

# KIC 008848104

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008848104-01	OBS	7100.01	0.824850	131.628113	24281.7	1.620	4087.2	2201.2	1.65	5658	27.76	9849.25

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008848104-01	OBS	PC	0.30	0	1	0	0	MOD_SEC_DV—PLANET_OCCULT_DV—MOD_SEC_ALT

**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 008848104-01

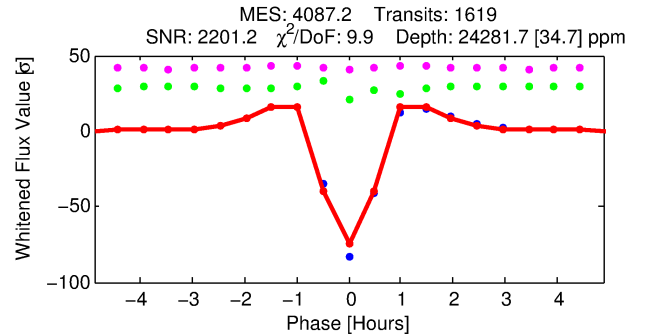
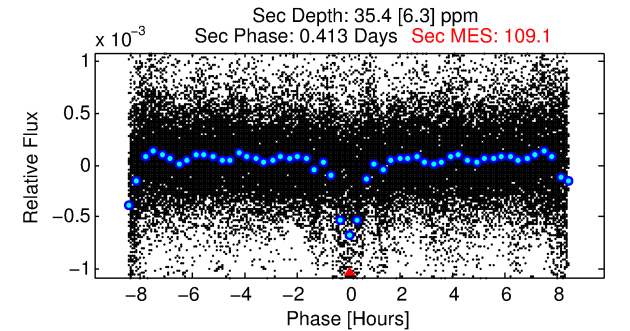
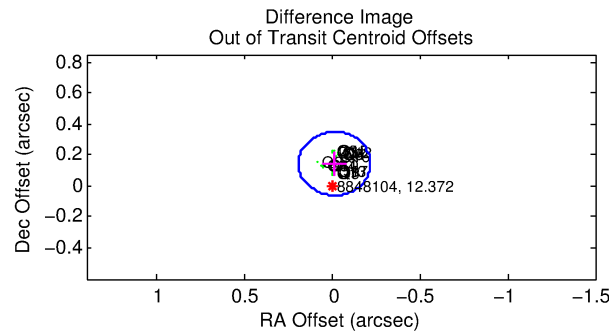
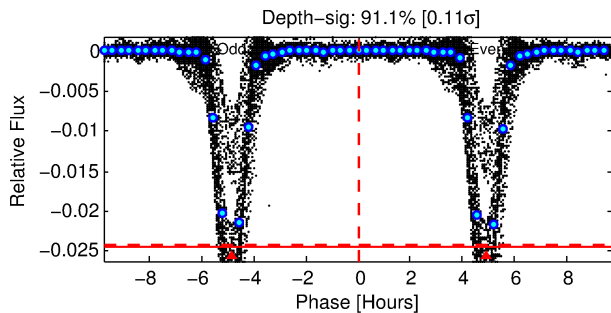
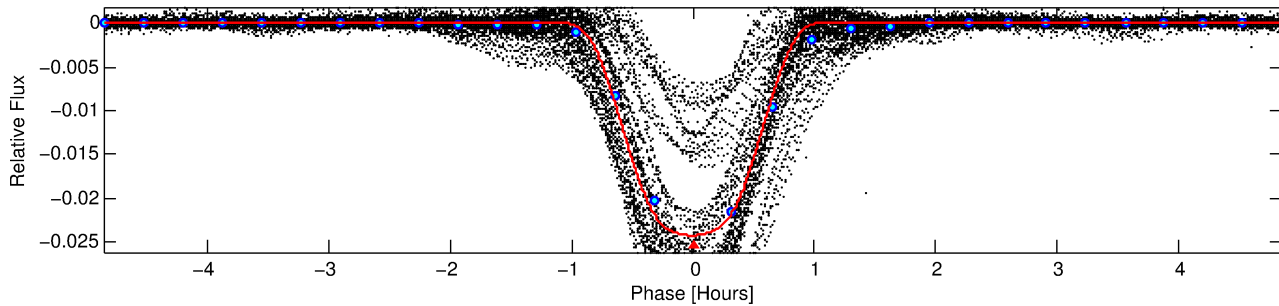
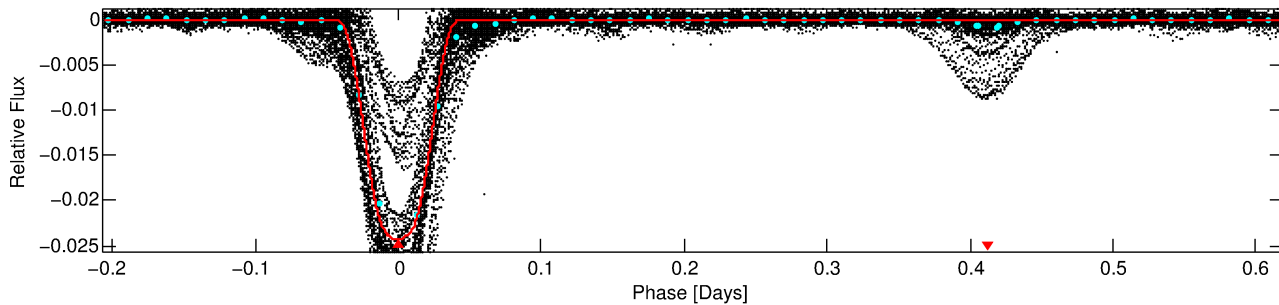
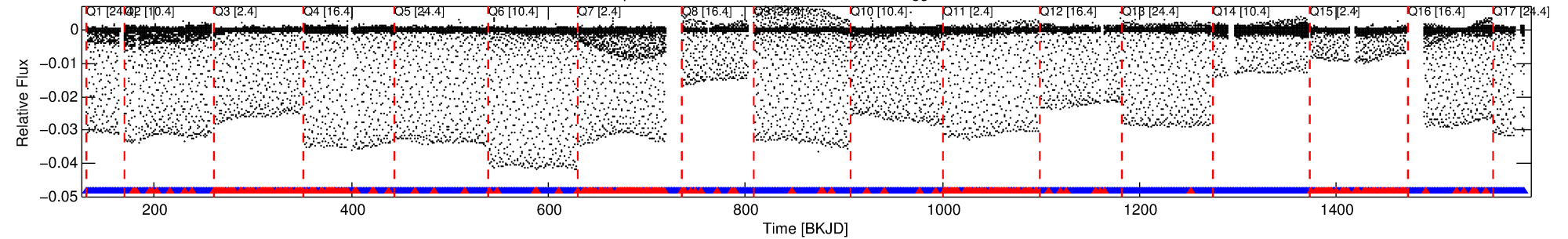
No Significant Match Found

# DV One-Page Summary

KIC: 8848104 Candidate: 1 of 1 Period: 0.825 d

KOI: K07100.01 Corr: 0.916

Kp: 12.37 R\*: 1.65 Rs Teff: 5658.0 K Logg: 3.90 Fe/H: -0.780



## DV Fit Results:

Period = 0.82485 [0.00000] d  
Epoch = 131.6281 [0.0000] BKJD  
Rp/R\* = 0.1538 [0.0003]  
a/R\* = 3.69 [0.02]  
b = 0.69 [0.01]  
Seff = 9849.24 [11552.22]  
Teff = 2540 [745] K  
Rp = 27.76 [17.04] Re  
a = 0.0160 [0.0109] AU  
Ag = 0.01 [0.01] [-130.72σ]  
Teffp = 1113 [59] K [-1.91σ]

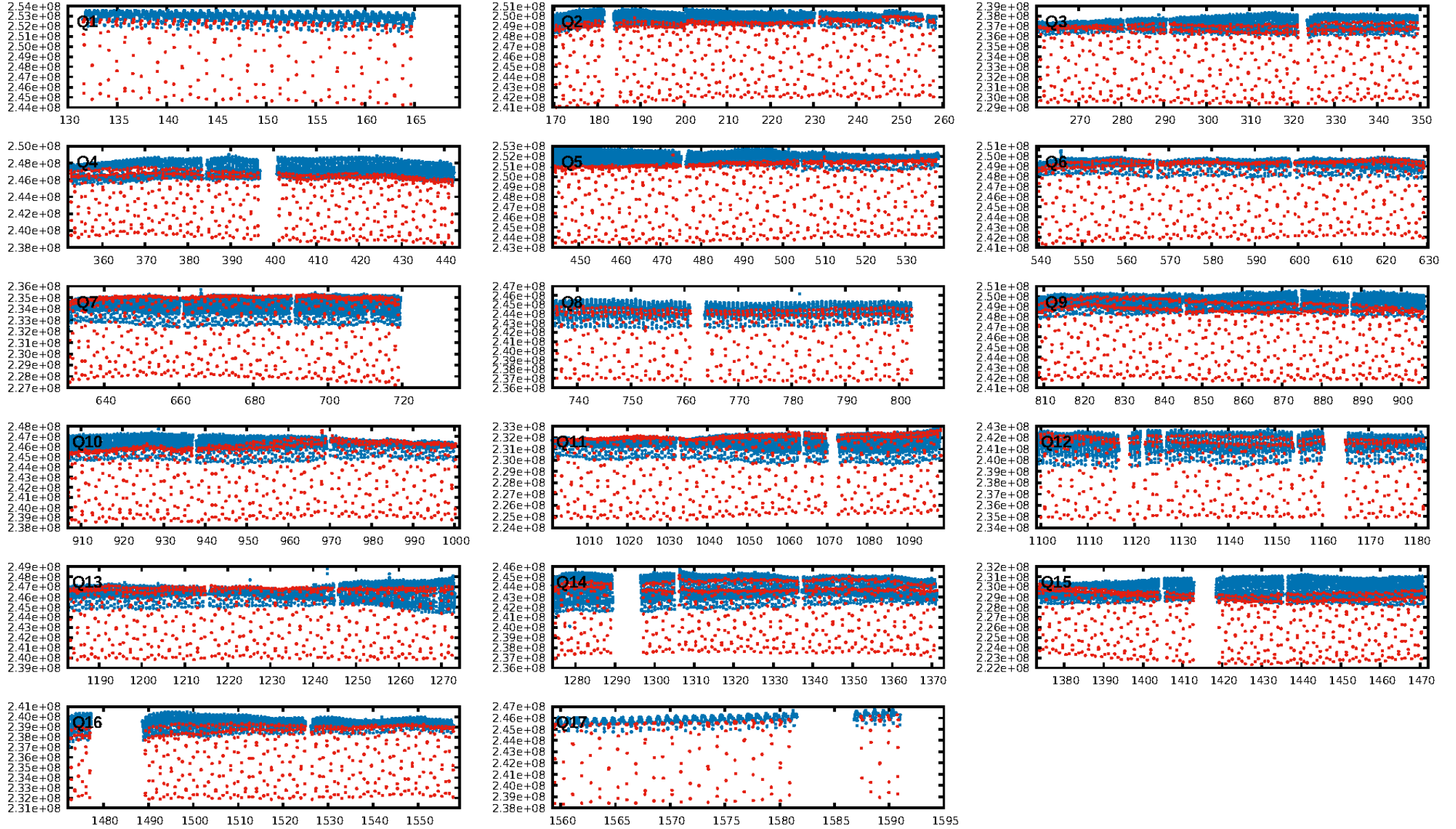
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 0.80 [1239/1546]  
GhostDiagnostic-chr: 3.797  
Centroid-sig: 0.0%  
Centroid-so: 1.023 arcsec [633.32σ]  
OotOffset-rm: 0.145 arcsec [2.12σ]  
KicOffset-rm: 0.199 arcsec [2.94σ]  
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]

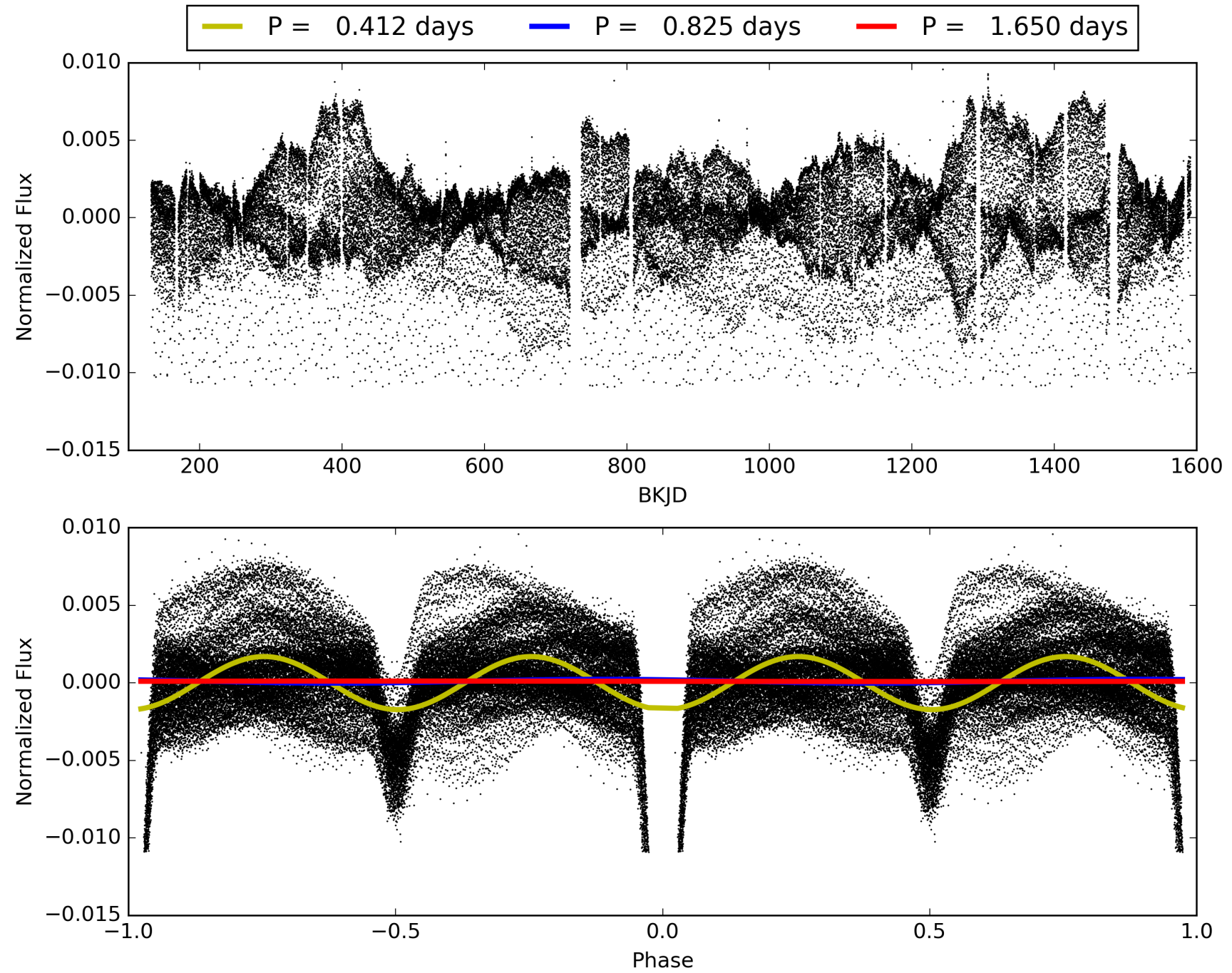
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:10:39 Z

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

# TCE 008848104-01, PDC Light Curves

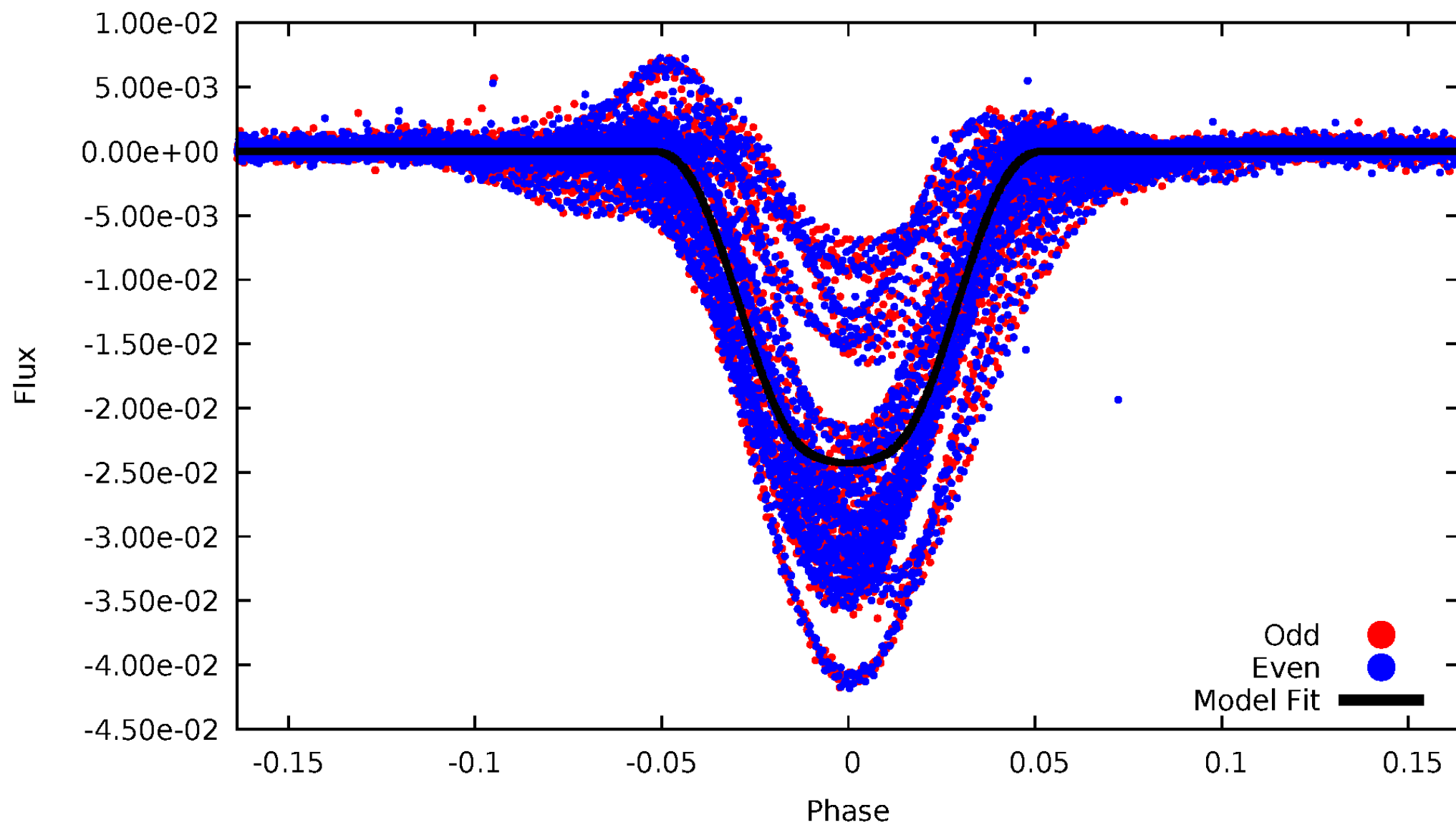


TCE 008848104-01



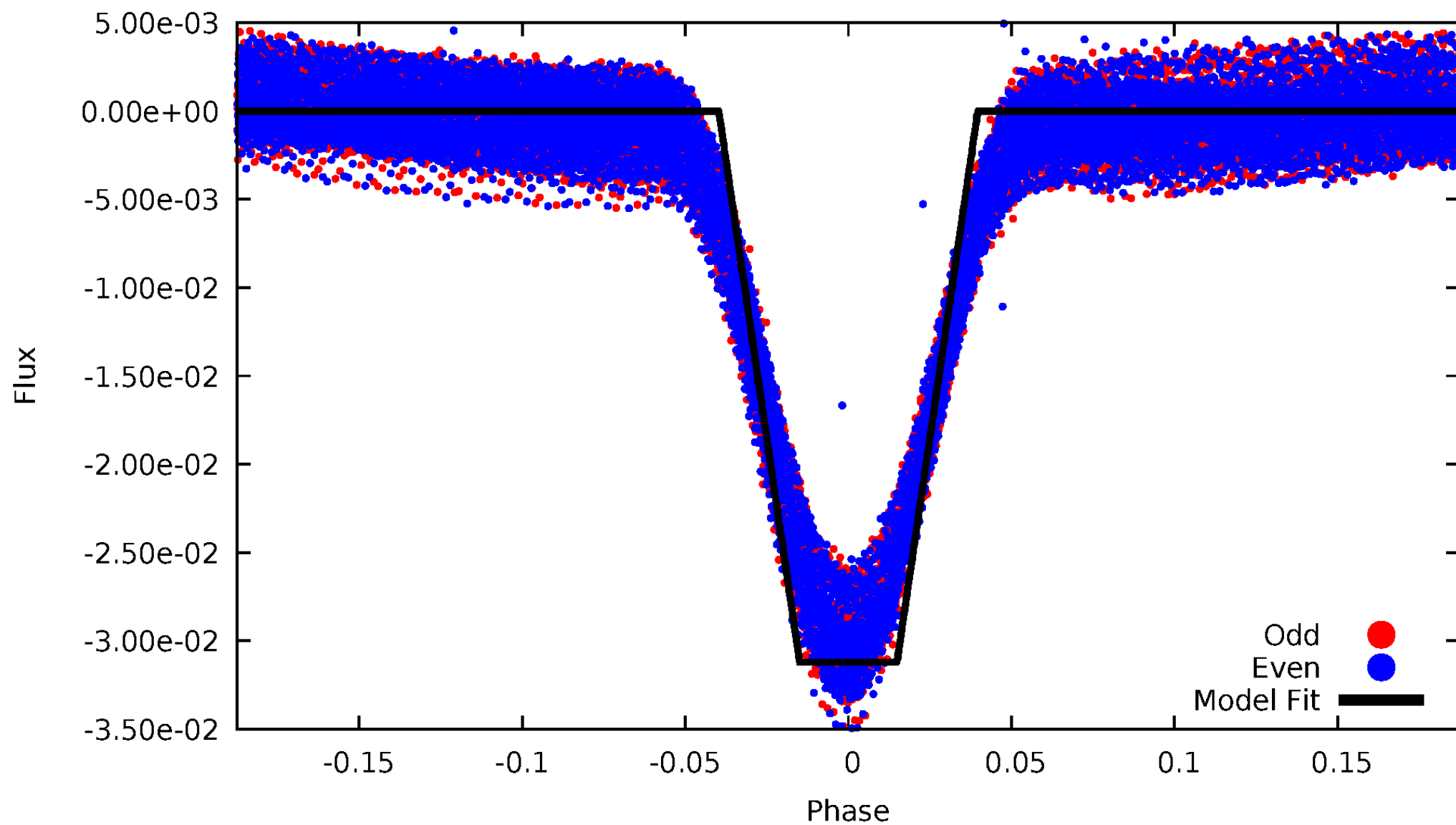
# DV Odd/Even

TCE 008848104-01



# ALT Odd/Even

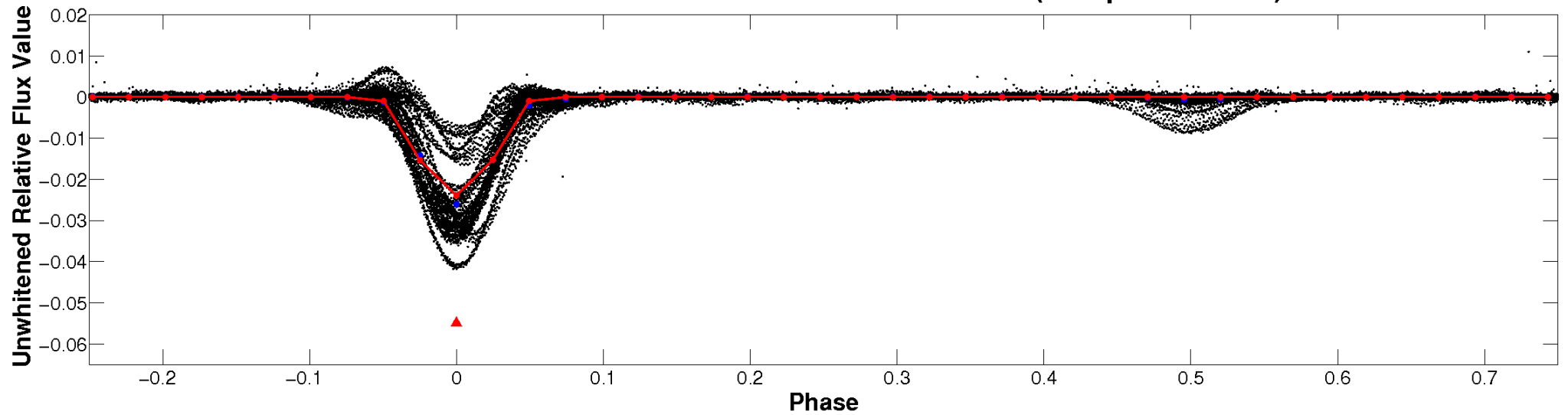
TCE 008848104-01



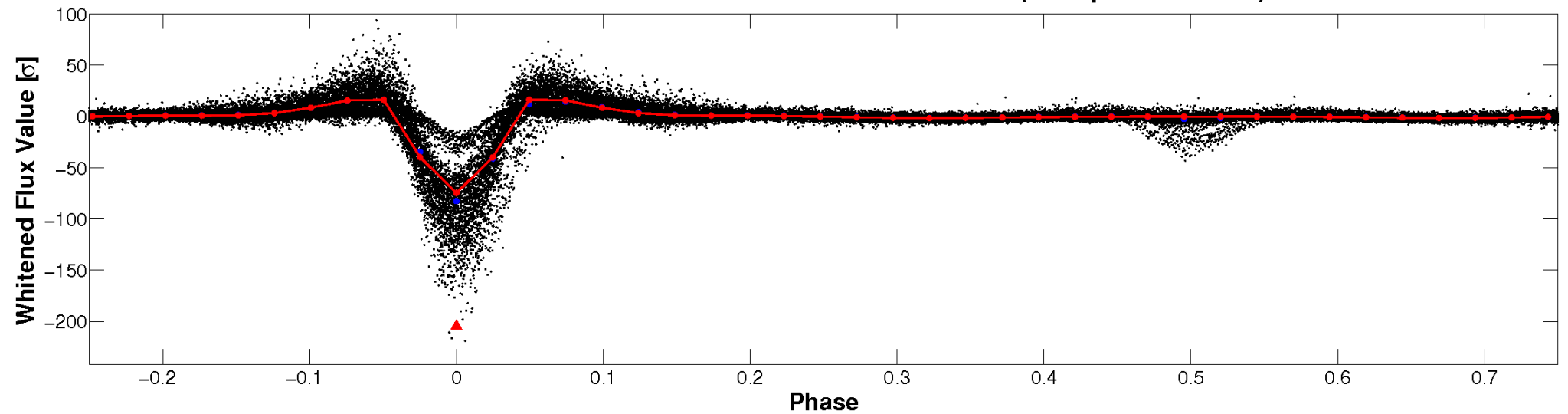


# Non-Whitened Vs. Whitened Light Curve

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

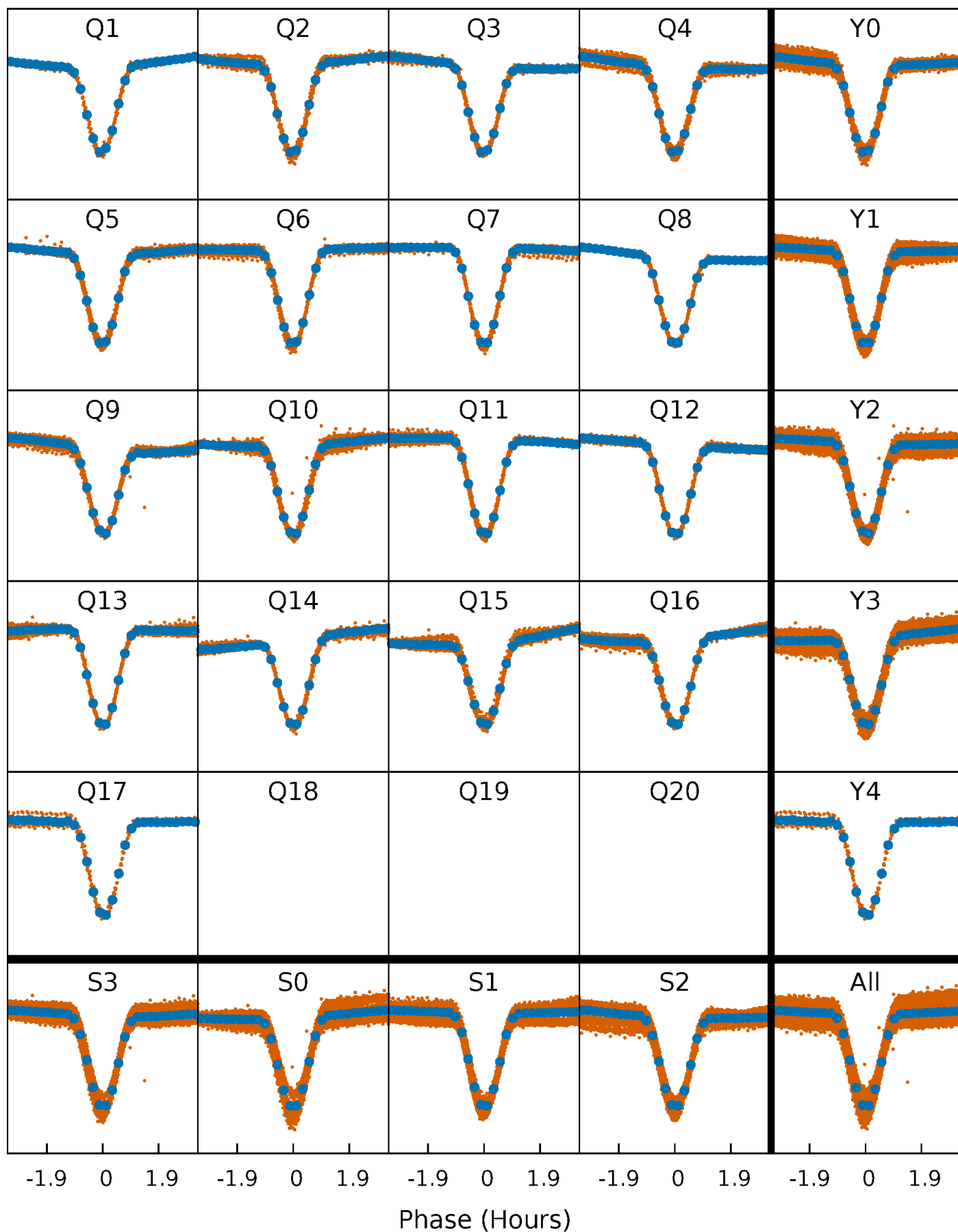


## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

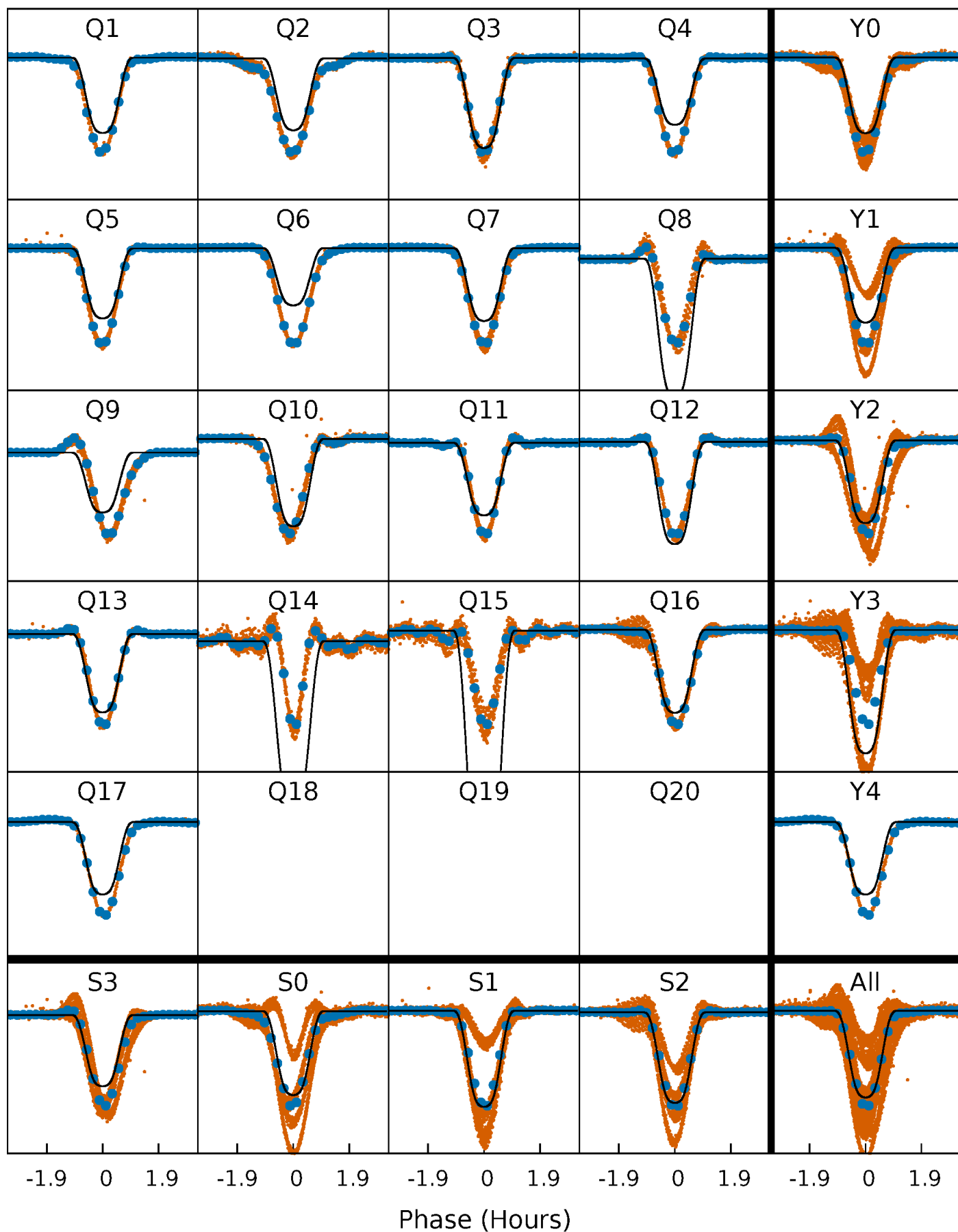
TCE 008848104-01 P= 0.824850 Days  $T_0=131.628113$  (BKJD)





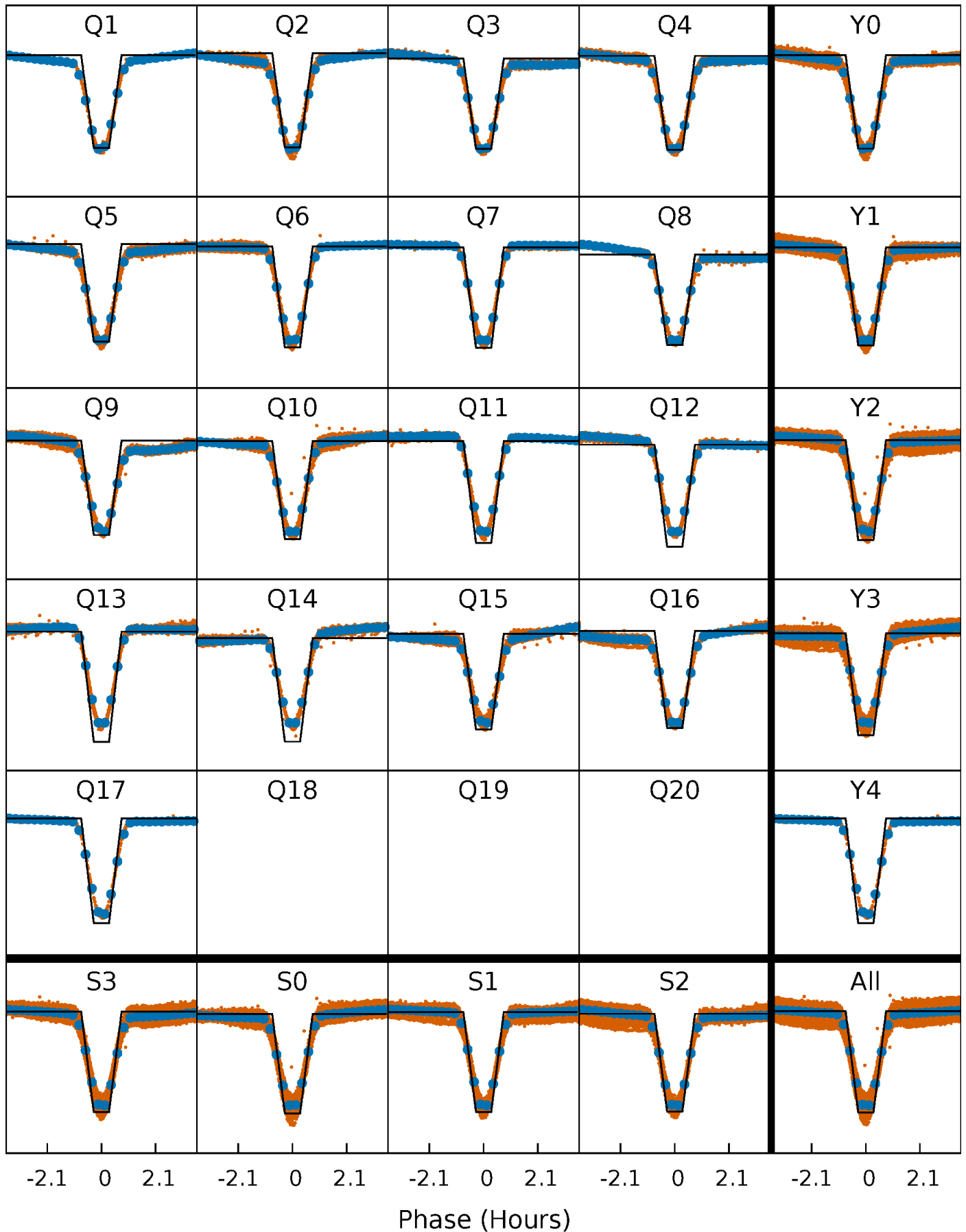
# DV Quarter-Phased Transit Curves

TCE 008848104-01 P= 0.824850 Days  $T_0=131.628113$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

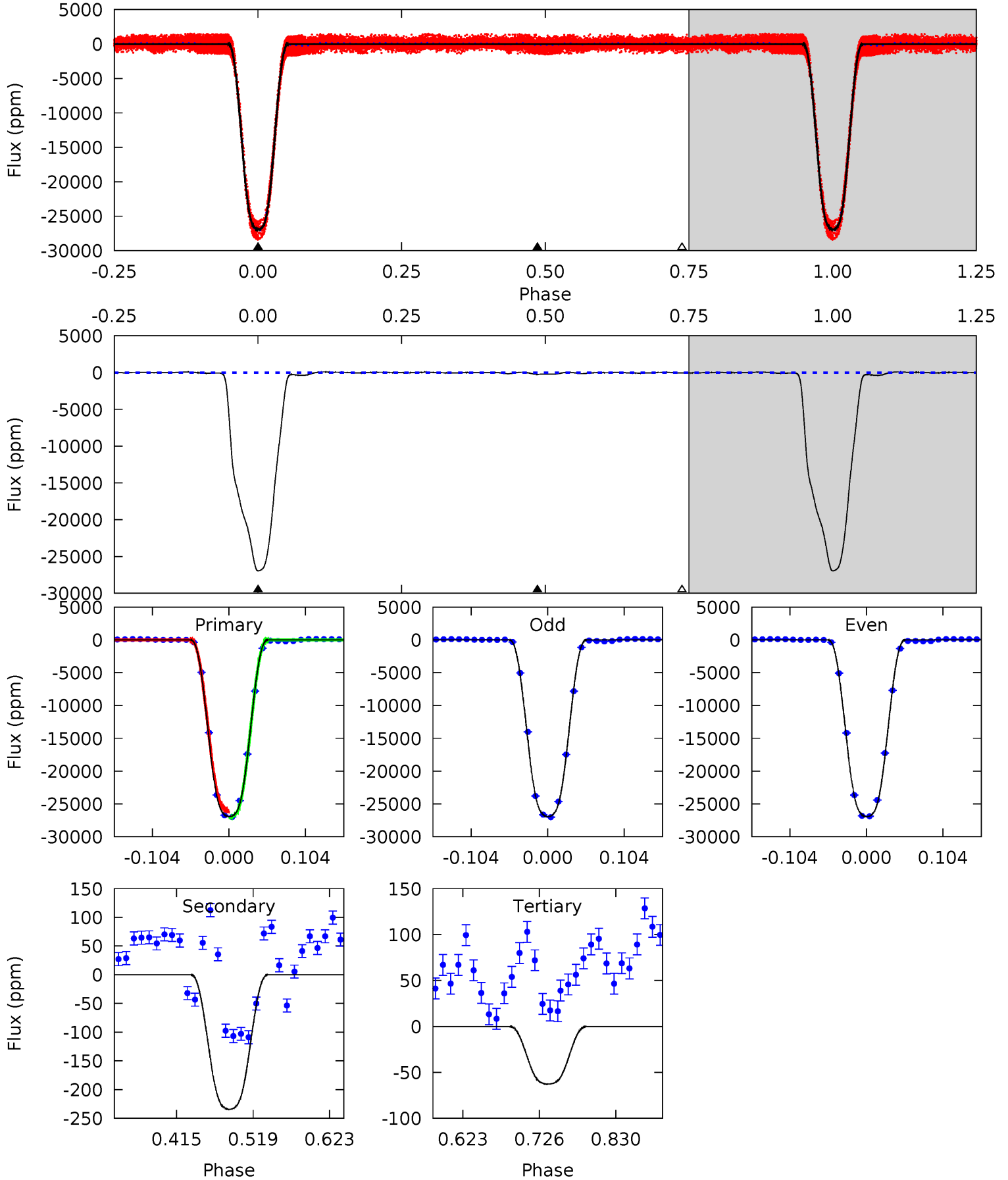
TCE 008848104-01 P= 0.824851 Days  $T_0=131.627528$  (BKJD)



# DV Model-Shift Uniqueness Test

008848104-01, P = 0.824850 Days, E = 130.803263 Days

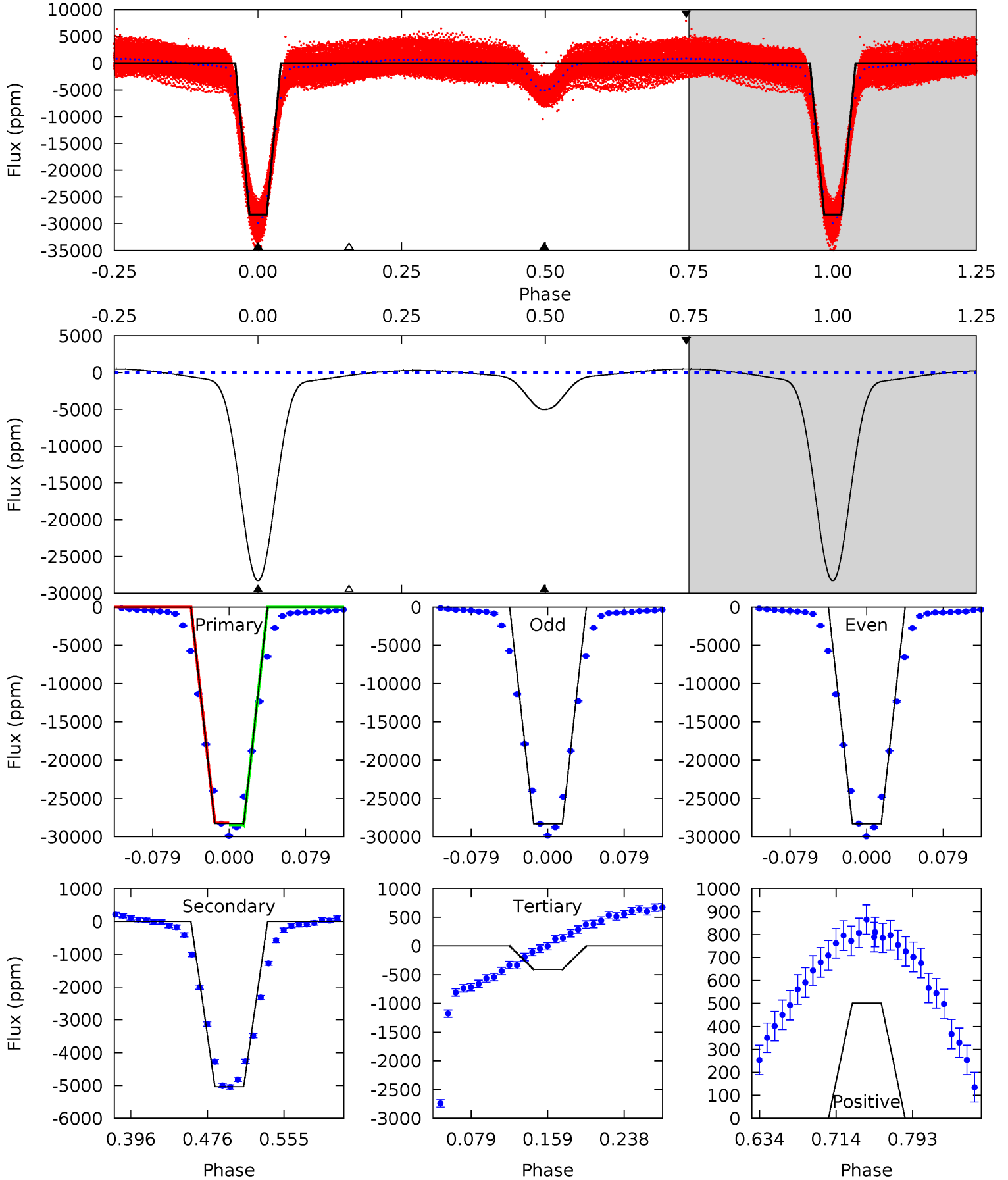
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3220	28.0	7.49	0	4.56	1.63	4.66	3213	3220	20.5	28.0	1.28	0.93	0.00	0



# Alt Model-Shift Uniqueness Test

008848104-01, P = 0.824851 Days, E = 130.802677 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
1216	216.2	17.5	21.6	4.61	1.75	18.8	1198	1194	198.7	194.6	0.33	1.00	0.02	5.27



### Stellar Parameters For KIC 008848104

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5658^{+166}_{-150}$	$3.903^{+0.712}_{-0.237}$	$-0.780^{+0.350}_{-0.300}$	$1.654^{+0.761}_{-1.015}$	$0.798^{+0.086}_{-0.086}$	$0.249^{+2.407}_{-0.156}$
	+3%/-3%	+18%/-6%	+45%/-38%	+46%/-61%	+11%/-11%	+968%/-63%
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 008848104-01 / KOI 7100.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-234 \pm 8$	$26.18^{+7.00}_{-8.07}$	$3456^{+426}_{-575}$	$-3268^{+415}_{-287}$	$0.047^{+0.053}_{-0.017}$
Alt.	$-5034 \pm 23$	$31.67^{+6.69}_{-9.90}$	$3527^{+389}_{-608}$	$3594^{+195}_{-254}$	$0.723^{+0.777}_{-0.242}$

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

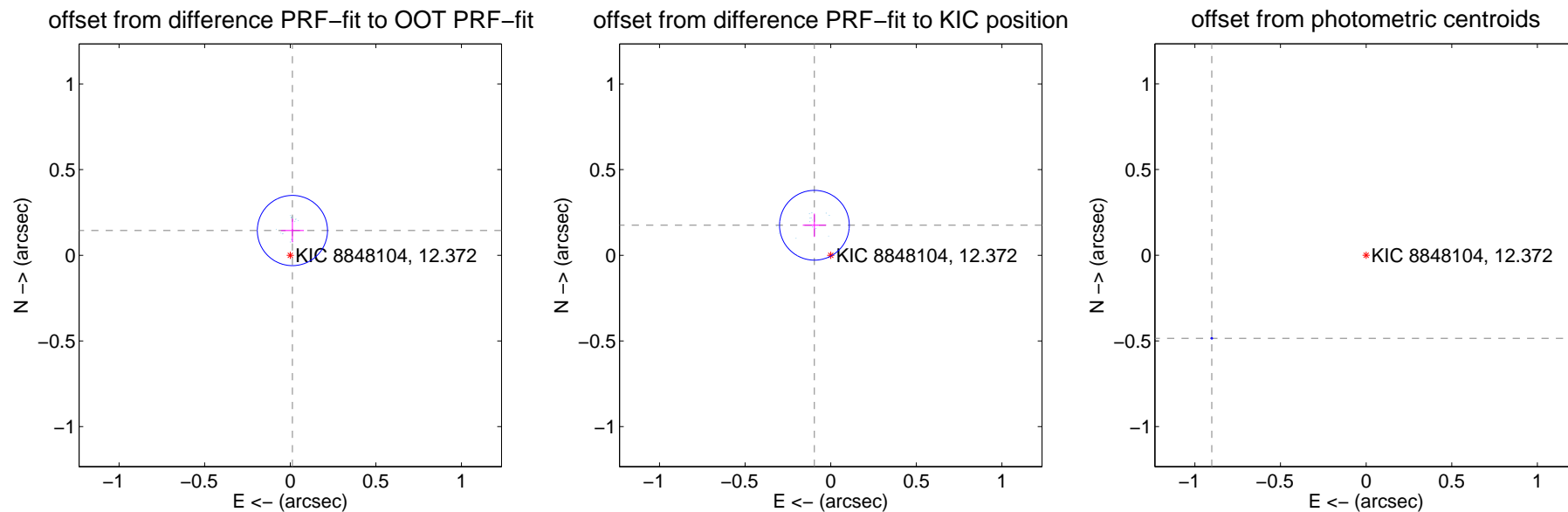
## DV Centroid Data

Supplemental centroid analysis for 008848104-01. Kepler magnitude: 12.37. Transit SNR 2201.15

There are 17 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

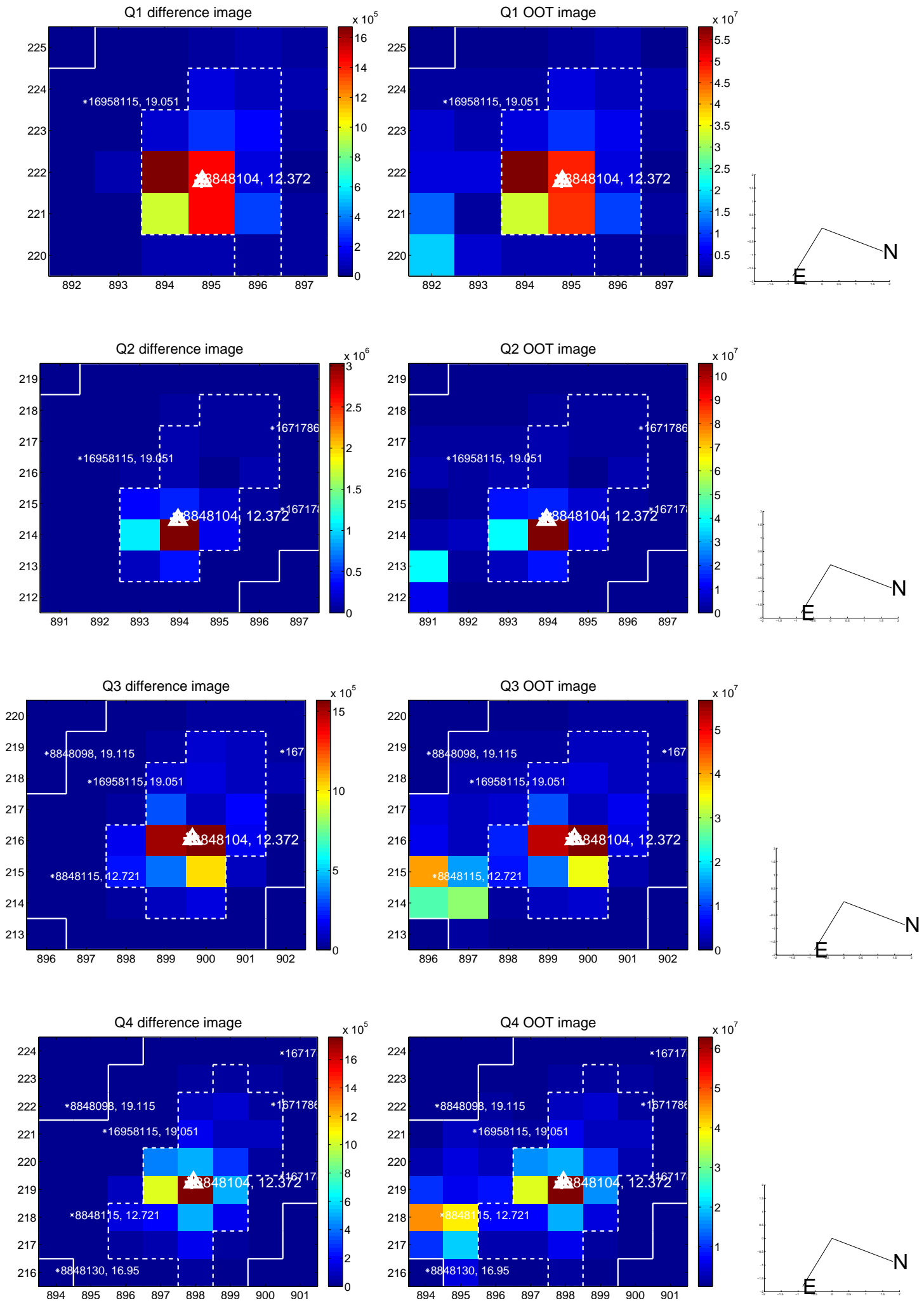
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.145 \pm 0.068$	2.12	$-0.013 \pm 0.067$	$0.144 \pm 0.068$
PRF-fit source offset from KIC position	$0.199 \pm 0.068$	2.94	$0.095 \pm 0.068$	$0.175 \pm 0.068$
photometric centroid source offset	$1.02 \pm 0.00$	<b>633.32</b>	$0.90 \pm 0.00$	$-0.48 \pm 0.00$



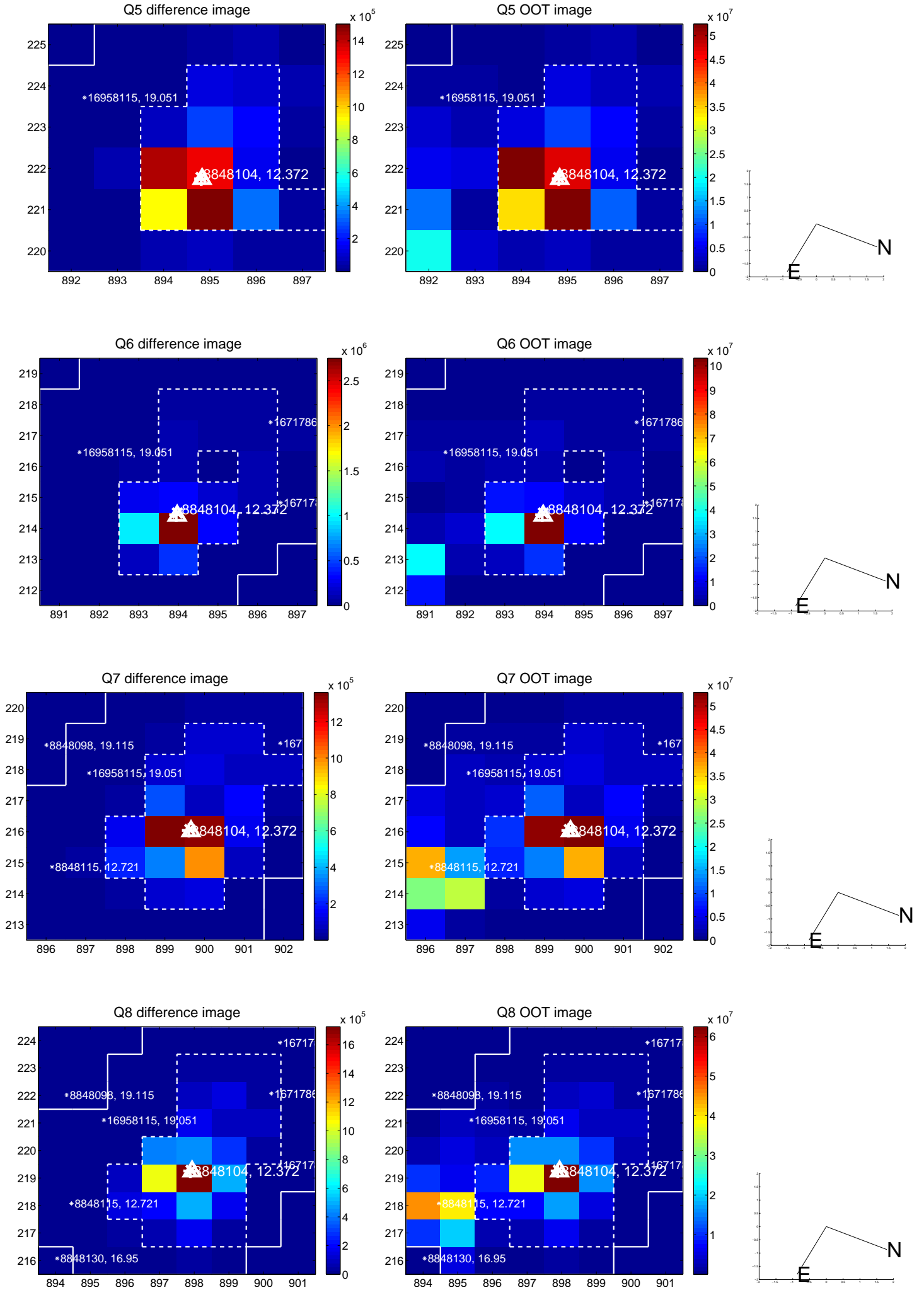
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



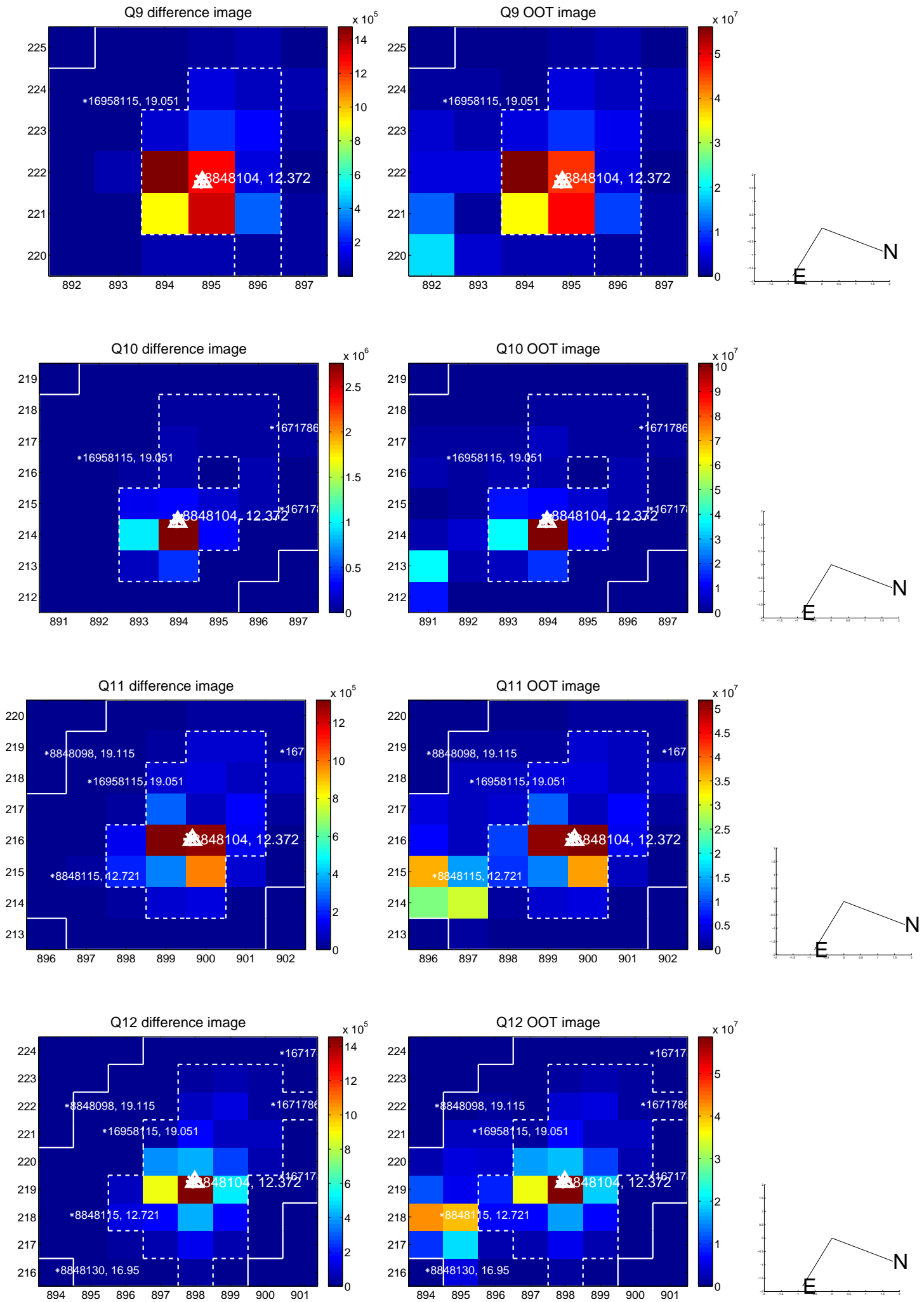
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



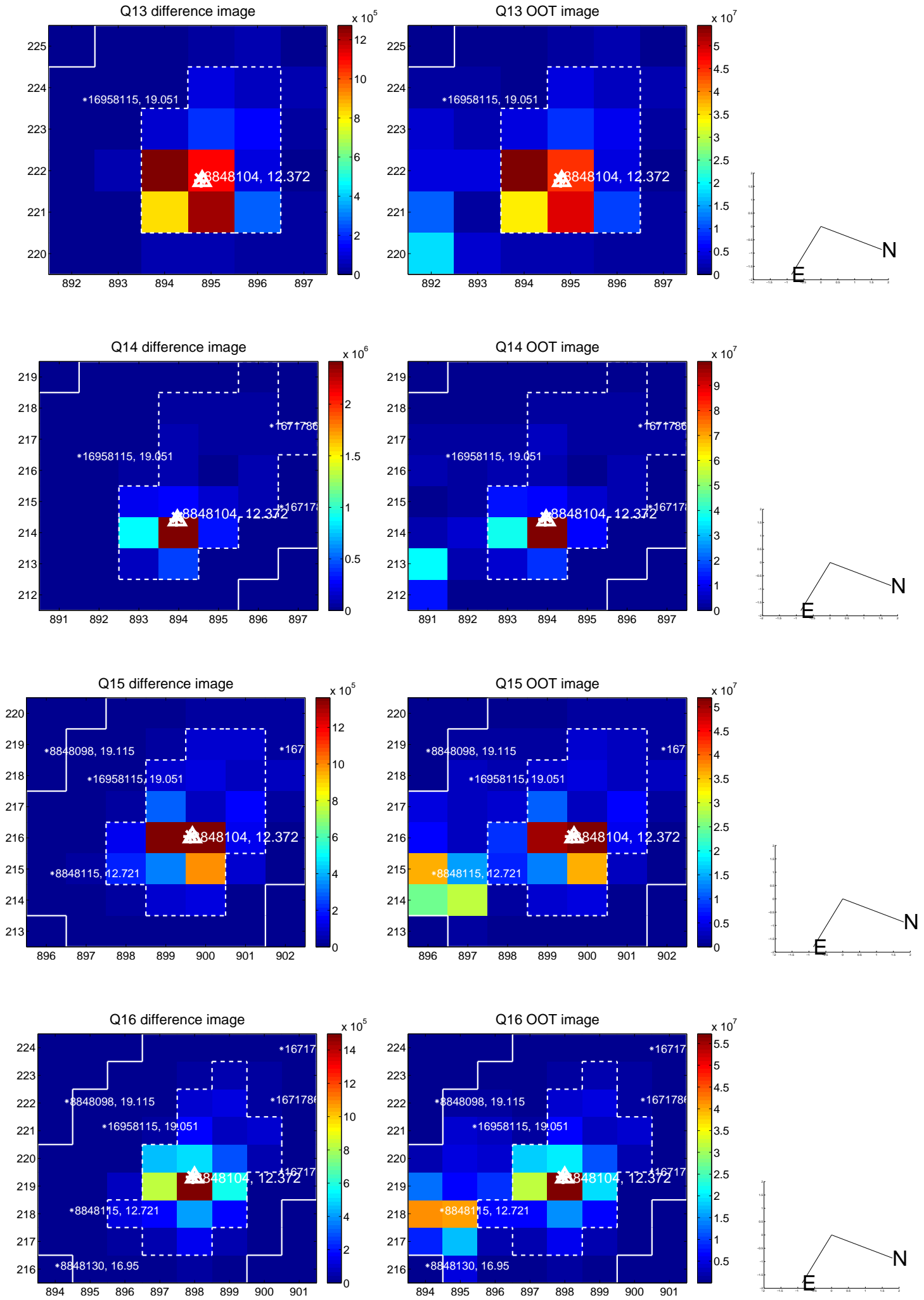
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



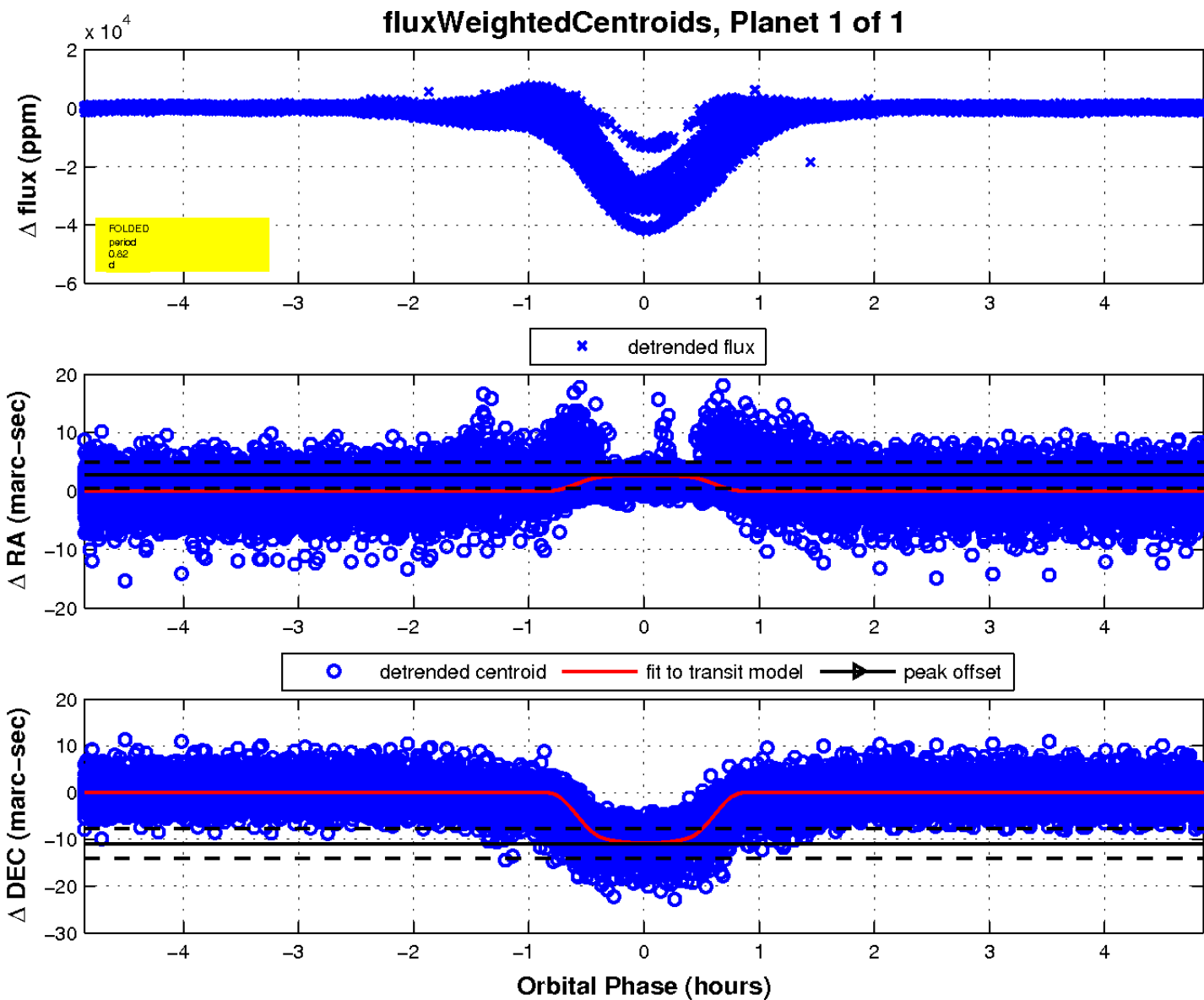
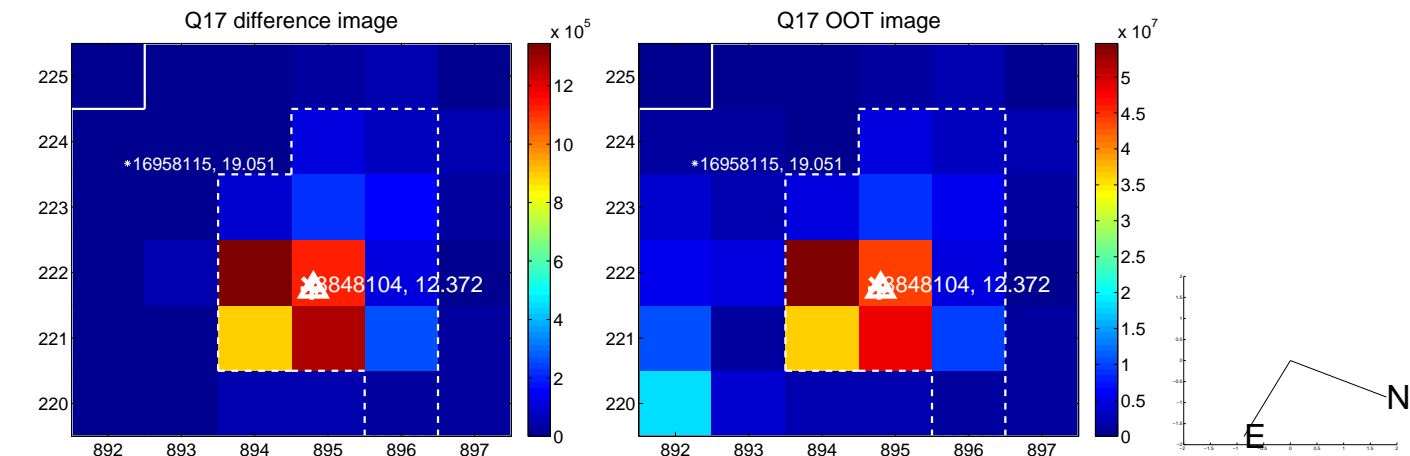
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

