

# KIC 008752295

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008752295-01	OBS	No	374.622220	136.486859	2000.1	38.131	10.3	11.6	0.88	5955	6.51	0.86

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008752295-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—EPHEM_MATCH

**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.

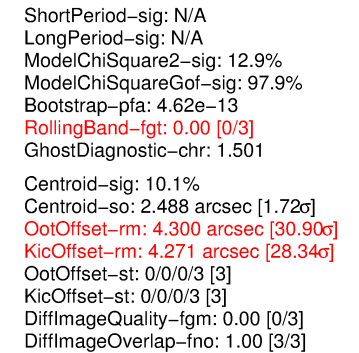
## Ephemeris Match Information For 008752295-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ( $\prime$ )	$\Delta$ Row	$\Delta$ Col	$m_2$	$m_1$	$D_2/D_1$	Mechanism	Flag	$\sigma_P$	$\sigma_T$
008752295-01	8752295	008885293-01	8885293	1:1	1052.3	264	-4	15.85	15.61	0.39	Col-Anomaly	1	0.96	2.01

**Notes:**  $P_1:P_2$  is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column.  $m_2$  and  $m_1$  are the magnitudes of the parent and child.  $D_2/D_1$  is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

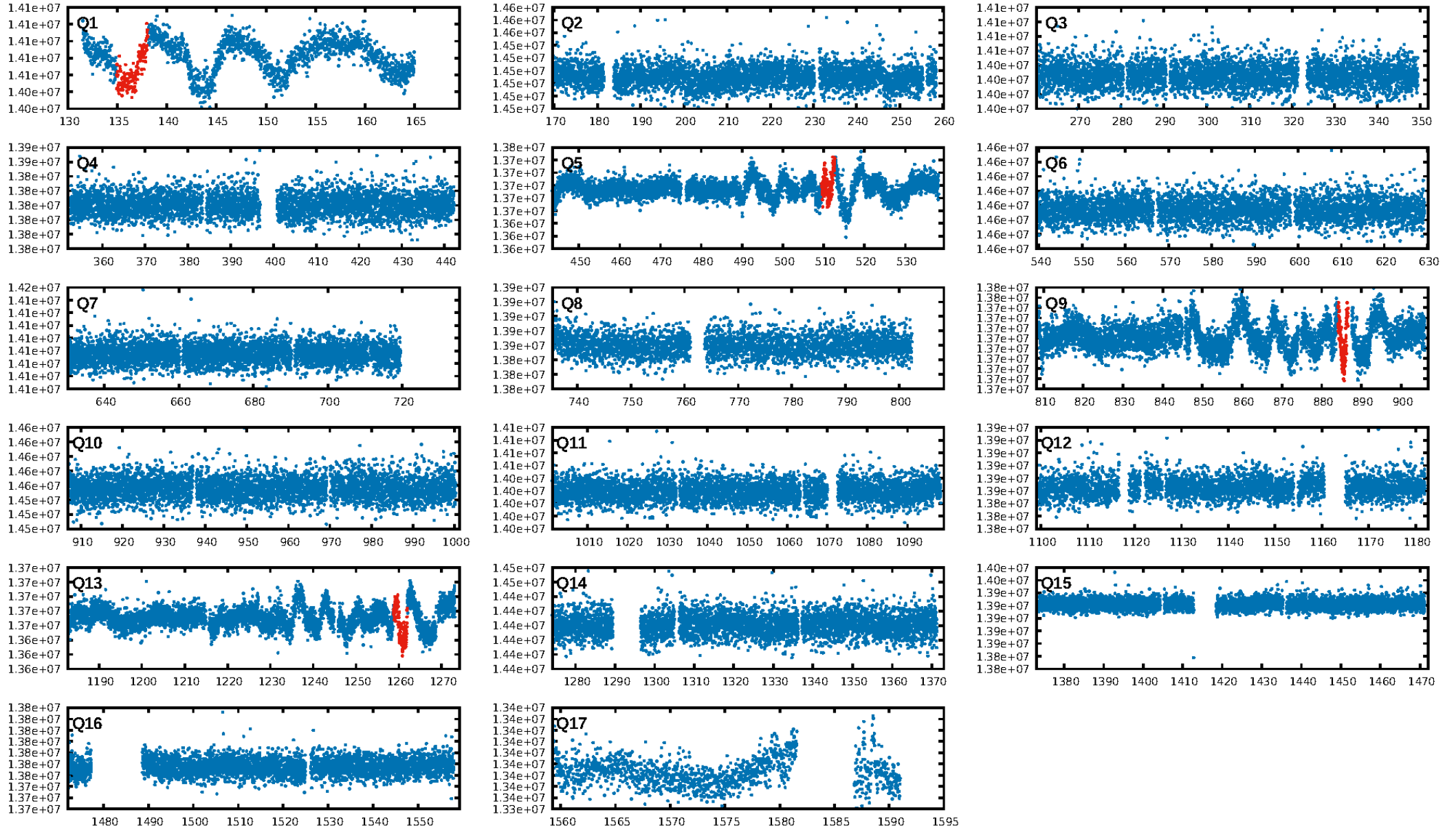
## KIC: 8752295    Candidate: 1 of 1    Period: 374.622 d

KIC: 8752295    Candidate: 1 of 1    Period: 374.622 d

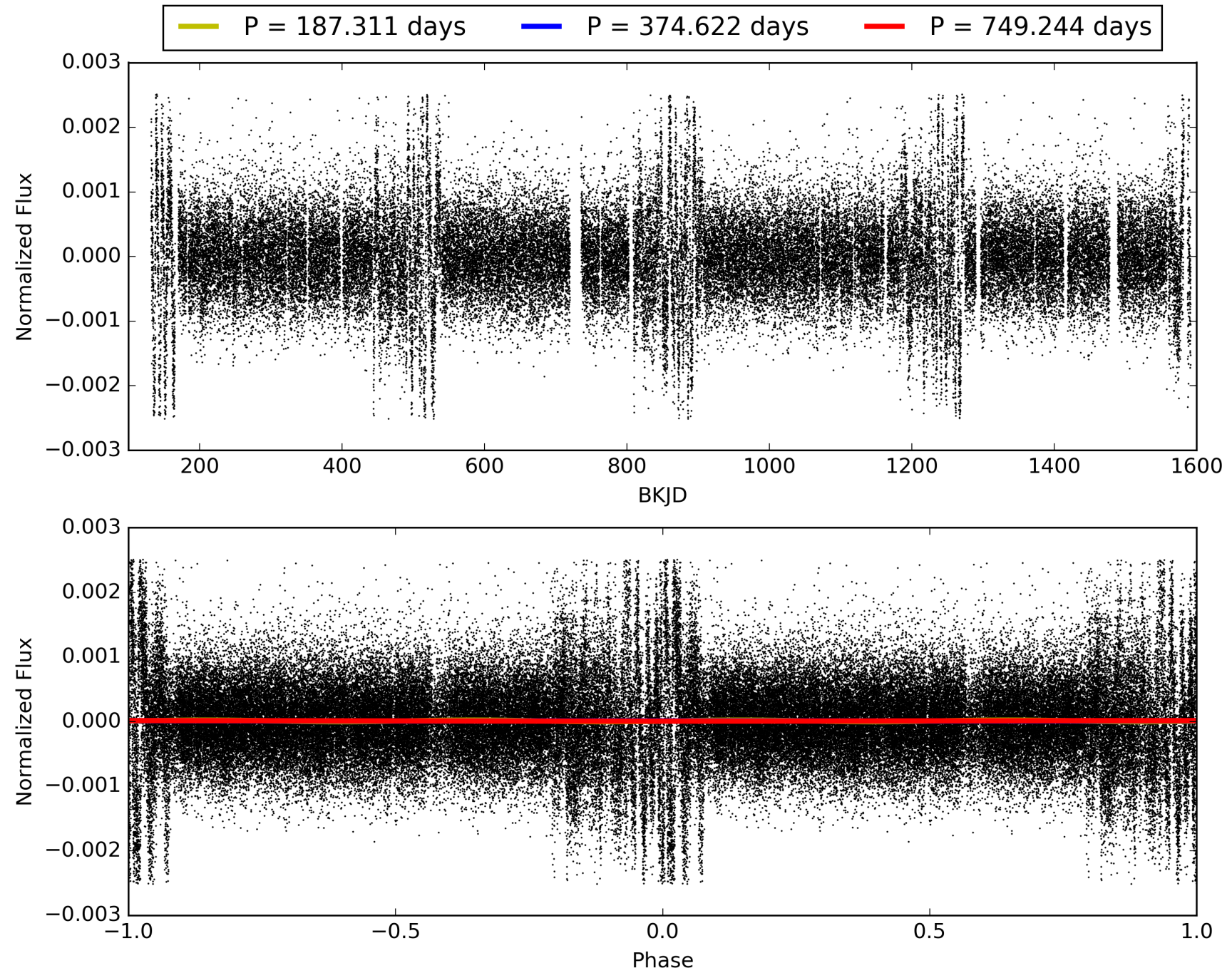


This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008752295-01, PDC Light Curves

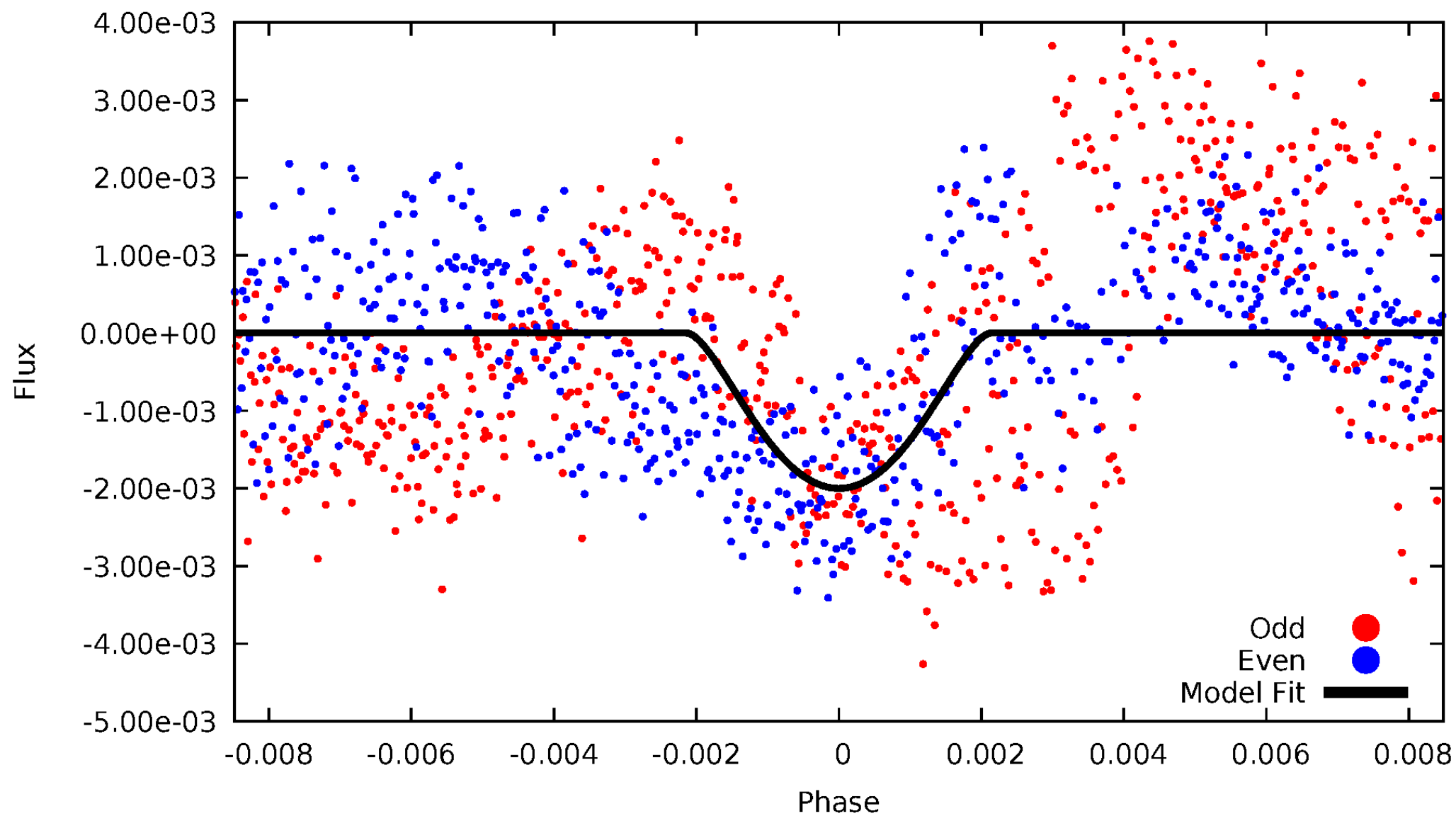


TCE 008752295-01



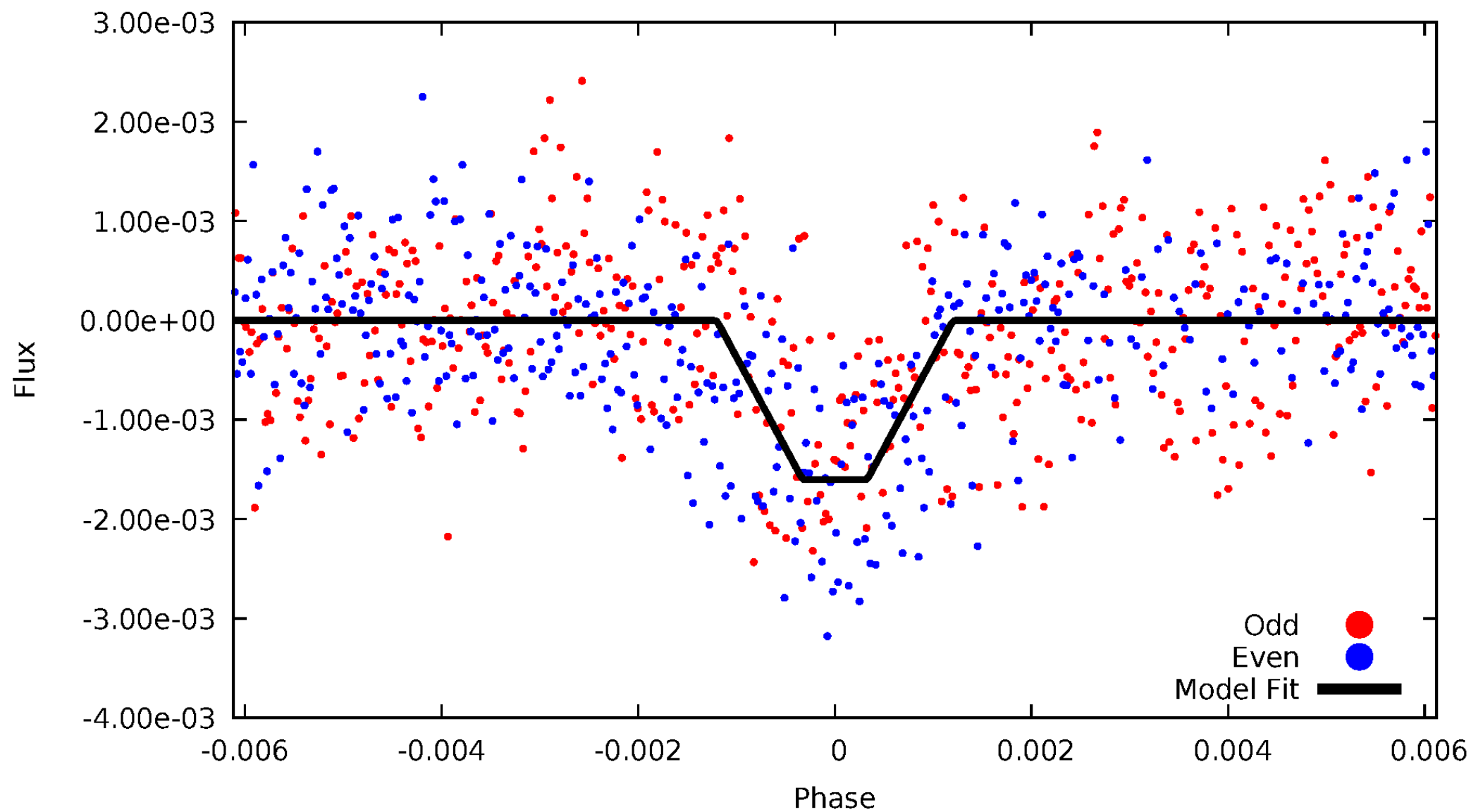
# DV Odd/Even

TCE 008752295-01



# ALT Odd/Even

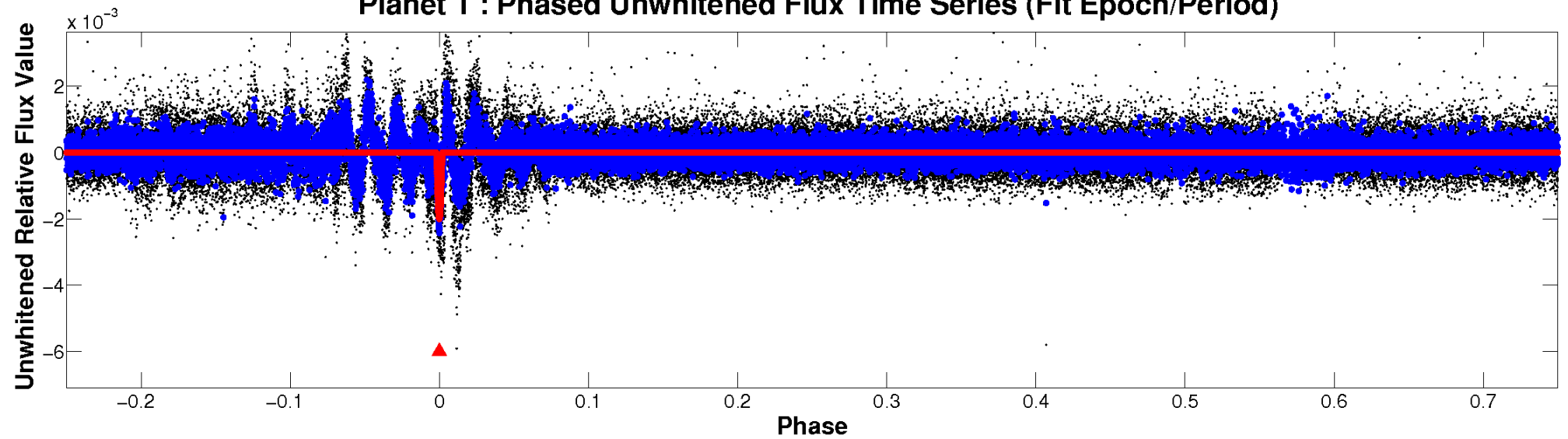
TCE 008752295-01



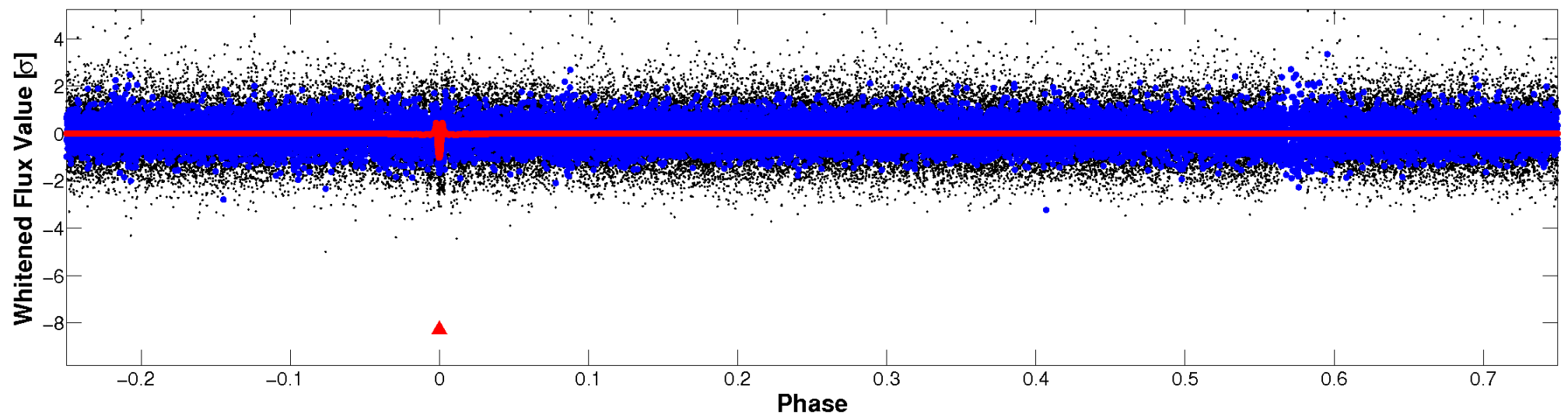


# Non-Whitened Vs. Whitened Light Curve

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

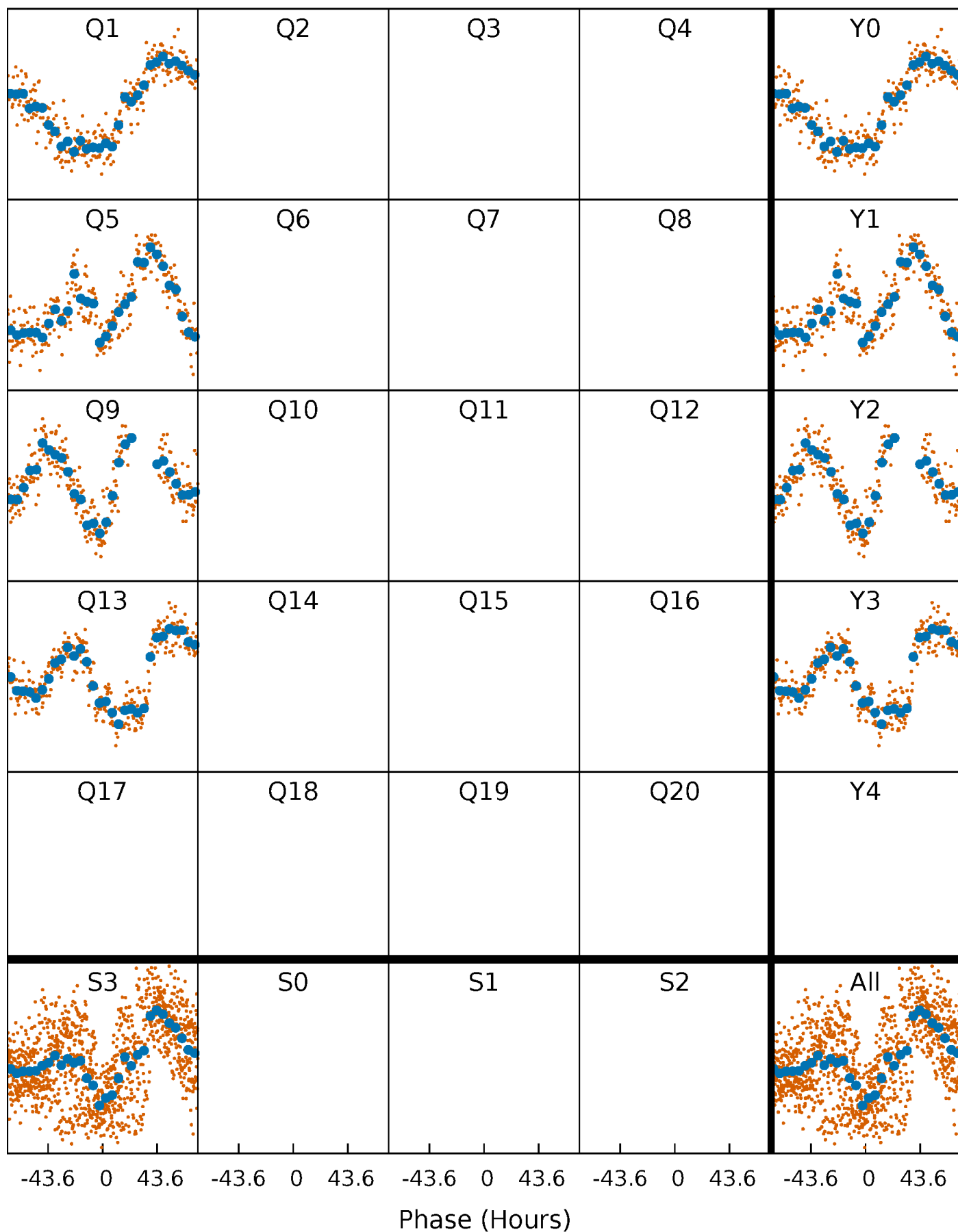


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

TCE 008752295-01     $P=374.622220$  Days     $T_0=136.486859$  (BKJD)





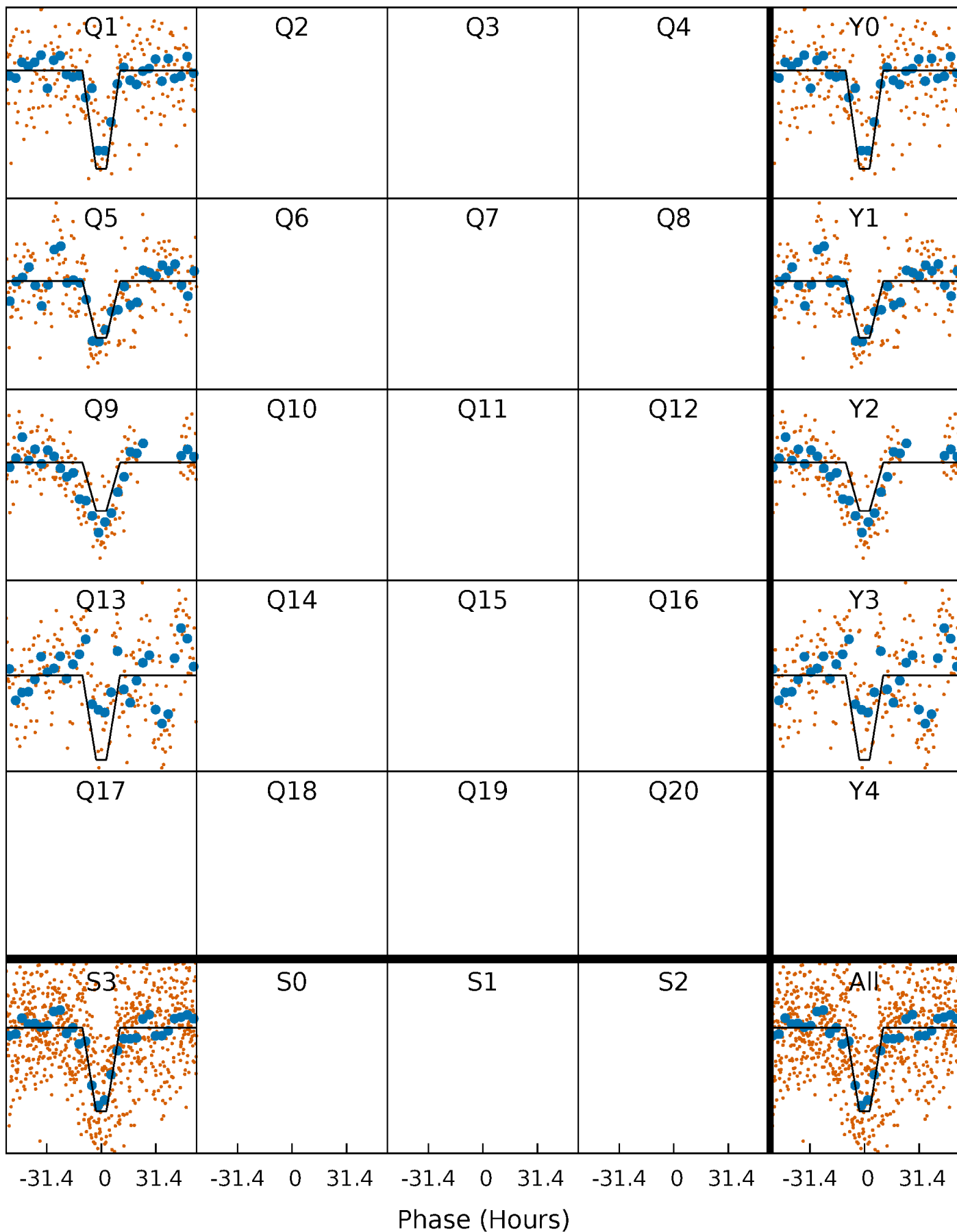
# DV Quarter-Phased Transit Curves

TCE 008752295-01     $P=374.622220$  Days     $T_0=136.486859$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

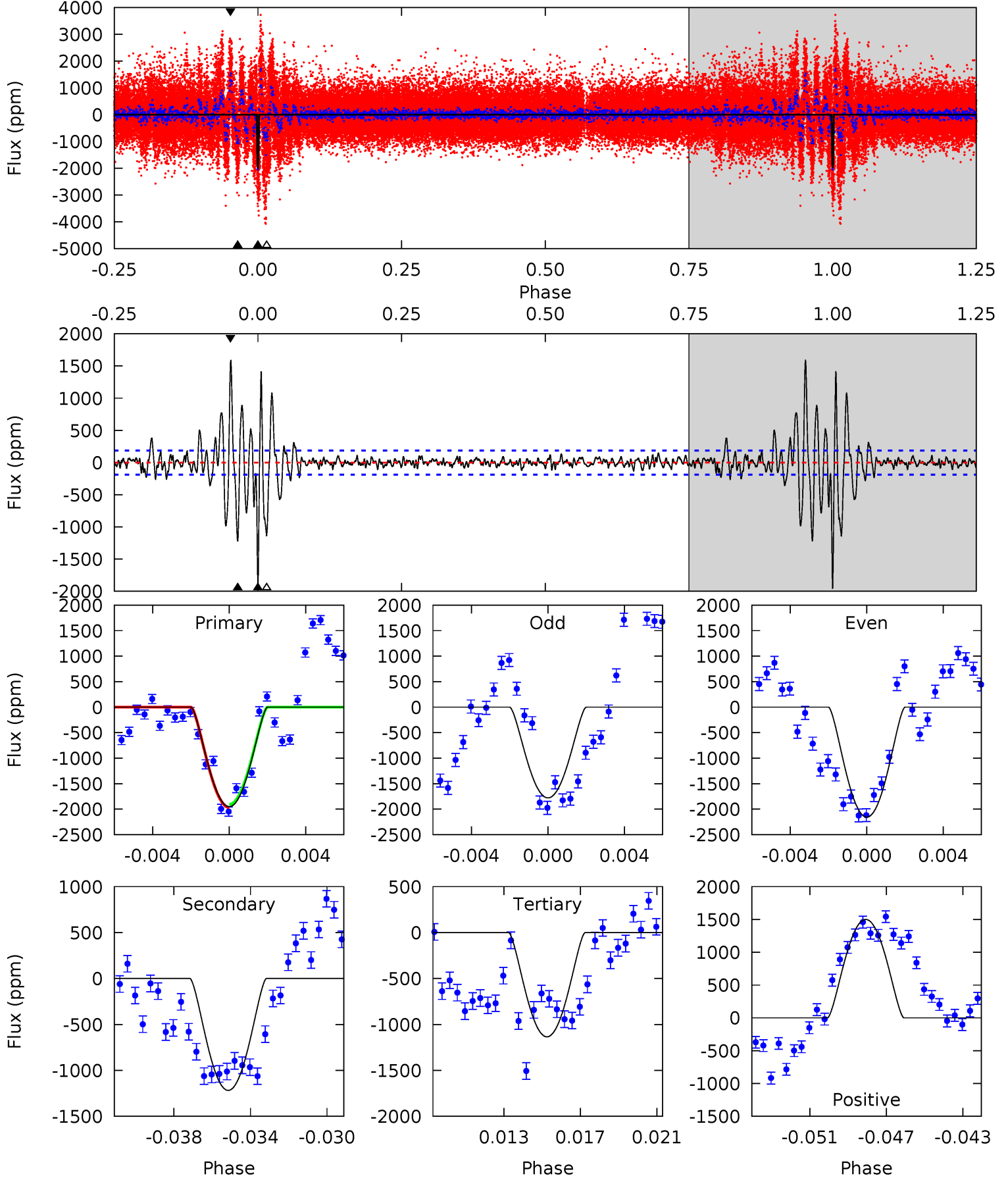
TCE 008752295-01     $P=374.472232$  Days     $T_0=136.760193$  (BKJD)



# DV Model-Shift Uniqueness Test

008752295-01, P = 374.622220 Days, E = 136.486859 Days

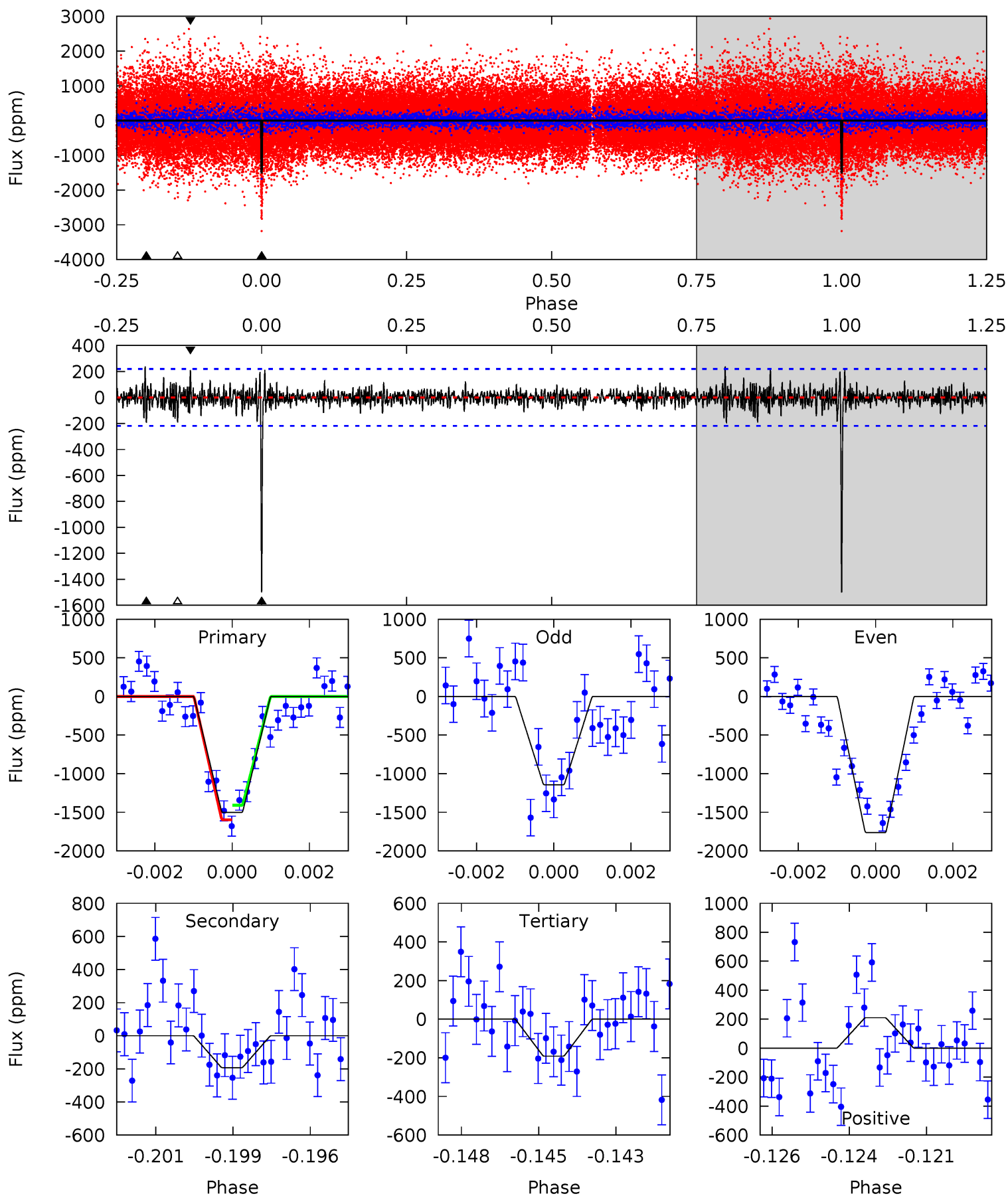
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
54.1	33.8	31.5	41.6	5.19	2.86	5.98	22.6	12.5	2.30	-7.80	5.30	0.91	0.45	0.79



# Alt Model-Shift Uniqueness Test

008752295-01,  $P = 374.472232$  Days,  $E = 136.760193$  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
36.2	4.66	4.62	5.07	5.29	3.03	1.04	31.6	31.1	0.04	-0.42	7.50	1.00	0.14	2.26



### Stellar Parameters For KIC 008752295

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5955^{+161}_{-178}$	$4.534^{+0.042}_{-0.168}$	$-0.240^{+0.300}_{-0.300}$	$0.883^{+0.215}_{-0.092}$	$0.972^{+0.109}_{-0.119}$	$1.987^{+0.423}_{-0.870}$
	+3%/-3%	+1%/-4%	+125%/-125%	+24%/-10%	+11%/-12%	+21%/-44%
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 008752295-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1218 \pm 36$	$8.54^{+6.79}_{-5.68}$	$352^{+19}_{-16}$	$4107^{+2478}_{-707}$	$9075^{+71462}_{-6150}$
Alt.	$-193 \pm 41$	$6.82^{+7.03}_{-4.47}$	$350^{+20}_{-14}$	$3244^{+1418}_{-576}$	$2217^{+17093}_{-1661}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming A=0.3)

$A_{obs}$  = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

## DV Centroid Data

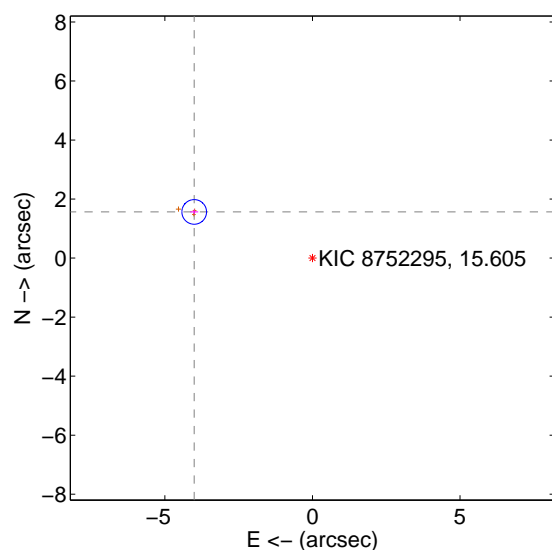
Supplemental centroid analysis for 008752295-01. Kepler magnitude: 15.61. Transit SNR 11.61

There are 0 quarters with good PRF difference image offsets

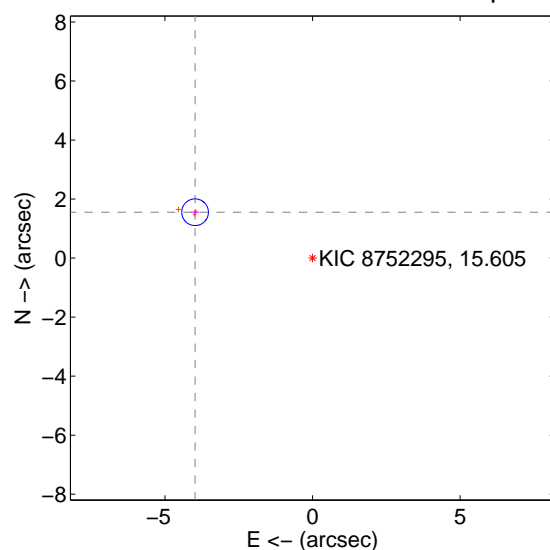
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	4.300 $\pm$ 0.139	30.90	4.005 $\pm$ 0.134	1.564 $\pm$ 0.083
PRF-fit source offset from KIC position	4.271 $\pm$ 0.151	28.34	3.979 $\pm$ 0.145	1.554 $\pm$ 0.082
photometric centroid source offset	2.49 $\pm$ 1.45	1.72	2.47 $\pm$ 1.45	-0.26 $\pm$ 0.83

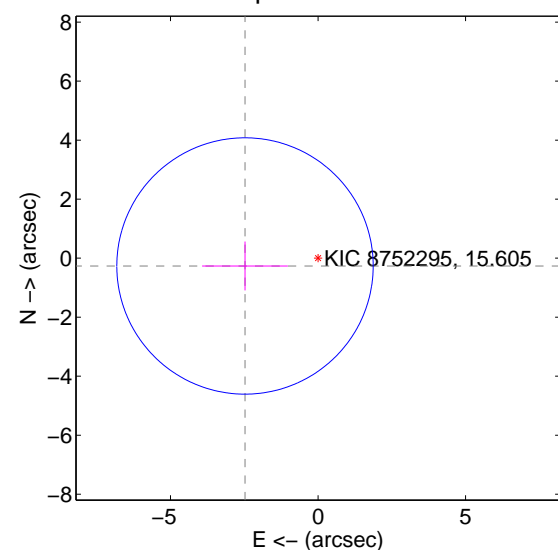
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



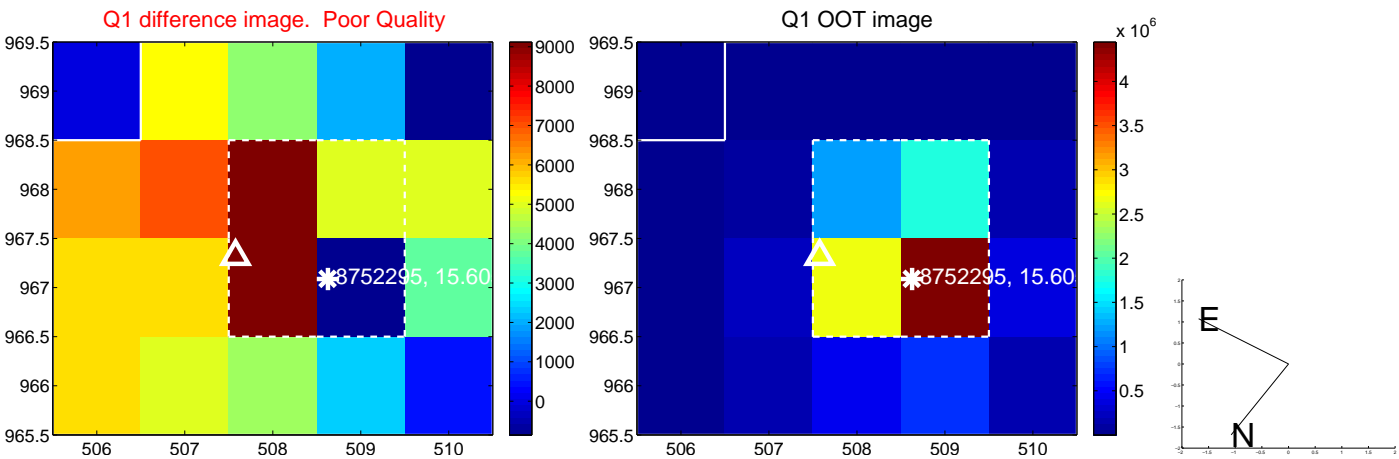
offset from photometric centroids



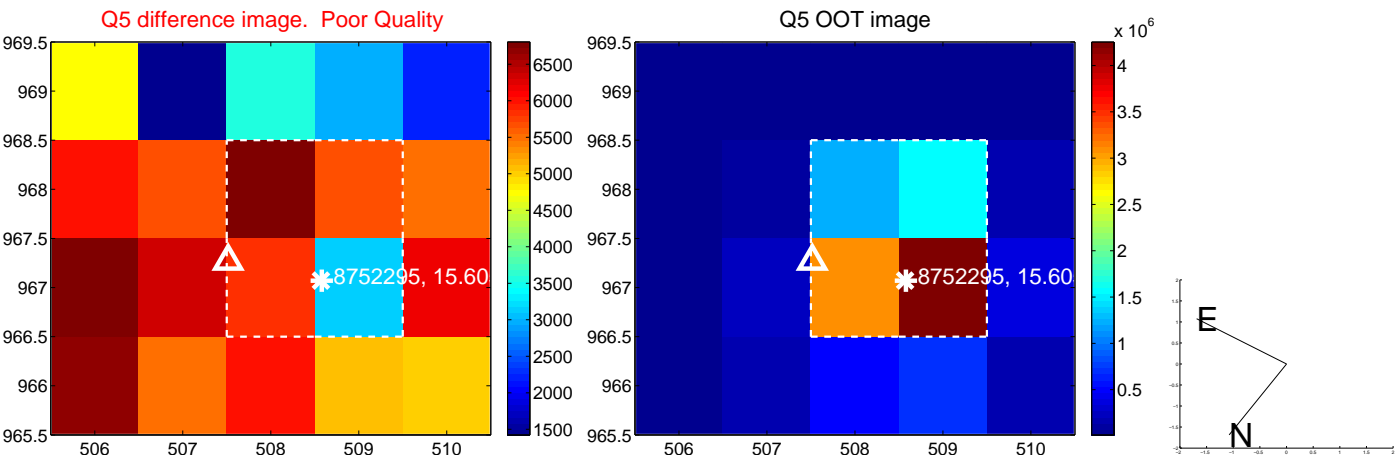
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



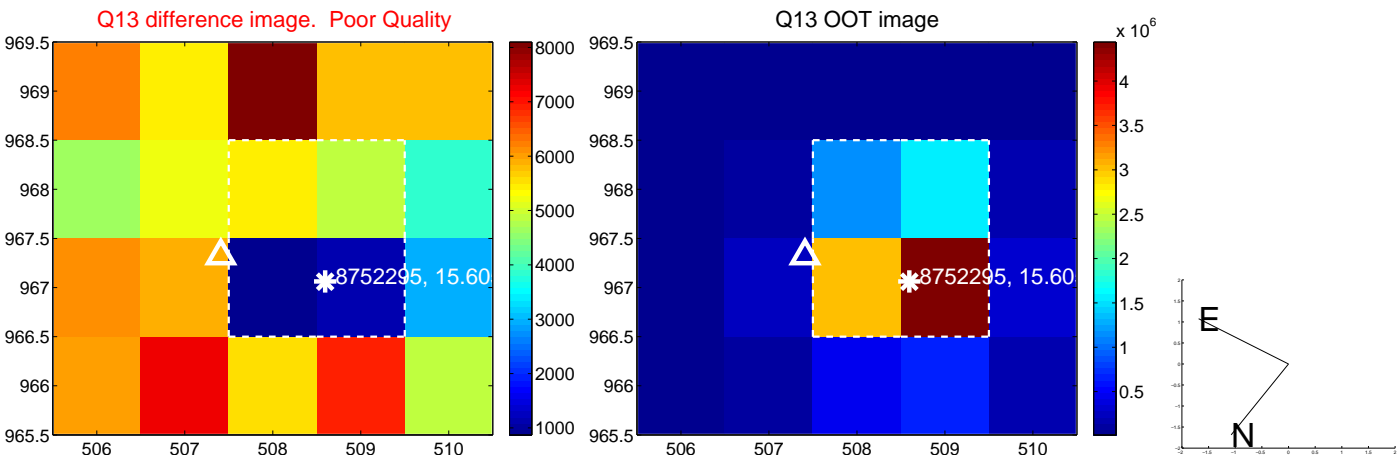
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



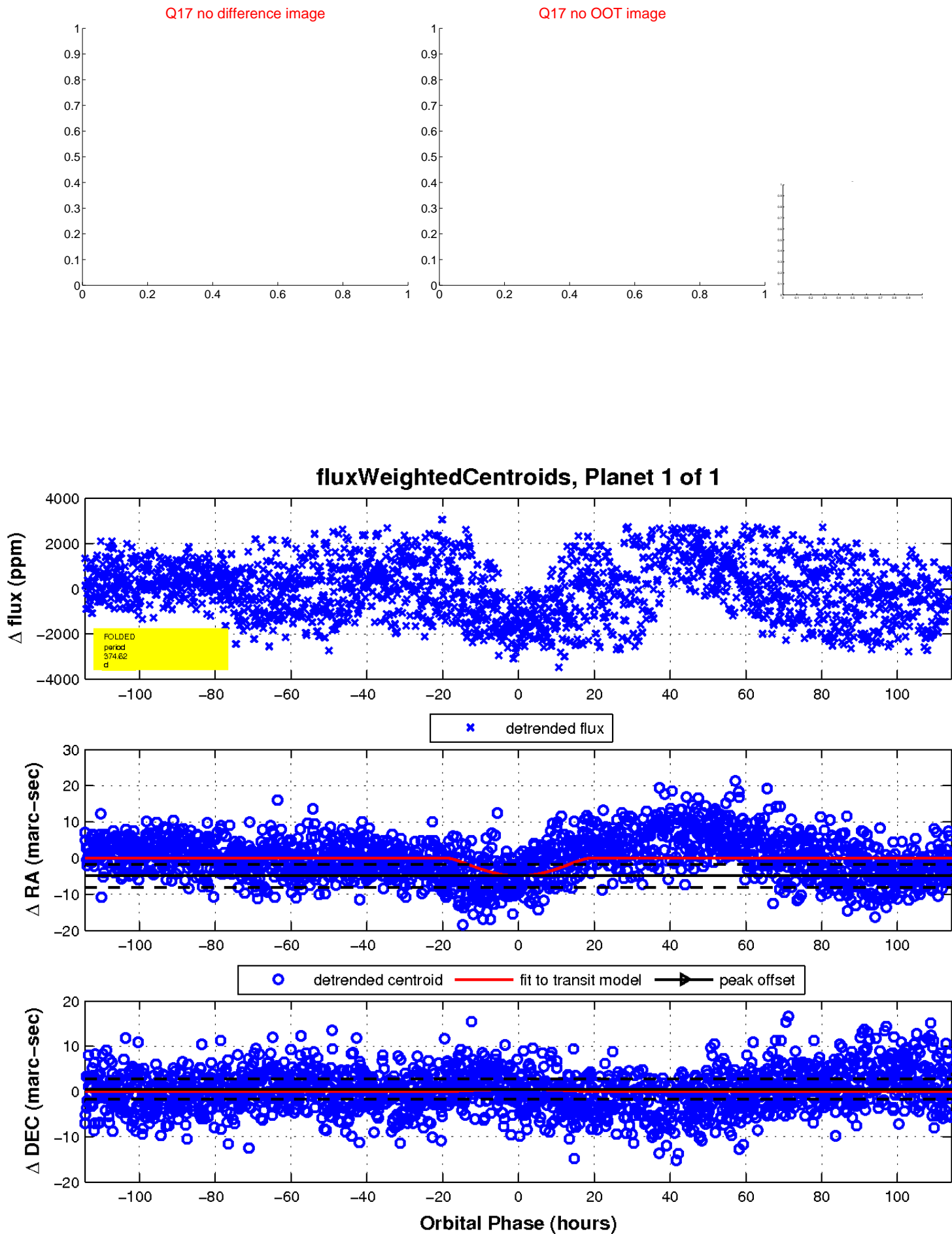
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

