

# KIC 010264293

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010264293-01	OBS	7301.01	20.953304	146.350992	214.7	5.128	9.4	9.3	0.72	4885	1.02	14.22

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010264293-01	OBS	PC	0.40	0	0	0	0	CENT_UNCERTAIN

**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 010264293-01

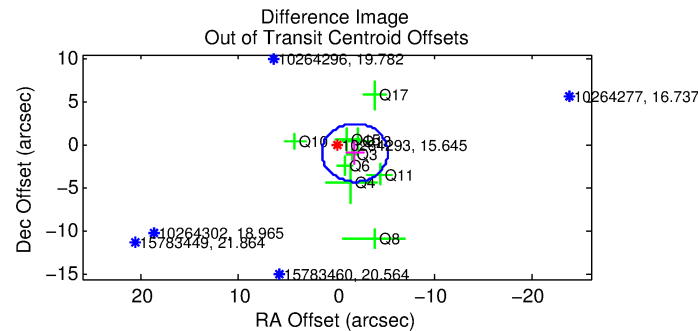
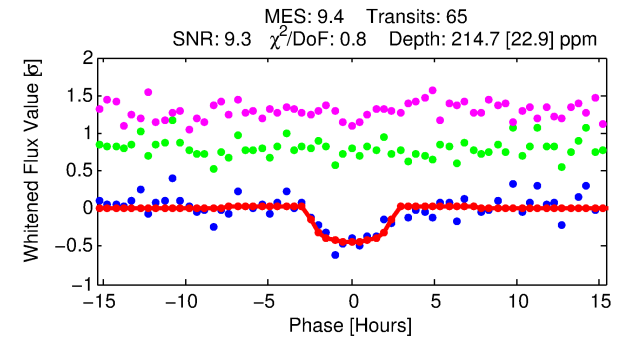
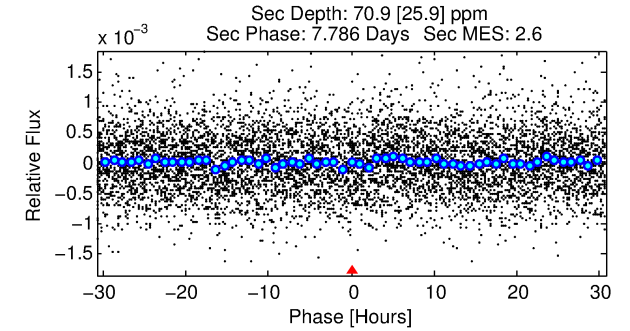
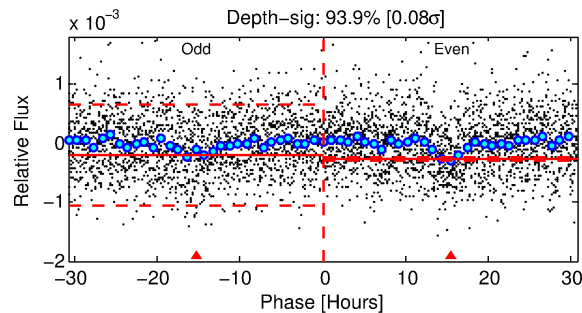
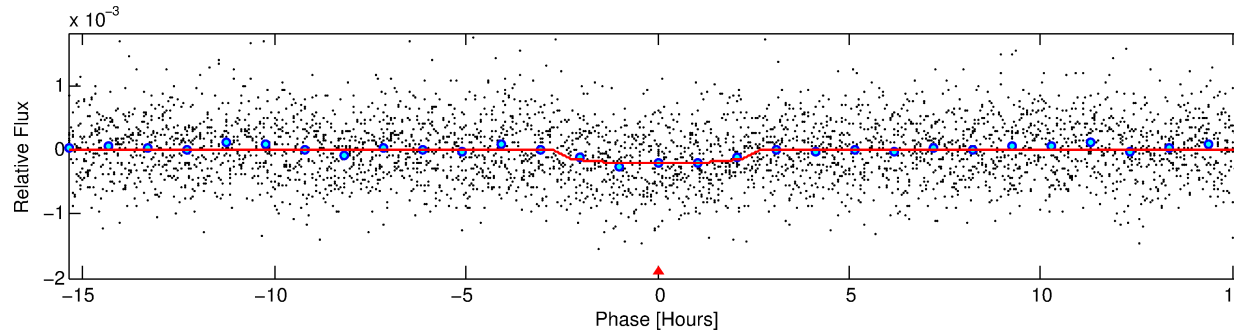
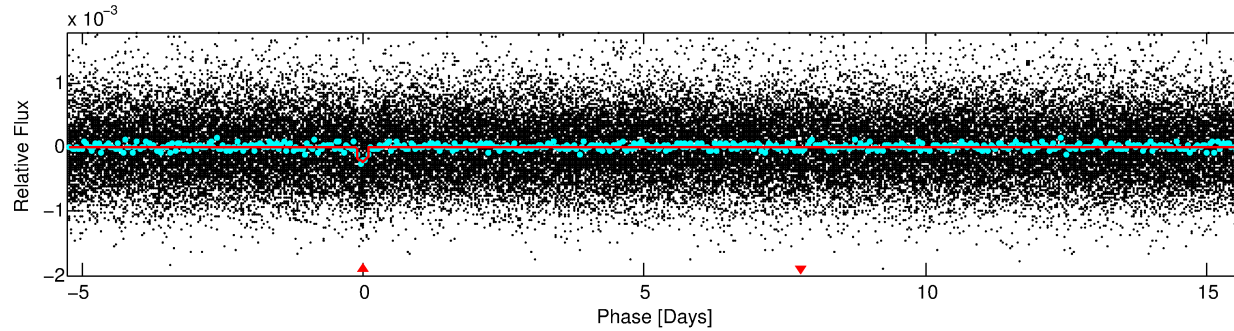
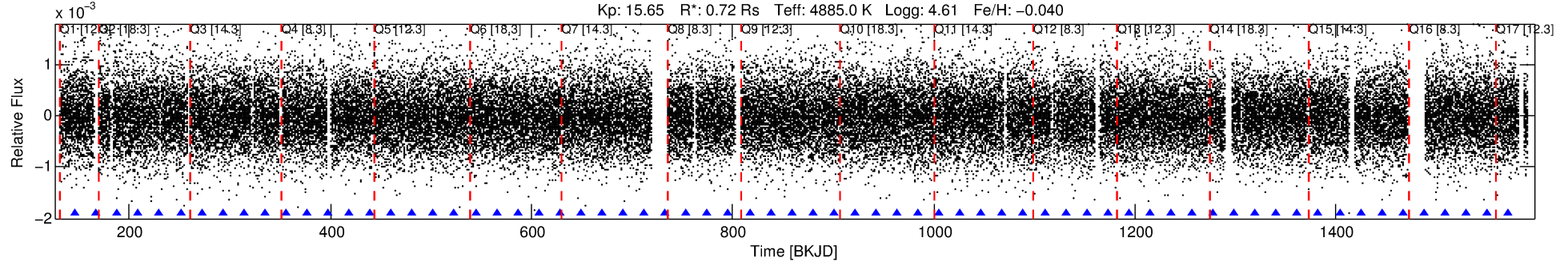
No Significant Match Found

# DV One-Page Summary

KIC: 10264293 Candidate: 1 of 1 Period: 20.953 d

KOI: K07301.01 Corr: 0.876

Kp: 15.65 R\*: 0.72 Rs Teff: 4885.0 K Logg: 4.61 Fe/H: -0.040



## DV Fit Results:

Period = 20.95330 [0.00031] d  
Epoch = 146.3510 [0.0123] BKJD  
Rp/R\* = 0.0129 [0.0275]  
a/R\* = 31.62 [218.97]  
b = 0.02 [284.33]  
Seff = 14.22 [2.28]  
Teq = 495 [20] K  
Rp = 1.02 [2.16] Re  
a = 0.1364 [0.0104] AU  
Ag = 701.50 [2990.78] [0.23σ]  
Teff = 3940 [4200] K [0.82σ]

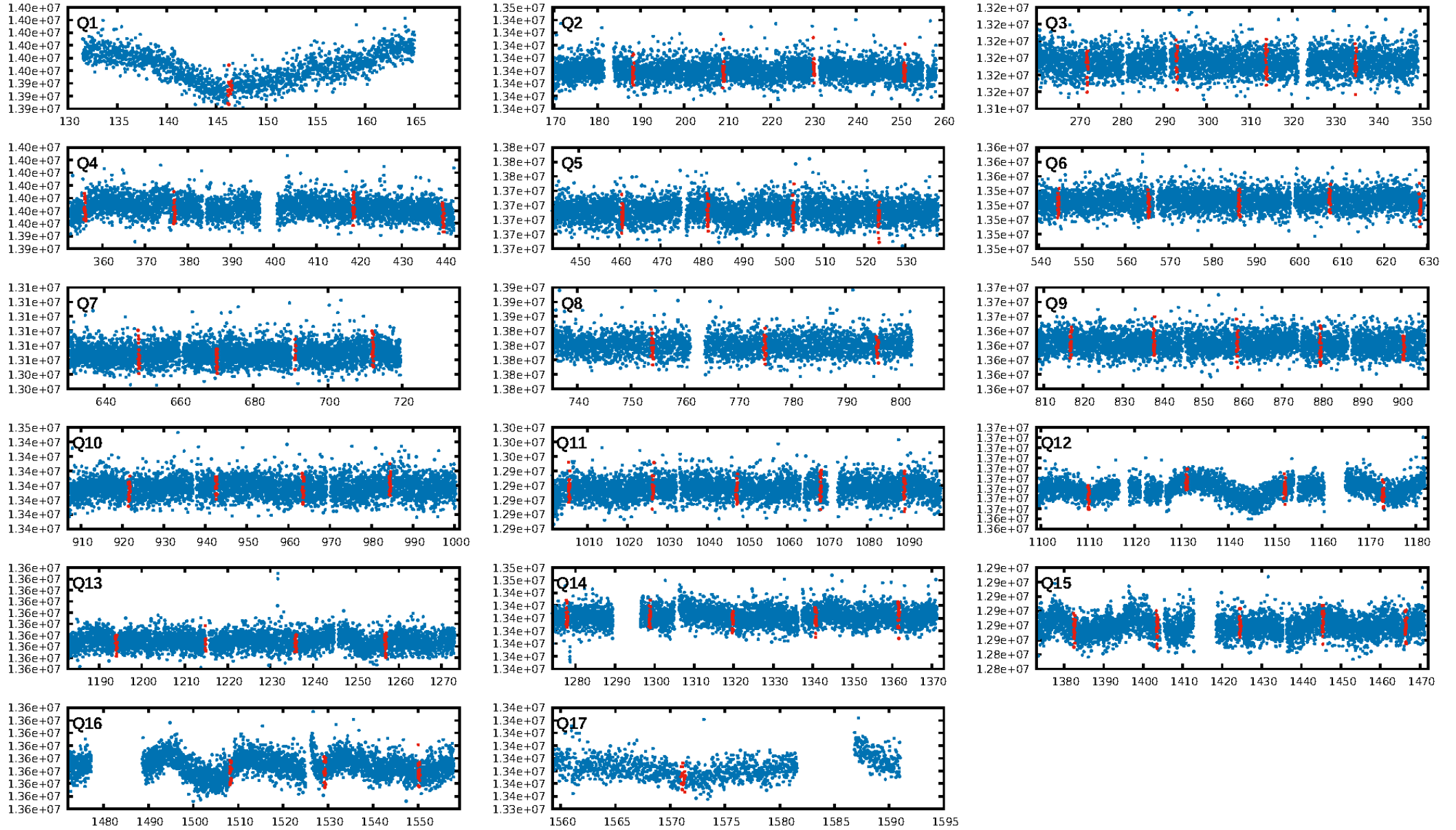
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 94.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.97e-20  
RollingBand-fgt: 1.00 [63/63]  
GhostDiagnostic-chr: 5.75  
Centroid-sig: 58.0%  
Centroid-so: 1.205 arcsec [0.71σ]  
OotOffset-rm: 2.045 arcsec [1.82σ]  
KicOffset-rm: 2.124 arcsec [2.16σ]  
OotOffset-st: 2/3/2/2 [9]  
KicOffset-st: 2/3/2/2 [9]  
DiffImageQuality-fgm: 0.33 [3/9]  
DiffImageOverlap-fno: 1.00 [17/17]

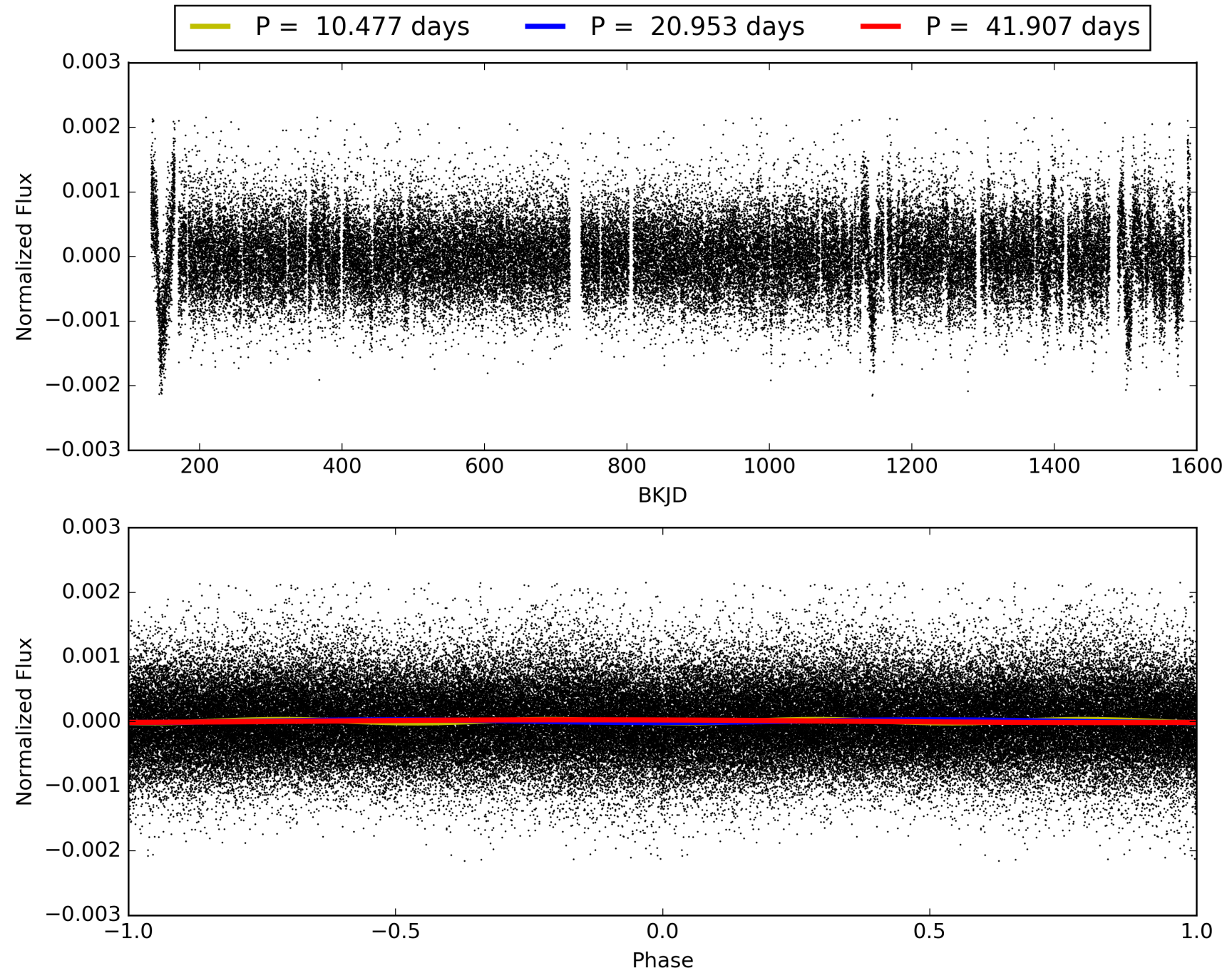
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:55:25 Z

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

# TCE 010264293-01, PDC Light Curves

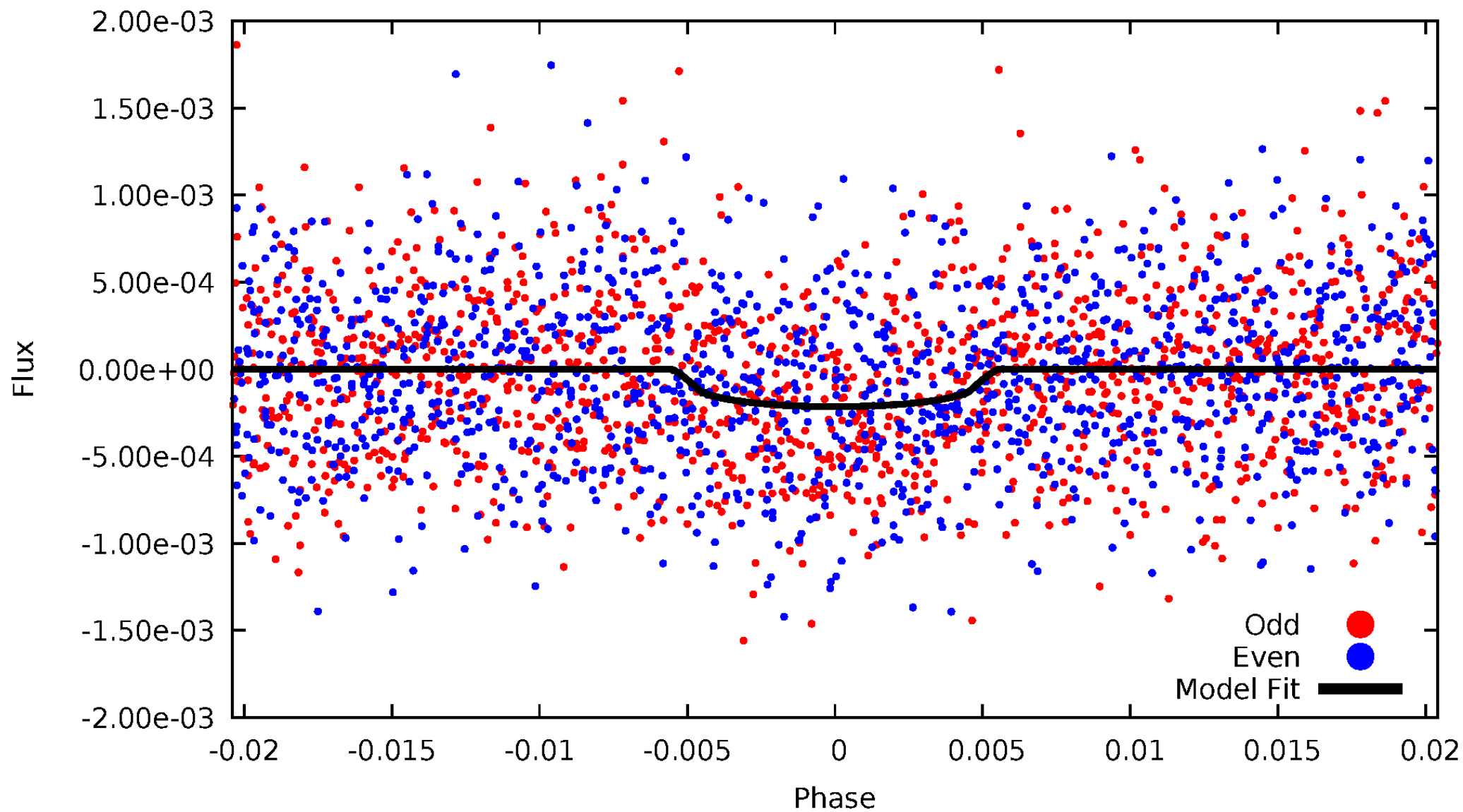


# TCE 010264293-01



# DV Odd/Even

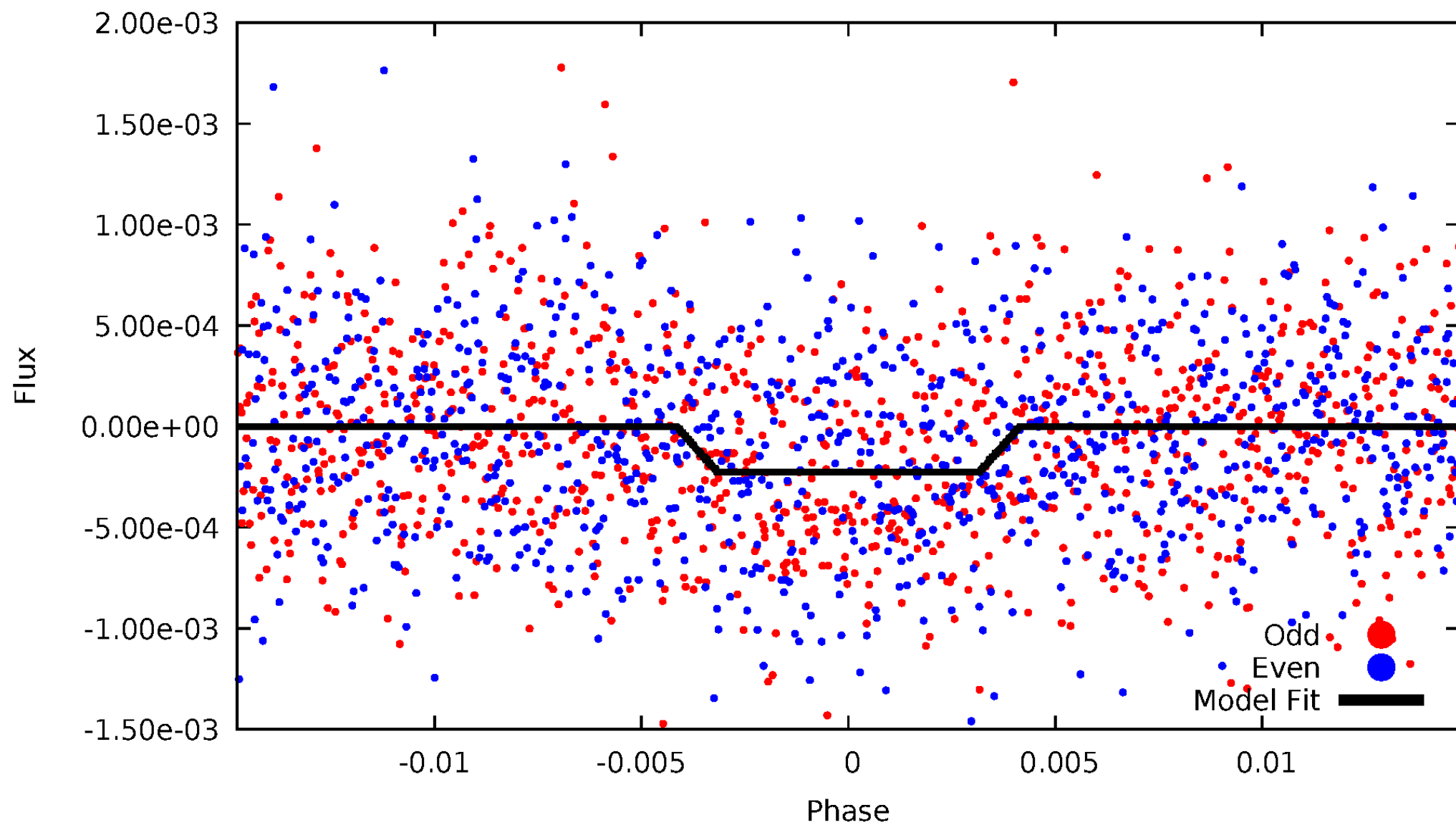
TCE 010264293-01





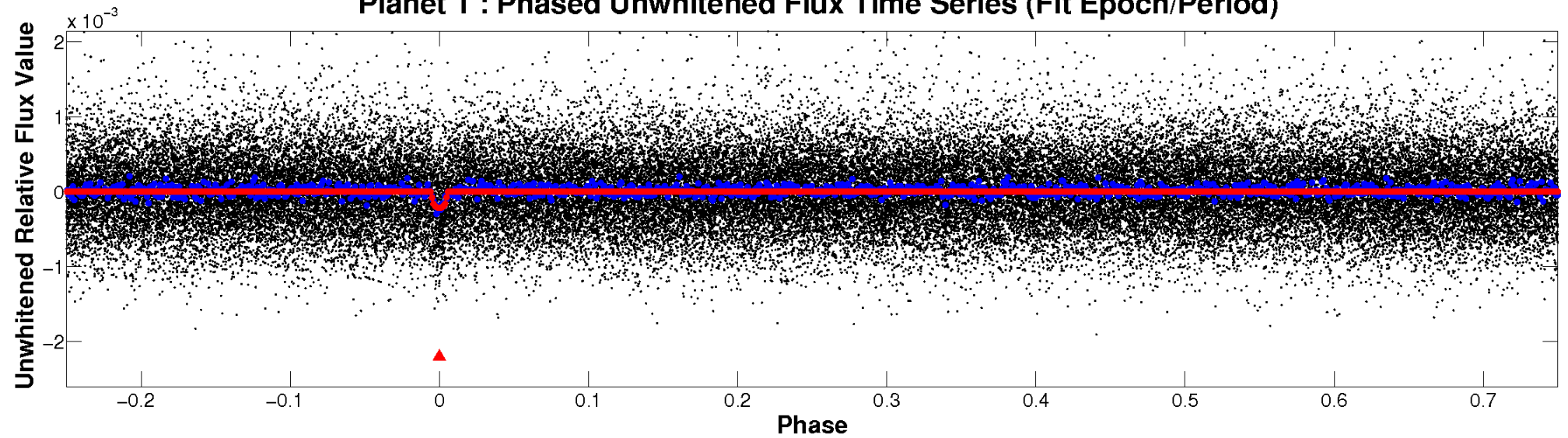
# ALT Odd/Even

TCE 010264293-01

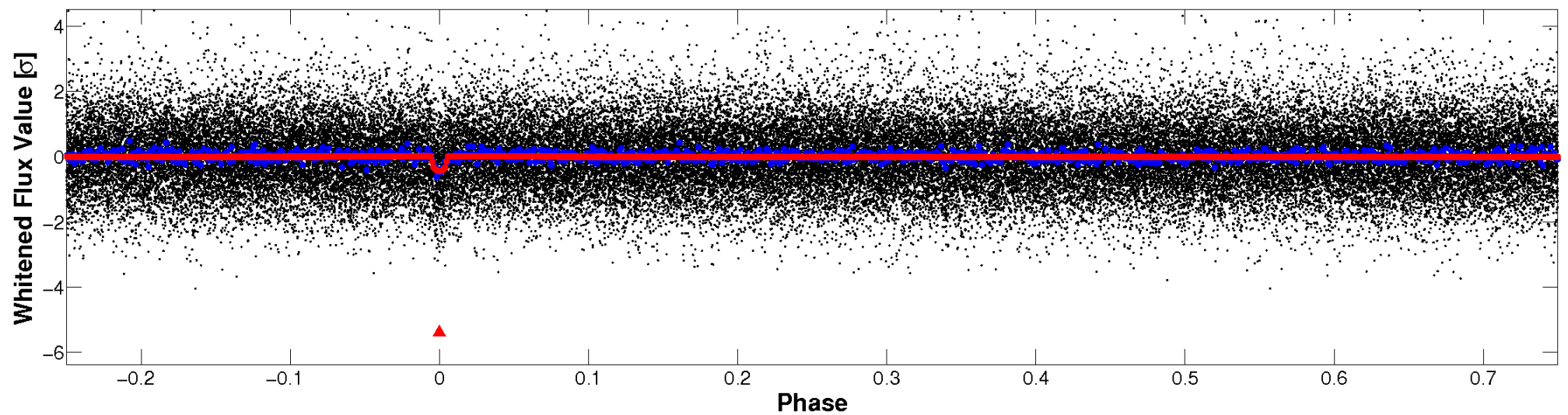


# Non-Whitened Vs. Whitened Light Curve

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

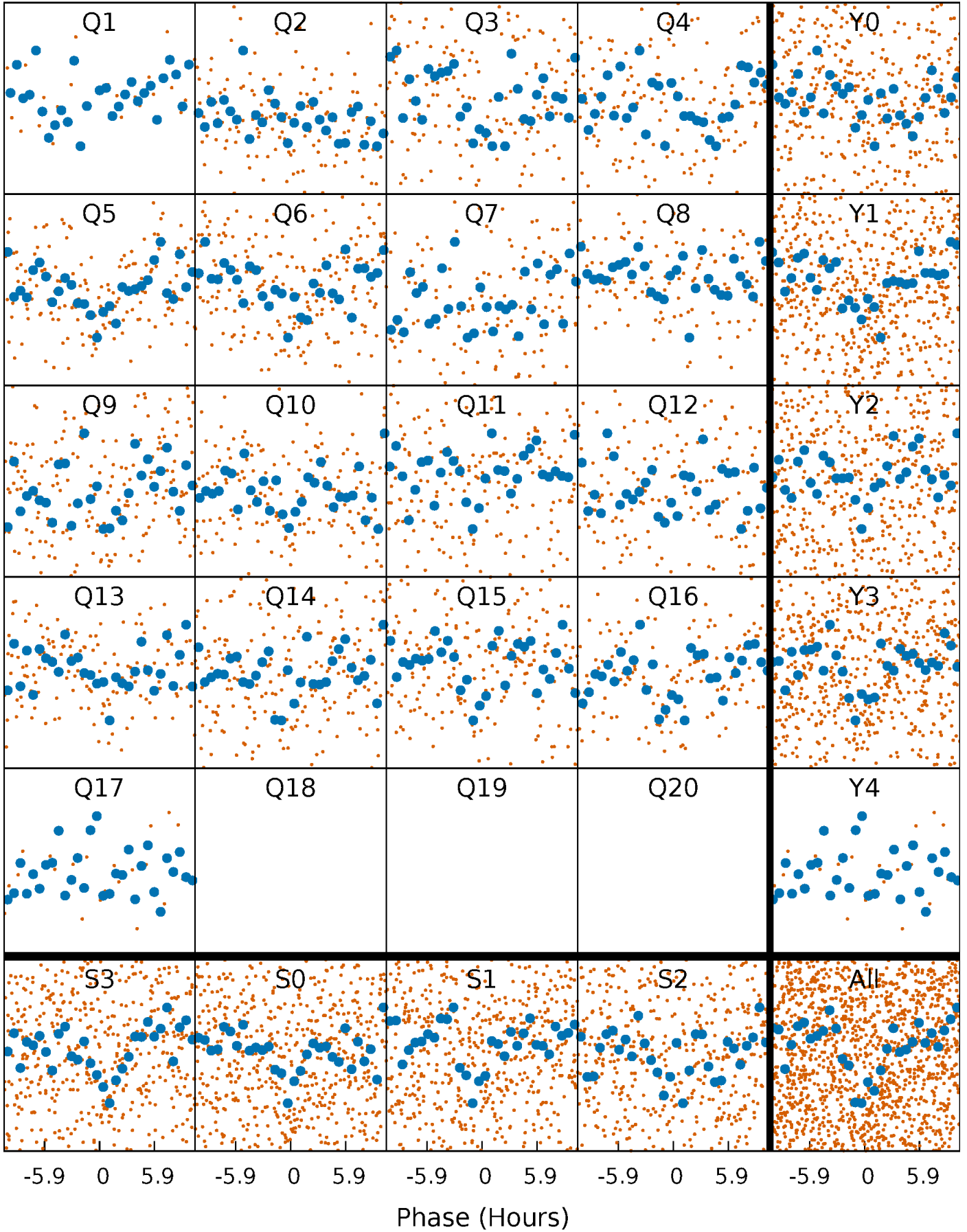


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

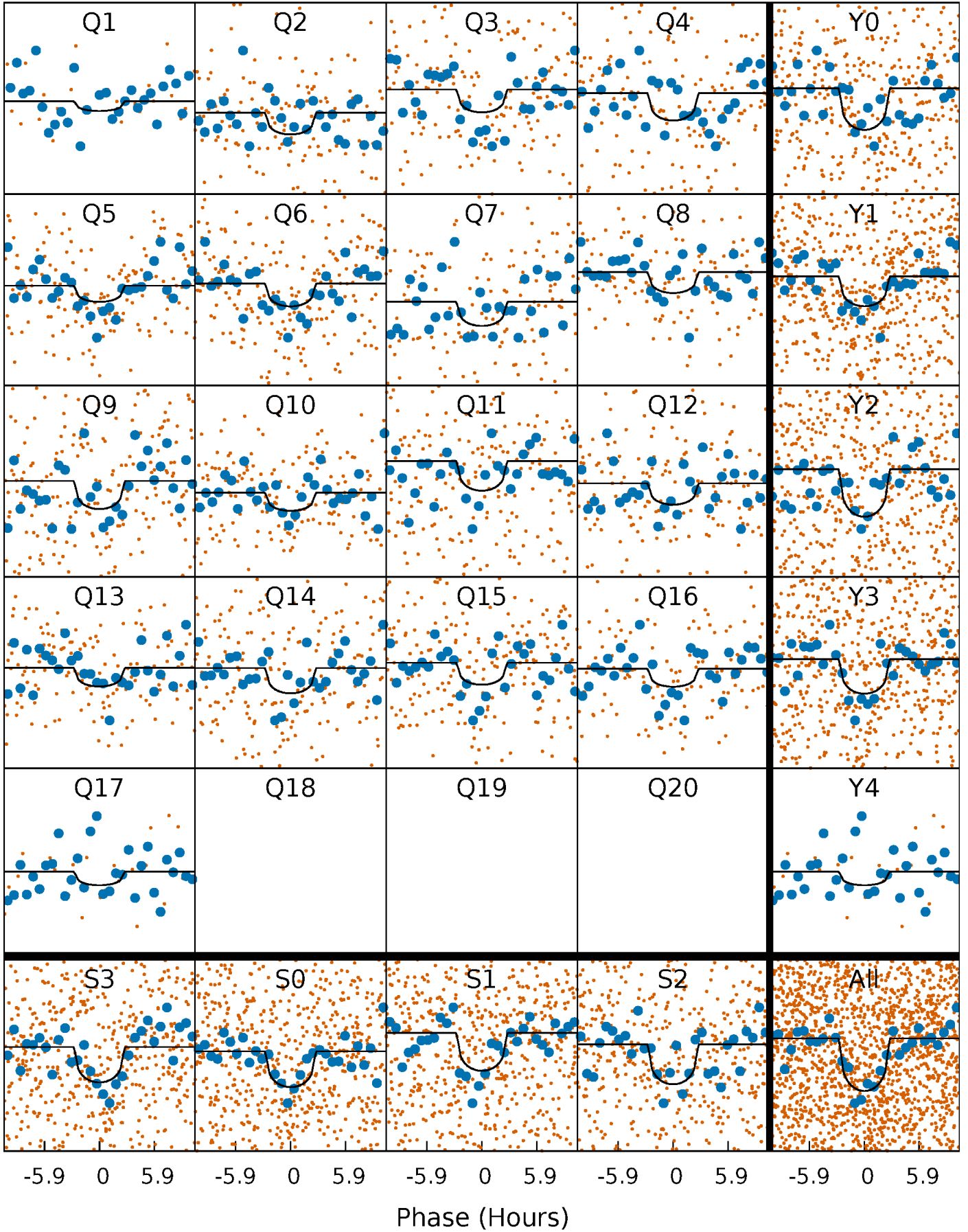
TCE 010264293-01 P= 20.953304 Days  $T_0=146.350992$  (BKJD)





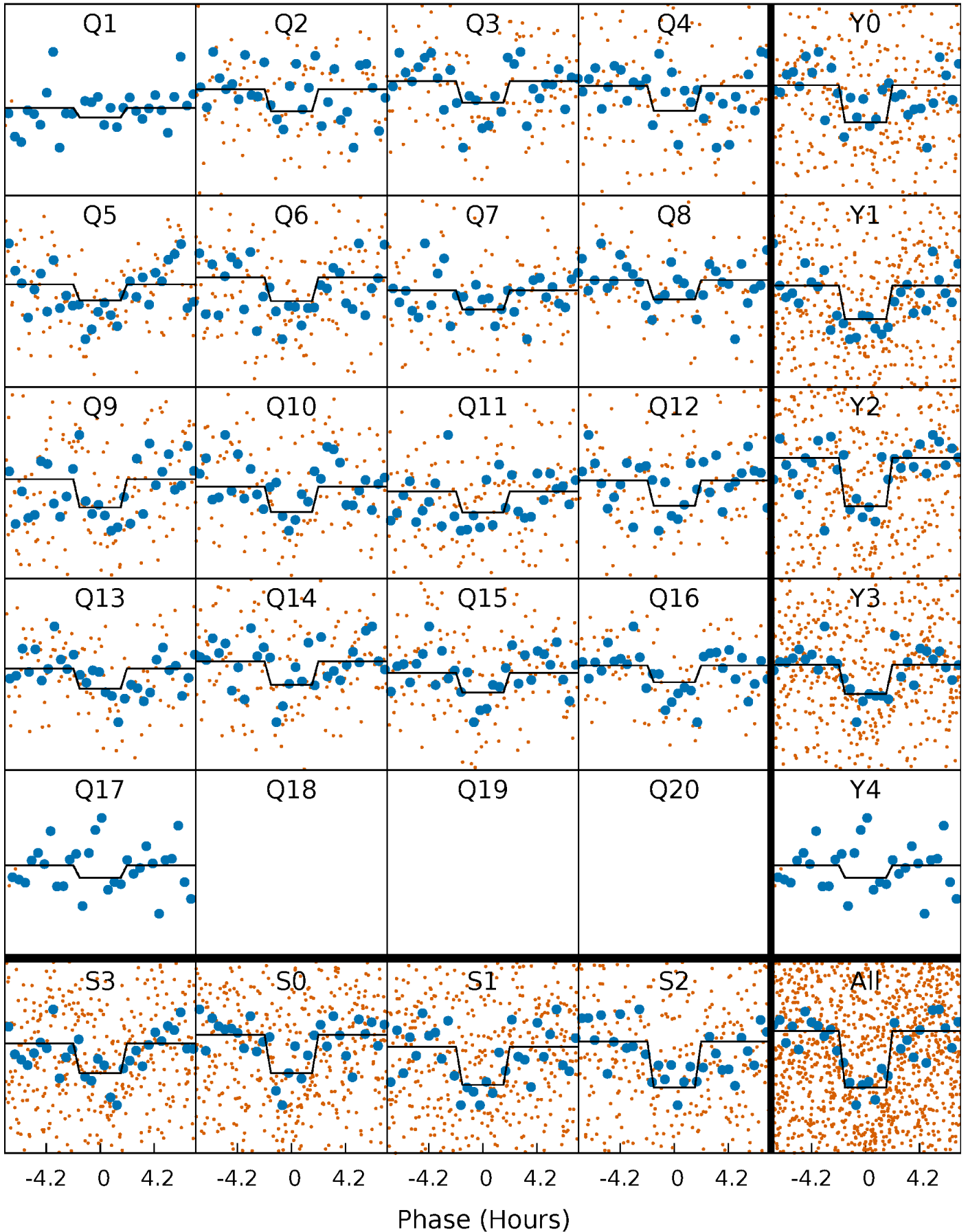
# DV Quarter-Phased Transit Curves

TCE 010264293-01 P= 20.953304 Days  $T_0=146.350992$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

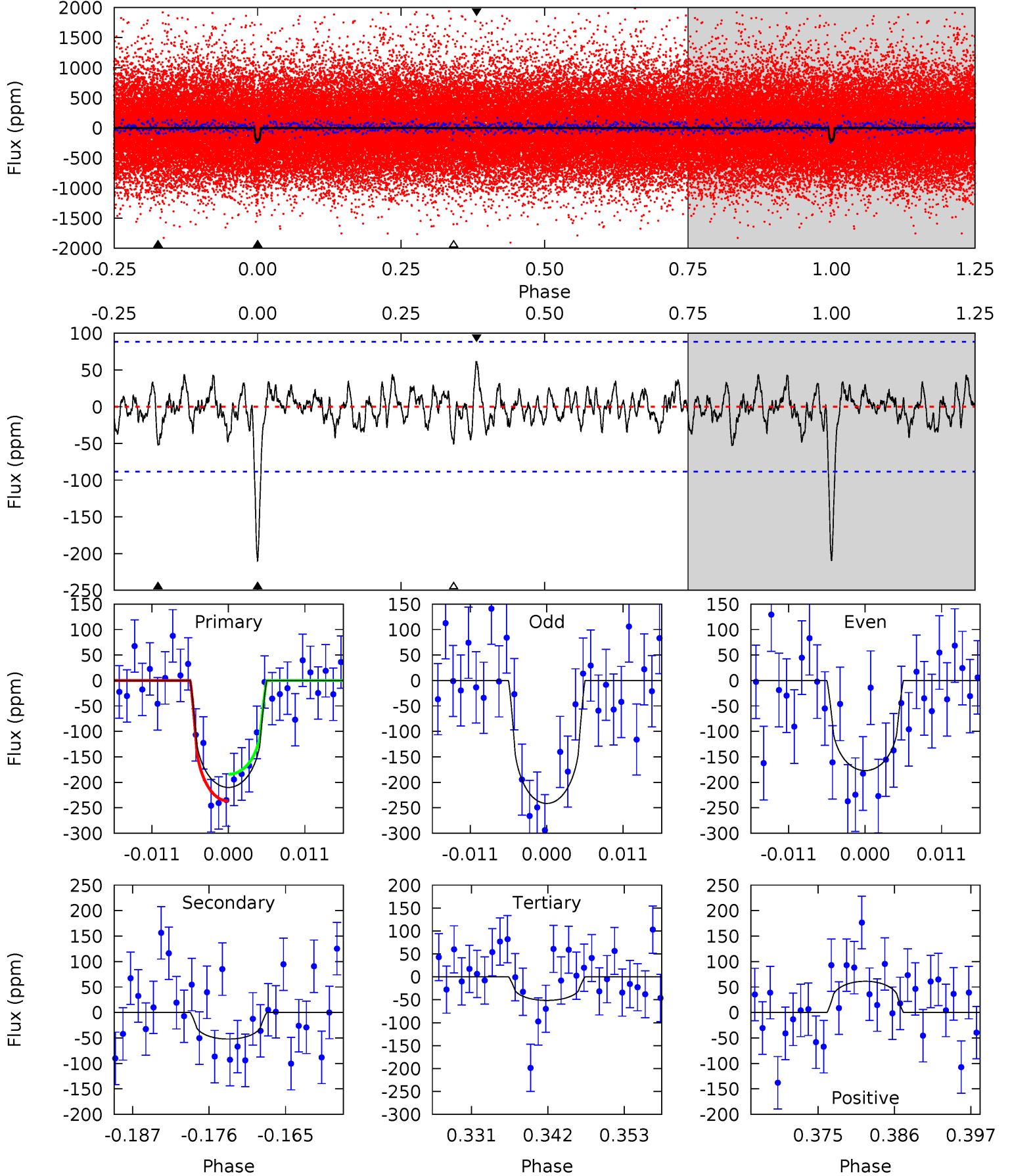
TCE 010264293-01 P= 20.952335 Days  $T_0=146.388658$  (BKJD)



# DV Model-Shift Uniqueness Test

010264293-01, P = 20.953304 Days, E = 125.397688 Days

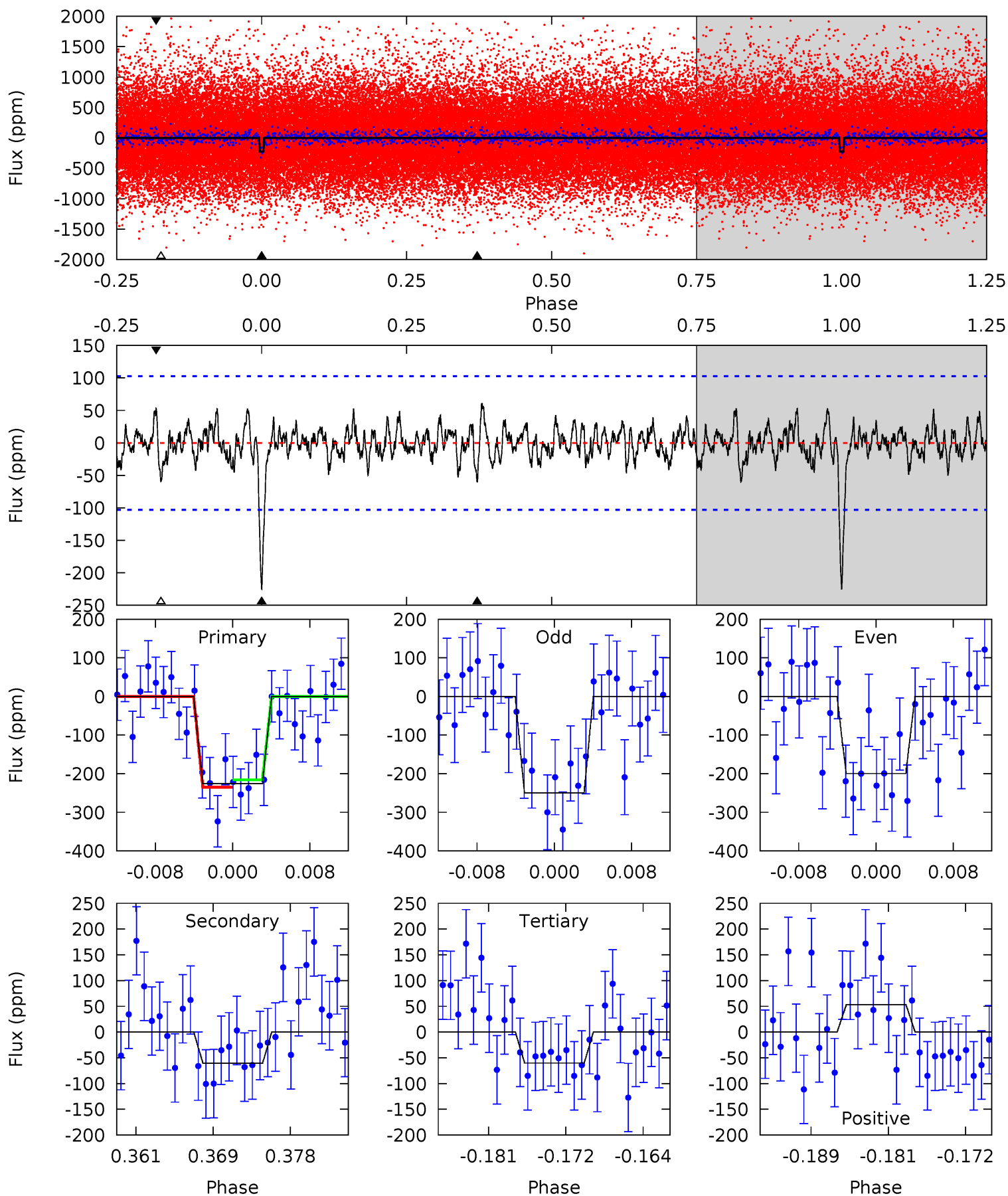
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	2.95	2.91	3.47	5.01	2.54	1.00	8.98	8.42	0.04	-0.52	1.83	0.96	0.23	1.49



# Alt Model-Shift Uniqueness Test

010264293-01,  $P = 20.952335$  Days,  $E = 125.436323$  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
11.1	2.99	2.96	2.63	5.06	2.64	0.97	8.14	8.47	0.03	0.36	1.25	1.08	0.21	0.48



### Stellar Parameters For KIC 010264293

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4885^{+146}_{-131}$	$4.610^{+0.028}_{-0.056}$	$-0.040^{+0.300}_{-0.300}$	$0.720^{+0.068}_{-0.056}$	$0.773^{+0.061}_{-0.075}$	$2.914^{+0.459}_{-0.573}$
	+3%/-3%	+1%/-1%	+750%/-750%	+9%/-8%	+8%/-10%	+16%/-20%
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 010264293-01 / KOI 7301.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-52 \pm 18$	$1.91^{+1.79}_{-1.22}$	$697^{+23}_{-22}$	$3201^{+1367}_{-555}$	$141^{+1060}_{-104}$
Alt.	$-61 \pm 20$	$2.14^{+1.87}_{-1.46}$	$698^{+26}_{-23}$	$3178^{+1485}_{-544}$	$134^{+1112}_{-99}$

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



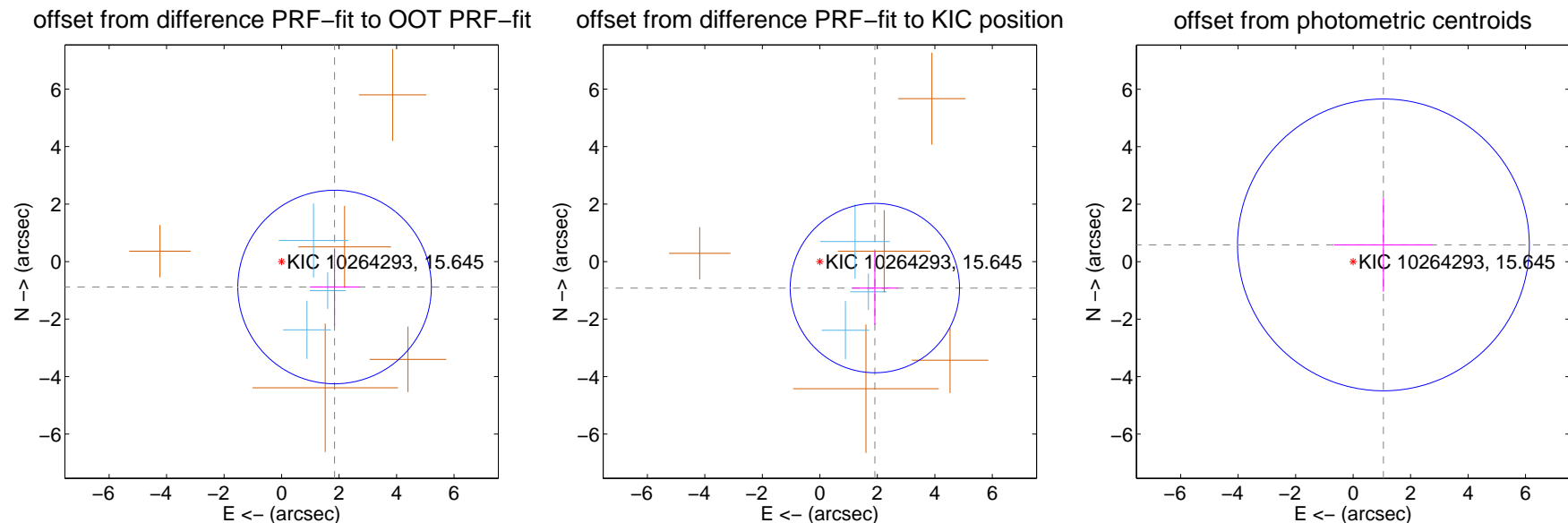
## DV Centroid Data

Supplemental centroid analysis for 010264293-01. Kepler magnitude: 15.64. Transit SNR 9.28

There are 3 quarters with good PRF difference image offsets

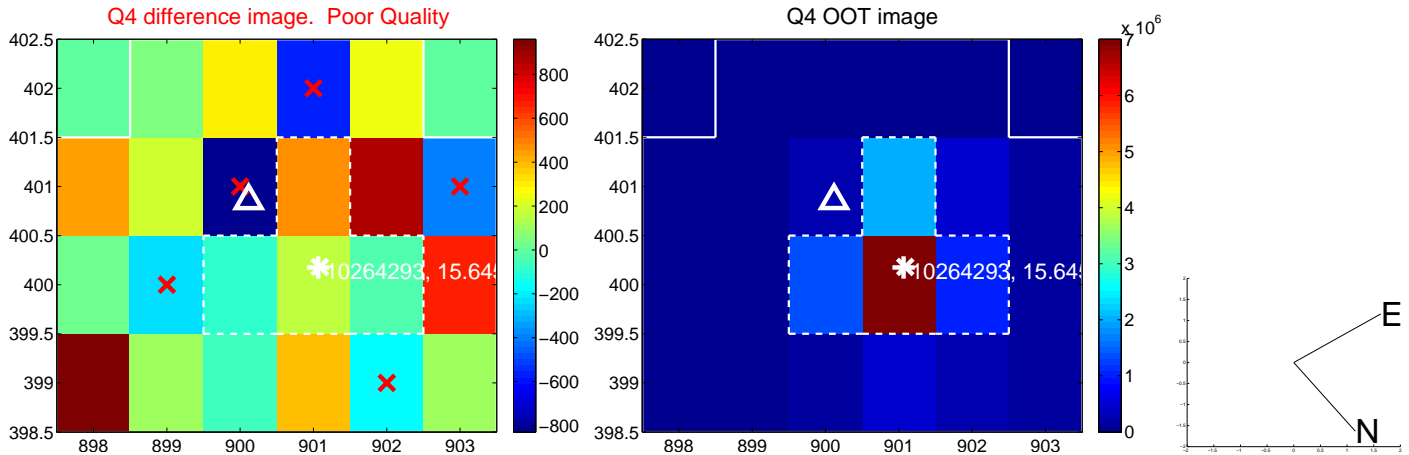
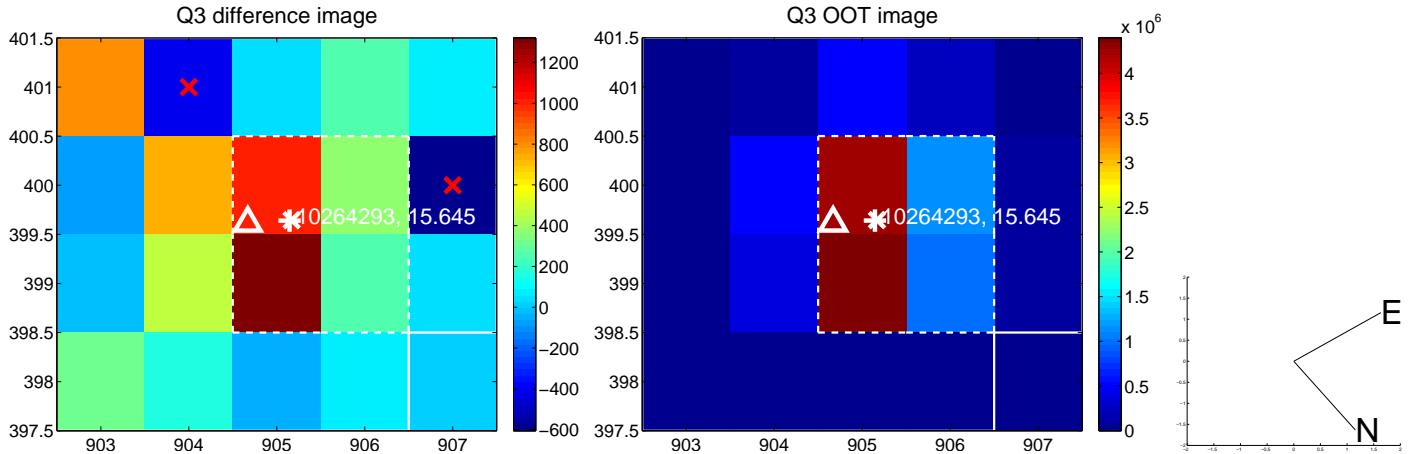
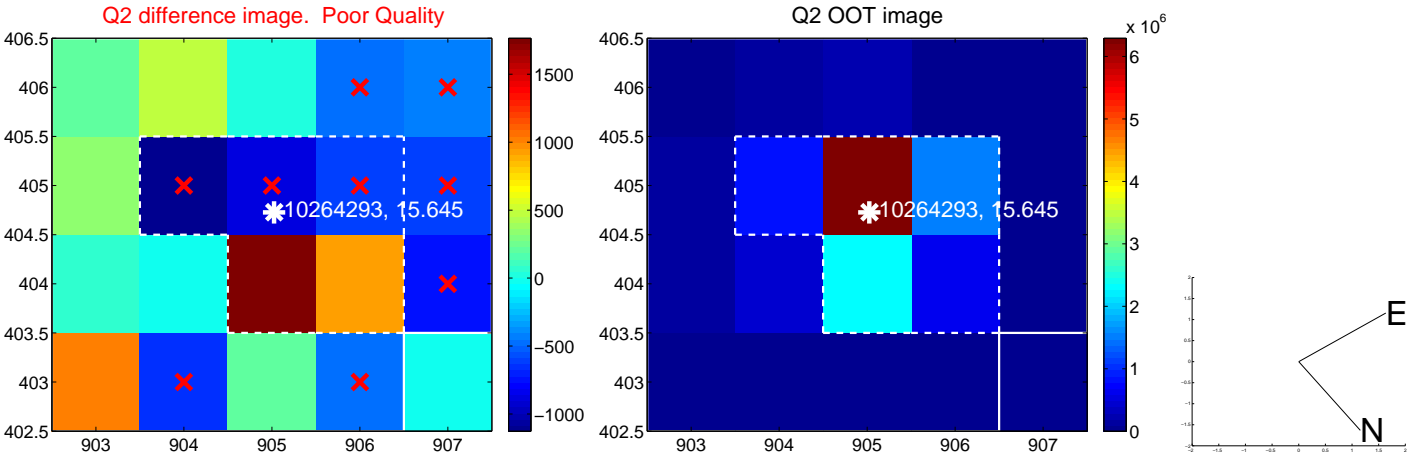
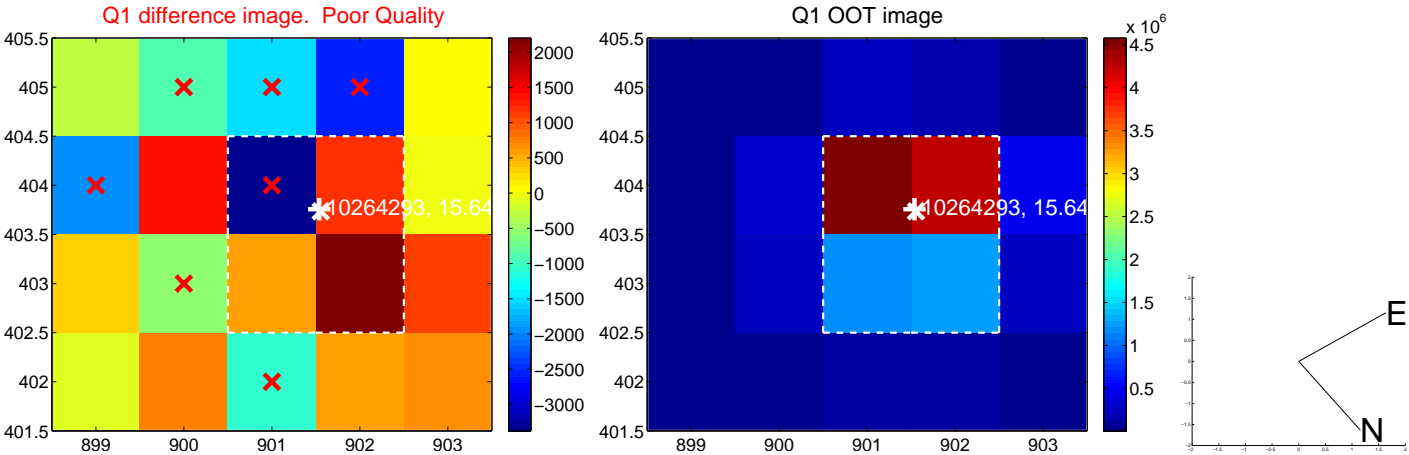
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.045 \pm 1.122$	1.82	$-1.844 \pm 0.859$	$-0.884 \pm 1.343$
PRF-fit source offset from KIC position	$2.124 \pm 0.982$	2.16	$-1.914 \pm 0.797$	$-0.921 \pm 1.277$
photometric centroid source offset	$1.21 \pm 1.69$	0.71	$-1.05 \pm 1.71$	$0.58 \pm 1.63$

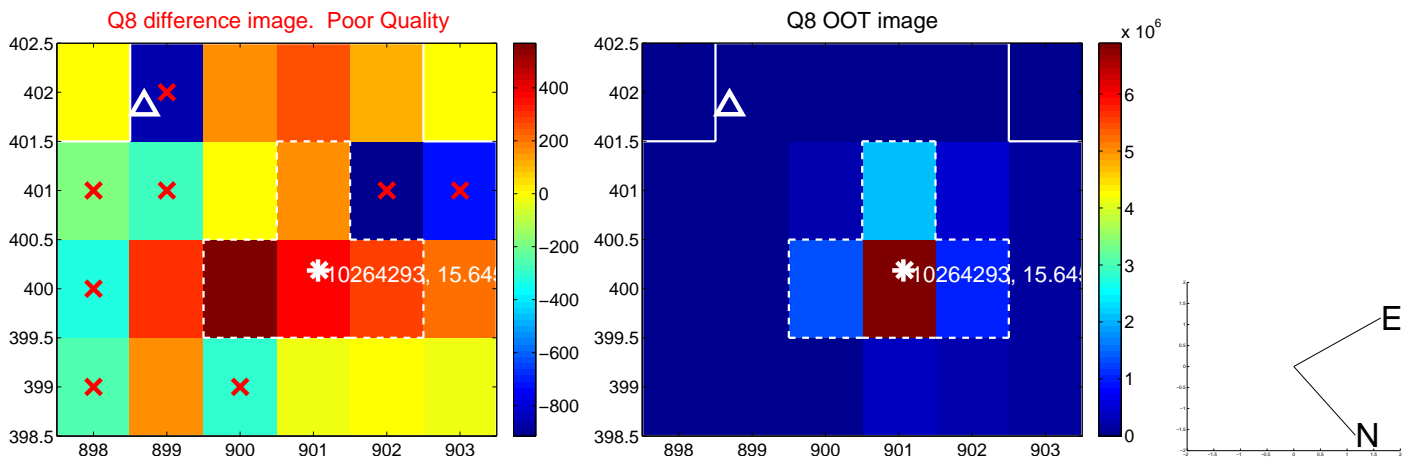
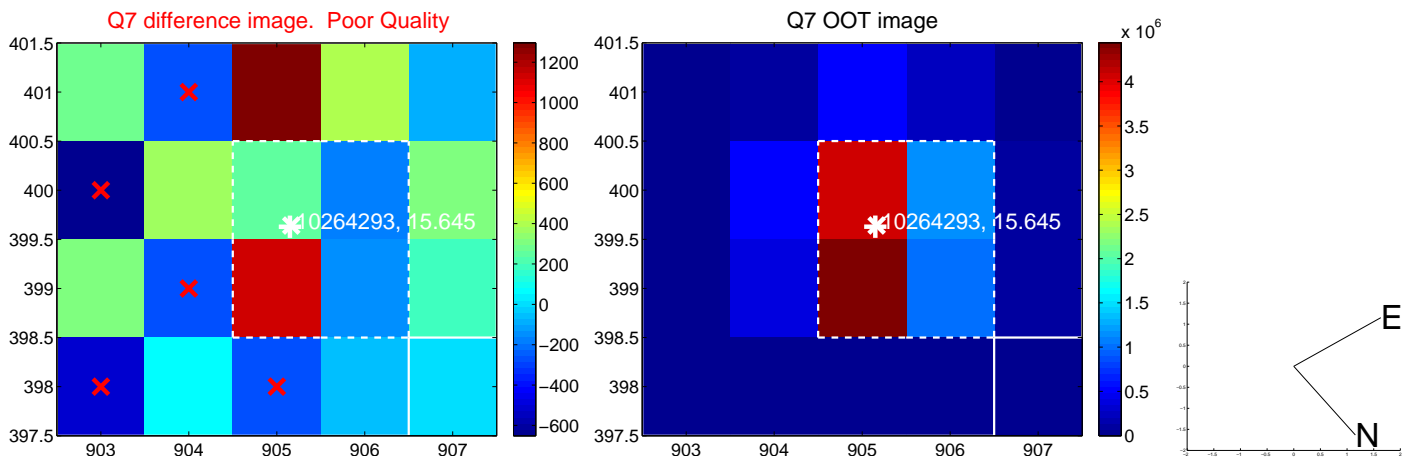
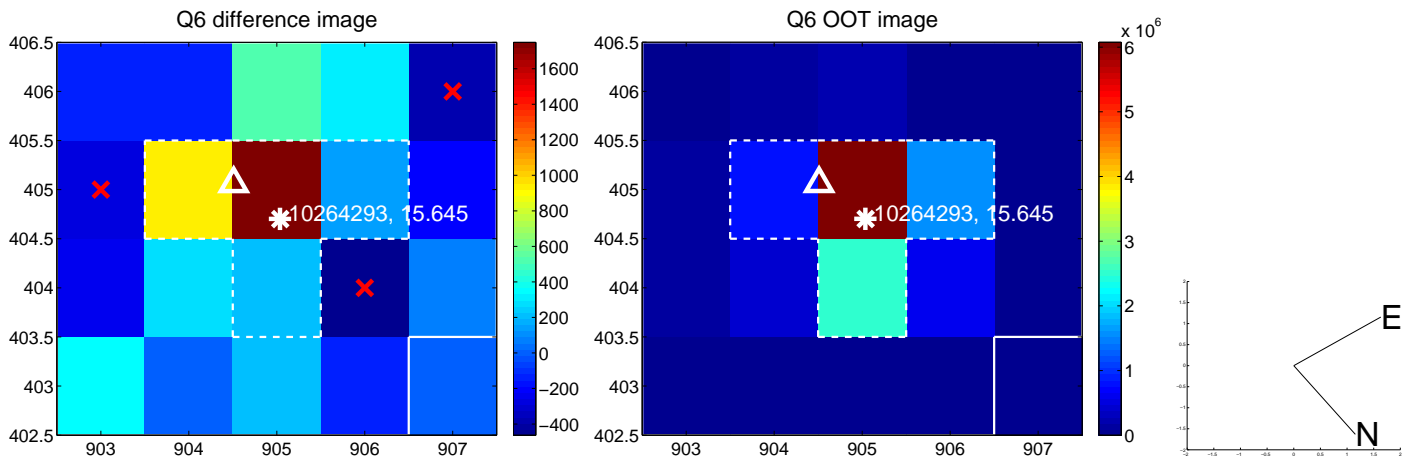
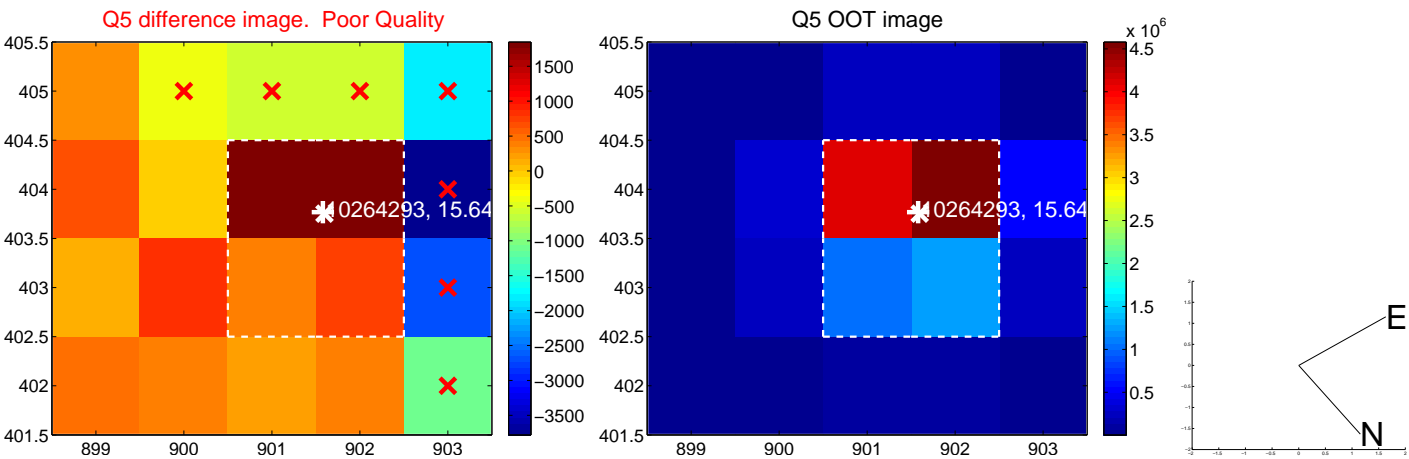


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

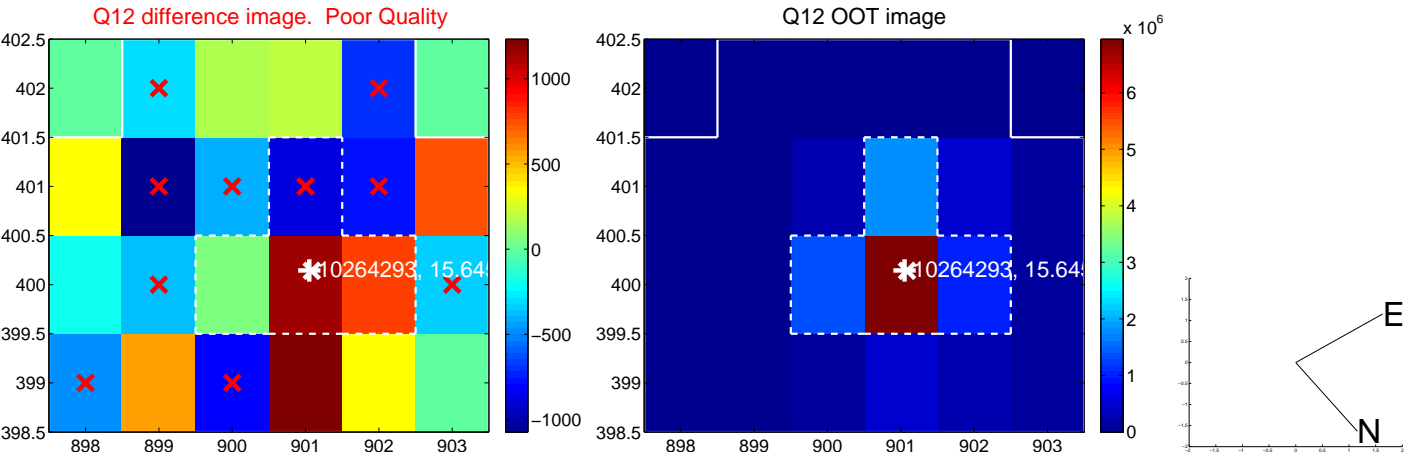
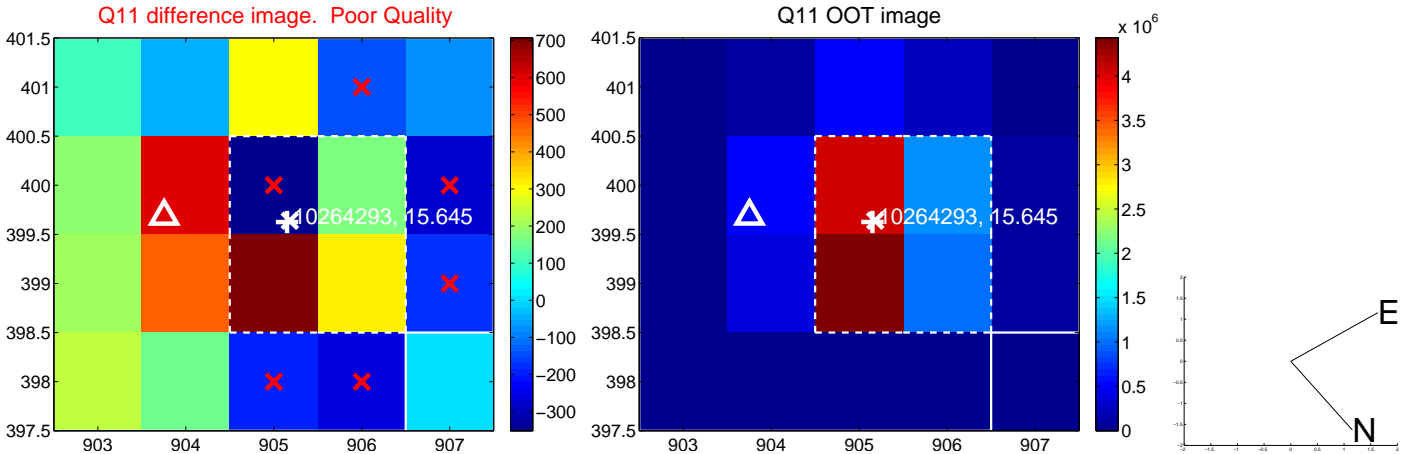
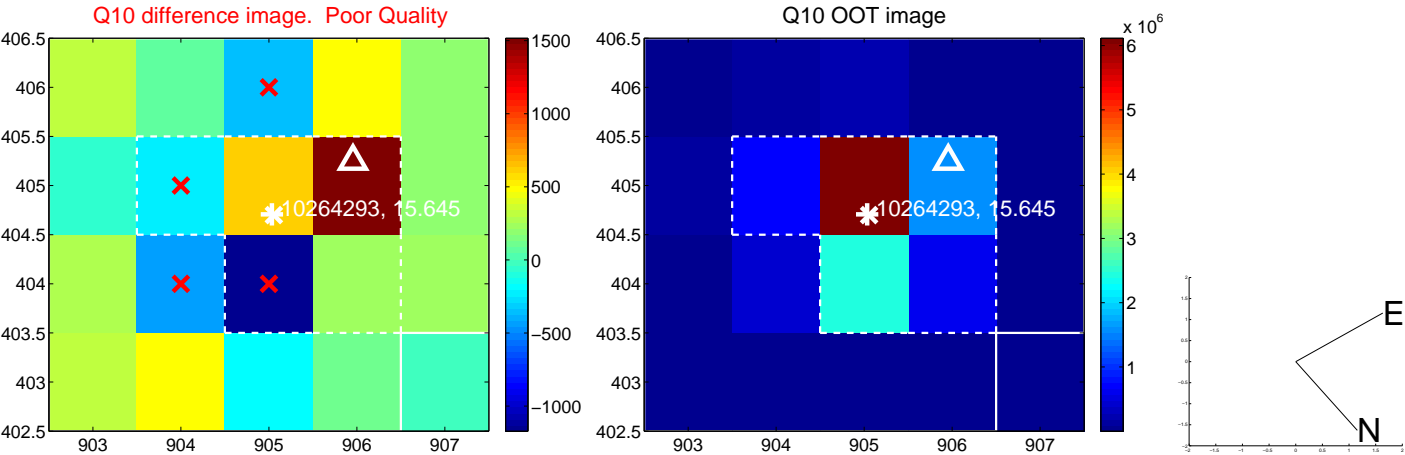
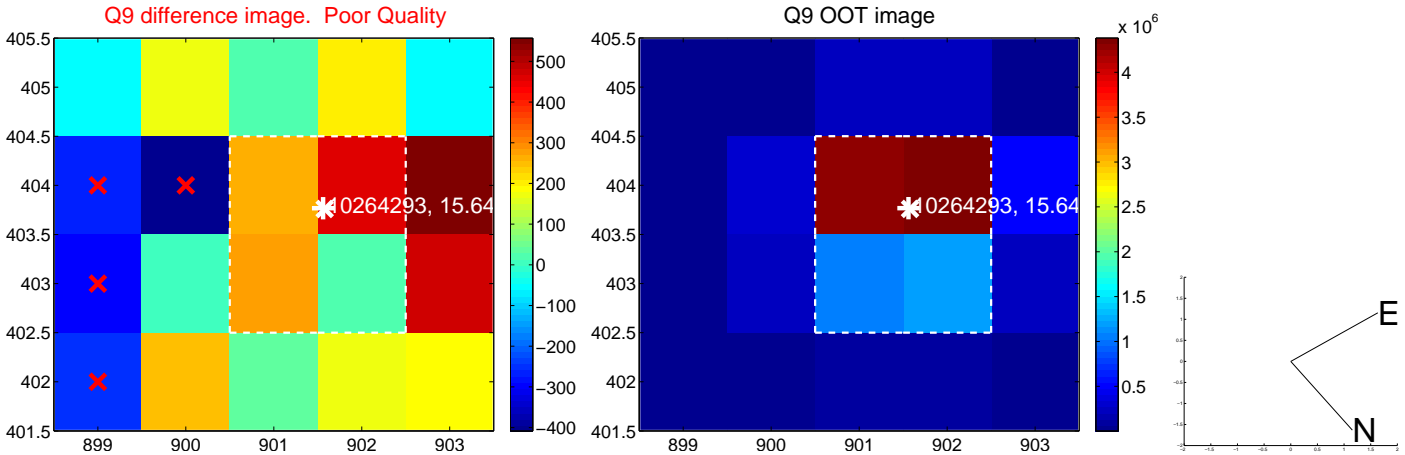
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



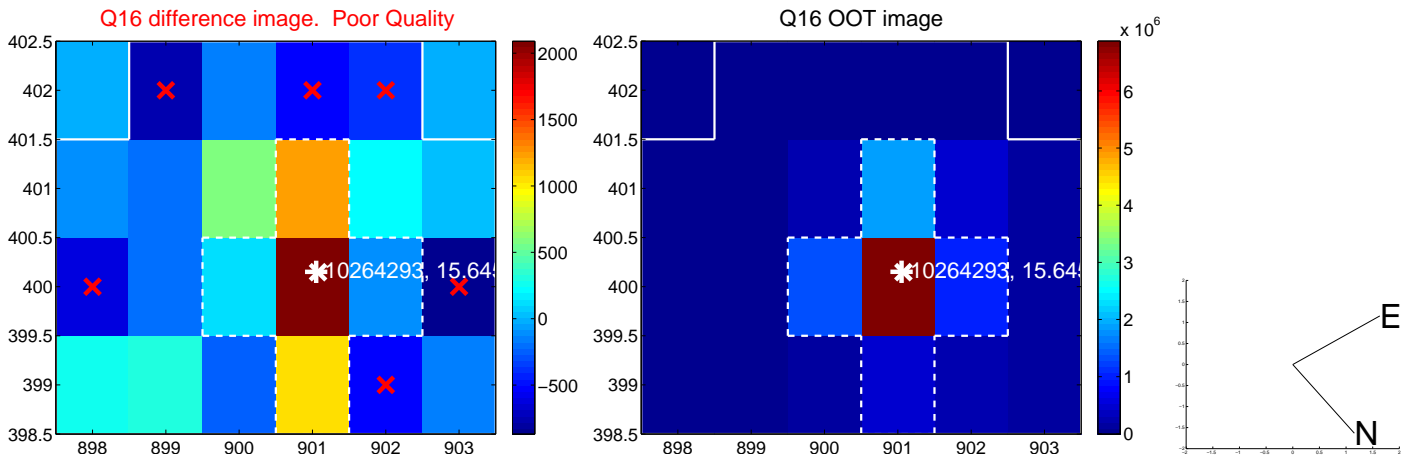
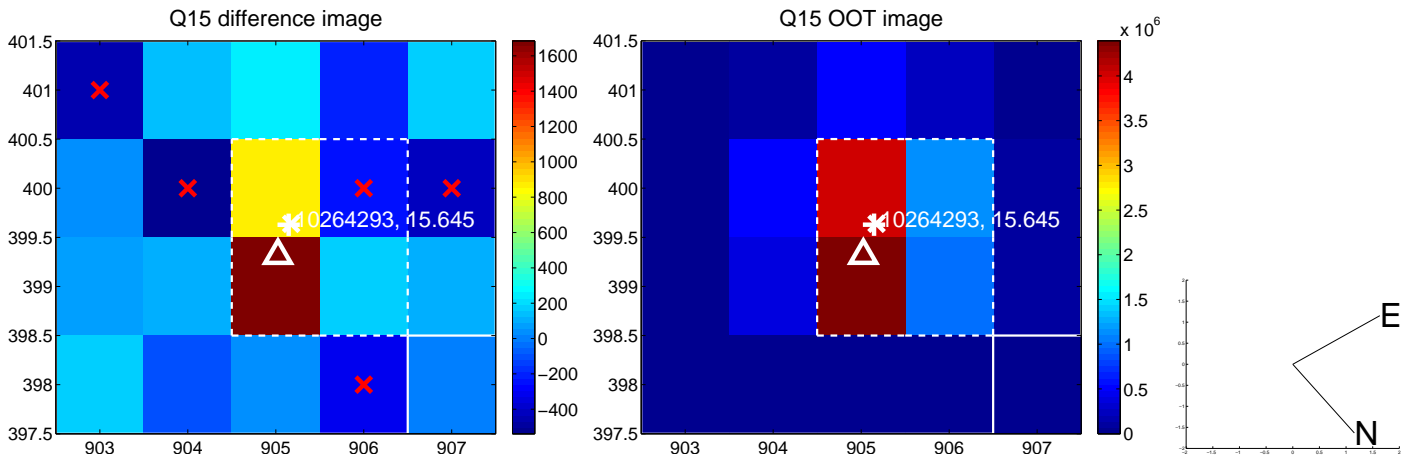
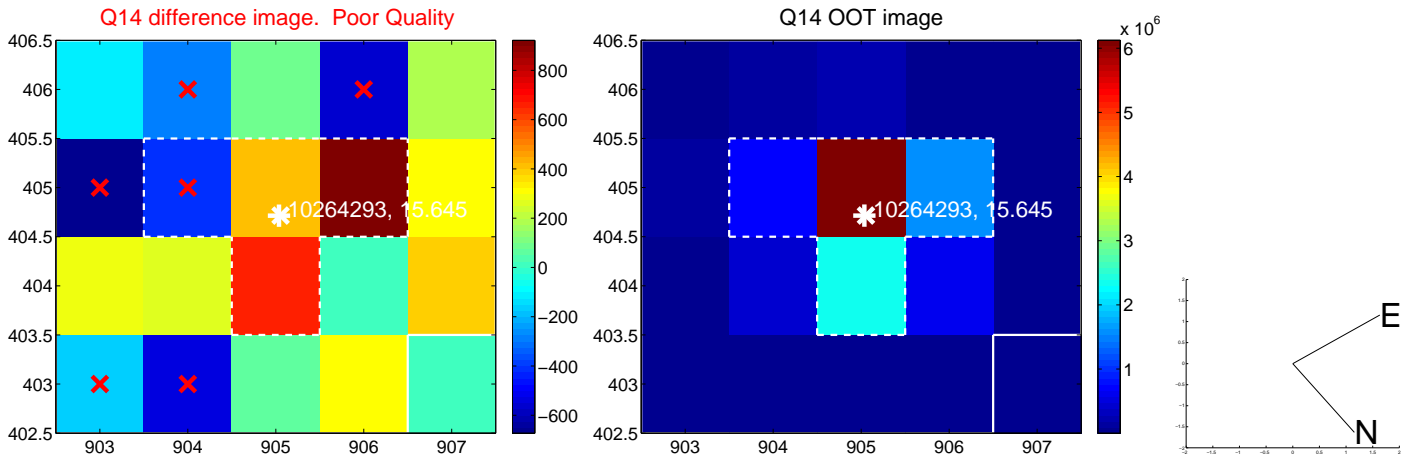
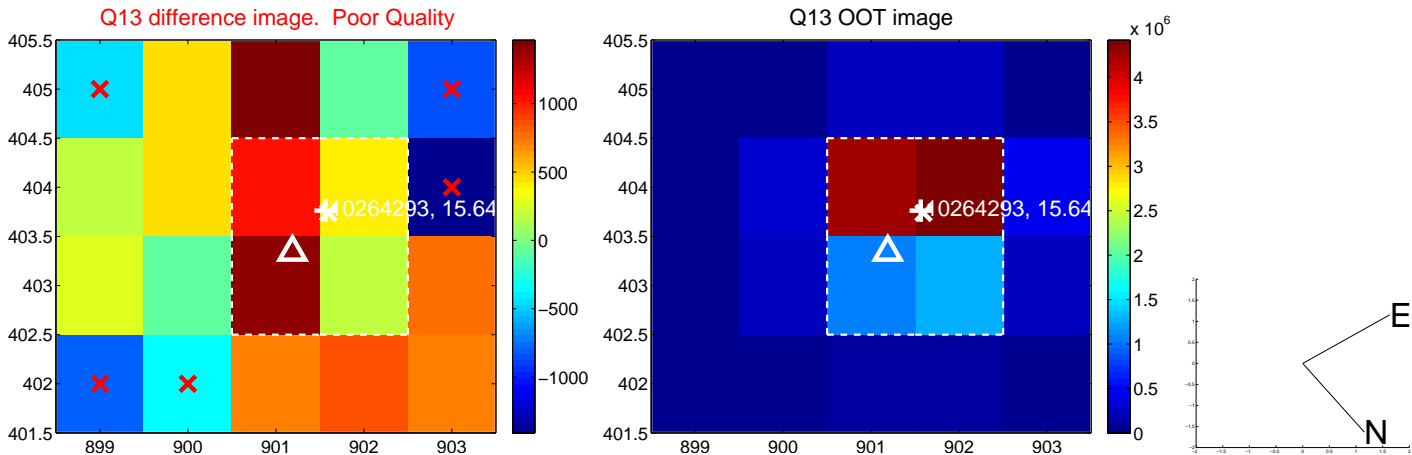
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

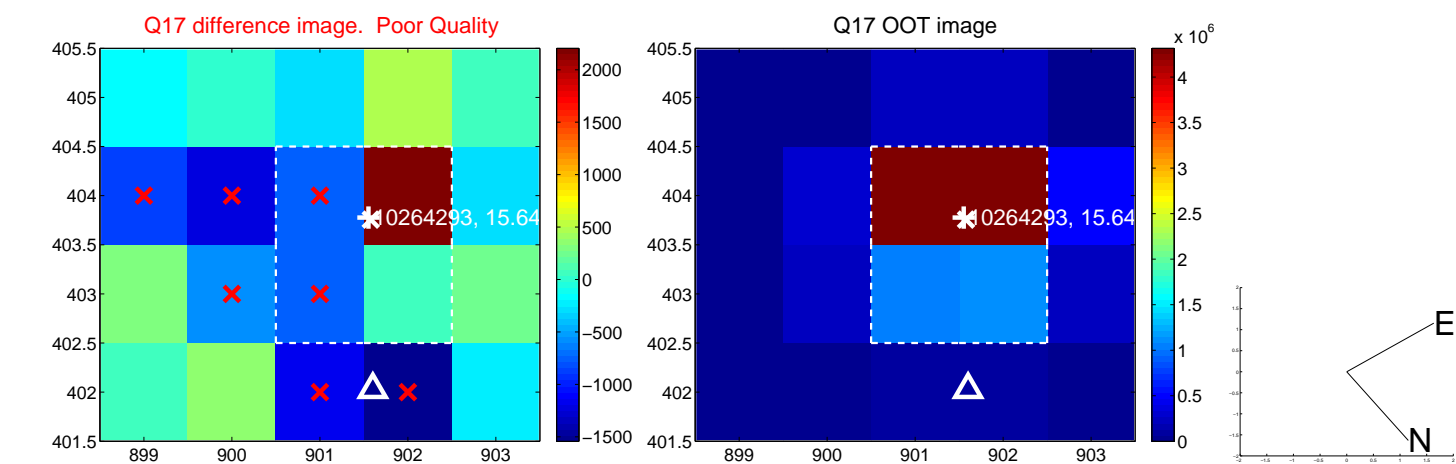


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

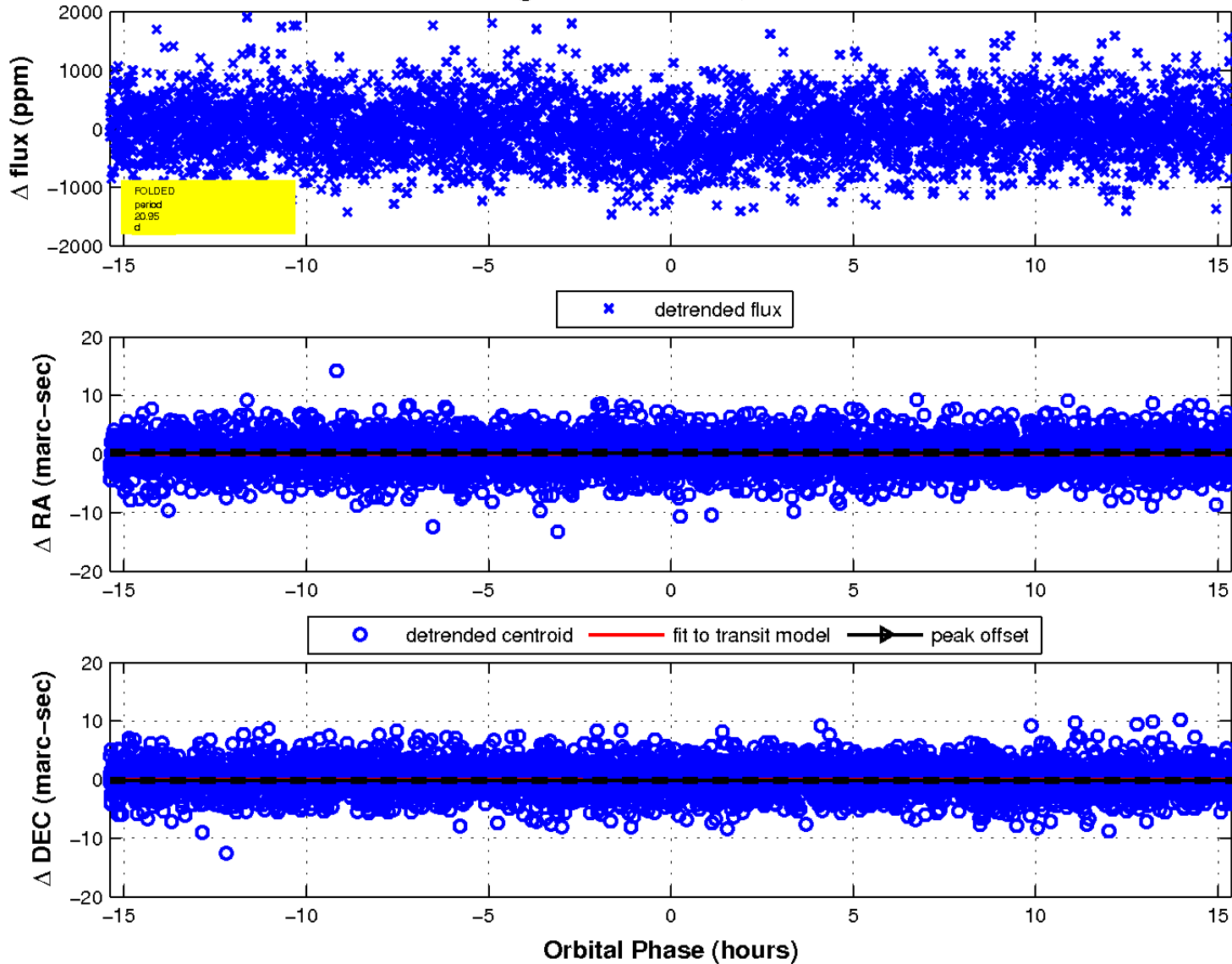




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

