

# KIC 006305938

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006305938-01	OBS	No	2.260356	131.566637	18.0	19.453	8.2	7.8	1.99	6212	0.93	4259.33

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006305938-01	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.

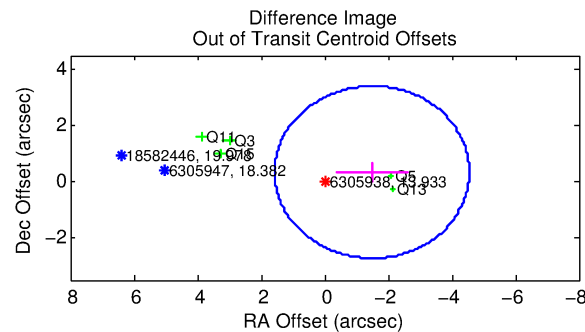
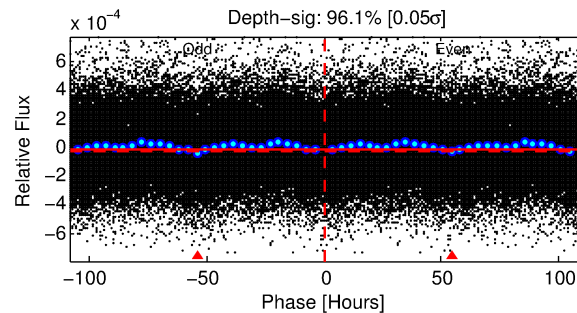
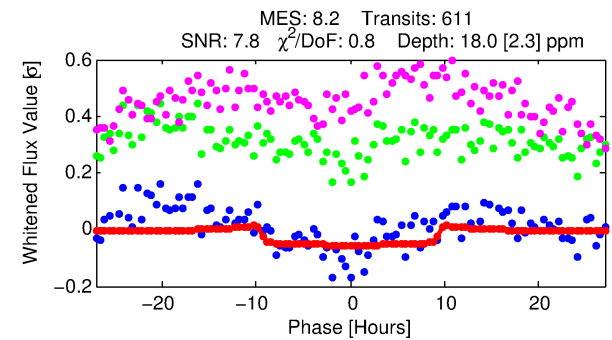
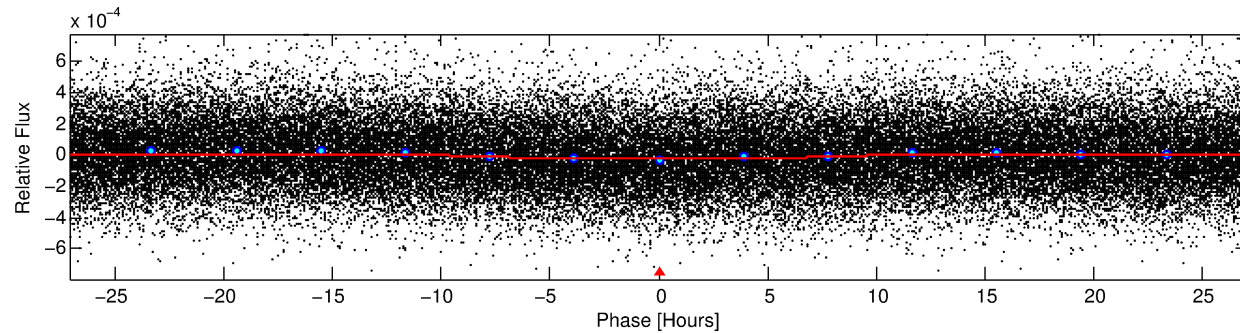
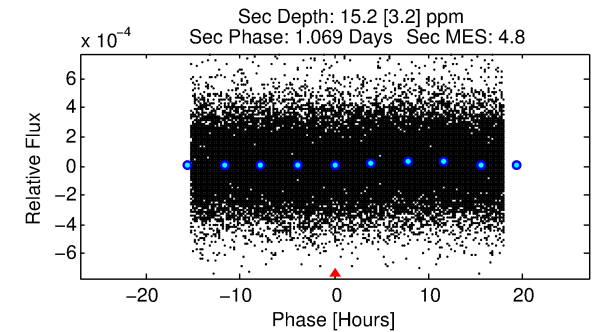
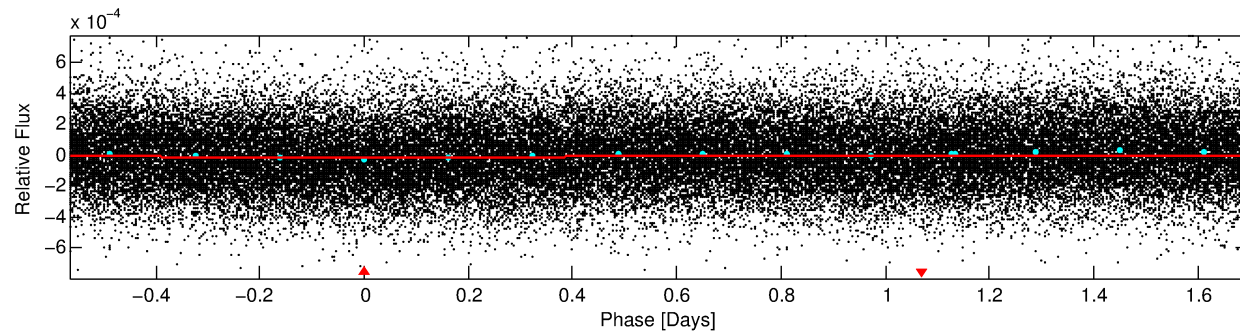
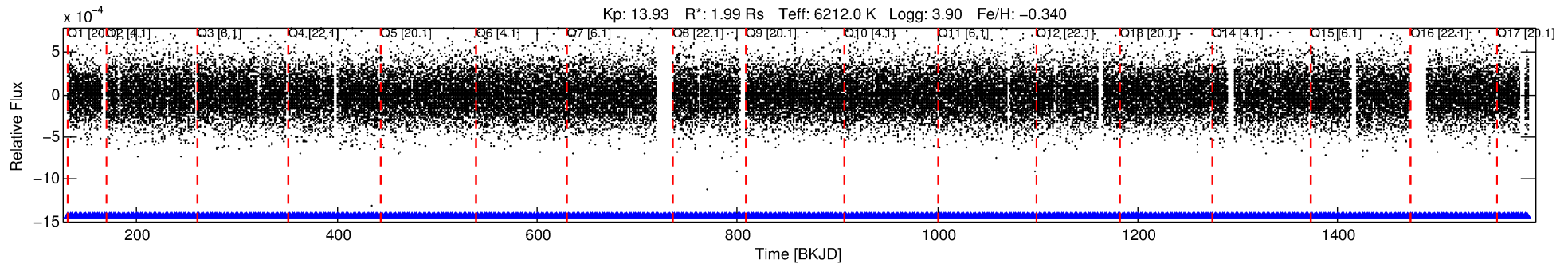
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006305938-01

No Significant Match Found

# DV One-Page Summary

KIC: 6305938 Candidate: 1 of 1 Period: 2.260 d



## DV Fit Results:

Period = 2.26036 [0.00006] d  
Epoch = 131.5666 [0.0150] BKJD  
Rp/R\* = 0.0043 [0.0024]  
a/R\* = 1.05 [0.27]  
b = 0.79 [1.44]  
Seff = 4259.33 [3447.93]  
Teq = 2060 [417] K  
Rp = 0.93 [0.68] Re  
a = 0.0352 [0.0171] AU  
Ag = 12.04 [16.57] [0.67σ]  
Teffp = 5932 [1685] K [2.23σ]

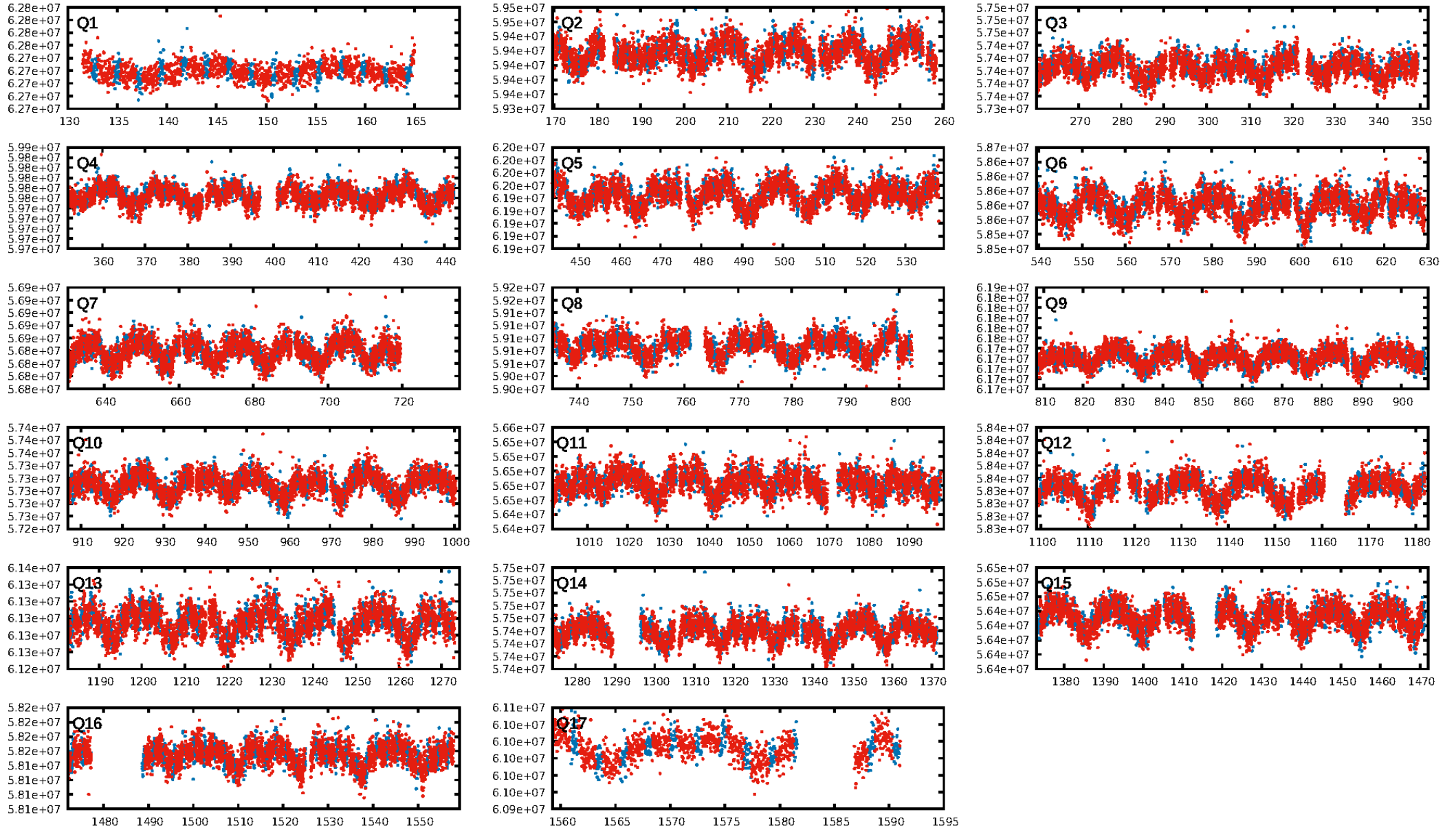
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [584/584]  
GhostDiagnostic-chr: 3.37  
Centroid-sig: 5.1%  
Centroid-so: 2.211 arcsec [1.74σ]  
OotOffset-rm: 1.525 arcsec [1.49σ]  
KicOffset-rm: 1.448 arcsec [1.49σ]  
OotOffset-st: 0/3/0/2 [5]  
KicOffset-st: 0/3/0/2 [5]  
DiffImageQuality-fgm: 0.20 [1/5]  
DiffImageOverlap-fno: 1.00 [17/17]

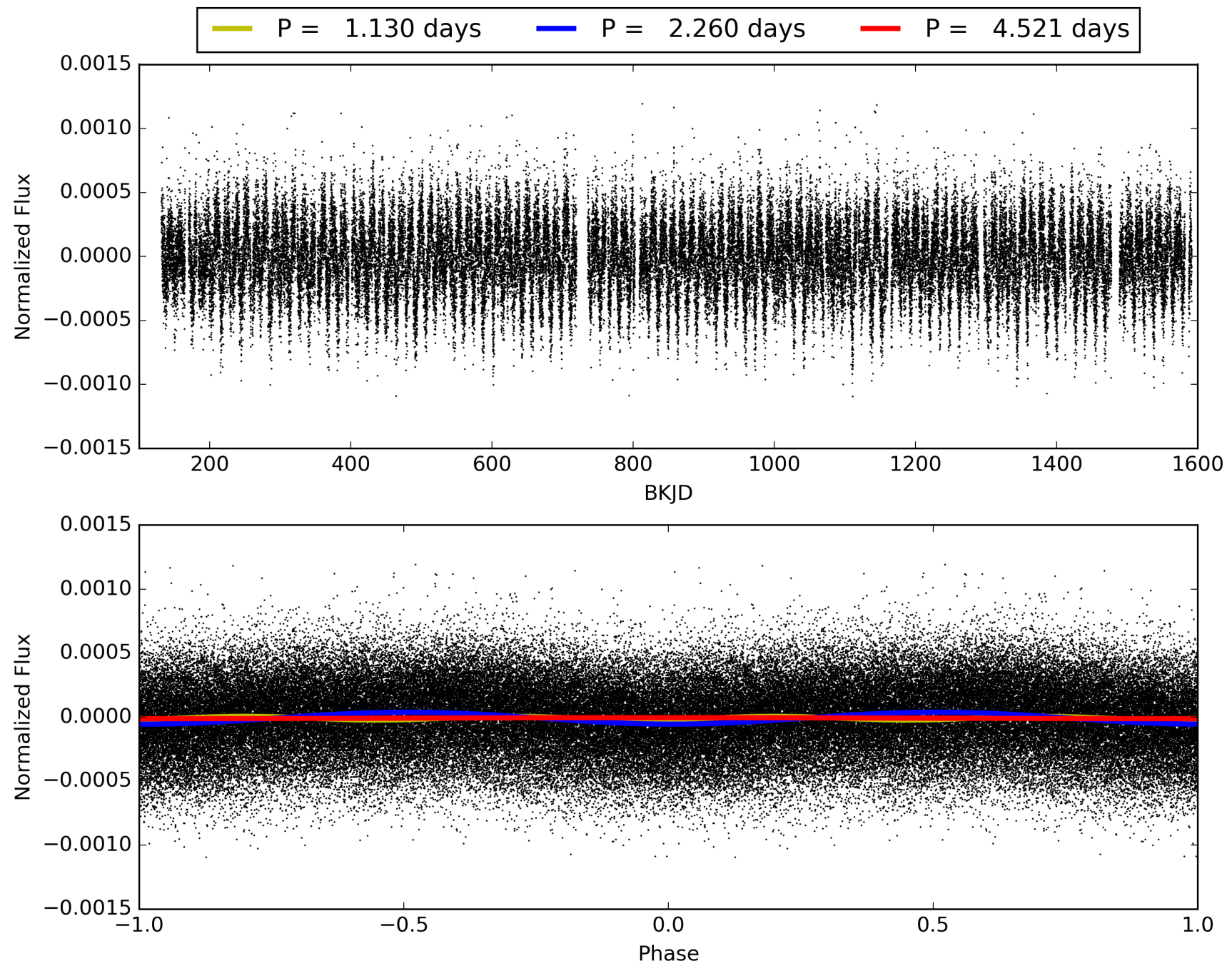
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:01:23 Z

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

# TCE 006305938-01, PDC Light Curves

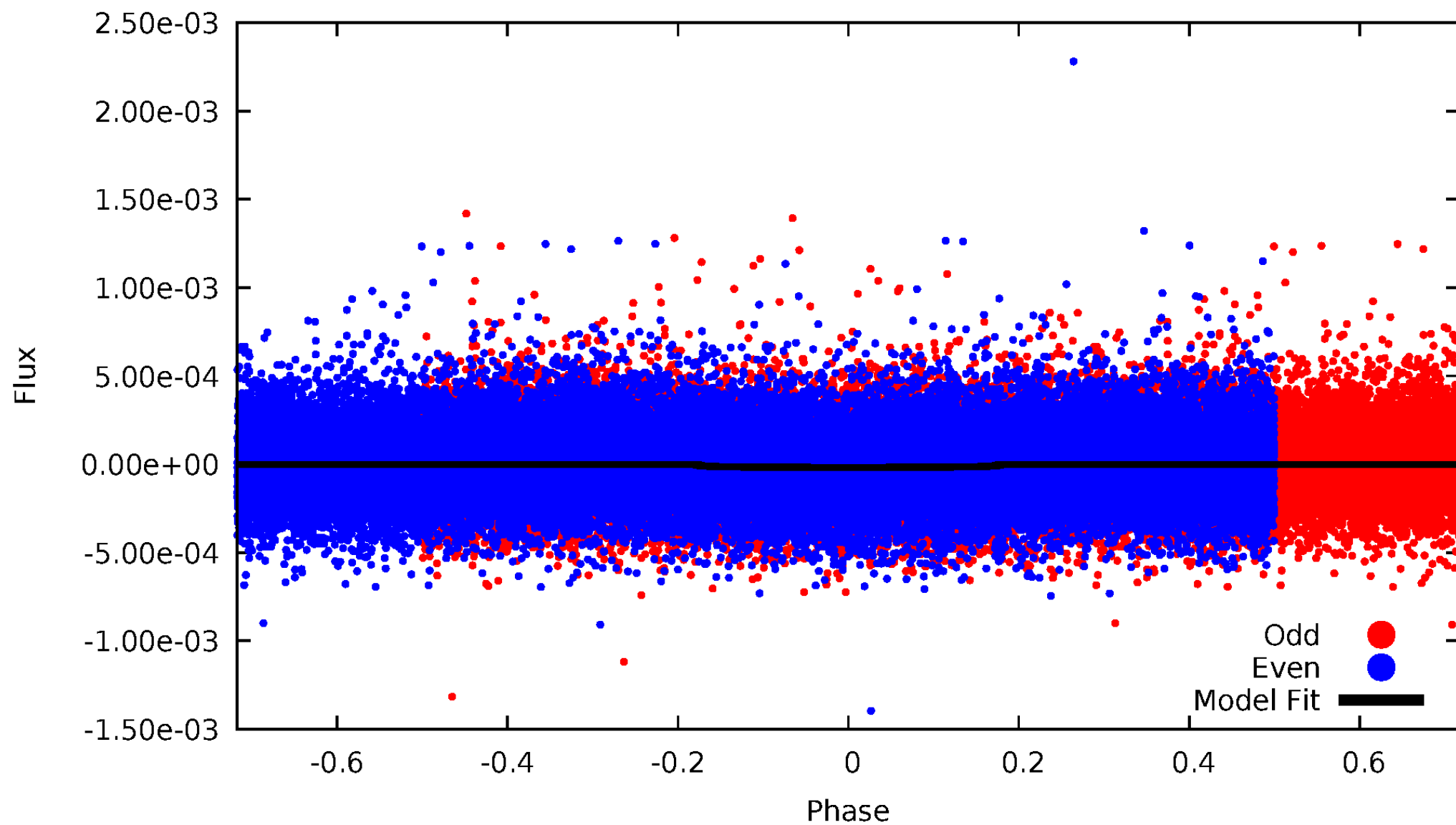


TCE 006305938-01



# DV Odd/Even

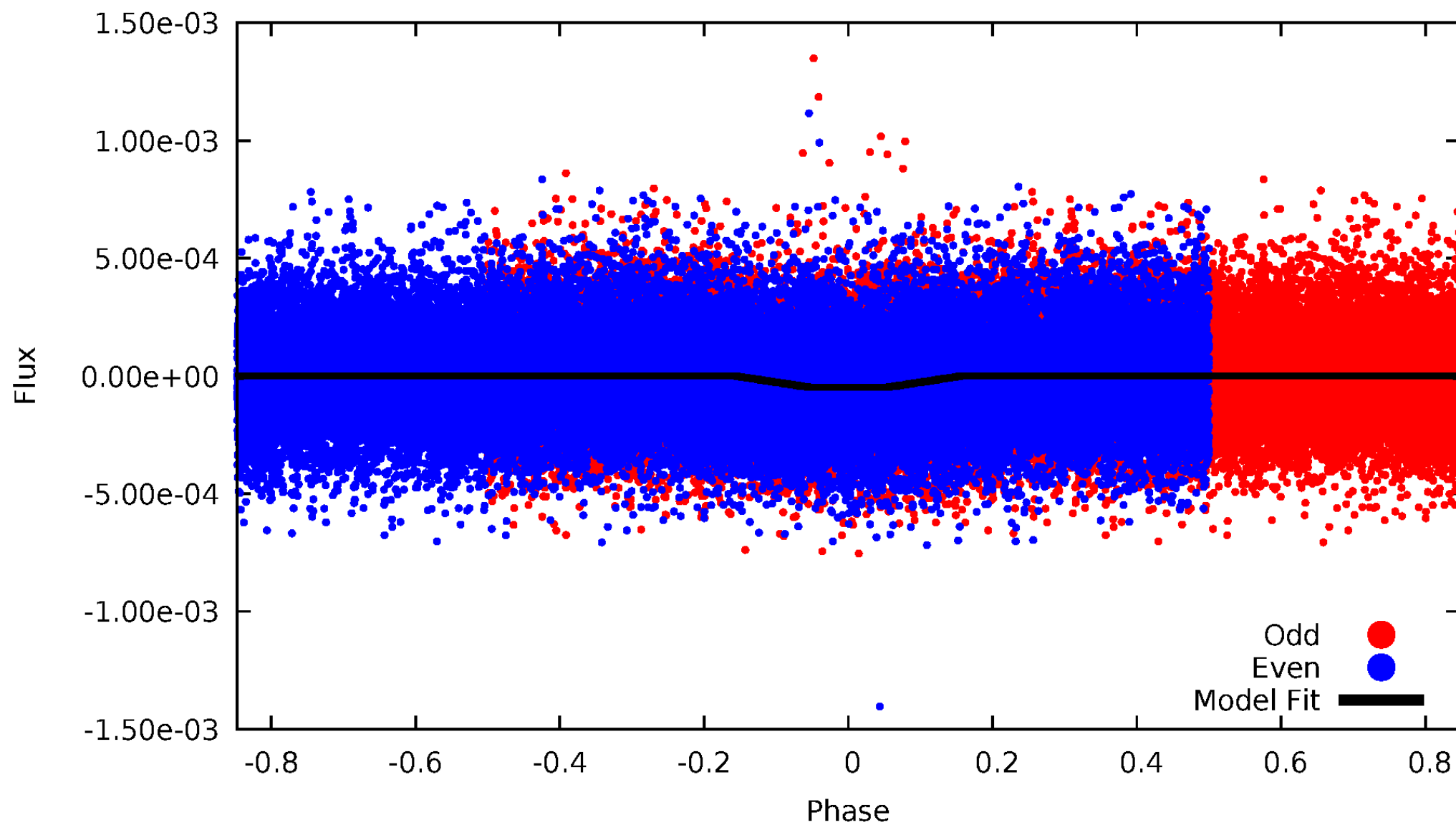
TCE 006305938-01



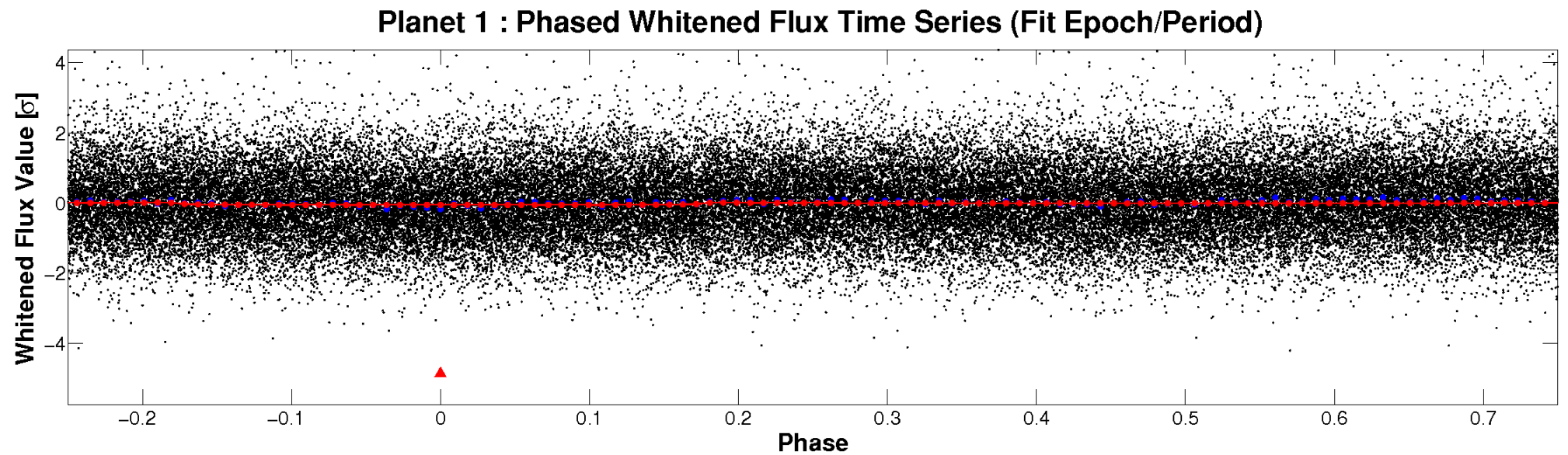
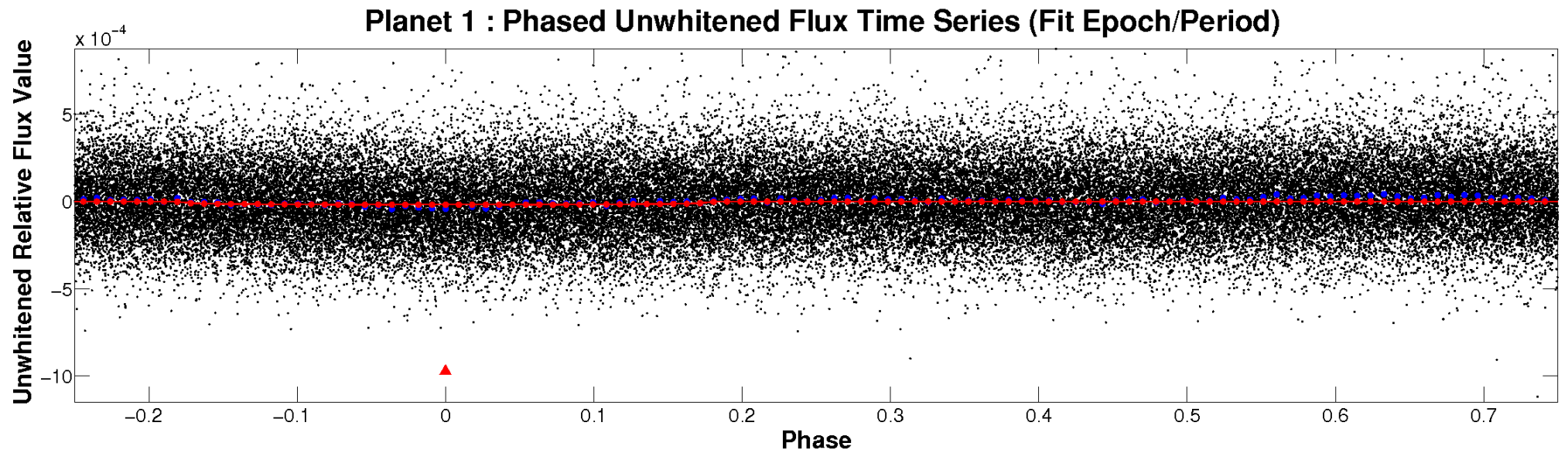


# ALT Odd/Even

TCE 006305938-01

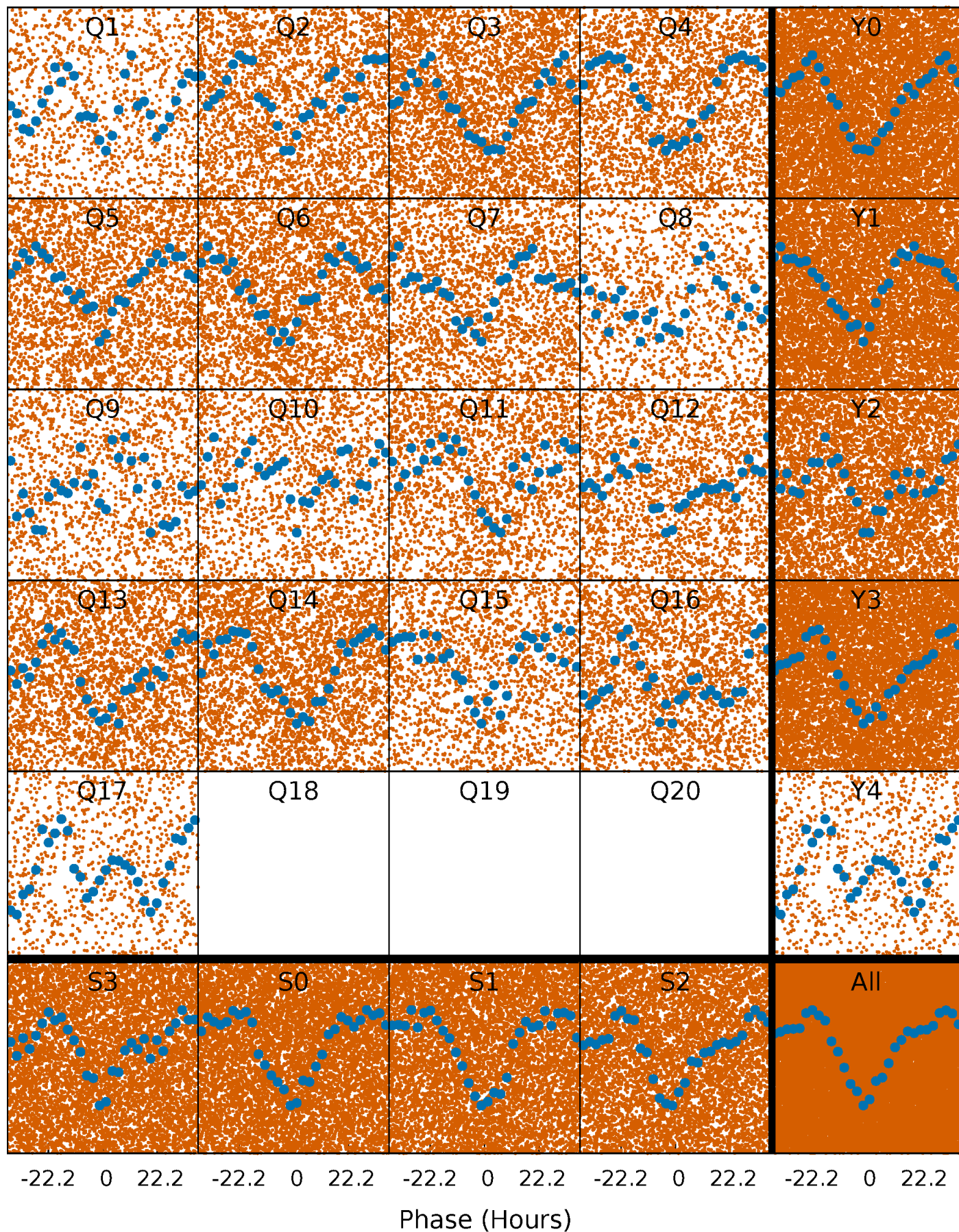


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

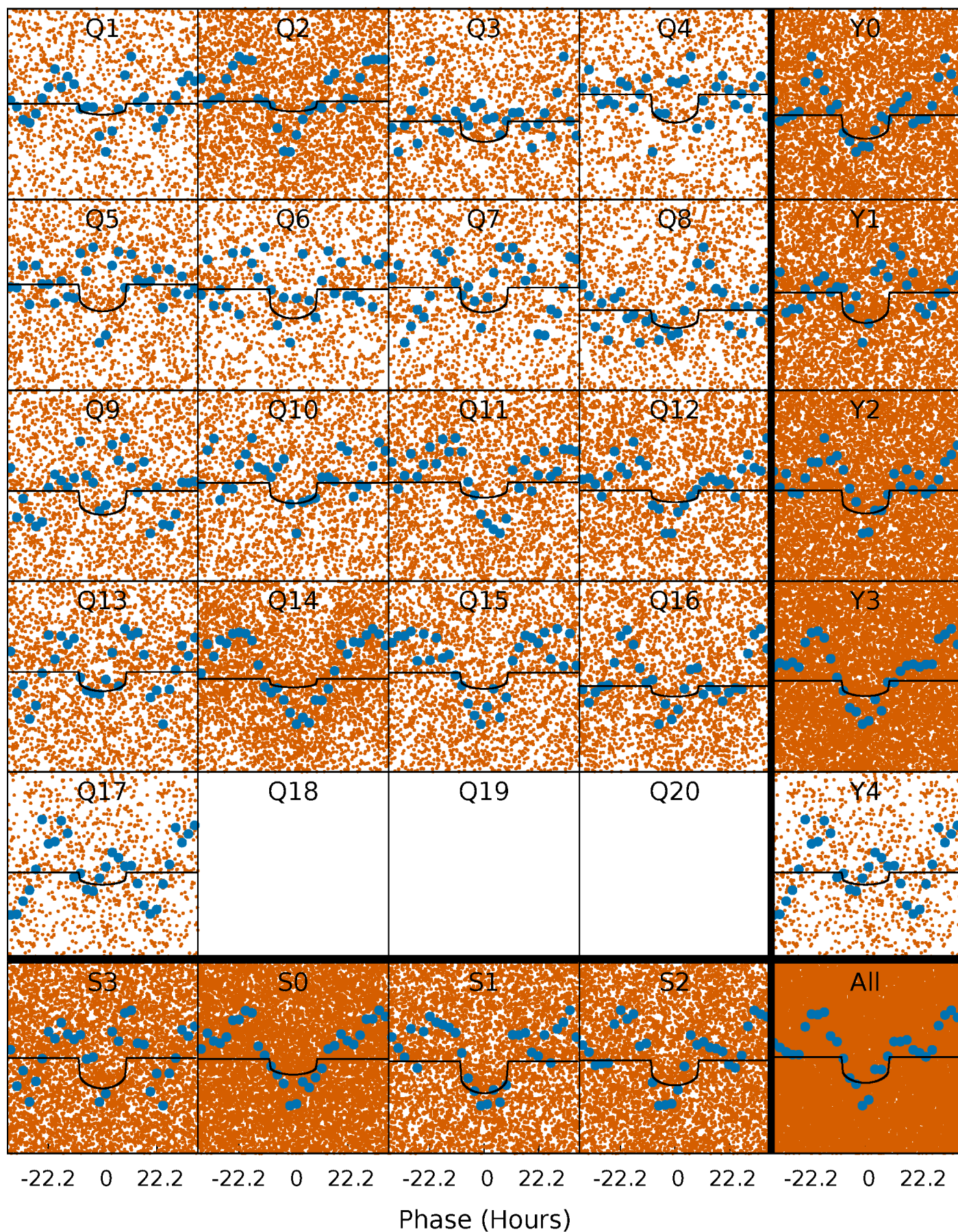
TCE 006305938-01 P= 2.260356 Days  $T_0=131.566637$  (BKJD)





# DV Quarter-Phased Transit Curves

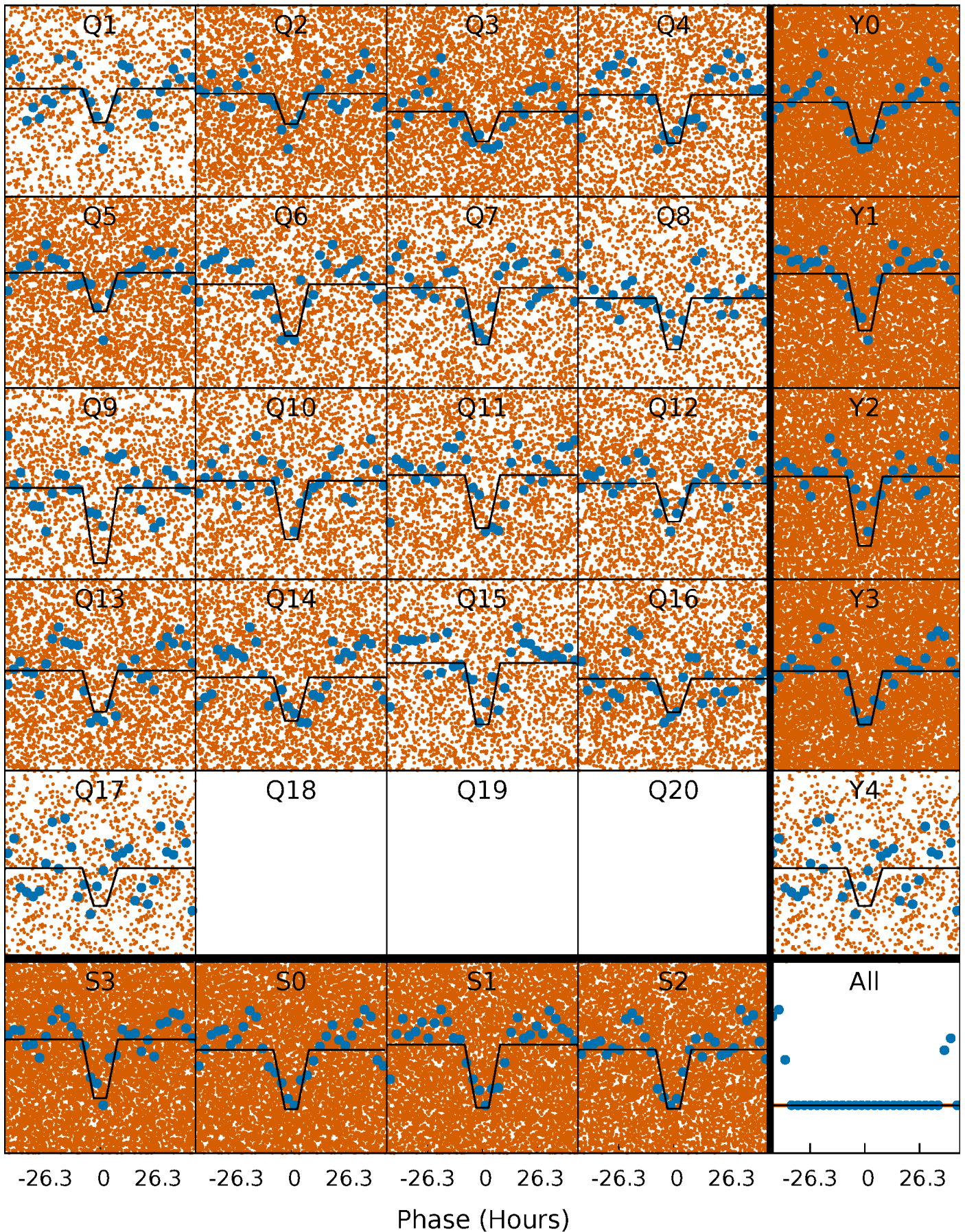
TCE 006305938-01 P= 2.260356 Days  $T_0=131.566637$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

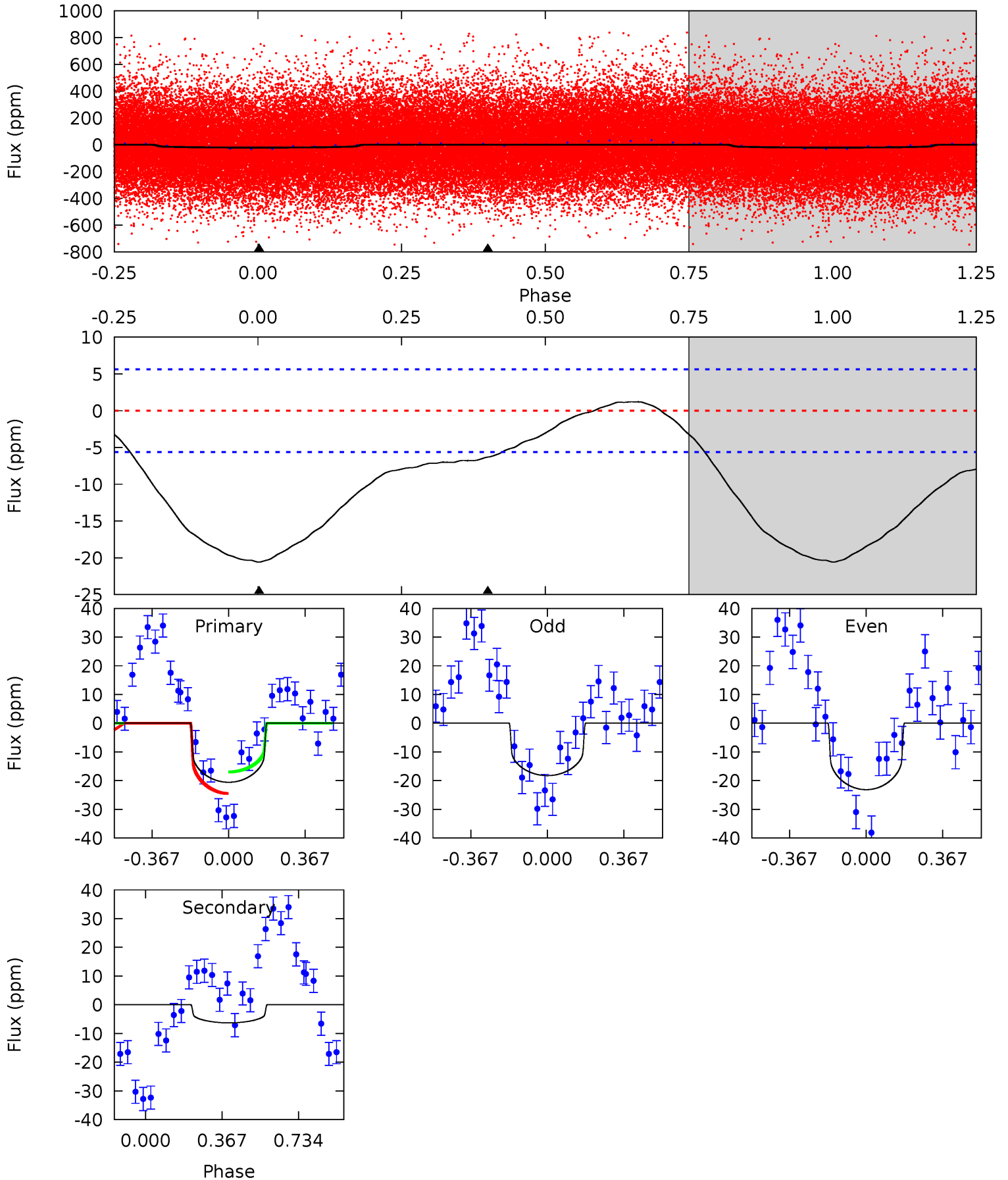
TCE 006305938-01 P= 2.260341 Days  $T_0=131.530993$  (BKJD)



# DV Model-Shift Uniqueness Test

006305938-01, P = 2.260356 Days, E = 129.306281 Days

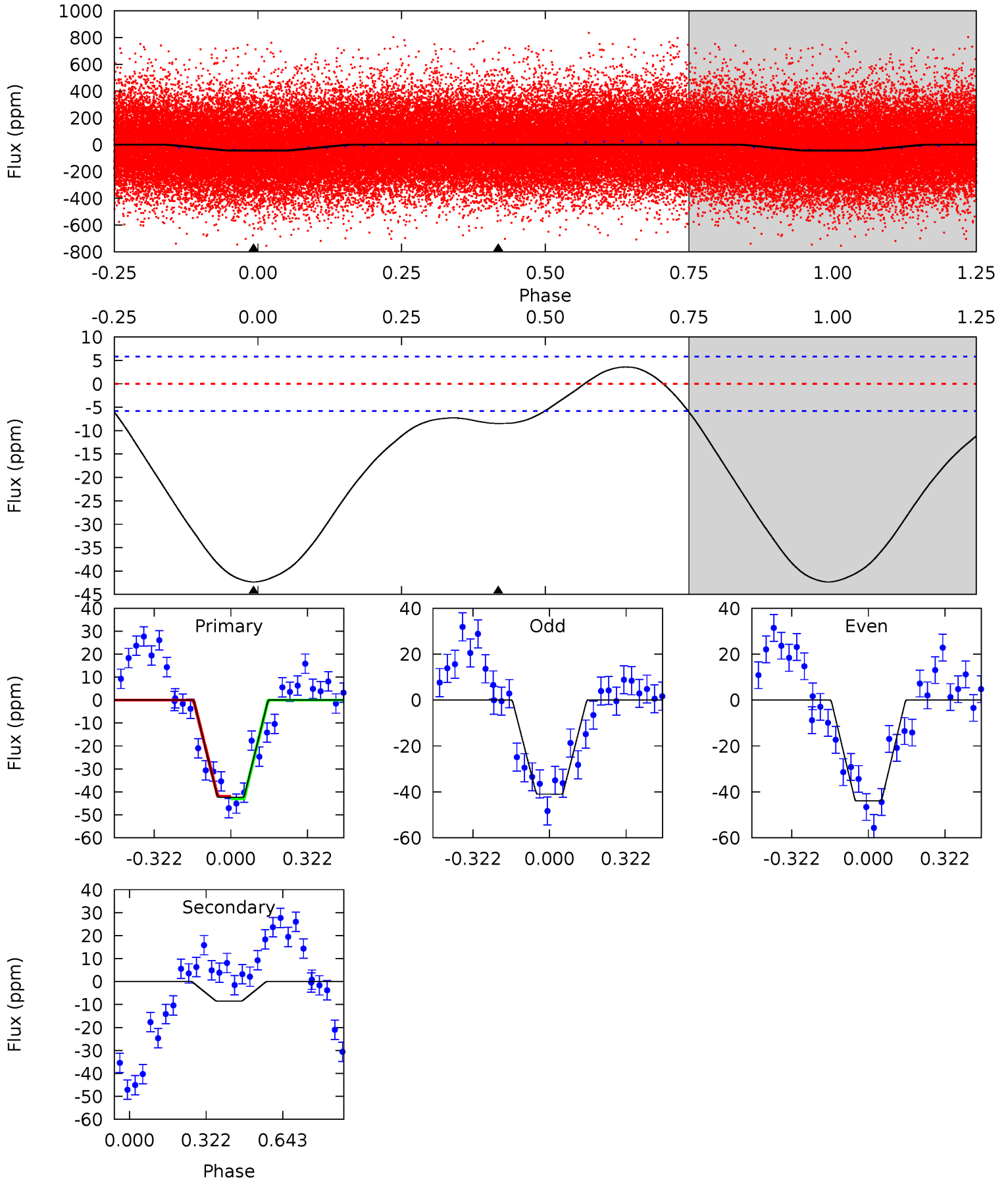
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	4.80	0	0	4.28	0.90	1.09	15.7	15.7	4.80	4.80	1.87	0.87	0.06	2.95



# Alt Model-Shift Uniqueness Test

006305938-01, P = 2.260341 Days, E = 129.270652 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
31.4	6.28	0	0	4.31	0.99	2.31	31.4	31.4	6.28	6.28	1.10	1.18	0.08	0.41





### Stellar Parameters For KIC 006305938

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6212^{+203}_{-249}$	$3.897^{+0.472}_{-0.118}$	$-0.340^{+0.300}_{-0.300}$	$1.989^{+0.483}_{-0.965}$	$1.138^{+0.183}_{-0.223}$	$0.204^{+0.891}_{-0.089}$
	+3%/-4%	+12%/-3%	+88%/-88%	+24%/-49%	+16%/-20%	+438%/-44%
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 006305938-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-6 \pm 1$	$0.87^{+0.55}_{-0.44}$	$2785^{+240}_{-334}$	$4703^{+1681}_{-769}$	$5.696^{+17.570}_{-3.610}$
Alt.	$-8 \pm 1$	$1.33^{+0.60}_{-0.52}$	$2773^{+233}_{-357}$	$4205^{+818}_{-522}$	$3.257^{+5.420}_{-1.703}$

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

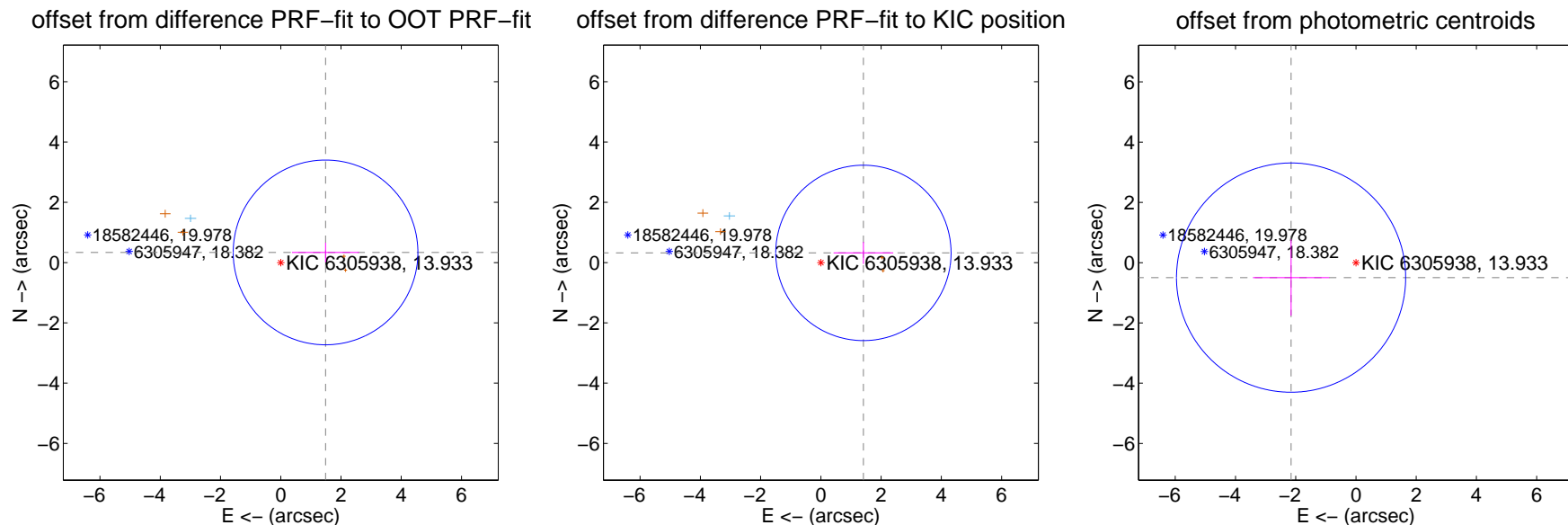
## DV Centroid Data

Supplemental centroid analysis for 006305938-01. Kepler magnitude: 13.93. Transit SNR 7.76

There are 1 quarters with good PRF difference image offsets

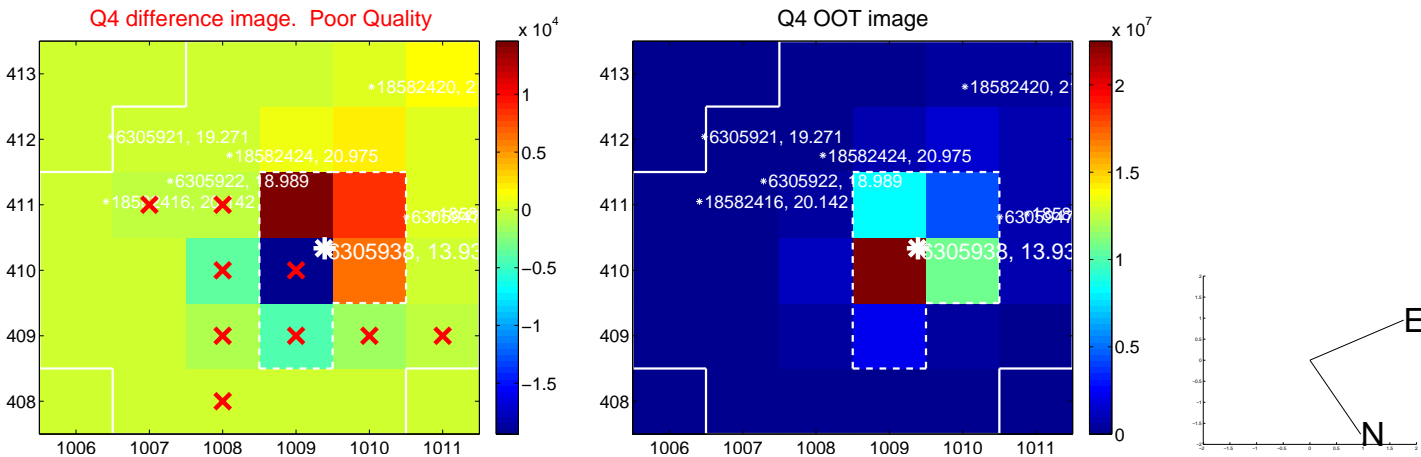
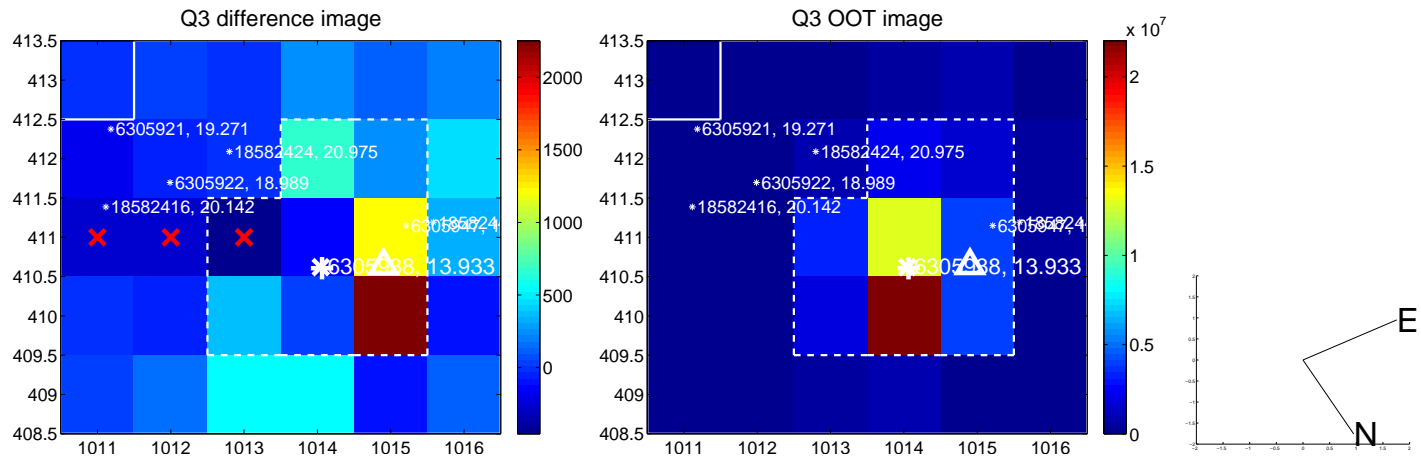
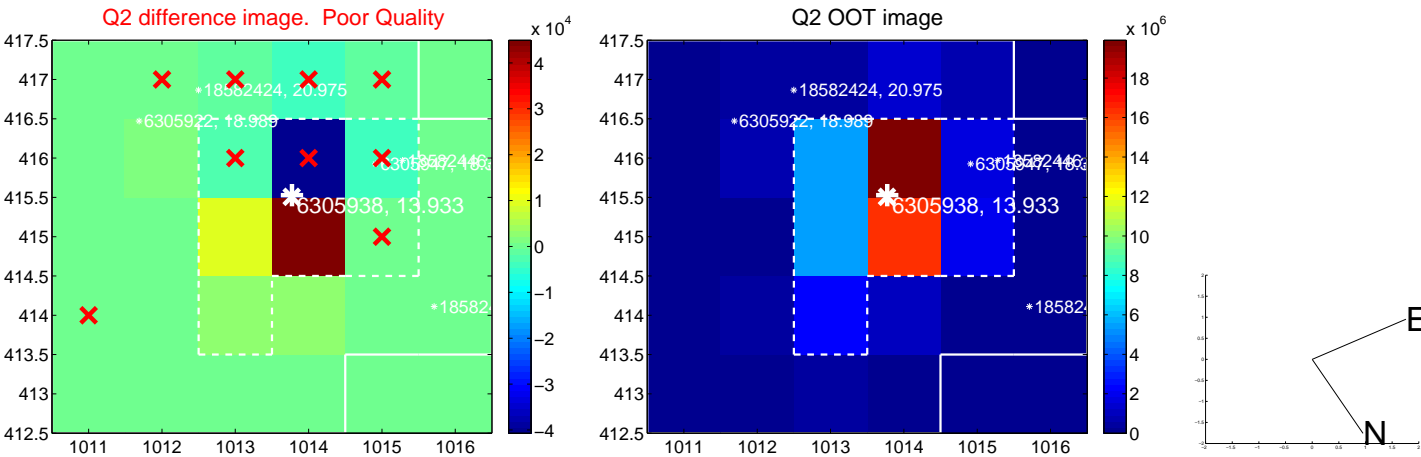
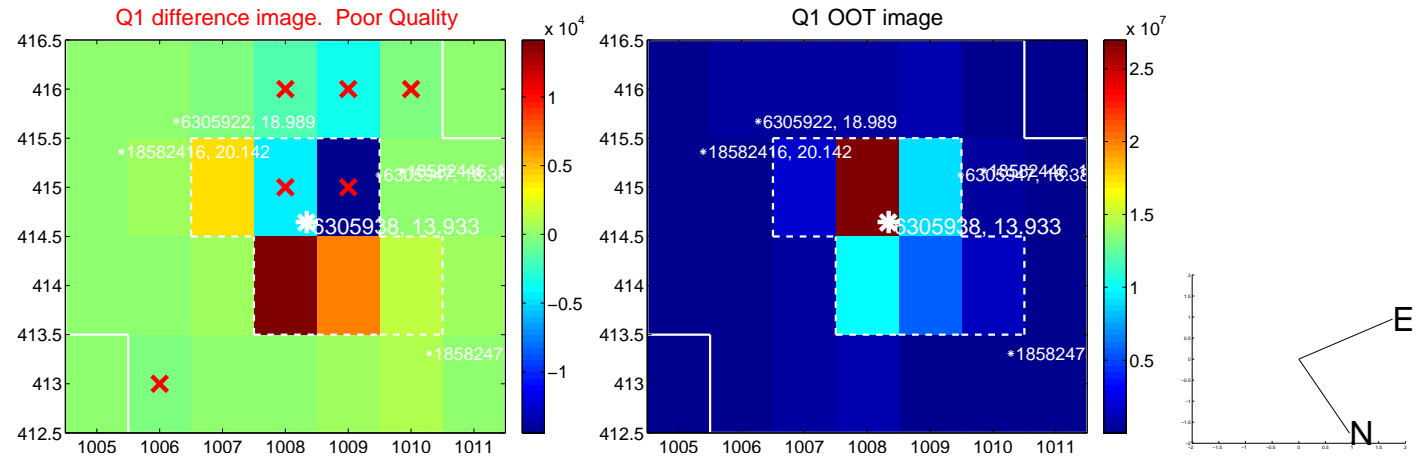
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.525 \pm 1.022$	1.49	$-1.487 \pm 1.113$	$0.337 \pm 0.320$
PRF-fit source offset from KIC position	$1.448 \pm 0.970$	1.49	$-1.412 \pm 0.991$	$0.321 \pm 0.363$
photometric centroid source offset	$2.21 \pm 1.27$	1.74	$2.15 \pm 1.27$	$-0.50 \pm 1.26$

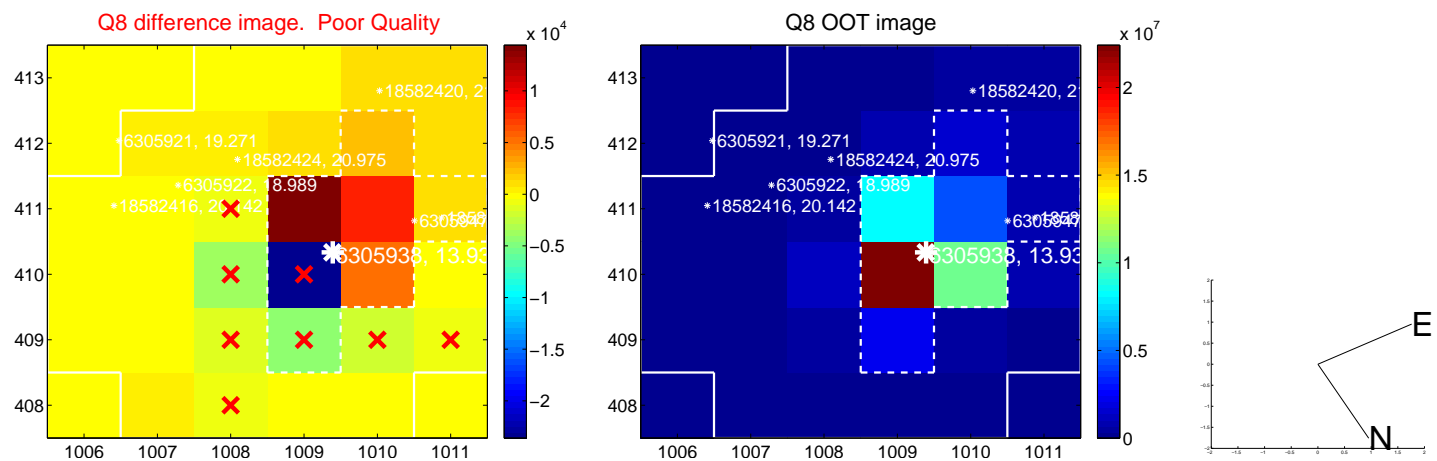
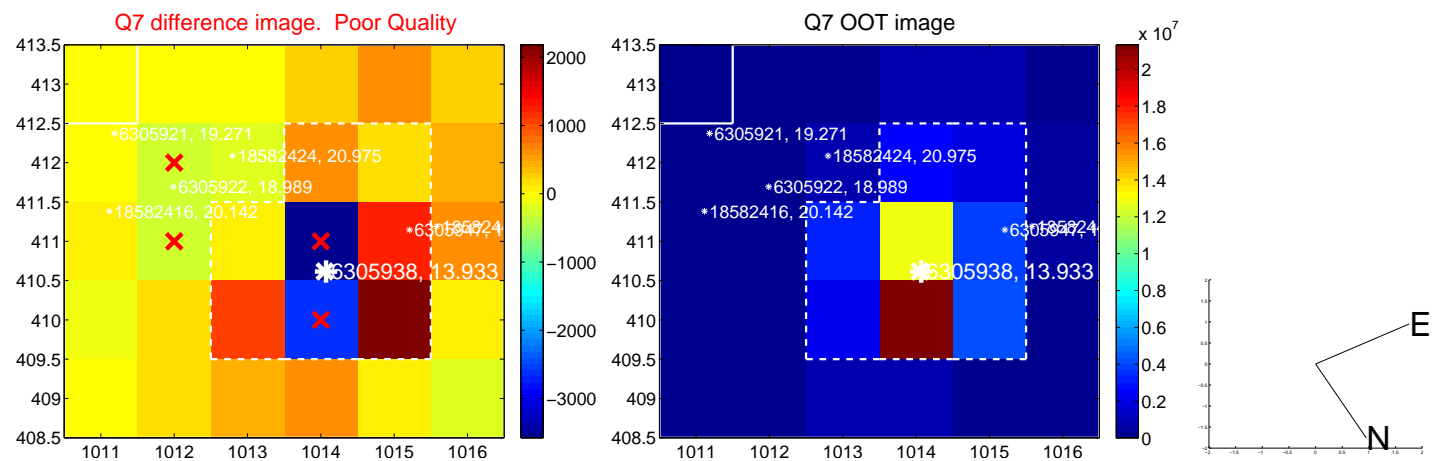
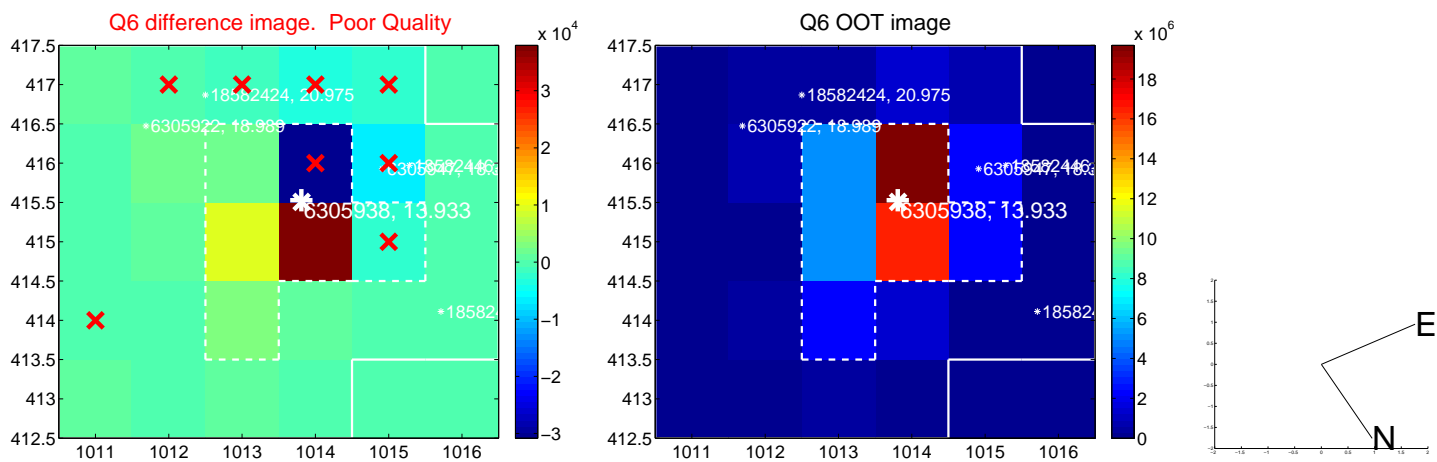
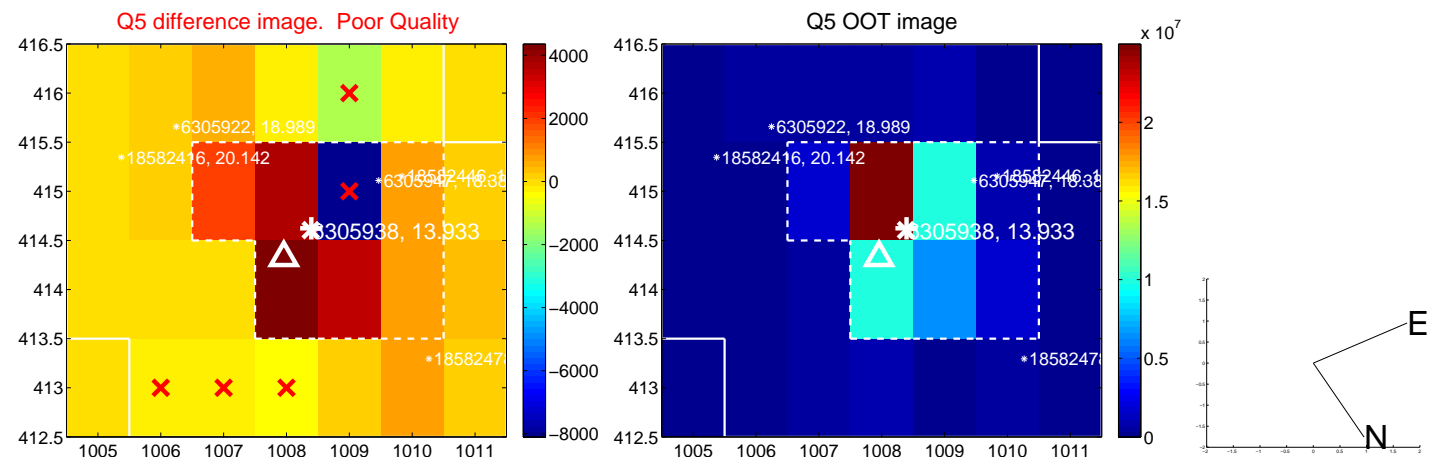


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

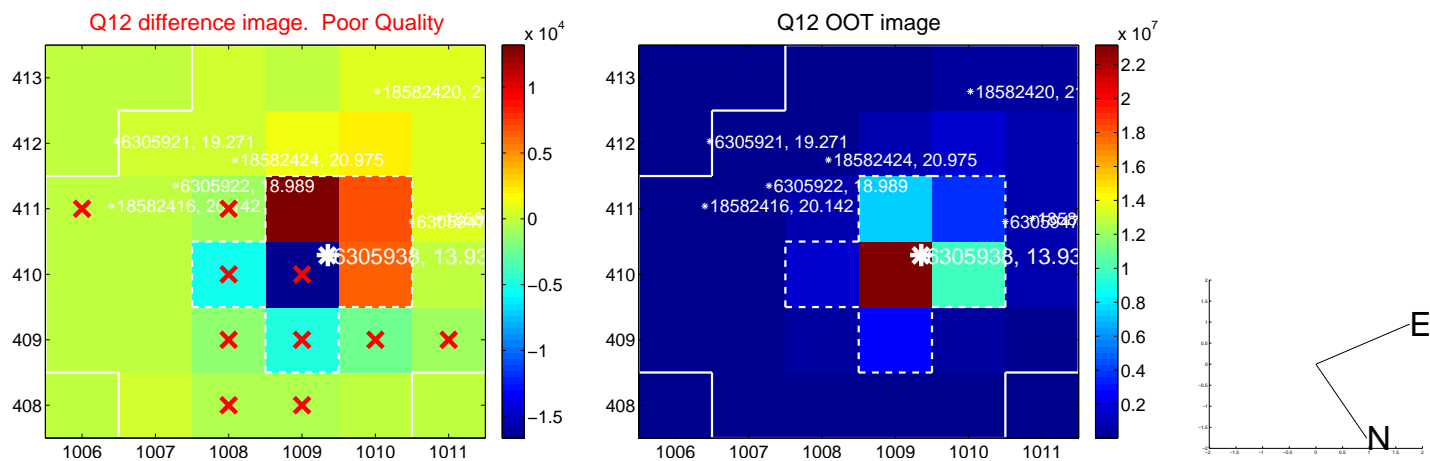
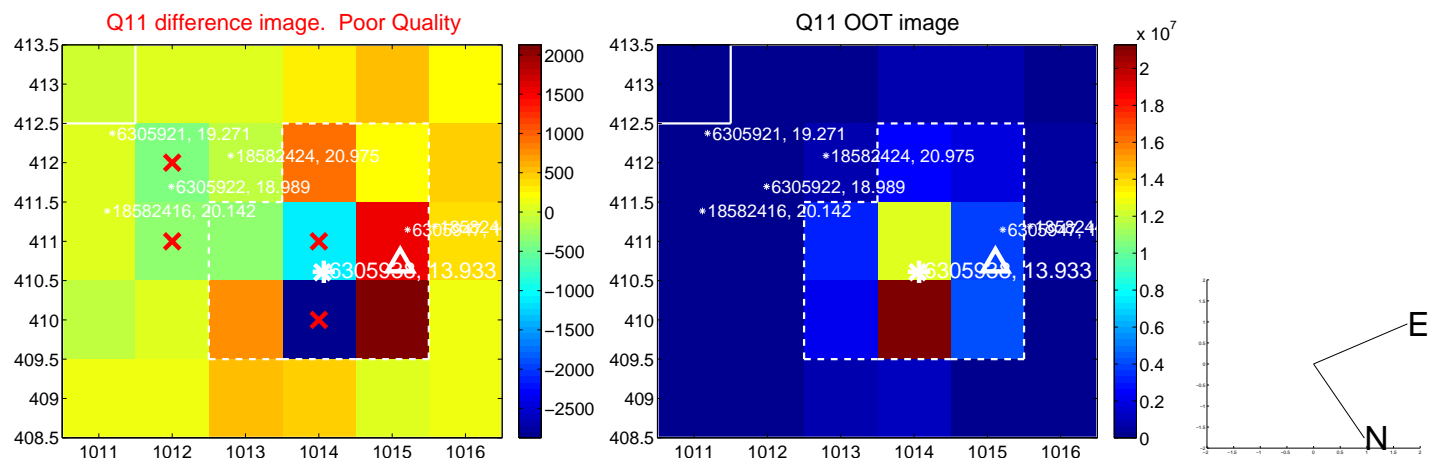
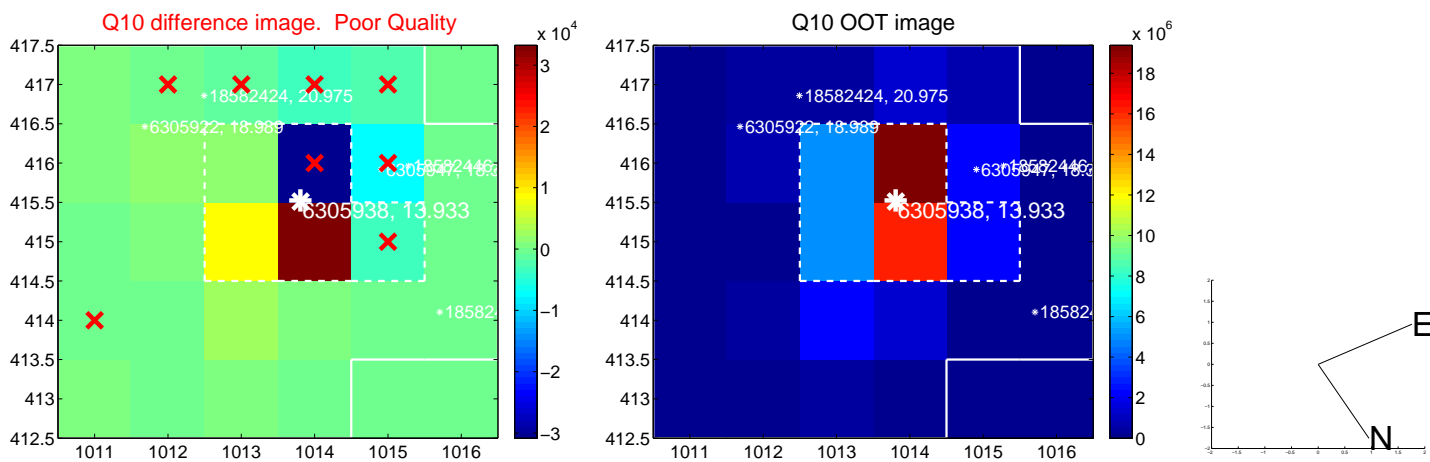
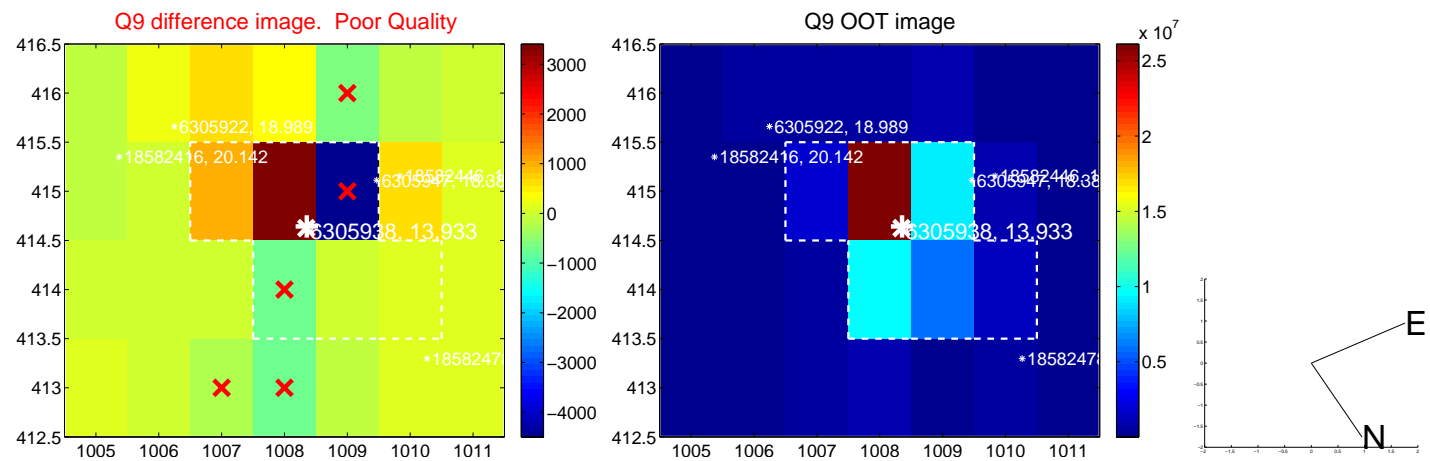


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

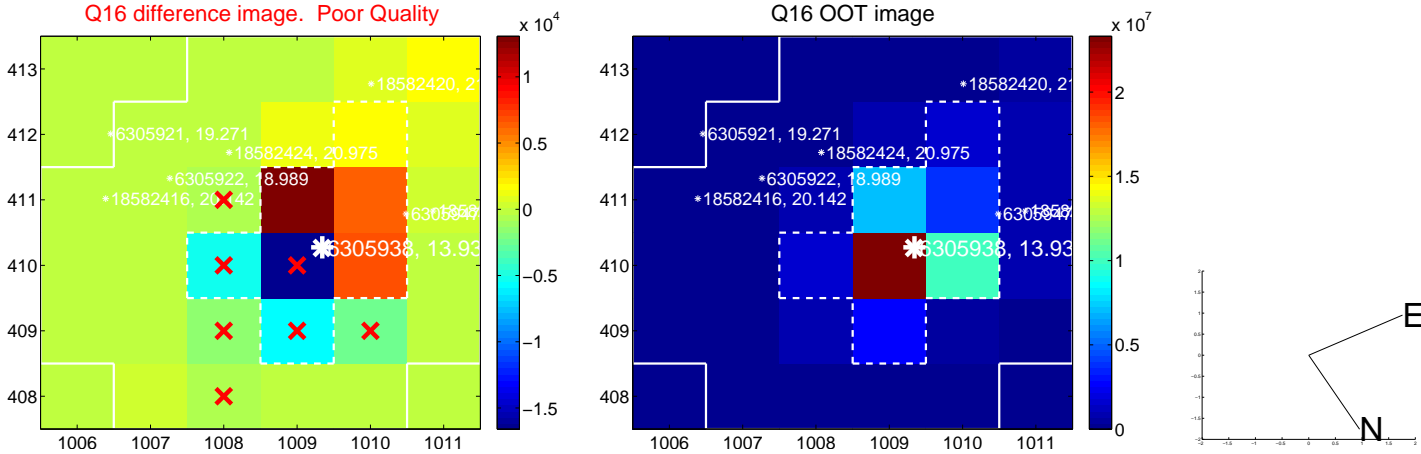
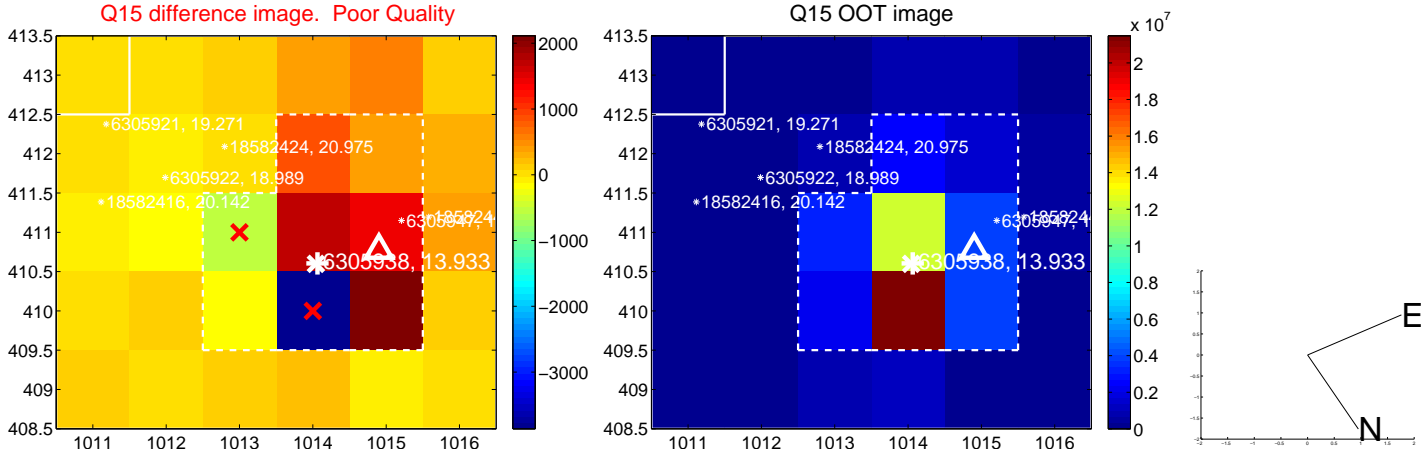
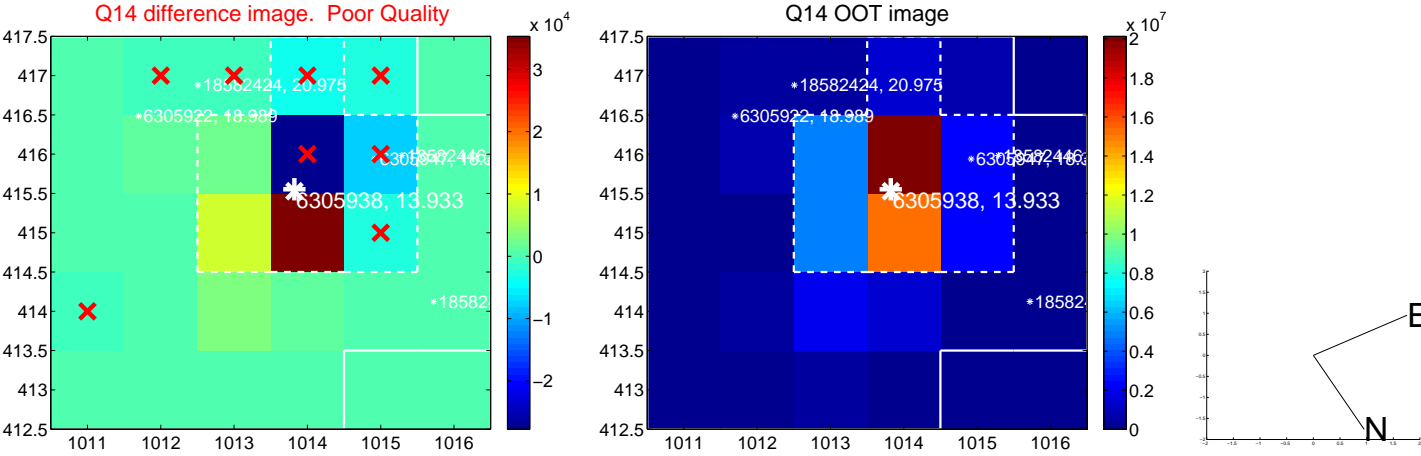
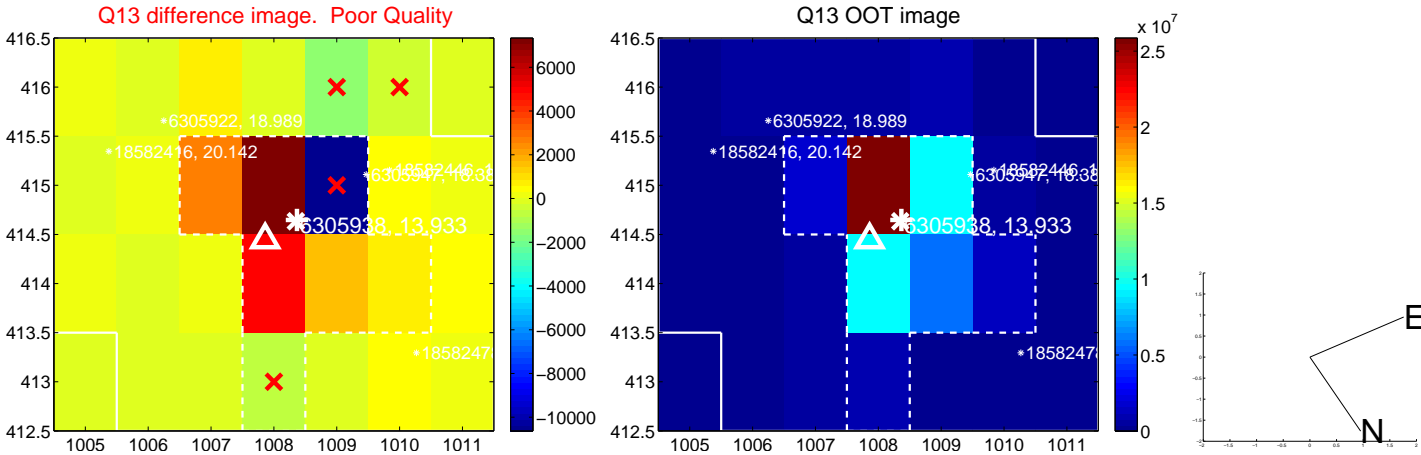




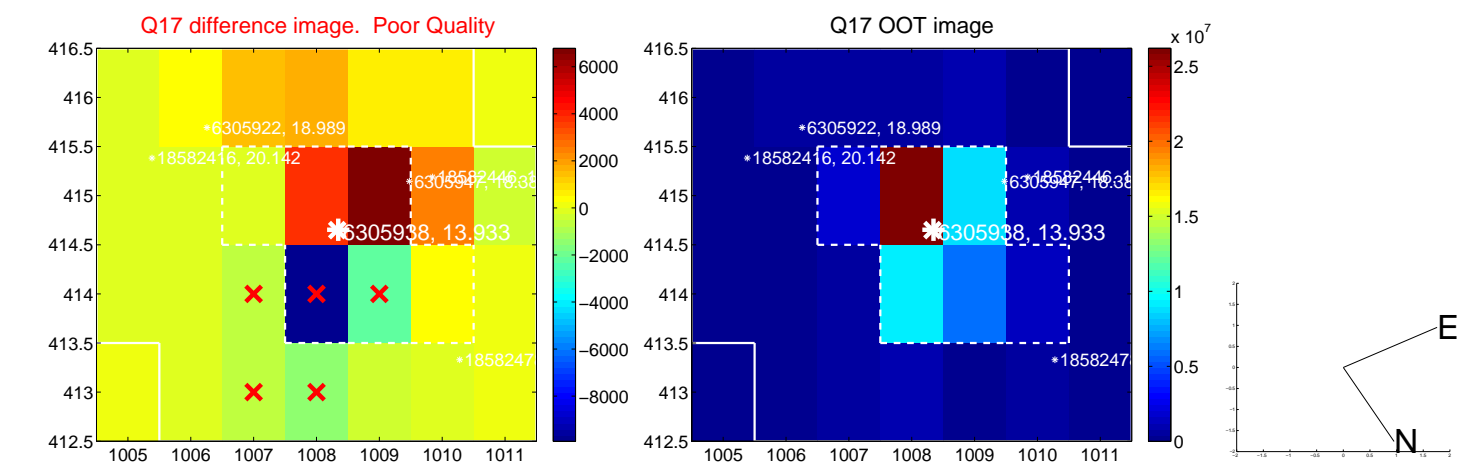
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



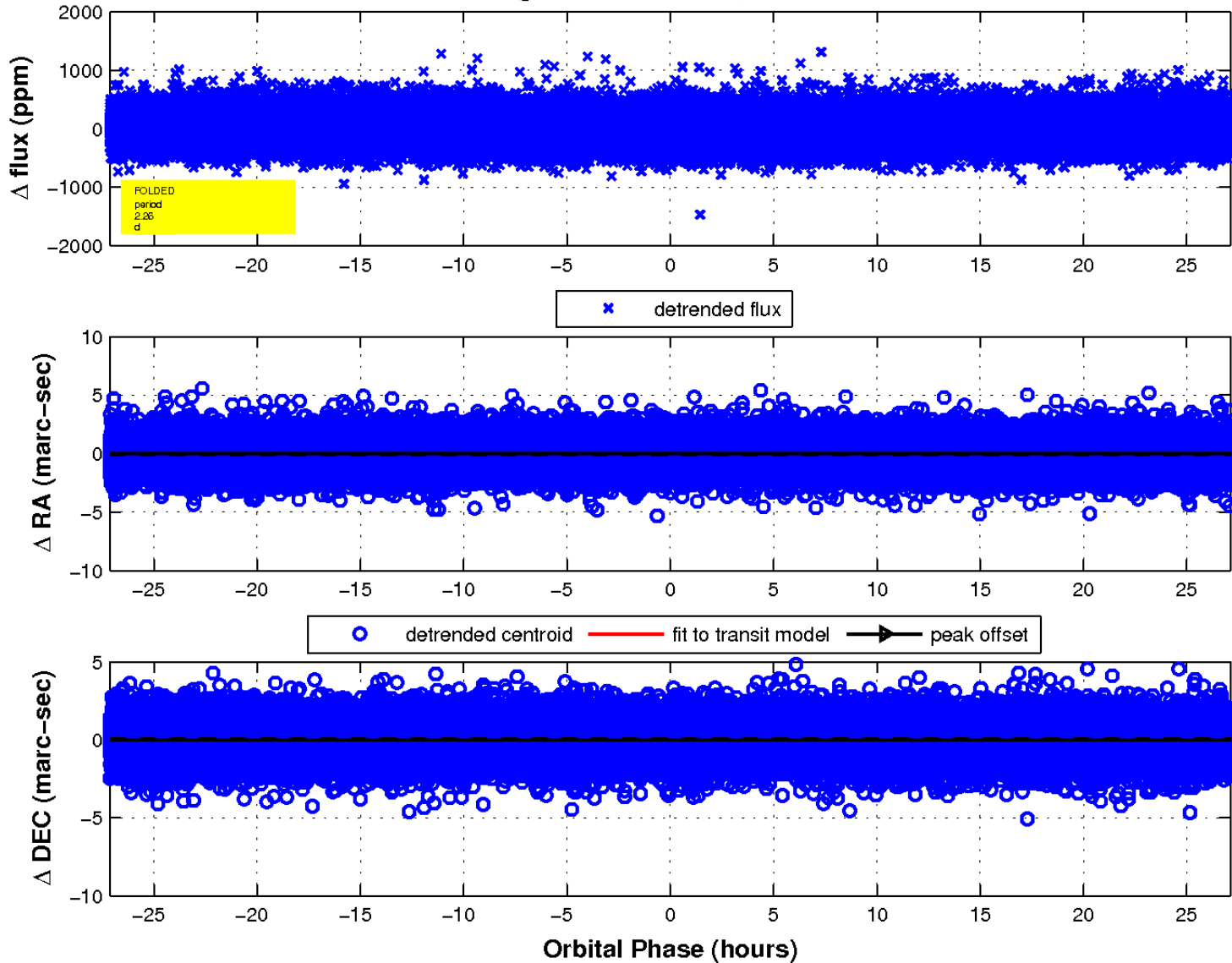
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

