

# KIC 008555967

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008555967-01	OBS	7894.01	347.976146	169.458514	330.2	15.699	8.5	8.3	0.88	5995	1.71	0.97

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008555967-01	OBS	PC	0.84	0	0	0	0	NO_COMMENT

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

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

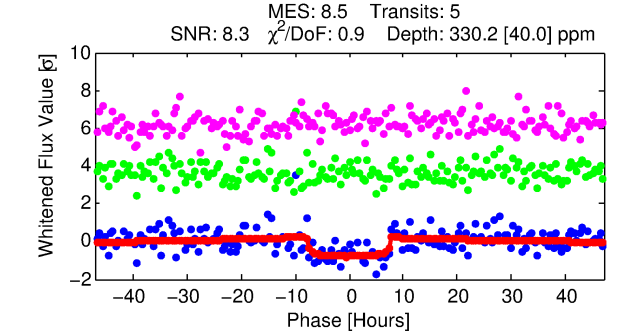
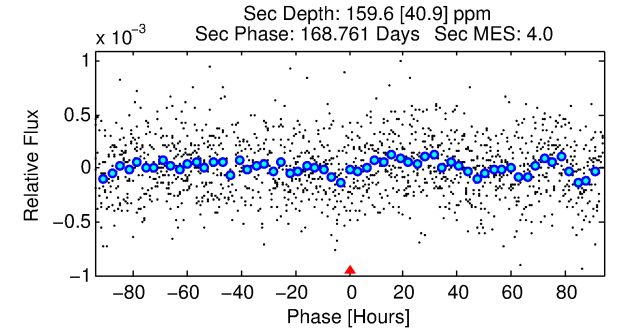
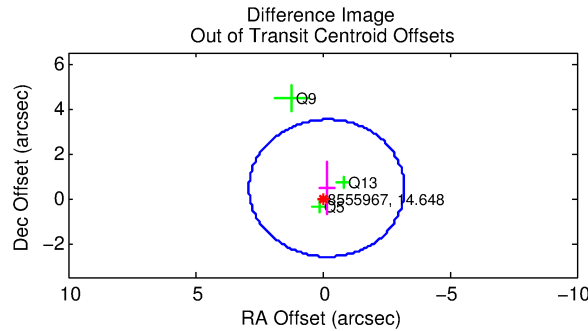
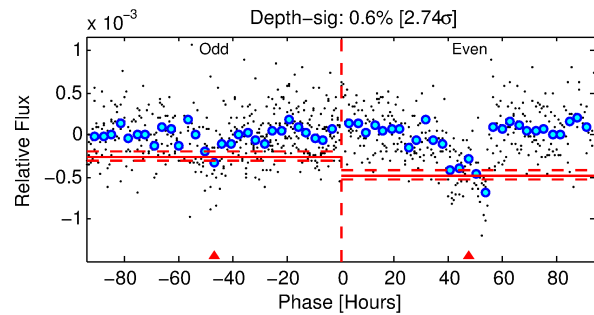
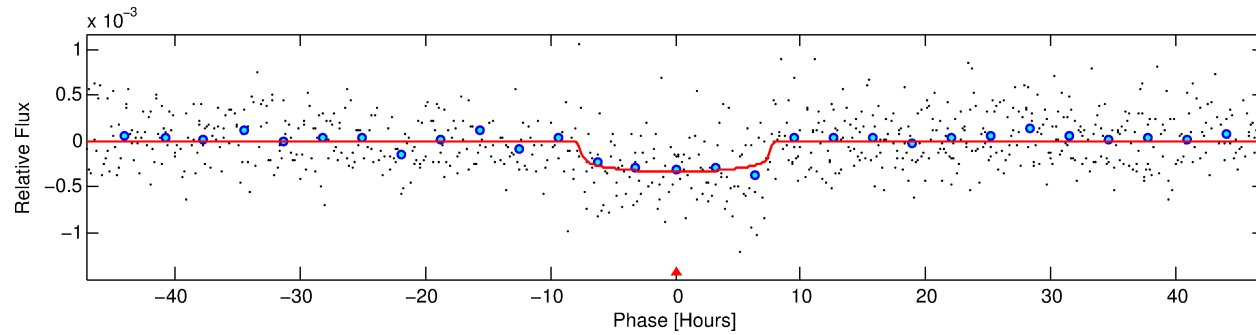
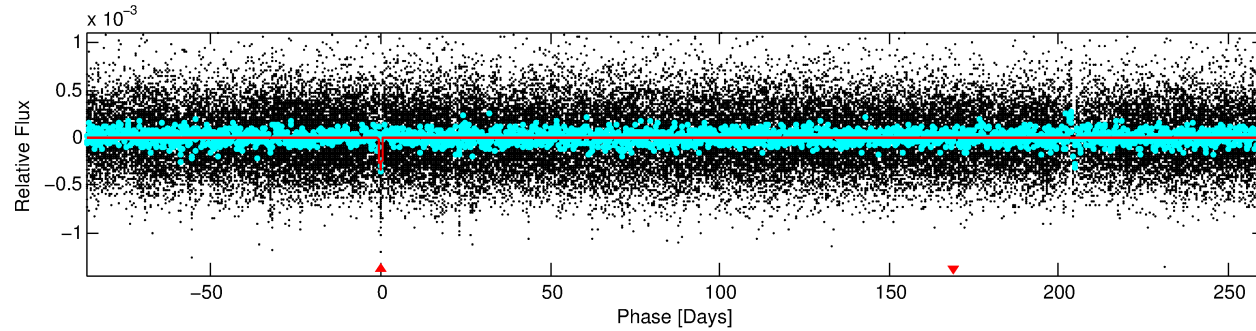
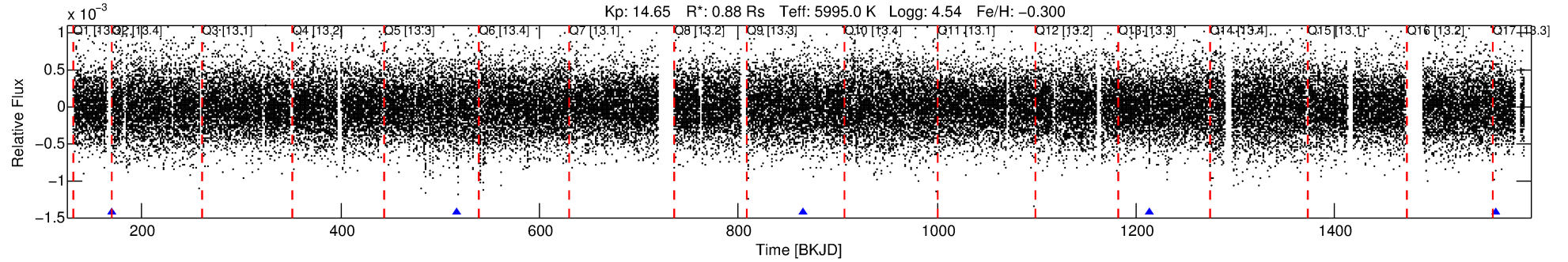
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008555967-01

No Significant Match Found

# DV One-Page Summary

KIC: 8555967 Candidate: 1 of 1 Period: 347.976 d



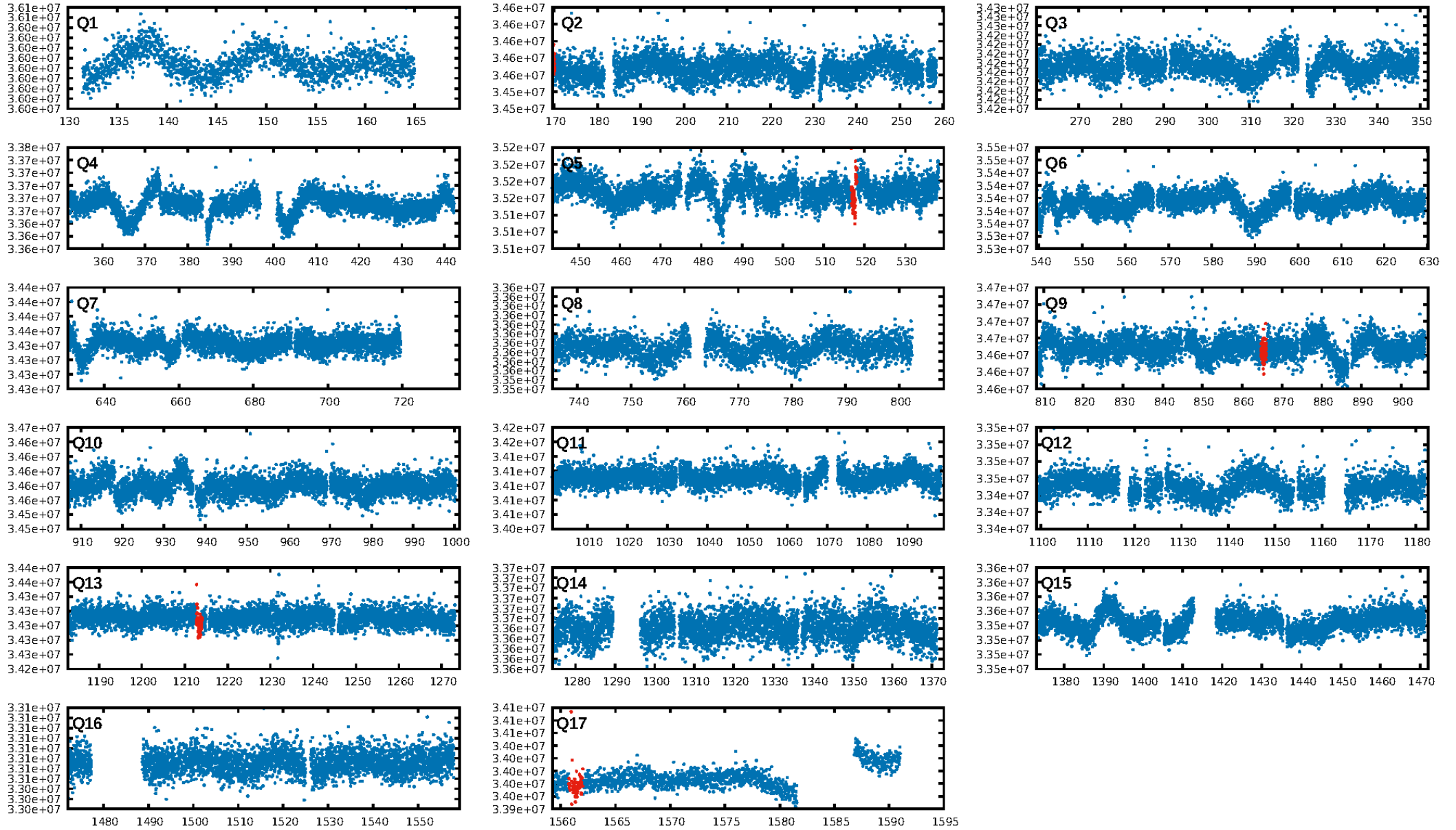
## DV Fit Results:

Period = 347.97615 [0.00898] d  
Epoch = 169.4585 [0.0266] BKJD  
Rp/R\* = 0.0179 [0.0054]  
a/R\* = 123.28 [178.72]  
b = 0.71 [1.01]  
Seff = 0.97 [0.38]  
Teff = 253 [24] K  
Rp = 1.71 [0.73] Re  
a = 0.9573 [0.2429] AU  
Ag = 27508.52 [20648.83] [1.33σ]  
Teffp = 5043 [839] K [5.71σ]

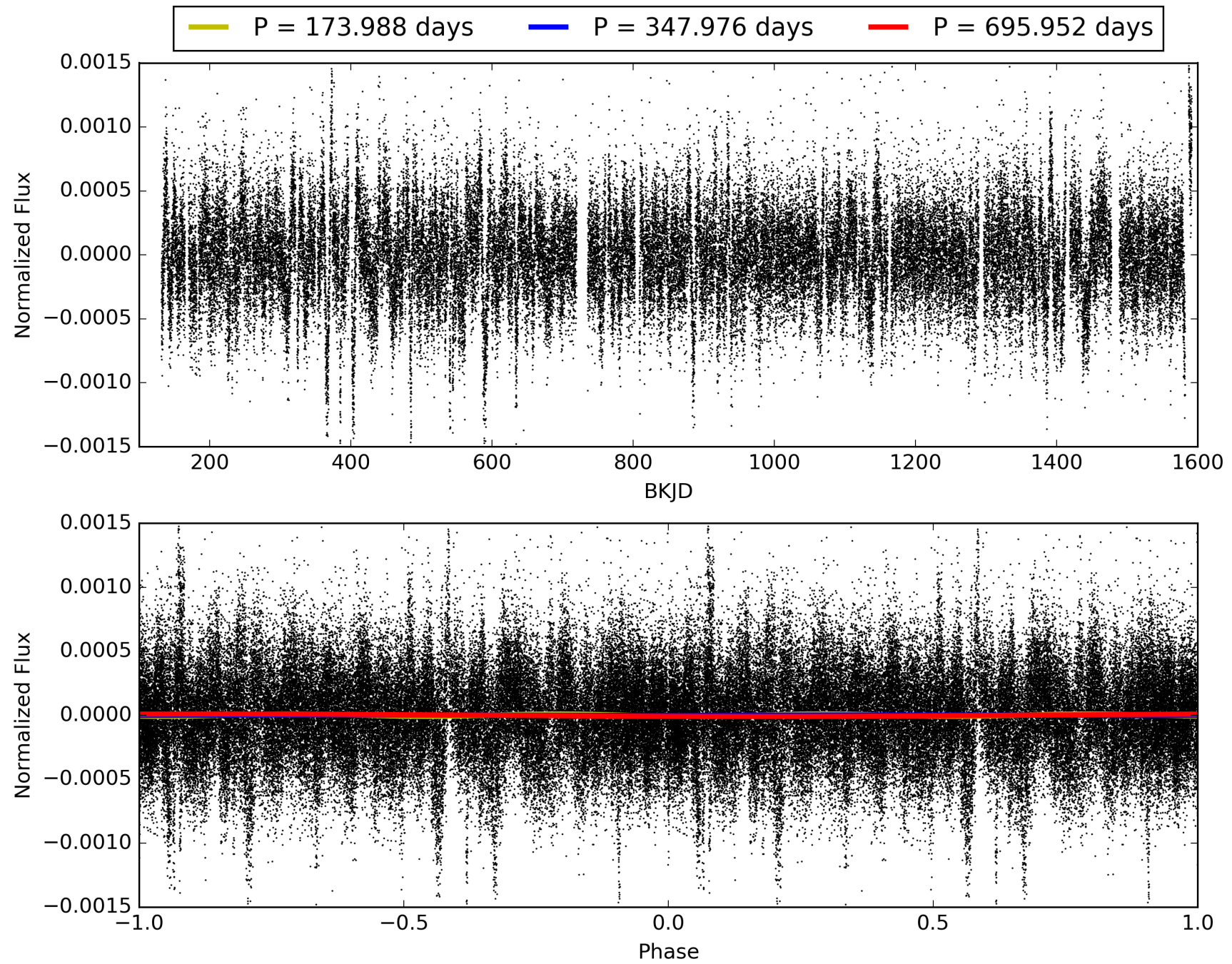
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 31.2%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 3.28e-12**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -0.4513  
**Centroid-sig: 0.0%**  
Centroid-so: 3.276 arcsec [2.44σ]  
OotOffset-rm: 0.485 arcsec [0.48σ]  
KicOffset-rm: 0.356 arcsec [0.37σ]  
OotOffset-st: 0/0/0/3 [3]  
KicOffset-st: 0/0/0/3 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 1.00 [3/3]

# TCE 008555967-01, PDC Light Curves

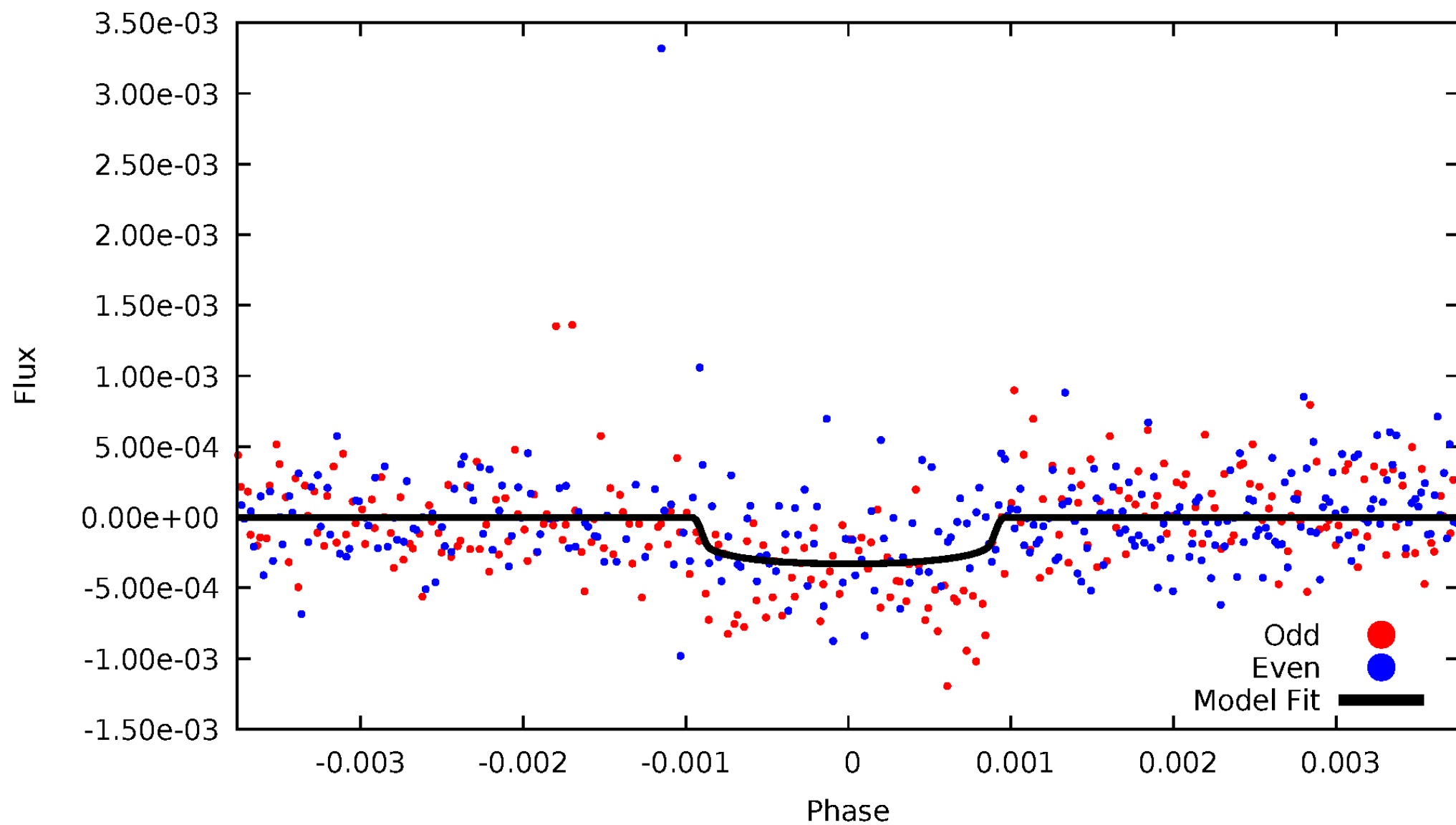


TCE 008555967-01



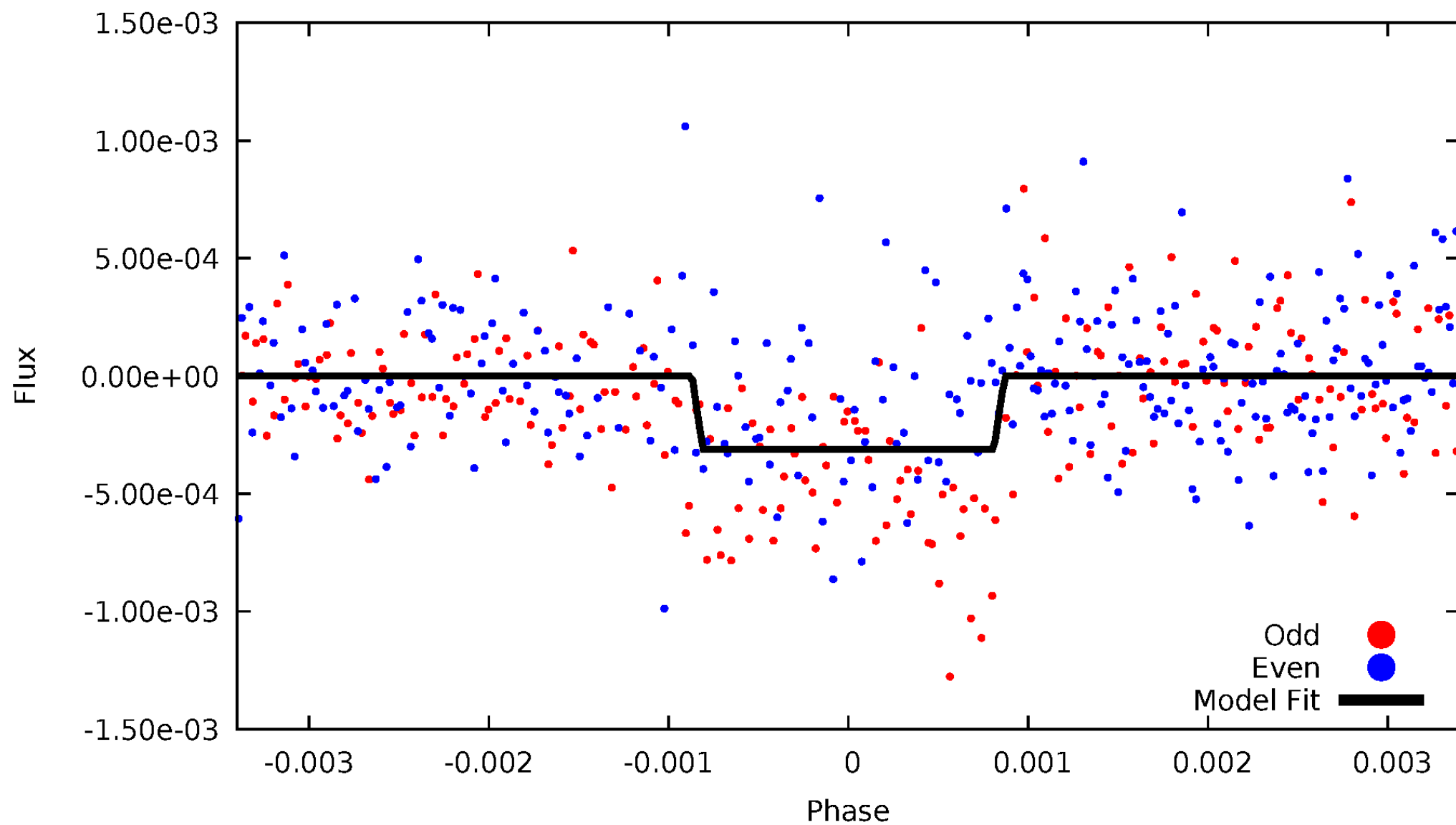
# DV Odd/Even

TCE 008555967-01



# ALT Odd/Even

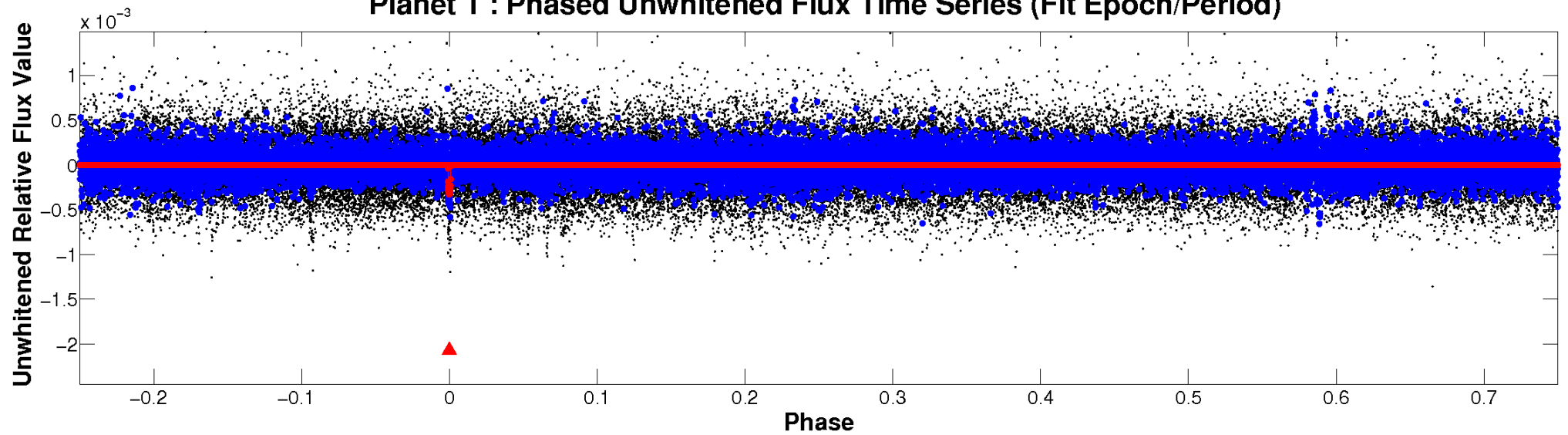
TCE 008555967-01



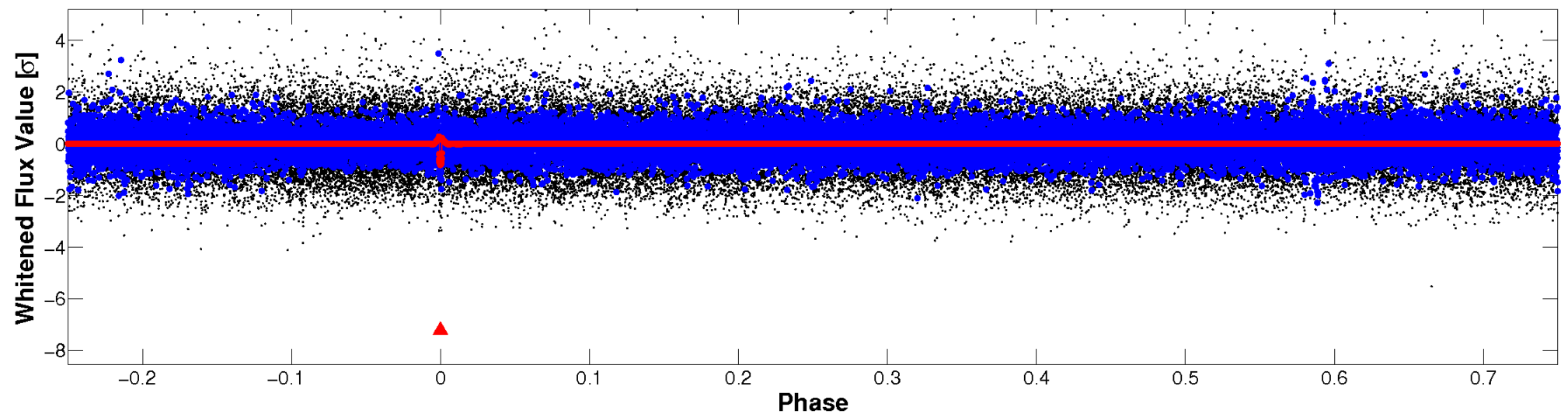


# Non-Whitened Vs. Whitened Light Curve

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

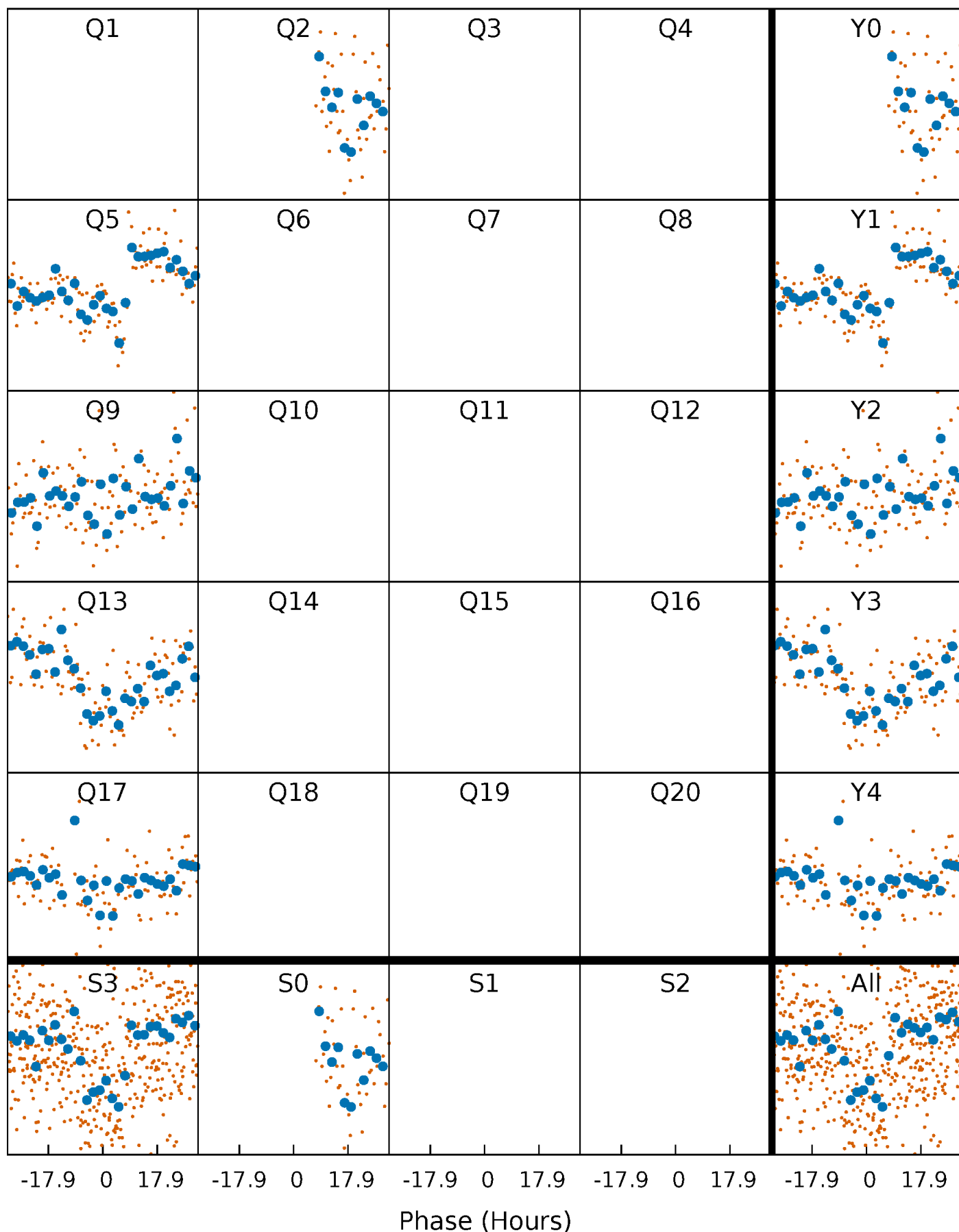


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

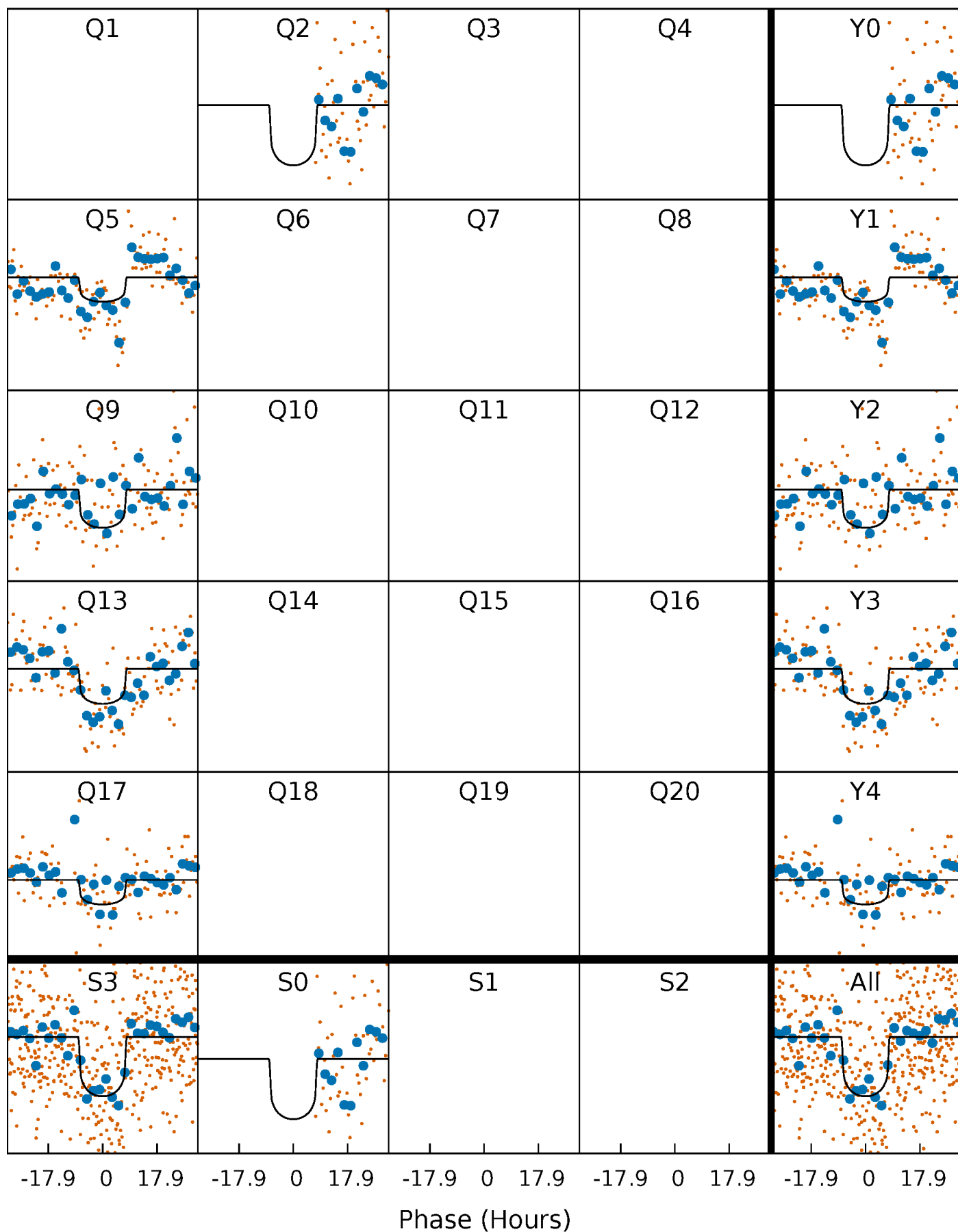
TCE 008555967-01   P=347.976146 Days    $T_0=169.458514$  (BKJD)





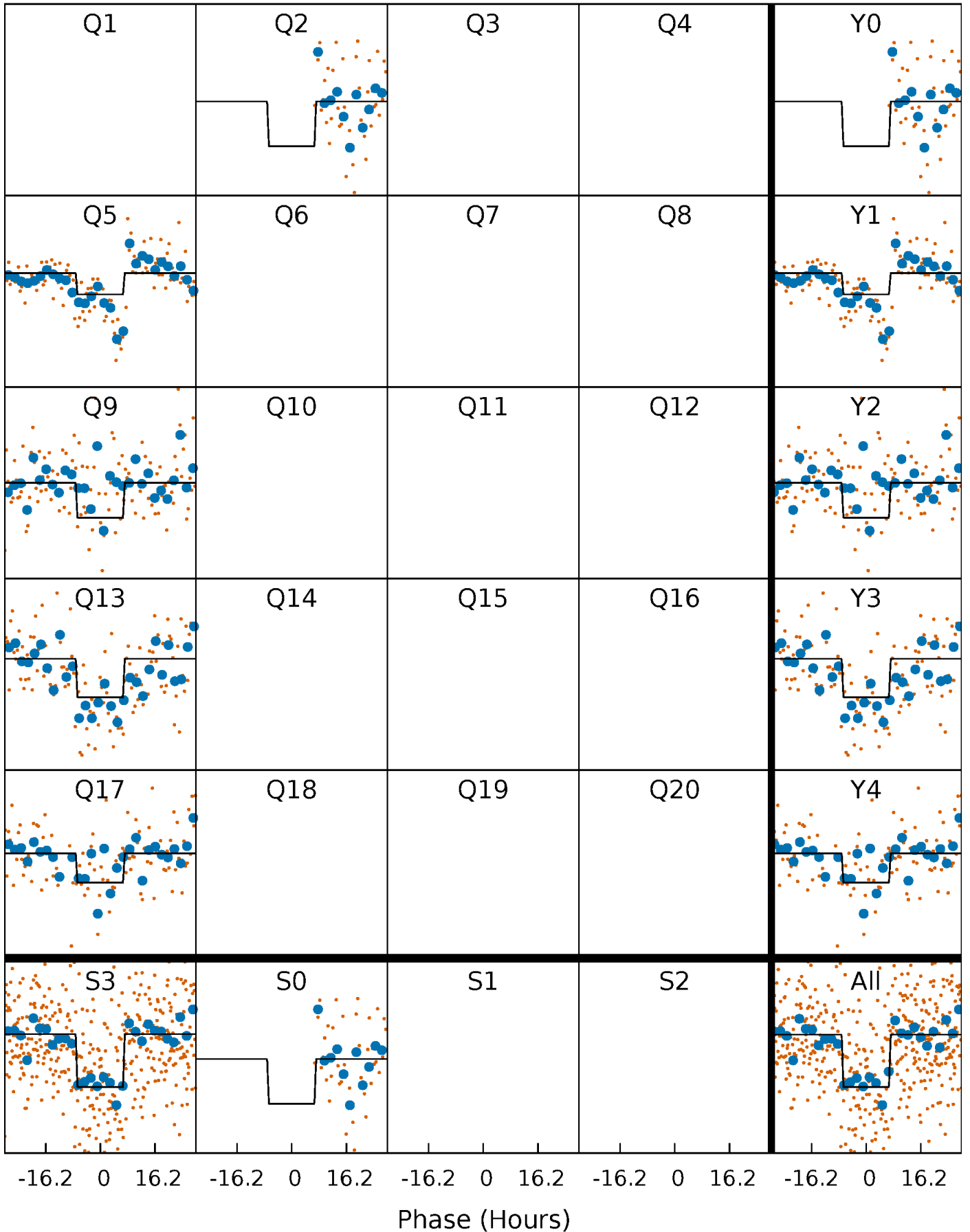
# DV Quarter-Phased Transit Curves

TCE 008555967-01 P=347.976146 Days  $T_0=169.458514$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

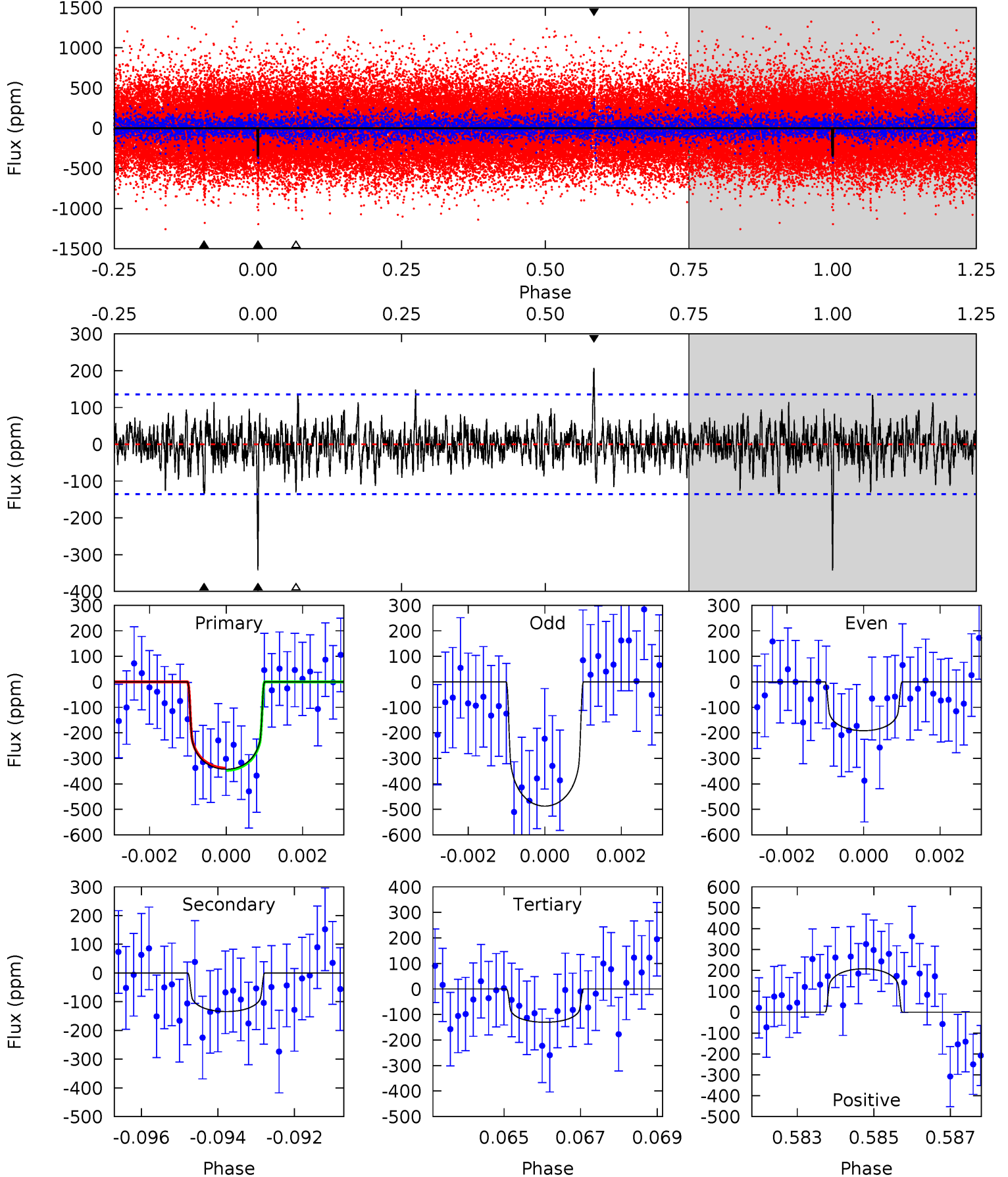
TCE 008555967-01 P=347.969904 Days  $T_0=169.480367$  (BKJD)



# DV Model-Shift Uniqueness Test

008555967-01, P = 347.976146 Days, E = 169.458514 Days

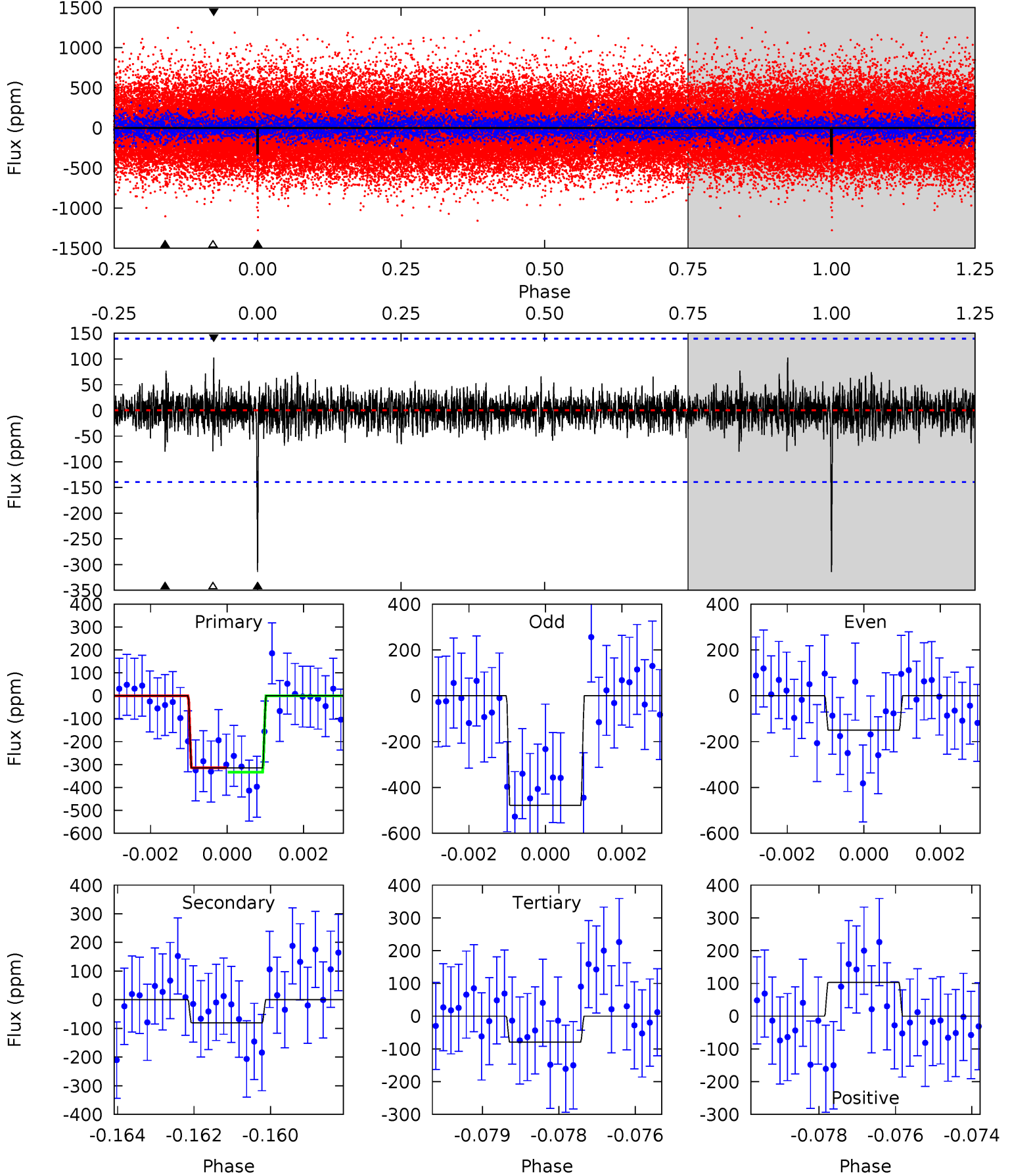
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	5.29	5.14	8.18	5.33	3.10	1.44	8.36	5.32	0.15	-2.89	5.84	0.83	0.38	0.17



# Alt Model-Shift Uniqueness Test

008555967-01, P = 347.969904 Days, E = 169.480367 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
12.1	3.08	3.04	3.94	5.35	3.13	0.77	9.04	8.14	0.03	-0.87	6.32	0.99	0.25	0.37



### Stellar Parameters For KIC 008555967

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5995^{+163}_{-181}$	$4.536^{+0.038}_{-0.200}$	$-0.300^{+0.300}_{-0.300}$	$0.878^{+0.266}_{-0.083}$	$0.964^{+0.120}_{-0.120}$	$2.009^{+0.394}_{-1.026}$
	+3%/-3%	+1%/-4%	+100%/-100%	+30%/-9%	+12%/-12%	+20%/-51%
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 008555967-01 / KOI 7894.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-134 \pm 25$	$1.79^{+0.62}_{-0.52}$	$363^{+23}_{-16}$	$4900^{+909}_{-544}$	$20397^{+21787}_{-9360}$
Alt.	$-80 \pm 26$	$1.80^{+0.63}_{-0.54}$	$363^{+27}_{-16}$	$4446^{+711}_{-545}$	$12136^{+13299}_{-6433}$

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

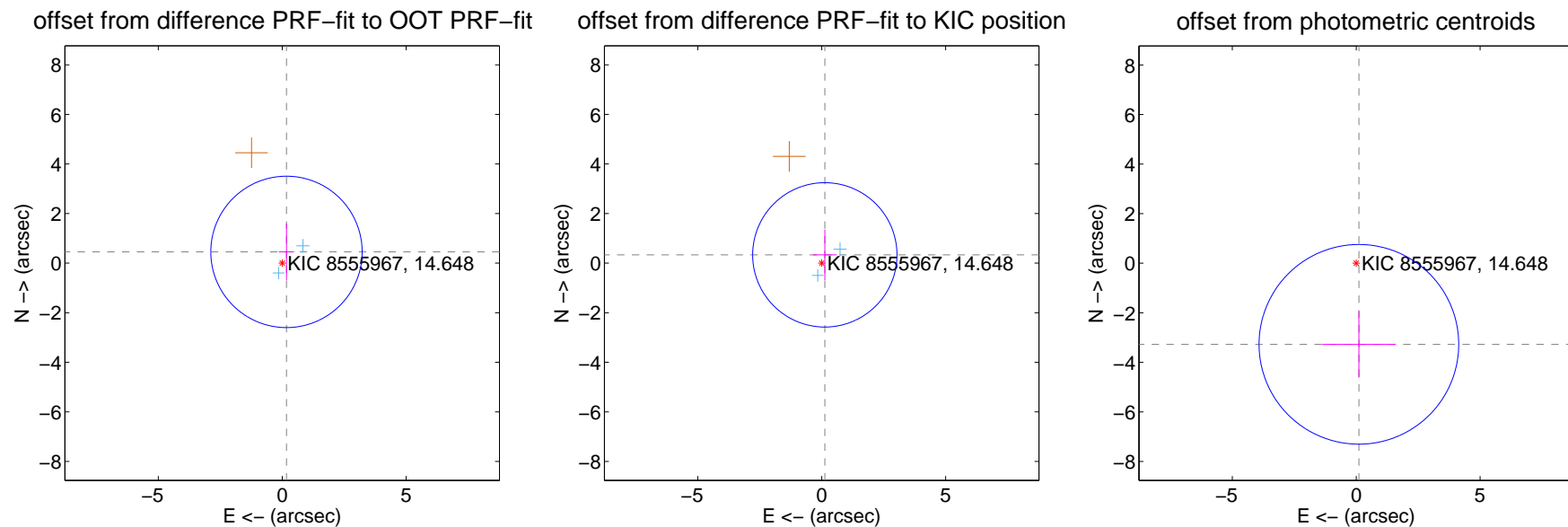
## DV Centroid Data

Supplemental centroid analysis for 008555967-01. Kepler magnitude: 14.65. Transit SNR 8.27

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.485 \pm 1.018$	0.48	$-0.172 \pm 0.308$	$0.454 \pm 1.144$
PRF-fit source offset from KIC position	$0.356 \pm 0.971$	0.37	$-0.125 \pm 0.479$	$0.334 \pm 1.021$
photometric centroid source offset	$3.28 \pm 1.34$	2.44	$-0.11 \pm 1.48$	$-3.27 \pm 1.34$



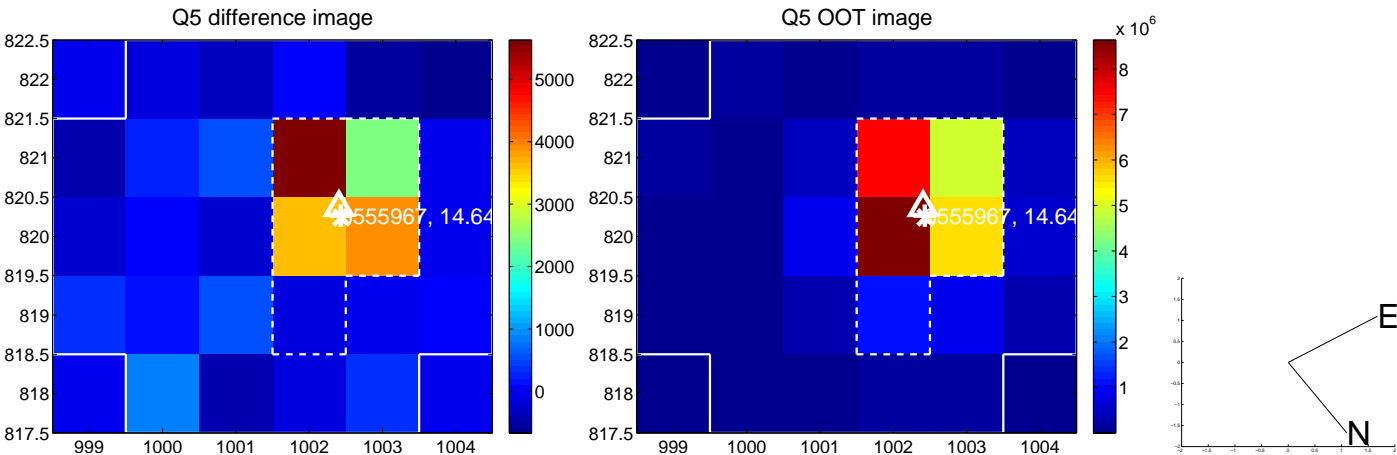
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



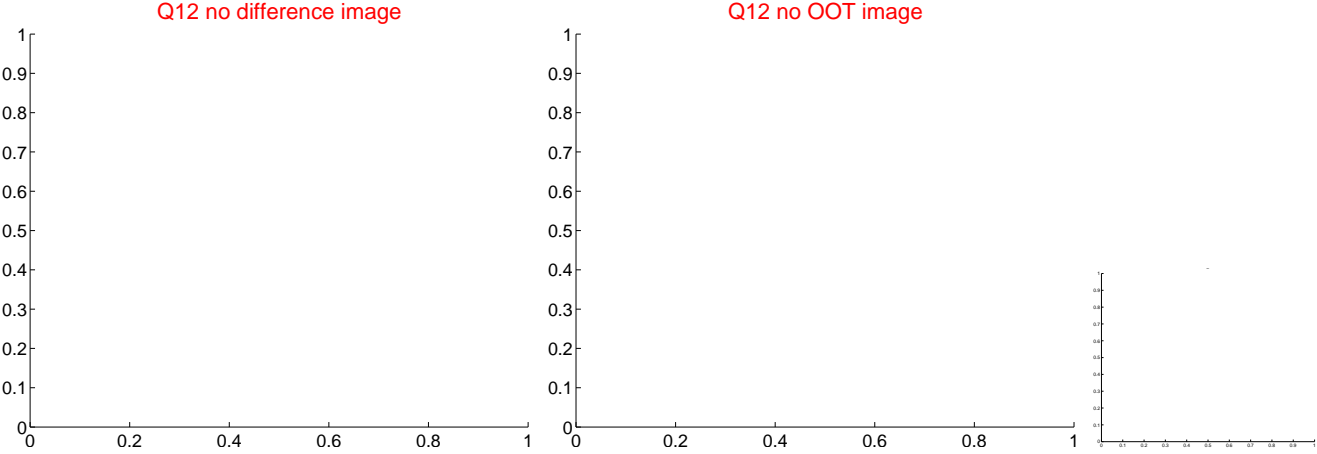
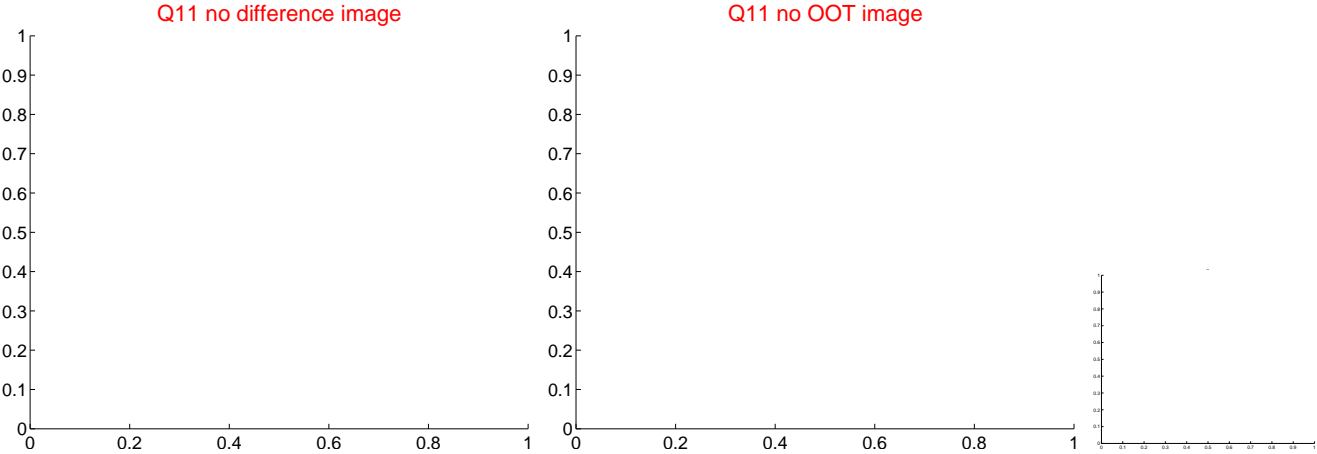
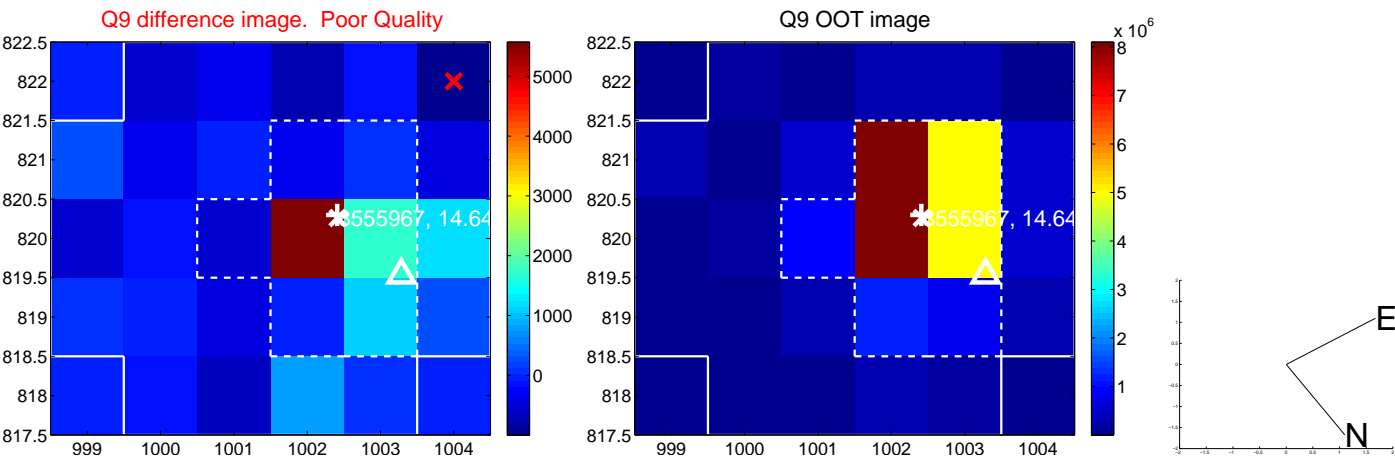
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



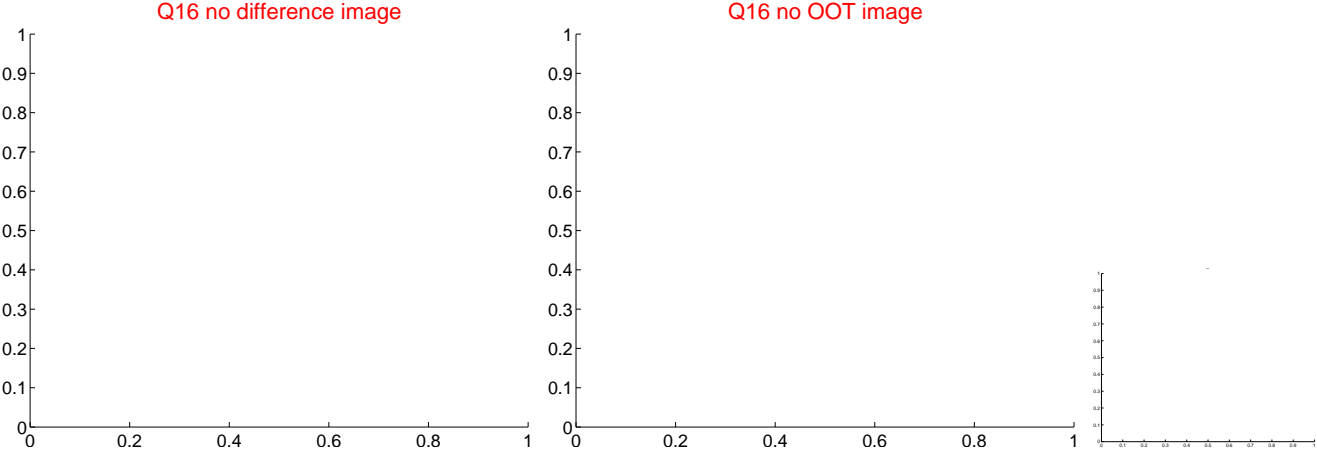
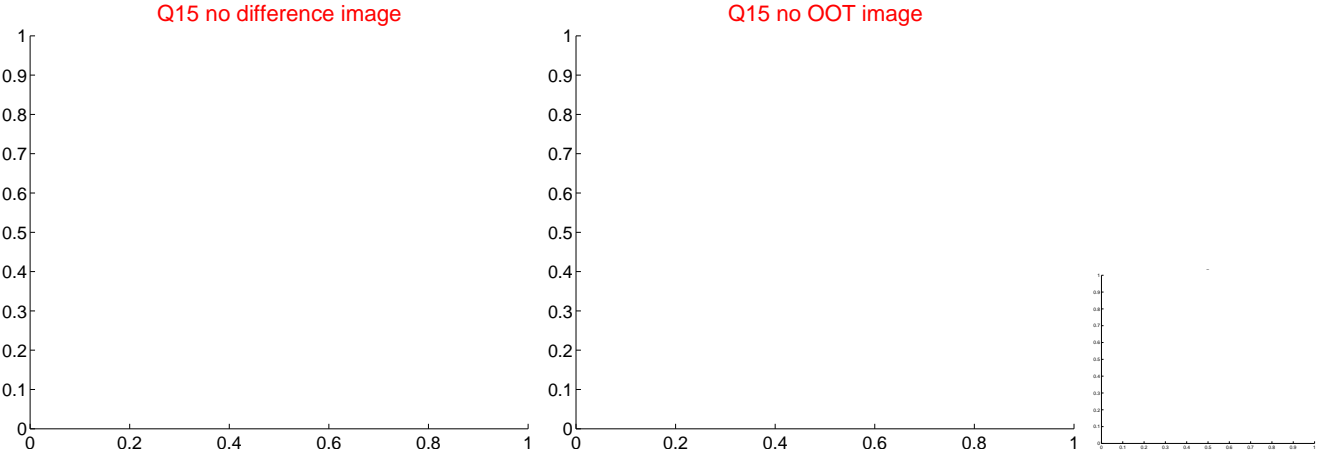
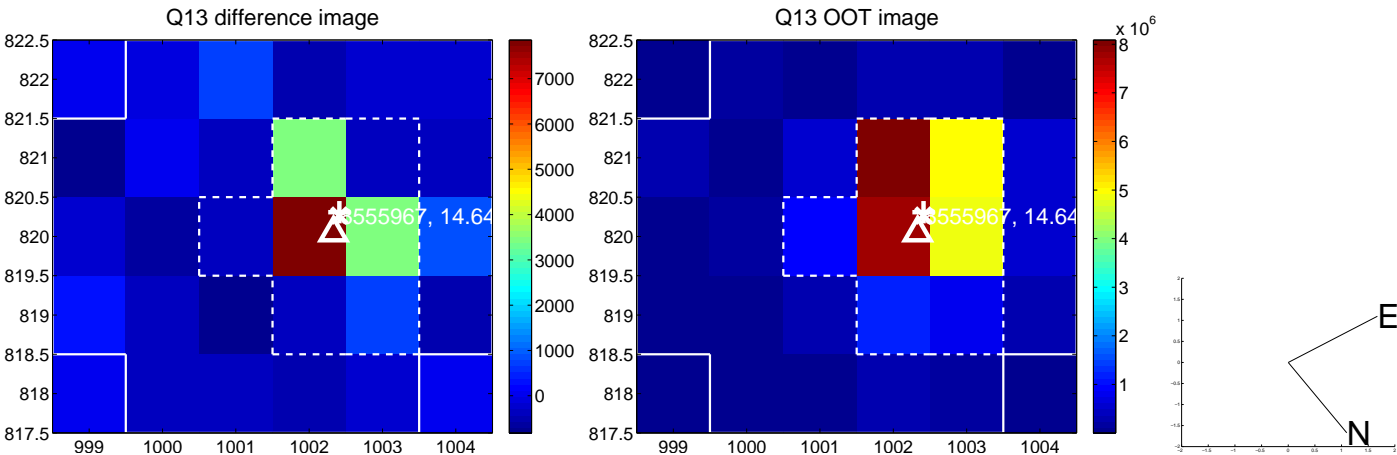
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



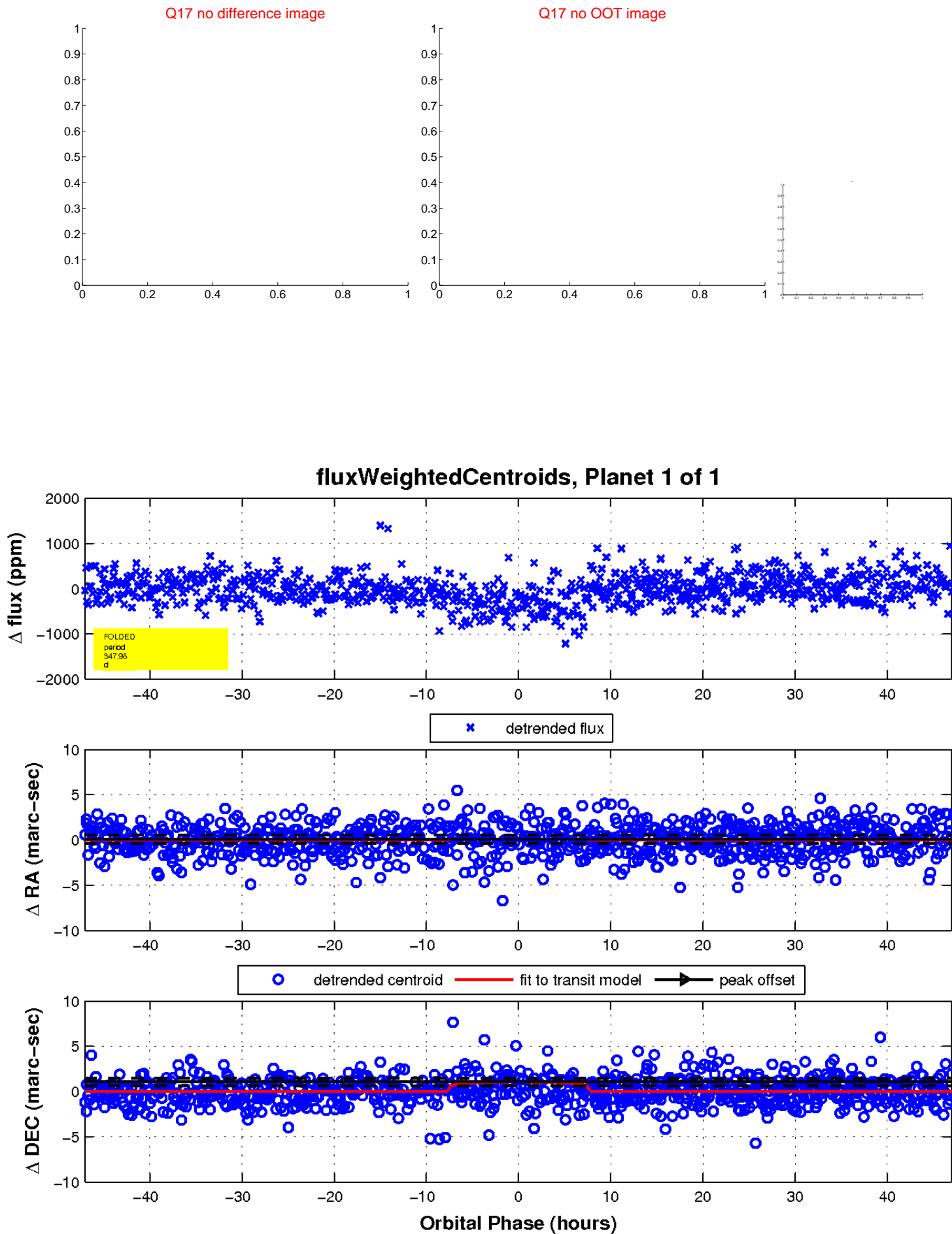
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



# UKIRT Image

Declination

