

# KIC 006720773

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006720773-01	OBS	4868.01	1.318327	132.800699	98.1	0.984	8.9	9.7	1.12	6143	1.31	2840.90

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006720773-01	OBS	FP	0.00	0	0	1	0	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.

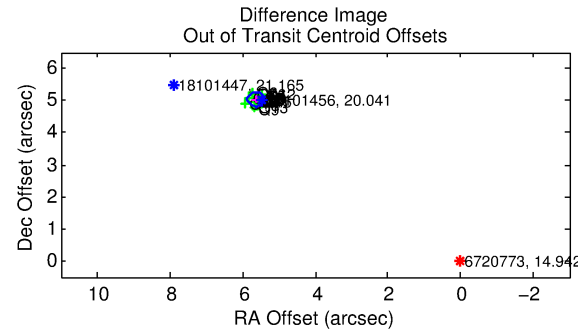
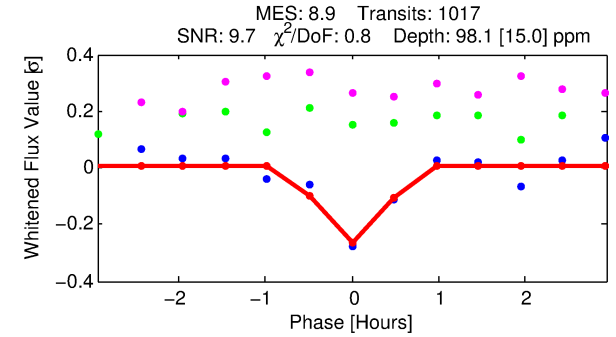
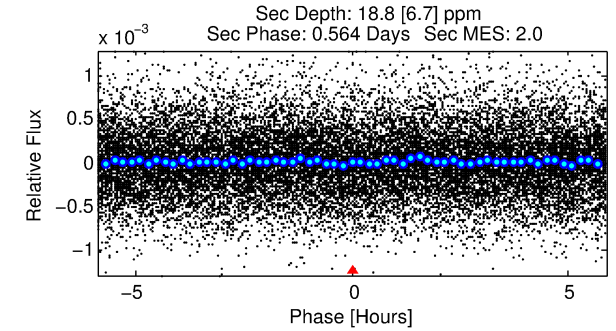
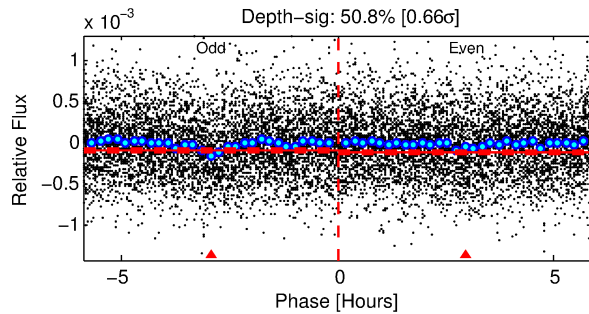
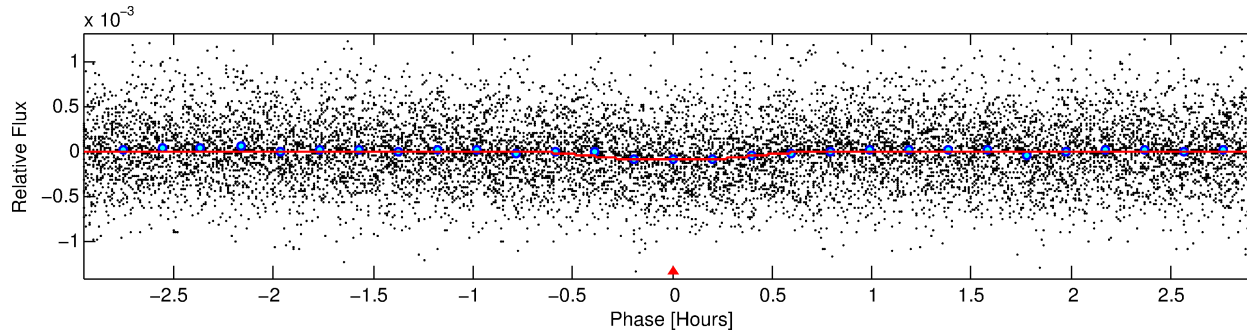
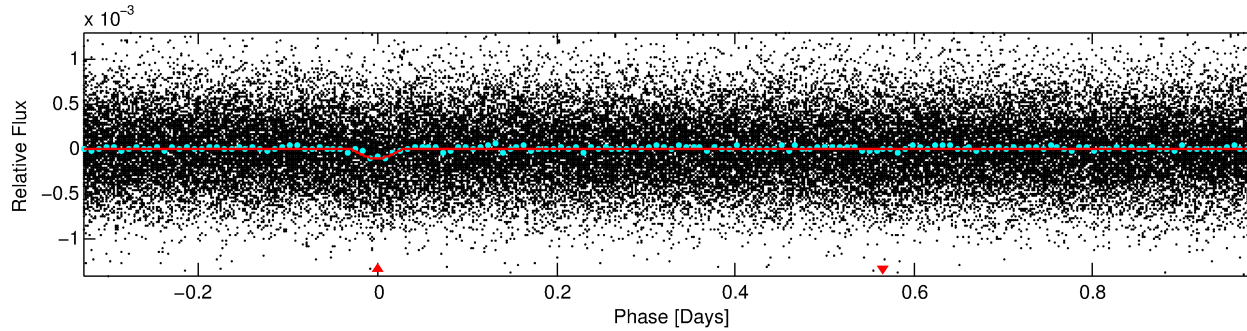
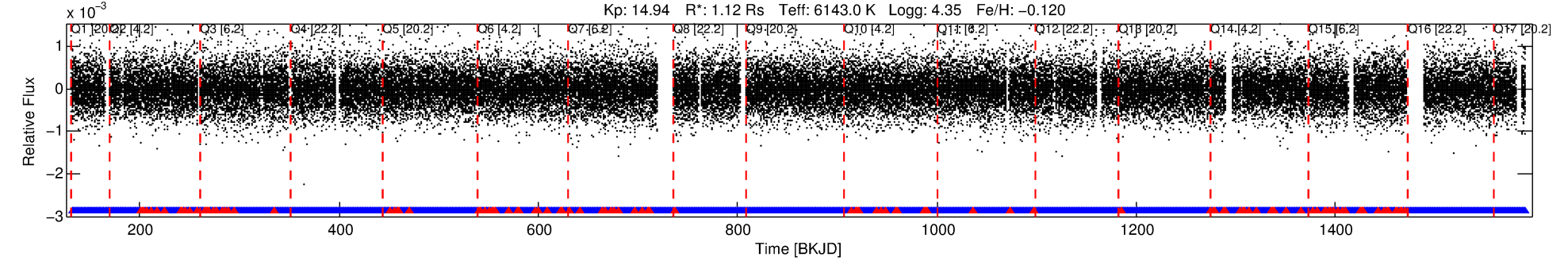
## Ephemeris Match Information For 006720773-01

No Significant Match Found

# DV One-Page Summary

KIC: 6720773 Candidate: 1 of 1 Period: 1.318 d  
KOI: K04868.01 Corr: 0.806

Kp: 14.94 R\*: 1.12 Rs Teff: 6143.0 K Logg: 4.35 Fe/H: -0.120



## DV Fit Results:

Period = 1.31833 [0.00001] d  
Epoch = 132.8007 [0.0018] BKJD  
Rp/R\* = 0.0108 [0.0056]  
a/R\* = 4.83 [12.66]  
b = 0.90 [0.60]  
Seff = 2840.90 [1120.28]  
Teff = 1862 [184] K  
Rp = 1.32 [0.79] Re  
a = 0.0238 [0.0060] AU  
Ag = 3.37 [3.89] [0.61σ]  
Teffp = 3899 [1077] K [1.86σ]

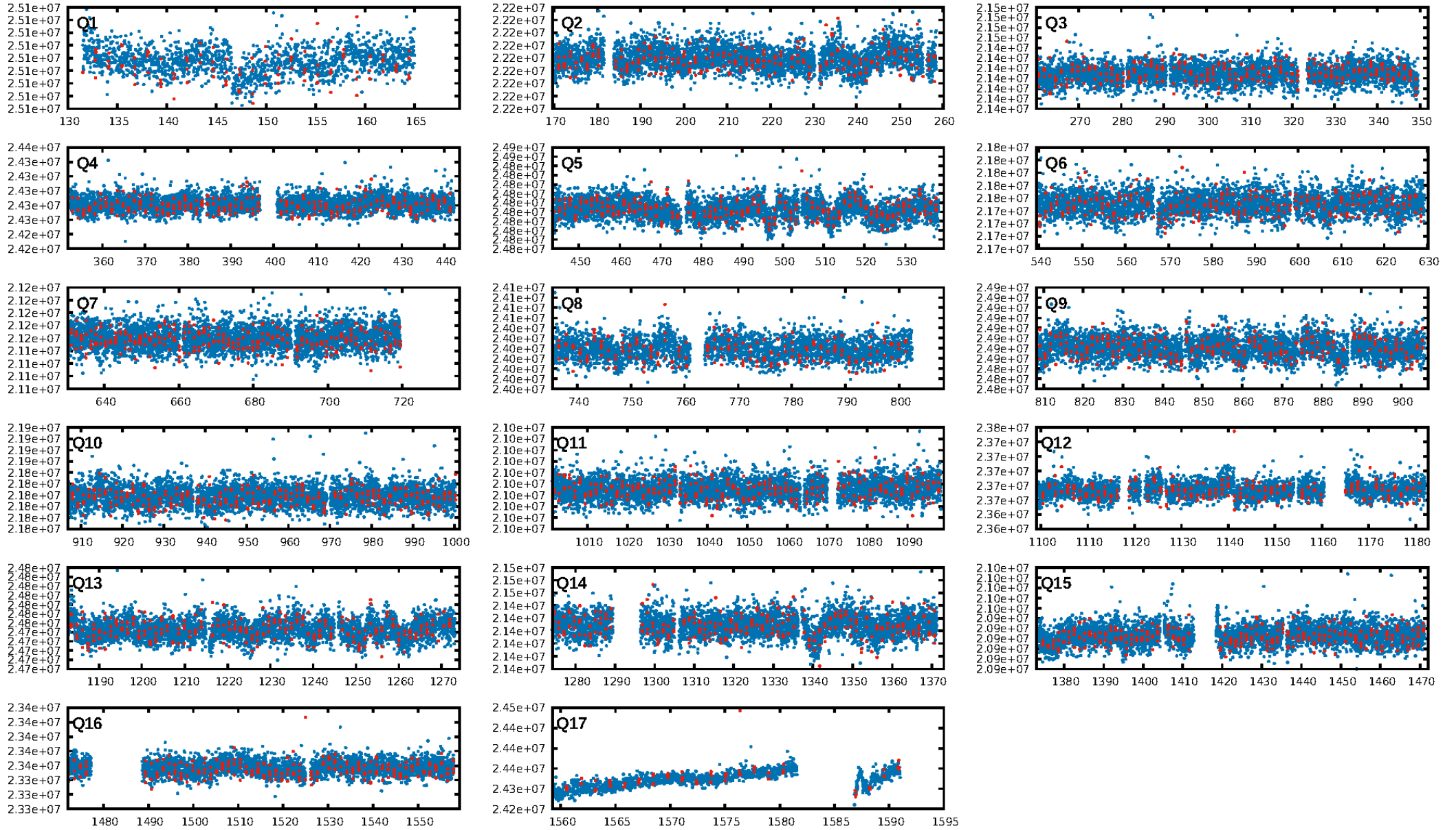
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.32e-19  
RollingBand-fgt: 0.88 [858/970]  
GhostDiagnostic-chr: -0.2159  
Centroid-sig: 0.0%  
Centroid-so: 26.937 arcsec [19.63σ]  
OotOffset-rm: 7.559 arcsec [99.79σ]  
KicOffset-rm: 7.533 arcsec [99.85σ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 1.00 [16/16]  
DiffImageOverlap-fno: 1.00 [17/17]

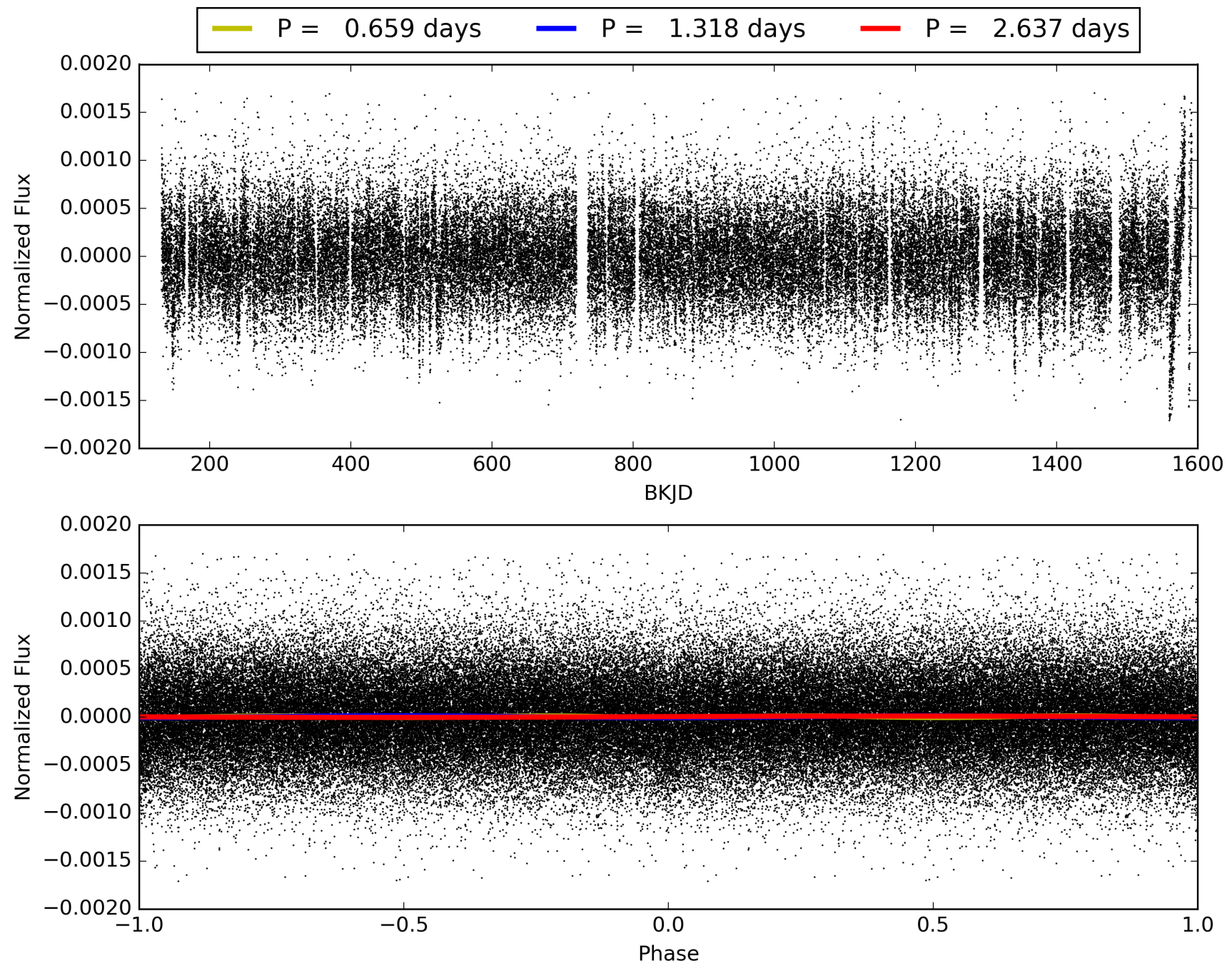
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:43:03 Z

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

# TCE 006720773-01, PDC Light Curves



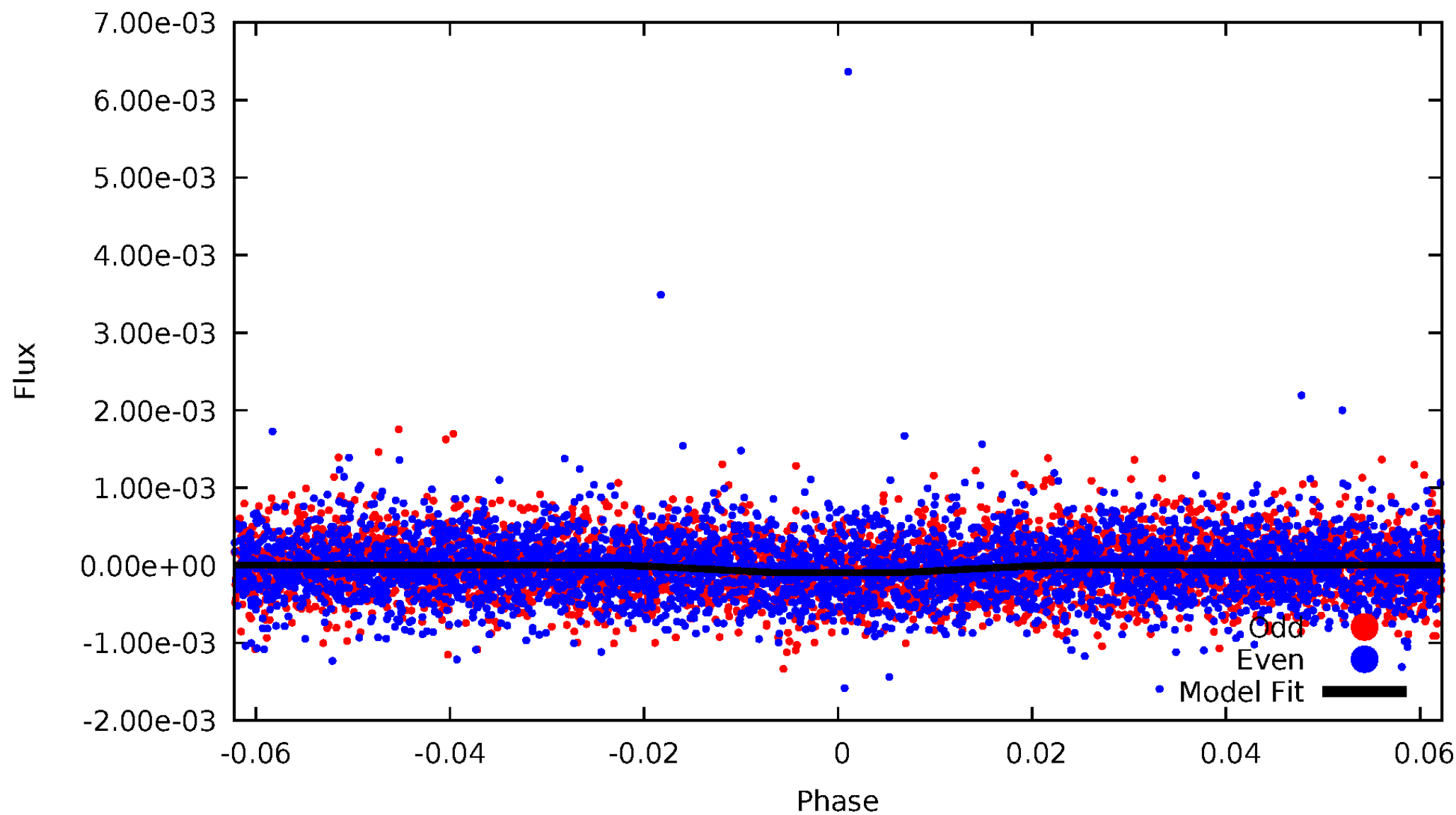
TCE 006720773-01





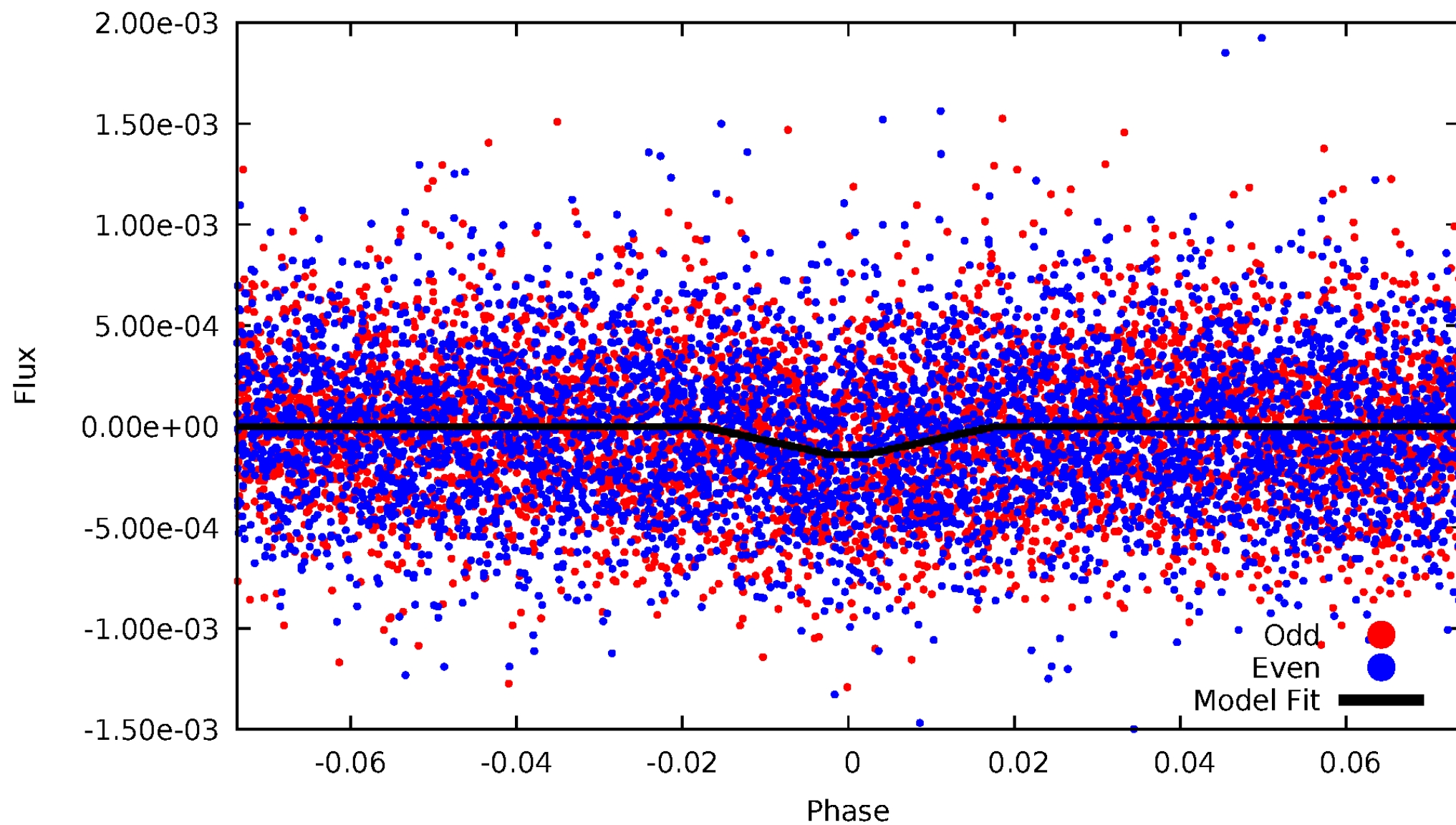
# DV Odd/Even

TCE 006720773-01



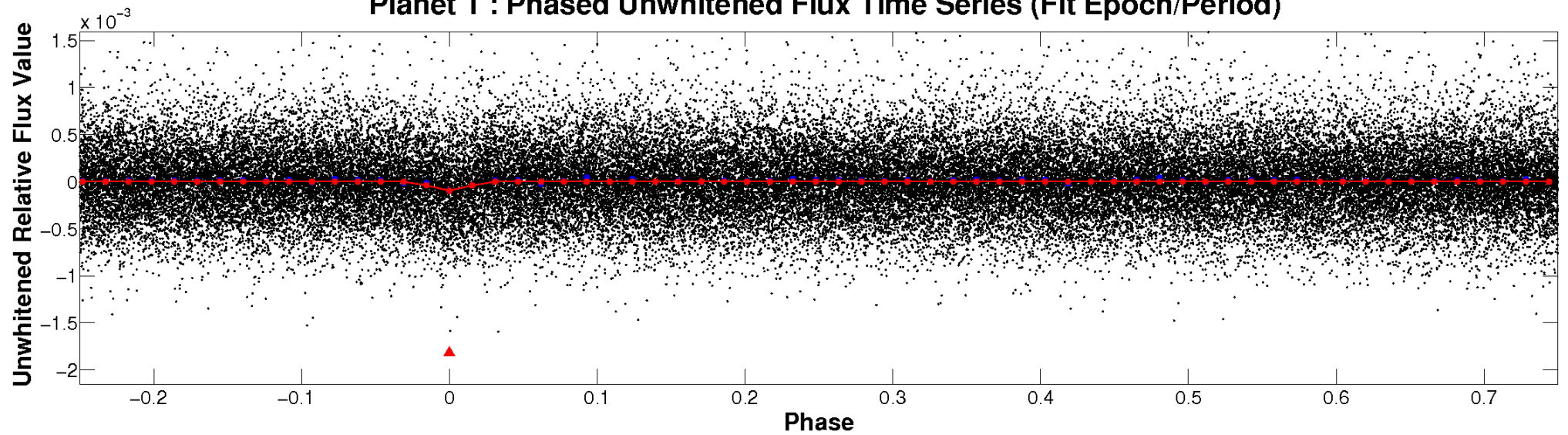
# ALT Odd/Even

TCE 006720773-01

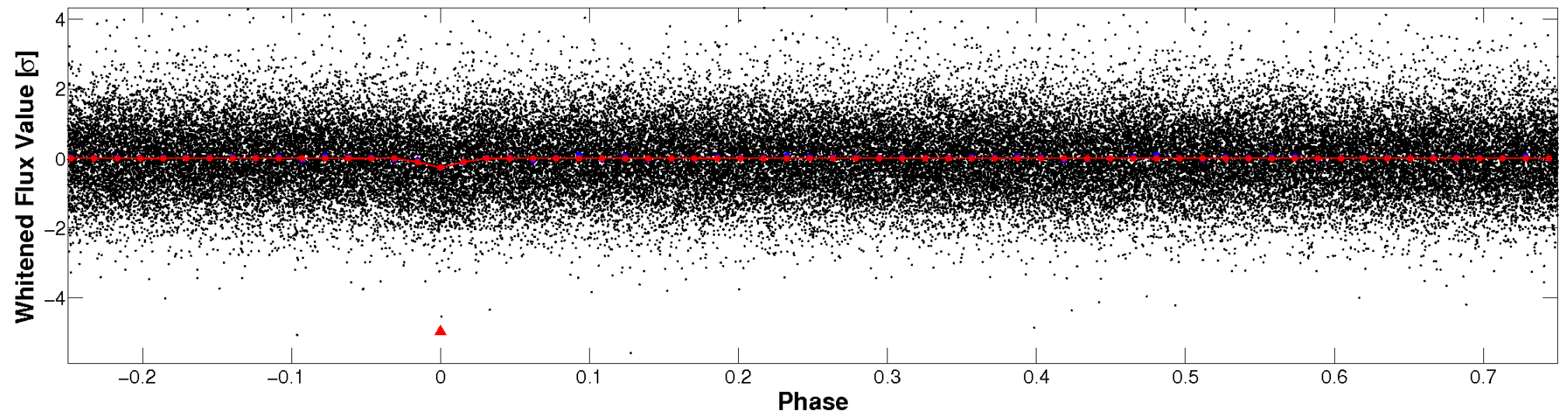


# Non-Whitened Vs. Whitened Light Curve

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

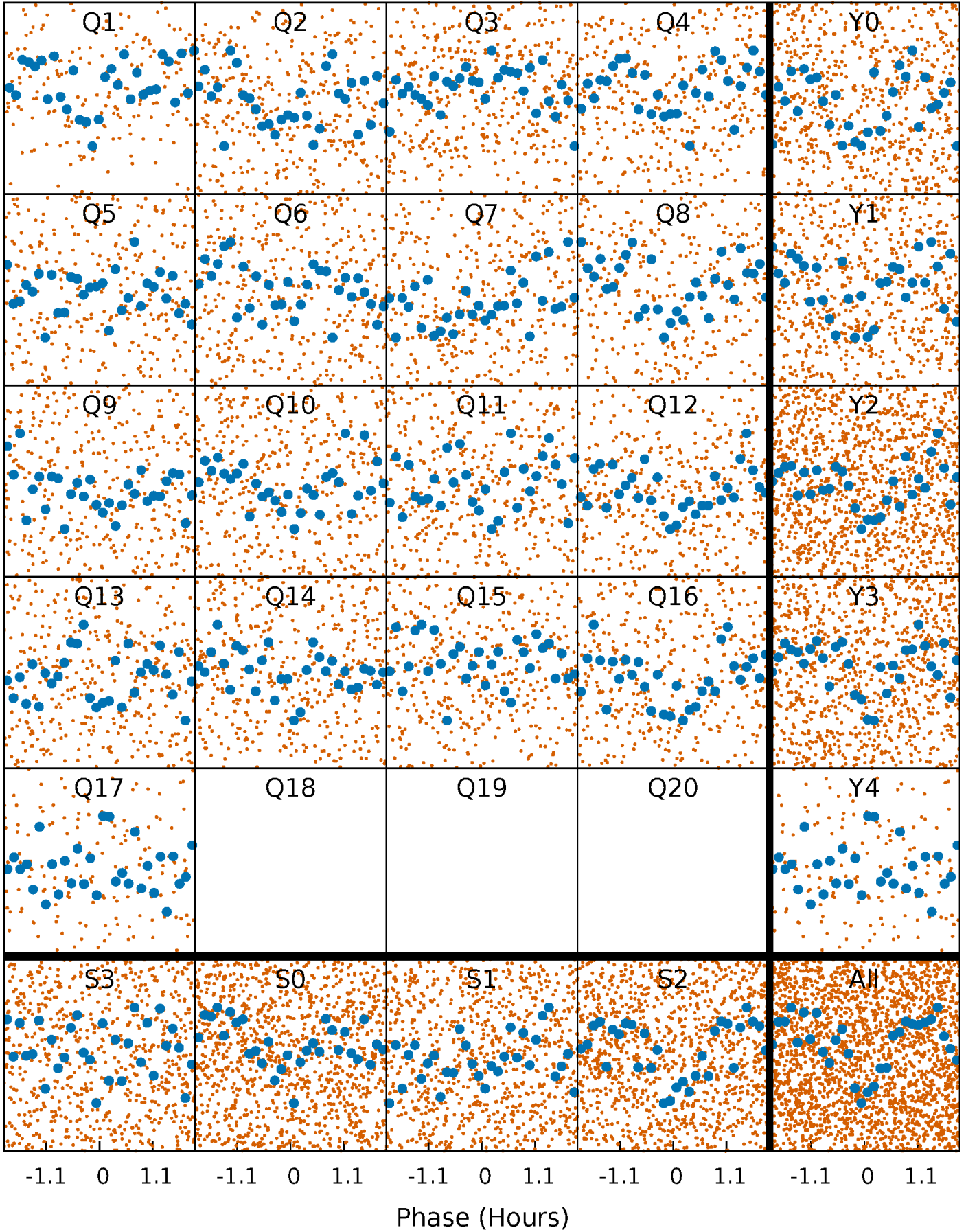


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

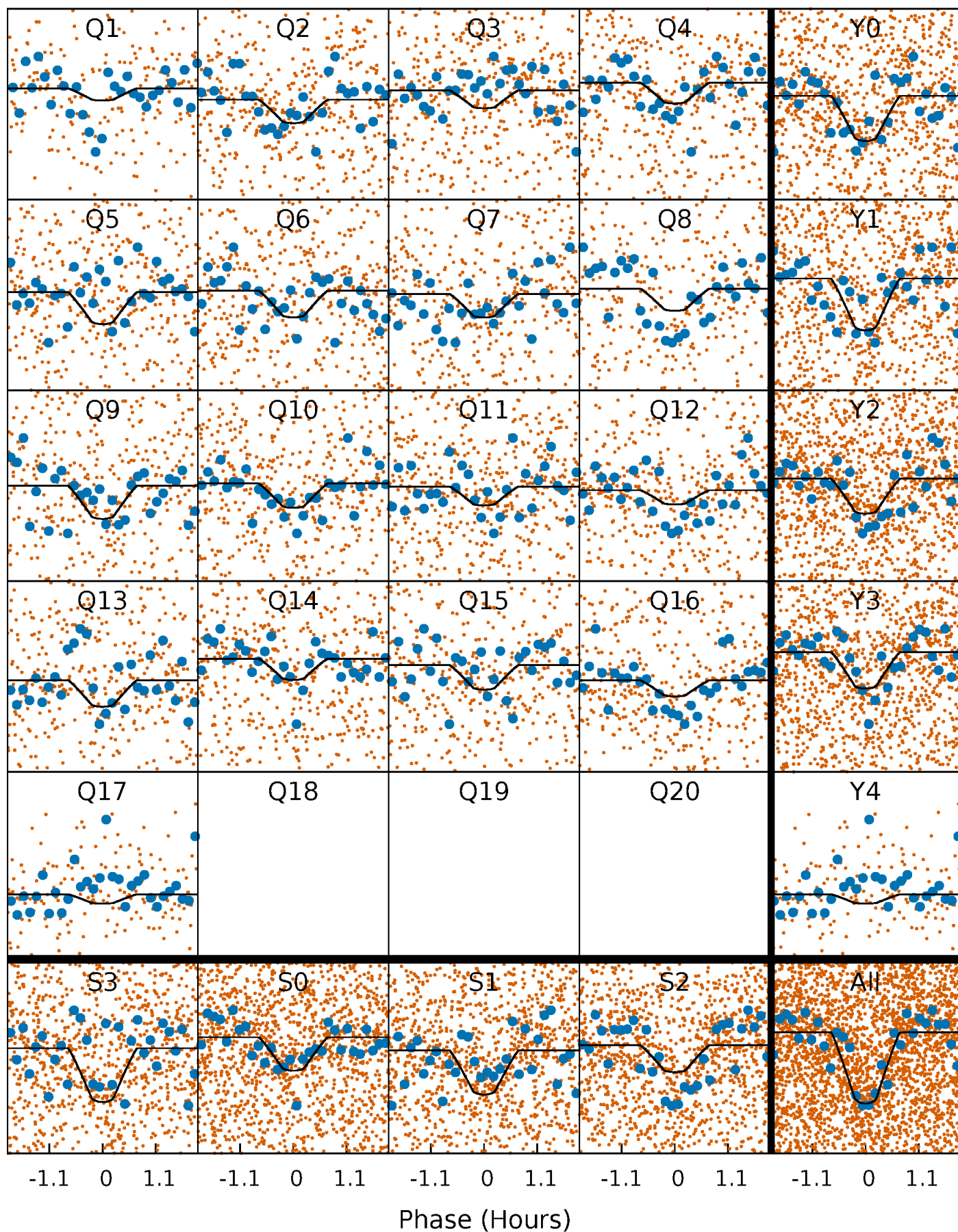
TCE 006720773-01 P= 1.318327 Days  $T_0=132.800699$  (BKJD)





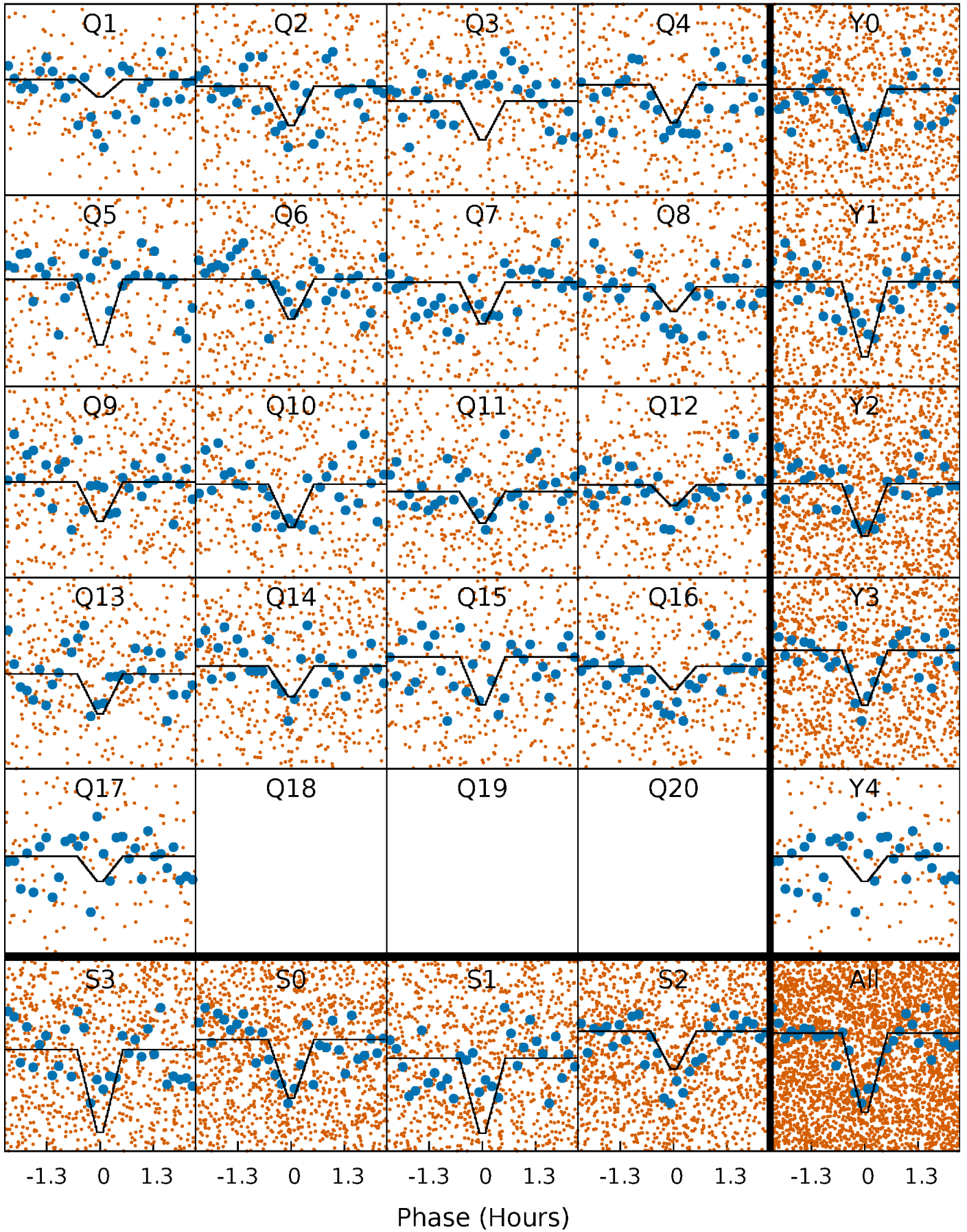
# DV Quarter-Phased Transit Curves

TCE 006720773-01 P= 1.318327 Days  $T_0=132.800699$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

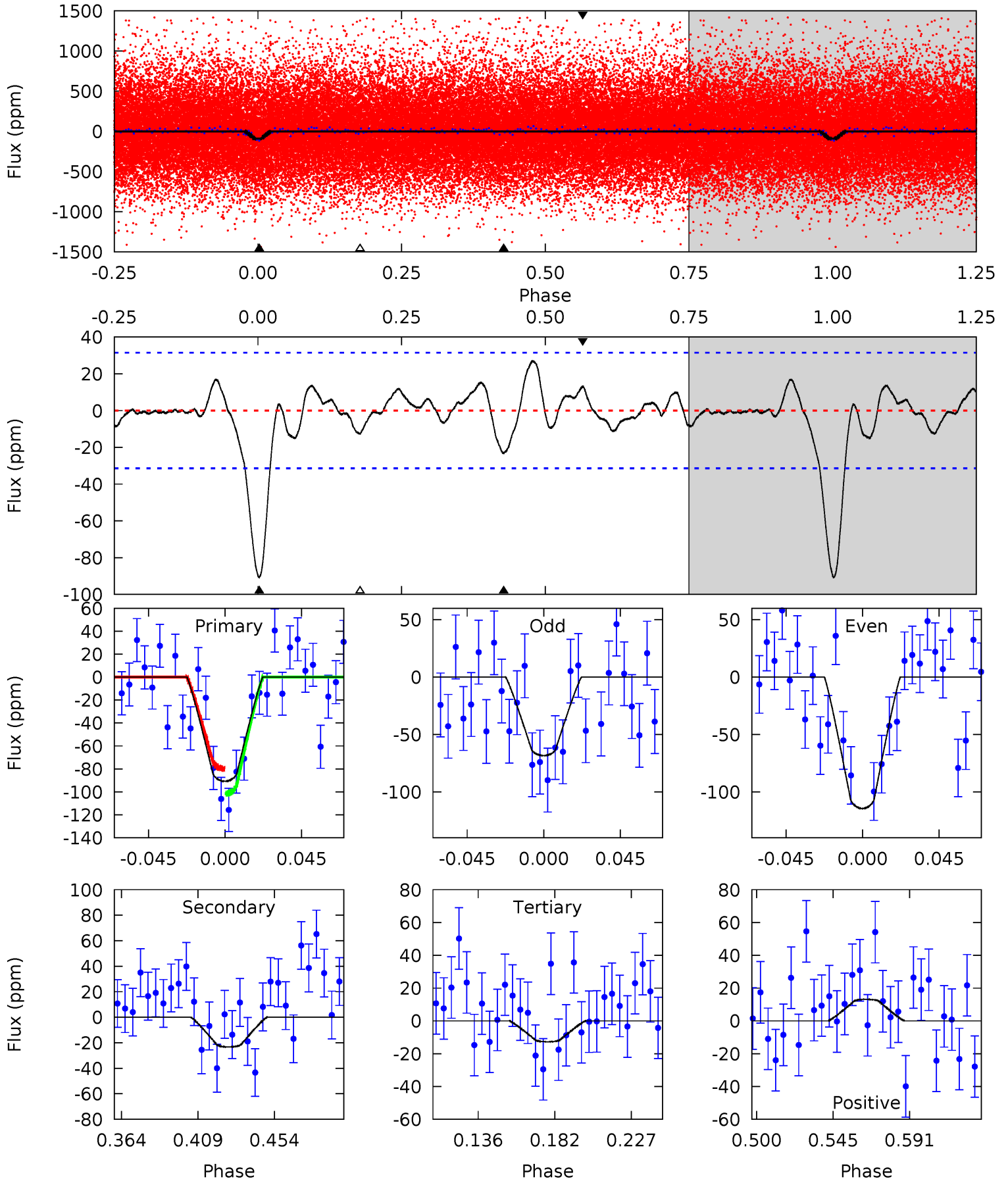
TCE 006720773-01 P= 1.318341 Days  $T_0=132.793144$  (BKJD)



# DV Model-Shift Uniqueness Test

006720773-01, P = 1.318327 Days, E = 131.482372 Days

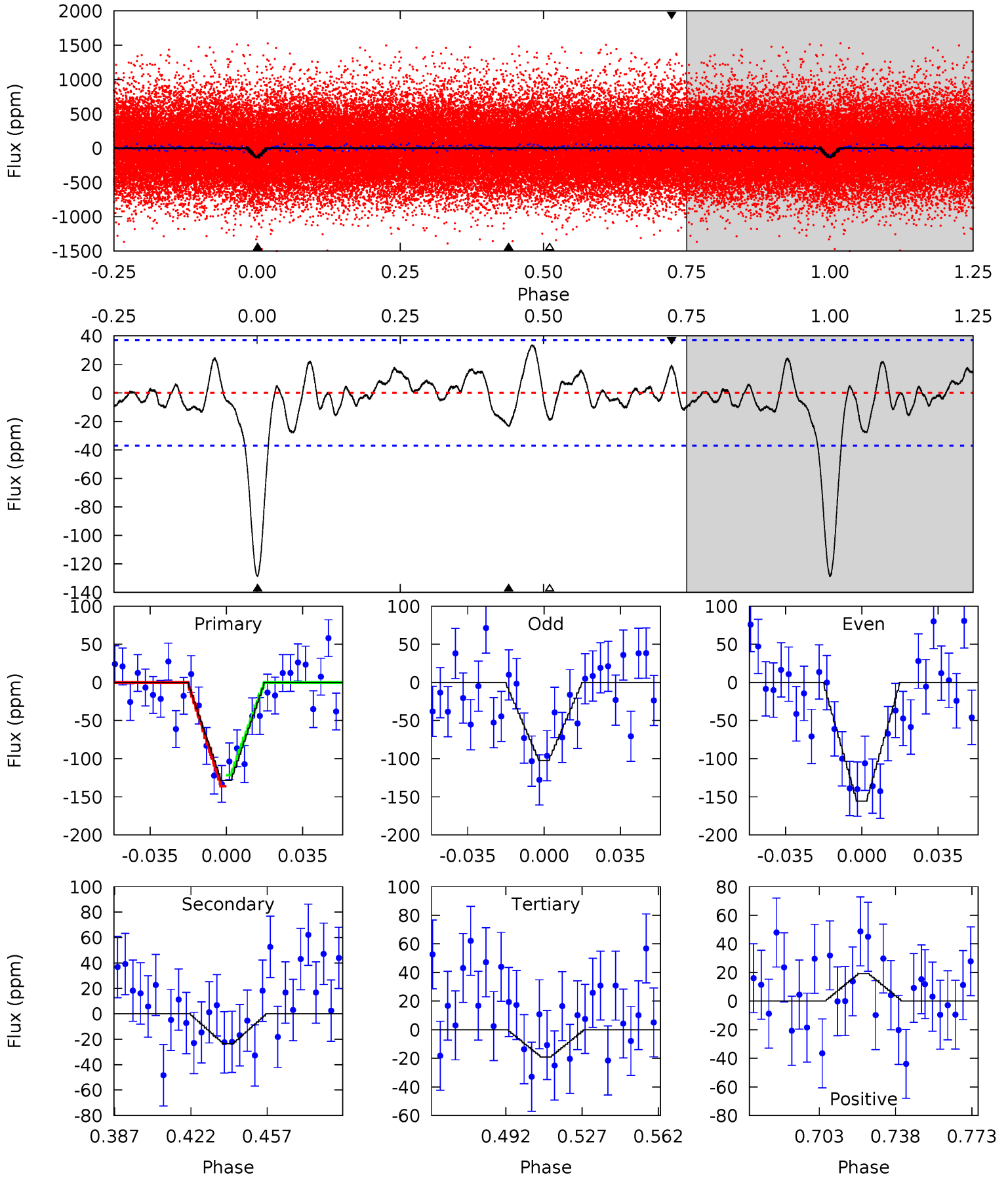
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	3.51	1.91	1.98	4.73	2.00	1.10	11.7	11.7	1.59	1.53	3.48	0.82	0.23	1.64



# Alt Model-Shift Uniqueness Test

006720773-01, P = 1.318341 Days, E = 131.474803 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
16.6	3.03	2.46	2.48	4.78	2.11	1.33	14.1	14.1	0.58	0.55	3.43	0.86	0.21	0.93





### Stellar Parameters For KIC 006720773

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6143^{+193}_{-214}$	$4.351^{+0.108}_{-0.201}$	$-0.120^{+0.250}_{-0.300}$	$1.121^{+0.340}_{-0.183}$	$1.025^{+0.181}_{-0.111}$	$1.025^{+0.591}_{-0.532}$
	+3%/-3%	+2%/-5%	+208%/-250%	+30%/-16%	+18%/-11%	+58%/-52%
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 006720773-01 / KOI 4868.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-23 \pm 7$	$1.40^{+0.72}_{-0.63}$	$2630^{+191}_{-159}$	$4178^{+1243}_{-624}$	$3.623^{+8.541}_{-2.151}$
Alt.	$-23 \pm 8$	$1.49^{+0.72}_{-0.68}$	$2632^{+208}_{-146}$	$4092^{+1223}_{-672}$	$3.089^{+7.574}_{-1.846}$

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

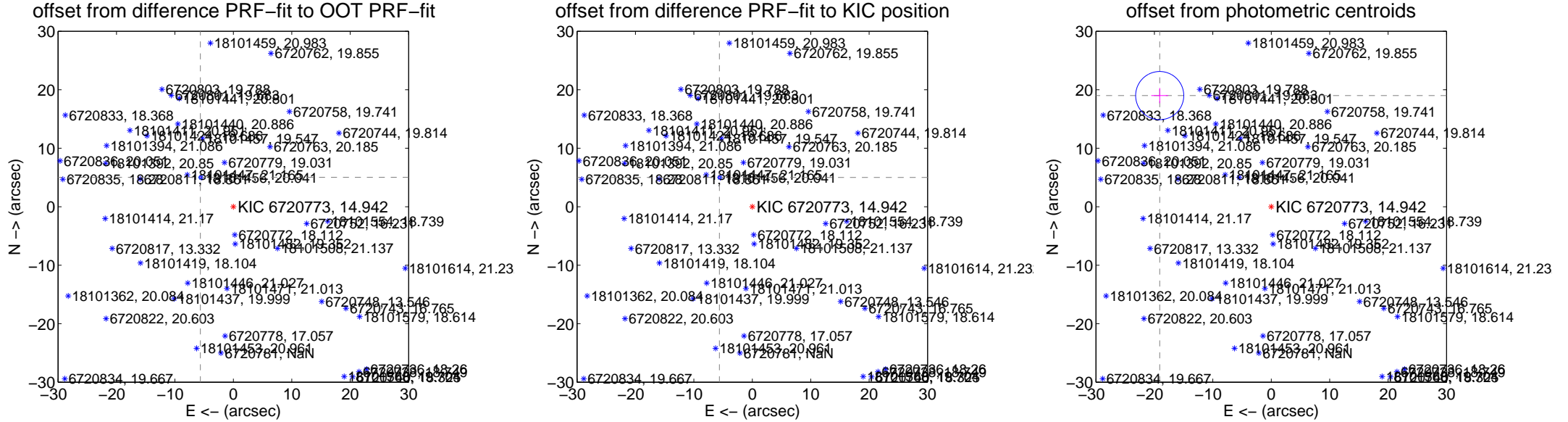
## DV Centroid Data

Supplemental centroid analysis for 006720773-01. Kepler magnitude: 14.94. Transit SNR 9.72

There are 16 quarters with good PRF difference image offsets

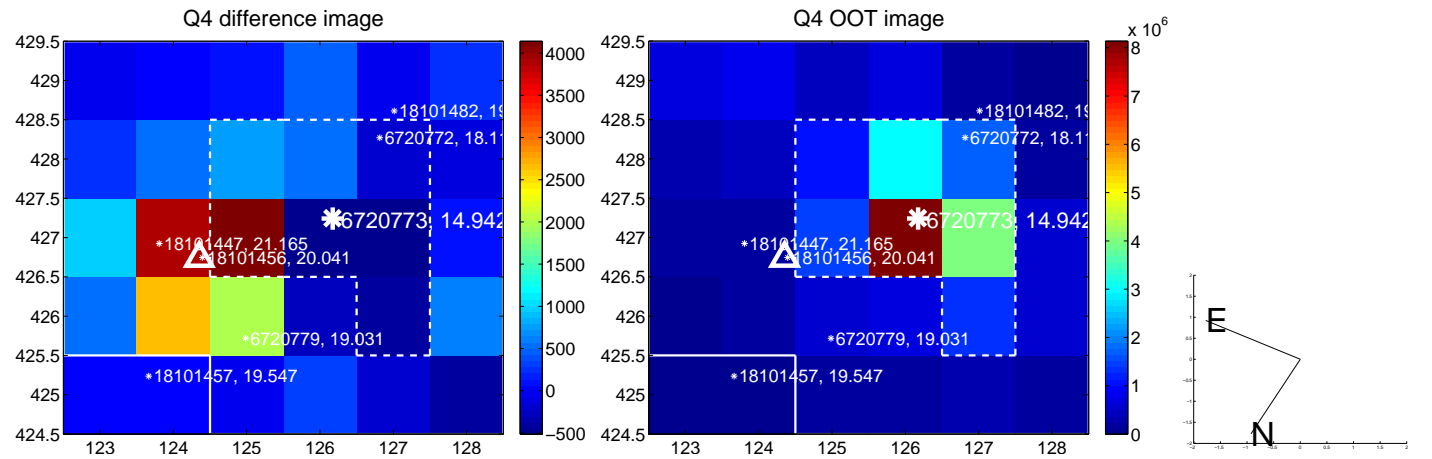
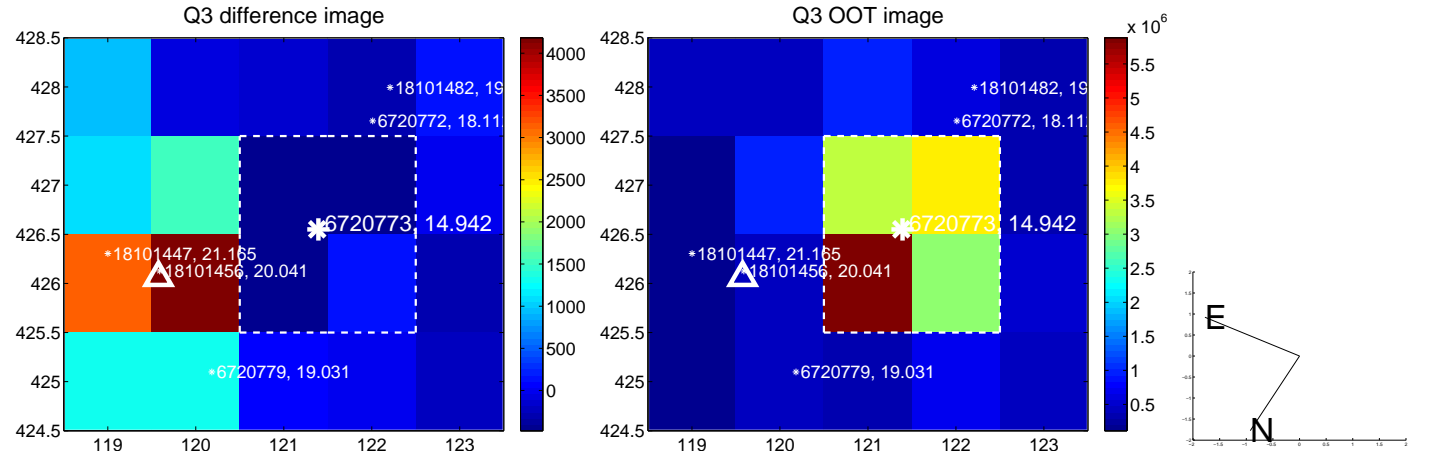
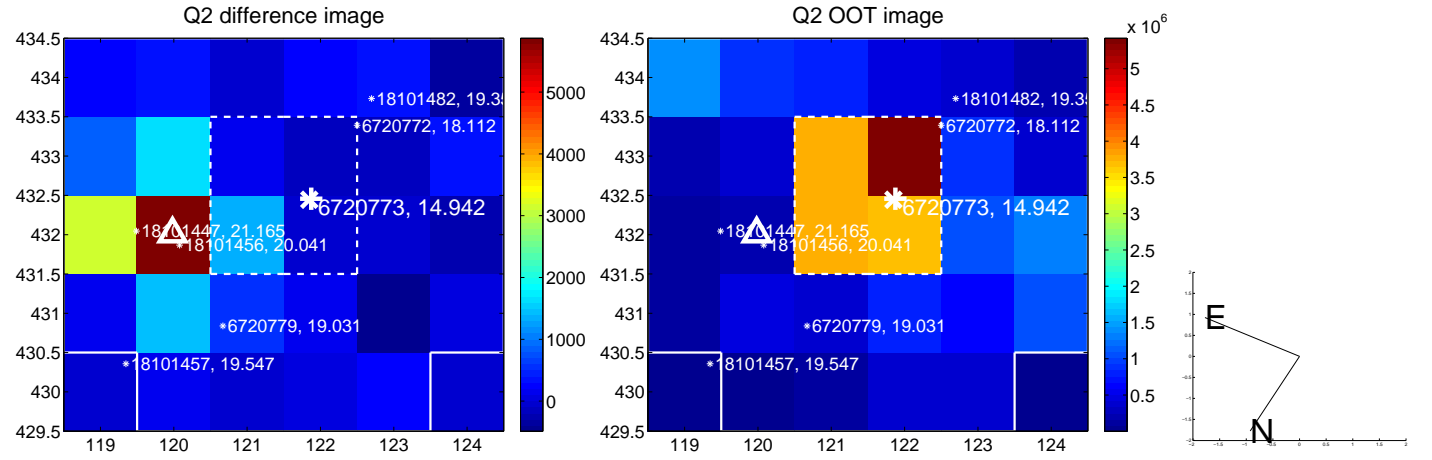
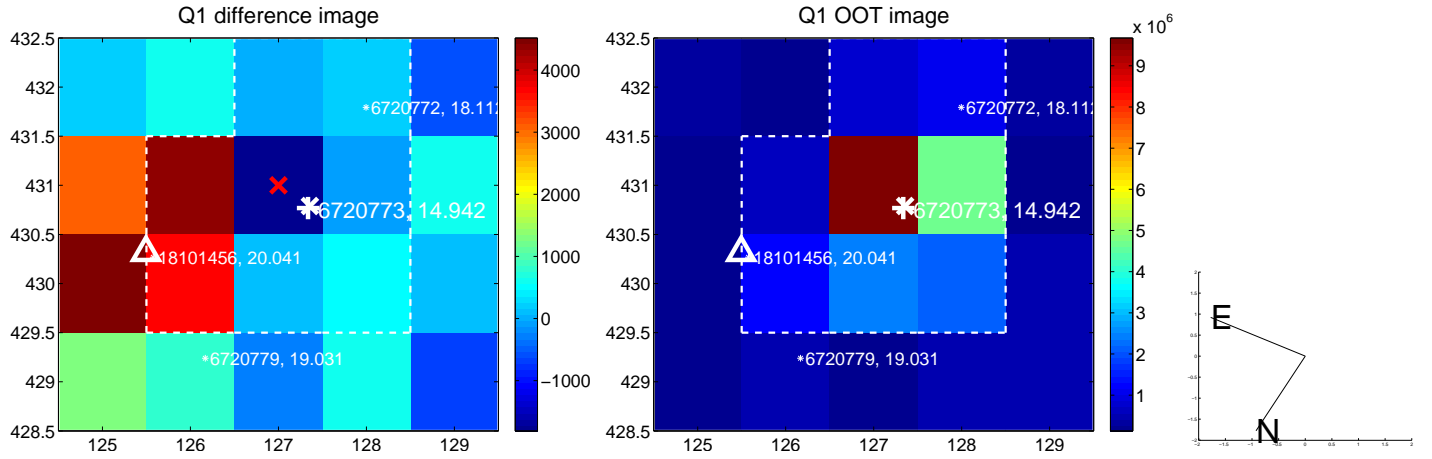
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>7.559 <math>\pm</math> 0.076</b>	<b>99.79</b>	5.641 $\pm$ 0.077	5.032 $\pm$ 0.074
PRF-fit source offset from KIC position	<b>7.533 <math>\pm</math> 0.075</b>	<b>99.85</b>	5.628 $\pm$ 0.075	5.007 $\pm$ 0.076
photometric centroid source offset	<b>26.94 <math>\pm</math> 1.37</b>	<b>19.63</b>	19.09 $\pm$ 1.44	19.00 $\pm$ 1.30

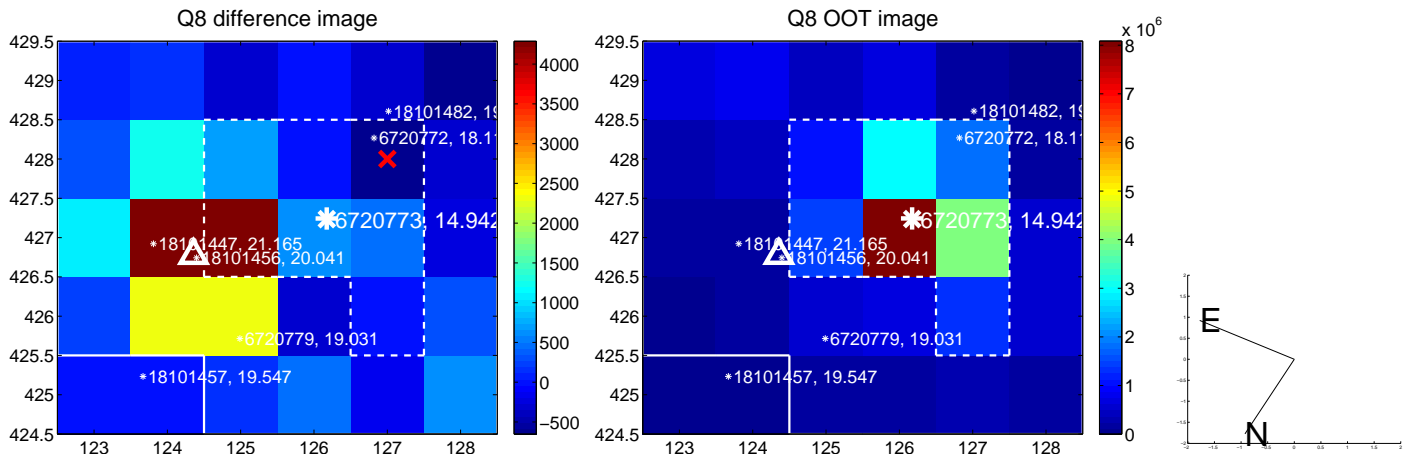
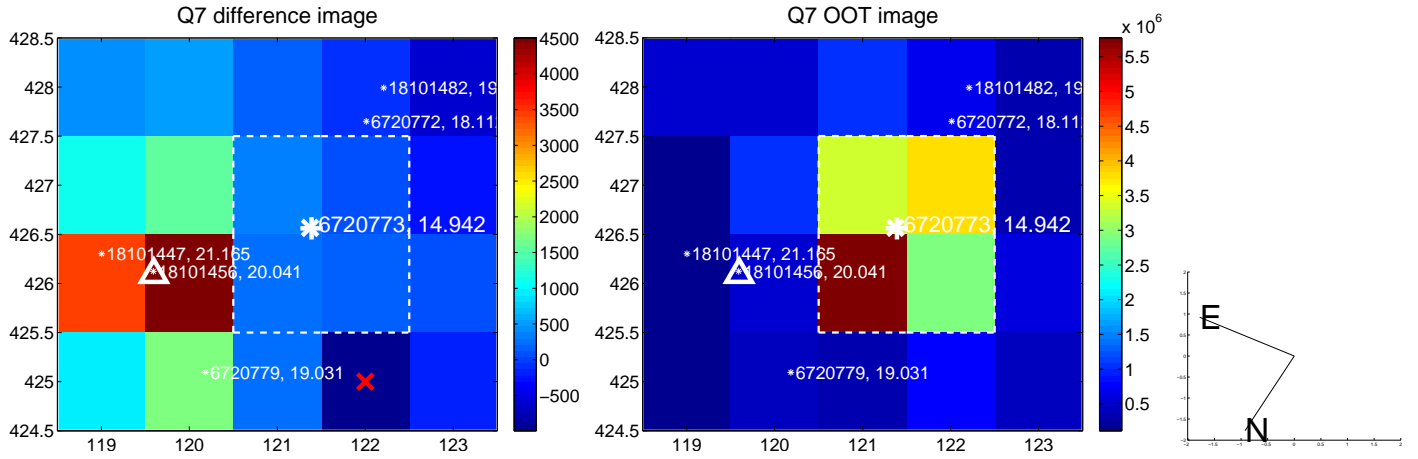
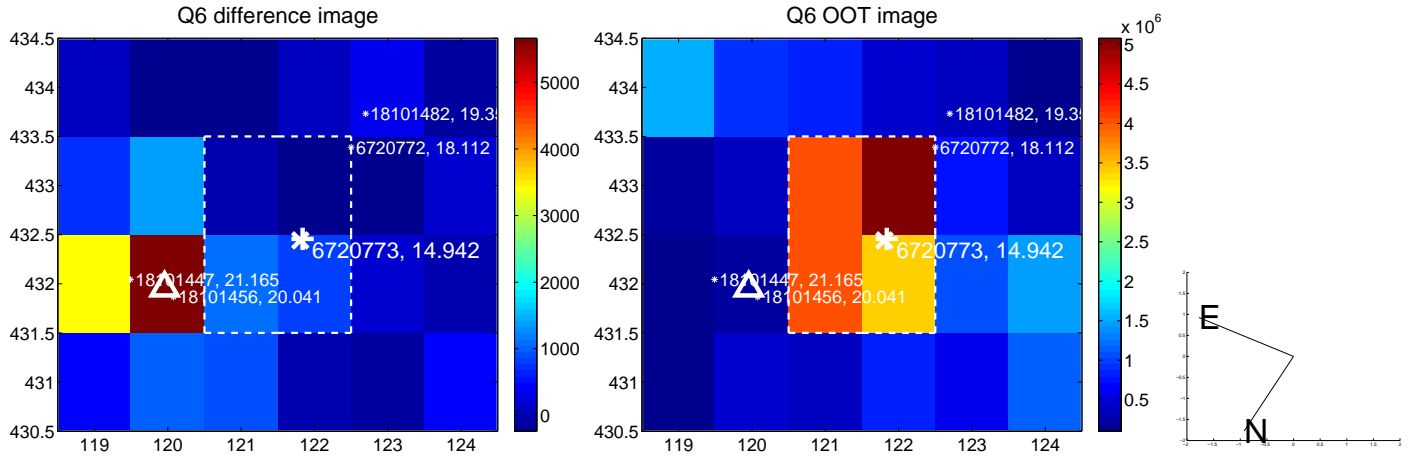
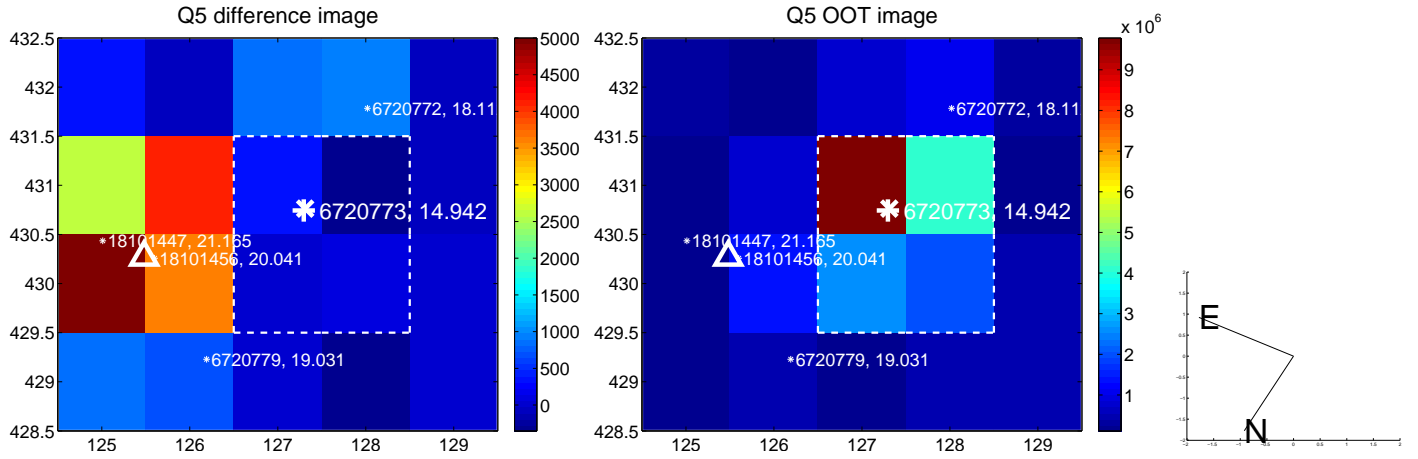


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

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

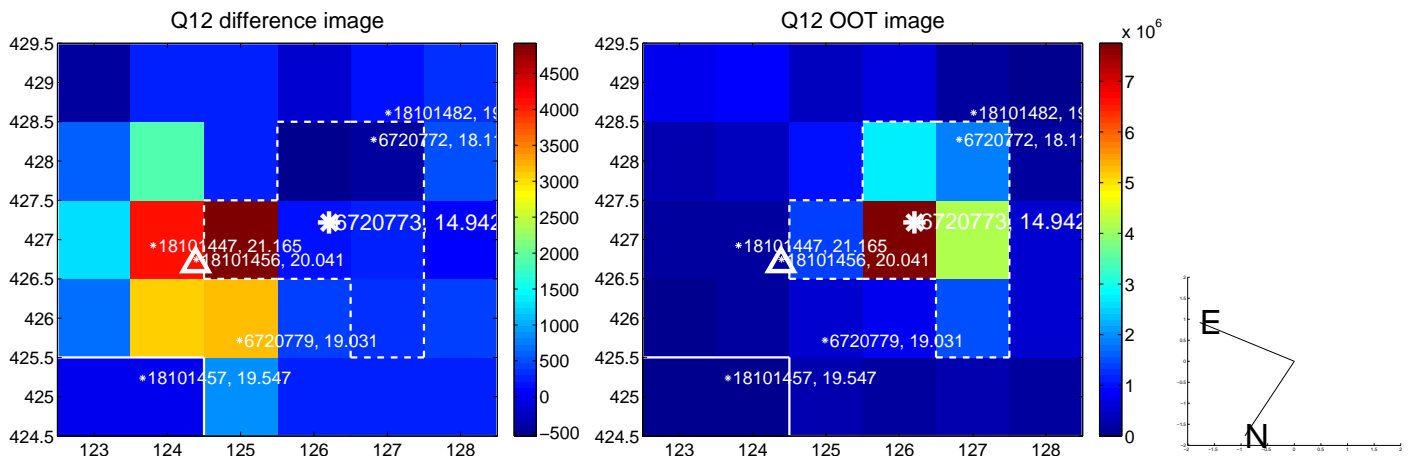
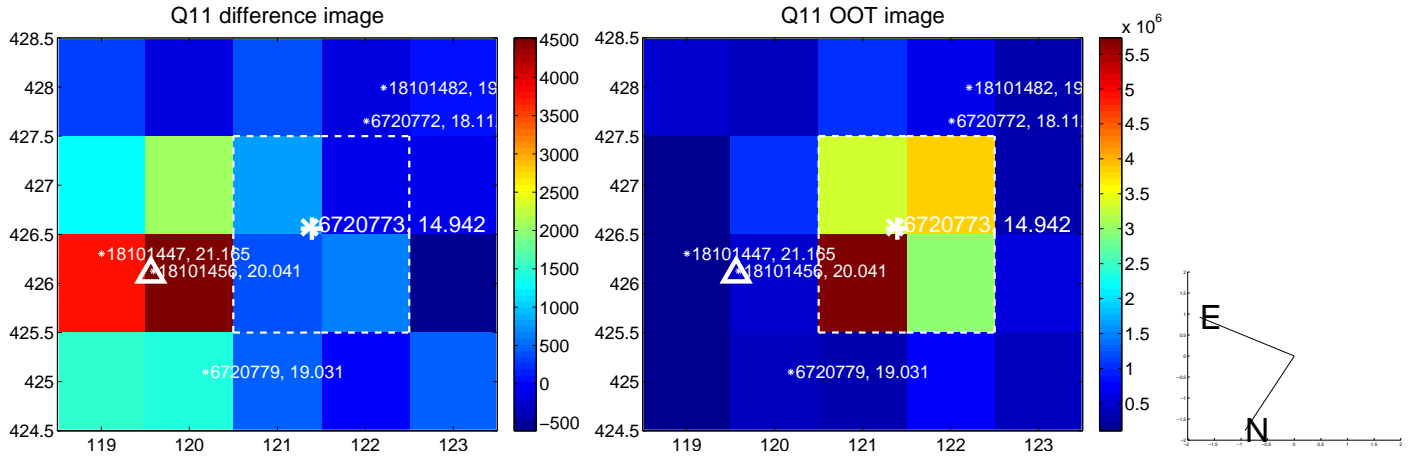
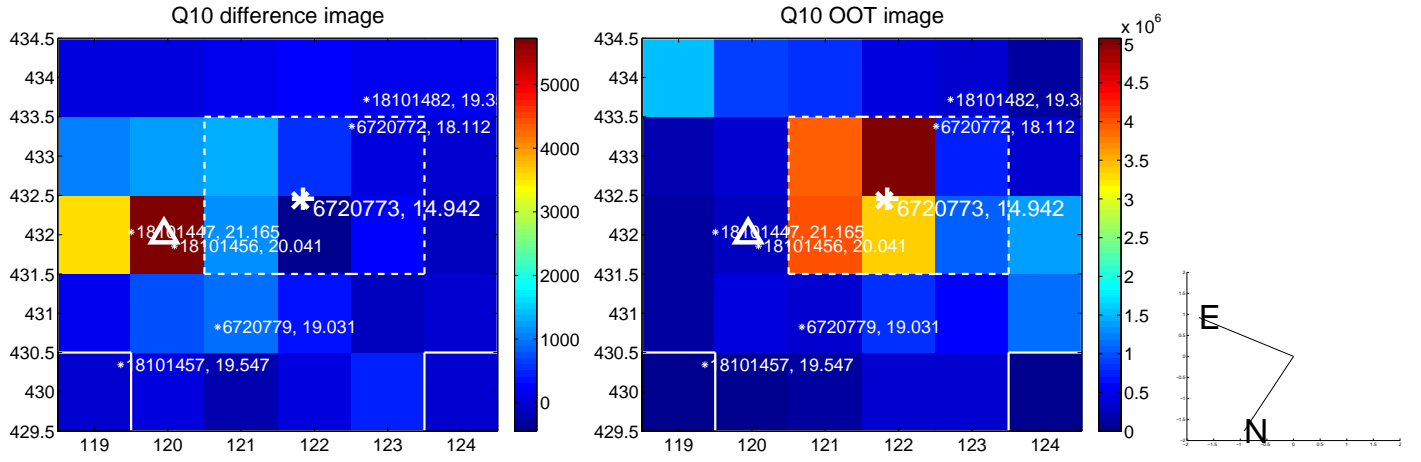
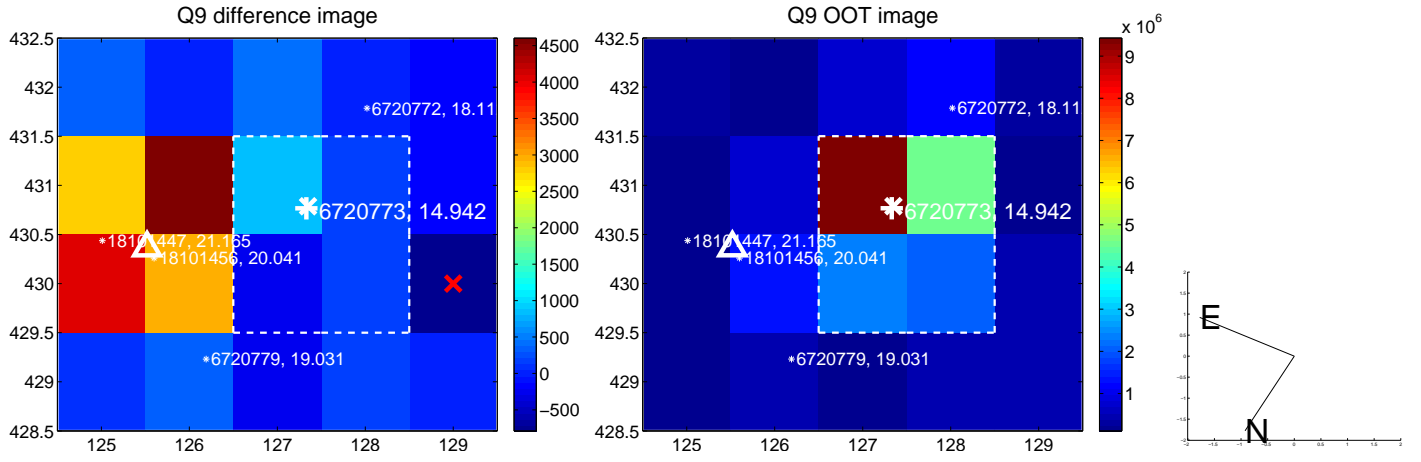


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

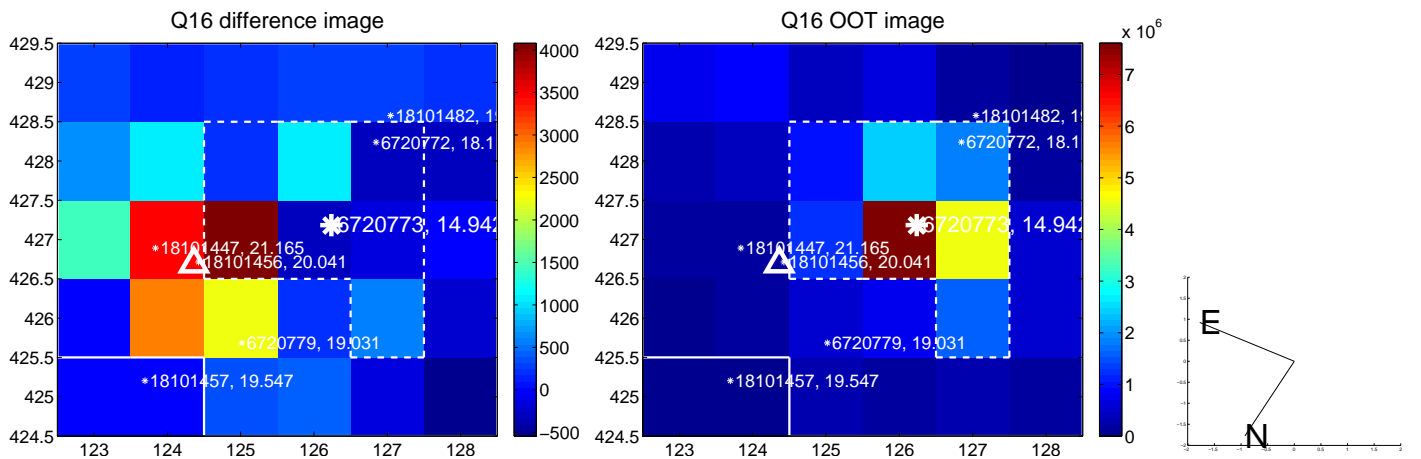
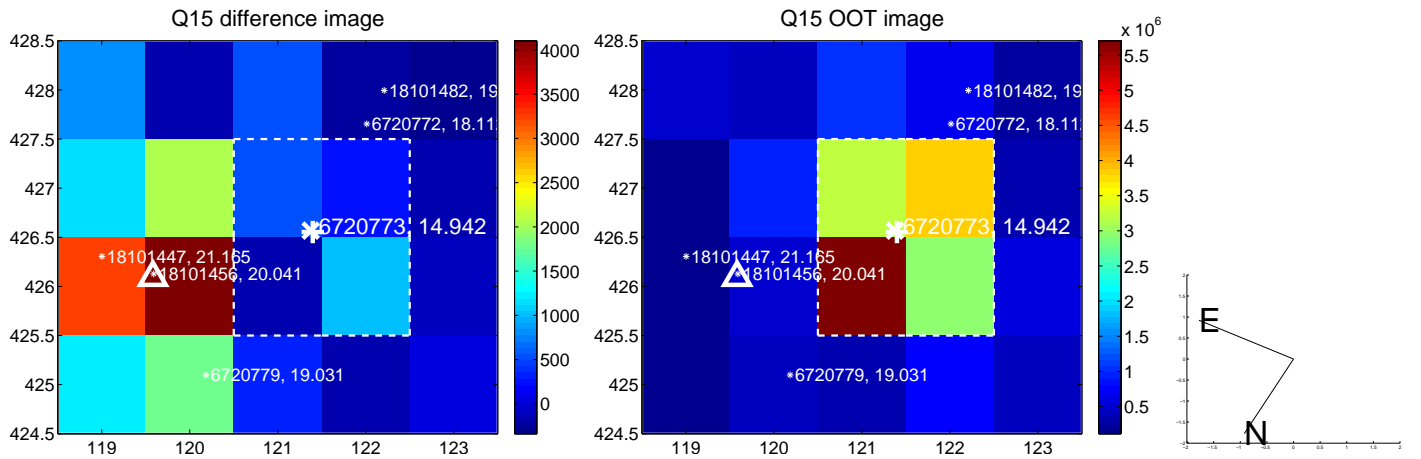
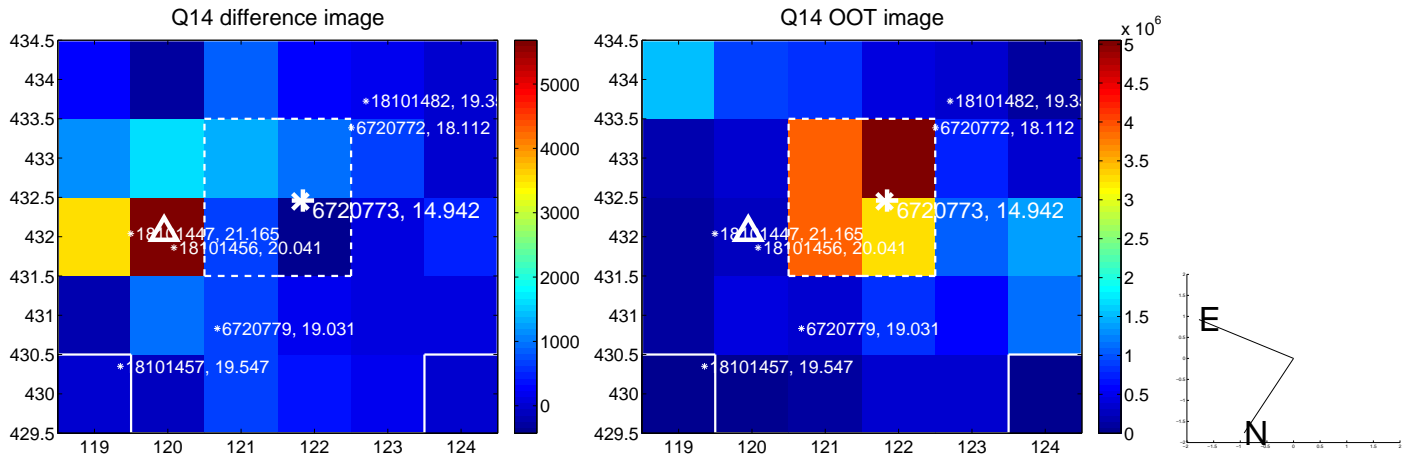
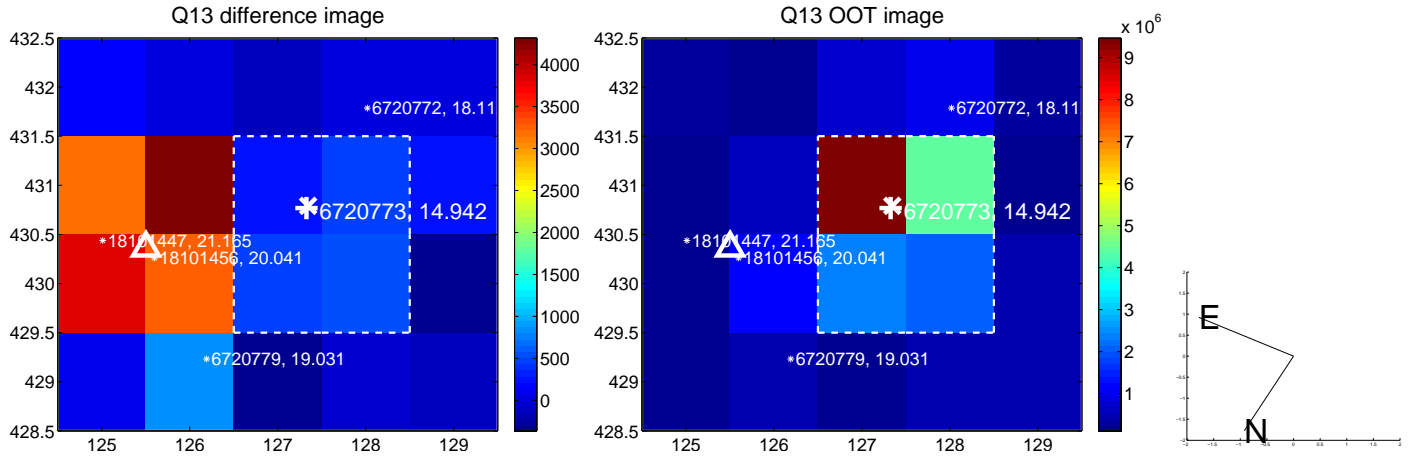




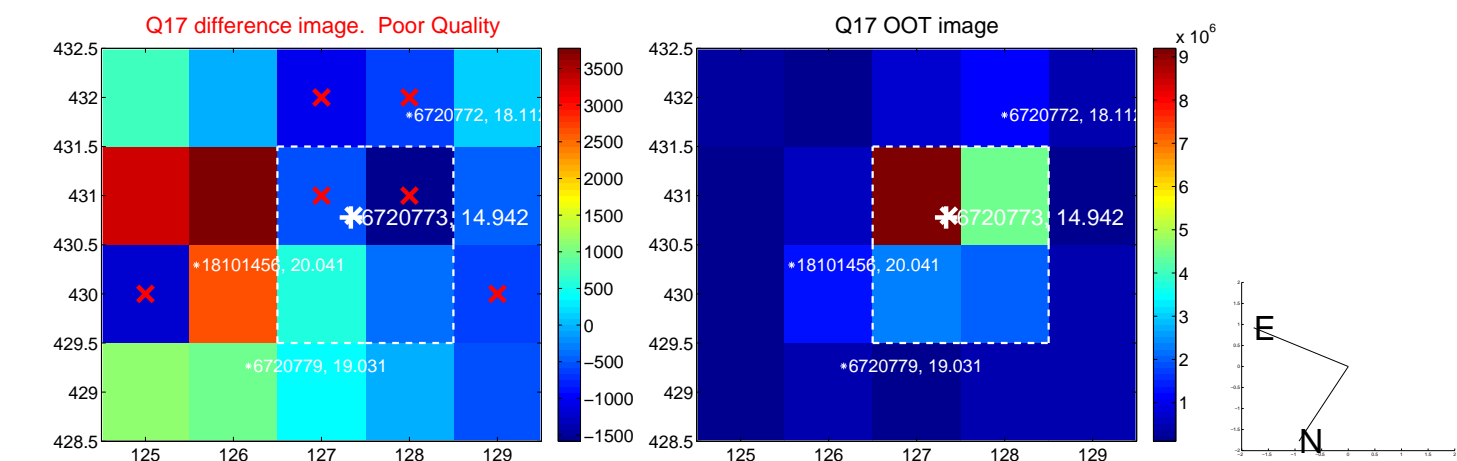
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



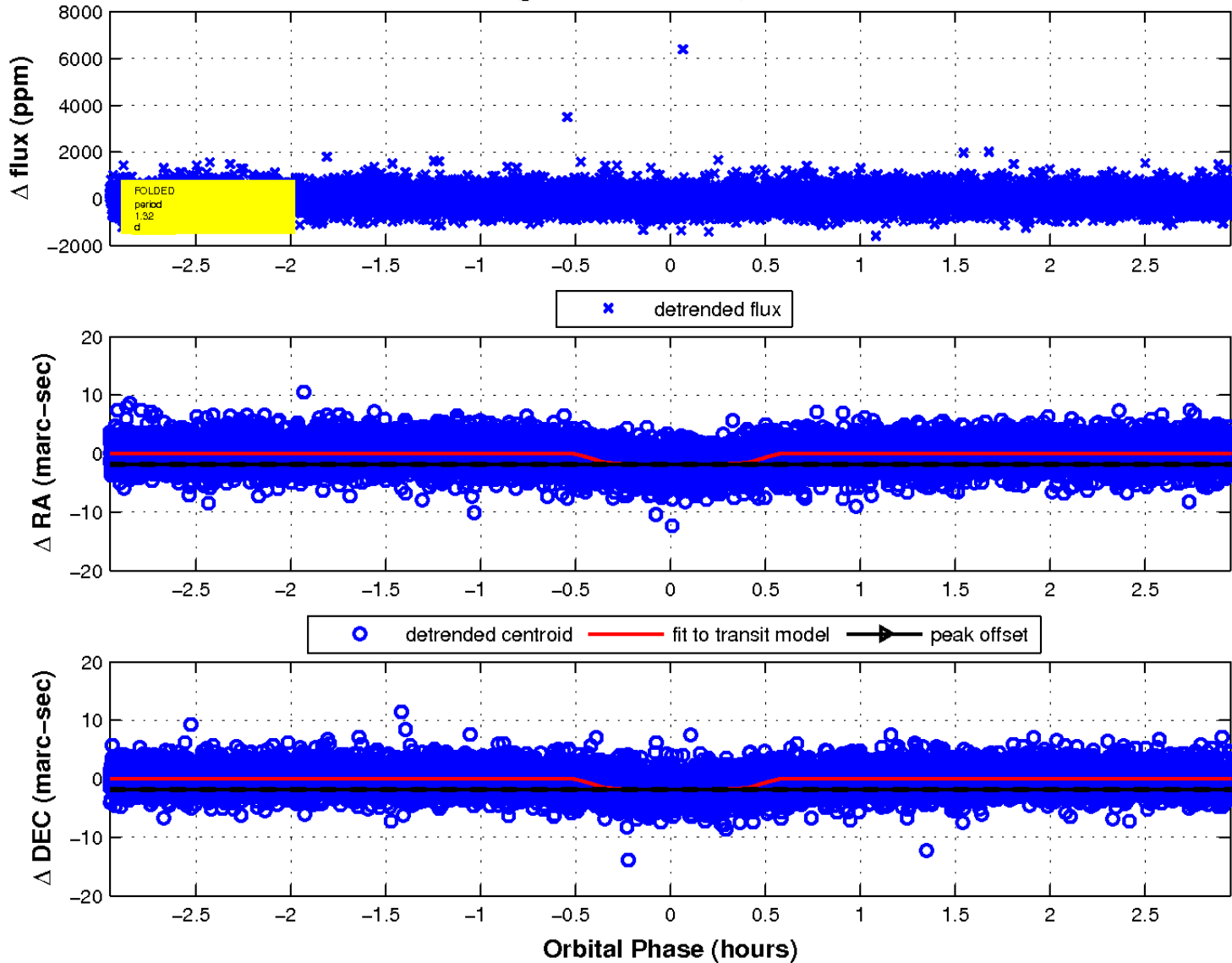
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

