

# KIC 006032172

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006032172-01	OBS	No	0.603000	131.924214	19.8	5.933	13.5	10.2	1.92	7596	1.00	41970.85

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006032172-01	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.

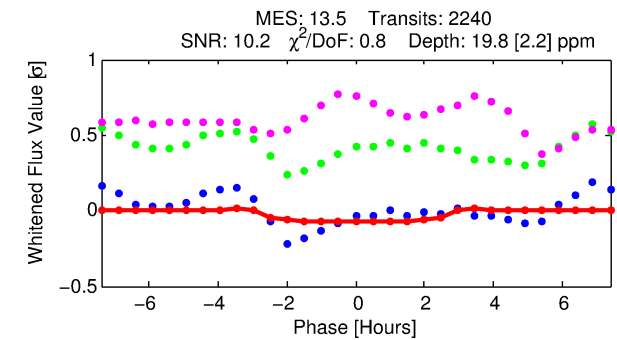
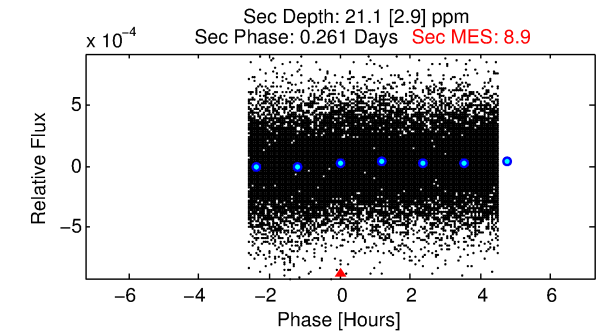
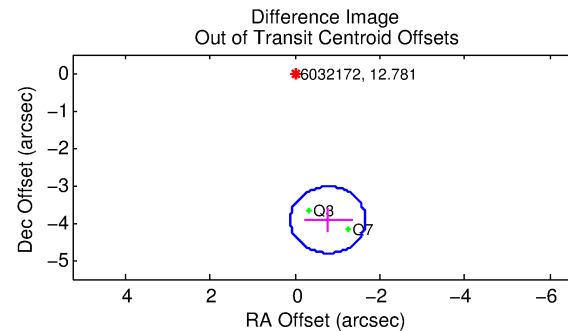
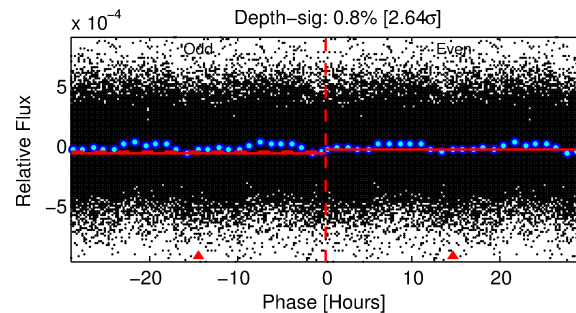
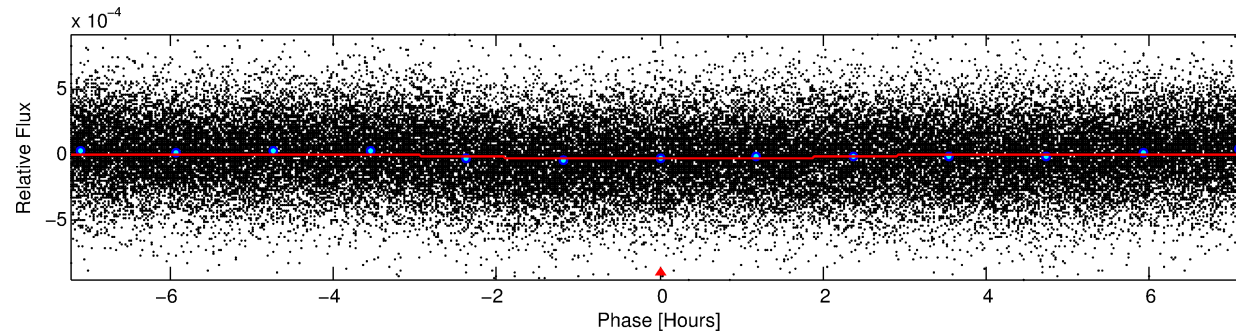
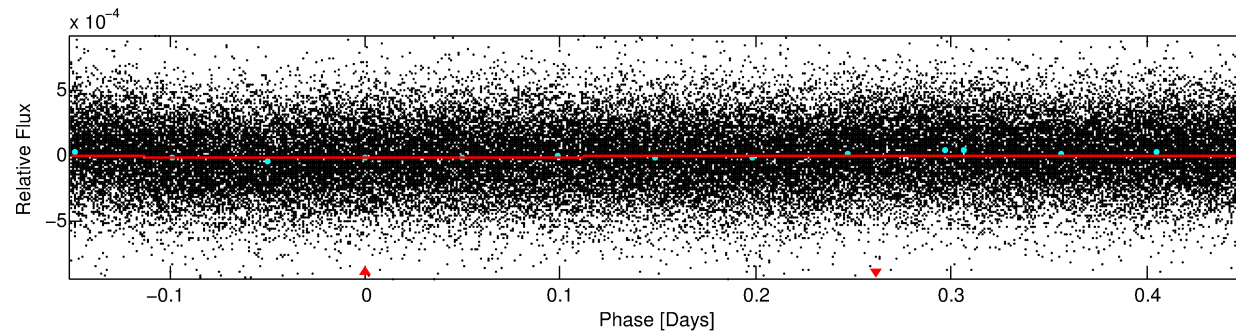
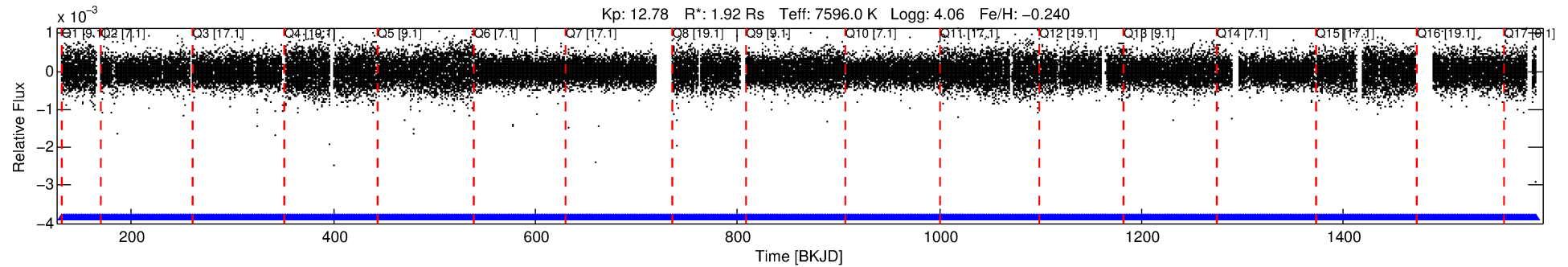
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006032172-01

No Significant Match Found

# DV One-Page Summary

KIC: 6032172 Candidate: 1 of 1 Period: 0.603 d



## DV Fit Results:

Period = 0.60300 [0.00001] d  
Epoch = 131.9242 [0.0050] BKJD  
Rp/R\* = 0.0048 [0.0019]  
a/R\* = 1.01 [0.06]  
b = 0.90 [0.53]  
Seff = 41970.85 [16018.48]  
Teq = 3650 [348] K  
Rp = 1.00 [0.48] Re  
a = 0.0162 [0.0037] AU  
Ag = 3.06 [2.68] [0.77 $\sigma$ ]  
Teff = 7465 [1537] K [2.42 $\sigma$ ]

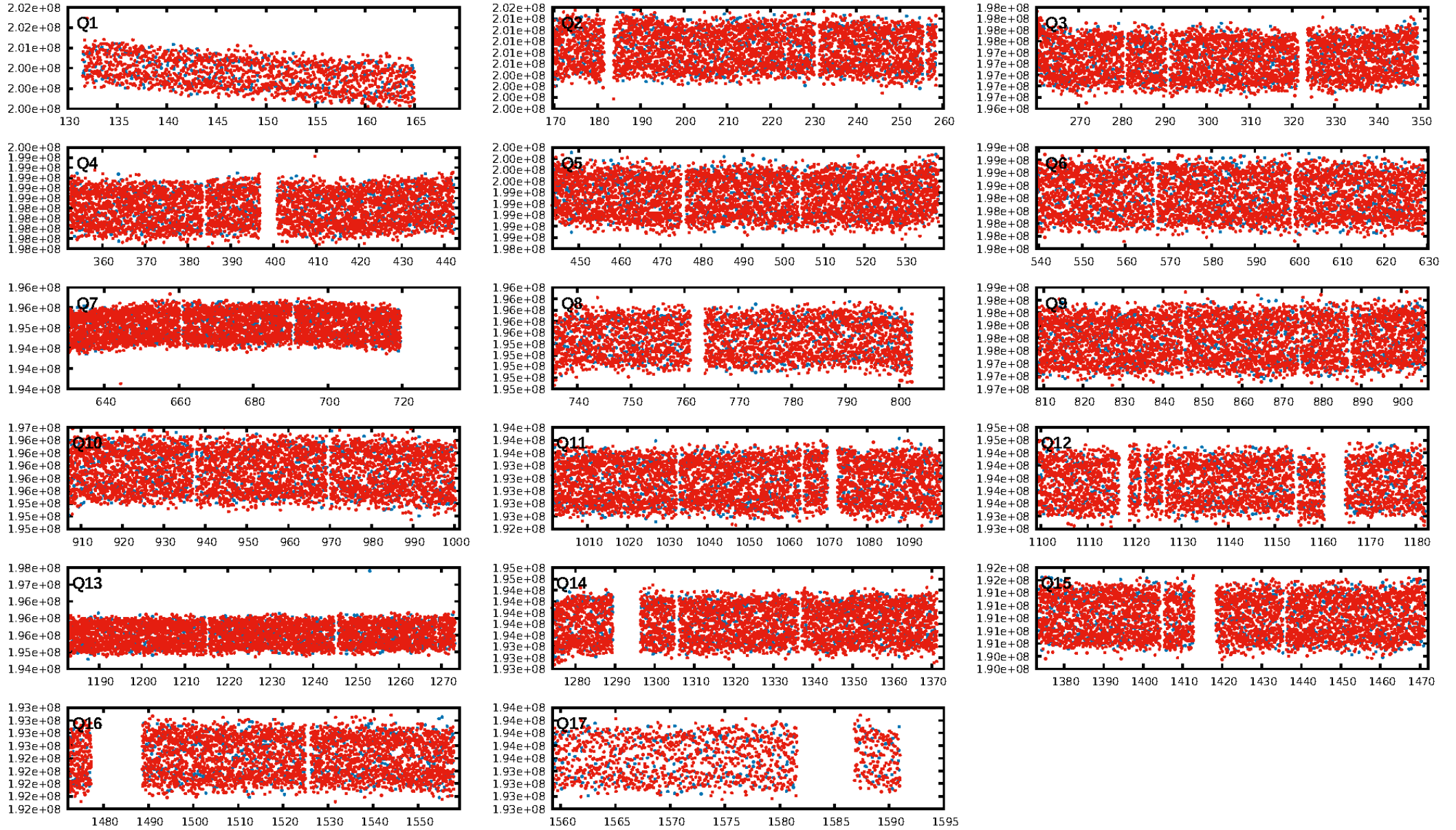
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2139/2139]  
GhostDiagnostic-chr: 2.892  
Centroid-sig: 20.4%  
Centroid-so: 0.408 arcsec [0.94 $\sigma$ ]  
OotOffset-rm: 4.000 arcsec [13.51 $\sigma$ ]  
KicOffset-rm: 3.928 arcsec [13.58 $\sigma$ ]  
OotOffset-st: 0/2/0/0 [2]  
KicOffset-st: 0/2/0/0 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [17/17]

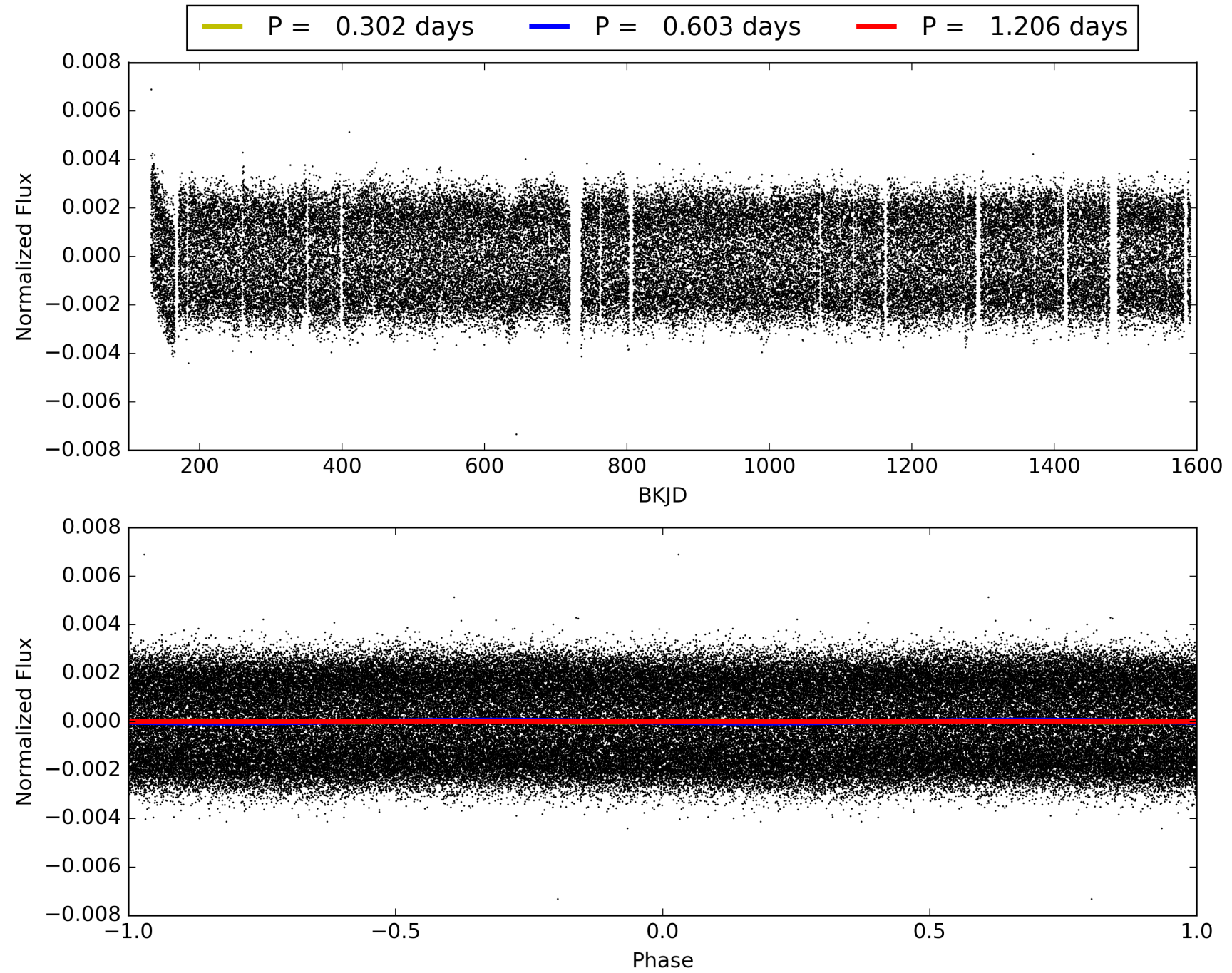
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:37:32 Z

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

# TCE 006032172-01, PDC Light Curves



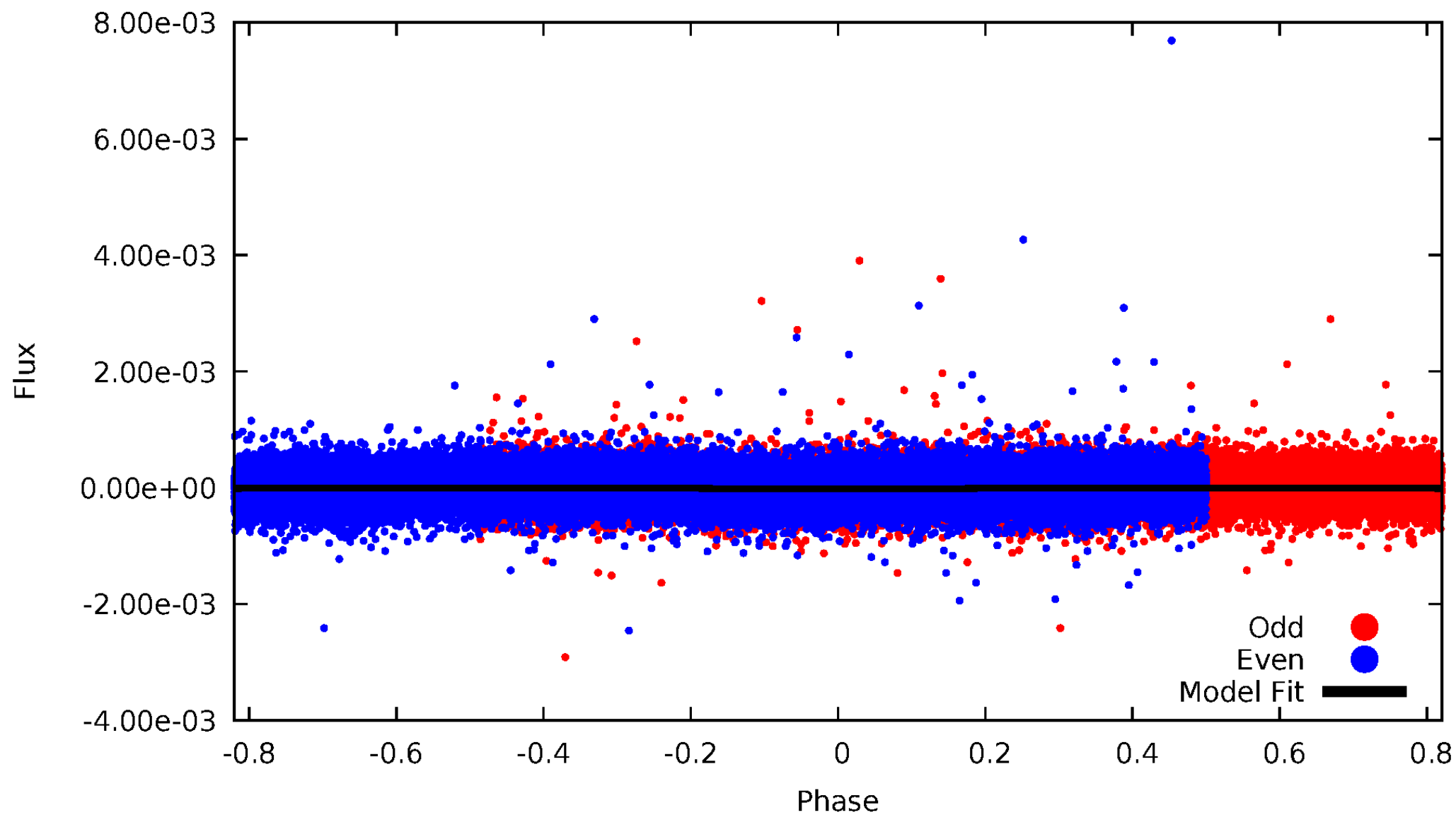
TCE 006032172-01





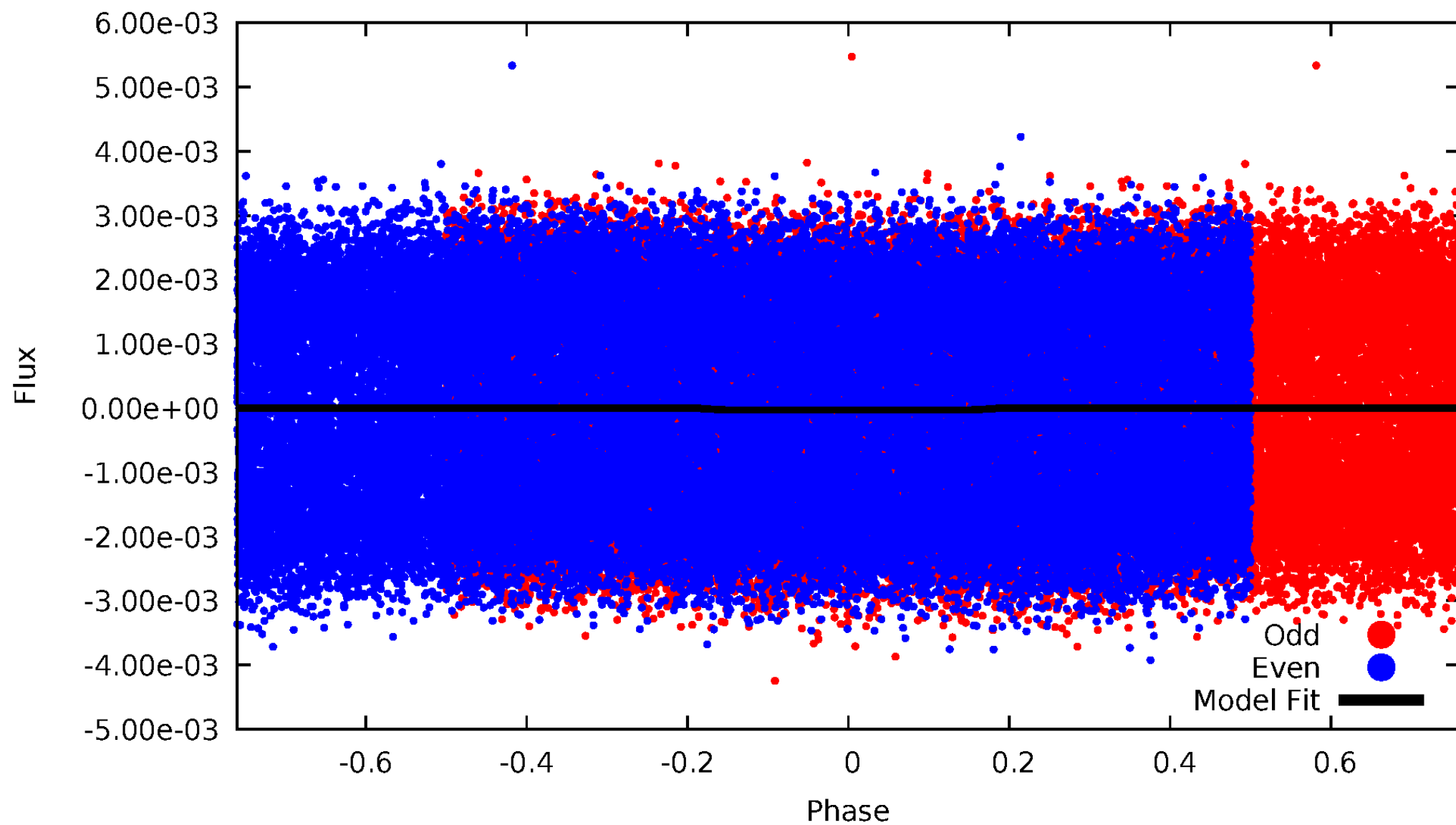
# DV Odd/Even

TCE 006032172-01



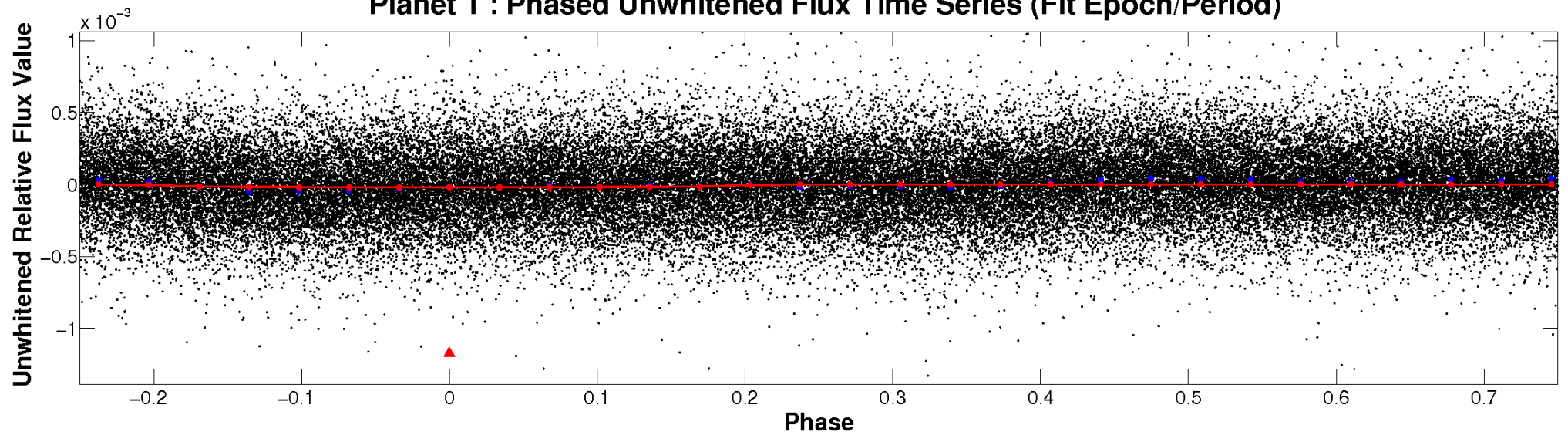
# ALT Odd/Even

TCE 006032172-01

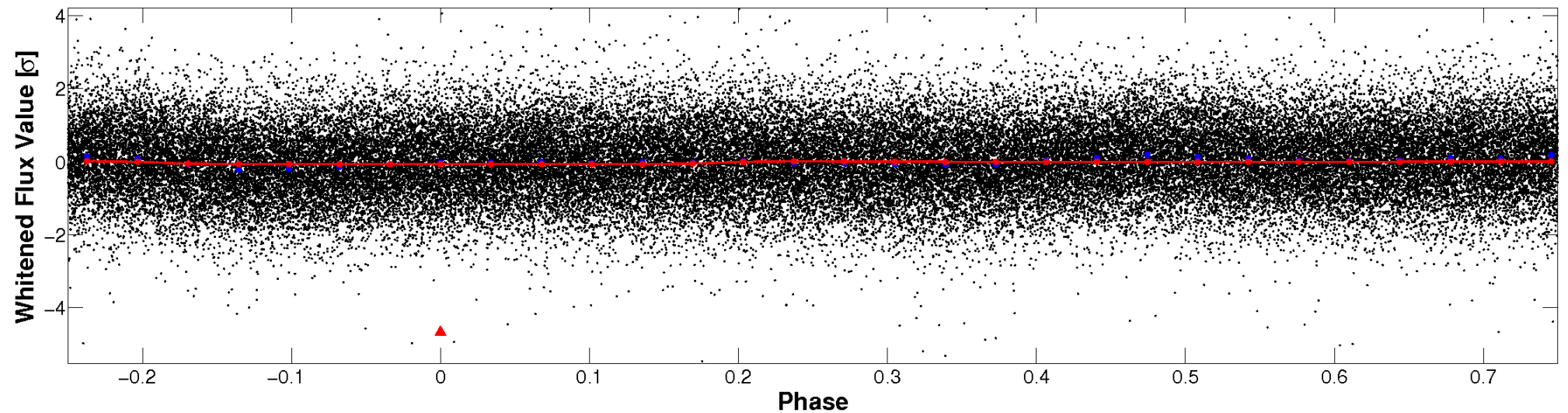


# Non-Whitened Vs. Whitened Light Curve

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

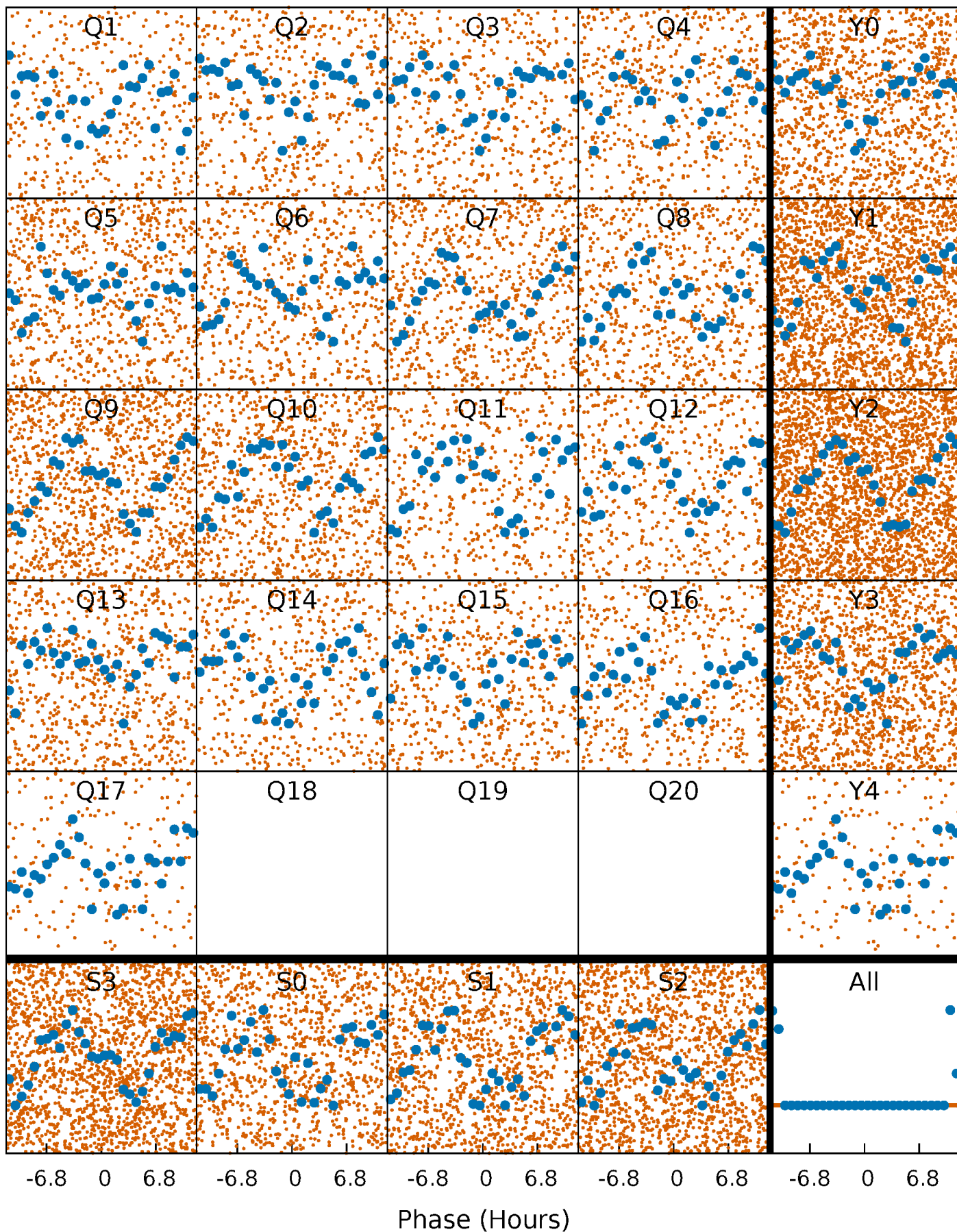


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

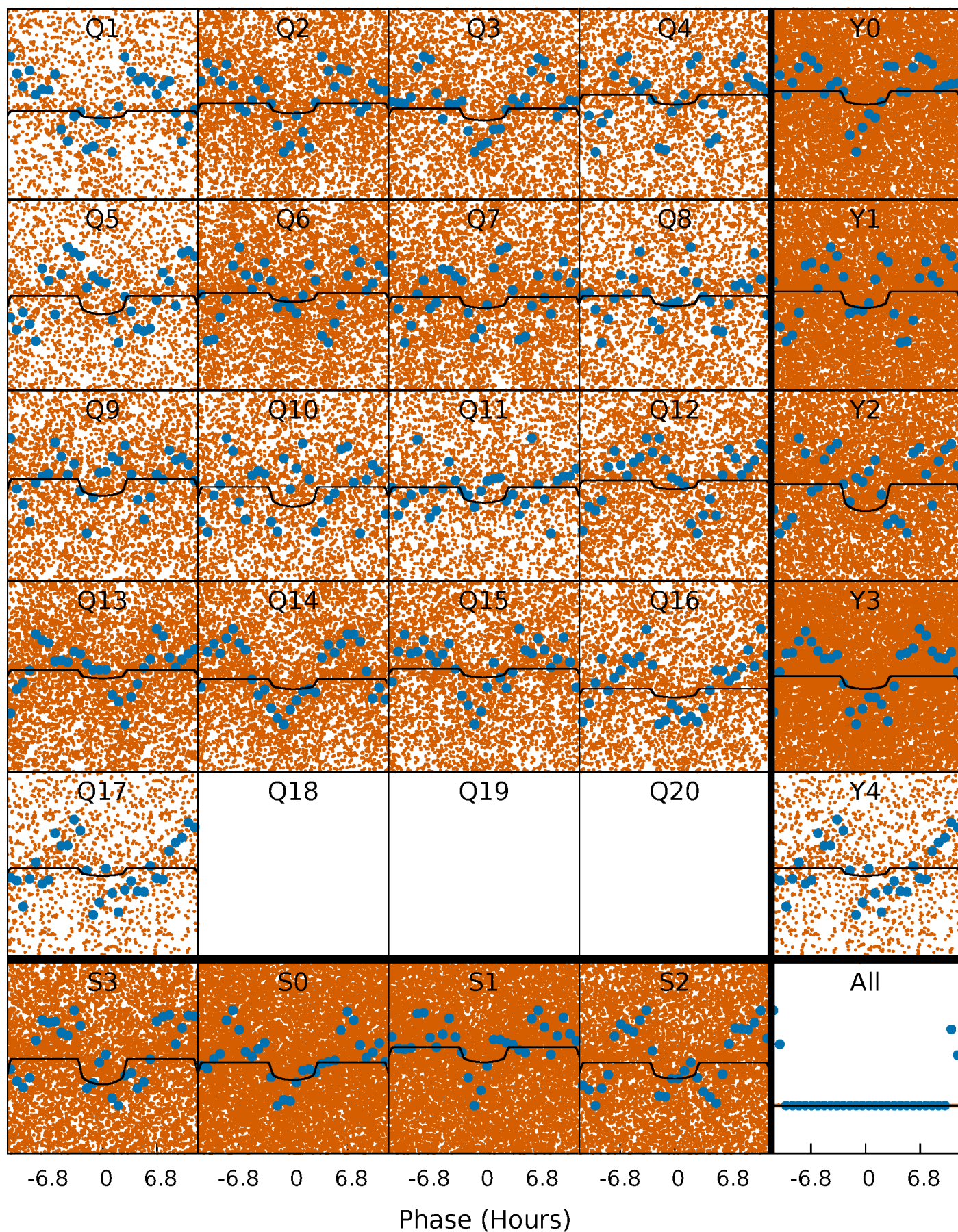
TCE 006032172-01 P= 0.603000 Days  $T_0=131.924214$  (BKJD)





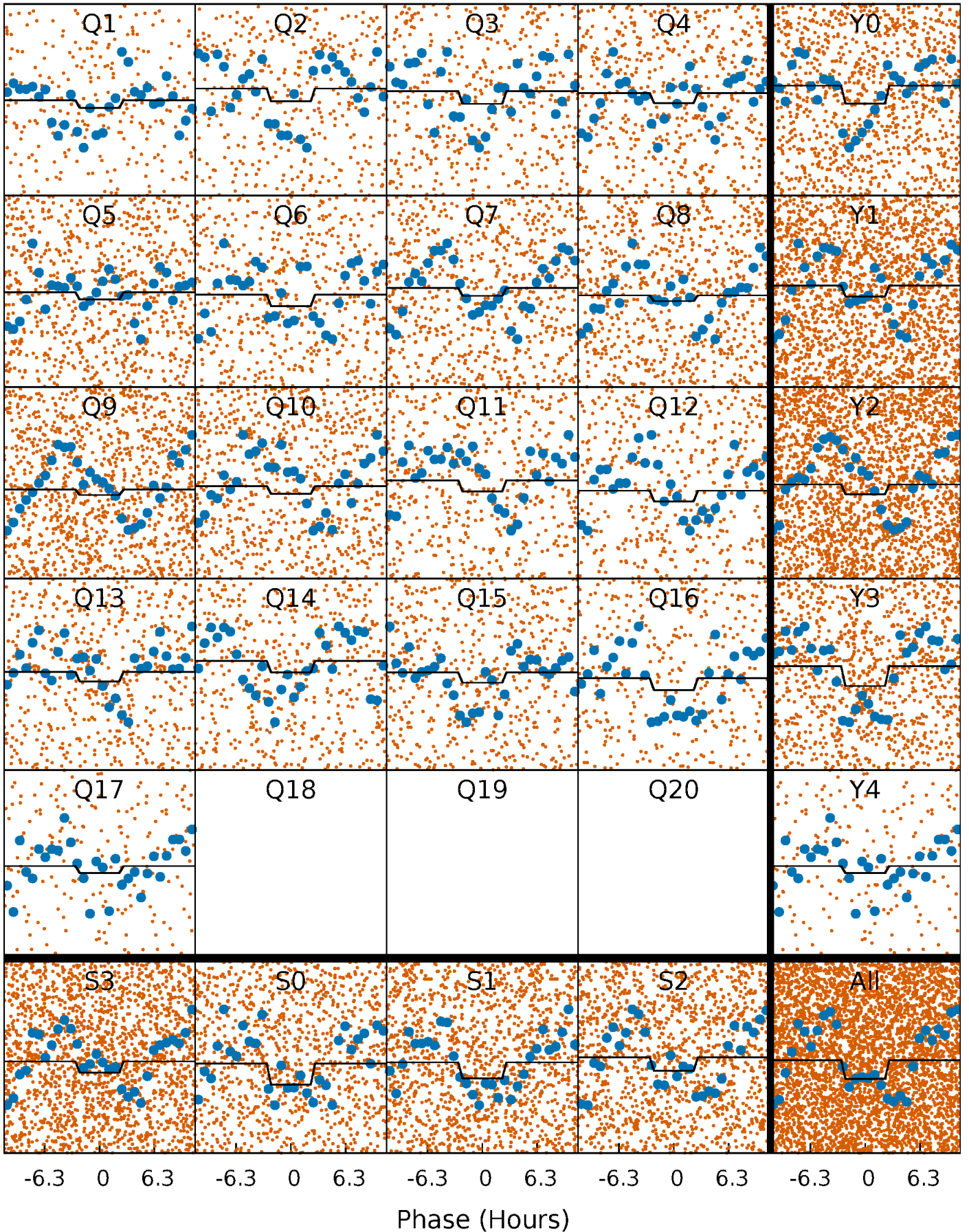
# DV Quarter-Phased Transit Curves

TCE 006032172-01   P= 0.603000 Days    $T_0=131.924214$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 006032172-01 P= 0.603004 Days  $T_0=131.939283$  (BKJD)

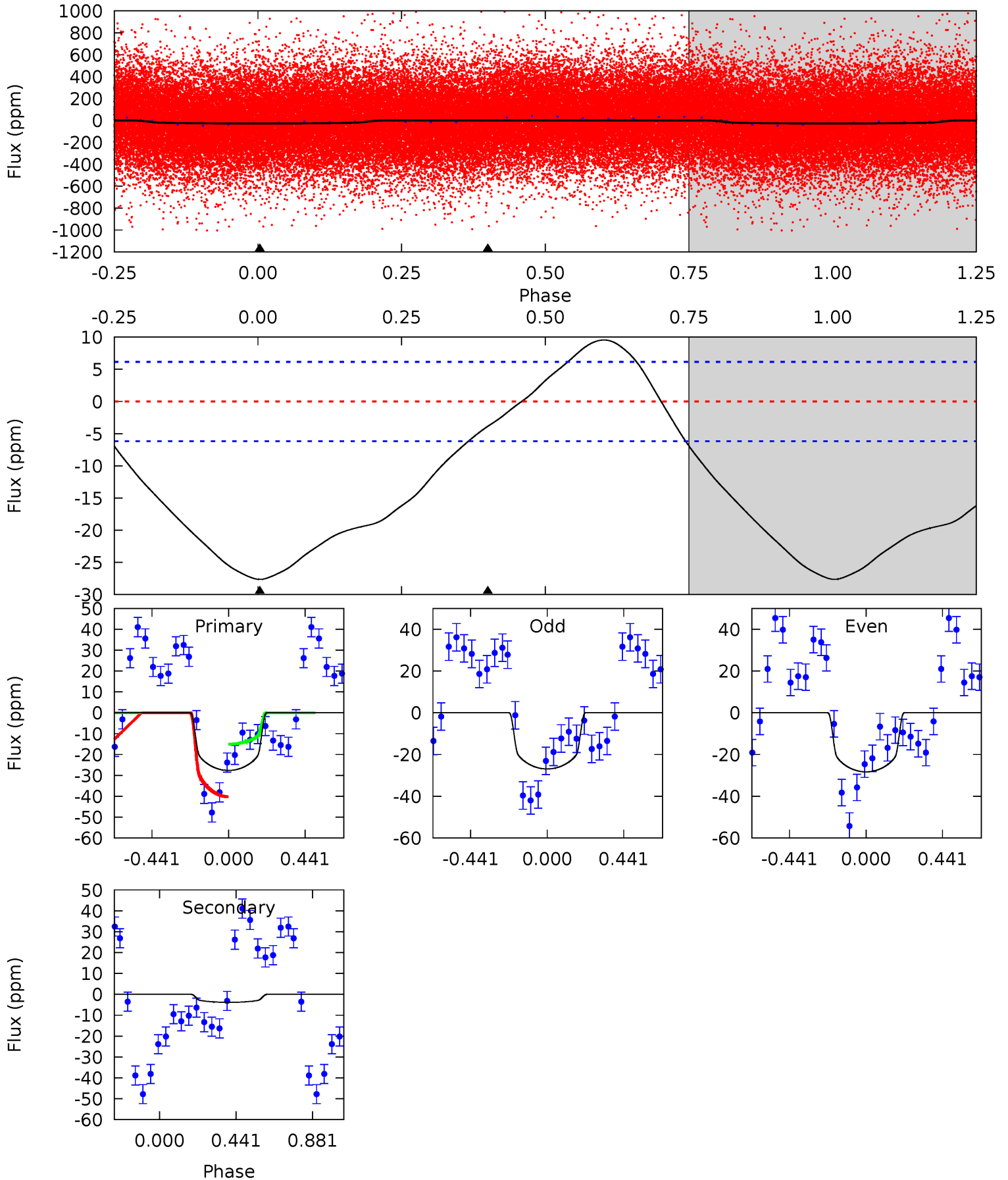




# DV Model-Shift Uniqueness Test

006032172-01, P = 0.603000 Days, E = 131.321214 Days

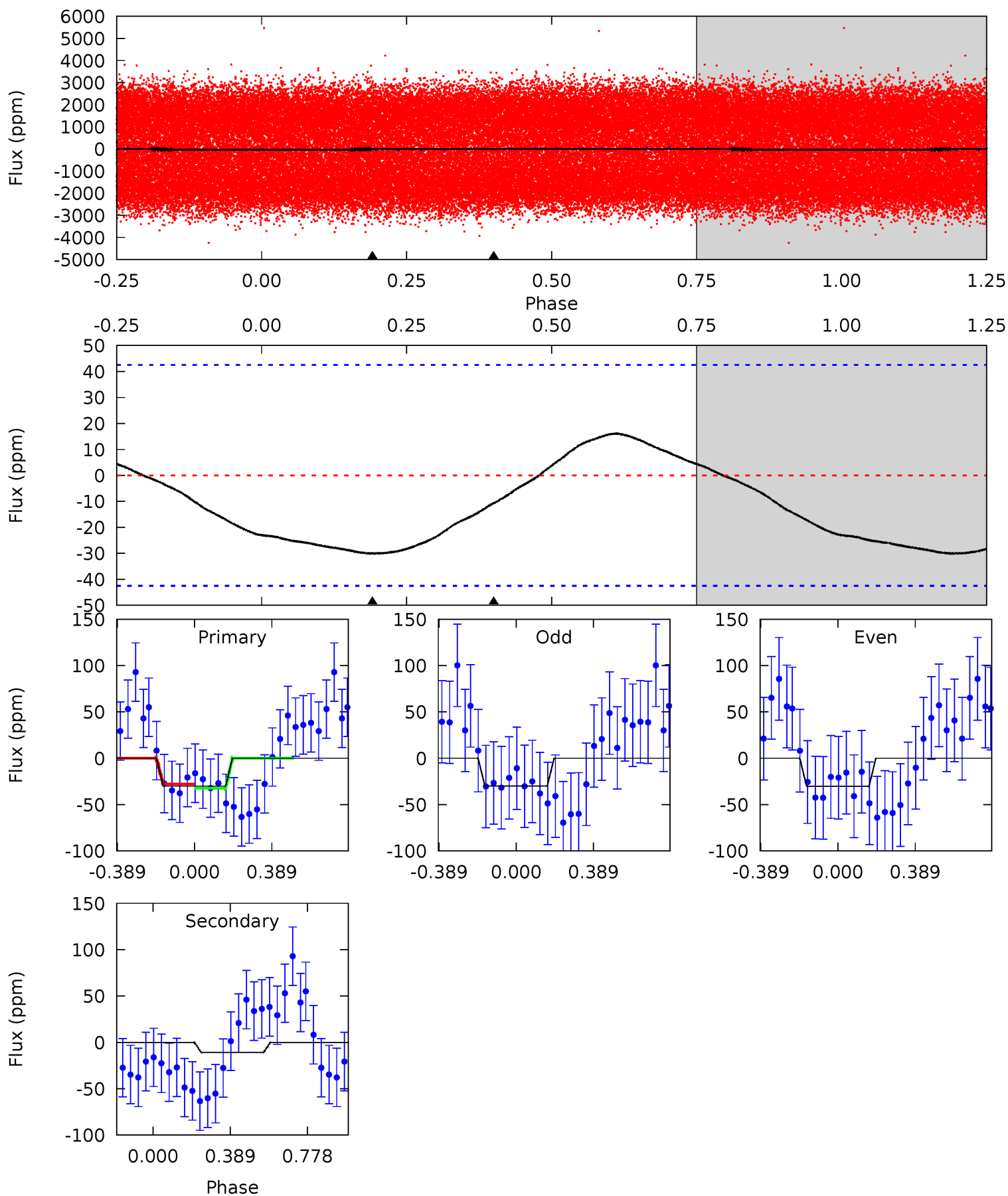
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	2.65	0	0	4.24	0.77	2.92	19.1	19.1	2.65	2.65	0.49	1.05	0.26	8.71



# Alt Model-Shift Uniqueness Test

006032172-01, P = 0.603004 Days, E = 131.336279 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
3.03	1.09	0	0	4.27	0.86	0.29	3.03	3.03	1.09	1.09	0.03	1.03	0.35	0.23





### Stellar Parameters For KIC 006032172

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7596^{+237}_{-316}$	$4.064^{+0.192}_{-0.157}$	$-0.240^{+0.200}_{-0.350}$	$1.924^{+0.509}_{-0.458}$	$1.562^{+0.187}_{-0.257}$	$0.309^{+0.333}_{-0.139}$
	+3%/-4%	+5%/-4%	+83%/-146%	+26%/-24%	+12%/-16%	+108%/-45%
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 006032172-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-4 \pm 1$	$1.00^{+0.43}_{-0.42}$	$5067^{+373}_{-381}$	$4039^{+1724}_{-7538}$	$0.525^{+1.057}_{-0.307}$
Alt.	$-11 \pm 10$	$1.03^{+0.45}_{-0.39}$	$5039^{+377}_{-366}$	$5434^{+2417}_{-9670}$	$1.249^{+2.927}_{-1.196}$

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

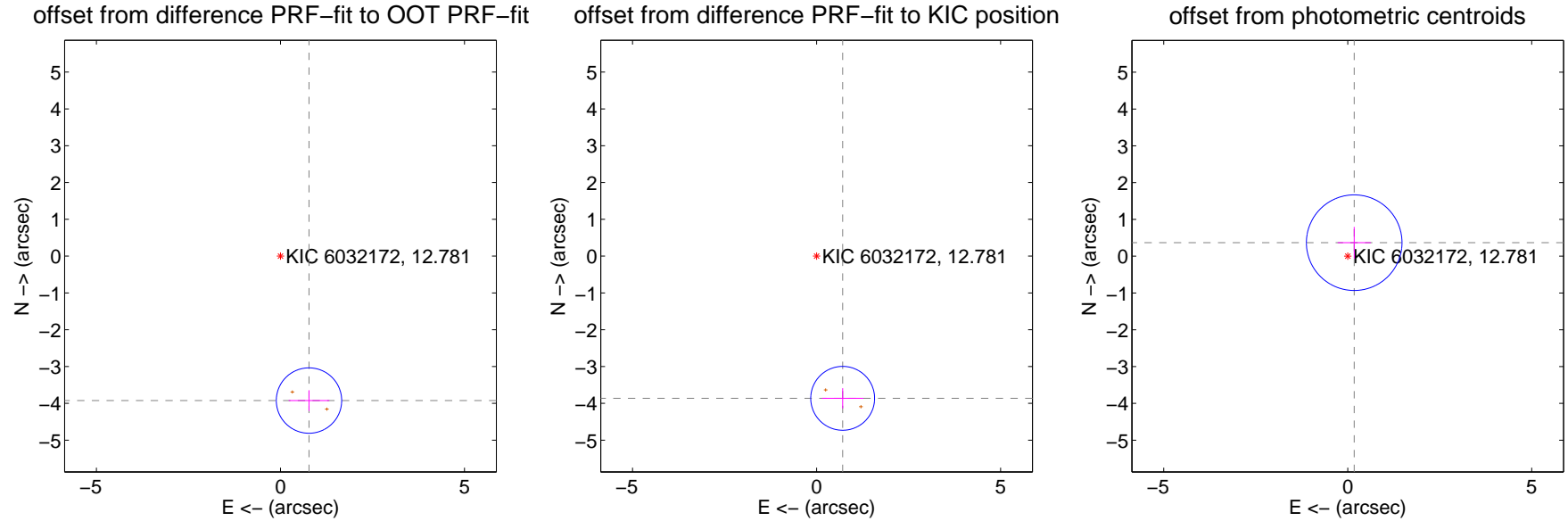
## DV Centroid Data

Supplemental centroid analysis for 006032172-01. Kepler magnitude: 12.78. Transit SNR 10.23

There are 0 quarters with good PRF difference image offsets

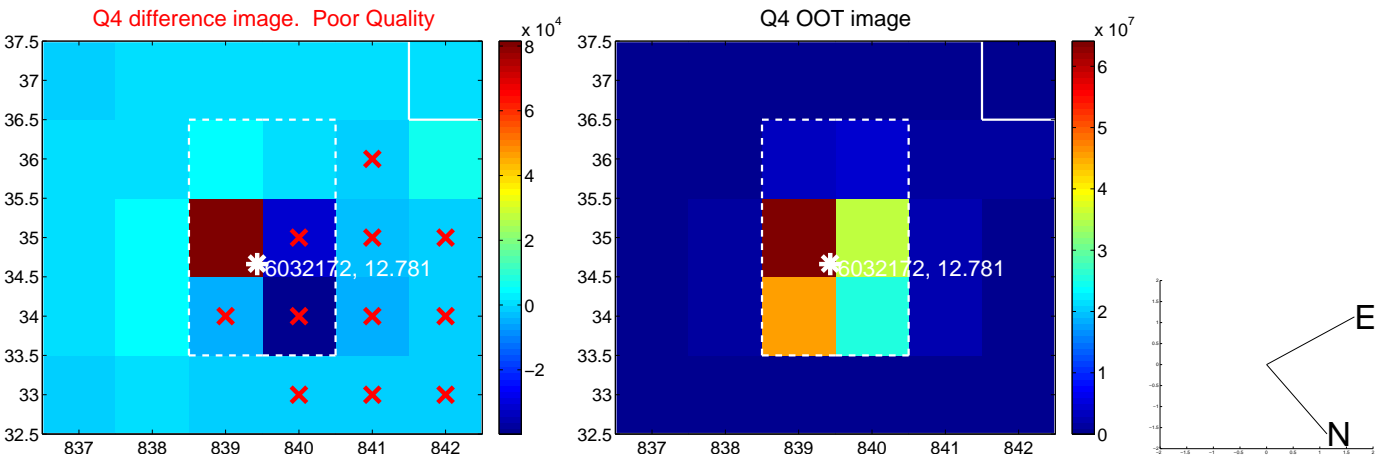
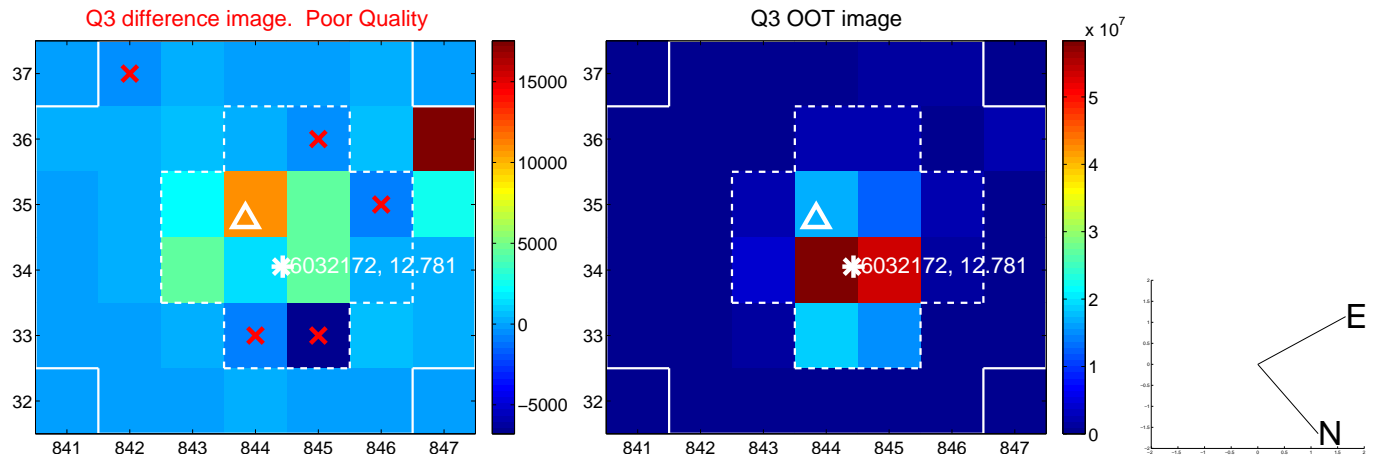
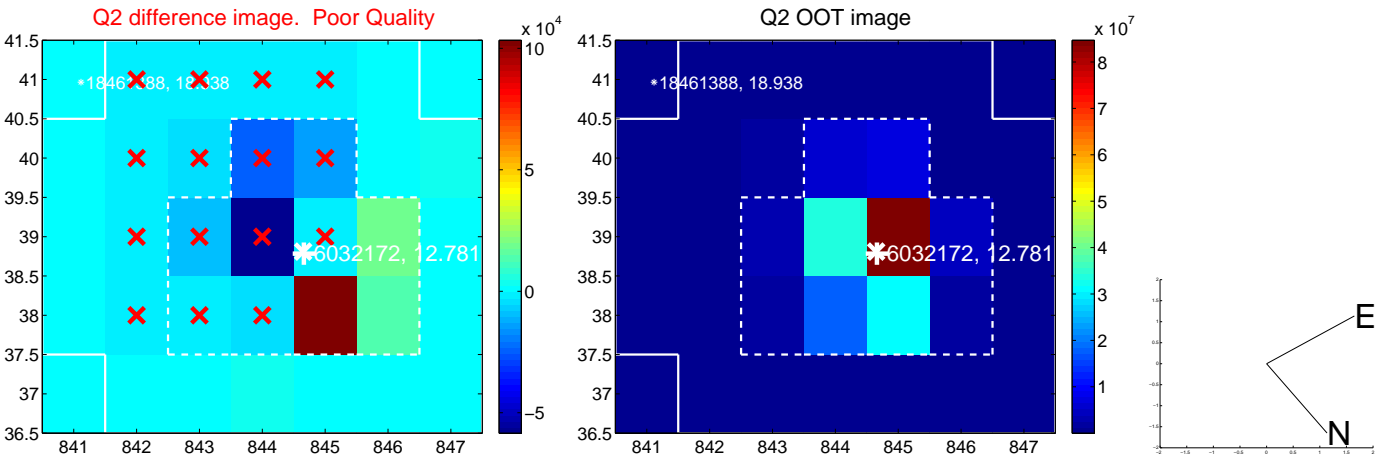
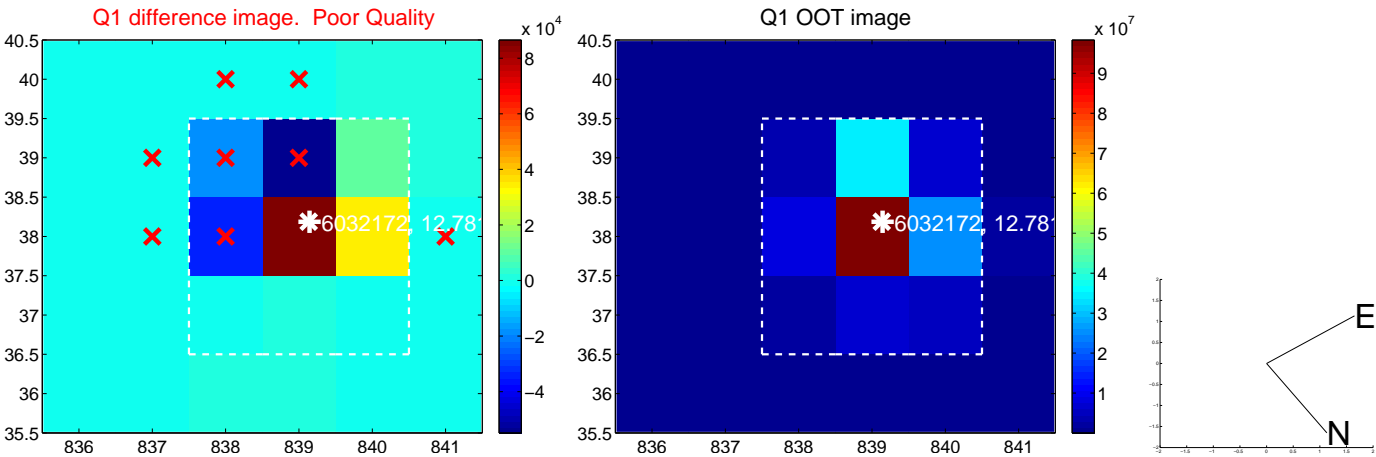
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.000 \pm 0.296$	13.51	$-0.775 \pm 0.552$	$-3.924 \pm 0.281$
PRF-fit source offset from KIC position	$3.928 \pm 0.289$	13.58	$-0.709 \pm 0.563$	$-3.863 \pm 0.275$
photometric centroid source offset	$0.41 \pm 0.43$	0.94	$-0.18 \pm 0.45$	$0.37 \pm 0.43$

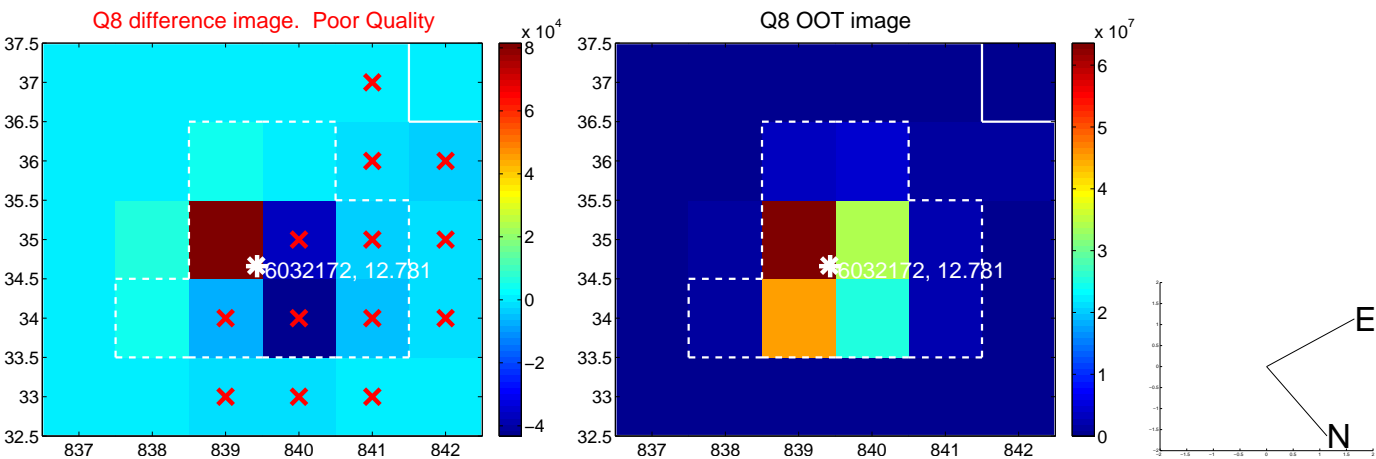
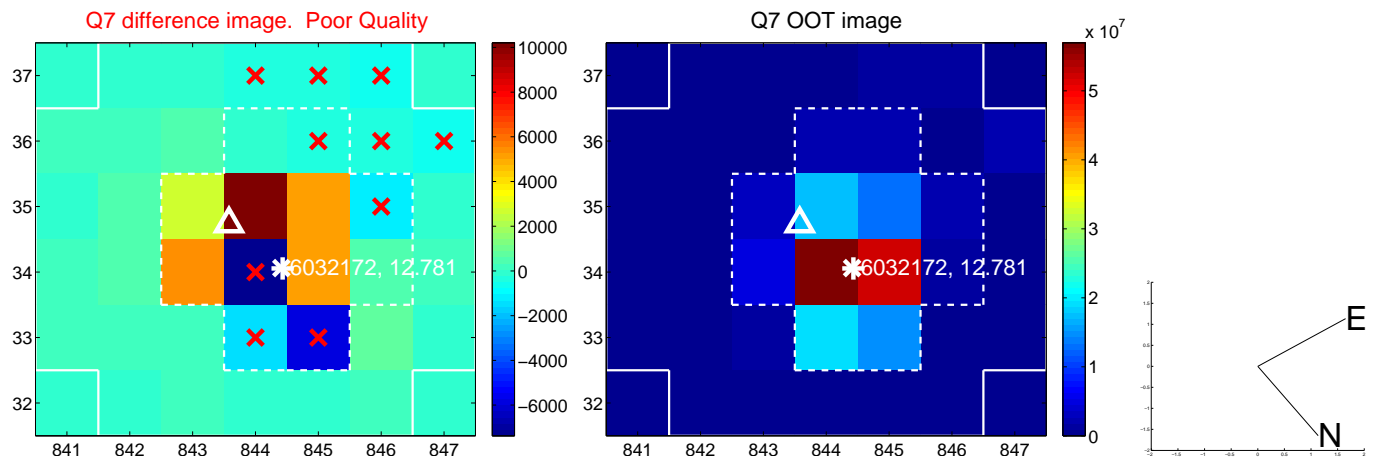
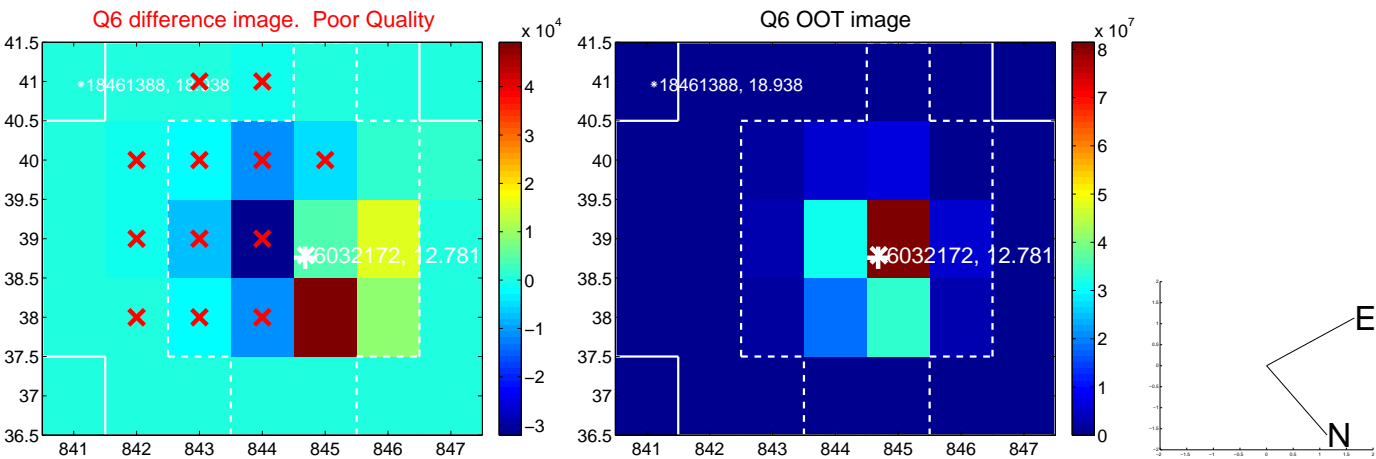
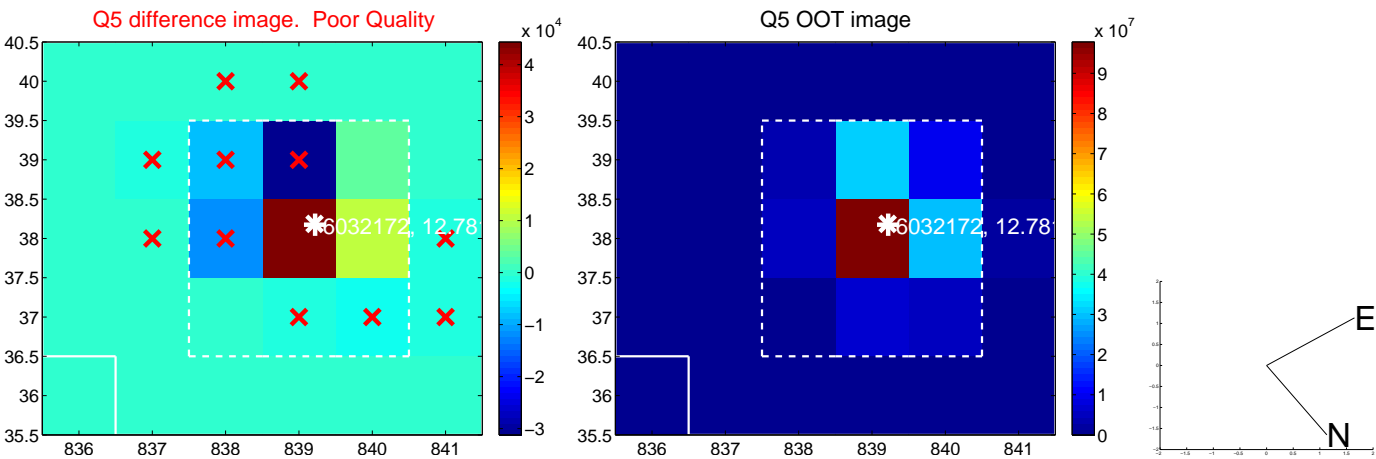


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

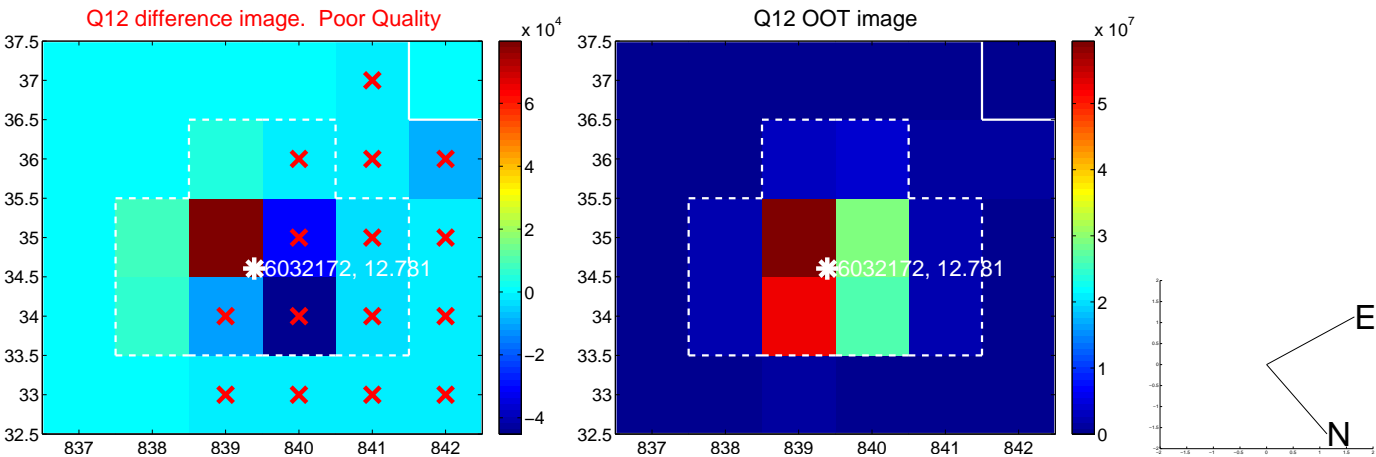
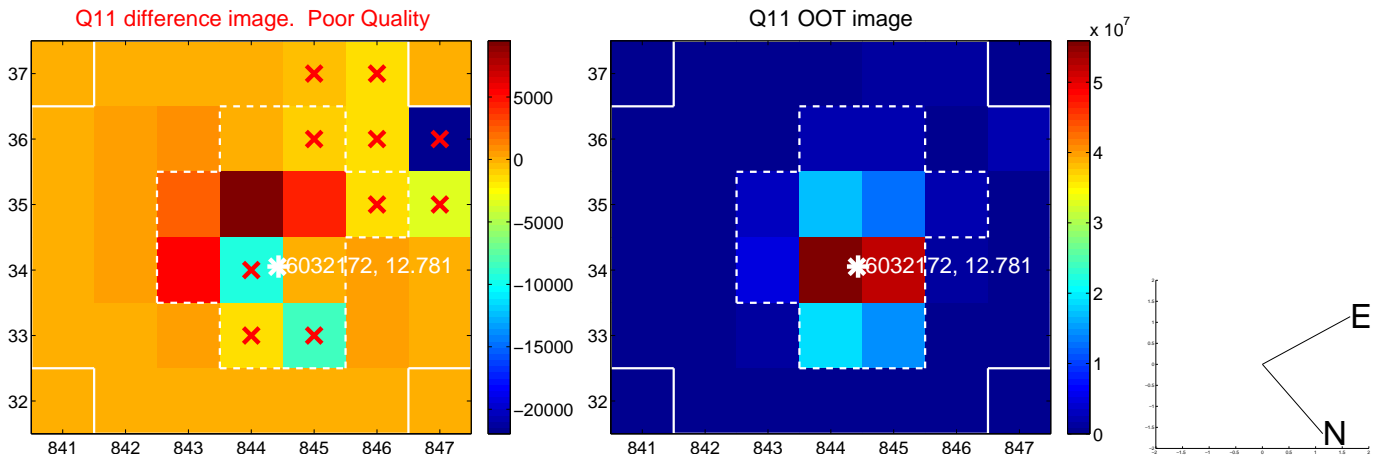
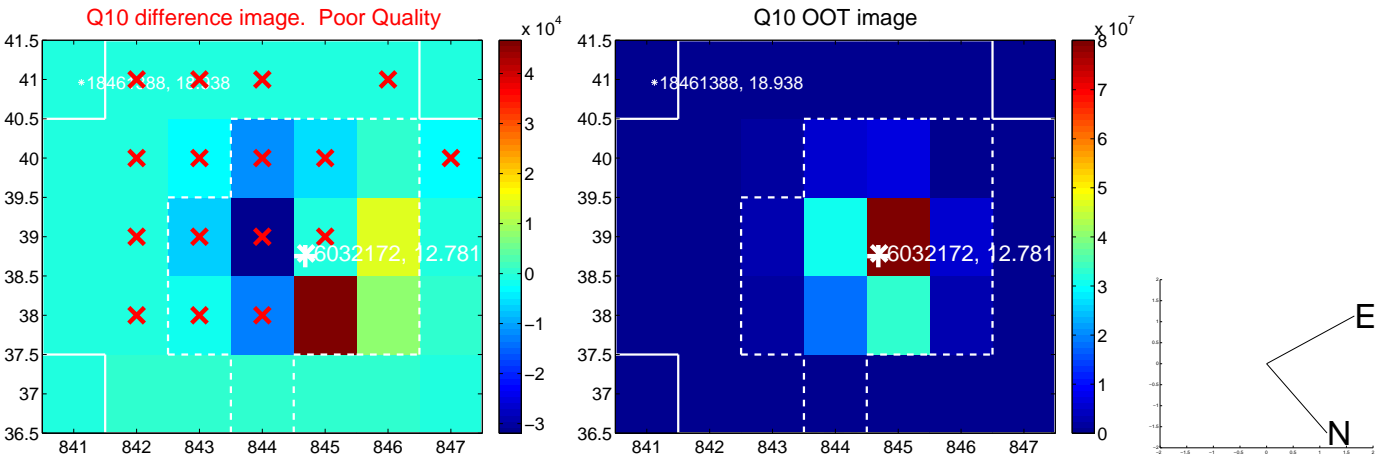
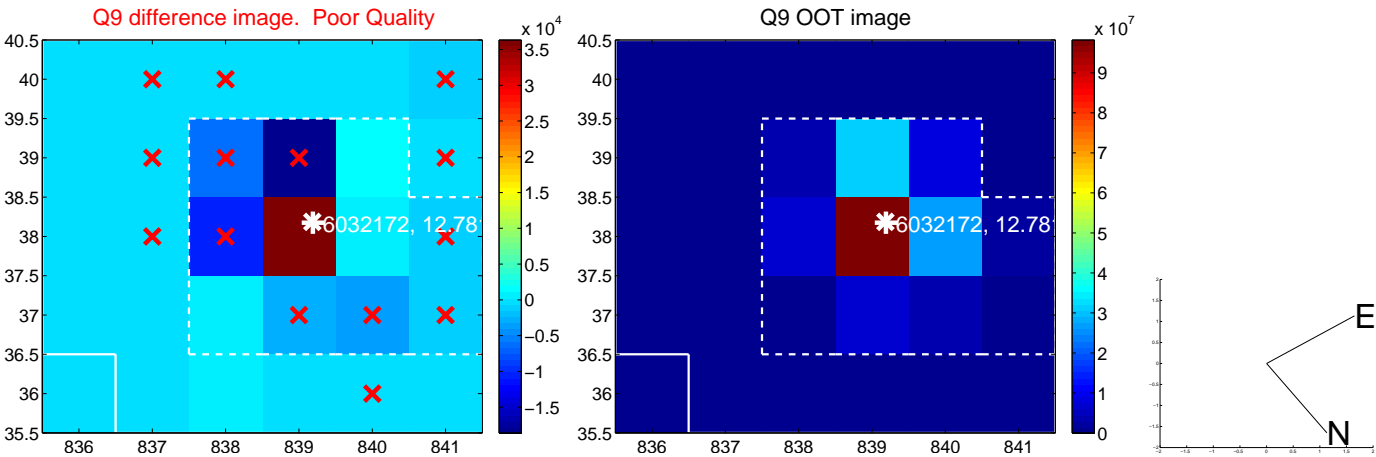


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

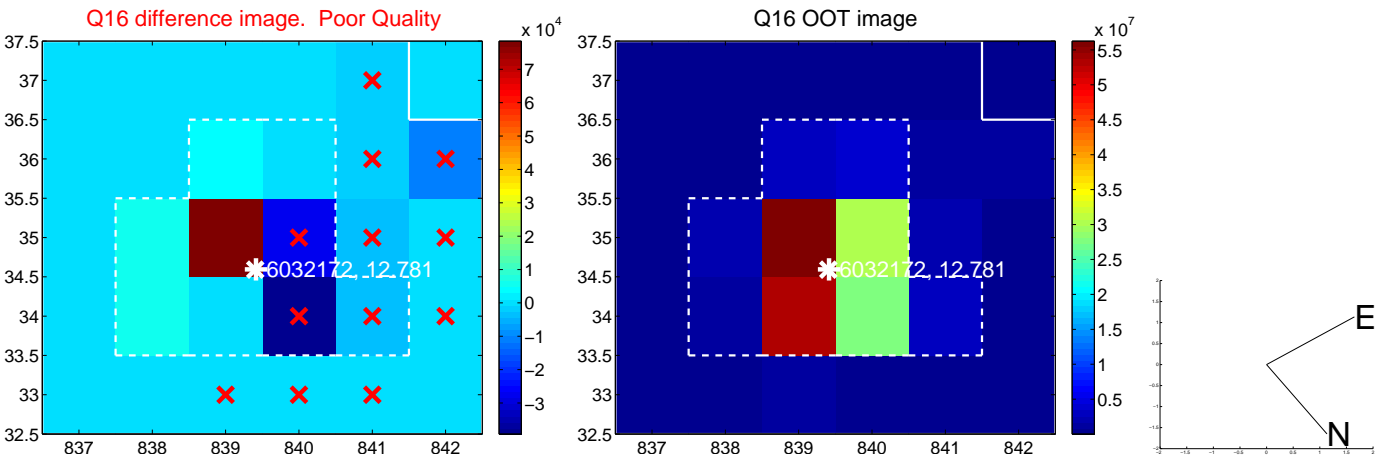
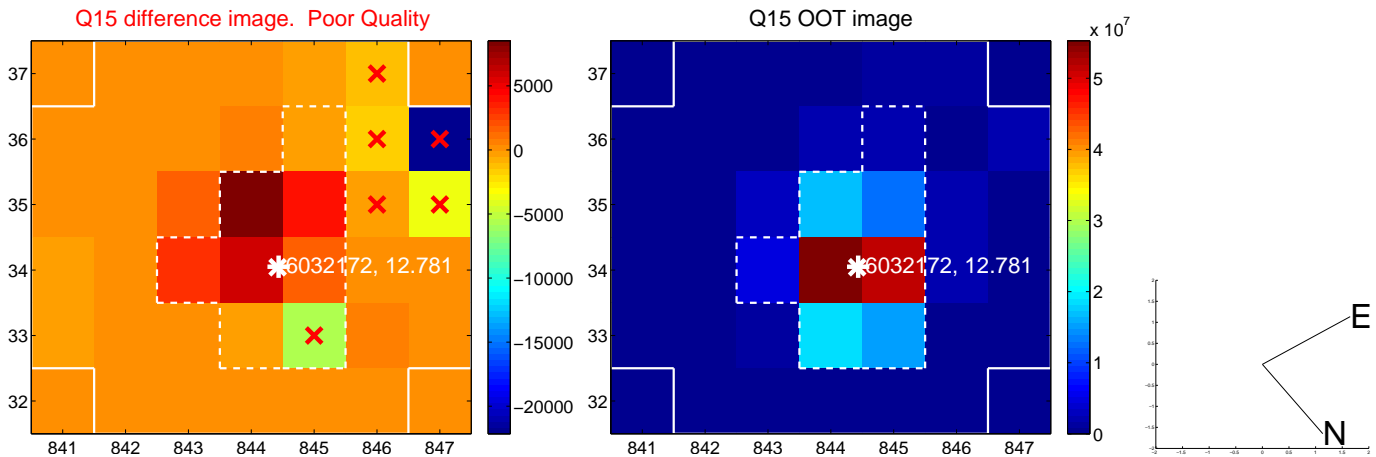
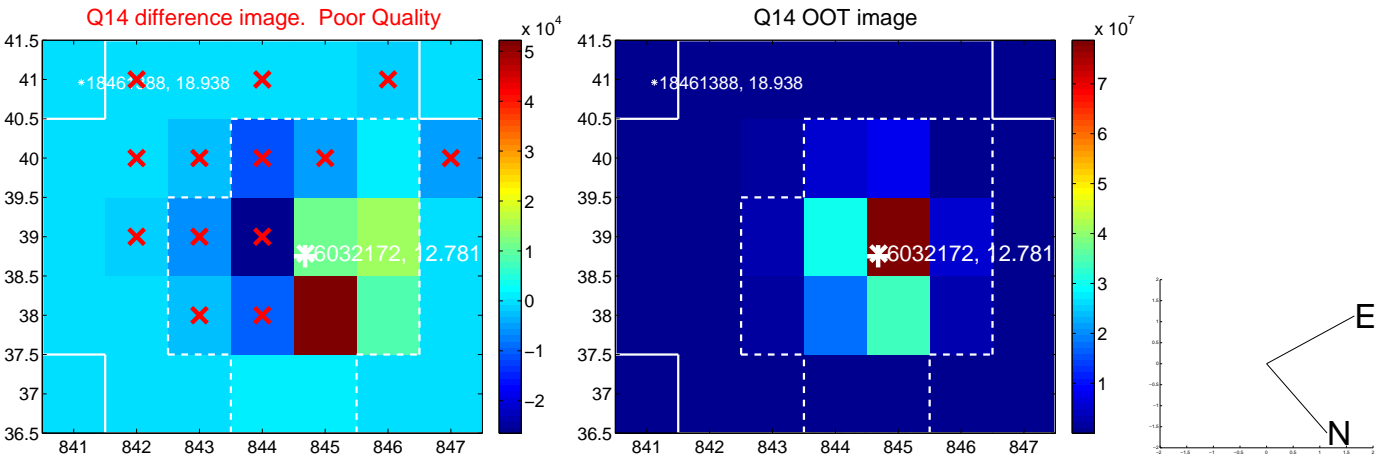
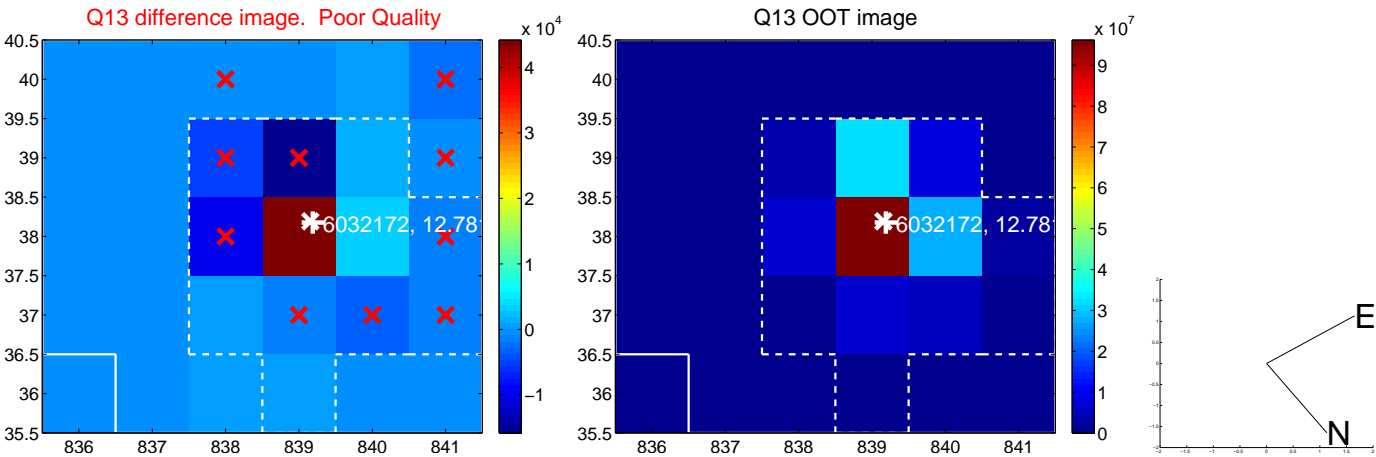




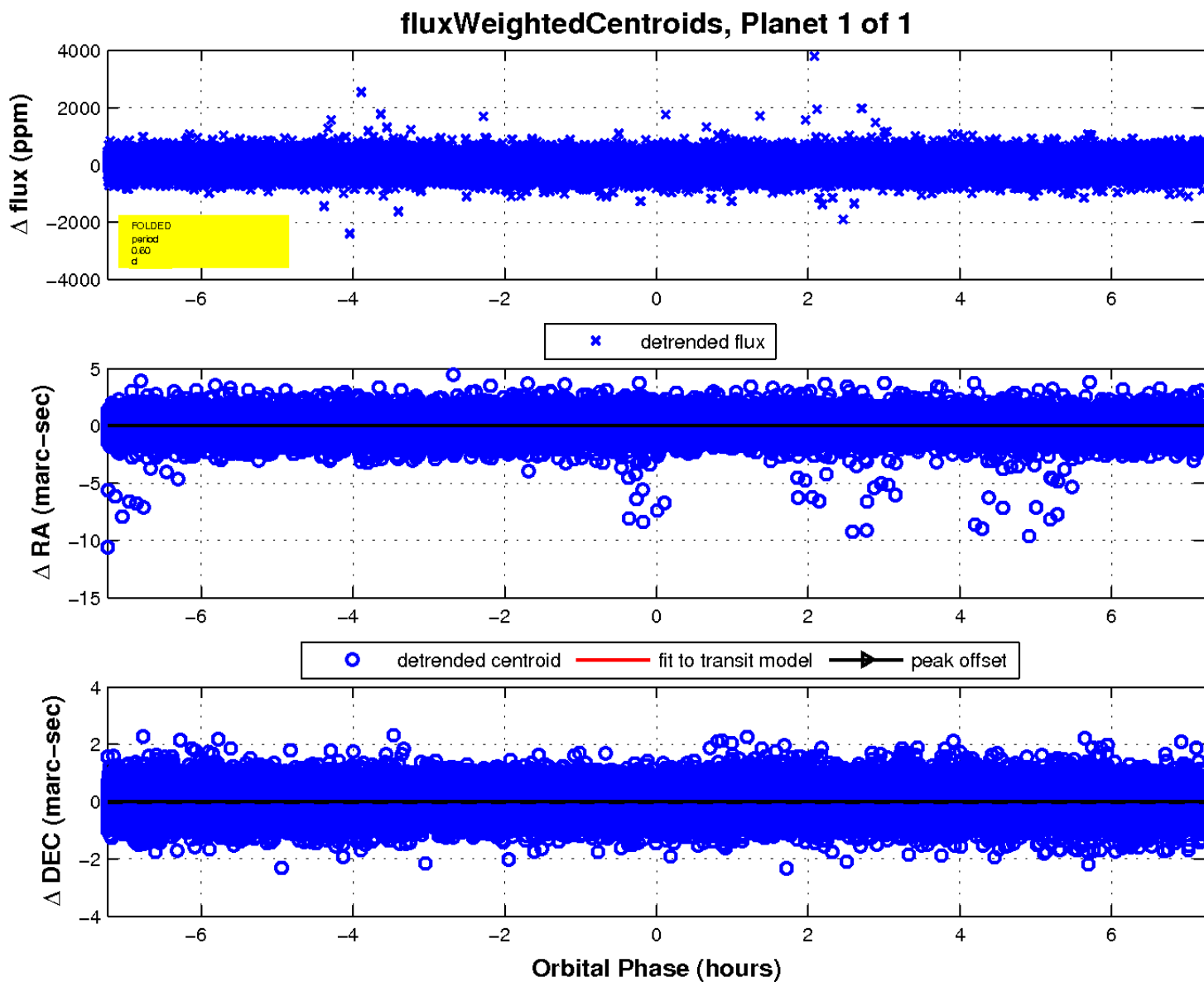
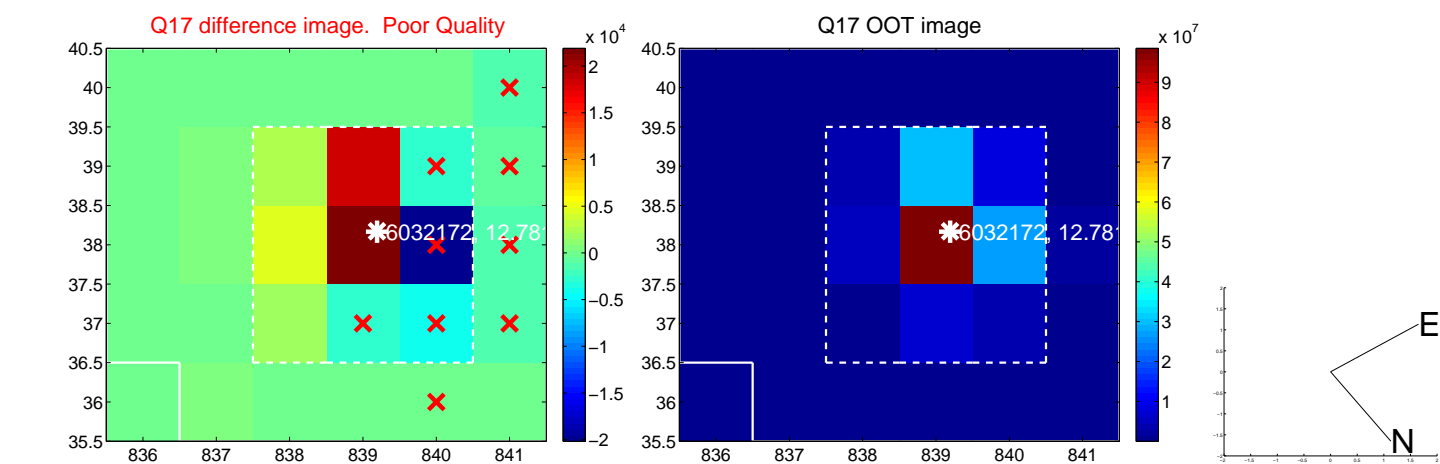
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

