

# KIC 009594674

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009594674-01	OBS	No	0.558683	131.876359	0.2	0.528	7.8	0.0	1.20	5708	0.05	7878.26

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009594674-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_RESOLVED_OFFSET

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

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

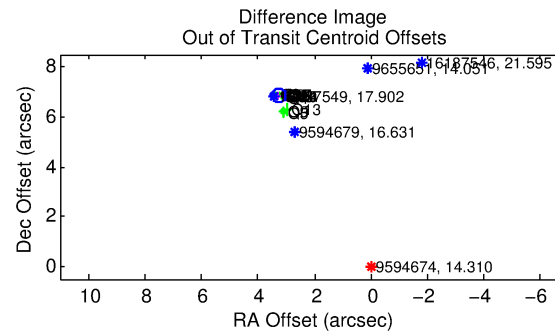
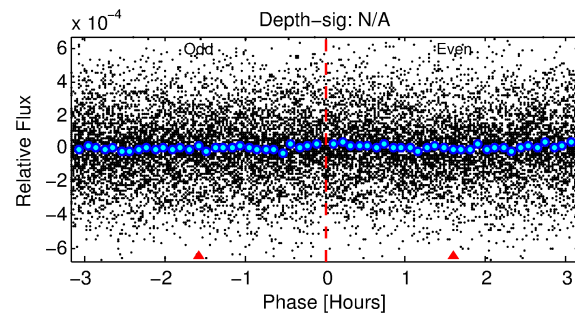
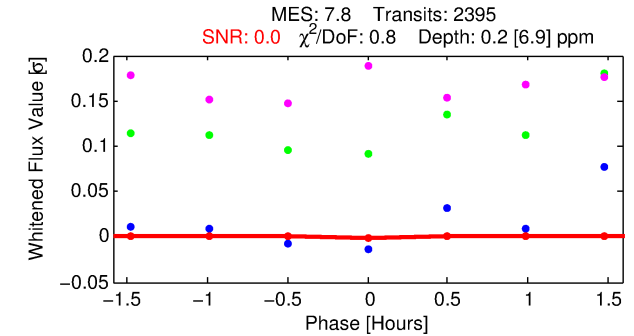
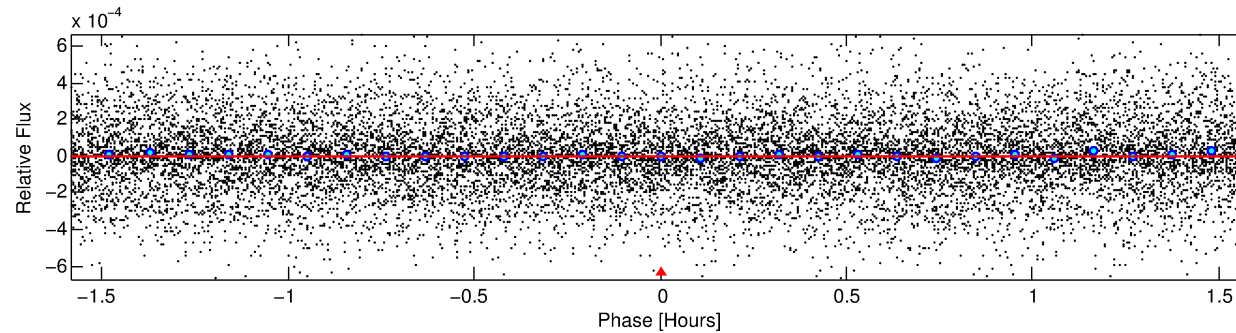
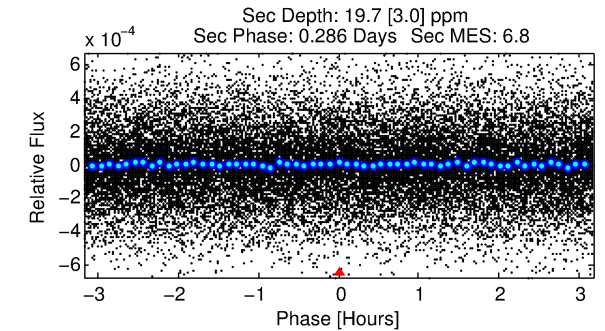
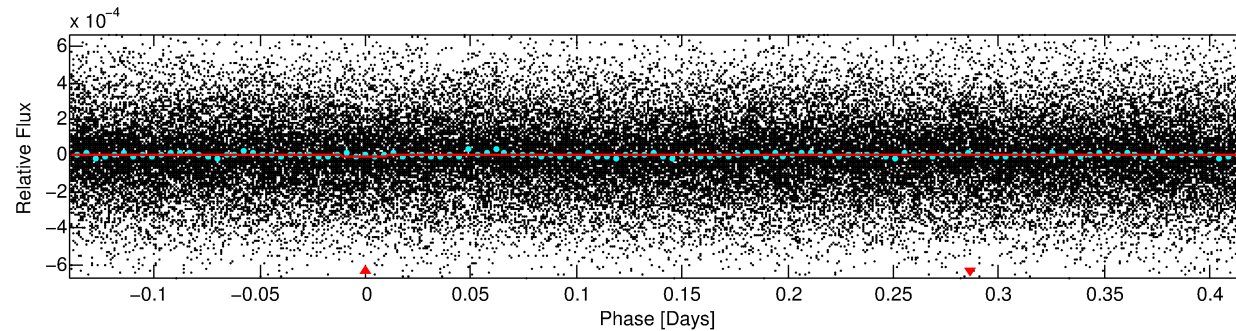
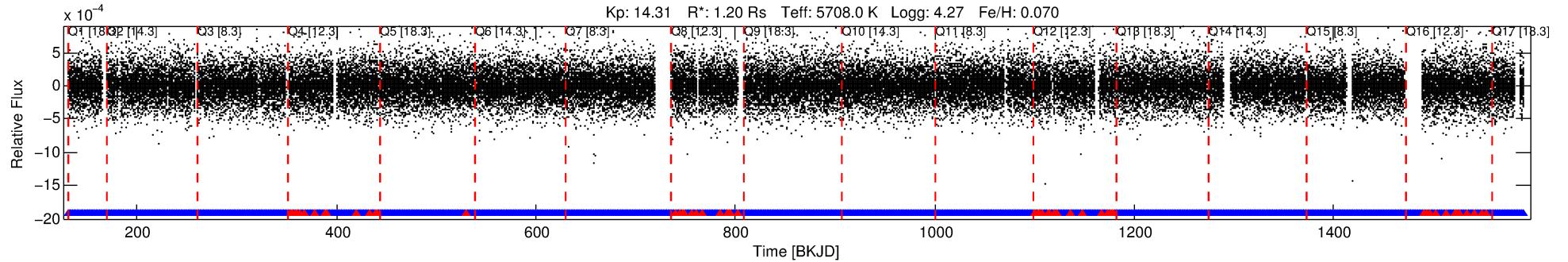
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009594674-01

No Significant Match Found

# DV One-Page Summary

KIC: 9594674 Candidate: 1 of 1 Period: 0.559 d



## DV Fit Results:

Period = 0.55868 [0.00327] d  
Epoch = 131.8764 [0.3959] BKJD  
Rp/R\* = 0.0004 [0.0223]  
a/R\* = 8.09 [1932.36]  
b = 0.04 [6712.63]  
Seff = 7878.26 [3113.36]  
Teq = 2402 [237] K  
Rp = 0.05 [2.91] Re  
a = 0.0131 [0.0032] AU  
Ag = 797.98 [95824.86] [0.01σ]  
Teffp = 19741 [592657] K [0.03σ]

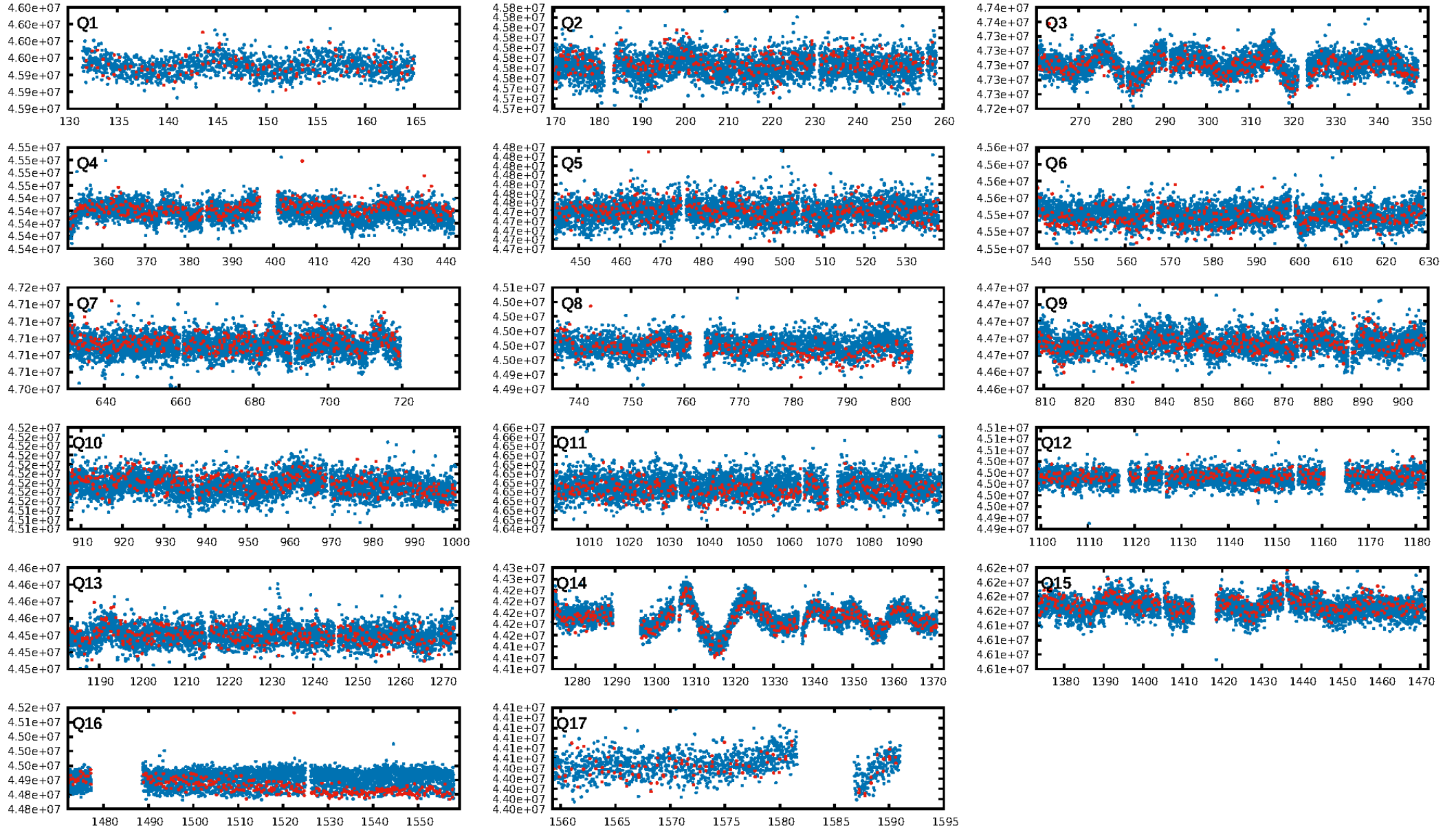
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 6.08e-16  
RollingBand-fgt: 0.98 [2231/2288]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 7.596 arcsec [82.67σ]  
KicOffset-rm: 7.595 arcsec [81.28σ]  
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]

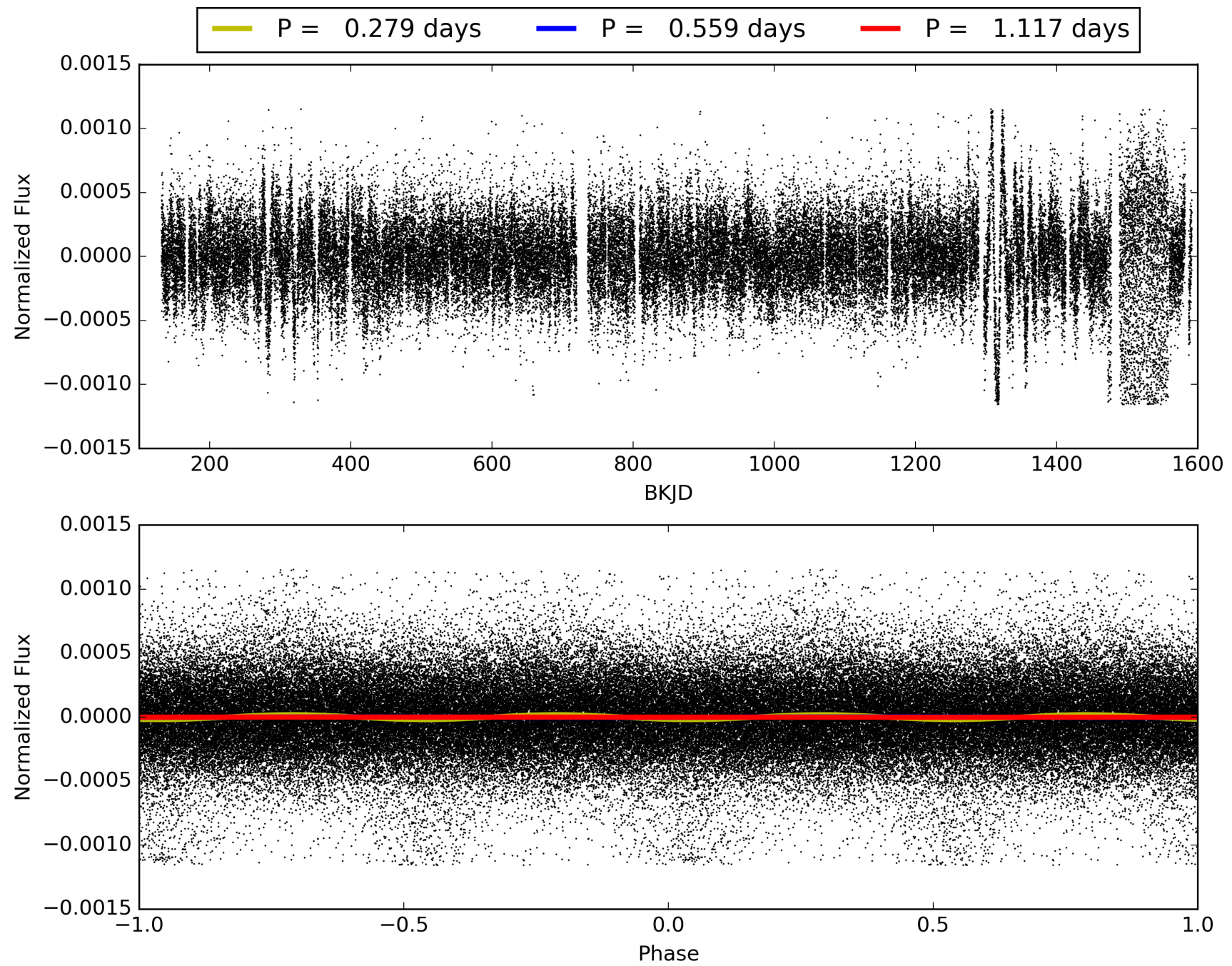
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:12:21 Z

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

# TCE 009594674-01, PDC Light Curves



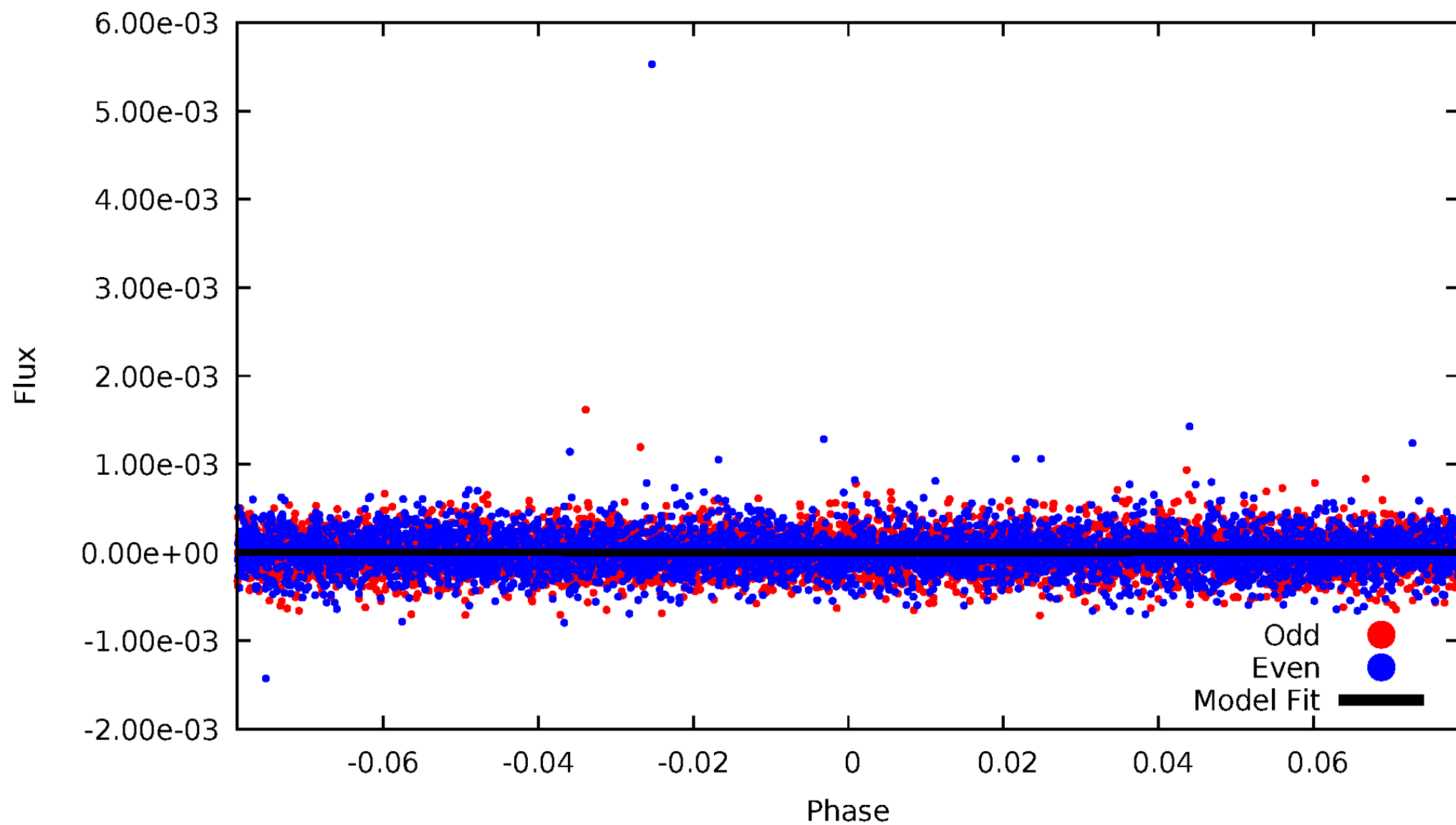
TCE 009594674-01





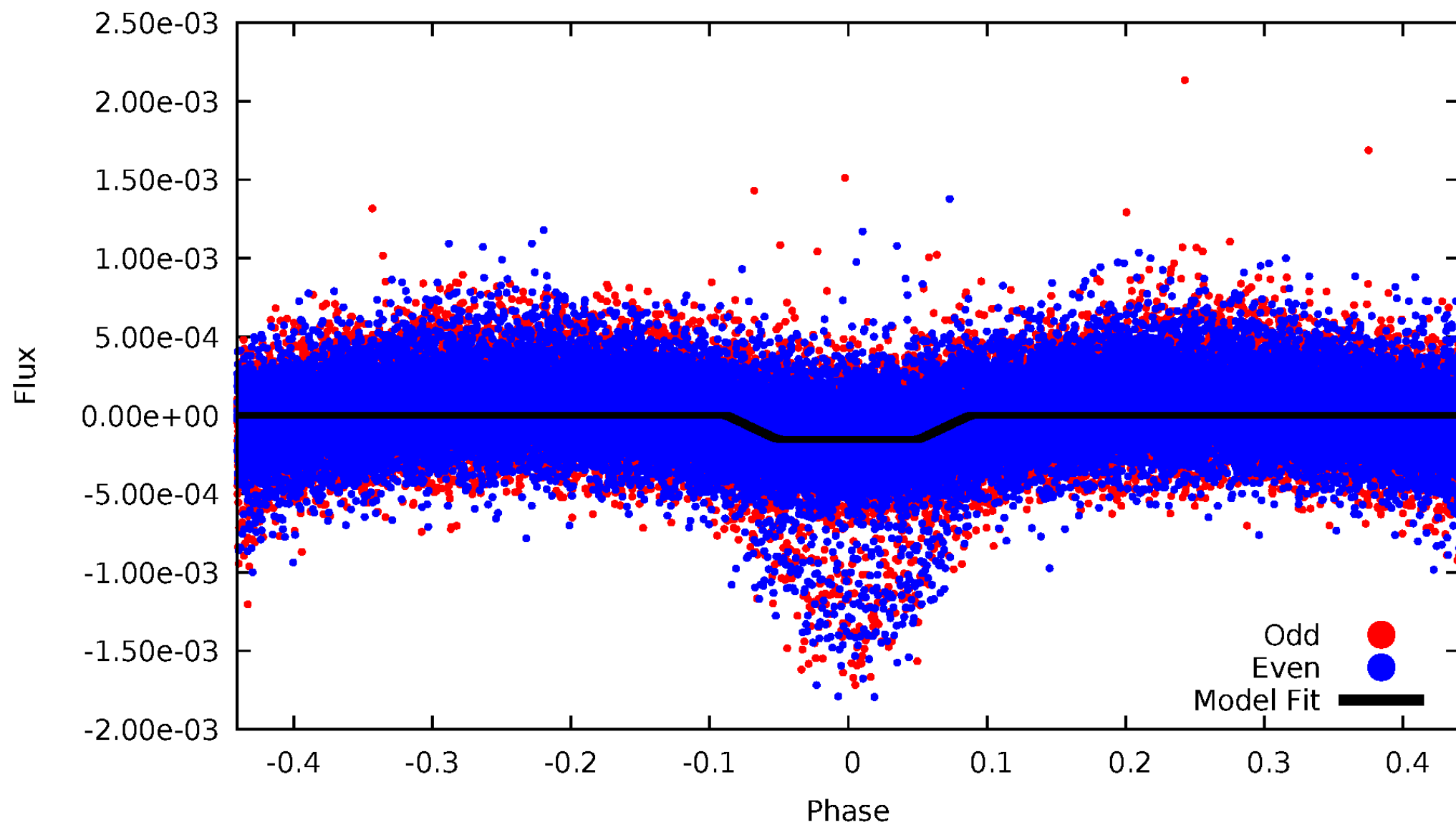
# DV Odd/Even

TCE 009594674-01

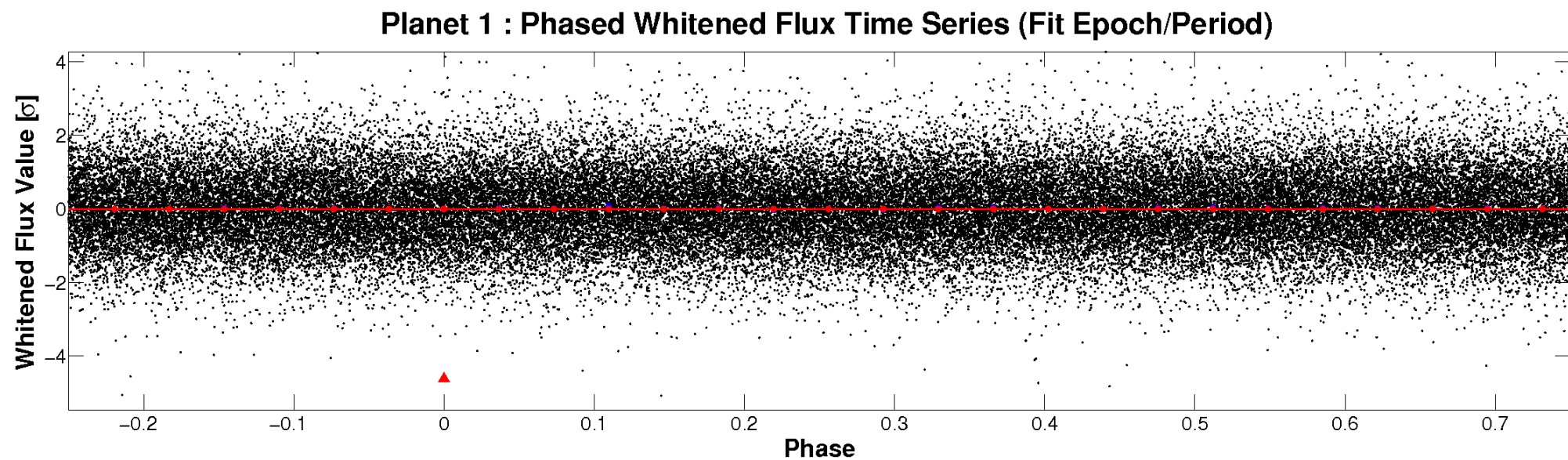
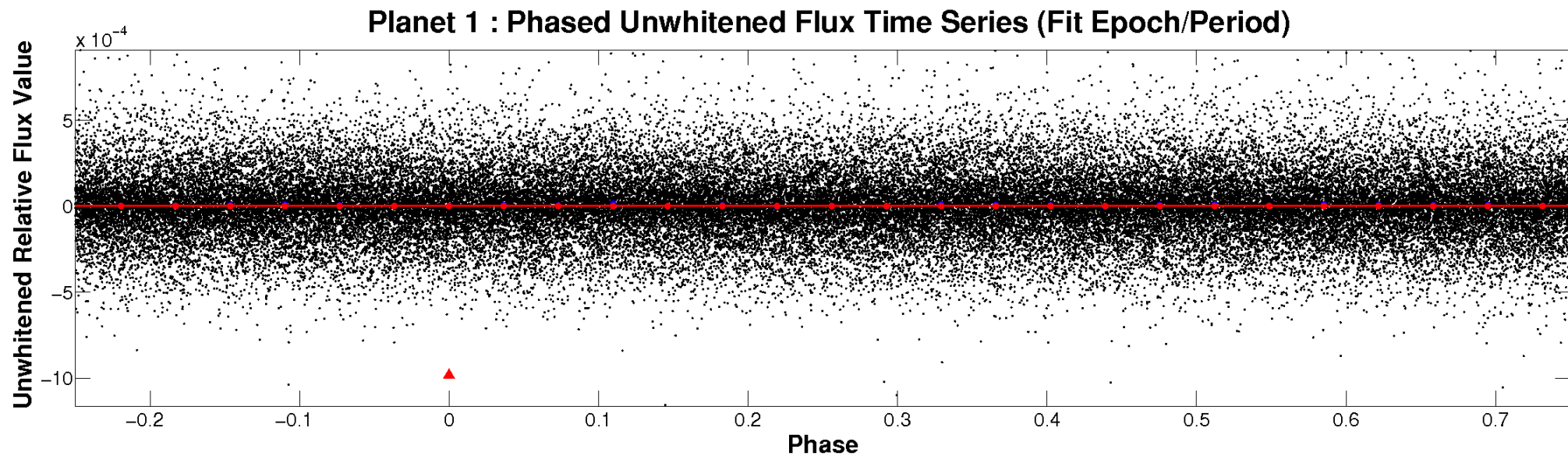


# ALT Odd/Even

TCE 009594674-01

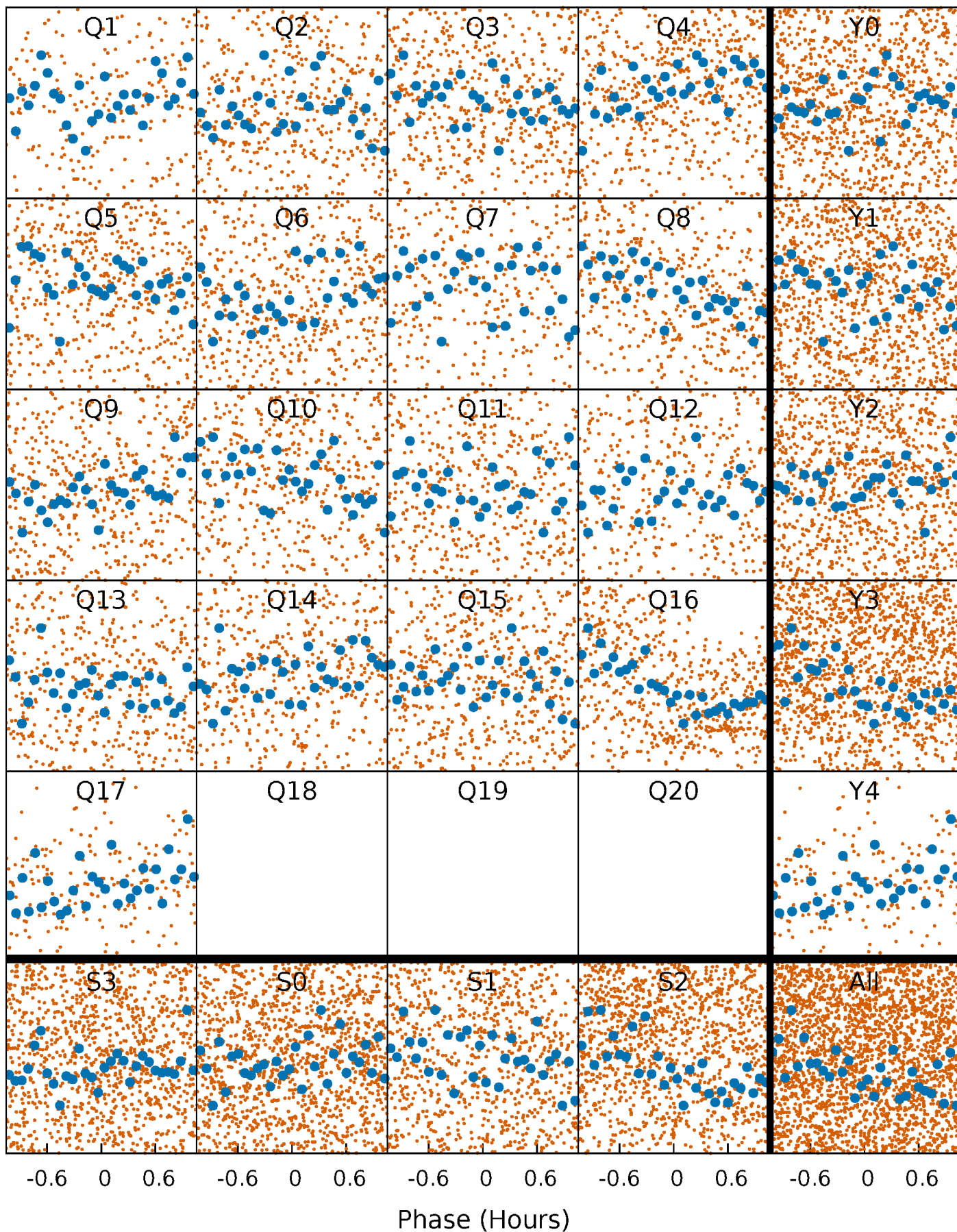


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

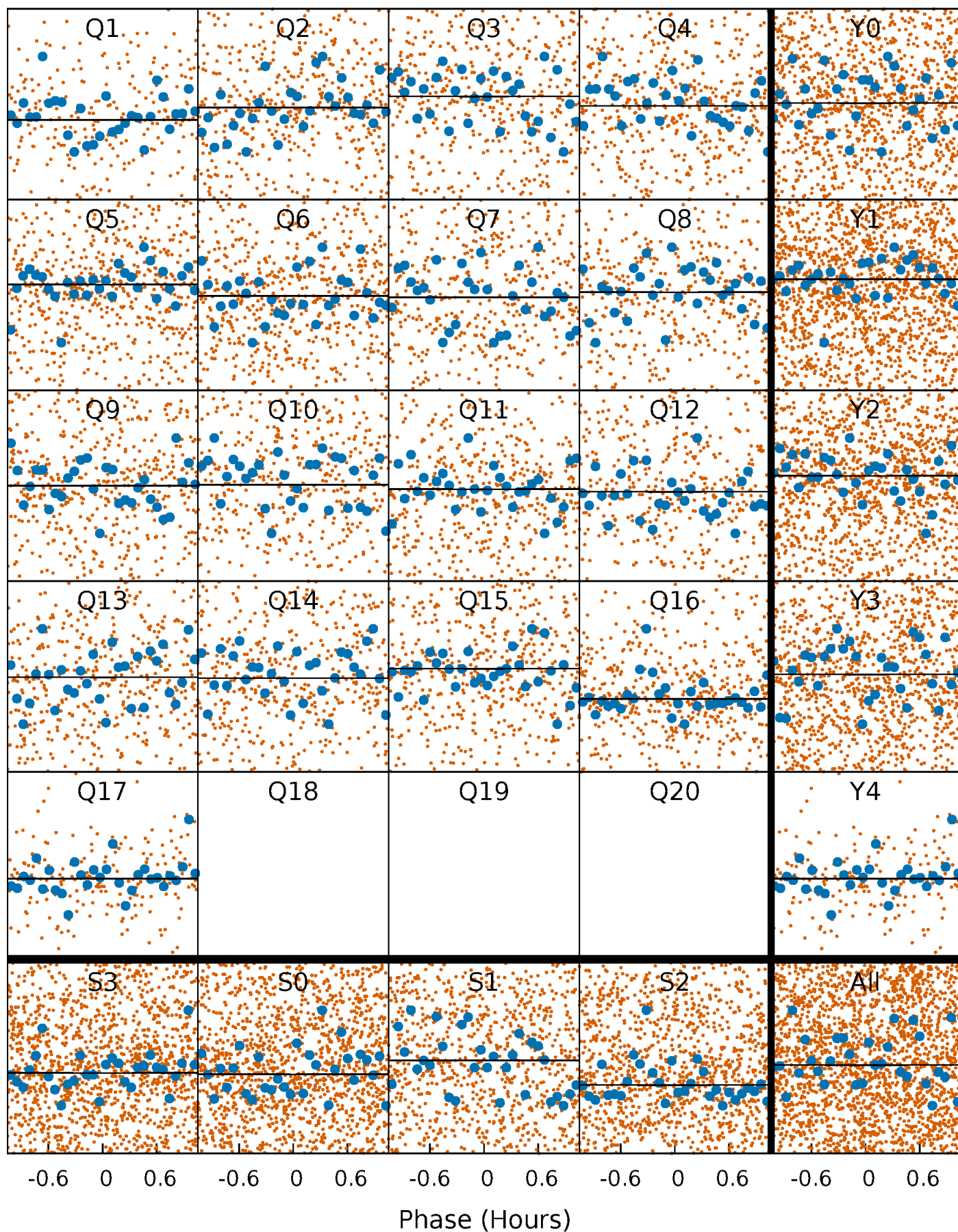
TCE 009594674-01   P= 0.558683 Days    $T_0=131.876359$  (BKJD)





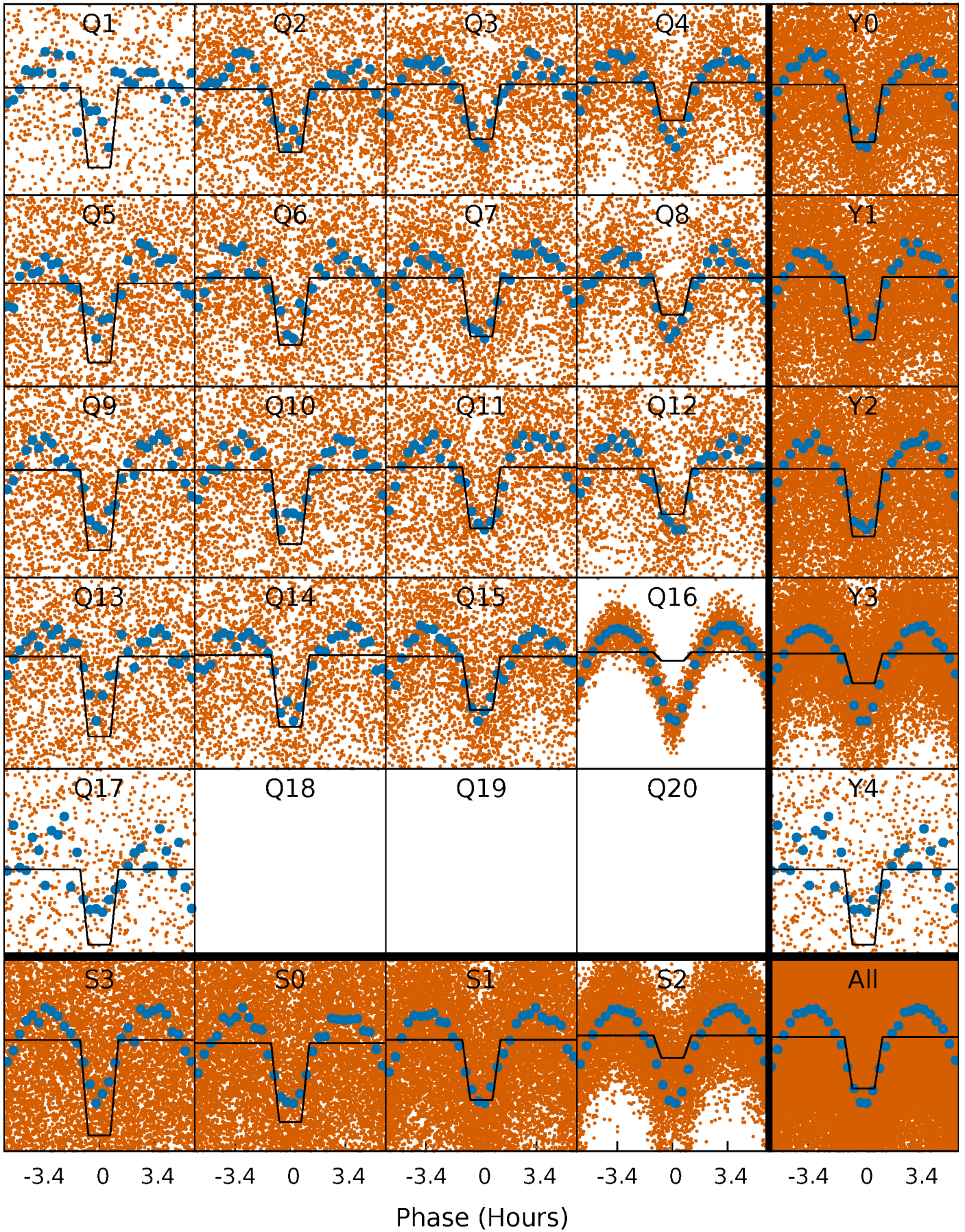
# DV Quarter-Phased Transit Curves

TCE 009594674-01 P= 0.558683 Days  $T_0=131.876359$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

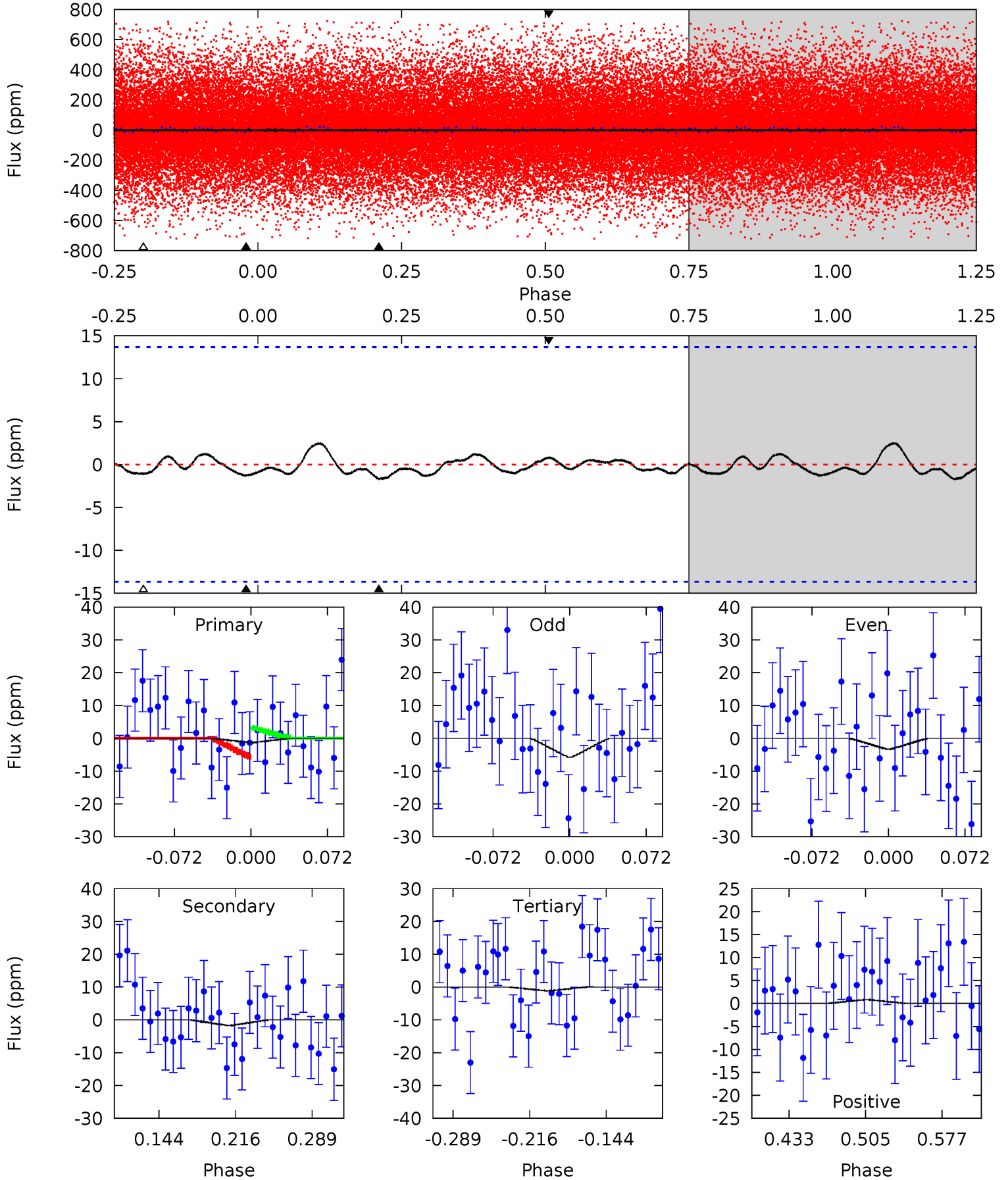
TCE 009594674-01 P= 0.558048 Days  $T_0=131.799854$  (BKJD)



# DV Model-Shift Uniqueness Test

009594674-01, P = 0.558683 Days, E = 131.317676 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
0.45	0.58	0.39	0.28	4.63	1.80	0.28	0.06	0.16	0.19	0.30	0.42	-0.80	0.59	0.43

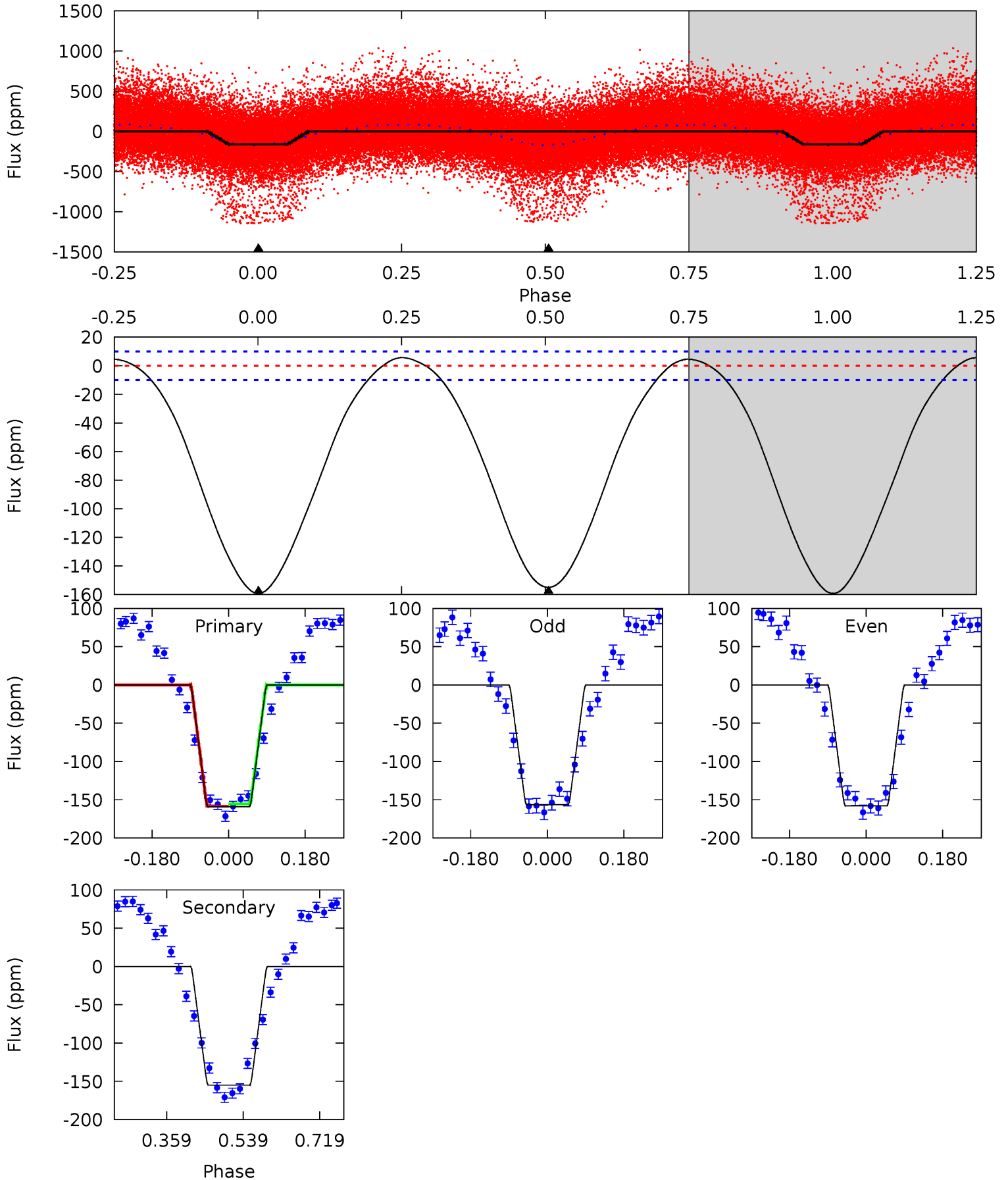




# Alt Model-Shift Uniqueness Test

009594674-01, P = 0.558048 Days, E = 131.241806 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
70.7	68.8	0	0	4.44	1.34	2.55	70.7	70.7	68.8	68.8	0.40	1.30	0.03	0.69





### Stellar Parameters For KIC 009594674

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5708^{+154}_{-171}$	$4.269^{+0.214}_{-0.175}$	$0.070^{+0.250}_{-0.300}$	$1.196^{+0.330}_{-0.270}$	$0.969^{+0.122}_{-0.100}$	$0.797^{+0.895}_{-0.397}$
	+3%/-3%	+5%/-4%	+357%/-429%	+28%/-23%	+13%/-10%	+112%/-50%
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 009594674-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-2 \pm 3$	$2.02^{+2.06}_{-1.42}$	$3329^{+256}_{-239}$	$-3202^{+5876}_{-235}$	$0.024^{+0.353}_{-0.047}$
Alt.	$-155 \pm 2$	$2.67^{+2.34}_{-1.87}$	$3348^{+235}_{-258}$	$4445^{+3555}_{-1141}$	$2.074^{+21.027}_{-1.488}$

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

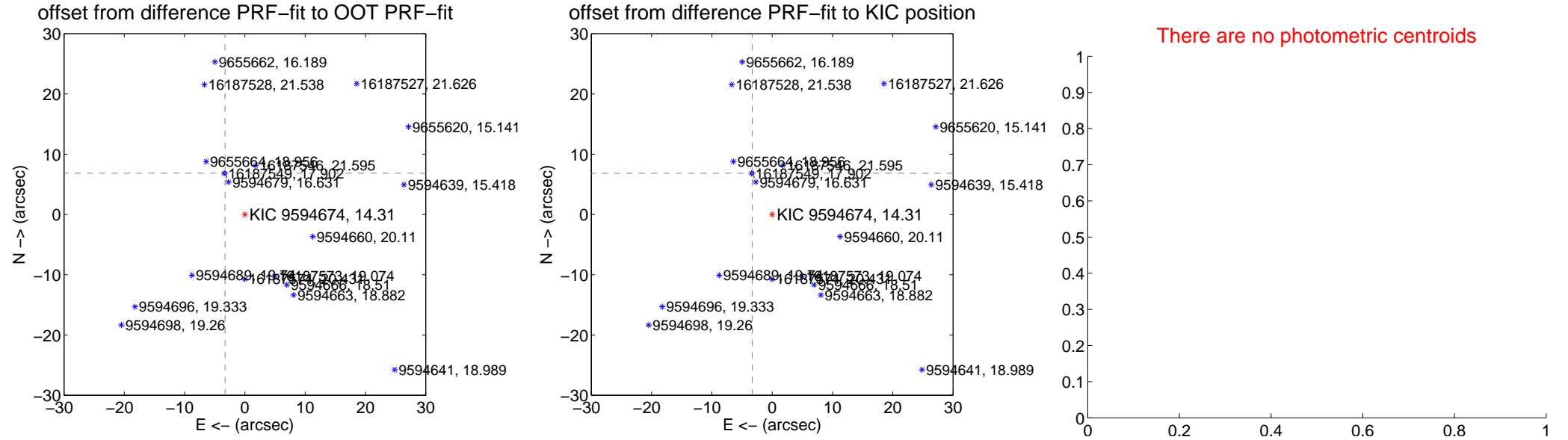
## DV Centroid Data

Supplemental centroid analysis for 009594674-01. Kepler magnitude: 14.31. Transit SNR 0.03

There are 8 quarters with good PRF difference image offsets

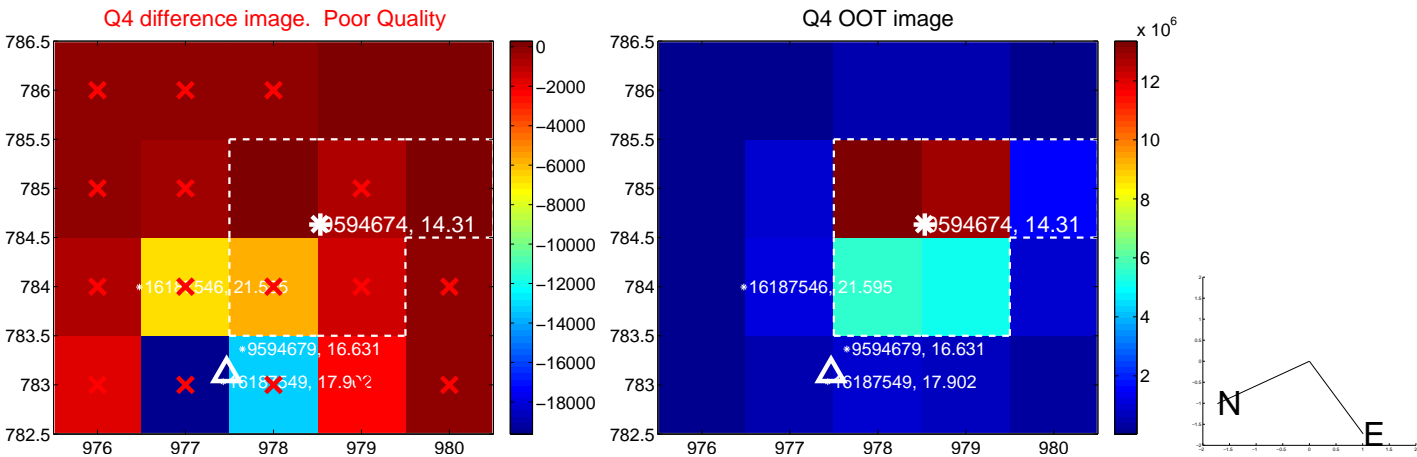
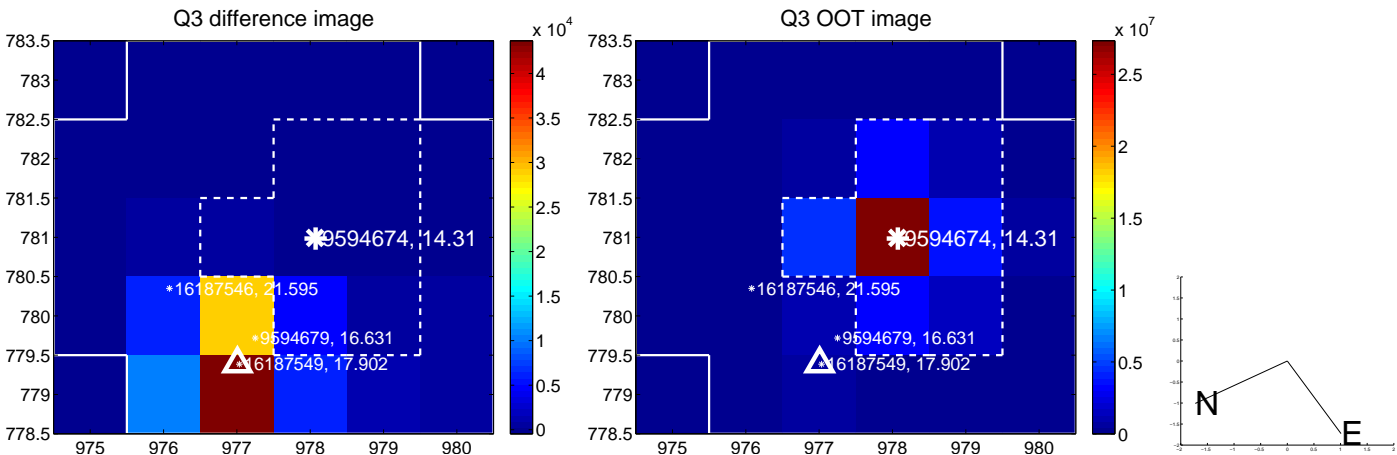
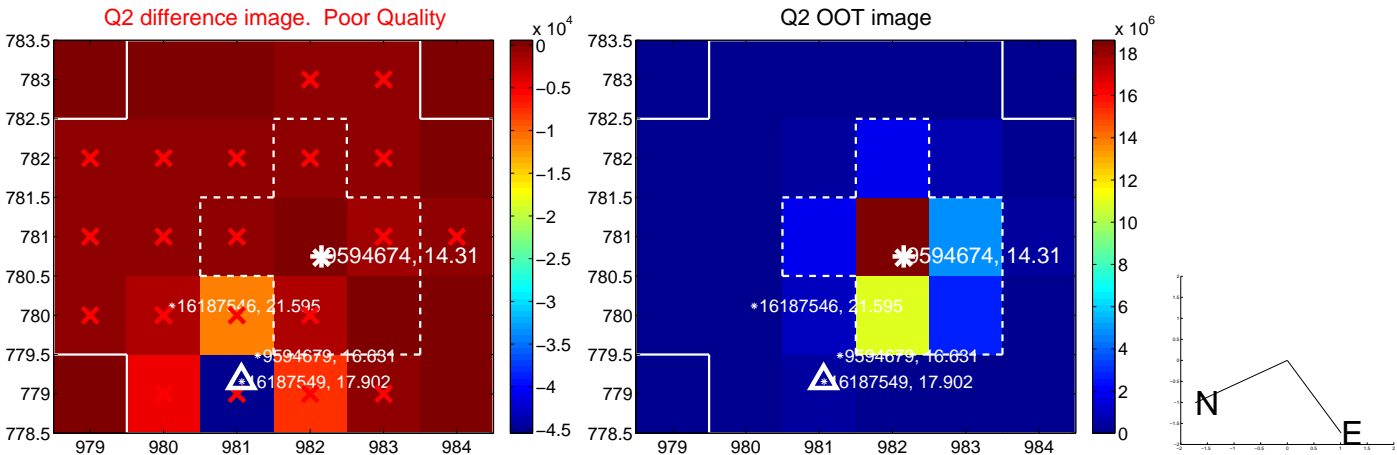
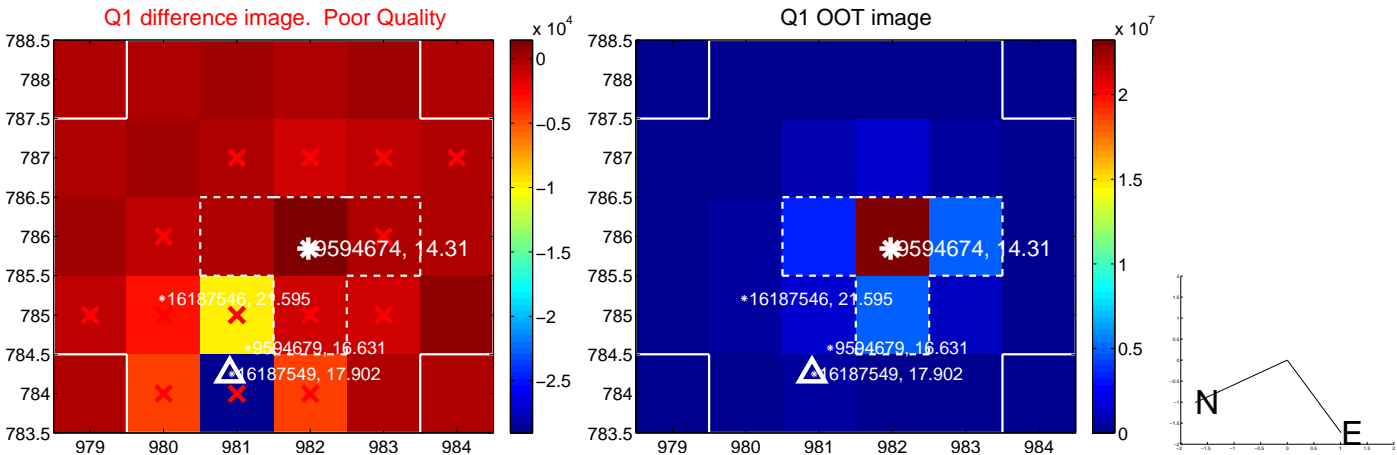
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>7.596 <math>\pm</math> 0.092</b>	<b>82.67</b>	$3.284 \pm 0.073$	$6.849 \pm 0.091$
PRF-fit source offset from KIC position	<b>7.595 <math>\pm</math> 0.093</b>	<b>81.28</b>	$3.312 \pm 0.075$	$6.835 \pm 0.091$
photometric centroid source offset	—	—	—	—

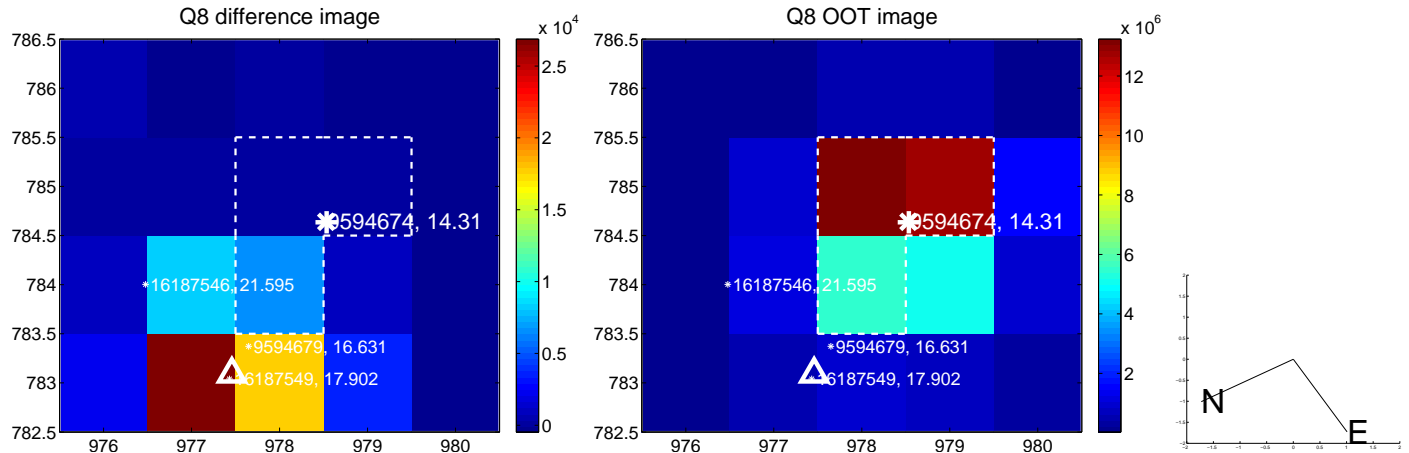
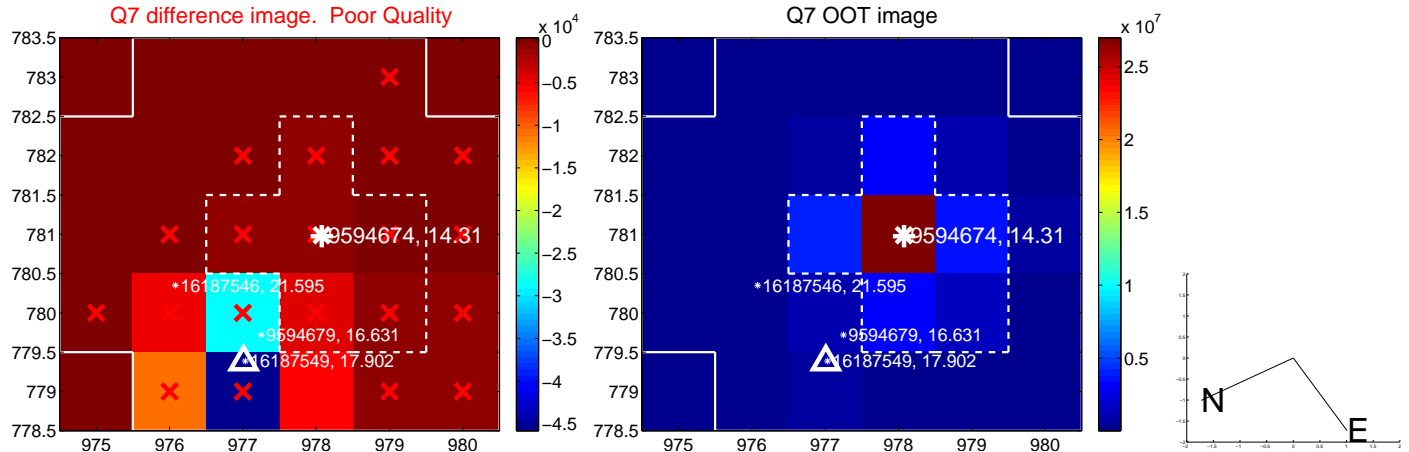
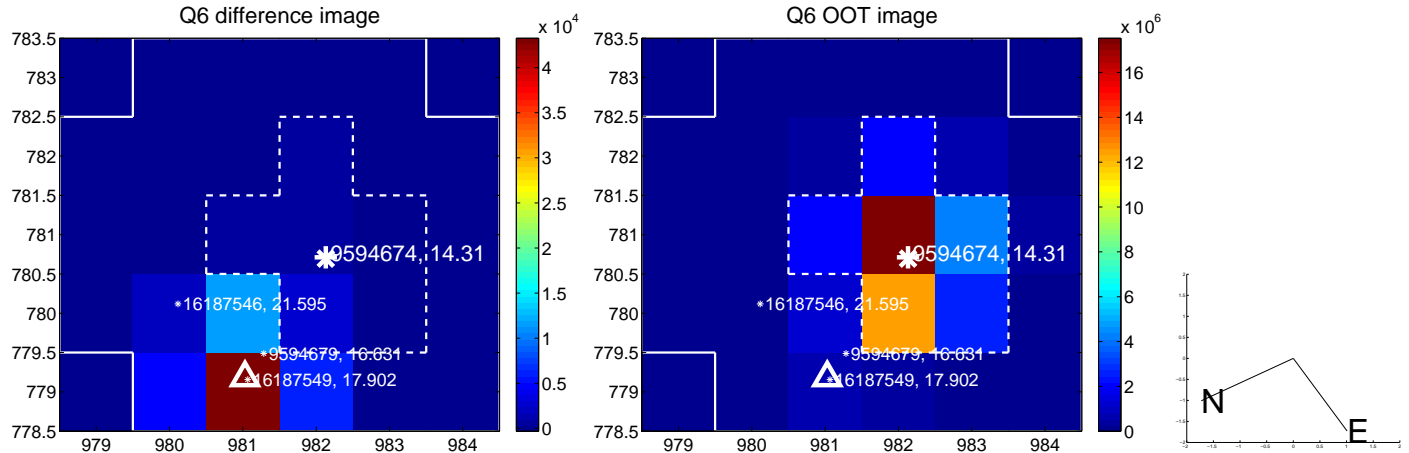
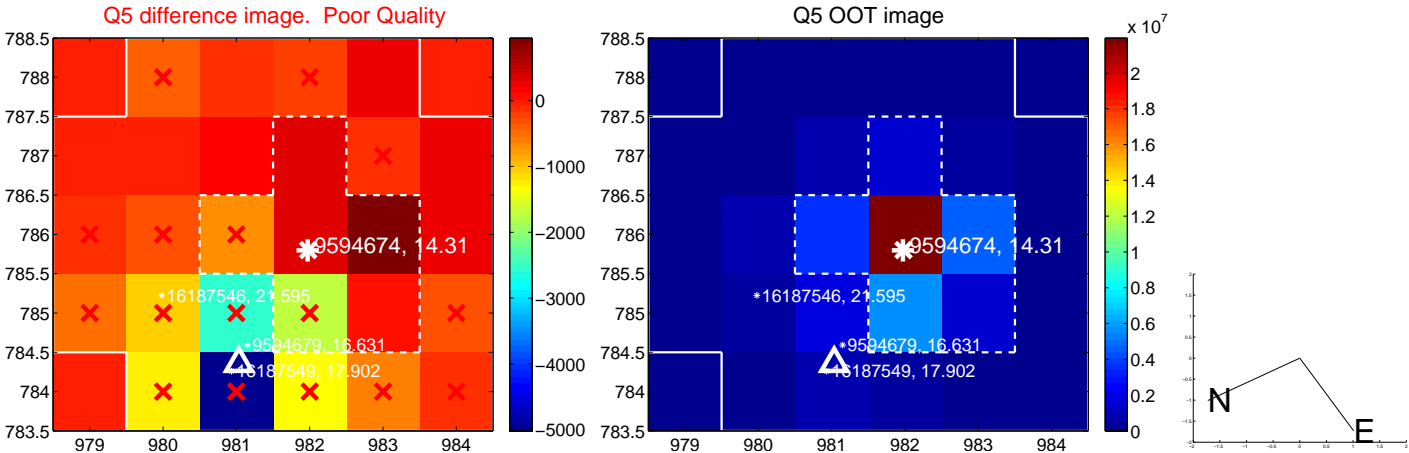


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

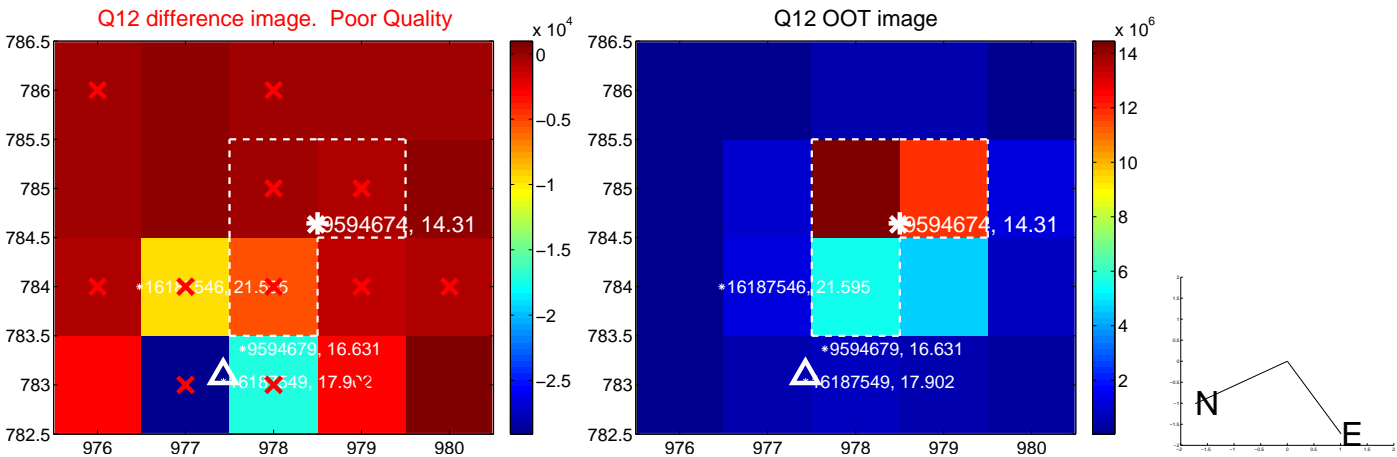
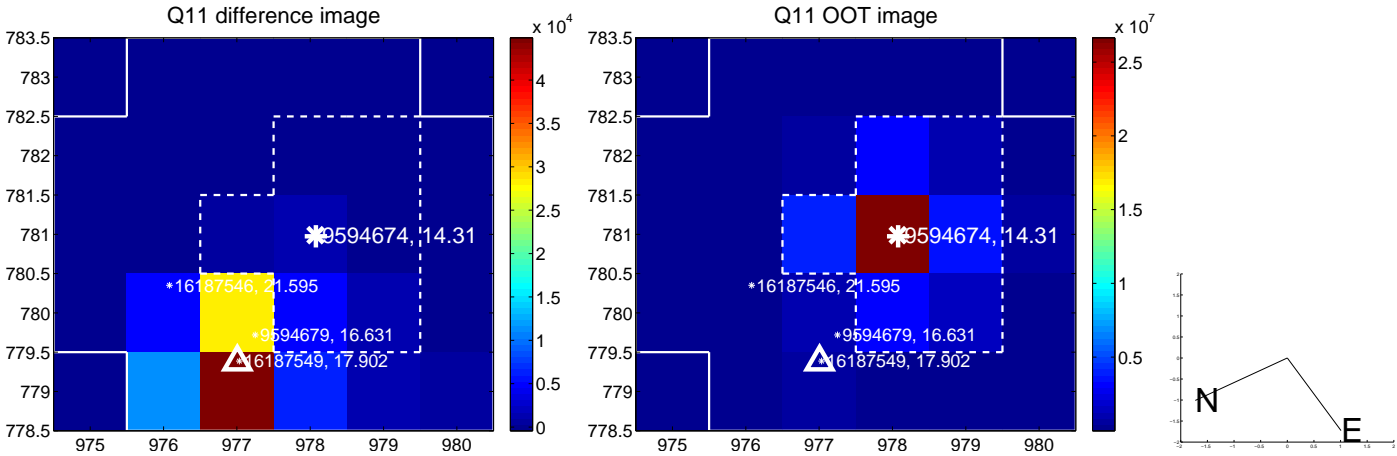
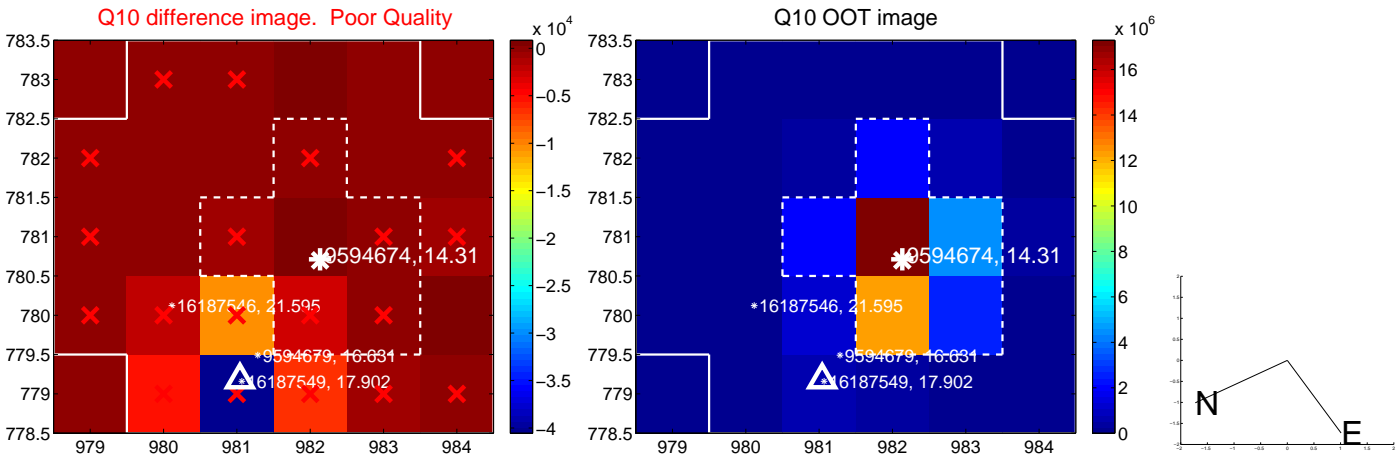
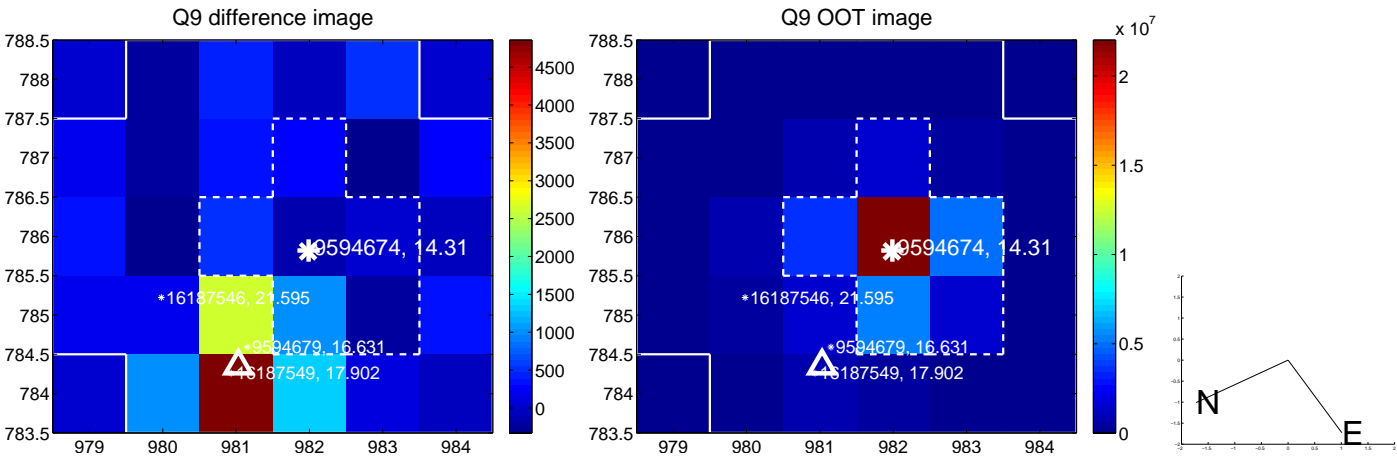


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

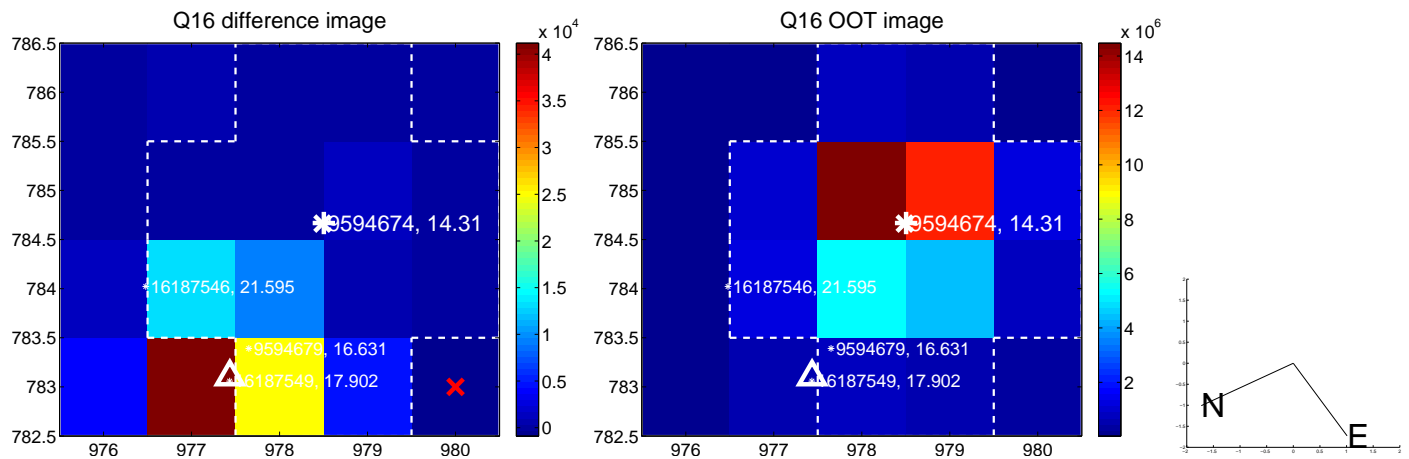
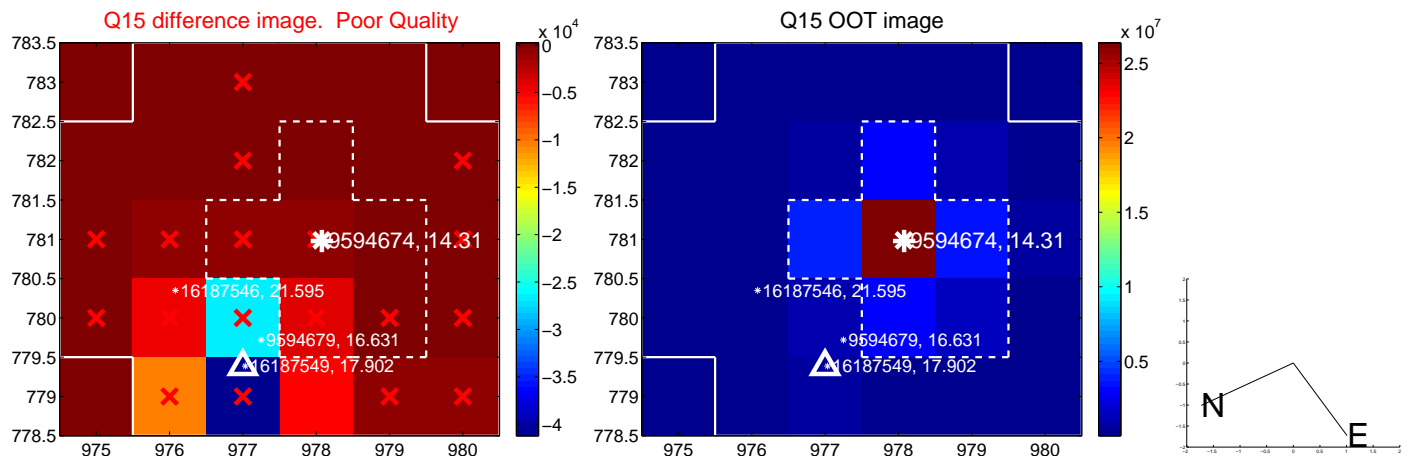
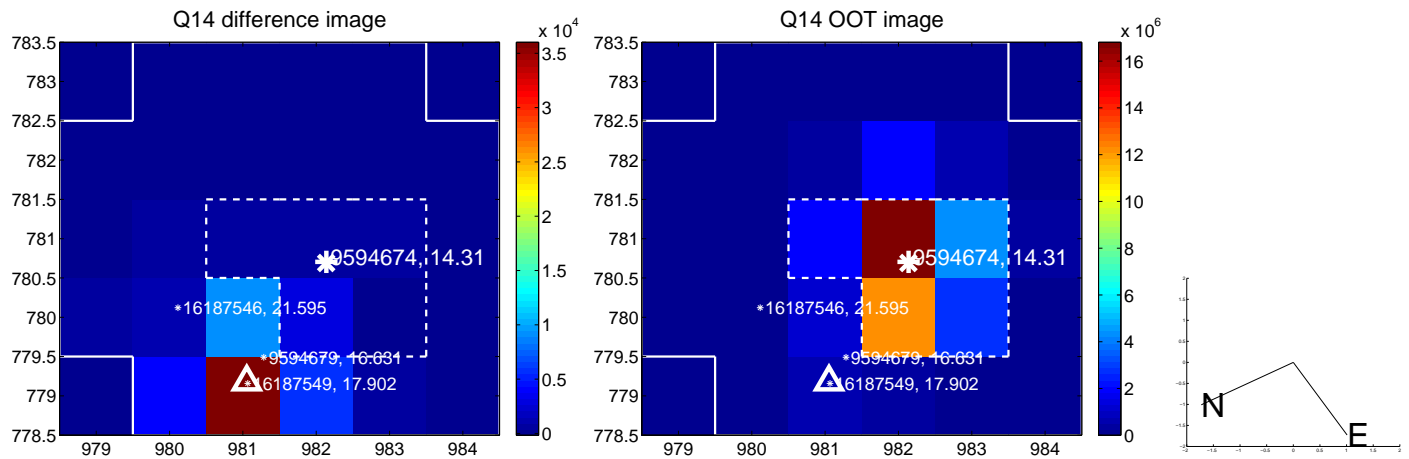
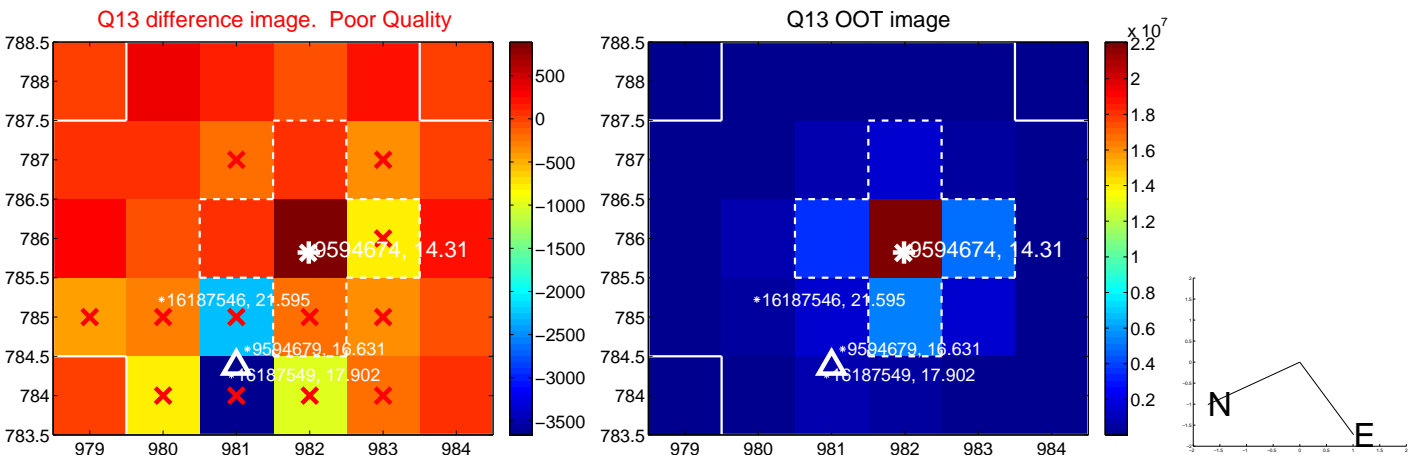




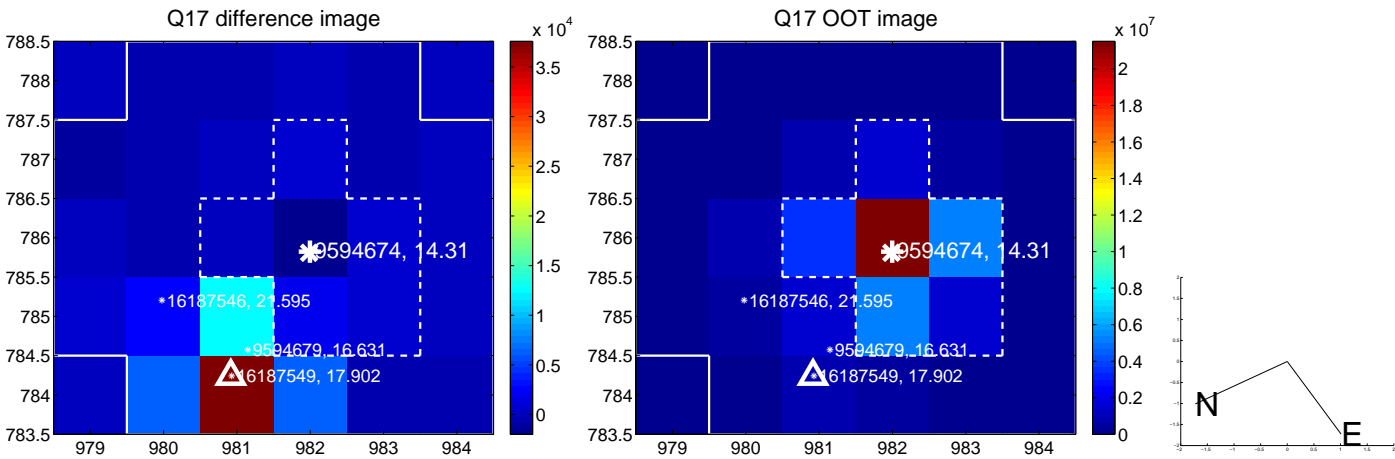
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



folded centroid time series figure for this object.

UKIRT Image

Declination

