

# KIC 008330511

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008330511-01	OBS	No	0.733041	132.195130	24.5	1.516	7.6	7.4	0.84	4782	0.52	1525.42

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008330511-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET—HALO_GHOST

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

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

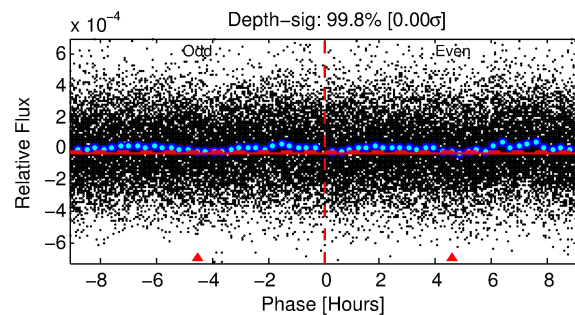
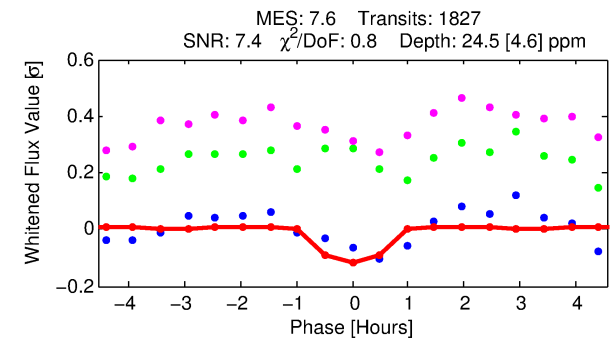
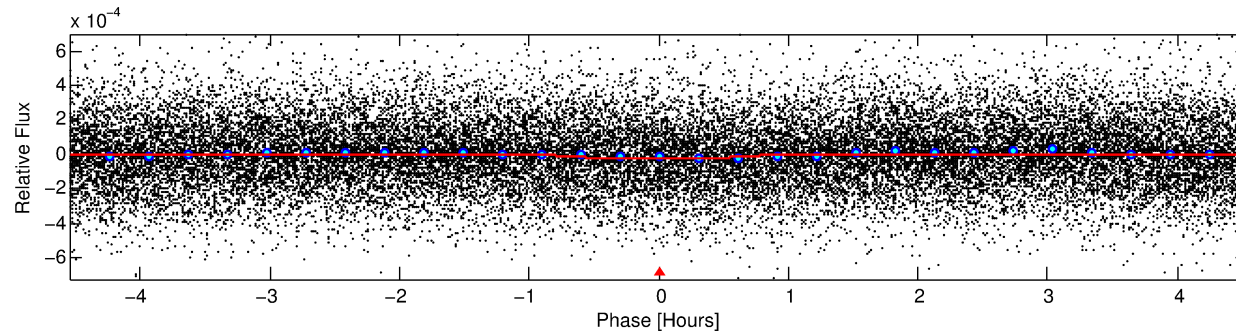
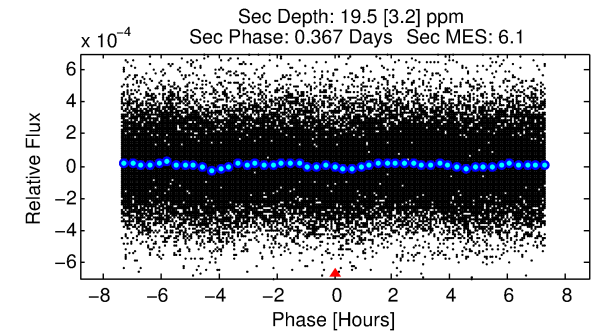
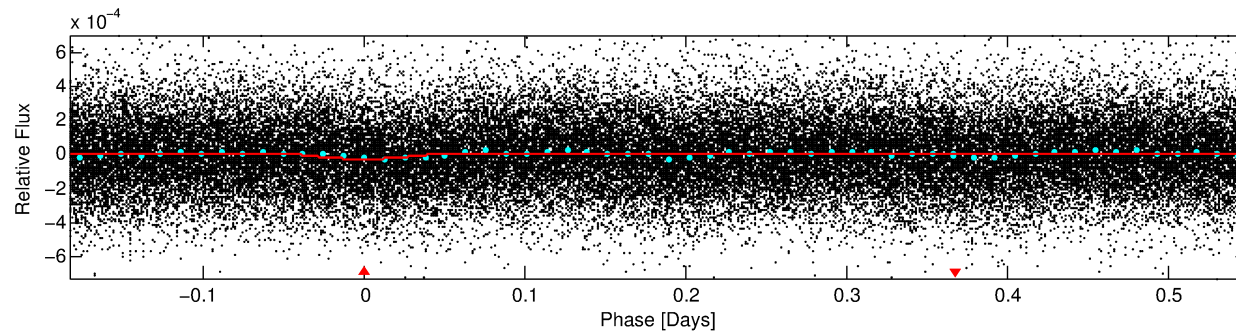
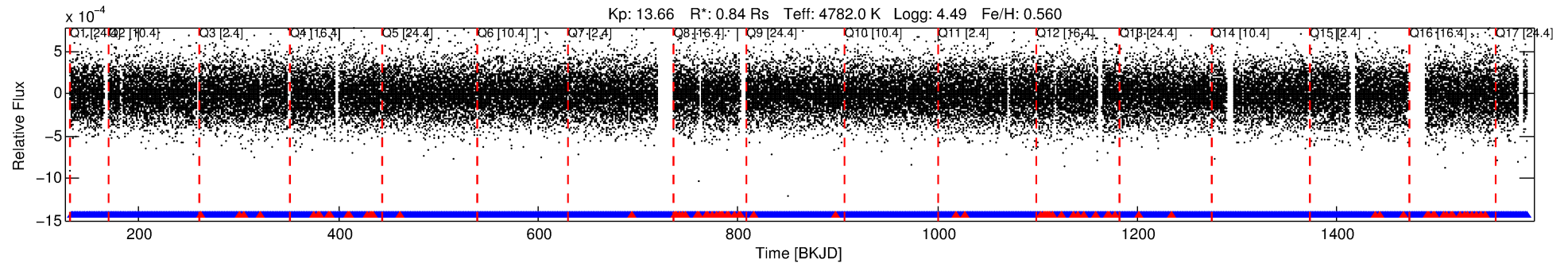
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008330511-01

No Significant Match Found

# DV One-Page Summary

KIC: 8330511 Candidate: 1 of 1 Period: 0.733 d



## DV Fit Results:

Period = 0.73304 [0.00001] d  
Epoch = 132.1951 [0.0030] BKJD  
Rp/R\* = 0.0056 [0.0031]  
a/R\* = 1.90 [2.86]  
b = 0.90 [0.45]  
Seff = 1525.42 [2467.04]  
Teff = 1594 [644] K  
Rp = 0.52 [0.91] Re  
a = 0.0148 [0.0187] AU  
Ag = 8.82 [17.35] [0.45σ]  
Teffp = 4246 [1202] K [1.95σ]

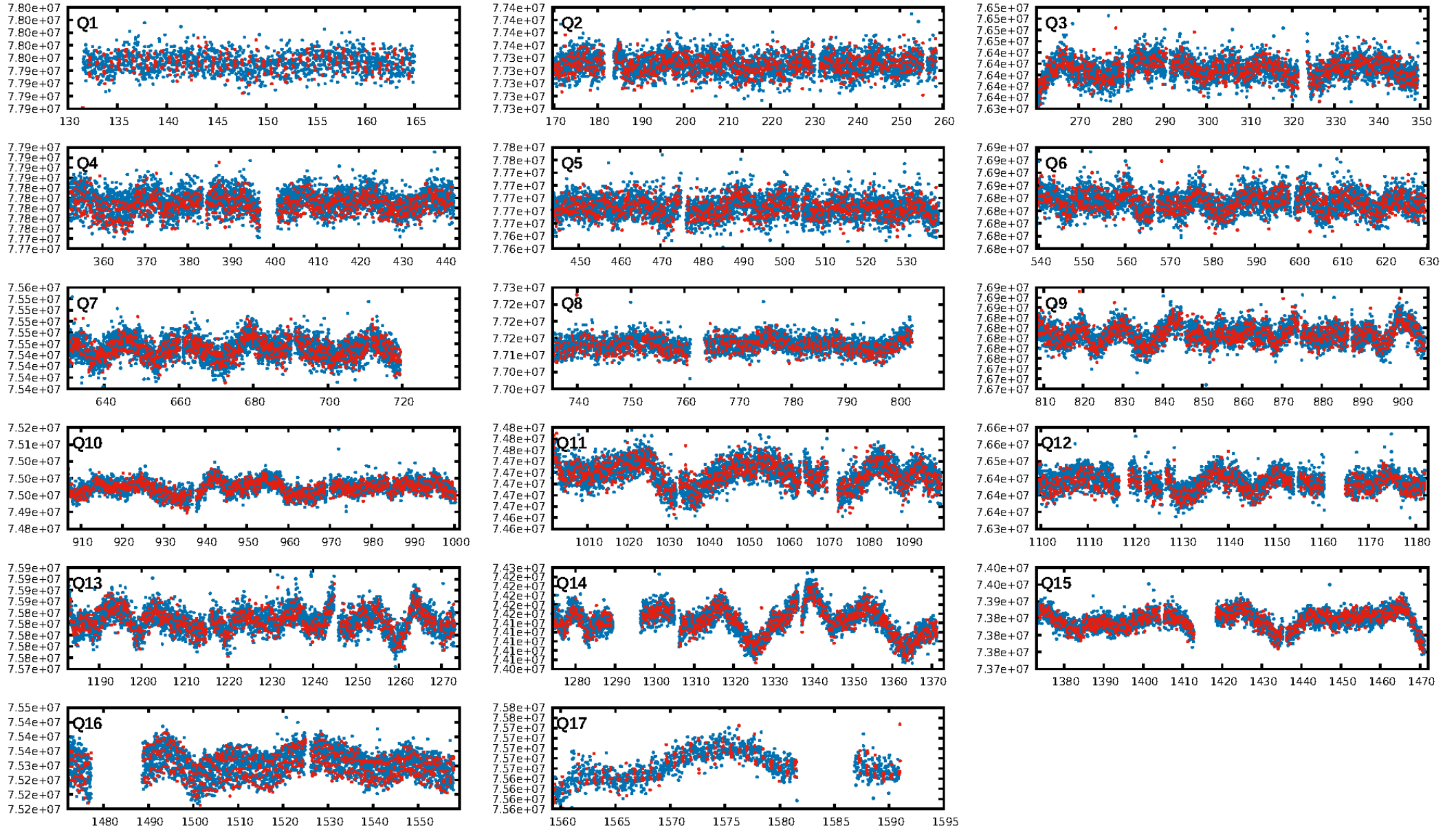
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
**Bootstrap-pfa: 1.57e-12**  
RollingBand-fgt: 0.95 [1665/1746]  
**GhostDiagnostic-chr: 0.01456**  
Centroid-sig: 1.7%  
Centroid-so: 3.075 arcsec [1.64σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0 [0]  
KicOffset-st: 0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [17/17]

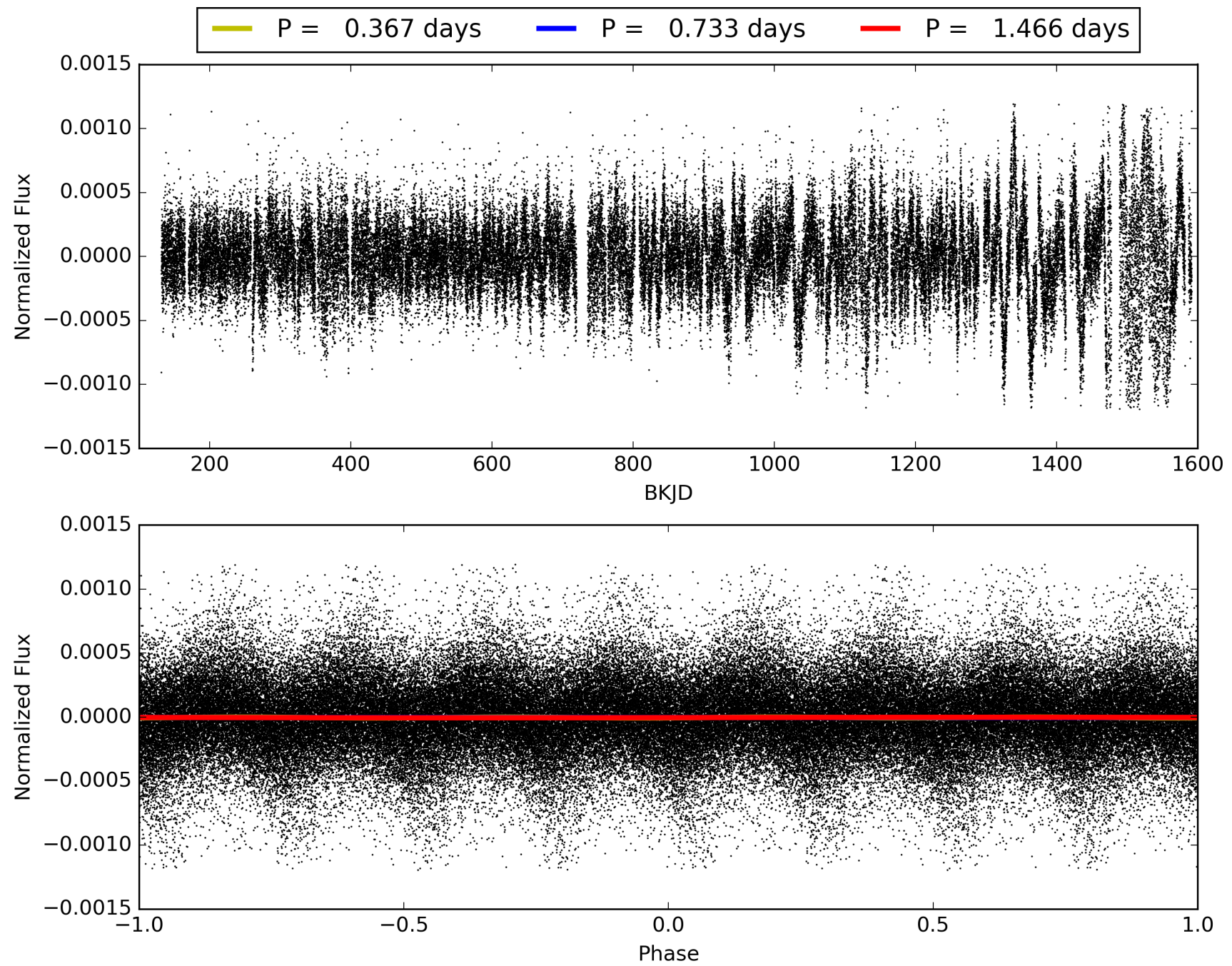
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:11:37 Z

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

# TCE 008330511-01, PDC Light Curves



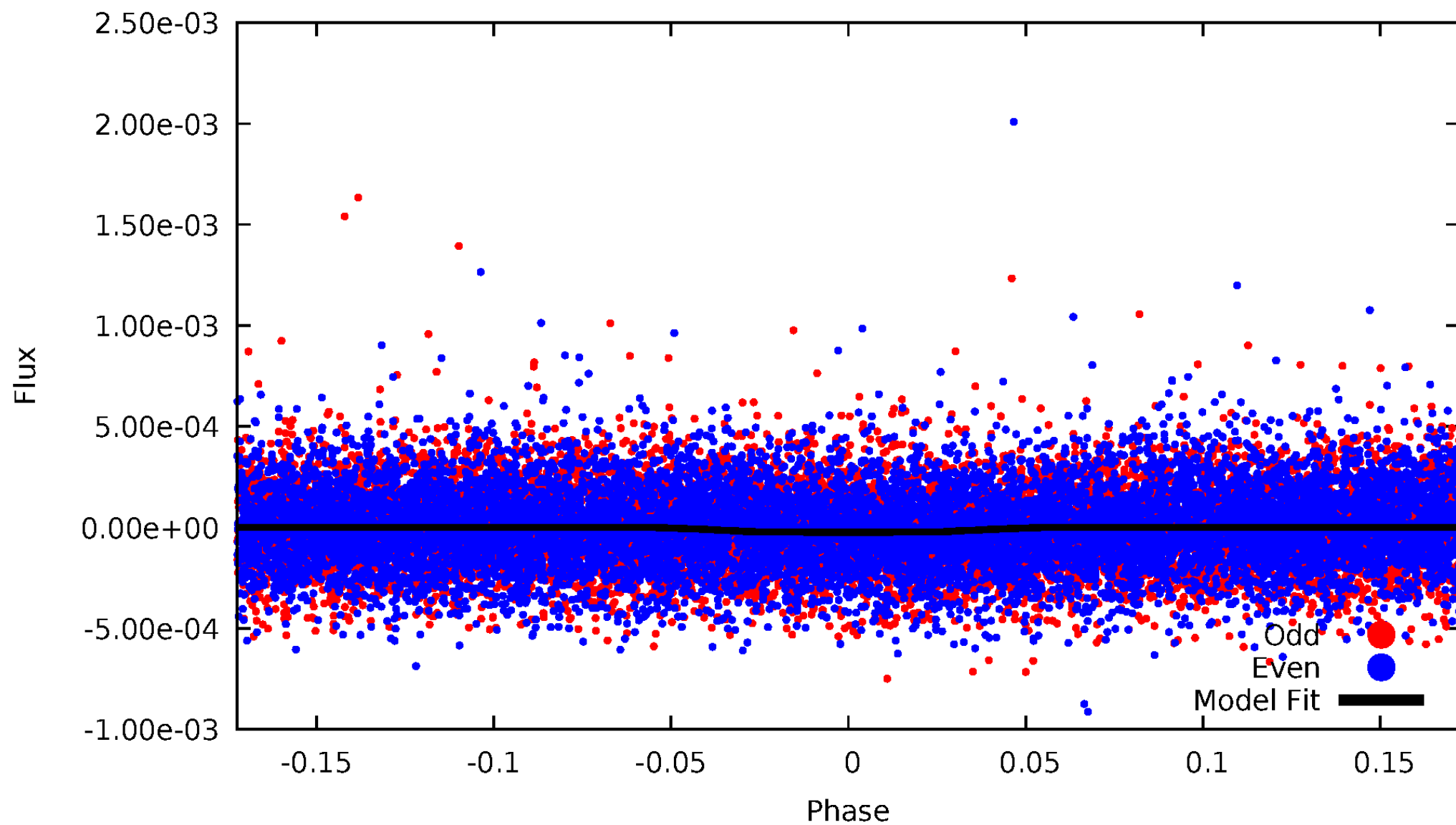
TCE 008330511-01





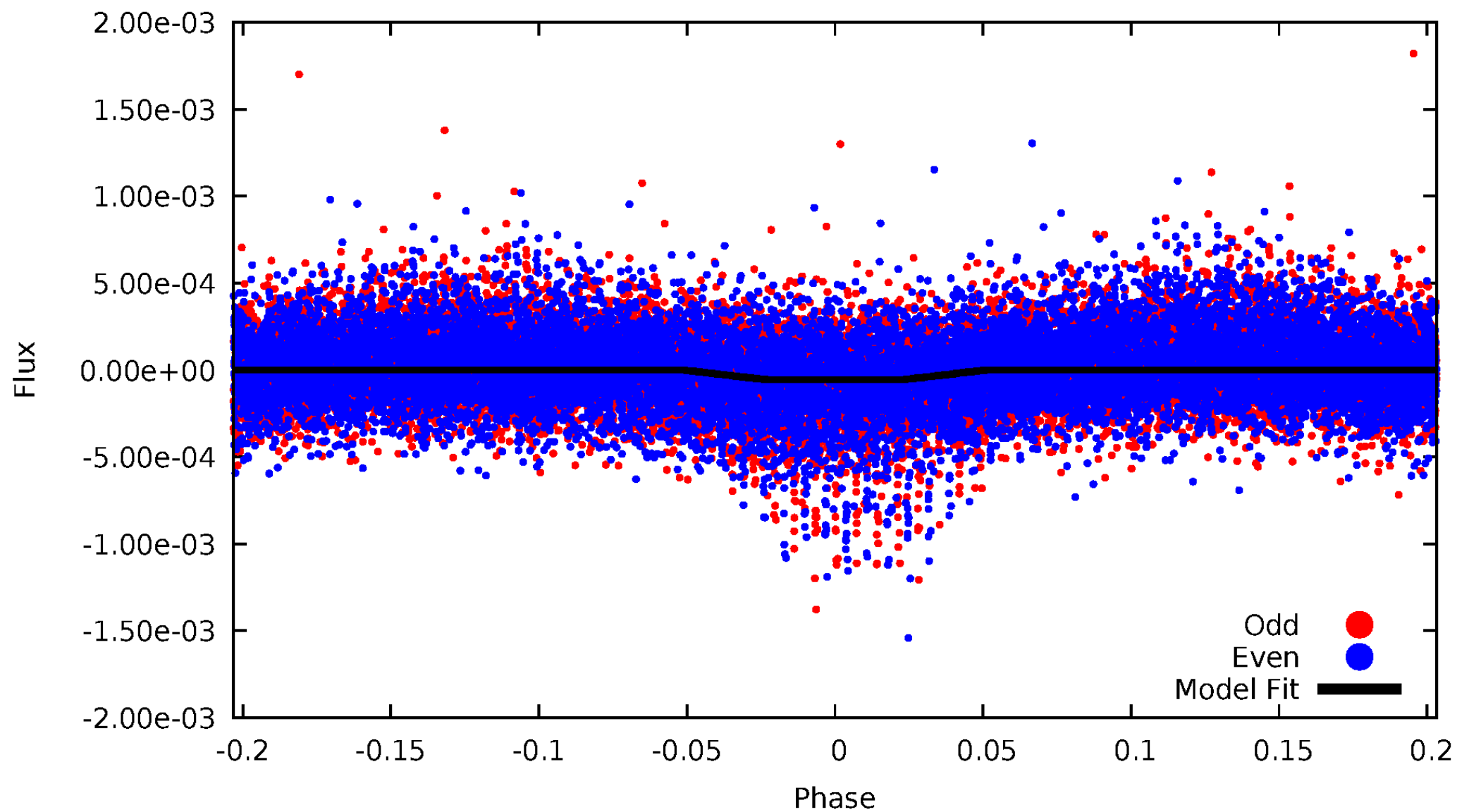
# DV Odd/Even

TCE 008330511-01



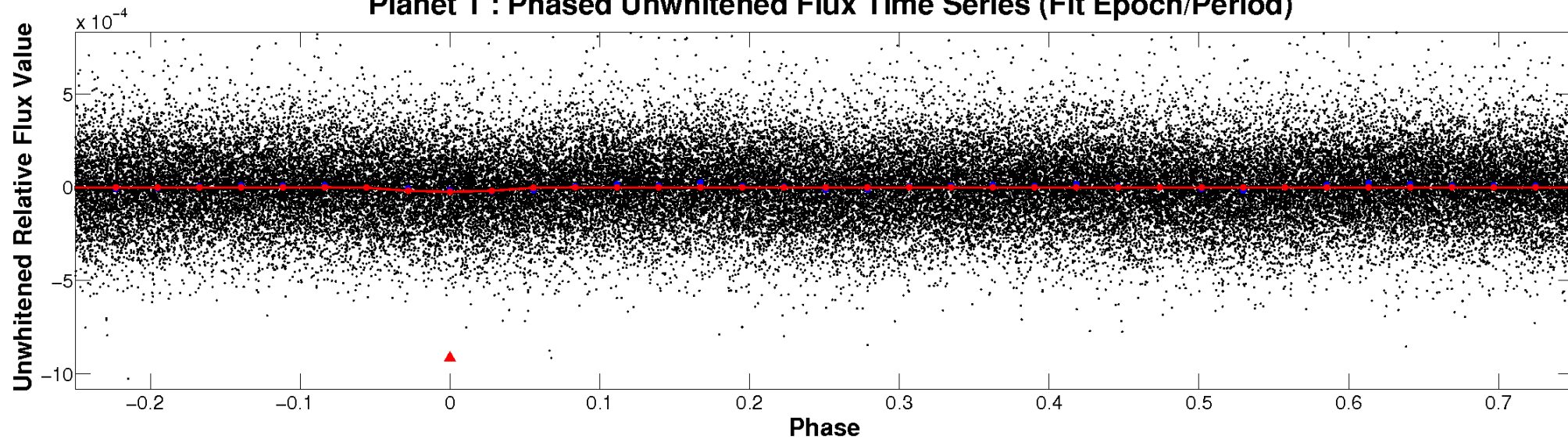
# ALT Odd/Even

TCE 008330511-01

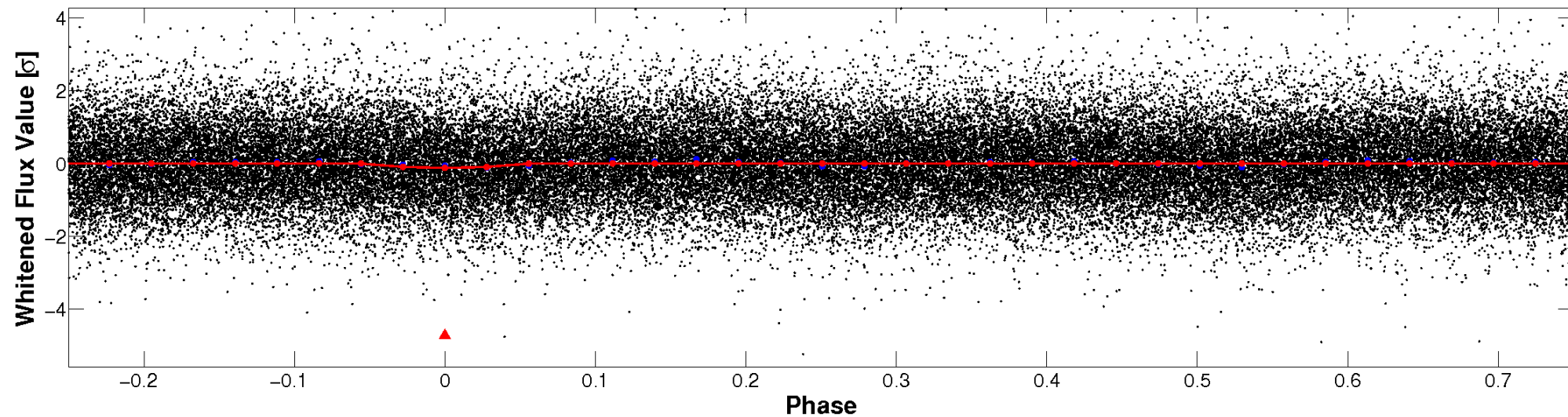


# Non-Whitened Vs. Whitened Light Curve

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

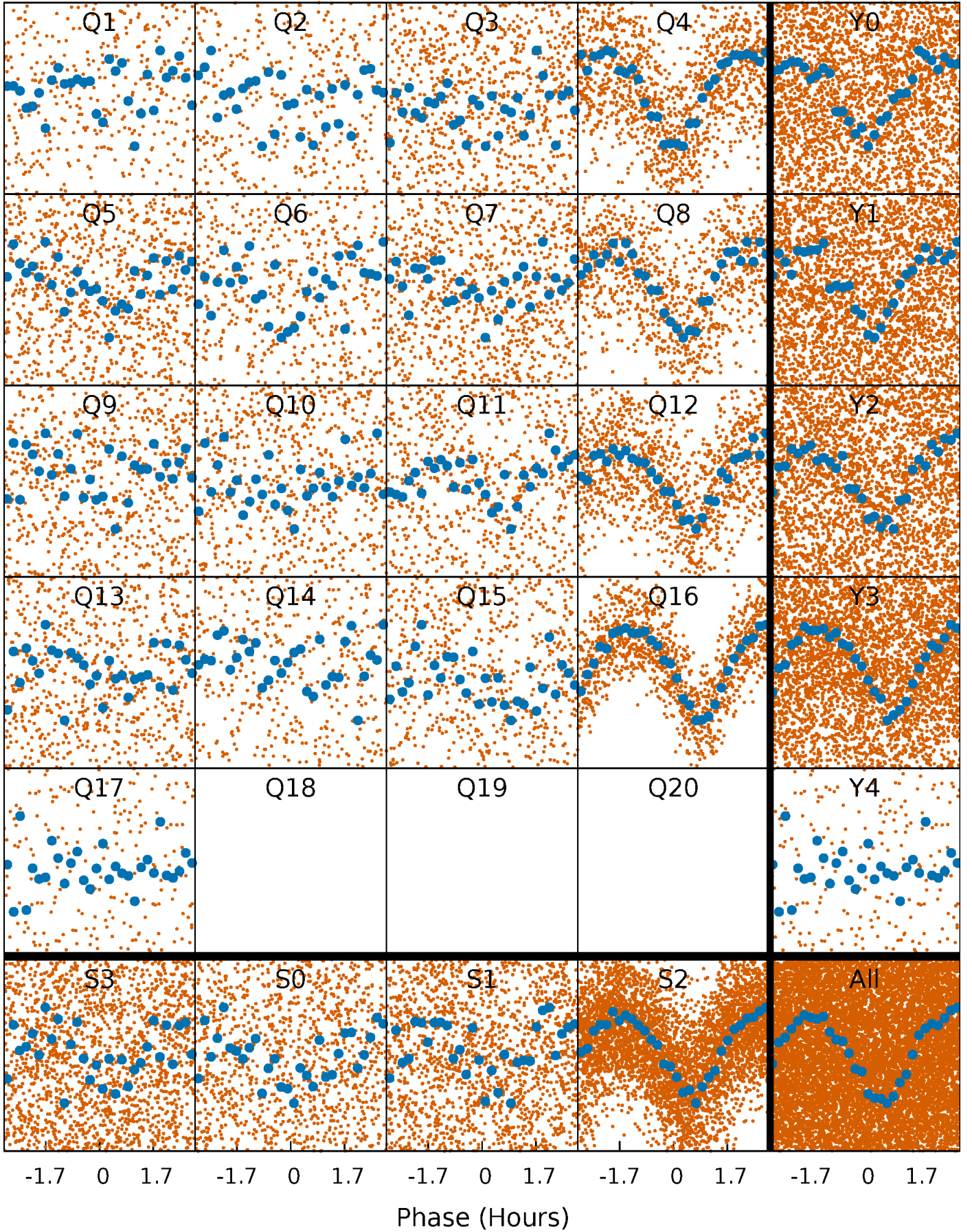


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

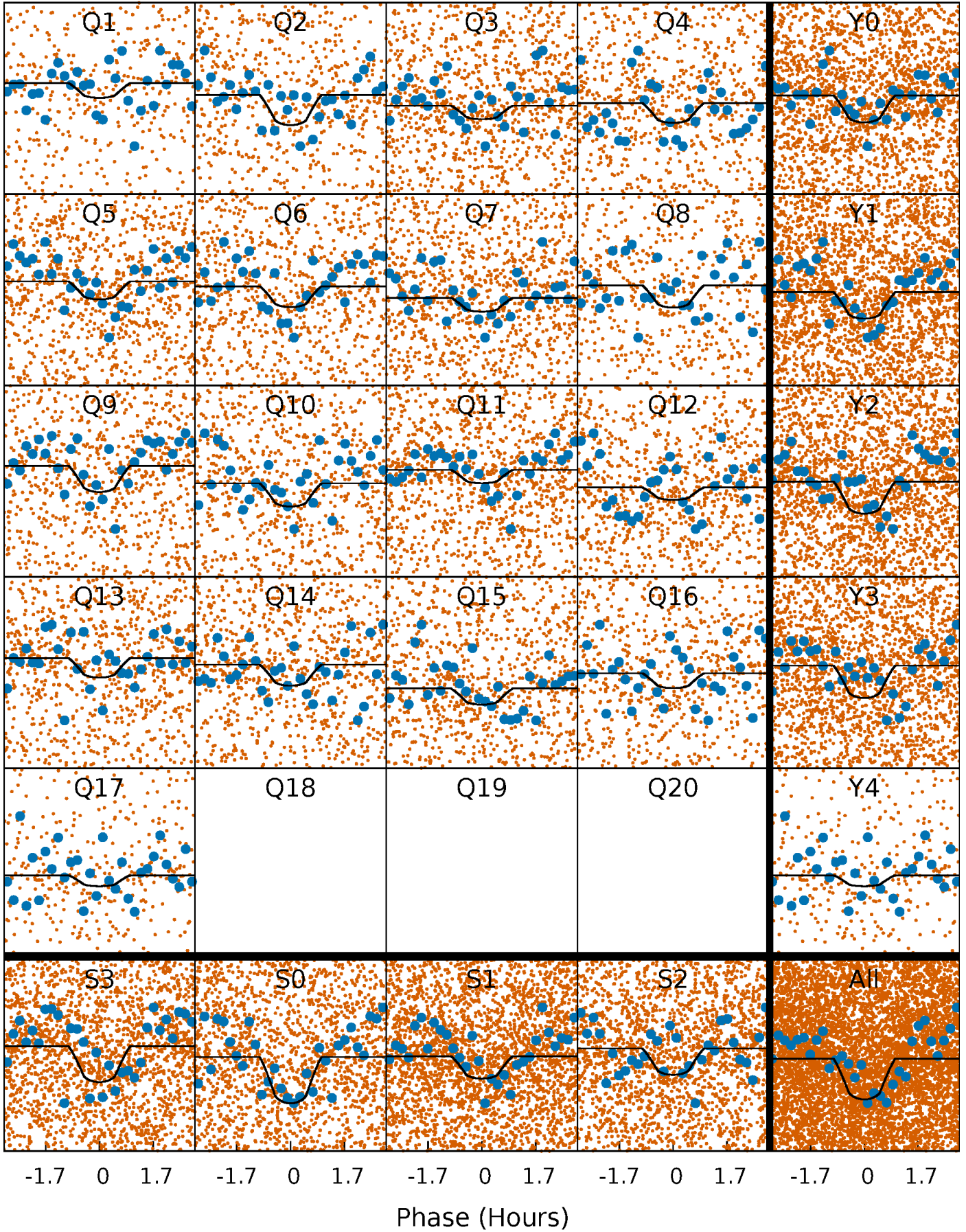
TCE 008330511-01 P= 0.733041 Days  $T_0=132.195130$  (BKJD)





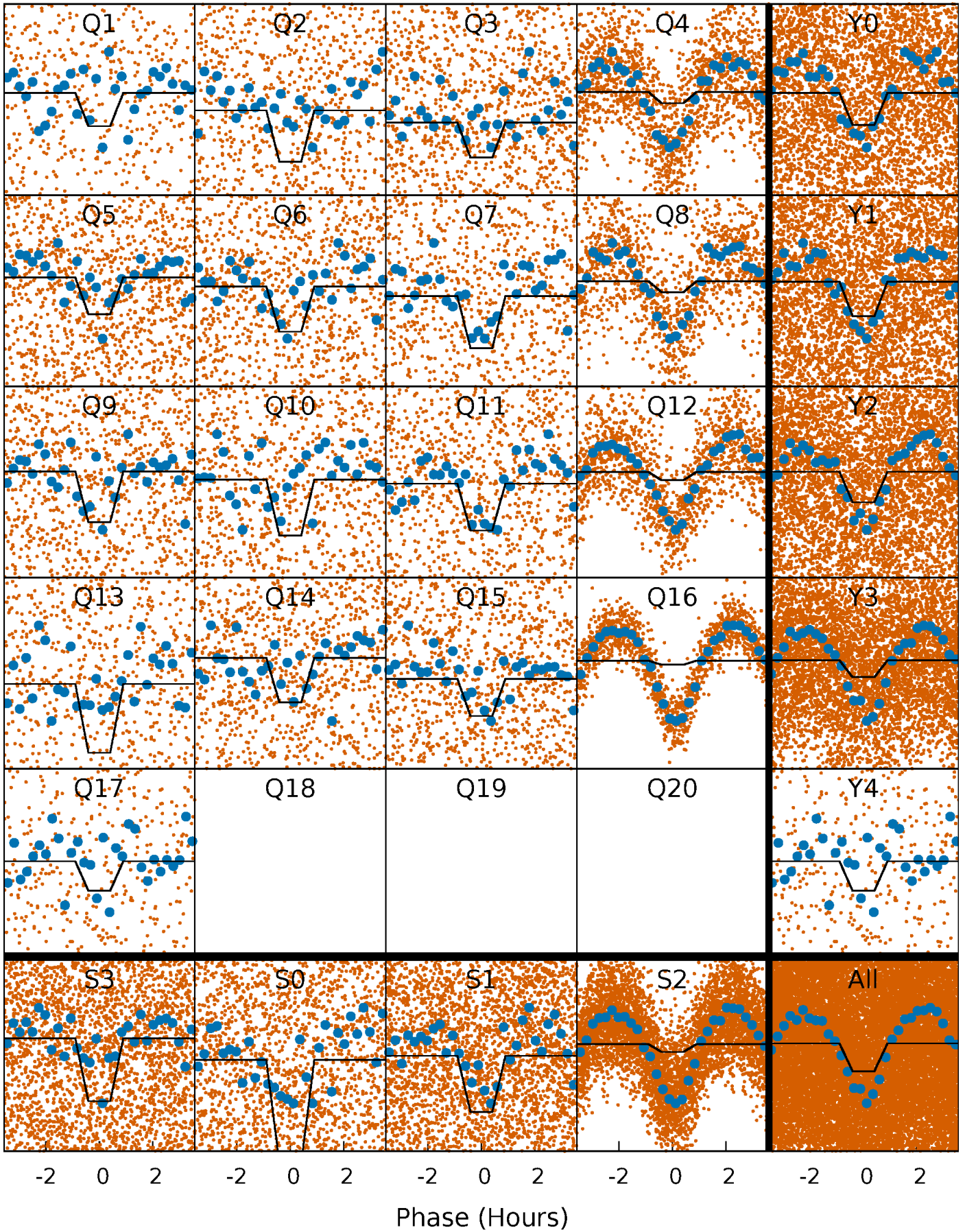
# DV Quarter-Phased Transit Curves

TCE 008330511-01 P= 0.733041 Days  $T_0=132.195130$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

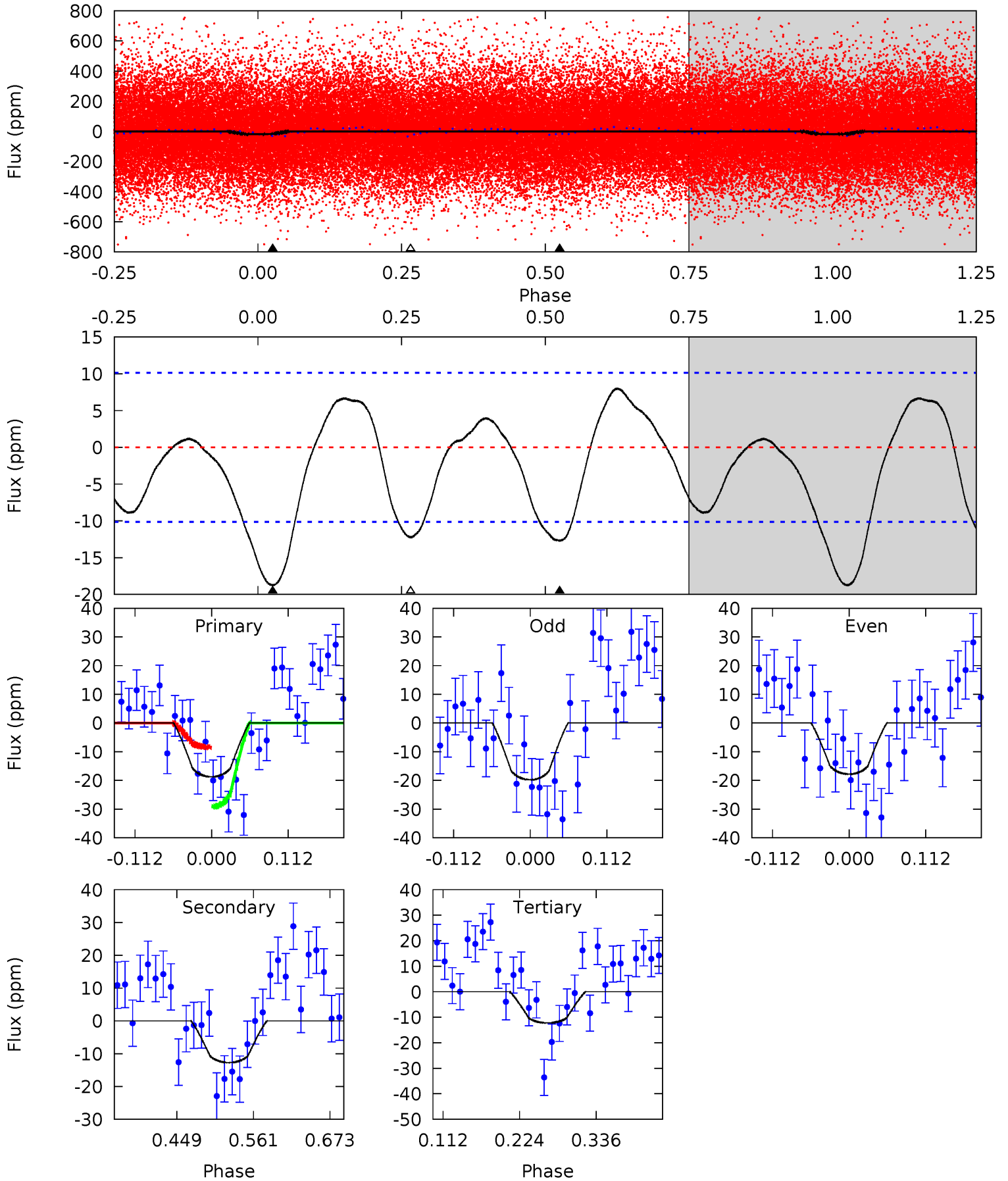
TCE 008330511-01 P= 0.733058 Days  $T_0=132.194358$  (BKJD)



# DV Model-Shift Uniqueness Test

008330511-01, P = 0.733041 Days, E = 131.462089 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
8.39	5.69	5.47	0	4.54	1.59	2.47	2.91	8.39	0.21	5.69	0.44	0.80	0.30	4.67

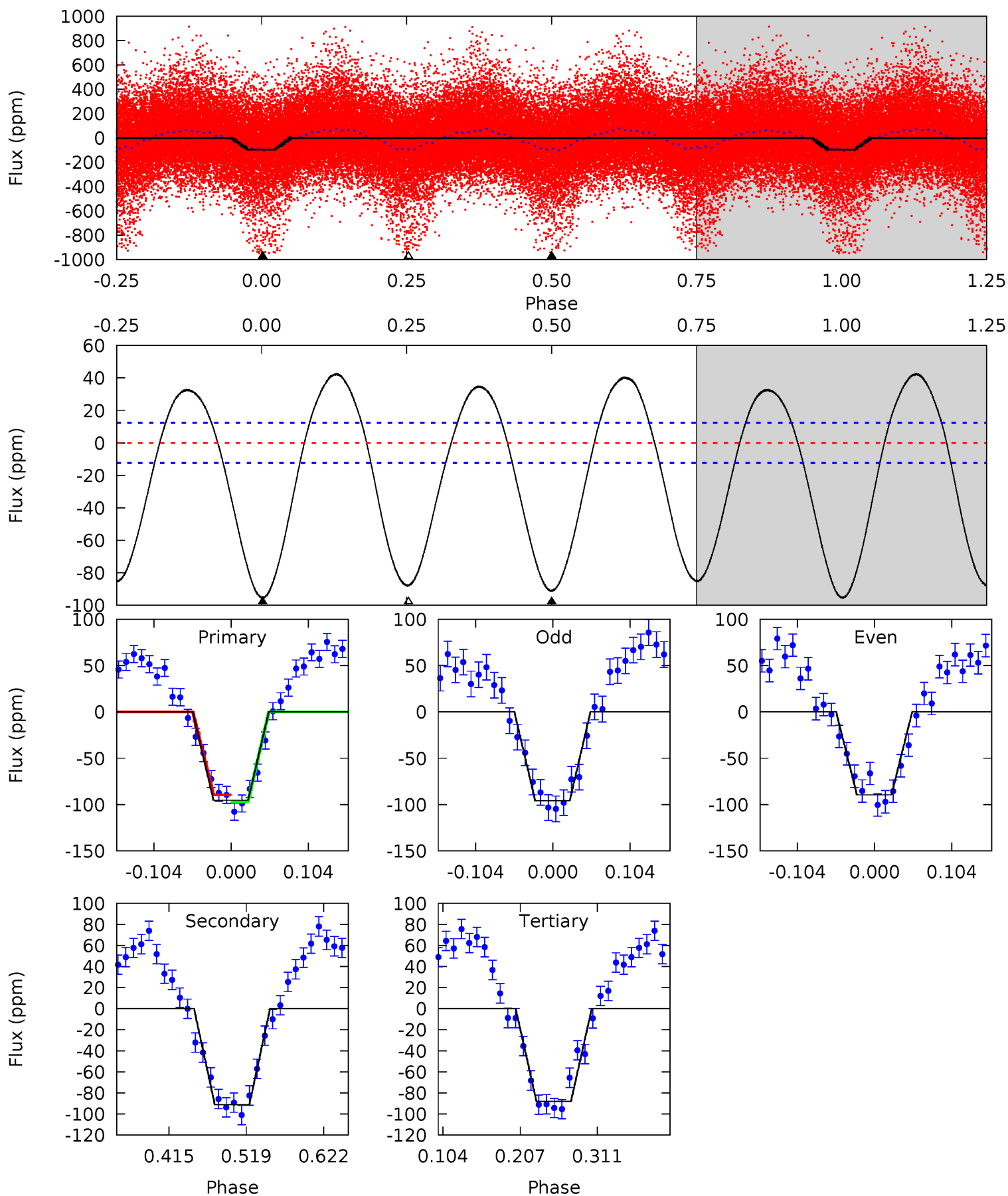




# Alt Model-Shift Uniqueness Test

008330511-01, P = 0.733058 Days, E = 131.461300 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
35.1	33.5	32.3	0	4.56	1.63	16.6	2.76	35.1	1.18	33.5	1.18	1.58	0.31	1.35





### Stellar Parameters For KIC 008330511

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4782^{+143}_{-129}$	$4.490^{+0.126}_{-0.756}$	$0.560^{+0.050}_{-0.250}$	$0.844^{+1.418}_{-0.135}$	$0.802^{+0.047}_{-0.038}$	$1.880^{+0.668}_{-1.776}$
	+3%/-3%	+3%/-17%	+9%/-45%	+168%/-16%	+6%/-5%	+36%/-94%
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 008330511-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-13 \pm 2$	$0.63^{+0.49}_{-0.35}$	$2291^{+829}_{-166}$	$3885^{+1456}_{-622}$	$3.908^{+15.229}_{-2.752}$
Alt.	$-91 \pm 3$	$0.78^{+0.60}_{-0.35}$	$2296^{+838}_{-182}$	$5304^{+1695}_{-783}$	$18^{+39}_{-13}$

$T_{max}$  = 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

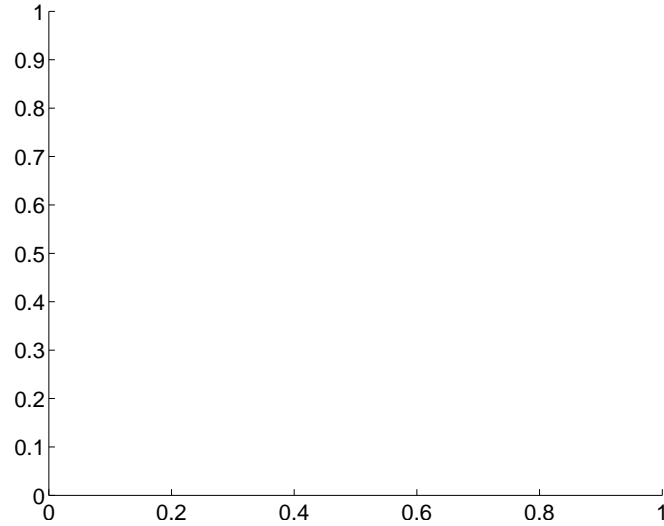
Supplemental centroid analysis for 008330511-01. Kepler magnitude: 13.66. Transit SNR 7.40

There are 0 quarters with good PRF difference image offsets

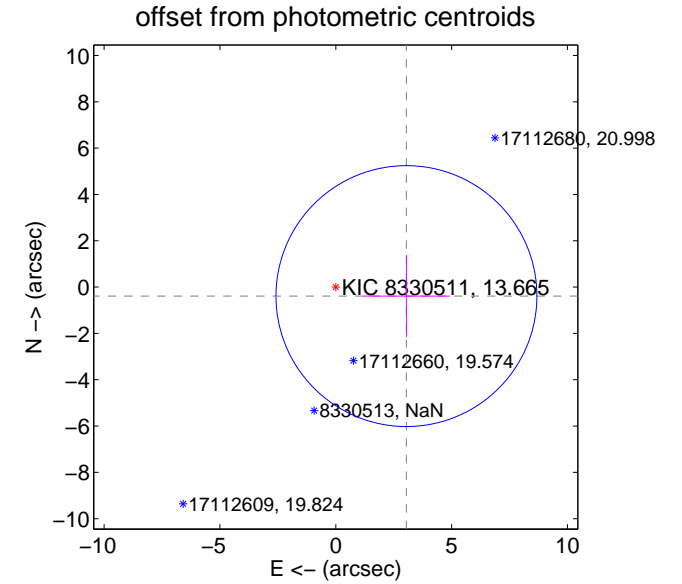
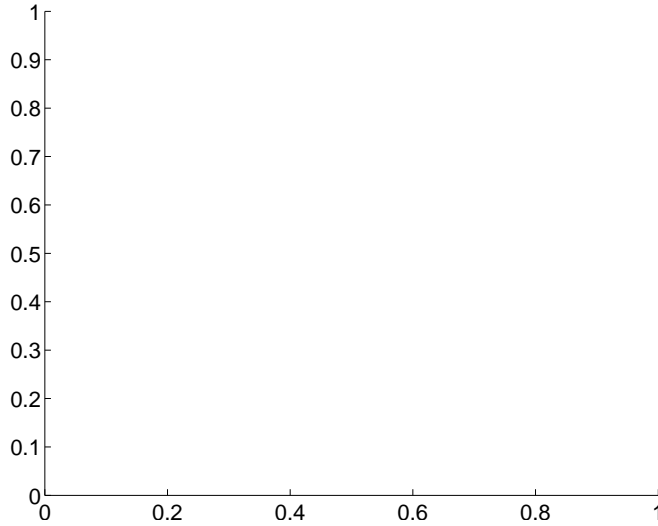
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	$3.08 \pm 1.88$	1.64	$-3.05 \pm 1.88$	$-0.39 \pm 1.78$

There is no PRF-fit offset from OOT-fit

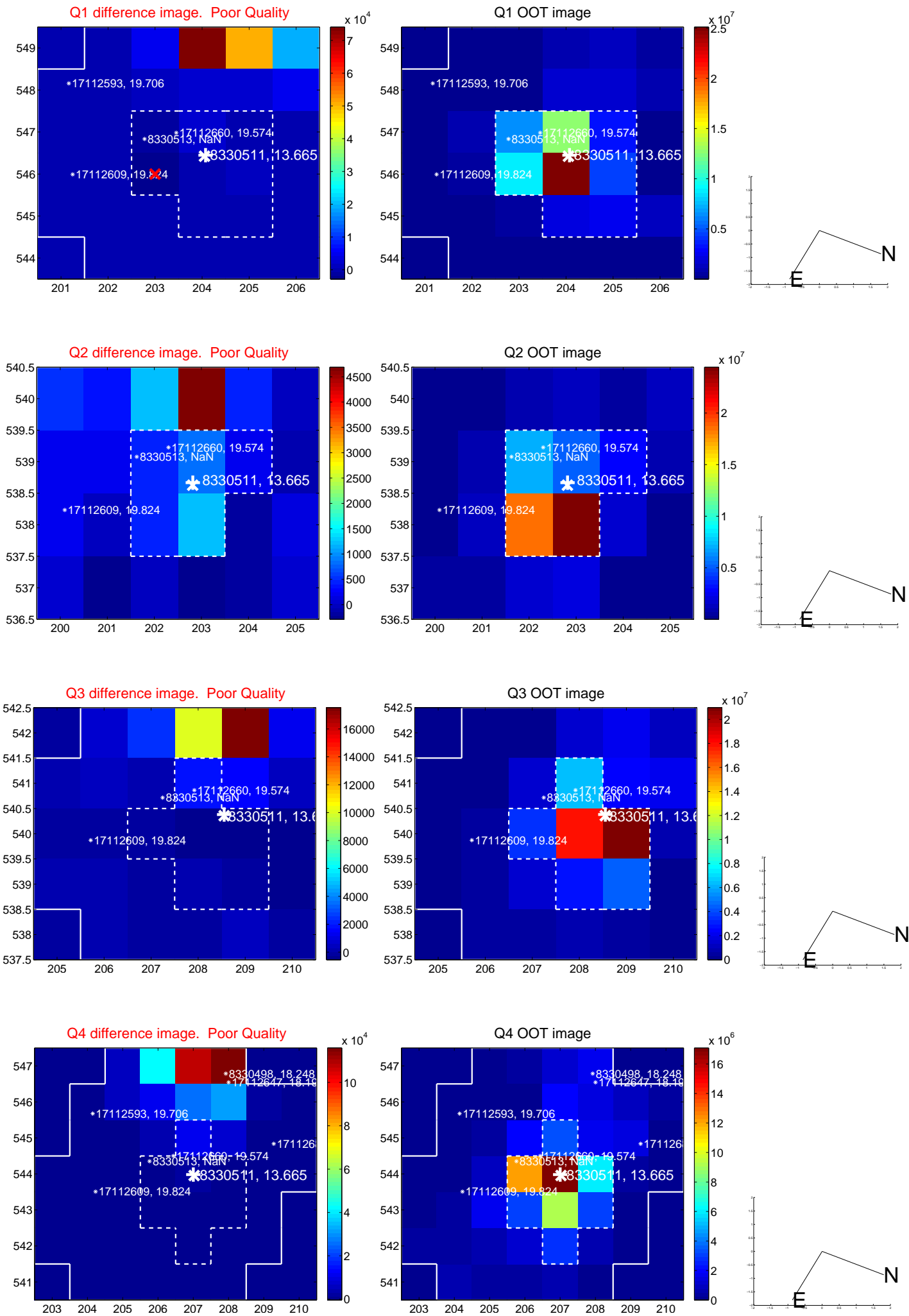


There is no PRF-fit offset from KIC

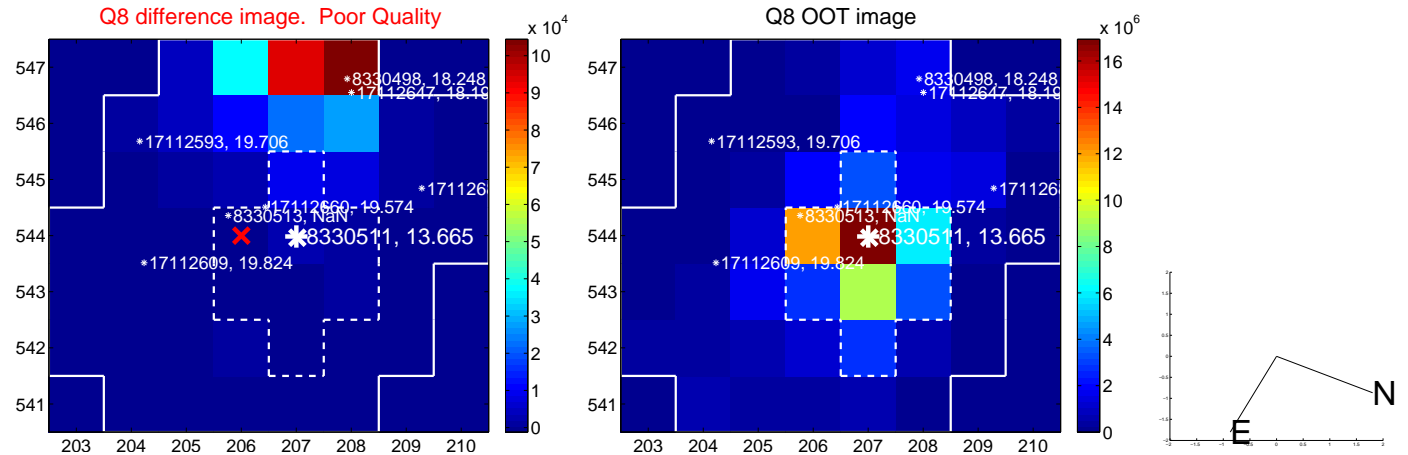
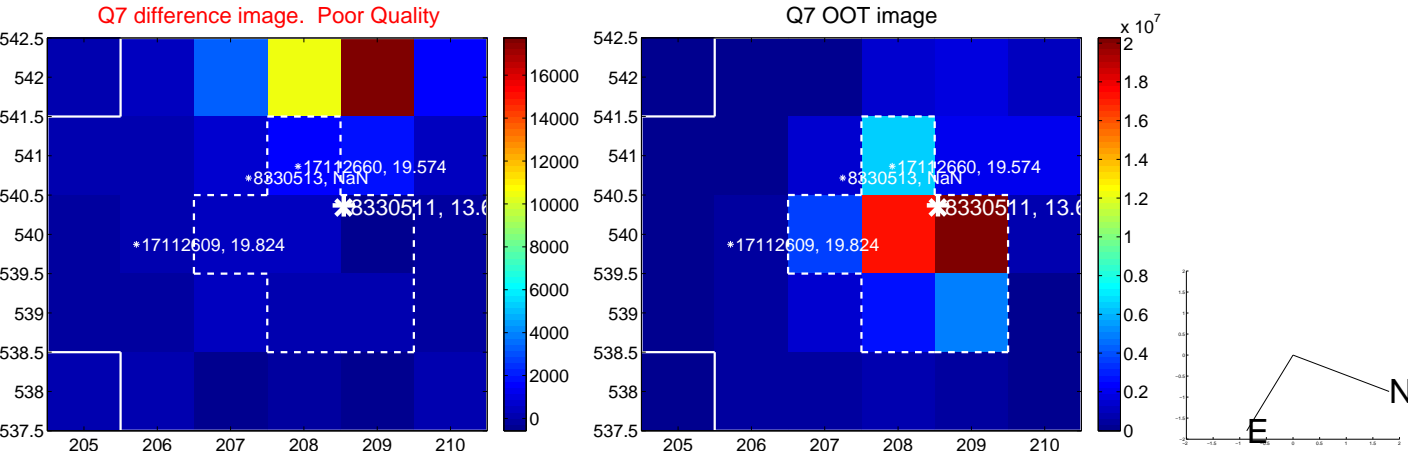
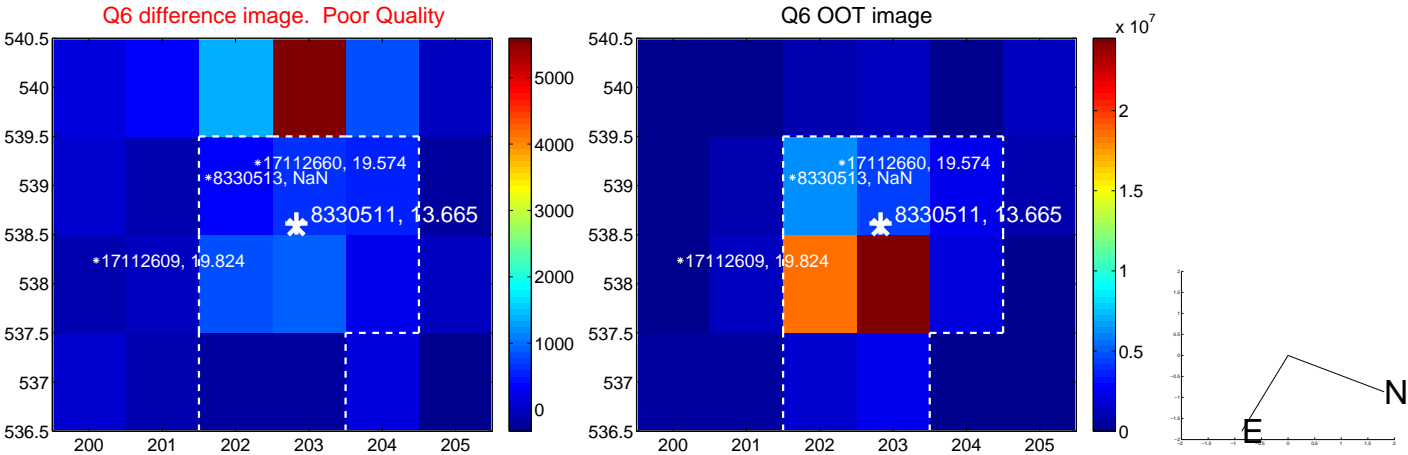
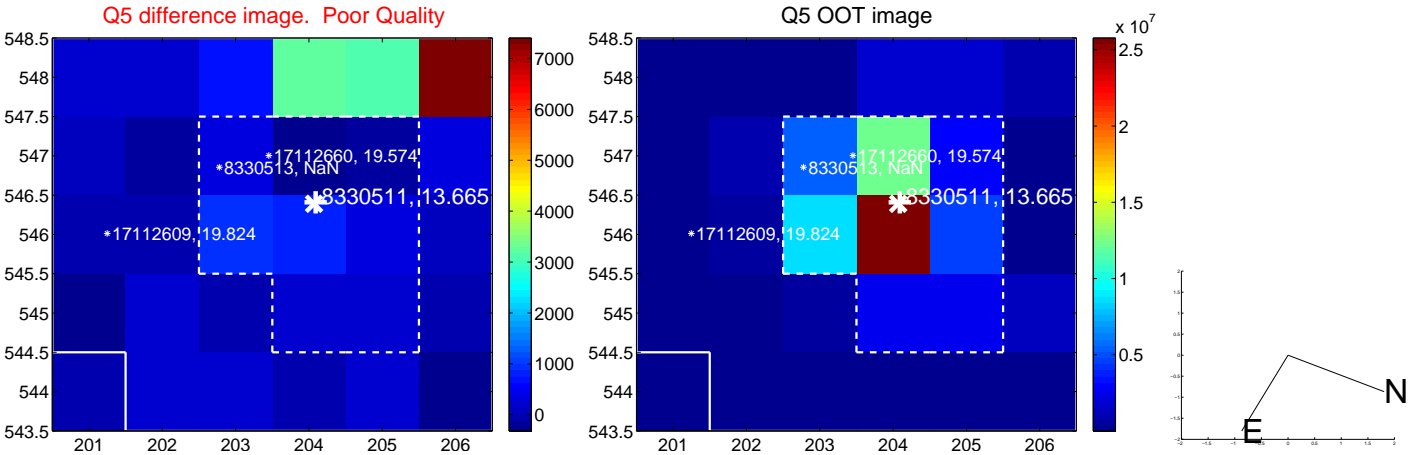


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

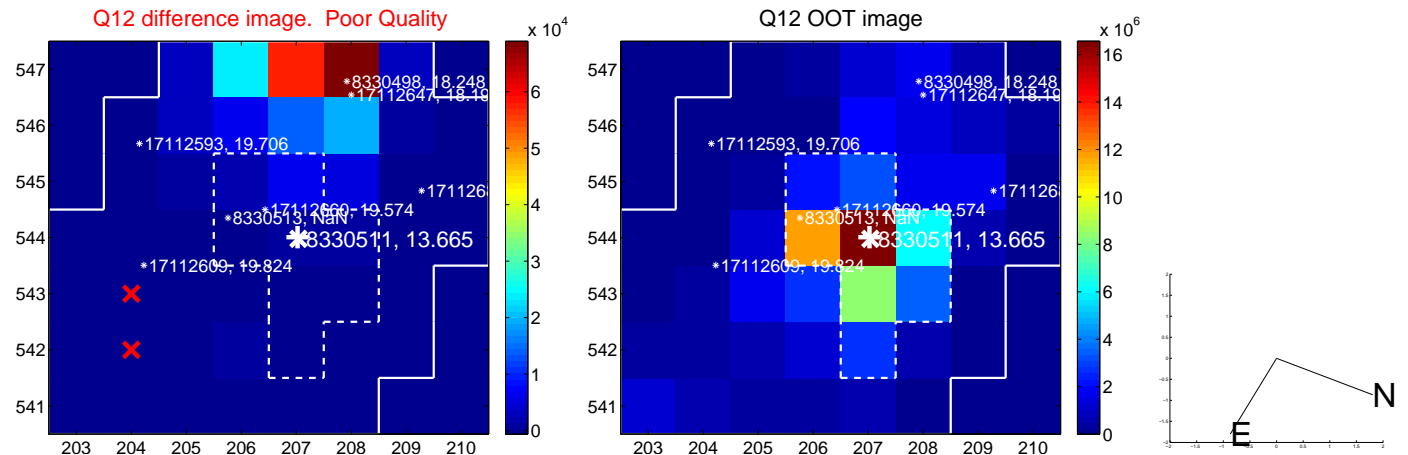
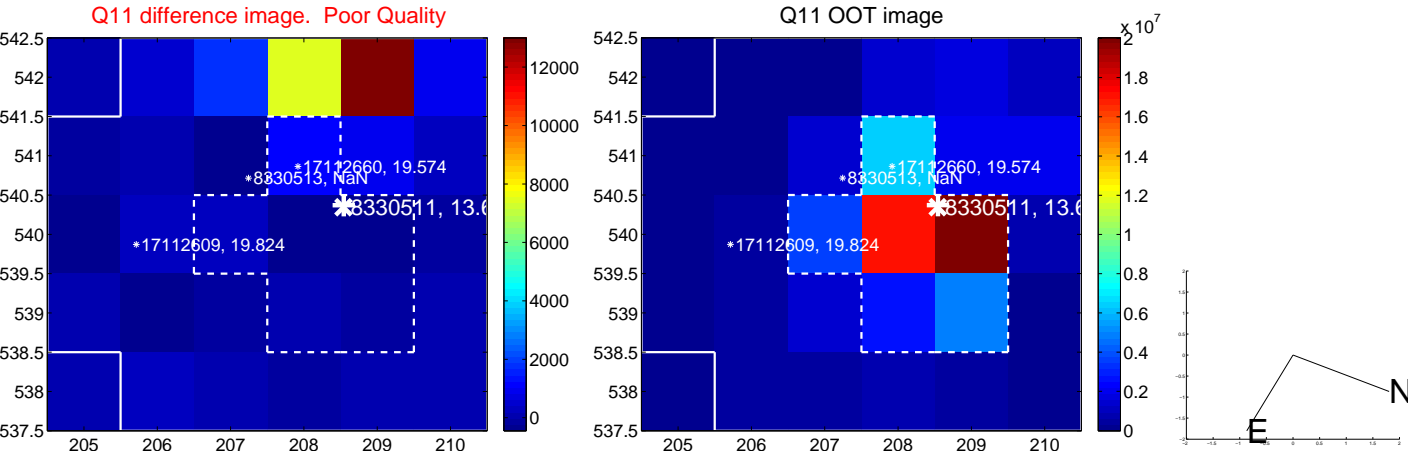
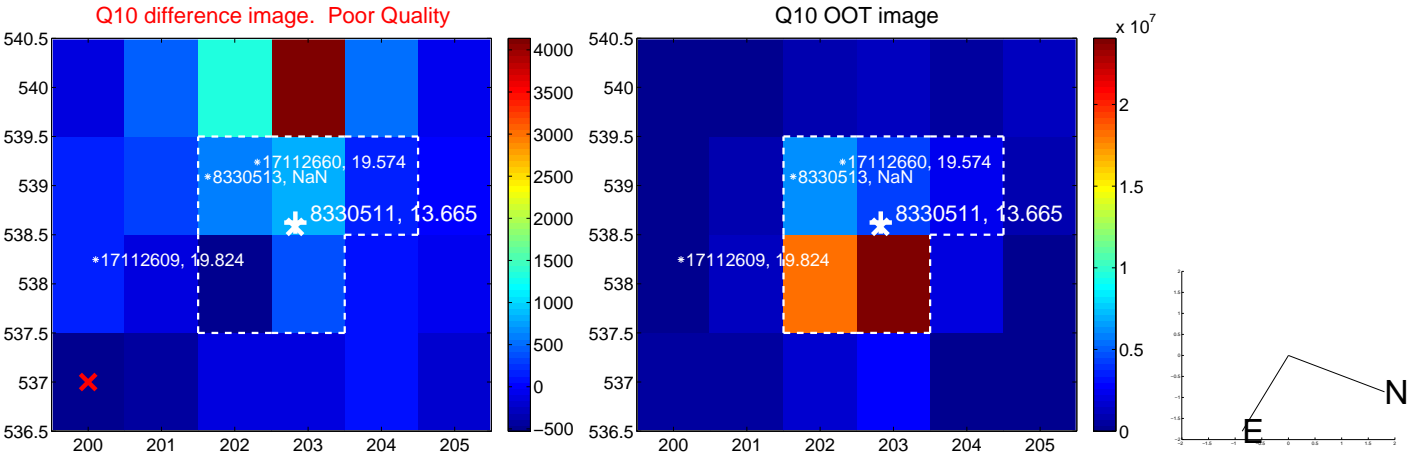
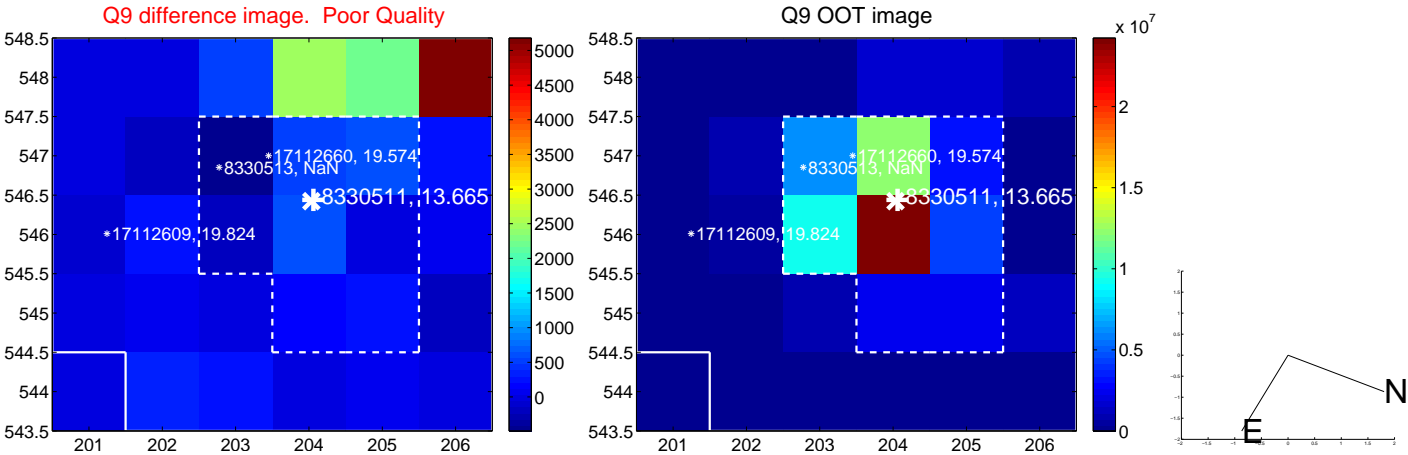


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

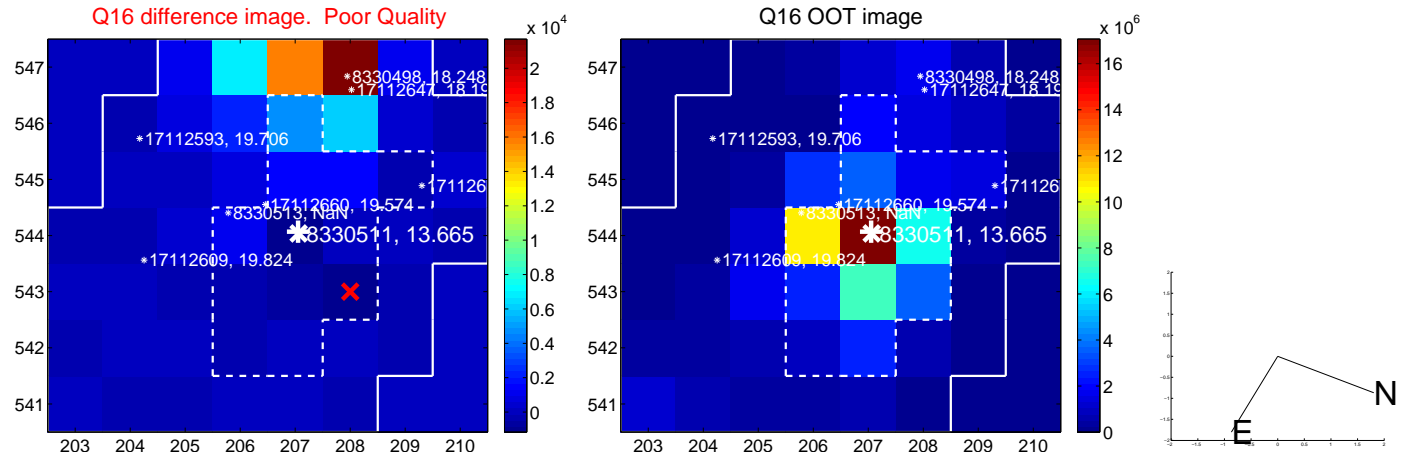
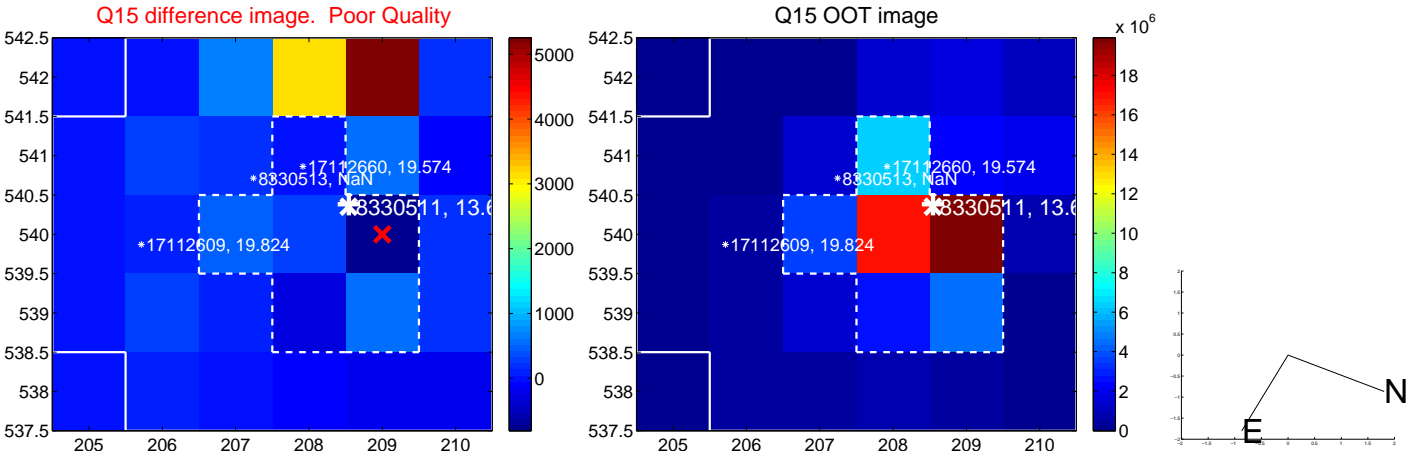
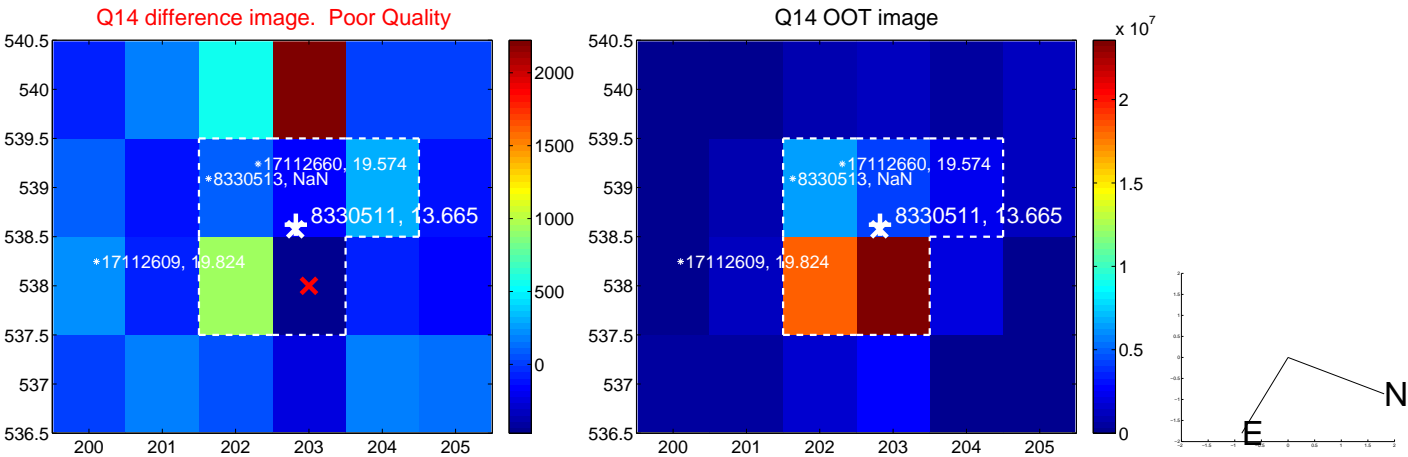
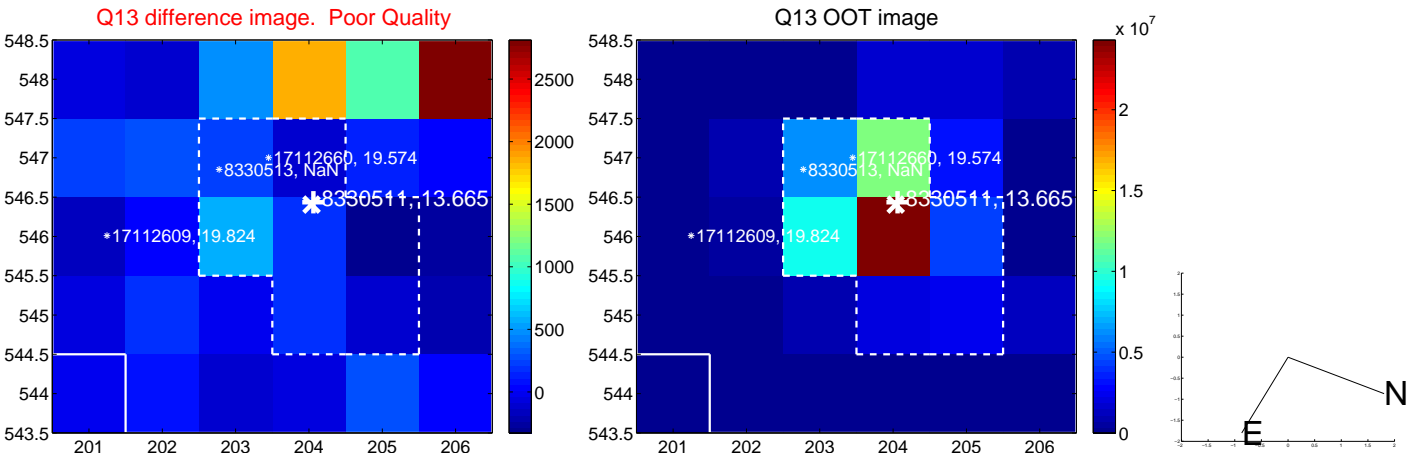




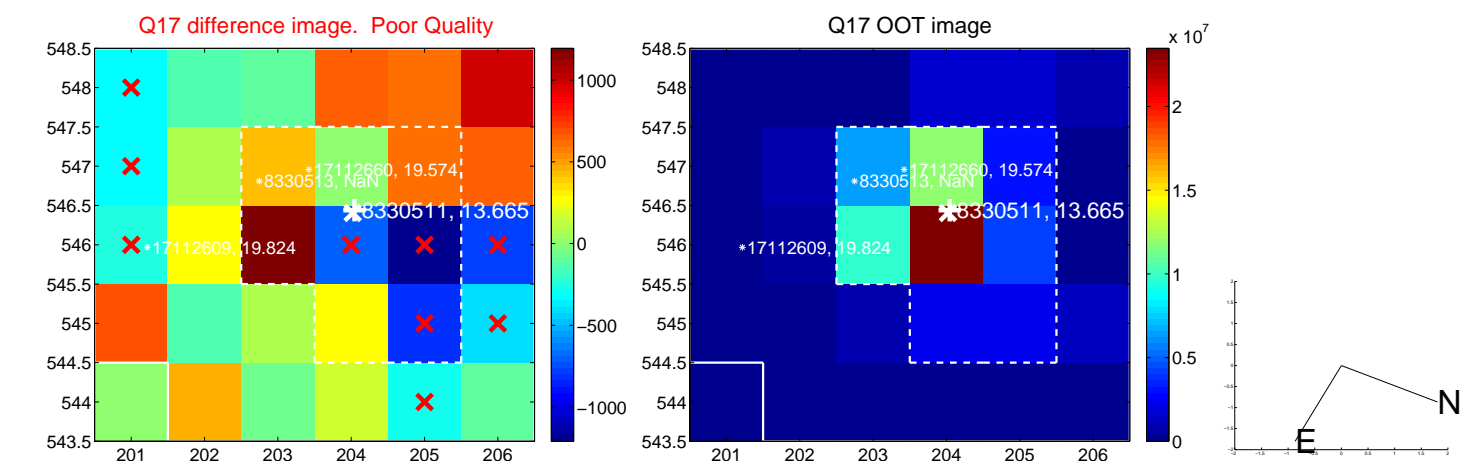
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



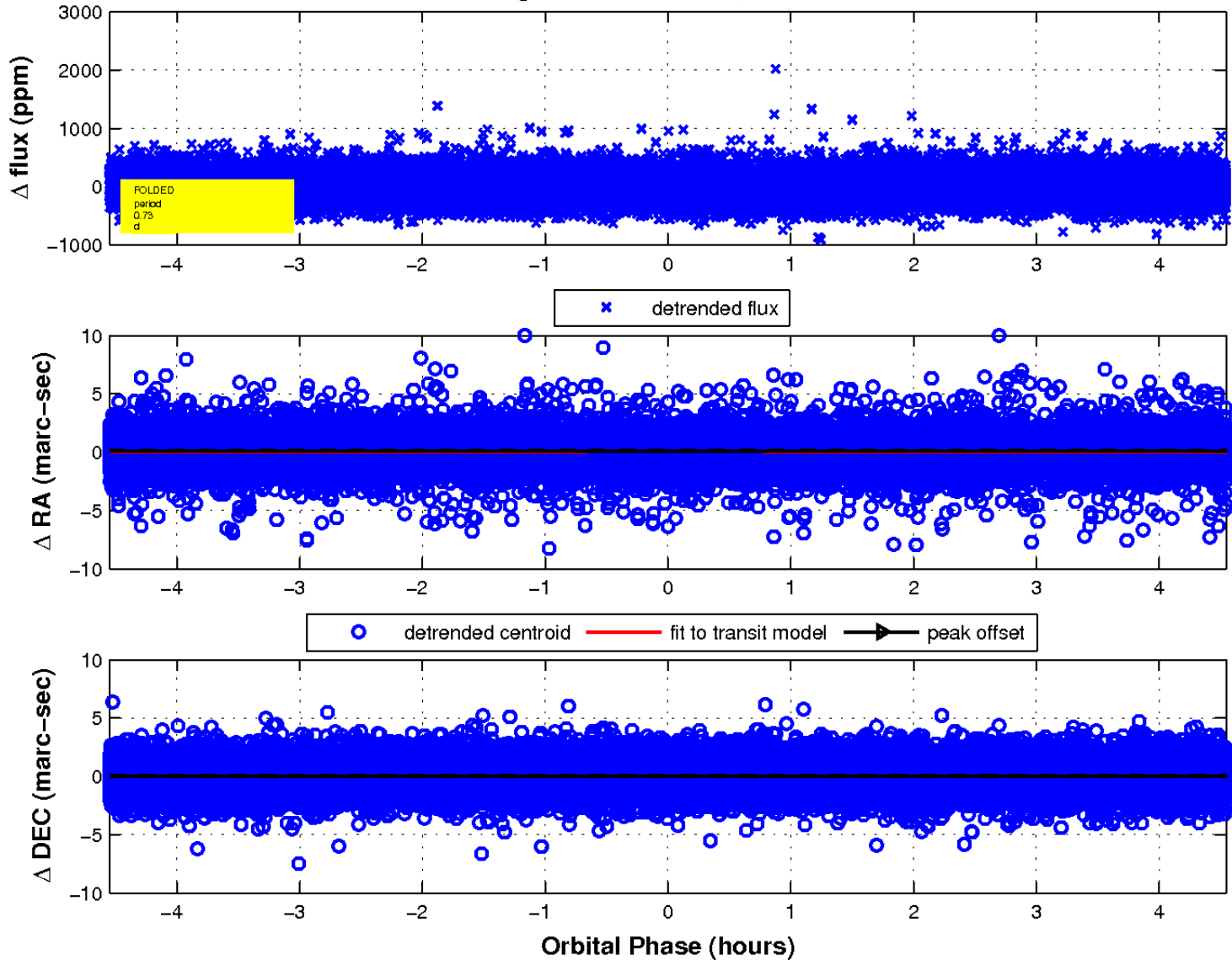
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



# UKIRT Image

Declination

