

# KIC 011234613

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011234613-01	OBS	No	466.687326	514.087959	179.6	17.311	7.5	7.1	0.86	5826	1.26	0.60

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011234613-01	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.

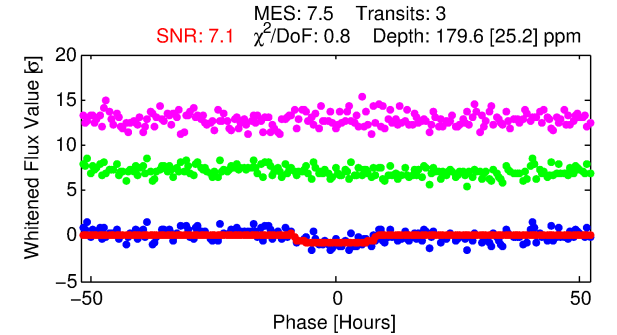
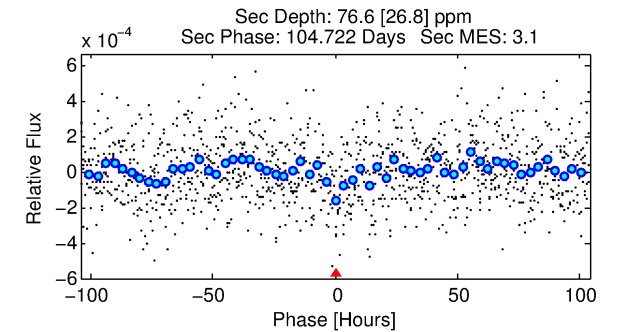
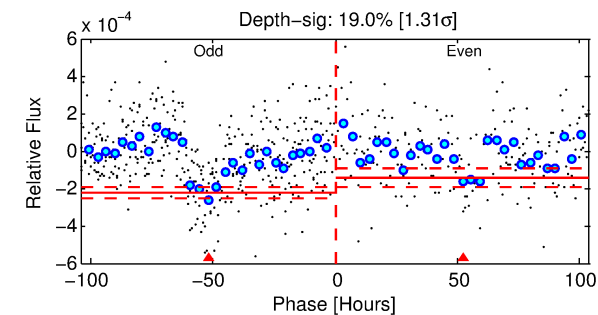
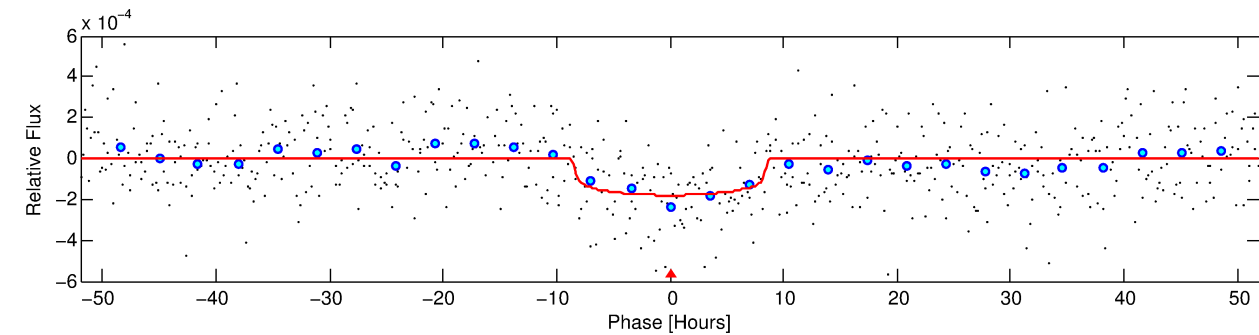
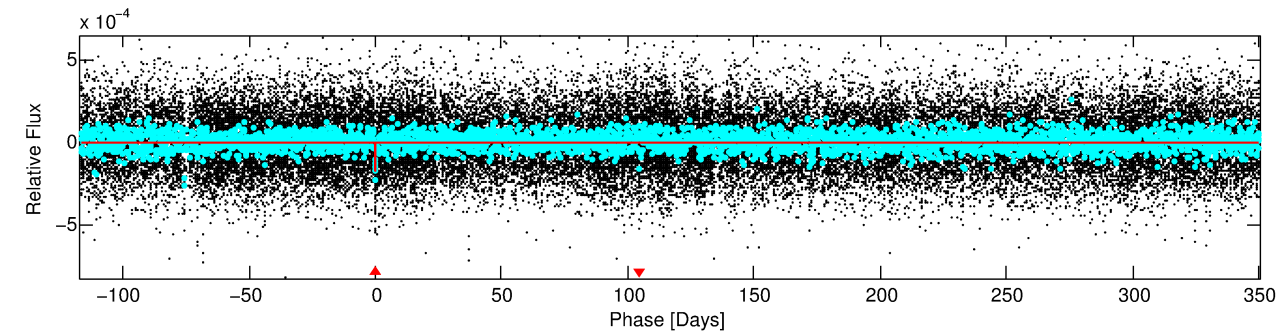
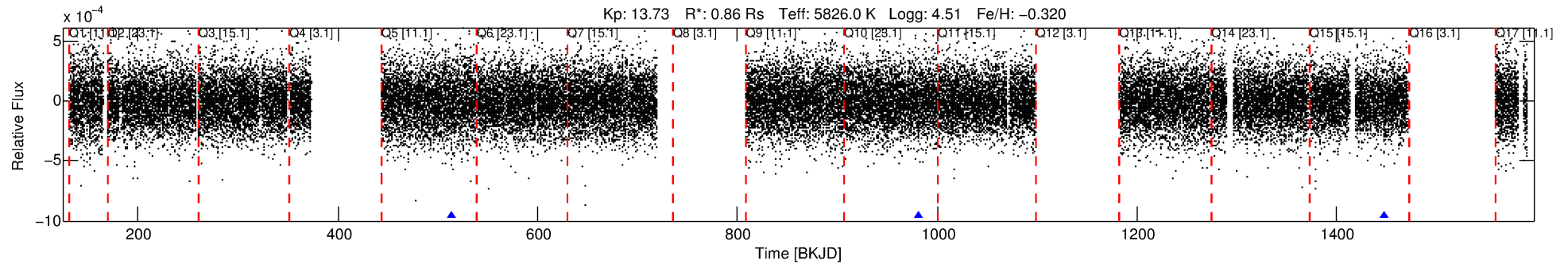
## Ephemeris Match Information For 011234613-01

No Significant Match Found



# DV One-Page Summary

KIC: 11234613 Candidate: 1 of 1 Period: 466.687 d



## DV Fit Results:

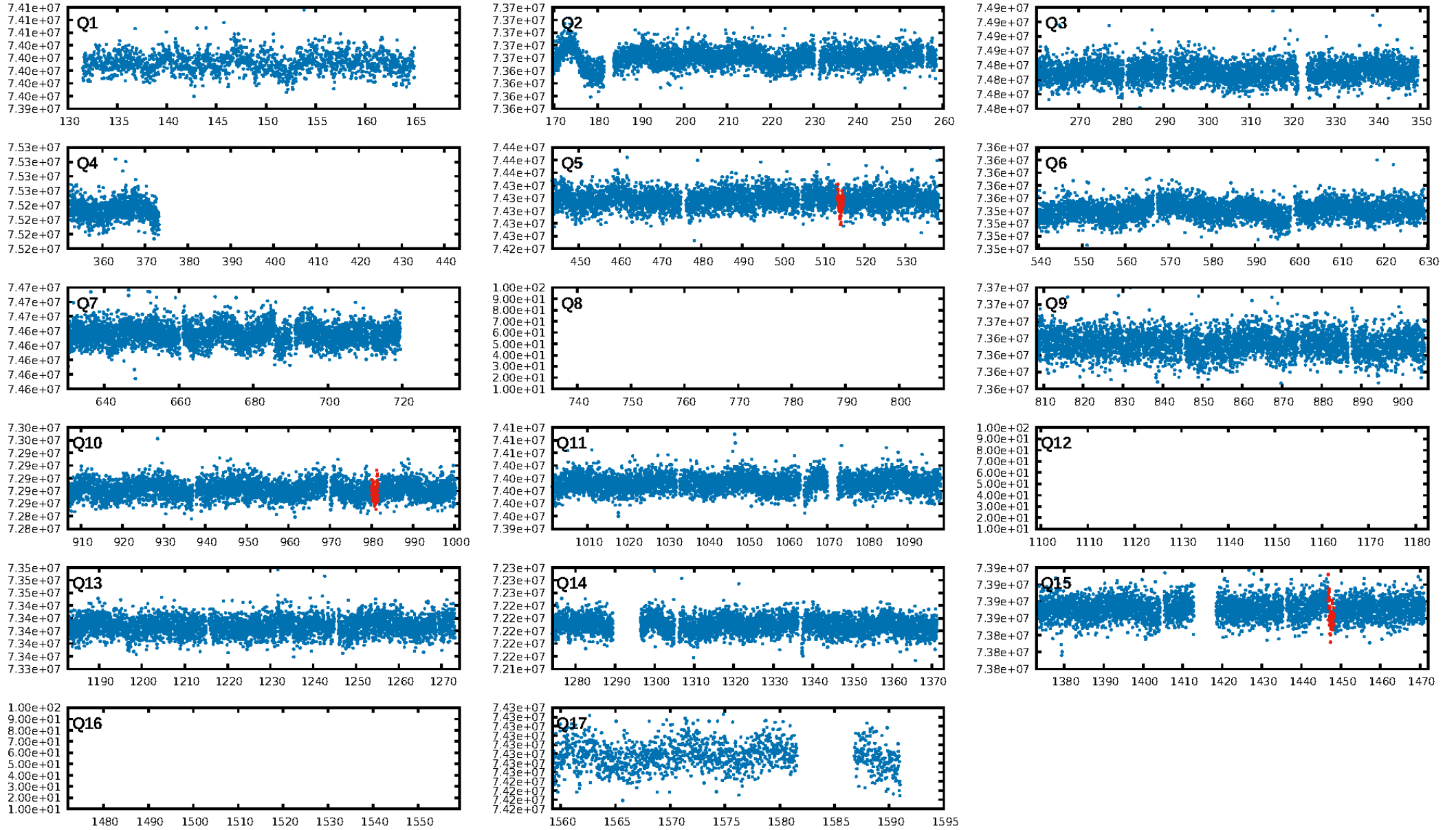
Period = 466.68733 [0.01931] d  
Epoch = 514.0880 [0.0241] BKJD  
Rp/R\* = 0.0133 [0.0056]  
a/R\* = 140.52 [279.40]  
b = 0.75 [1.17]  
Seff = 0.60 [0.22]  
Teq = 224 [20] K  
Rp = 1.26 [0.63] Re  
a = 1.1343 [0.2647] AU  
Ag = 34259.50 [33322.73] [1.03σ]  
Teffp = 4721 [1082] K [4.15σ]

## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 12.4%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 3.60e-15  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 4.143  
Centroid-sig: 18.3%  
Centroid-so: 3.971 arcsec [1.29σ]  
OotOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-rm: N/A  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [3/3]

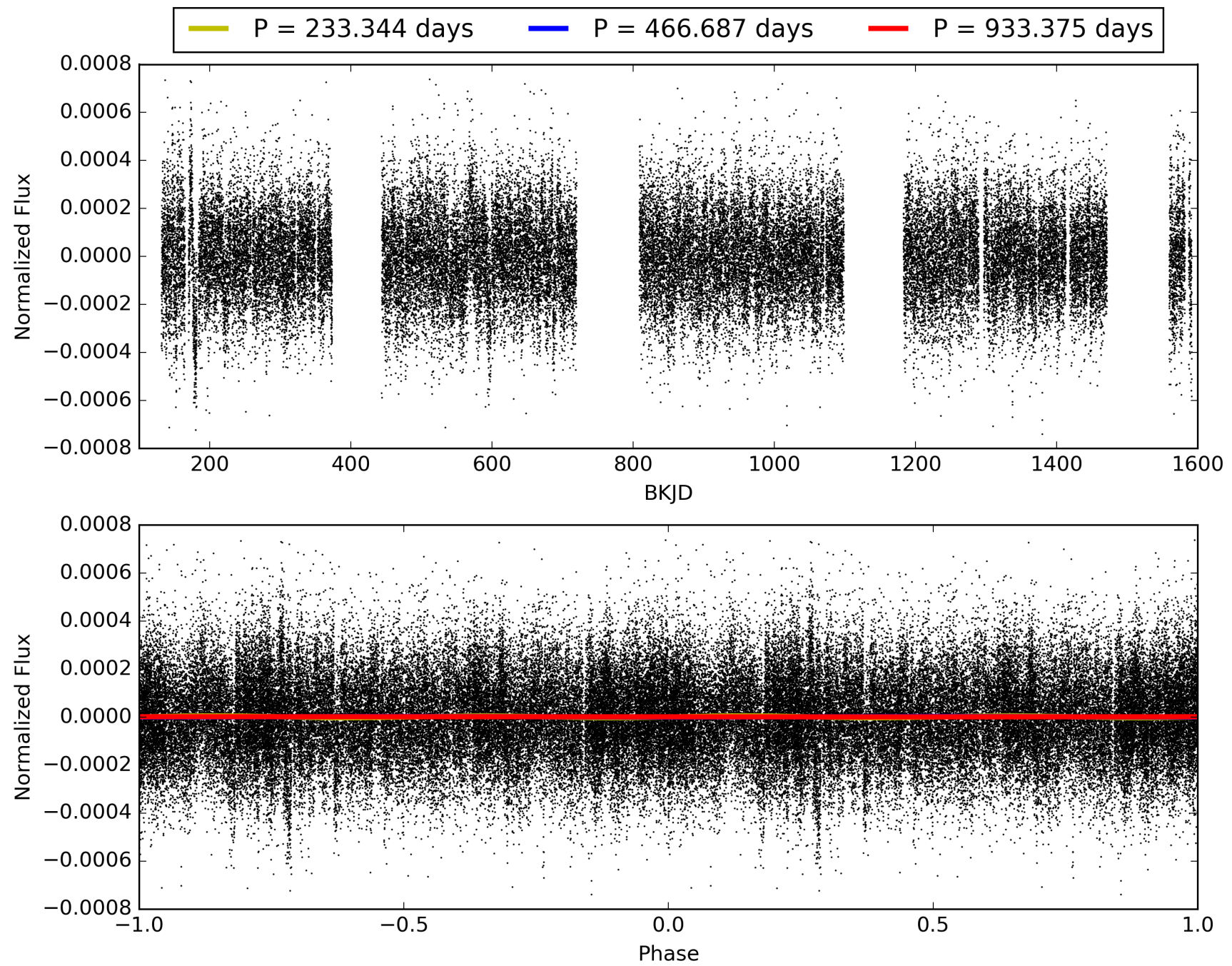


# TCE 011234613-01, PDC Light Curves





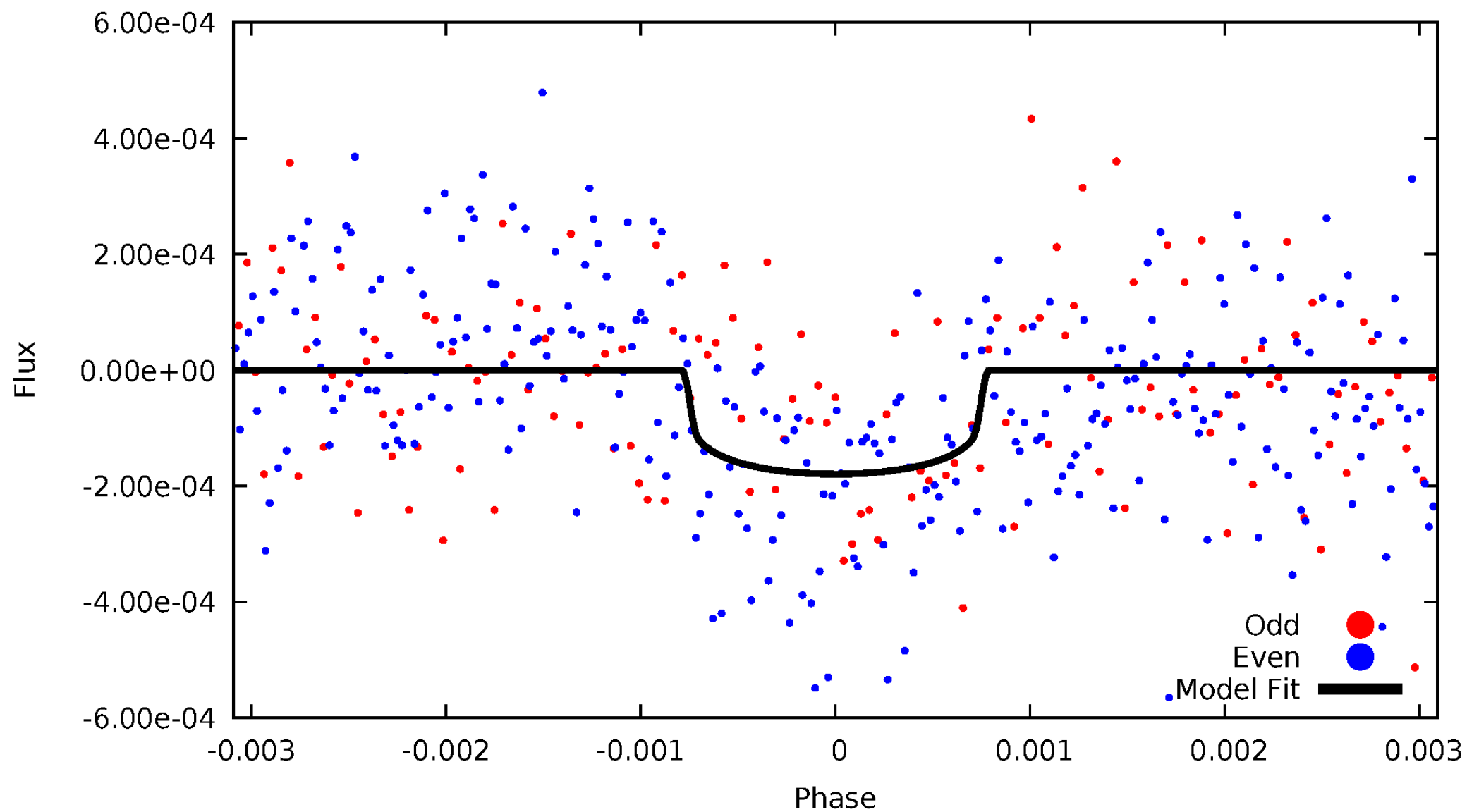
TCE 011234613-01





# DV Odd/Even

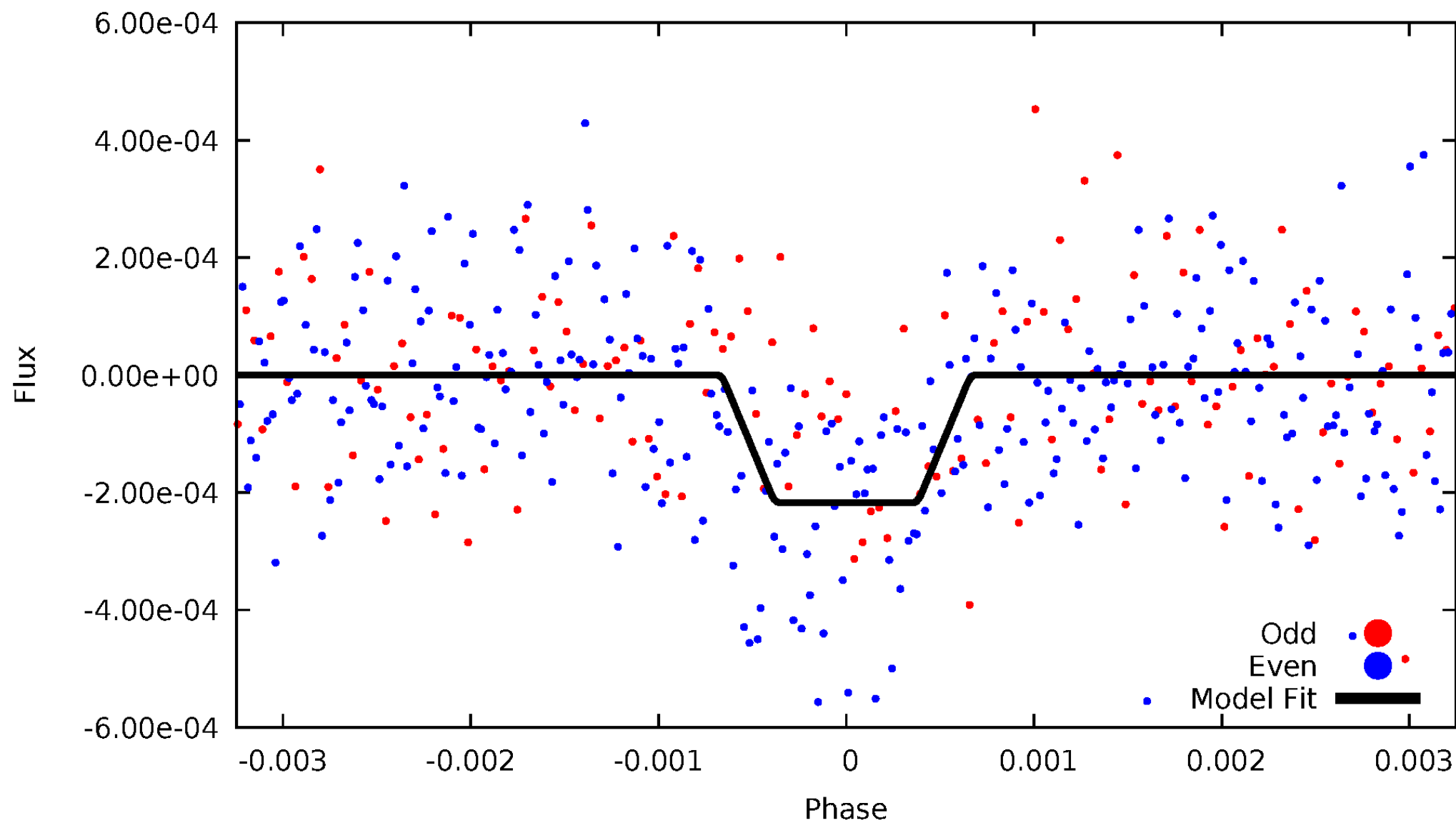
TCE 011234613-01





# ALT Odd/Even

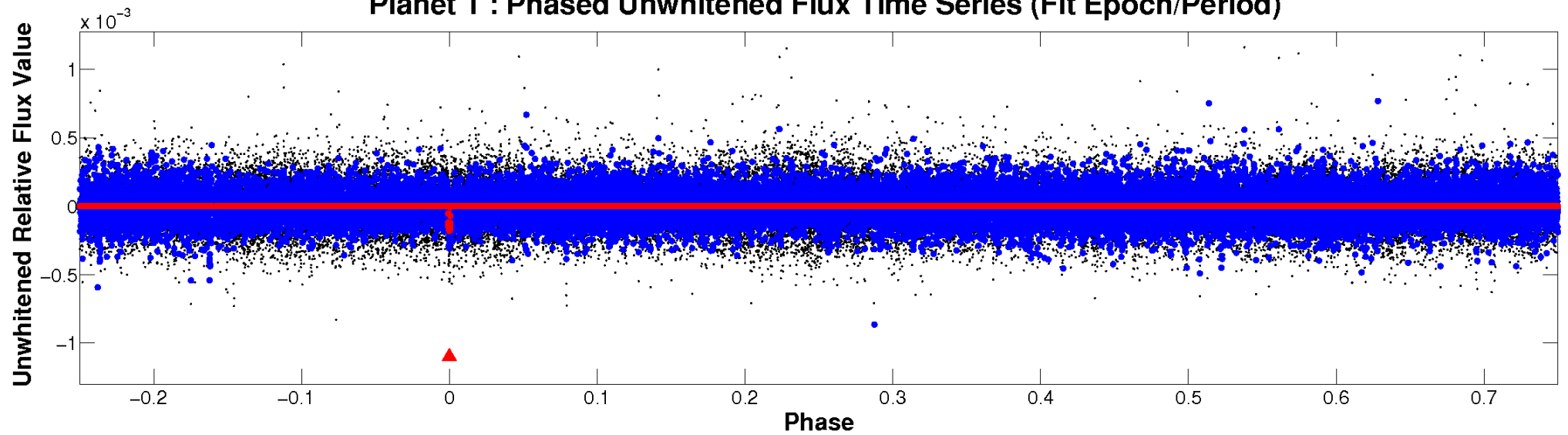
TCE 011234613-01



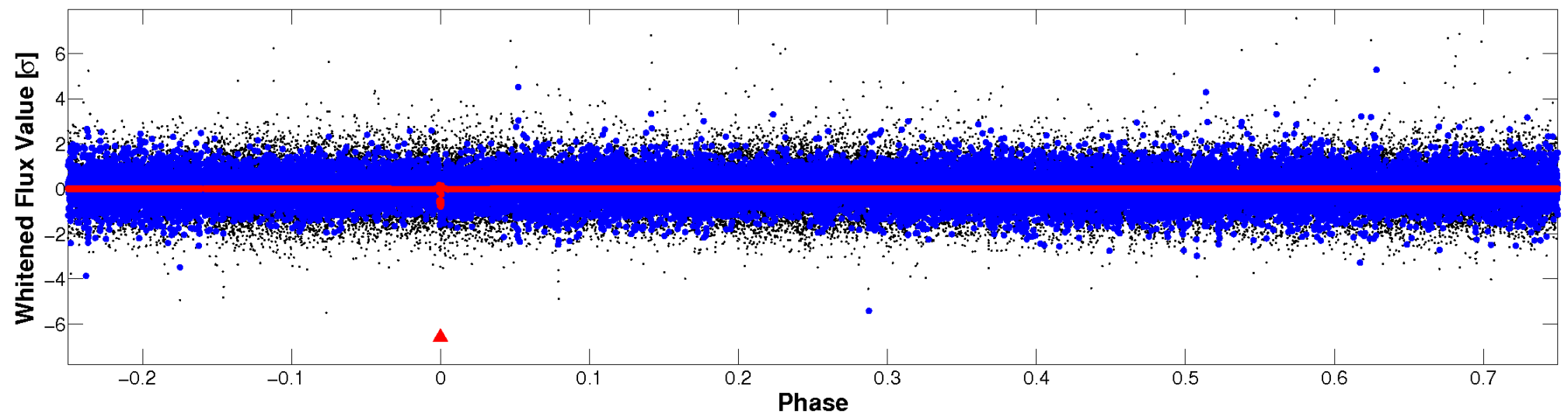


# Non-Whitened Vs. Whitened Light Curve

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



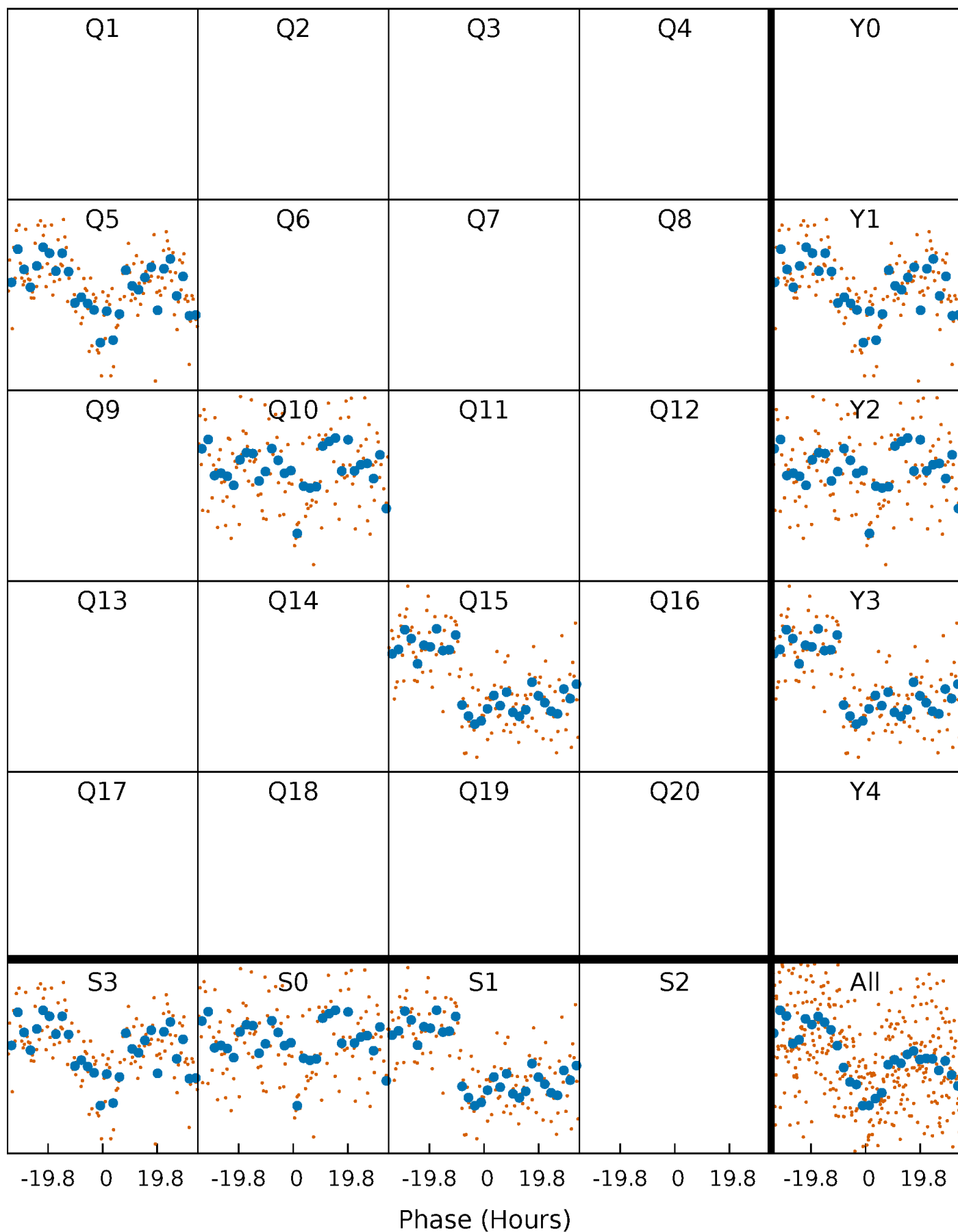
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

TCE 011234613-01 P=466.687326 Days  $T_0=514.087959$  (BKJD)





# DV Quarter-Phased Transit Curves

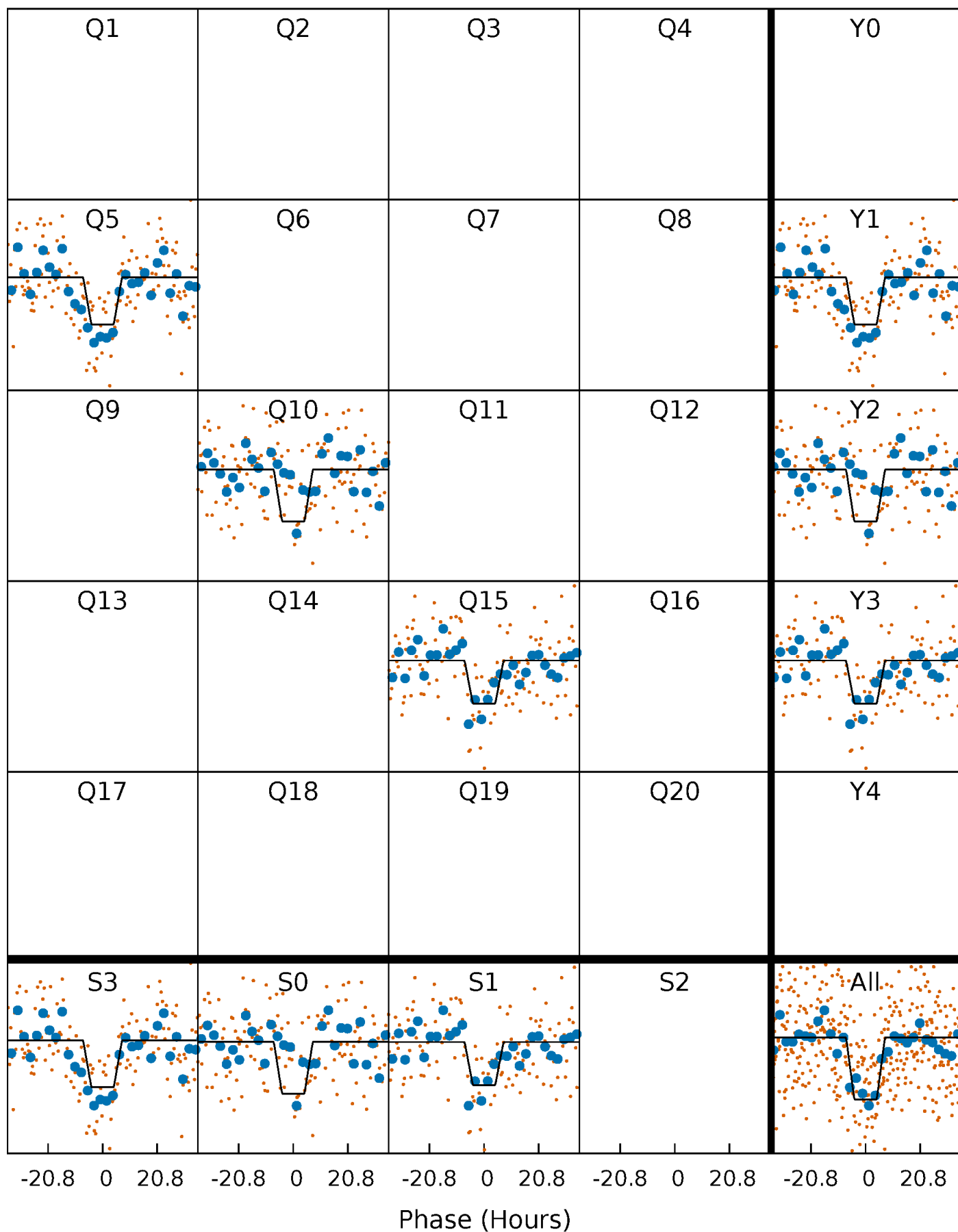
TCE 011234613-01 P=466.687326 Days  $T_0=514.087959$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 011234613-01 P=466.634398 Days  $T_0=514.140484$  (BKJD)

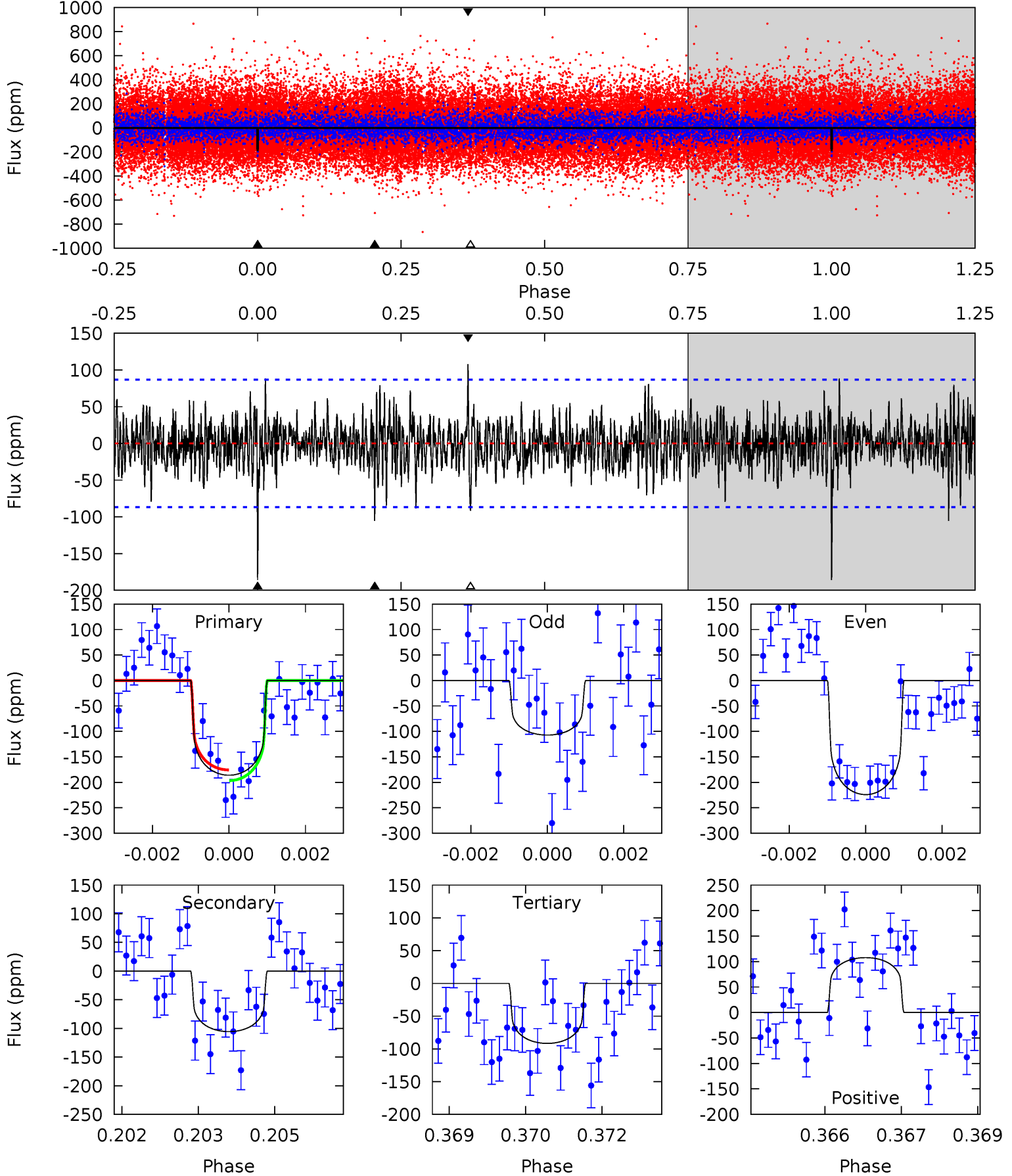




# DV Model-Shift Uniqueness Test

011234613-01,  $P = 466.687326$  Days,  $E = 47.400633$  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
11.5	6.54	5.67	6.67	5.37	3.16	1.54	5.84	4.85	0.86	-0.13	3.37	0.87	0.37	0.65

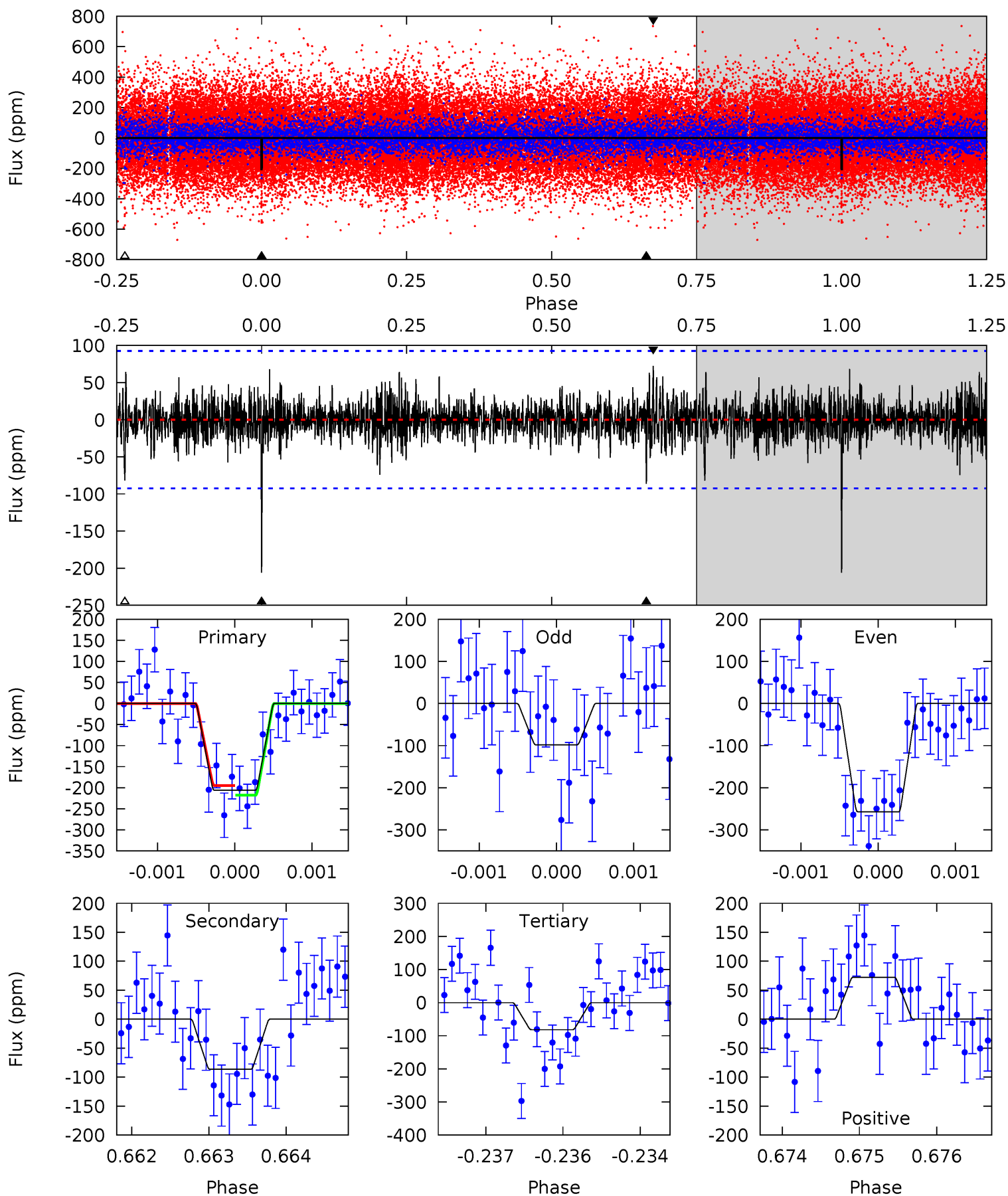




# Alt Model-Shift Uniqueness Test

011234613-01,  $P = 466.634398$  Days,  $E = 47.506086$  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
12.0	5.04	4.77	4.23	5.40	3.21	1.09	7.25	7.79	0.26	0.81	4.34	0.90	0.26	0.68





### Stellar Parameters For KIC 011234613

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5826^{+139}_{-157}$	$4.515^{+0.062}_{-0.188}$	$-0.320^{+0.300}_{-0.300}$	$0.865^{+0.238}_{-0.095}$	$0.893^{+0.101}_{-0.090}$	$1.944^{+0.514}_{-0.991}$
	+2%/-3%	+1%/-4%	+94%/-94%	+28%/-11%	+11%/-10%	+26%/-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 011234613-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-106 \pm 16$	$1.31^{+0.56}_{-0.58}$	$318^{+21}_{-15}$	$5190^{+1648}_{-733}$	$42744^{+94174}_{-21390}$
Alt.	$-86 \pm 17$	$1.43^{+0.62}_{-0.53}$	$317^{+21}_{-14}$	$4737^{+1127}_{-621}$	$28974^{+46246}_{-15112}$

$T_{\text{max}}$  = 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

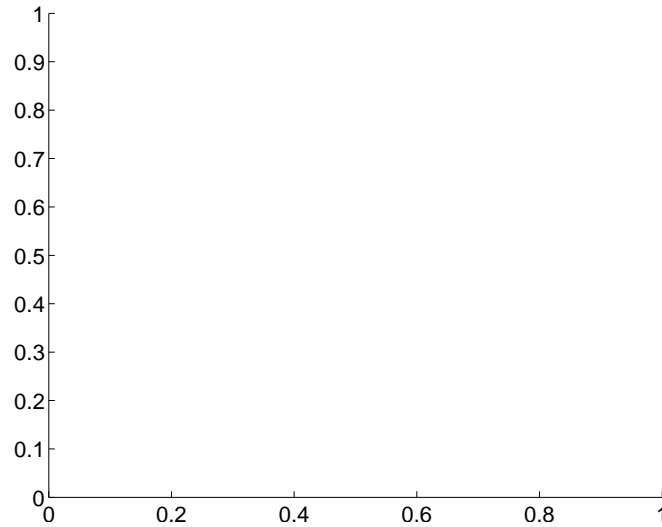
Supplemental centroid analysis for 011234613-01. Kepler magnitude: 13.73. Transit SNR 7.10

There are 0 quarters with good PRF difference image offsets

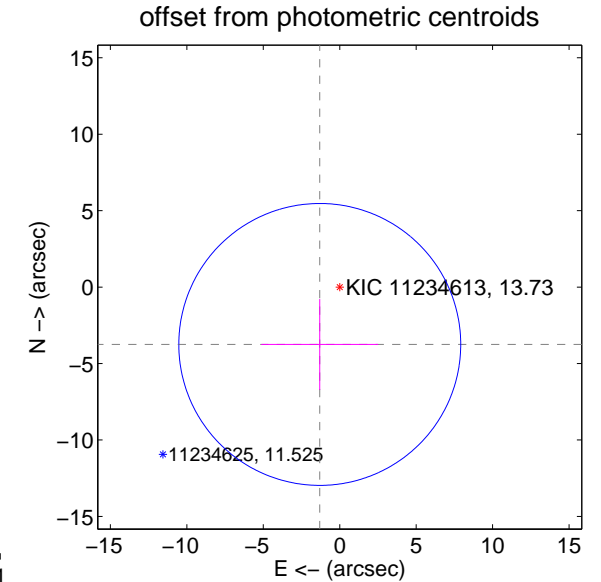
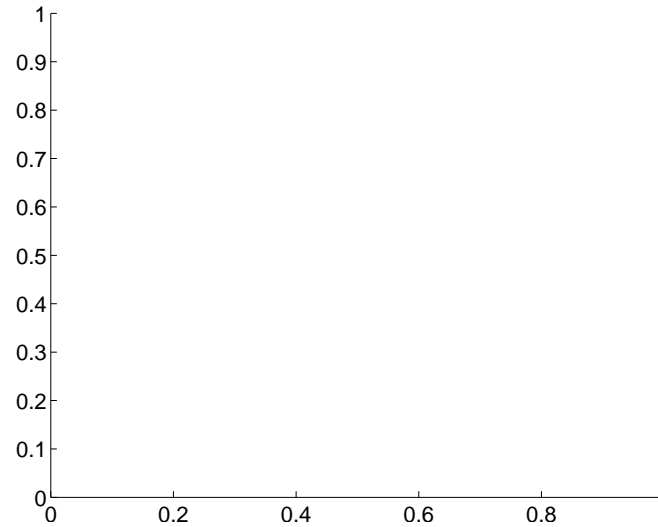
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	$3.97 \pm 3.07$	1.29	$1.31 \pm 3.81$	$-3.75 \pm 2.97$

There is no PRF-fit offset from OOT-fit



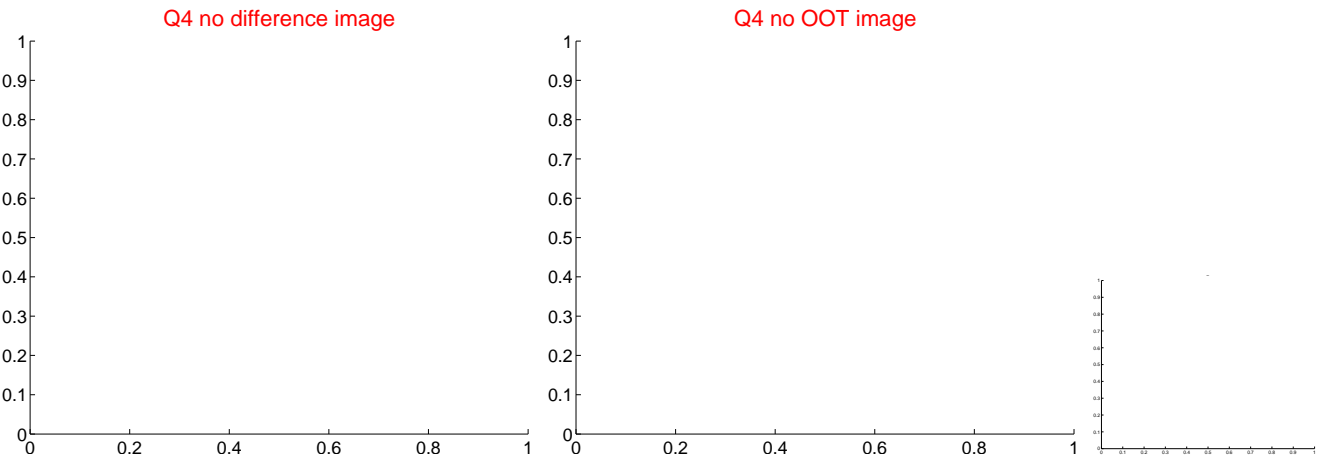
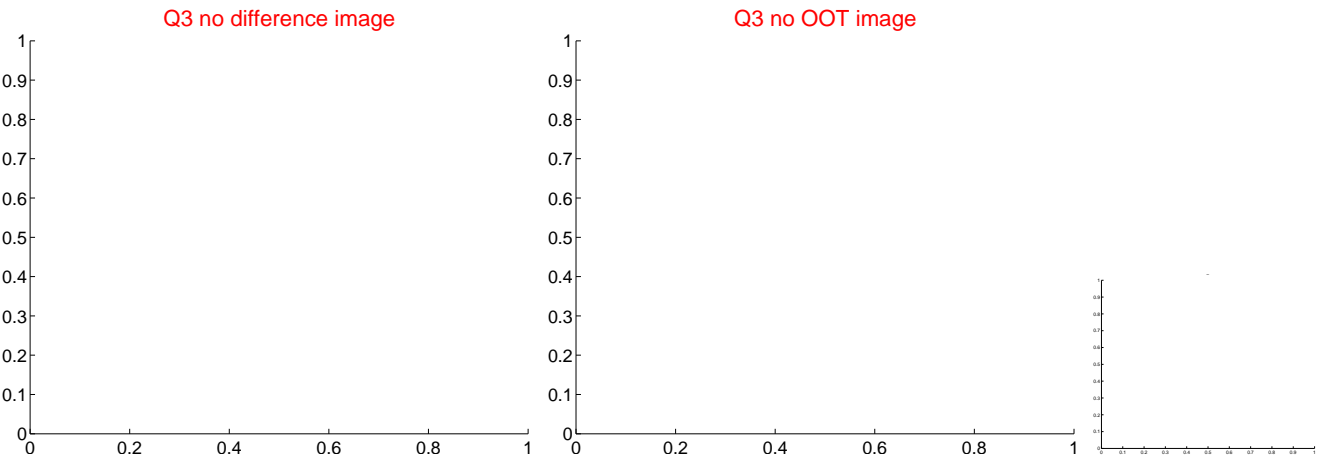
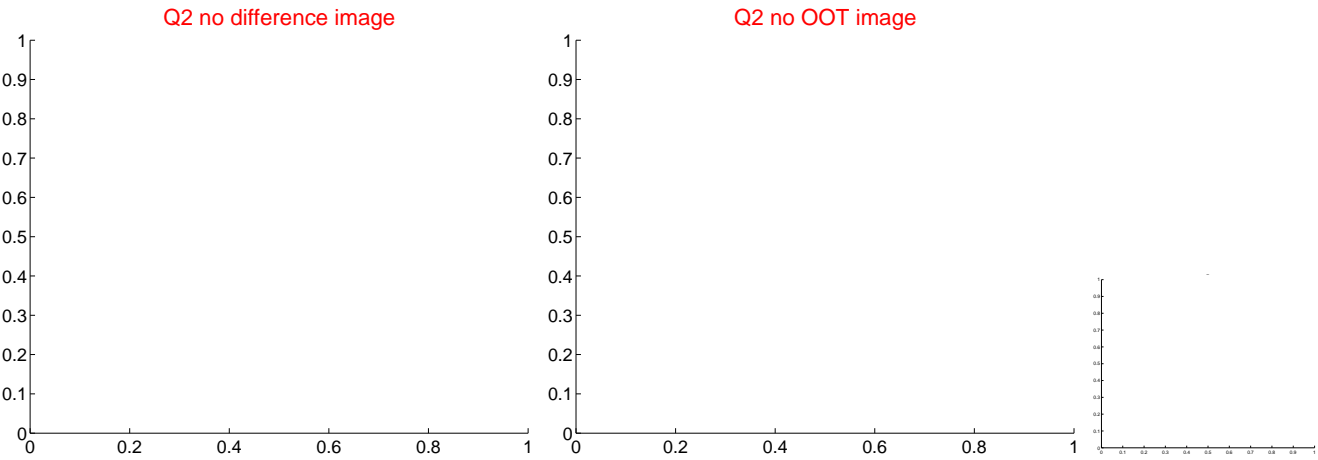
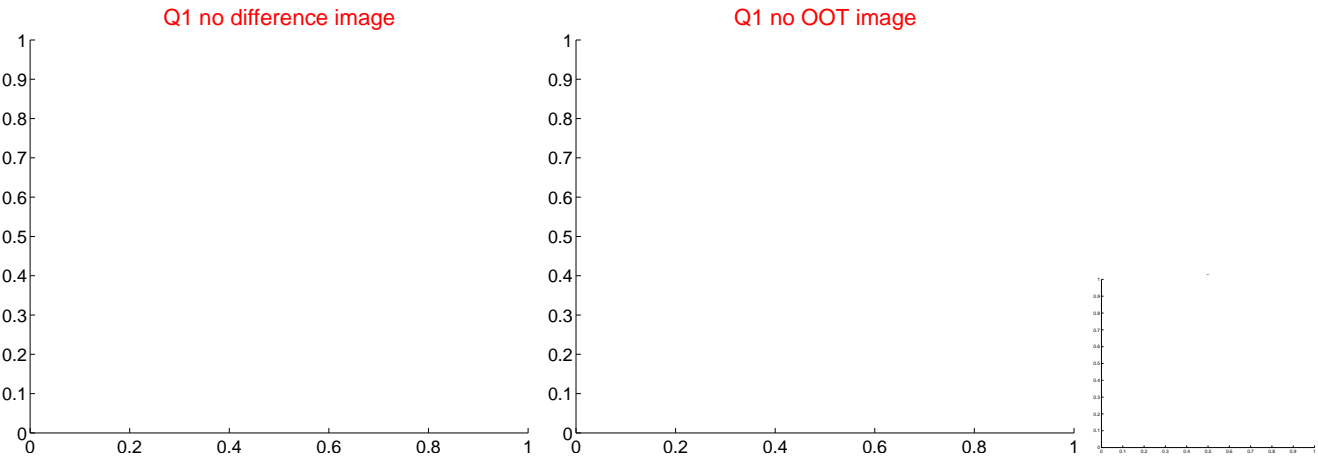
There is no PRF-fit offset from KIC



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.

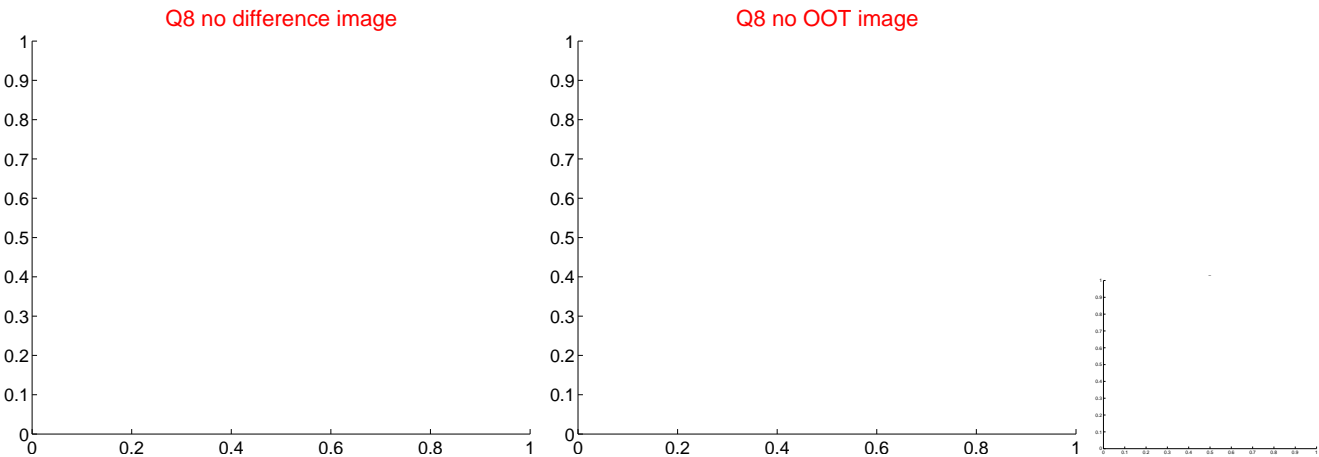
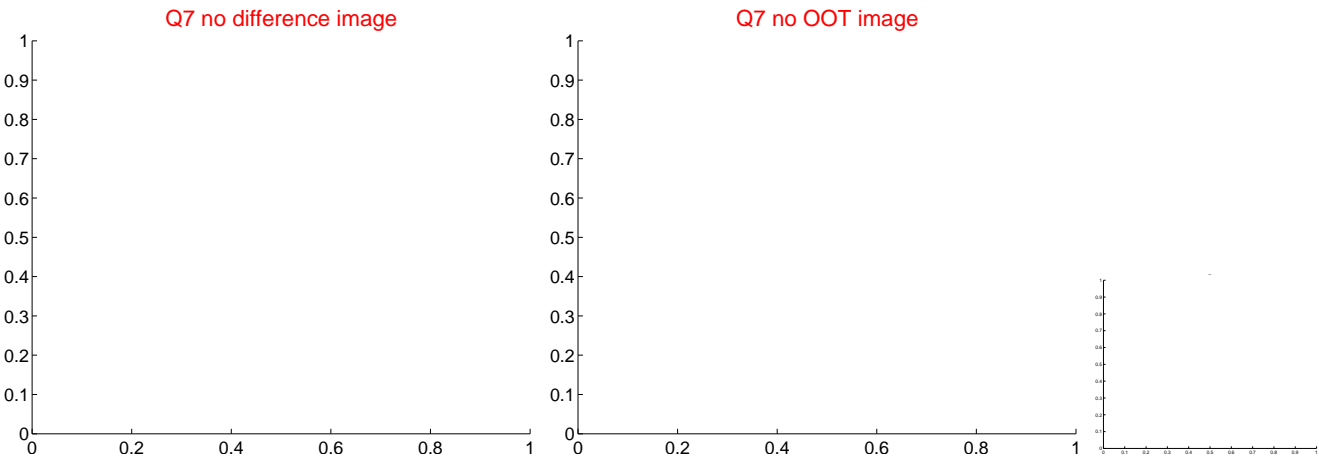
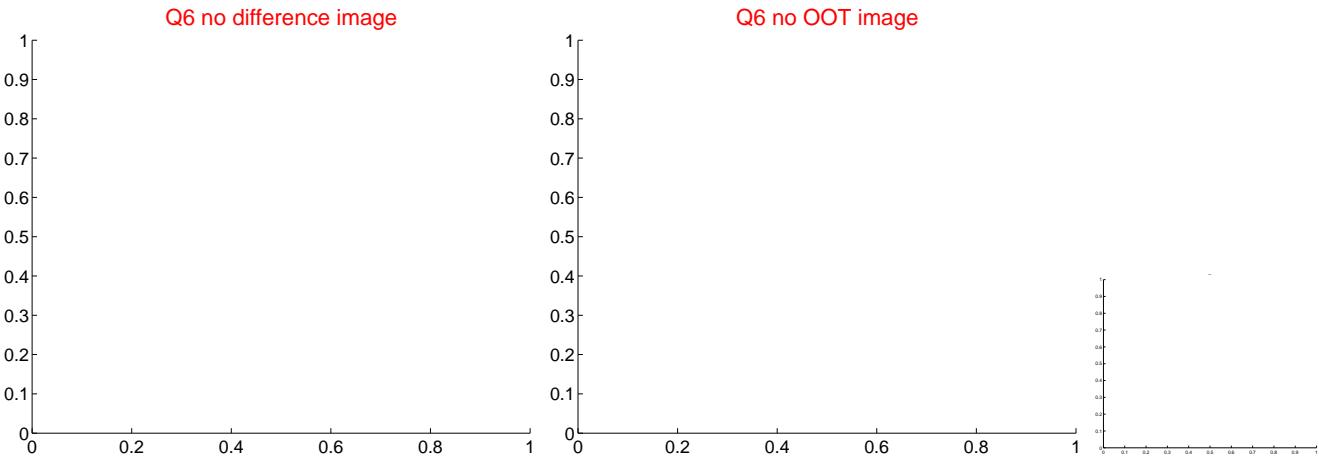
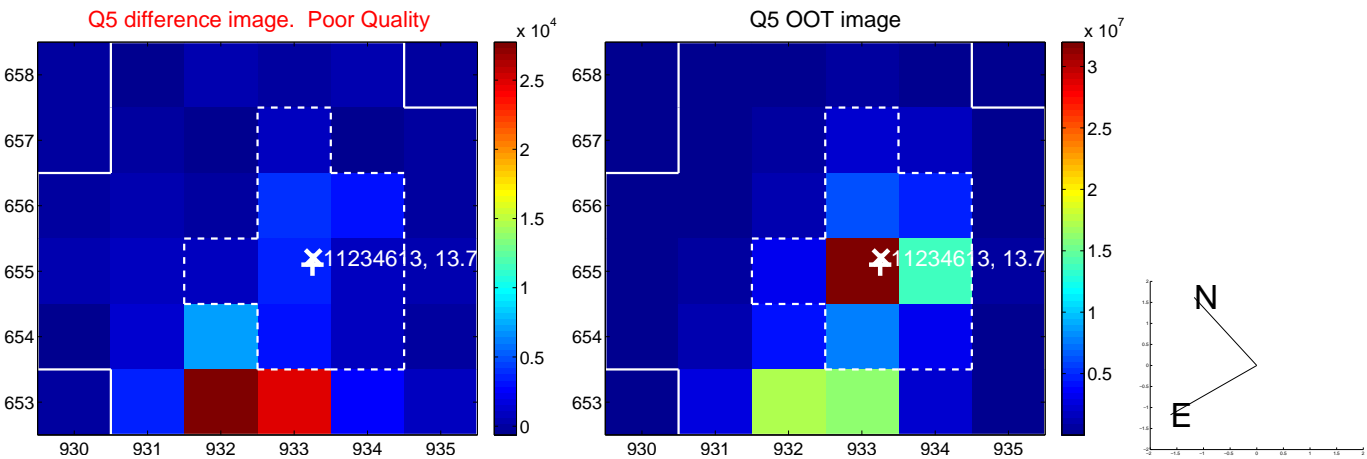


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



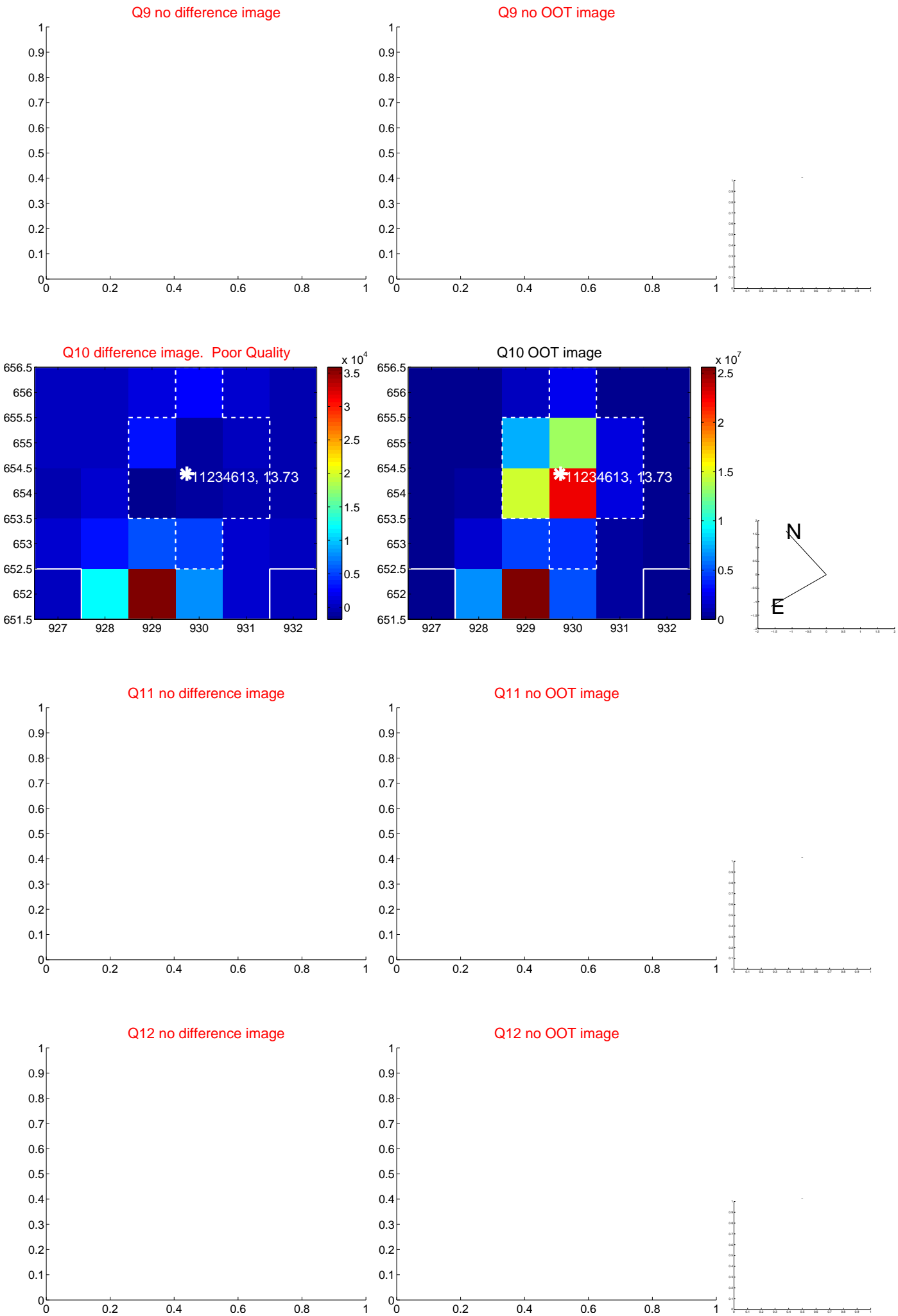


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



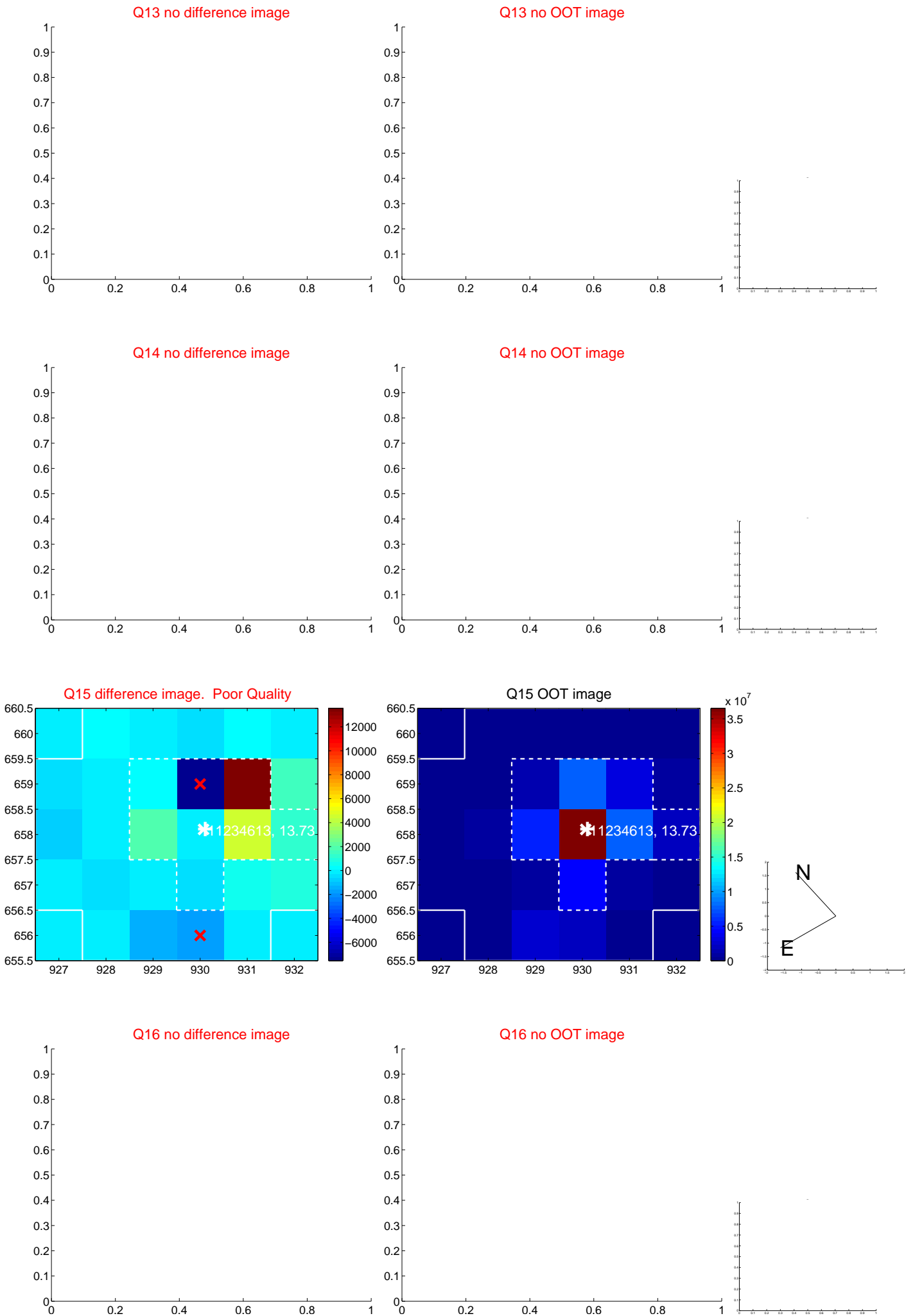


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



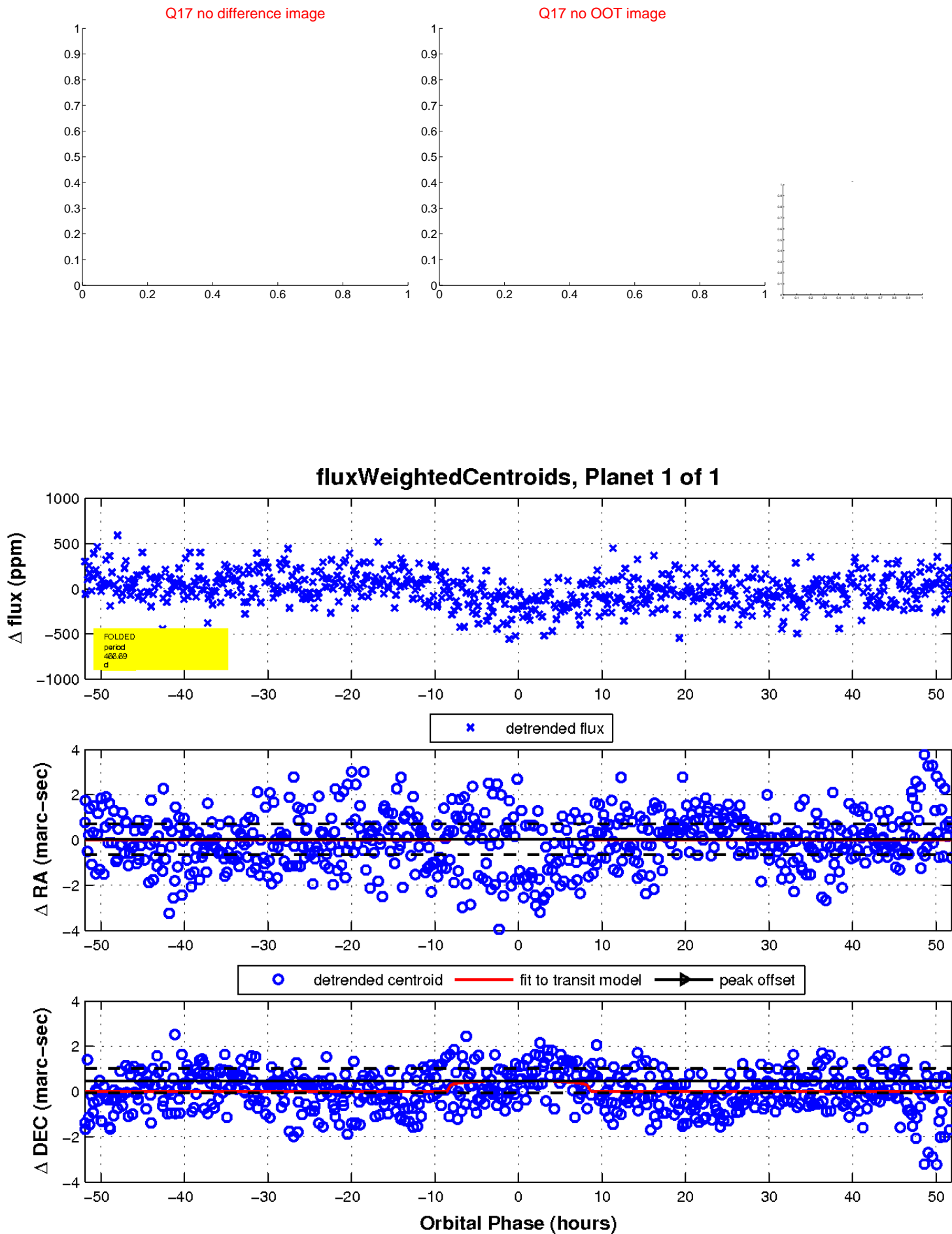


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.





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





UKIRT Image

Declination

