

# KIC 007091848

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007091848-01	OBS	No	488.376349	263.027597	1348.0	6.018	8.7	8.5	0.73	5310	2.77	0.31

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007091848-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—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.

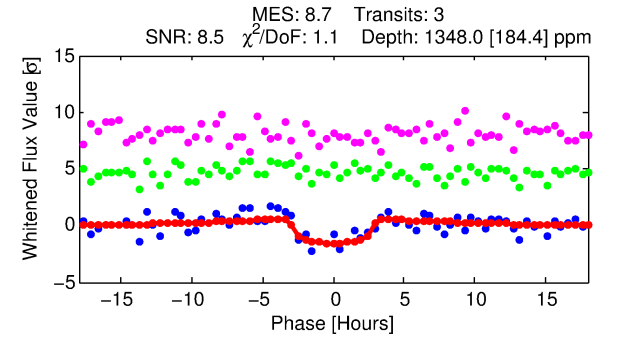
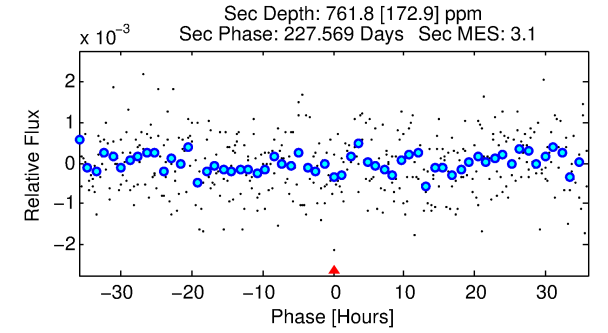
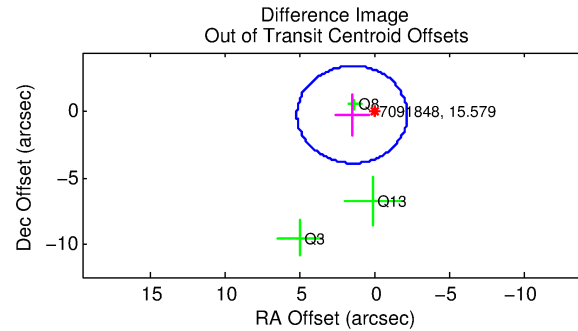
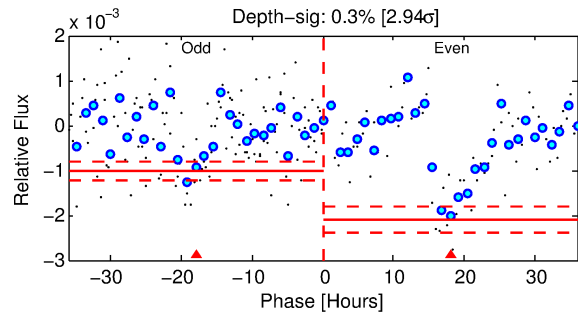
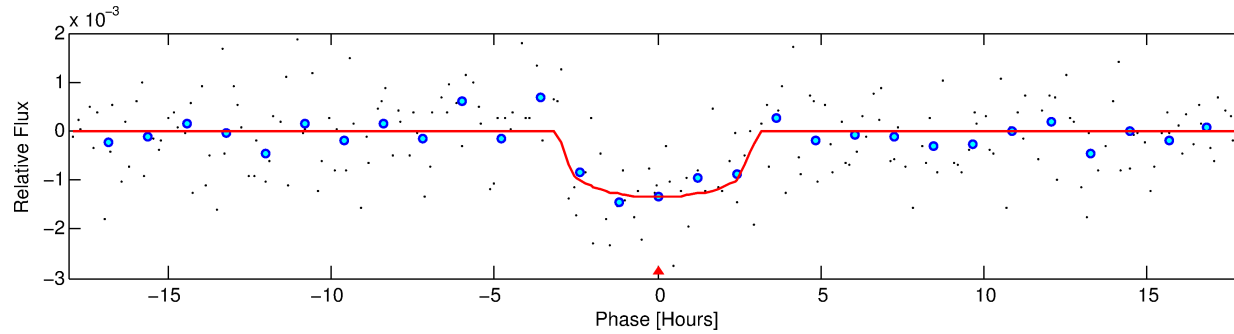
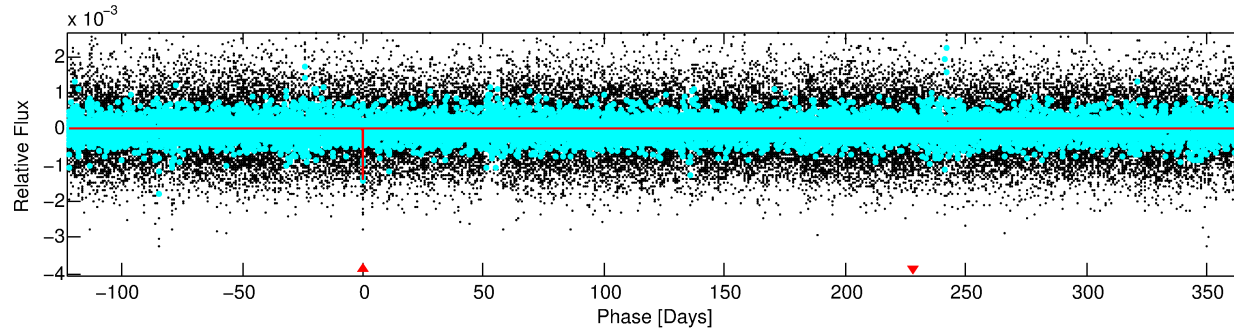
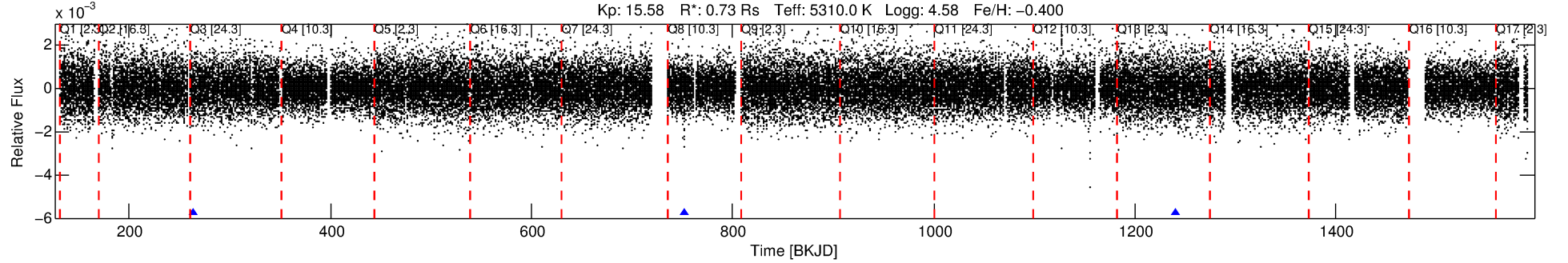
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007091848-01

No Significant Match Found

# DV One-Page Summary

KIC: 7091848 Candidate: 1 of 1 Period: 488.376 d



## DV Fit Results:

Period = 488.37635 [0.00905] d  
Epoch = 263.0276 [0.0112] BKJD  
Rp/R\* = 0.0346 [0.0514]  
a/R\* = 538.53 [3182.38]  
b = 0.56 [7.28]  
Seff = 0.31 [0.06]  
Teq = 191 [9] K  
Rp = 2.76 [4.12] Re  
a = 1.1038 [0.1220] AU  
Ag = 66794.99 [199161.01] [0.34 $\sigma$ ]  
Teffp = 4742 [3533] K [1.29 $\sigma$ ]

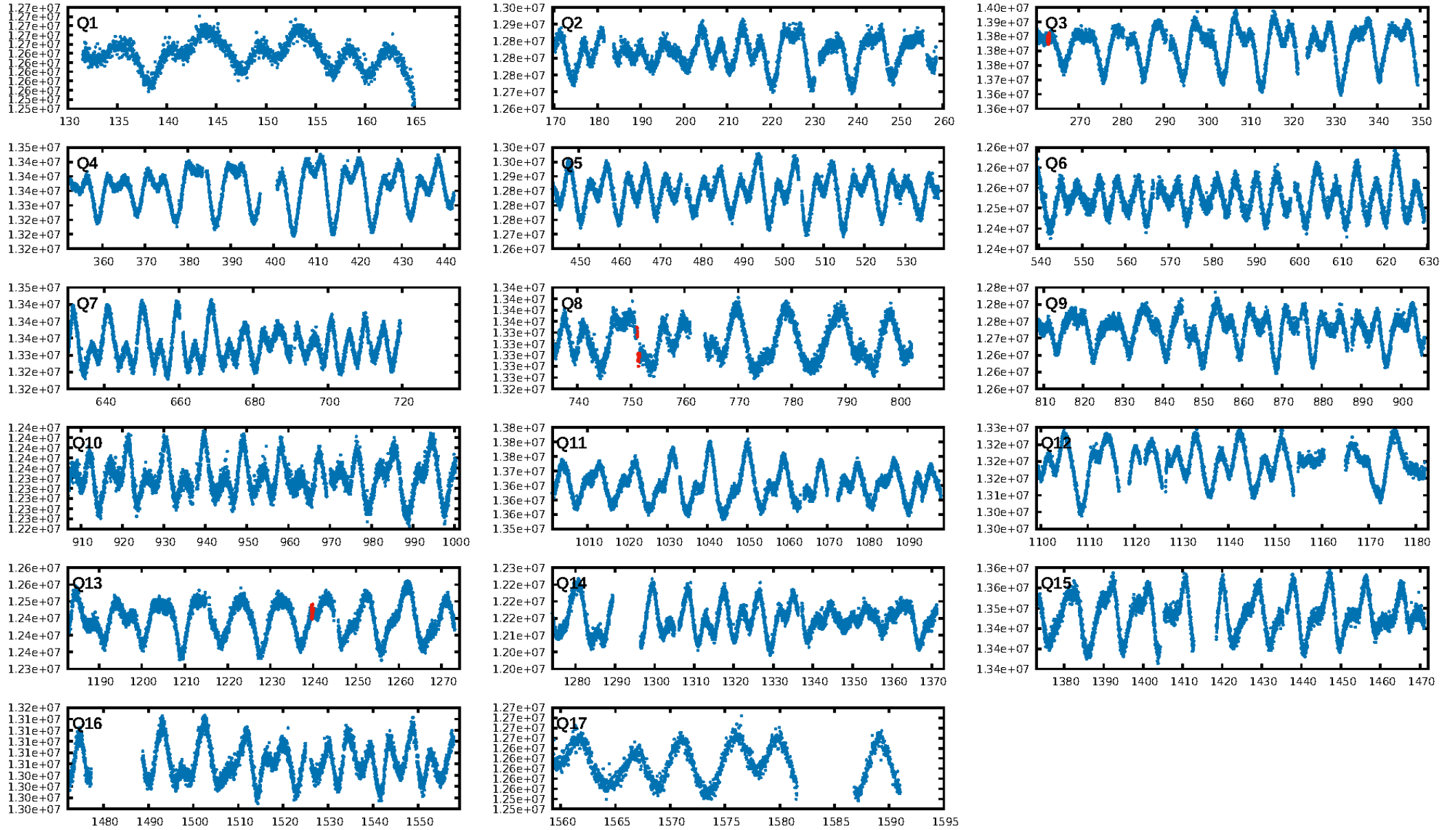
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 1.8%  
ModelChiSquareGof-sig: 93.8%  
Bootstrap-pfa: 2.34e-17  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 0.3229  
Centroid-sig: 32.0%  
Centroid-so: 0.865 arcsec [0.57 $\sigma$ ]  
OotOffset-rm: 1.474 arcsec [1.20 $\sigma$ ]  
KicOffset-rm: 1.506 arcsec [1.71 $\sigma$ ]  
OotOffset-st: 0/1/1/1 [3]  
KicOffset-st: 0/1/1/1 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [3/3]

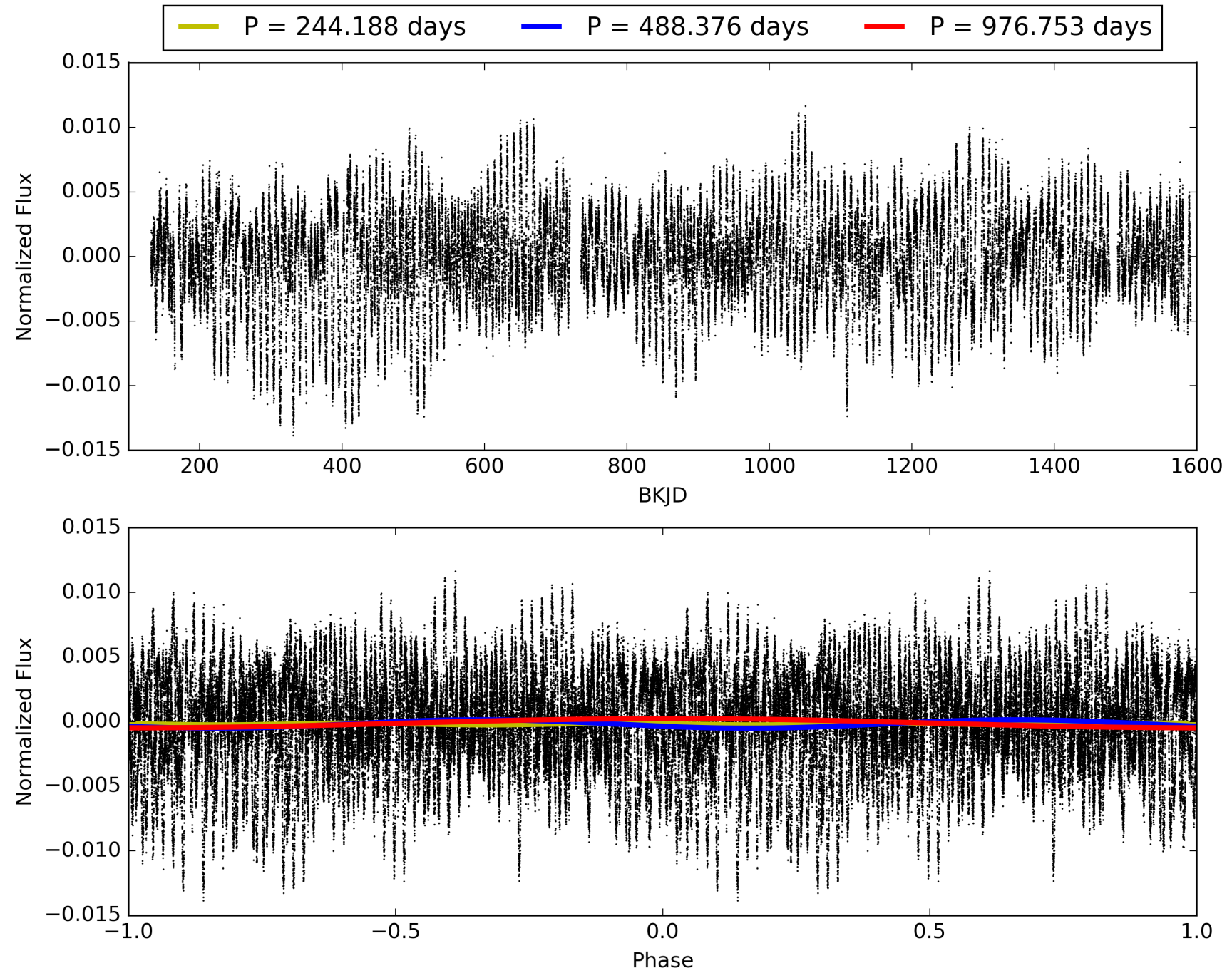
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:11:42 Z

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

# TCE 007091848-01, PDC Light Curves

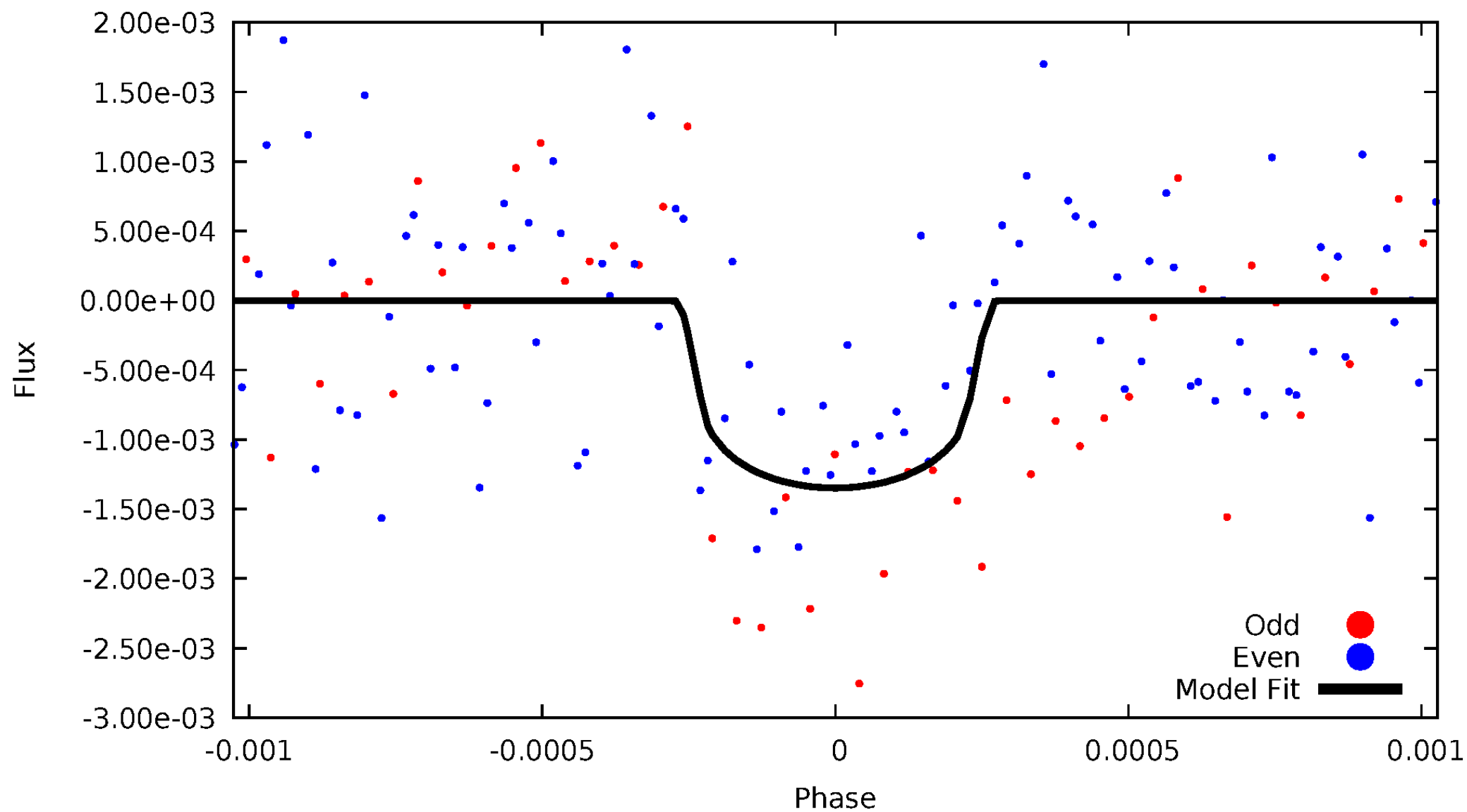


TCE 007091848-01



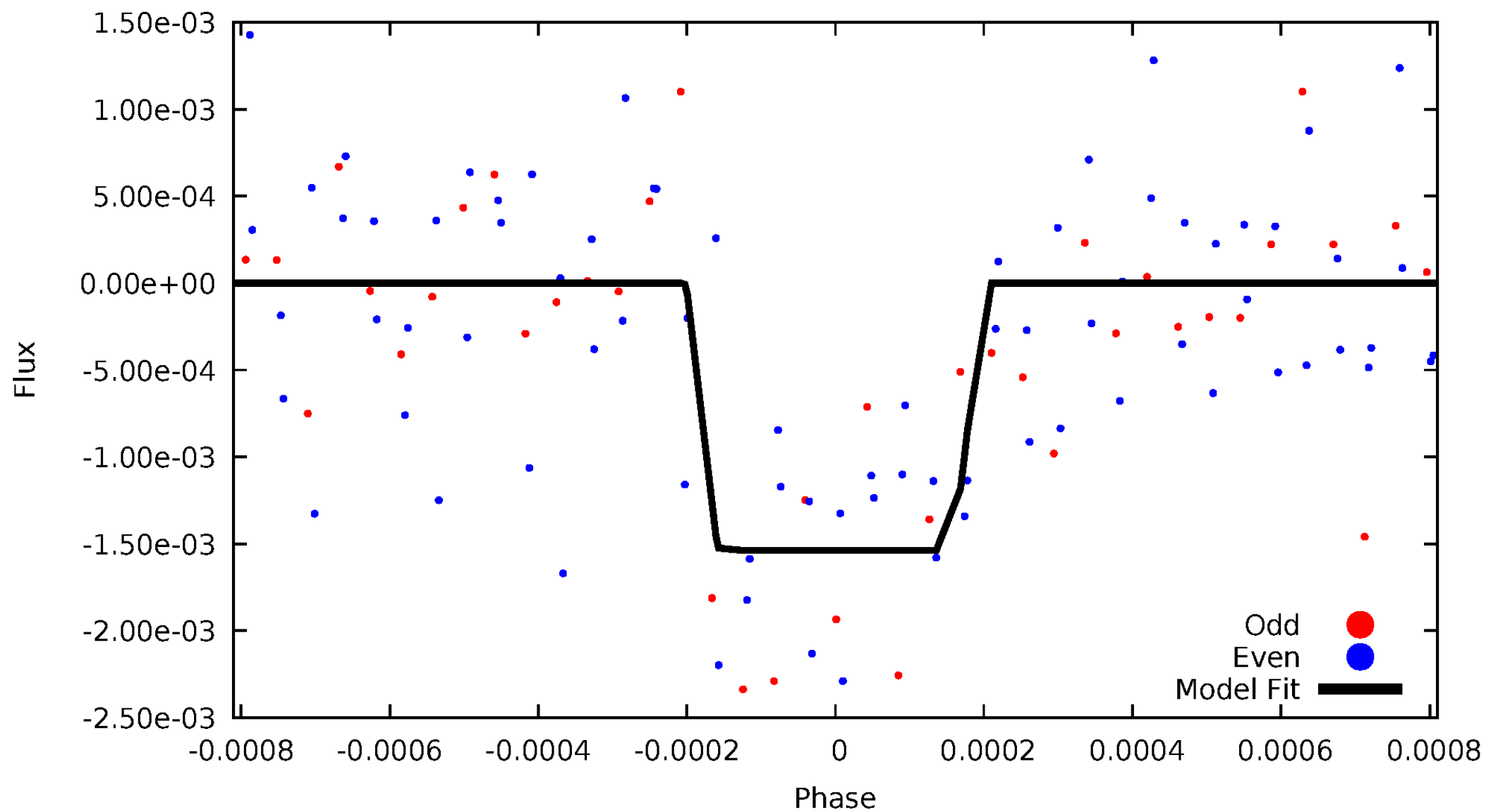
# DV Odd/Even

TCE 007091848-01



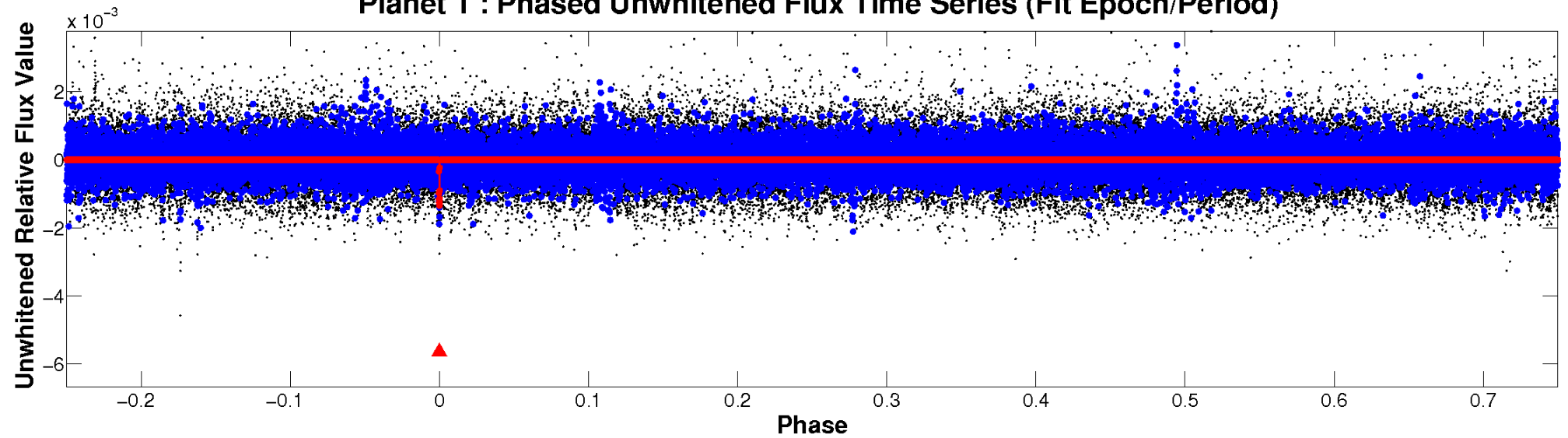
# ALT Odd/Even

TCE 007091848-01

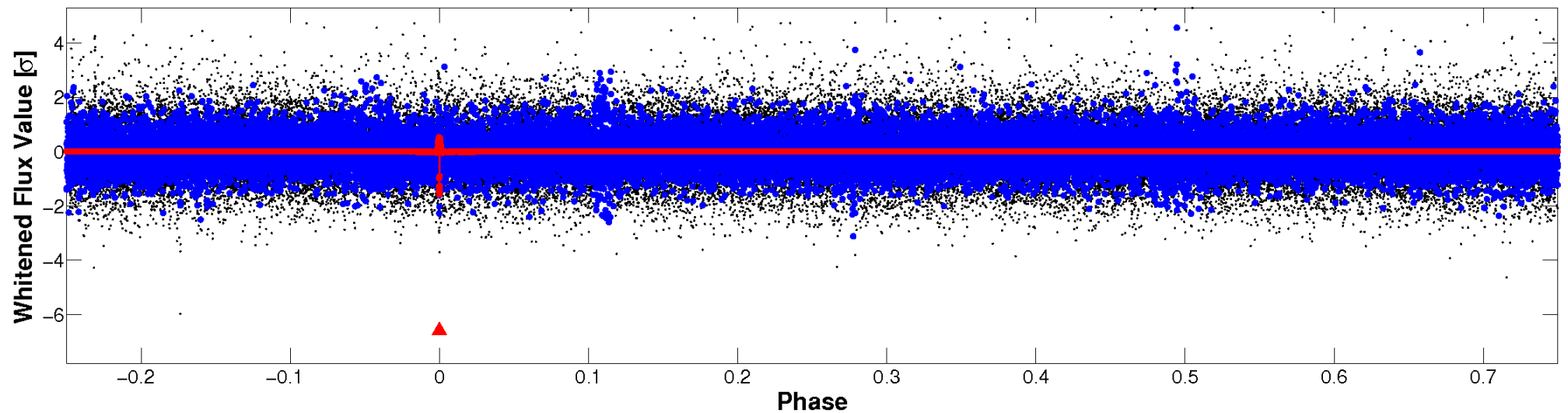


# Non-Whitened Vs. Whitened Light Curve

**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 007091848-01 P=488.376349 Days  $T_0=263.027597$  (BKJD)





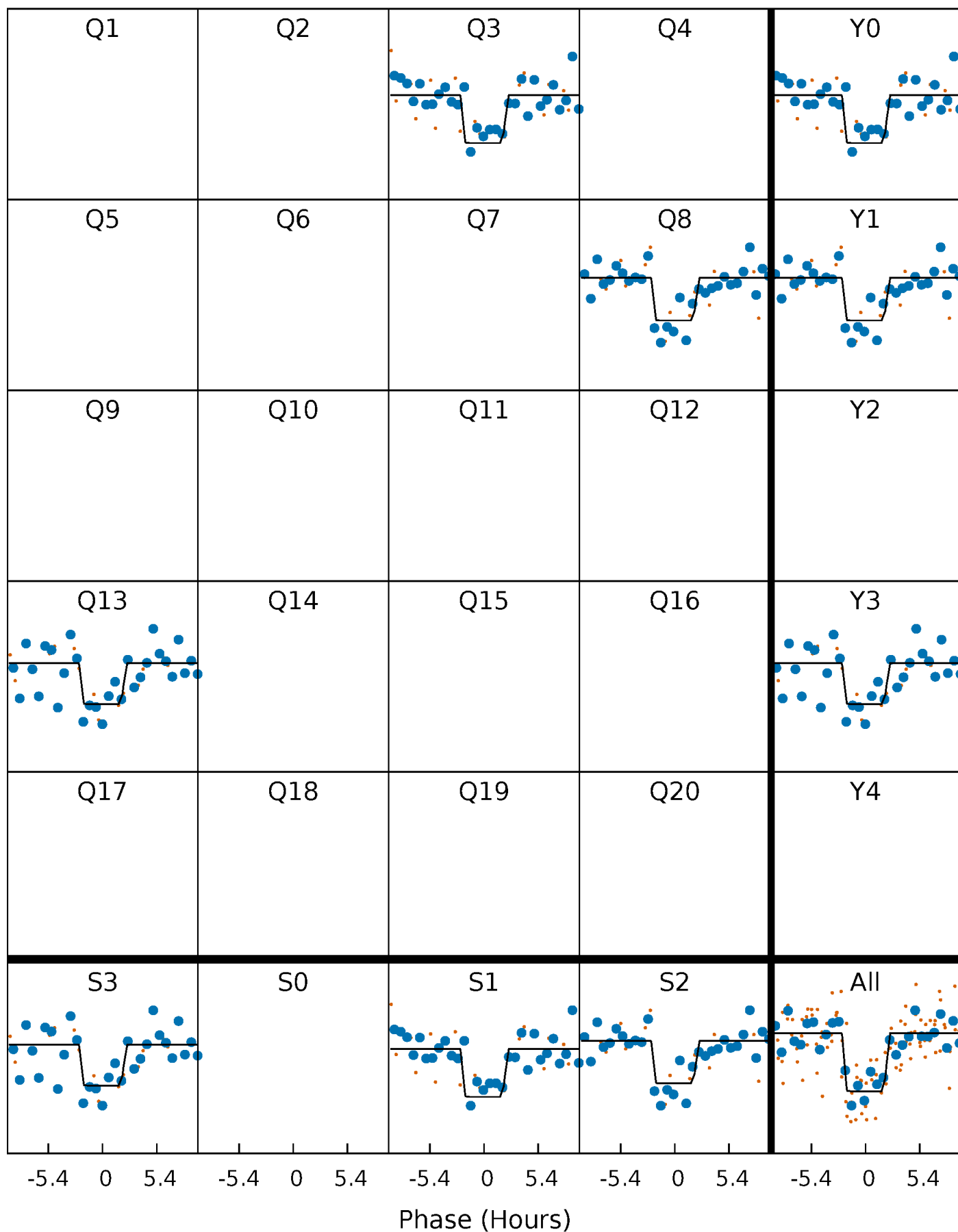
# DV Quarter-Phased Transit Curves

TCE 007091848-01 P=488.376349 Days  $T_0=263.027597$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

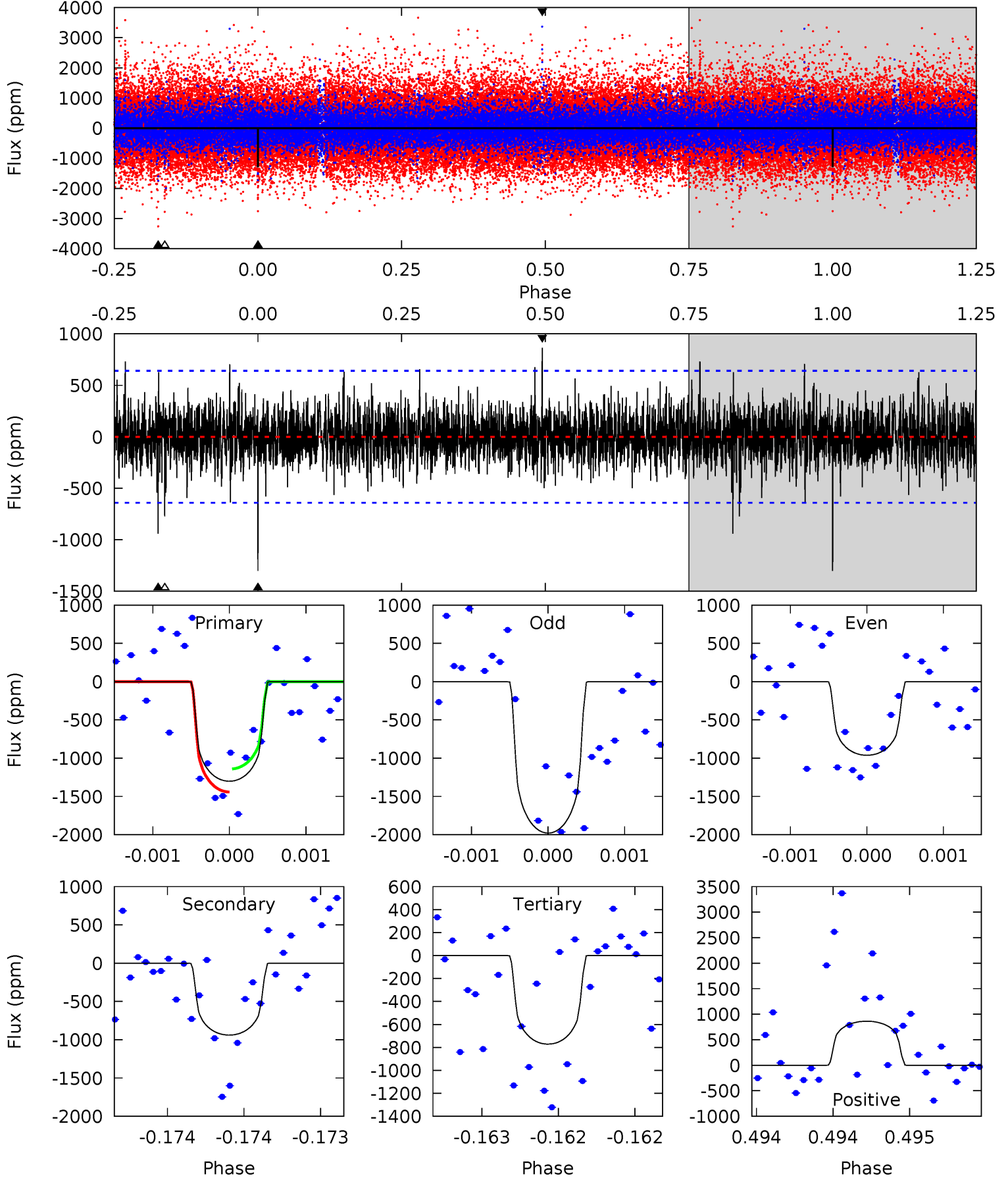
TCE 007091848-01 P=488.362084 Days  $T_0=263.020347$  (BKJD)



# DV Model-Shift Uniqueness Test

007091848-01, P = 488.376349 Days, E = 263.027597 Days

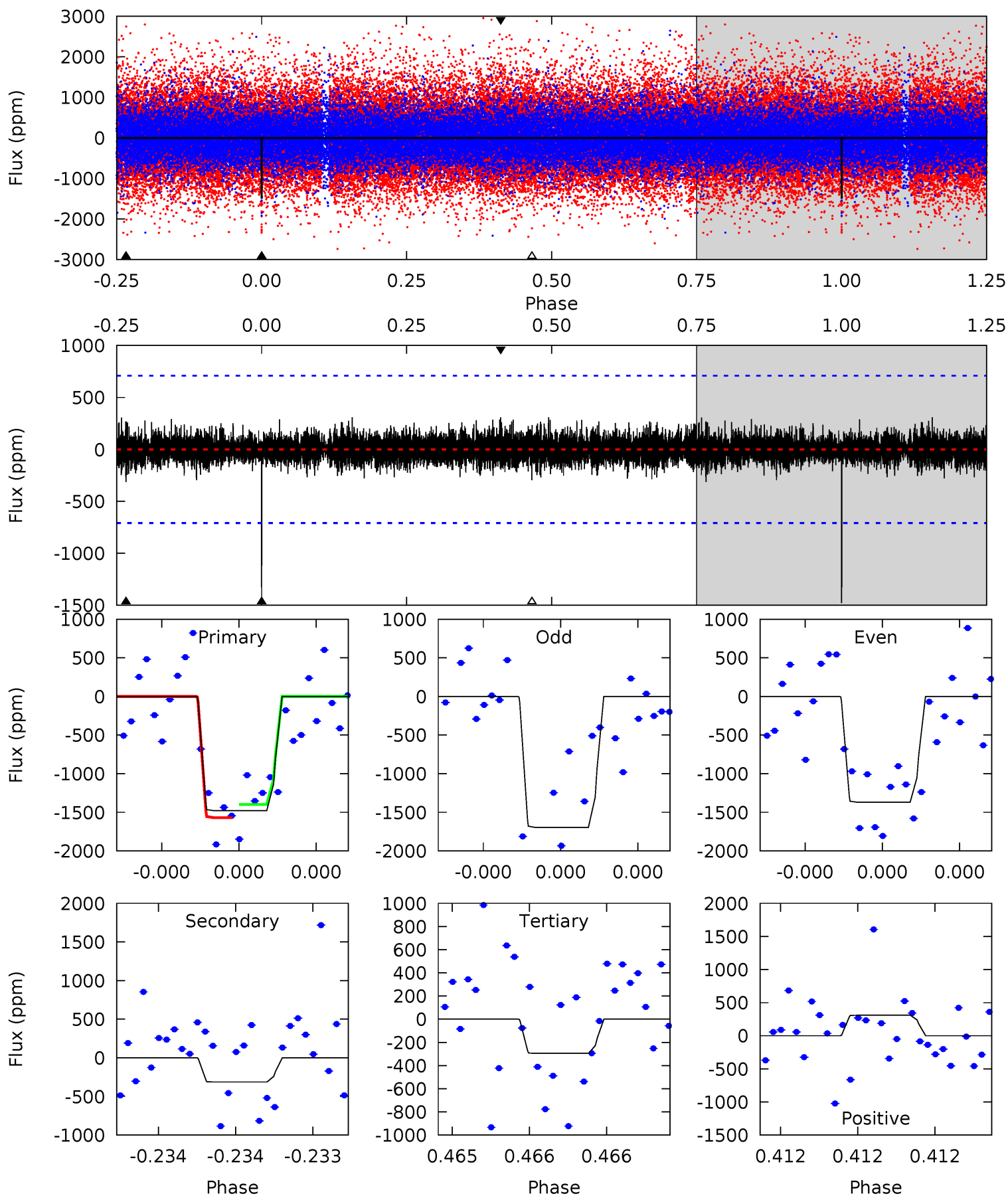
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	8.15	6.69	7.48	5.56	3.46	1.46	4.59	3.80	1.45	0.66	4.19	1.28	0.40	1.30



# Alt Model-Shift Uniqueness Test

007091848-01, P = 488.362084 Days, E = 263.020347 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
11.7	2.48	2.34	2.46	5.62	3.56	0.62	9.38	9.26	0.15	0.03	1.22	0.91	0.17	0.67



### Stellar Parameters For KIC 007091848

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5310^{+159}_{-159}$	$4.585^{+0.052}_{-0.078}$	$-0.400^{+0.350}_{-0.300}$	$0.732^{+0.102}_{-0.068}$	$0.751^{+0.089}_{-0.060}$	$2.701^{+0.611}_{-0.713}$
	+3%/-3%	+1%/-2%	+87%/-75%	+14%/-9%	+12%/-8%	+23%/-26%
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 007091848-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-939 \pm 115$	$4.08^{+3.60}_{-2.52}$	$268^{+11}_{-11}$	$4309^{+2333}_{-847}$	$37096^{+226975}_{-26492}$
Alt.	$-313 \pm 126$	$4.29^{+3.42}_{-2.67}$	$267^{+12}_{-9}$	$3482^{+1508}_{-620}$	$10975^{+66122}_{-8057}$

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

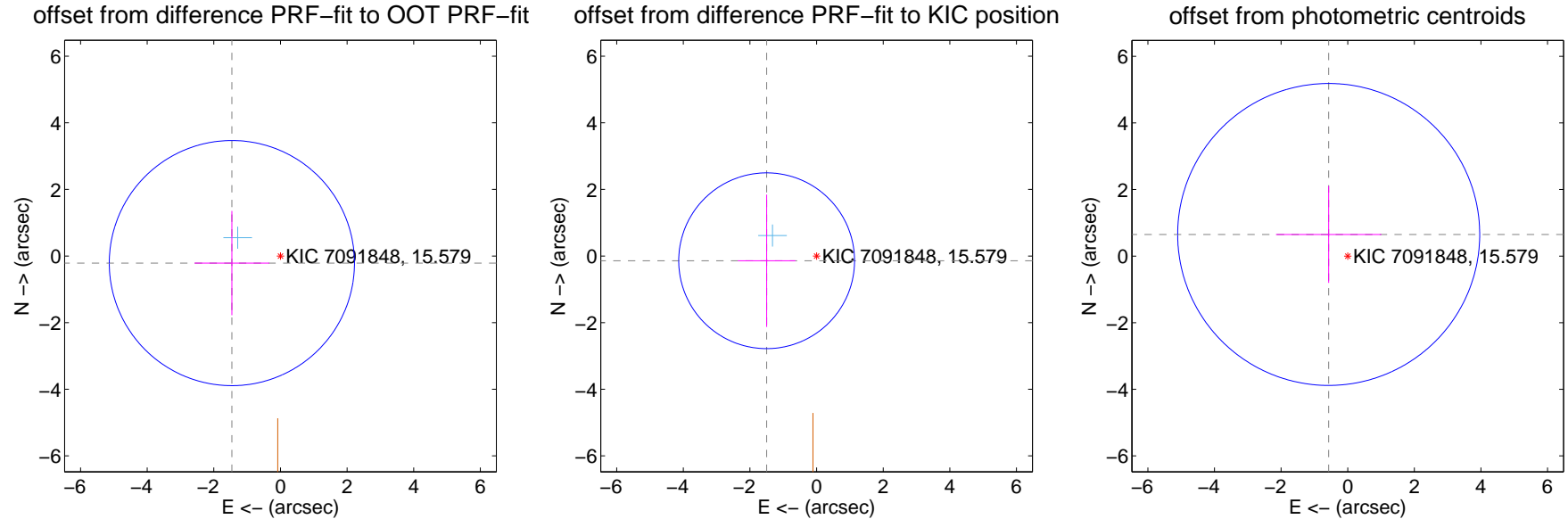
## DV Centroid Data

Supplemental centroid analysis for 007091848-01. Kepler magnitude: 15.58. Transit SNR 8.52

There are 1 quarters with good PRF difference image offsets

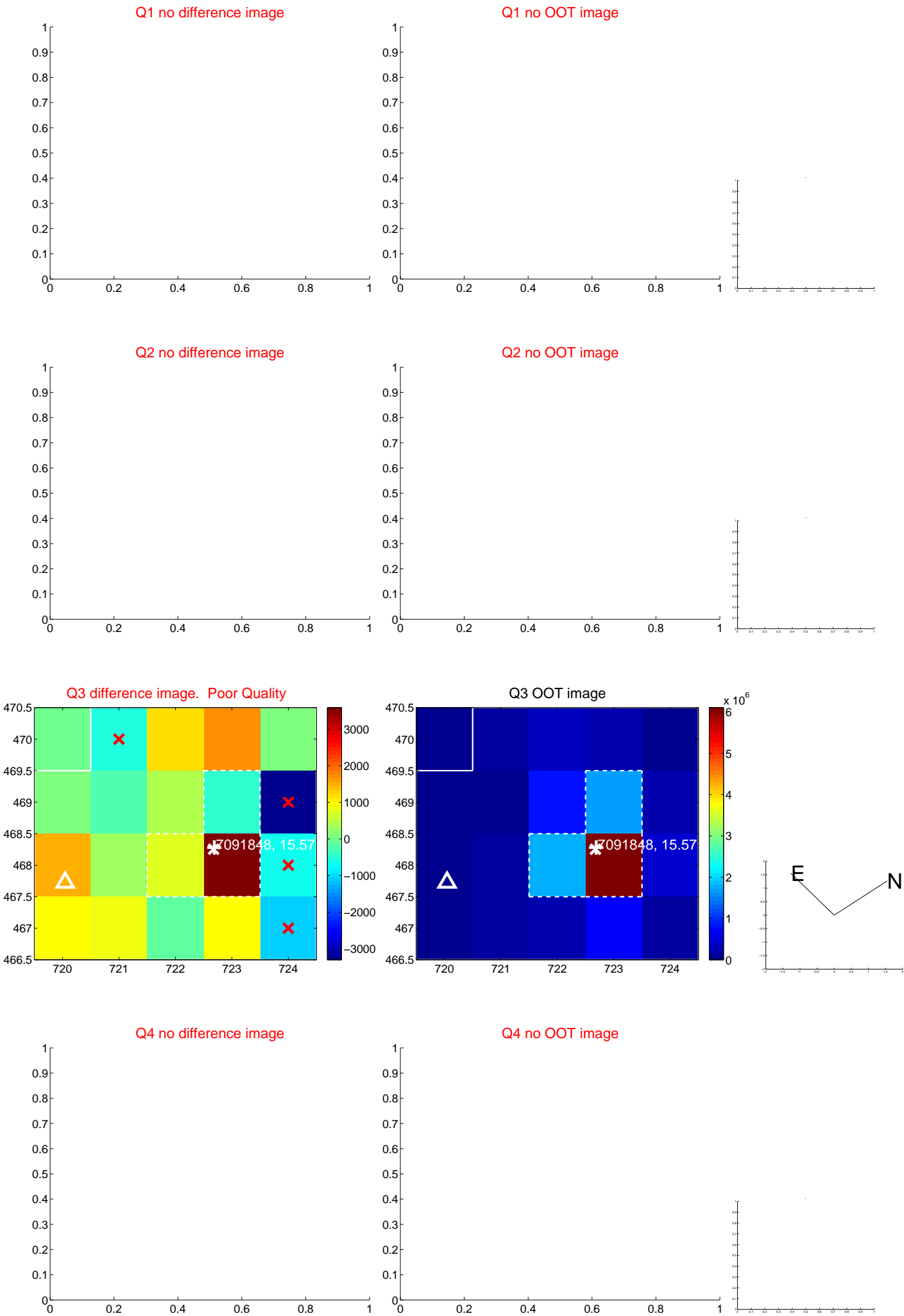
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.474 \pm 1.227$	1.20	$1.459 \pm 1.122$	$-0.212 \pm 1.566$
PRF-fit source offset from KIC position	$1.506 \pm 0.880$	1.71	$1.500 \pm 0.863$	$-0.142 \pm 1.987$
photometric centroid source offset	$0.87 \pm 1.51$	0.57	$0.57 \pm 1.58$	$0.65 \pm 1.45$



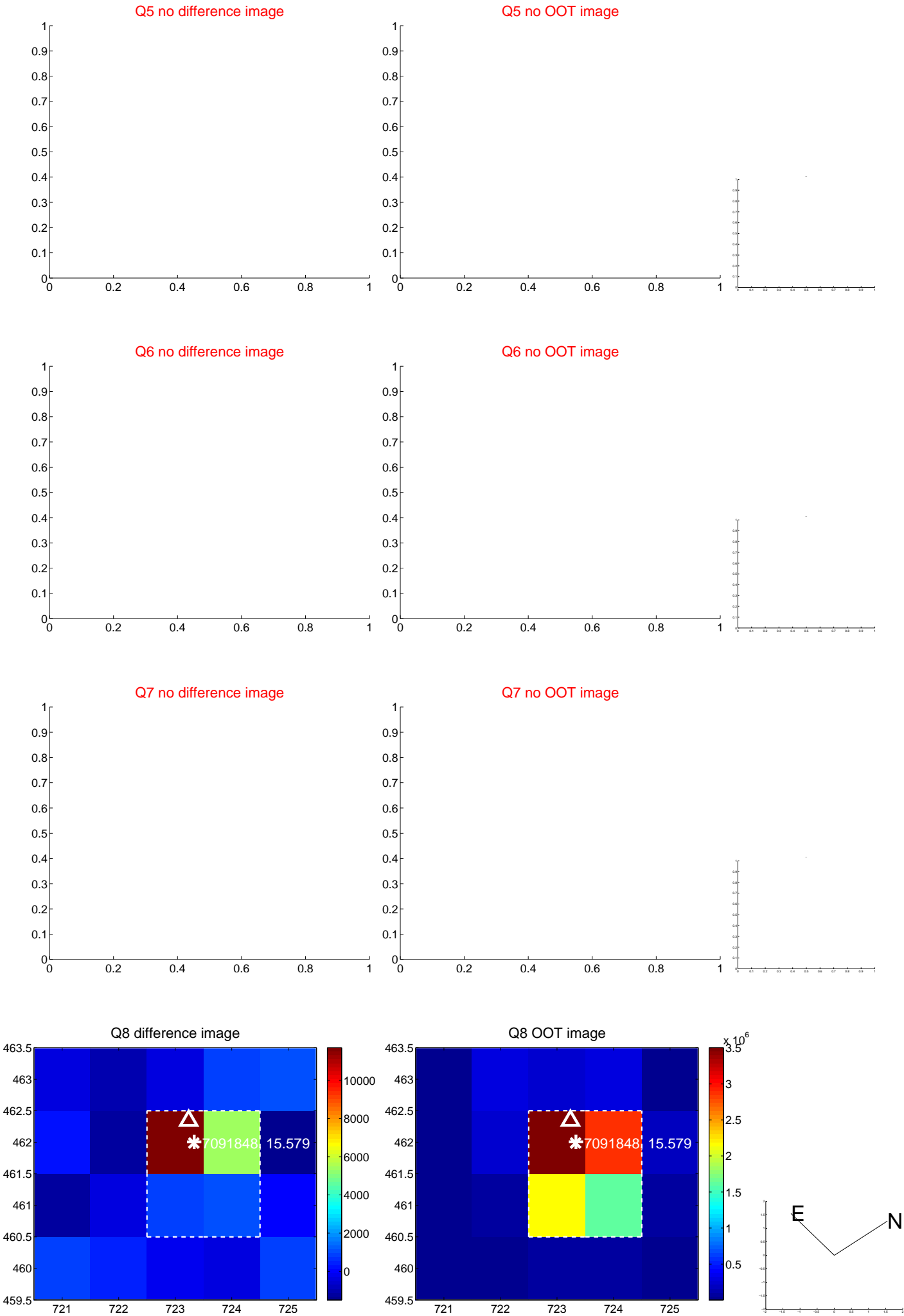
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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





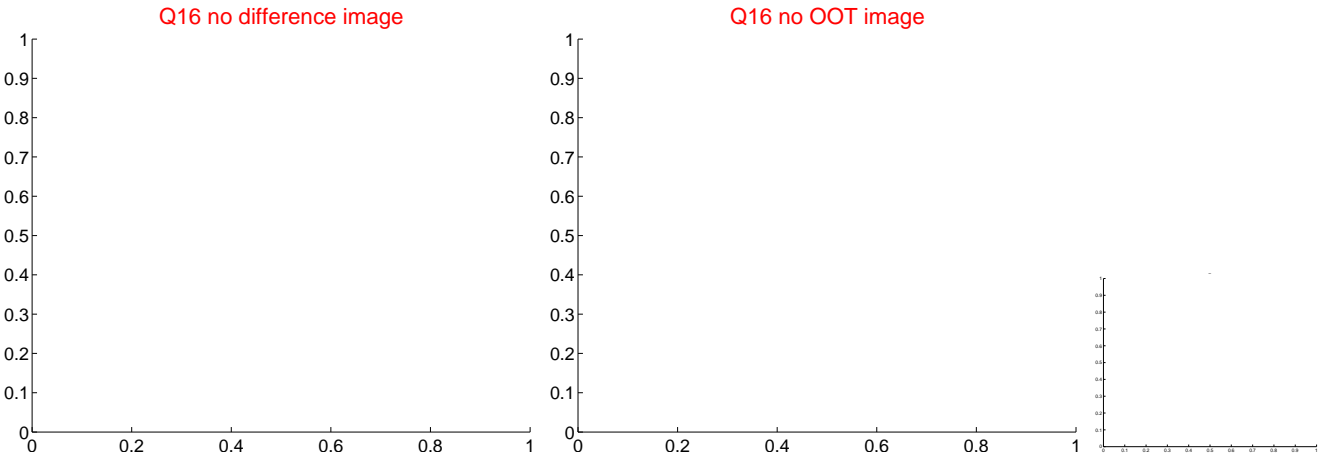
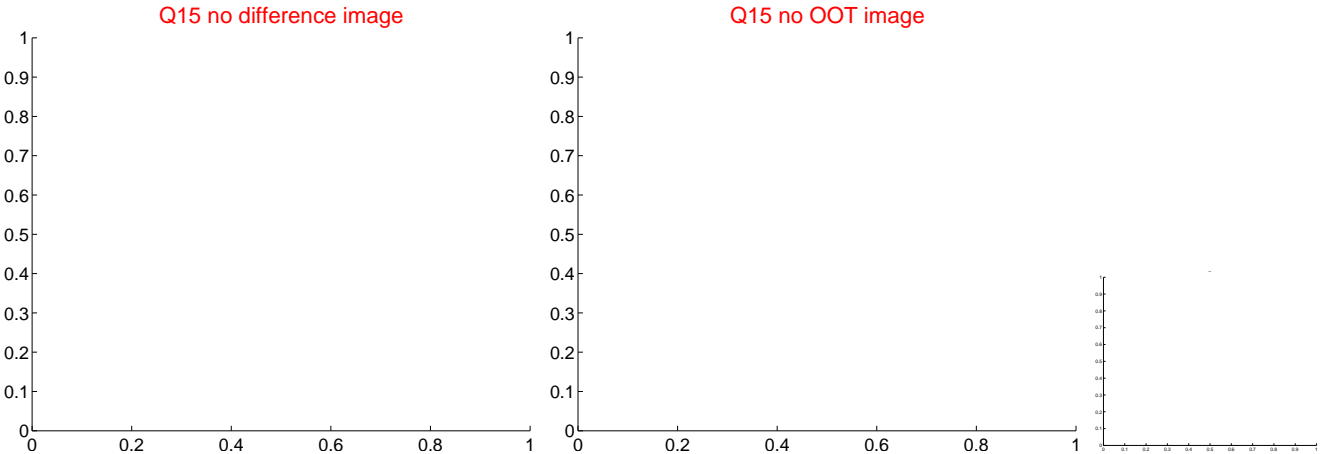
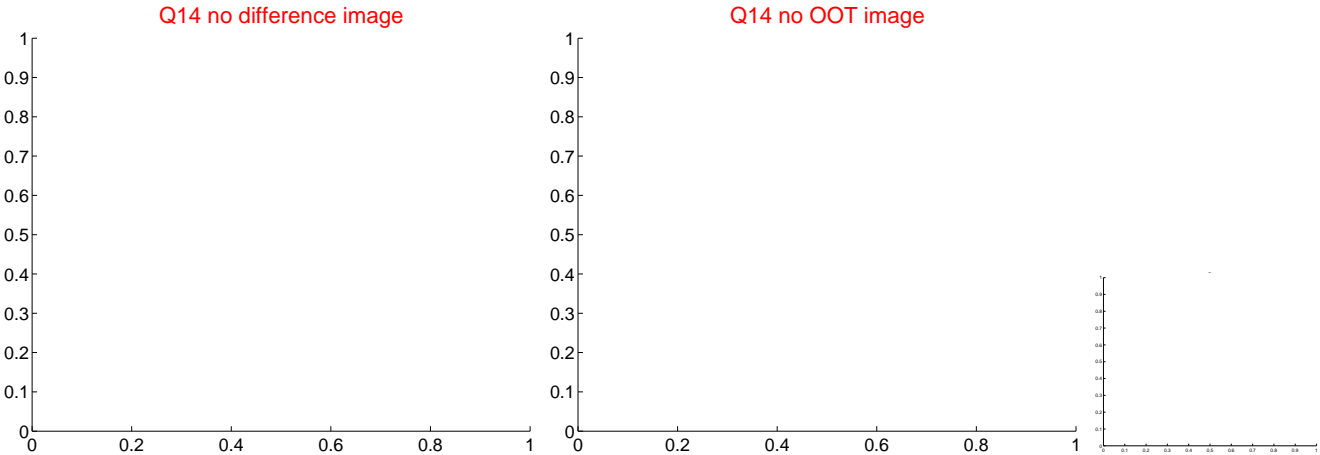
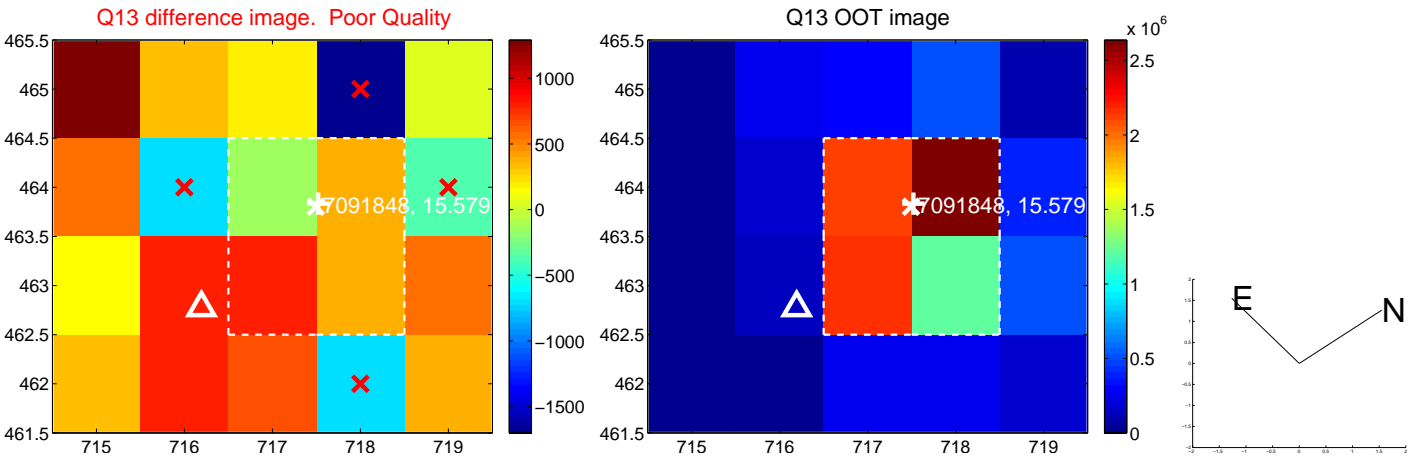
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



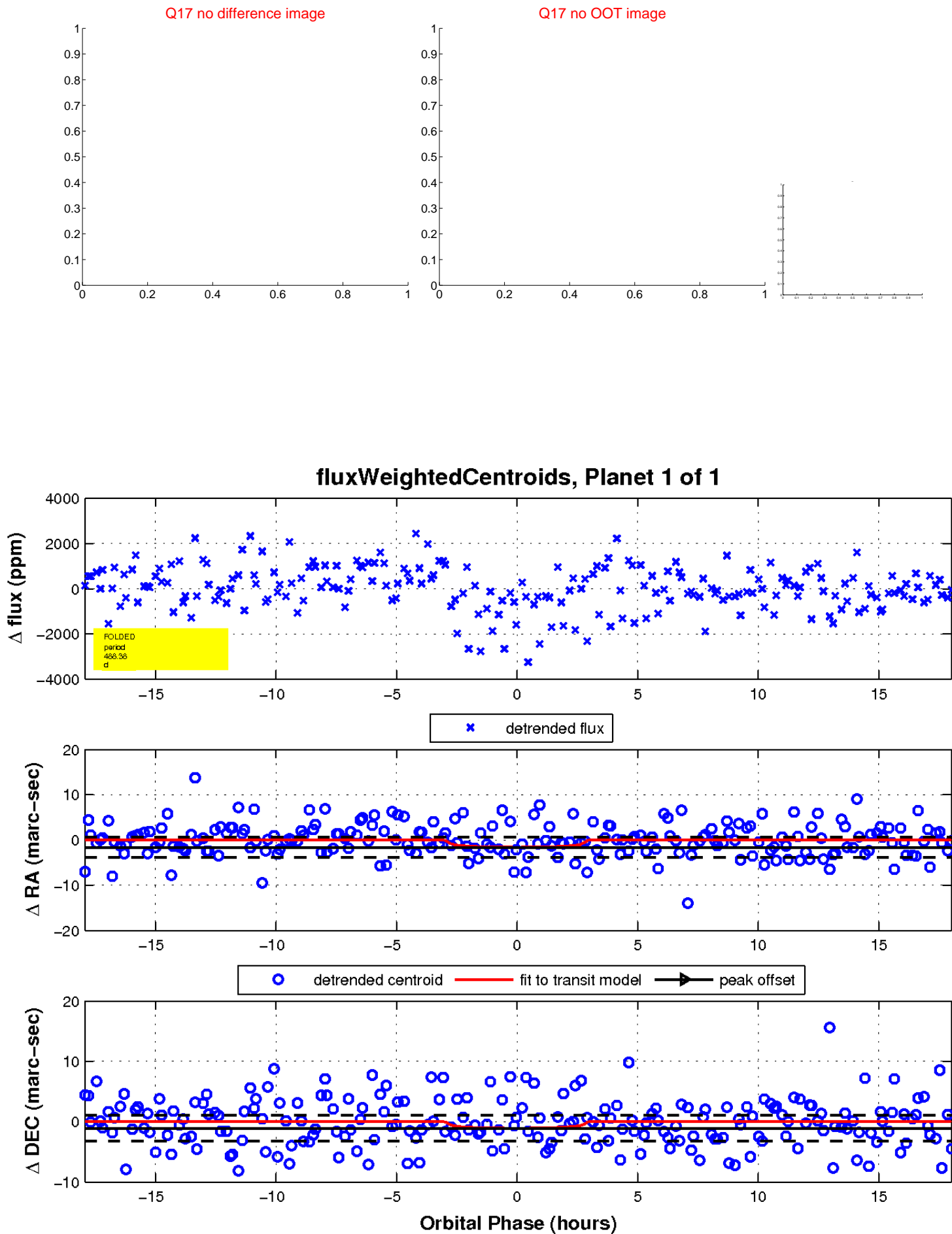
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



UKIRT Image

Declination

