

# KIC 004277242

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004277242-01	OBS	No	0.818475	132.047023	9.7	6.655	10.4	12.9	2.10	8026	0.75	38016.53

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004277242-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_DIFFS

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

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

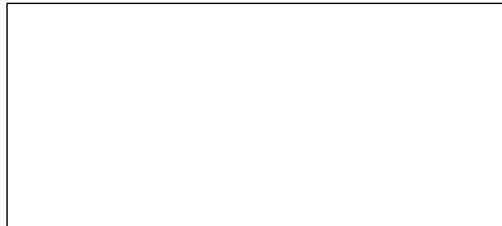
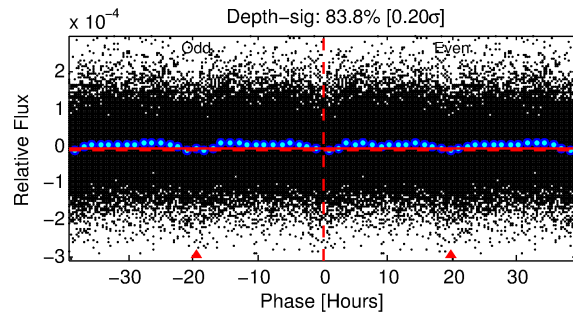
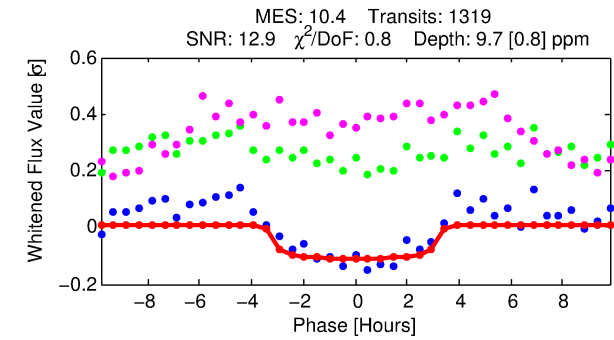
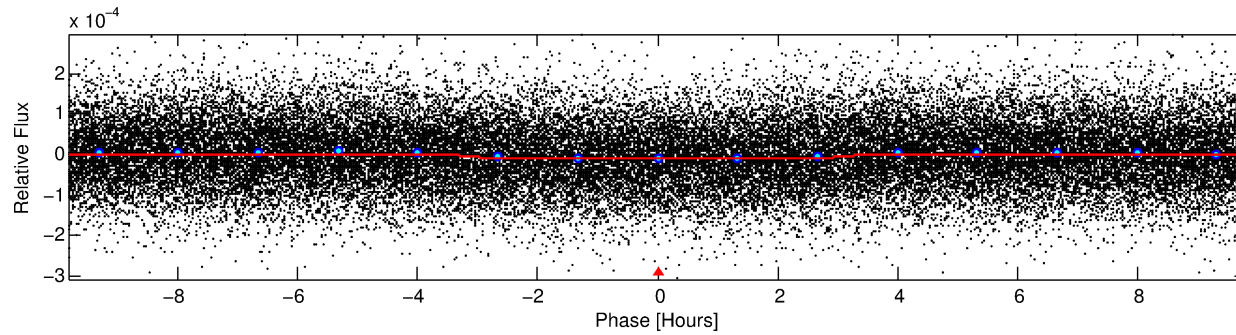
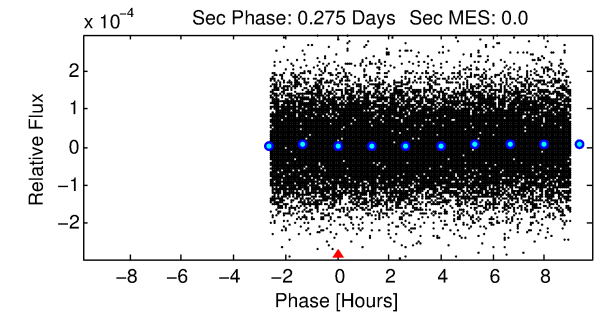
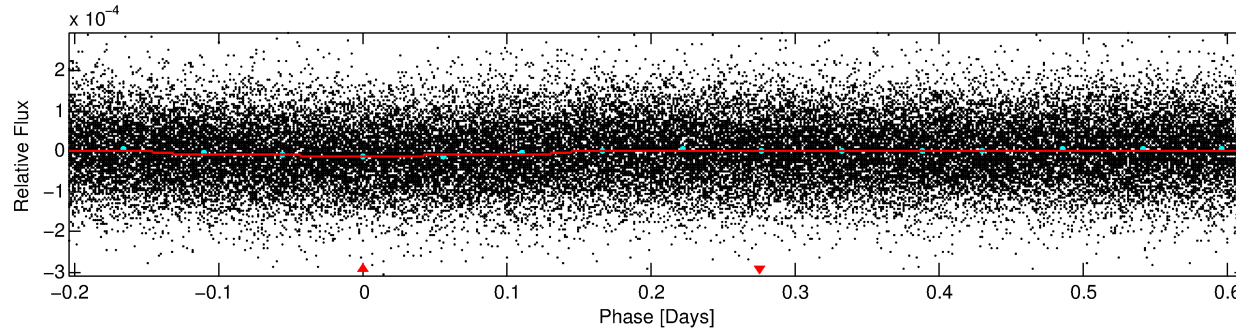
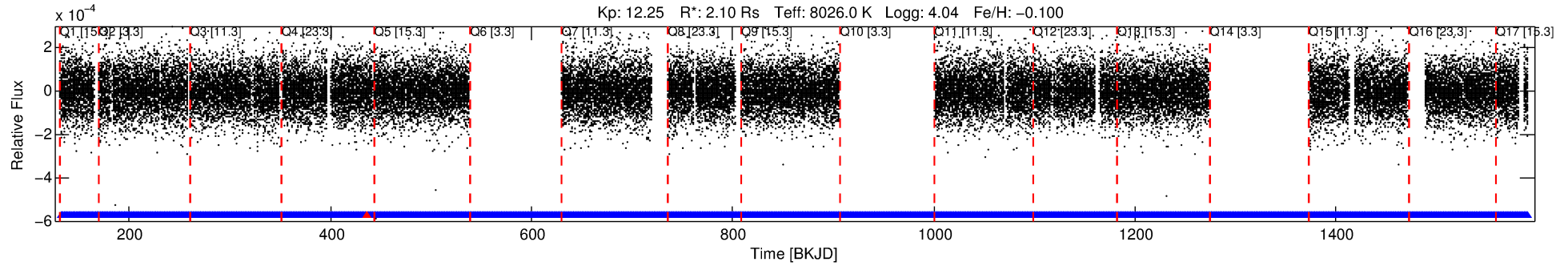
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004277242-01

No Significant Match Found

# DV One-Page Summary

KIC: 4277242 Candidate: 1 of 1 Period: 0.818 d



## DV Fit Results:

Period = 0.81847 [0.00001] d  
Epoch = 132.0470 [0.0048] BKJD  
Rp/R\* = 0.0033 [0.0017]  
a/R\* = 1.04 [0.26]  
b = 0.87 [0.91]  
Seff = 38016.53 [7913.27]  
Teff = 3561 [185] K  
Rp = 0.75 [0.41] Re  
a = 0.0208 [0.0029] AU  
Ag = N/A  
Teffp = N/A

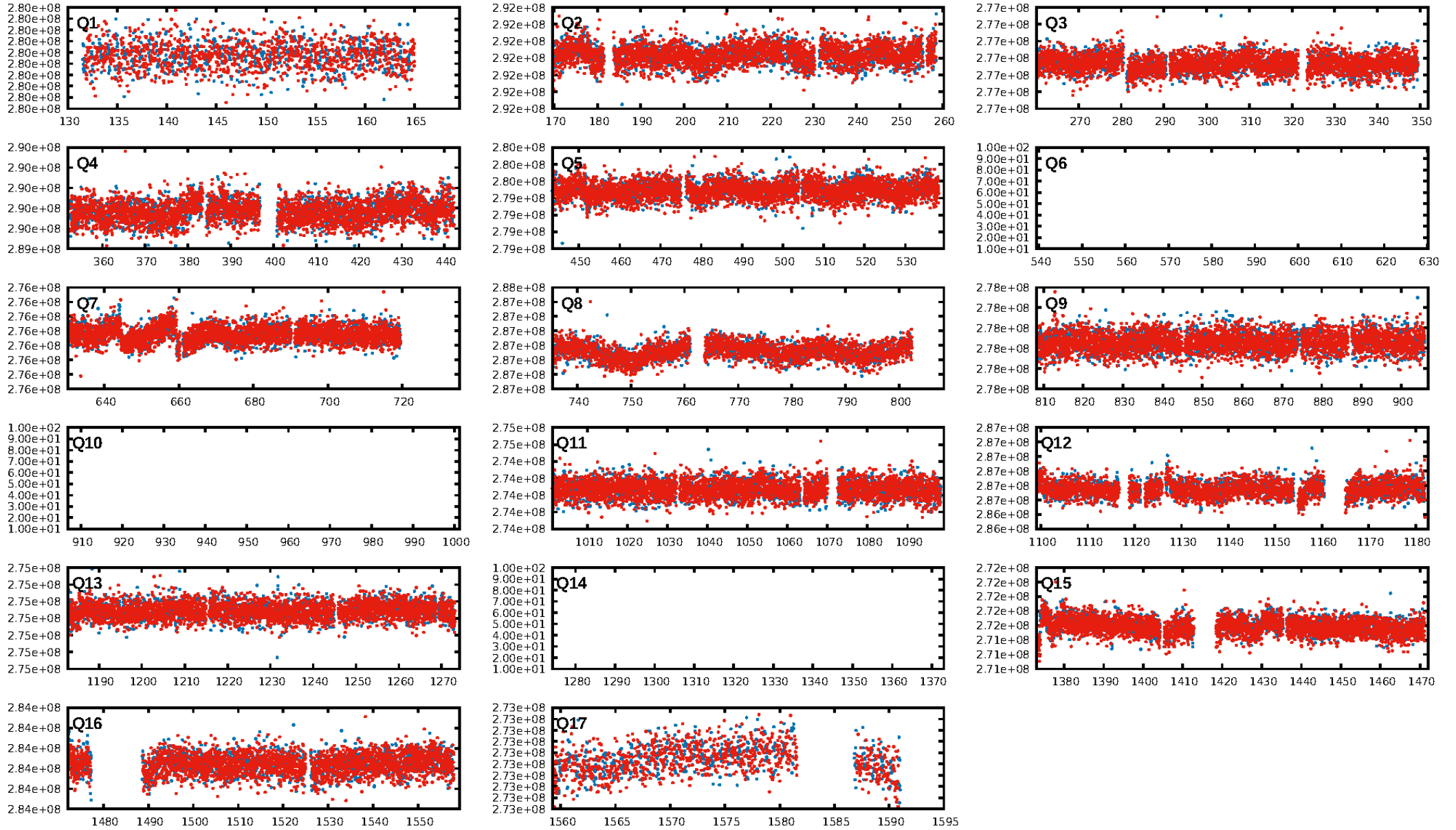
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1244/1245]  
GhostDiagnostic-chr: 4.736  
Centroid-sig: 0.0%  
Centroid-so: 3.483 arcsec [3.09σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [14/14]

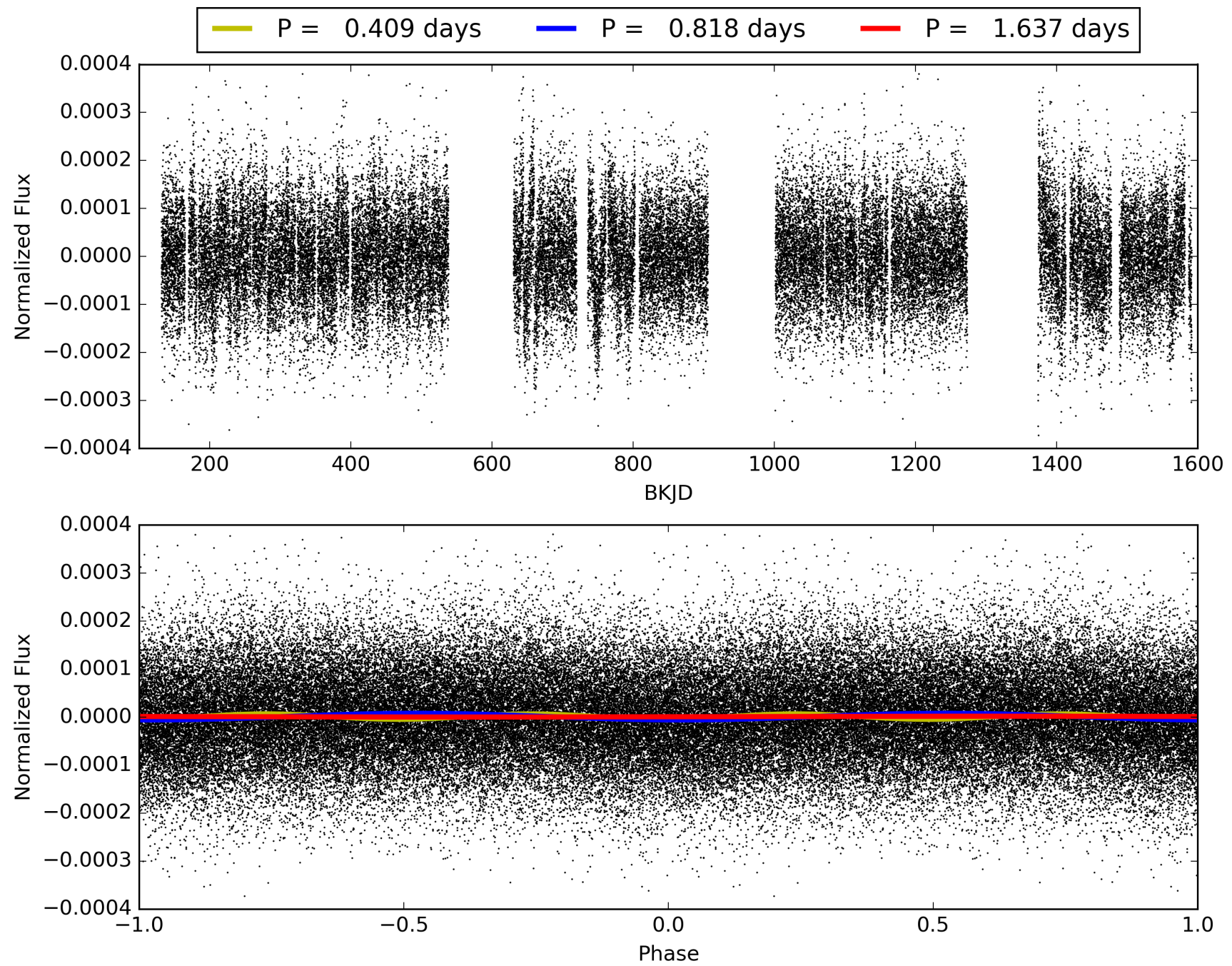
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:52:53 Z

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

# TCE 004277242-01, PDC Light Curves



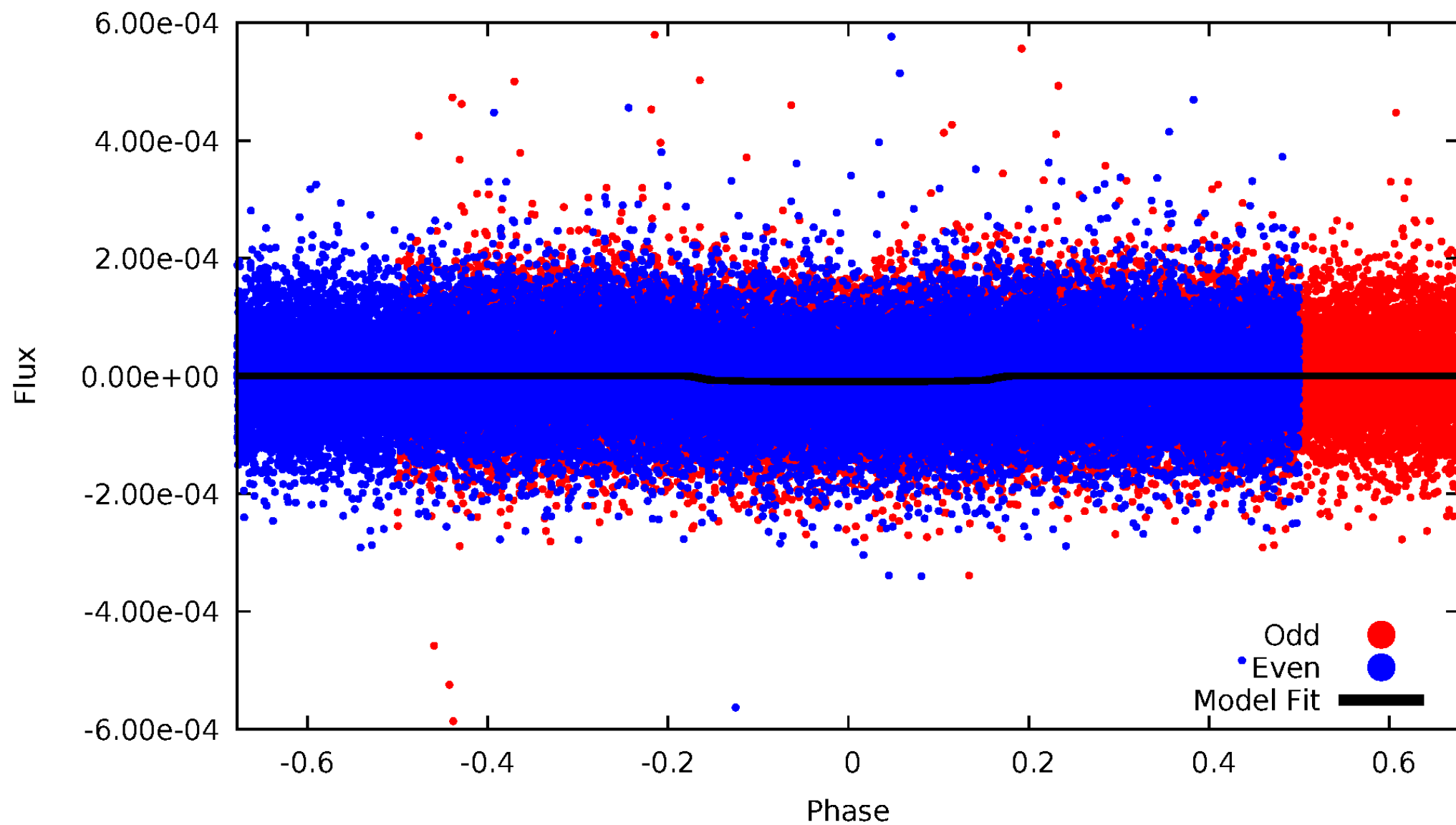
TCE 004277242-01





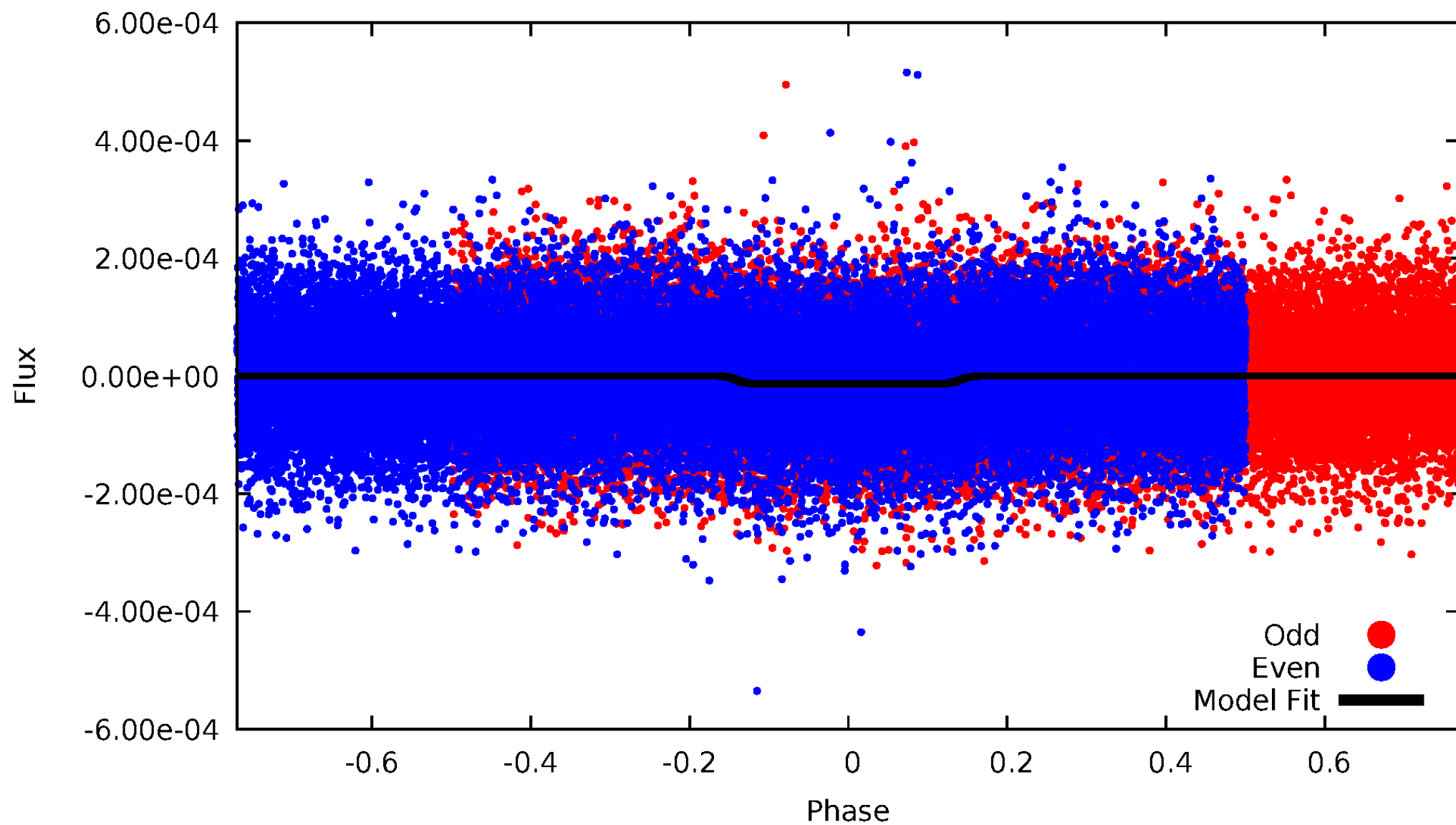
# DV Odd/Even

TCE 004277242-01



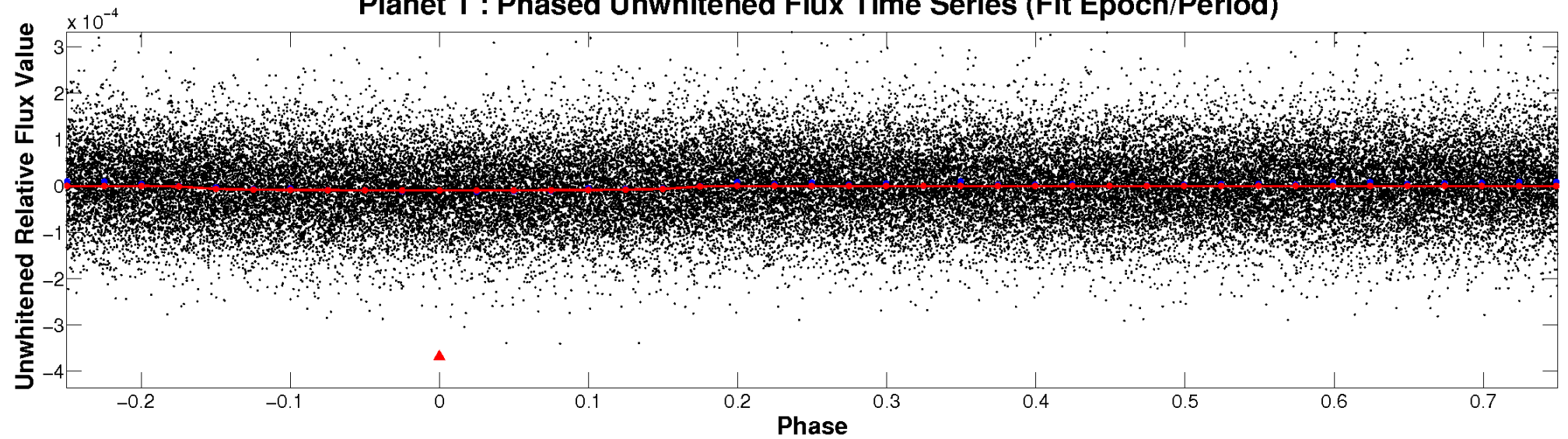
# ALT Odd/Even

TCE 004277242-01

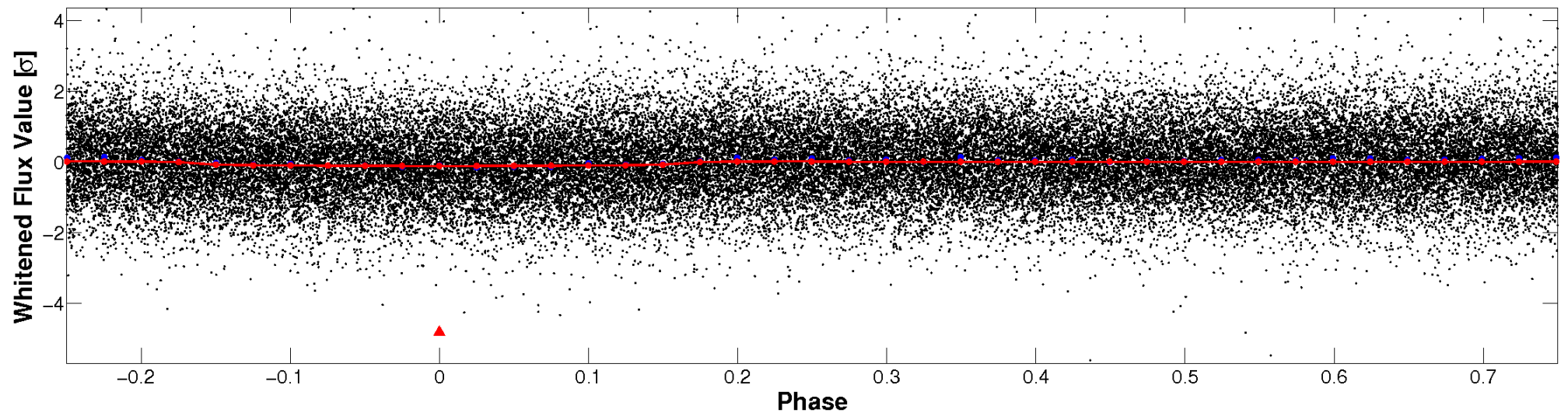


# Non-Whitened Vs. Whitened Light Curve

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

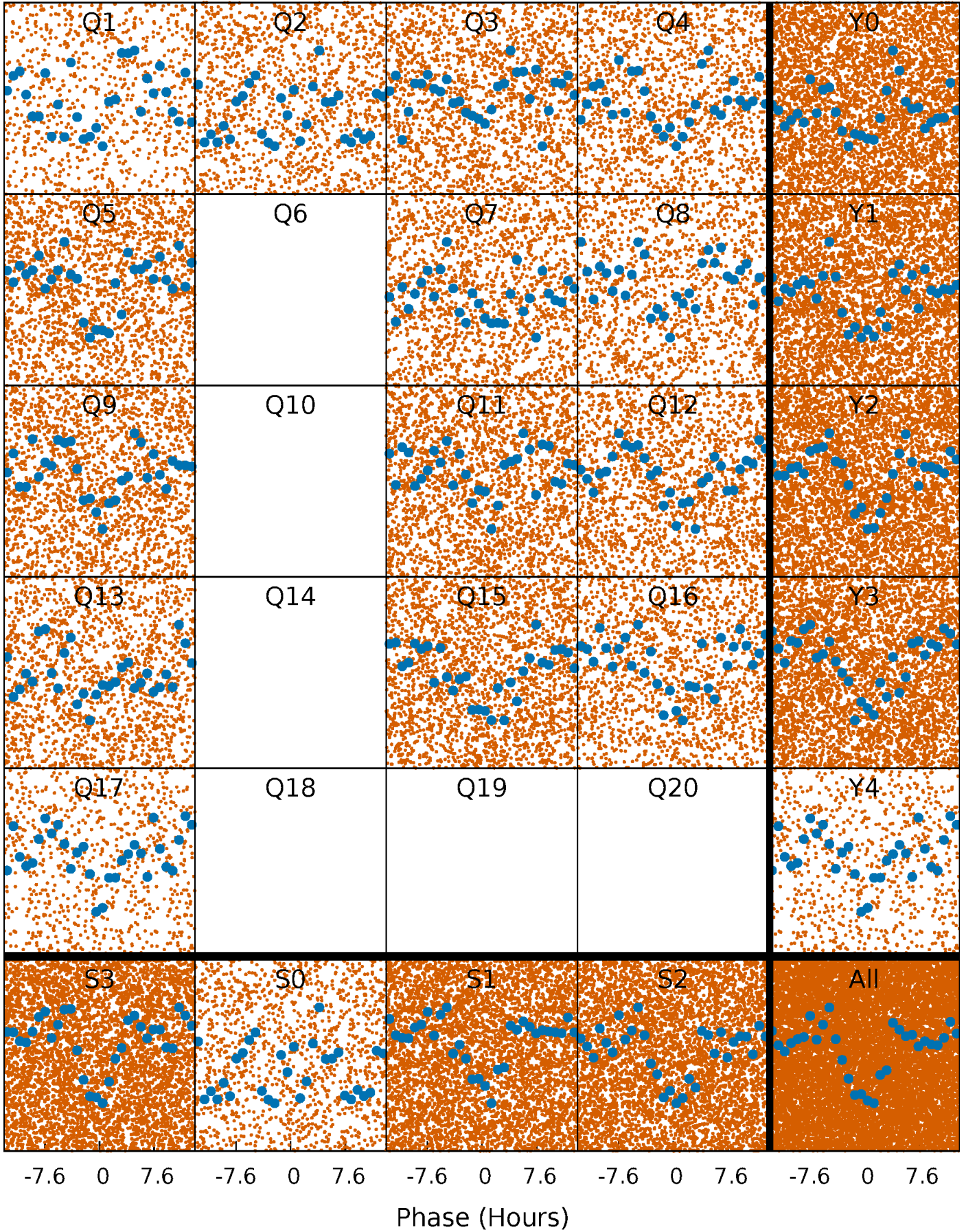


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

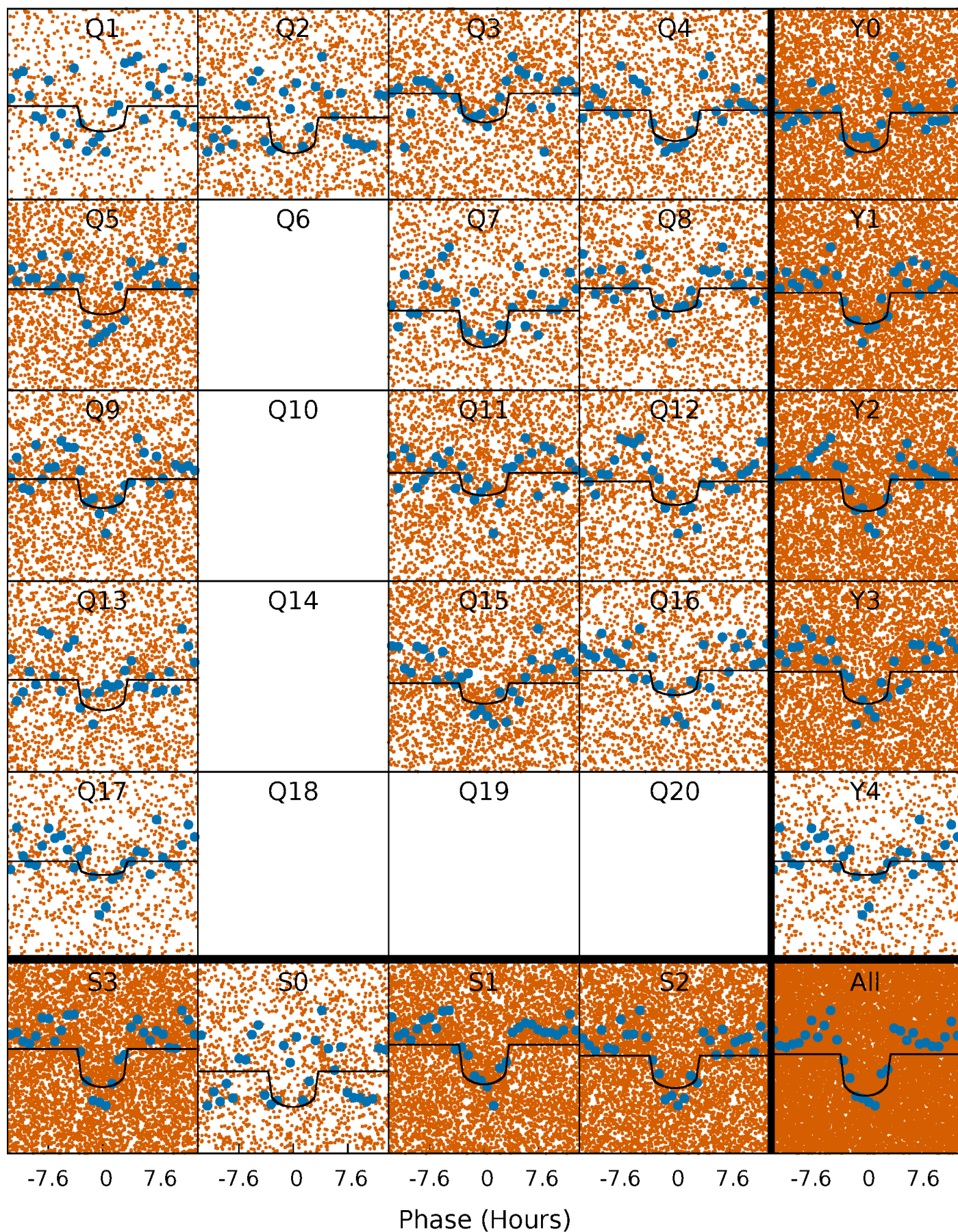
TCE 004277242-01   P= 0.818475 Days    $T_0=132.047023$  (BKJD)





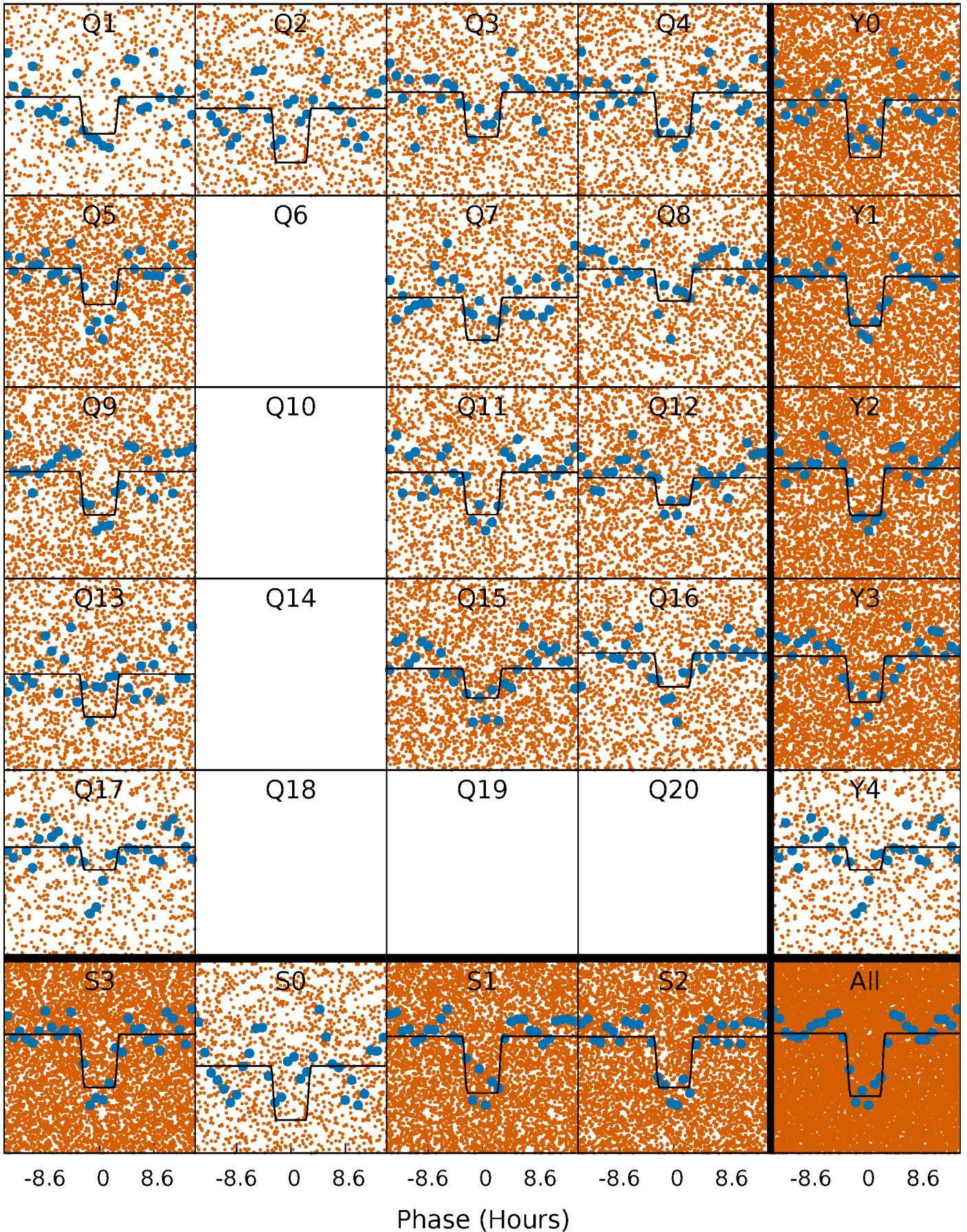
# DV Quarter-Phased Transit Curves

TCE 004277242-01 P= 0.818475 Days  $T_0=132.047023$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 004277242-01 P= 0.818514 Days  $T_0=132.014762$  (BKJD)

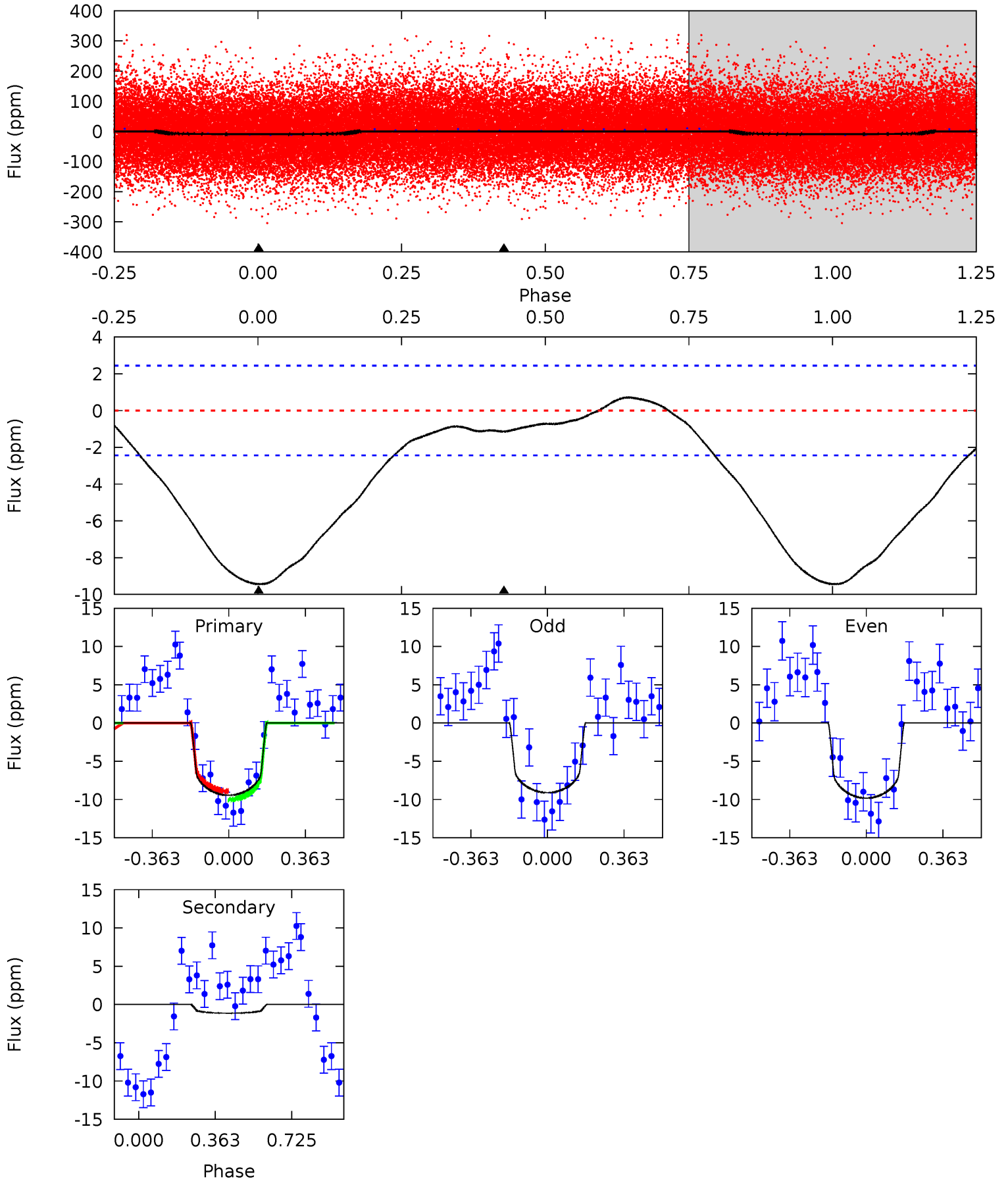




# DV Model-Shift Uniqueness Test

004277242-01, P = 0.818475 Days, E = 131.228548 Days

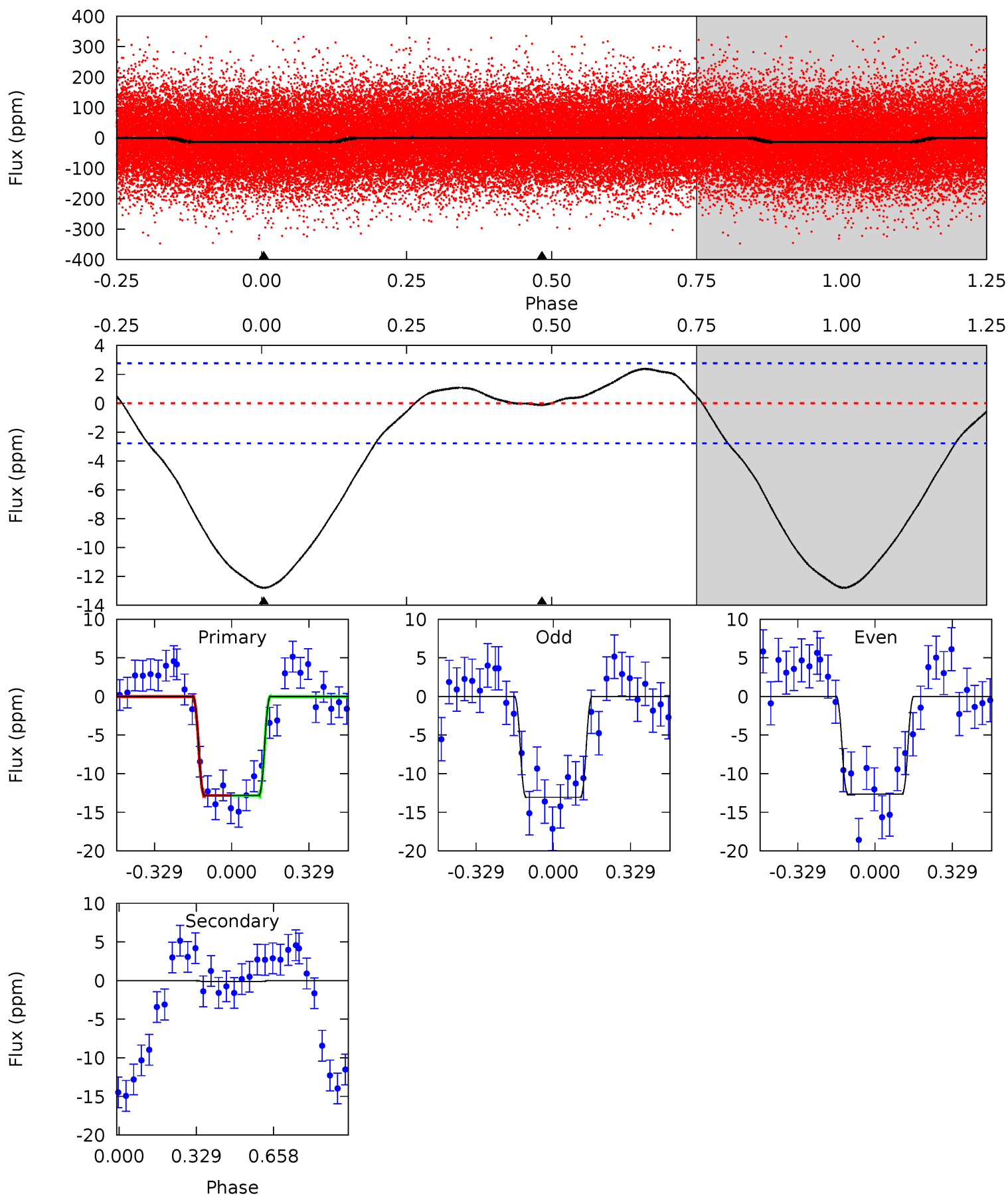
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	2.01	0	0	4.29	0.91	1.01	16.6	16.6	2.01	2.01	0.62	1.03	0.07	0.95



# Alt Model-Shift Uniqueness Test

004277242-01, P = 0.818514 Days, E = 131.196248 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
19.9	0.19	0	0	4.31	0.98	1.68	19.9	19.9	0.19	0.19	0.33	1.00	0.16	0.02





### Stellar Parameters For KIC 004277242

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$8026^{+72}_{-88}$	$4.045^{+0.110}_{-0.090}$	$-0.100^{+0.050}_{-0.150}$	$2.102^{+0.293}_{-0.358}$	$1.790^{+0.089}_{-0.165}$	$0.271^{+0.160}_{-0.079}$
	+1%/-1%	+3%/-2%	+50%/-150%	+14%/-17%	+5%/-9%	+59%/-29%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 004277242-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-1 \pm 1$	$0.75^{+0.39}_{-0.34}$	$4969^{+184}_{-201}$	$3639^{+2082}_{-7379}$	$0.421^{+1.215}_{-0.268}$
Alt.	$-0 \pm 1$	$0.83^{+0.37}_{-0.39}$	$4974^{+181}_{-199}$	$-4123^{+7286}_{-525}$	$0.043^{+0.308}_{-0.227}$

$T_{max}$  = 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

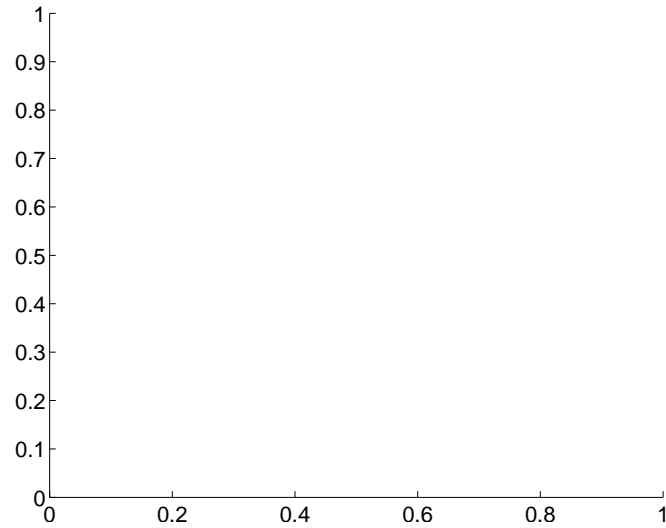
Supplemental centroid analysis for 004277242-01. Kepler magnitude: 12.25. Transit SNR 12.94

There are 0 quarters with good PRF difference image offsets

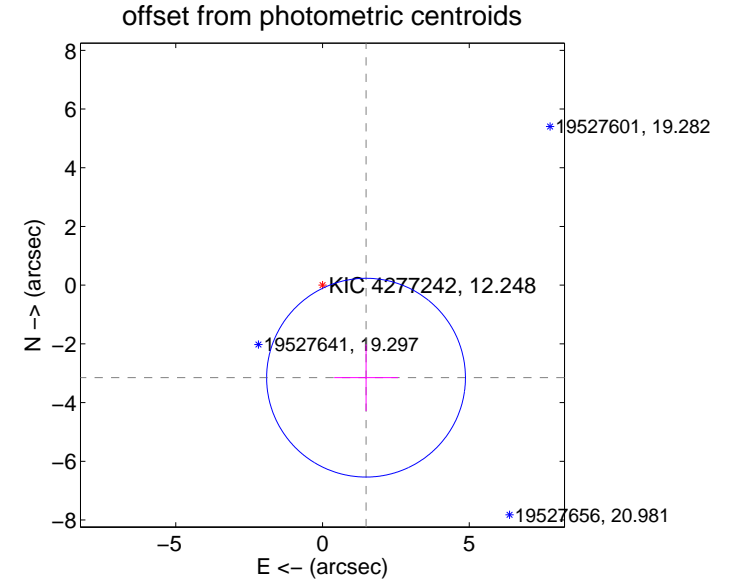
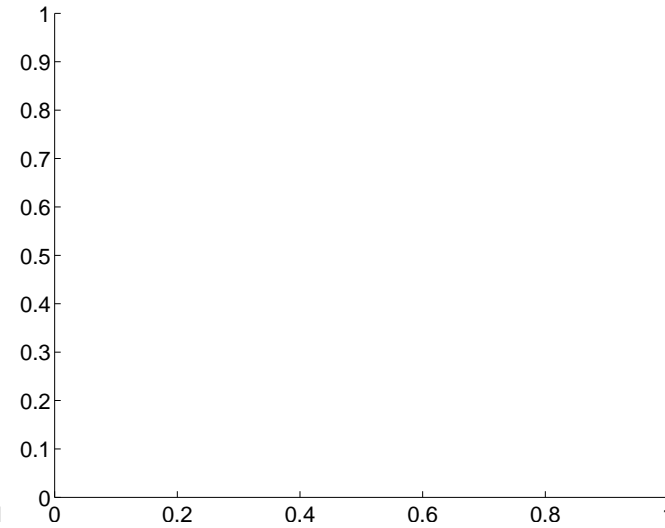
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$3.48 \pm 1.13$	$3.09$	$-1.48 \pm 1.09$	$-3.15 \pm 1.14$

There is no PRF-fit offset from OOT-fit

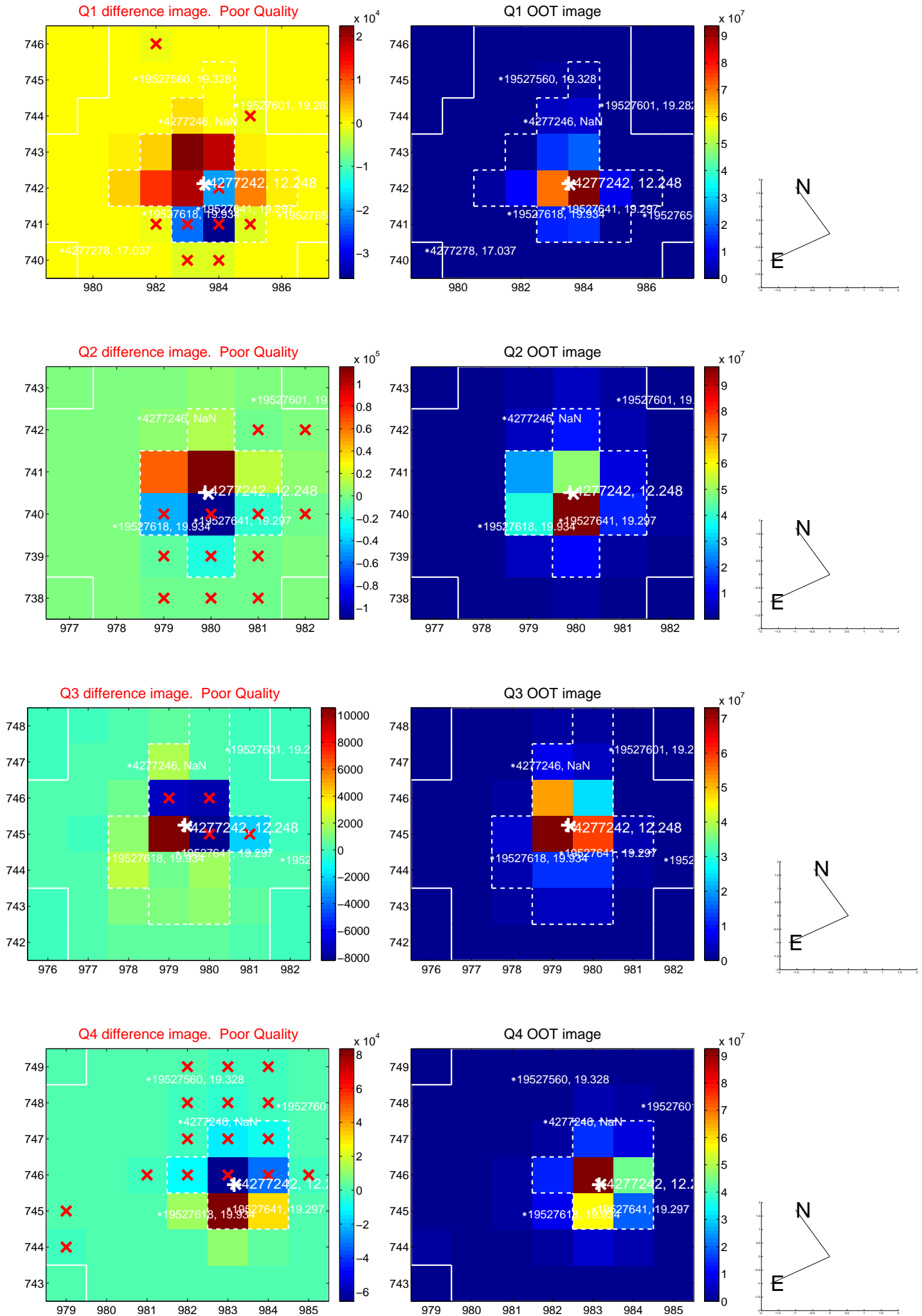


There is no PRF-fit offset from KIC

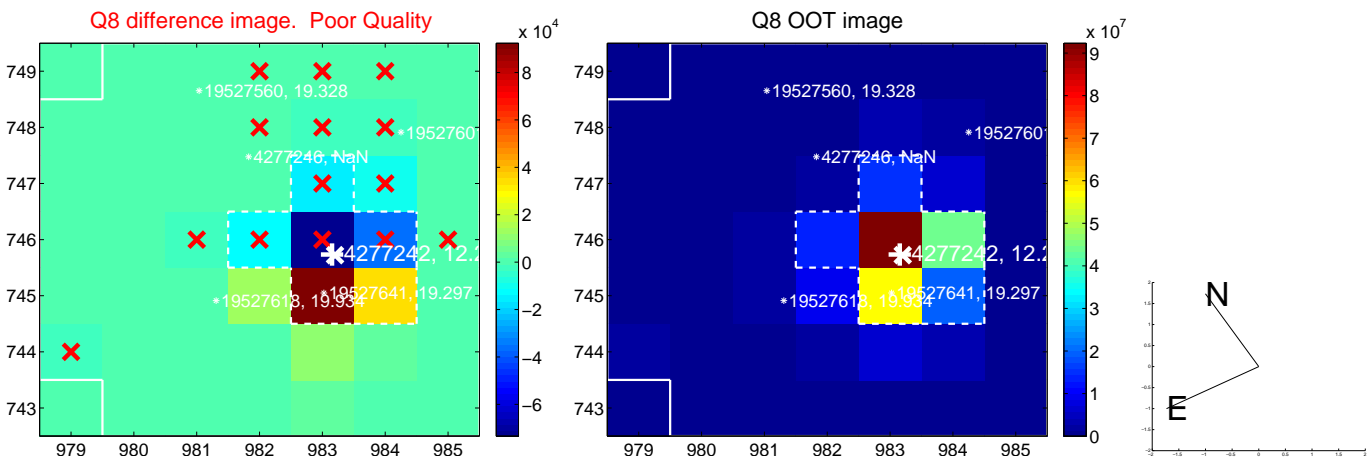
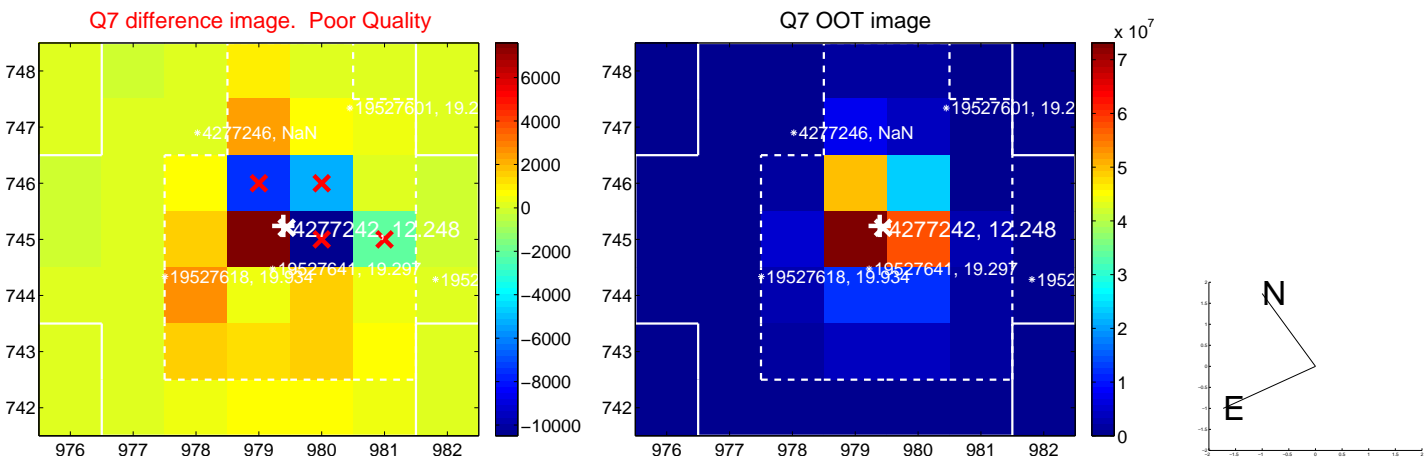
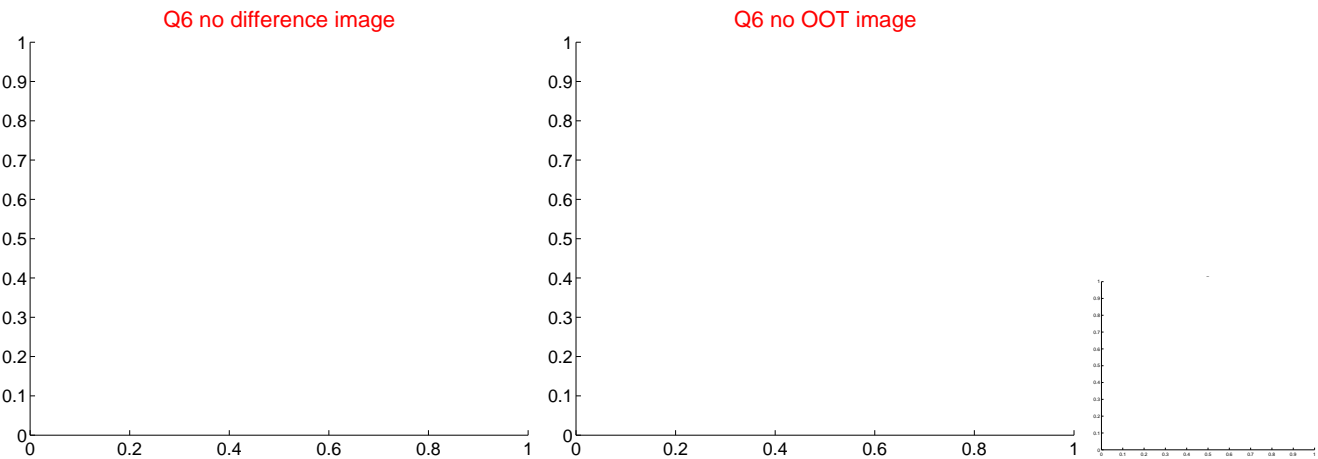
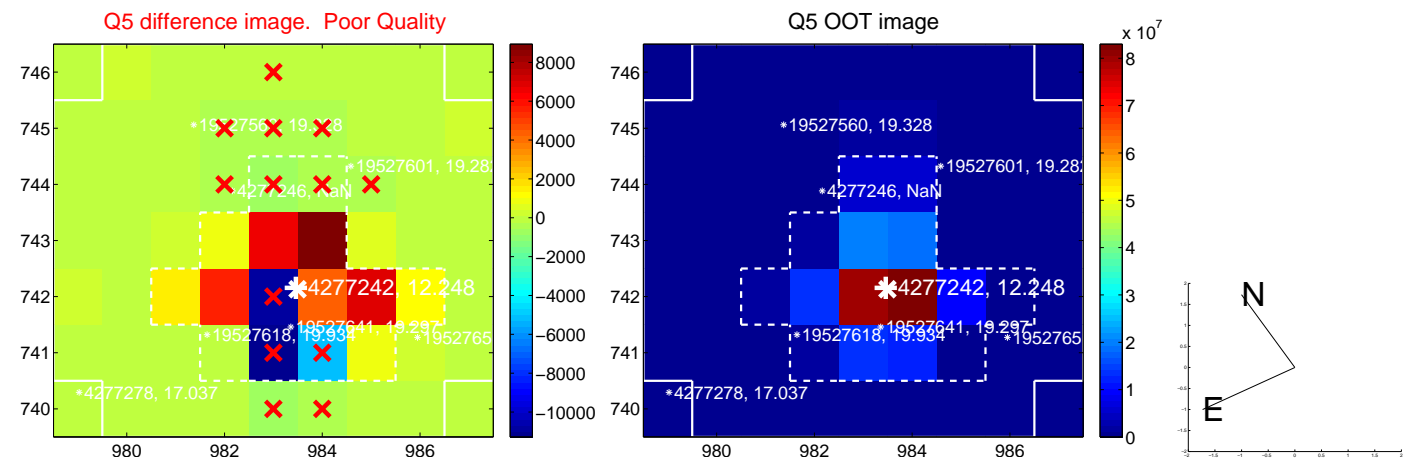


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

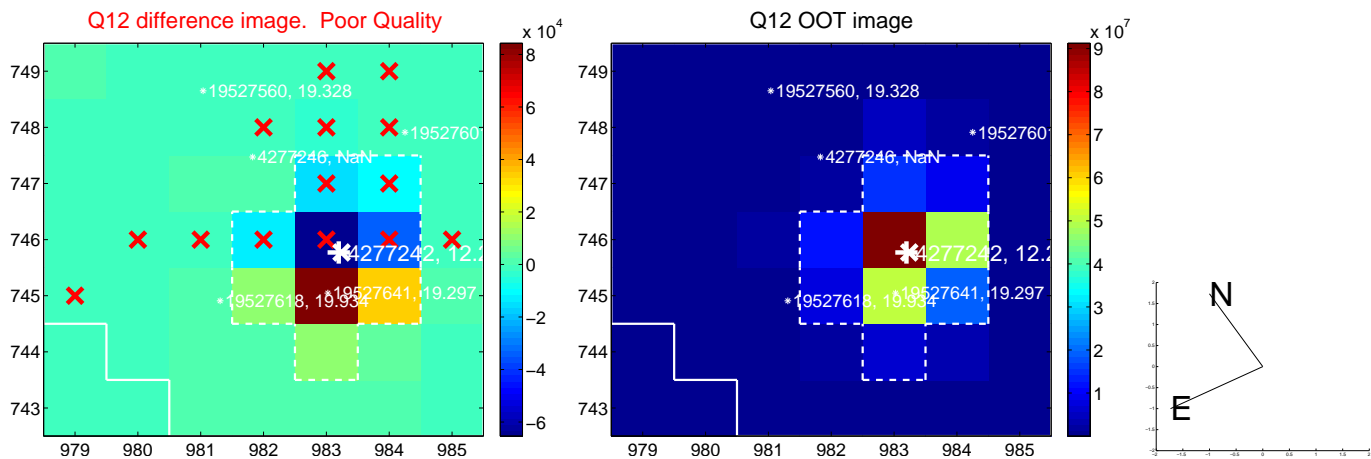
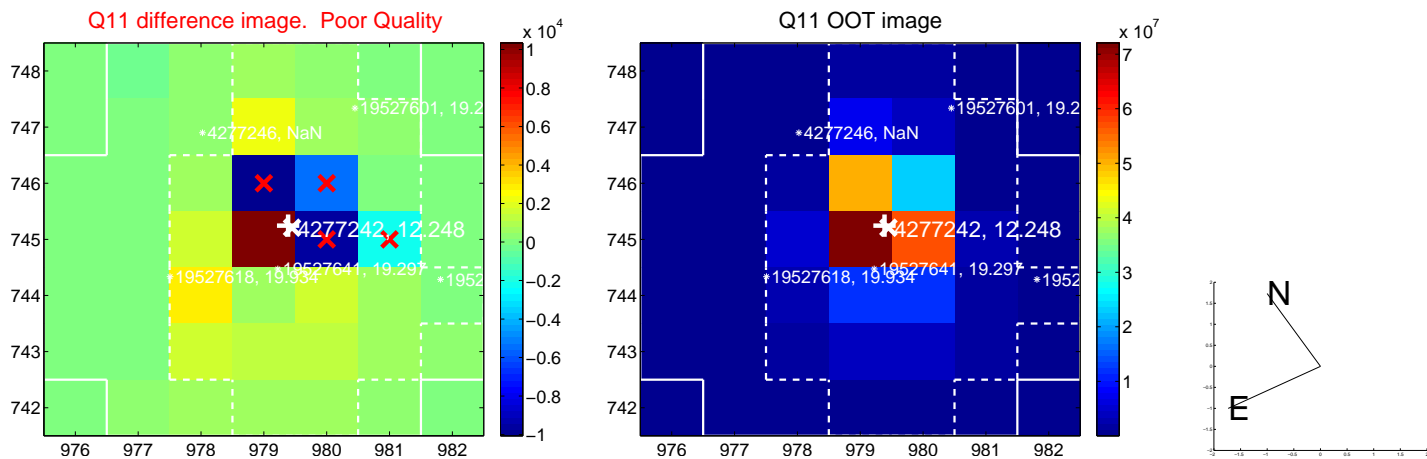
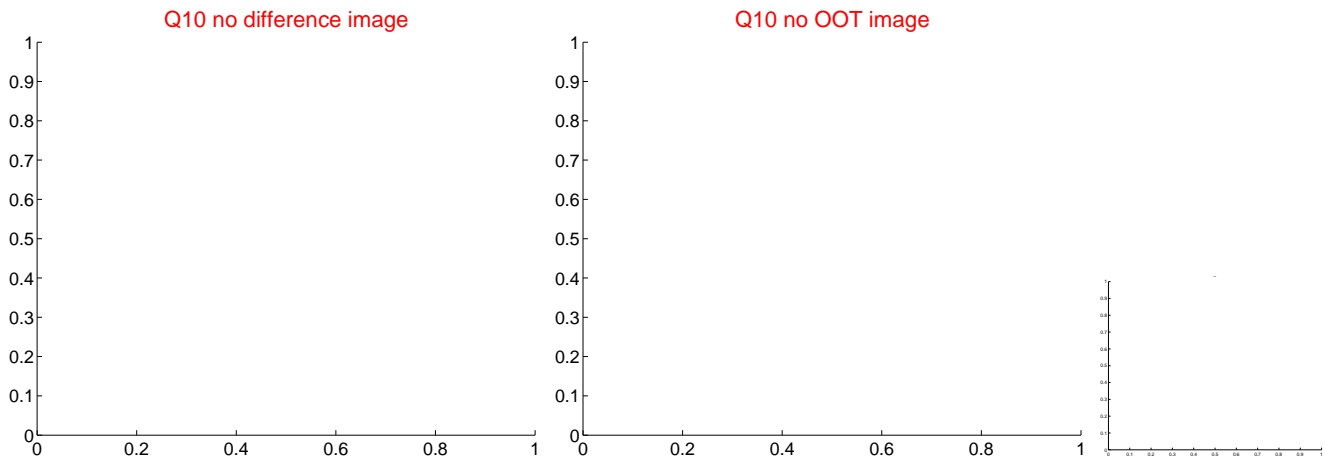
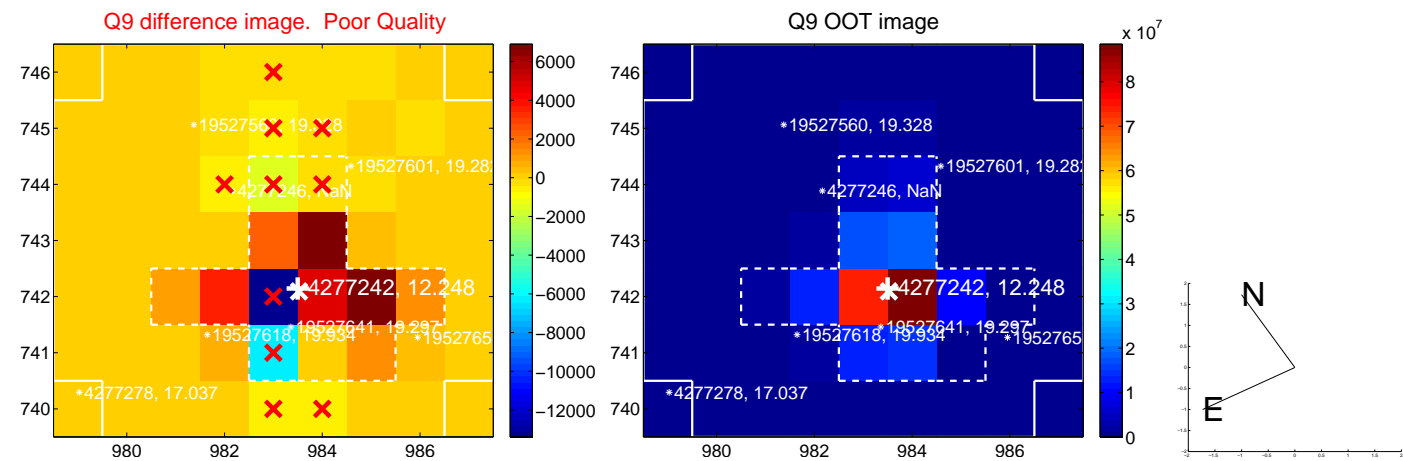


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

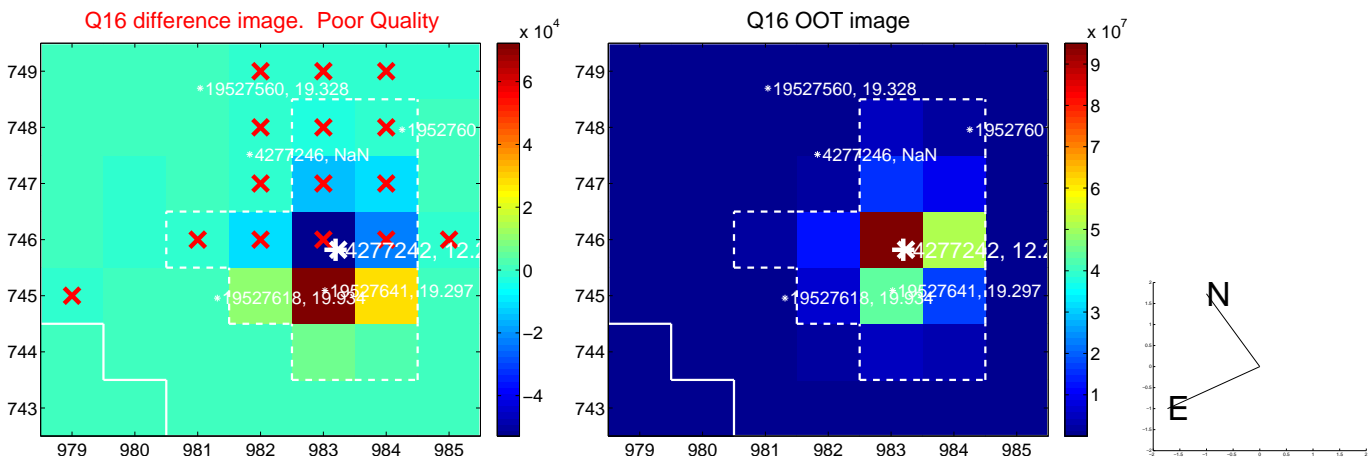
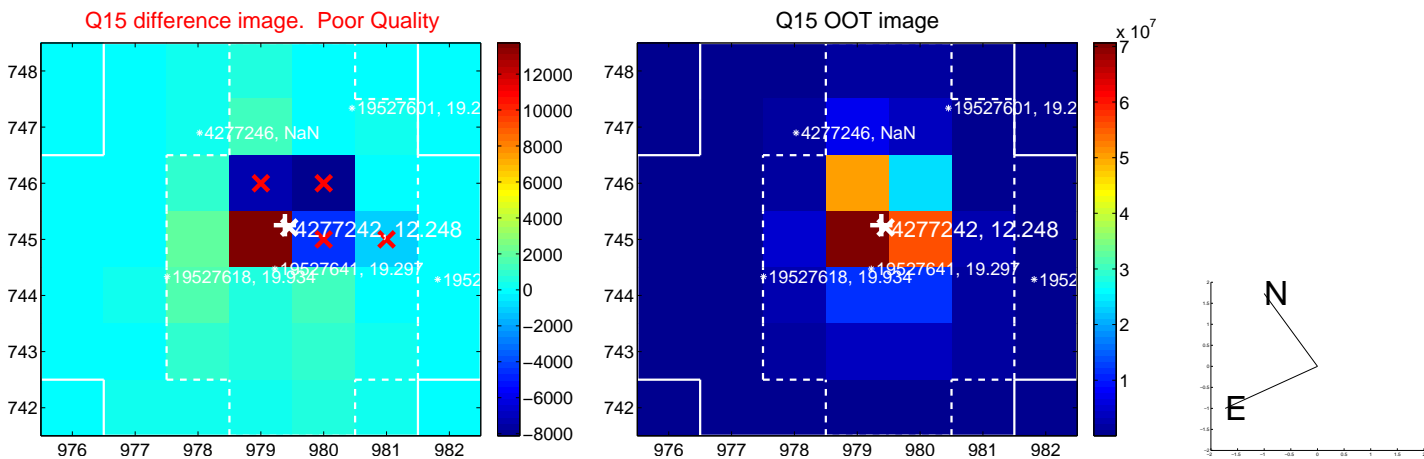
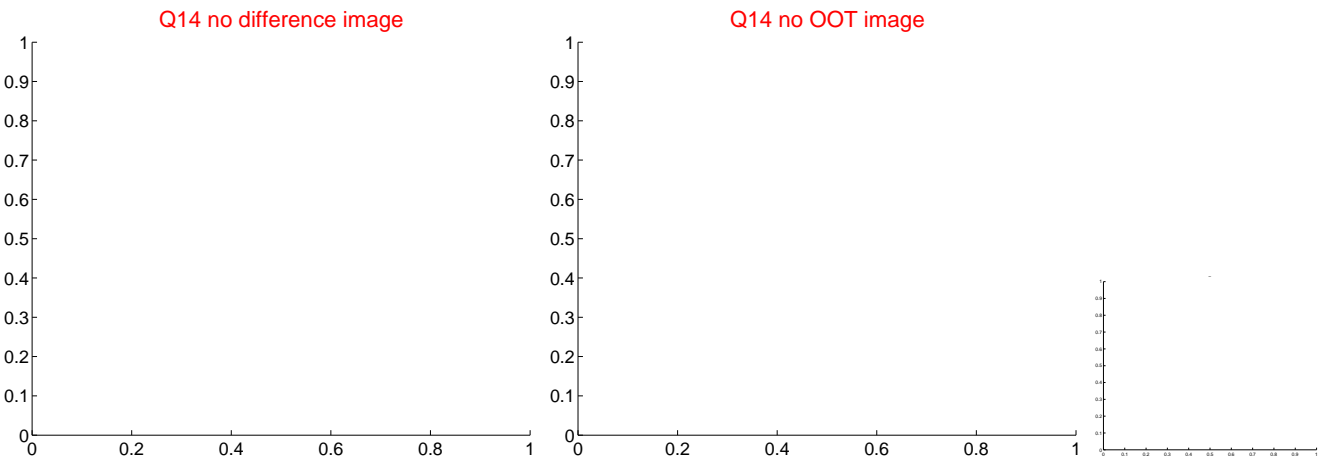
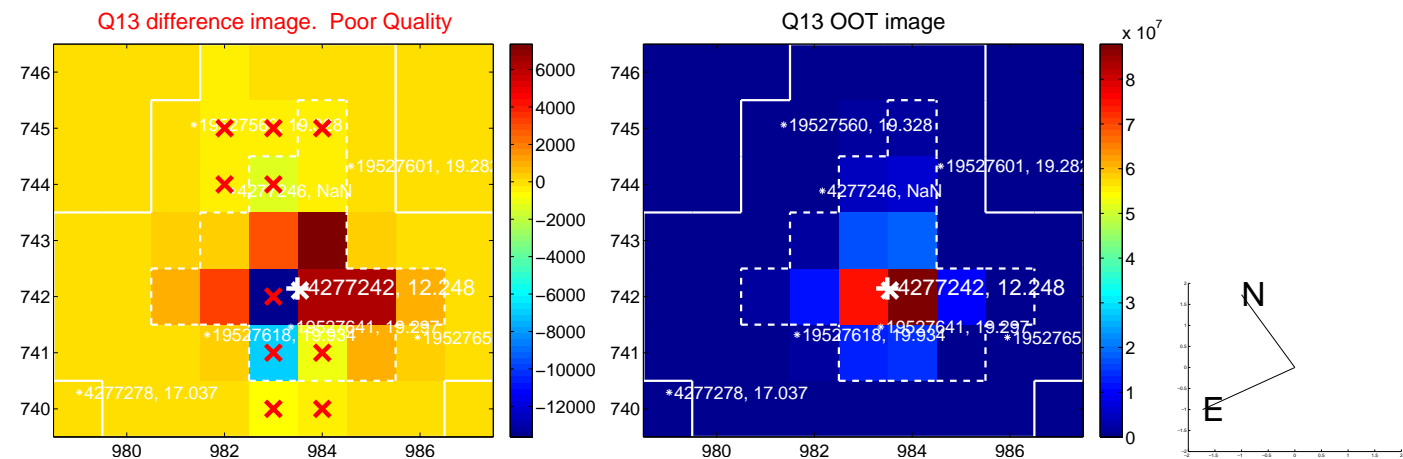




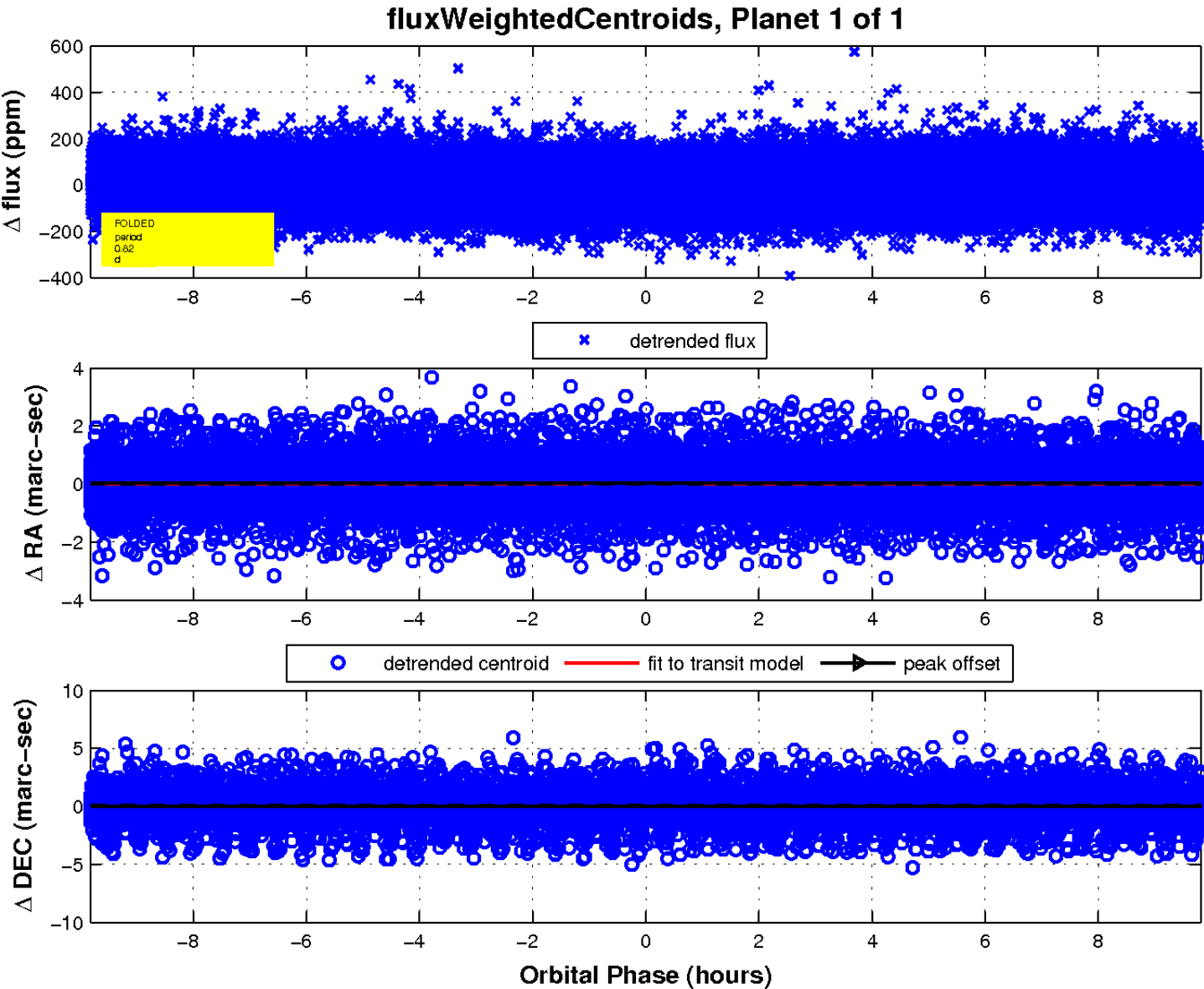
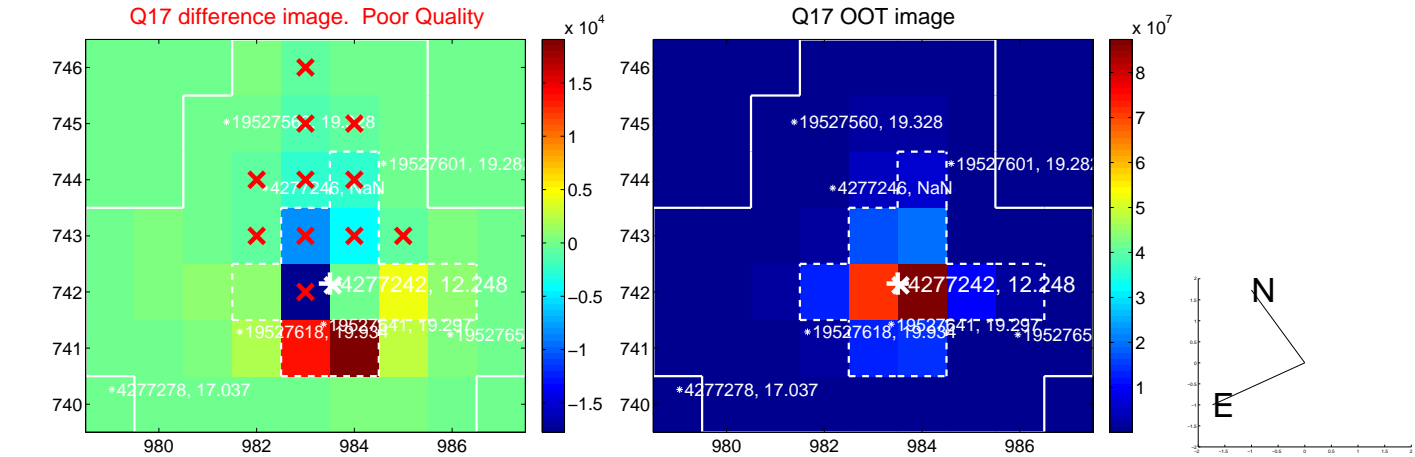
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

