

# KIC 006058830

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006058830-01	OBS	No	0.675889	131.724220	18.0	2.301	9.3	9.0	2.13	6626	1.06	28711.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006058830-01	OBS	FP	0.00	1	0	0	0	LPP_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.

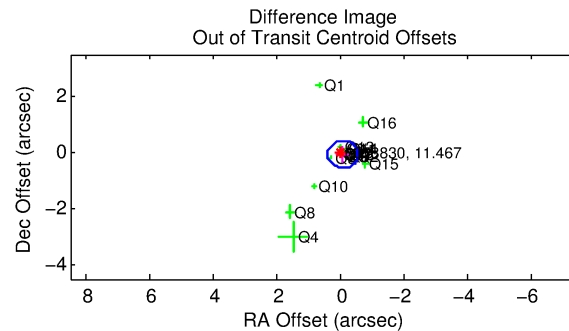
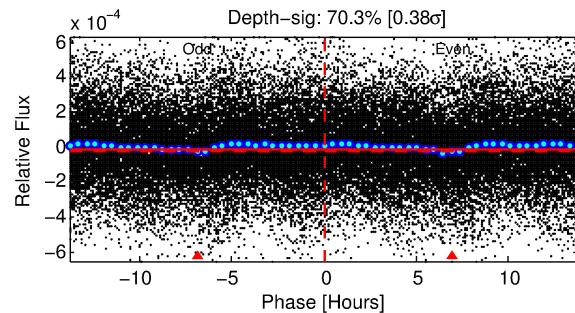
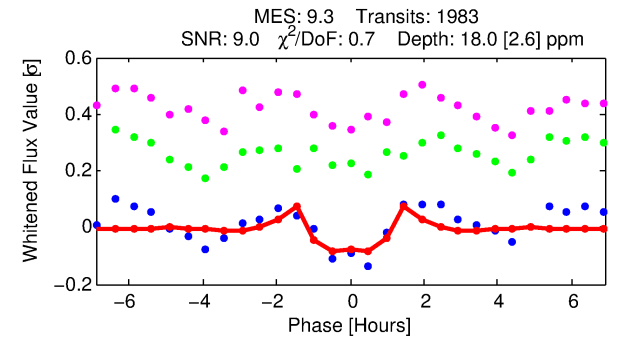
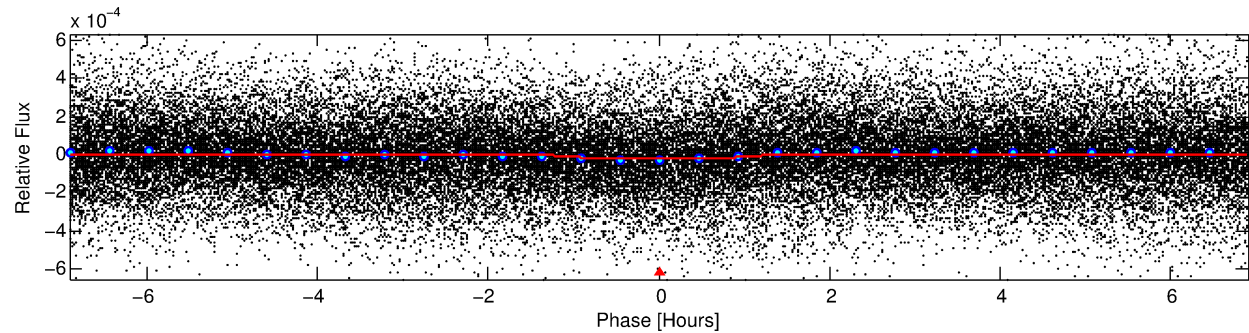
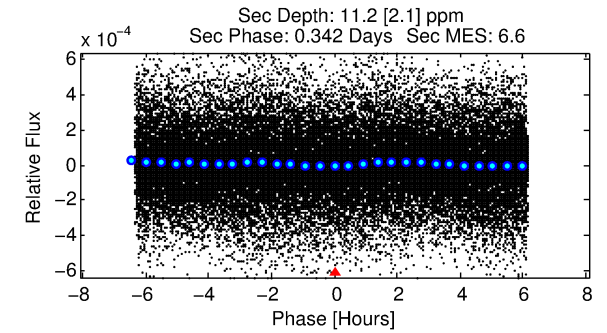
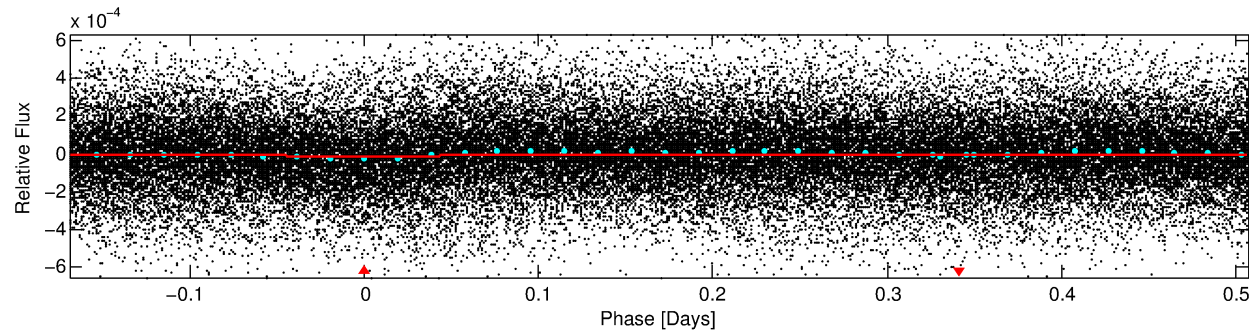
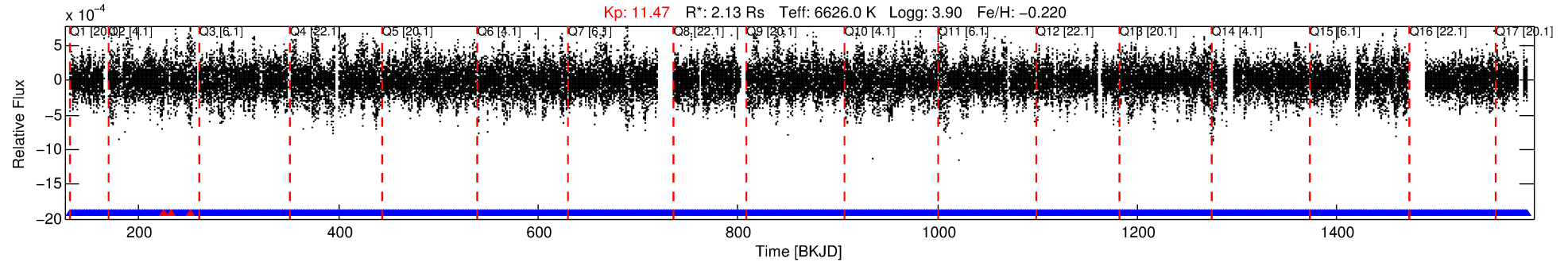
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006058830-01

No Significant Match Found

# DV One-Page Summary

KIC: 6058830 Candidate: 1 of 1 Period: 0.676 d



## DV Fit Results:

Period = 0.67589 [0.00001] d  
Epoch = 131.7242 [0.0016] BKJD  
Rp/R\* = 0.0045 [0.0009]  
a/R\* = 1.37 [0.70]  
b = 0.90 [0.23]  
Seff = 28711.79 [14267.55]  
Teq = 3319 [412] K  
Rp = 1.06 [0.39] Re  
a = 0.0165 [0.0050] AU  
Ag = 1.51 [0.98] [0.52σ]  
Teffp = 5692 [638] K [3.12σ]

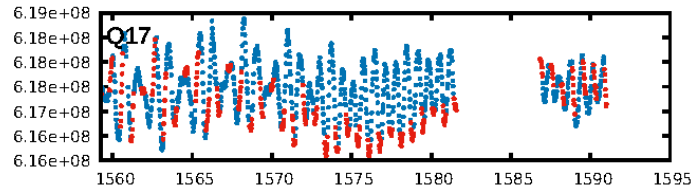
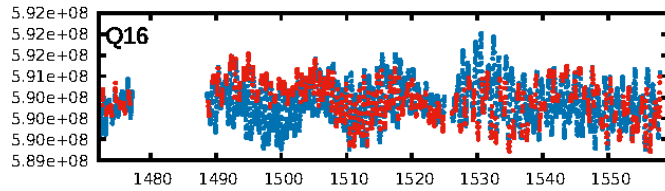
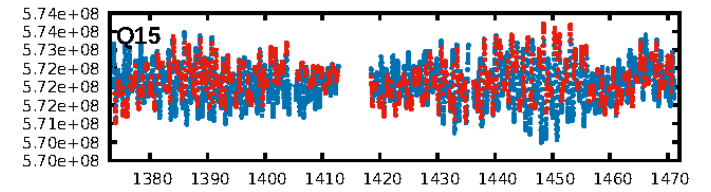
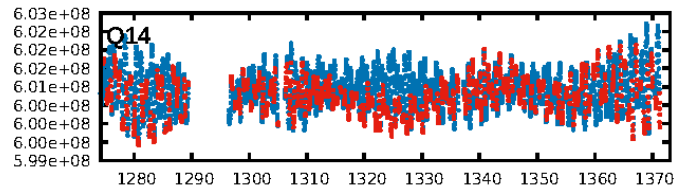
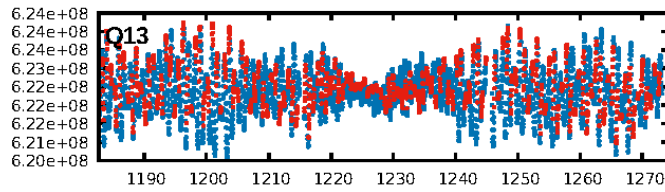
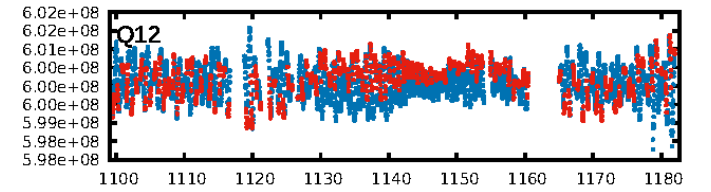
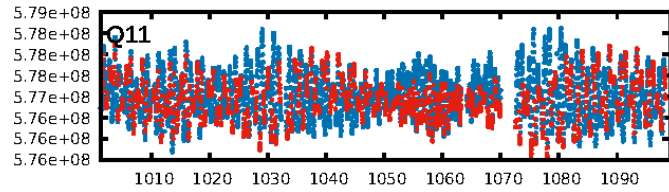
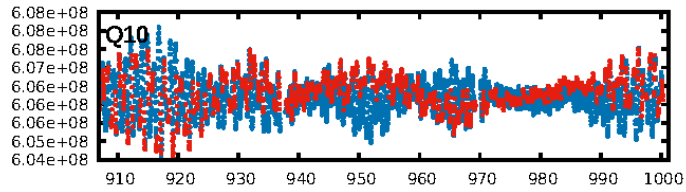
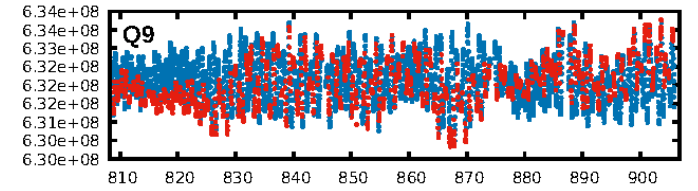
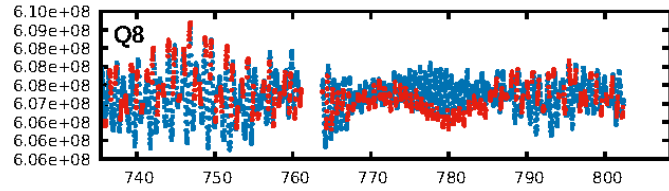
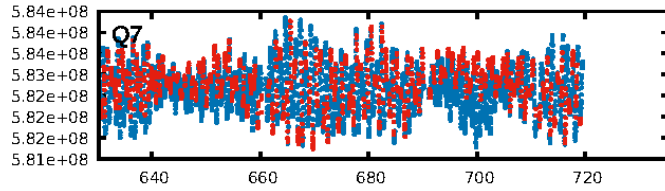
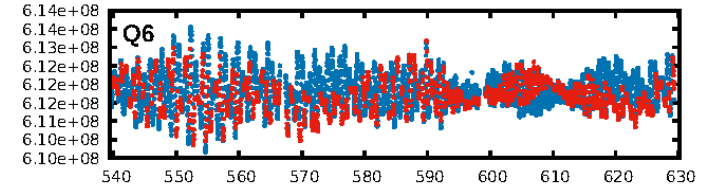
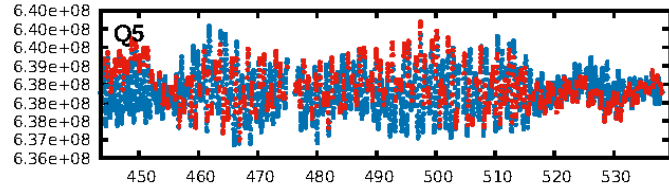
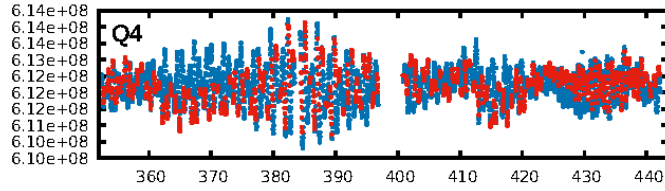
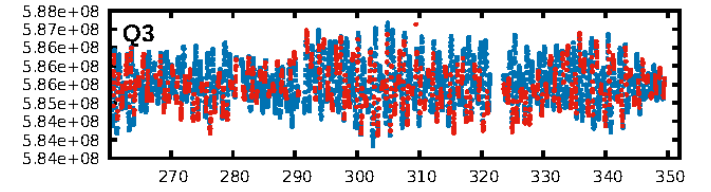
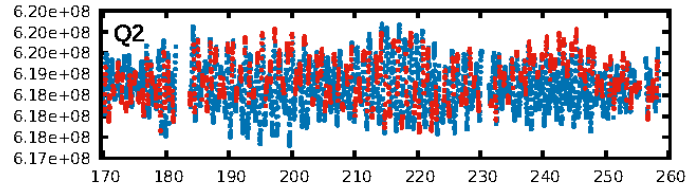
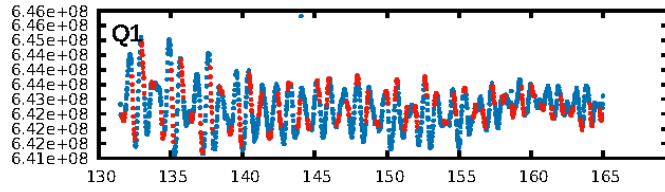
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 7.36e-22  
RollingBand-fgt: 1.00 [1889/1892]  
GhostDiagnostic-chr: 1.164  
Centroid-sig: 0.5%  
Centroid-so: 0.881 arcsec [1.83σ]  
OotOffset-rm: 0.093 arcsec [0.58σ]  
KicOffset-rm: 0.052 arcsec [0.34σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.47 [8/17]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:17:28 Z

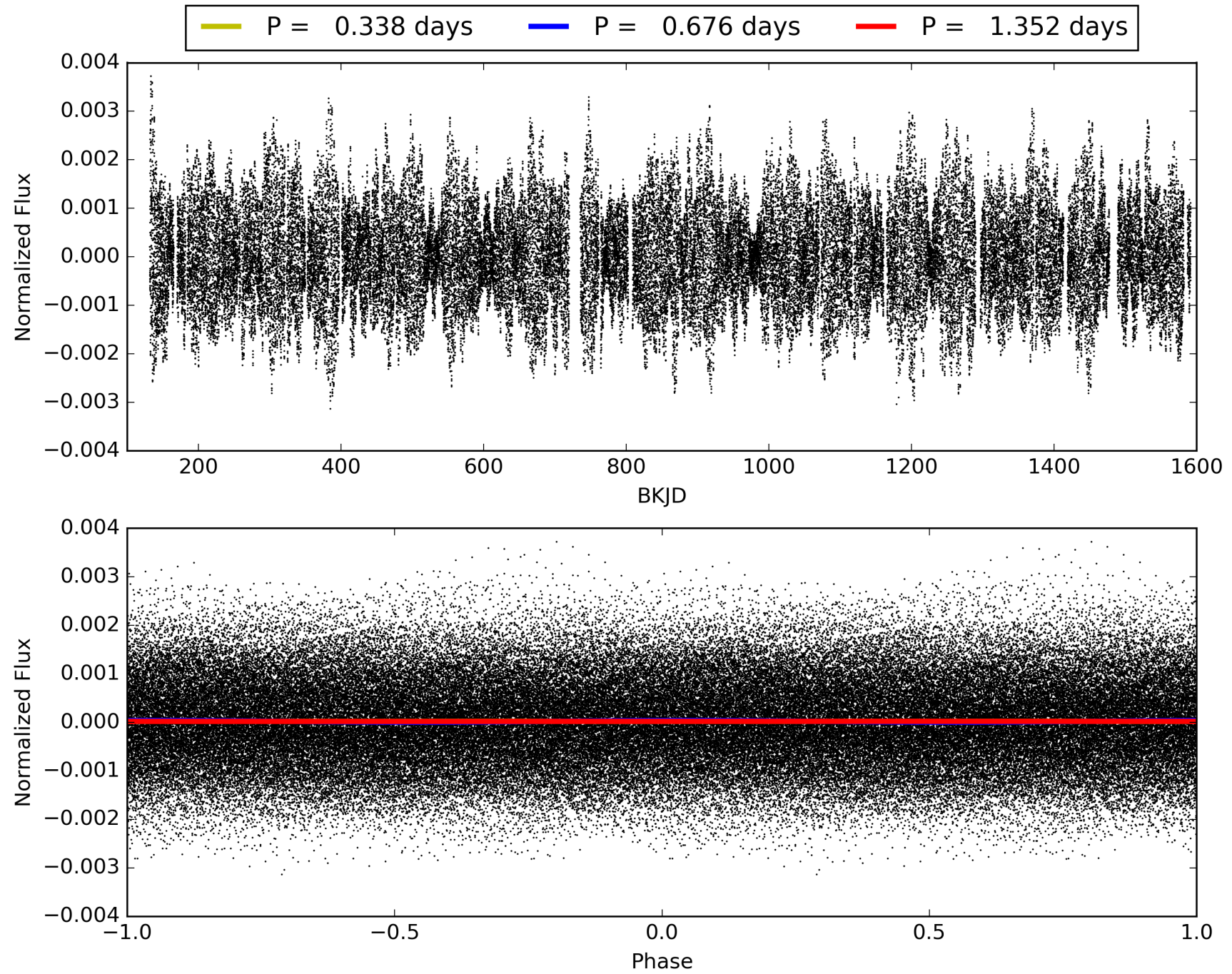
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006058830-01, PDC Light Curves



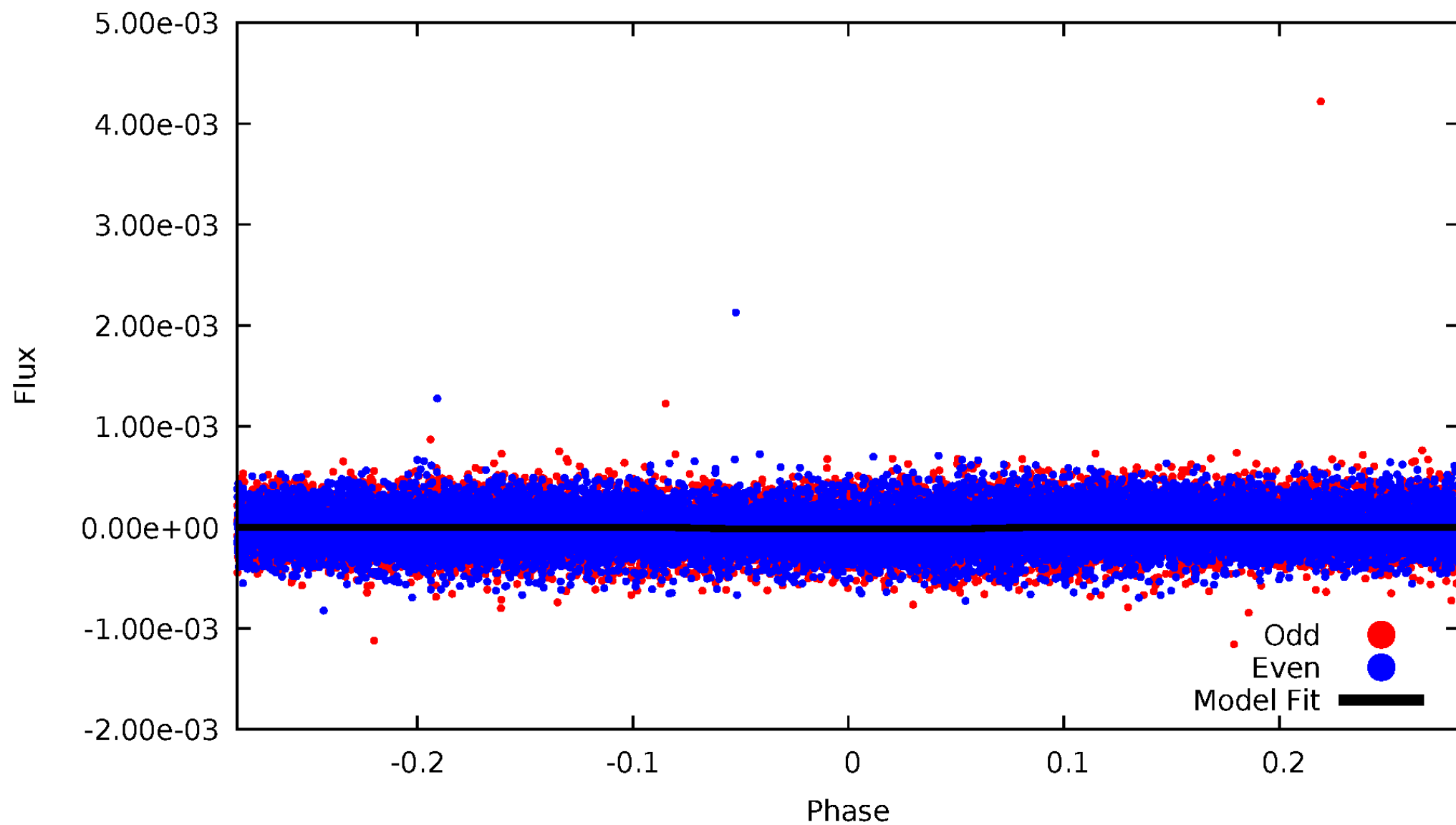


TCE 006058830-01



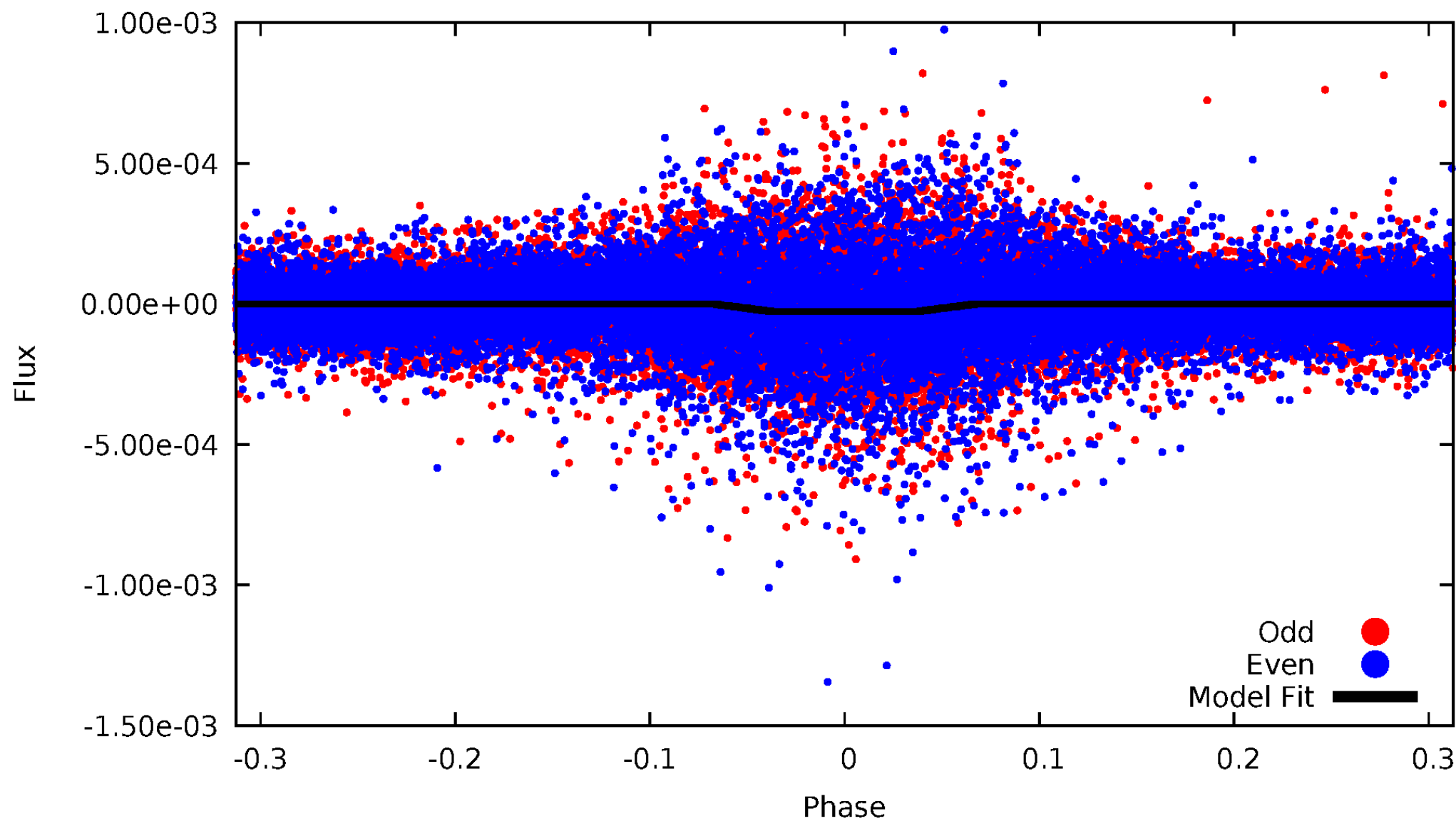
# DV Odd/Even

TCE 006058830-01

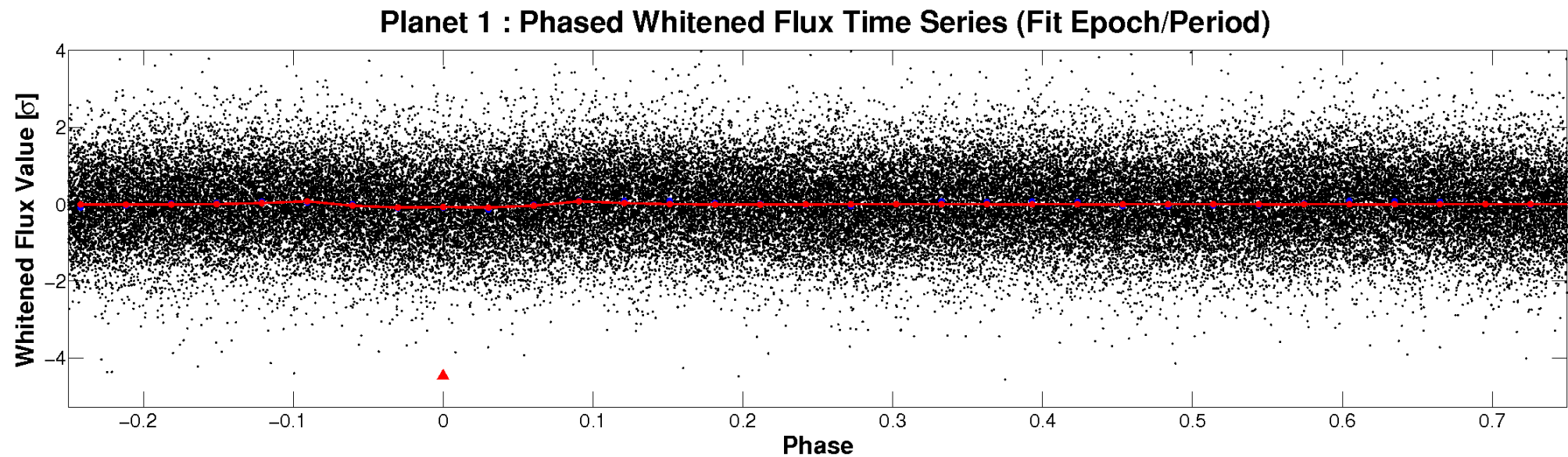
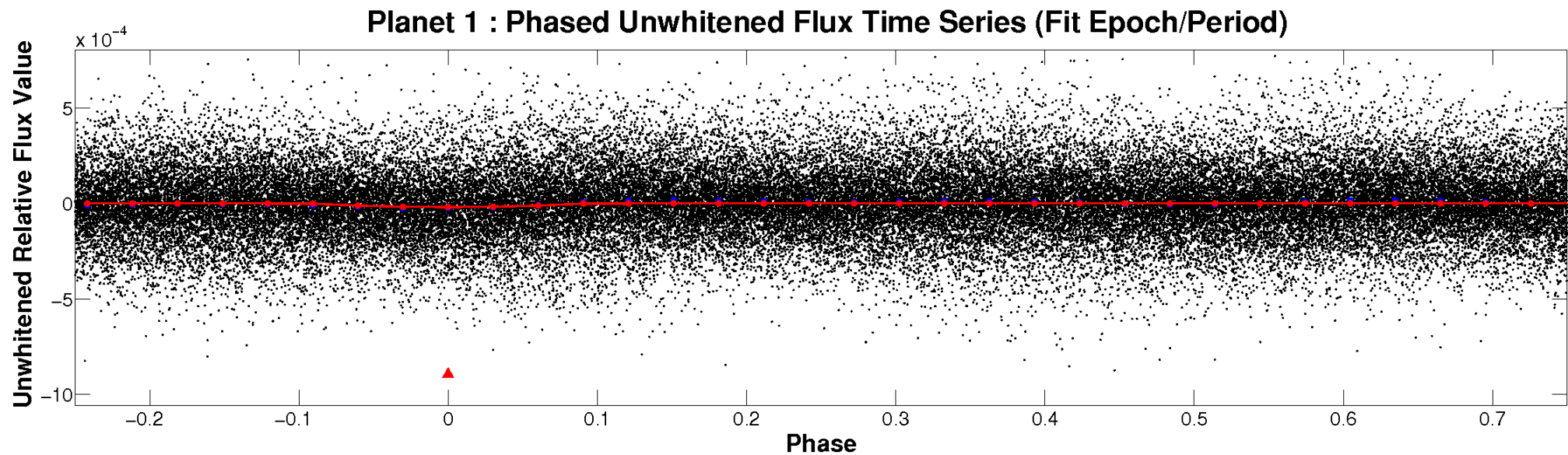


# ALT Odd/Even

TCE 006058830-01



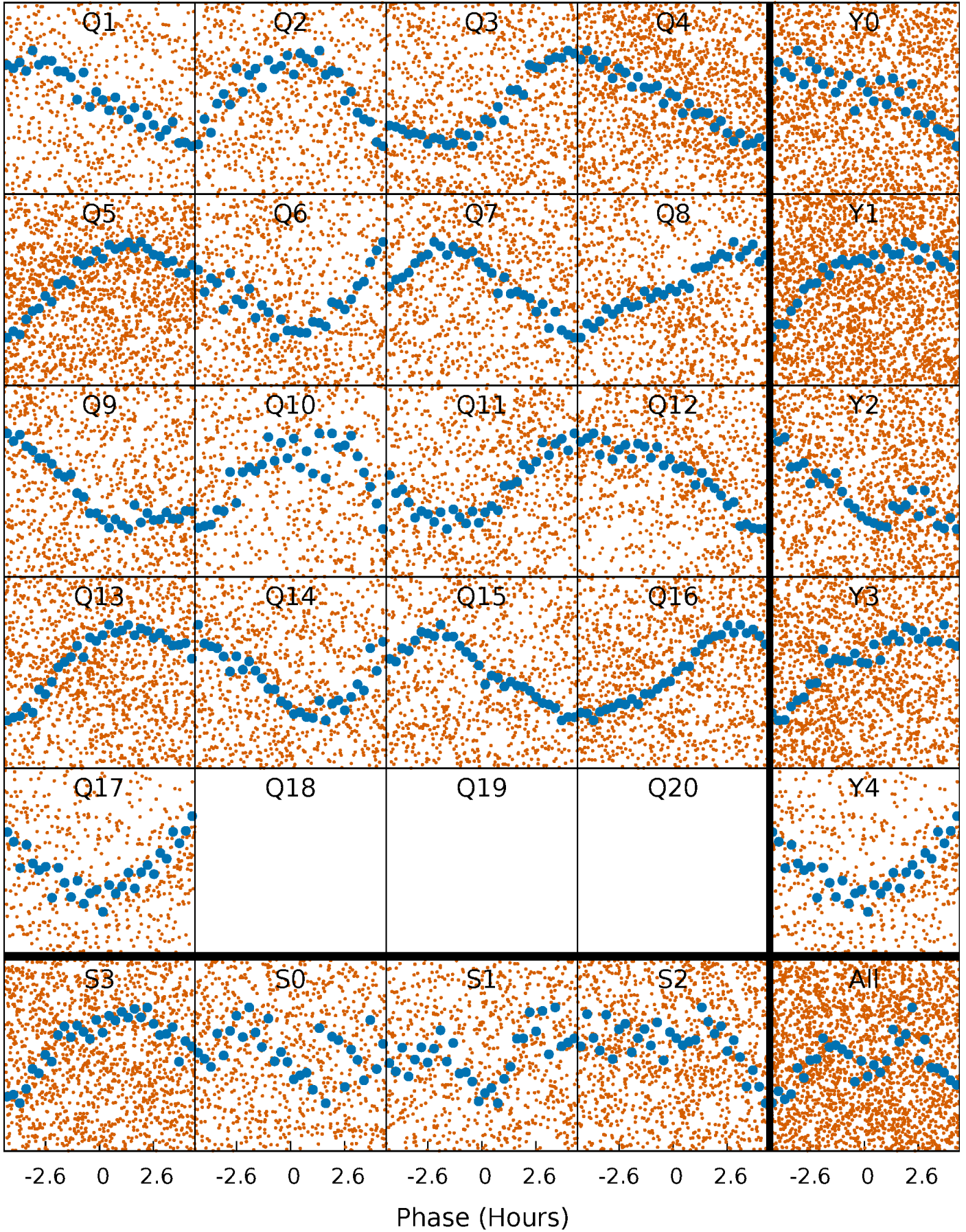
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

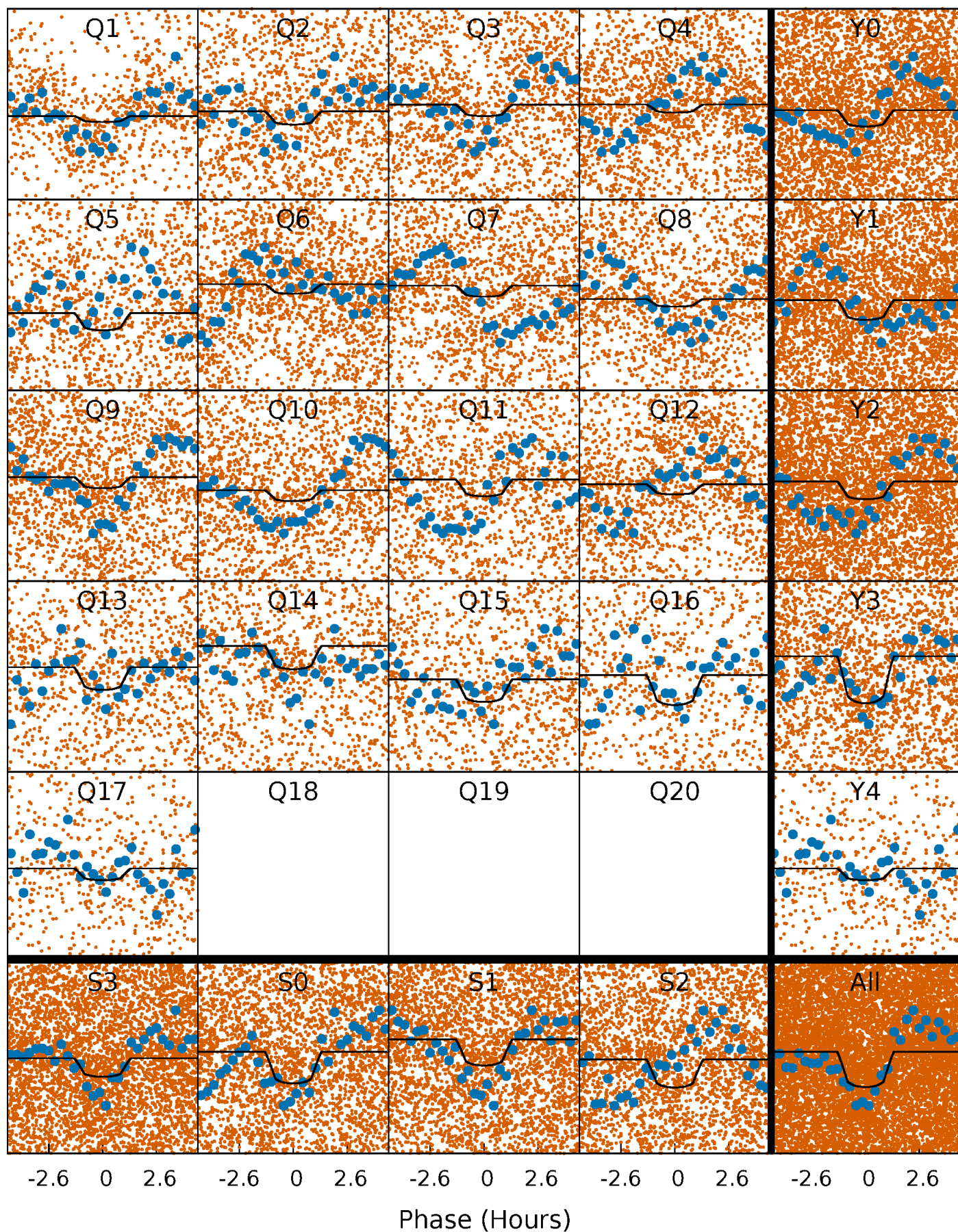
TCE 006058830-01 P= 0.675889 Days  $T_0=131.724220$  (BKJD)





# DV Quarter-Phased Transit Curves

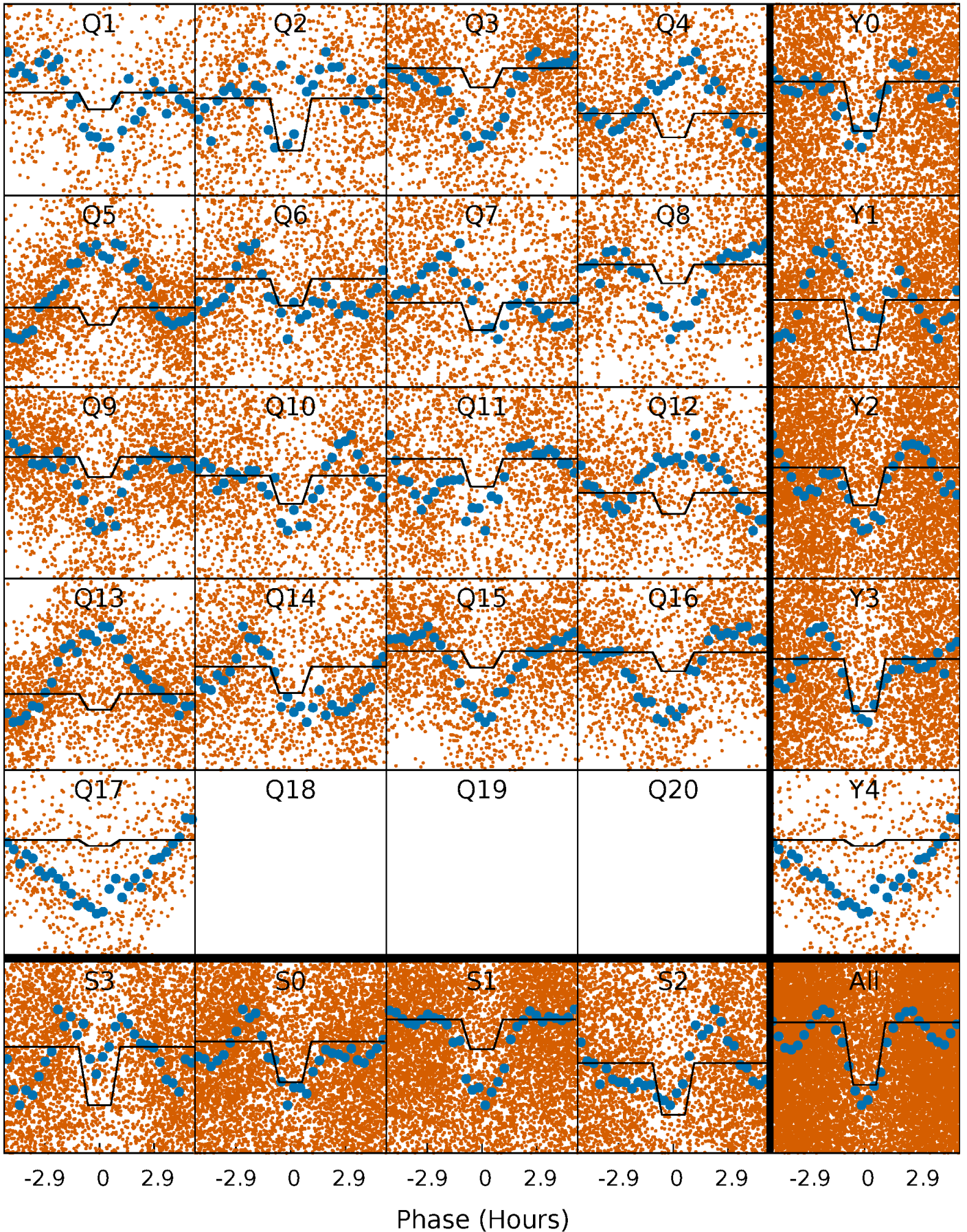
TCE 006058830-01 P= 0.675889 Days  $T_0=131.724220$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

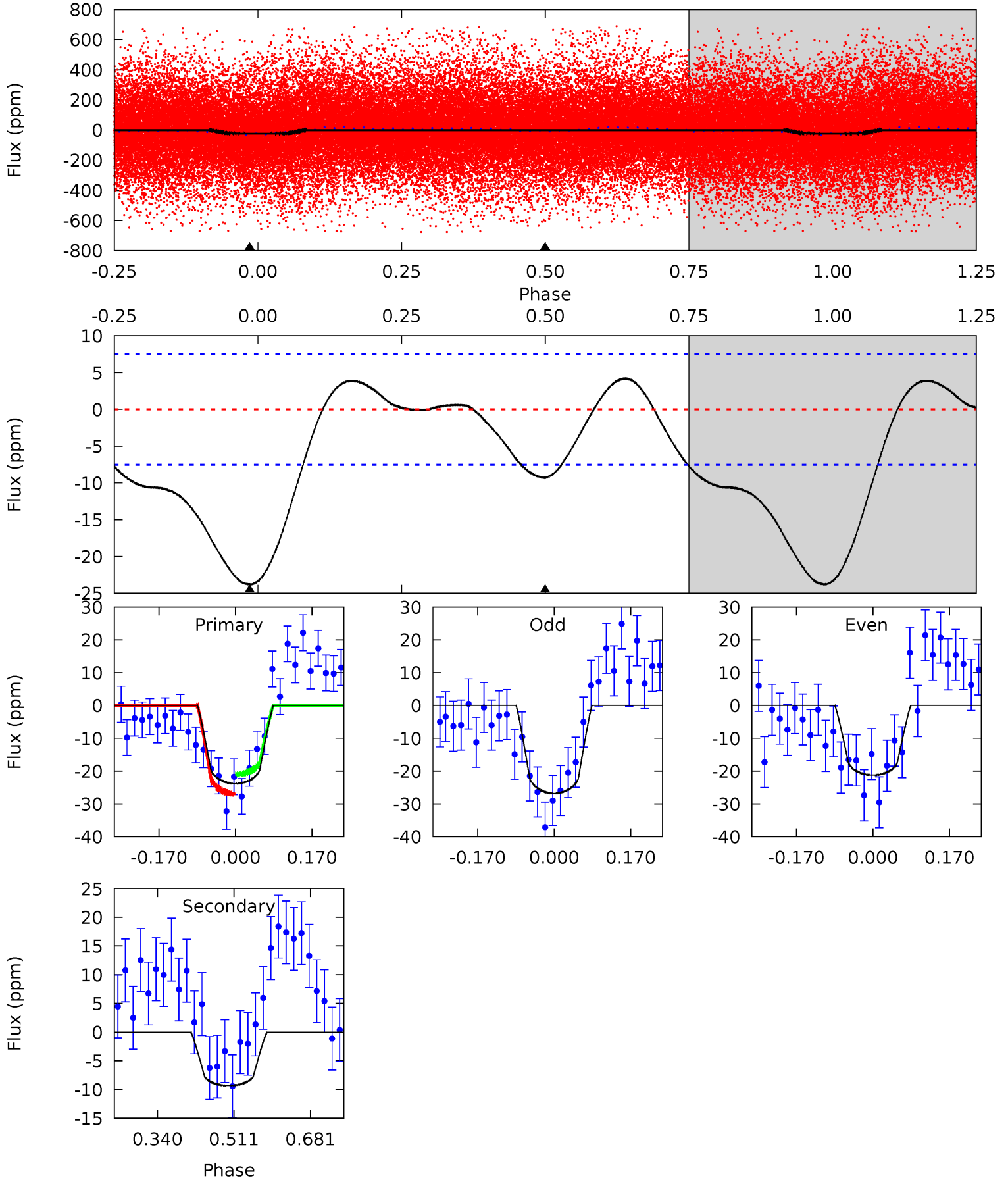
TCE 006058830-01 P= 0.675900 Days  $T_0=131.717635$  (BKJD)



# DV Model-Shift Uniqueness Test

006058830-01, P = 0.675889 Days, E = 131.048331 Days

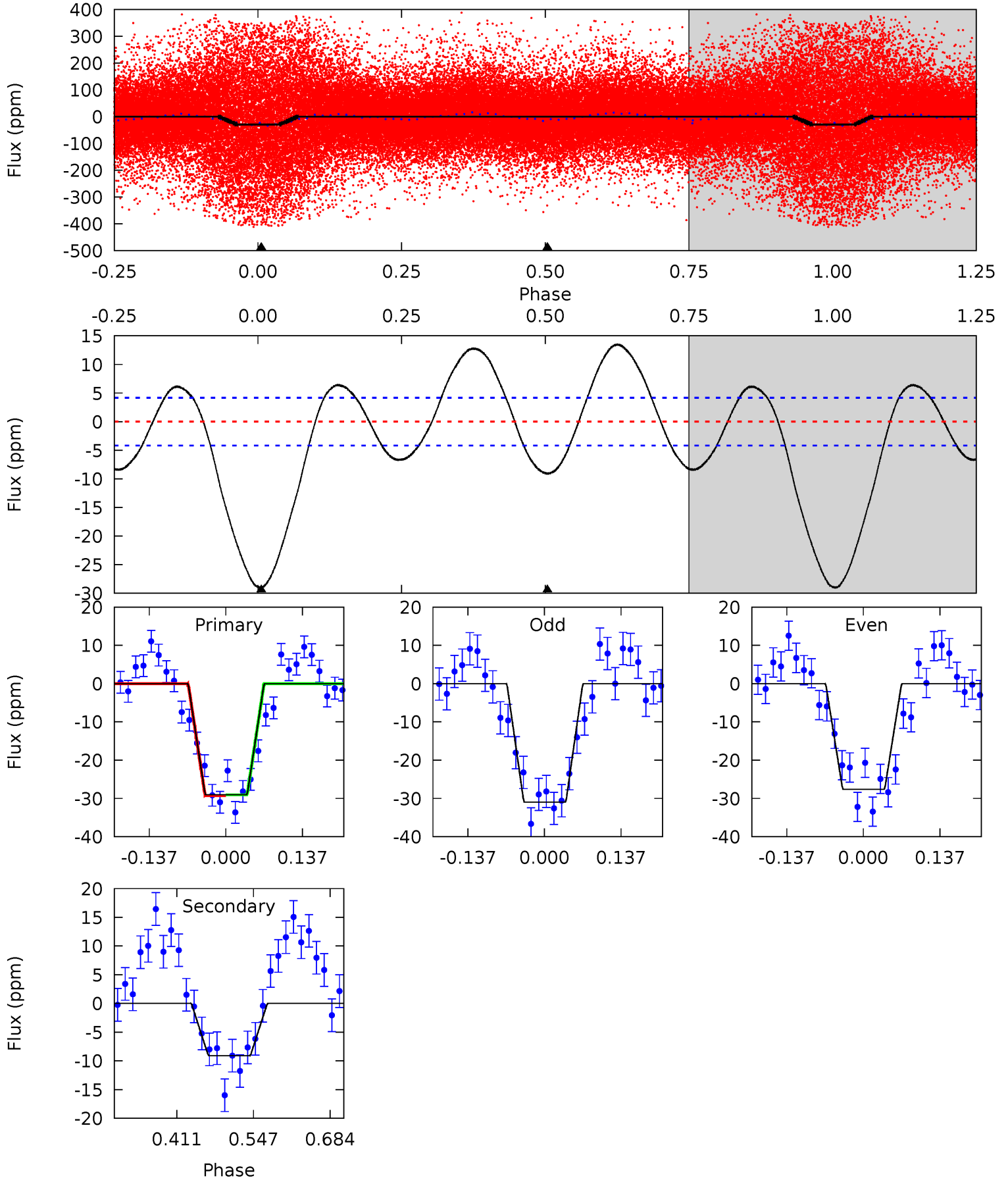
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	5.51	0	0	4.45	1.37	2.76	14.1	14.1	5.51	5.51	1.65	0.93	0.15	1.77



# Alt Model-Shift Uniqueness Test

006058830-01, P = 0.675900 Days, E = 131.041735 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
31.3	9.80	0	0	4.50	1.49	6.60	31.3	31.3	9.80	9.80	1.80	1.11	0.32	0.13





### Stellar Parameters For KIC 006058830

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6626^{+150}_{-183}$	$3.901^{+0.285}_{-0.114}$	$-0.220^{+0.300}_{-0.250}$	$2.133^{+0.444}_{-0.666}$	$1.324^{+0.223}_{-0.223}$	$0.192^{+0.345}_{-0.069}$
	+2%/-3%	+7%/-3%	+136%/-114%	+21%/-31%	+17%/-17%	+179%/-36%
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 006058830-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-9 \pm 2$	$1.00^{+0.29}_{-0.25}$	$4577^{+277}_{-396}$	$5165^{+764}_{-619}$	$1.397^{+1.151}_{-0.561}$
Alt.	$-9 \pm 1$	$1.17^{+0.27}_{-0.25}$	$4554^{+308}_{-368}$	$4744^{+512}_{-481}$	$1.034^{+0.594}_{-0.359}$

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

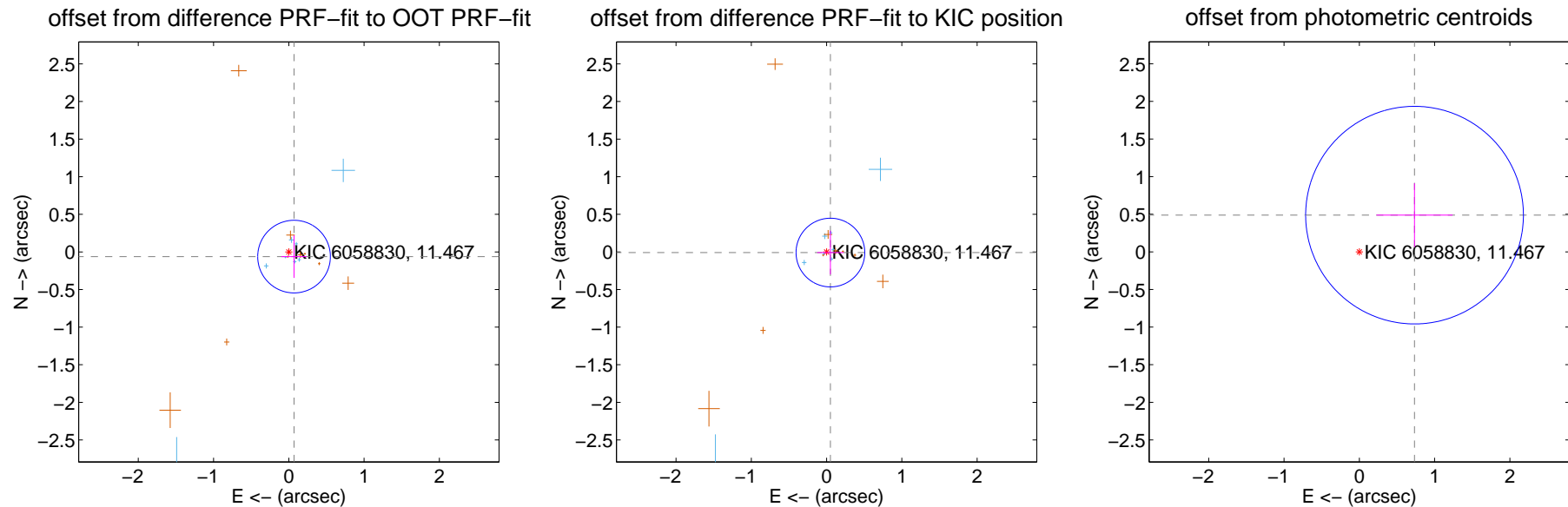
## DV Centroid Data

Supplemental centroid analysis for 006058830-01. **Kepler magnitude: 11.47.** Transit SNR 8.98

There are 8 quarters with good PRF difference image offsets

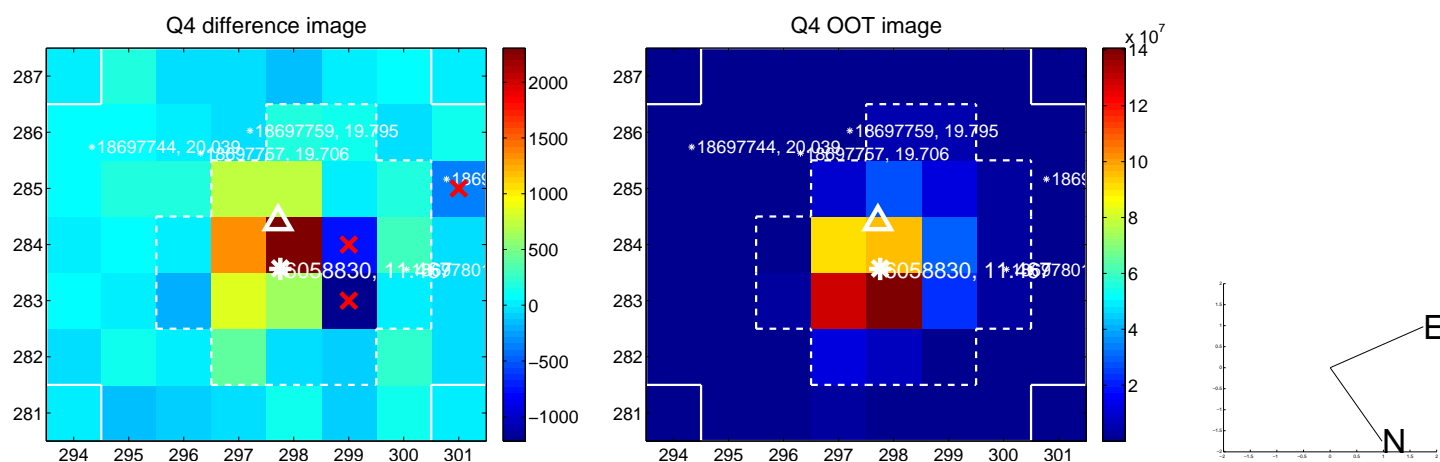
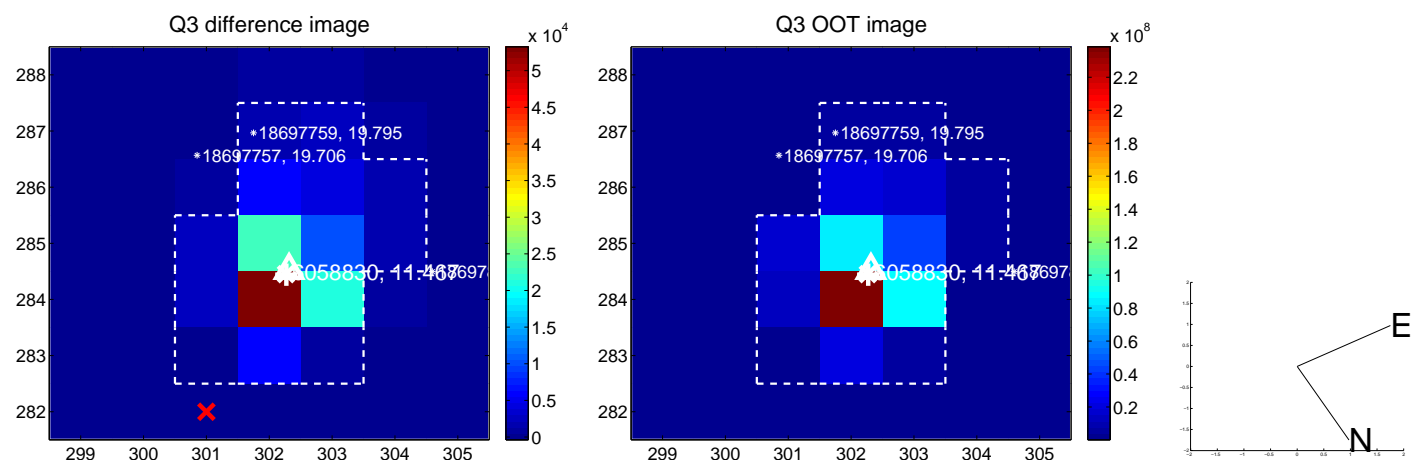
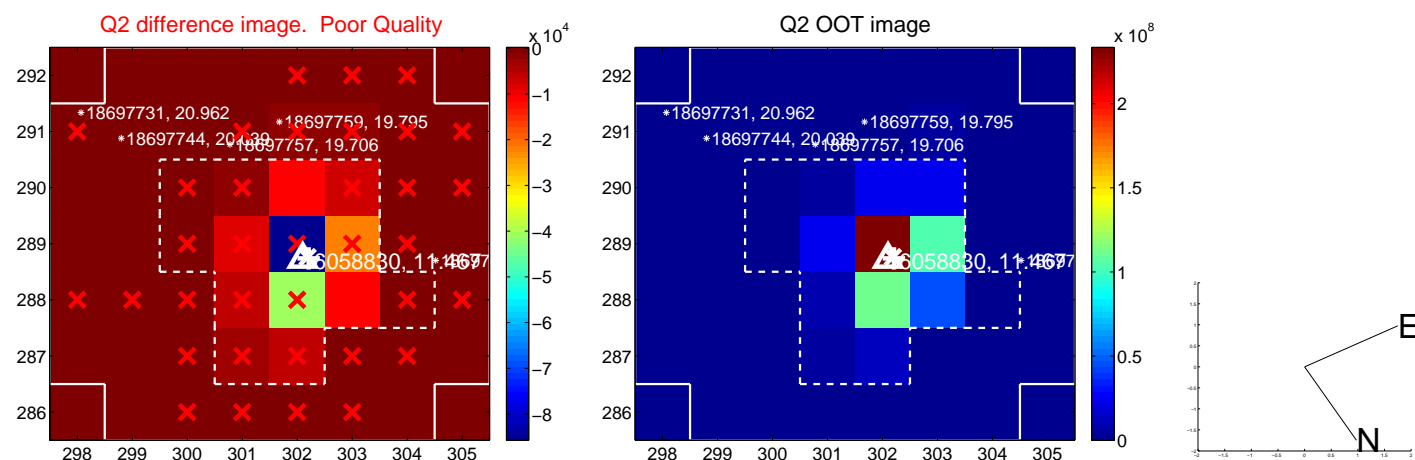
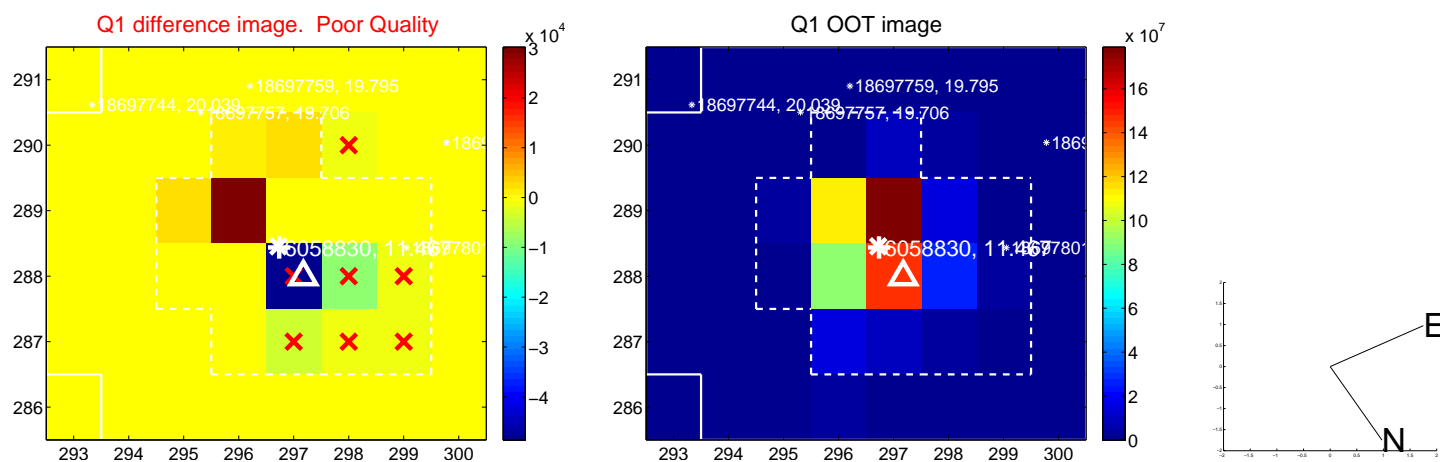
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.093 \pm 0.161$	0.58	$-0.069 \pm 0.168$	$-0.062 \pm 0.283$
PRF-fit source offset from KIC position	$0.052 \pm 0.152$	0.34	$-0.051 \pm 0.176$	$-0.009 \pm 0.290$
photometric centroid source offset	$0.88 \pm 0.48$	1.83	$-0.73 \pm 0.51$	$0.49 \pm 0.42$

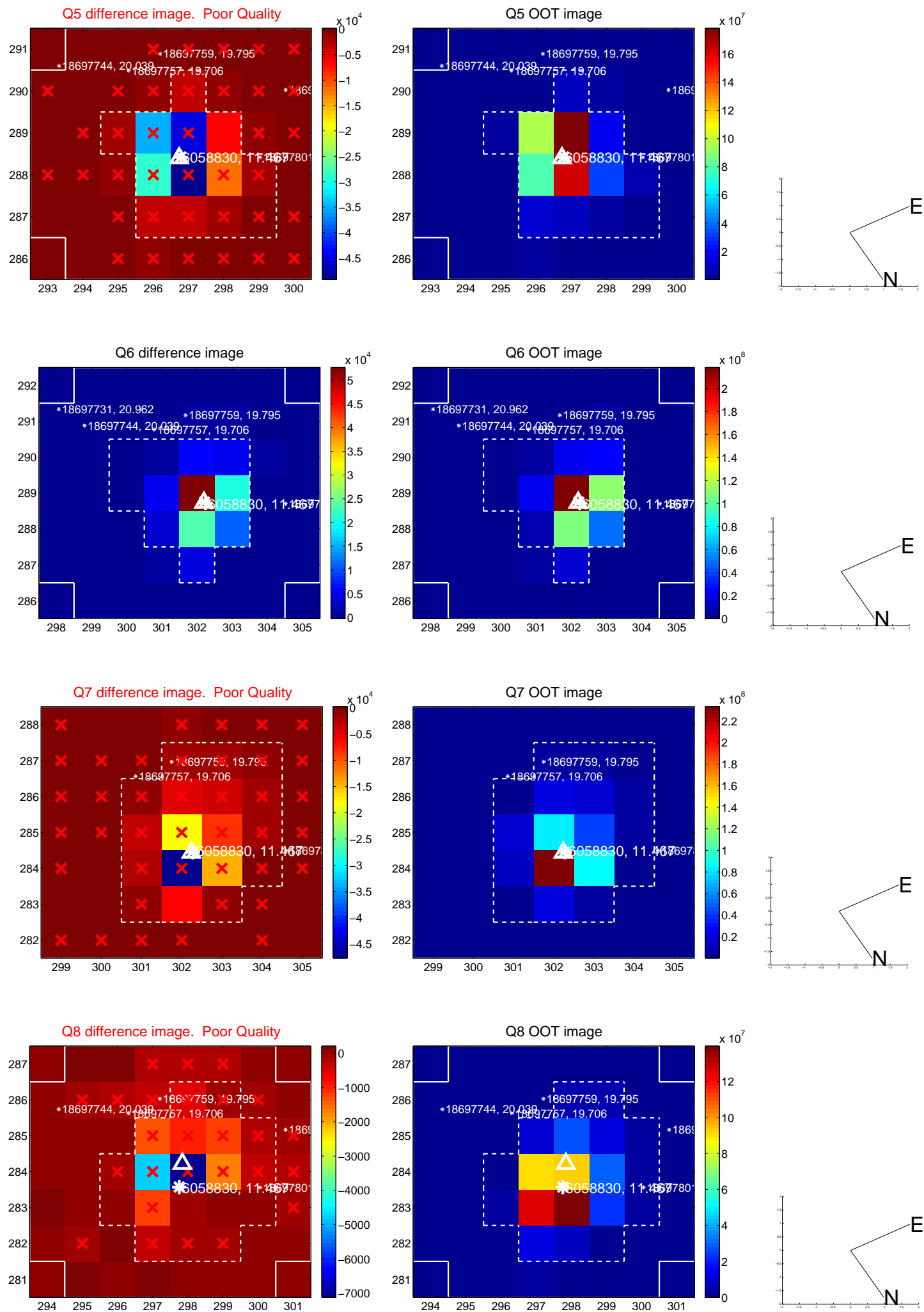


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

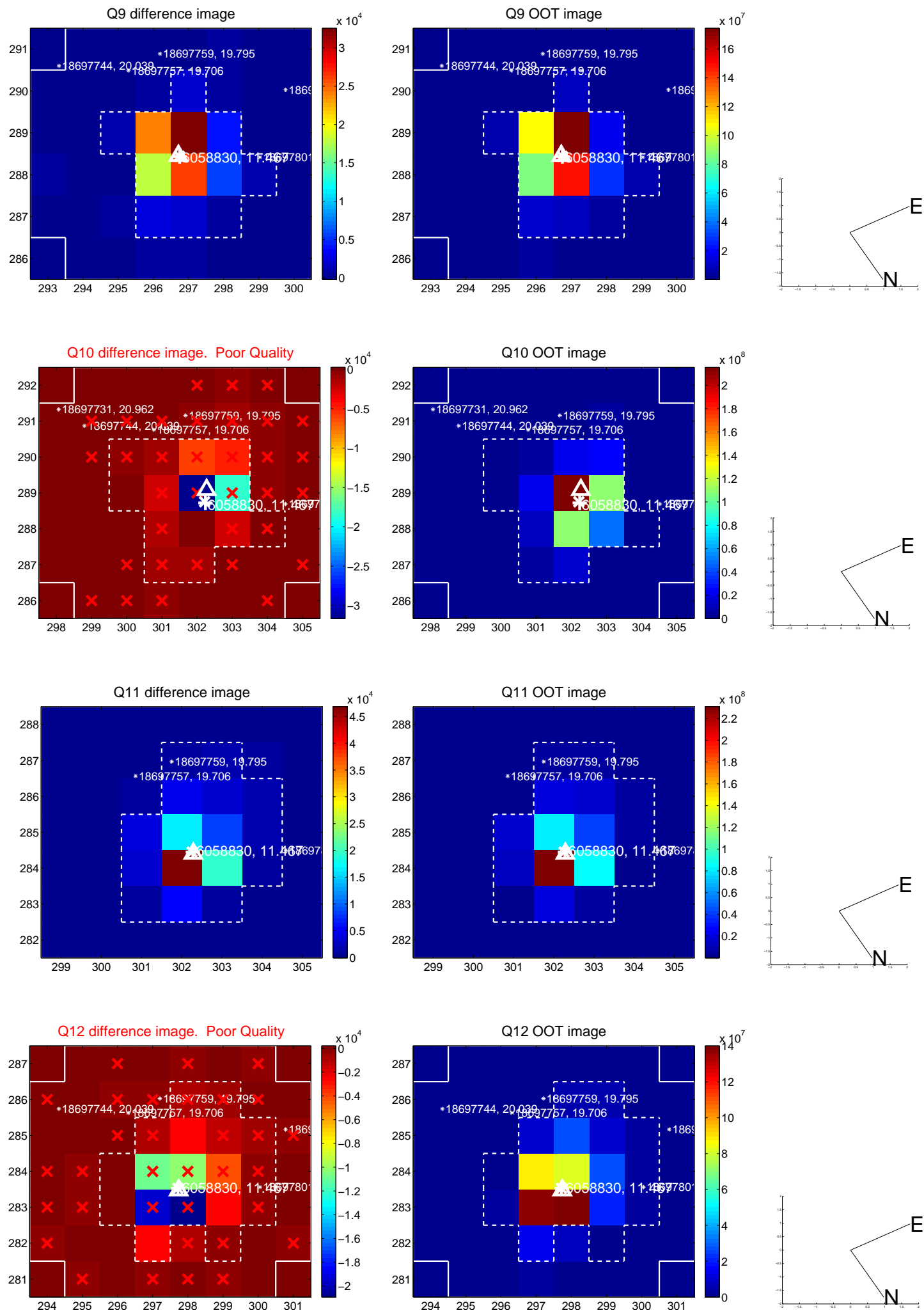


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

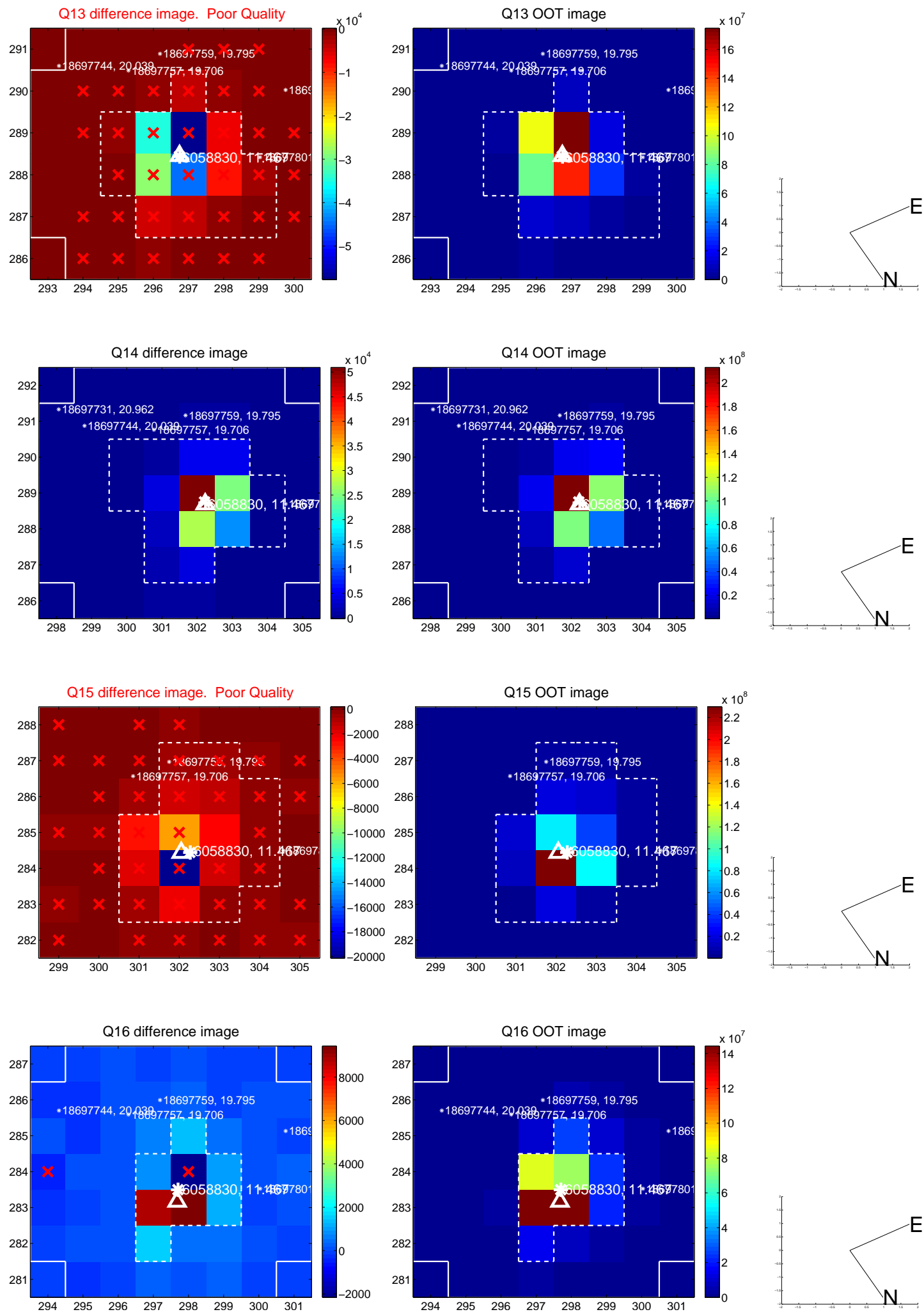




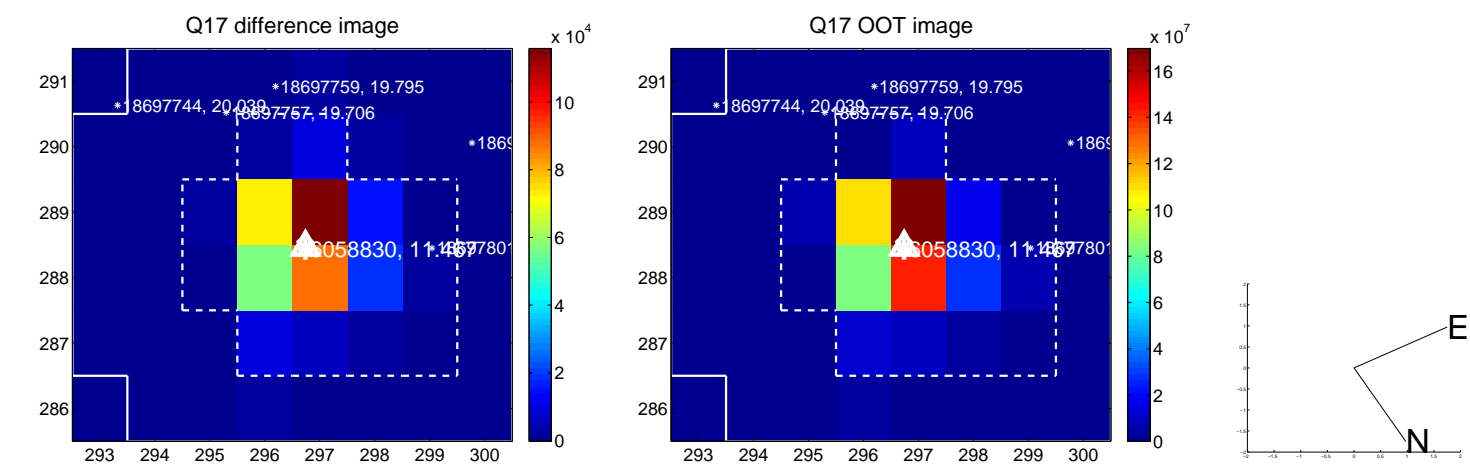
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



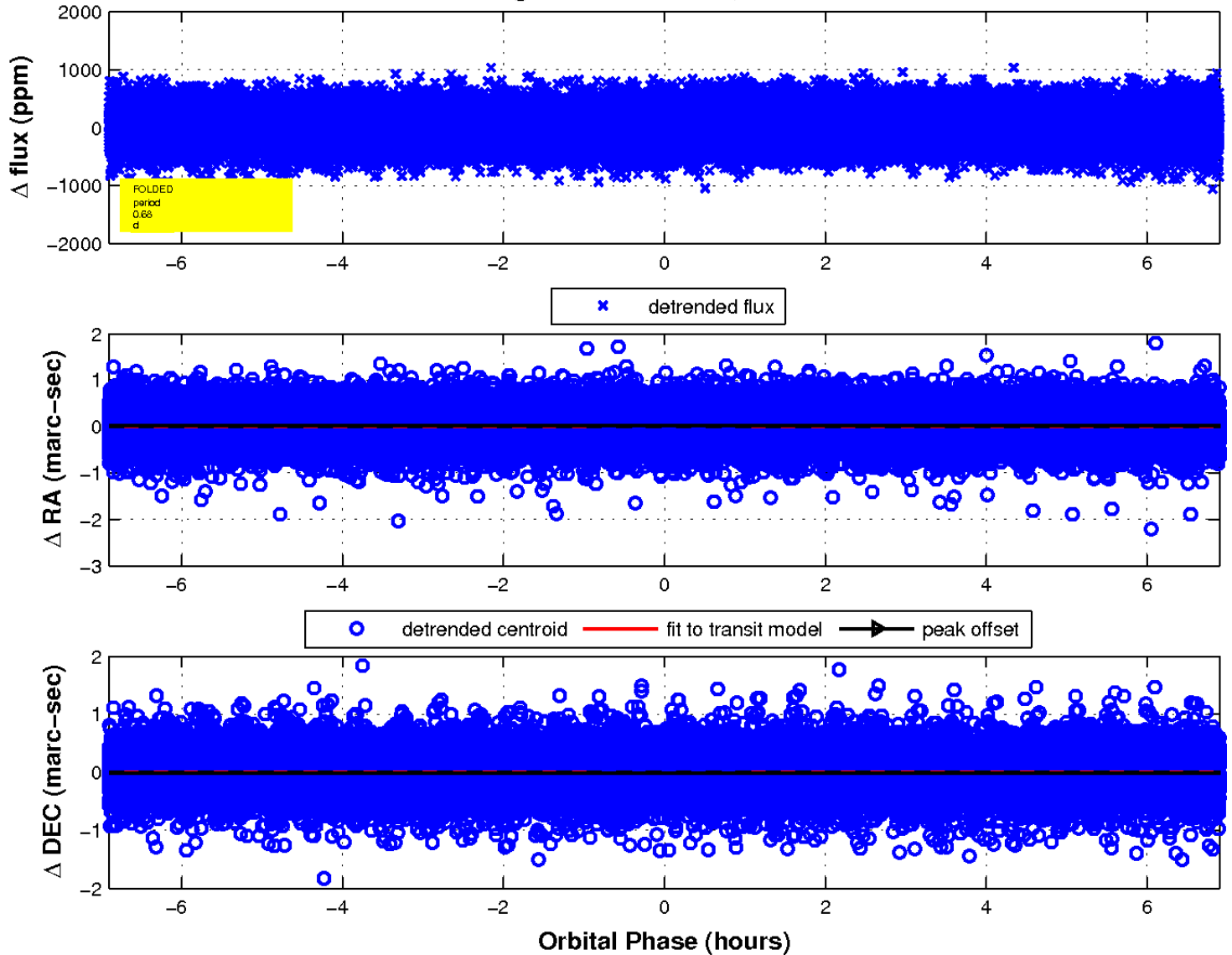
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

