

# KIC 008104288

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008104288-01	OBS	No	369.485353	232.686786	682.1	16.235	10.0	10.3	1.06	6274	3.21	1.43

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008104288-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

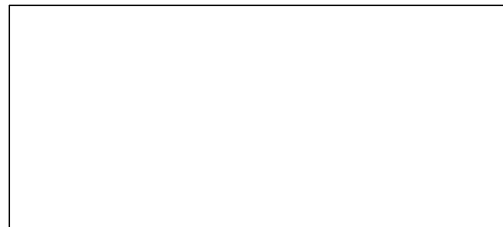
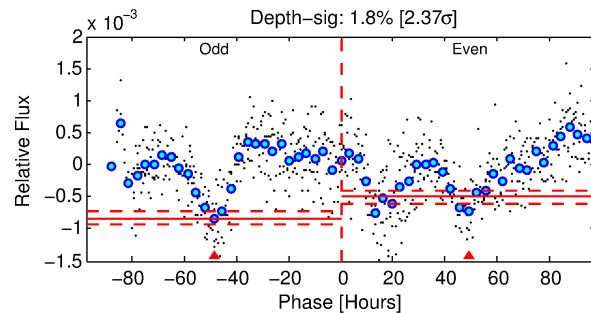
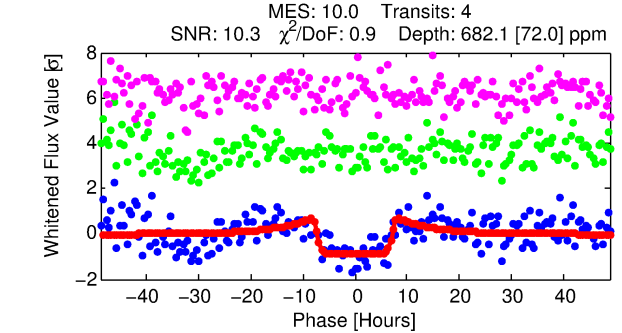
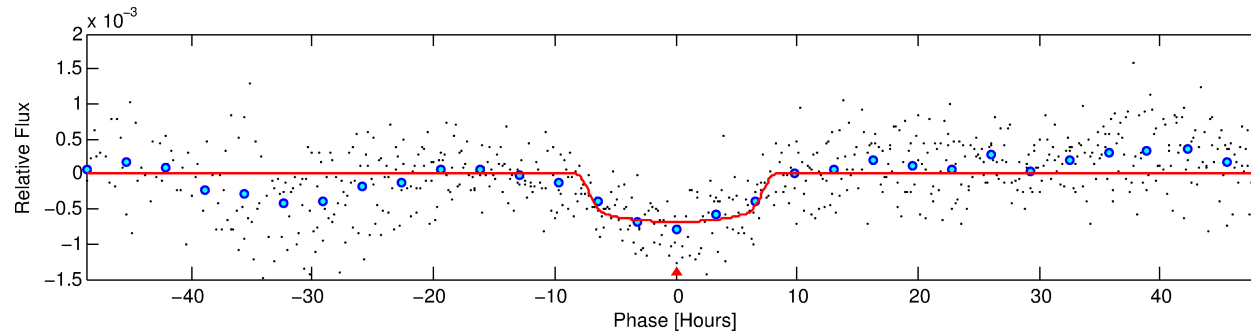
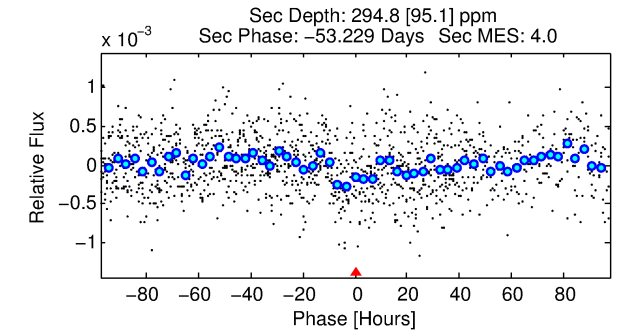
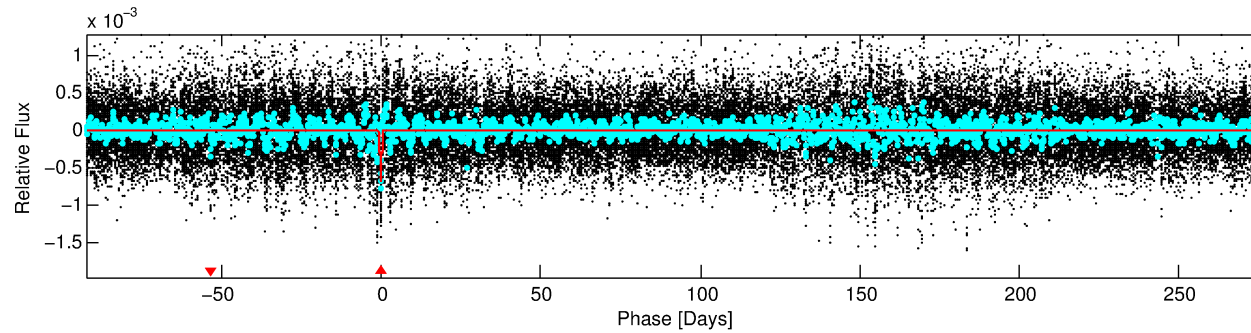
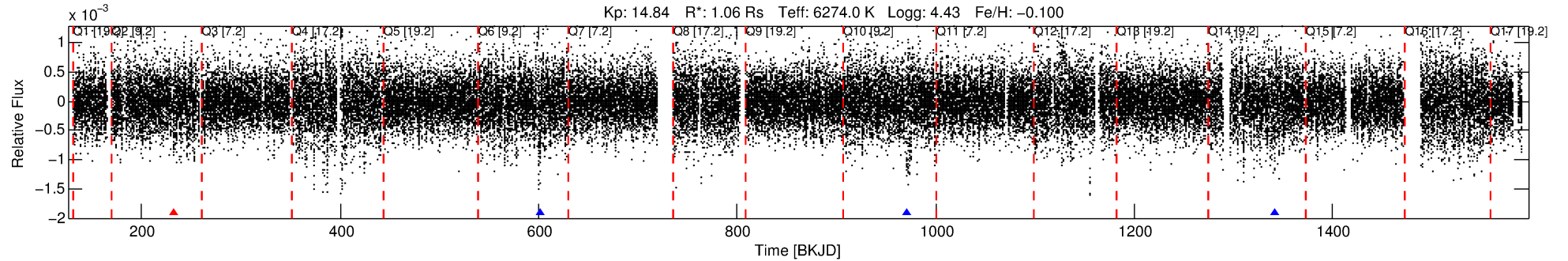
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008104288-01

No Significant Match Found

# DV One-Page Summary

KIC: 8104288 Candidate: 1 of 1 Period: 369.485 d



## DV Fit Results:

Period = 369.48535 [0.00891] d  
Epoch = 232.6868 [0.0164] BKJD  
Rp/R\* = 0.0277 [0.0023]  
a/R\* = 91.38 [27.78]  
b = 0.88 [0.08]  
Seff = 1.43 [0.61]  
Teq = 279 [30] K  
Rp = 3.21 [1.10] Re  
a = 1.0460 [0.2895] AU  
Ag = 17206.67 [9278.18] [1.85σ]  
Teffp = 4939 [486] K [9.57σ]

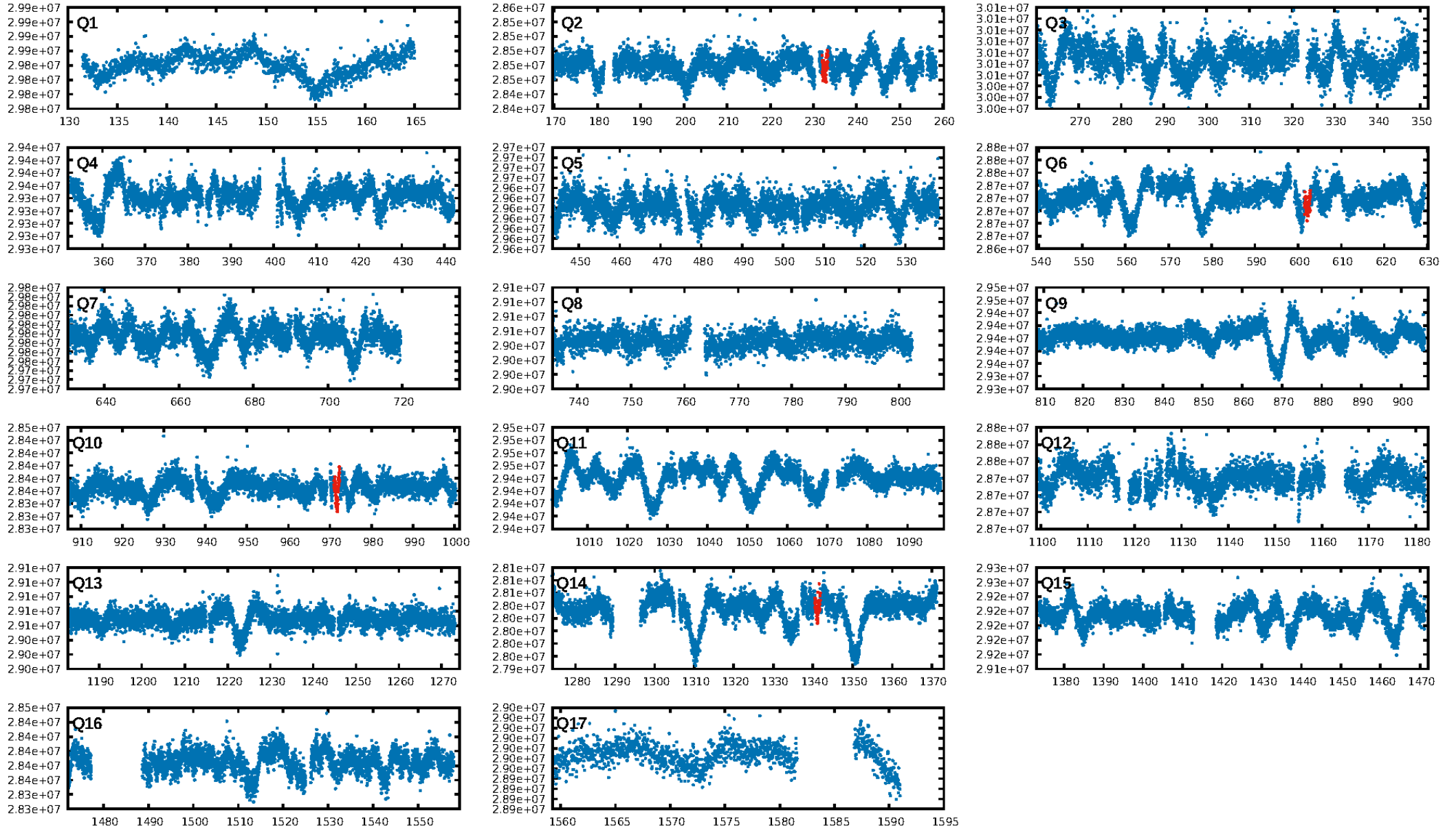
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 9.6%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.20e-07  
RollingBand-fgt: 0.75 [3/4]  
GhostDiagnostic-chr: 1.001  
Centroid-sig: 12.5%  
Centroid-so: 1.782 arcsec [1.13σ]  
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]

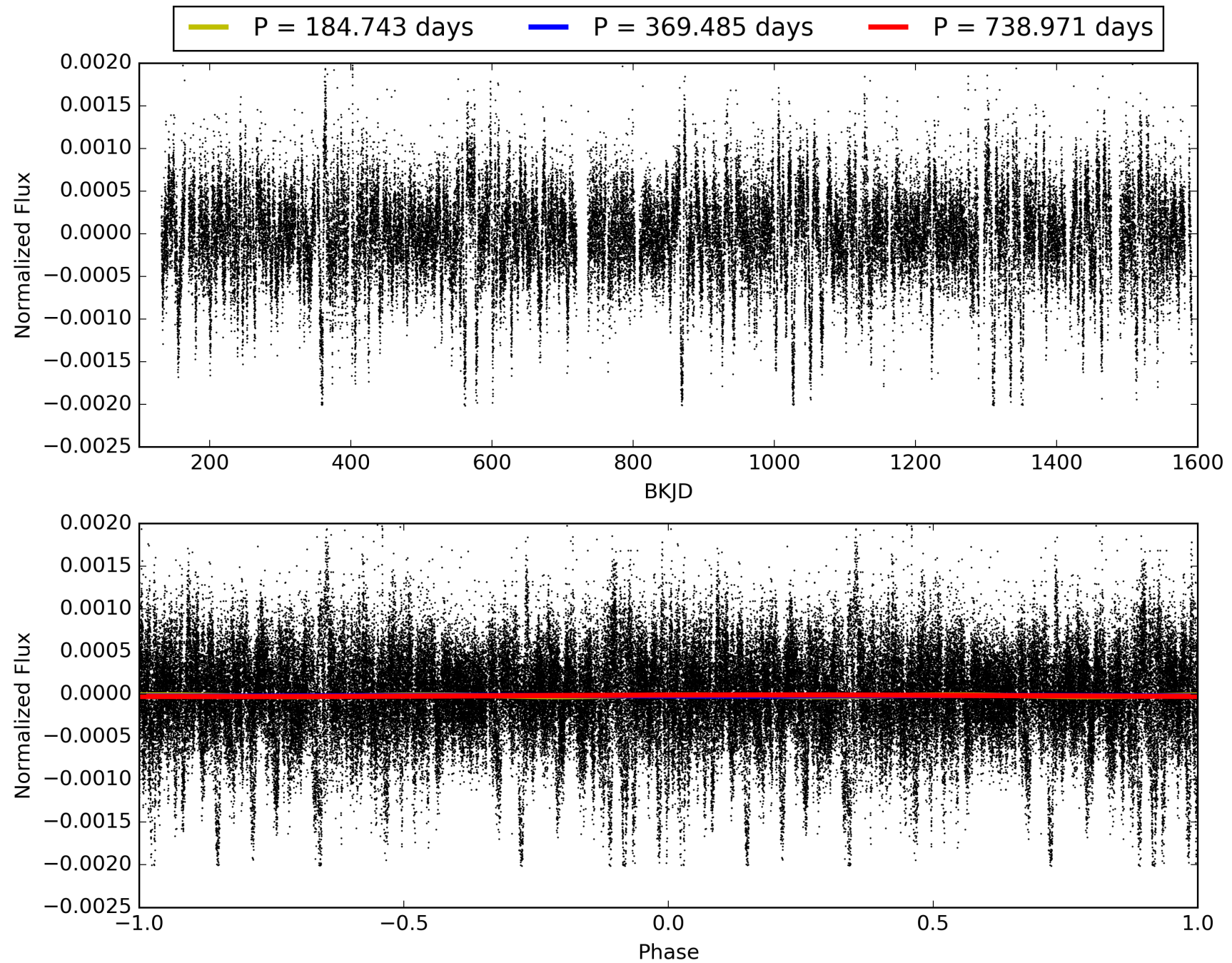
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:20:25 Z

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

# TCE 008104288-01, PDC Light Curves

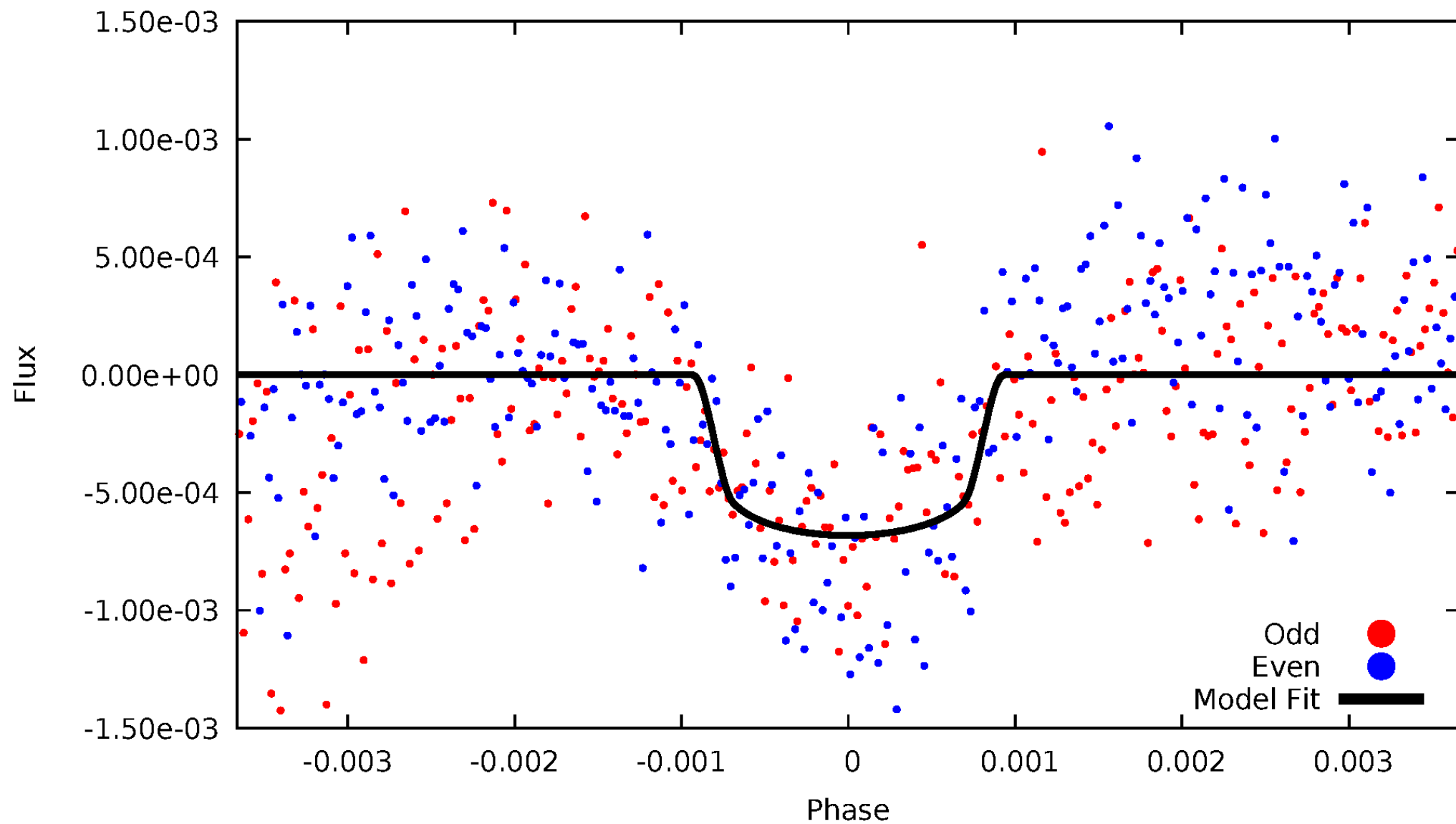


# TCE 008104288-01



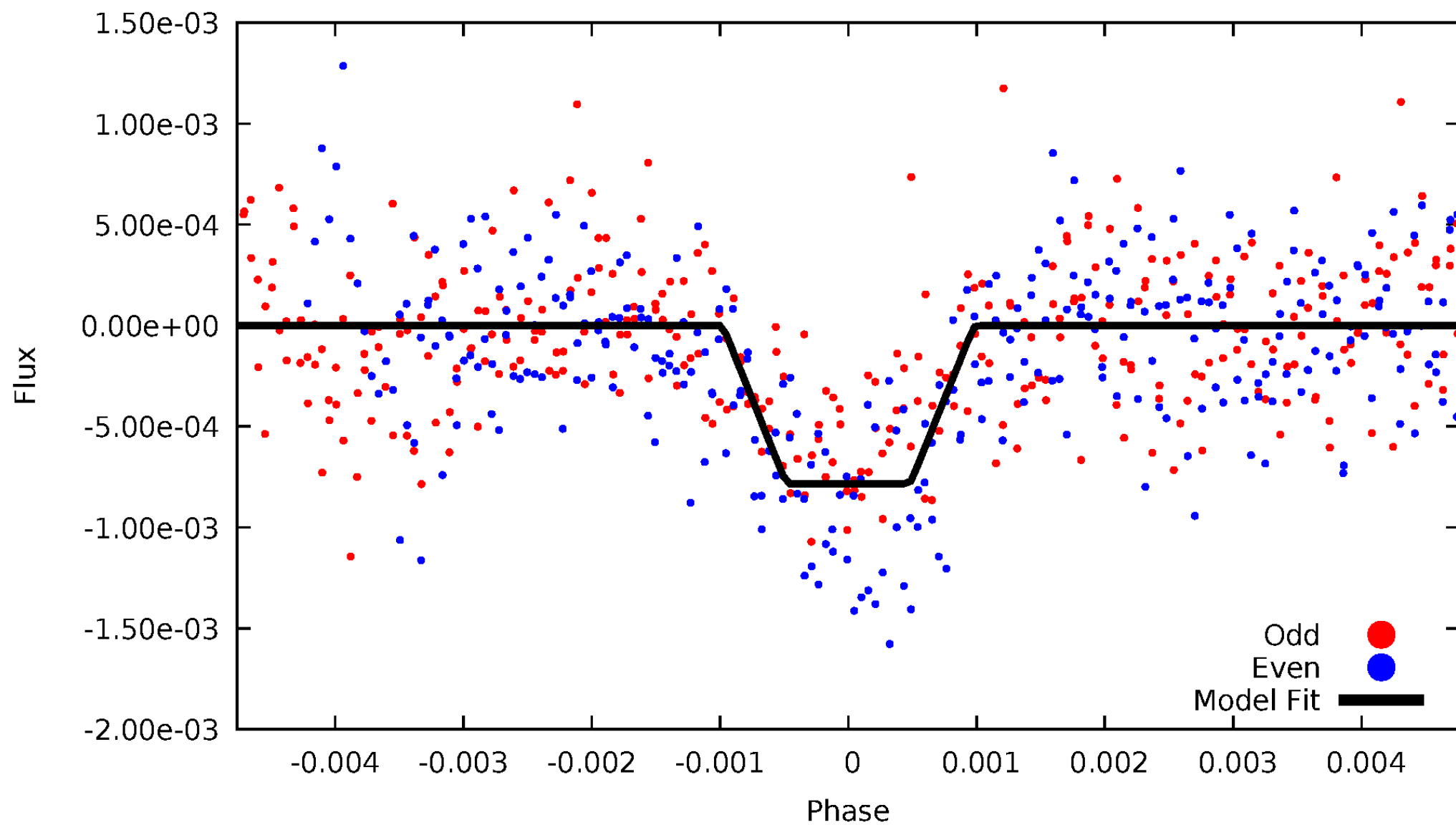
# DV Odd/Even

TCE 008104288-01



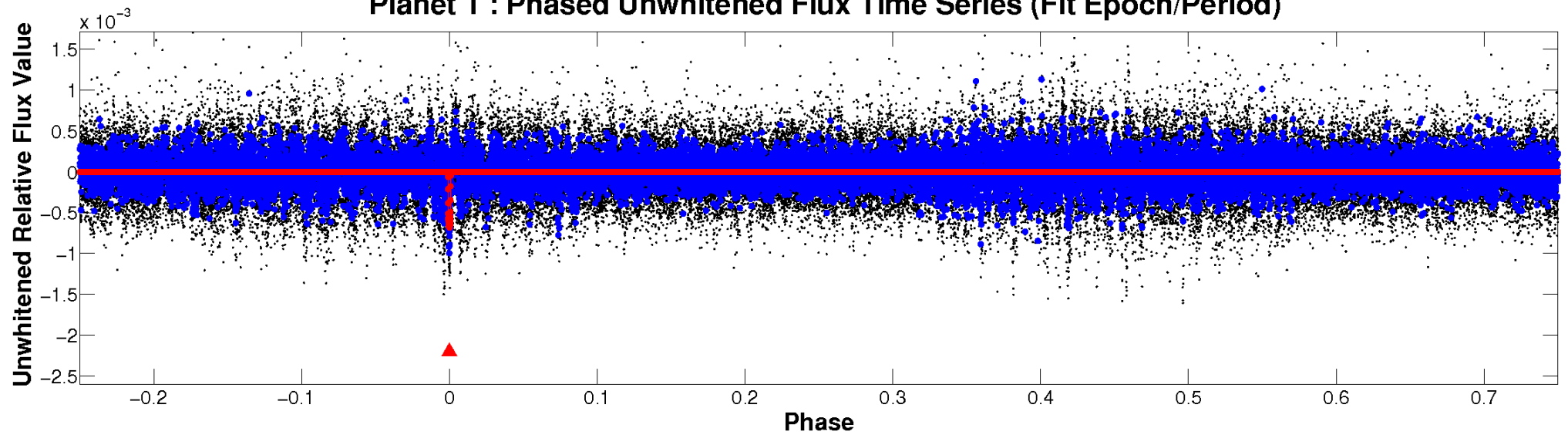
# ALT Odd/Even

TCE 008104288-01

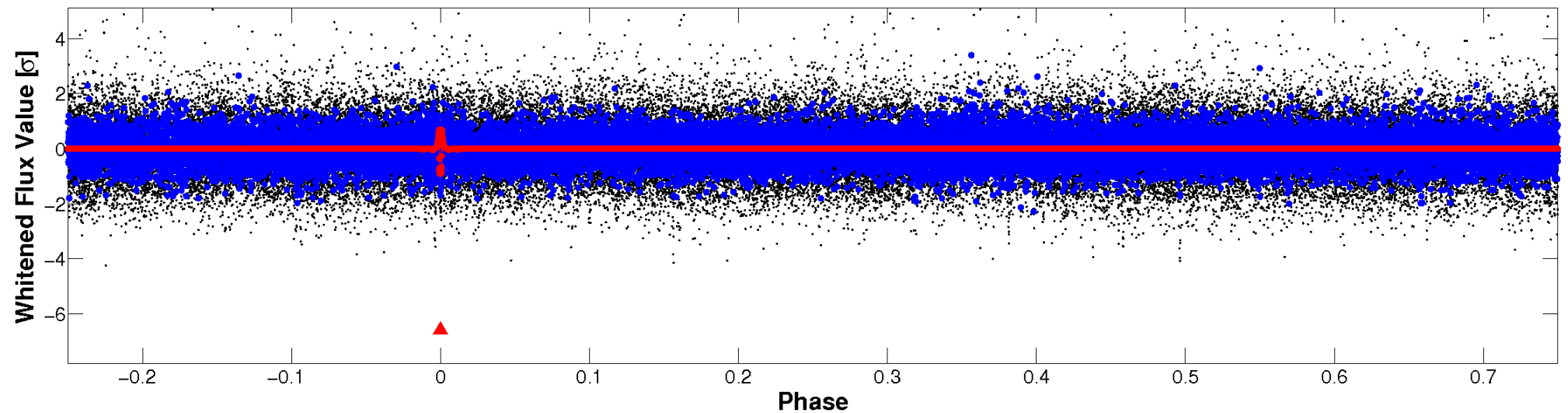


# Non-Whitened Vs. Whitened Light Curve

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

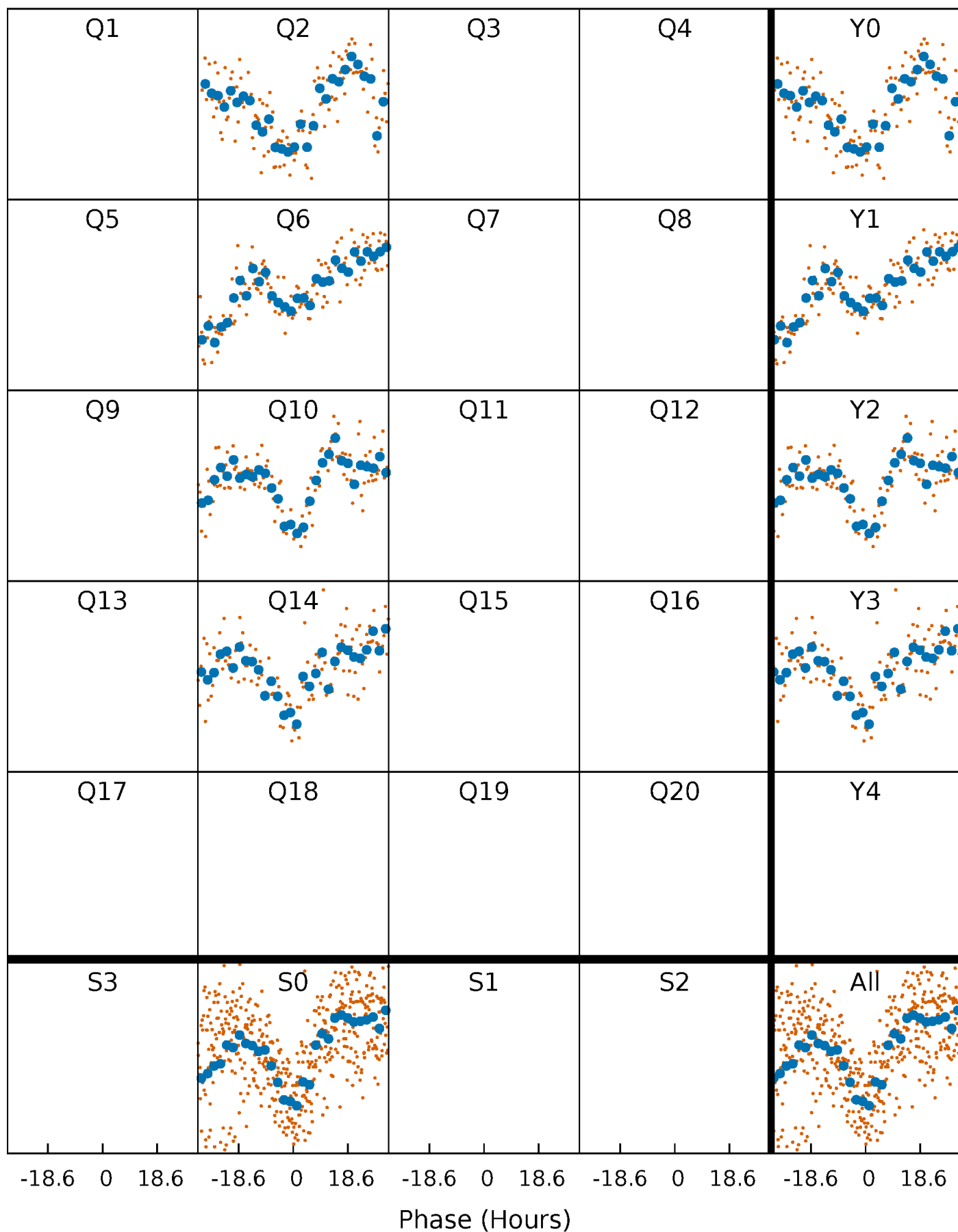


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



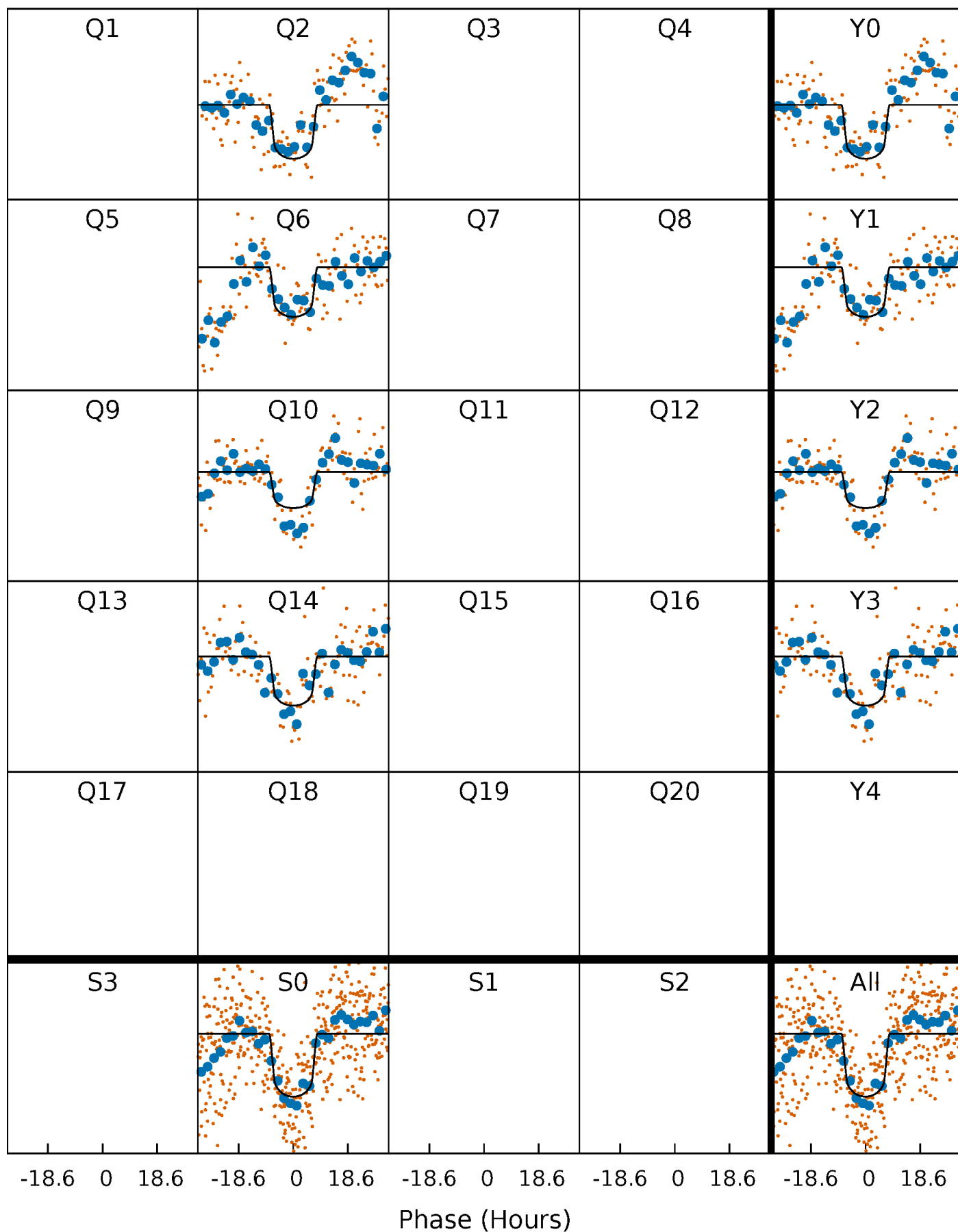
# PDC Quarter-Phased Transit Curves

TCE 008104288-01 P=369.485353 Days  $T_0=232.686787$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 008104288-01 P=369.485353 Days  $T_0=232.686787$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

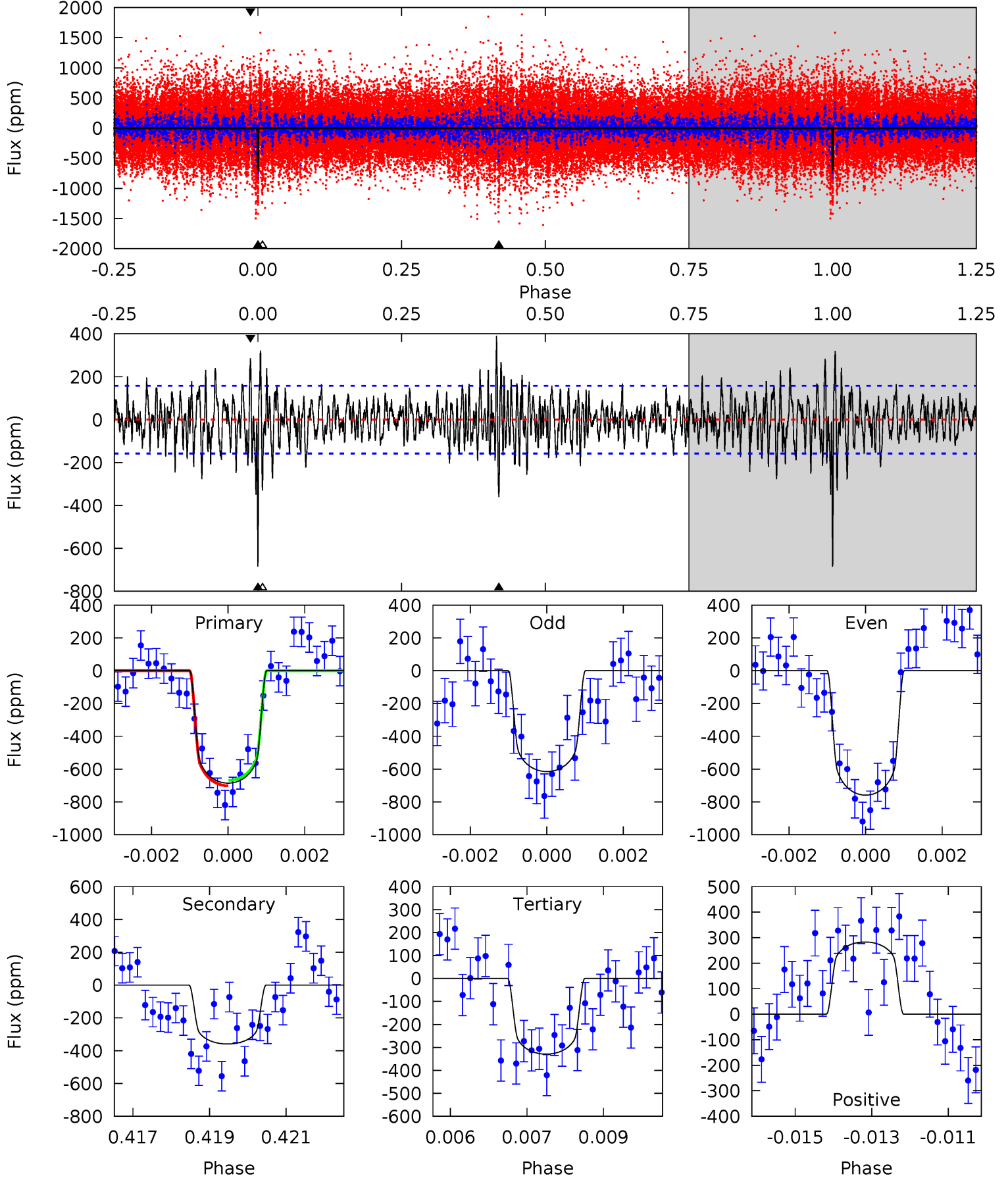
TCE 008104288-01 P=369.479632 Days  $T_0=232.686059$  (BKJD)



# DV Model-Shift Uniqueness Test

008104288-01, P = 369.485353 Days, E = 232.686787 Days

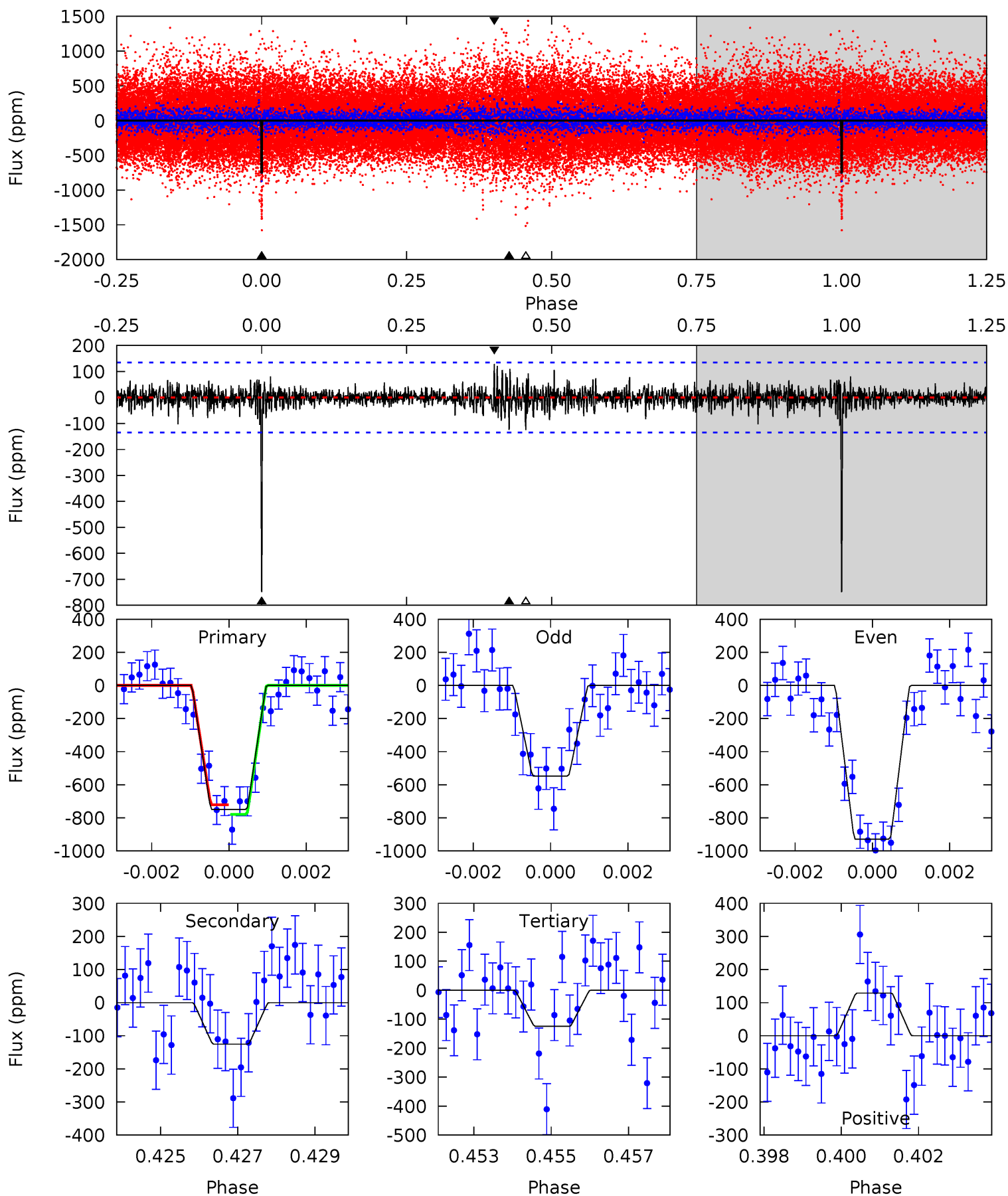
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.2	12.2	11.1	9.57	5.34	3.11	2.87	12.0	13.6	1.01	2.58	2.43	1.11	0.36	0.55



# Alt Model-Shift Uniqueness Test

008104288-01, P = 369.479632 Days, E = 232.686059 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
29.6	4.95	4.94	5.09	5.32	3.08	1.02	24.7	24.5	0.01	-0.14	7.60	1.10	0.15	1.14



### Stellar Parameters For KIC 008104288

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6274^{+174}_{-239}$	$4.434^{+0.054}_{-0.216}$	$-0.100^{+0.250}_{-0.300}$	$1.062^{+0.353}_{-0.118}$	$1.115^{+0.157}_{-0.157}$	$1.313^{+0.374}_{-0.691}$
	+3%/-4%	+1%/-5%	+250%/-300%	+33%/-11%	+14%/-14%	+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 008104288-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-359 \pm 30$	$3.36^{+0.61}_{-0.45}$	$398^{+34}_{-20}$	$5235^{+254}_{-235}$	$18499^{+5493}_{-4805}$
Alt.	$-125 \pm 25$	$3.36^{+0.65}_{-0.43}$	$398^{+30}_{-21}$	$4199^{+248}_{-214}$	$6340^{+2298}_{-1929}$

$T_{\text{max}}$  = 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

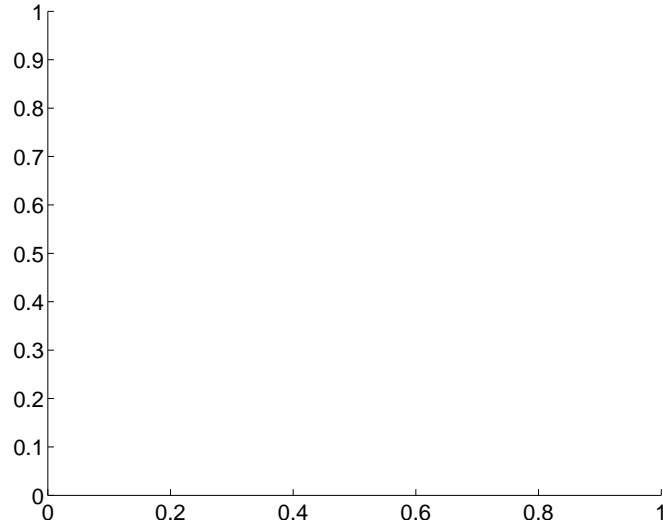
Supplemental centroid analysis for 008104288-01. Kepler magnitude: 14.84. Transit SNR 10.25

There are 0 quarters with good PRF difference image offsets

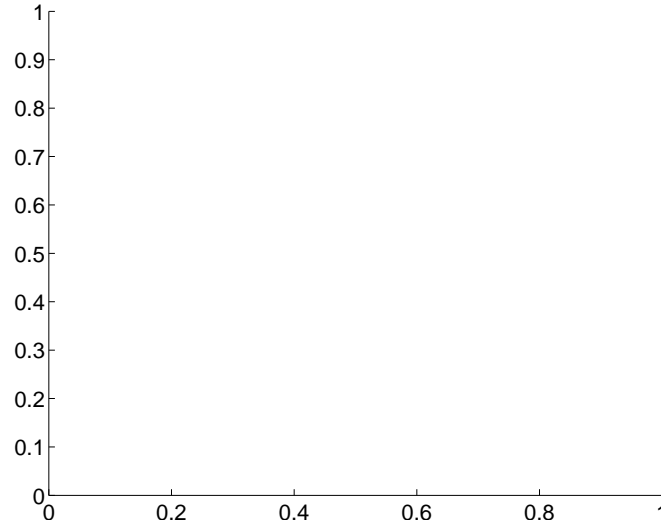
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	$1.78 \pm 1.58$	1.13	$0.06 \pm 1.21$	$-1.78 \pm 1.58$

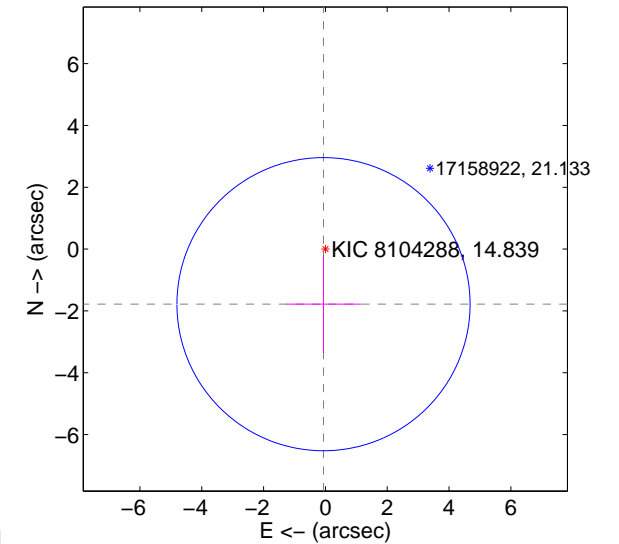
There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

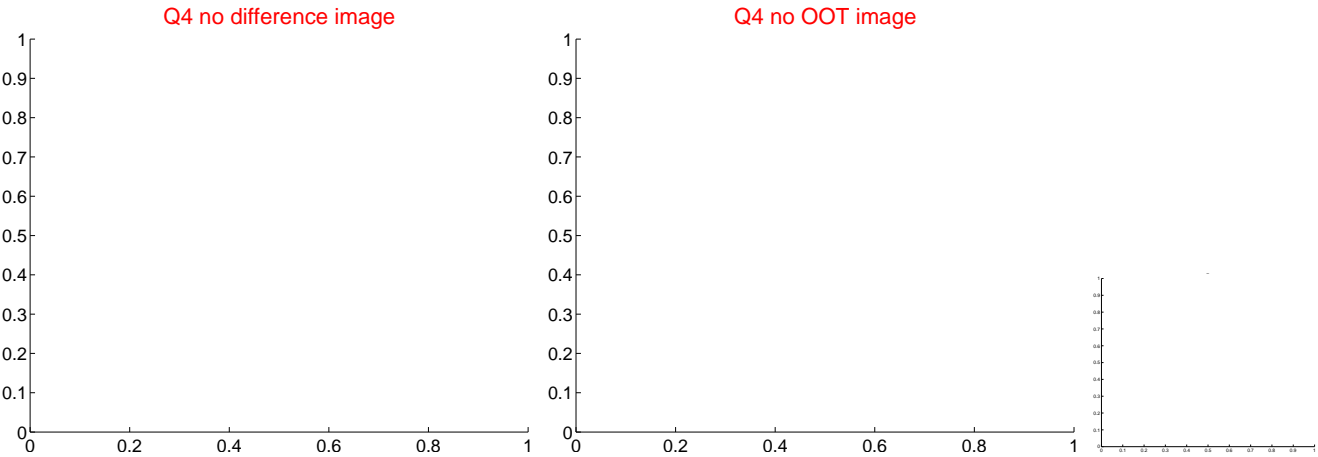
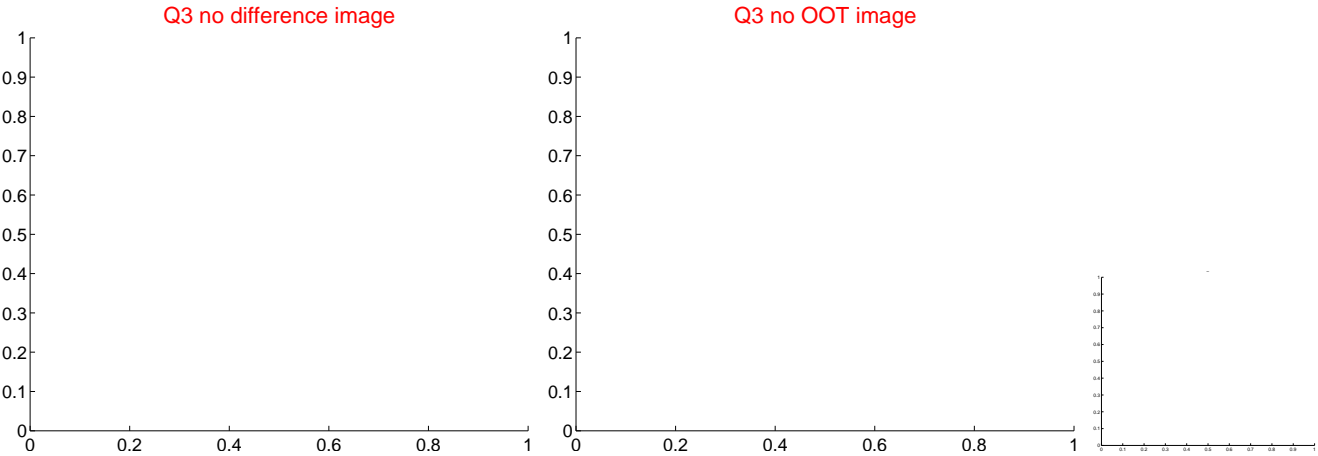
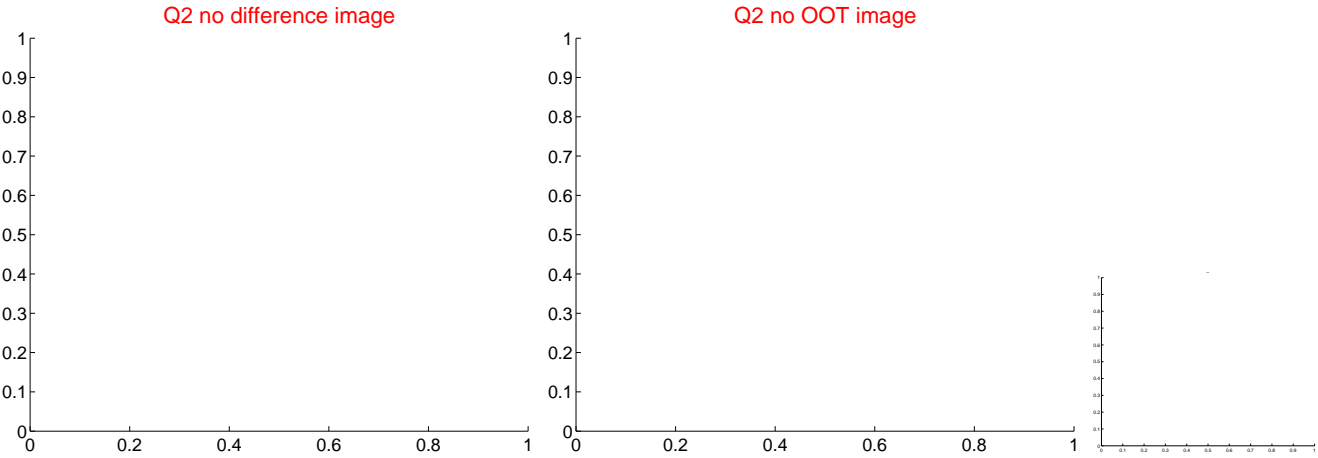
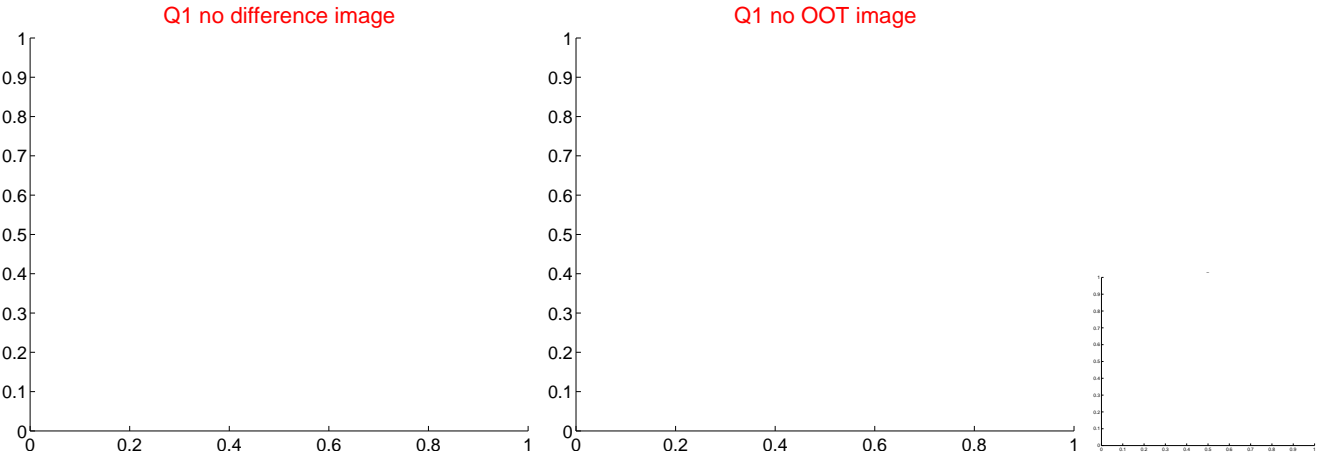


offset from photometric centroids

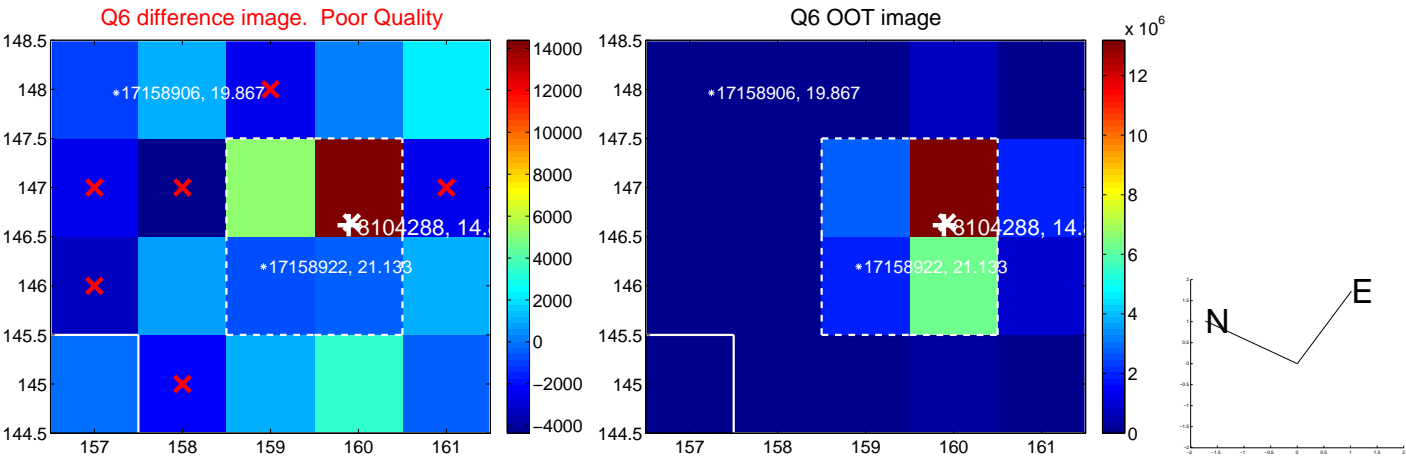
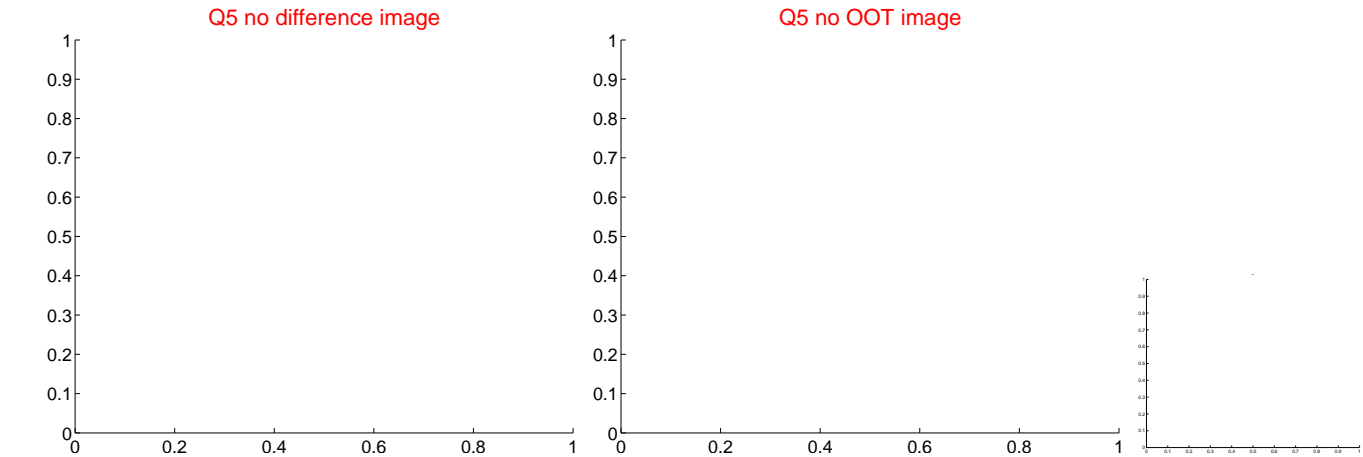


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



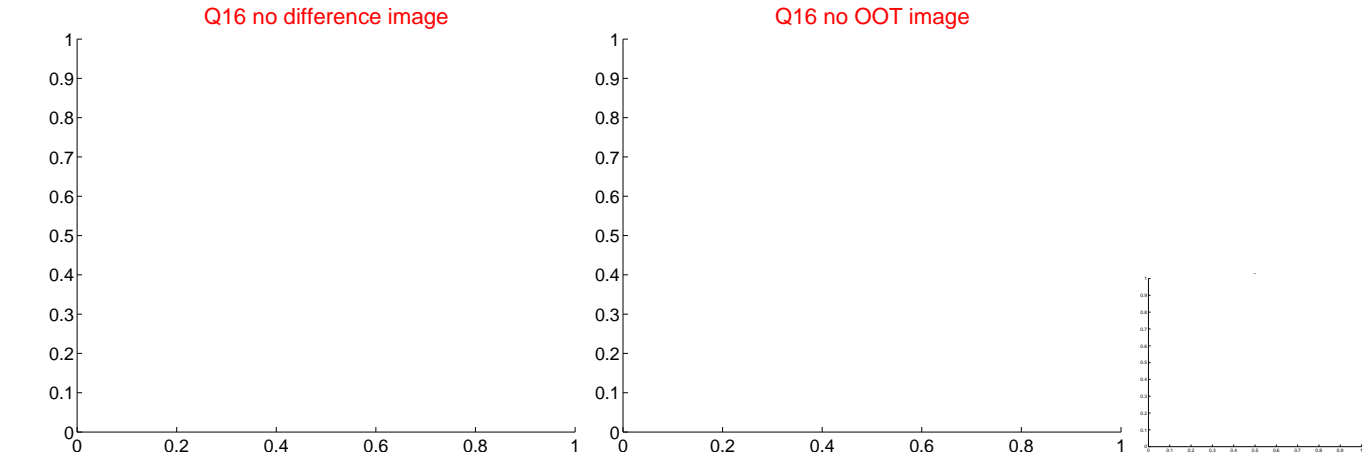
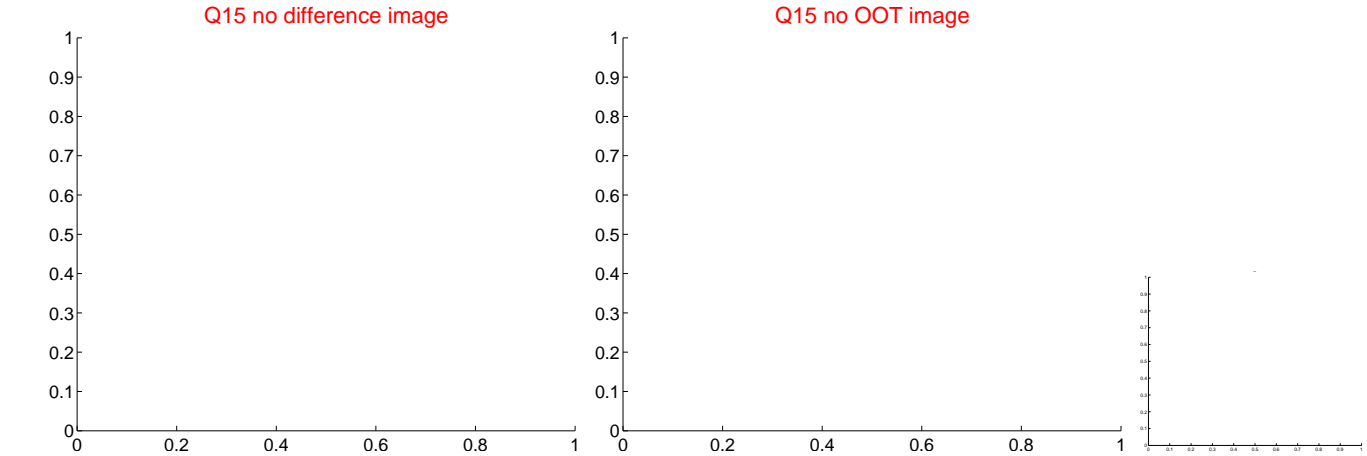
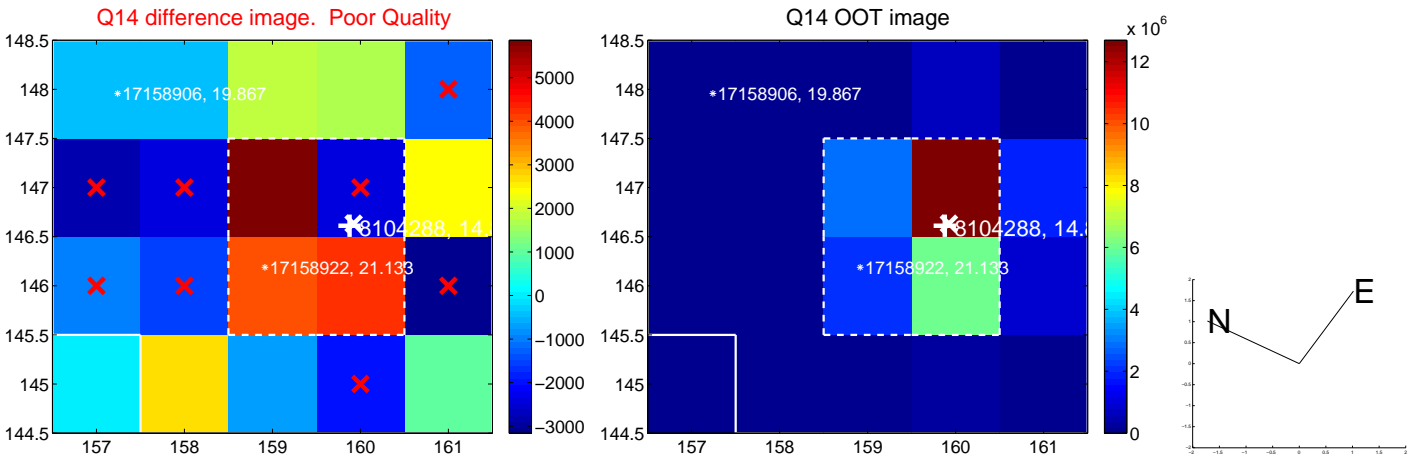
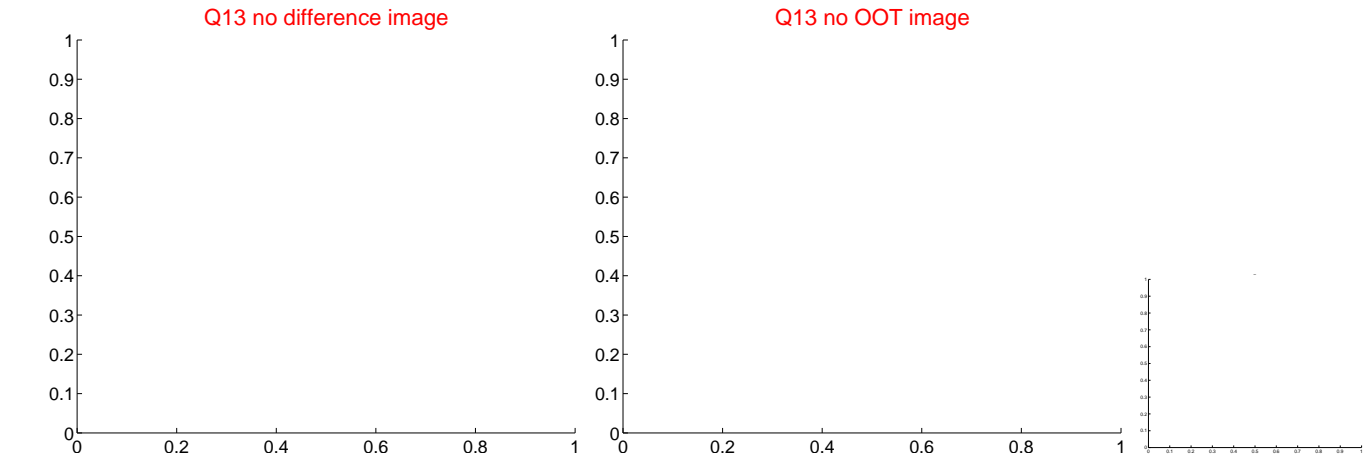
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



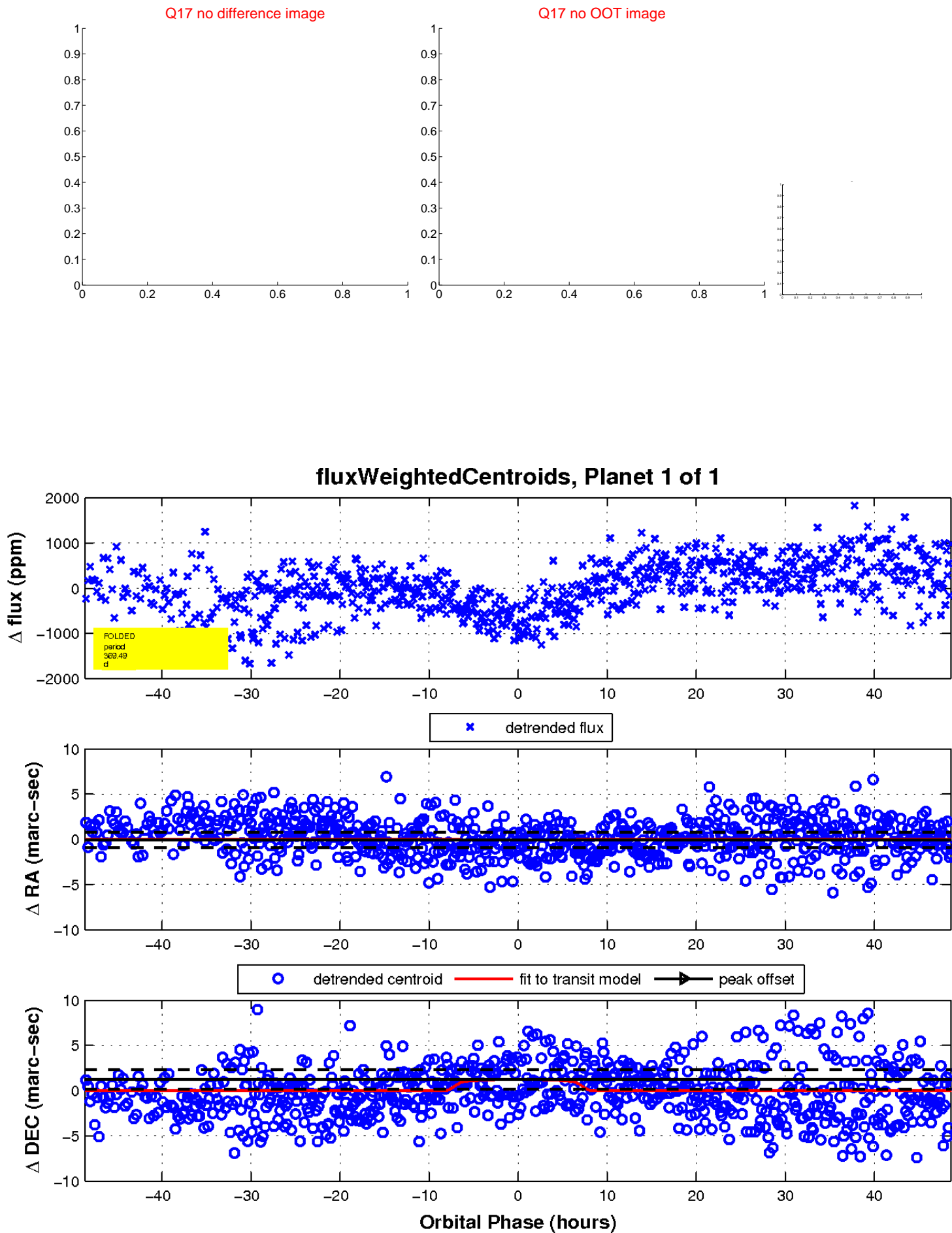
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



# UKIRT Image

Declination

