

# KIC 003327742

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003327742-01	OBS	No	598.383763	147.936511	2089.7	12.363	12.8	6.2	1.02	6086	5.60	0.65

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003327742-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS

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

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

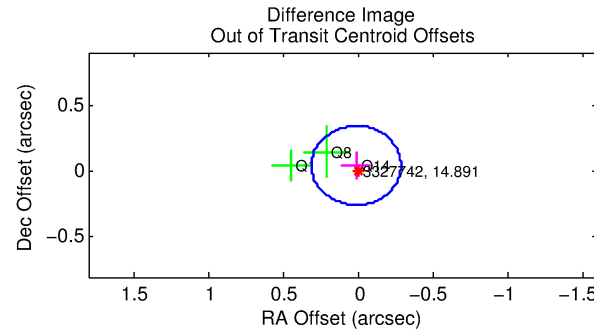
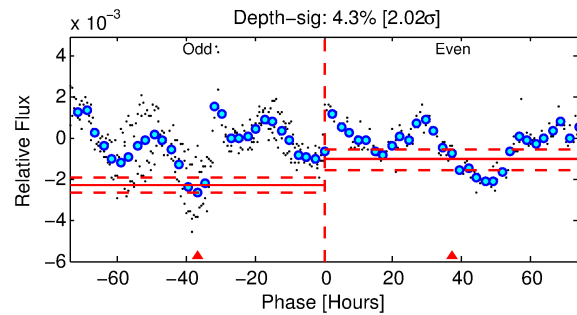
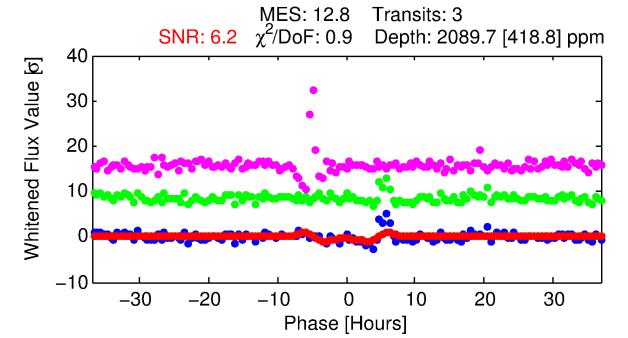
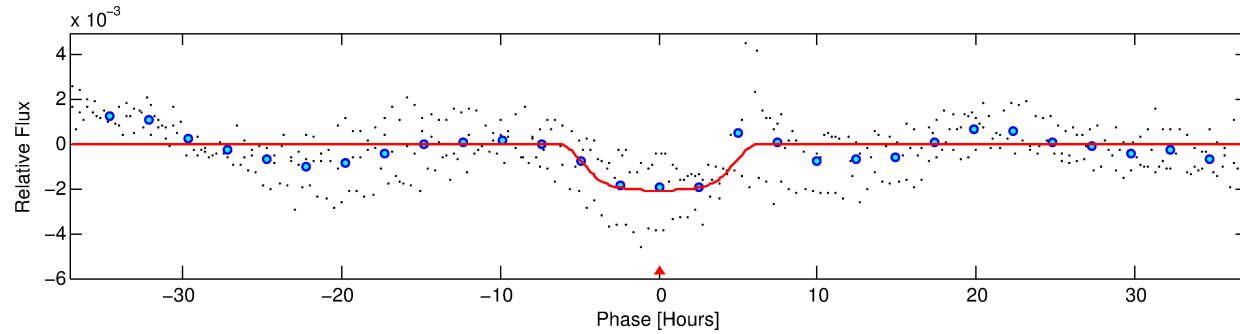
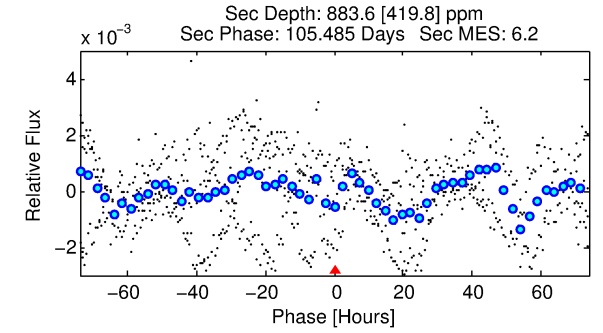
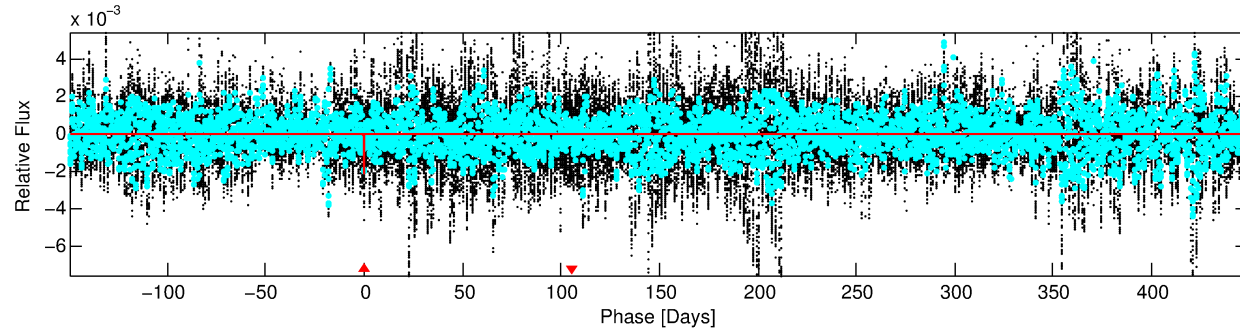
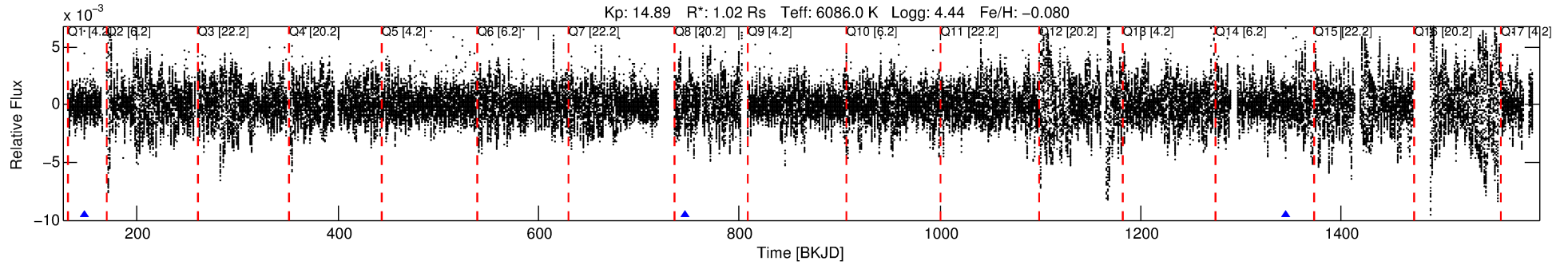
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003327742-01

No Significant Match Found

# DV One-Page Summary

KIC: 3327742 Candidate: 1 of 1 Period: 598.384 d



## DV Fit Results:

Period = 598.38376 [0.01142] d  
Epoch = 147.9365 [0.0149] BKJD  
Rp/R\* = 0.0501 [0.0055]  
a/R\* = 191.81 [23.03]  
b = 0.91 [0.02]  
Seff = 0.65 [0.27]  
Teff = 229 [24] K  
Rp = 5.60 [1.86] Re  
a = 1.4111 [0.3778] AU  
Ag = 30867.18 [20203.07] [1.53 $\sigma$ ]  
Teffp = 4687 [632] K [7.05 $\sigma$ ]

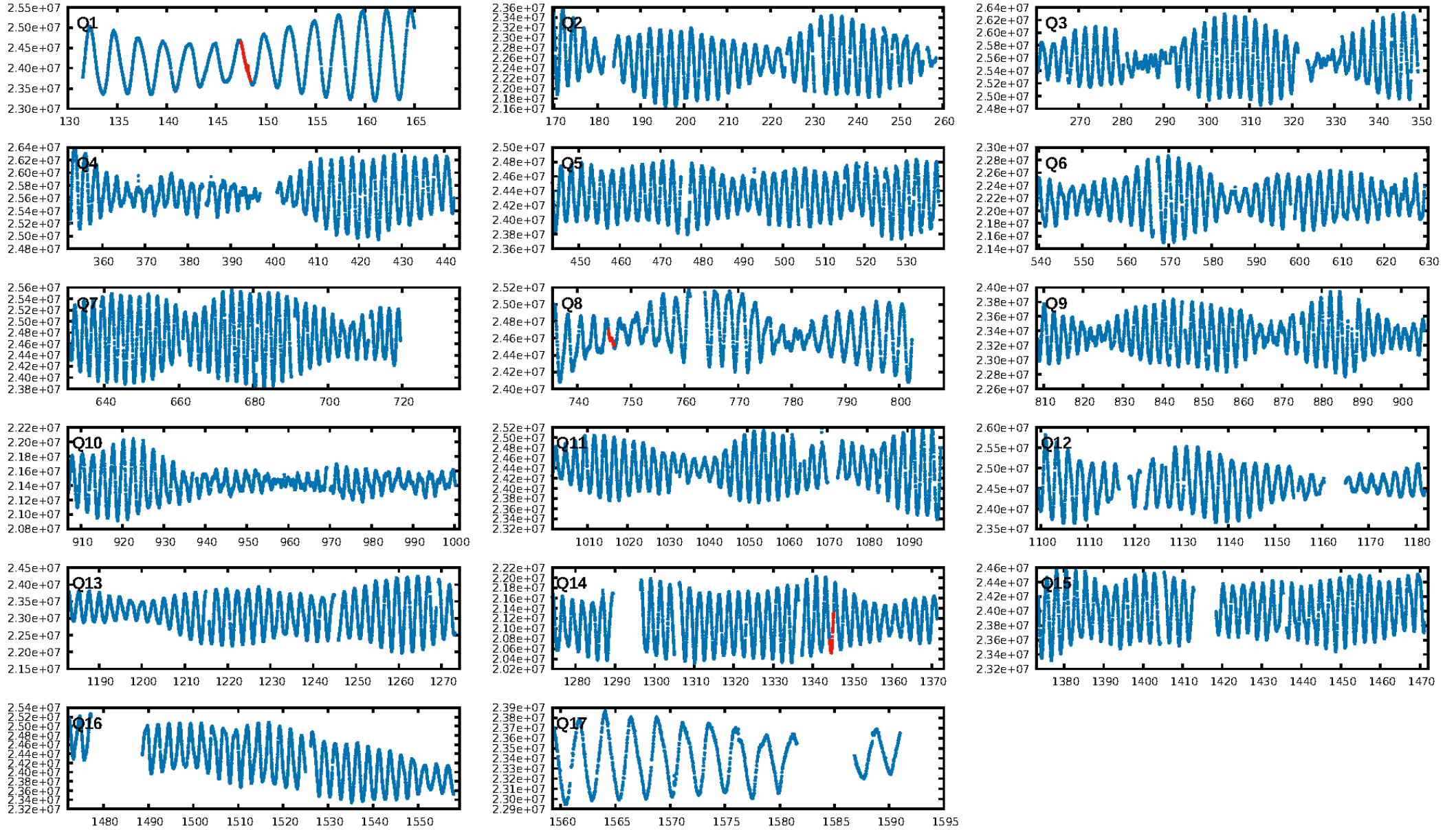
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 4.2%  
ModelChiSquareGof-sig: 99.8%  
**Bootstrap-pfa: 2.06e-12**  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: 0.4023  
Centroid-sig: 72.4%  
Centroid-so: 0.227 arcsec [0.42 $\sigma$ ]  
OotOffset-rm: 0.045 arcsec [0.45 $\sigma$ ]  
OotOffset-st: 1/0/1/1 [3]  
KicOffset-rm: 0.126 arcsec [1.29 $\sigma$ ]  
KicOffset-st: 1/0/1/1 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

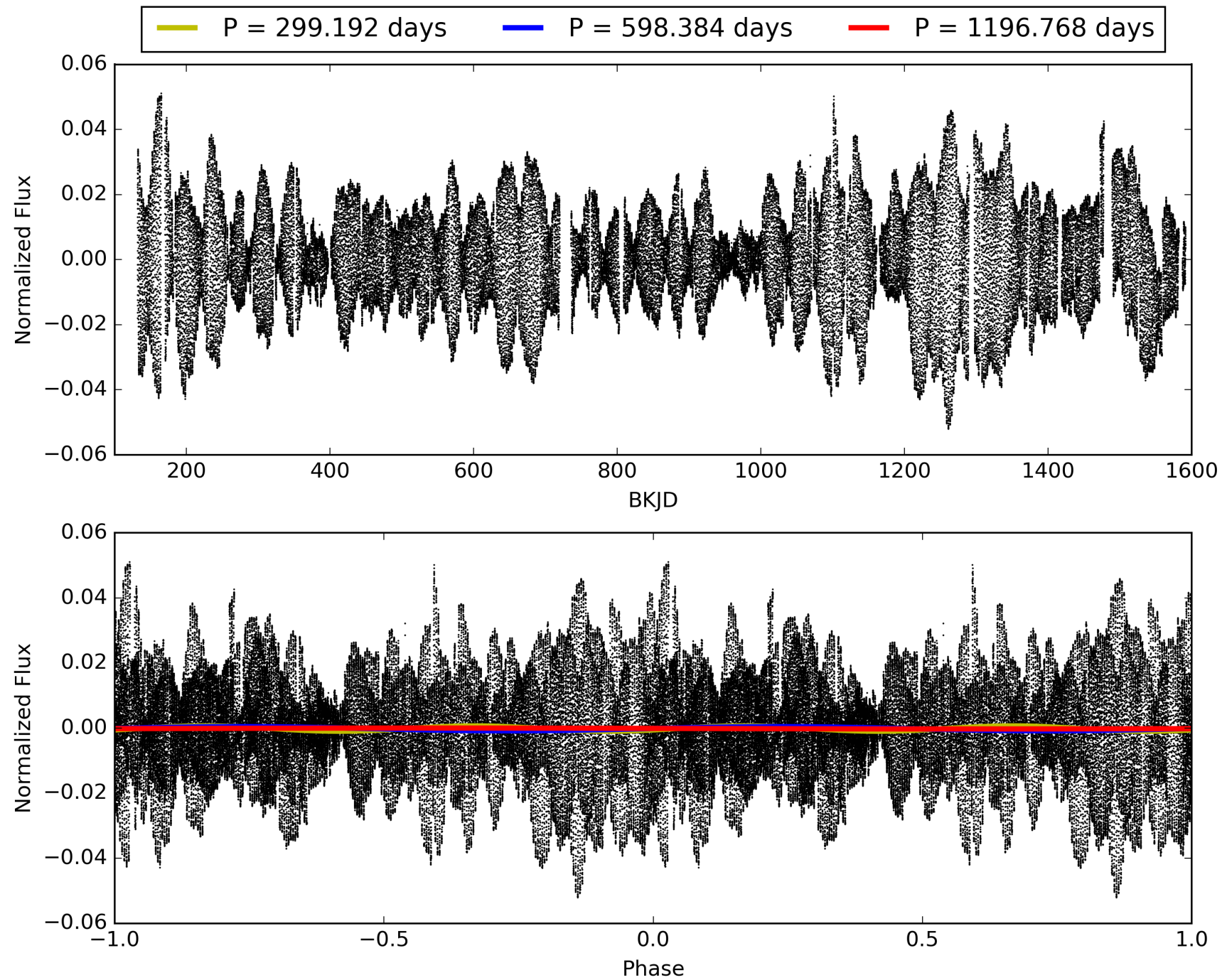
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:59:46 Z

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

# TCE 003327742-01, PDC Light Curves

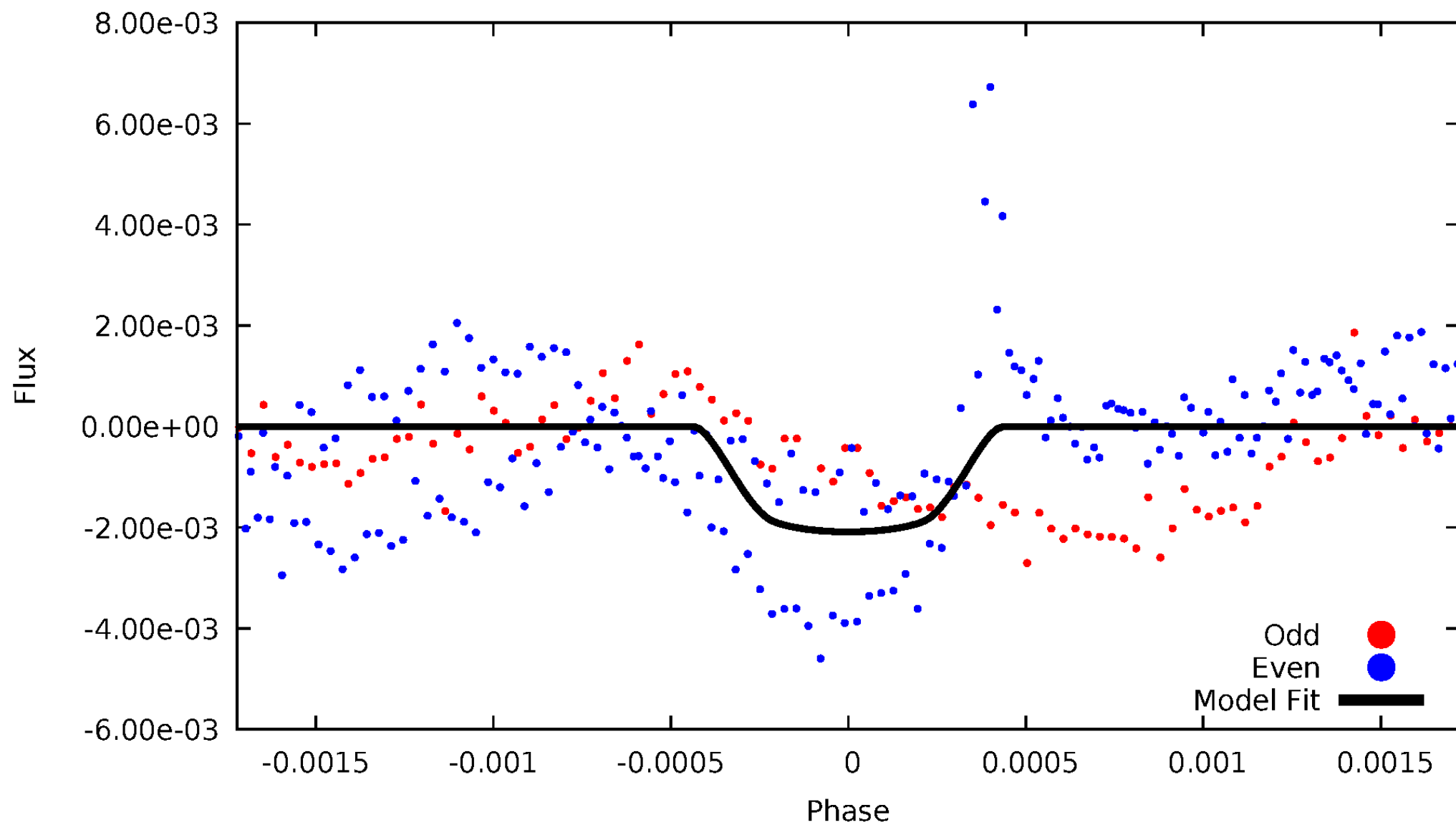


TCE 003327742-01



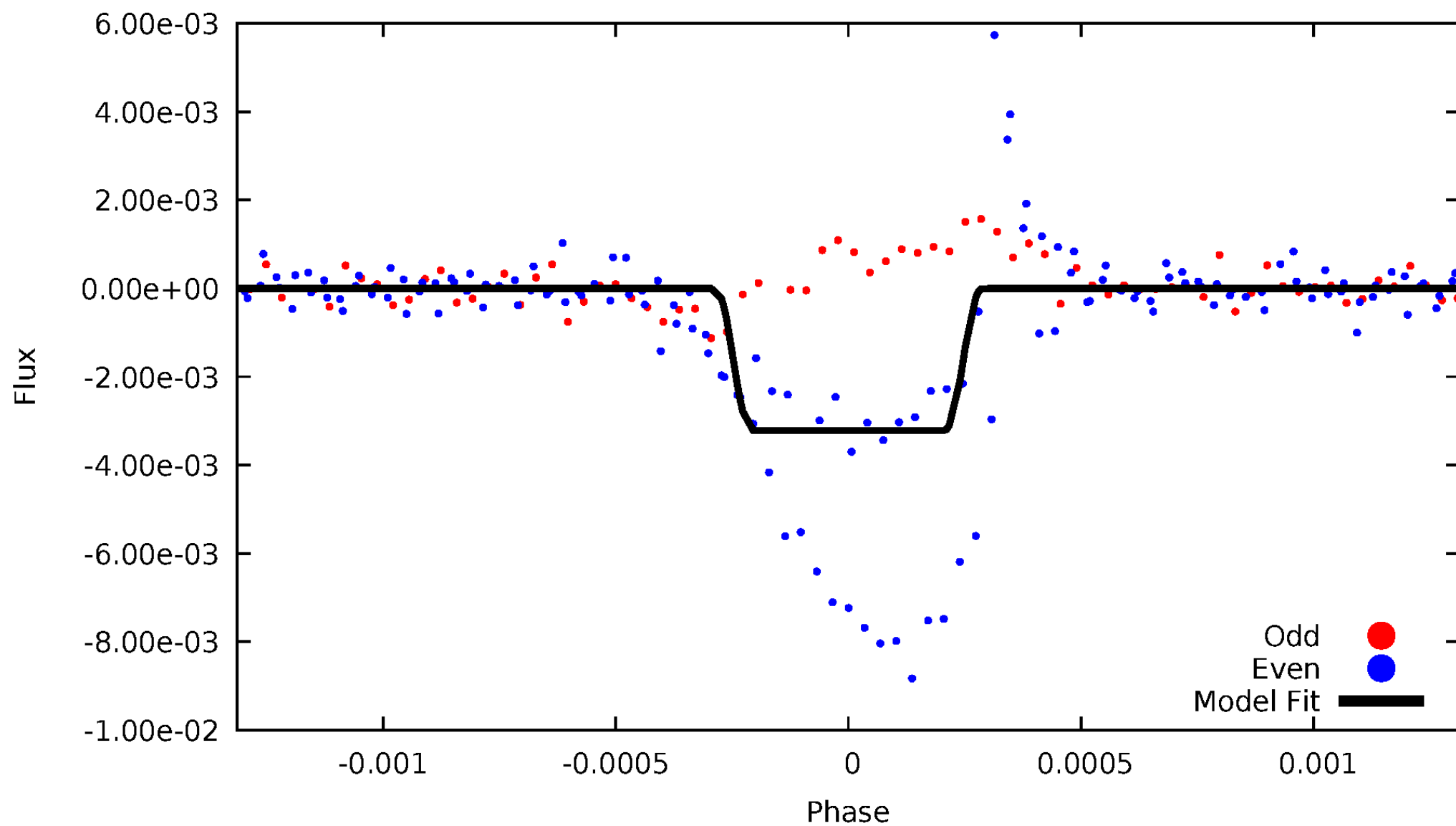
# DV Odd/Even

TCE 003327742-01



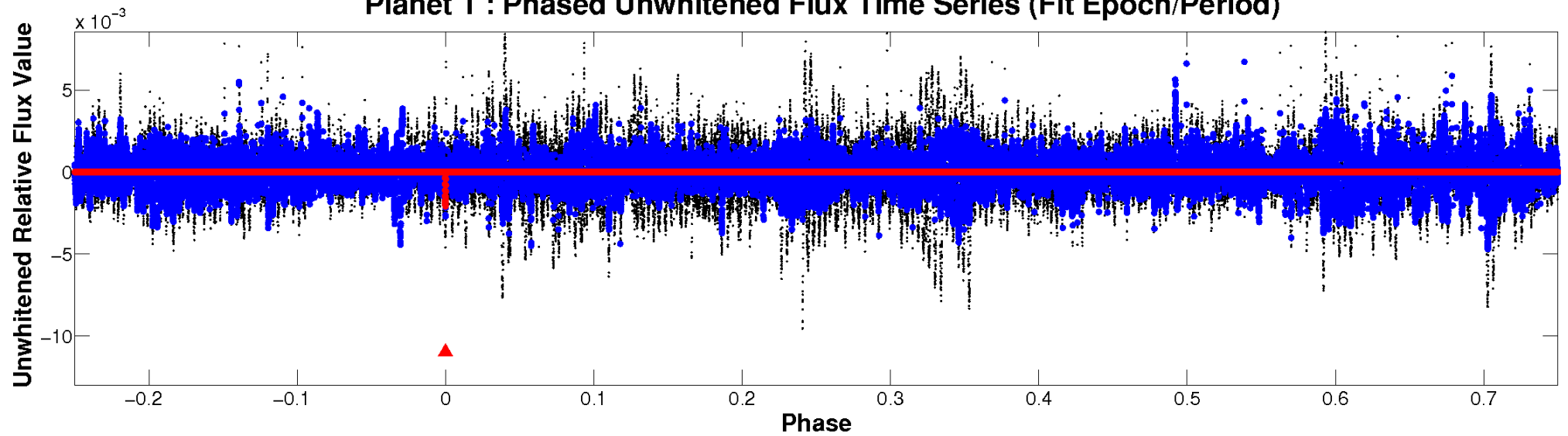
# ALT Odd/Even

TCE 003327742-01

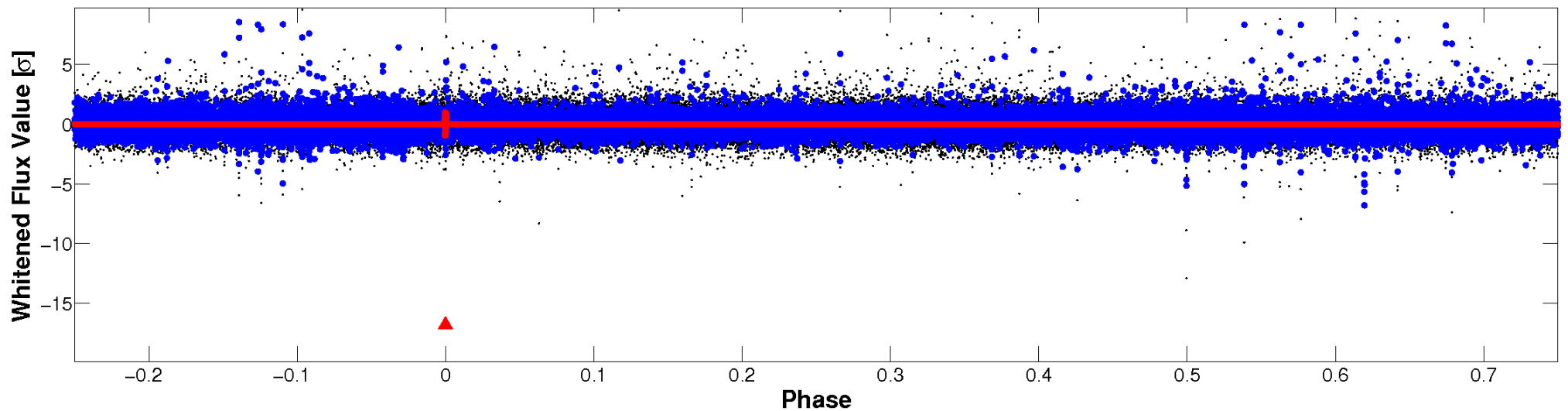


# Non-Whitened Vs. Whitened Light Curve

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



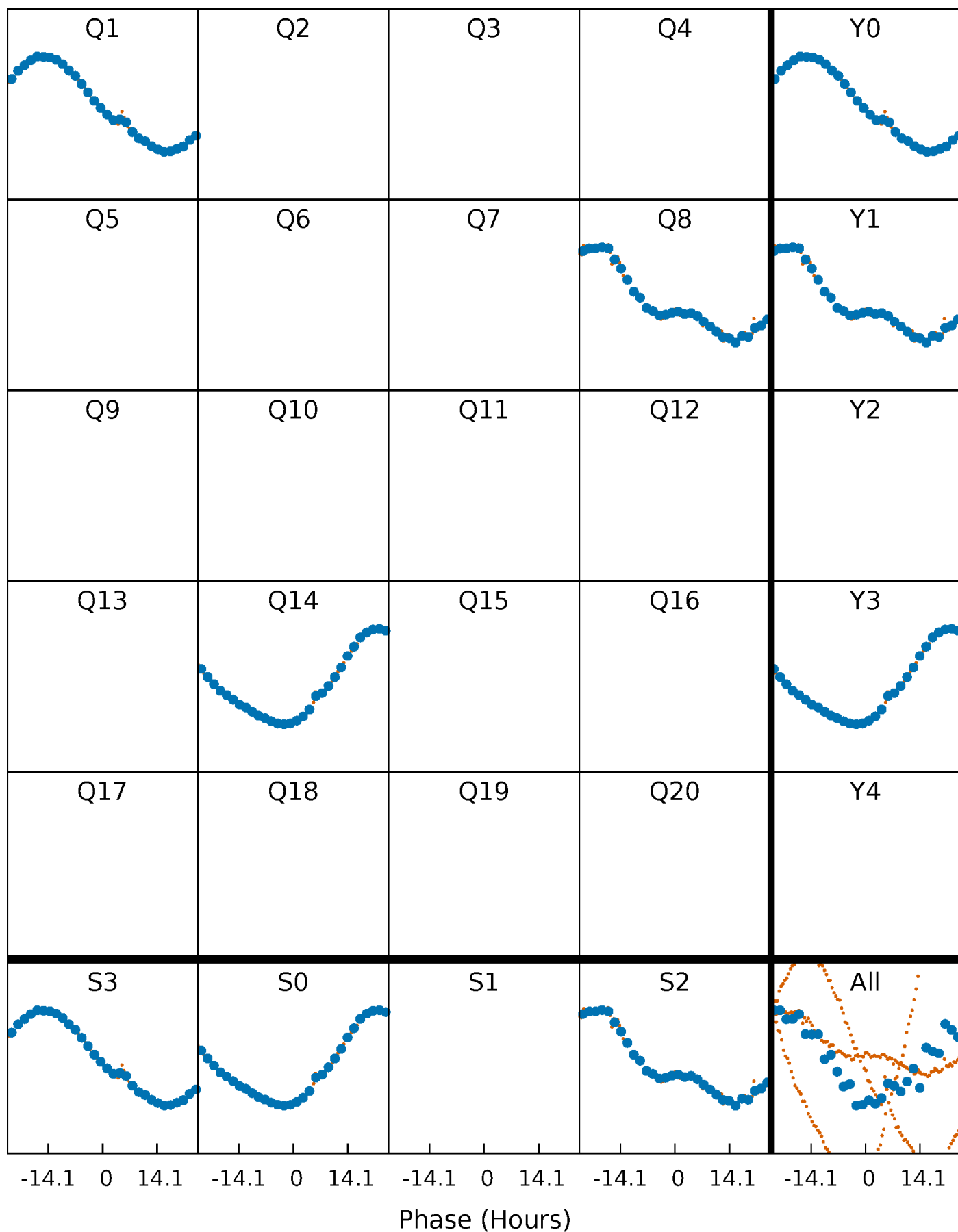
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

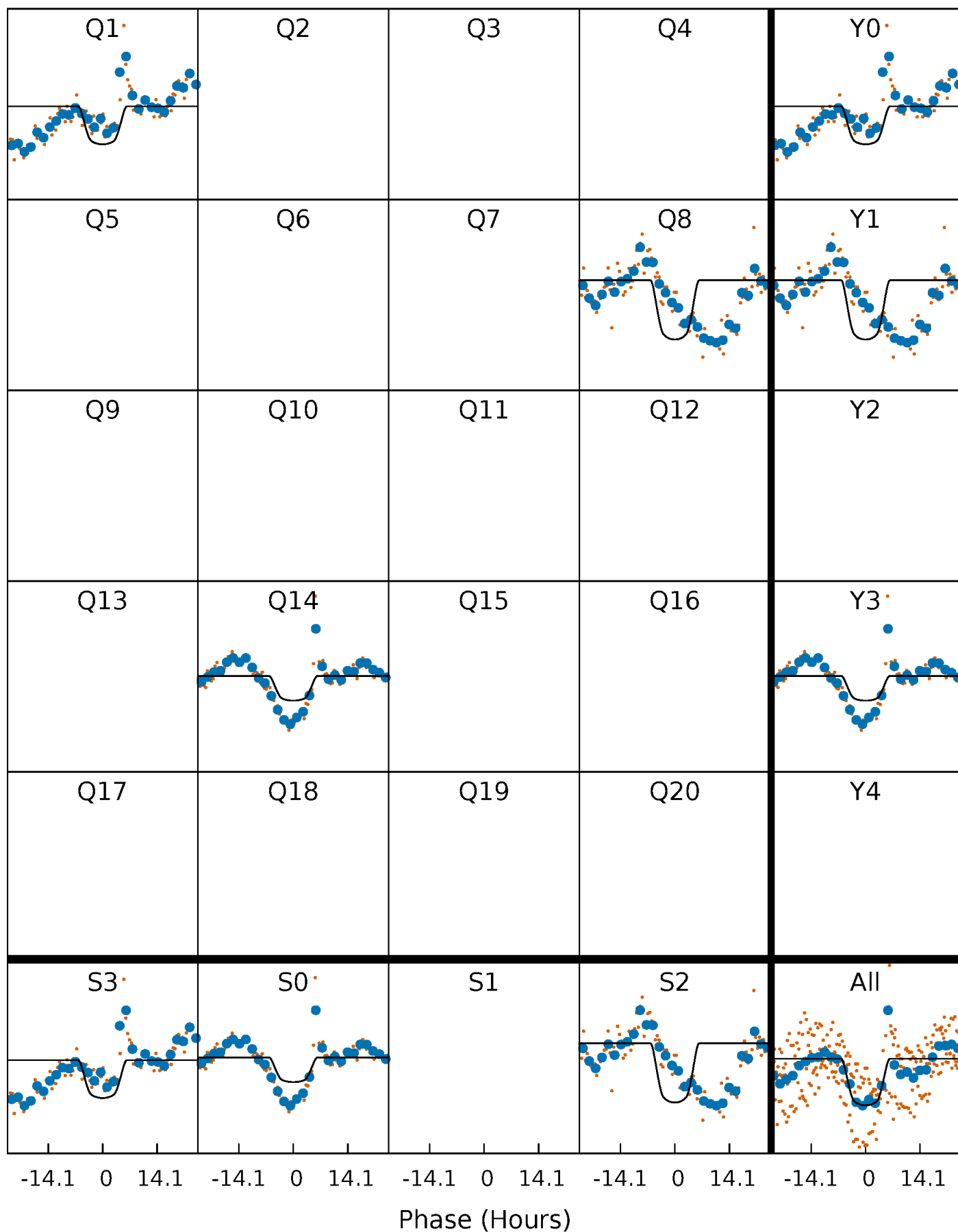
TCE 003327742-01 P=598.383763 Days  $T_0=147.936511$  (BKJD)





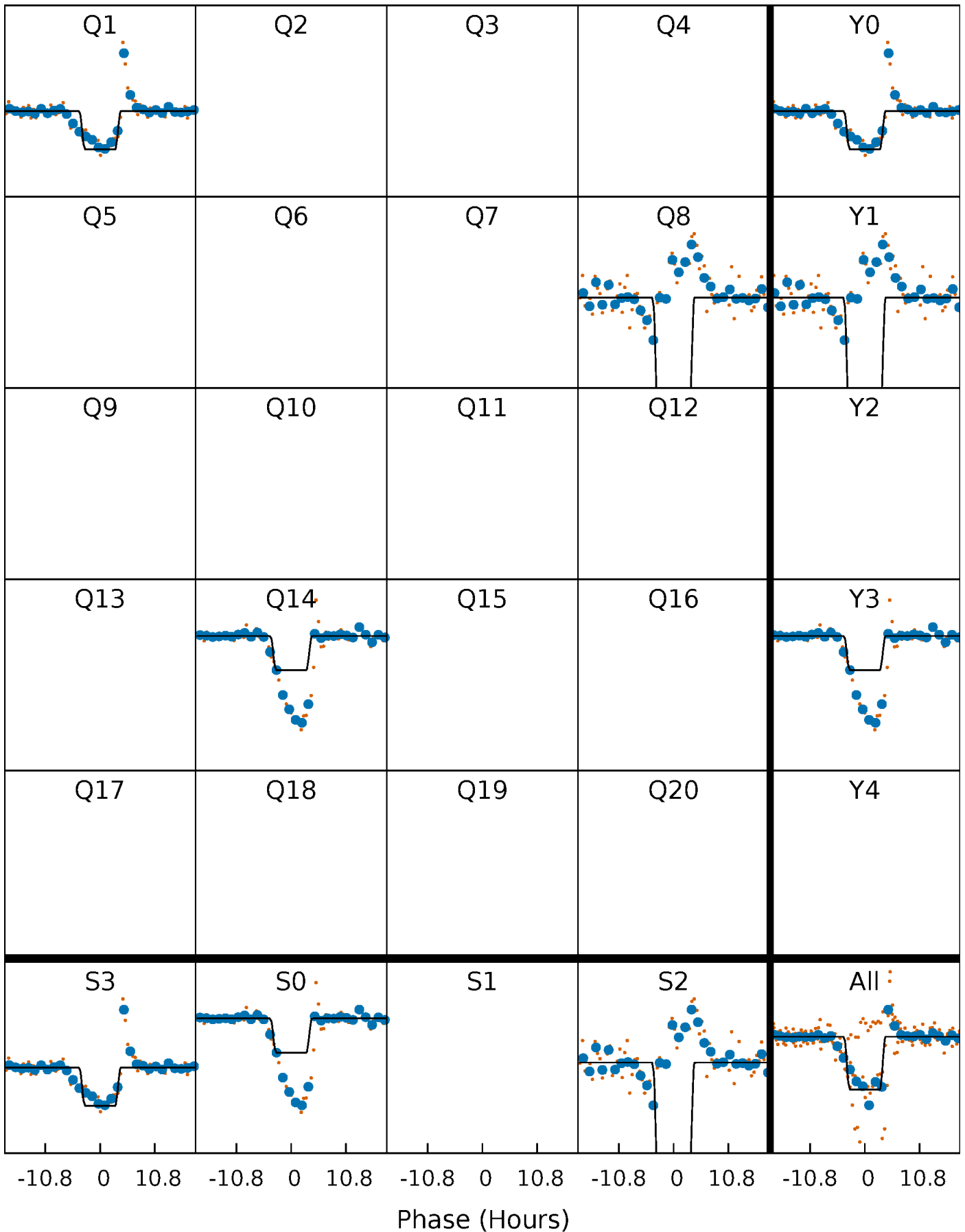
# DV Quarter-Phased Transit Curves

TCE 003327742-01 P=598.383763 Days  $T_0=147.936511$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

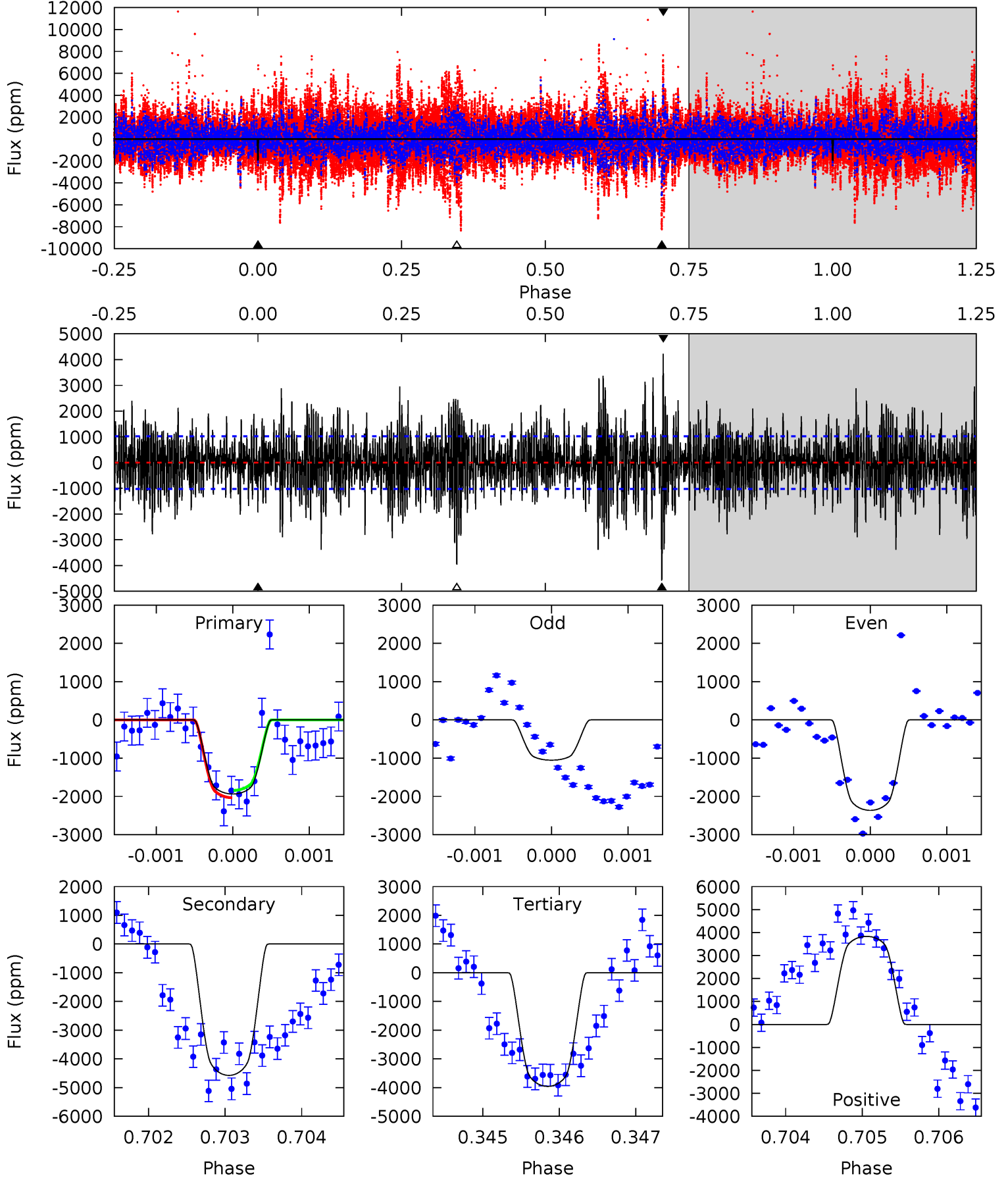
TCE 003327742-01 P=598.389993 Days  $T_0=147.958687$  (BKJD)



# DV Model-Shift Uniqueness Test

003327742-01, P = 598.383763 Days, E = 147.936511 Days

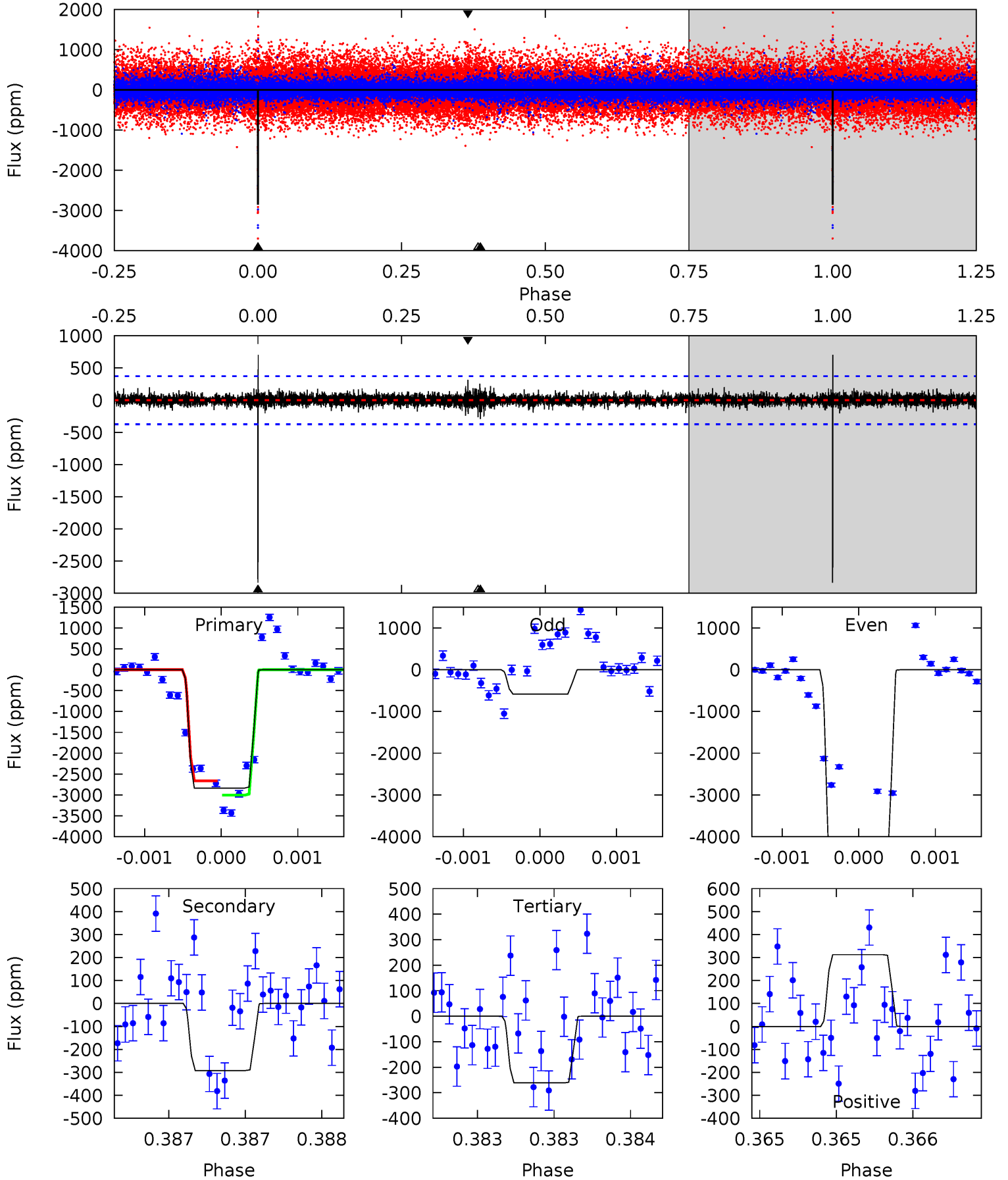
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	24.4	21.1	20.5	5.48	3.33	5.28	-10.8	-10.1	3.30	3.96	3.48	1.80	0.48	0.52



# Alt Model-Shift Uniqueness Test

003327742-01, P = 598.389993 Days, E = 147.958687 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
42.1	4.34	3.88	4.64	5.55	3.44	0.63	38.3	37.5	0.46	-0.31	47.3	1.07	0.20	0



### Stellar Parameters For KIC 003327742

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6086^{+165}_{-201}$	$4.437^{+0.072}_{-0.217}$	$-0.080^{+0.250}_{-0.300}$	$1.024^{+0.322}_{-0.115}$	$1.040^{+0.148}_{-0.133}$	$1.366^{+0.408}_{-0.746}$
	+3%/-3%	+2%/-5%	+312%/-375%	+31%/-11%	+14%/-13%	+30%/-55%
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 003327742-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-4575 \pm 187$	$5.84^{+1.06}_{-0.83}$	$326^{+24}_{-17}$	$7111^{+552}_{-454}$	$146368^{+49032}_{-41257}$
Alt.	$-292 \pm 67$	$6.52^{+1.18}_{-0.89}$	$324^{+24}_{-17}$	$3740^{+218}_{-216}$	$7324^{+3272}_{-2424}$

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

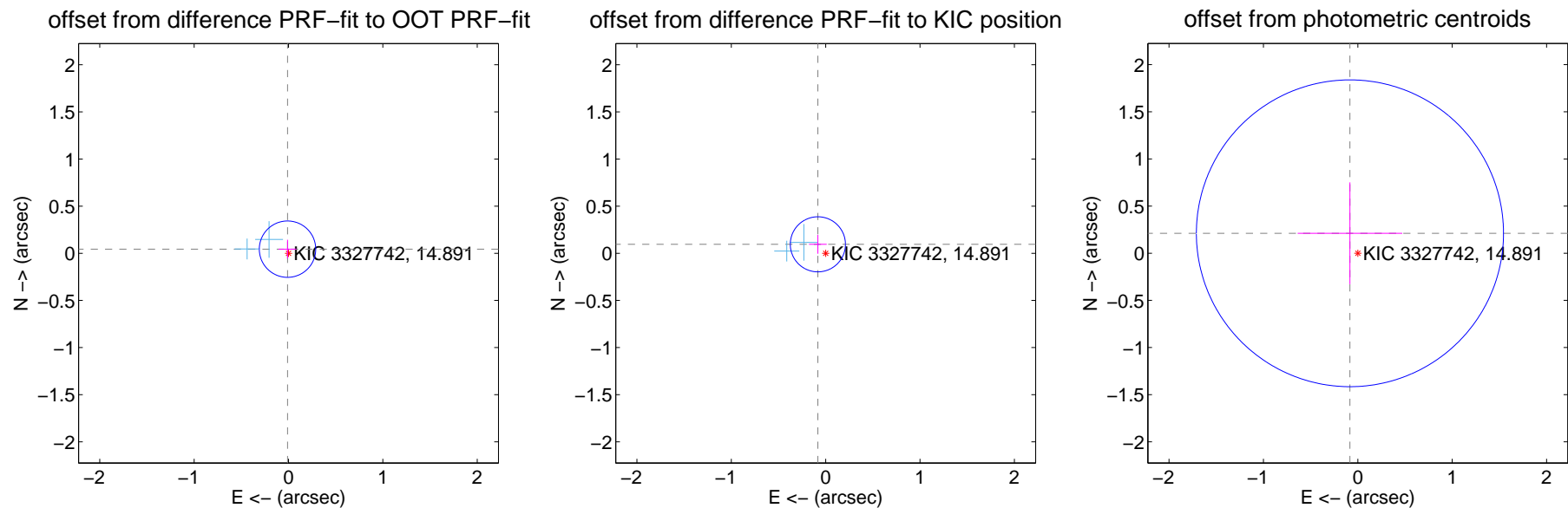
## DV Centroid Data

Supplemental centroid analysis for 003327742-01. Kepler magnitude: 14.89. Transit SNR 6.18

There are 3 quarters with good PRF difference image offsets

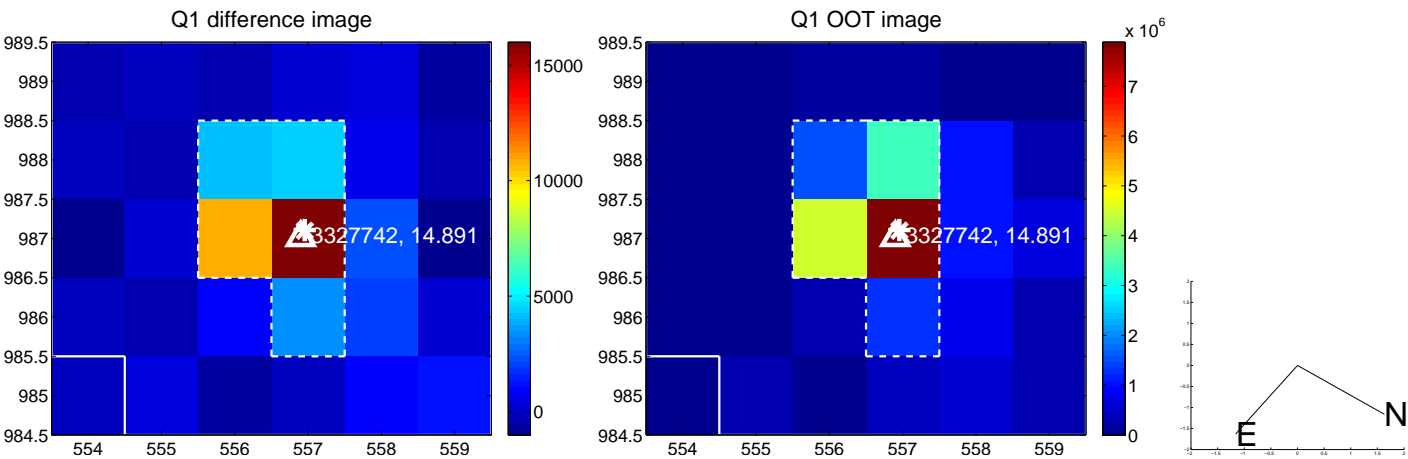
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.045 \pm 0.100$	0.45	$0.010 \pm 0.094$	$0.044 \pm 0.100$
PRF-fit source offset from KIC position	$0.126 \pm 0.097$	1.29	$0.083 \pm 0.094$	$0.095 \pm 0.100$
photometric centroid source offset	$0.23 \pm 0.54$	0.42	$0.08 \pm 0.55$	$0.21 \pm 0.54$



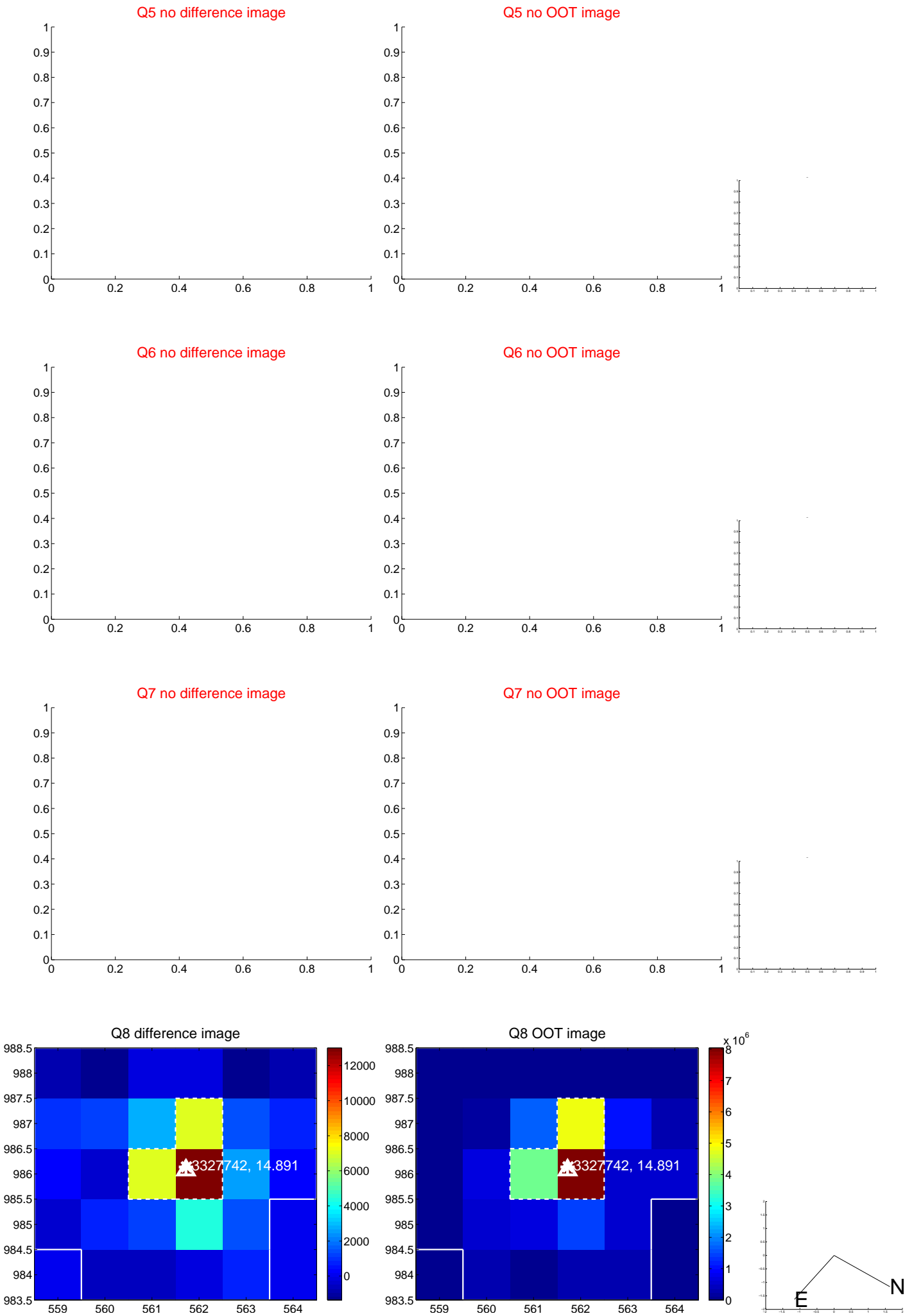
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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





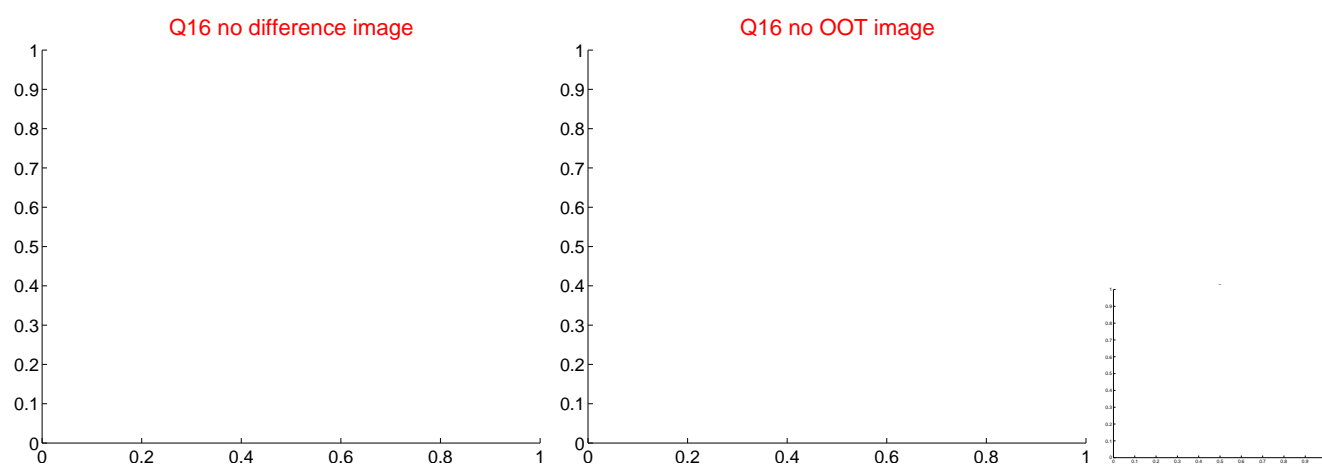
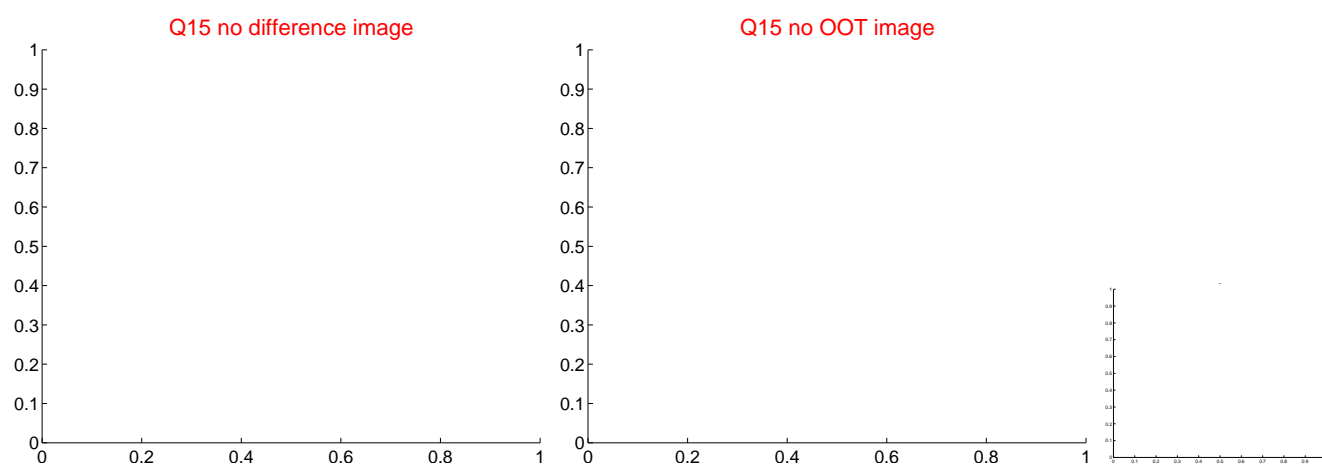
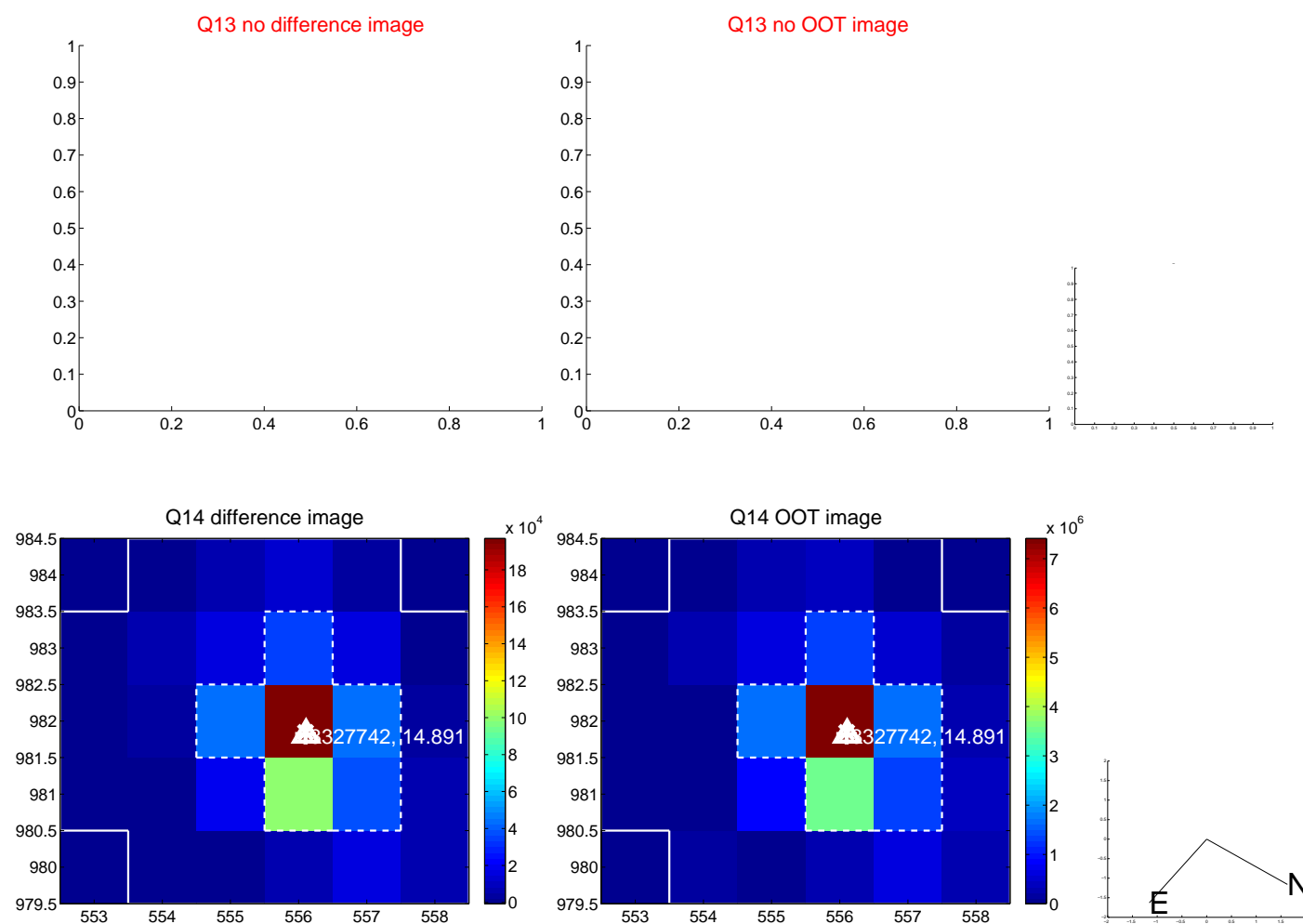
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



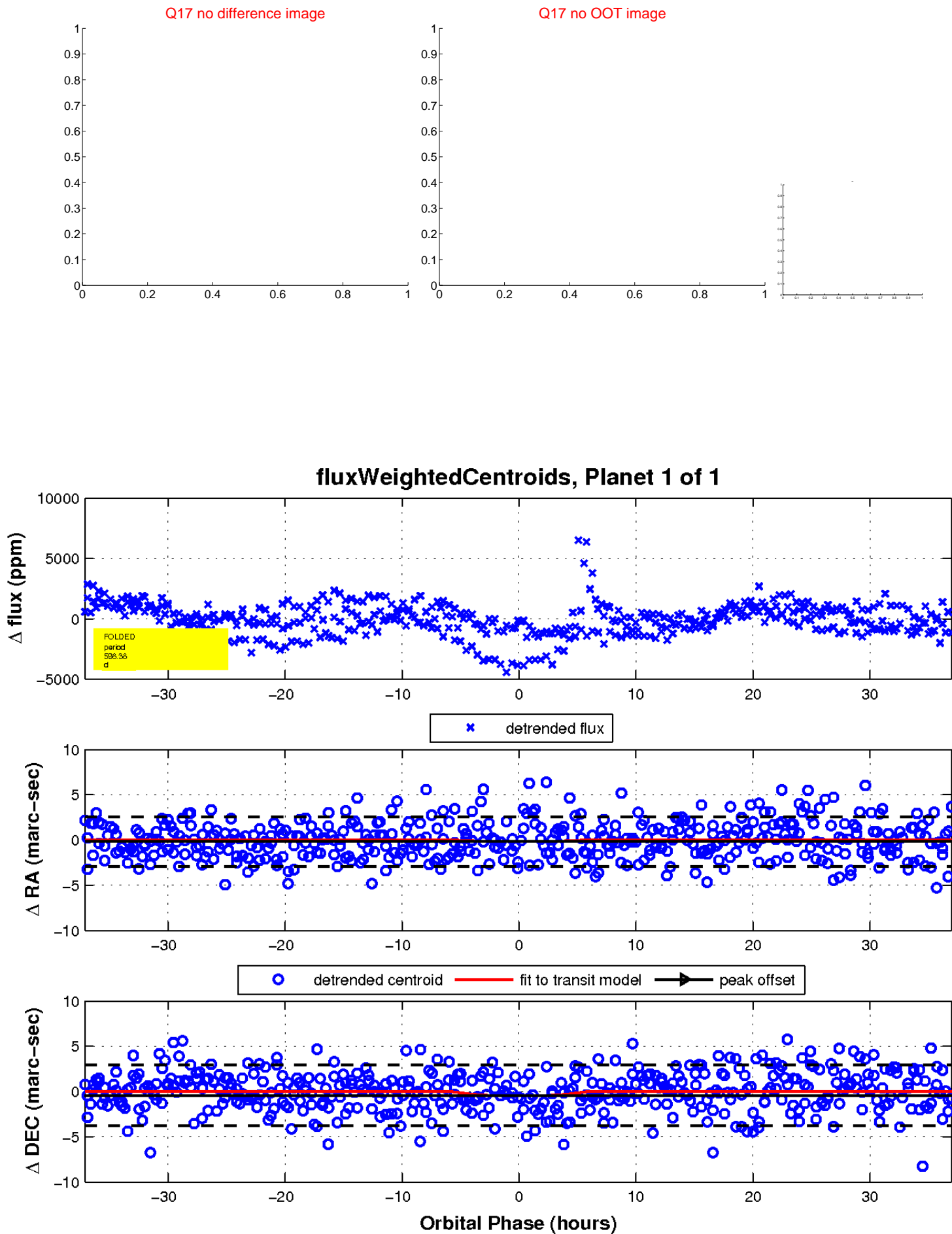
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

