

# KIC 009329230

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009329230-01	OBS	No	0.554243	131.658815	63.5	1.365	7.9	7.5	0.91	5778	0.75	4663.90

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009329230-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

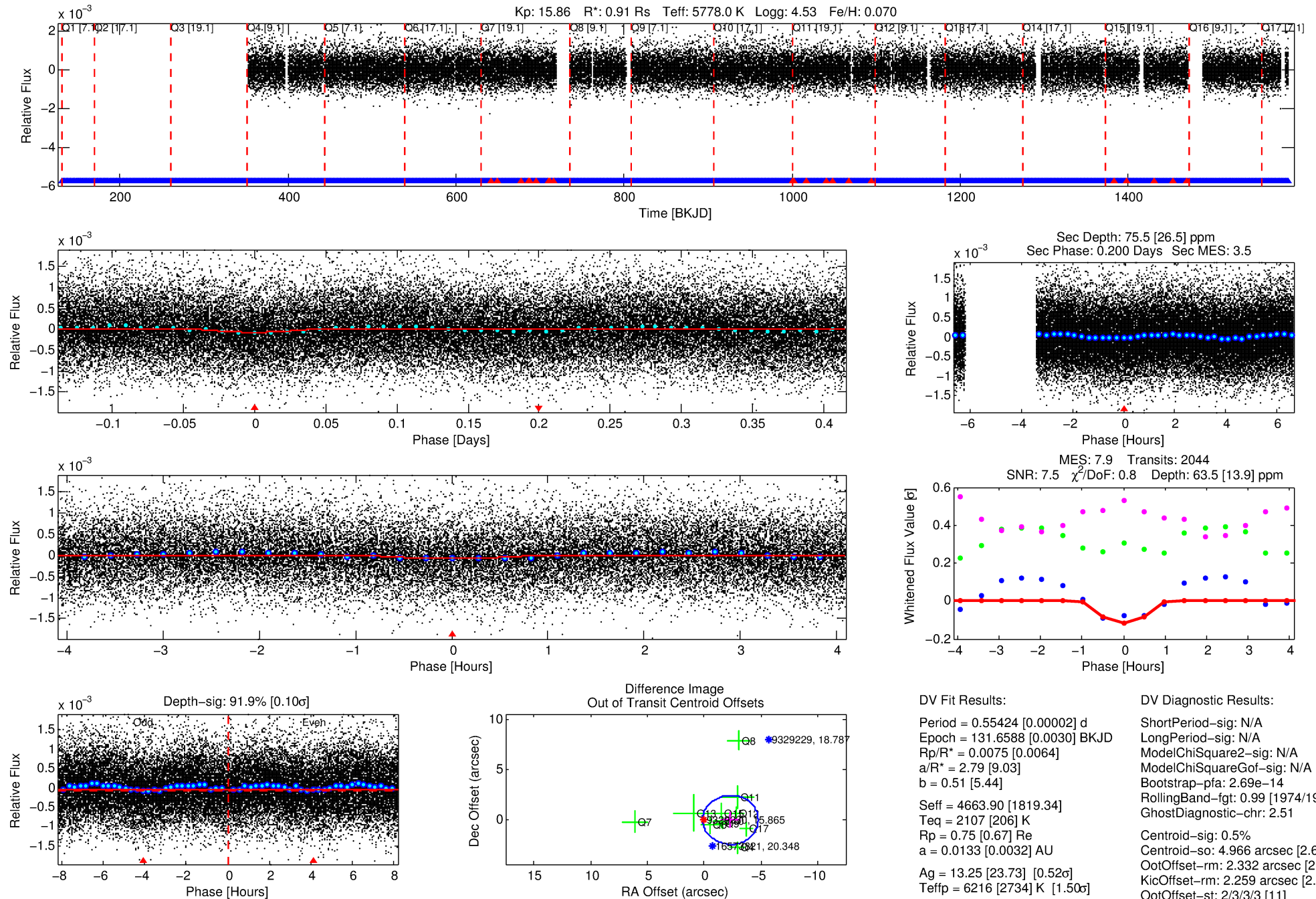
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009329230-01

No Significant Match Found

# DV One-Page Summary

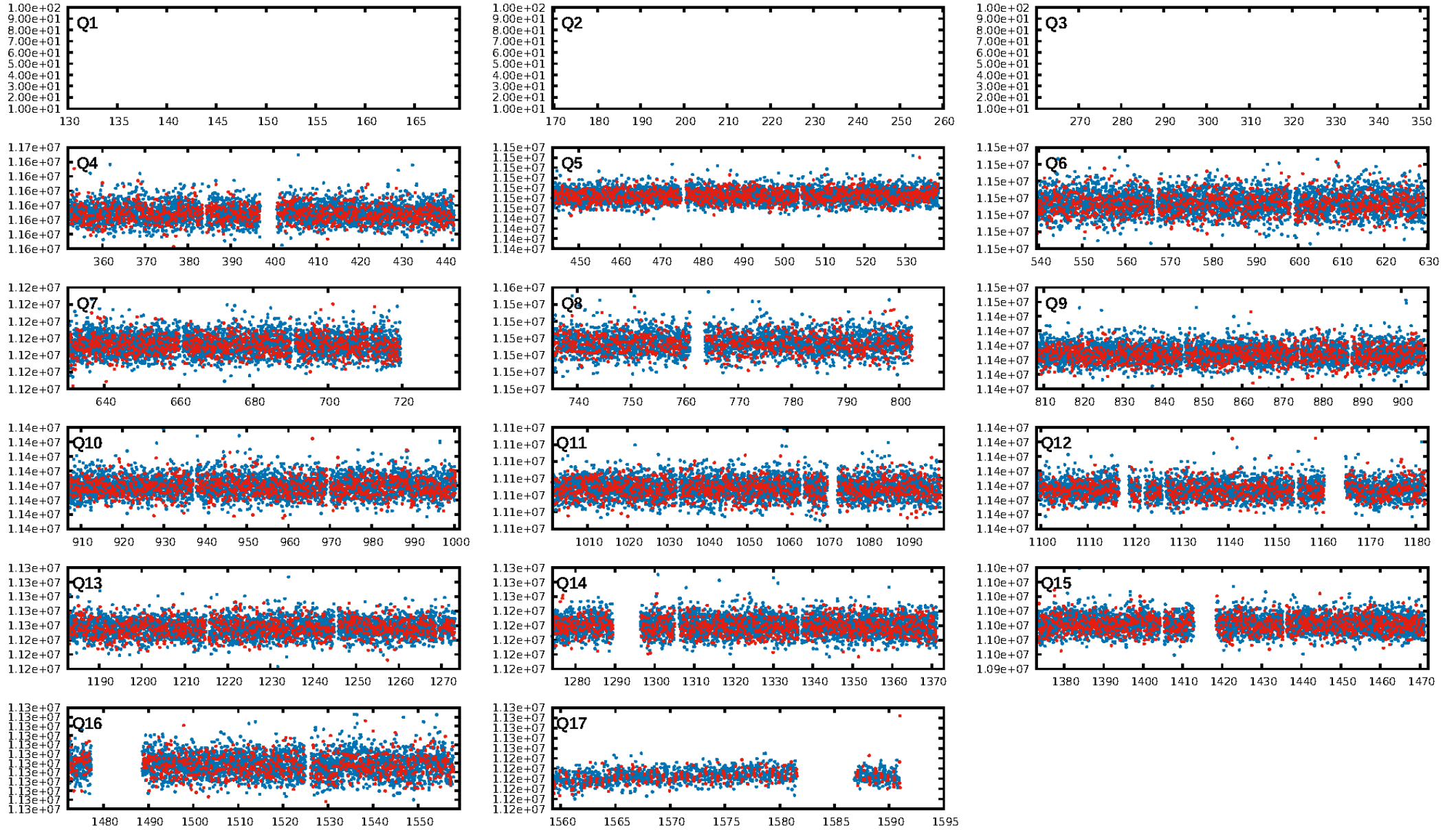
KIC: 9329230 Candidate: 1 of 1 Period: 0.554 d



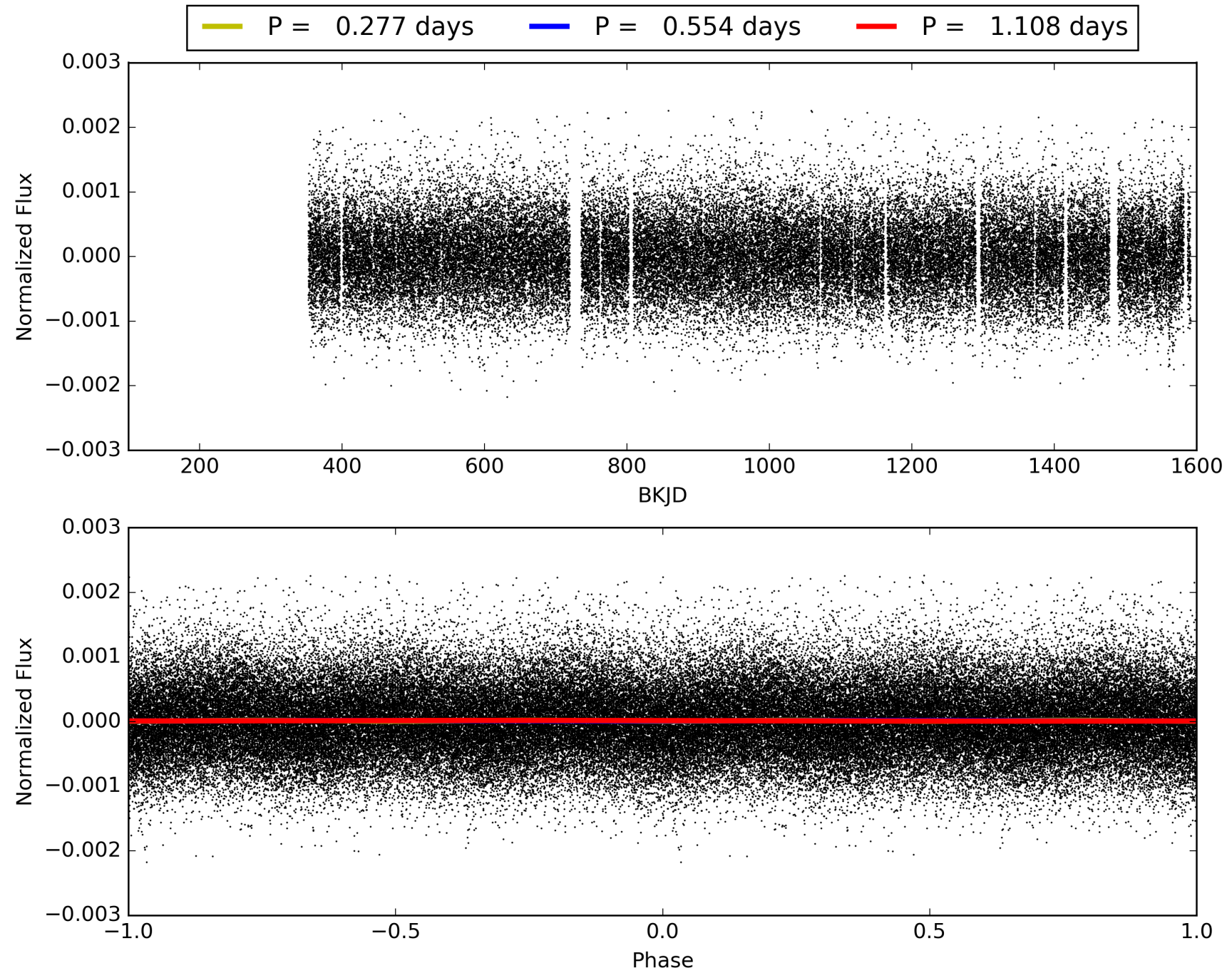
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:45:06 Z

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

# TCE 009329230-01, PDC Light Curves

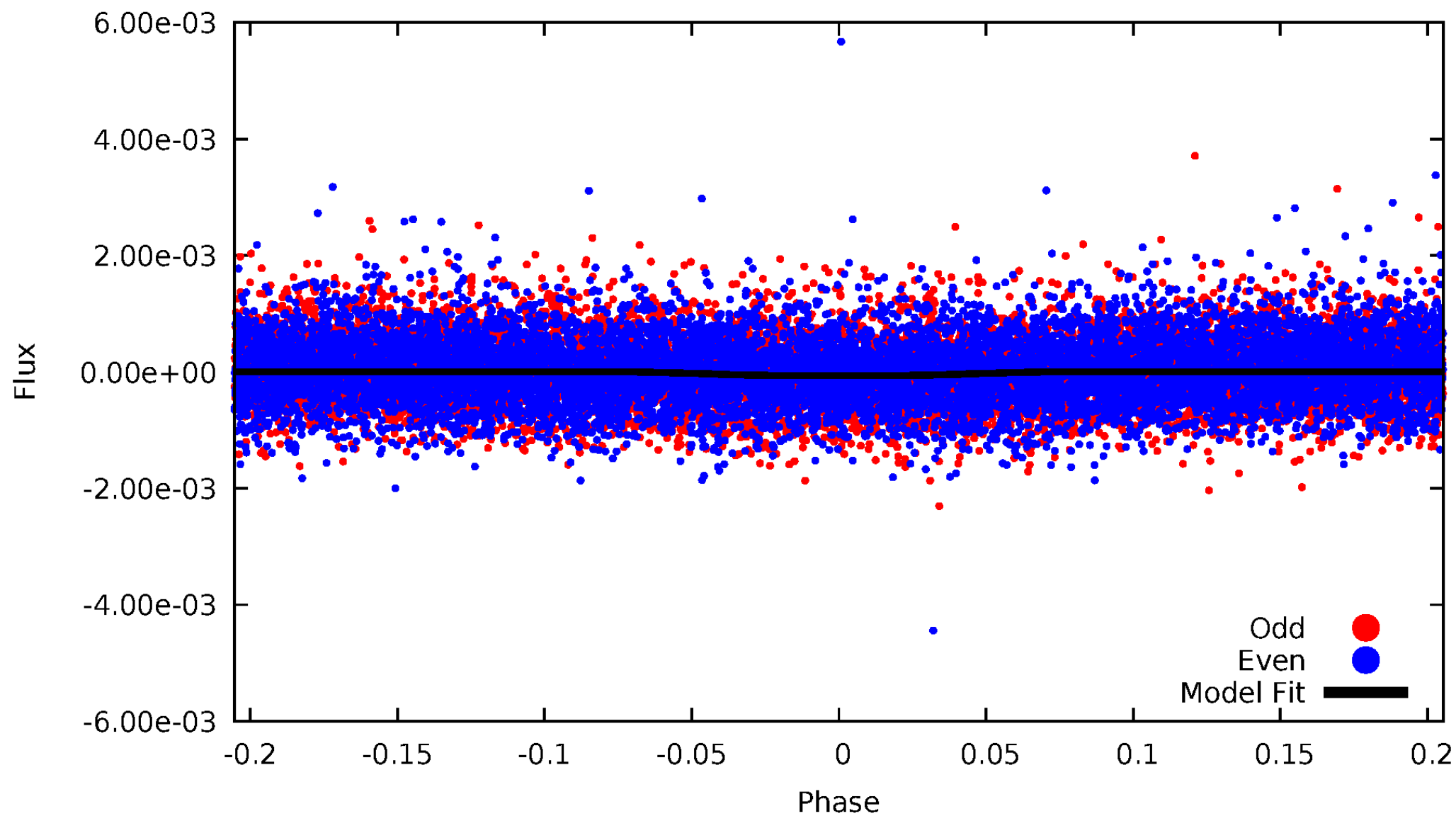


TCE 009329230-01



# DV Odd/Even

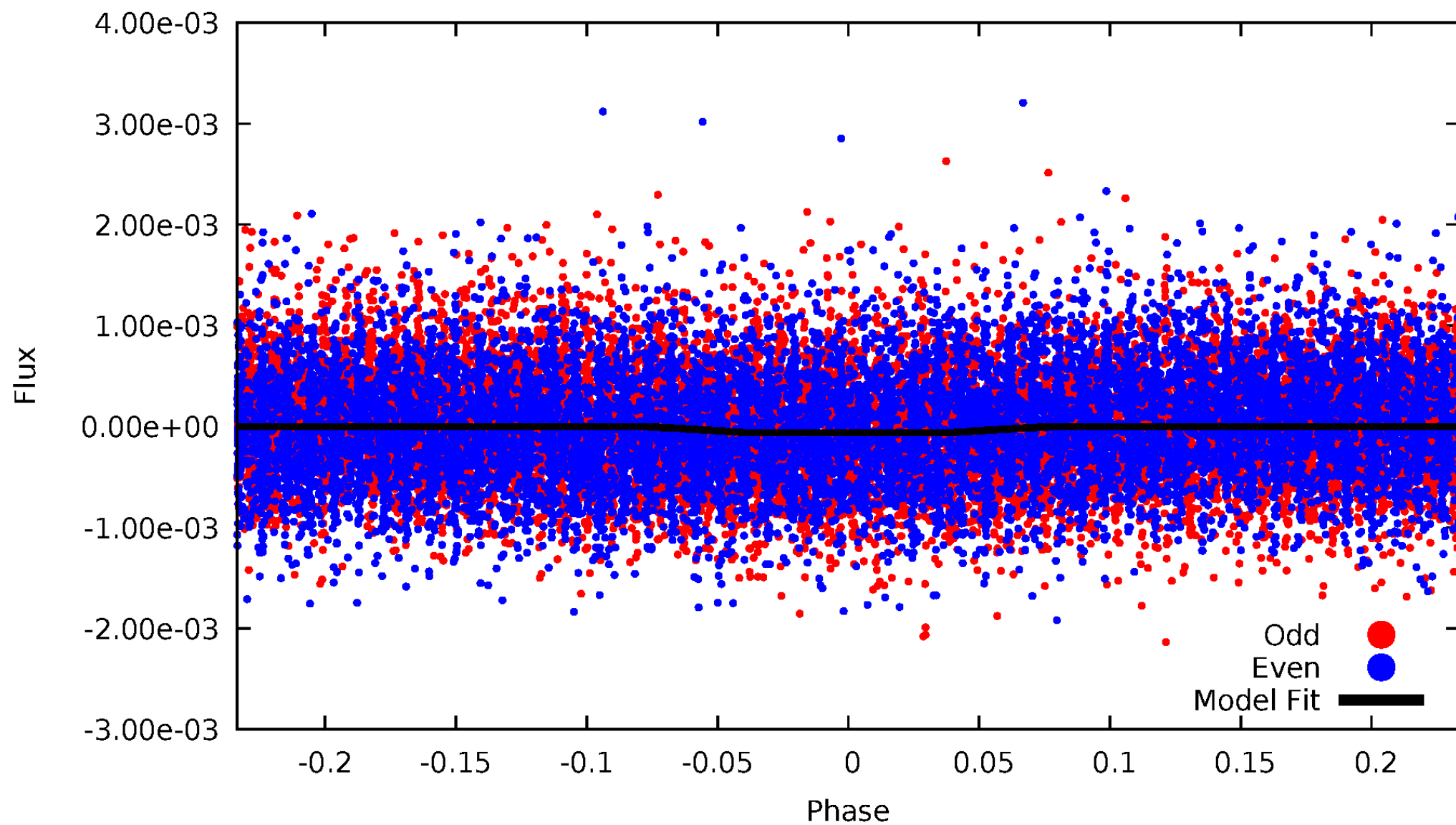
TCE 009329230-01



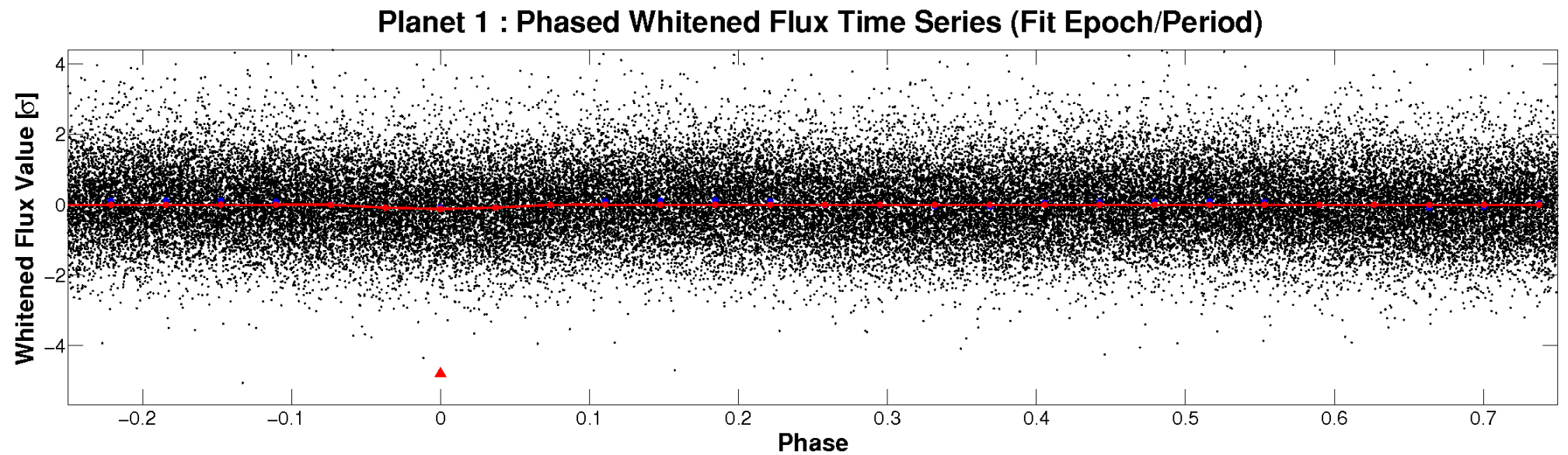
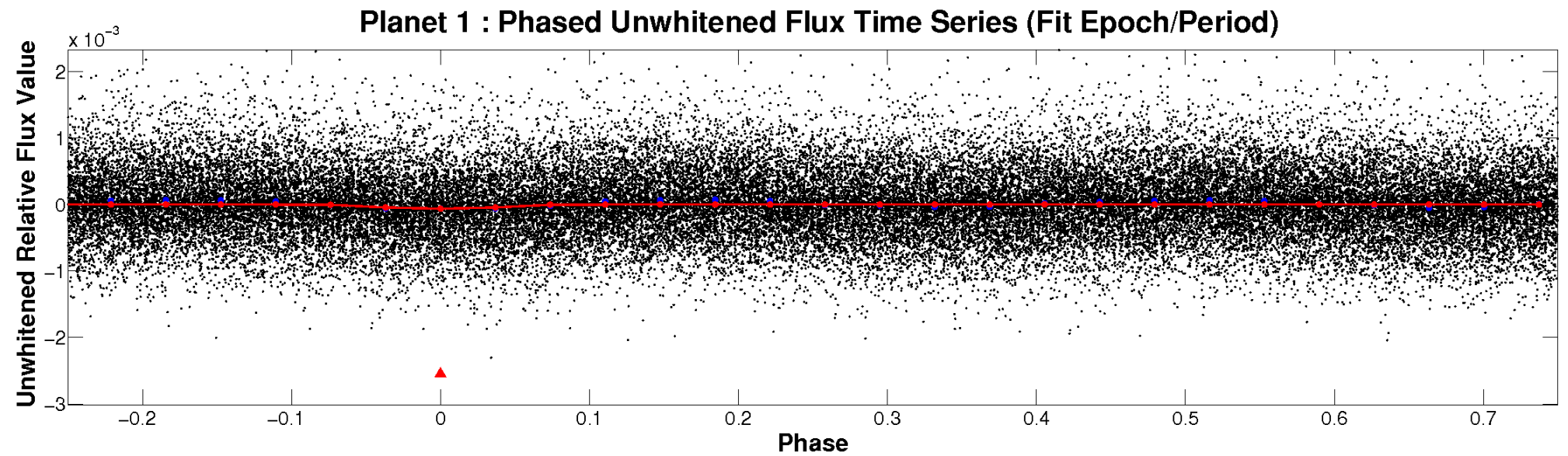


# ALT Odd/Even

TCE 009329230-01

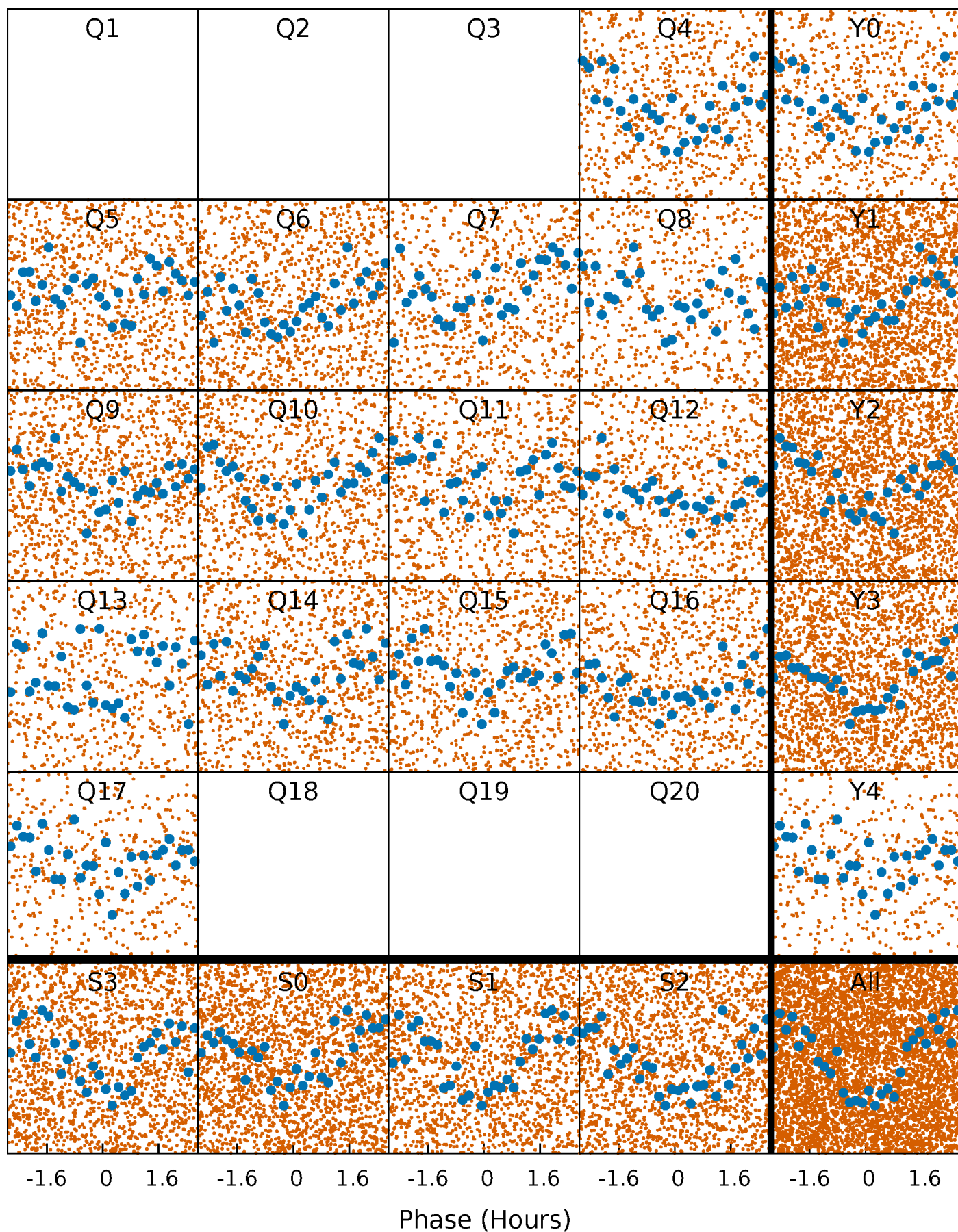


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

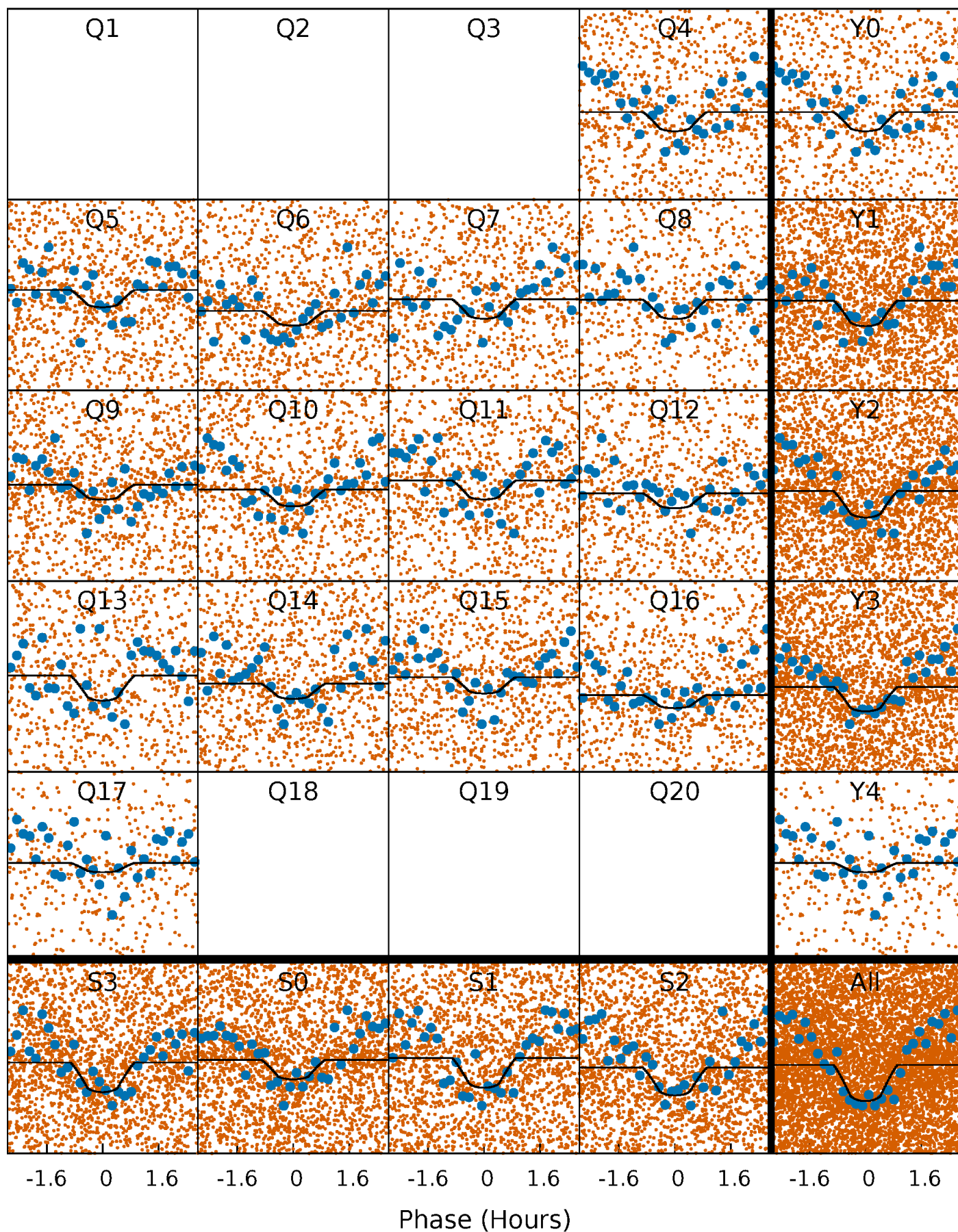
TCE 009329230-01 P= 0.554243 Days  $T_0=131.658815$  (BKJD)





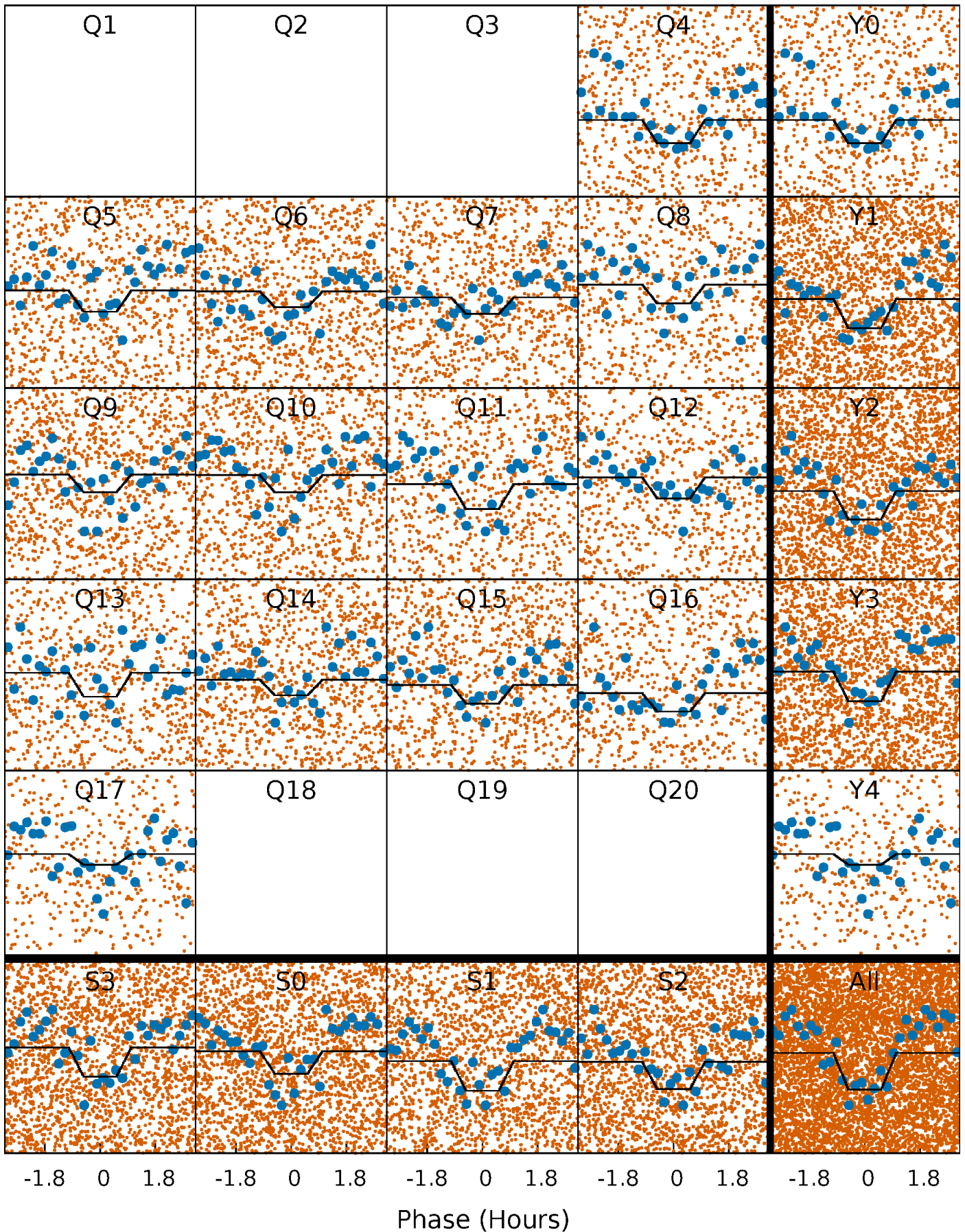
# DV Quarter-Phased Transit Curves

TCE 009329230-01   P= 0.554243 Days    $T_0=131.658815$  (BKJD)



### Alt. Detrend Quarter-Phased Transit Curves

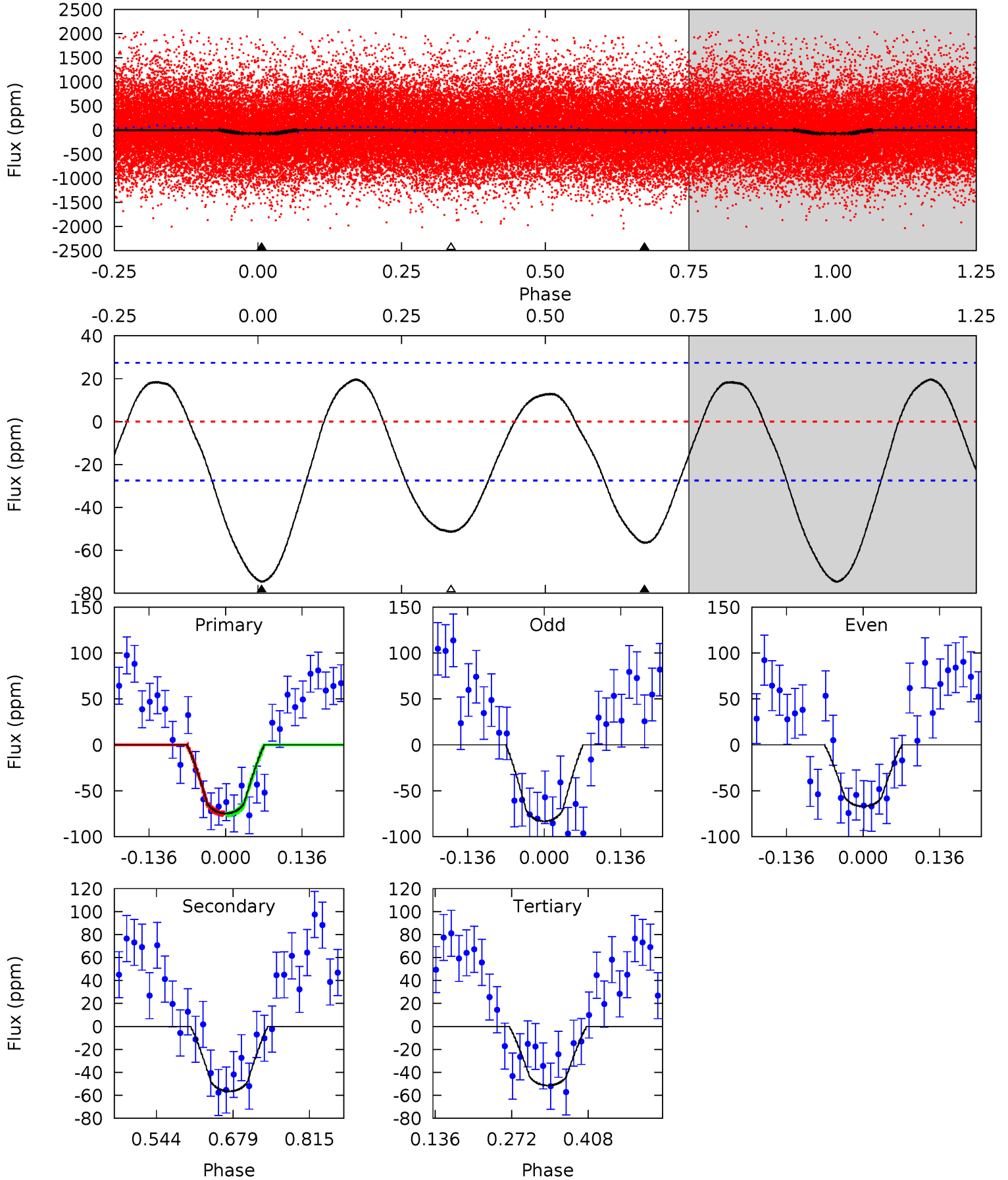
TCE 009329230-01    P= 0.554246 Days     $T_0=131.658927$  (BKJD)



# DV Model-Shift Uniqueness Test

009329230-01, P = 0.554243 Days, E = 131.658815 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
12.3	9.27	8.43	0	4.50	1.49	4.22	3.83	12.3	0.84	9.27	1.33	0.84	0.21	0.06

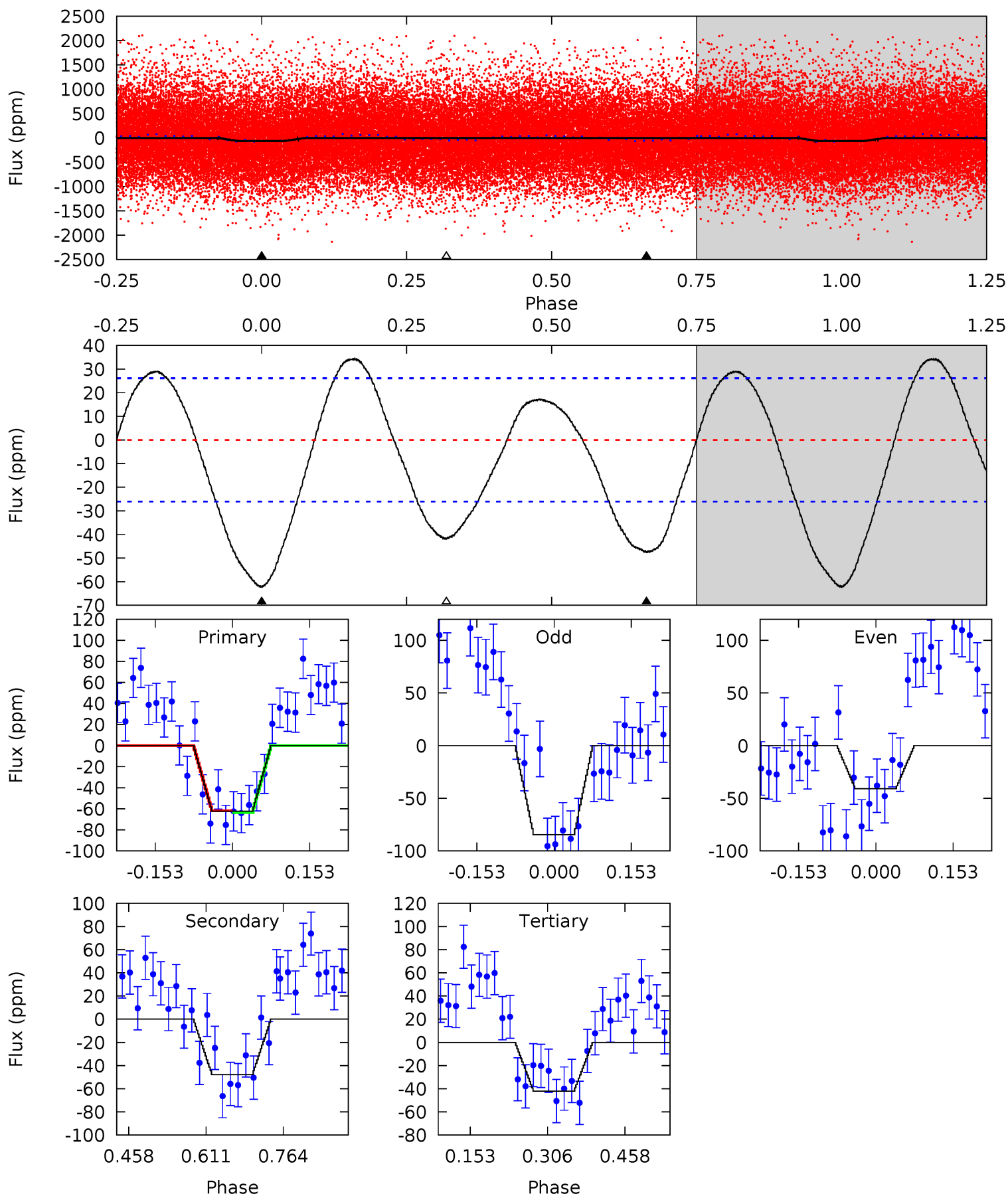




# Alt Model-Shift Uniqueness Test

009329230-01, P = 0.554246 Days, E = 131.658927 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
10.7	8.20	7.23	0	4.48	1.43	4.25	3.47	10.7	0.97	8.20	3.71	0.96	0.36	0.12





### Stellar Parameters For KIC 009329230

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5778^{+161}_{-202}$	$4.531^{+0.036}_{-0.204}$	$0.070^{+0.250}_{-0.300}$	$0.911^{+0.254}_{-0.091}$	$1.028^{+0.099}_{-0.136}$	$1.914^{+0.373}_{-0.972}$
	+3%/-3%	+1%/-5%	+357%/-429%	+28%/-10%	+10%/-13%	+19%/-51%
Source	KIC0	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 009329230-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-56 \pm 6$	$0.87^{+0.64}_{-0.54}$	$3025^{+184}_{-142}$	$5411^{+3647}_{-1150}$	$7.145^{+39.652}_{-4.796}$
Alt.	$-48 \pm 6$	$0.91^{+0.63}_{-0.54}$	$3017^{+197}_{-147}$	$5096^{+2887}_{-1027}$	$5.430^{+24.280}_{-3.523}$

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

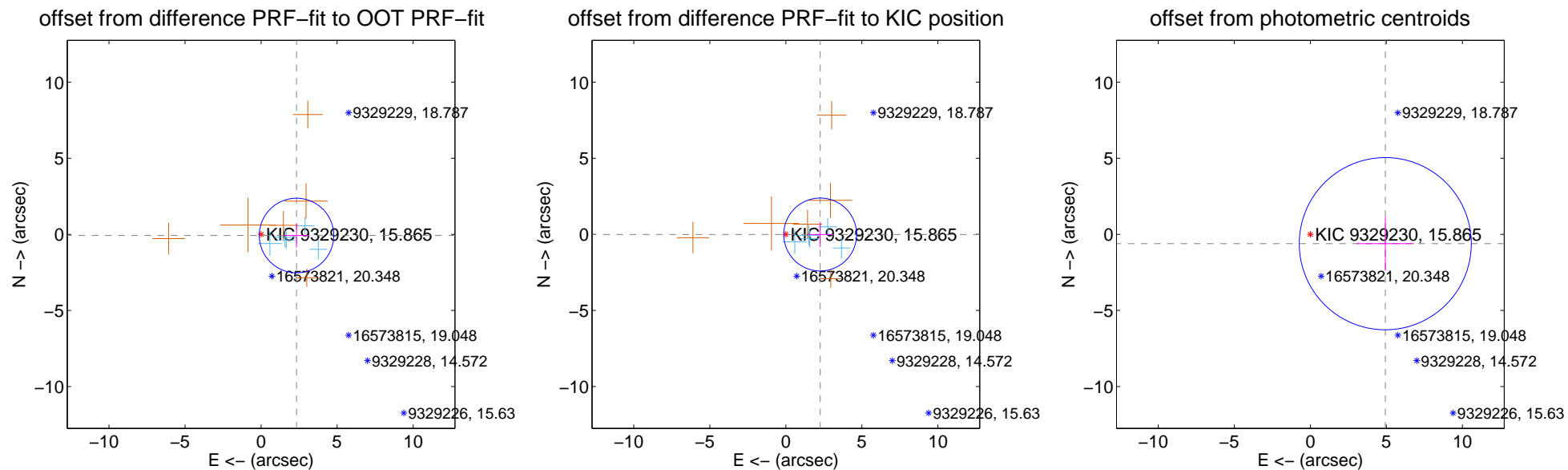
## DV Centroid Data

Supplemental centroid analysis for 009329230-01. Kepler magnitude: 15.87. Transit SNR 7.50

There are 5 quarters with good PRF difference image offsets

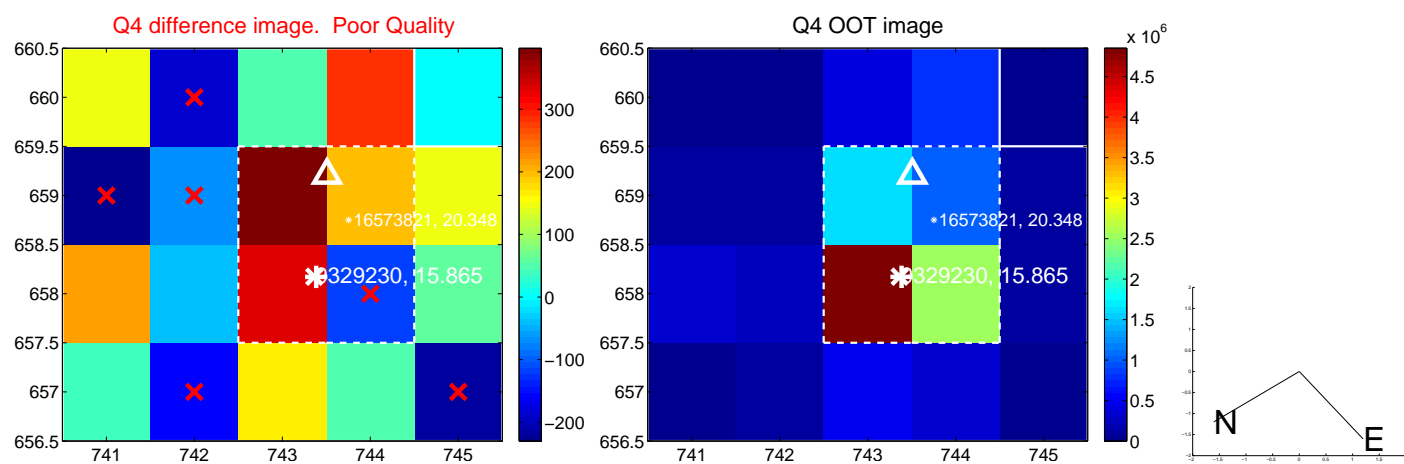
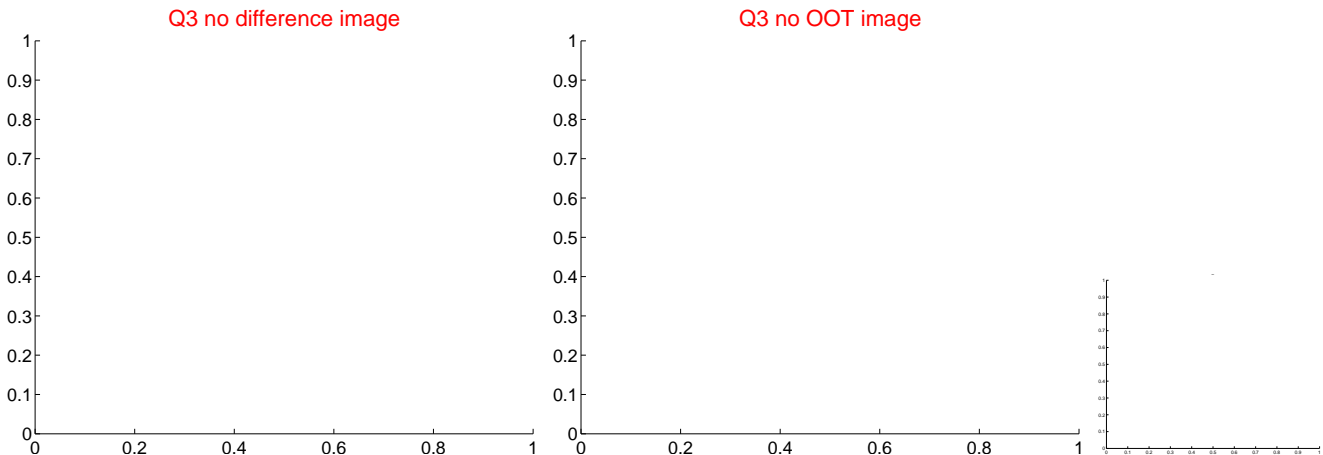
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.332 \pm 0.816$	2.86	$-2.331 \pm 0.819$	$-0.077 \pm 0.796$
PRF-fit source offset from KIC position	$2.259 \pm 0.798$	2.83	$-2.259 \pm 0.799$	$-0.011 \pm 0.820$
photometric centroid source offset	$4.97 \pm 1.88$	2.63	$-4.93 \pm 1.89$	$-0.61 \pm 1.76$

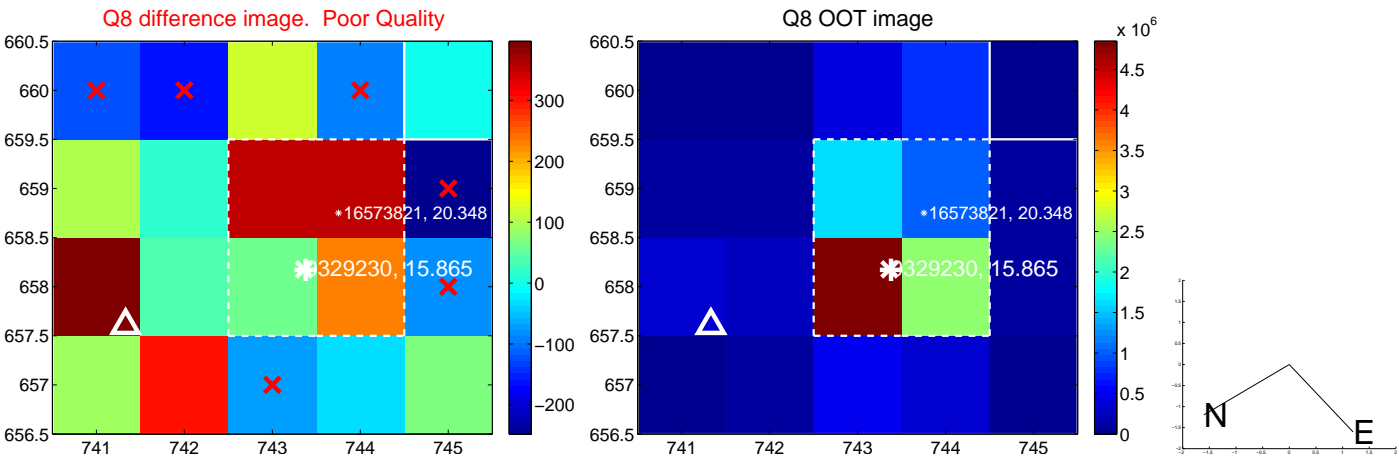
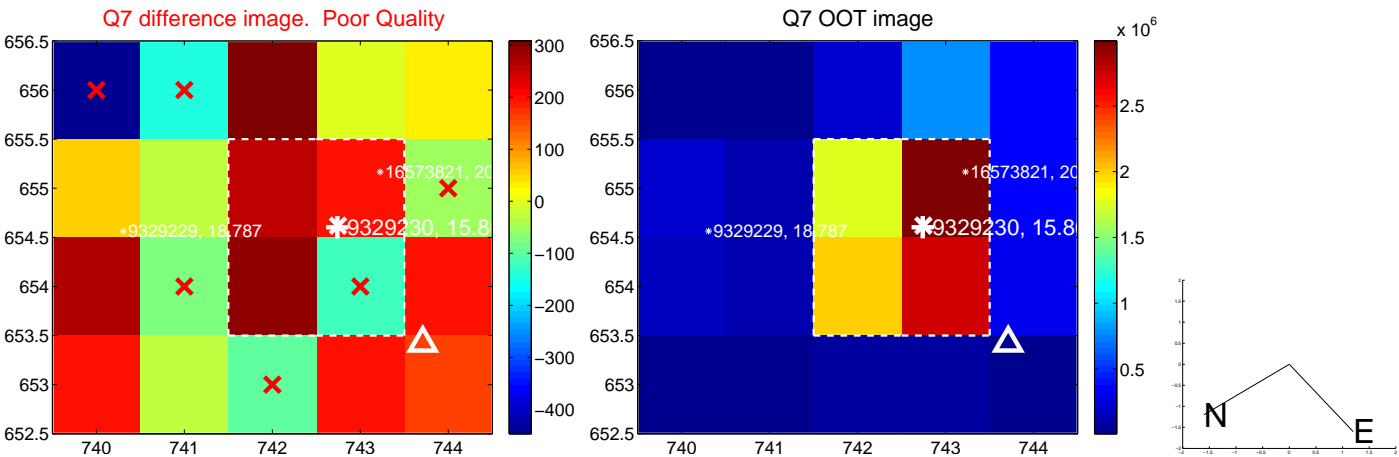
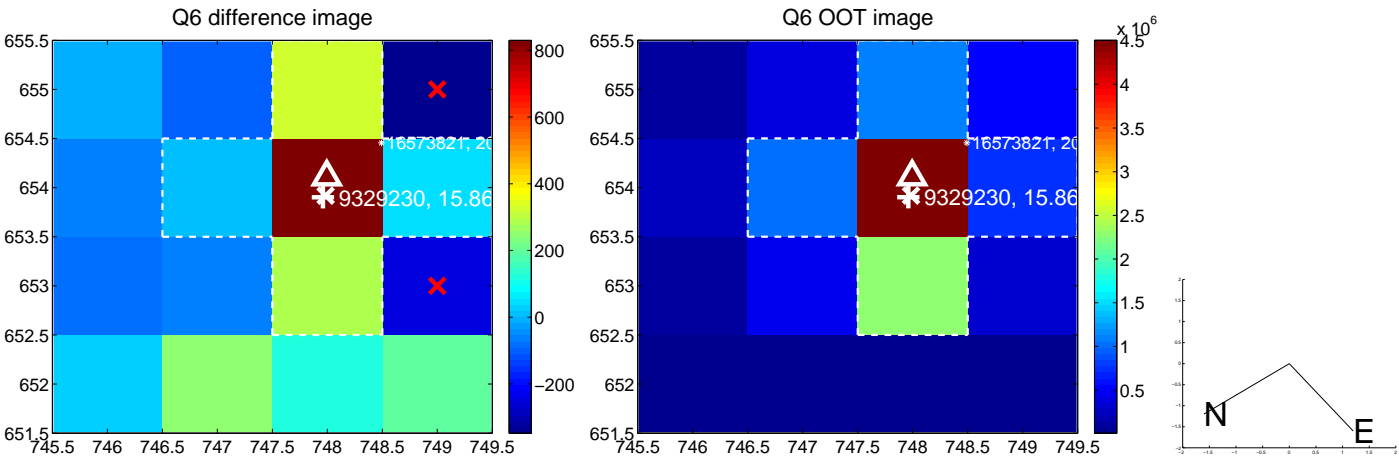
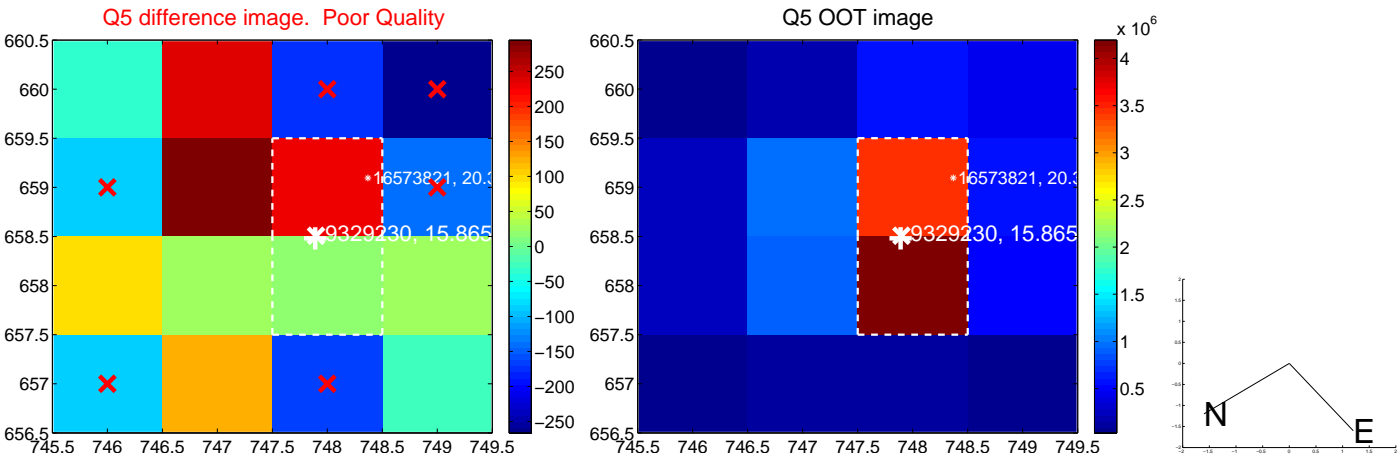


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

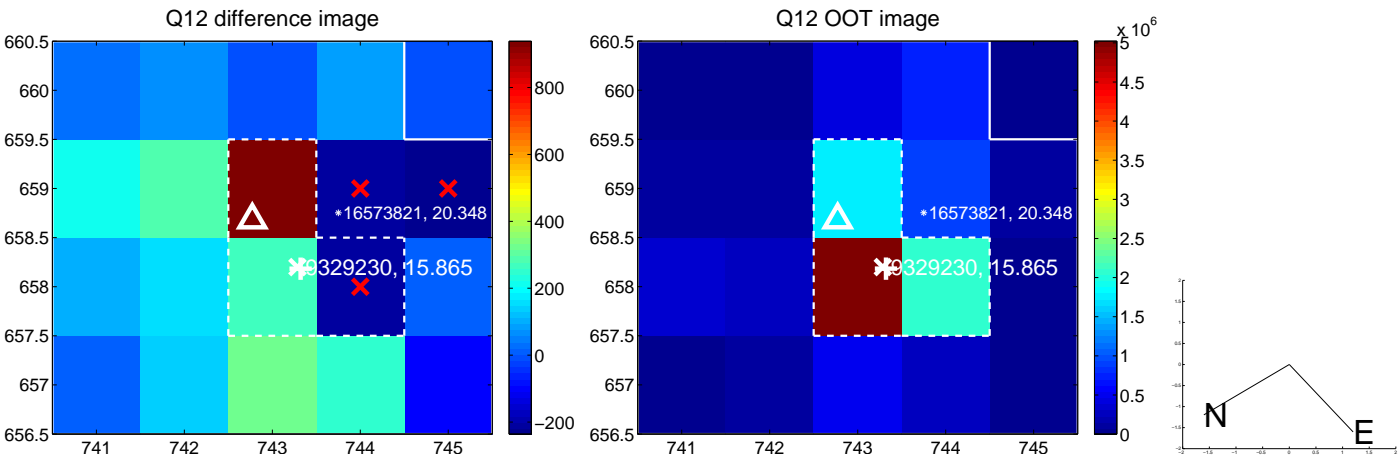
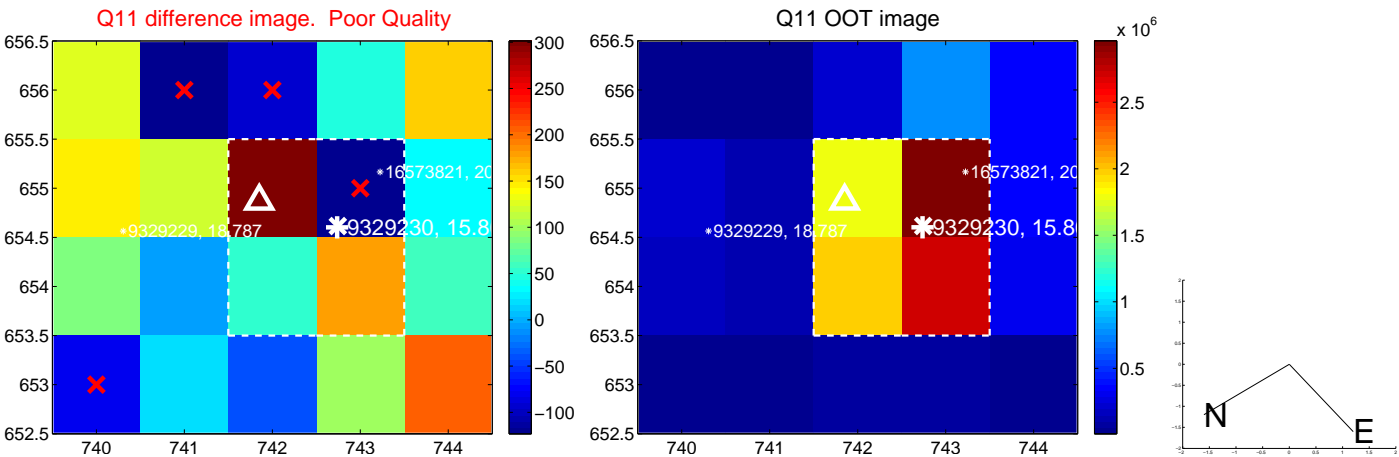
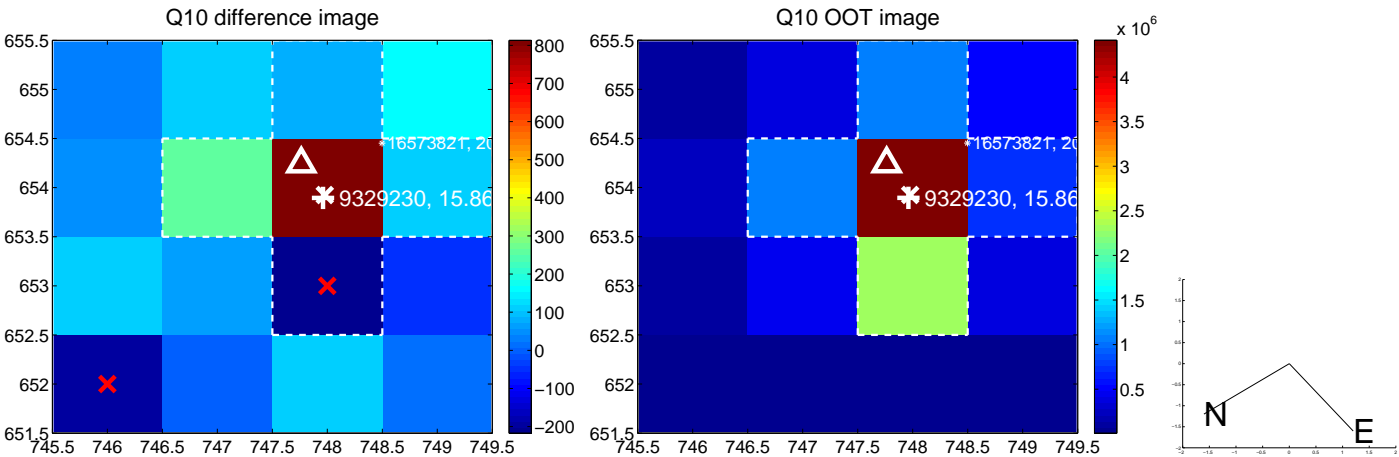
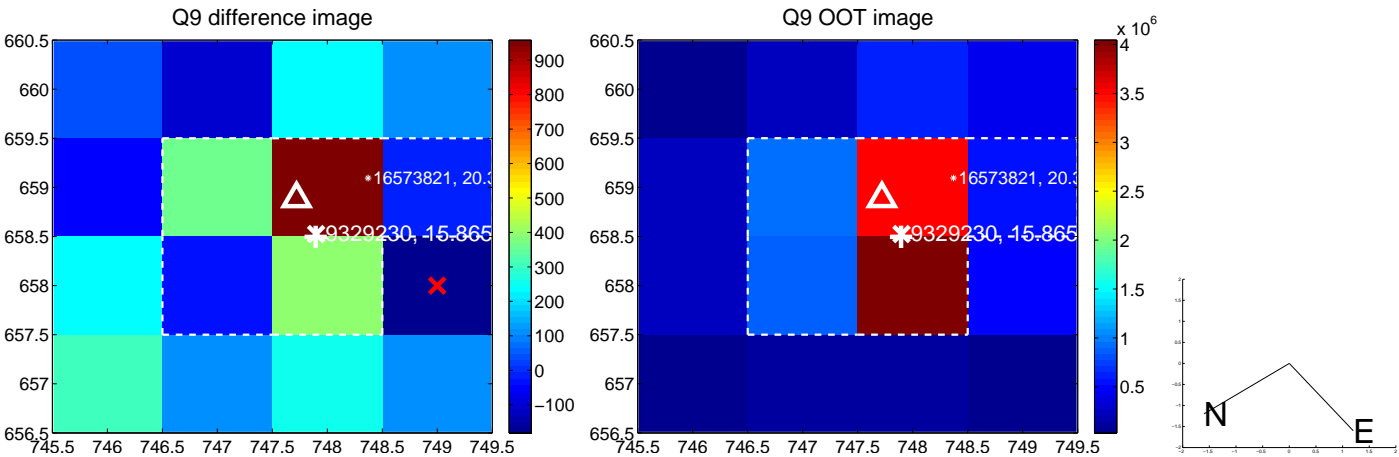


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

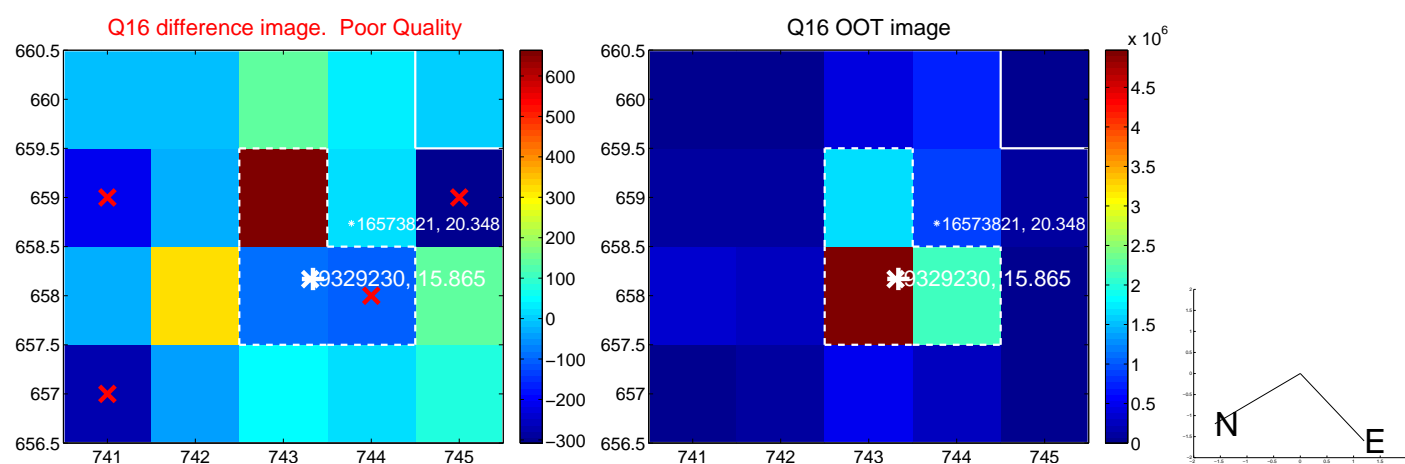
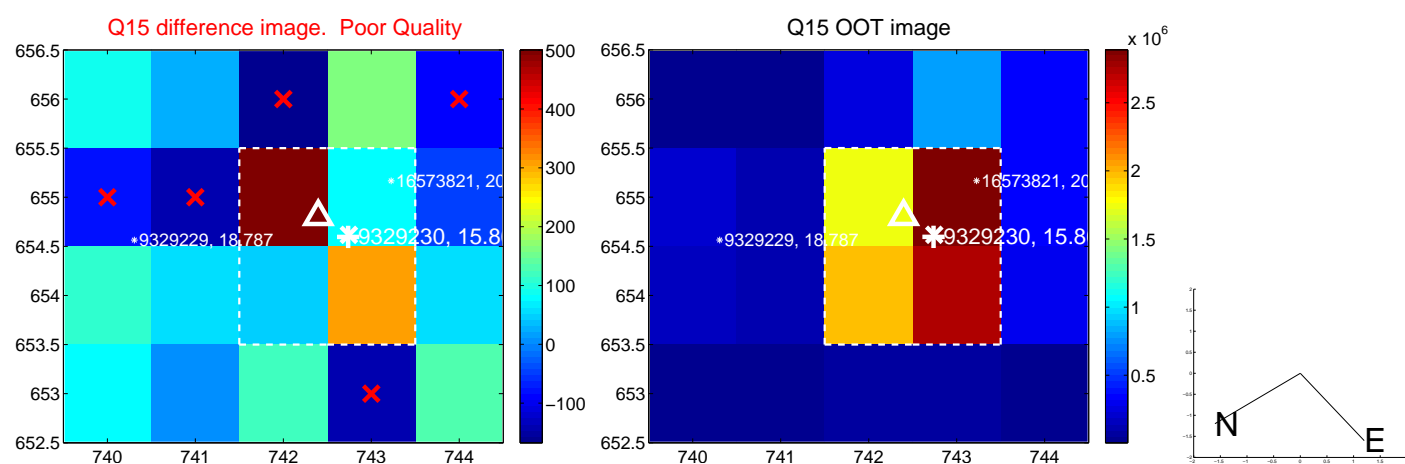
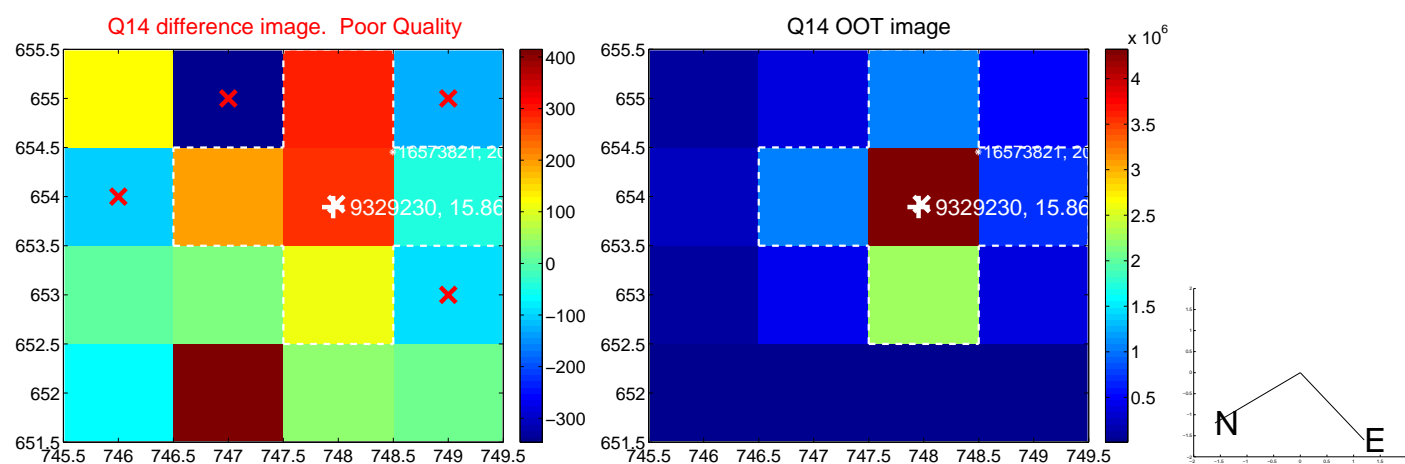
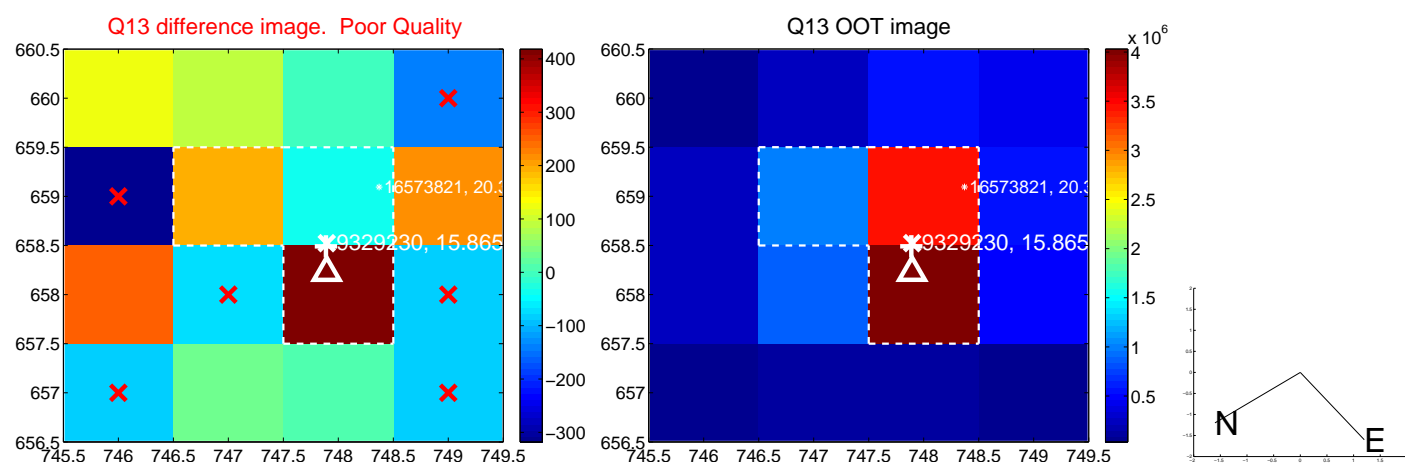




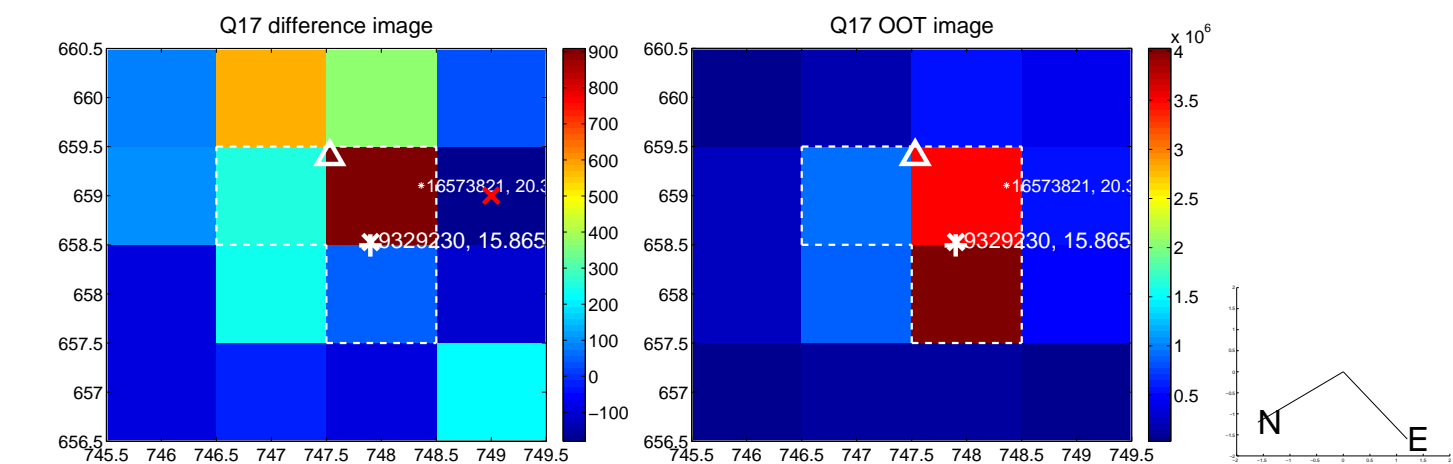
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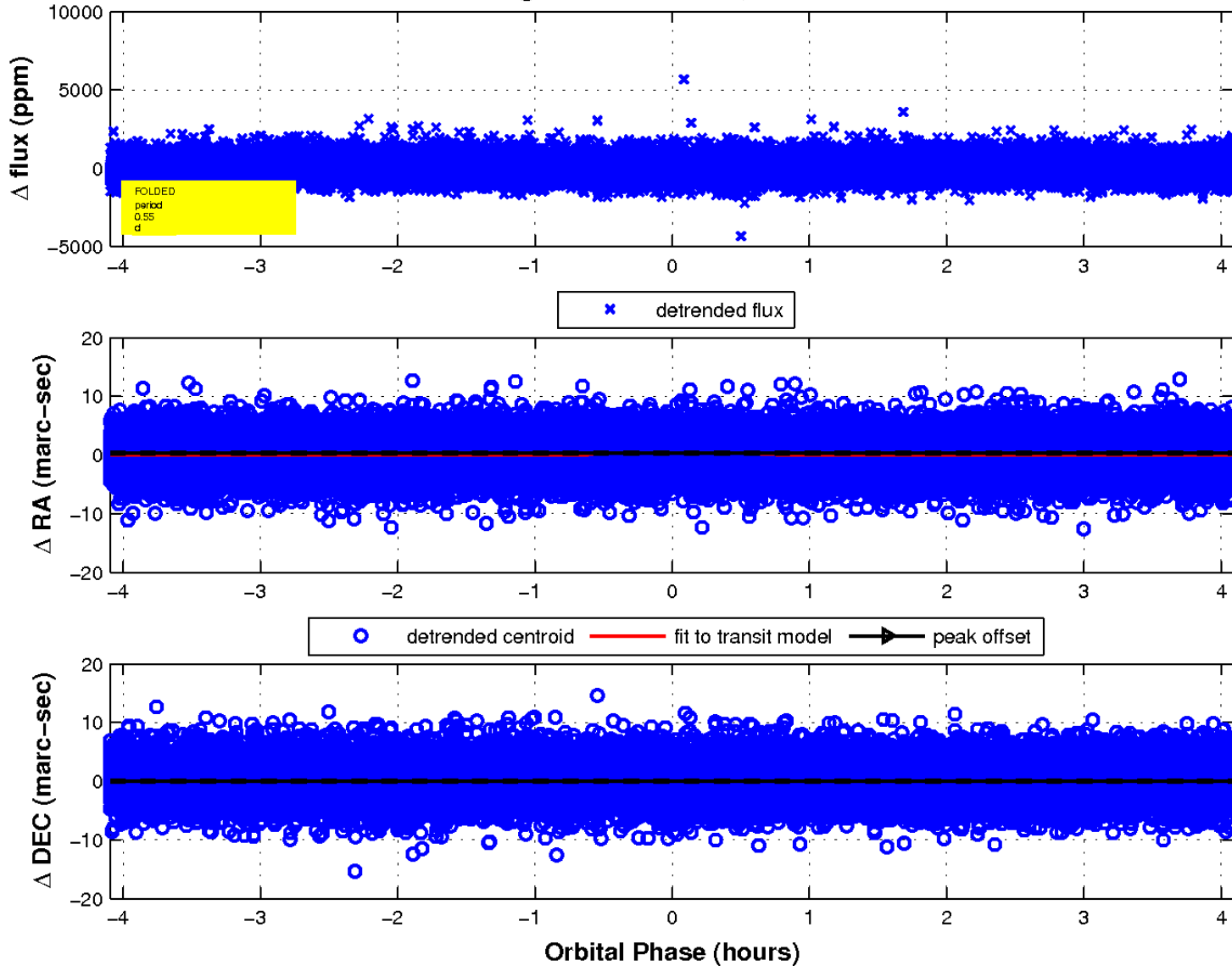
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

