

# KIC 008283796

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008283796-01	OBS	No	138.660221	265.139341	1242.3	12.822	12.0	3.2	1.42	5835	5.11	8.55

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008283796-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—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.

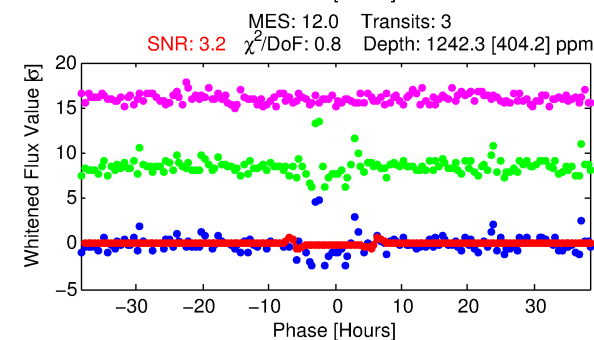
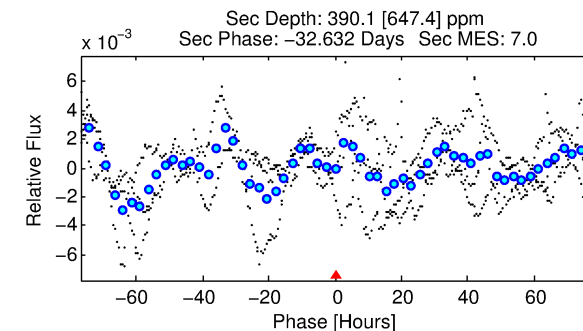
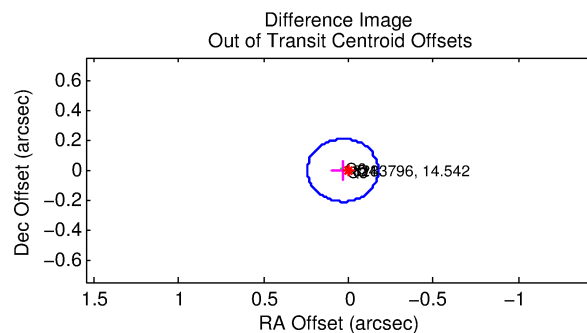
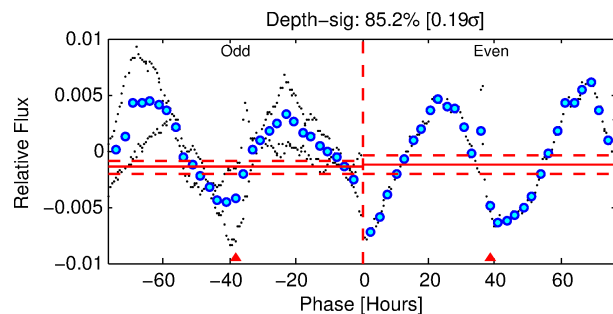
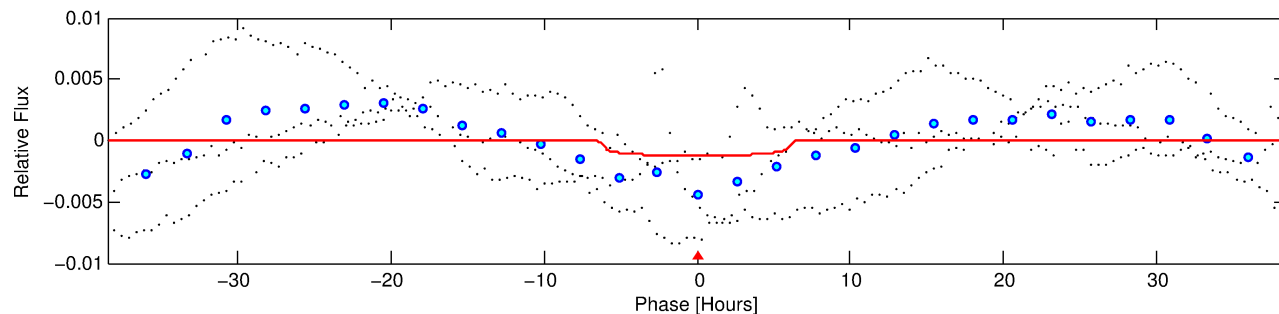
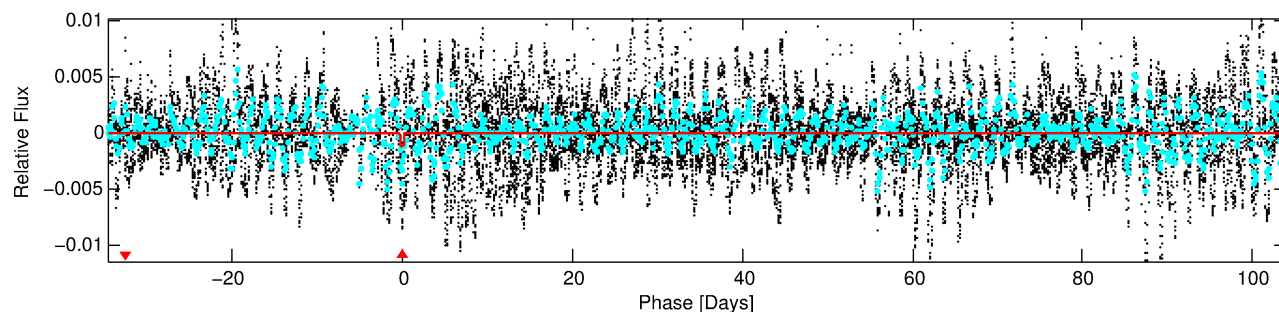
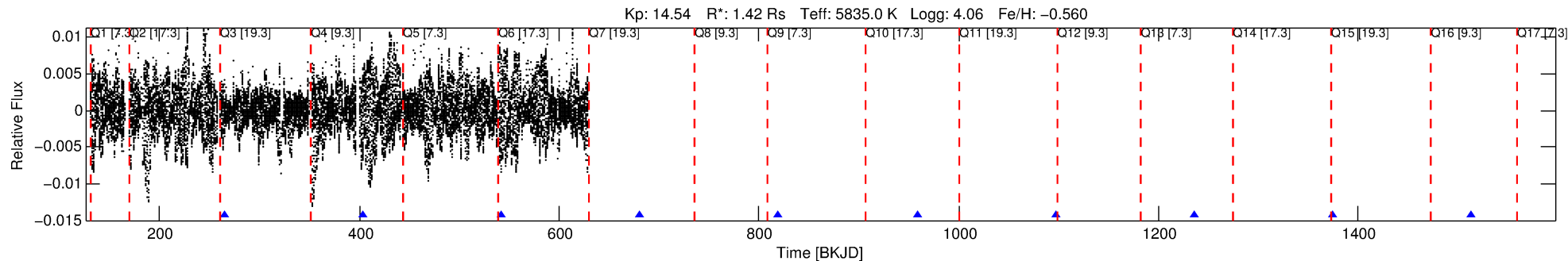
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008283796-01

No Significant Match Found

# DV One-Page Summary

KIC: 8283796 Candidate: 1 of 1 Period: 138.660 d



## DV Fit Results:

Period = 138.66022 [0.00757] d  
Epoch = 265.1393 [0.0086] BKJD  
Rp/R\* = 0.0330 [0.0146]  
a/R\* = 76.41 [135.53]  
b = 0.46 [3.05]  
Seff = 8.55 [6.40]  
Teq = 436 [82] K  
Rp = 5.10 [3.05] Re  
a = 0.4938 [0.2152] AU  
Ag = 2008.81 [4059.07] [0.49 $\sigma$ ]  
Teff = 4513 [2127] K [1.92 $\sigma$ ]

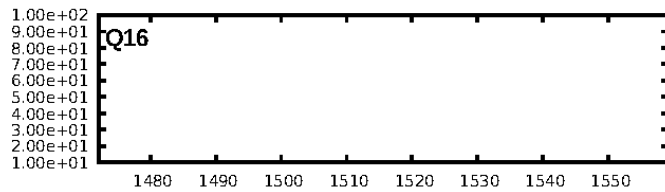
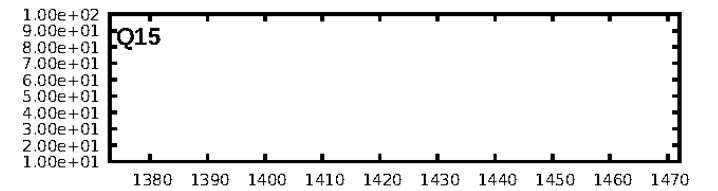
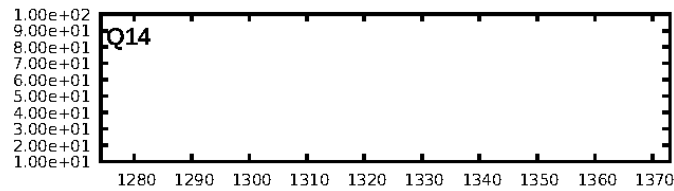
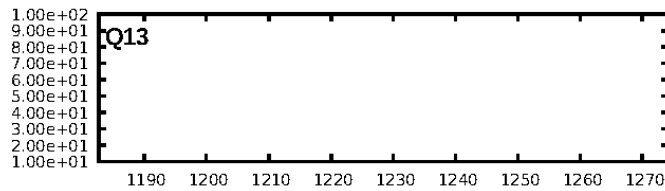
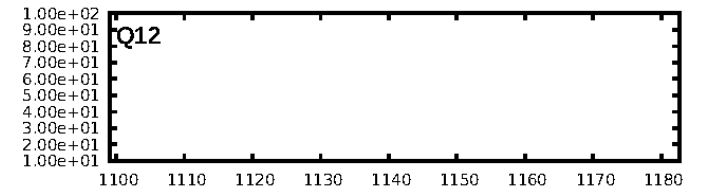
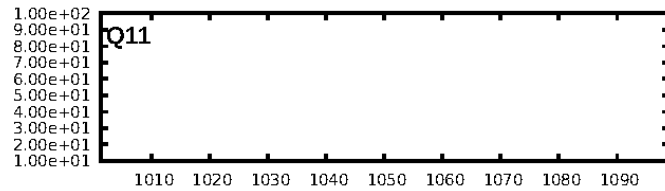
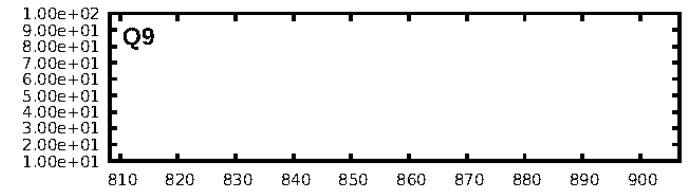
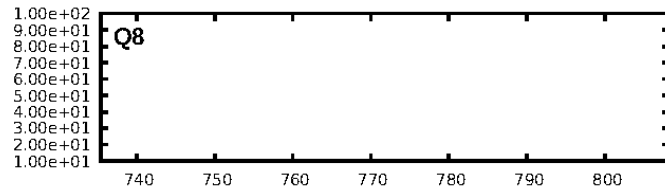
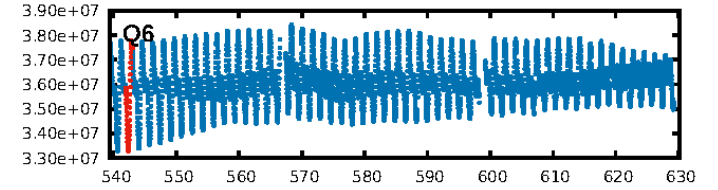
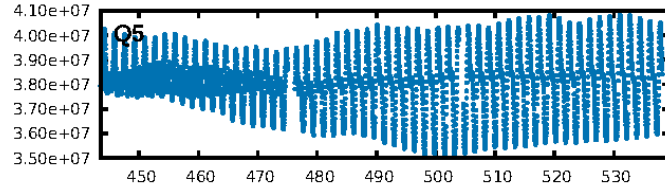
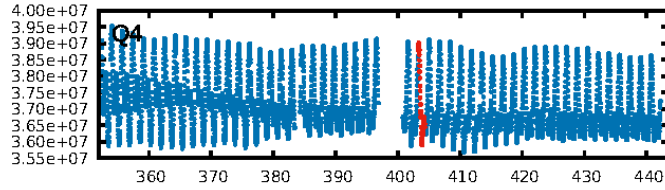
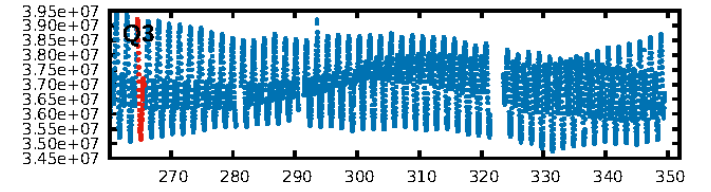
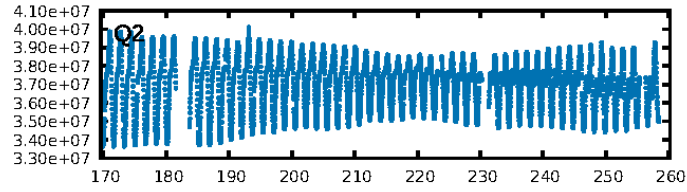
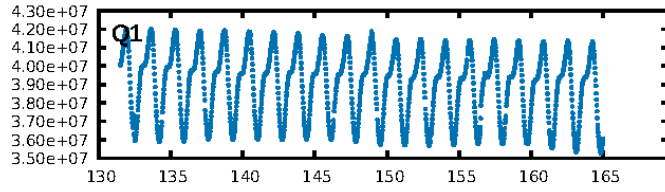
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 63.6%  
ModelChiSquareGof-sig: 99.8%  
**Bootstrap-pfa: 1.99e-11**  
RollingBand-fgt: 1.00 [3/3]  
**GhostDiagnostic-chr: -0.958**  
Centroid-sig: N/A  
Centroid-so: 0.926 arcsec [1.98 $\sigma$ ]  
OotOffset-rm: 0.035 arcsec [0.51 $\sigma$ ]  
KicOffset-st: 1/1/1/0 [3]  
KicOffset-st: 1/1/1/0 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

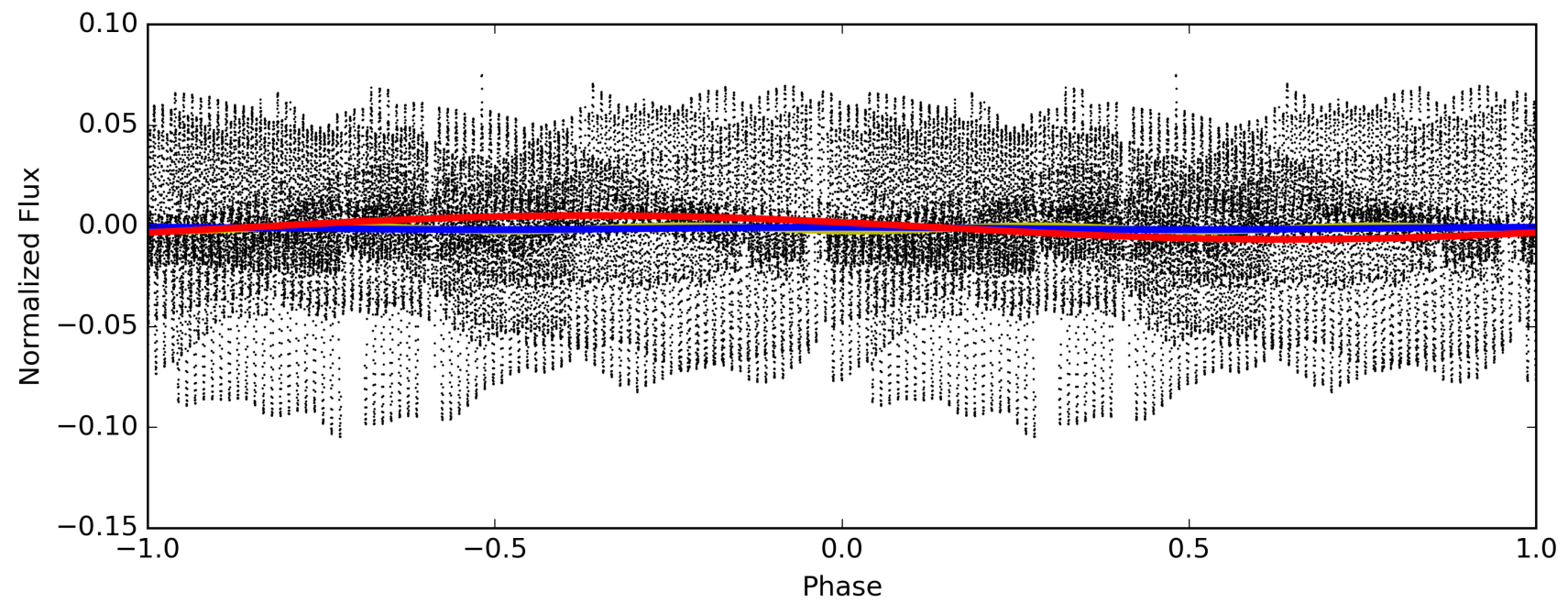
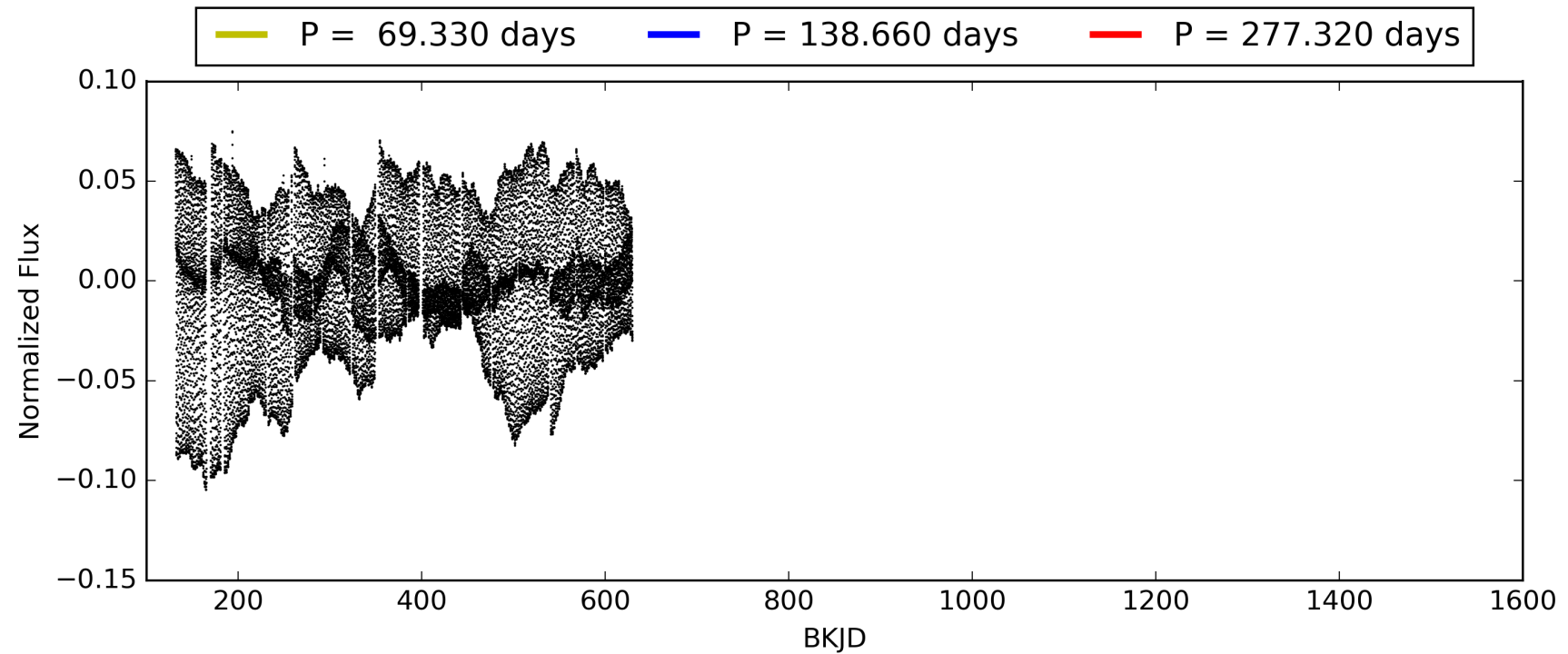
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:47:22 Z

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

# TCE 008283796-01, PDC Light Curves

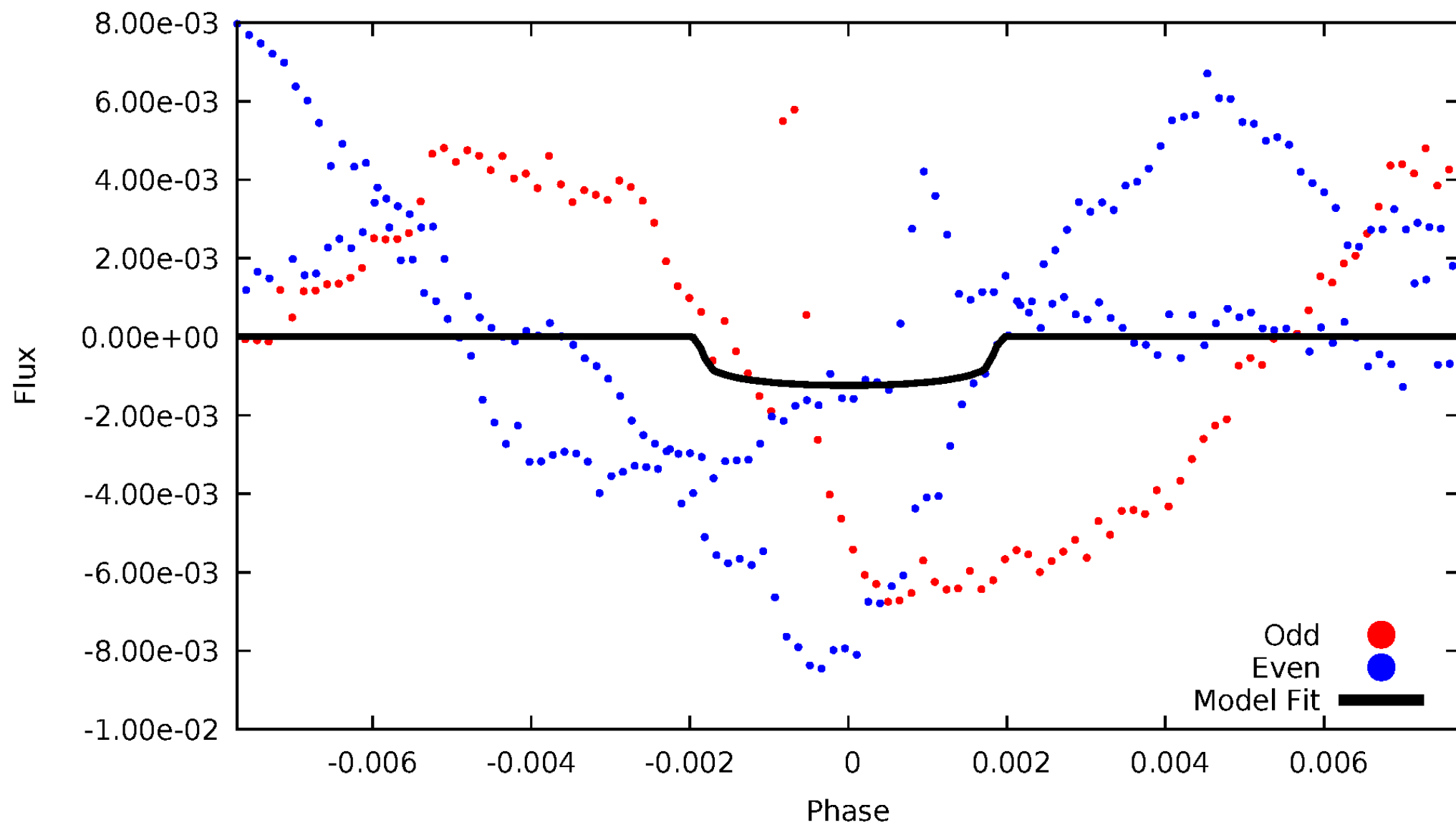


TCE 008283796-01



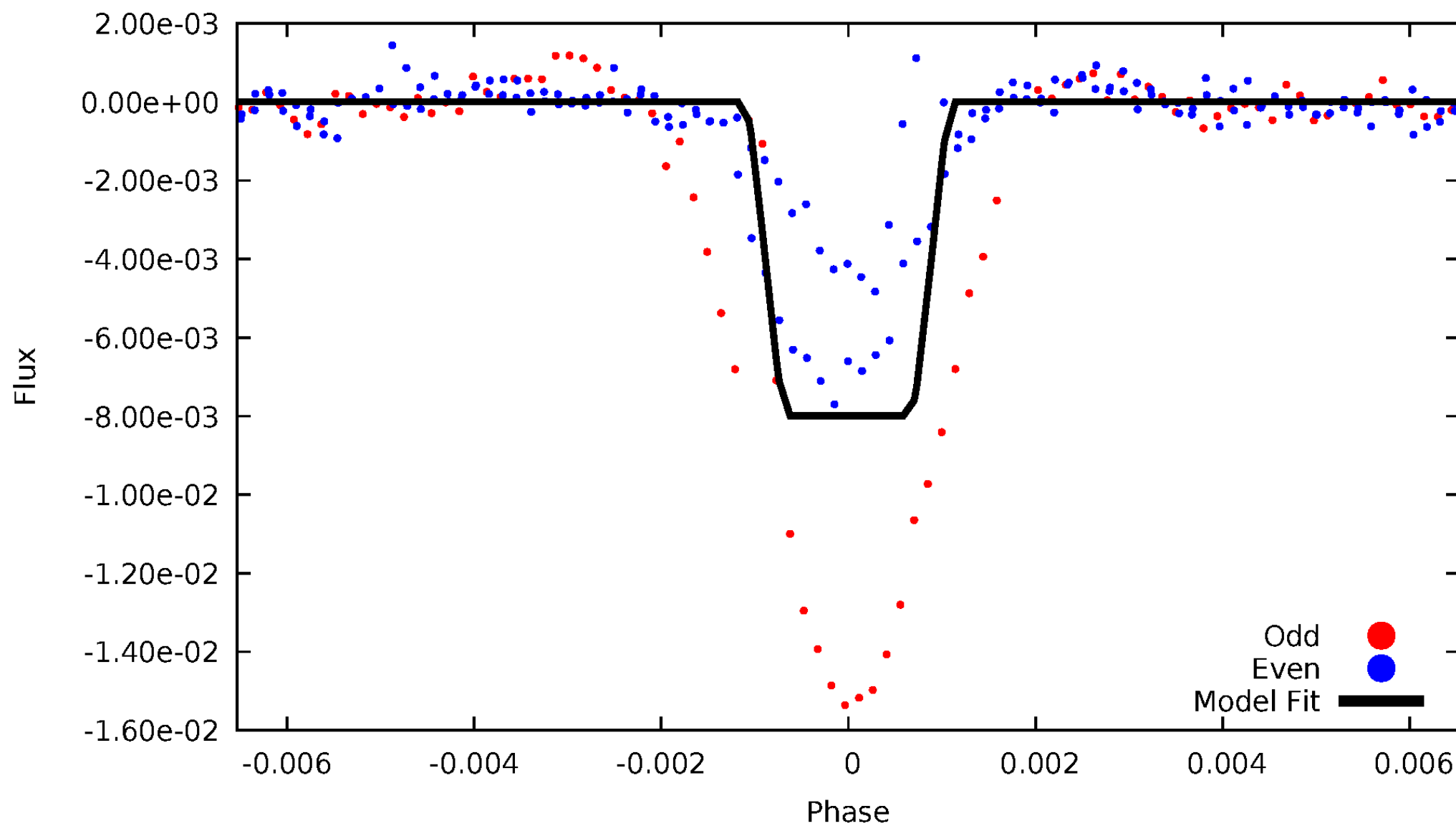
# DV Odd/Even

TCE 008283796-01



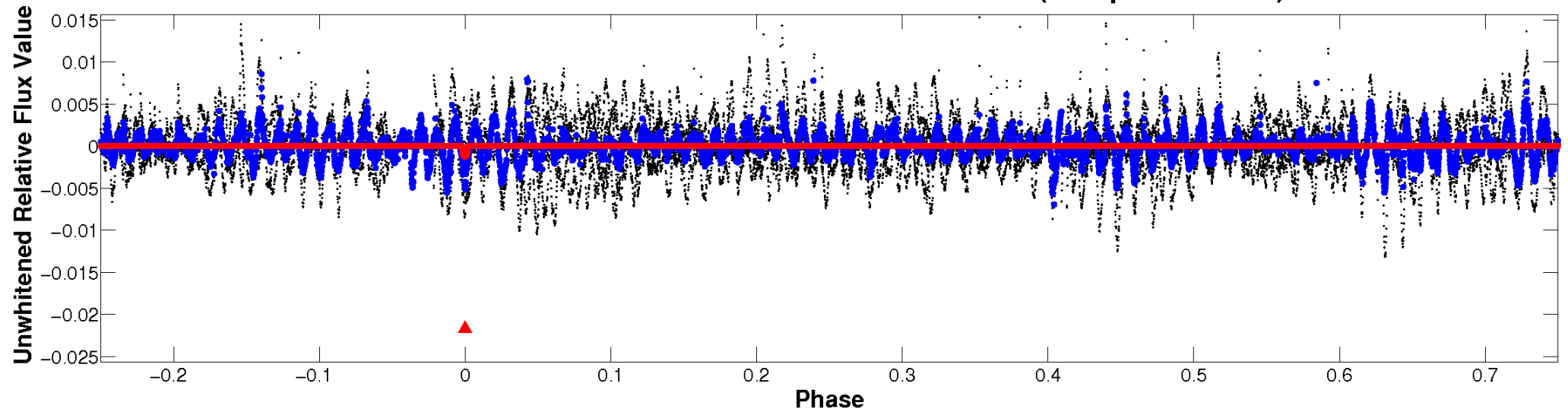
# ALT Odd/Even

TCE 008283796-01

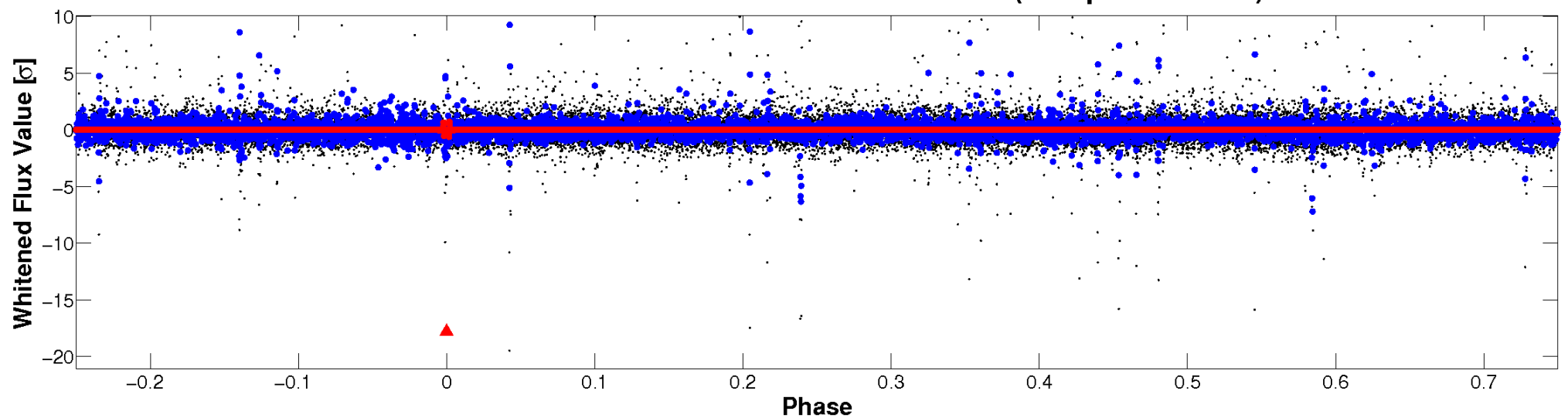


# Non-Whitened Vs. Whitened Light Curve

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

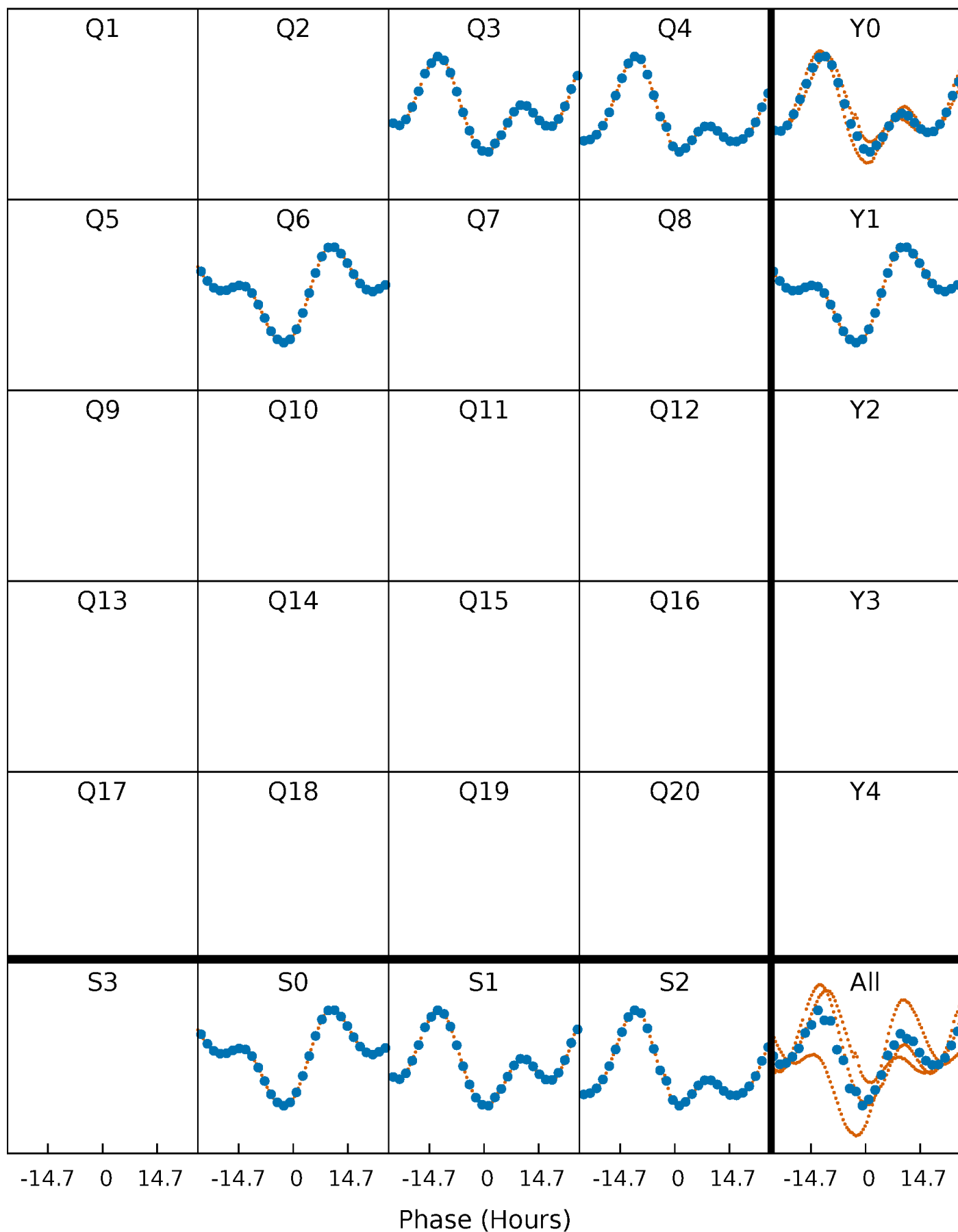


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

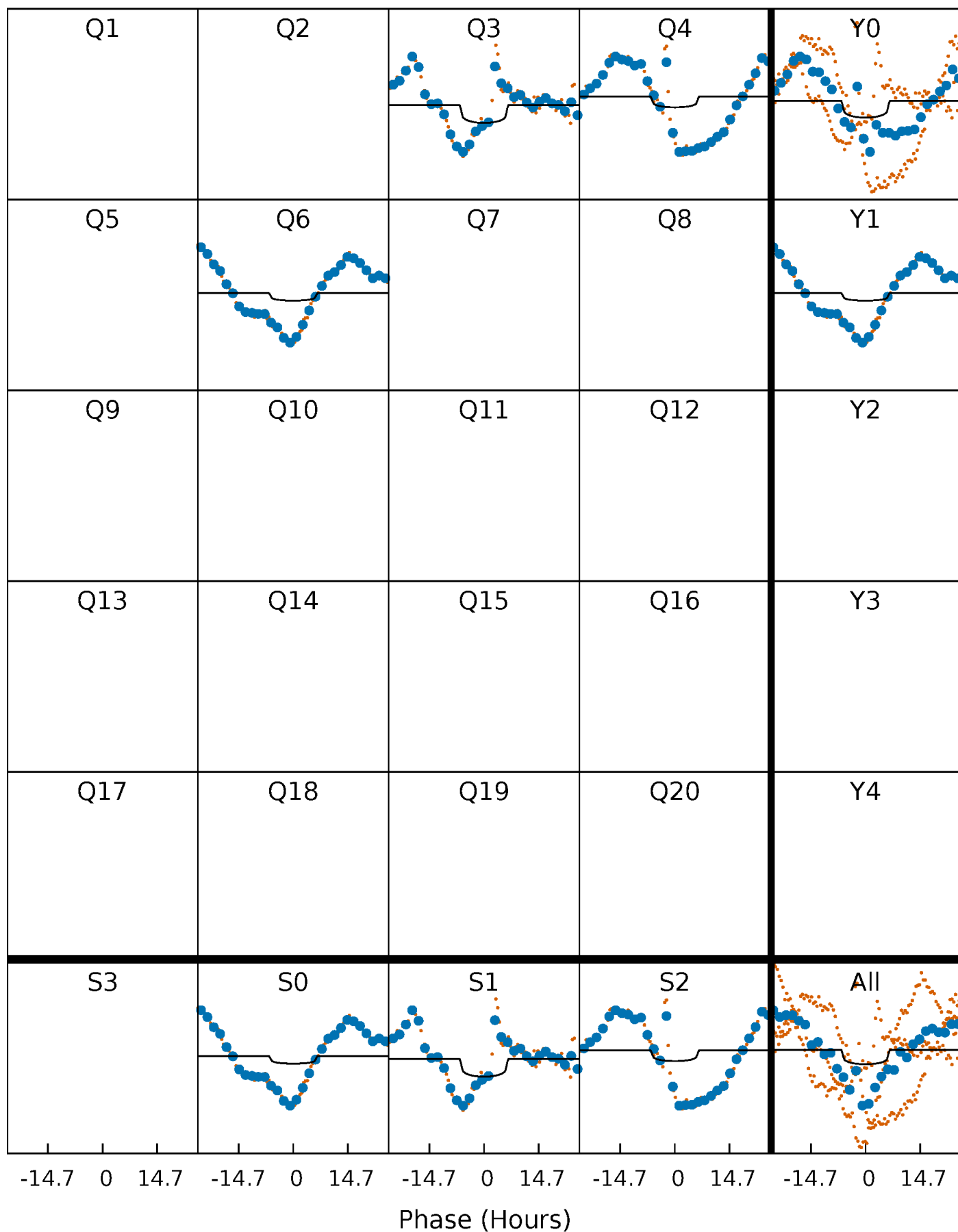
TCE 008283796-01 P=138.660221 Days  $T_0=265.139341$  (BKJD)





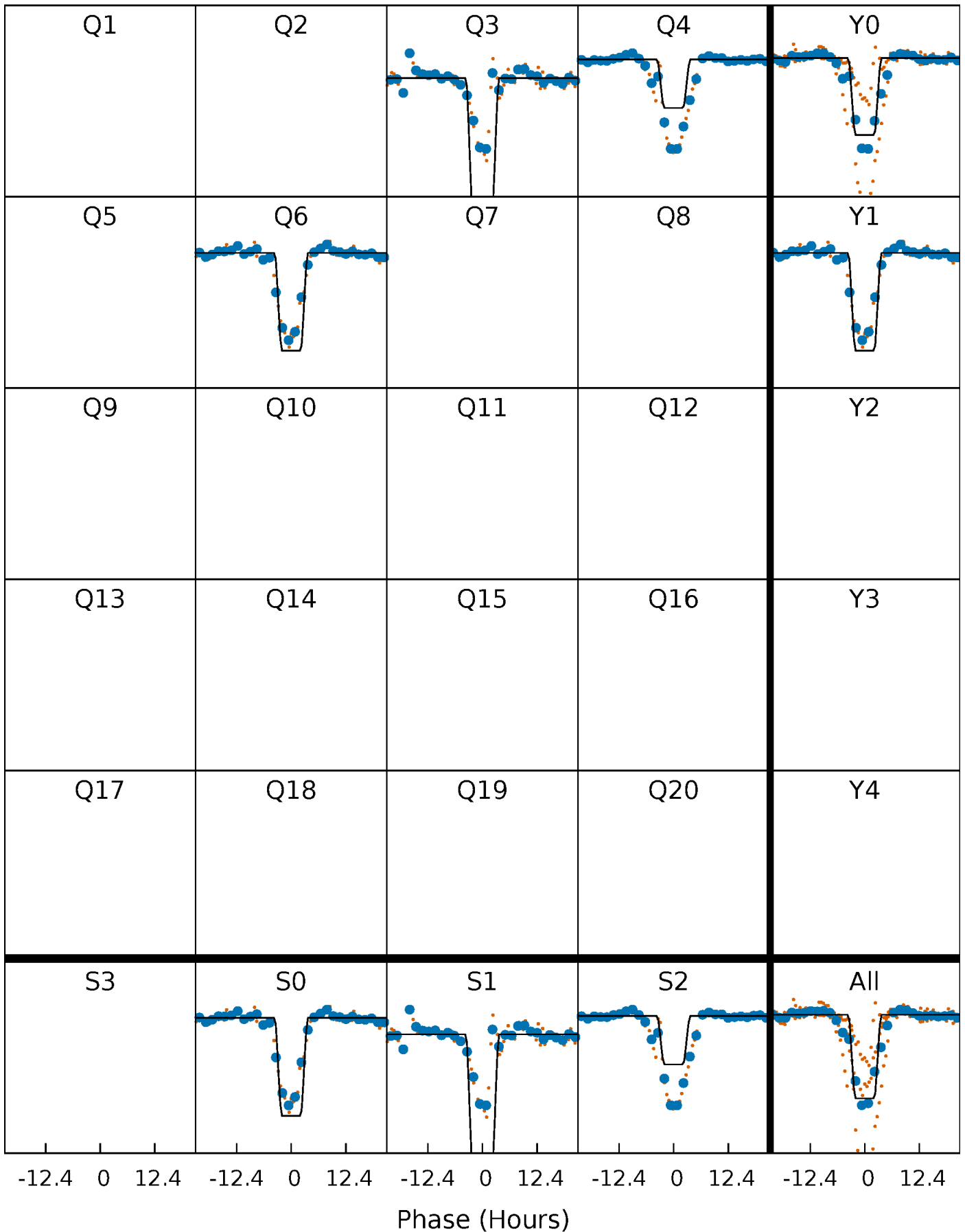
# DV Quarter-Phased Transit Curves

TCE 008283796-01 P=138.660221 Days  $T_0=265.139341$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

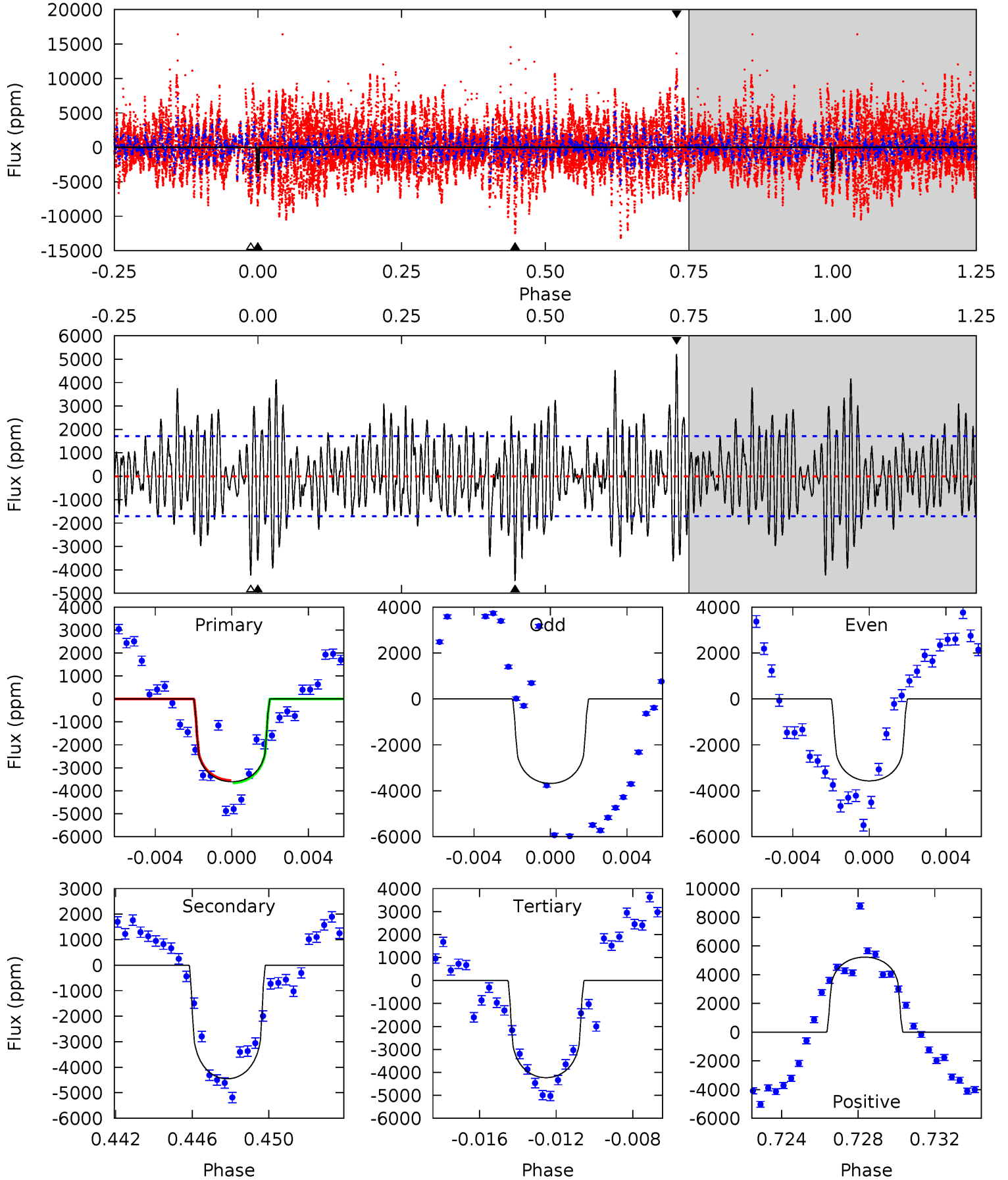
TCE 008283796-01 P=138.662263 Days  $T_0=265.170517$  (BKJD)



# DV Model-Shift Uniqueness Test

008283796-01, P = 138.660221 Days, E = 126.479120 Days

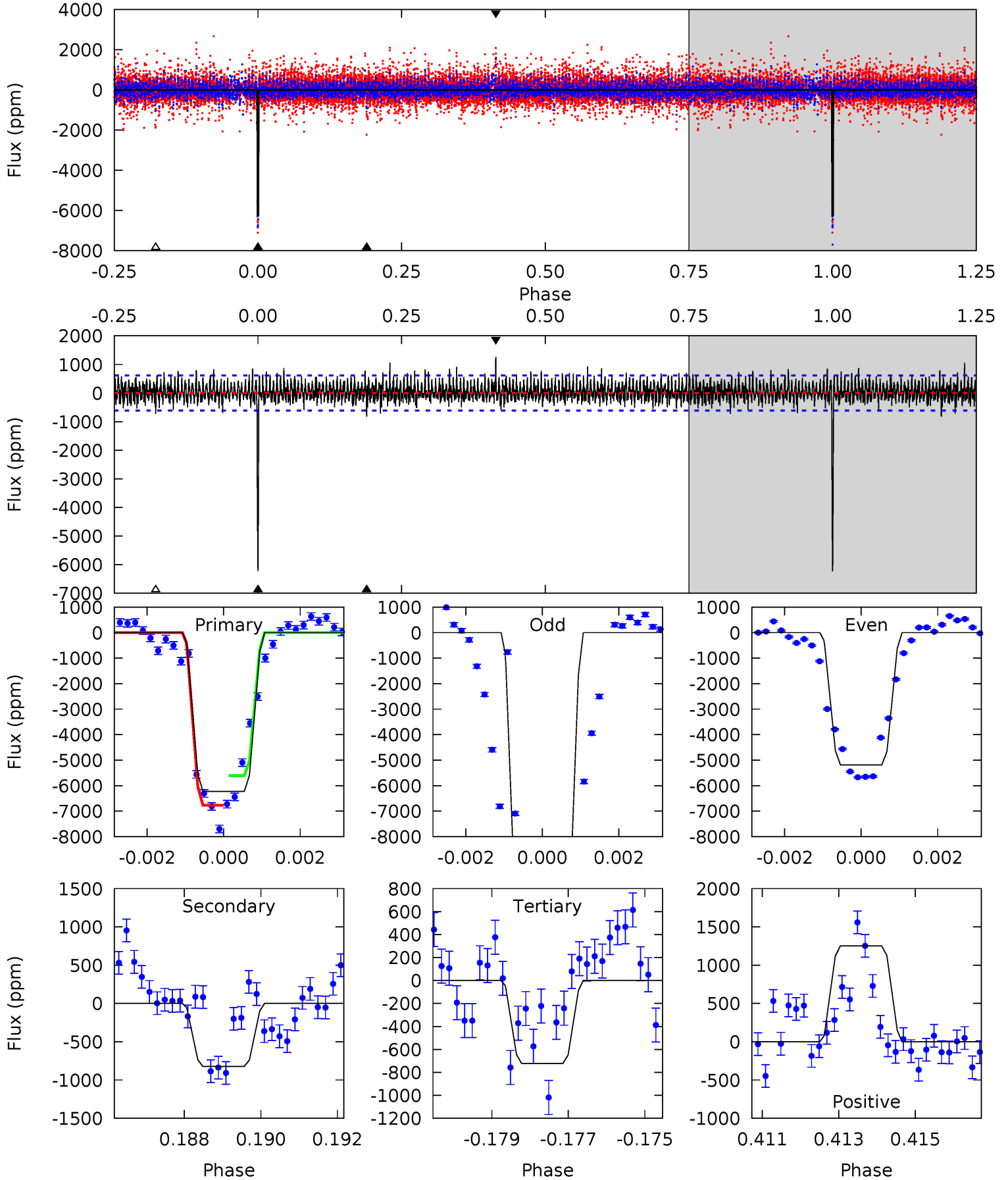
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	13.5	12.9	15.9	5.20	2.88	4.10	-1.90	-4.93	0.67	-2.36	0.15	0.98	0.54	0.16



# Alt Model-Shift Uniqueness Test

008283796-01, P = 138.662263 Days, E = 126.508254 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
53.9	7.13	6.25	10.8	5.31	3.06	2.07	47.6	43.0	0.88	-3.71	52.4	1.20	0.17	5.02



### Stellar Parameters For KIC 008283796

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5835^{+177}_{-159}$	$4.057^{+0.448}_{-0.192}$	$-0.560^{+0.350}_{-0.250}$	$1.417^{+0.465}_{-0.569}$	$0.836^{+0.114}_{-0.070}$	$0.413^{+1.564}_{-0.197}$
	+3%/-3%	+11%/-5%	+62%/-45%	+33%/-40%	+14%/-8%	+378%/-48%
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 008283796-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-4452 \pm 329$	$4.74^{+2.50}_{-2.15}$	$595^{+60}_{-70}$	$8672^{+4542}_{-1706}$	$27169^{+61311}_{-15826}$
Alt.	$-824 \pm 116$	$13.06^{+3.97}_{-3.20}$	$596^{+58}_{-68}$	$3719^{+260}_{-218}$	$651^{+523}_{-264}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

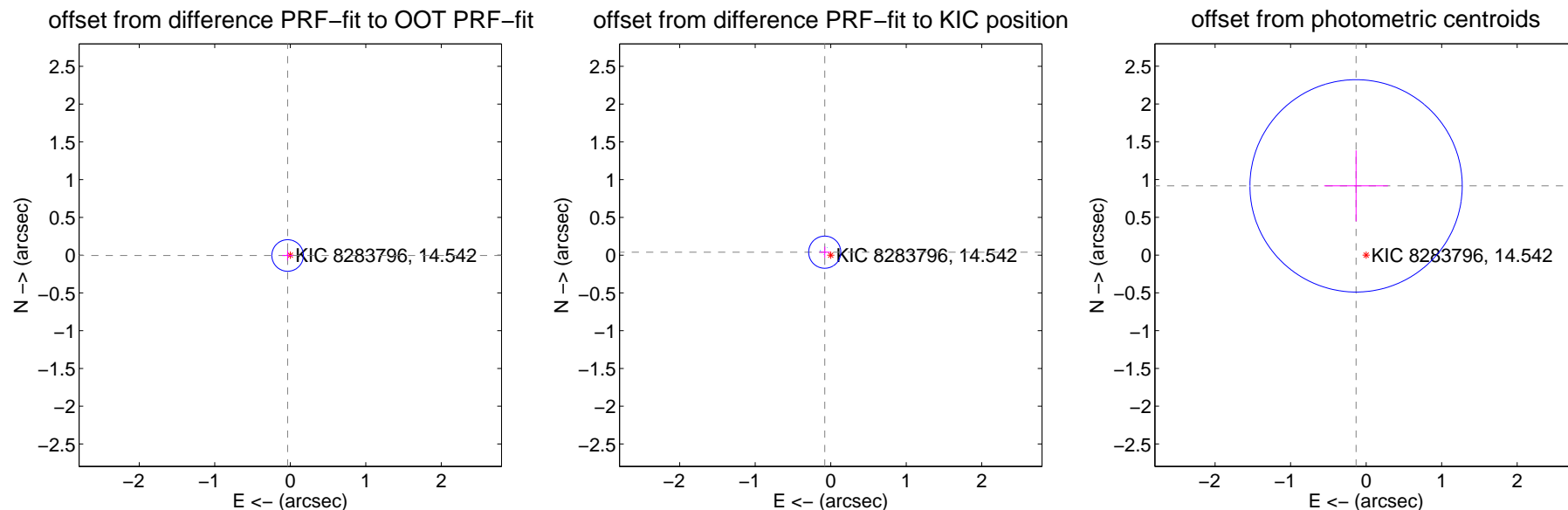
## DV Centroid Data

Supplemental centroid analysis for 008283796-01. Kepler magnitude: 14.54. Transit SNR 3.17

There are 3 quarters with good PRF difference image offsets

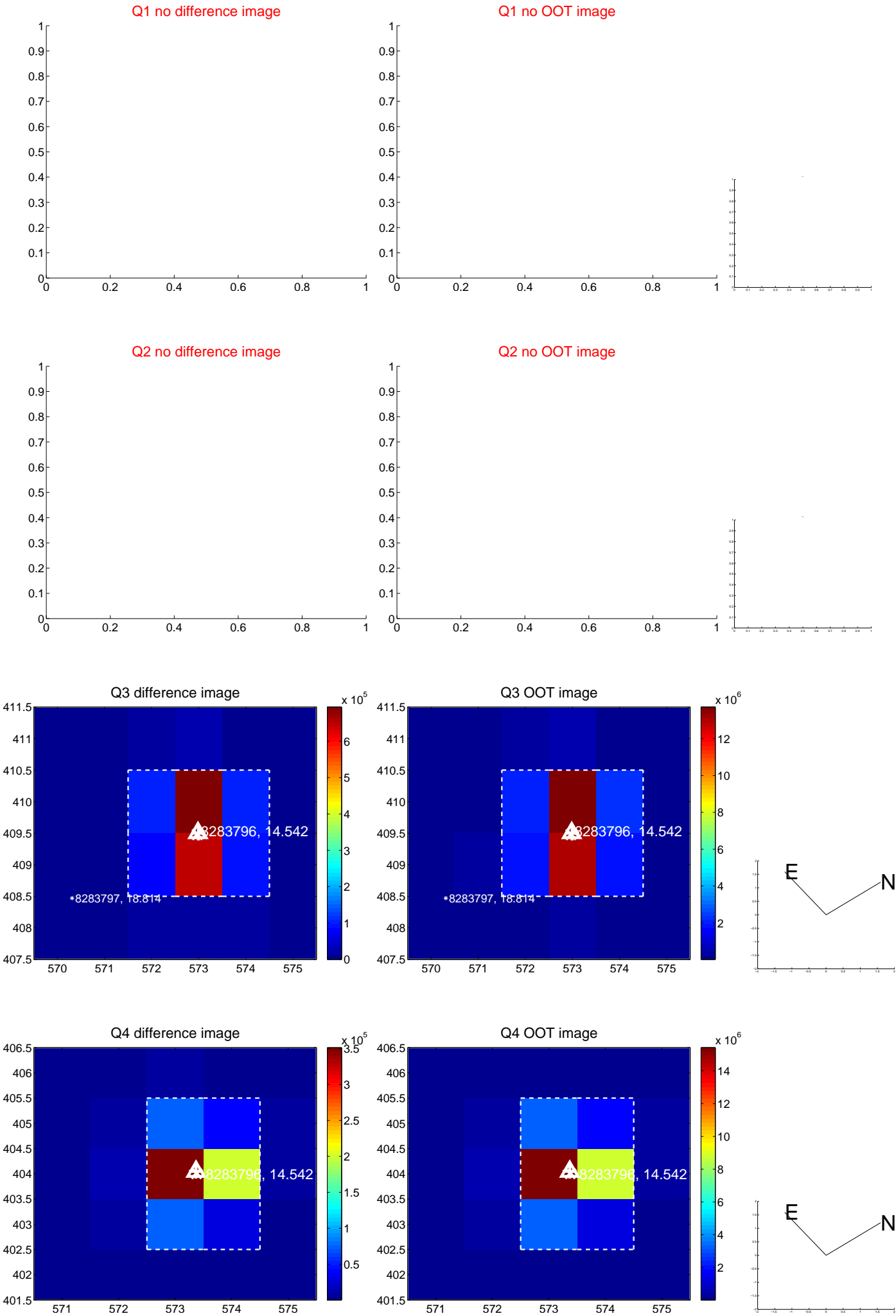
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.035 \pm 0.070$	0.51	$0.035 \pm 0.070$	$-0.004 \pm 0.067$
PRF-fit source offset from KIC position	$0.088 \pm 0.071$	1.25	$0.079 \pm 0.070$	$0.039 \pm 0.074$
photometric centroid source offset	$0.93 \pm 0.47$	1.98	$0.13 \pm 0.42$	$0.92 \pm 0.47$

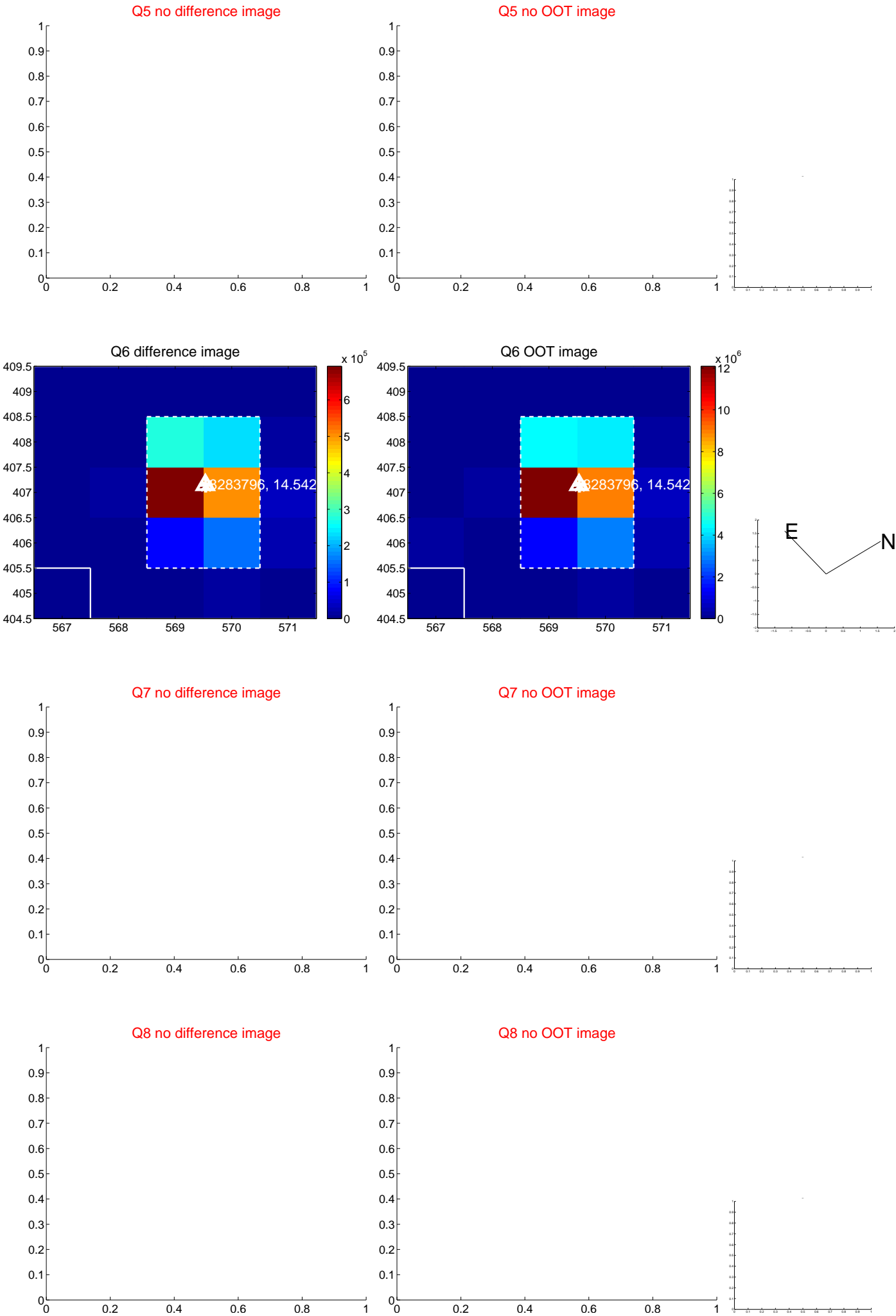


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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





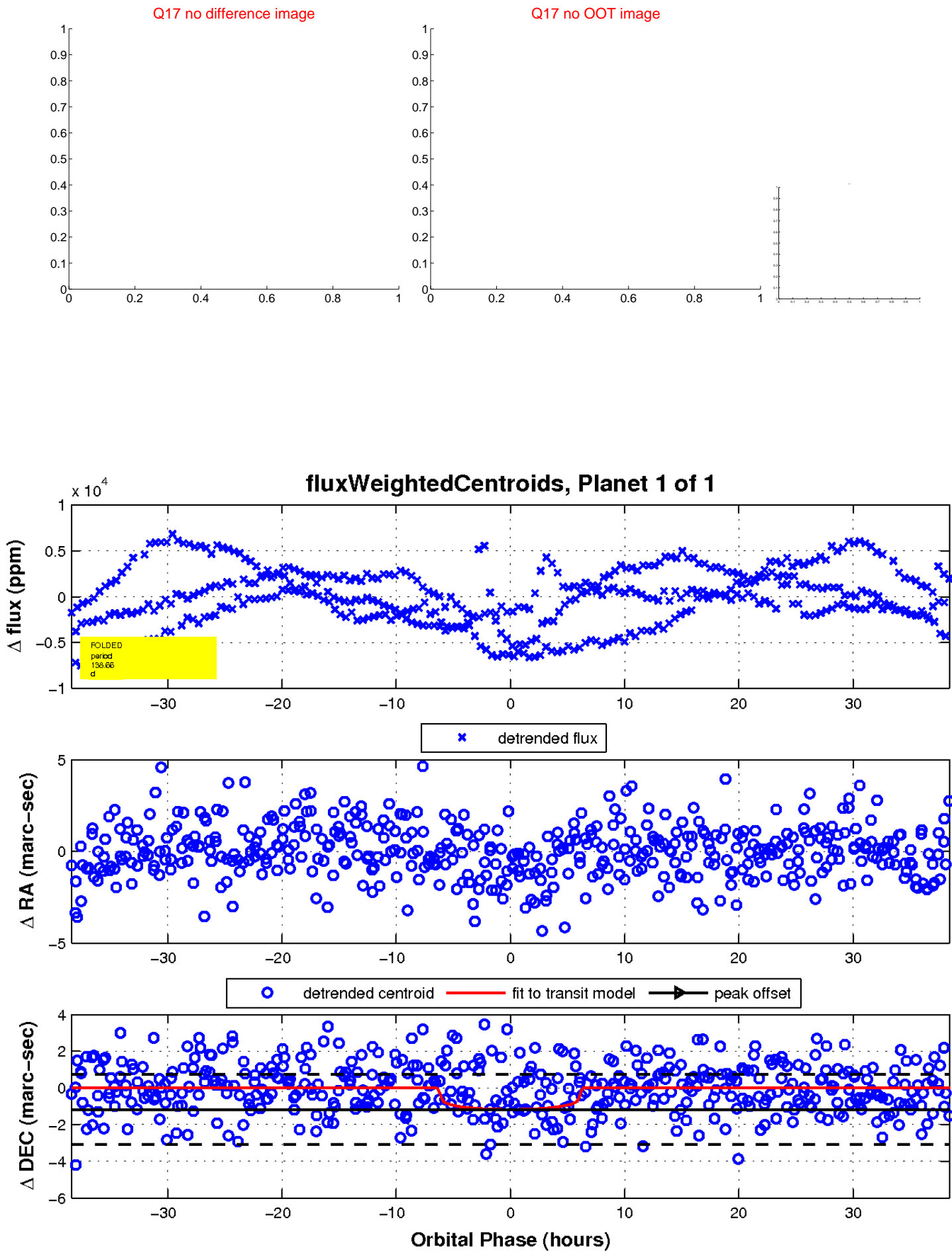
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



# UKIRT Image

Declination

