

# KIC 004367544

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004367544-01	OBS	6407.01	1.195641	131.544234	9698.4	5.389	327.7	256.0	1.41	5583	16.52	3701.05

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004367544-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—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.

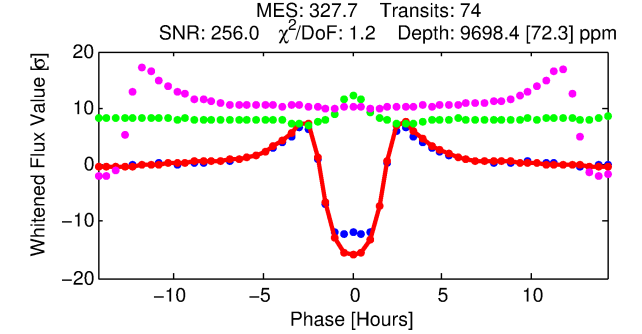
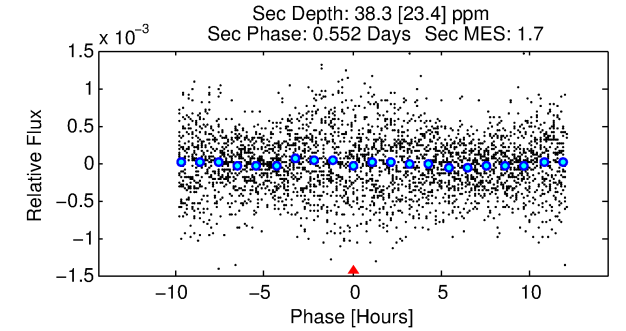
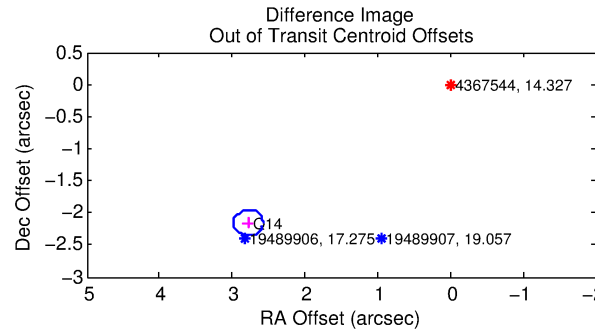
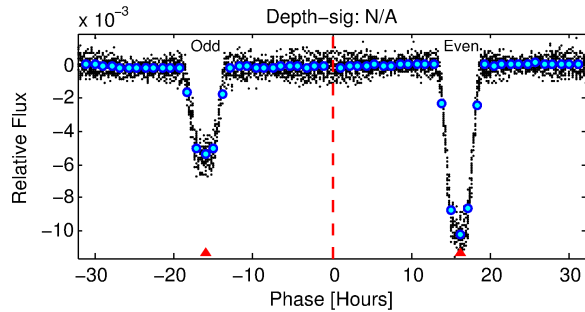
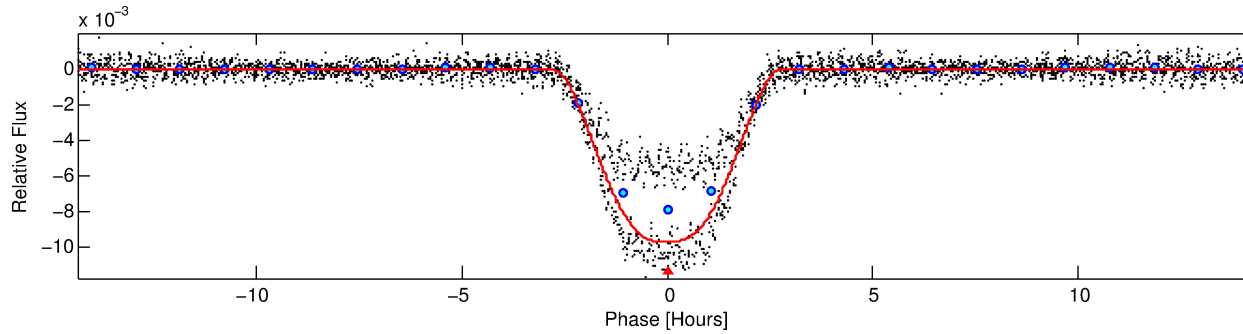
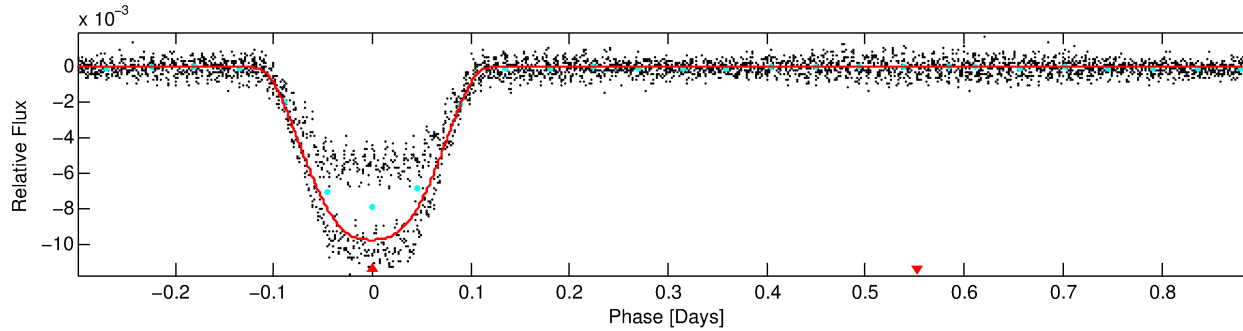
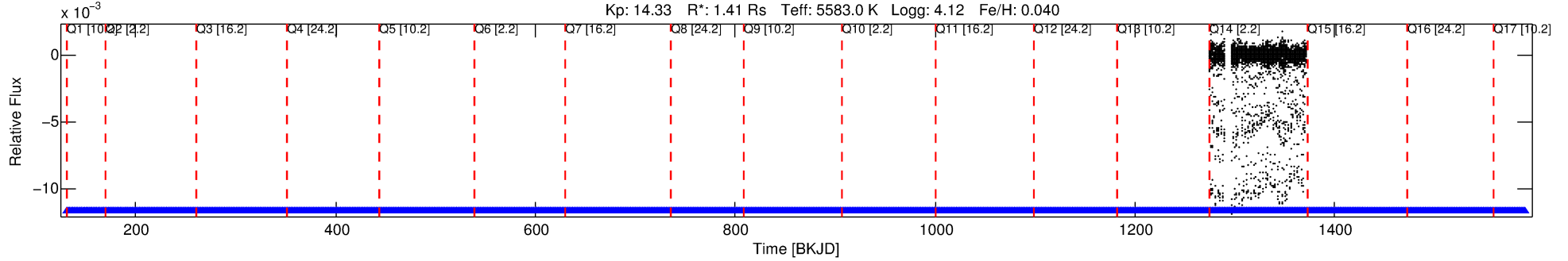
## Ephemeris Match Information For 004367544-01

No Significant Match Found

# DV One-Page Summary

KIC: 4367544 Candidate: 1 of 1 Period: 1.196 d  
KOI: K06407.01 Corr: 0.954

Kp: 14.33 R\*: 1.41 Rs Teff: 5583.0 K Logg: 4.12 Fe/H: 0.040



## DV Fit Results:

Period = 1.19564 [0.00000] d  
Epoch = 131.5442 [0.0002] BKJD  
Rp/R\* = 0.1071 [0.0005]  
a/R\* = 1.49 [0.00]  
b = 0.88 [0.00]  
Seff = 3701.05 [2247.39]  
Teff = 1989 [302] K  
Rp = 16.52 [5.58] Re  
a = 0.0217 [0.0077] AU  
Ag = 0.04 [0.03] [-31.24σ]  
Teffp = 1342 [210] K [-1.76σ]

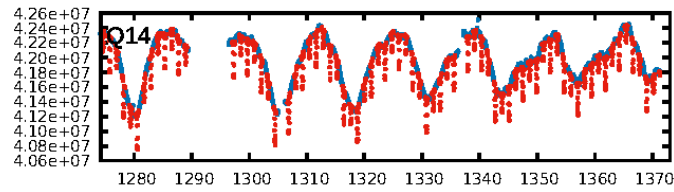
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 99.3%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [74/74]  
GhostDiagnostic-chr: 0.807  
Centroid-sig: 0.0%  
Centroid-so: 4.247 arcsec [85.04σ]  
OotOffset-rm: 3.517 arcsec [52.65σ]  
KicOffset-rm: 3.741 arcsec [56.01σ]  
OotOffset-st: 1/0/0/0 [1]  
KicOffset-st: 1/0/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [1/1]

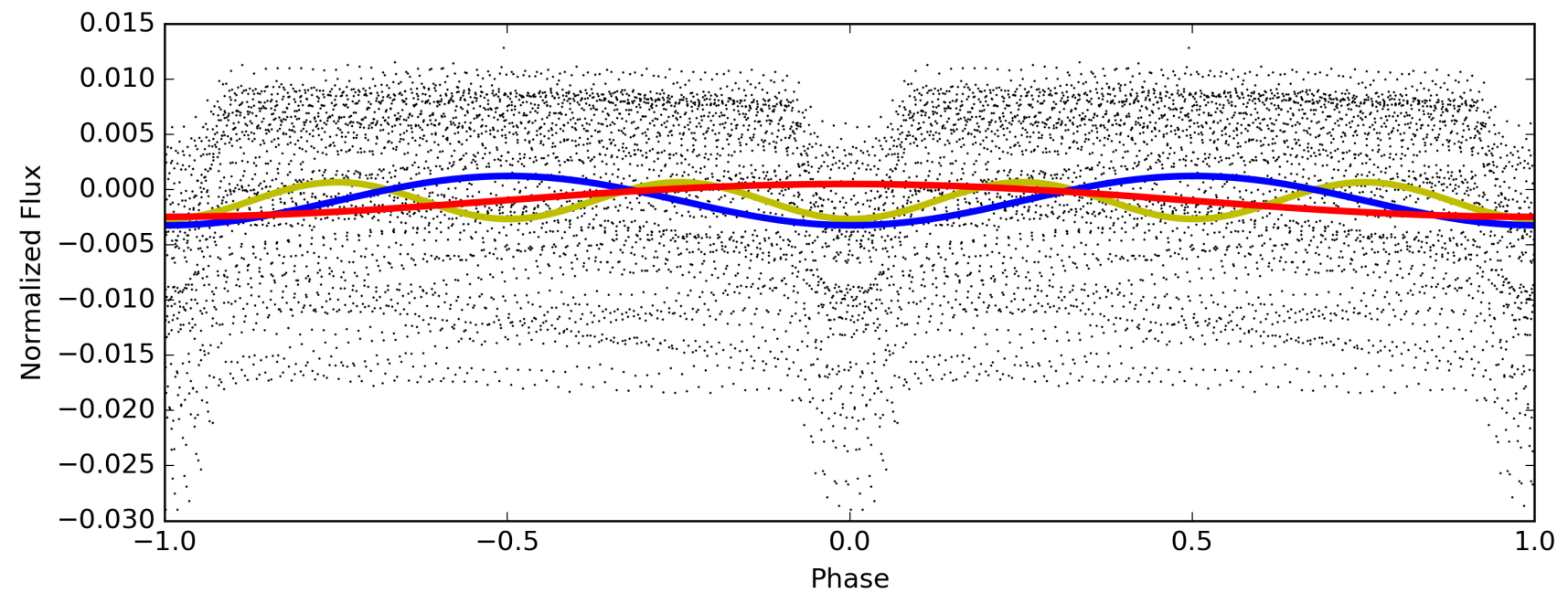
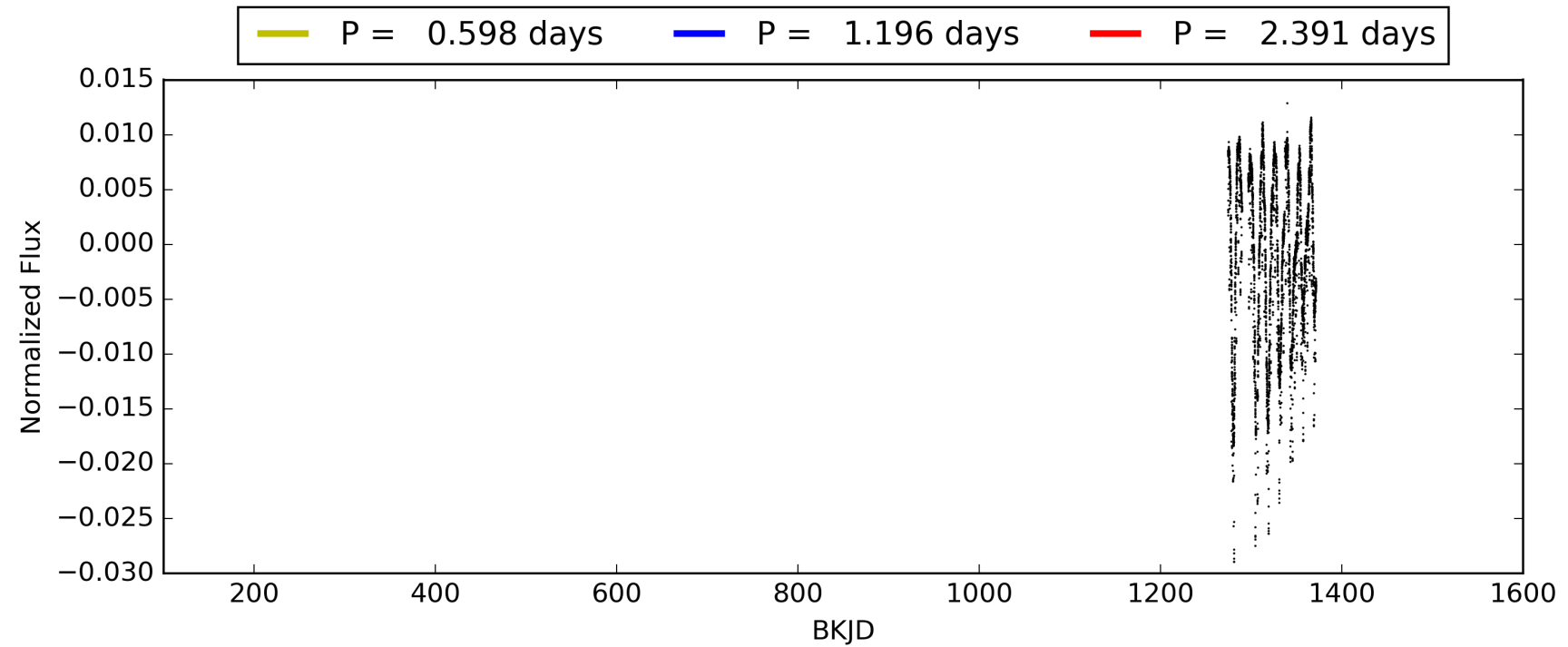
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:03:34 Z

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

# TCE 004367544-01, PDC Light Curves

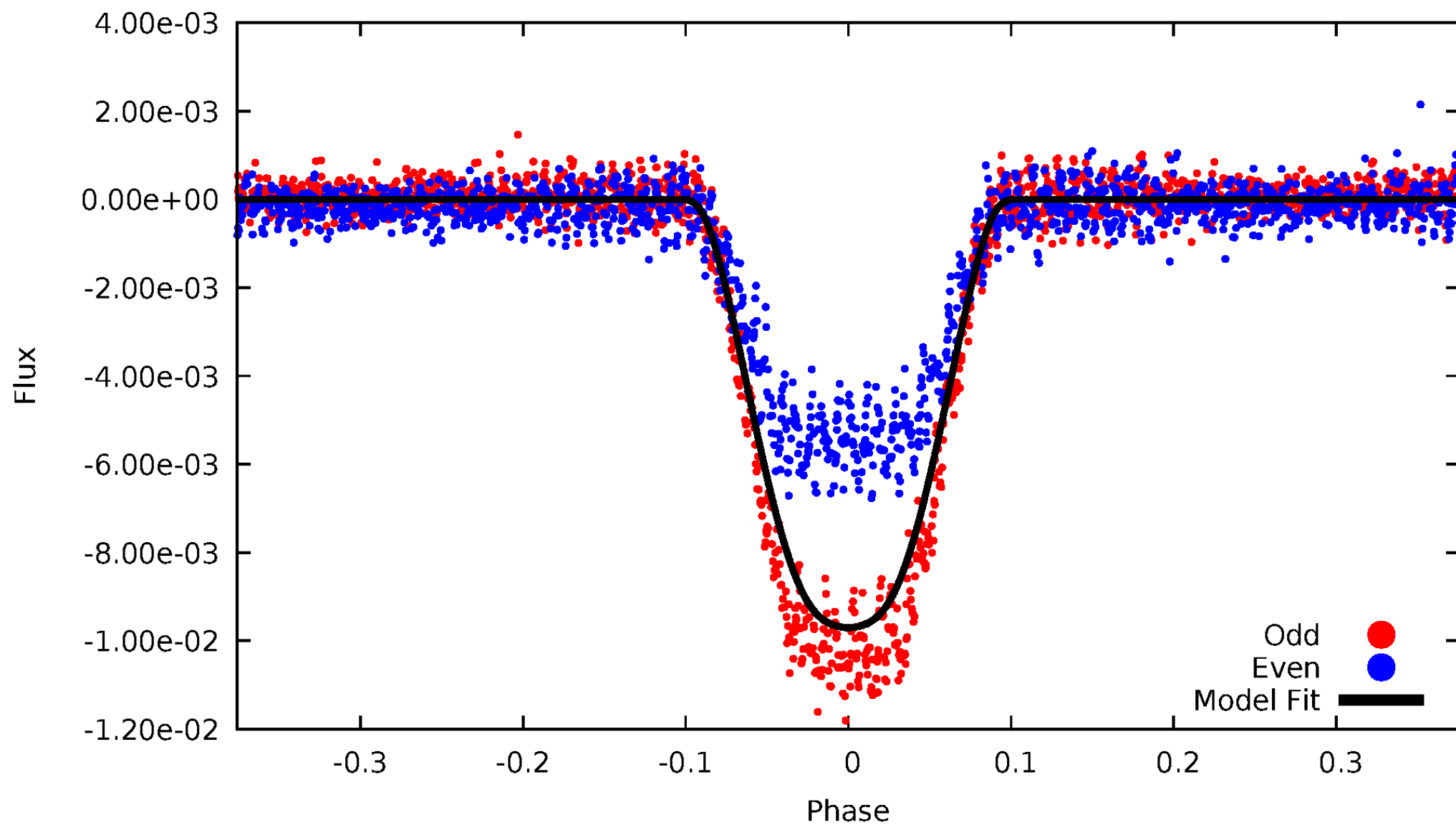


TCE 004367544-01



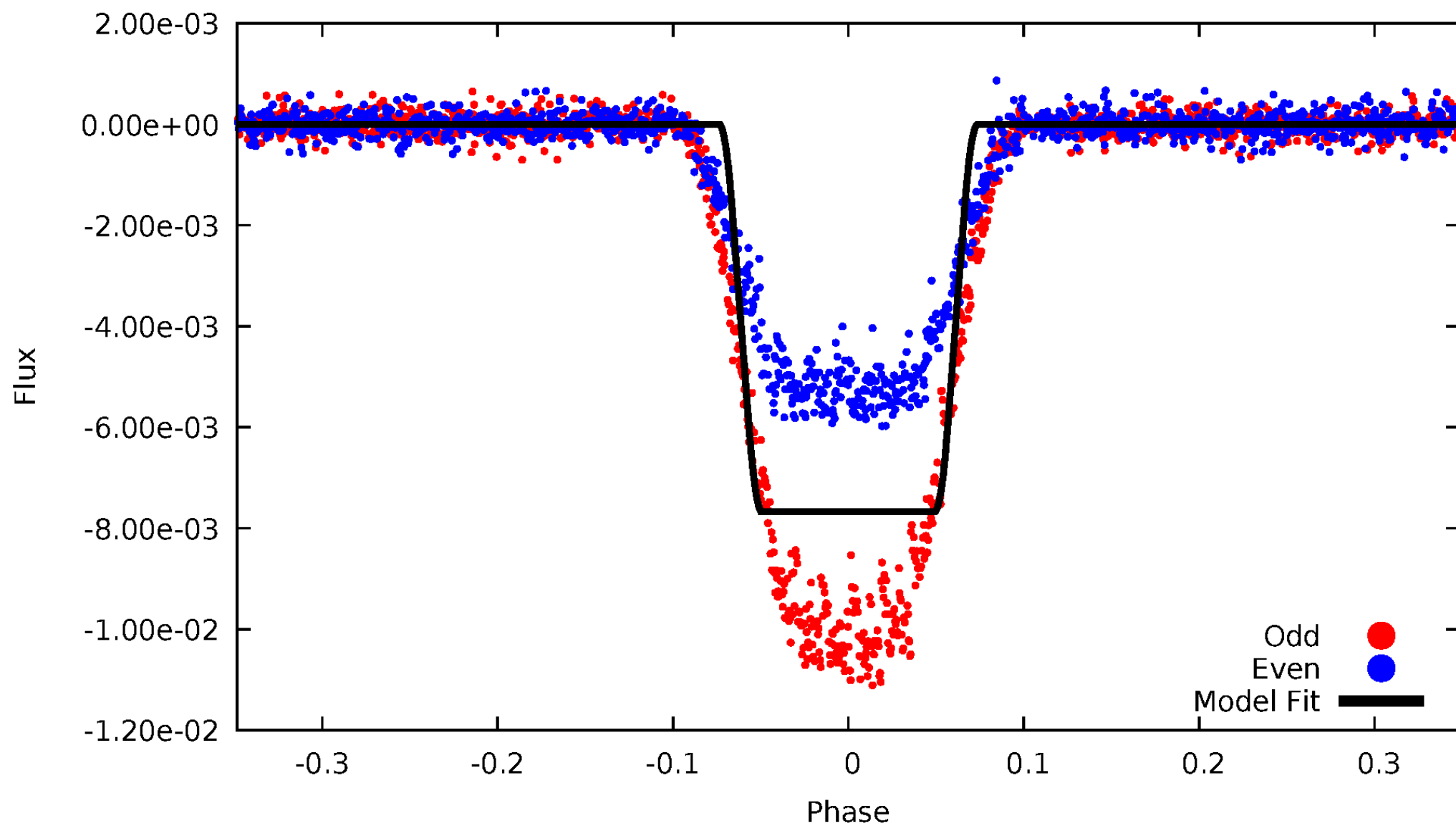
# DV Odd/Even

TCE 004367544-01



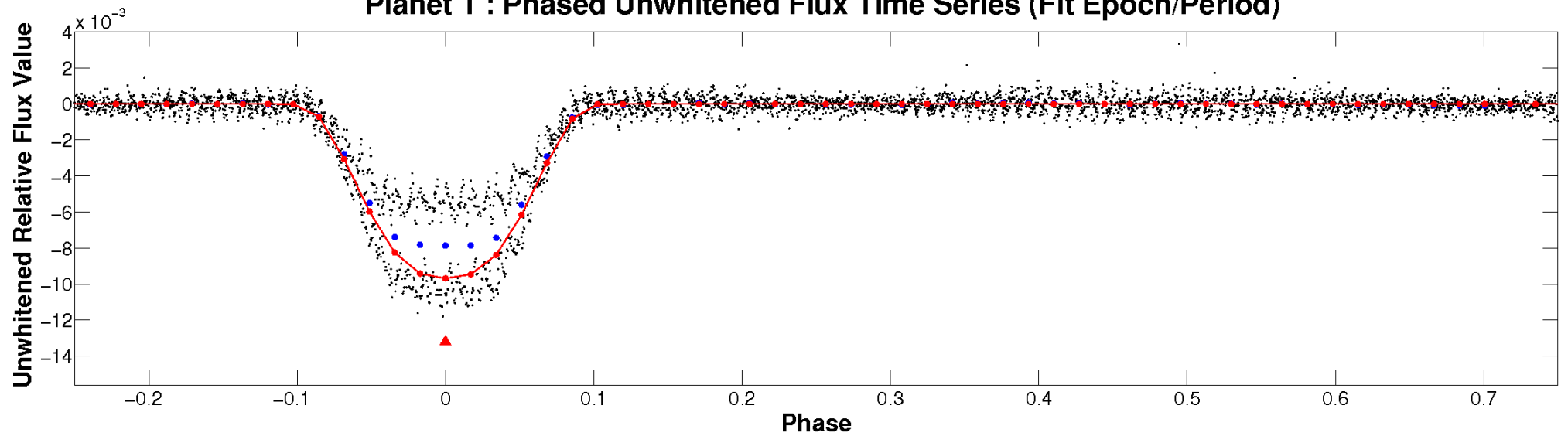
# ALT Odd/Even

TCE 004367544-01

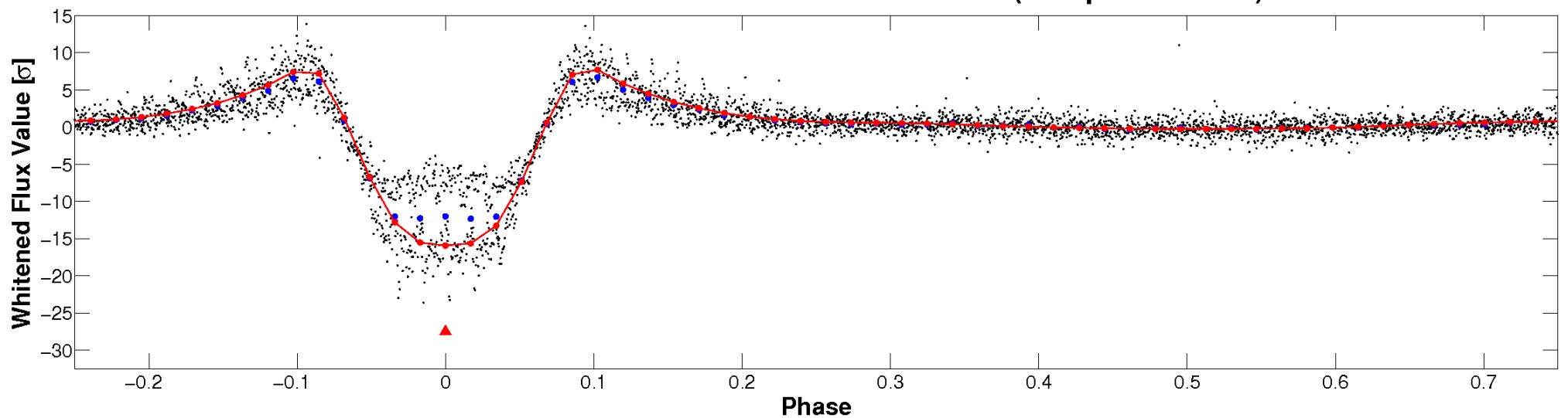


# Non-Whitened Vs. Whitened Light Curve

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

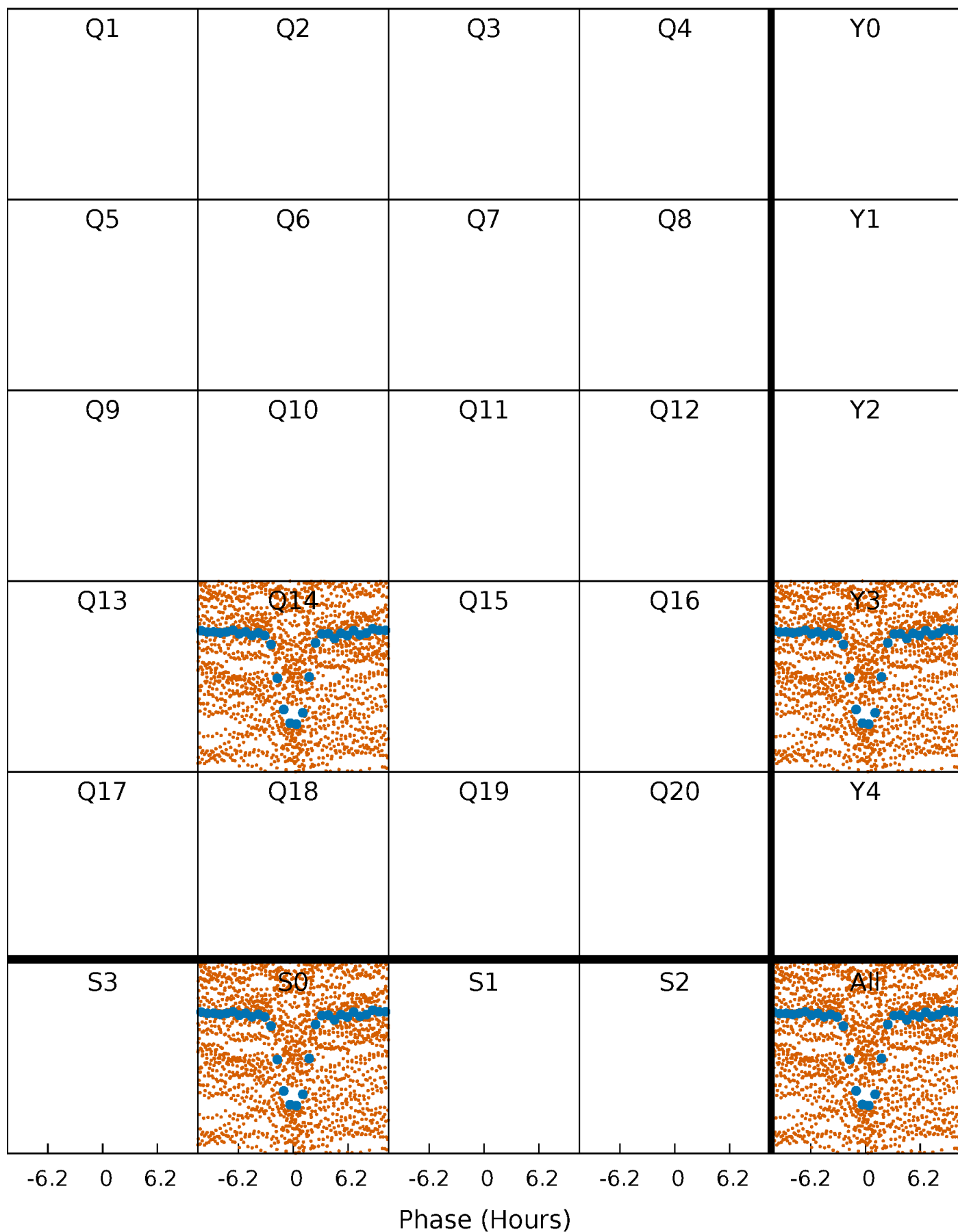


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

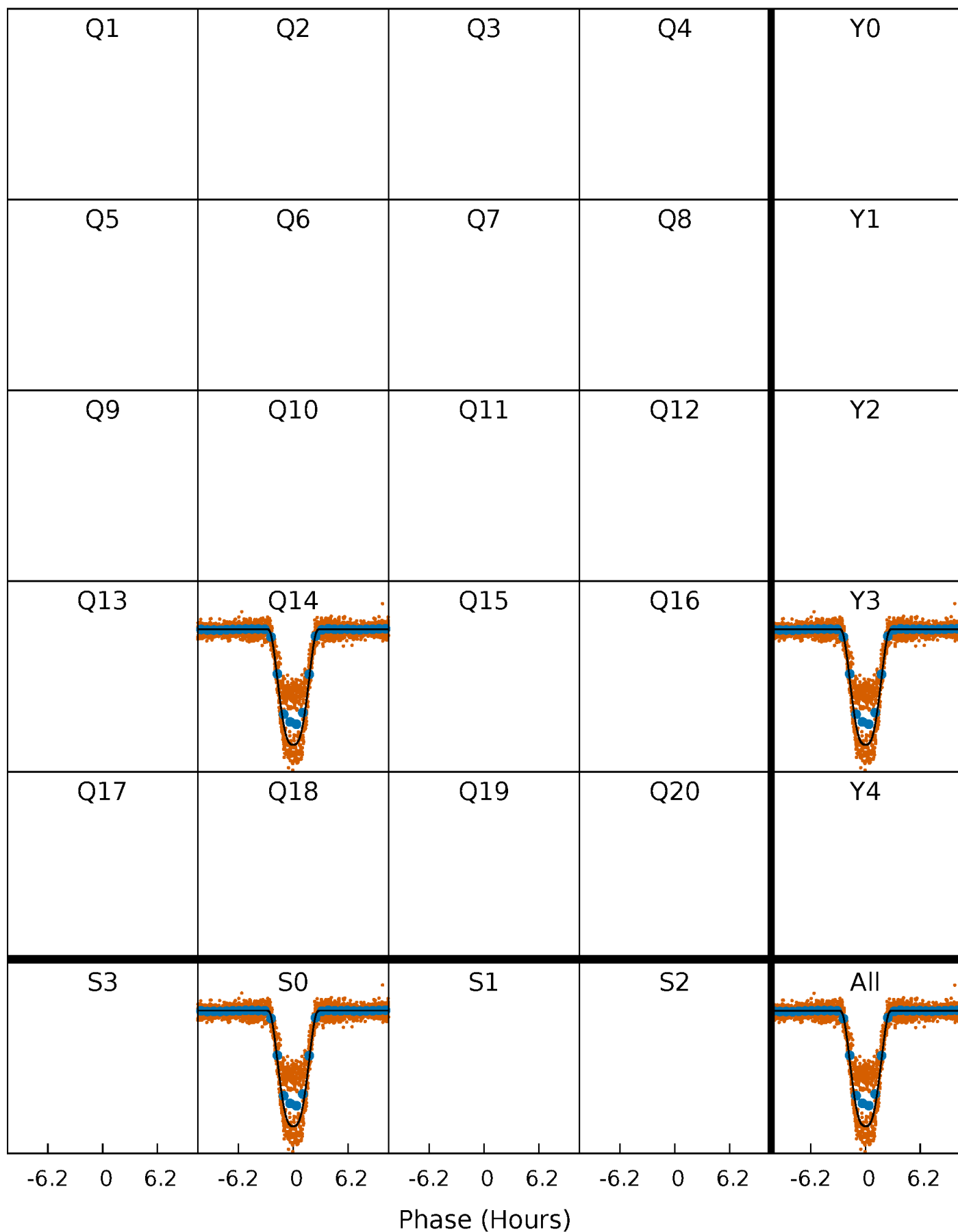
TCE 004367544-01 P= 1.195641 Days  $T_0=131.544234$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 004367544-01 P= 1.195641 Days  $T_0=131.544234$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

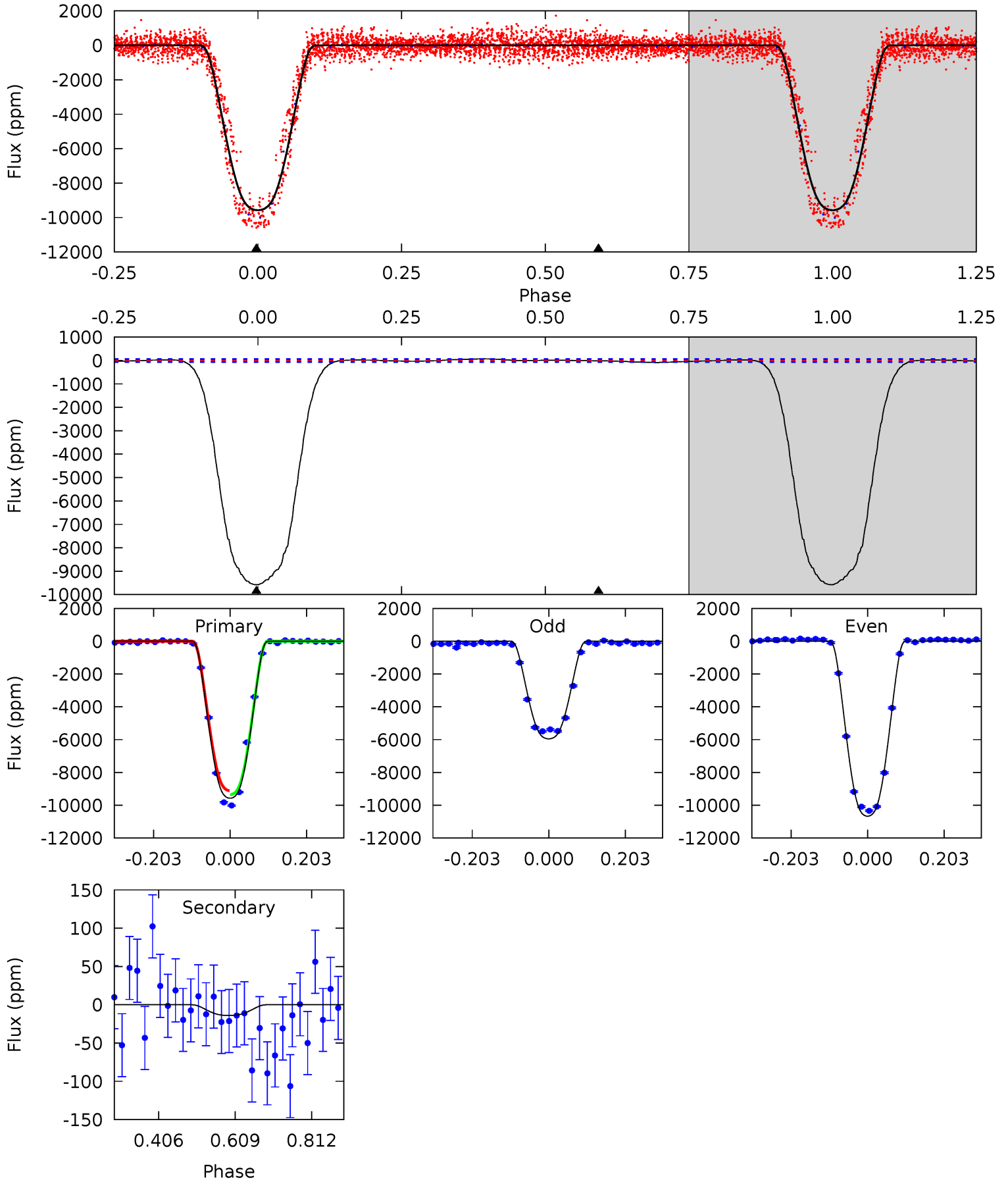
TCE 004367544-01   P= 1.195628 Days    $T_0=131.556781$  (BKJD)



# DV Model-Shift Uniqueness Test

004367544-01, P = 1.195641 Days, E = 131.544234 Days

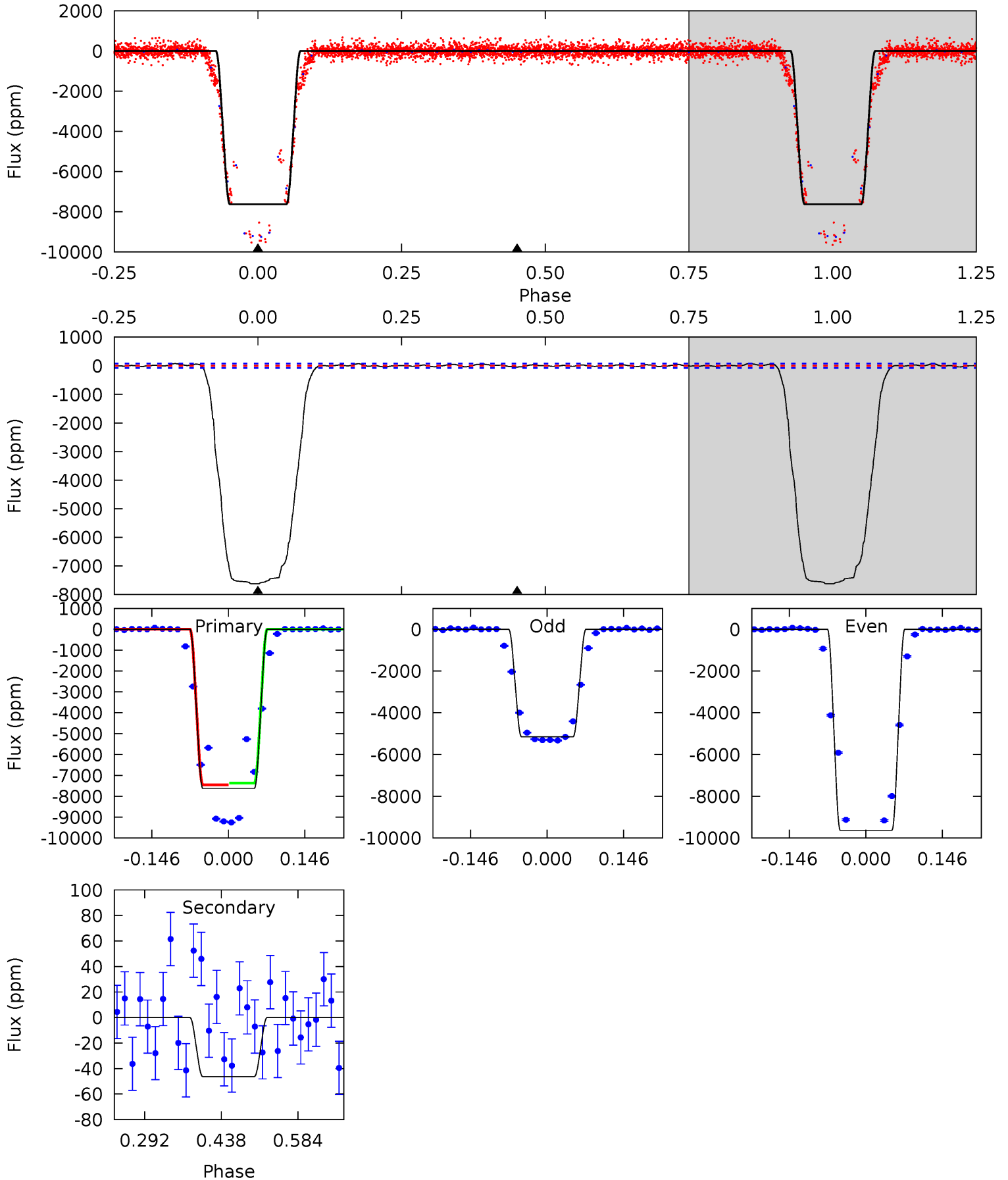
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
678.7	0.99	0	0	4.41	1.27	2.30	678.7	678.7	0.99	0.99	218.5	0.91	0.01	0



# Alt Model-Shift Uniqueness Test

004367544-01, P = 1.195628 Days, E = 131.556781 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
431.1	2.62	0	0	4.48	1.45	1.23	431.1	431.1	2.62	2.62	233.8	0.90	0.01	2.33



### Stellar Parameters For KIC 004367544

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5583^{+186}_{-169}$	$4.115^{+0.357}_{-0.153}$	$0.040^{+0.250}_{-0.250}$	$1.413^{+0.391}_{-0.477}$	$0.950^{+0.114}_{-0.093}$	$0.474^{+1.246}_{-0.199}$
	+3%/-3%	+9%/-4%	+625%/-625%	+28%/-34%	+12%/-10%	+263%/-42%
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 004367544-01 / KOI 6407.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-14 \pm 14$	$16.25^{+2.55}_{-3.16}$	$2734^{+220}_{-263}$	$-2913^{+166}_{-135}$	$0.014^{+0.018}_{-0.014}$
Alt.	$-46 \pm 18$	$13.22^{+2.11}_{-2.47}$	$2741^{+218}_{-278}$	$-2830^{+225}_{-159}$	$0.071^{+0.044}_{-0.030}$

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

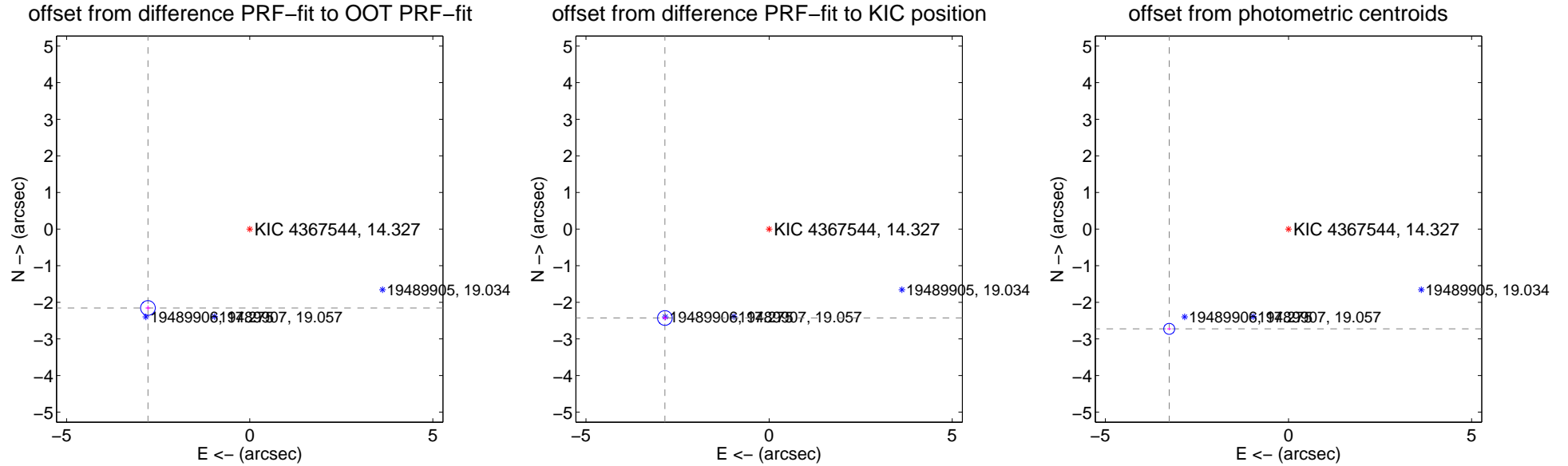
## DV Centroid Data

Supplemental centroid analysis for 004367544-01. Kepler magnitude: 14.33. Transit SNR 255.95

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.517 \pm 0.067$	52.65	$2.779 \pm 0.067$	$-2.155 \pm 0.067$
PRF-fit source offset from KIC position	$3.741 \pm 0.067$	56.01	$2.846 \pm 0.067$	$-2.429 \pm 0.067$
photometric centroid source offset	$4.25 \pm 0.05$	85.04	$3.26 \pm 0.06$	$-2.73 \pm 0.04$



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.



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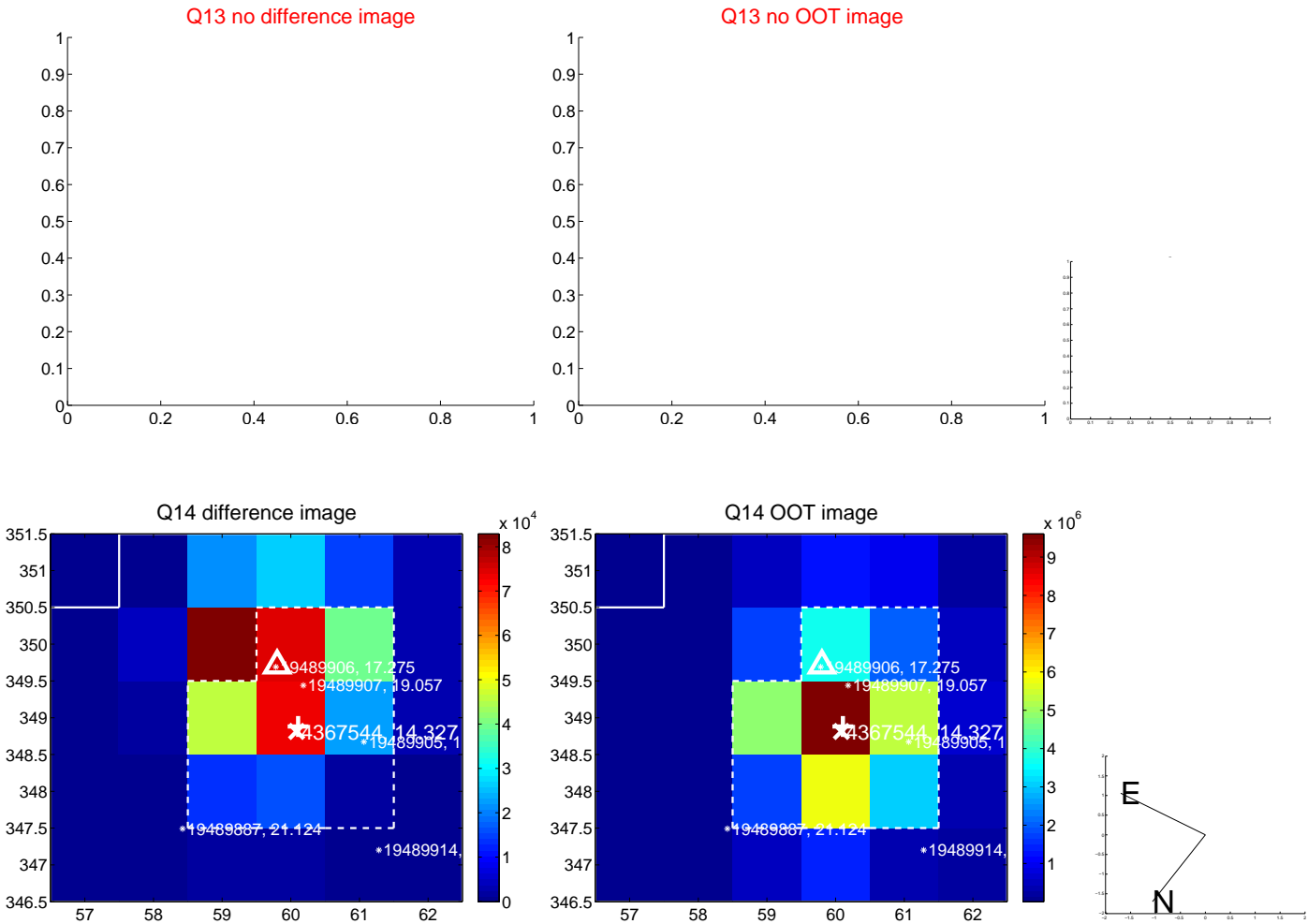




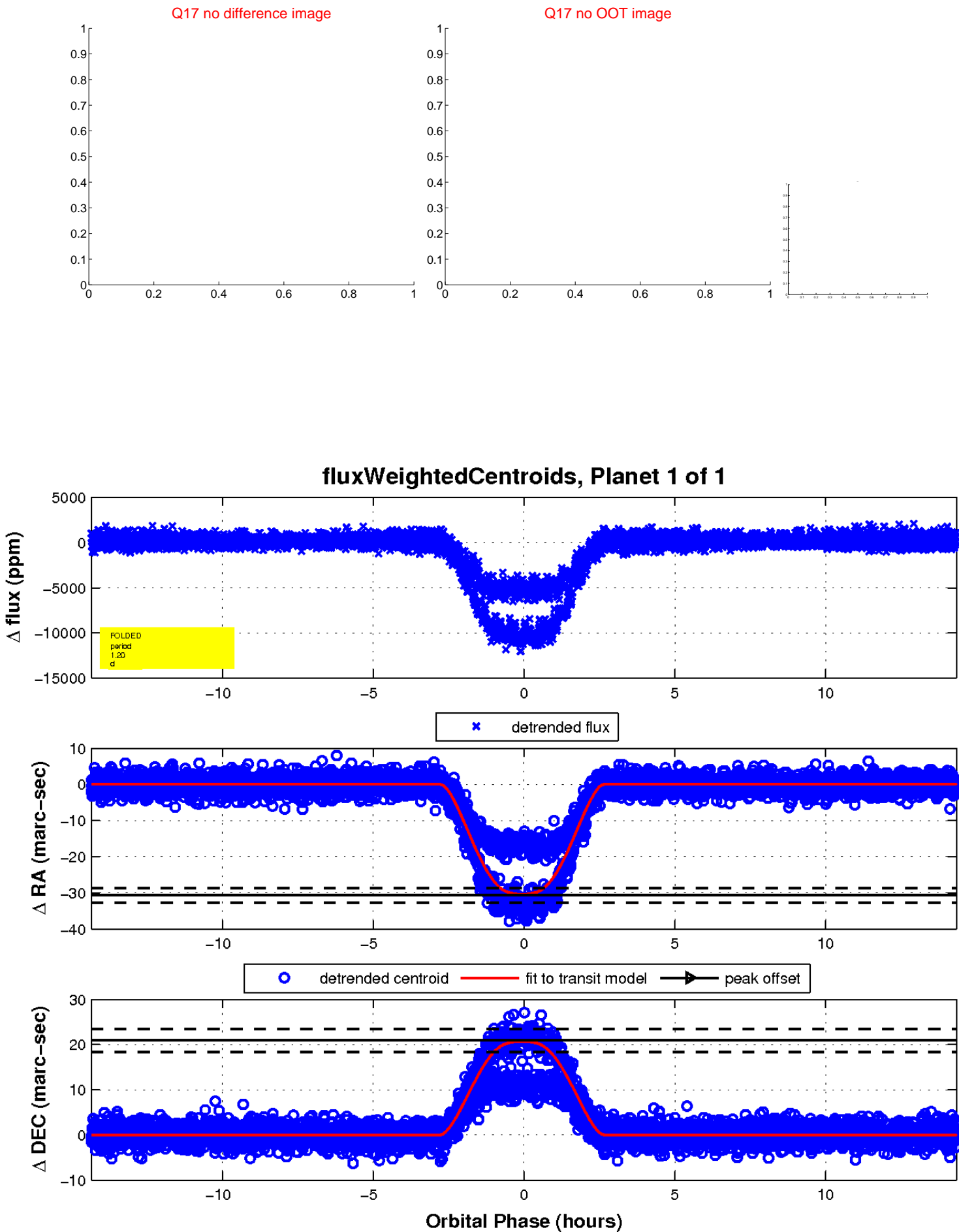
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UKIRT Image

Declination

