

# KIC 009466058

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009466058-01	OBS	No	0.815377	131.838061	7.8	6.713	8.4	5.2	3.61	7365	1.05	73344.18

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009466058-01	OBS	FP	0.00	1	0	0	0	<del>SWEET_NTL</del> — <del>LPP_DV</del> — <del>LPP_ALT</del>

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

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

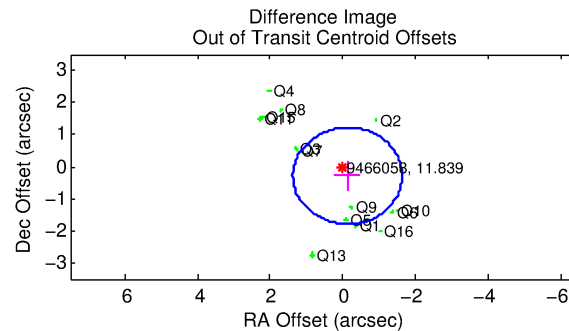
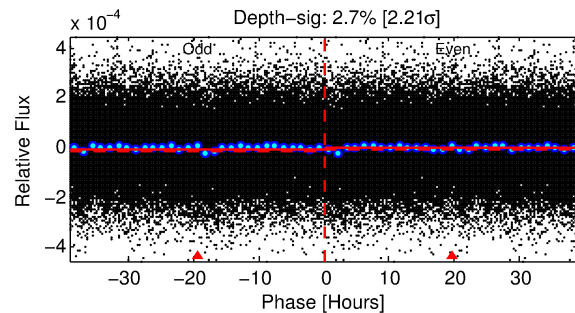
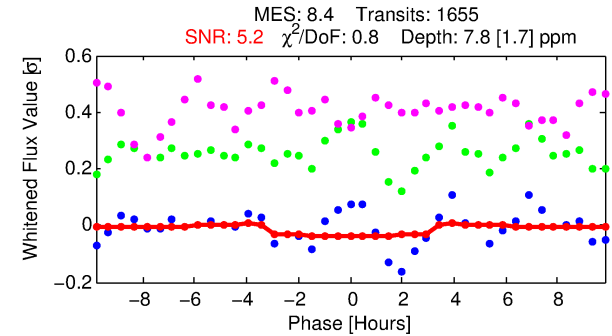
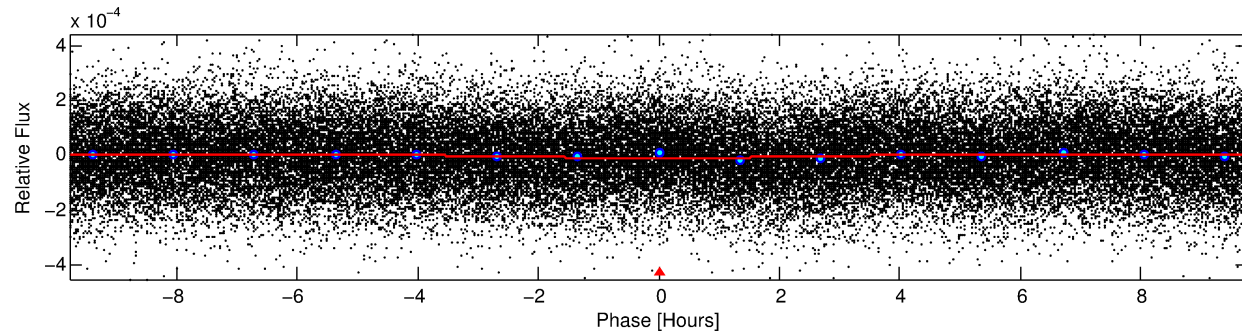
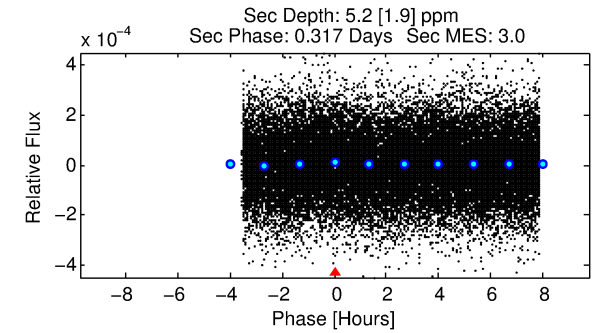
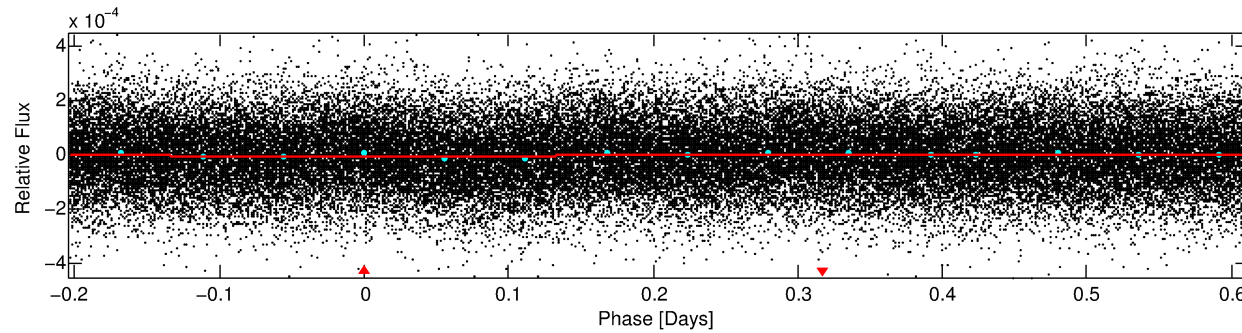
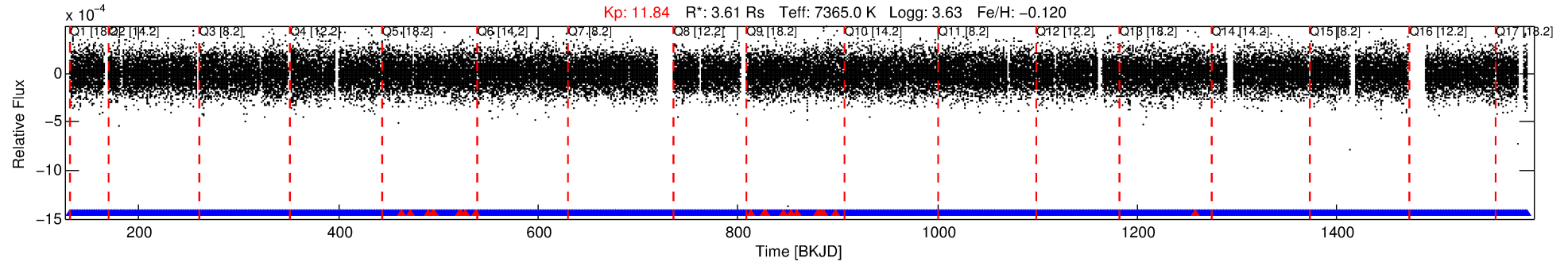
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 009466058-01

No Significant Match Found

# DV One-Page Summary

KIC: 9466058 Candidate: 1 of 1 Period: 0.815 d



## DV Fit Results:

Period = 0.81538 [0.00002] d  
Epoch = 131.8381 [0.0069] BKJD  
 $R_p/R^* = 0.0027$  [0.0021]  
 $a/R^* = 1.09$  [0.82]  
 $b = 0.58$  [5.23]  
 $S_{\text{eff}} = 73344.17$  [63697.95]  
 $T_{\text{eq}} = 4196$  [911] K  
 $R_p = 1.05$  [0.99]  $R_e$   
 $a = 0.0216$  [0.0113] AU  
 $A_g = 1.22$  [2.20] [0.10σ]  
 $T_{\text{eff}} = 6813$  [2730] K [0.91σ]

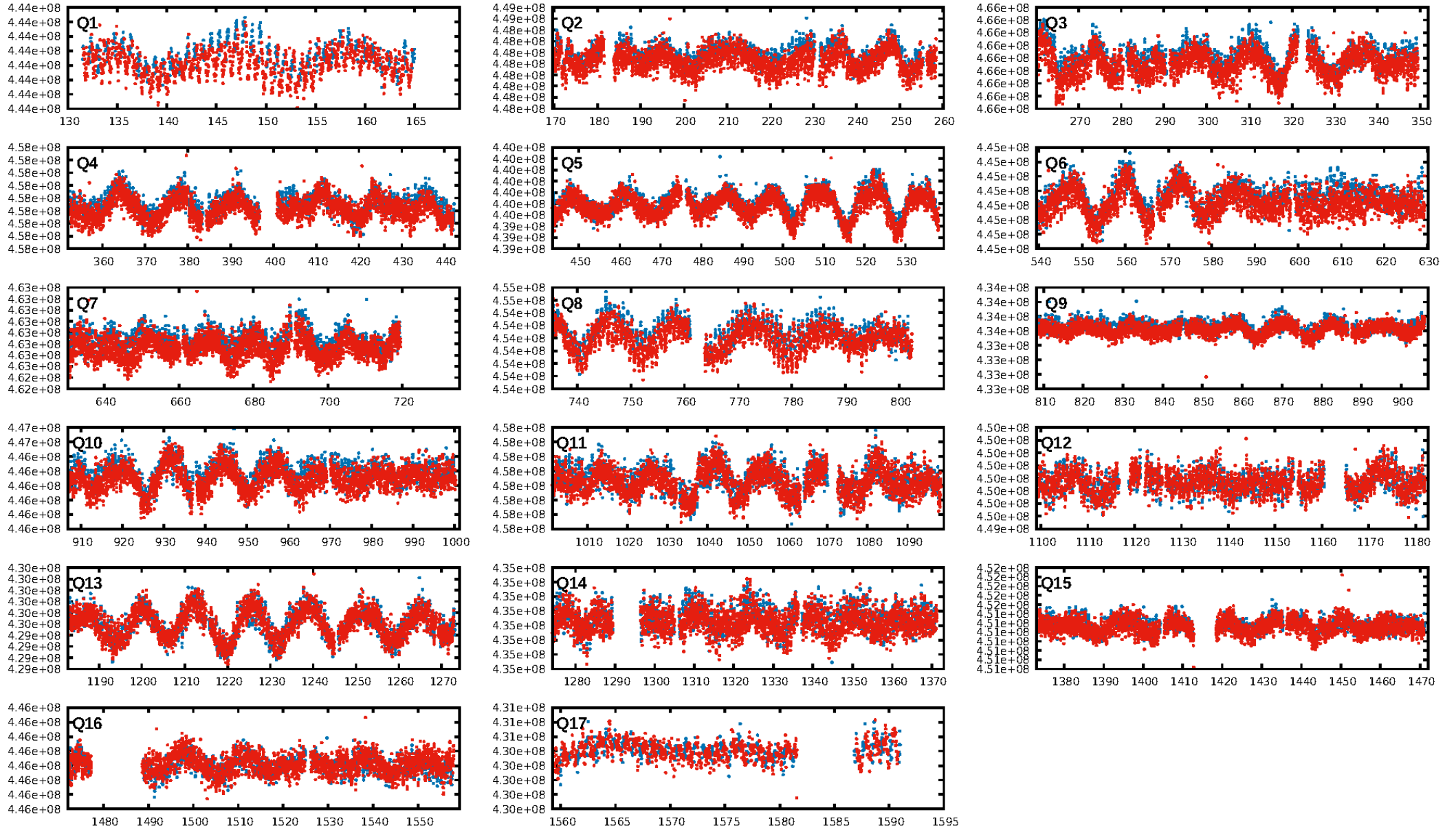
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGo-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.99 [1561/1581]  
**GhostDiagnostic-chr: 0.5534**  
**Centroid-sig: 0.3%**  
Centroid-so: 1.965 arcsec [2.36σ]  
OotOffset-rm: 0.312 arcsec [0.62σ]  
KicOffset-rm: 0.365 arcsec [0.77σ]  
OotOffset-st: 3/4/3/4 [14]  
KicOffset-st: 3/4/3/4 [14]  
DiffImageQuality-fgm: 0.71 [10/14]  
DiffImageOverlap-fno: 1.00 [17/17]

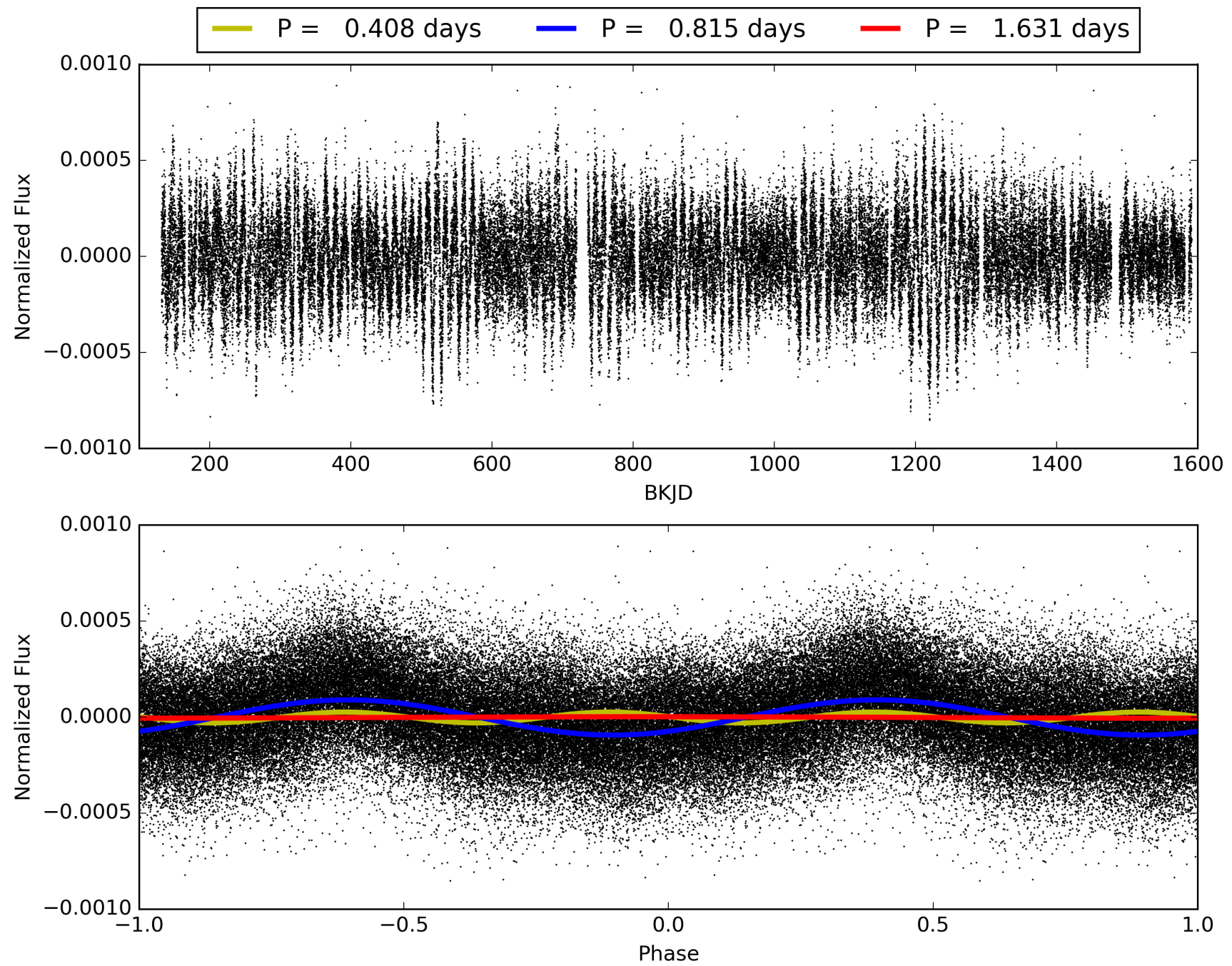
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:05:27 Z

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

# TCE 009466058-01, PDC Light Curves

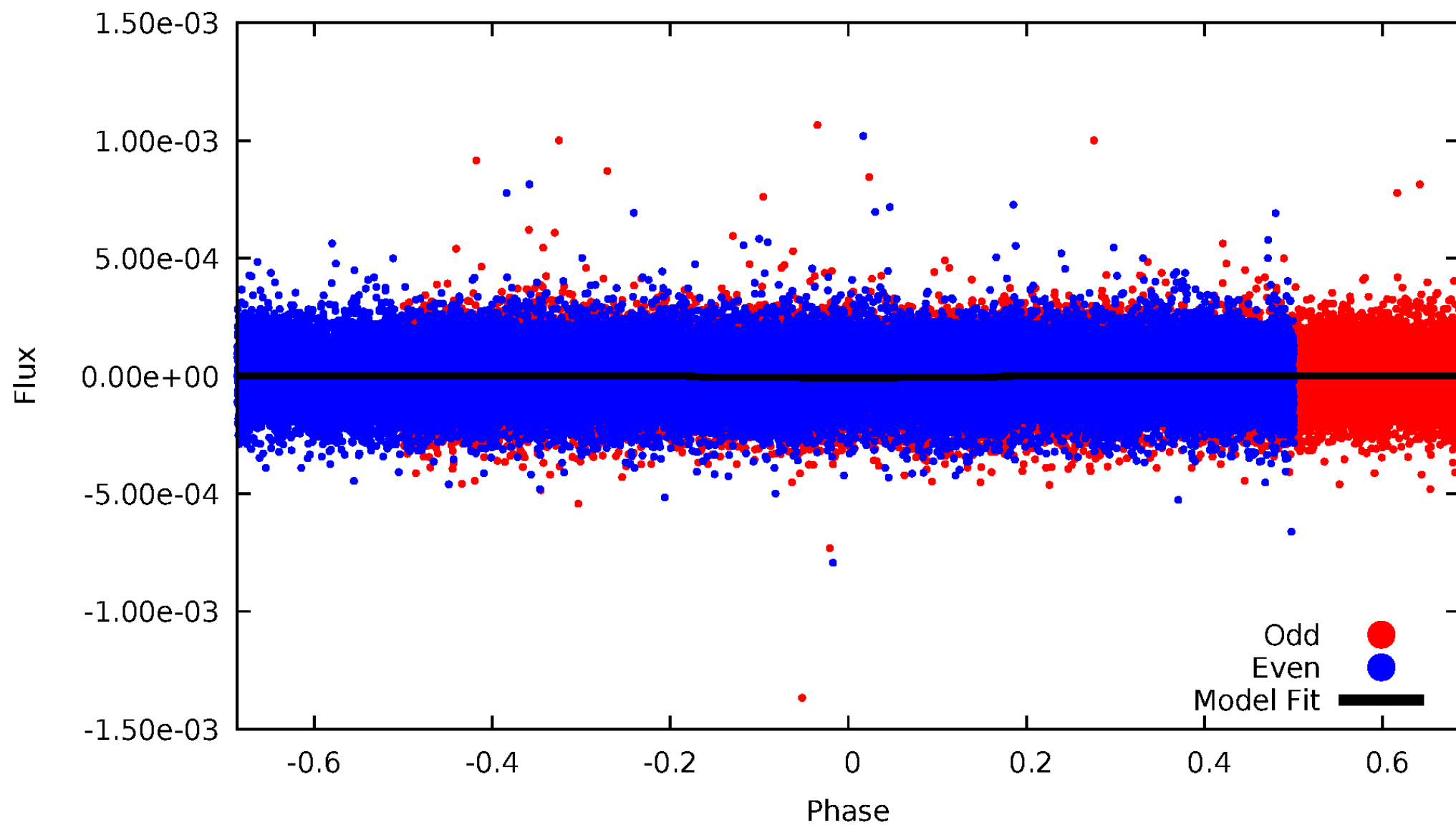


TCE 009466058-01



# DV Odd/Even

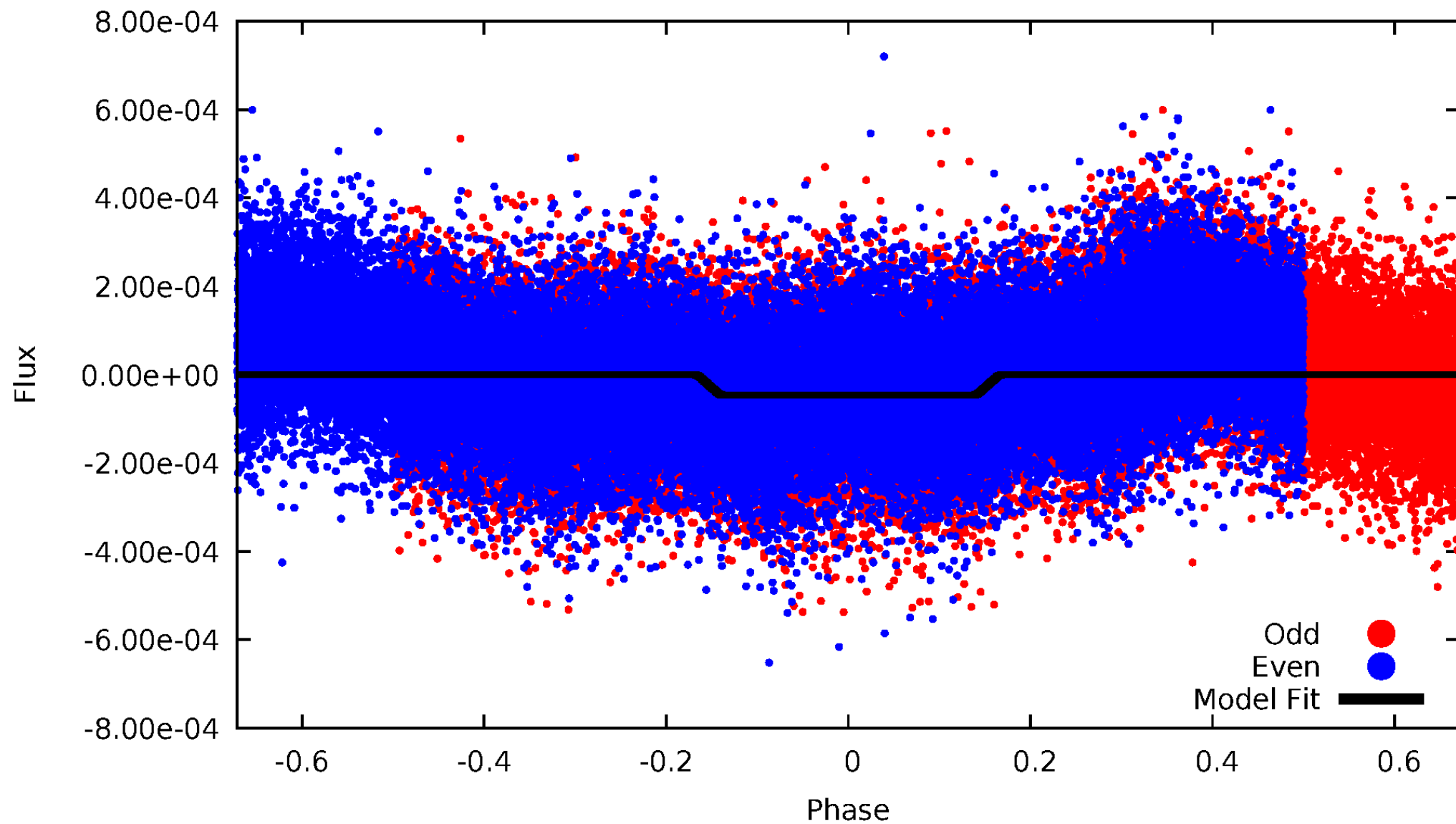
TCE 009466058-01



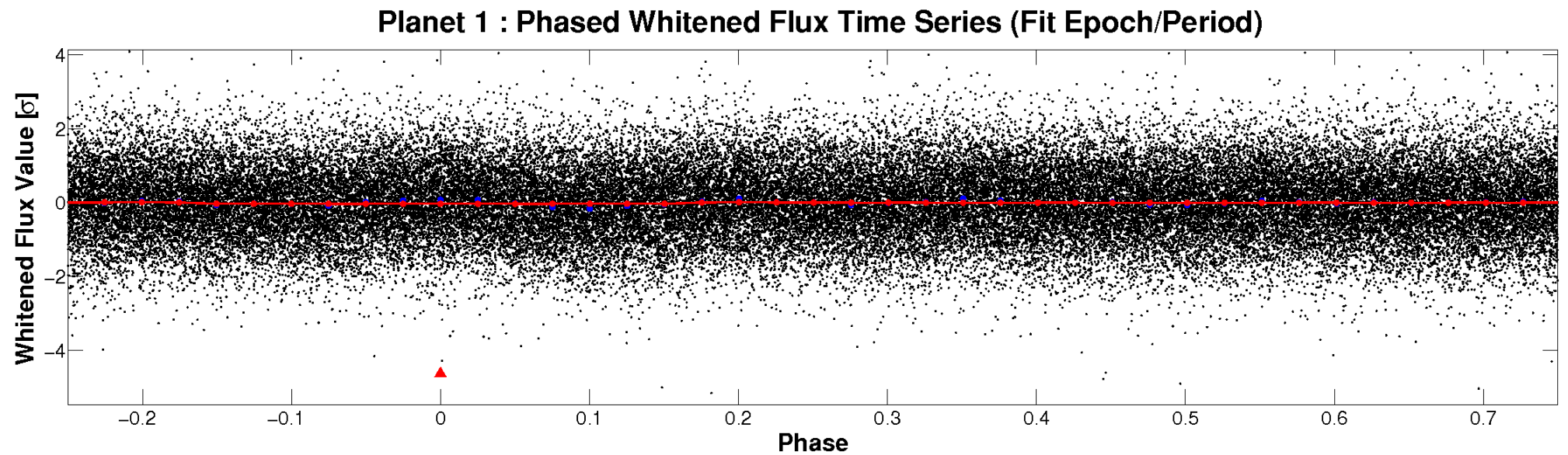
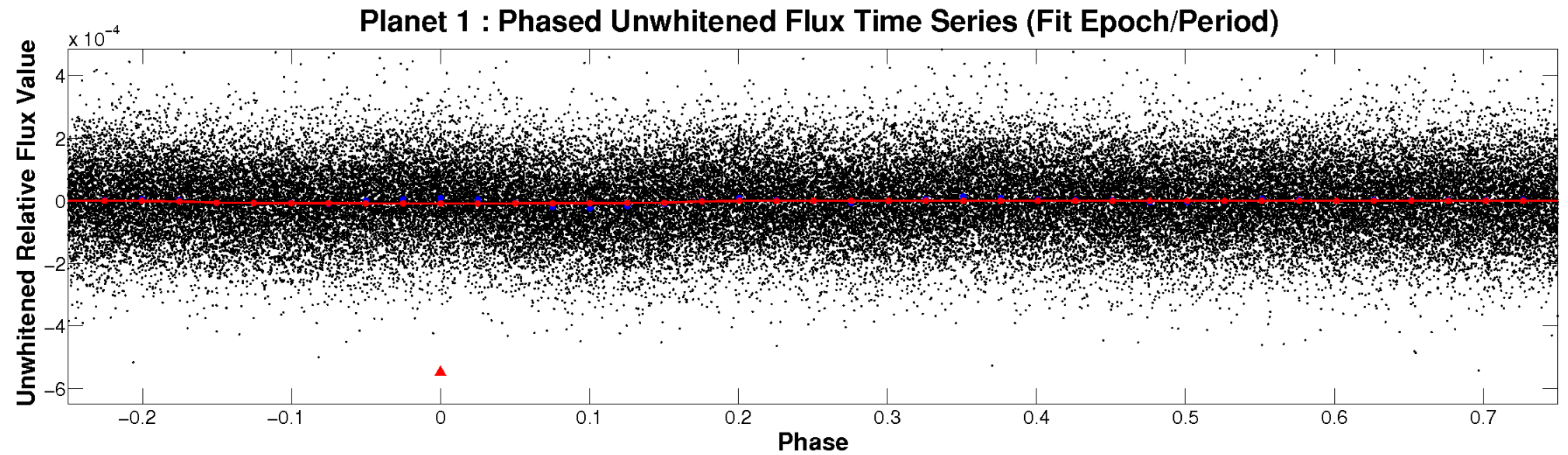


# ALT Odd/Even

TCE 009466058-01

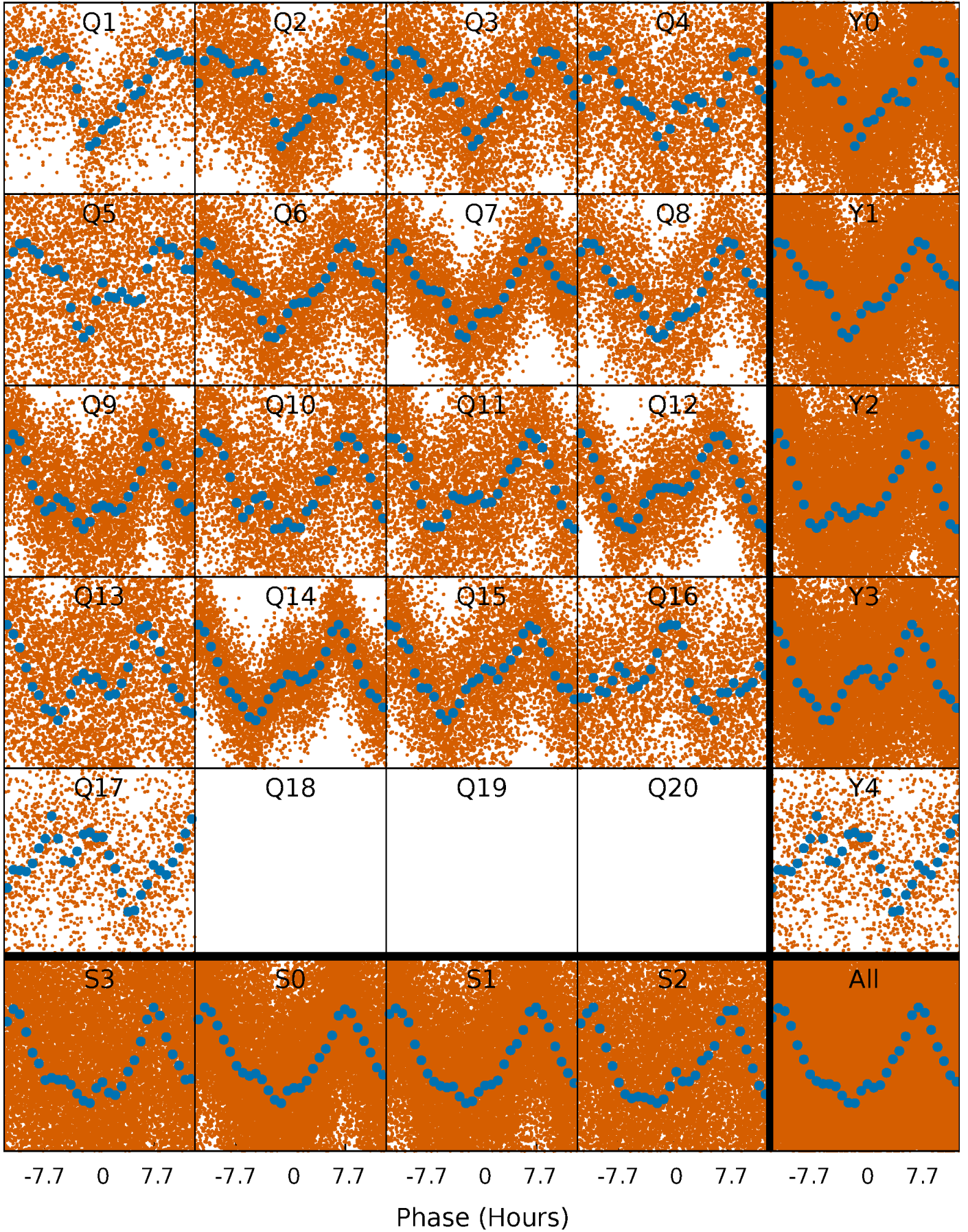


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

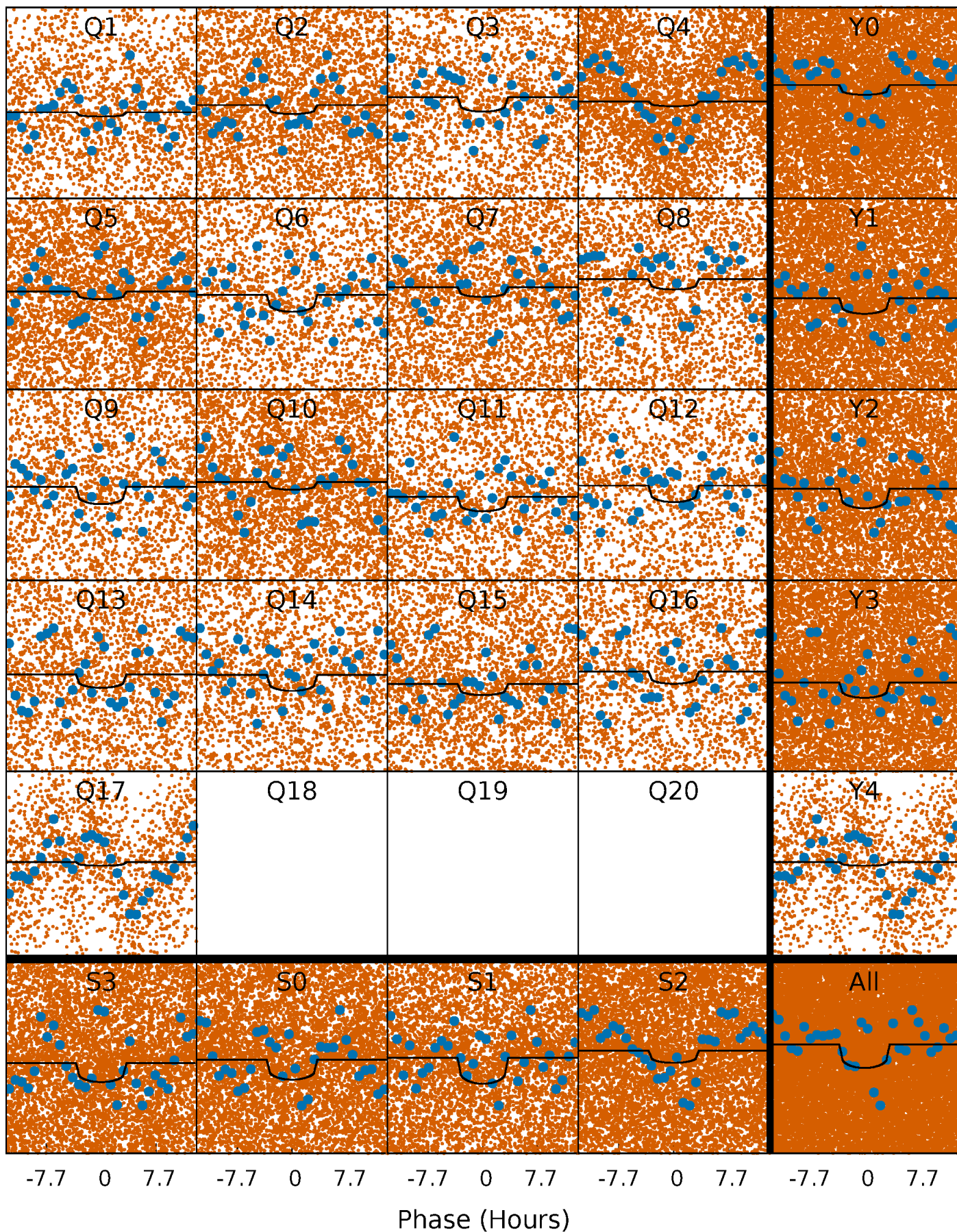
TCE 009466058-01   P= 0.815377 Days    $T_0=131.838061$  (BKJD)





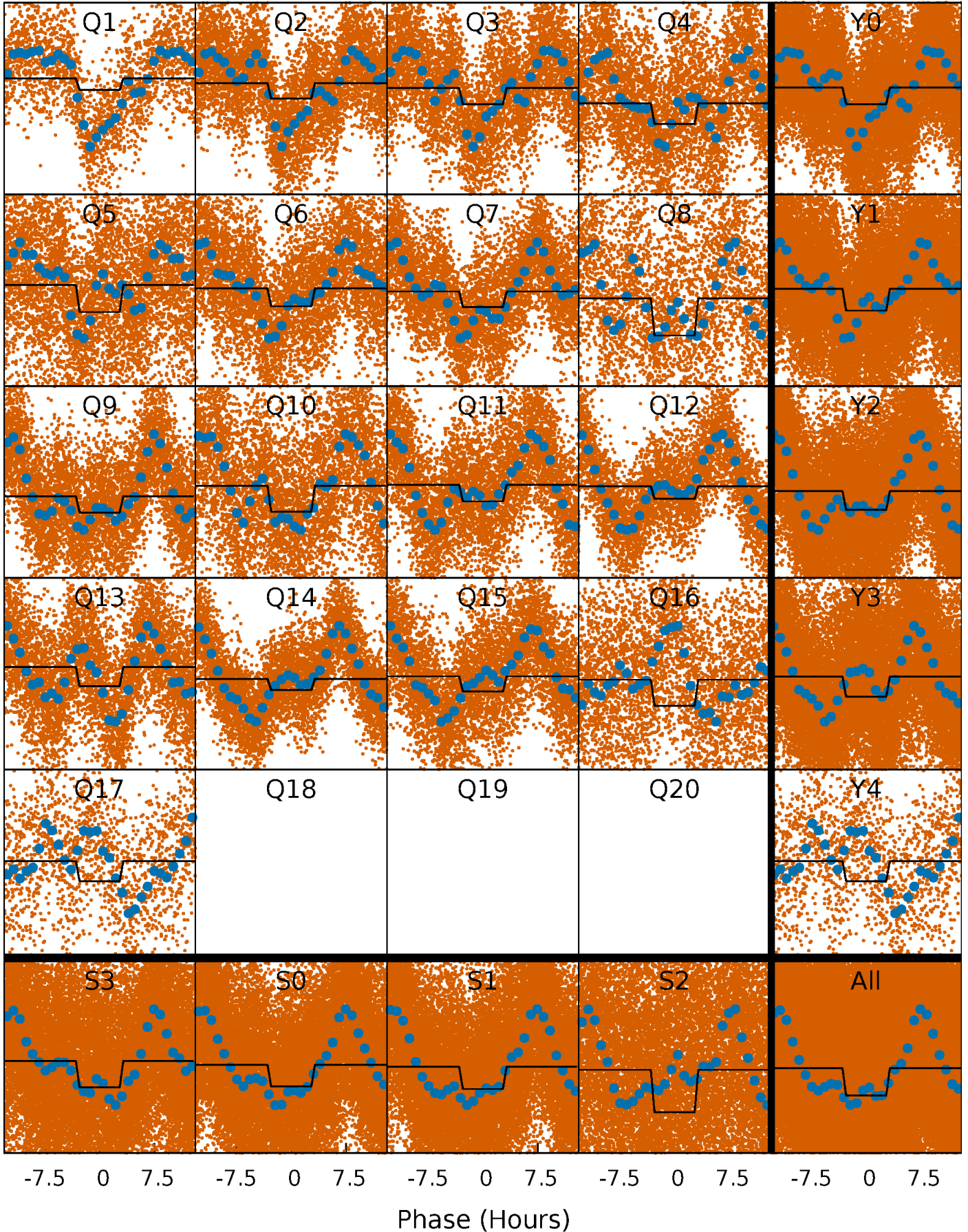
# DV Quarter-Phased Transit Curves

TCE 009466058-01   P= 0.815377 Days    $T_0=131.838061$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 009466058-01 P= 0.815378 Days  $T_0=131.842232$  (BKJD)

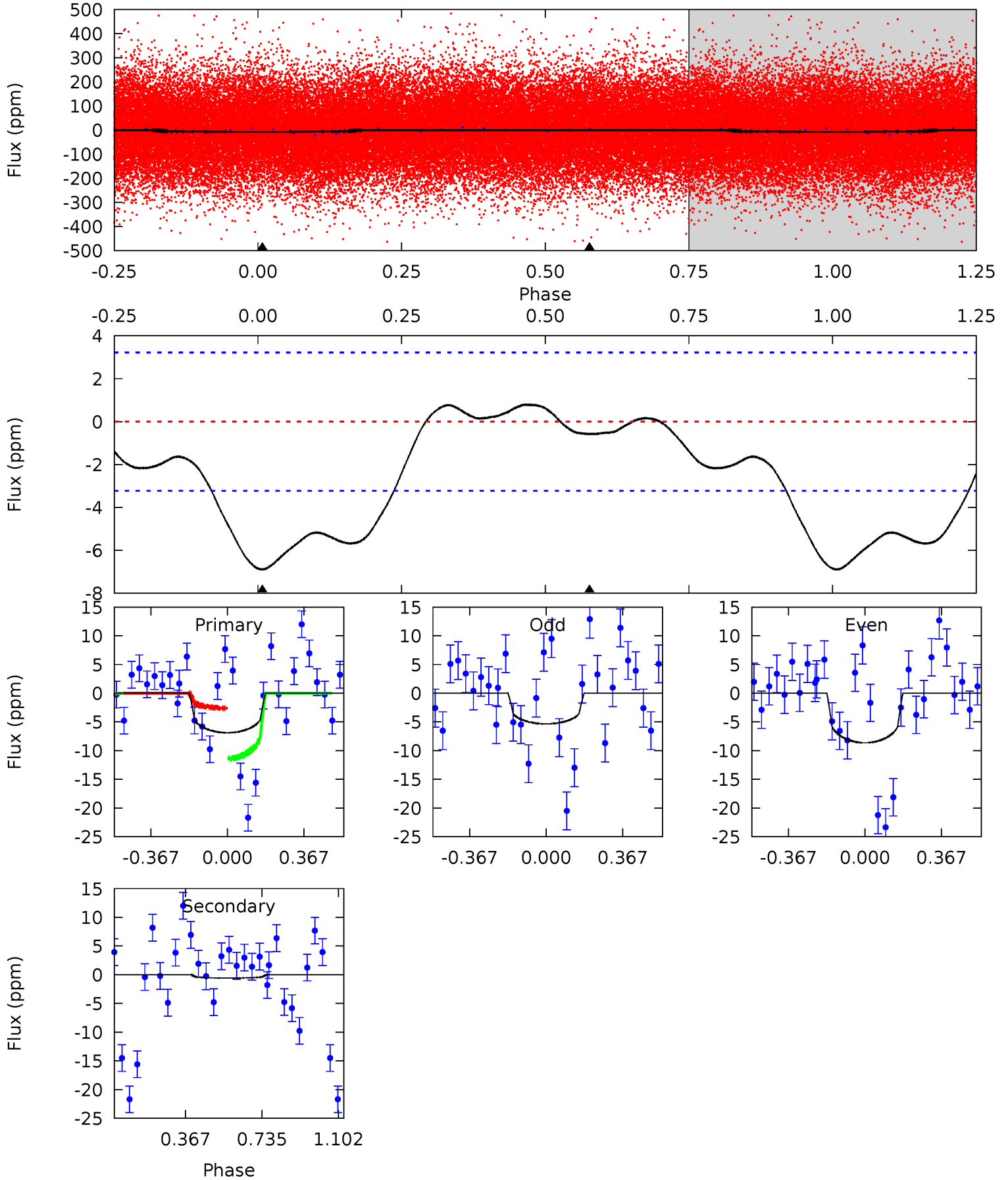




# DV Model-Shift Uniqueness Test

009466058-01, P = 0.815377 Days, E = 131.022684 Days

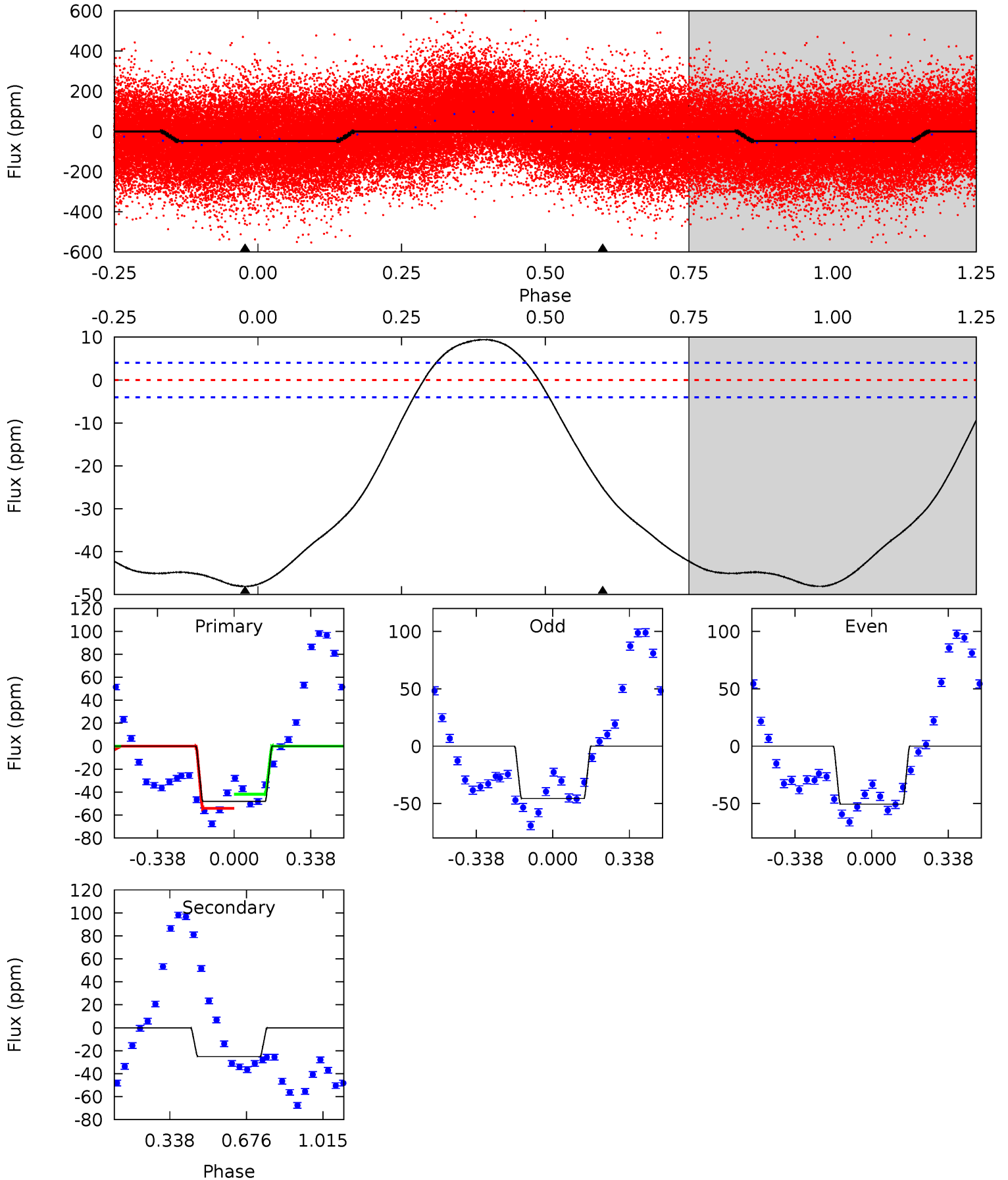
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.16	0.78	0	0	4.28	0.90	1.55	9.16	9.16	0.78	0.78	2.19	1.19	0.10	5.96



# Alt Model-Shift Uniqueness Test

009466058-01, P = 0.815378 Days, E = 131.026854 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
51.3	26.8	0	0	4.30	0.96	6.41	51.3	51.3	26.8	26.8	2.59	1.07	0.16	7.25





### Stellar Parameters For KIC 009466058

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7365^{+203}_{-330}$	$3.631^{+0.504}_{-0.056}$	$-0.120^{+0.250}_{-0.350}$	$3.609^{+0.336}_{-1.903}$	$2.033^{+0.101}_{-0.605}$	$0.061^{+0.343}_{-0.011}$
	+3%/-4%	+14%/-2%	+208%/-292%	+9%/-53%	+5%/-30%	+563%/-19%
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 009466058-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1 \pm 1$	$0.96^{+0.74}_{-0.58}$	$5597^{+412}_{-757}$	$-4152^{+9422}_{-770}$	$0.114^{+0.854}_{-0.160}$
Alt.	$-25 \pm 1$	$2.31^{+0.93}_{-0.86}$	$5597^{+408}_{-724}$	$5775^{+1577}_{-1005}$	$1.187^{+1.800}_{-0.579}$

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

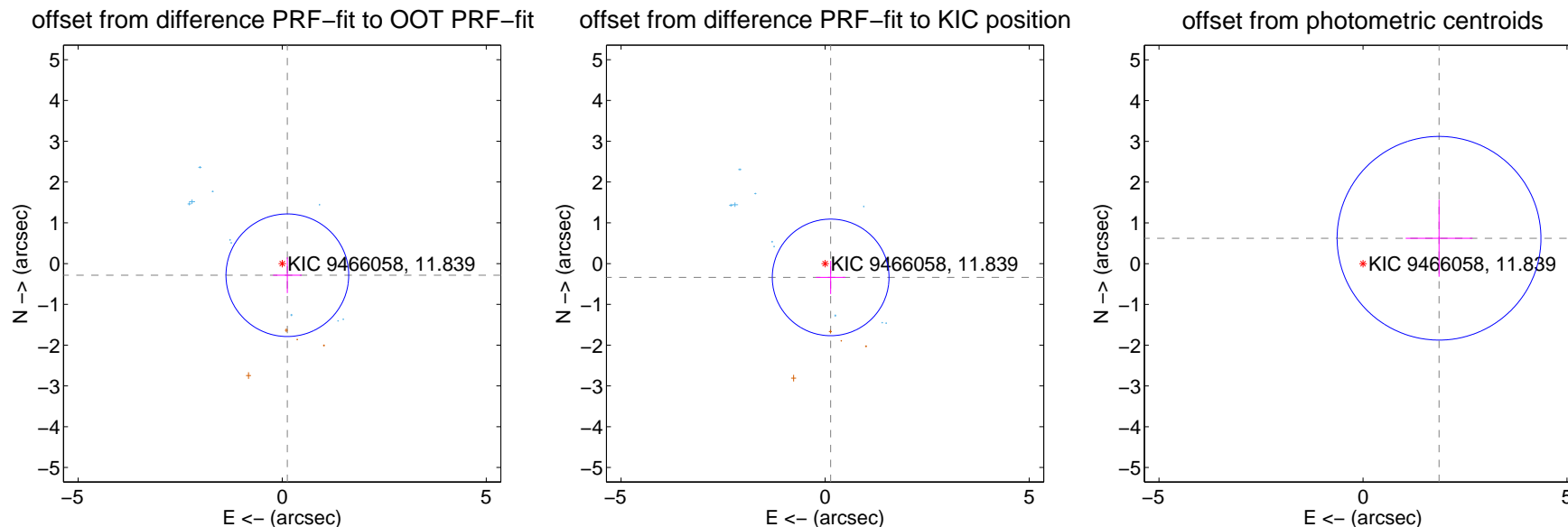
## DV Centroid Data

Supplemental centroid analysis for 009466058-01. **Kepler magnitude: 11.84.** Transit SNR 5.21

There are 10 quarters with good PRF difference image offsets

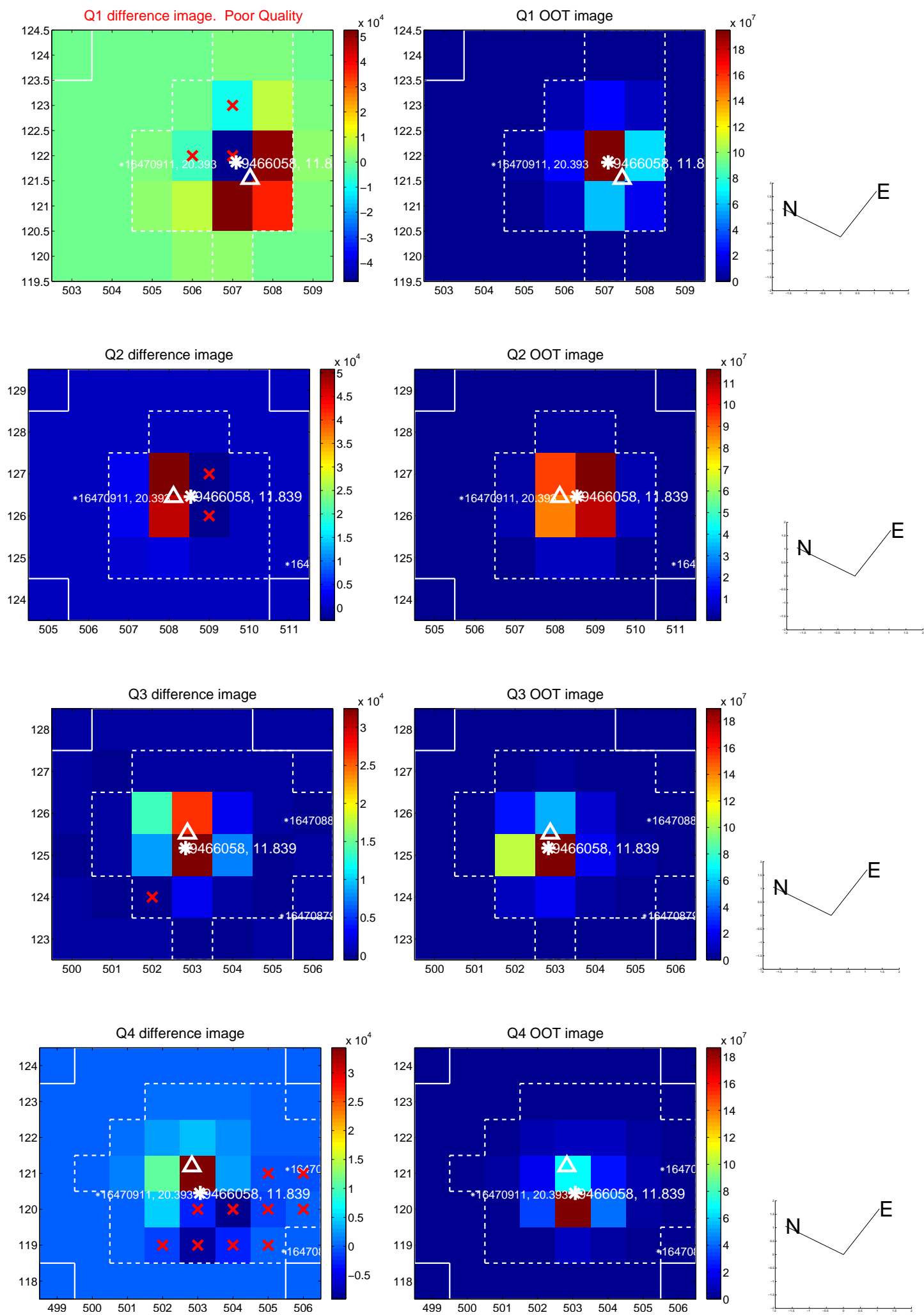
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.312 \pm 0.501$	0.62	$-0.126 \pm 0.351$	$-0.285 \pm 0.439$
PRF-fit source offset from KIC position	$0.365 \pm 0.477$	0.77	$-0.136 \pm 0.359$	$-0.339 \pm 0.407$
photometric centroid source offset	$1.96 \pm 0.83$	2.36	$-1.86 \pm 0.82$	$0.62 \pm 0.94$

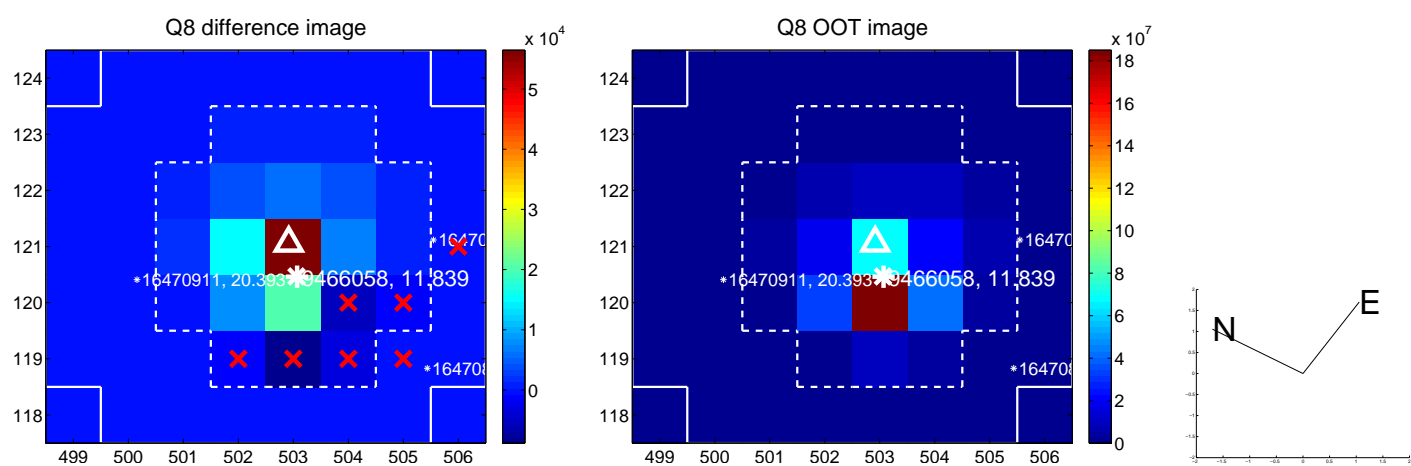
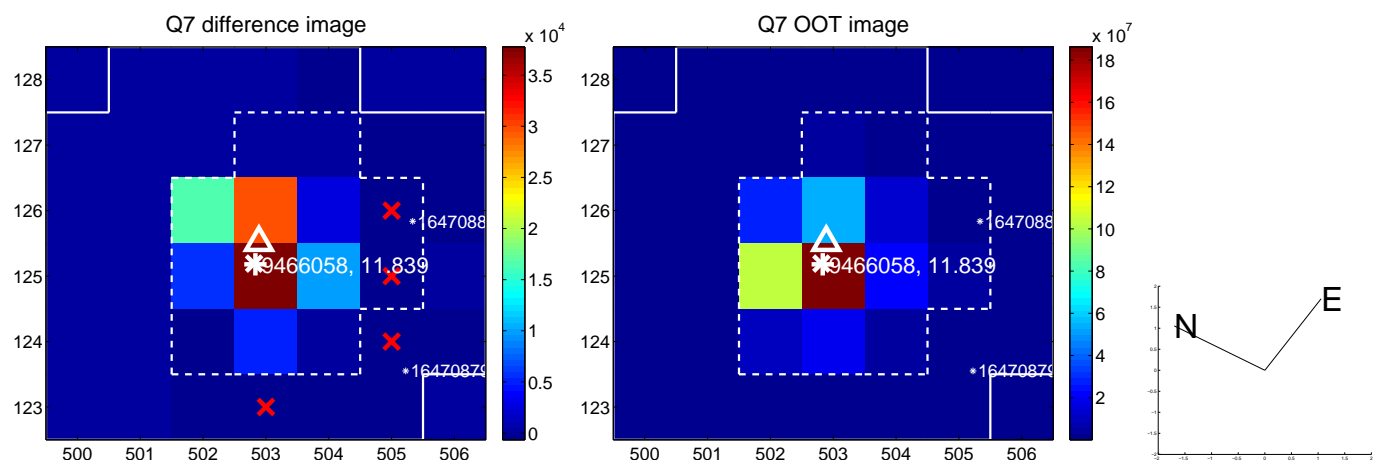
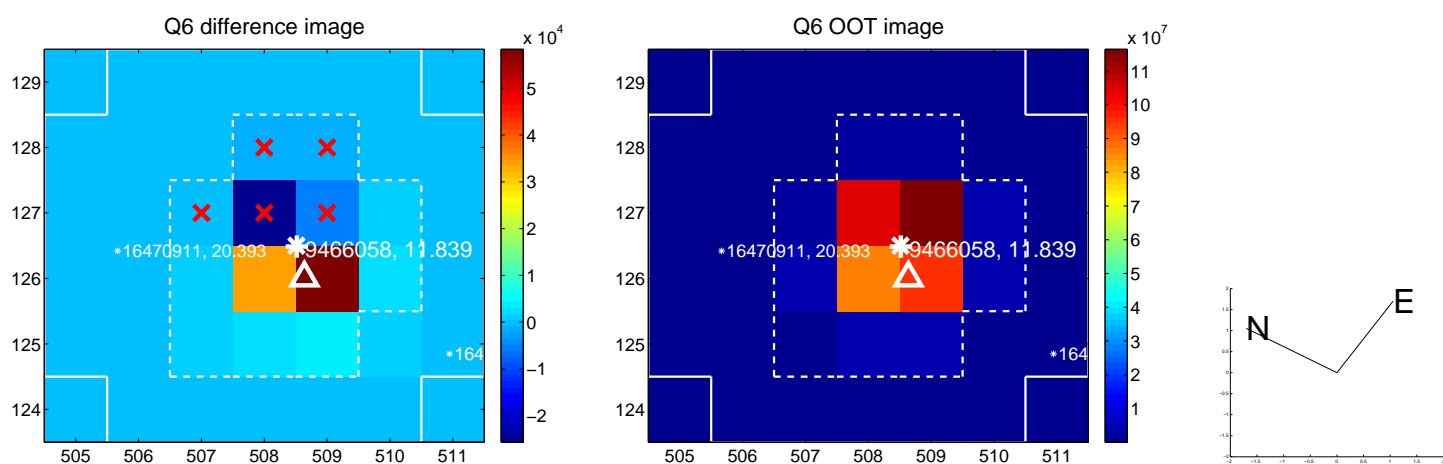
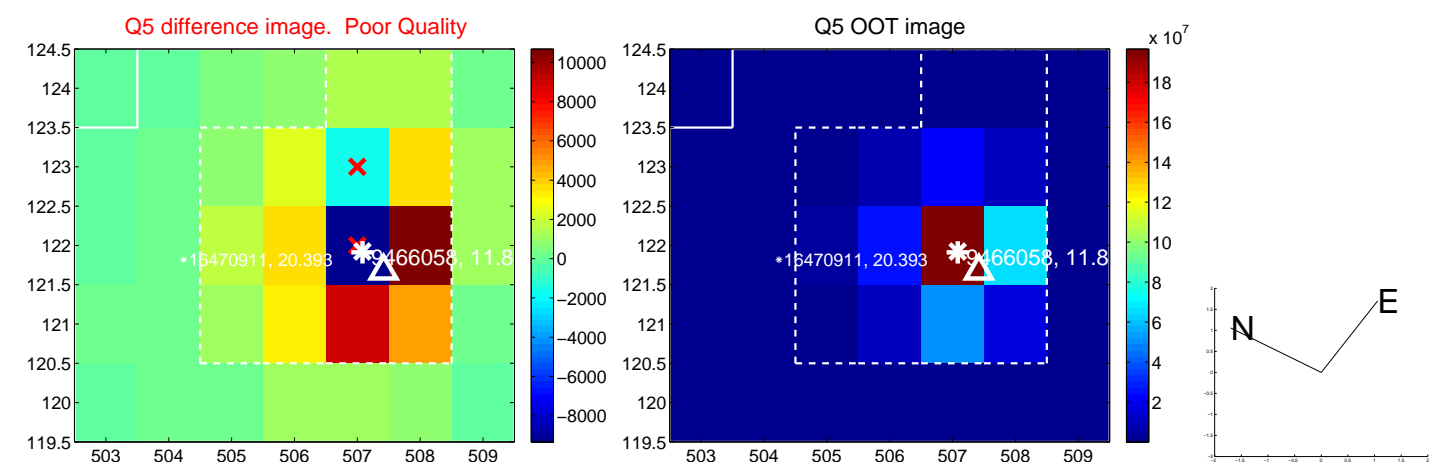


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

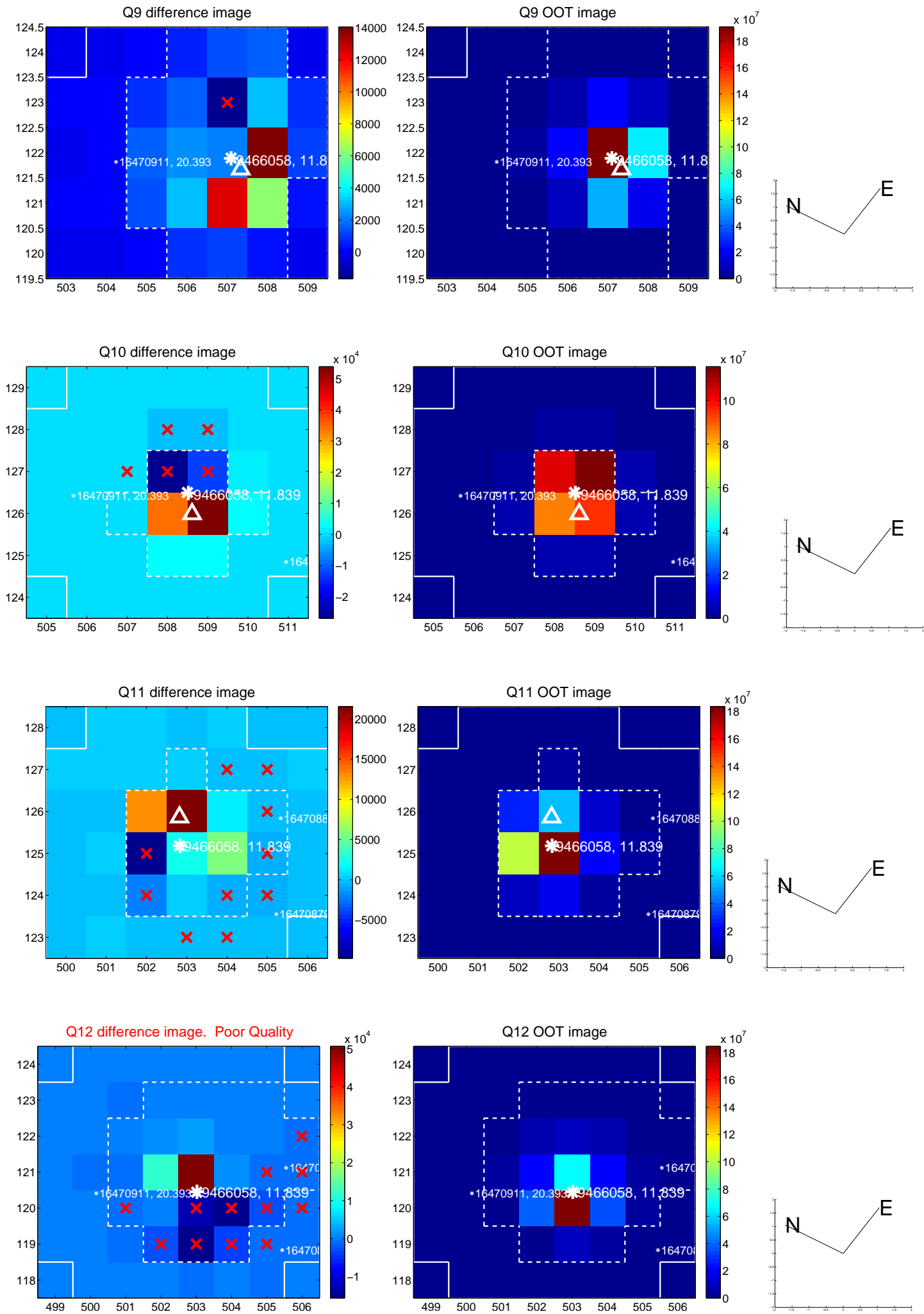


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

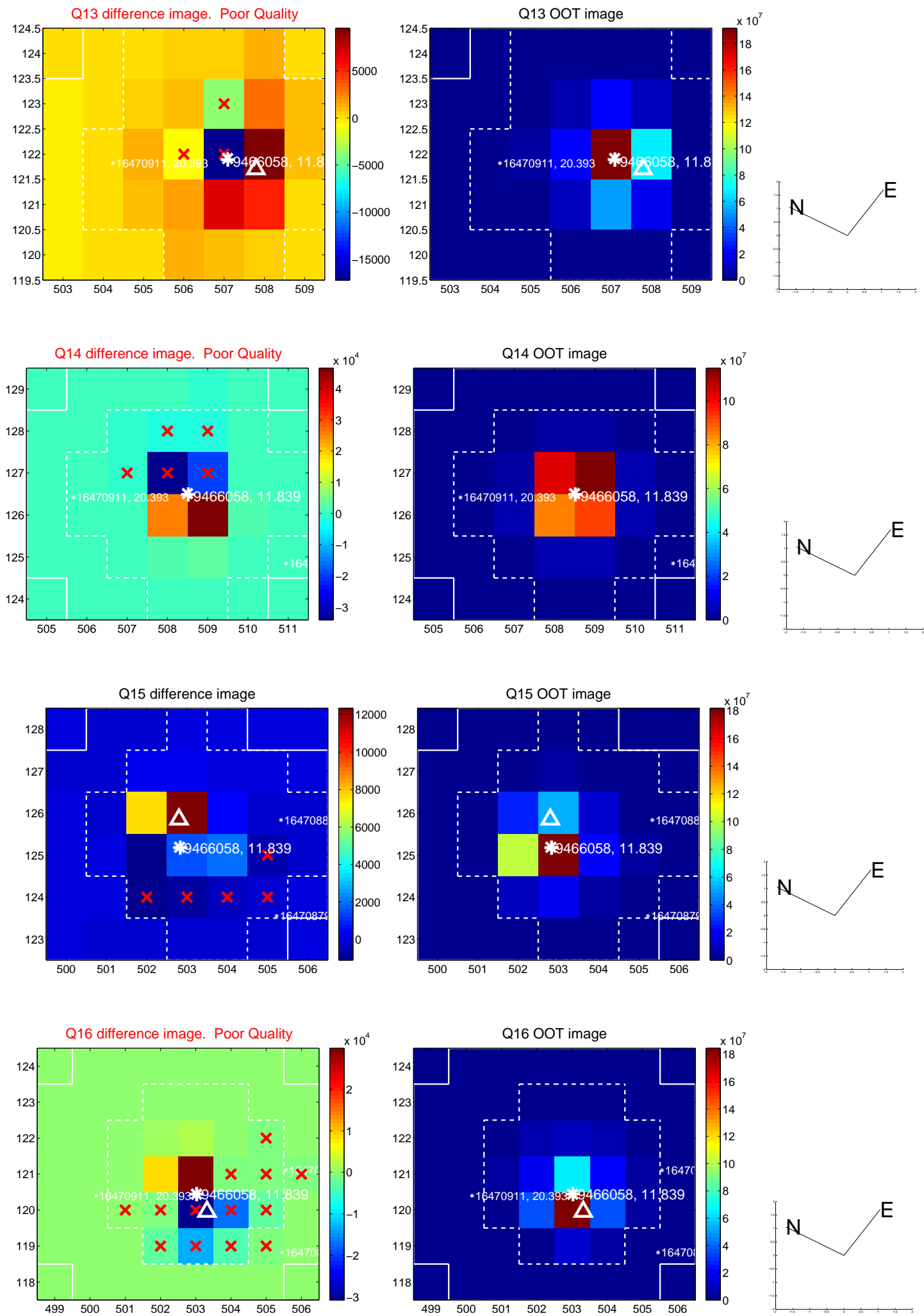




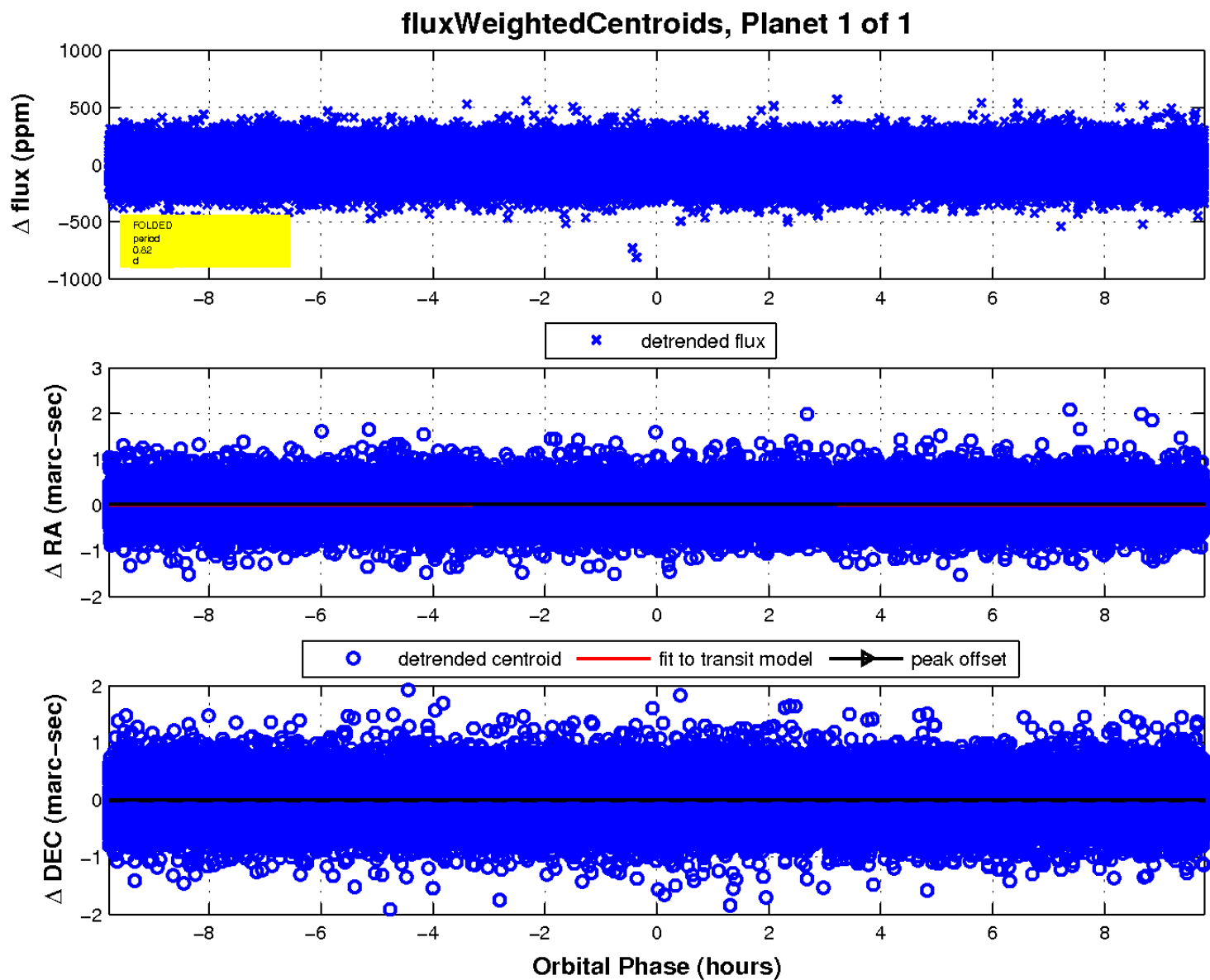
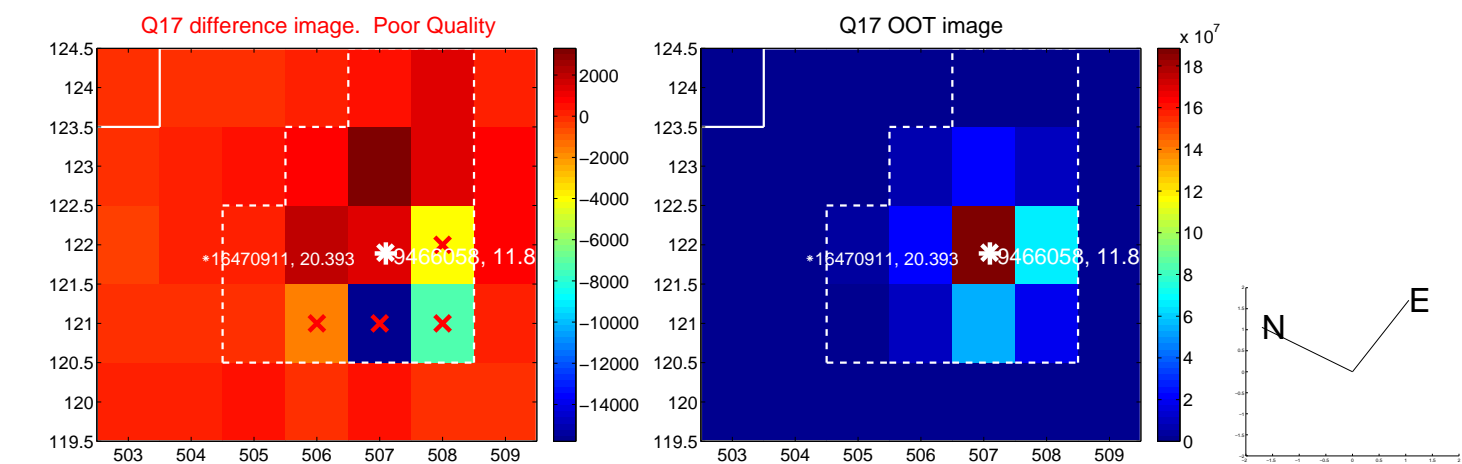
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

