

# KIC 007674050

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007674050-01	OBS	5412.01	472.226621	363.713934	156302.8	4.857	911.7	701.0	0.84	5763	49.38	0.52

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007674050-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED

**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 007674050-01

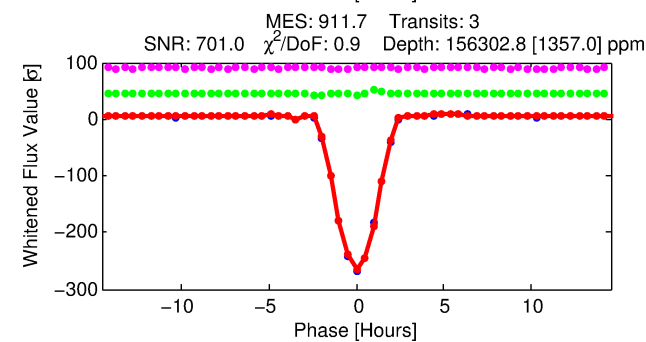
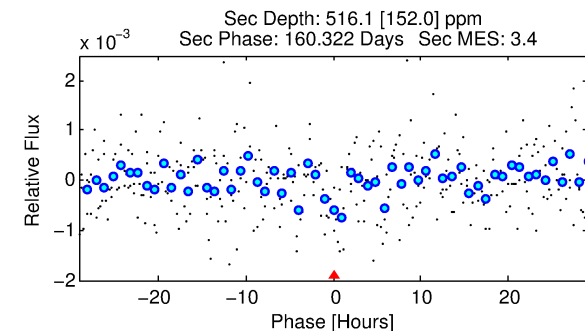
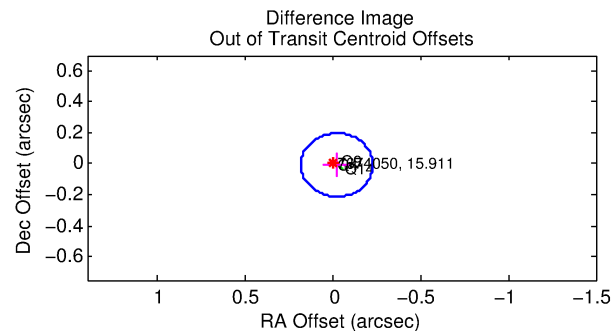
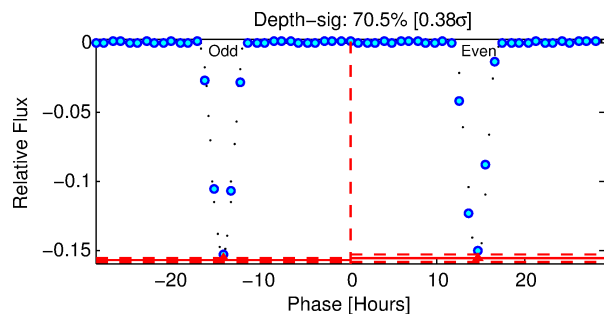
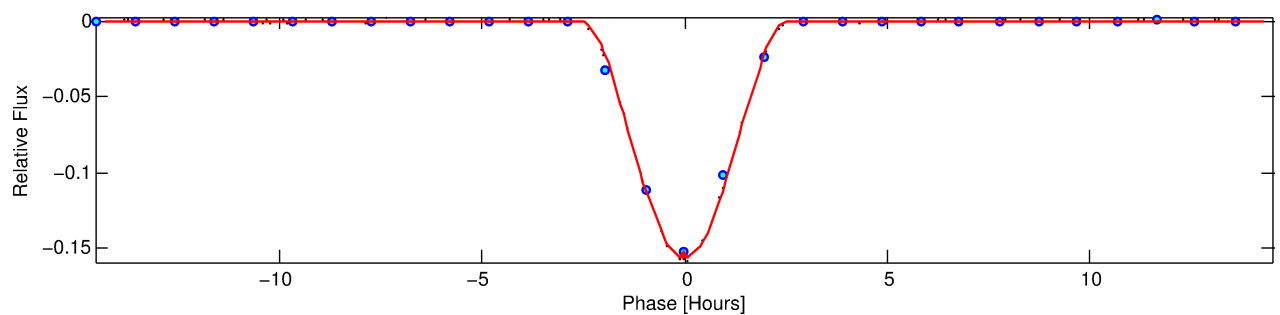
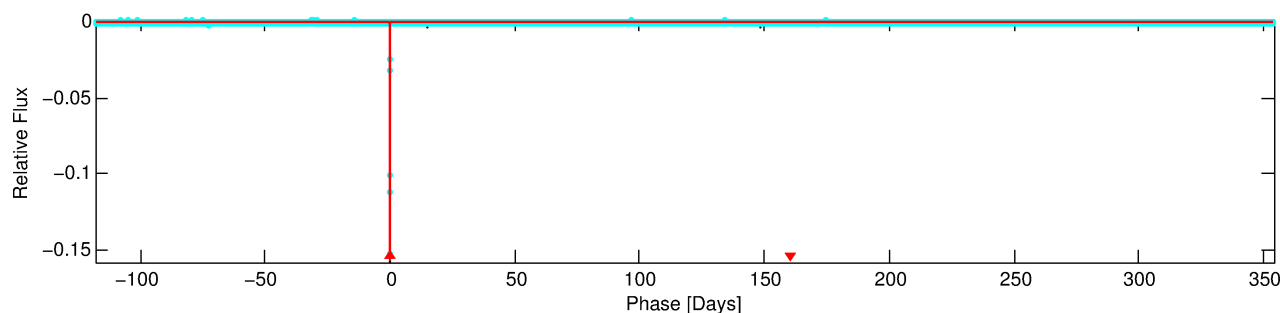
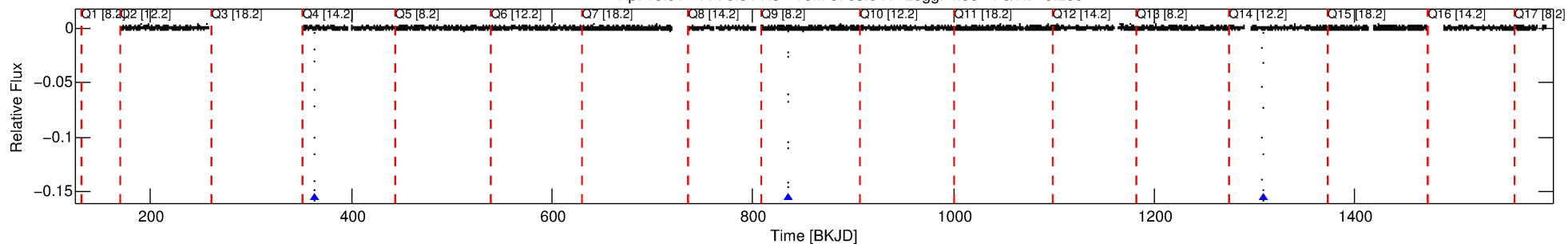
No Significant Match Found

# DV One-Page Summary

KIC: 7674050 Candidate: 1 of 1 Period: 472.227 d

KOI: K05412.01 Corr: 0.992

Kp: 15.91 R\*: 0.84 Rs Teff: 5763.0 K Logg: 4.56 Fe/H: -0.200



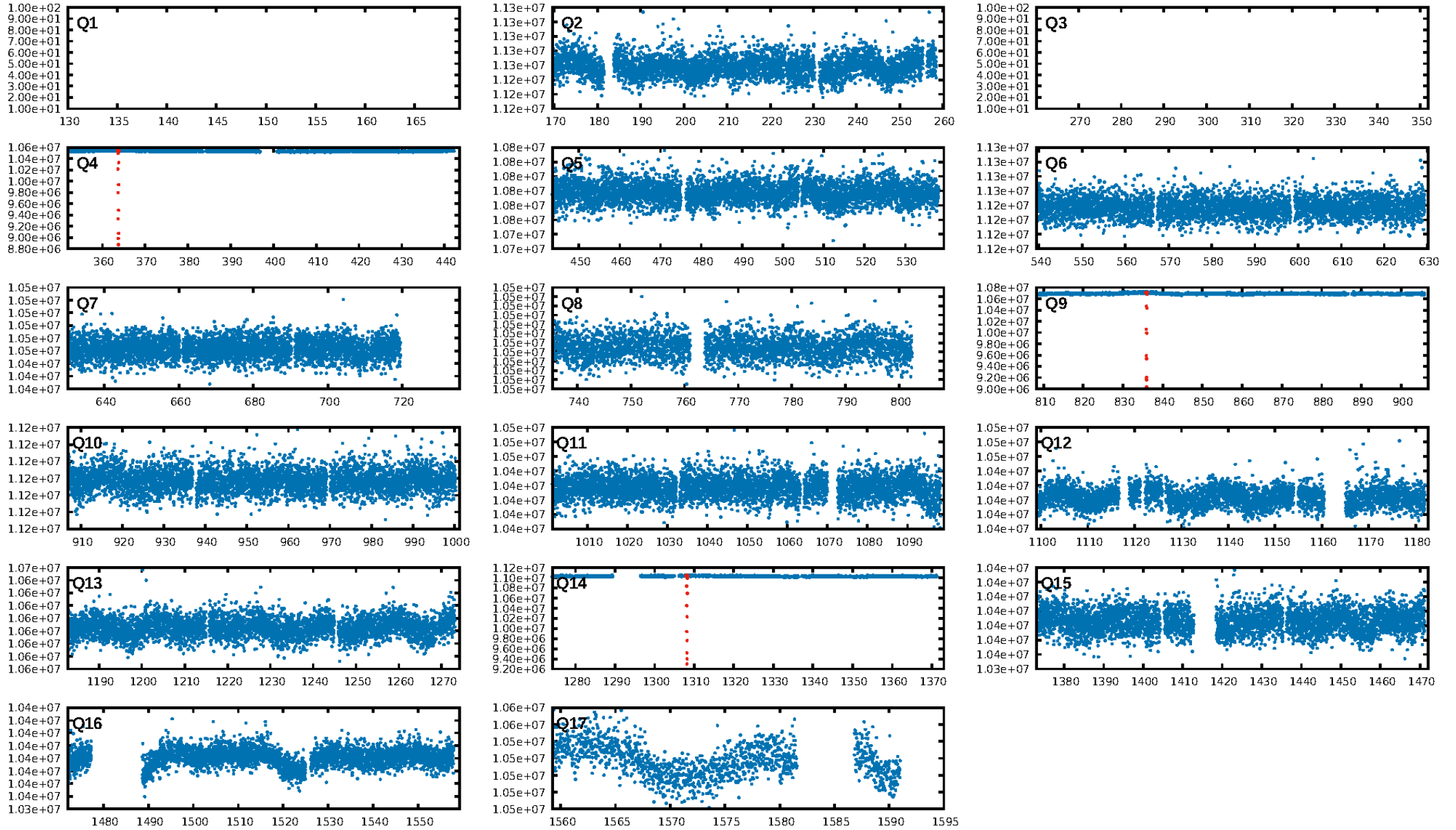
## DV Fit Results:

Period = 472.22662 [0.00009] d  
Epoch = 363.7139 [0.0001] BKJD  
Rp/R\* = 0.5374 [0.3397]  
a/R\* = 928.53 [62.69]  
b = 0.89 [0.48]  
Seff = 0.52 [0.19]  
Teq = 217 [20] K  
Rp = 49.38 [34.21] Re  
a = 1.1597 [0.2738] AU  
Ag = 156.61 [210.12] [0.74σ]  
Teffp = 1185 [386] K [2.50σ]

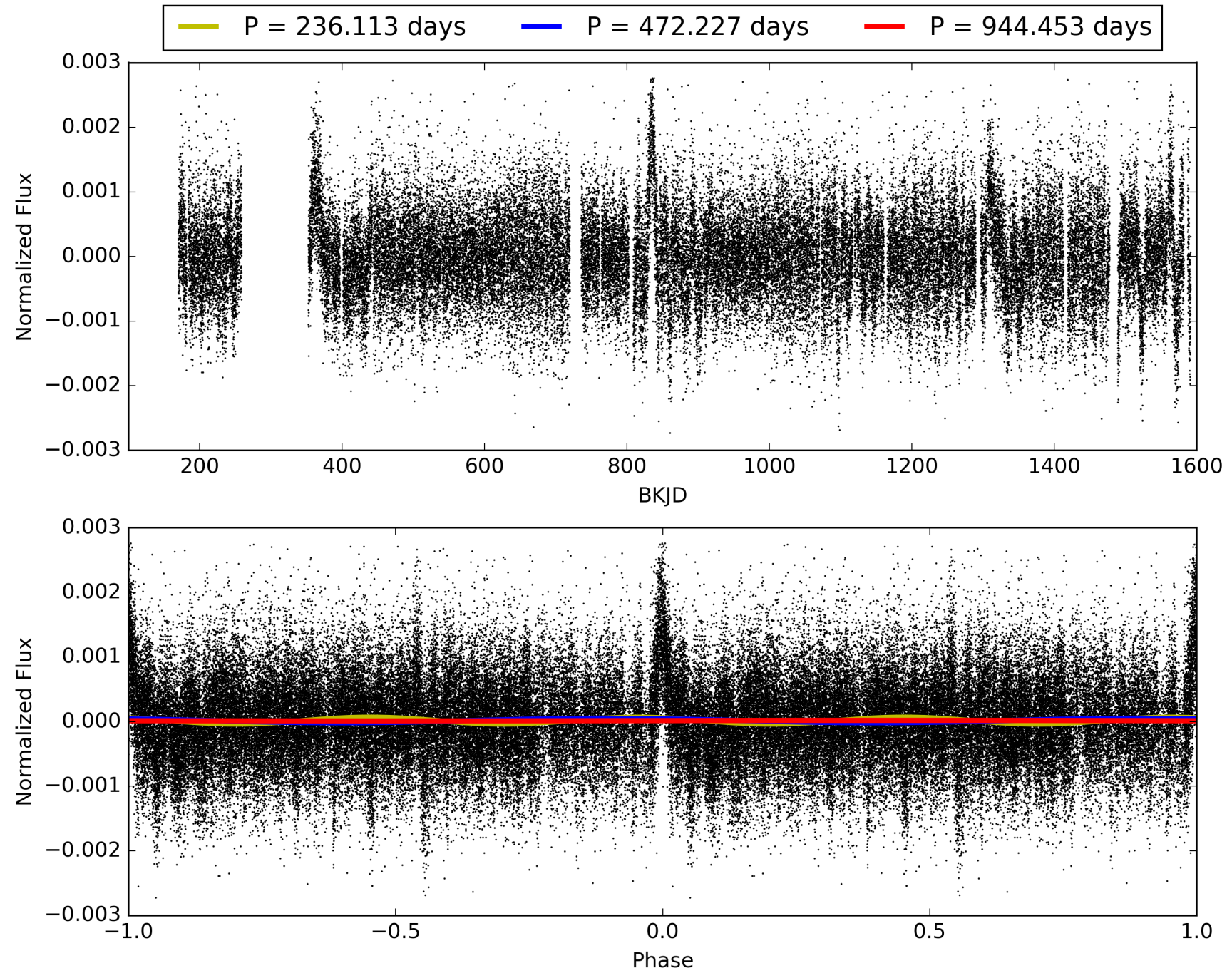
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 47.7%  
ModelChiSquareGof-sig: 99.8%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 4.351  
Centroid-sig: 0.0%  
Centroid-so: 0.297 arcsec [20.56σ]  
OotOffset-rm: 0.023 arcsec [0.34σ]  
KicOffset-rm: 0.135 arcsec [1.34σ]  
OotOffset-st: 1/0/1/1 [3]  
KicOffset-st: 1/0/1/1 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

# TCE 007674050-01, PDC Light Curves

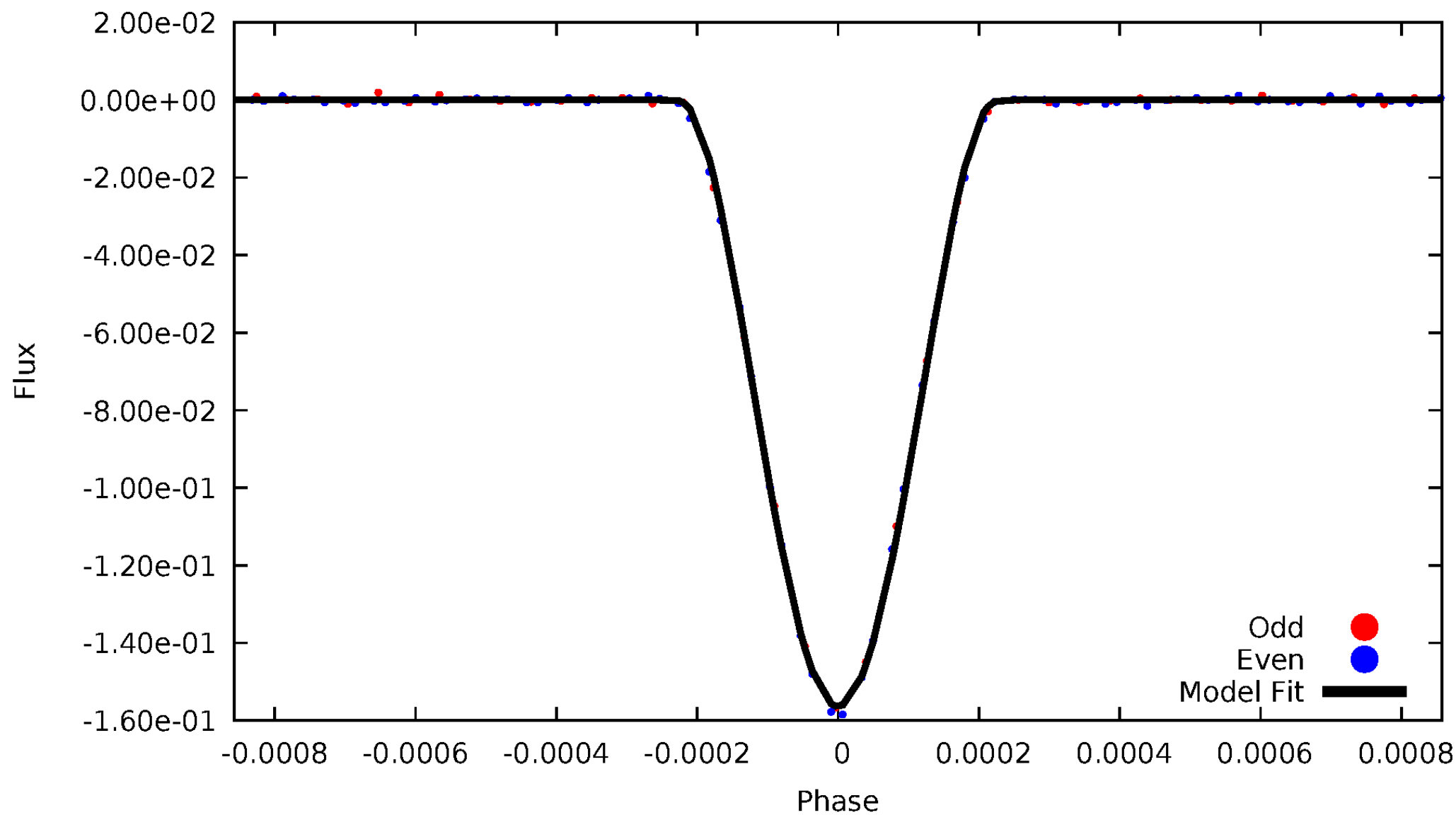


TCE 007674050-01



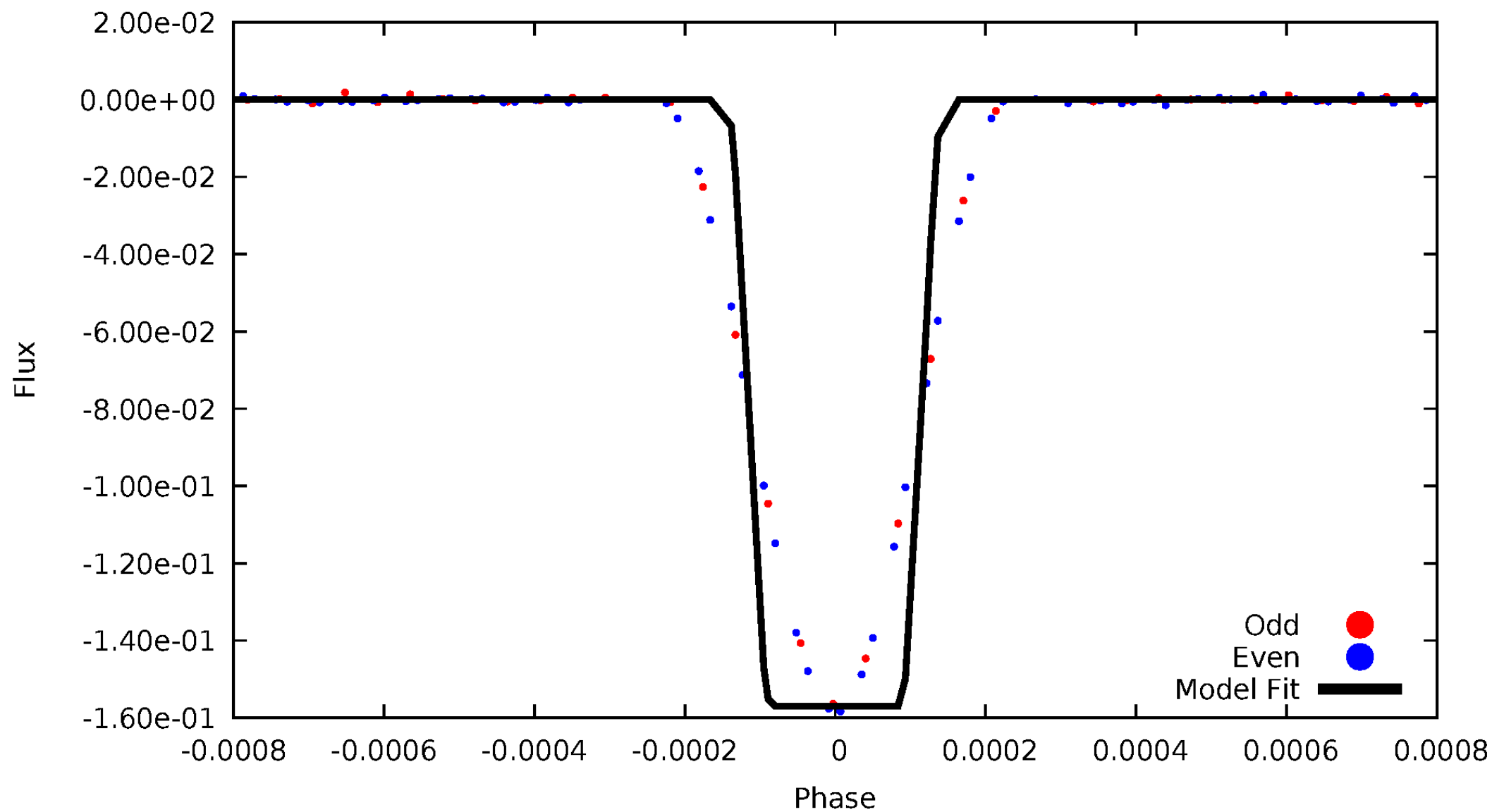
# DV Odd/Even

TCE 007674050-01



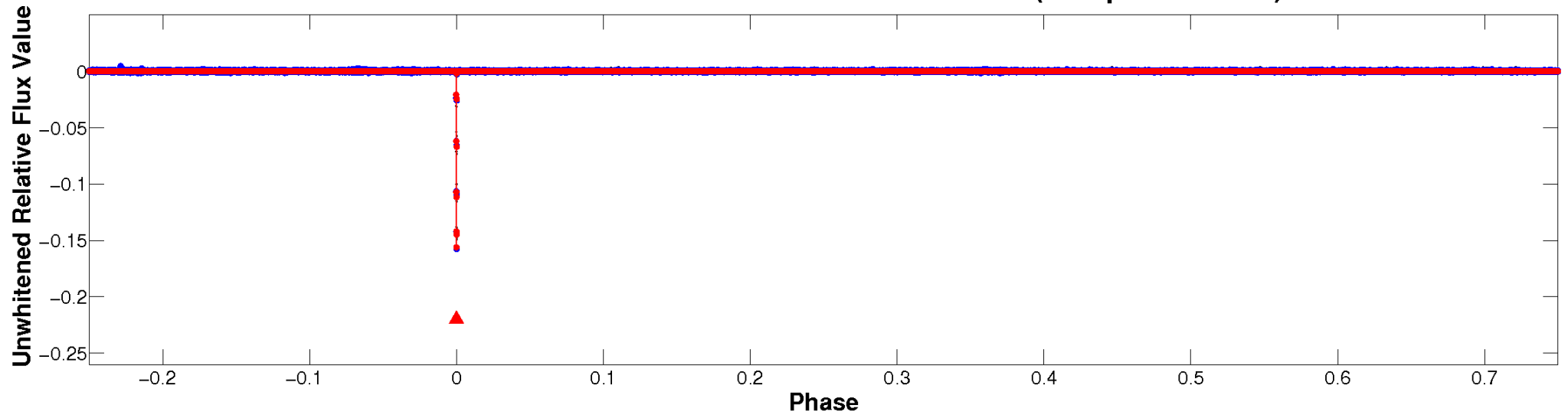
# ALT Odd/Even

TCE 007674050-01

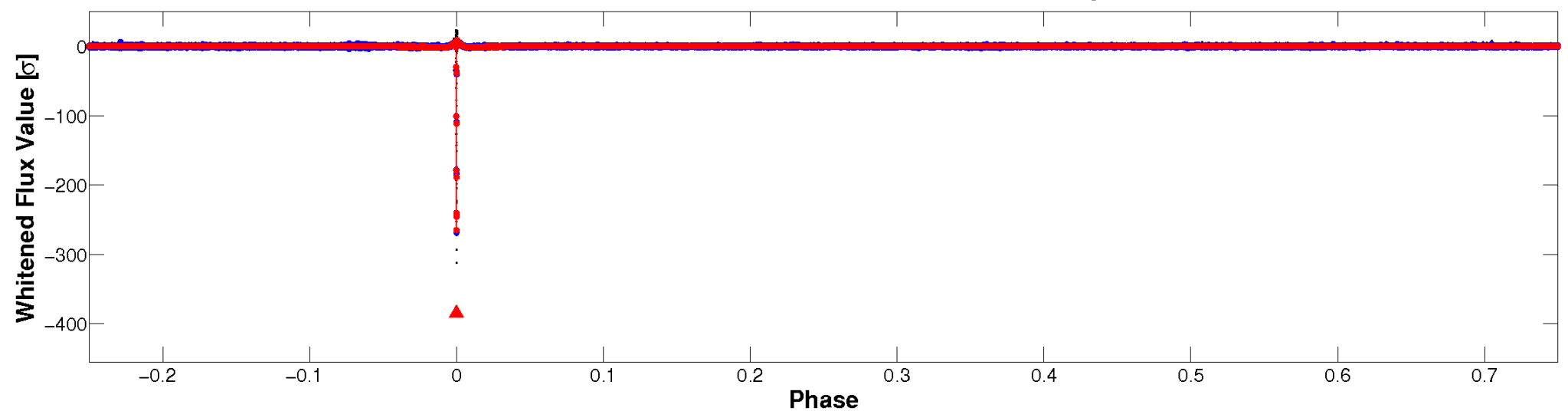


# Non-Whitened Vs. Whitened Light Curve

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

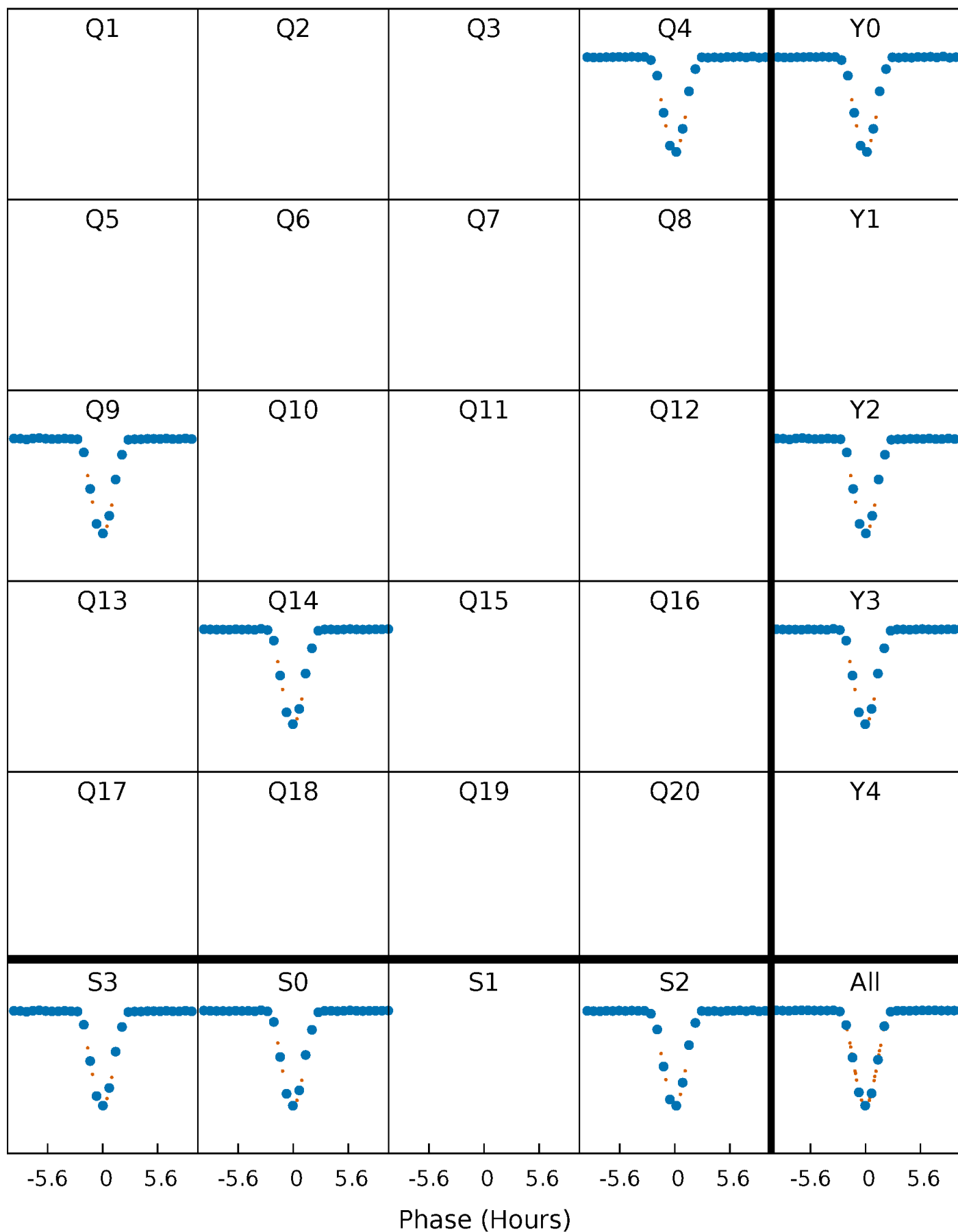


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

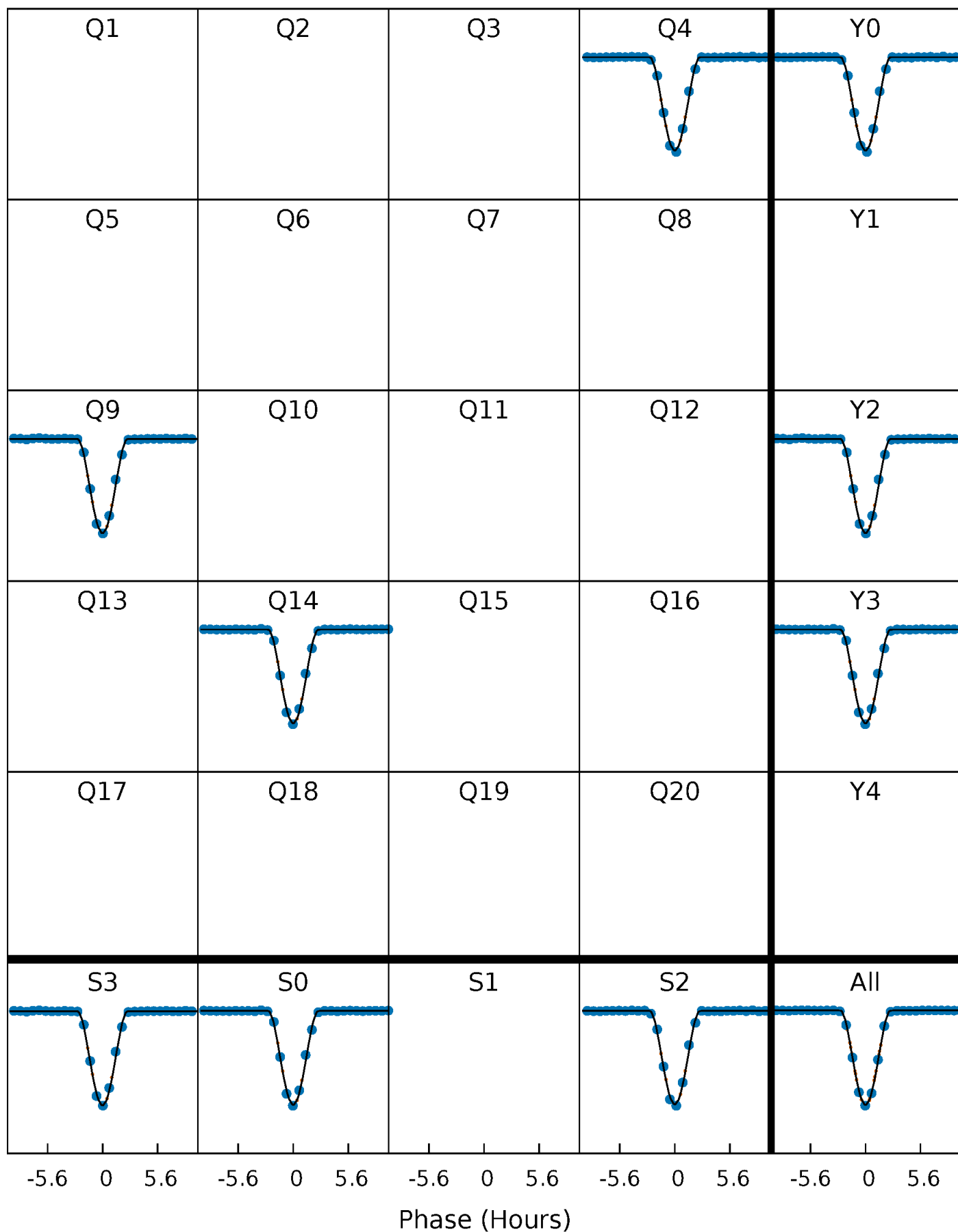
TCE 007674050-01 P=472.226621 Days  $T_0=363.713934$  (BKJD)





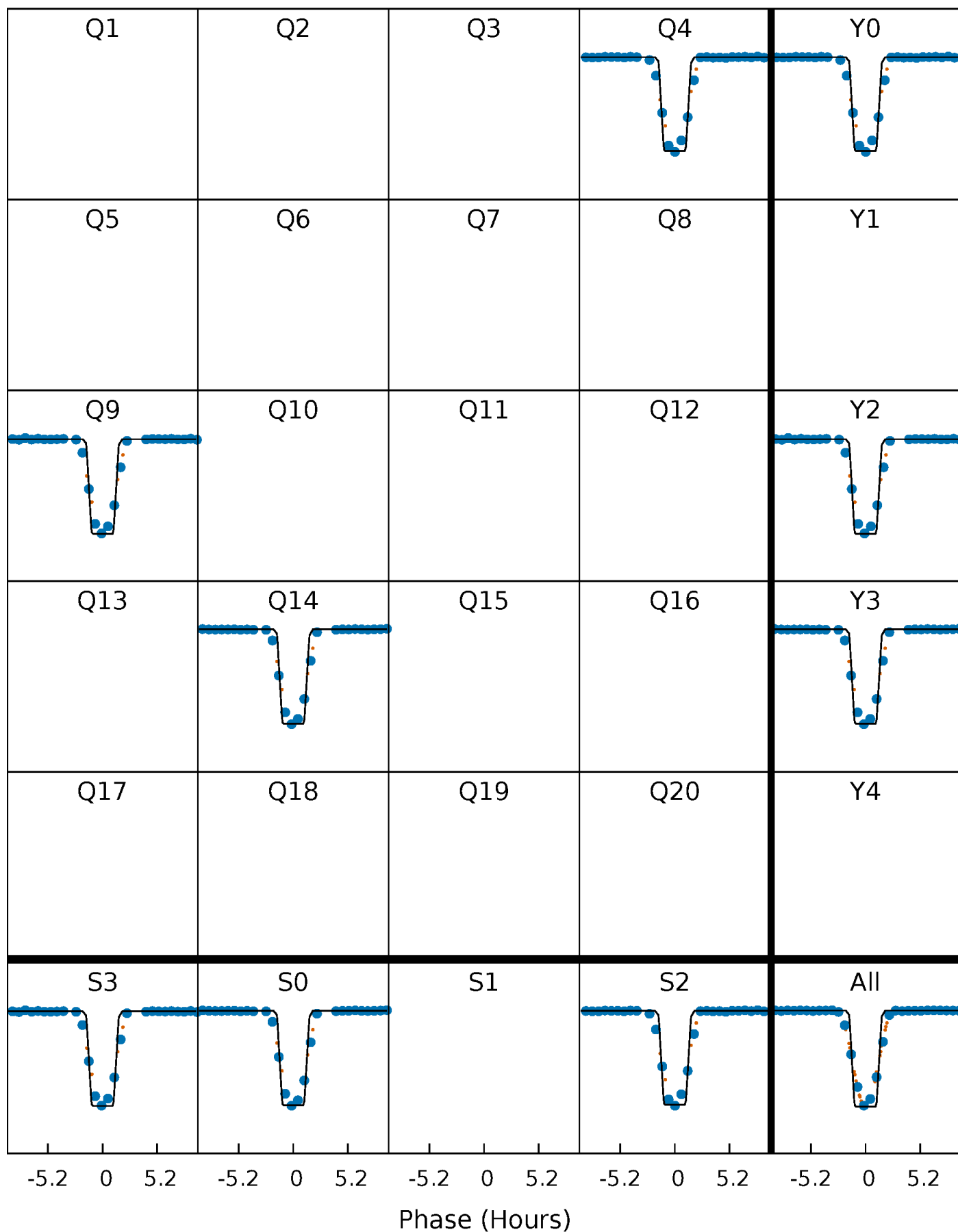
# DV Quarter-Phased Transit Curves

TCE 007674050-01 P=472.226621 Days  $T_0=363.713934$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

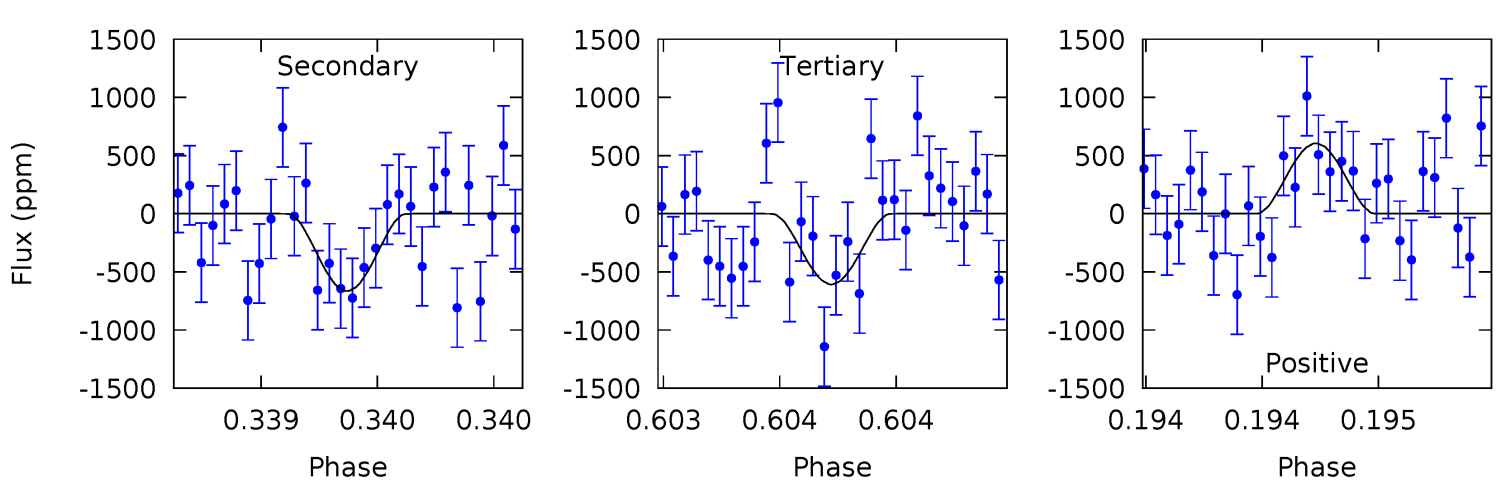
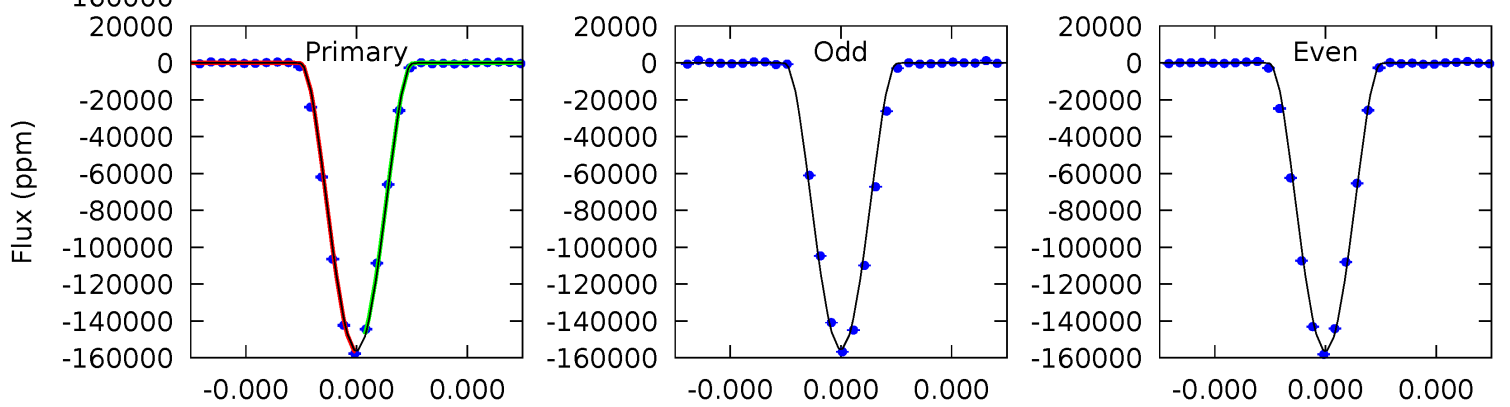
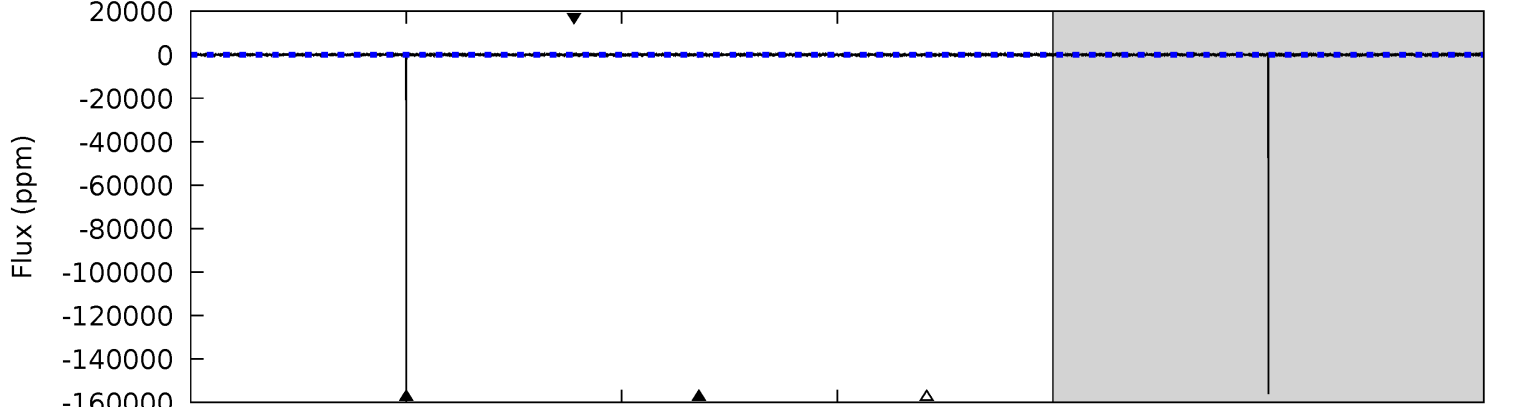
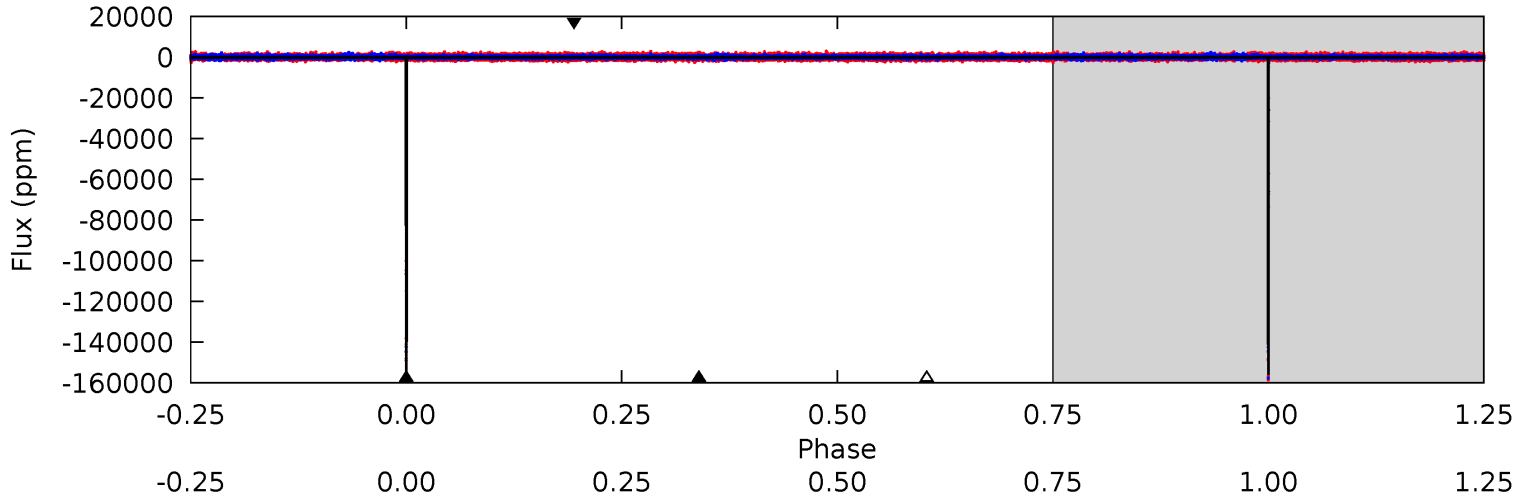
TCE 007674050-01 P=472.226383 Days  $T_0=363.713775$  (BKJD)



# DV Model-Shift Uniqueness Test

007674050-01, P = 472.226621 Days, E = 363.713934 Days

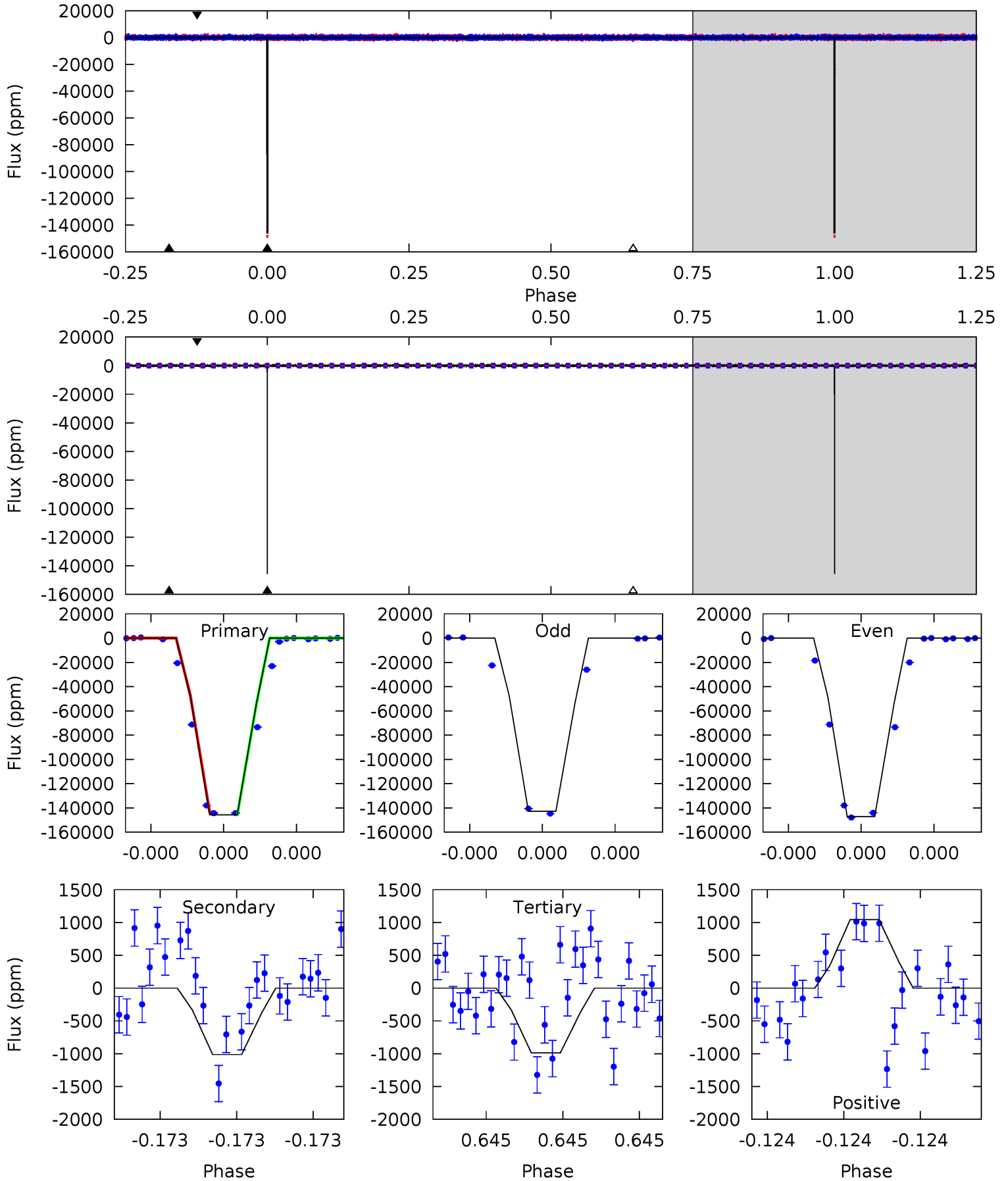
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1406	5.99	5.47	5.46	5.59	3.51	1.54	1401	1401	0.51	0.53	4.02	1.00	0.00	42.7



# Alt Model-Shift Uniqueness Test

007674050-01, P = 472.226383 Days, E = 363.713775 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
681.1	4.73	4.62	4.87	5.68	3.64	1.13	676.5	676.2	0.11	-0.14	8.98	1.00	0.01	0



### Stellar Parameters For KIC 007674050

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5763^{+155}_{-172}$	$4.557^{+0.035}_{-0.184}$	$-0.200^{+0.300}_{-0.300}$	$0.842^{+0.239}_{-0.075}$	$0.937^{+0.100}_{-0.120}$	$2.209^{+0.408}_{-1.084}$
	+3%/-3%	+1%/-4%	+150%/-150%	+28%/-9%	+11%/-13%	+18%/-49%
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 007674050-01 / KOI 5412.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-665 \pm 111$	$53.77^{+31.28}_{-30.06}$	$310^{+20}_{-13}$	$2189^{+477}_{-210}$	$163^{+657}_{-97}$
Alt.	$-1012 \pm 214$	$42.52^{+32.68}_{-25.77}$	$309^{+20}_{-13}$	$2418^{+682}_{-293}$	$395^{+2072}_{-272}$

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

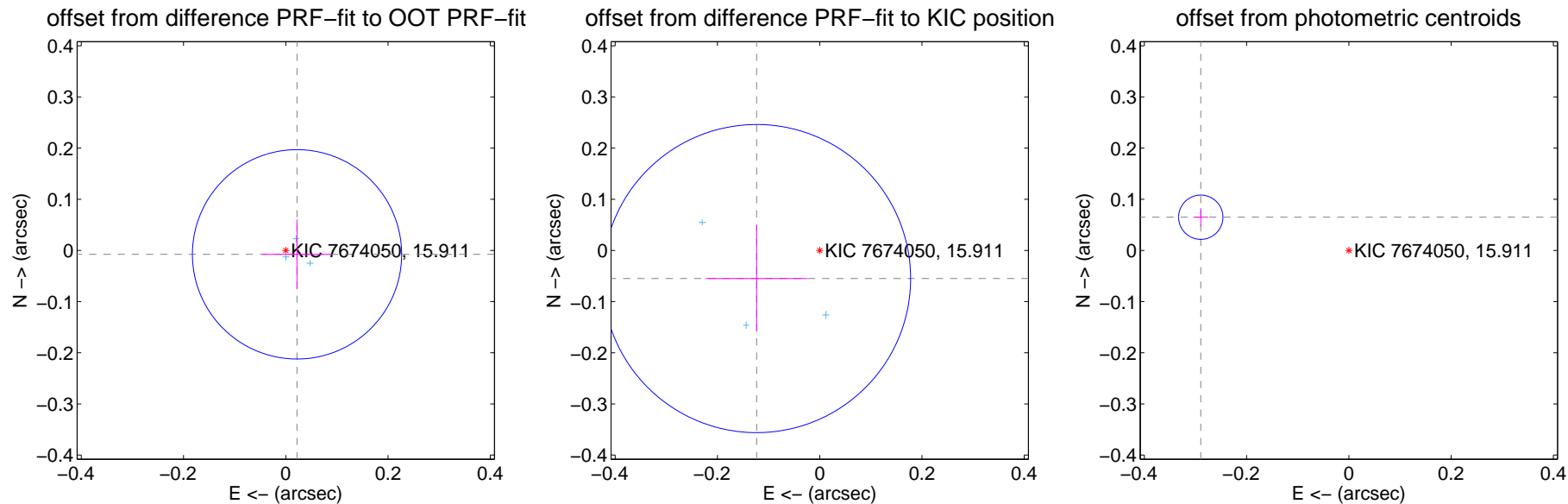
## DV Centroid Data

Supplemental centroid analysis for 007674050-01. Kepler magnitude: 15.91. Transit SNR 700.97

There are 3 quarters with good PRF difference image offsets

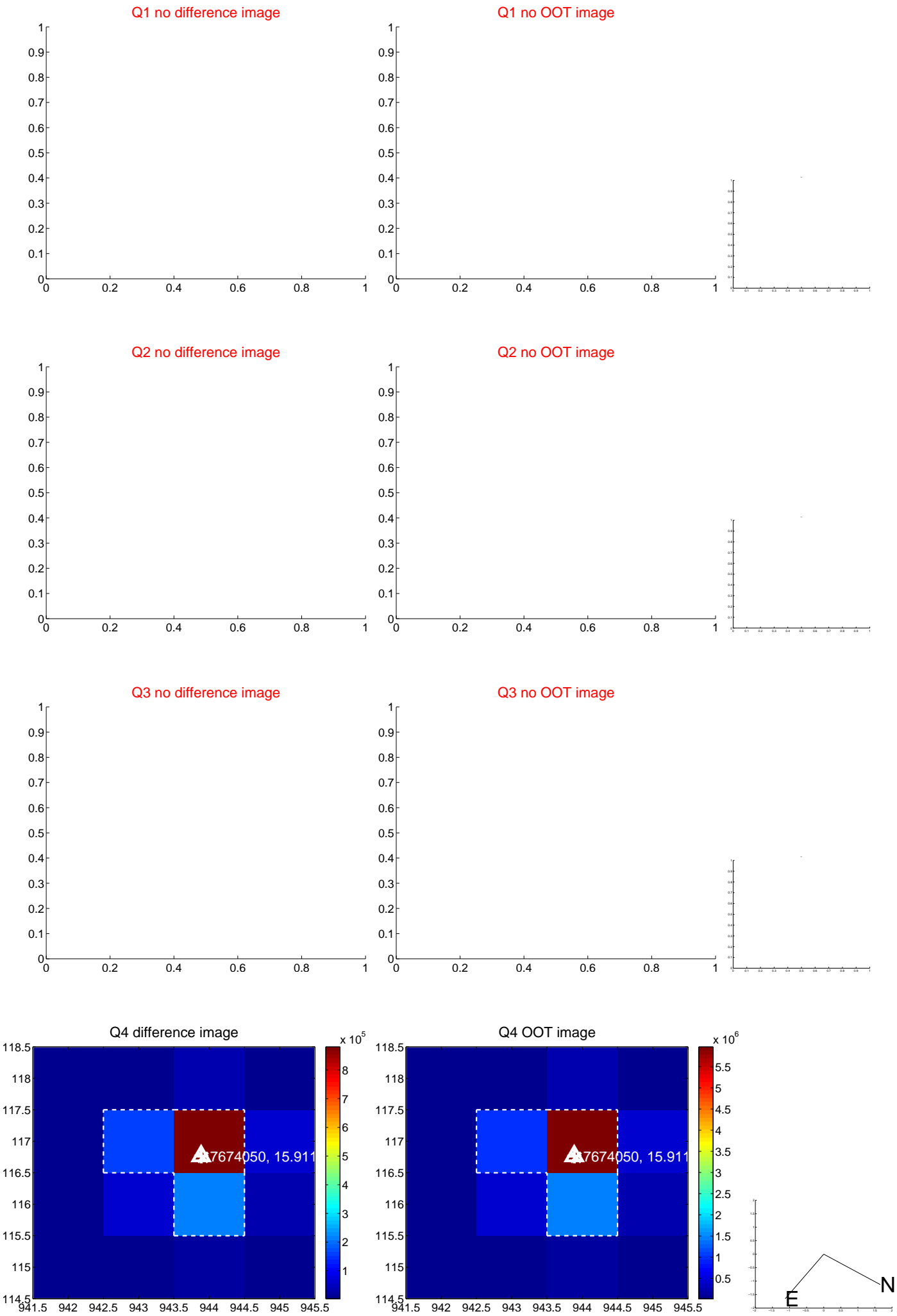
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.023 \pm 0.068$	0.34	$-0.022 \pm 0.068$	$-0.008 \pm 0.068$
PRF-fit source offset from KIC position	$0.135 \pm 0.100$	1.34	$0.123 \pm 0.100$	$-0.055 \pm 0.104$
photometric centroid source offset	$0.30 \pm 0.01$	20.56	$0.29 \pm 0.01$	$0.06 \pm 0.02$



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.

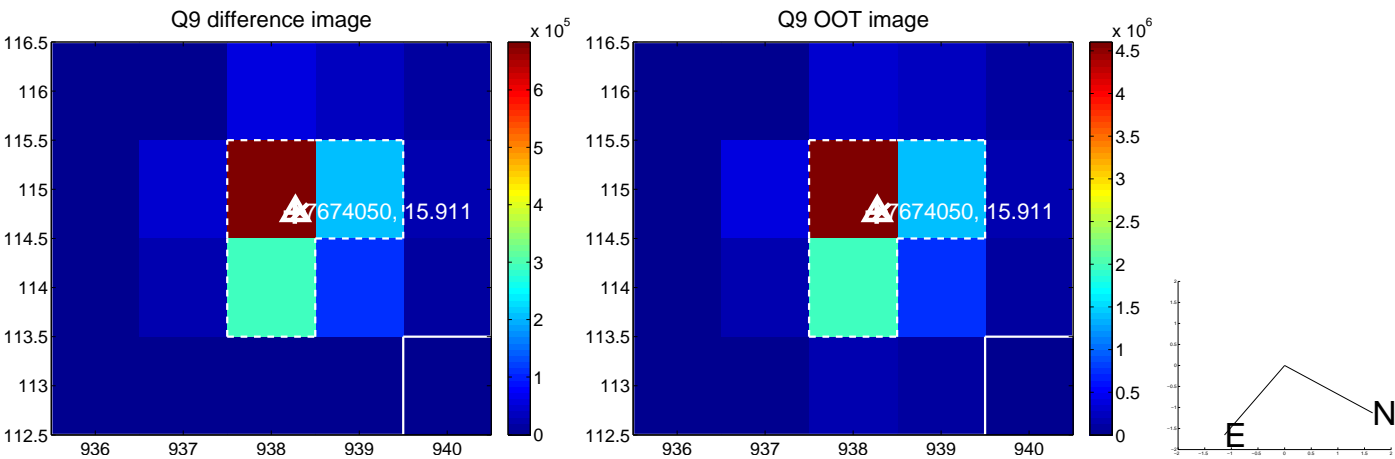


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

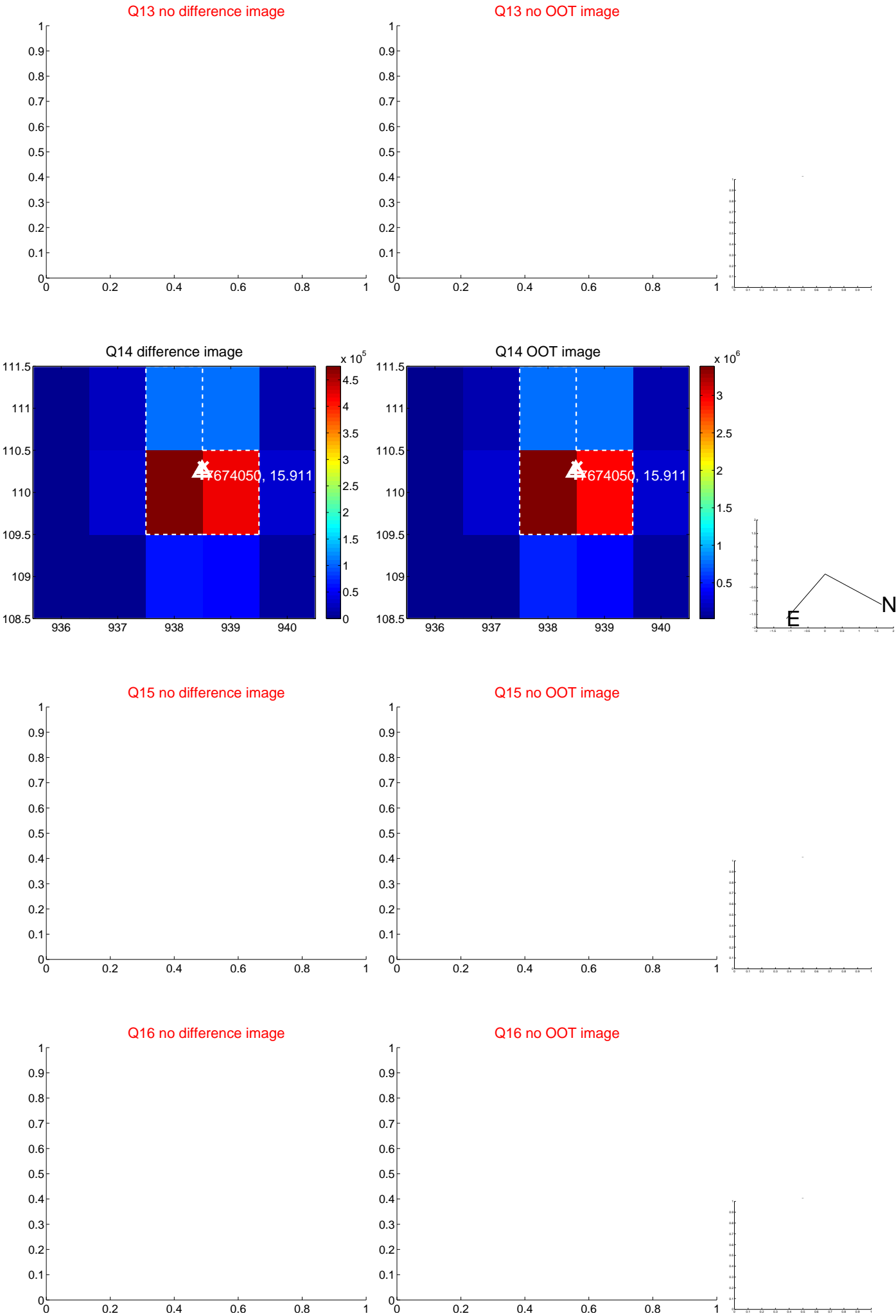




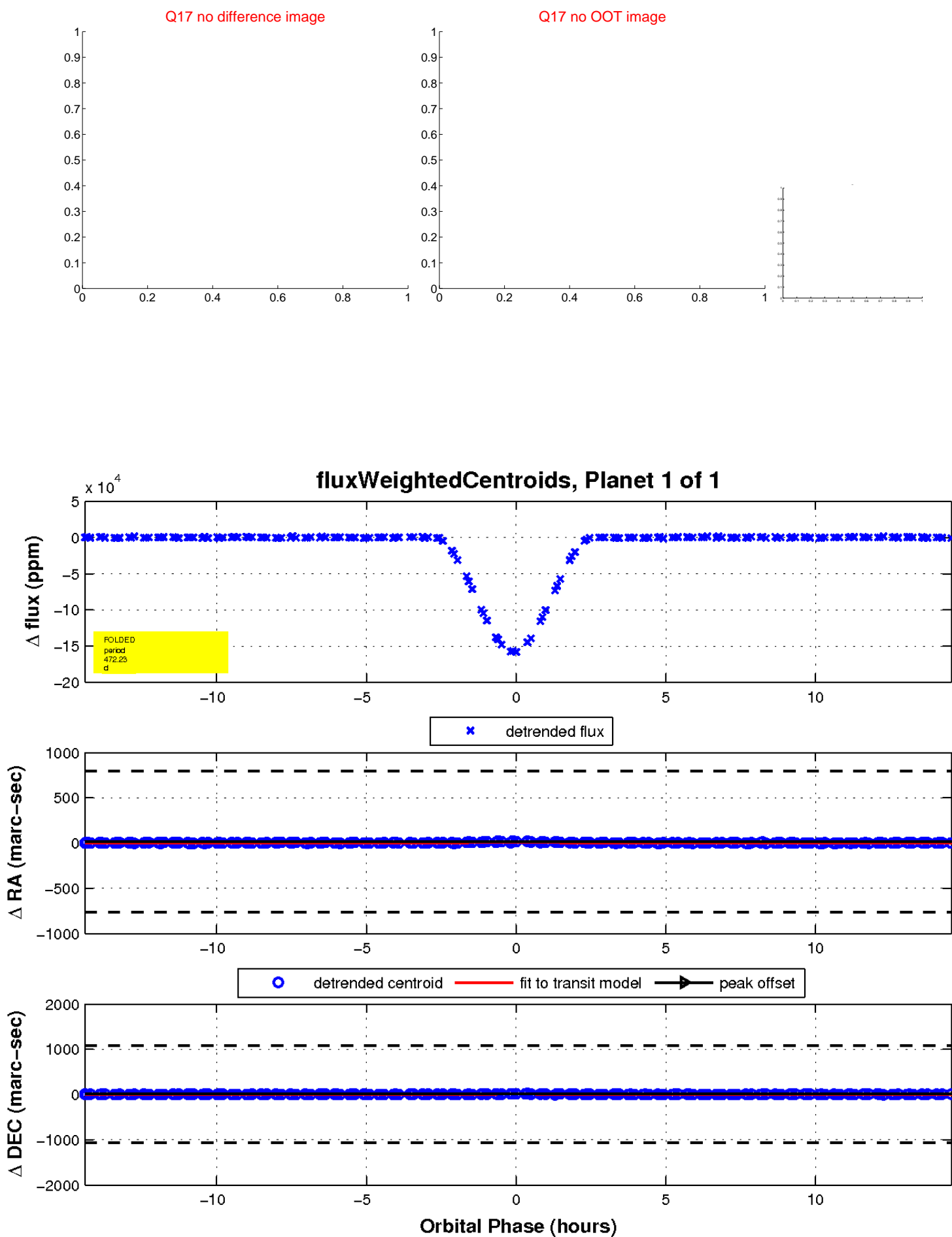
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

