

# KIC 006234144

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006234144-01	OBS	No	0.821758	131.683431	45.8	7.760	7.9	10.0	0.85	6257	0.58	3732.12

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006234144-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

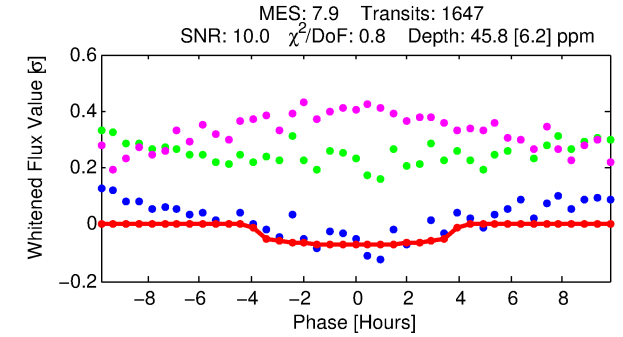
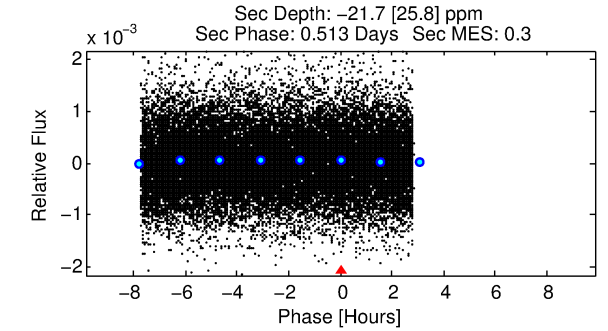
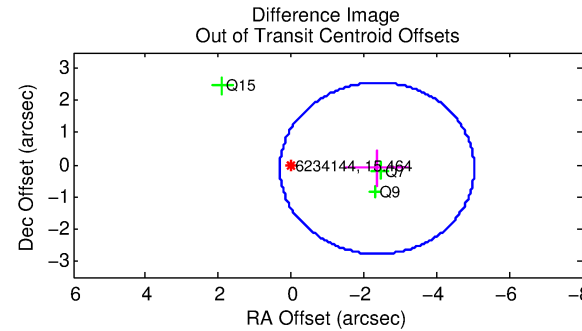
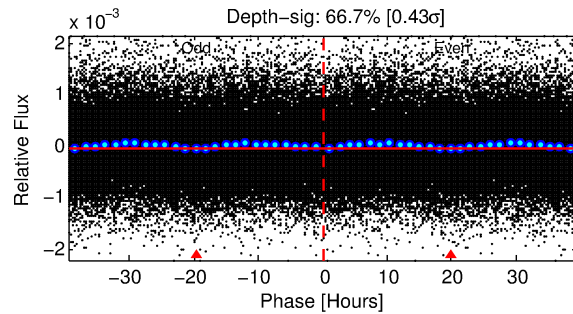
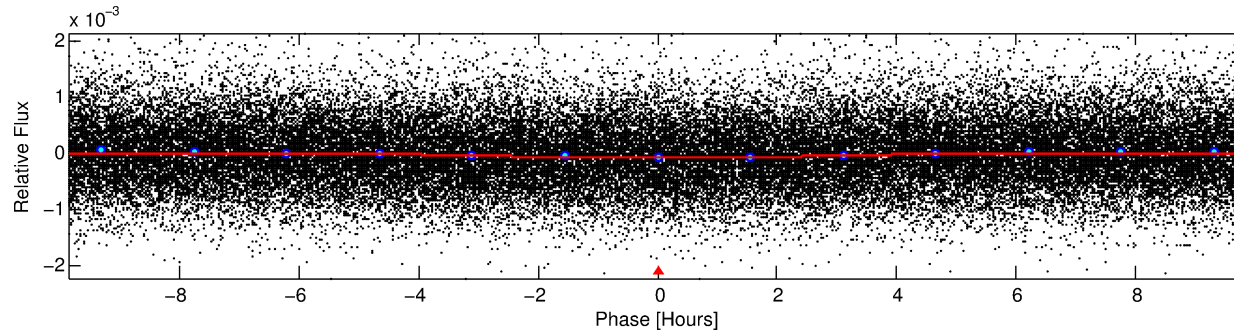
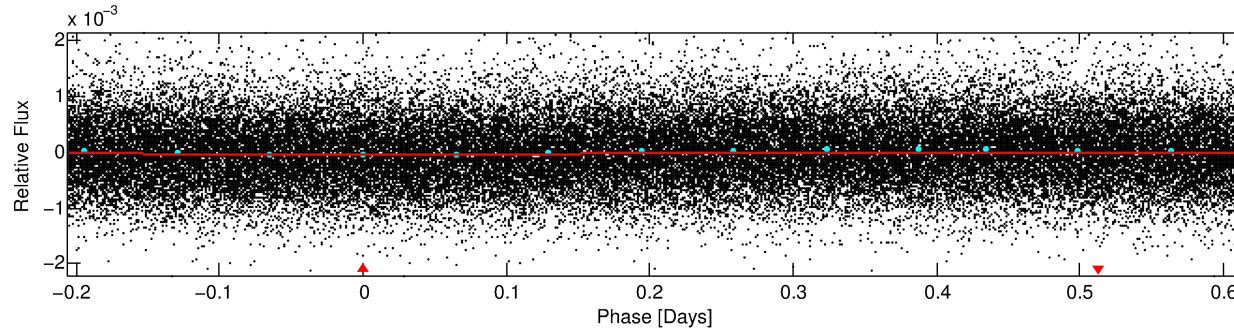
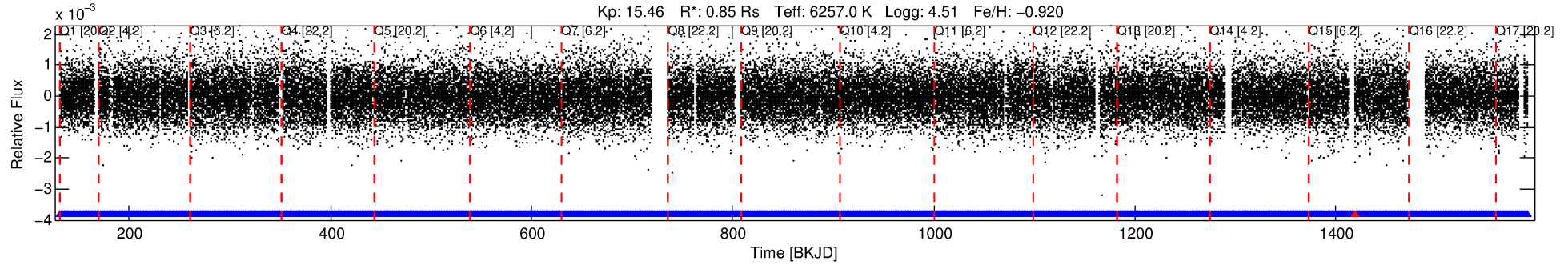
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006234144-01

No Significant Match Found

# DV One-Page Summary

KIC: 6234144 Candidate: 1 of 1 Period: 0.822 d



## DV Fit Results:

Period = 0.82176 [0.00002] d  
Epoch = 131.6834 [0.0076] BKJD  
Rp/R\* = 0.0063 [0.0073]  
a/R\* = 1.06 [0.70]  
b = 0.35 [15.75]  
Seff = 3732.12 [1285.67]  
Teq = 1993 [172] K  
Rp = 0.58 [0.69] Re  
a = 0.0162 [0.0034] AU  
Ag = N/A  
Teffp = N/A

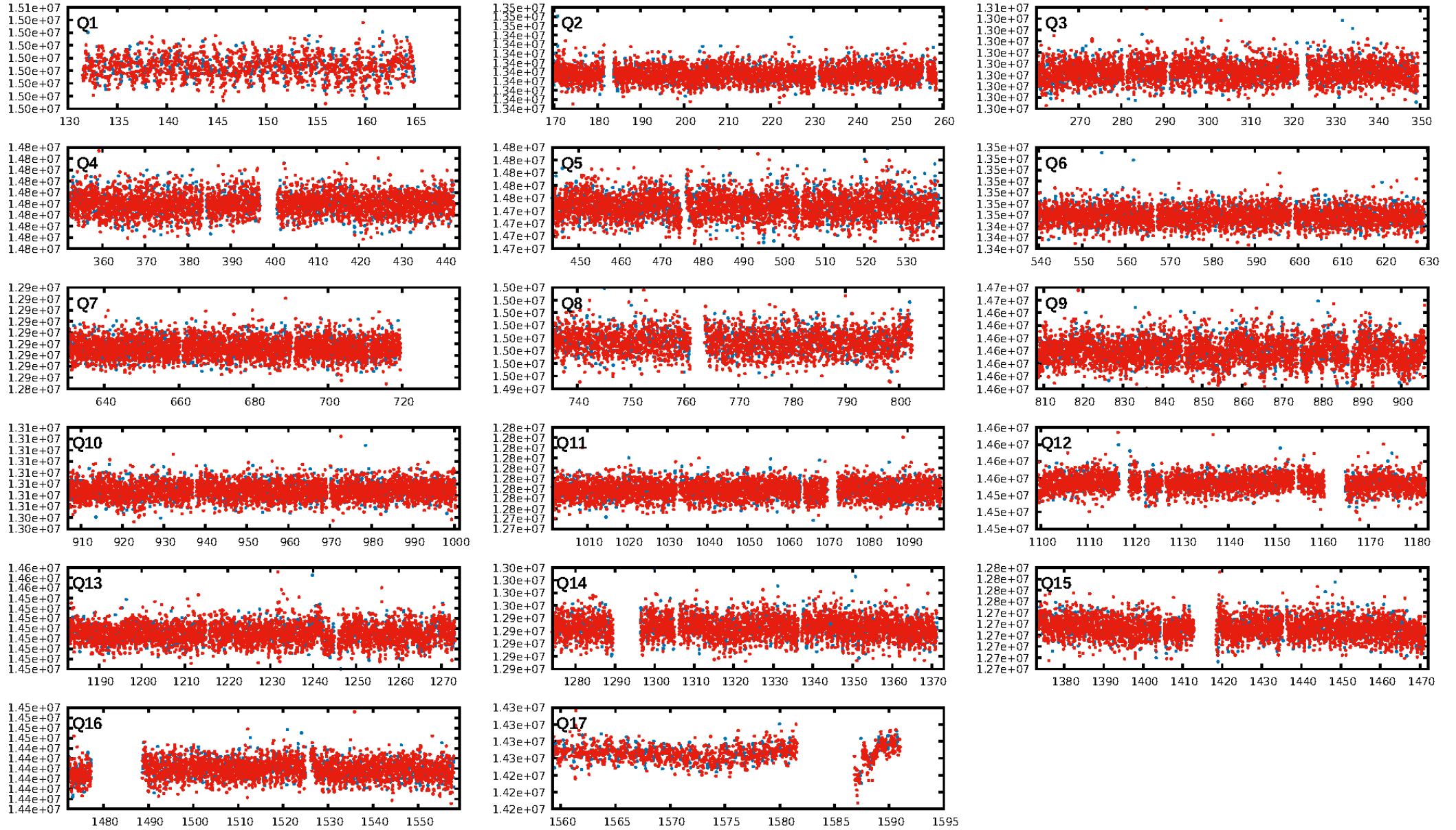
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1571/1572]  
GhostDiagnostic-chr: 1.951  
Centroid-sig: 1.0%  
Centroid-so: 2.628 arcsec [1.77 $\sigma$ ]  
OotOffset-rm: 2.367 arcsec [2.66 $\sigma$ ]  
KicOffset-rm: 2.327 arcsec [1.86 $\sigma$ ]  
OotOffset-st: 0/2/0/1 [3]  
KicOffset-st: 0/2/0/1 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [17/17]

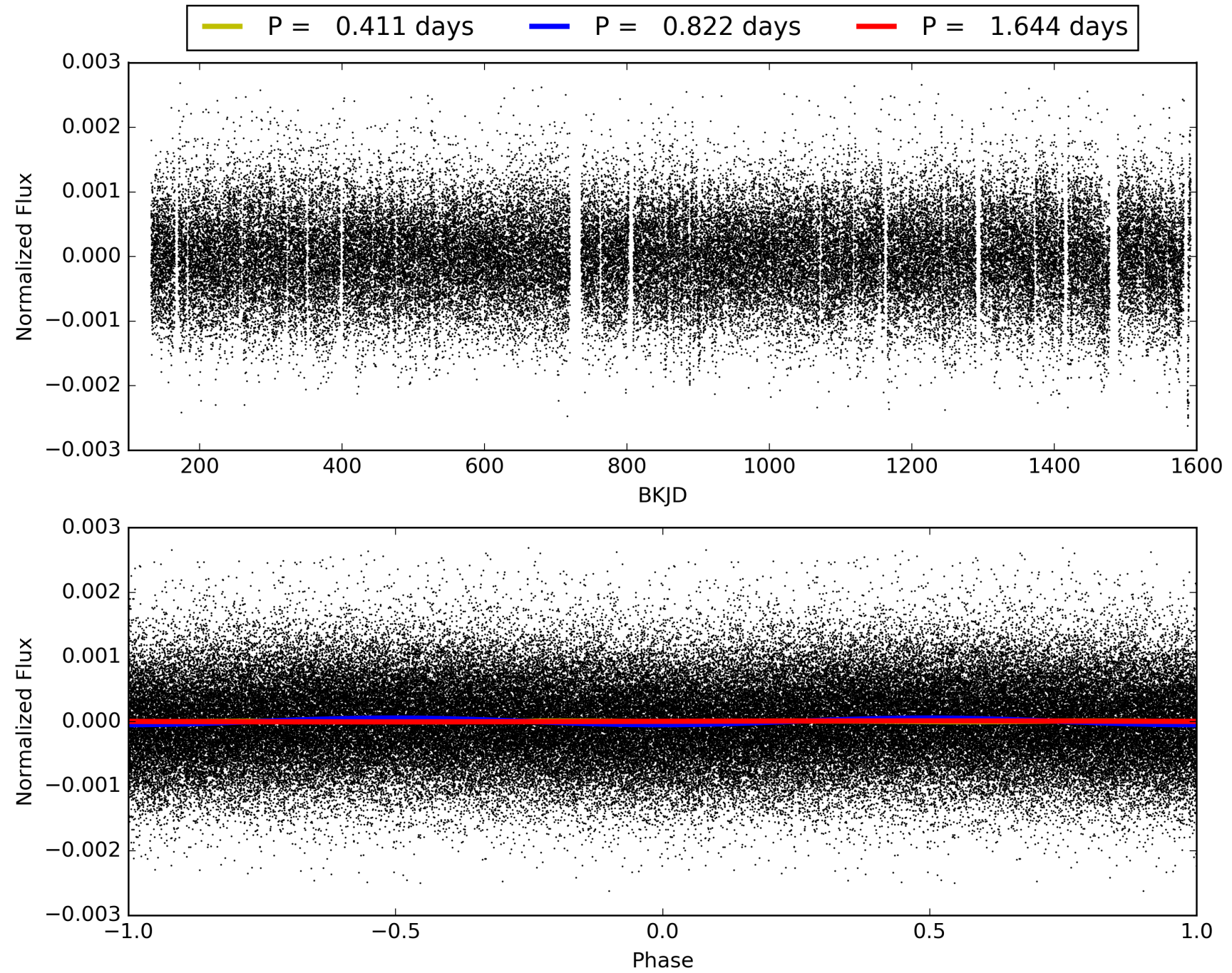
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:33:50 Z

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

# TCE 006234144-01, PDC Light Curves

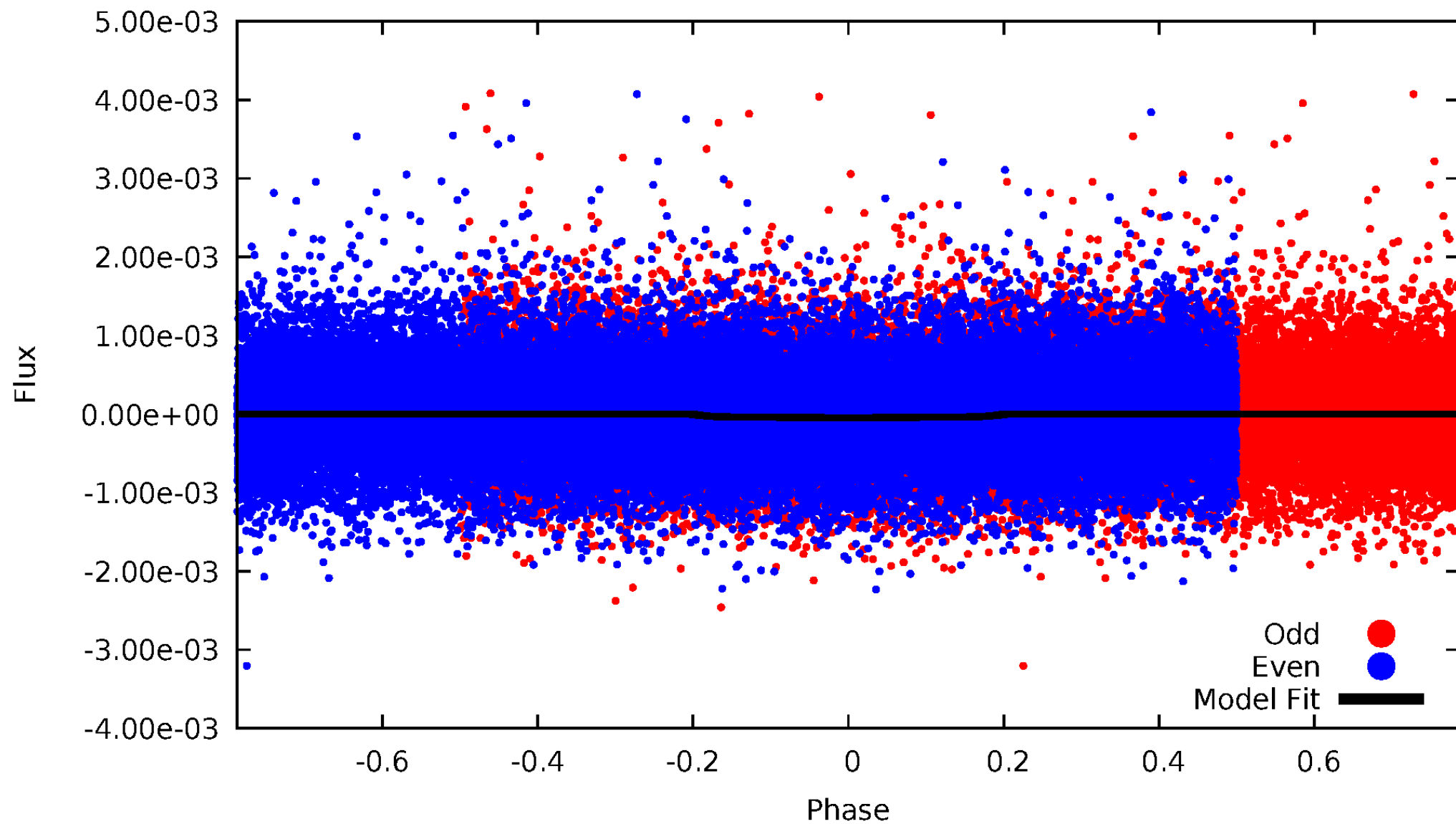


TCE 006234144-01



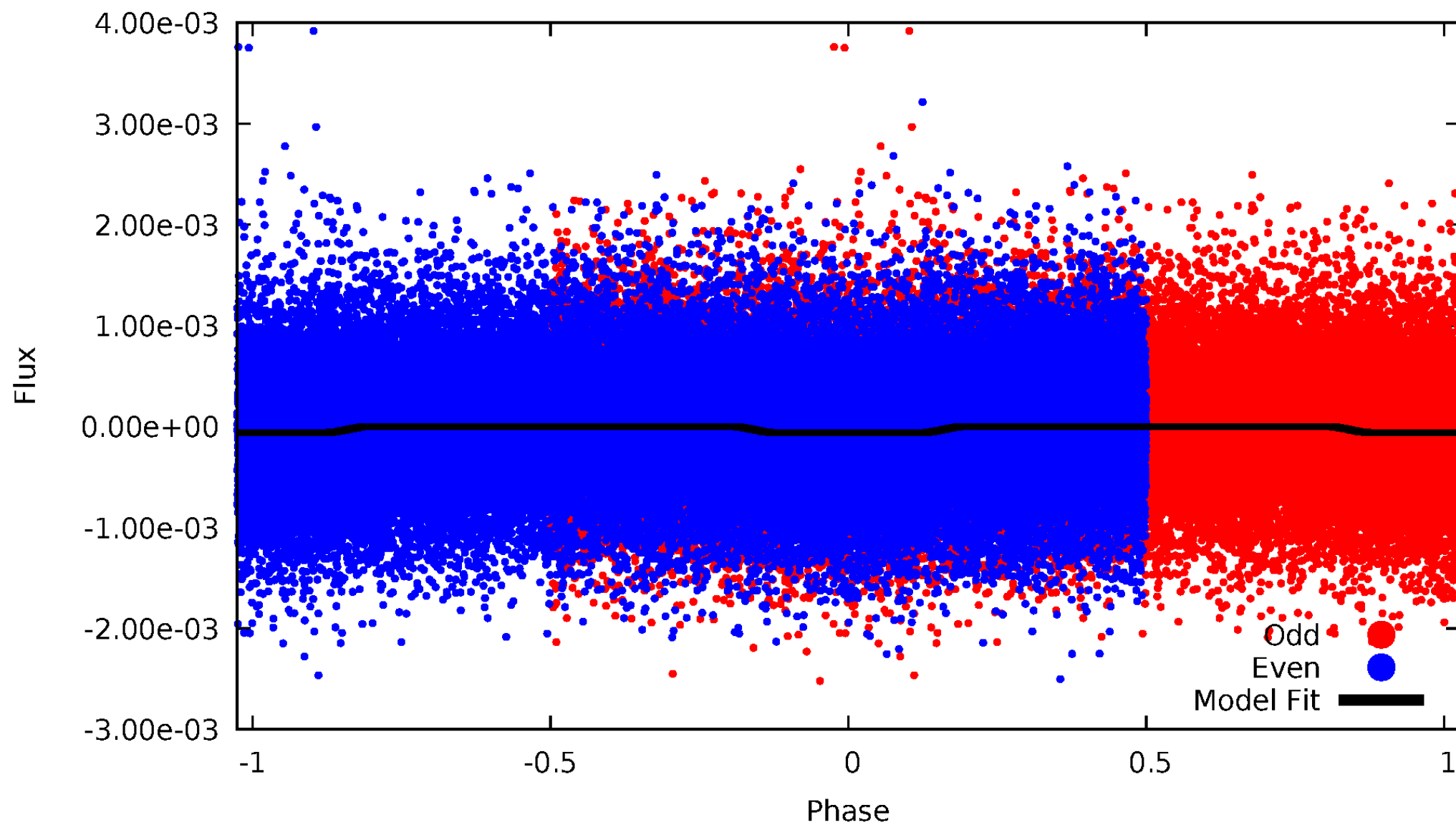
# DV Odd/Even

TCE 006234144-01



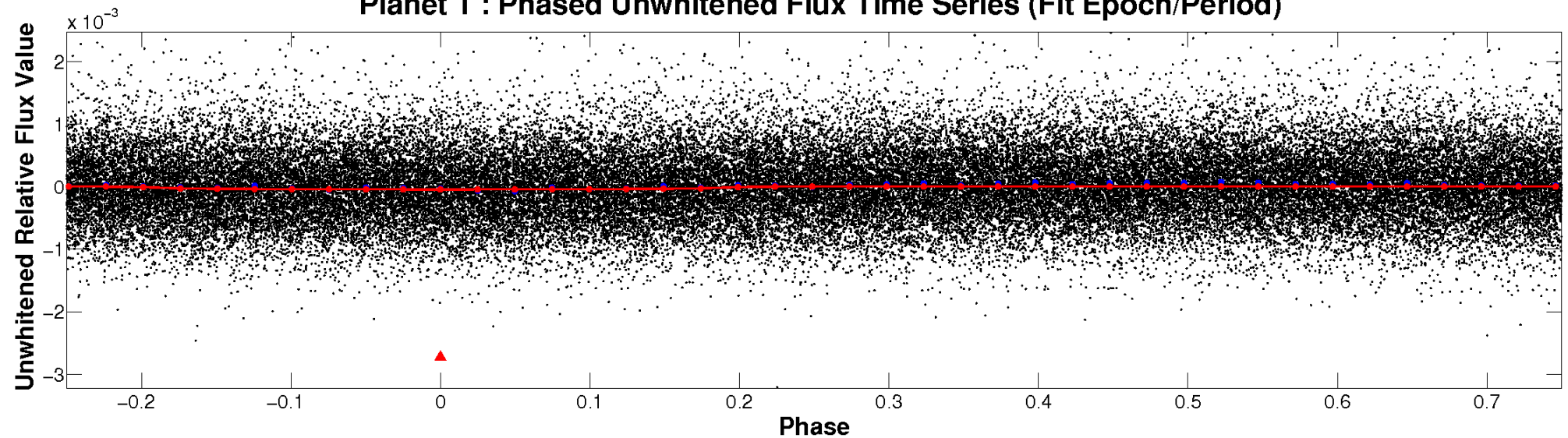
# ALT Odd/Even

TCE 006234144-01

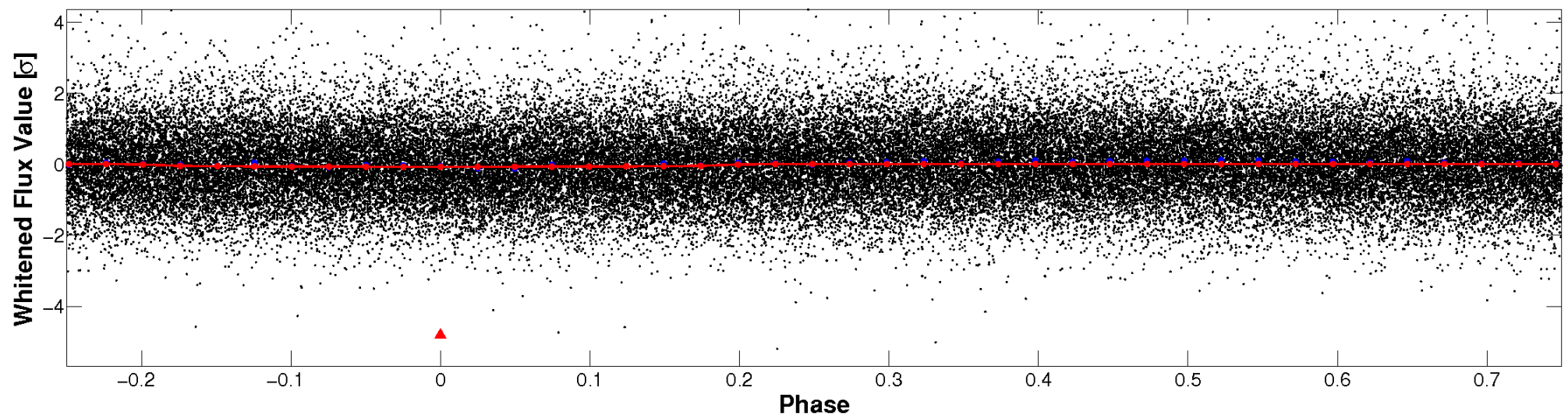


# Non-Whitened Vs. Whitened Light Curve

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

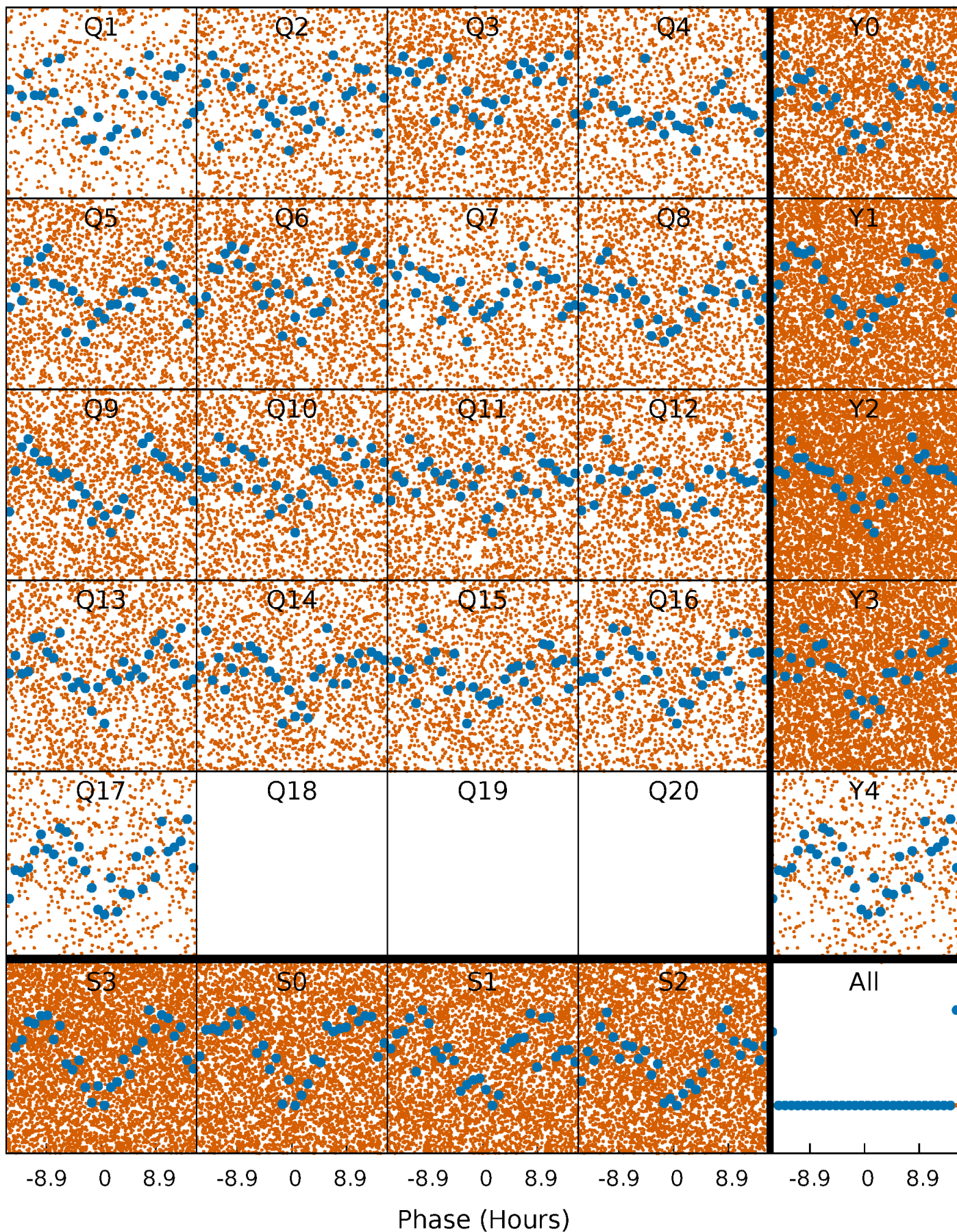


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



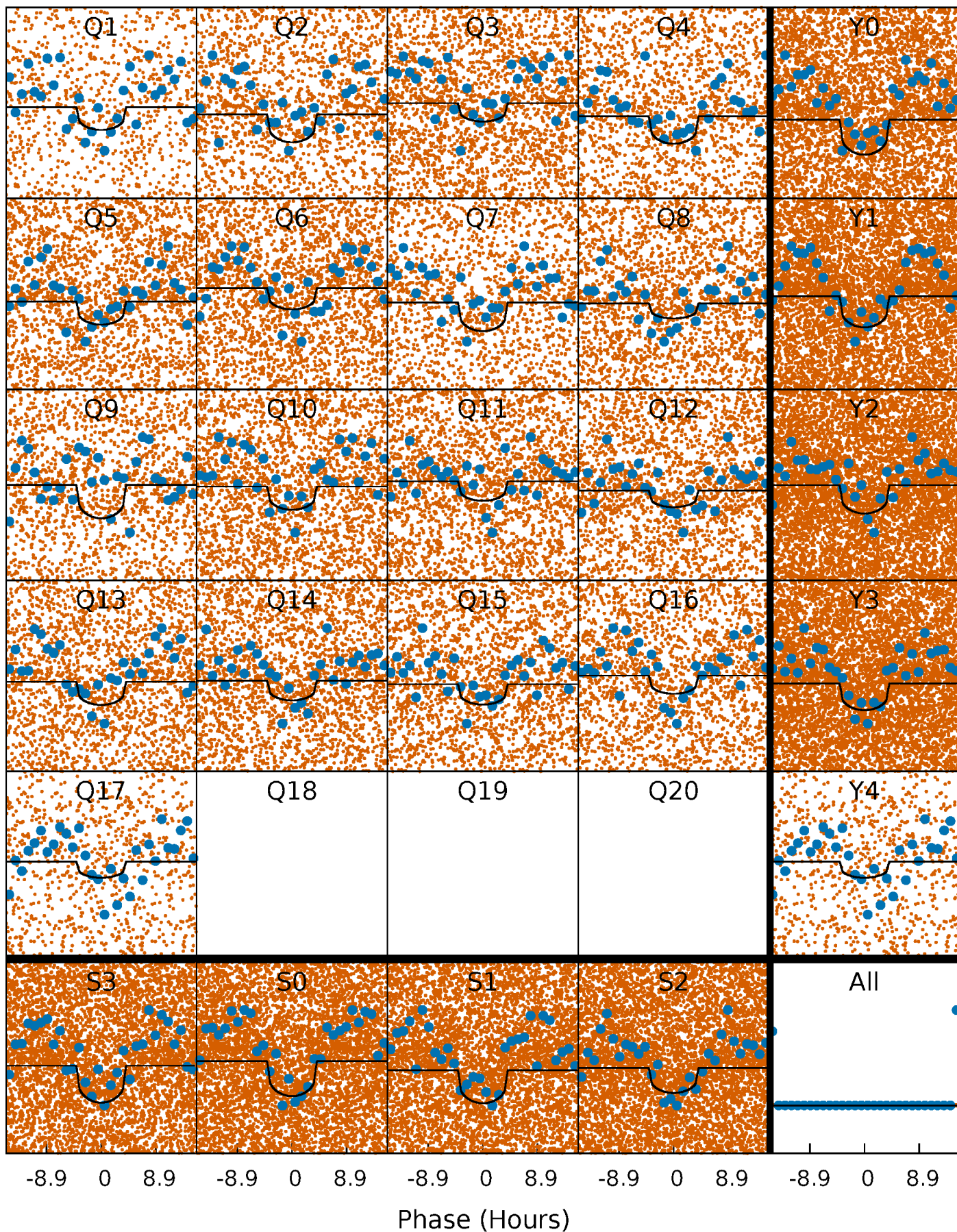
# PDC Quarter-Phased Transit Curves

TCE 006234144-01 P= 0.821758 Days  $T_0=131.683431$  (BKJD)



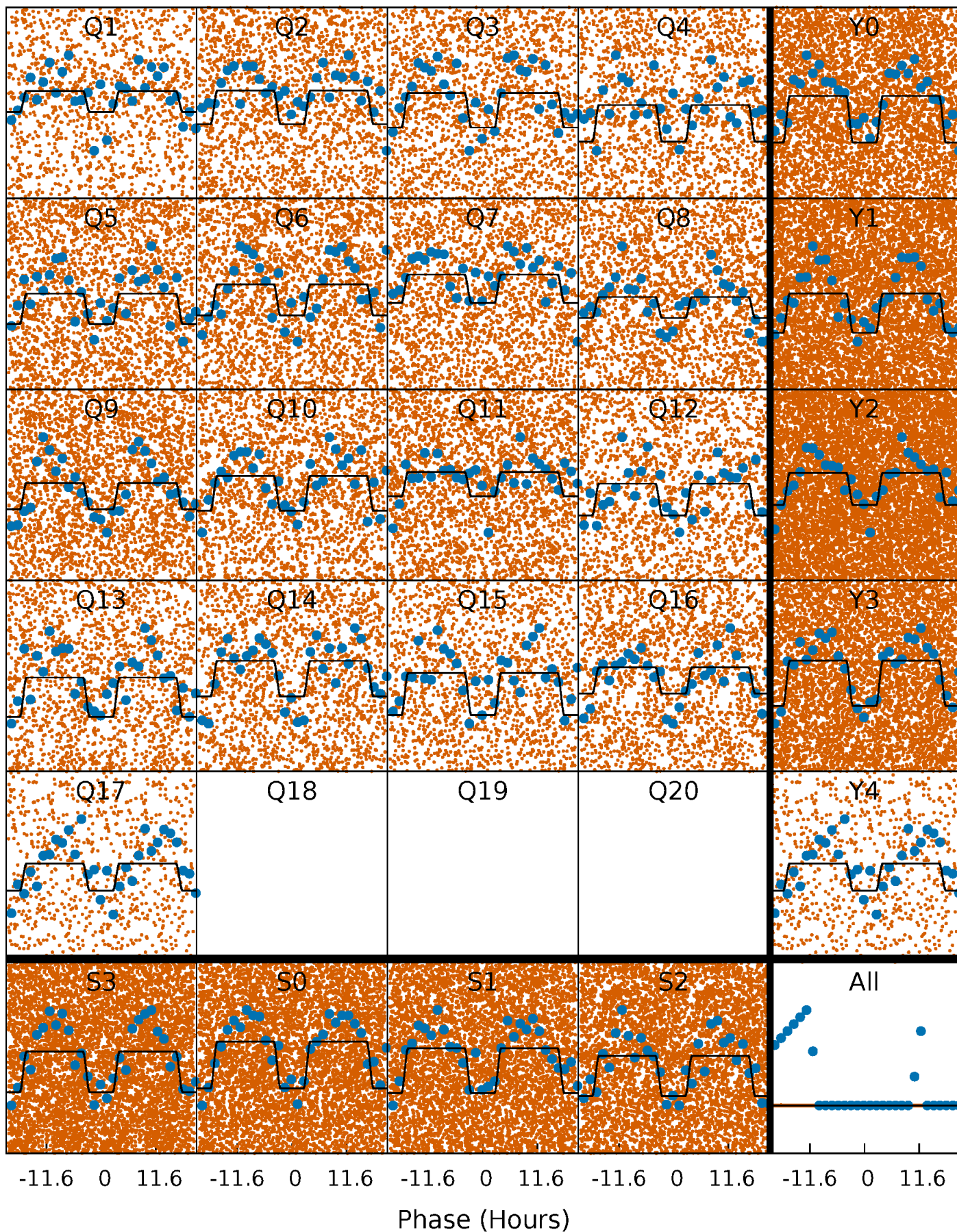
# DV Quarter-Phased Transit Curves

TCE 006234144-01 P= 0.821758 Days  $T_0=131.683431$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

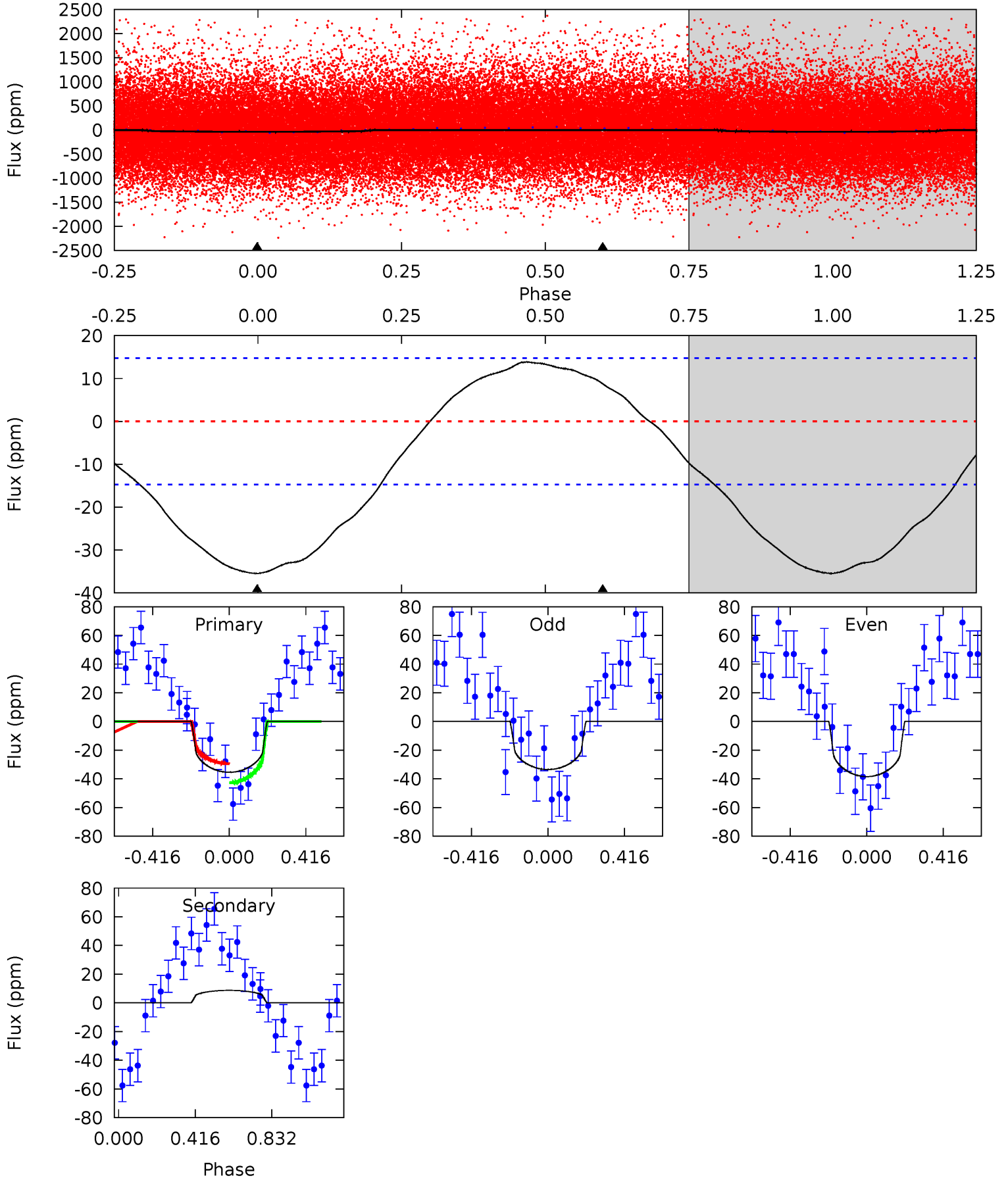
TCE 006234144-01 P= 0.821772 Days  $T_0=131.669354$  (BKJD)



# DV Model-Shift Uniqueness Test

006234144-01, P = 0.821758 Days, E = 130.861673 Days

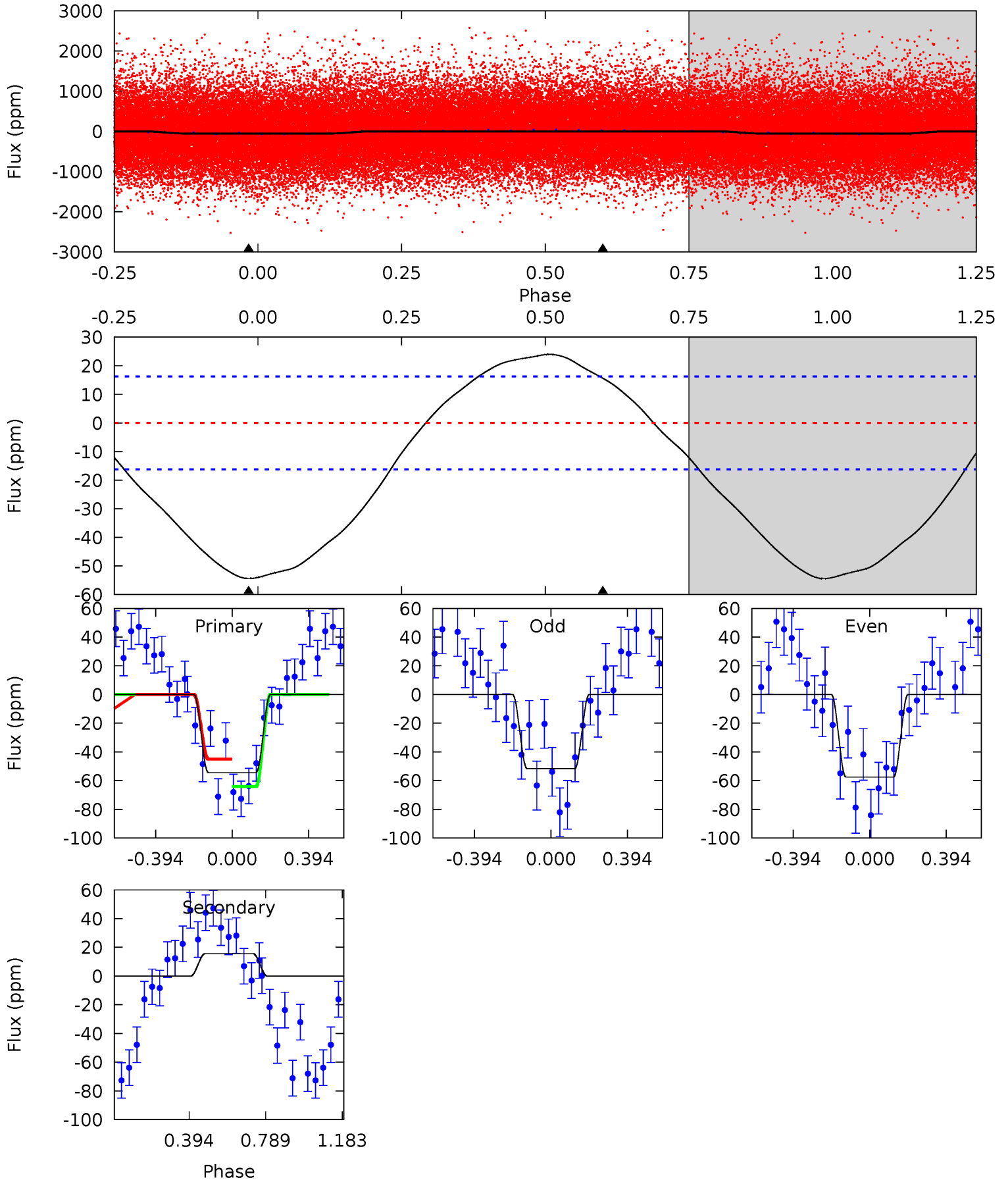
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	-2.53	0	0	4.26	0.81	1.27	10.2	10.2	-2.53	-2.53	0.71	1.14	0.28	1.93



# Alt Model-Shift Uniqueness Test

006234144-01, P = 0.821772 Days, E = 130.847582 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
14.3	-4.11	0	0	4.27	0.85	1.80	14.3	14.3	-4.11	-4.11	0.77	2.59	0.31	2.56



### Stellar Parameters For KIC 006234144

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6257^{+199}_{-221}$	$4.510^{+0.075}_{-0.175}$	$-0.920^{+0.300}_{-0.300}$	$0.847^{+0.207}_{-0.089}$	$0.847^{+0.089}_{-0.073}$	$1.961^{+0.592}_{-0.903}$
	+3%/-4%	+2%/-4%	+33%/-33%	+24%/-11%	+11%/-9%	+30%/-46%
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 006234144-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$9 \pm 3$	$0.82^{+0.61}_{-0.52}$	$2814^{+184}_{-137}$	$-4096^{+581}_{-1943}$	$-1.871^{+1.293}_{-11.878}$
Alt.	$16 \pm 4$	$0.89^{+0.68}_{-0.54}$	$2819^{+182}_{-150}$	$-4352^{+657}_{-2234}$	$-2.845^{+1.940}_{-15.600}$

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

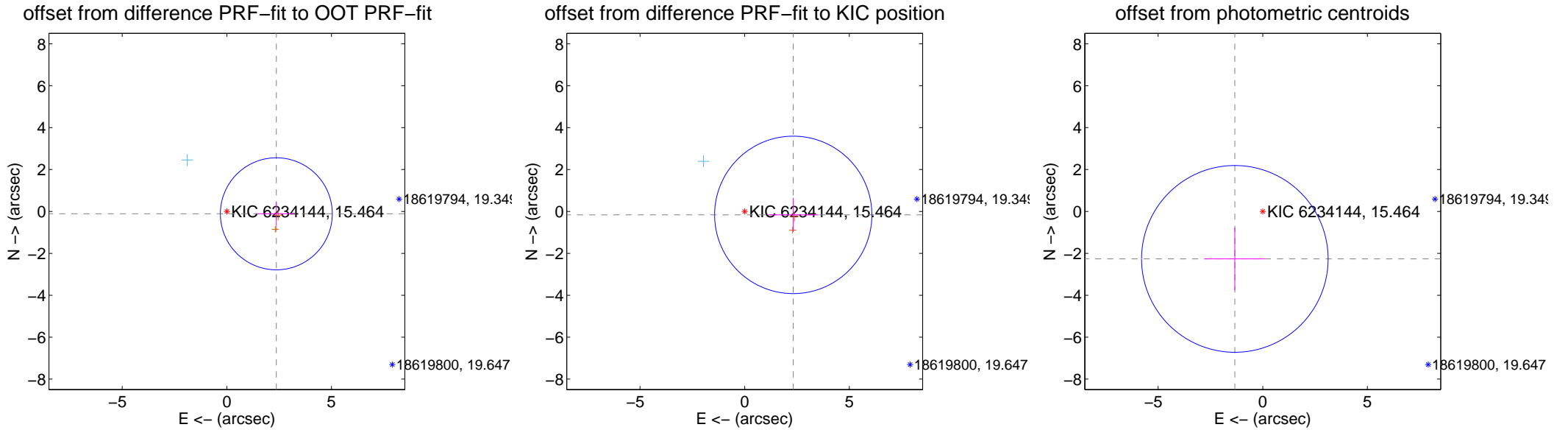
## DV Centroid Data

Supplemental centroid analysis for 006234144-01. Kepler magnitude: 15.46. Transit SNR 10.00

There are 1 quarters with good PRF difference image offsets

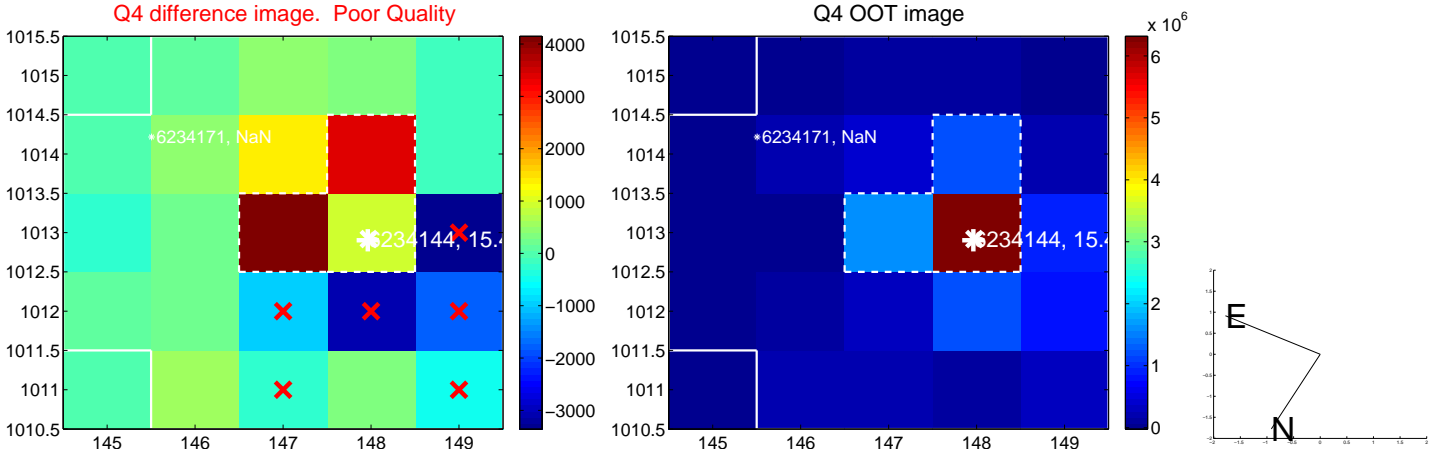
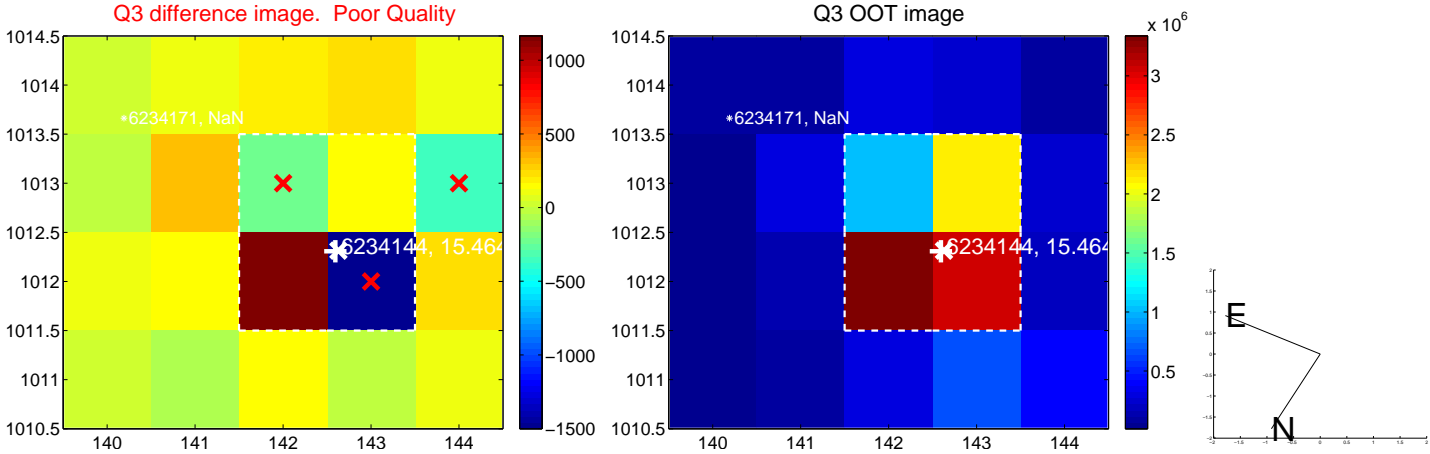
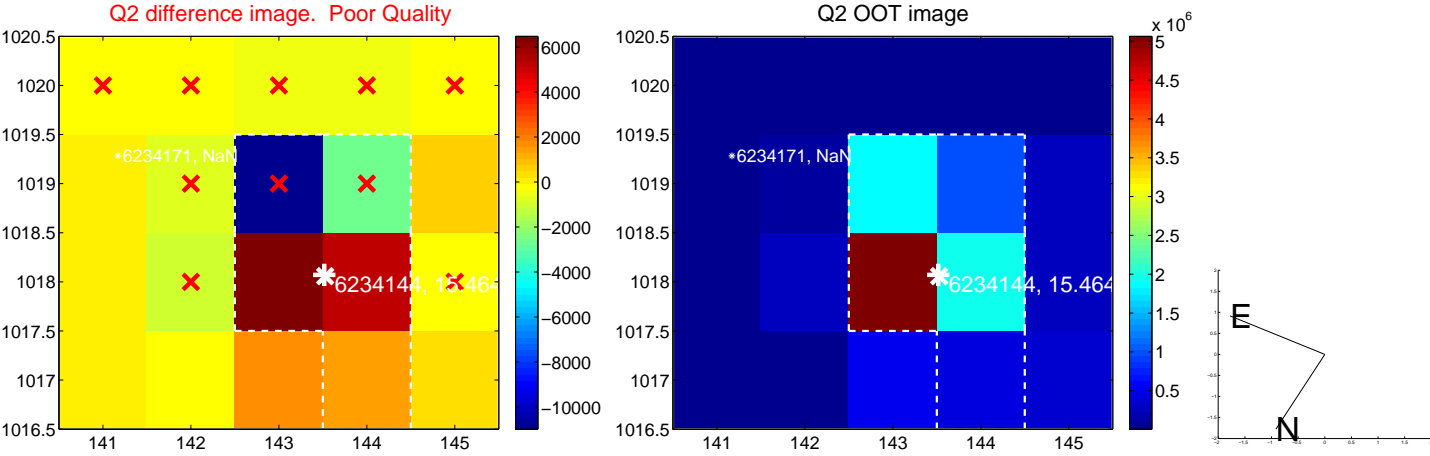
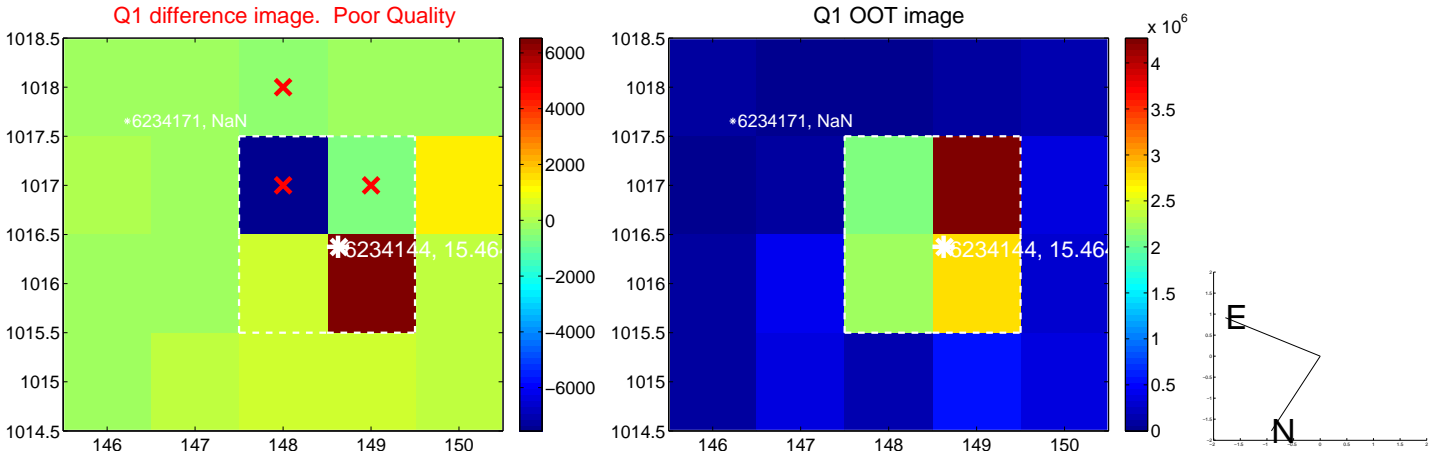
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.367 \pm 0.891$	2.66	$-2.364 \pm 0.866$	$-0.112 \pm 0.573$
PRF-fit source offset from KIC position	$2.327 \pm 1.252$	1.86	$-2.321 \pm 1.200$	$-0.164 \pm 0.801$
photometric centroid source offset	$2.63 \pm 1.49$	1.77	$1.33 \pm 1.46$	$-2.26 \pm 1.49$

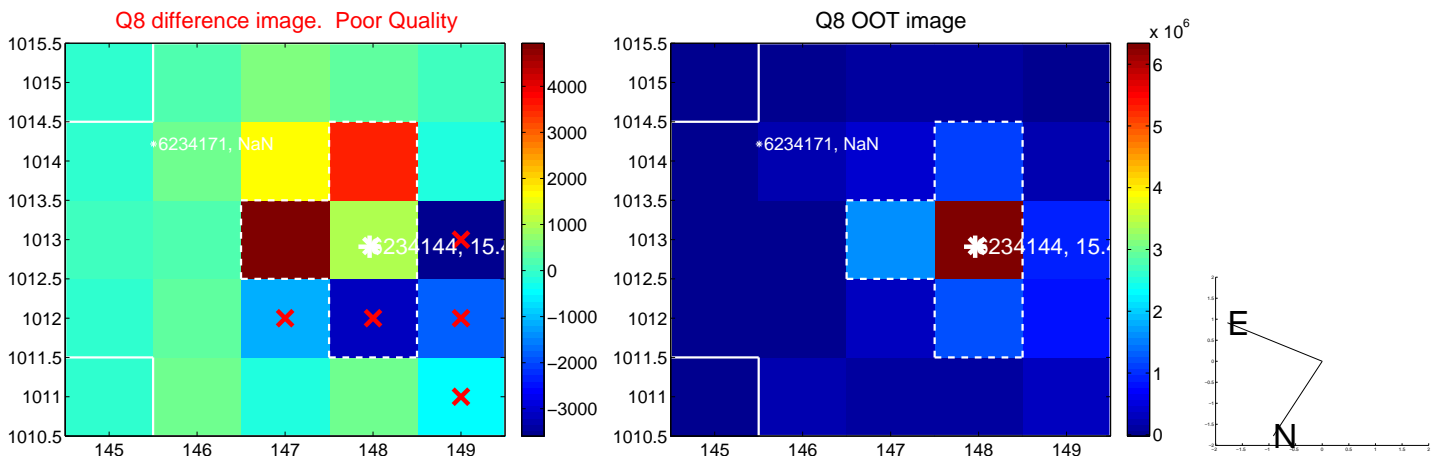
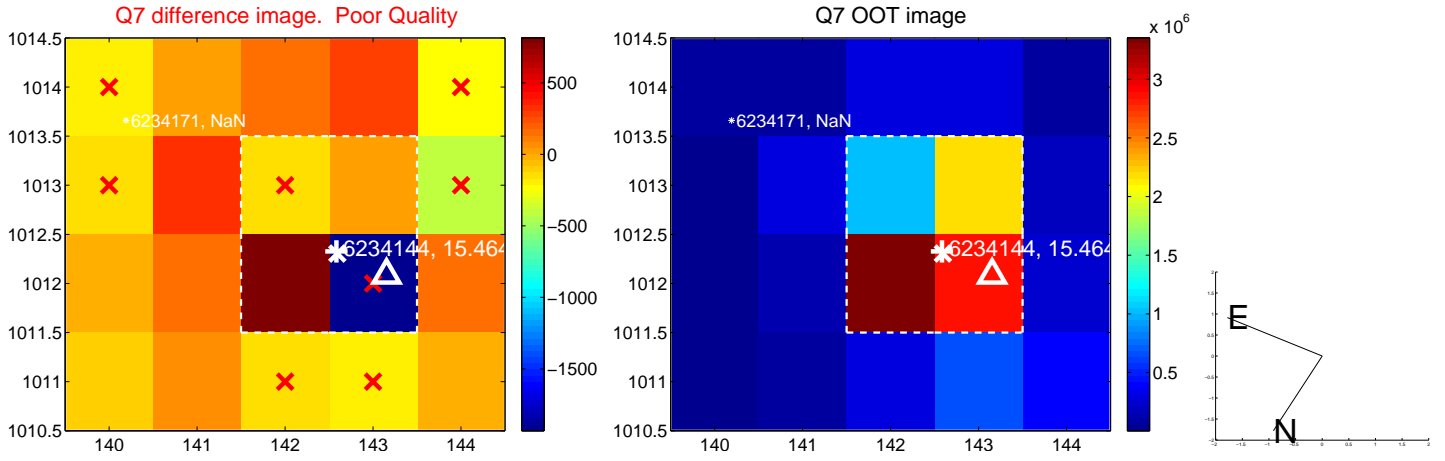
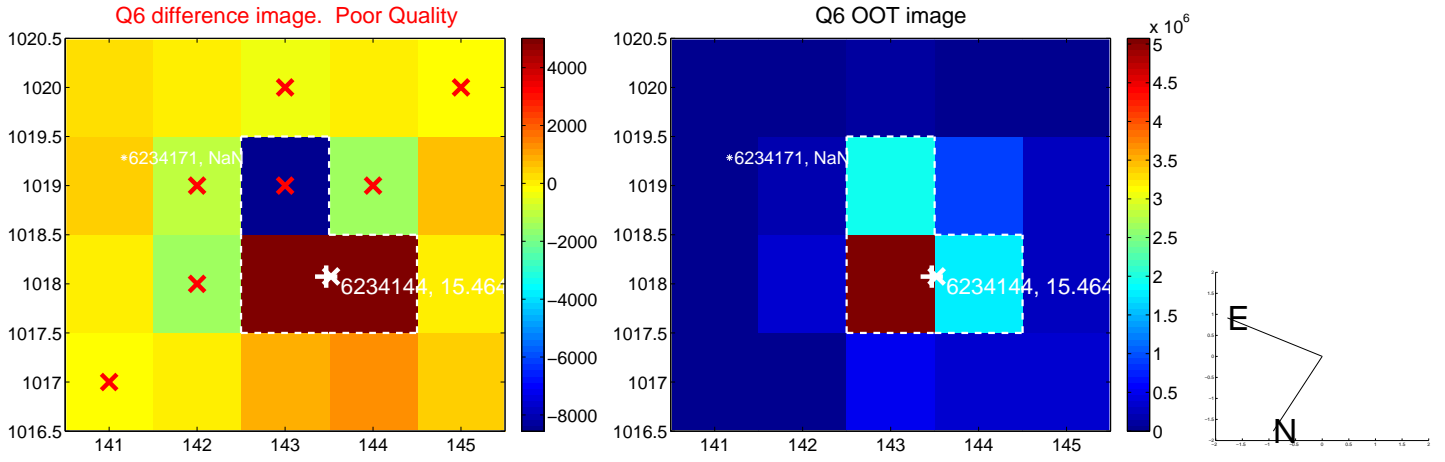
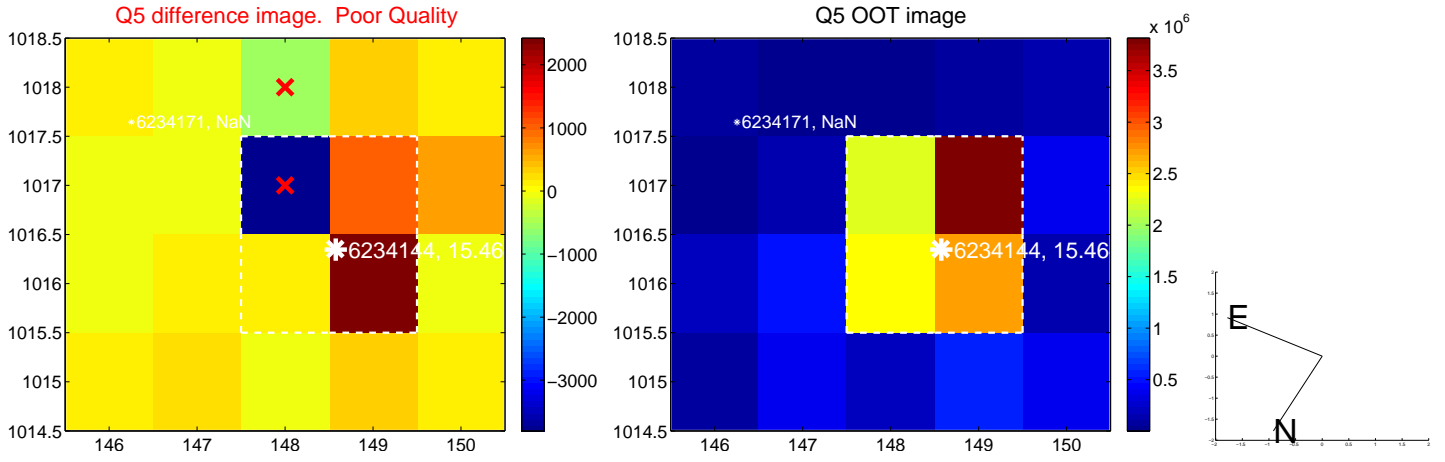


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

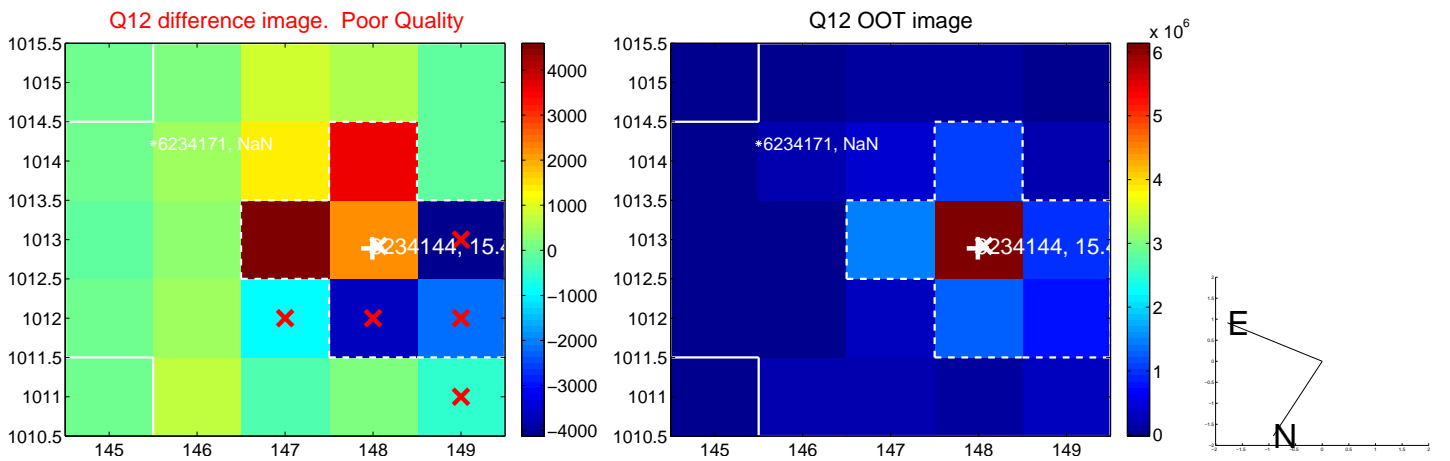
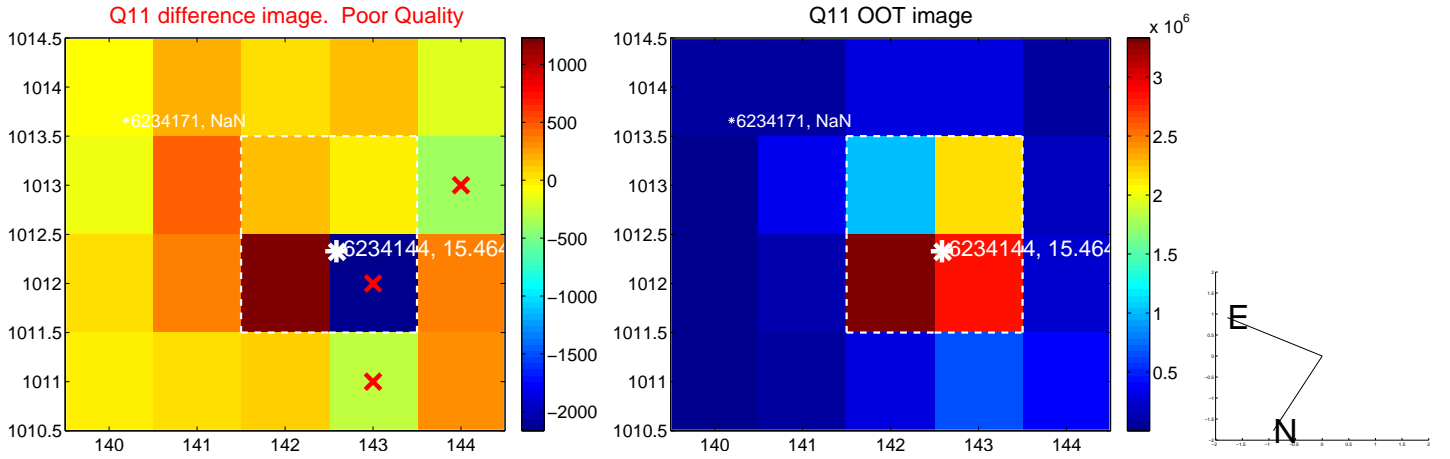
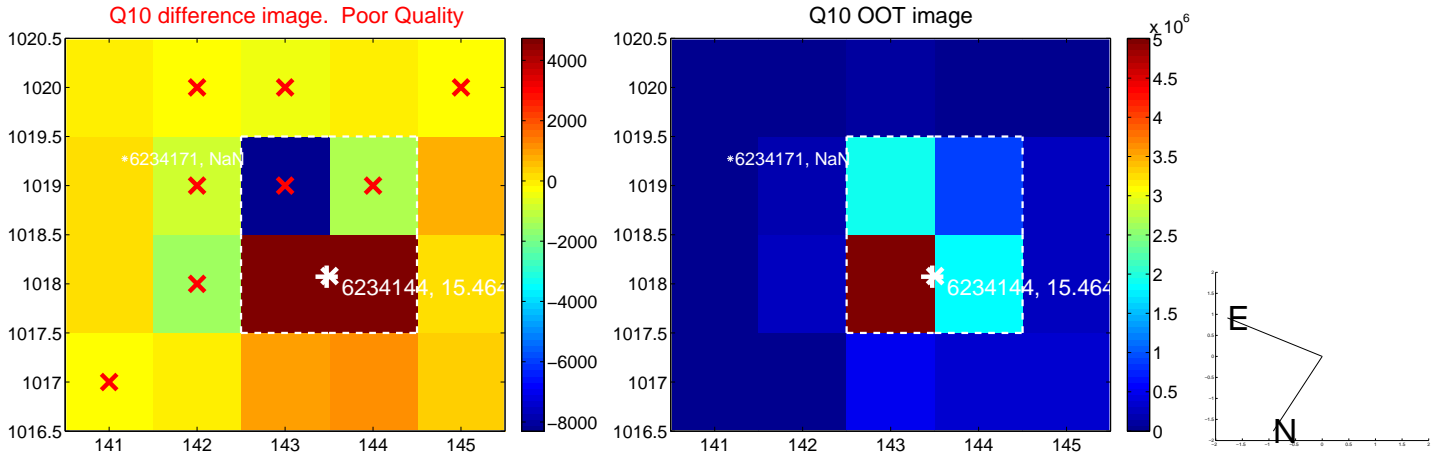
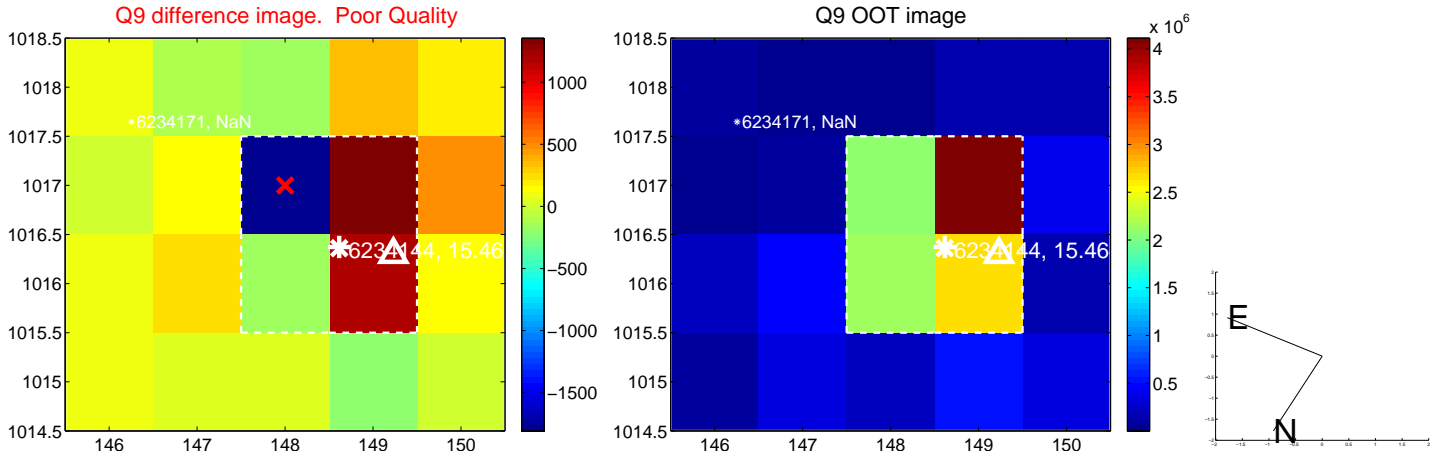
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



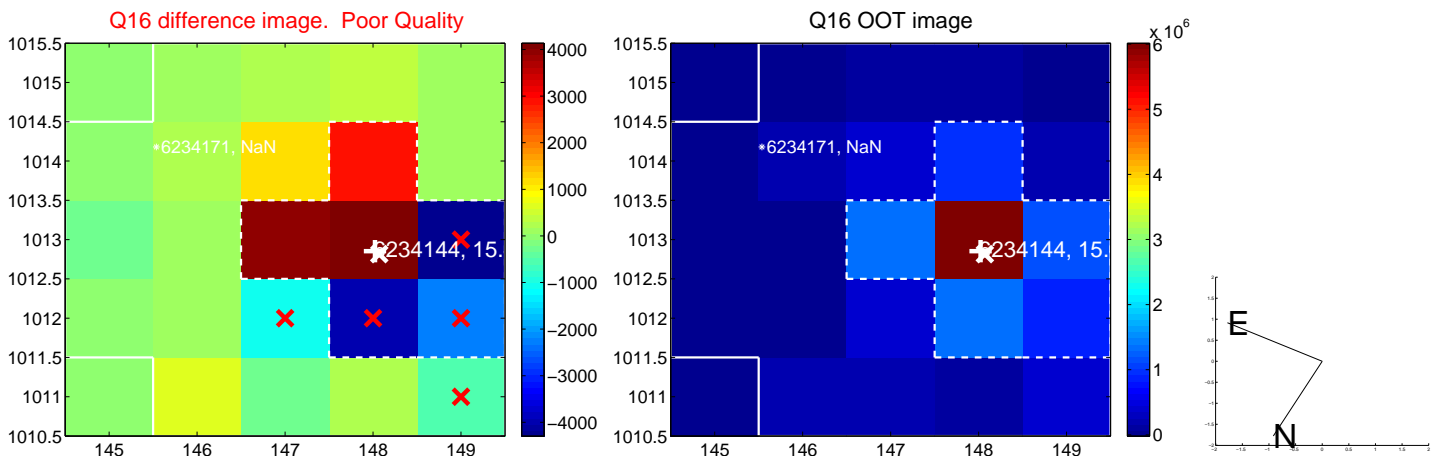
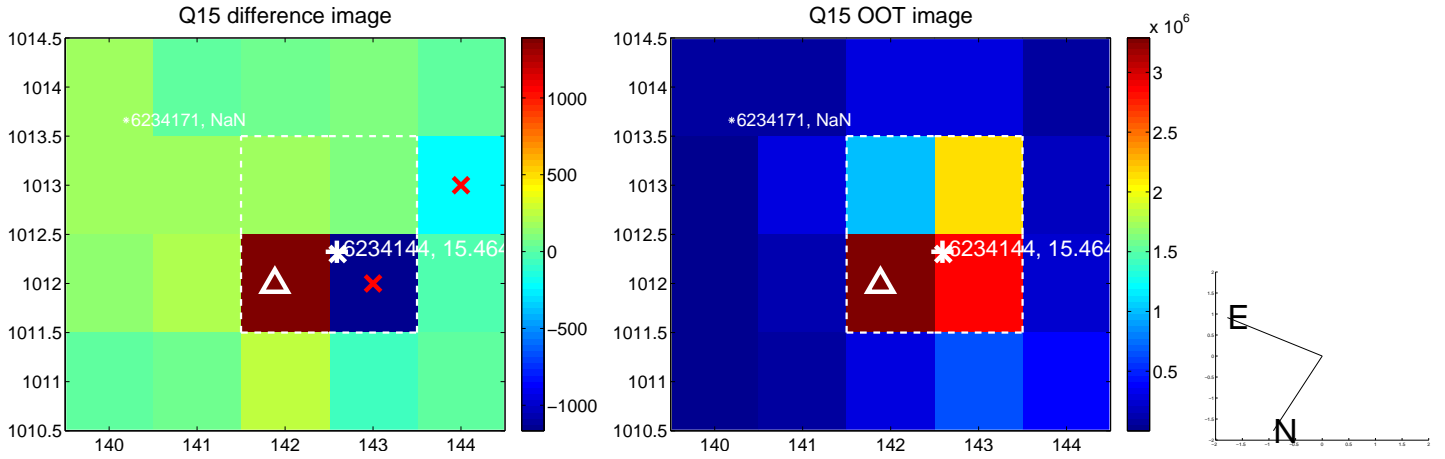
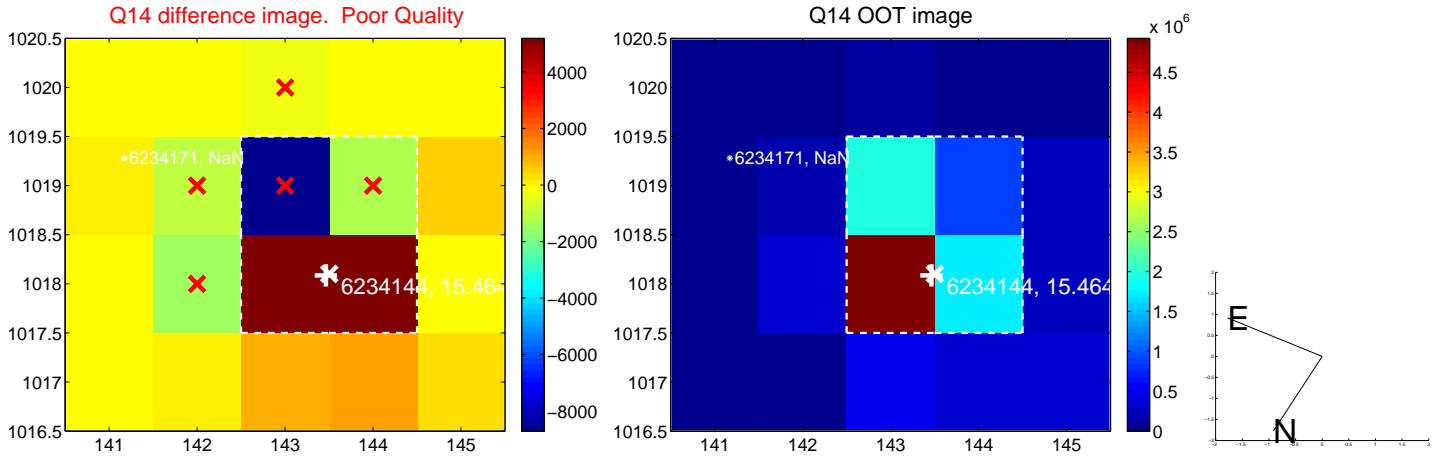
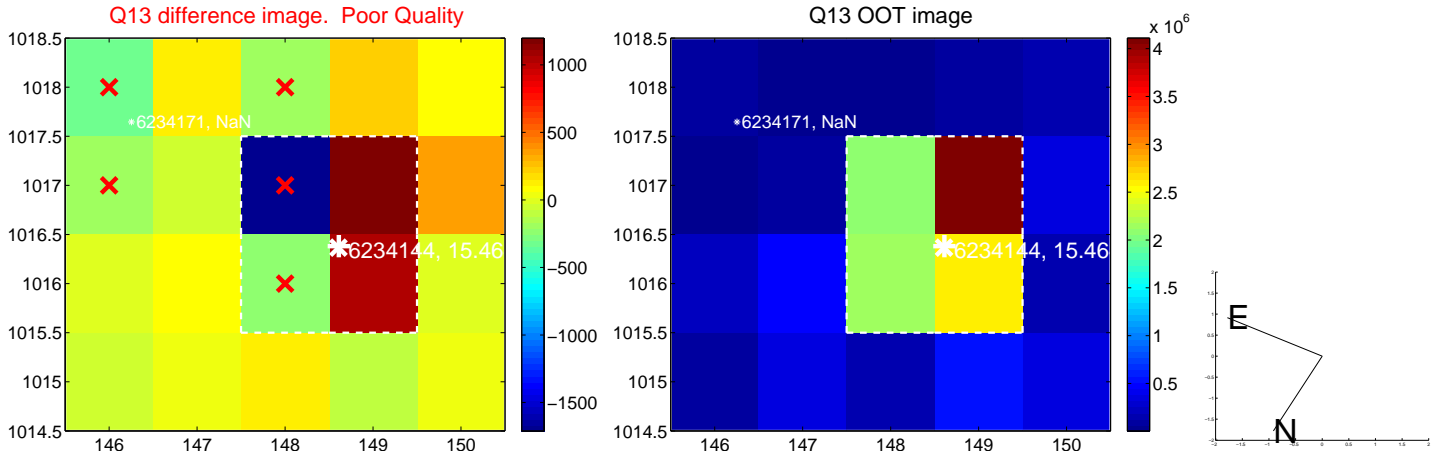
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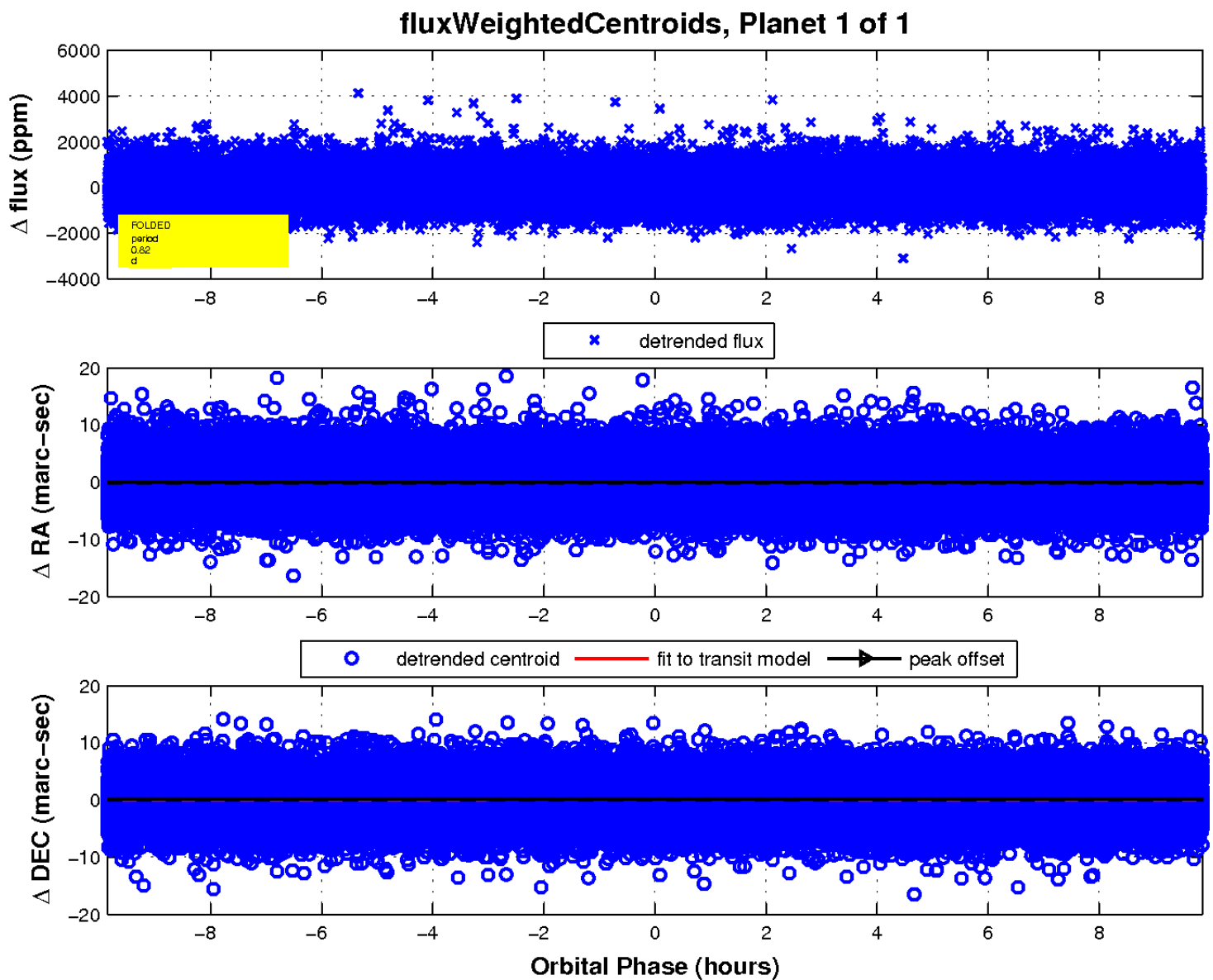
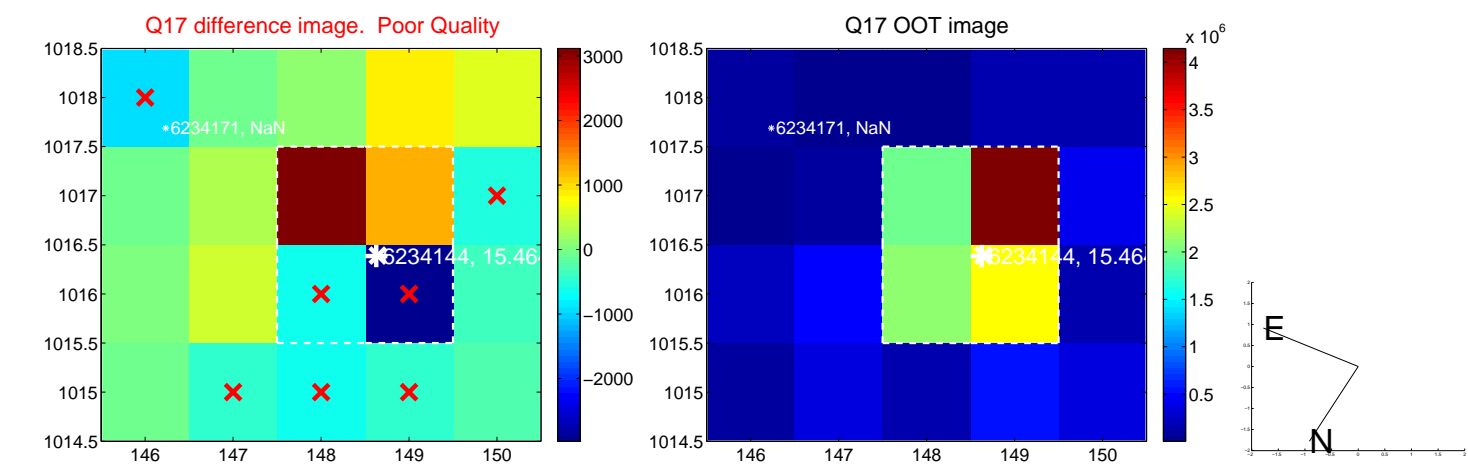
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

