

# KIC 008480235

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008480235-01	OBS	No	578.633856	336.810008	413.6	10.850	9.2	9.7	0.93	6032	1.95	0.55

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008480235-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—ALL_TRANS_CHASES—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.

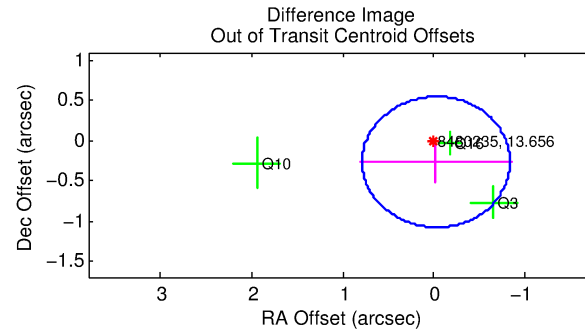
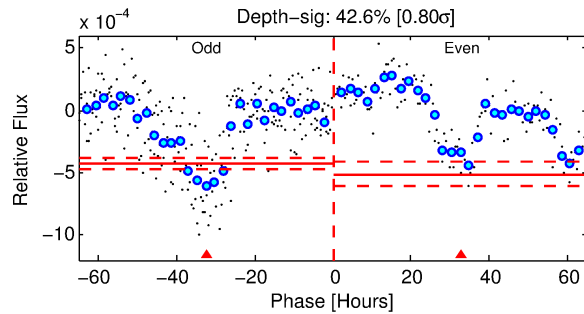
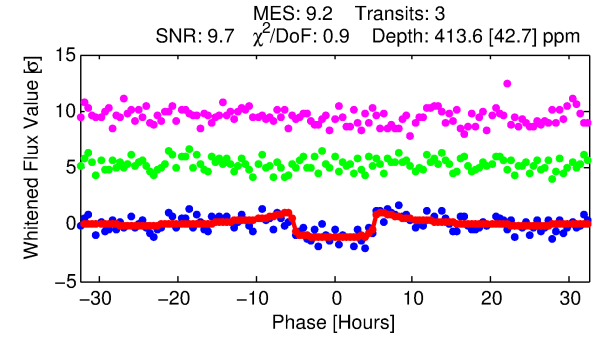
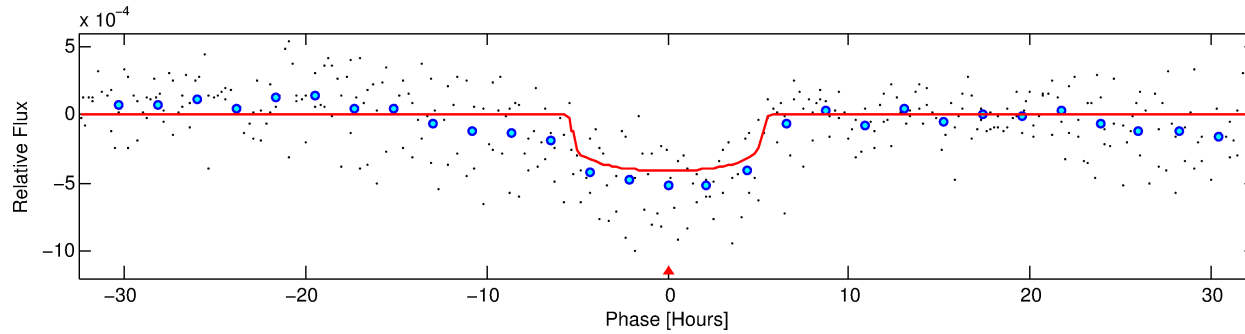
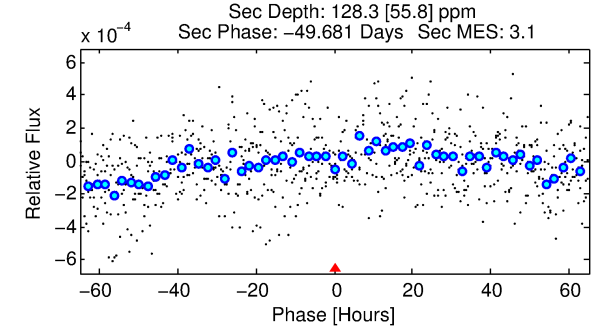
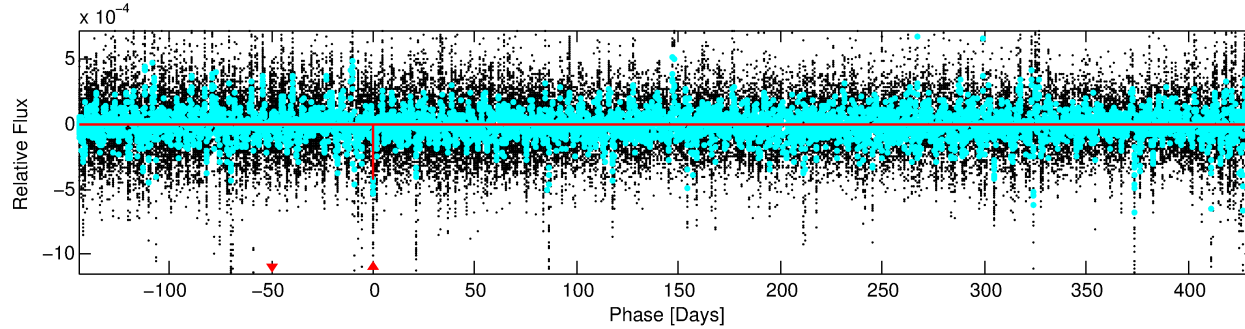
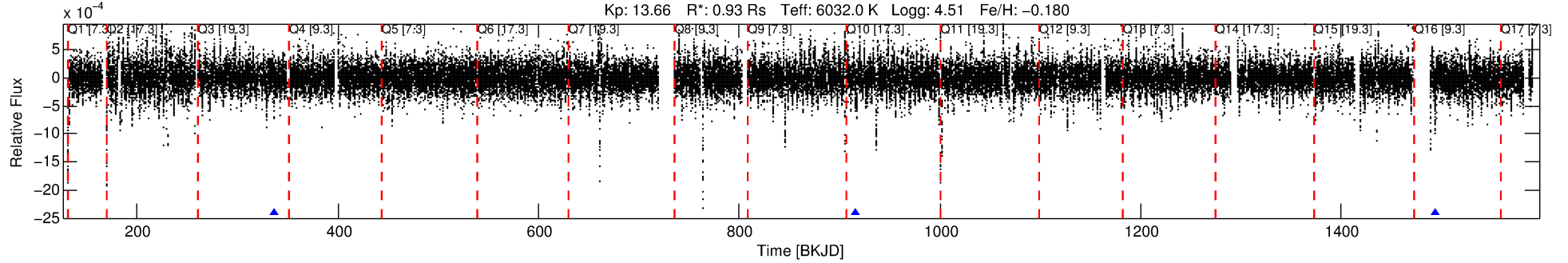
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008480235-01

No Significant Match Found

# DV One-Page Summary

KIC: 8480235 Candidate: 1 of 1 Period: 578.634 d



## DV Fit Results:

Period = 578.63386 [0.00729] d  
Epoch = 336.8100 [0.0091] BKJD  
Rp/R\* = 0.0192 [0.0101]  
a/R\* = 355.60 [890.42]  
b = 0.53 [3.46]  
Seff = 0.55 [0.21]  
Teq = 219 [21] K  
Rp = 1.95 [1.17] Re  
a = 1.3656 [0.3455] AU  
Ag = 34700.39 [41437.66] [0.84σ]  
Teffp = 4632 [1322] K [3.34σ]

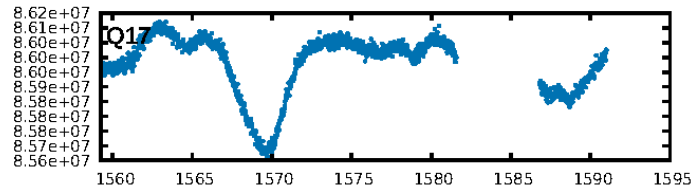
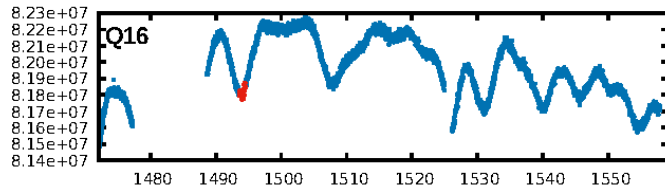
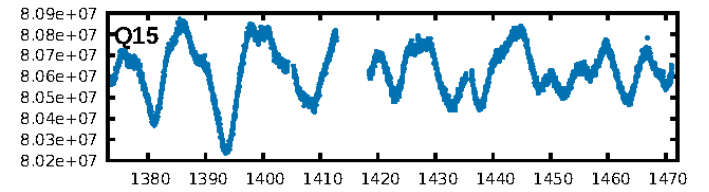
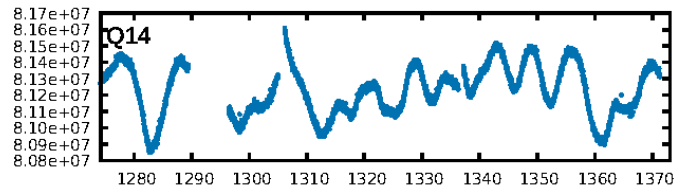
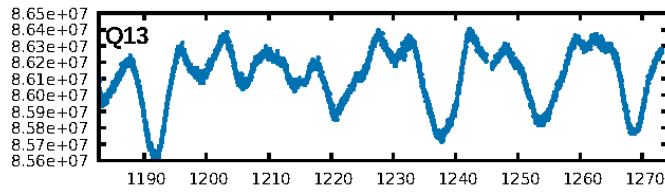
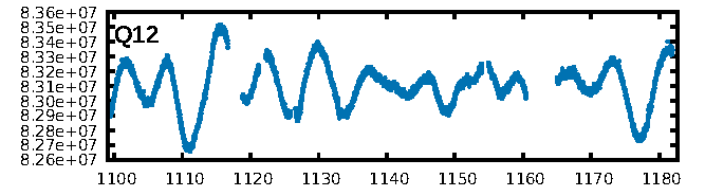
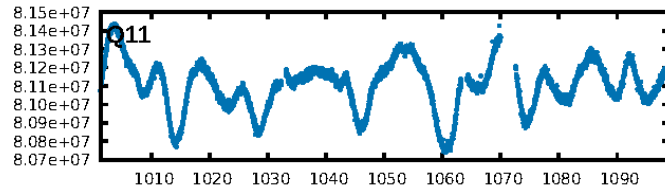
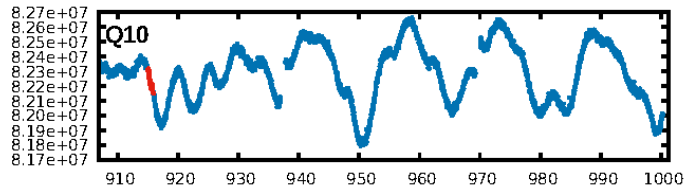
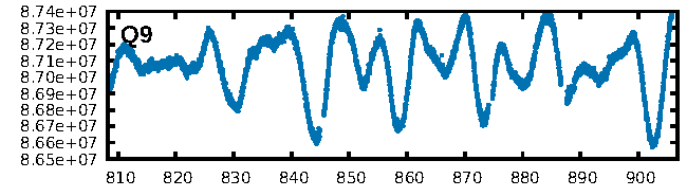
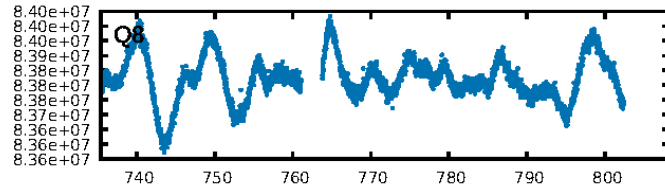
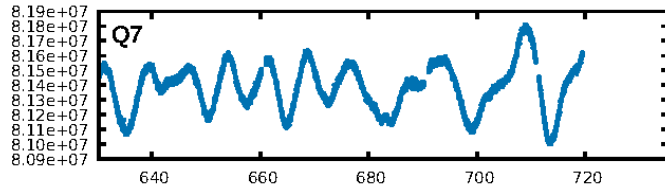
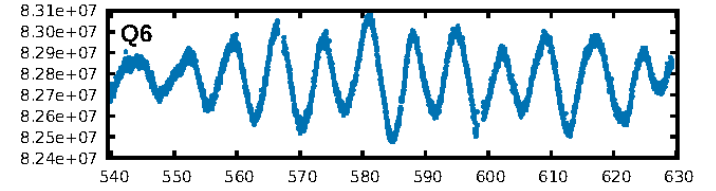
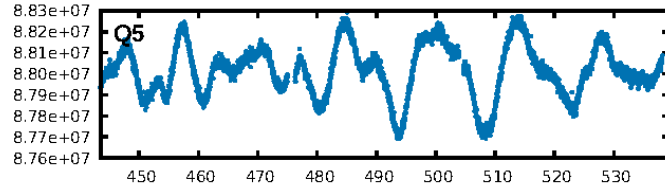
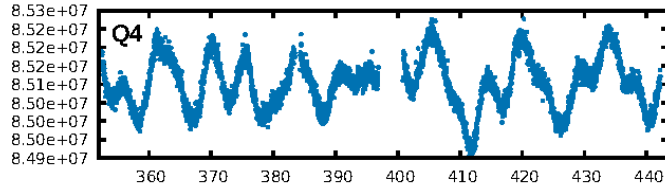
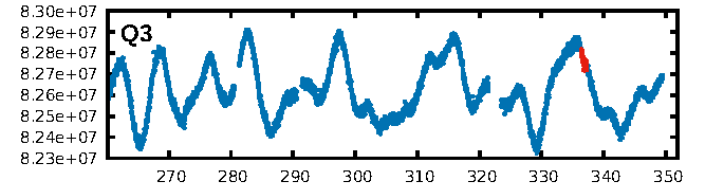
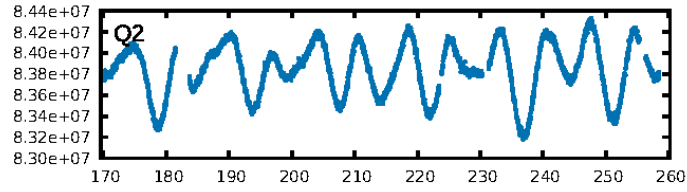
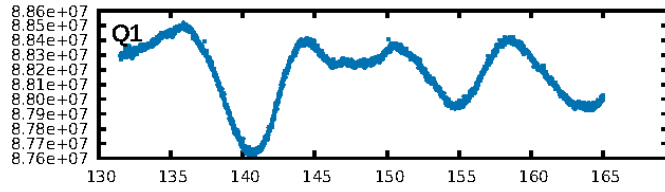
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 22.5%  
ModelChiSquareGof-sig: 98.9%  
**Bootstrap-pfa: 1.09e-07**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.4938  
Centroid-sig: 31.6%  
Centroid-so: 0.682 arcsec [1.10σ]  
OotOffset-rm: 0.268 arcsec [0.99σ]  
OotOffset-st: 1/1/1/0 [3]  
KicOffset-rm: 0.096 arcsec [0.27σ]  
KicOffset-st: 1/1/1/0 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

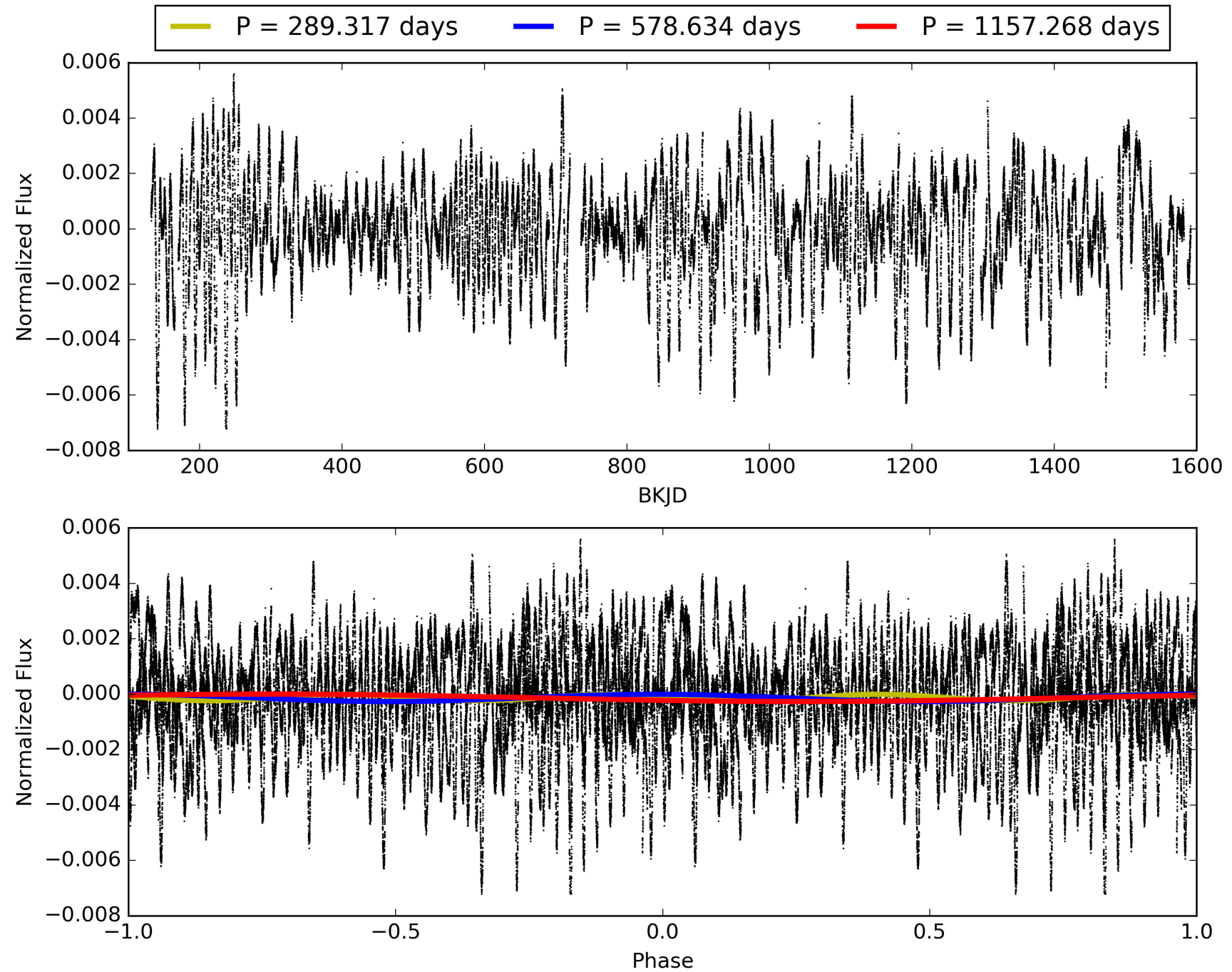
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:24:19 Z

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

# TCE 008480235-01, PDC Light Curves

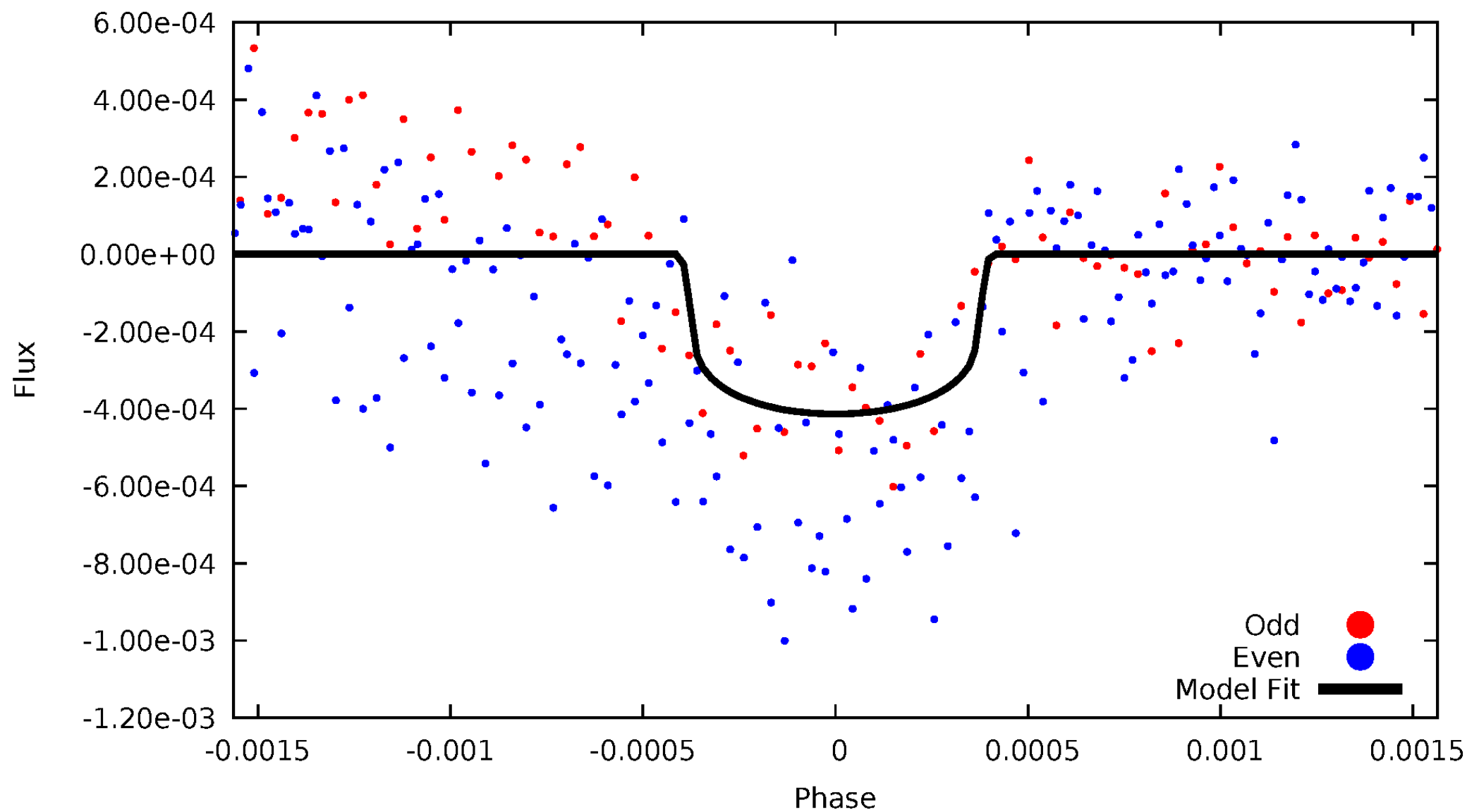


TCE 008480235-01



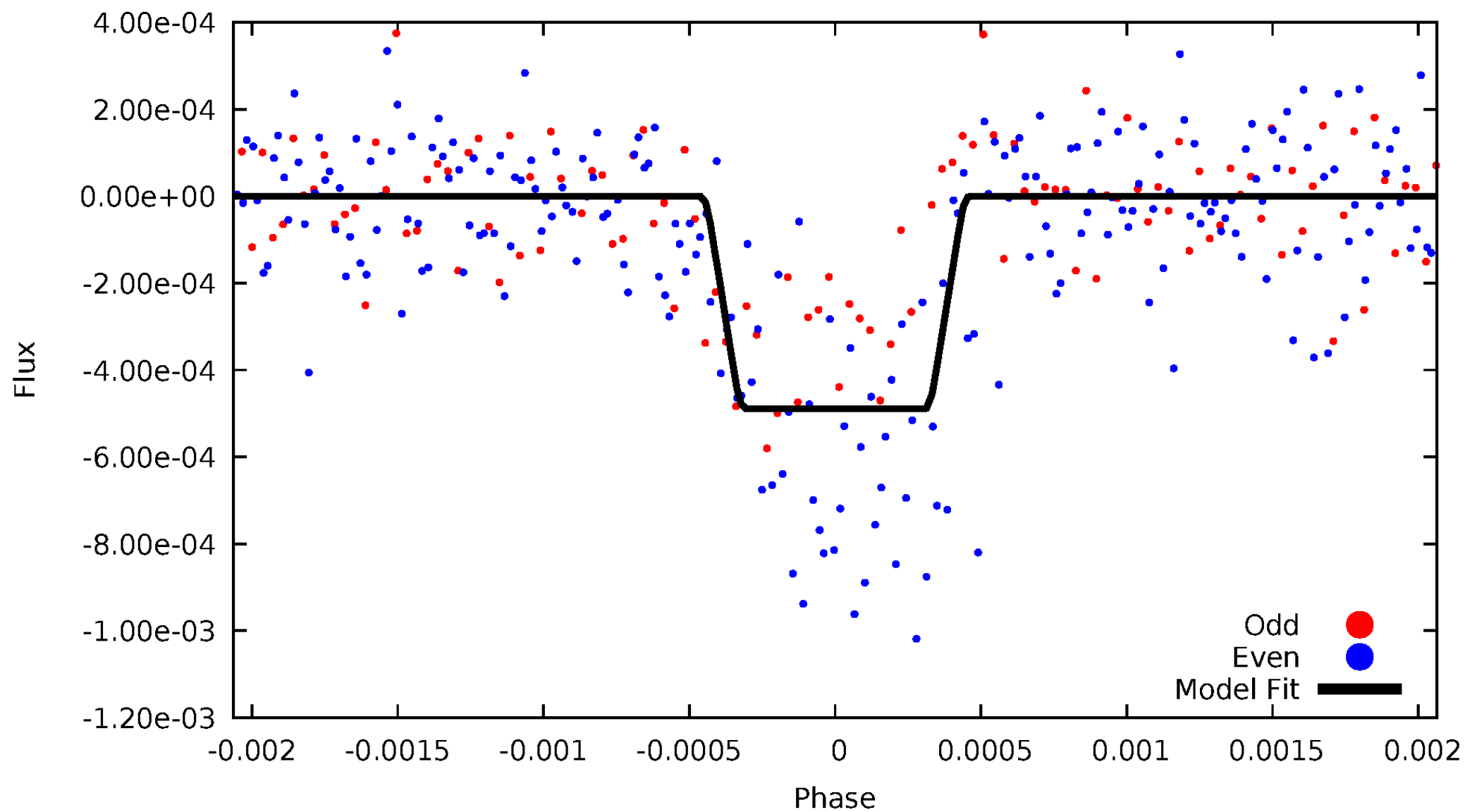
# DV Odd/Even

TCE 008480235-01



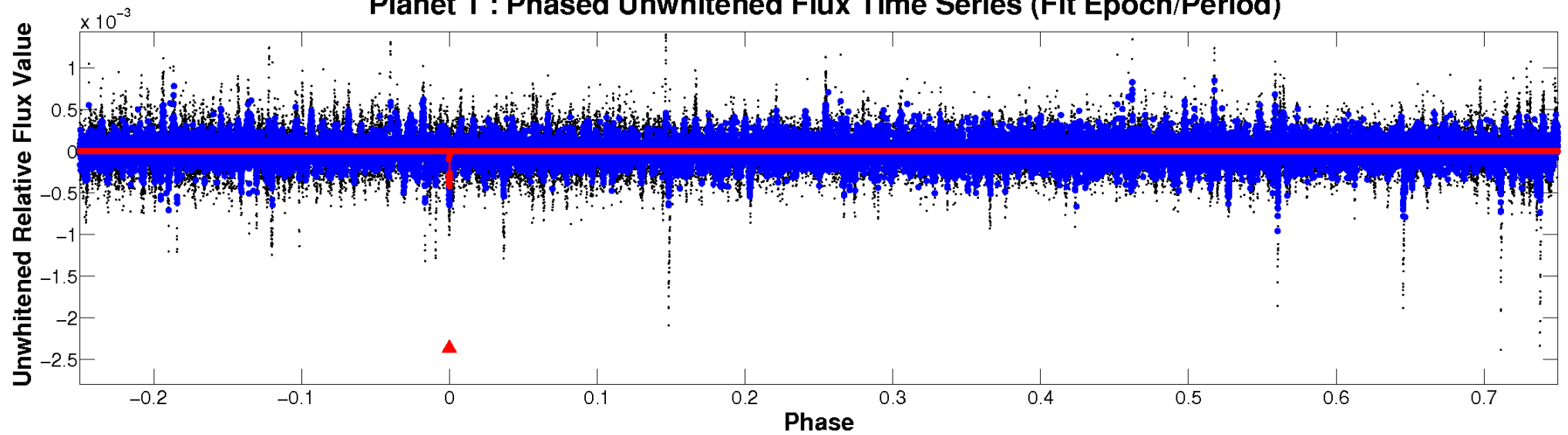
# ALT Odd/Even

TCE 008480235-01

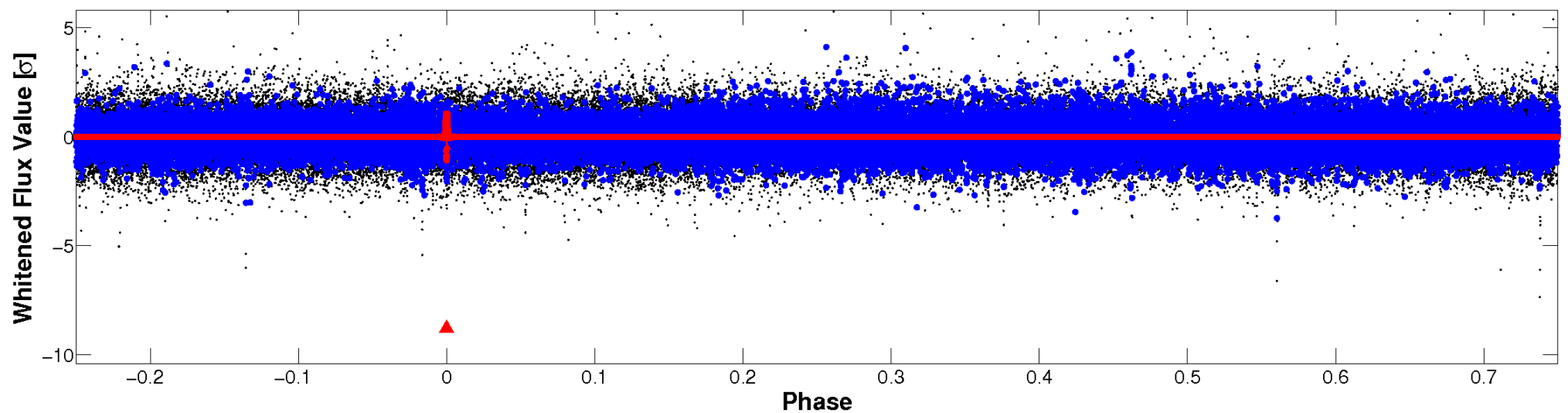


# Non-Whitened Vs. Whitened Light Curve

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

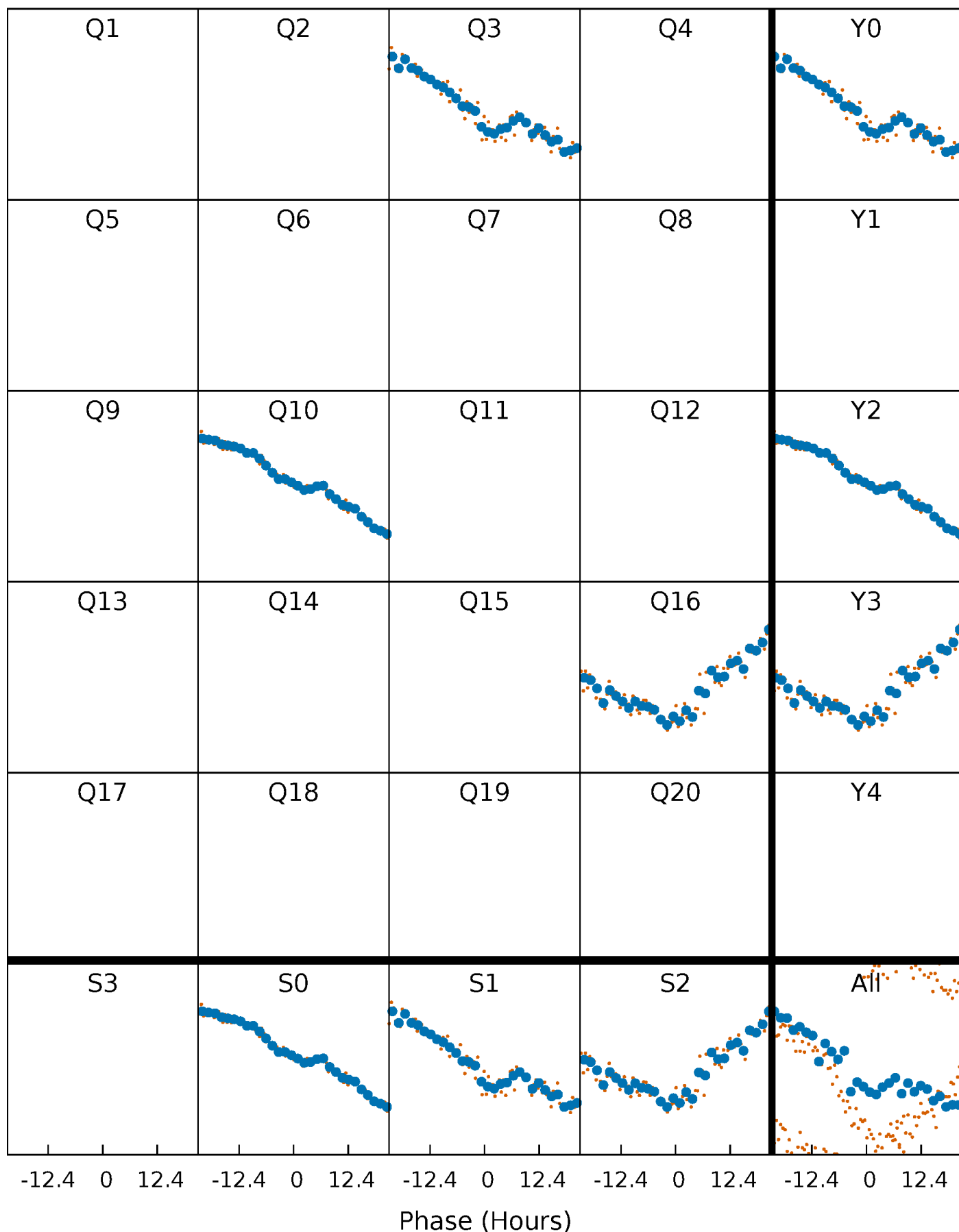


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

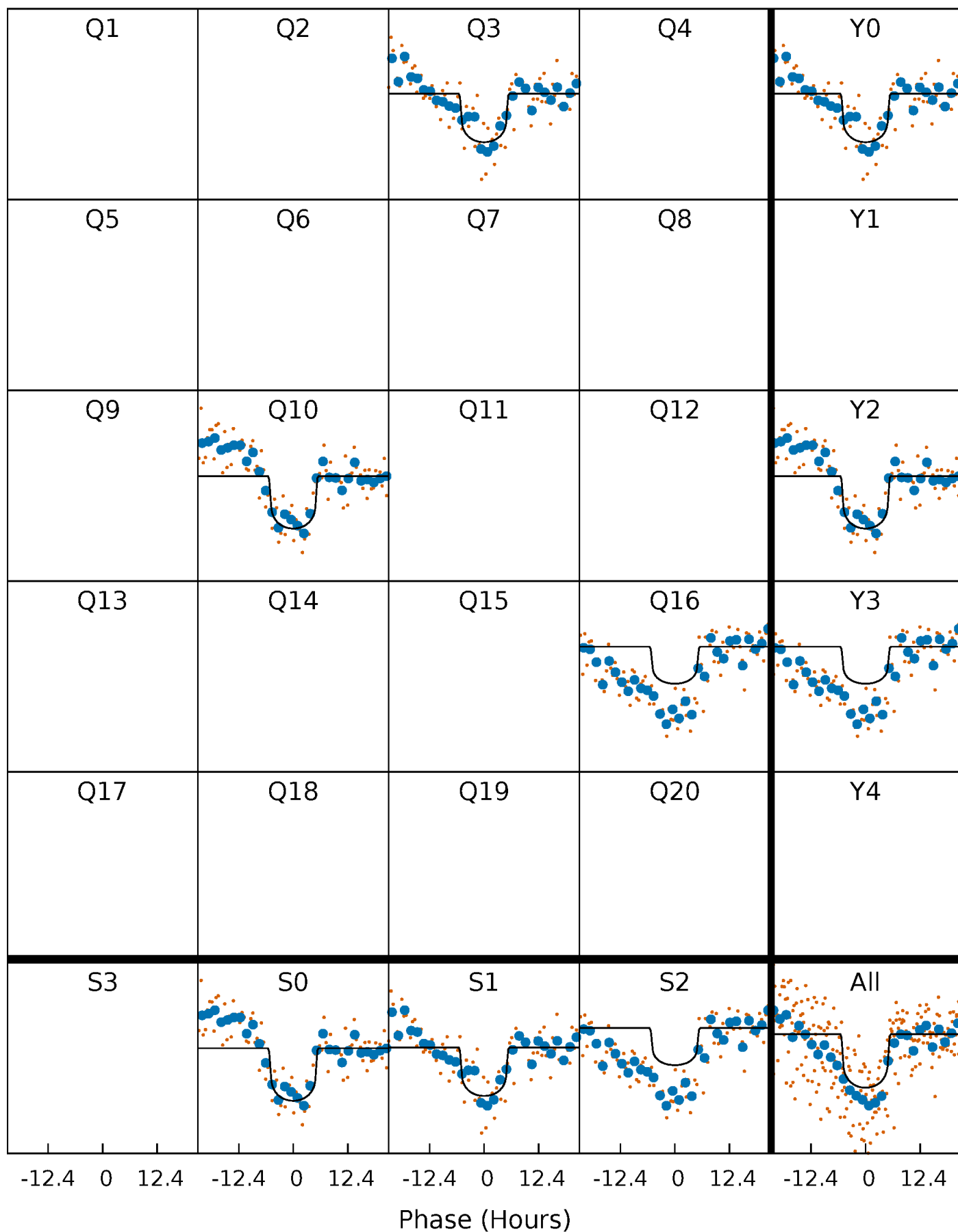
TCE 008480235-01 P=578.633856 Days  $T_0=336.810008$  (BKJD)





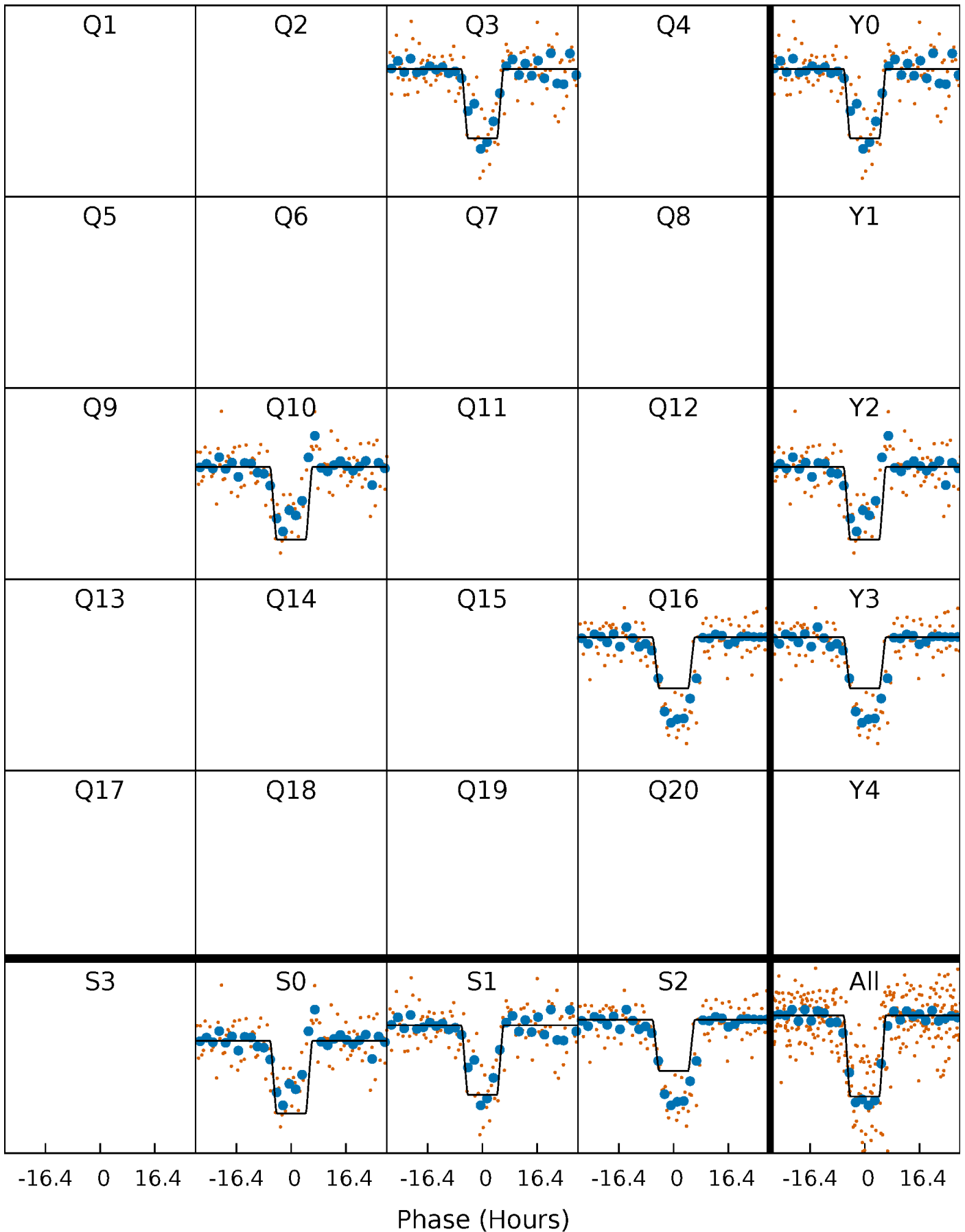
# DV Quarter-Phased Transit Curves

TCE 008480235-01 P=578.633856 Days  $T_0=336.810008$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

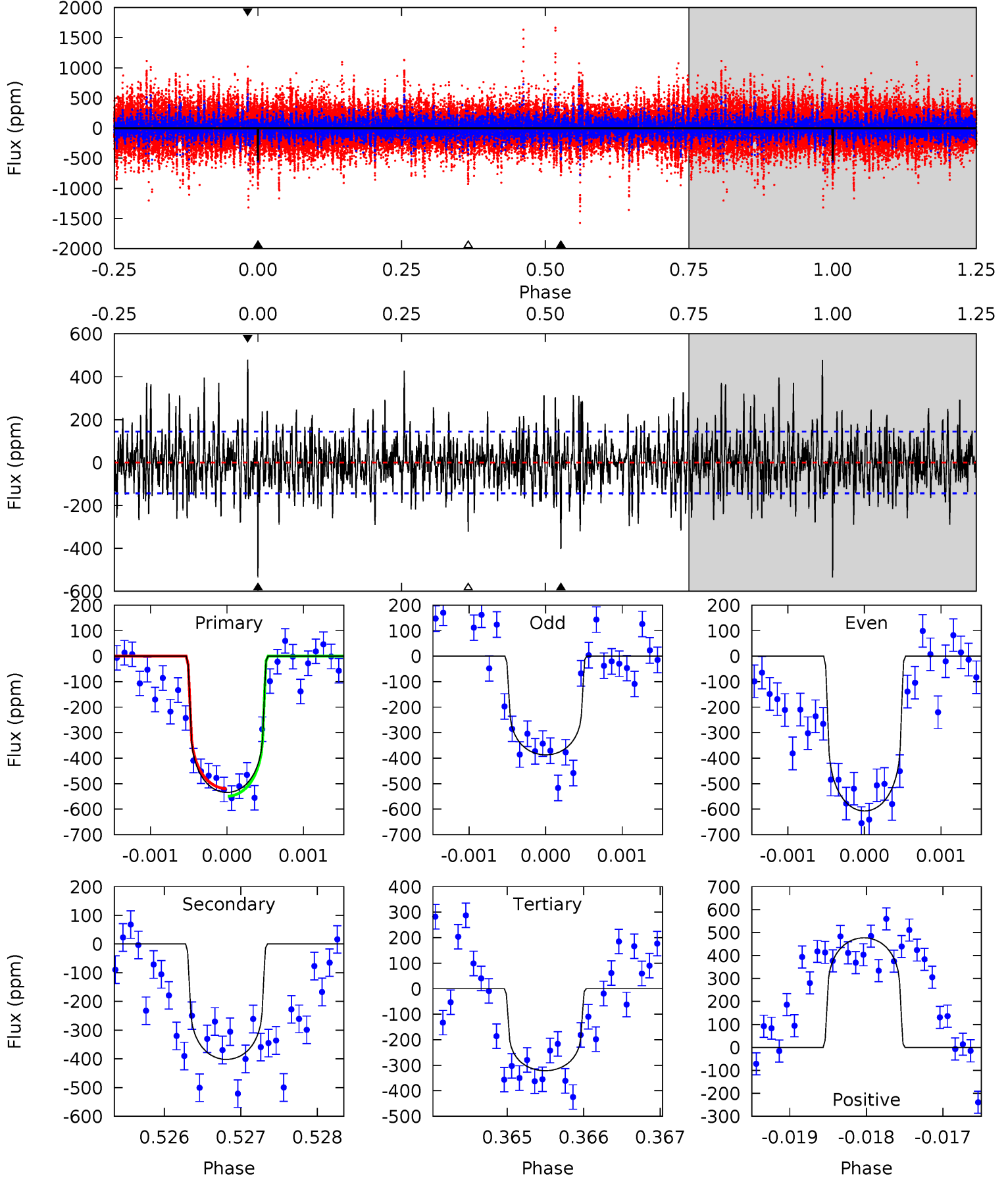
TCE 008480235-01 P=578.623930 Days  $T_0=336.816975$  (BKJD)



# DV Model-Shift Uniqueness Test

008480235-01, P = 578.633856 Days, E = 336.810008 Days

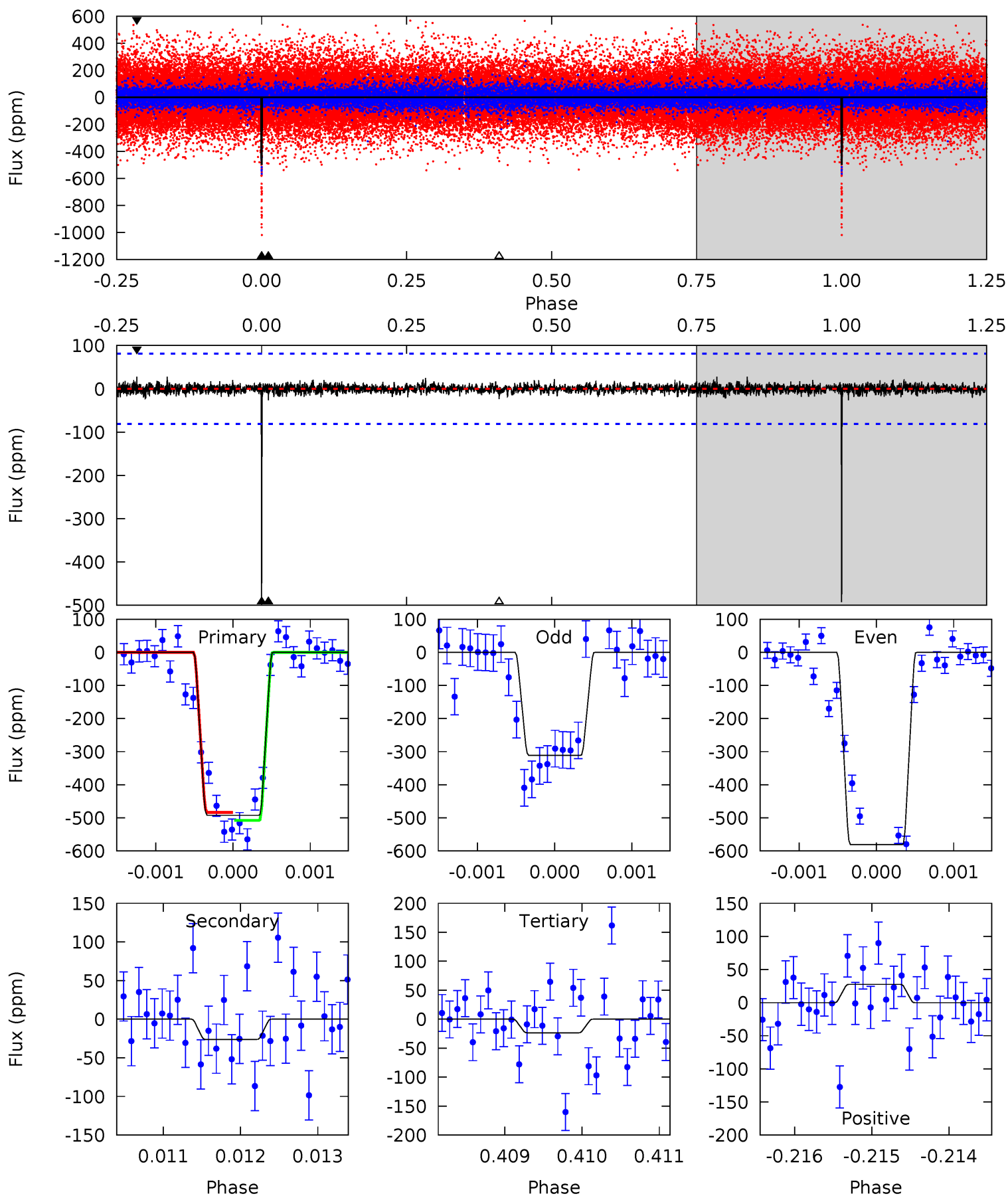
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.4	15.4	12.3	18.2	5.50	3.36	3.79	8.15	2.20	3.08	-2.87	3.79	1.32	0.47	0.57



# Alt Model-Shift Uniqueness Test

008480235-01, P = 578.623930 Days, E = 336.816975 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
33.2	1.77	1.58	1.86	5.47	3.32	0.40	31.6	31.4	0.18	-0.10	8.67	1.19	0.05	0.81



### Stellar Parameters For KIC 008480235

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6032^{+162}_{-180}$	$4.508^{+0.048}_{-0.204}$	$-0.180^{+0.300}_{-0.300}$	$0.929^{+0.277}_{-0.092}$	$1.014^{+0.130}_{-0.130}$	$1.783^{+0.365}_{-0.941}$
	+3%/-3%	+1%/-5%	+167%/-167%	+30%/-10%	+13%/-13%	+20%/-53%
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 008480235-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-402 \pm 26$	$2.12^{+1.14}_{-1.05}$	$313^{+22}_{-14}$	$6075^{+2878}_{-1066}$	$90211^{+259287}_{-52106}$
Alt.	$-26 \pm 15$	$2.36^{+1.07}_{-1.09}$	$313^{+21}_{-15}$	$3379^{+857}_{-437}$	$4618^{+12337}_{-2962}$

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

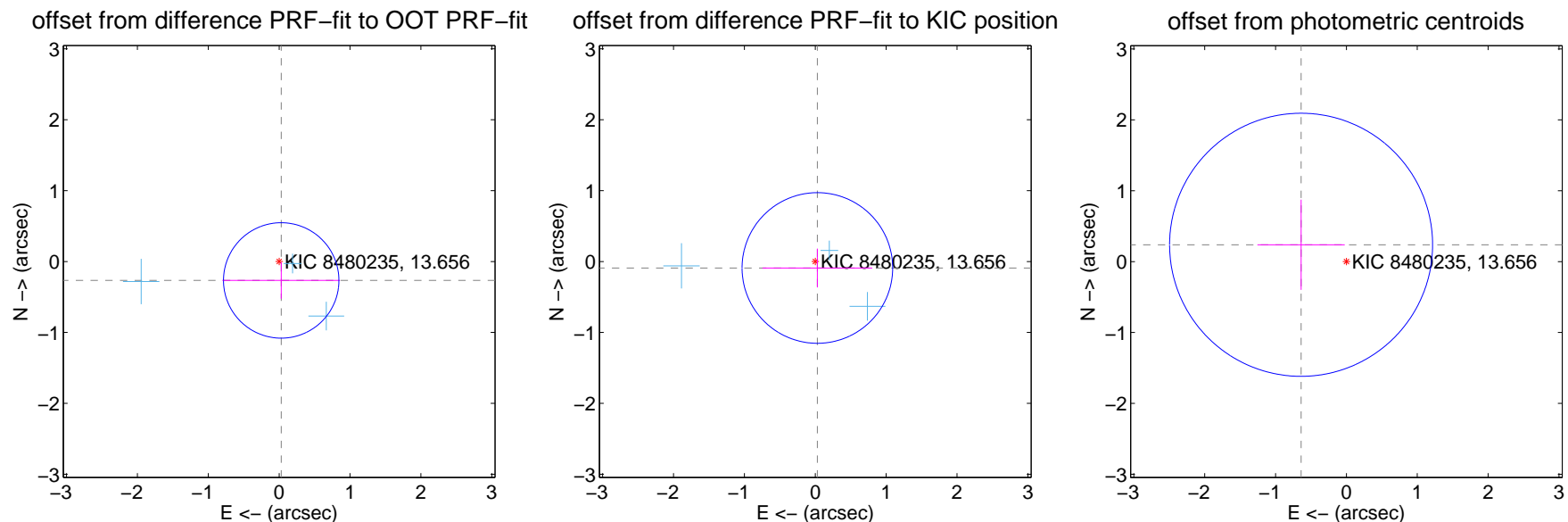
## DV Centroid Data

Supplemental centroid analysis for 008480235-01. Kepler magnitude: 13.66. Transit SNR 9.74

There are 3 quarters with good PRF difference image offsets

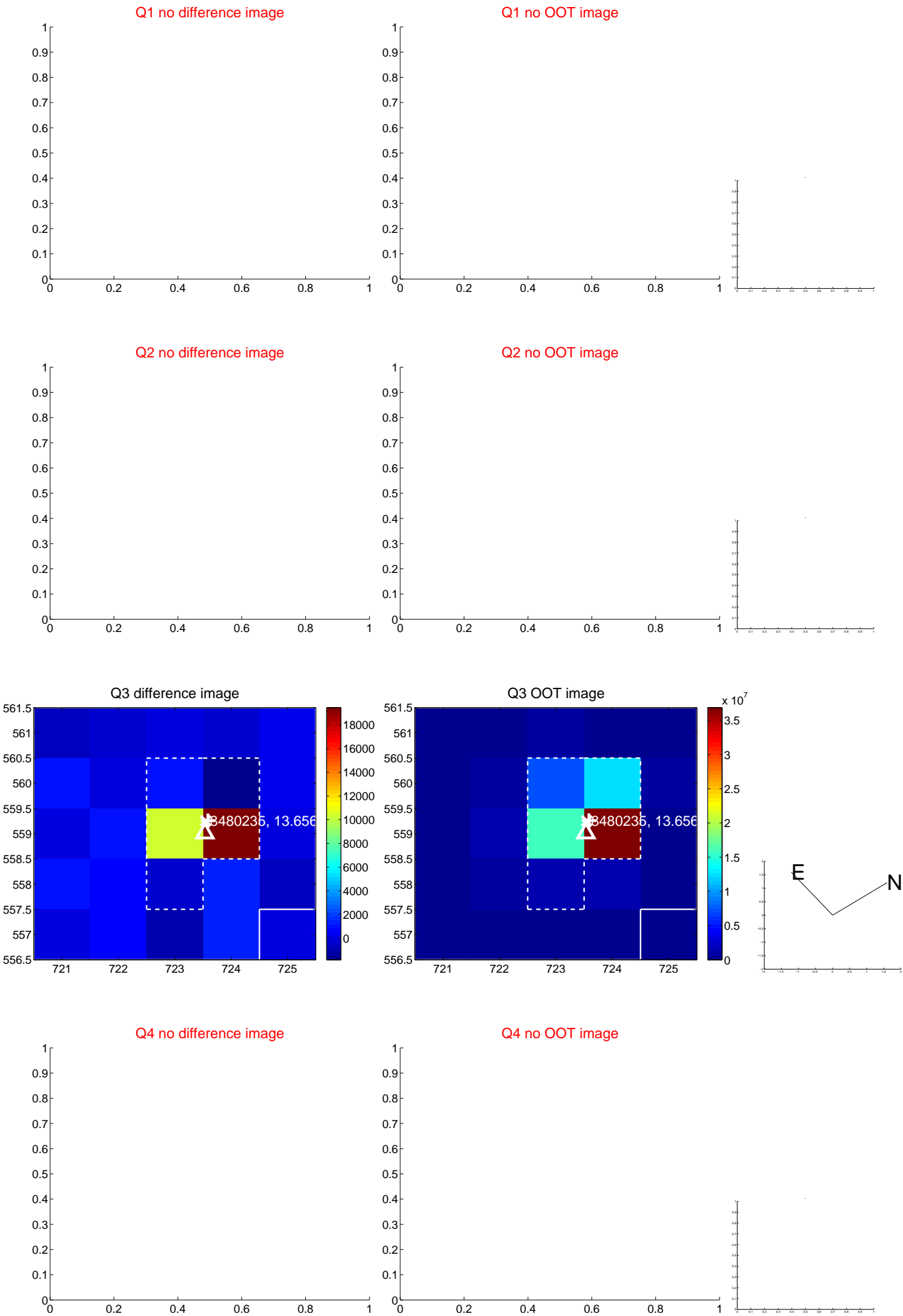
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.268 \pm 0.271$	0.99	$-0.029 \pm 0.829$	$-0.266 \pm 0.257$
PRF-fit source offset from KIC position	$0.096 \pm 0.354$	0.27	$-0.030 \pm 0.774$	$-0.091 \pm 0.274$
photometric centroid source offset	$0.68 \pm 0.62$	1.10	$0.64 \pm 0.62$	$0.24 \pm 0.64$



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.

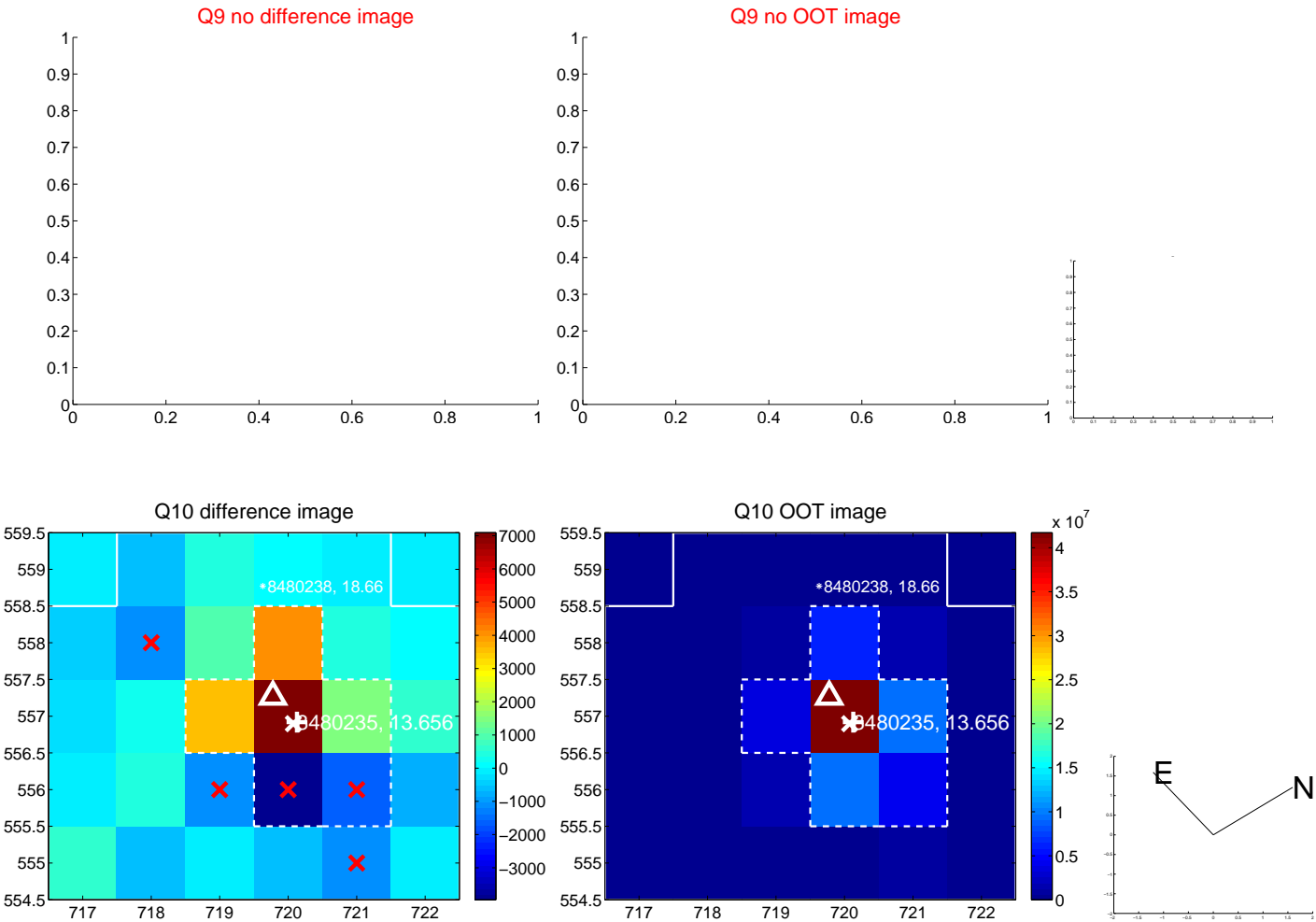


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

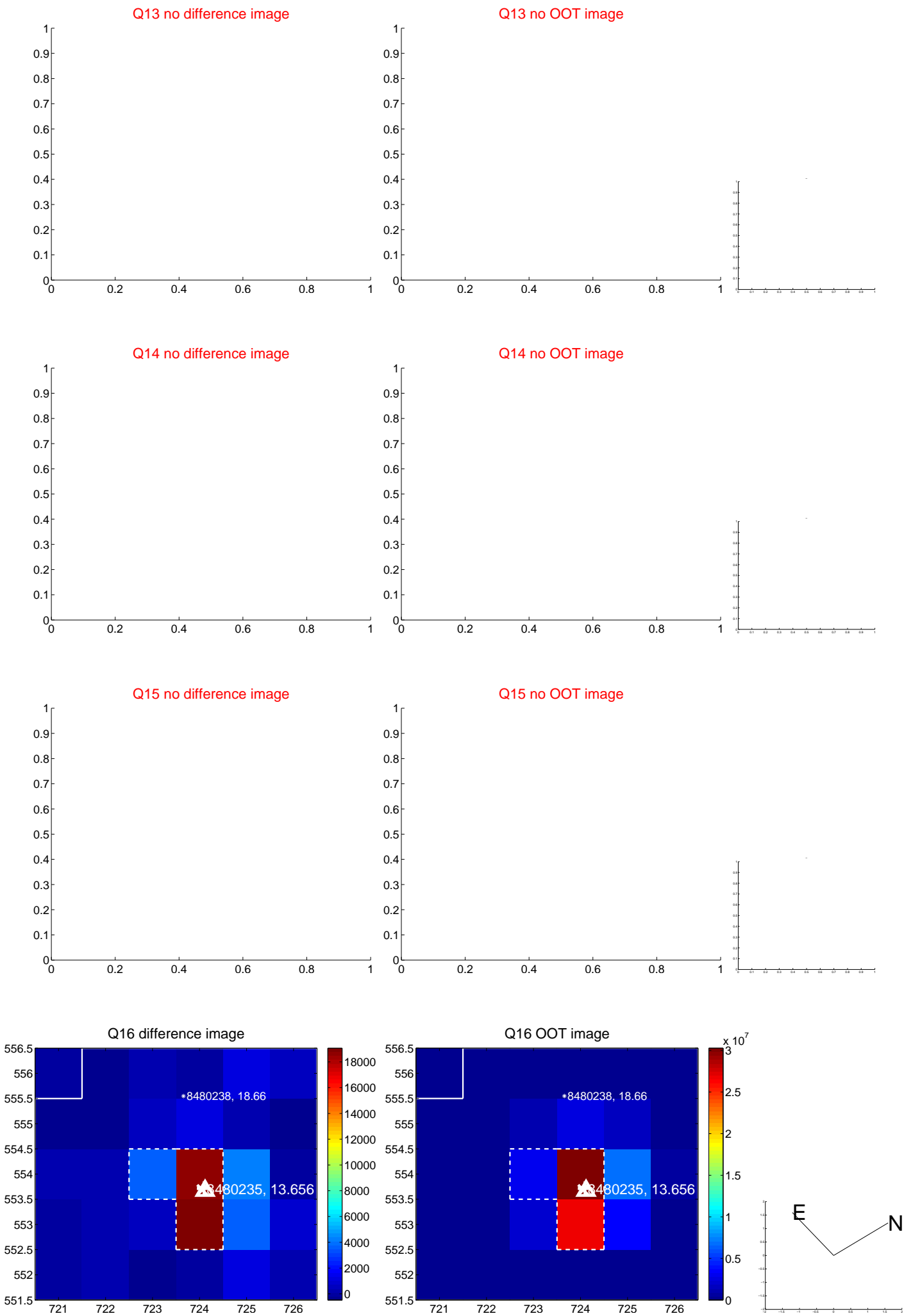




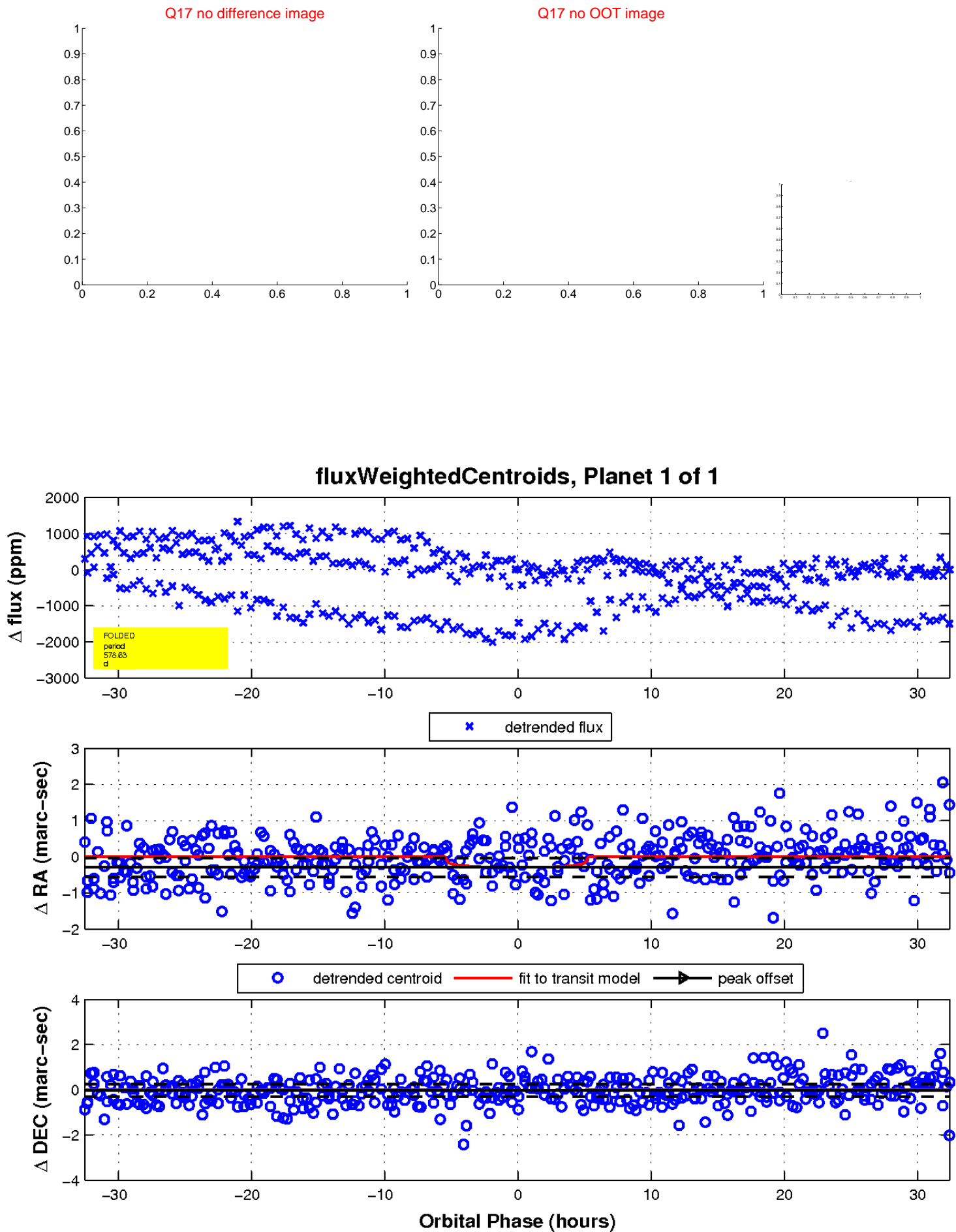
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



# UKIRT Image

Declination

