

# KIC 010514966

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010514966-01	OBS	No	1.220434	132.158601	9.9	1.758	8.1	3.9	2.95	6918	0.98	25169.54

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010514966-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

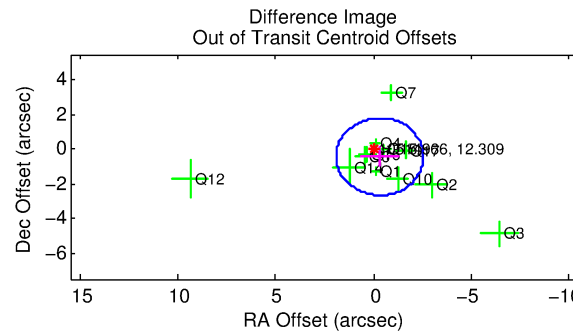
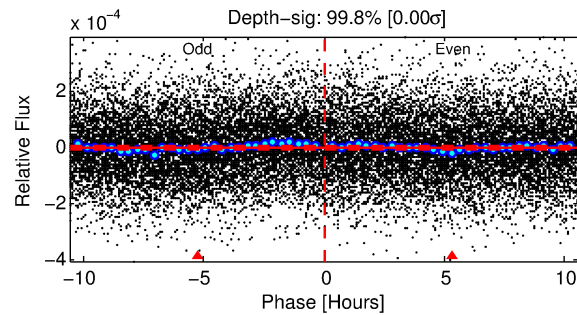
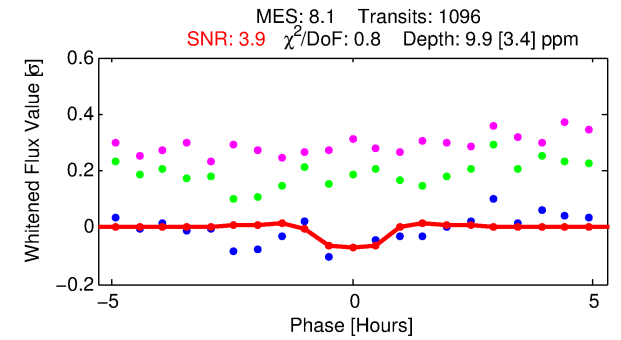
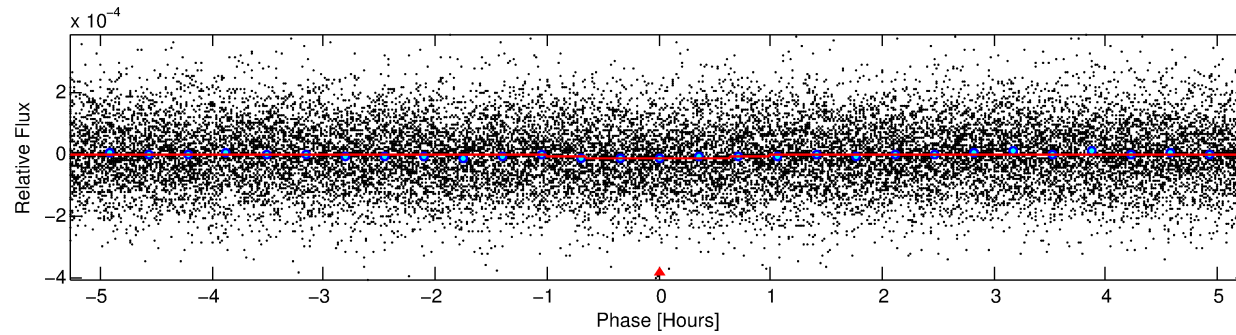
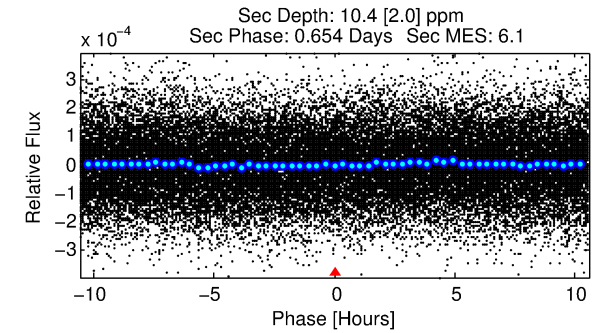
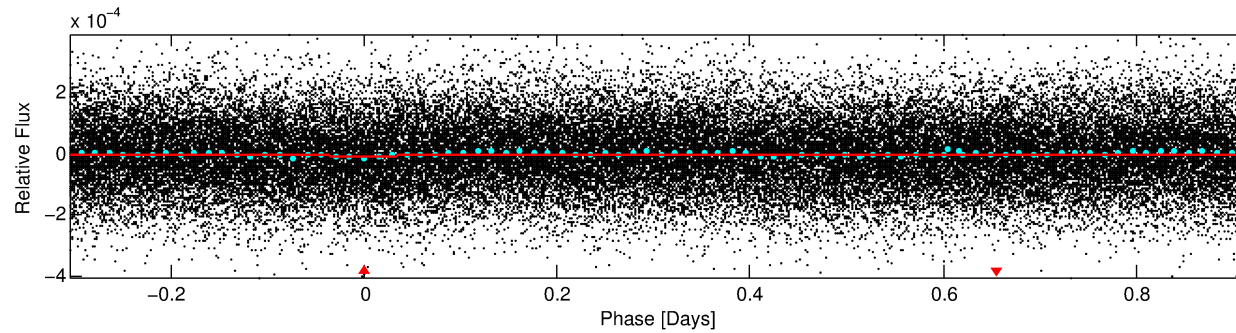
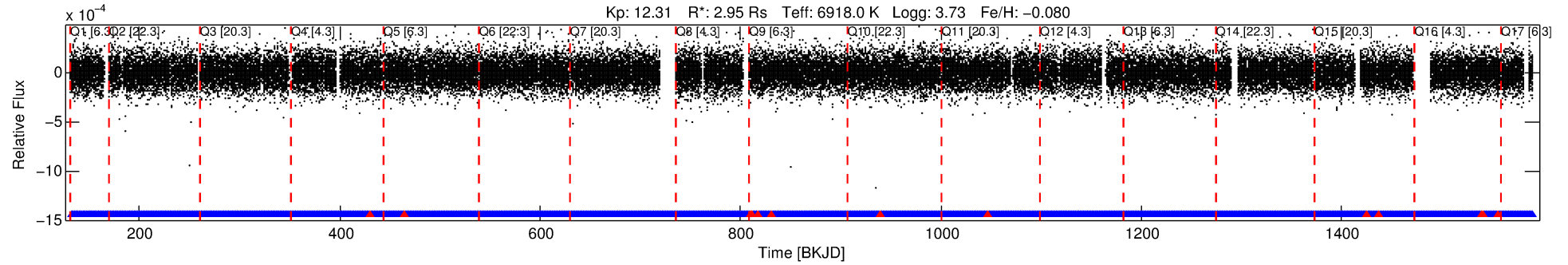
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010514966-01

No Significant Match Found

# DV One-Page Summary

KIC: 10514966 Candidate: 1 of 1 Period: 1.220 d



## DV Fit Results:

Period = 1.22043 [0.00003] d  
Epoch = 132.1586 [0.0054] BKJD  
Rp/R\* = 0.0030 [0.0008]  
a/R\* = 4.39 [5.27]  
b = 0.58 [1.44]  
Seff = 25169.54 [13516.35]  
Teq = 3212 [431] K  
Rp = 0.98 [0.43] Re  
a = 0.0267 [0.0088] AU  
Ag = 4.27 [3.35] [0.98σ]  
Teffp = 7137 [1072] K [3.40σ]

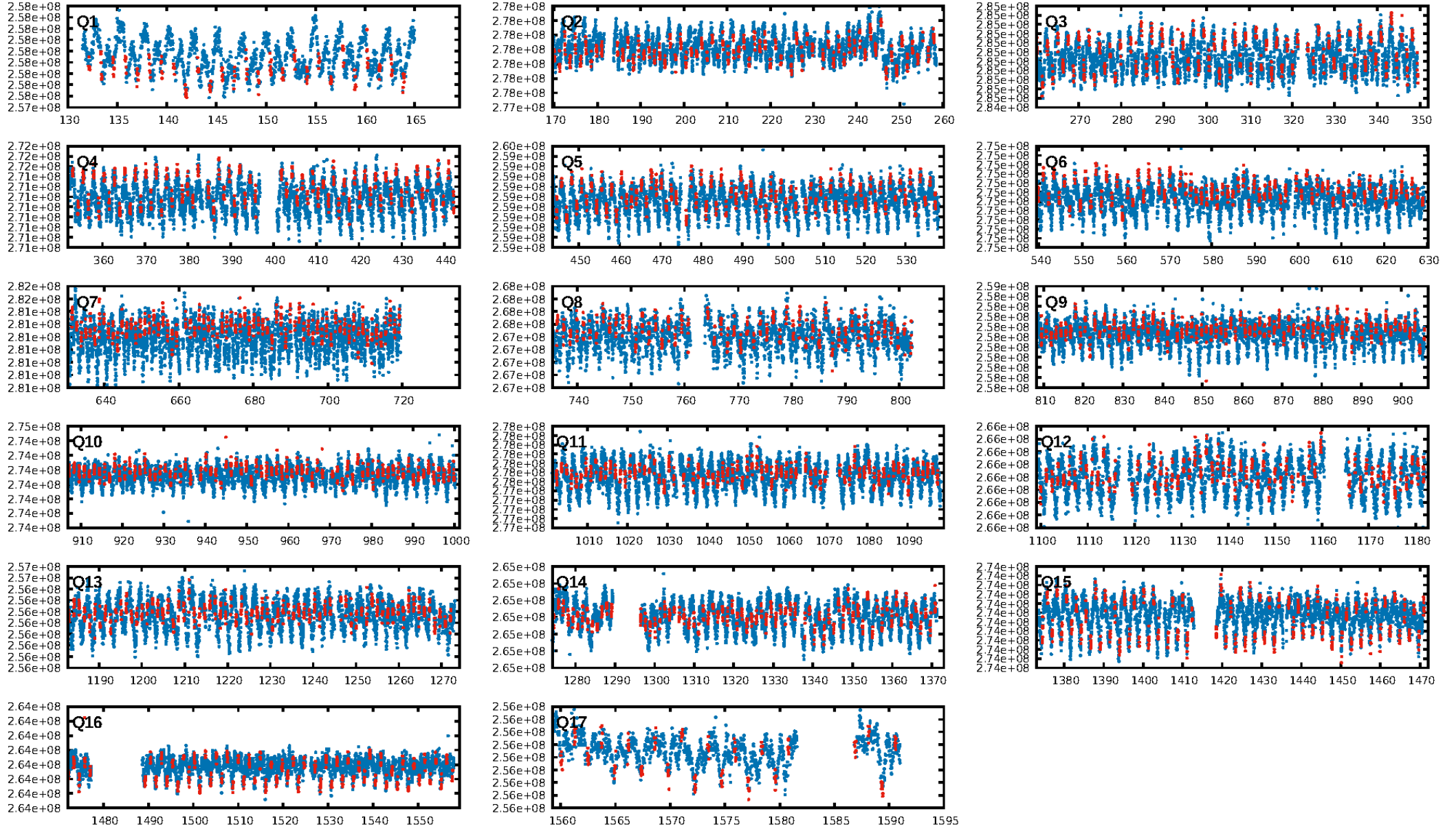
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.92e-14  
RollingBand-fgt: 0.99 [1034/1047]  
GhostDiagnostic-chr: 0.4124  
Centroid-sig: 18.7%  
Centroid-so: 3.137 arcsec [1.23σ]  
OotOffset-rm: 0.526 arcsec [0.71σ]  
OotOffset-st: 4/3/3/2 [12]  
KicOffset-rm: 0.529 arcsec [0.78σ]  
KicOffset-st: 4/3/3/2 [12]  
DiffImageQuality-fgm: 0.50 [6/12]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:09:23 Z

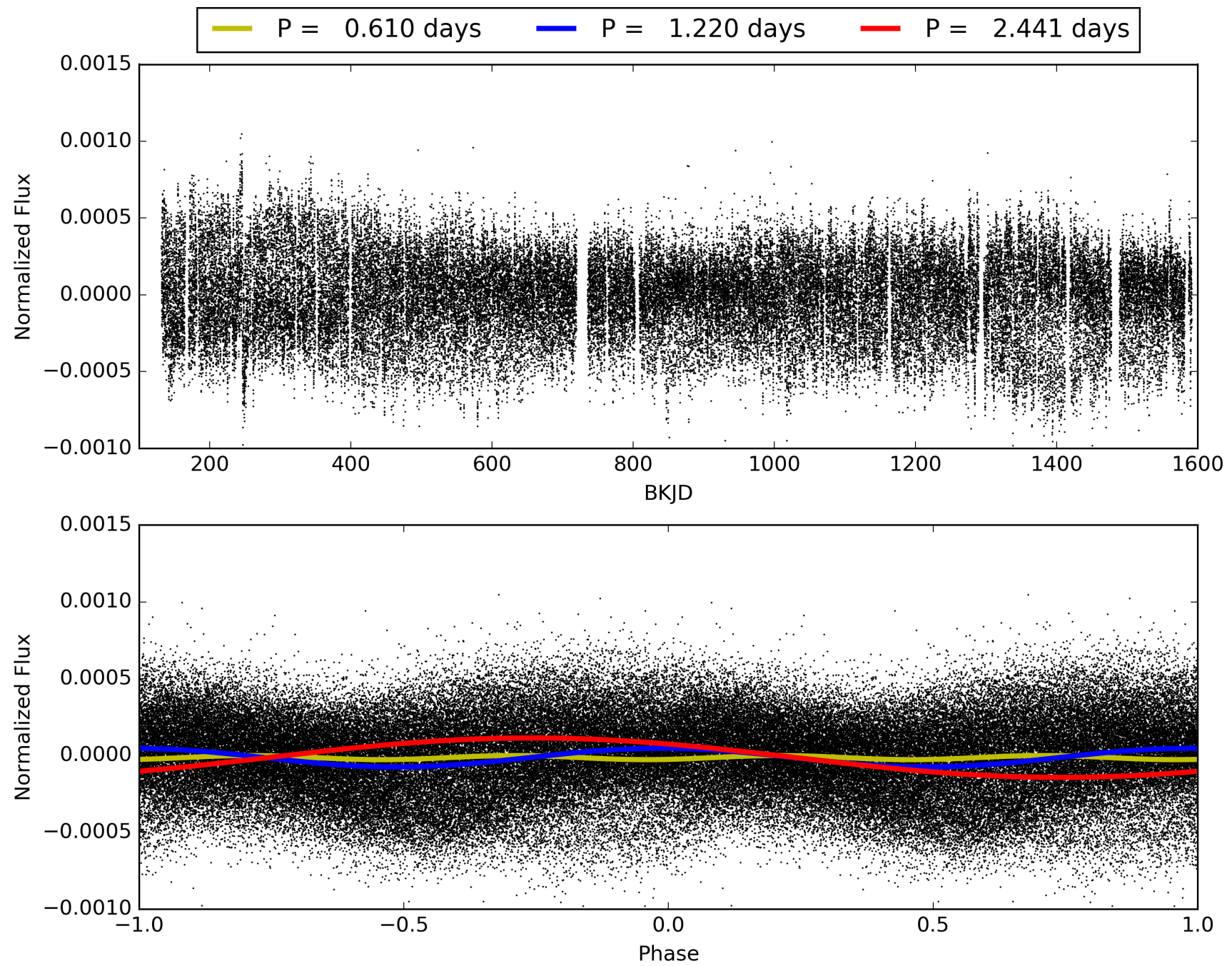
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 010514966-01, PDC Light Curves



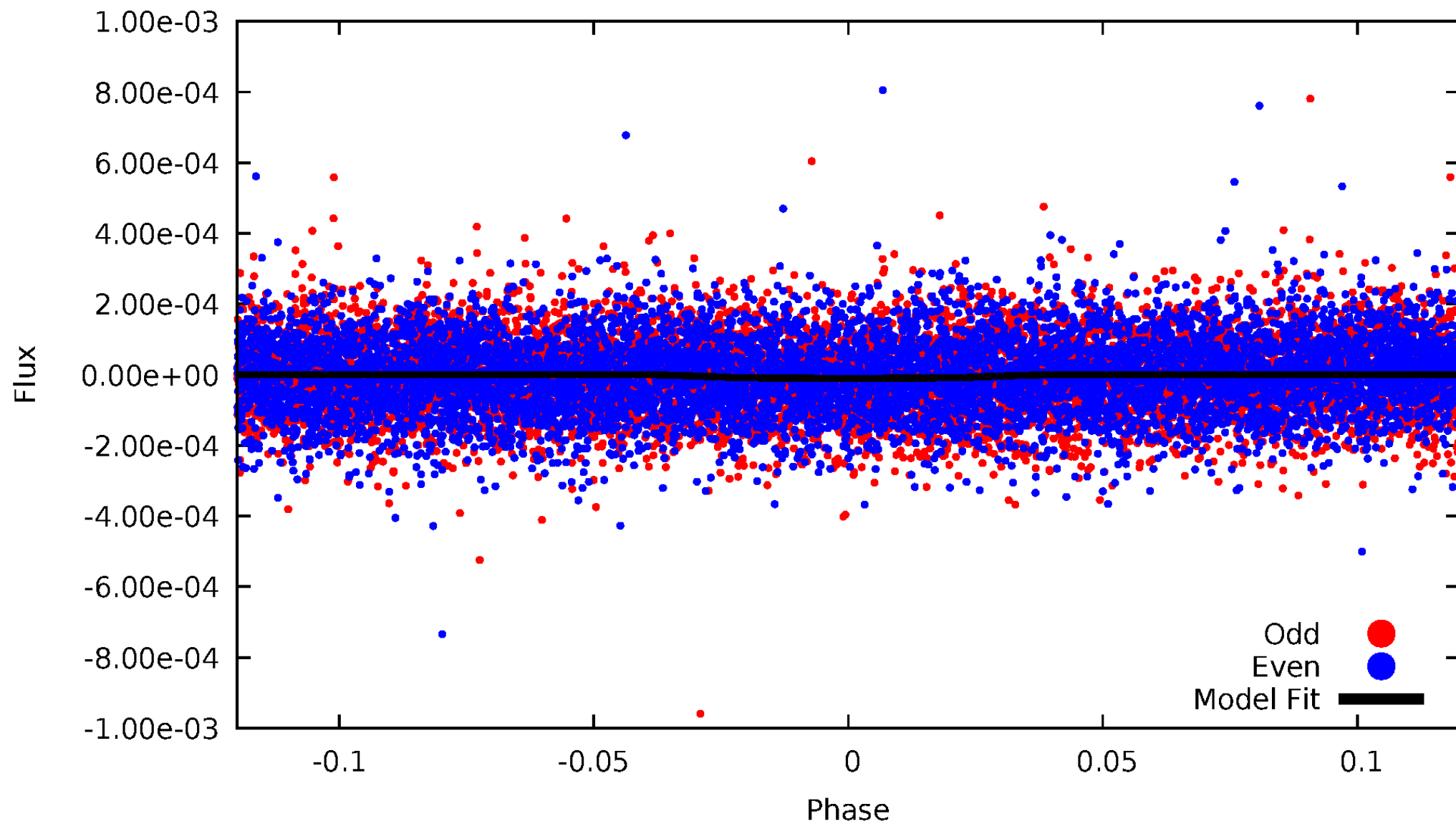


TCE 010514966-01



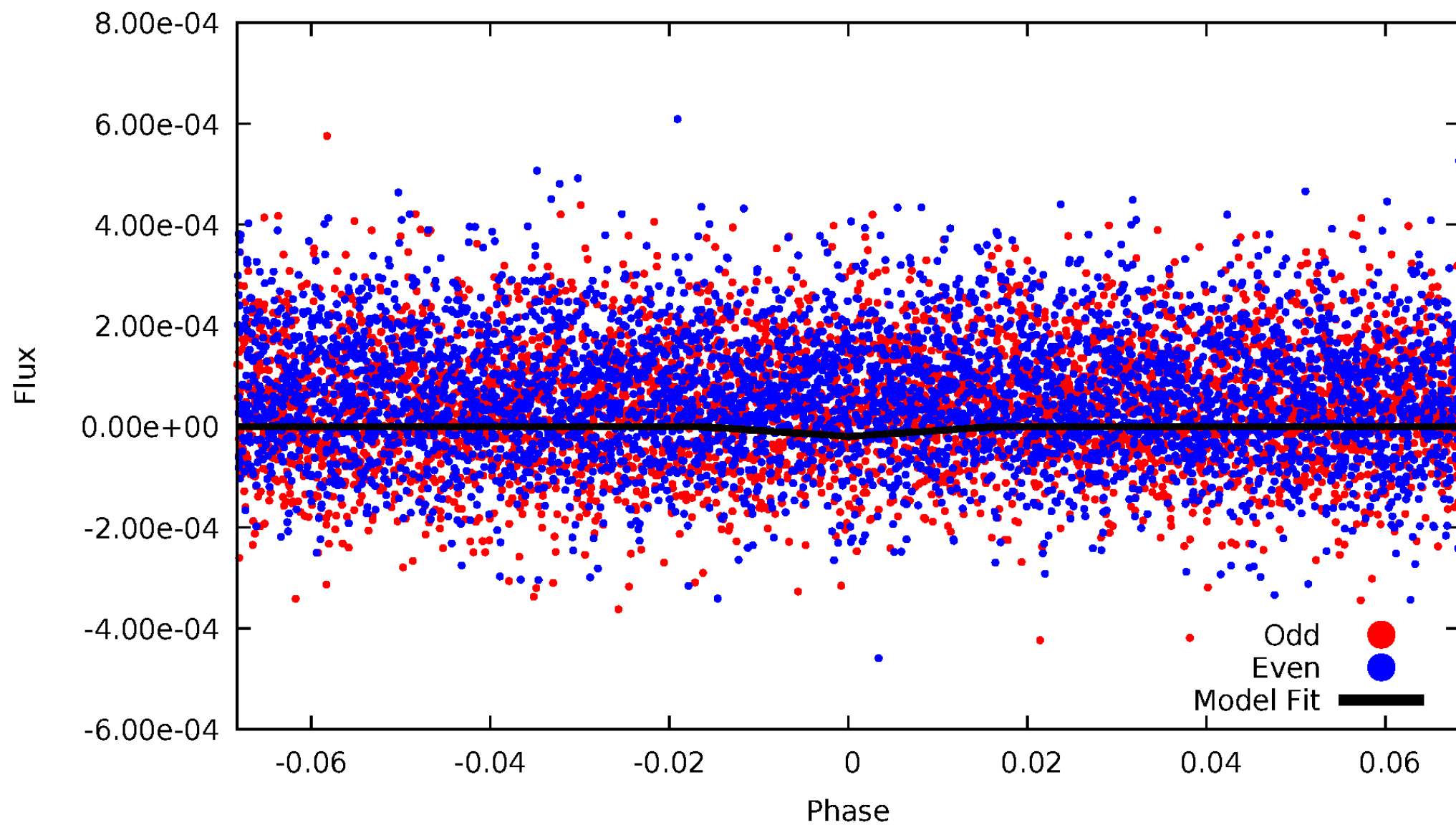
# DV Odd/Even

TCE 010514966-01

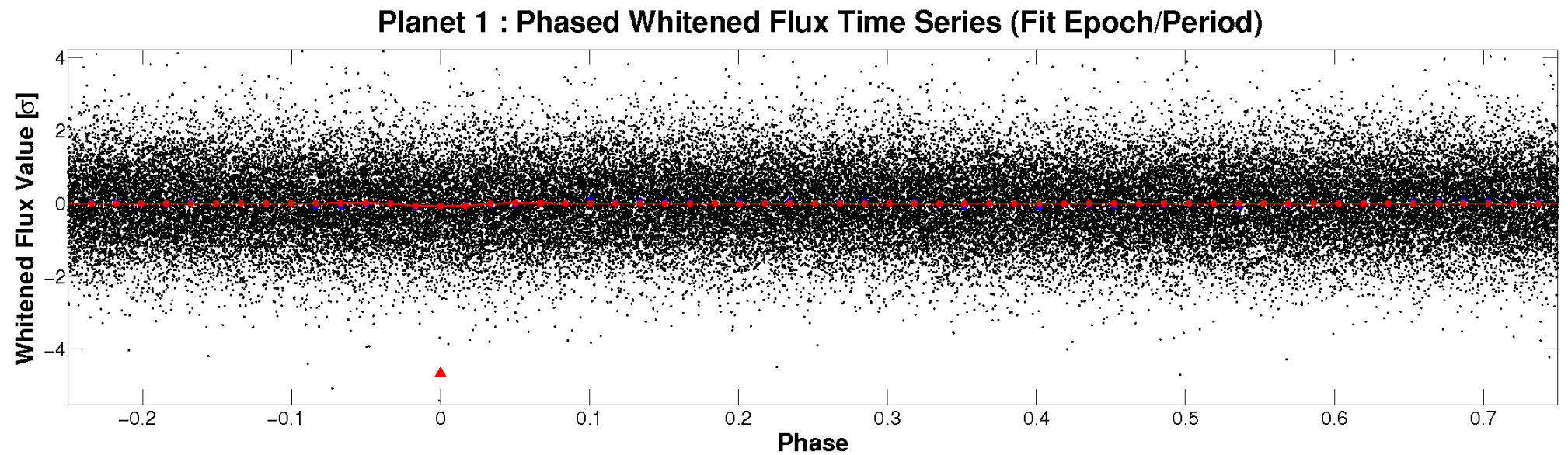
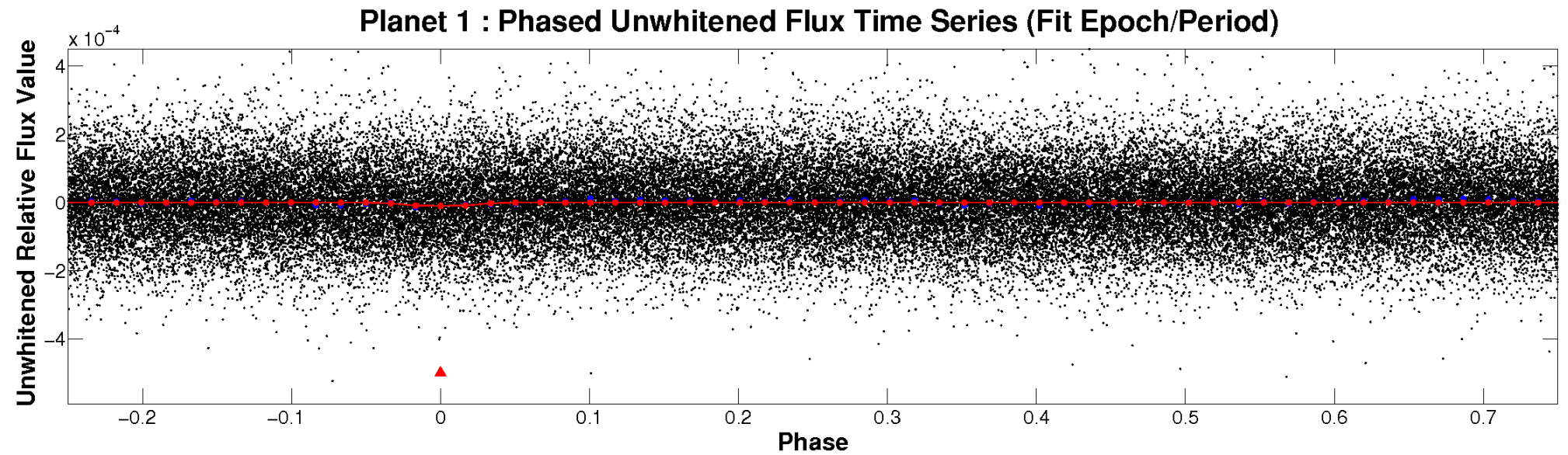


# ALT Odd/Even

TCE 010514966-01



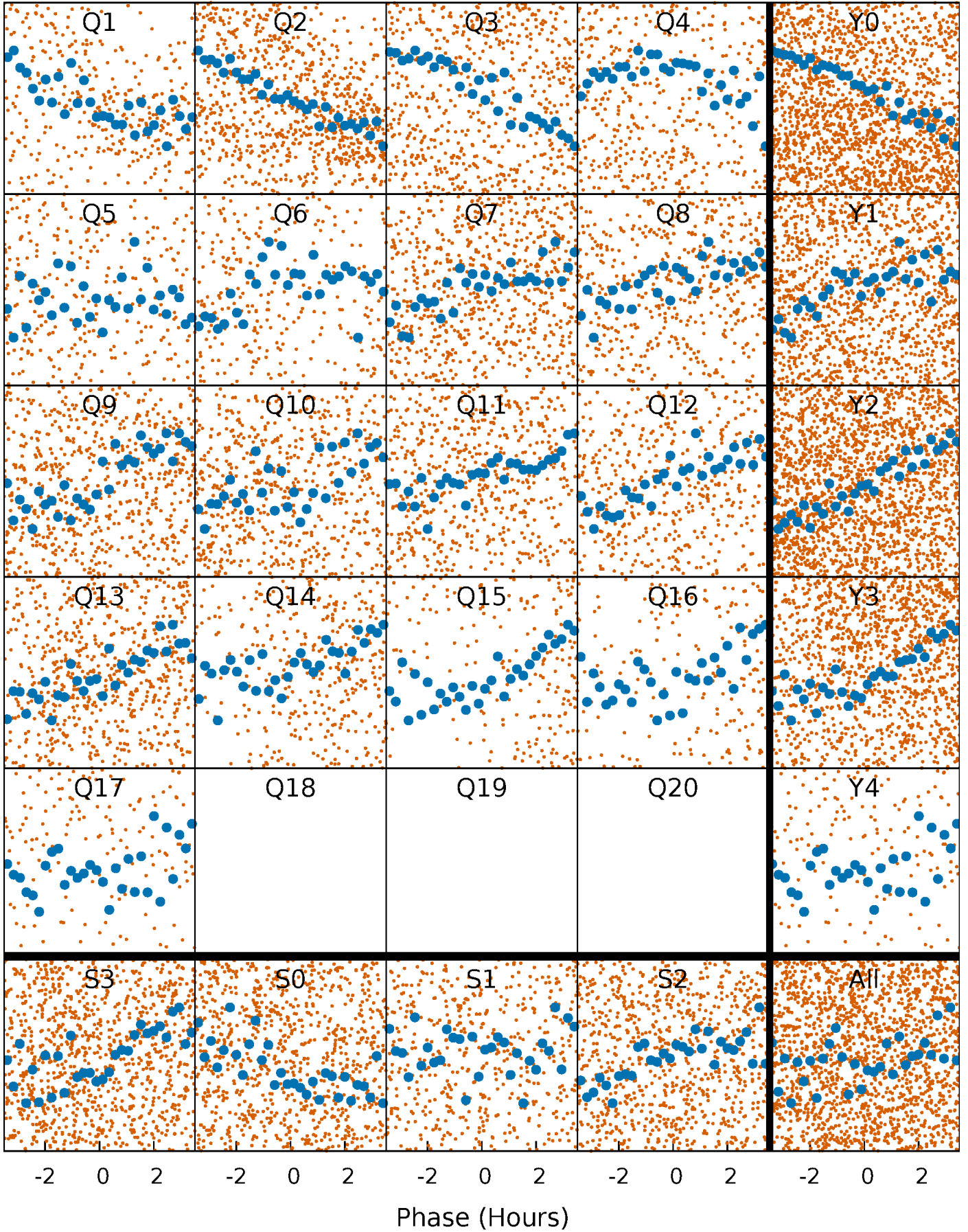
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

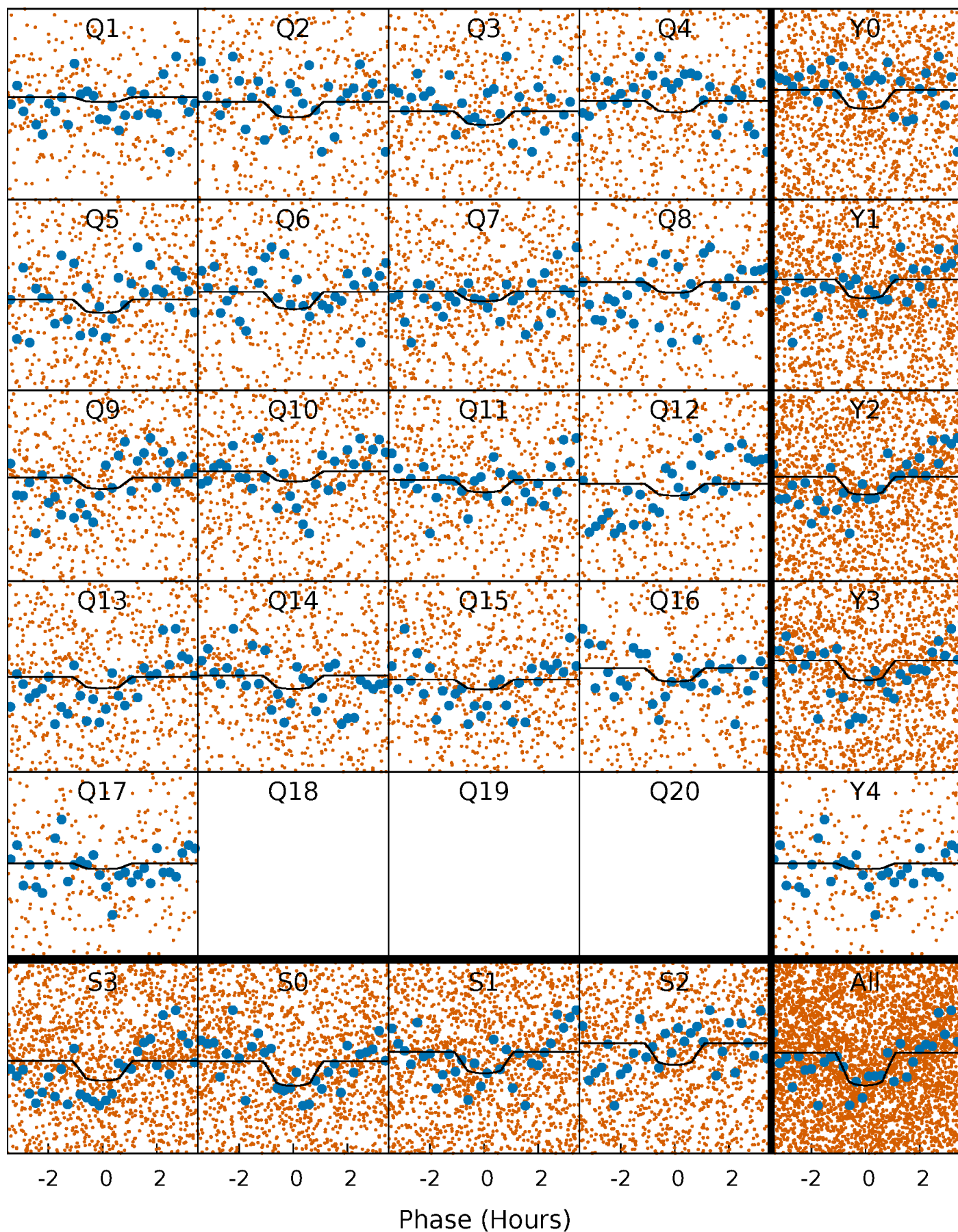
TCE 010514966-01 P= 1.220434 Days  $T_0=132.158601$  (BKJD)





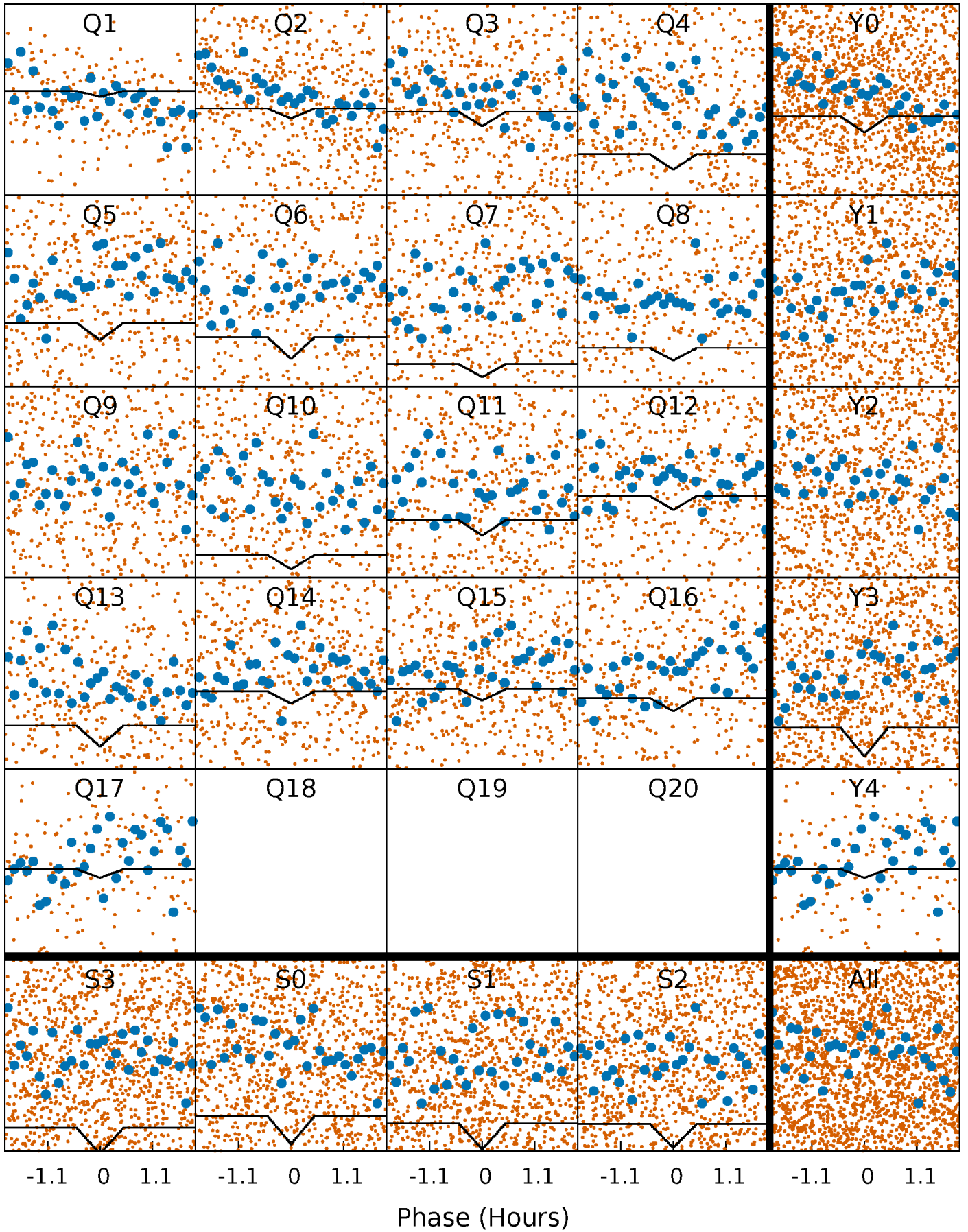
# DV Quarter-Phased Transit Curves

TCE 010514966-01 P= 1.220434 Days  $T_0=132.158601$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

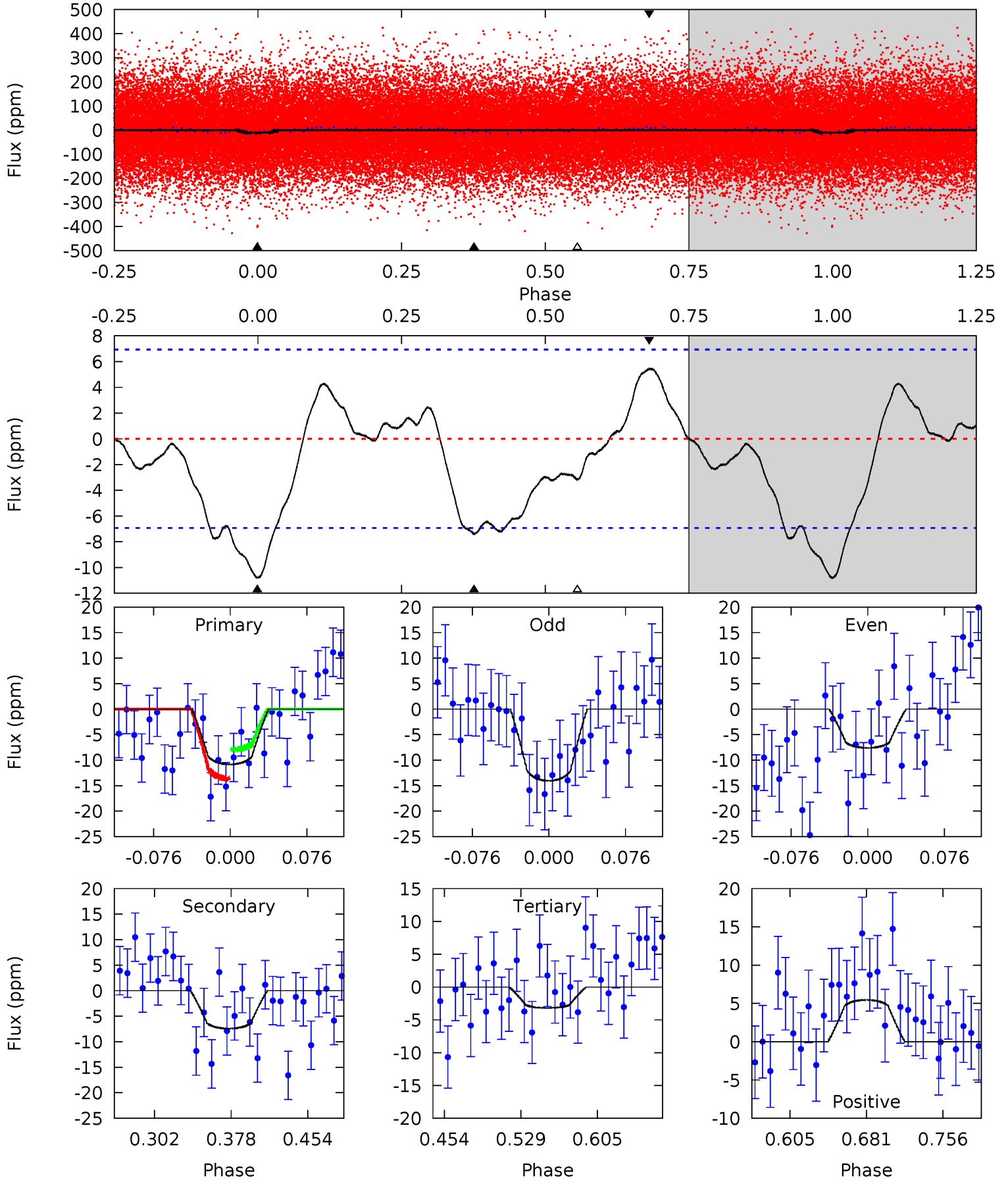
TCE 010514966-01 P= 1.220782 Days  $T_0=132.100446$  (BKJD)



# DV Model-Shift Uniqueness Test

010514966-01, P = 1.220434 Days, E = 130.938167 Days

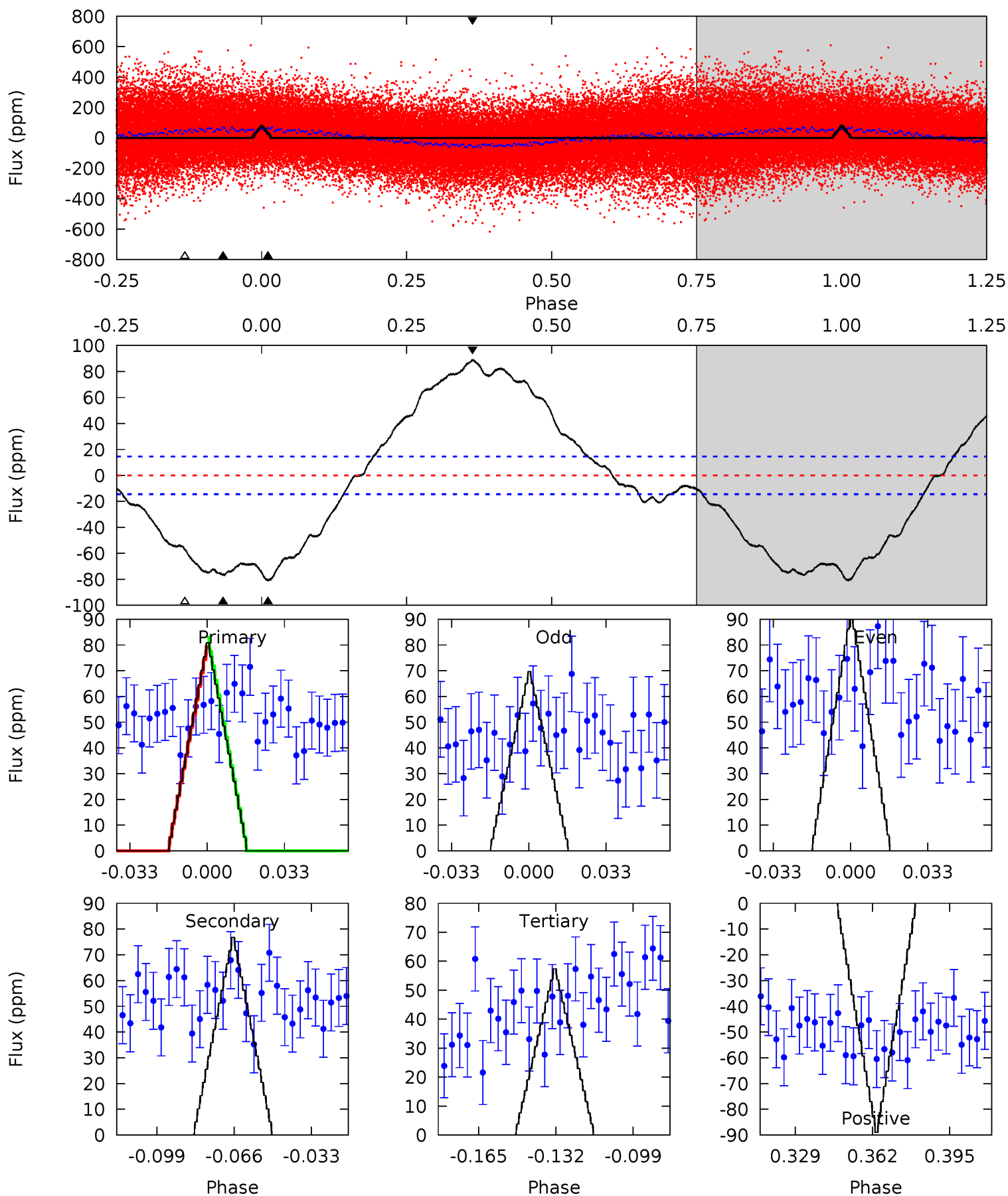
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.23	4.95	2.13	3.65	4.62	1.78	1.88	5.10	3.58	2.82	1.31	2.15	0.86	0.34	1.90



# Alt Model-Shift Uniqueness Test

010514966-01, P = 1.220782 Days, E = 130.879664 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
26.7	25.4	19.0	29.4	4.79	2.13	15.6	7.76	-2.66	6.40	-4.02	3.75	1.07	0.52	0.53





### Stellar Parameters For KIC 010514966

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6918^{+163}_{-225}$	$3.727^{+0.304}_{-0.076}$	$-0.080^{+0.300}_{-0.250}$	$2.952^{+0.440}_{-1.026}$	$1.694^{+0.170}_{-0.316}$	$0.093^{+0.183}_{-0.028}$
	+2%/-3%	+8%/-2%	+375%/-312%	+15%/-35%	+10%/-19%	+198%/-31%
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 010514966-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-7 \pm 1$	$0.90^{+0.31}_{-0.28}$	$4364^{+279}_{-386}$	$6307^{+1407}_{-872}$	$3.472^{+3.760}_{-1.601}$
Alt.	$-77 \pm 3$	$1.36^{+0.30}_{-0.34}$	$4377^{+262}_{-393}$	$10493^{+2043}_{-1303}$	$16^{+11}_{-5}$

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

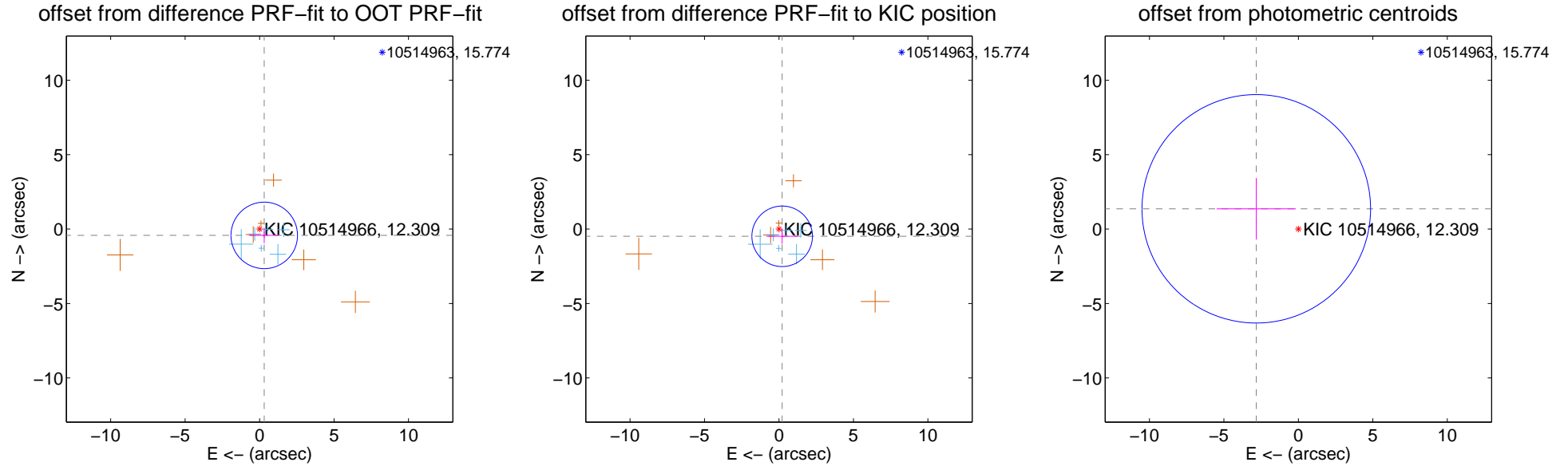
## DV Centroid Data

Supplemental centroid analysis for 010514966-01. Kepler magnitude: 12.31. Transit SNR 3.89

There are 6 quarters with good PRF difference image offsets

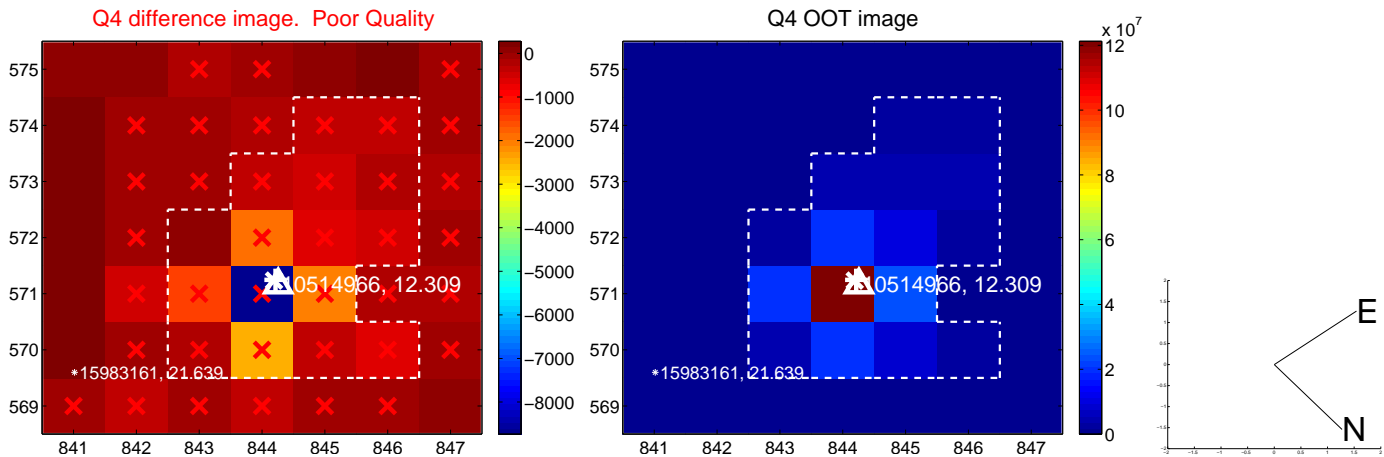
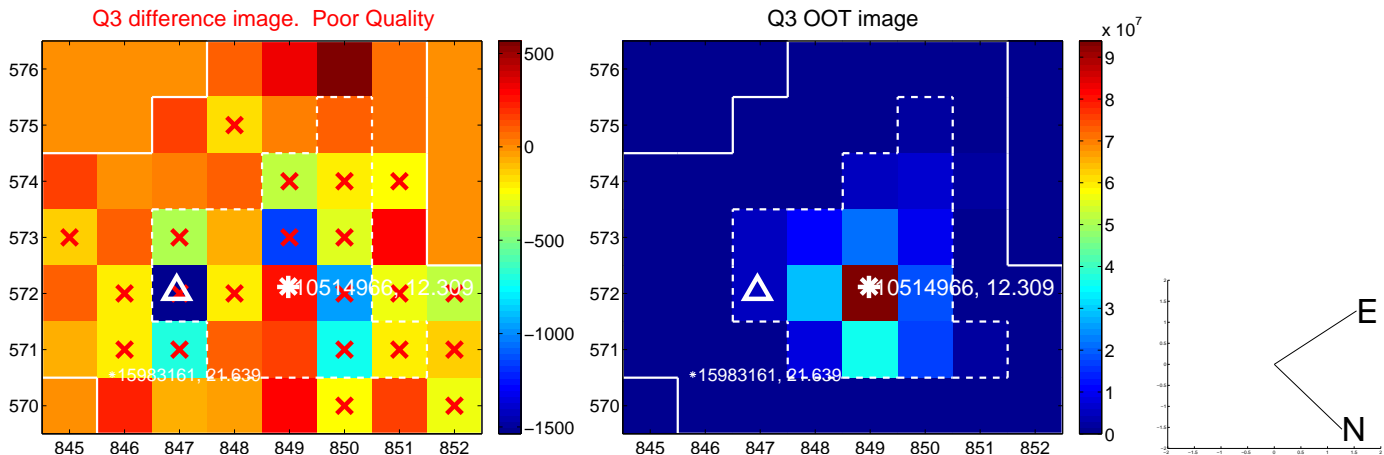
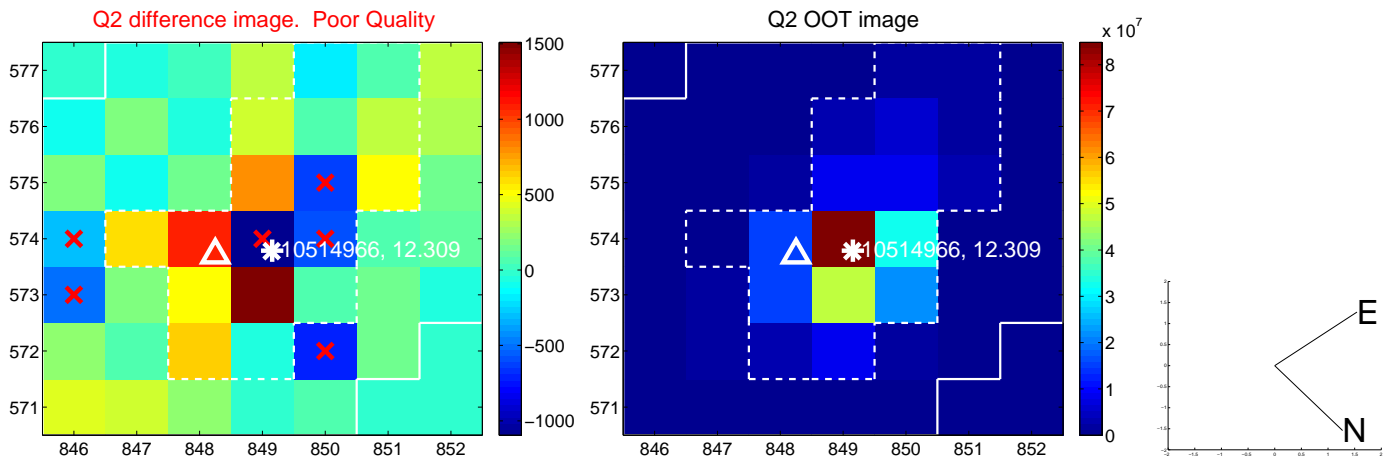
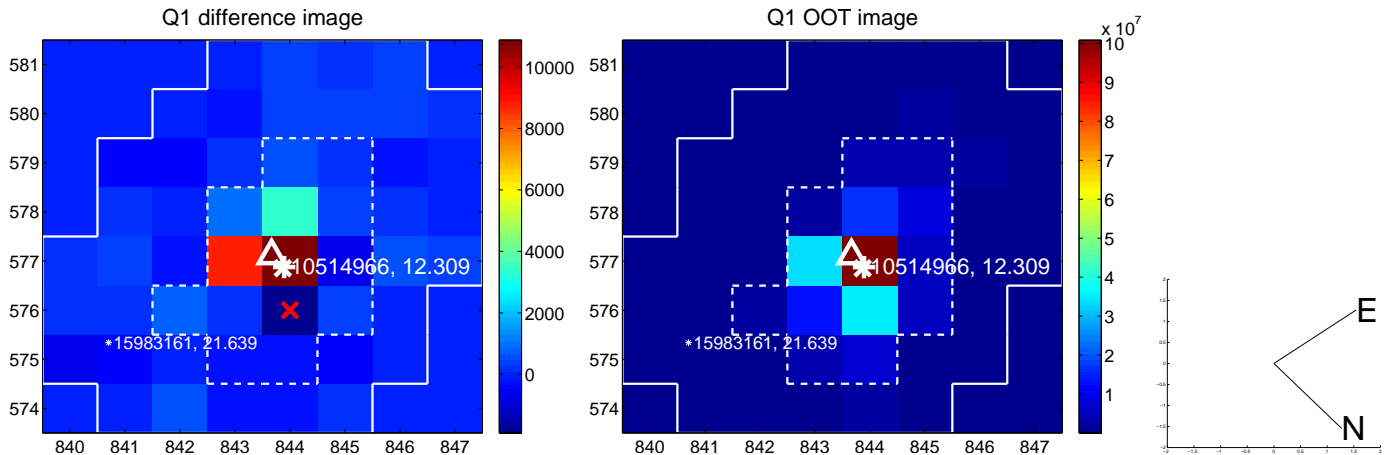
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.526 \pm 0.745$	0.71	$-0.312 \pm 0.968$	$-0.423 \pm 0.518$
PRF-fit source offset from KIC position	$0.529 \pm 0.678$	0.78	$-0.213 \pm 1.052$	$-0.484 \pm 0.509$
photometric centroid source offset	$3.14 \pm 2.56$	1.23	$2.83 \pm 2.66$	$1.36 \pm 2.07$

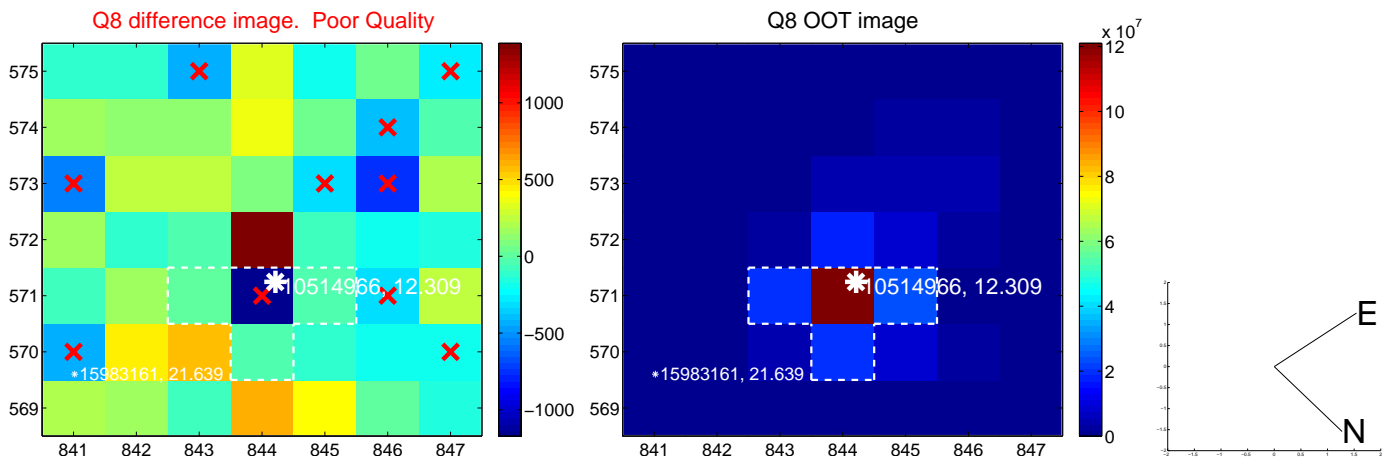
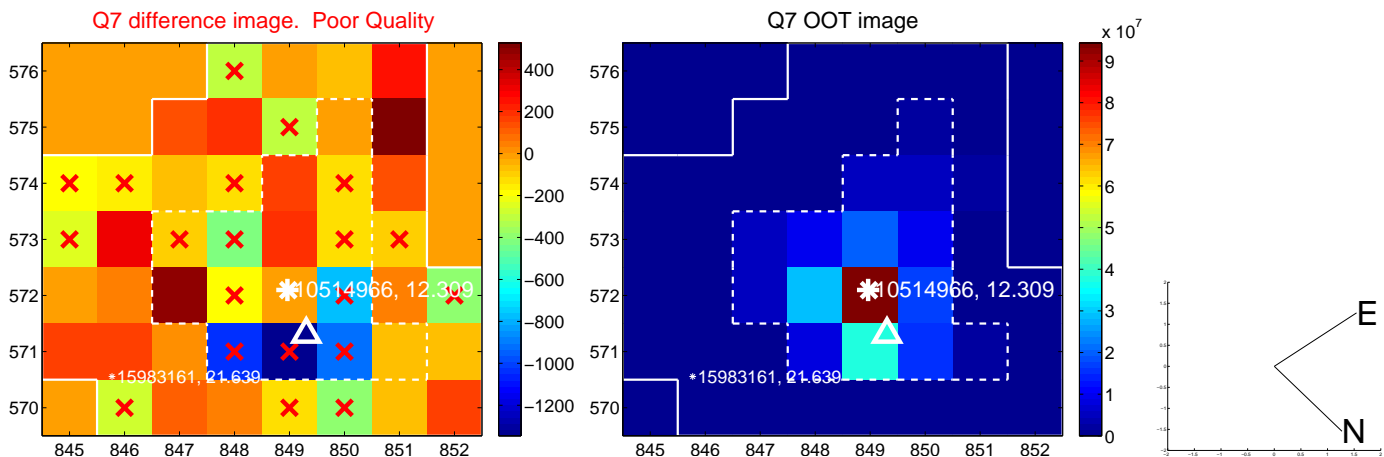
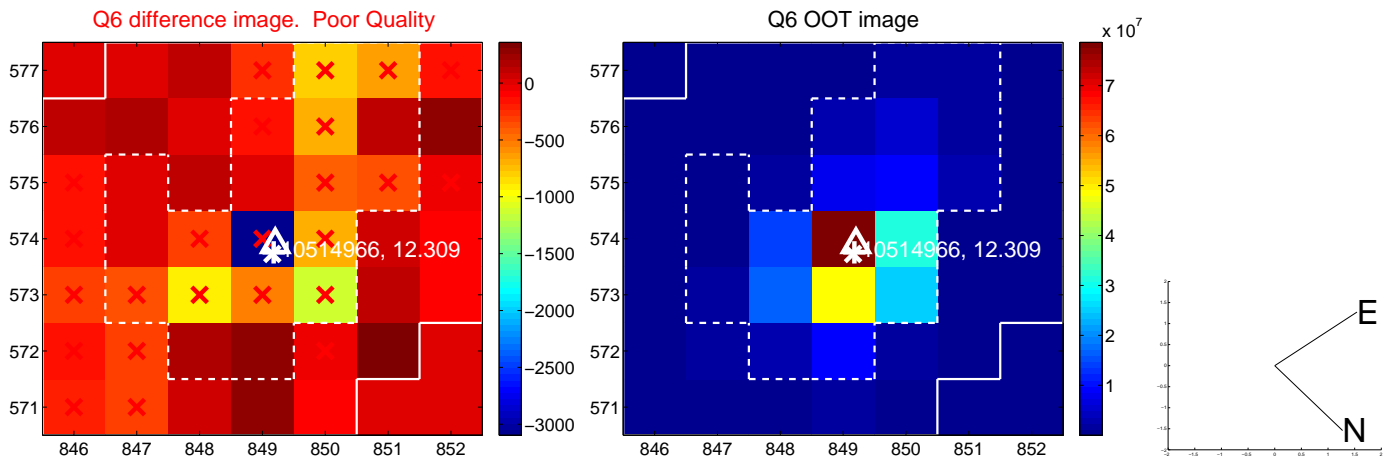
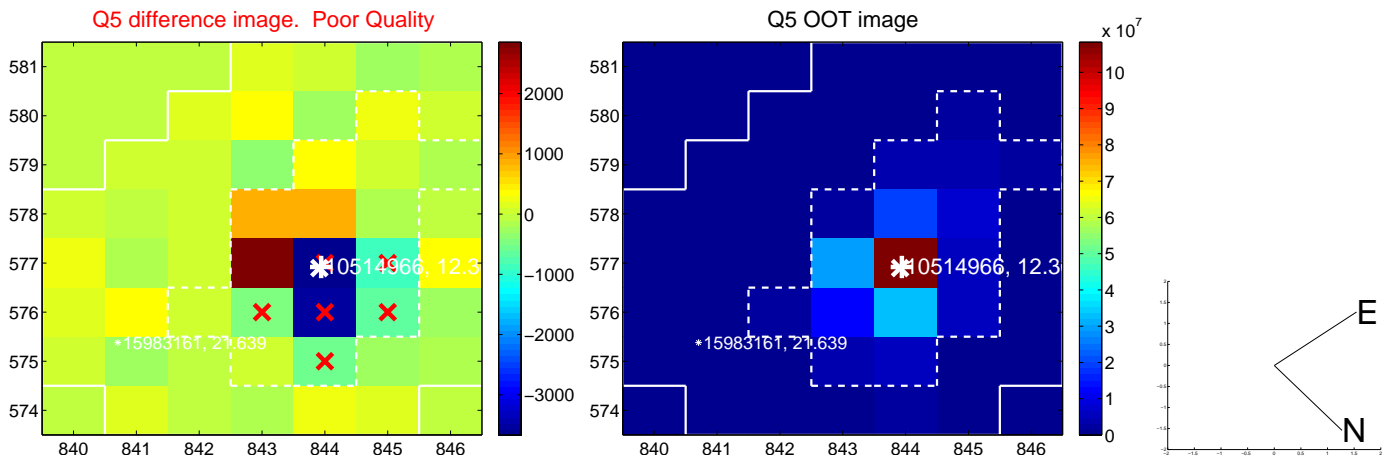


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

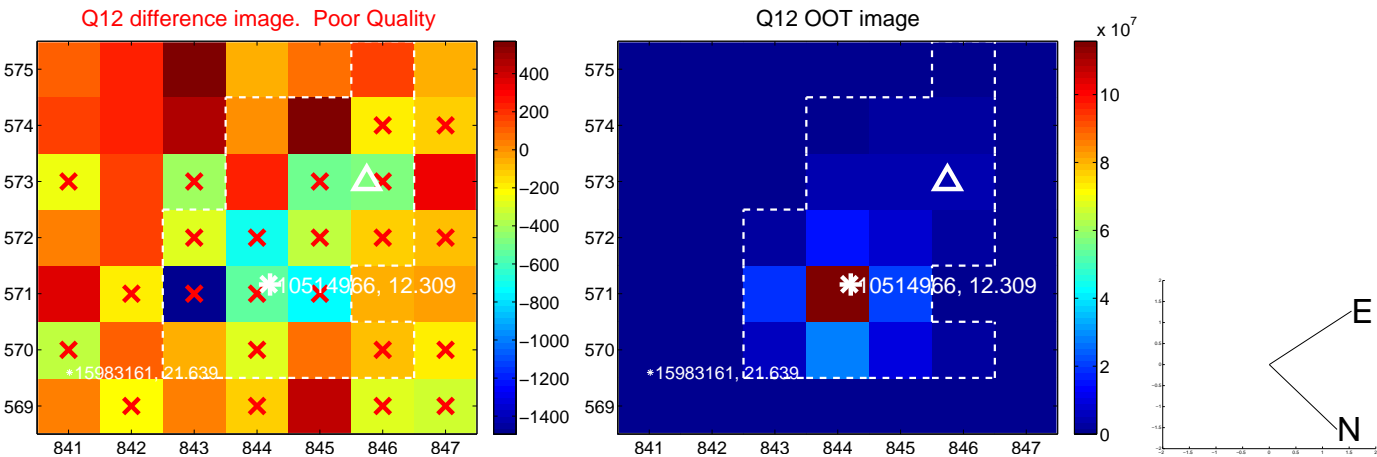
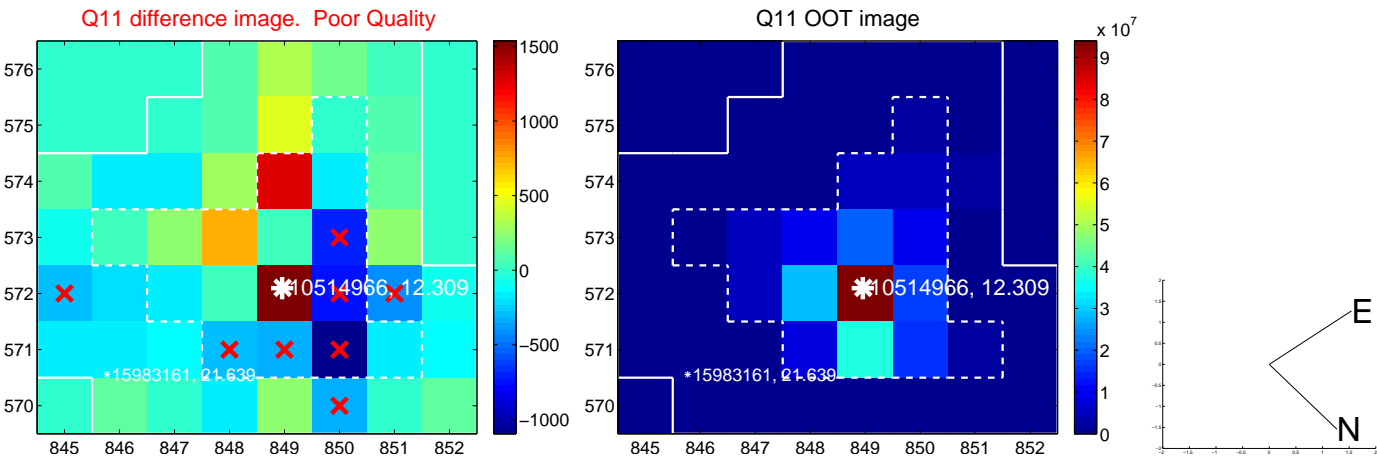
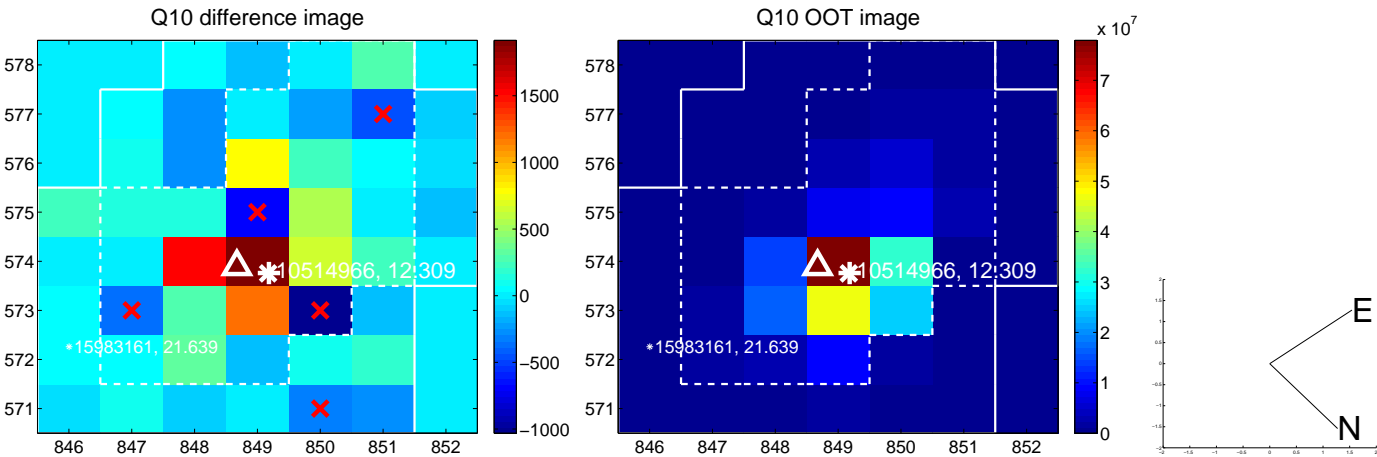
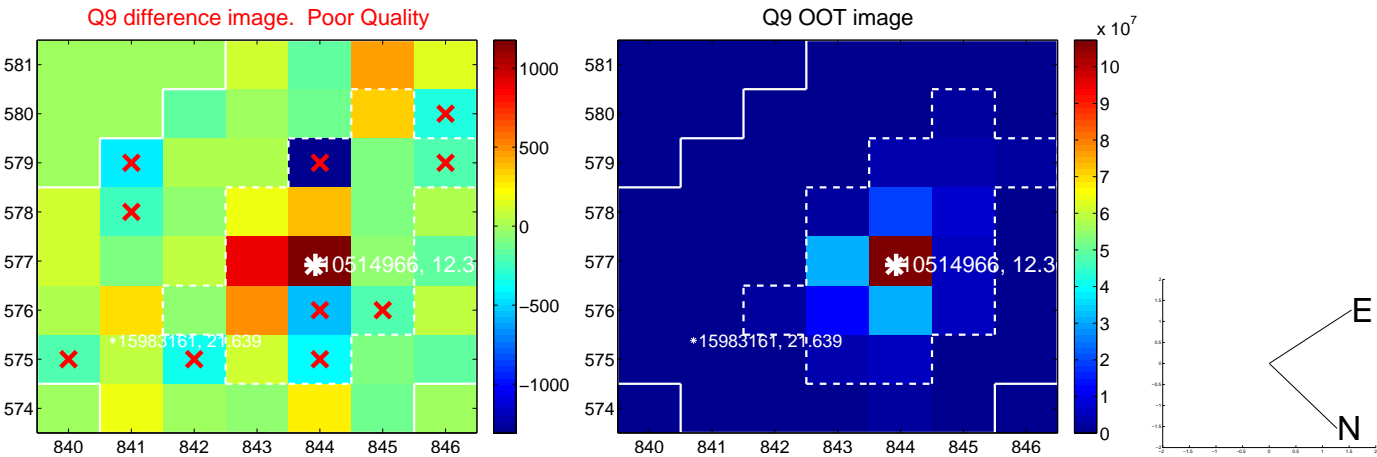


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

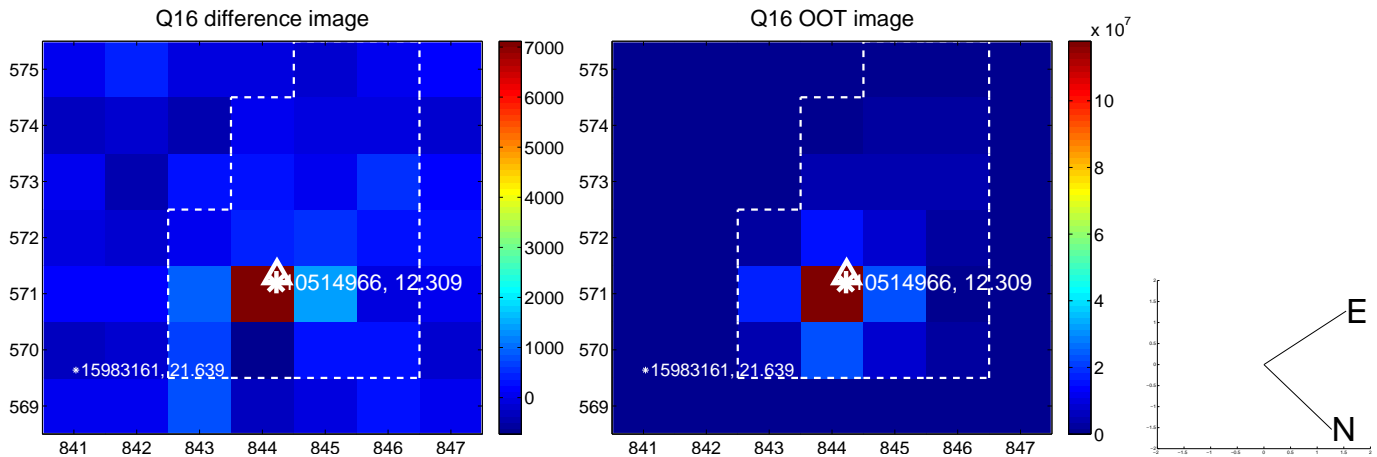
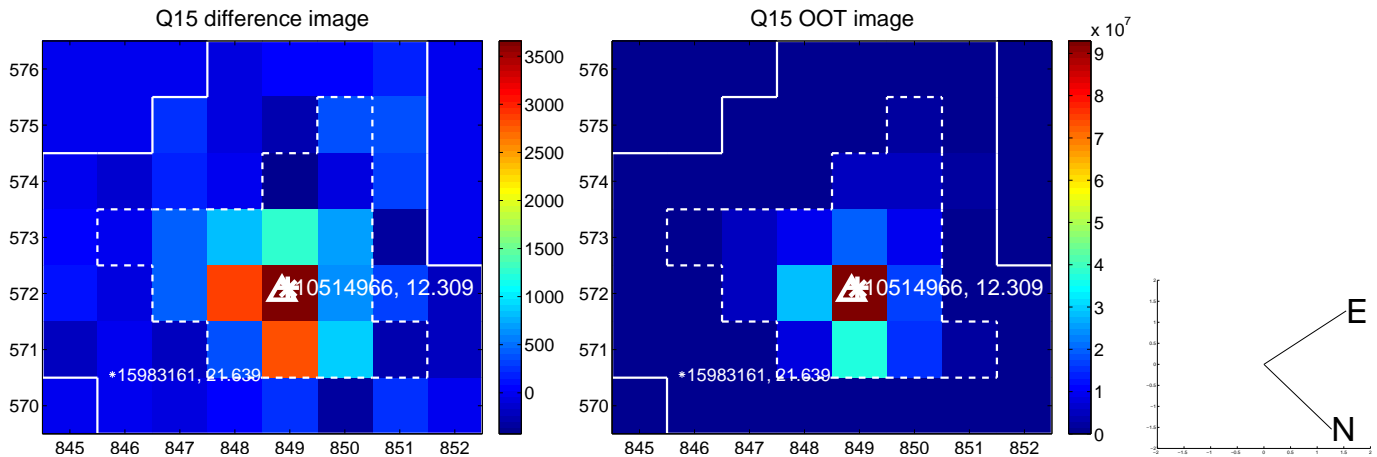
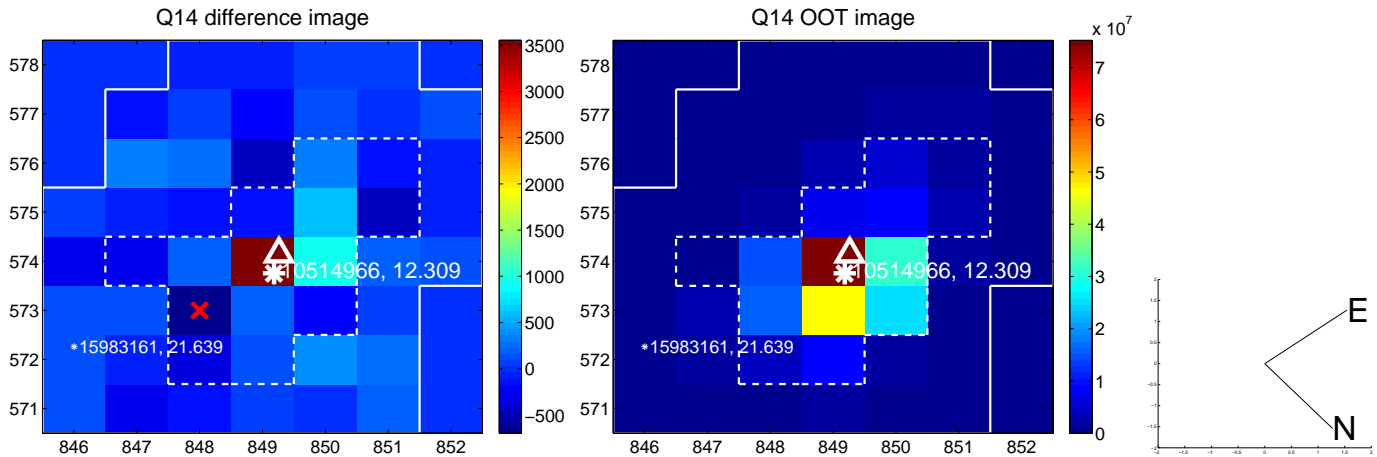
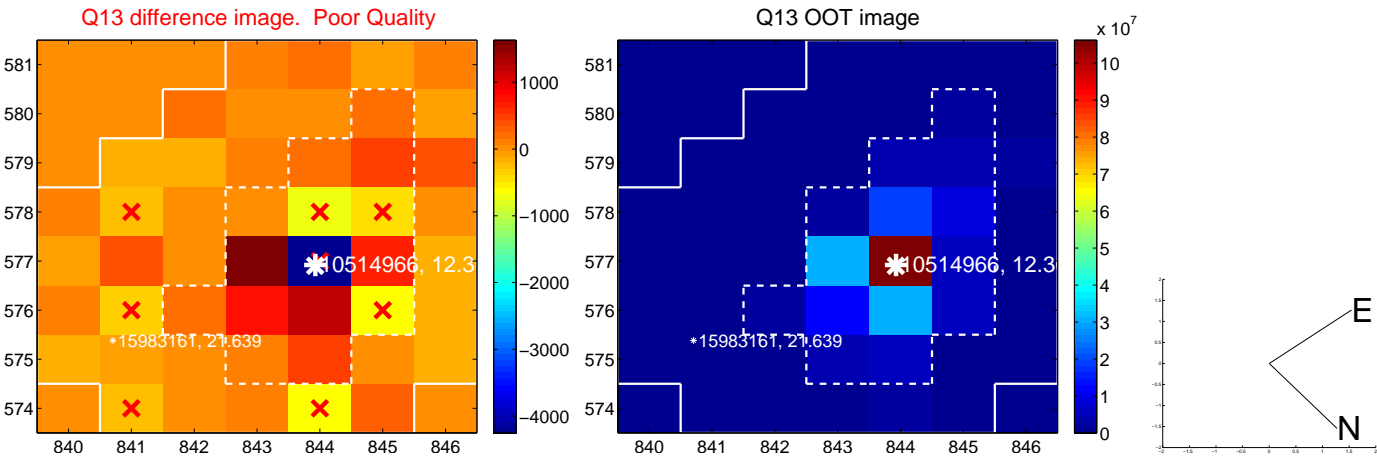




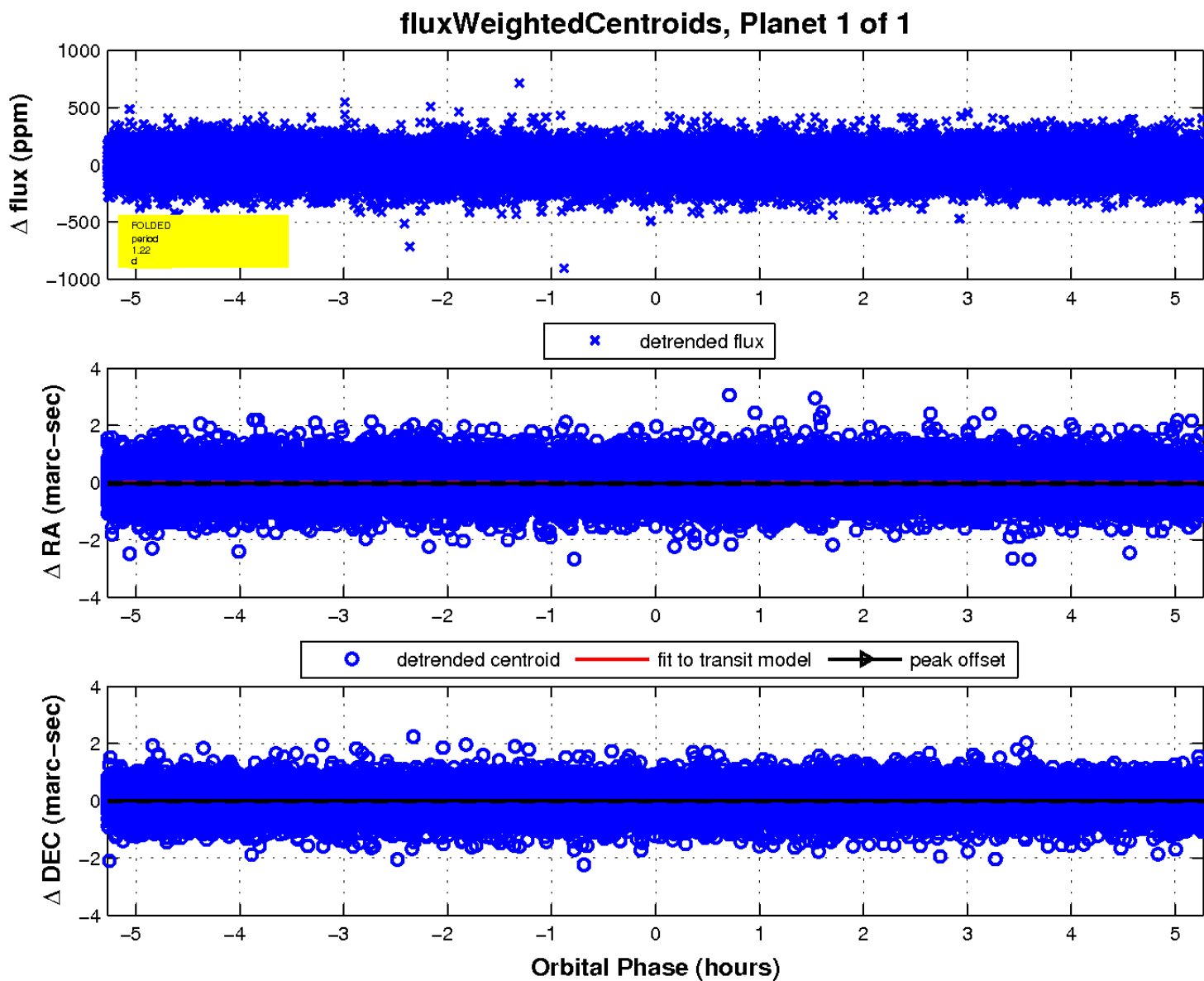
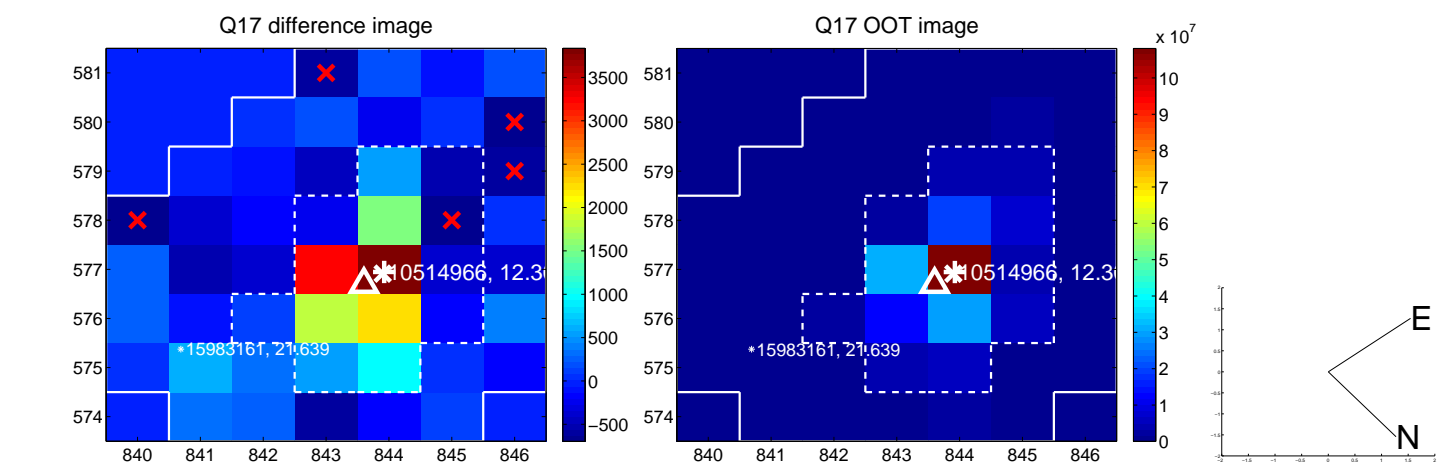
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

