

# KIC 006804821

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006804821-01	OBS	No	0.557498	131.724778	7.7	1.812	12.4	10.3	3.53	7698	1.14	136229.09

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006804821-01	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.

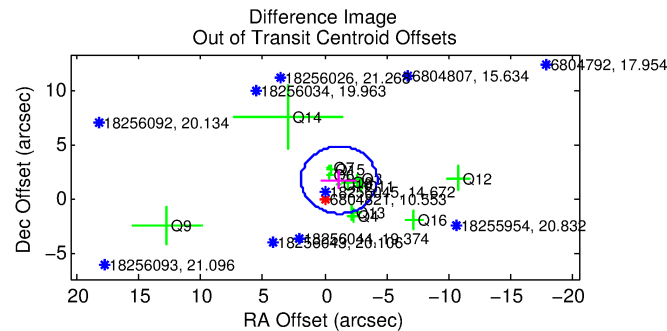
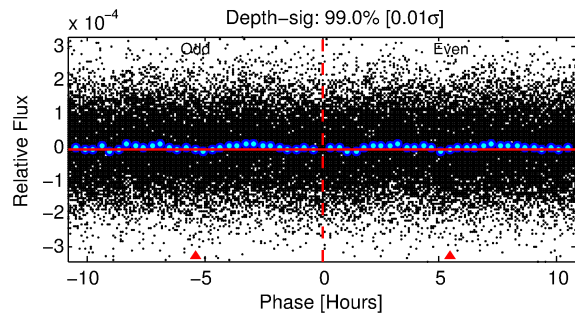
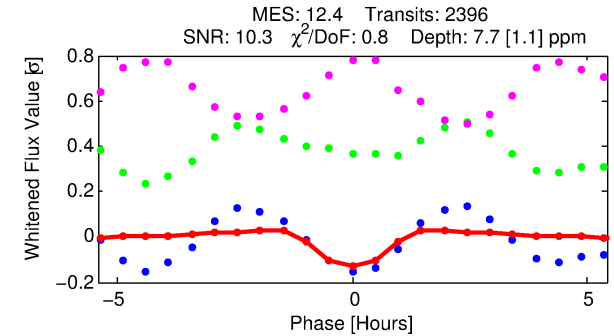
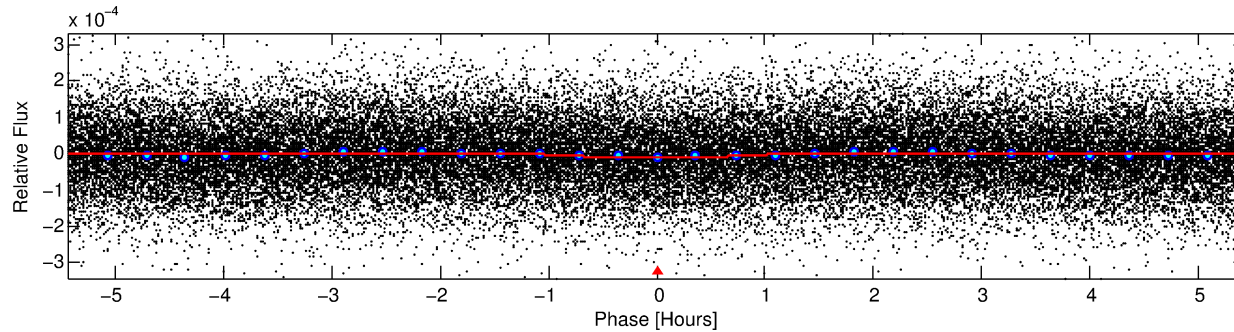
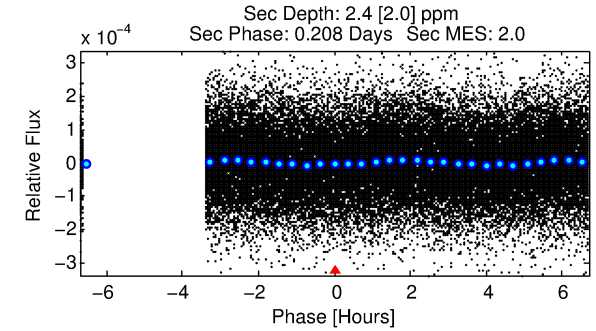
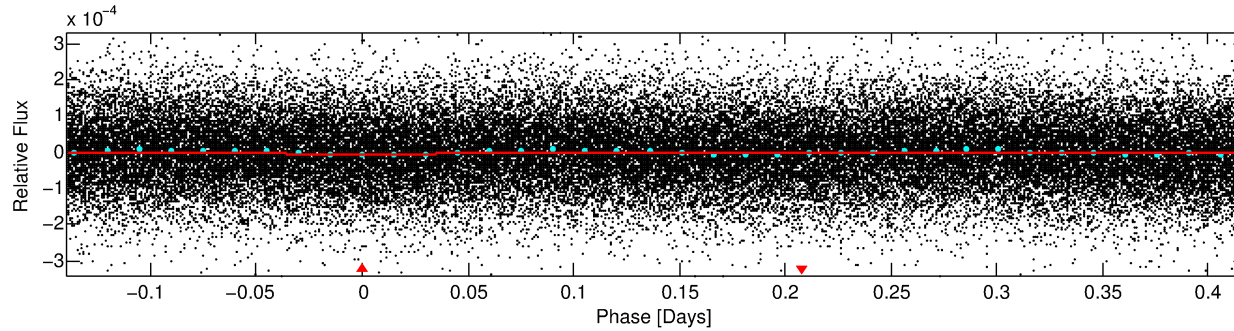
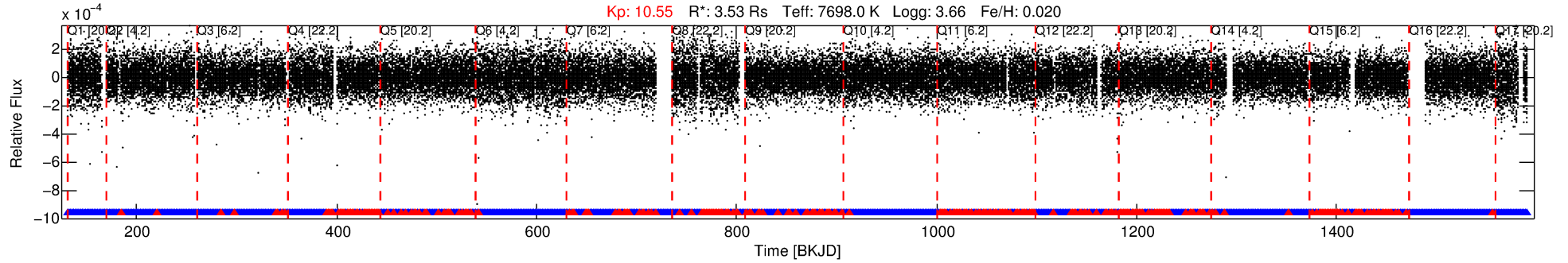
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006804821-01

No Significant Match Found

# DV One-Page Summary

KIC: 6804821 Candidate: 1 of 1 Period: 0.557 d



## DV Fit Results:

Period = 0.55750 [0.00001] d  
Epoch = 131.7248 [0.0026] BKJD  
Rp/R\* = 0.0030 [0.0005]  
a/R\* = 1.40 [0.62]  
b = 0.90 [0.19]  
Seff = 136229.09 [103391.79]  
Teq = 4899 [930] K  
Rp = 1.14 [0.59] Re  
a = 0.0169 [0.0079] AU  
Ag = 0.29 [0.34] [-2.11σ]  
Teff = 5565 [1250] K [0.43σ]

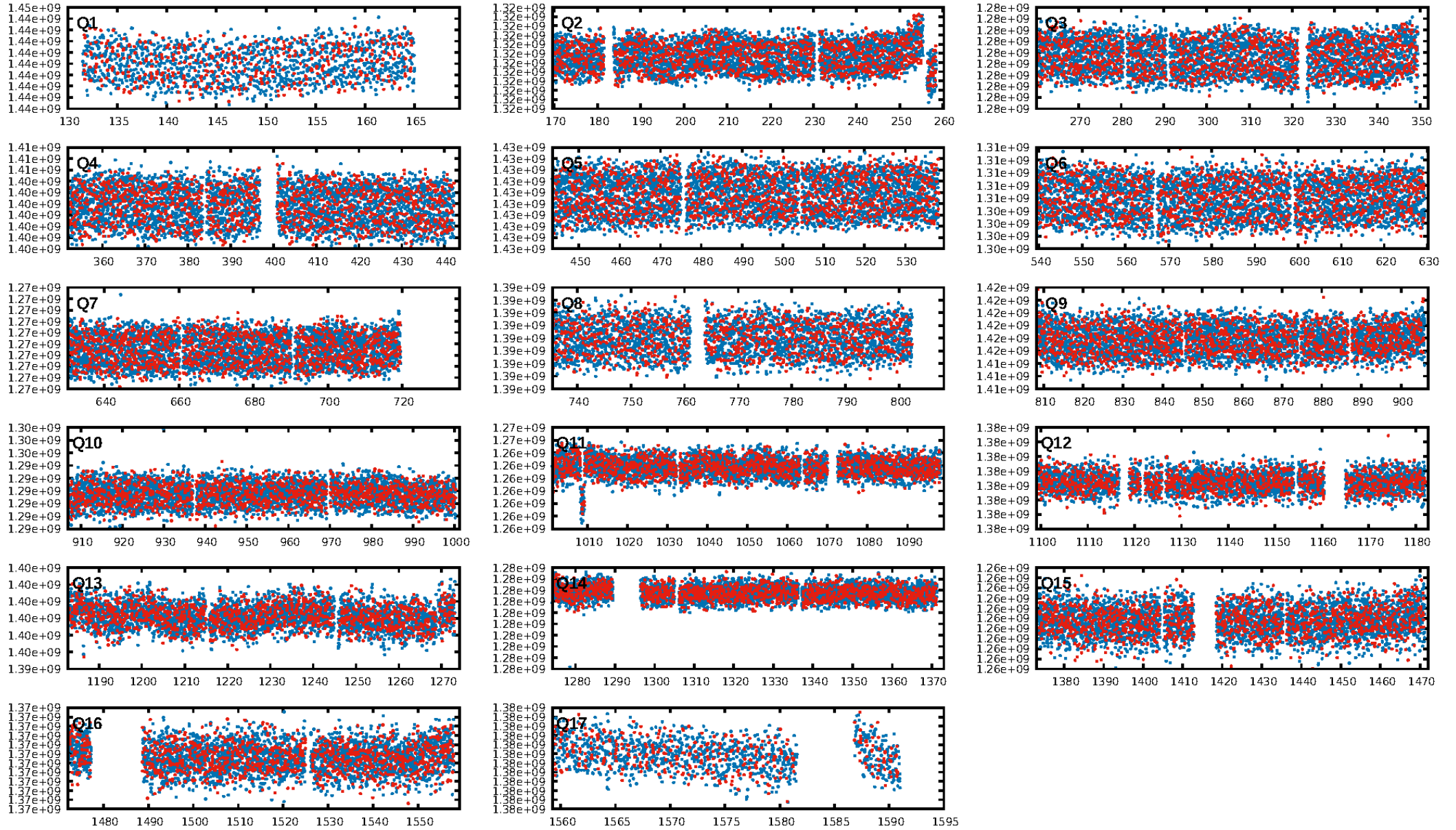
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.89e-36  
RollingBand-fgt: 0.82 [1884/2288]  
GhostDiagnostic-chr: -458.9  
Centroid-sig: 2.1%  
Centroid-so: 2.650 arcsec [1.94σ]  
OotOffset-rm: 2.129 arcsec [2.08σ]  
KicOffset-rm: 3.268 arcsec [3.32σ]  
OotOffset-st: 3/4/4/2 [13]  
KicOffset-st: 3/4/4/2 [13]  
DiffImageQuality-fgm: 0.46 [6/13]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:55:32 Z

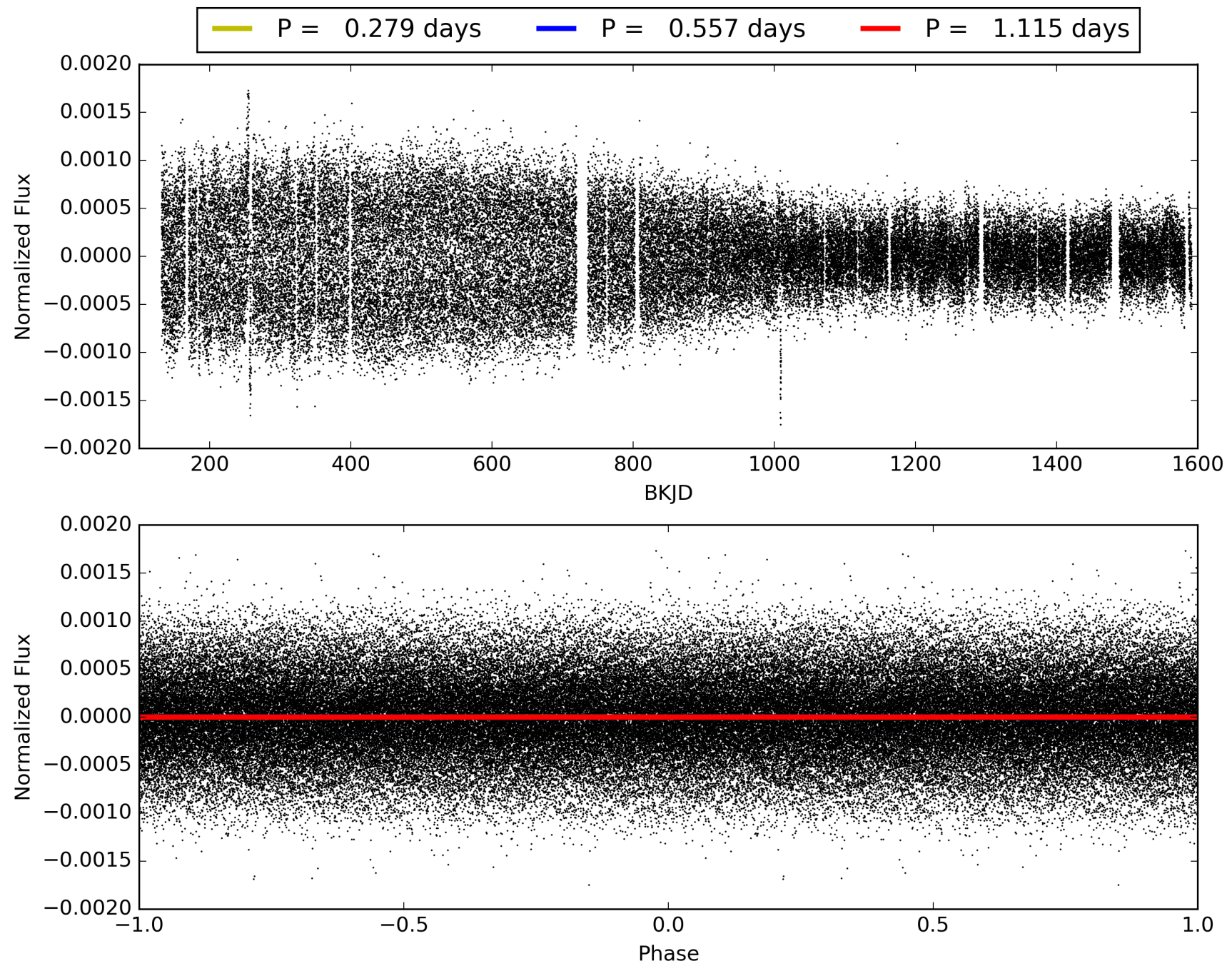
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006804821-01, PDC Light Curves



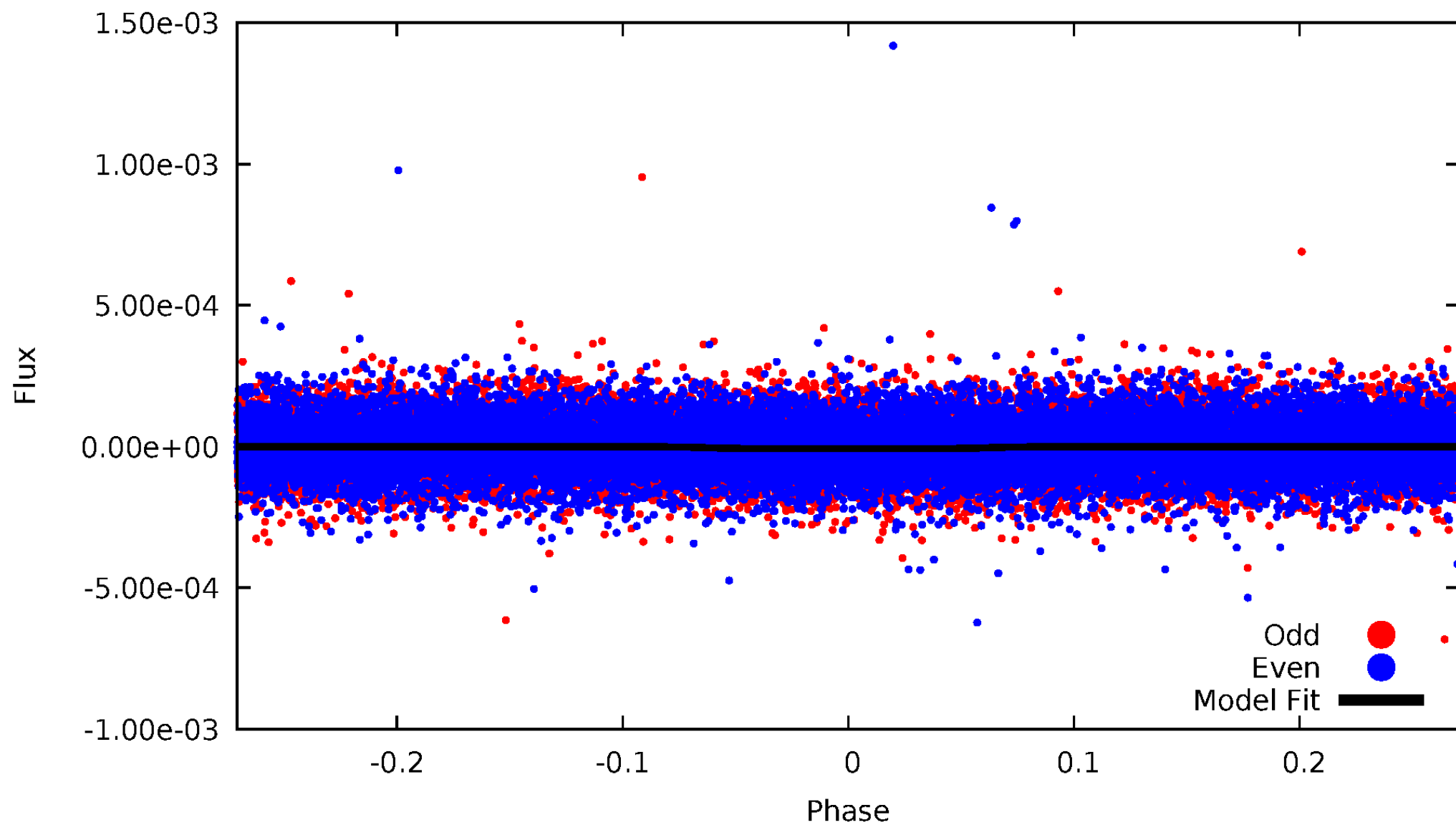


TCE 006804821-01



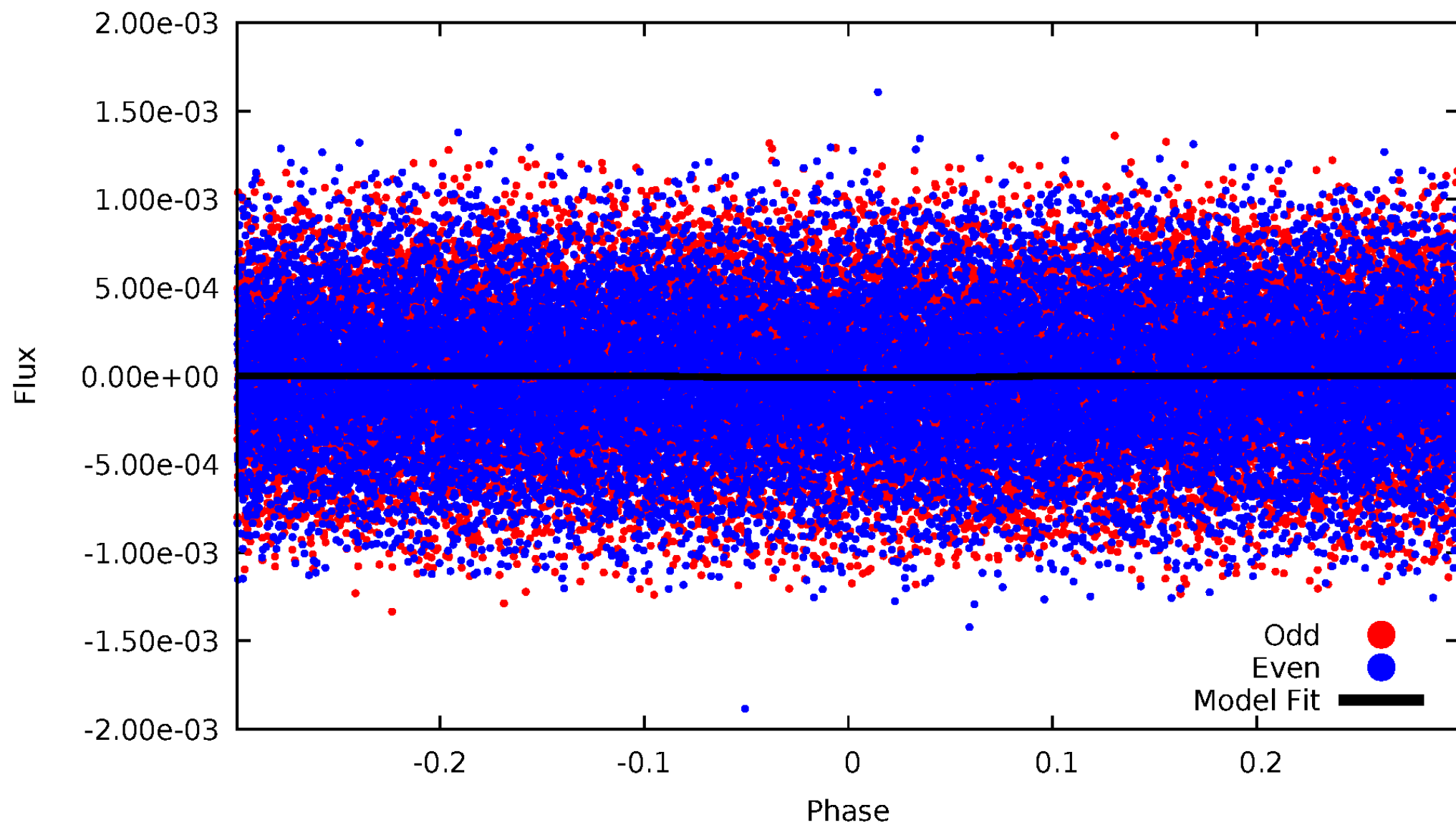
# DV Odd/Even

TCE 006804821-01

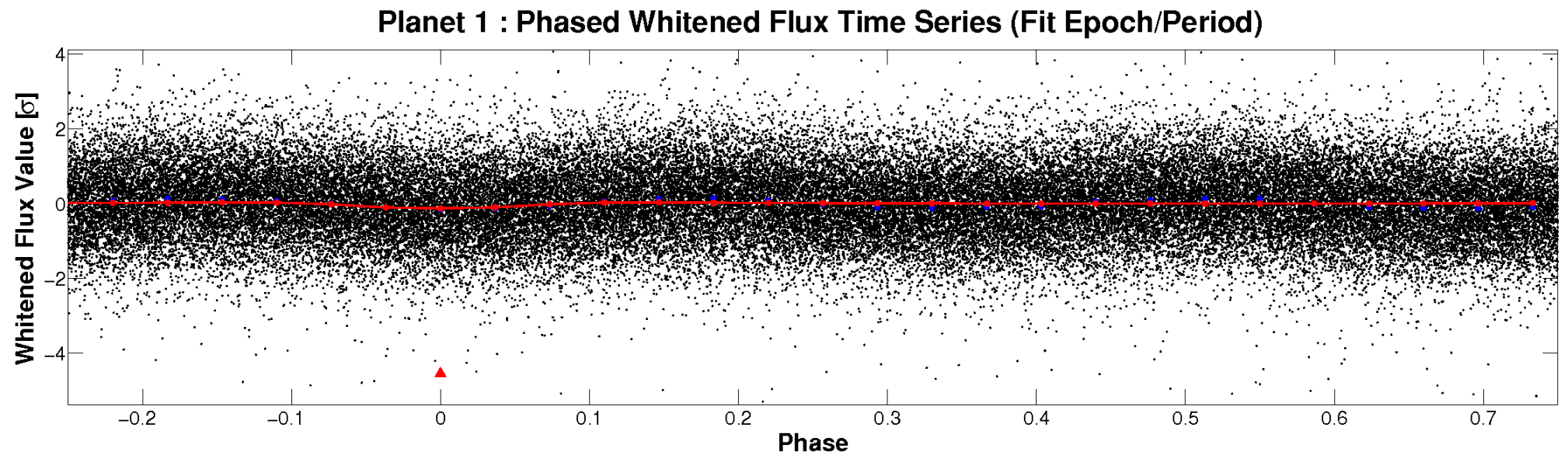
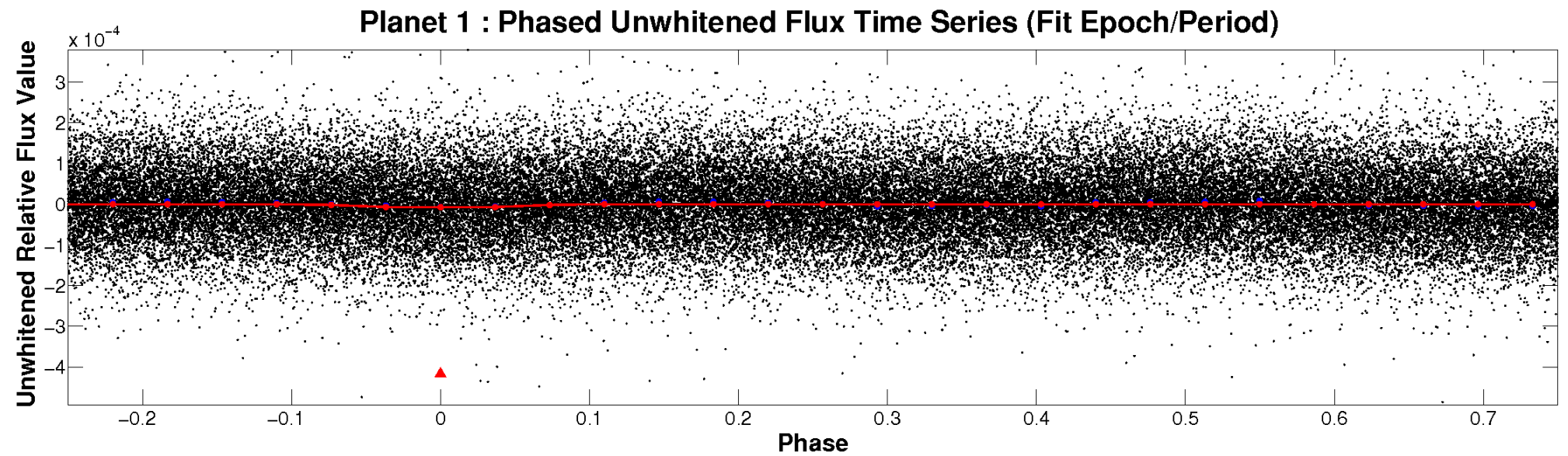


# ALT Odd/Even

TCE 006804821-01



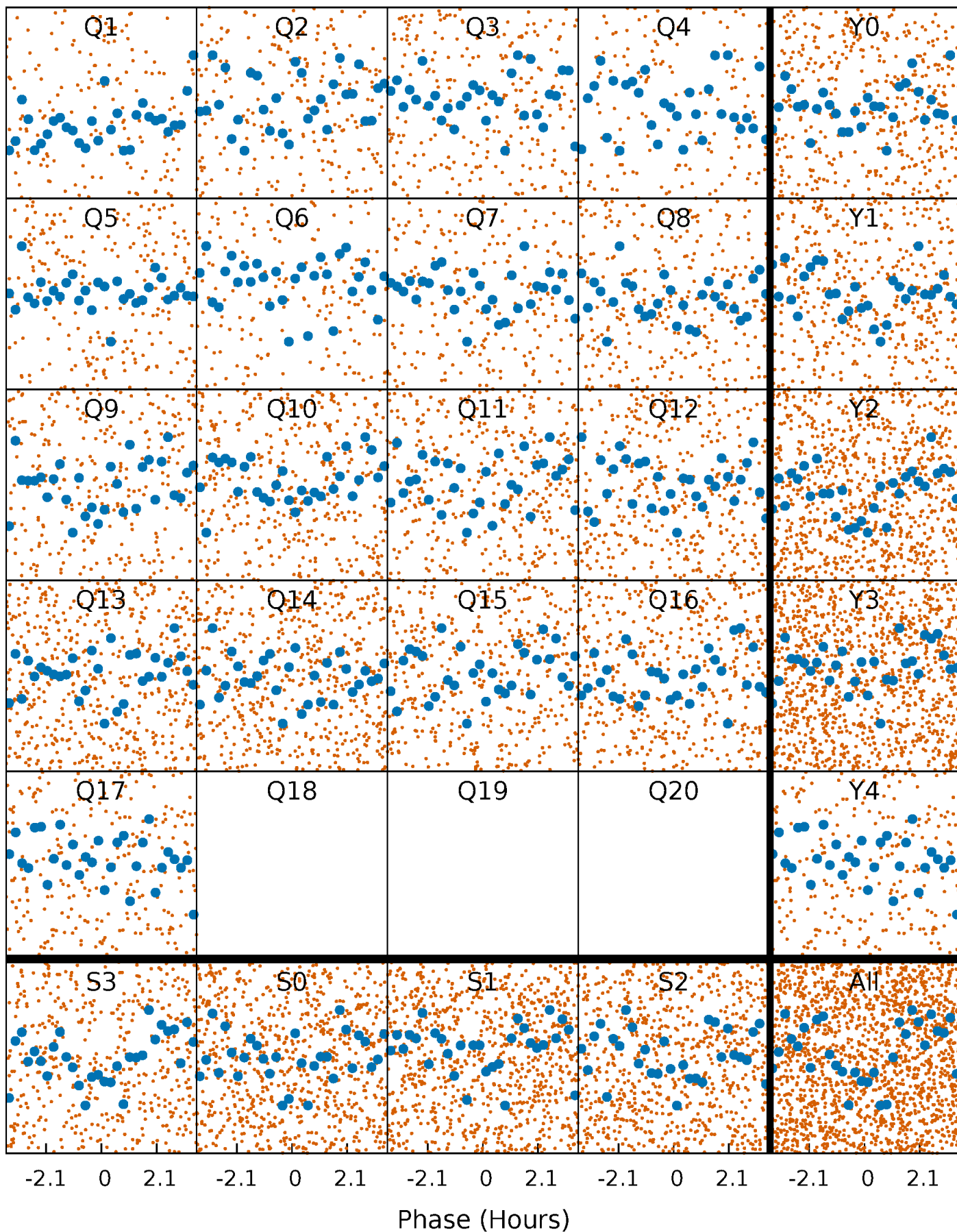
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

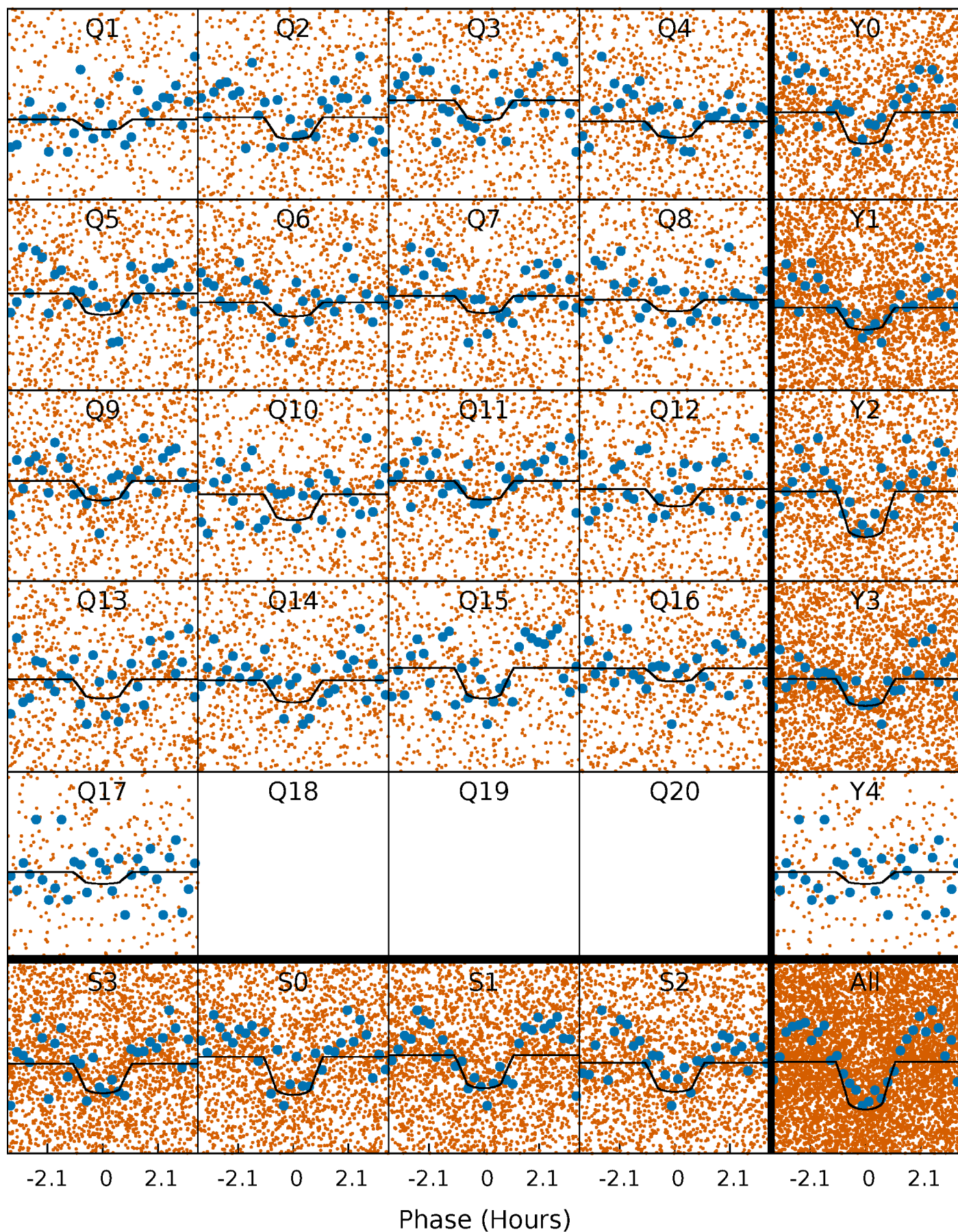
TCE 006804821-01 P= 0.557498 Days  $T_0=131.724778$  (BKJD)





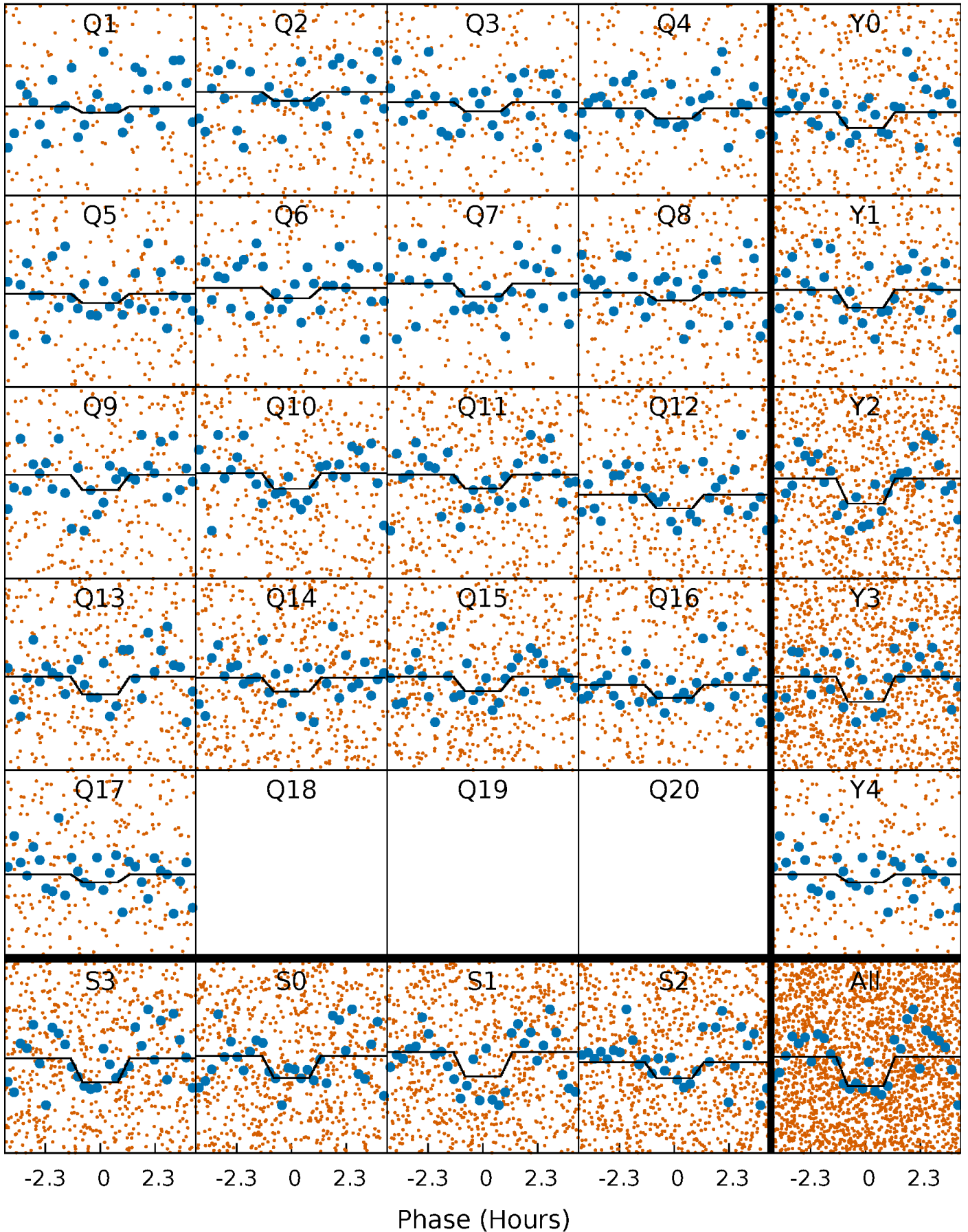
# DV Quarter-Phased Transit Curves

TCE 006804821-01 P= 0.557498 Days  $T_0=131.724778$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

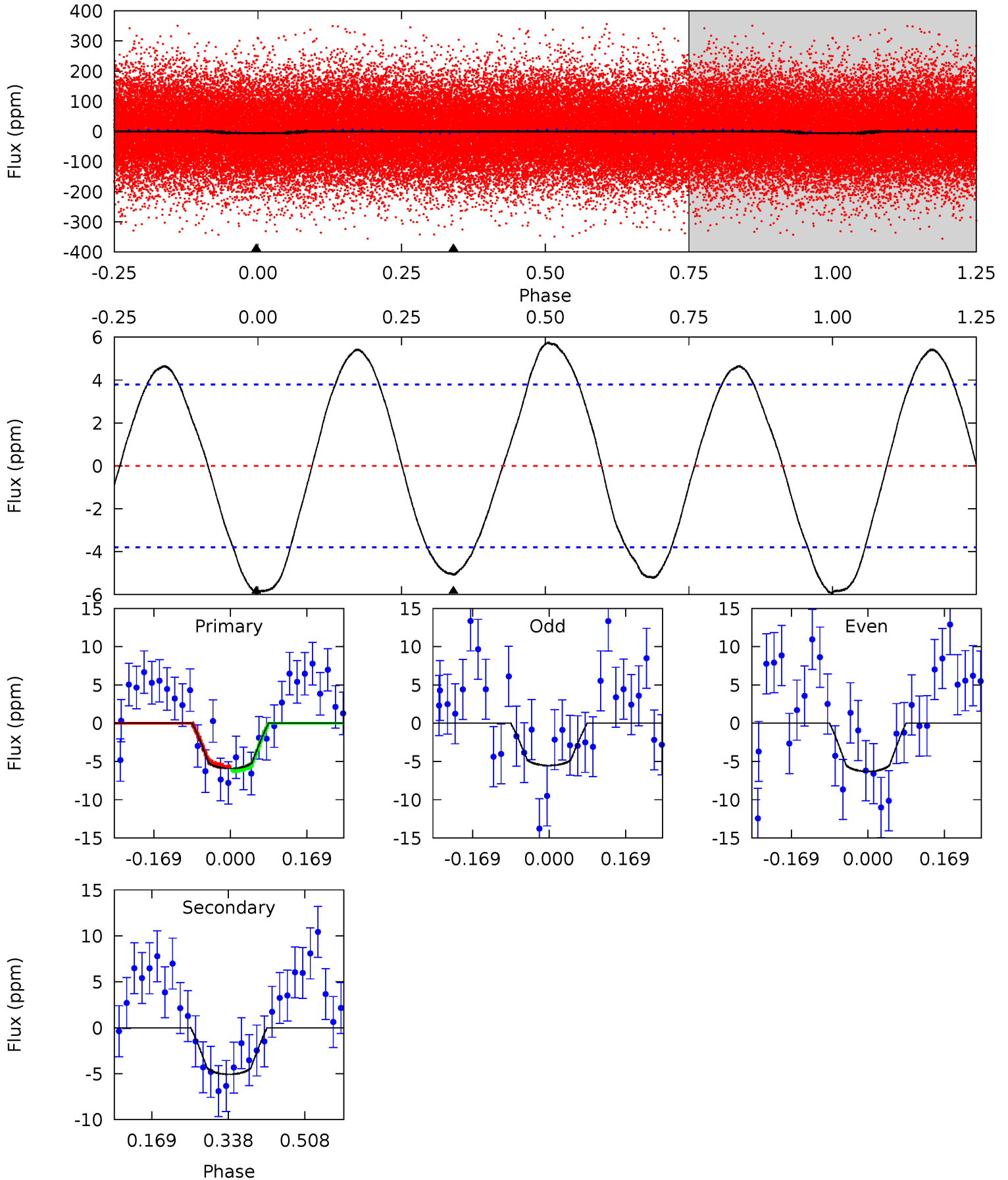
TCE 006804821-01 P= 0.557502 Days  $T_0=131.724912$  (BKJD)



# DV Model-Shift Uniqueness Test

006804821-01, P = 0.557498 Days, E = 131.167280 Days

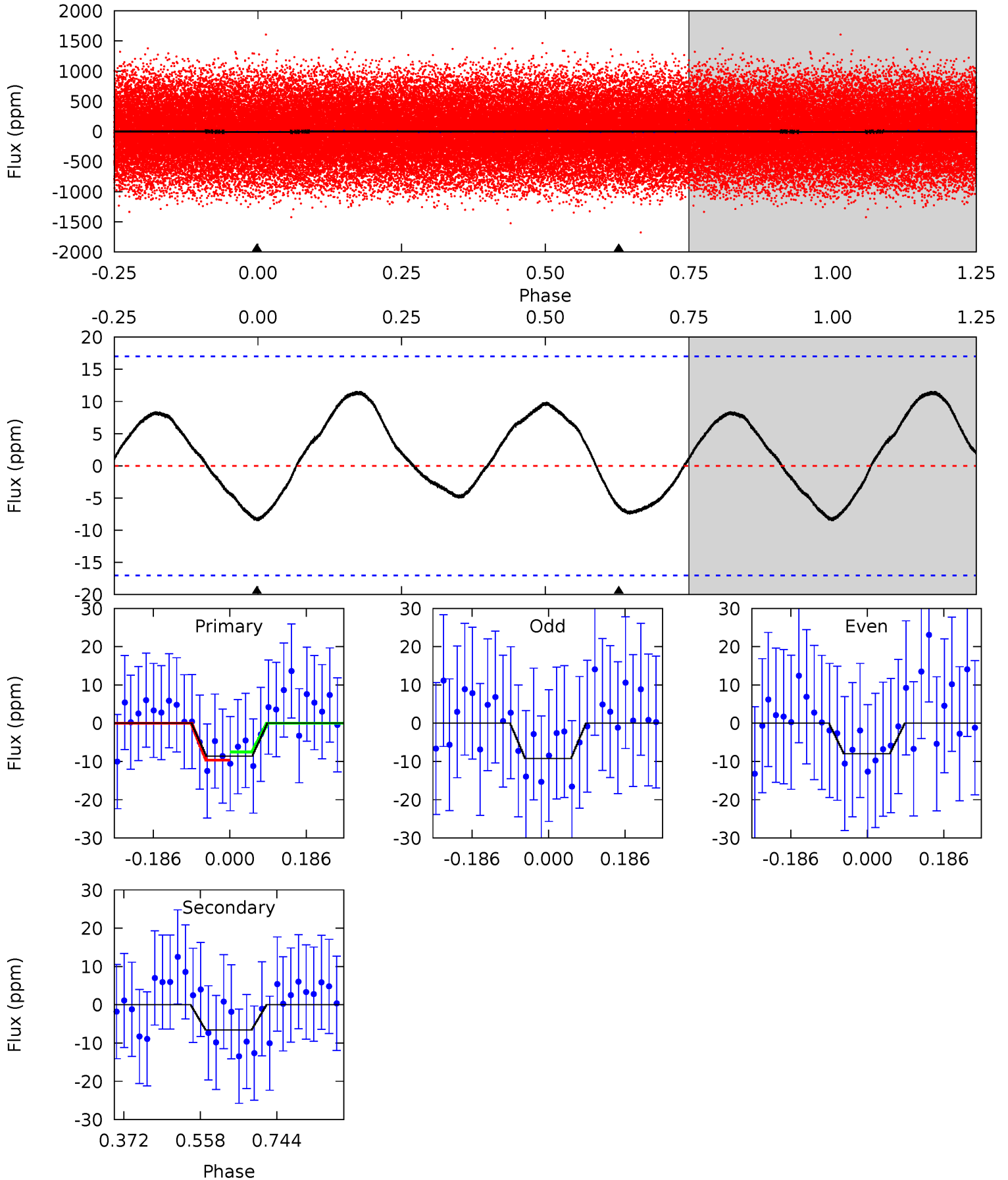
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.95	5.95	0	0	4.45	1.37	4.34	6.95	6.95	5.95	5.95	0.47	1.10	0.49	0.29



# Alt Model-Shift Uniqueness Test

006804821-01, P = 0.557502 Days, E = 131.167410 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
2.24	1.72	0	0	4.43	1.32	1.16	2.24	2.24	1.72	1.72	0.16	1.01	0.58	0.28





### Stellar Parameters For KIC 006804821

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7698^{+213}_{-320}$	$3.663^{+0.432}_{-0.081}$	$0.020^{+0.200}_{-0.350}$	$3.526^{+0.697}_{-1.743}$	$2.085^{+0.291}_{-0.540}$	$0.067^{+0.287}_{-0.023}$
	+3%/-4%	+12%/-2%	+1000%/-1750%	+20%/-49%	+14%/-26%	+428%/-34%
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 006804821-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-5 \pm 1$	$1.03^{+0.27}_{-0.27}$	$6590^{+453}_{-820}$	$5767^{+974}_{-930}$	$0.739^{+0.628}_{-0.274}$
Alt.	$-7 \pm 4$	$1.02^{+0.27}_{-0.28}$	$6582^{+478}_{-733}$	$6506^{+1621}_{-2666}$	$1.007^{+1.078}_{-0.646}$

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

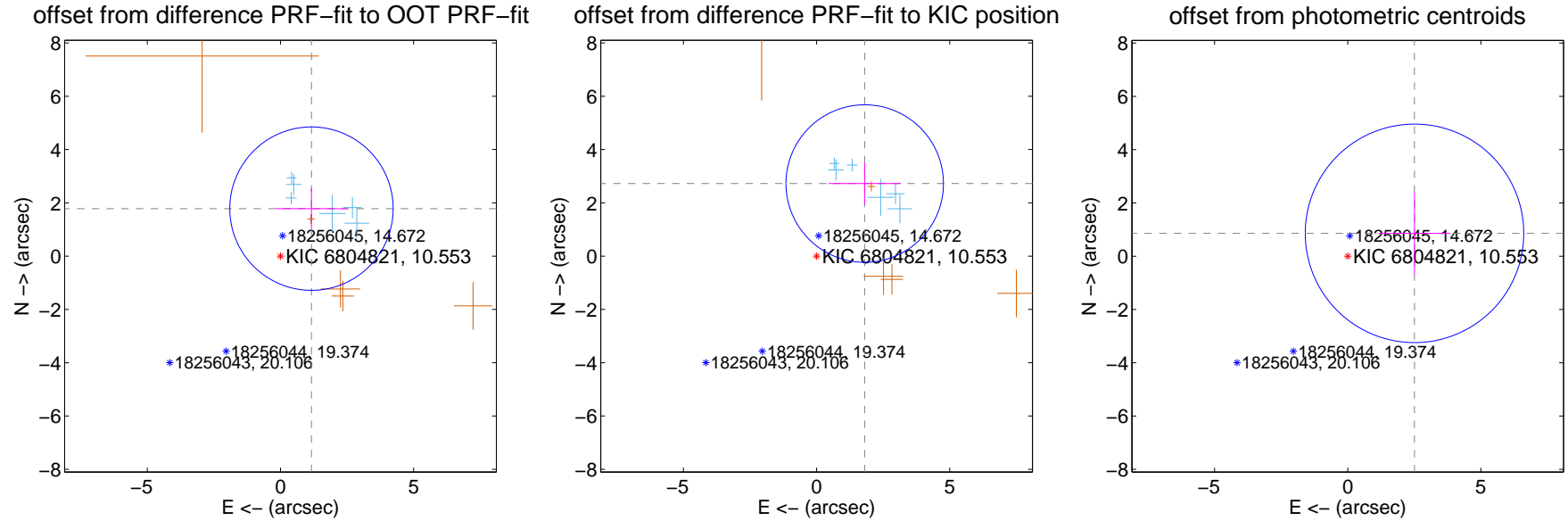
## DV Centroid Data

Supplemental centroid analysis for 006804821-01. **Kepler magnitude: 10.55.** Transit SNR 10.27

There are 6 quarters with good PRF difference image offsets

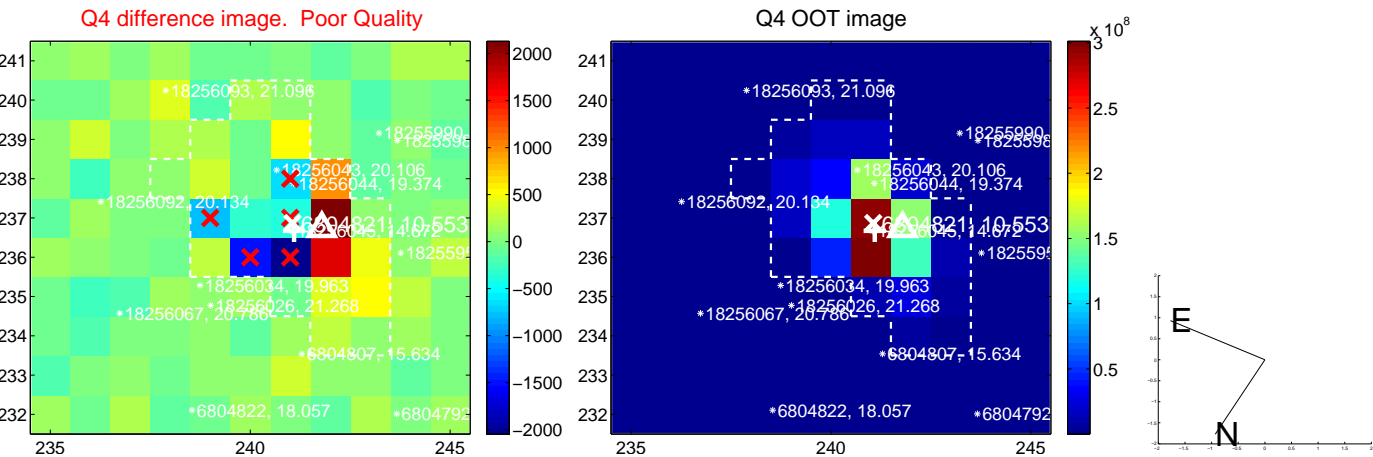
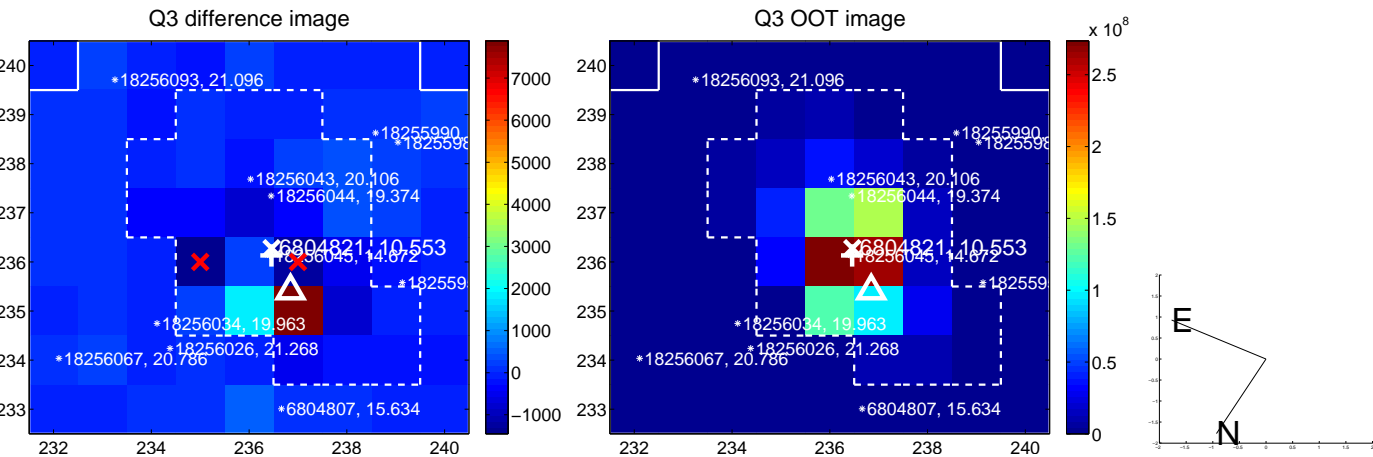
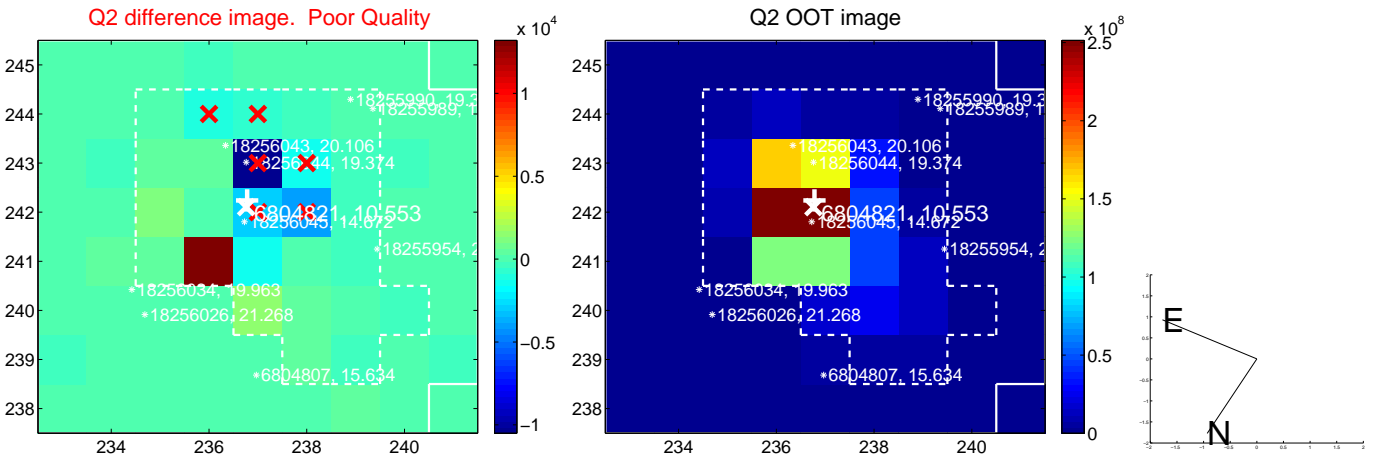
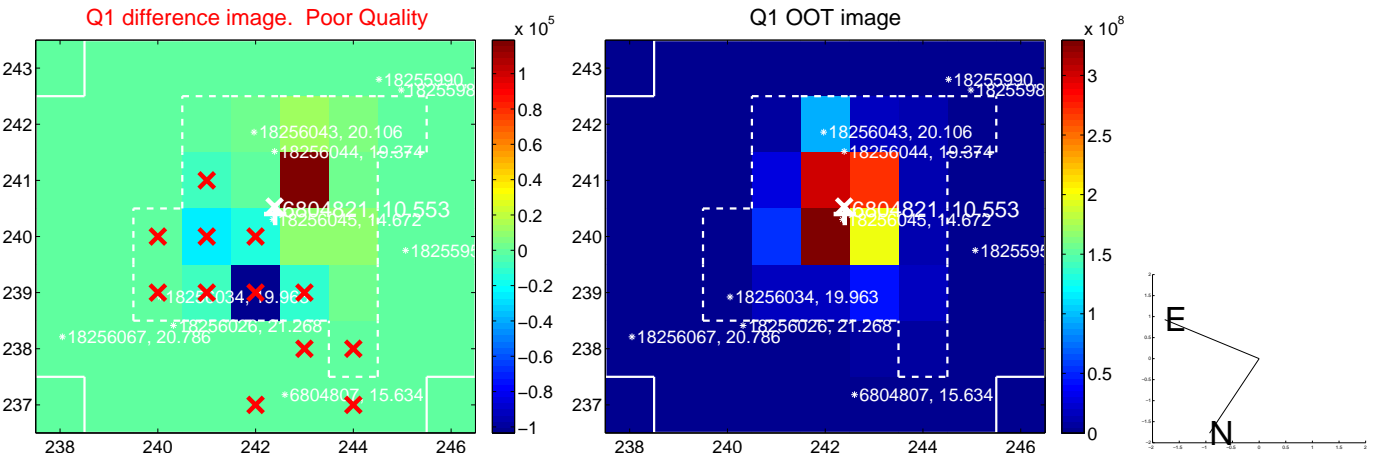
The direct PRF centroid is offset from the target star catalog position by about 0.54 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.129 \pm 1.022$	2.08	$-1.164 \pm 1.345$	$1.783 \pm 0.766$
PRF-fit source offset from KIC position	<b><math>3.268 \pm 0.985</math></b>	<b>3.32</b>	$-1.806 \pm 1.359$	$2.723 \pm 0.788$
photometric centroid source offset	$2.65 \pm 1.37$	1.94	$-2.51 \pm 1.35$	$0.86 \pm 1.54$

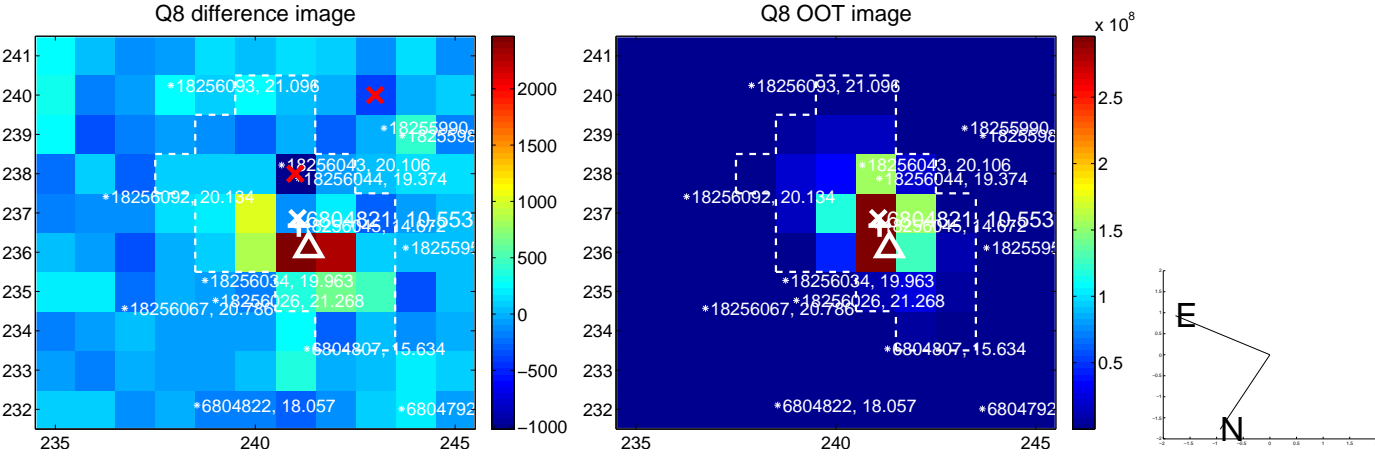
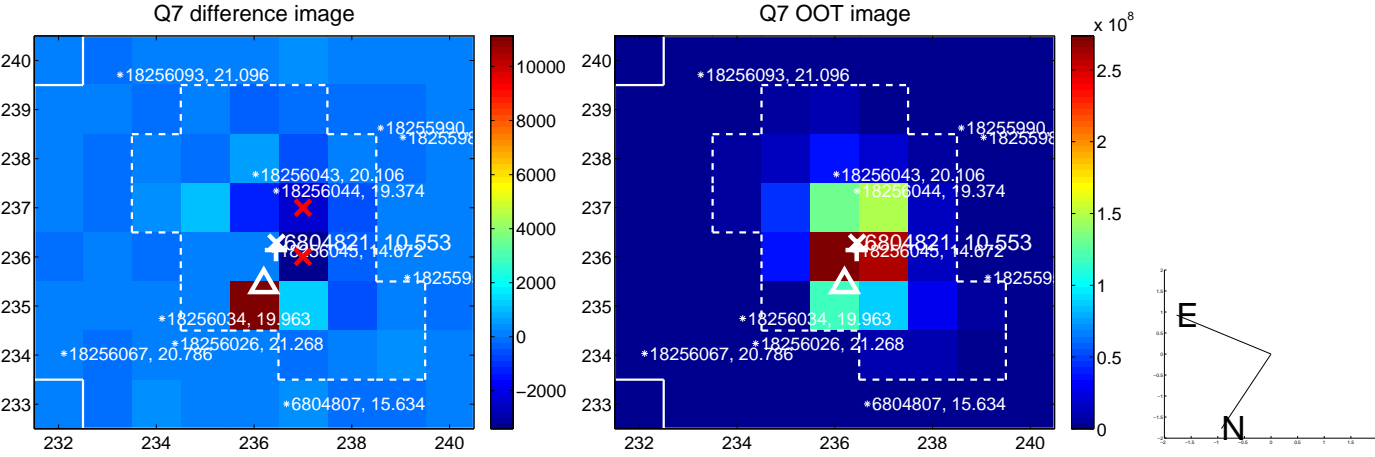
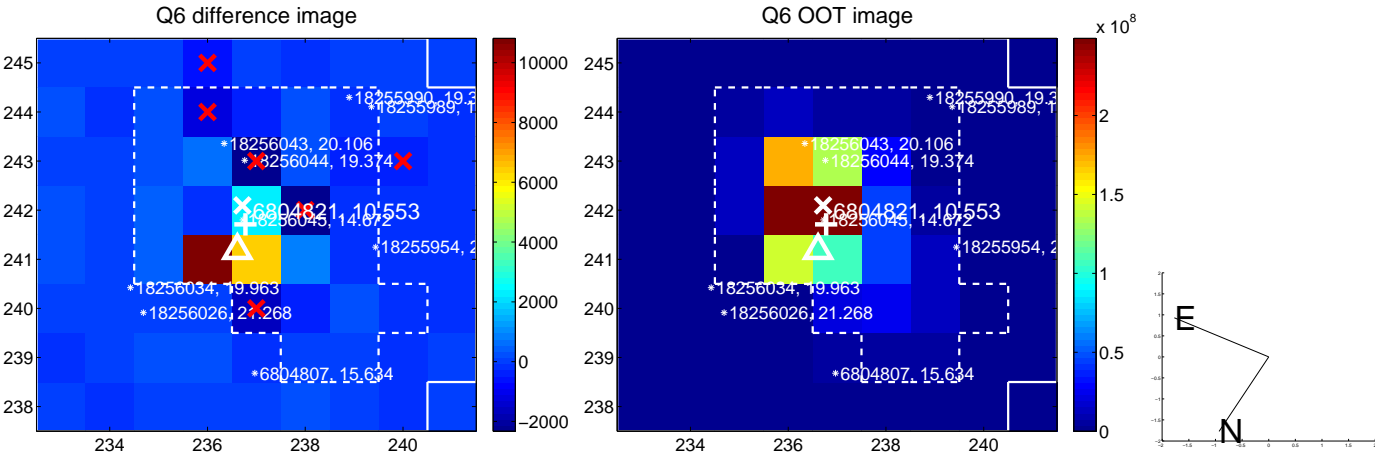
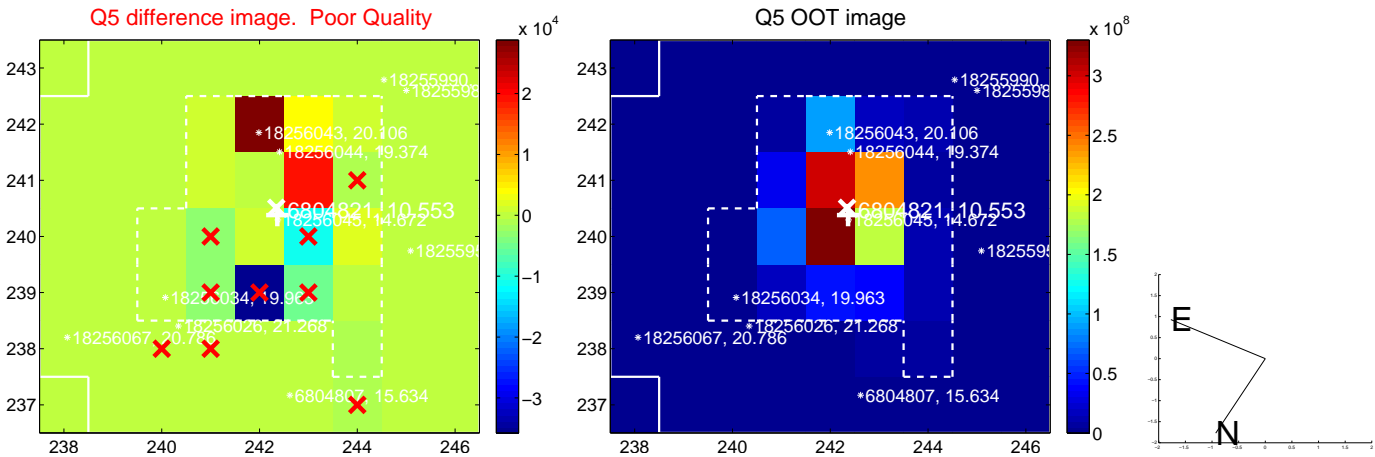


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

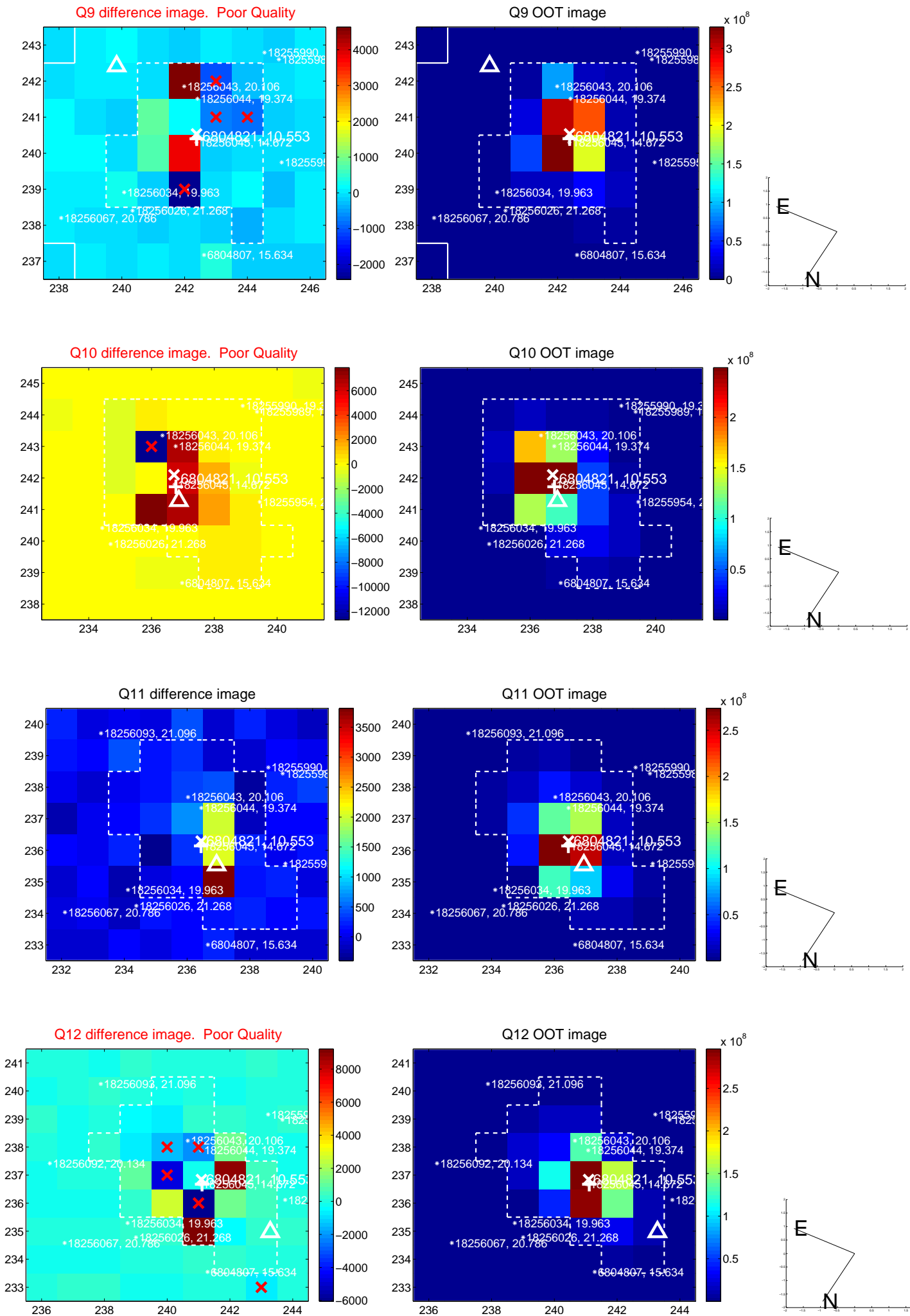


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

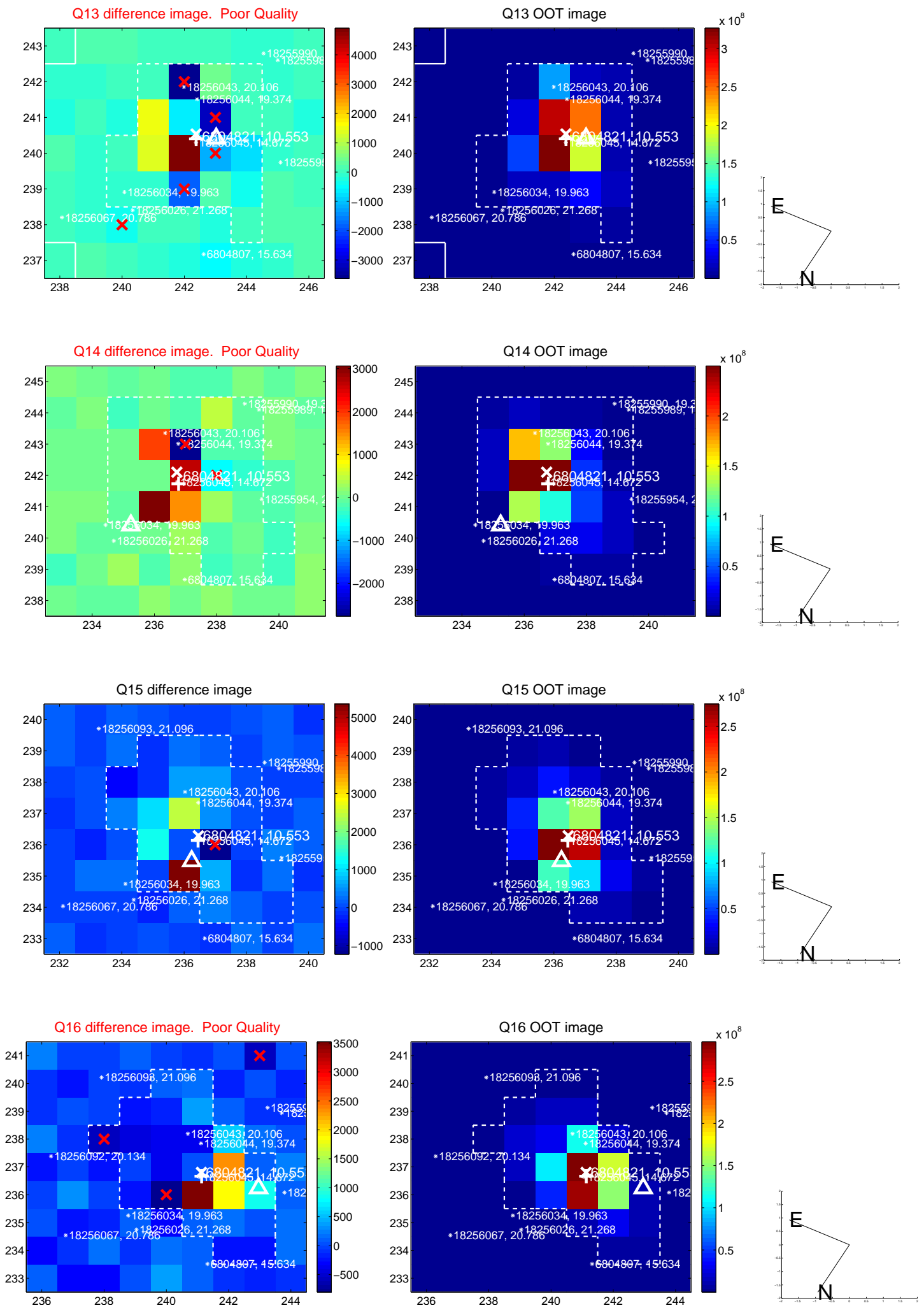




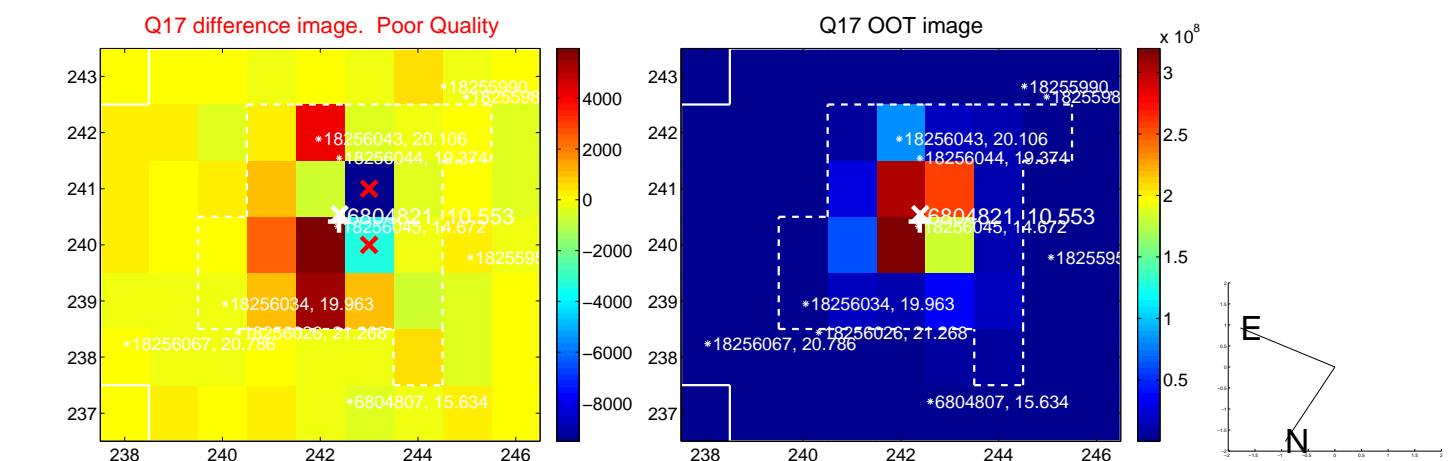
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



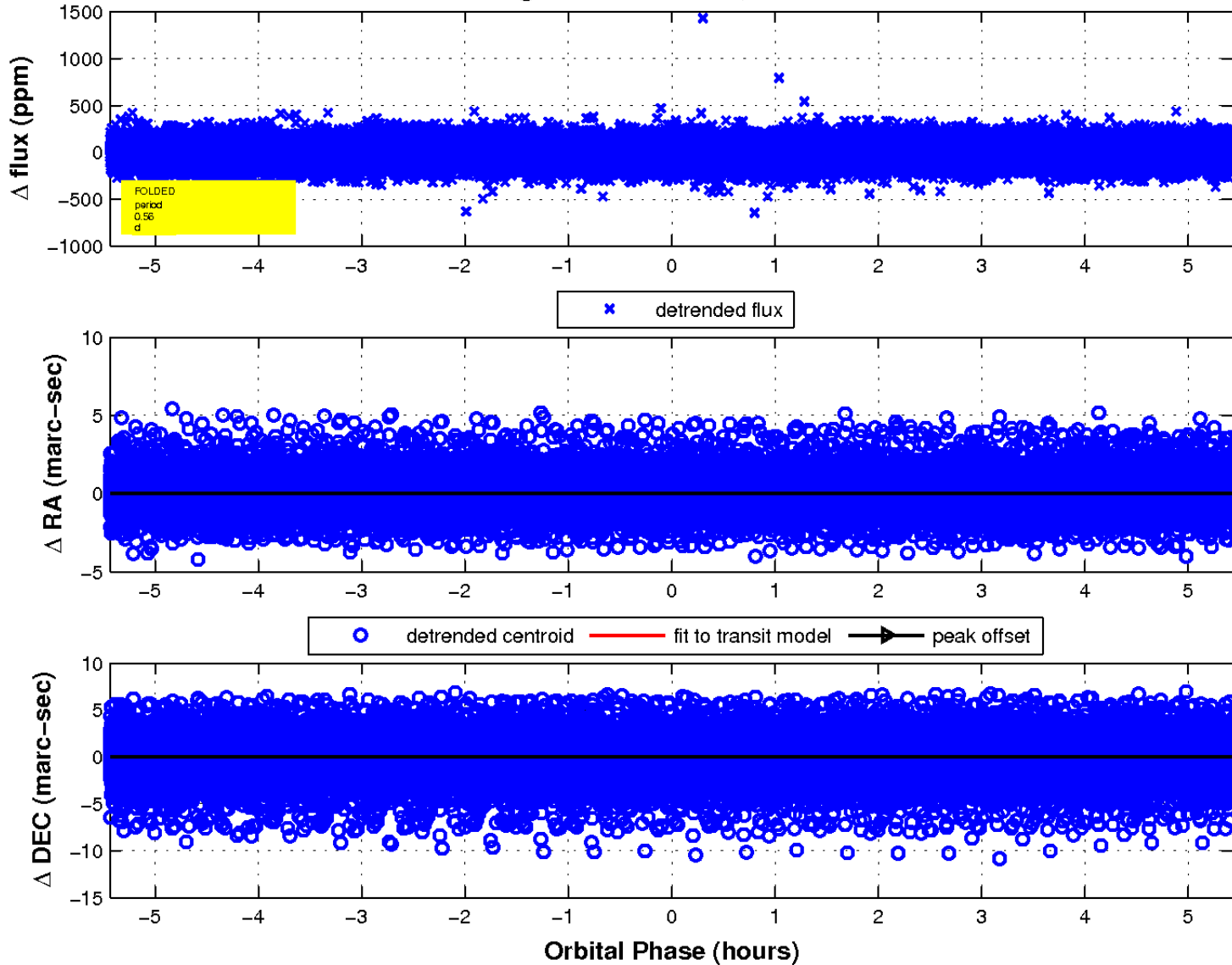
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

