

# KIC 007364923

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007364923-01	OBS	No	578.278728	378.844127	892.1	19.021	8.4	8.5	1.00	6116	3.00	0.65

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007364923-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_MEAS—HALO_GHOST

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

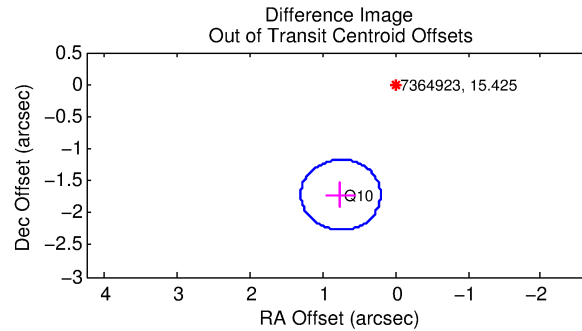
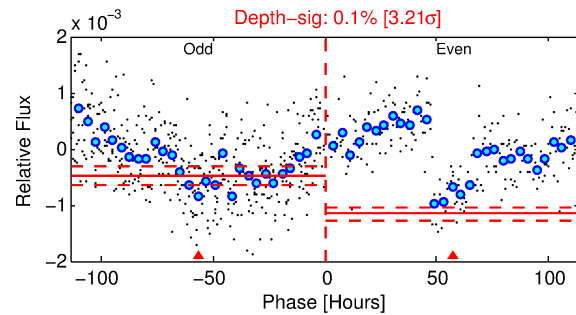
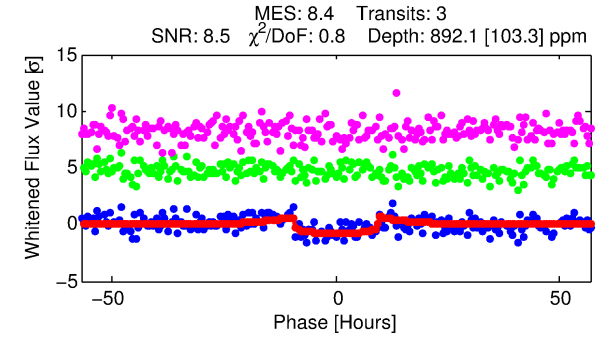
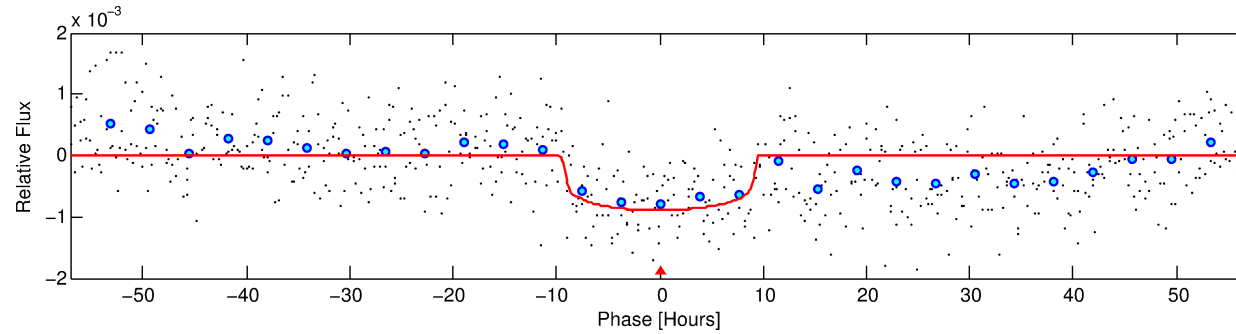
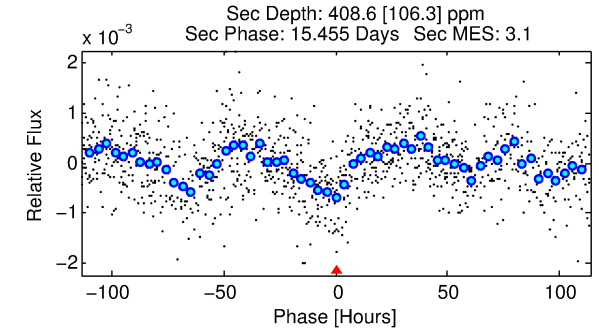
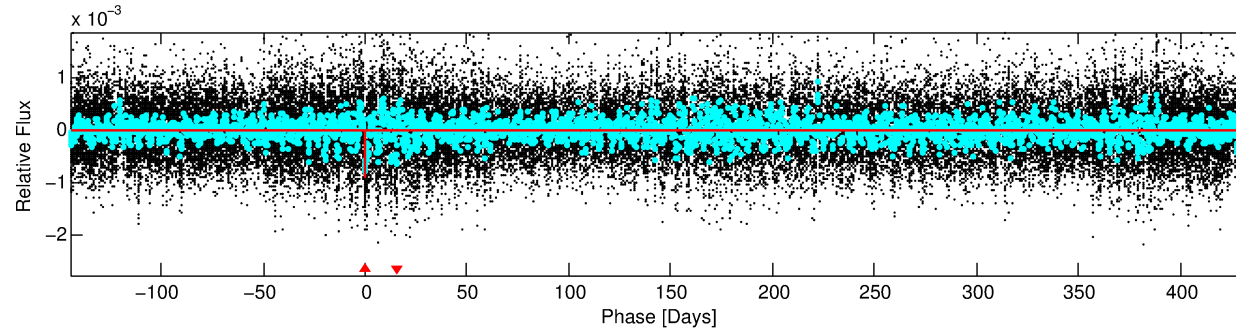
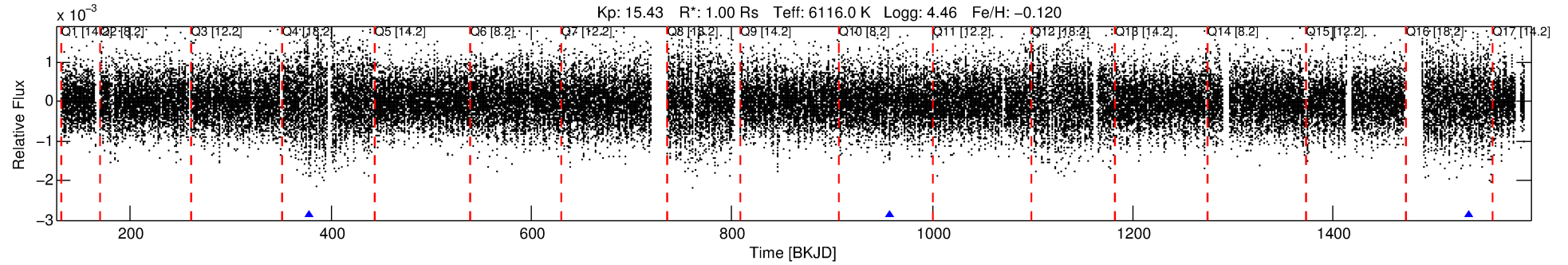
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007364923-01

No Significant Match Found

# DV One-Page Summary

KIC: 7364923 Candidate: 1 of 1 Period: 578.279 d



## DV Fit Results:

Period = 578.27873 [0.01282] d  
Epoch = 378.8441 [0.0162] BKJD  
Rp/R\* = 0.0276 [0.0086]  
a/R\* = 227.37 [334.48]  
b = 0.31 [4.25]  
Seff = 0.65 [0.29]  
Teq = 229 [25] K  
Rp = 3.00 [1.39] Re  
a = 1.3813 [0.3947] AU  
Ag = 47654.10 [37657.67] [1.27σ]  
Teff = 5234 [905] K [5.53σ]

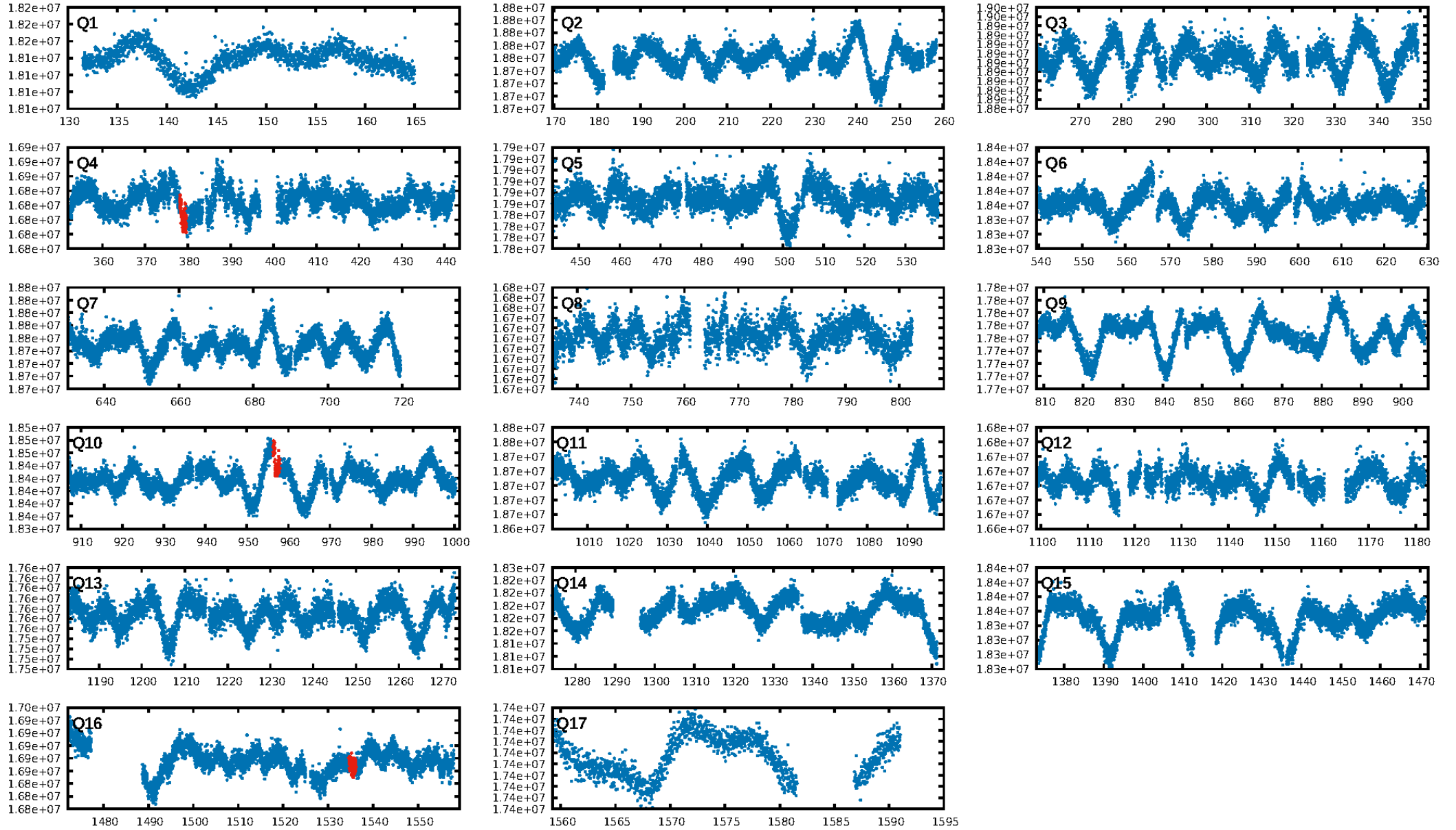
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 28.3%  
ModelChiSquareGoF-sig: 100.0%  
Bootstrap-pfa: 1.52e-13  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.1084  
Centroid-sig: 61.2%  
Centroid-so: 0.735 arcsec [0.62σ]  
OotOffset-rm: 1.879 arcsec [10.27σ]  
KicOffset-rm: 1.920 arcsec [10.48σ]  
OotOffset-st: 1/0/0/0 [1]  
KicOffset-st: 1/0/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [3/3]

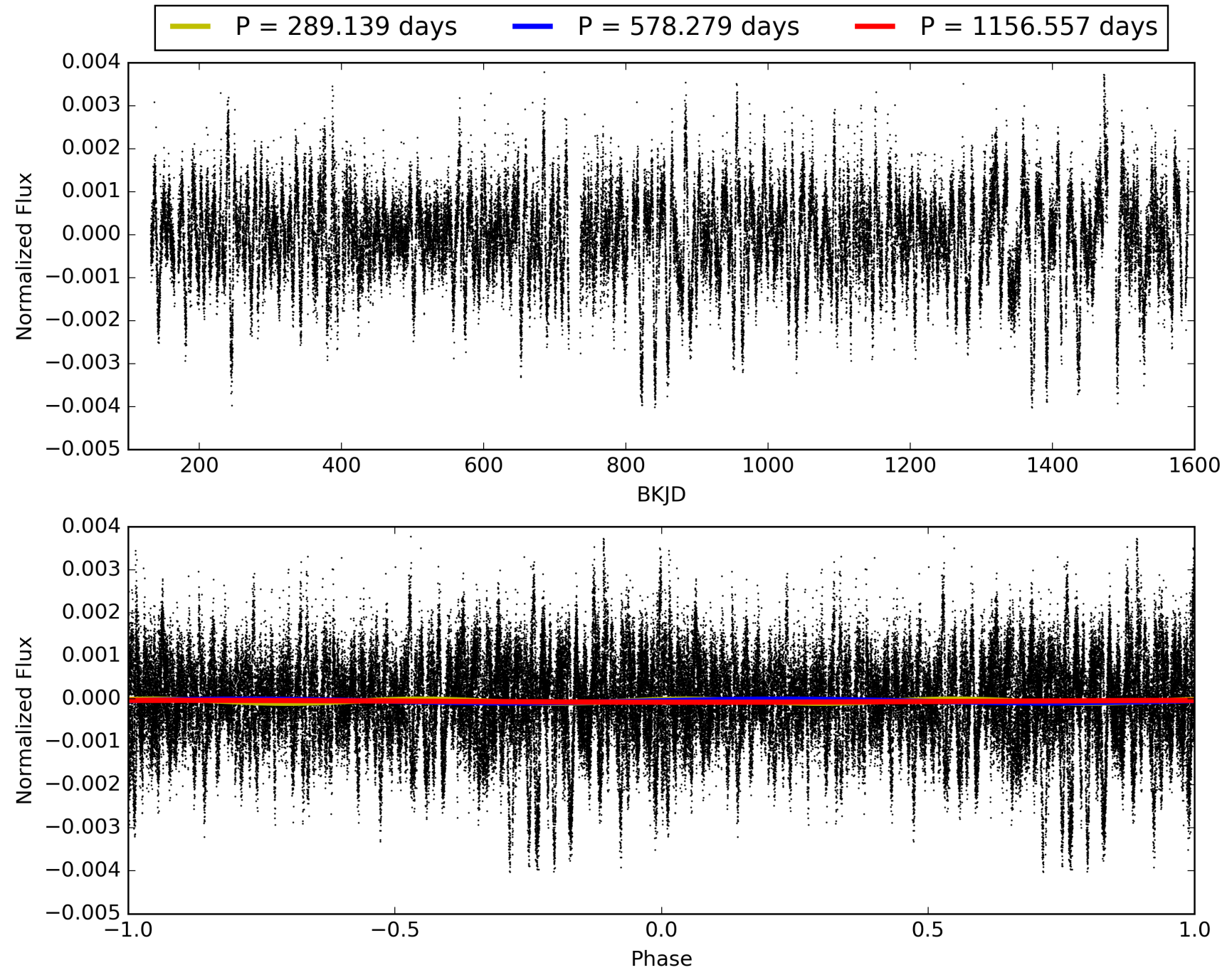
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:06:19 Z

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

# TCE 007364923-01, PDC Light Curves

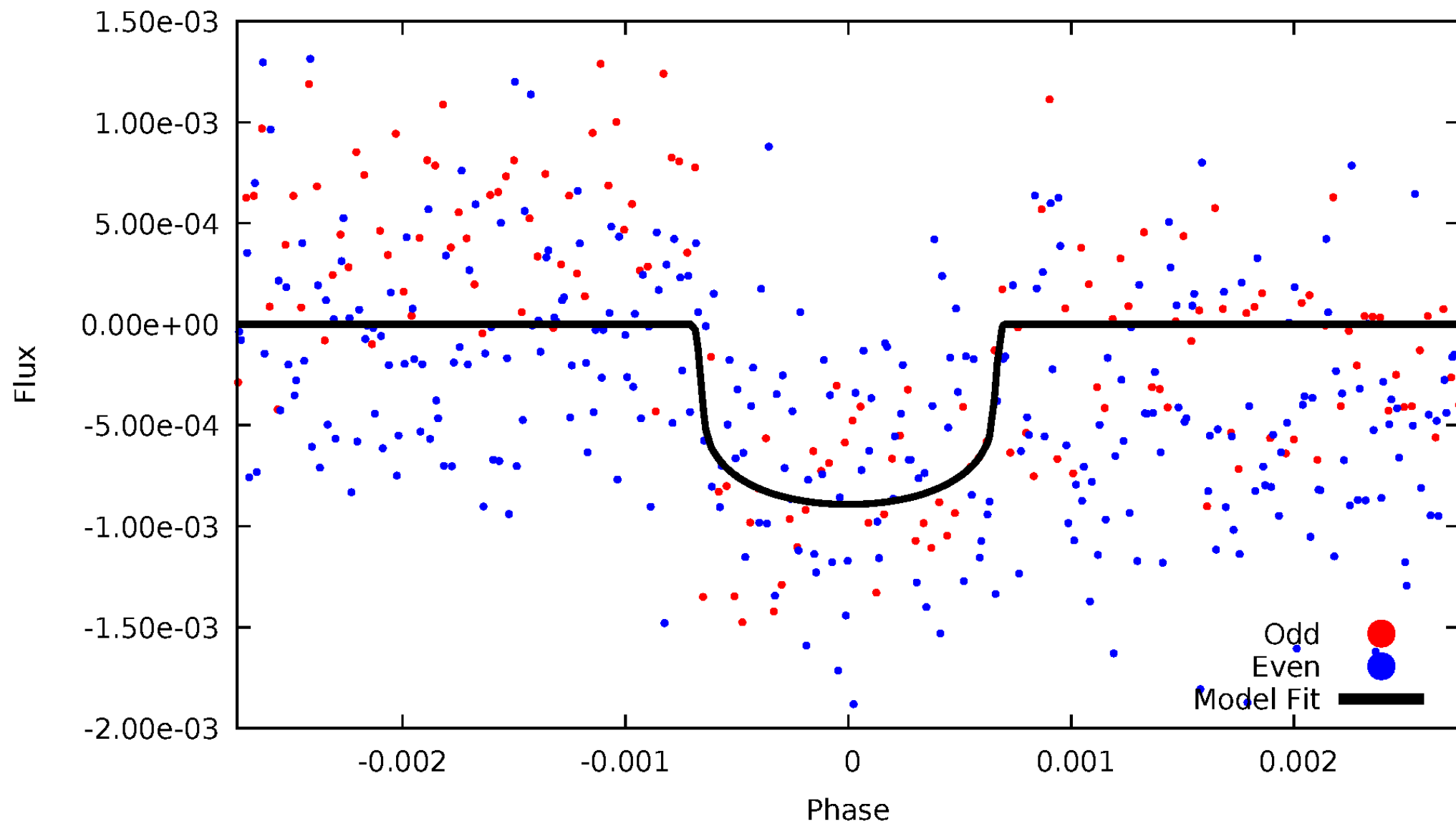


# TCE 007364923-01



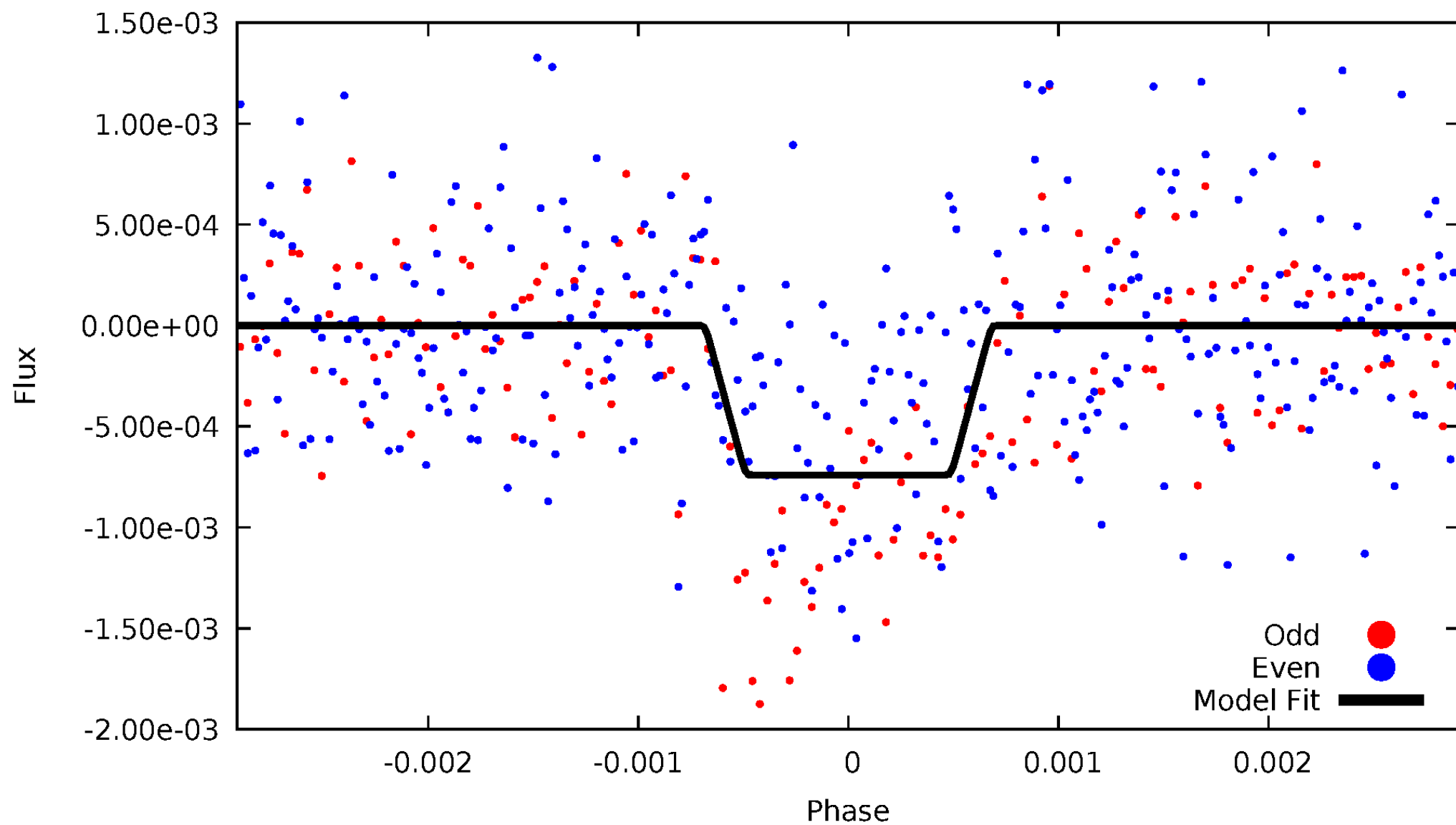
# DV Odd/Even

TCE 007364923-01

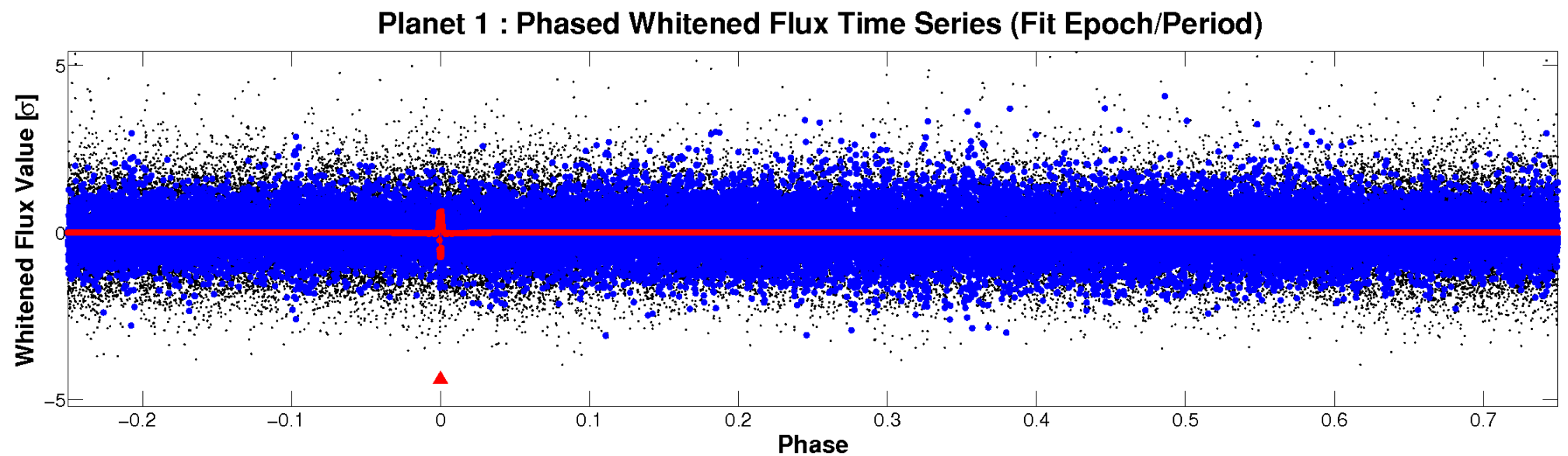
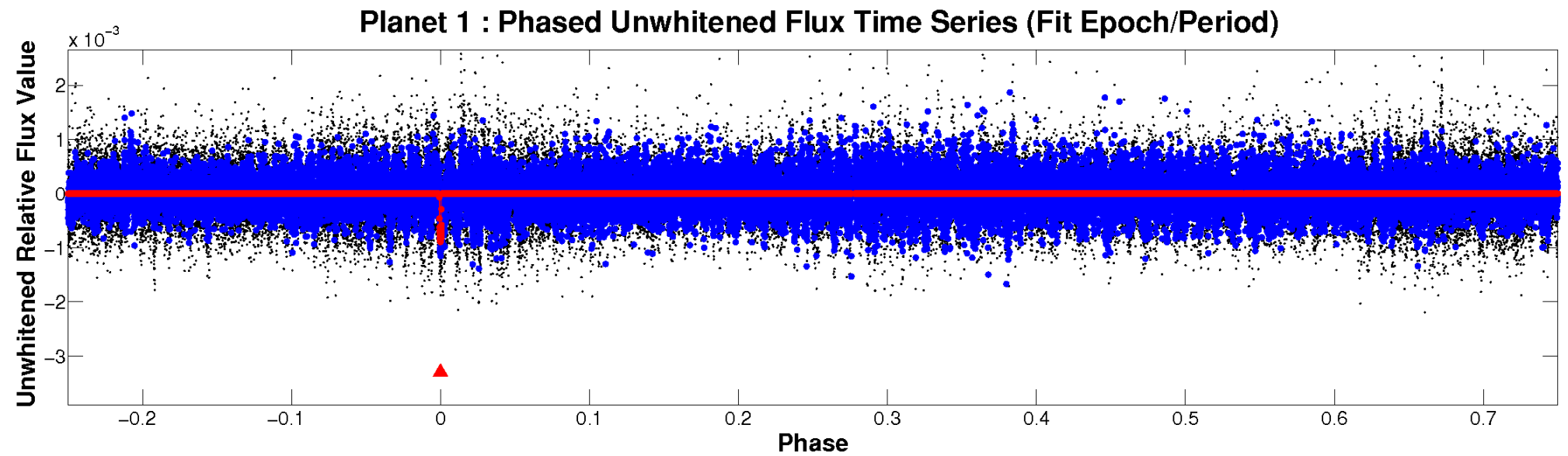


# ALT Odd/Even

TCE 007364923-01



# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

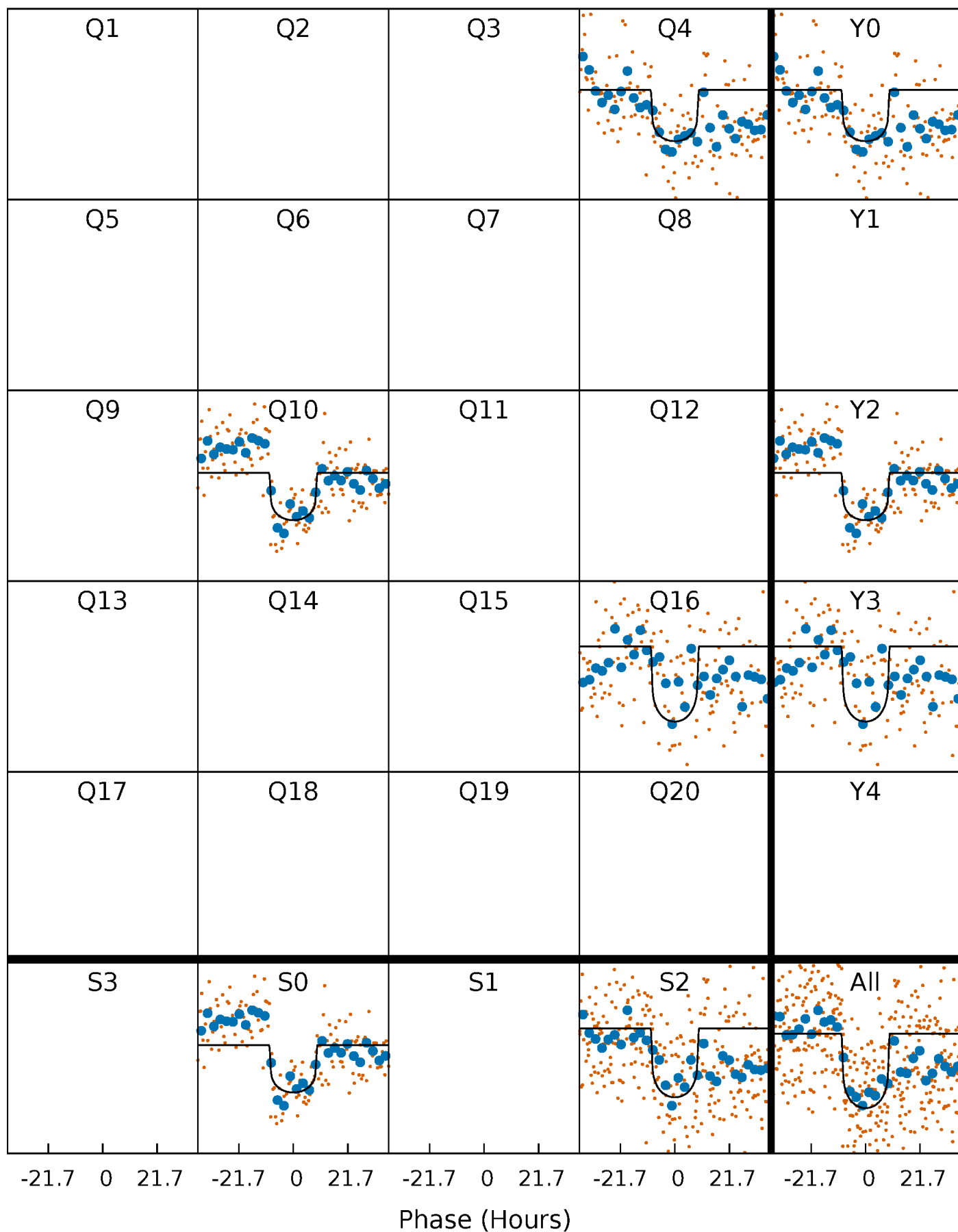
TCE 007364923-01 P=578.278728 Days  $T_0=378.844128$  (BKJD)





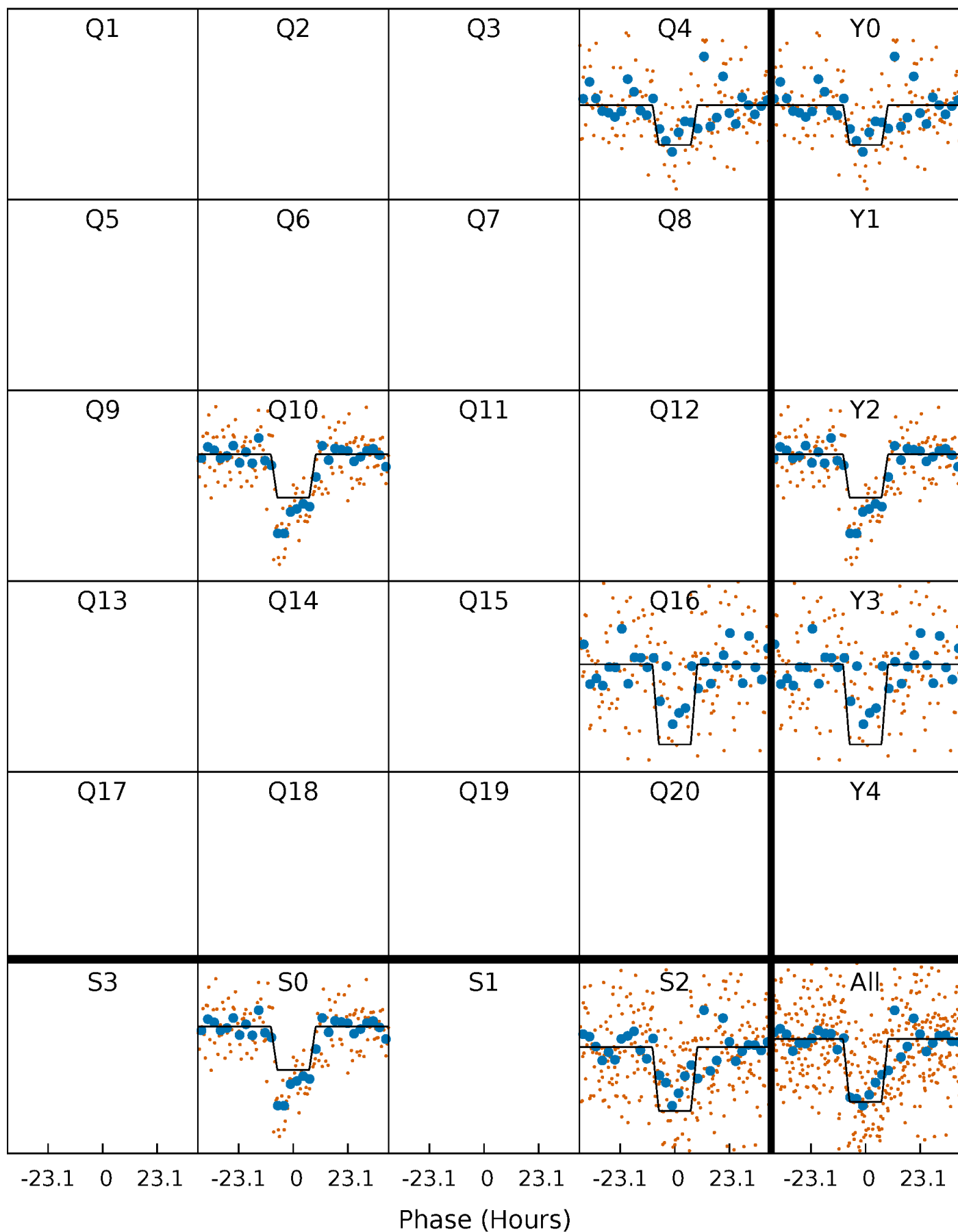
# DV Quarter-Phased Transit Curves

TCE 007364923-01 P=578.278728 Days  $T_0=378.844128$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

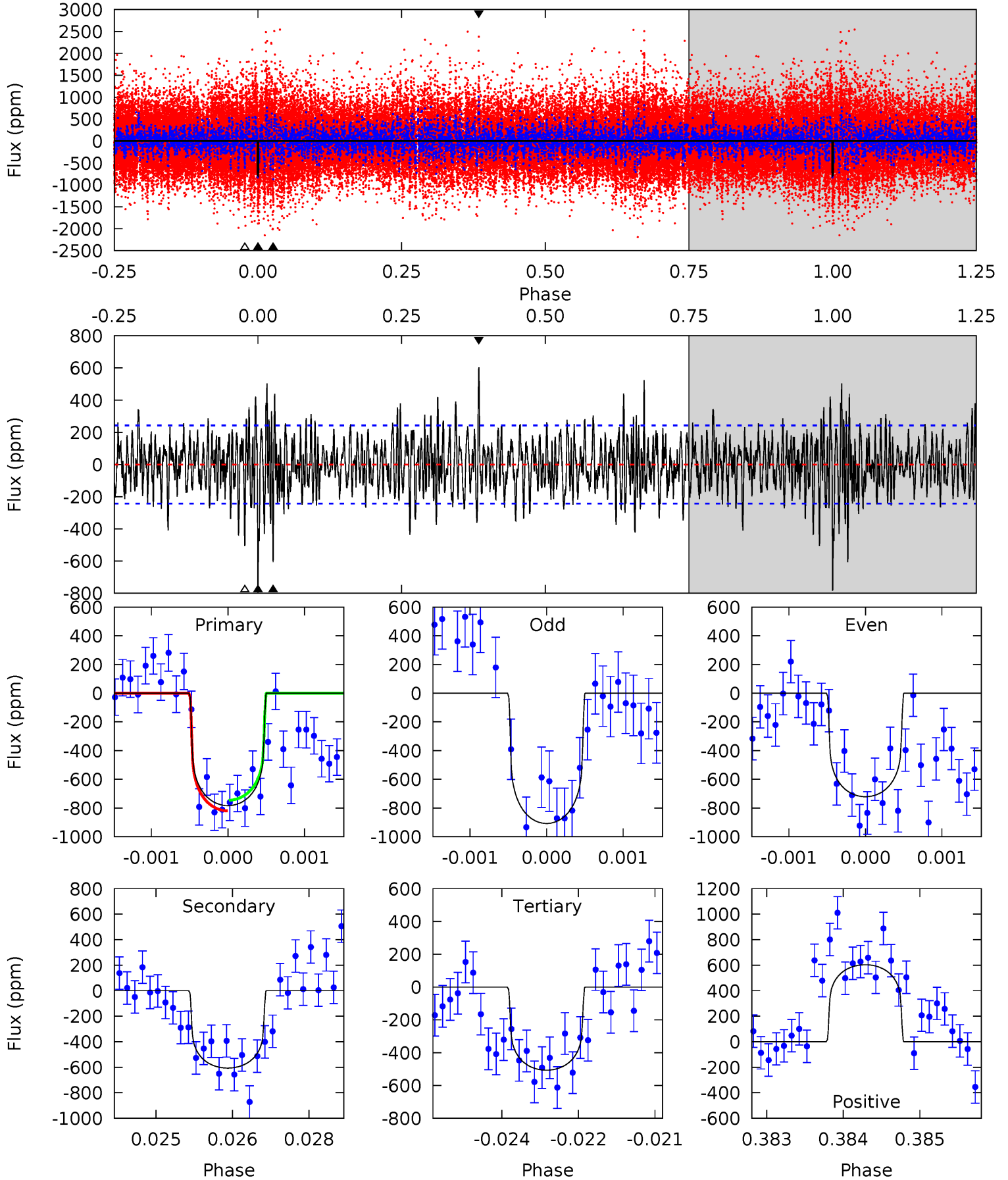
TCE 007364923-01 P=578.256126 Days  $T_0=378.835276$  (BKJD)



# DV Model-Shift Uniqueness Test

007364923-01, P = 578.278728 Days, E = 378.844128 Days

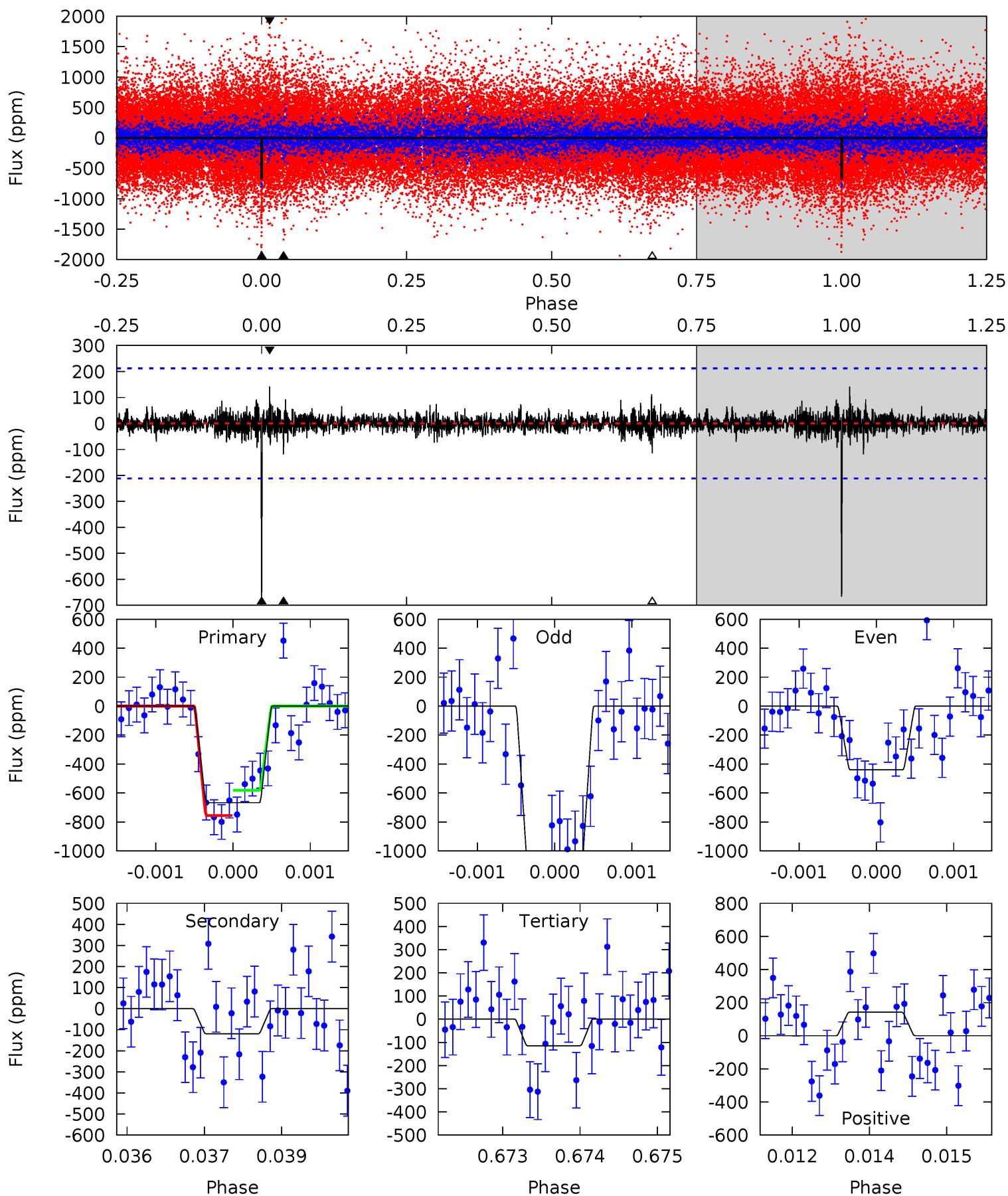
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.4	13.5	11.2	13.4	5.39	3.20	3.21	6.14	4.00	2.21	0.07	1.93	0.86	0.44	0.81



# Alt Model-Shift Uniqueness Test

007364923-01, P = 578.256126 Days, E = 378.835276 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
17.0	3.02	2.92	3.61	5.39	3.20	0.56	14.1	13.4	0.11	-0.59	8.18	1.21	0.18	2.22



### Stellar Parameters For KIC 007364923

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6116^{+193}_{-236}$	$4.463^{+0.056}_{-0.224}$	$-0.120^{+0.250}_{-0.300}$	$0.996^{+0.341}_{-0.114}$	$1.045^{+0.151}_{-0.135}$	$1.490^{+0.430}_{-0.787}$
	+3%/-4%	+1%/-5%	+208%/-250%	+34%/-11%	+14%/-13%	+29%/-53%
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 007364923-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-606 \pm 45$	$3.12^{+1.20}_{-0.99}$	$327^{+29}_{-19}$	$5758^{+1264}_{-685}$	$64161^{+72291}_{-30021}$
Alt.	$-119 \pm 39$	$3.14^{+1.15}_{-1.03}$	$328^{+25}_{-18}$	$4119^{+677}_{-467}$	$12270^{+15692}_{-6486}$

$T_{max}$  = 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

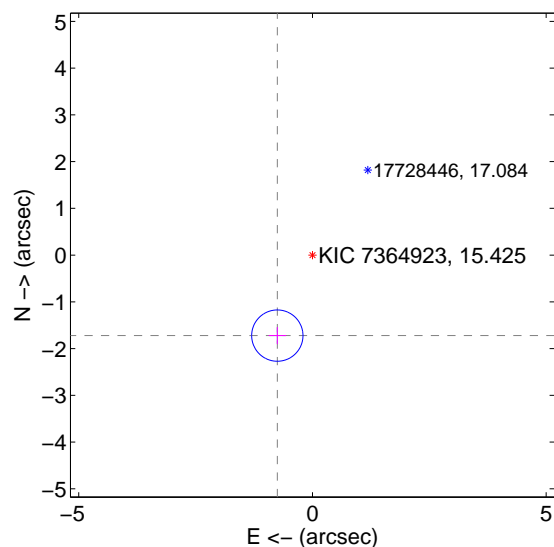
Supplemental centroid analysis for 007364923-01. Kepler magnitude: 15.43. Transit SNR 8.47

There are 1 quarters with good PRF difference image offsets

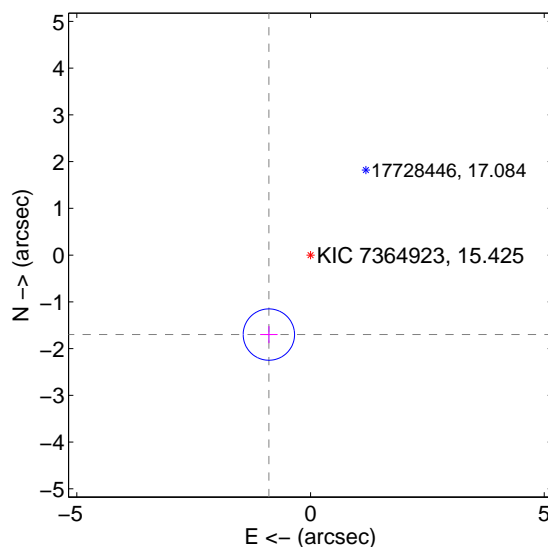
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.879 \pm 0.183$	10.27	$0.751 \pm 0.186$	$-1.722 \pm 0.182$
PRF-fit source offset from KIC position	$1.920 \pm 0.183$	10.48	$0.891 \pm 0.186$	$-1.700 \pm 0.182$
photometric centroid source offset	$0.74 \pm 1.19$	0.62	$-0.72 \pm 1.20$	$-0.14 \pm 1.04$

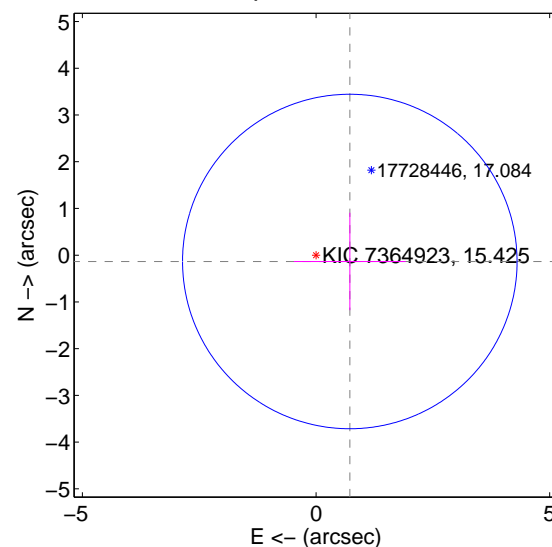
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

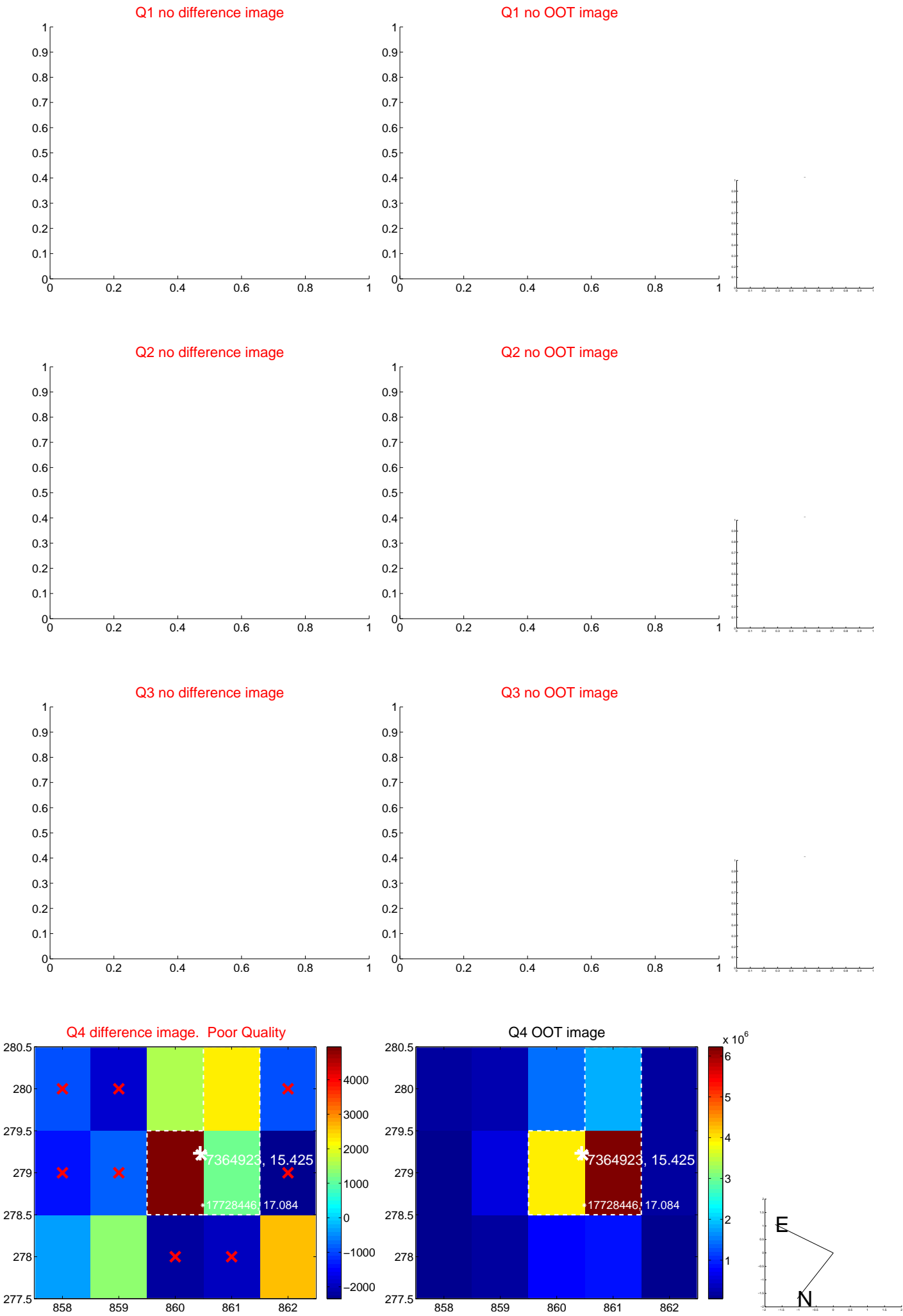


offset from photometric centroids



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.

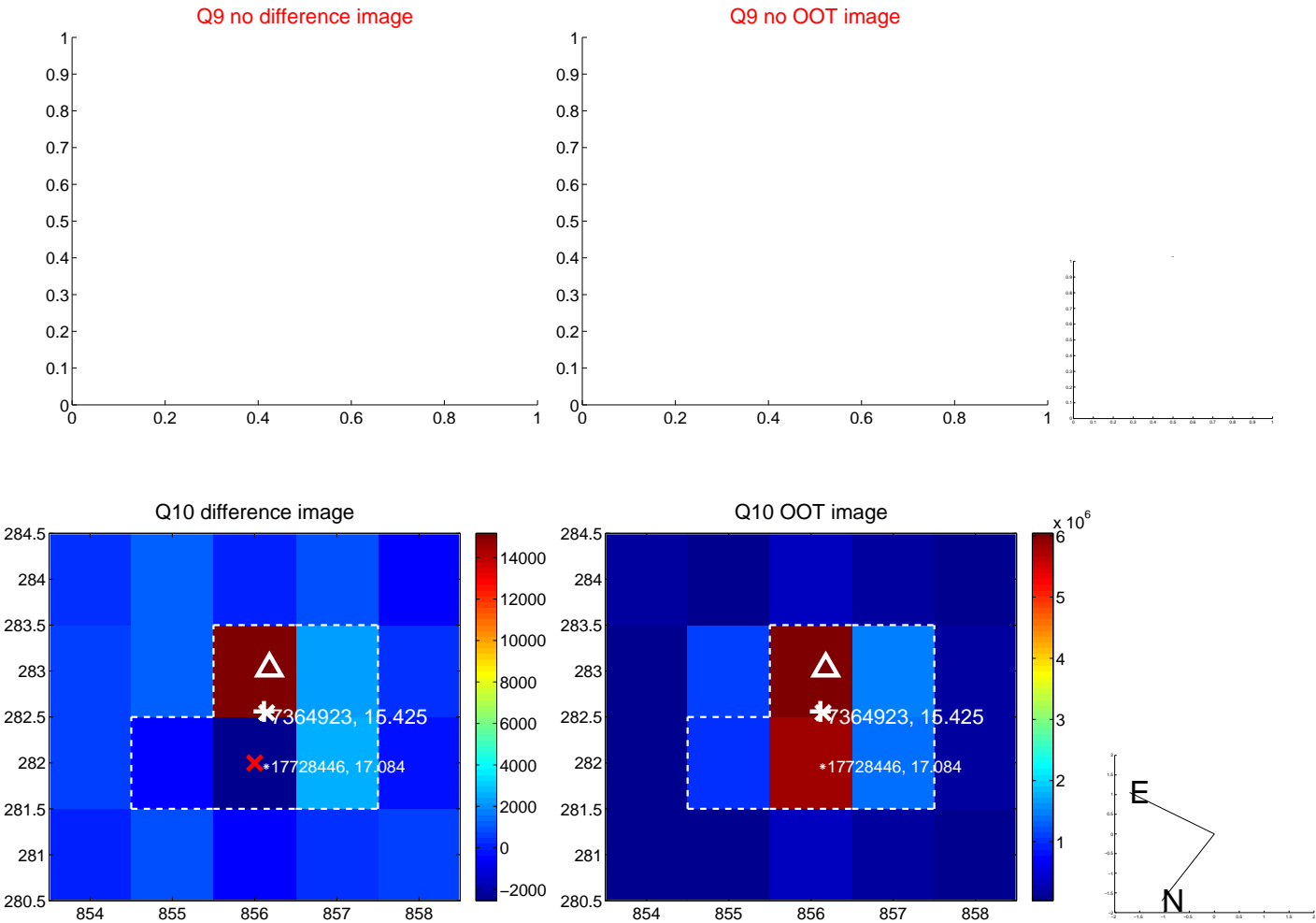




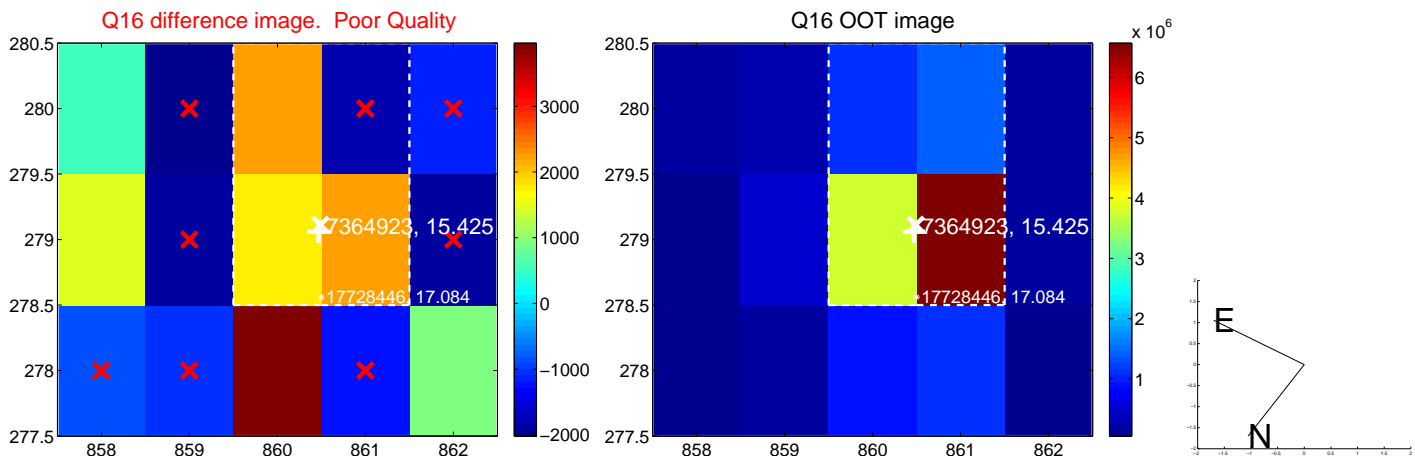
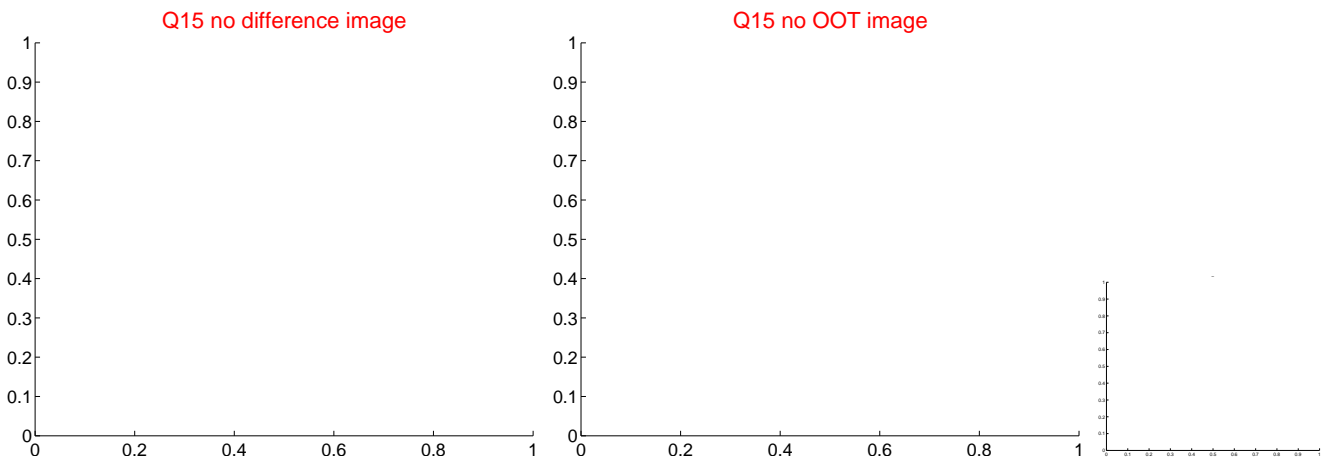
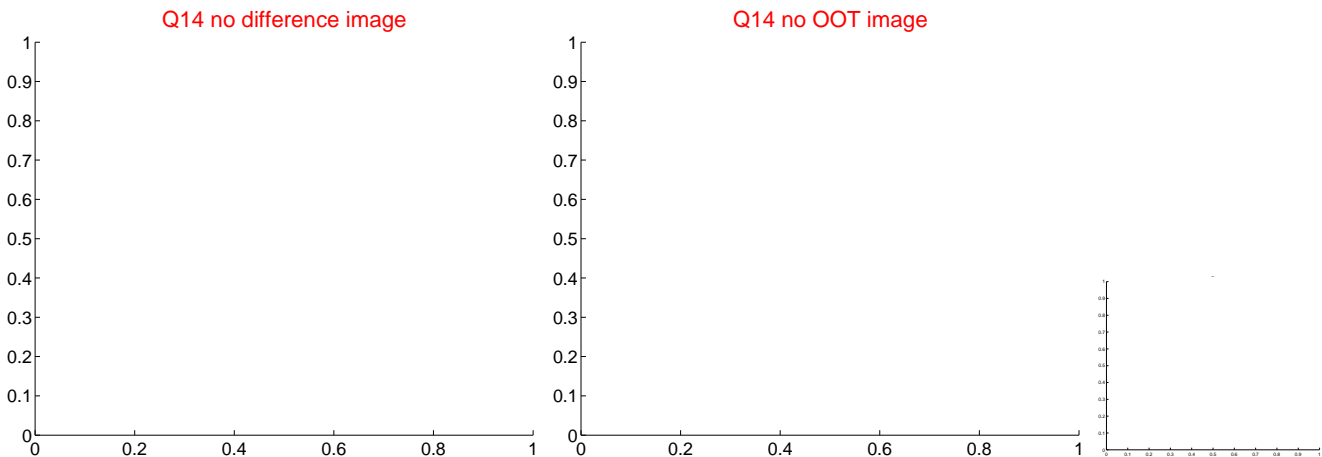
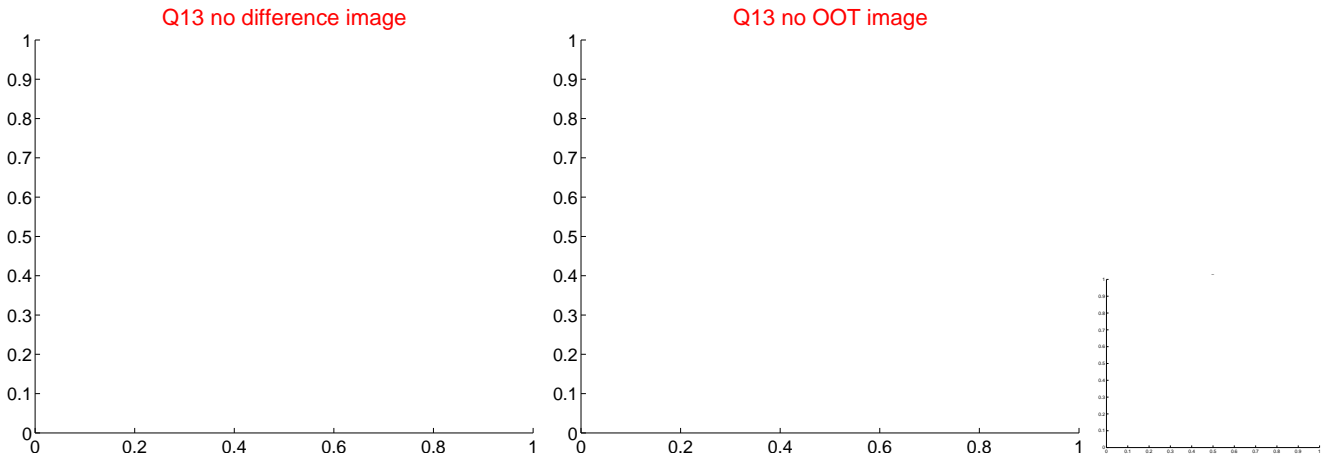
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



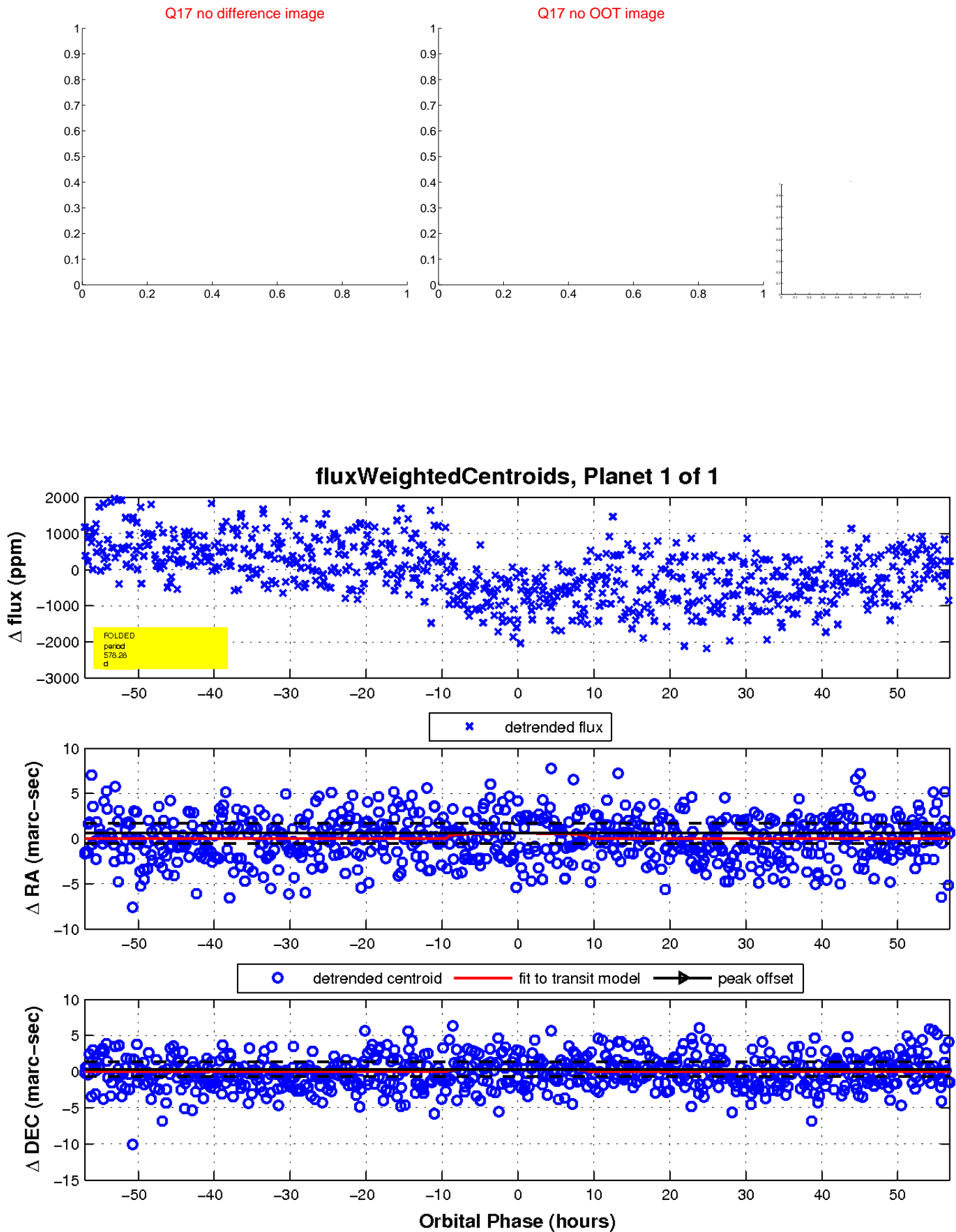
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

