

# KIC 008435247

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008435247-01	OBS	1131.01	0.696129	132.005847	1110.7	0.719	41.6	55.9	0.67	5245	2.83	1735.39

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008435247-01	OBS	PC	0.97	0	0	0	0	CENT_KIC_POS

**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 008435247-01

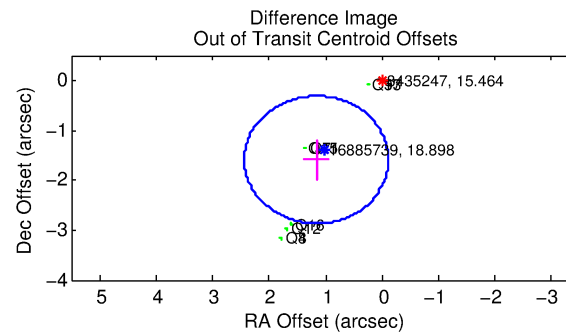
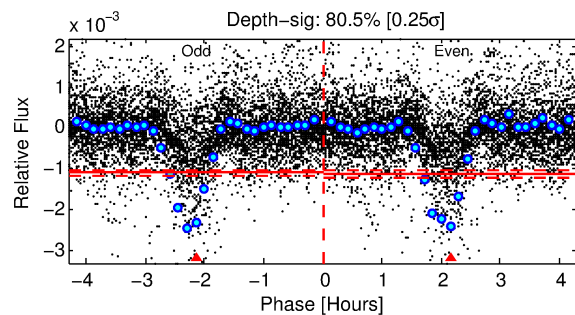
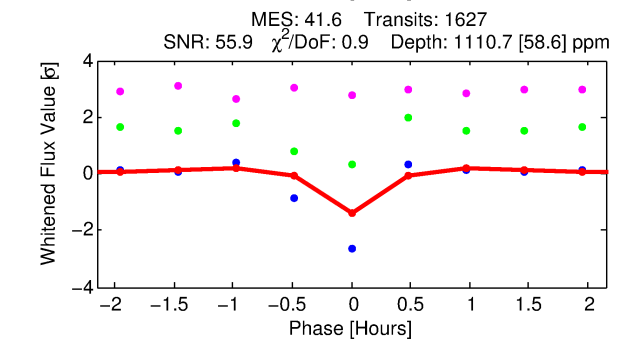
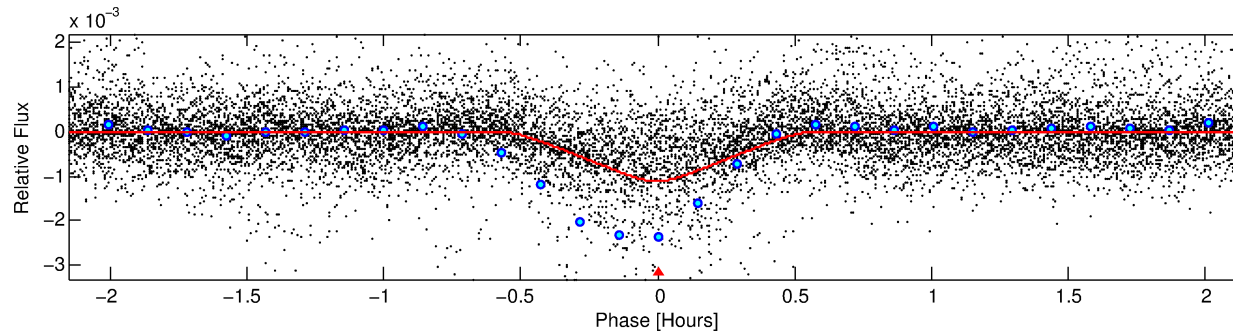
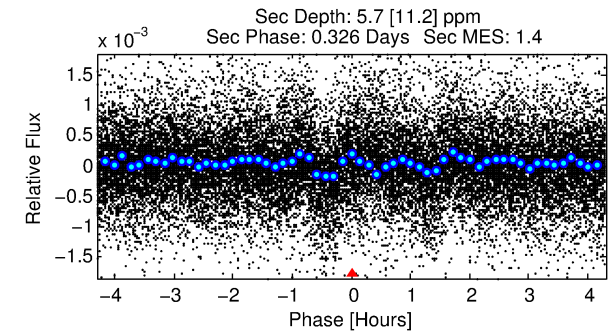
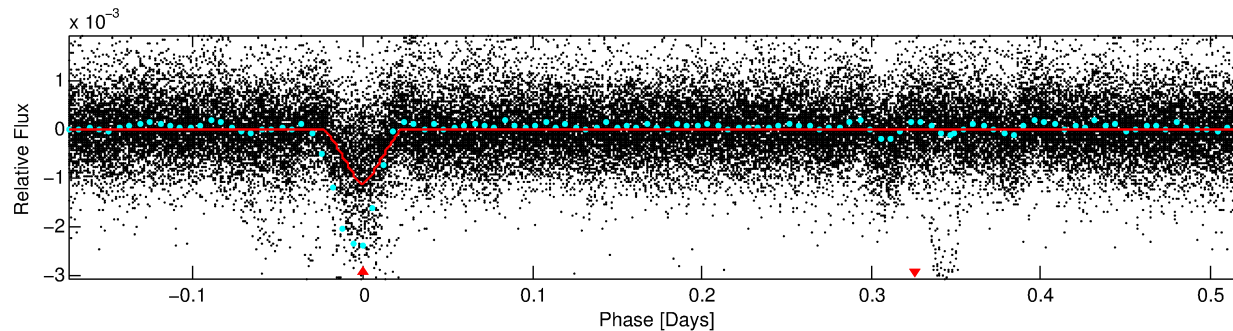
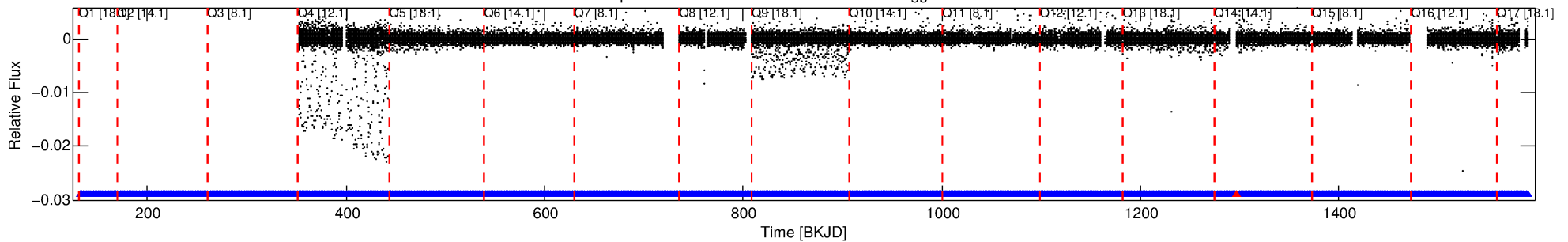
No Significant Match Found

# DV One-Page Summary

KIC: 8435247 Candidate: 1 of 1 Period: 0.696 d

KOI: K01131.01 Corr: 0.791

Kp: 15.46 R\*: 0.67 Rs Teff: 5245.0 K Logg: 4.59 Fe/H: -0.760



## DV Fit Results:

Period = 0.69613 [0.00000] d  
Epoch = 132.0058 [0.0002] BKJD  
Rp/R\* = 0.0384 [0.0042]  
a/R\* = 3.74 [1.36]  
b = 0.92 [0.07]  
Seff = 1735.39 [360.98]  
Teq = 1646 [86] K  
Rp = 2.83 [0.45] Re  
a = 0.0133 [0.0013] AU  
Ag = 0.07 [0.14] [-6.76σ]  
Teffp = 1308 [644] K [-0.52σ]

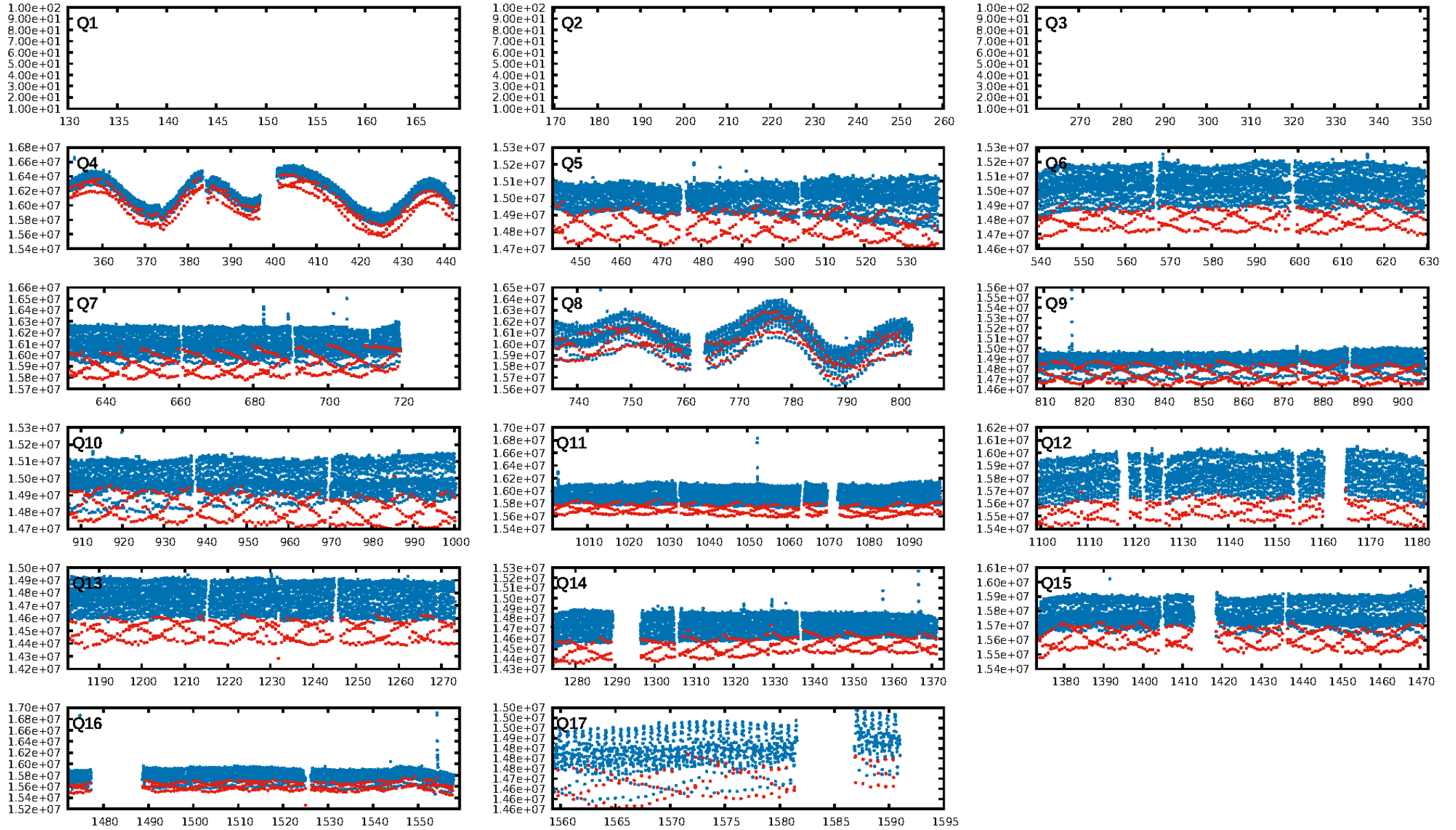
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.08e-308  
RollingBand-fgt: 1.00 [1588/1589]  
GhostDiagnostic-chr: 1.18  
Centroid-sig: 0.0%  
Centroid-so: 1.109 arcsec [7.13σ]  
OotOffset-rm: 1.970 arcsec [4.63σ]  
KicOffset-rm: 0.252 arcsec [3.49σ]  
OotOffset-st: 0/3/4/4 [11]  
KicOffset-st: 3/3/4/4 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [14/14]

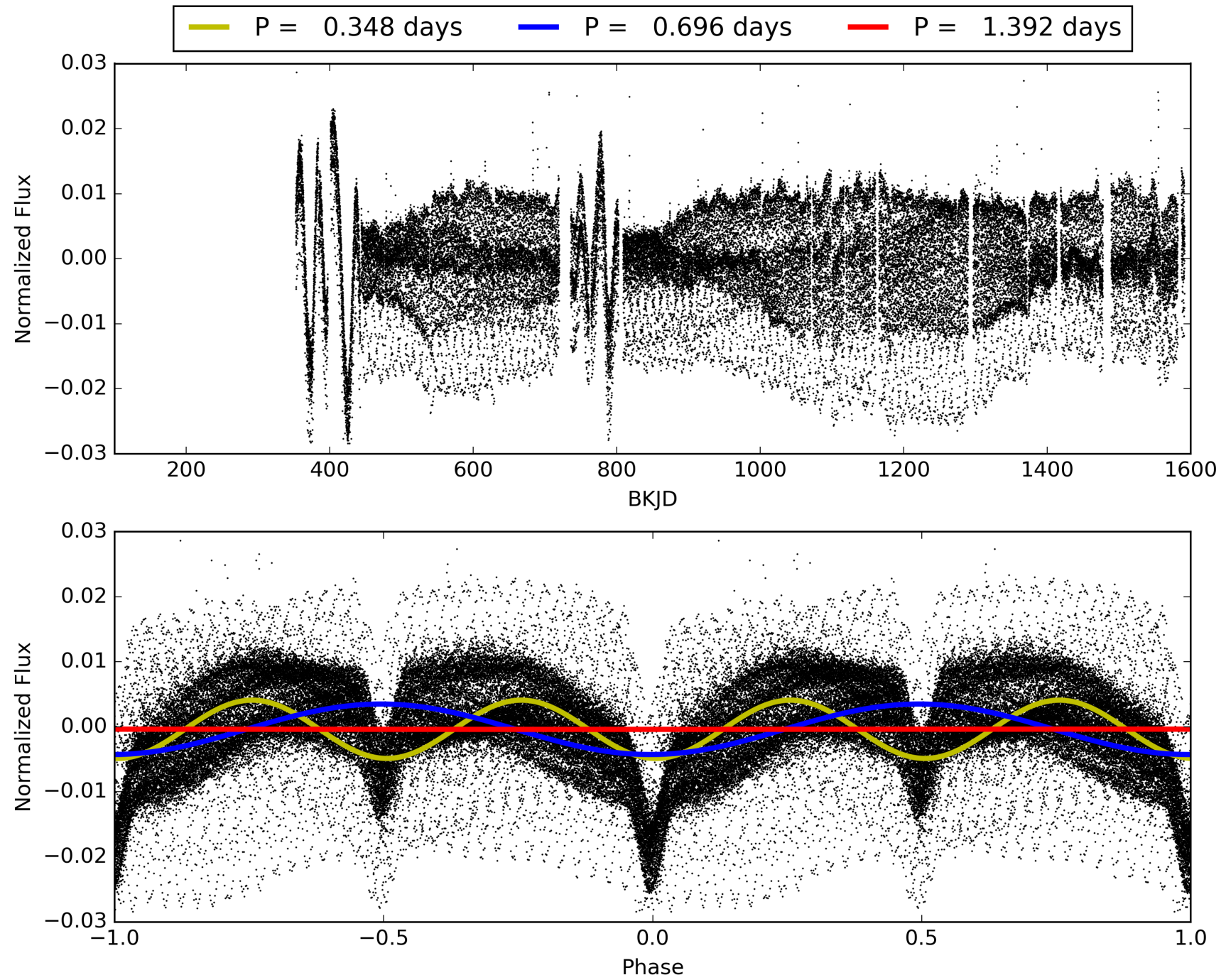
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 07:58:23 Z

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

# TCE 008435247-01, PDC Light Curves

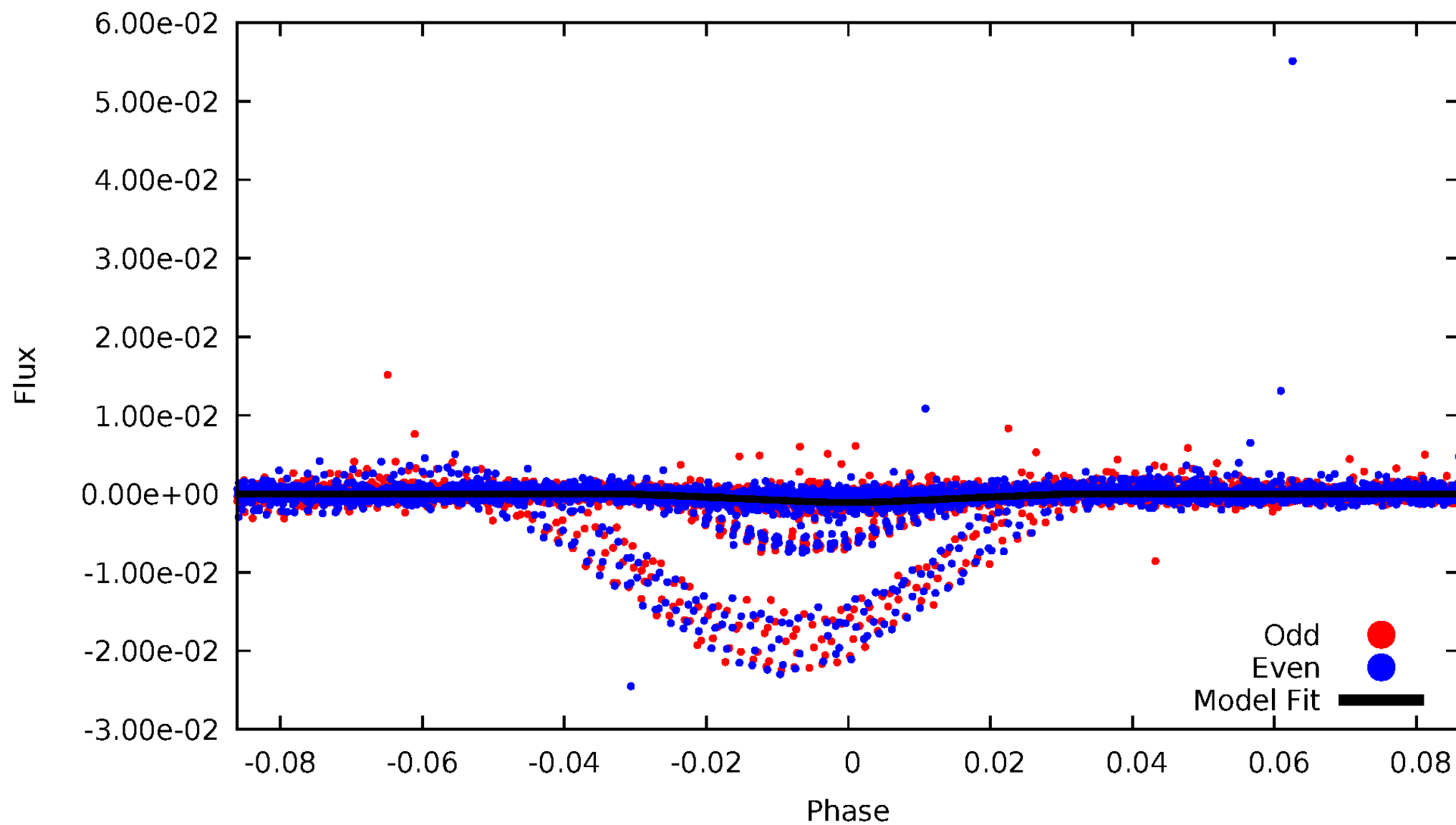


TCE 008435247-01



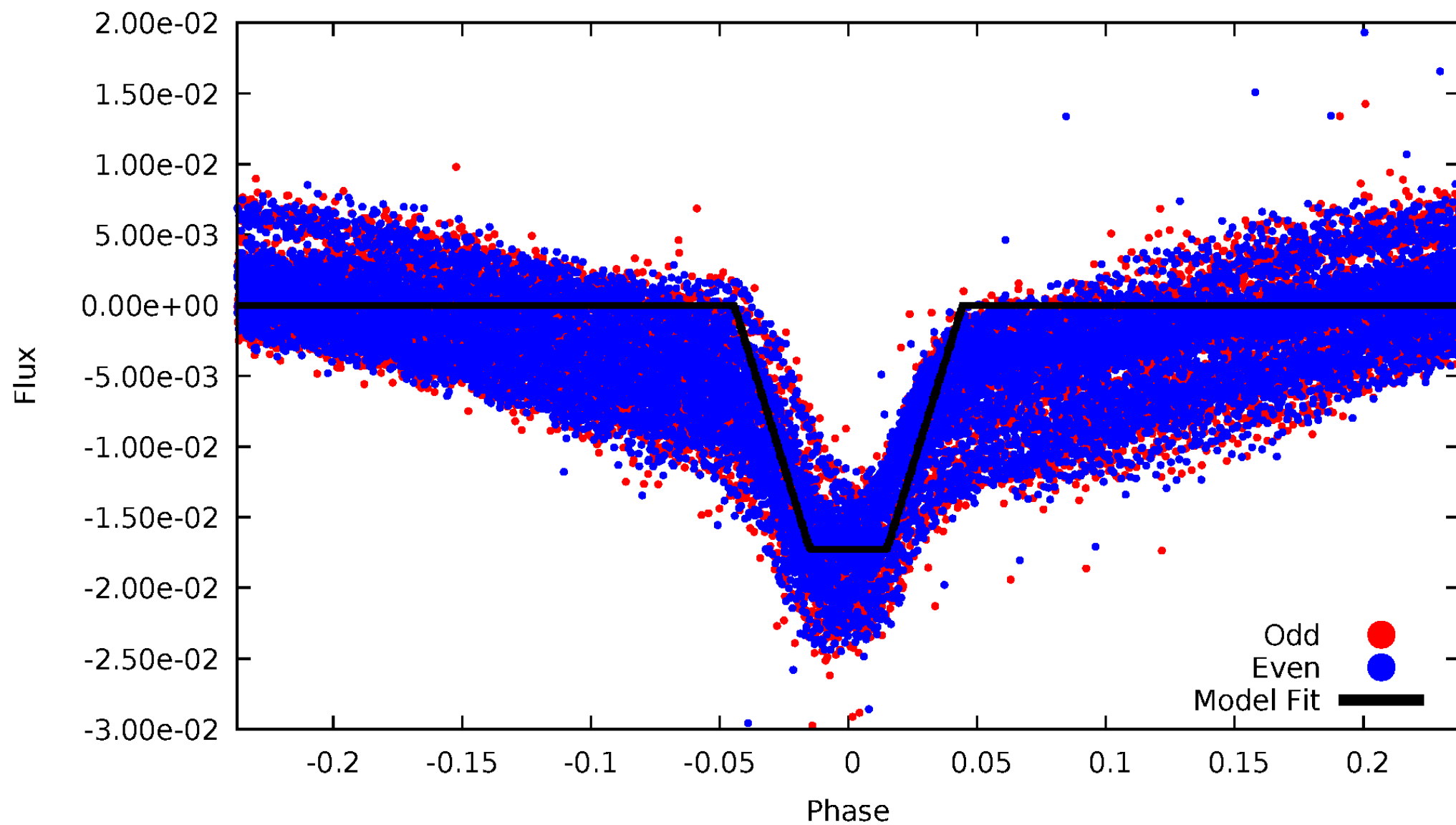
# DV Odd/Even

TCE 008435247-01



# ALT Odd/Even

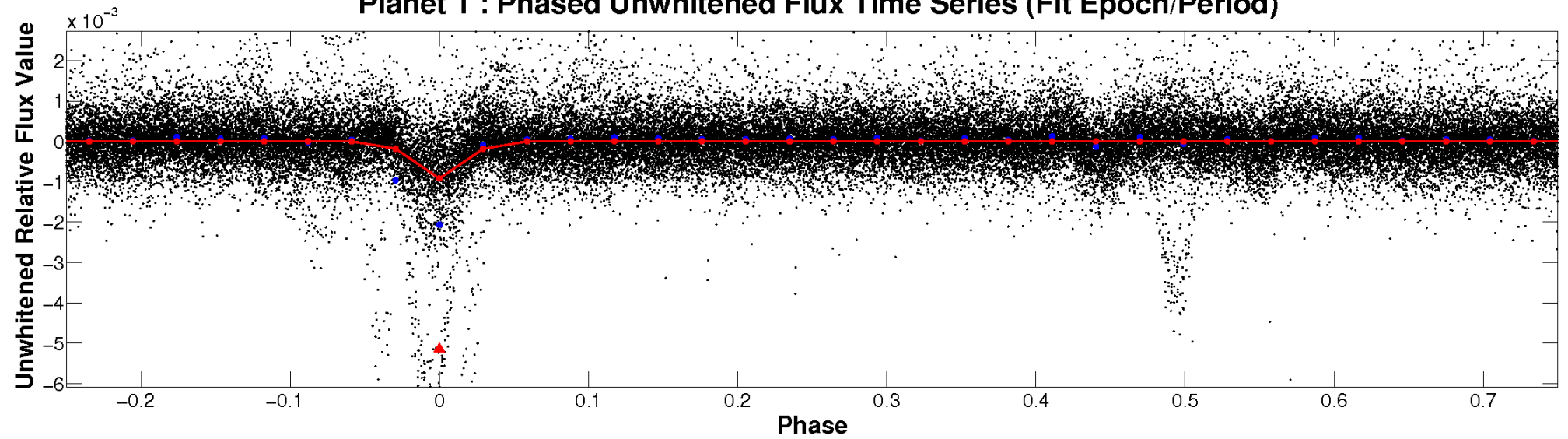
TCE 008435247-01



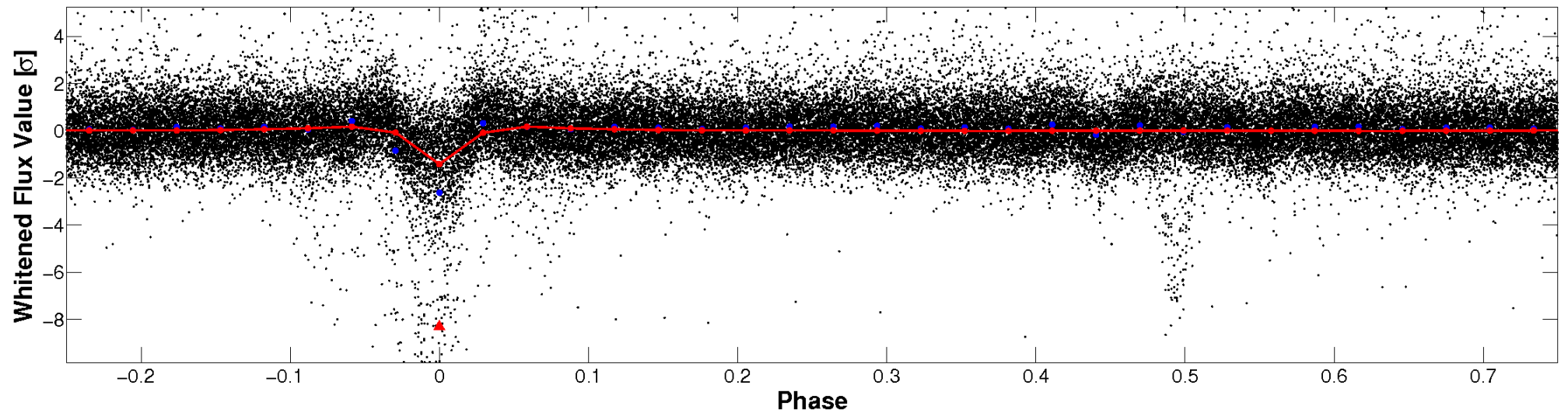


# Non-Whitened Vs. Whitened Light Curve

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

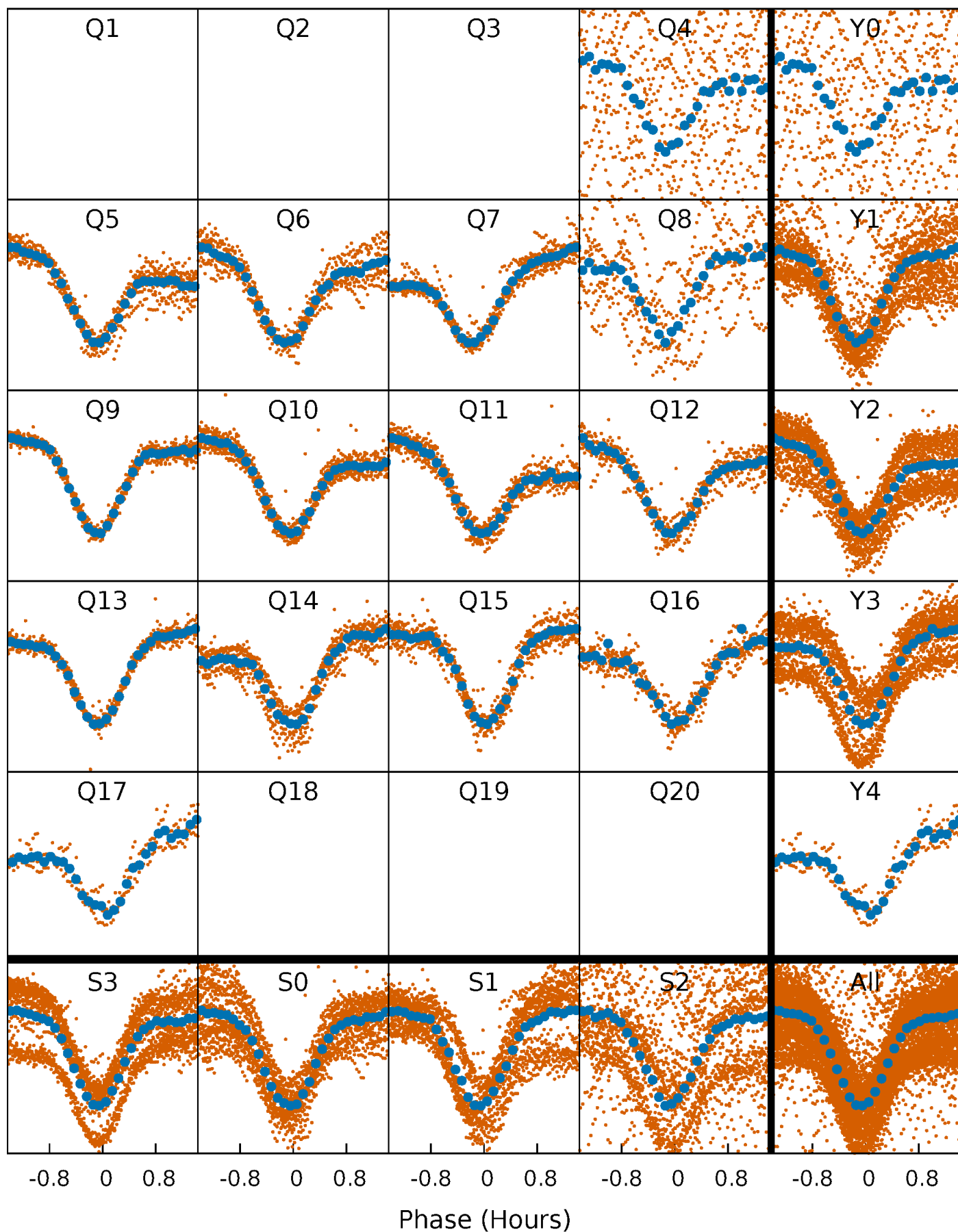


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

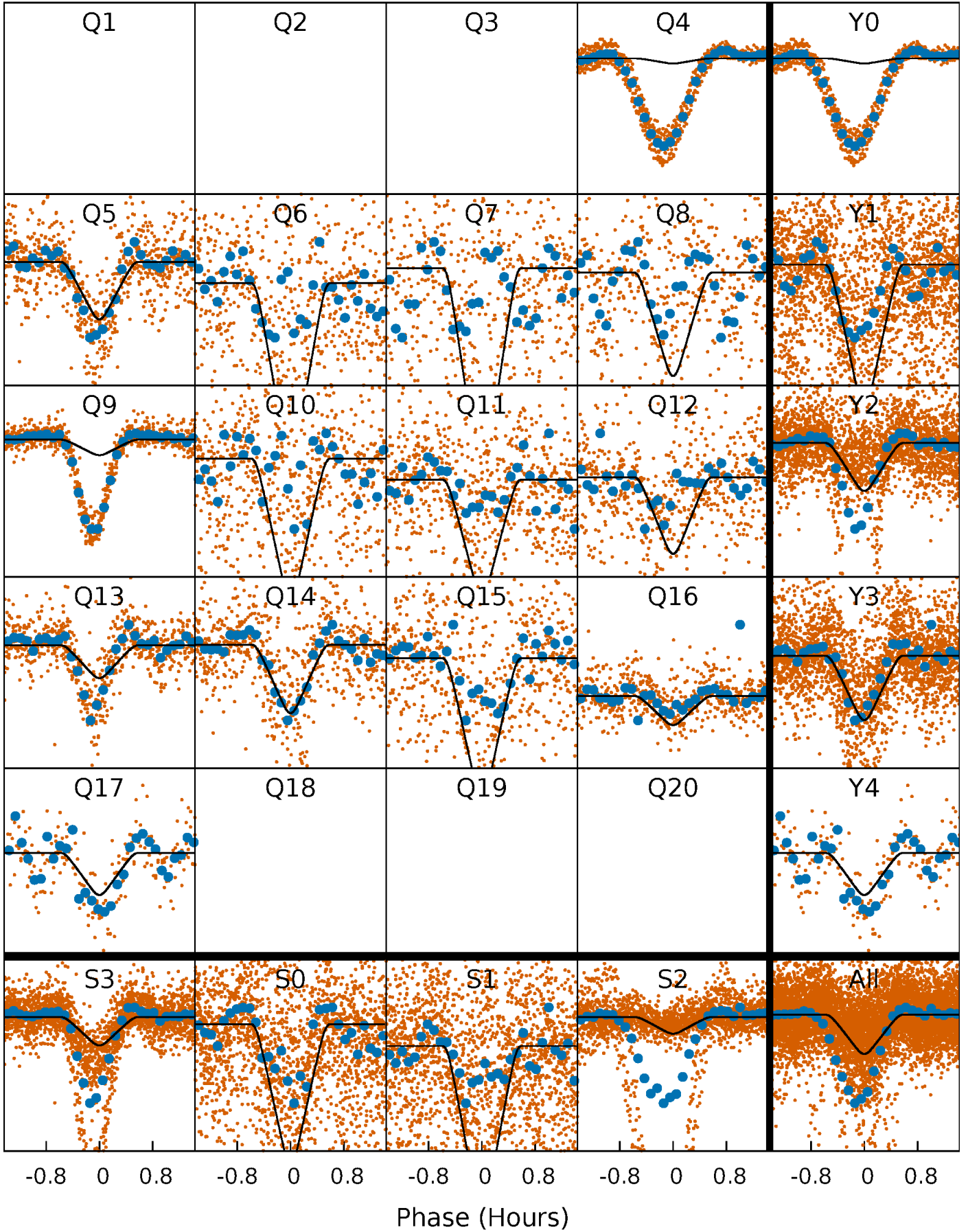
TCE 008435247-01   P= 0.696129 Days    $T_0=132.005847$  (BKJD)





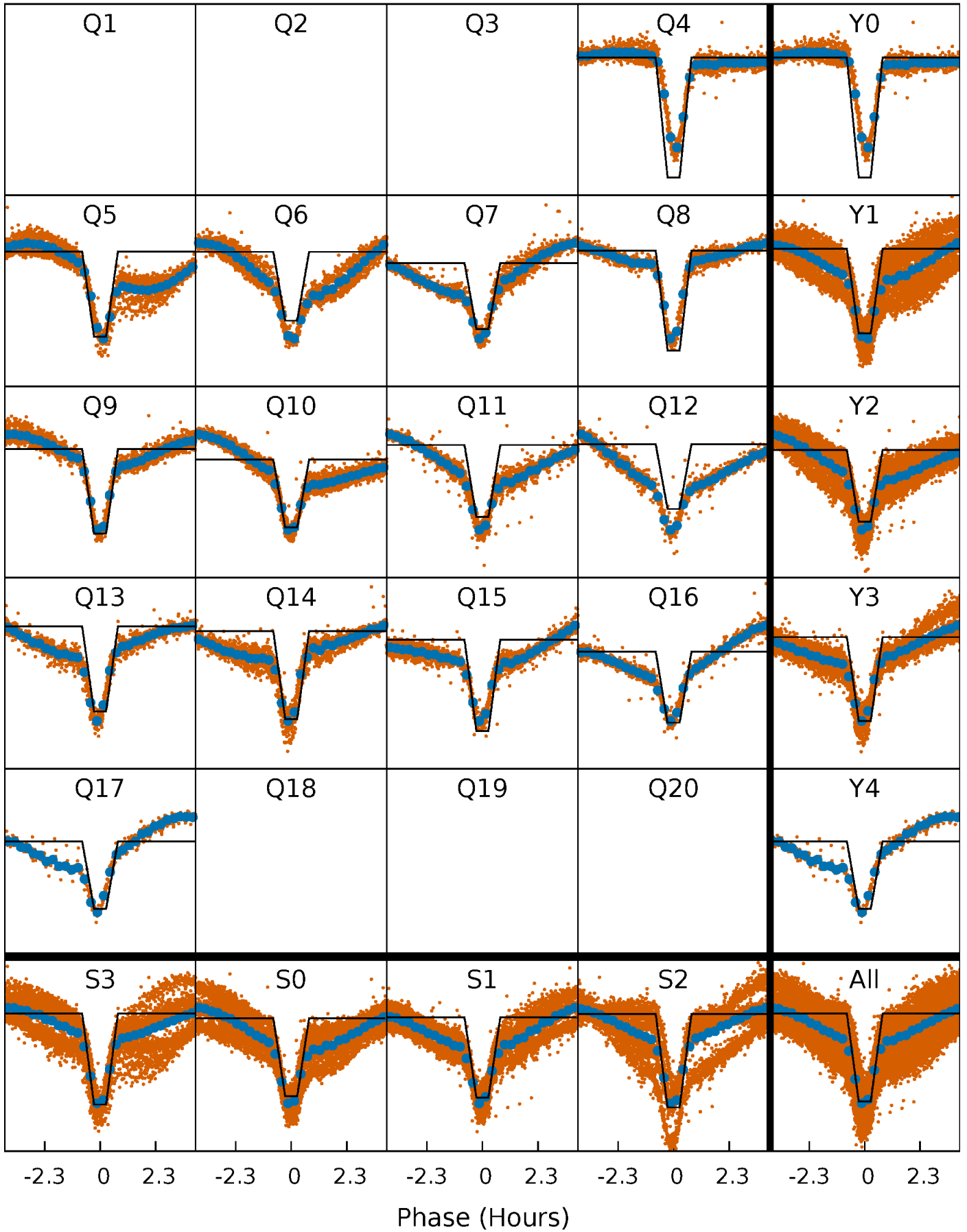
# DV Quarter-Phased Transit Curves

TCE 008435247-01   P= 0.696129 Days    $T_0=132.005847$  (BKJD)



## Alt. Detrend Quarter-Phased Transit Curves

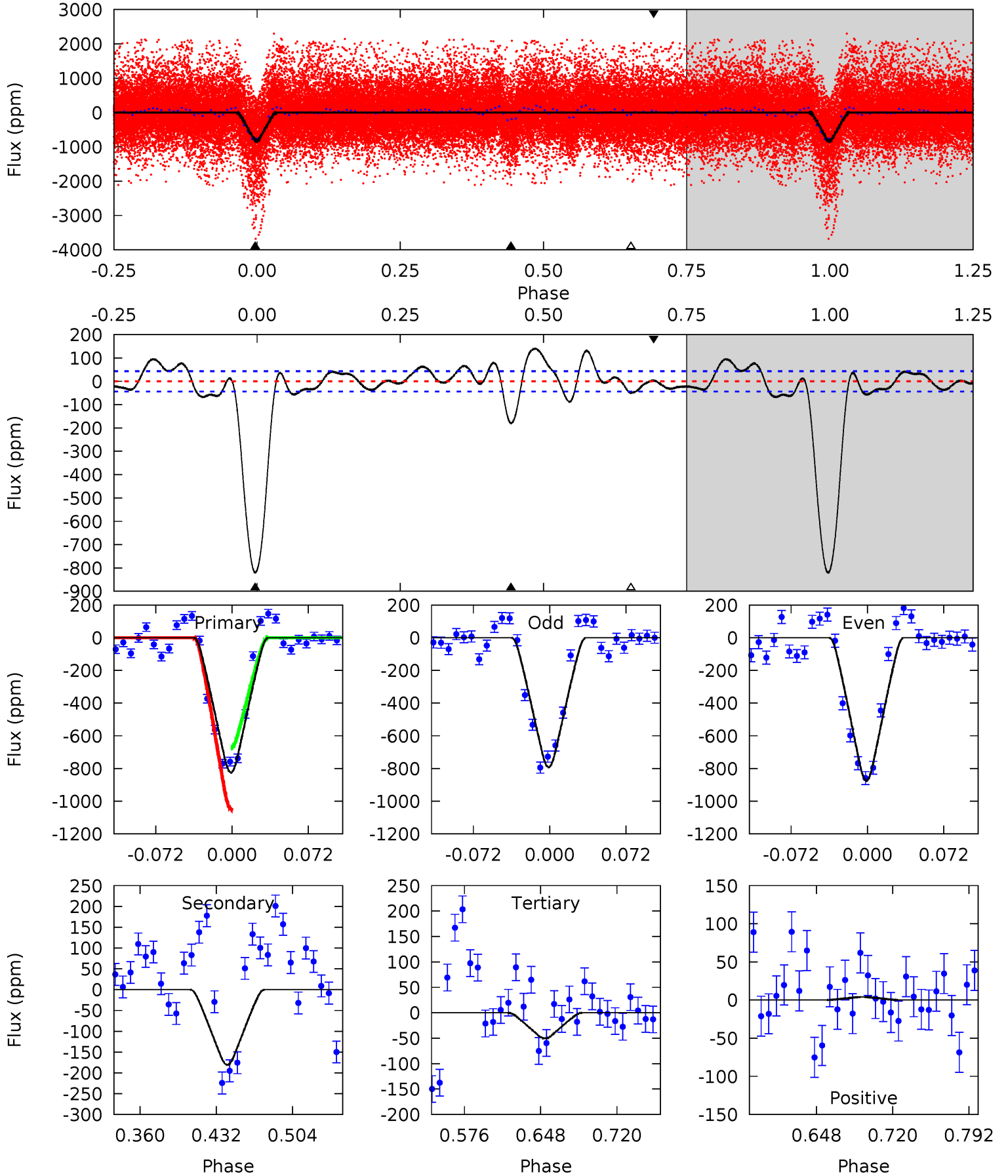
TCE 008435247-01   P= 0.696137 Days    $T_0=131.994358$  (BKJD)



# DV Model-Shift Uniqueness Test

008435247-01, P = 0.696129 Days, E = 132.005847 Days

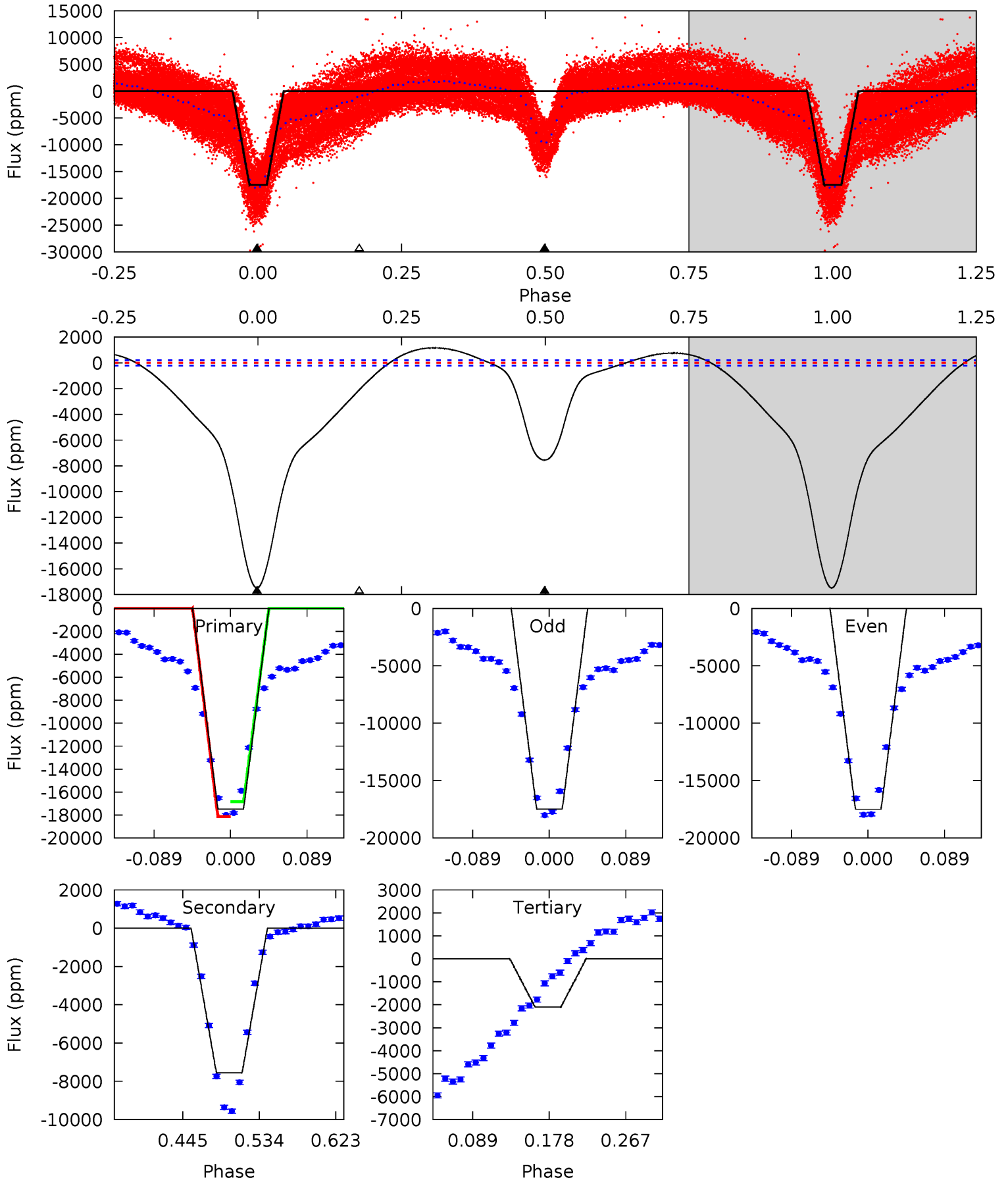
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
87.3	19.1	5.34	0.44	4.63	1.80	4.65	82.0	86.9	13.8	18.7	4.41	2.97	0.15	19.3



# Alt Model-Shift Uniqueness Test

008435247-01, P = 0.696137 Days, E = 131.994358 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
380.0	164.2	45.6	0	4.59	1.70	42.0	334.4	380.0	118.6	164.2	0.18	1.03	0.06	14.1



### Stellar Parameters For KIC 008435247

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5245^{+201}_{-182}$	$4.594^{+0.077}_{-0.056}$	$-0.760^{+0.300}_{-0.300}$	$0.674^{+0.077}_{-0.063}$	$0.652^{+0.080}_{-0.032}$	$2.992^{+0.872}_{-0.617}$
	+4%/-3%	+2%/-1%	+39%/-39%	+11%/-9%	+12%/-5%	+29%/-21%
Source	KIC0	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 008435247-01 / KOI 1131.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-180 \pm 9$	$2.83^{+0.34}_{-0.36}$	$2288^{+106}_{-104}$	$3462^{+176}_{-162}$	$2.255^{+0.660}_{-0.470}$
Alt.	$-7555 \pm 46$	$9.70^{+0.68}_{-0.59}$	$2292^{+100}_{-91}$	$4400^{+149}_{-144}$	$8.040^{+0.978}_{-0.879}$

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



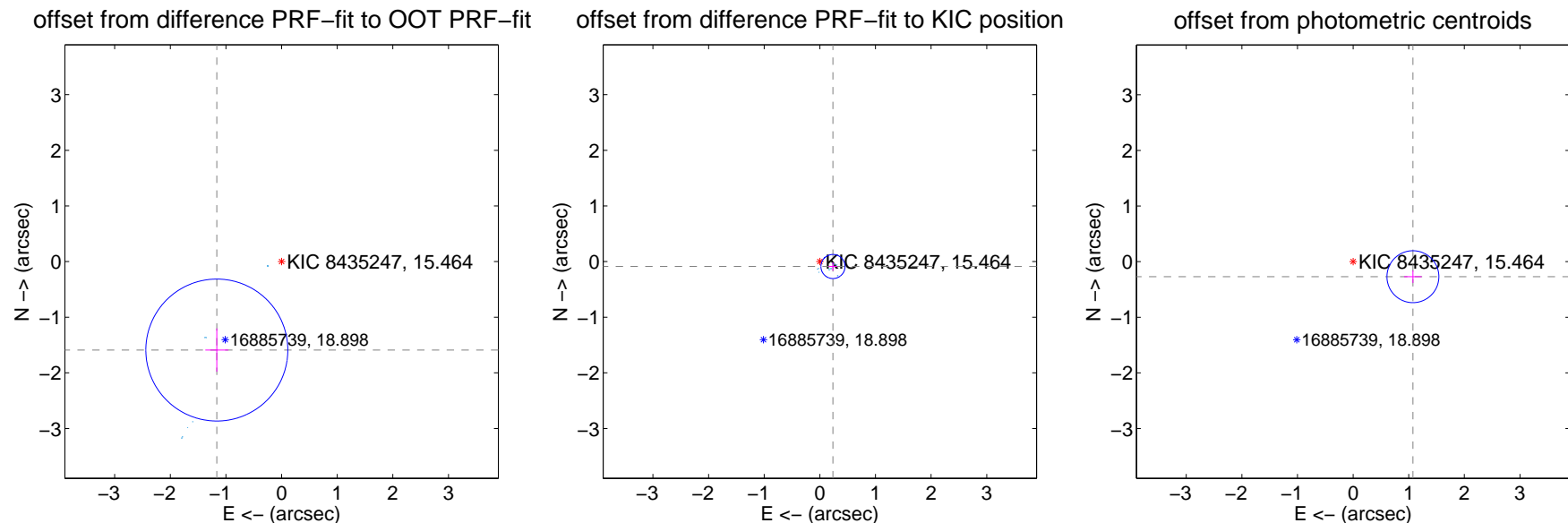
## DV Centroid Data

Supplemental centroid analysis for 008435247-01. Kepler magnitude: 15.46. Transit SNR 55.87

There are 14 quarters with good PRF difference image offsets

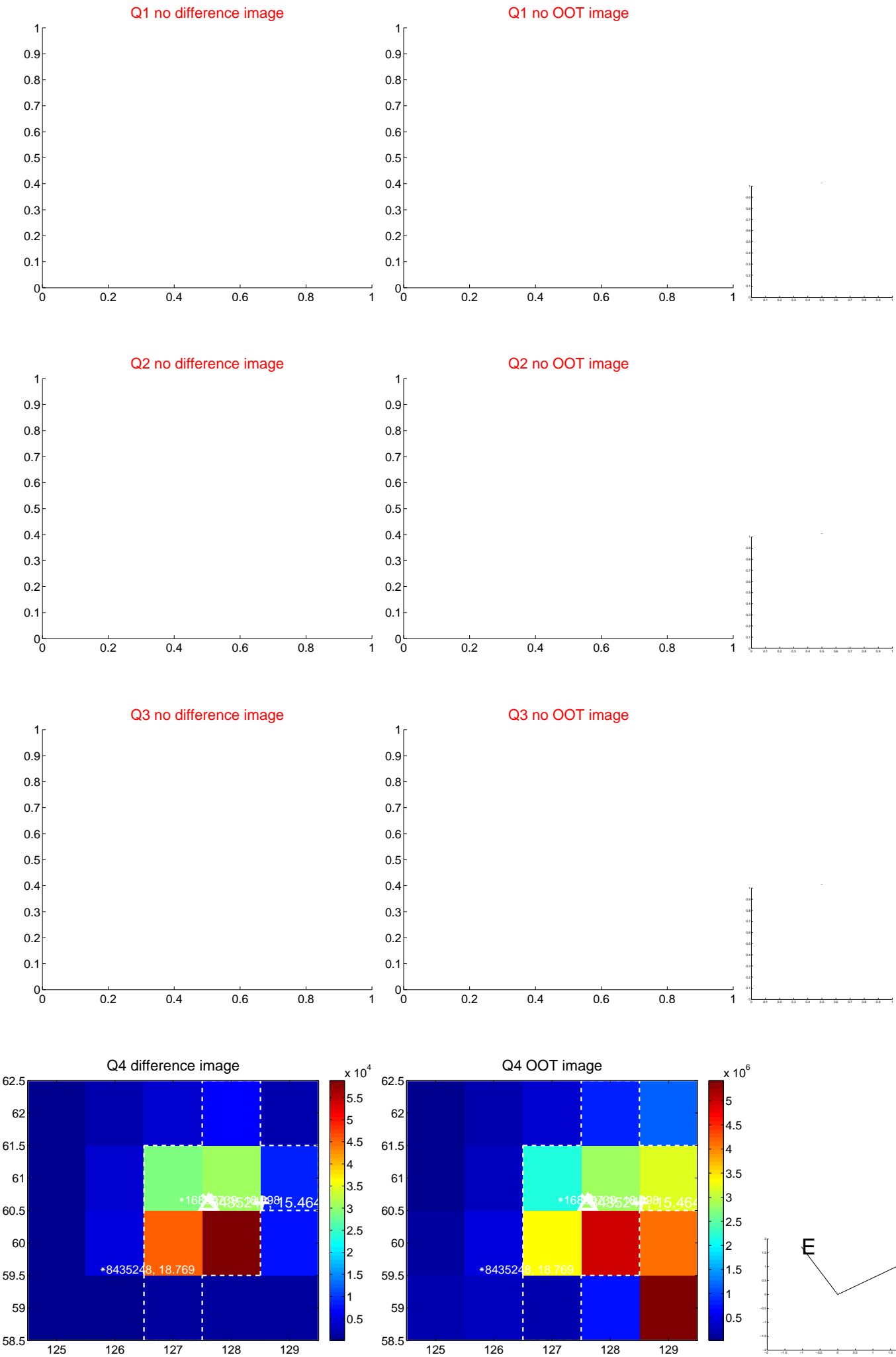
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.970 \pm 0.425$	4.63	$1.164 \pm 0.207$	$-1.590 \pm 0.389$
PRF-fit source offset from KIC position	$0.252 \pm 0.072$	3.49	$-0.236 \pm 0.074$	$-0.088 \pm 0.074$
photometric centroid source offset	$1.11 \pm 0.16$	7.13	$-1.08 \pm 0.16$	$-0.27 \pm 0.11$

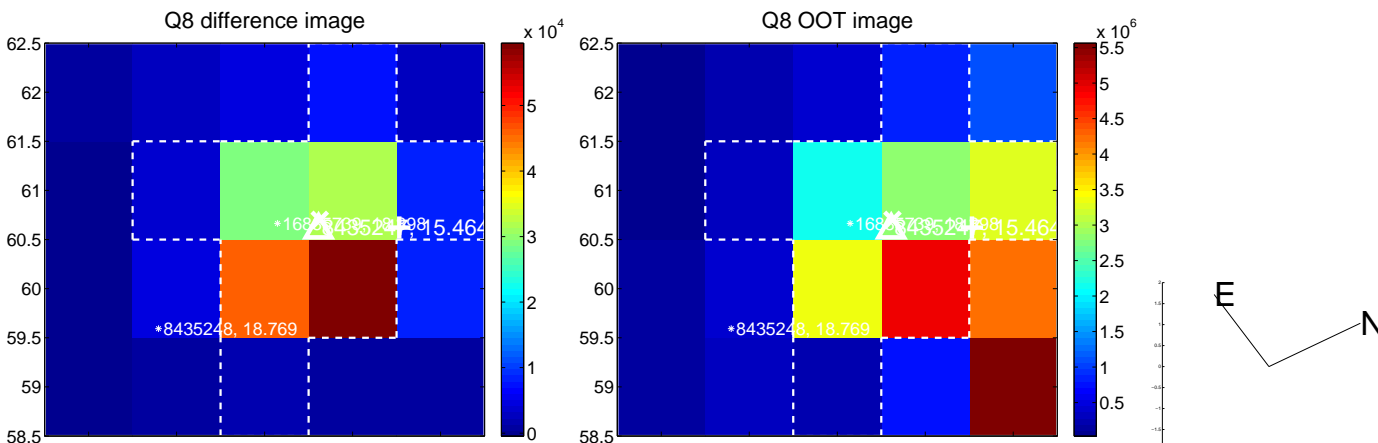
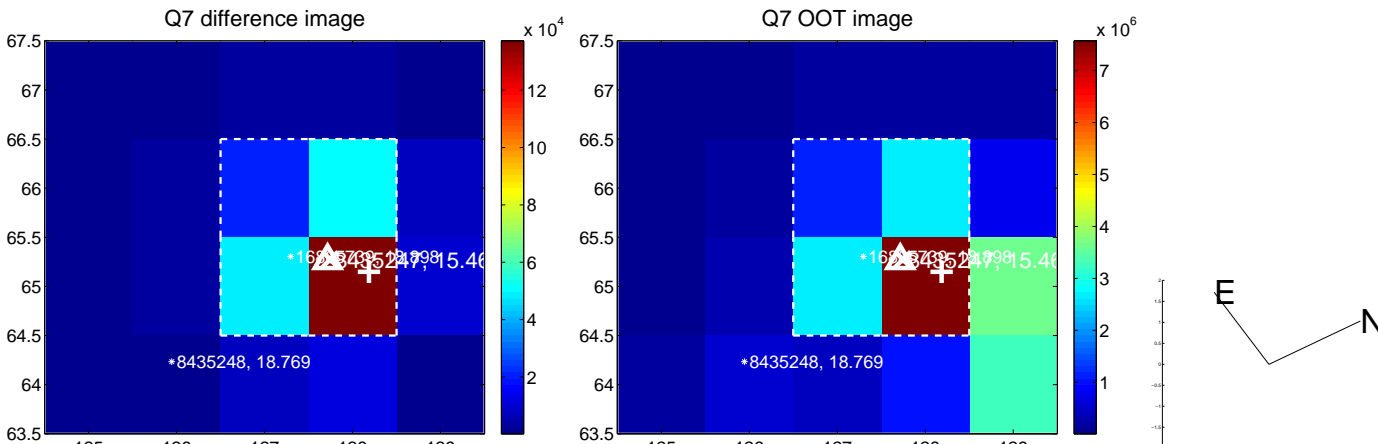
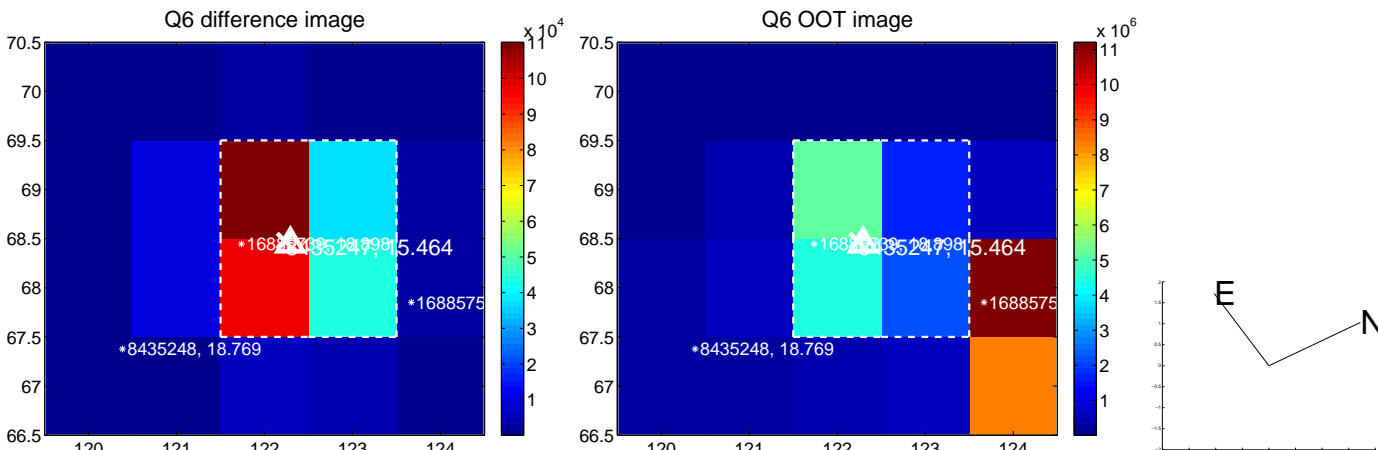
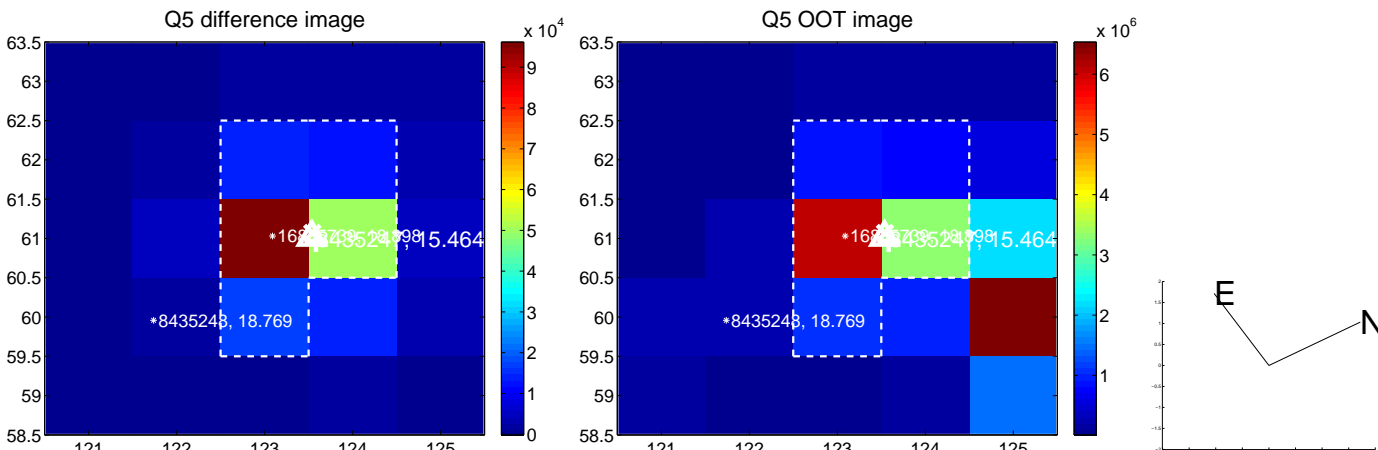


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

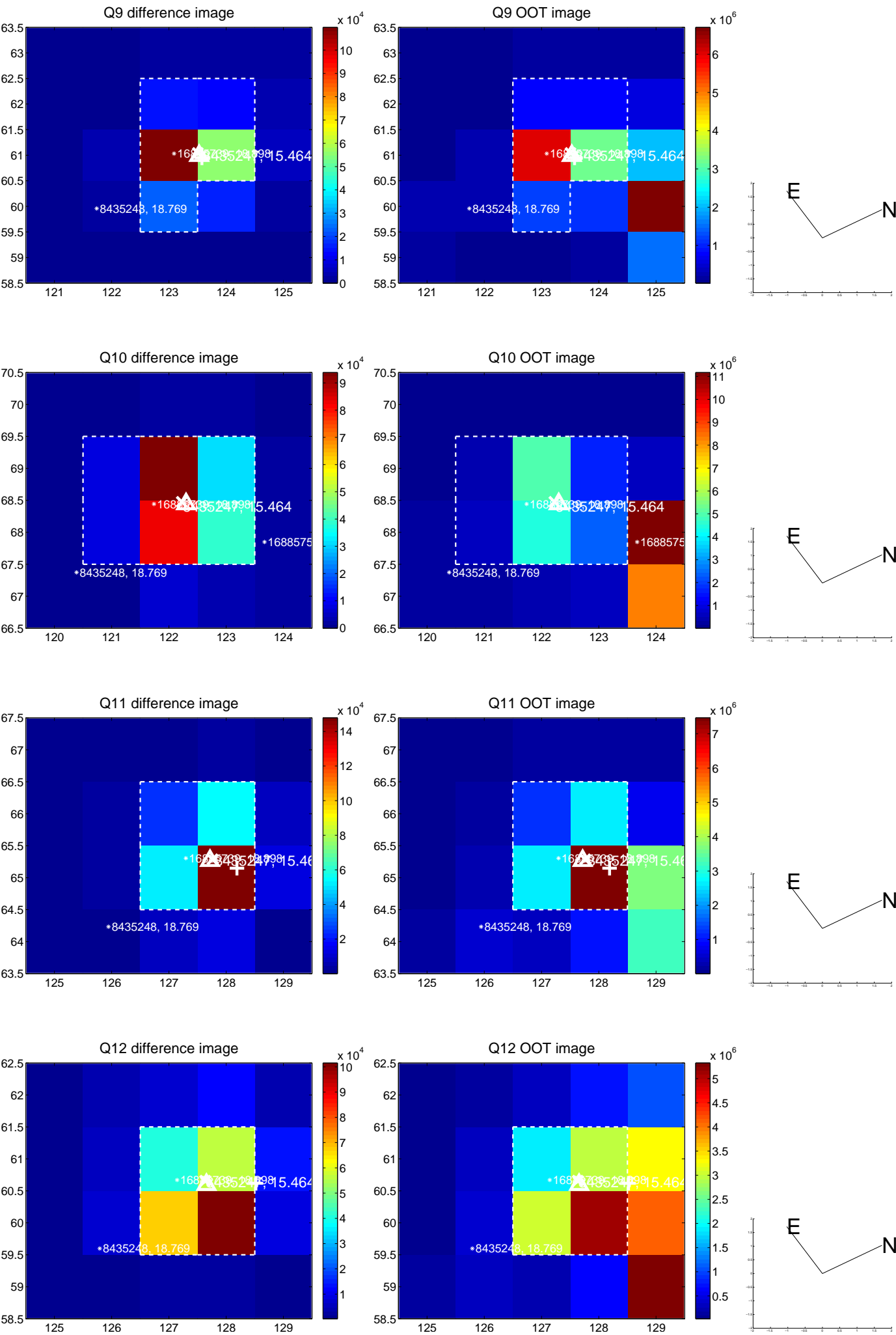
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



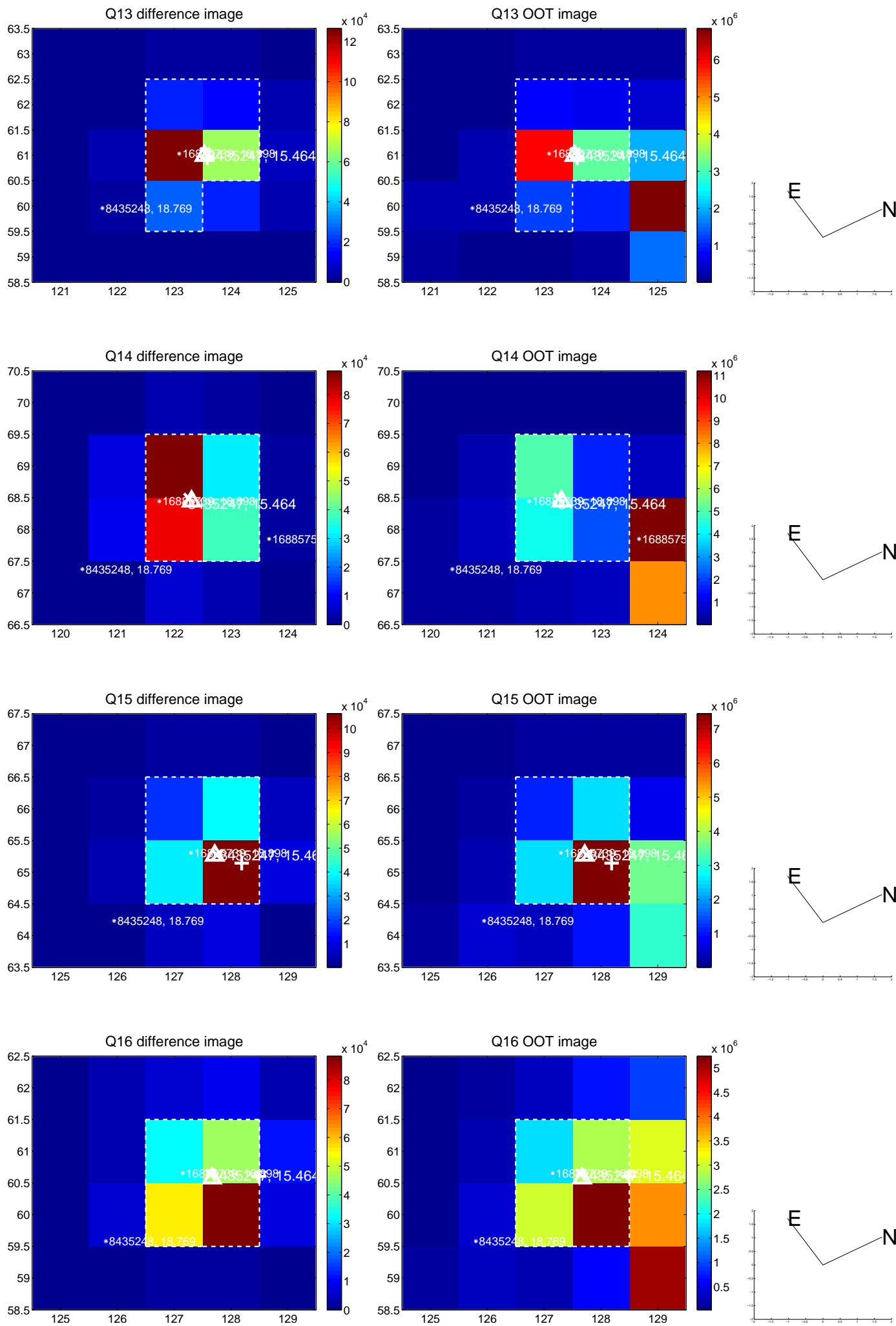
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

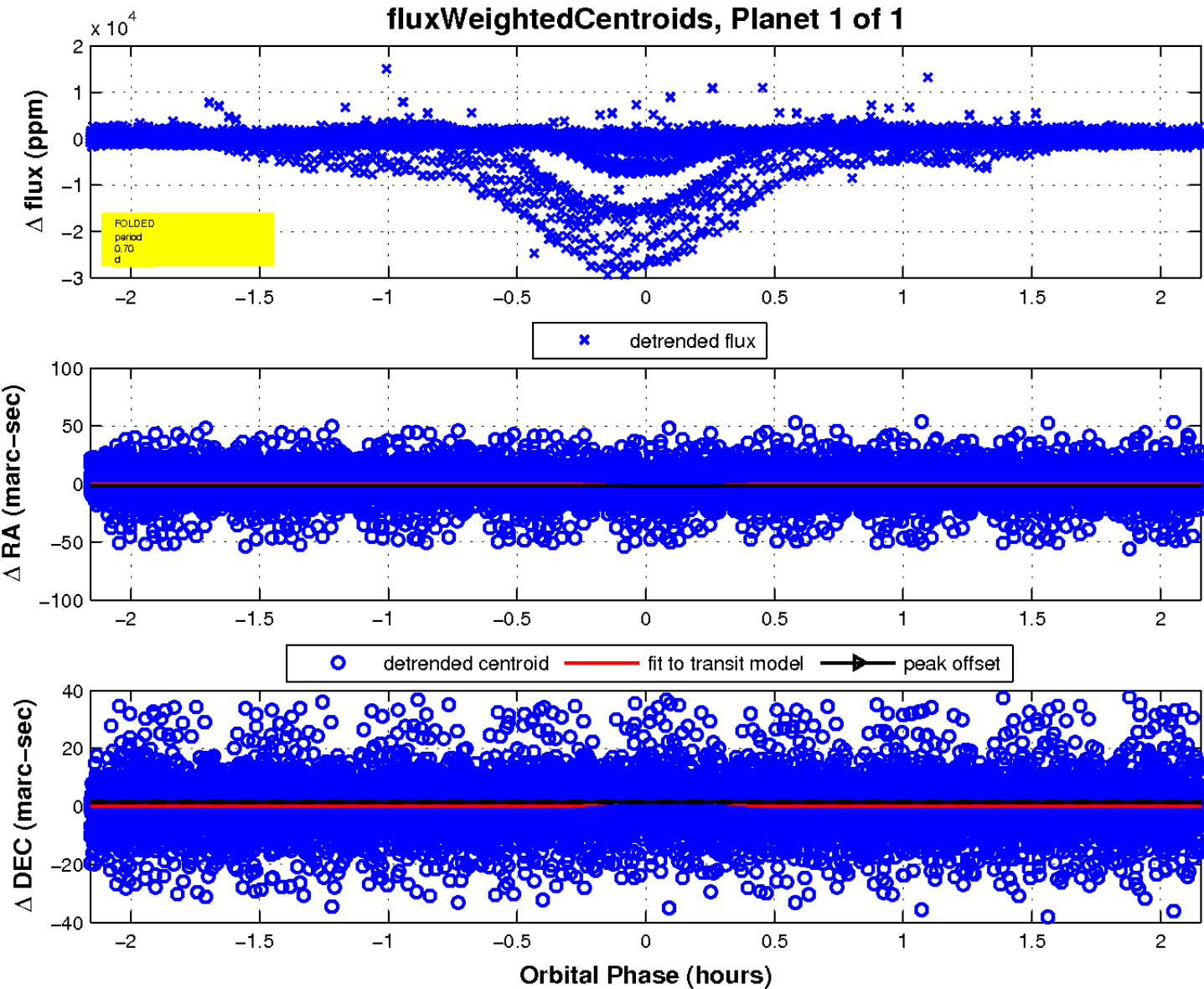
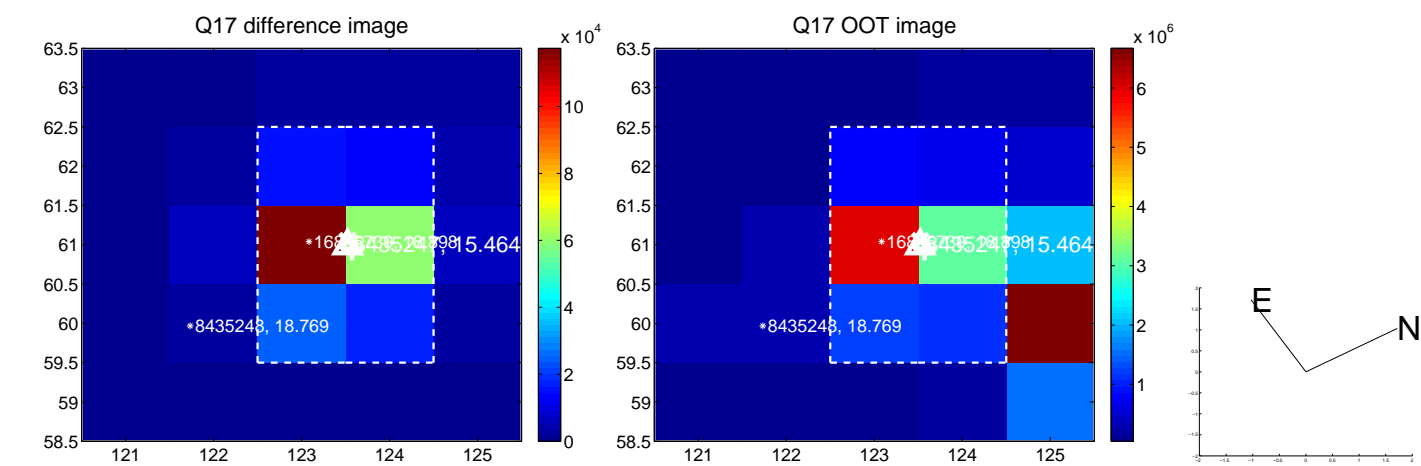


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

