

# KIC 010992714

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010992714-01	OBS	No	306.988719	437.521318	1670.9	3.088	14.1	6.0	1.08	5665	4.44	1.50

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010992714-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—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.

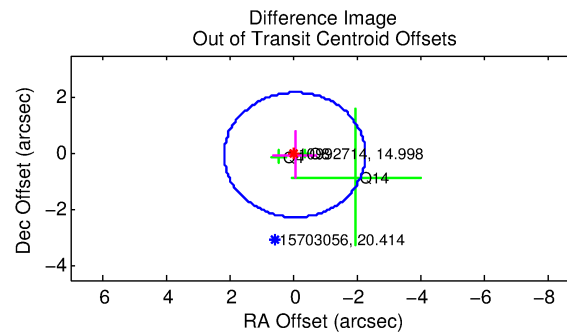
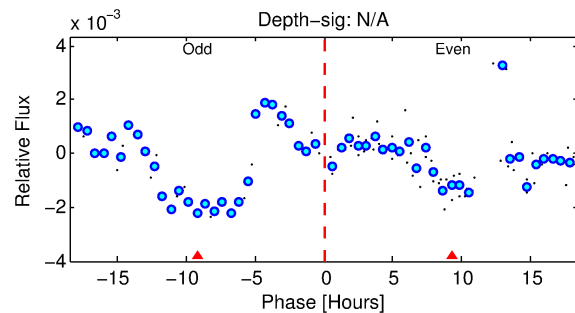
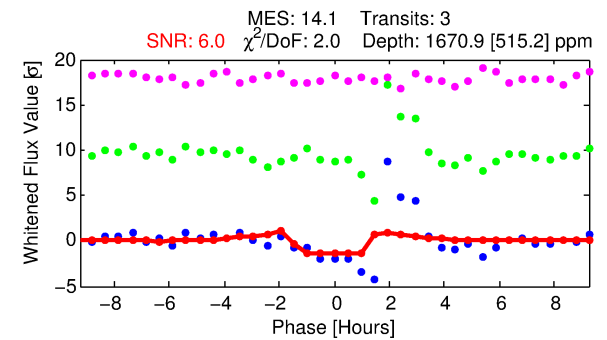
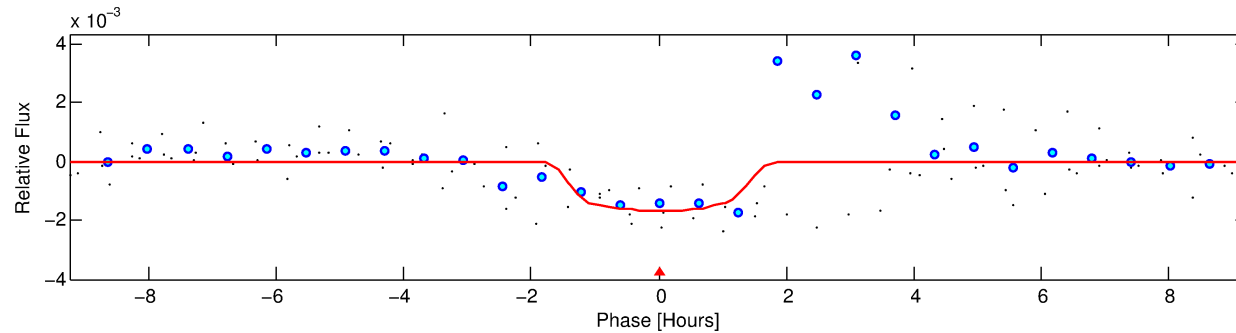
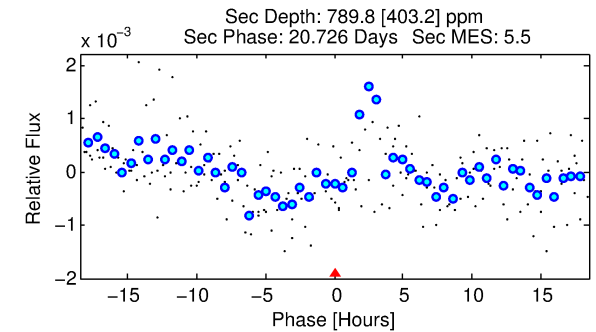
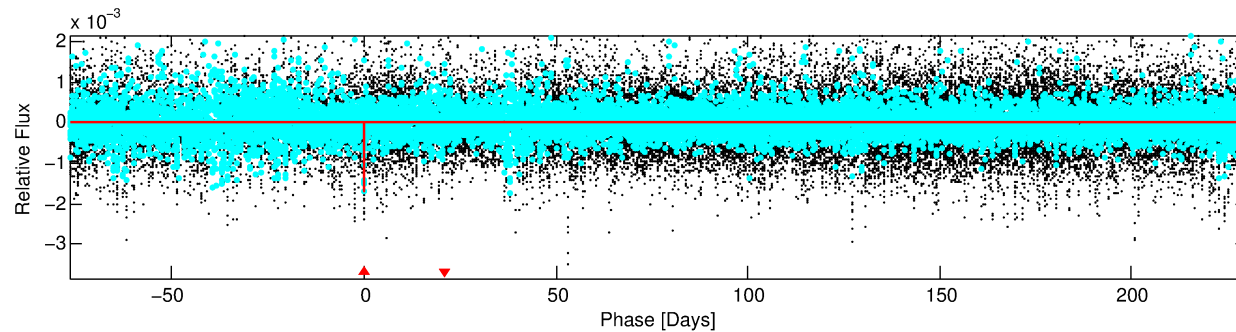
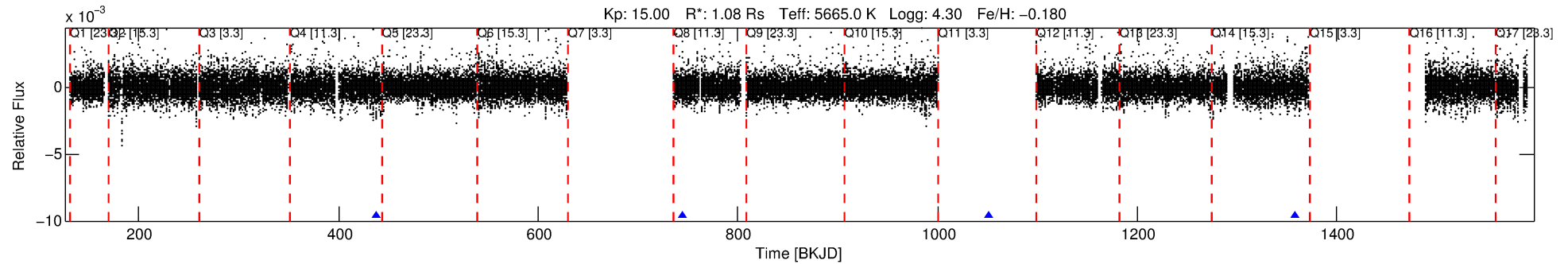
## Ephemeris Match Information For 010992714-01

No Significant Match Found



# DV One-Page Summary

KIC: 10992714 Candidate: 1 of 1 Period: 306.989 d



## DV Fit Results:

Period = 306.98872 [0.00548] d  
Epoch = 437.5213 [0.0098] BKJD  
Rp/R\* = 0.0376 [0.2929]  
a/R\* = 739.77 [24856.82]  
b = 0.36 [82.88]  
Seff = 1.50 [0.61]  
Teq = 282 [29] K  
Rp = 4.44 [34.54] Re  
a = 0.8460 [0.2136] AU  
Ag = 15798.49 [245995.22] [0.06σ]  
Teff = 4894 [19047] K [0.24σ]

## DV Diagnostic Results:

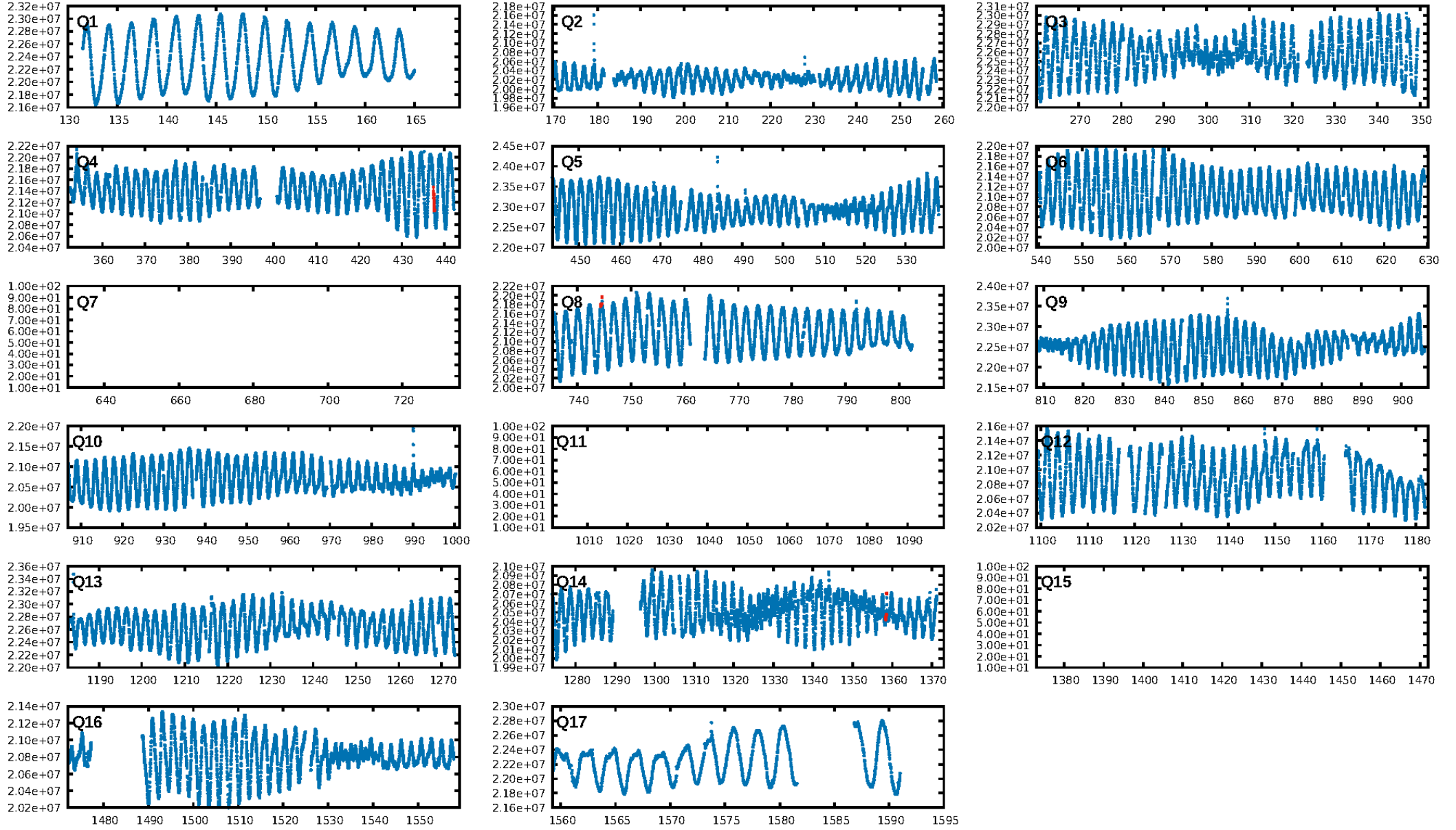
ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 48.5%  
Bootstrap-pfa: 3.80e-14  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -1.313  
Centroid-sig: 18.4%  
Centroid-so: 1.349 arcsec [1.29σ]  
OotOffset-rm: 0.075 arcsec [0.10σ]  
KicOffset-rm: 0.051 arcsec [0.06σ]  
OotOffset-st: 1/0/2/0 [3]  
KicOffset-st: 1/0/2/0 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:12:06 Z

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

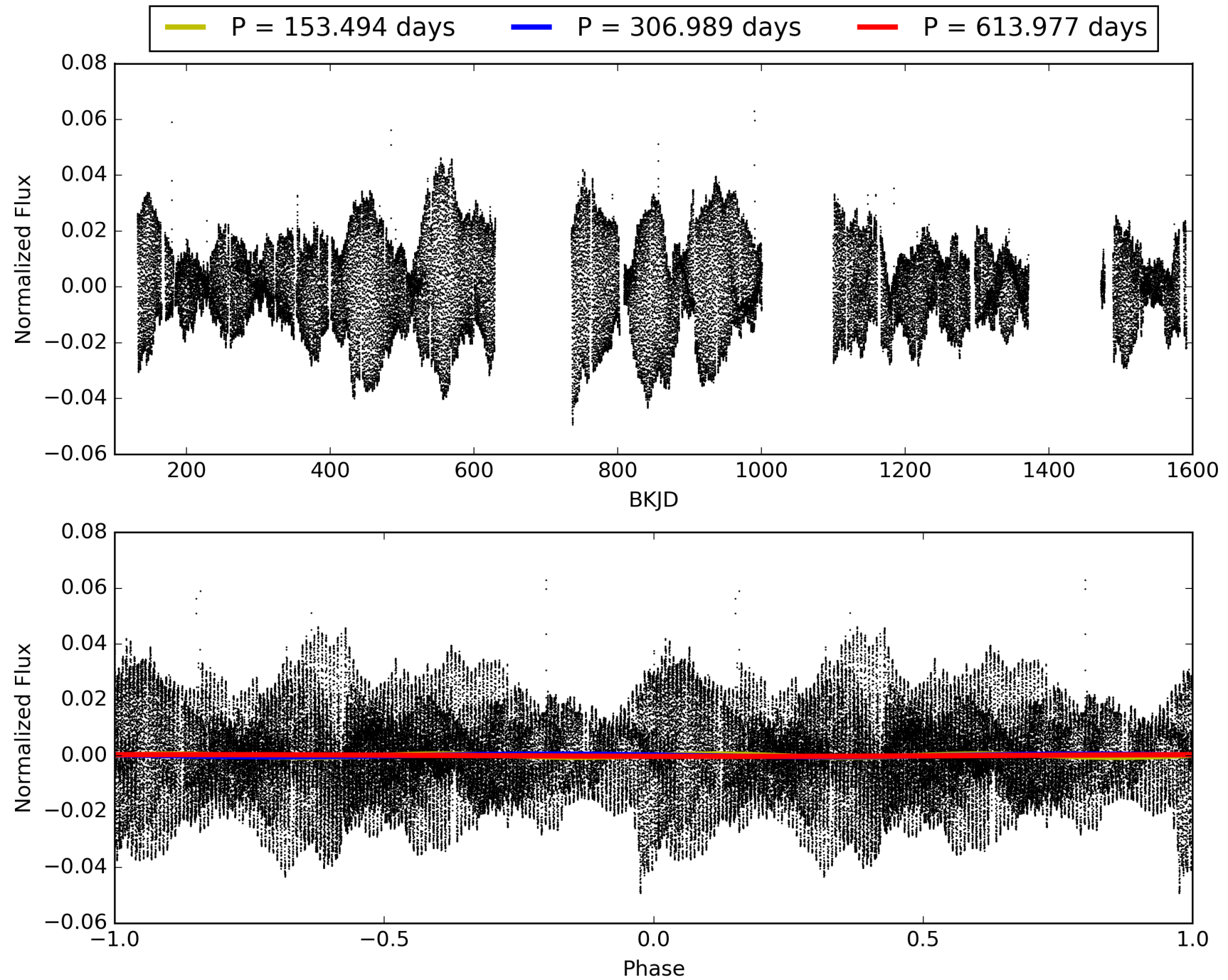


# TCE 010992714-01, PDC Light Curves





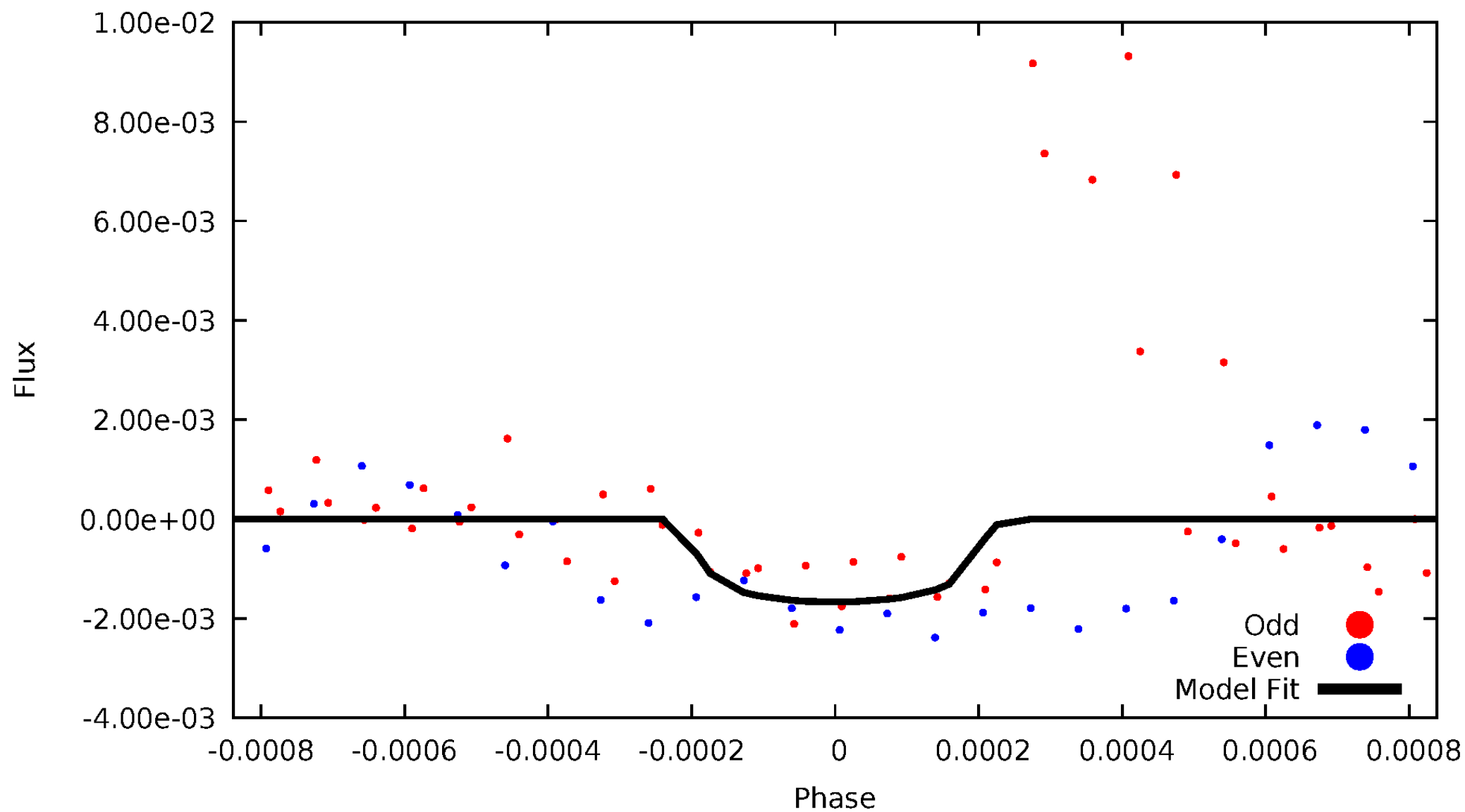
TCE 010992714-01





# DV Odd/Even

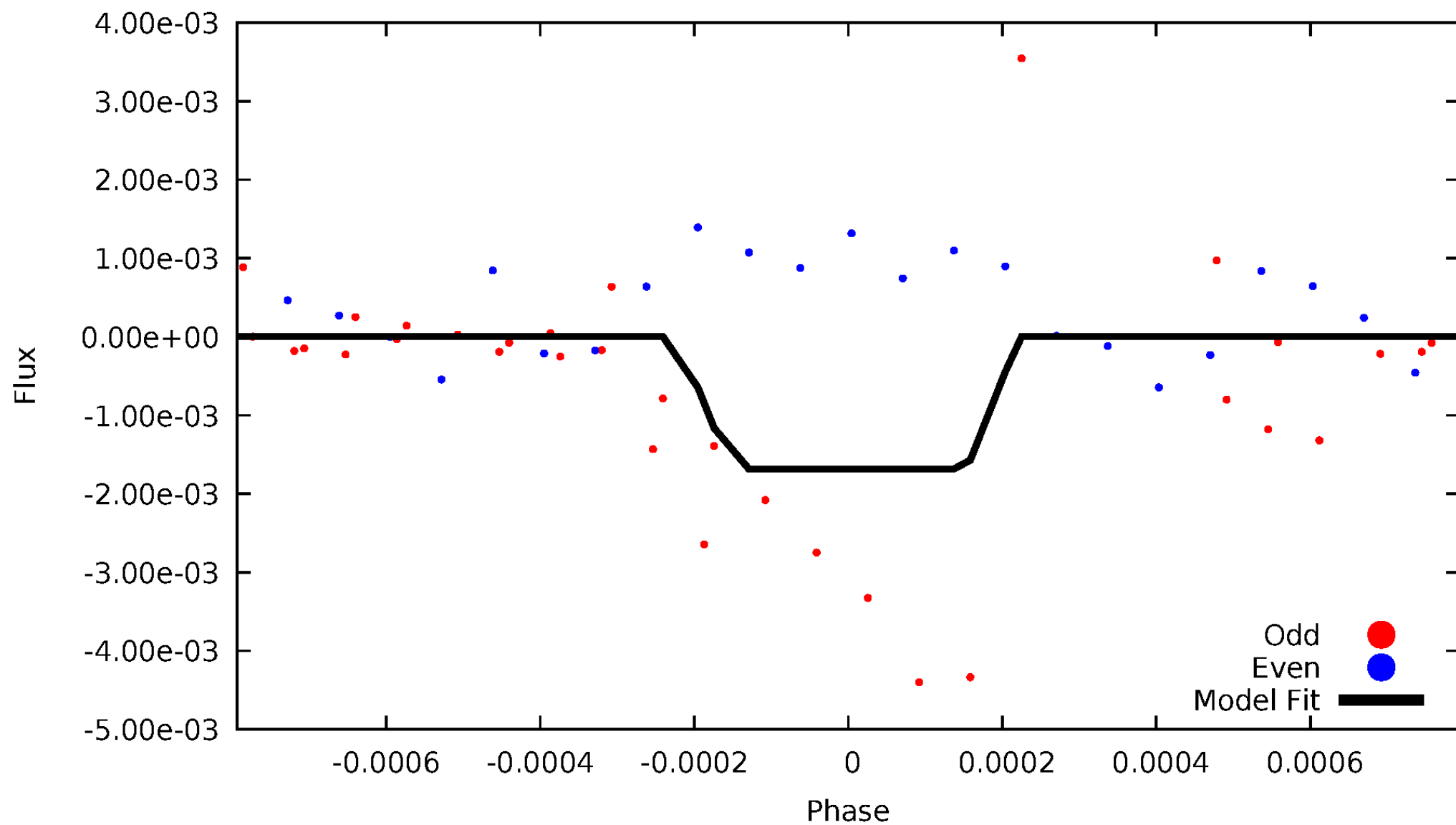
TCE 010992714-01





# ALT Odd/Even

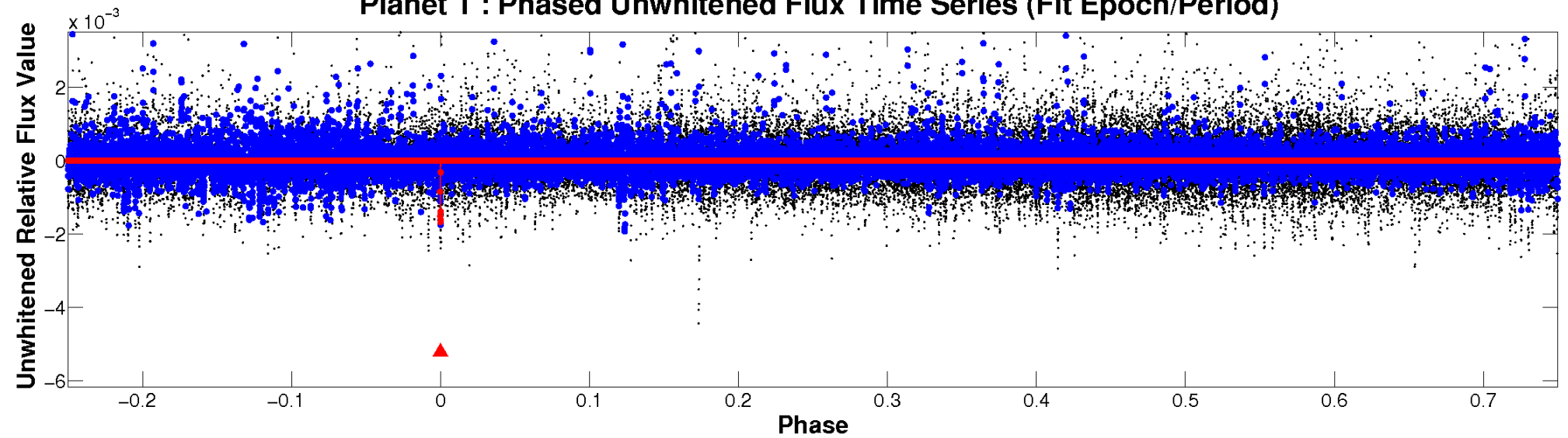
TCE 010992714-01



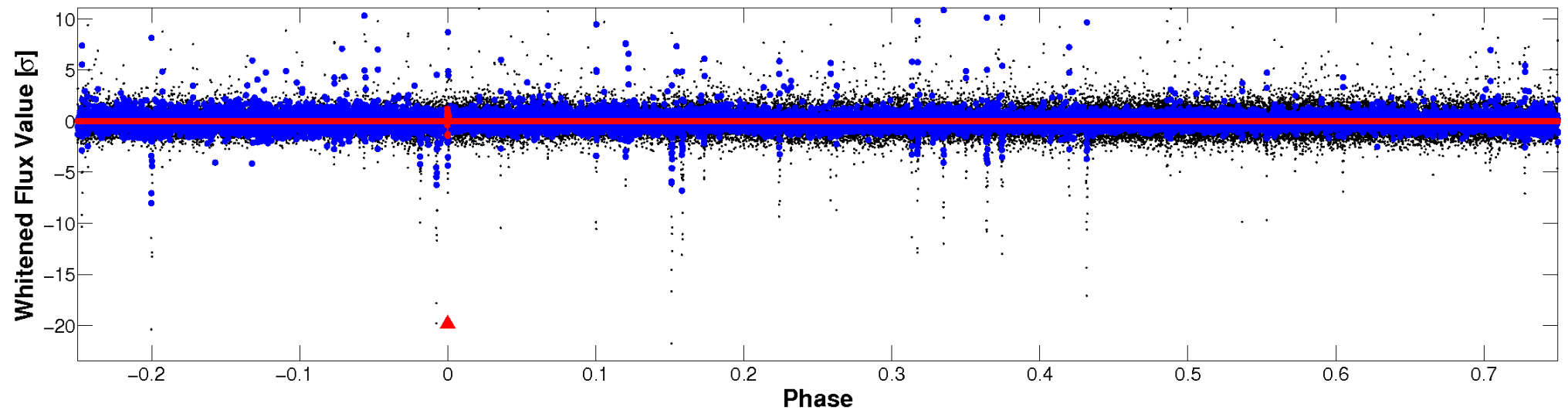


# Non-Whitened Vs. Whitened Light Curve

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



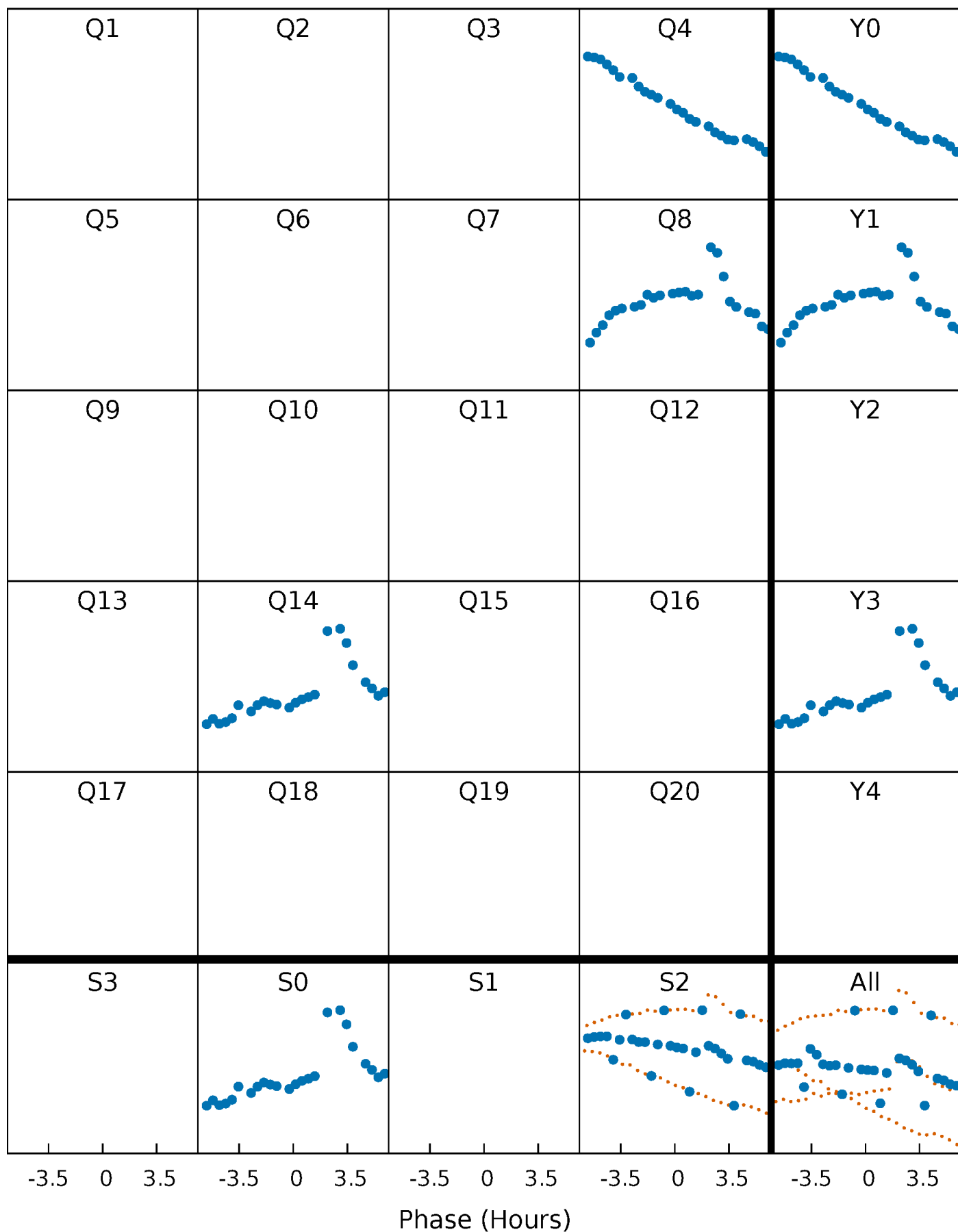
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

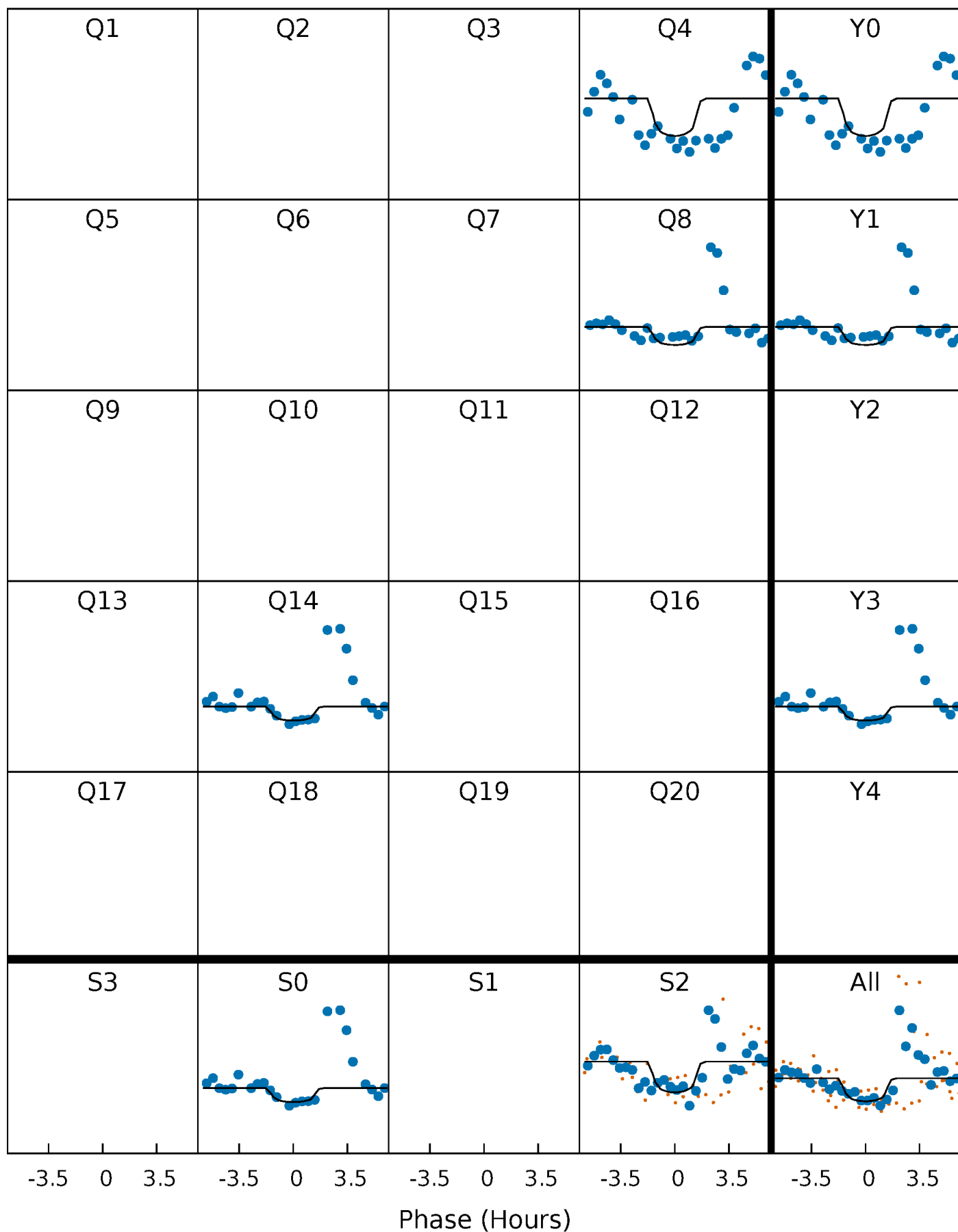
TCE 010992714-01 P=306.988719 Days  $T_0=437.521318$  (BKJD)





# DV Quarter-Phased Transit Curves

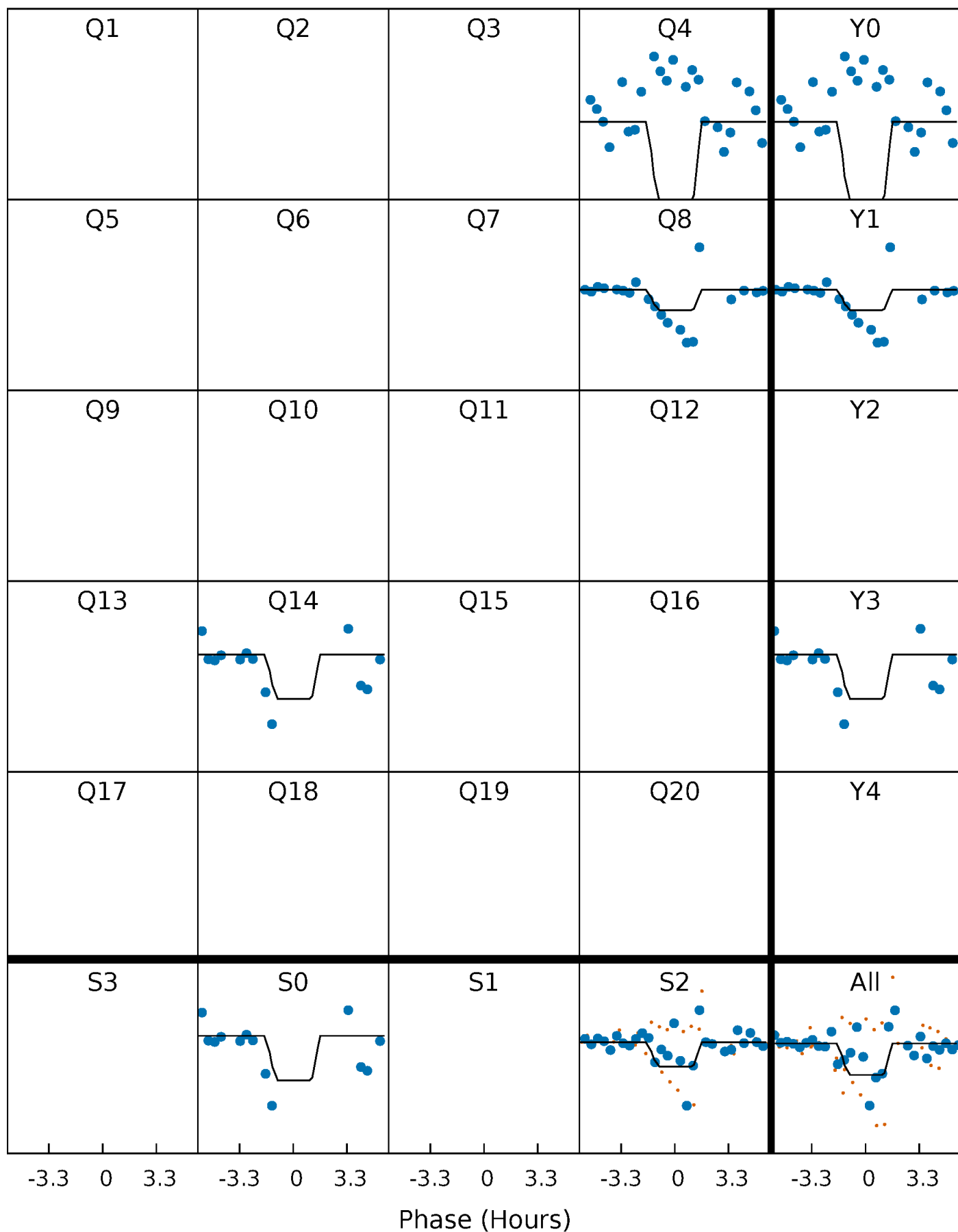
TCE 010992714-01 P=306.988719 Days  $T_0=437.521318$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 010992714-01 P=306.988173 Days  $T_0=437.542409$  (BKJD)

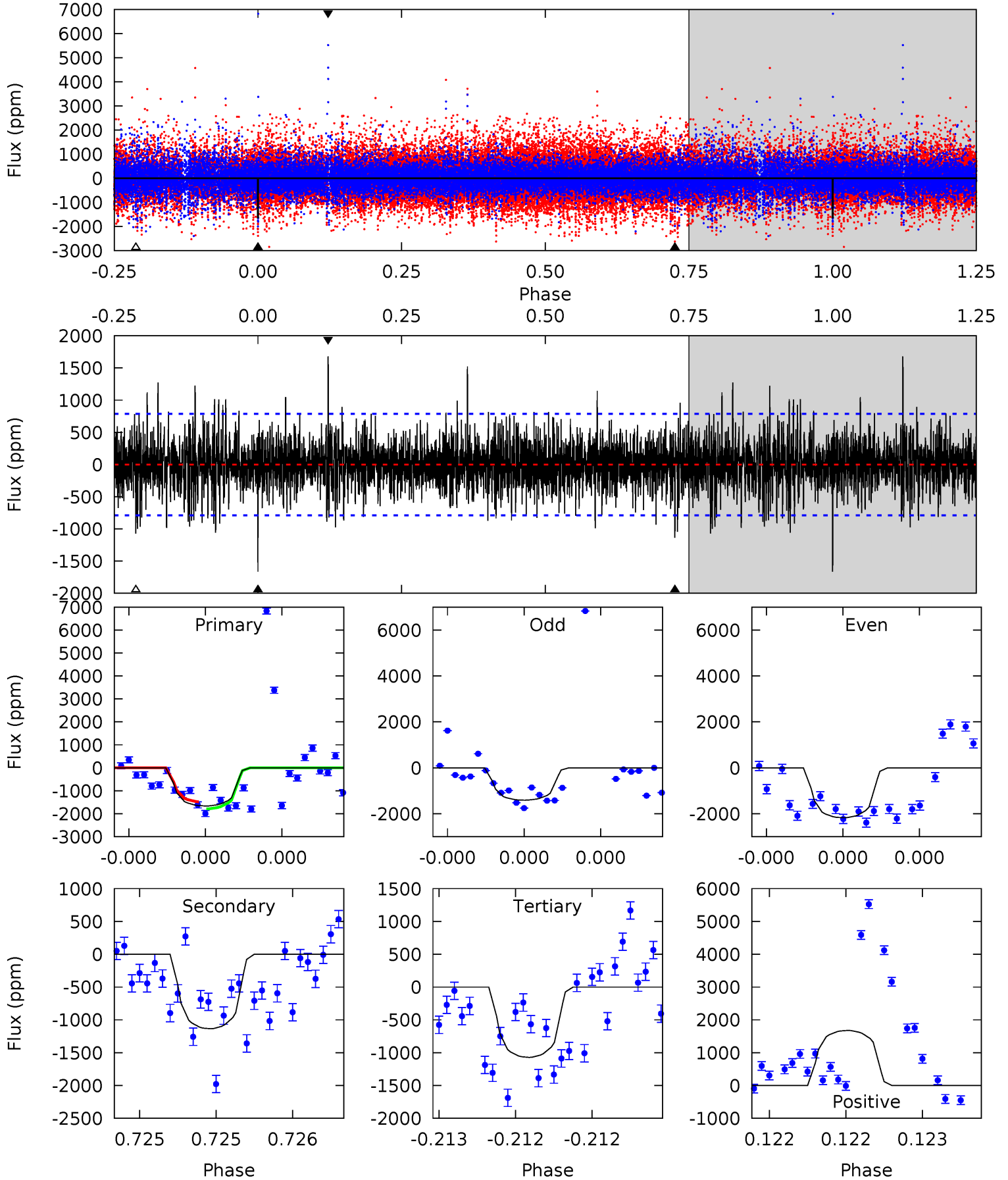




# DV Model-Shift Uniqueness Test

010992714-01, P = 306.988719 Days, E = 130.532599 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
11.8	8.04	7.59	11.9	5.59	3.50	1.95	4.19	-0.10	0.45	-3.84	2.18	0.96	0.50	1.06

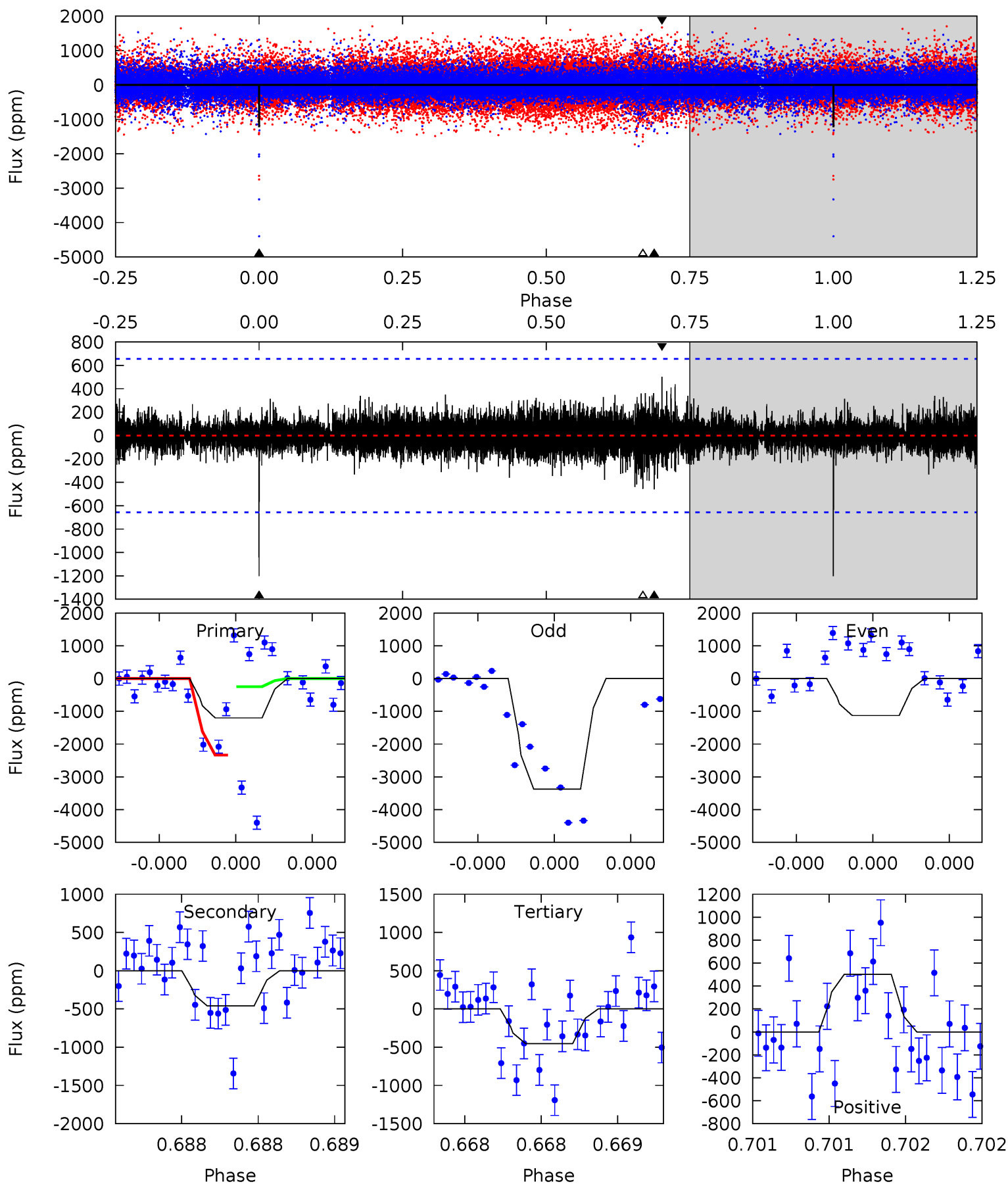




# Alt Model-Shift Uniqueness Test

010992714-01, P = 306.988173 Days, E = 130.554236 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	3.93	3.90	4.30	5.61	3.54	0.74	6.39	5.98	0.04	-0.37	10.3	1.00	0.29	7.38





### Stellar Parameters For KIC 010992714

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5665^{+169}_{-169}$	$4.304^{+0.220}_{-0.200}$	$-0.180^{+0.300}_{-0.250}$	$1.080^{+0.304}_{-0.248}$	$0.857^{+0.125}_{-0.073}$	$0.959^{+0.987}_{-0.478}$
	+3%/-3%	+5%/-5%	+167%/-139%	+28%/-23%	+15%/-9%	+103%/-50%
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 010992714-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1136 \pm 141$	$25.70^{+26.39}_{-18.36}$	$394^{+31}_{-28}$	$2938^{+1365}_{-494}$	$683^{+7382}_{-518}$
Alt.	$-460 \pm 117$	$24.81^{+29.37}_{-17.30}$	$394^{+33}_{-30}$	$2620^{+1091}_{-452}$	$285^{+2817}_{-224}$

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



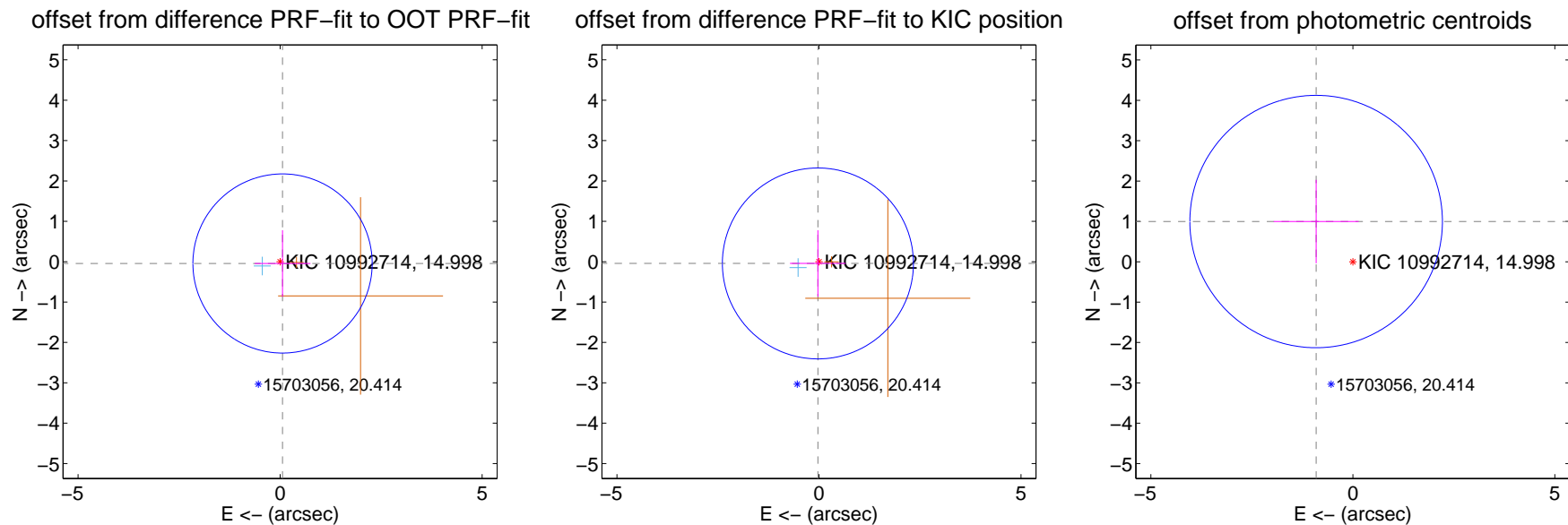
## DV Centroid Data

Supplemental centroid analysis for 010992714-01. Kepler magnitude: 15.00. Transit SNR 5.95

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

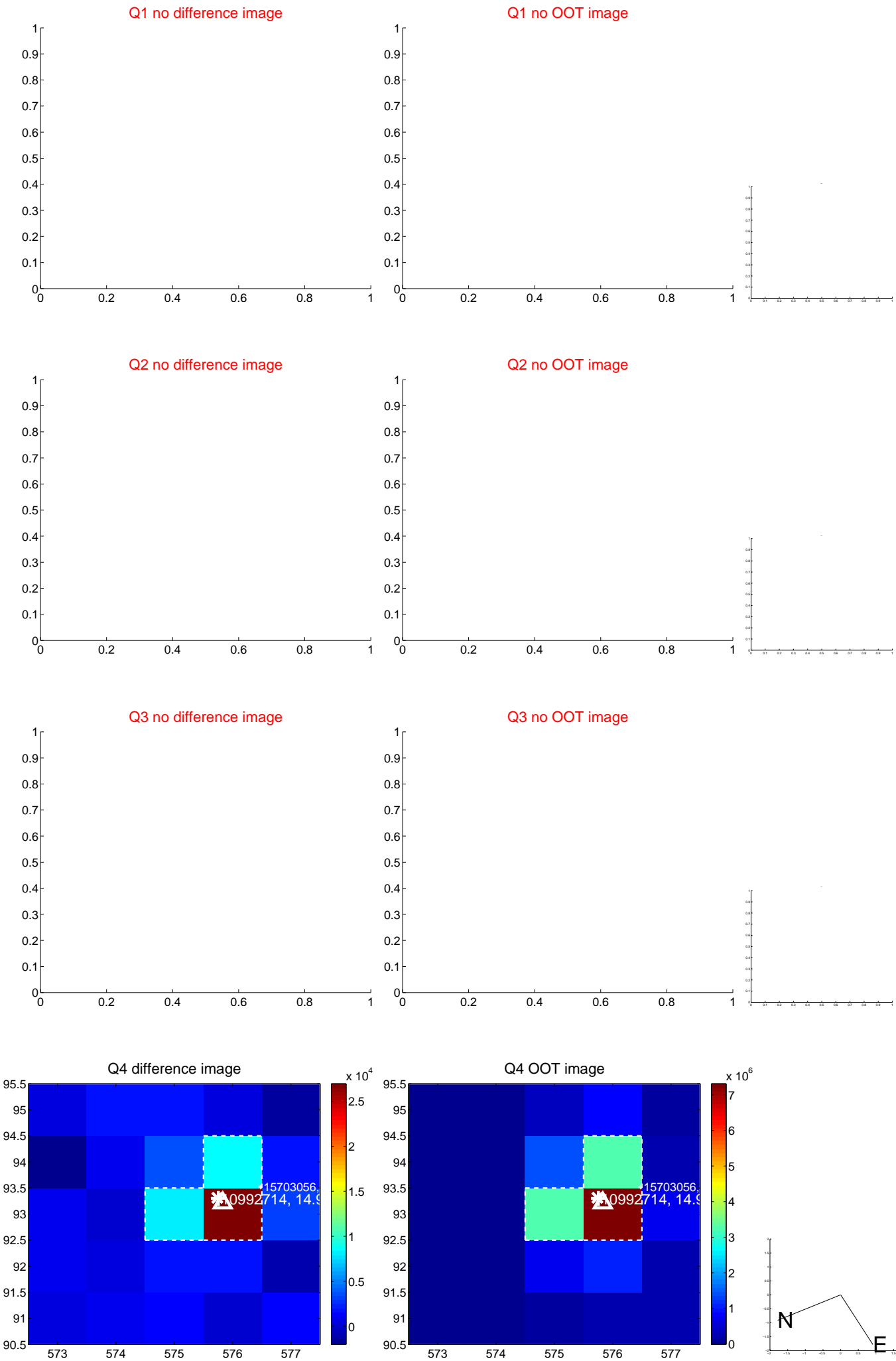
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.075 \pm 0.740$	0.10	$-0.060 \pm 0.690$	$-0.044 \pm 0.823$
PRF-fit source offset from KIC position	$0.051 \pm 0.788$	0.06	$0.027 \pm 0.690$	$-0.043 \pm 0.823$
photometric centroid source offset	$1.35 \pm 1.04$	1.29	$0.91 \pm 1.05$	$1.00 \pm 1.03$



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.

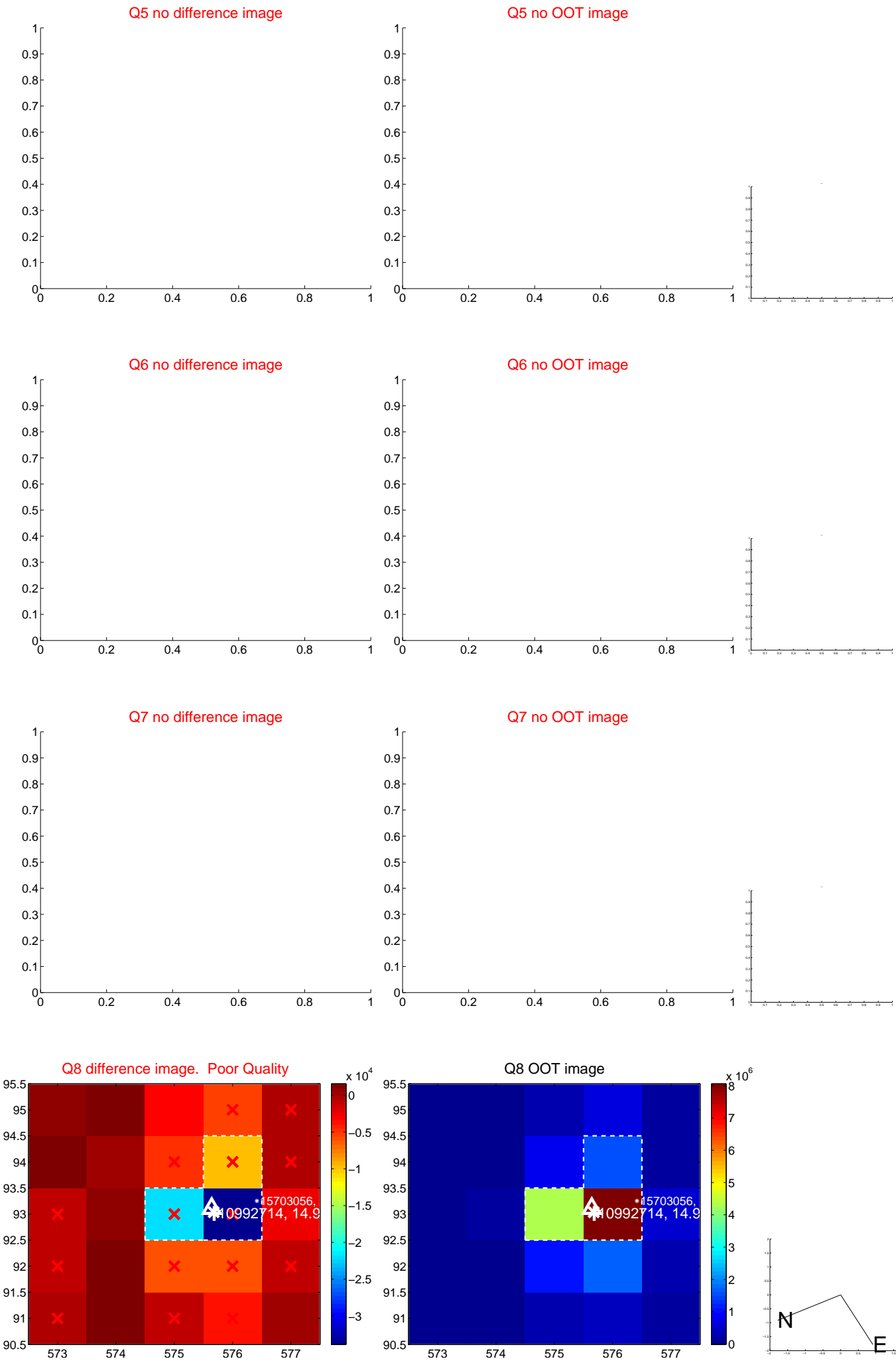


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



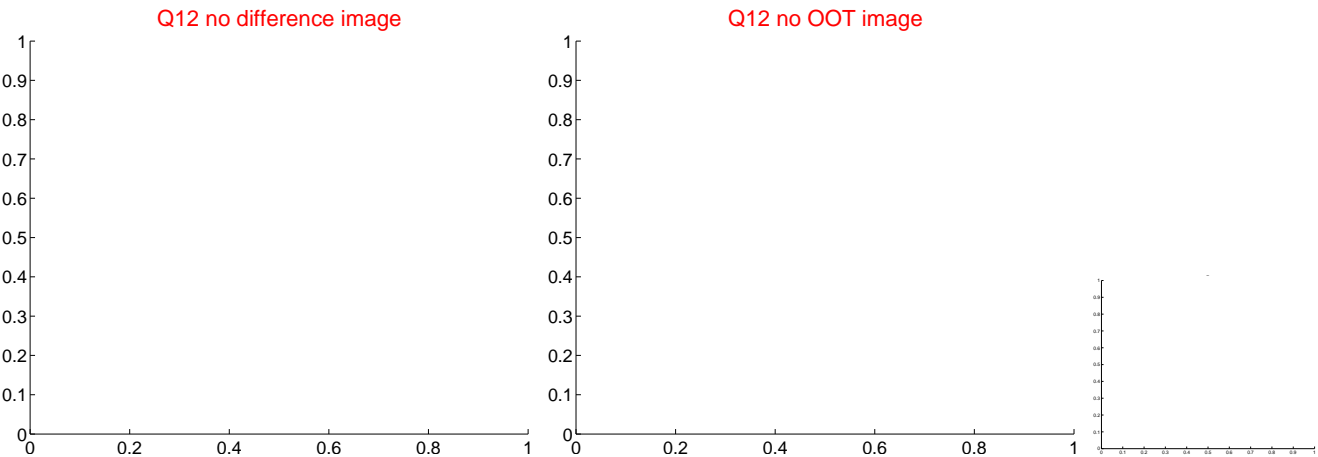
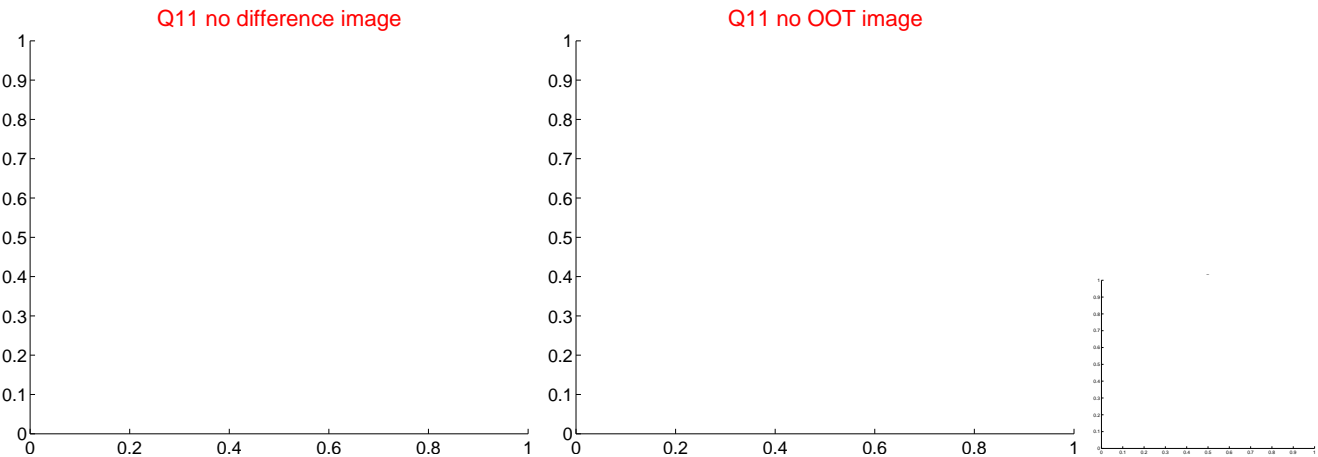
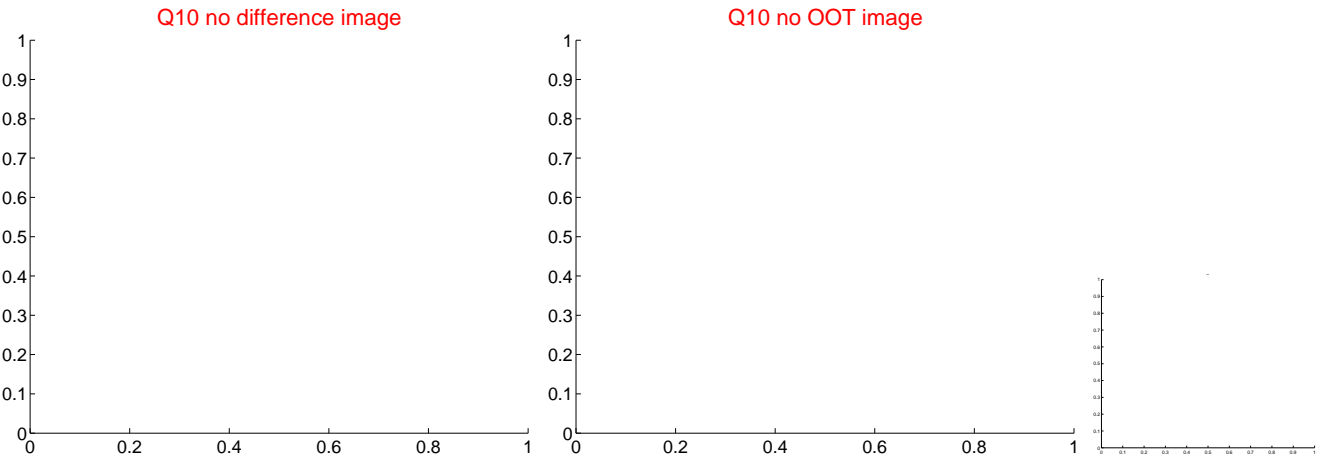
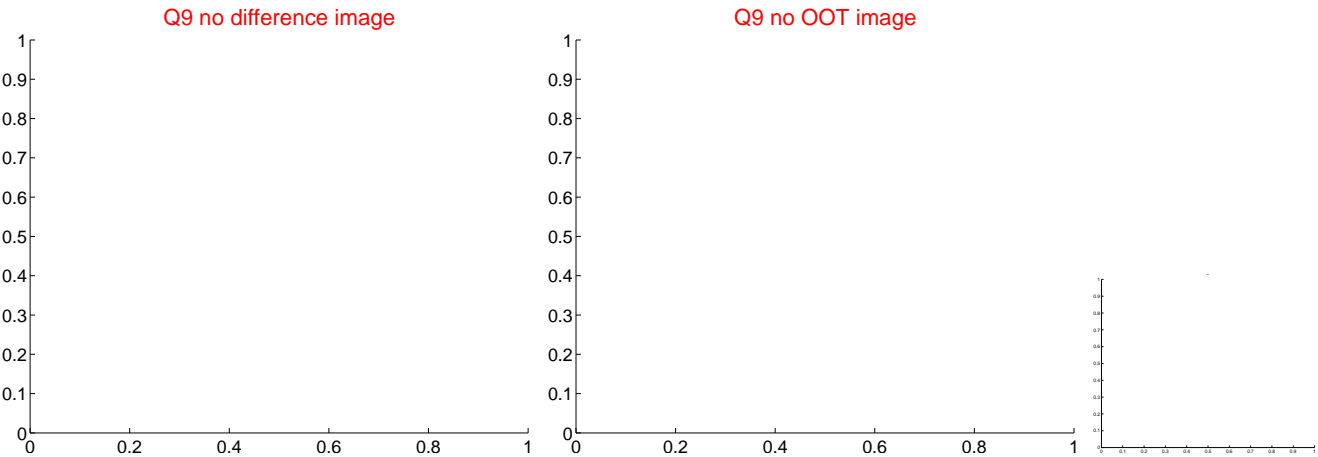


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





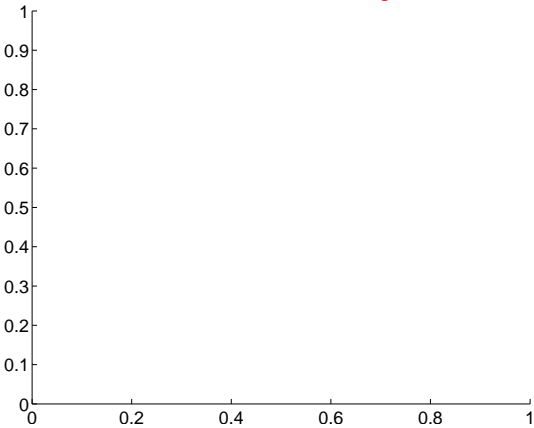
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



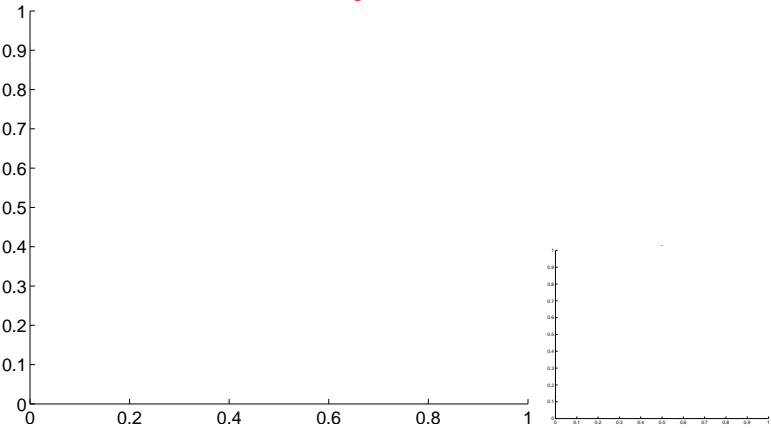


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

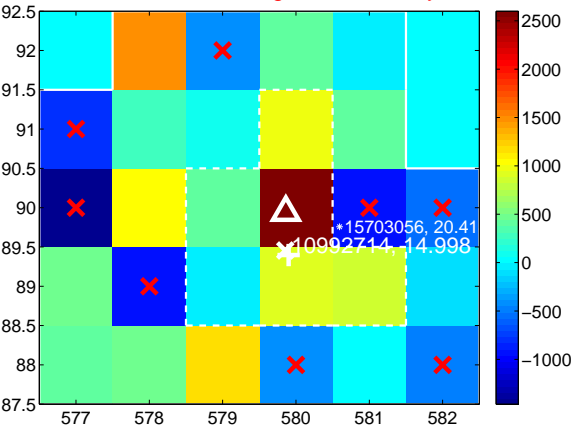
Q13 no difference image



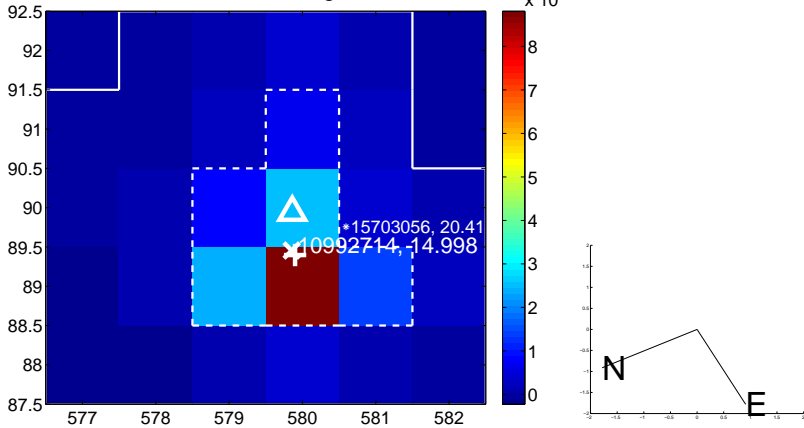
Q13 no OOT image



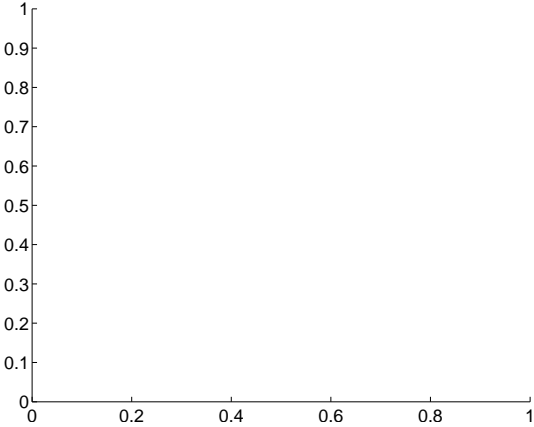
Q14 difference image. Poor Quality



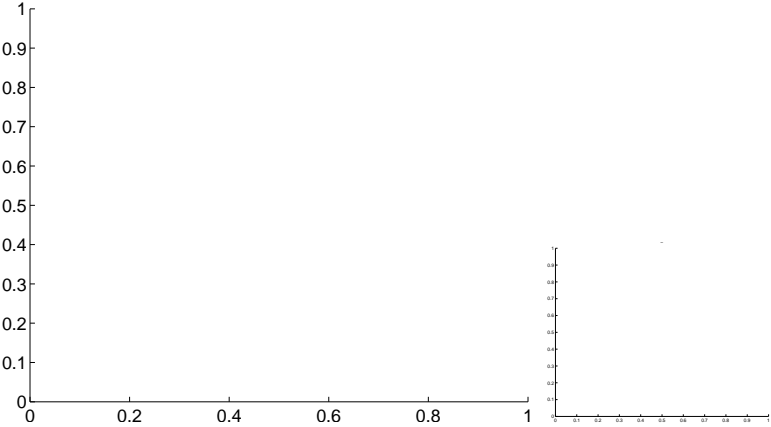
Q14 OOT image



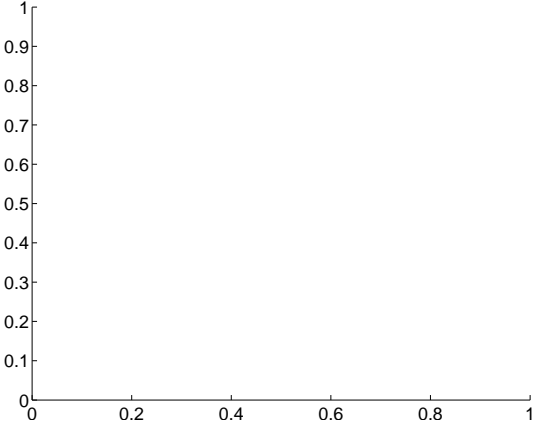
Q15 no difference image



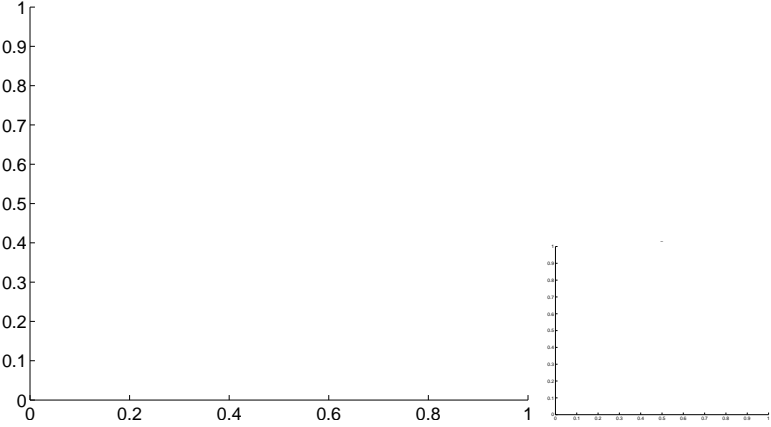
Q15 no OOT image



Q16 no difference image

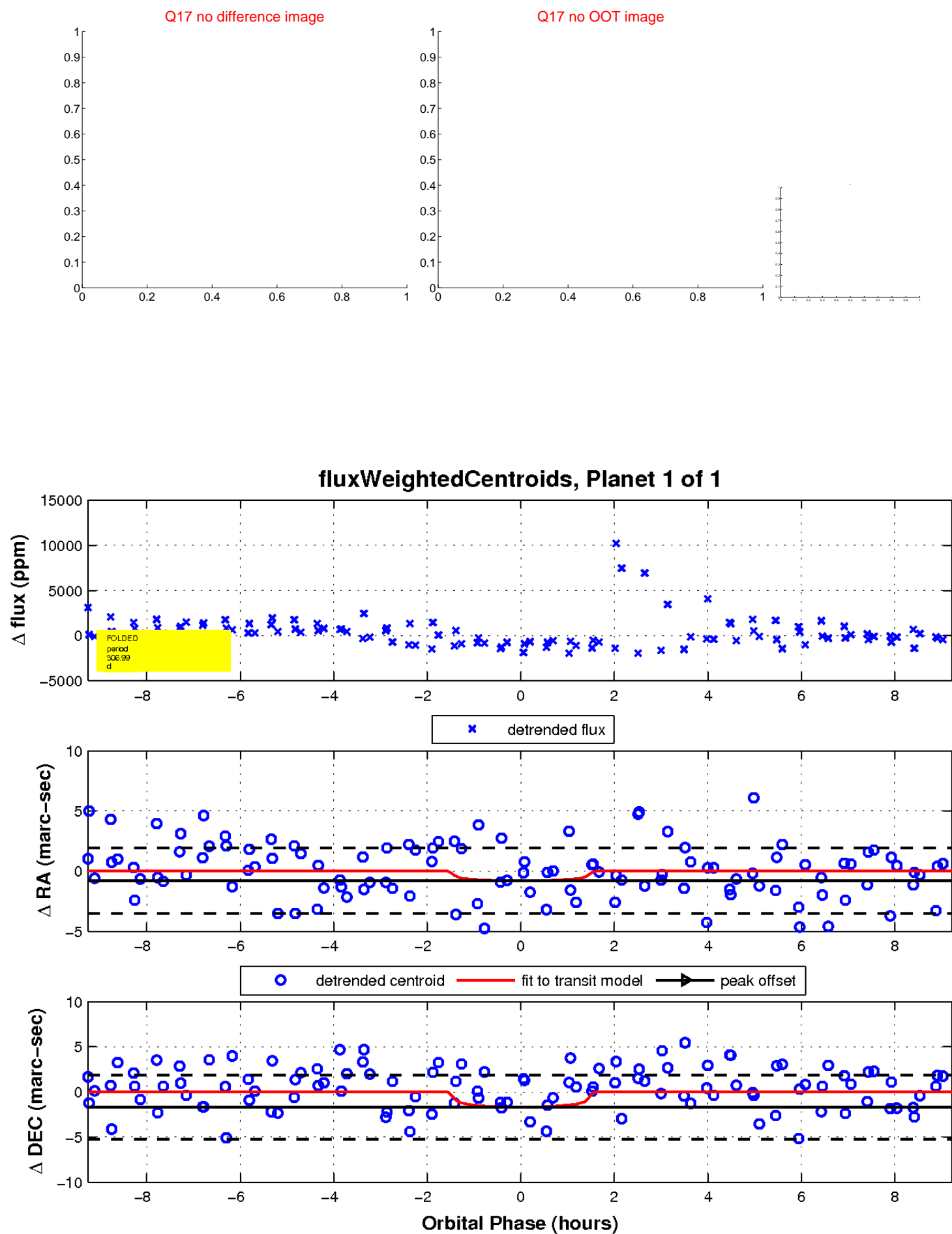


Q16 no OOT image





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





# UKIRT Image

Declination

