

# KIC 008123628

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008123628-01	OBS	No	0.767079	131.559384	10.8	4.594	10.0	6.0	1.20	6422	0.42	7845.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008123628-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV

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

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

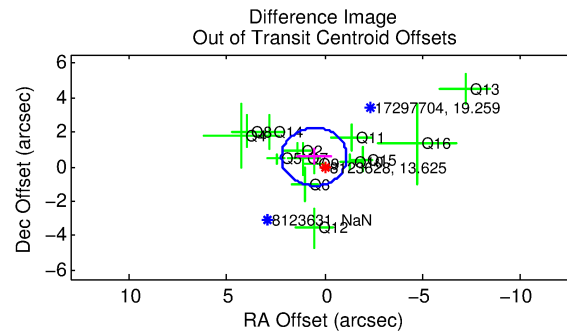
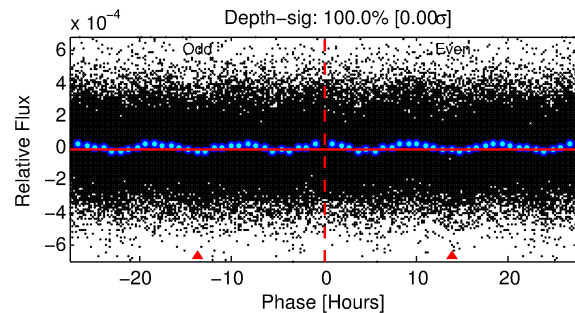
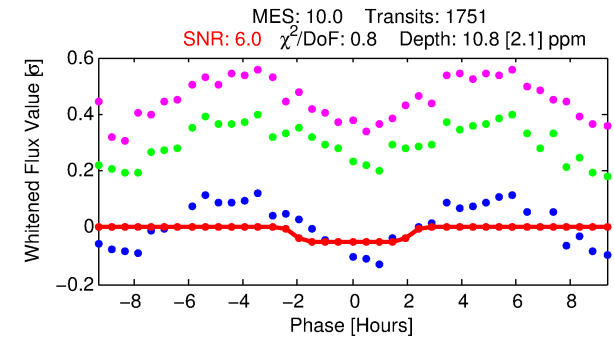
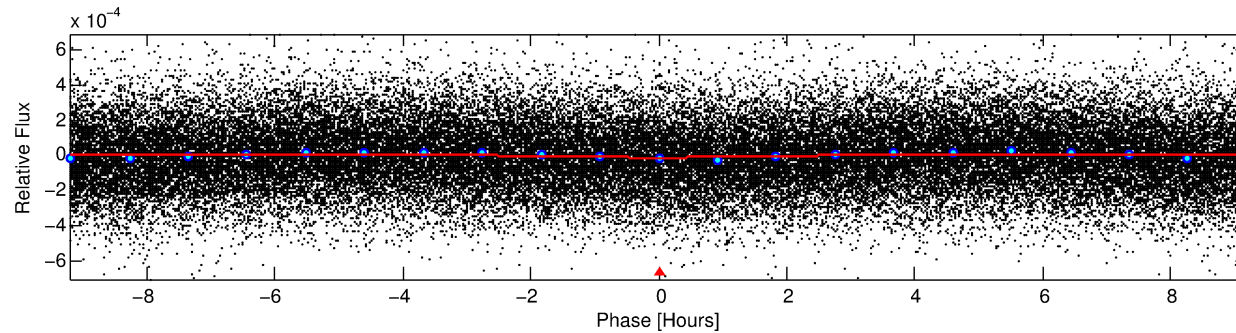
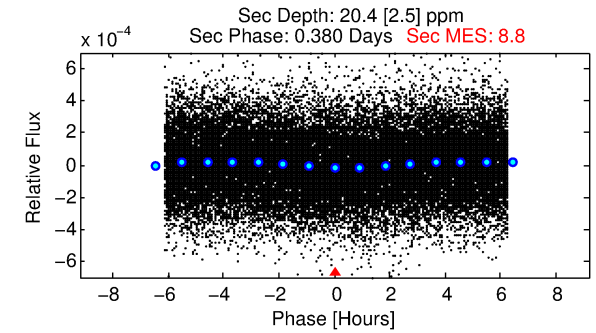
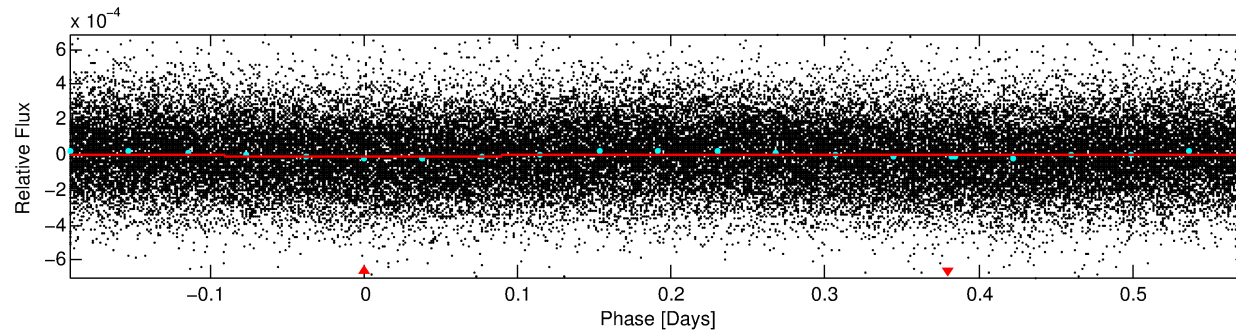
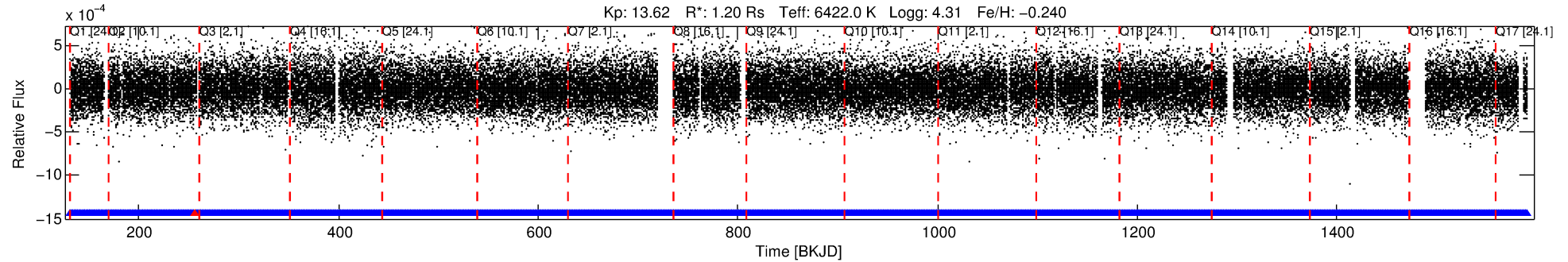
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008123628-01

No Significant Match Found

# DV One-Page Summary

KIC: 8123628 Candidate: 1 of 1 Period: 0.767 d



## DV Fit Results:

Period = 0.76708 [0.00002] d  
Epoch = 131.5594 [0.0082] BKJD  
Rp/R\* = 0.0032 [0.0018]  
a/R\* = 1.24 [1.27]  
b = 0.70 [2.20]  
Seff = 7845.71 [2978.05]  
Teff = 2400 [228] K  
Rp = 0.42 [0.27] Re  
a = 0.0168 [0.0043] AU  
Ag = 17.65 [20.67] [0.81σ]  
Teffp = 7605 [2136] K [2.42σ]

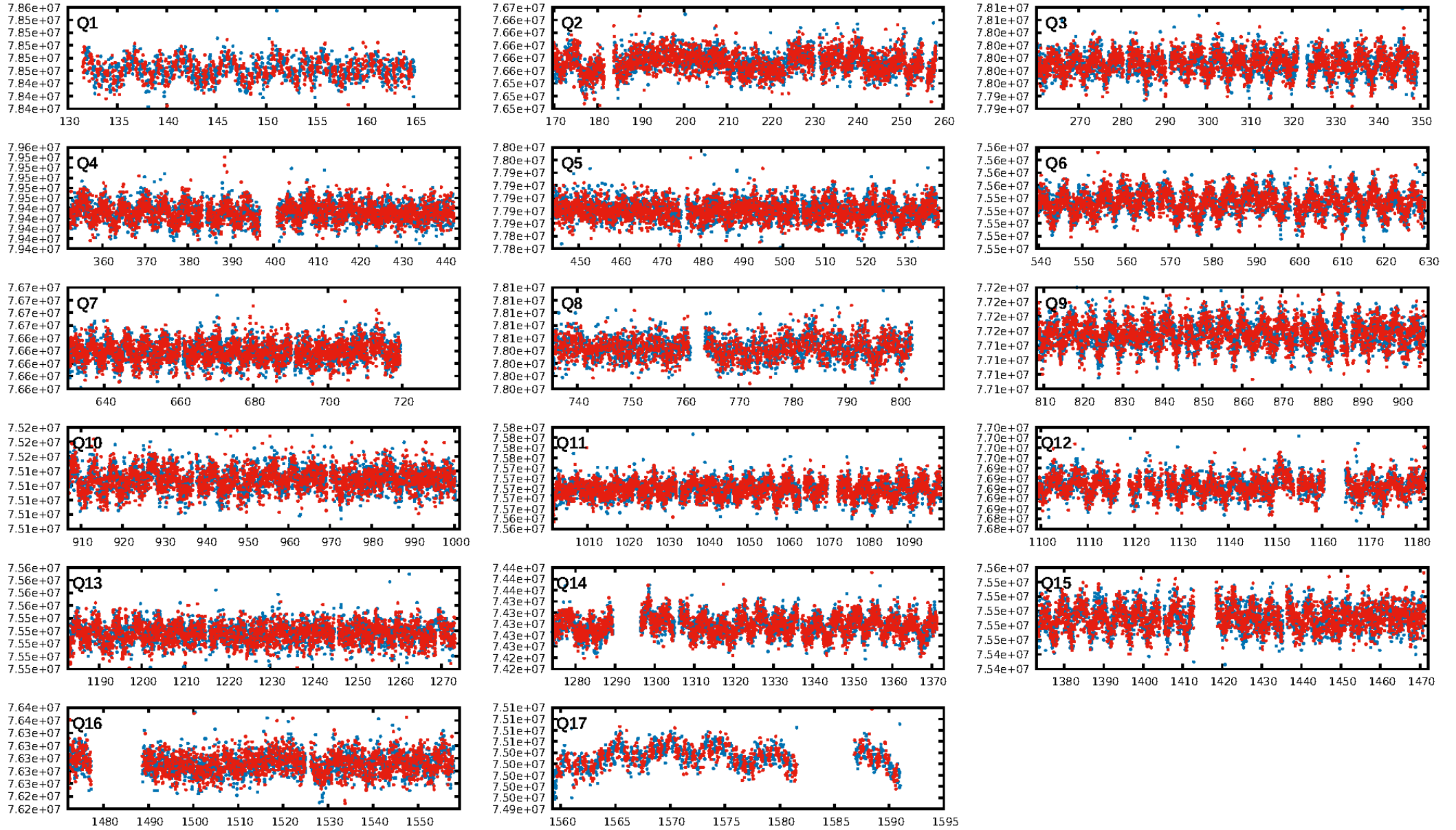
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.52e-14  
RollingBand-fgt: 1.00 [1672/1673]  
GhostDiagnostic-chr: 2.089  
Centroid-sig: 31.2%  
Centroid-so: 2.480 arcsec [1.08σ]  
OotOffset-rm: 0.780 arcsec [1.40σ]  
KicOffset-rm: 0.781 arcsec [1.50σ]  
OotOffset-st: 4/3/4/3 [14]  
KicOffset-st: 4/3/4/3 [14]  
DiffImageQuality-fgm: 0.50 [7/14]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:13:00 Z

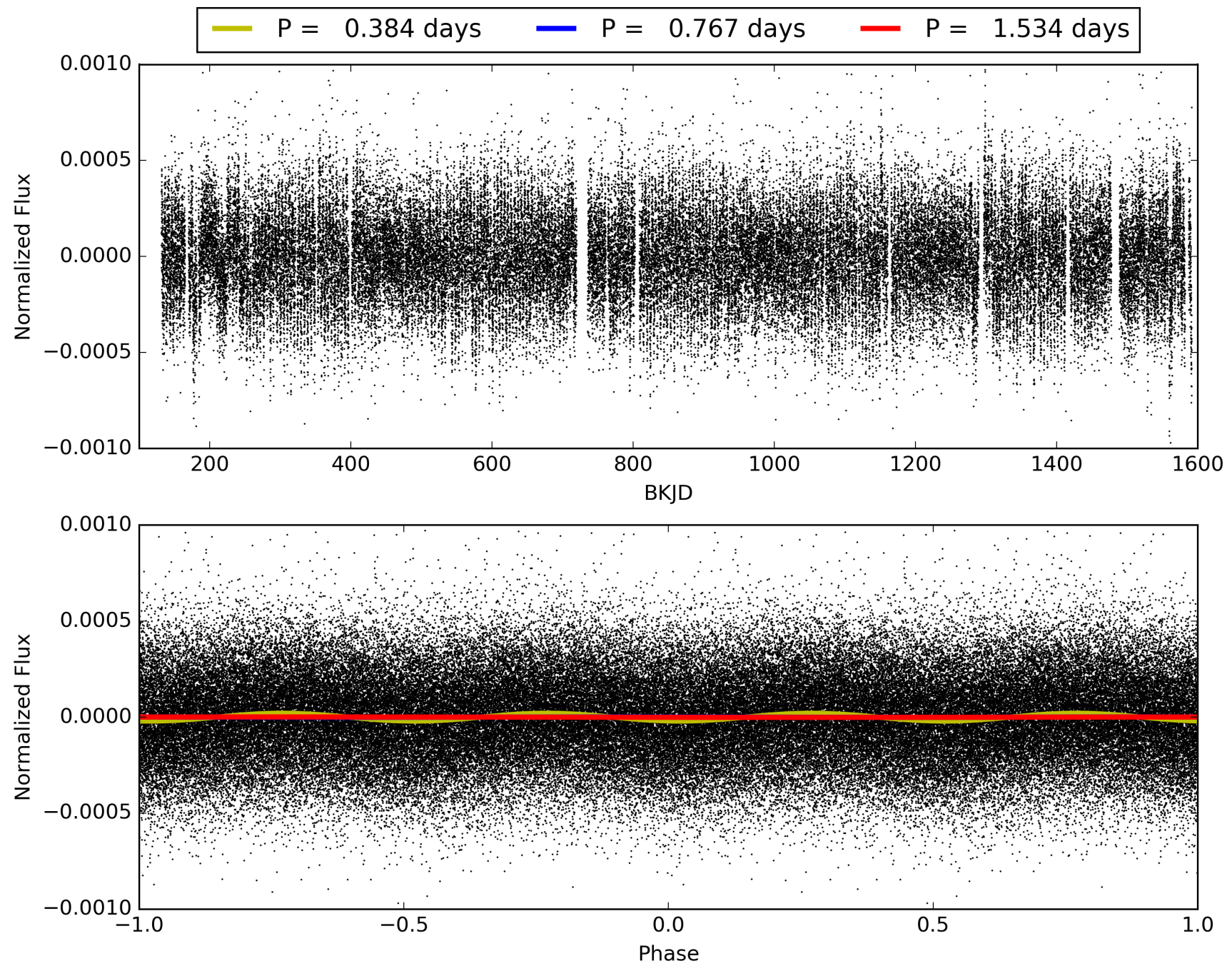
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008123628-01, PDC Light Curves



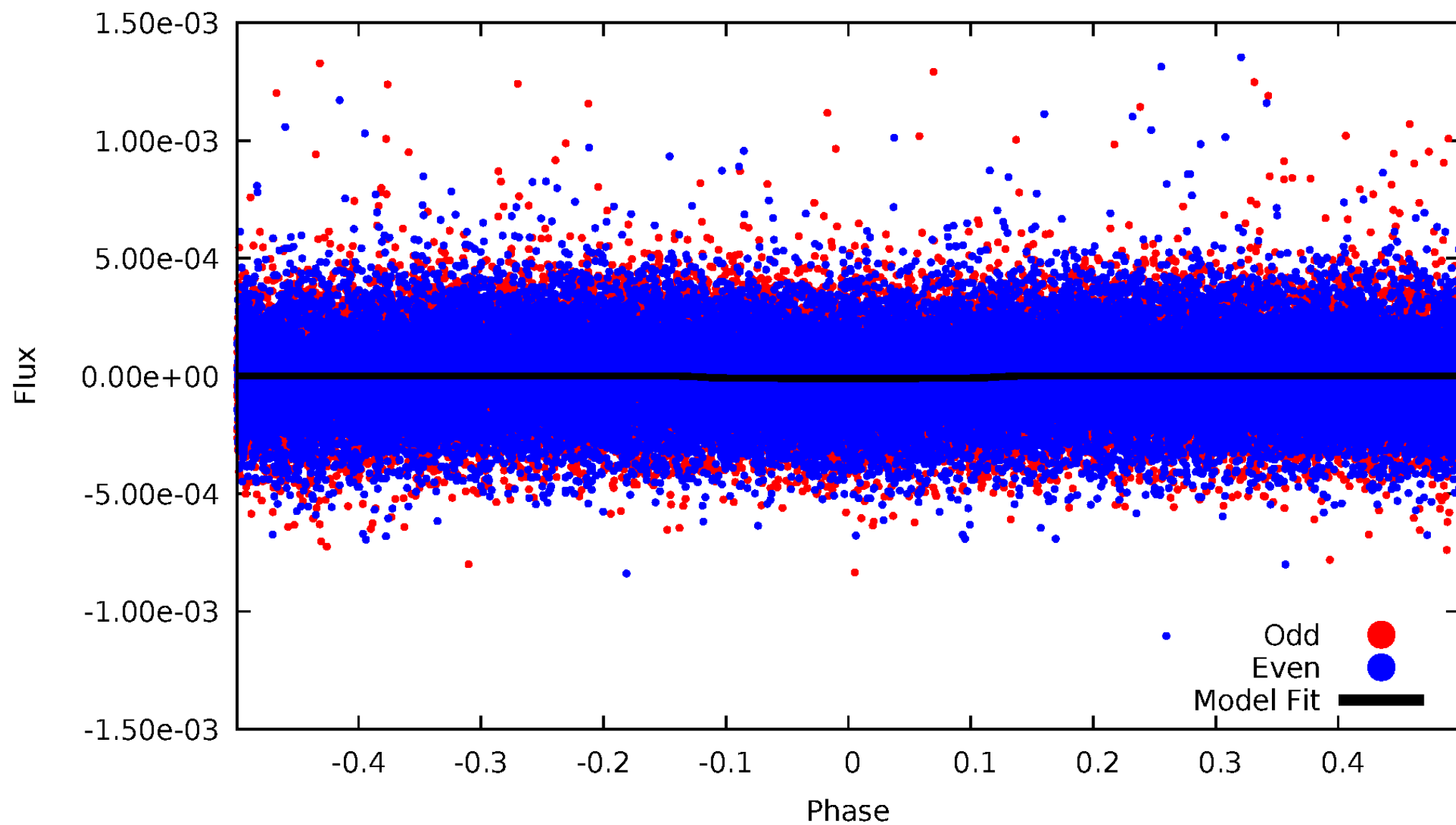


TCE 008123628-01



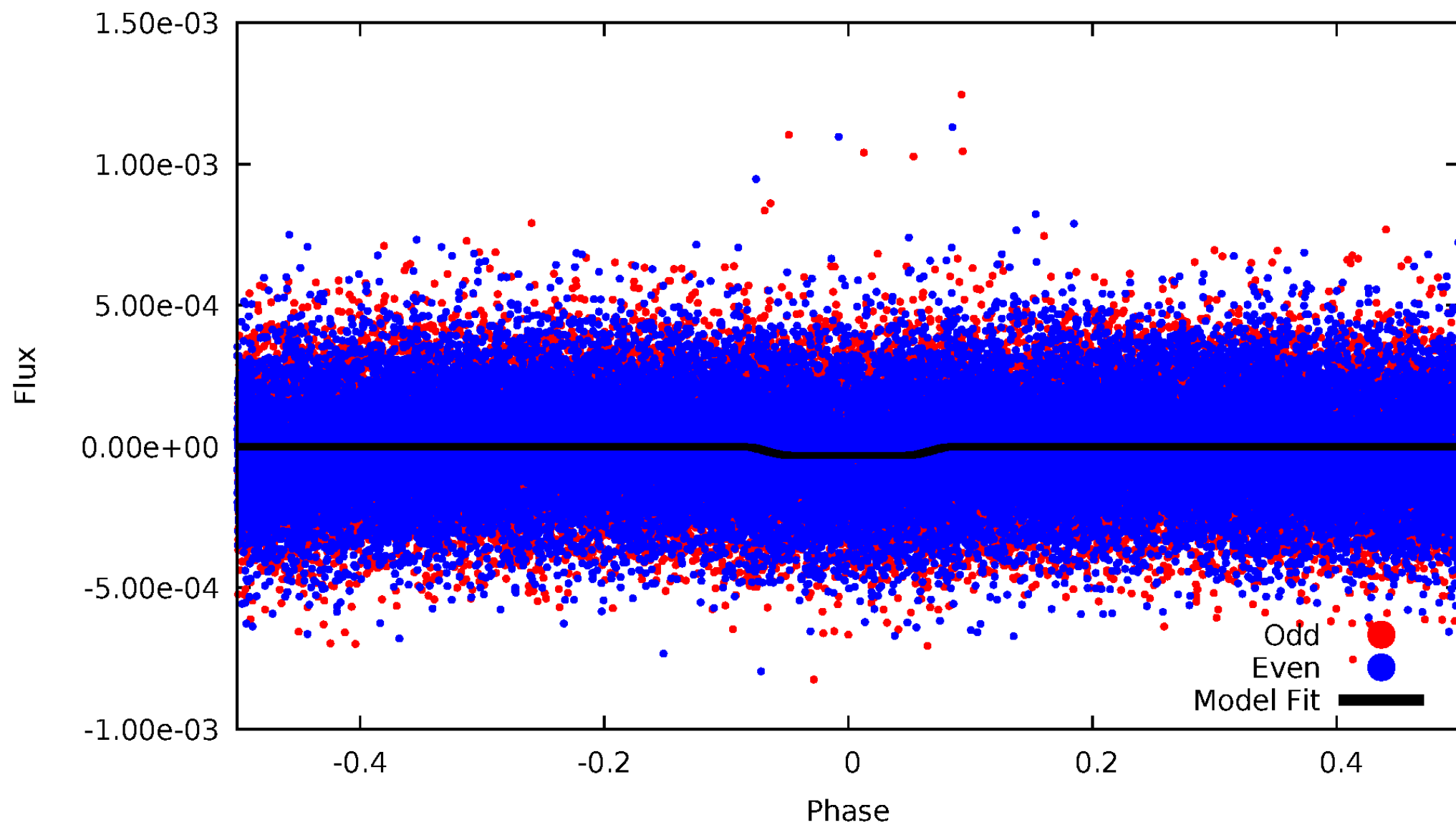
# DV Odd/Even

TCE 008123628-01

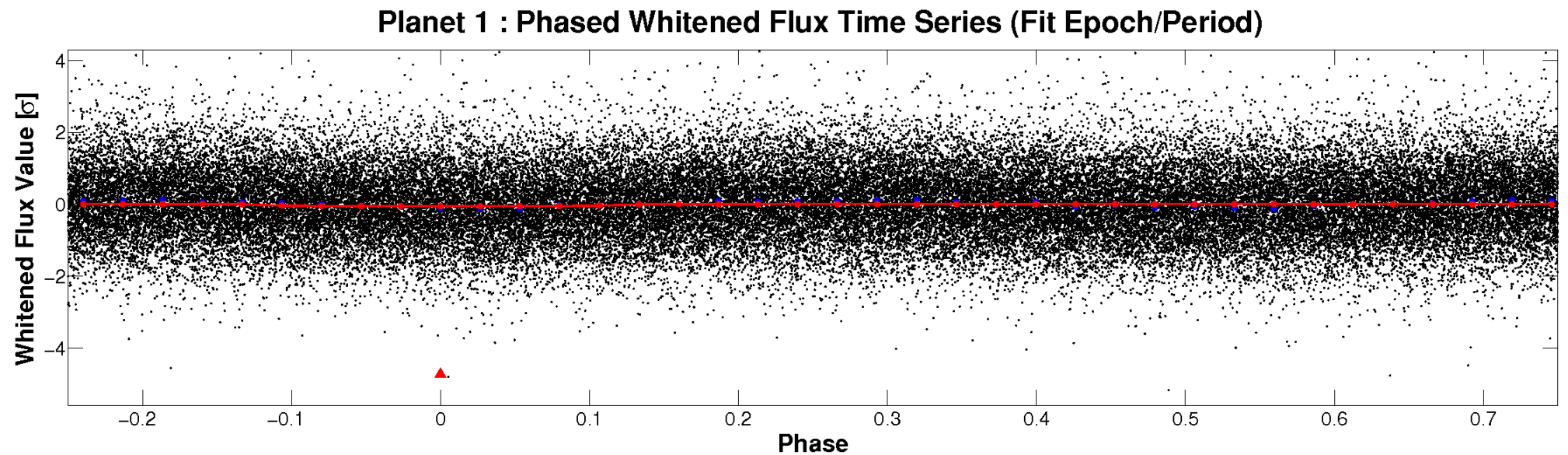
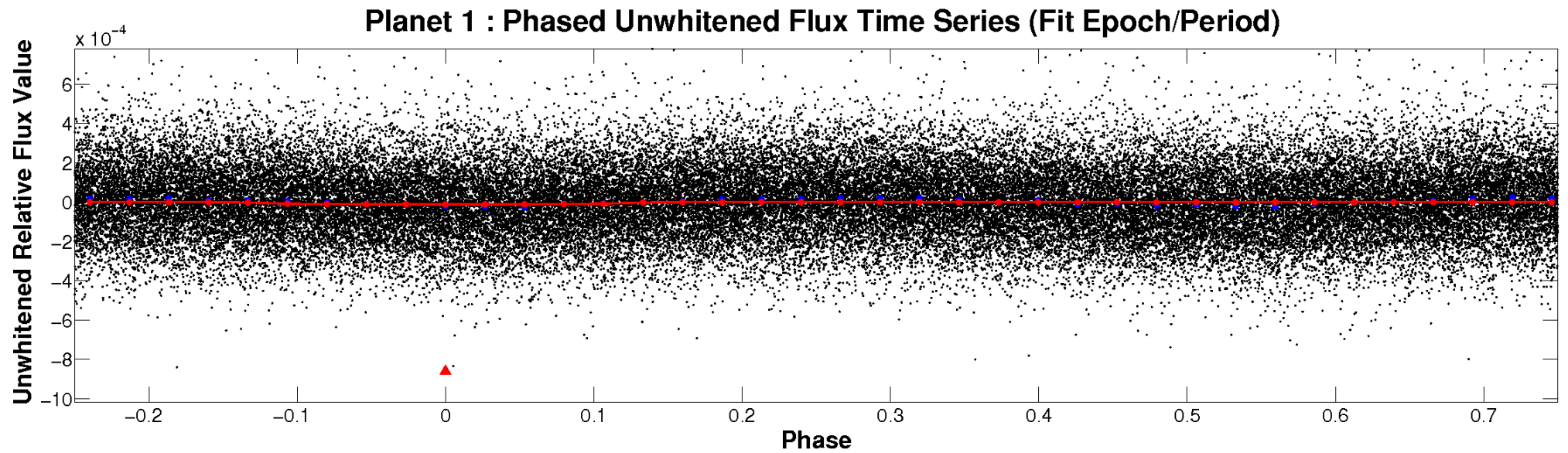


# ALT Odd/Even

TCE 008123628-01



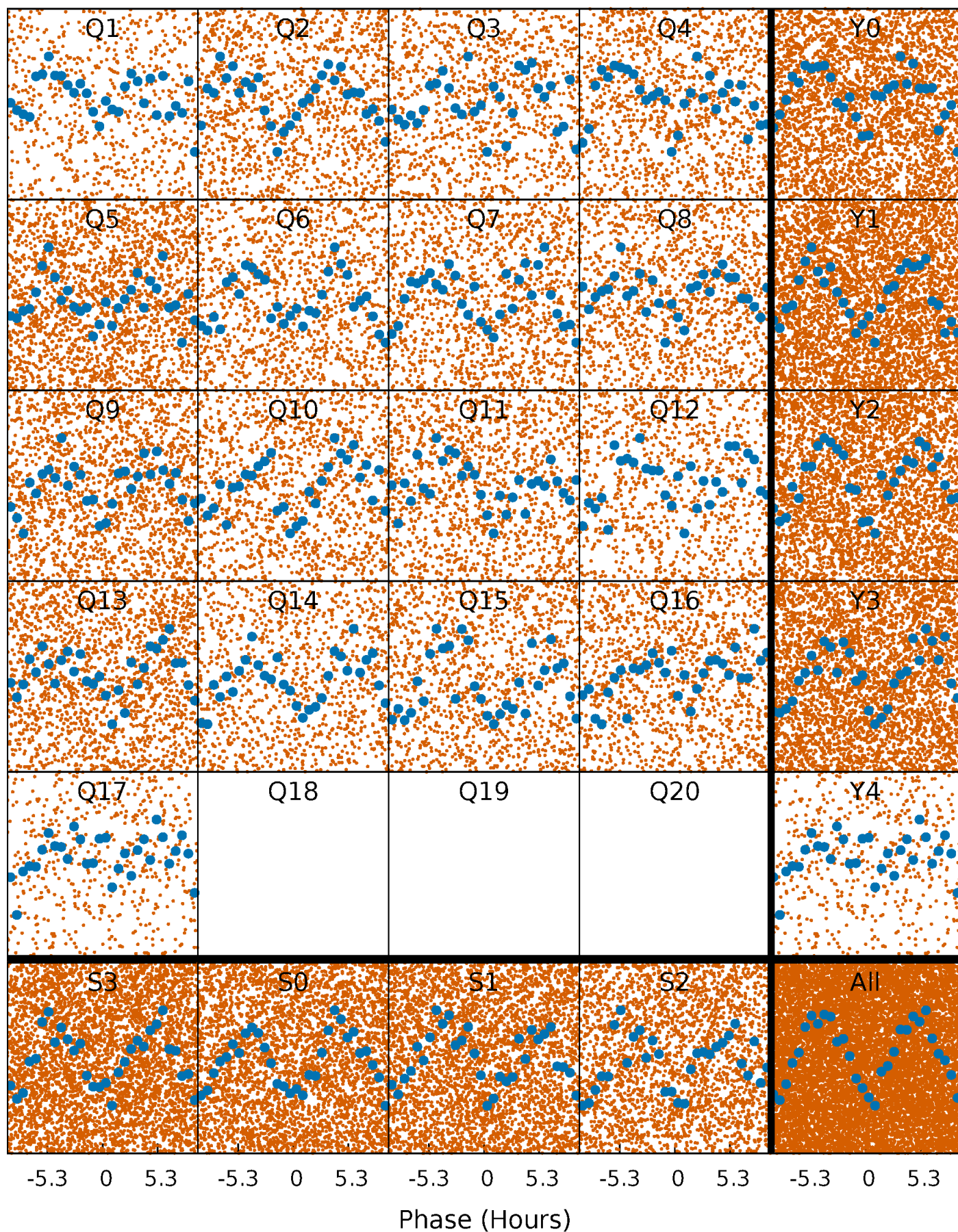
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

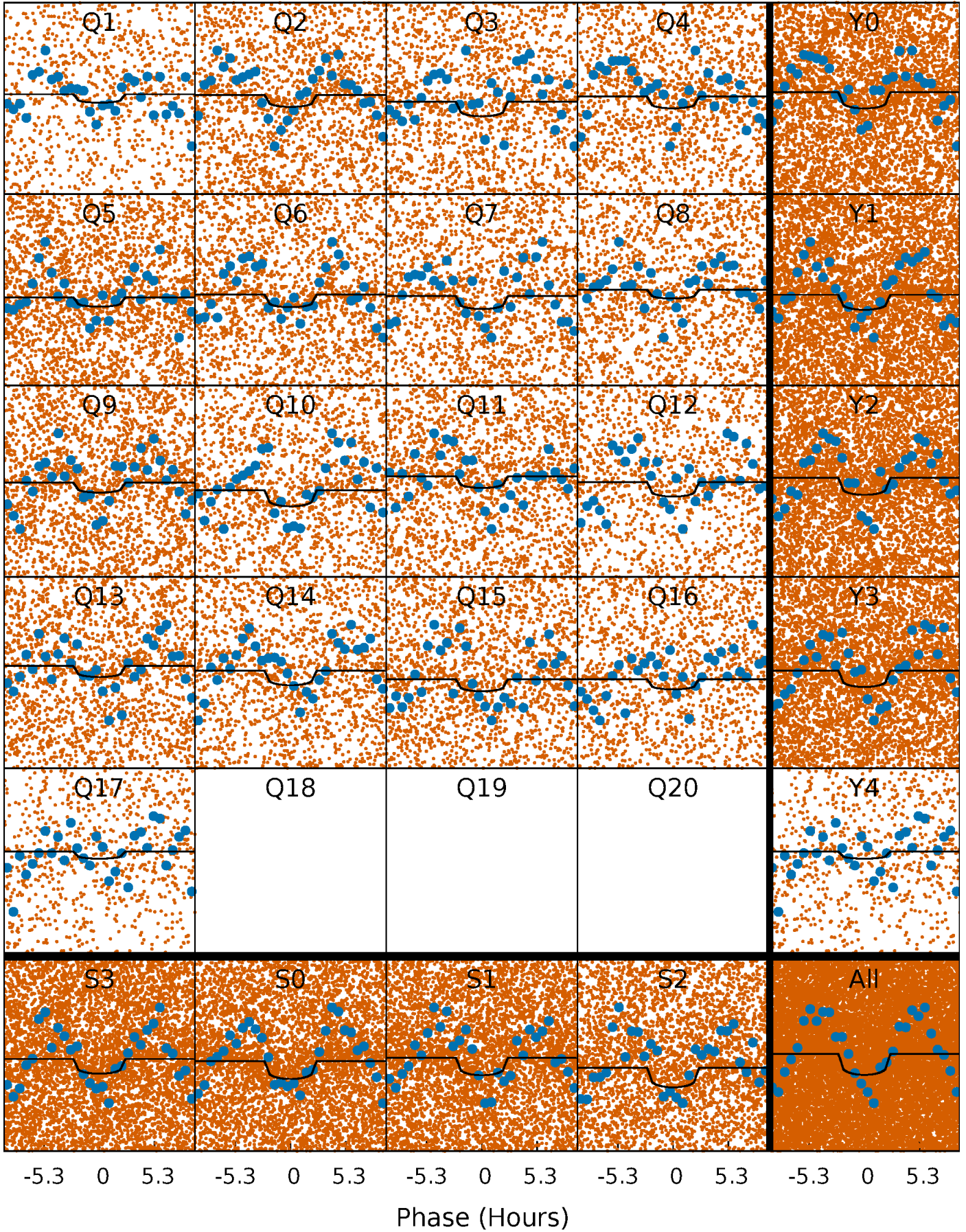
TCE 008123628-01 P= 0.767079 Days  $T_0=131.559384$  (BKJD)





# DV Quarter-Phased Transit Curves

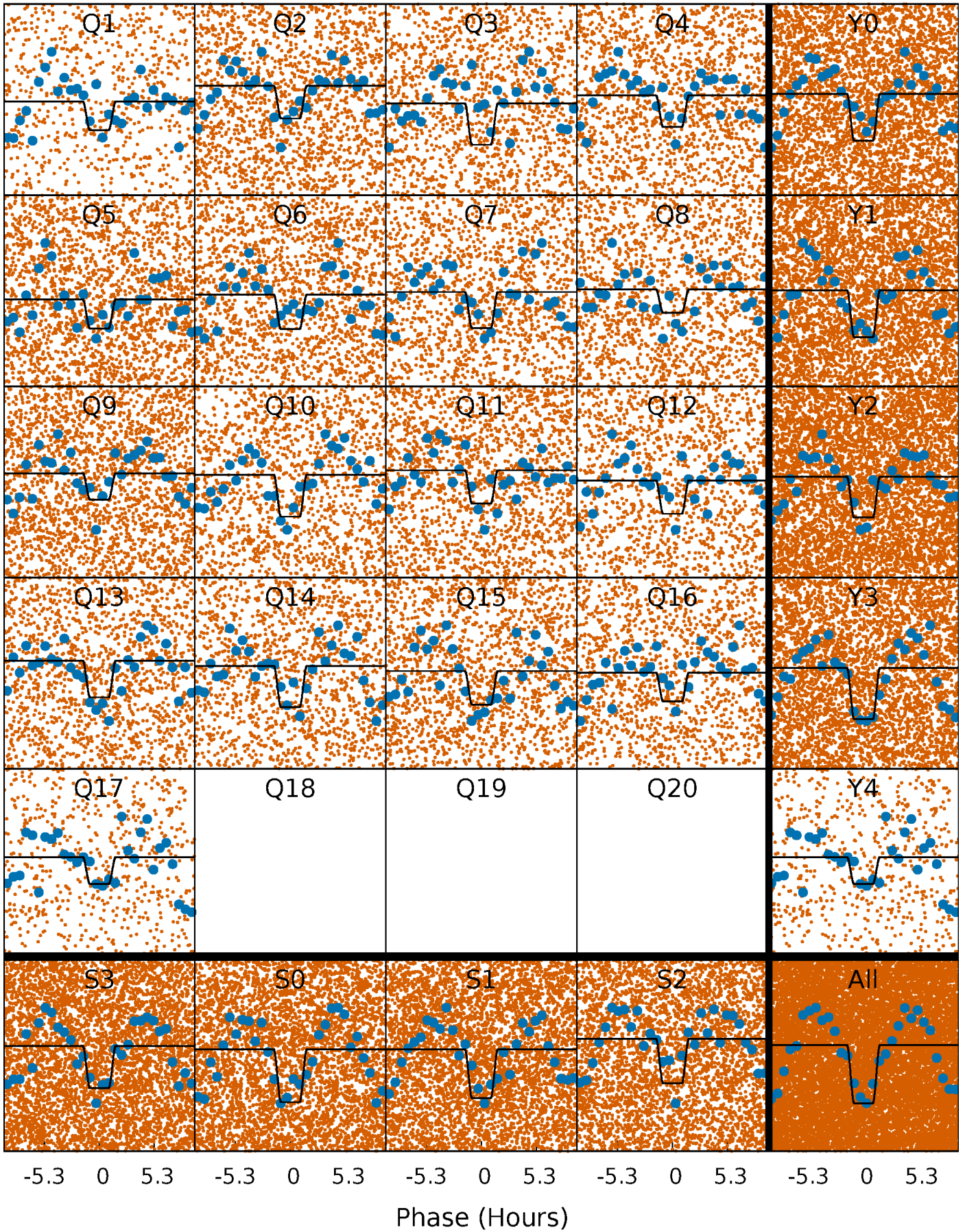
TCE 008123628-01 P= 0.767079 Days  $T_0=131.559384$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

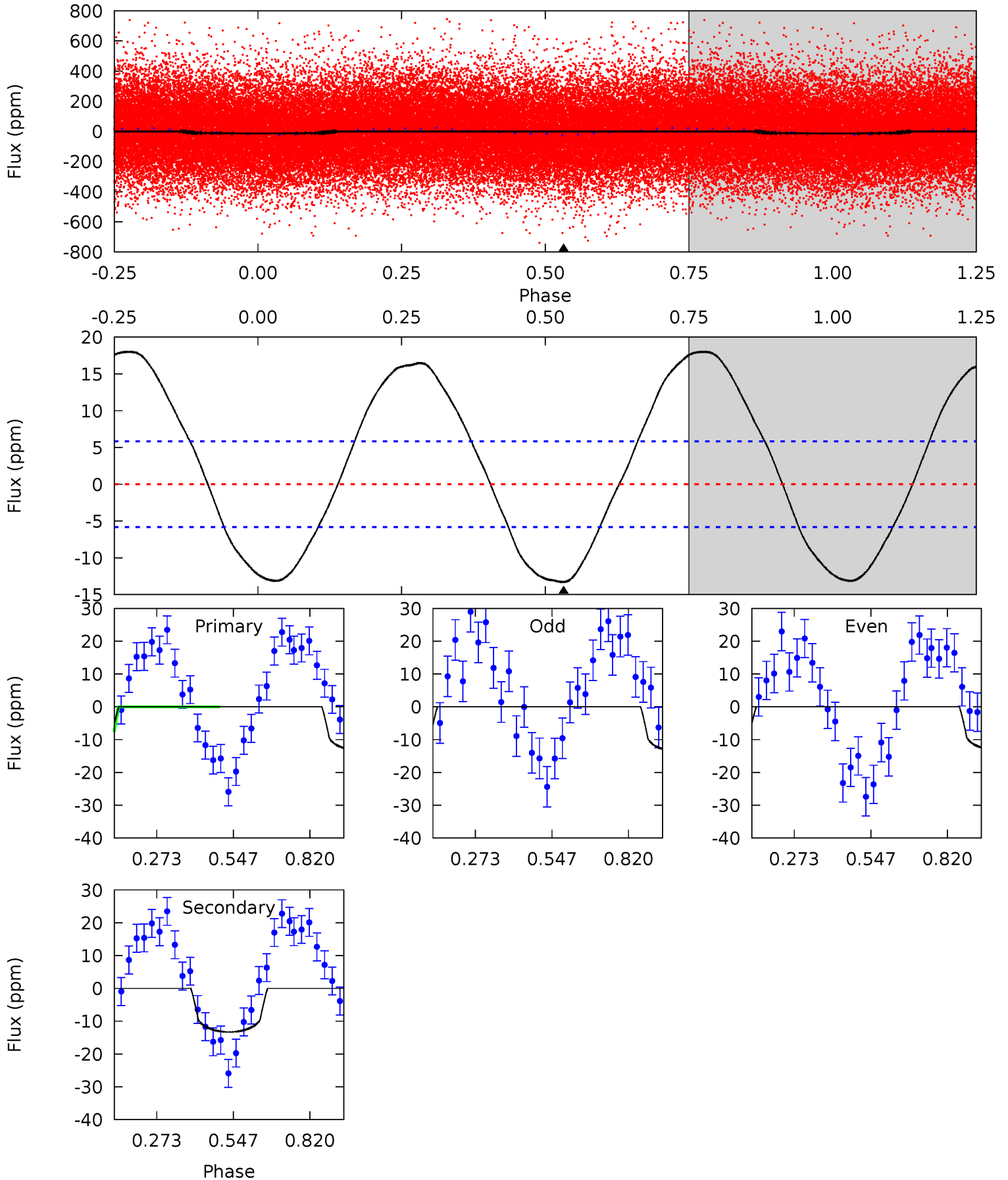
TCE 008123628-01 P= 0.767131 Days  $T_0=131.524312$  (BKJD)



# DV Model-Shift Uniqueness Test

008123628-01, P = 0.767079 Days, E = 130.792305 Days

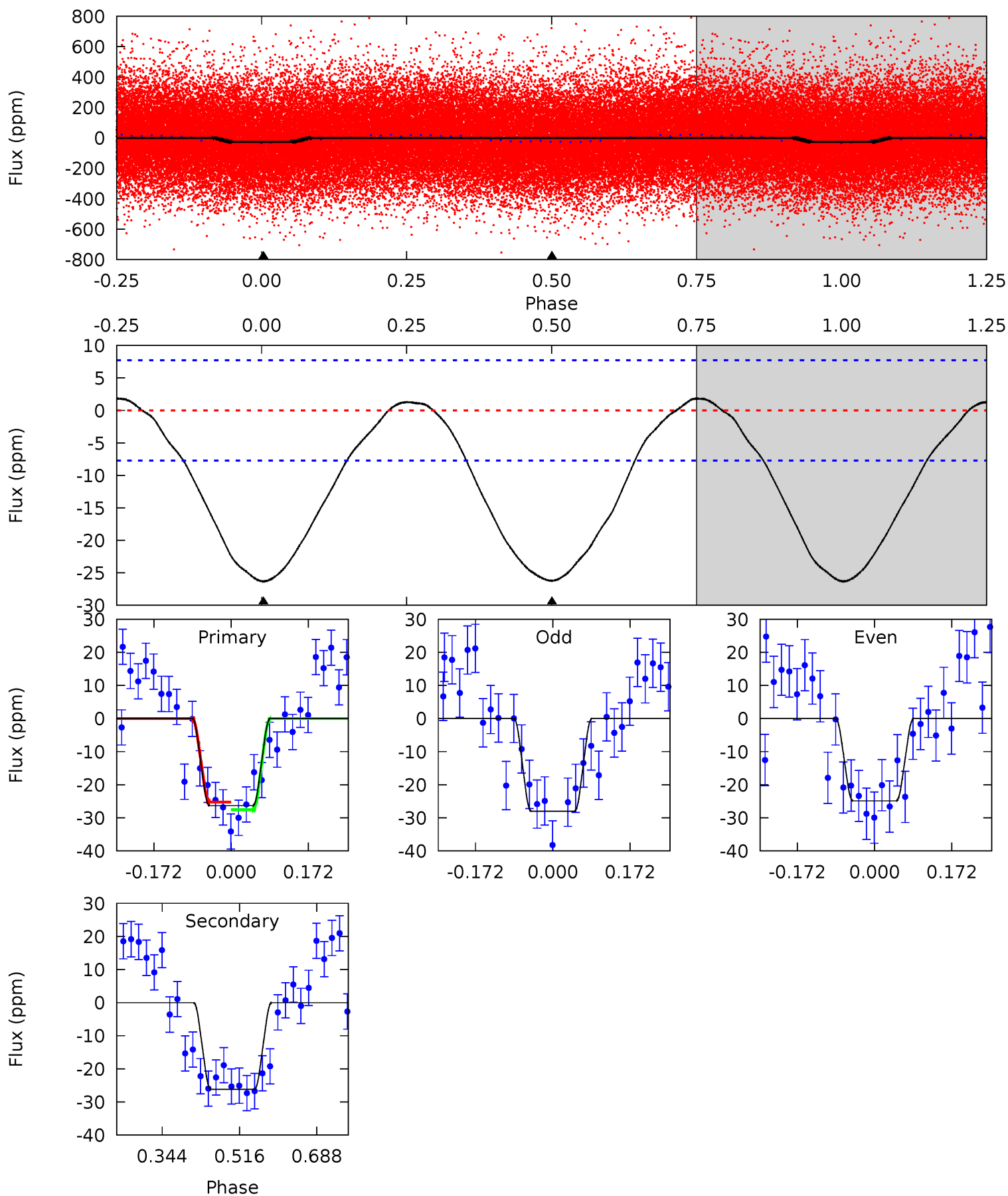
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.93	9.93	0	0	4.35	1.10	7.56	9.93	9.93	9.93	9.93	0.19	0.87	0.58	3.85



# Alt Model-Shift Uniqueness Test

008123628-01, P = 0.767131 Days, E = 130.757181 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
15.2	15.1	0	0	4.45	1.37	0.95	15.2	15.2	15.1	15.1	0.90	0.93	0.06	0.66





### Stellar Parameters For KIC 008123628

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6422^{+162}_{-211}$	$4.306^{+0.124}_{-0.186}$	$-0.240^{+0.250}_{-0.300}$	$1.203^{+0.384}_{-0.192}$	$1.061^{+0.177}_{-0.118}$	$0.859^{+0.492}_{-0.424}$
	+3%/-3%	+3%/-4%	+104%/-125%	+32%/-16%	+17%/-11%	+57%/-49%
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 008123628-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-13 \pm 1$	$0.44^{+0.23}_{-0.23}$	$3354^{+242}_{-174}$	$6766^{+3962}_{-1356}$	$11^{+37}_{-6}$
Alt.	$-26 \pm 2$	$0.73^{+0.29}_{-0.24}$	$3376^{+251}_{-209}$	$6129^{+1567}_{-872}$	$7.676^{+9.739}_{-3.763}$

$T_{max}$  = 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

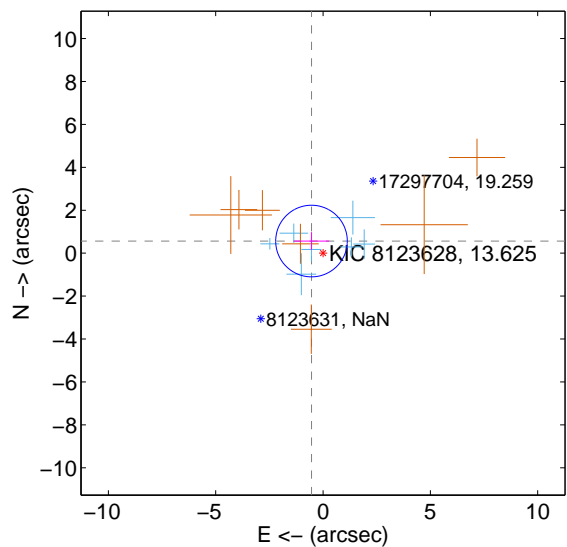
Supplemental centroid analysis for 008123628-01. Kepler magnitude: 13.62. Transit SNR 5.98

There are 7 quarters with good PRF difference image offsets

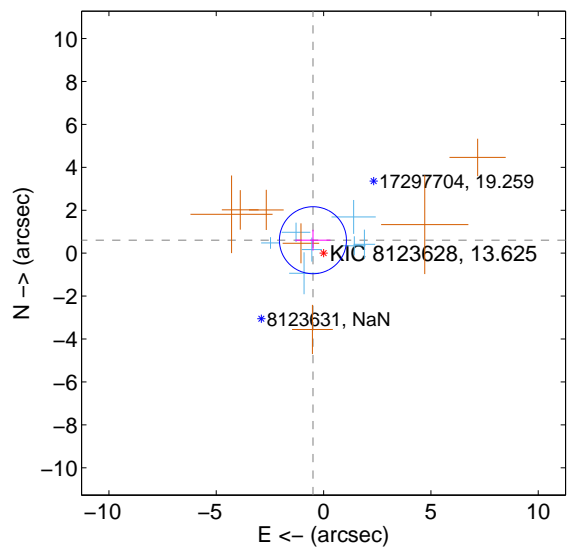
The direct PRF centroid is offset from the target star catalog position by about 0.00 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.780 \pm 0.556$	1.40	$0.538 \pm 0.828$	$0.565 \pm 0.416$
PRF-fit source offset from KIC position	$0.781 \pm 0.520$	1.50	$0.496 \pm 0.817$	$0.603 \pm 0.486$
photometric centroid source offset	$2.48 \pm 2.30$	1.08	$-2.45 \pm 2.31$	$-0.39 \pm 2.04$

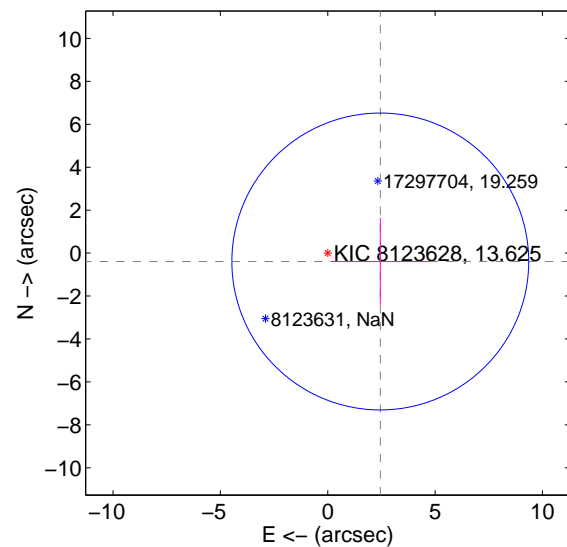
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

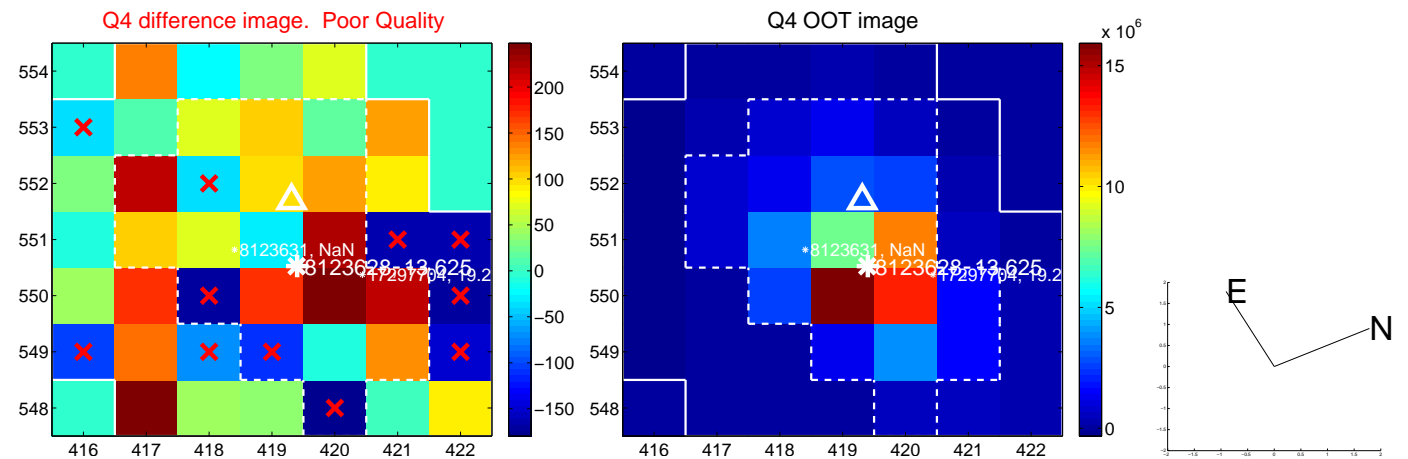
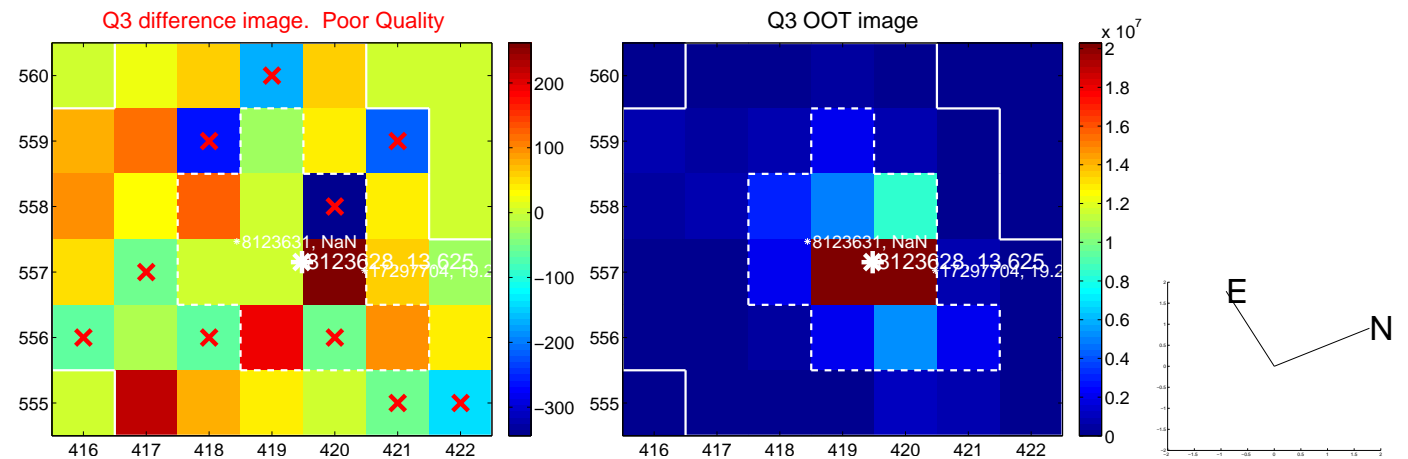
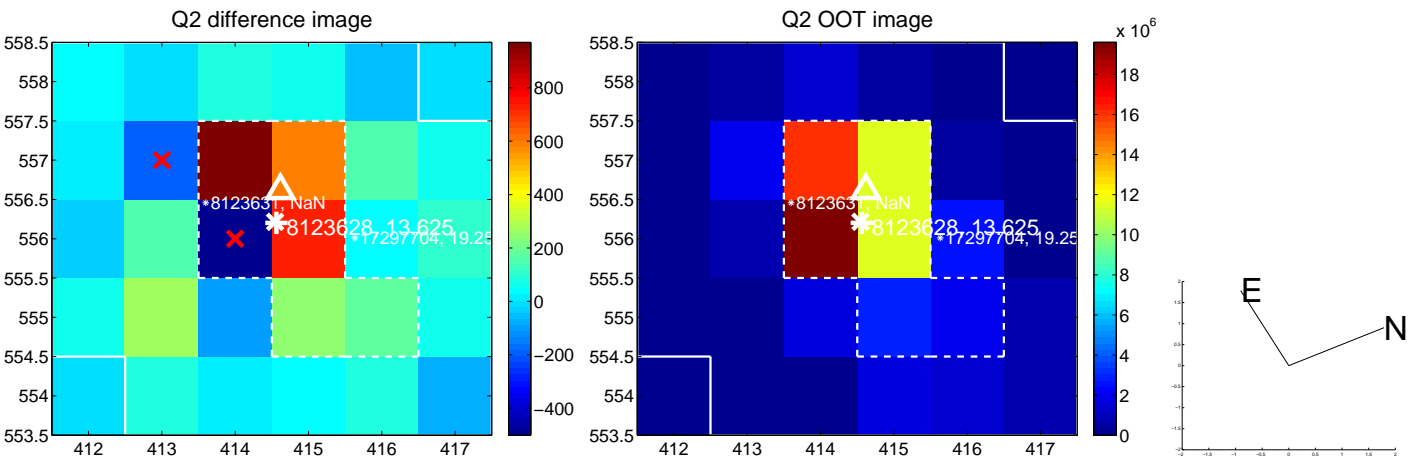
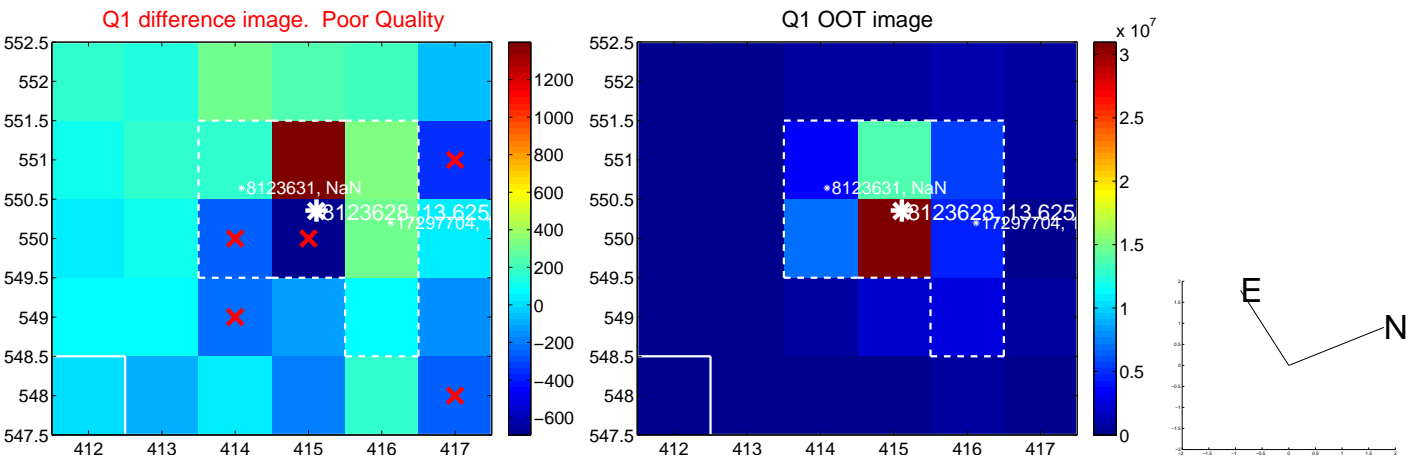


offset from photometric centroids

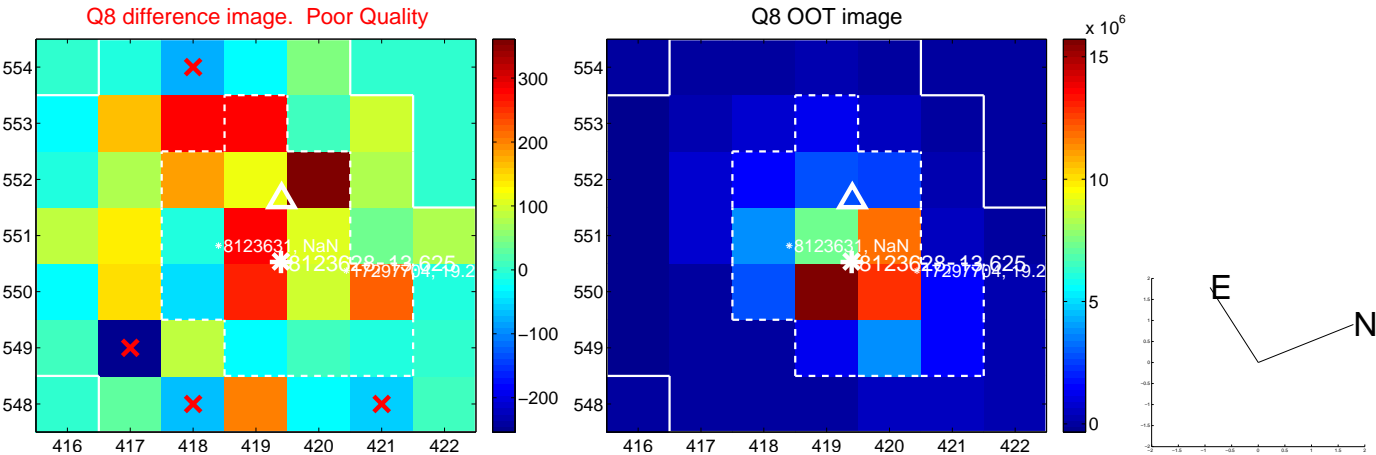
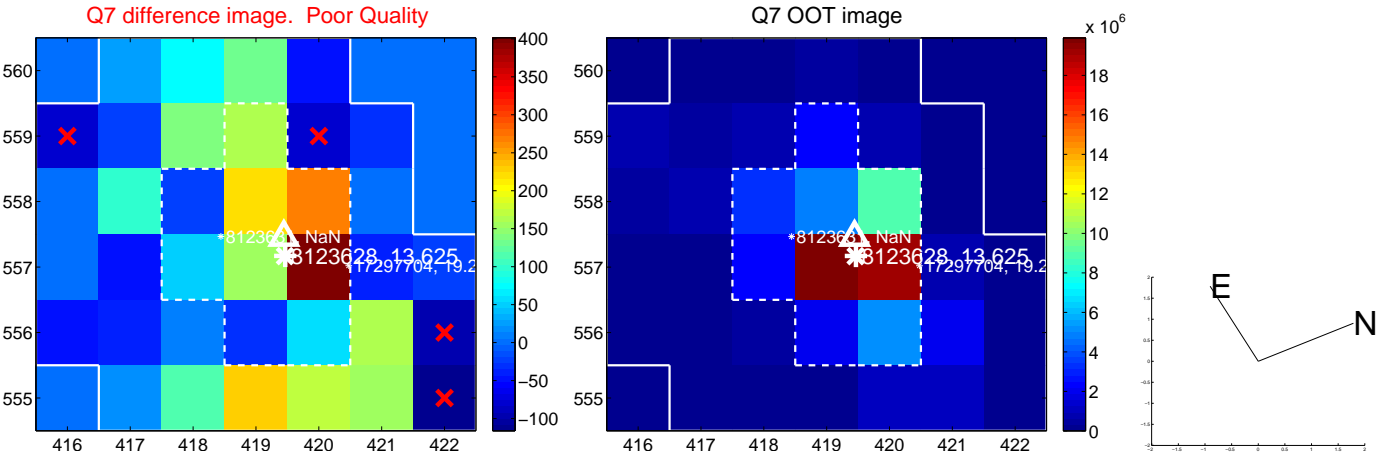
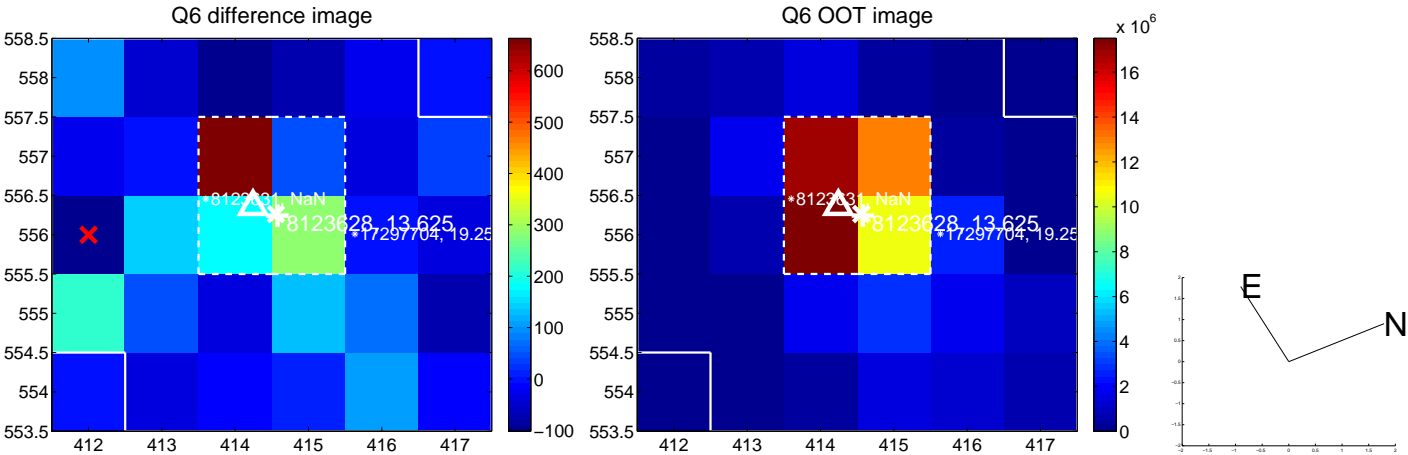
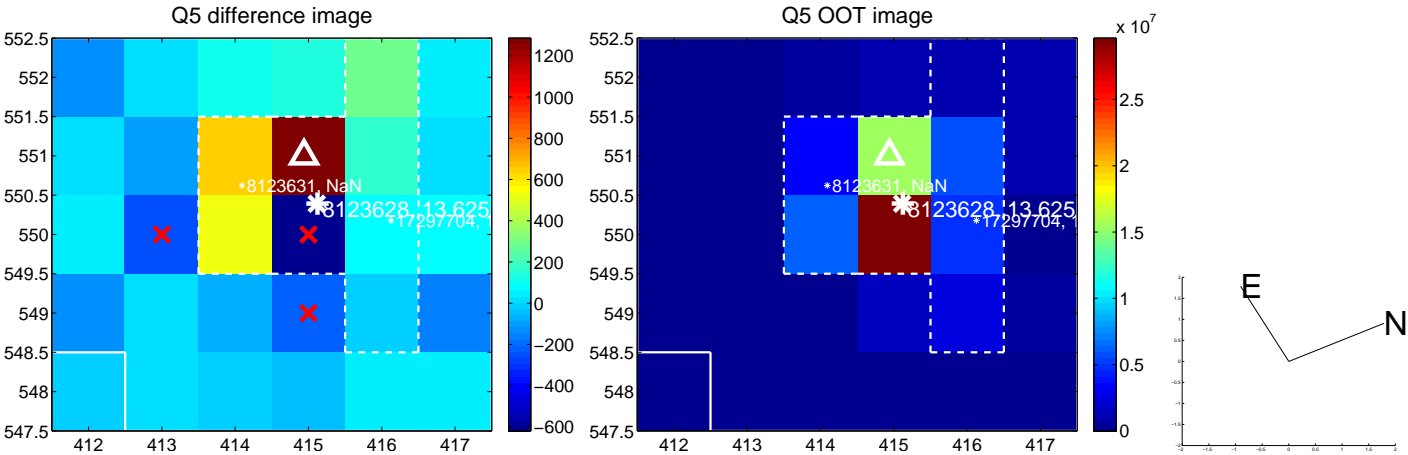


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

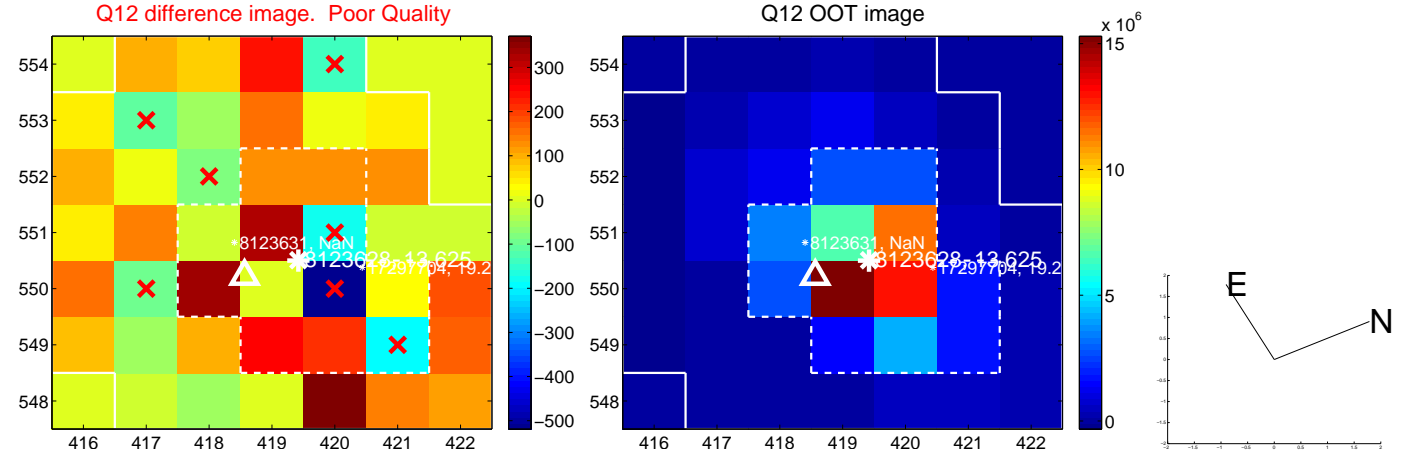
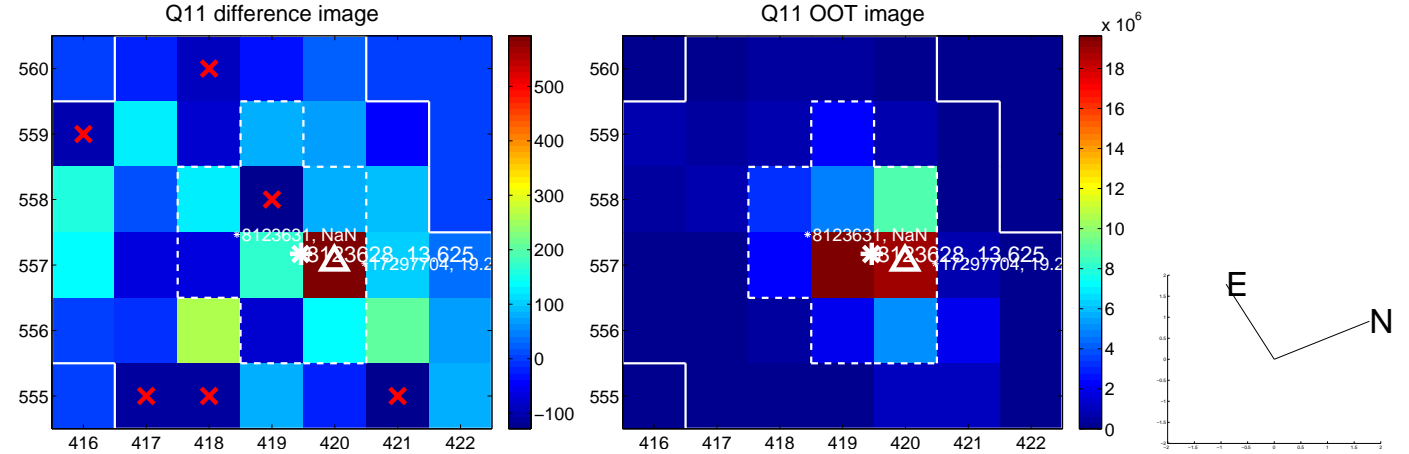
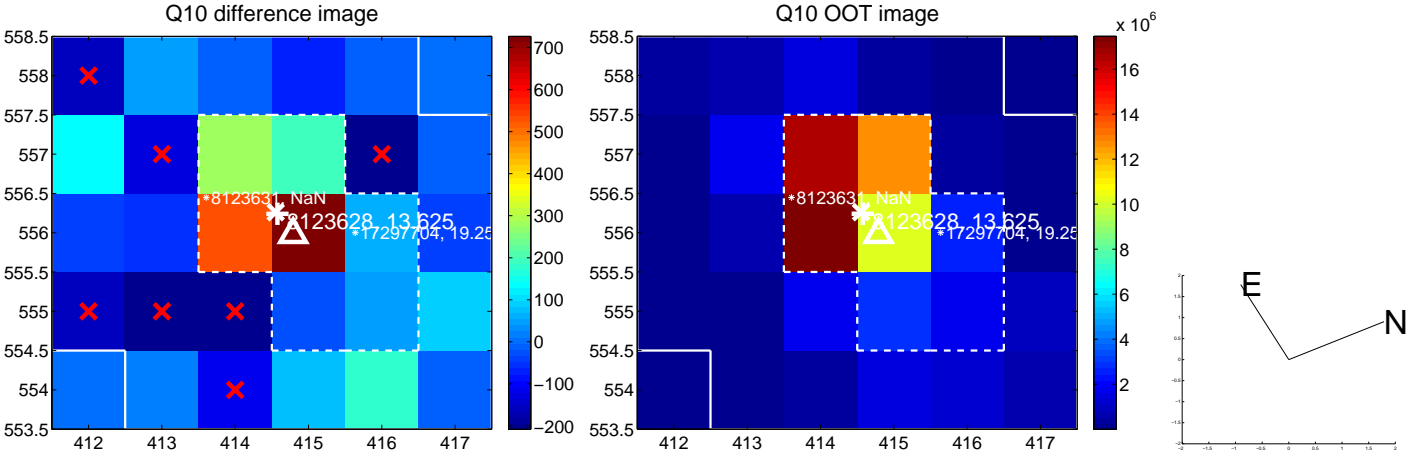
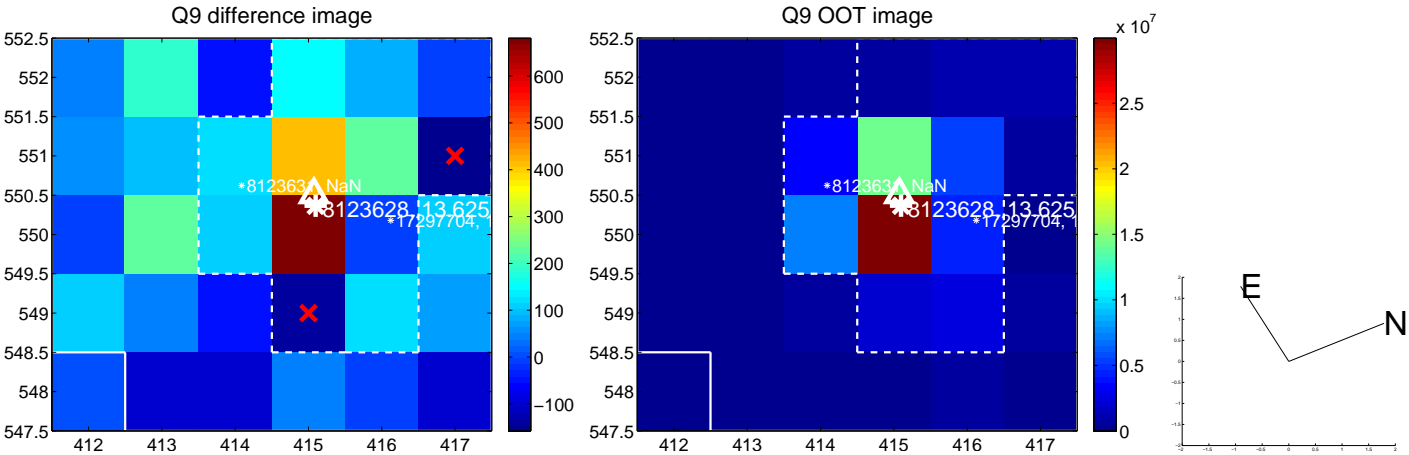


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

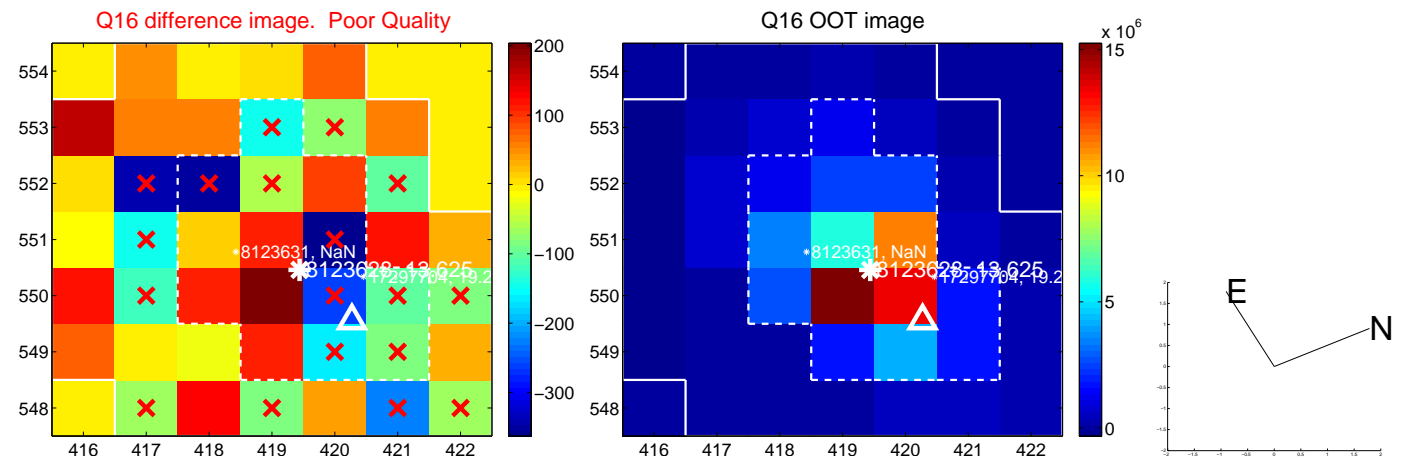
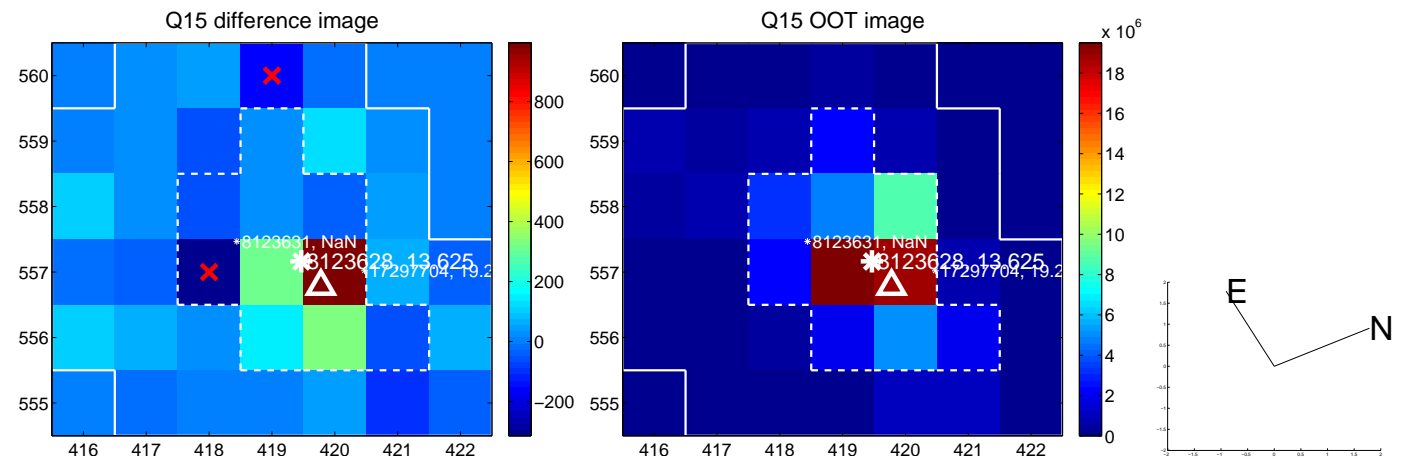
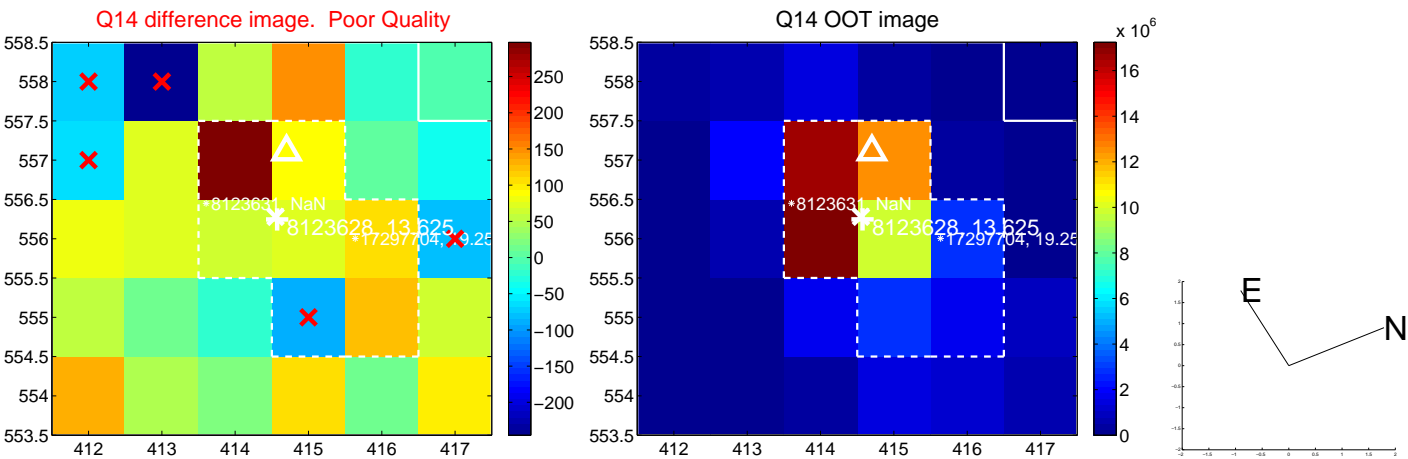
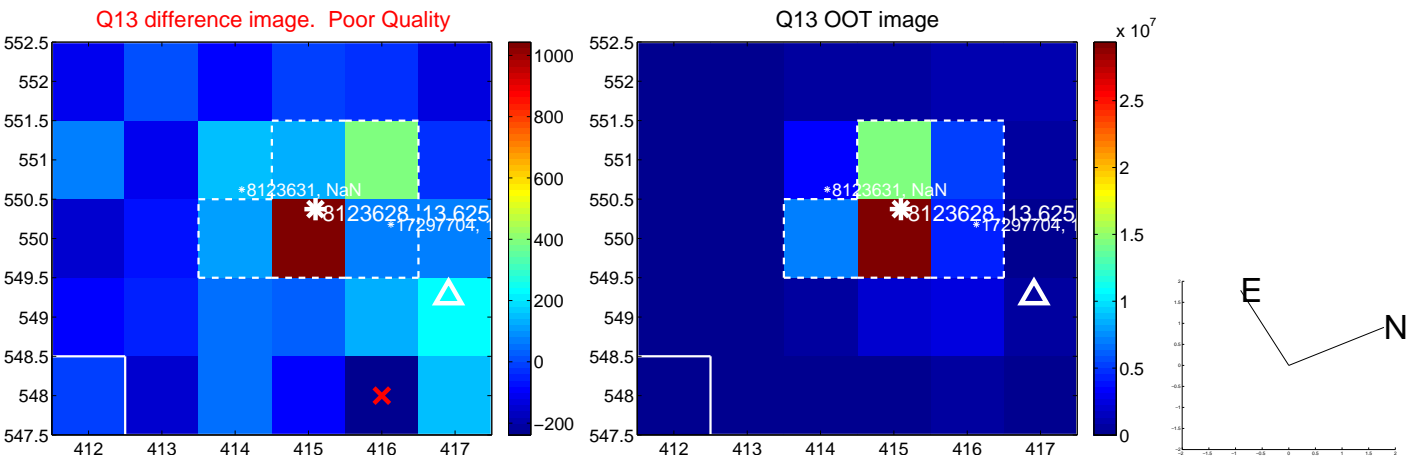




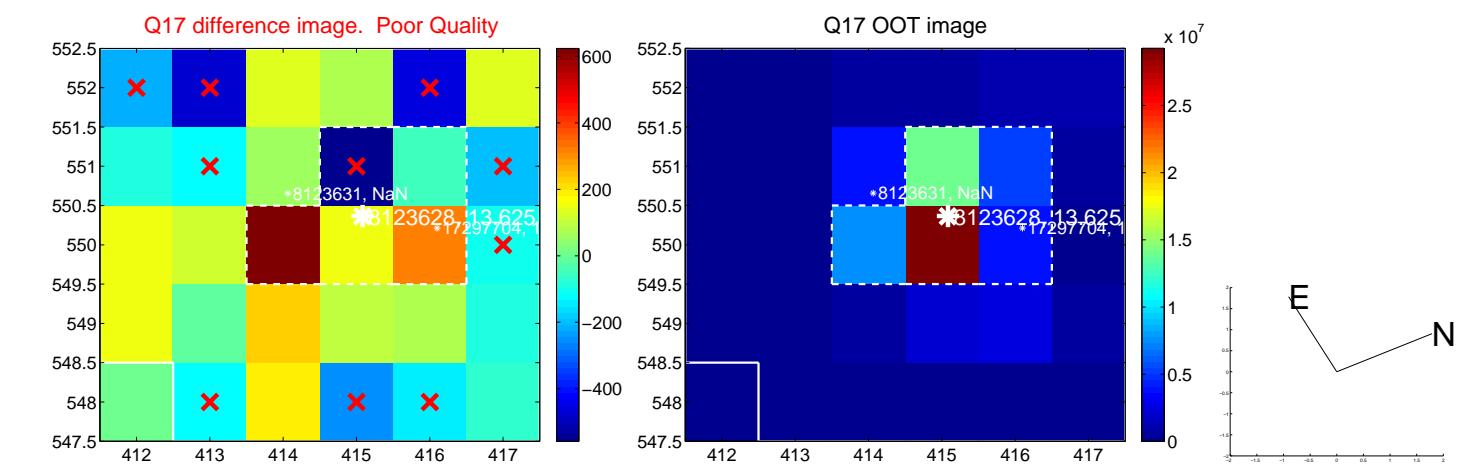
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



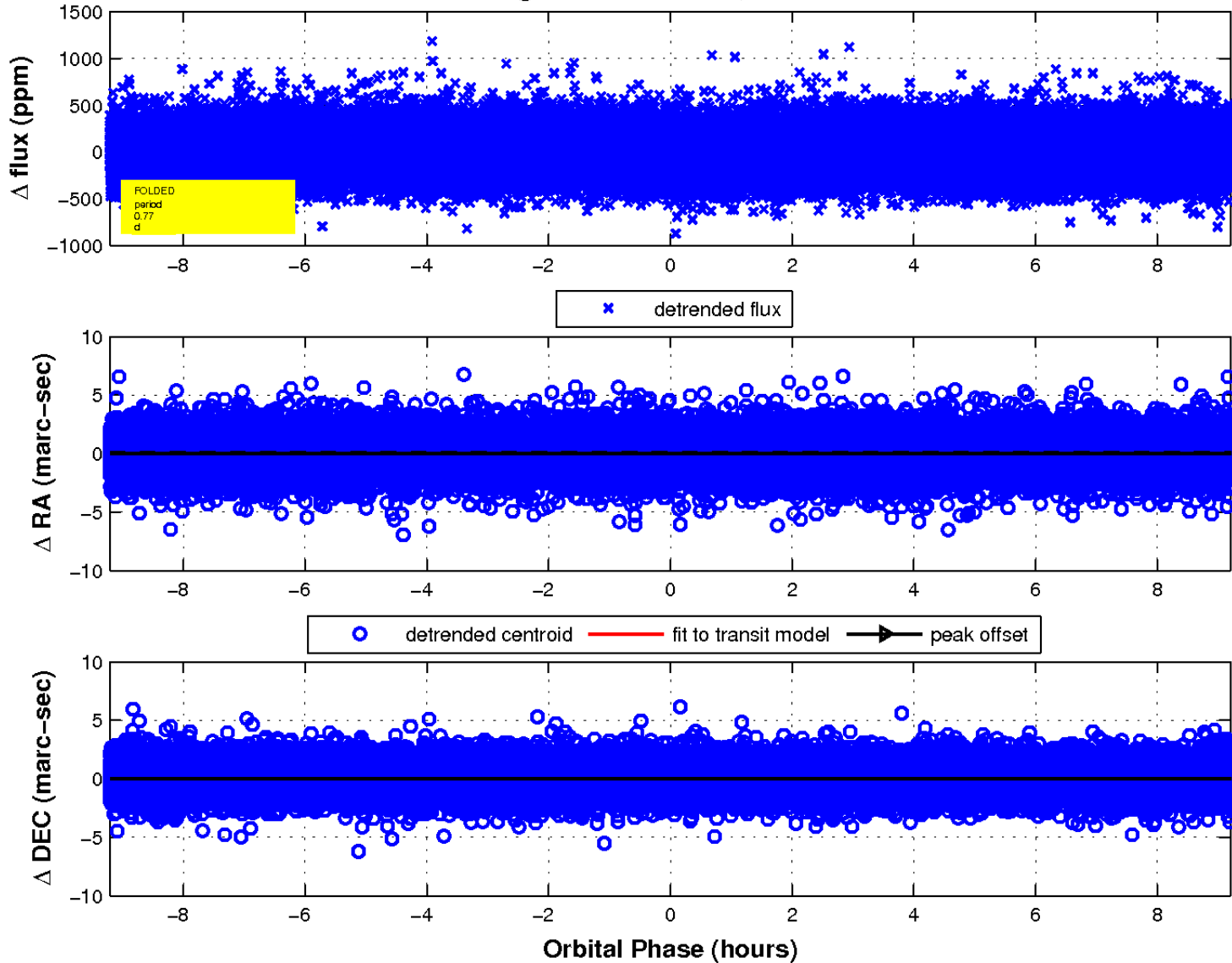
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

