

# KIC 010155029

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010155029-01	OBS	3208.01	2.131651	133.135834	30.1	1.851	12.6	14.2	1.00	5849	0.56	1014.06

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010155029-01	OBS	PC	0.33	0	0	0	0	CENT_KIC_POS

**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 010155029-01

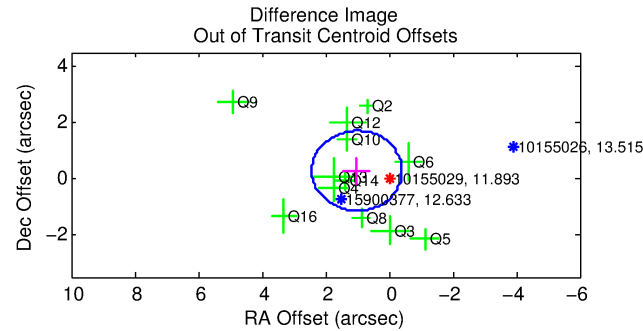
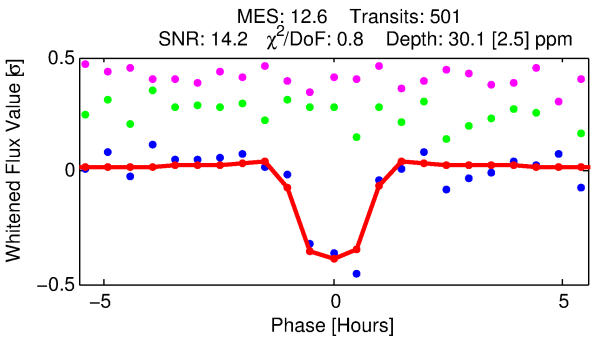
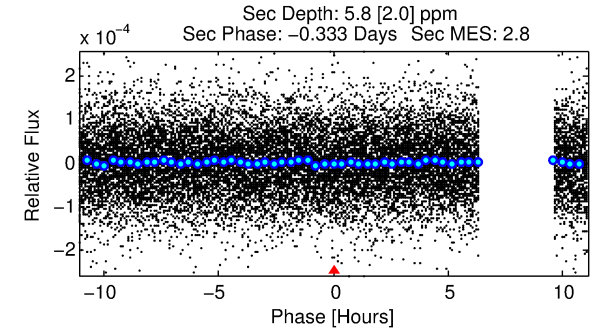
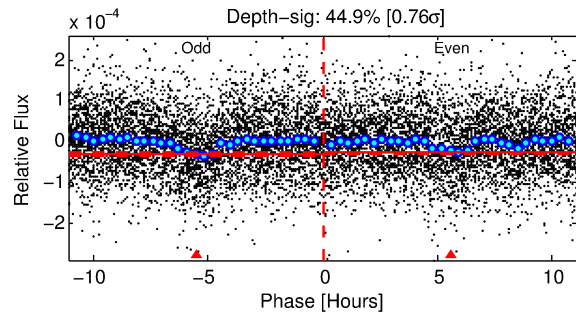
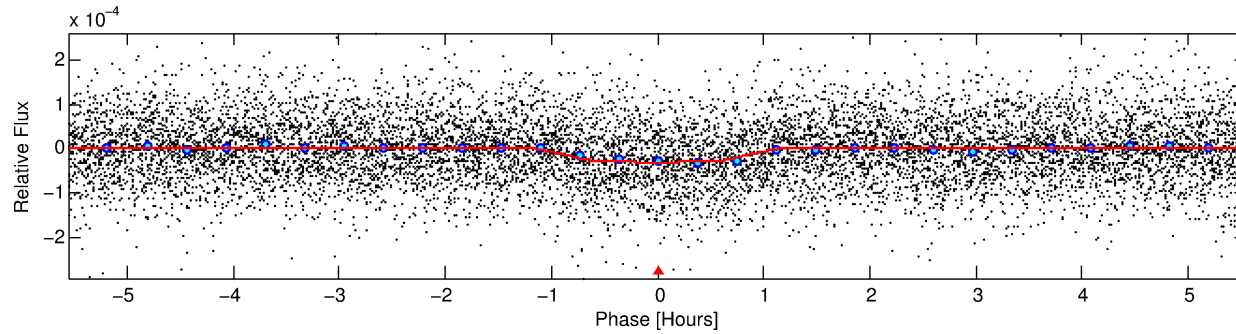
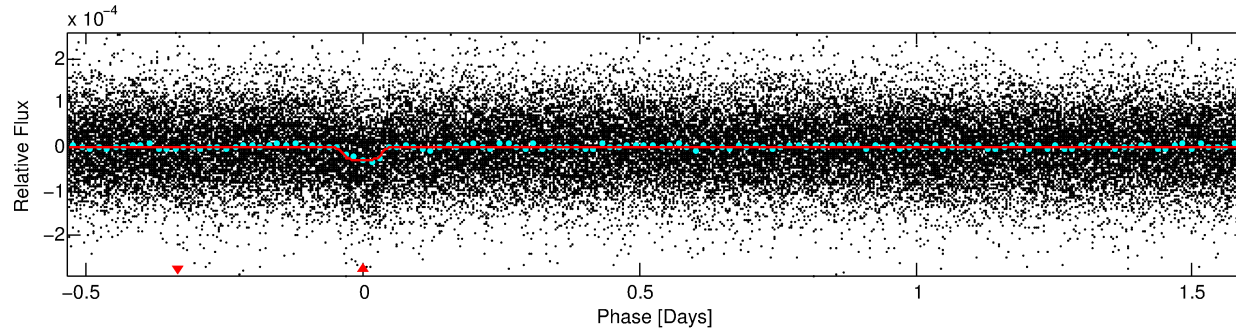
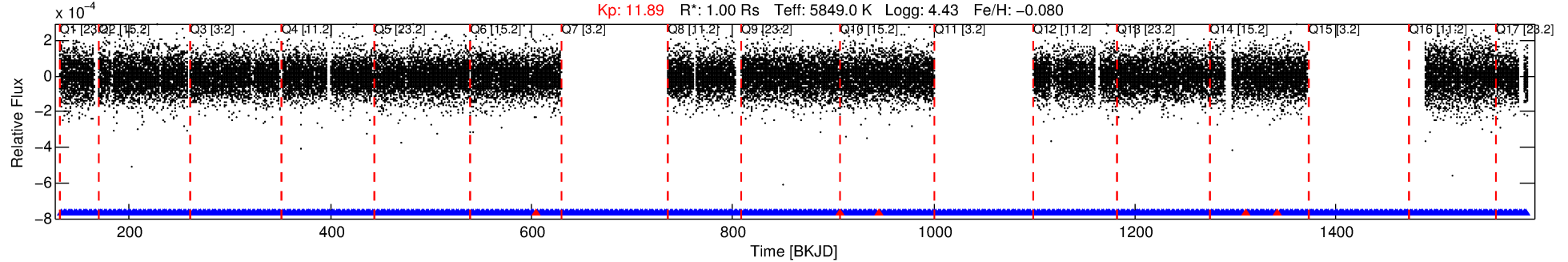
No Significant Match Found

# DV One-Page Summary

KIC: 10155029 Candidate: 1 of 1 Period: 2.132 d

KOI: K03208.01 Corr: 0.955

Kp: 11.89 R\*: 1.00 Rs Teff: 5849.0 K Logg: 4.43 Fe/H: -0.080



## DV Fit Results:

Period = 2.13165 [0.00001] d  
Epoch = 133.1358 [0.0020] BKJD  
Rp/R\* = 0.0052 [0.0012]  
a/R\* = 7.65 [7.79]  
b = 0.51 [1.51]  
Seff = 1014.06 [217.89]  
Teq = 1439 [77] K  
Rp = 0.56 [0.15] Re  
a = 0.0321 [0.0042] AU  
Ag = 10.42 [6.30] [1.49σ]  
Teffp = 3997 [576] K [4.40σ]

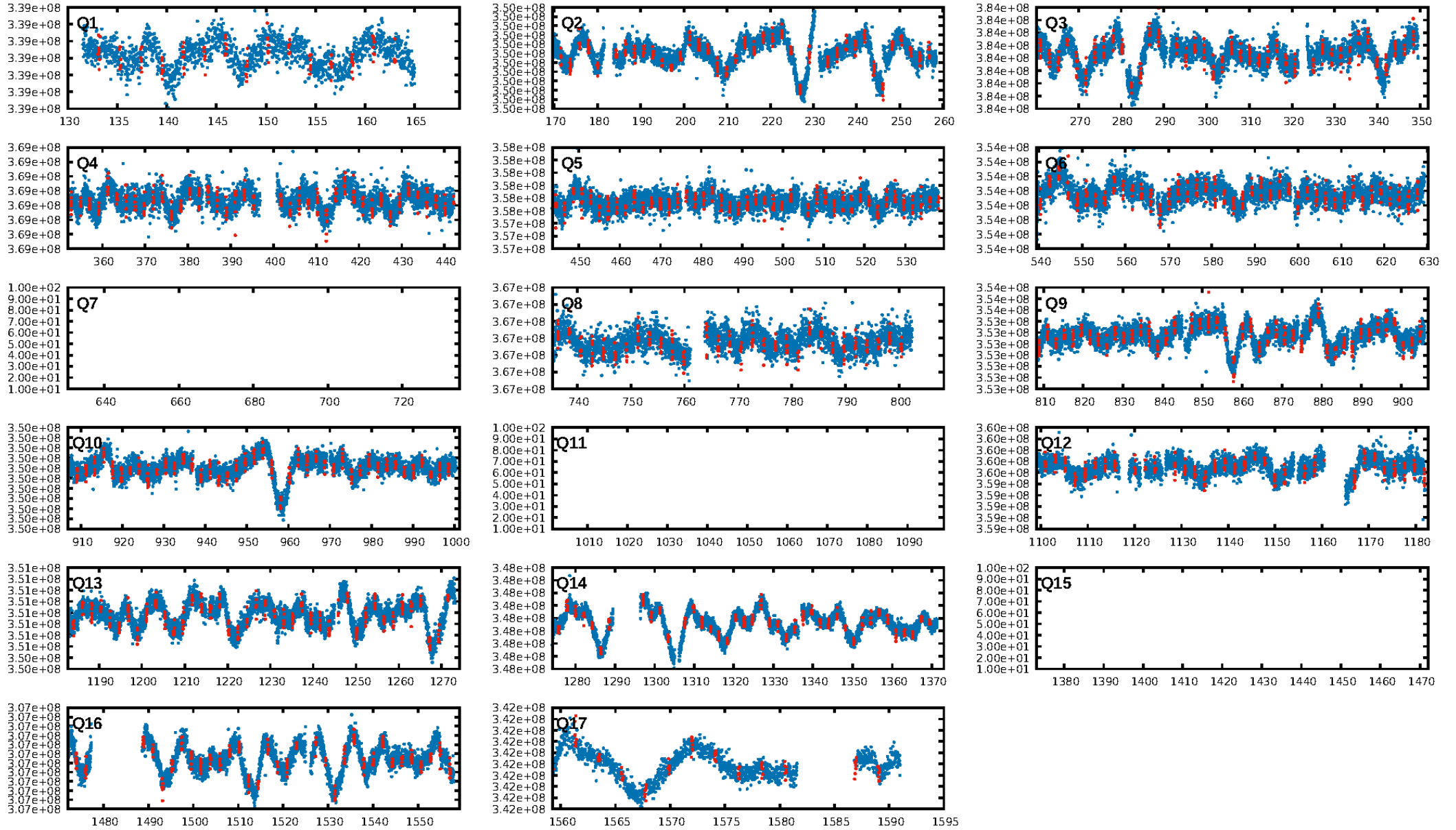
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.24e-34  
RollingBand-fgt: 0.99 [468/473]  
GhostDiagnostic-chr: 1.977  
Centroid-sig: 0.2%  
Centroid-so: 2.554 arcsec [3.46σ]  
OotOffset-rm: 1.054 arcsec [2.22σ]  
OotOffset-st: 4/1/4/3 [12]  
KicOffset-rm: 2.042 arcsec [4.88σ]  
KicOffset-st: 4/1/4/3 [12]  
DiffImageQuality-fgm: 0.92 [11/12]  
DiffImageOverlap-fno: 1.00 [14/14]

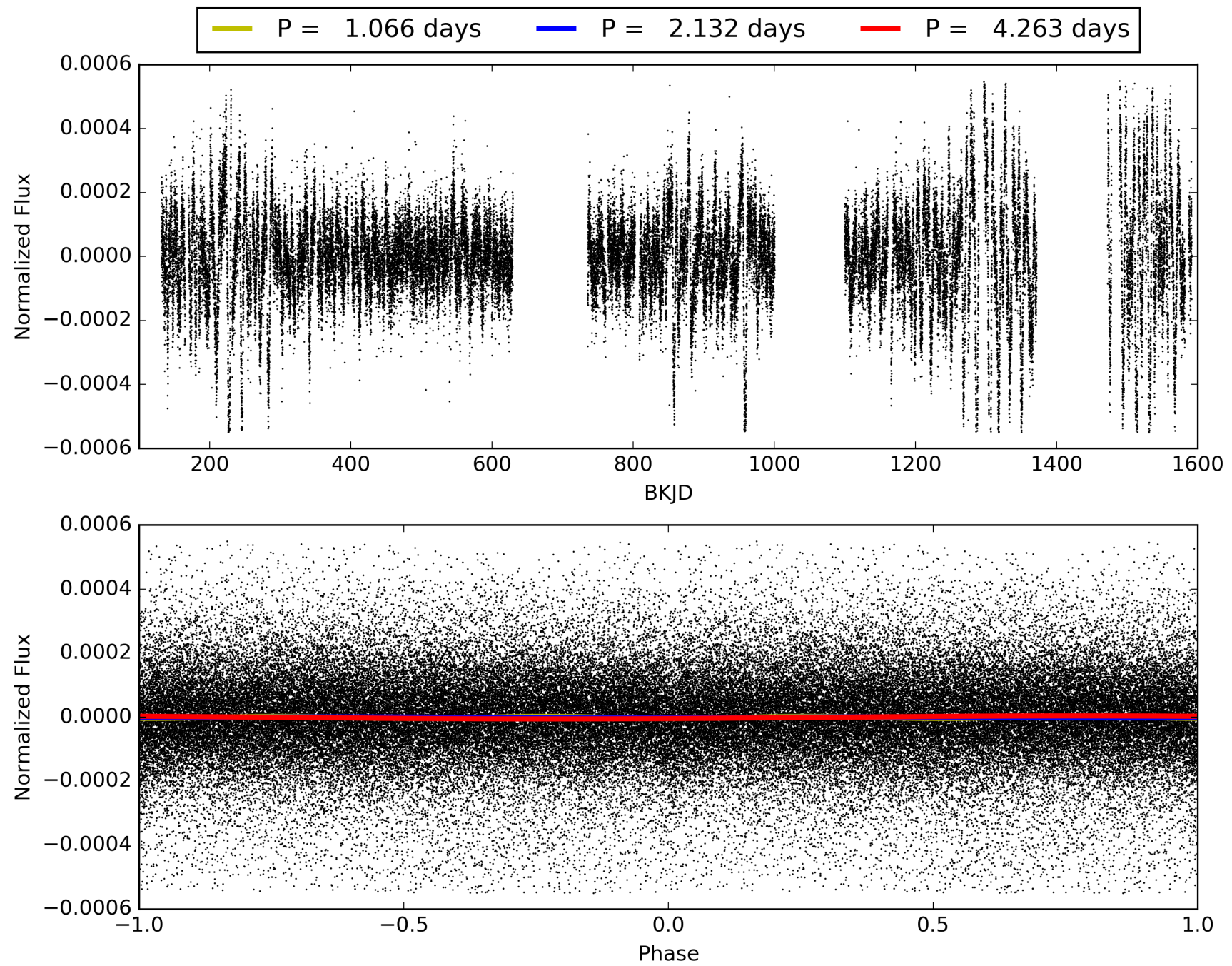
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:27:16 Z

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

# TCE 010155029-01, PDC Light Curves



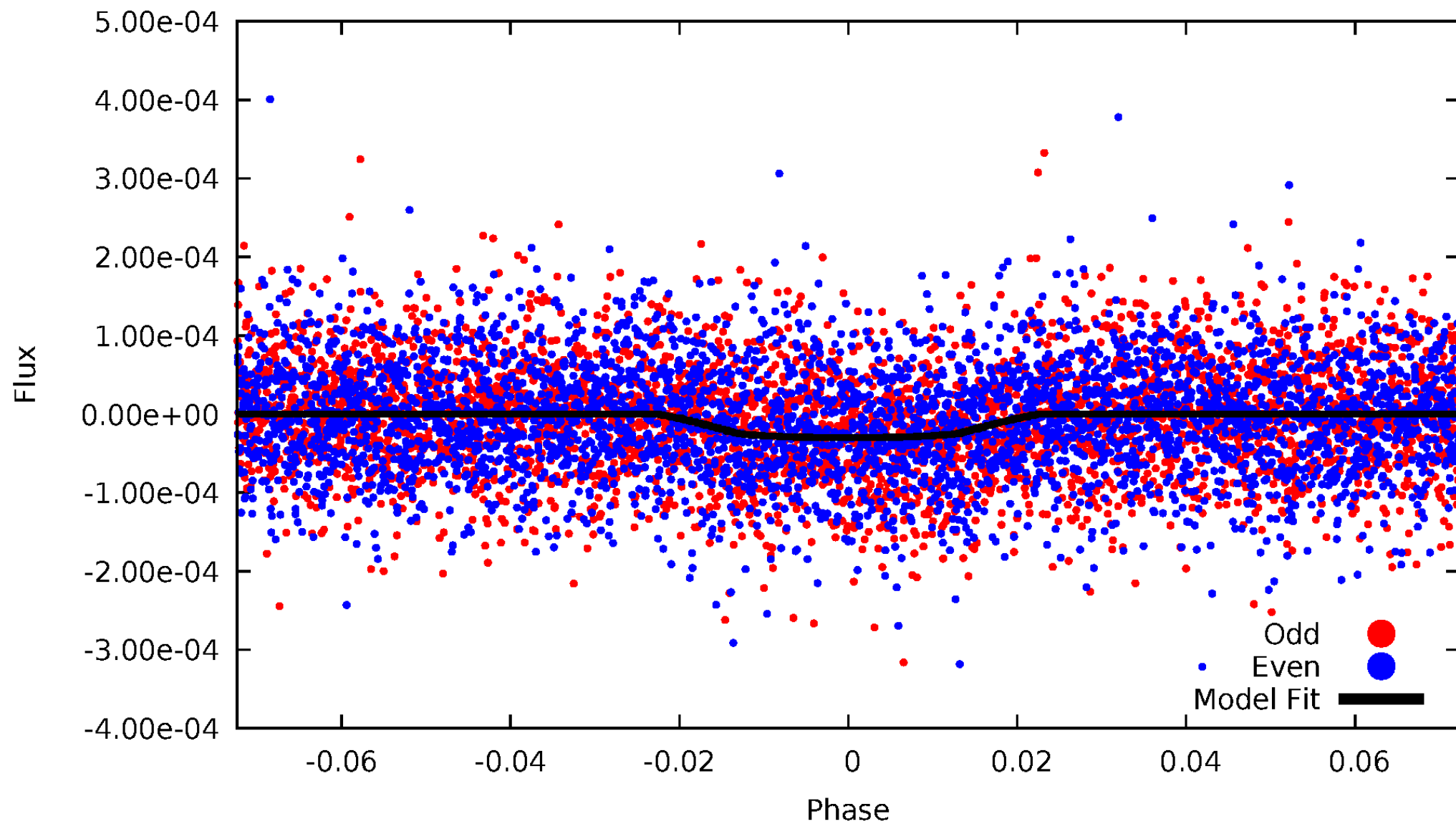
TCE 010155029-01





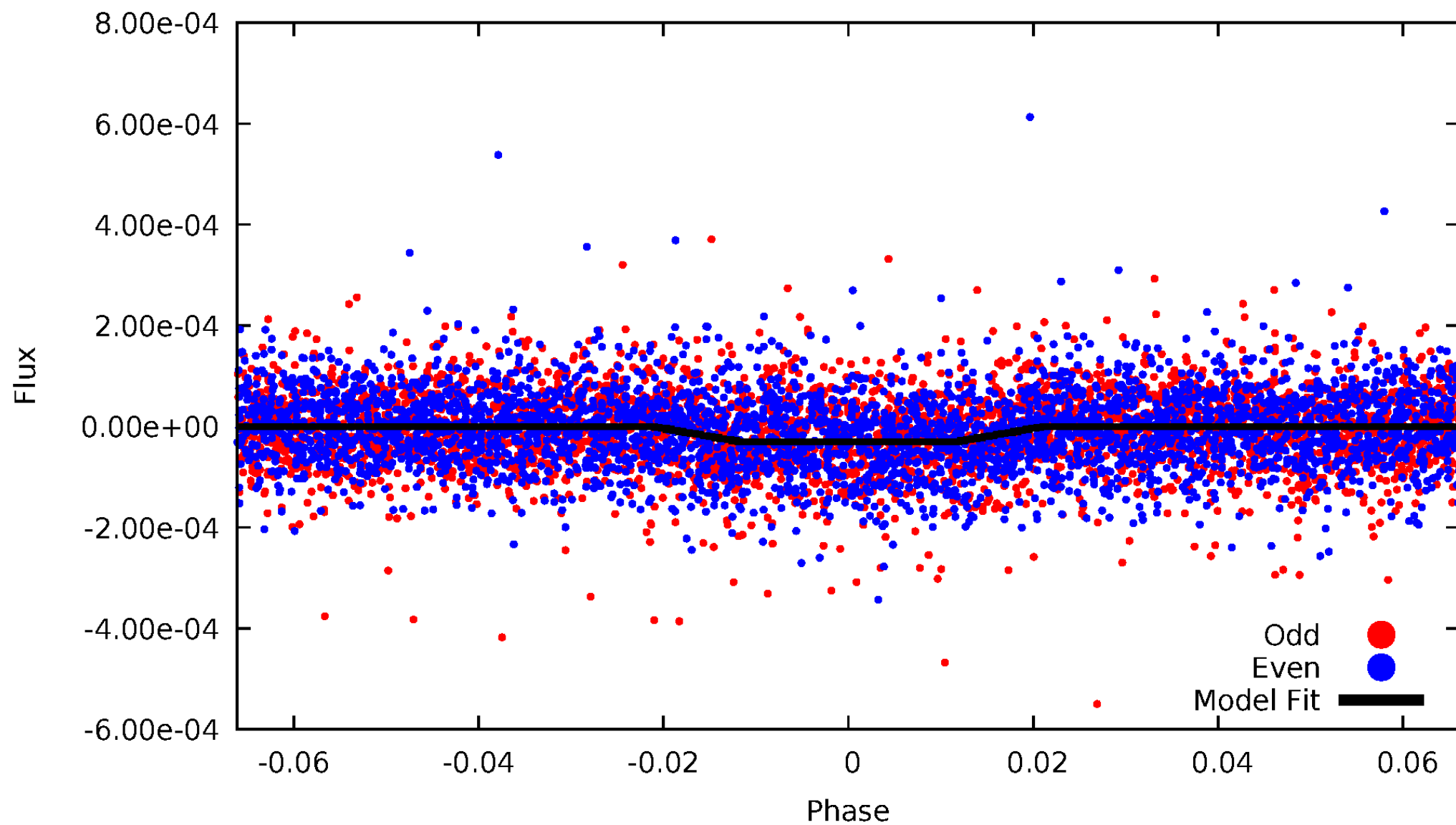
# DV Odd/Even

TCE 010155029-01

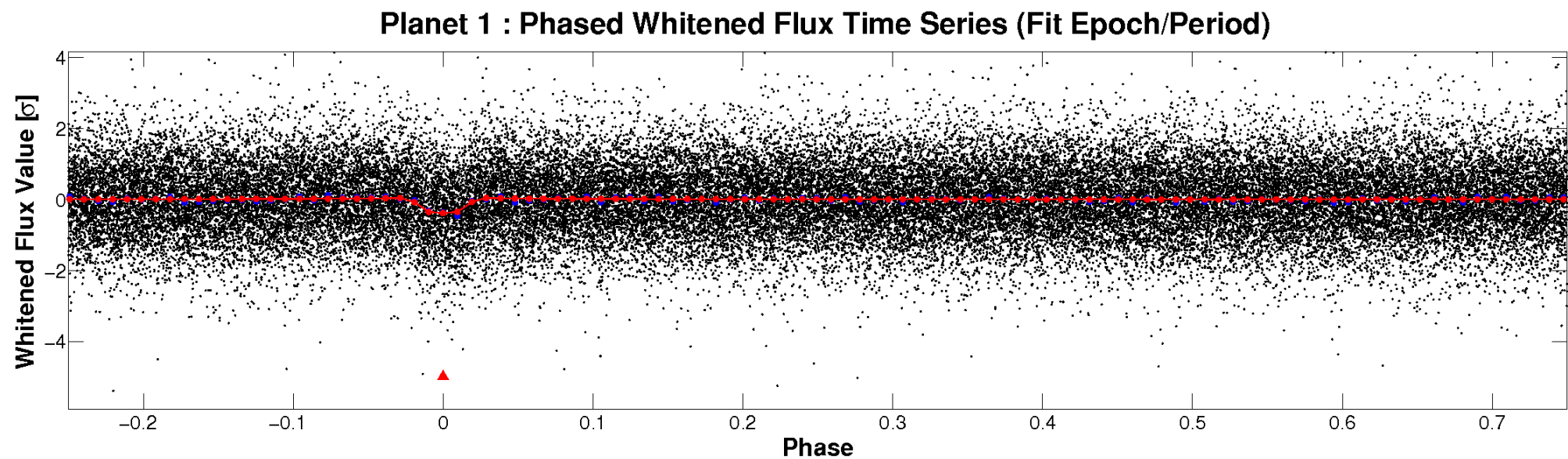
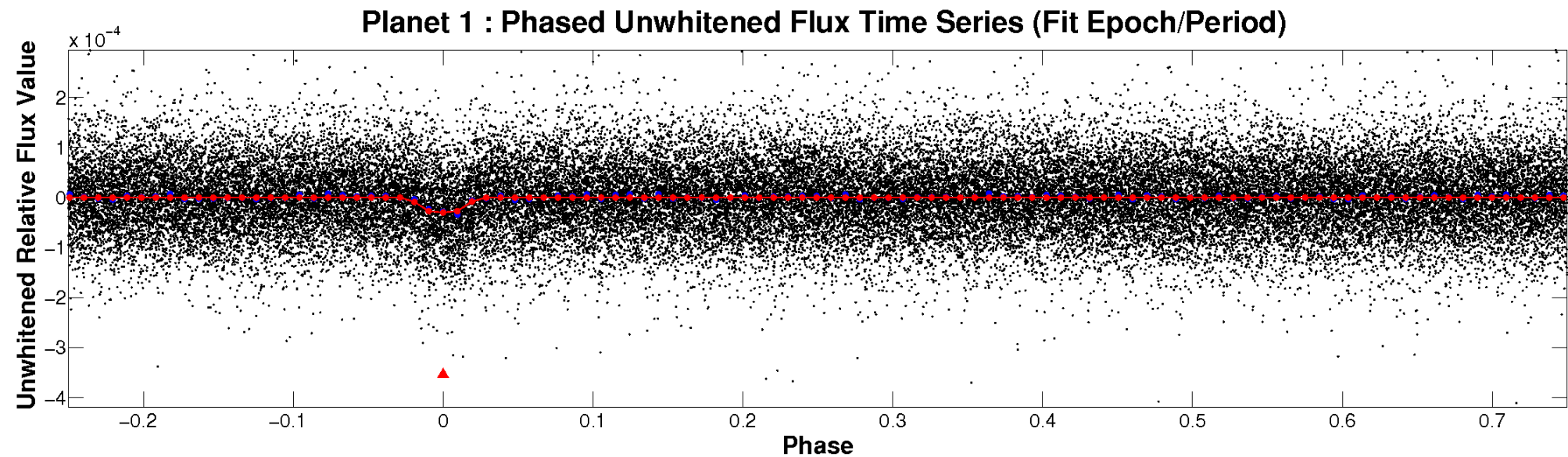


# ALT Odd/Even

TCE 010155029-01

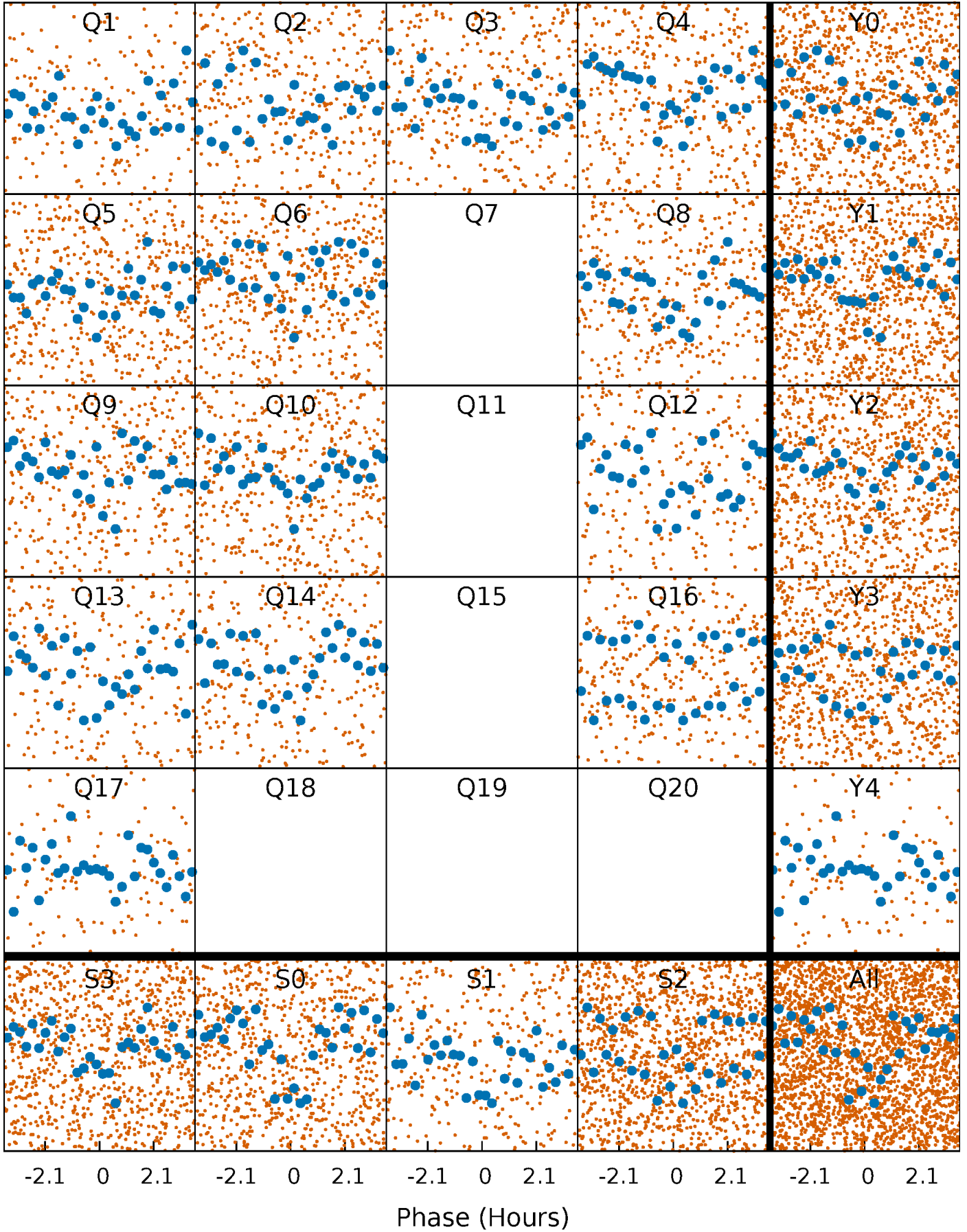


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

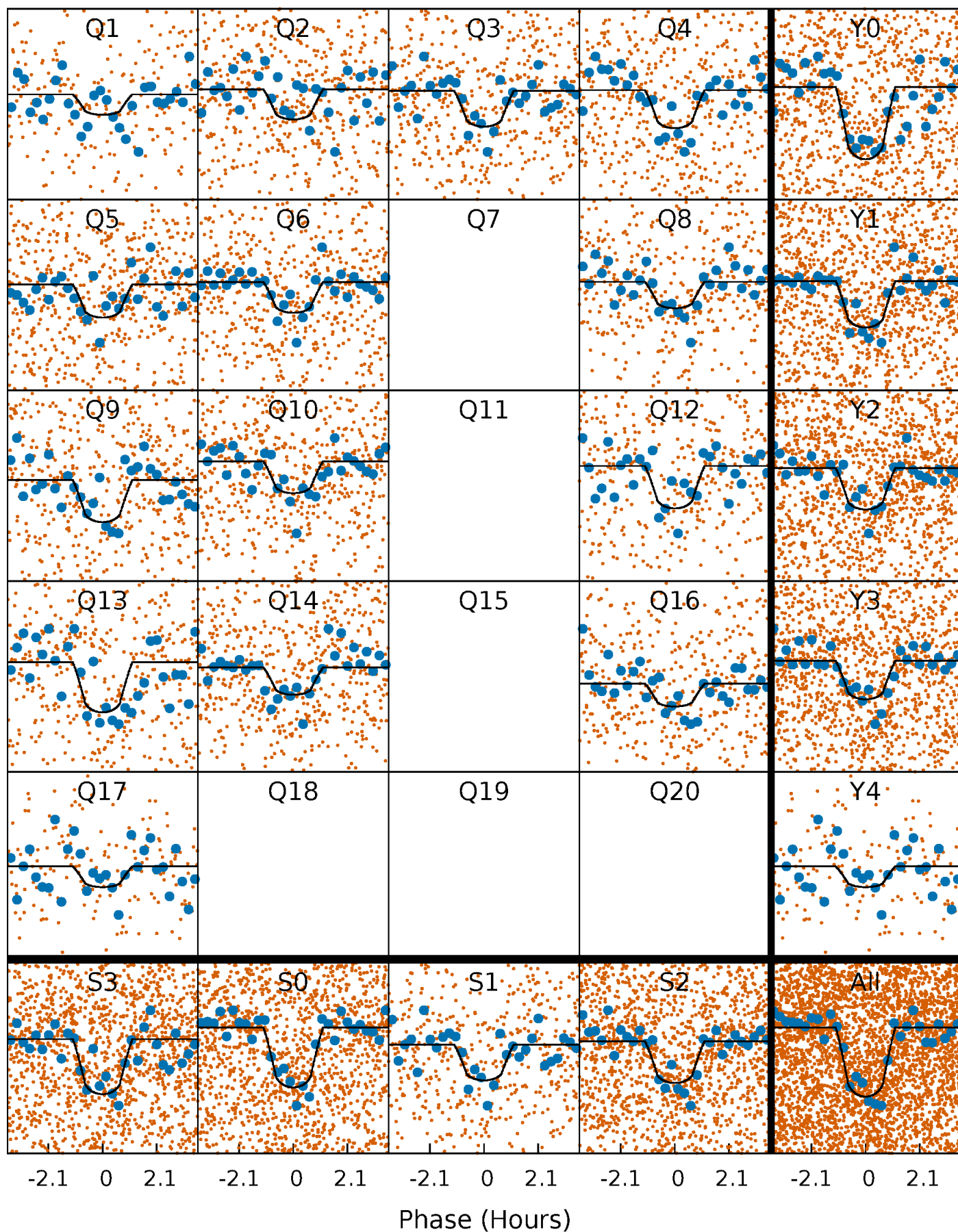
TCE 010155029-01 P= 2.131651 Days  $T_0=133.135834$  (BKJD)





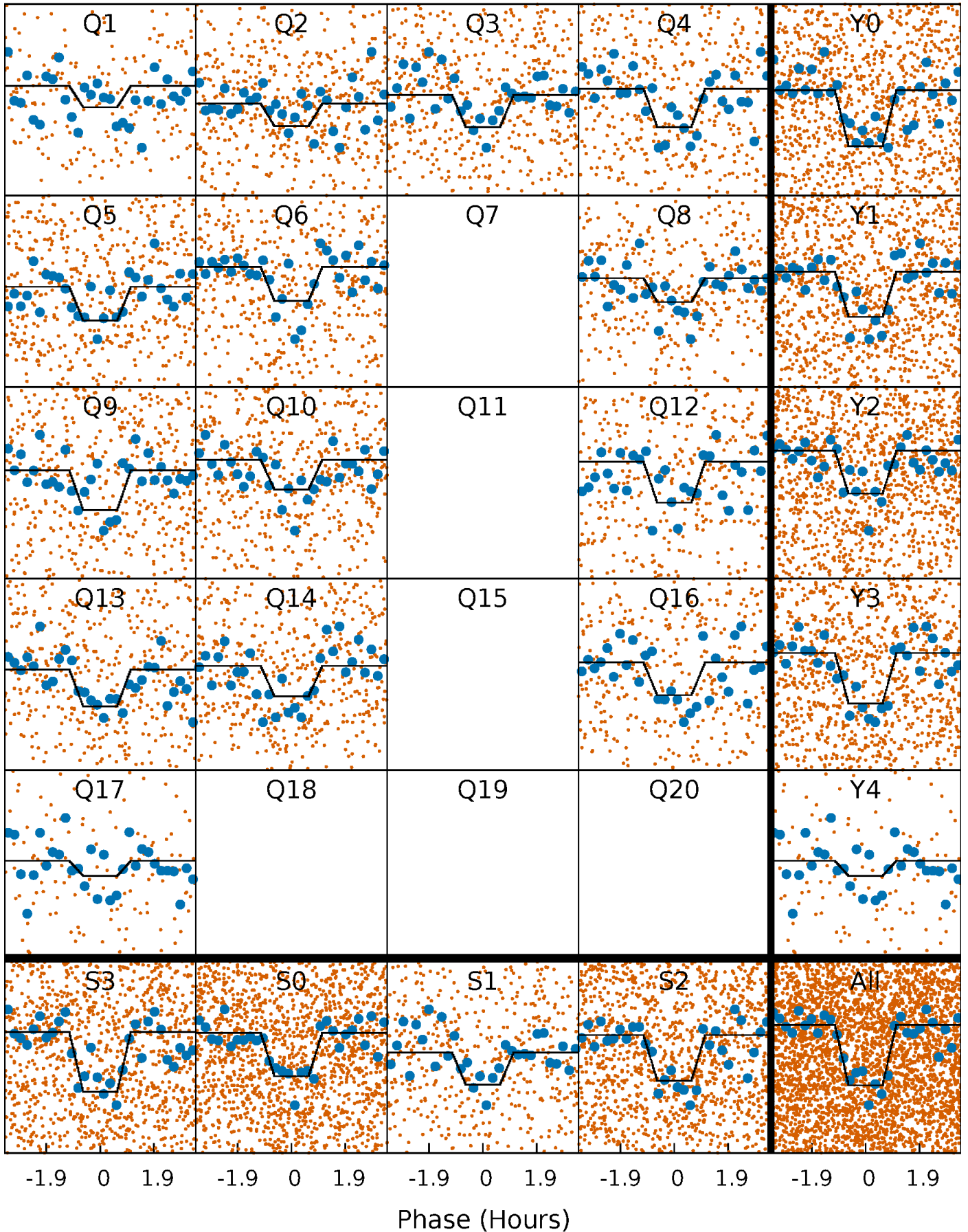
# DV Quarter-Phased Transit Curves

TCE 010155029-01 P= 2.131651 Days  $T_0=133.135834$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

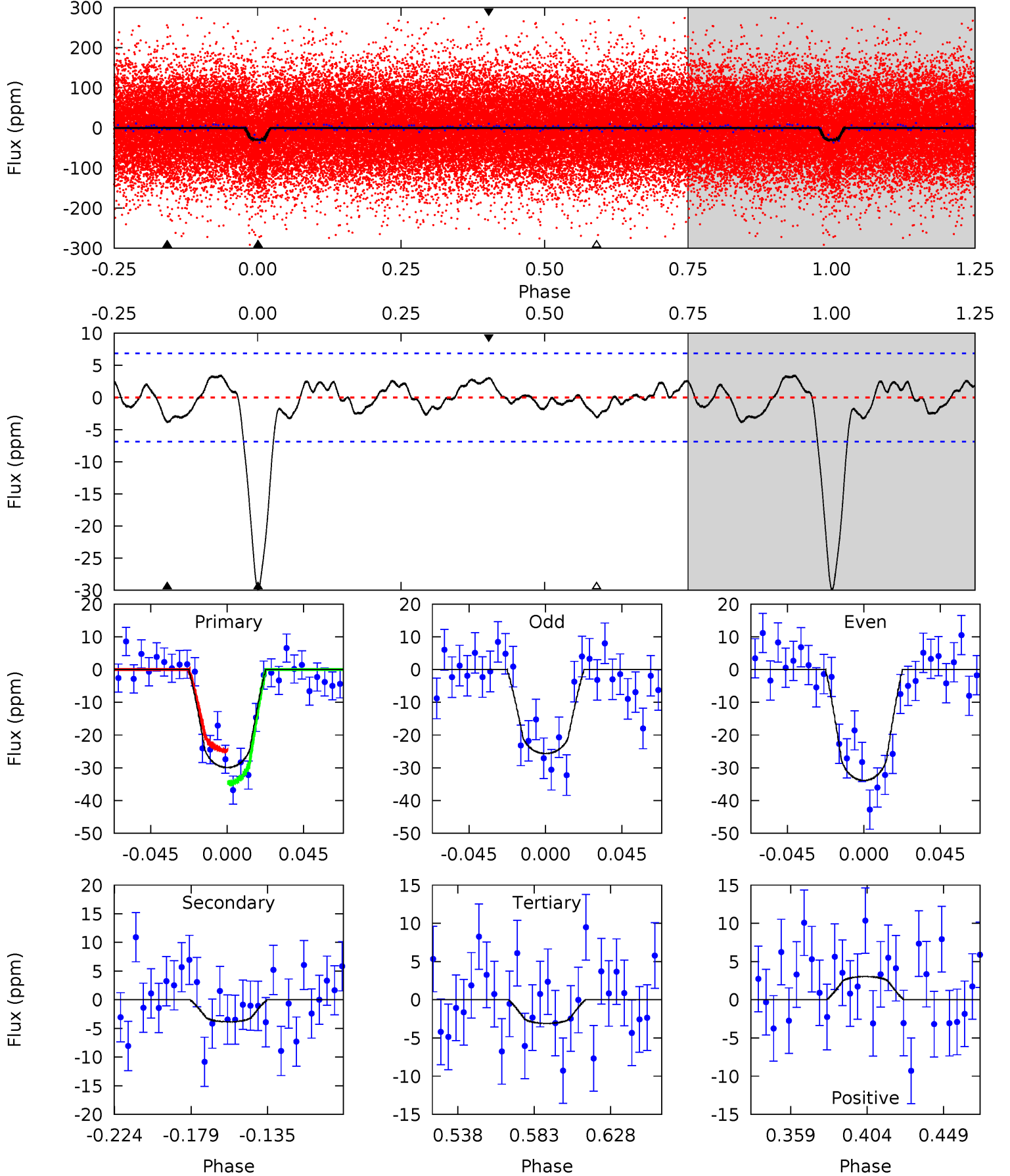
TCE 010155029-01 P= 2.131670 Days  $T_0=133.131042$  (BKJD)



# DV Model-Shift Uniqueness Test

010155029-01, P = 2.131651 Days, E = 131.004183 Days

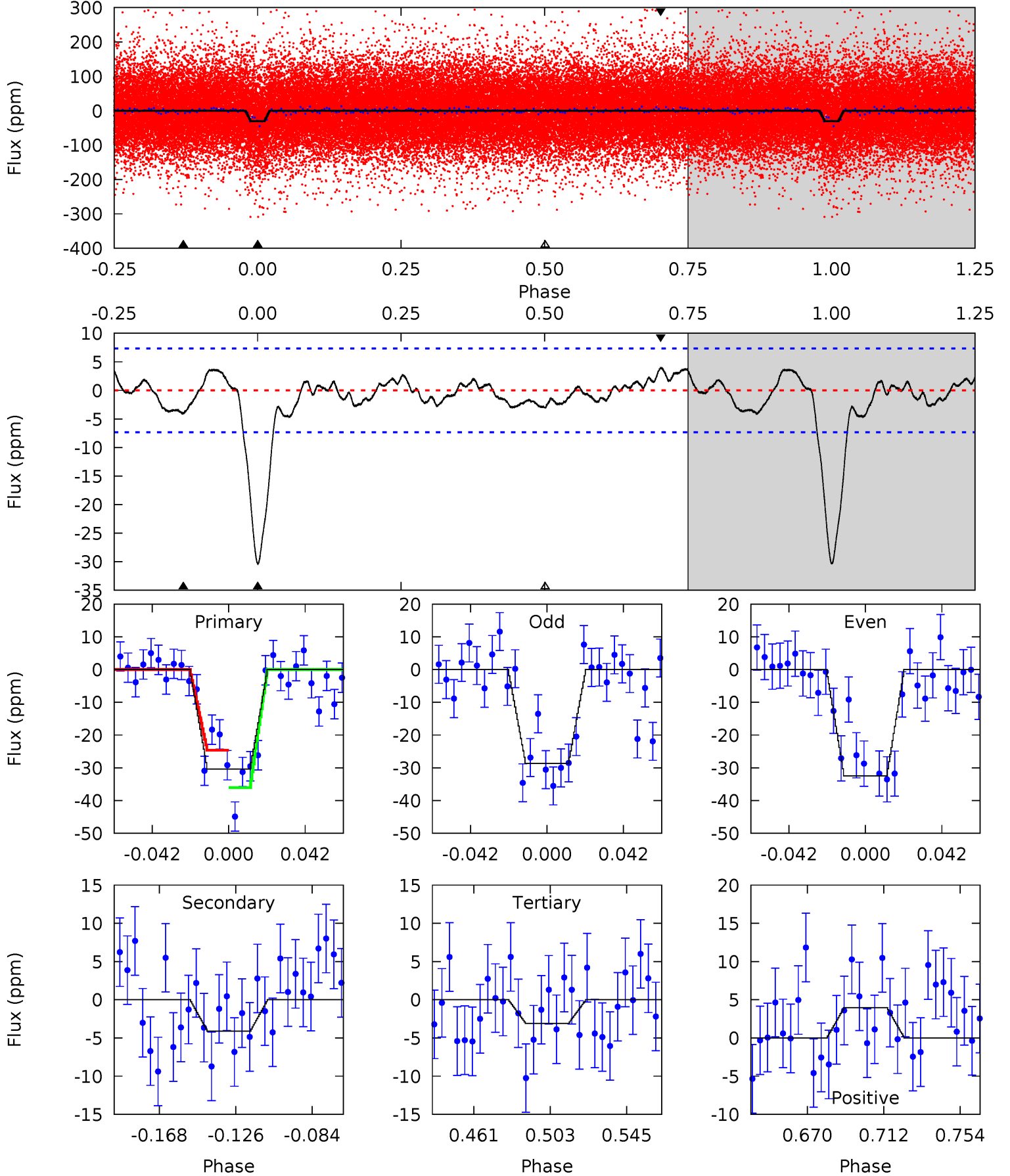
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.6	2.66	2.13	2.09	4.73	2.01	1.10	18.5	18.5	0.53	0.57	2.85	0.94	0.10	3.50



# Alt Model-Shift Uniqueness Test

010155029-01, P = 2.131670 Days, E = 130.999372 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
19.6	2.66	2.00	2.56	4.74	2.03	1.21	17.6	17.1	0.66	0.10	1.24	1.02	0.12	3.72





### Stellar Parameters For KIC 010155029

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5849^{+105}_{-117}$	$4.426^{+0.076}_{-0.114}$	$-0.080^{+0.150}_{-0.150}$	$0.997^{+0.143}_{-0.095}$	$0.967^{+0.060}_{-0.066}$	$1.374^{+0.424}_{-0.457}$
	+2%/-2%	+2%/-3%	+188%/-188%	+14%/-10%	+6%/-7%	+31%/-33%
Source	SPE59	SPE59	SPE59	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 010155029-01 / KOI 3208.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-4 \pm 1$	$0.57^{+0.13}_{-0.13}$	$2021^{+86}_{-71}$	$3928^{+432}_{-436}$	$6.861^{+5.110}_{-3.366}$
Alt.	$-4 \pm 2$	$0.60^{+0.15}_{-0.14}$	$2014^{+90}_{-67}$	$3873^{+460}_{-391}$	$6.460^{+5.502}_{-2.991}$

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

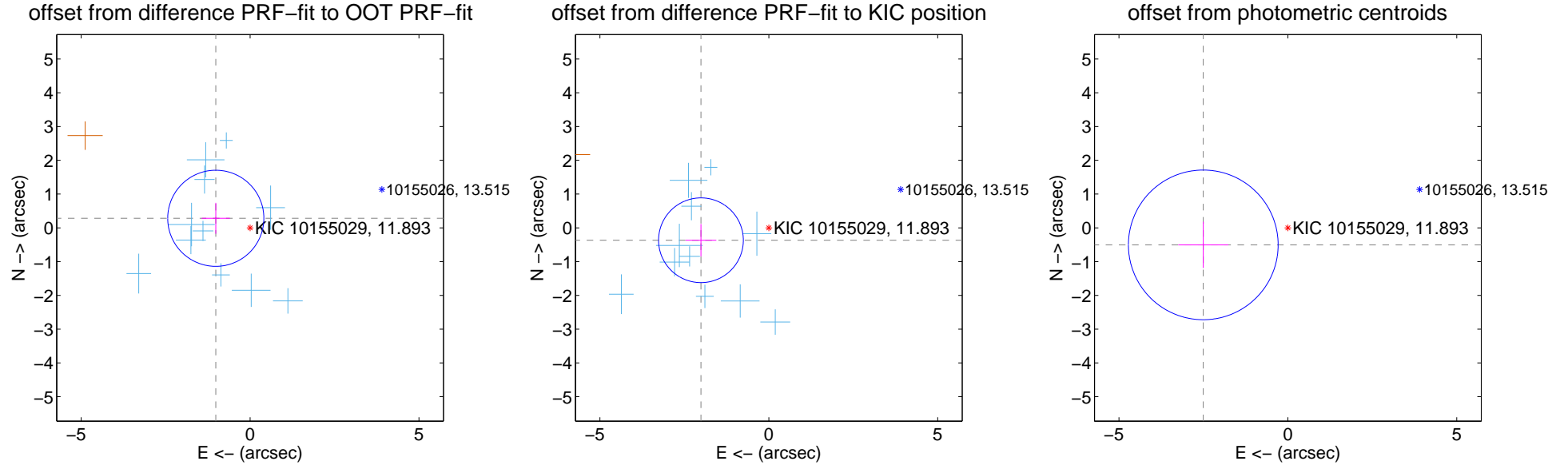
## DV Centroid Data

Supplemental centroid analysis for 010155029-01. **Kepler magnitude: 11.89.** Transit SNR 14.16

There are 11 quarters with good PRF difference image offsets

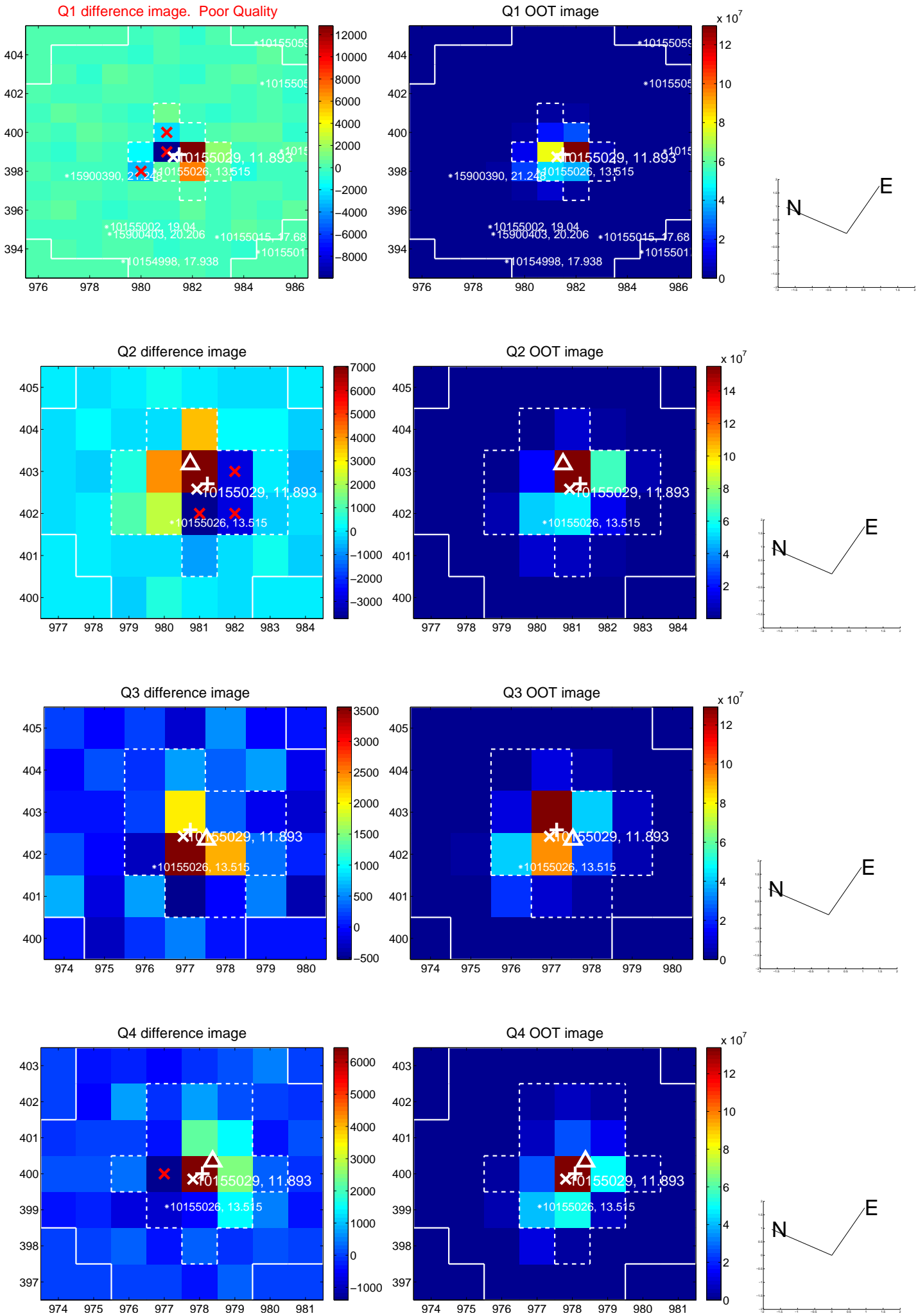
The direct PRF centroid is offset from the target star catalog position by about 1.23 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.054 \pm 0.474$	2.22	$1.015 \pm 0.418$	$0.283 \pm 0.458$
PRF-fit source offset from KIC position	<b><math>2.042 \pm 0.418</math></b>	<b>4.88</b>	$2.009 \pm 0.455$	$-0.367 \pm 0.479$
photometric centroid source offset	<b><math>2.55 \pm 0.74</math></b>	<b>3.46</b>	$2.50 \pm 0.74$	$-0.50 \pm 0.68$

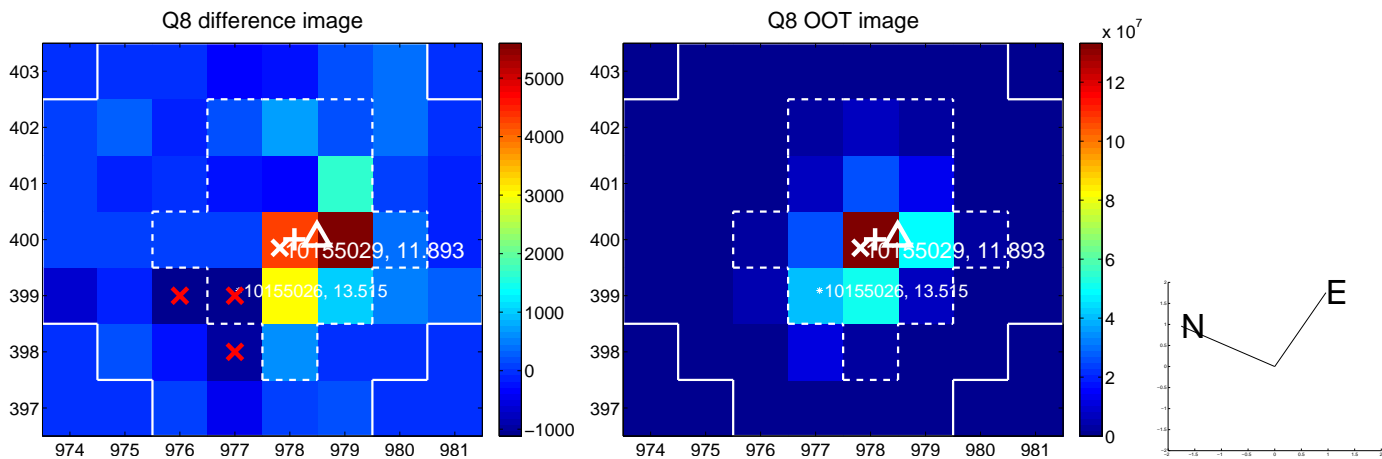
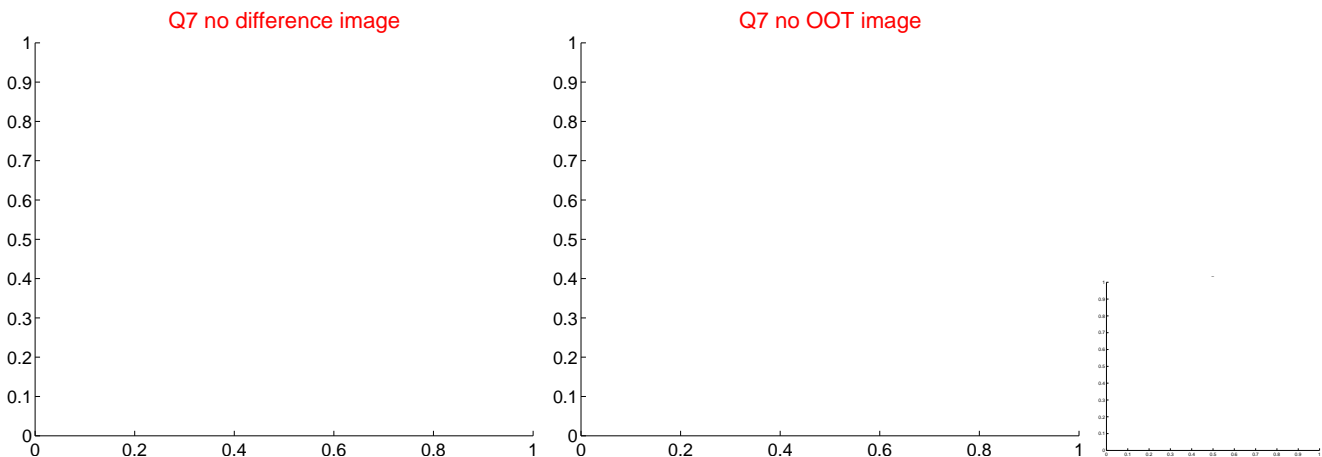
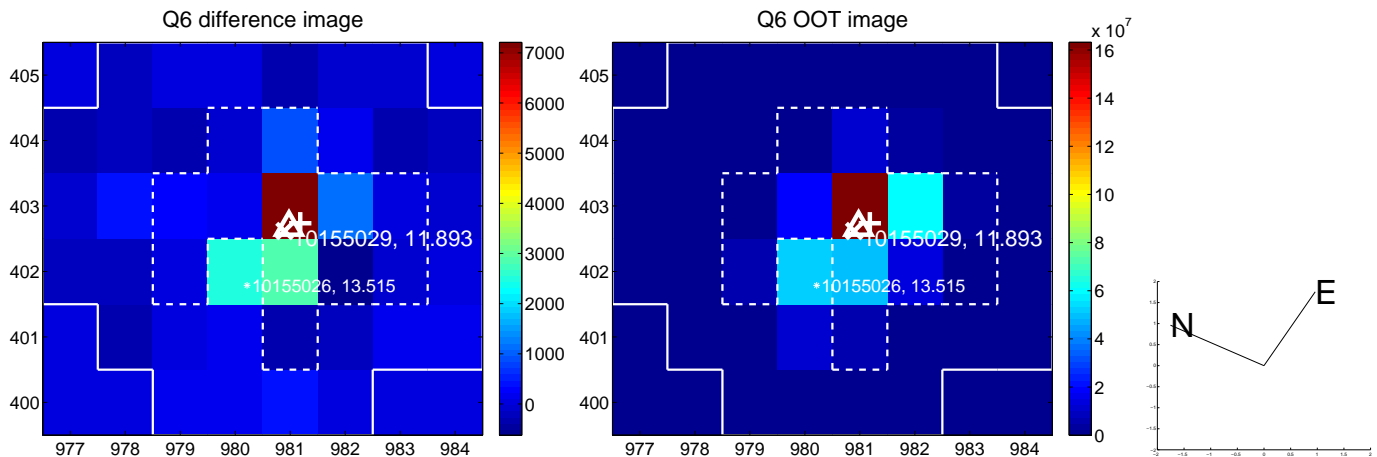
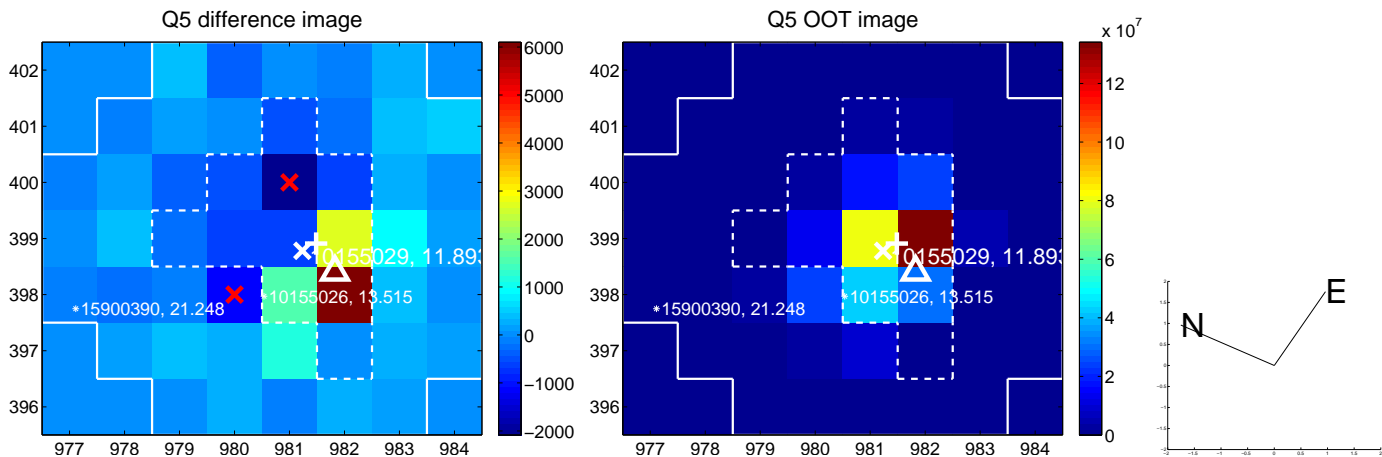


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

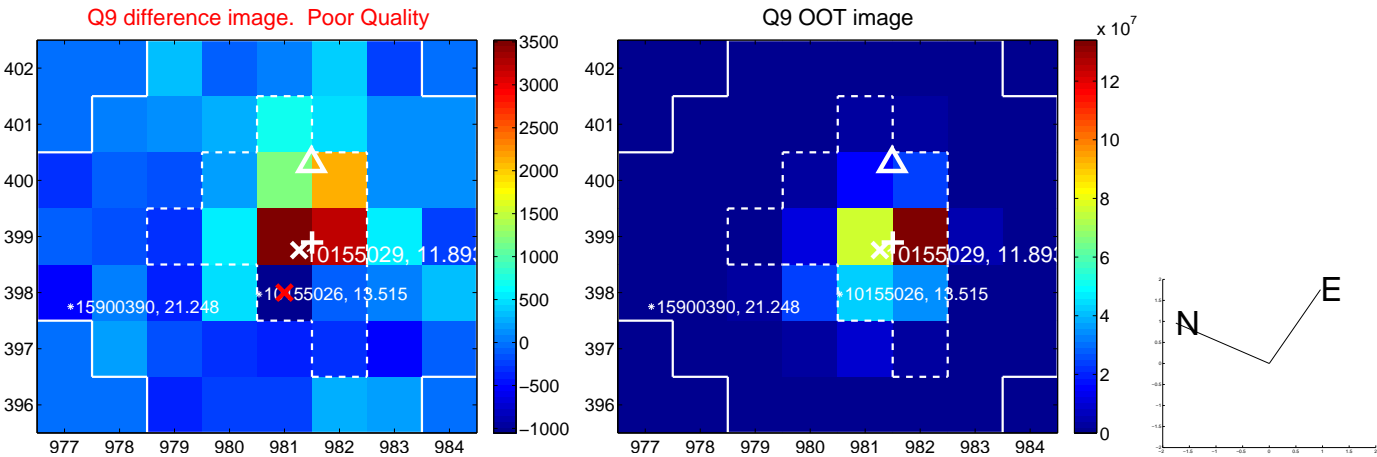


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

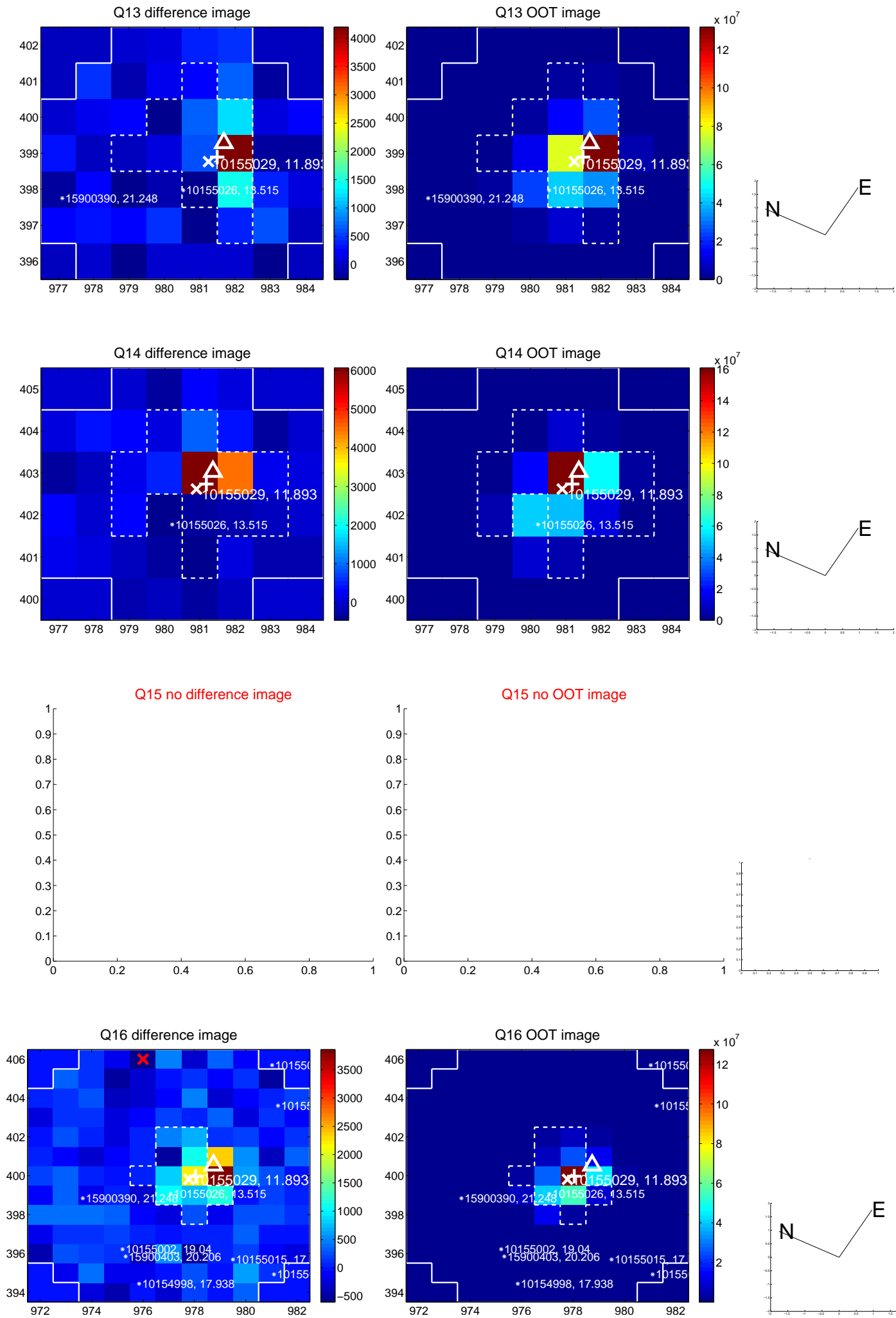




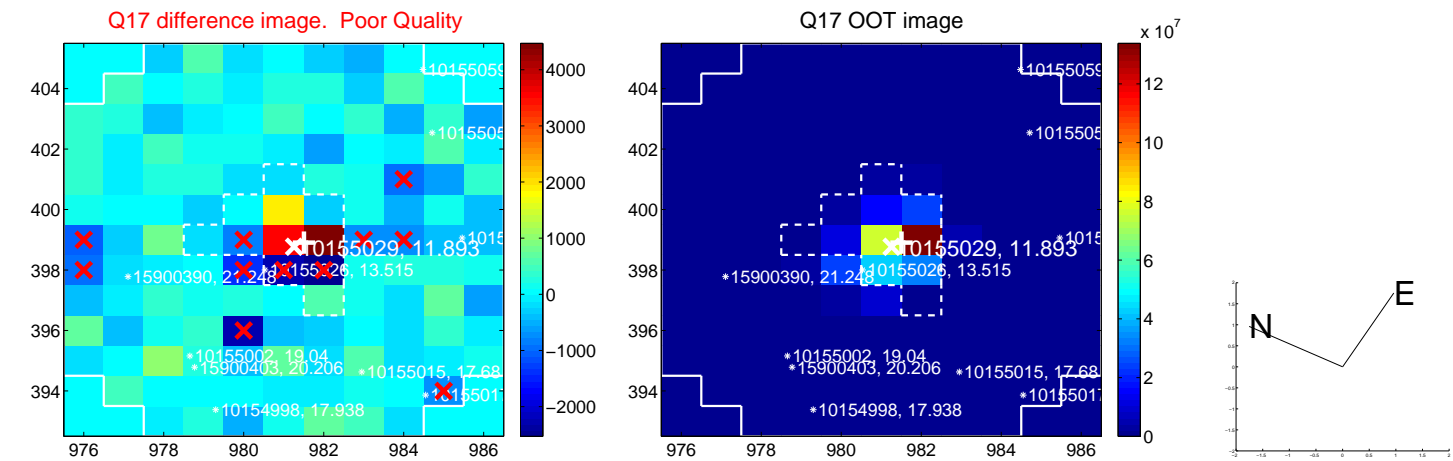
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



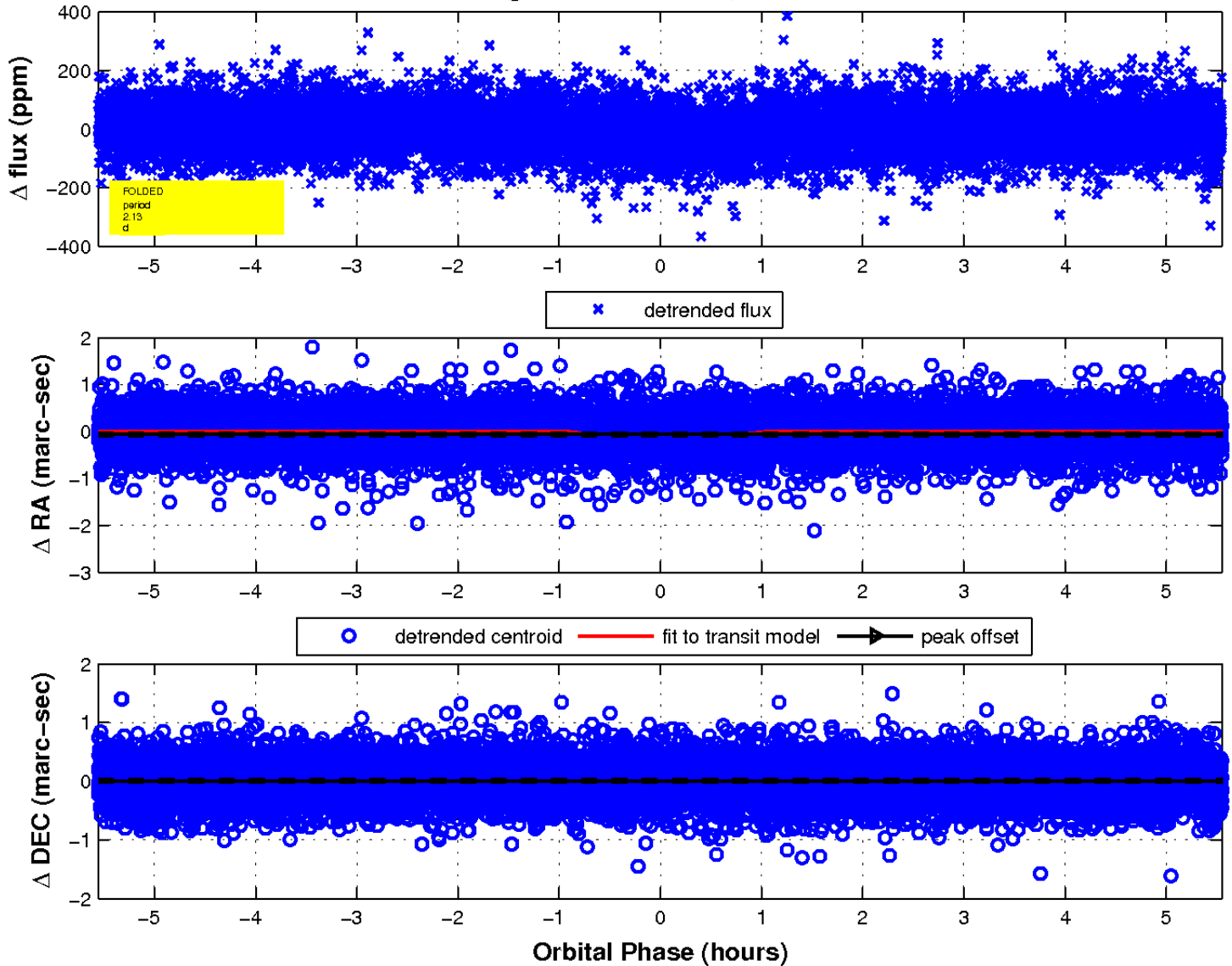
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

