

# KIC 006936038

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006936038-01	OBS	No	0.527401	131.715248	18.0	5.157	8.4	10.4	0.83	5468	0.42	3549.20

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006936038-01	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.

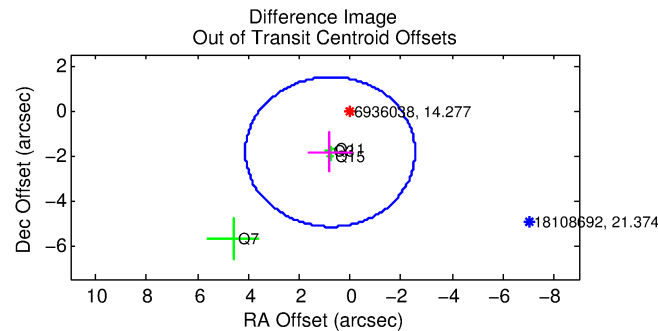
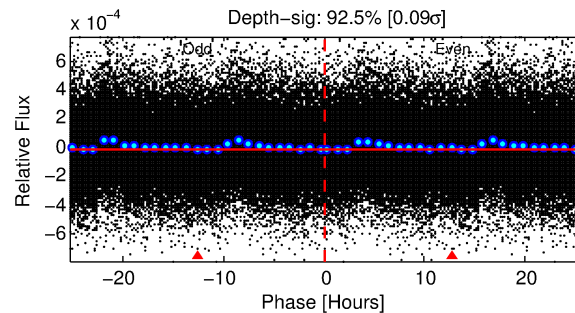
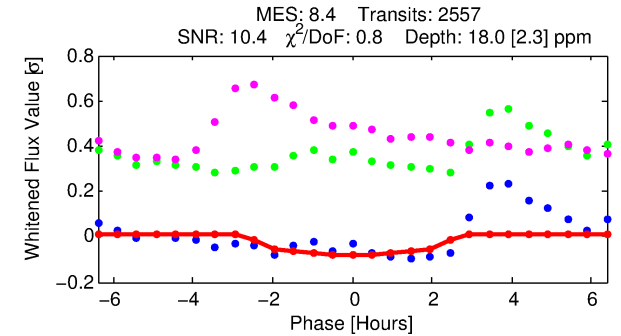
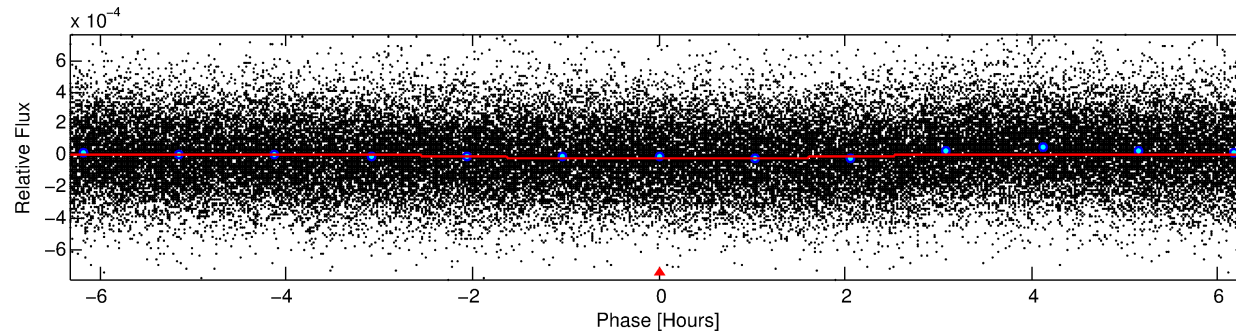
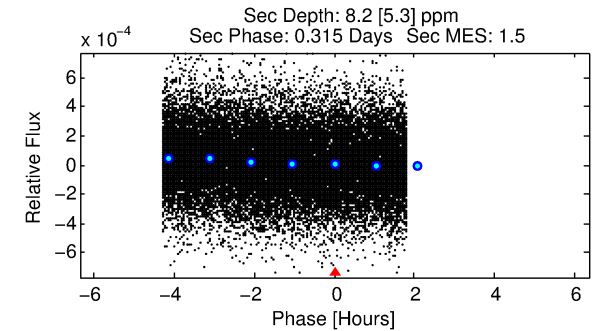
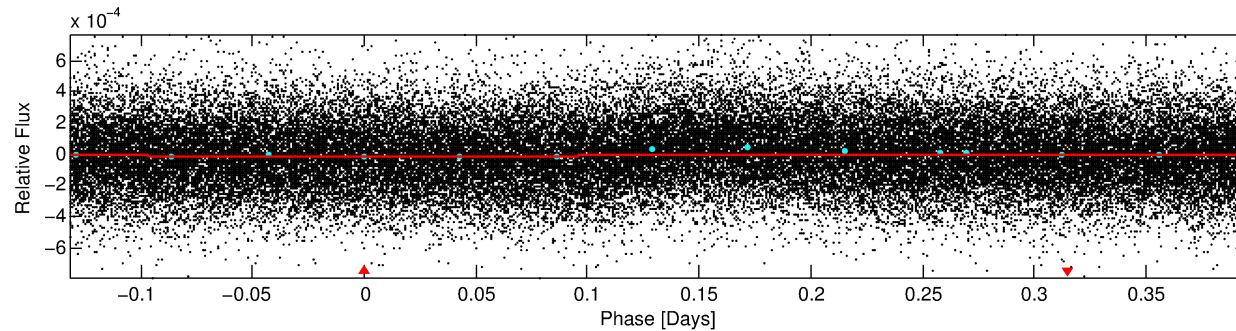
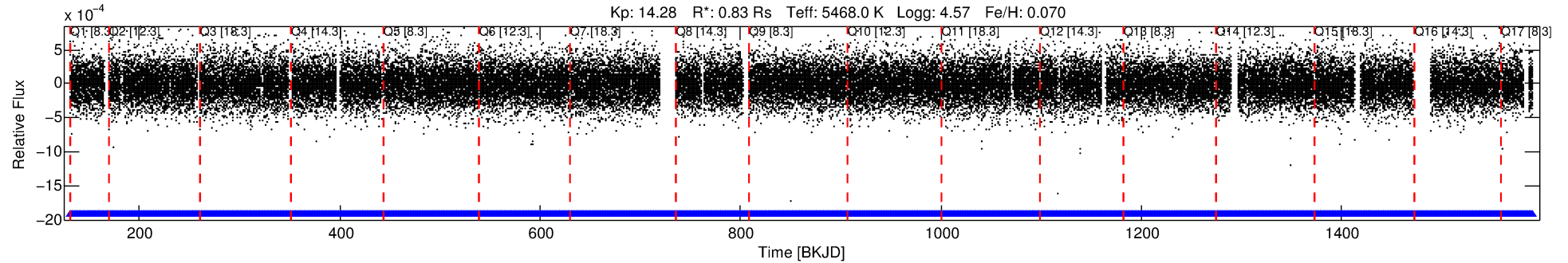
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006936038-01

No Significant Match Found

# DV One-Page Summary

KIC: 6936038 Candidate: 1 of 1 Period: 0.527 d



## DV Fit Results:

Period = 0.52740 [0.00001] d  
Epoch = 131.7152 [0.0051] BKJD  
Rp/R\* = 0.0046 [0.0025]  
a/R\* = 1.01 [0.07]  
b = 0.88 [0.64]  
Seff = 3549.20 [1056.91]  
Teff = 1968 [147] K  
Rp = 0.42 [0.25] Re  
a = 0.0125 [0.0023] AU  
Ag = 4.03 [5.29] [0.57σ]  
Teffp = 4313 [1389] K [1.68σ]

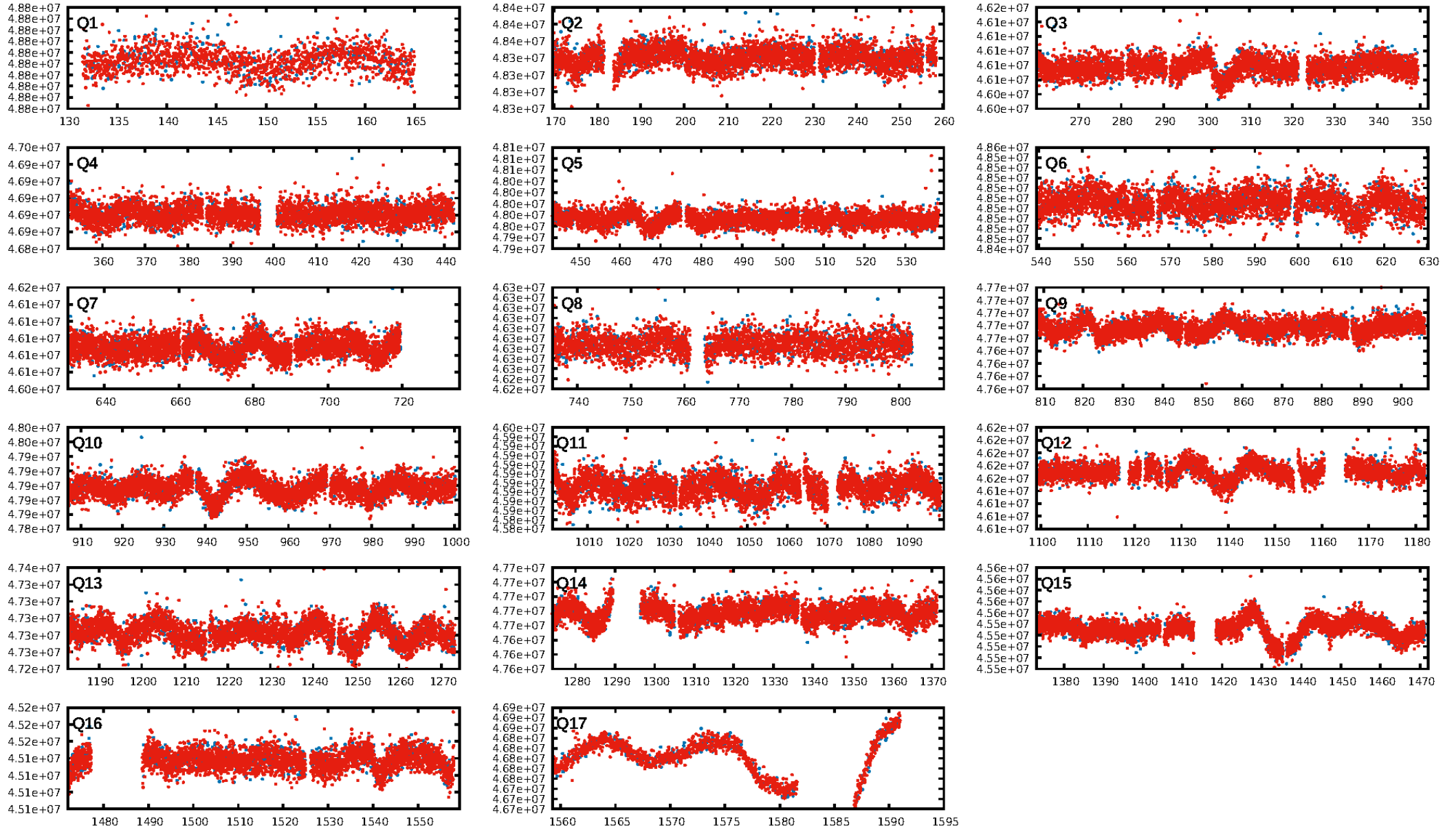
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2441/2441]  
GhostDiagnostic-chr: 0.4462  
Centroid-sig: 0.0%  
Centroid-so: 6.539 arcsec [5.73σ]  
OotOffset-rm: 1.998 arcsec [1.80σ]  
OotOffset-st: 0/4/0/0 [4]  
KicOffset-rm: 2.043 arcsec [1.86σ]  
KicOffset-st: 0/4/0/0 [4]  
DiffImageQuality-fgm: 0.75 [3/4]  
DiffImageOverlap-fno: 1.00 [17/17]

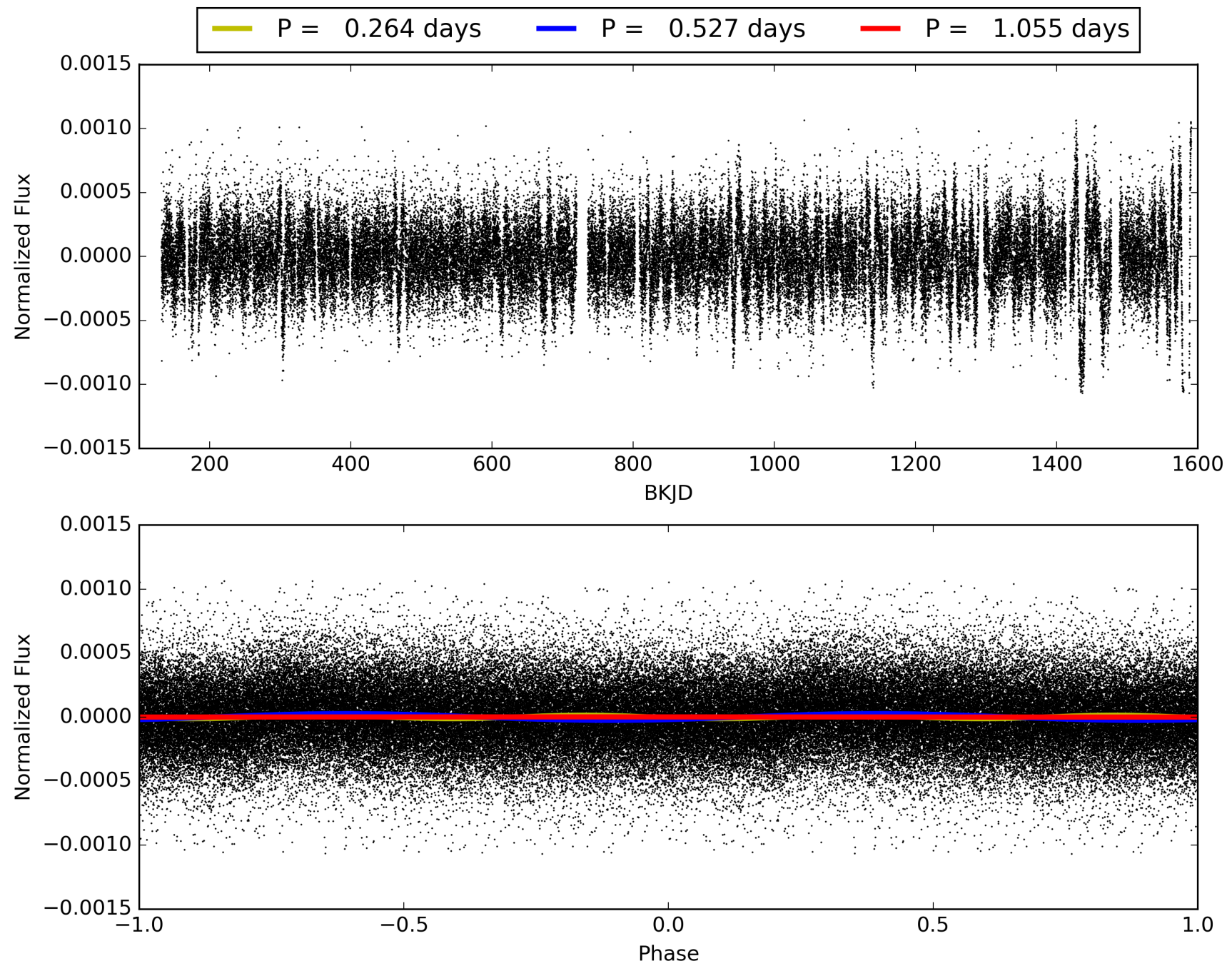
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:42:08 Z

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

# TCE 006936038-01, PDC Light Curves

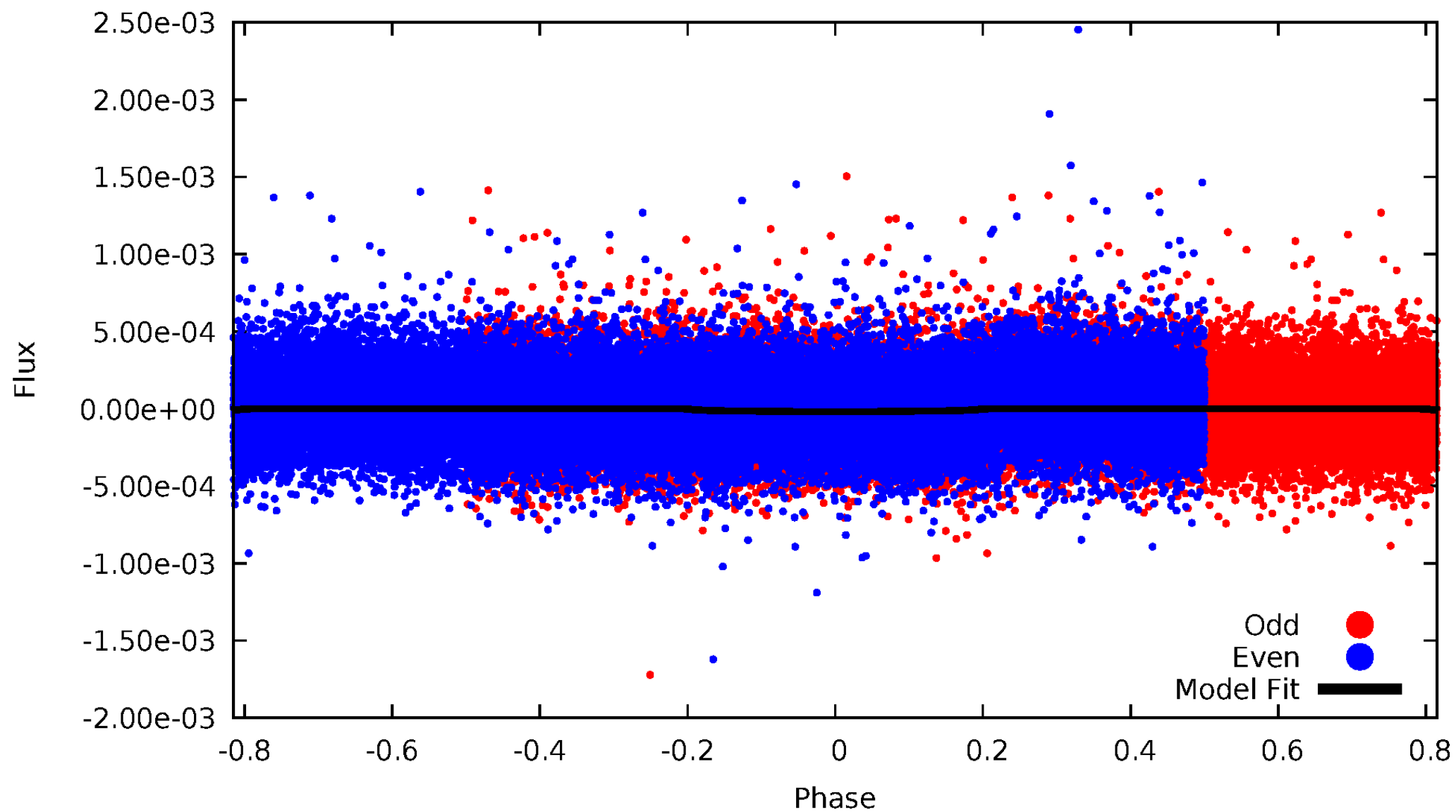


TCE 006936038-01



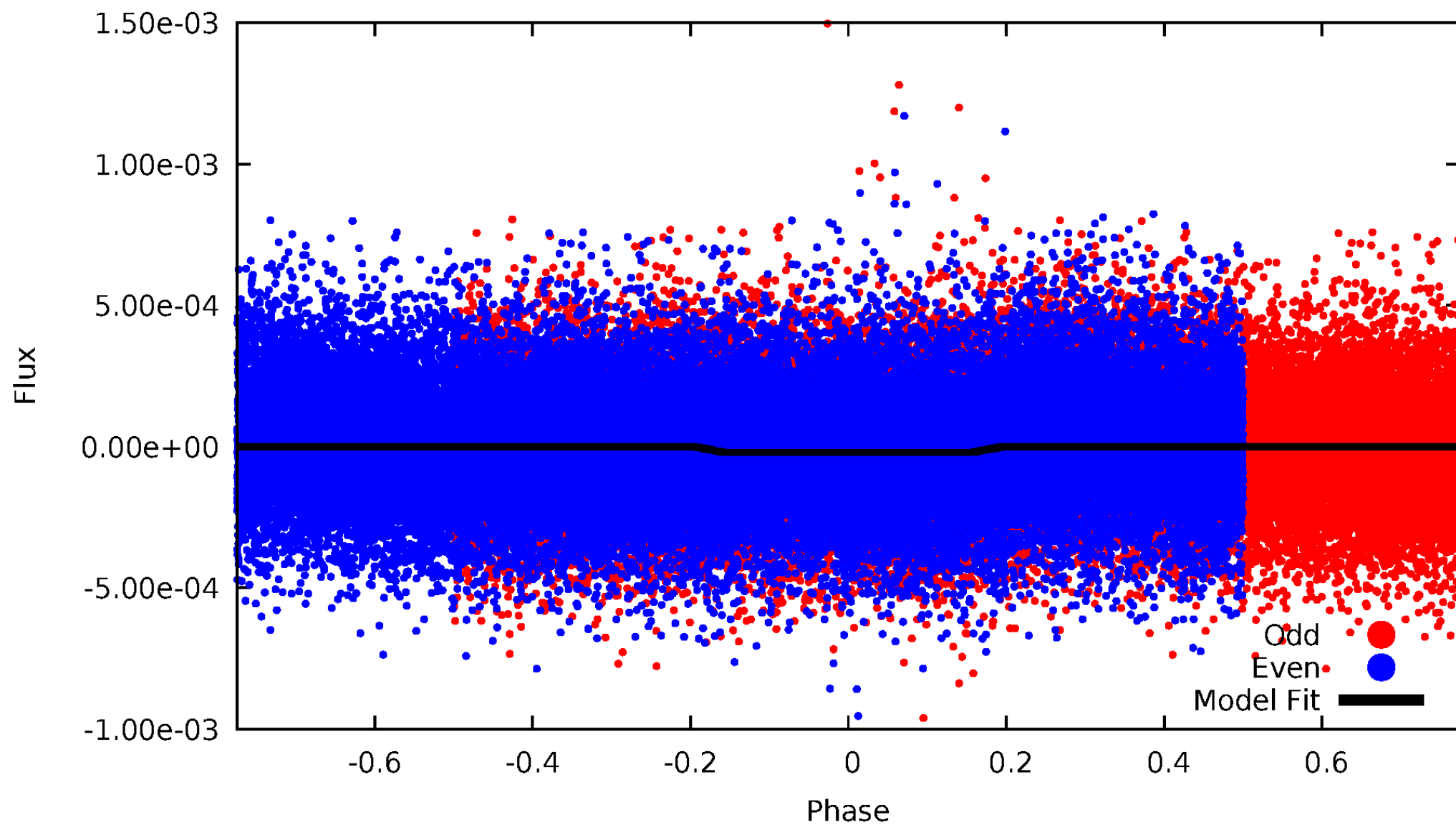
# DV Odd/Even

TCE 006936038-01



# ALT Odd/Even

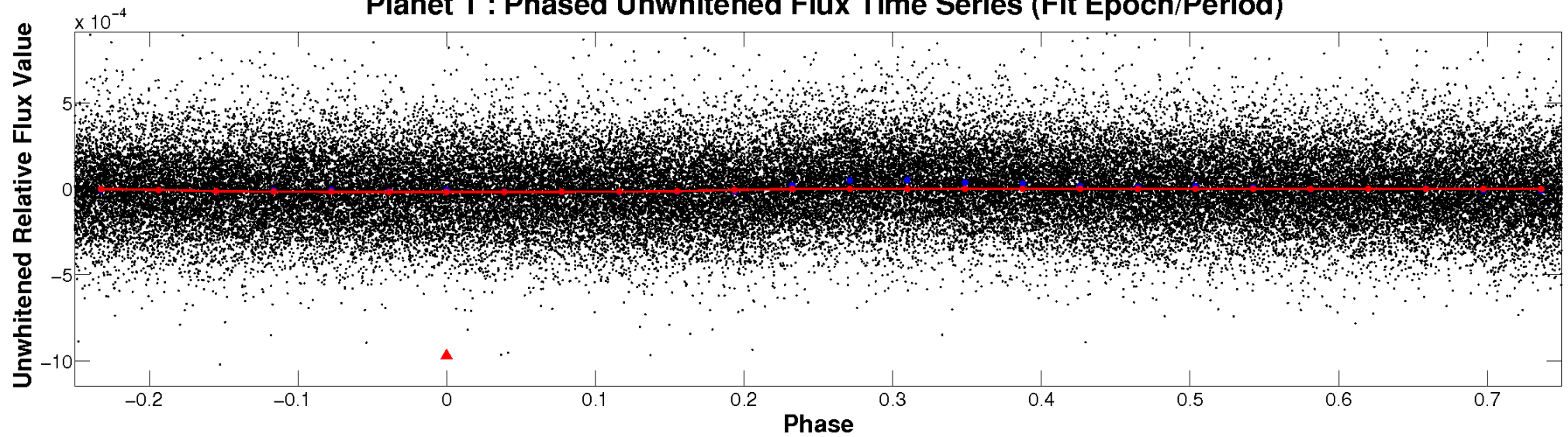
TCE 006936038-01



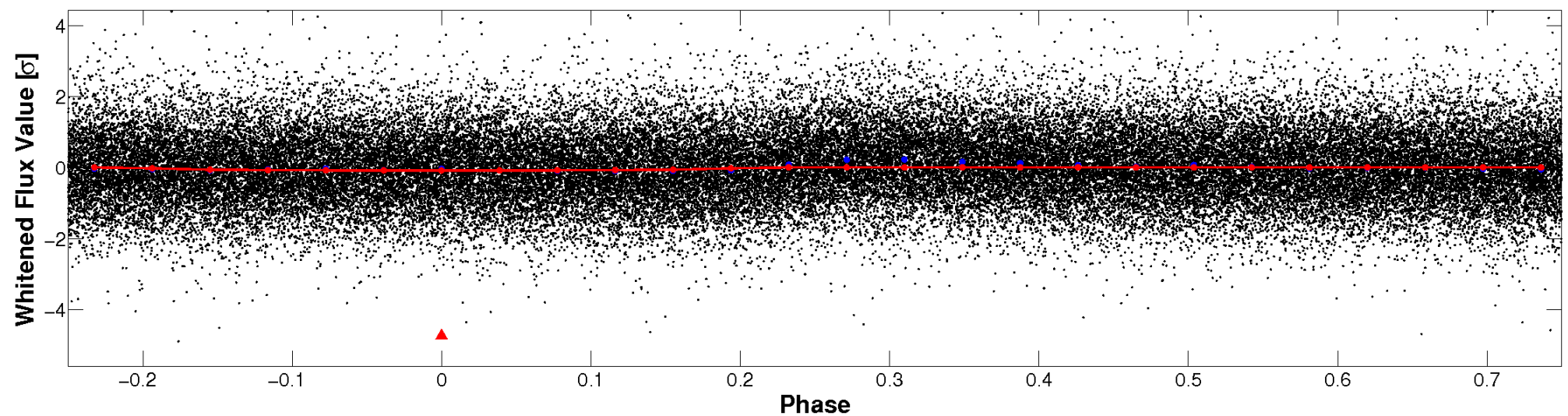


# Non-Whitened Vs. Whitened Light Curve

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

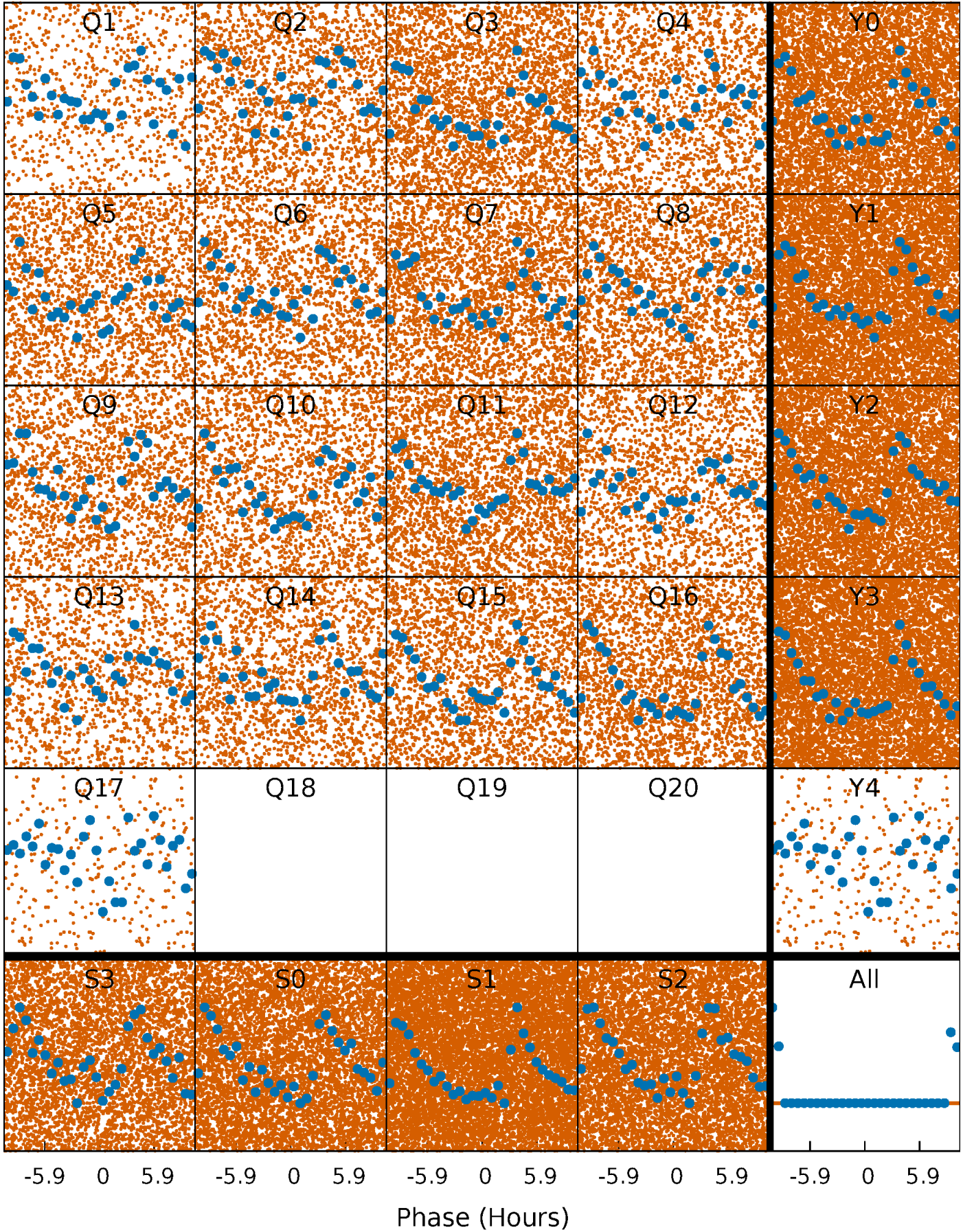


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

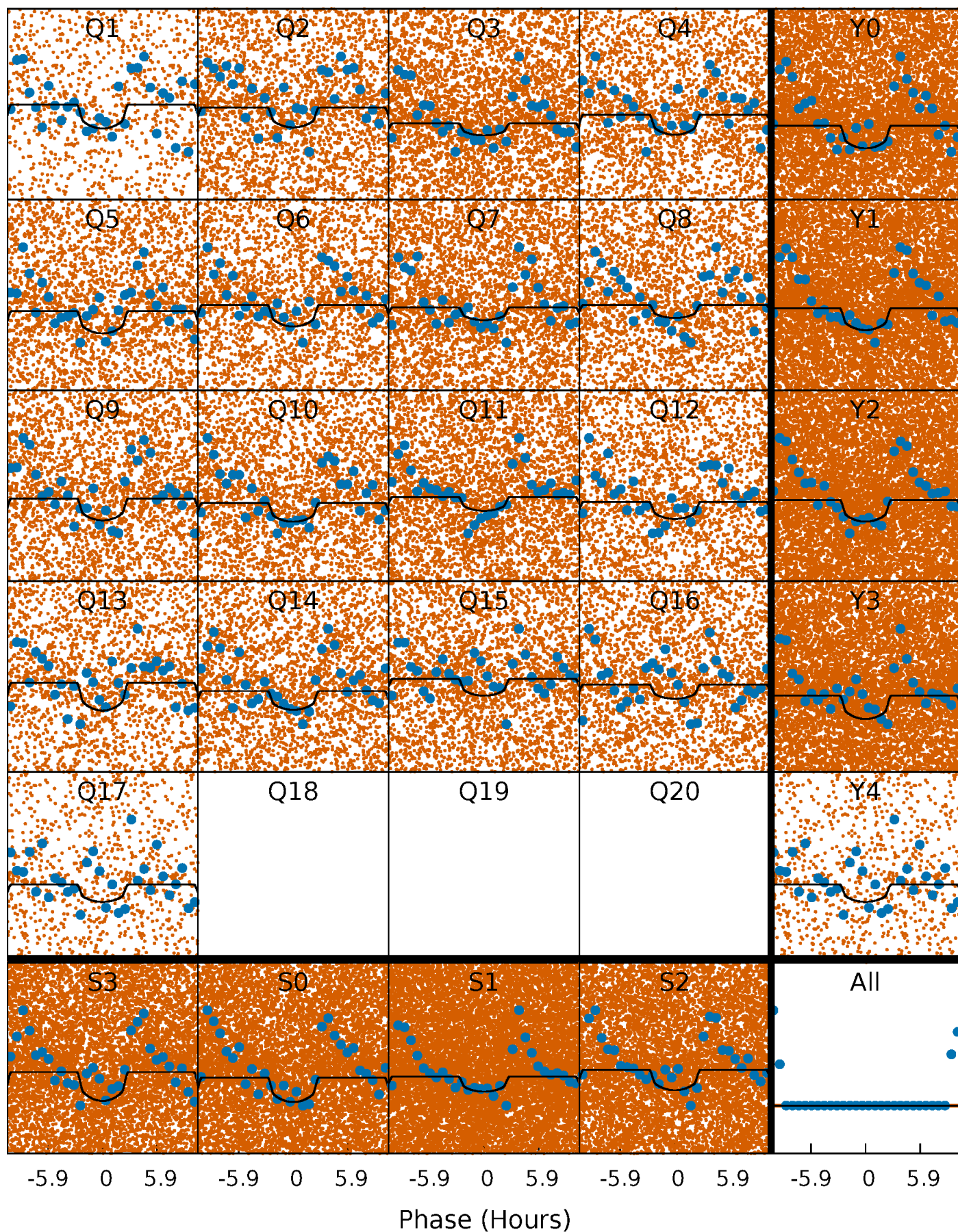
TCE 006936038-01 P= 0.527401 Days  $T_0=131.715248$  (BKJD)





# DV Quarter-Phased Transit Curves

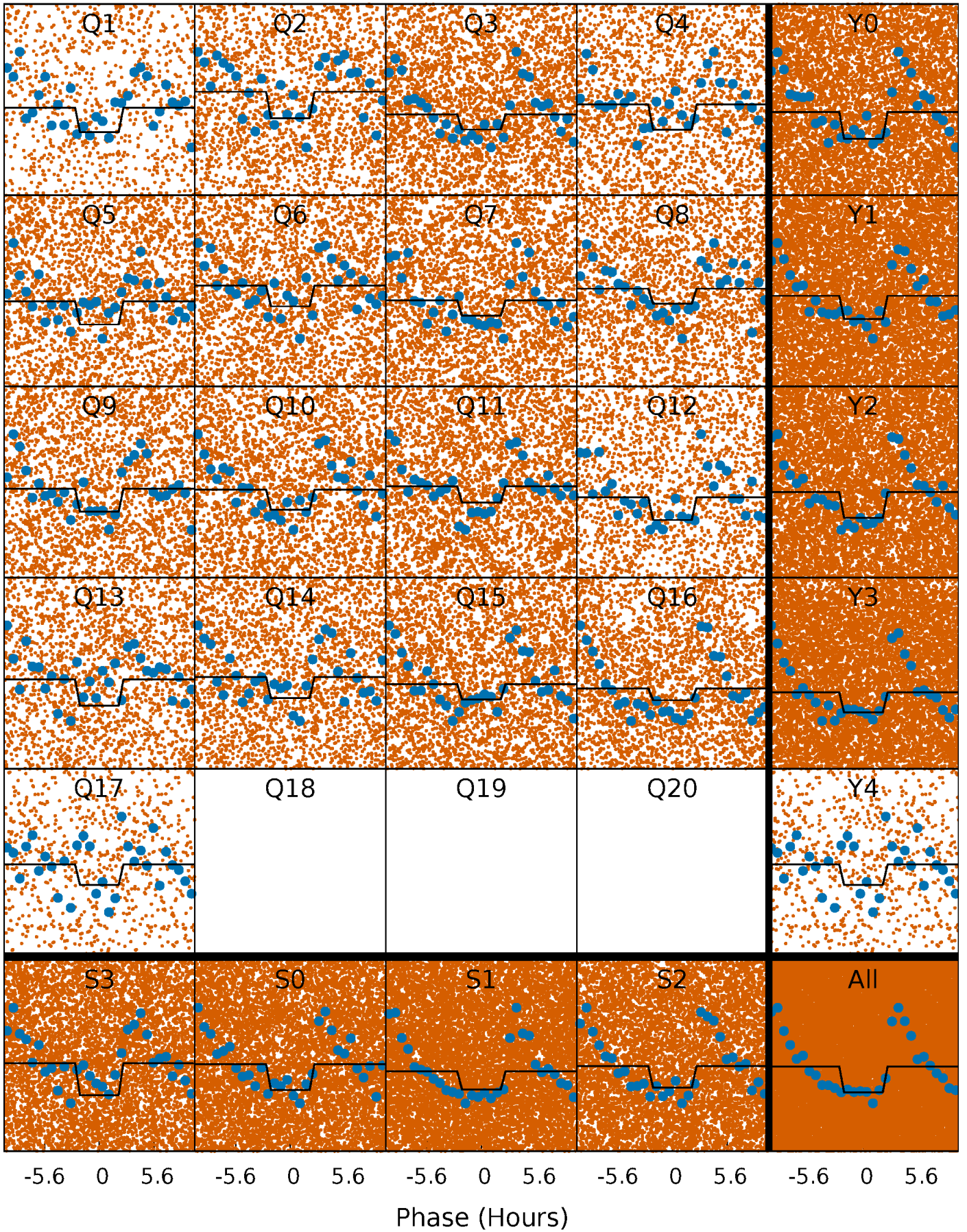
TCE 006936038-01 P= 0.527401 Days  $T_0=131.715248$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

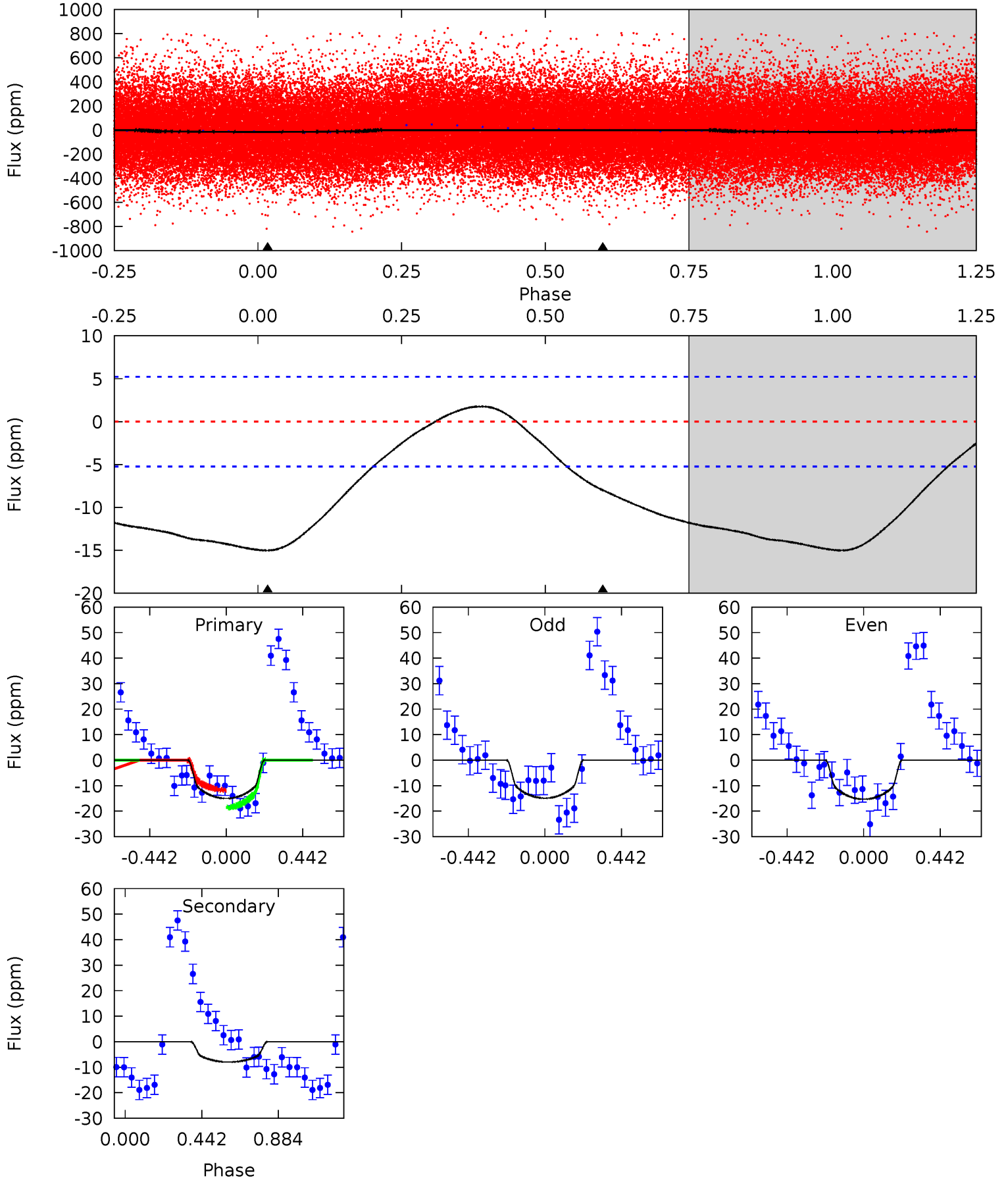
TCE 006936038-01 P= 0.527410 Days  $T_0=131.714315$  (BKJD)



# DV Model-Shift Uniqueness Test

006936038-01, P = 0.527401 Days, E = 131.187847 Days

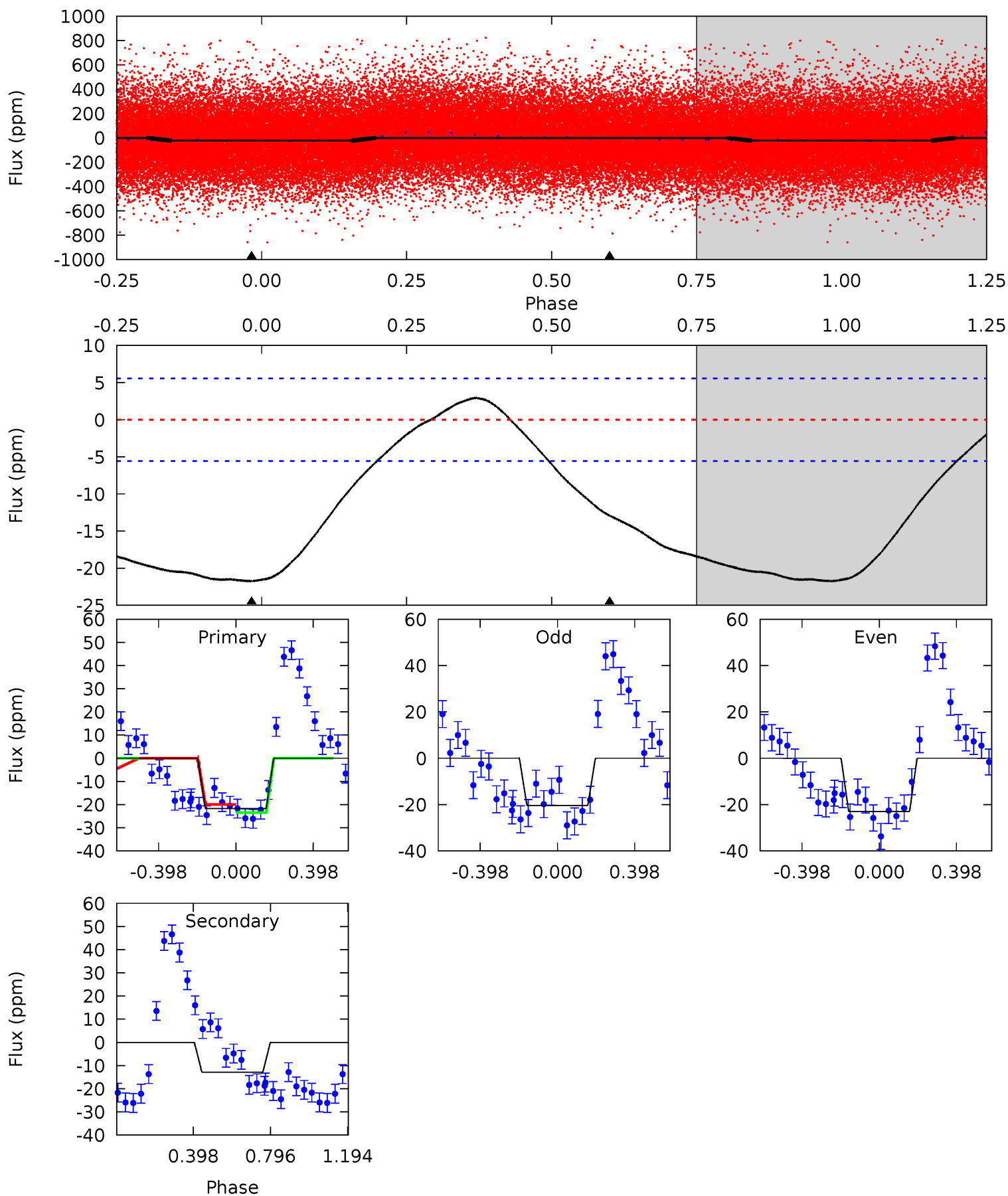
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	6.47	0	0	4.24	0.77	0.86	12.2	12.2	6.47	6.47	0.18	0.85	0.11	2.86



# Alt Model-Shift Uniqueness Test

006936038-01, P = 0.527410 Days, E = 131.186905 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
16.7	9.91	0	0	4.27	0.85	1.09	16.7	16.7	9.91	9.91	0.98	0.95	0.12	1.35





### Stellar Parameters For KIC 006936038

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5468^{+164}_{-147}$	$4.570^{+0.027}_{-0.153}$	$0.070^{+0.250}_{-0.300}$	$0.834^{+0.173}_{-0.062}$	$0.943^{+0.074}_{-0.101}$	$2.289^{+0.345}_{-0.988}$
	+3%/-3%	+1%/-3%	+357%/-429%	+21%/-7%	+8%/-11%	+15%/-43%
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 006936038-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-8 \pm 1$	$0.43^{+0.24}_{-0.21}$	$2814^{+142}_{-112}$	$4434^{+1556}_{-768}$	$3.744^{+9.967}_{-2.303}$
Alt.	$-13 \pm 1$	$0.44^{+0.23}_{-0.21}$	$2813^{+156}_{-112}$	$4892^{+1929}_{-832}$	$5.823^{+17.630}_{-3.444}$

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

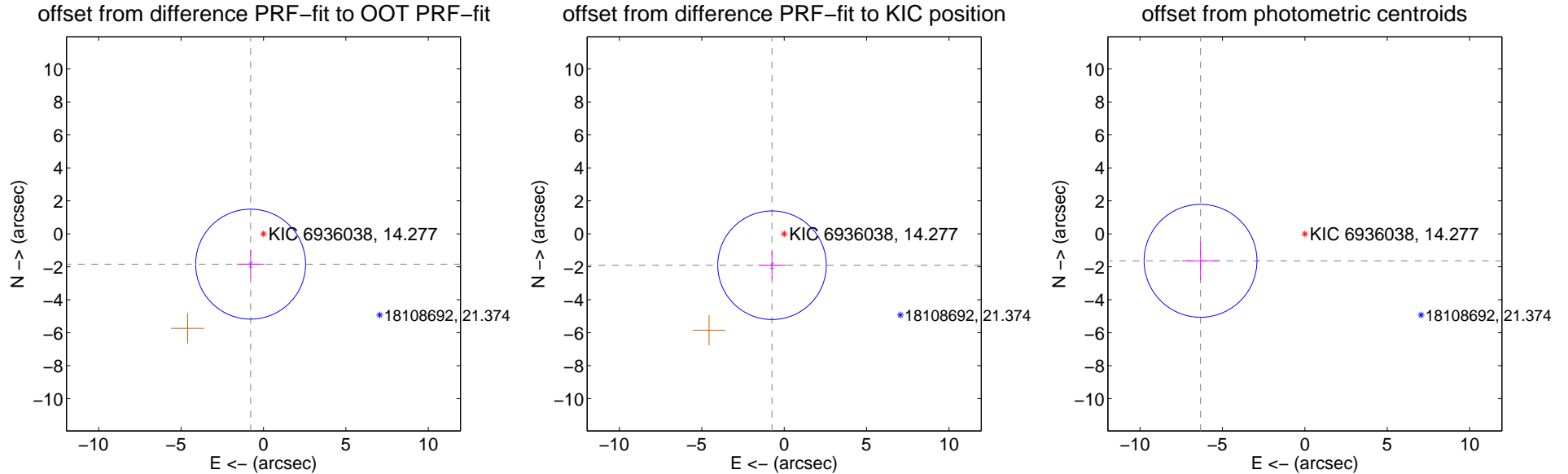
## DV Centroid Data

Supplemental centroid analysis for 006936038-01. Kepler magnitude: 14.28. Transit SNR 10.44

There are 3 quarters with good PRF difference image offsets

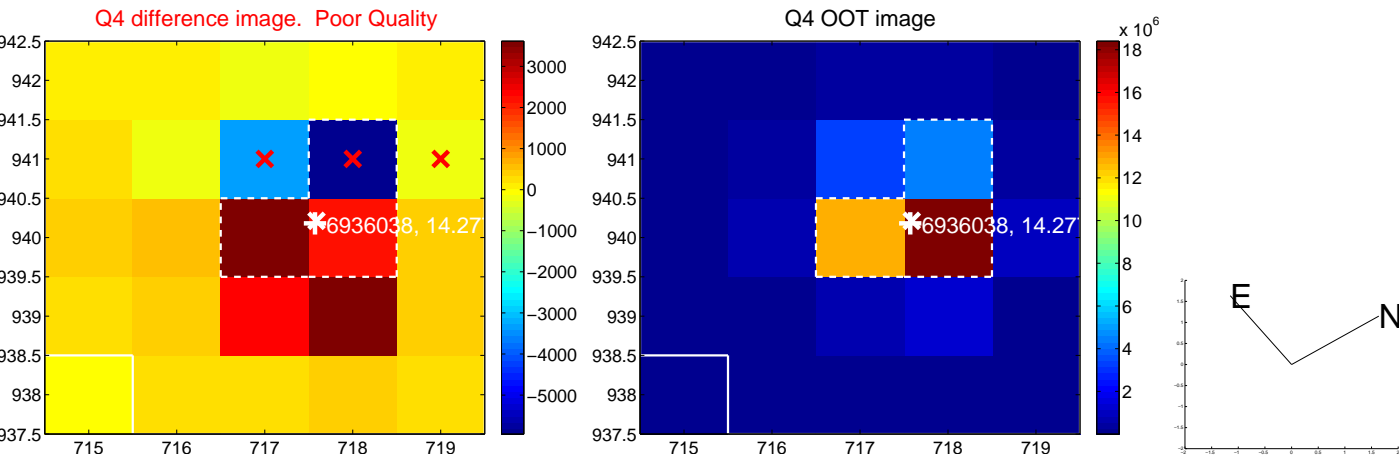
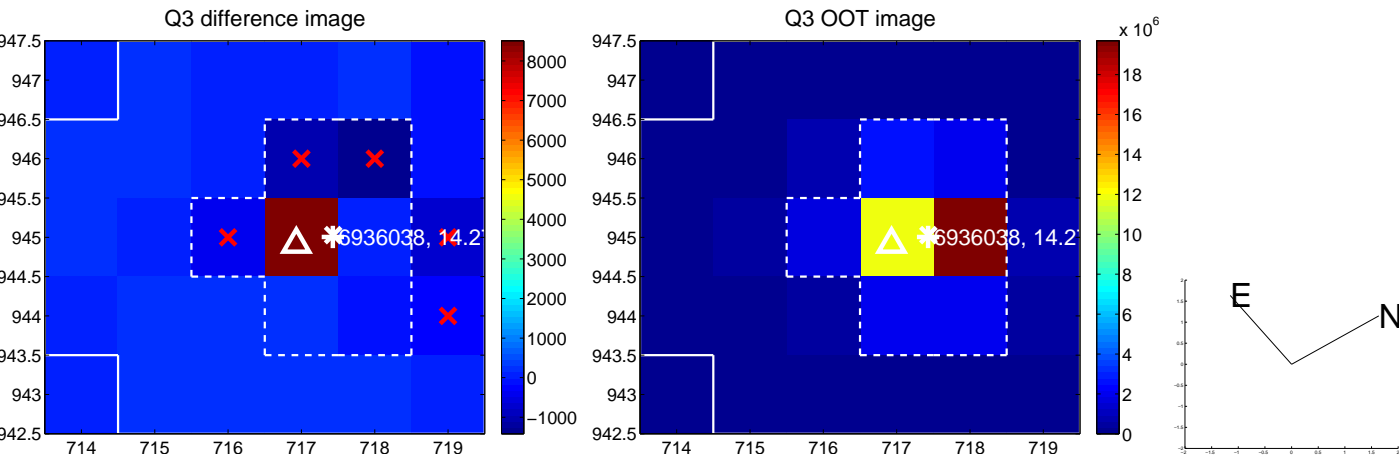
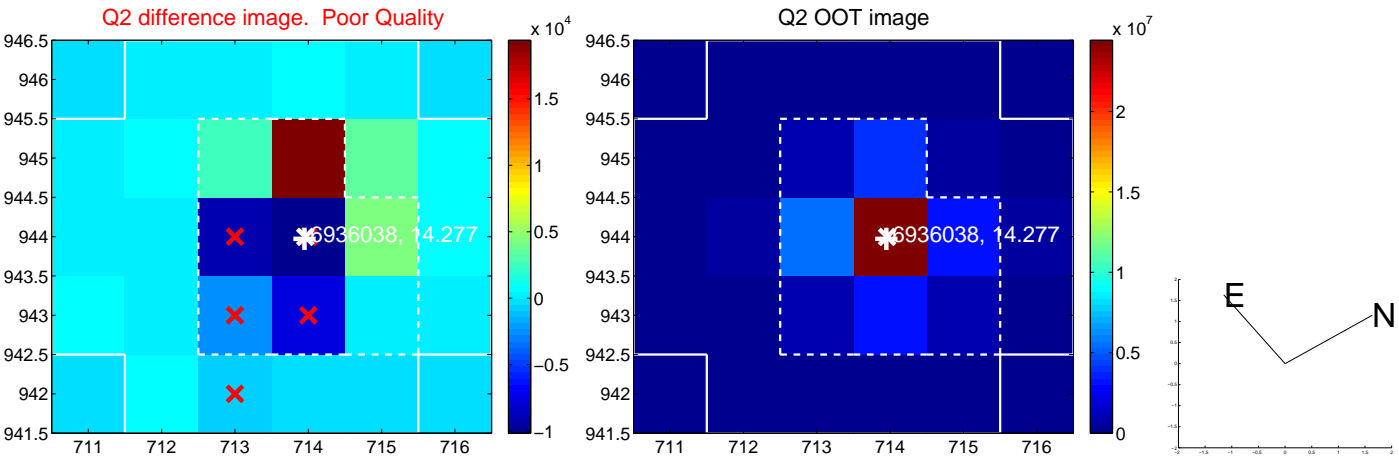
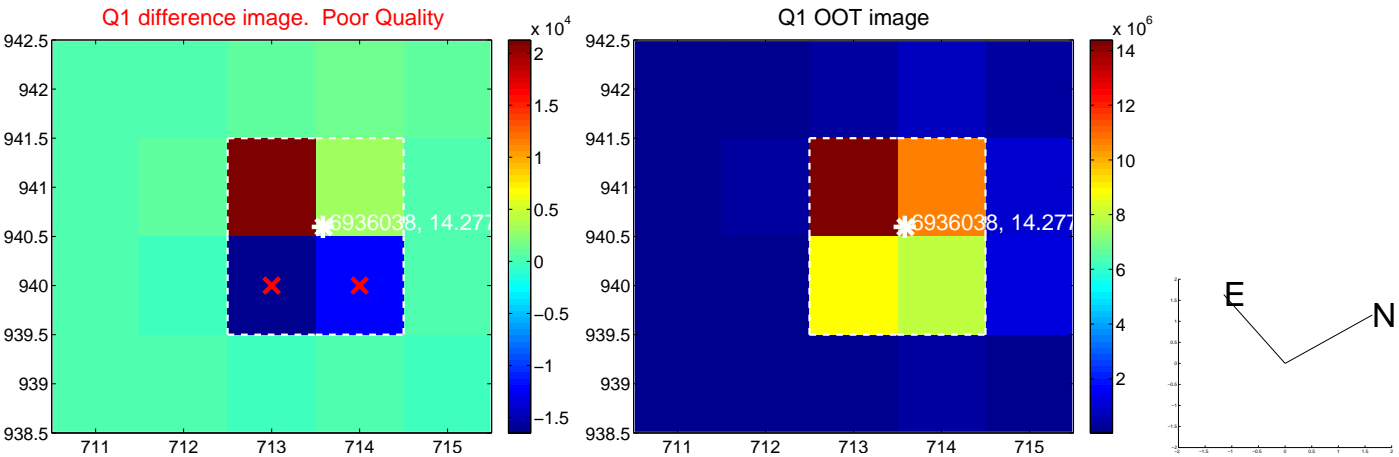
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.998 \pm 1.112$	1.80	$0.780 \pm 0.841$	$-1.840 \pm 0.853$
PRF-fit source offset from KIC position	$2.043 \pm 1.098$	1.86	$0.736 \pm 0.846$	$-1.906 \pm 0.852$
photometric centroid source offset	$6.54 \pm 1.14$	5.73	$6.33 \pm 1.14$	$-1.64 \pm 1.15$

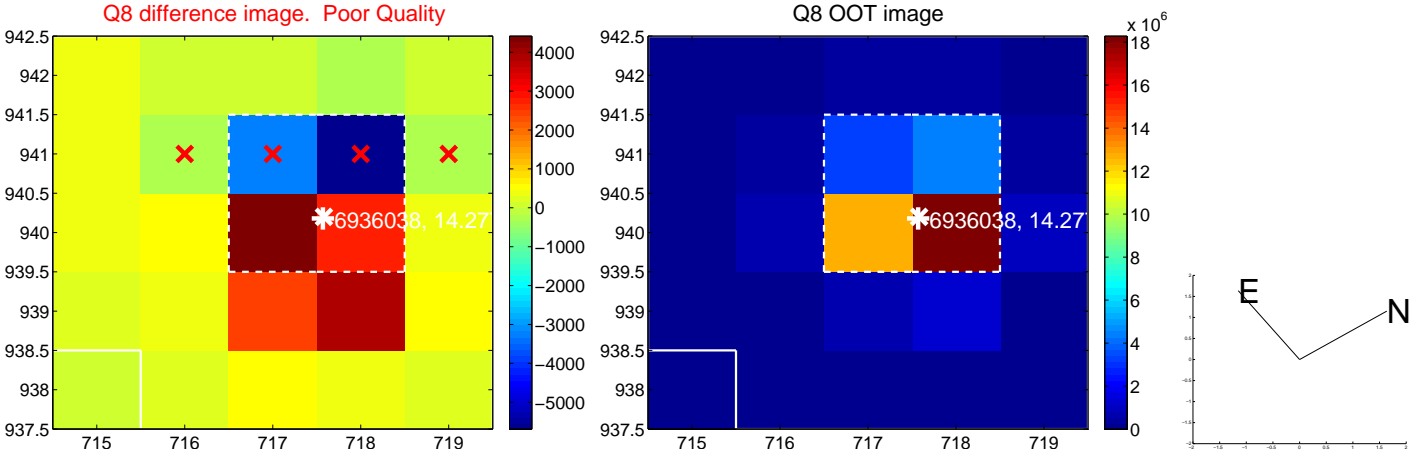
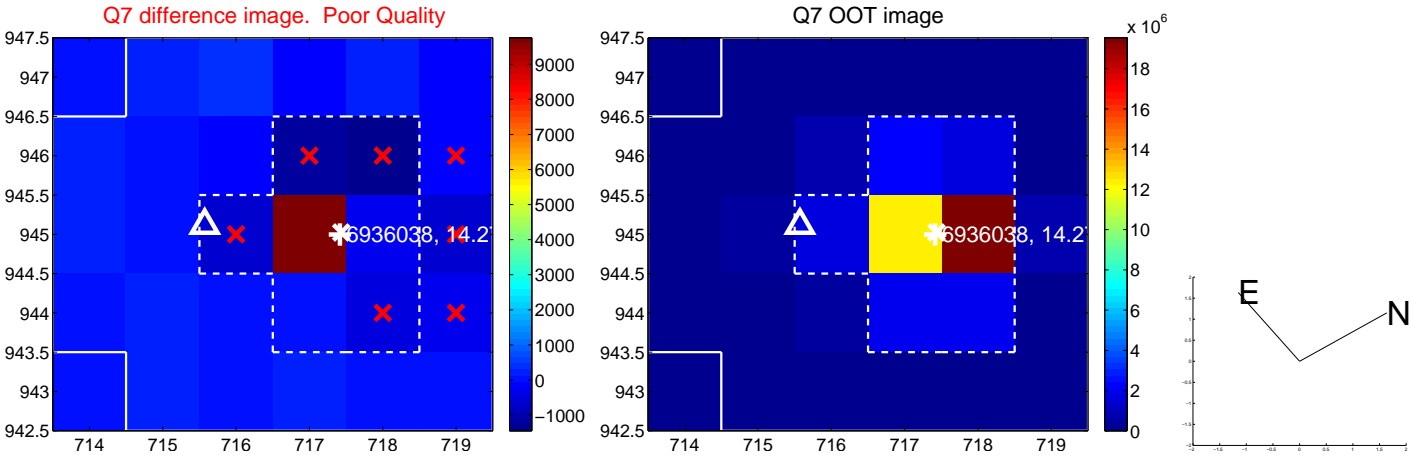
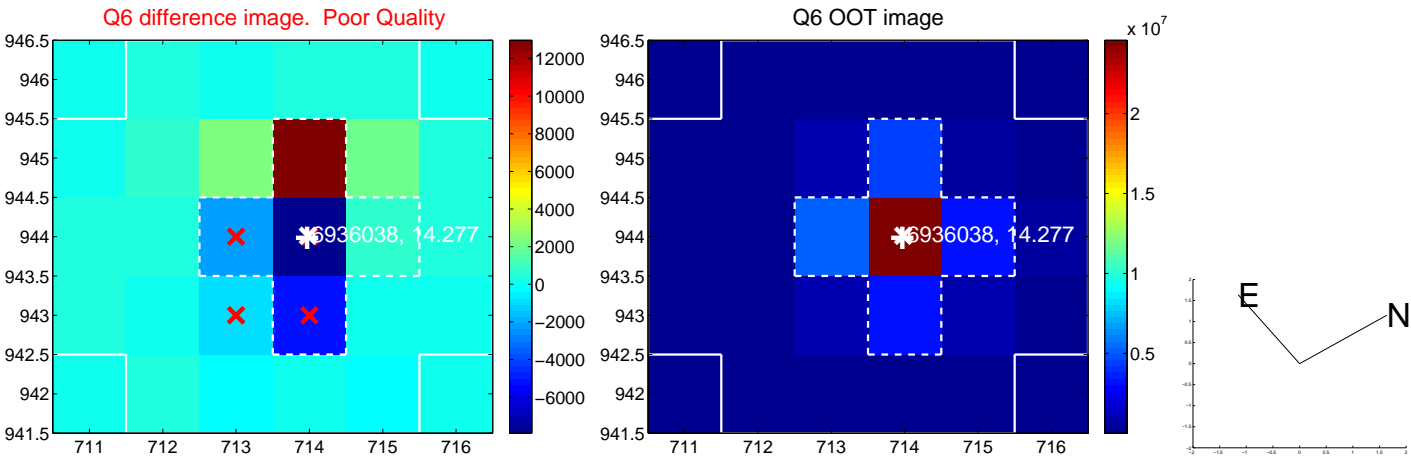
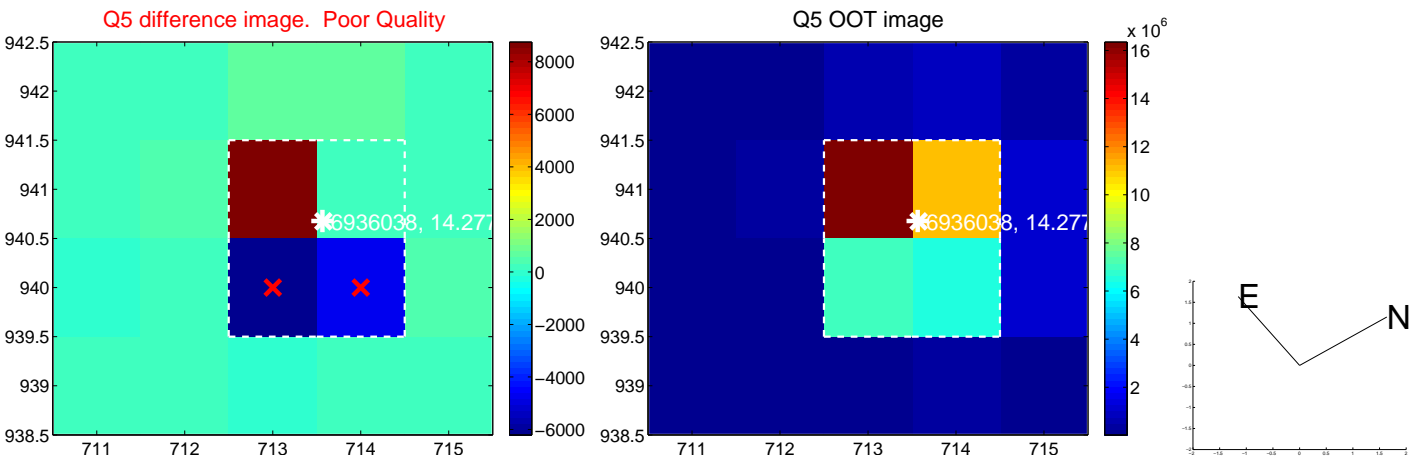


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

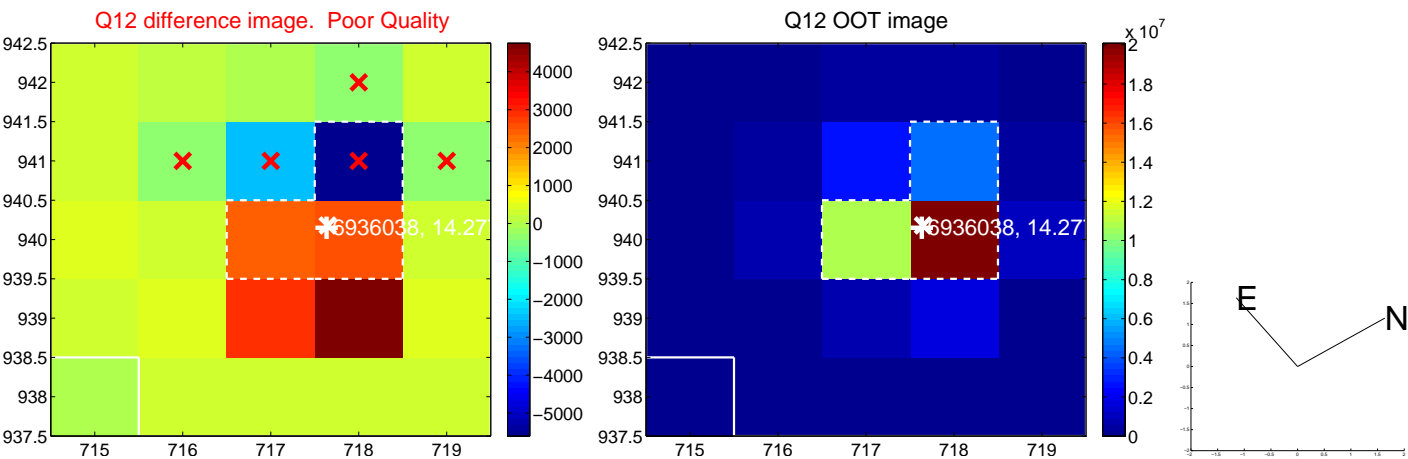
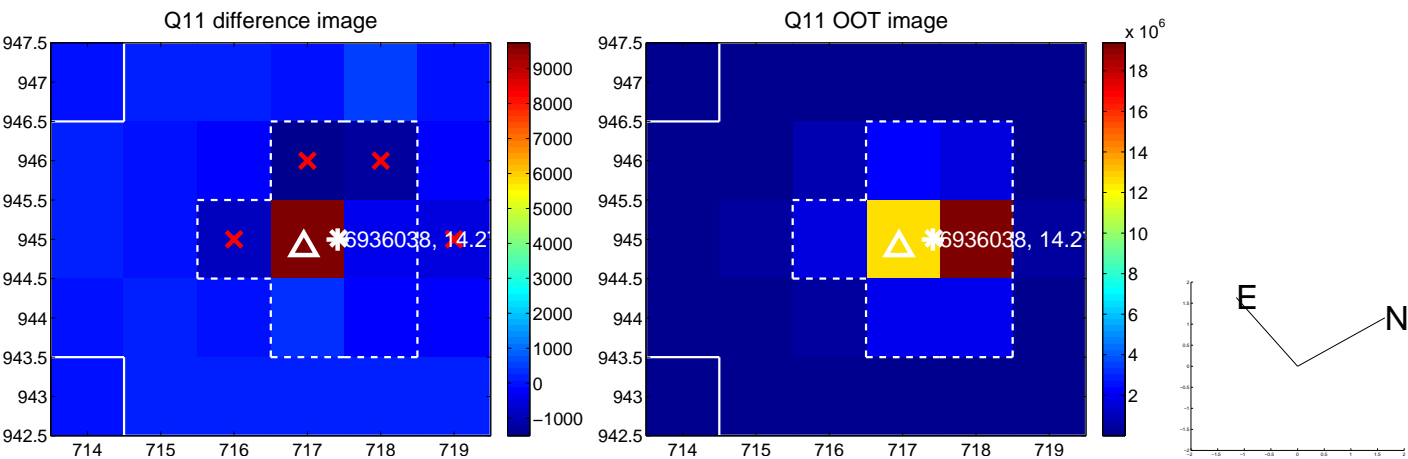
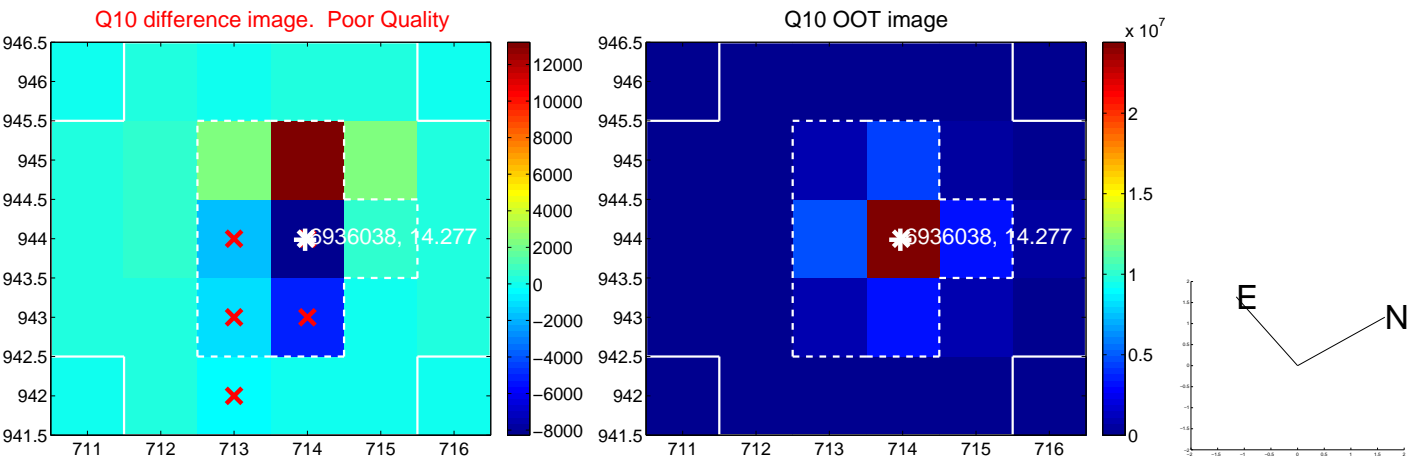
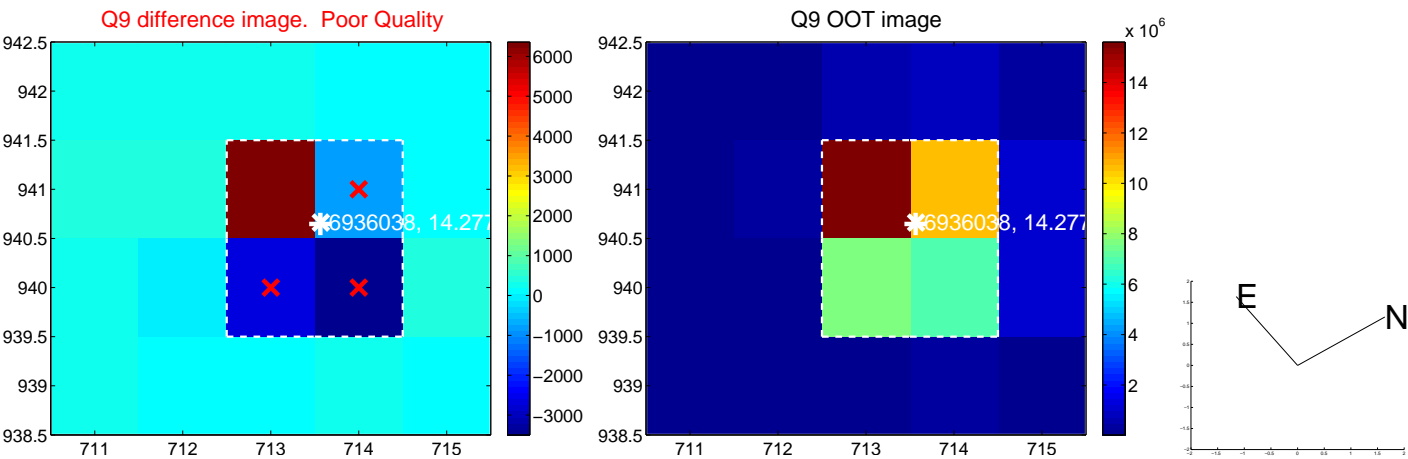


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

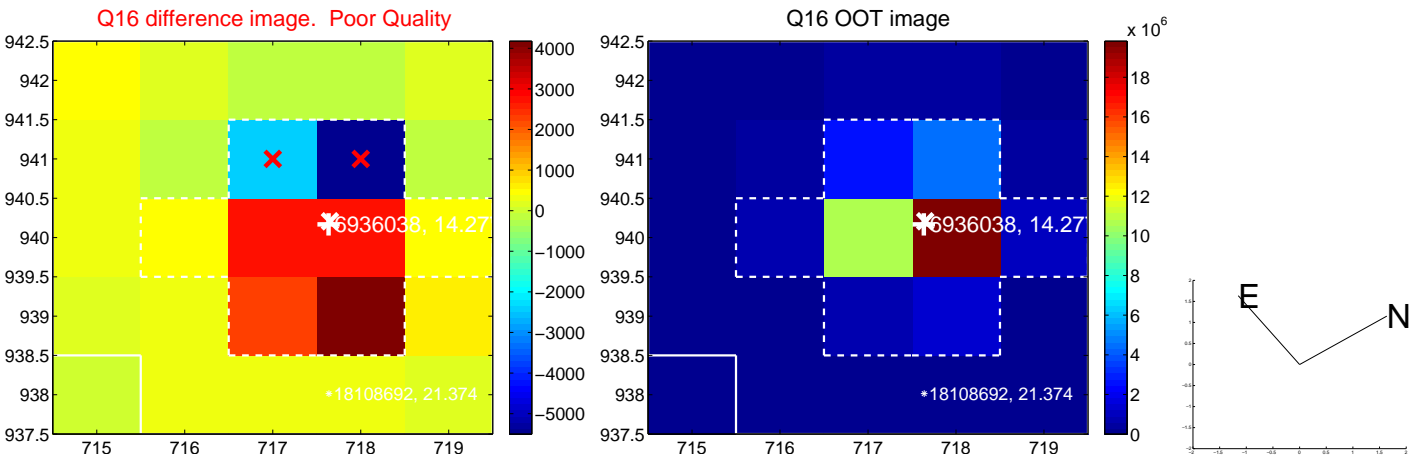
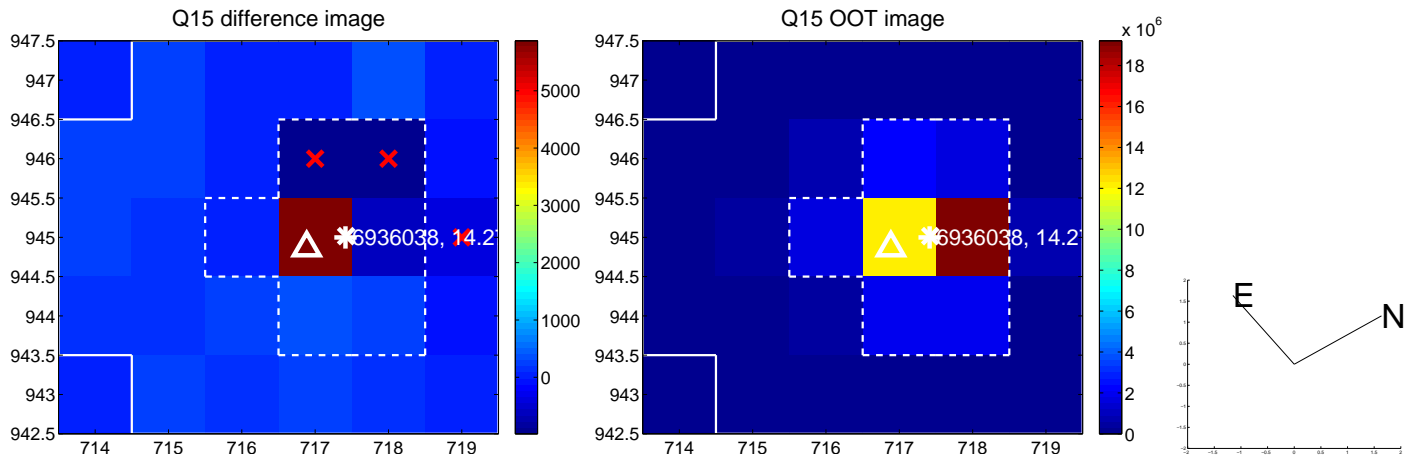
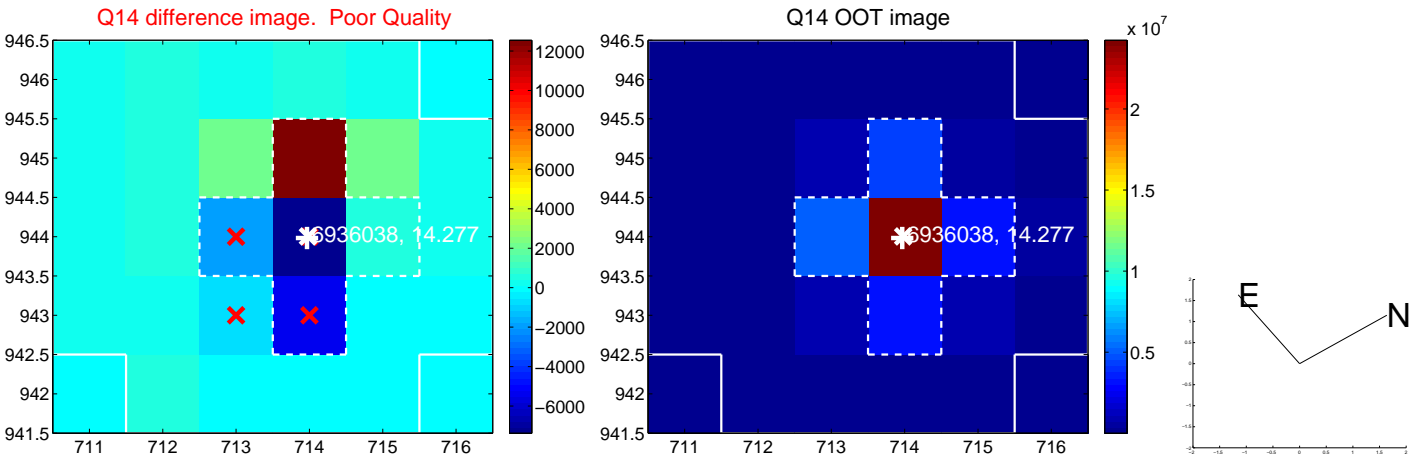
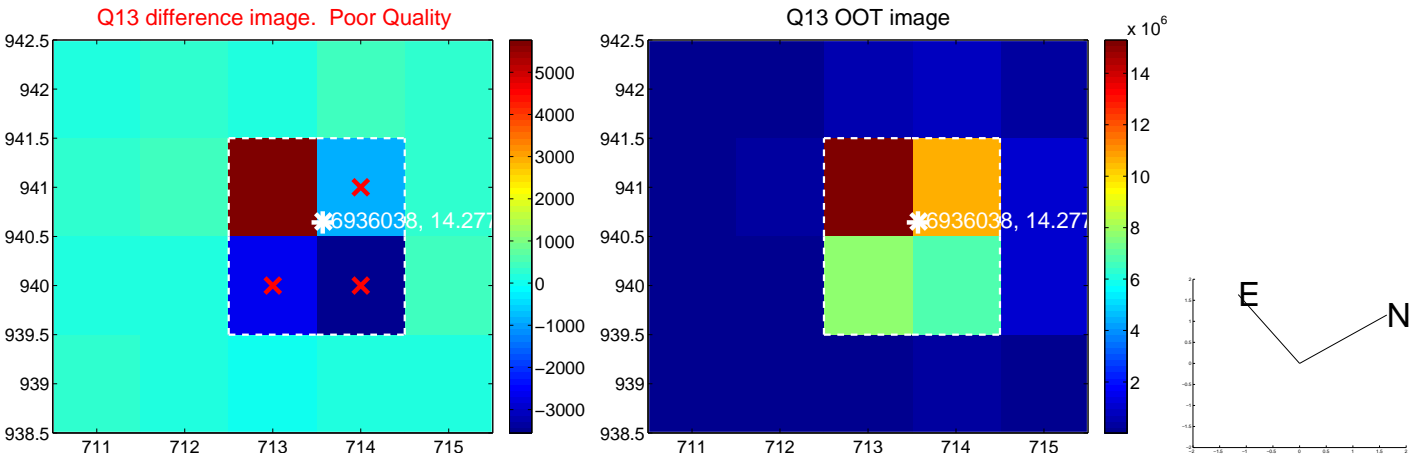




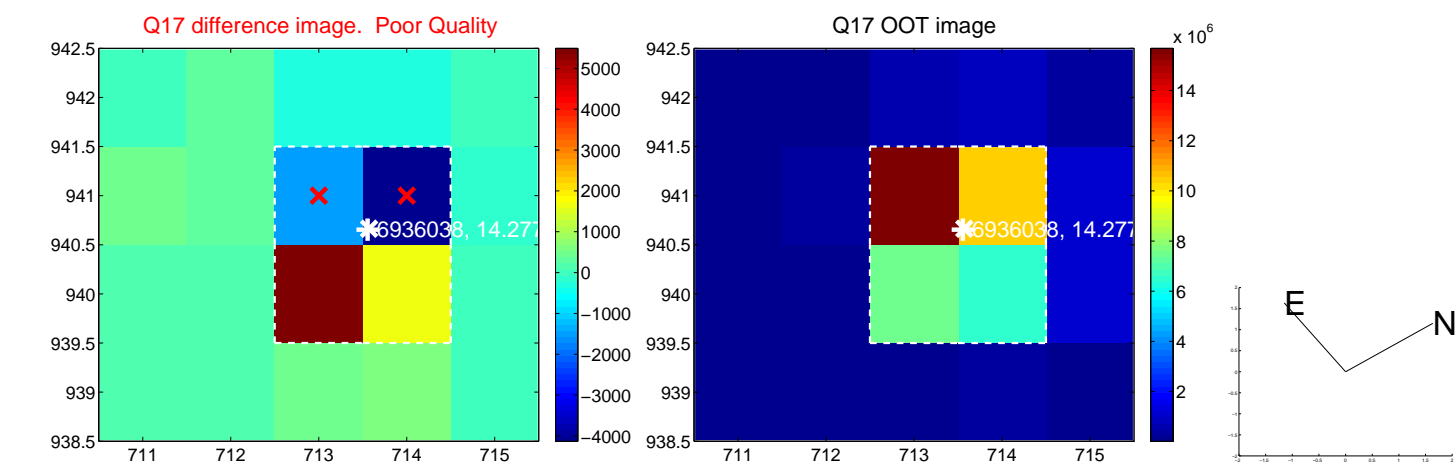
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



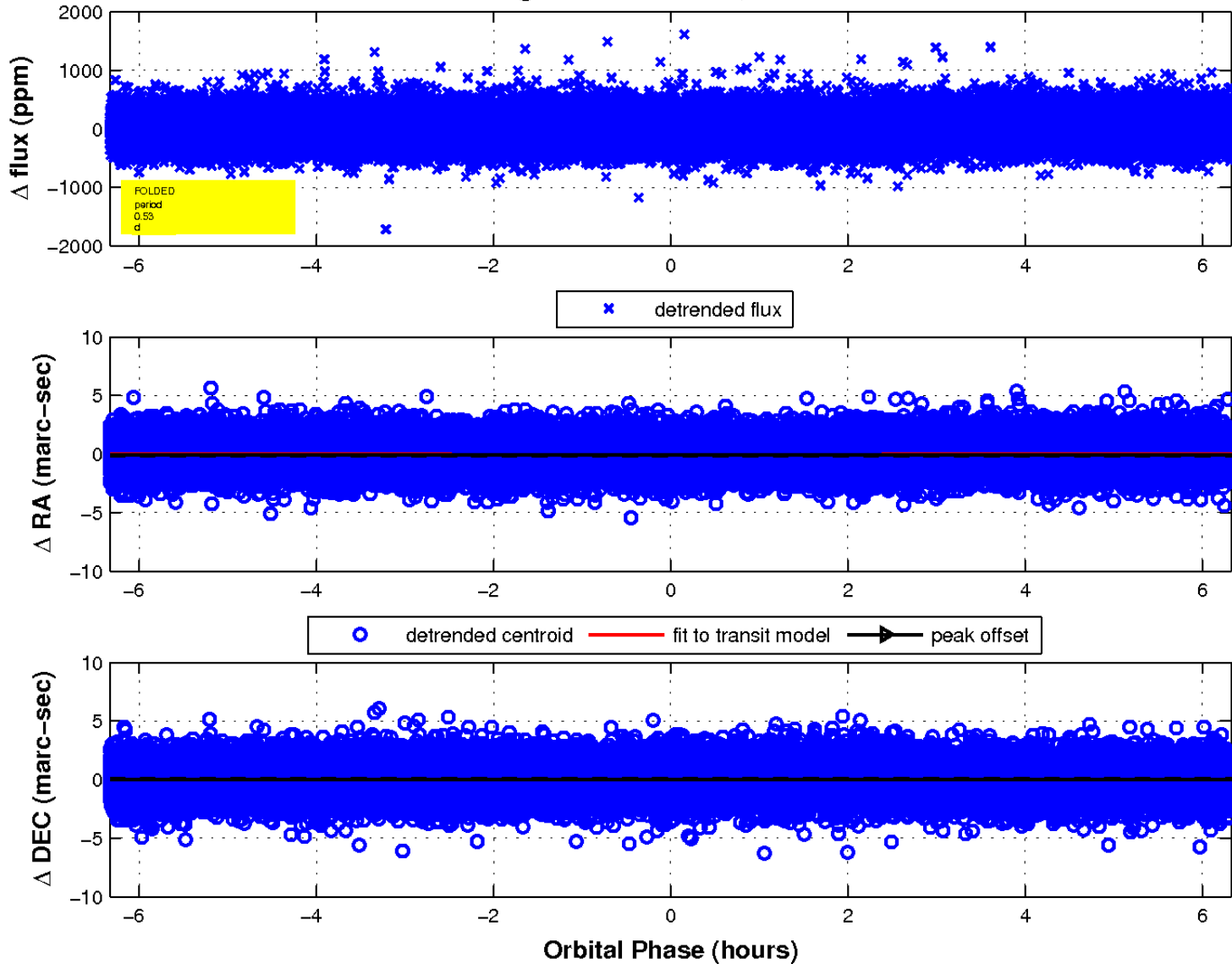
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

