

# KIC 004739791

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004739791-01	OBS	No	0.898936	131.804944	26895.4	2.000	1765.3	-1.0	2.73	7762	45.58	47110.95

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004739791-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS

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

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

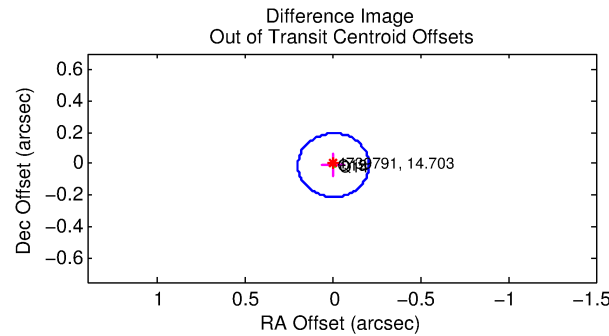
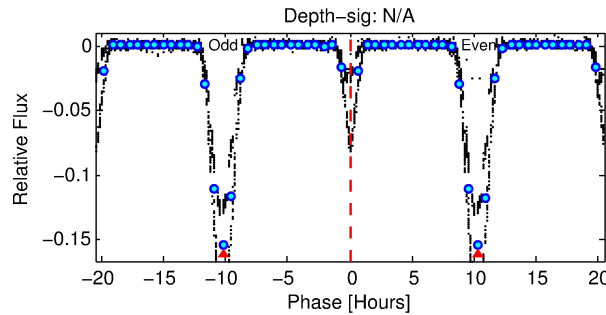
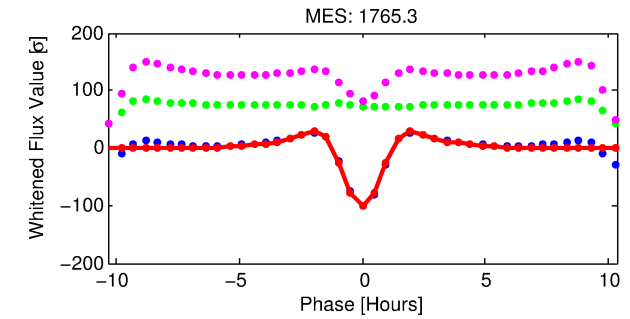
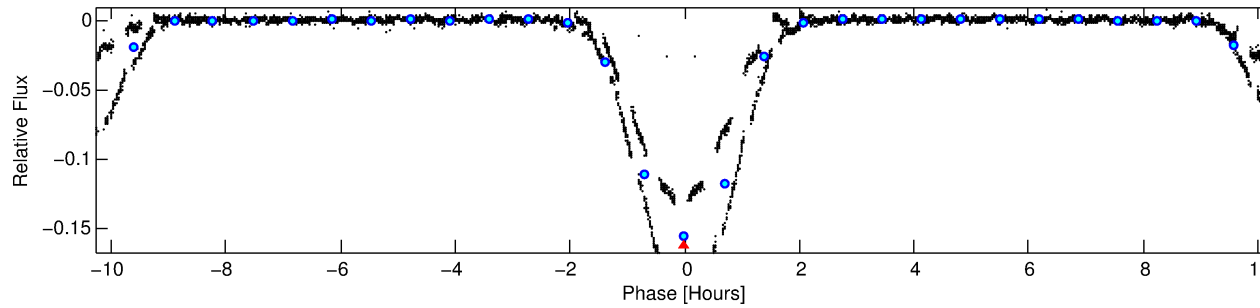
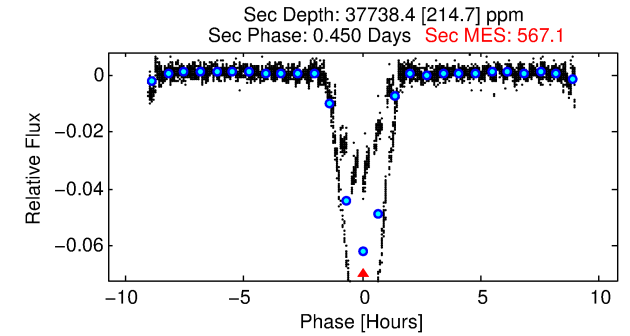
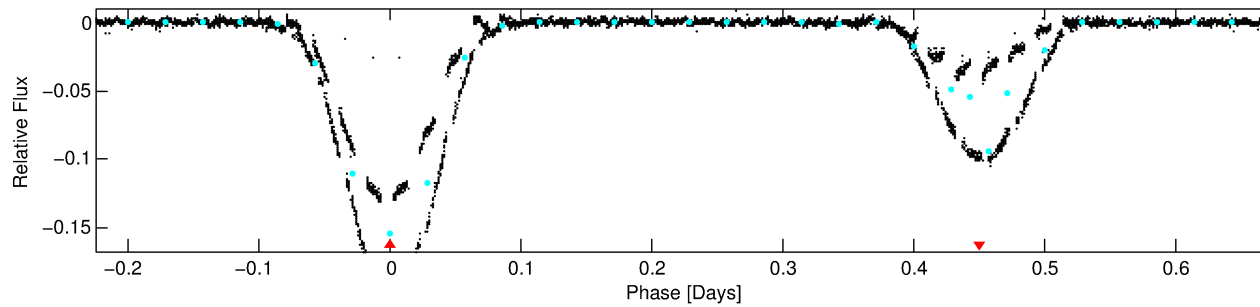
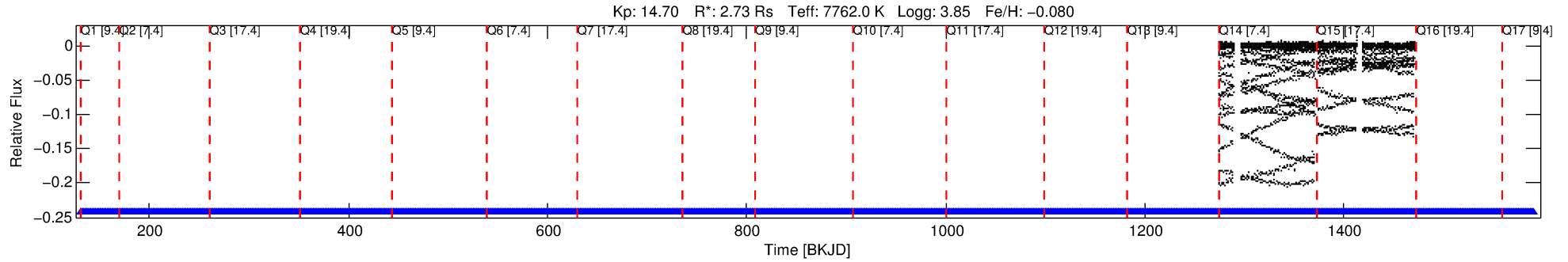
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004739791-01

No Significant Match Found

# DV One-Page Summary

KIC: 4739791 Candidate: 1 of 1 Period: 0.899 d



## TPS TCE Results:

Period = 0.89894 d  
Epoch = 131.8049 BKJD

**DV fit results are unavailable**

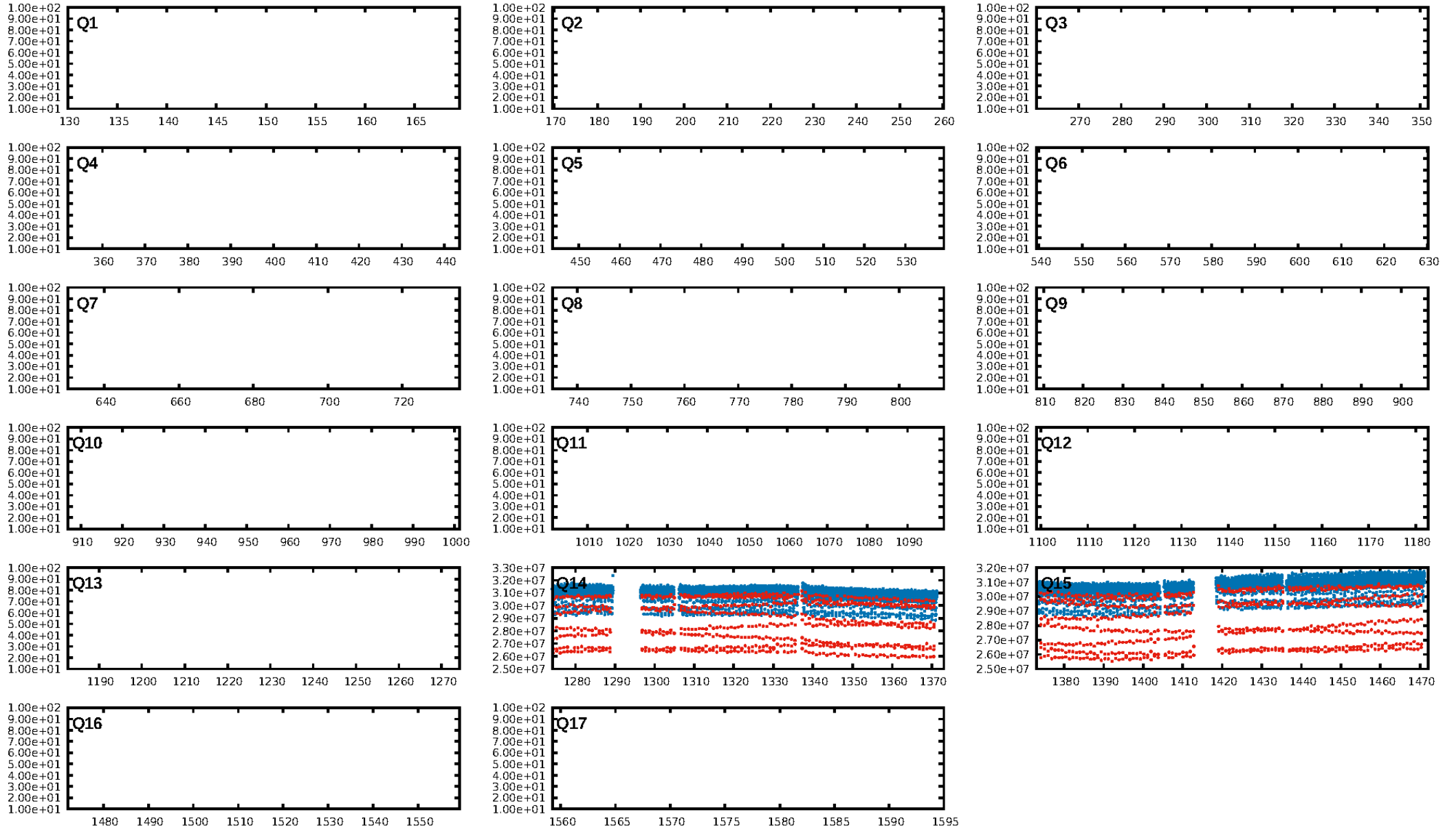
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [198/198]  
**GhostDiagnostic-chr: 0.74**  
  
Centroid-sig: 0.1%  
**Centroid-so: 0.088 arcsec [63.11σ]**  
OotOffset-rm: 0.009 arcsec [0.13σ]  
KicOffset-rm: 0.035 arcsec [0.46σ]  
OotOffset-st: 1/1/0/0 [2]  
KicOffset-st: 1/1/0/0 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [2/2]

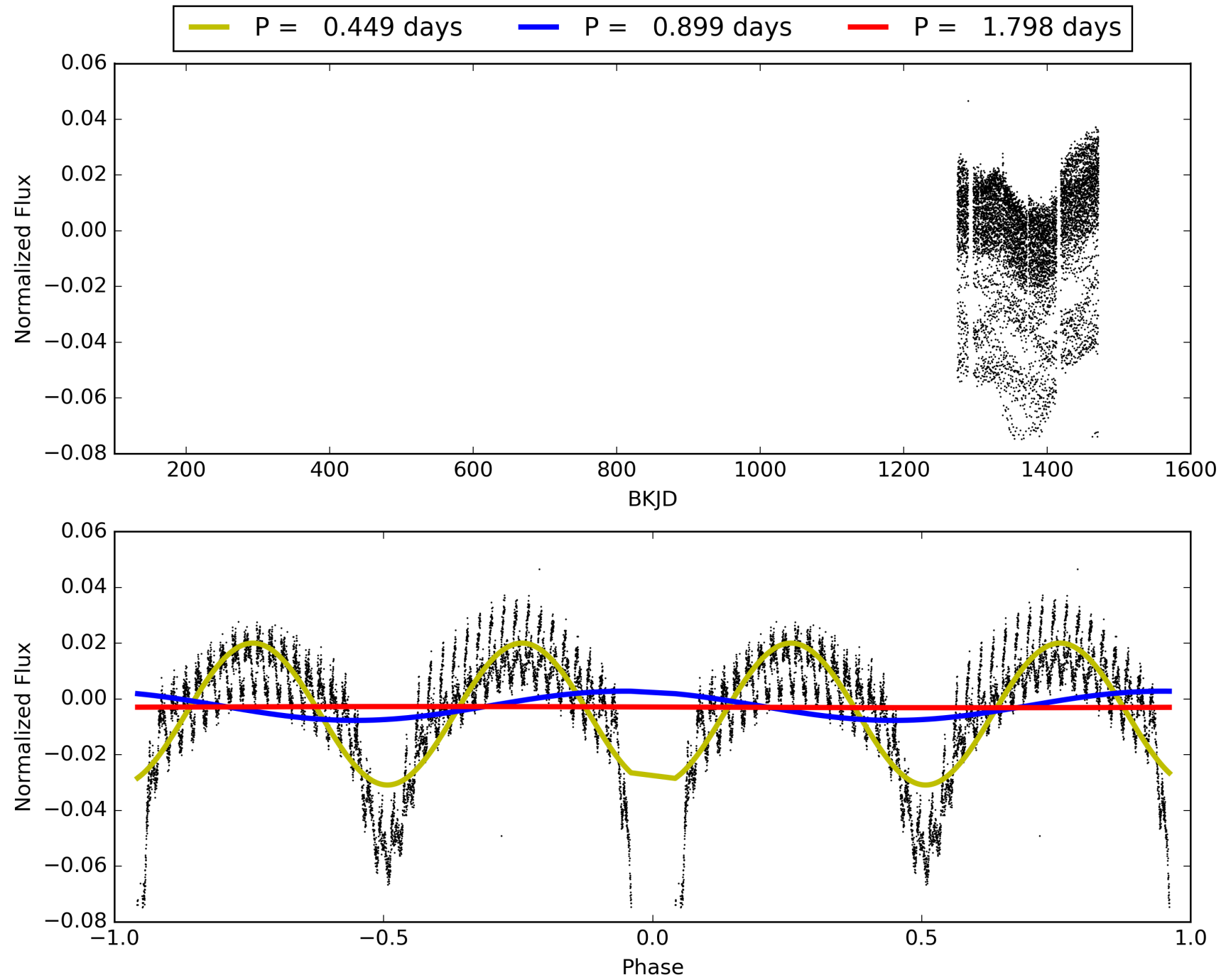
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:33:09 Z

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

# TCE 004739791-01, PDC Light Curves

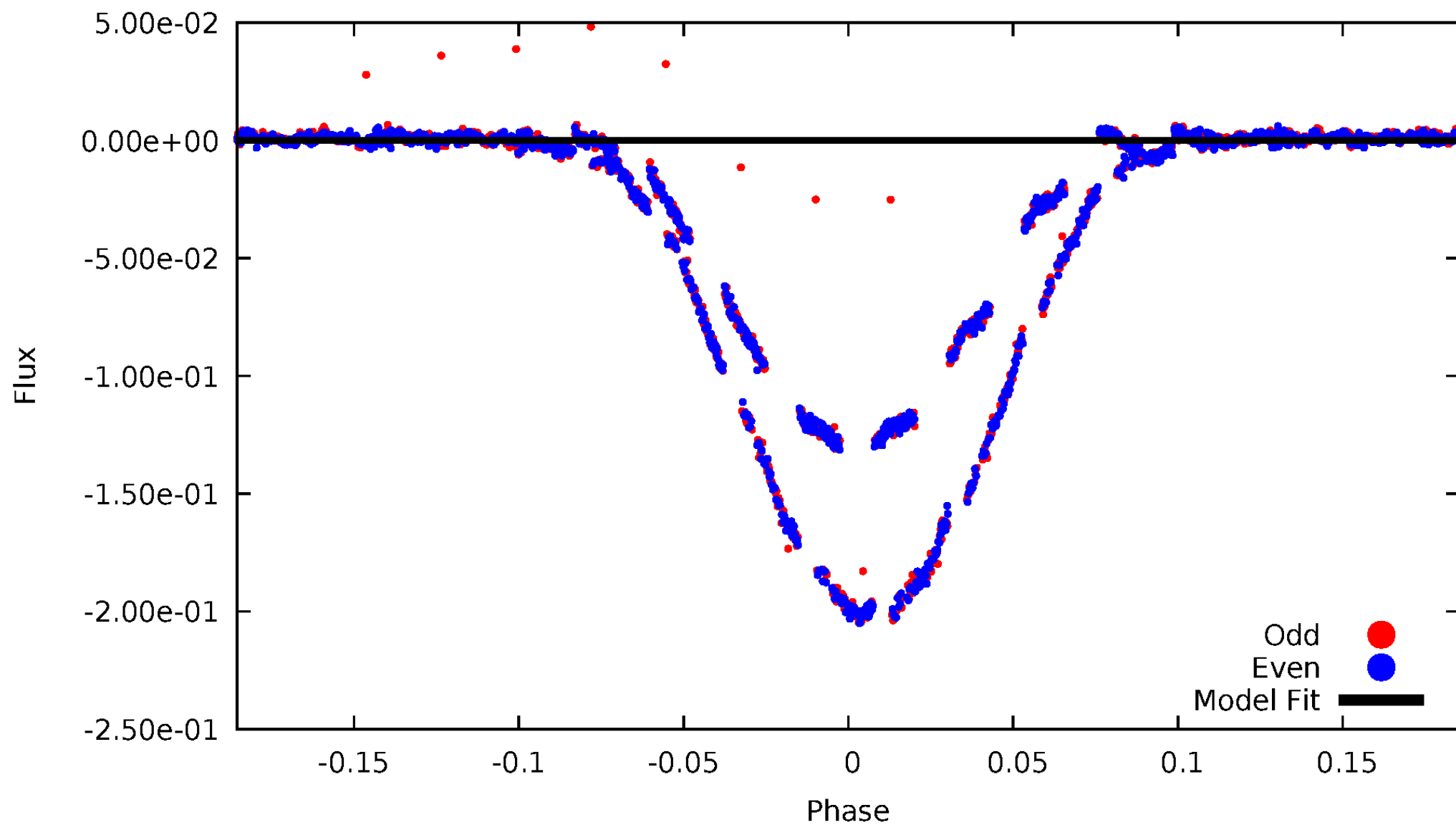


TCE 004739791-01



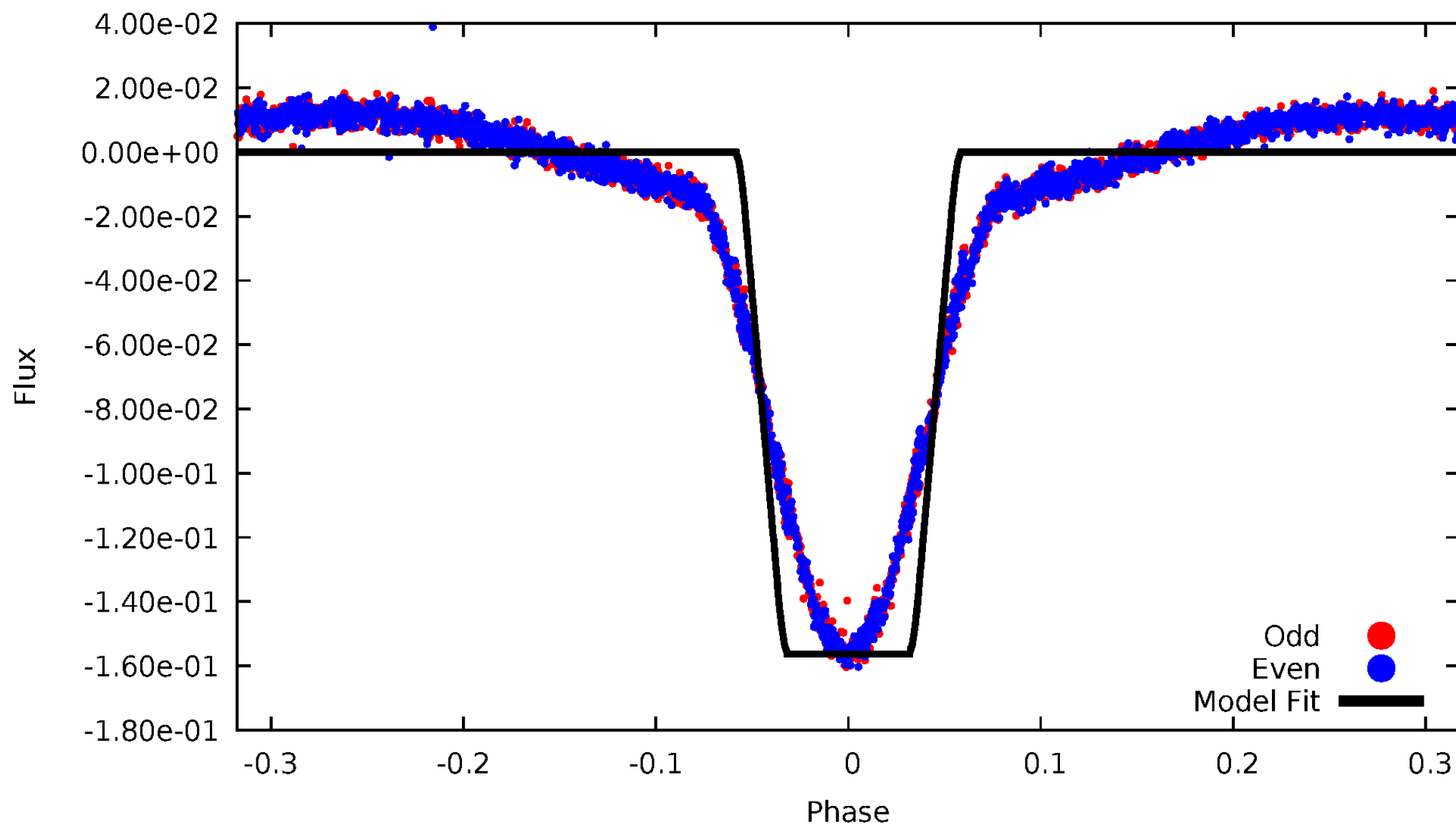
# DV Odd/Even

TCE 004739791-01



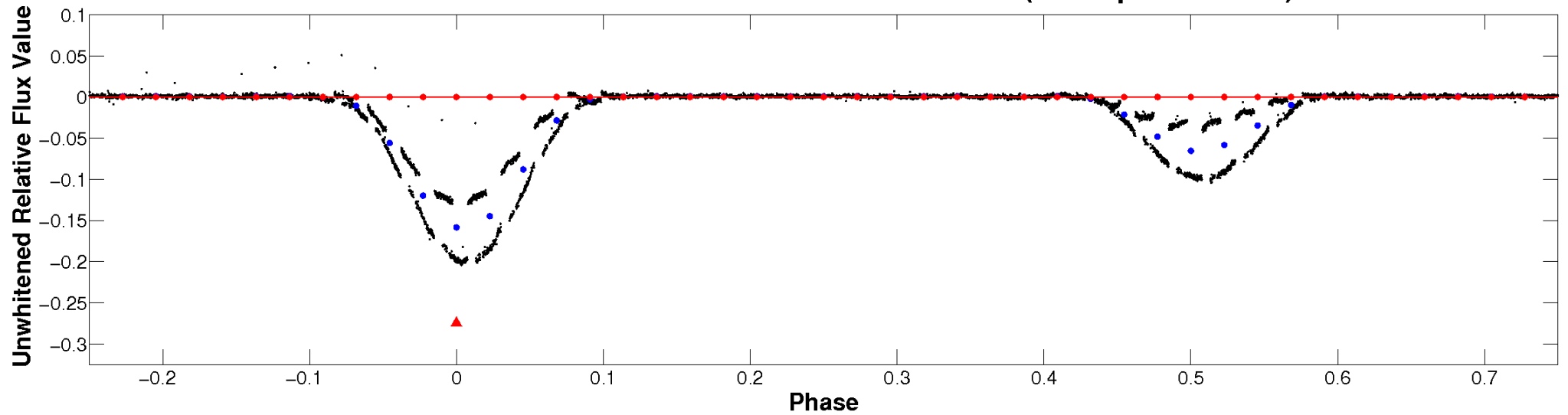
# ALT Odd/Even

TCE 004739791-01



# Non-Whitened Vs. Whitened Light Curve

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

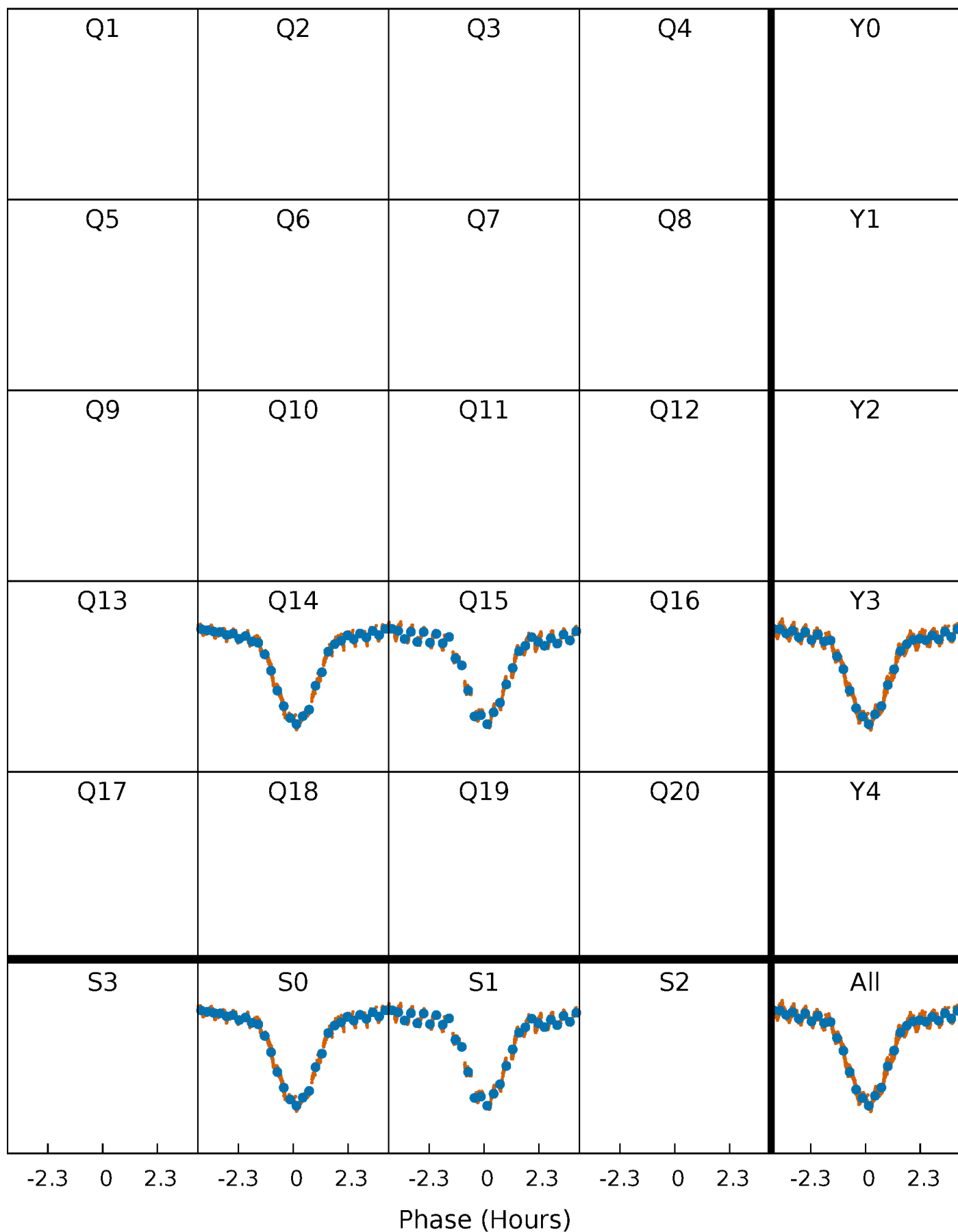


**Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



# PDC Quarter-Phased Transit Curves

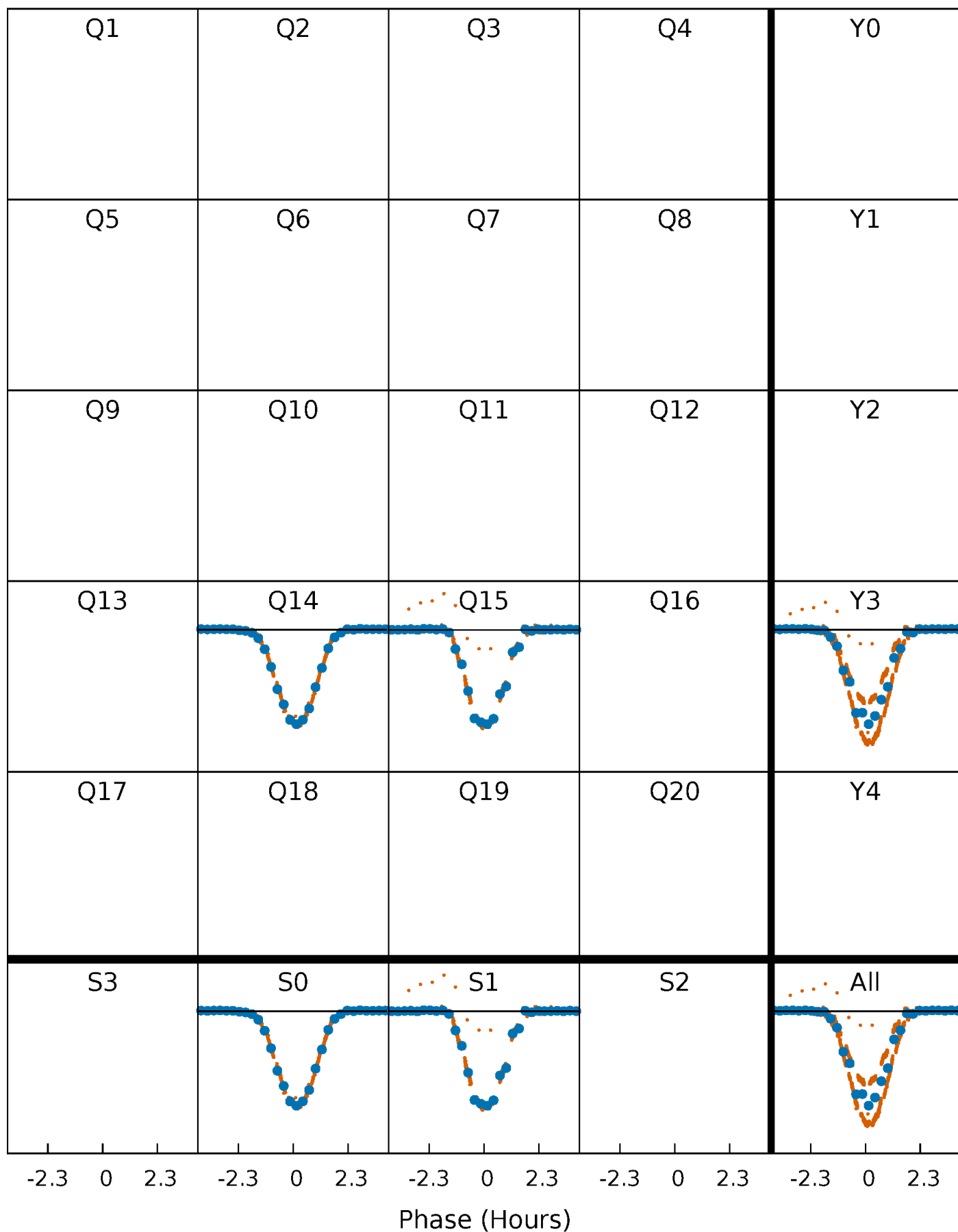
TCE 004739791-01 P= 0.898936 Days  $T_0=131.804944$  (BKJD)





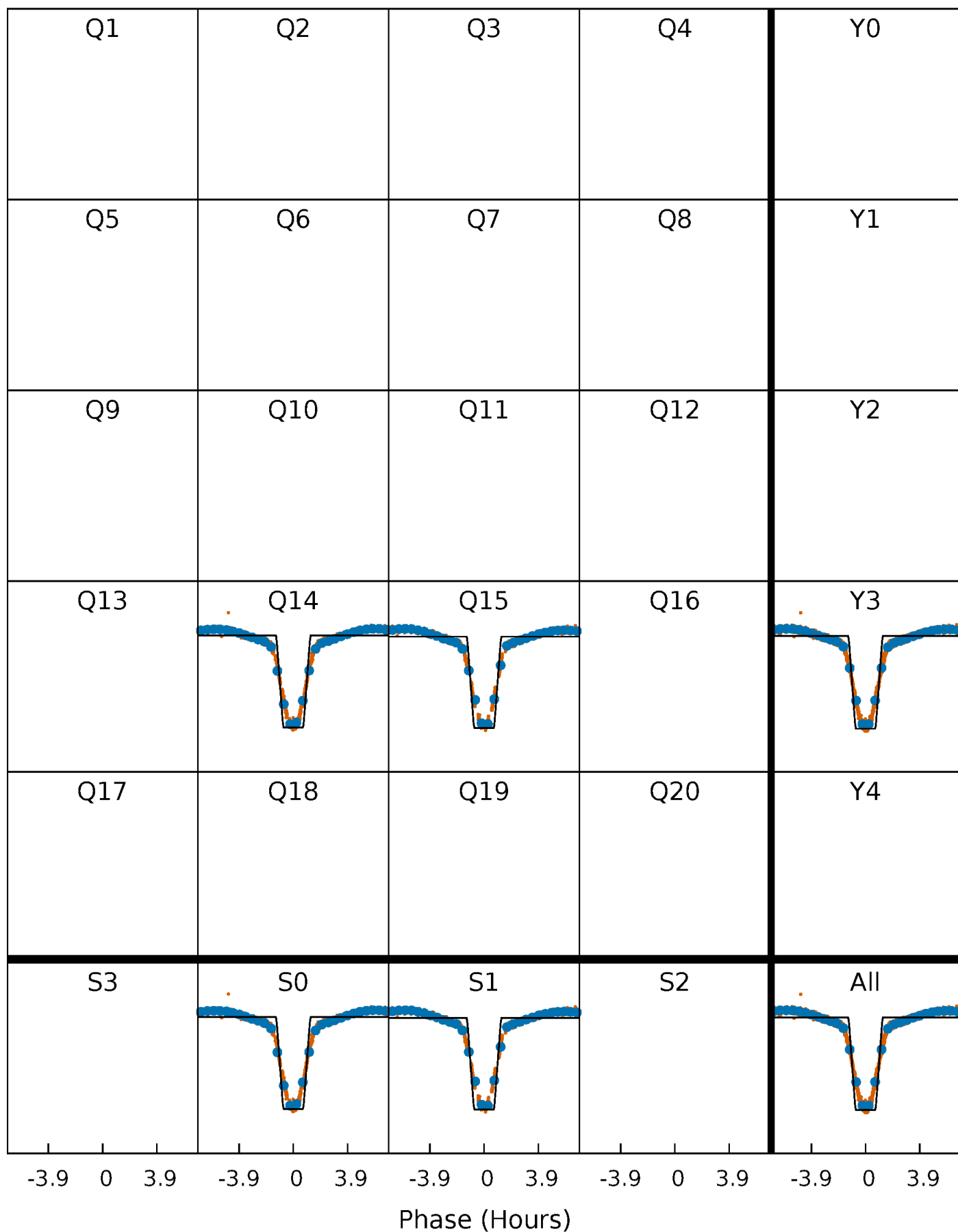
# DV Quarter-Phased Transit Curves

TCE 004739791-01 P= 0.898936 Days  $T_0=131.804944$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

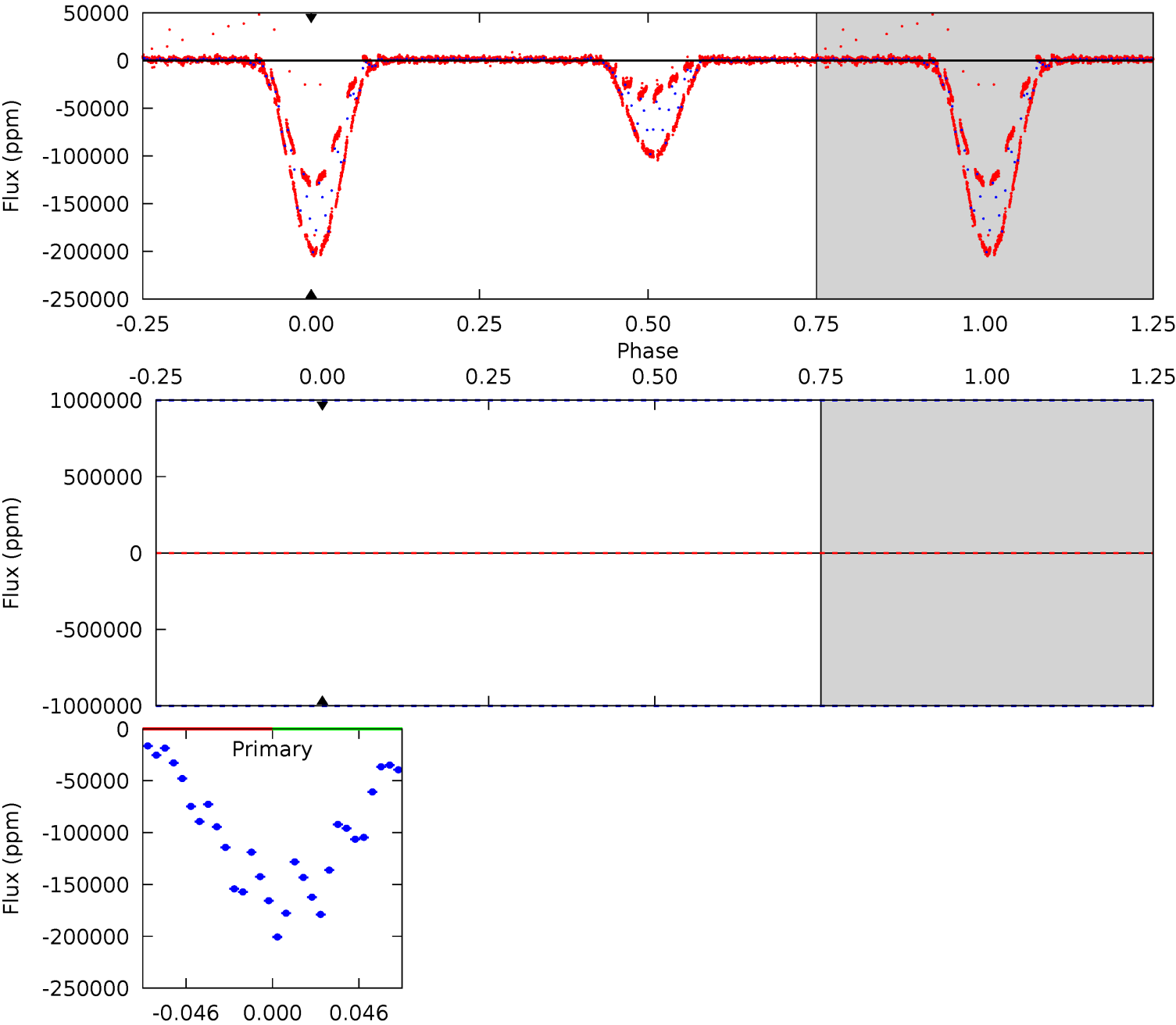
TCE 004739791-01     $P = 0.898936$  Days     $T_0 = 131.809446$  (BKJD)



DV Model-Shift Uniqueness Test

004739791-01, P = 0.898936 Days, E = 131.804944 Days

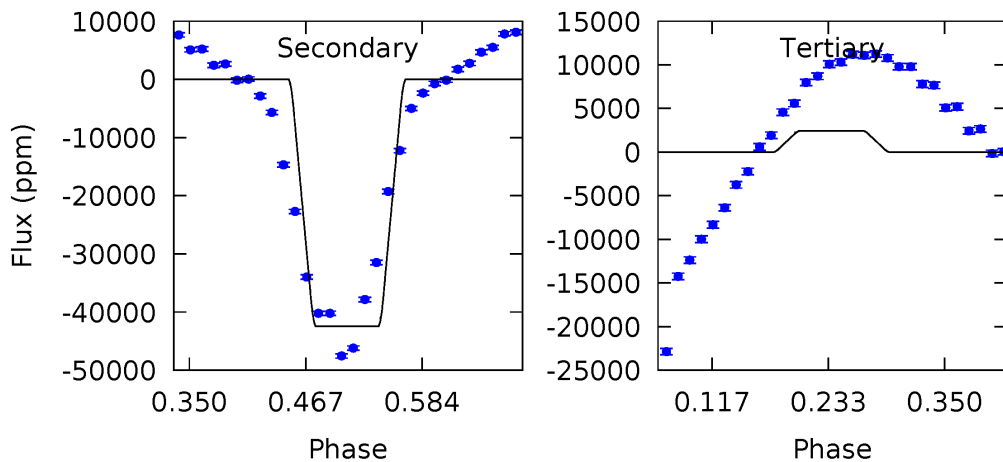
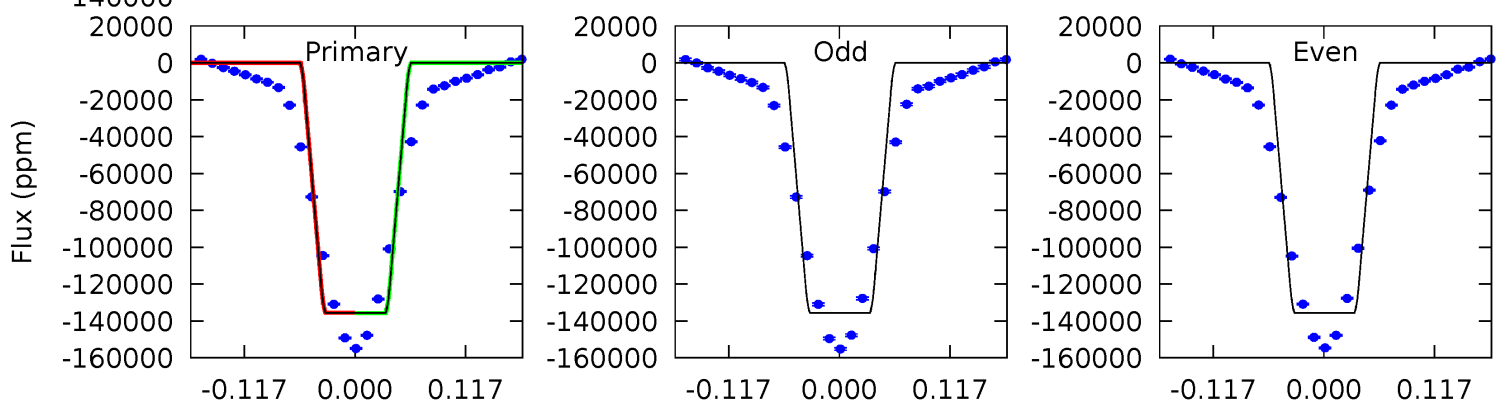
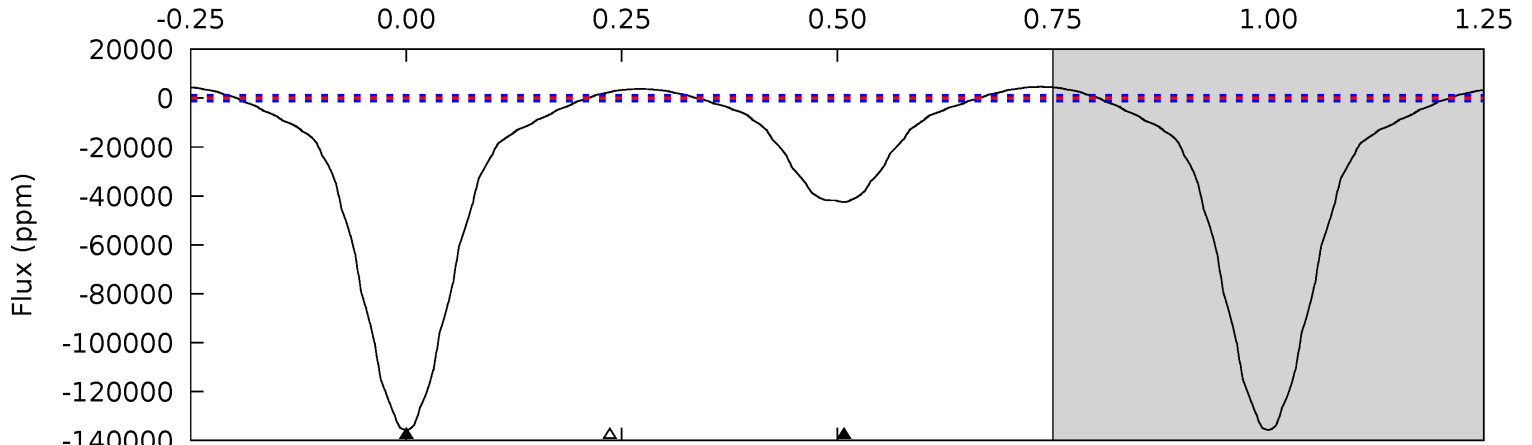
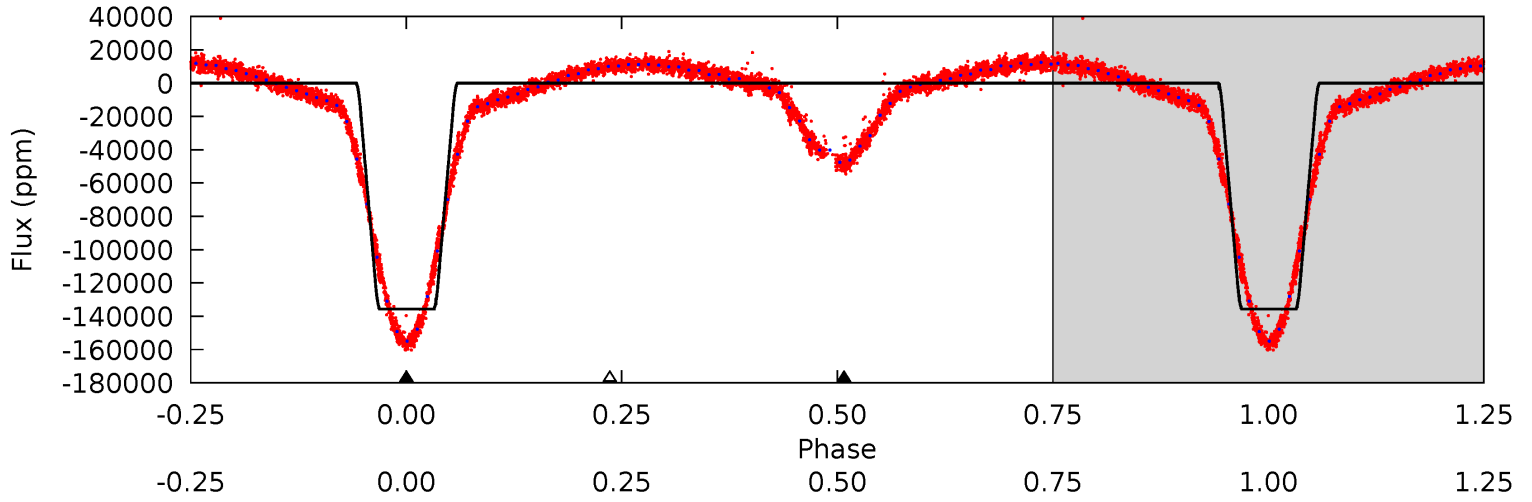
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

004739791-01, P = 0.898936 Days, E = 131.809446 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
521.9	163.4	-9.37	0	4.53	1.57	19.9	531.3	521.9	172.8	163.4	0.04	1.00	0.03	0.54



### Stellar Parameters For KIC 004739791

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$7762^{+214}_{-322}$	$3.851^{+0.315}_{-0.105}$	$-0.080^{+0.200}_{-0.350}$	$2.735^{+0.446}_{-1.041}$	$1.936^{+0.087}_{-0.465}$	$0.133^{+0.338}_{-0.043}$
	+3%/-4%	+8%/-3%	+250%/-438%	+16%/-38%	+4%/-24%	+254%/-32%
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 004739791-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$44.28^{+29.56}_{-24.32}$	$5106^{+371}_{-478}$	$-4519^{+19507}_{-10162}$	$-0.109^{+23.434}_{-19.908}$
Alt.	$-42462 \pm 260$	$108.63^{+34.94}_{-32.78}$	$5135^{+352}_{-480}$	$5120^{+1061}_{-740}$	$1.036^{+1.085}_{-0.437}$

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

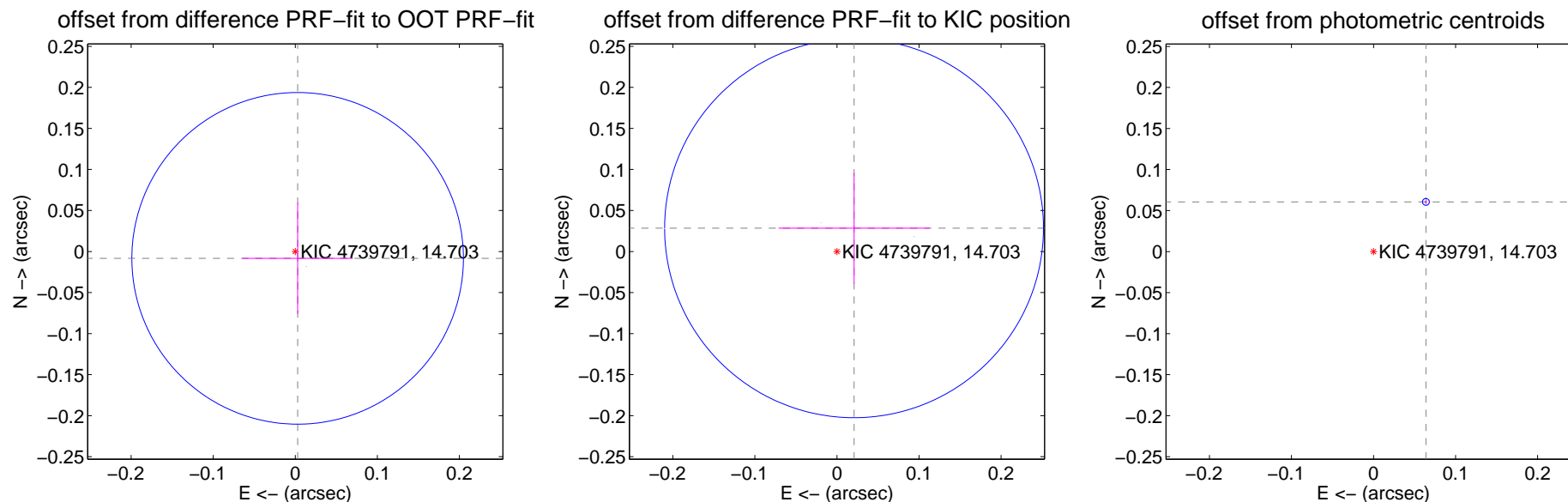
## DV Centroid Data

Supplemental centroid analysis for 004739791-01. Kepler magnitude: 14.70. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.009 \pm 0.067$	0.13	$-0.003 \pm 0.067$	$-0.008 \pm 0.067$
PRF-fit source offset from KIC position	$0.035 \pm 0.077$	0.46	$-0.021 \pm 0.092$	$0.028 \pm 0.067$
photometric centroid source offset	$0.09 \pm 0.00$	63.11	$-0.06 \pm 0.00$	$0.06 \pm 0.00$



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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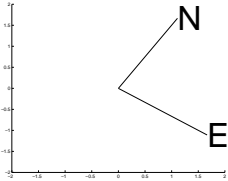
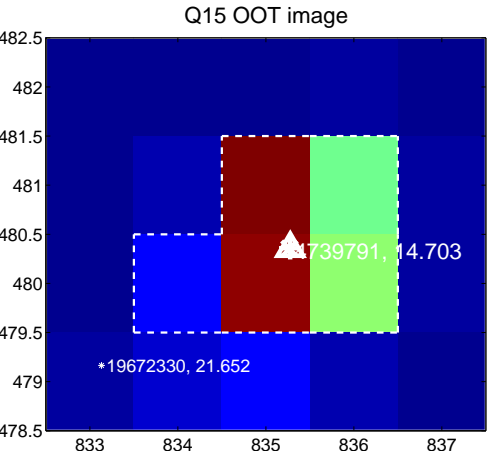
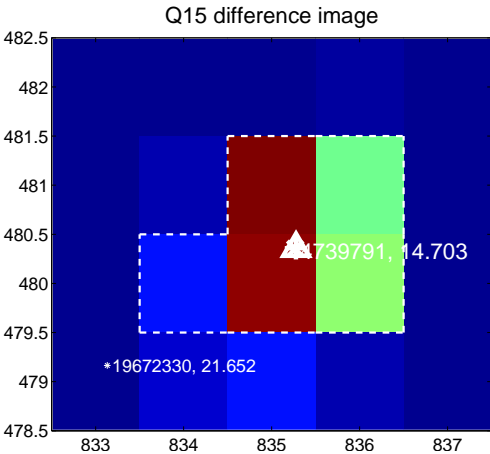
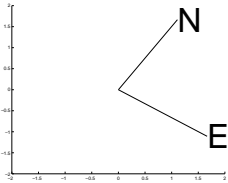
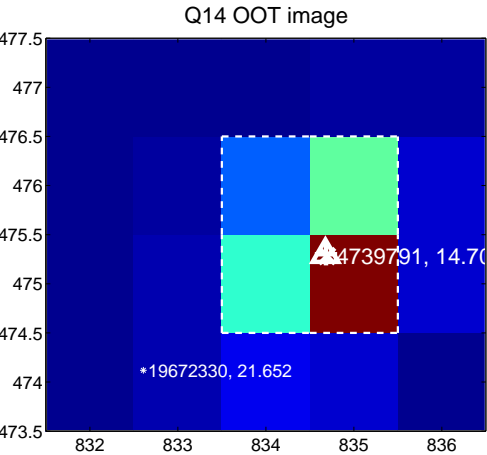
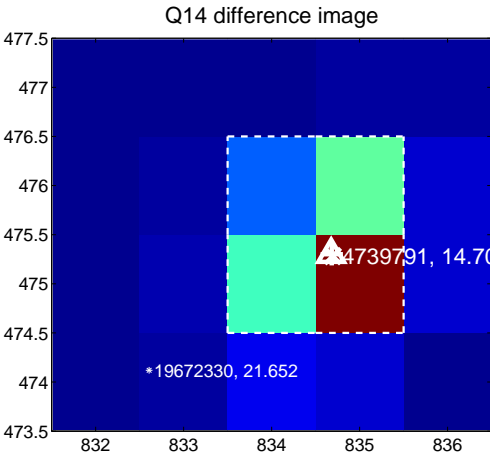


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

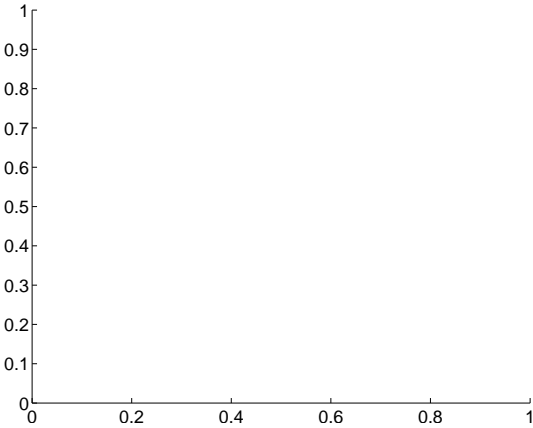
Q13 no difference image



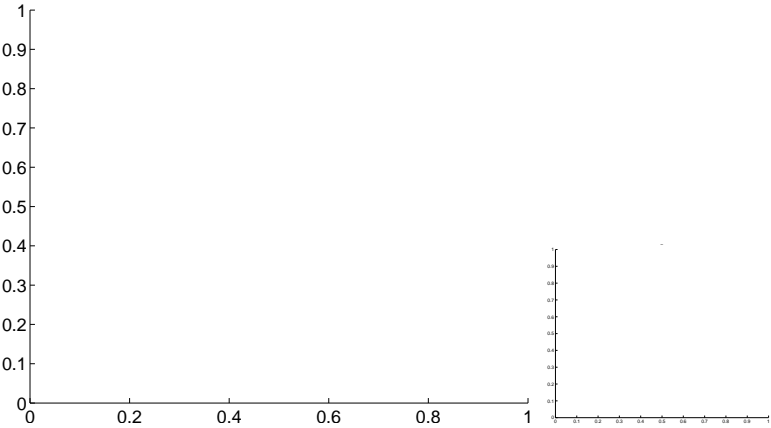
Q13 no OOT image



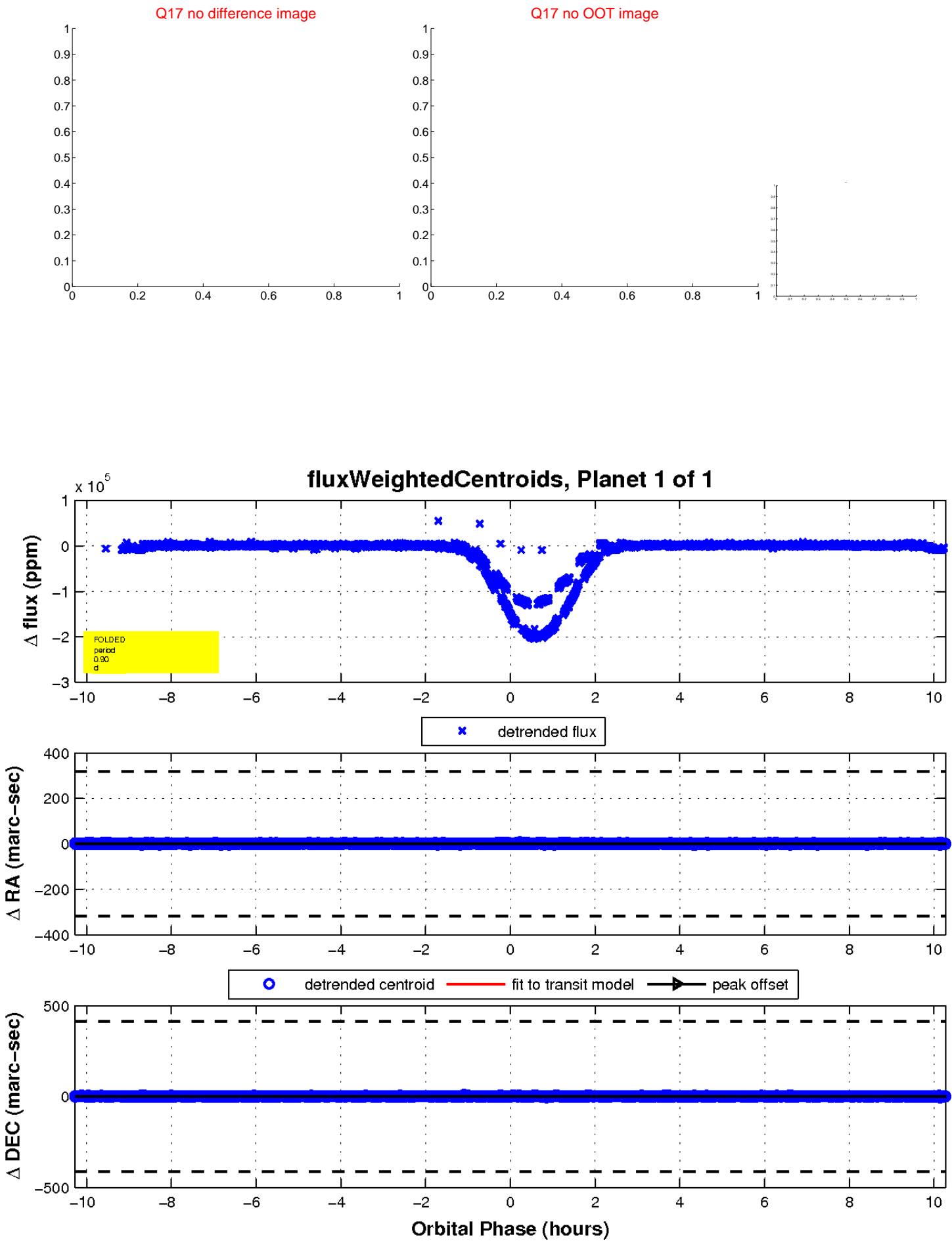
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

