

# KIC 009946597

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009946597-01	OBS	No	0.762802	131.991797	1.4	7.984	8.0	1.5	3.32	7368	0.40	86334.52

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009946597-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

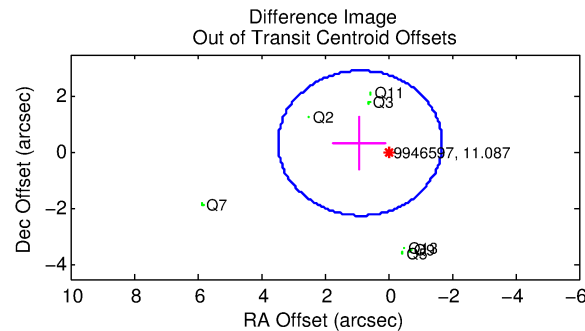
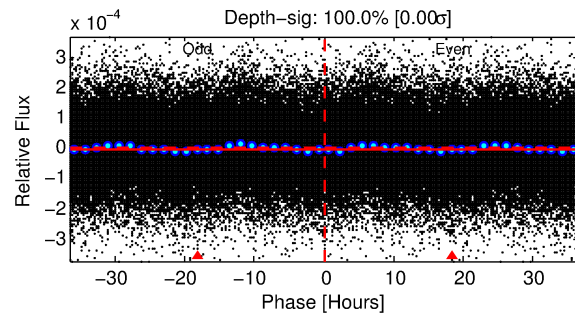
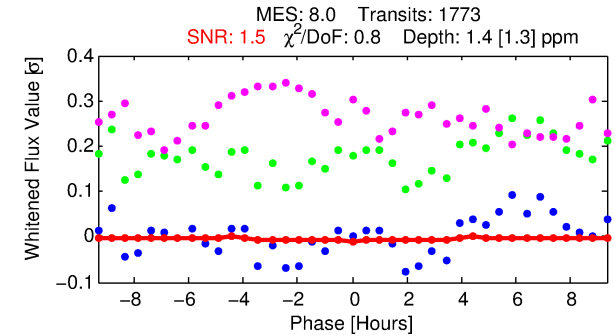
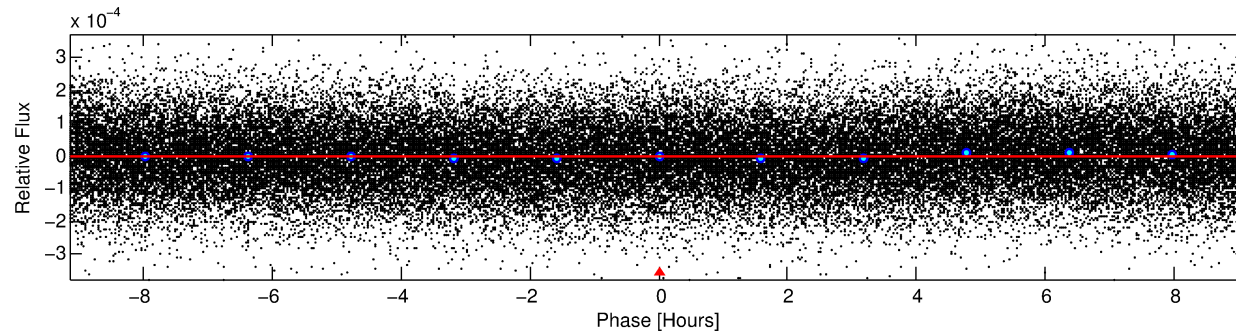
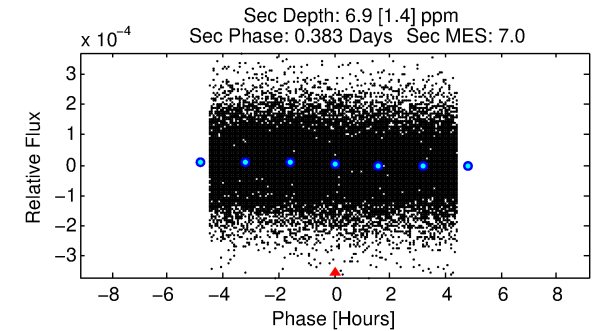
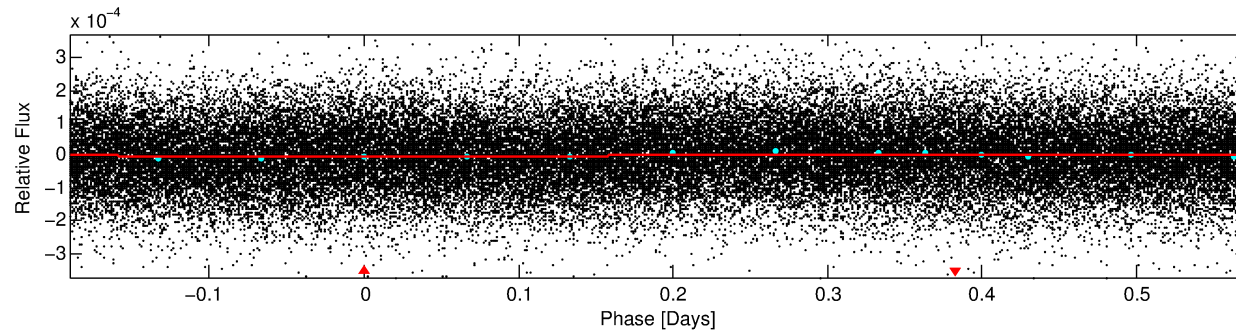
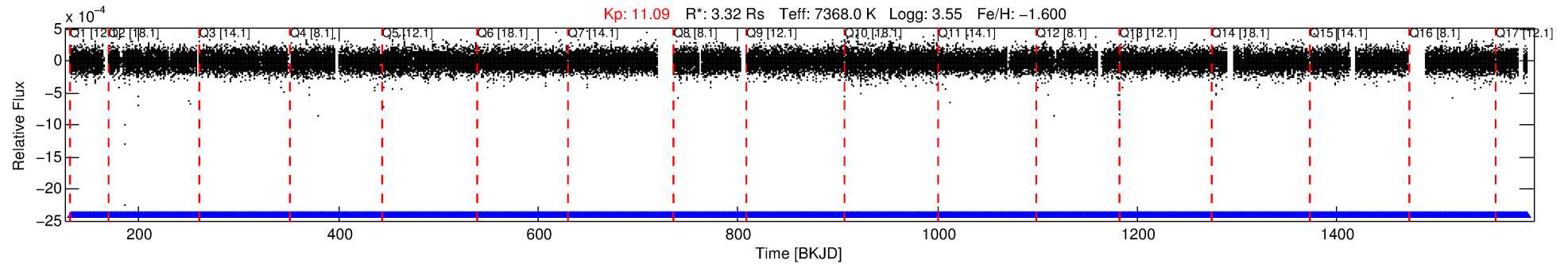
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009946597-01

No Significant Match Found

# DV One-Page Summary

KIC: 9946597 Candidate: 1 of 1 Period: 0.763 d



## DV Fit Results:

Period = 0.76280 [0.00011] d  
Epoch = 131.9918 [0.0347] BKJD  
Rp/R\* = 0.0011 [0.0043]  
a/R\* = 1.02 [0.90]  
b = 0.30 [71.50]  
Seff = 86334.52 [116856.47]  
Teq = 4371 [1479] K  
Rp = 0.40 [1.58] Re  
a = 0.0184 [0.0142] AU  
Ag = 8.09 [64.17] [0.11σ]  
Teffp = 11396 [22283] K [0.31σ]

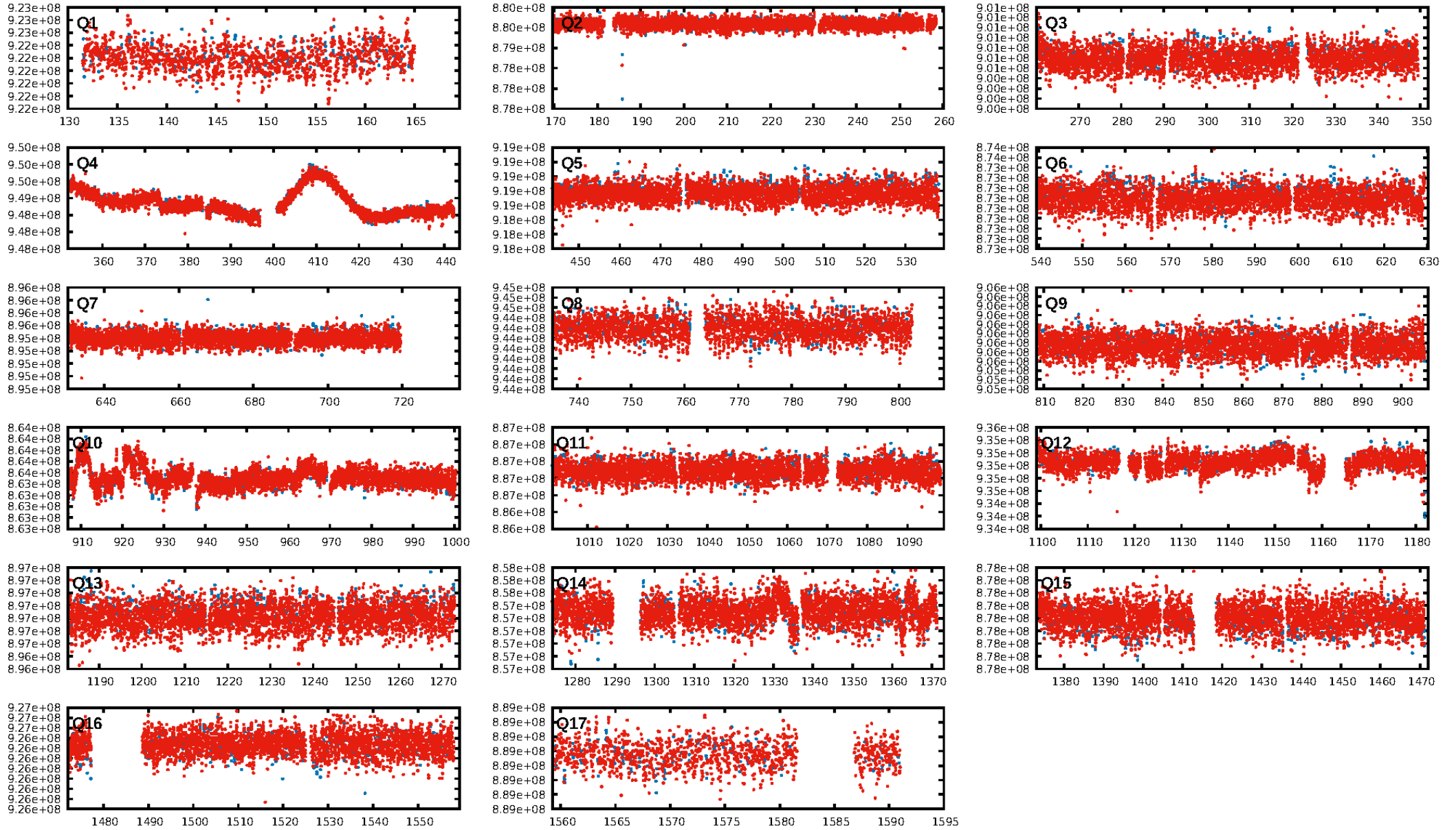
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1694/1694]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.948 arcsec [1.10σ]  
KicOffset-rm: 0.920 arcsec [1.21σ]  
OotOffset-st: 1/3/0/3 [7]  
KicOffset-st: 1/3/0/3 [7]  
DiffImageQuality-fgm: 0.29 [2/7]  
DiffImageOverlap-fno: 1.00 [17/17]

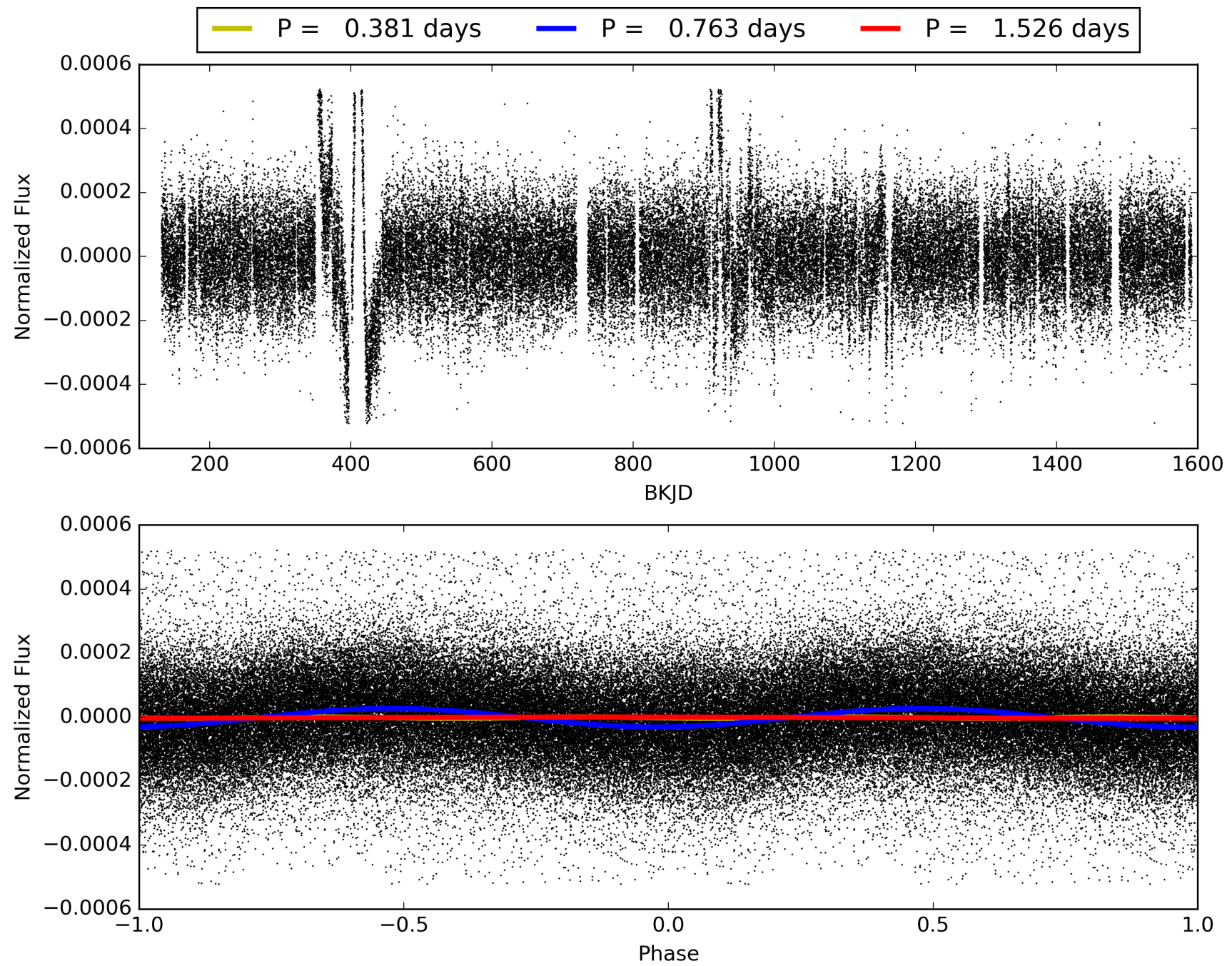
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:27:07 Z

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

# TCE 009946597-01, PDC Light Curves

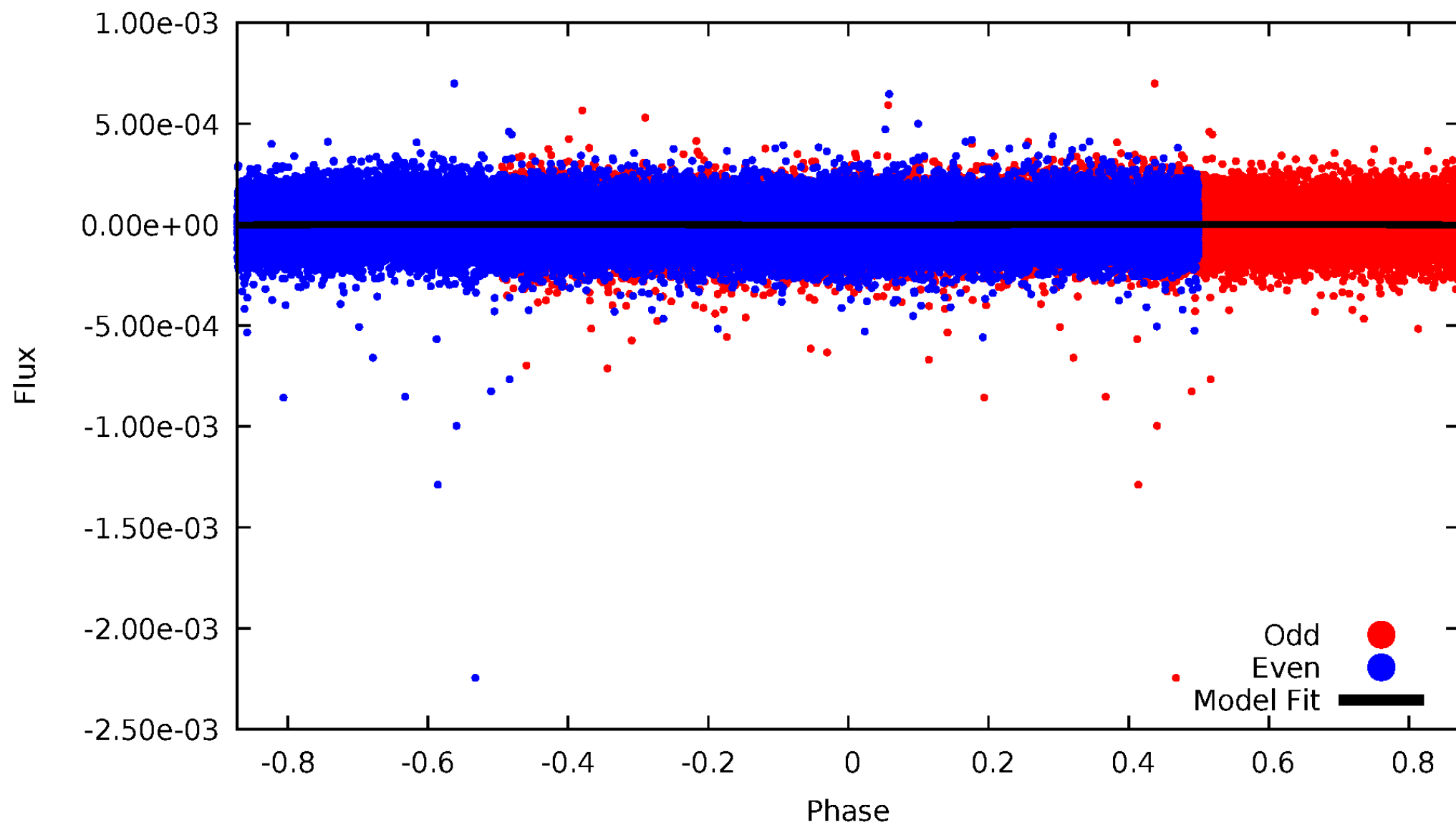


TCE 009946597-01



# DV Odd/Even

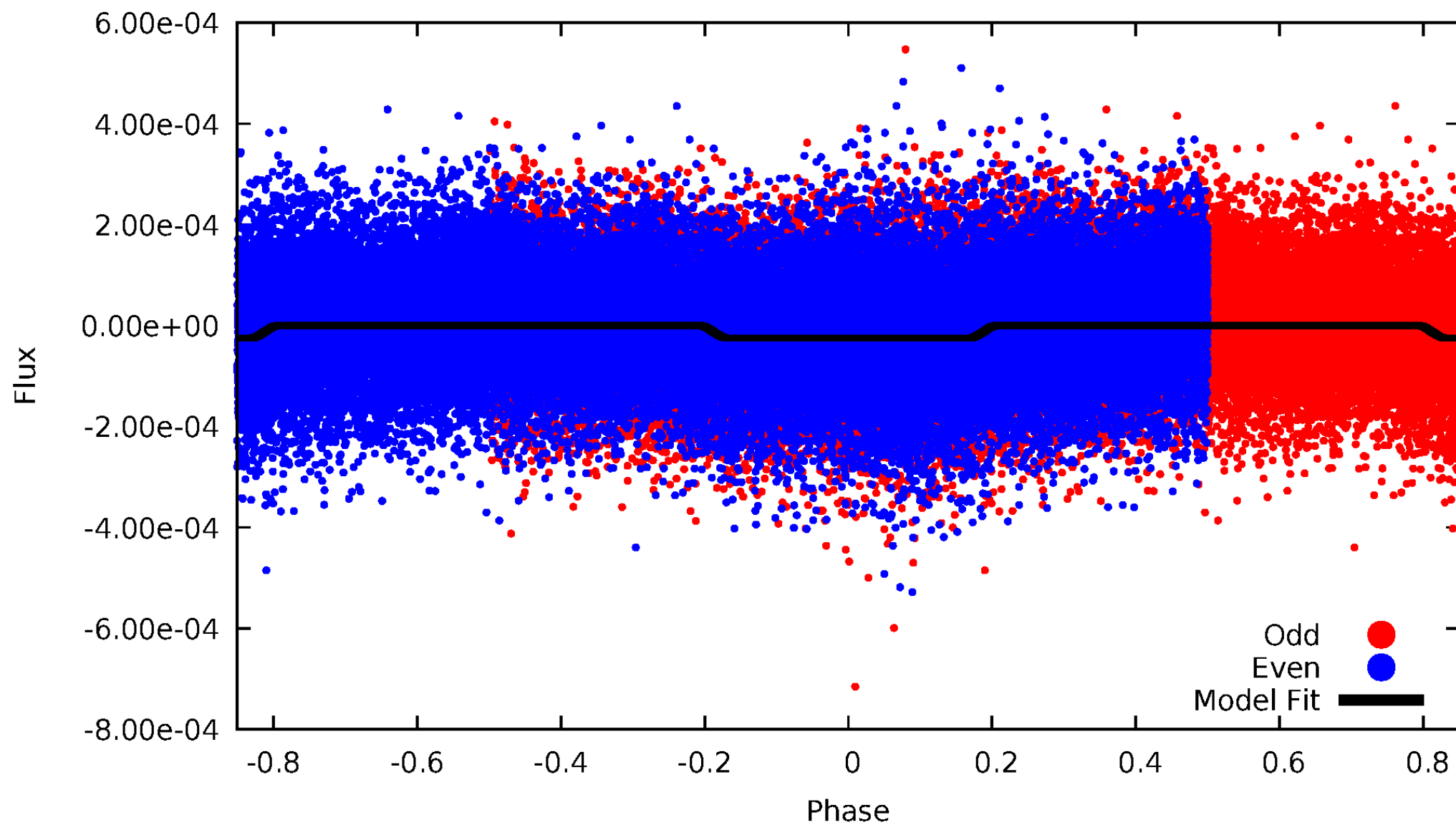
TCE 009946597-01





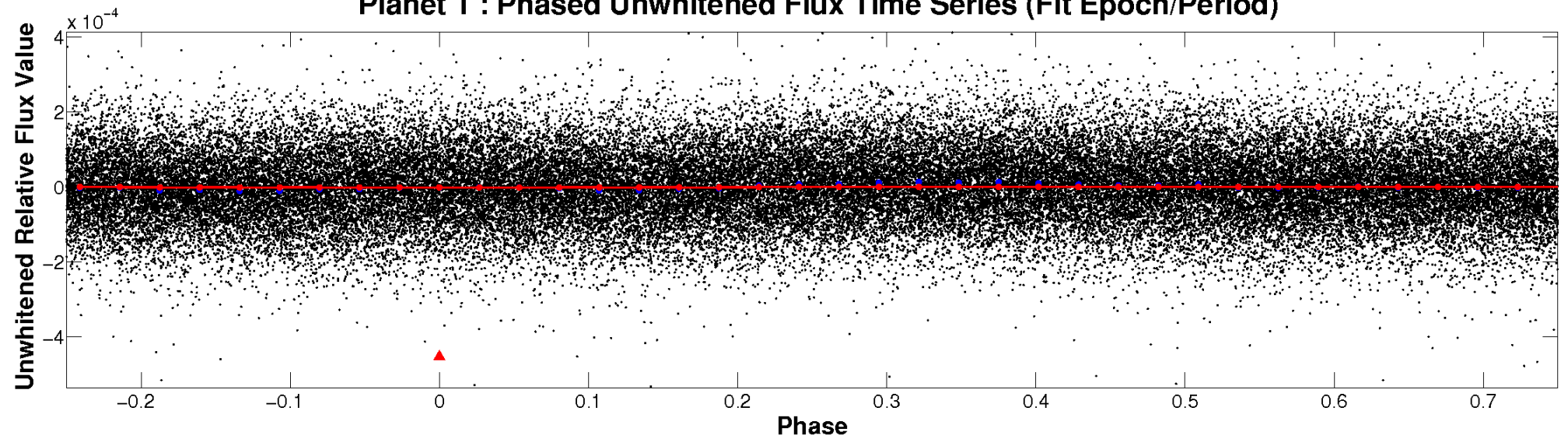
# ALT Odd/Even

TCE 009946597-01

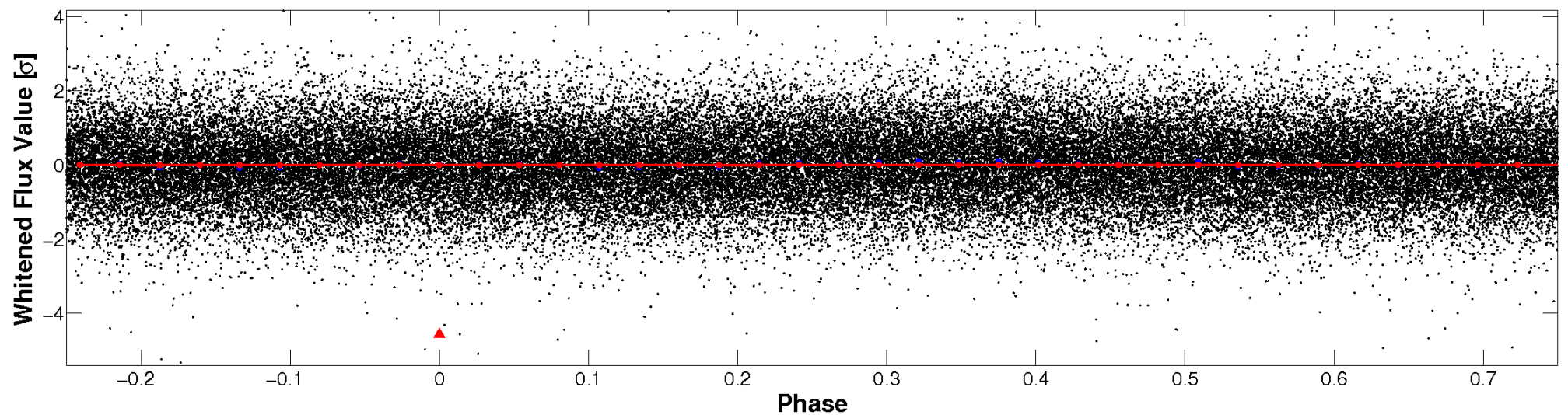


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

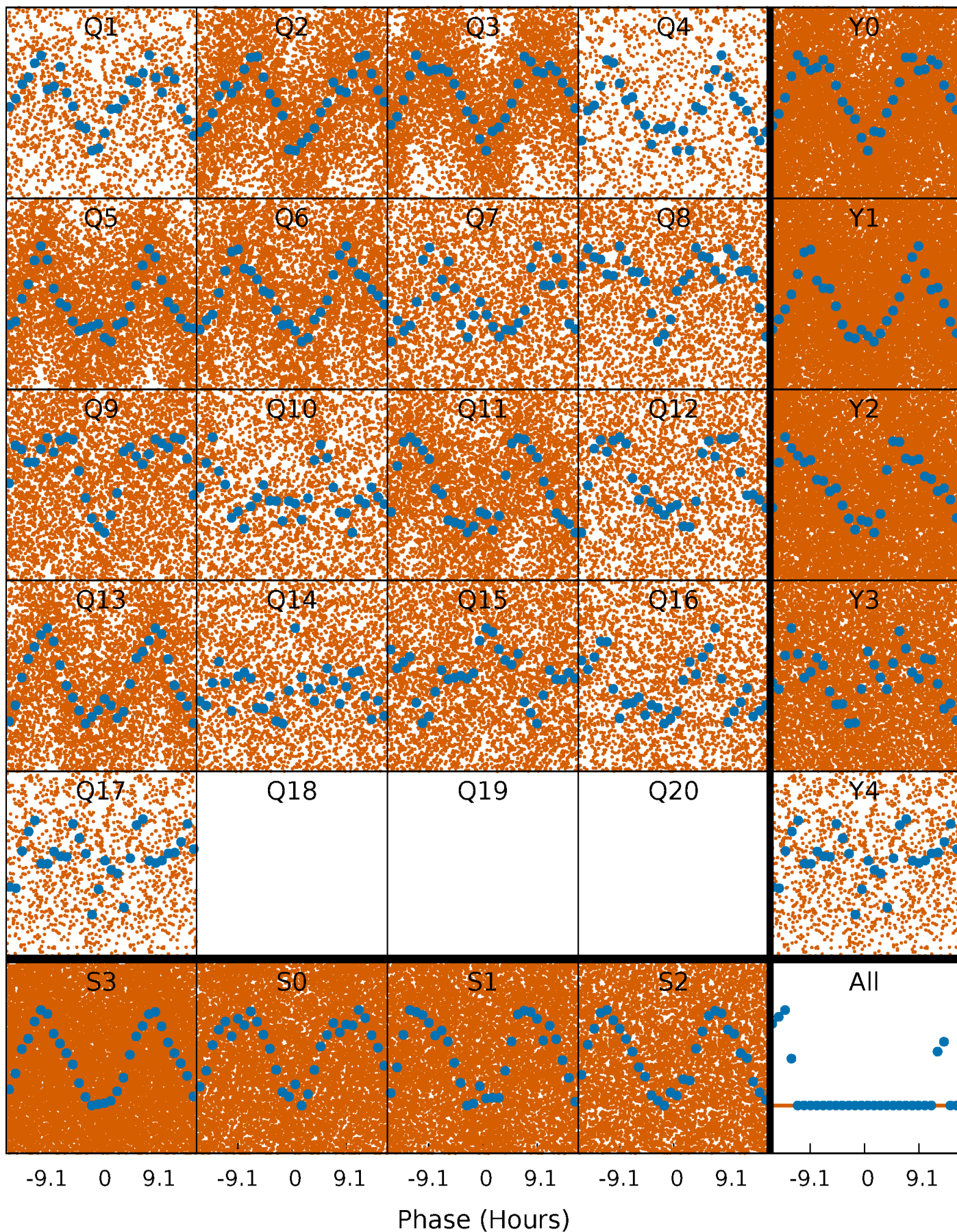


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

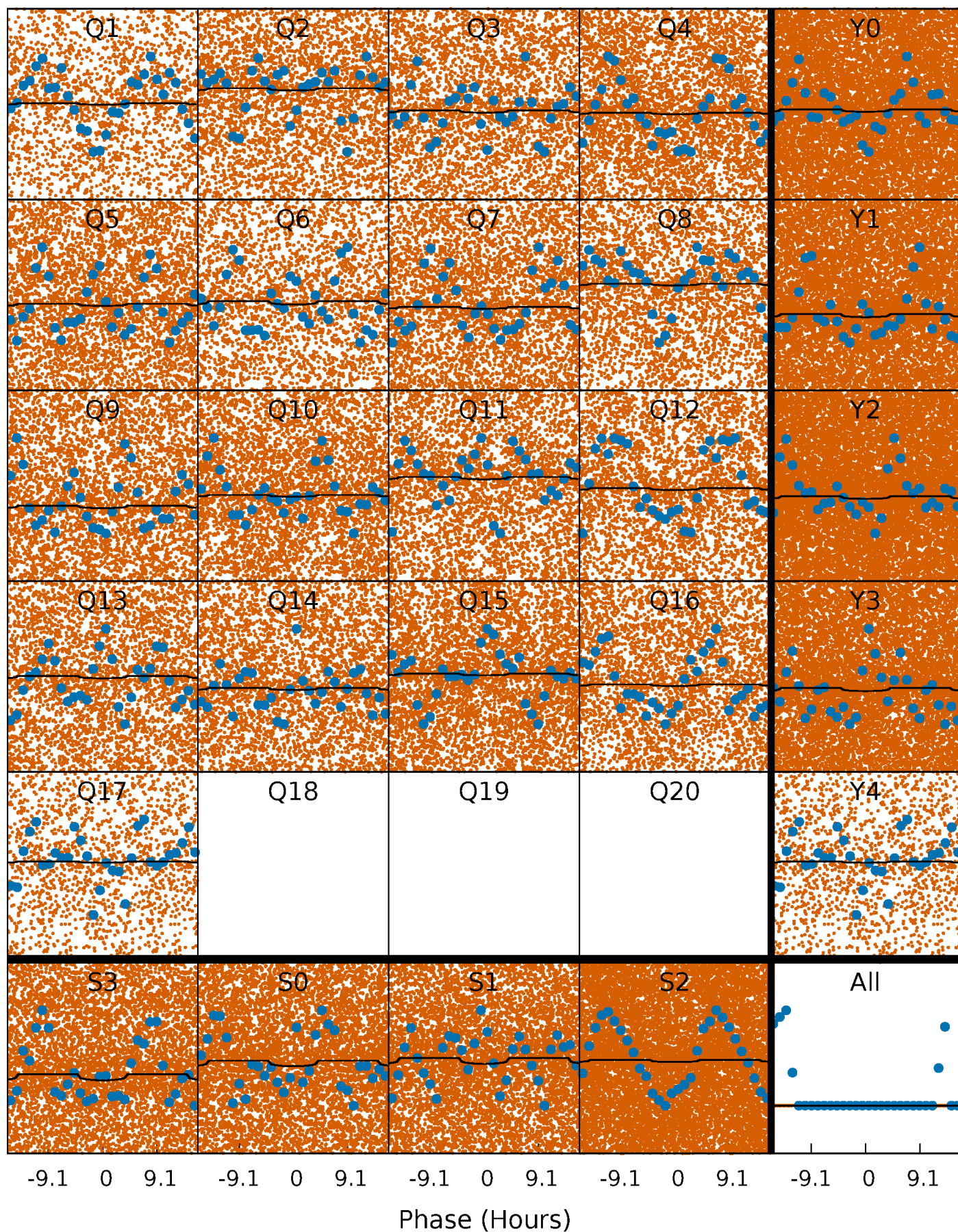
TCE 009946597-01   P= 0.762802 Days    $T_0=131.991797$  (BKJD)





# DV Quarter-Phased Transit Curves

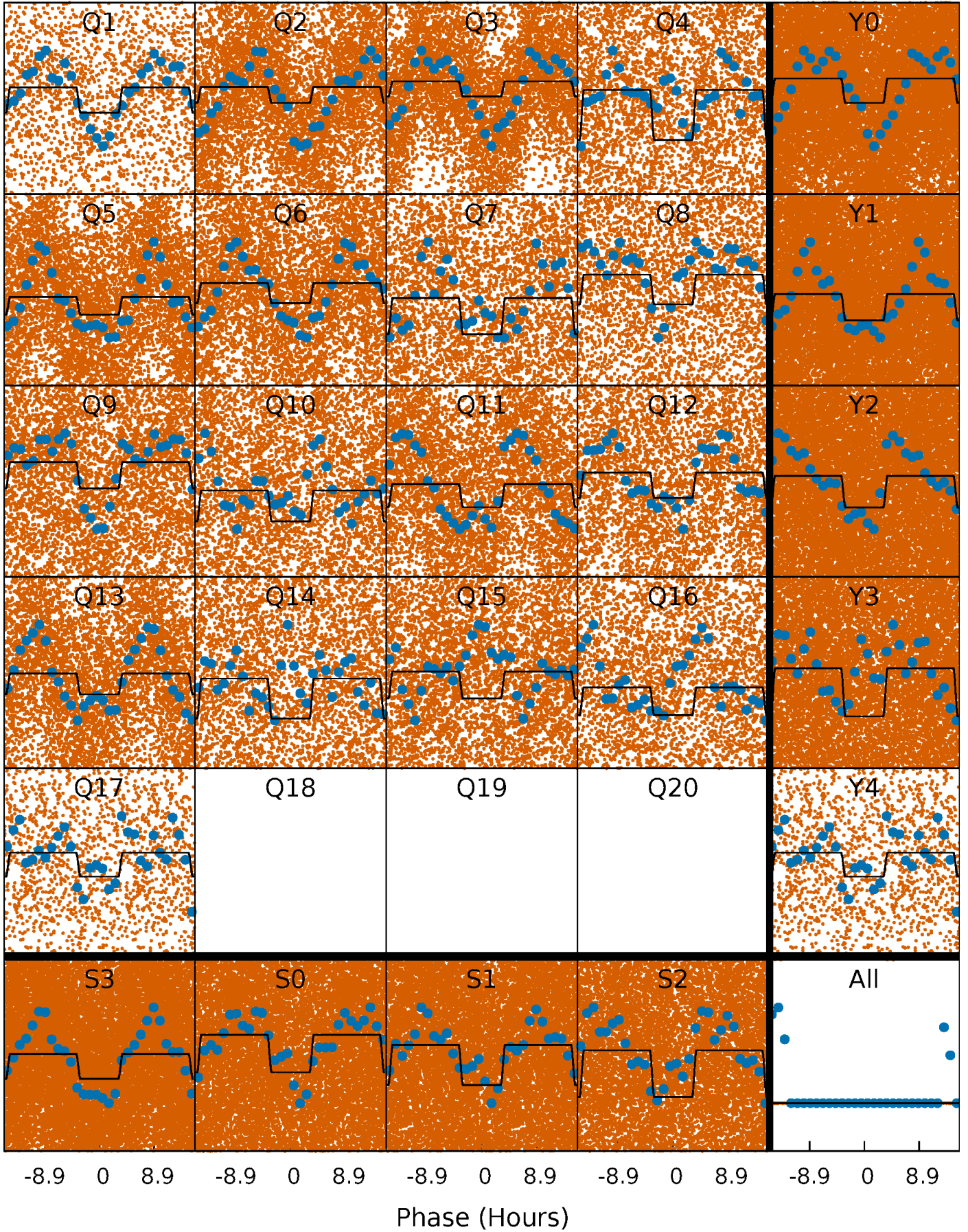
TCE 009946597-01   P= 0.762802 Days    $T_0=131.991797$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

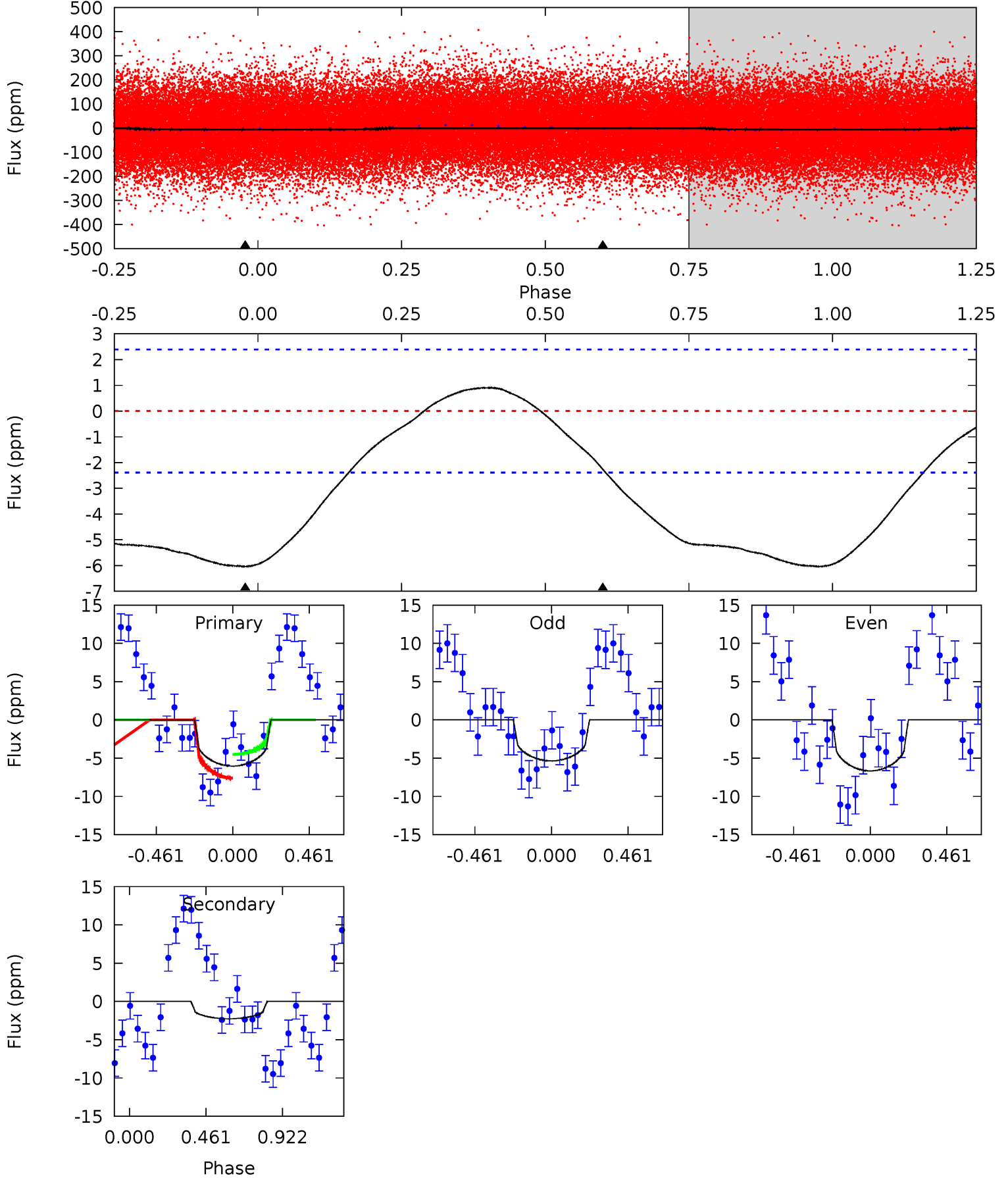
TCE 009946597-01   P= 0.762874 Days    $T_0=131.932336$  (BKJD)



# DV Model-Shift Uniqueness Test

009946597-01, P = 0.762802 Days, E = 131.228995 Days

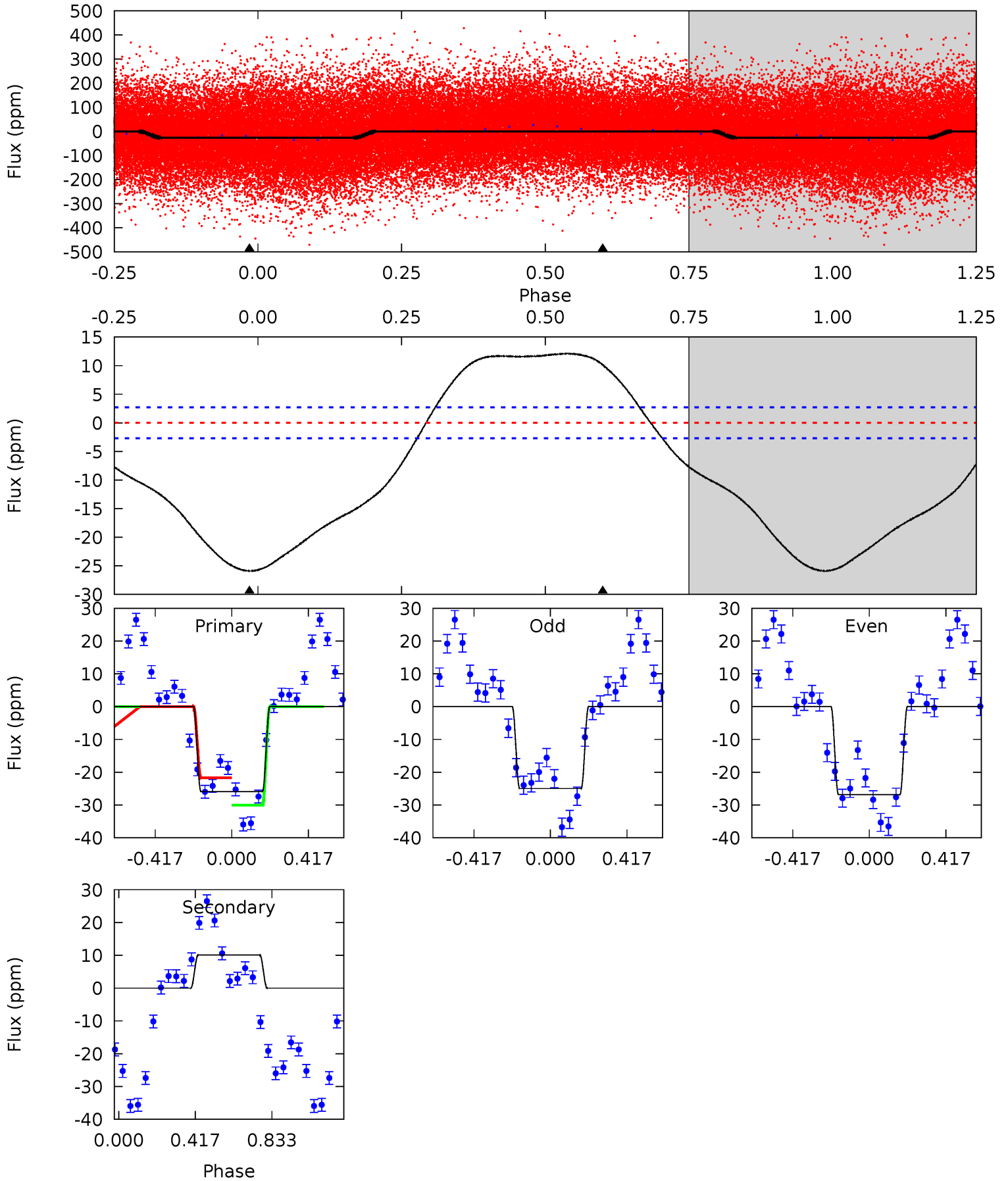
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	4.00	0	0	4.23	0.74	0.79	10.7	10.7	4.00	4.00	1.16	1.15	0.13	2.78



# Alt Model-Shift Uniqueness Test

009946597-01, P = 0.762874 Days, E = 131.169462 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
40.8	-15.9	0	0	4.26	0.81	7.60	40.8	40.8	-15.9	-15.9	1.45	1.01	0.32	6.61





### Stellar Parameters For KIC 009946597

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7368^{+231}_{-282}$	$3.548^{+0.828}_{-0.138}$	$-1.600^{+0.300}_{-0.250}$	$3.324^{+0.730}_{-2.191}$	$1.424^{+0.174}_{-0.493}$	$0.055^{+1.126}_{-0.021}$
	+3%/-4%	+23%/-4%	+19%/-16%	+22%/-66%	+12%/-35%	+2062%/-39%
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 009946597-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-2 \pm 1$	$1.05^{+1.29}_{-0.74}$	$5898^{+522}_{-1058}$	$3624^{+5397}_{-8283}$	$0.388^{+3.613}_{-0.311}$
Alt.	$10 \pm 1$	$1.71^{+1.53}_{-1.04}$	$5852^{+567}_{-1038}$	$-6069^{+796}_{-2848}$	$-0.621^{+0.446}_{-3.167}$

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

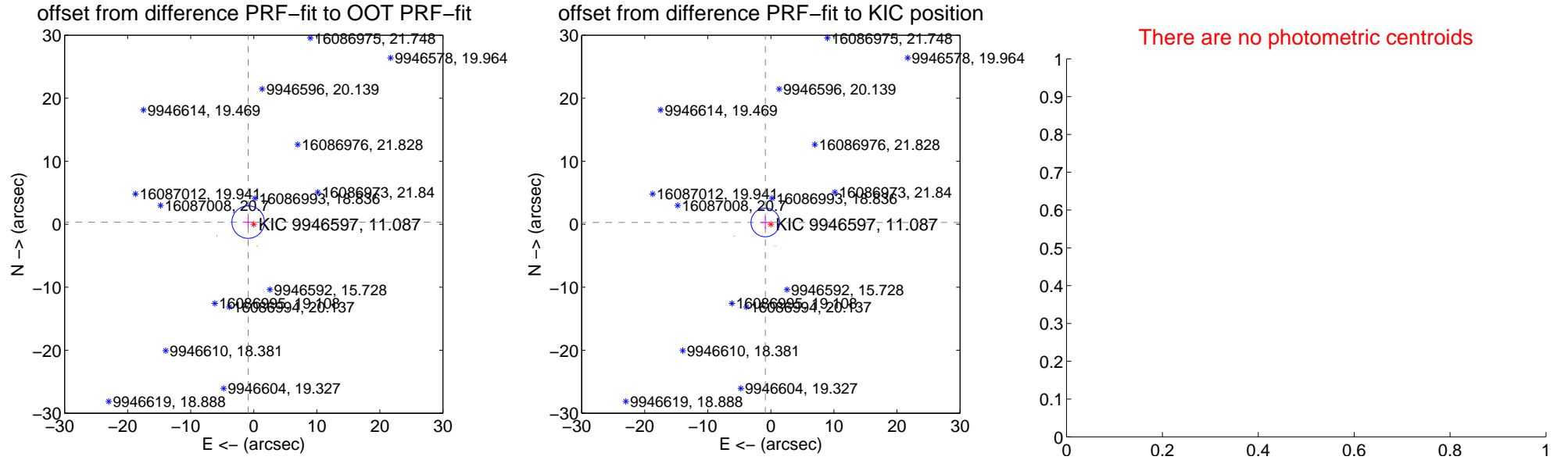
## DV Centroid Data

Supplemental centroid analysis for 009946597-01. **Kepler magnitude: 11.09.** Transit SNR 1.52

**There are 2 quarters with good PRF difference image offsets**

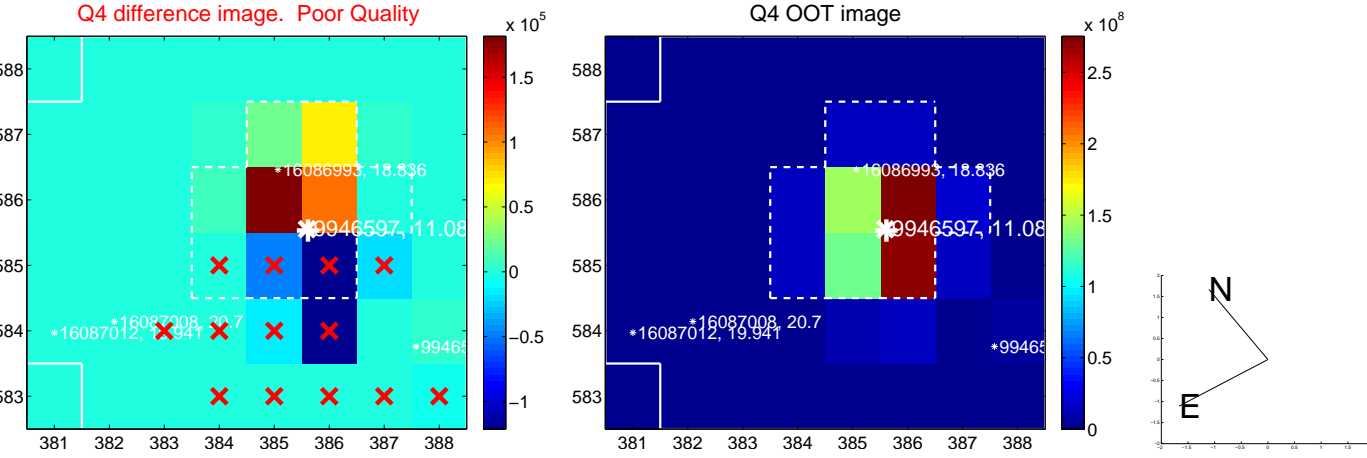
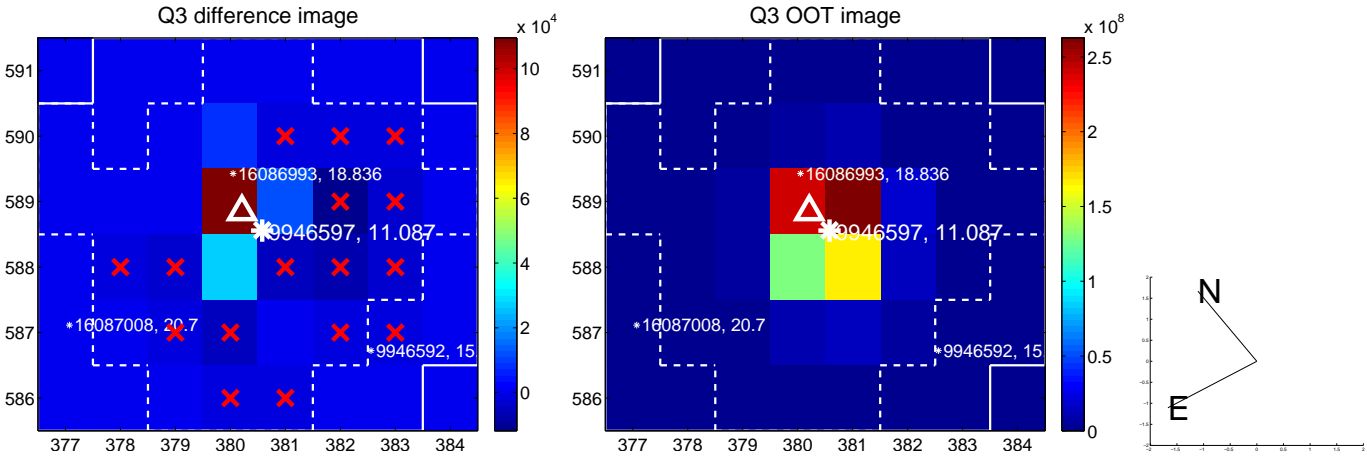
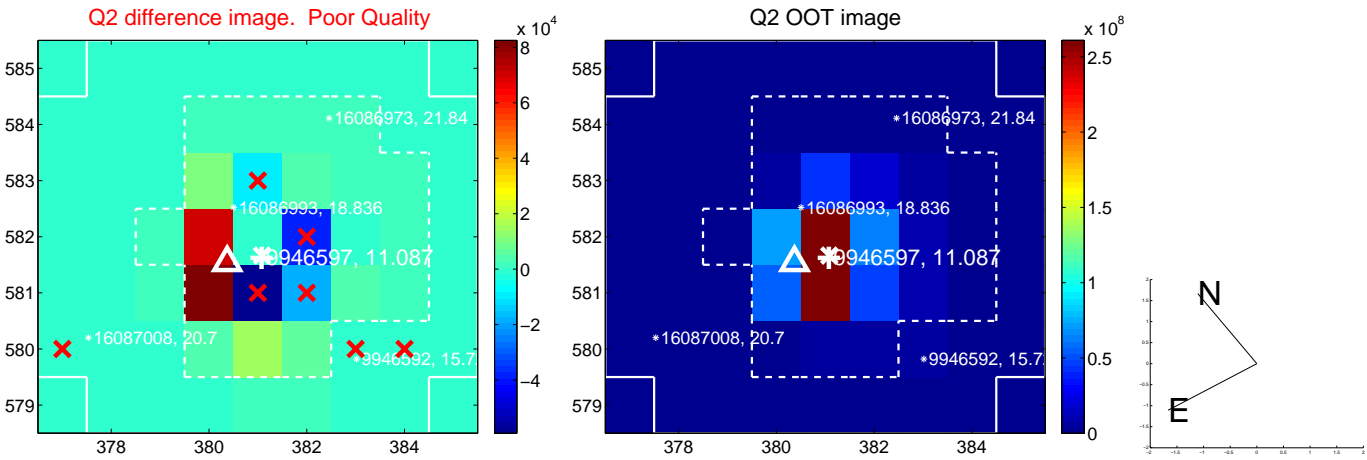
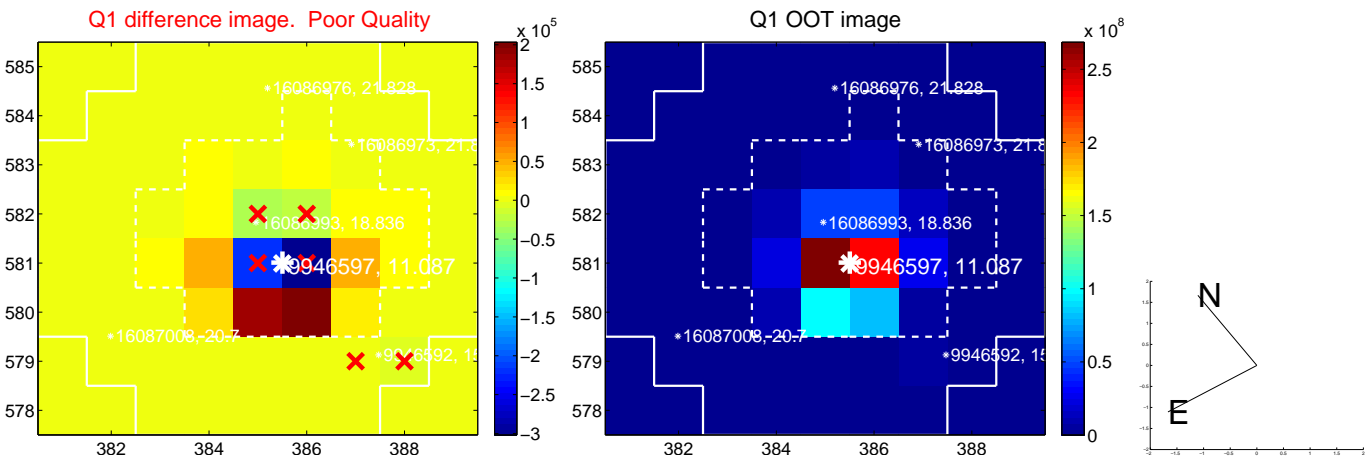
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.948 \pm 0.860$	1.10	$0.886 \pm 0.820$	$0.339 \pm 0.910$
PRF-fit source offset from KIC position	$0.920 \pm 0.758$	1.21	$0.877 \pm 0.731$	$0.279 \pm 0.980$
photometric centroid source offset	—	—	—	—

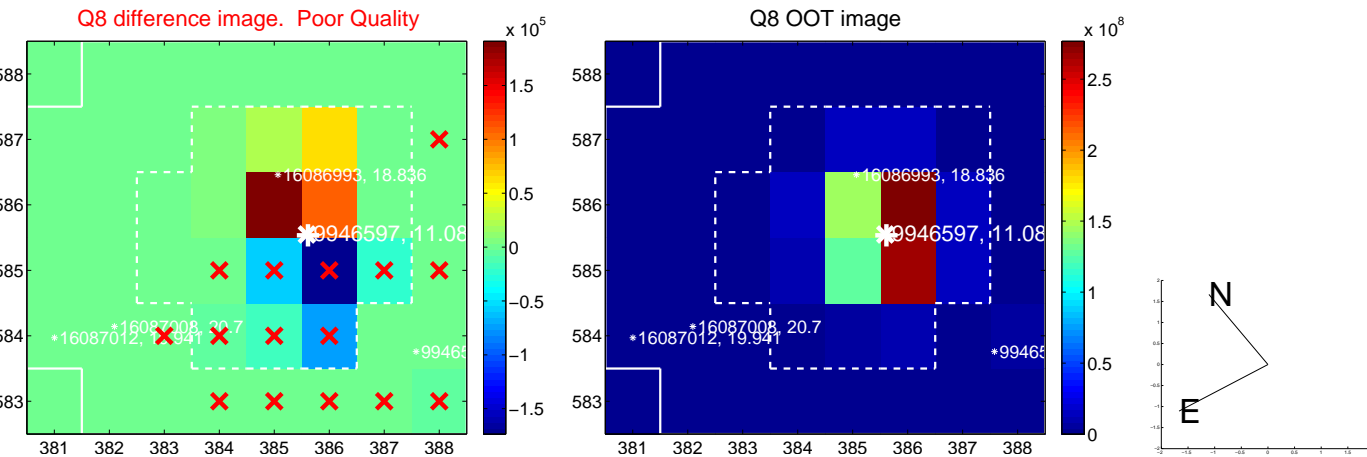
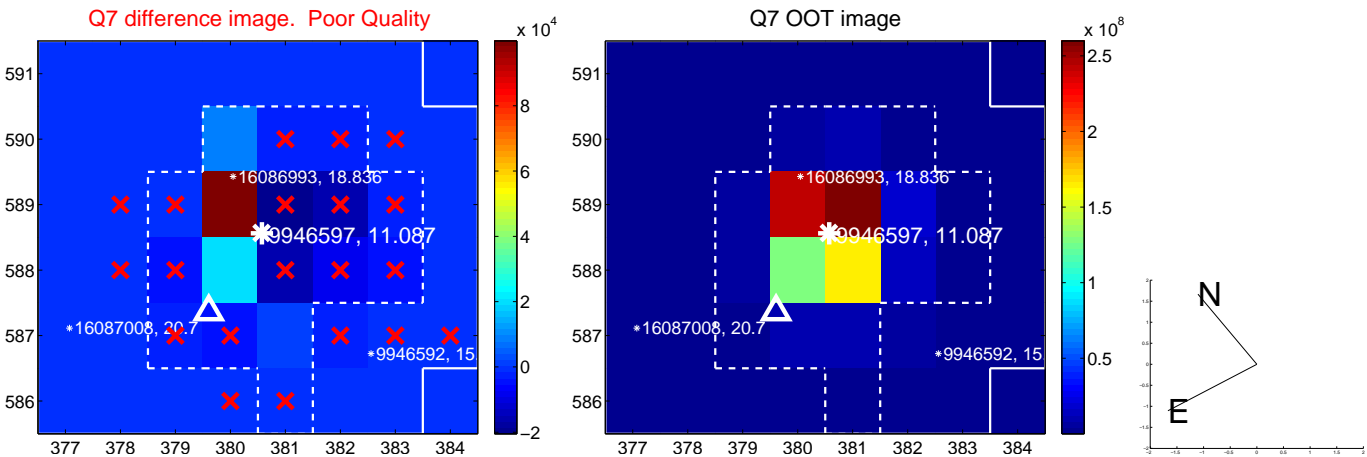
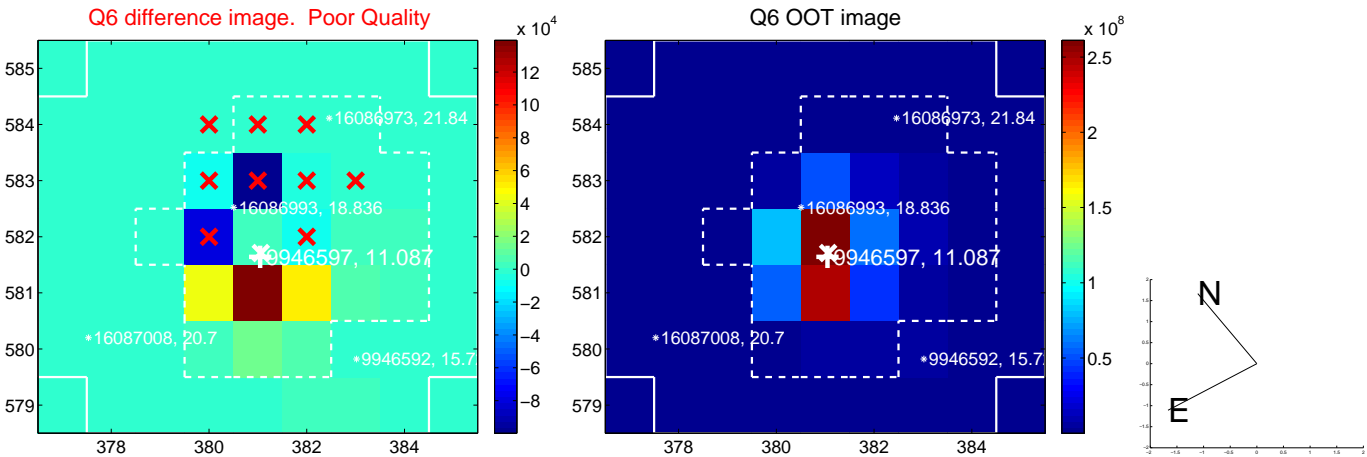
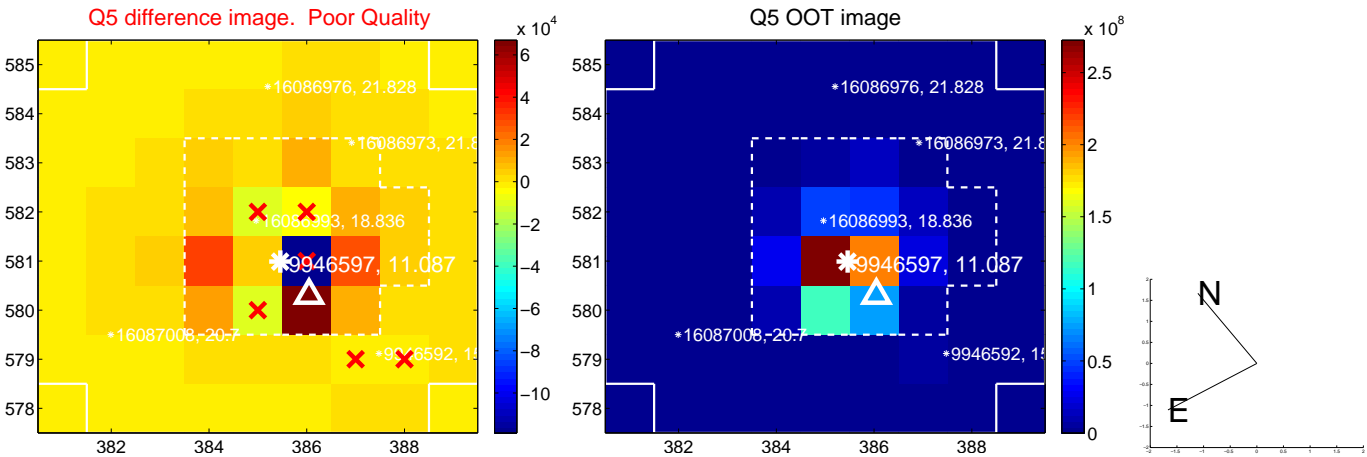


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

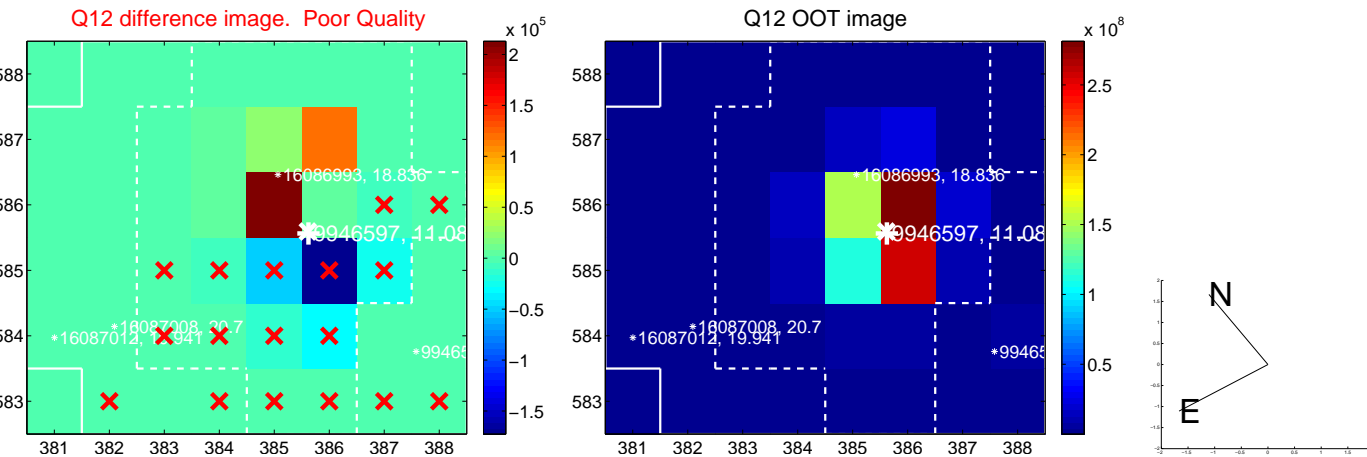
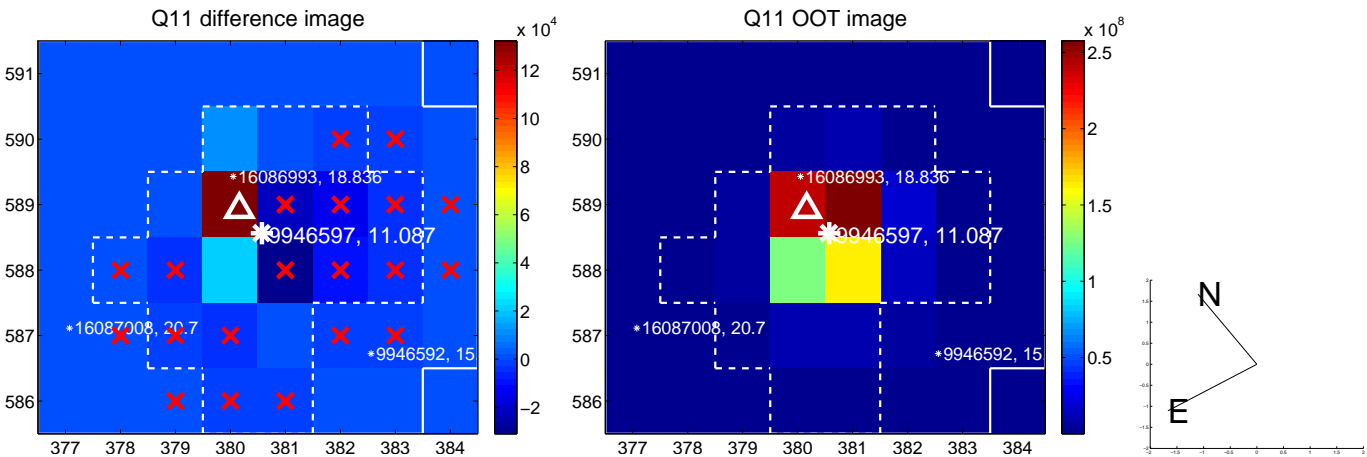
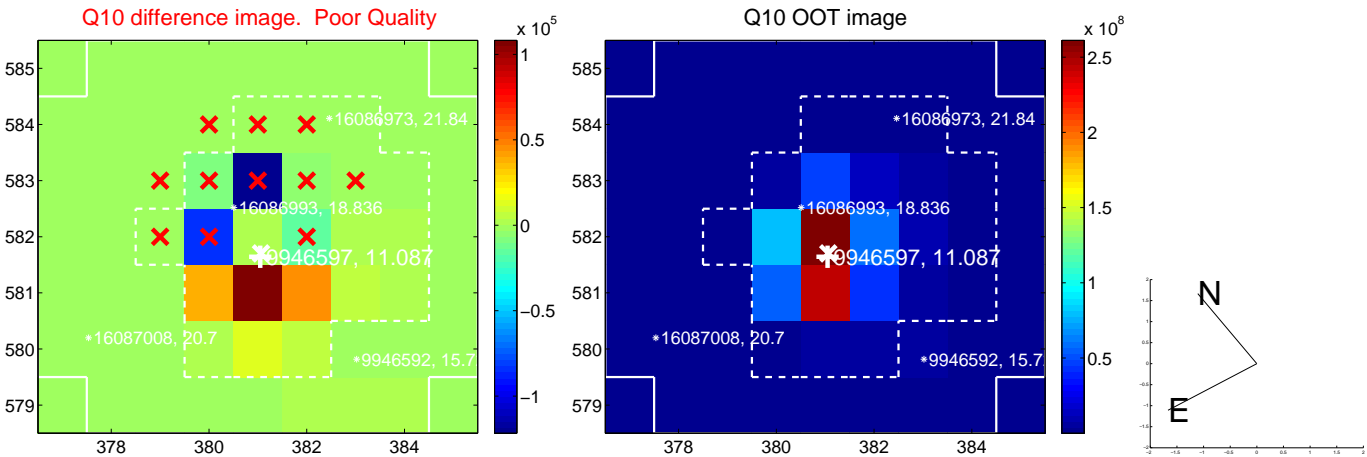
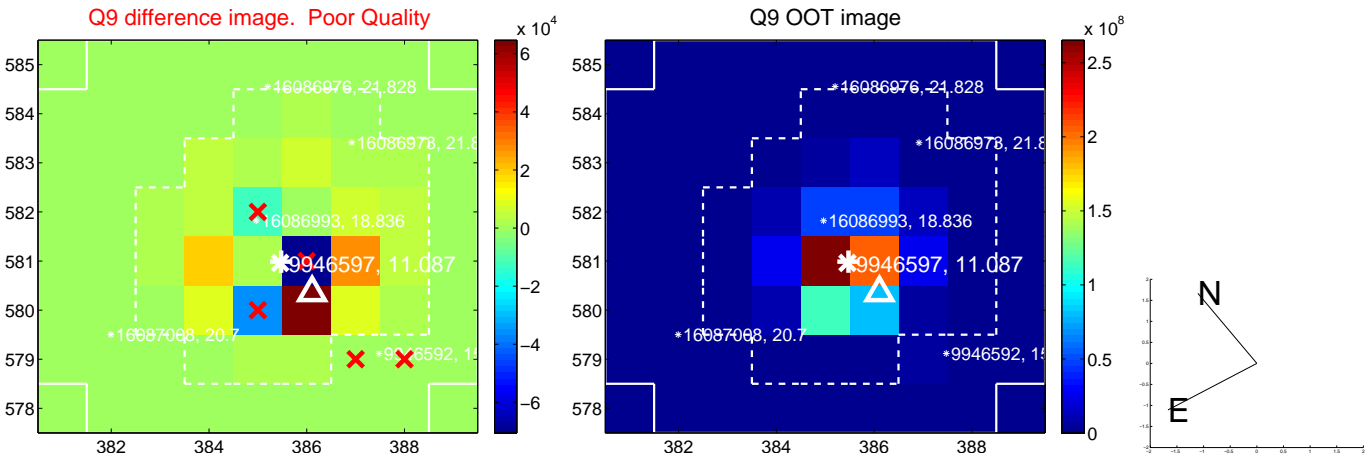


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

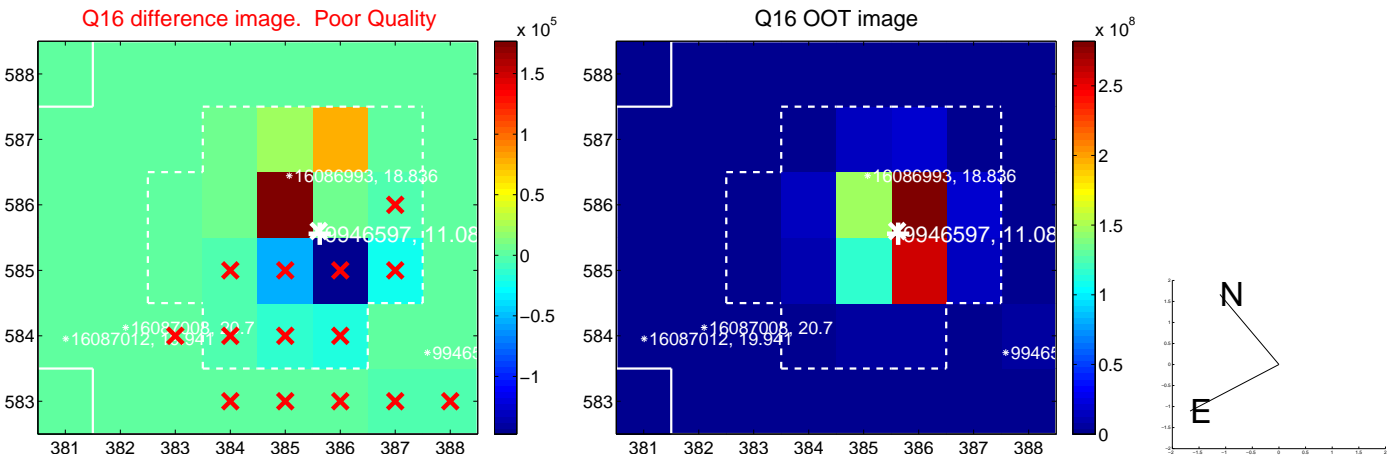
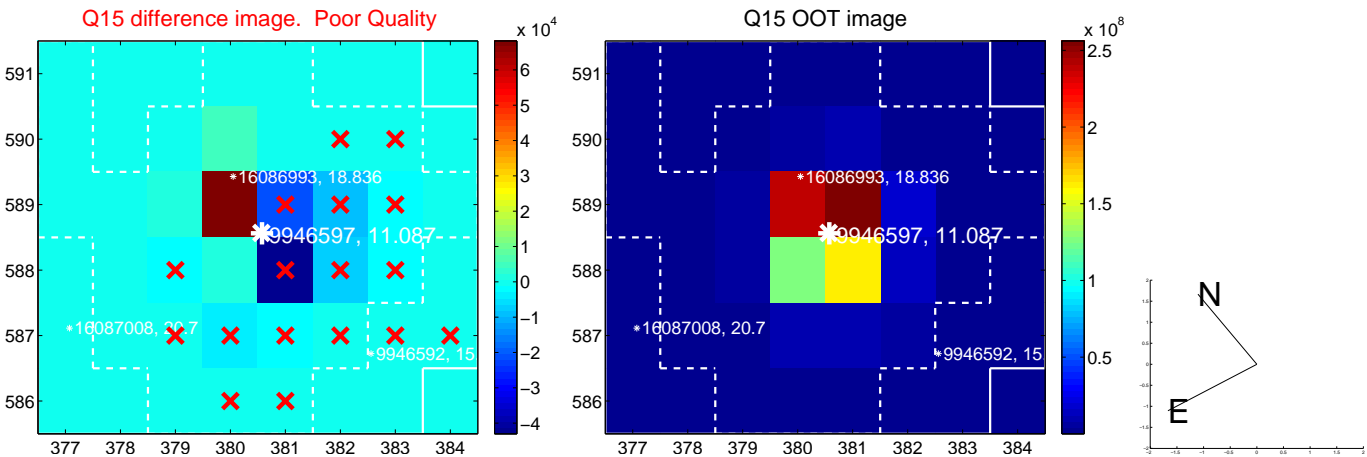
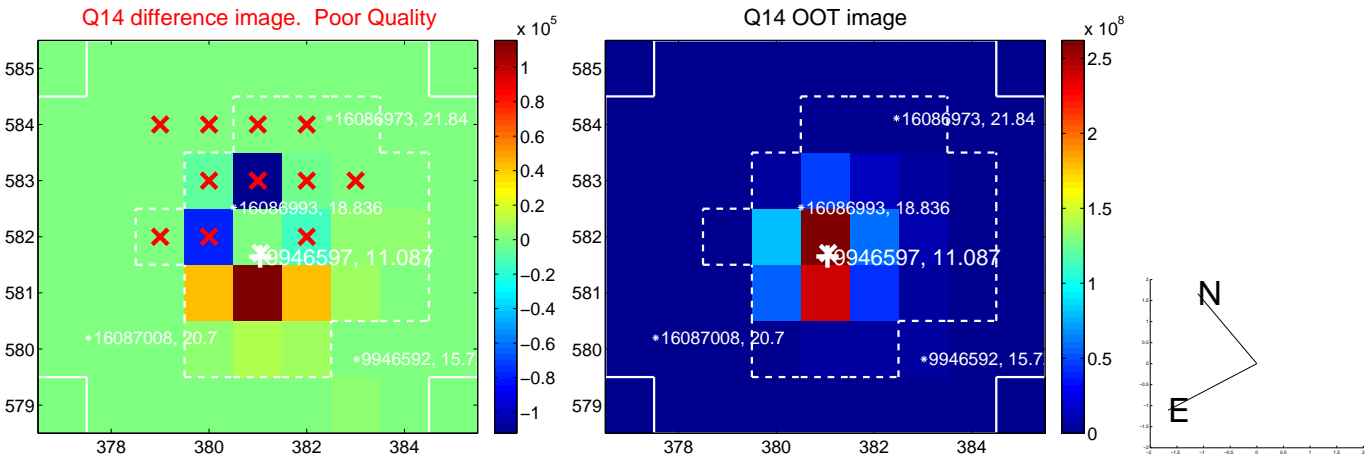
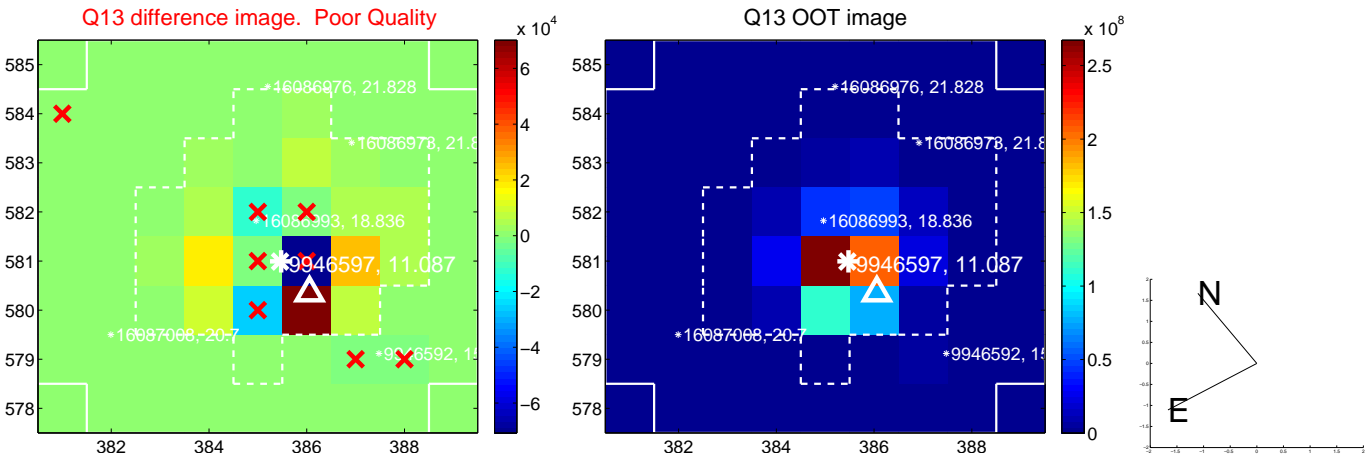




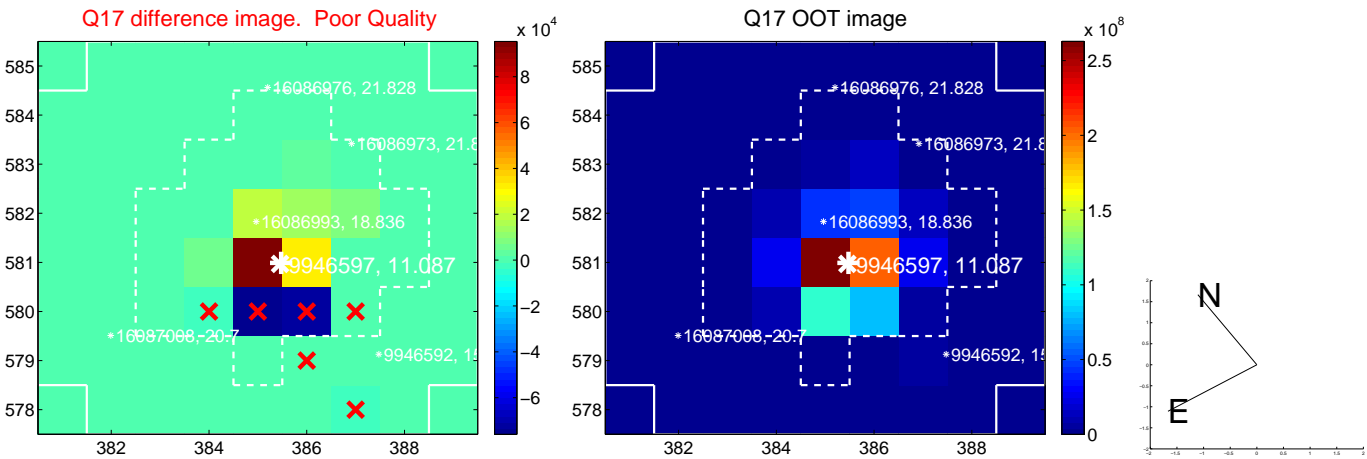
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

