

# KIC 006865507

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006865507-01	OBS	No	348.070976	396.983631	805.3	8.036	7.5	7.2	0.60	5030	1.77	0.31

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006865507-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—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.

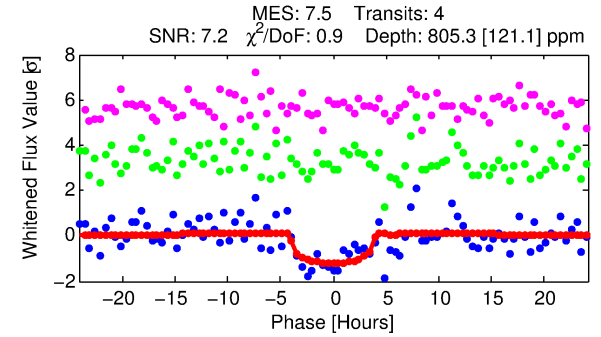
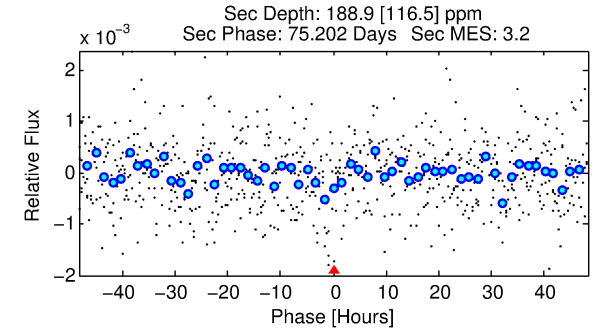
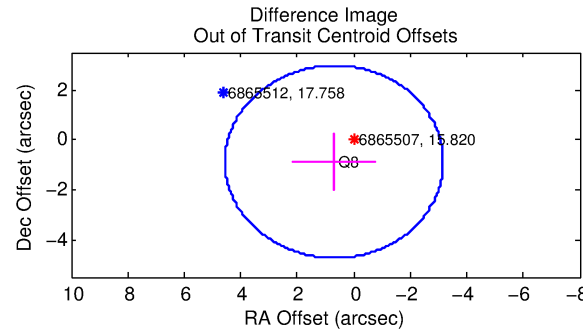
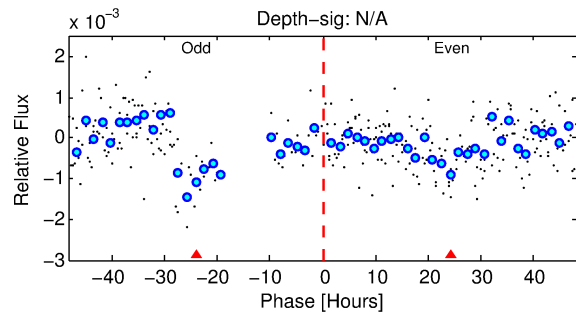
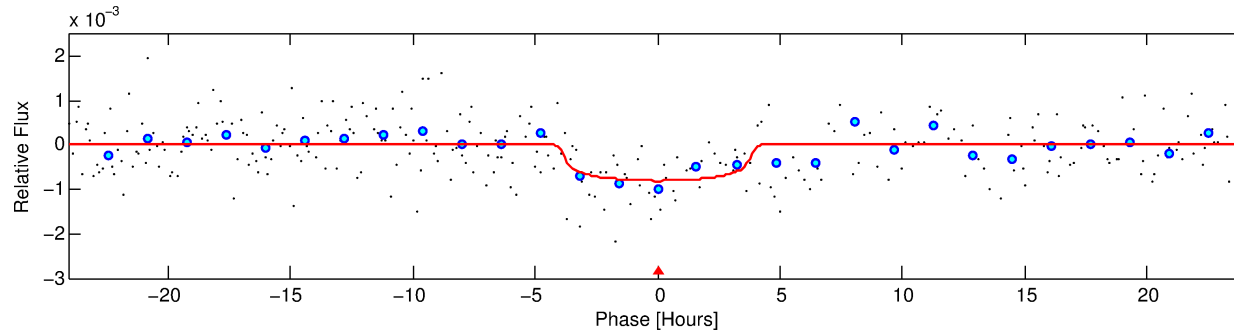
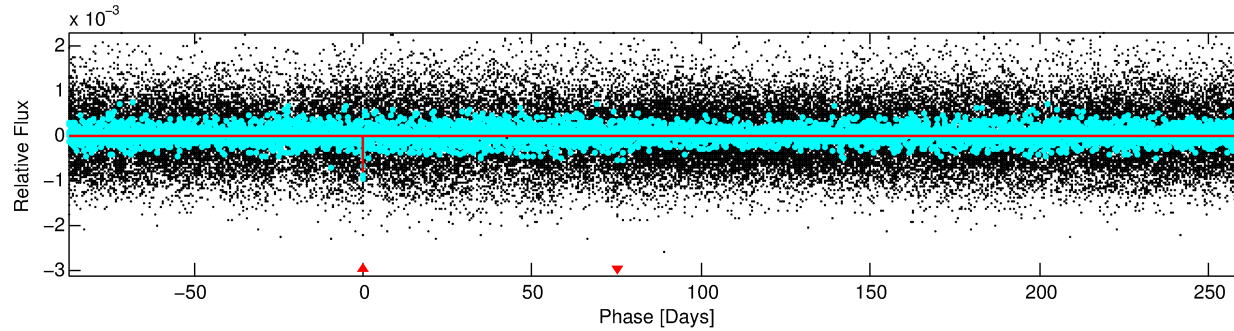
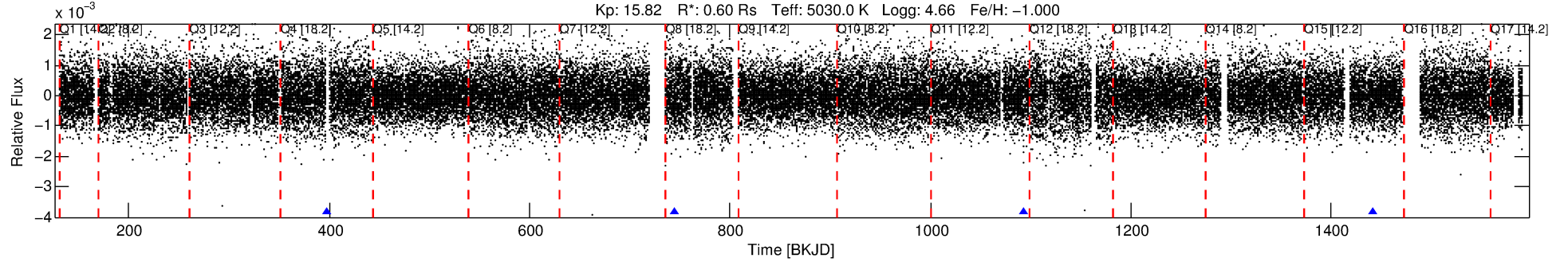
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006865507-01

No Significant Match Found

# DV One-Page Summary

KIC: 6865507 Candidate: 1 of 1 Period: 348.071 d



## DV Fit Results:

Period = 348.07098 [0.01102] d  
Epoch = 396.9836 [0.0235] BKJD  
Rp/R\* = 0.0269 [0.0304]  
a/R\* = 277.52 [1262.99]  
b = 0.59 [5.03]  
Seff = 0.31 [0.05]  
Teq = 190 [8] K  
Rp = 1.77 [2.00] Re  
a = 0.8170 [0.0550] AU  
Ag = 22182.44 [51994.32] [0.43σ]  
Teffp = 3594 [2107] K [1.62σ]

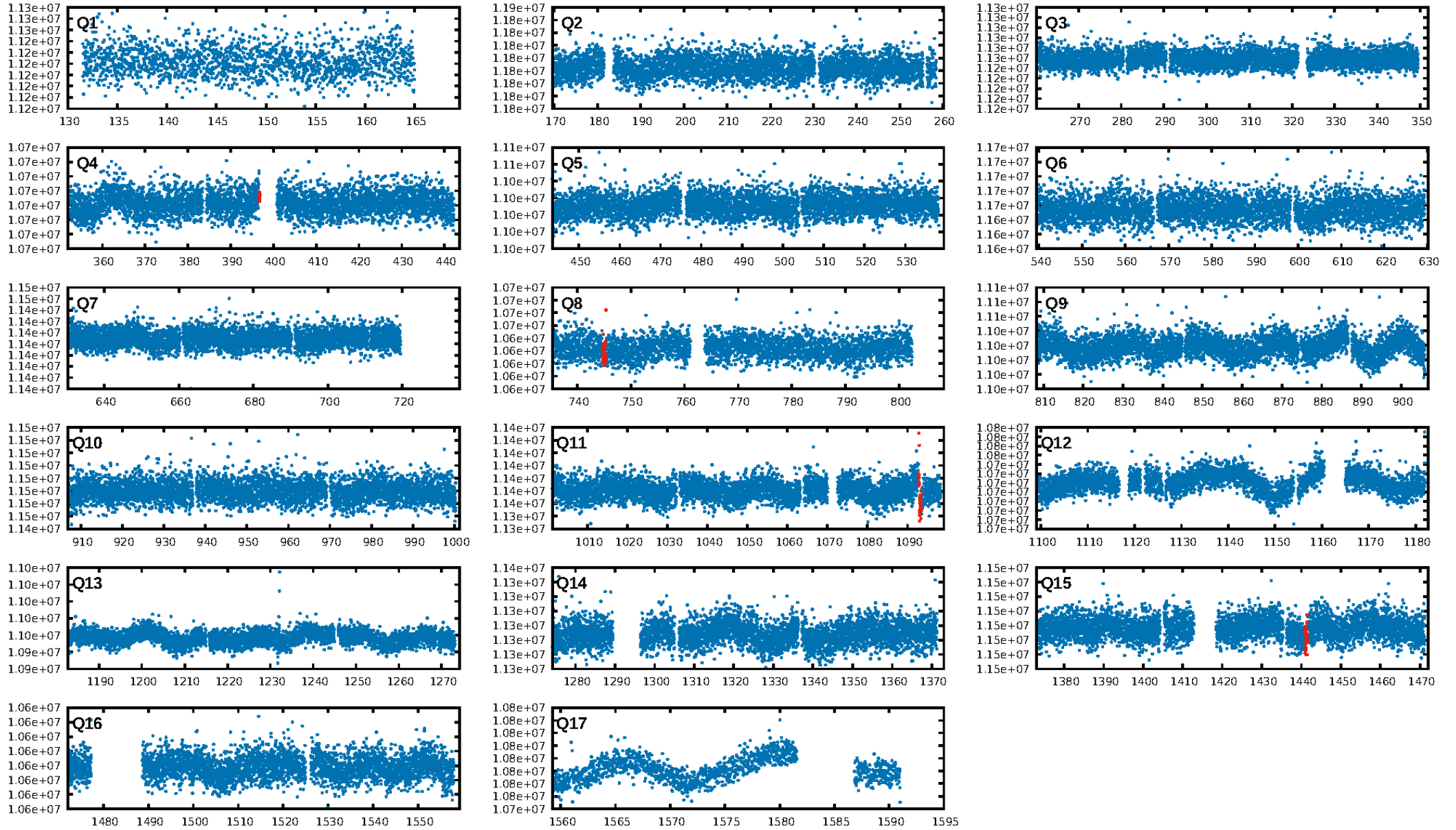
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 11.3%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 8.53e-14  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 2.156  
Centroid-sig: 0.0%  
Centroid-so: 4.523 arcsec [3.01σ]  
OotOffset-rm: 1.128 arcsec [0.88σ]  
KicOffset-rm: 1.293 arcsec [0.93σ]  
OotOffset-st: 0/0/1/0 [1]  
KicOffset-st: 0/0/1/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [2/2]

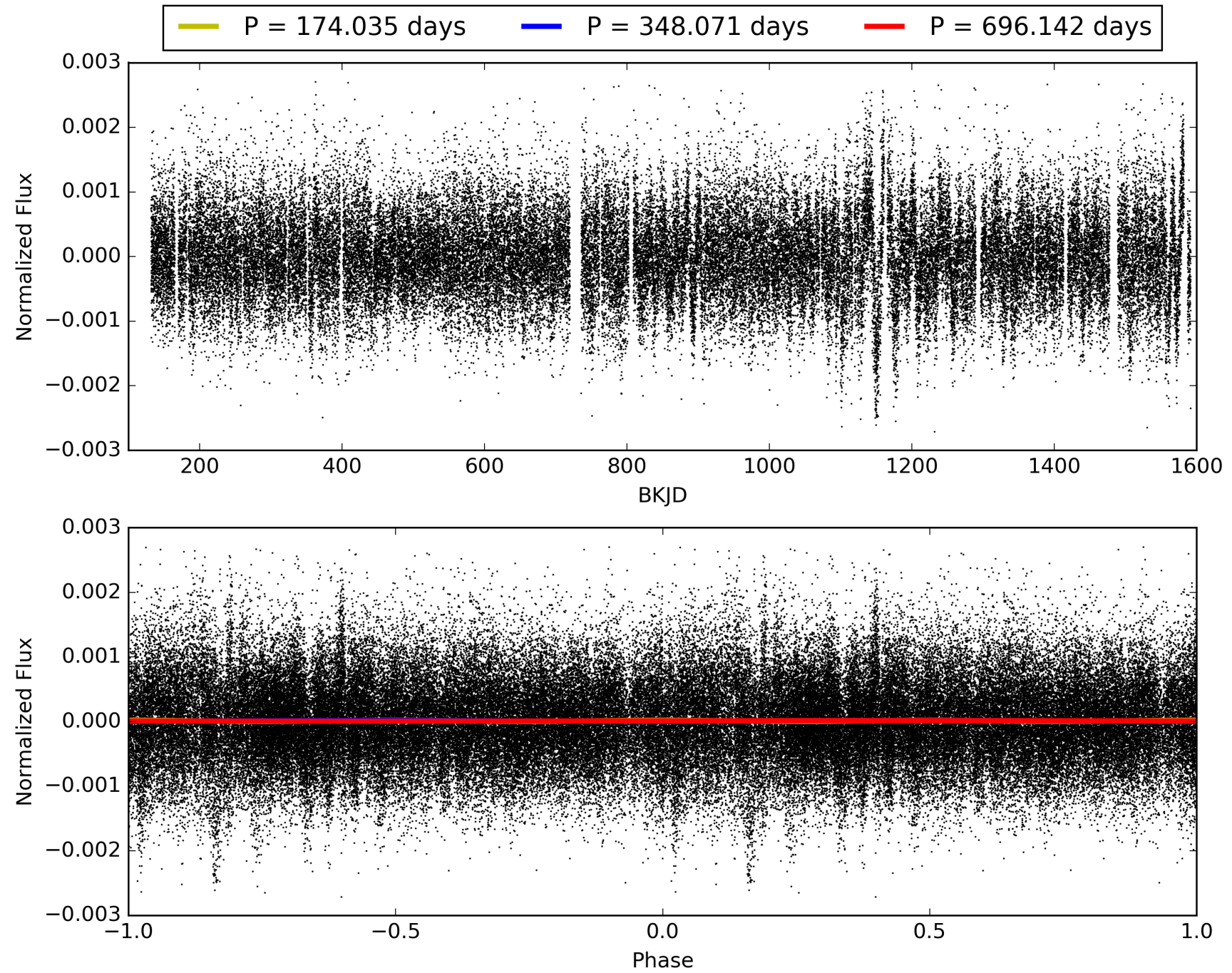
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:58:00 Z

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

# TCE 006865507-01, PDC Light Curves

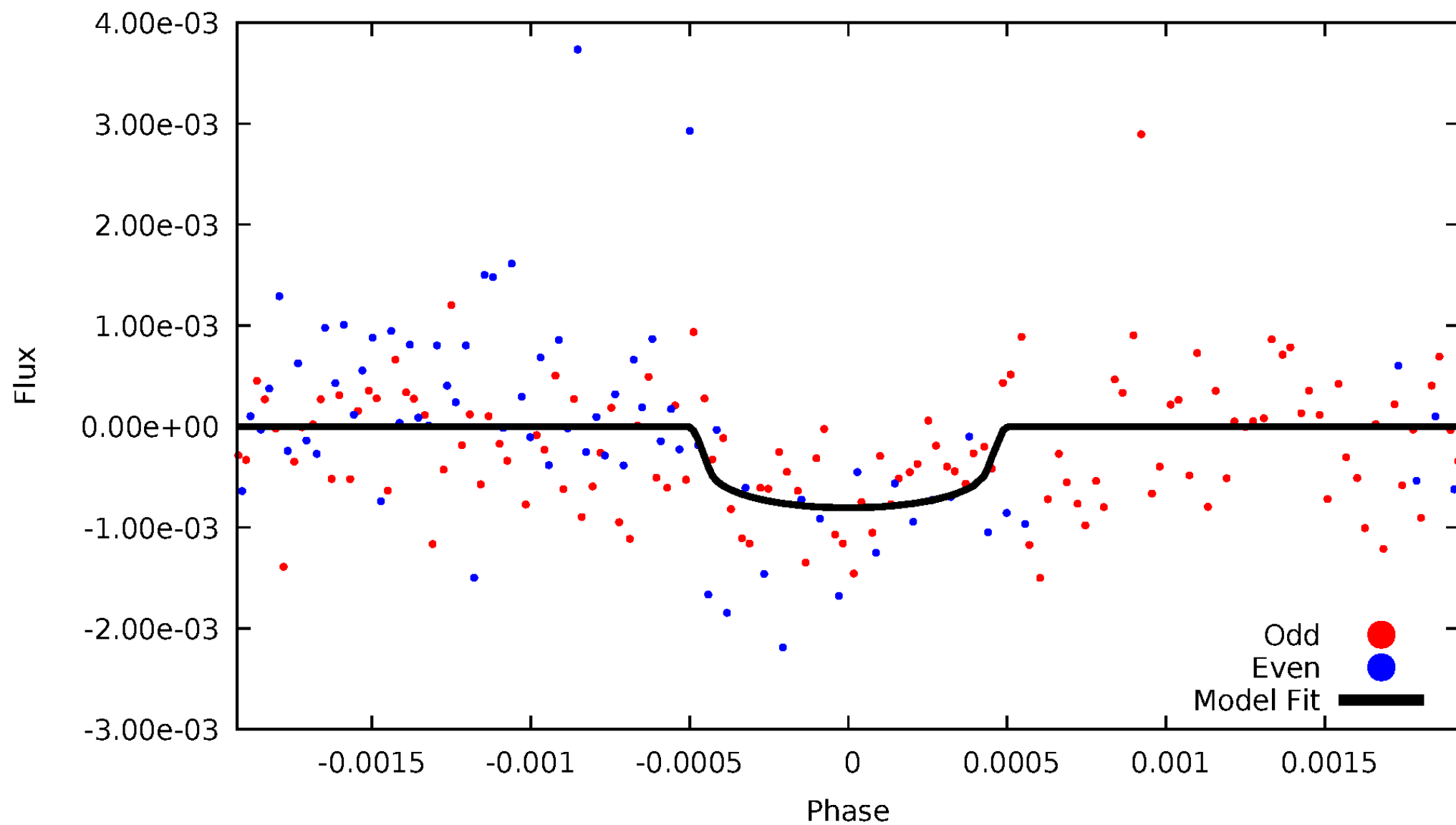


TCE 006865507-01



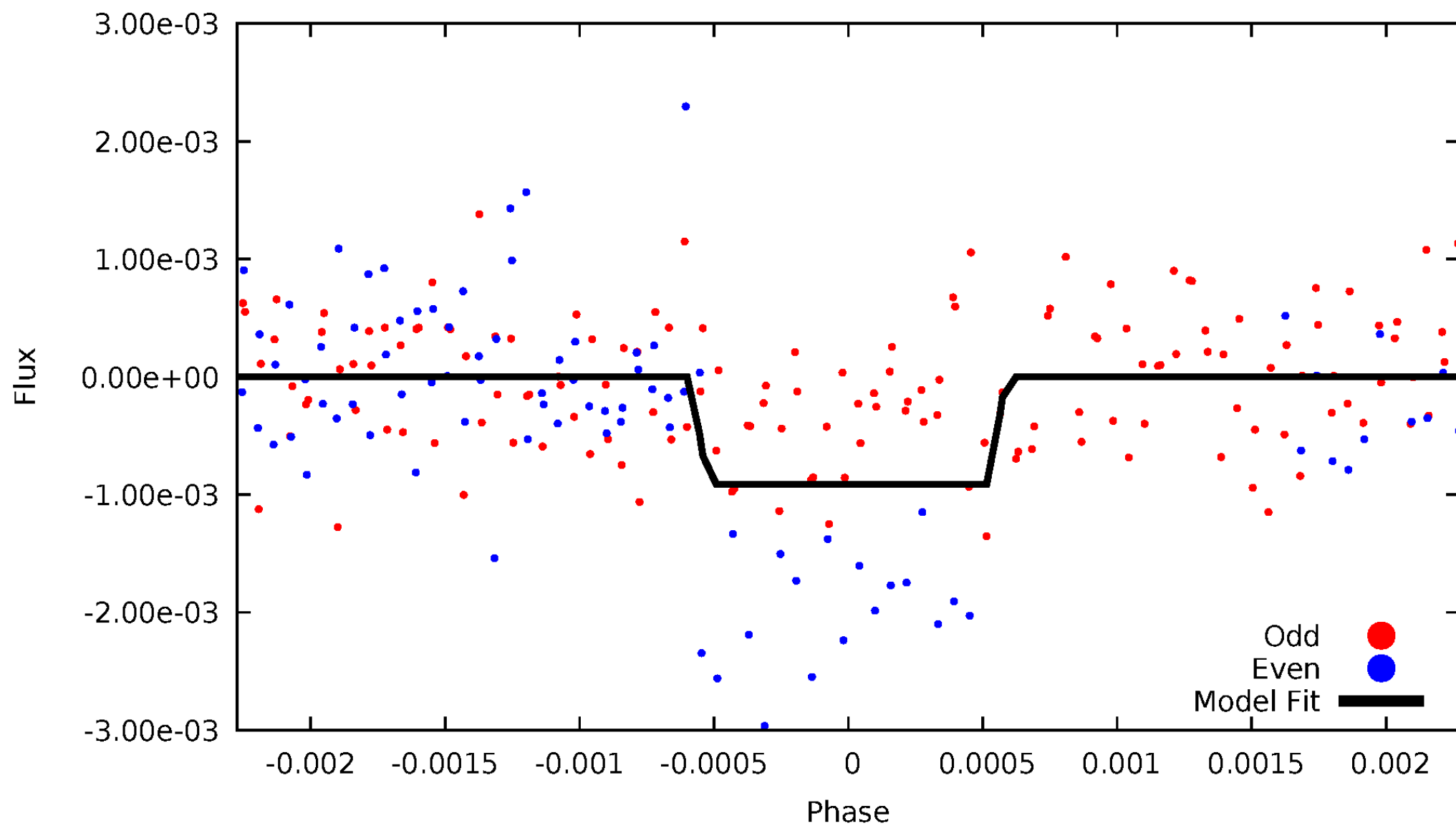
# DV Odd/Even

TCE 006865507-01



# ALT Odd/Even

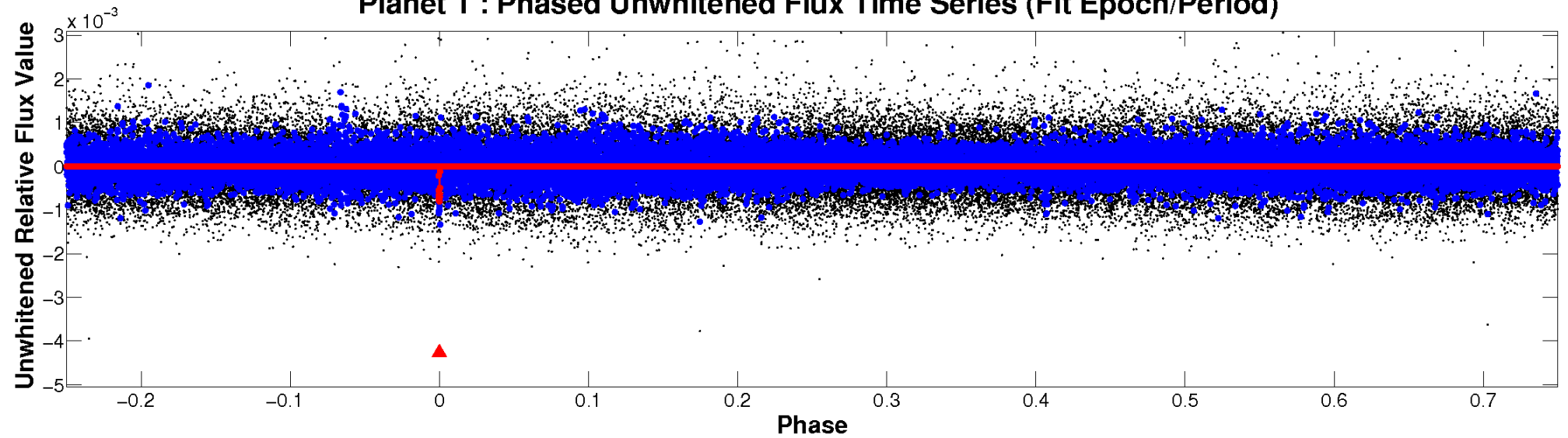
TCE 006865507-01



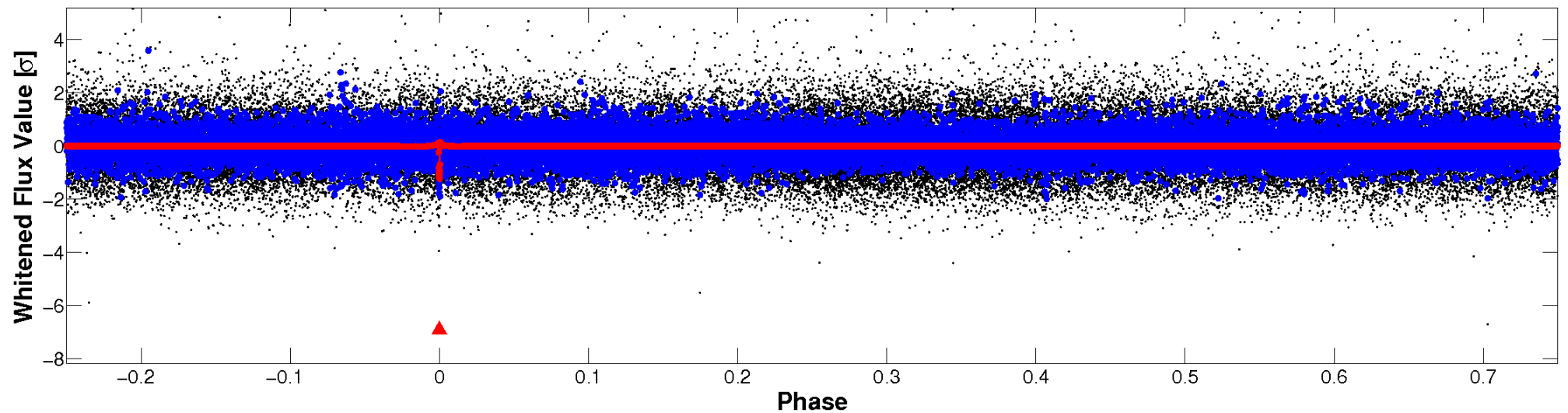


# Non-Whitened Vs. Whitened Light Curve

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

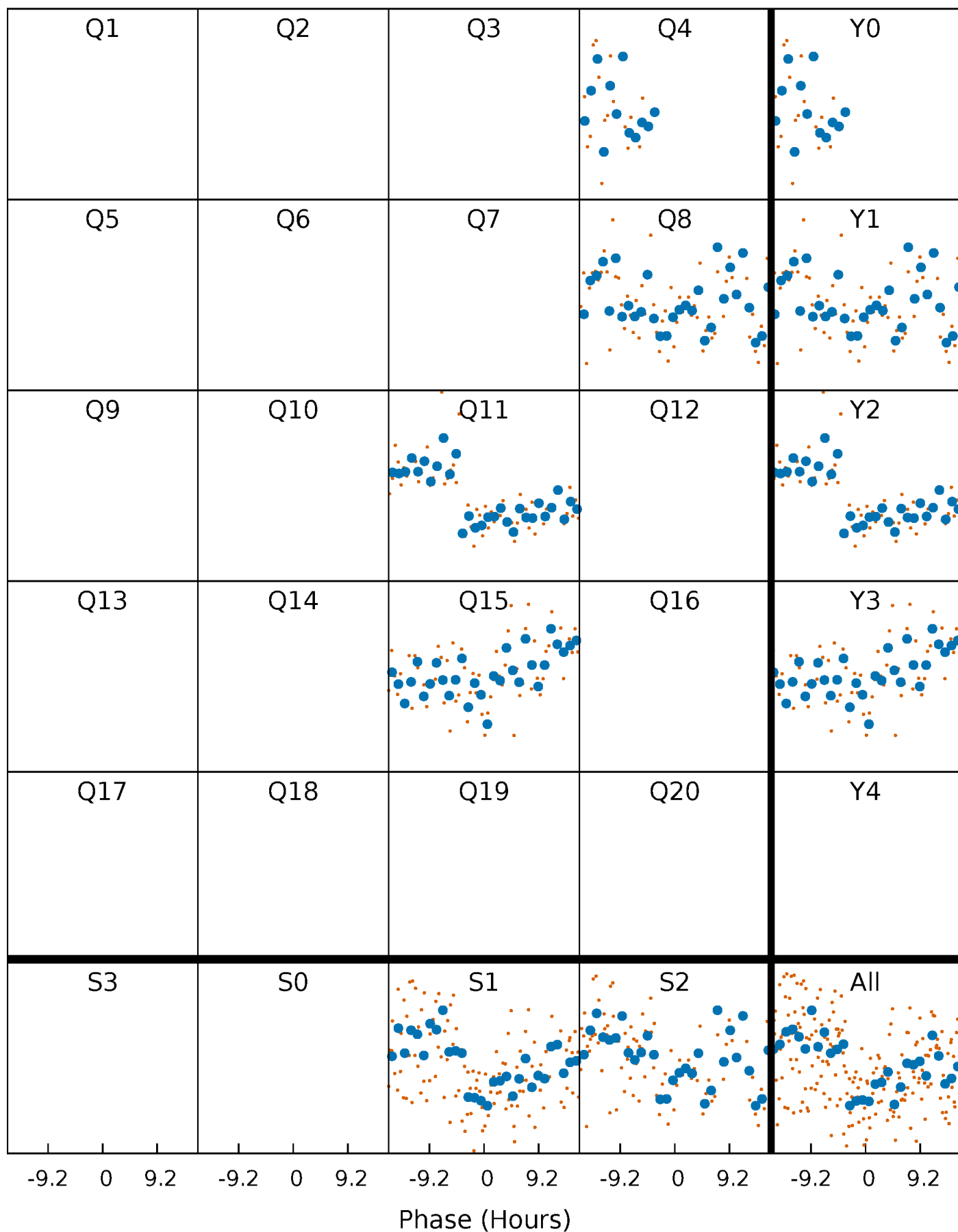


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

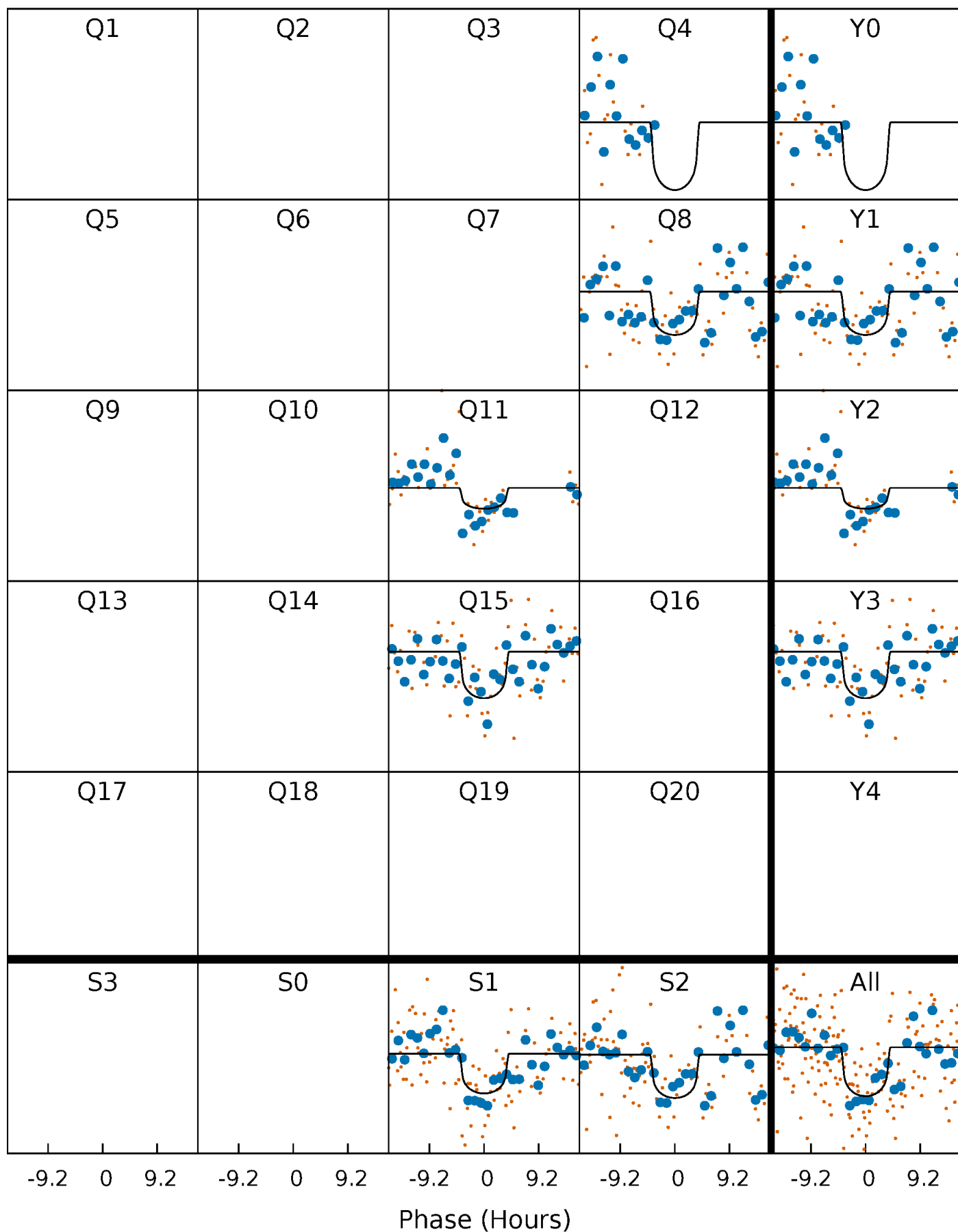
TCE 006865507-01 P=348.070976 Days  $T_0=396.983631$  (BKJD)





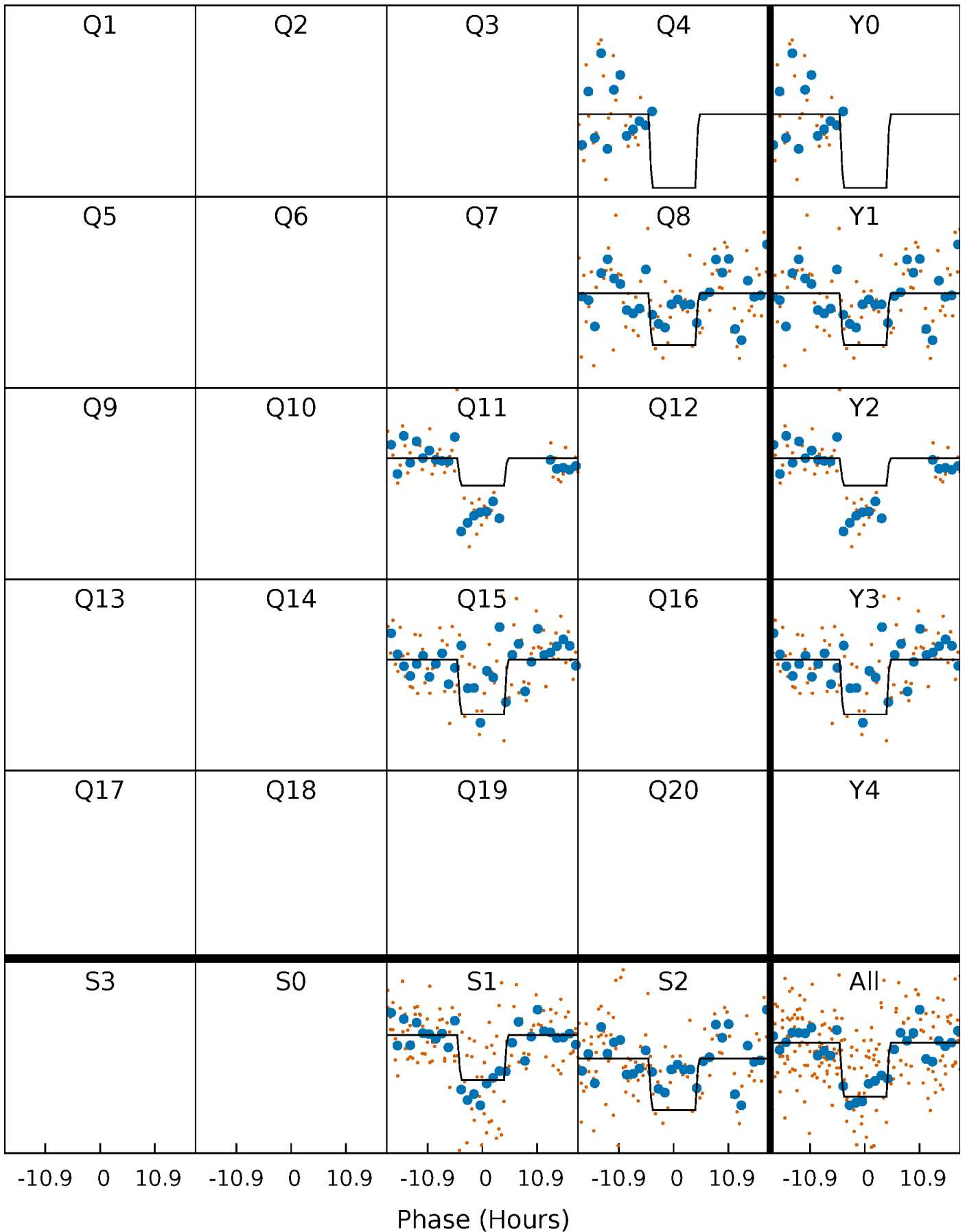
# DV Quarter-Phased Transit Curves

TCE 006865507-01 P=348.070976 Days  $T_0=396.983631$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

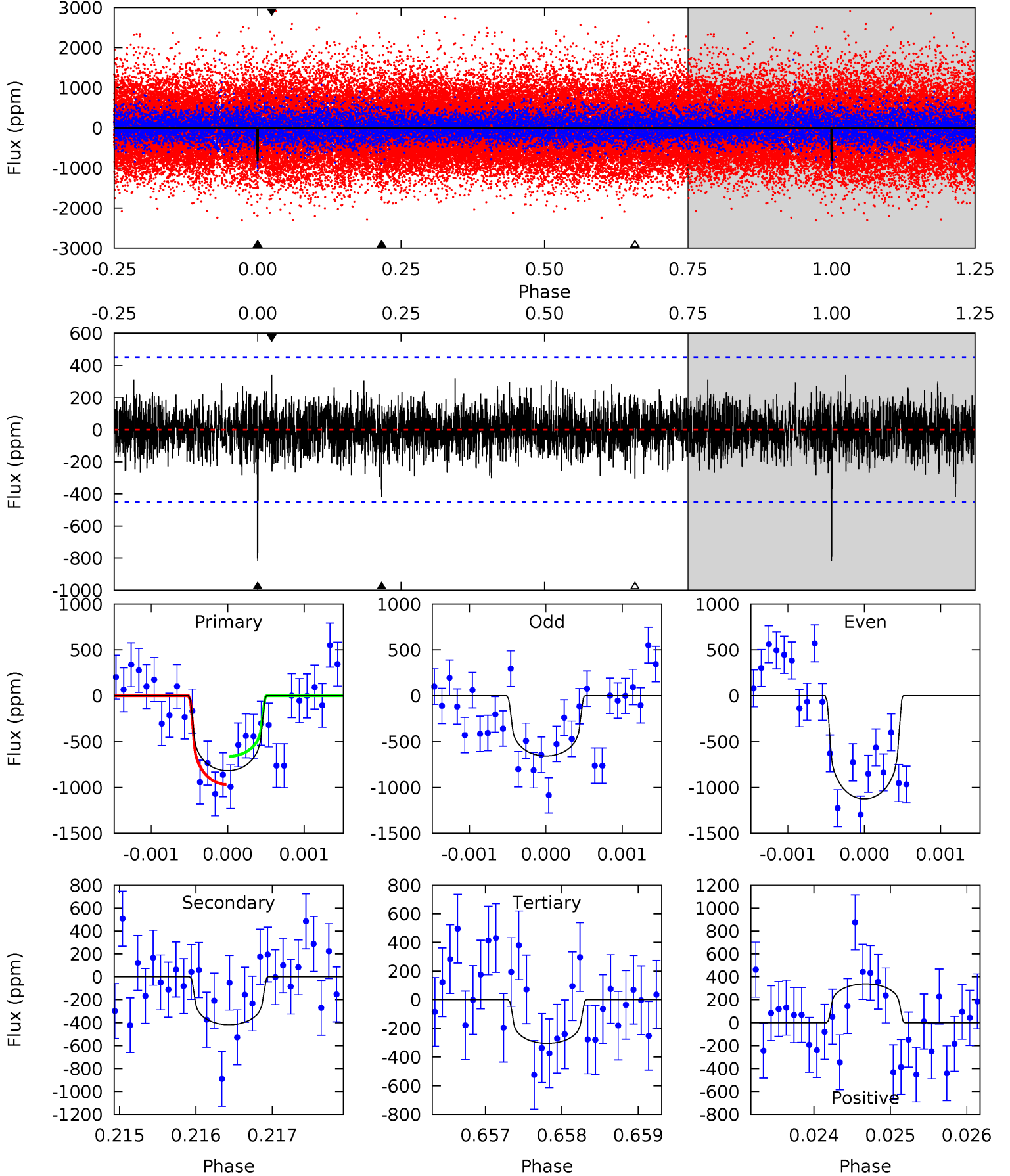
TCE 006865507-01 P=348.065261 Days  $T_0=397.031732$  (BKJD)



# DV Model-Shift Uniqueness Test

006865507-01,  $P = 348.070976$  Days,  $E = 48.912655$  Days

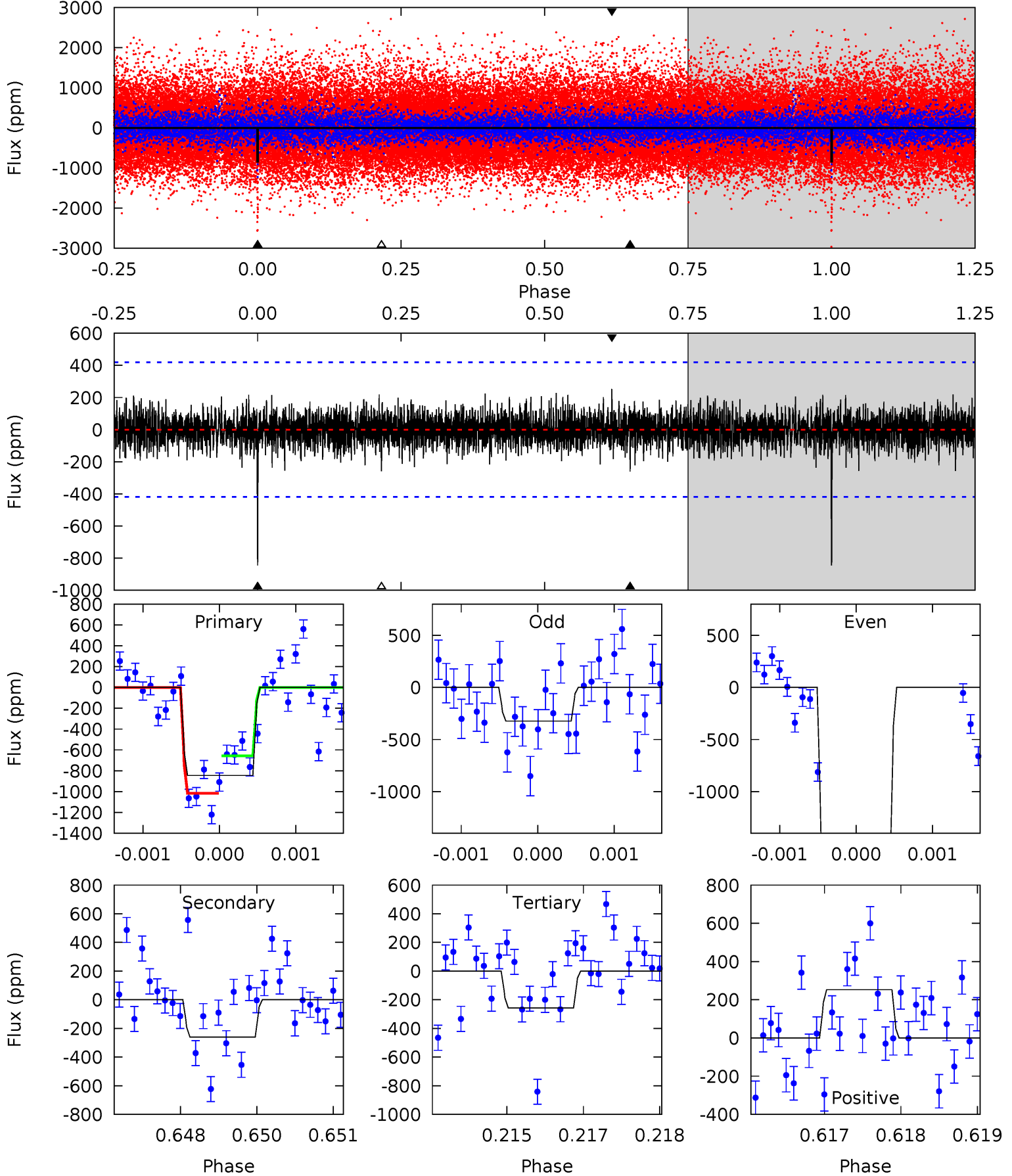
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.89	5.06	3.68	4.09	5.45	3.29	1.14	6.20	5.80	1.38	0.97	2.69	0.98	0.29	1.86



# Alt Model-Shift Uniqueness Test

006865507-01,  $P = 348.065261$  Days,  $E = 48.966471$  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
10.9	3.37	3.32	3.27	5.42	3.24	0.88	7.60	7.65	0.05	0.10	9.64	2.48	0.23	2.33



### Stellar Parameters For KIC 006865507

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$5030^{+166}_{-151}$	$4.657^{+0.059}_{-0.036}$	$-1.000^{+0.300}_{-0.300}$	$0.602^{+0.045}_{-0.045}$	$0.598^{+0.055}_{-0.022}$	$3.869^{+0.894}_{-0.559}$
	+3%/-3%	+1%/-1%	+30%/-30%	+7%/-7%	+9%/-4%	+23%/-14%
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 006865507-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-418 \pm 83$	$2.20^{+1.74}_{-1.36}$	$265^{+10}_{-9}$	$4148^{+2034}_{-754}$	$32062^{+182459}_{-22348}$
Alt.	$-260 \pm 77$	$2.29^{+1.78}_{-1.44}$	$265^{+10}_{-9}$	$3736^{+1775}_{-624}$	$17707^{+105987}_{-12190}$

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

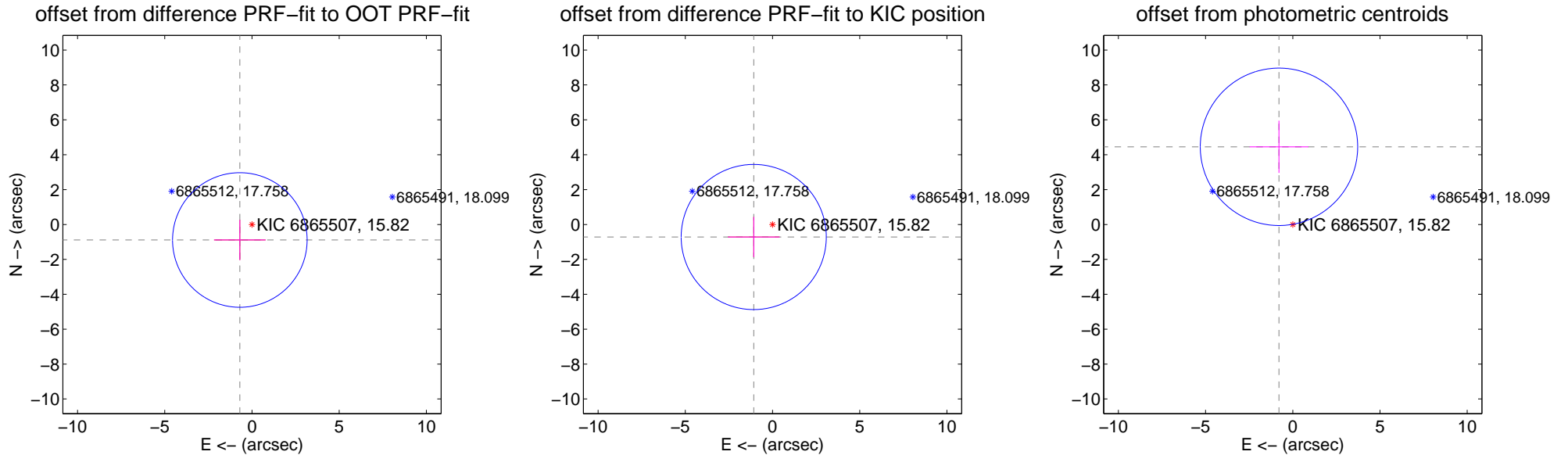
## DV Centroid Data

Supplemental centroid analysis for 006865507-01. Kepler magnitude: 15.82. Transit SNR 7.20

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.42 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.128 \pm 1.286$	0.88	$0.696 \pm 1.478$	$-0.888 \pm 1.152$
PRF-fit source offset from KIC position	$1.293 \pm 1.386$	0.93	$1.077 \pm 1.478$	$-0.716 \pm 1.152$
photometric centroid source offset	$4.52 \pm 1.50$	3.01	$0.79 \pm 1.68$	$4.45 \pm 1.50$



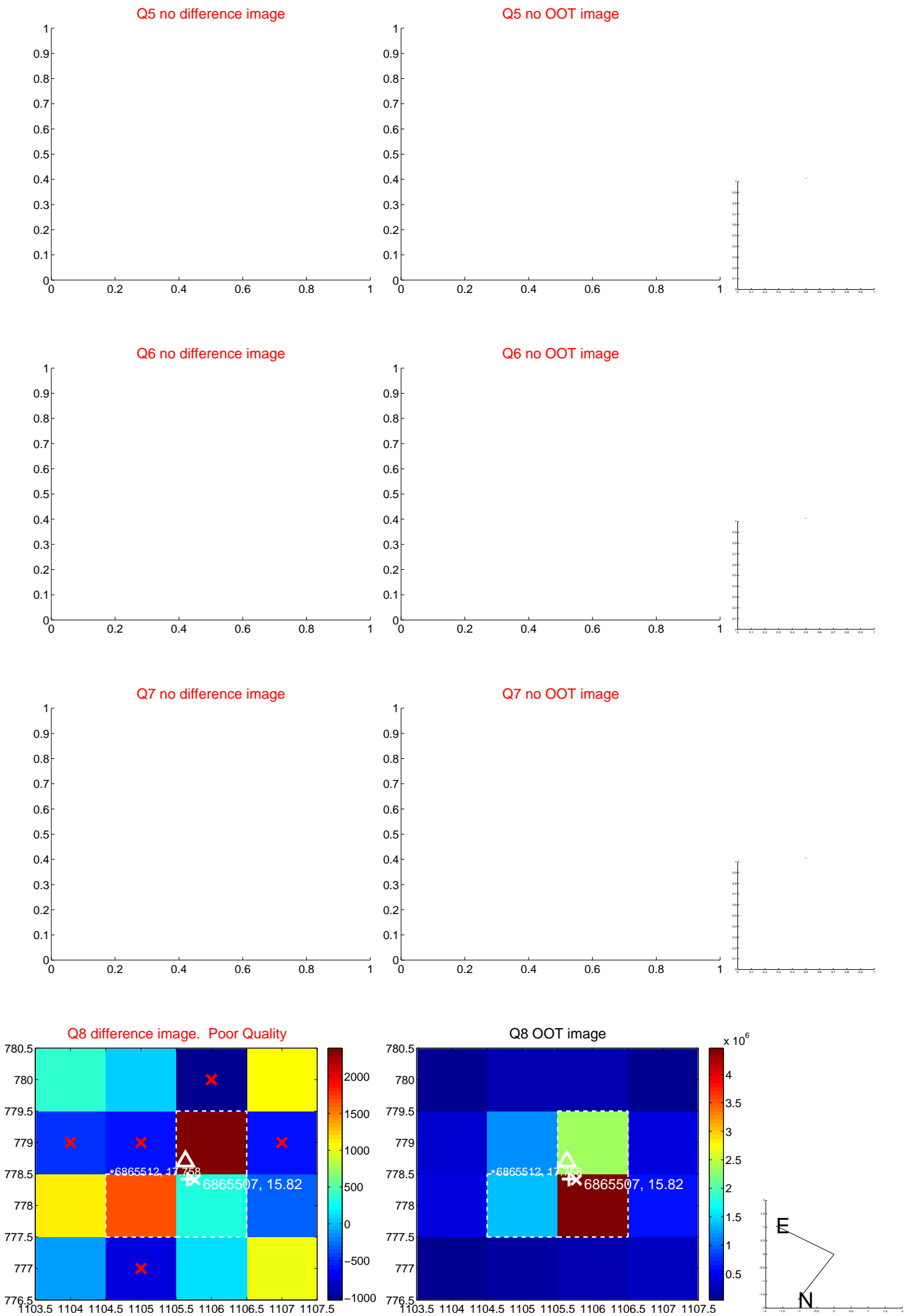
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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





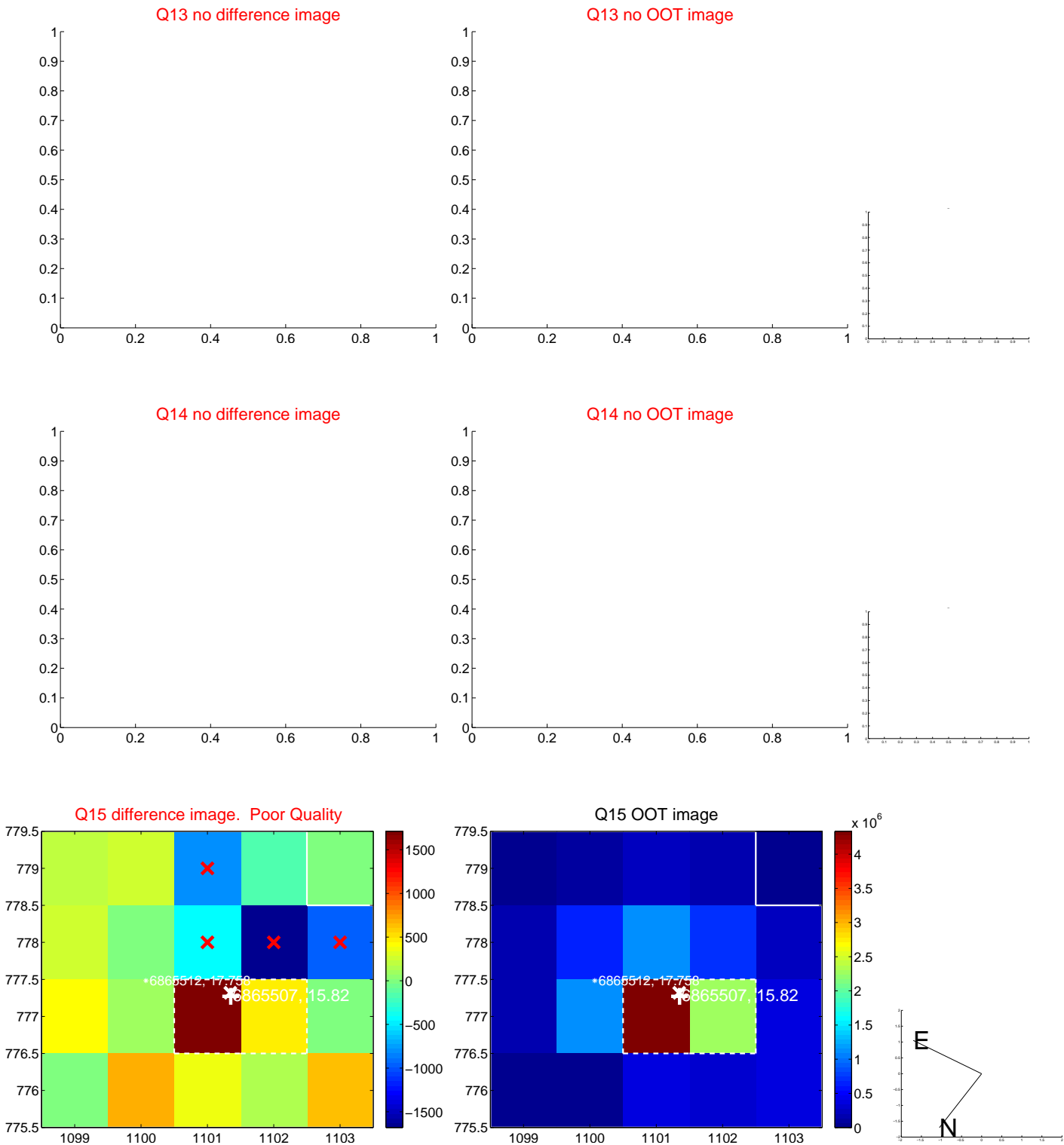
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



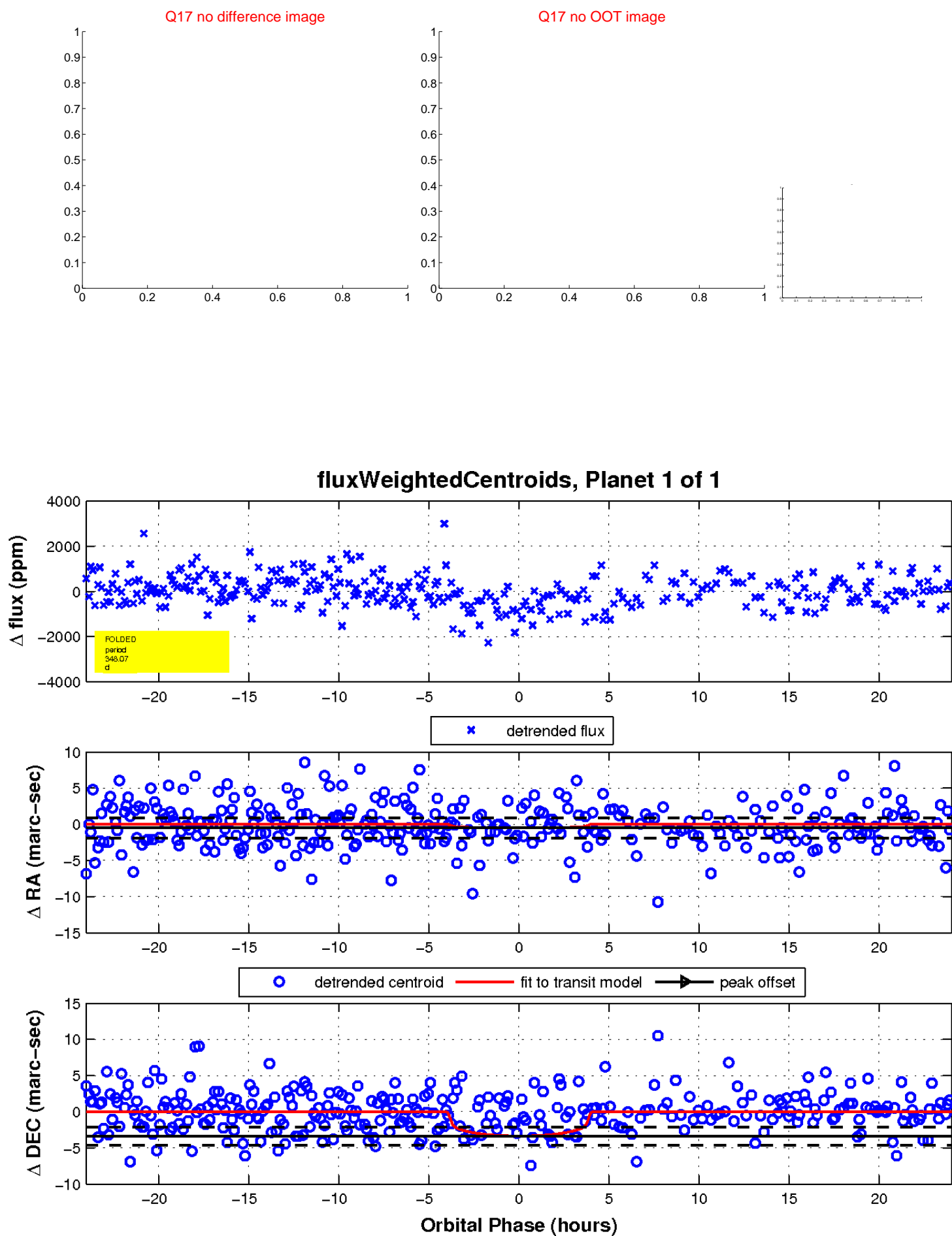
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

