

# KIC 005213792

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005213792-01	OBS	No	346.011720	457.026929	92.0	9.780	8.3	8.3	1.96	9842	2.10	19.99

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005213792-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_SATURATED

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

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

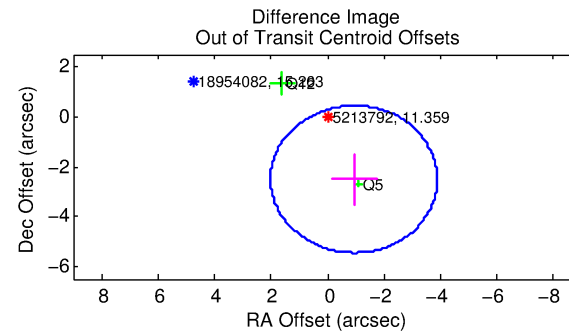
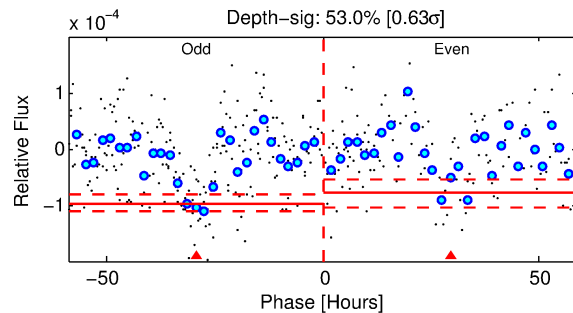
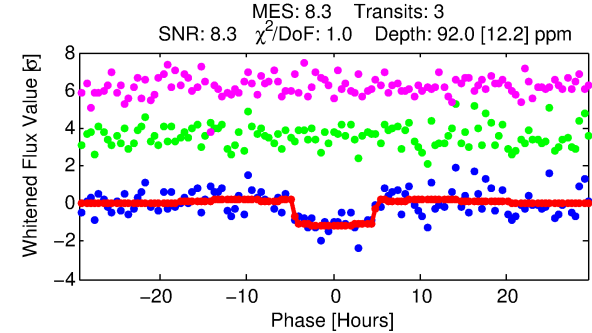
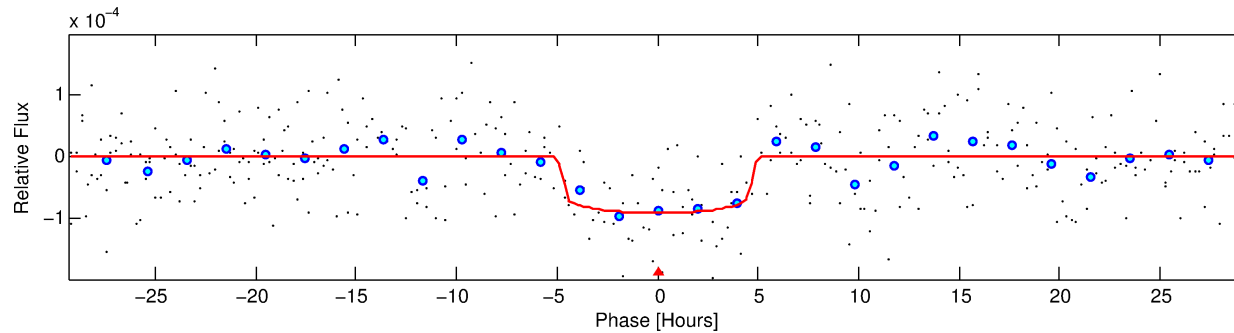
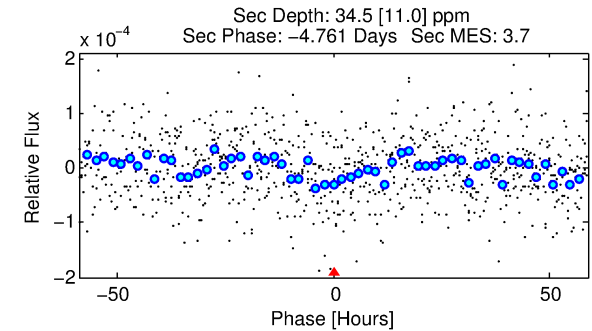
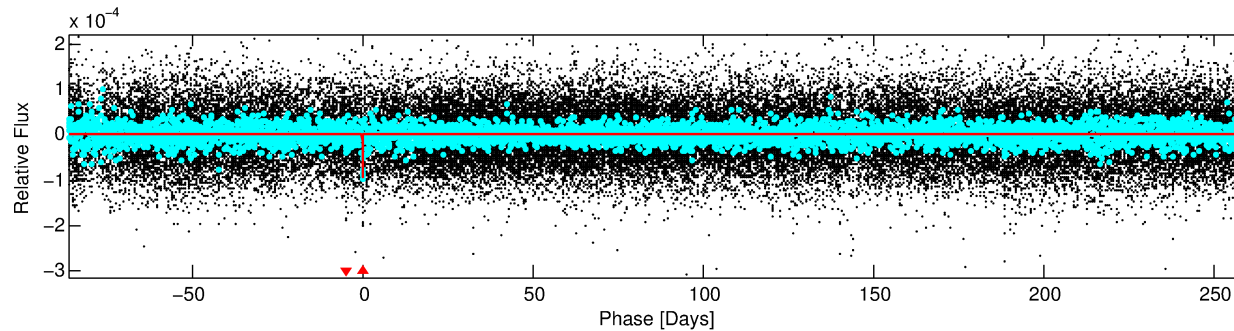
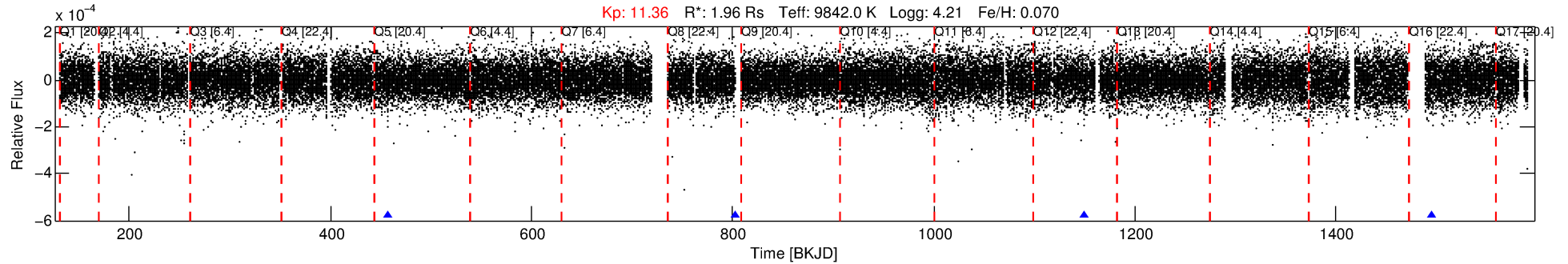
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005213792-01

No Significant Match Found

# DV One-Page Summary

KIC: 5213792 Candidate: 1 of 1 Period: 346.012 d



## DV Fit Results:

Period = 346.01172 [0.00623] d  
Epoch = 457.0269 [0.0114] BKJD  
Rp/R\* = 0.0098 [0.0034]  
a/R\* = 148.92 [381.43]  
b = 0.85 [0.87]  
Seff = 19.99 [10.34]  
Teq = 539 [70] K  
Rp = 2.10 [1.18] Re  
a = 1.2718 [0.4525] AU  
Ag = 6954.19 [6245.05] [1.11σ]  
Teffp = 7612 [1468] K [4.81σ]

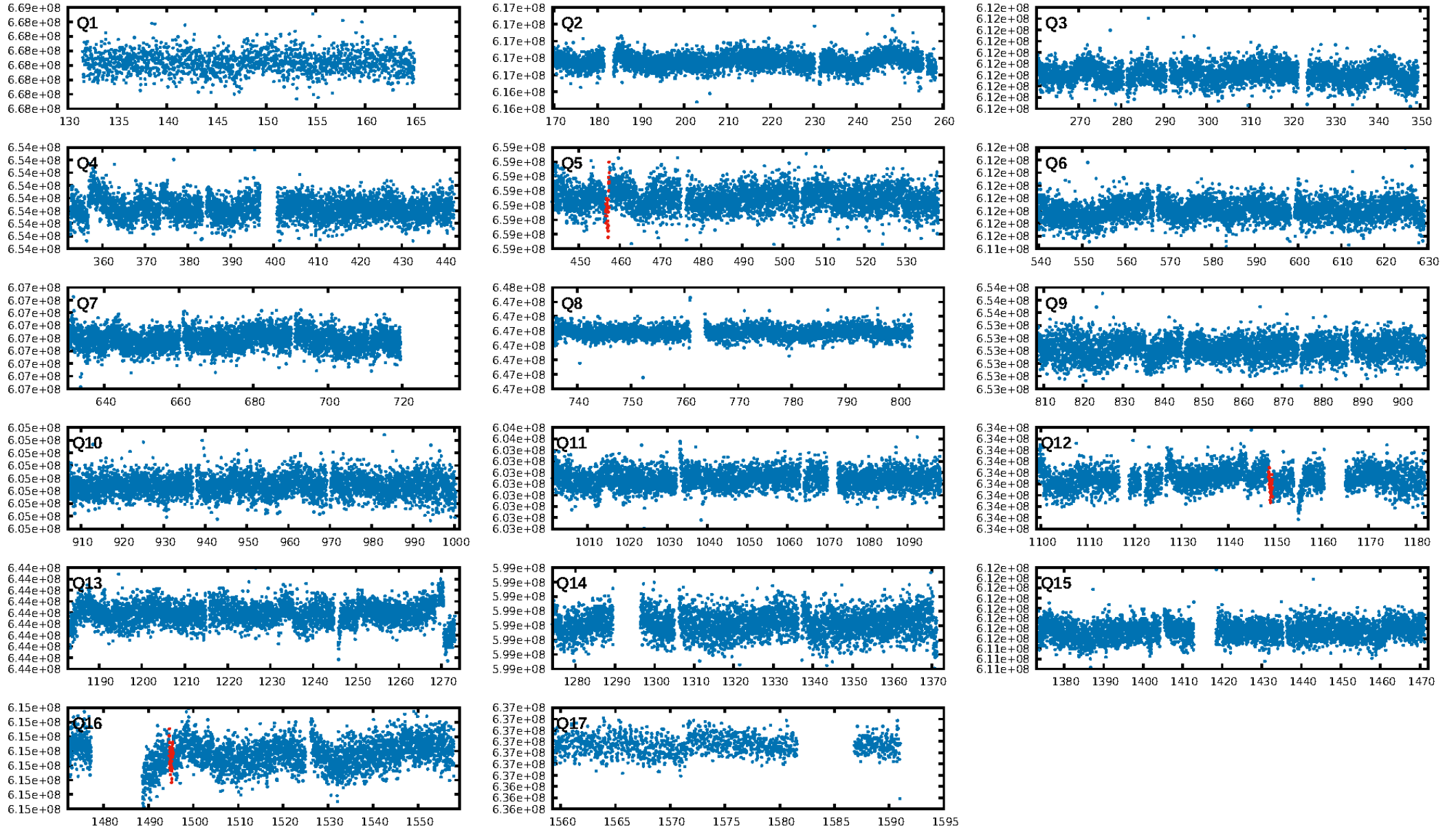
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 48.6%  
ModelChiSquareGof-sig: 99.6%  
Bootstrap-pfa: 2.76e-12  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -6.712  
Centroid-sig: 70.1%  
Centroid-so: 0.657 arcsec [0.33σ]  
OotOffset-rm: 2.672 arcsec [2.72σ]  
KicOffset-rm: 2.670 arcsec [1.21σ]  
OotOffset-st: 0/0/1/1 [2]  
KicOffset-st: 0/0/1/1 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [3/3]

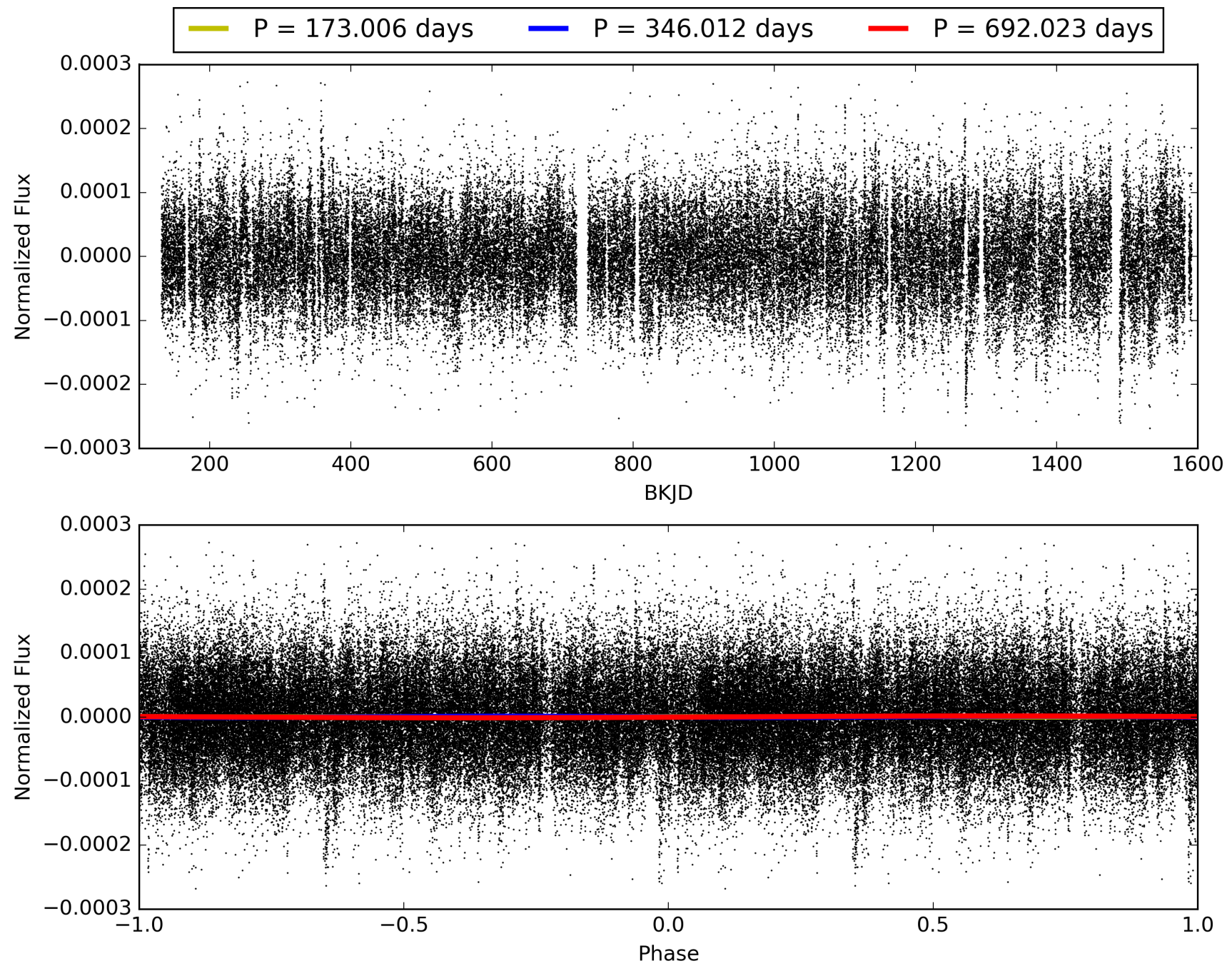
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:29:17 Z

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

# TCE 005213792-01, PDC Light Curves

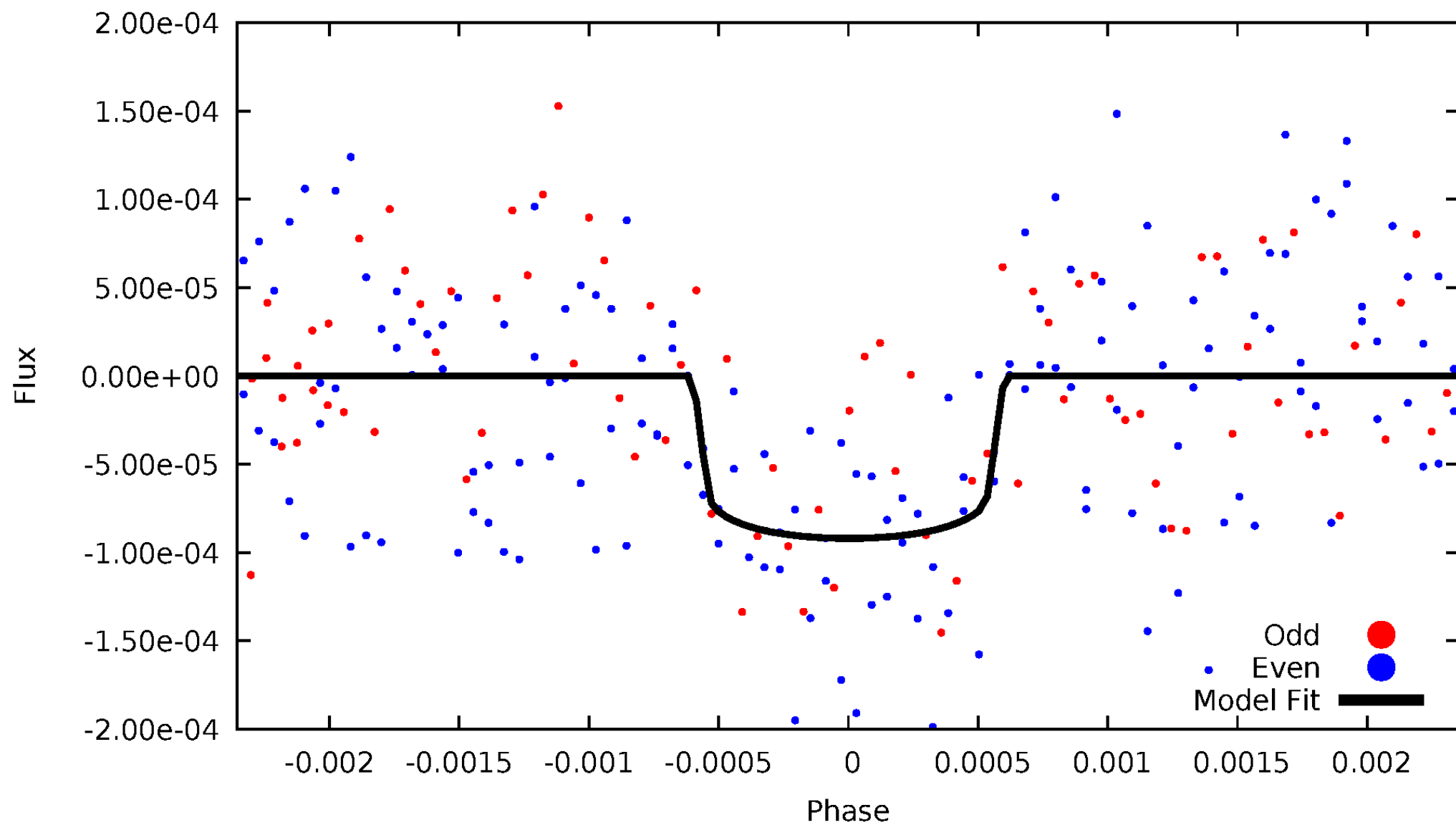


# TCE 005213792-01



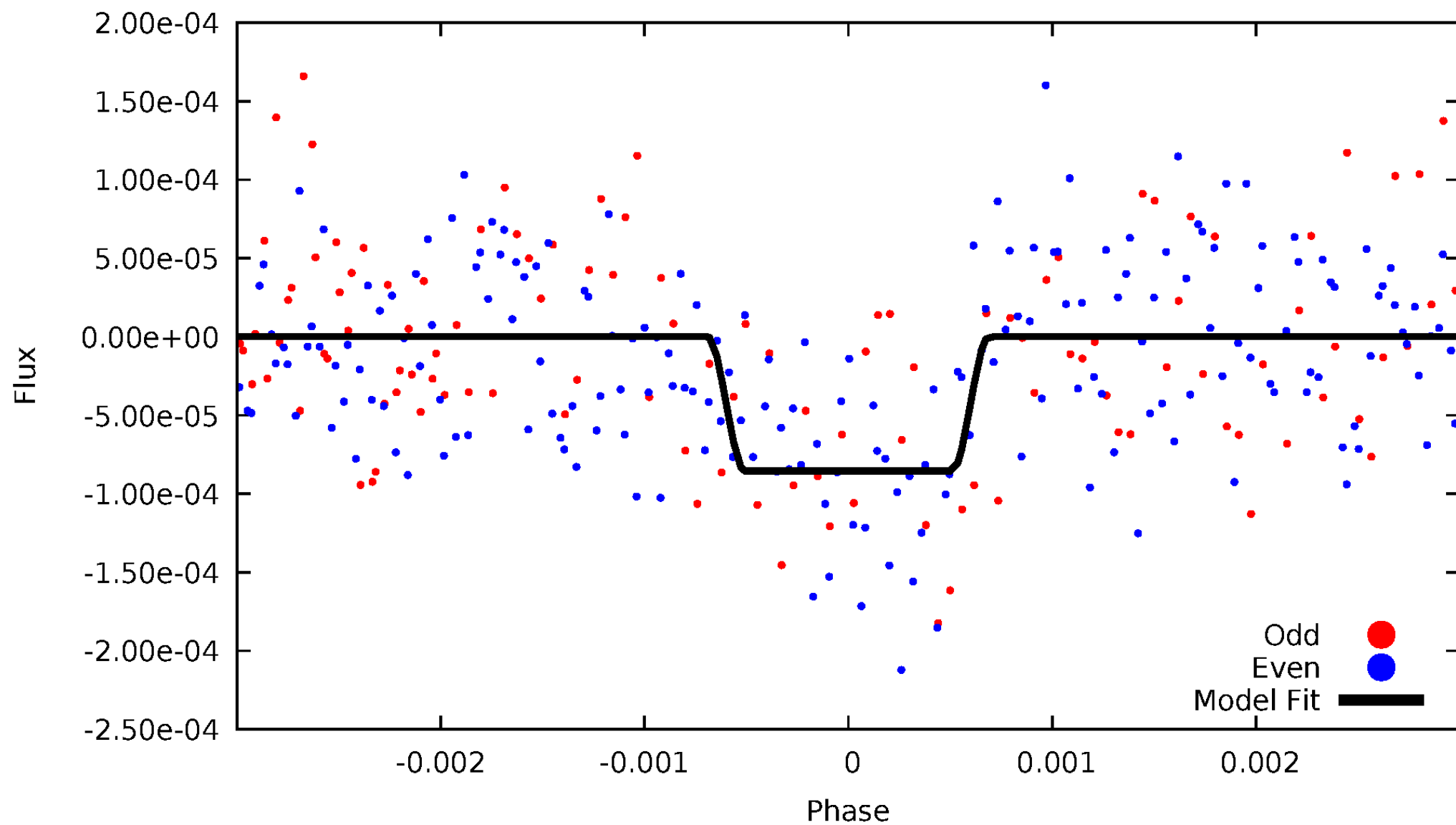
# DV Odd/Even

TCE 005213792-01



# ALT Odd/Even

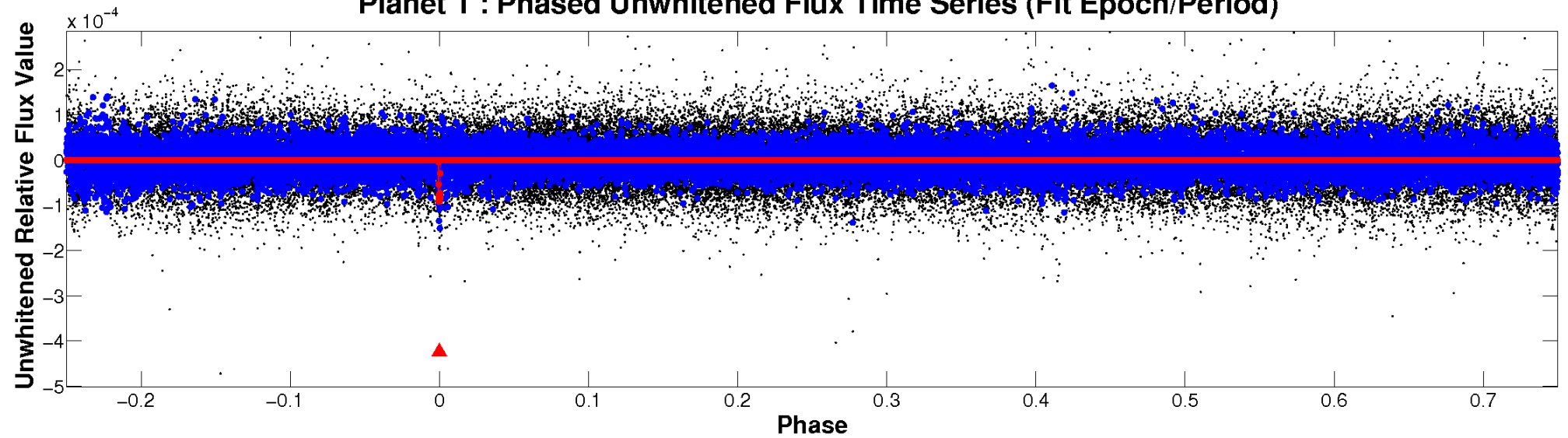
TCE 005213792-01



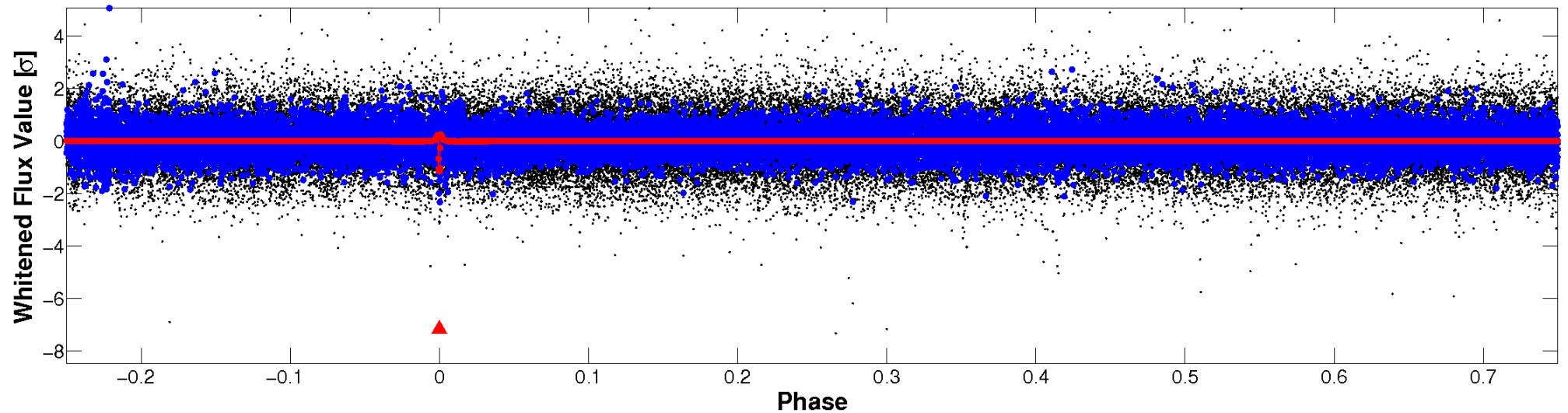


# Non-Whitened Vs. Whitened Light Curve

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

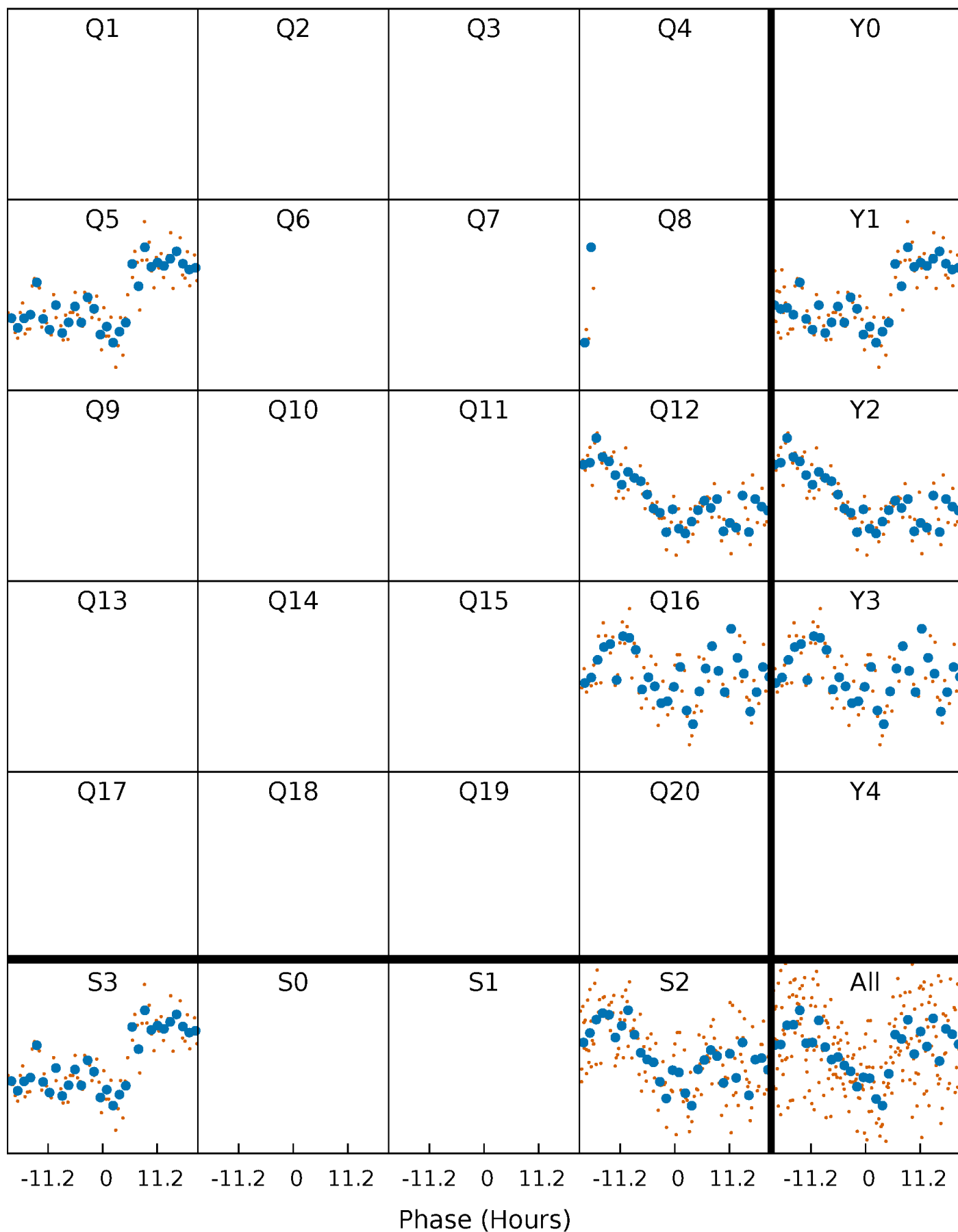


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

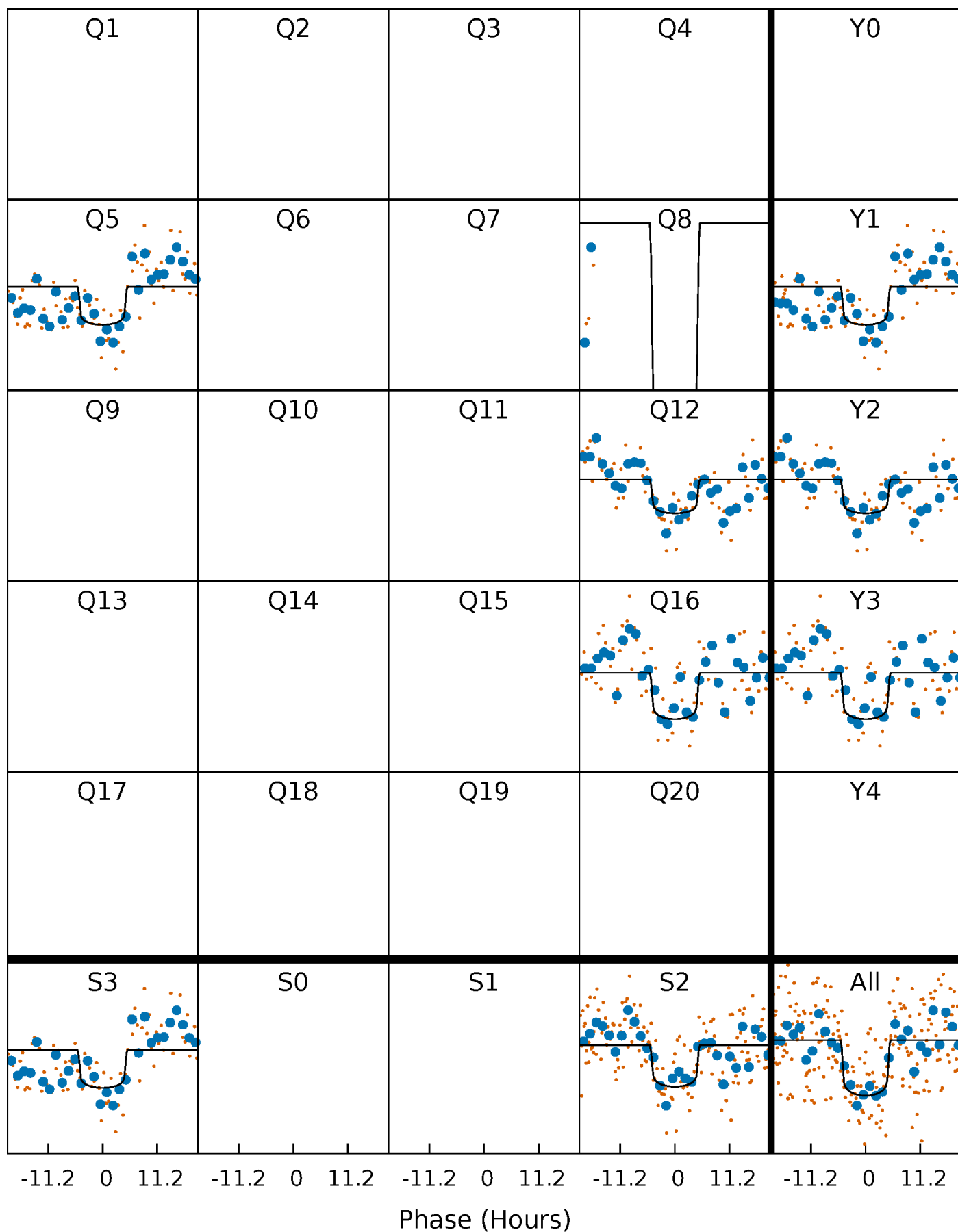
TCE 005213792-01 P=346.011720 Days  $T_0=457.026929$  (BKJD)





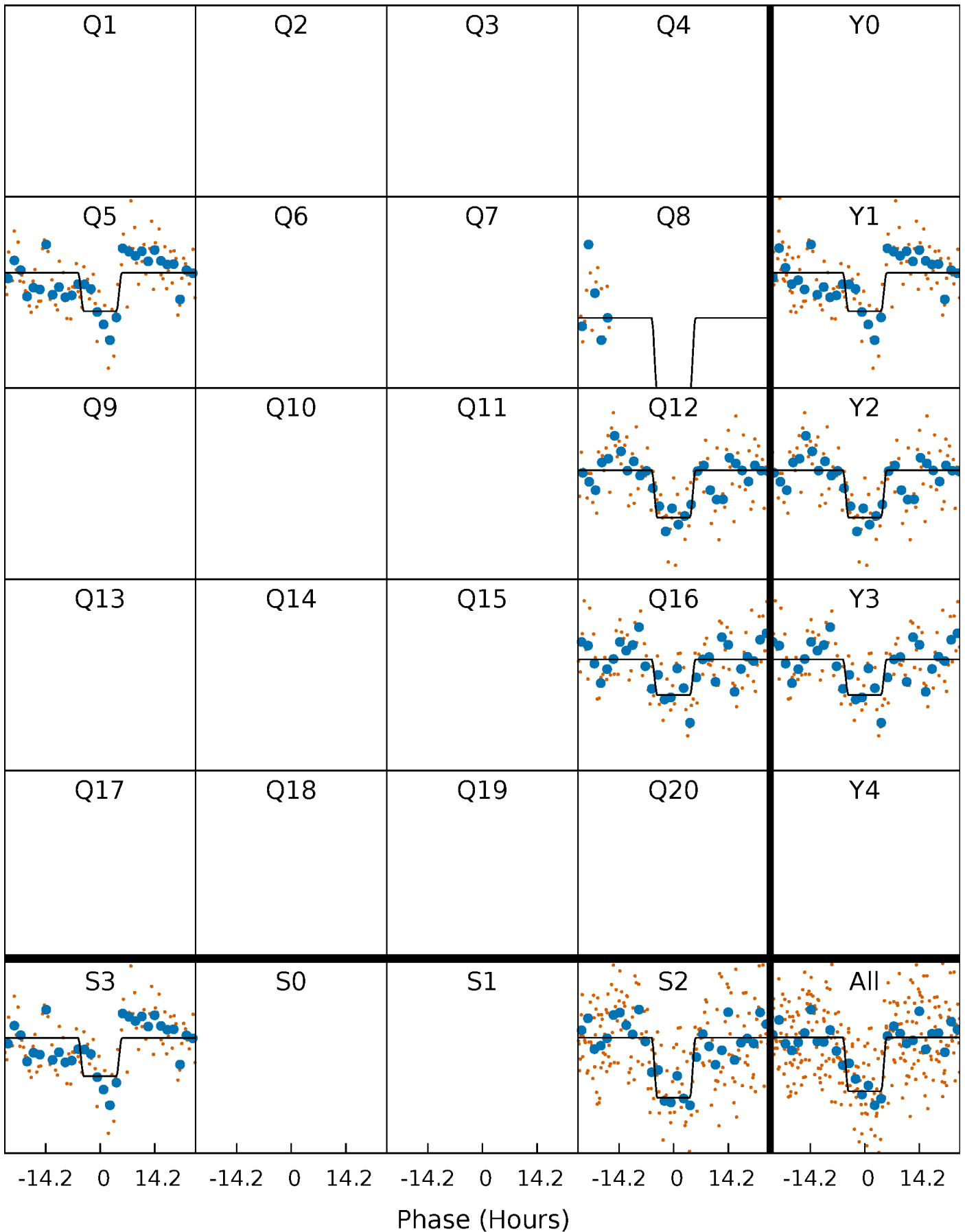
# DV Quarter-Phased Transit Curves

TCE 005213792-01 P=346.011720 Days  $T_0=457.026929$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

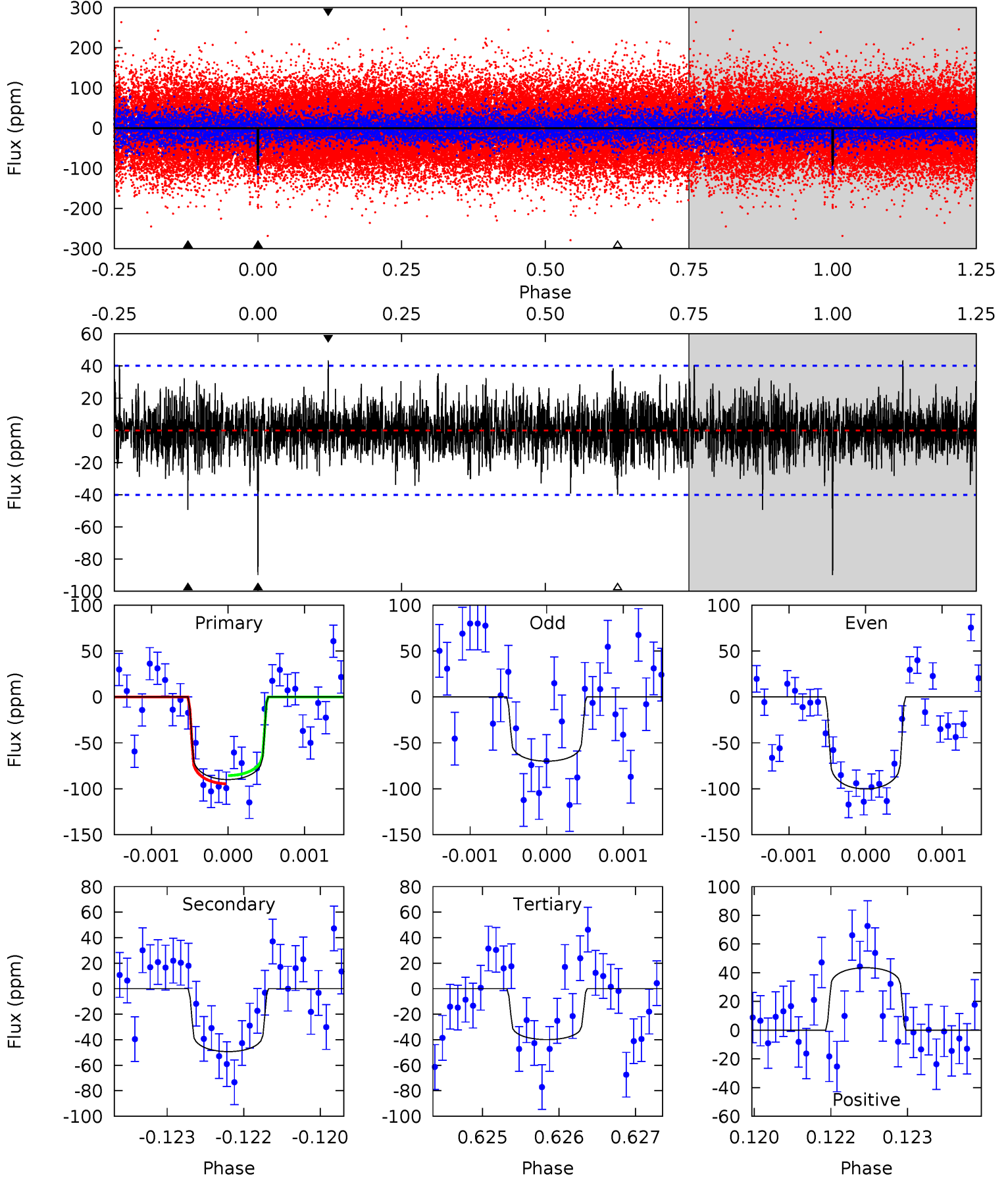
TCE 005213792-01 P=345.994660 Days  $T_0=457.049826$  (BKJD)



# DV Model-Shift Uniqueness Test

005213792-01, P = 346.011720 Days, E = 111.015209 Days

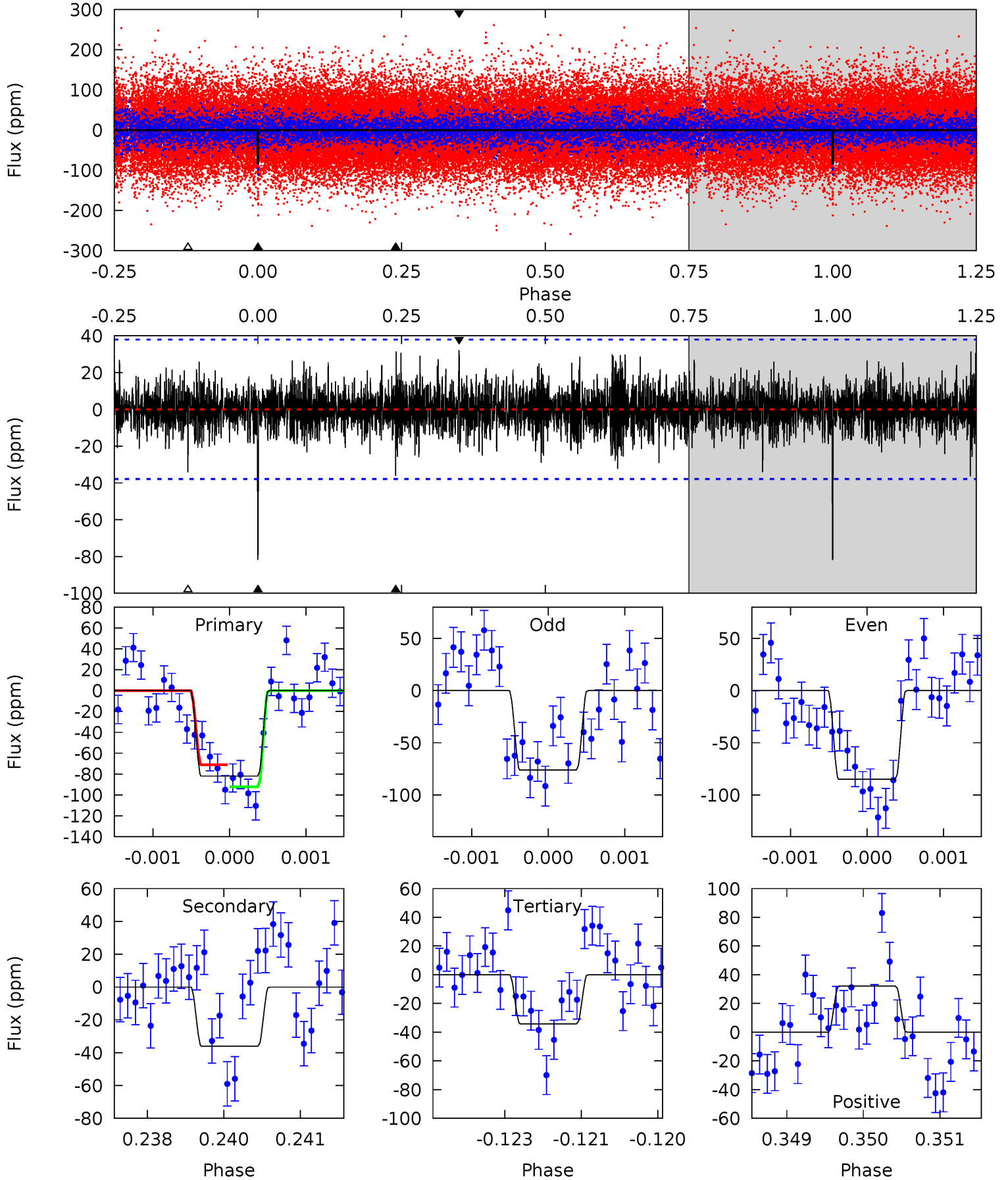
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	6.66	5.39	5.87	5.42	3.24	1.41	6.76	6.27	1.27	0.79	1.92	0.93	0.33	0.61



# Alt Model-Shift Uniqueness Test

005213792-01,  $P = 345.994660$  Days,  $E = 111.055166$  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
11.7	5.13	4.86	4.57	5.40	3.20	1.20	6.80	7.09	0.27	0.56	0.60	1.00	0.28	1.51



### Stellar Parameters For KIC 005213792

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$9842^{+274}_{-411}$	$4.213^{+0.136}_{-0.253}$	$0.070^{+0.150}_{-0.600}$	$1.961^{+0.877}_{-0.472}$	$2.295^{+0.429}_{-0.525}$	$0.428^{+0.369}_{-0.261}$
	+3%/-4%	+3%/-6%	+214%/-857%	+45%/-24%	+19%/-23%	+86%/-61%
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 005213792-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-49 \pm 7$	$2.22^{+0.87}_{-0.82}$	$765^{+76}_{-55}$	$7817^{+2506}_{-1292}$	$8562^{+13621}_{-4130}$
Alt.	$-36 \pm 7$	$2.04^{+0.96}_{-0.70}$	$766^{+77}_{-58}$	$7416^{+2269}_{-1258}$	$7457^{+9981}_{-3956}$

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

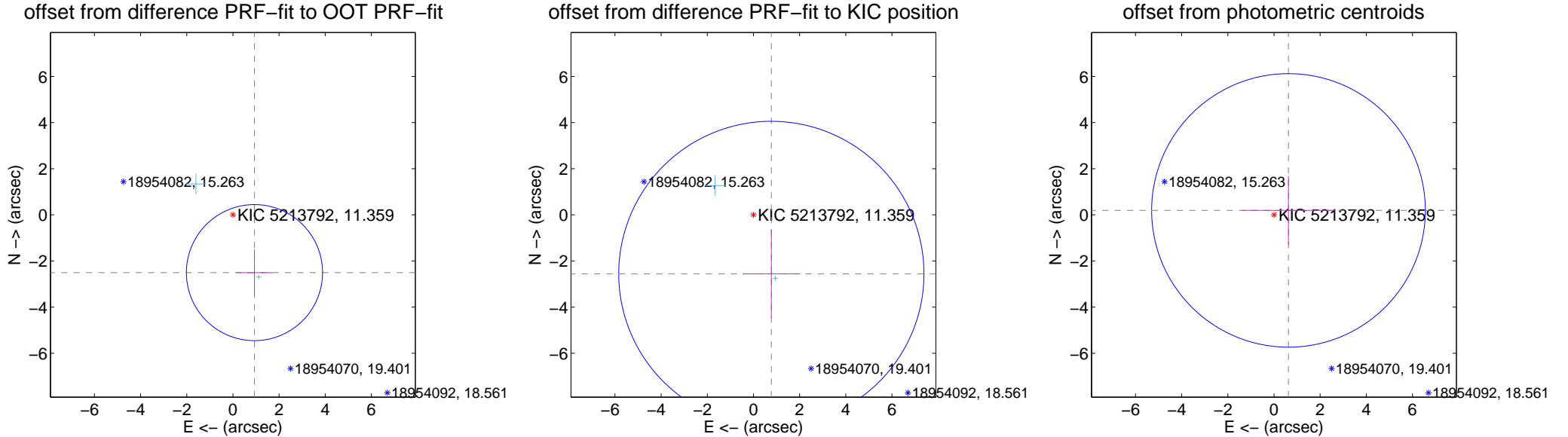
## DV Centroid Data

Supplemental centroid analysis for 005213792-01. **Kepler magnitude: 11.36.** 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 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.672 \pm 0.983$	2.72	$-0.933 \pm 0.789$	$-2.503 \pm 1.007$
PRF-fit source offset from KIC position	$2.670 \pm 2.204$	1.21	$-0.775 \pm 1.248$	$-2.555 \pm 1.925$
photometric centroid source offset	$0.66 \pm 1.98$	0.33	$-0.63 \pm 2.02$	$0.19 \pm 1.49$



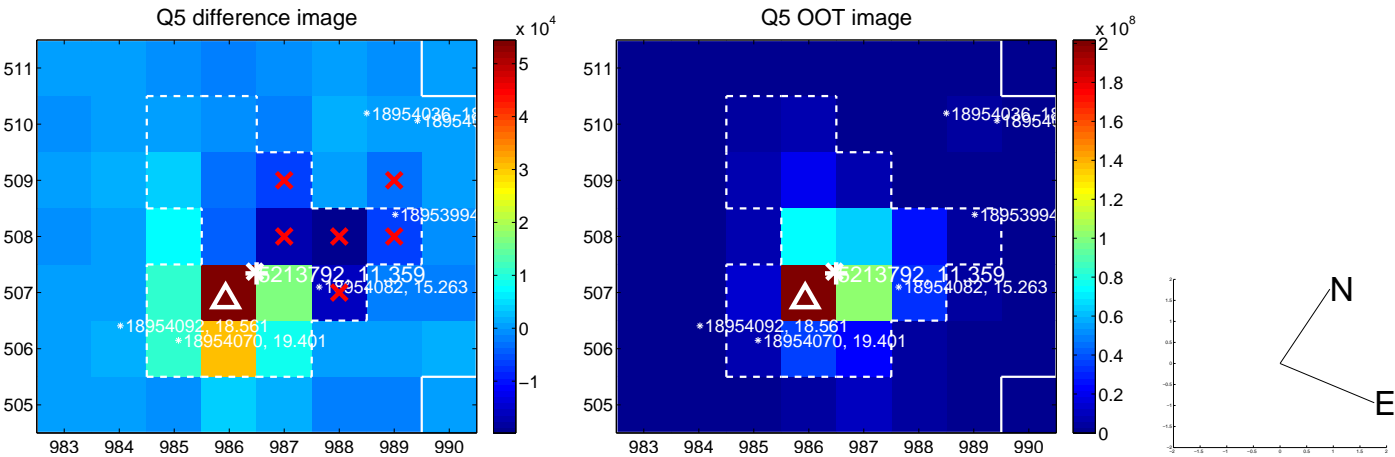
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

Q9 no difference image



Q9 no OOT image



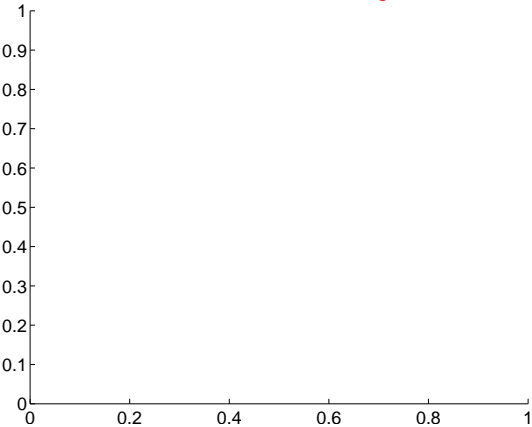
Q10 no difference image



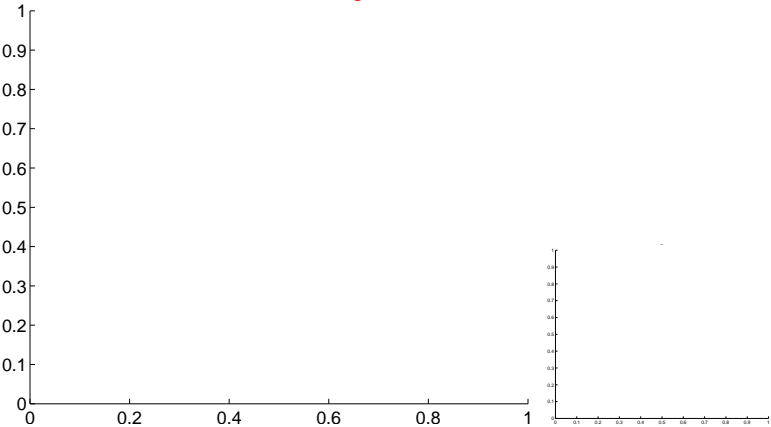
Q10 no OOT image



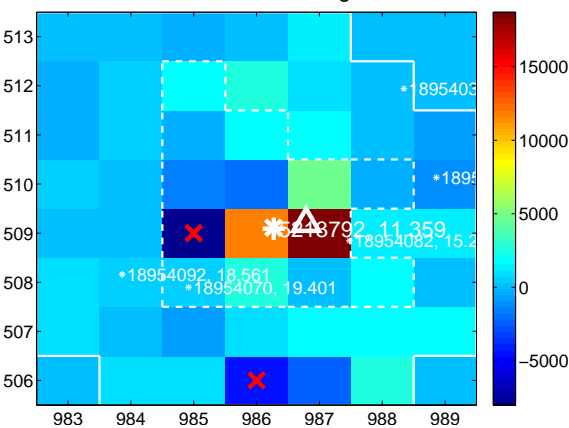
Q11 no difference image



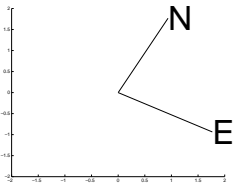
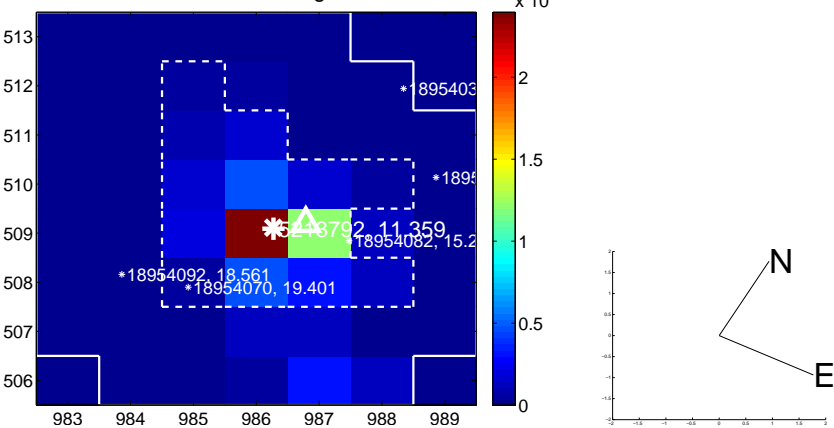
Q11 no OOT image



Q12 difference image

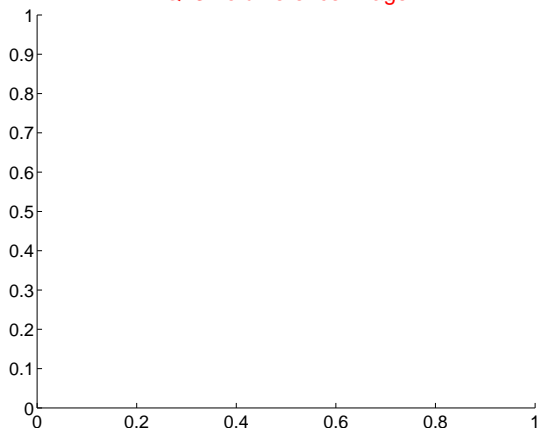


Q12 OOT image

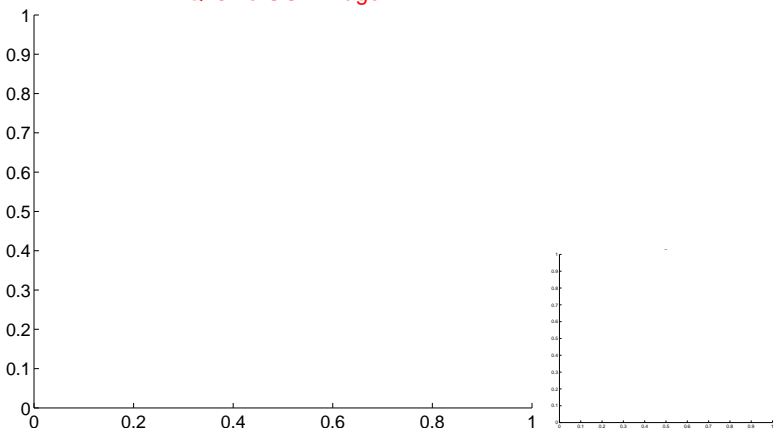


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

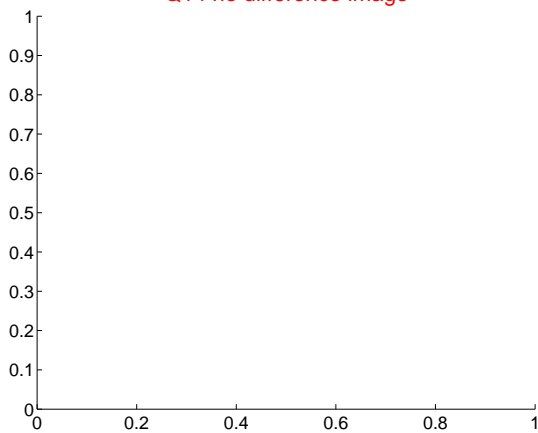
Q13 no difference image



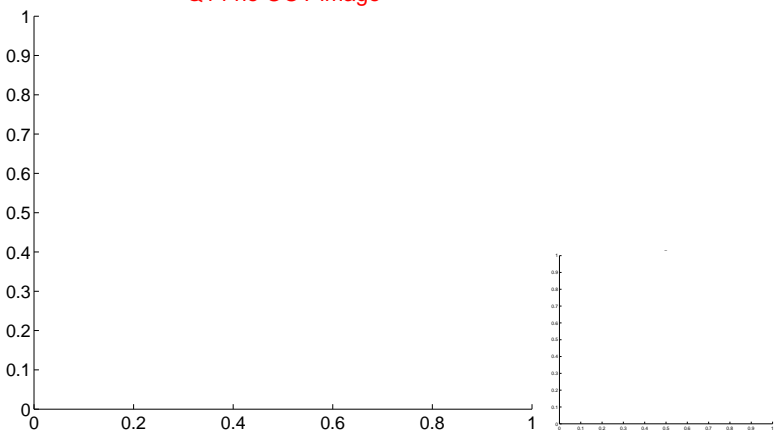
Q13 no OOT image



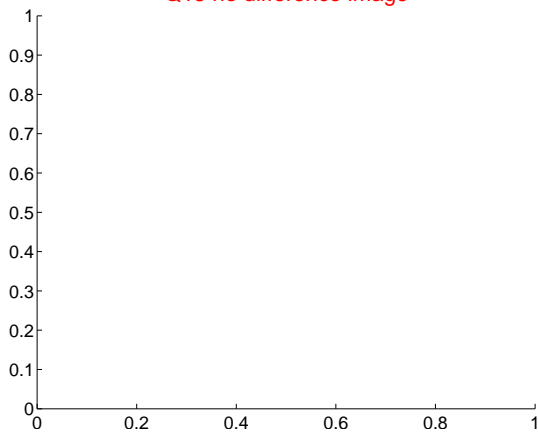
Q14 no difference image



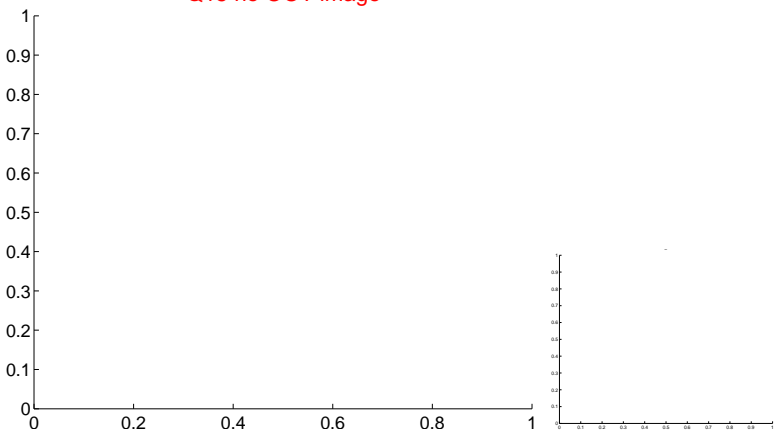
Q14 no OOT image



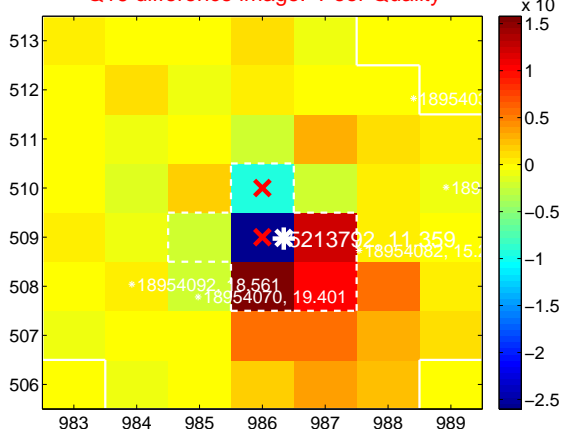
Q15 no difference image



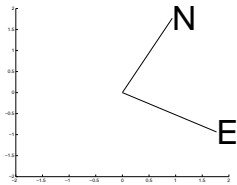
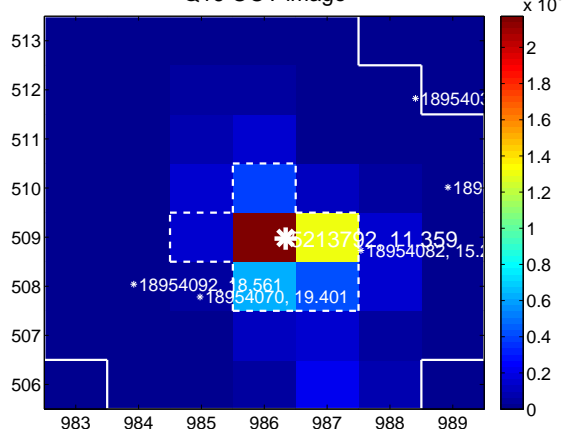
Q15 no OOT image



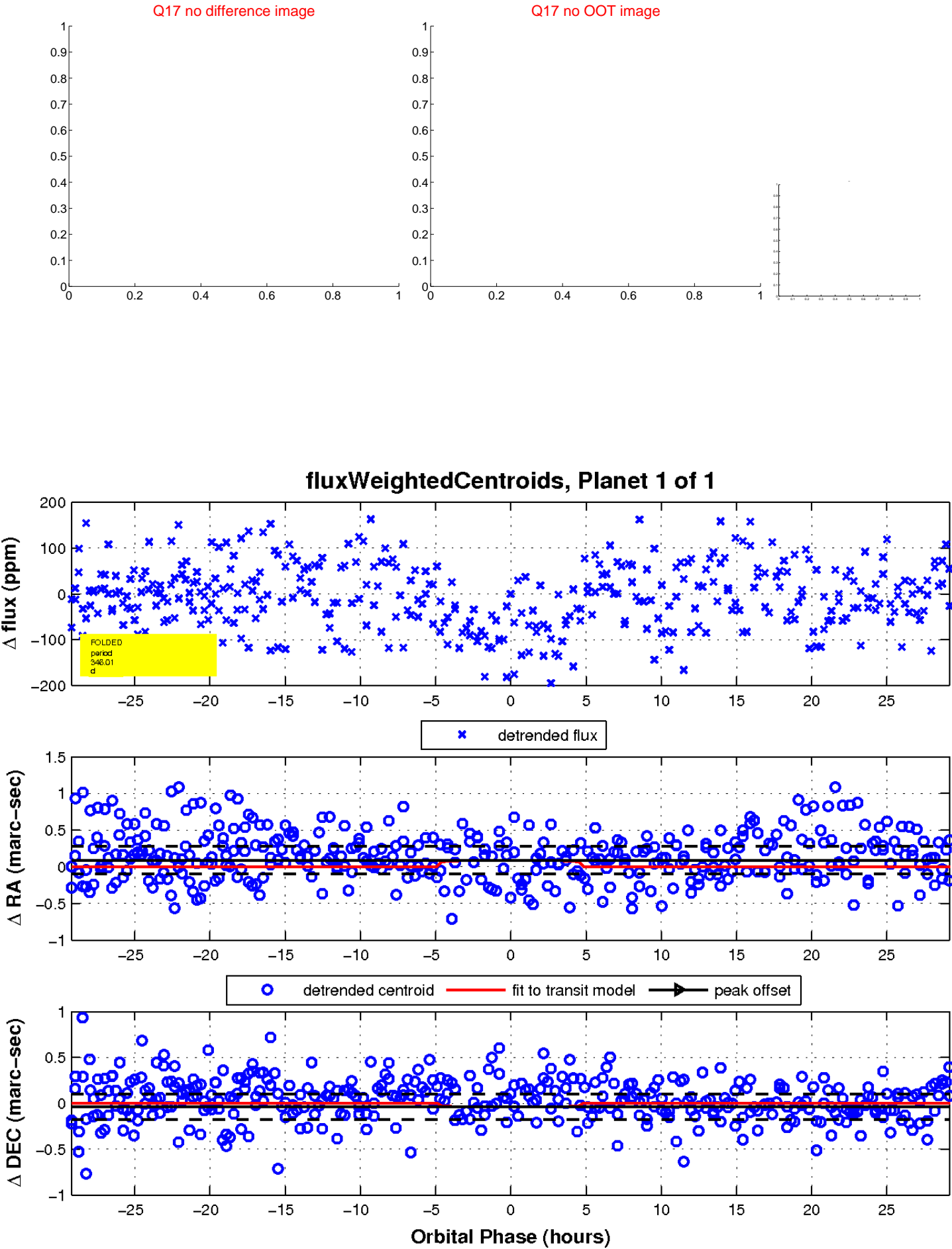
Q16 difference image. Poor Quality



Q16 OOT image



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



UKIRT Image

Declination

