

# KIC 007847104

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007847104-01	OBS	4412.01	1.284980	132.745574	25.3	2.579	13.9	13.2	2.11	6060	1.25	9117.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007847104-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET

**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.

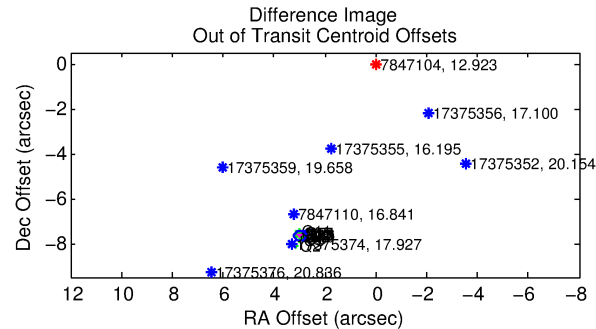
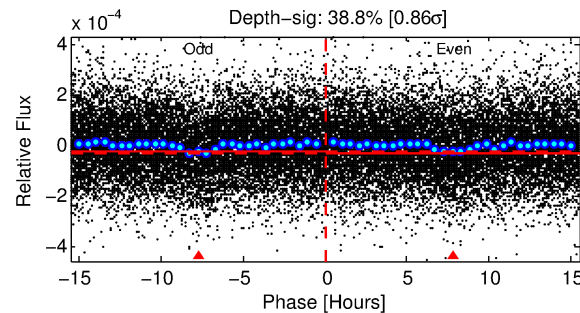
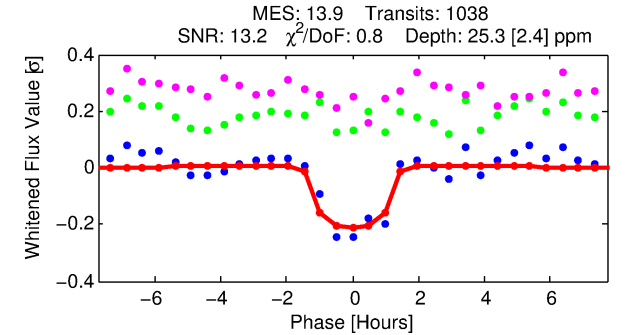
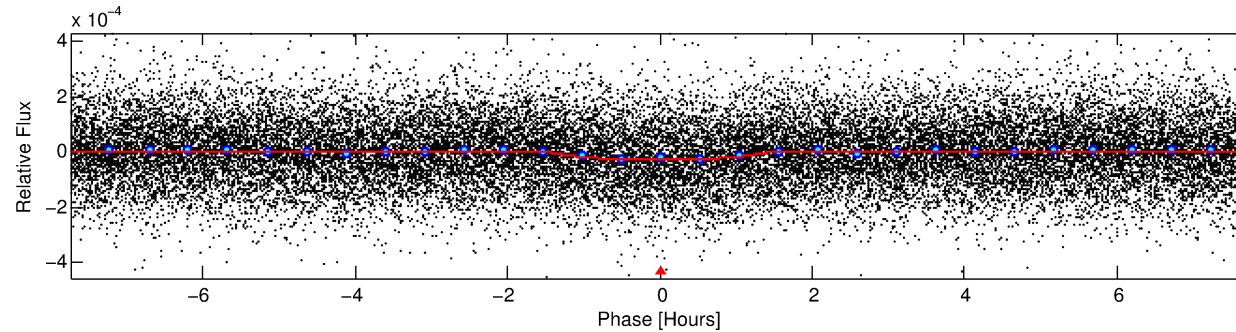
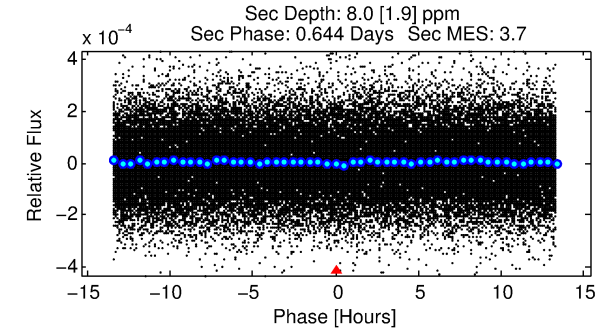
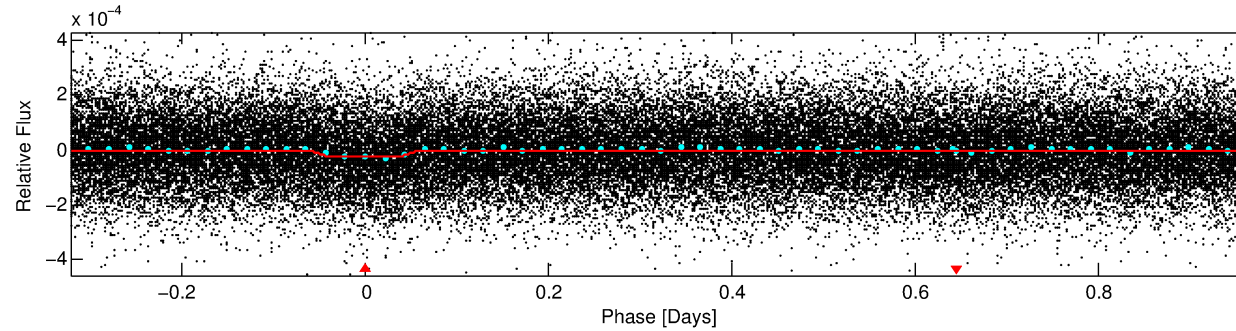
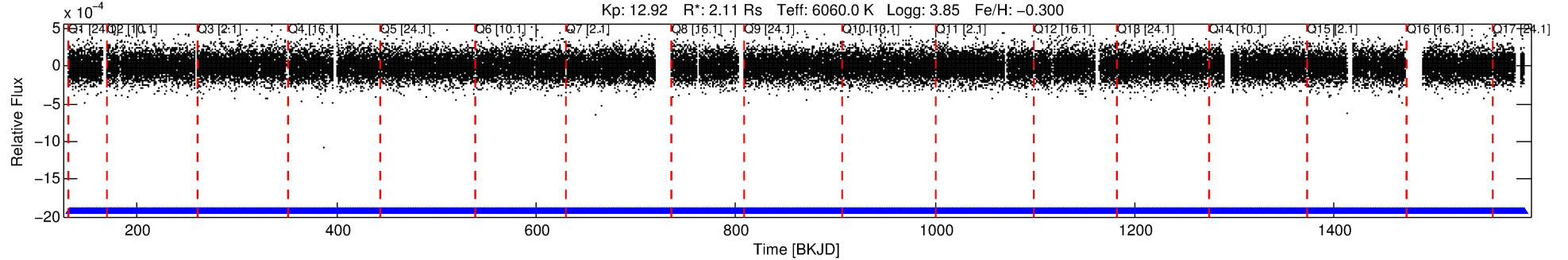
## Ephemeris Match Information For 007847104-01

No Significant Match Found

# DV One-Page Summary

KIC: 7847104 Candidate: 1 of 1 Period: 1.285 d  
KOI: K04412.01 Corr: 0.912

Kp: 12.92 R\*: 2.11 Rs Teff: 6060.0 K Logg: 3.85 Fe/H: -0.300



## DV Fit Results:

Period = 1.28498 [0.00001] d  
Epoch = 132.7456 [0.0027] BKJD  
Rp/R\* = 0.0054 [0.0016]  
a/R\* = 1.94 [2.28]  
b = 0.90 [0.34]  
Seff = 9117.91 [5003.93]  
Teq = 2492 [342] K  
Rp = 1.25 [0.57] Re  
a = 0.0242 [0.0081] AU  
Ag = 1.66 [1.39] [0.48σ]  
Teff = 4376 [713] K [2.38σ]

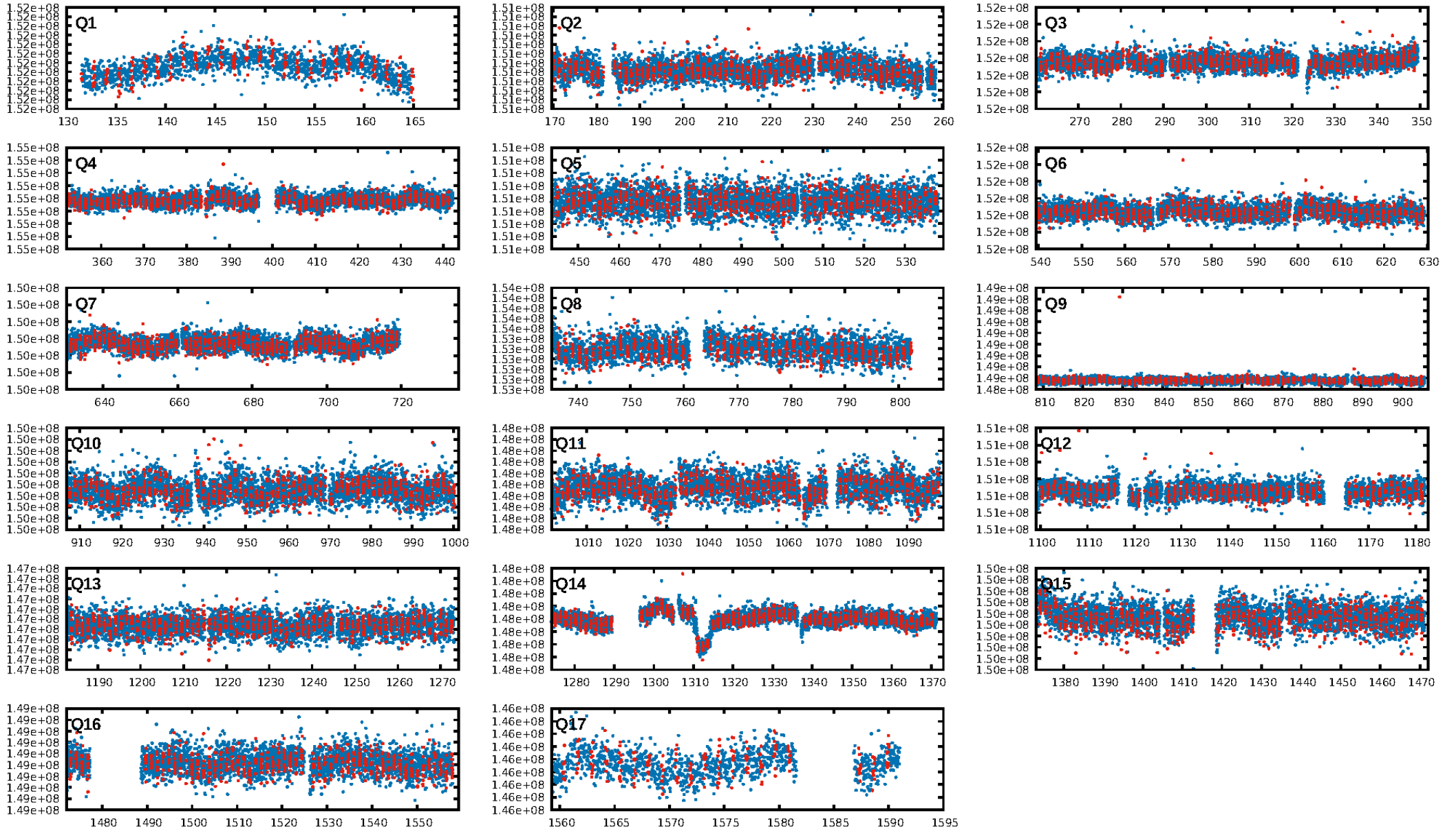
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.24e-43  
RollingBand-fgt: 1.00 [991/991]  
GhostDiagnostic-chr: -0.2665  
Centroid-sig: 0.0%  
Centroid-so: 13.072 arcsec [13.30σ]  
OotOffset-rm: 8.213 arcsec [106.58σ]  
KicOffset-rm: 8.574 arcsec [115.41σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

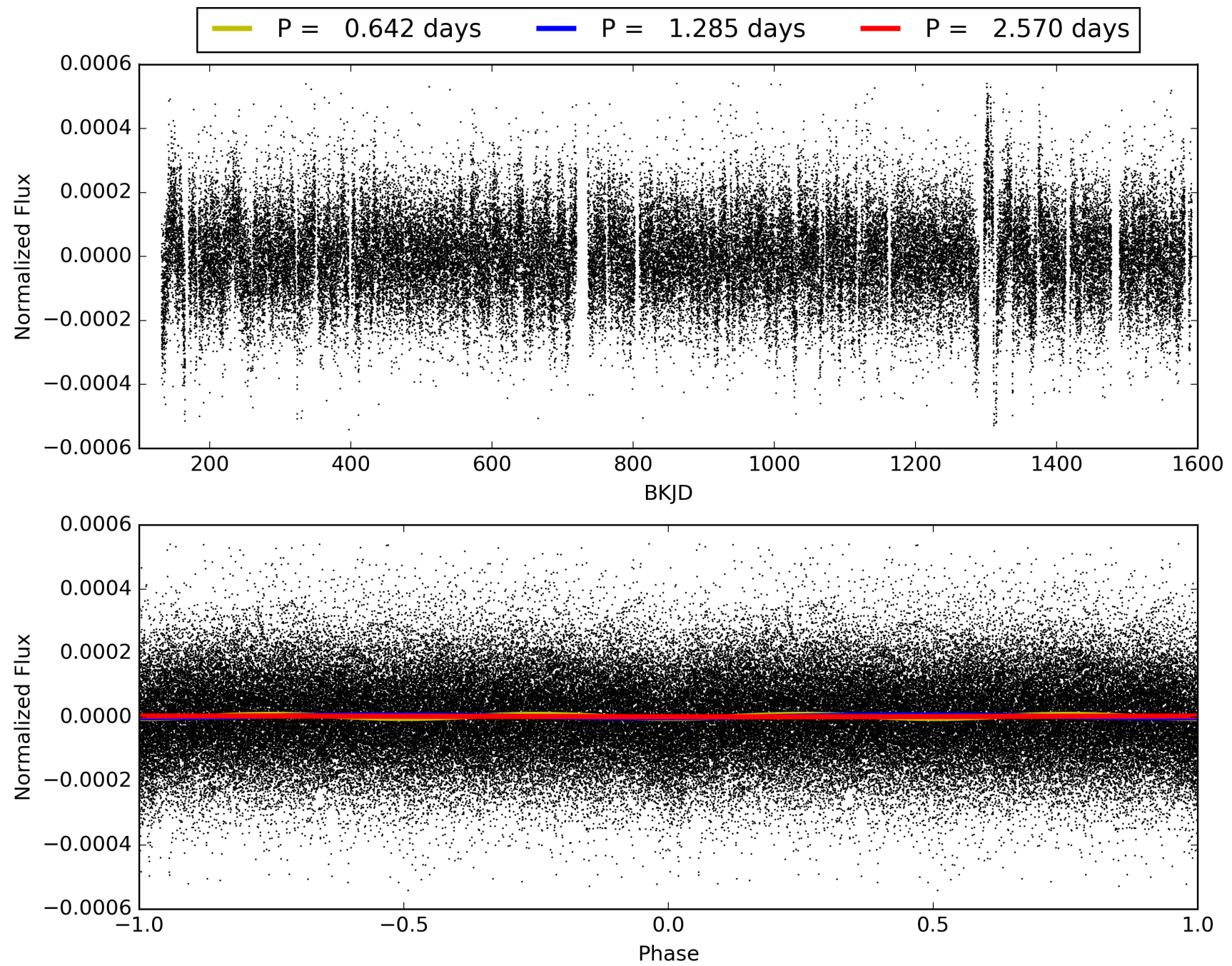
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:52:55 Z

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

# TCE 007847104-01, PDC Light Curves



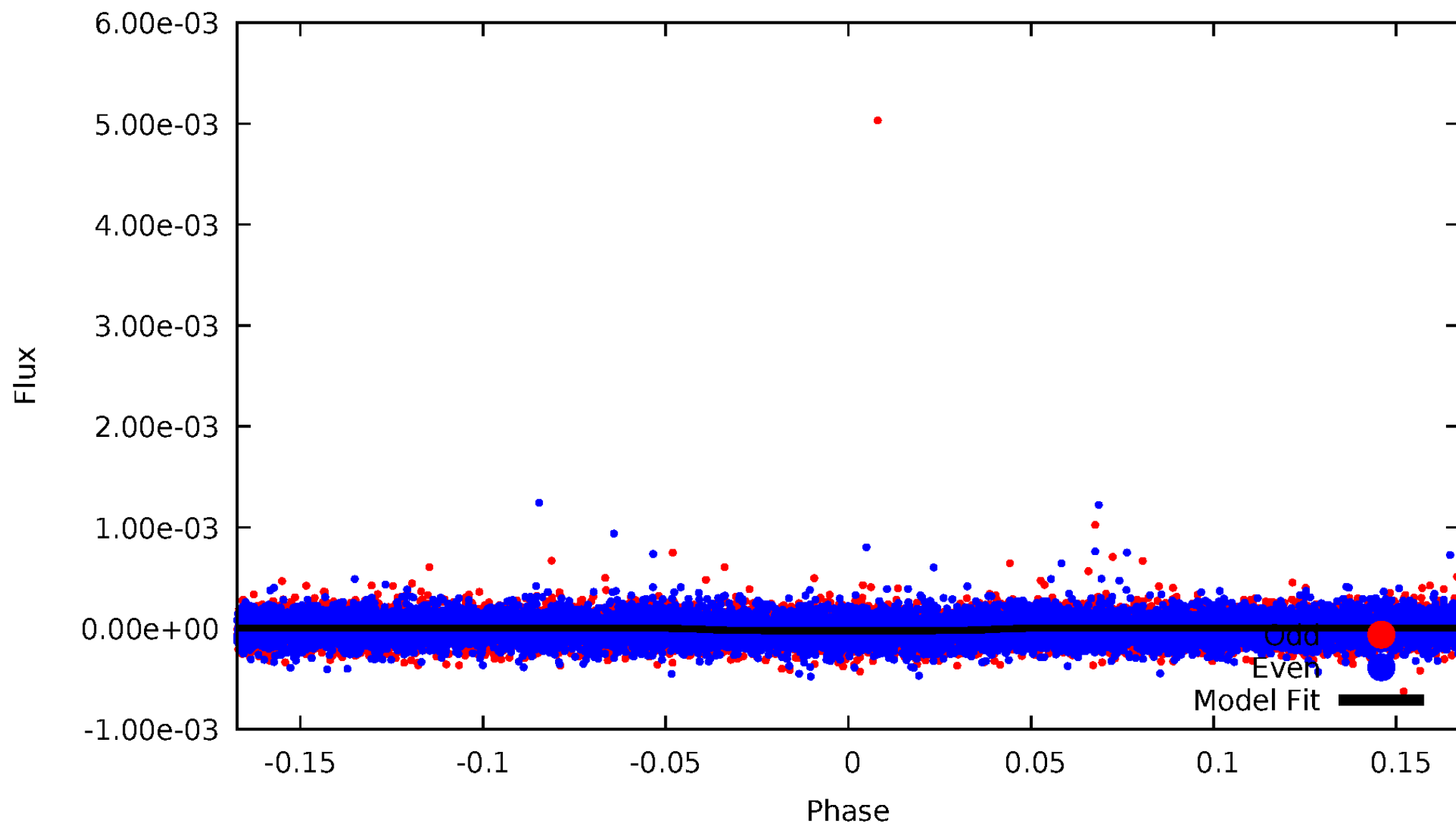
TCE 007847104-01





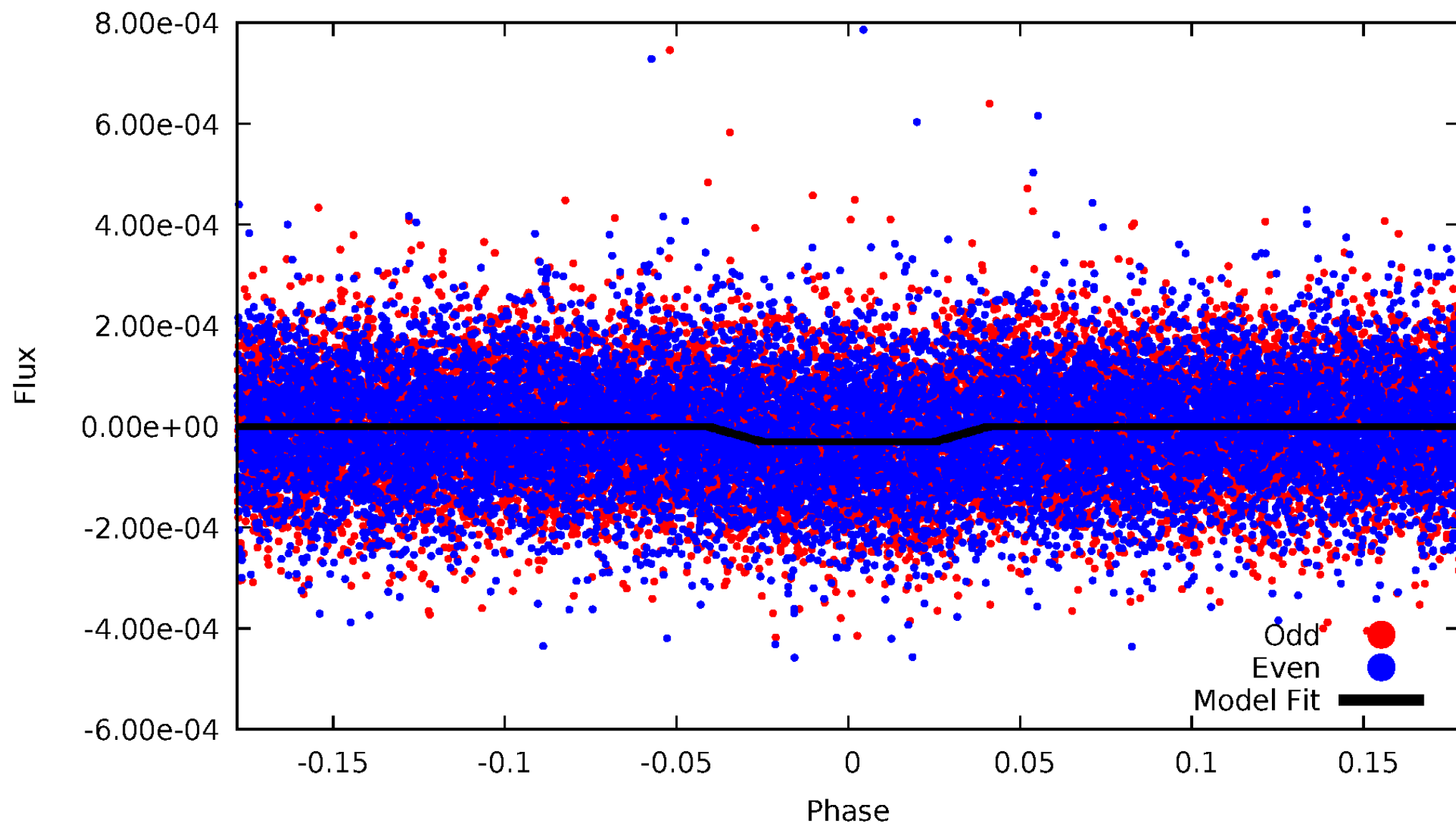
# DV Odd/Even

TCE 007847104-01

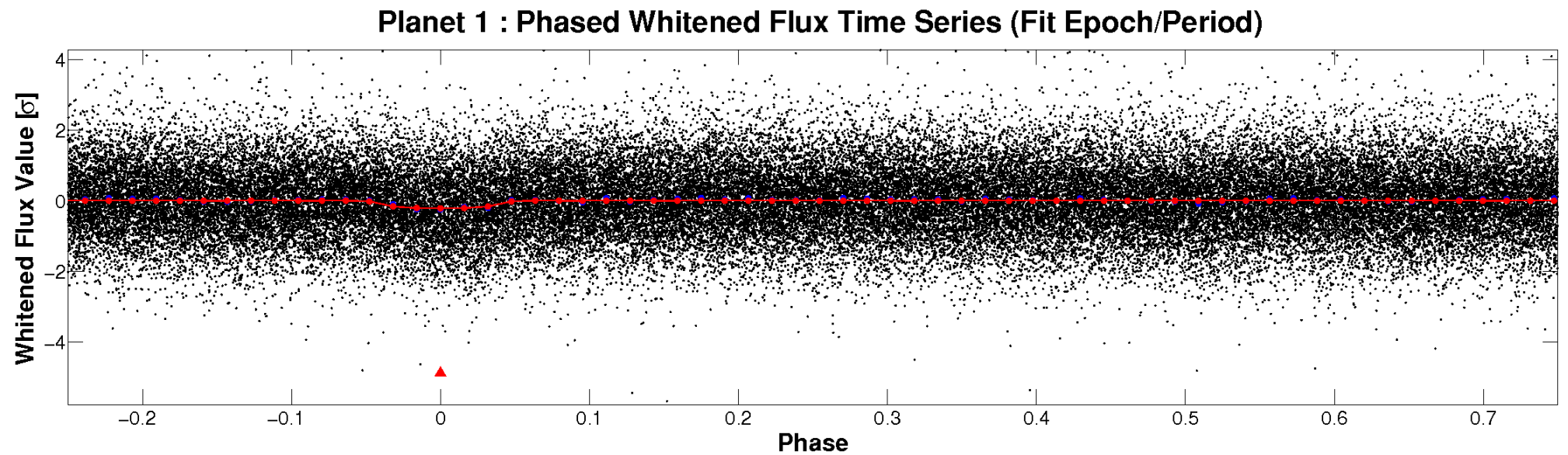
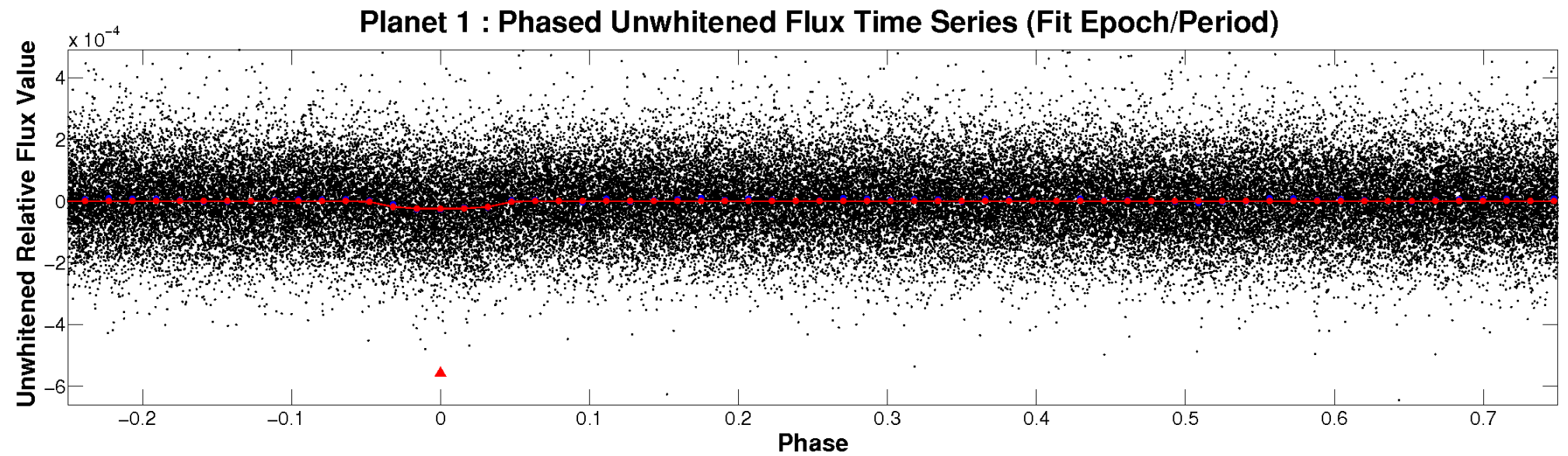


# ALT Odd/Even

TCE 007847104-01

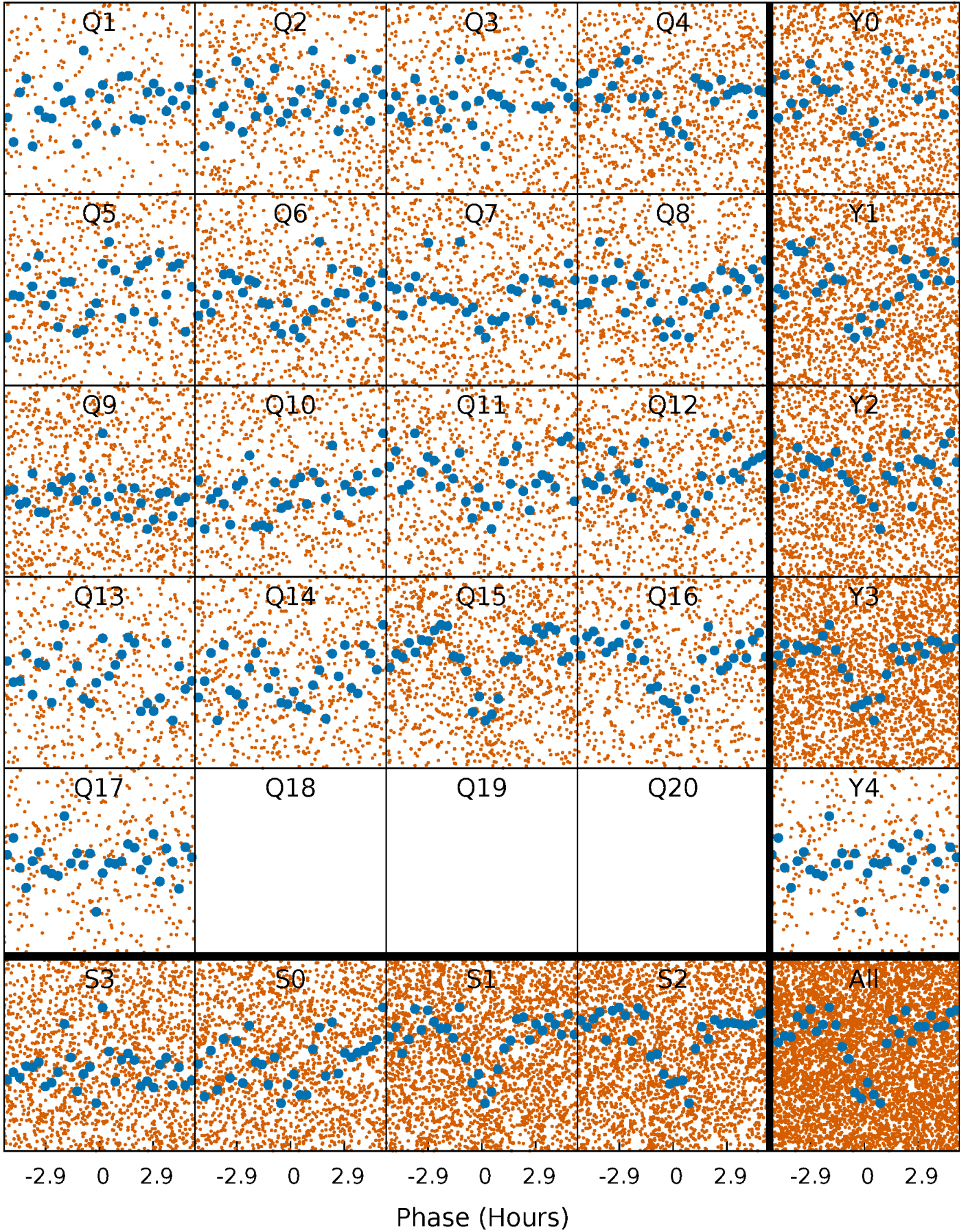


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

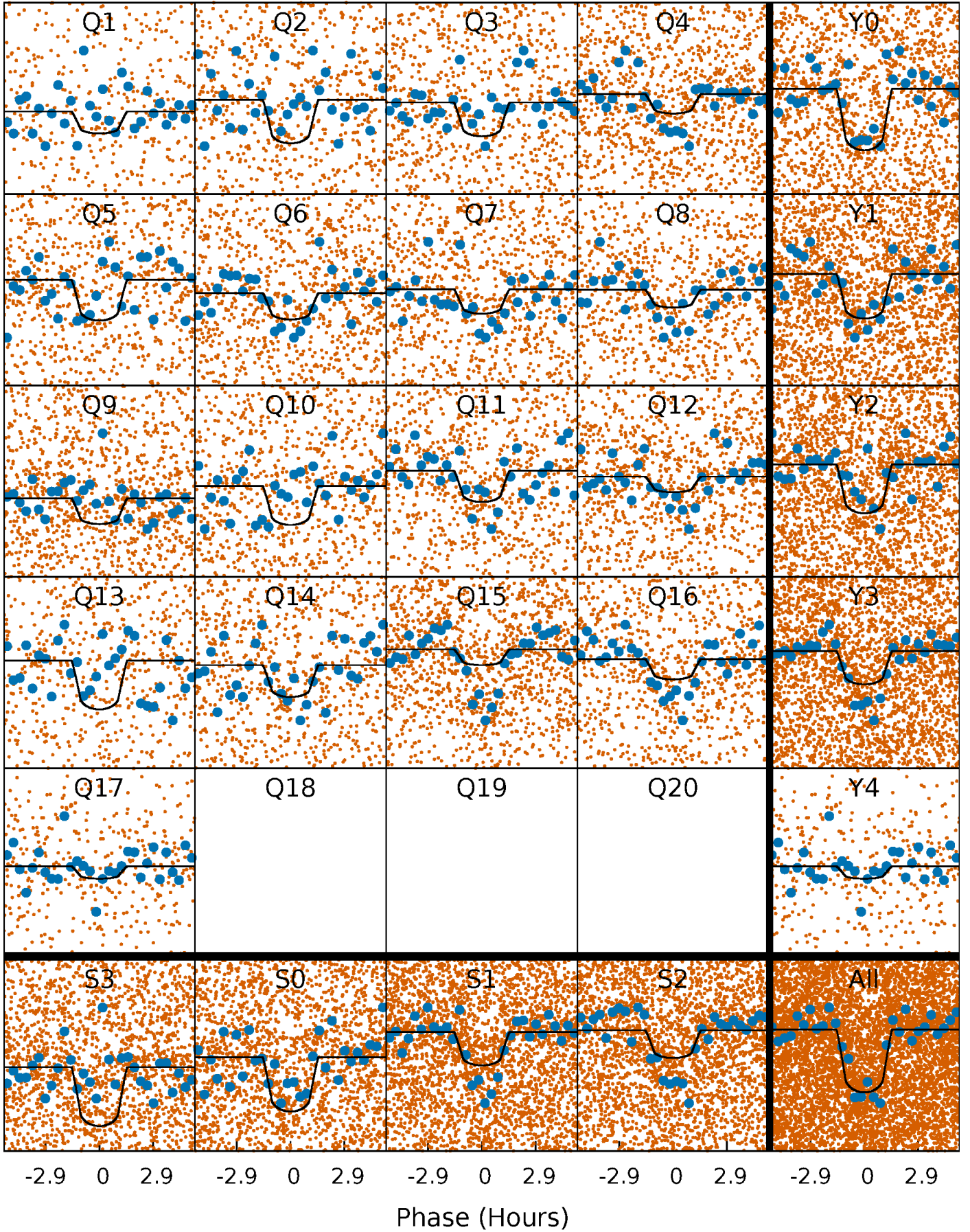
TCE 007847104-01 P= 1.284980 Days  $T_0=132.745574$  (BKJD)





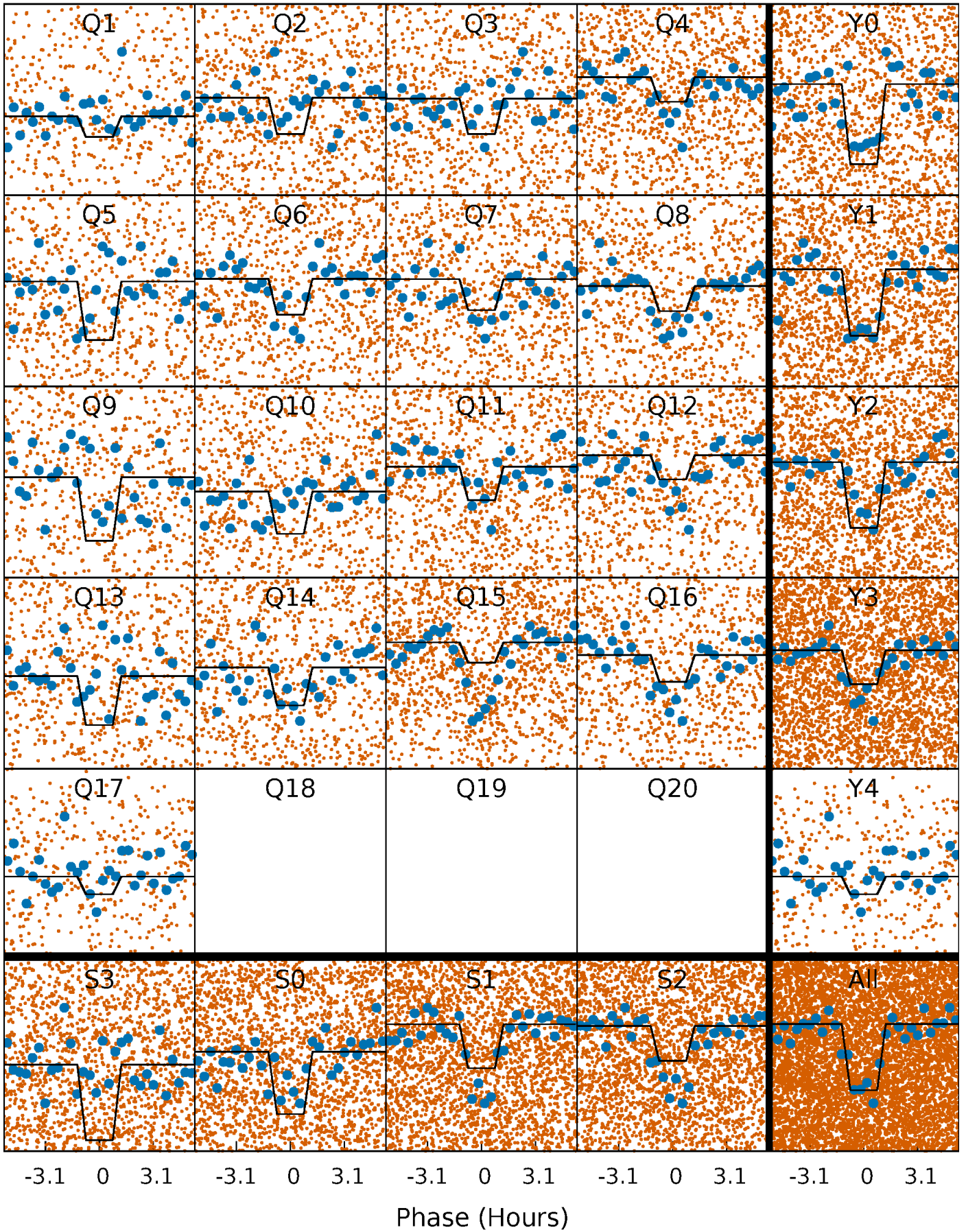
# DV Quarter-Phased Transit Curves

TCE 007847104-01 P= 1.284980 Days  $T_0=132.745574$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007847104-01 P= 1.284987 Days  $T_0=132.745173$  (BKJD)

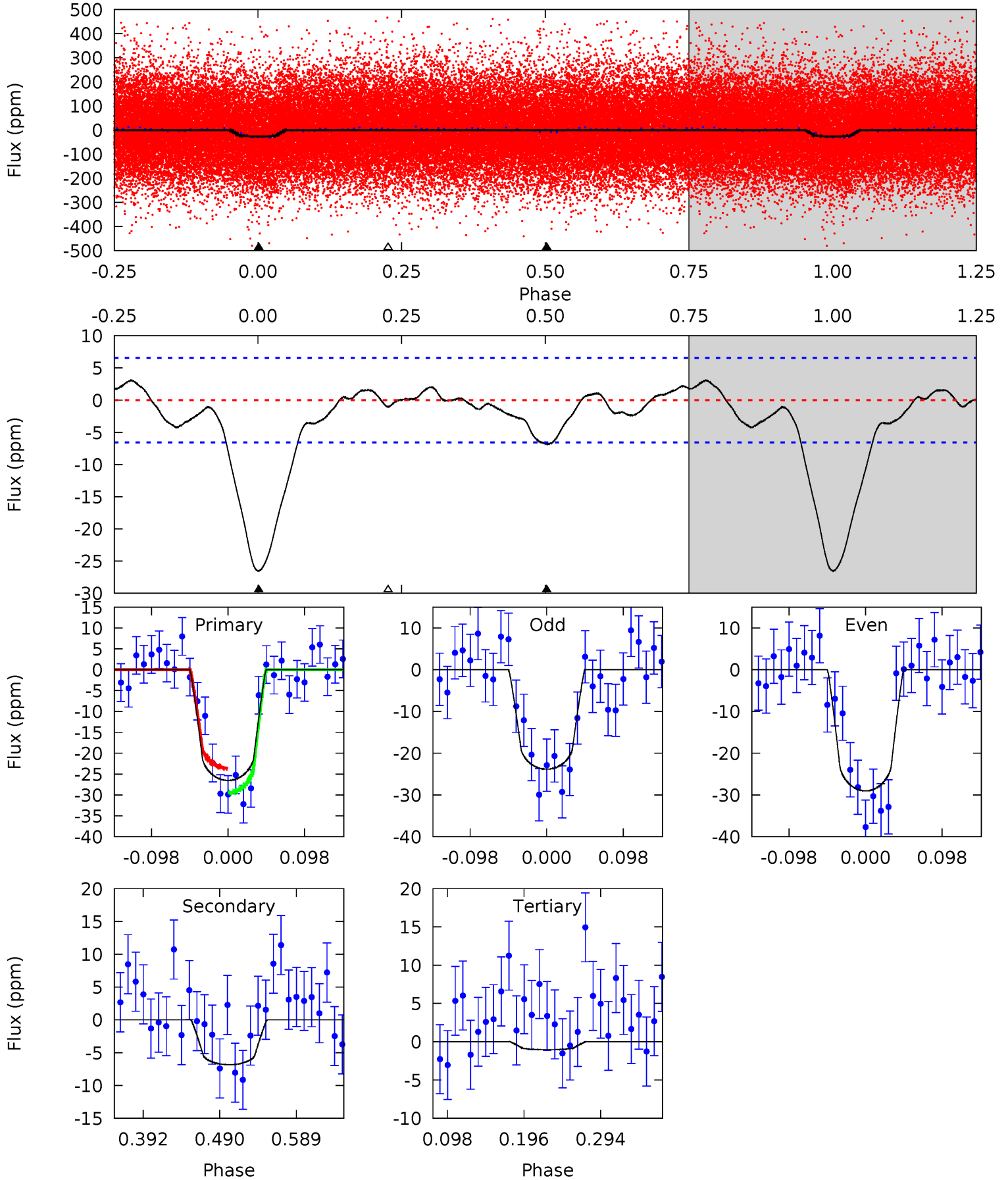




# DV Model-Shift Uniqueness Test

007847104-01, P = 1.284980 Days, E = 131.460594 Days

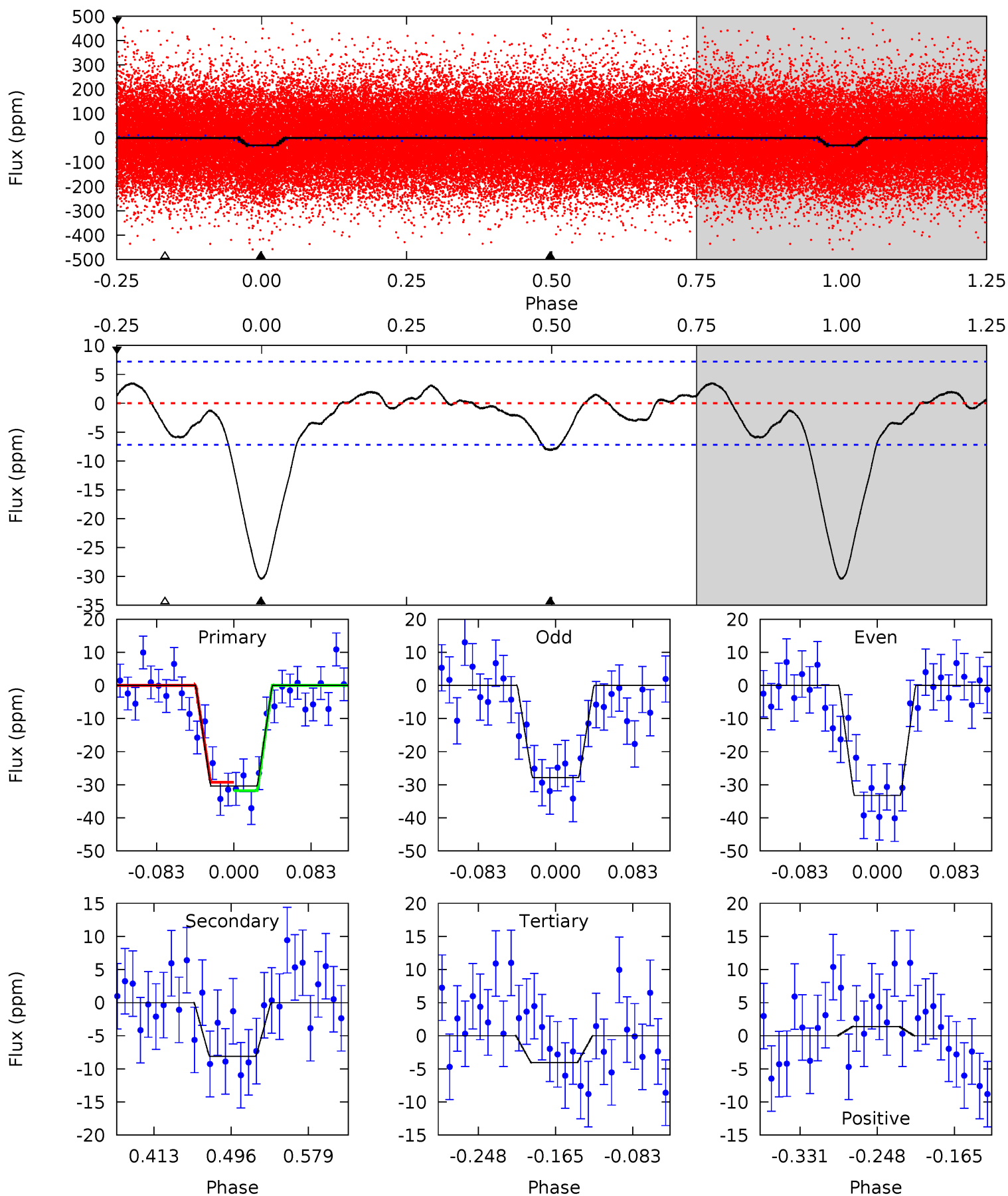
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.5	4.75	0.72	0	4.57	1.65	1.23	17.7	18.5	4.04	4.75	1.81	1.01	0.10	2.06



# Alt Model-Shift Uniqueness Test

007847104-01, P = 1.284987 Days, E = 131.460186 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
19.4	5.17	2.59	0.88	4.60	1.74	1.42	16.8	18.5	2.59	4.29	1.73	1.03	0.10	0.81





### Stellar Parameters For KIC 007847104

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6060^{+180}_{-180}$	$3.852^{+0.315}_{-0.105}$	$-0.300^{+0.350}_{-0.250}$	$2.106^{+0.392}_{-0.729}$	$1.151^{+0.209}_{-0.209}$	$0.173^{+0.347}_{-0.066}$
	+3%/-3%	+8%/-3%	+117%/-83%	+19%/-35%	+18%/-18%	+200%/-38%
Source	PHO1	FLK73	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 007847104-01 / KOI 4412.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-7 \pm 1$	$1.18^{+0.40}_{-0.39}$	$3418^{+212}_{-302}$	$4261^{+756}_{-563}$	$1.637^{+1.845}_{-0.753}$
Alt.	$-8 \pm 2$	$1.19^{+0.42}_{-0.41}$	$3418^{+220}_{-322}$	$4368^{+825}_{-532}$	$1.804^{+2.532}_{-0.798}$

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

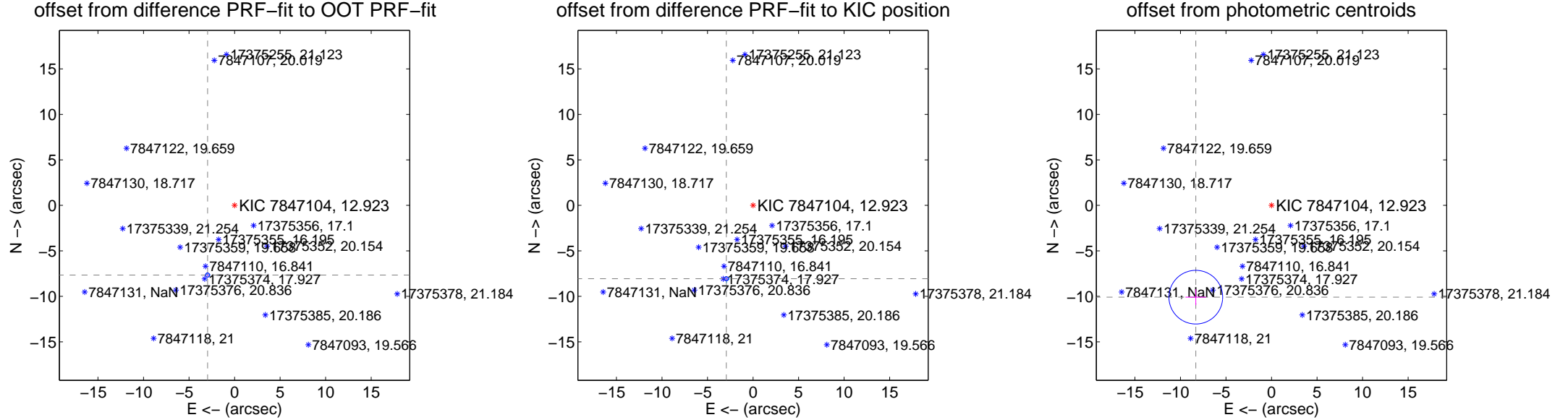
## DV Centroid Data

Supplemental centroid analysis for 007847104-01. Kepler magnitude: 12.92. Transit SNR 13.23

There are 17 quarters with good PRF difference image offsets

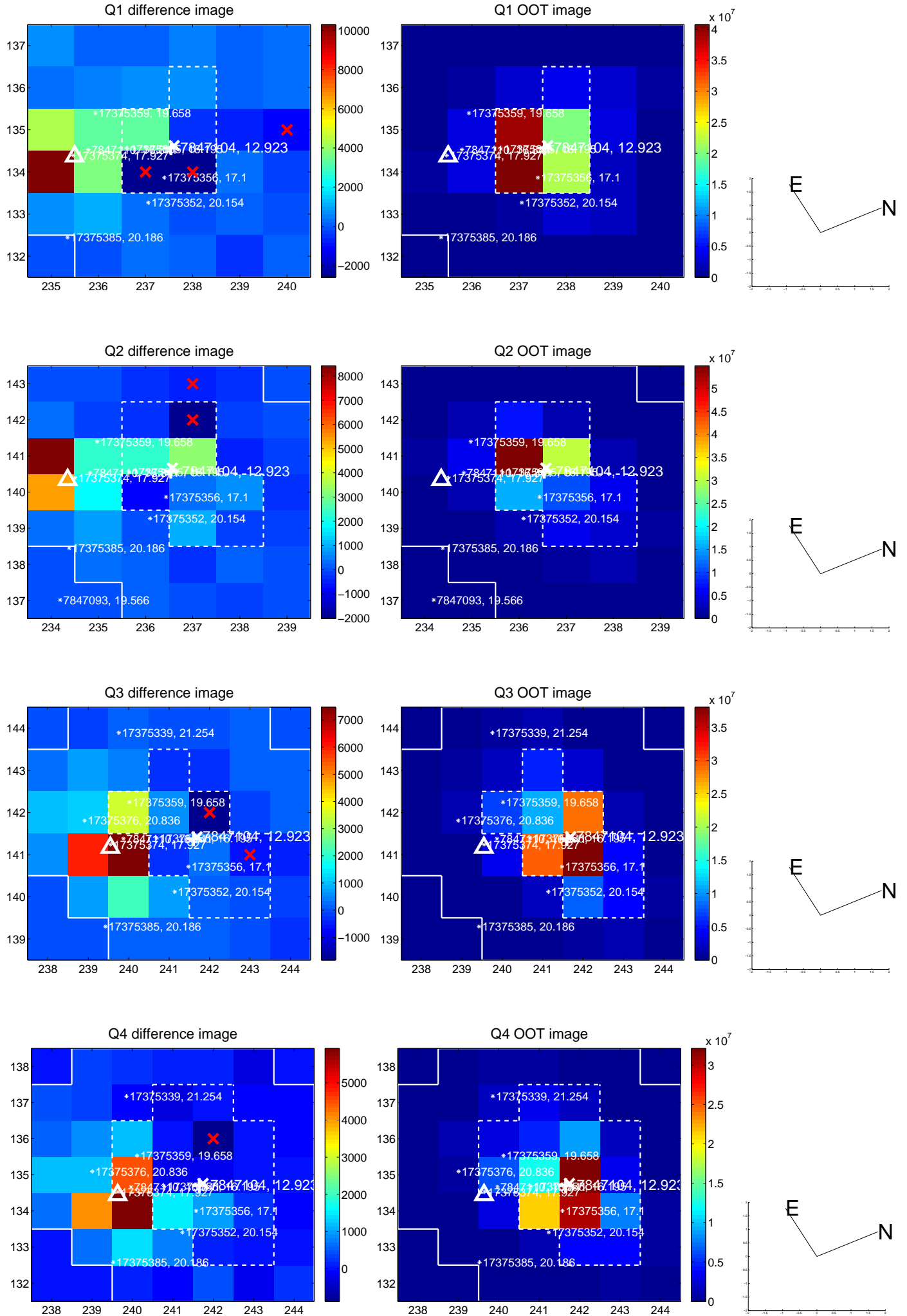
The direct PRF centroid is offset from the target star catalog position by about 0.48 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	8.213 $\pm$ 0.077	106.58	2.964 $\pm$ 0.073	-7.660 $\pm$ 0.076
PRF-fit source offset from KIC position	8.574 $\pm$ 0.074	115.41	2.936 $\pm$ 0.076	-8.055 $\pm$ 0.074
photometric centroid source offset	13.07 $\pm$ 0.98	13.30	8.31 $\pm$ 1.13	-10.09 $\pm$ 0.87

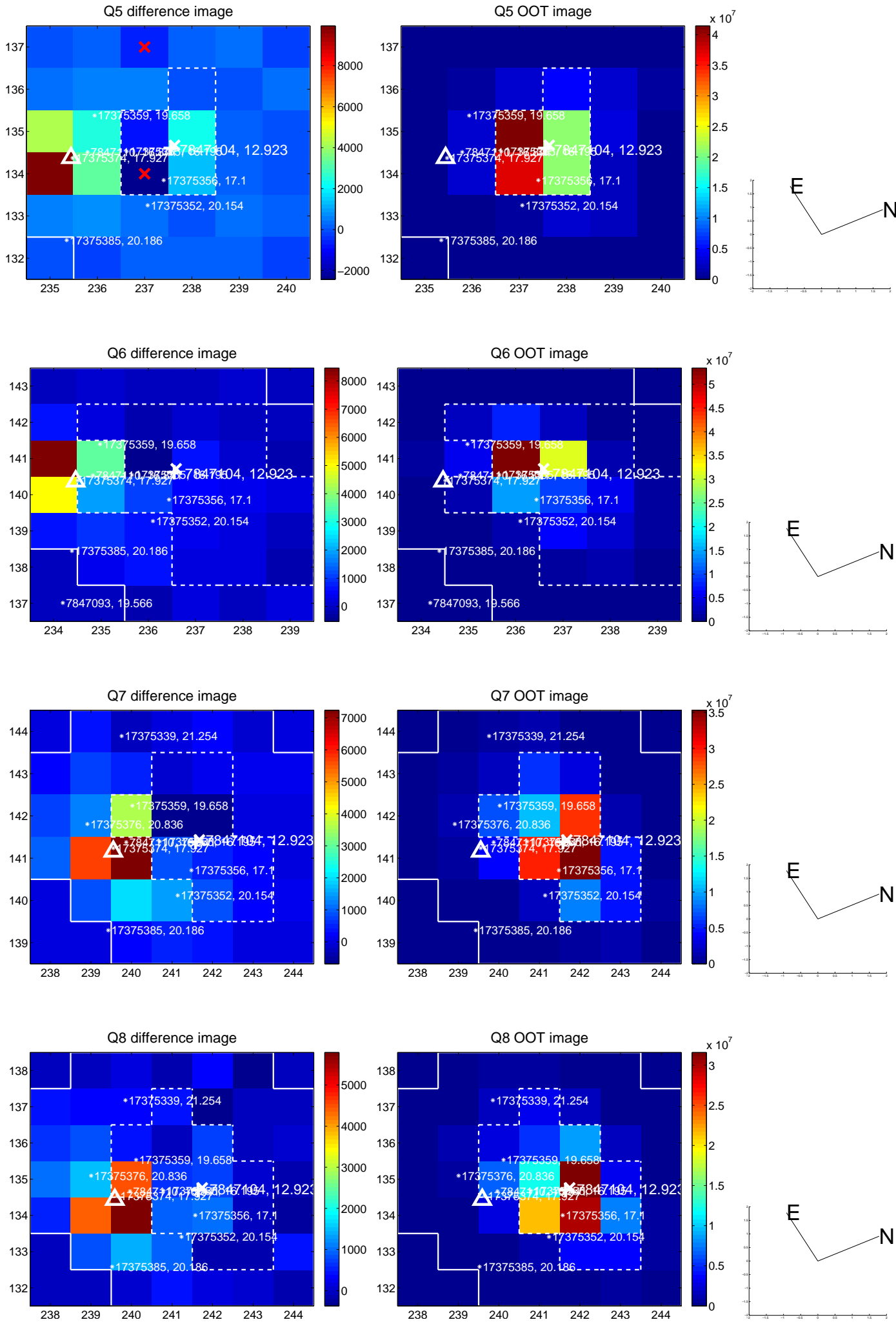


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

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

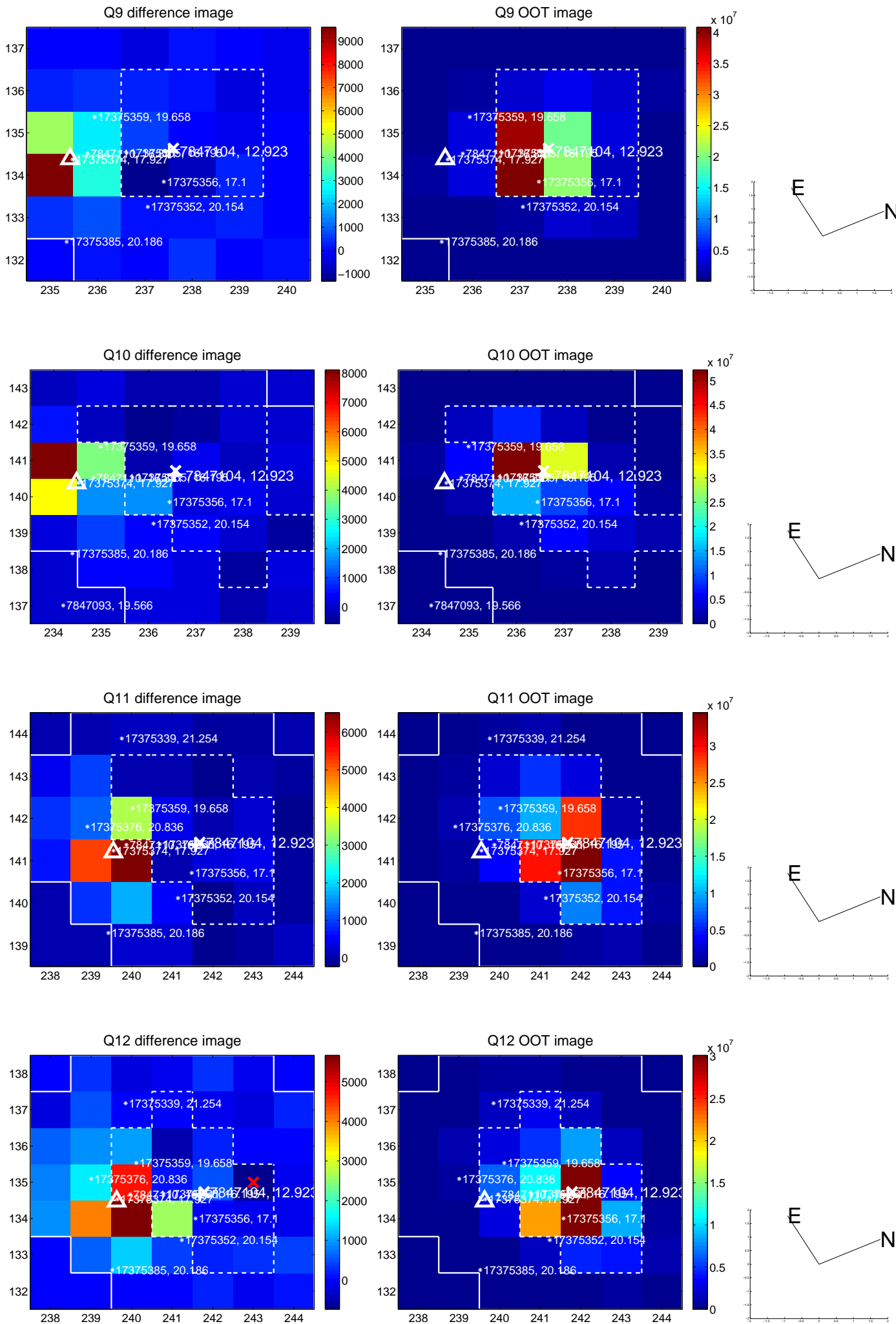


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



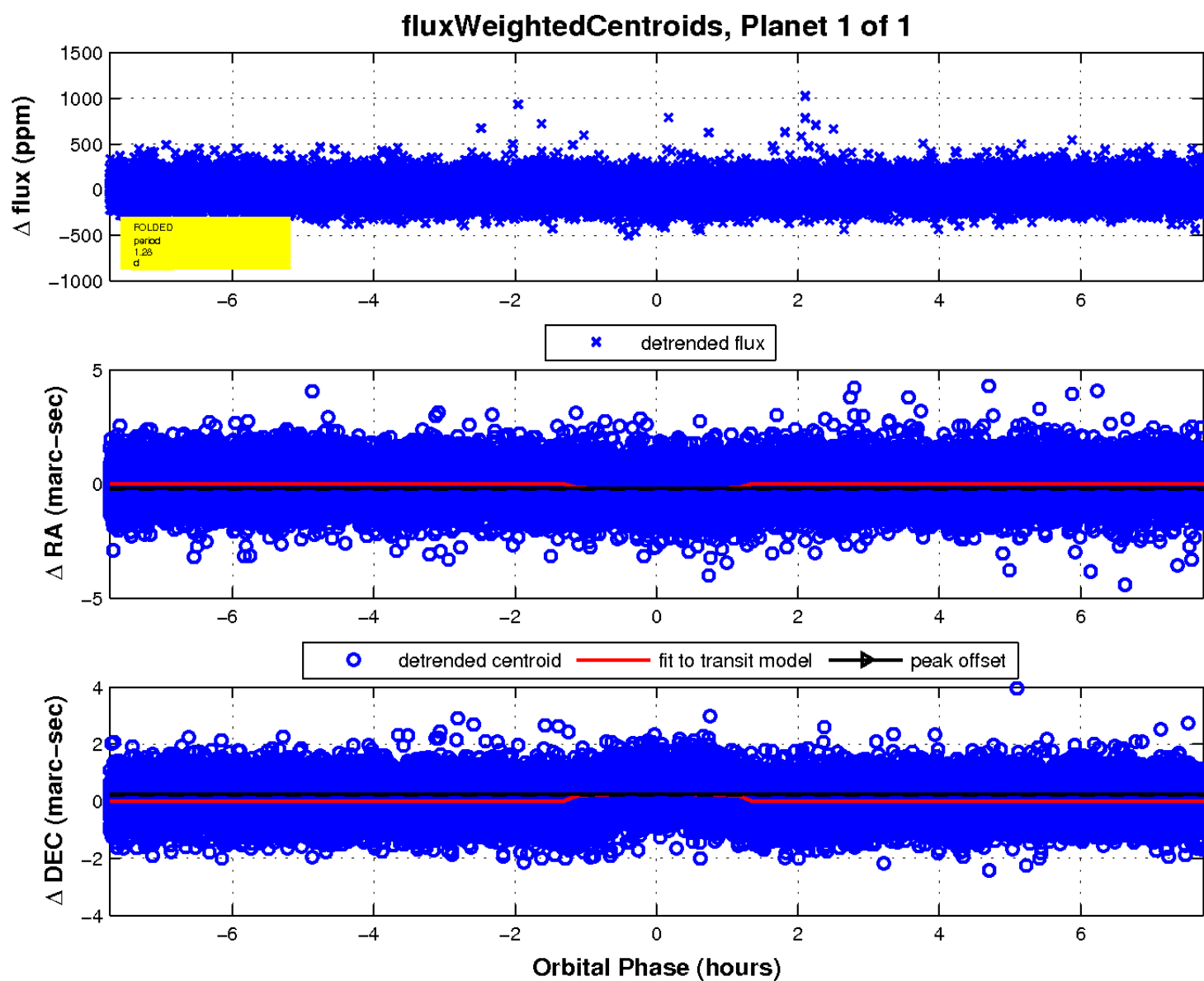
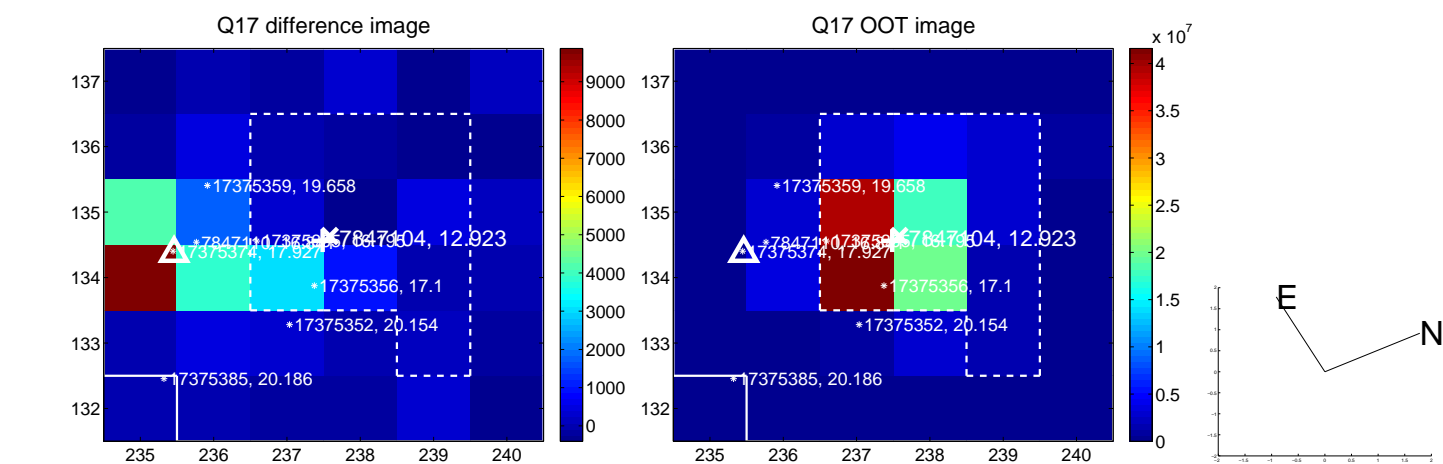


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

