

# KIC 008154693

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008154693-01	OBS	No	491.391145	327.245168	658.7	4.407	7.5	8.0	5.53	4956	15.33	9.12

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008154693-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

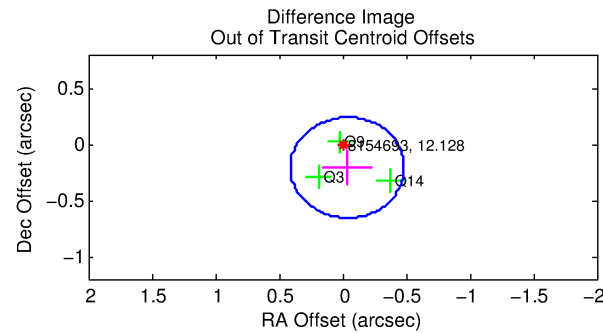
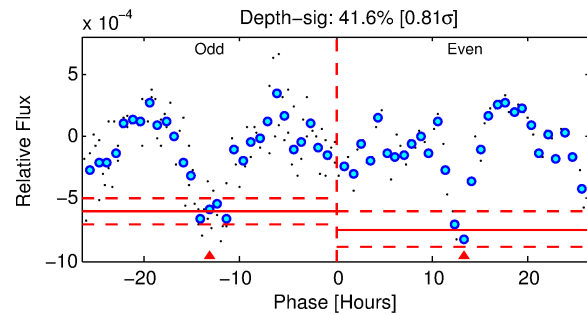
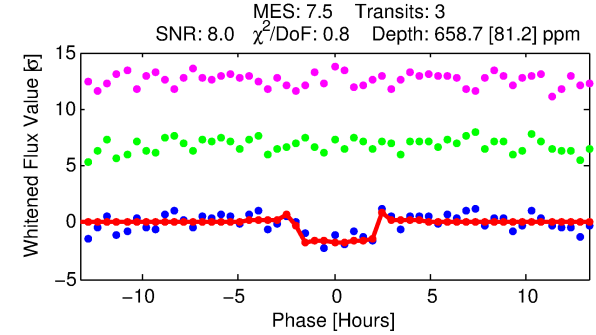
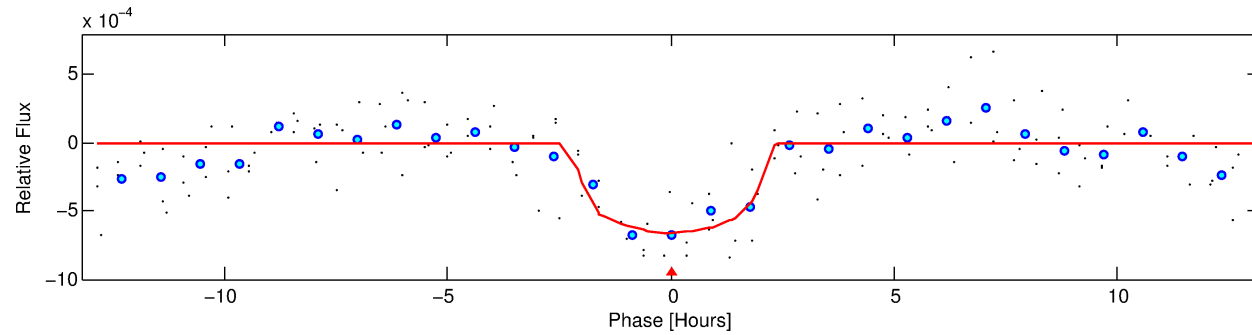
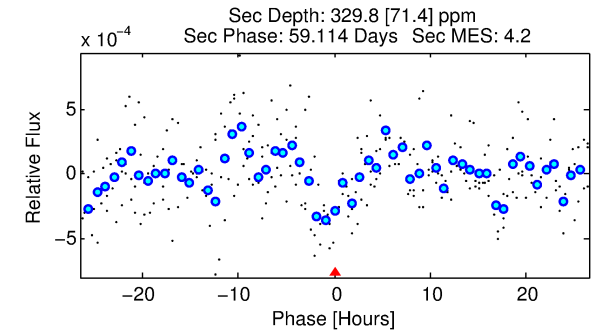
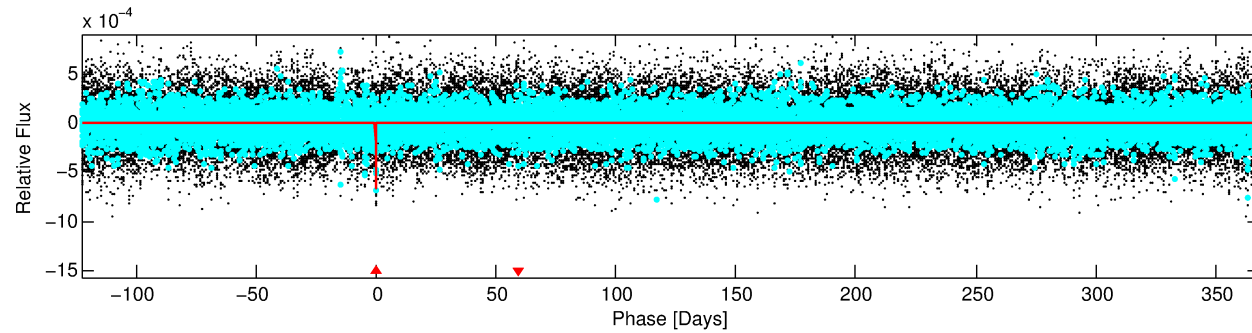
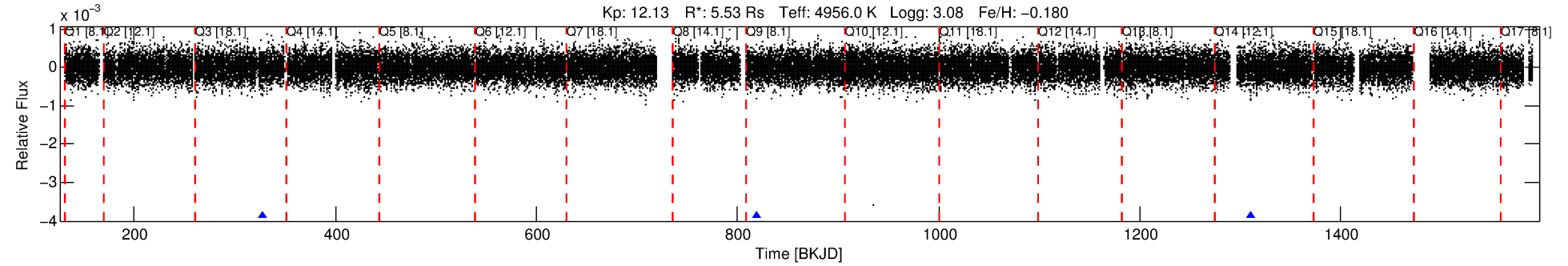
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008154693-01

No Significant Match Found

# DV One-Page Summary

KIC: 8154693 Candidate: 1 of 1 Period: 491.391 d



## DV Fit Results:

Period = 491.39114 [0.00395] d  
Epoch = 327.2452 [0.0056] BKJD  
Rp/R\* = 0.0254 [0.0130]  
a/R\* = 614.64 [1109.38]  
b = 0.73 [1.18]  
Seff = 9.12 [1.02]  
Teq = 443 [12] K  
Rp = 15.33 [8.07] Re  
a = 1.3469 [0.1145] AU  
Ag = 1401.50 [1473.07] [0.95σ]  
Teffp = 4192 [1099] K [3.41σ]

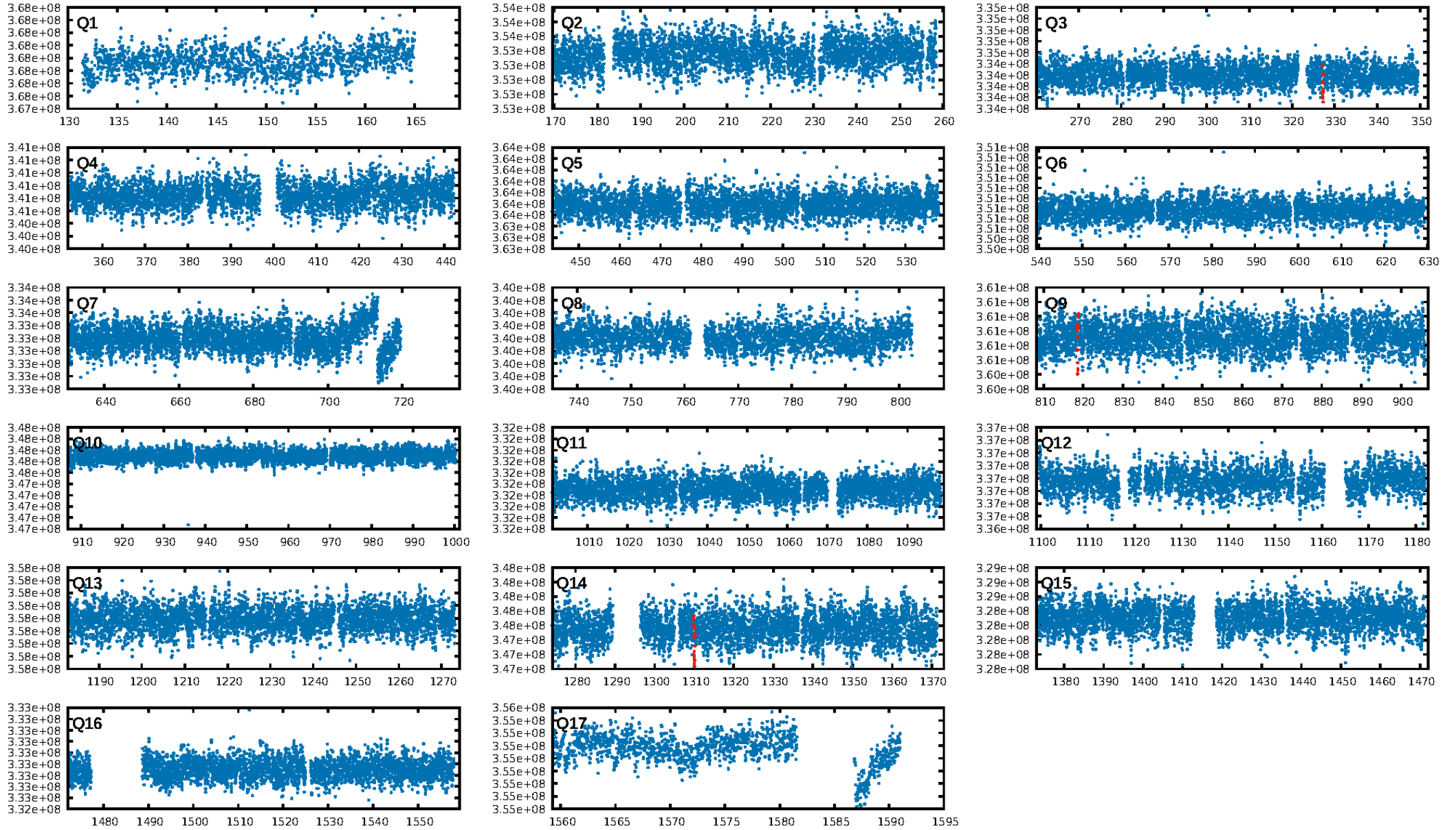
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 87.0%  
ModelChiSquareGof-sig: 99.2%  
**Bootstrap-pfa: 6.54e-10**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 3.904  
Centroid-sig: 66.5%  
Centroid-so: 0.511 arcsec [1.06σ]  
OotOffset-rm: 0.212 arcsec [1.42σ]  
OotOffset-st: 1/1/0/1 [3]  
KicOffset-rm: 0.268 arcsec [1.68σ]  
KicOffset-st: 1/1/0/1 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

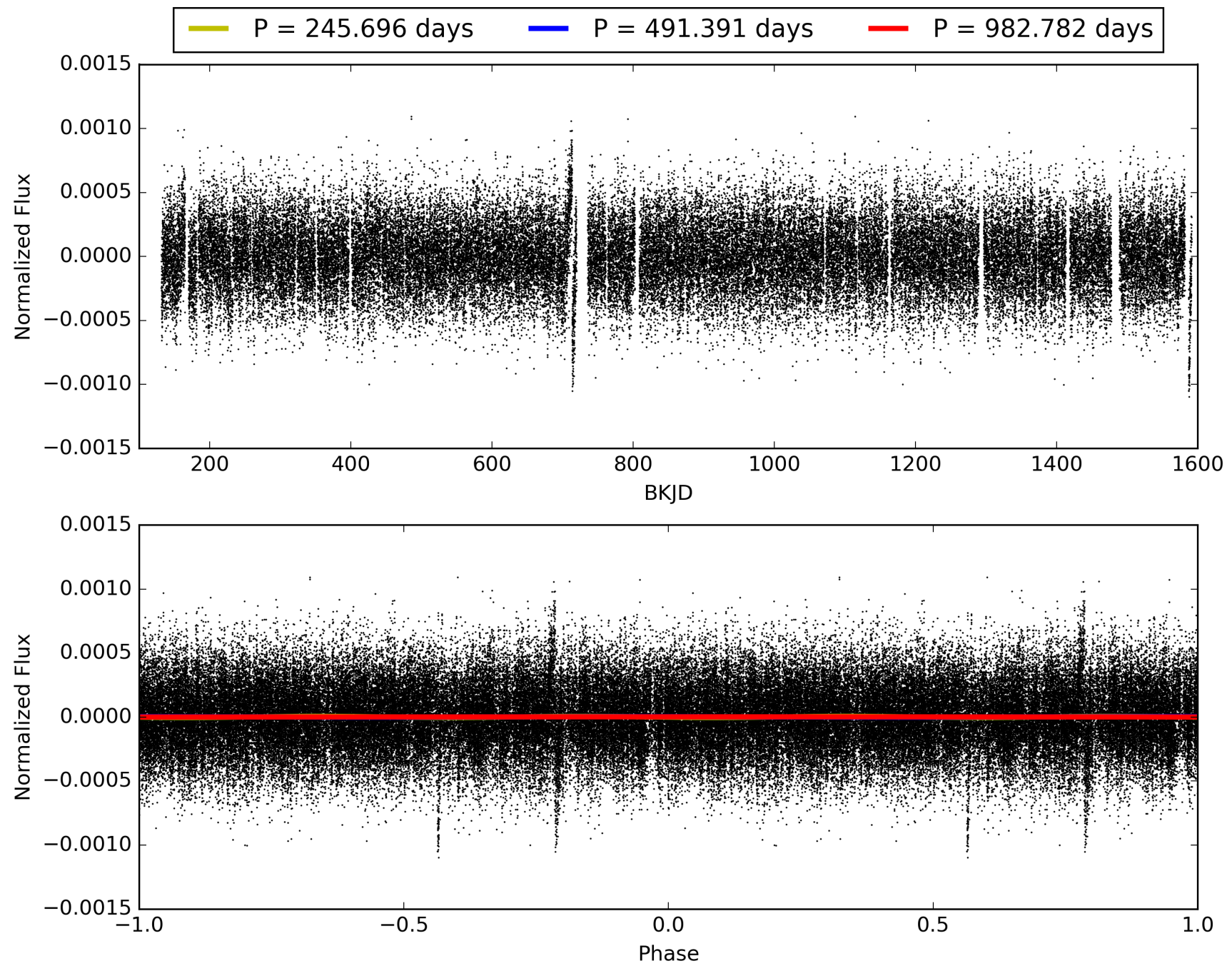
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:46:17 Z

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

# TCE 008154693-01, PDC Light Curves

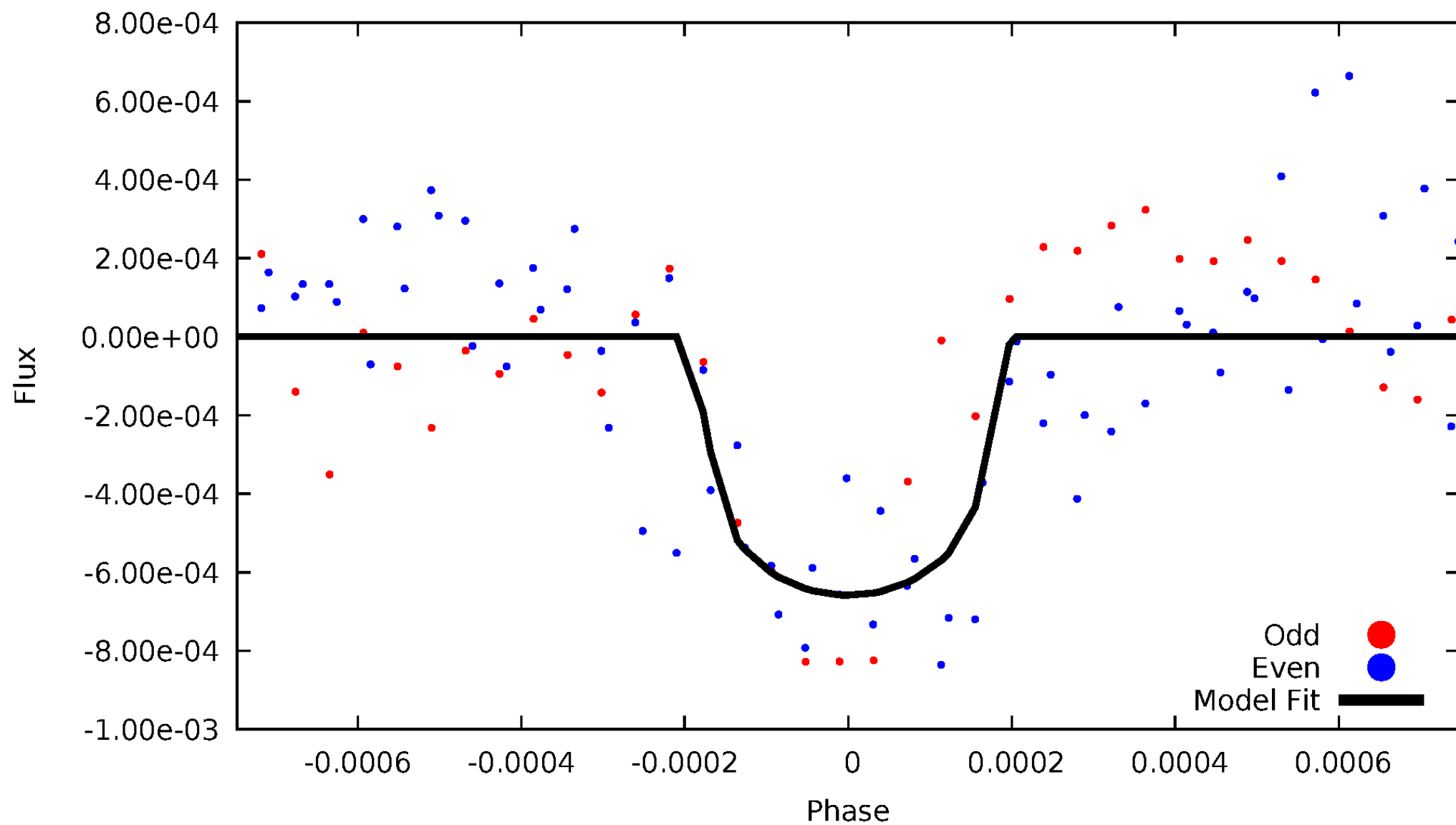


# TCE 008154693-01



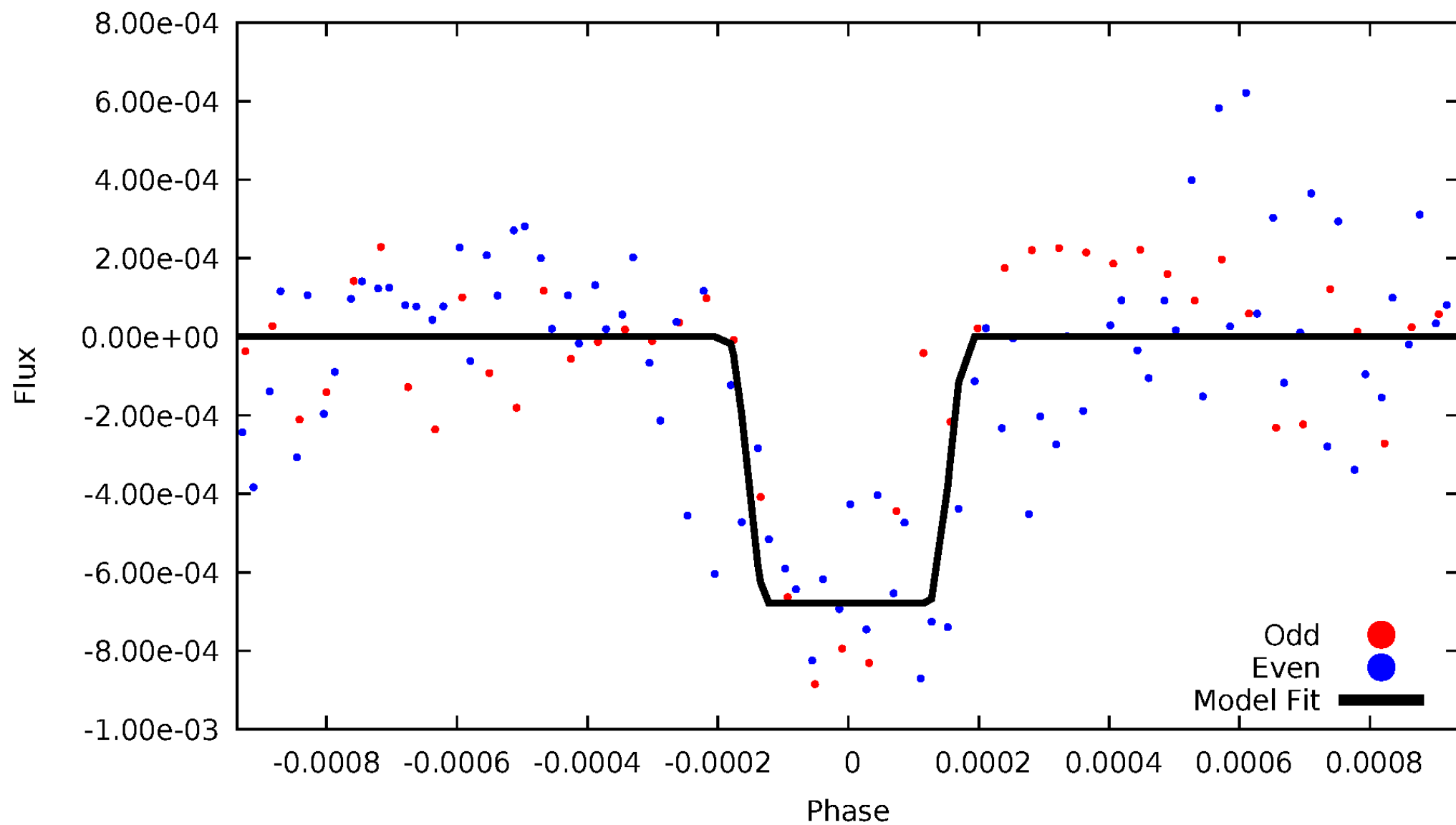
# DV Odd/Even

TCE 008154693-01



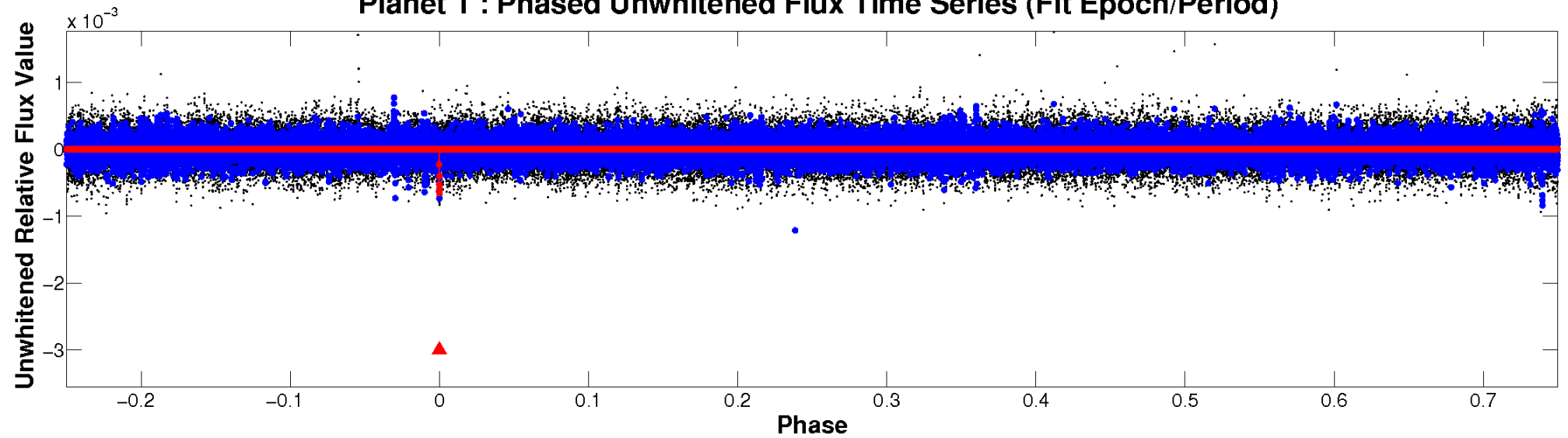
# ALT Odd/Even

TCE 008154693-01

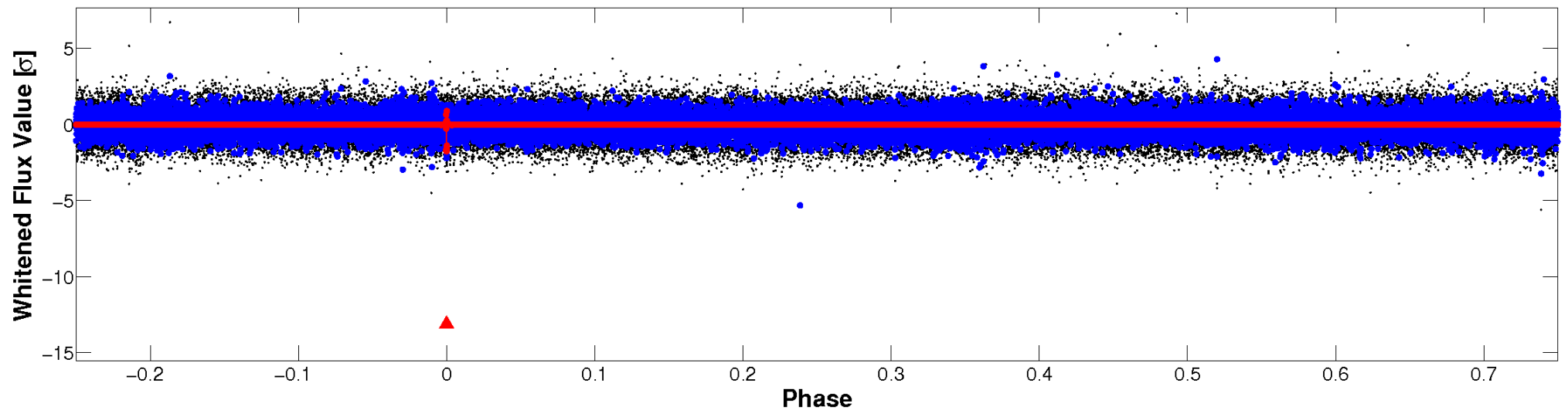


# Non-Whitened Vs. Whitened Light Curve

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

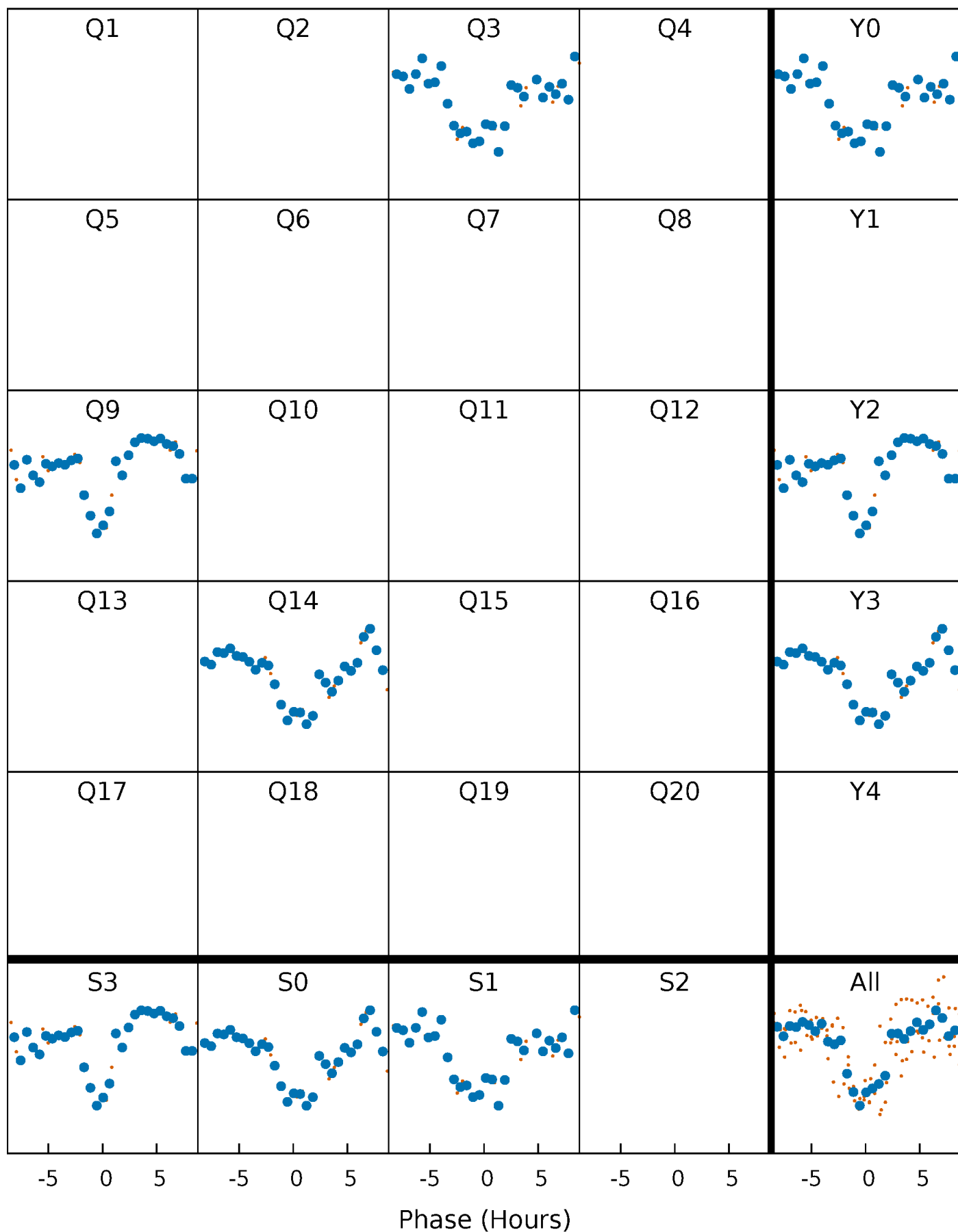


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

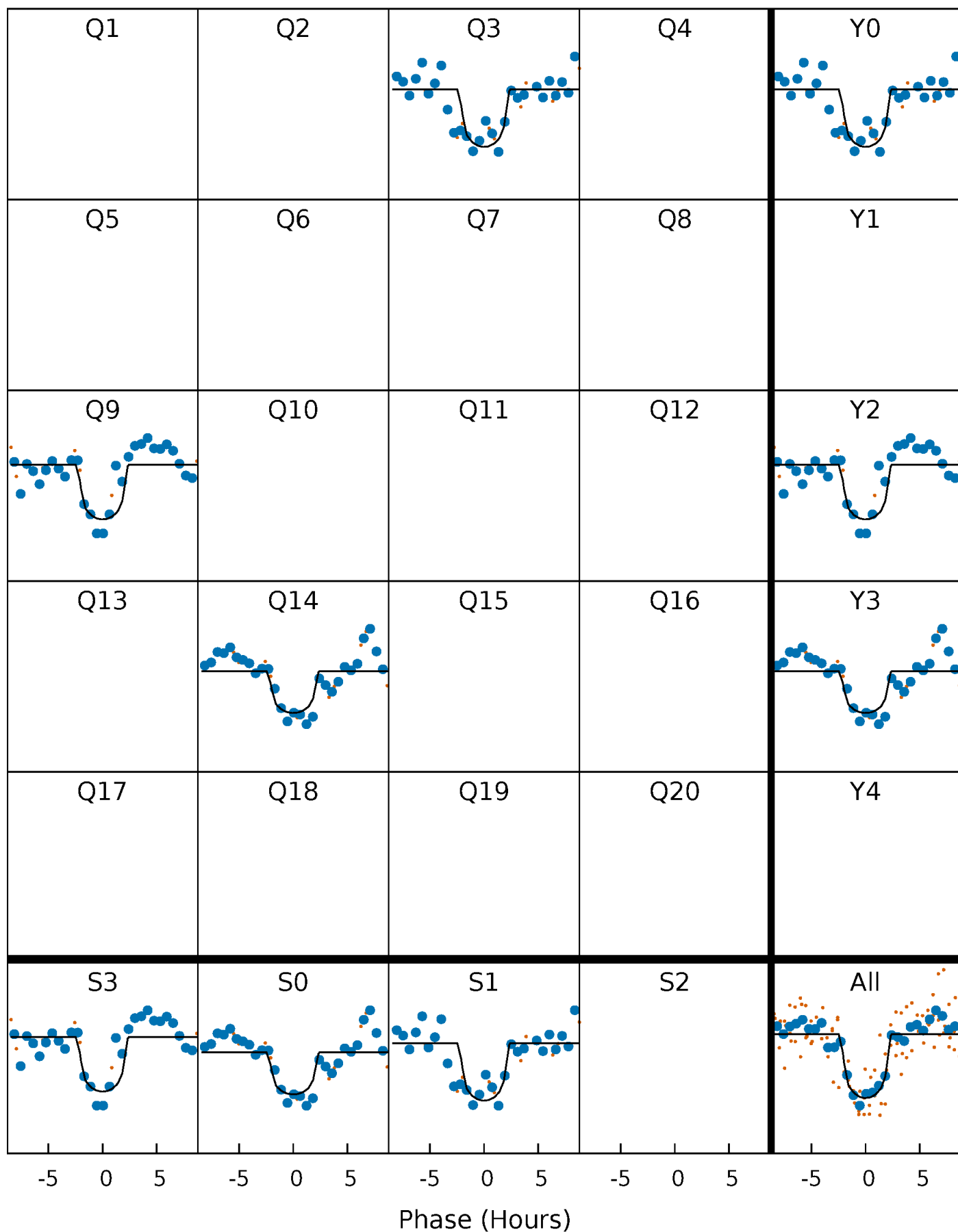
TCE 008154693-01   P=491.391145 Days    $T_0=327.245168$  (BKJD)





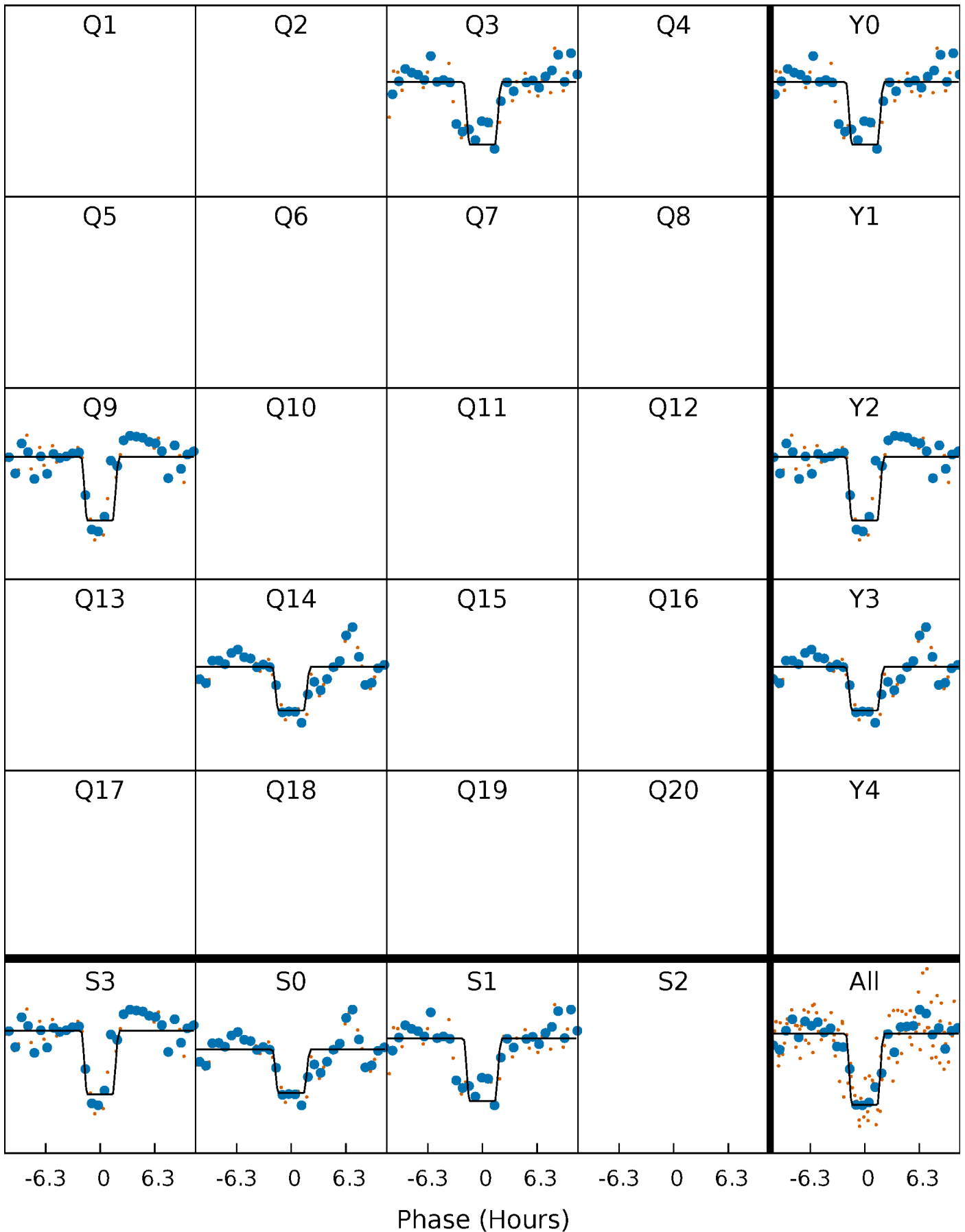
# DV Quarter-Phased Transit Curves

TCE 008154693-01 P=491.391145 Days  $T_0=327.245168$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

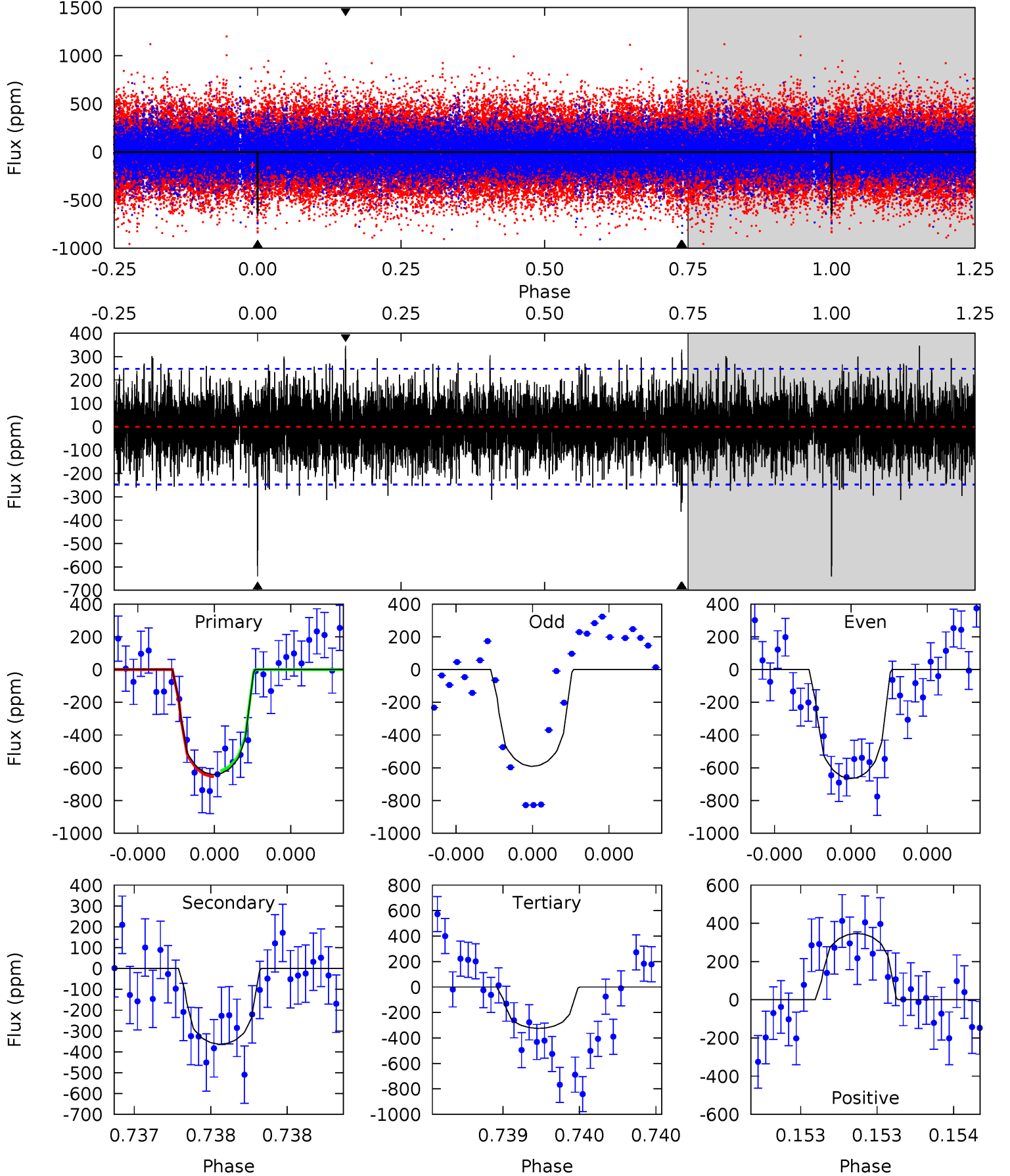
TCE 008154693-01 P=491.393062 Days  $T_0=327.242724$  (BKJD)



# DV Model-Shift Uniqueness Test

008154693-01, P = 491.391145 Days, E = 327.245168 Days

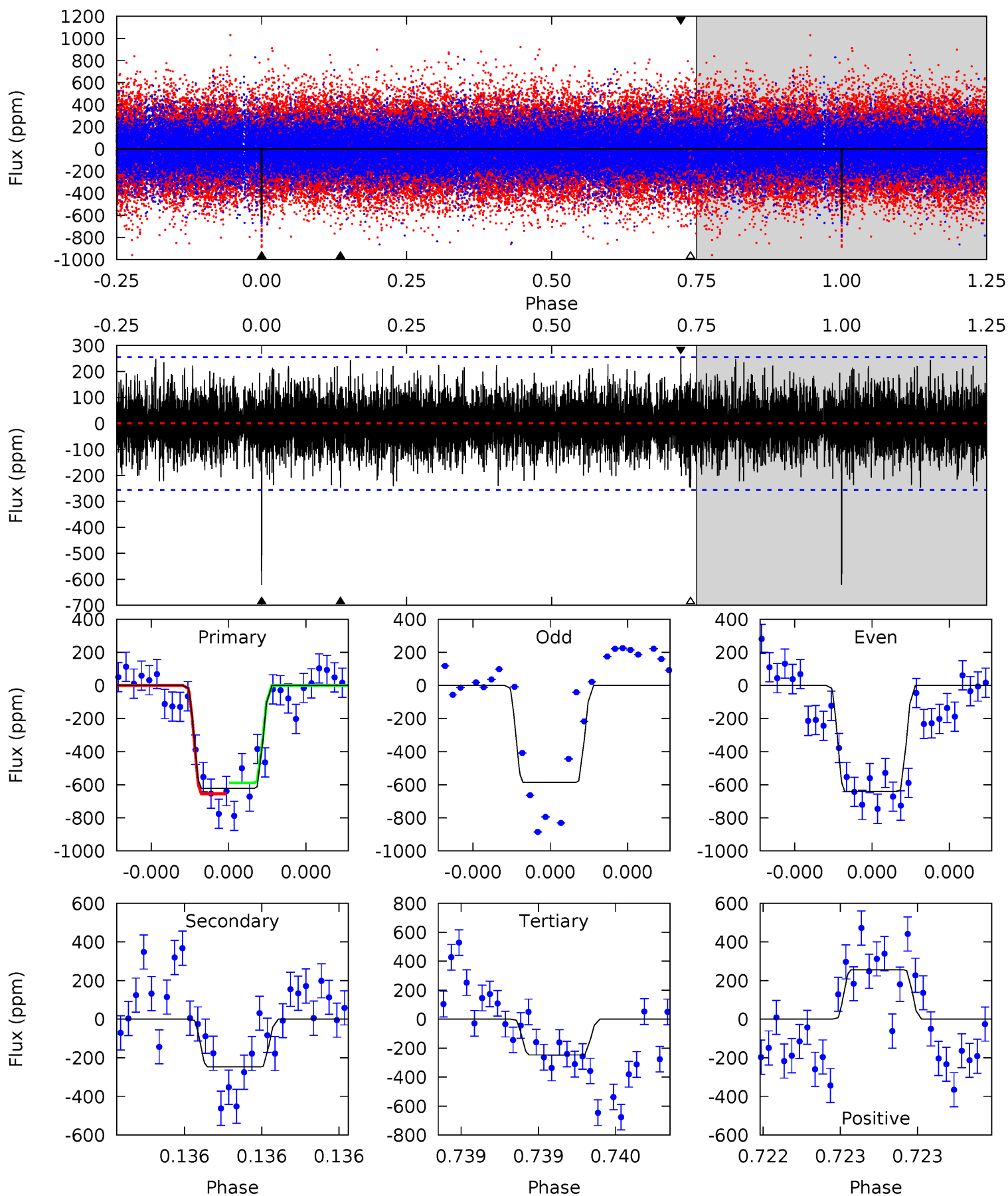
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	8.23	7.36	7.86	5.62	3.55	2.01	7.17	6.67	0.87	0.37	0.82	1.05	0.35	0.39



# Alt Model-Shift Uniqueness Test

008154693-01, P = 491.393062 Days, E = 327.242724 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
13.7	5.45	5.45	5.63	5.64	3.58	1.55	8.28	8.09	0.00	-0.18	0.57	1.06	0.29	0.73



### Stellar Parameters For KIC 008154693

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$4956^{+51}_{-74}$	$3.082^{+0.030}_{-0.030}$	$-0.180^{+0.100}_{-0.100}$	$5.534^{+0.396}_{-0.679}$	$1.349^{+0.164}_{-0.305}$	$0.011^{+0.002}_{-0.001}$
	+1%/-1%	+1%/-1%	+56%/-56%	+7%/-12%	+12%/-23%	+20%/-10%
Source	SPE74	AST9	SPE74	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 008154693-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-363 \pm 44$	$15.45^{+7.66}_{-7.06}$	$619^{+12}_{-12}$	$4377^{+1340}_{-587}$	$1494^{+3686}_{-831}$
Alt.	$-247 \pm 45$	$15.62^{+8.41}_{-7.42}$	$620^{+11}_{-13}$	$4064^{+1121}_{-550}$	$1017^{+2410}_{-606}$

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

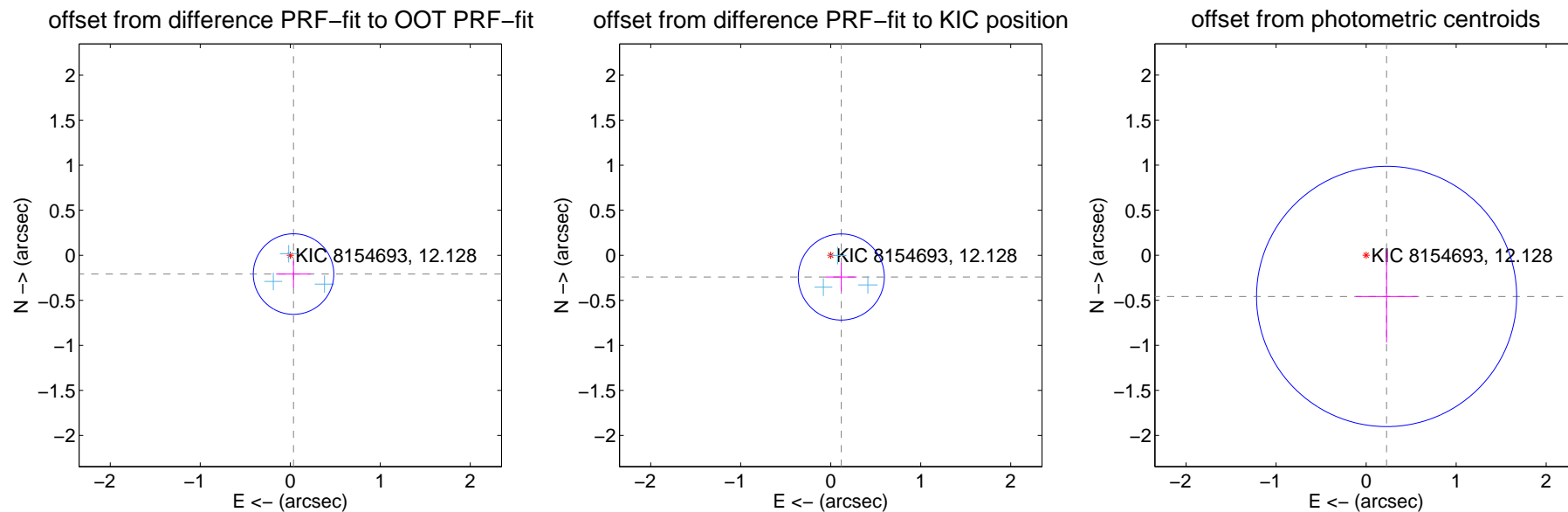
## DV Centroid Data

Supplemental centroid analysis for 008154693-01. Kepler magnitude: 12.13. Transit SNR 7.99

There are 3 quarters with good PRF difference image offsets

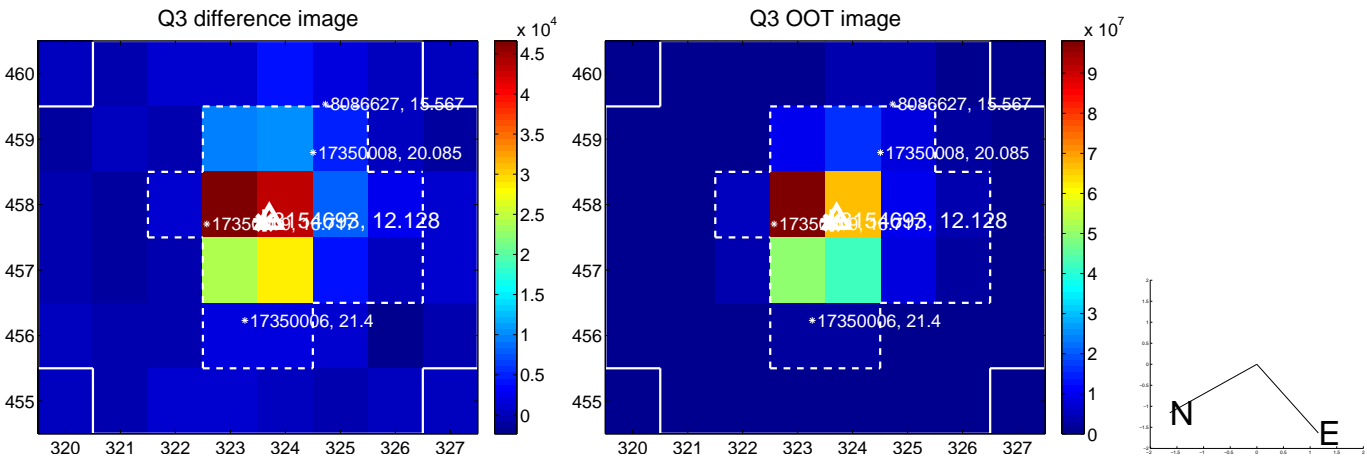
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.212 \pm 0.149$	1.42	$-0.037 \pm 0.194$	$-0.209 \pm 0.148$
PRF-fit source offset from KIC position	$0.268 \pm 0.159$	1.68	$-0.118 \pm 0.170$	$-0.241 \pm 0.157$
photometric centroid source offset	$0.51 \pm 0.48$	1.06	$-0.23 \pm 0.34$	$-0.46 \pm 0.51$



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.

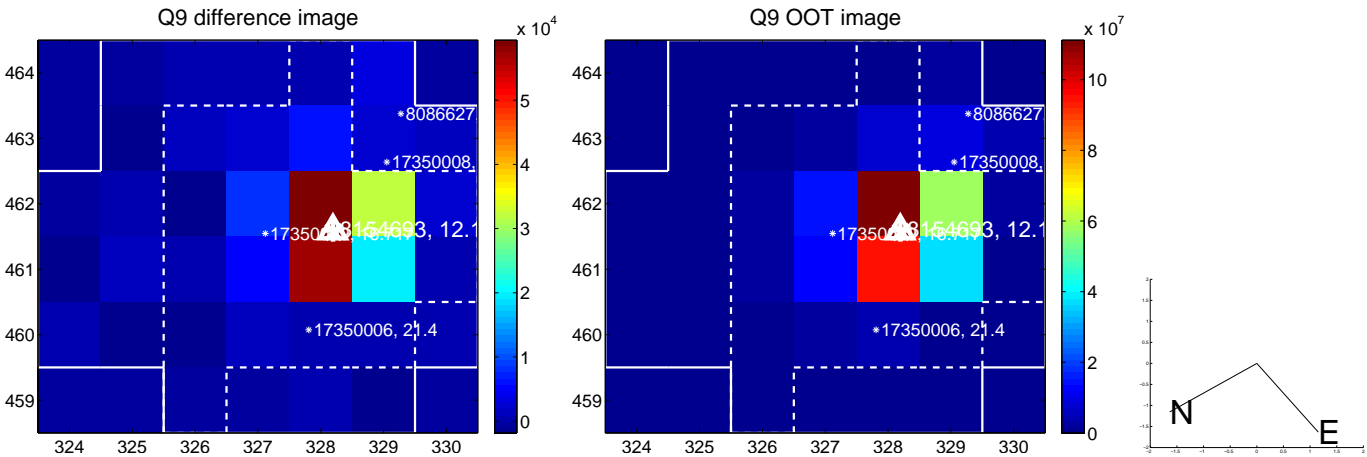


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

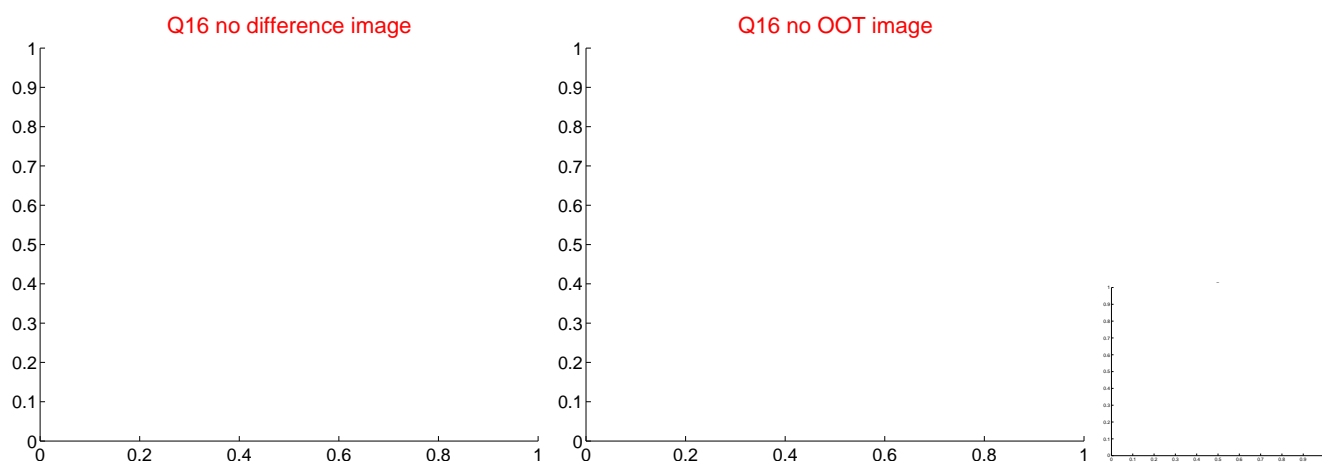
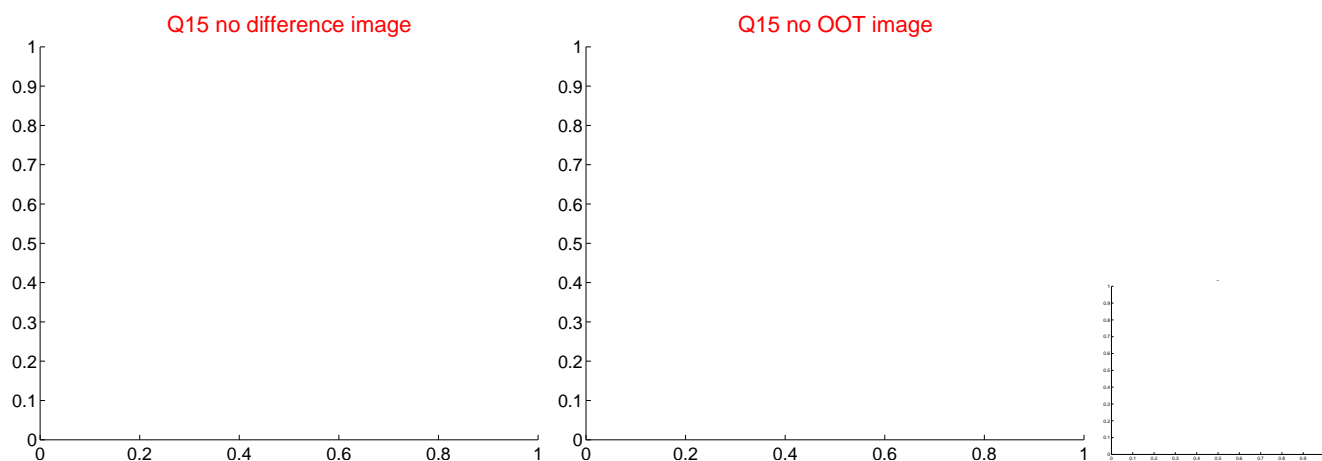
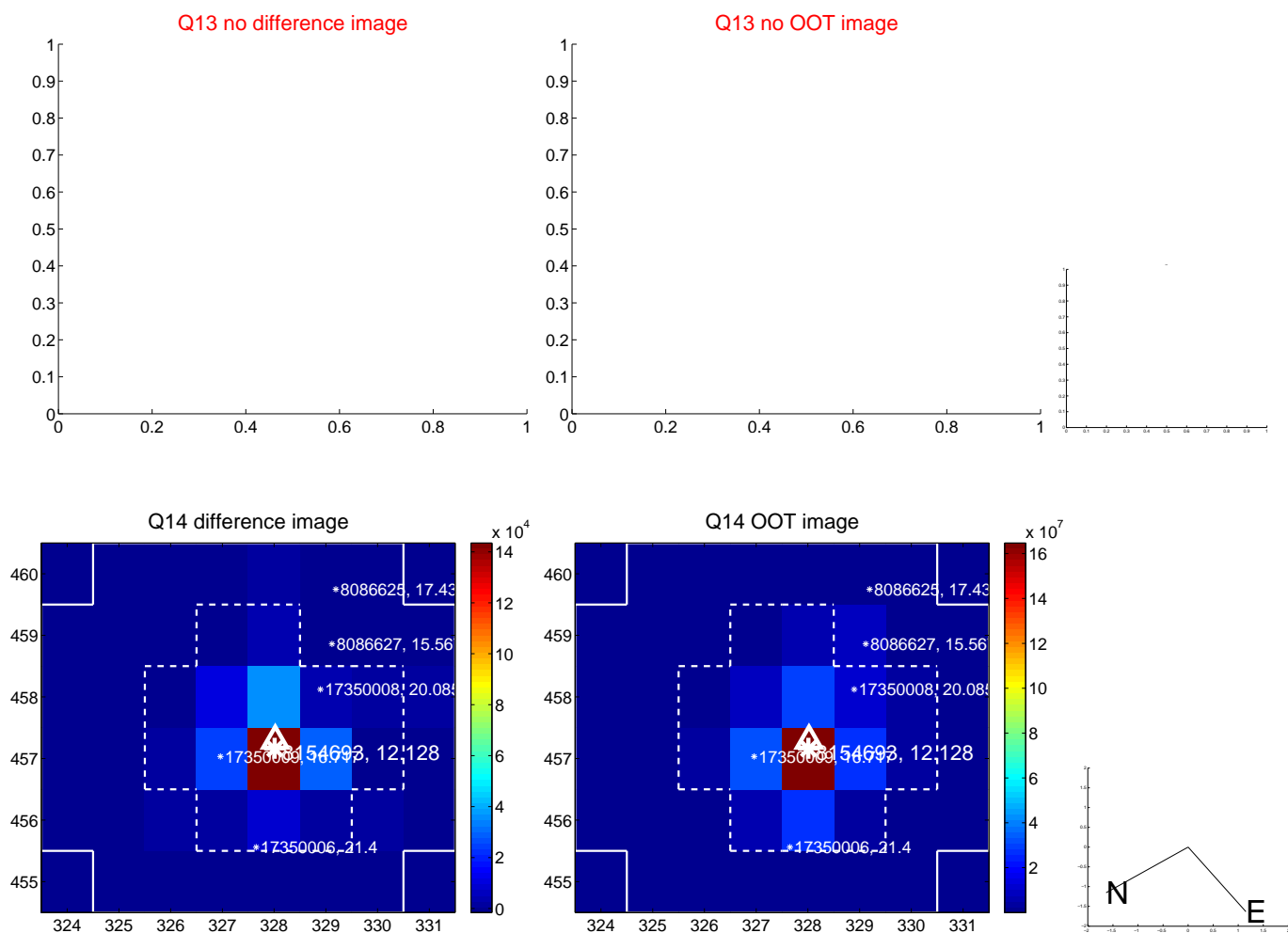




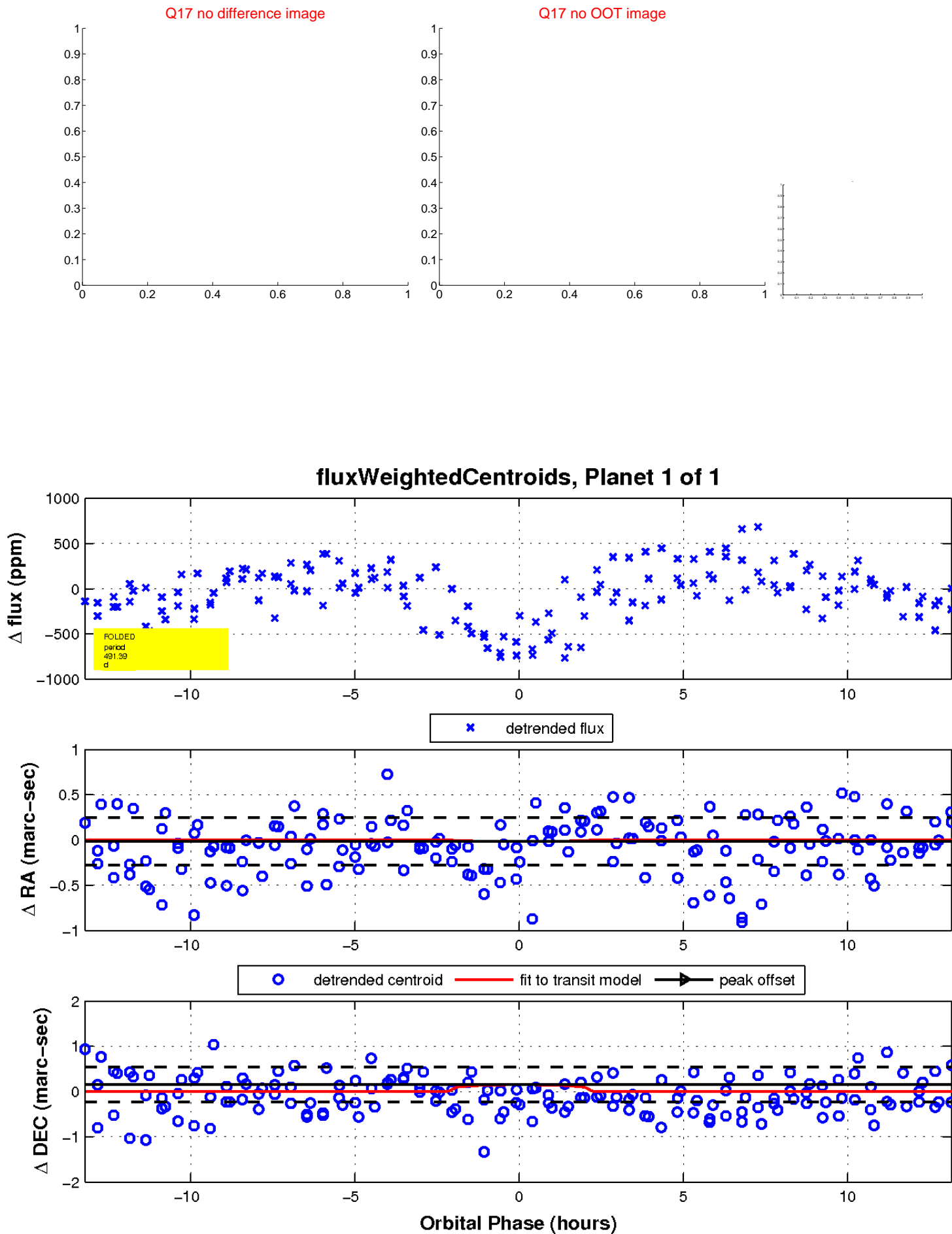
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

