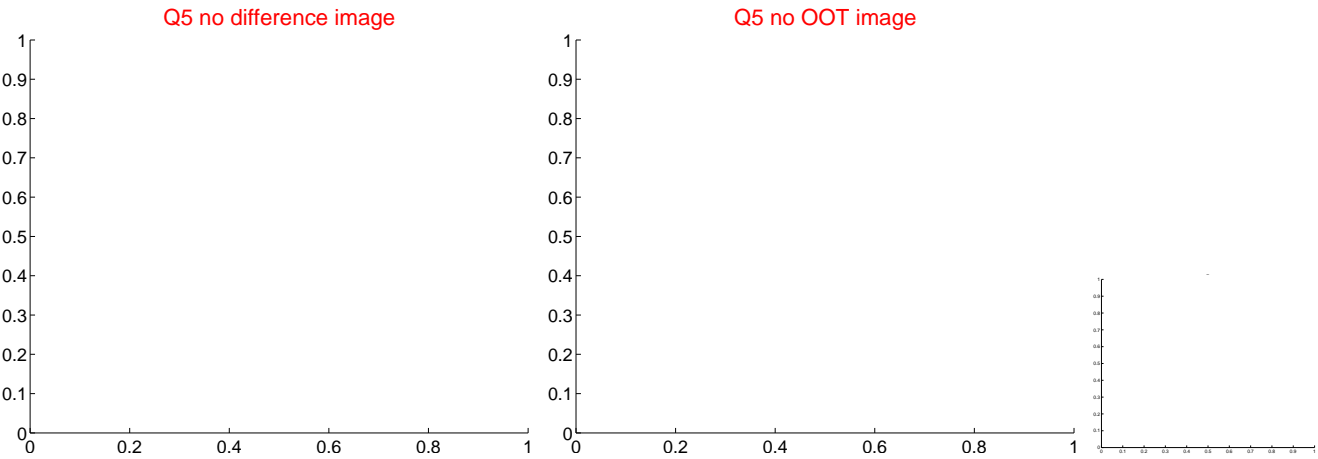
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

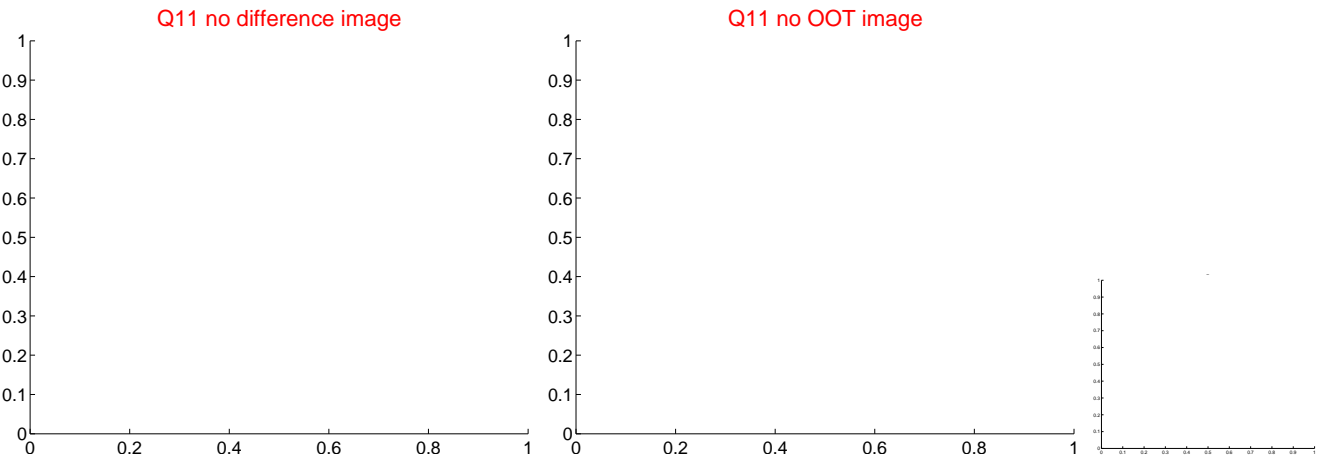




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



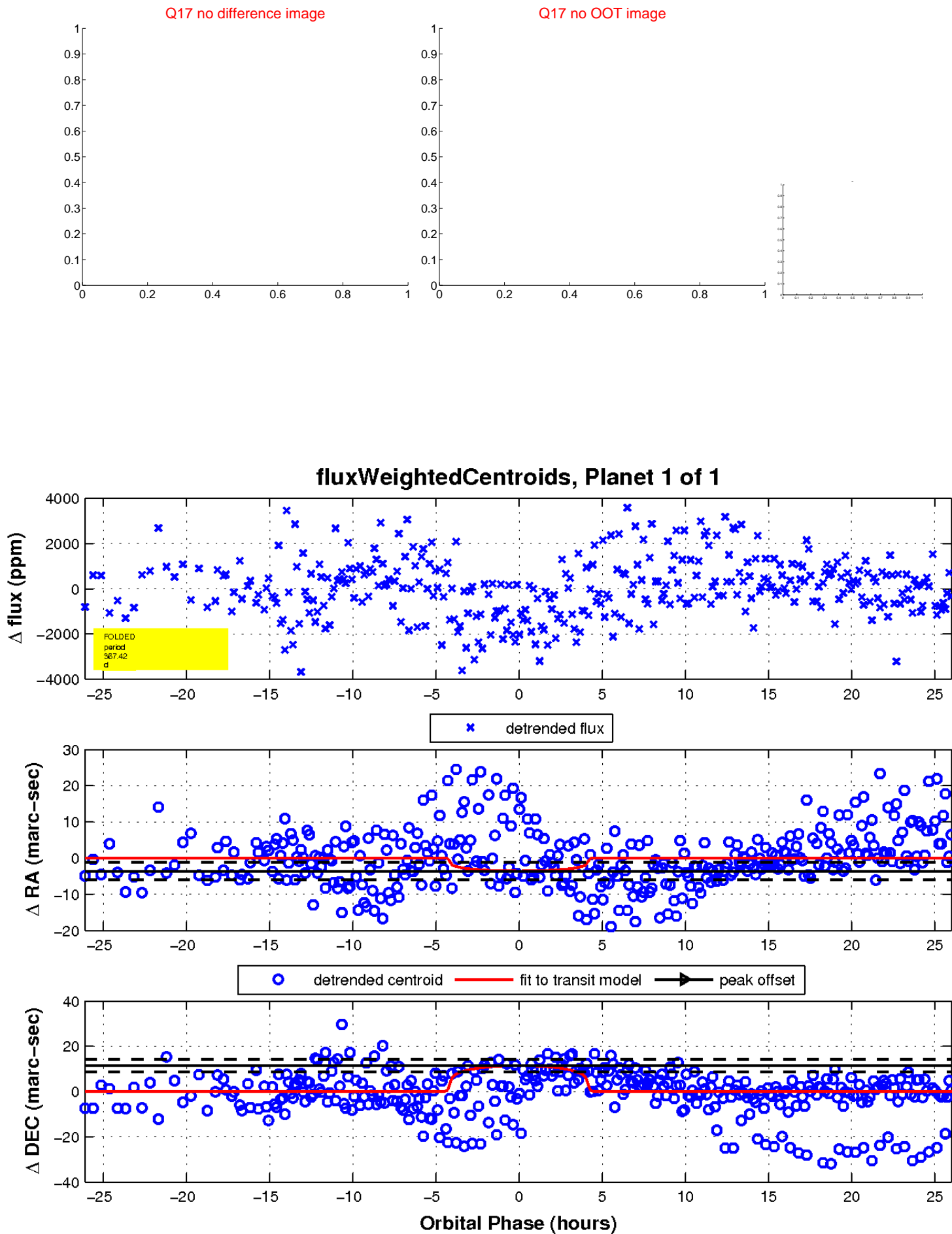
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UKIRT Image

Declination

