

# KIC 007691985

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007691985-01	OBS	No	654.413202	233.482056	634.1	10.906	8.8	7.8	0.83	5677	2.18	0.31

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007691985-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—INCONSISTENT_TRANS—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.

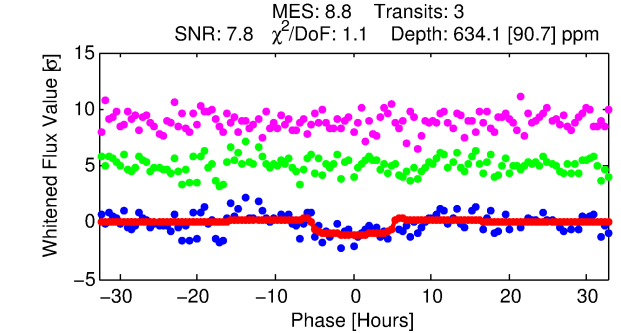
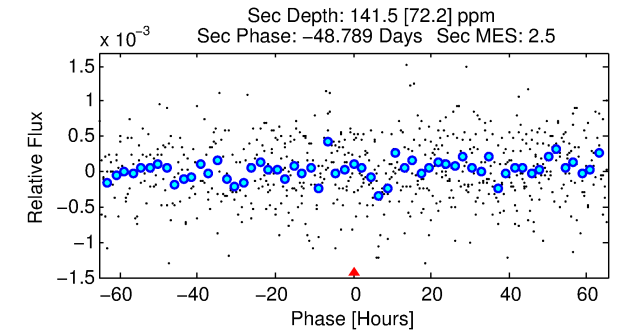
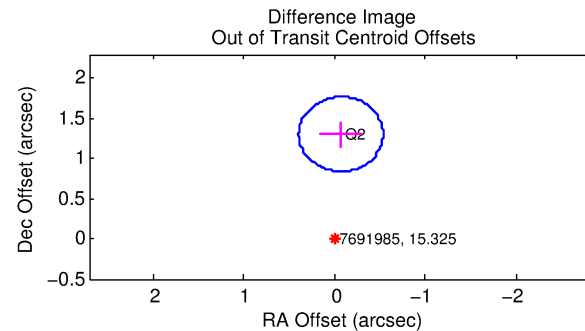
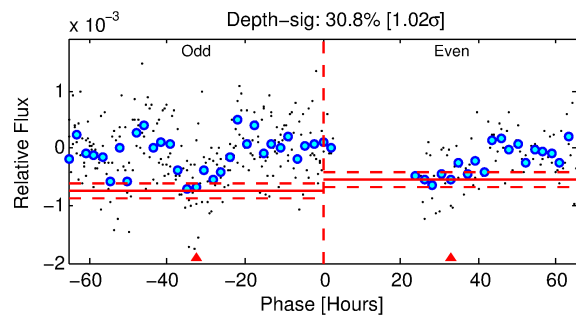
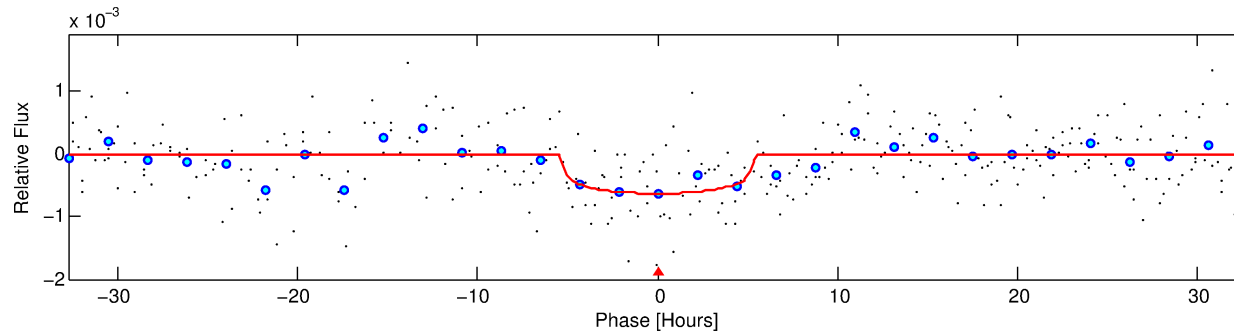
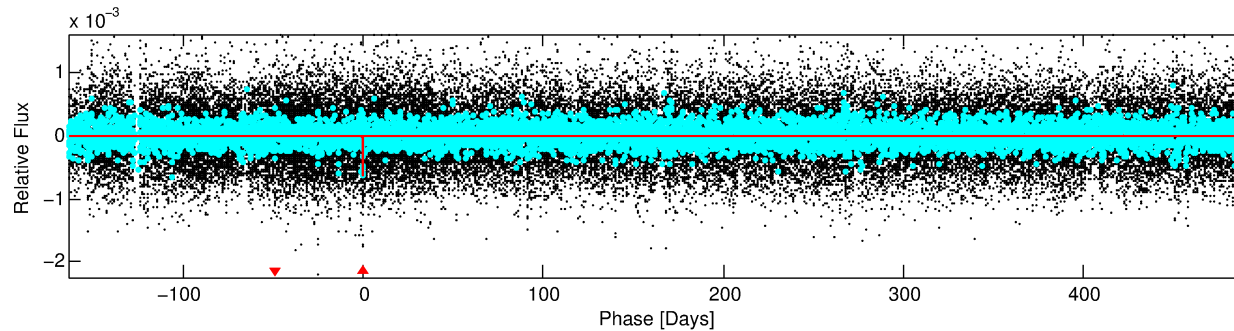
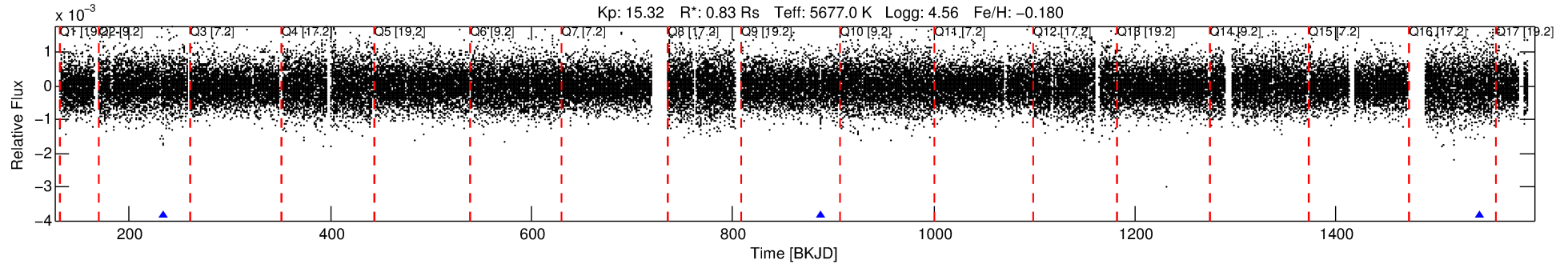
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007691985-01

No Significant Match Found

# DV One-Page Summary

KIC: 7691985 Candidate: 1 of 1 Period: 654.413 d



## DV Fit Results:

Period = 654.41320 [0.01633] d  
Epoch = 233.4821 [0.0178] BKJD  
Rp/R\* = 0.0242 [0.0175]  
a/R\* = 370.05 [1161.29]  
b = 0.63 [3.02]  
Seff = 0.31 [0.10]  
Teq = 190 [16] K  
Rp = 2.18 [1.67] Re  
a = 1.4320 [0.3018] AU  
Ag = 33477.38 [52370.04] [0.64 $\sigma$ ]  
Teff = 3983 [1532] K [2.48 $\sigma$ ]

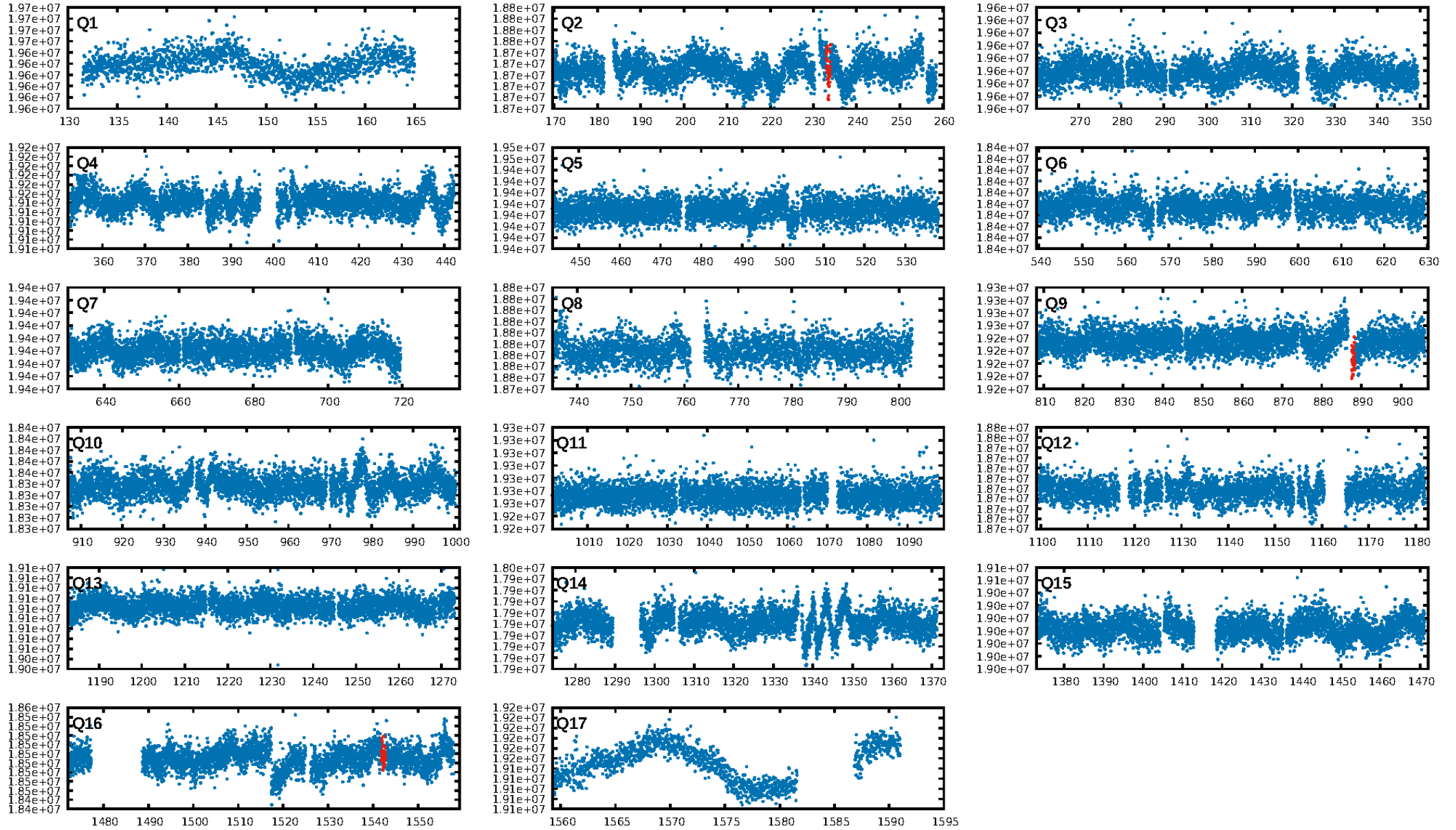
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 13.1%  
ModelChiSquareGof-sig: 98.0%  
Bootstrap-pfa: 4.79e-10  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 0.6146  
Centroid-sig: 3.9%  
Centroid-so: 3.943 arcsec [1.97 $\sigma$ ]  
OotOffset-rm: 1.307 arcsec [8.43 $\sigma$ ]  
KicOffset-rm: 1.381 arcsec [8.76 $\sigma$ ]  
OotOffset-st: 1/0/0/0 [1]  
KicOffset-st: 1/0/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [2/2]

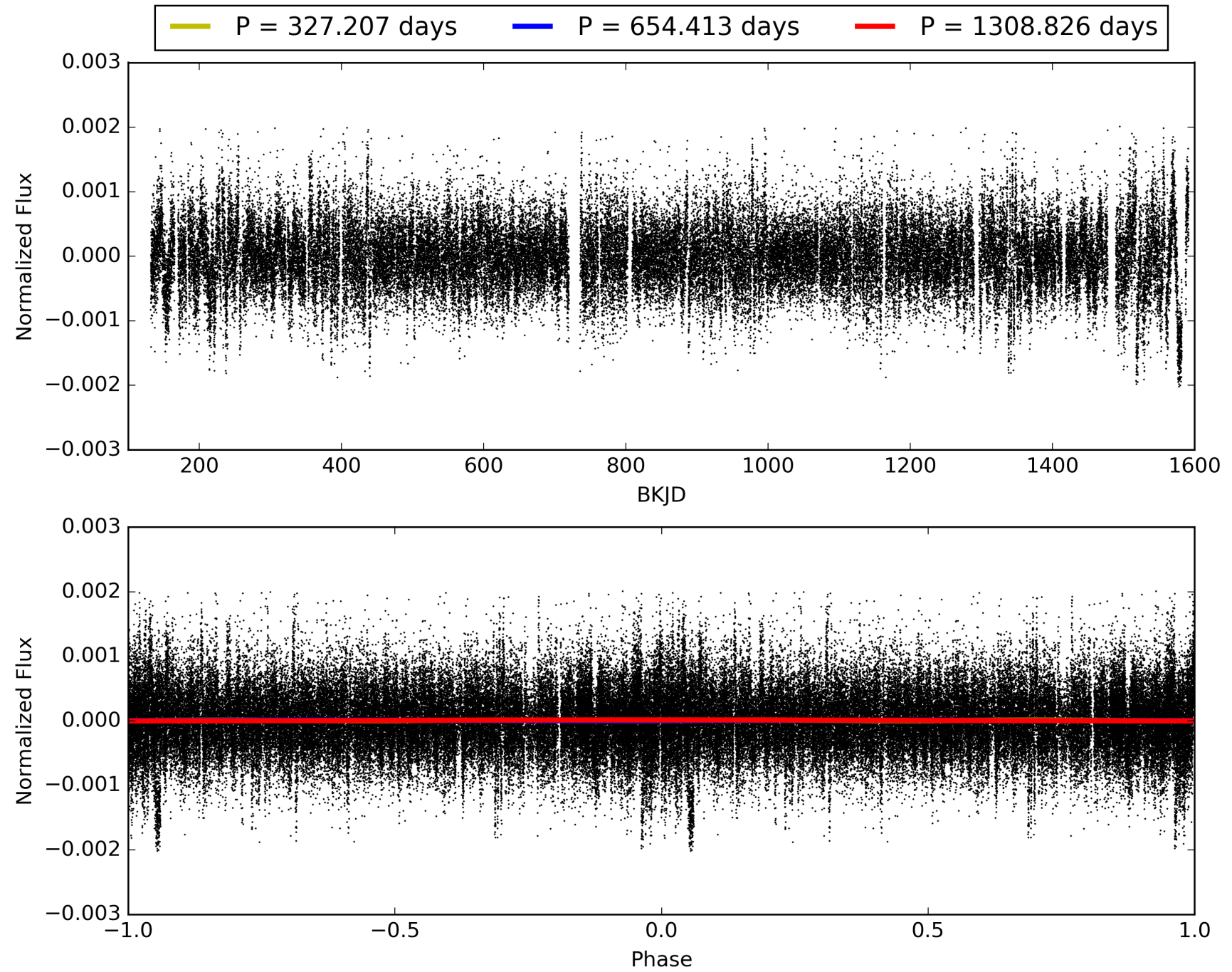
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:47:43 Z

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

# TCE 007691985-01, PDC Light Curves

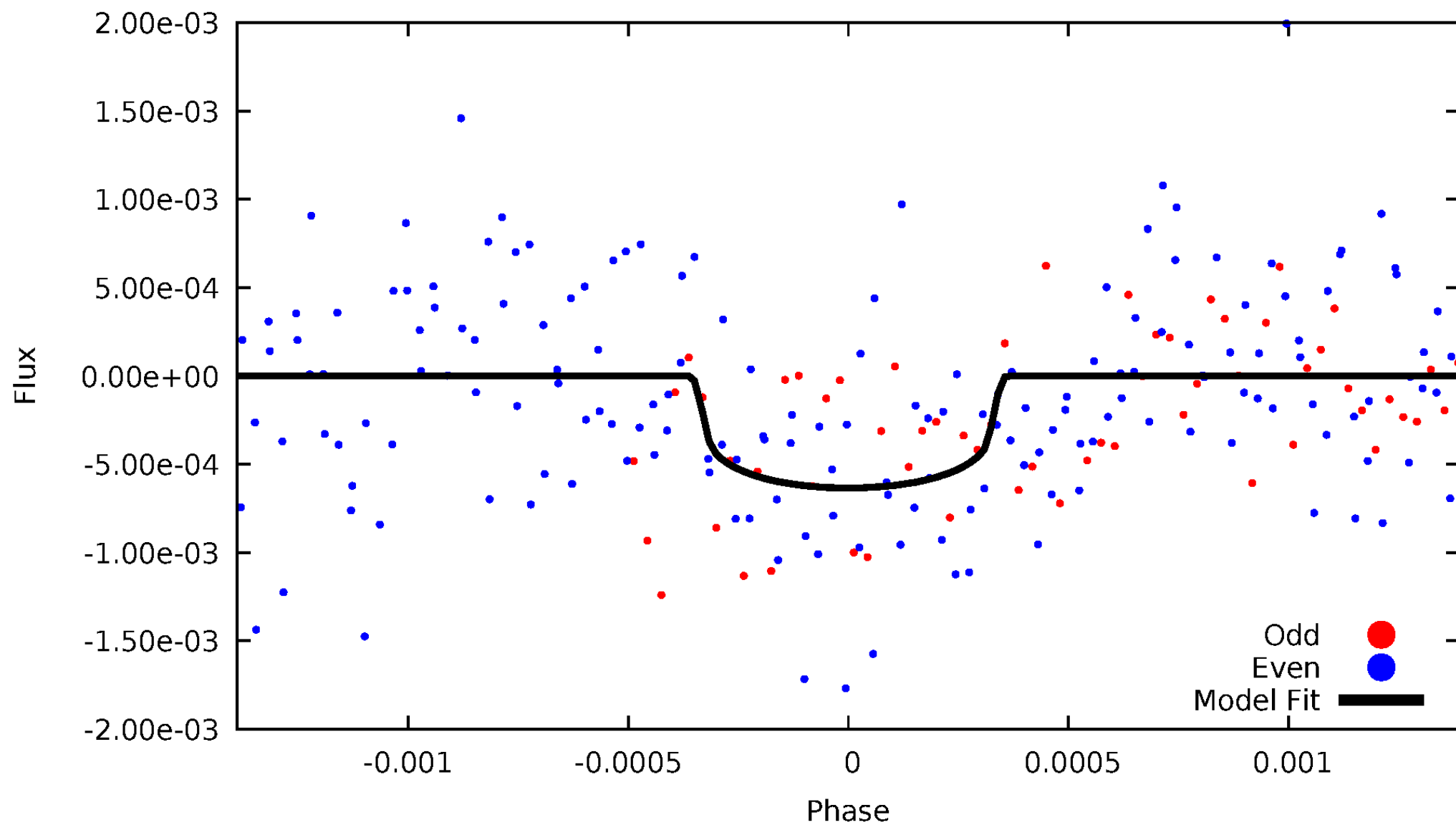


TCE 007691985-01



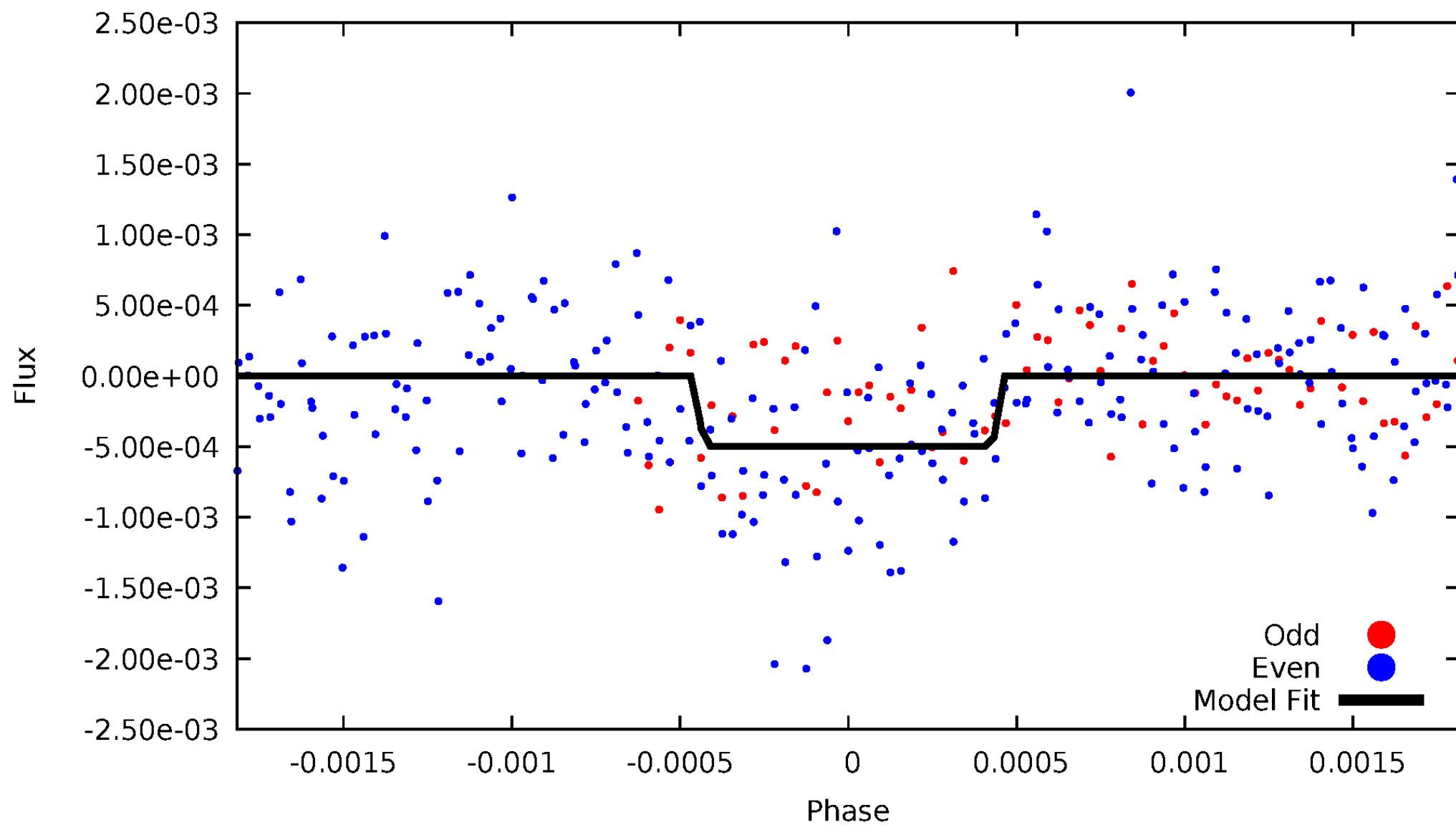
# DV Odd/Even

TCE 007691985-01



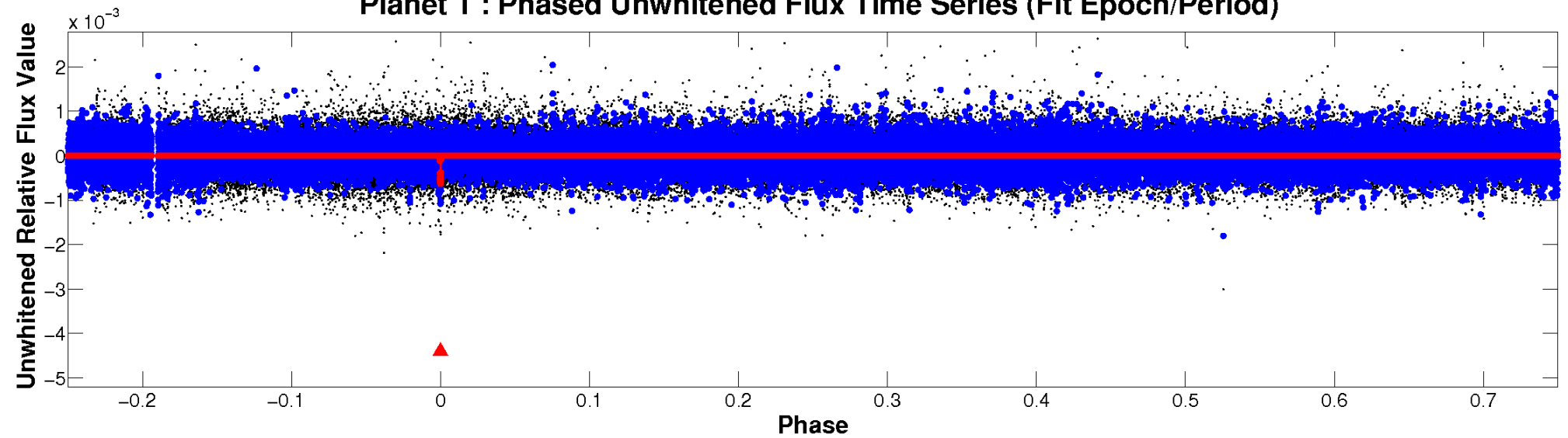
# ALT Odd/Even

TCE 007691985-01

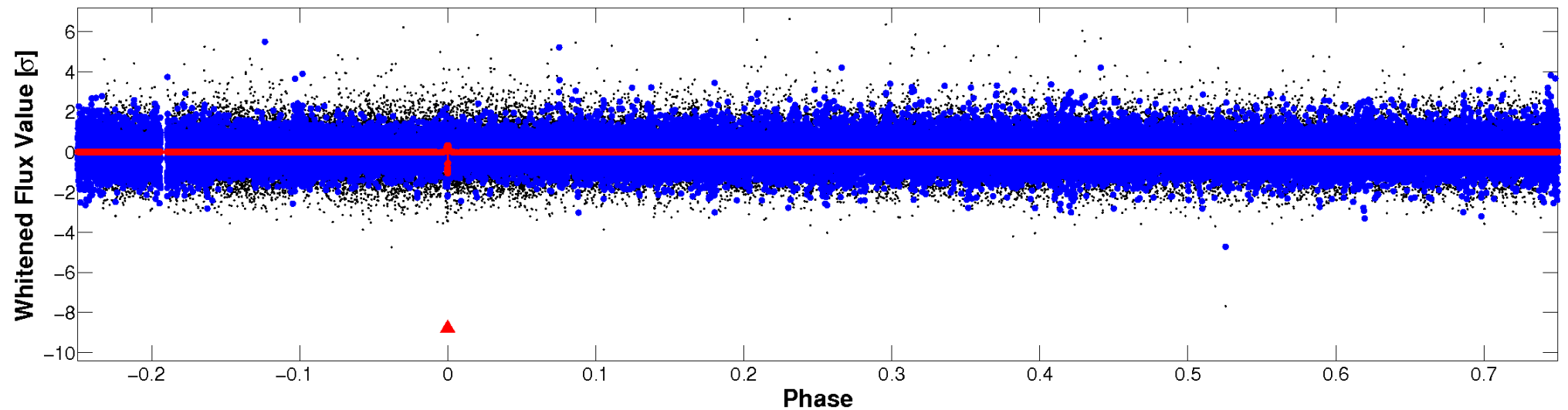


# Non-Whitened Vs. Whitened Light Curve

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

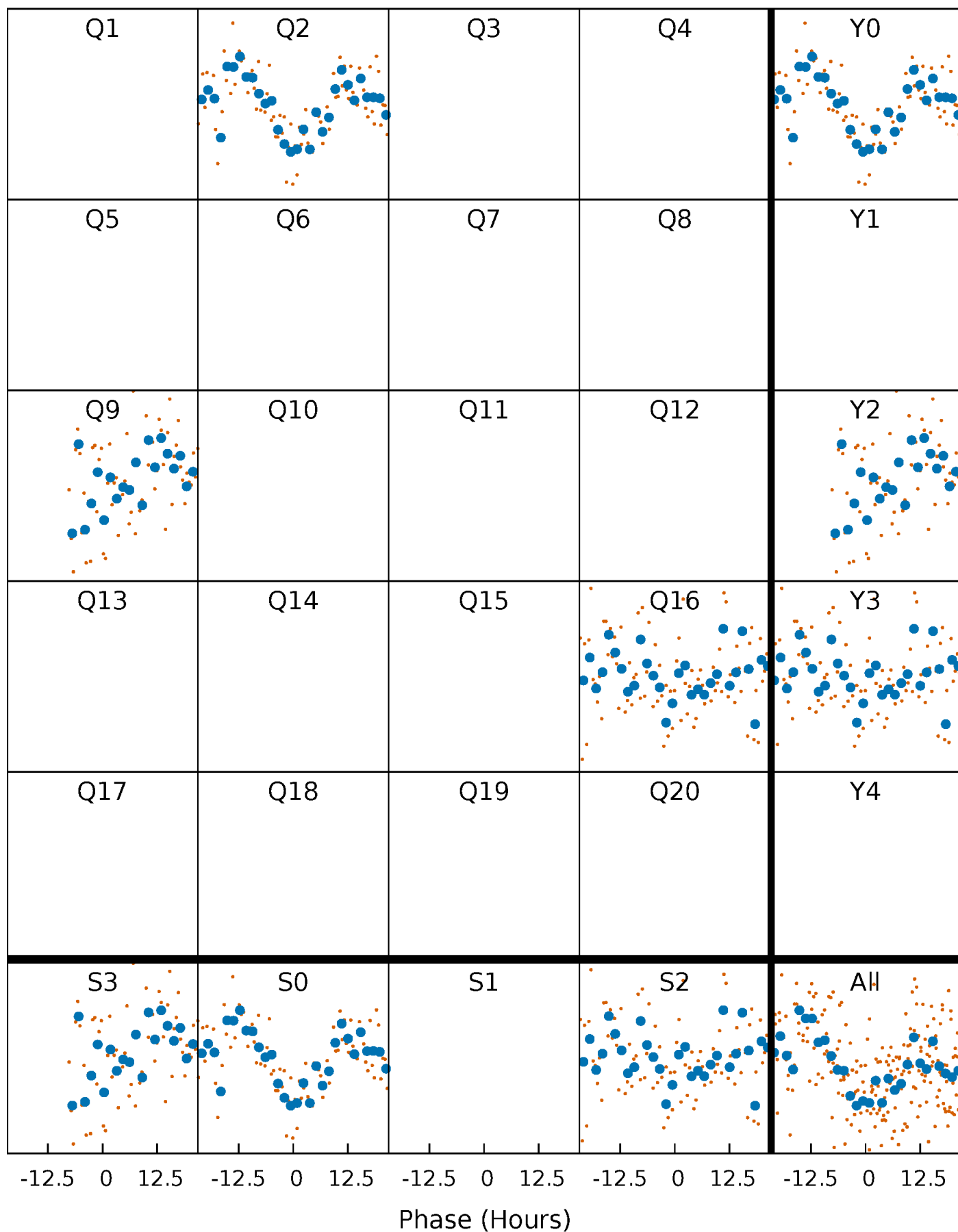


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

TCE 007691985-01 P=654.413202 Days  $T_0=233.482056$  (BKJD)





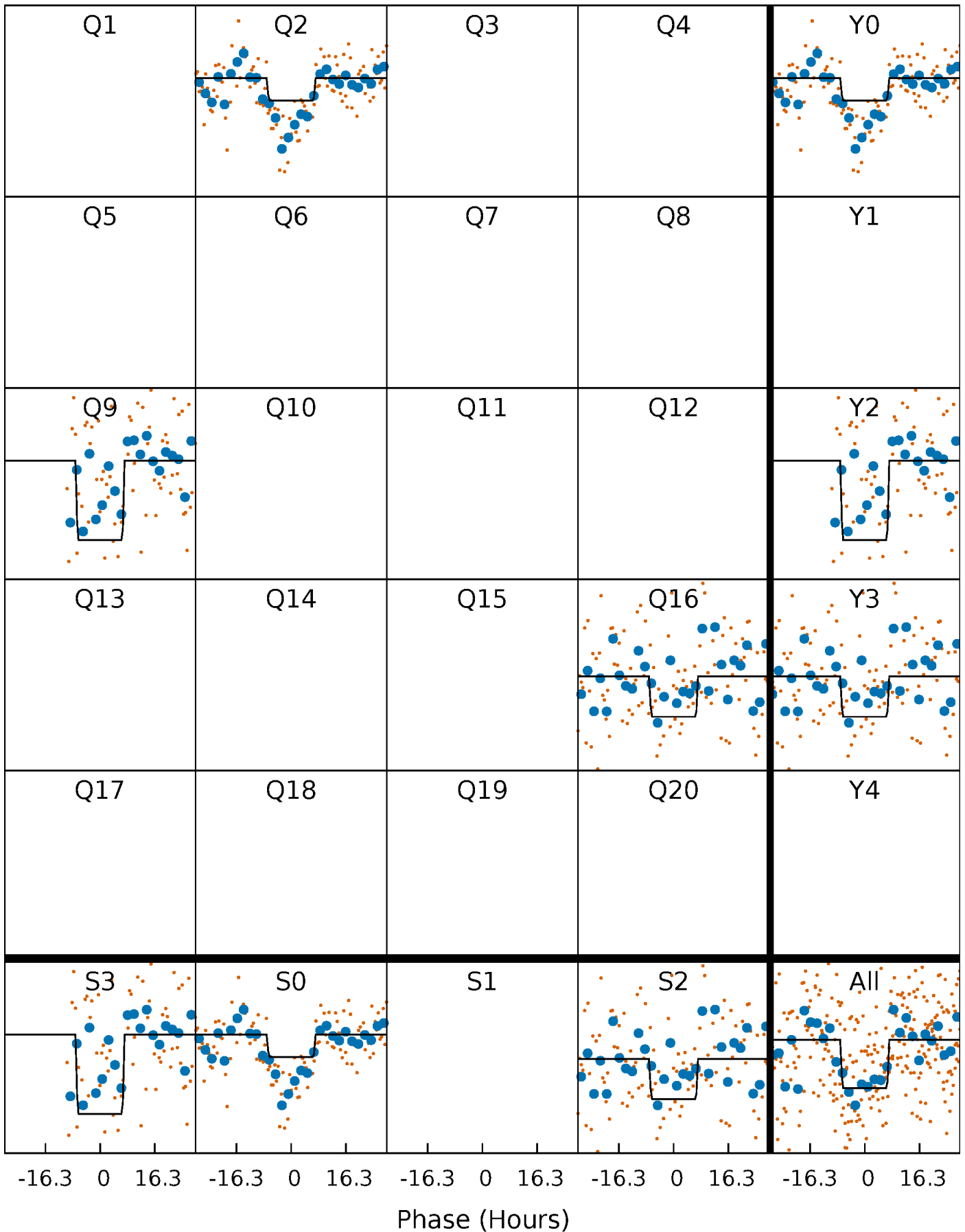
# DV Quarter-Phased Transit Curves

TCE 007691985-01 P=654.413202 Days  $T_0=233.482056$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

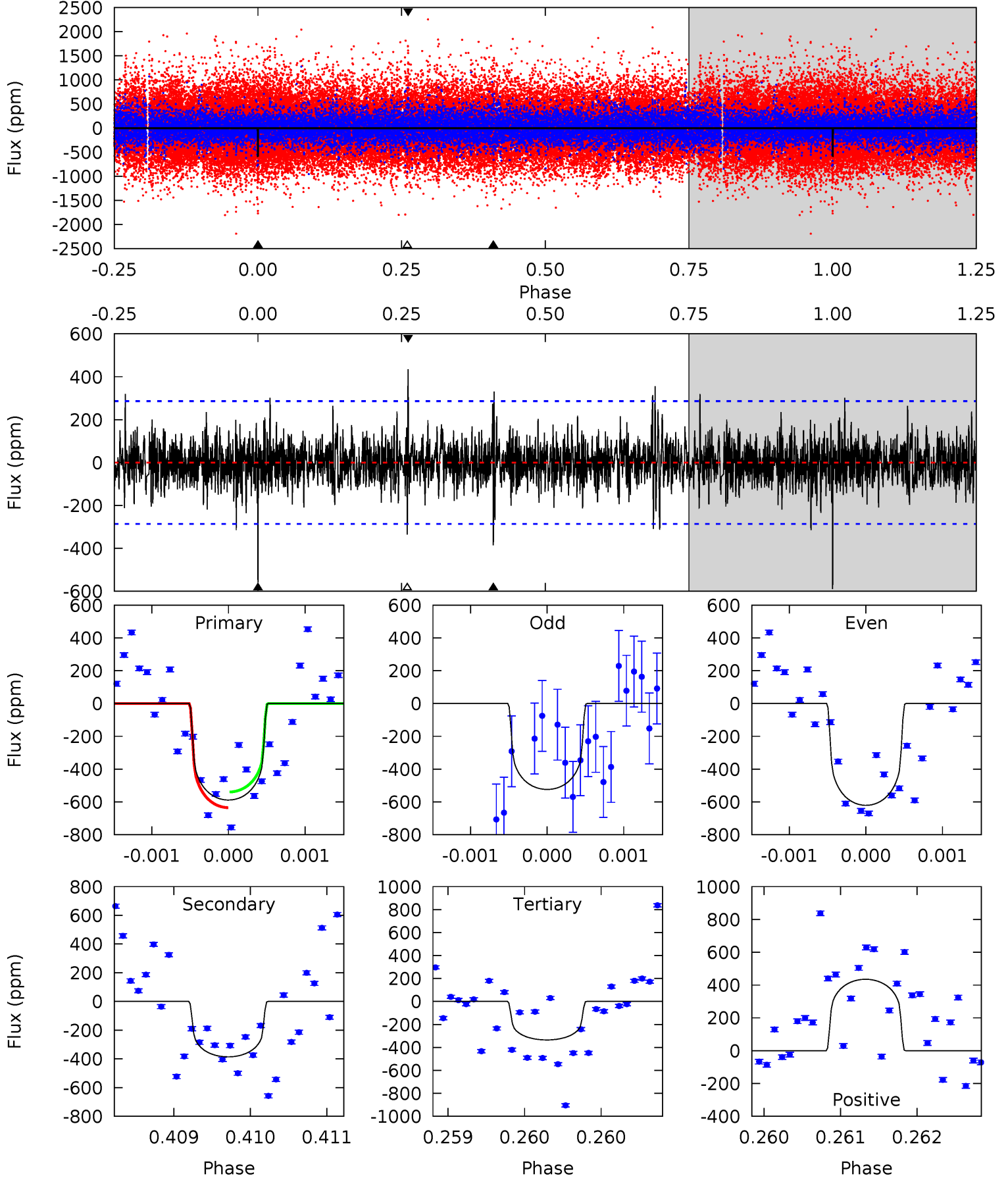
TCE 007691985-01 P=654.425626 Days  $T_0=233.559682$  (BKJD)



# DV Model-Shift Uniqueness Test

007691985-01, P = 654.413202 Days, E = 233.482056 Days

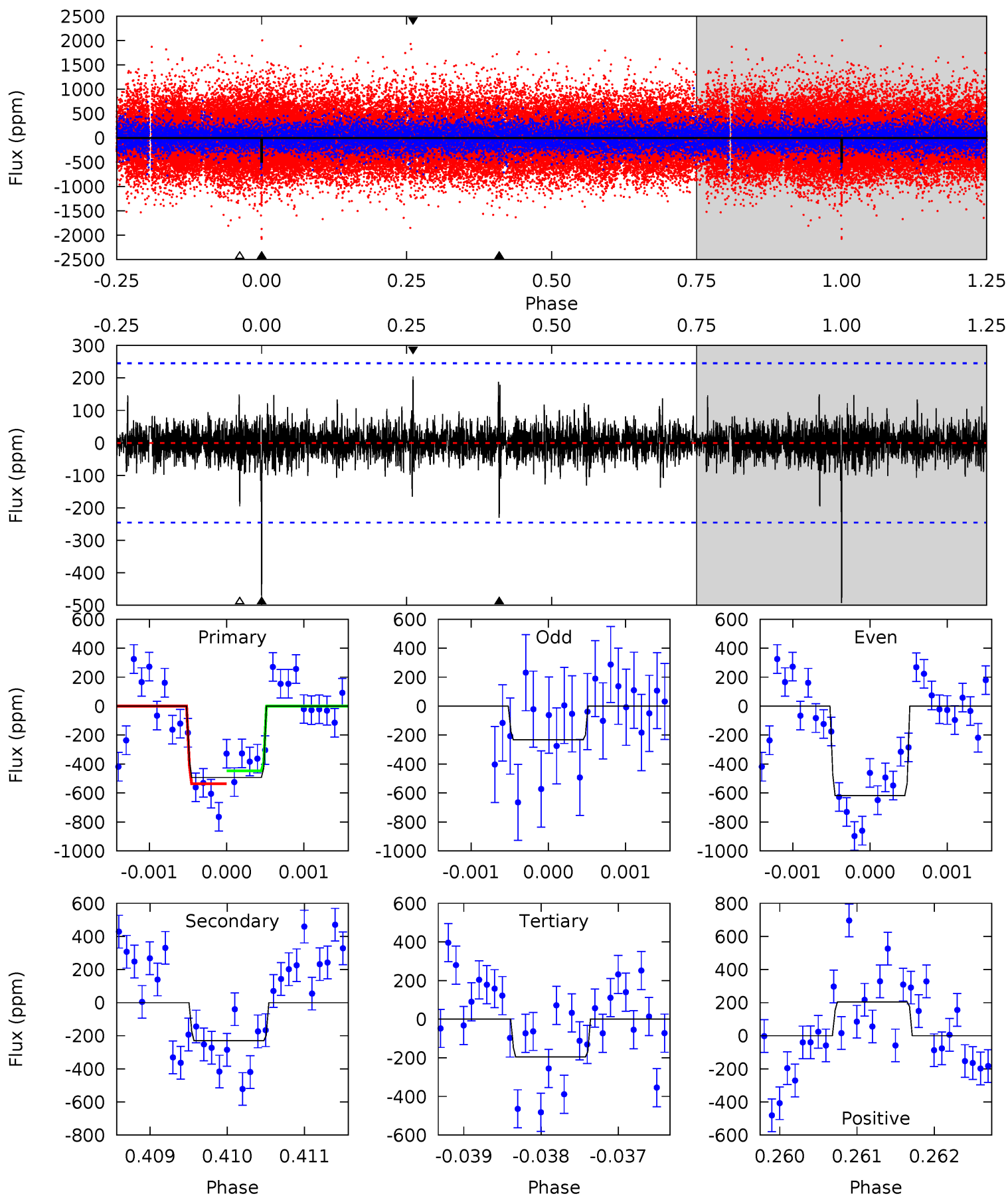
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	7.43	6.46	8.38	5.51	3.39	1.45	4.88	2.96	0.98	-0.95	0.88	1.12	0.42	0.92



# Alt Model-Shift Uniqueness Test

007691985-01, P = 654.425626 Days, E = 233.559682 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
11.0	5.13	4.36	4.56	5.47	3.32	0.78	6.64	6.43	0.78	0.57	4.02	2.10	0.29	1.00



### Stellar Parameters For KIC 007691985

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5677^{+152}_{-169}$	$4.563^{+0.042}_{-0.168}$	$-0.180^{+0.300}_{-0.300}$	$0.828^{+0.207}_{-0.069}$	$0.920^{+0.095}_{-0.104}$	$2.281^{+0.374}_{-1.038}$
	+3%/-3%	+1%/-4%	+167%/-167%	+25%/-8%	+10%/-11%	+16%/-46%
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 007691985-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-386 \pm 52$	$2.52^{+1.57}_{-1.43}$	$271^{+16}_{-12}$	$4991^{+2385}_{-894}$	$68258^{+283600}_{-43393}$
Alt.	$-230 \pm 45$	$2.48^{+1.49}_{-1.46}$	$271^{+16}_{-12}$	$4534^{+2164}_{-793}$	$40090^{+193190}_{-24712}$

$T_{max}$  = 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

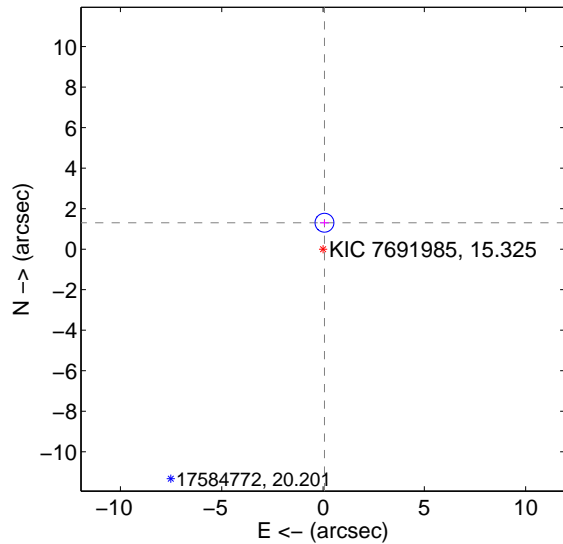
Supplemental centroid analysis for 007691985-01. Kepler magnitude: 15.32. Transit SNR 7.78

There are 1 quarters with good PRF difference image offsets

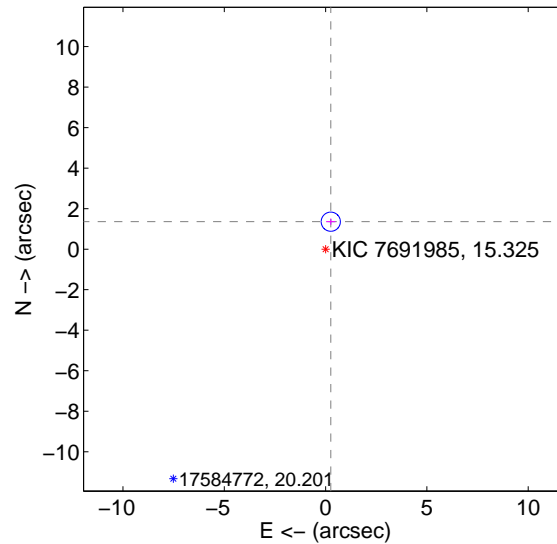
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.307 \pm 0.155$	8.43	$-0.070 \pm 0.225$	$1.305 \pm 0.155$
PRF-fit source offset from KIC position	$1.381 \pm 0.158$	8.76	$-0.256 \pm 0.225$	$1.357 \pm 0.155$
photometric centroid source offset	$3.94 \pm 2.00$	1.97	$-3.87 \pm 2.00$	$0.77 \pm 2.04$

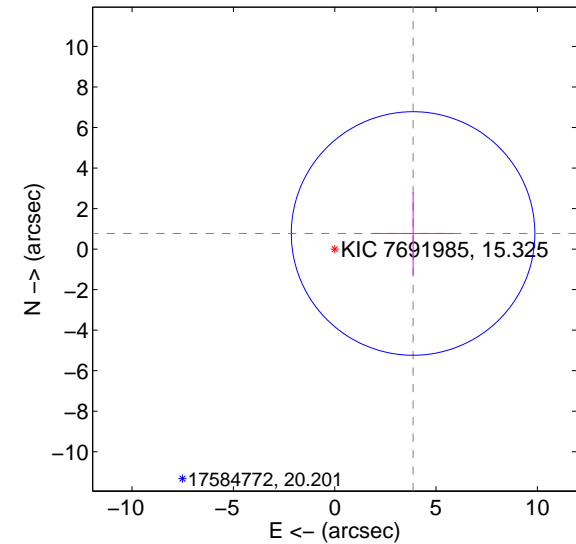
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

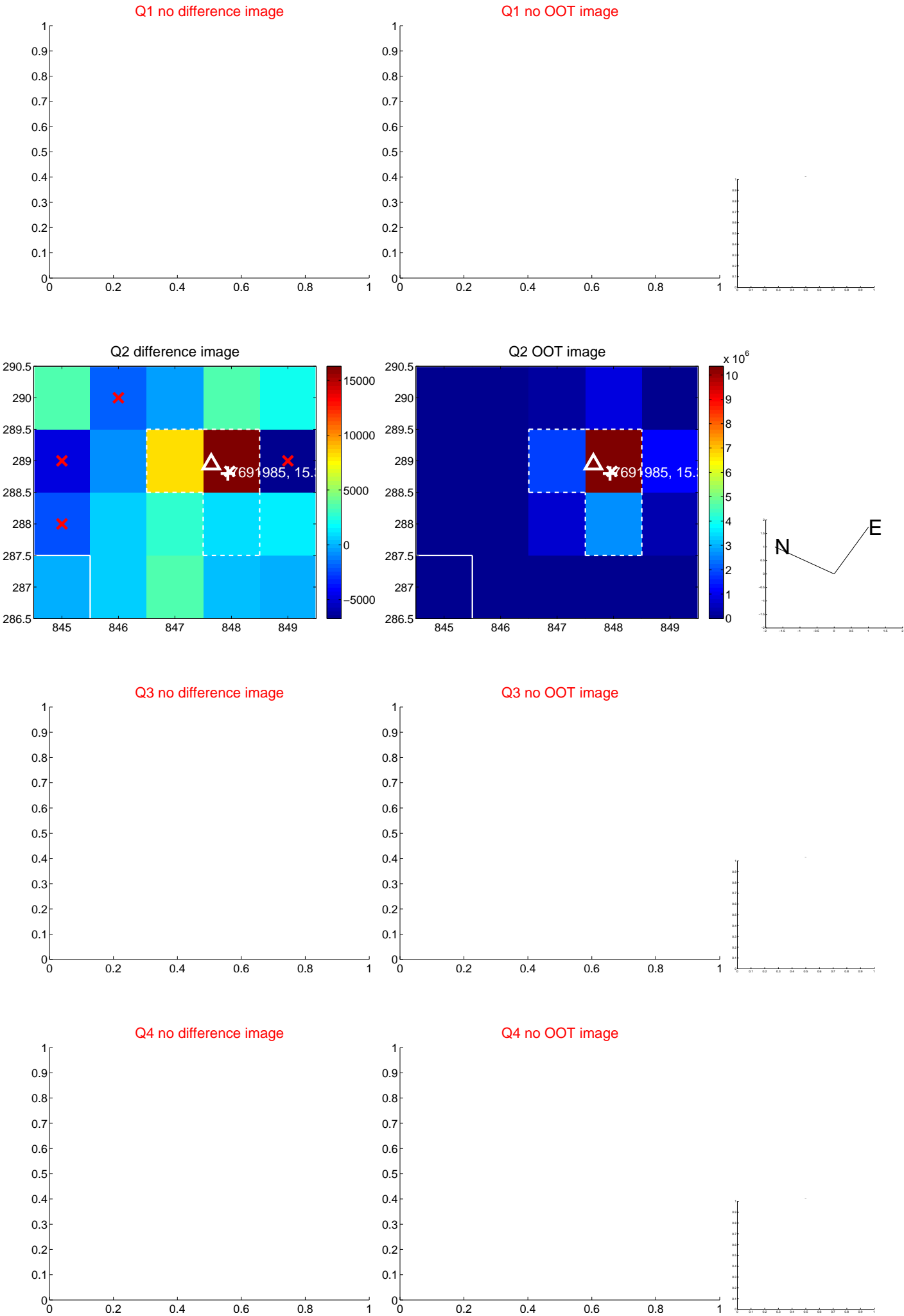


offset from photometric centroids



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;  $\Delta$ : difference centroid. red  $\times$ : large negative pixel value.



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

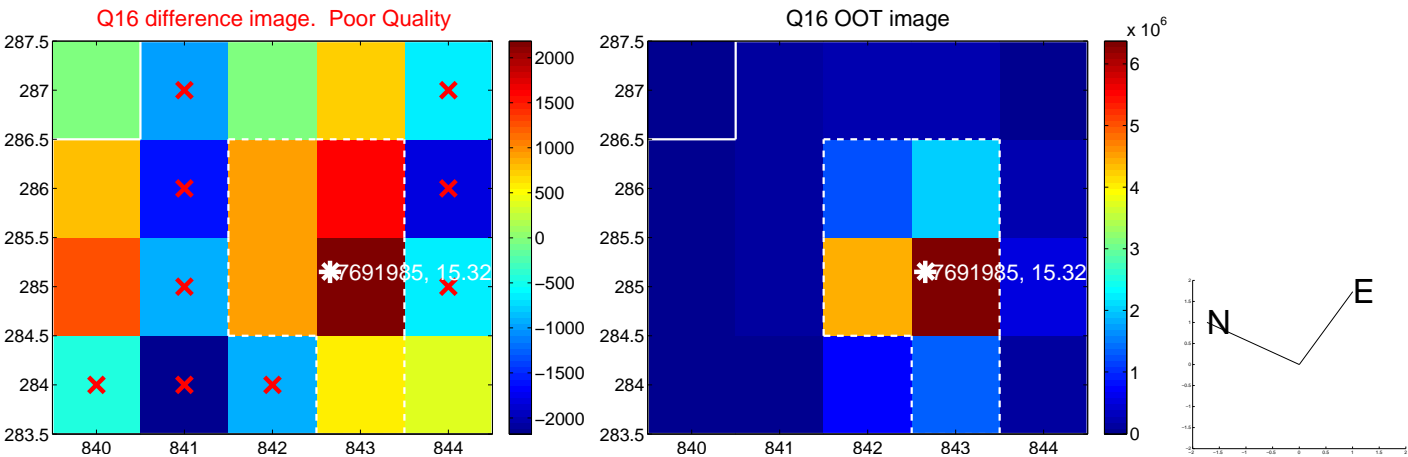




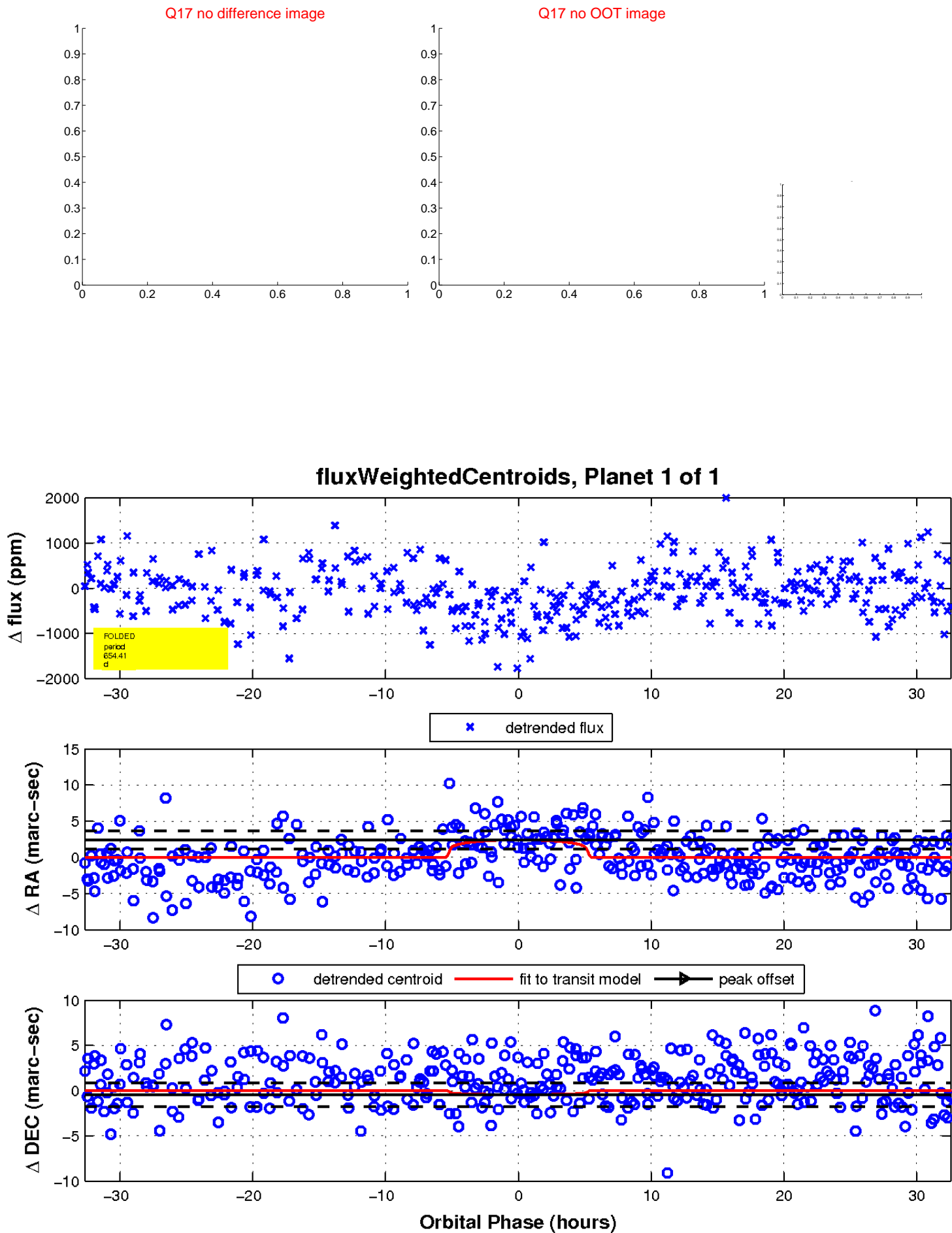
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

