

# KIC 005031882

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005031882-01	OBS	6501.01	1.009588	131.702203	9.6	10.584	7.8	4.3	2.41	6028	0.75	16405.15

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005031882-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_DIFFS

**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.

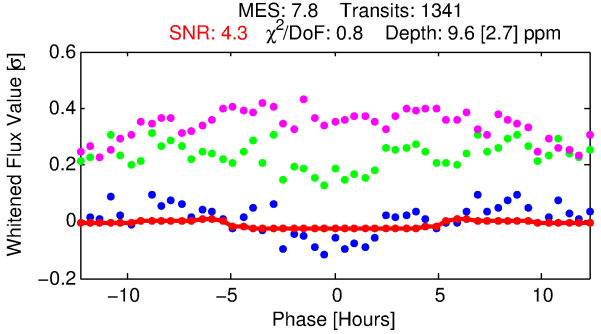
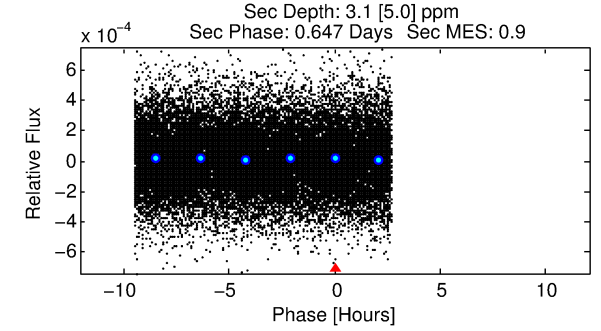
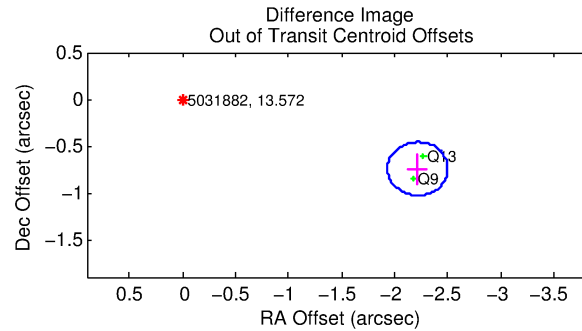
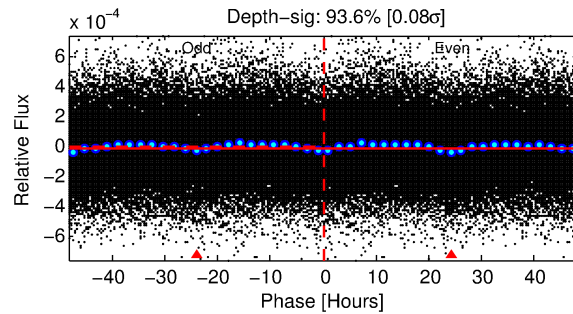
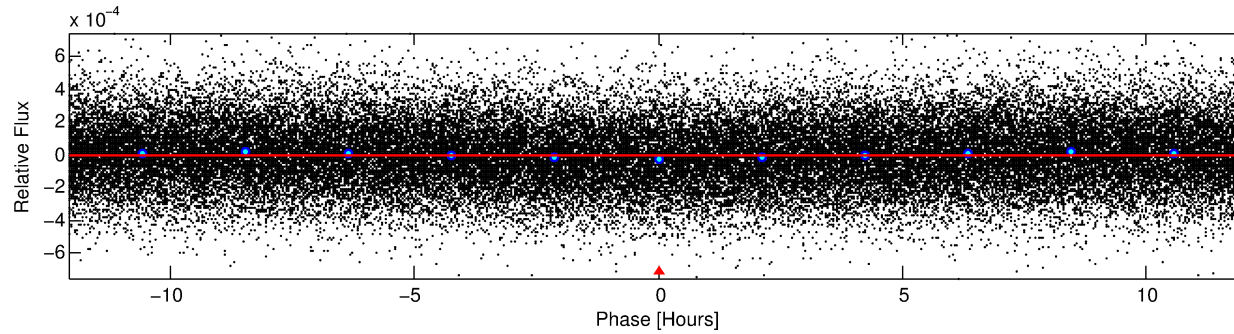
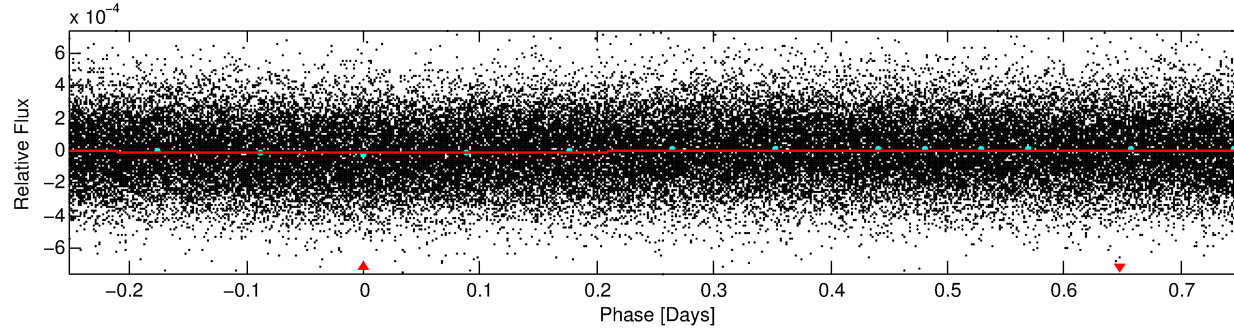
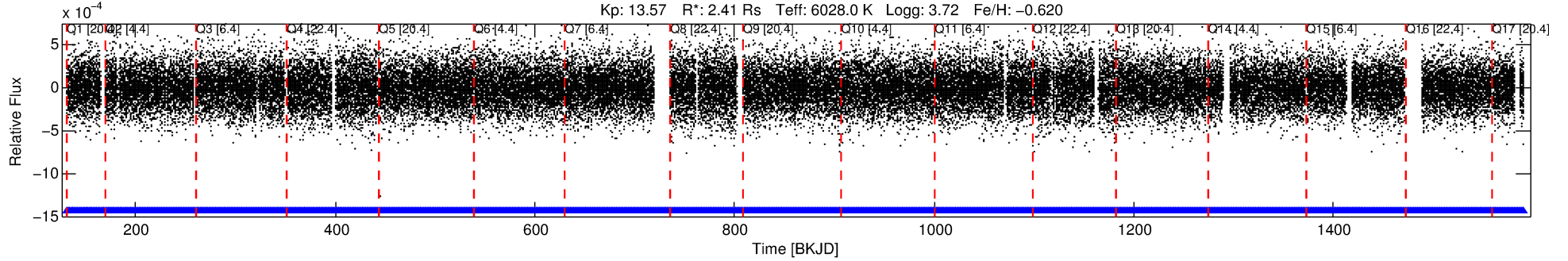
## Ephemeris Match Information For 005031882-01

No Significant Match Found

# DV One-Page Summary

KIC: 5031882 Candidate: 1 of 1 Period: 1.010 d  
KOI: K06501 Corr: No Ephemeris Match

Kp: 13.57 R\*: 2.41 Rs Teff: 6028.0 K Logg: 3.72 Fe/H: -0.620



## DV Fit Results:

Period = 1.00959 [0.00004] d  
Epoch = 131.7022 [0.0154] BKJD  
Rp/R\* = 0.0028 [0.0038]  
a/R\* = 1.02 [0.29]  
b = 0.00 [9971.31]  
Seff = 16405.15 [18053.24]  
Teq = 2886 [794] K  
Rp = 0.75 [1.09] Re  
a = 0.0205 [0.0132] AU  
Ag = 1.28 [4.22] [0.07σ]  
Teffp = 4749 [3690] K [0.49σ]

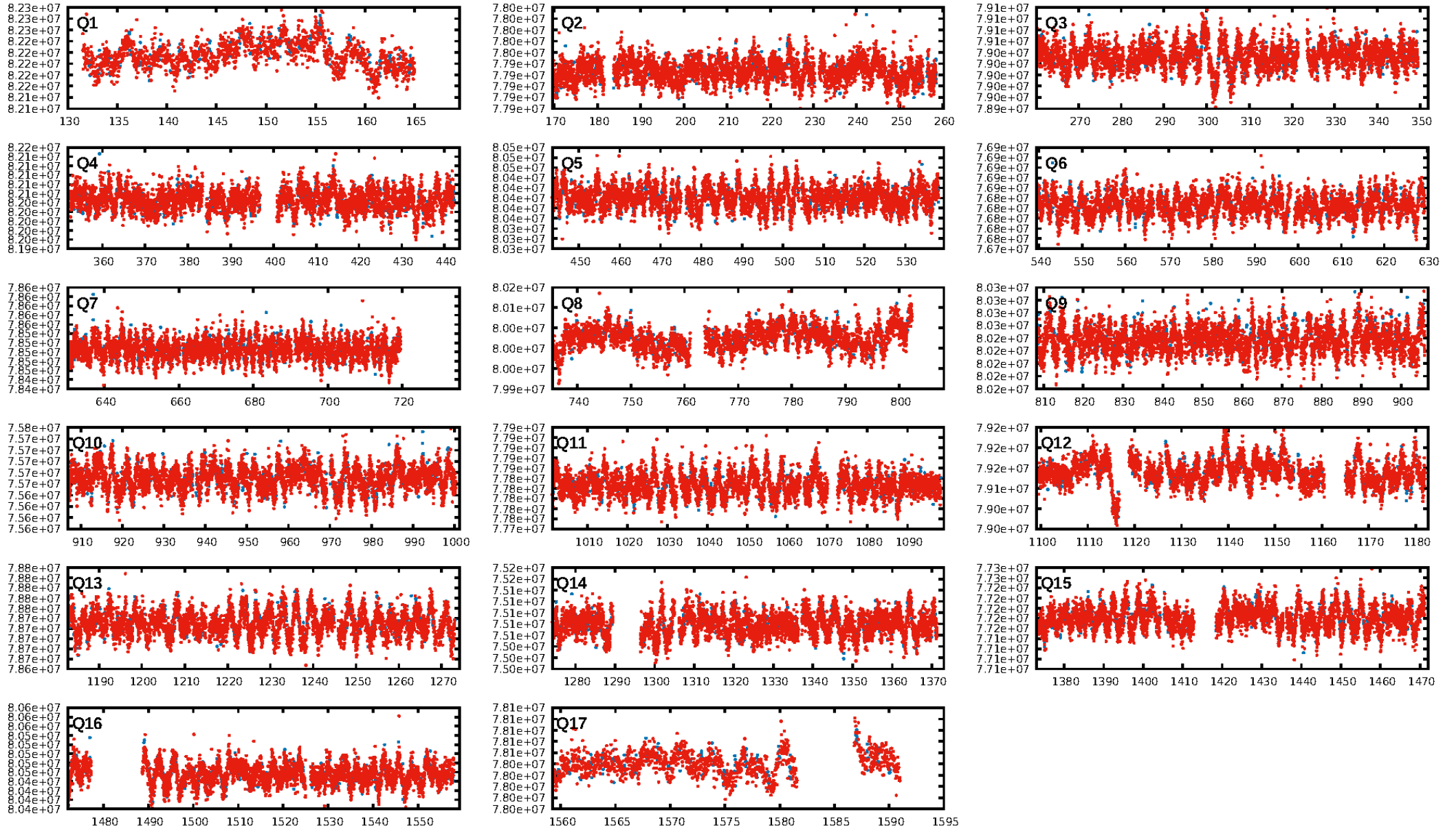
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1280/1280]  
GhostDiagnostic-chr: 1.292  
Centroid-sig: 6.7%  
Centroid-so: 2.863 arcsec [1.65σ]  
OotOffset-rm: 2.340 arcsec [24.59σ]  
KicOffset-rm: 2.253 arcsec [24.54σ]  
OotOffset-st: 0/0/0/2 [2]  
KicOffset-st: 0/0/0/2 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [17/17]

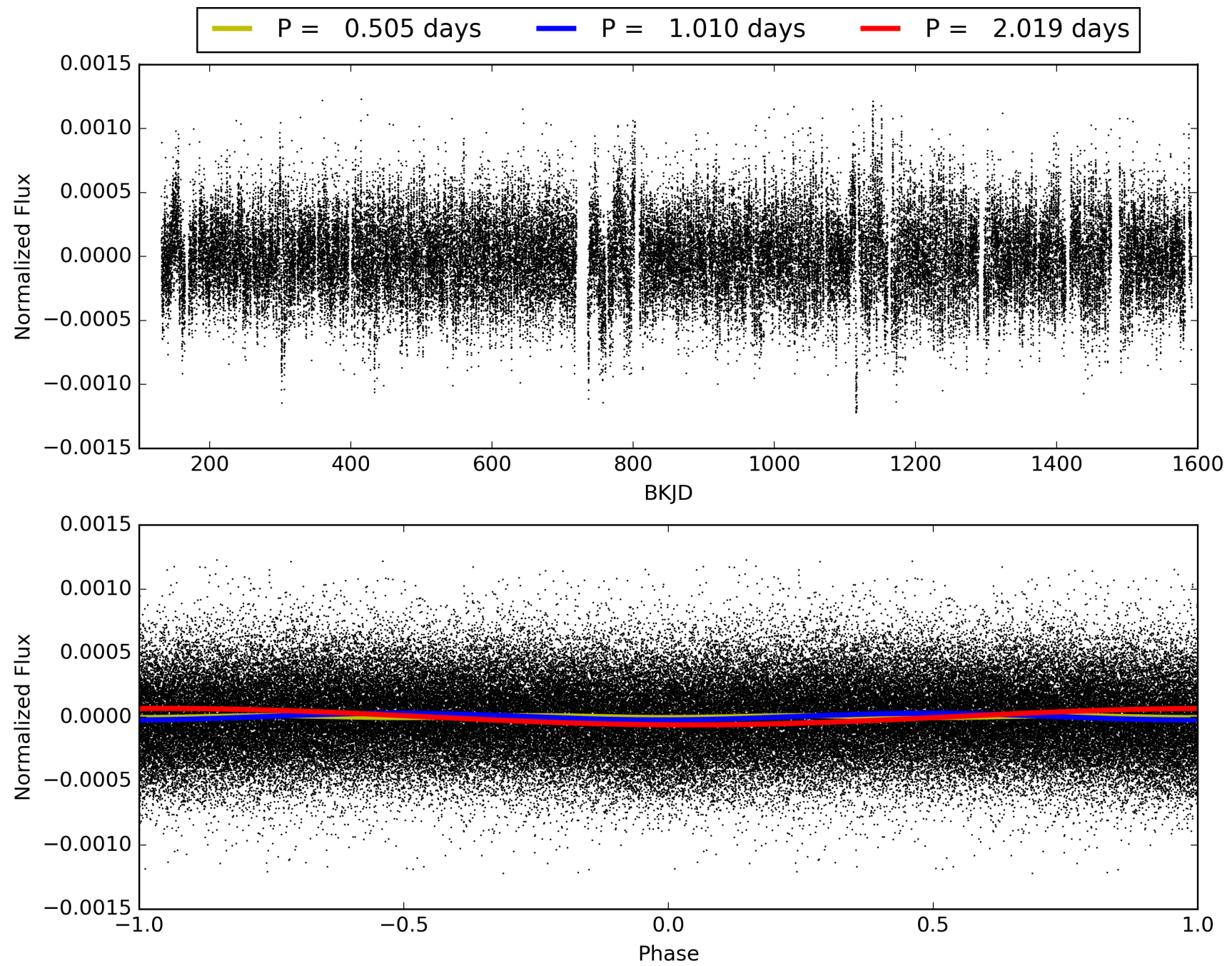
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:27:49 Z

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

# TCE 005031882-01, PDC Light Curves



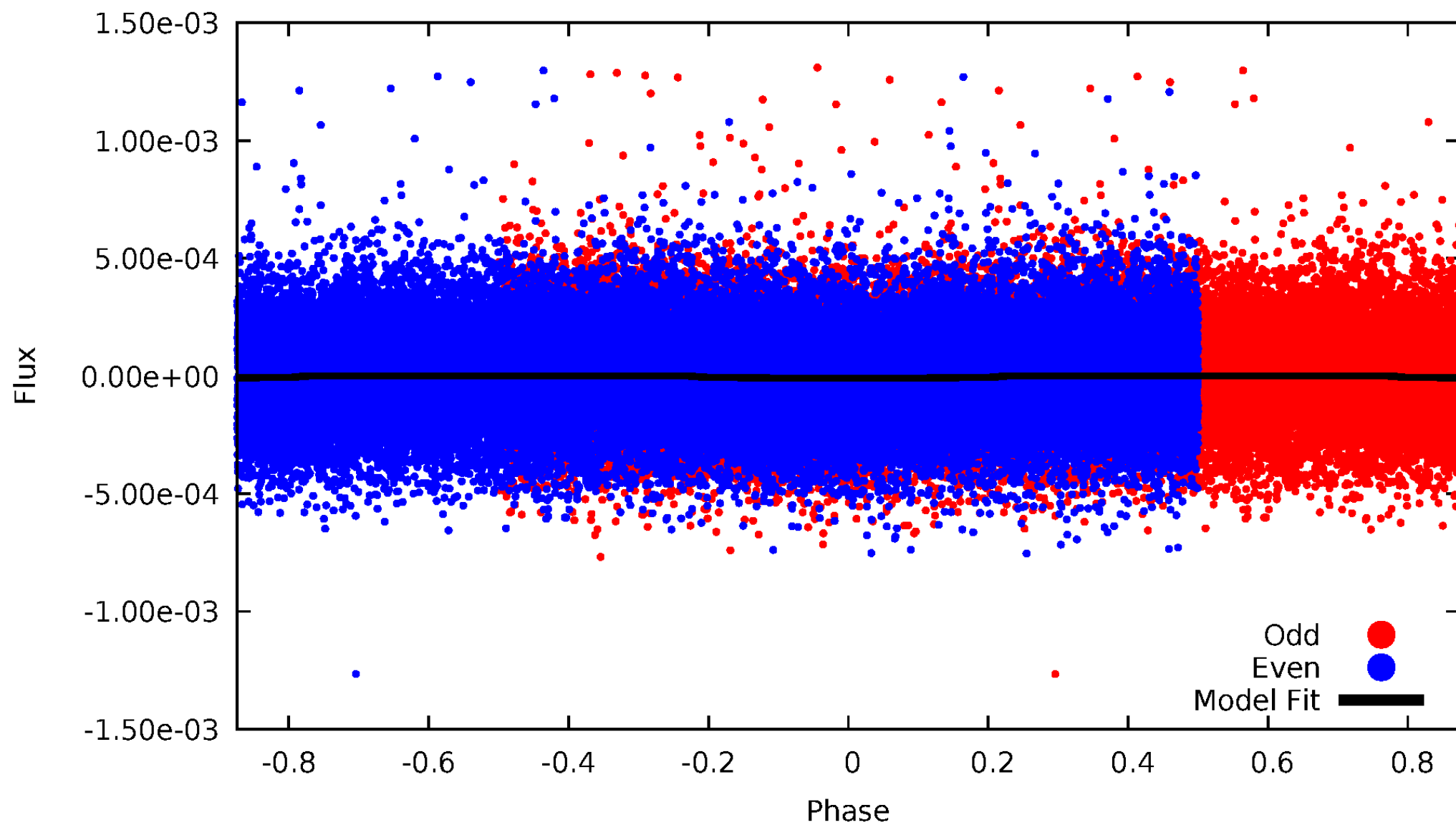
TCE 005031882-01





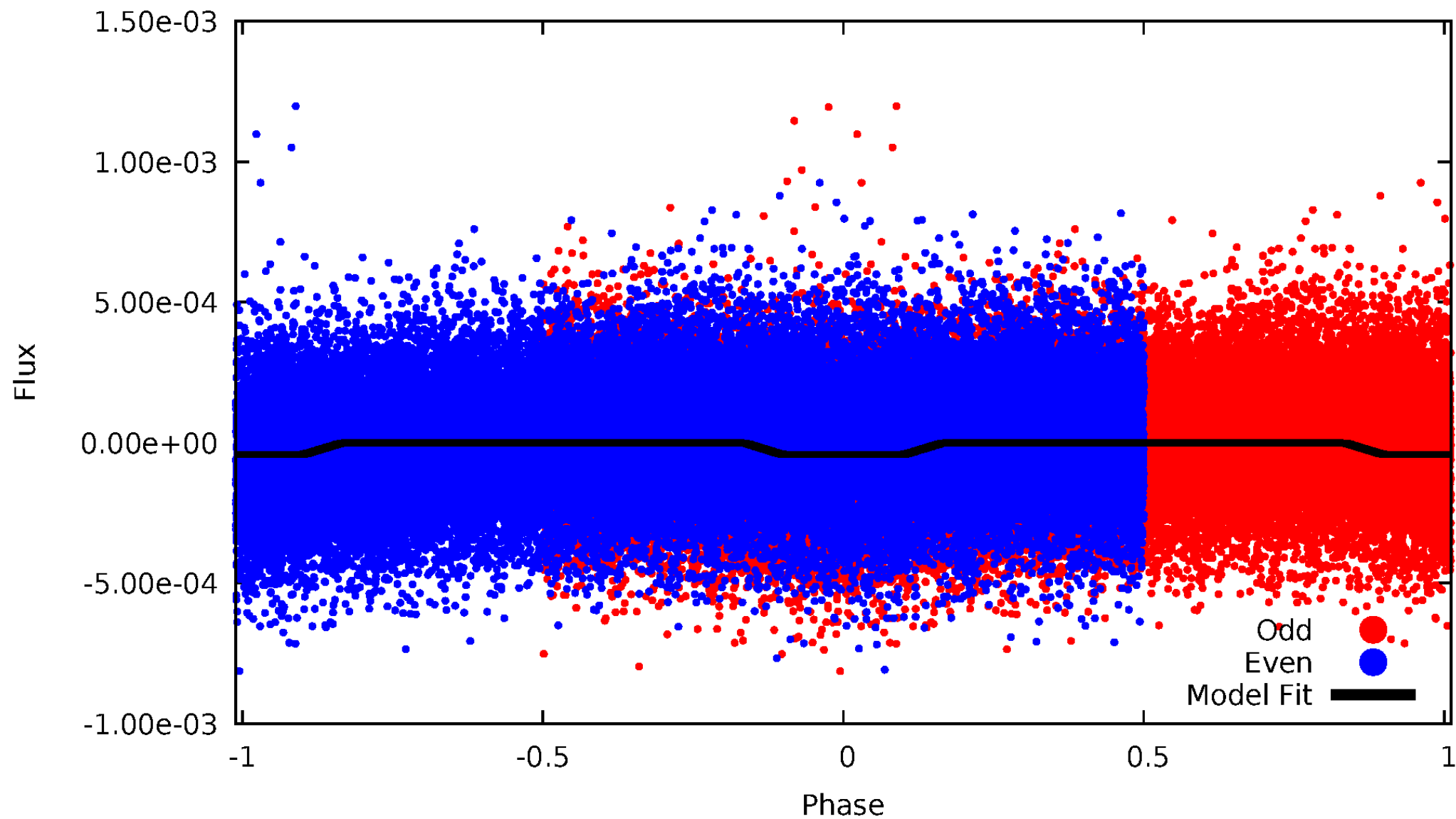
# DV Odd/Even

TCE 005031882-01



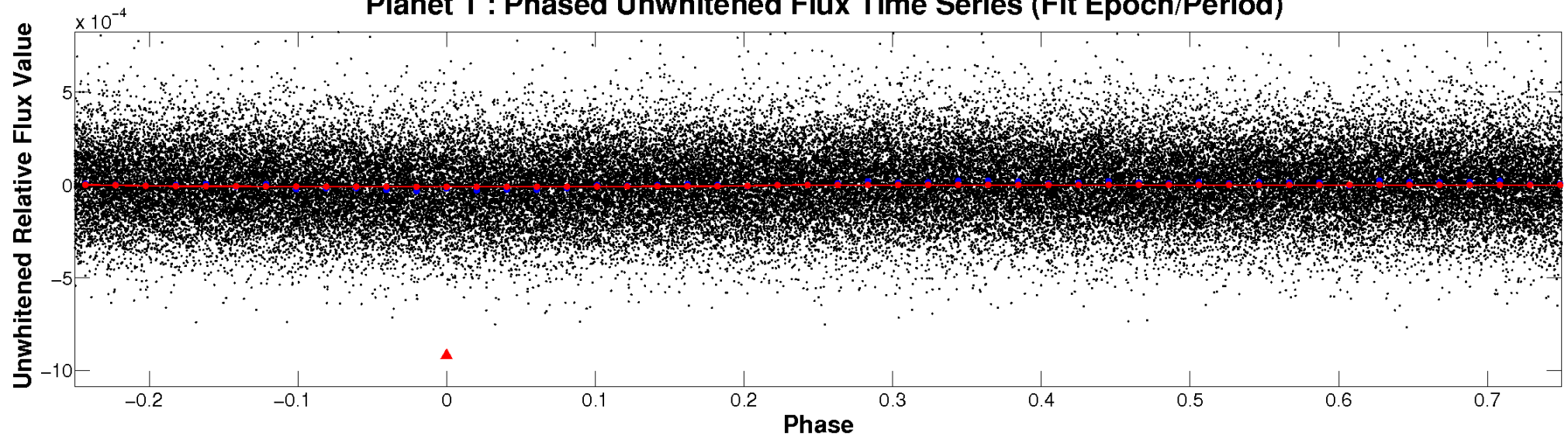
# ALT Odd/Even

TCE 005031882-01

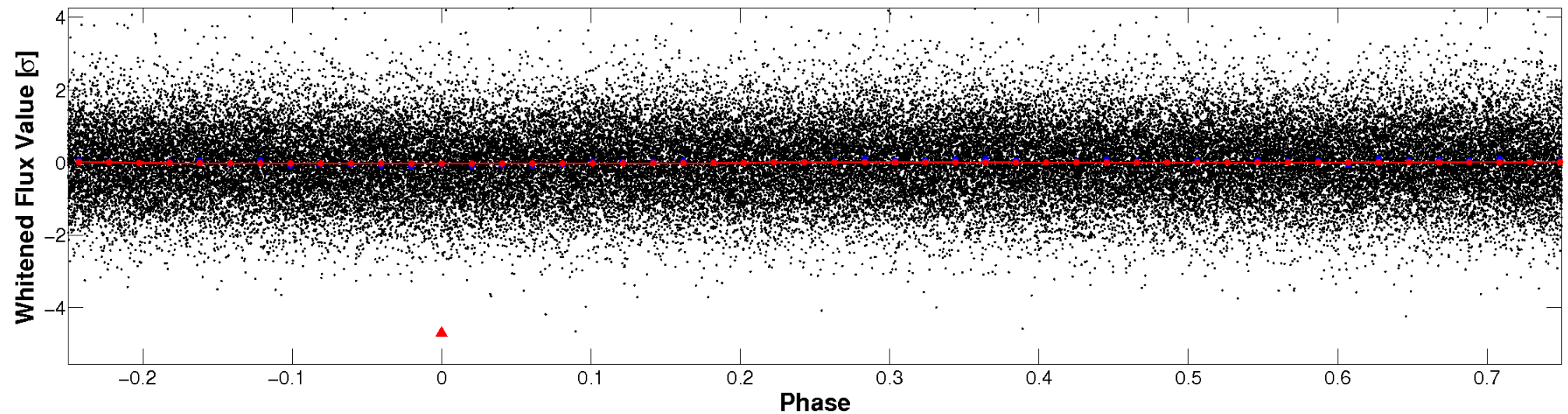


# Non-Whitened Vs. Whitened Light Curve

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

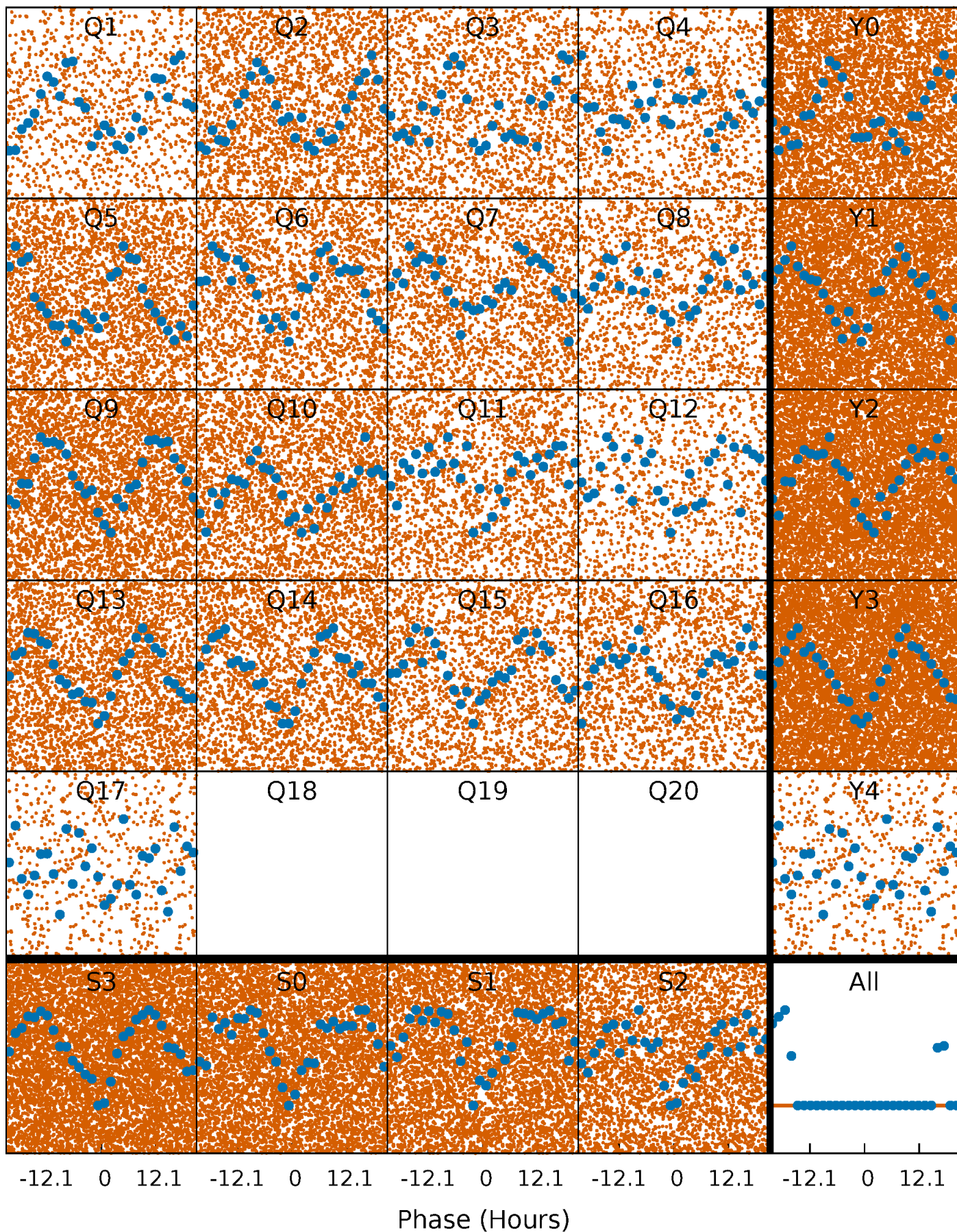


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

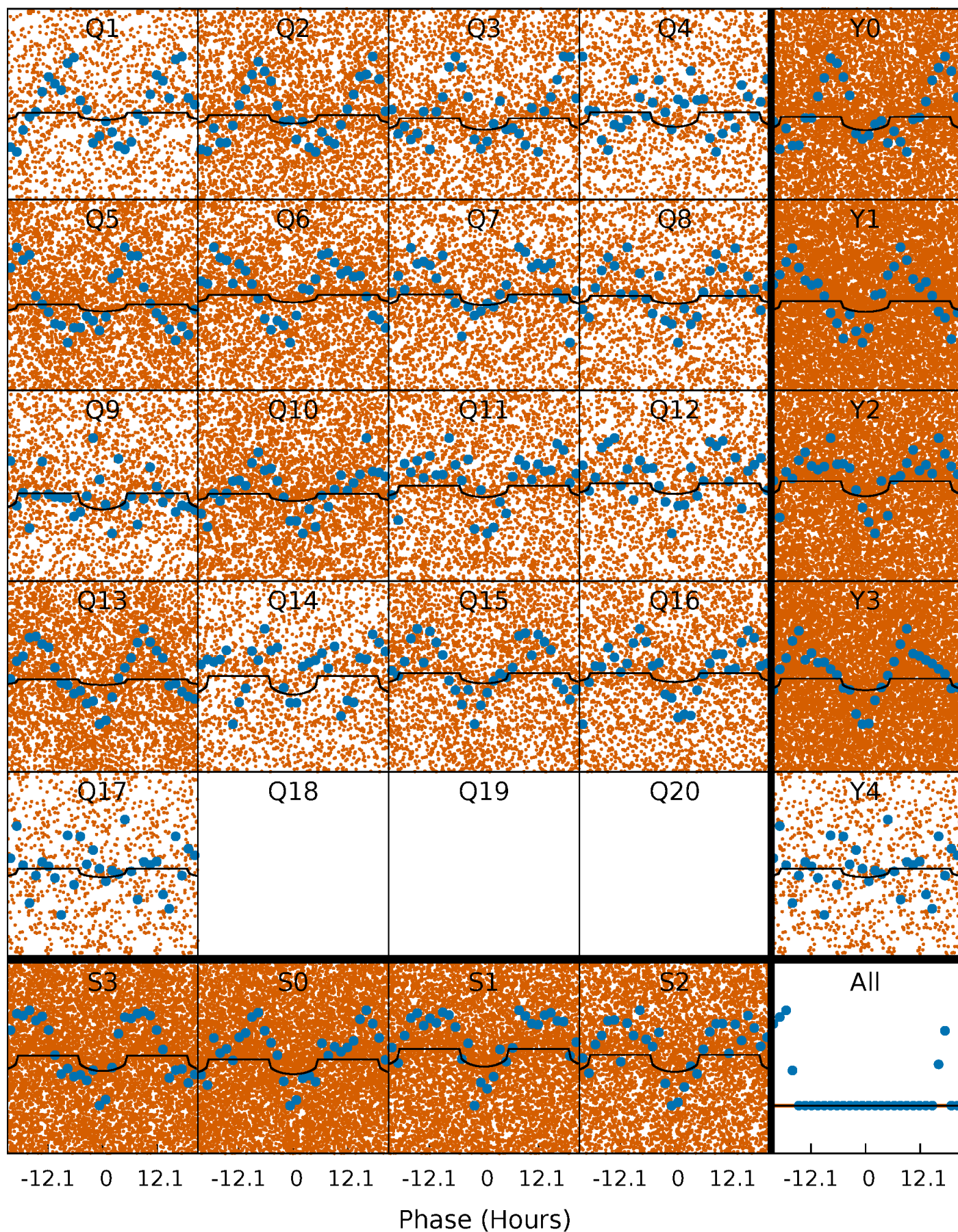
TCE 005031882-01   P= 1.009588 Days    $T_0=131.702203$  (BKJD)





# DV Quarter-Phased Transit Curves

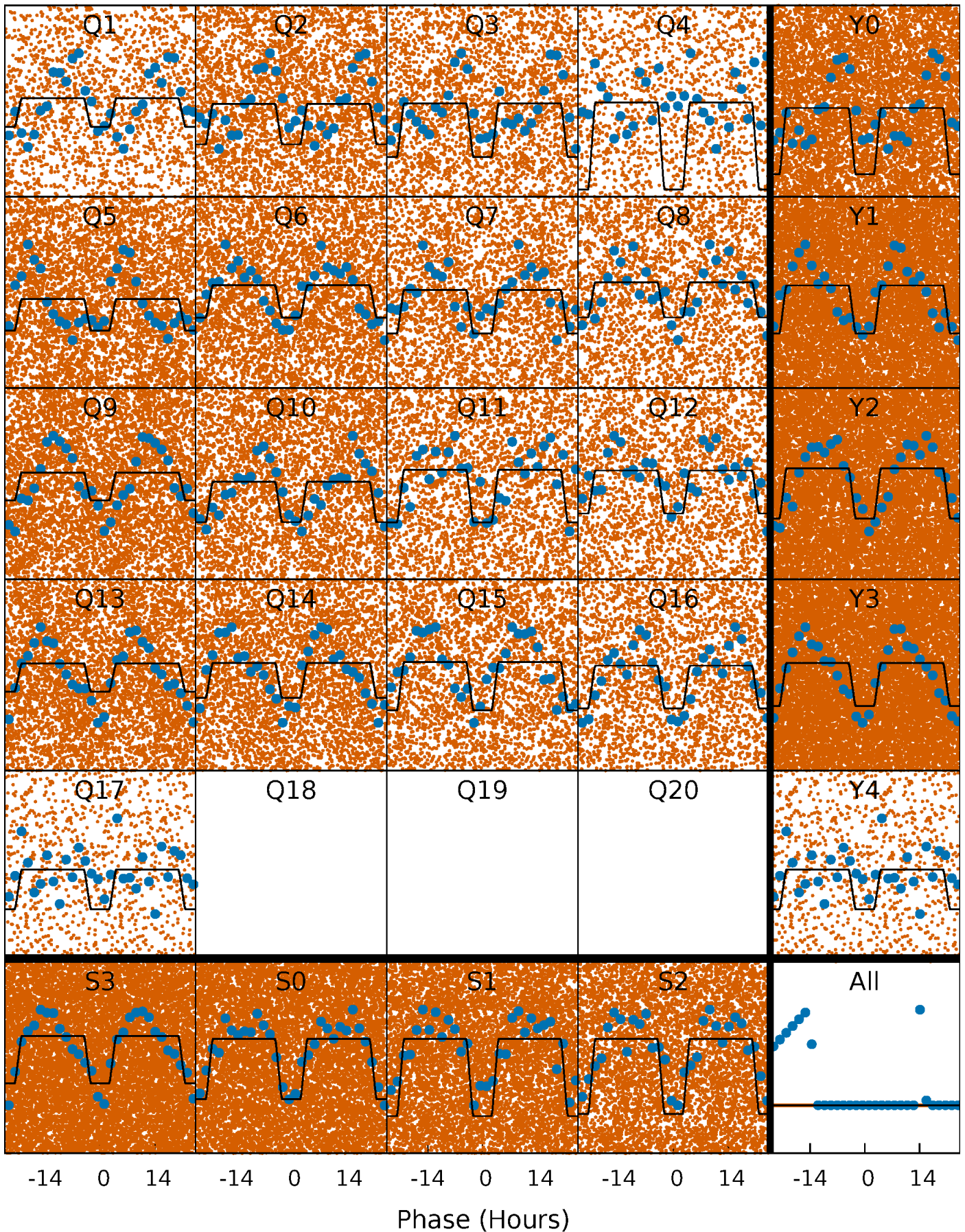
TCE 005031882-01   P= 1.009588 Days    $T_0=131.702203$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

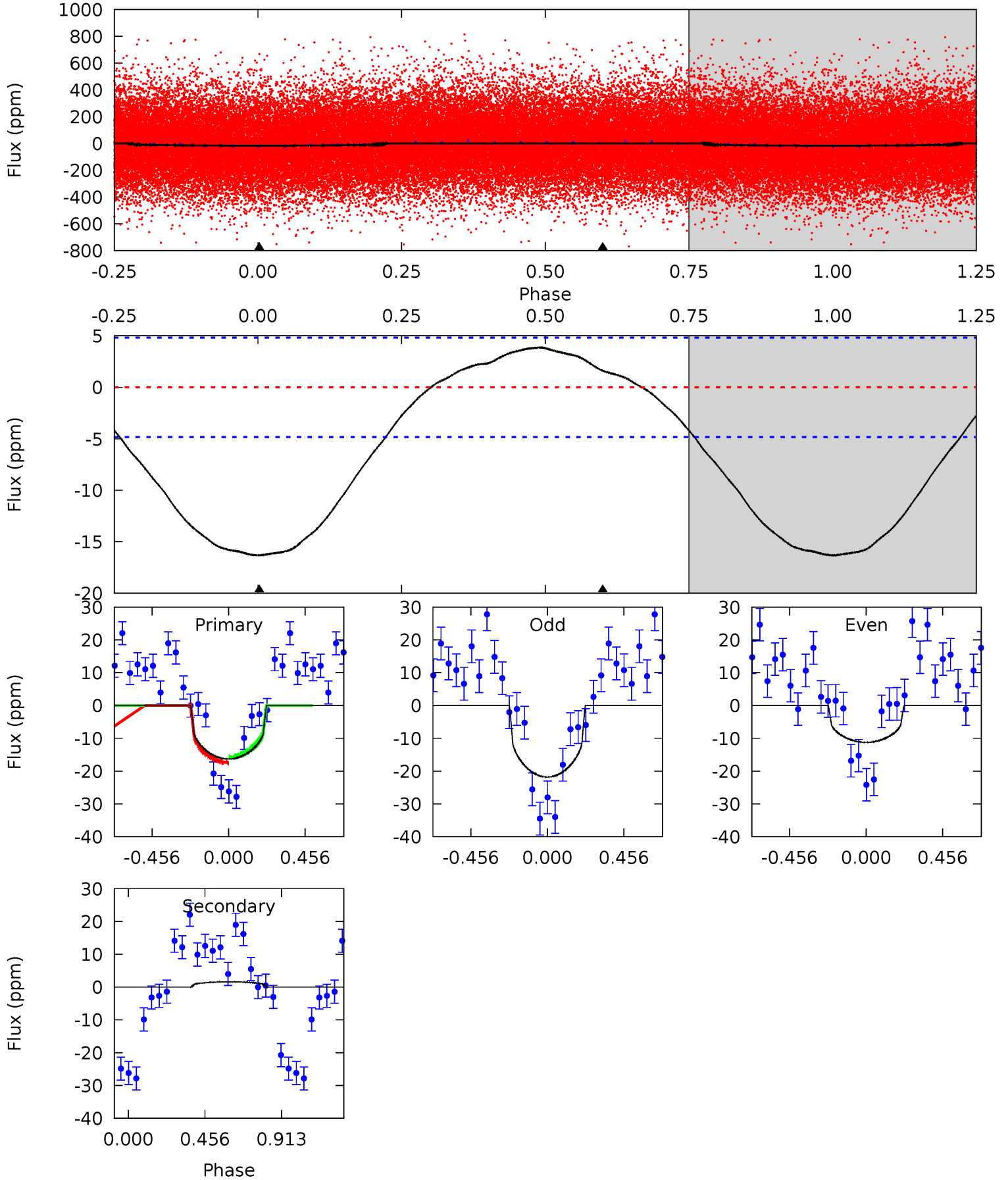
TCE 005031882-01 P= 1.009640 Days  $T_0=131.655810$  (BKJD)



# DV Model-Shift Uniqueness Test

005031882-01, P = 1.009588 Days, E = 130.692615 Days

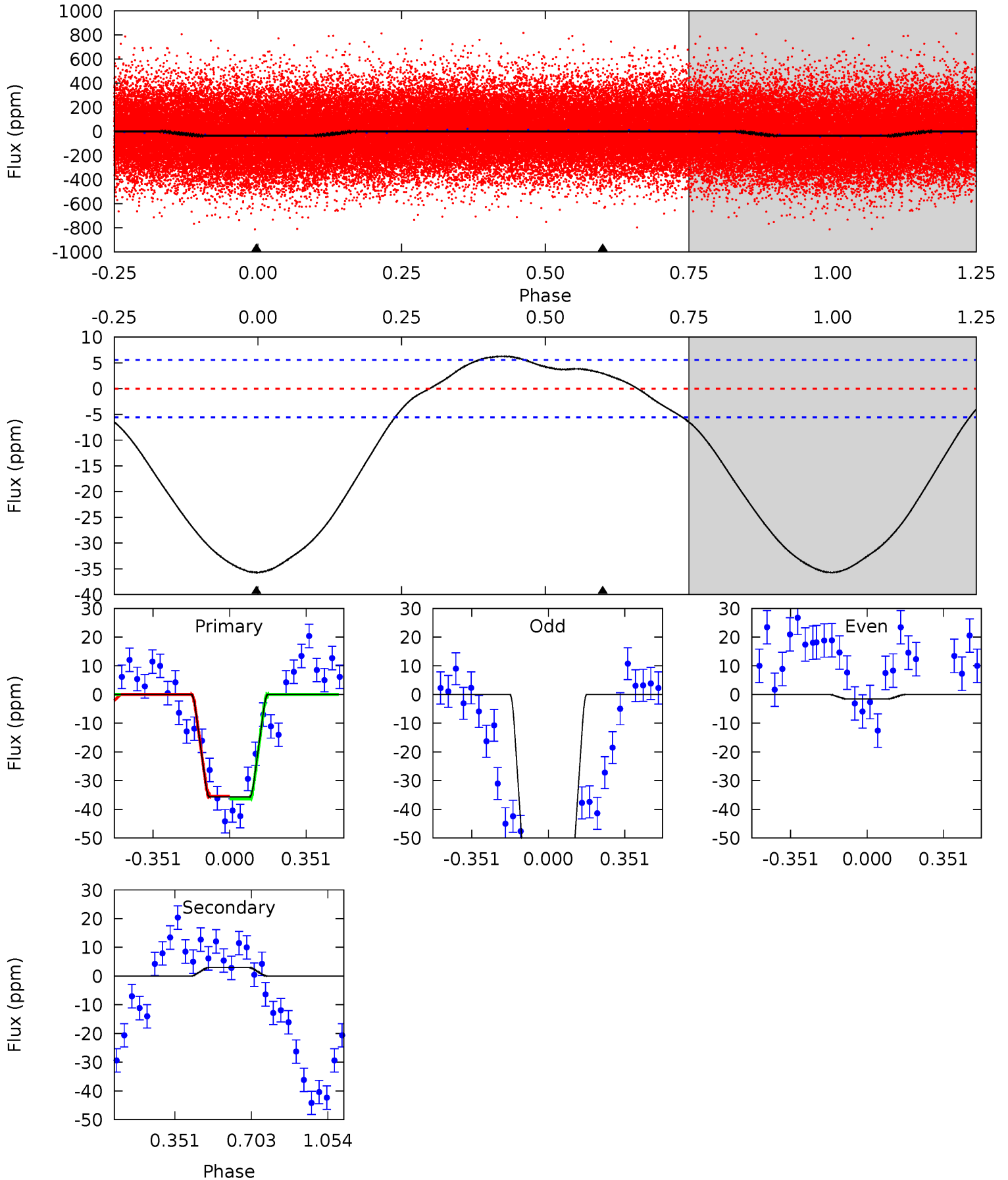
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	-1.41	0	0	4.24	0.75	1.08	14.3	14.3	-1.41	-1.41	4.66	1.13	0.19	0.74



# Alt Model-Shift Uniqueness Test

005031882-01, P = 1.009640 Days, E = 130.646170 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
27.5	-2.28	0	0	4.29	0.93	1.59	27.5	27.5	-2.28	-2.28	28.1	1.06	0.15	0.39





### Stellar Parameters For KIC 005031882

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6028^{+200}_{-181}$	$3.724^{+0.664}_{-0.166}$	$-0.620^{+0.300}_{-0.250}$	$2.412^{+0.609}_{-1.422}$	$1.122^{+0.157}_{-0.292}$	$0.113^{+1.272}_{-0.055}$
	+3%/-3%	+18%/-4%	+48%/-40%	+25%/-59%	+14%/-26%	+1129%/-49%
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 005031882-01 / KOI 6501.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$2\pm 1$	$0.83^{+0.95}_{-0.54}$	$3941^{+371}_{-561}$	$-4208^{+524}_{-1780}$	$-0.375^{+0.323}_{-3.763}$
Alt.	$3\pm 1$	$1.54^{+1.18}_{-0.79}$	$3952^{+371}_{-621}$	$-4088^{+387}_{-674}$	$-0.262^{+0.183}_{-0.931}$

$T_{max}$  = 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

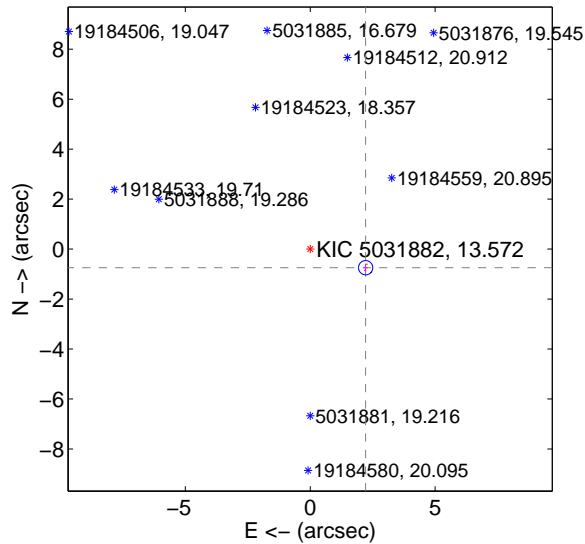
Supplemental centroid analysis for 005031882-01. Kepler magnitude: 13.57. Transit SNR 4.27

There are 0 quarters with good PRF difference image offsets

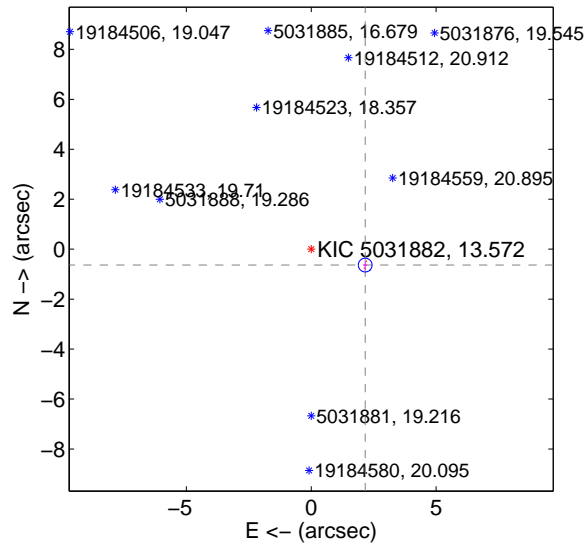
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.340 \pm 0.095$	24.59	$-2.218 \pm 0.085$	$-0.745 \pm 0.158$
PRF-fit source offset from KIC position	$2.253 \pm 0.092$	24.54	$-2.161 \pm 0.081$	$-0.637 \pm 0.175$
photometric centroid source offset	$2.86 \pm 1.74$	1.65	$-2.86 \pm 1.74$	$0.16 \pm 1.80$

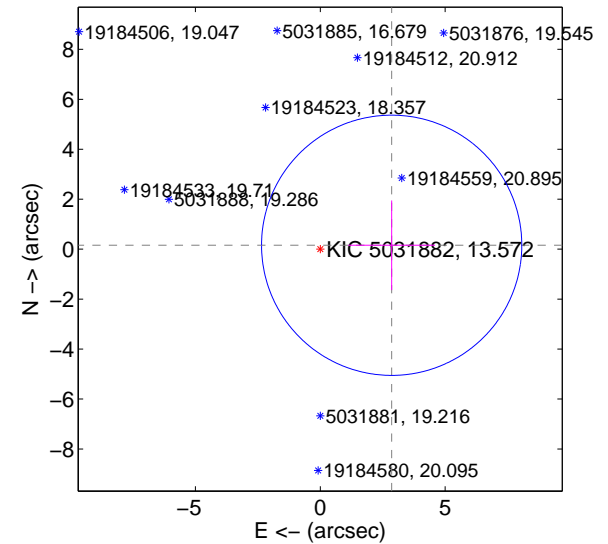
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

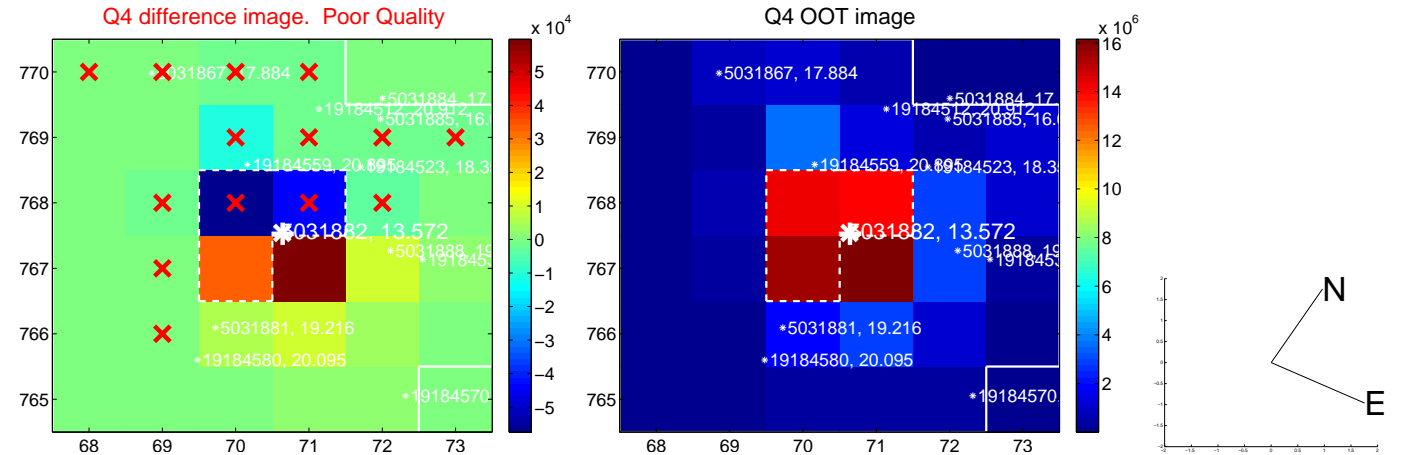
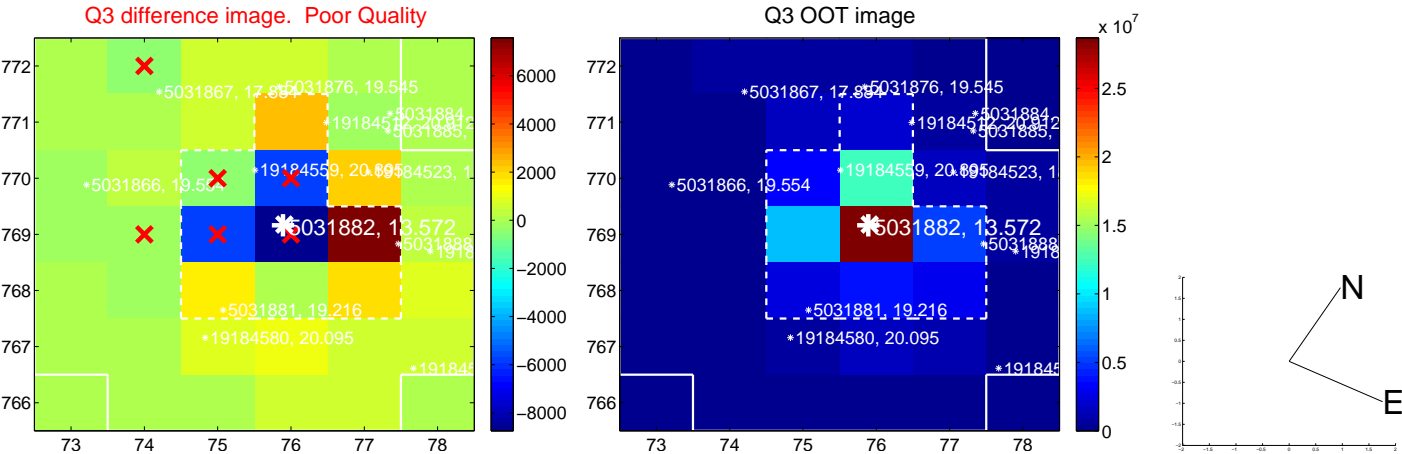
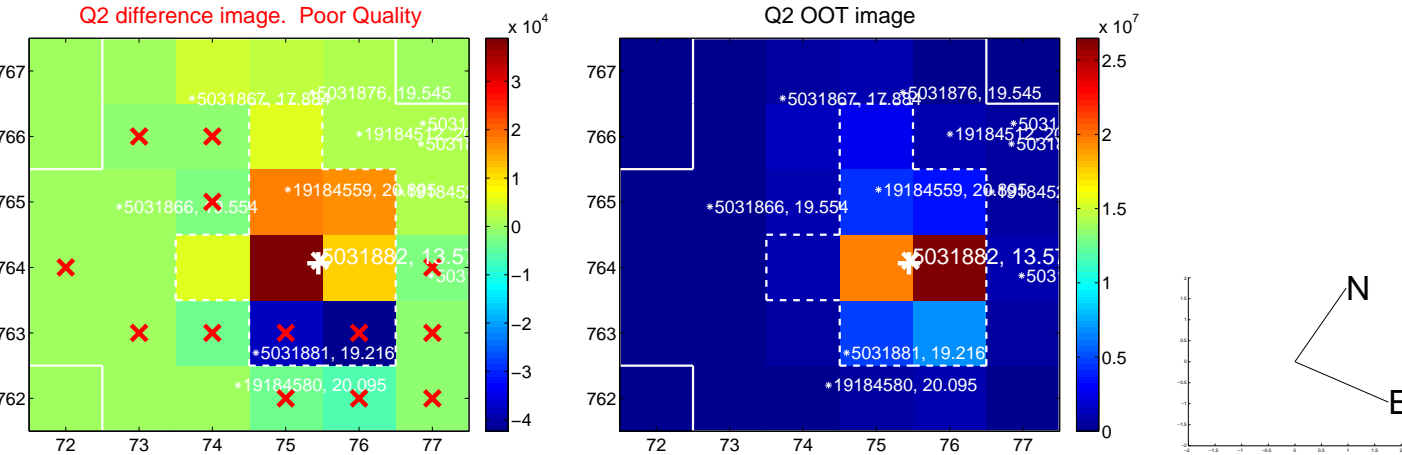
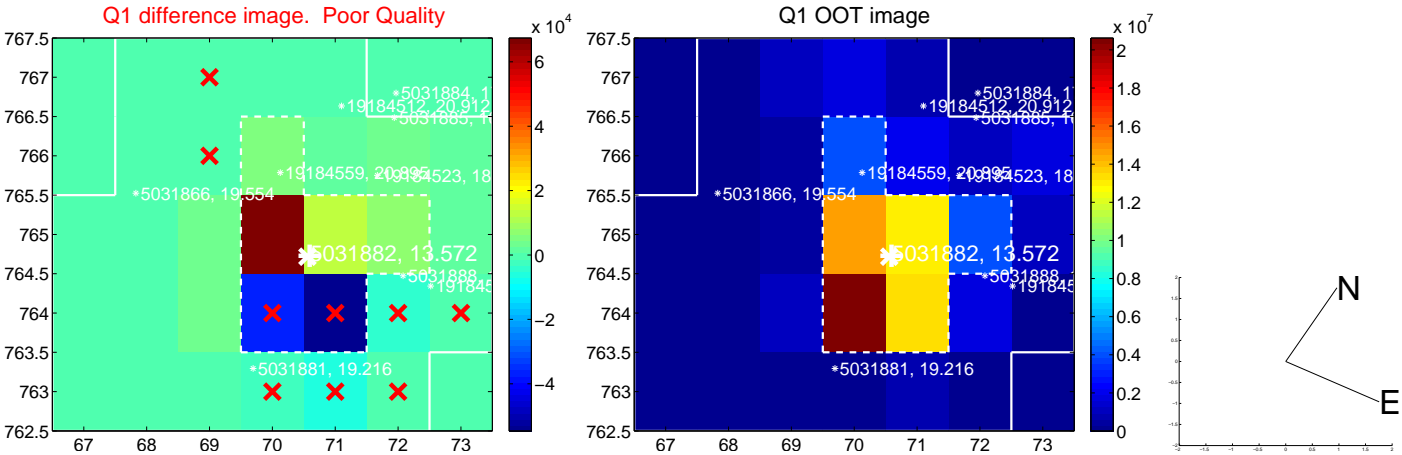


offset from photometric centroids

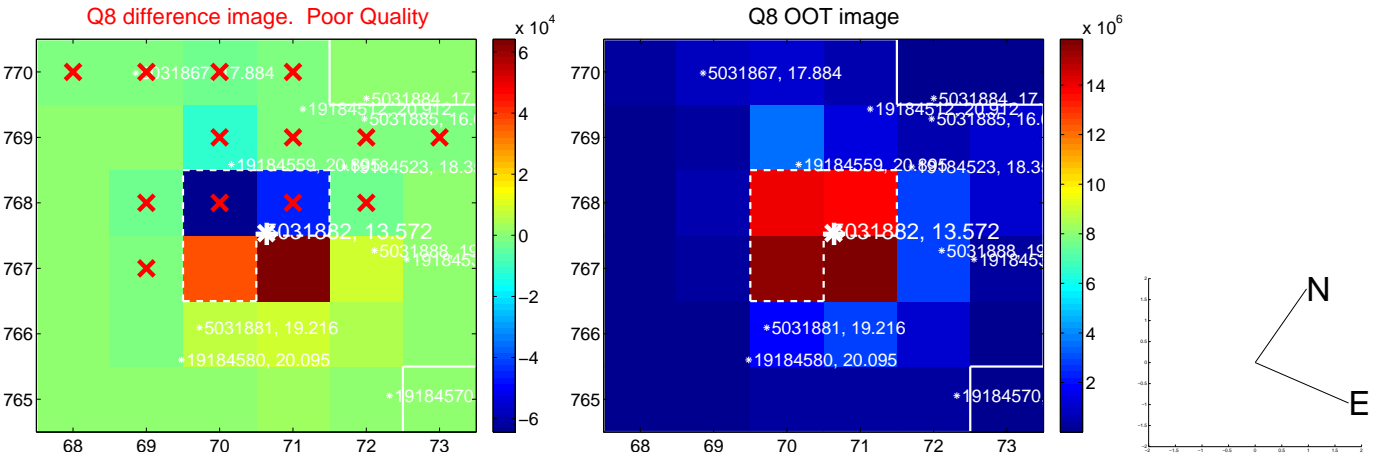
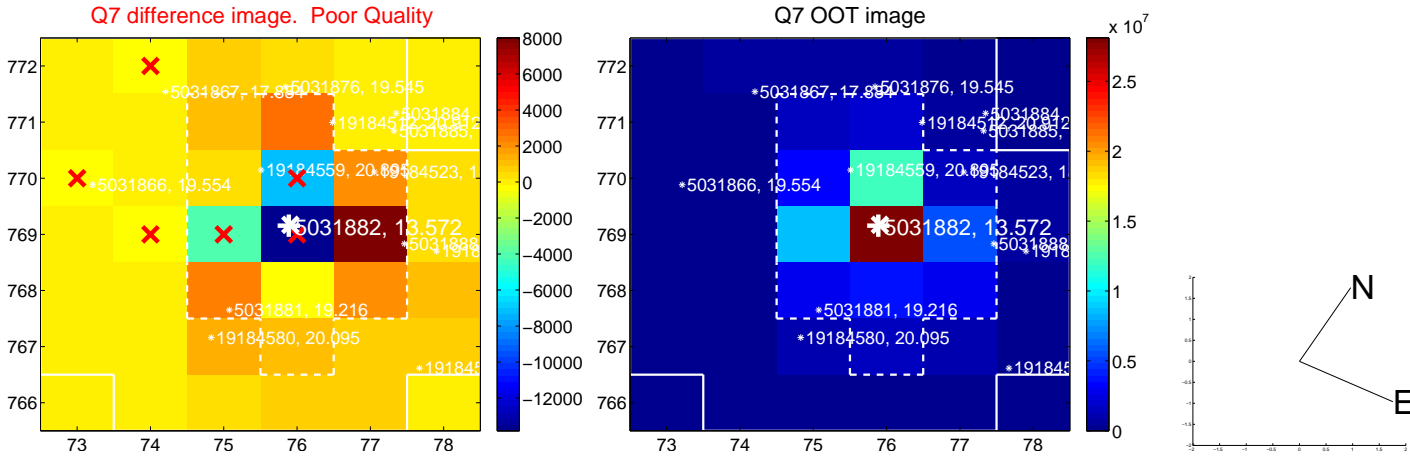
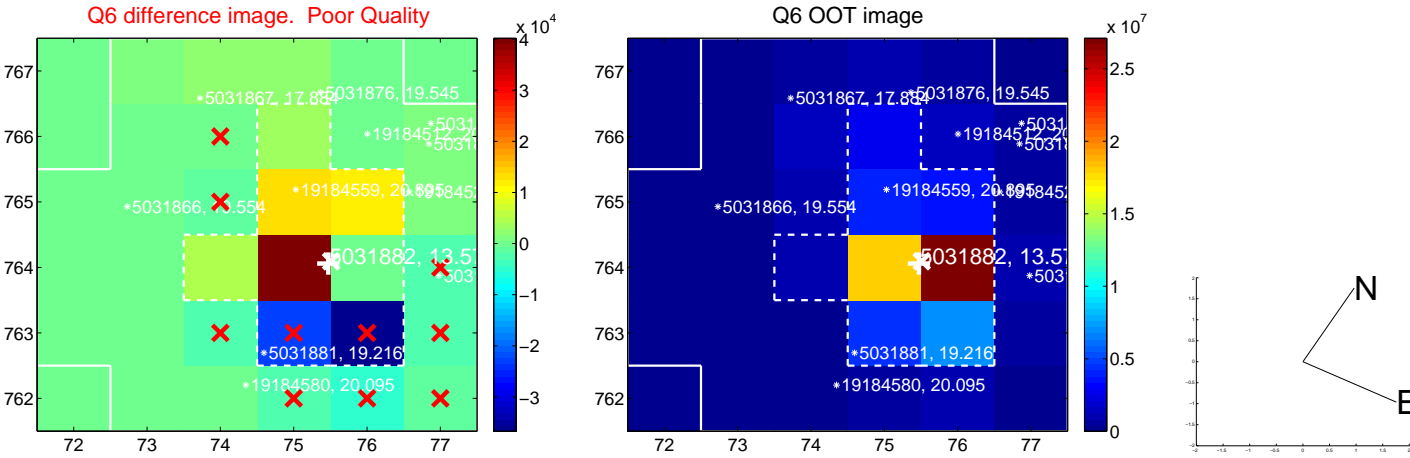
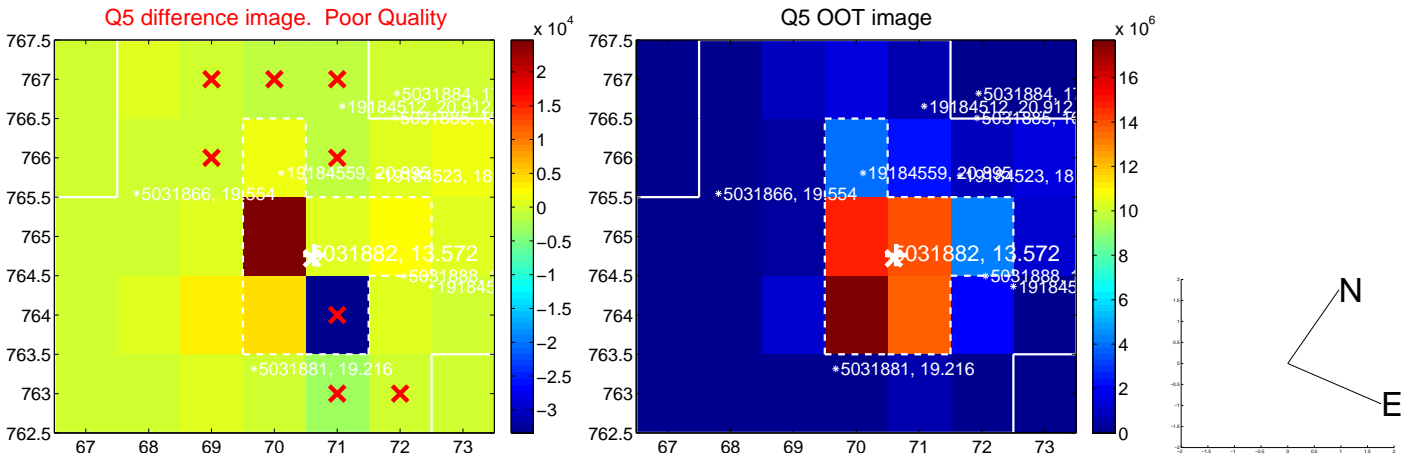


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

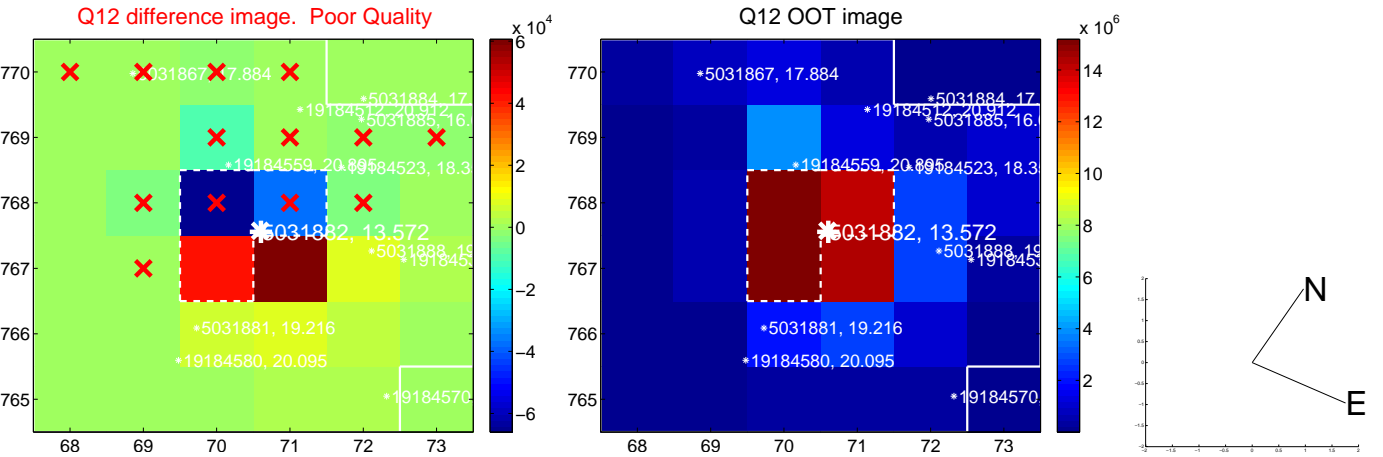
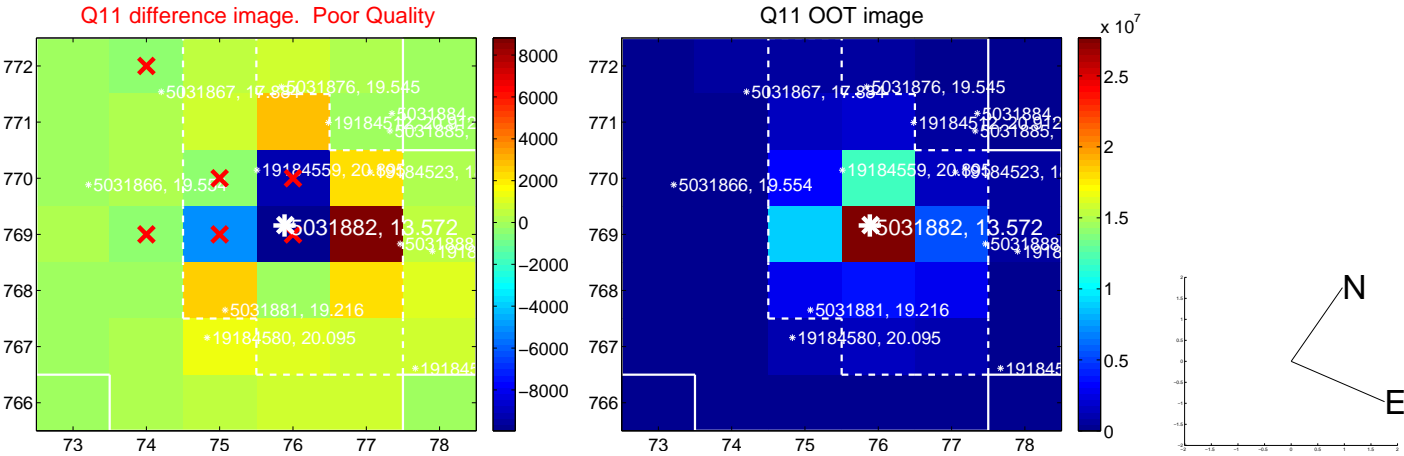
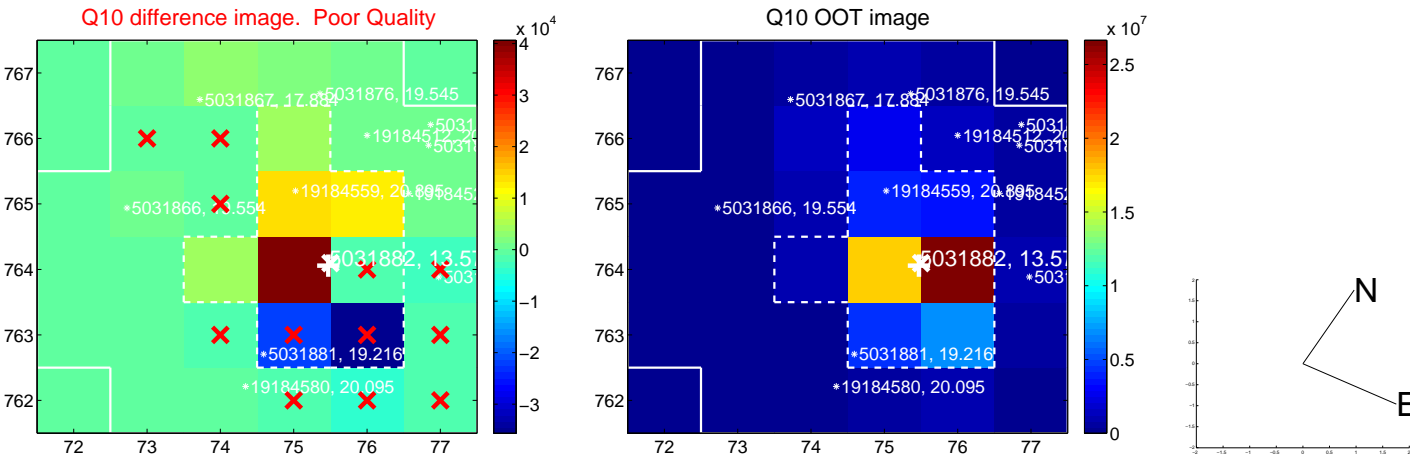
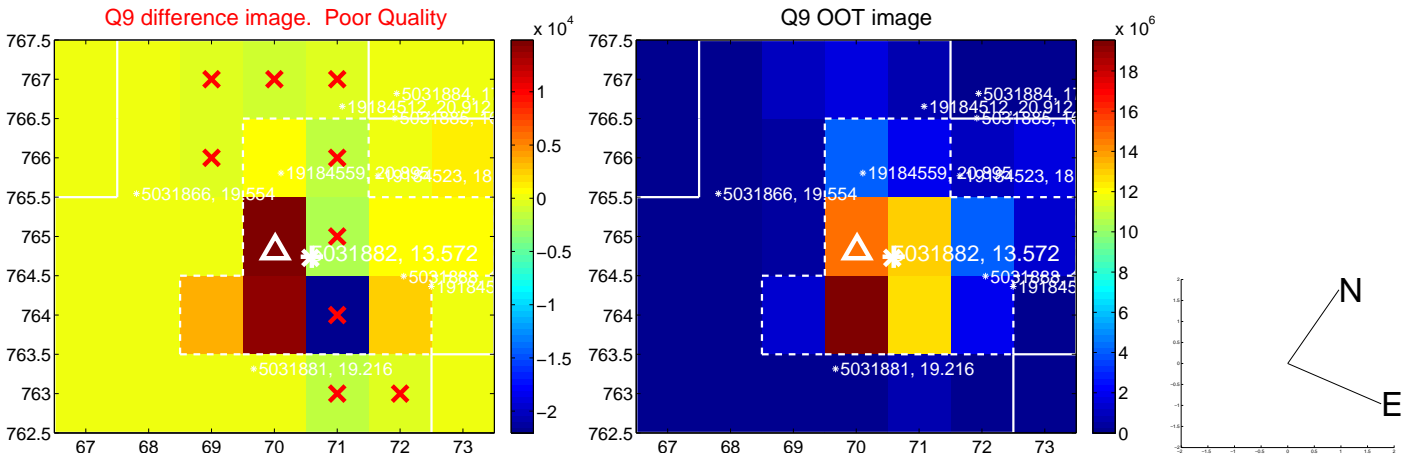


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

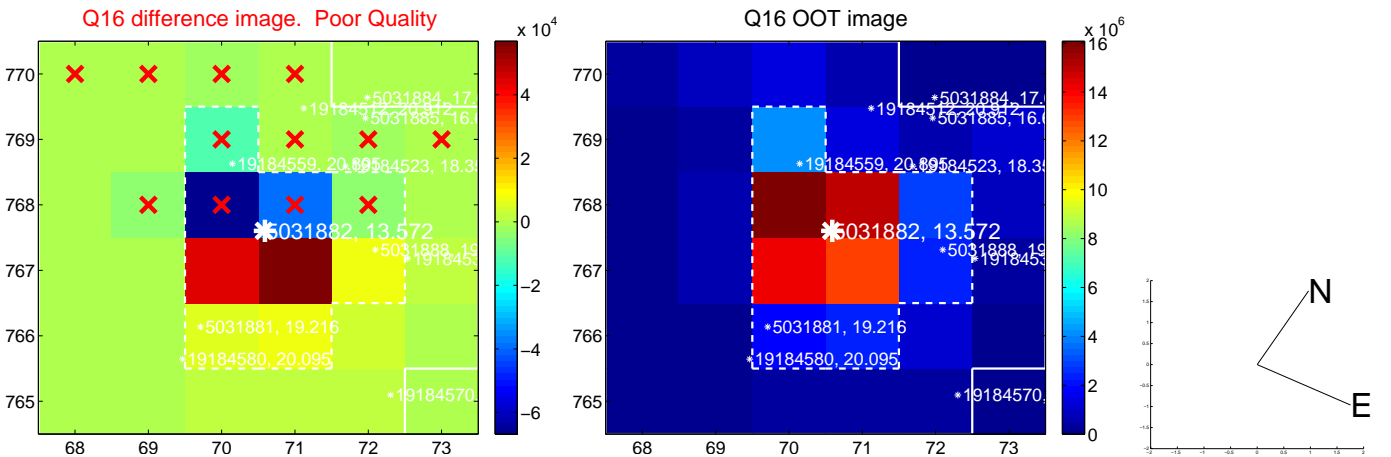
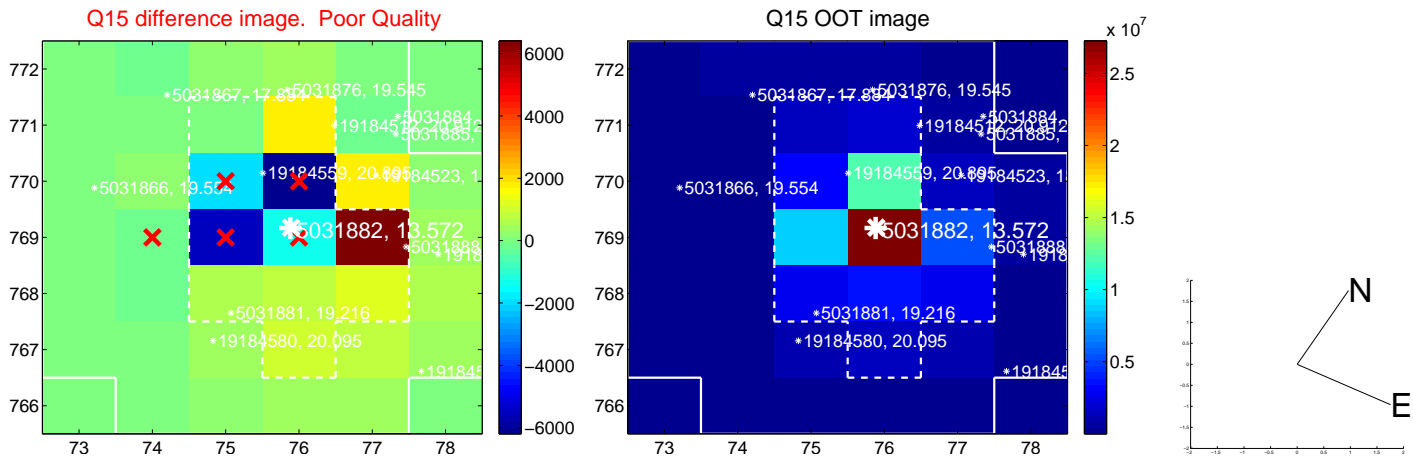
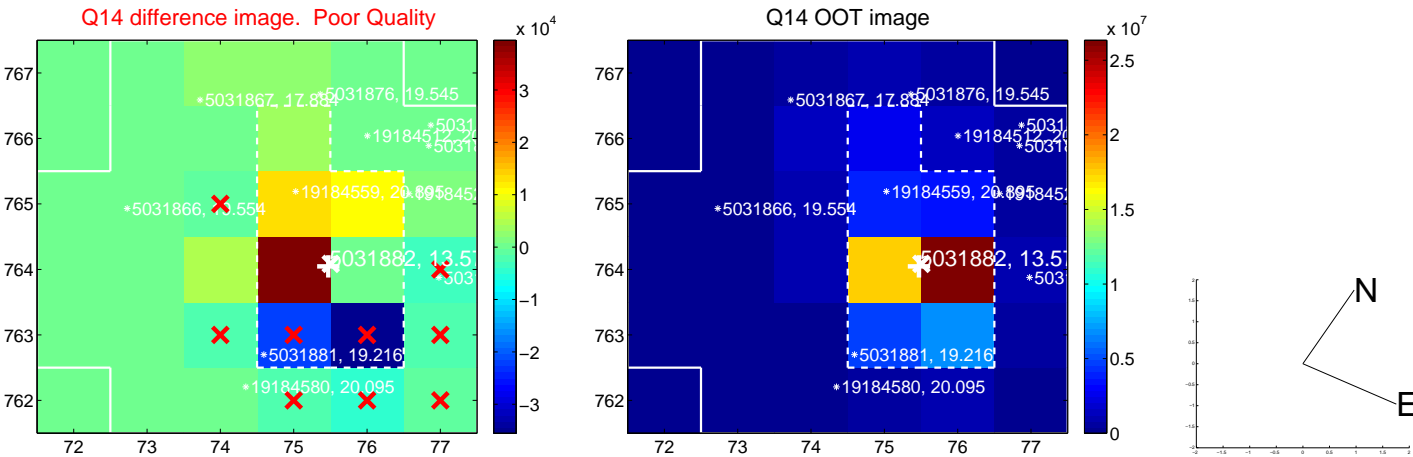
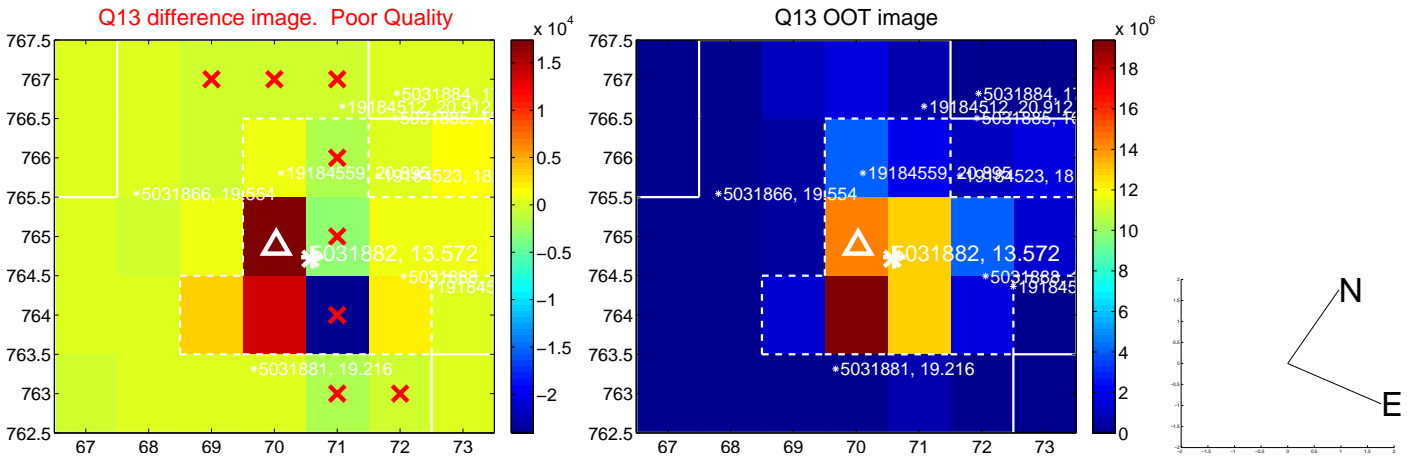




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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





UKIRT Image

Declination

