

# KIC 007833074

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007833074-01	OBS	No	369.050239	232.446152	814.9	17.464	7.6	10.5	0.86	5775	3.20	0.75

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007833074-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_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.

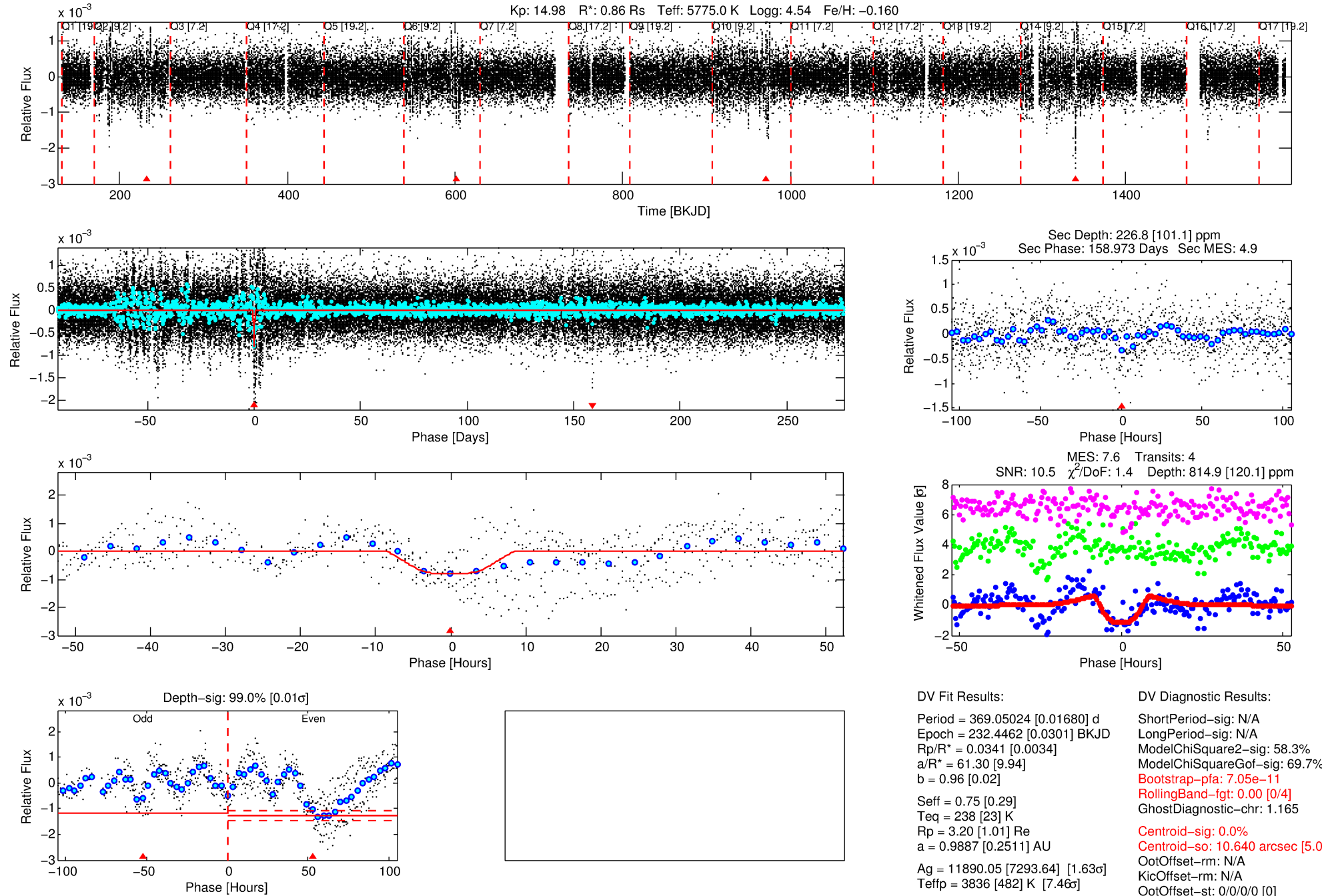
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007833074-01

No Significant Match Found

# DV One-Page Summary

KIC: 7833074 Candidate: 1 of 1 Period: 369.050 d



## DV Fit Results:

Period = 369.05024 [0.01680] d  
 Epoch = 232.4462 [0.0301] BKJD  
 Rp/R\* = 0.0341 [0.0034]  
 a/R\* = 61.30 [9.94]  
 b = 0.96 [0.02]  
 Seff = 0.75 [0.29]  
 Teq = 238 [23] K  
 Rp = 3.20 [1.01] Re  
 a = 0.9887 [0.2511] AU  
 Ag = 11890.05 [7293.64] [1.63σ]  
 Teffp = 3836 [482] K [7.46σ]

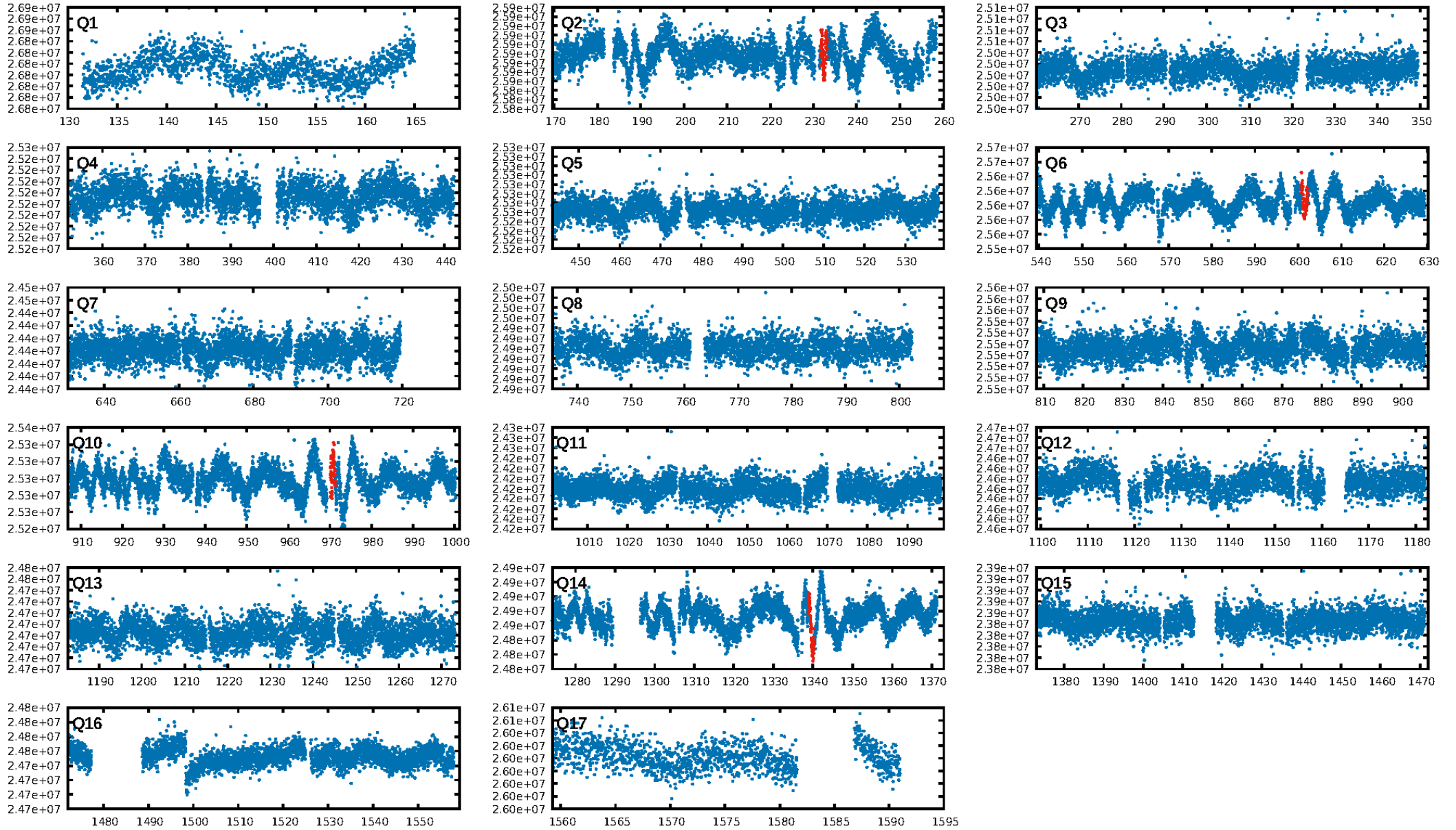
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
 LongPeriod-sig: N/A  
 ModelChiSquare2-sig: 58.3%  
 ModelChiSquareGof-sig: 69.7%  
 Bootstrap-pfa: 7.05e-11  
 RollingBand-fgt: 0.00 [0/4]  
 GhostDiagnostic-chr: 1.165  
 Centroid-sig: 0.0%  
 Centroid-so: 10.640 arcsec [5.02σ]  
 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 [2/2]

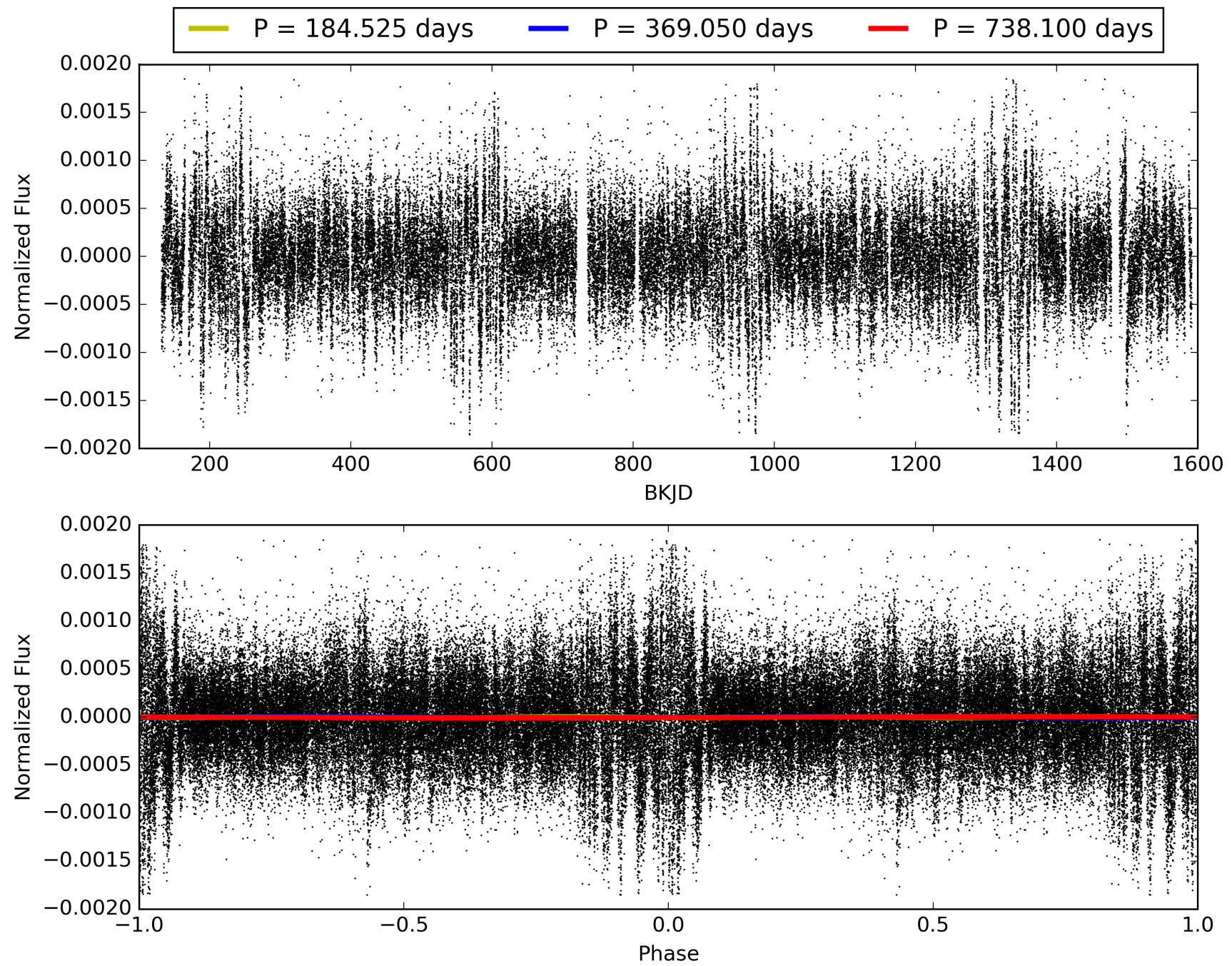
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:25:37 Z

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

# TCE 007833074-01, PDC Light Curves

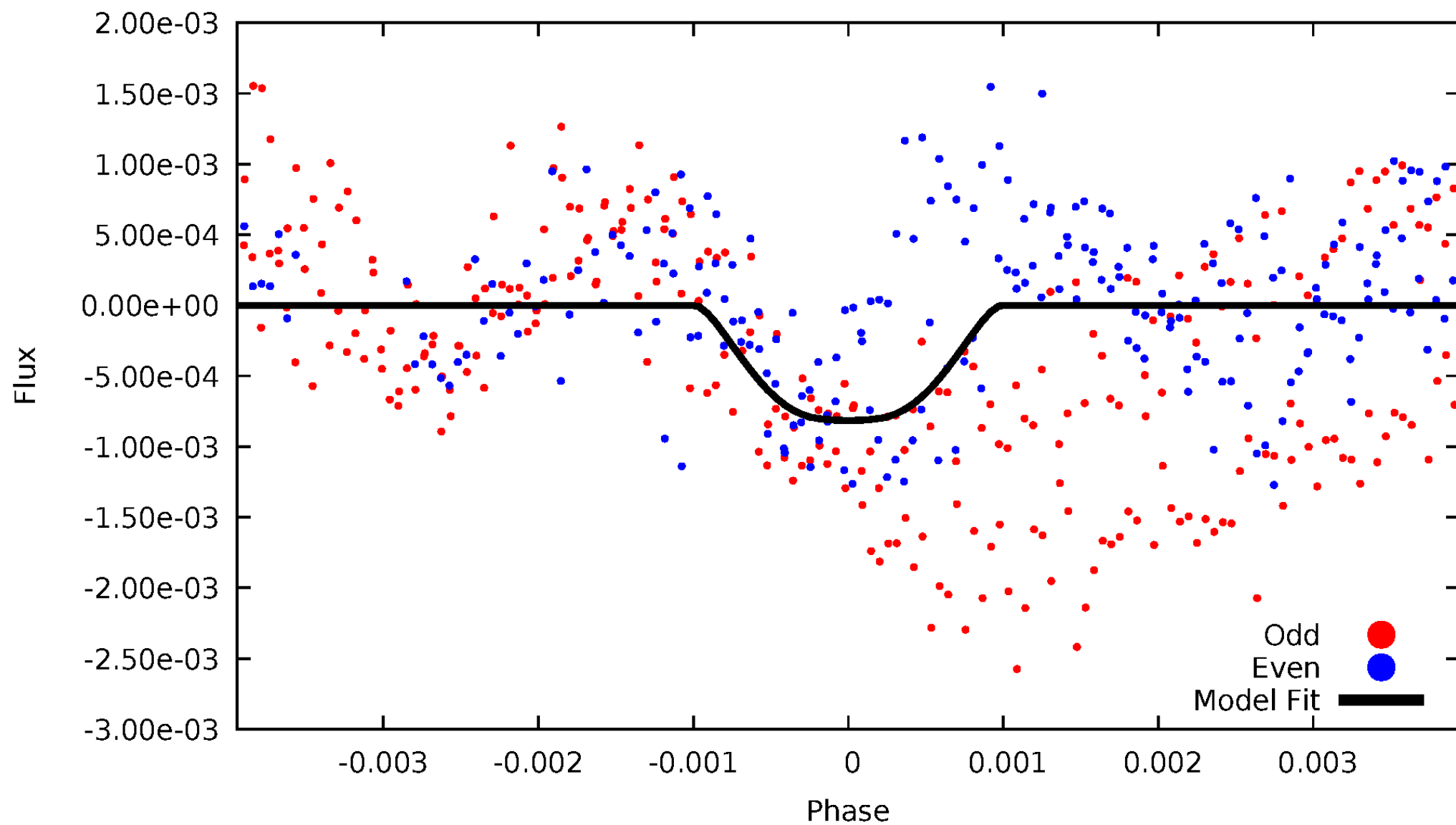


TCE 007833074-01



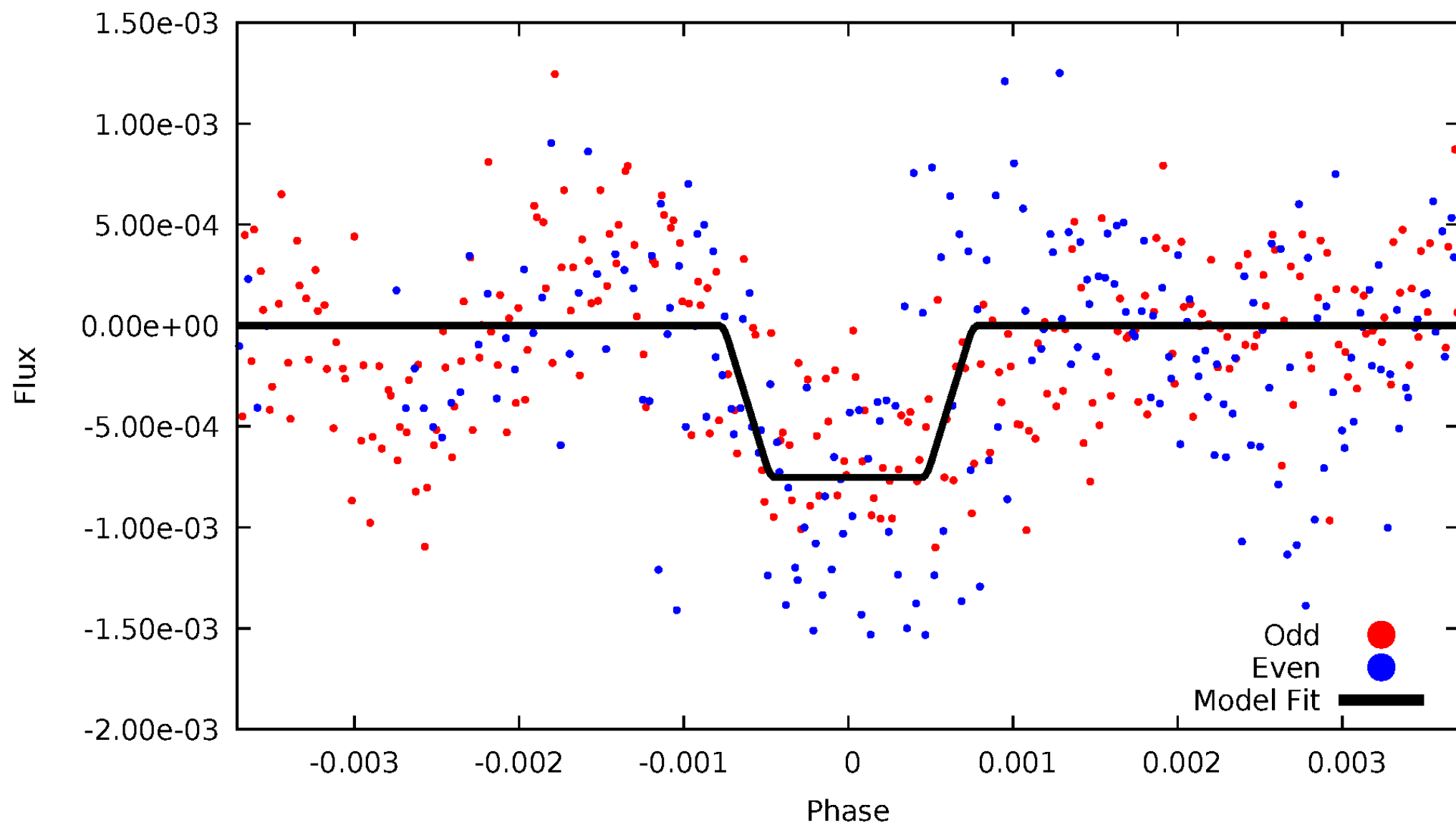
# DV Odd/Even

TCE 007833074-01



# ALT Odd/Even

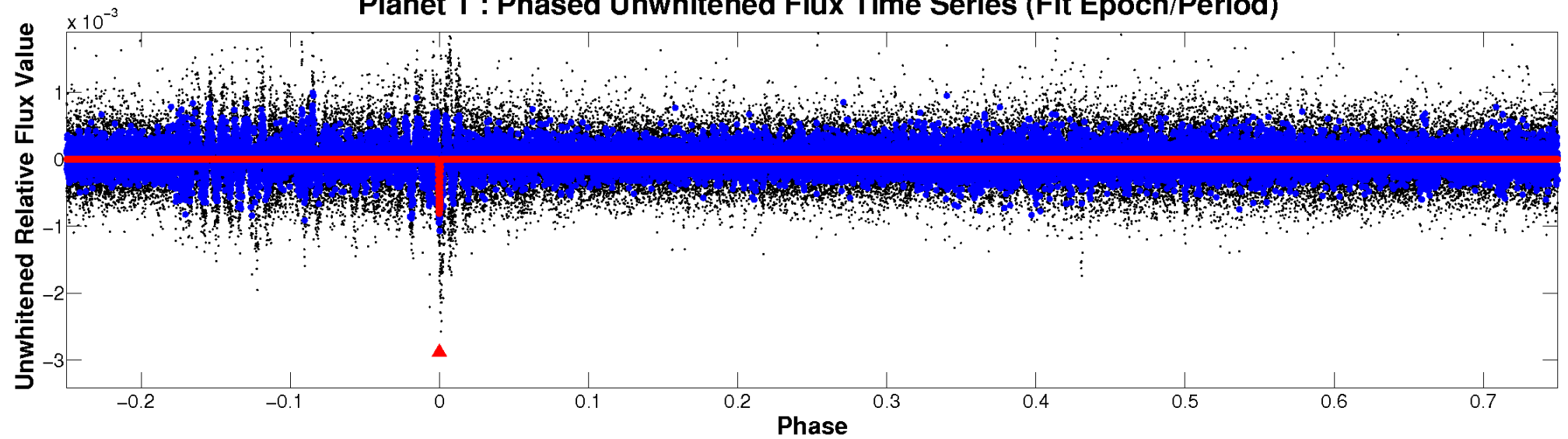
TCE 007833074-01



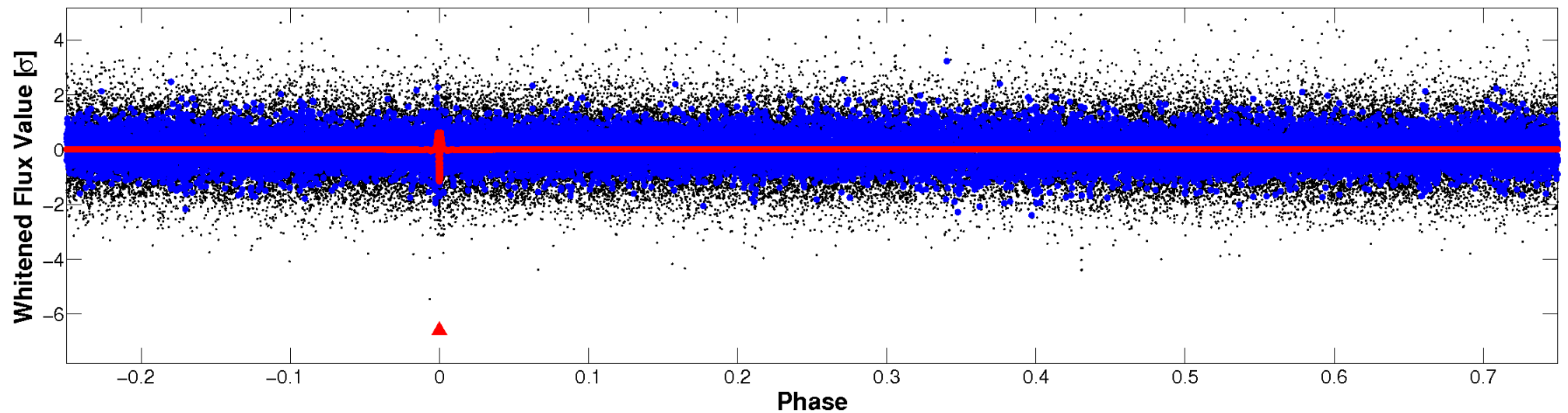


# Non-Whitened Vs. Whitened Light Curve

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

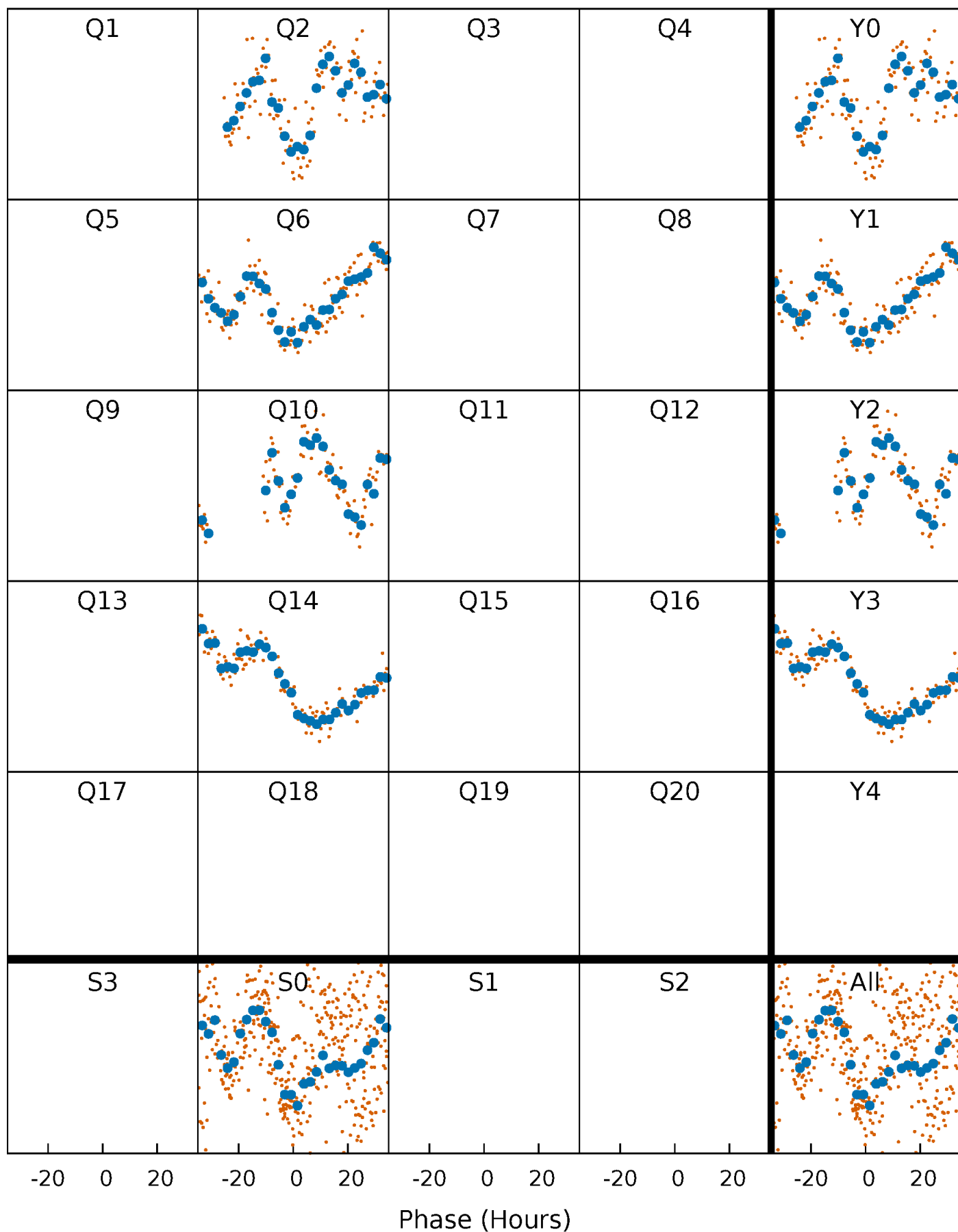


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

TCE 007833074-01 P=369.050239 Days  $T_0=232.446152$  (BKJD)





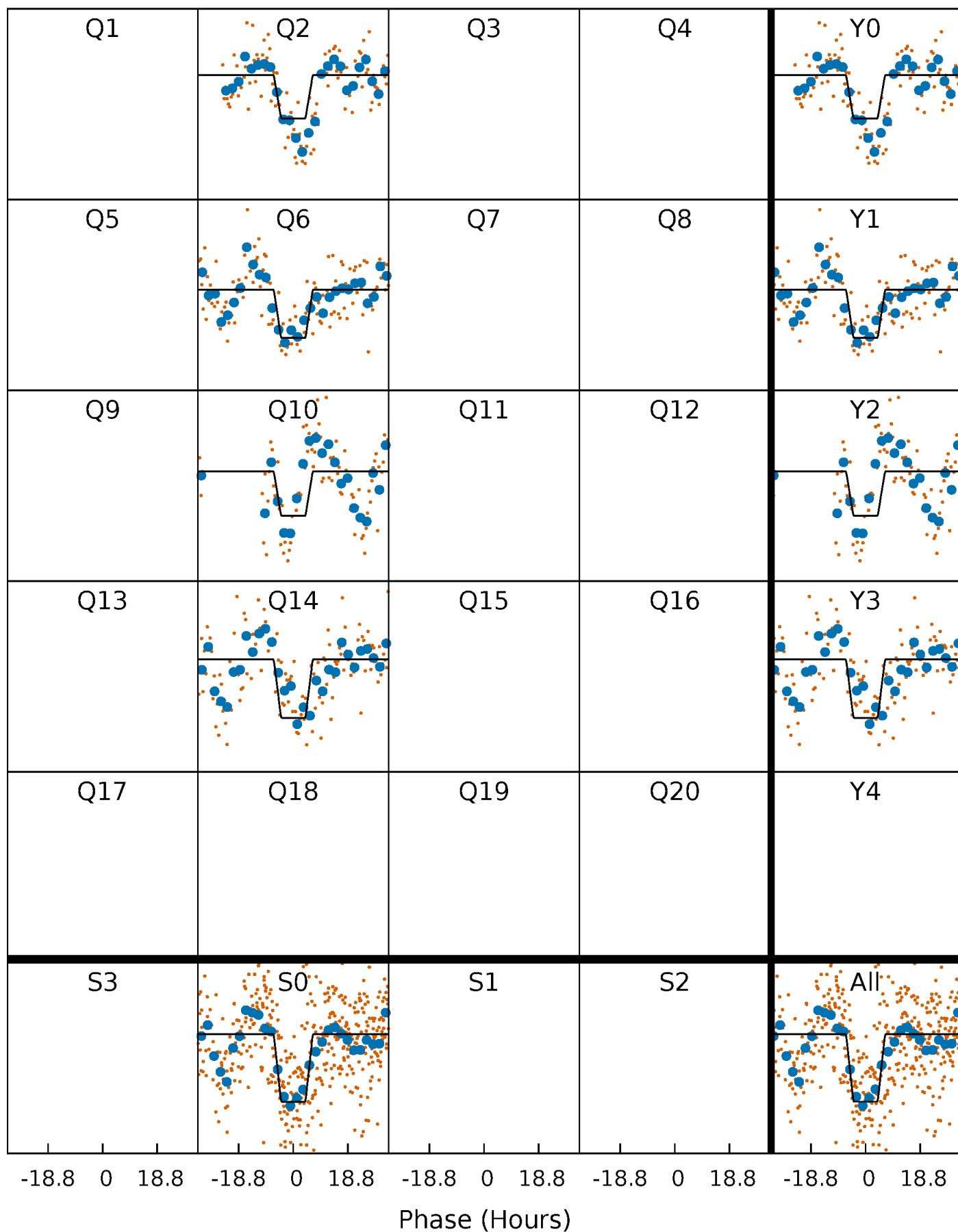
# DV Quarter-Phased Transit Curves

TCE 007833074-01 P=369.050239 Days  $T_0=232.446152$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

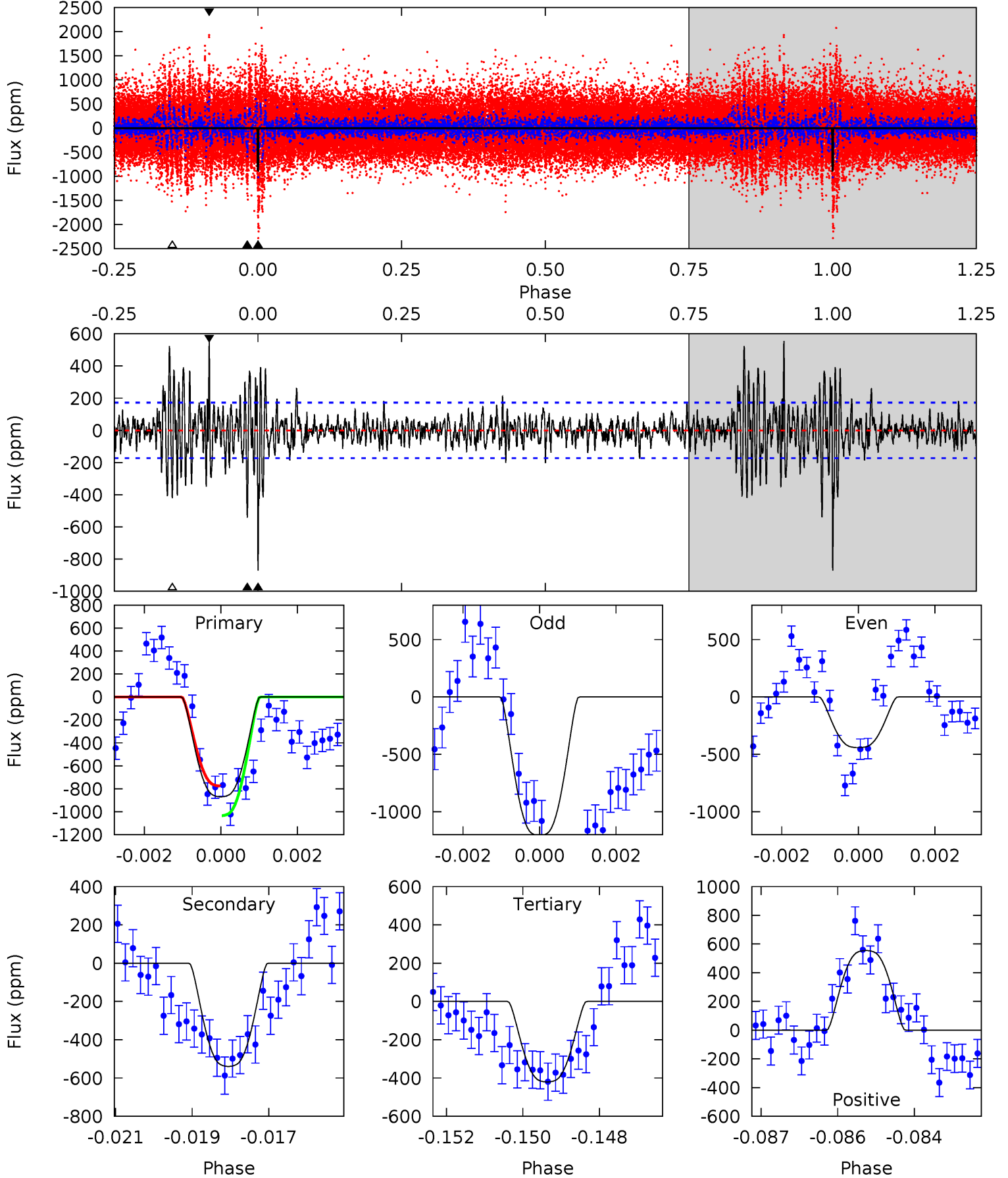
TCE 007833074-01 P=369.064149 Days  $T_0=232.406596$  (BKJD)



# DV Model-Shift Uniqueness Test

007833074-01, P = 369.050239 Days, E = 232.446152 Days

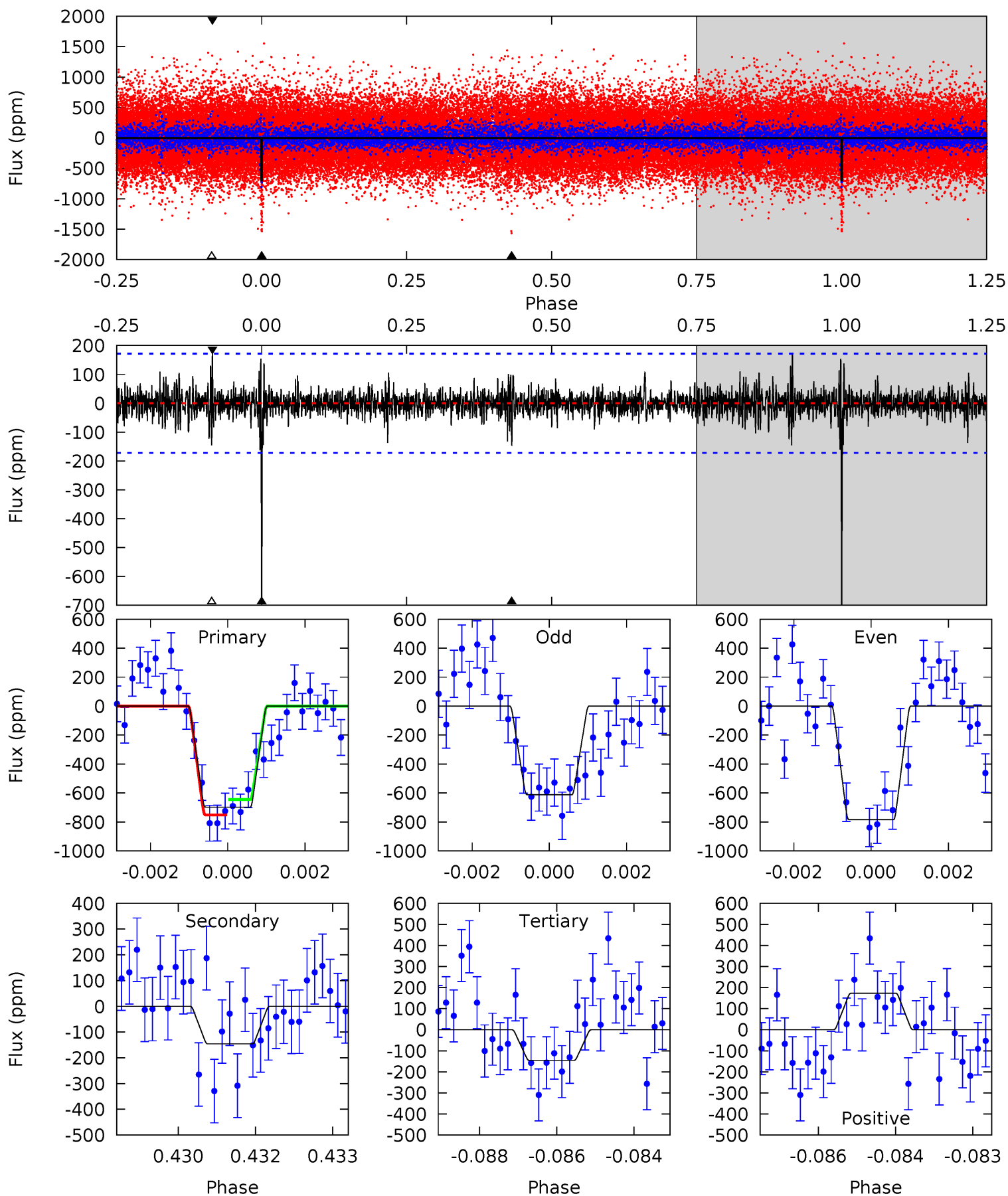
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.9	16.7	13.0	17.2	5.33	3.10	3.06	13.9	9.76	3.68	-0.48	12.1	0.88	0.39	3.94



# Alt Model-Shift Uniqueness Test

007833074-01, P = 369.064149 Days, E = 232.406596 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
21.8	4.56	4.56	5.42	5.37	3.17	0.97	17.3	16.4	0.00	-0.86	2.70	1.14	0.20	1.67



### Stellar Parameters For KIC 007833074

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5775^{+155}_{-172}$	$4.545^{+0.036}_{-0.204}$	$-0.160^{+0.300}_{-0.300}$	$0.860^{+0.258}_{-0.081}$	$0.946^{+0.100}_{-0.111}$	$2.095^{+0.408}_{-1.062}$
	+3%/-3%	+1%/-4%	+188%/-188%	+30%/-9%	+11%/-12%	+19%/-51%
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 007833074-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-539 \pm 32$	$3.35^{+0.56}_{-0.41}$	$340^{+25}_{-15}$	$4862^{+252}_{-219}$	$25147^{+7487}_{-6479}$
Alt.	$-146 \pm 32$	$2.69^{+0.49}_{-0.39}$	$341^{+22}_{-16}$	$4114^{+279}_{-251}$	$10341^{+5120}_{-3593}$

$T_{max}$  = 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

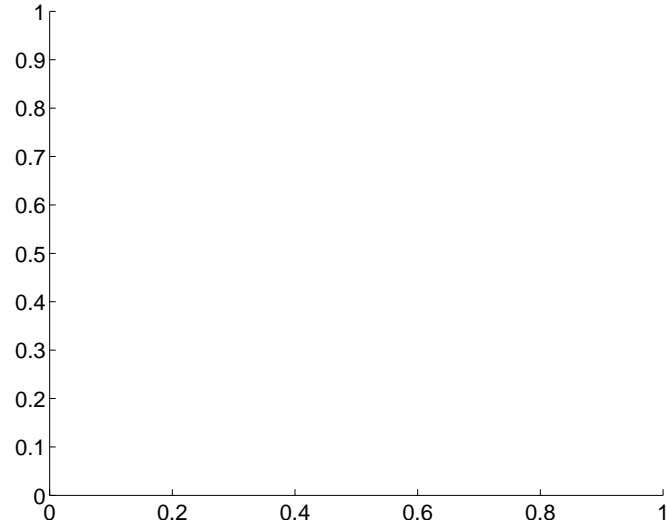
Supplemental centroid analysis for 007833074-01. Kepler magnitude: 14.98. Transit SNR 10.52

There are 0 quarters with good PRF difference image offsets

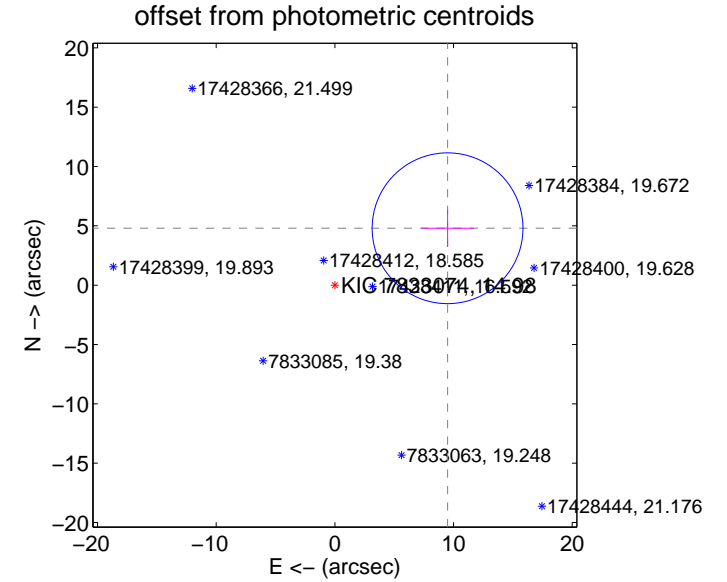
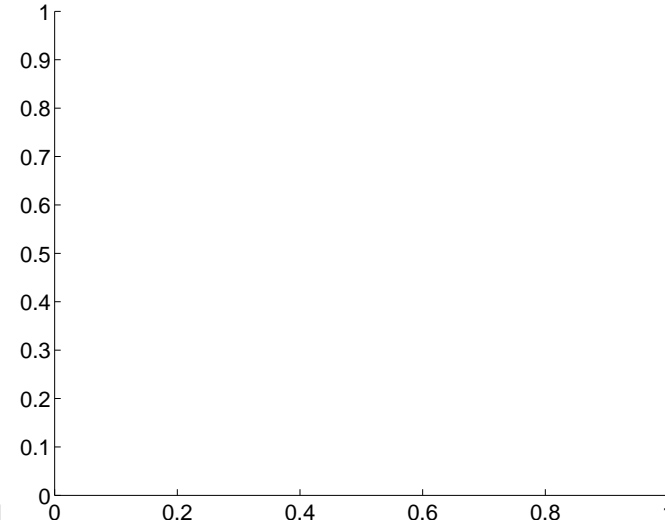
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	$10.64 \pm 2.12$	$5.02$	$-9.50 \pm 2.23$	$4.80 \pm 1.58$

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



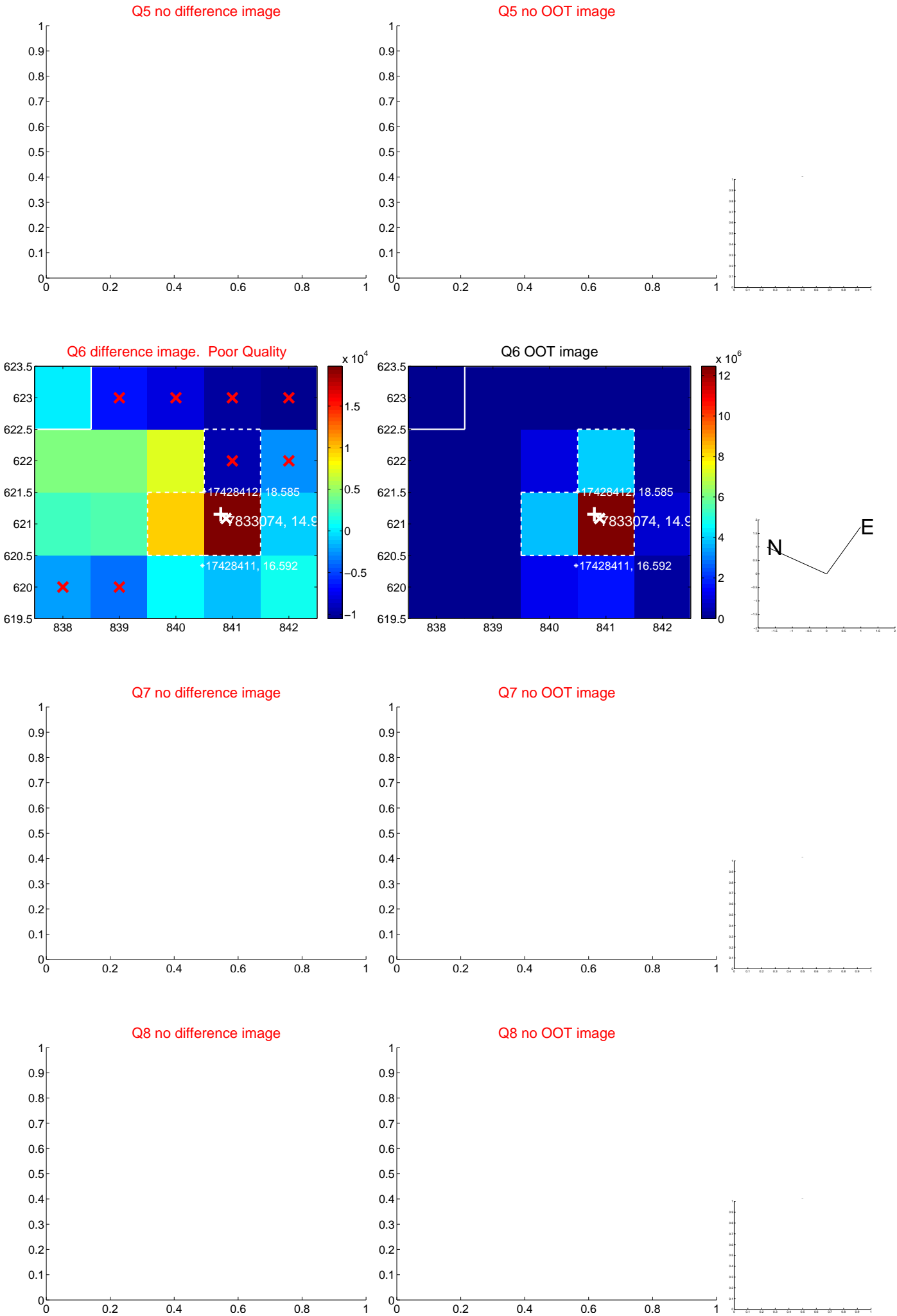
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



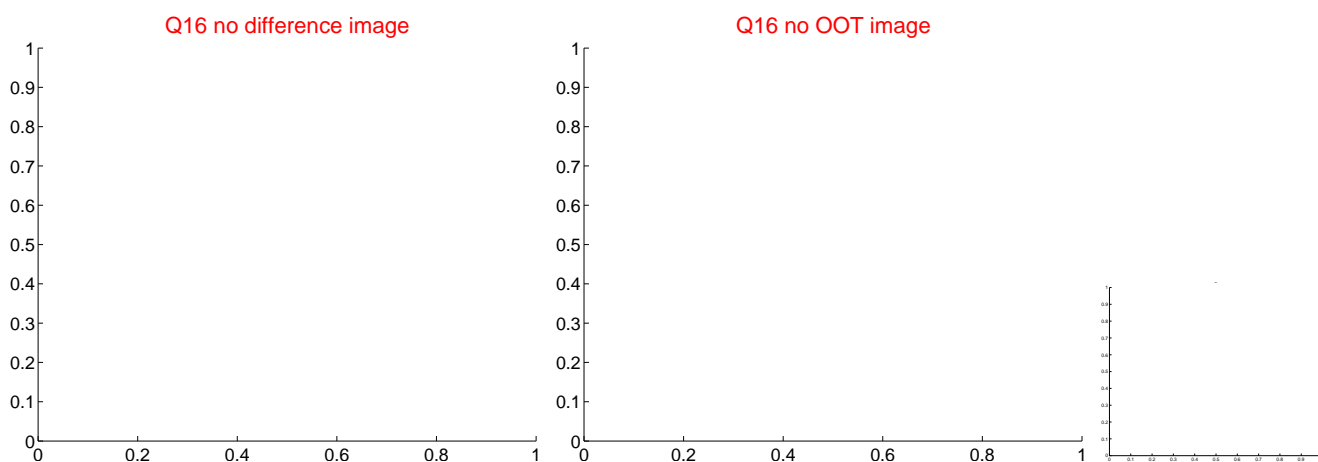
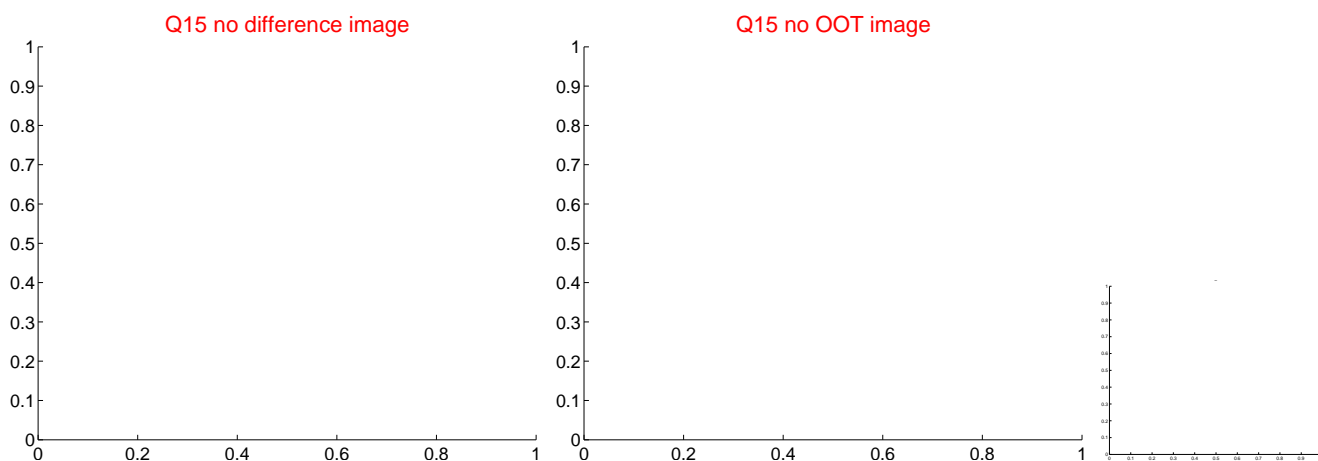
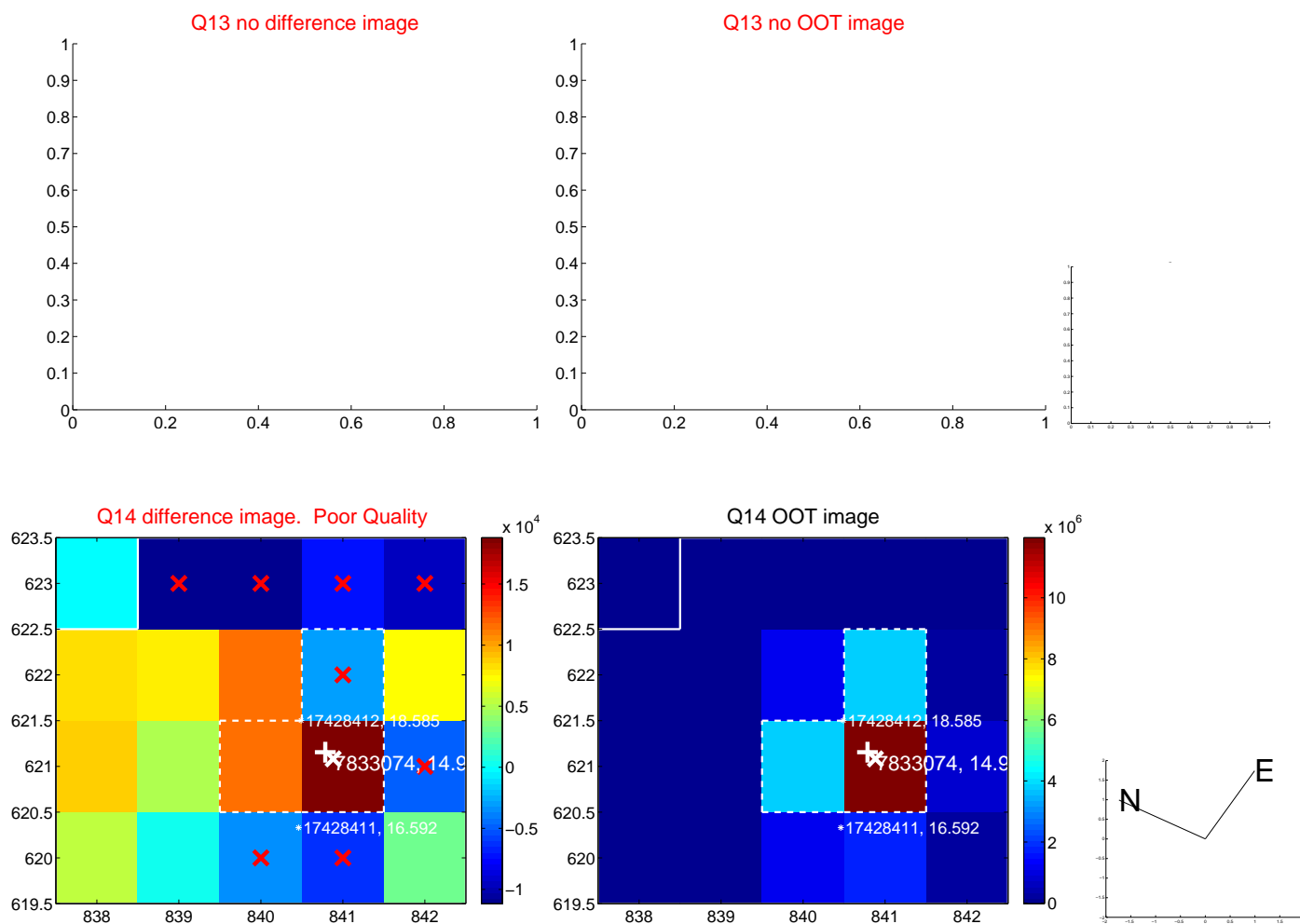
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



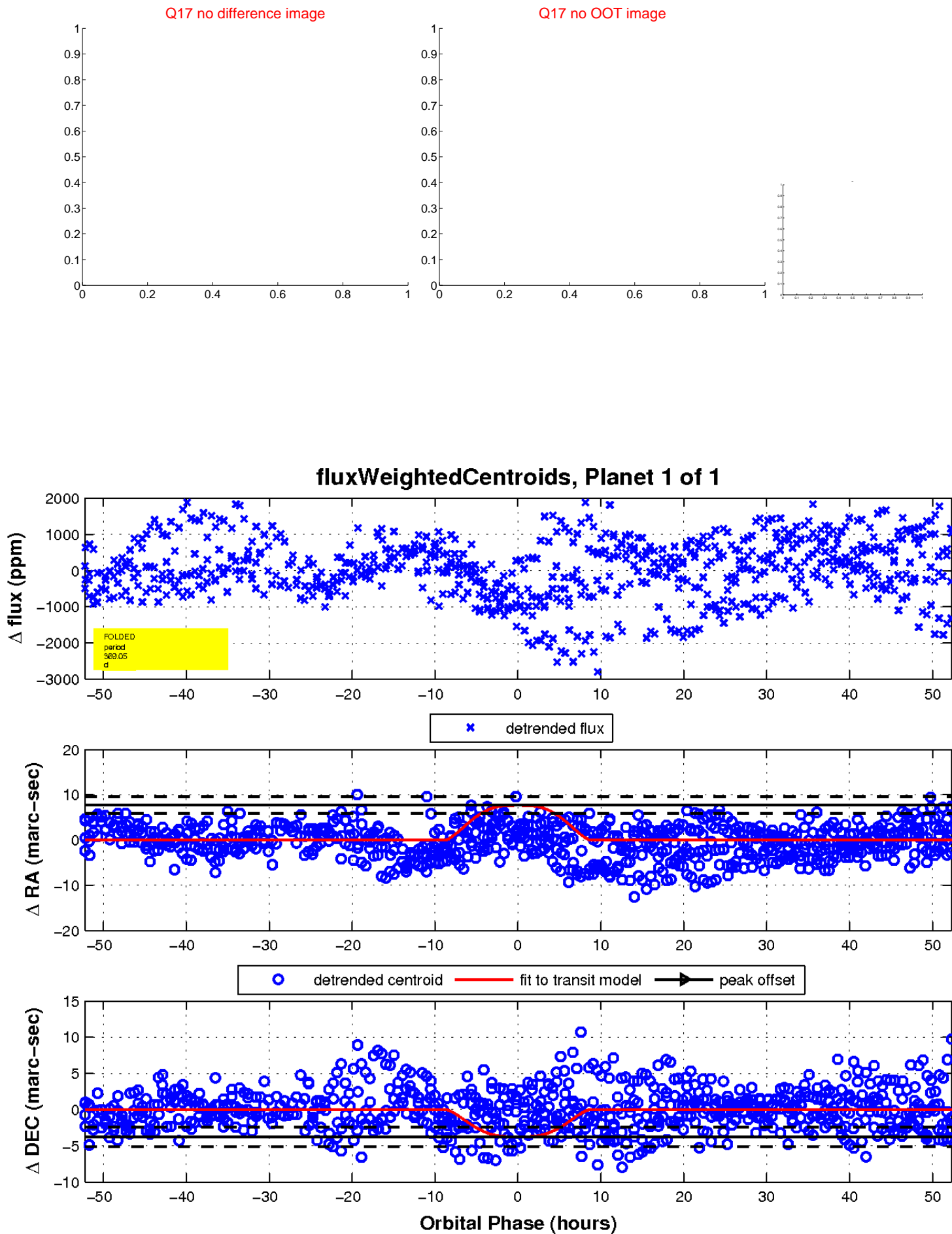
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

