

# KIC 009471419

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009471419-01	OBS	No	0.610341	131.681435	17.4	7.324	8.3	11.7	1.68	7291	0.83	28432.01

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009471419-01	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.

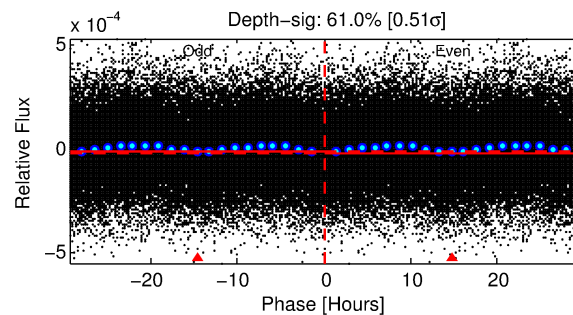
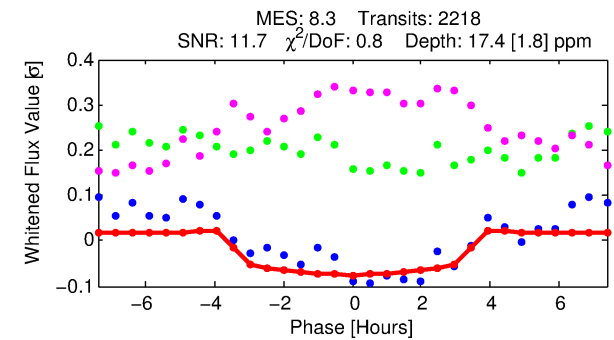
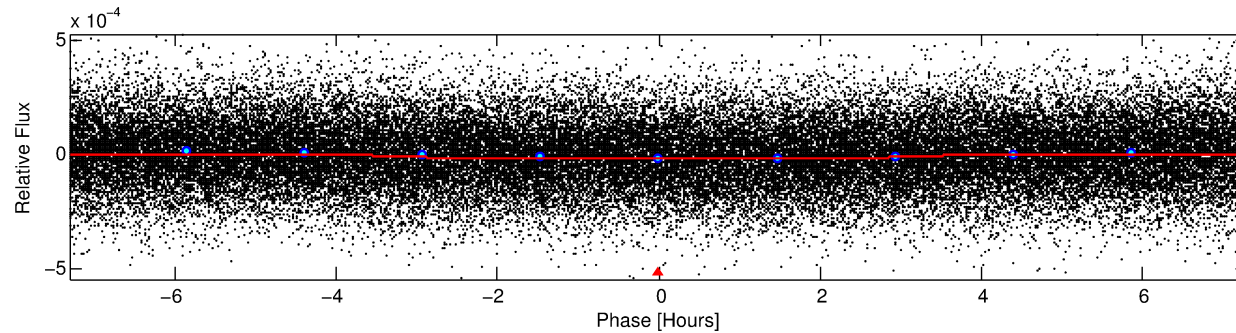
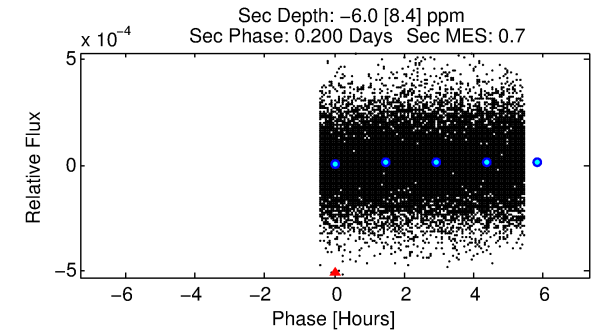
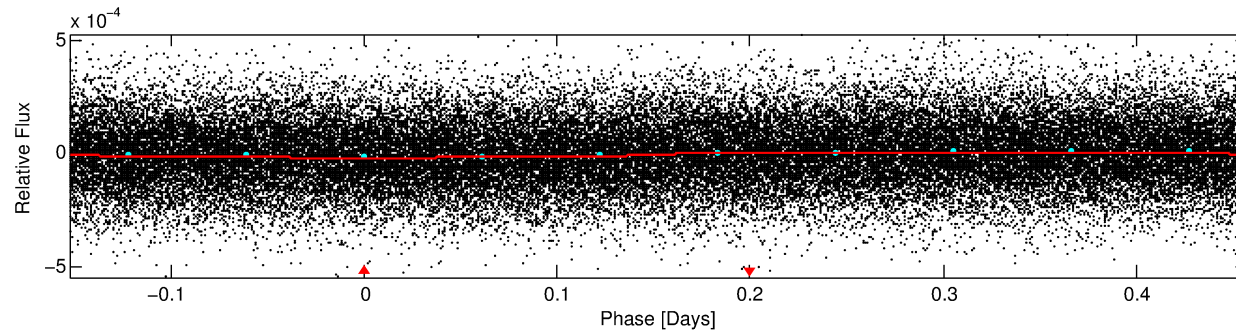
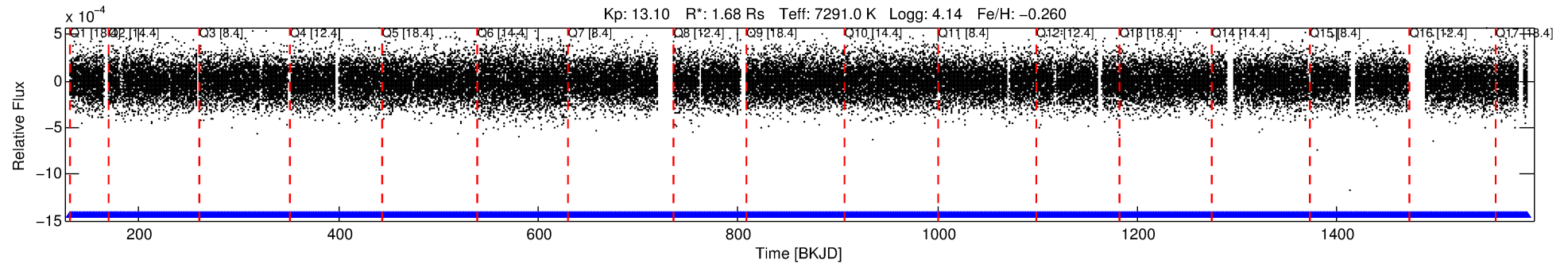
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009471419-01

No Significant Match Found

# DV One-Page Summary

KIC: 9471419 Candidate: 1 of 1 Period: 0.610 d



## DV Fit Results:

Period = 0.61034 [0.00001] d  
Epoch = 131.6814 [0.0053] BKJD  
Rp/R\* = 0.0045 [0.0007]  
a/R\* = 1.00 [0.00]  
b = 0.93 [0.14]  
Seff = 28432.01 [11302.36]  
Teff = 3311 [329] K  
Rp = 0.83 [0.29] Re  
a = 0.0158 [0.0040] AU  
Ag = N/A  
Teffp = N/A

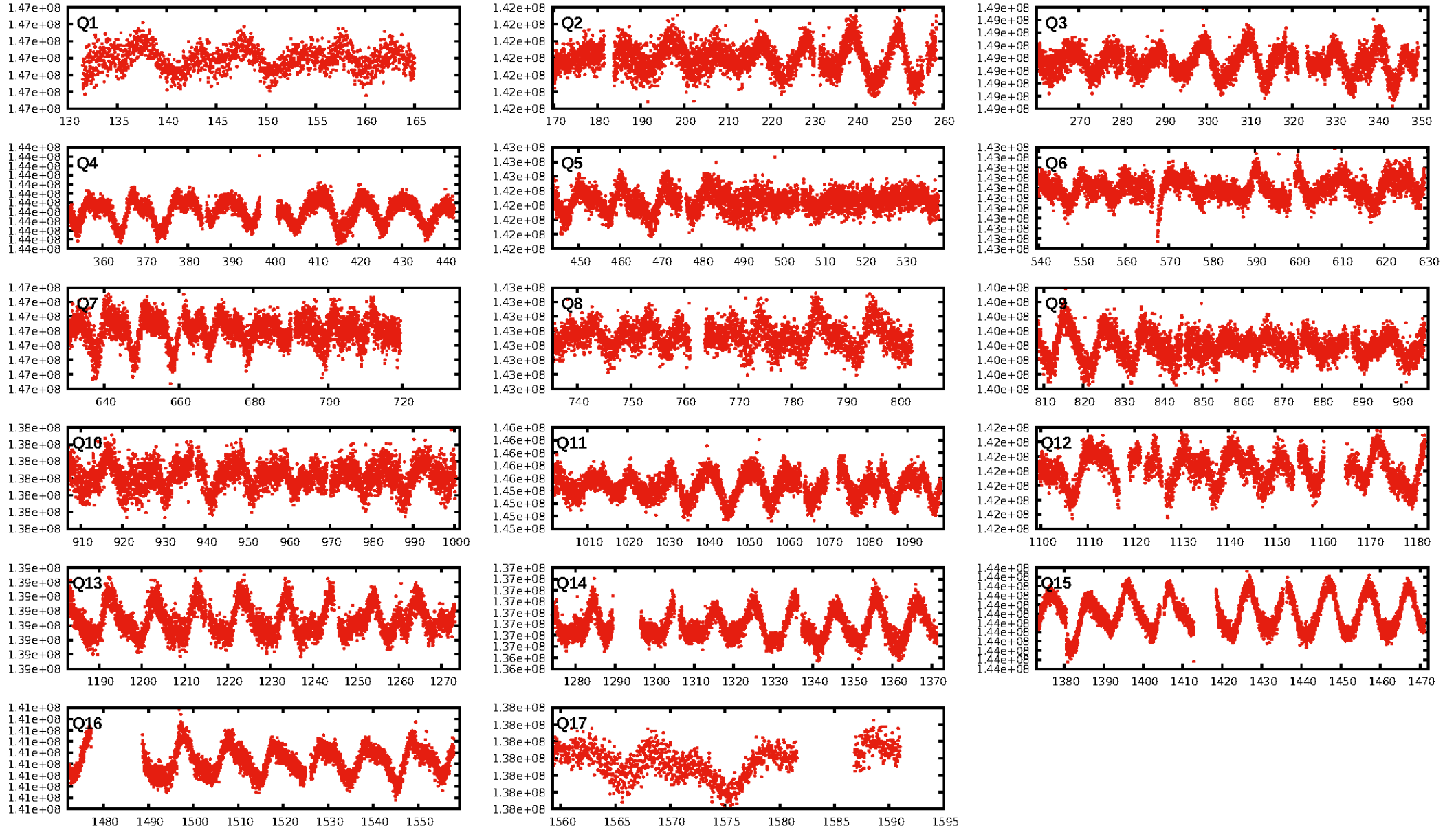
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2118/2118]  
GhostDiagnostic-chr: 2.879  
Centroid-sig: 0.0%  
Centroid-so: 1.886 arcsec [3.31σ]  
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 [17/17]

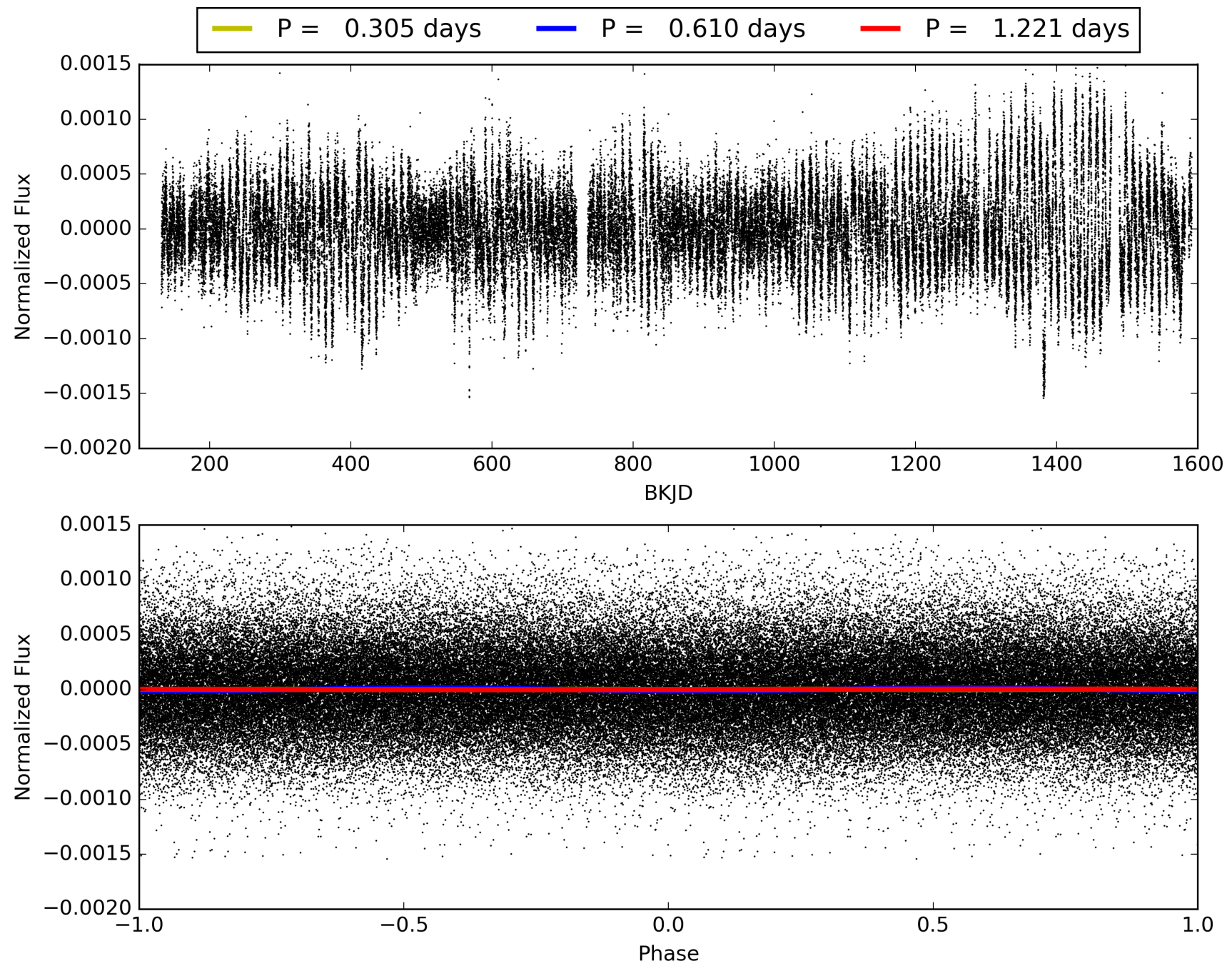
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:22:21 Z

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

# TCE 009471419-01, PDC Light Curves

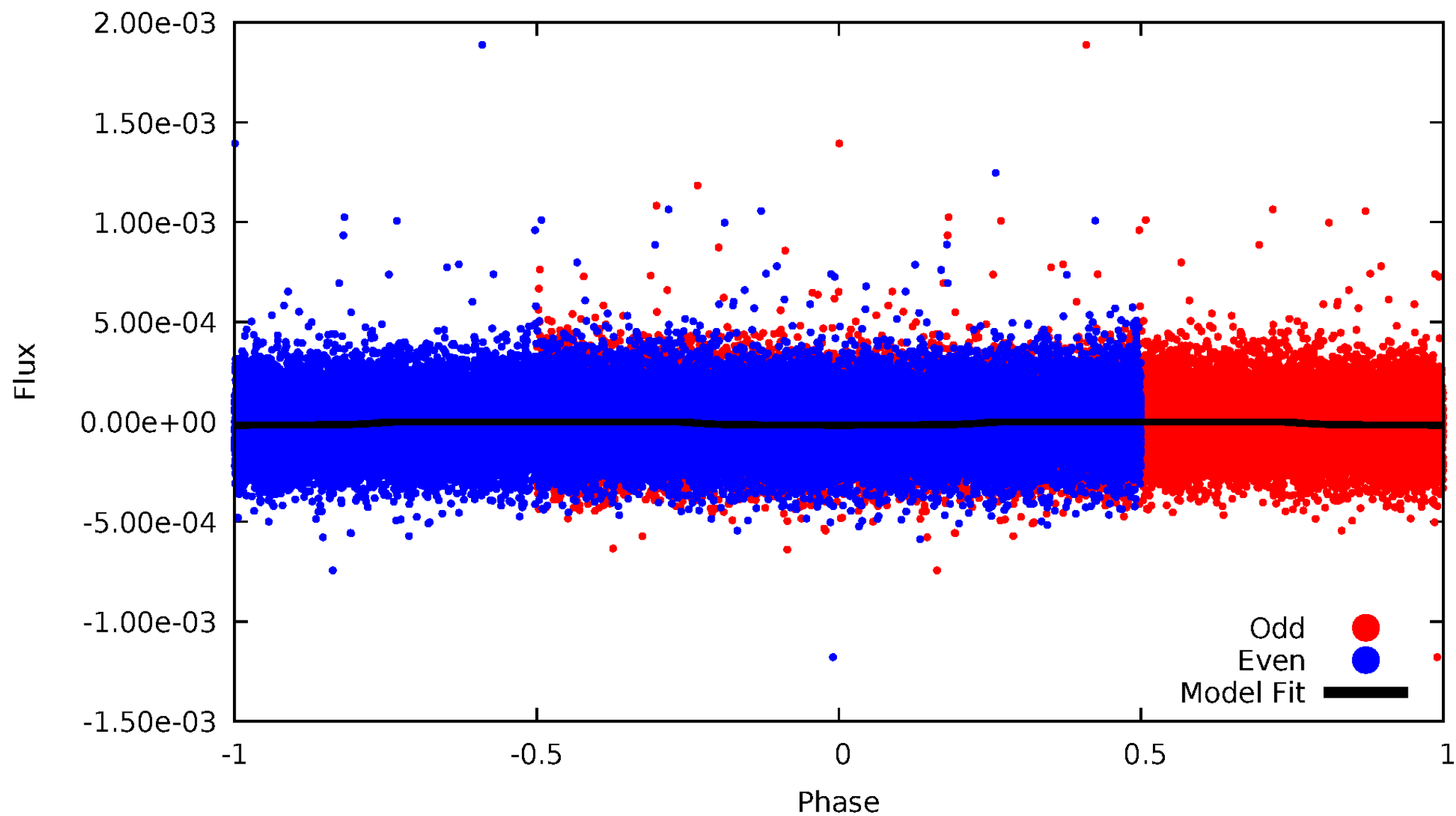


TCE 009471419-01



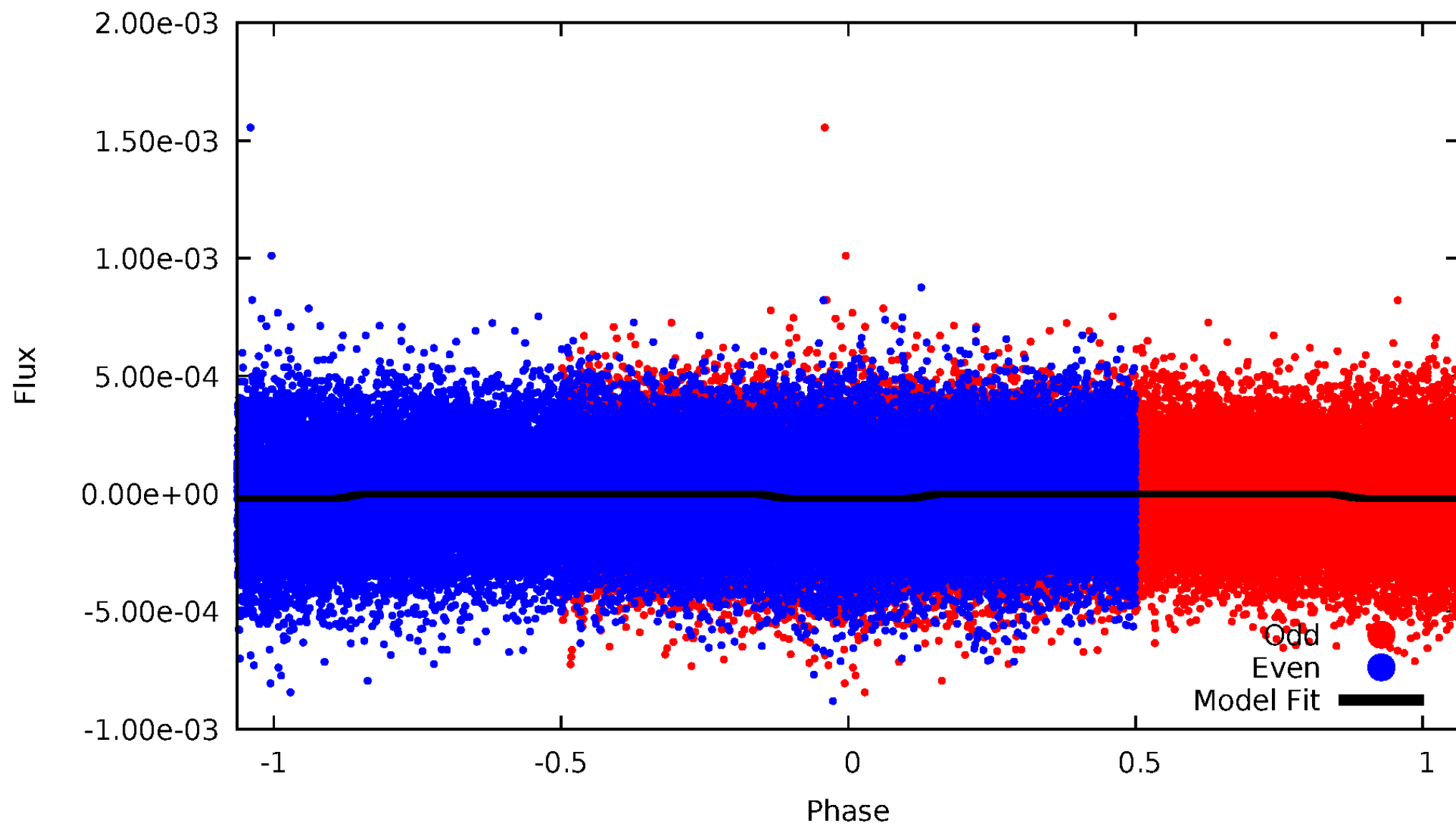
# DV Odd/Even

TCE 009471419-01



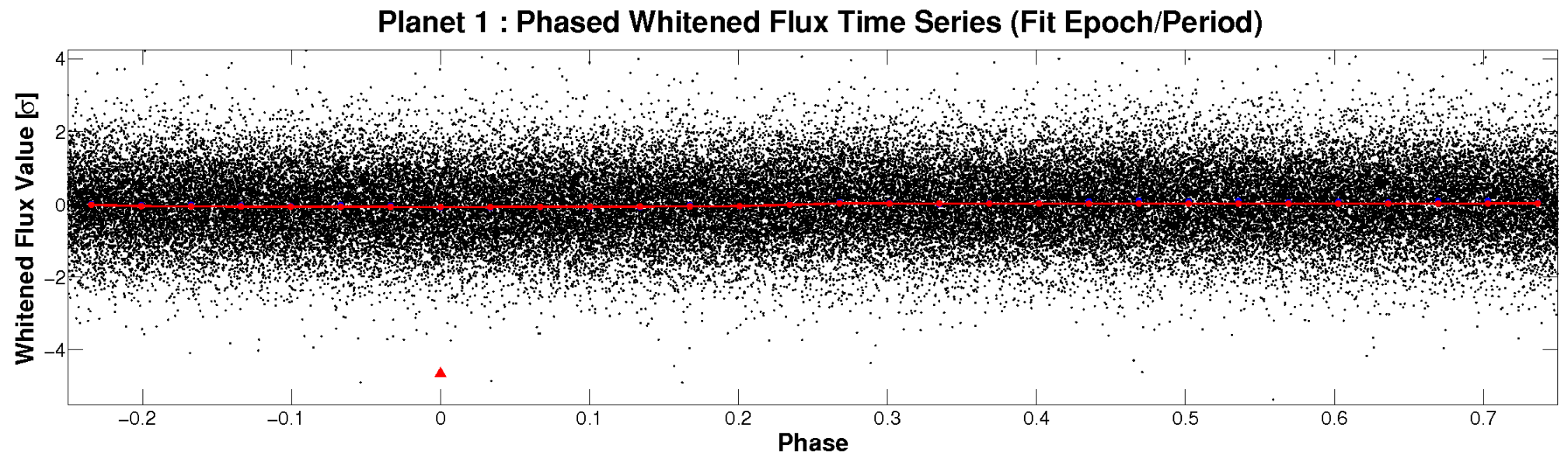
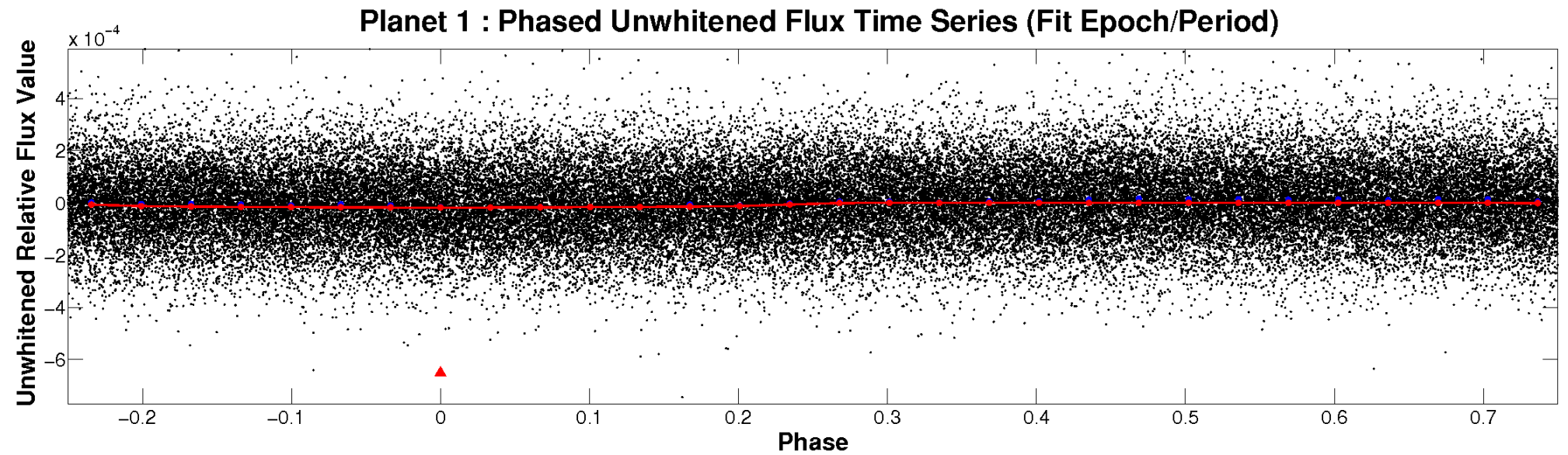
# ALT Odd/Even

TCE 009471419-01



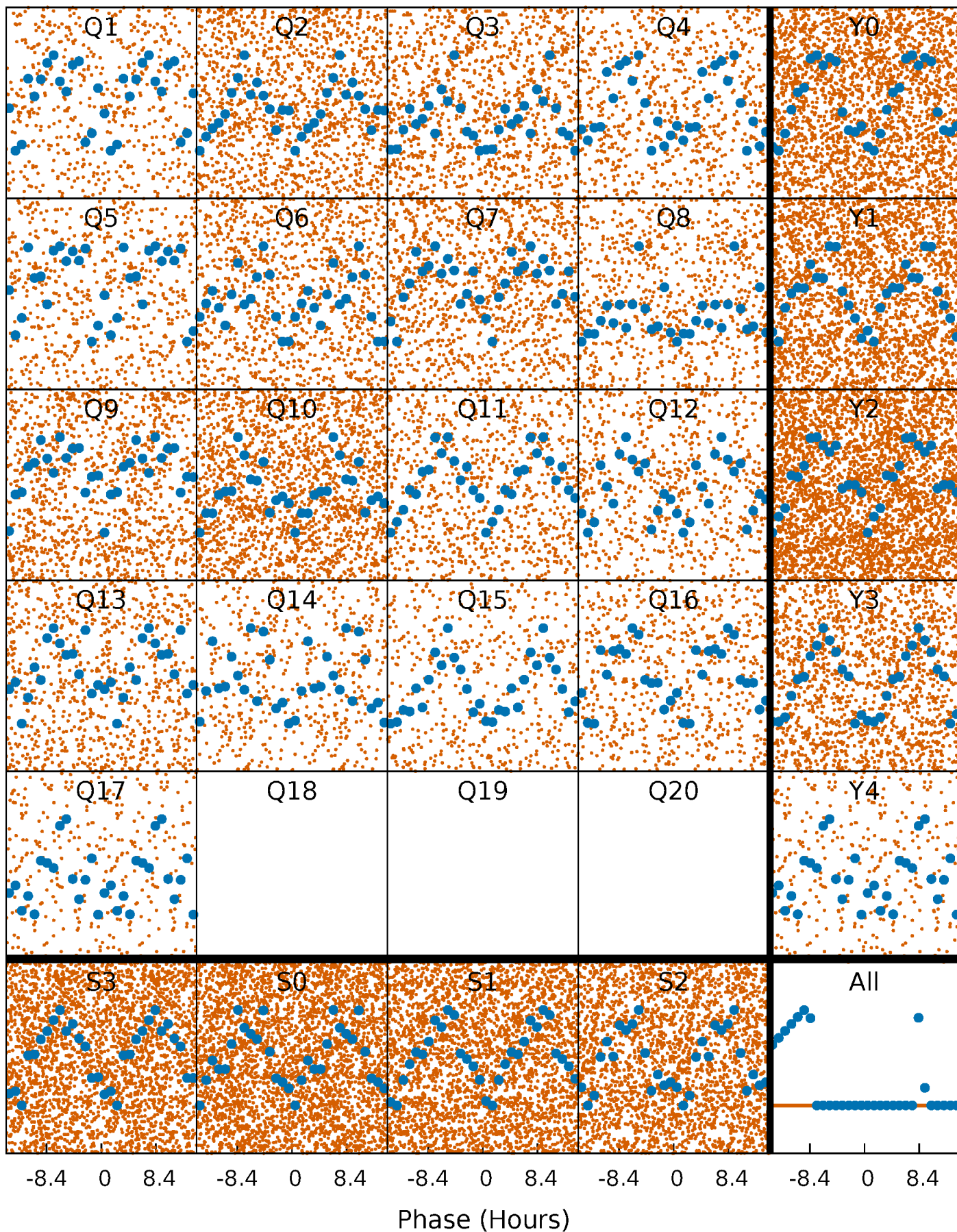


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

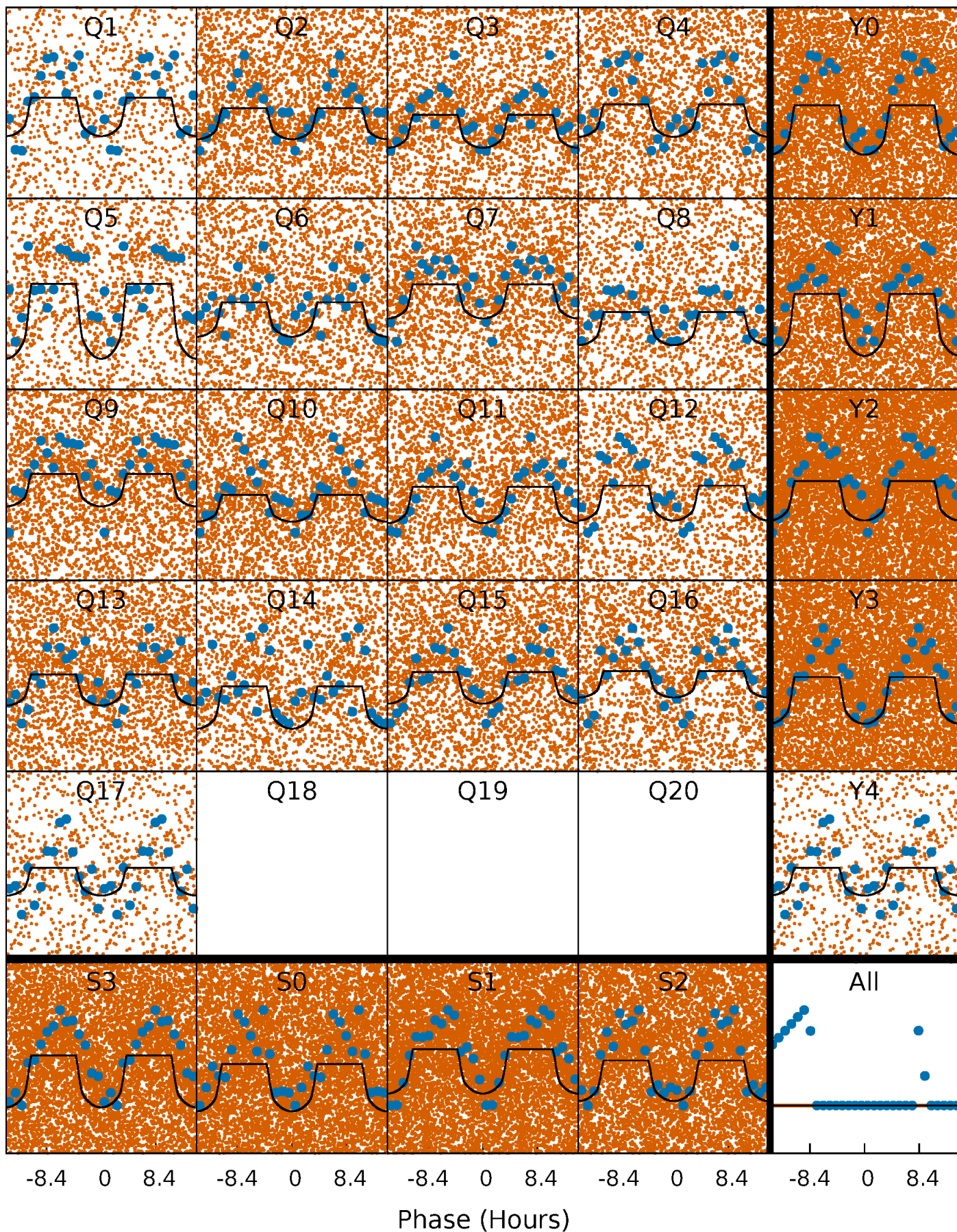
TCE 009471419-01 P= 0.610341 Days  $T_0=131.681435$  (BKJD)





# DV Quarter-Phased Transit Curves

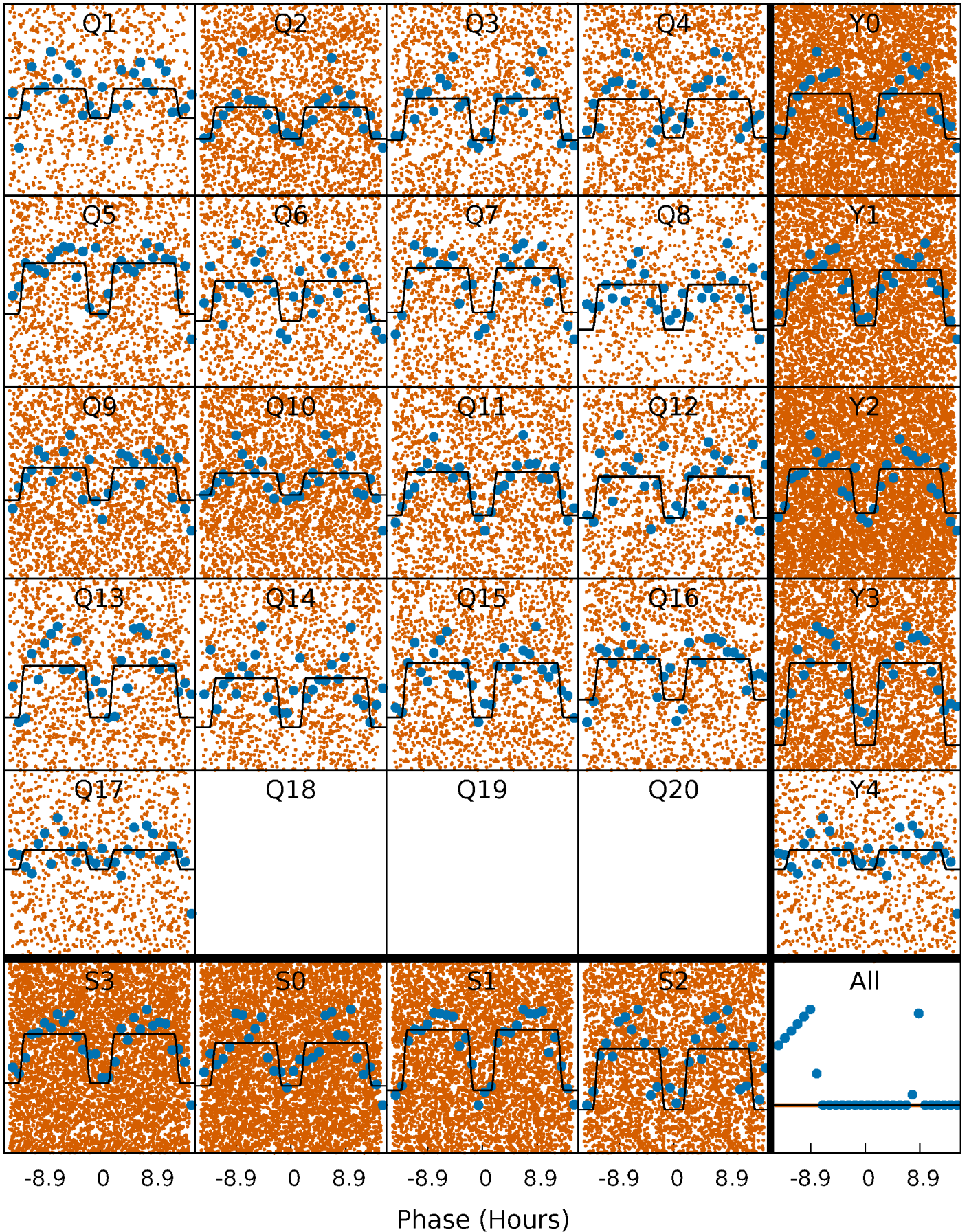
TCE 009471419-01 P= 0.610341 Days  $T_0=131.681435$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

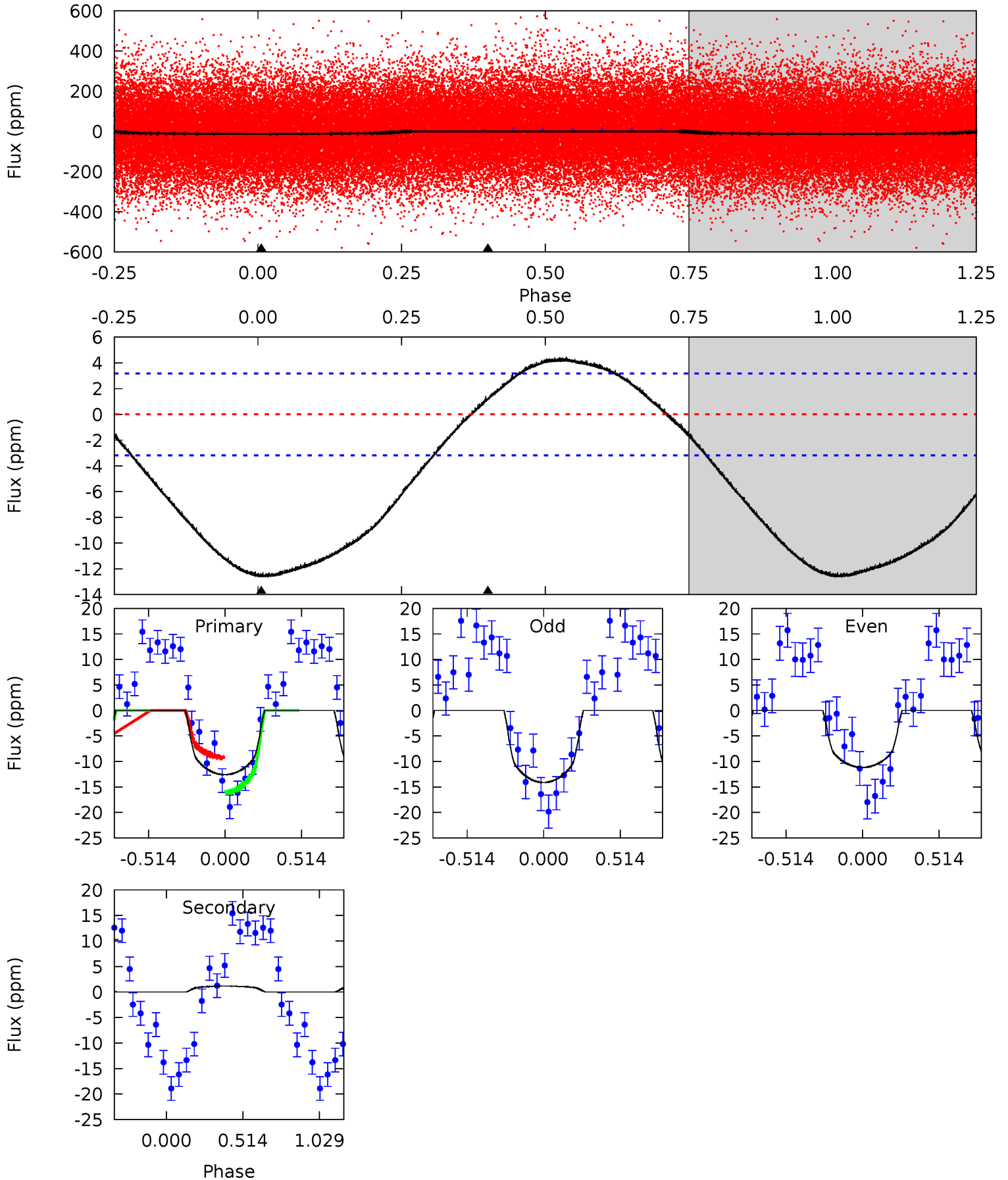
TCE 009471419-01 P= 0.610352 Days  $T_0=131.697953$  (BKJD)



# DV Model-Shift Uniqueness Test

009471419-01, P = 0.610341 Days, E = 131.071094 Days

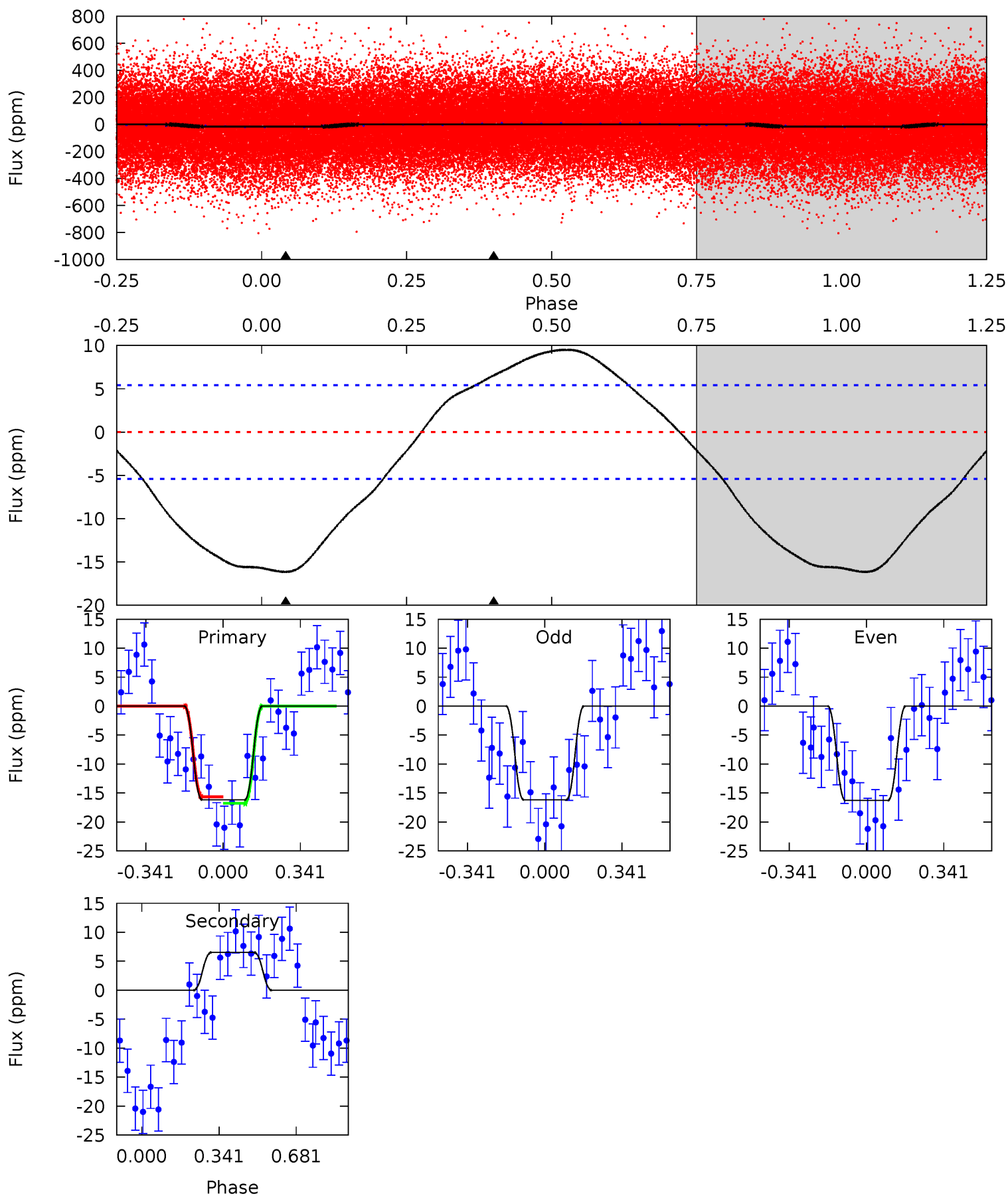
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	-1.54	0	0	4.21	0.65	1.61	16.7	16.7	-1.54	-1.54	1.96	0.98	0.26	4.55



# Alt Model-Shift Uniqueness Test

009471419-01, P = 0.610352 Days, E = 131.087601 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
12.8	-5.19	0	0	4.30	0.95	1.58	12.8	12.8	-5.19	-5.19	0.04	1.25	0.37	0.43





### Stellar Parameters For KIC 009471419

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7291^{+228}_{-330}$	$4.141^{+0.153}_{-0.187}$	$-0.260^{+0.250}_{-0.350}$	$1.678^{+0.521}_{-0.391}$	$1.420^{+0.204}_{-0.249}$	$0.424^{+0.385}_{-0.200}$
	+3%/-5%	+4%/-5%	+96%/-135%	+31%/-23%	+14%/-18%	+91%/-47%
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 009471419-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$1\pm 1$	$0.84^{+0.20}_{-0.17}$	$4639^{+403}_{-334}$	$-4525^{+332}_{-354}$	$-0.211^{+0.140}_{-0.209}$
Alt.	$7\pm 1$	$0.84^{+0.19}_{-0.17}$	$4632^{+377}_{-333}$	$-5692^{+369}_{-503}$	$-1.245^{+0.432}_{-0.752}$

$T_{max}$  = 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

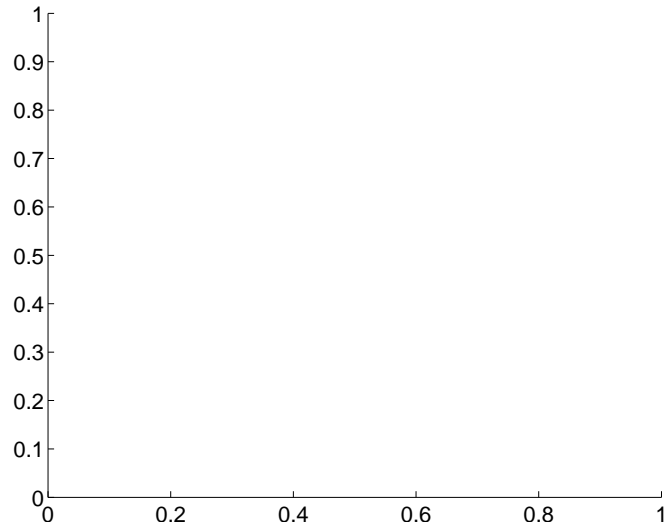
Supplemental centroid analysis for 009471419-01. Kepler magnitude: 13.10. Transit SNR 11.74

There are 0 quarters with good PRF difference image offsets

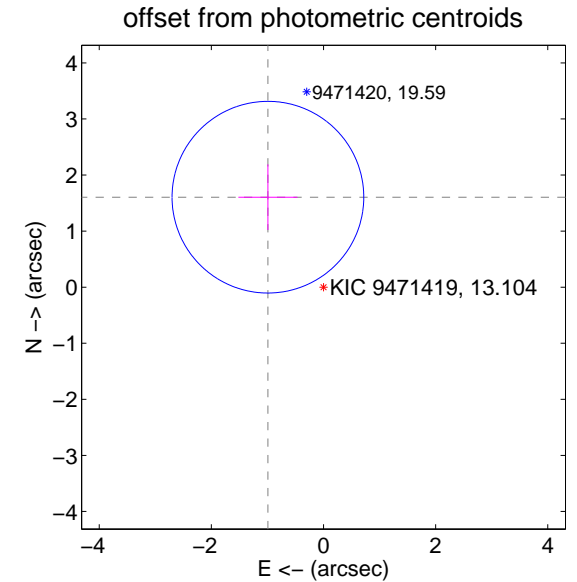
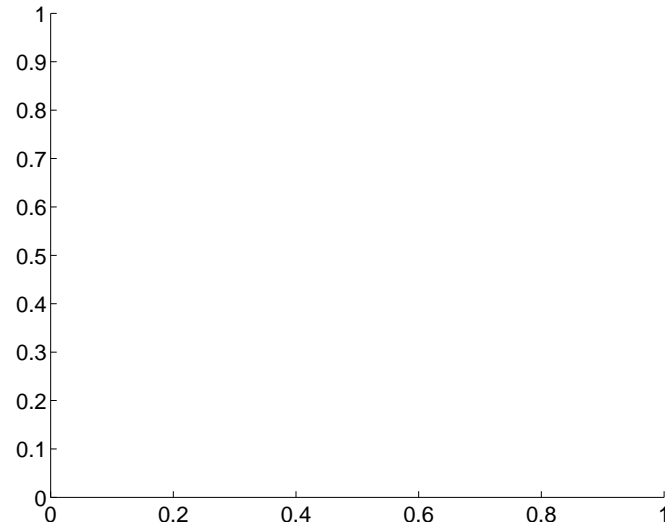
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	$1.89 \pm 0.57$	3.31	$0.99 \pm 0.53$	$1.60 \pm 0.59$

There is no PRF-fit offset from OOT-fit

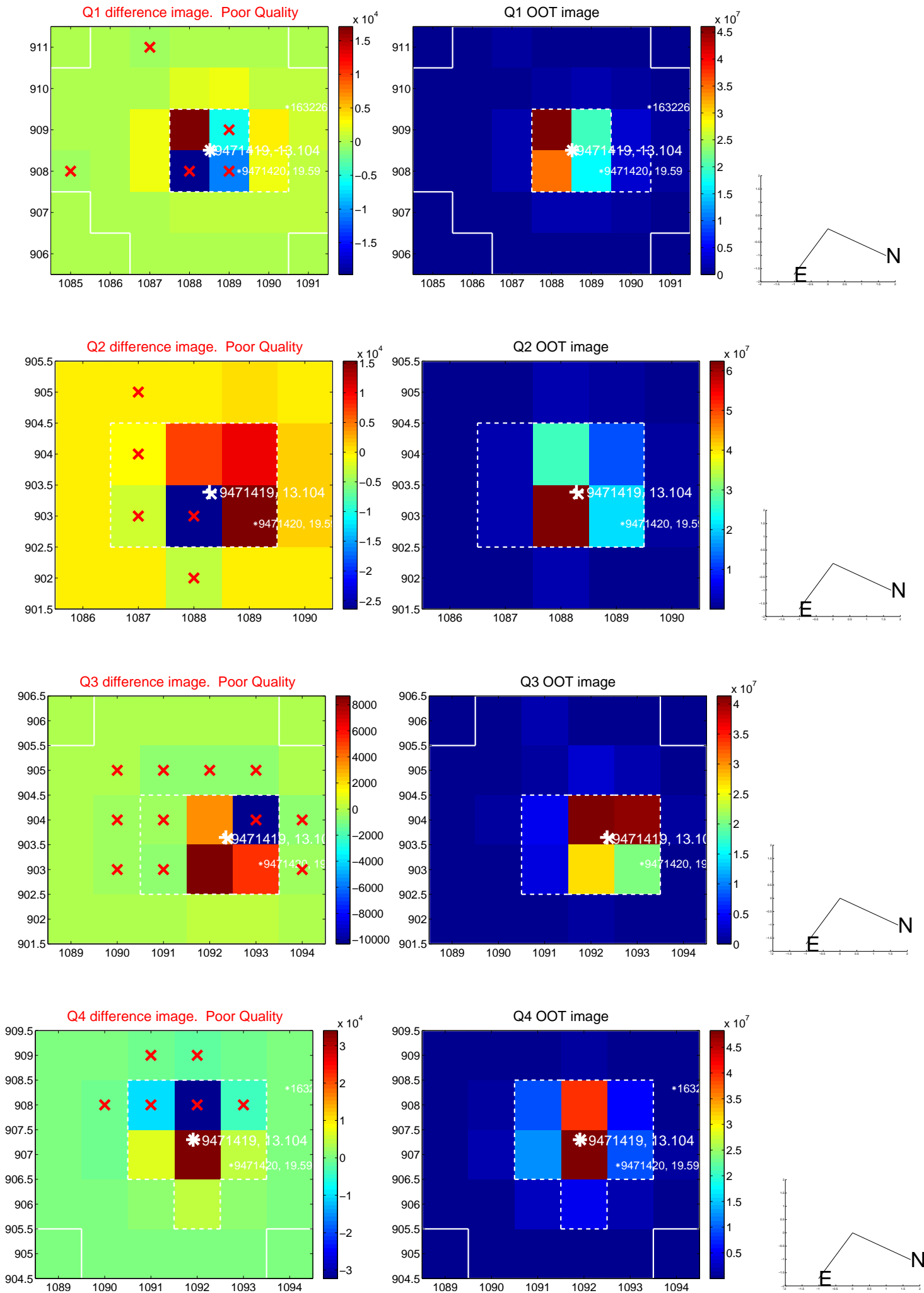


There is no PRF-fit offset from KIC

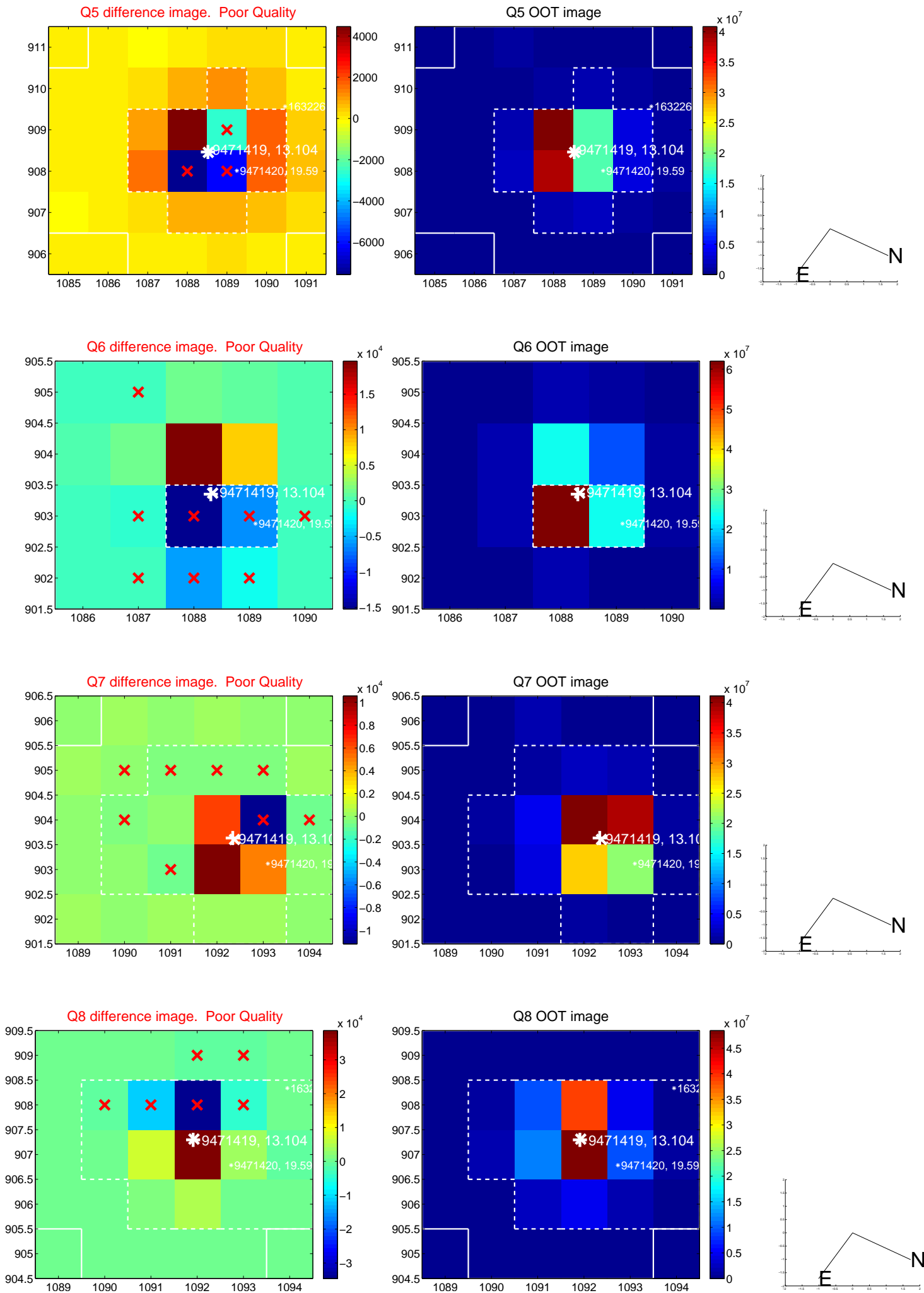


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

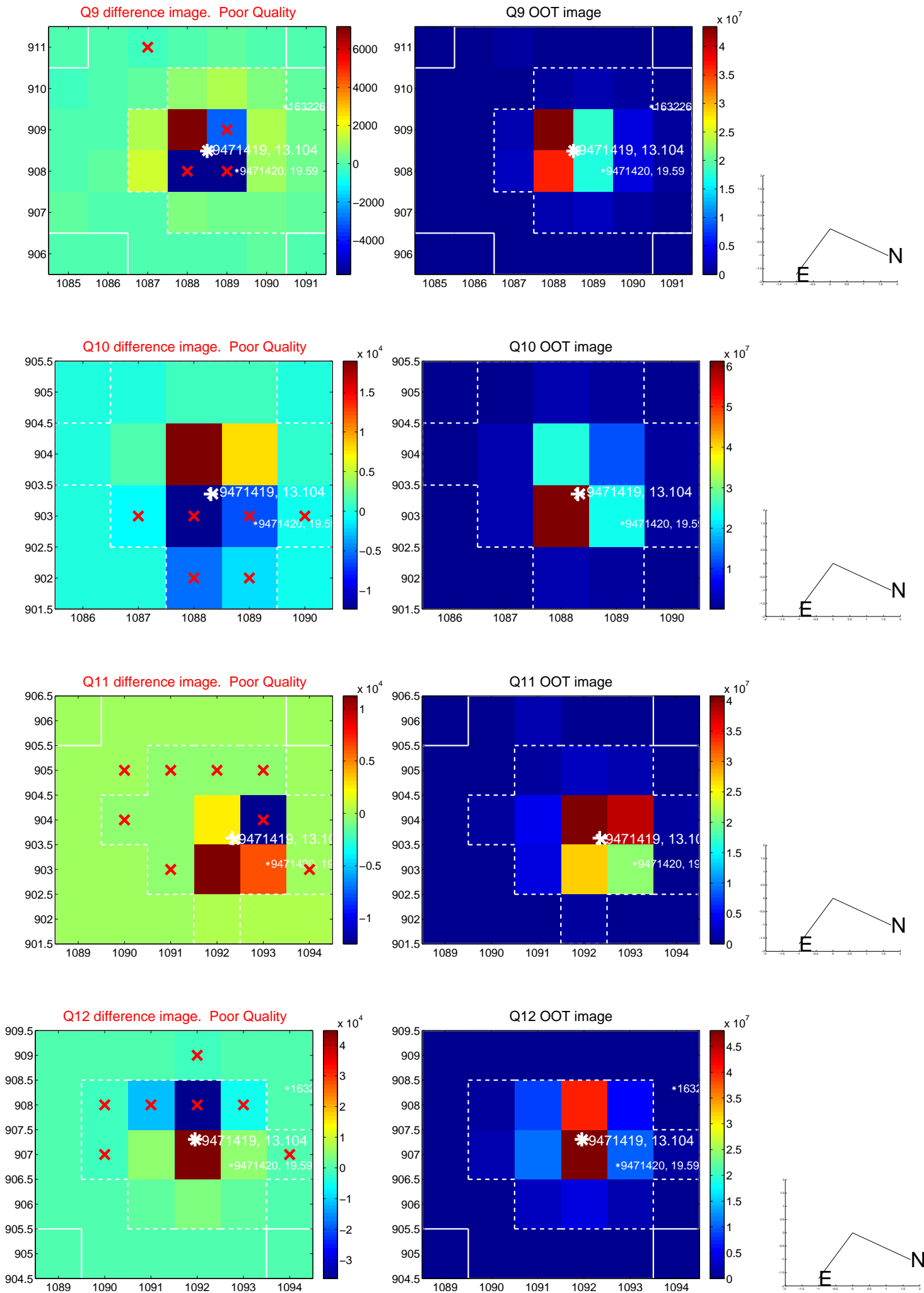


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

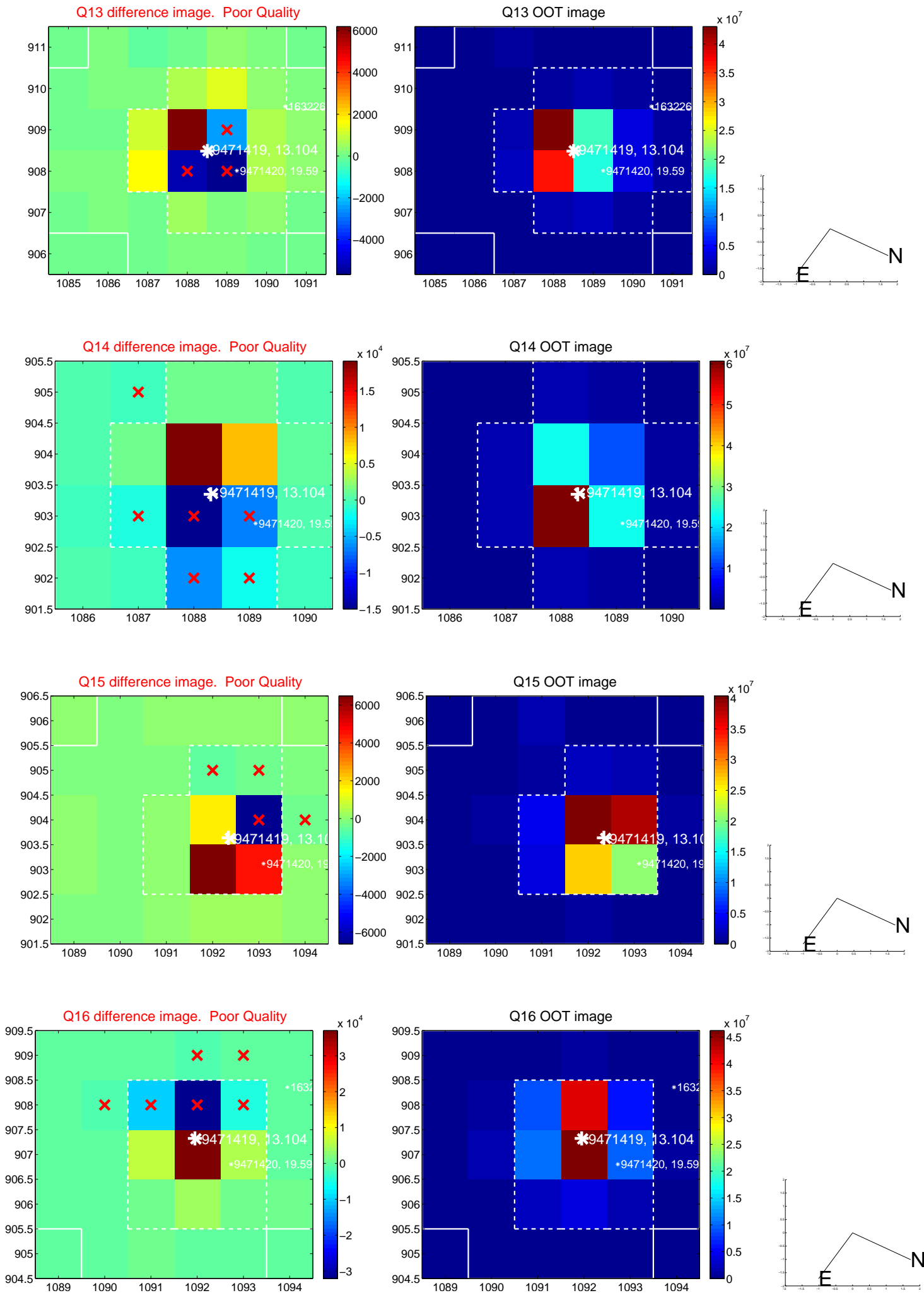




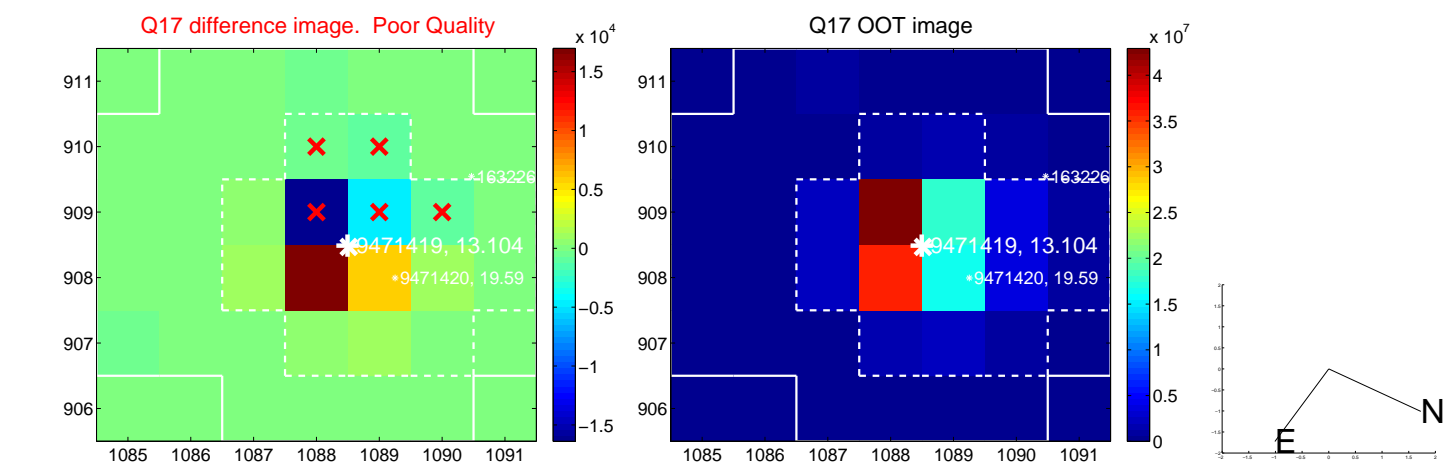
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



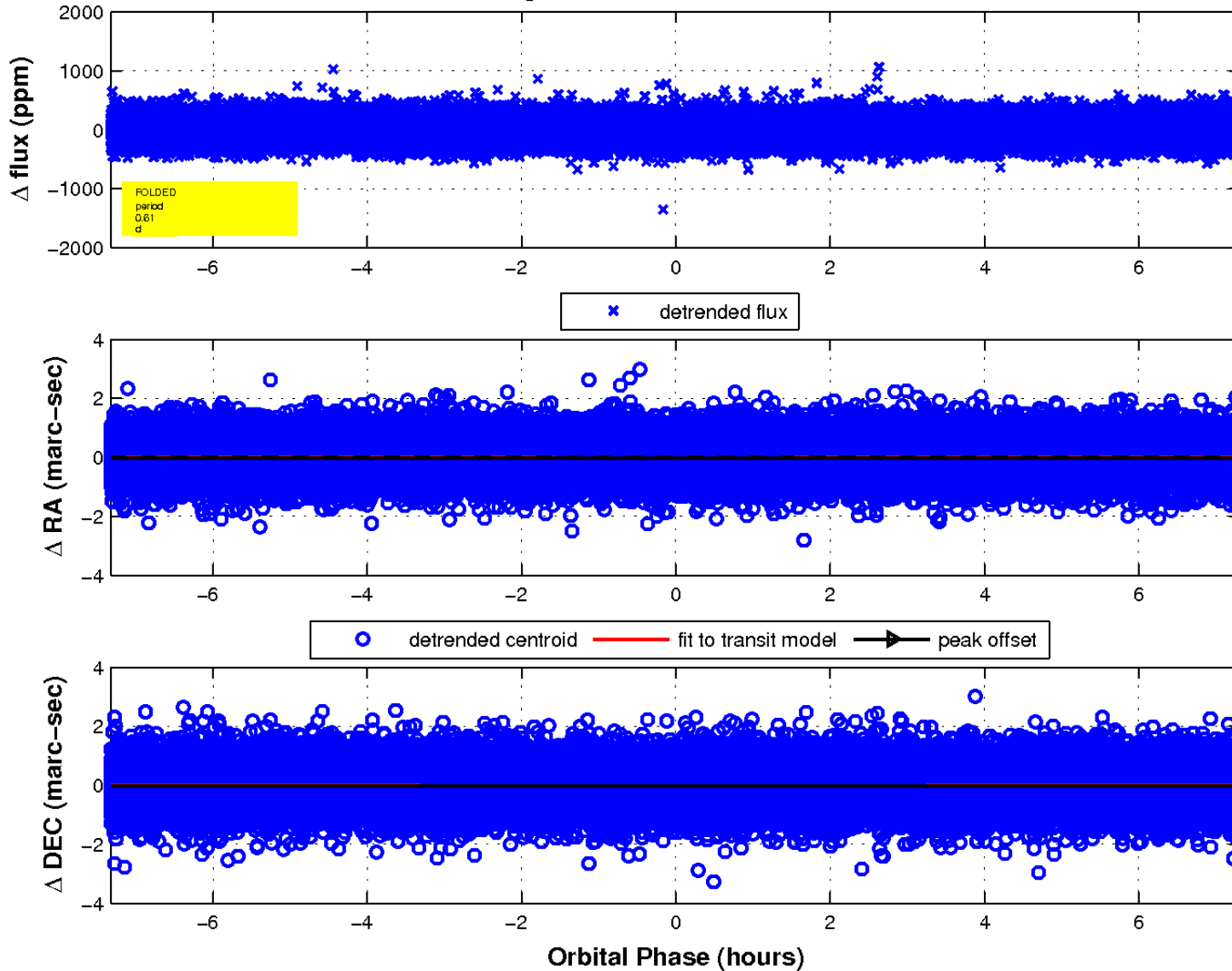
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

