

# KIC 008106796

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008106796-02	OBS	No	368.564397	235.533466	1674.8	39.911	7.2	9.7	0.99	5750	7.77	0.89

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008106796-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

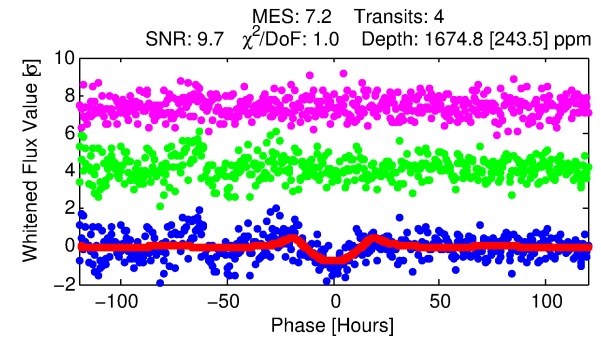
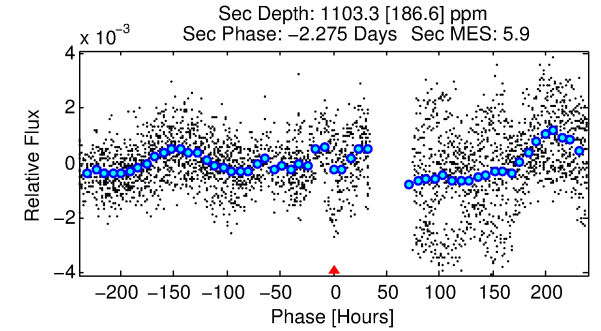
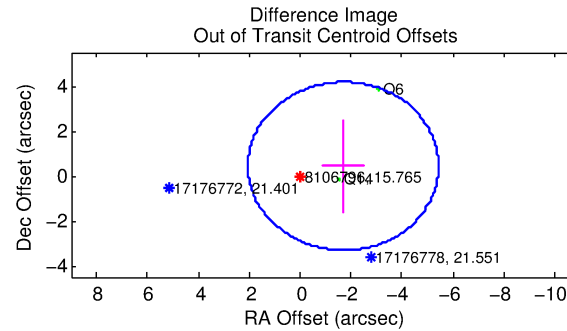
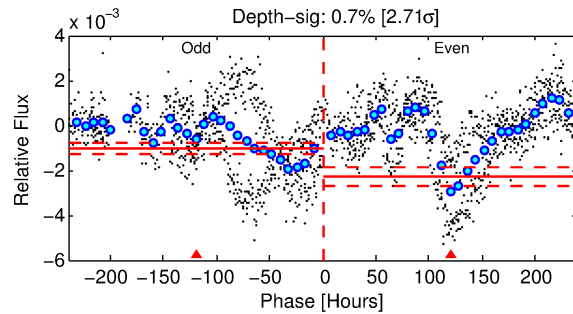
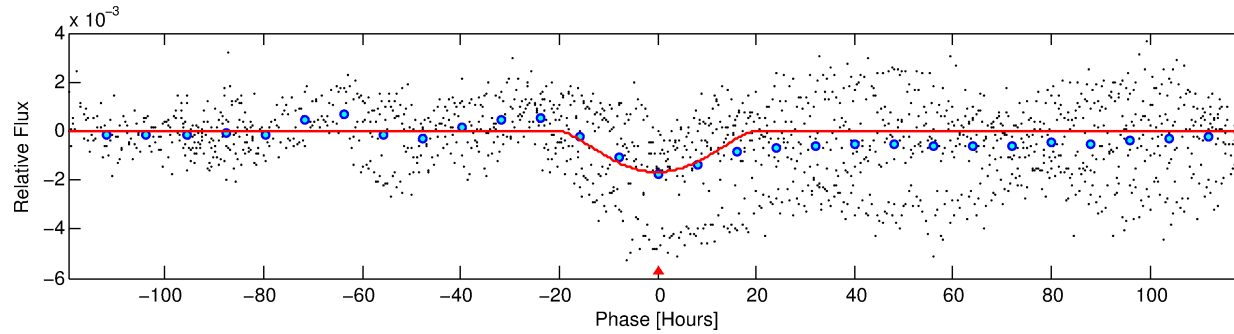
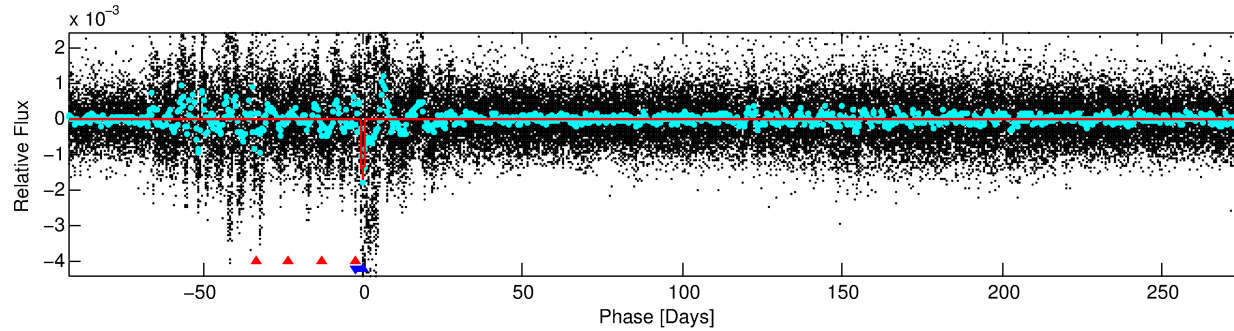
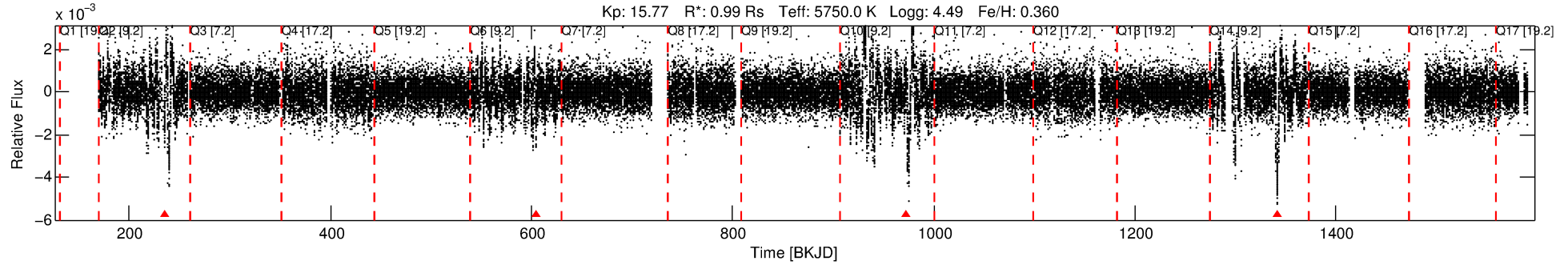
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008106796-02

No Significant Match Found

# DV One-Page Summary

KIC: 8106796 Candidate: 2 of 2 Period: 368.564 d



## DV Fit Results:

Period = 368.56440 [0.02830] d  
Epoch = 235.5335 [0.0501] BKJD  
Rp/R\* = 0.0717 [0.1245]  
a/R\* = 27.46 [10.56]  
b = 1.00 [0.18]  
Seff = 0.89 [0.31]  
Teq = 248 [22] K  
Rp = 7.77 [13.63] Re  
a = 1.0399 [0.2230] AU  
Ag = 10866.79 [37918.44] [0.29 $\sigma$ ]  
Teffp = 3913 [3402] K [1.08 $\sigma$ ]

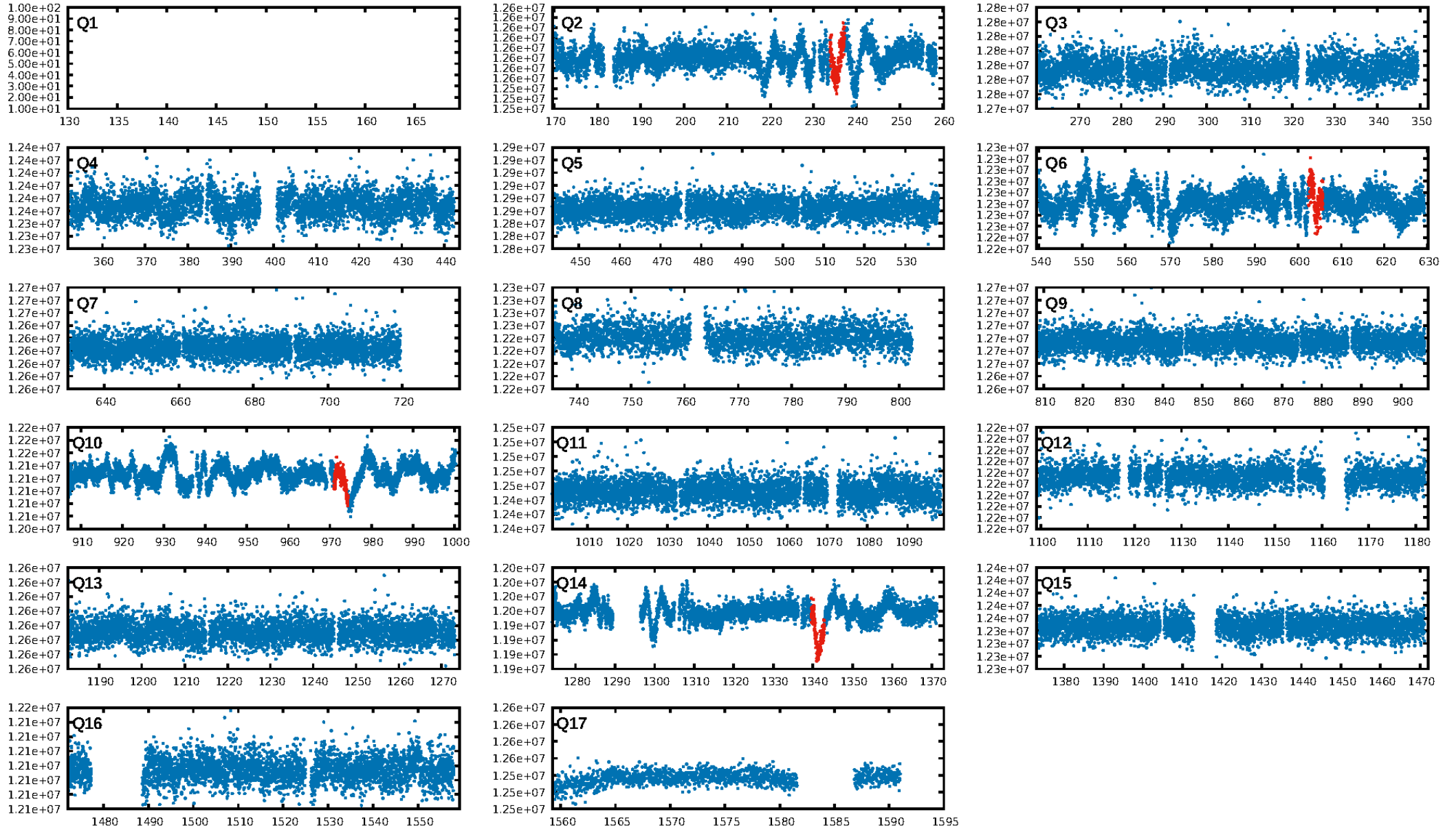
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.68 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 13.2%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 4.73e-09  
RollingBand-fgt: 0.00 [0/4]  
GhostDiagnostic-chr: 0.1451  
Centroid-sig: 51.4%  
Centroid-so: 1.892 arcsec [0.71 $\sigma$ ]  
OotOffset-rm: 1.752 arcsec [1.40 $\sigma$ ]  
OotOffset-st: 2/0/0/0 [2]  
KicOffset-rm: 1.860 arcsec [3.00 $\sigma$ ]  
KicOffset-st: 2/0/0/0 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 0.67 [2/3]

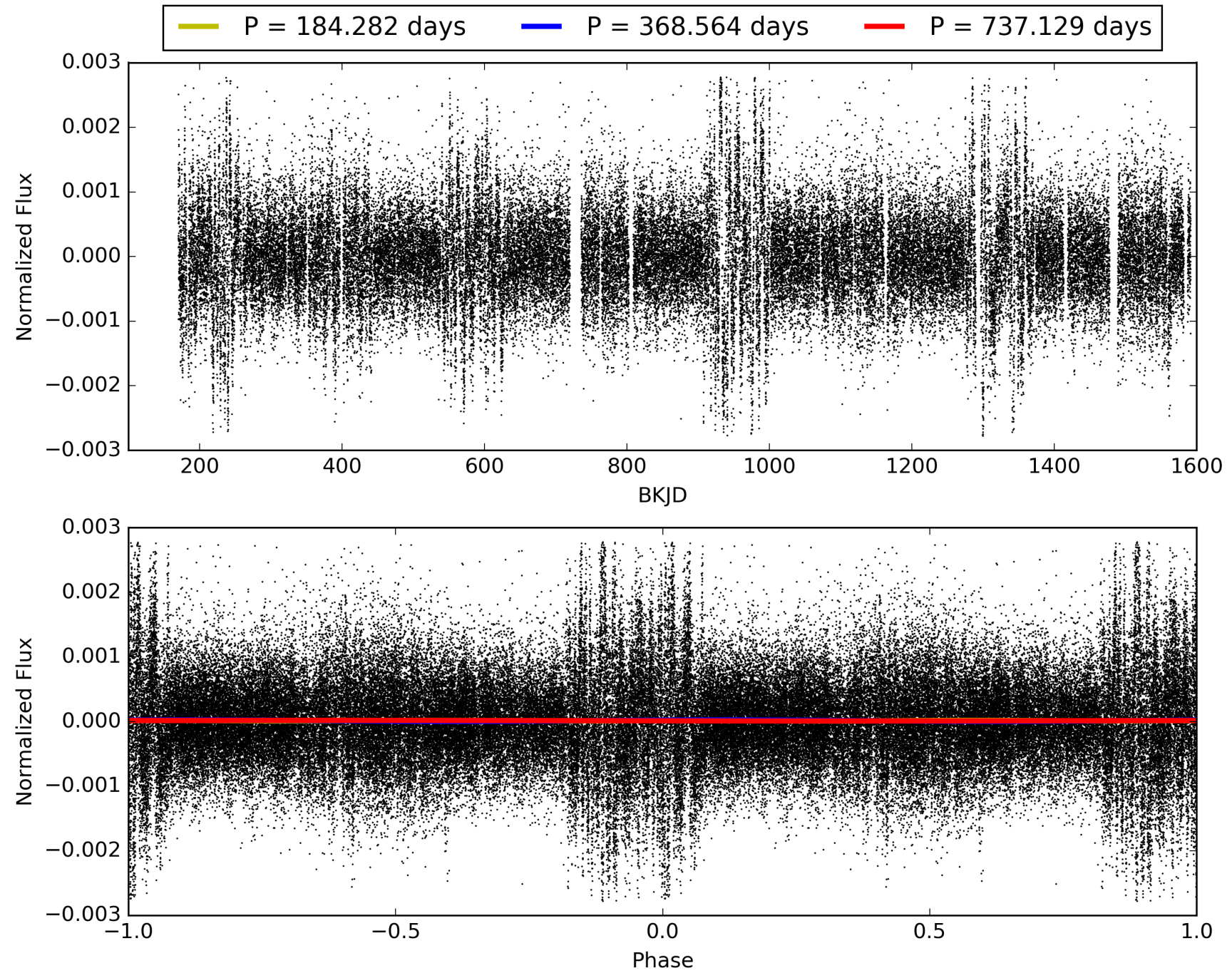
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:53:25 Z

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

# TCE 008106796-02, PDC Light Curves

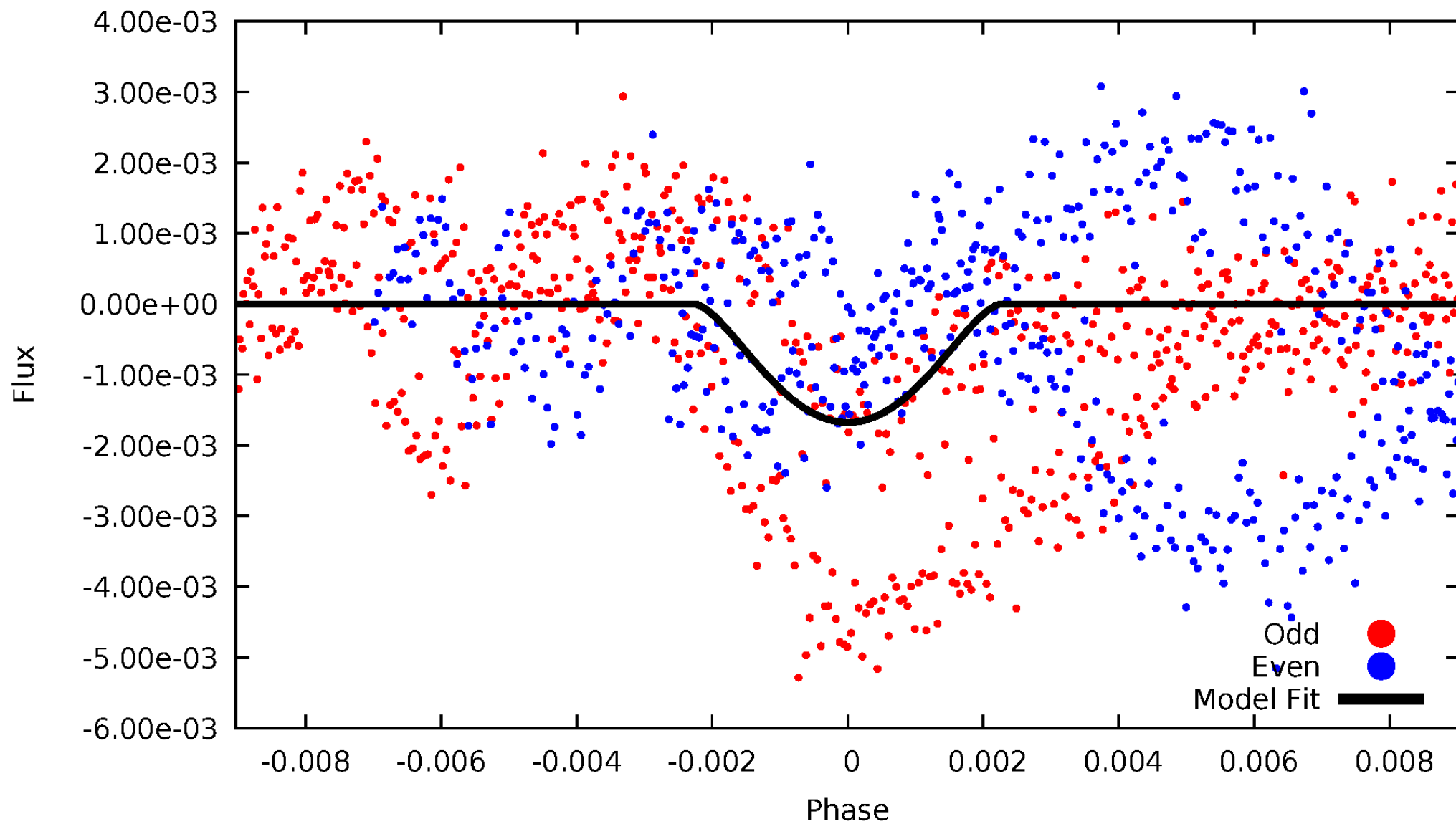


TCE 008106796-02



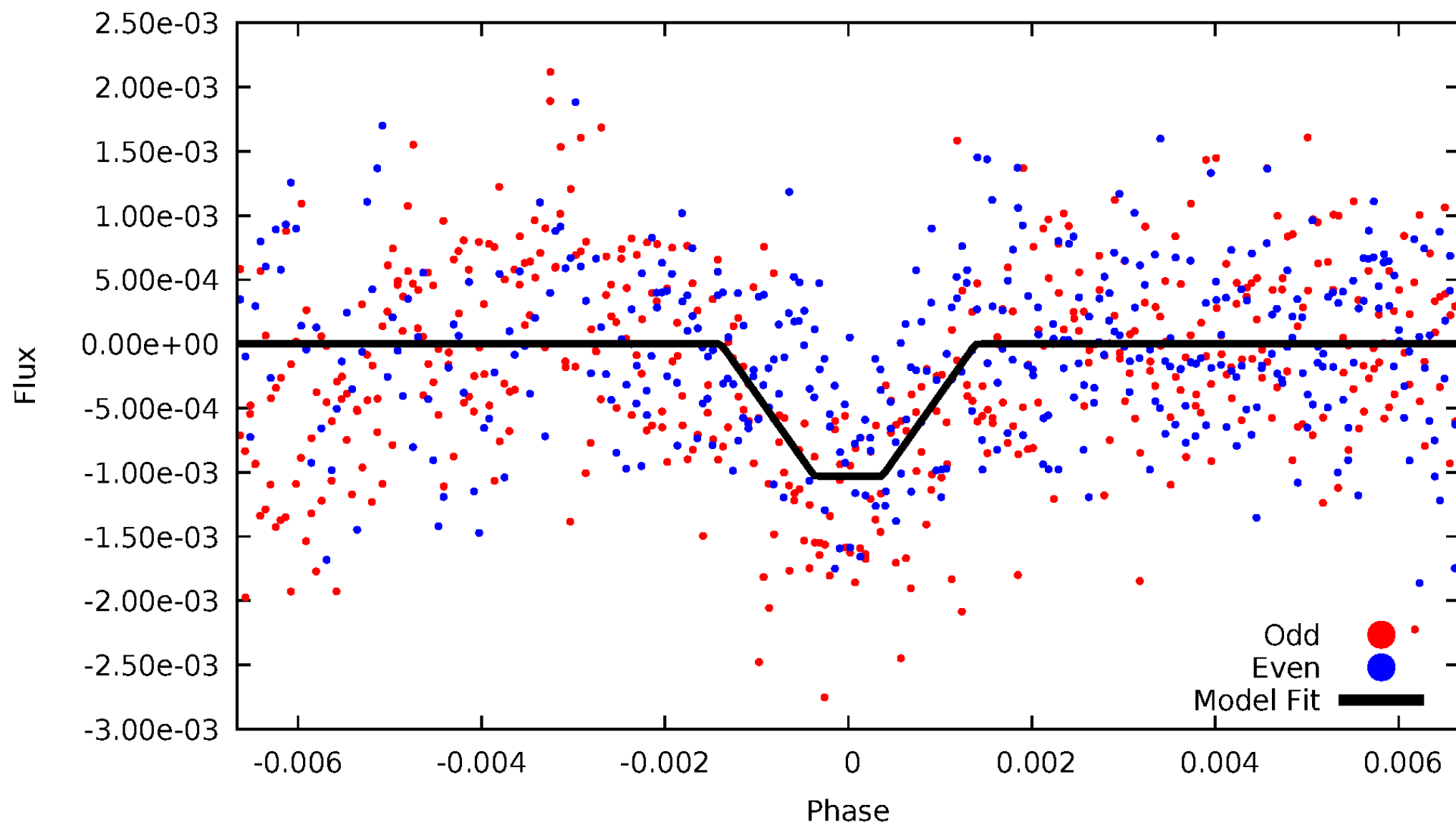
# DV Odd/Even

TCE 008106796-02



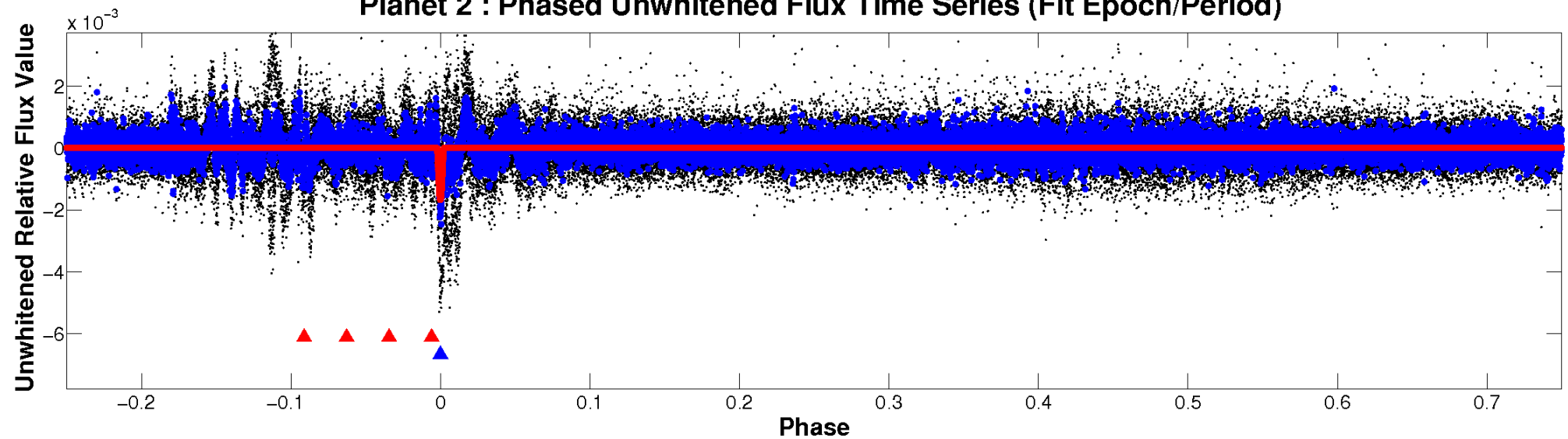
# ALT Odd/Even

TCE 008106796-02

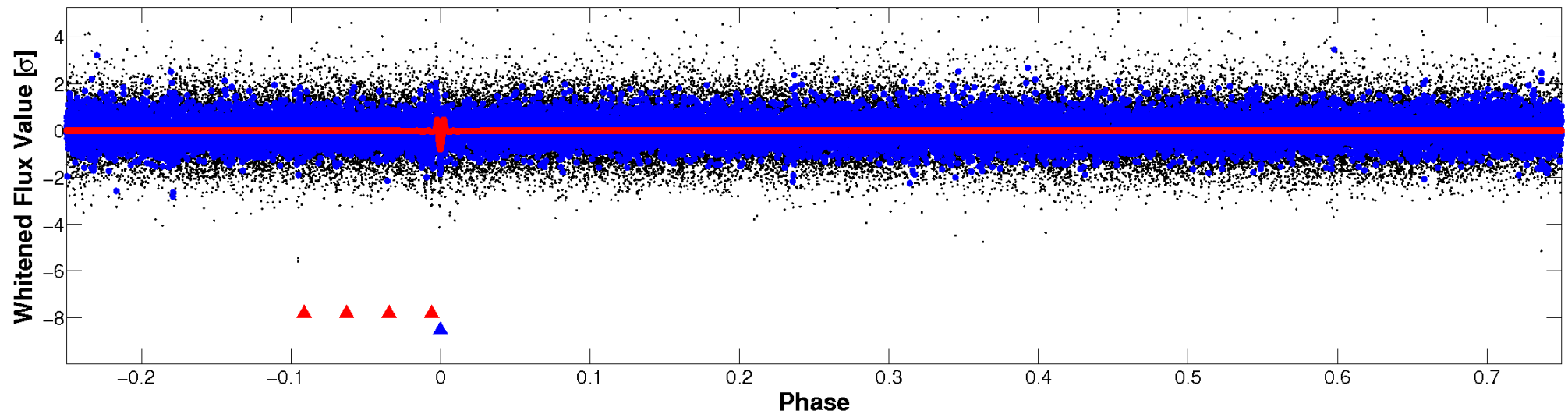


# Non-Whitened Vs. Whitened Light Curve

## Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

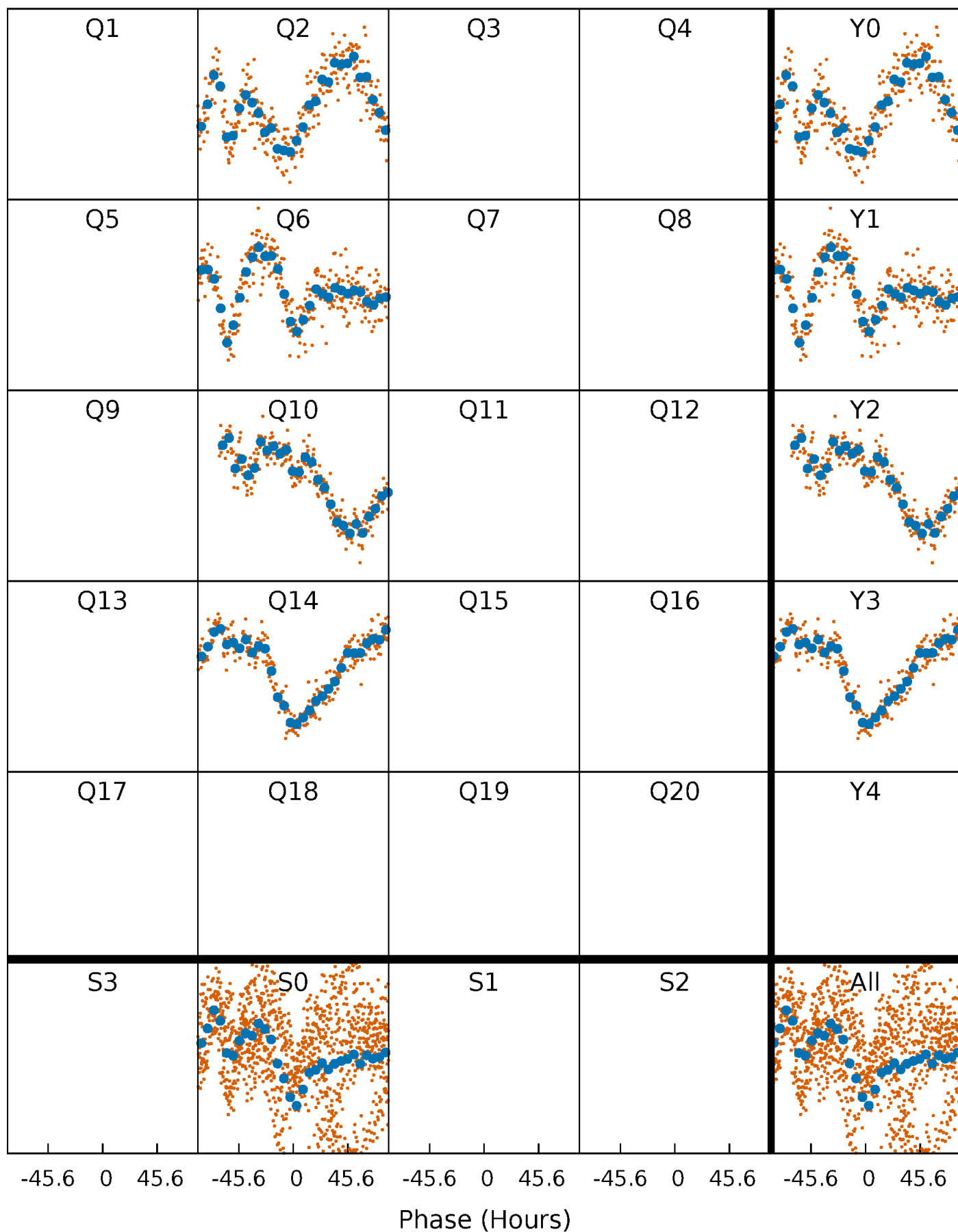


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



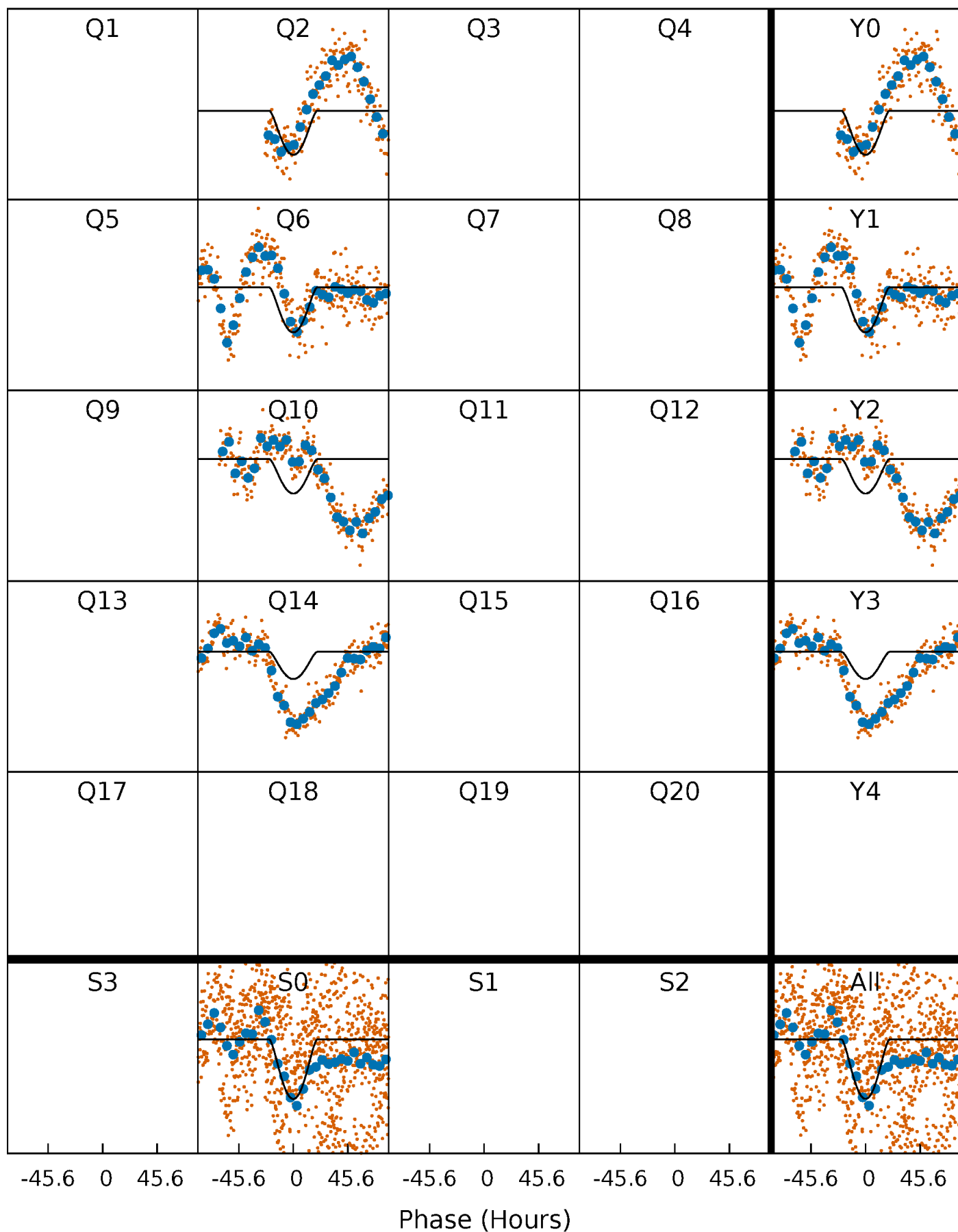
# PDC Quarter-Phased Transit Curves

TCE 008106796-02     $P=368.564397$  Days     $T_0=235.533467$  (BKJD)



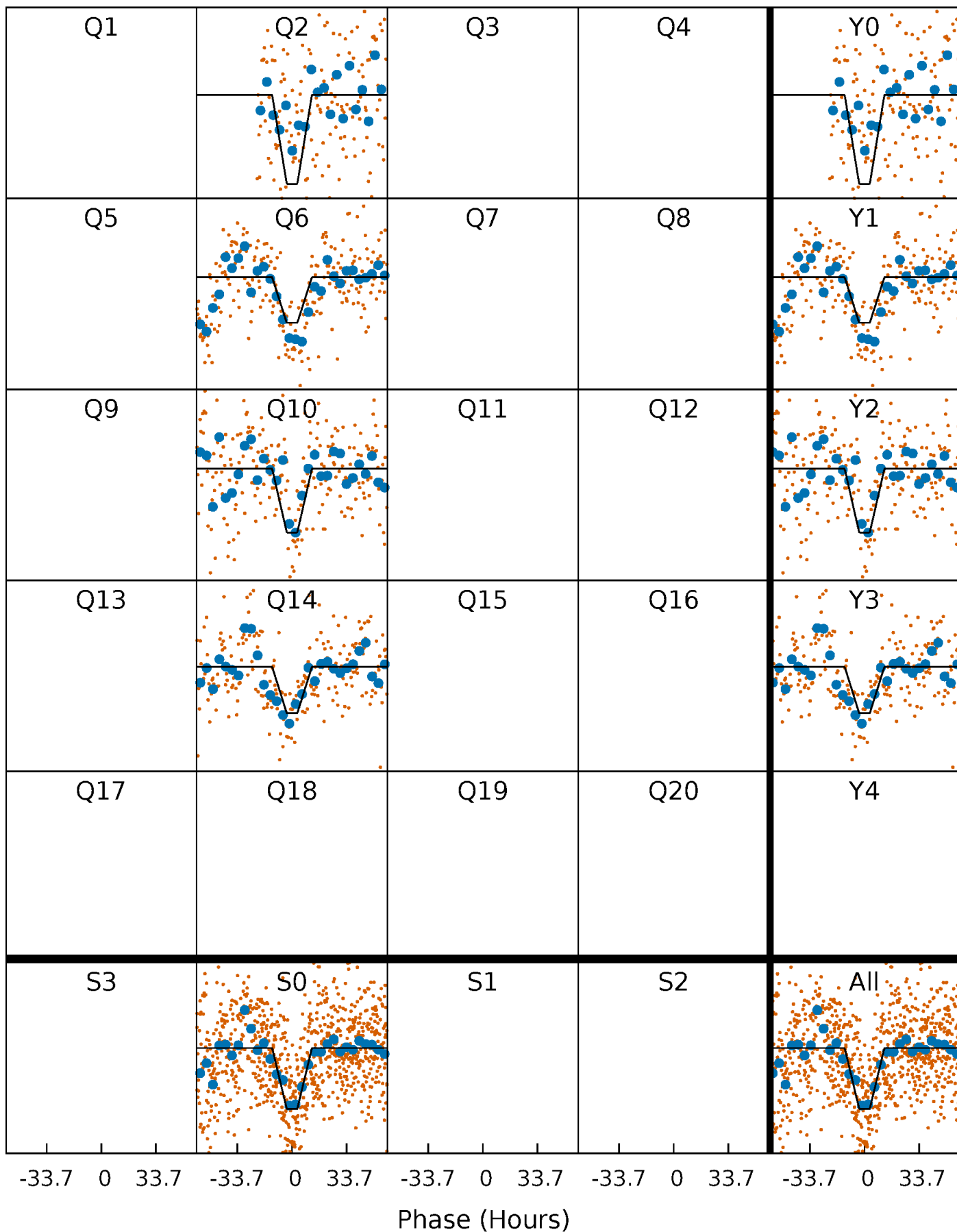
# DV Quarter-Phased Transit Curves

TCE 008106796-02 P=368.564397 Days  $T_0=235.533467$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

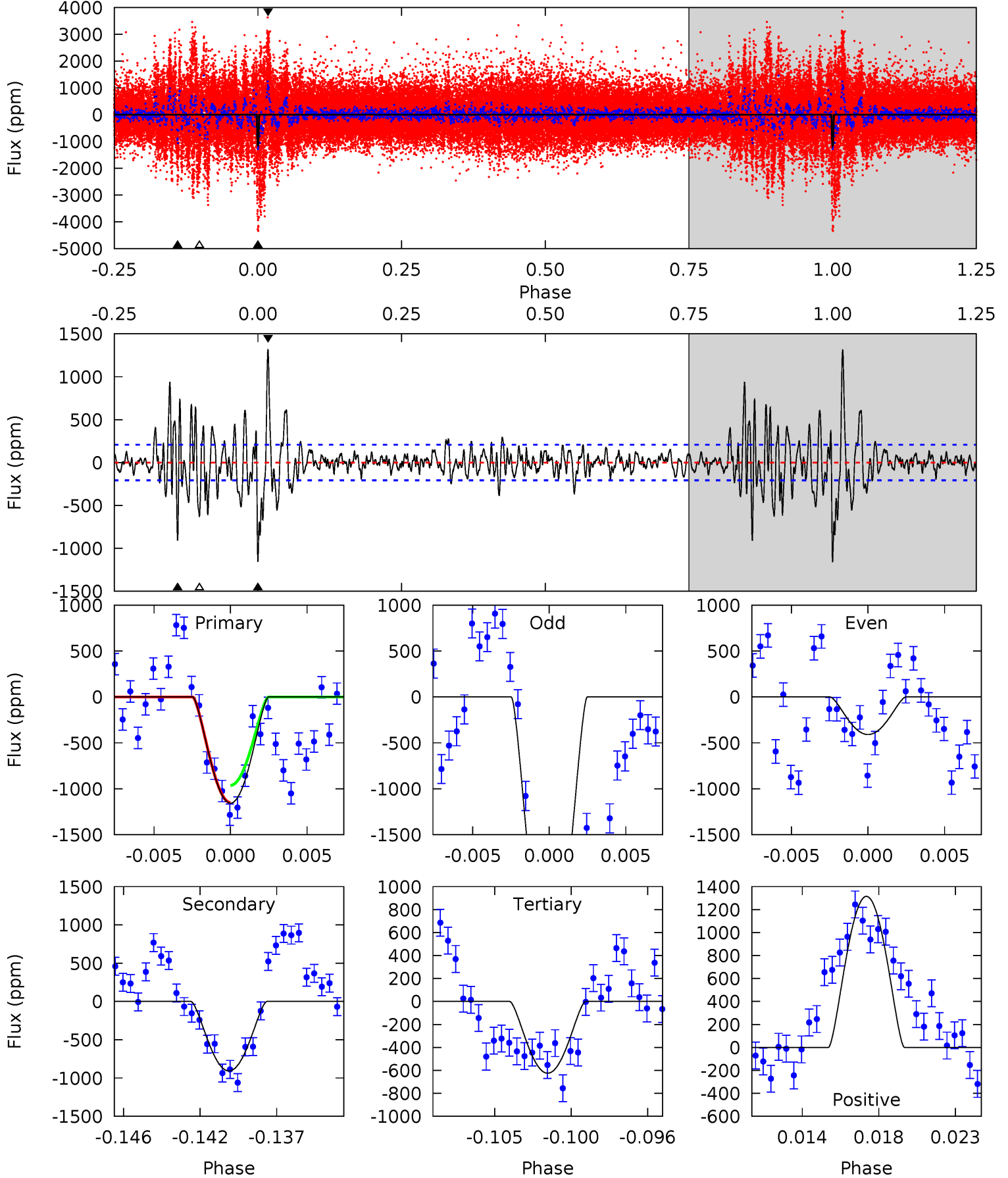
TCE 008106796-02 P=368.621422 Days  $T_0=235.453888$  (BKJD)



# DV Model-Shift Uniqueness Test

008106796-02, P = 368.564397 Days, E = 235.533467 Days

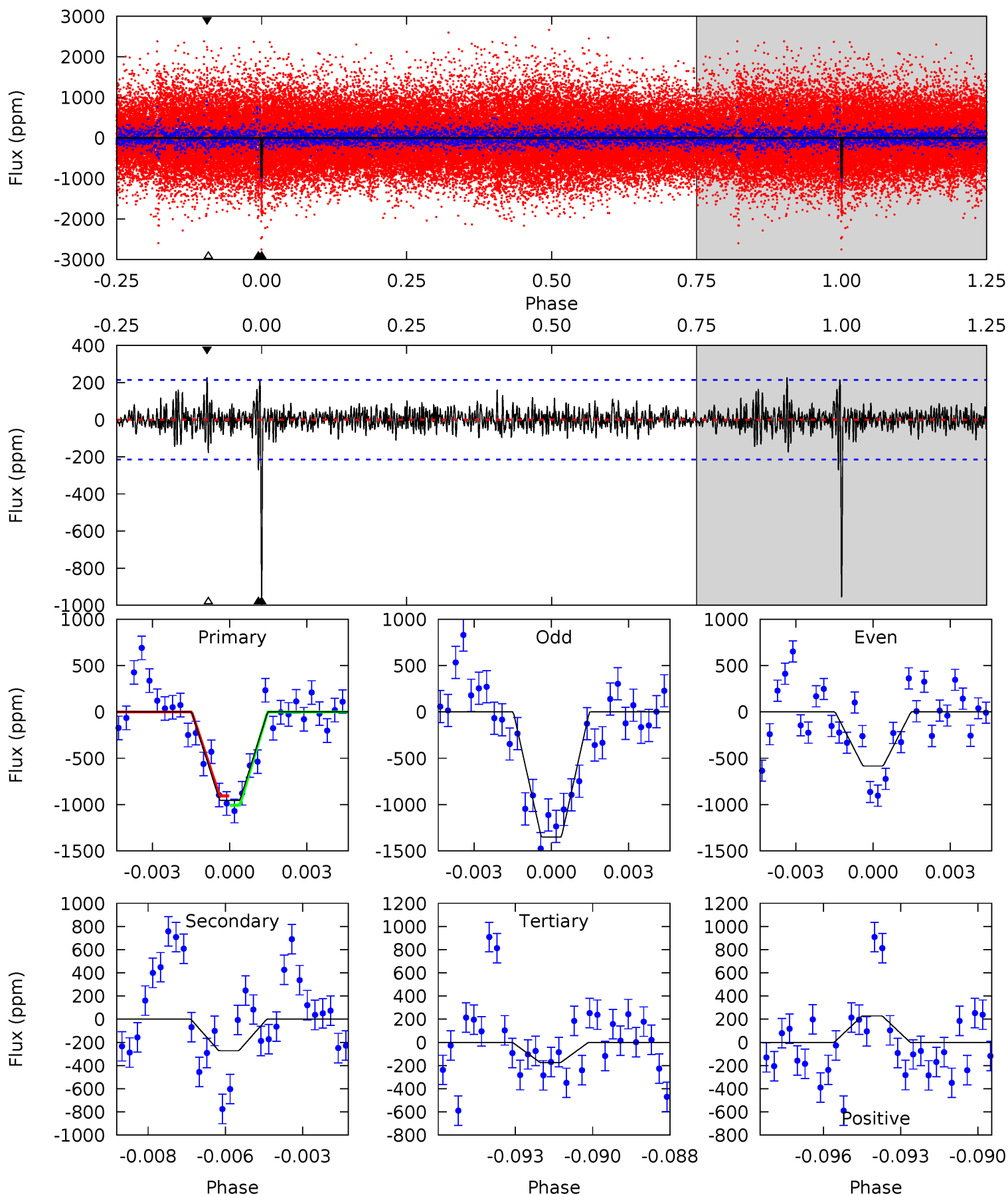
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.8	22.6	15.6	32.8	5.17	2.84	4.94	13.3	-3.96	7.05	-10.2	34.6	1.46	0.53	0



# Alt Model-Shift Uniqueness Test

008106796-02, P = 368.621422 Days, E = 235.453888 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
23.5	6.69	4.31	5.61	5.26	2.99	1.03	19.2	17.9	2.38	1.08	9.45	1.05	0.19	1.23



### Stellar Parameters For KIC 008106796

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5750^{+154}_{-206}$	$4.487^{+0.044}_{-0.176}$	$0.360^{+0.100}_{-0.300}$	$0.993^{+0.248}_{-0.083}$	$1.104^{+0.089}_{-0.133}$	$1.588^{+0.349}_{-0.710}$
	+3%/-4%	+1%/-4%	+28%/-83%	+25%/-8%	+8%/-12%	+22%/-45%
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 008106796-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-907 \pm 40$	$13.64^{+11.32}_{-8.95}$	$352^{+22}_{-16}$	$3382^{+1610}_{-547}$	$2767^{+22283}_{-1936}$
Alt.	$-272 \pm 41$	$11.19^{+11.21}_{-7.76}$	$352^{+22}_{-15}$	$3018^{+1373}_{-506}$	$1276^{+10684}_{-949}$

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

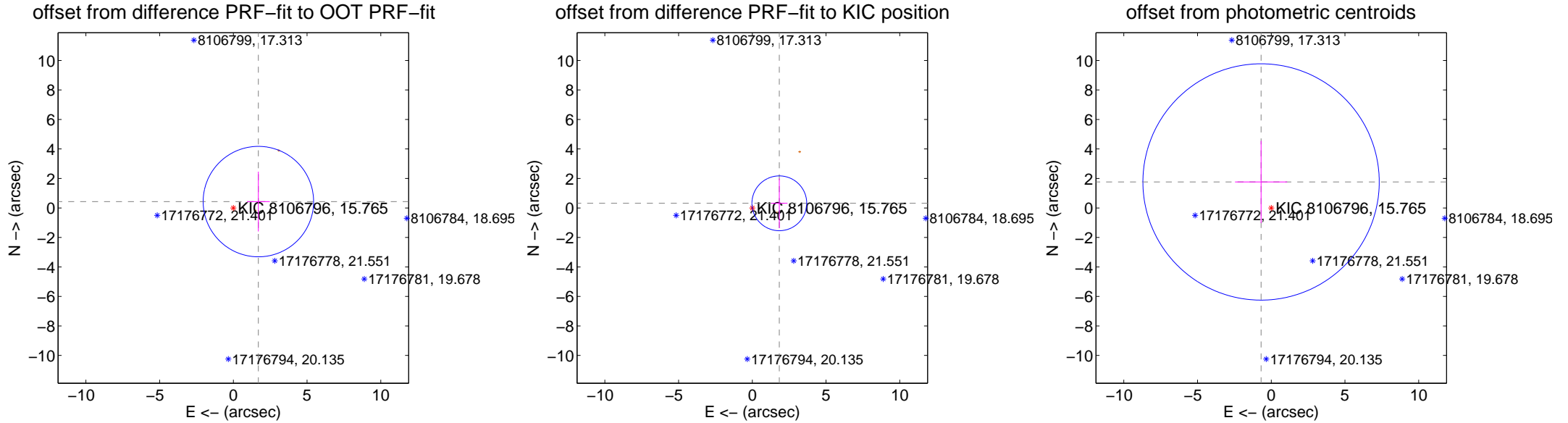
## DV Centroid Data

Supplemental centroid analysis for 008106796-02. Kepler magnitude: 15.77. Transit SNR 9.72

There are 0 quarters with good PRF difference image offsets

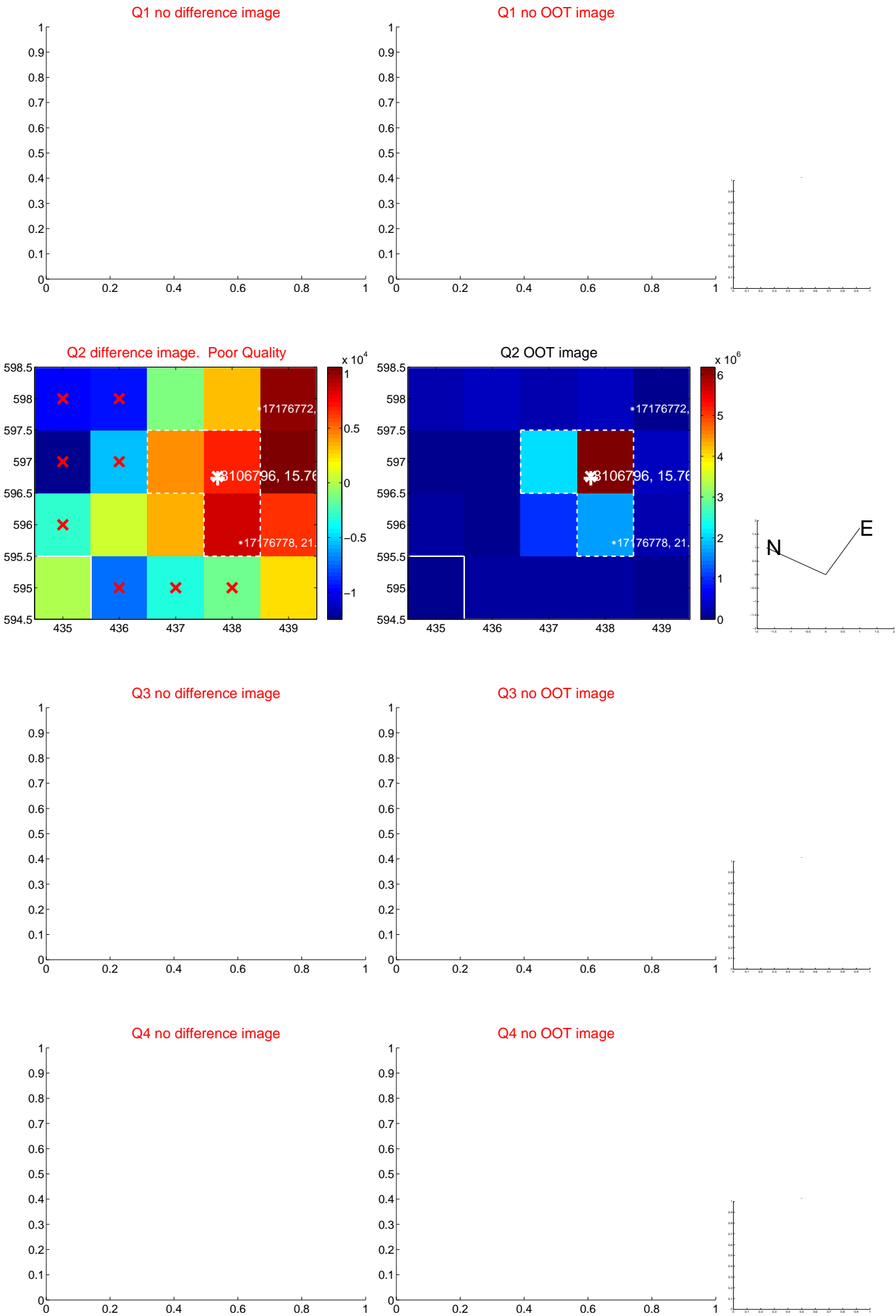
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.752 \pm 1.248$	1.40	$-1.698 \pm 0.774$	$0.432 \pm 2.027$
PRF-fit source offset from KIC position	$1.860 \pm 0.619$	3.00	$-1.833 \pm 0.558$	$0.315 \pm 1.684$
photometric centroid source offset	$1.89 \pm 2.67$	0.71	$0.69 \pm 1.77$	$1.76 \pm 2.78$

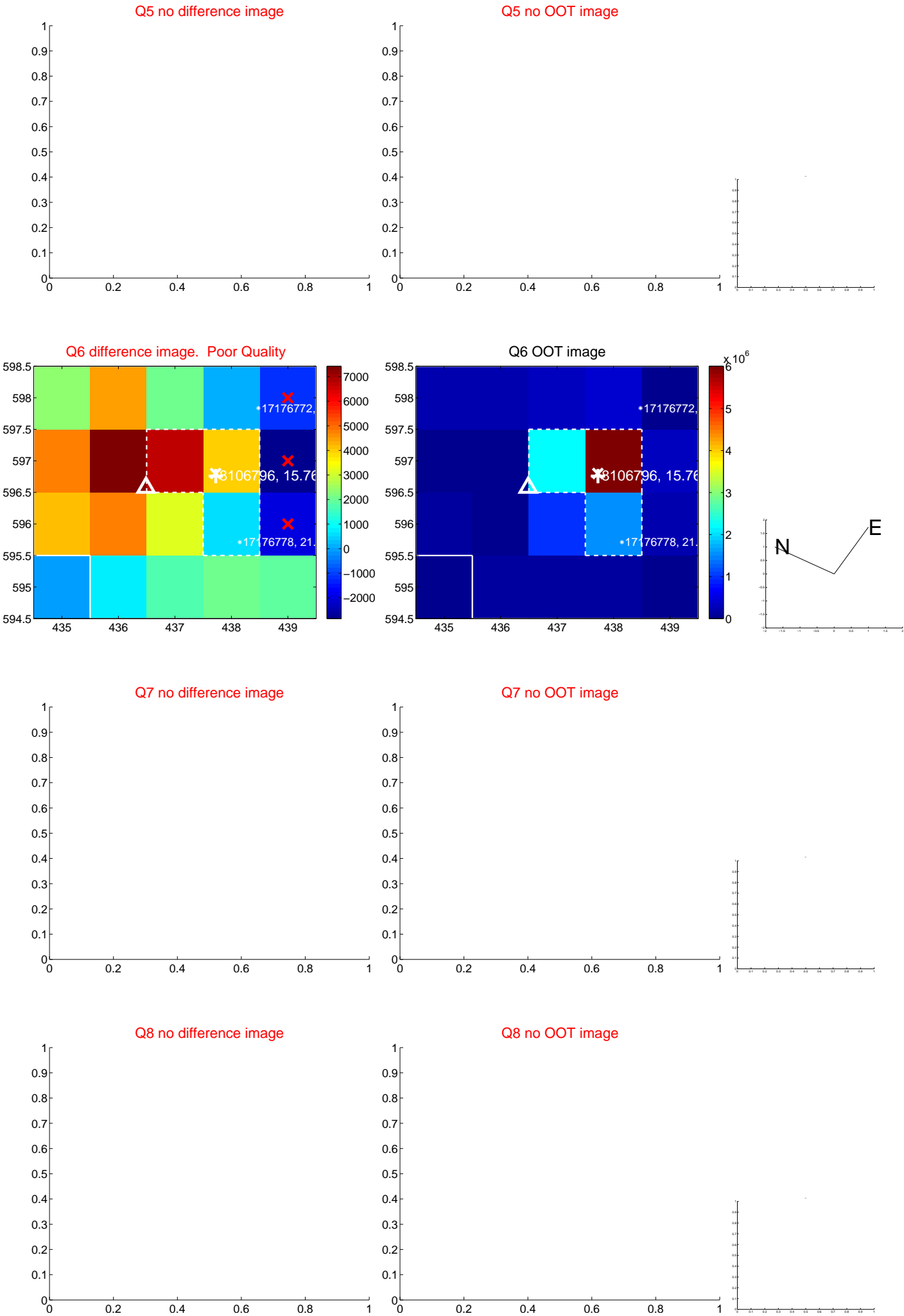


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



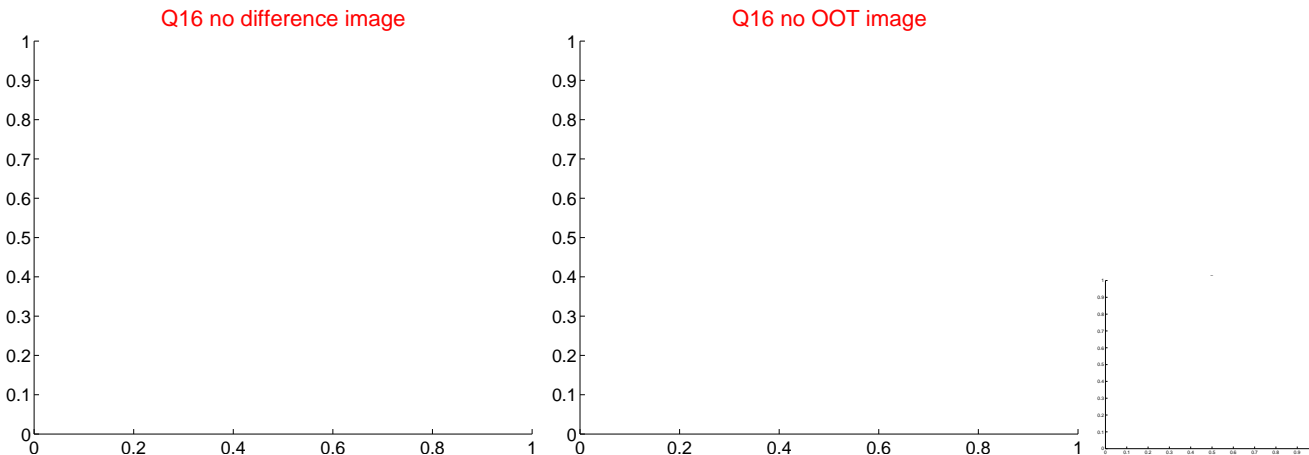
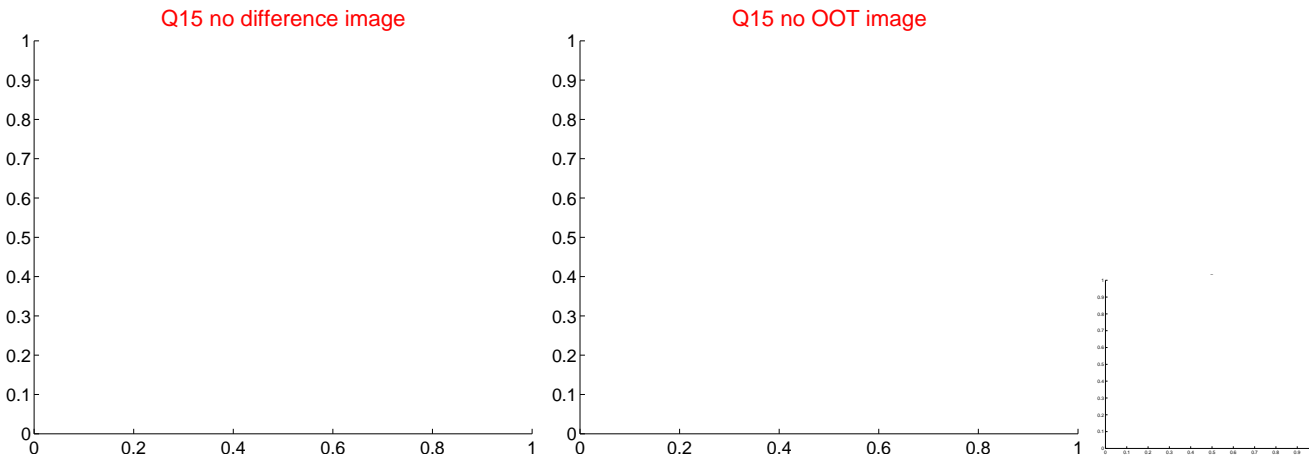
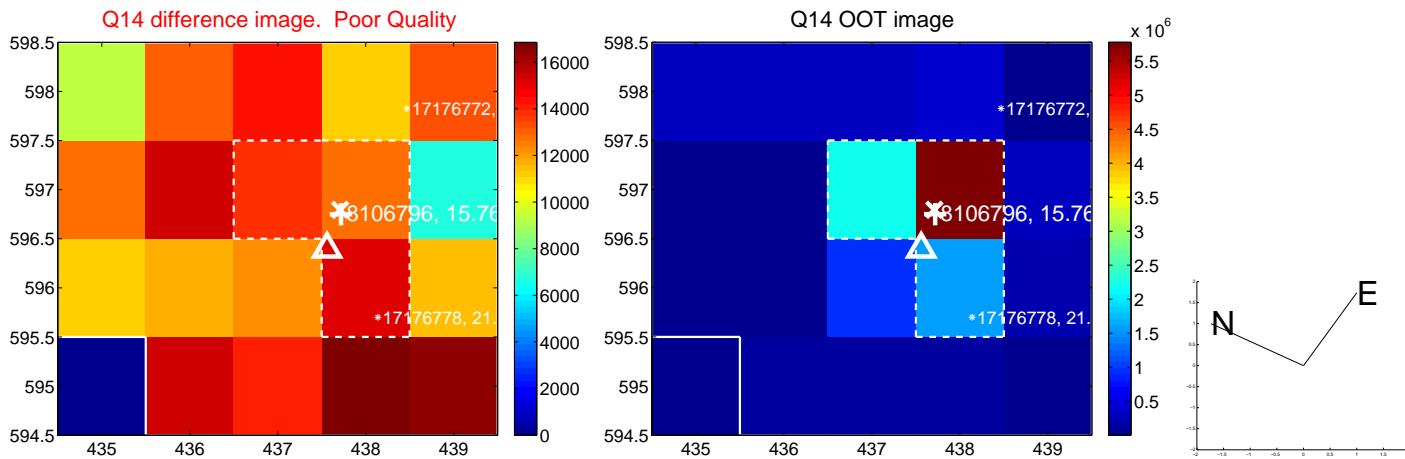
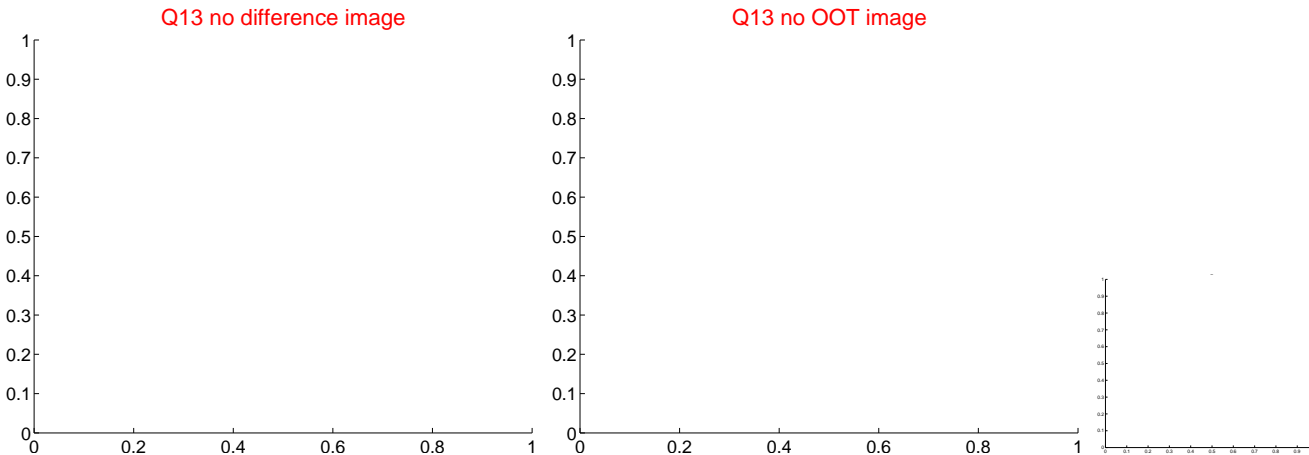
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



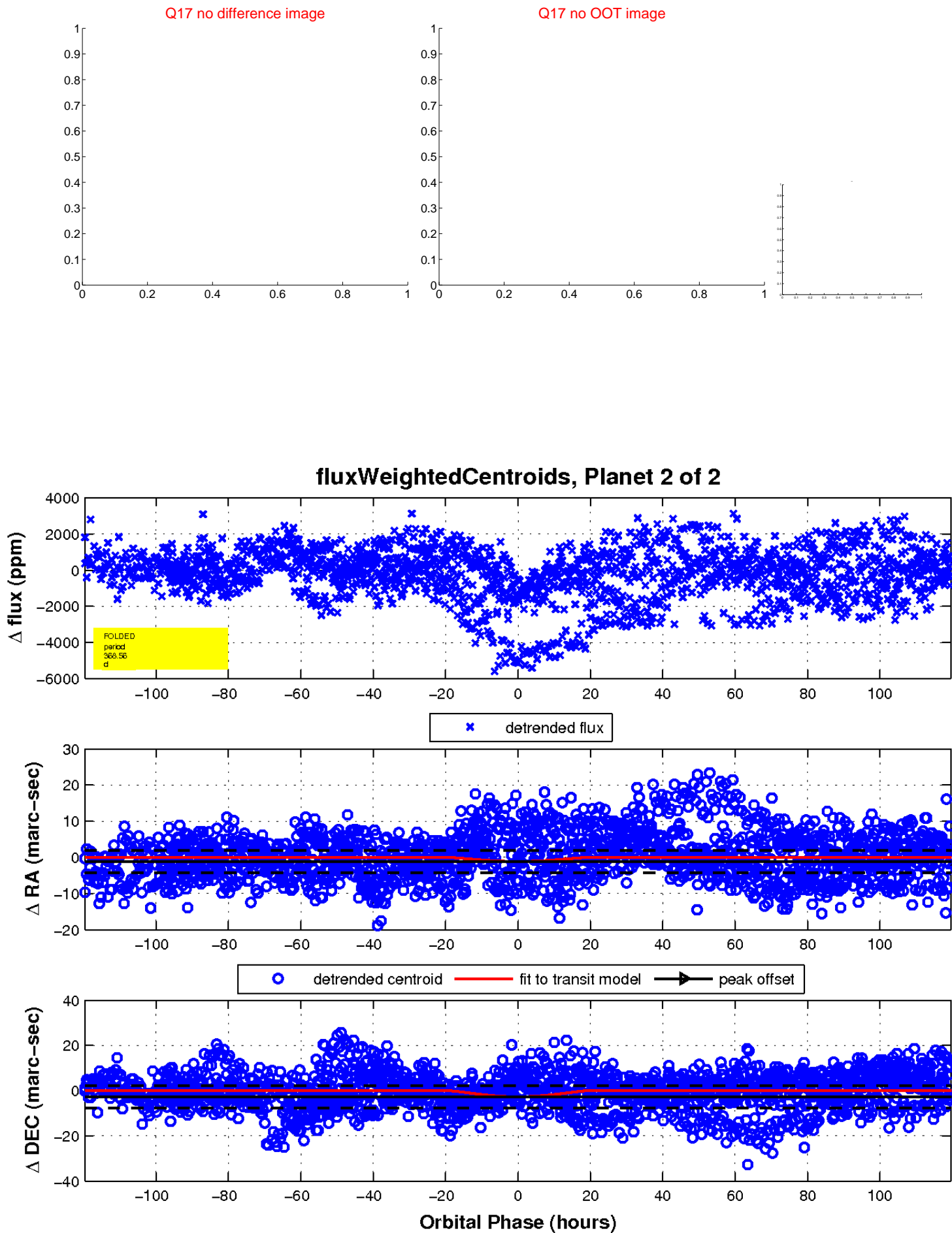
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

