

# KIC 007118167

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007118167-01	OBS	No	0.870392	131.640091	239.2	4.111	14.8	13.6	3.39	8329	6.12	100295.88

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007118167-01	OBS	FP	0.00	1	0	0	0	LPP_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.

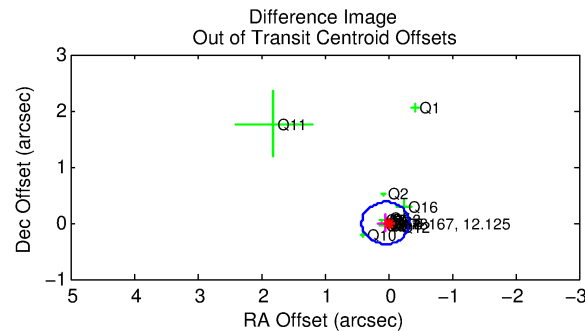
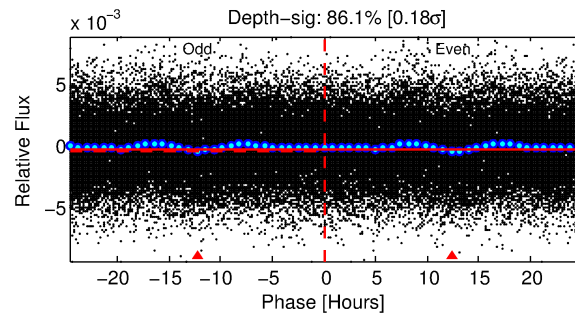
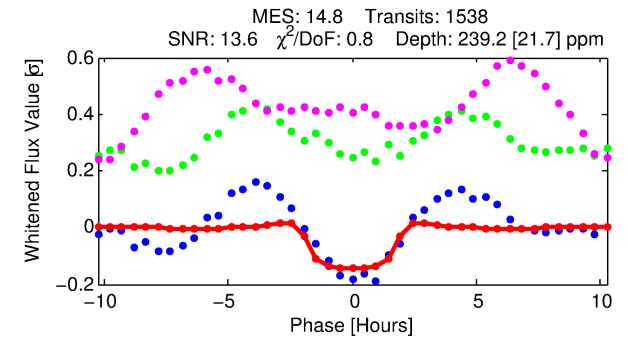
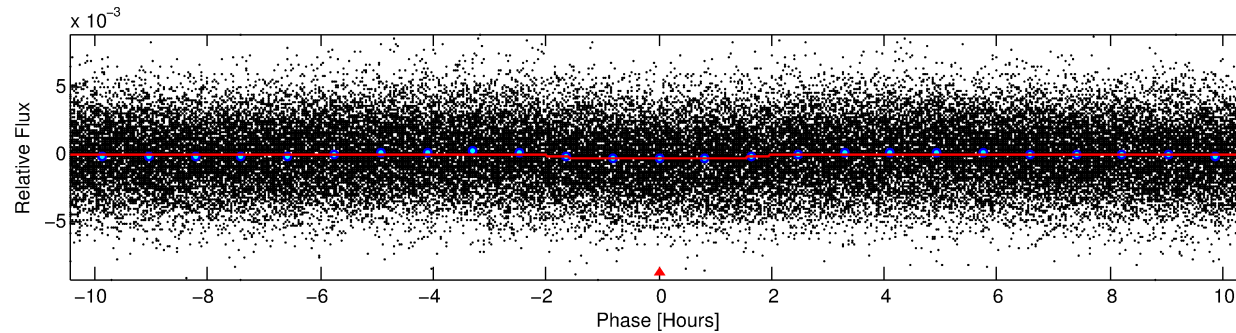
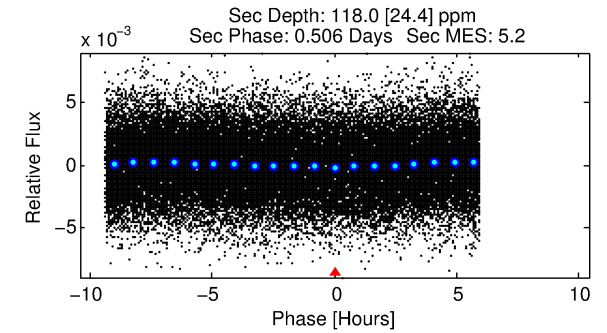
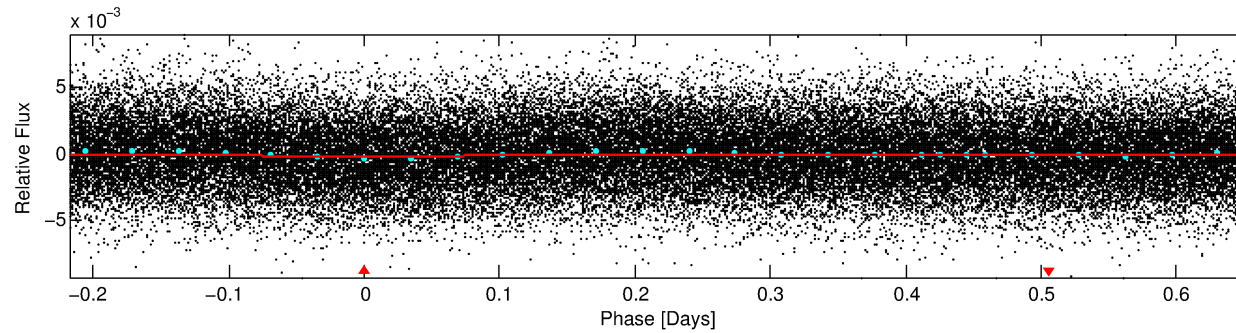
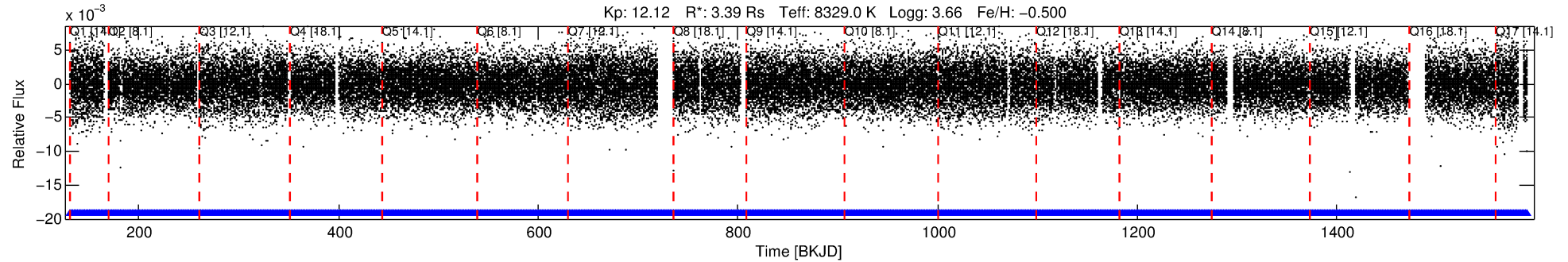
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007118167-01

No Significant Match Found

# DV One-Page Summary

KIC: 7118167 Candidate: 1 of 1 Period: 0.870 d



## DV Fit Results:

Period = 0.87039 [0.00001] d  
Epoch = 131.6401 [0.0038] BKJD  
Rp/R\* = 0.0165 [0.0043]  
a/R\* = 1.21 [0.62]  
b = 0.90 [0.33]  
Seff = 100295.88 [94648.58]  
Teq = 4538 [1071] K  
Rp = 6.12 [3.71] Re  
a = 0.0222 [0.0125] AU  
Ag = 0.86 [0.93] [-0.15σ]  
Teffp = 6749 [990] K [1.52σ]

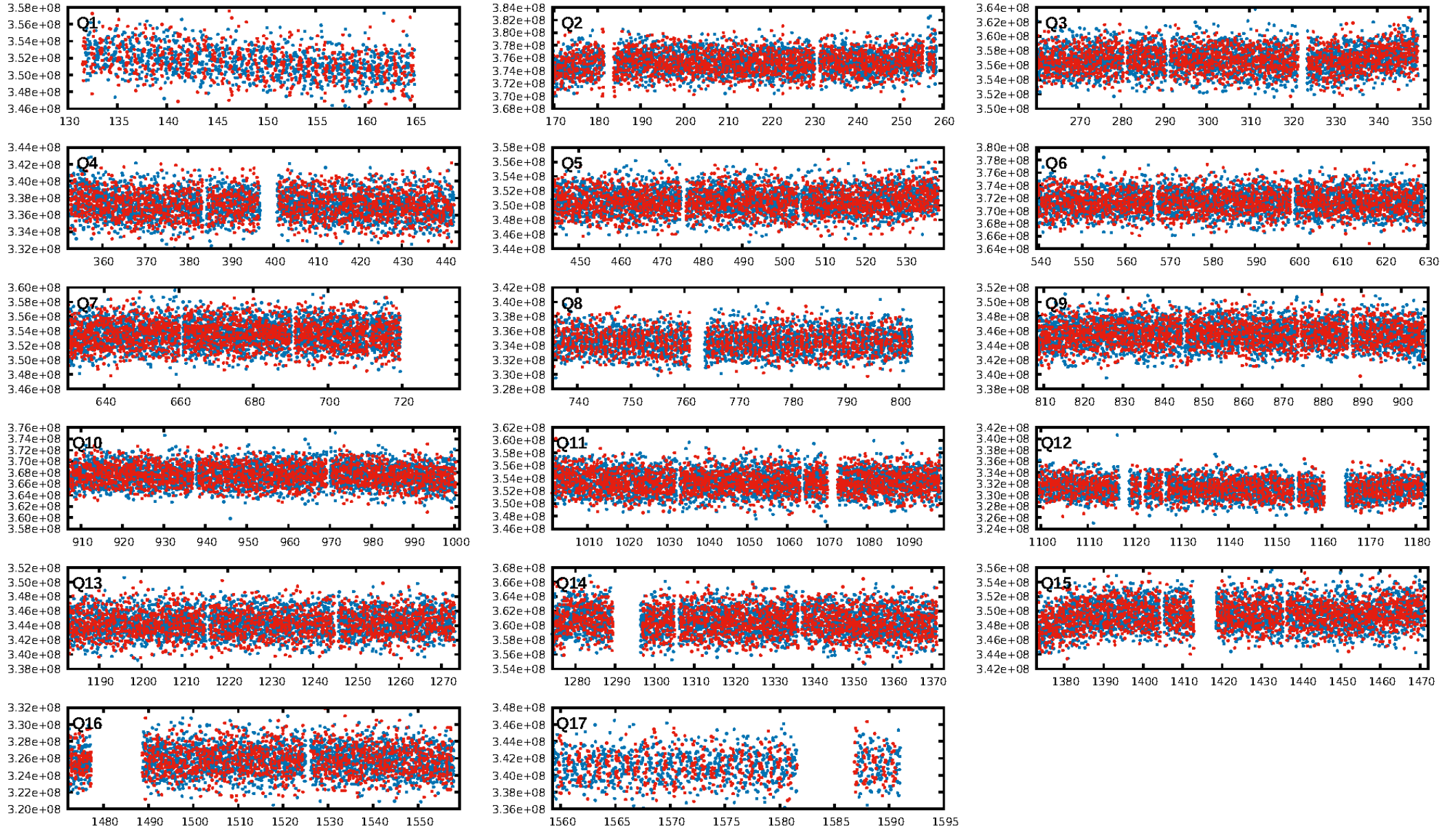
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.05e-48  
RollingBand-fgt: 1.00 [1469/1469]  
GhostDiagnostic-chr: 1.201  
Centroid-sig: 72.9%  
Centroid-so: 0.025 arcsec [0.68σ]  
OotOffset-rm: 0.044 arcsec [0.36σ]  
KicOffset-rm: 0.101 arcsec [0.84σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.82 [14/17]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:12:02 Z

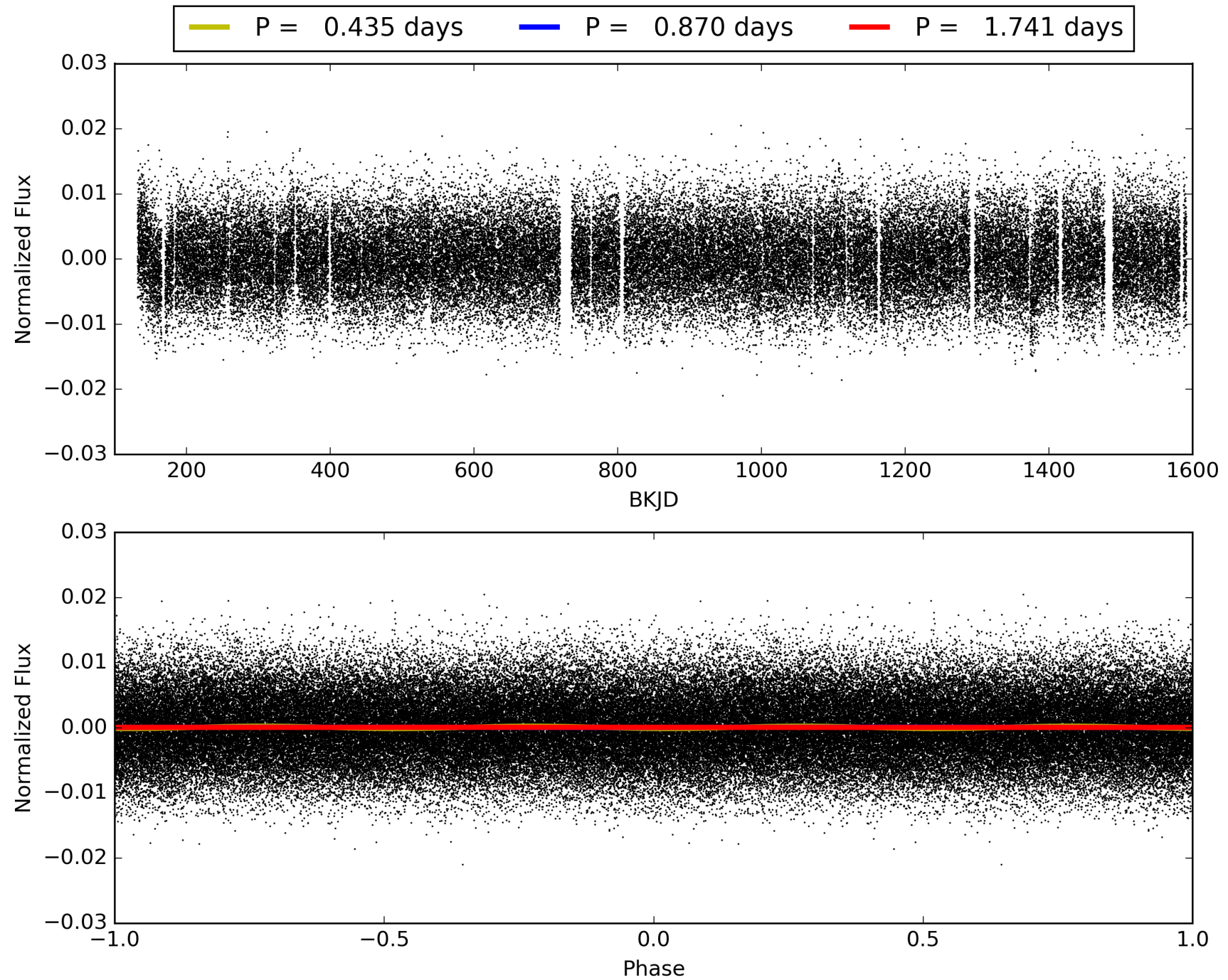
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007118167-01, PDC Light Curves



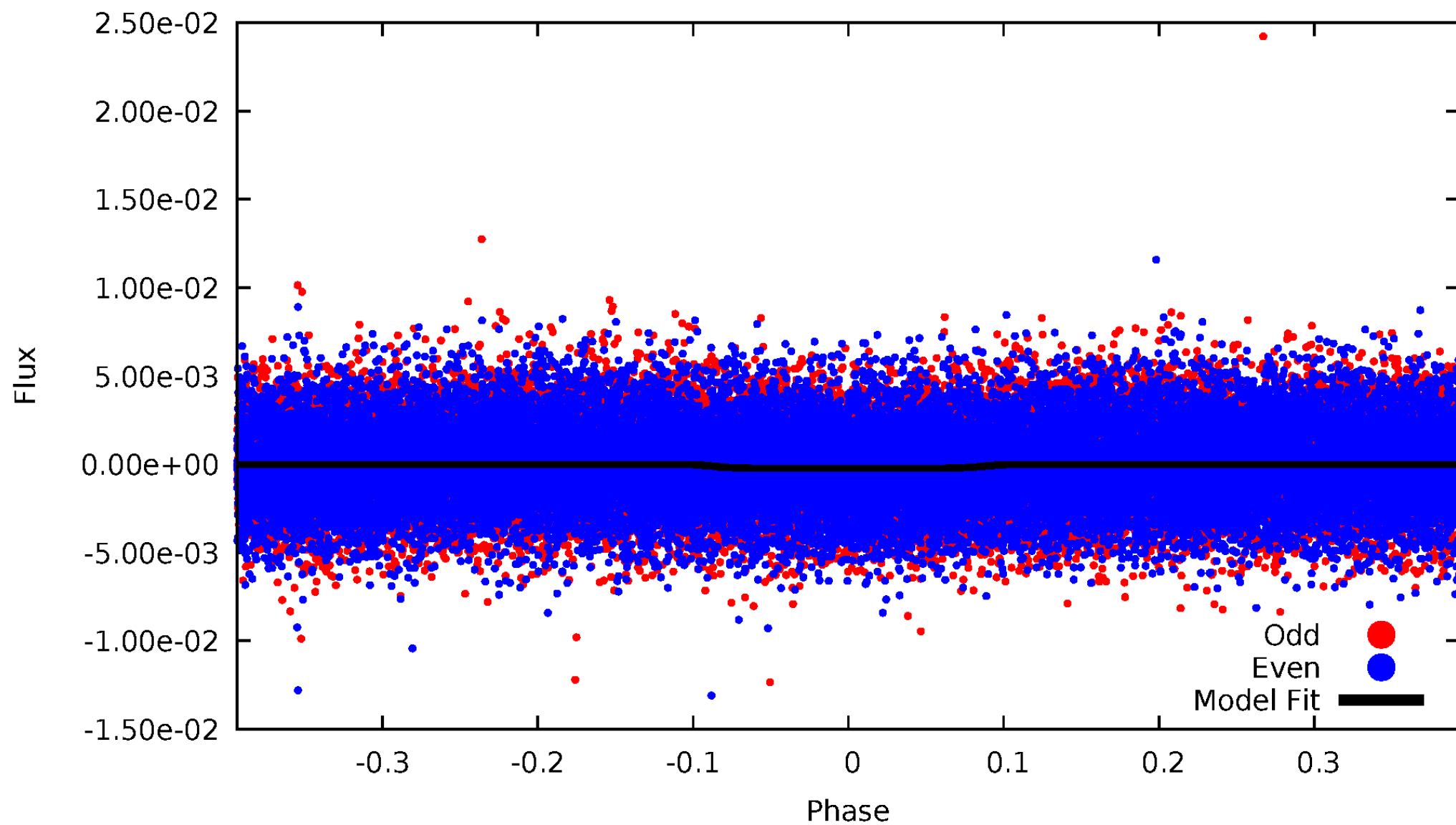


TCE 007118167-01



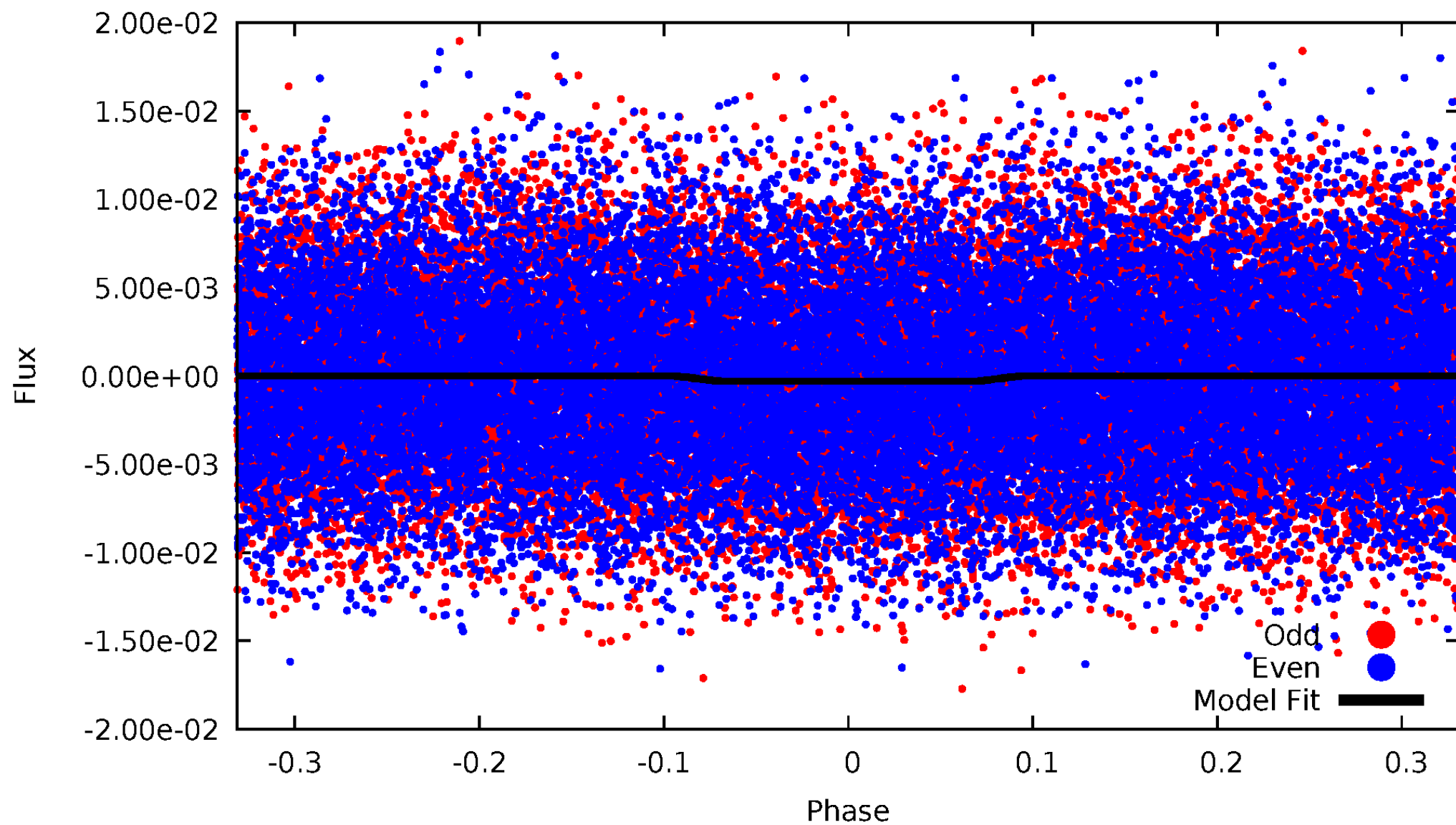
# DV Odd/Even

TCE 007118167-01



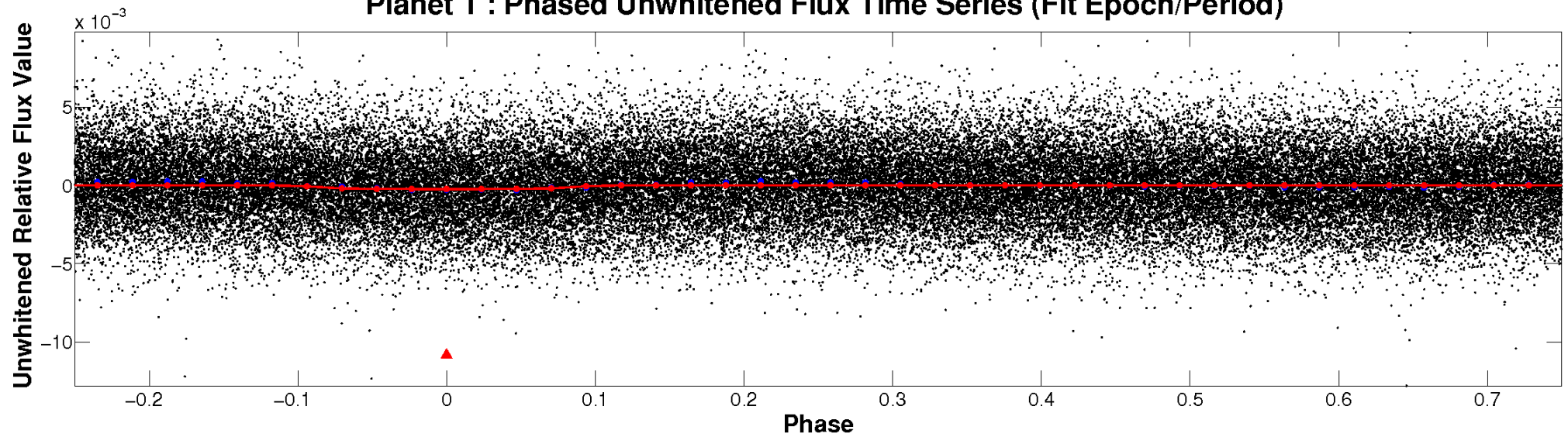
# ALT Odd/Even

TCE 007118167-01

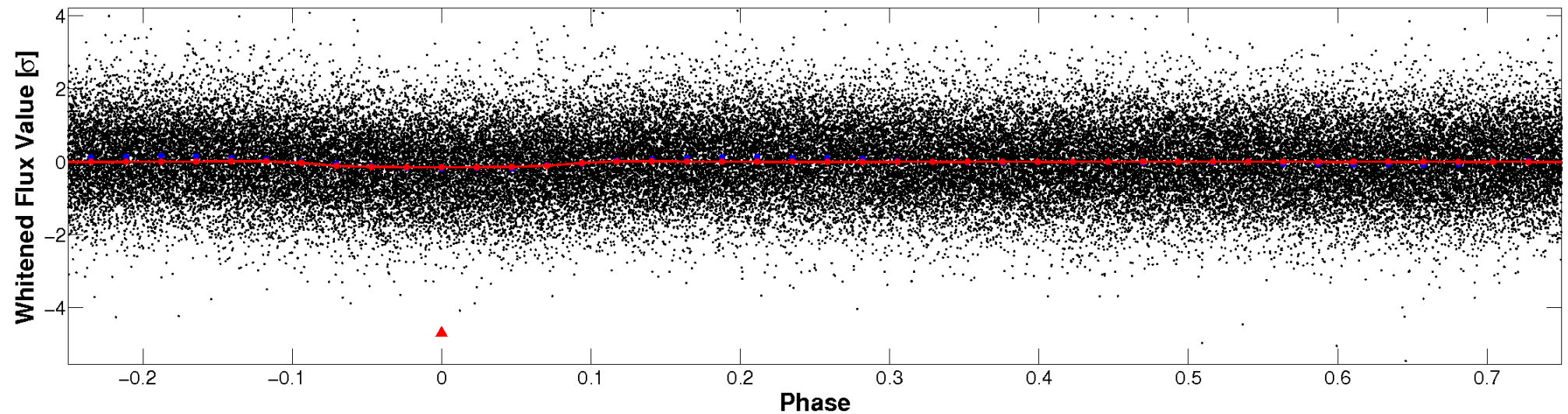


# Non-Whitened Vs. Whitened Light Curve

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



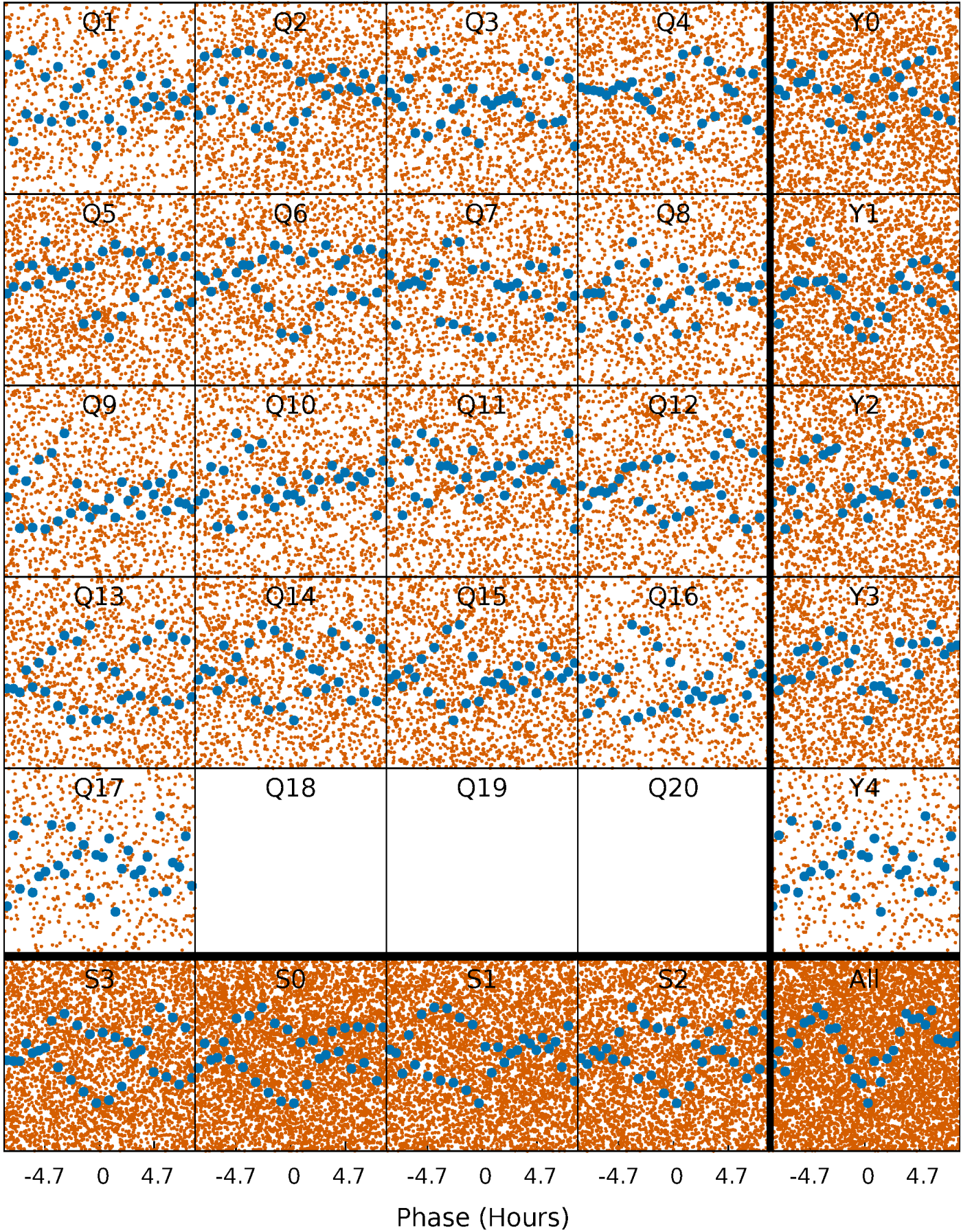
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

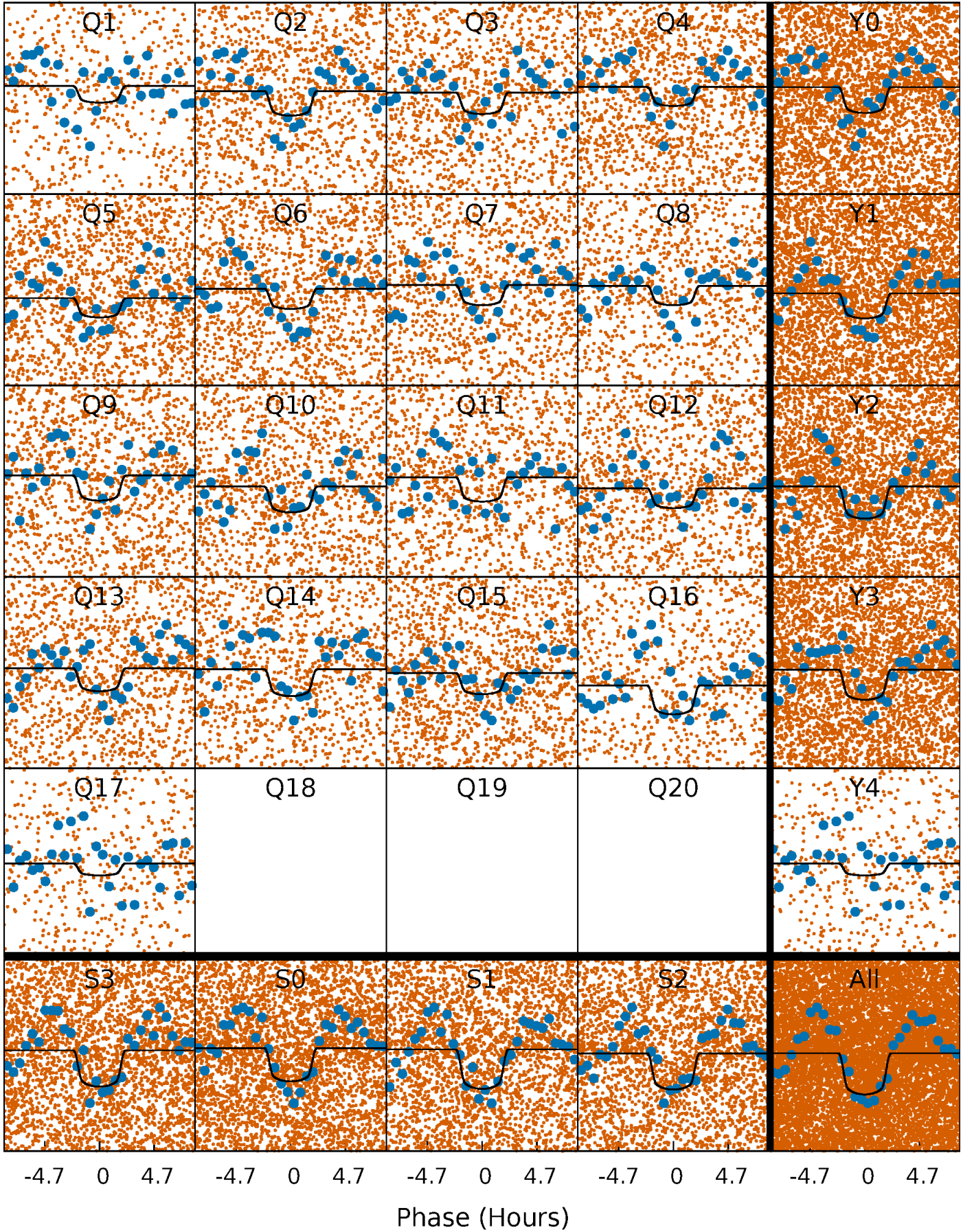
TCE 007118167-01 P= 0.870392 Days  $T_0=131.640091$  (BKJD)





# DV Quarter-Phased Transit Curves

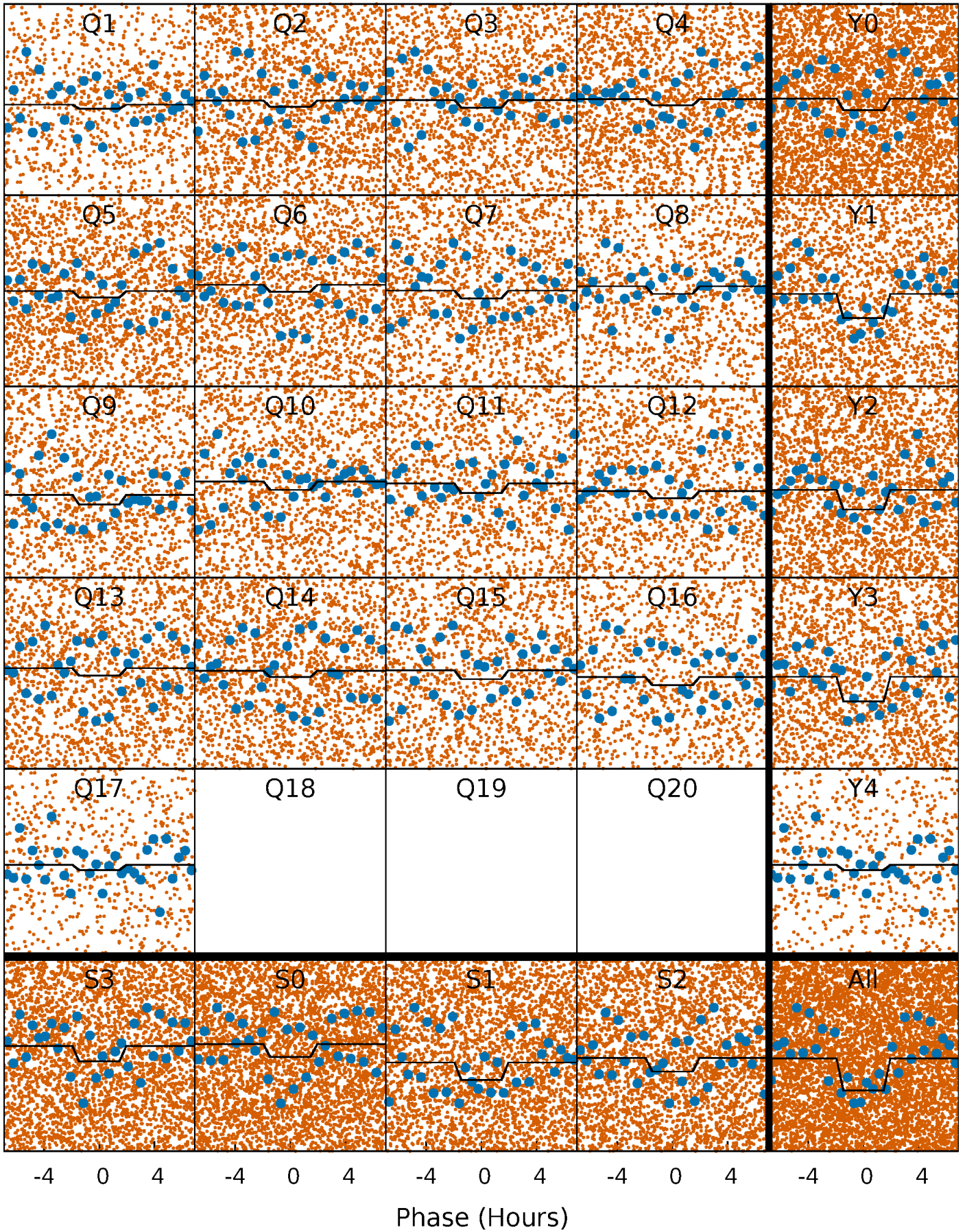
TCE 007118167-01 P= 0.870392 Days  $T_0=131.640091$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

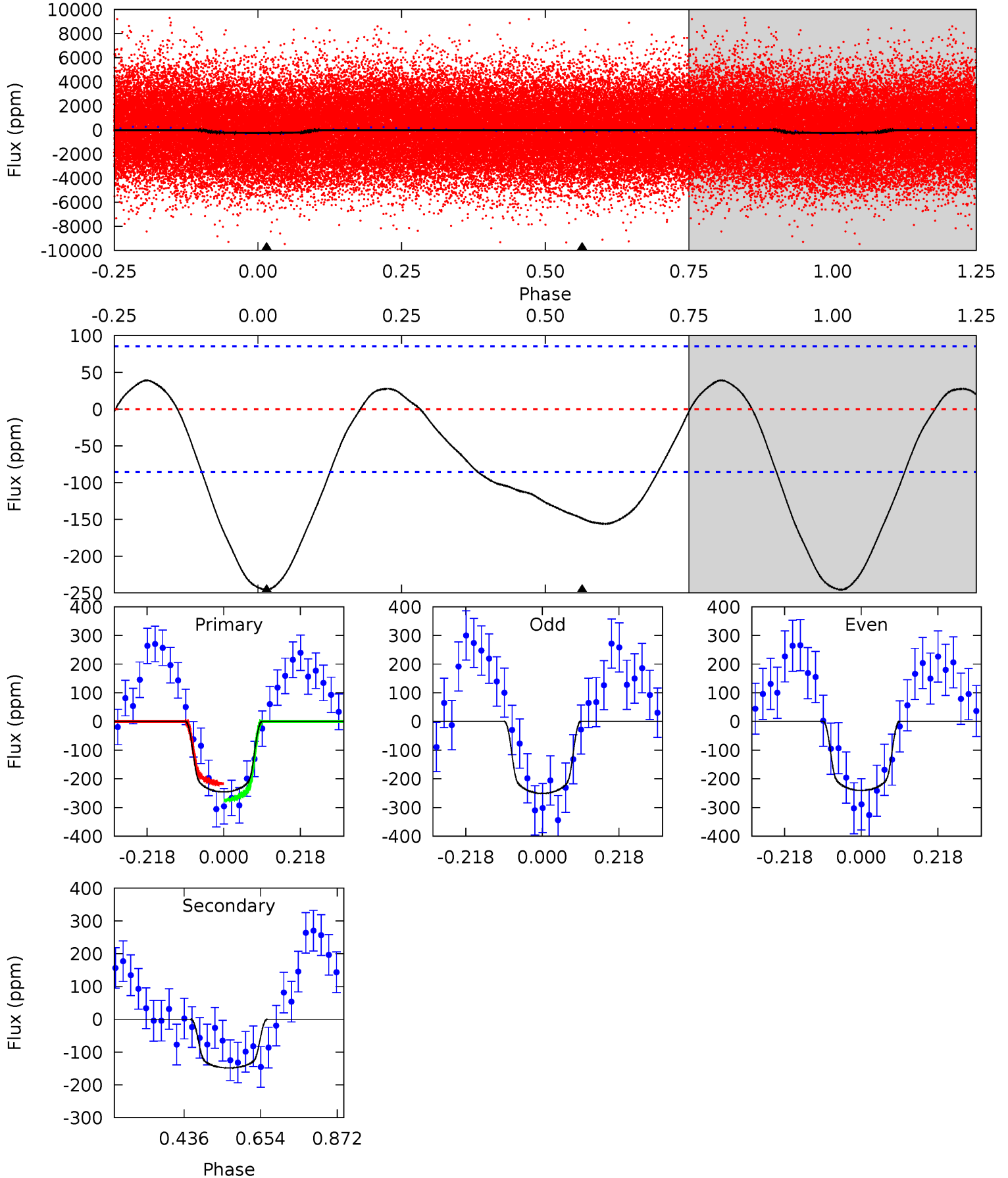
TCE 007118167-01 P= 0.870441 Days  $T_0=131.616374$  (BKJD)



# DV Model-Shift Uniqueness Test

007118167-01, P = 0.870392 Days, E = 130.769699 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
12.7	7.65	0	0	4.40	1.23	1.45	12.7	12.7	7.65	7.65	0.26	1.25	0.14	1.48

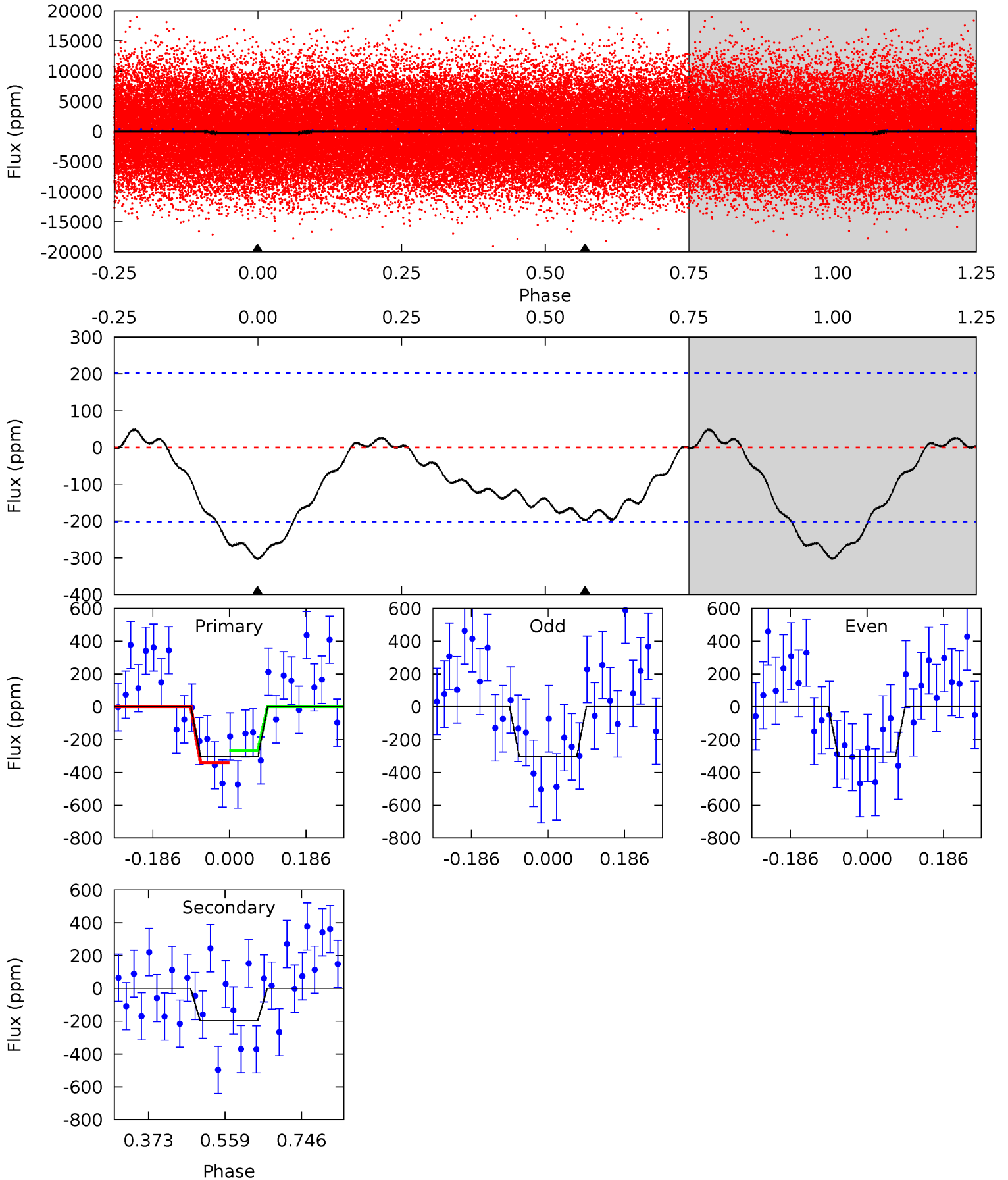




# Alt Model-Shift Uniqueness Test

007118167-01, P = 0.870441 Days, E = 130.745933 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
6.67	4.35	0	0	4.43	1.32	1.08	6.67	6.67	4.35	4.35	0.03	0.98	0.14	0.84



### Stellar Parameters For KIC 007118167

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8329^{+237}_{-326}$	$3.664^{+0.558}_{-0.093}$	$-0.500^{+0.200}_{-0.300}$	$3.392^{+0.578}_{-1.851}$	$1.935^{+0.137}_{-0.479}$	$0.070^{+0.453}_{-0.021}$
	+3%/-4%	+15%/-3%	+40%/-60%	+17%/-55%	+7%/-25%	+649%/-30%
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 007118167-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-149 \pm 19$	$5.33^{+2.05}_{-1.85}$	$6058^{+489}_{-829}$	$6461^{+1381}_{-1095}$	$1.391^{+1.749}_{-0.664}$
Alt.	$-198 \pm 45$	$5.48^{+2.09}_{-2.07}$	$6072^{+493}_{-986}$	$6982^{+1845}_{-1166}$	$1.768^{+2.814}_{-0.846}$

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

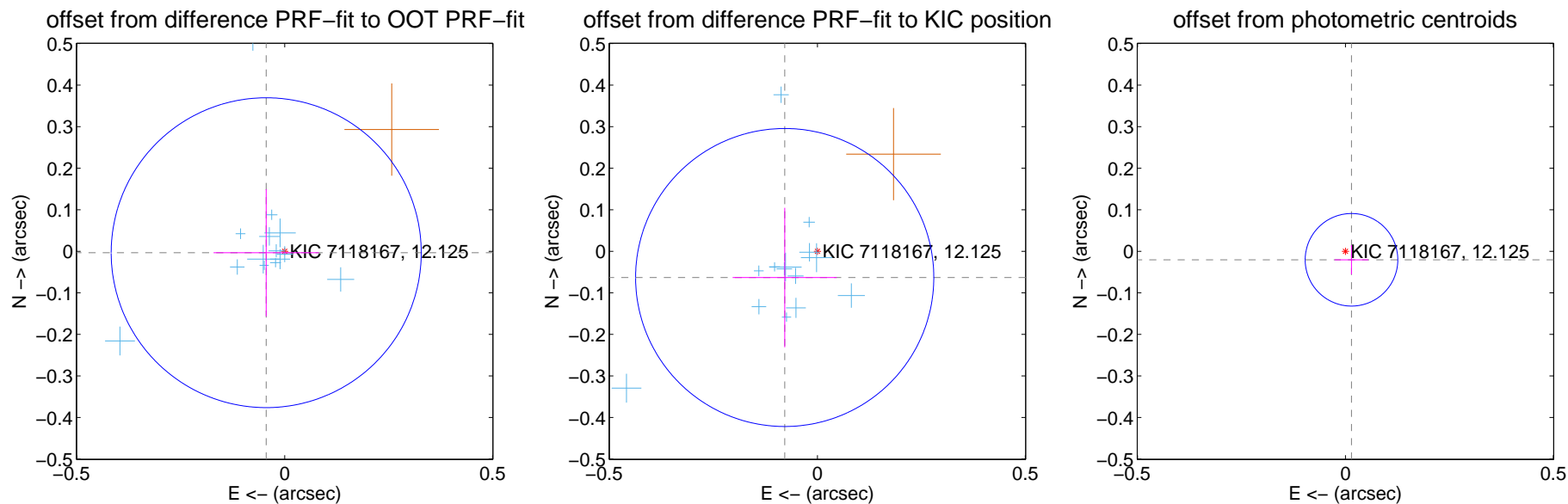
## DV Centroid Data

Supplemental centroid analysis for 007118167-01. Kepler magnitude: 12.12. Transit SNR 13.63

There are 14 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

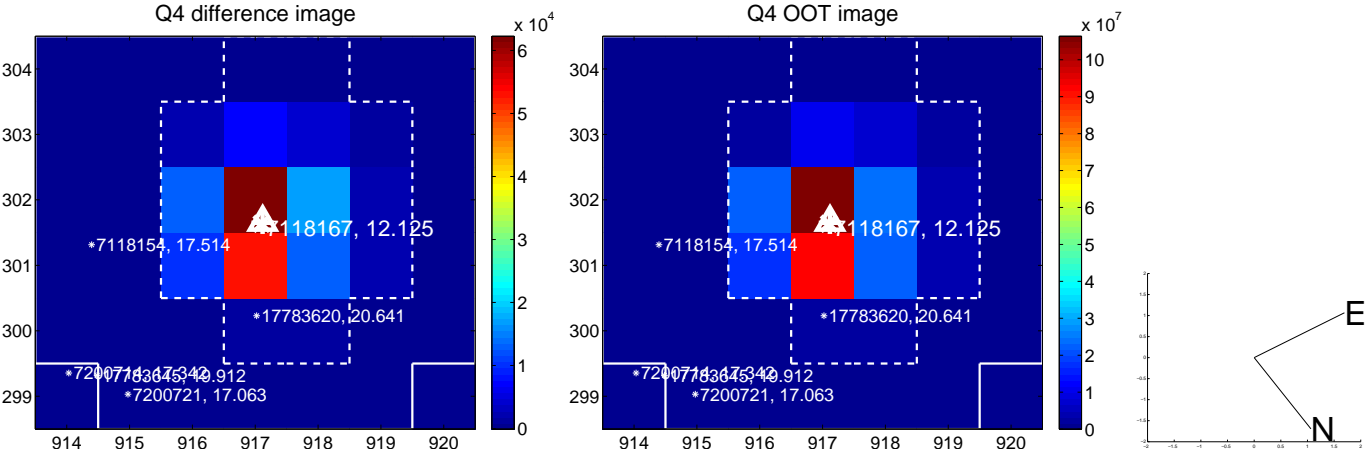
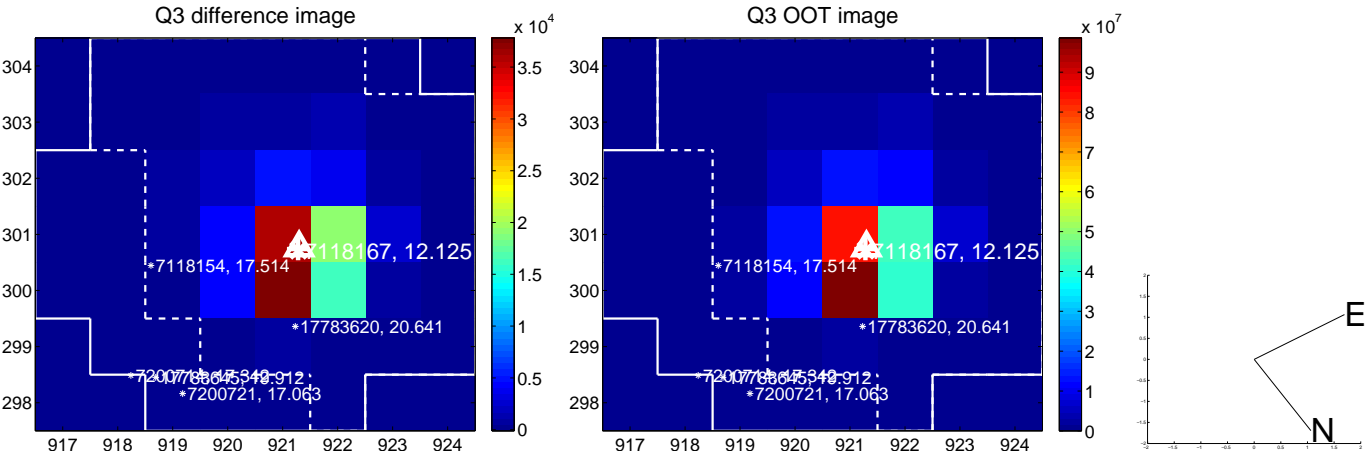
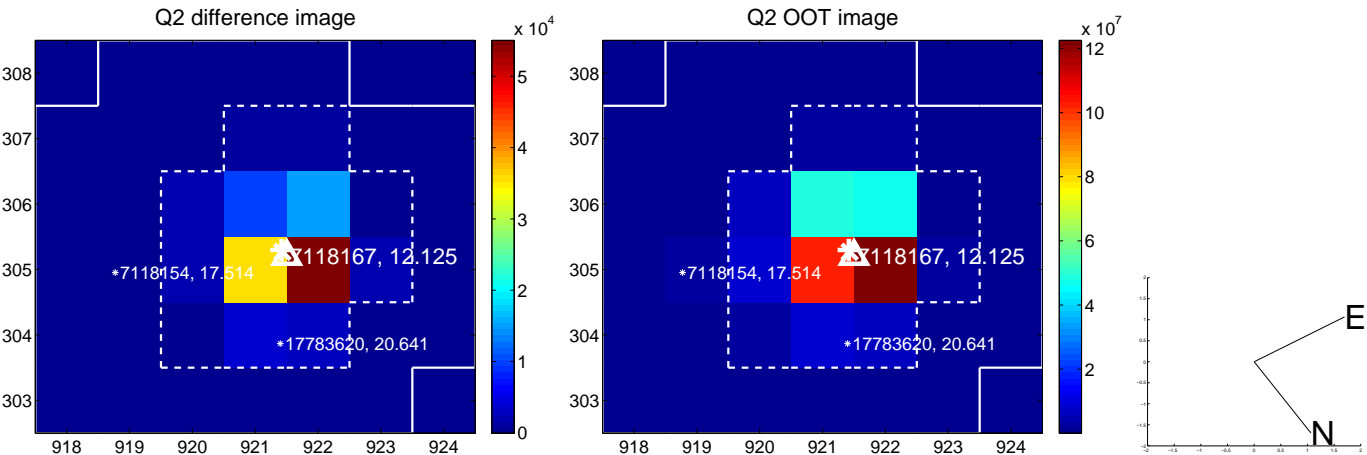
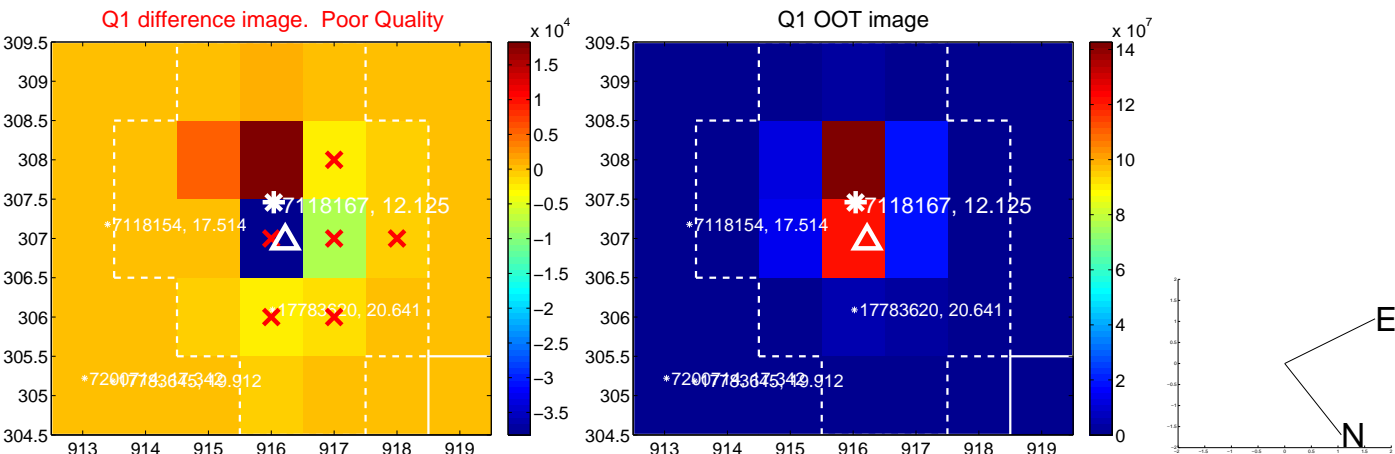
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.044 \pm 0.124$	0.36	$0.044 \pm 0.127$	$-0.003 \pm 0.153$
PRF-fit source offset from KIC position	$0.101 \pm 0.120$	0.84	$0.079 \pm 0.125$	$-0.063 \pm 0.168$
photometric centroid source offset	$0.03 \pm 0.04$	0.68	$-0.01 \pm 0.04$	$-0.02 \pm 0.04$



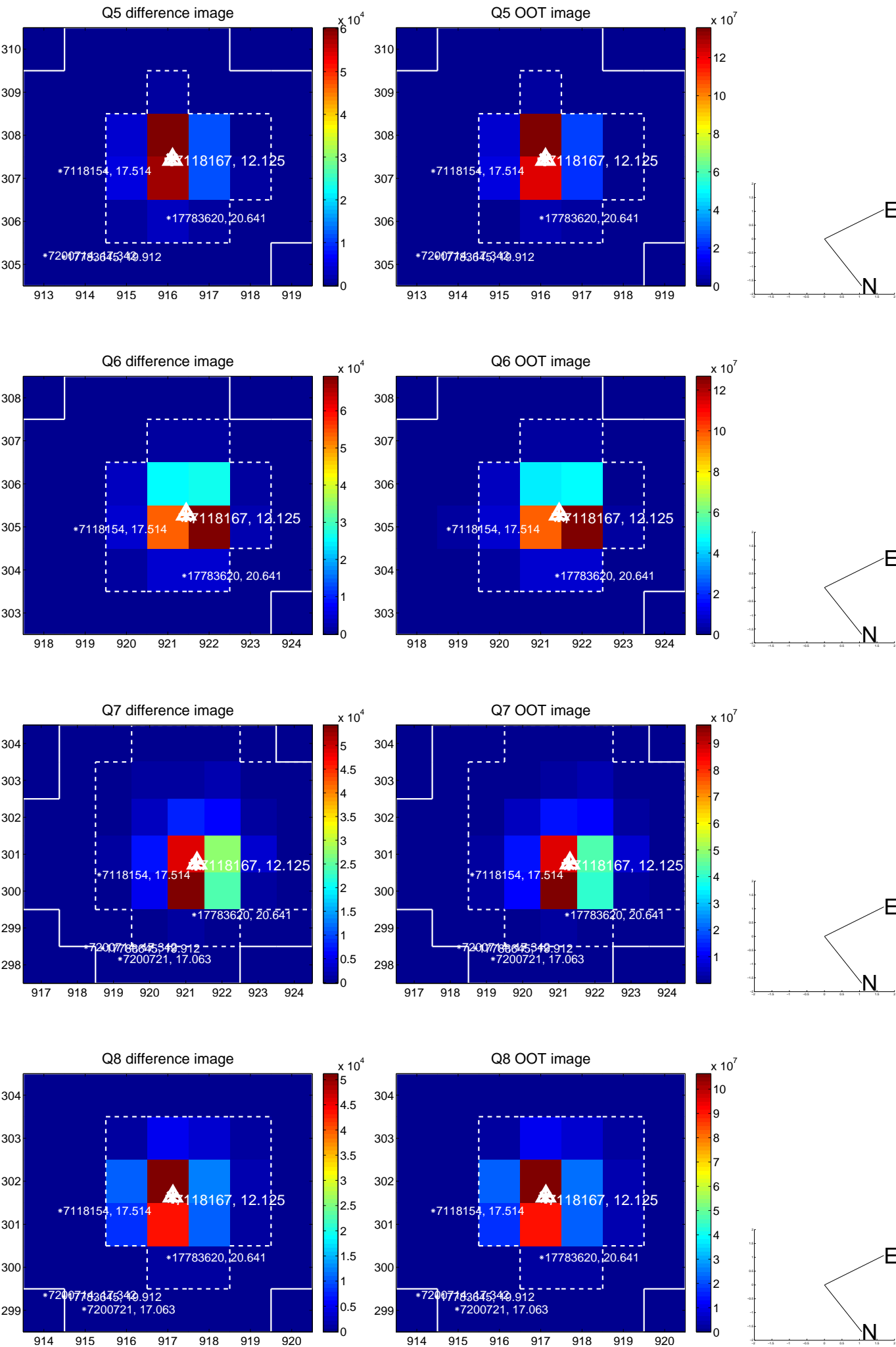
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



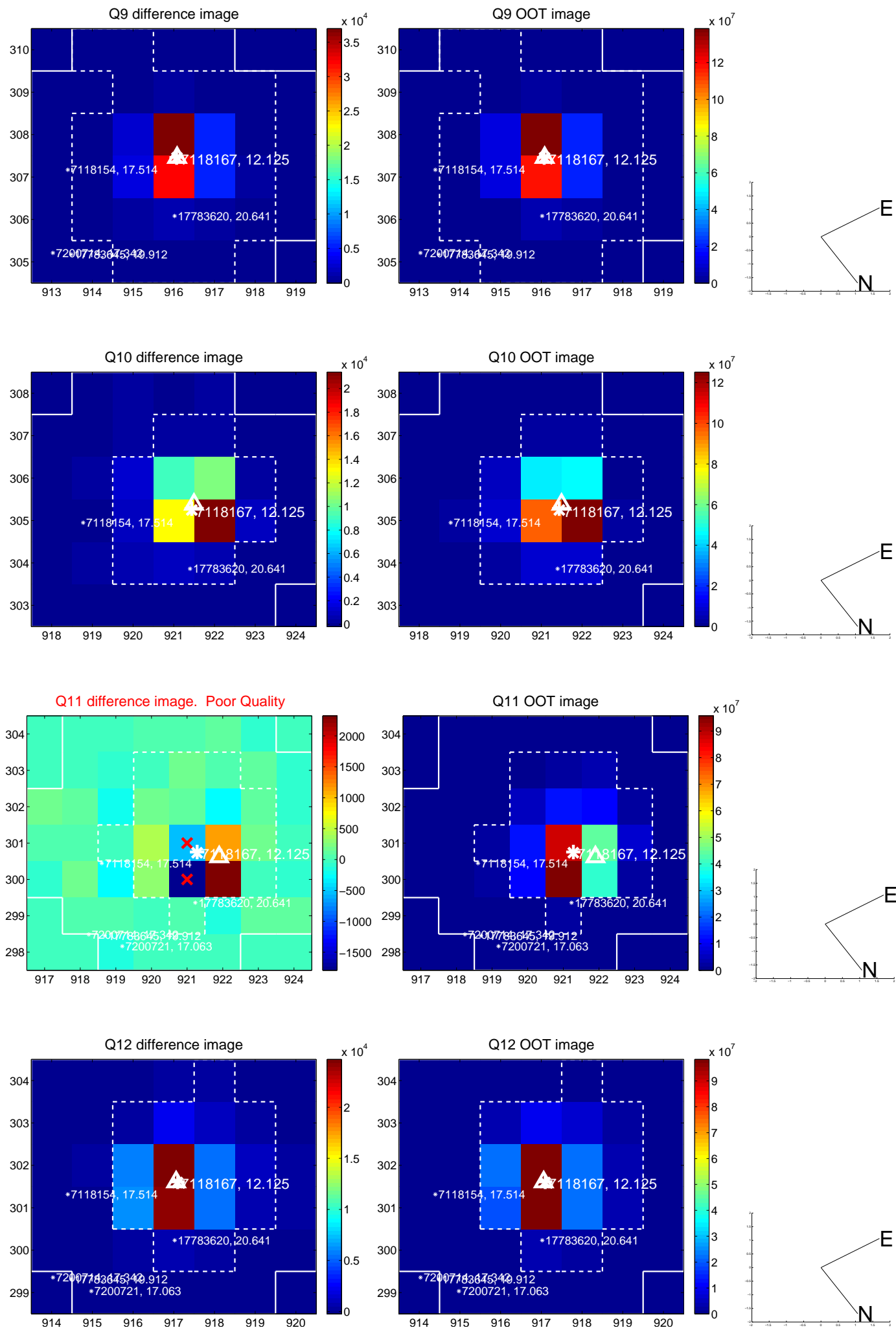
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

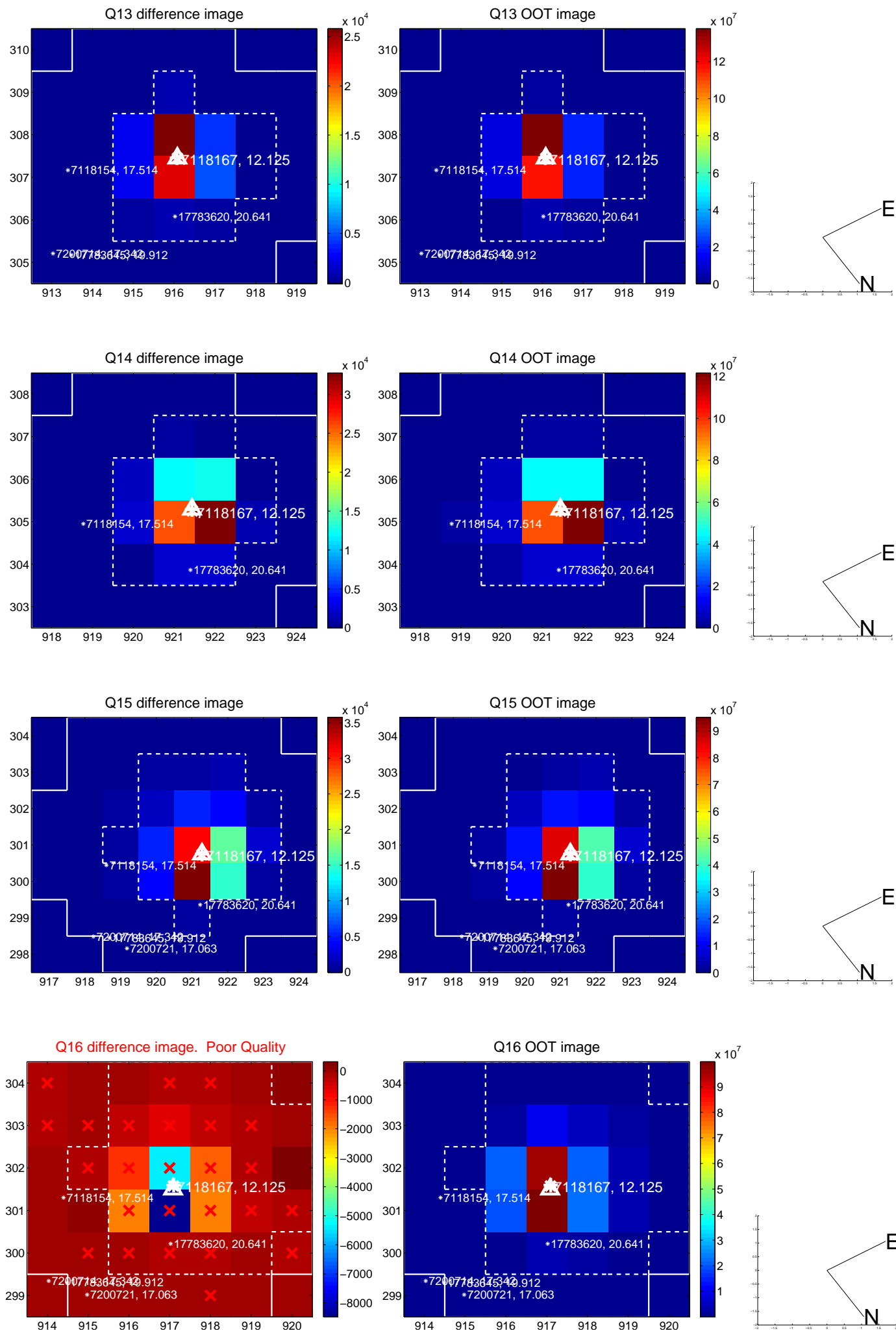


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

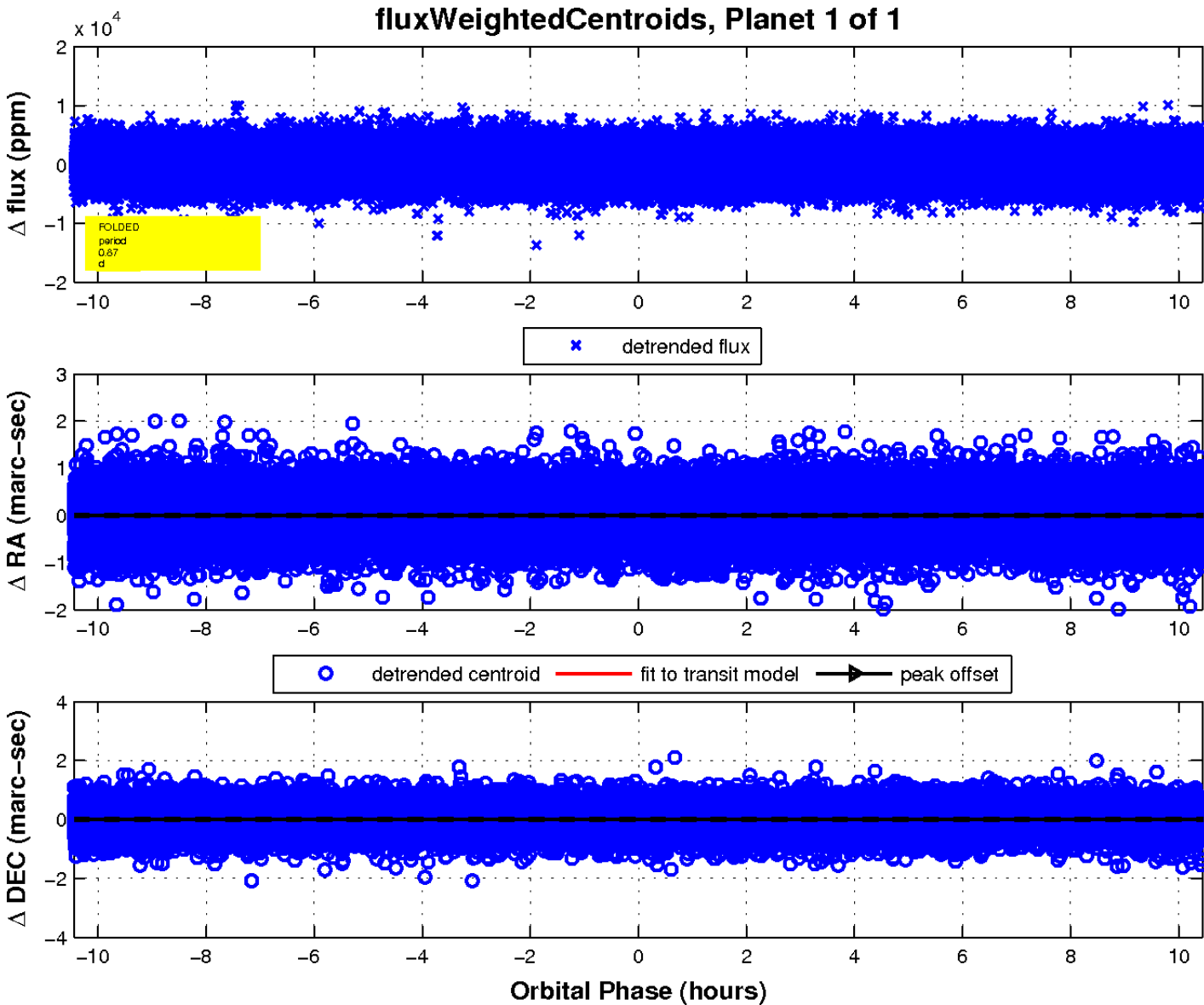
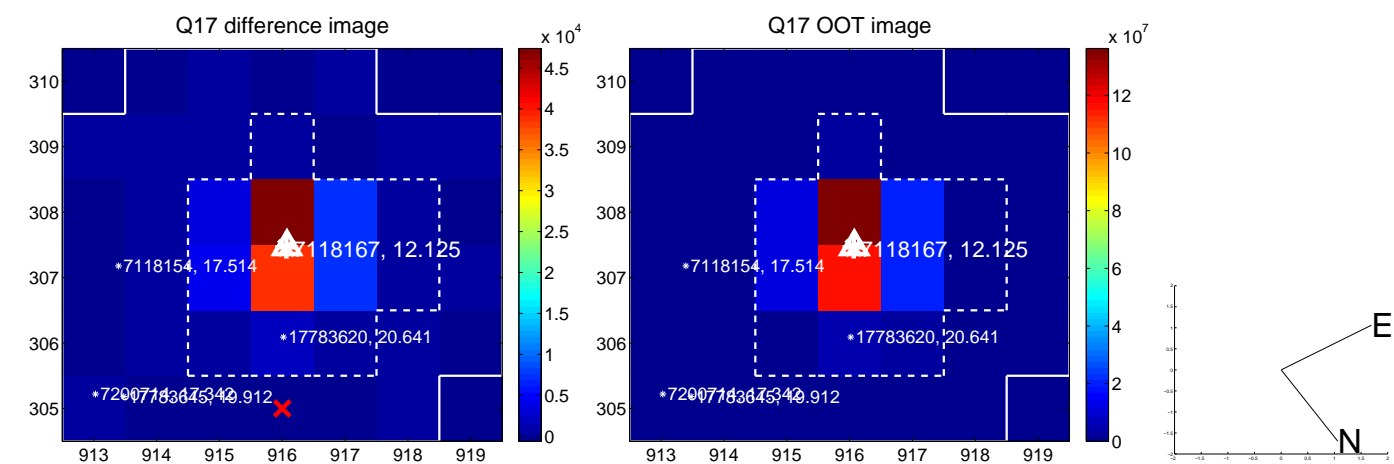




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

