

# KIC 003230884

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003230884-01	OBS	No	0.552436	131.621240	6.0	5.039	8.4	6.2	2.41	7992	0.60	80380.63

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003230884-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

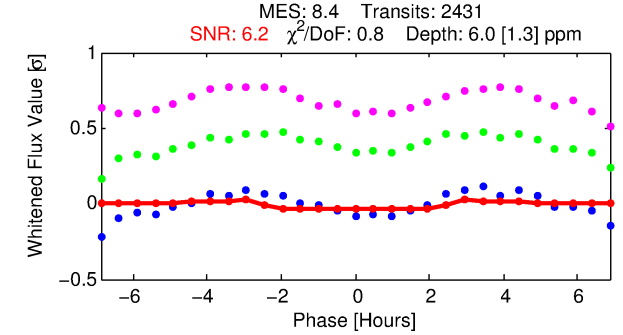
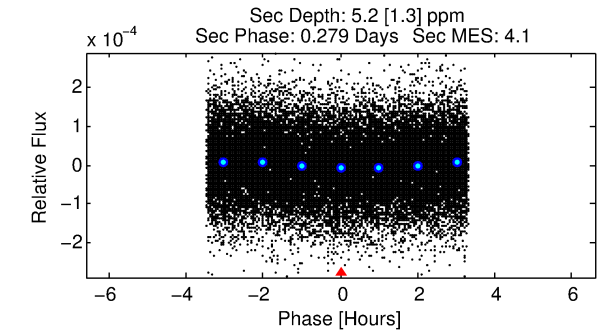
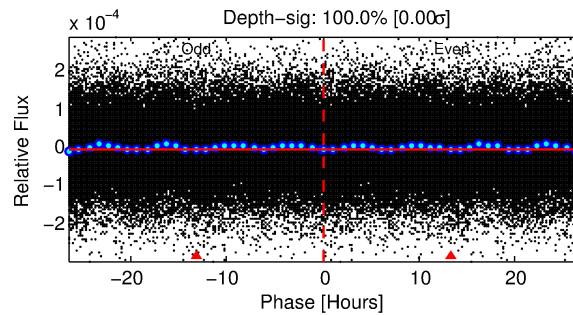
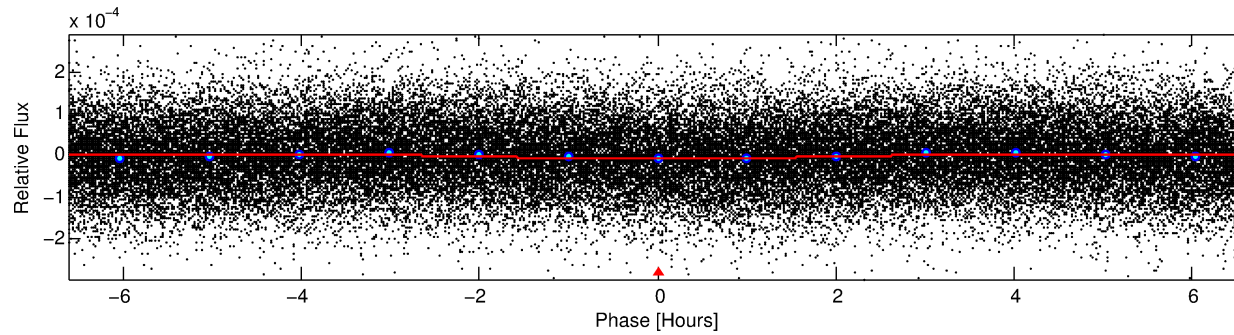
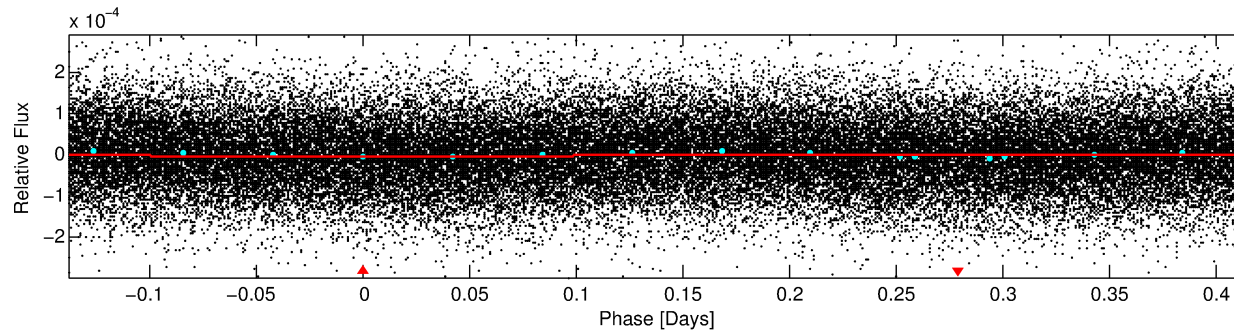
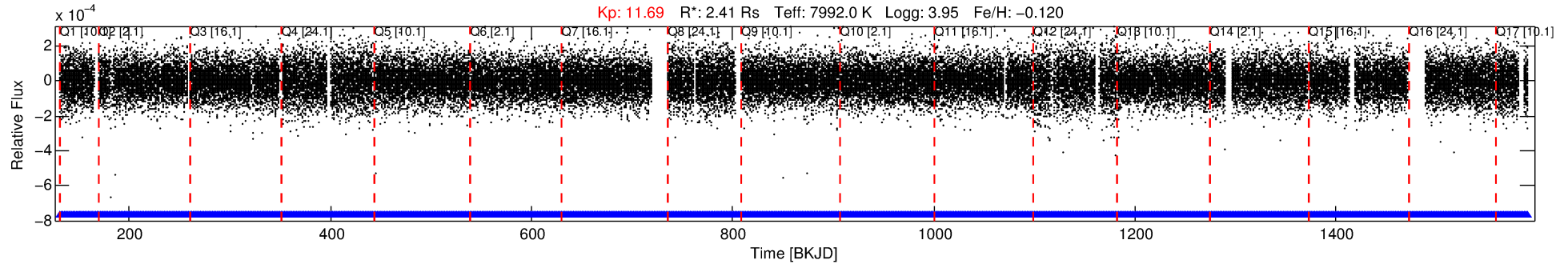
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003230884-01

No Significant Match Found

# DV One-Page Summary

KIC: 3230884 Candidate: 1 of 1 Period: 0.552 d



## DV Fit Results:

Period = 0.55244 [0.00002] d  
Epoch = 131.6212 [0.0054] BKJD  
 $R_p/R^*$  = 0.0023 [0.0025]  
 $a/R^*$  = 1.08 [0.93]  
 $b$  = 0.10 [63.25]  
 $\text{Seff}$  = 80380.63 [21541.20]  
 $\text{Teq}$  = 4294 [288] K  
 $R_p$  = 0.60 [0.66]  $R_e$   
 $a$  = 0.0163 [0.0028] AU  
 $A_g$  = 2.11 [4.67] [0.24 $\sigma$ ]  
 $\text{Teffp}$  = 7997 [4406] K [0.84 $\sigma$ ]

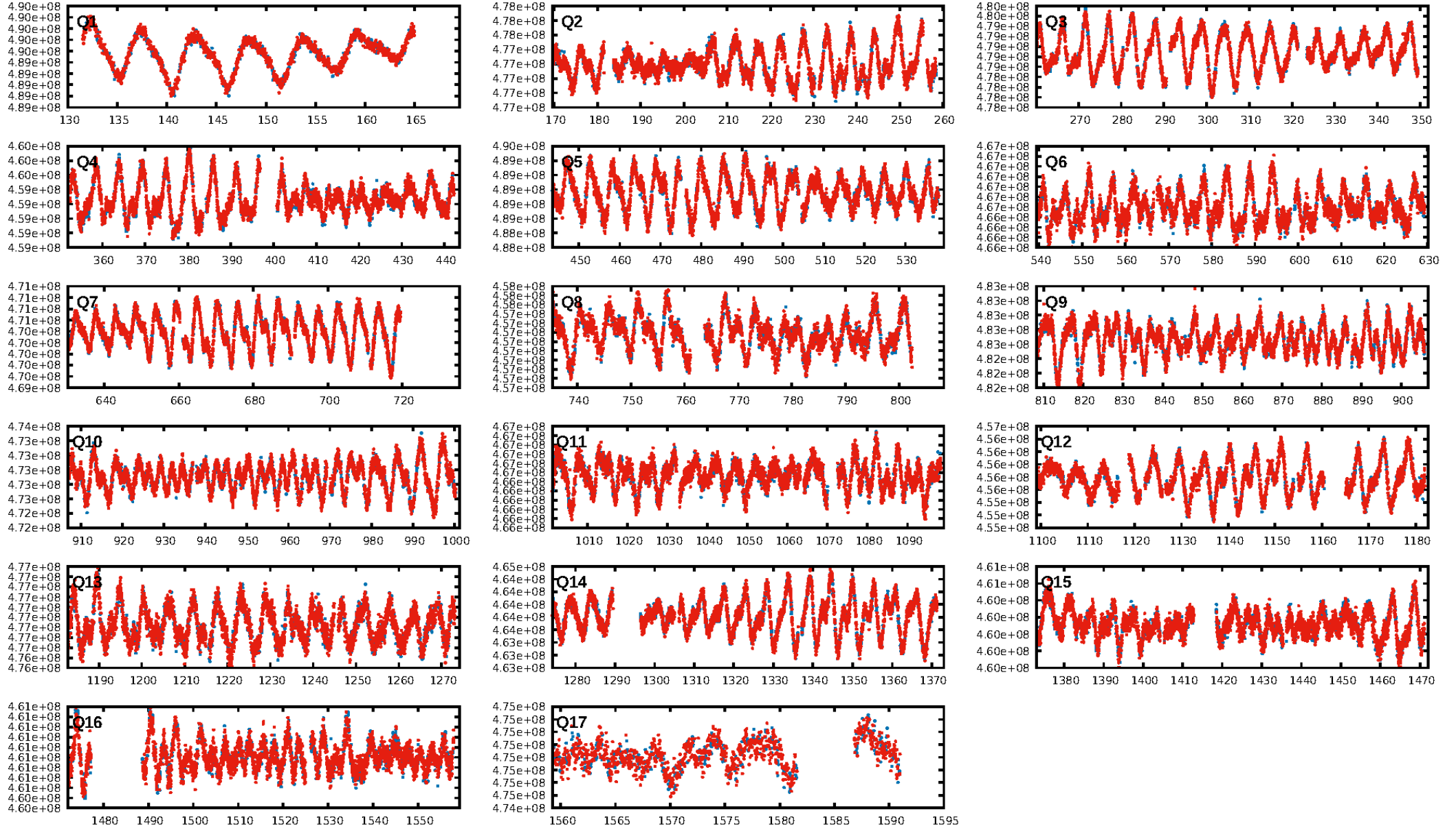
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2322/2322]  
GhostDiagnostic-chr: -4.327  
Centroid-sig: 0.5%  
Centroid-so: 2.196 arcsec [2.29 $\sigma$ ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [17/17]

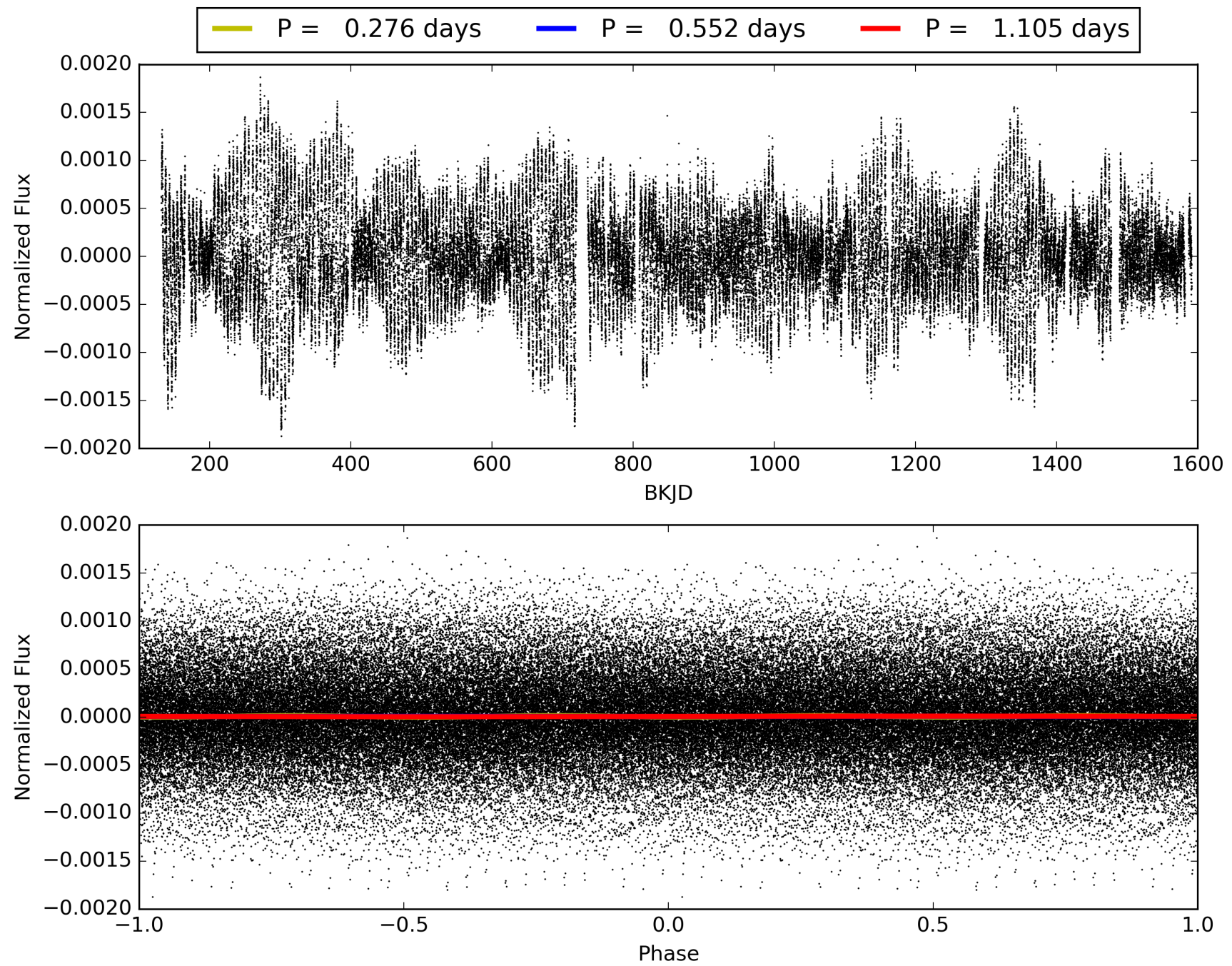
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:21:56 Z

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

# TCE 003230884-01, PDC Light Curves



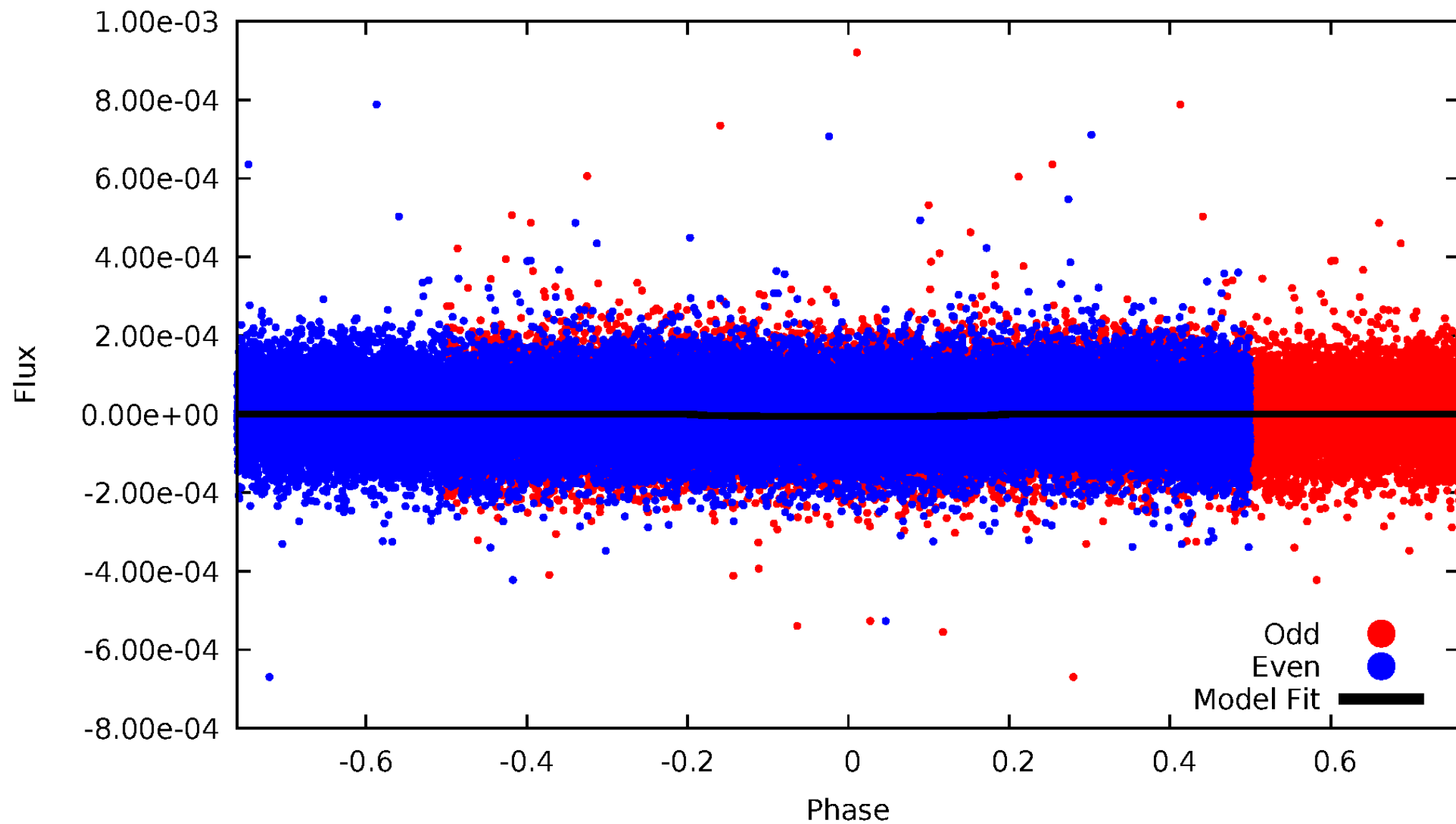
TCE 003230884-01





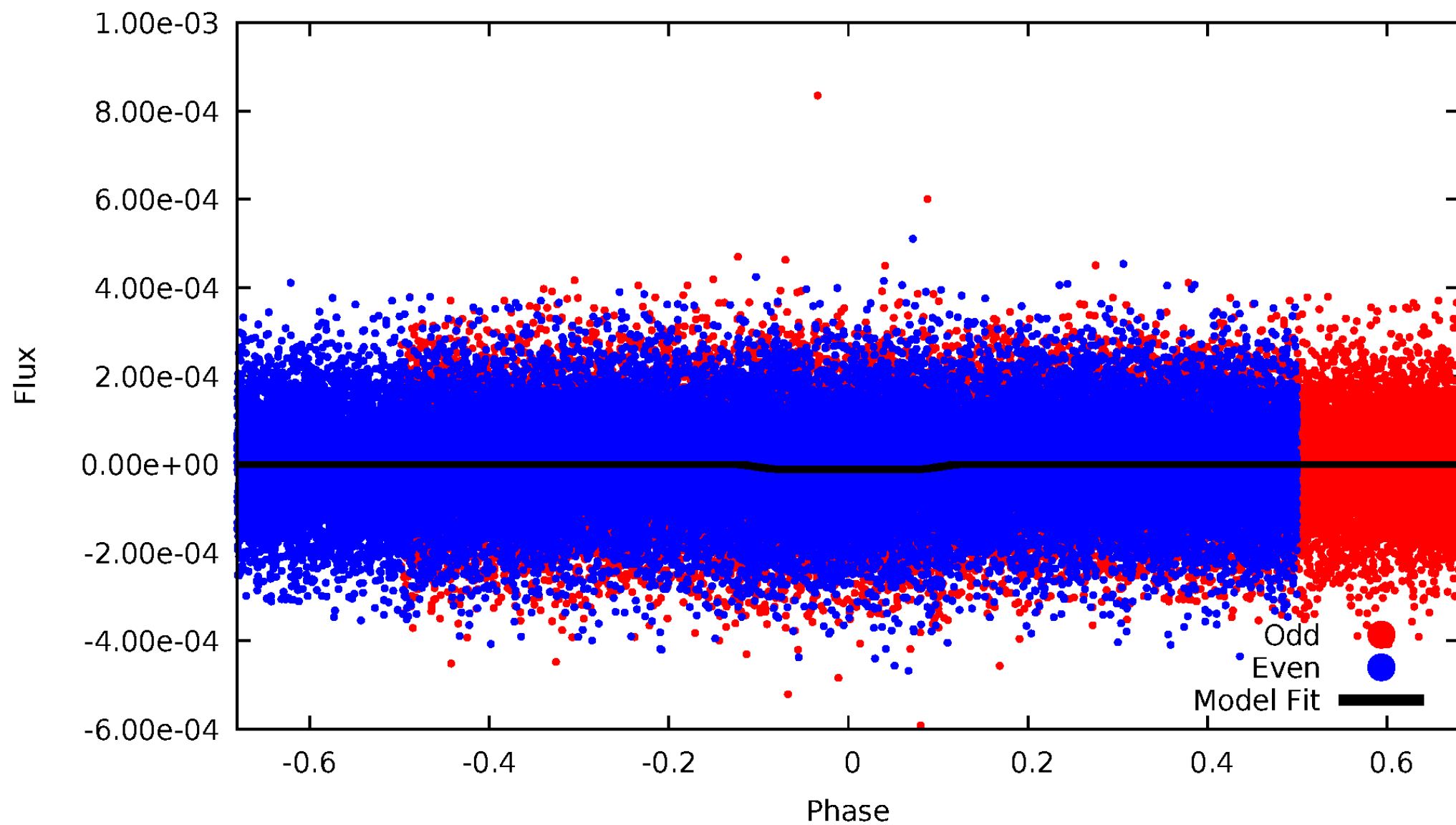
# DV Odd/Even

TCE 003230884-01



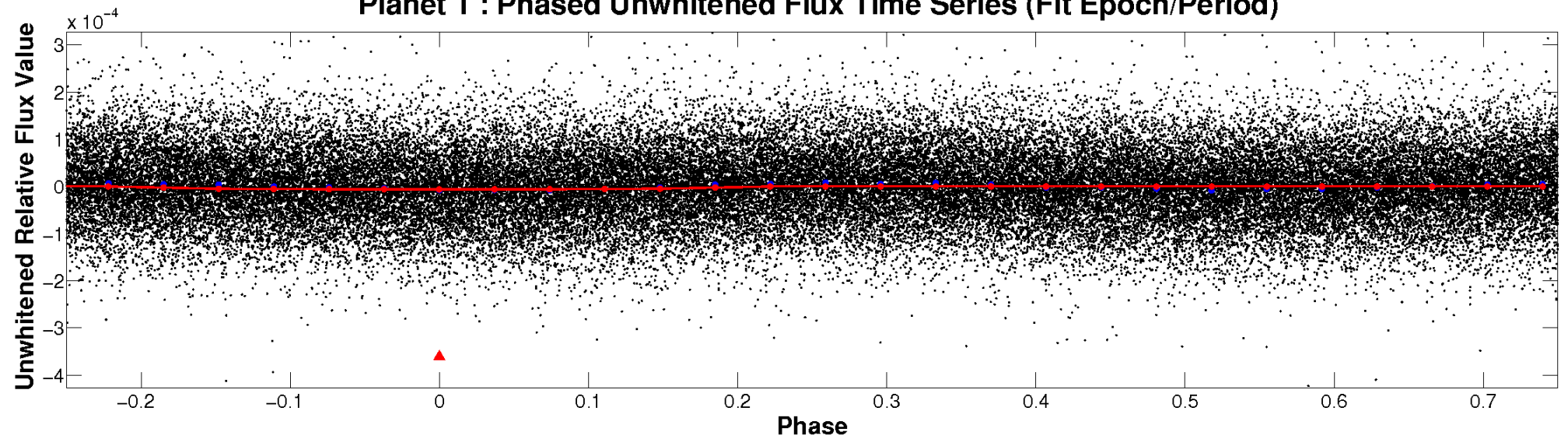
# ALT Odd/Even

TCE 003230884-01

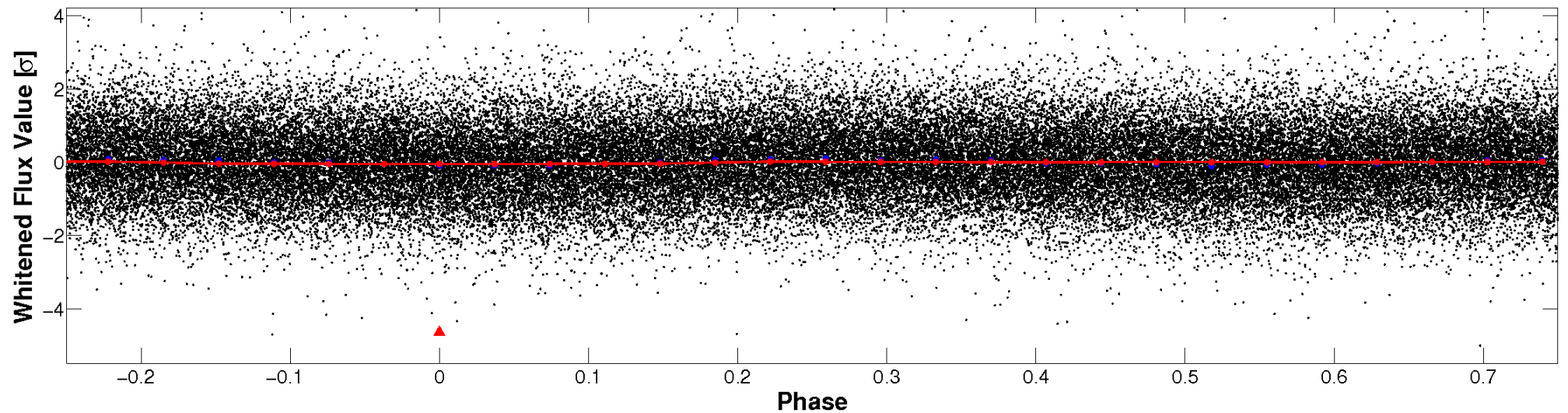


# Non-Whitened Vs. Whitened Light Curve

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

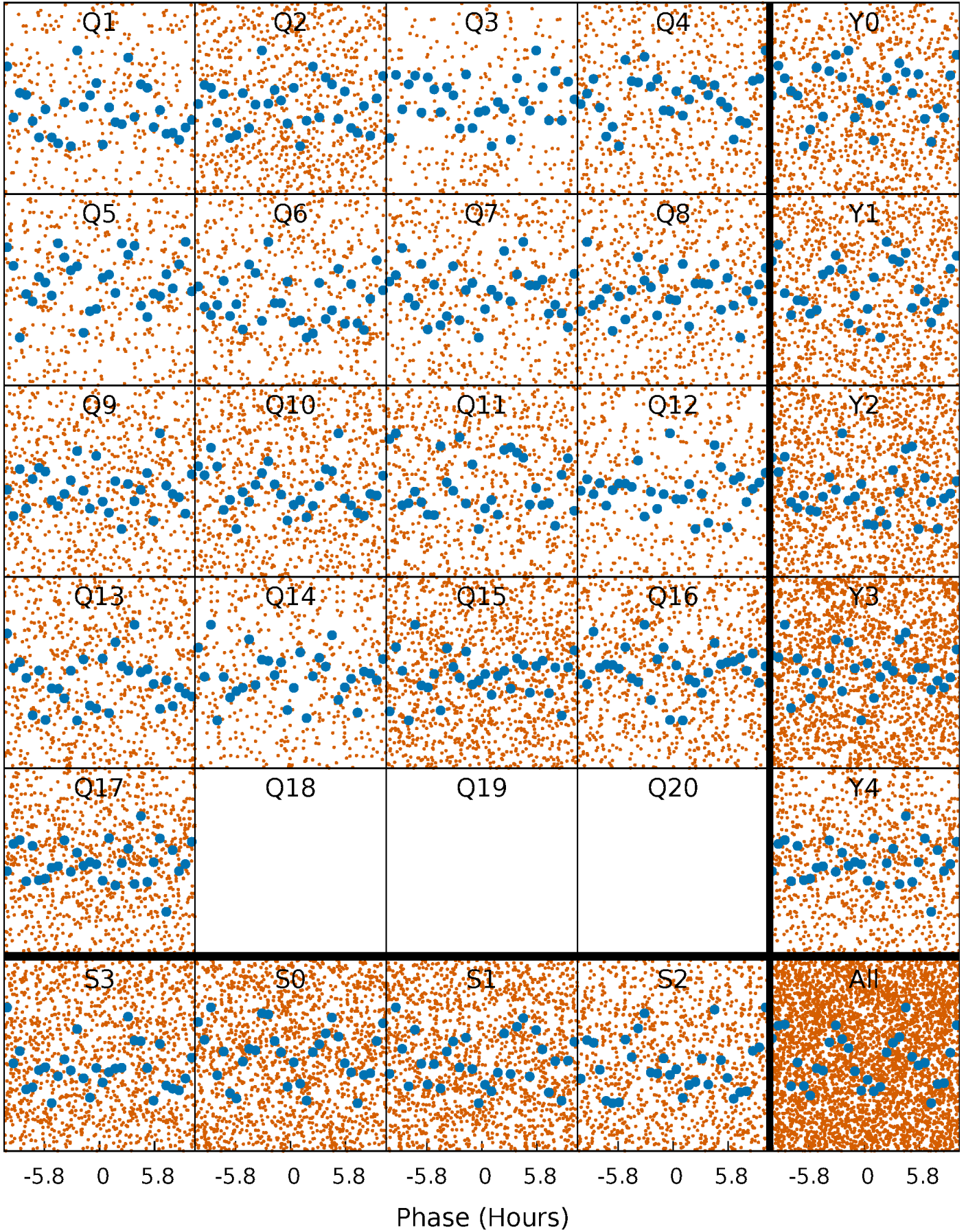


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

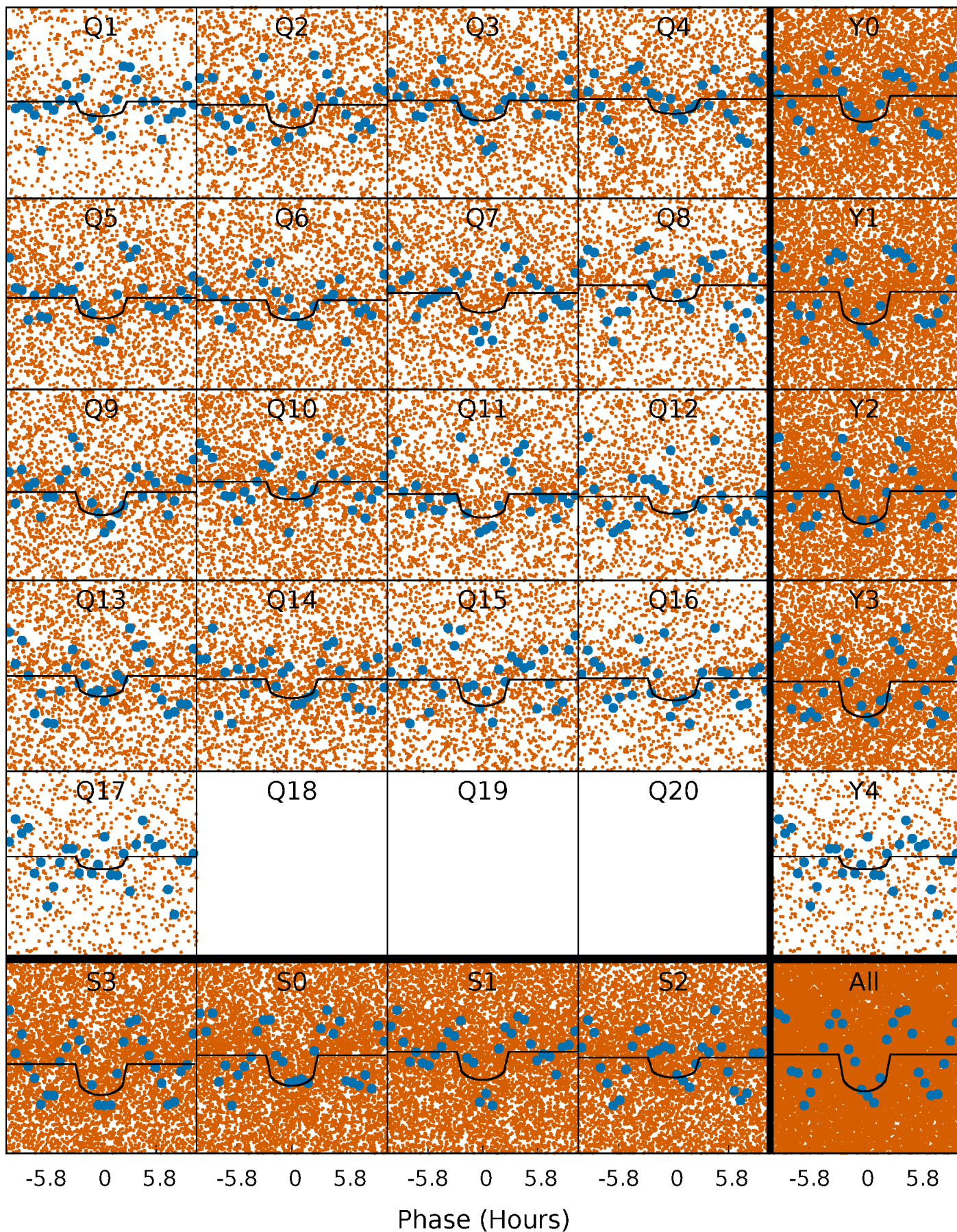
TCE 003230884-01 P= 0.552436 Days  $T_0=131.621240$  (BKJD)





# DV Quarter-Phased Transit Curves

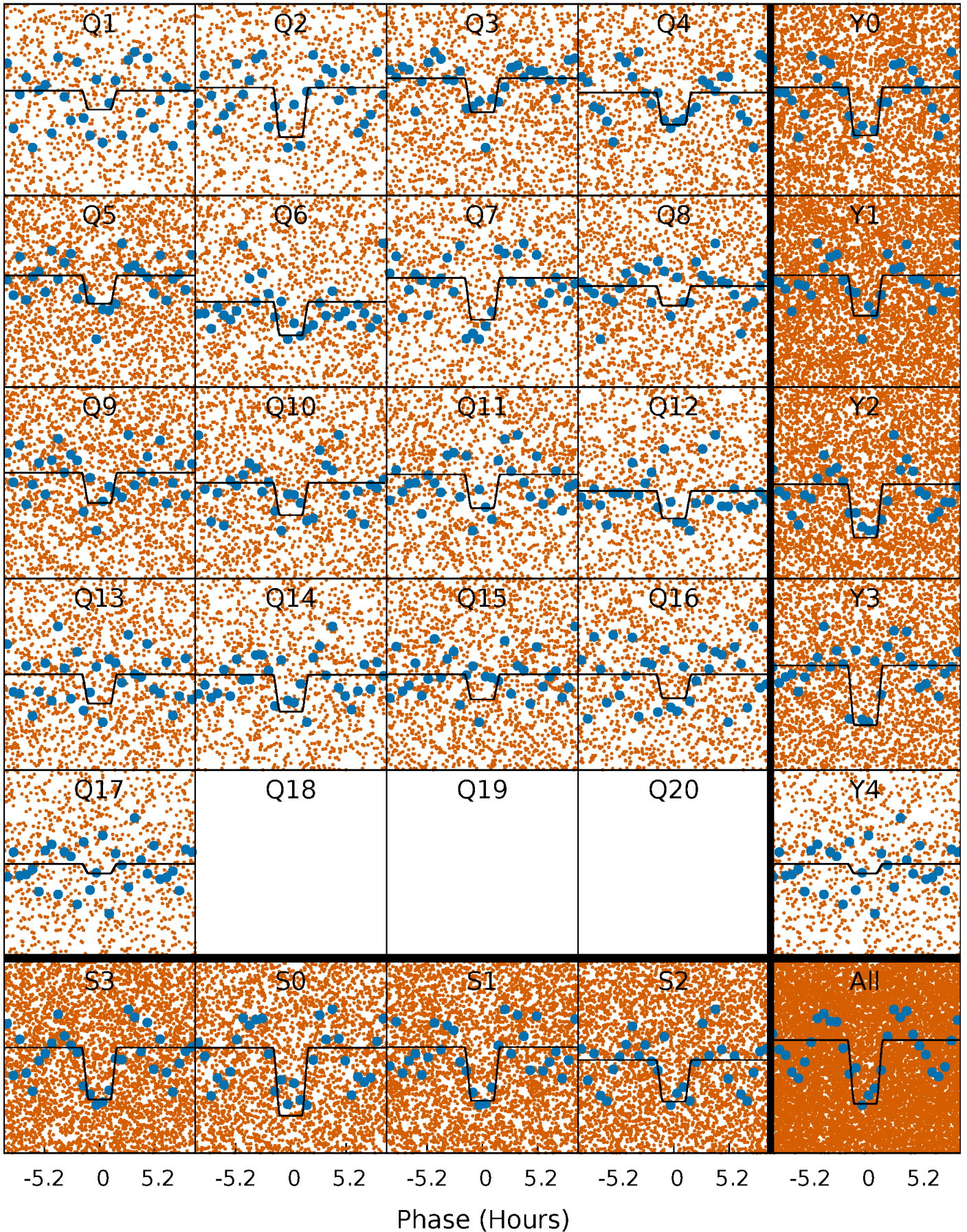
TCE 003230884-01   P= 0.552436 Days    $T_0=131.621240$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

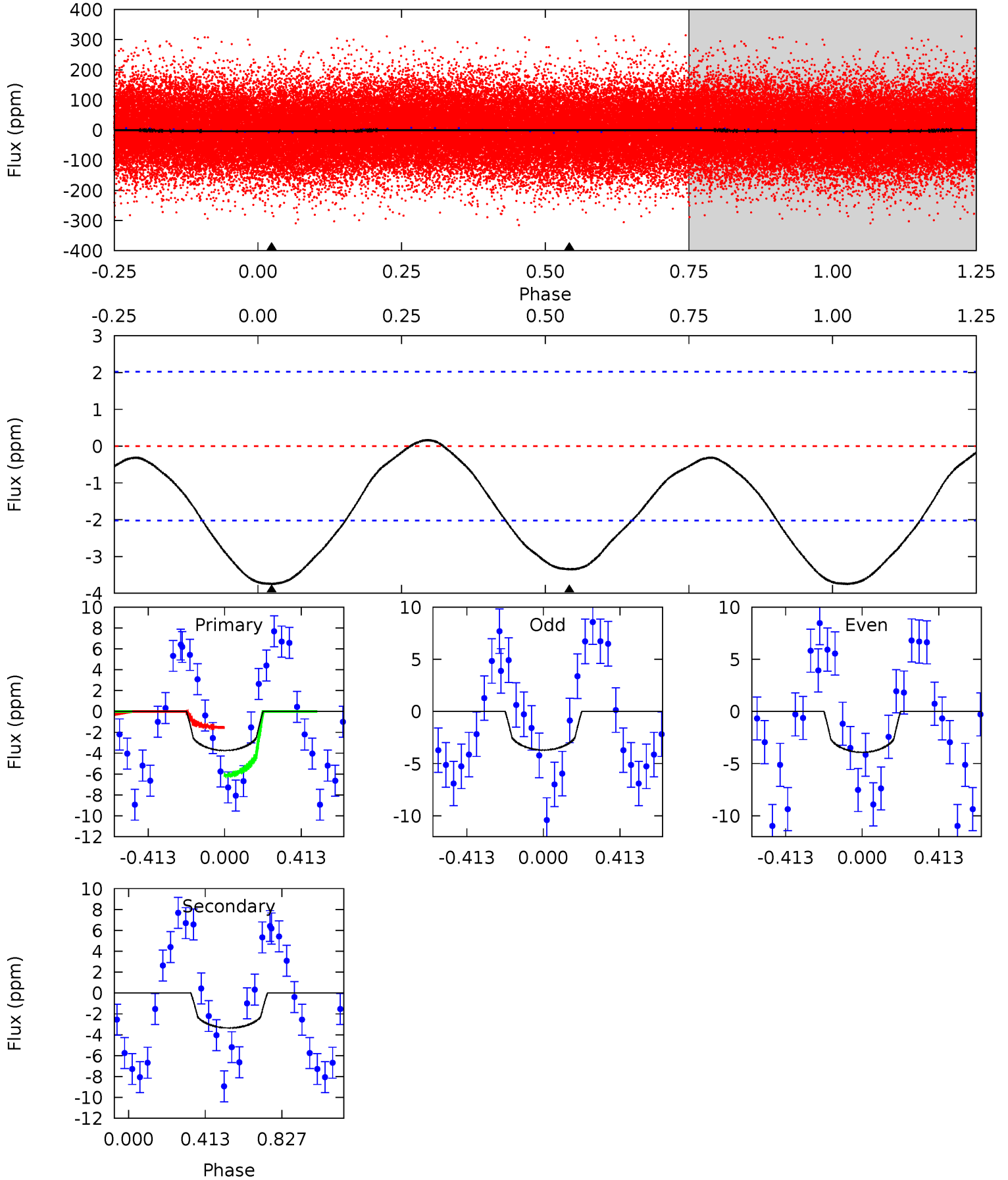
TCE 003230884-01   P= 0.552452 Days    $T_0=131.621749$  (BKJD)



# DV Model-Shift Uniqueness Test

003230884-01, P = 0.552436 Days, E = 131.068804 Days

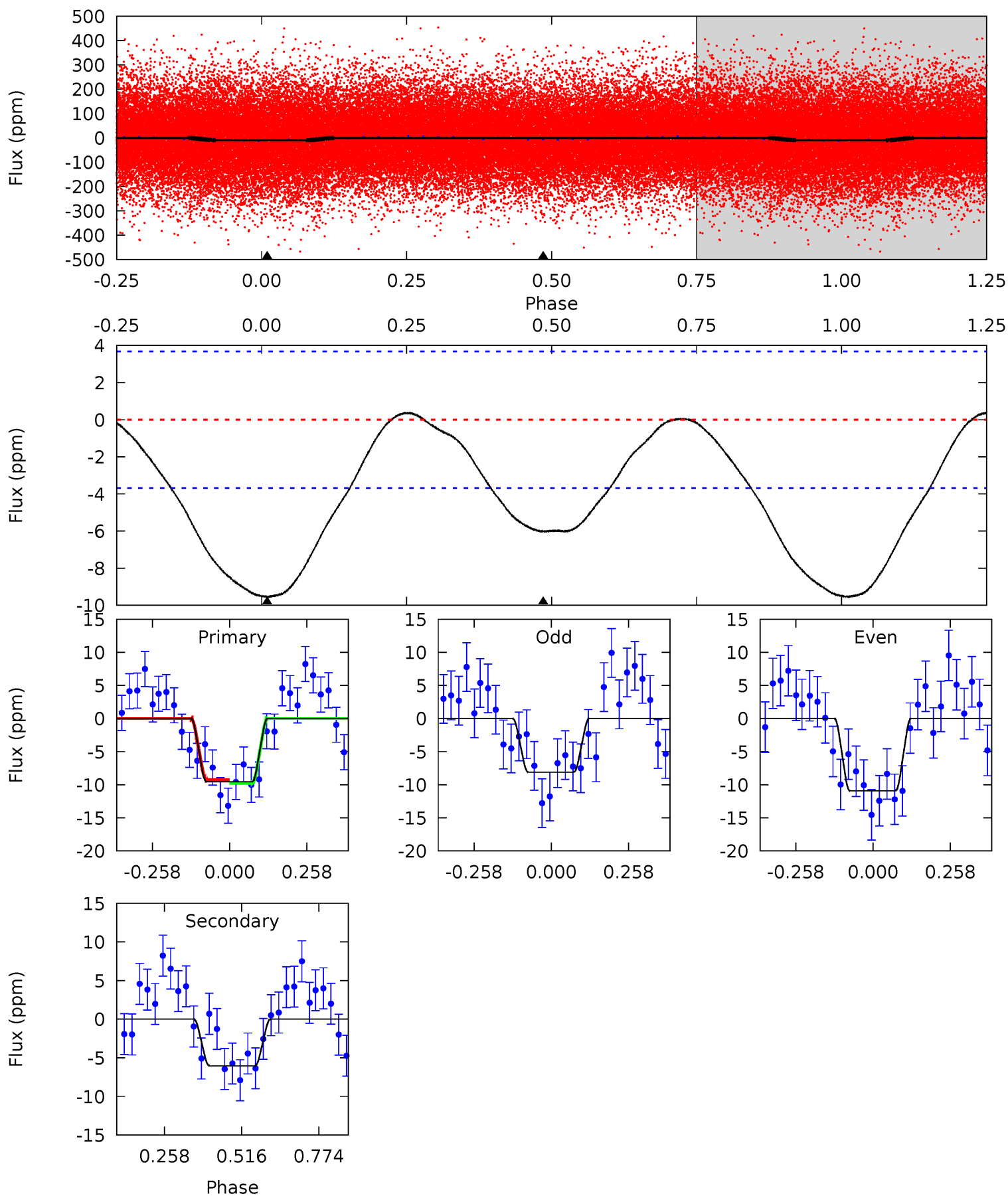
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.88	7.04	0	0	4.26	0.82	0.44	7.88	7.88	7.04	7.04	0.23	1.08	0.04	4.89



# Alt Model-Shift Uniqueness Test

003230884-01, P = 0.552452 Days, E = 131.069297 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
11.3	7.16	0	0	4.36	1.13	0.51	11.3	11.3	7.16	7.16	1.70	0.95	0.04	0.31





### Stellar Parameters For KIC 003230884

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7992^{+71}_{-87}$	$3.947^{+0.150}_{-0.081}$	$-0.120^{+0.050}_{-0.150}$	$2.410^{+0.253}_{-0.470}$	$1.872^{+0.034}_{-0.202}$	$0.188^{+0.138}_{-0.048}$
	+1%/-1%	+4%/-2%	+42%/-125%	+10%/-20%	+2%/-11%	+73%/-26%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 003230884-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-3 \pm 0$	$0.75^{+0.58}_{-0.49}$	$5990^{+212}_{-302}$	$5525^{+6488}_{-8800}$	$0.828^{+5.974}_{-0.560}$
Alt.	$-6 \pm 1$	$0.86^{+0.62}_{-0.52}$	$5987^{+205}_{-320}$	$6081^{+5863}_{-2248}$	$1.124^{+6.141}_{-0.738}$

$T_{\text{max}}$  = 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

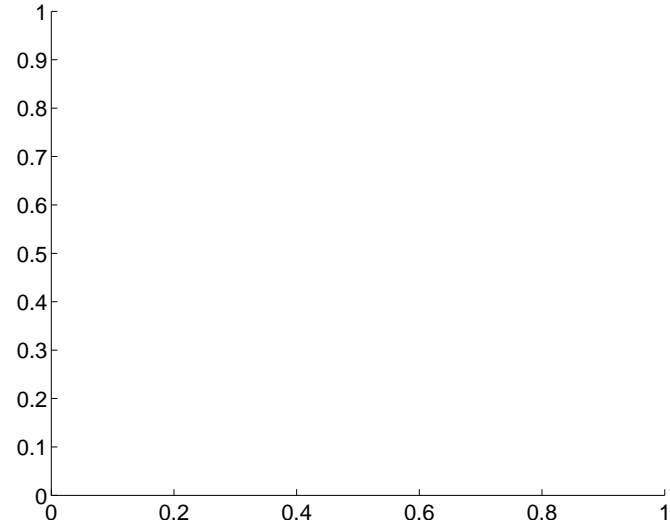
Supplemental centroid analysis for 003230884-01. **Kepler magnitude: 11.69.** Transit SNR 6.15

**There are 0 quarters with good PRF difference image offsets**

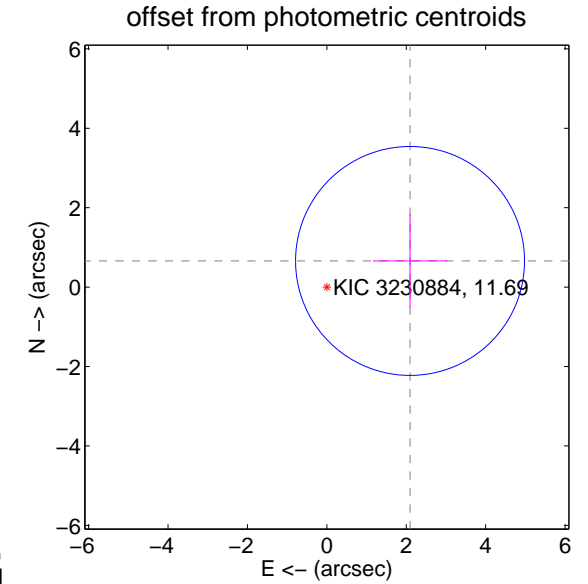
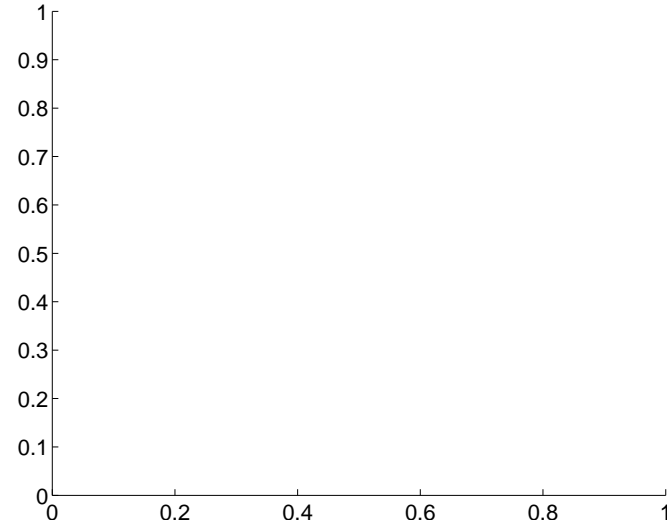
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$2.20 \pm 0.96$	2.29	$-2.09 \pm 0.94$	$0.66 \pm 1.18$

There is no PRF-fit offset from OOT-fit

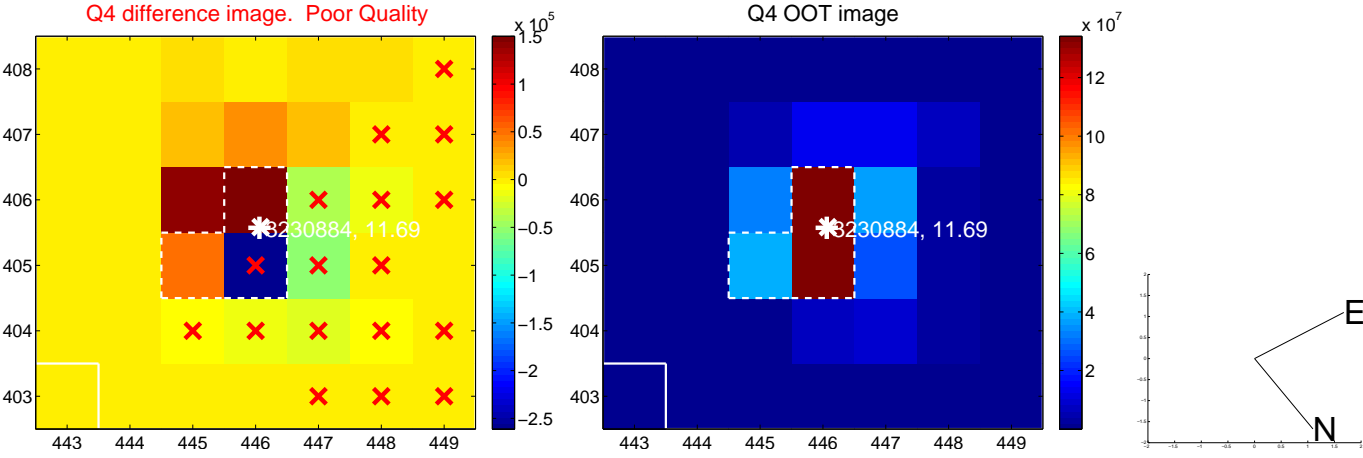
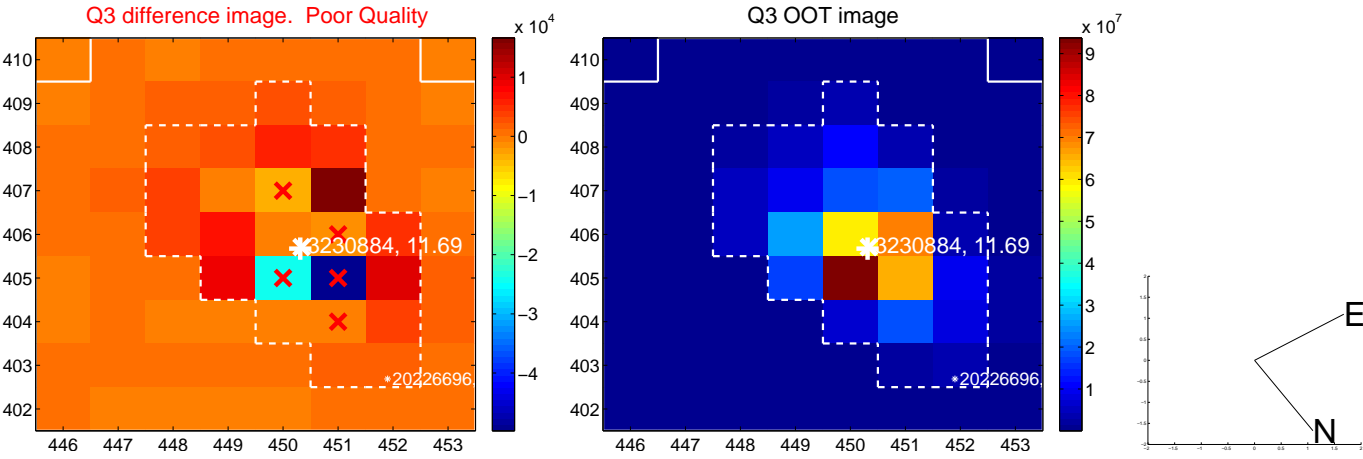
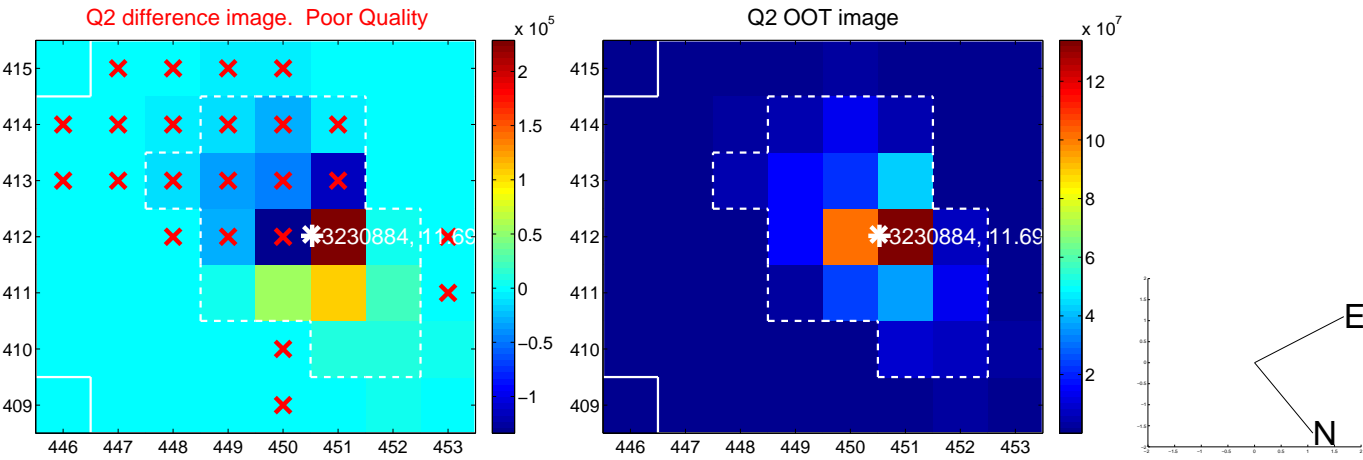
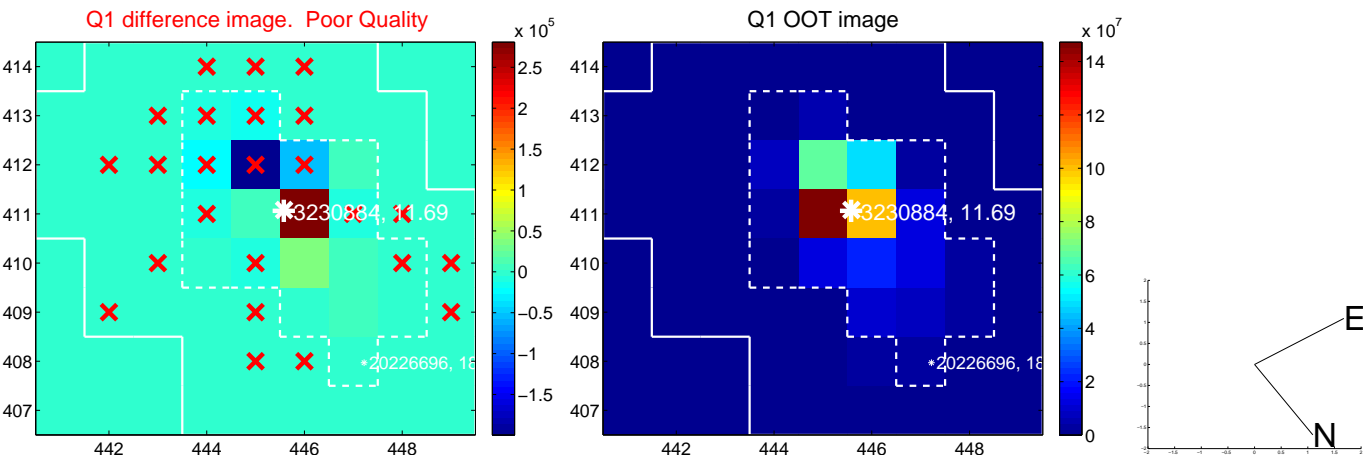


There is no PRF-fit offset from KIC

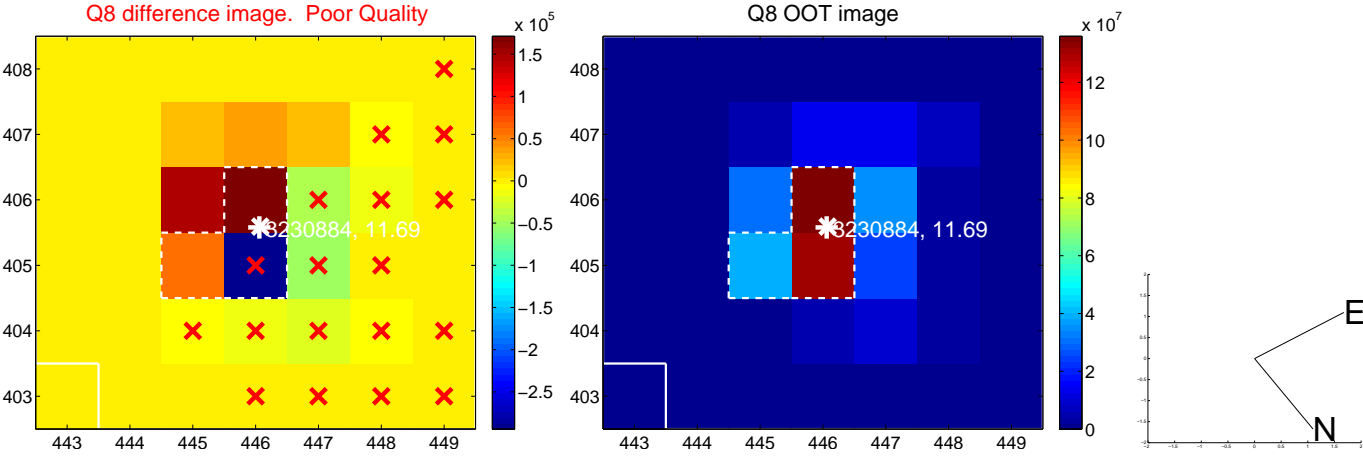
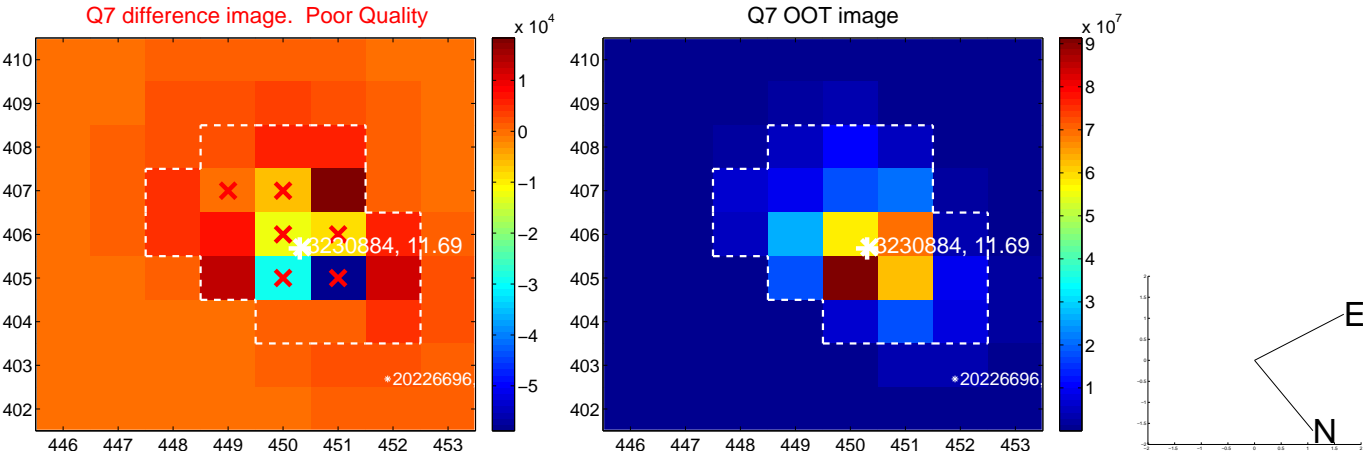
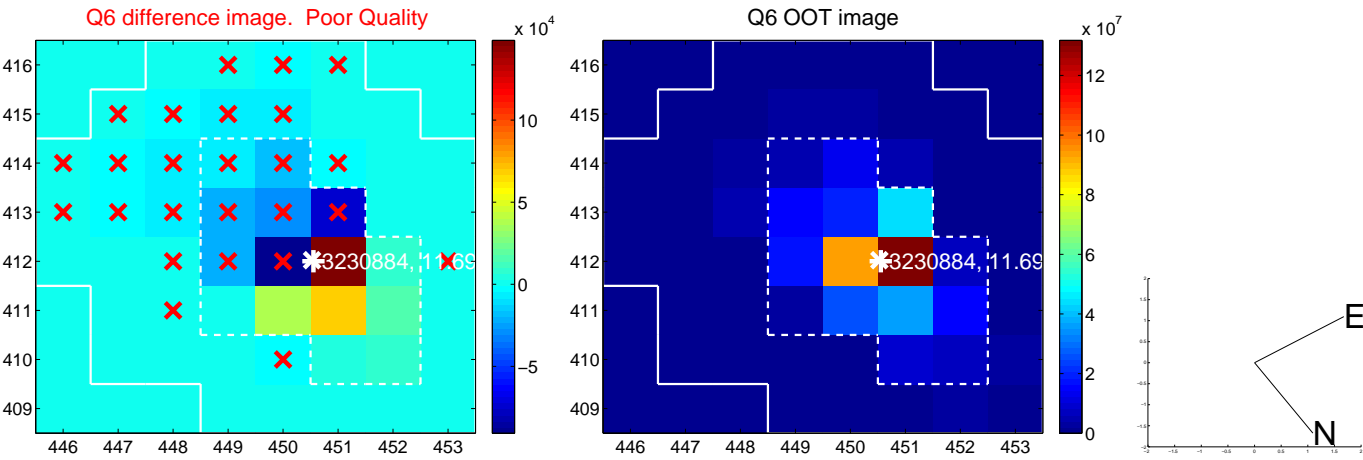
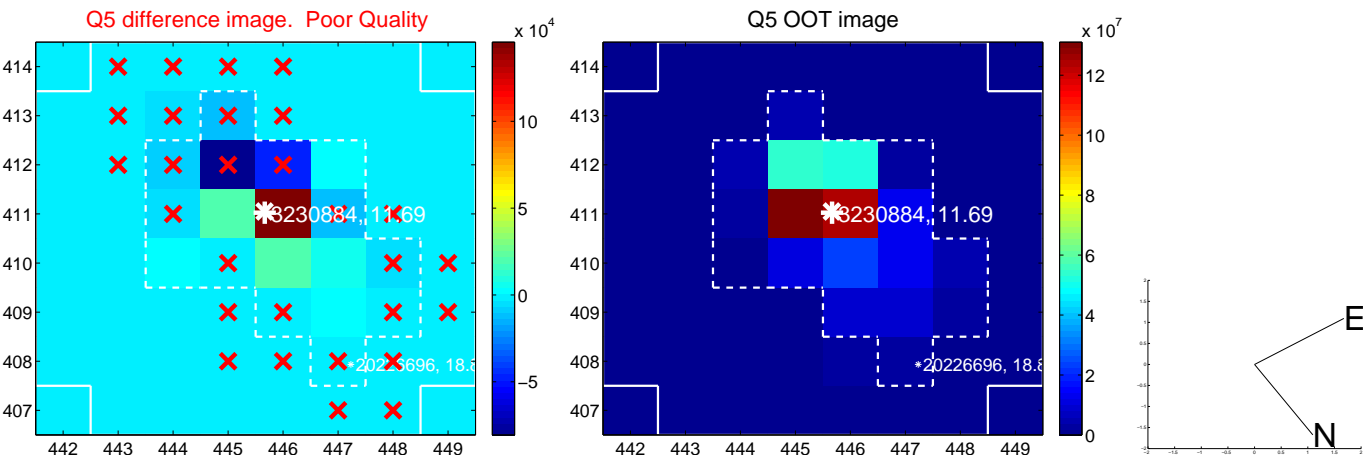


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

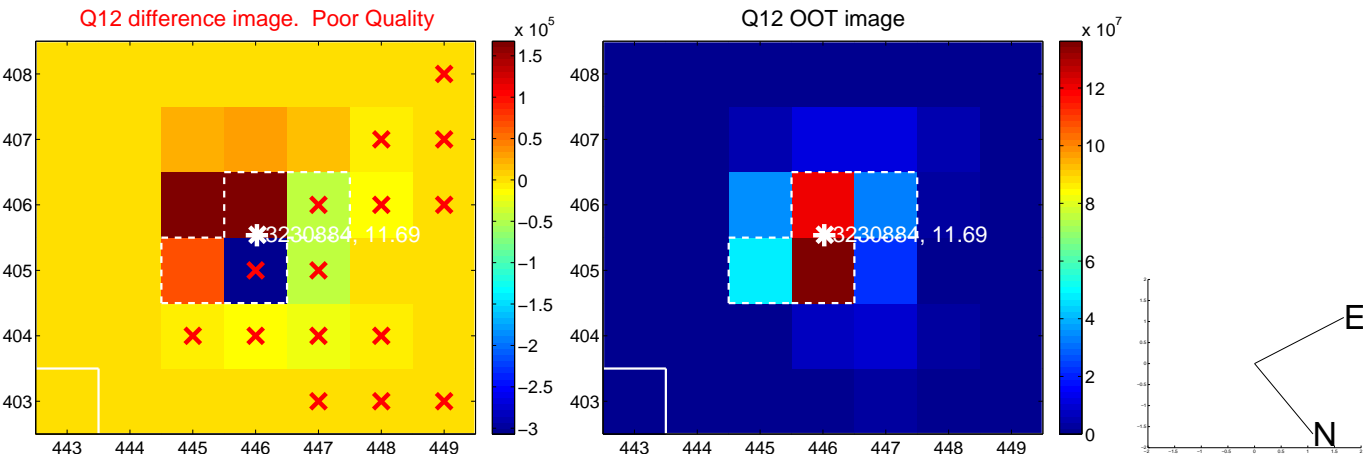
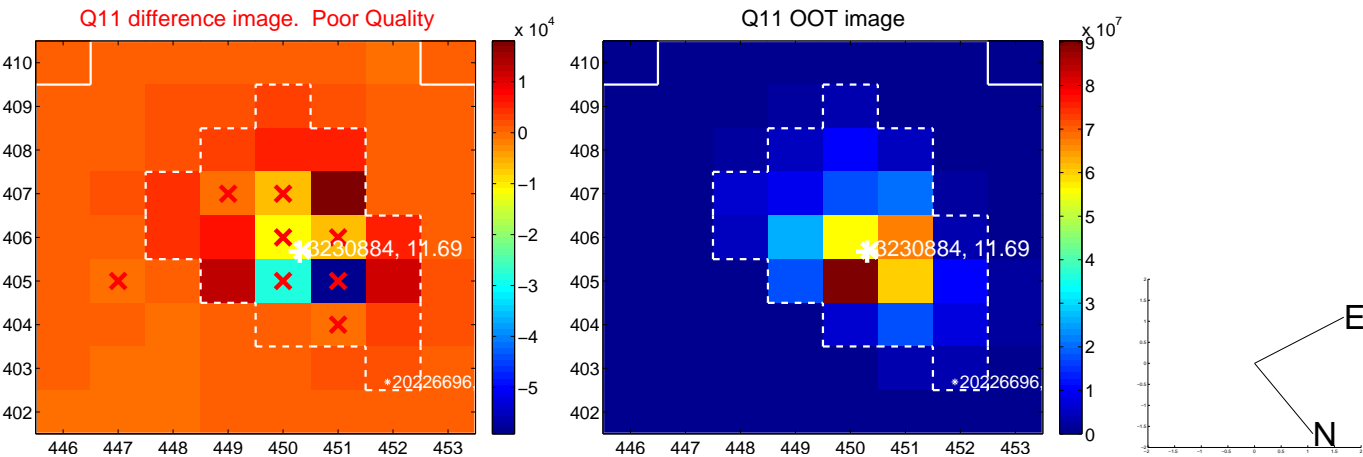
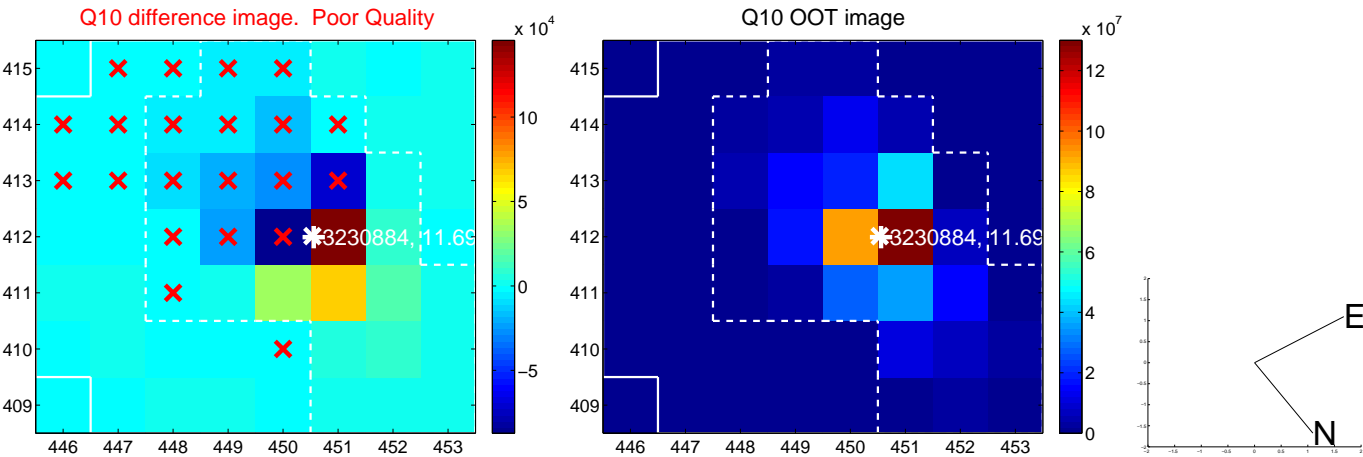
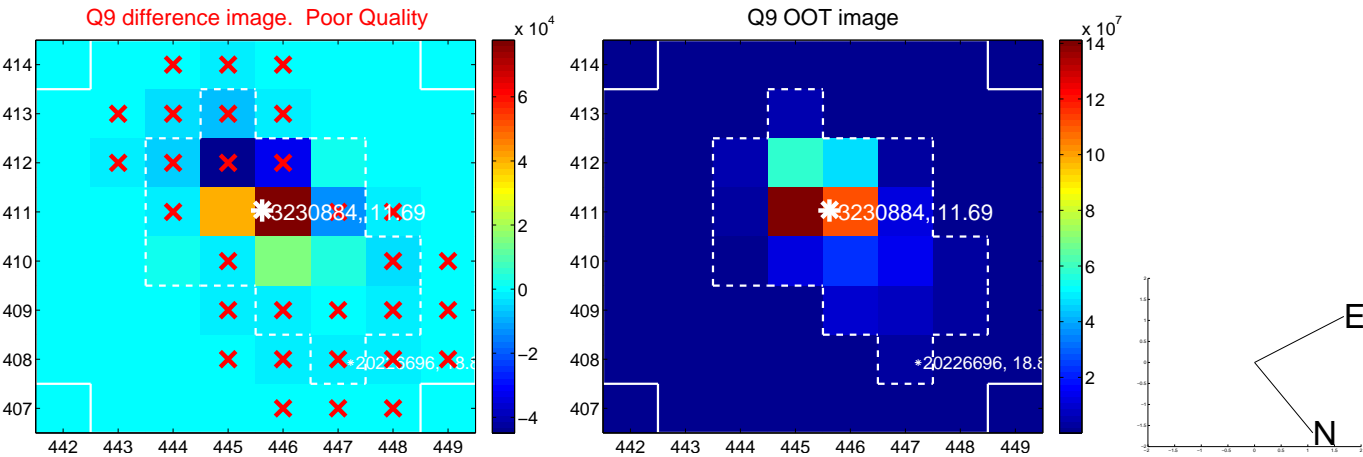


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

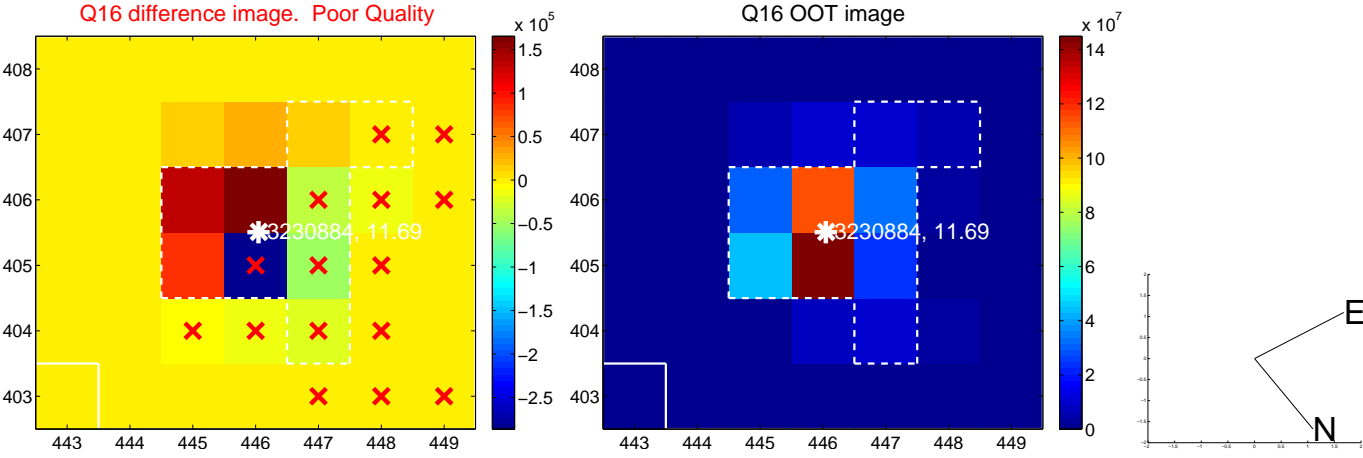
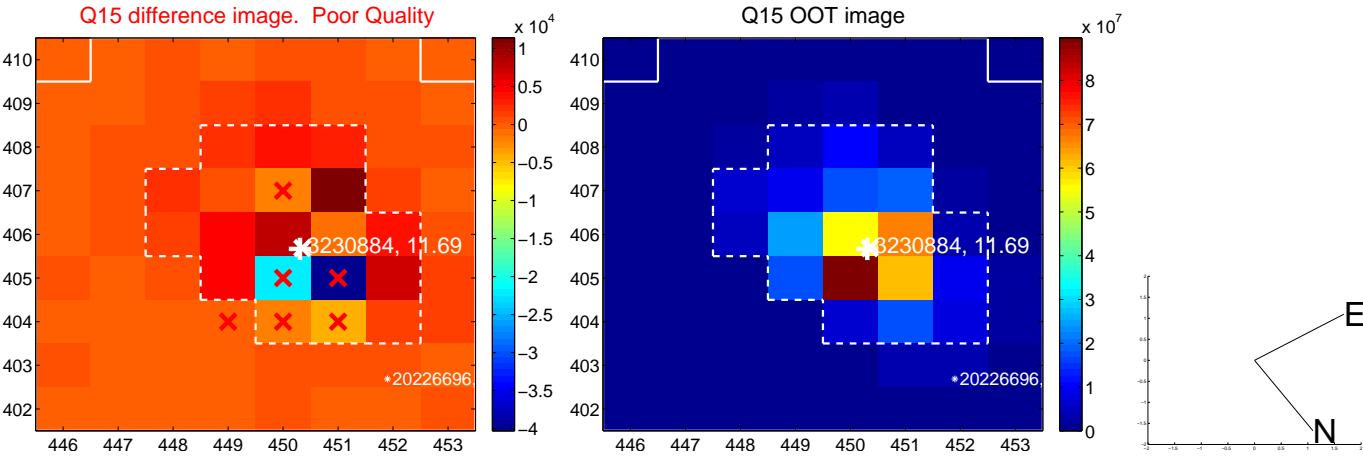
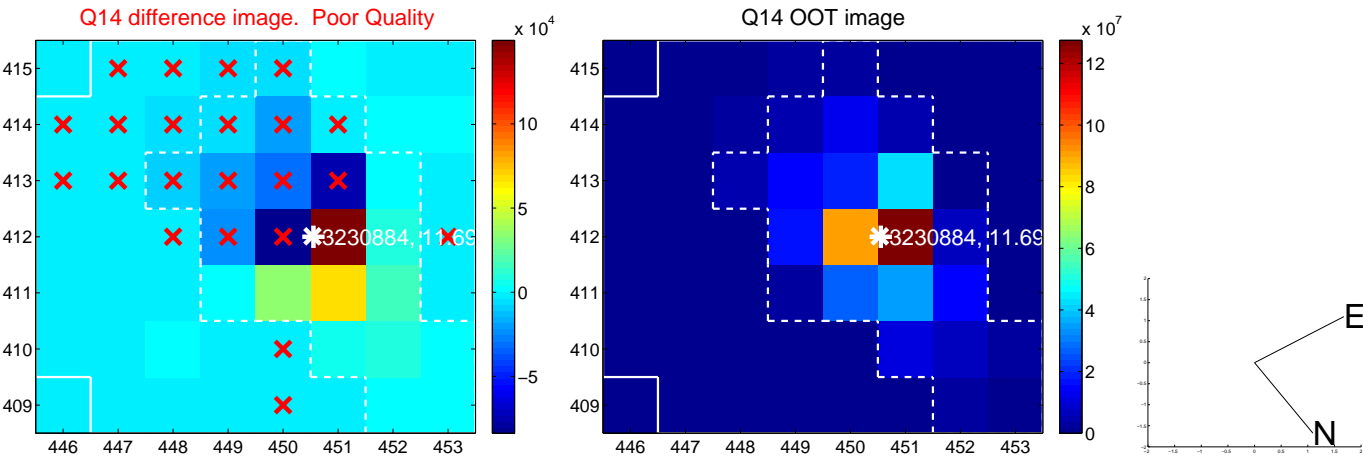
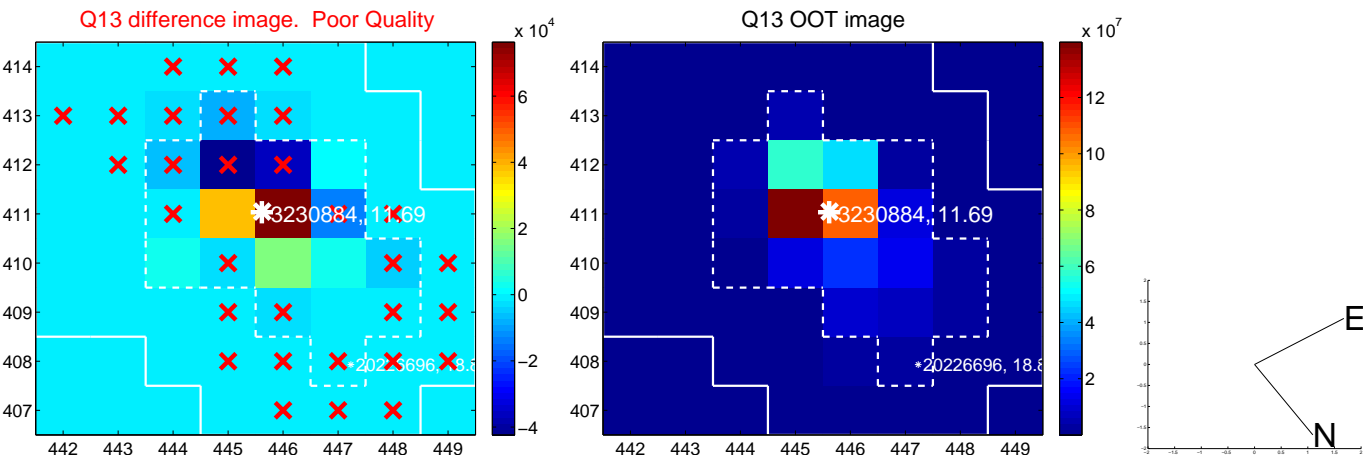




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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





UKIRT Image

Declination

