

# KIC 006191945

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006191945-01	OBS	6024.01	6.807414	135.522871	14674.2	1.969	266.3	243.3	1.82	5182	40.93	422.27

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006191945-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—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.

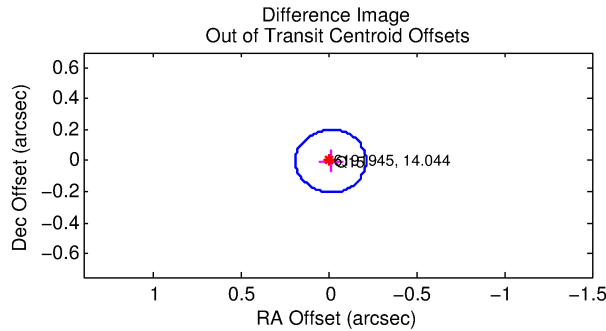
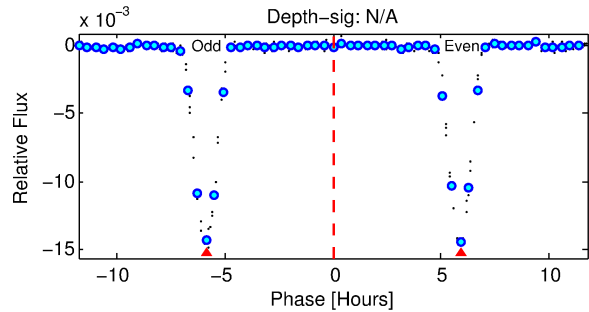
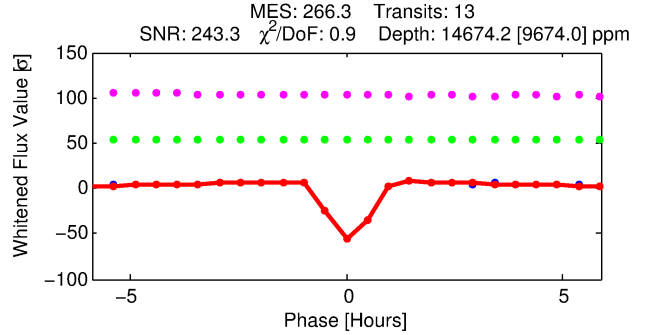
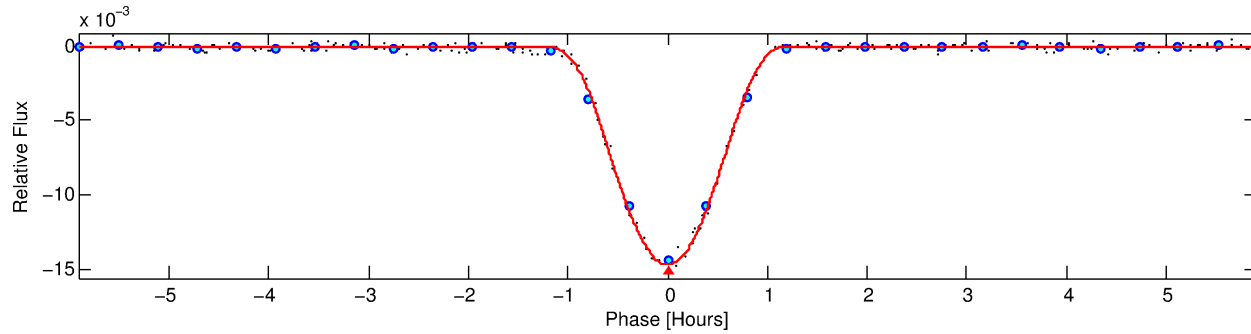
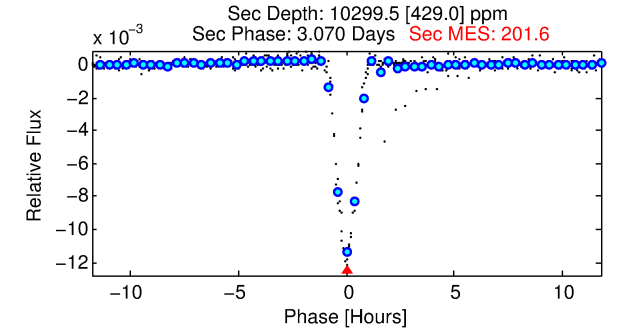
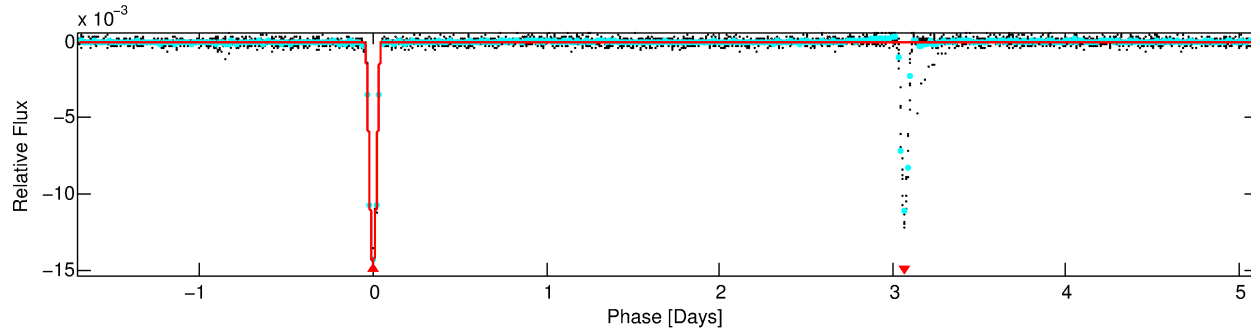
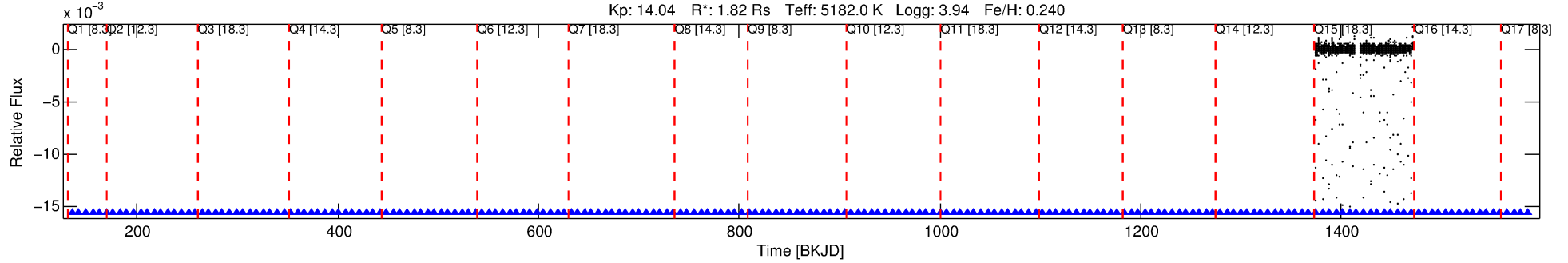
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006191945-01

No Significant Match Found

# DV One-Page Summary

KIC: 6191945 Candidate: 1 of 1 Period: 6.807 d  
KOI: K06024.01 Corr: 0.867



## DV Fit Results:

Period = 6.80741 [0.00000] d  
Epoch = 135.5229 [0.0004] BKJD  
Rp/R\* = 0.2056 [0.0788]  
a/R\* = 17.82 [0.80]  
b = 1.00 [0.19]  
Seff = 422.27 [419.16]  
Teff = 1156 [287] K  
Rp = 40.93 [26.94] Re  
a = 0.0713 [0.0413] AU  
Ag = 17.22 [21.44] [0.76σ]  
Teffp = 3640 [713] K [3.23σ]

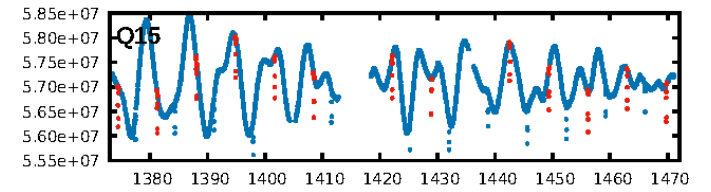
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 44.5%  
ModelChiSquareGof-sig: 94.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [13/13]  
GhostDiagnostic-chr: 3.307  
Centroid-sig: 7.5%  
Centroid-so: 0.275 arcsec [7.14σ]  
OotOffset-rm: 0.011 arcsec [0.16σ]  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-rm: 0.143 arcsec [2.13σ]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [1/1]

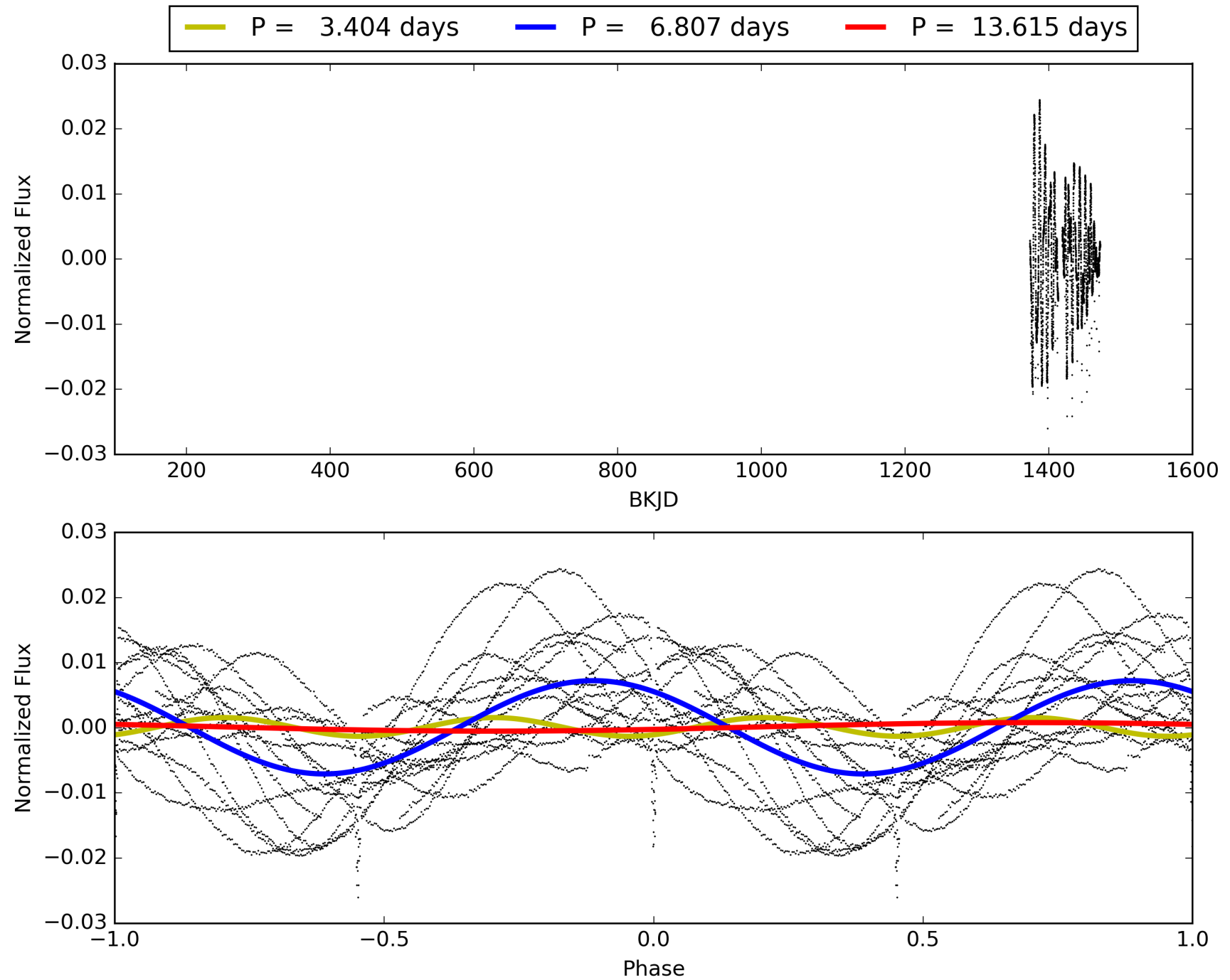
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:07:53 Z

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

# TCE 006191945-01, PDC Light Curves

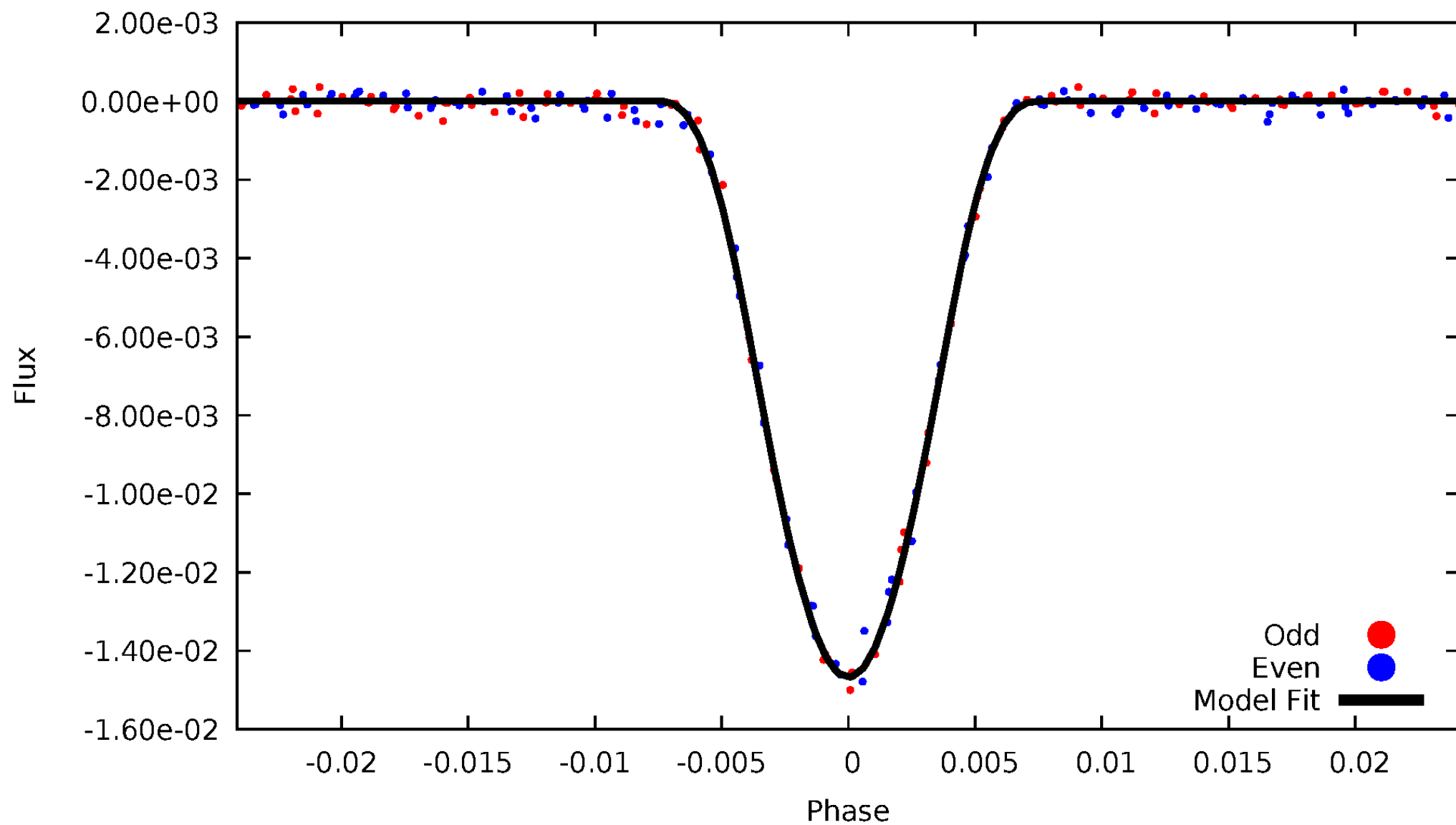


# TCE 006191945-01



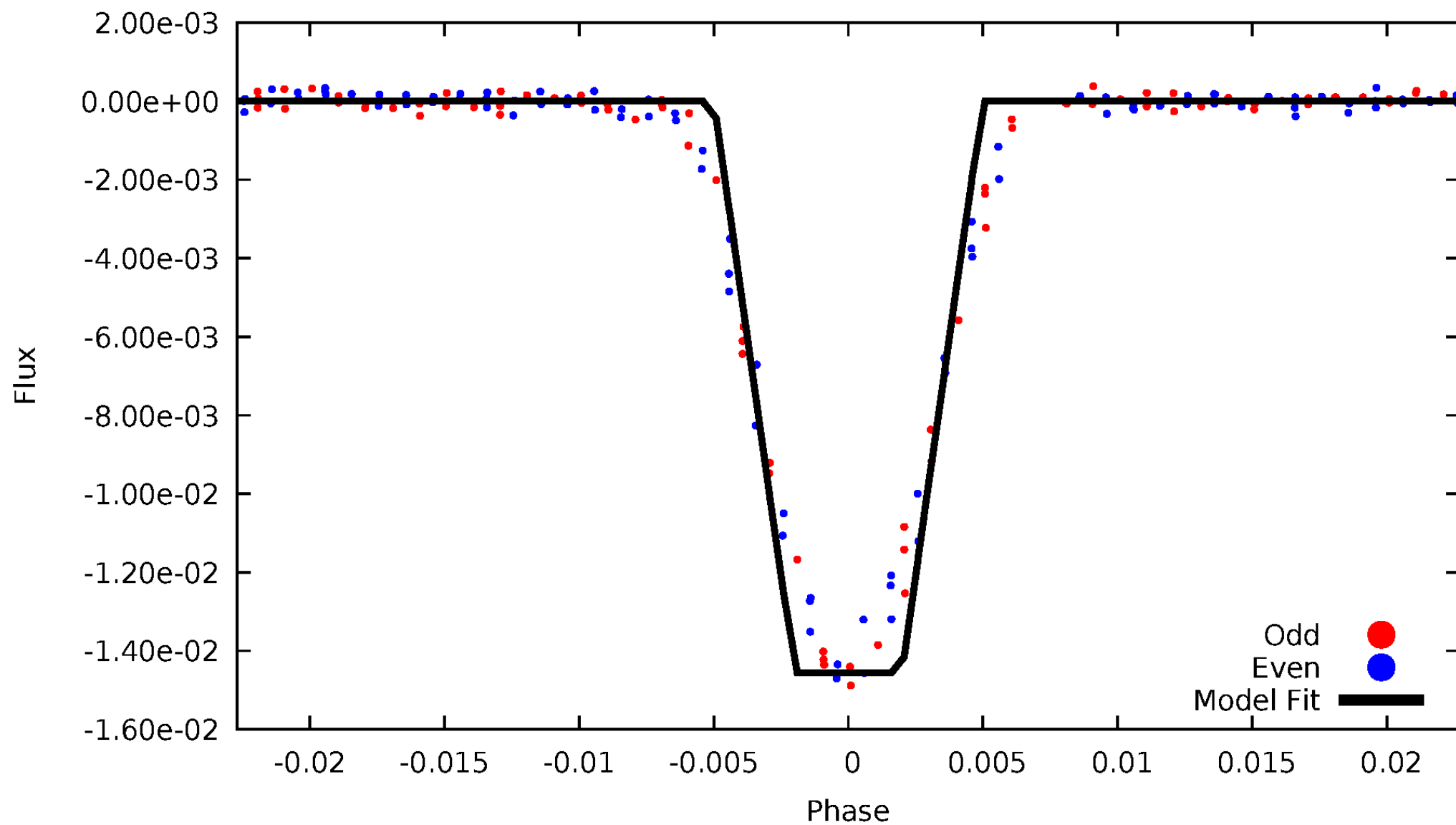
# DV Odd/Even

TCE 006191945-01



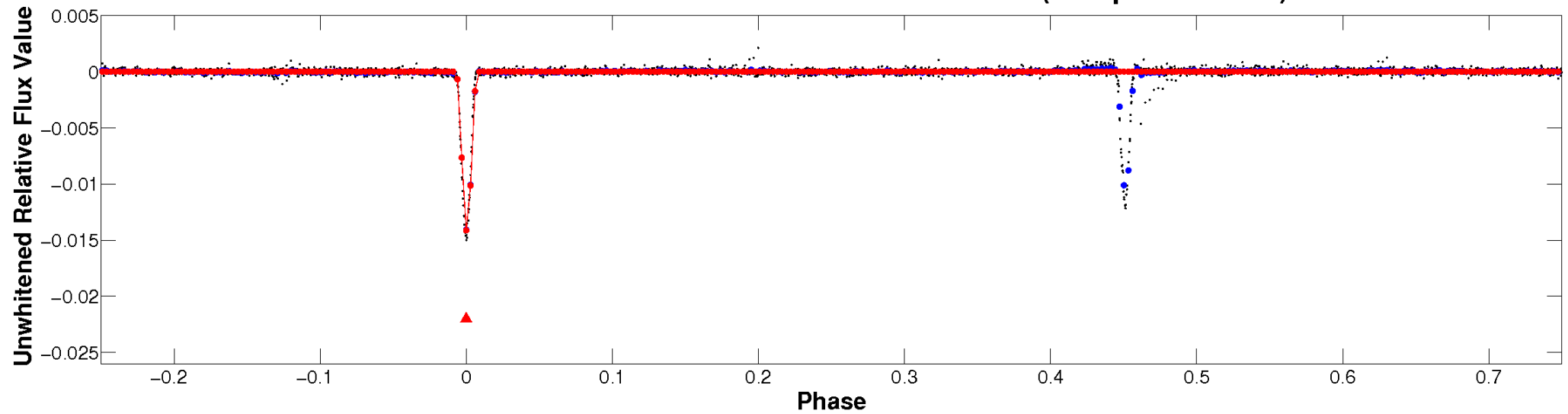
# ALT Odd/Even

TCE 006191945-01

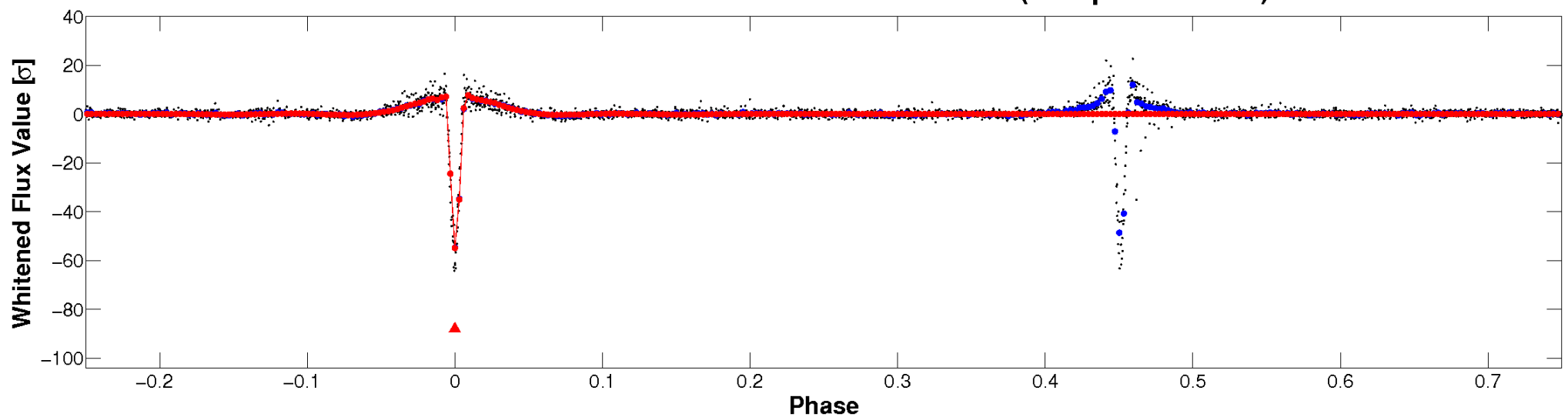


# Non-Whitened Vs. Whitened Light Curve

## 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

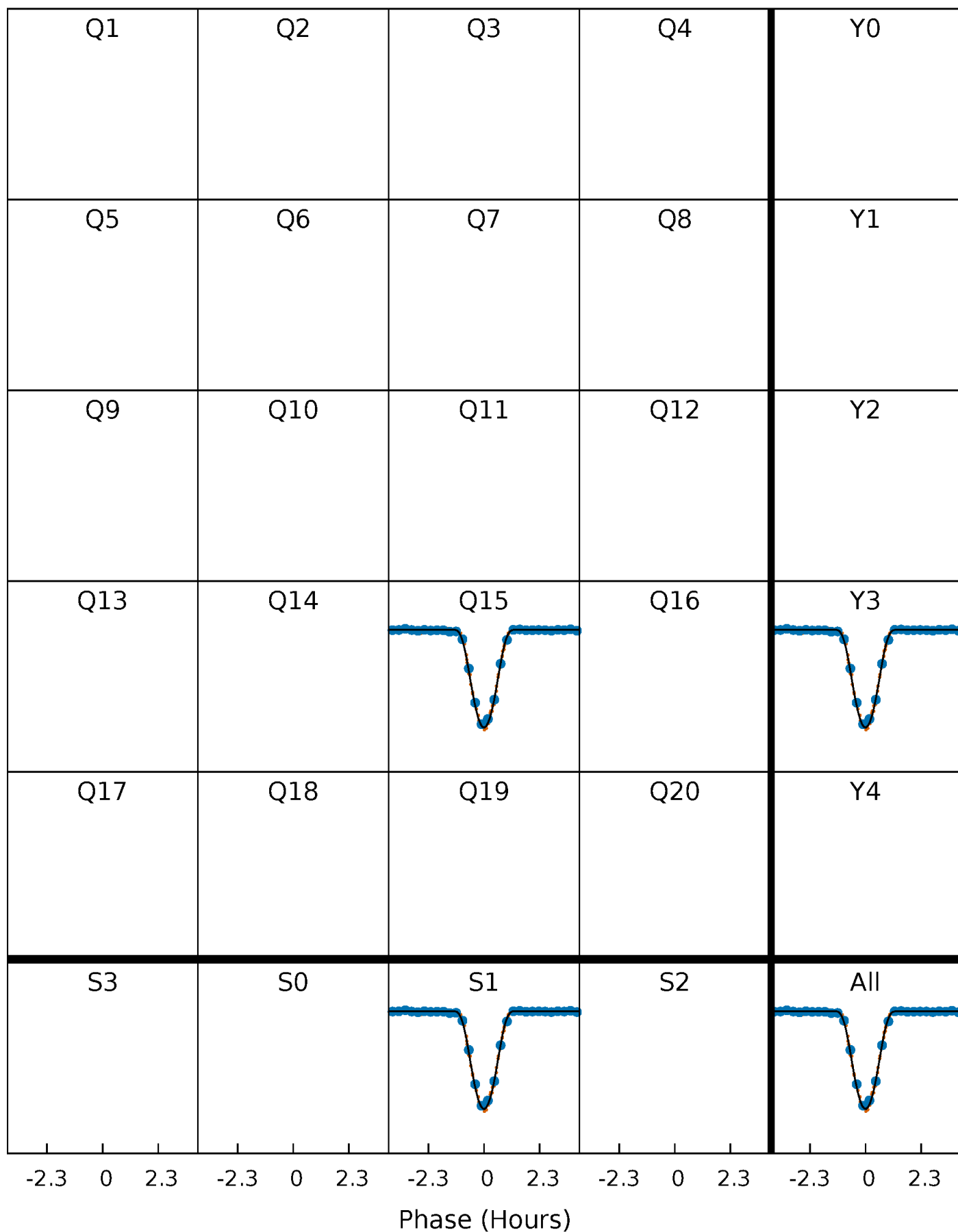
TCE 006191945-01 P= 6.807414 Days  $T_0=135.522871$  (BKJD)





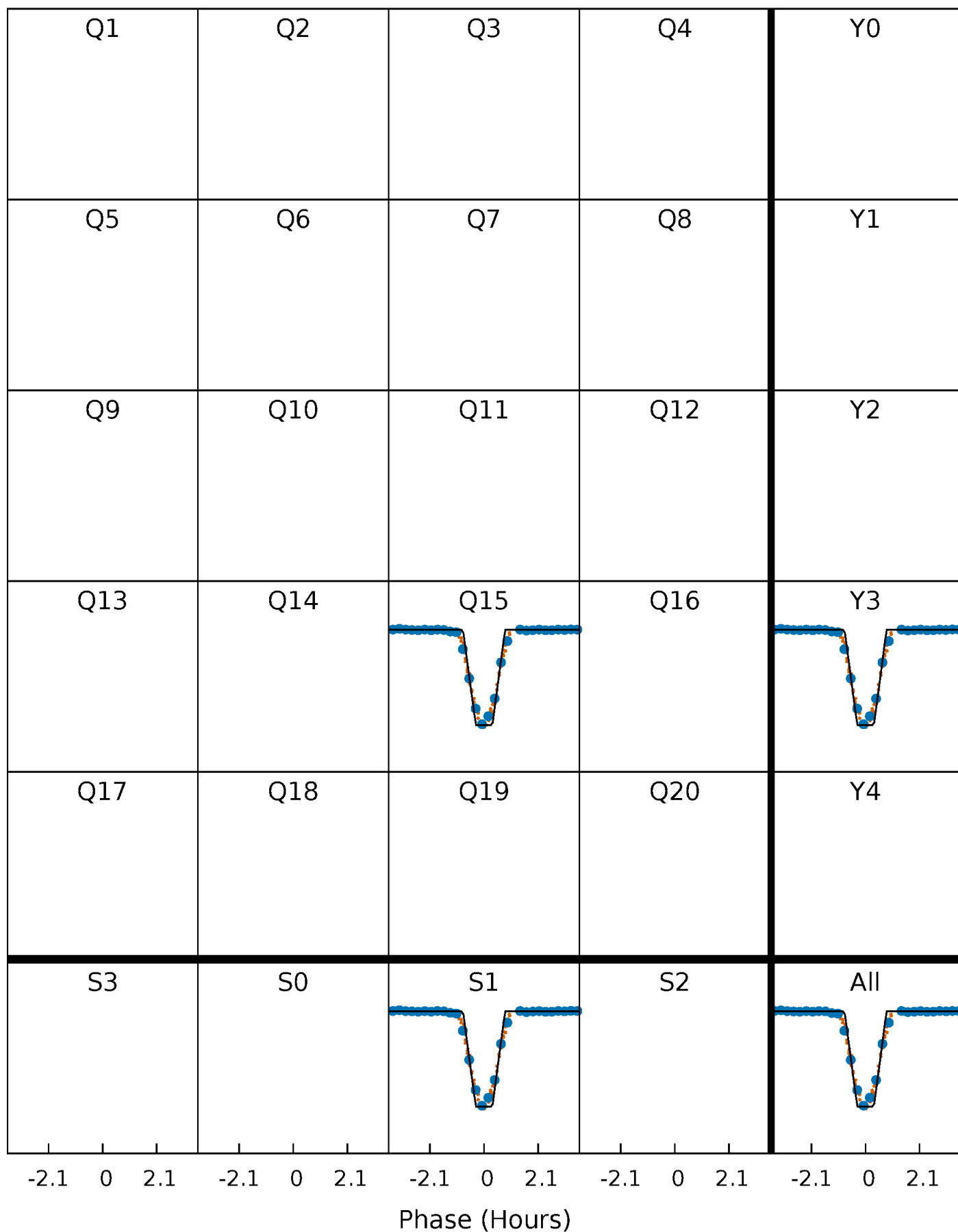
# DV Quarter-Phased Transit Curves

TCE 006191945-01   P= 6.807414 Days    $T_0=135.522871$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

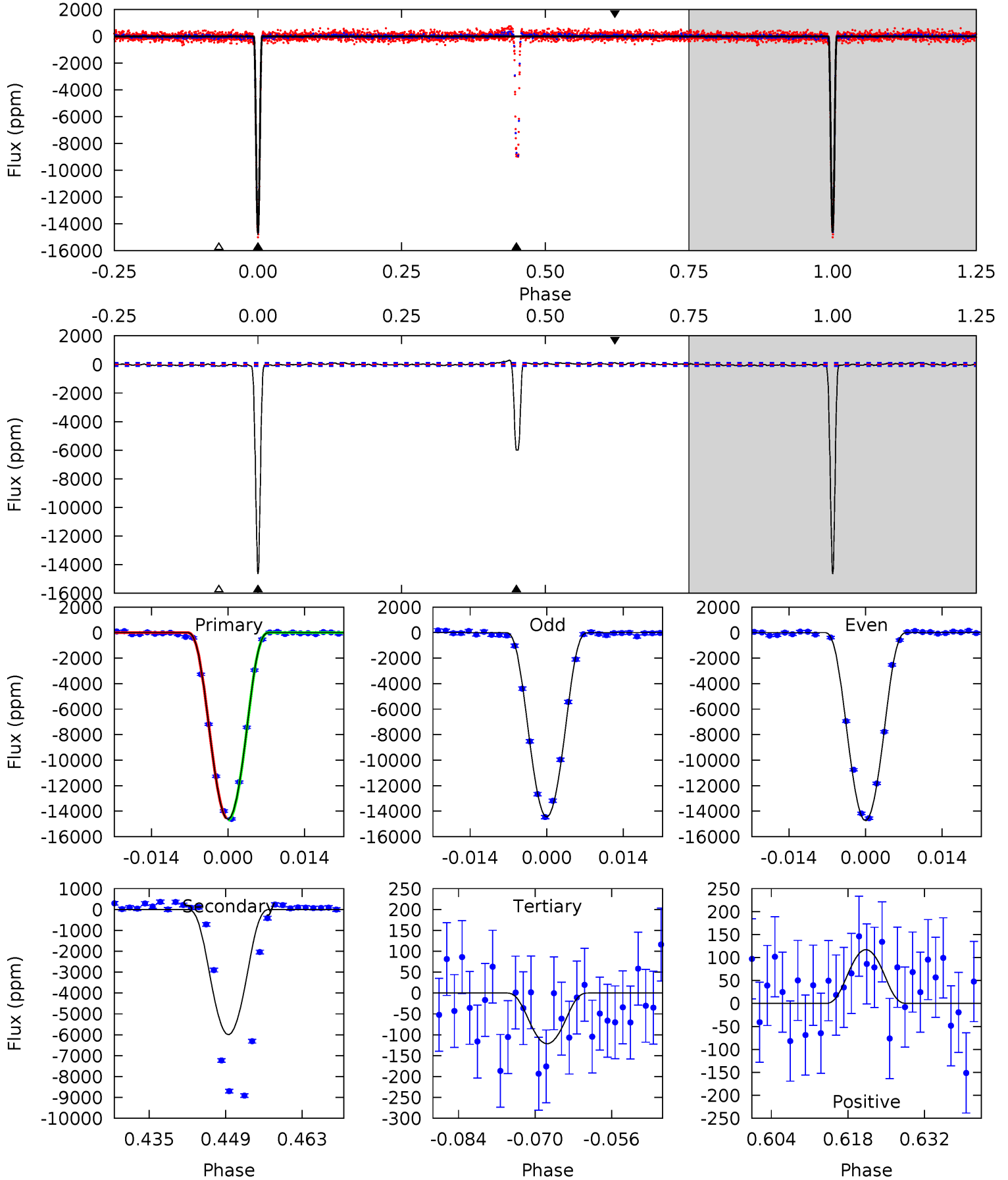
TCE 006191945-01   P= 6.807526 Days    $T_0=135.501756$  (BKJD)



# DV Model-Shift Uniqueness Test

006191945-01, P = 6.807414 Days, E = 135.522871 Days

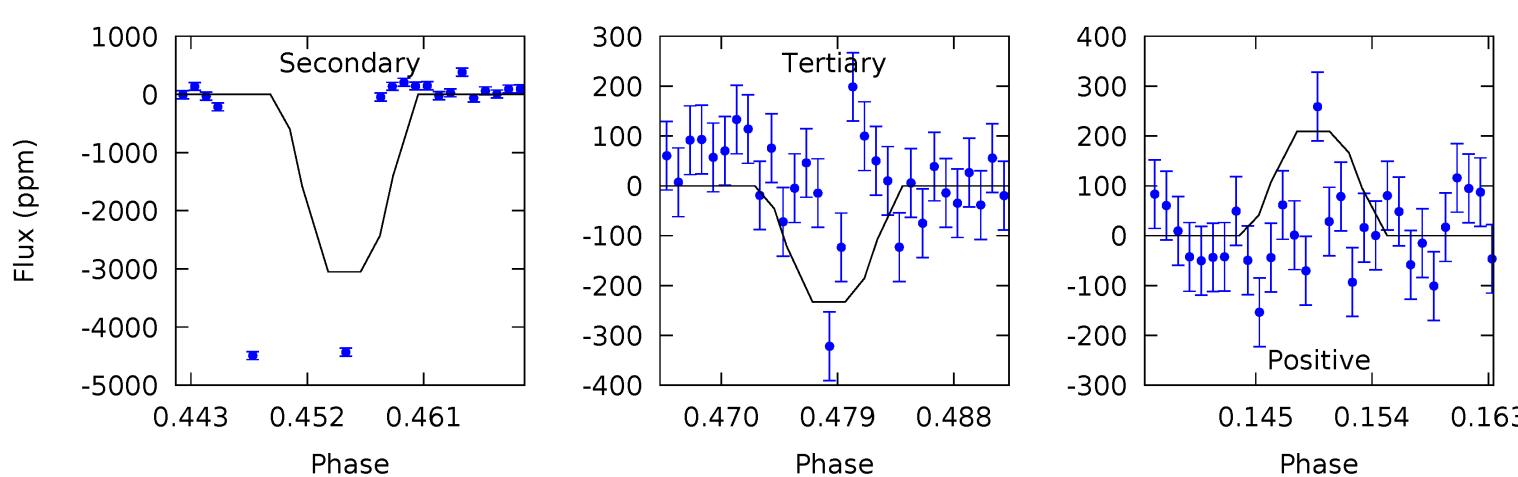
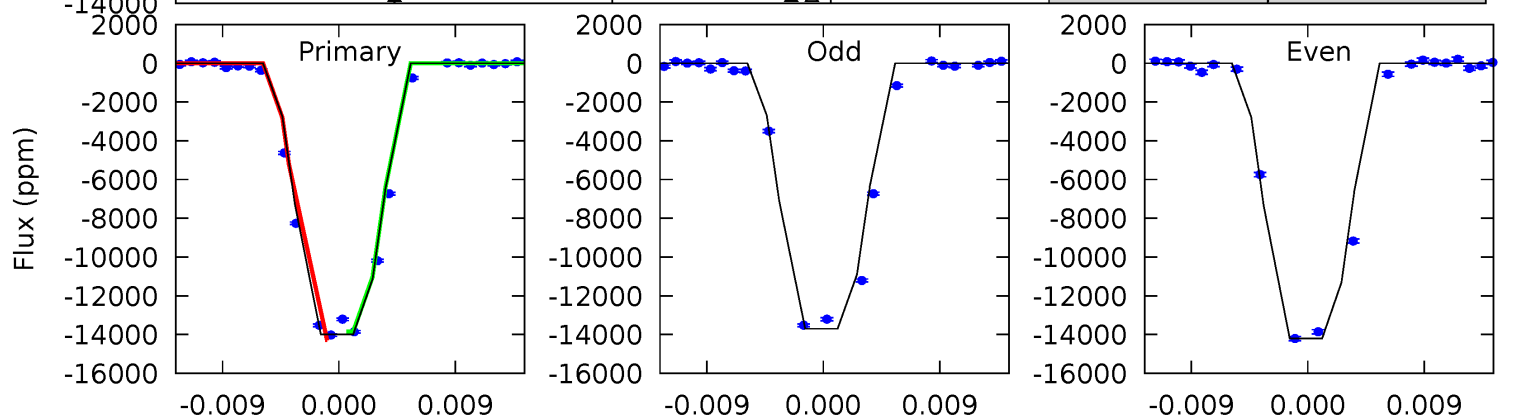
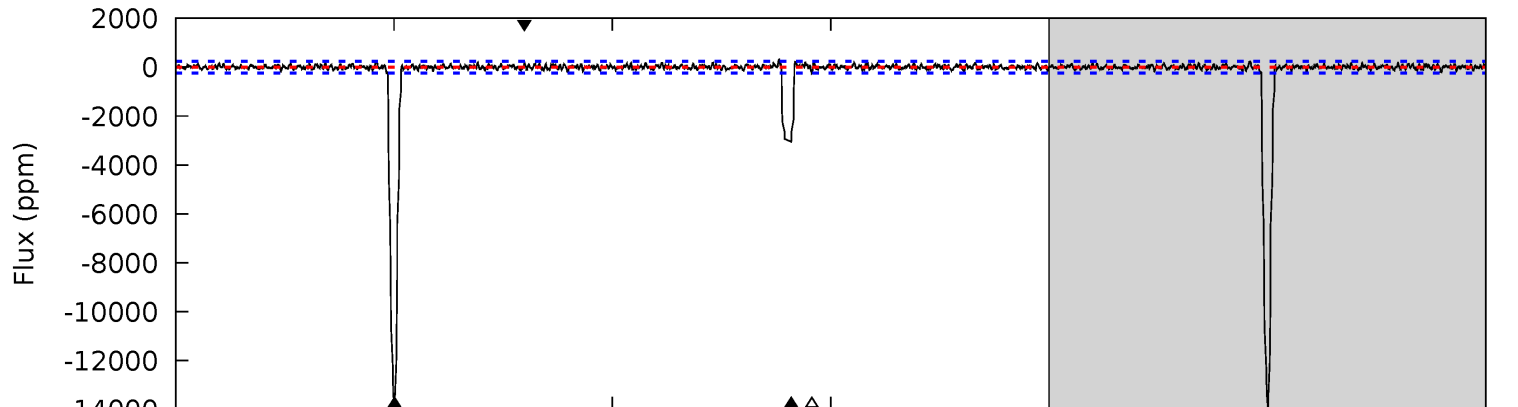
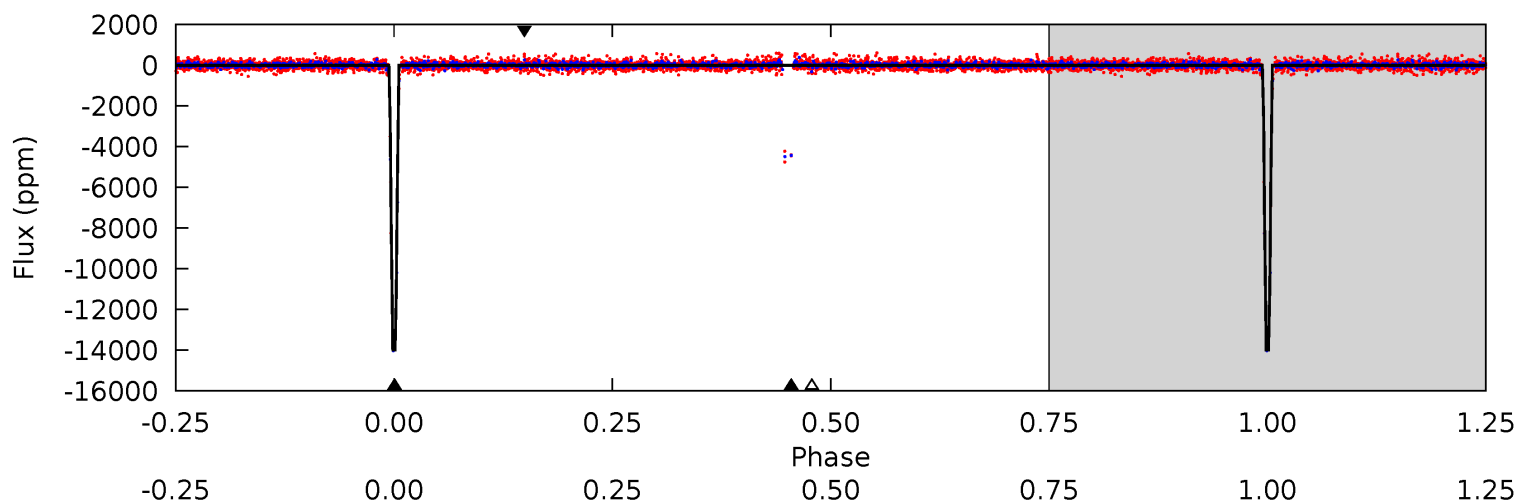
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
619.3	253.5	5.14	4.95	4.96	2.46	2.28	614.2	614.3	248.4	248.6	6.25	1.00	0.02	1.19



# Alt Model-Shift Uniqueness Test

006191945-01, P = 6.807526 Days, E = 135.501756 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
294.8	64.3	4.91	4.41	5.05	2.61	1.75	289.9	290.4	59.4	59.9	5.50	1.02	0.02	0



### Stellar Parameters For KIC 006191945

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5182^{+200}_{-182}$	$3.935^{+0.595}_{-0.255}$	$0.240^{+0.200}_{-0.250}$	$1.824^{+0.799}_{-0.976}$	$1.043^{+0.181}_{-0.181}$	$0.242^{+1.700}_{-0.158}$
	+4%/-4%	+15%/-6%	+83%/-104%	+44%/-54%	+17%/-17%	+702%/-65%
Source	KIC0	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 006191945-01 / KOI 6024.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-5994 \pm 24$	$38.00^{+20.92}_{-17.04}$	$1588^{+187}_{-231}$	$3577^{+628}_{-374}$	$12^{+26}_{-7}$
Alt.	$-3049 \pm 47$	$22.95^{+18.13}_{-13.29}$	$1606^{+191}_{-257}$	$3772^{+1438}_{-576}$	$16^{+73}_{-11}$

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

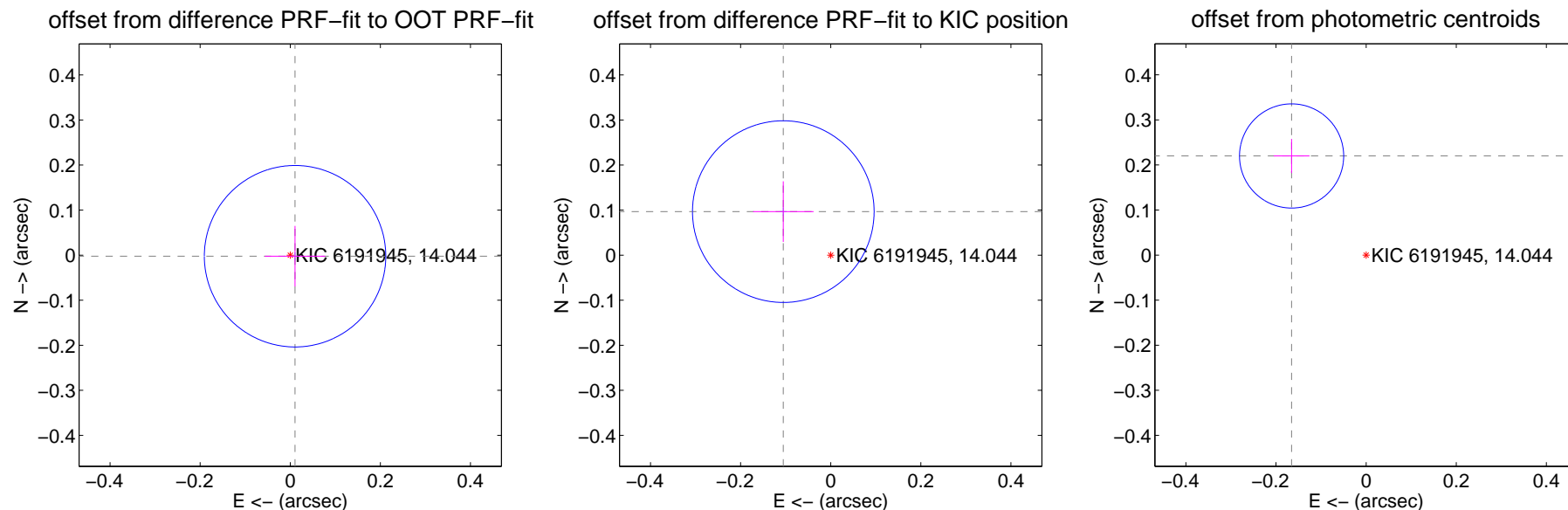
## DV Centroid Data

Supplemental centroid analysis for 006191945-01. Kepler magnitude: 14.04. Transit SNR 243.29

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.011 \pm 0.067$	0.16	$-0.011 \pm 0.067$	$-0.002 \pm 0.067$
PRF-fit source offset from KIC position	$0.143 \pm 0.067$	2.13	$0.105 \pm 0.067$	$0.097 \pm 0.067$
photometric centroid source offset	$0.28 \pm 0.04$	7.14	$0.17 \pm 0.04$	$0.22 \pm 0.04$



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.

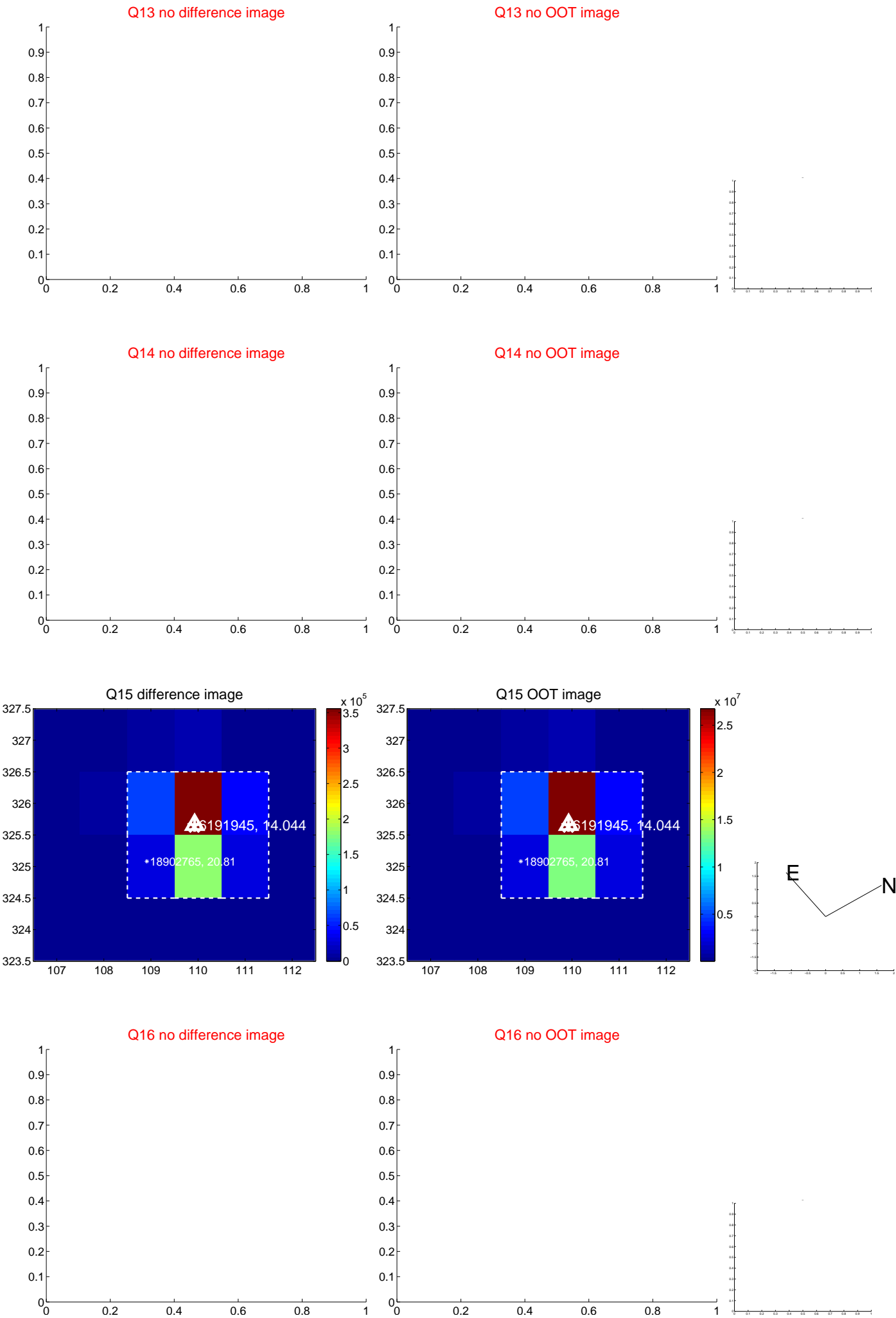




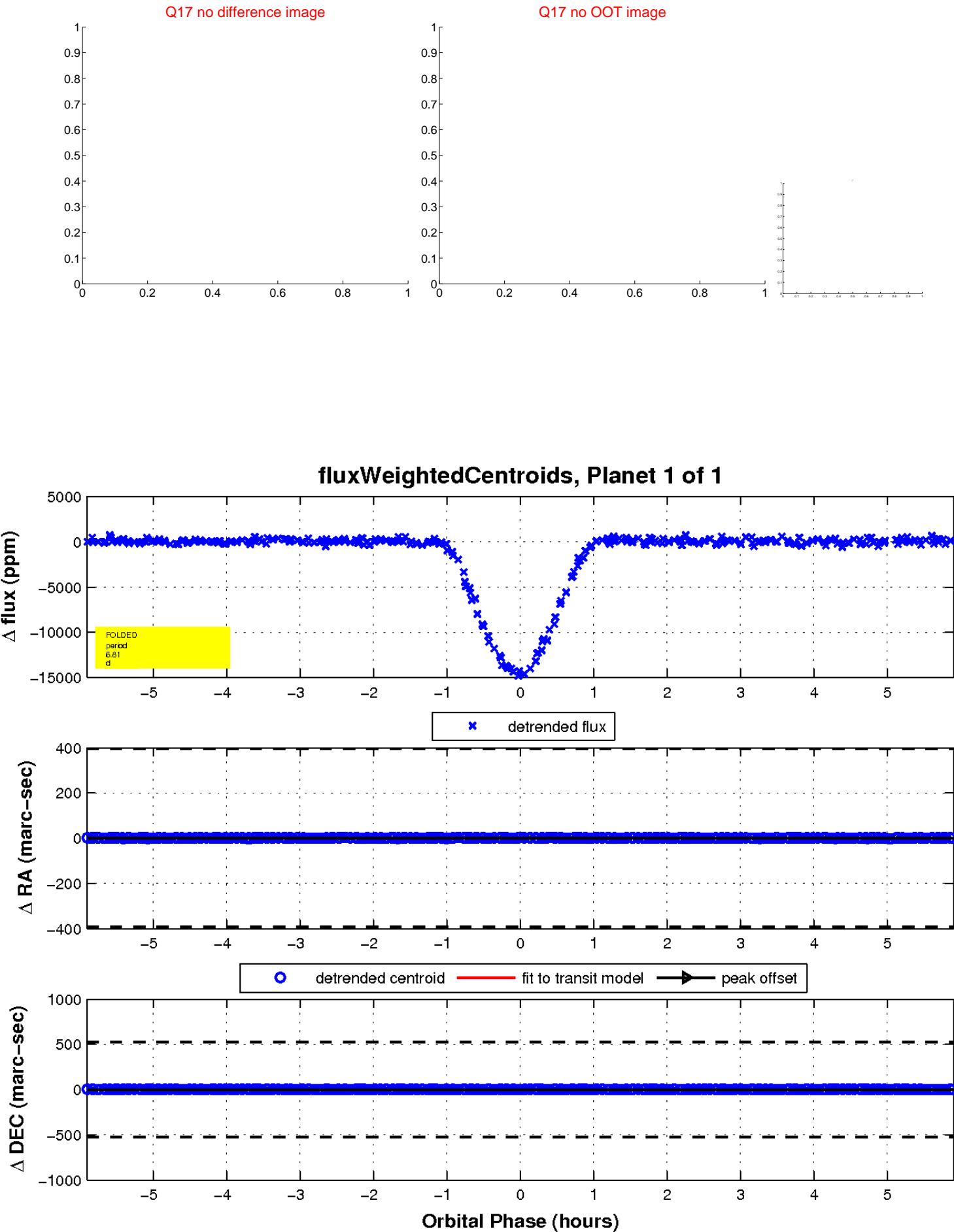
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

