

# KIC 008248630

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008248630-01	OBS	No	0.846029	131.931931	69.0	2.585	8.9	9.8	3.12	7528	3.01	57880.90

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008248630-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

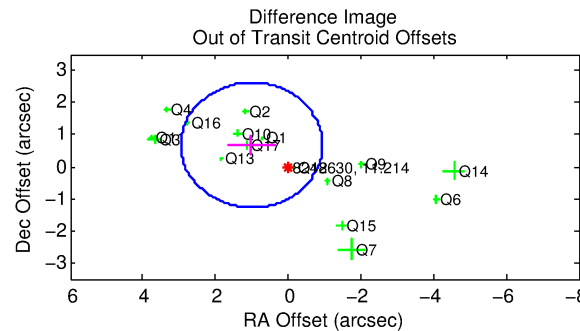
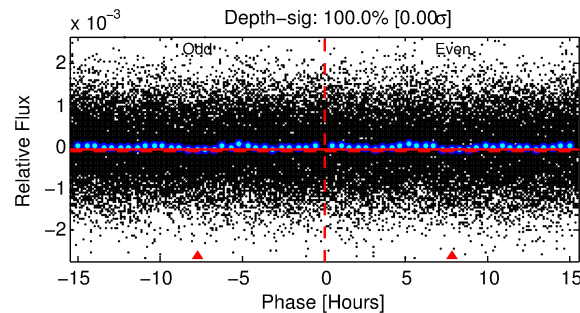
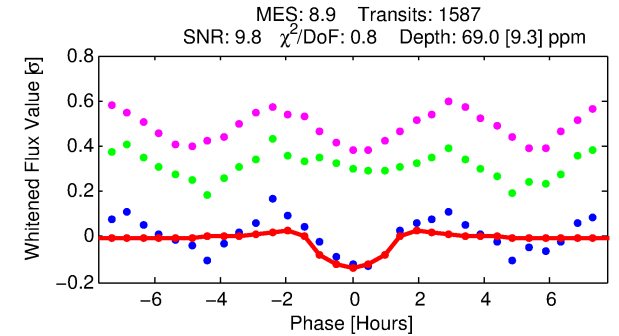
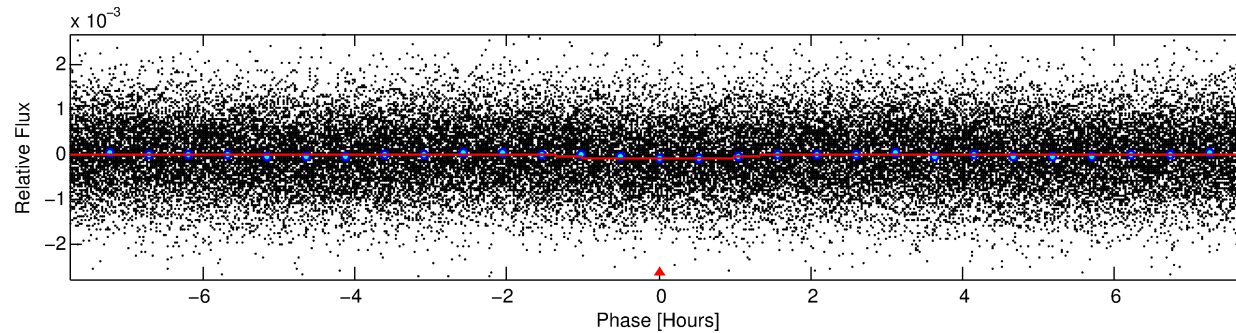
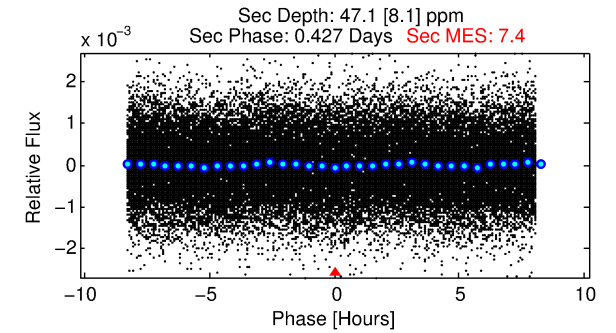
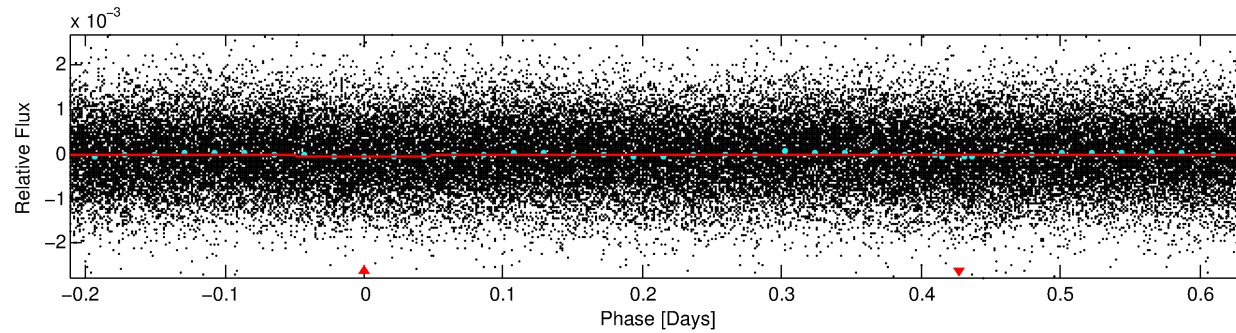
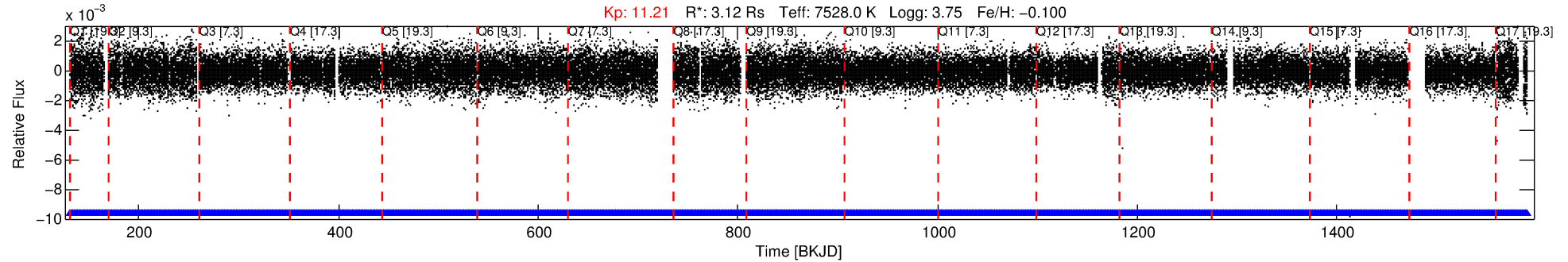
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008248630-01

No Significant Match Found

# DV One-Page Summary

KIC: 8248630 Candidate: 1 of 1 Period: 0.846 d



## DV Fit Results:

Period = 0.84603 [0.00001] d  
Epoch = 131.9319 [0.0032] BKJD  
Rp/R\* = 0.0088 [0.0056]  
a/R\* = 1.48 [3.21]  
b = 0.90 [0.86]  
Seff = 57880.90 [40292.97]  
Teq = 3955 [688] K  
Rp = 3.01 [2.35] Re  
a = 0.0220 [0.0095] AU  
Ag = 1.39 [2.00] [0.19σ]  
Teffp = 6635 [2127] K [1.20σ]

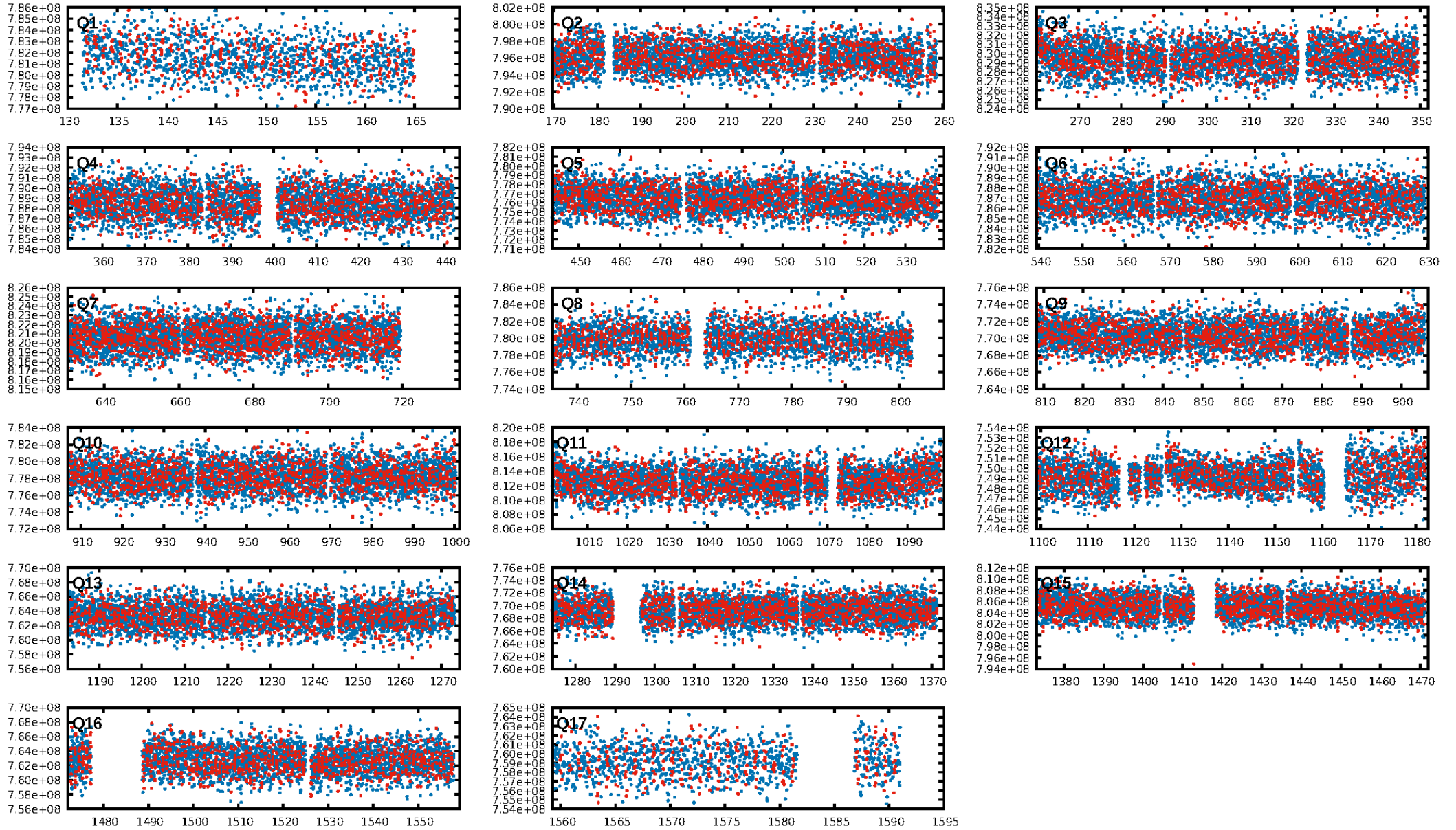
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 8.01e-21  
RollingBand-fgt: 1.00 [1515/1515]  
GhostDiagnostic-chr: 11.5  
Centroid-sig: 0.0%  
Centroid-so: 0.635 arcsec [2.73σ]  
OotOffset-rm: 1.215 arcsec [1.87σ]  
KicOffset-rm: 1.389 arcsec [2.15σ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 0.50 [8/16]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:19:04 Z

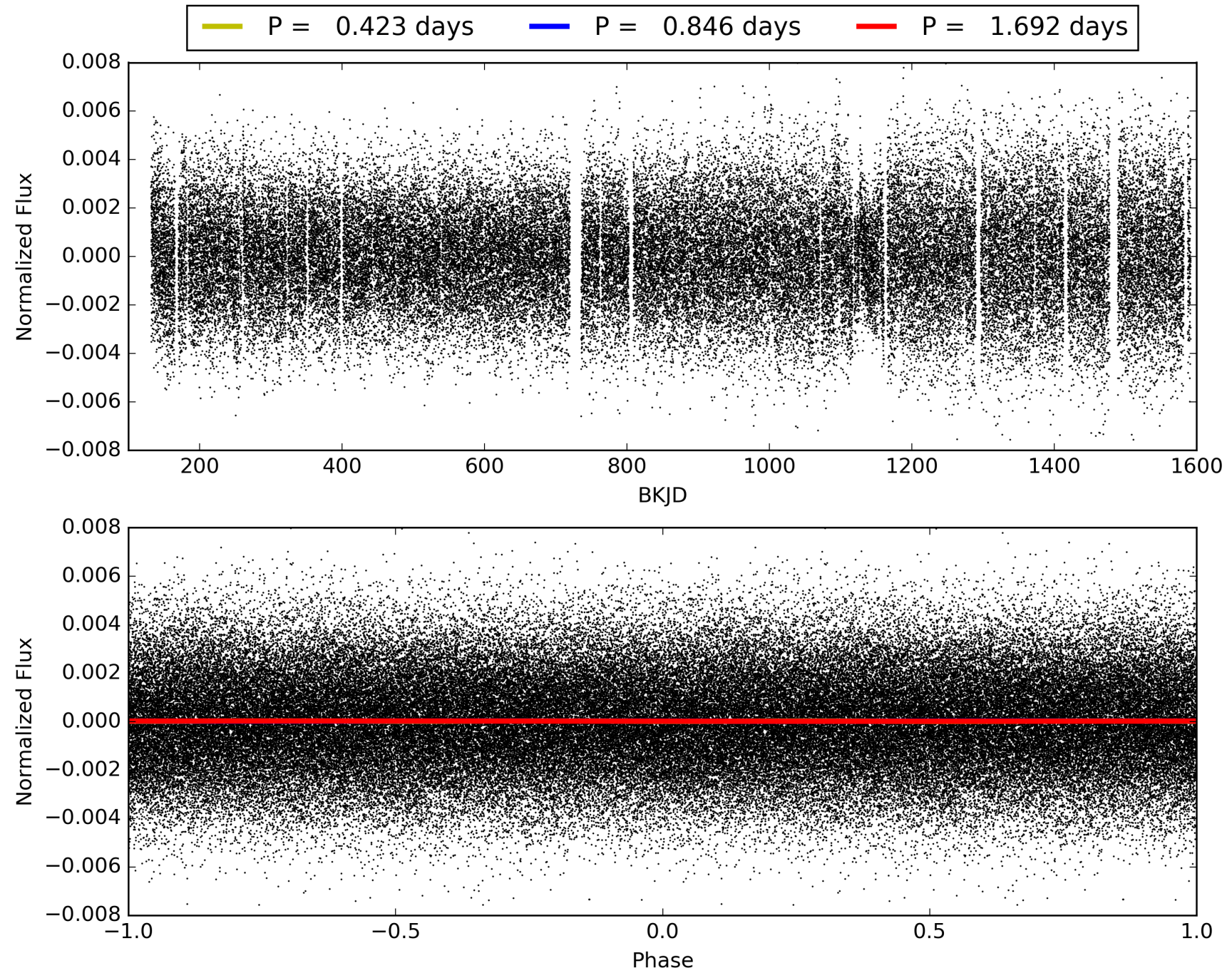
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008248630-01, PDC Light Curves



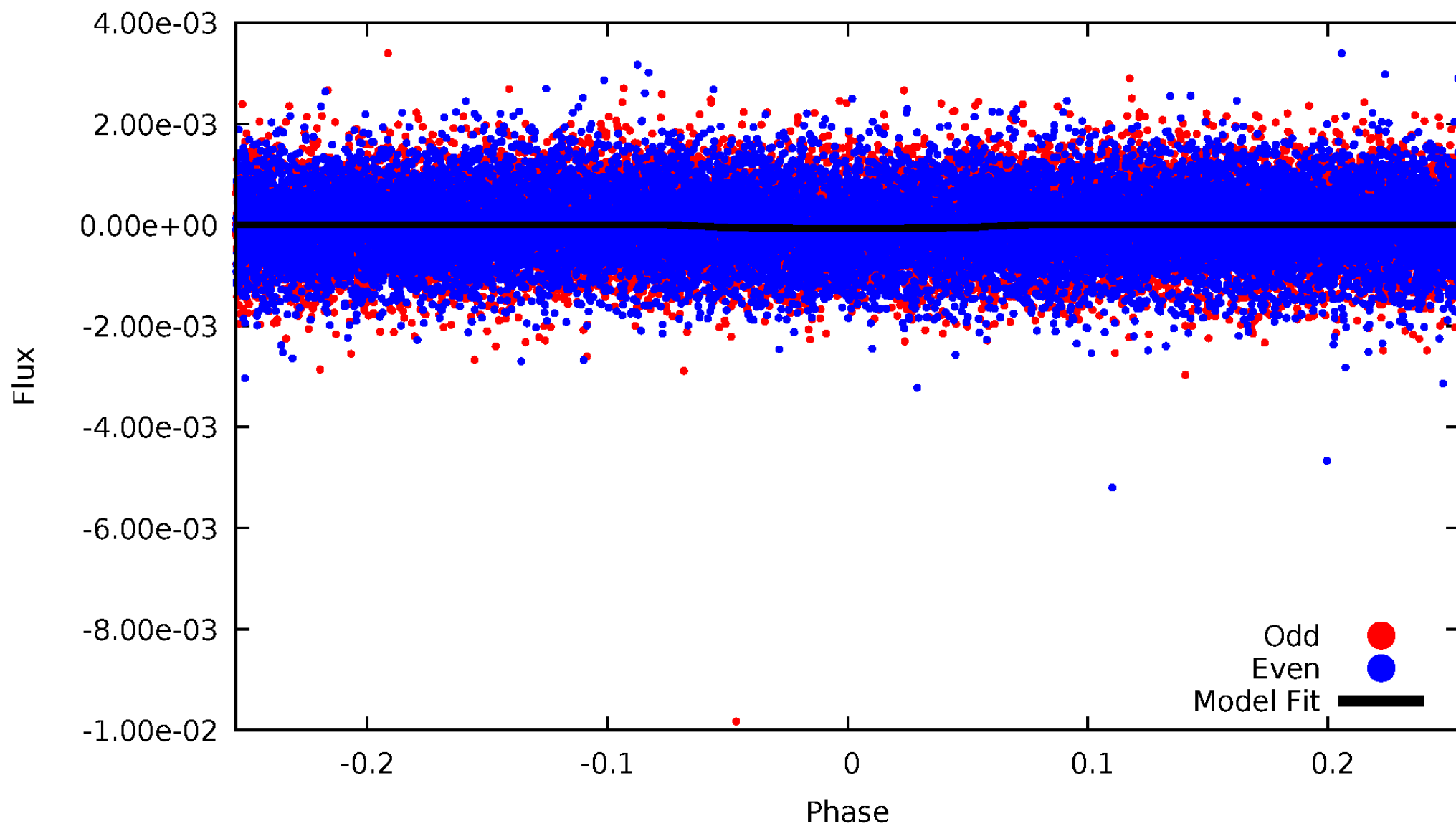


TCE 008248630-01



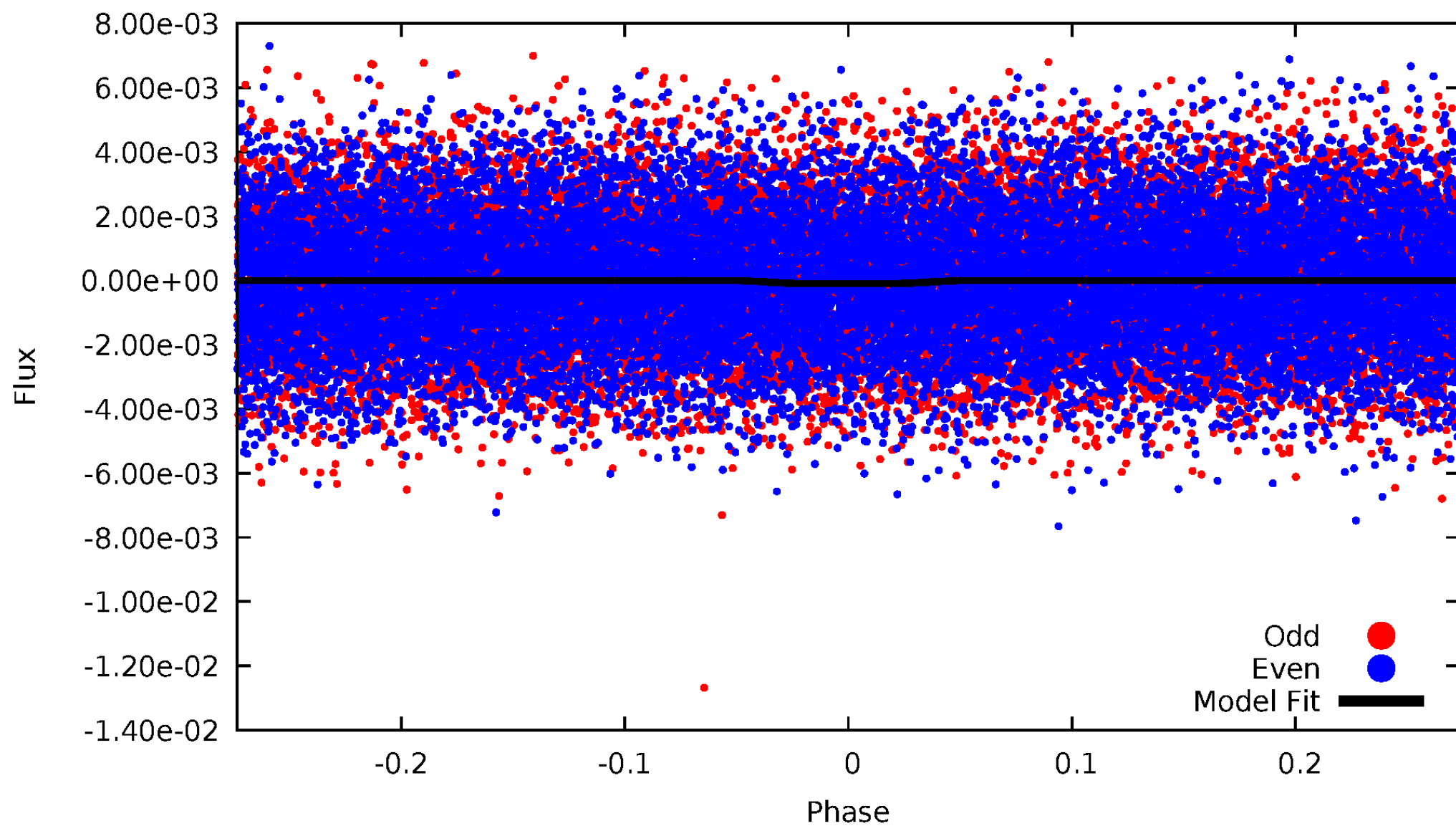
# DV Odd/Even

TCE 008248630-01



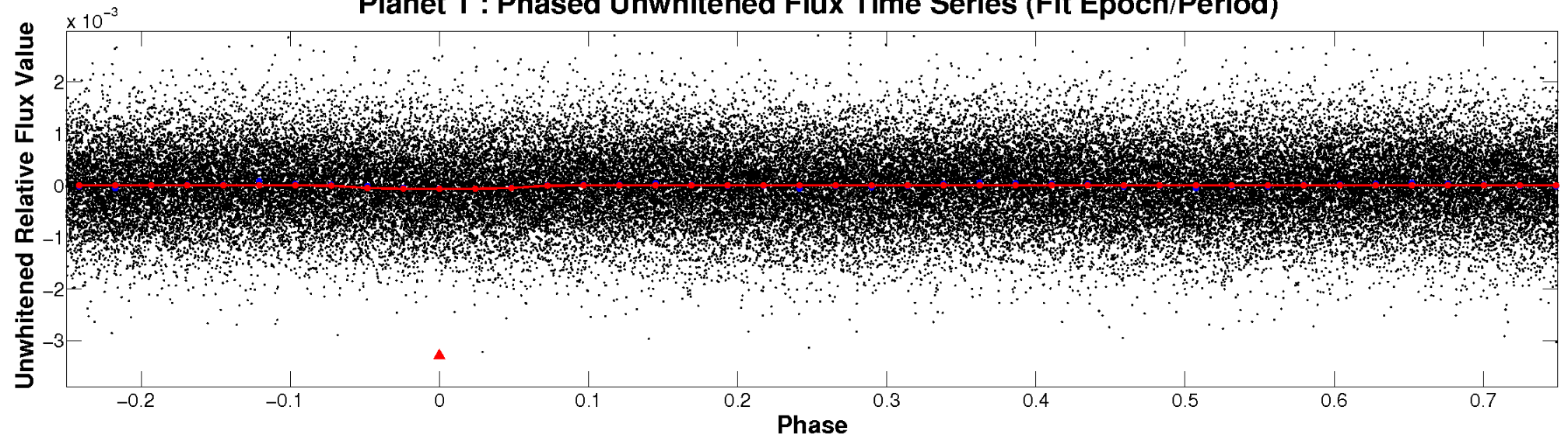
# ALT Odd/Even

TCE 008248630-01

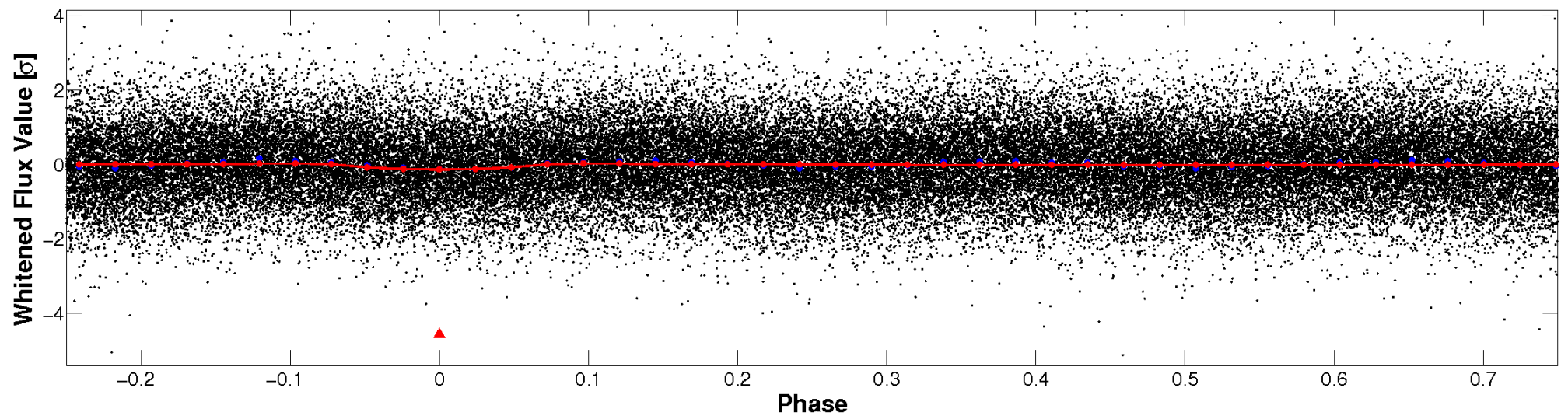


# Non-Whitened Vs. Whitened Light Curve

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



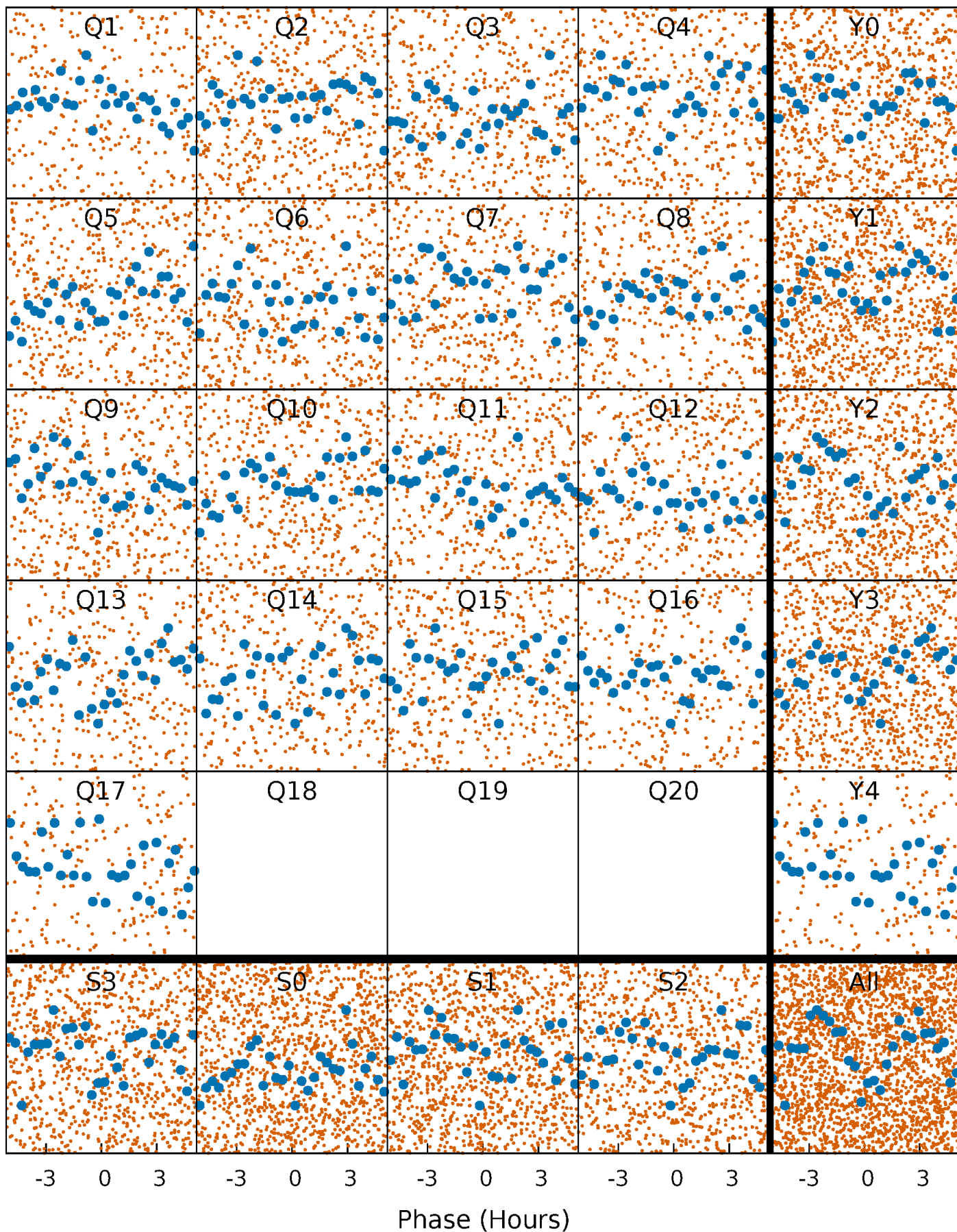
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

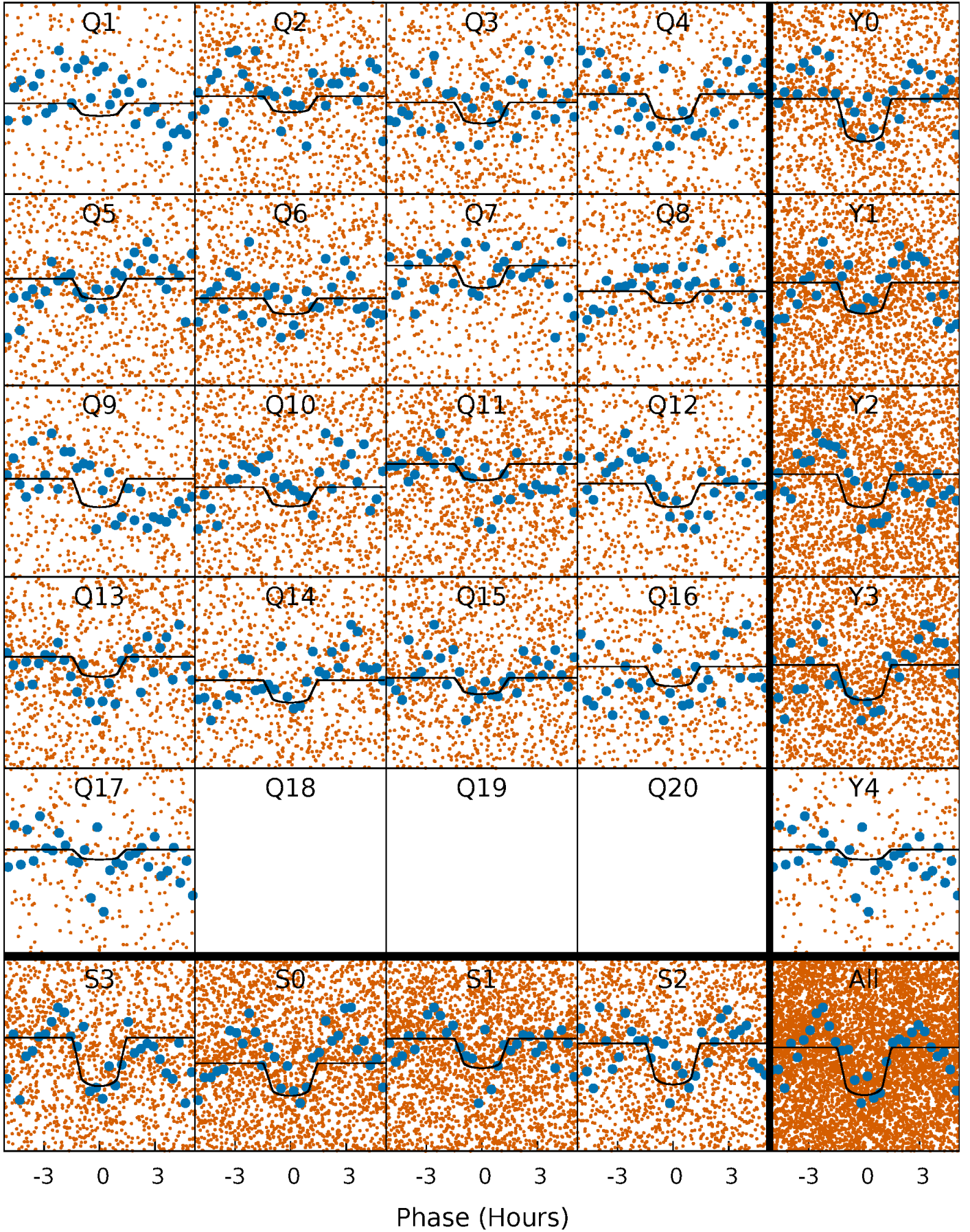
TCE 008248630-01 P= 0.846029 Days  $T_0=131.931931$  (BKJD)





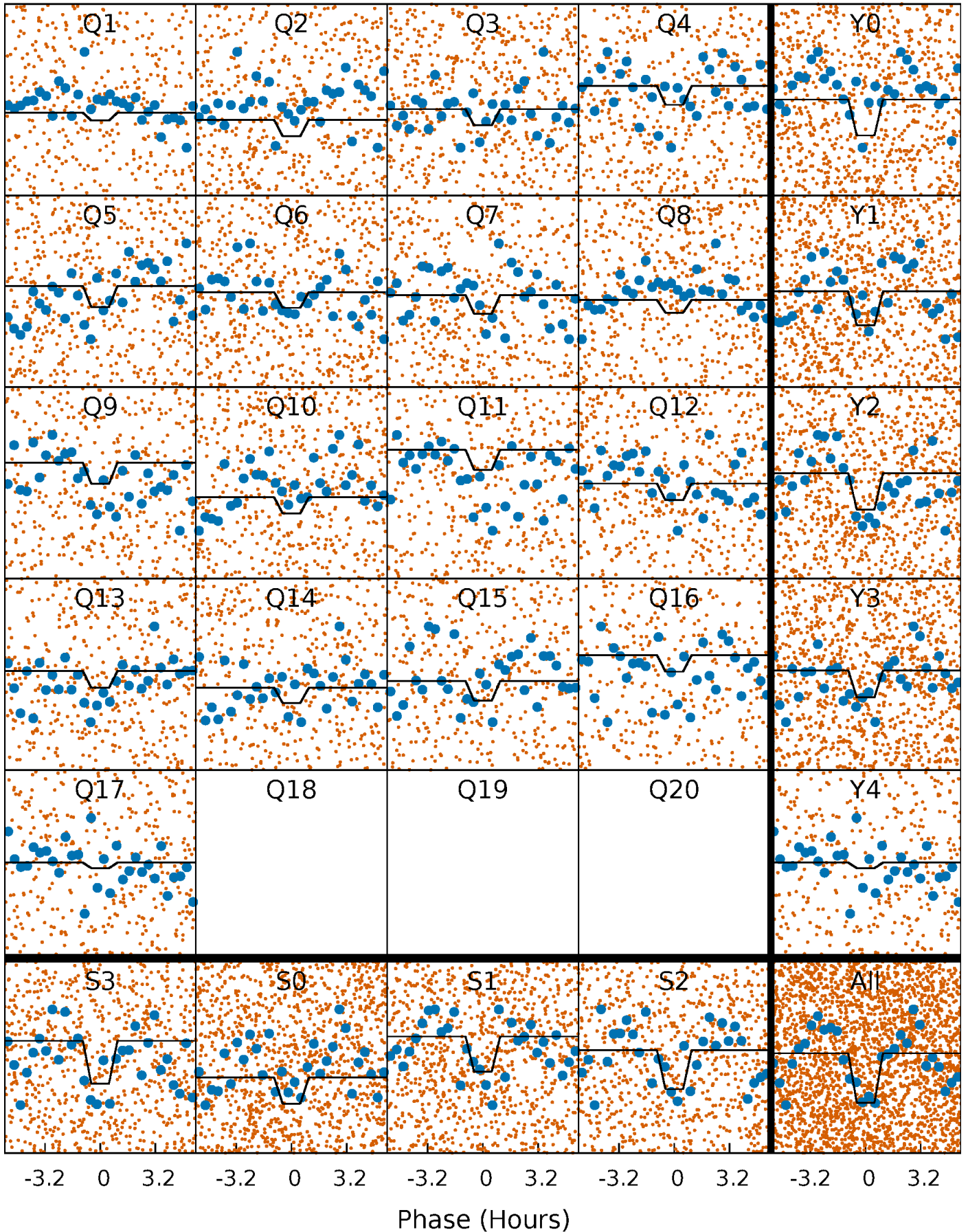
# DV Quarter-Phased Transit Curves

TCE 008248630-01 P= 0.846029 Days  $T_0=131.931931$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

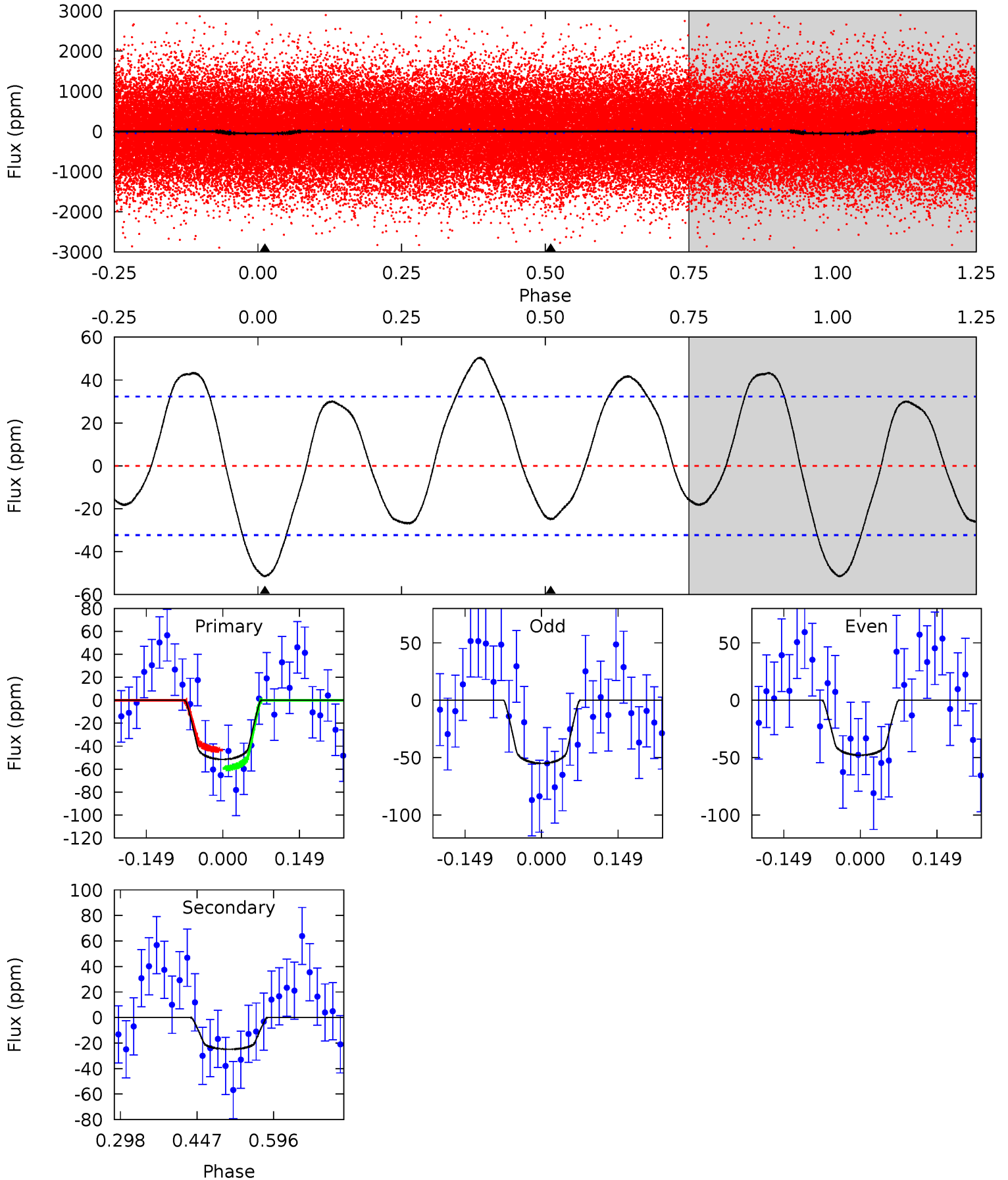
TCE 008248630-01 P= 0.846039 Days  $T_0=131.932410$  (BKJD)



# DV Model-Shift Uniqueness Test

008248630-01, P = 0.846029 Days, E = 131.085902 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
7.15	3.45	0	0	4.48	1.44	2.95	7.15	7.15	3.45	3.45	0.49	0.86	0.49	1.11

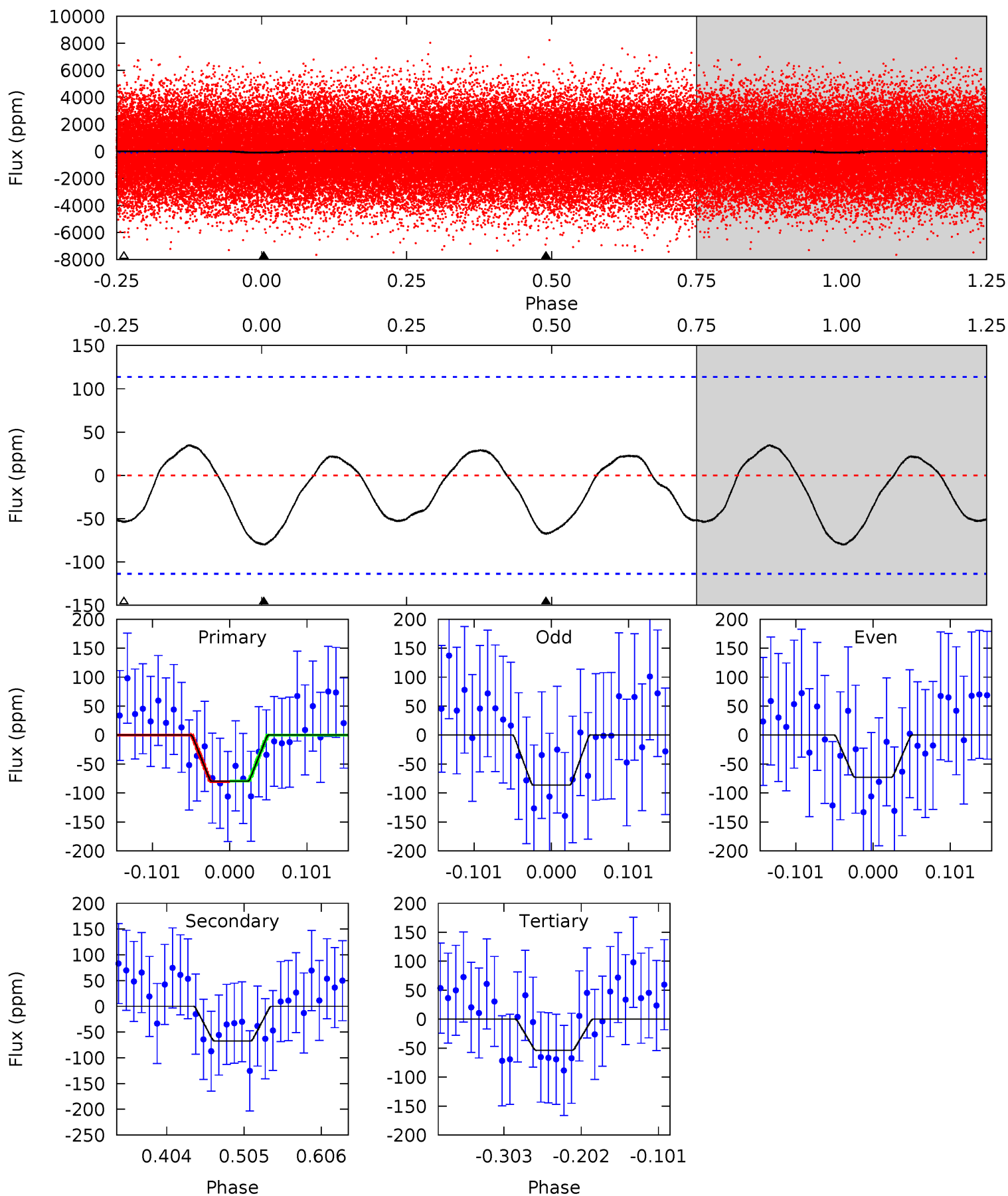




# Alt Model-Shift Uniqueness Test

008248630-01, P = 0.846039 Days, E = 131.086371 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
3.20	2.70	2.15	0	4.56	1.64	1.20	1.05	3.20	0.55	2.70	0.27	1.08	0.30	0.02





### Stellar Parameters For KIC 008248630

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7528^{+209}_{-314}$	$3.747^{+0.392}_{-0.073}$	$-0.100^{+0.200}_{-0.350}$	$3.120^{+0.360}_{-1.440}$	$1.982^{+0.062}_{-0.525}$	$0.092^{+0.317}_{-0.023}$
	+3%/-4%	+10%/-2%	+200%/-350%	+12%/-46%	+3%/-26%	+345%/-25%
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 008248630-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-25 \pm 7$	$2.79^{+1.88}_{-1.50}$	$5321^{+377}_{-567}$	$4844^{+3016}_{-7774}$	$0.799^{+3.223}_{-0.519}$
Alt.	$-67 \pm 25$	$2.92^{+1.93}_{-1.55}$	$5319^{+372}_{-603}$	$6321^{+3919}_{-1817}$	$1.870^{+6.672}_{-1.243}$

$T_{max}$  = 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

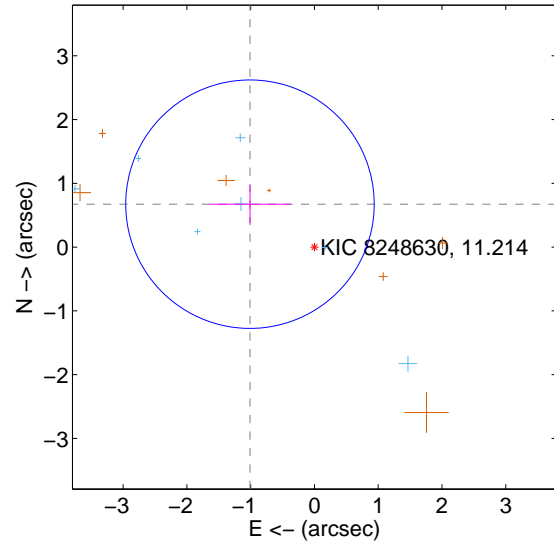
Supplemental centroid analysis for 008248630-01. **Kepler magnitude: 11.21.** Transit SNR 9.85

There are 8 quarters with good PRF difference image offsets

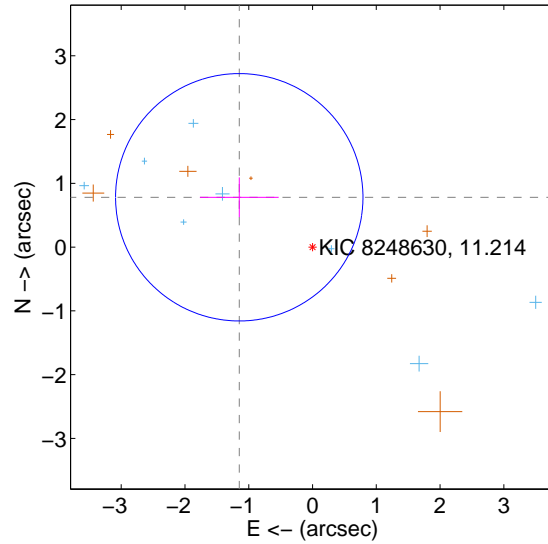
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.215 \pm 0.649$	1.87	$1.011 \pm 0.635$	$0.673 \pm 0.300$
PRF-fit source offset from KIC position	$1.389 \pm 0.647$	2.15	$1.149 \pm 0.618$	$0.781 \pm 0.312$
photometric centroid source offset	$0.63 \pm 0.23$	2.73	$0.50 \pm 0.26$	$0.39 \pm 0.18$

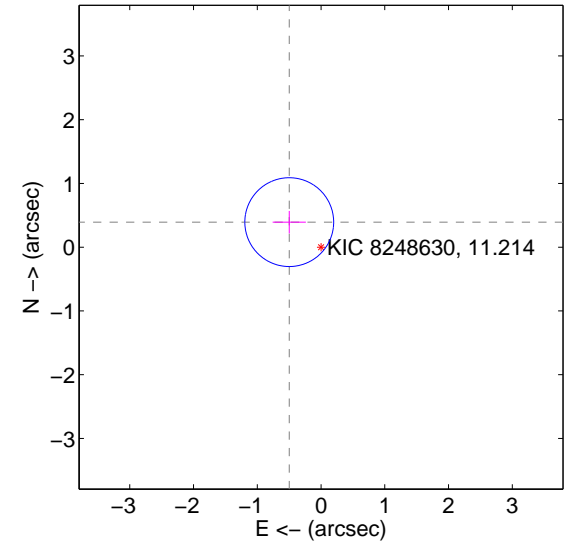
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

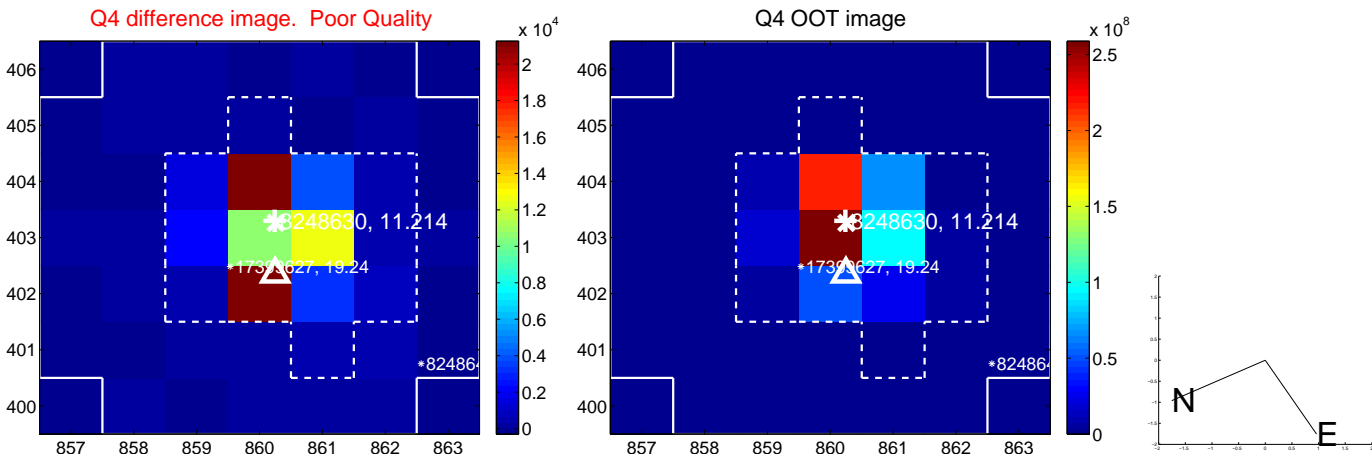
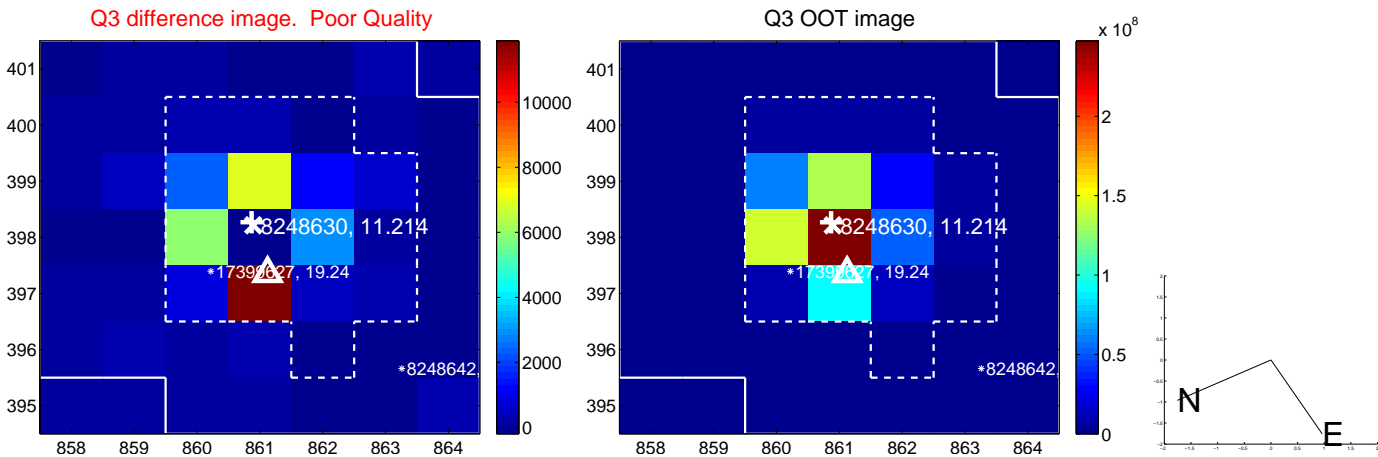
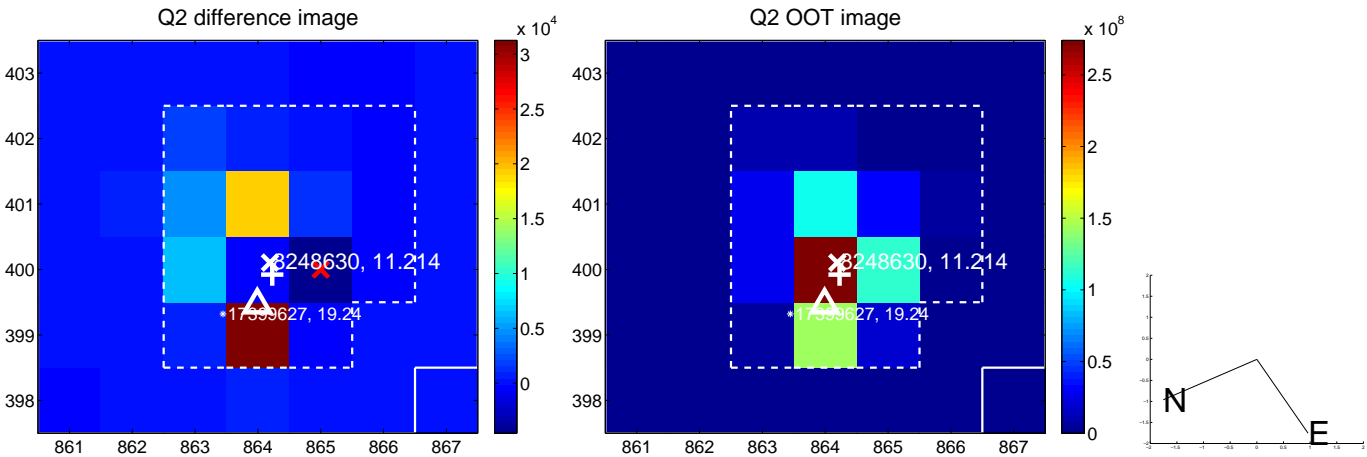
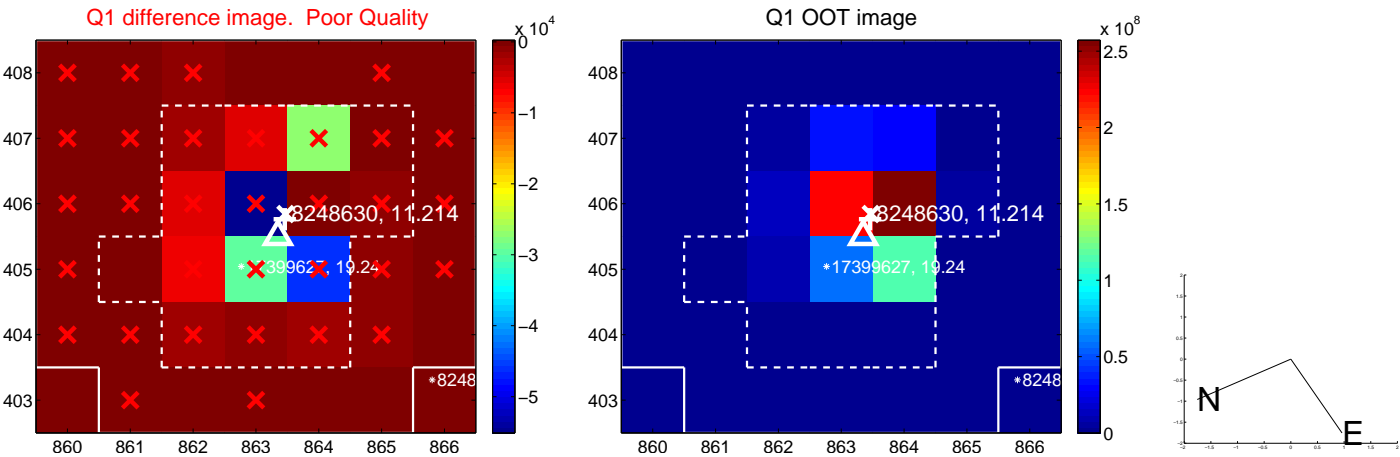


offset from photometric centroids

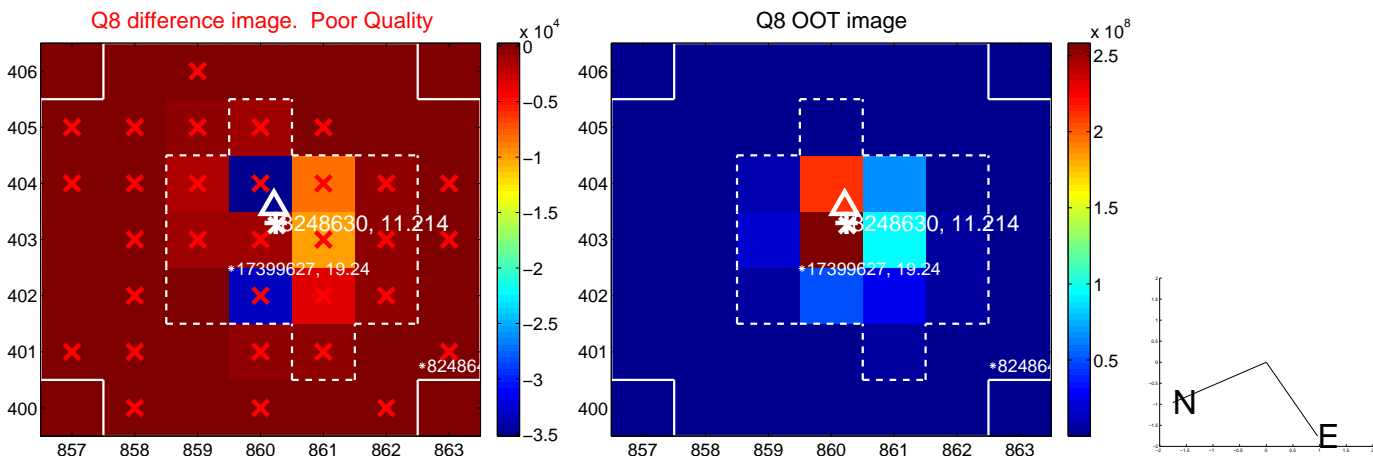
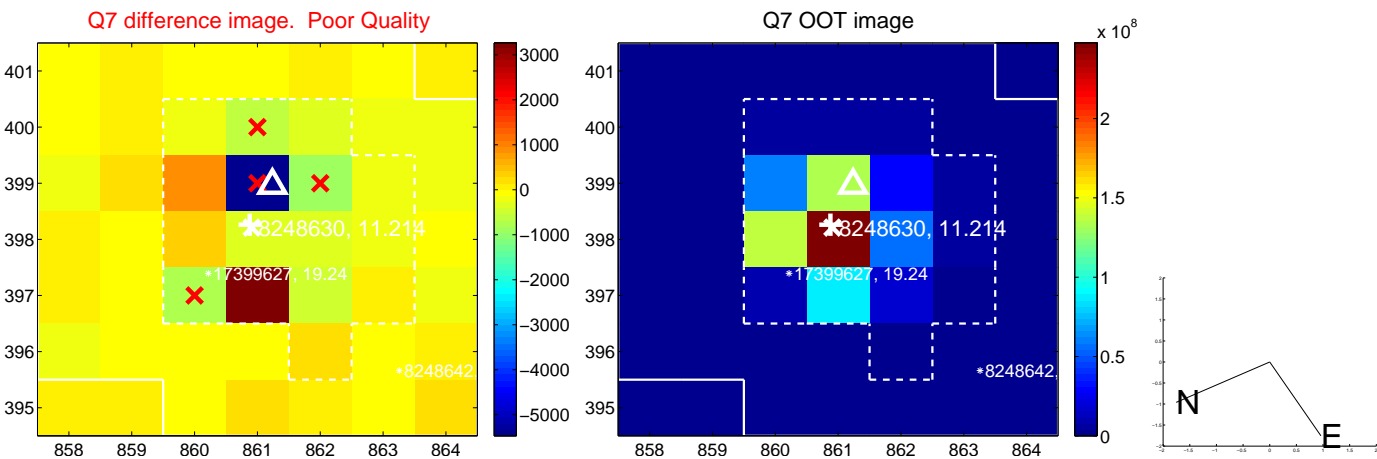
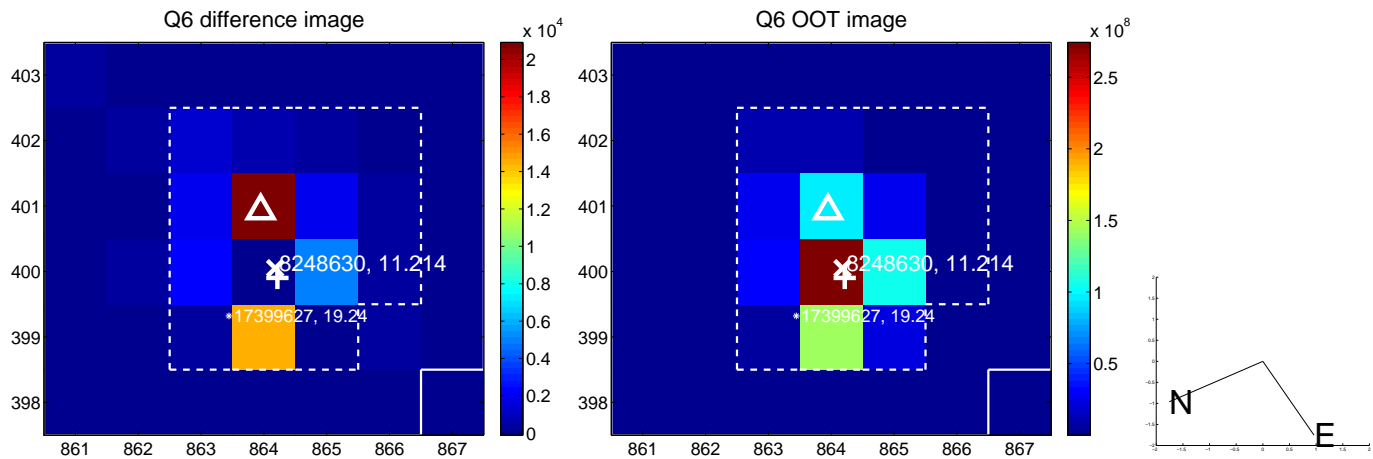
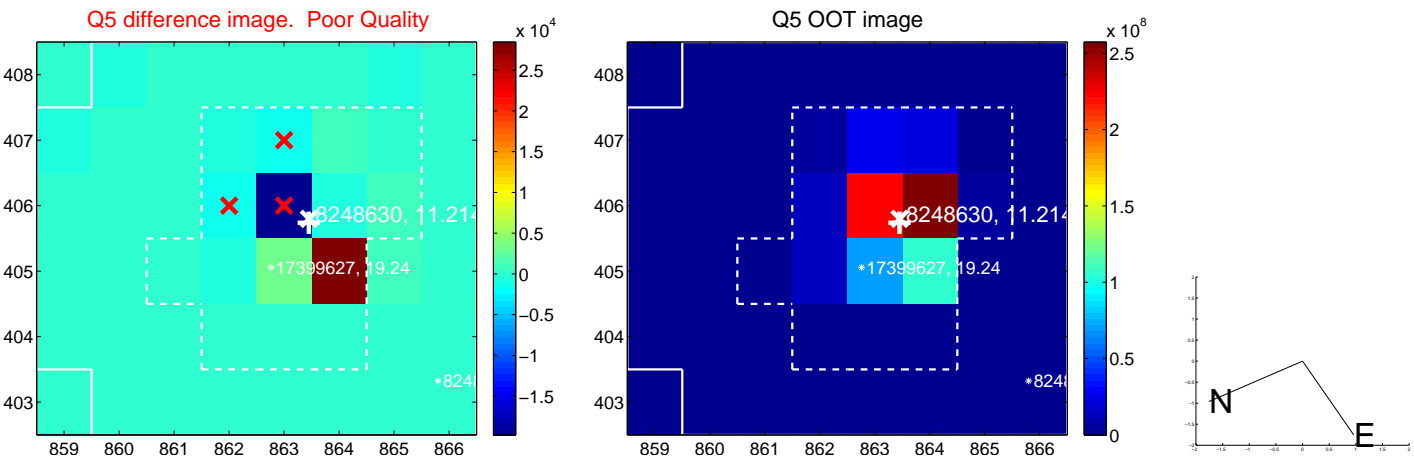


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

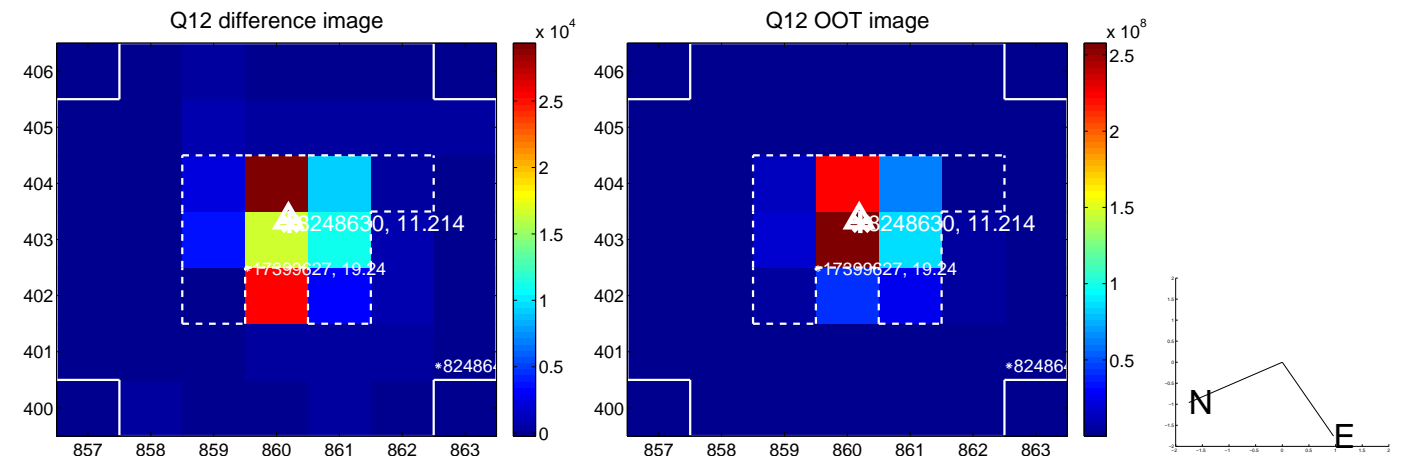
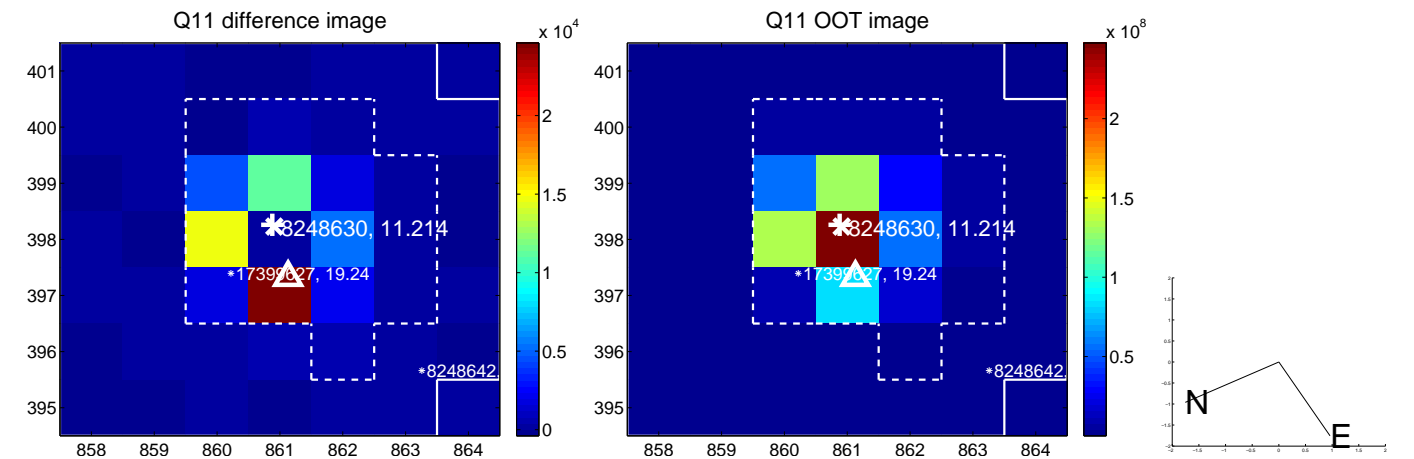
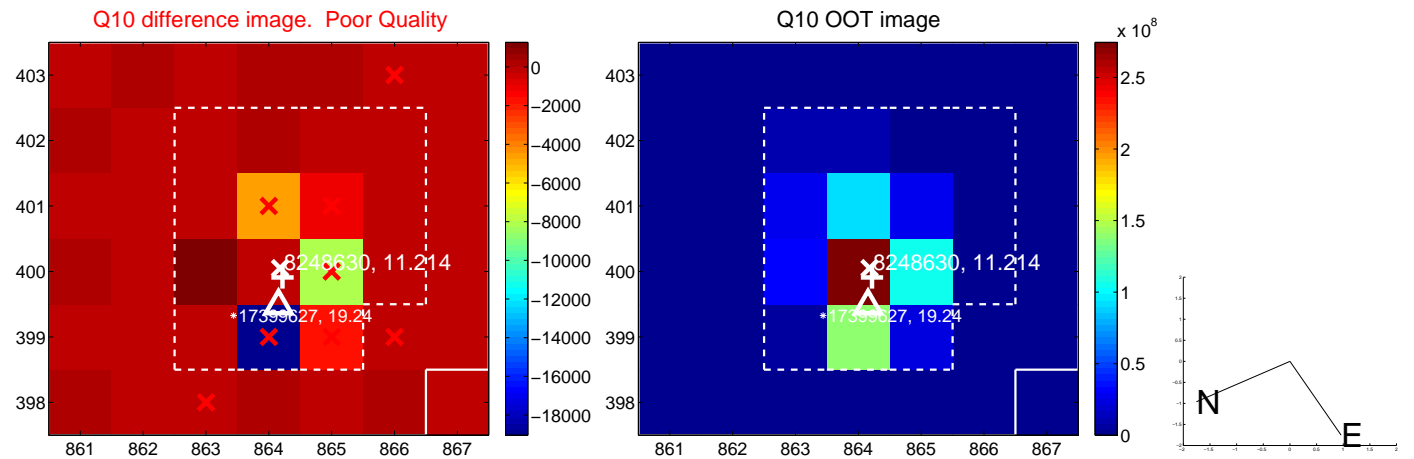
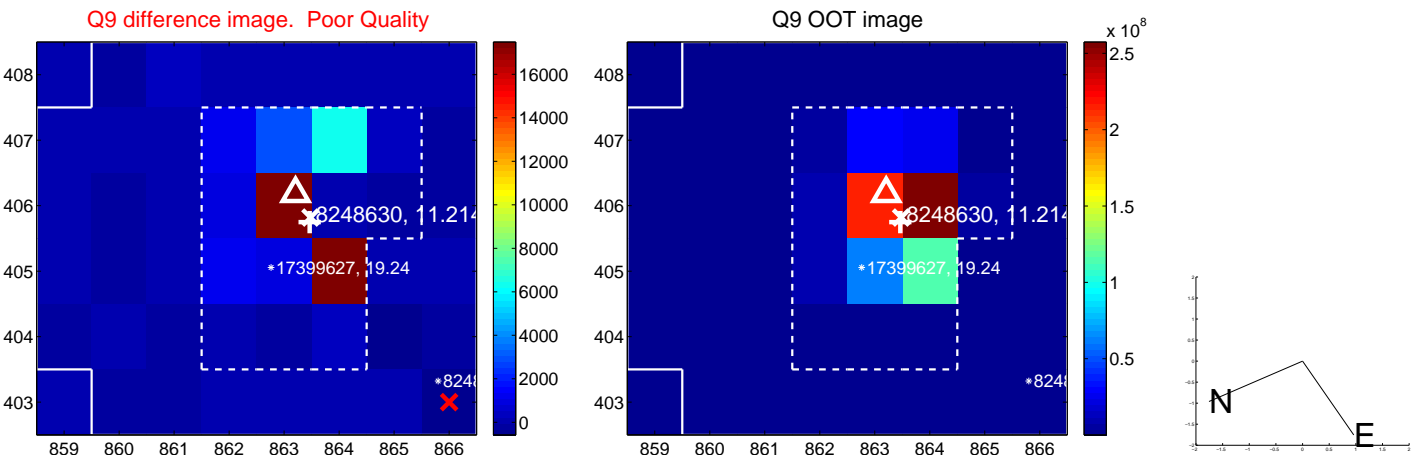


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

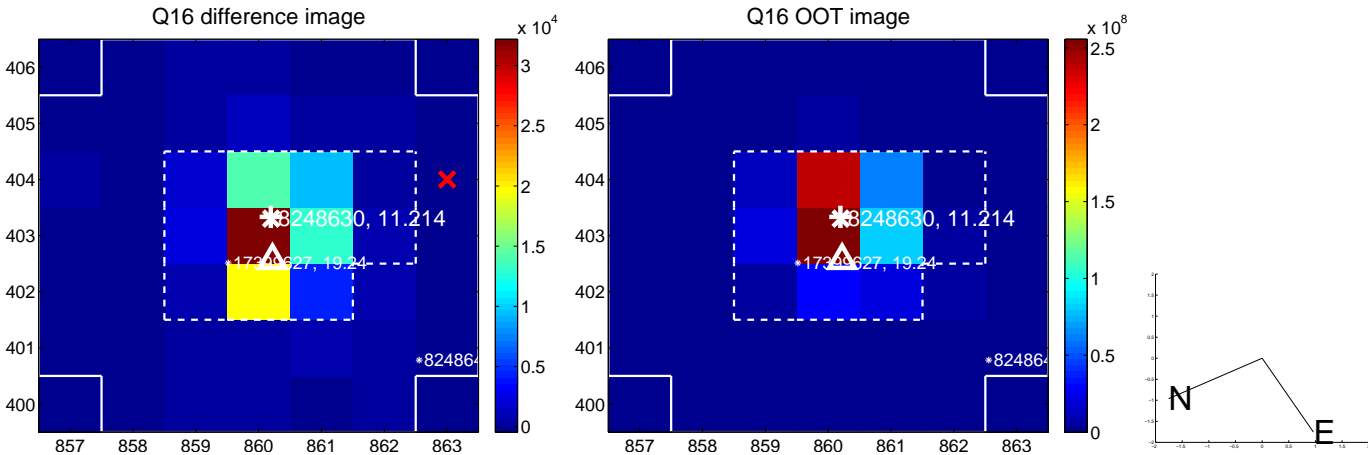
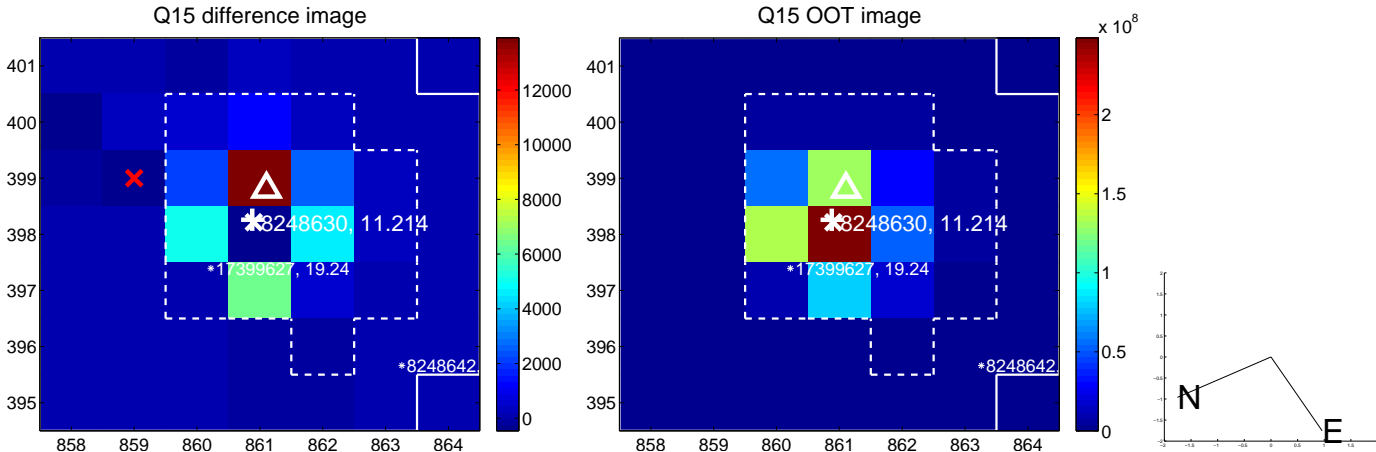
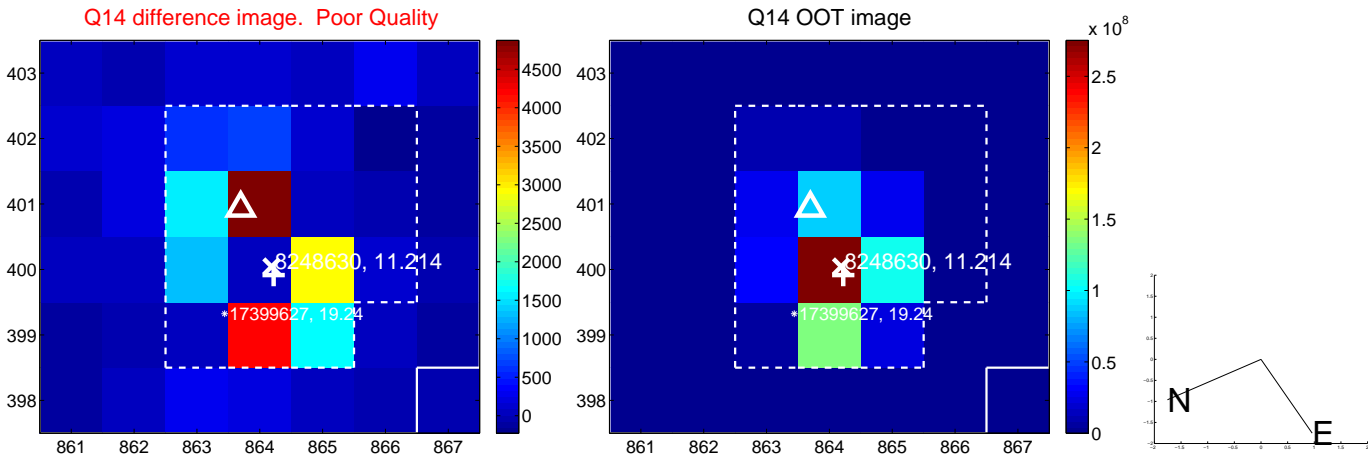
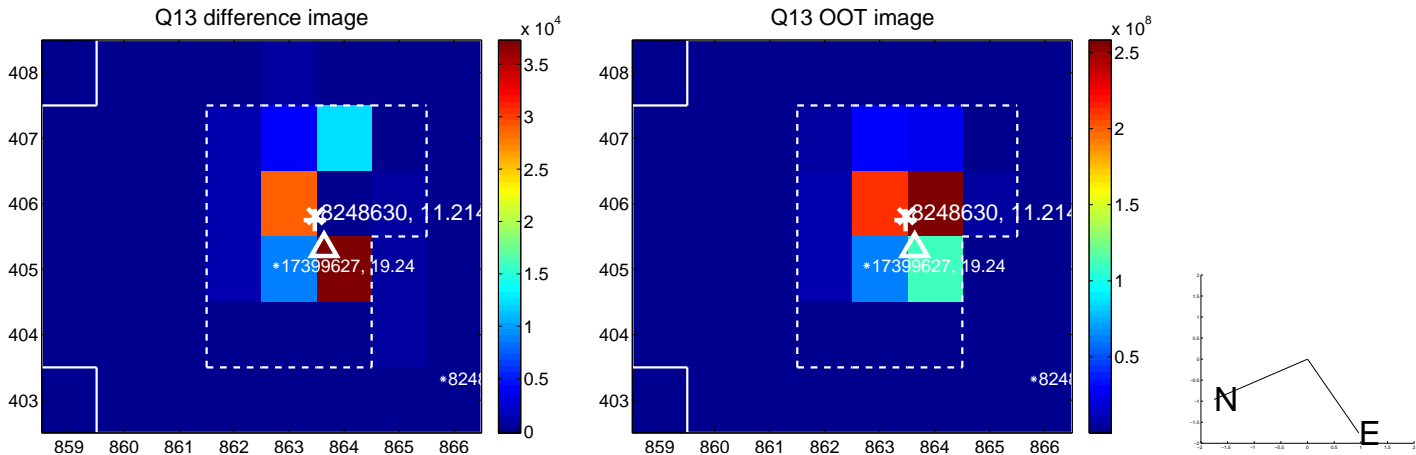




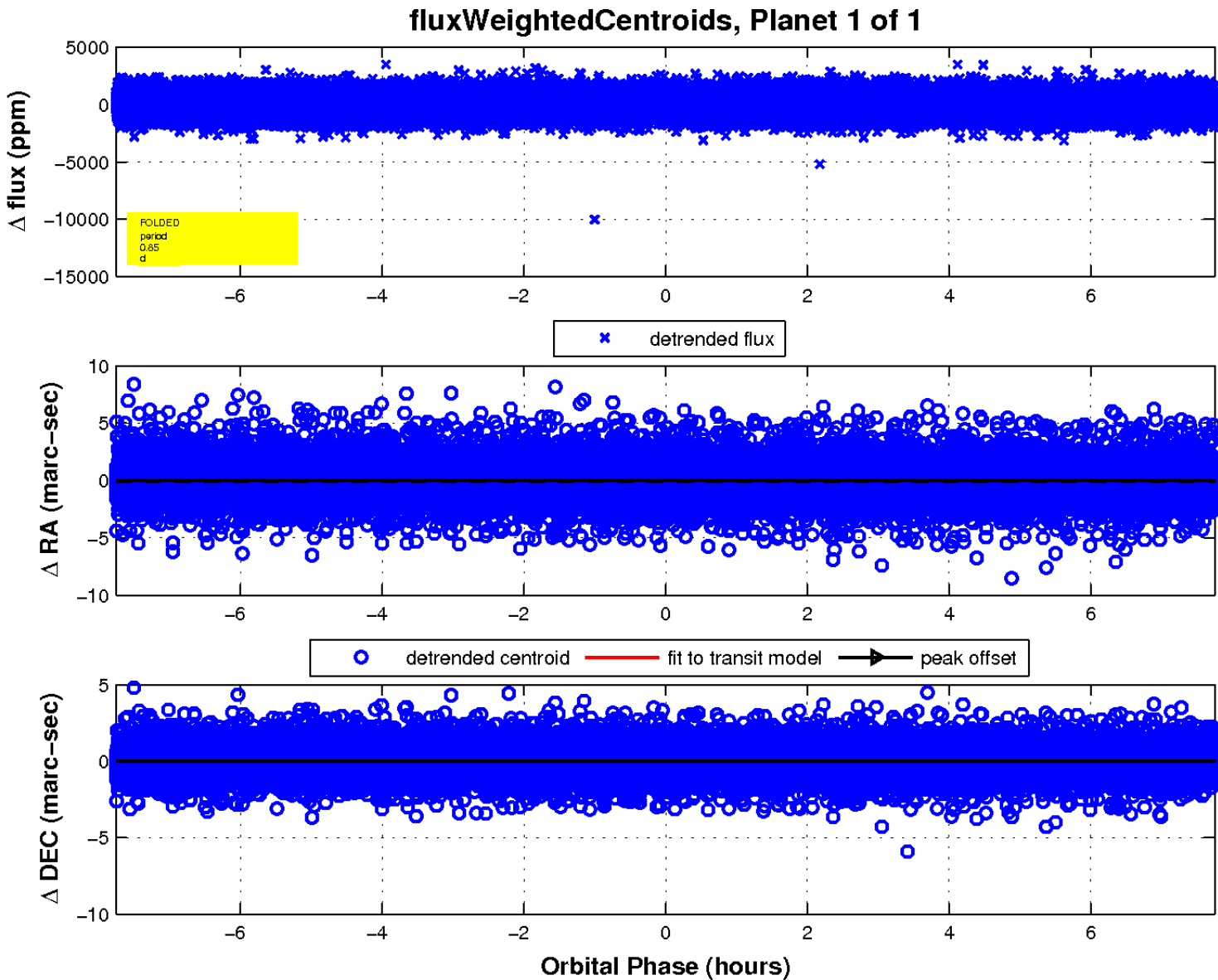
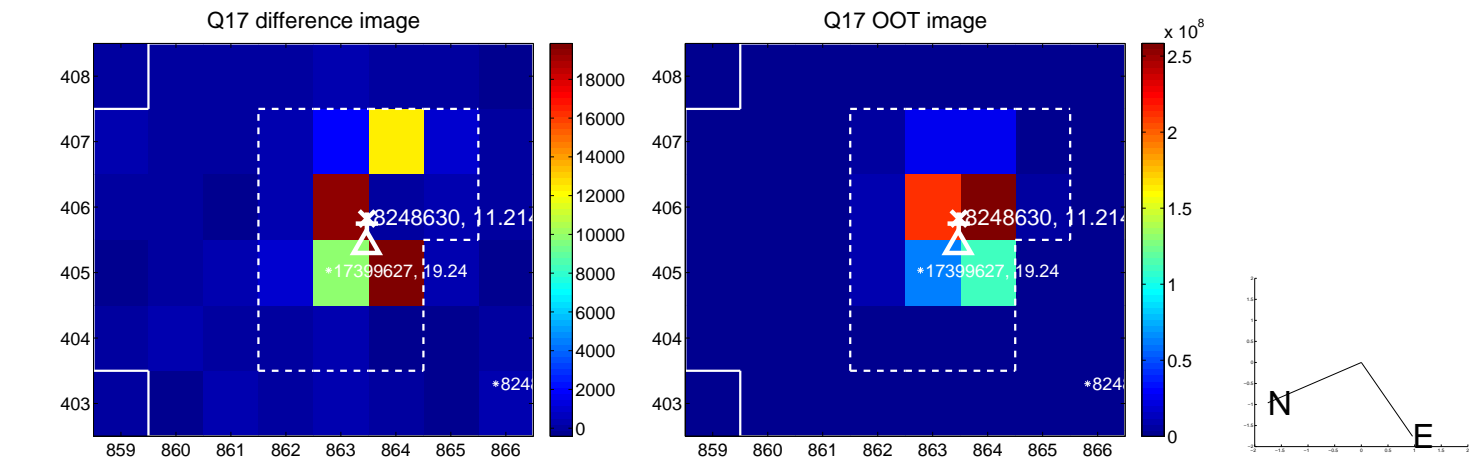
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

