

# KIC 010717721

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010717721-01	OBS	No	0.831101	132.109687	17.1	3.673	8.0	9.4	3.72	7035	1.79	62628.85

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010717721-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

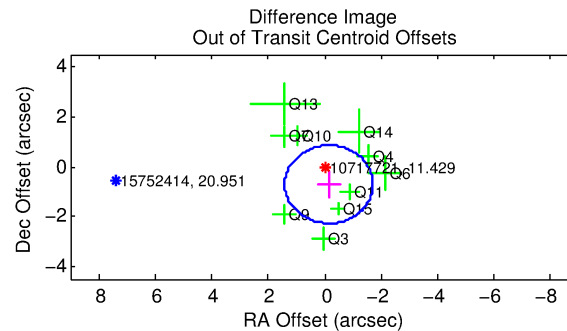
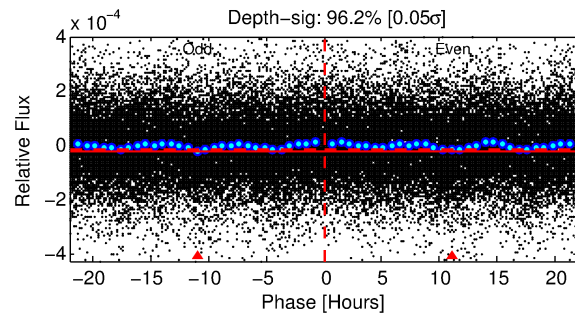
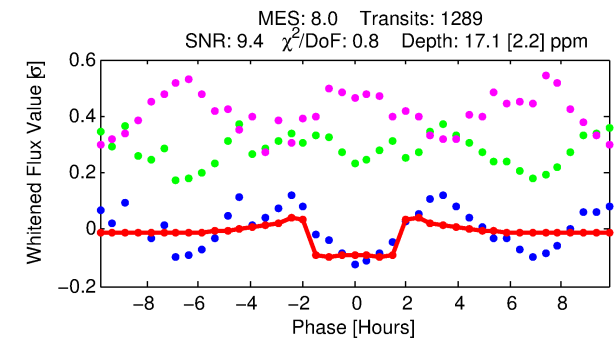
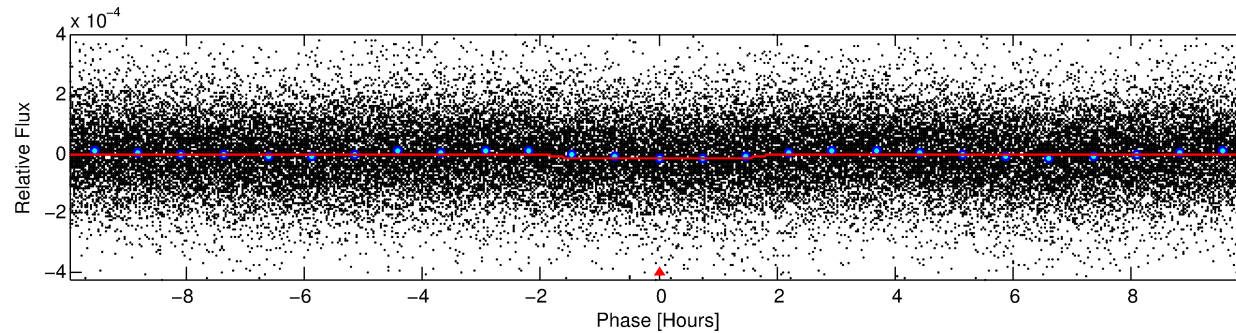
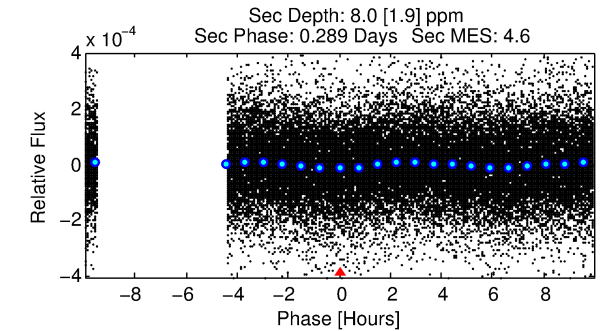
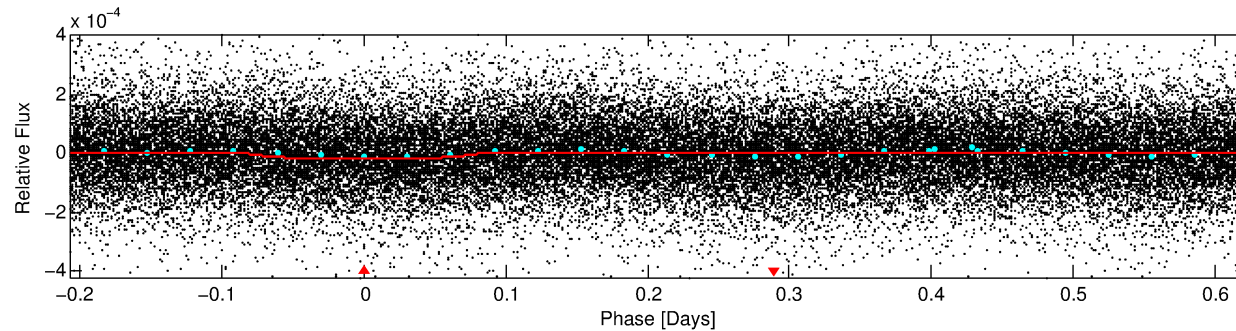
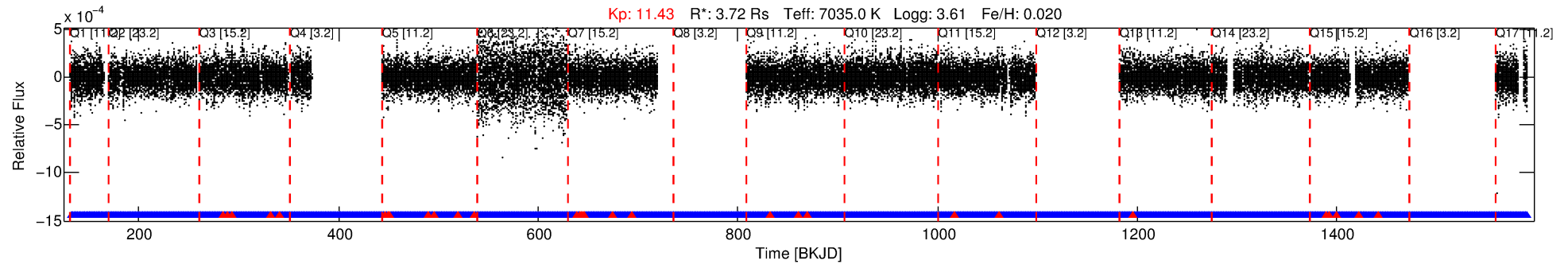
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010717721-01

No Significant Match Found

# DV One-Page Summary

KIC: 10717721 Candidate: 1 of 1 Period: 0.831 d



## DV Fit Results:

Period = 0.83110 [0.00001] d  
Epoch = 132.1097 [0.0024] BKJD  
Rp/R\* = 0.0044 [0.0011]  
a/R\* = 1.21 [0.57]  
b = 0.90 [0.31]  
Seff = 62628.85 [34139.85]  
Teq = 4034 [550] K  
Rp = 1.79 [0.78] Re  
a = 0.0220 [0.0075] AU  
Ag = 0.67 [0.51] [-0.66σ]  
Teffp = 5638 [784] K [1.68σ]

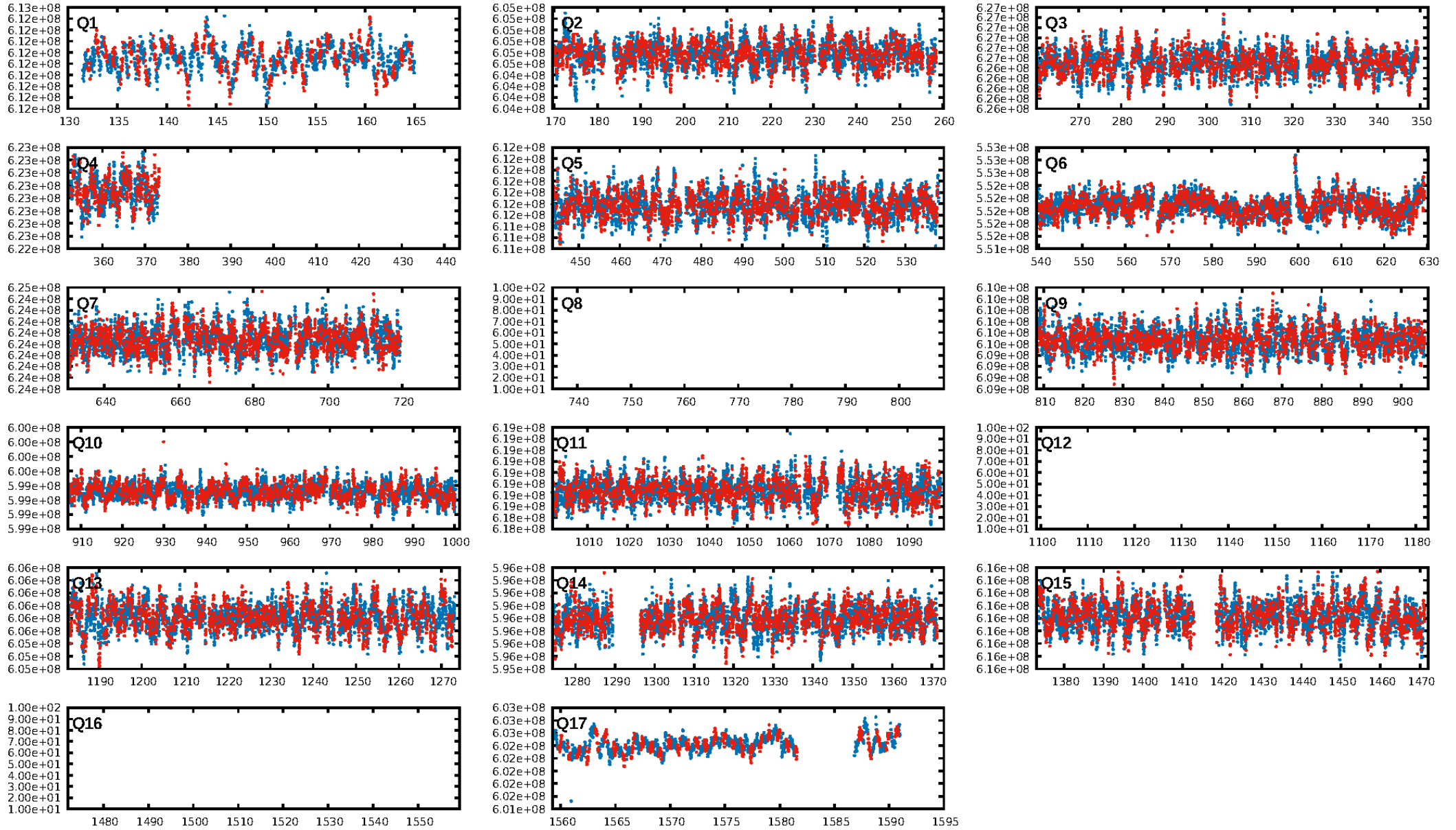
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
**Bootstrap-pfa: 6.75e-12**  
RollingBand-fgt: 0.97 [1161/1191]  
GhostDiagnostic-chr: 1.423  
Centroid-sig: N/A  
Centroid-so: 0.345 arcsec [0.68σ]  
OotOffset-rm: 0.725 arcsec [1.39σ]  
OotOffset-st: 3/4/1/2 [10]  
KicOffset-rm: 0.850 arcsec [1.55σ]  
KicOffset-st: 3/4/1/2 [10]  
DiffImageQuality-fgm: 0.80 [8/10]  
DiffImageOverlap-fno: 1.00 [14/14]

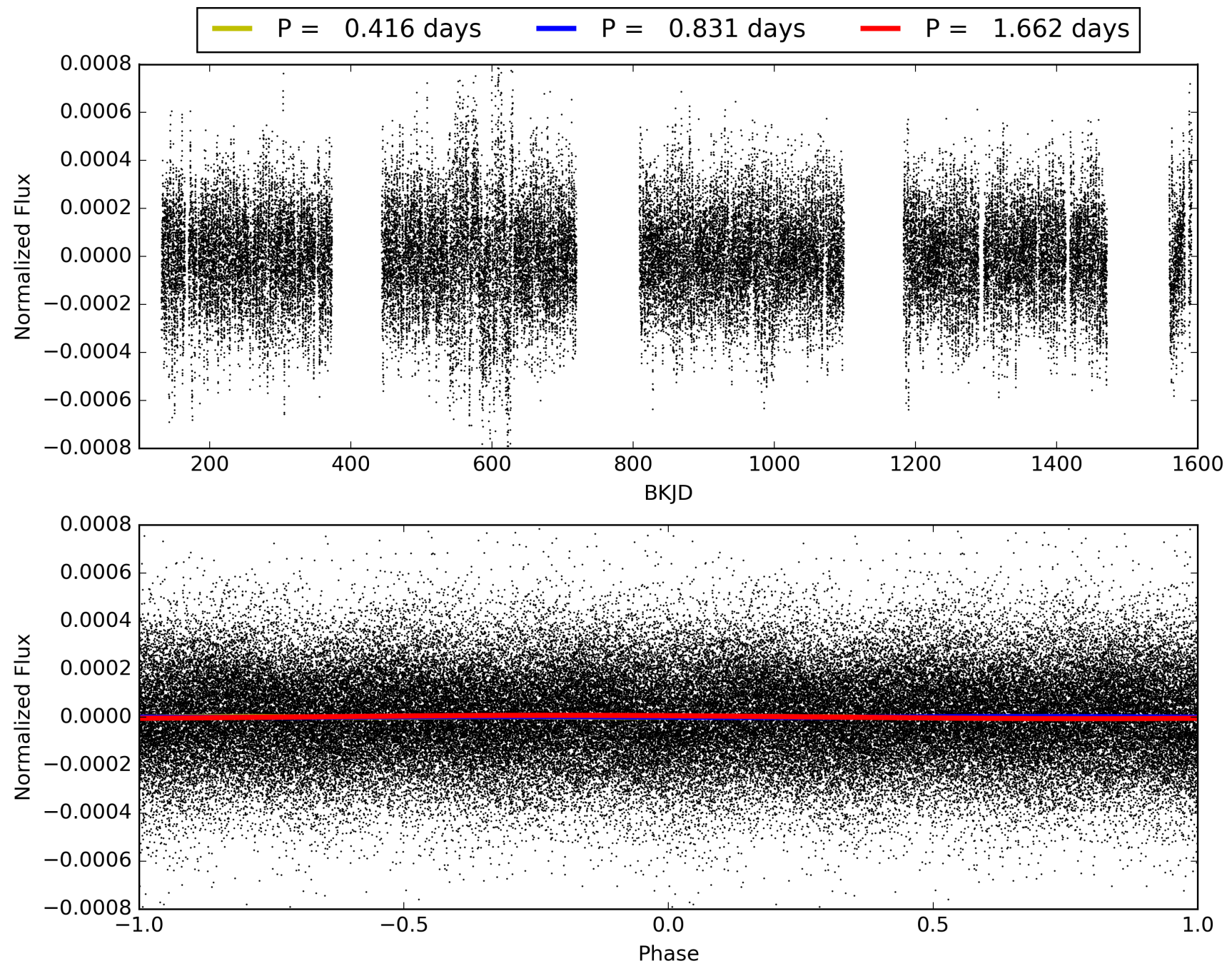
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:08:23 Z

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

# TCE 010717721-01, PDC Light Curves



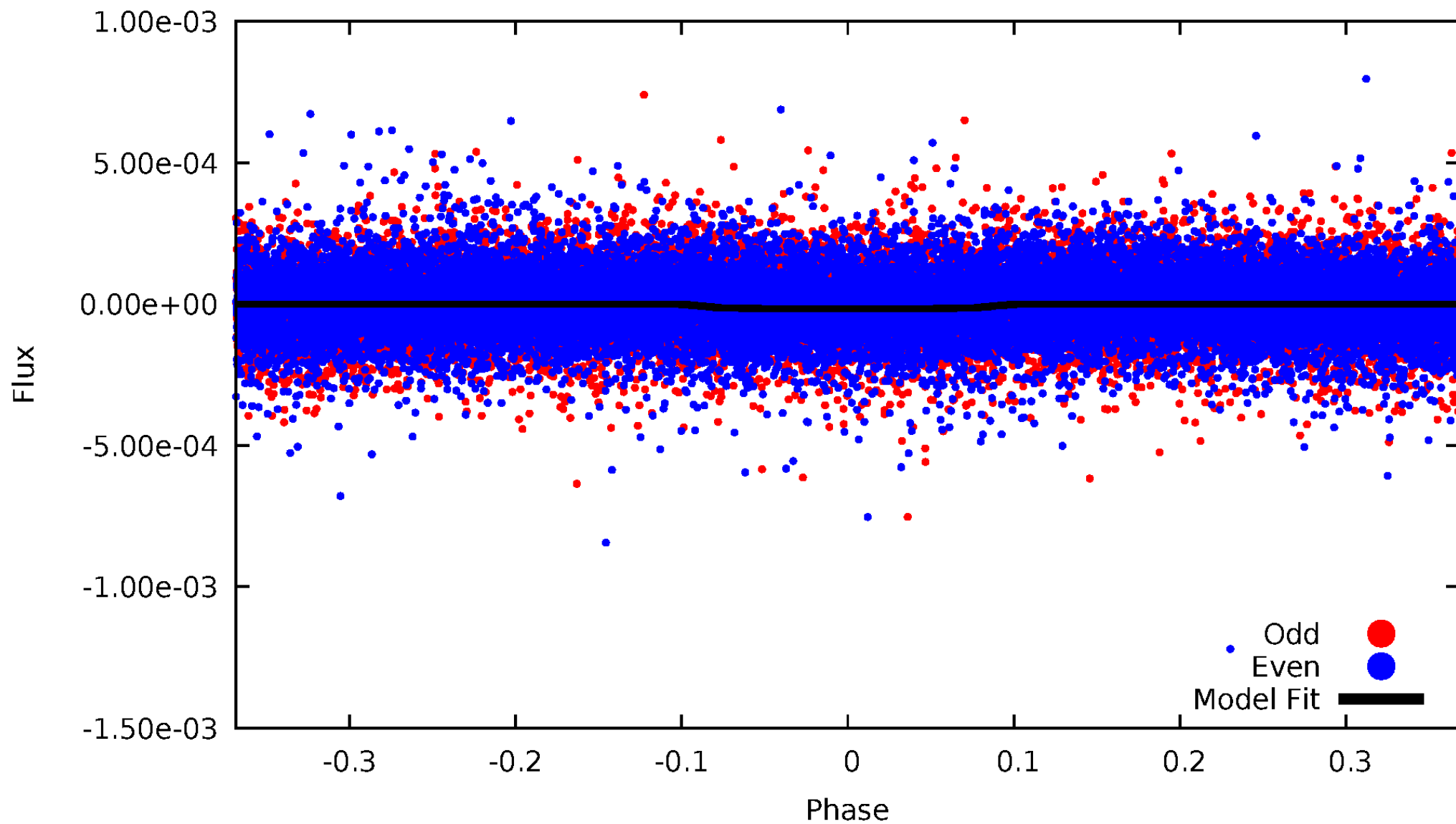
TCE 010717721-01





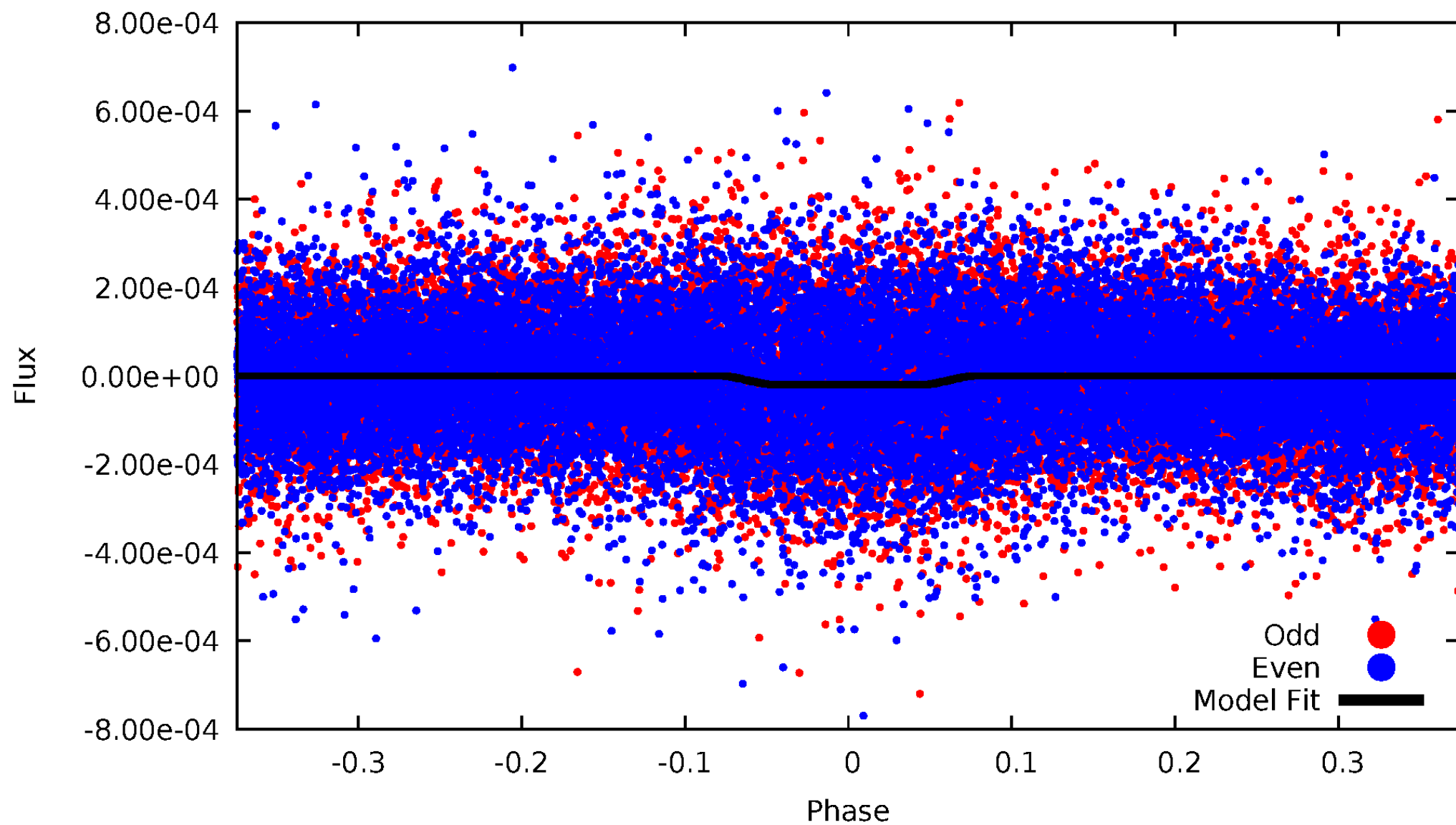
# DV Odd/Even

TCE 010717721-01



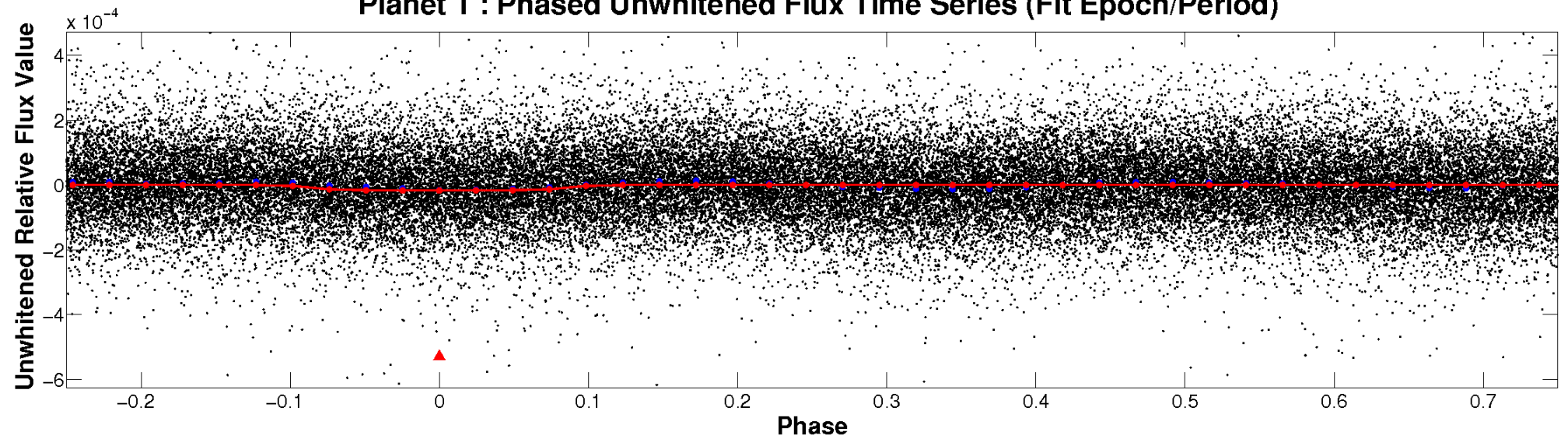
# ALT Odd/Even

TCE 010717721-01

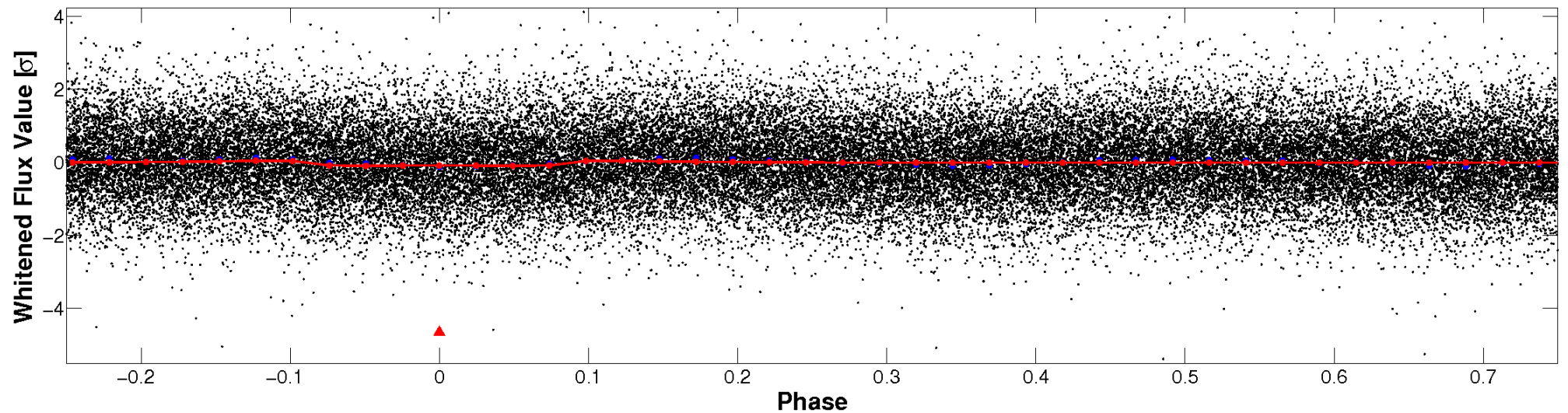


# Non-Whitened Vs. Whitened Light Curve

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

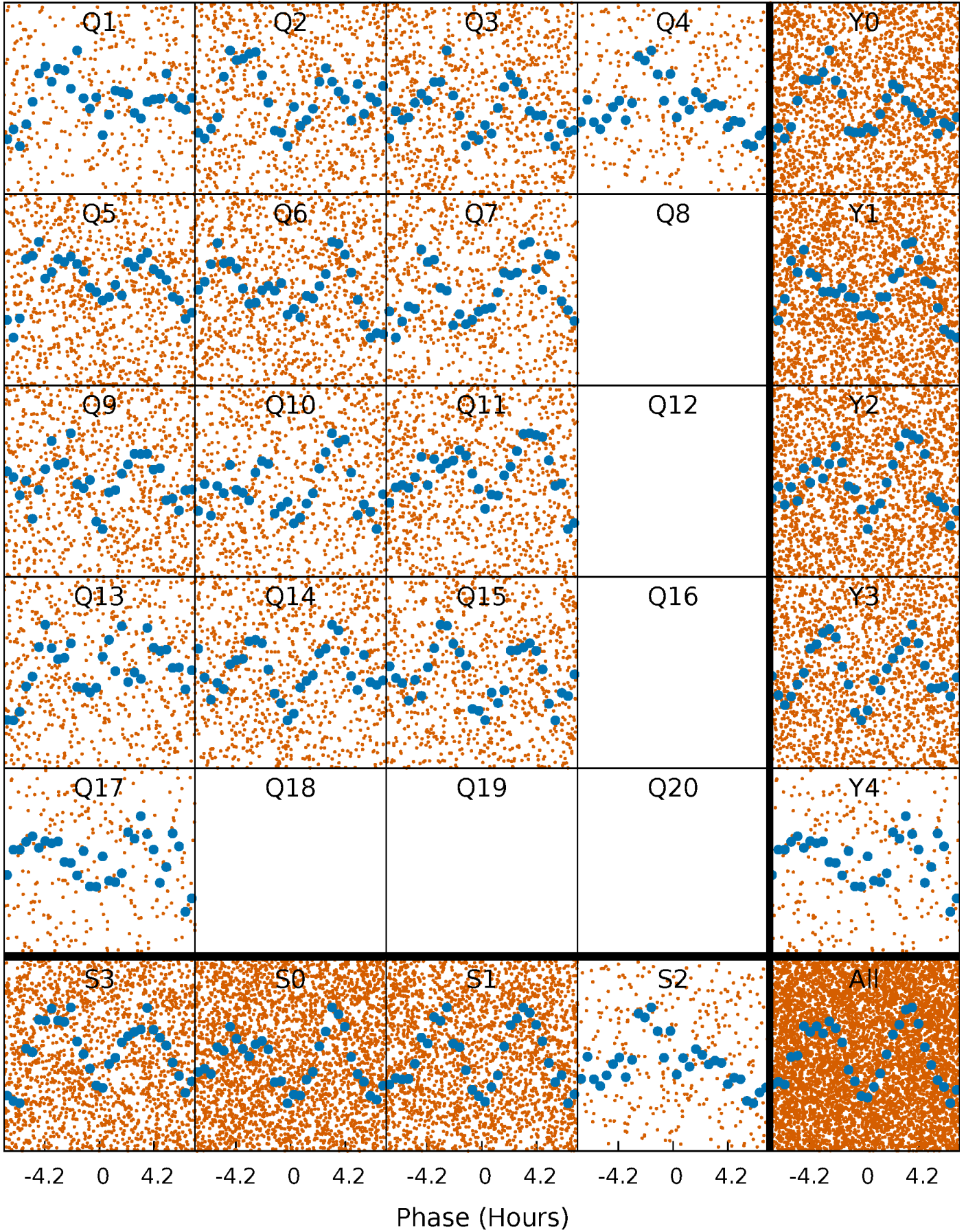


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

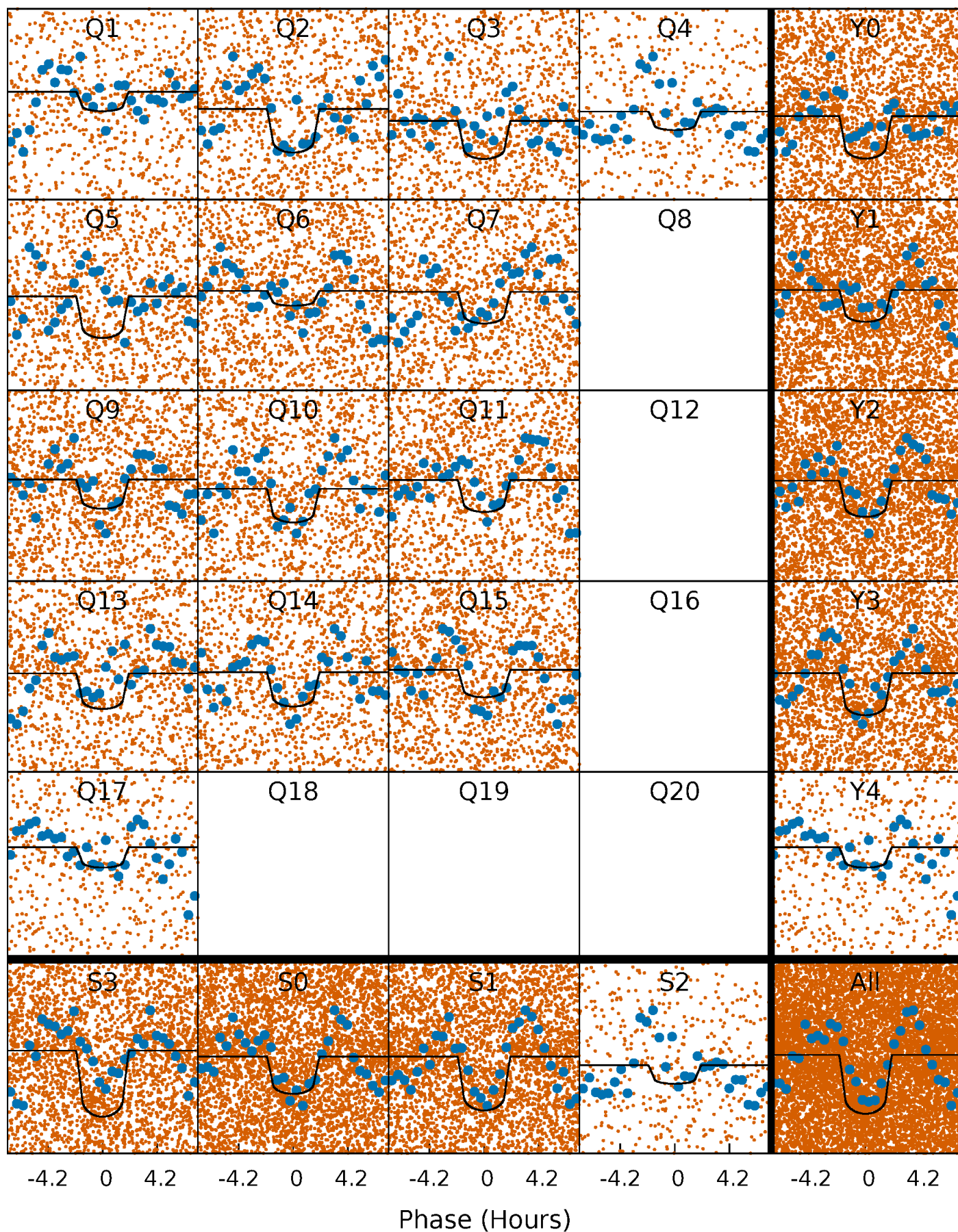
TCE 010717721-01 P= 0.831101 Days  $T_0=132.109687$  (BKJD)





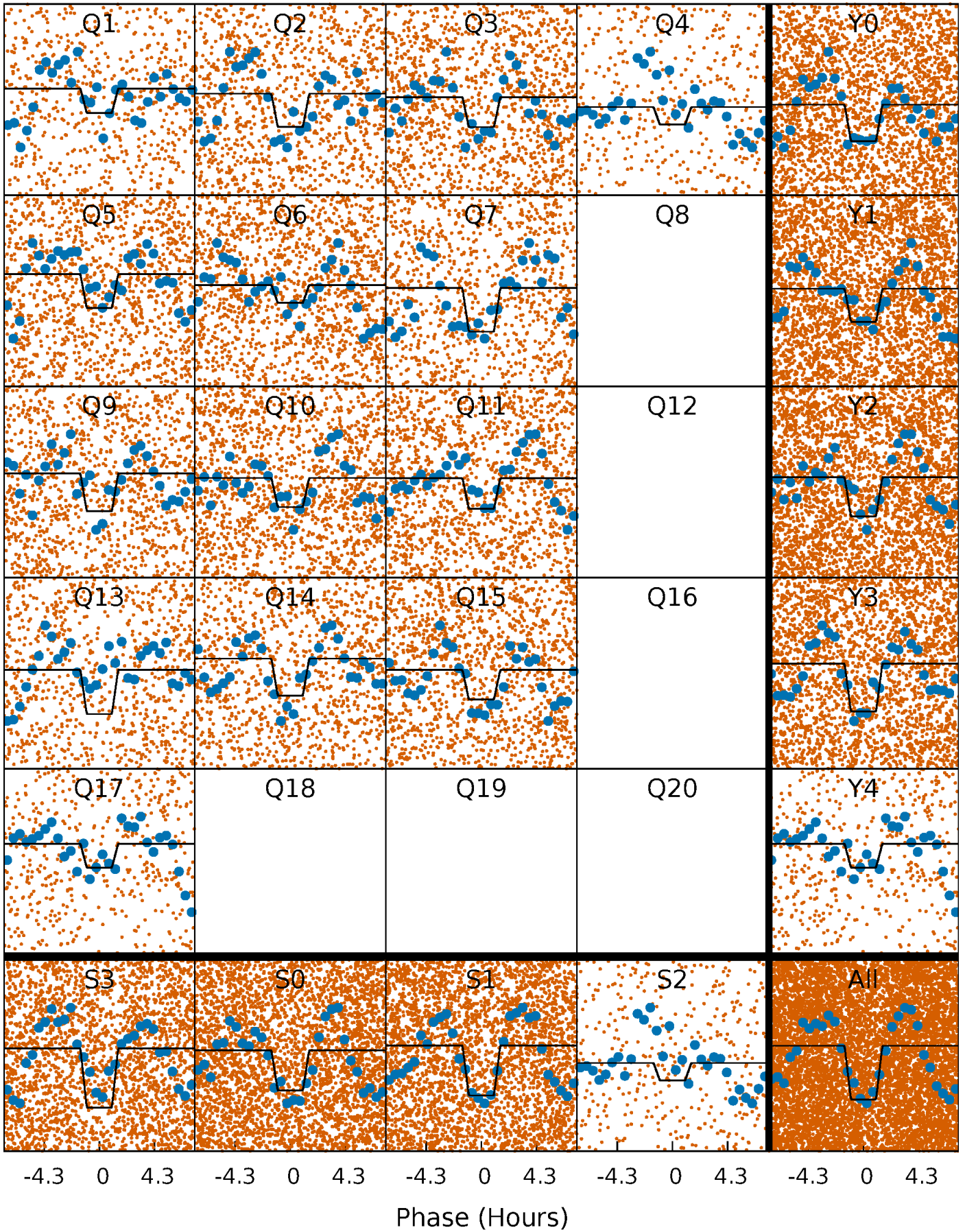
# DV Quarter-Phased Transit Curves

TCE 010717721-01 P= 0.831101 Days  $T_0=132.109687$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 010717721-01 P= 0.831105 Days  $T_0=132.109473$  (BKJD)

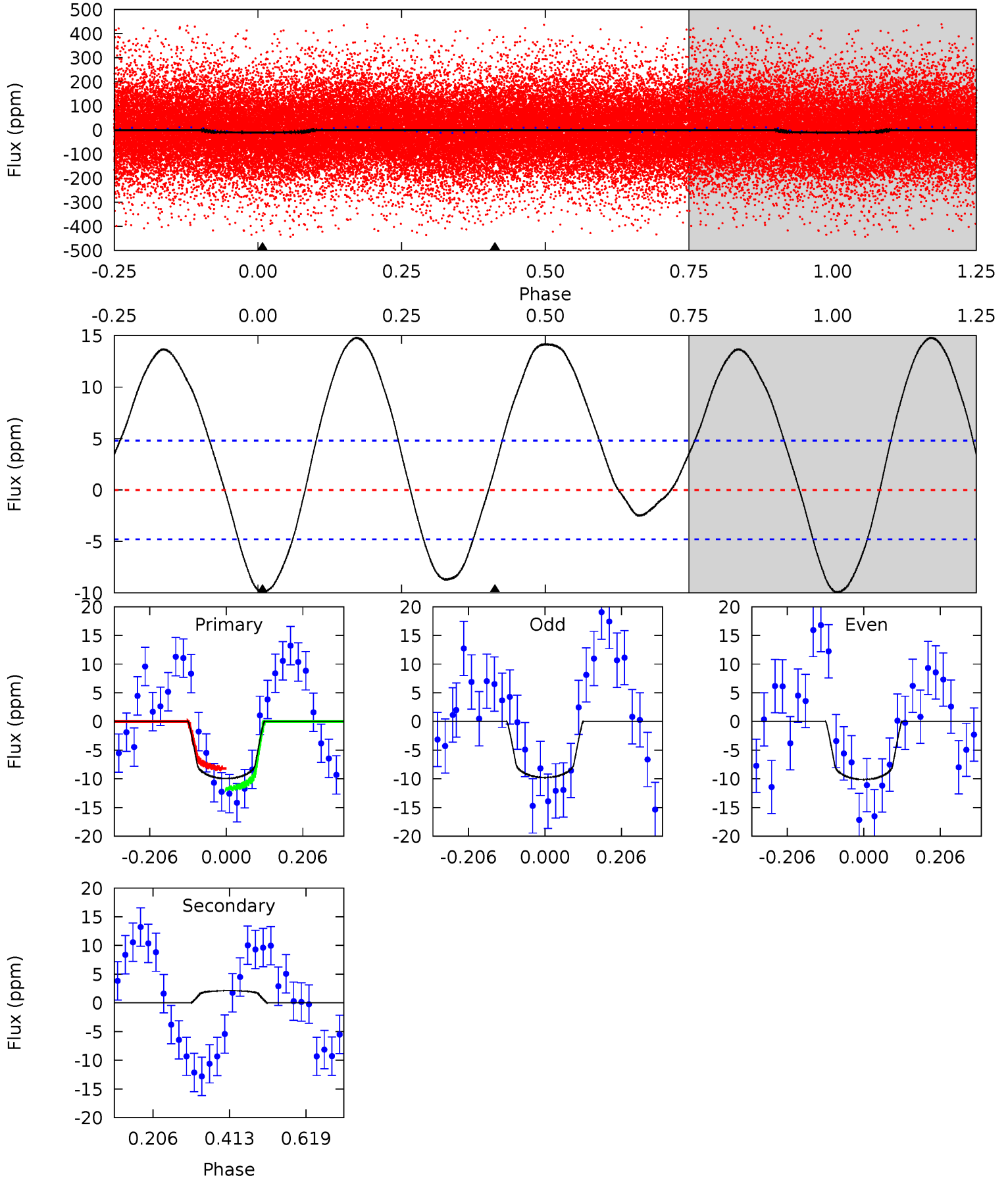




# DV Model-Shift Uniqueness Test

010717721-01, P = 0.831101 Days, E = 131.278586 Days

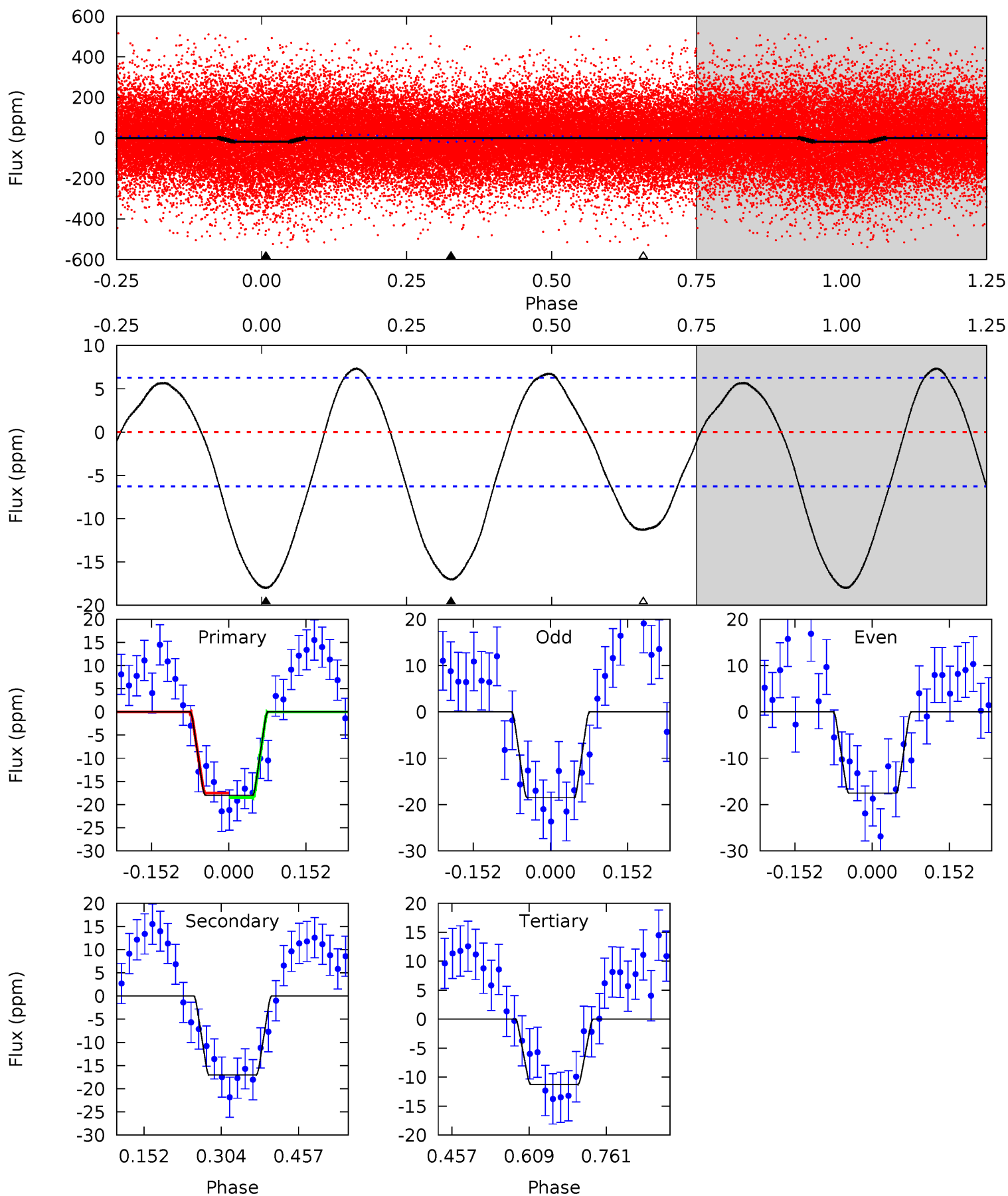
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.16	-1.96	0	0	4.41	1.26	3.62	9.16	9.16	-1.96	-1.96	0.16	1.15	0.60	1.62



# Alt Model-Shift Uniqueness Test

010717721-01, P = 0.831105 Days, E = 131.278368 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
12.8	12.2	8.05	0	4.48	1.43	4.57	4.80	12.8	4.11	12.2	0.35	0.89	0.29	0.31





### Stellar Parameters For KIC 010717721

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7035^{+167}_{-230}$	$3.611^{+0.306}_{-0.054}$	$0.020^{+0.250}_{-0.250}$	$3.720^{+0.255}_{-1.360}$	$2.061^{+0.052}_{-0.442}$	$0.056^{+0.122}_{-0.010}$
	+2%/-3%	+8%/-1%	+1250%/-1250%	+7%/-37%	+3%/-21%	+217%/-18%
Source	PHO1	FLK73	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 010717721-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$2 \pm 1$	$1.64^{+0.48}_{-0.47}$	$5480^{+297}_{-491}$	$-5113^{+363}_{-433}$	$-0.199^{+0.114}_{-0.230}$
Alt.	$-17 \pm 1$	$1.67^{+0.48}_{-0.51}$	$5519^{+289}_{-498}$	$6383^{+1398}_{-848}$	$1.593^{+1.634}_{-0.605}$

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

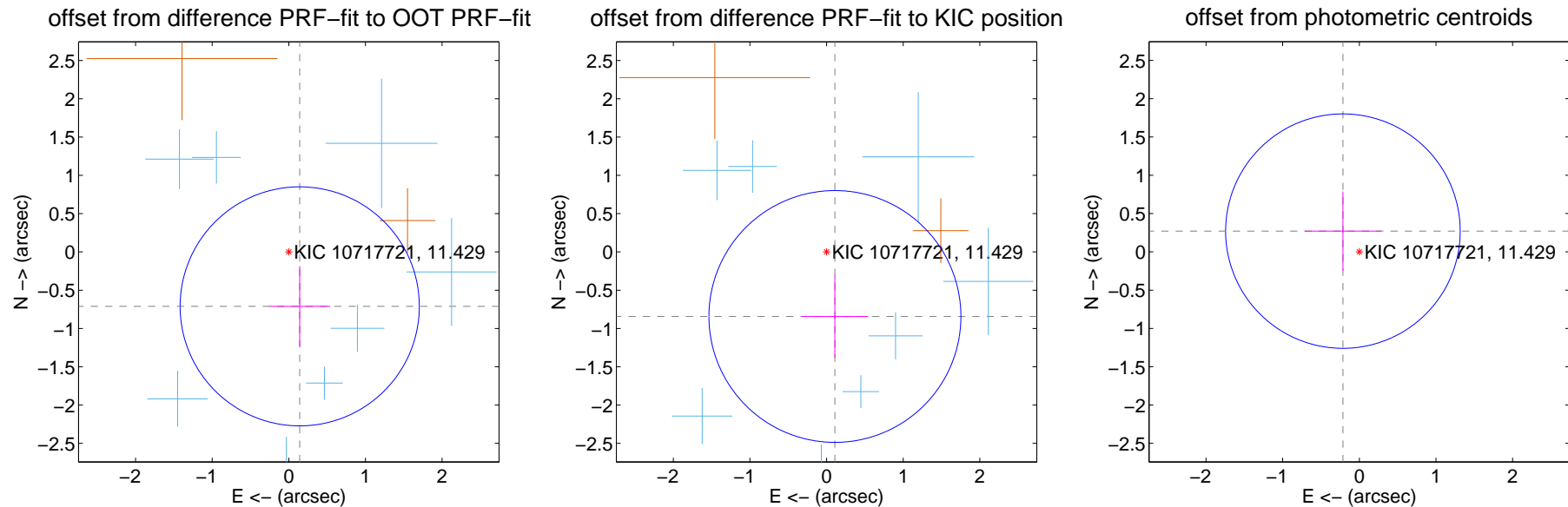
## DV Centroid Data

Supplemental centroid analysis for 010717721-01. **Kepler magnitude: 11.43.** Transit SNR 9.38

There are 8 quarters with good PRF difference image offsets

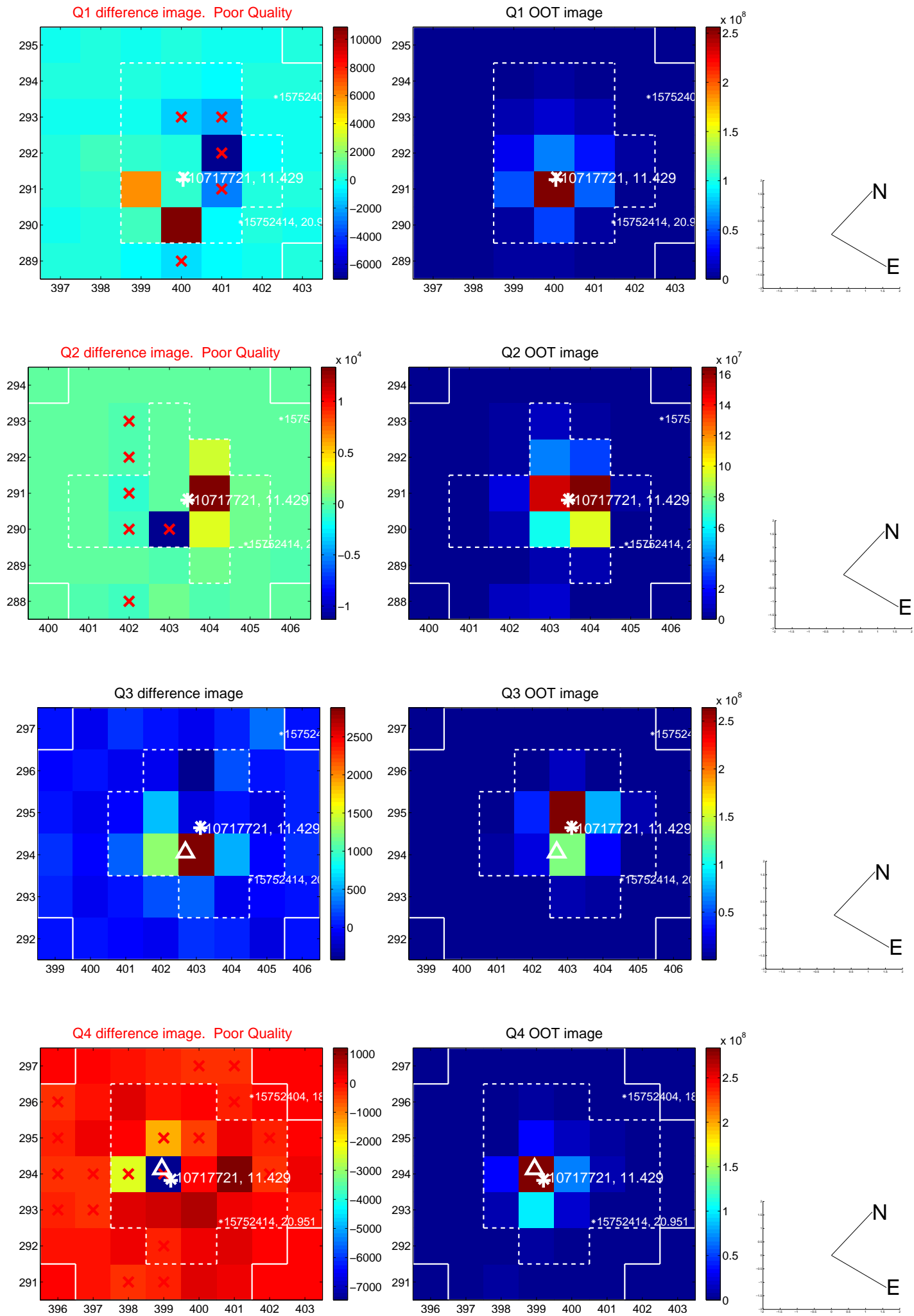
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.725 \pm 0.520$	1.39	$-0.142 \pm 0.397$	$-0.711 \pm 0.525$
PRF-fit source offset from KIC position	$0.850 \pm 0.548$	1.55	$-0.109 \pm 0.430$	$-0.843 \pm 0.540$
photometric centroid source offset	$0.35 \pm 0.51$	0.68	$0.21 \pm 0.50$	$0.27 \pm 0.52$

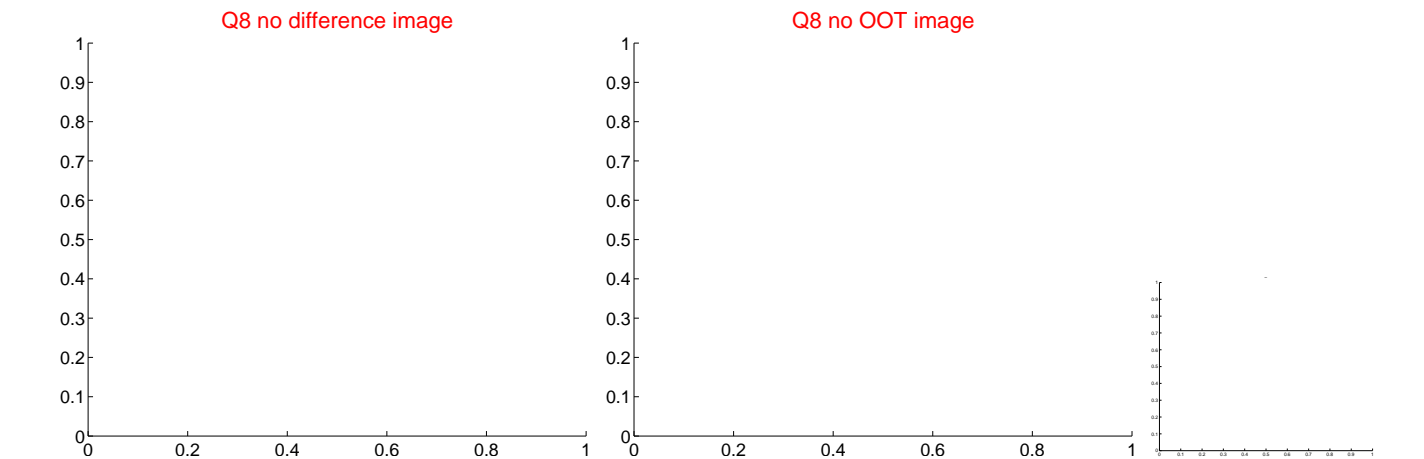
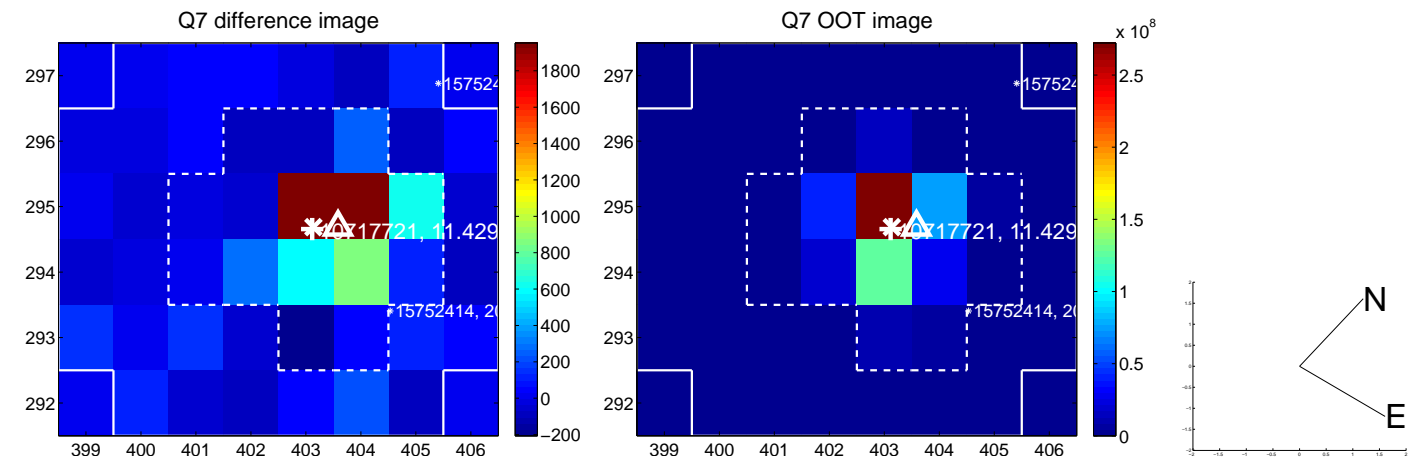
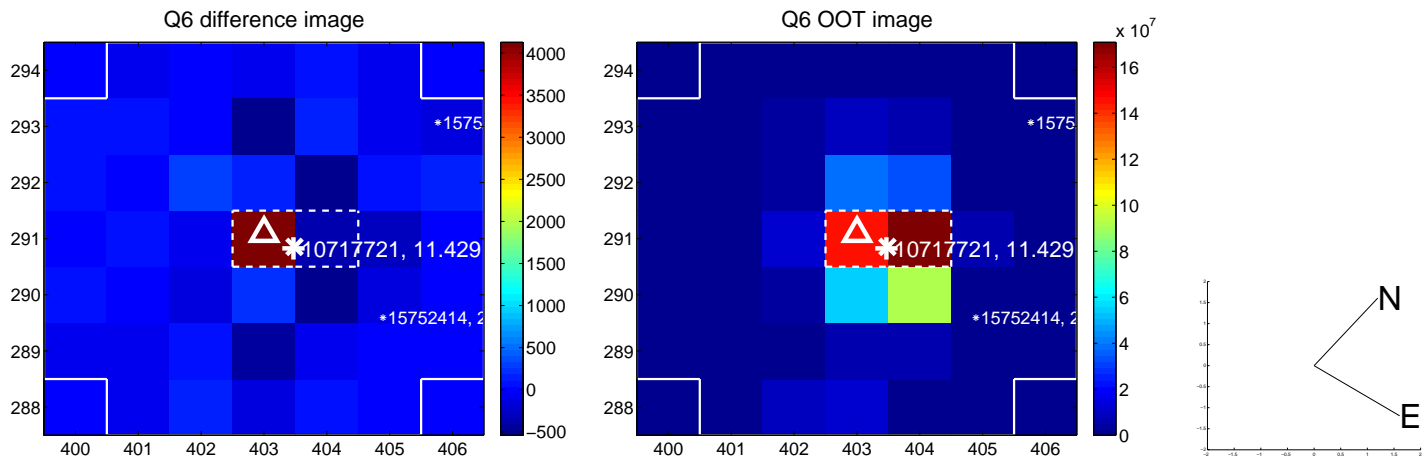
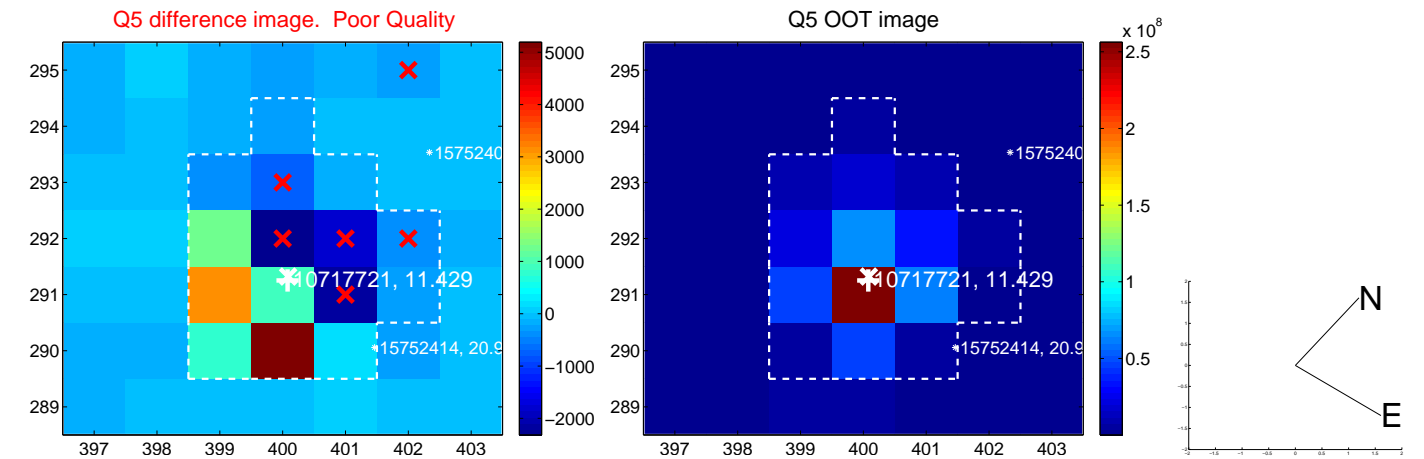


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

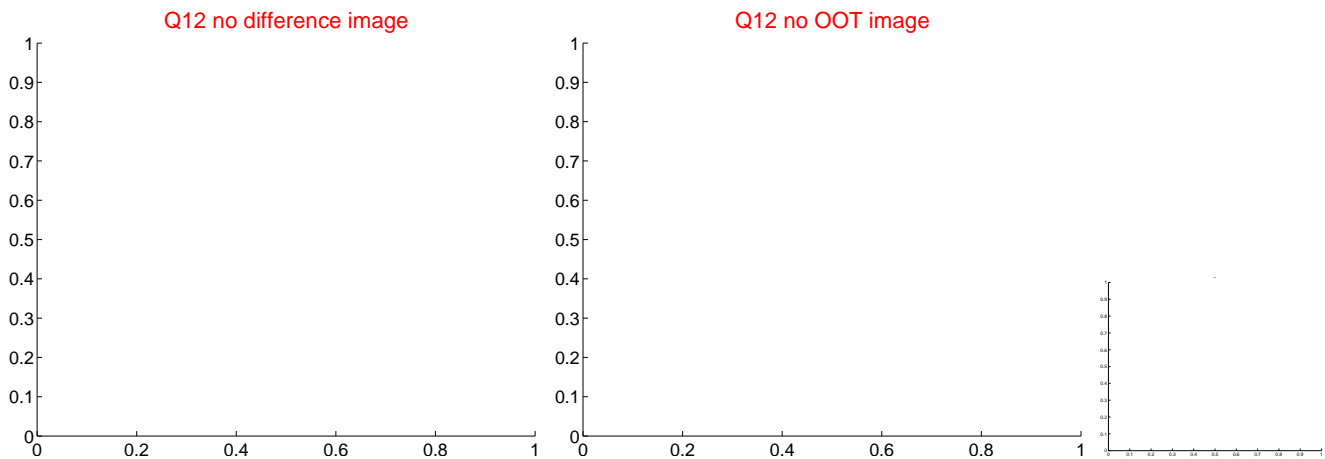
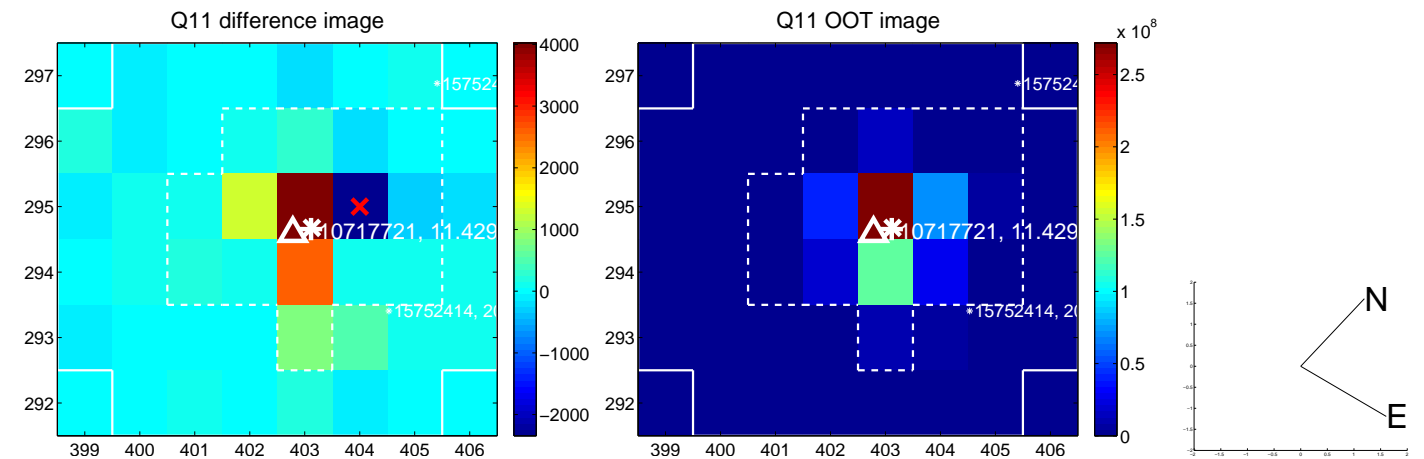
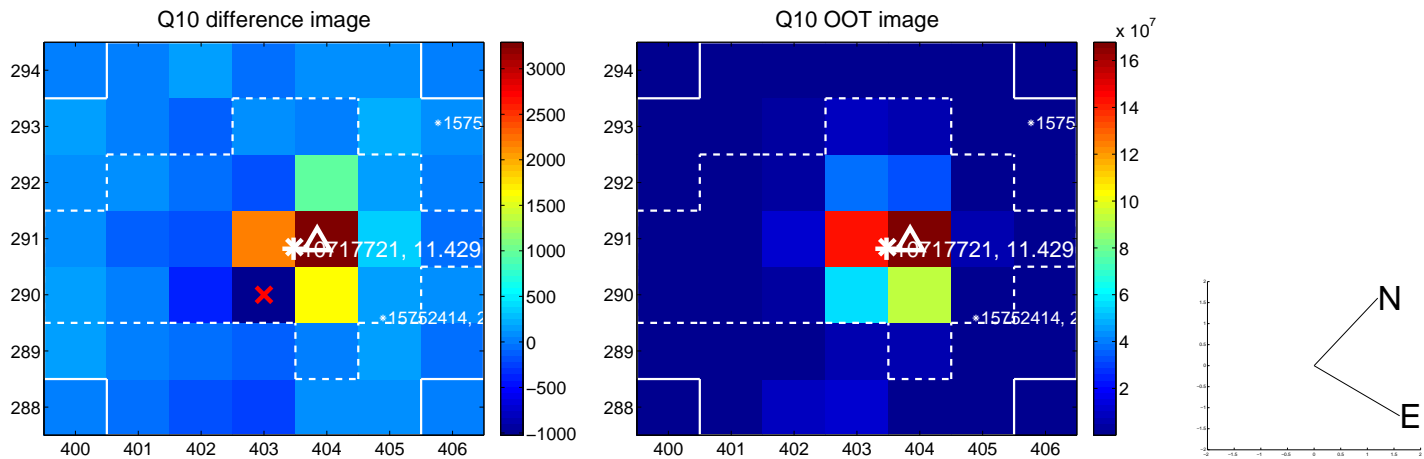
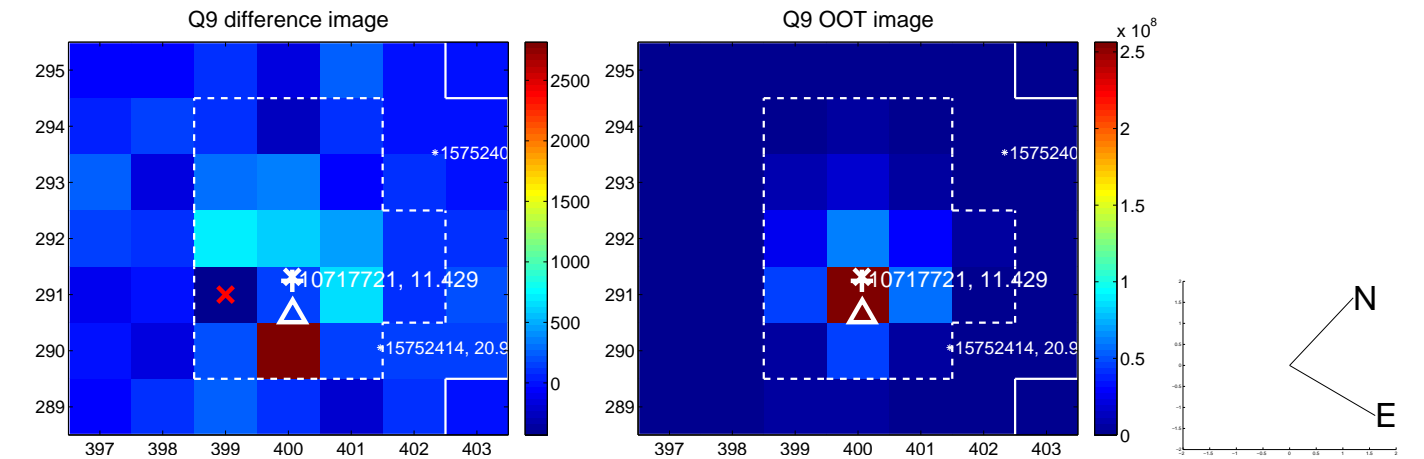


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

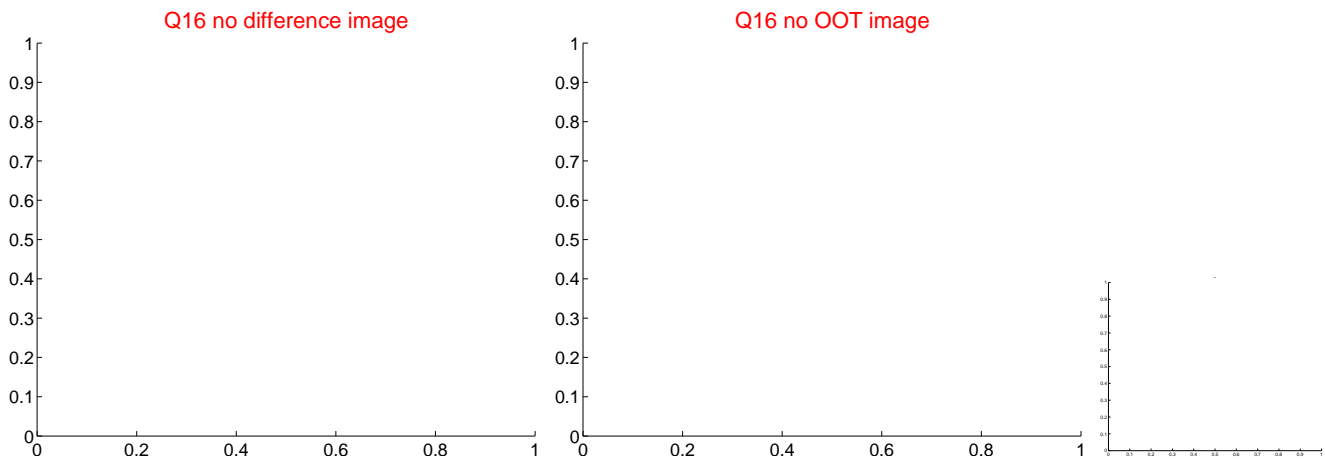
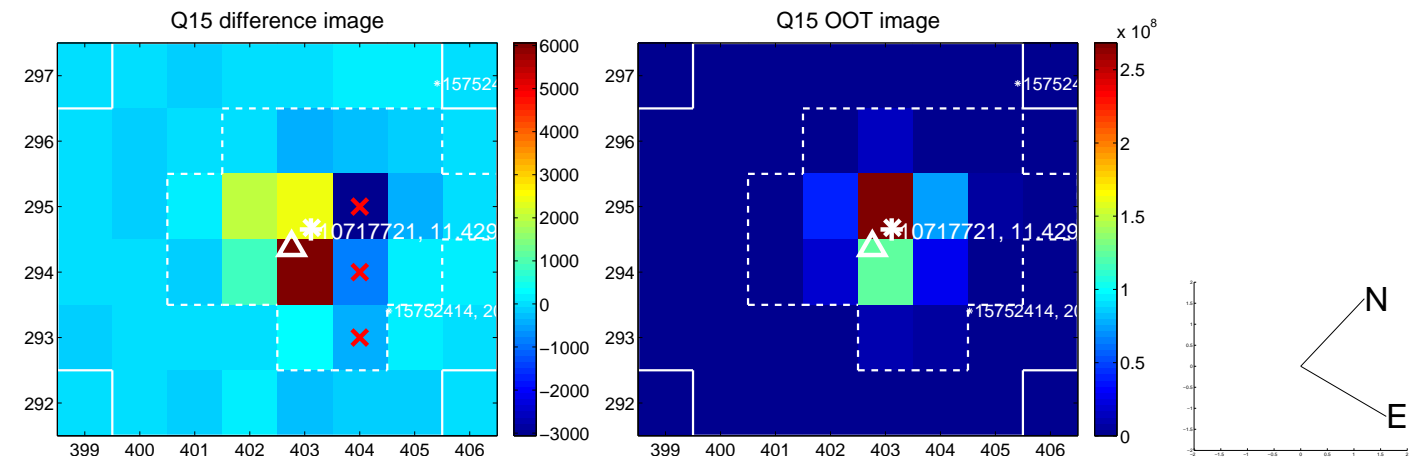
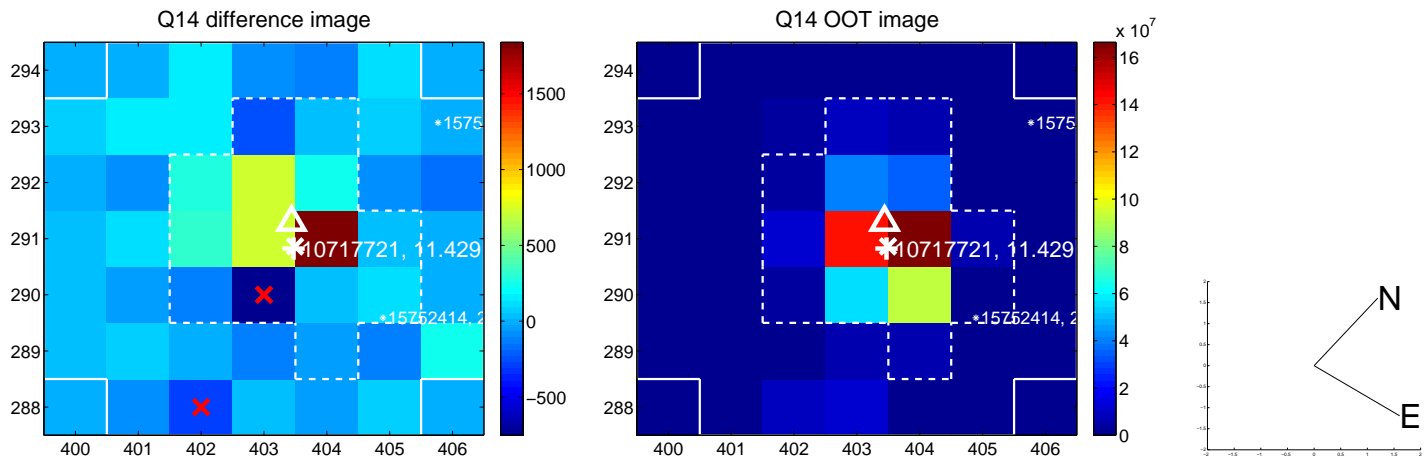
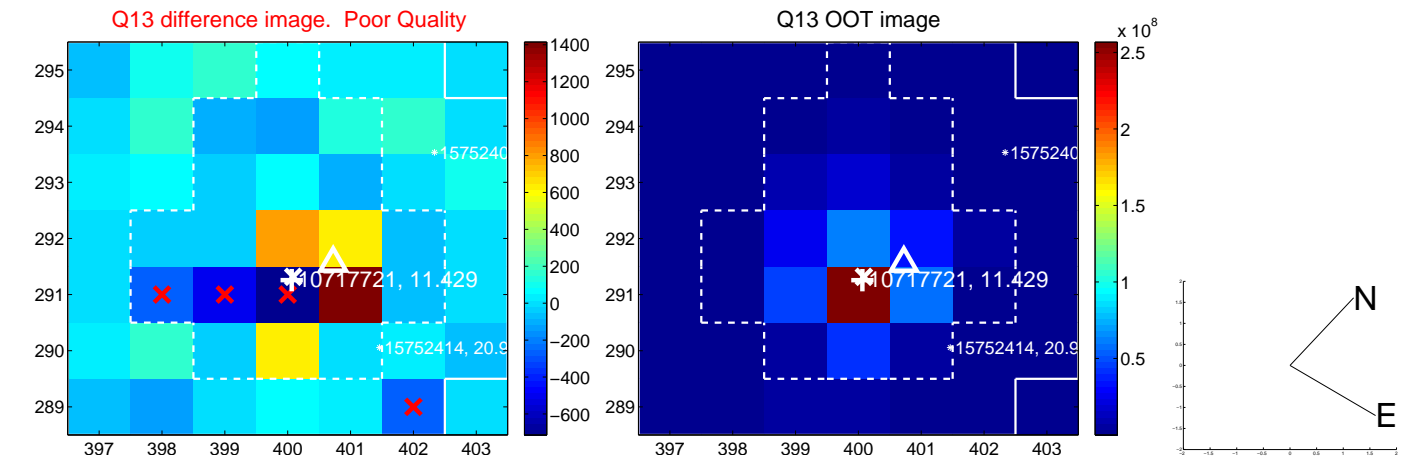




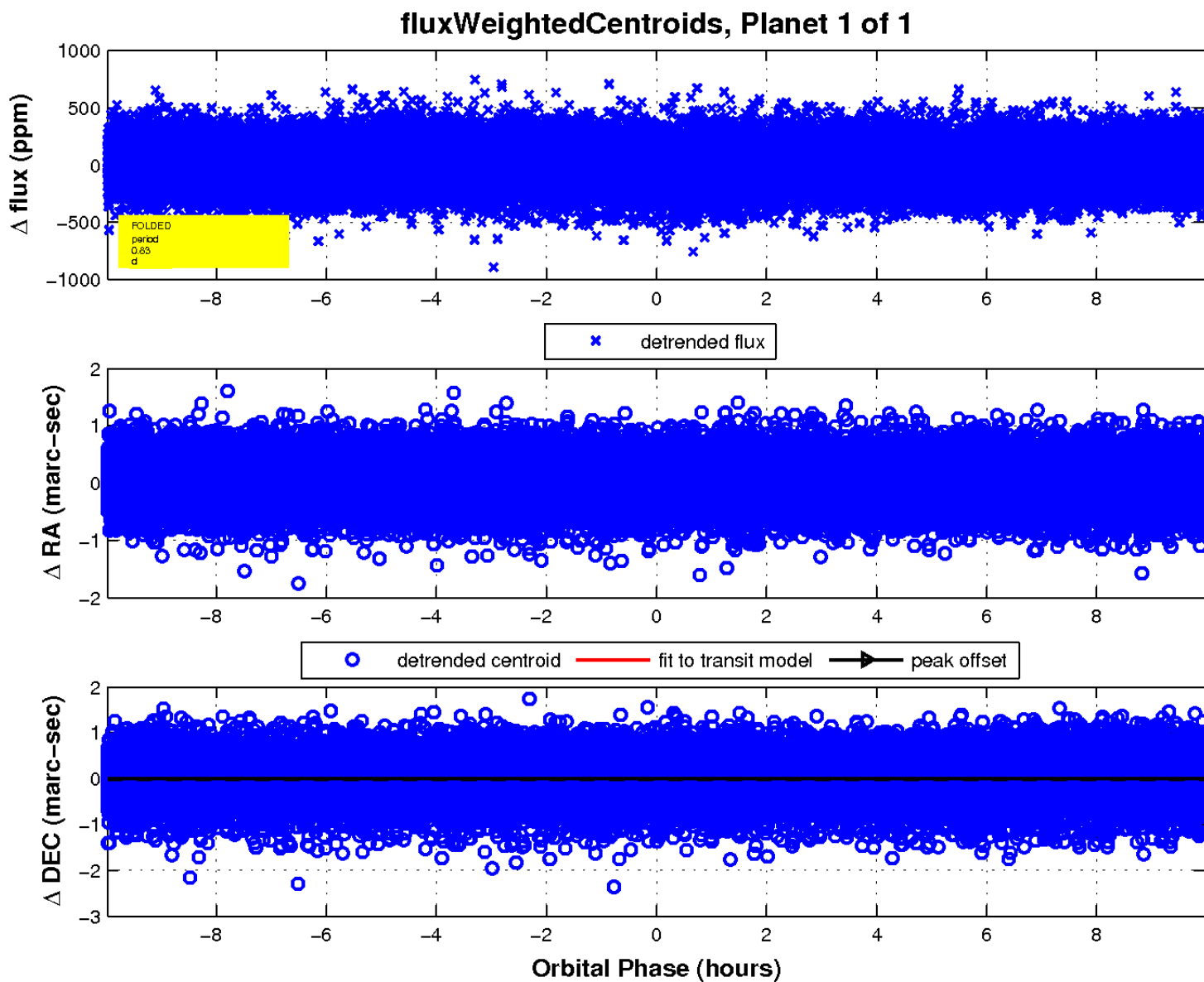
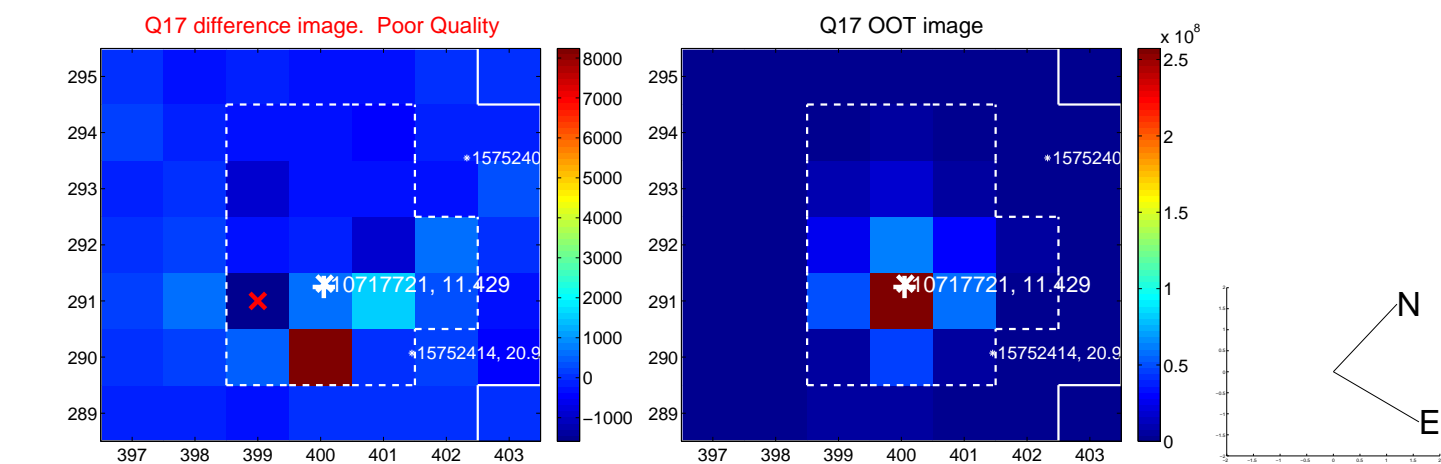
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

