

# KIC 010732063

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010732063-01	OBS	No	523.330443	373.947643	1289.7	32.693	9.7	10.2	0.26	3323	1.83	0.01

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010732063-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_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.

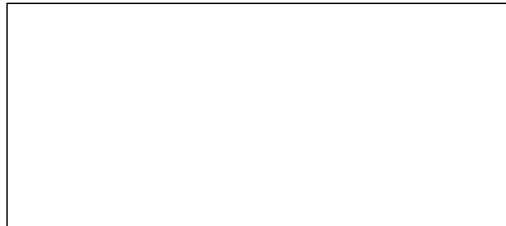
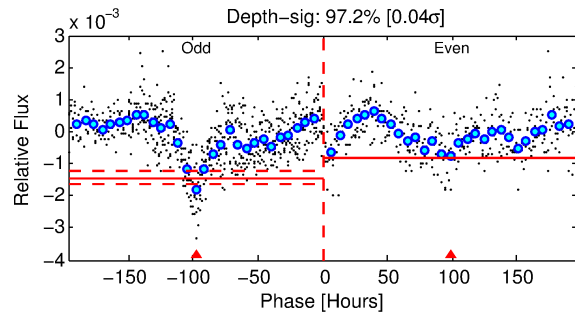
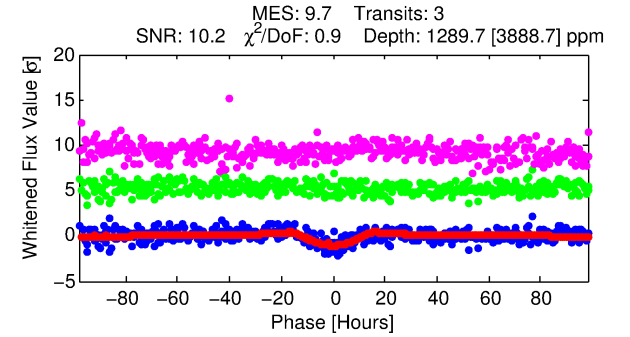
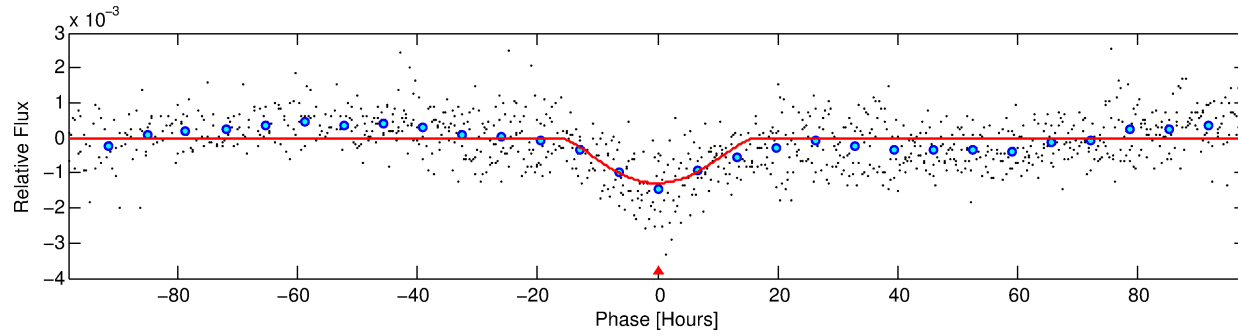
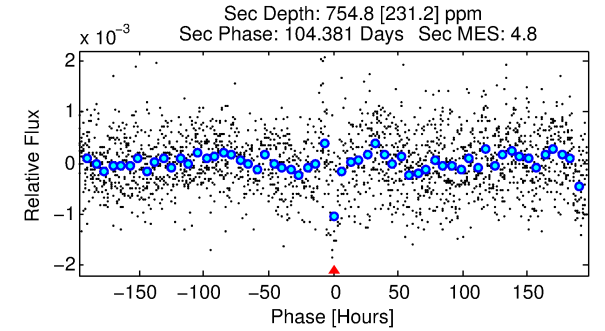
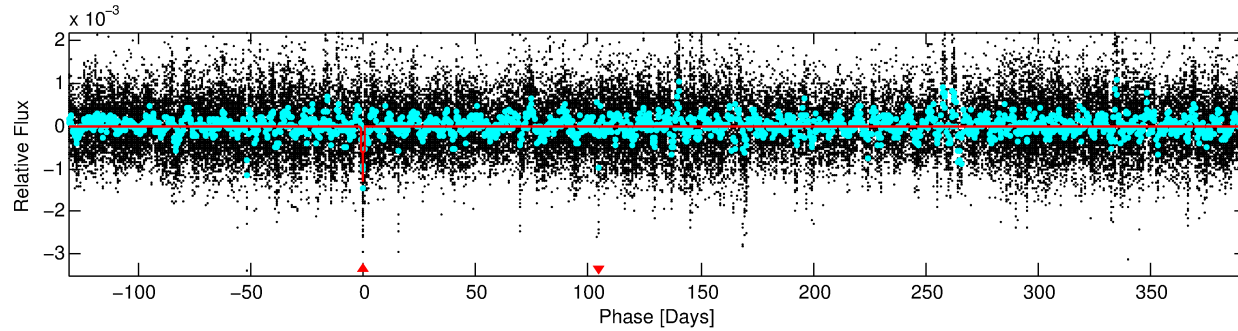
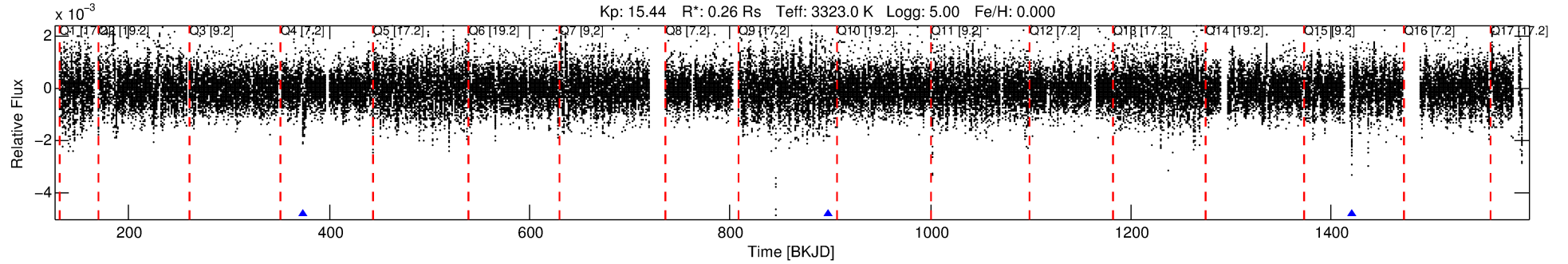
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010732063-01

No Significant Match Found

# DV One-Page Summary

KIC: 10732063 Candidate: 1 of 1 Period: 523.330 d



## DV Fit Results:

Period = 523.33044 [0.03529] d  
Epoch = 373.9476 [0.0359] BKJD  
Rp/R\* = 0.0651 [0.1769]  
a/R\* = 44.86 [26.67]  
b = 1.00 [0.38]  
Seff = 0.01 [0.00]  
Teq = 84 [3] K  
Rp = 1.83 [4.99] Re  
a = 0.7900 [0.0793] AU  
Ag = 77070.70 [419377.86] [0.18σ]  
Teffp = 2158 [2935] K [0.71σ]

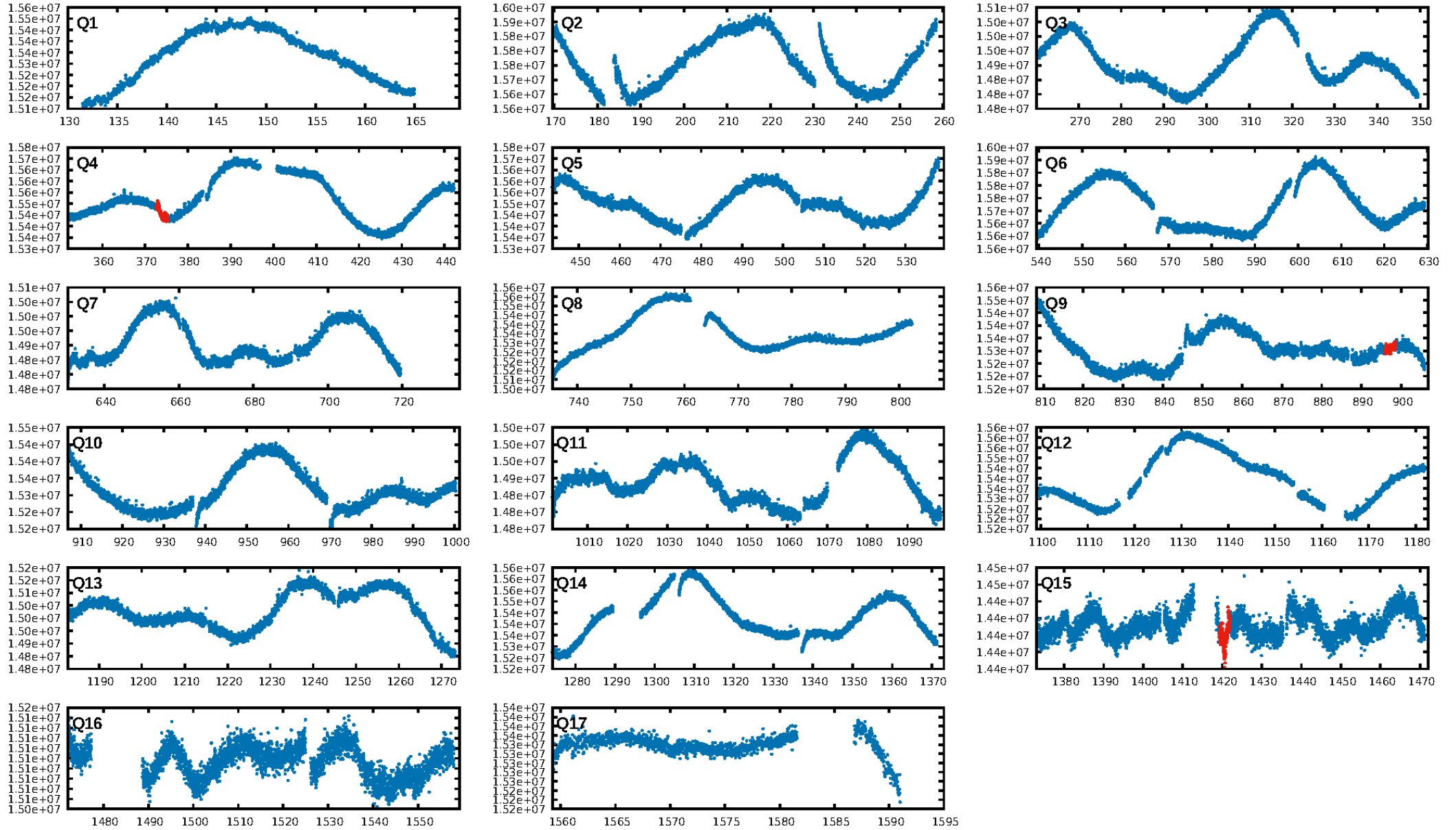
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 2.9%  
ModelChiSquareGoF-sig: 100.0%  
**Bootstrap-pfa: 3.55e-11**  
RollingBand-fgt: 1.00 [3/3]  
**GhostDiagnostic-chr: -0.3323**  
Centroid-sig: 2.5%  
Centroid-so: 1.677 arcsec [2.42σ]  
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 [1/1]

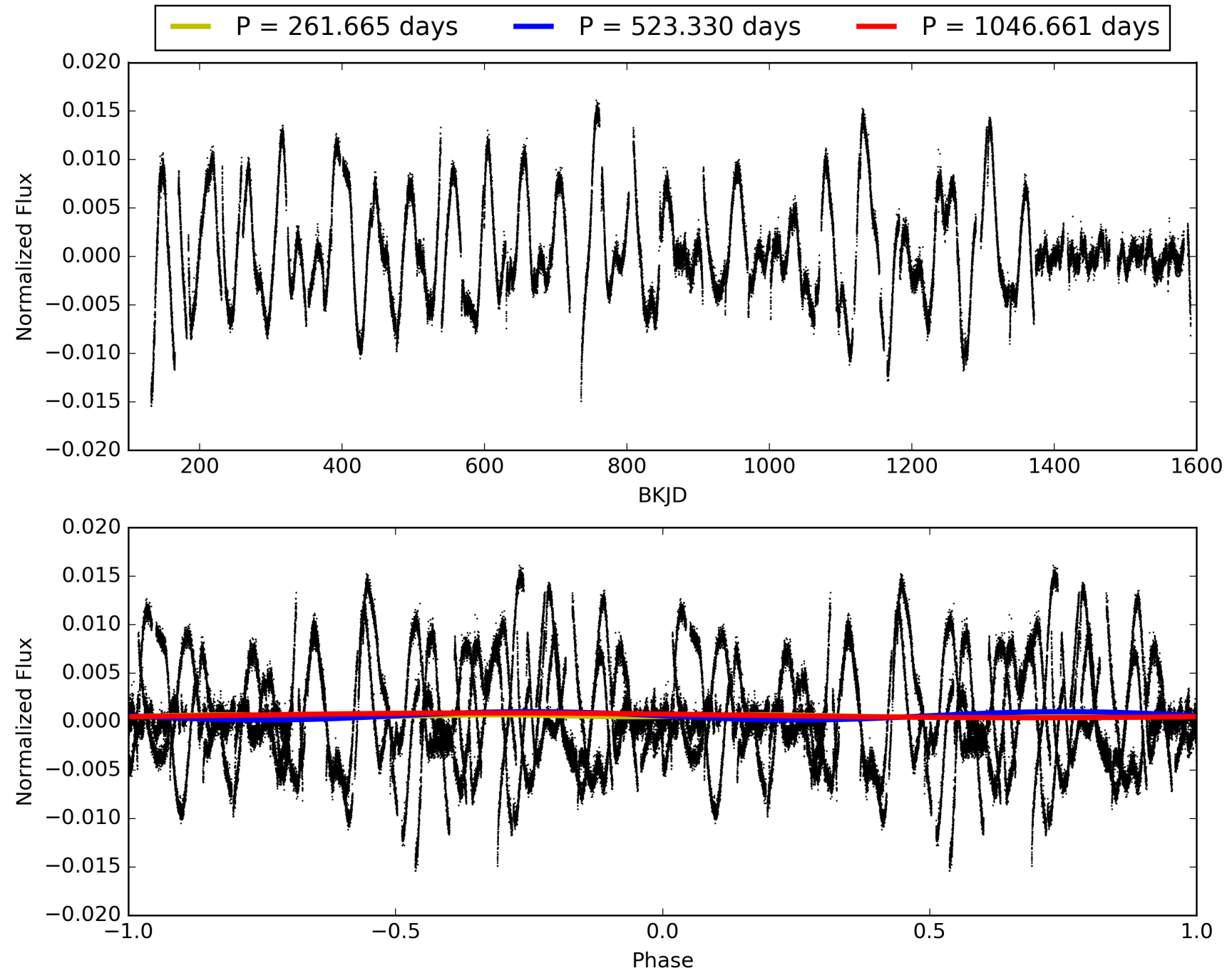
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:02:13 Z

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

# TCE 010732063-01, PDC Light Curves

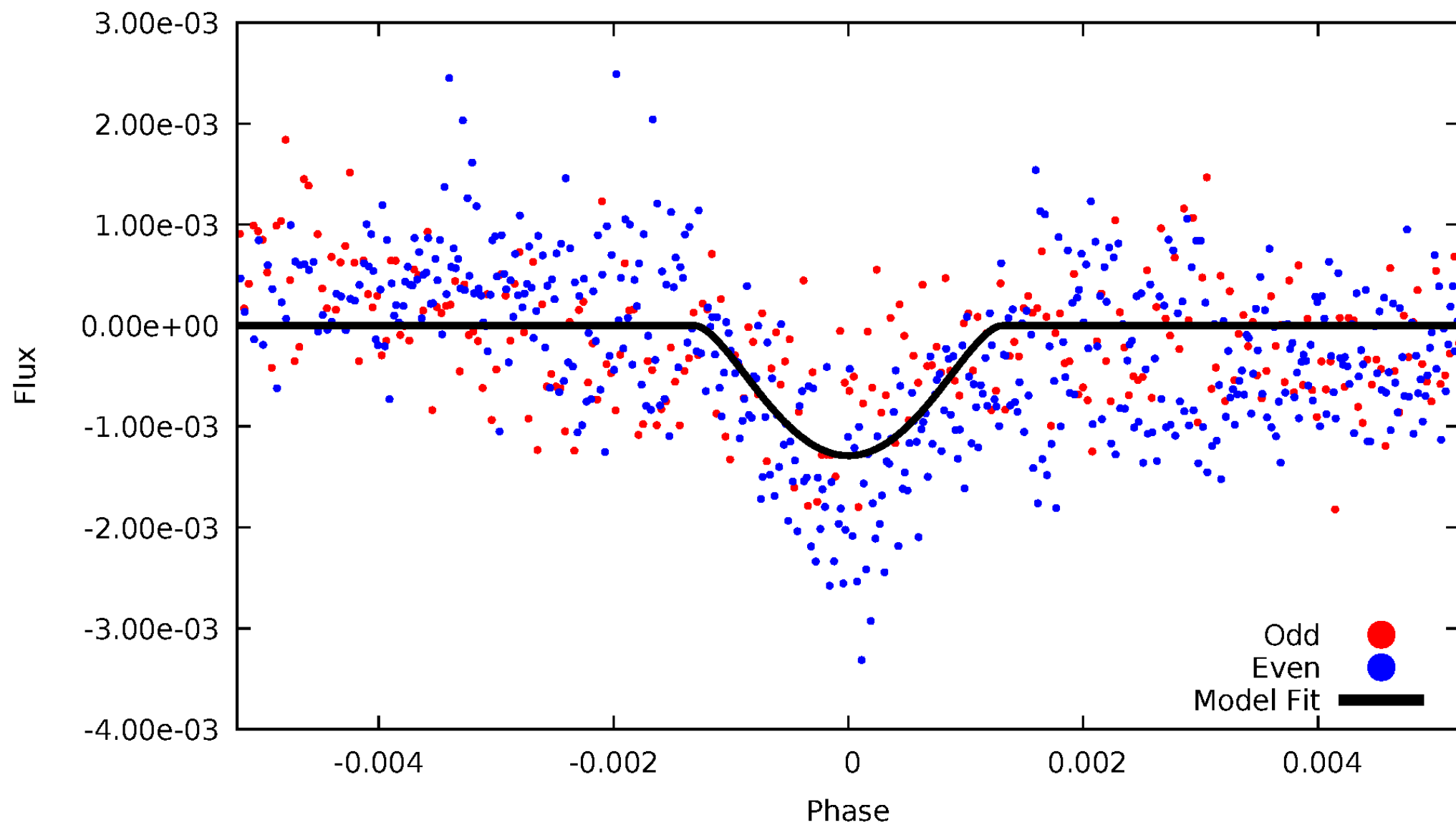


TCE 010732063-01



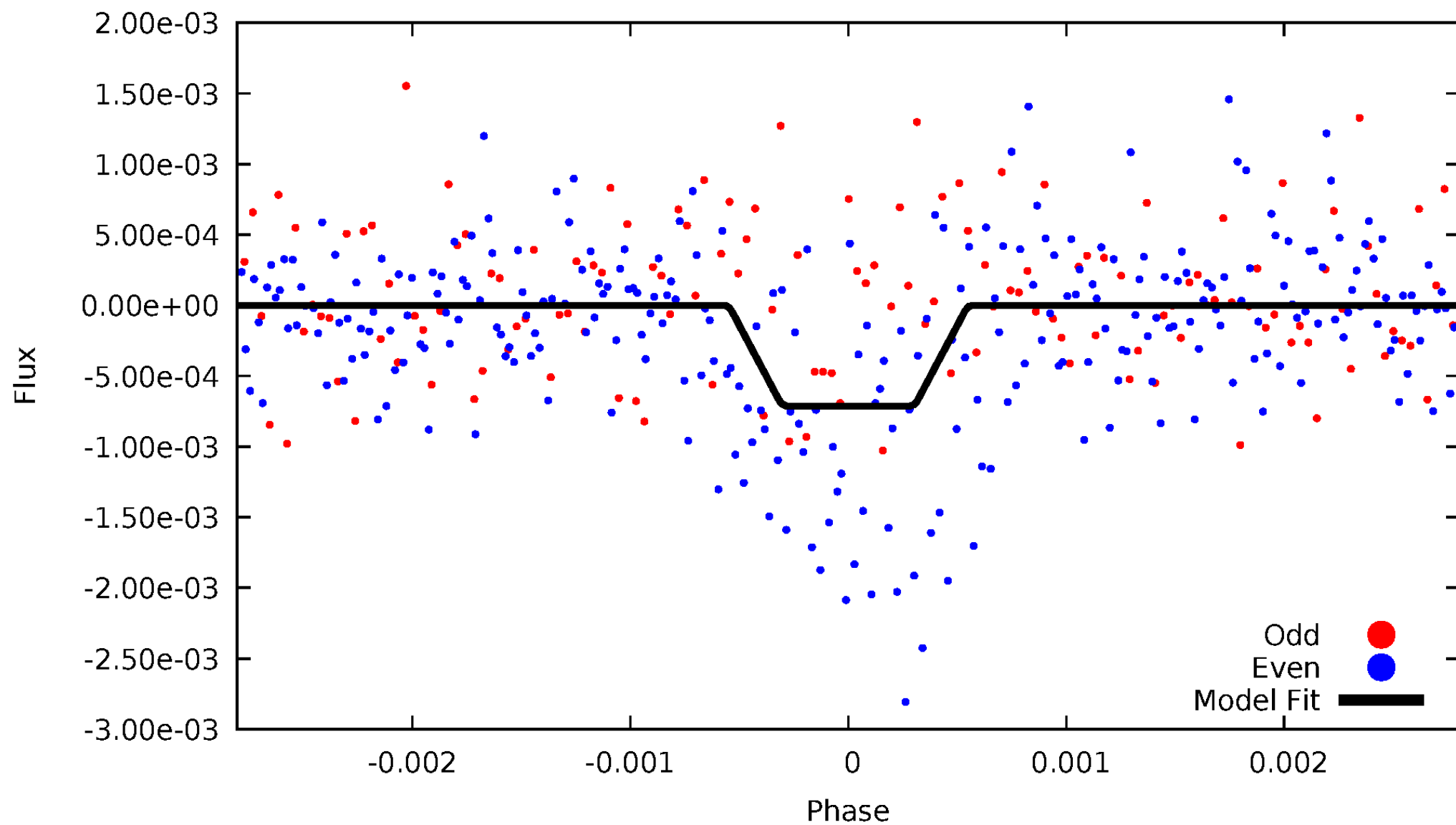
# DV Odd/Even

TCE 010732063-01



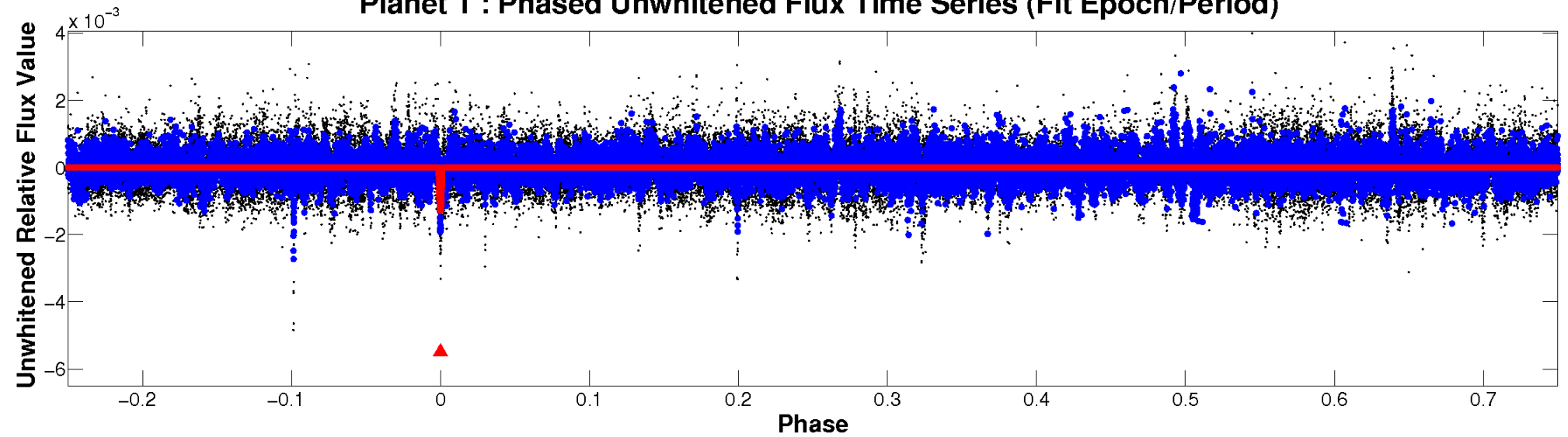
# ALT Odd/Even

TCE 010732063-01

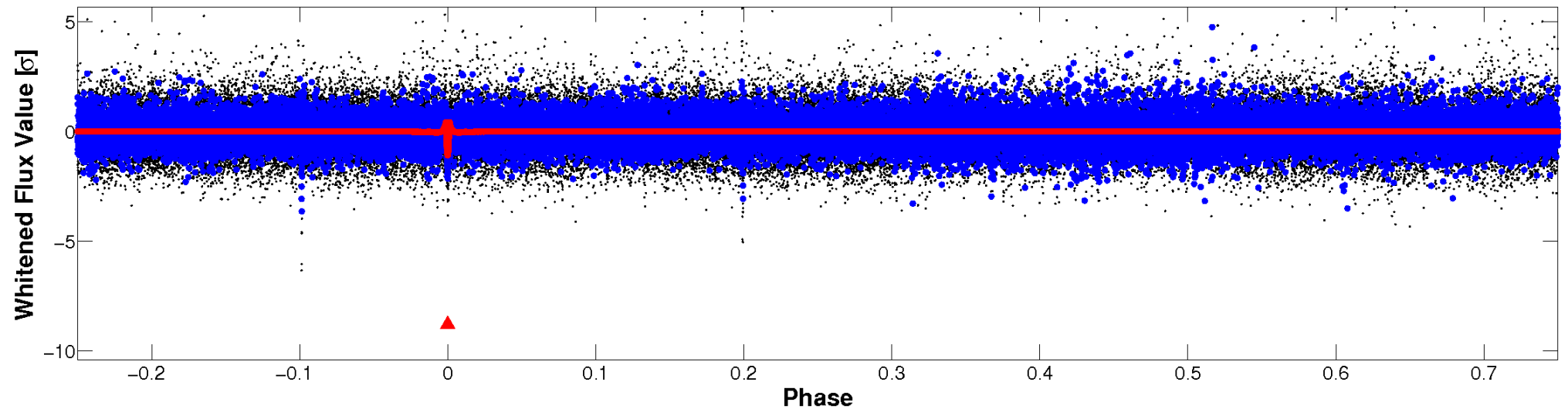


# Non-Whitened Vs. Whitened Light Curve

**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 010732063-01 P=523.330443 Days  $T_0=373.947644$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 010732063-01 P=523.330443 Days  $T_0=373.947644$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

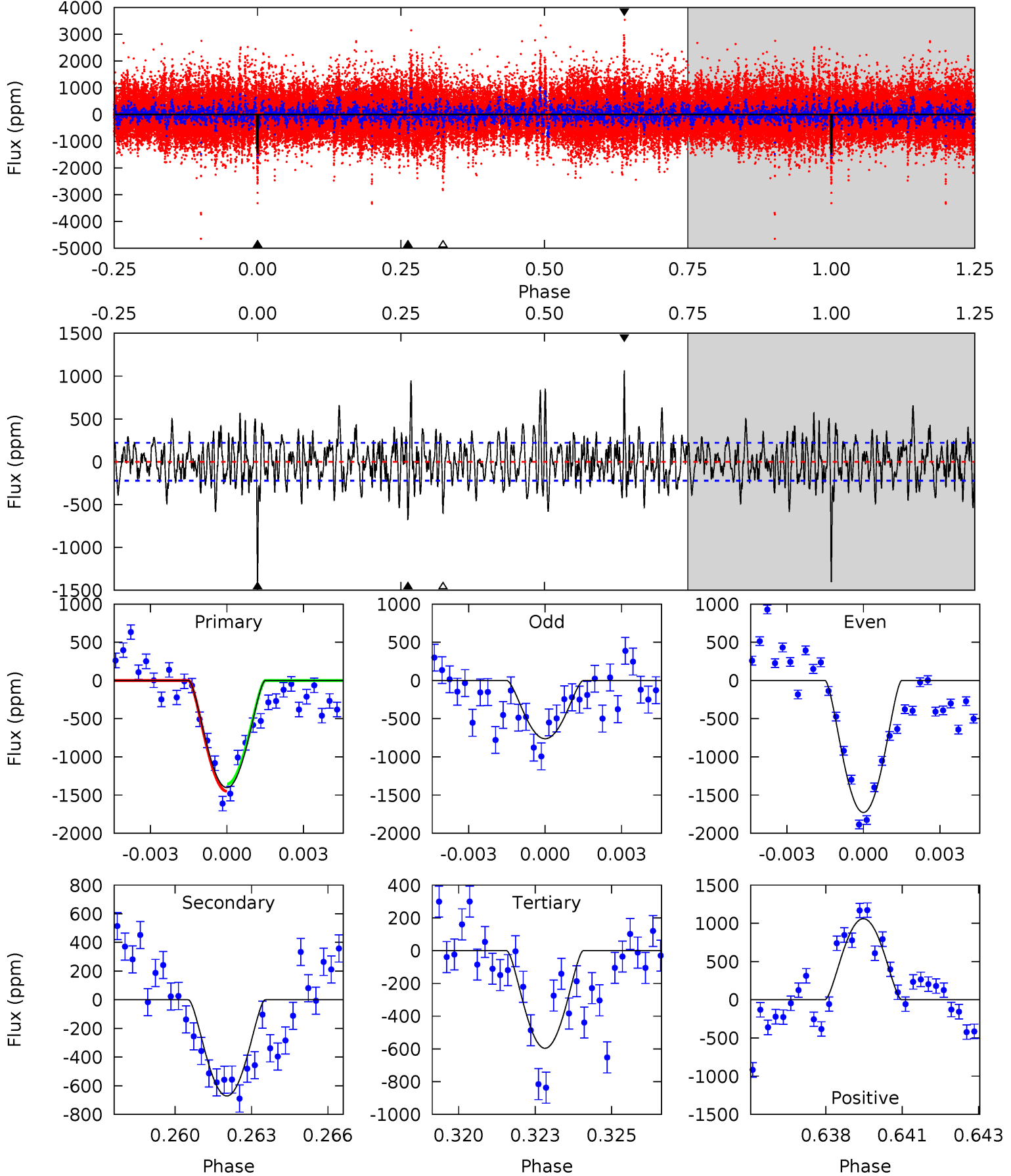
TCE 010732063-01 P=523.289849 Days  $T_0=373.950726$  (BKJD)



# DV Model-Shift Uniqueness Test

010732063-01, P = 523.330443 Days, E = 373.947644 Days

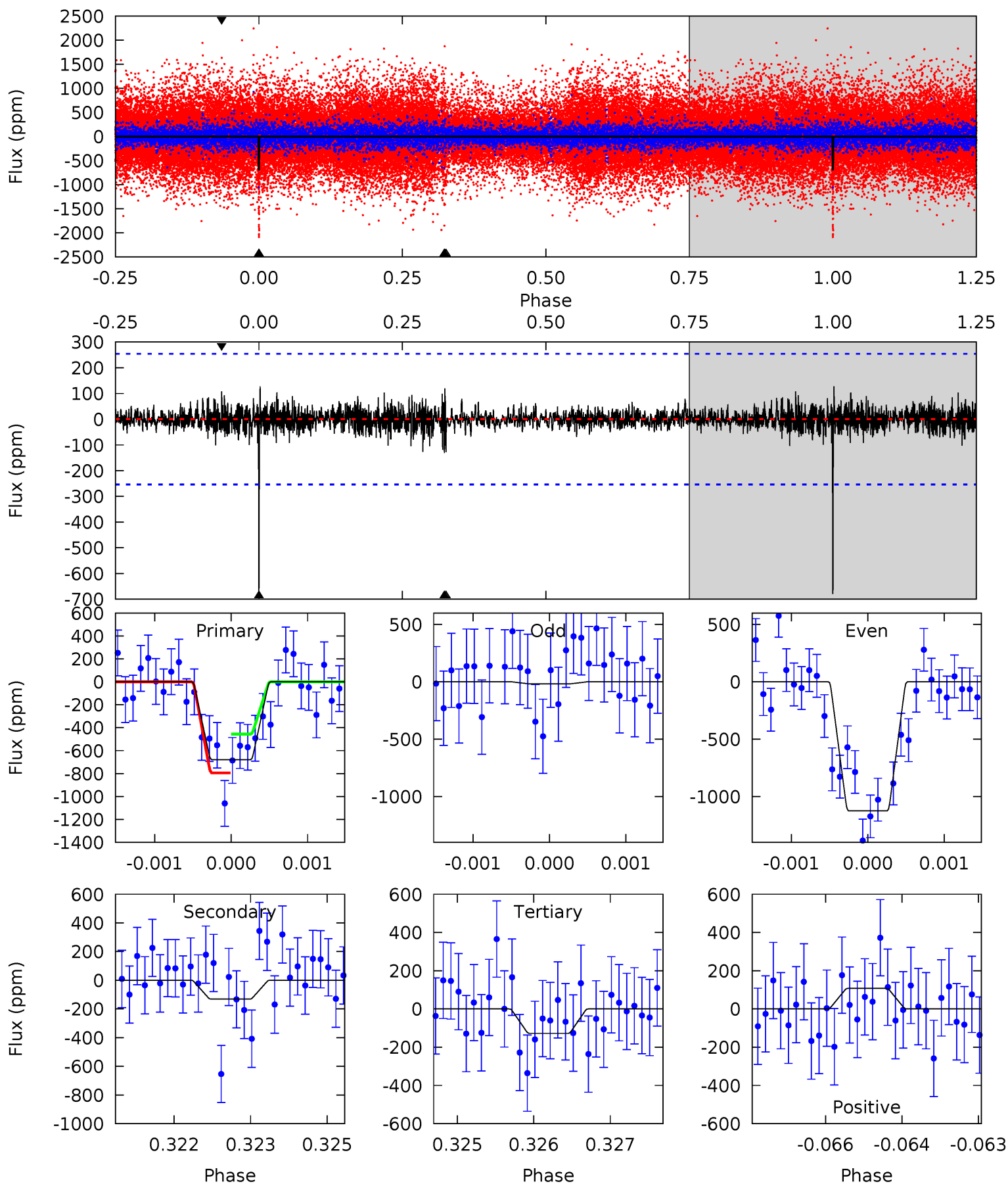
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.4	16.0	14.2	25.3	5.28	3.01	5.04	19.2	8.15	1.80	-9.27	10.8	1.01	0.43	1.12



# Alt Model-Shift Uniqueness Test

010732063-01, P = 523.289849 Days, E = 373.950726 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
14.5	2.82	2.74	2.30	5.43	3.26	0.56	11.8	12.2	0.08	0.51	11.7	1.71	0.16	3.57



### Stellar Parameters For KIC 010732063

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3323^{+45}_{-35}$	$4.995^{+0.040}_{-0.040}$	$0.000^{+0.100}_{-0.100}$	$0.258^{+0.037}_{-0.028}$	$0.240^{+0.048}_{-0.028}$	$19.670^{+4.801}_{-3.858}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+14%/-11%	+20%/-12%	+24%/-20%
Source	PHO2	PHO2	PHO2	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 010732063-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-672 \pm 42$	$4.22^{+4.22}_{-2.85}$	$117^{+3}_{-3}$	$2139^{+649}_{-285}$	$13105^{+106077}_{-9845}$
Alt.	$-132 \pm 47$	$3.68^{+3.79}_{-2.61}$	$117^{+3}_{-2}$	$1846^{+575}_{-230}$	$3108^{+38303}_{-2393}$

$T_{\text{max}}$  = 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

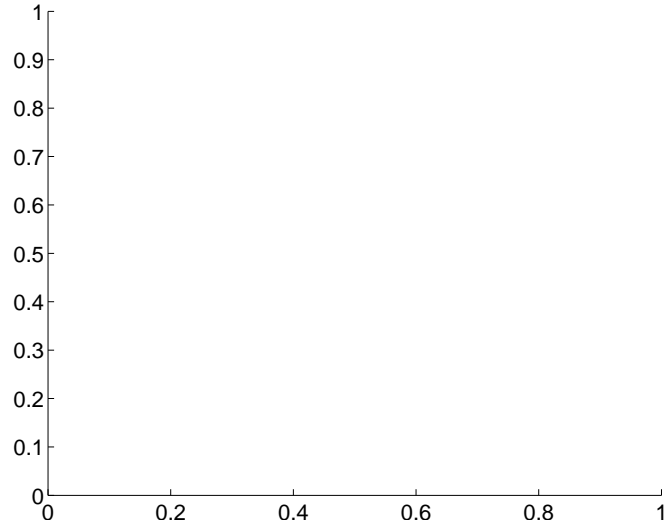
Supplemental centroid analysis for 010732063-01. Kepler magnitude: 15.44. Transit SNR 10.21

There are 0 quarters with good PRF difference image offsets

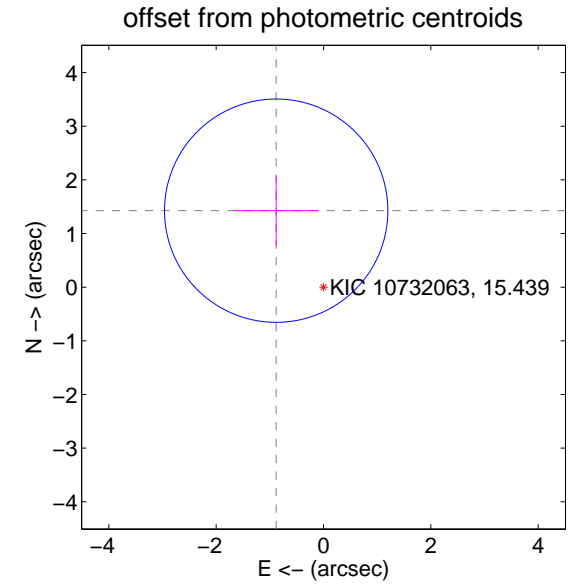
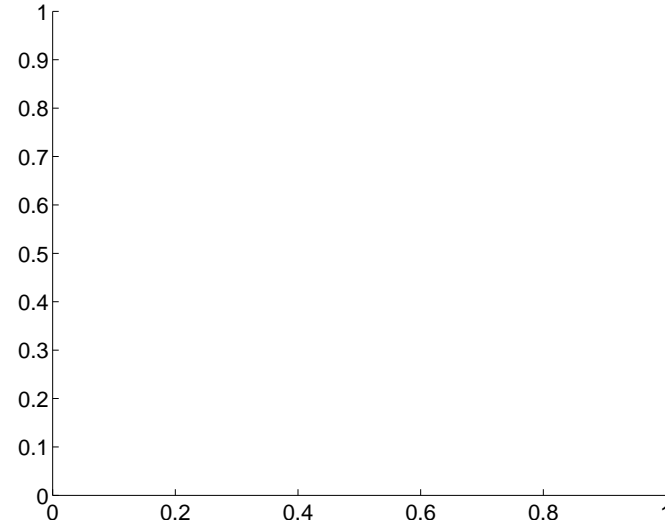
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	$1.68 \pm 0.69$	2.42	$0.88 \pm 0.79$	$1.43 \pm 0.65$

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.

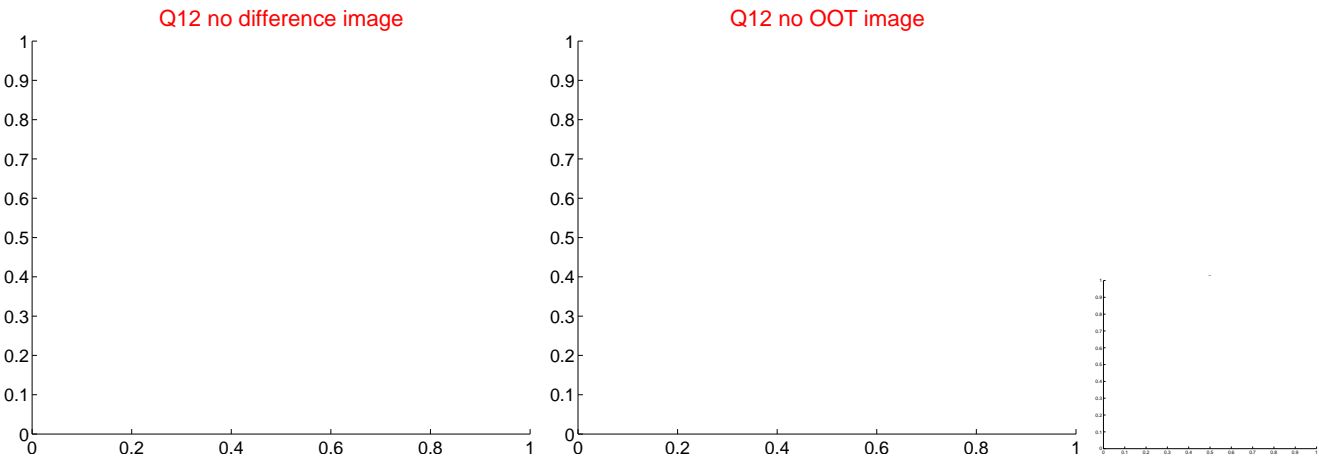
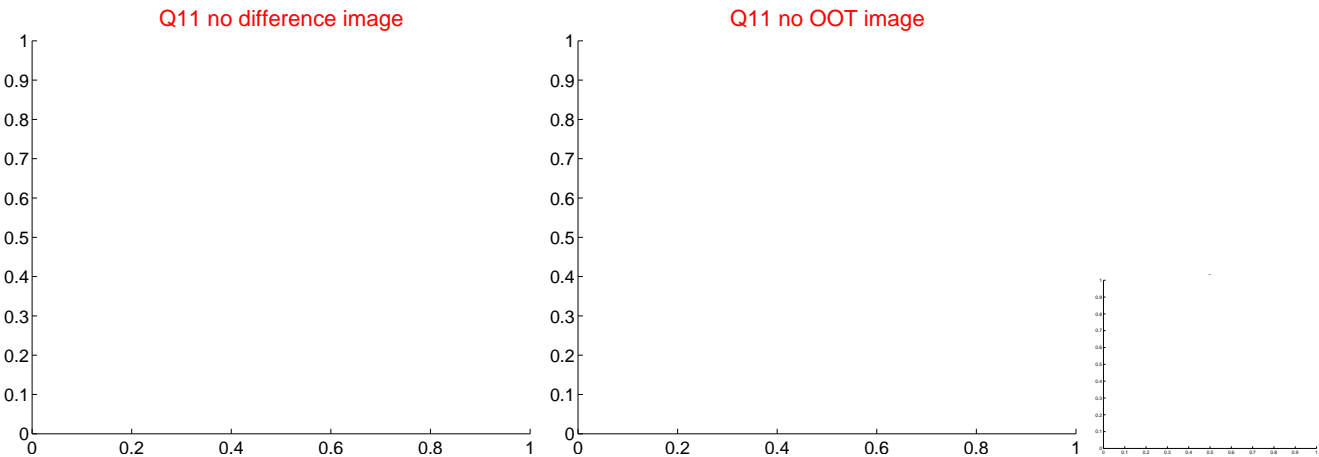
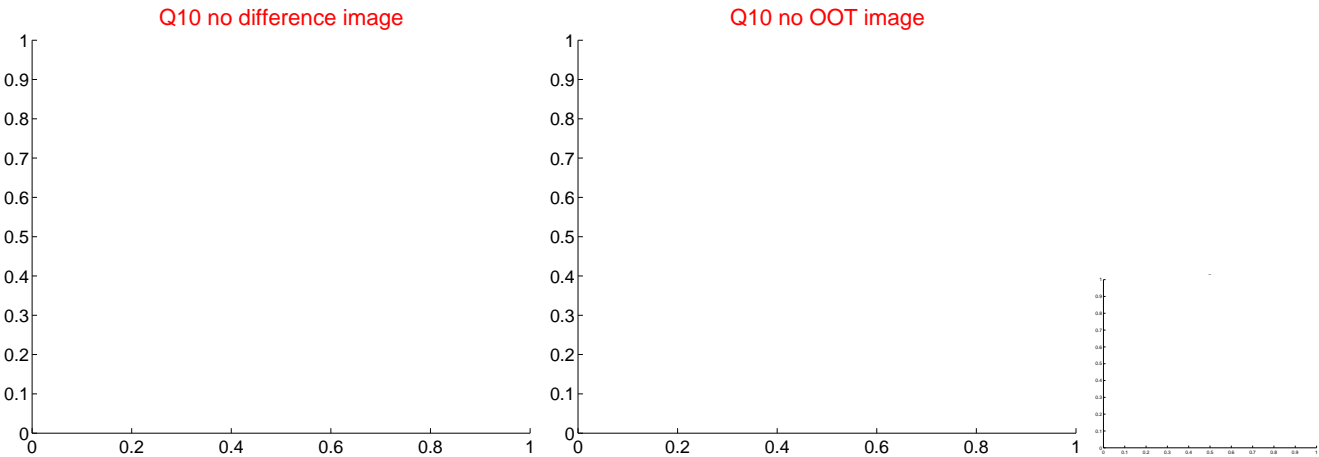
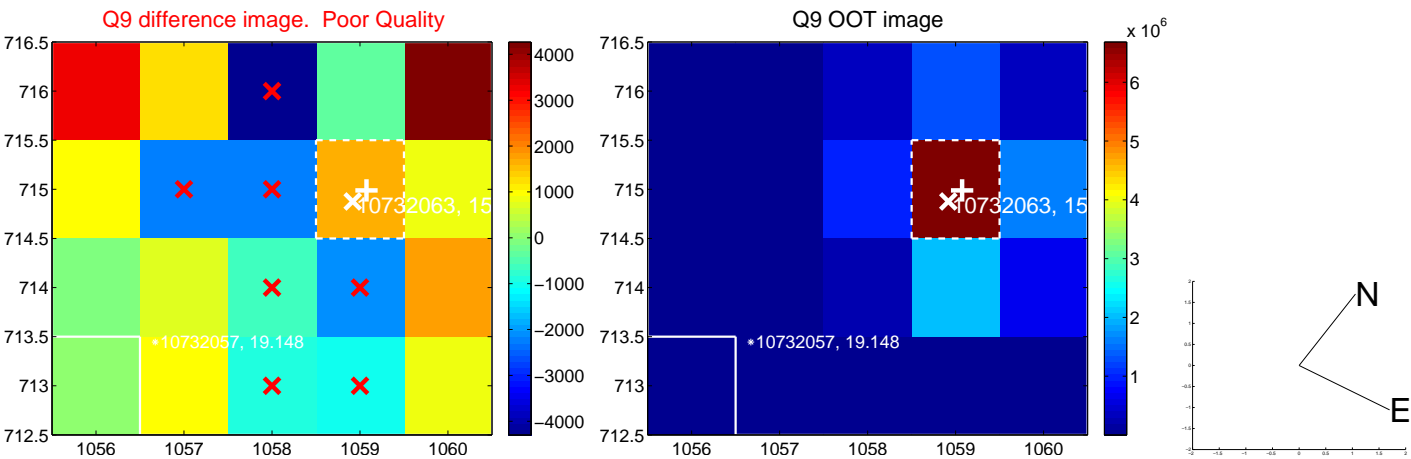


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

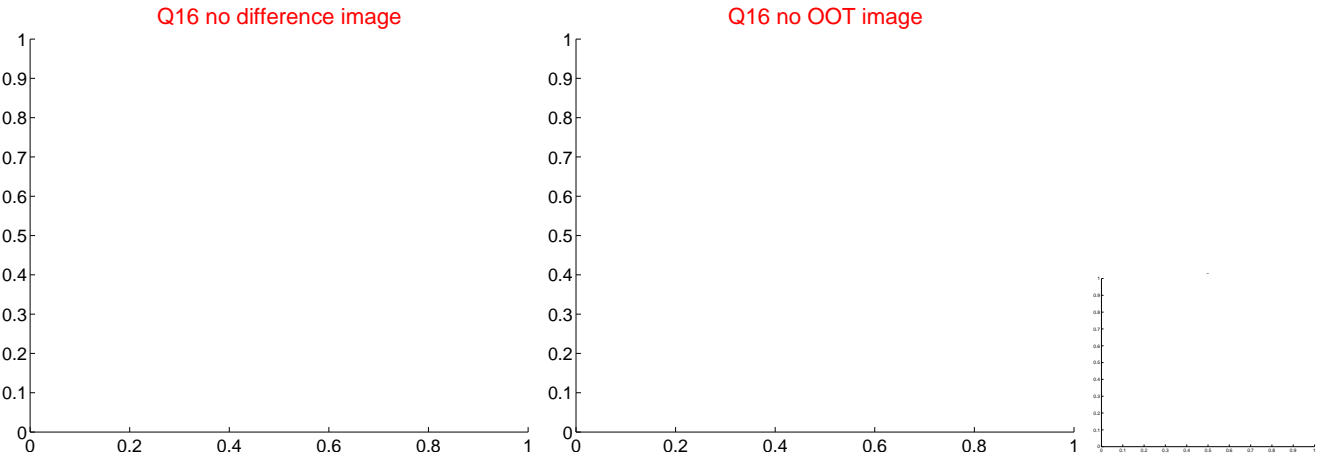
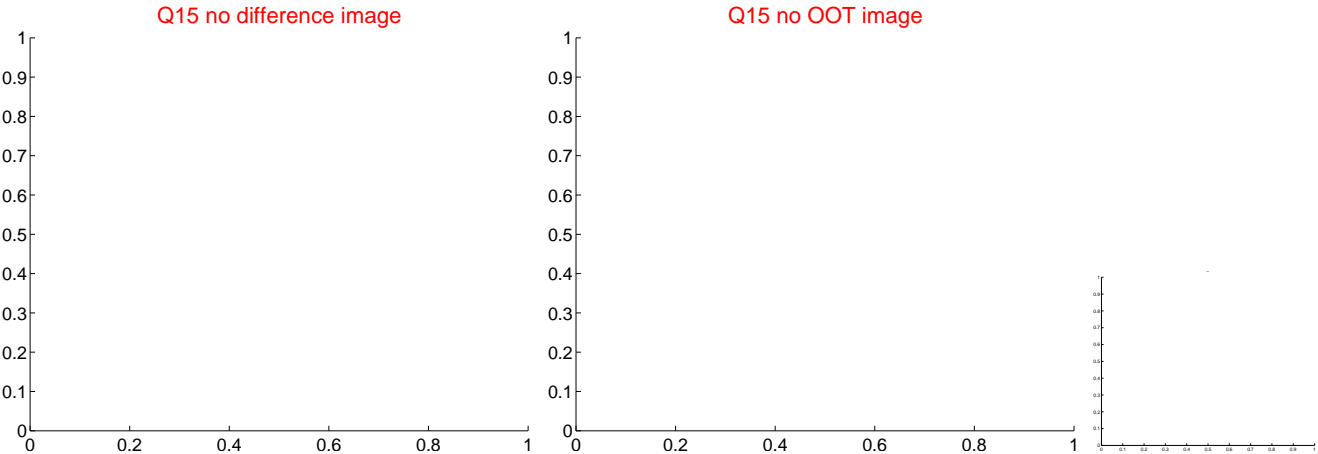
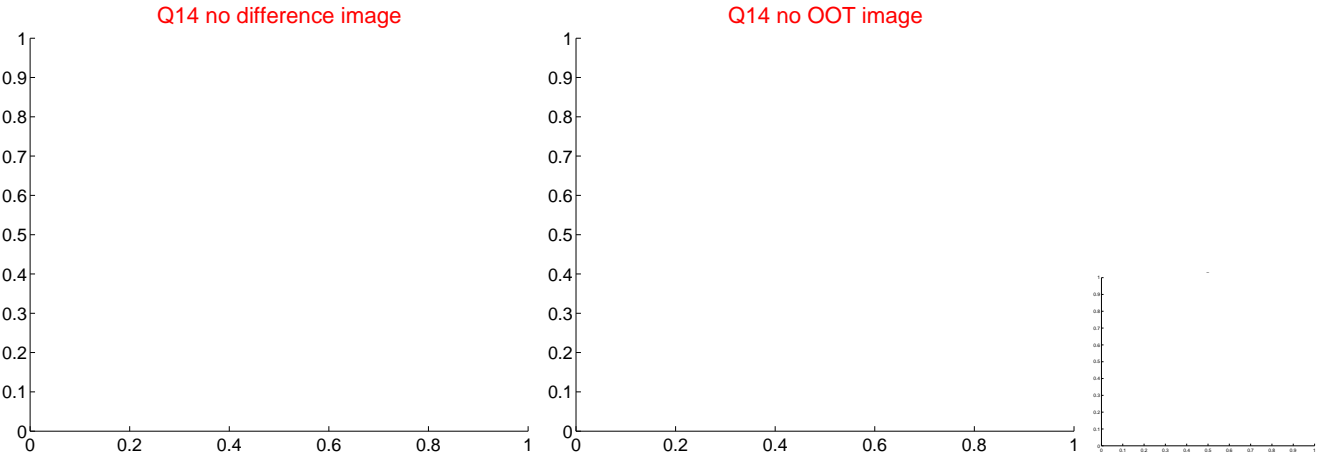
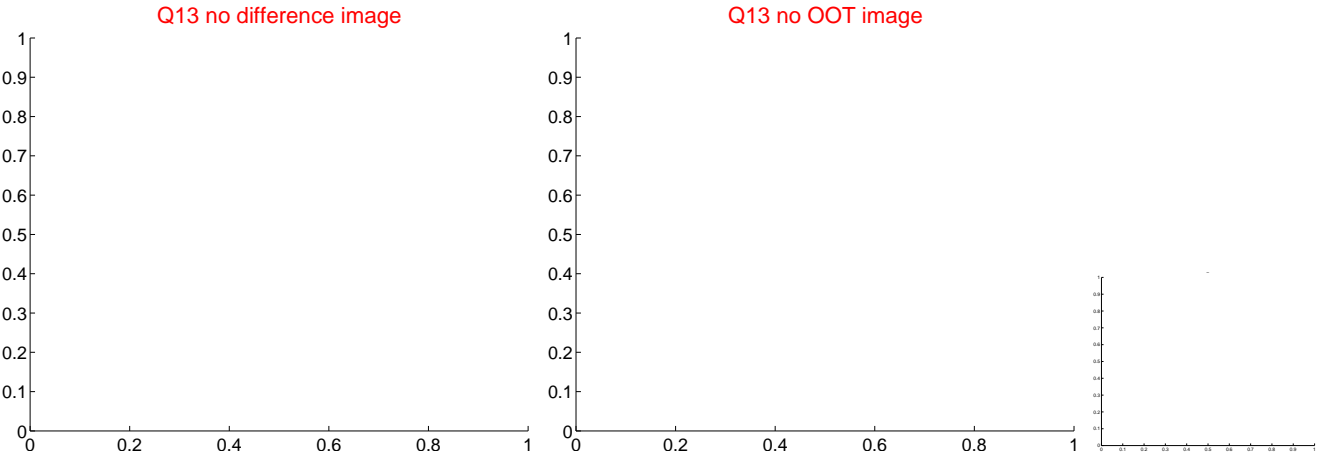




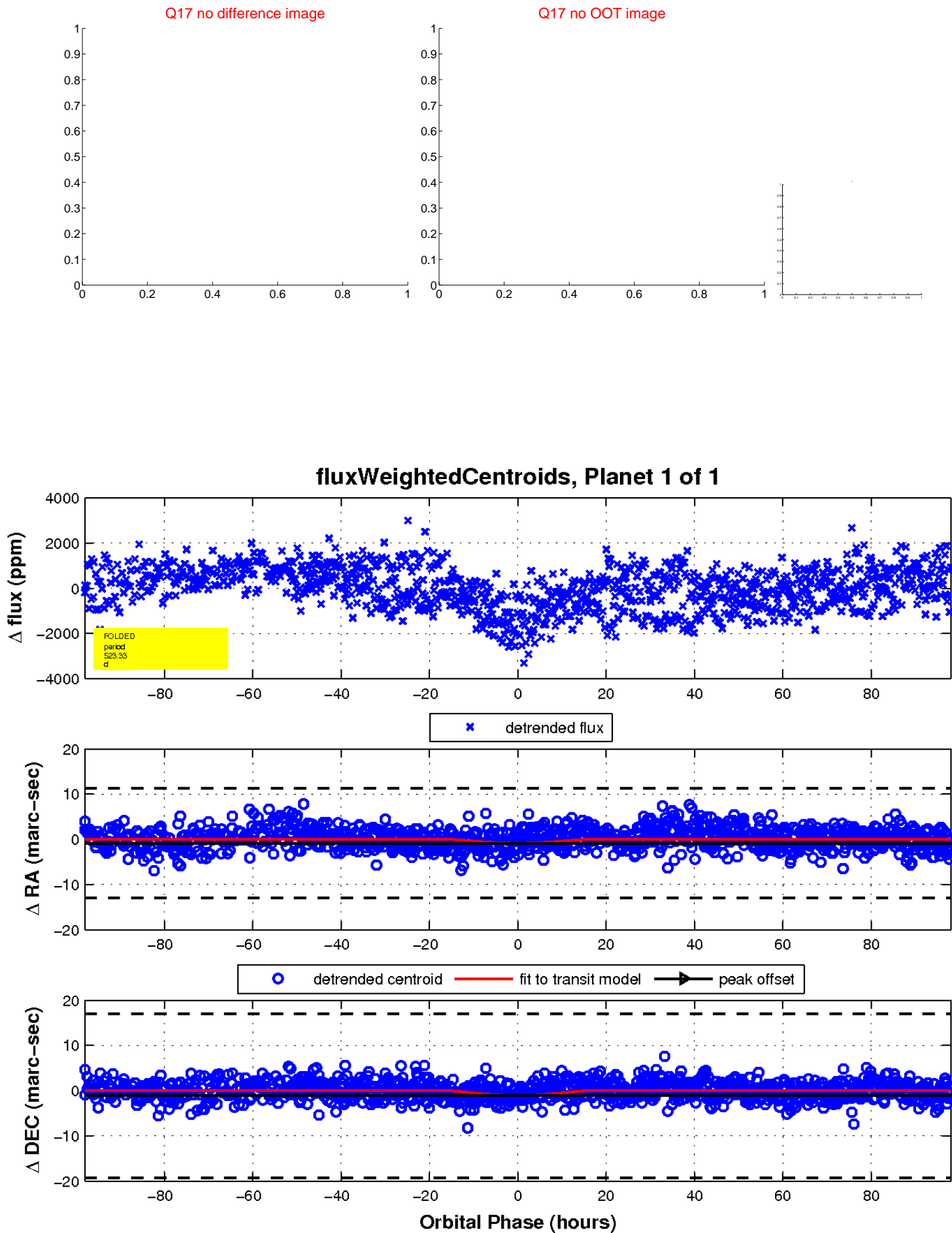
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UKIRT Image

