

# KIC 009711941

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009711941-01	OBS	No	0.639675	131.645369	665.6	1.500	7.8	-1.0	0.84	5497	2.16	3334.21

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009711941-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS

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

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

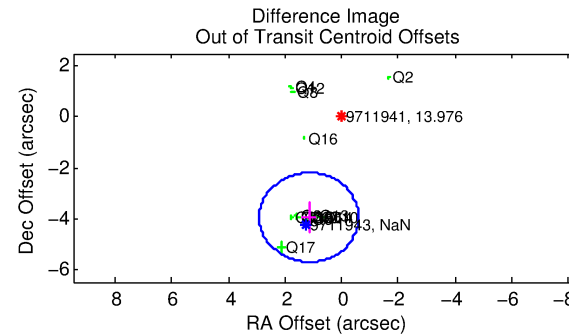
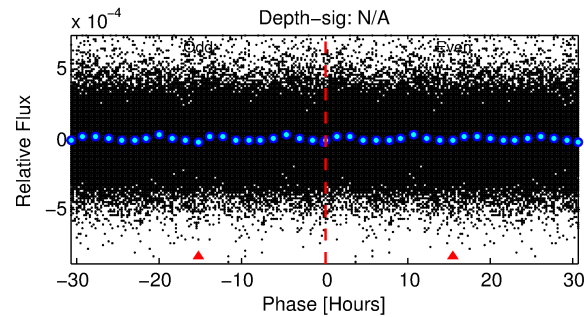
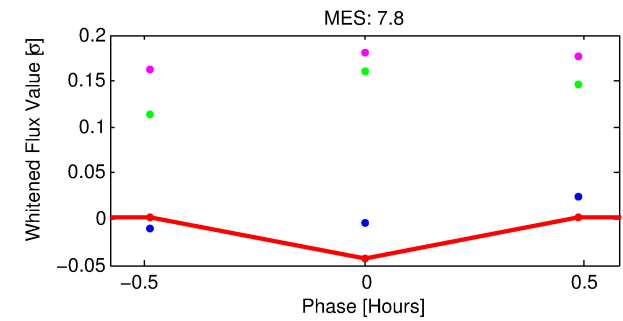
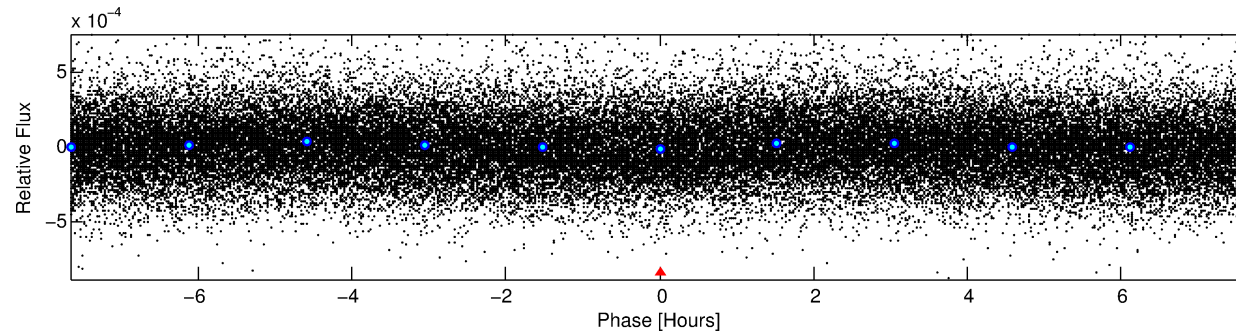
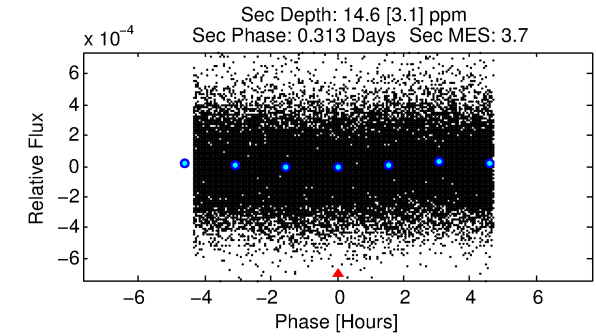
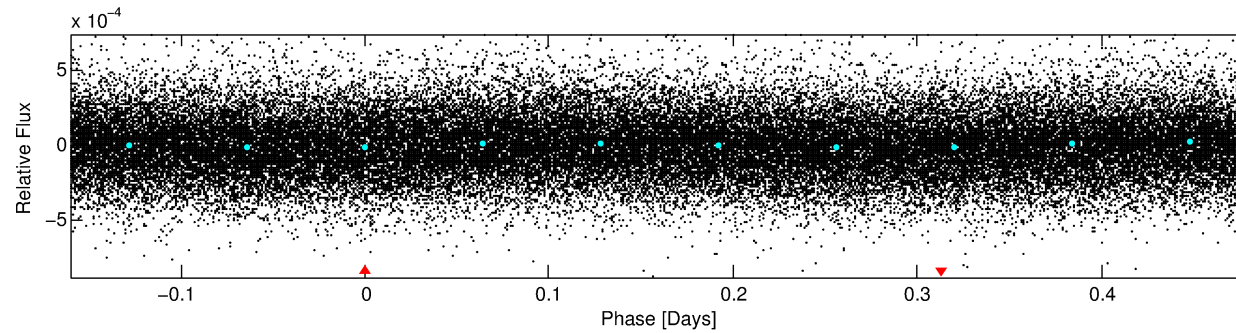
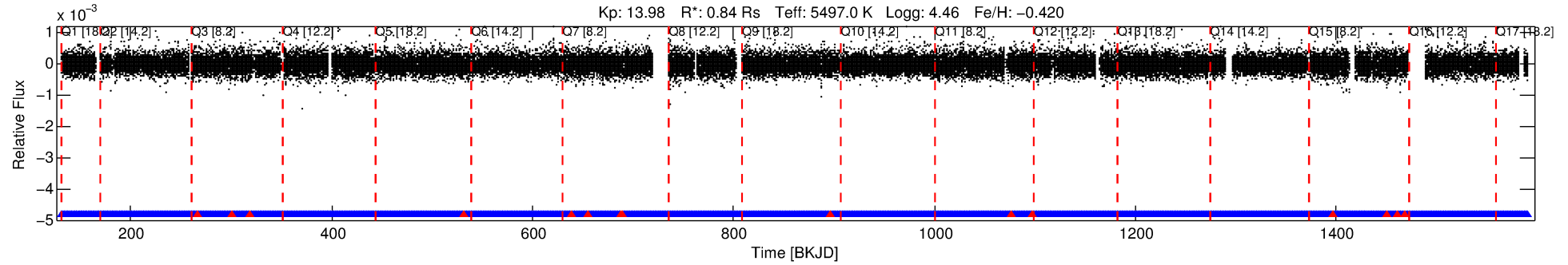
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009711941-01

No Significant Match Found

# DV One-Page Summary

KIC: 9711941 Candidate: 1 of 1 Period: 0.640 d



## TPS TCE Results:

Period = 0.63968 d  
Epoch = 131.6454 BKJD

DV fit results are unavailable

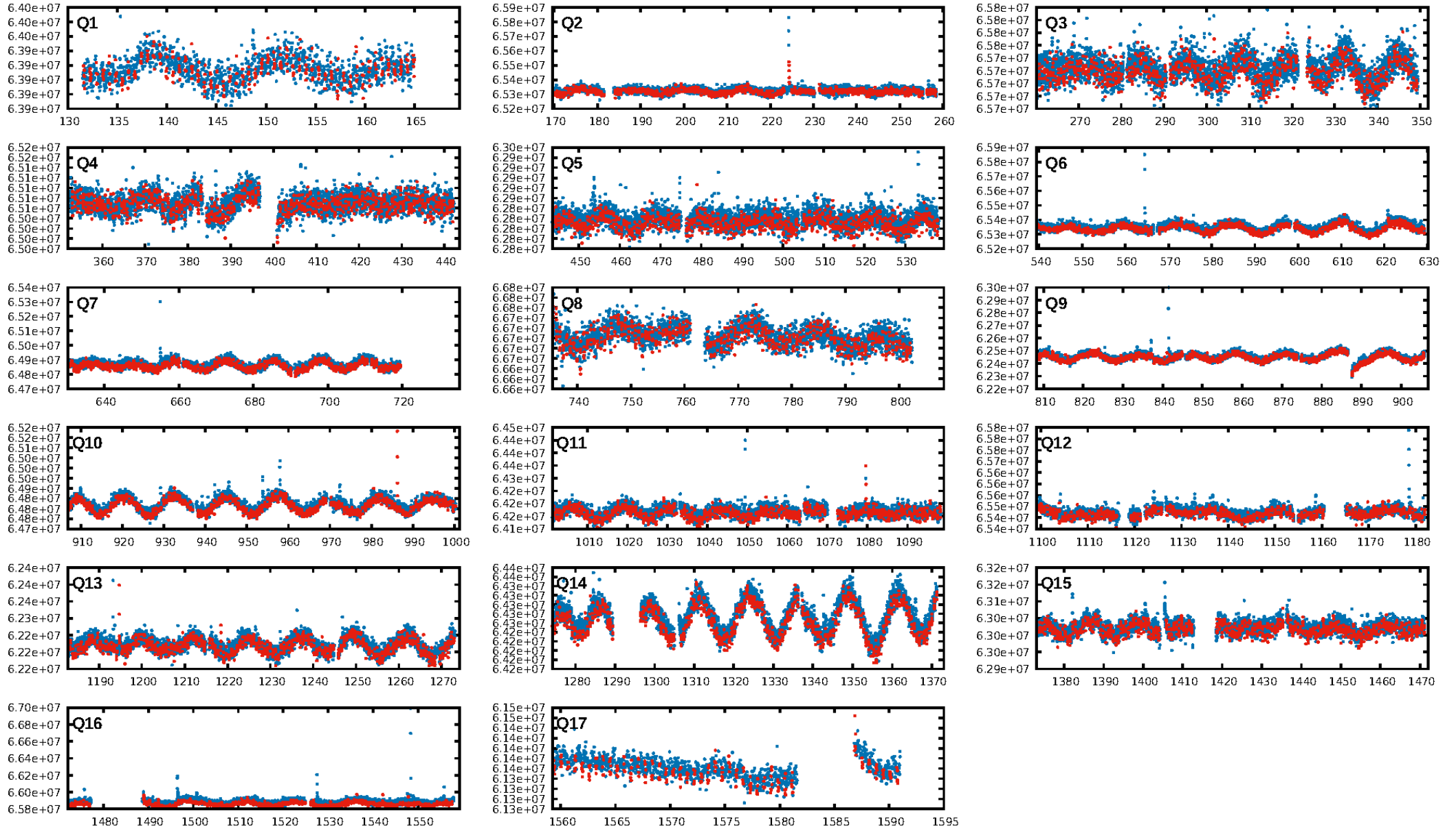
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.89e-14  
RollingBand-fgt: 0.99 [2007/2022]  
GhostDiagnostic-chr: 0.9512  
Centroid-sig: 0.0%  
Centroid-so: 0.709 arcsec [4.04σ]  
OotOffset-rm: 4.122 arcsec [7.04σ]  
KicOffset-rm: 4.214 arcsec [7.27σ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 0.88 [14/16]  
DiffImageOverlap-fno: 1.00 [17/17]

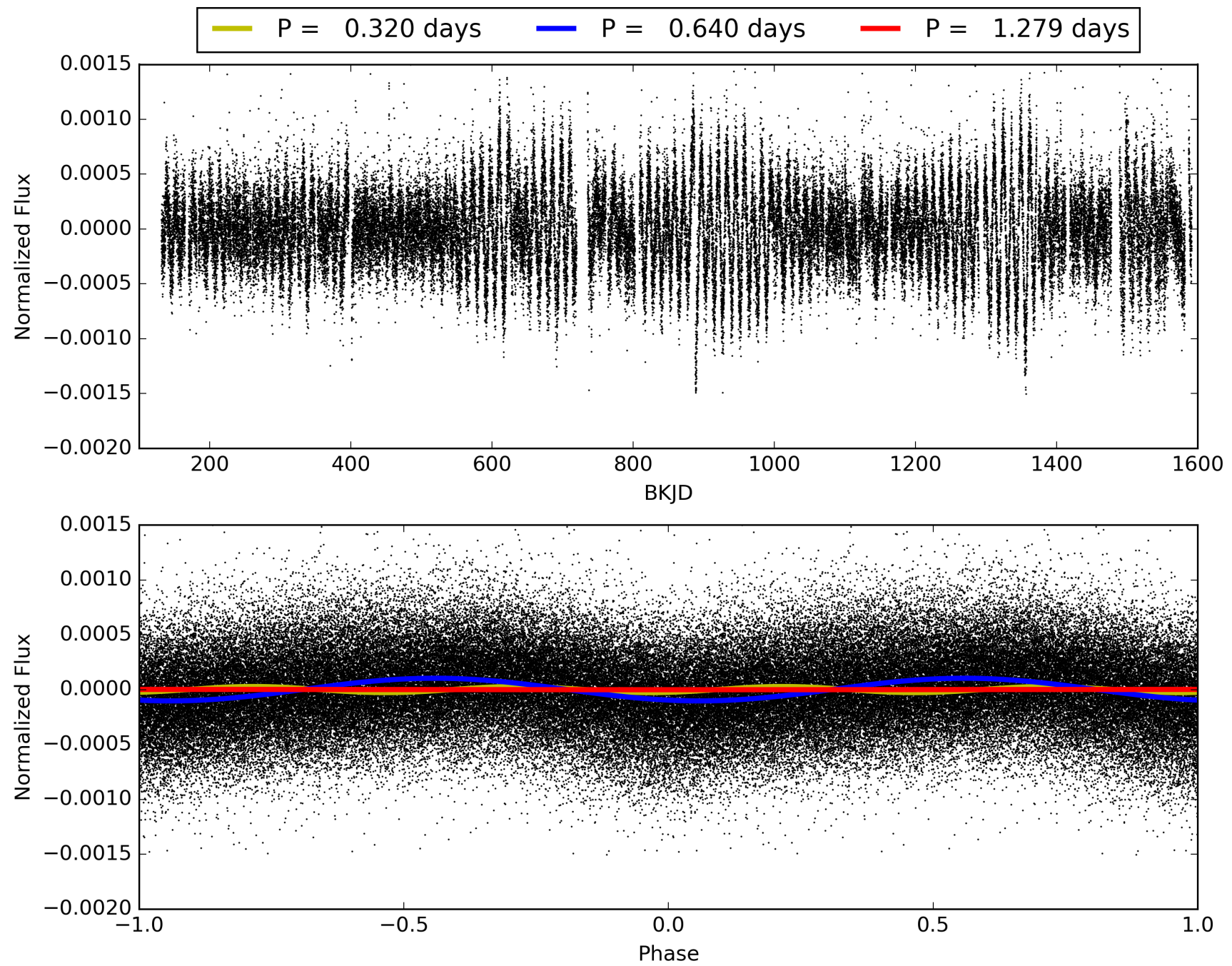
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:35:54 Z

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

# TCE 009711941-01, PDC Light Curves

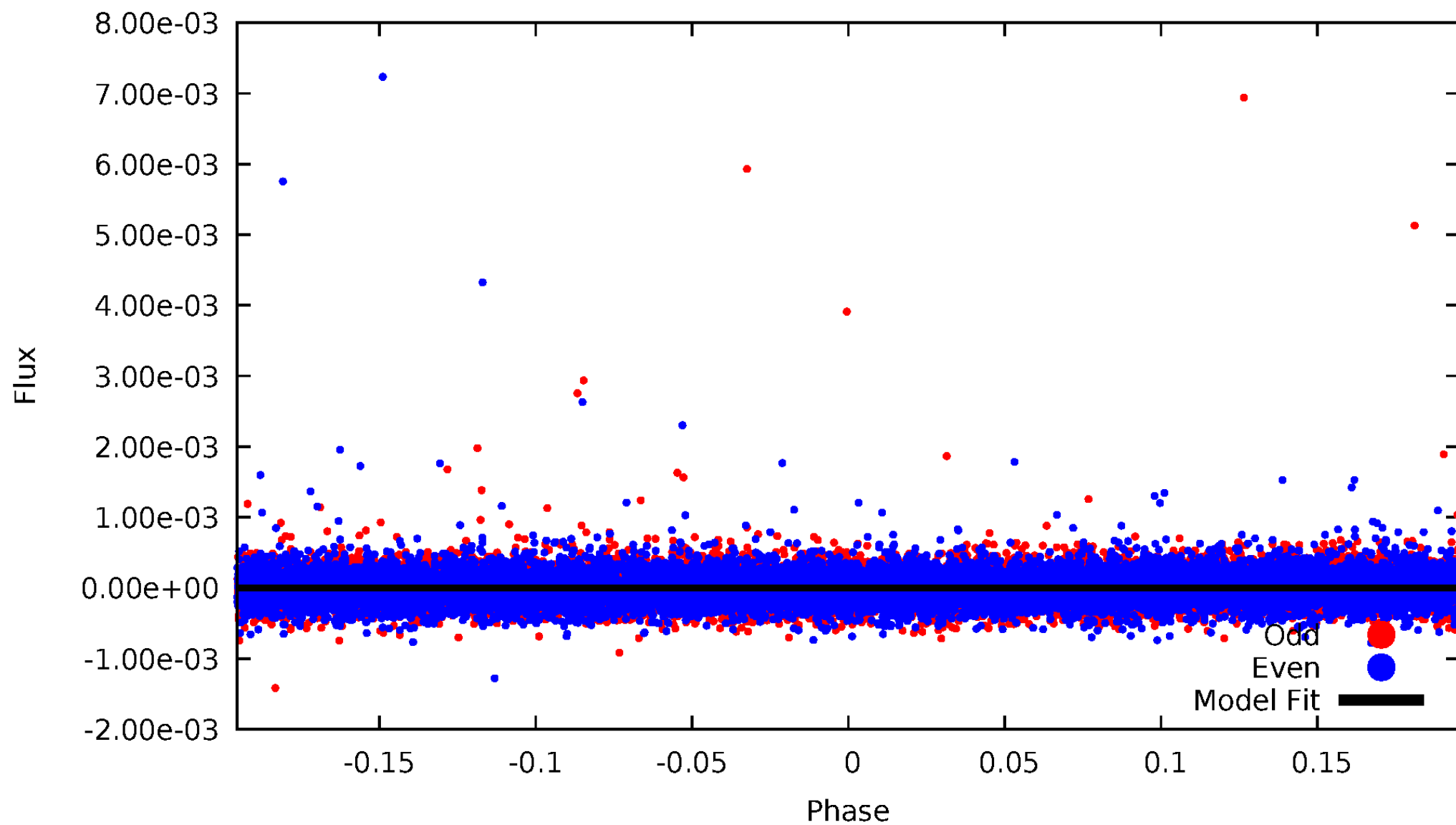


TCE 009711941-01



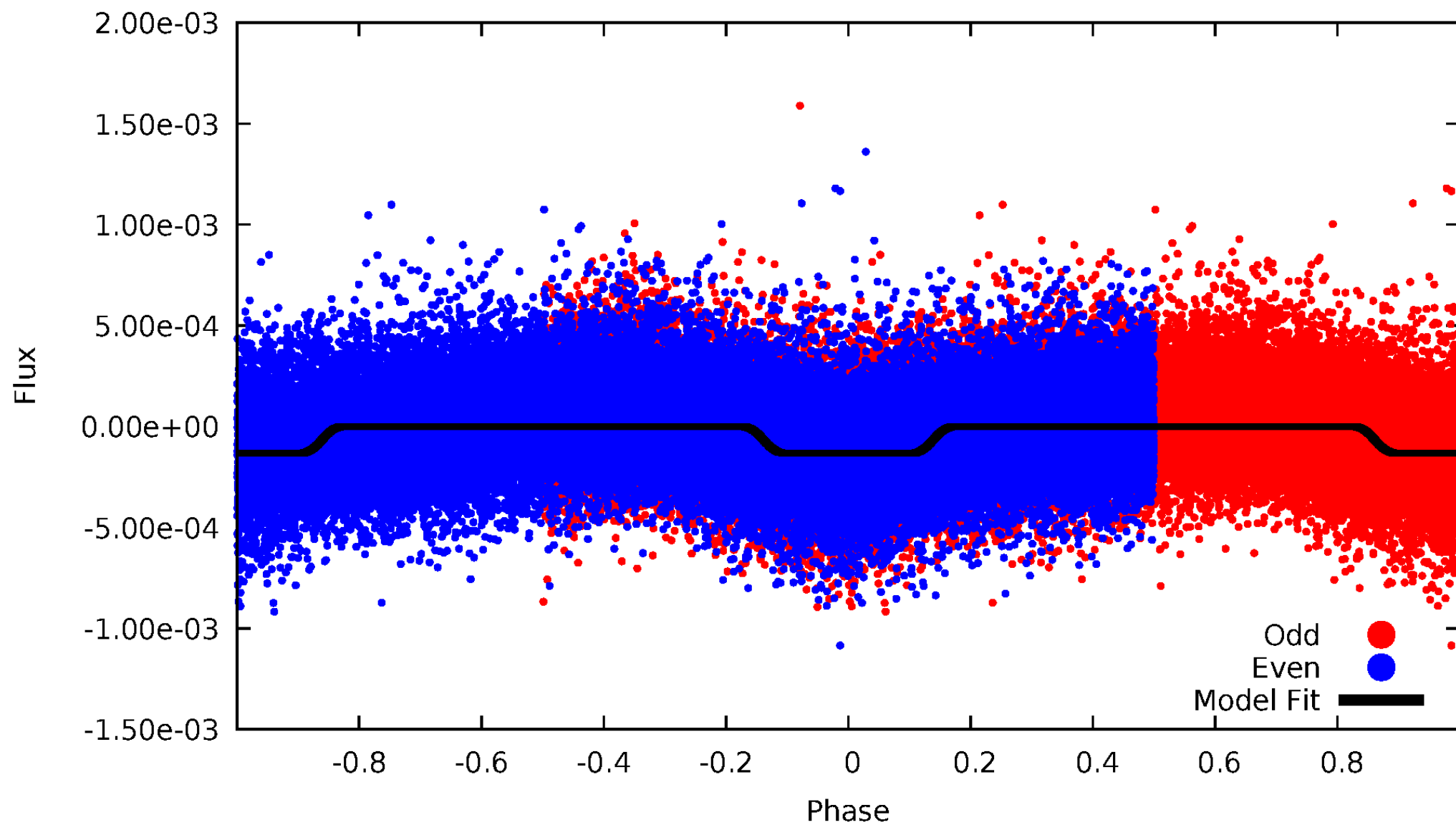
# DV Odd/Even

TCE 009711941-01



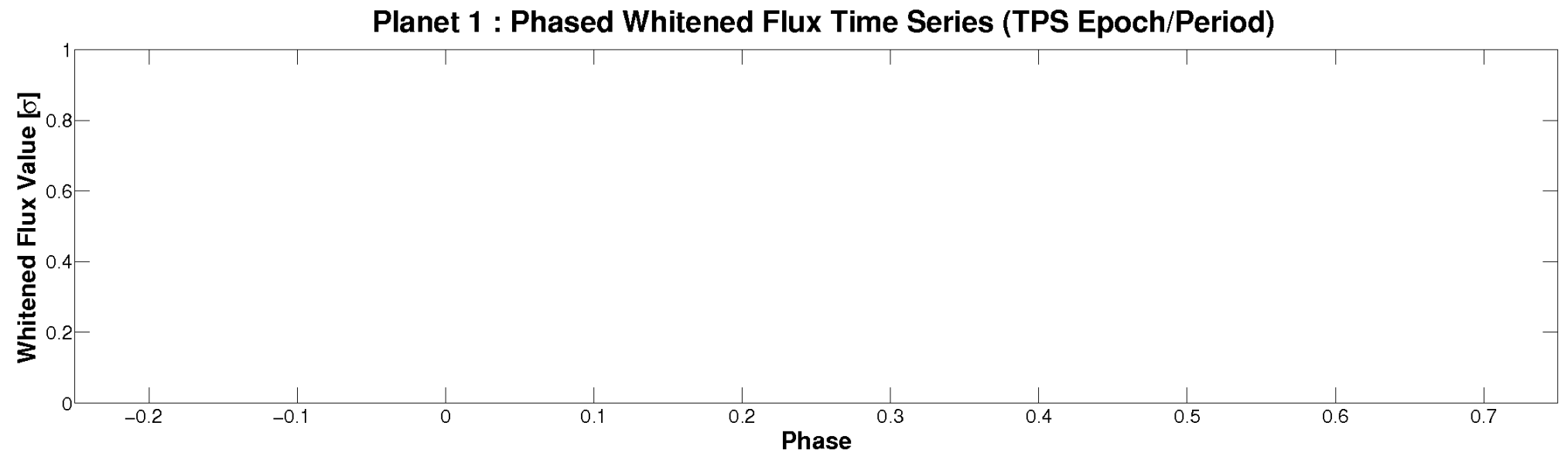
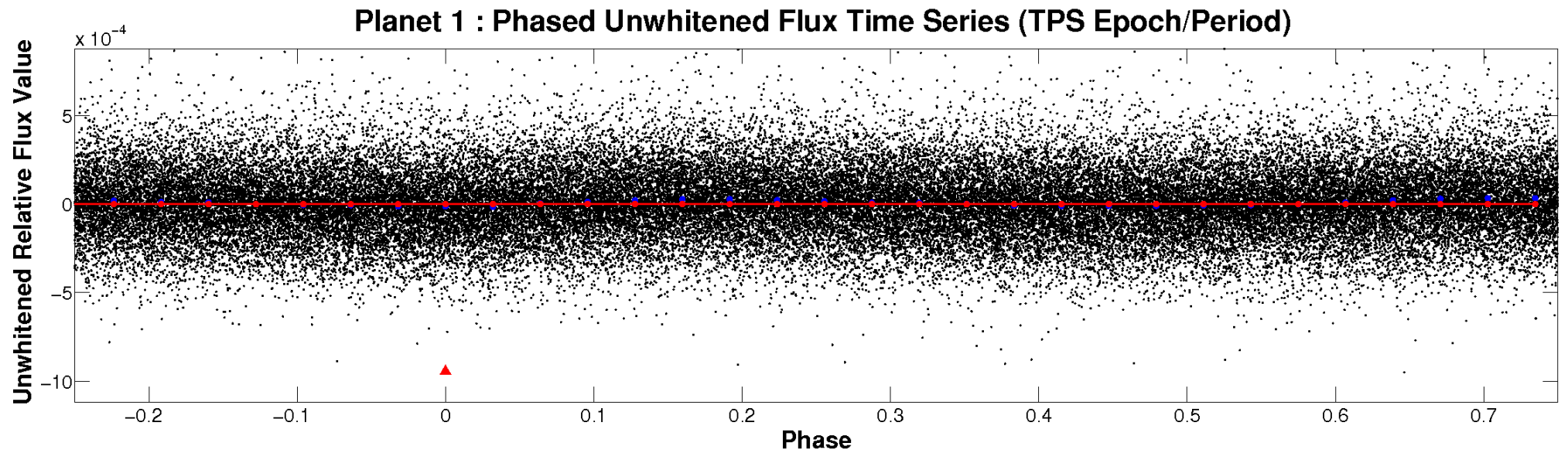
# ALT Odd/Even

TCE 009711941-01



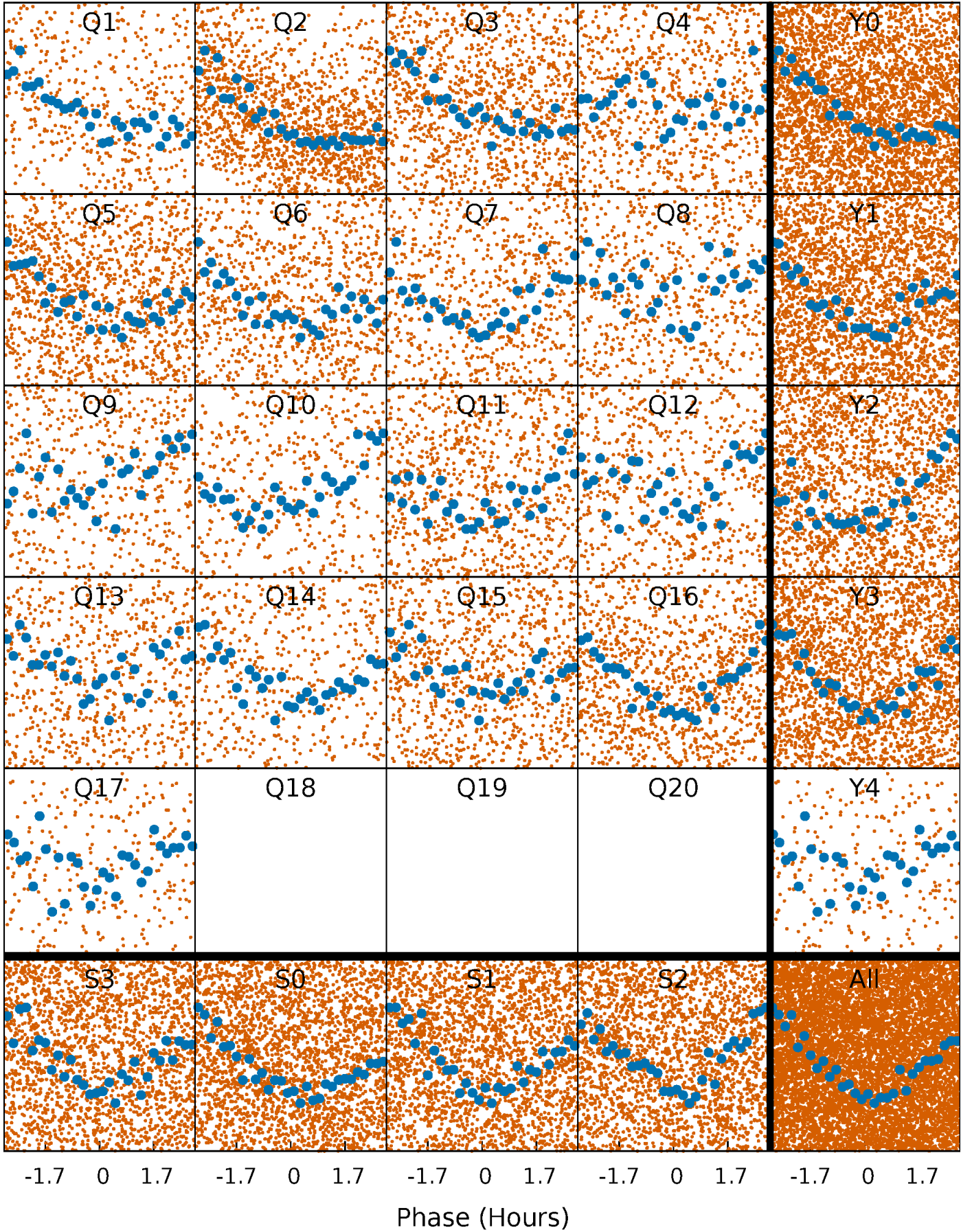


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

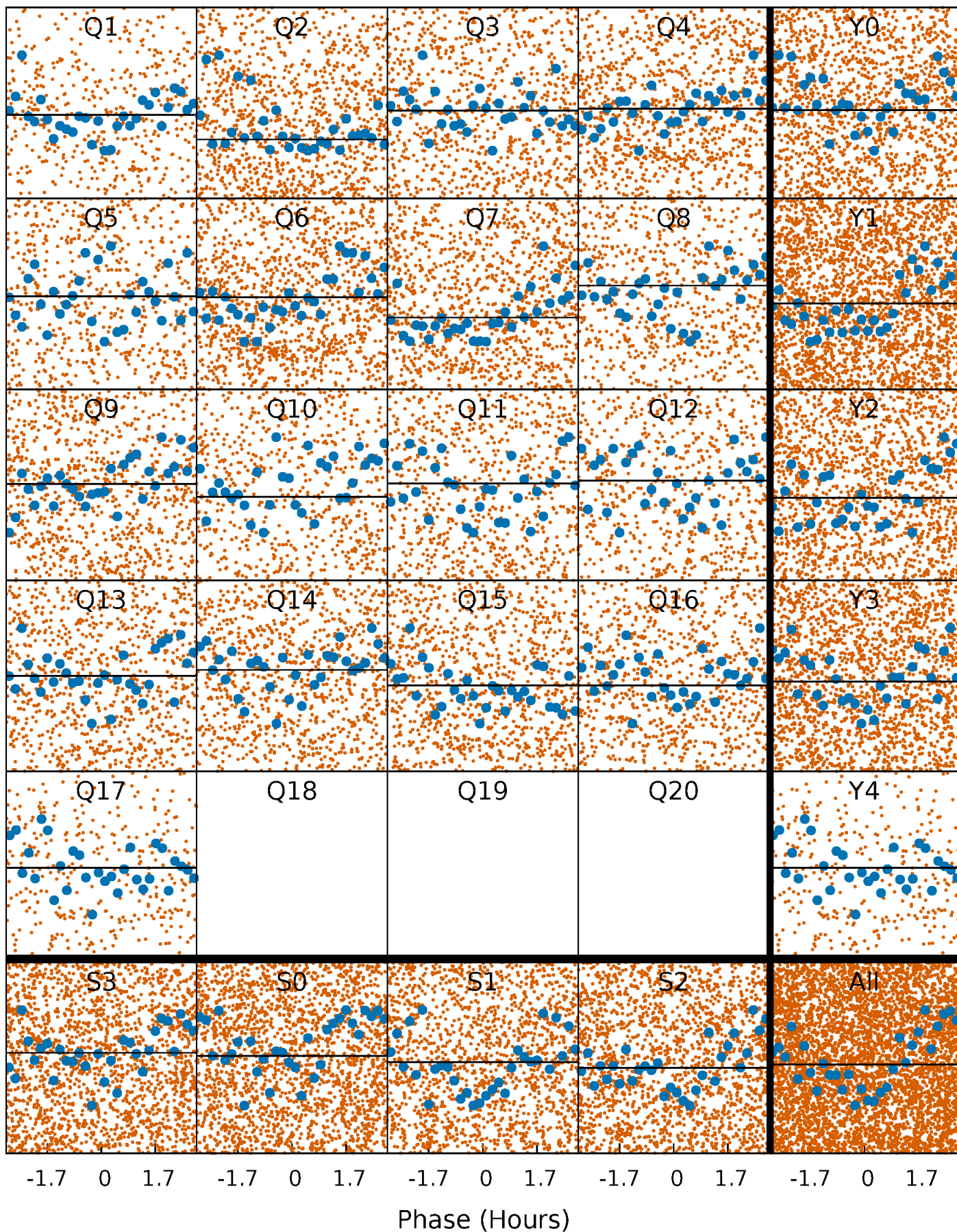
TCE 009711941-01   P= 0.639675 Days    $T_0=131.645369$  (BKJD)





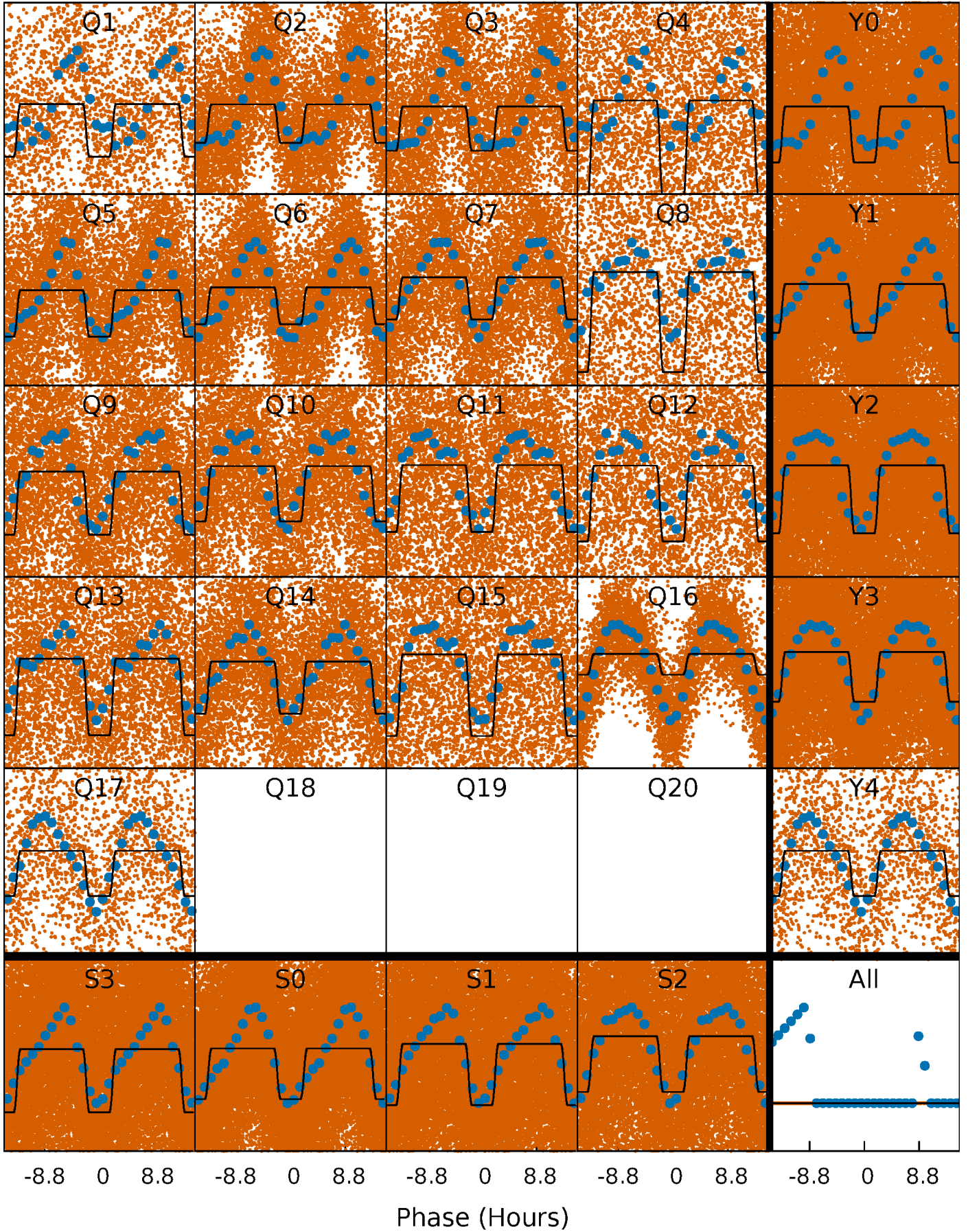
# DV Quarter-Phased Transit Curves

TCE 009711941-01 P= 0.639675 Days  $T_0=131.645369$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

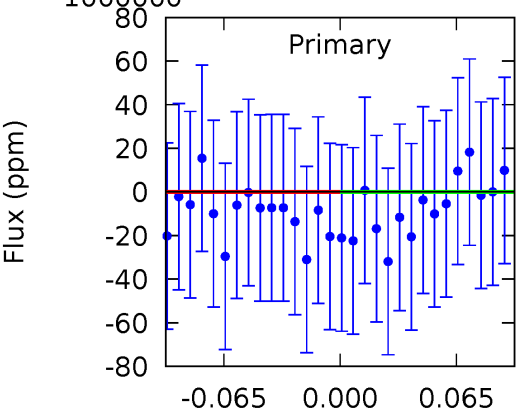
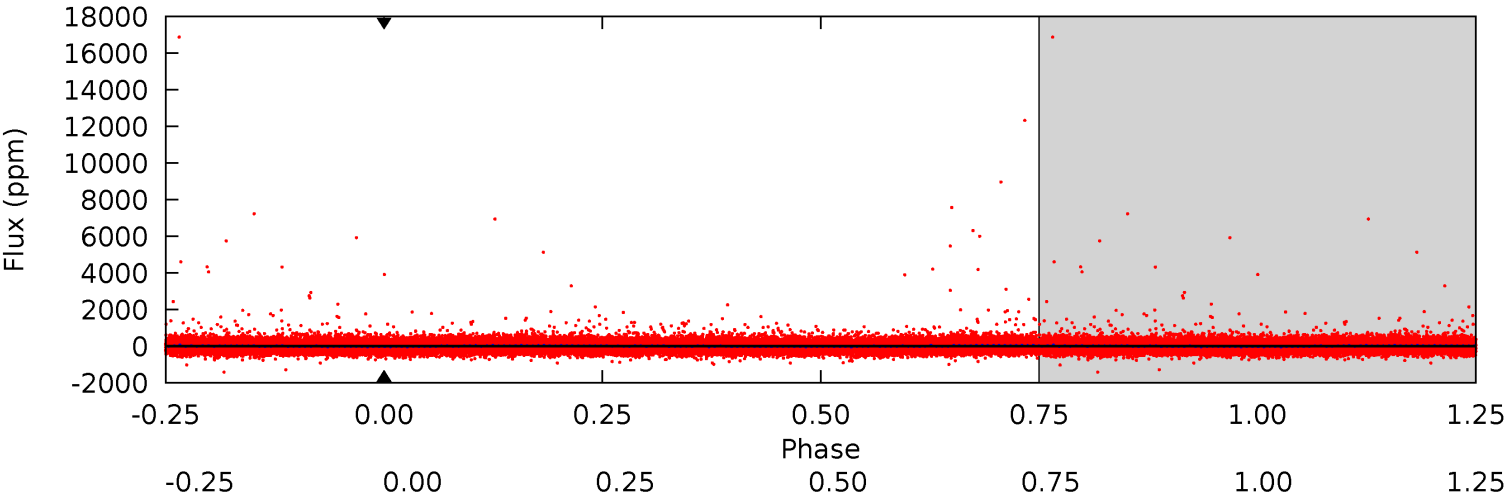
TCE 009711941-01 P= 0.639675 Days  $T_0=131.660966$  (BKJD)



DV Model-Shift Uniqueness Test

009711941-01, P = 0.639675 Days, E = 131.005694 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
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0

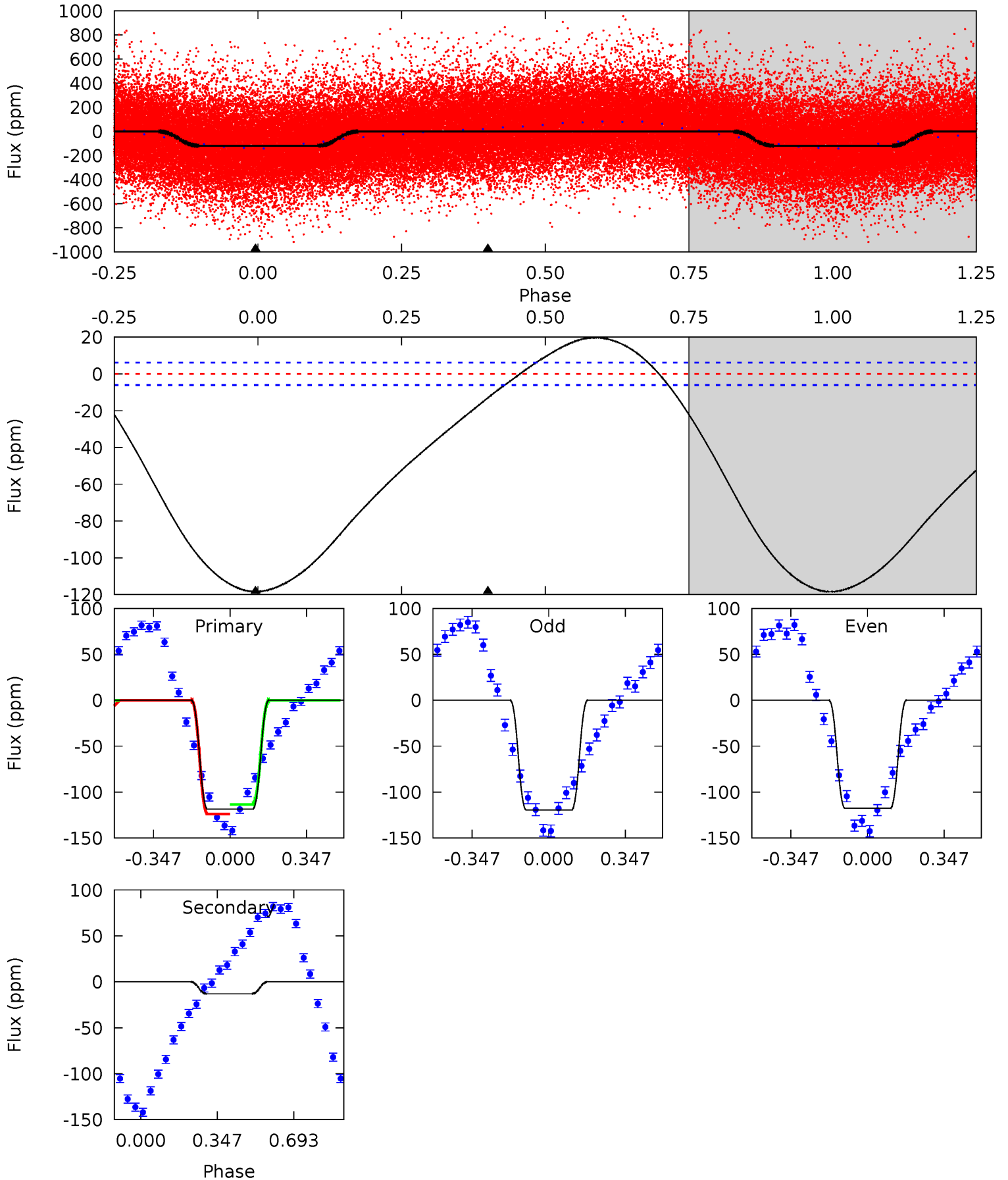




# Alt Model-Shift Uniqueness Test

009711941-01, P = 0.639675 Days, E = 131.021291 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
83.0	9.12	0	0	4.30	0.94	7.35	83.0	83.0	9.12	9.12	0.60	1.05	0.14	3.68



### Stellar Parameters For KIC 009711941

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5497^{+181}_{-148}$	$4.461^{+0.136}_{-0.253}$	$-0.420^{+0.350}_{-0.300}$	$0.842^{+0.226}_{-0.122}$	$0.747^{+0.122}_{-0.052}$	$1.764^{+1.077}_{-0.983}$
	+3%/-3%	+3%/-6%	+83%/-71%	+27%/-14%	+16%/-7%	+61%/-56%
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 009711941-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$7.10^{+7.50}_{-4.97}$	$2761^{+227}_{-178}$	$4088^{+16234}_{-20259}$	$2.507^{+382.676}_{-252.941}$
Alt.	$-13 \pm 1$	$6.82^{+7.21}_{-4.82}$	$2748^{+228}_{-177}$	$-2854^{+4786}_{-162}$	$0.027^{+0.282}_{-0.020}$

$T_{\text{max}}$  = 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

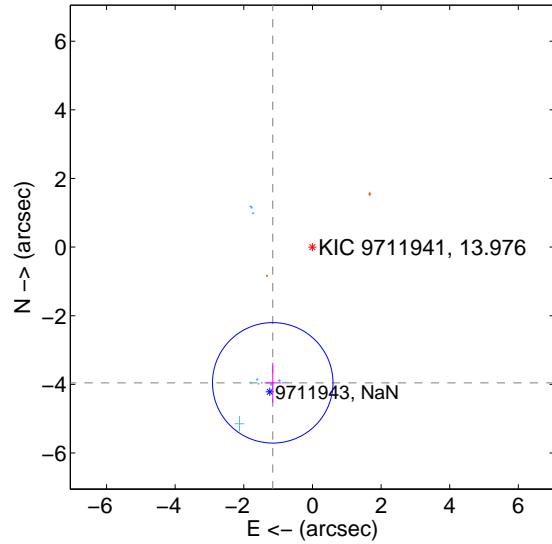
Supplemental centroid analysis for 009711941-01. Kepler magnitude: 13.98. Transit SNR -1.00

There are 14 quarters with good PRF difference image offsets

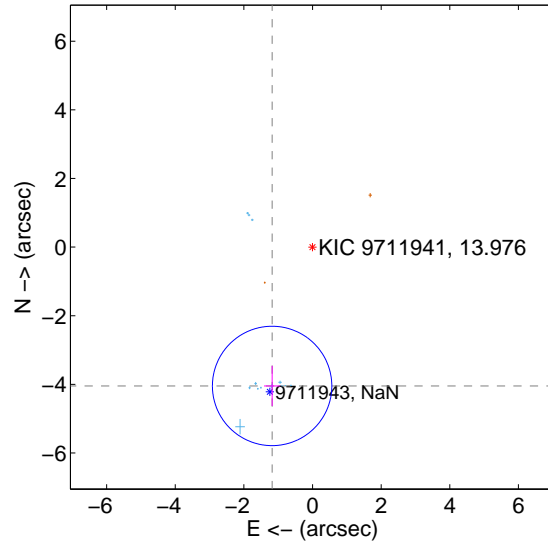
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.122 \pm 0.585$	7.04	$1.157 \pm 0.236$	$-3.956 \pm 0.583$
PRF-fit source offset from KIC position	$4.214 \pm 0.580$	7.27	$1.178 \pm 0.235$	$-4.046 \pm 0.585$
photometric centroid source offset	$0.71 \pm 0.18$	4.04	$0.12 \pm 0.13$	$-0.70 \pm 0.18$

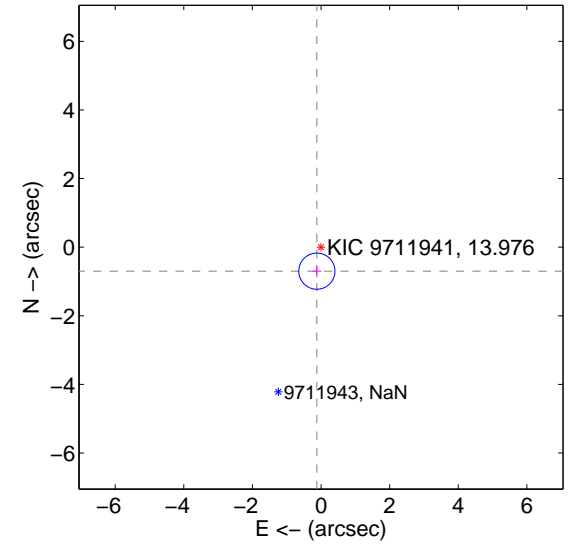
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

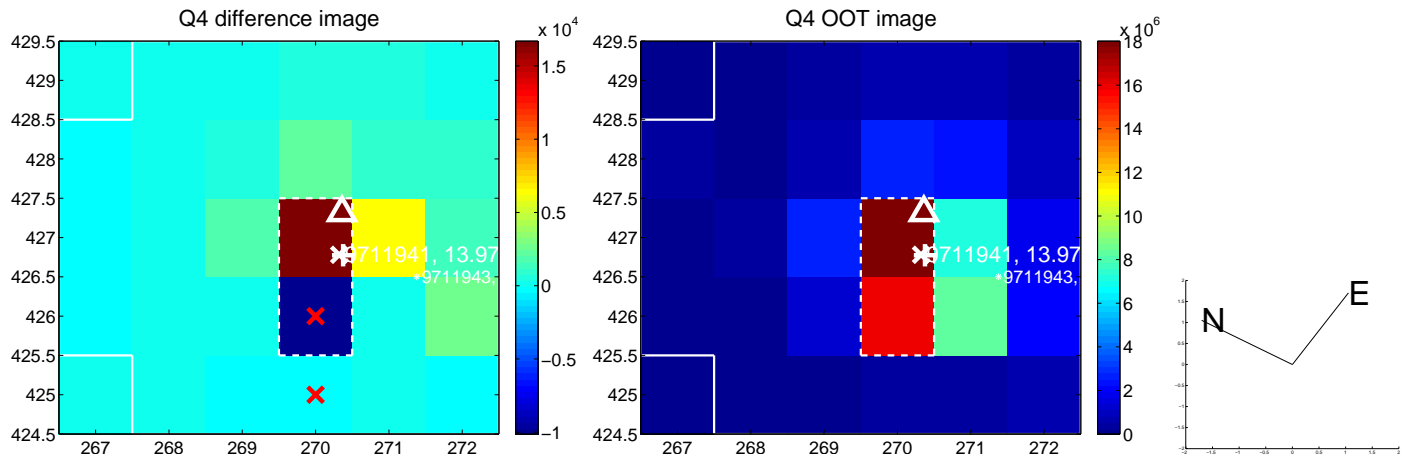
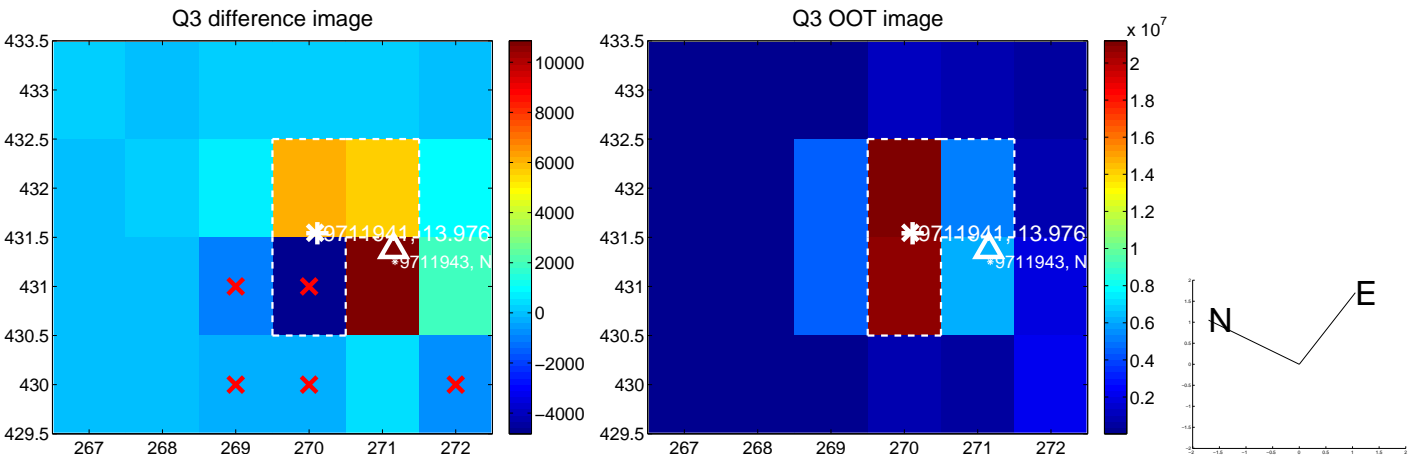
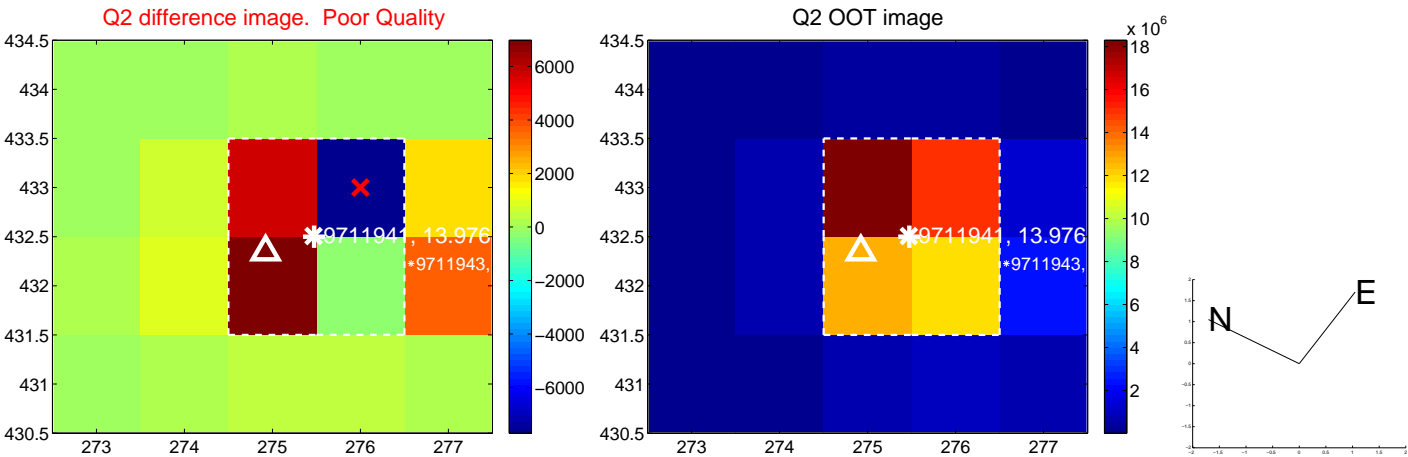
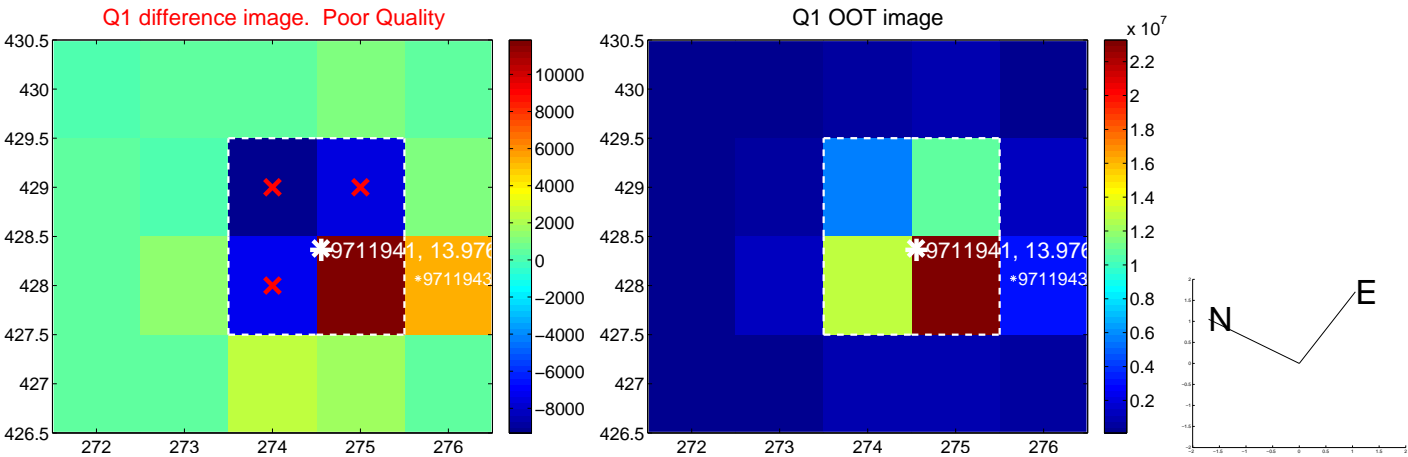


offset from photometric centroids

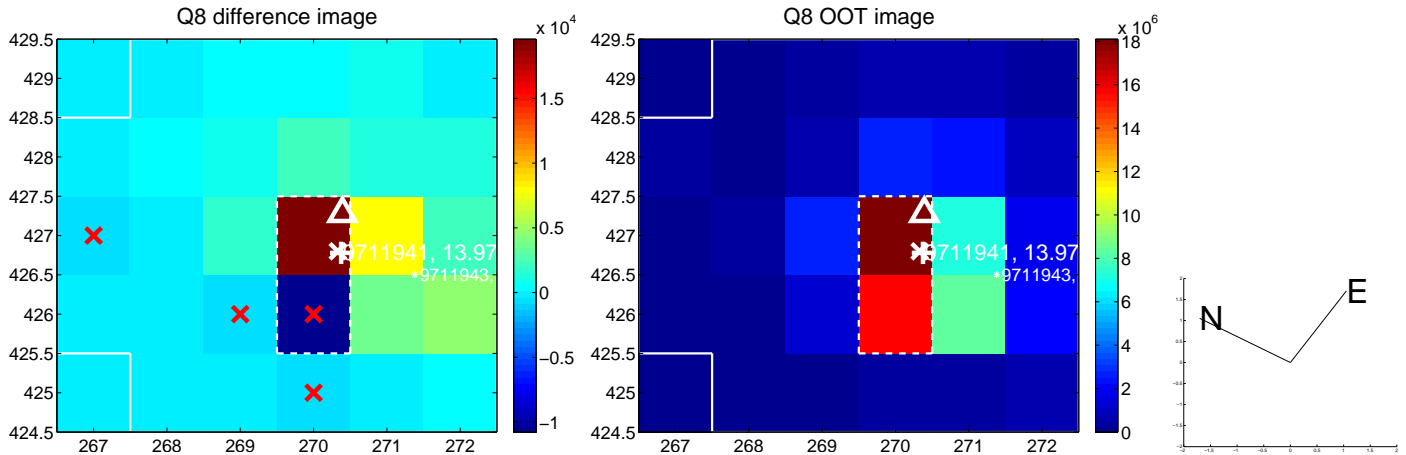
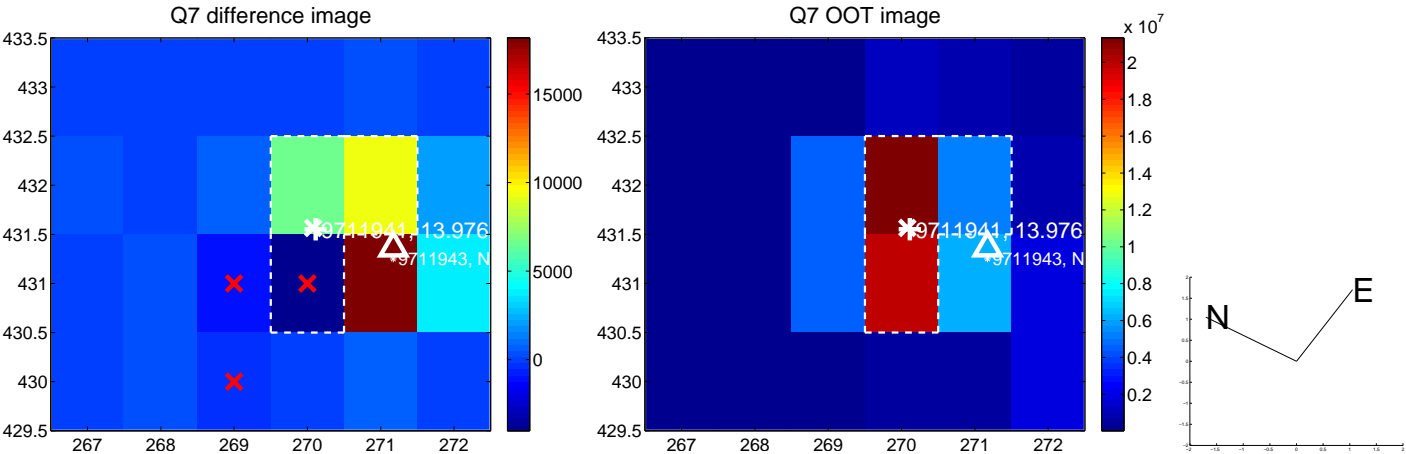
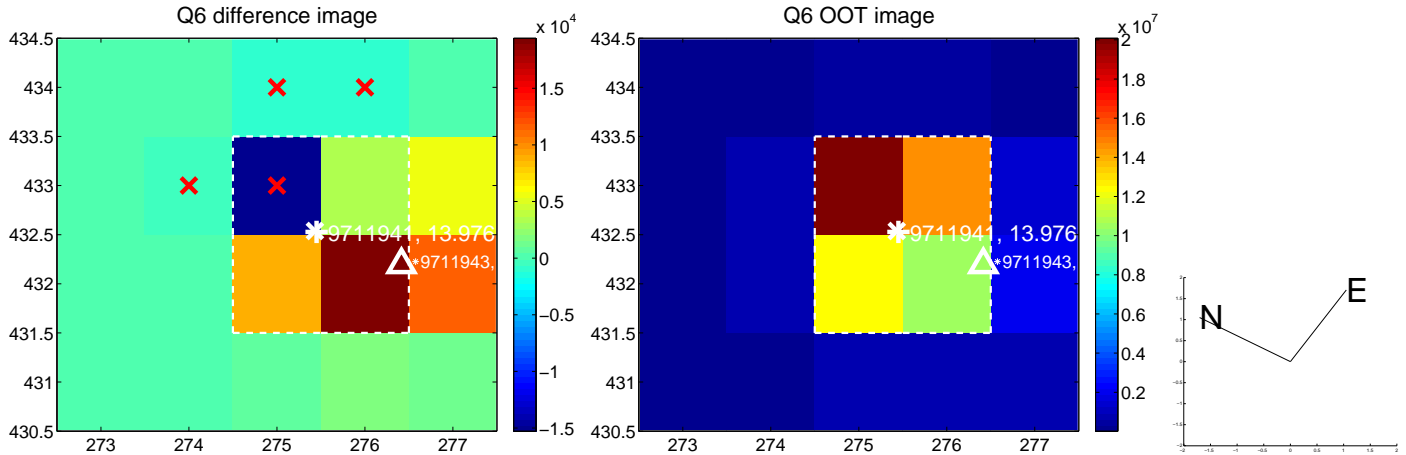
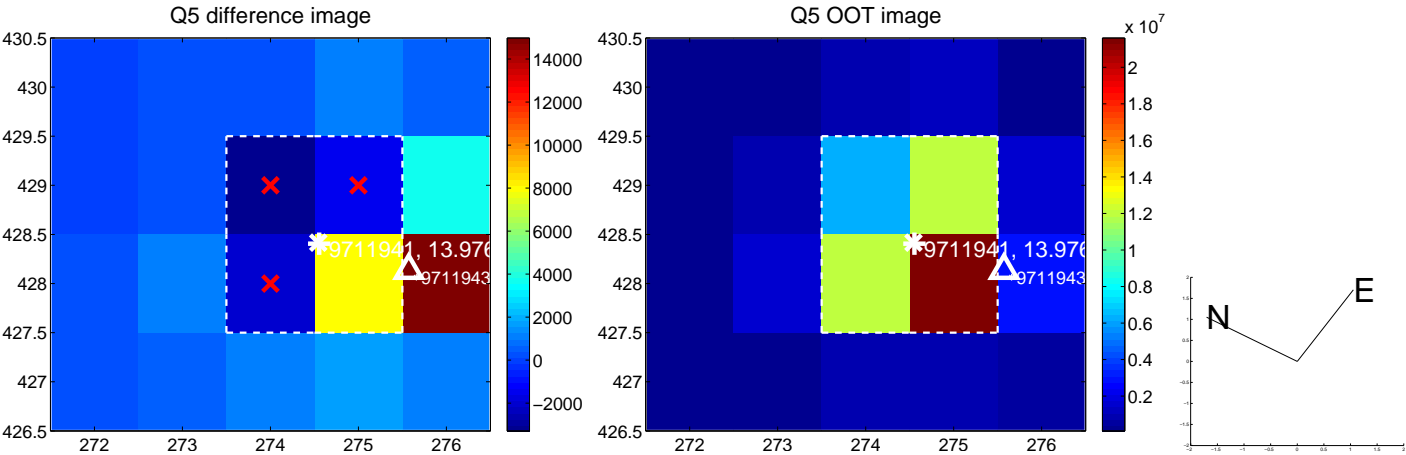


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

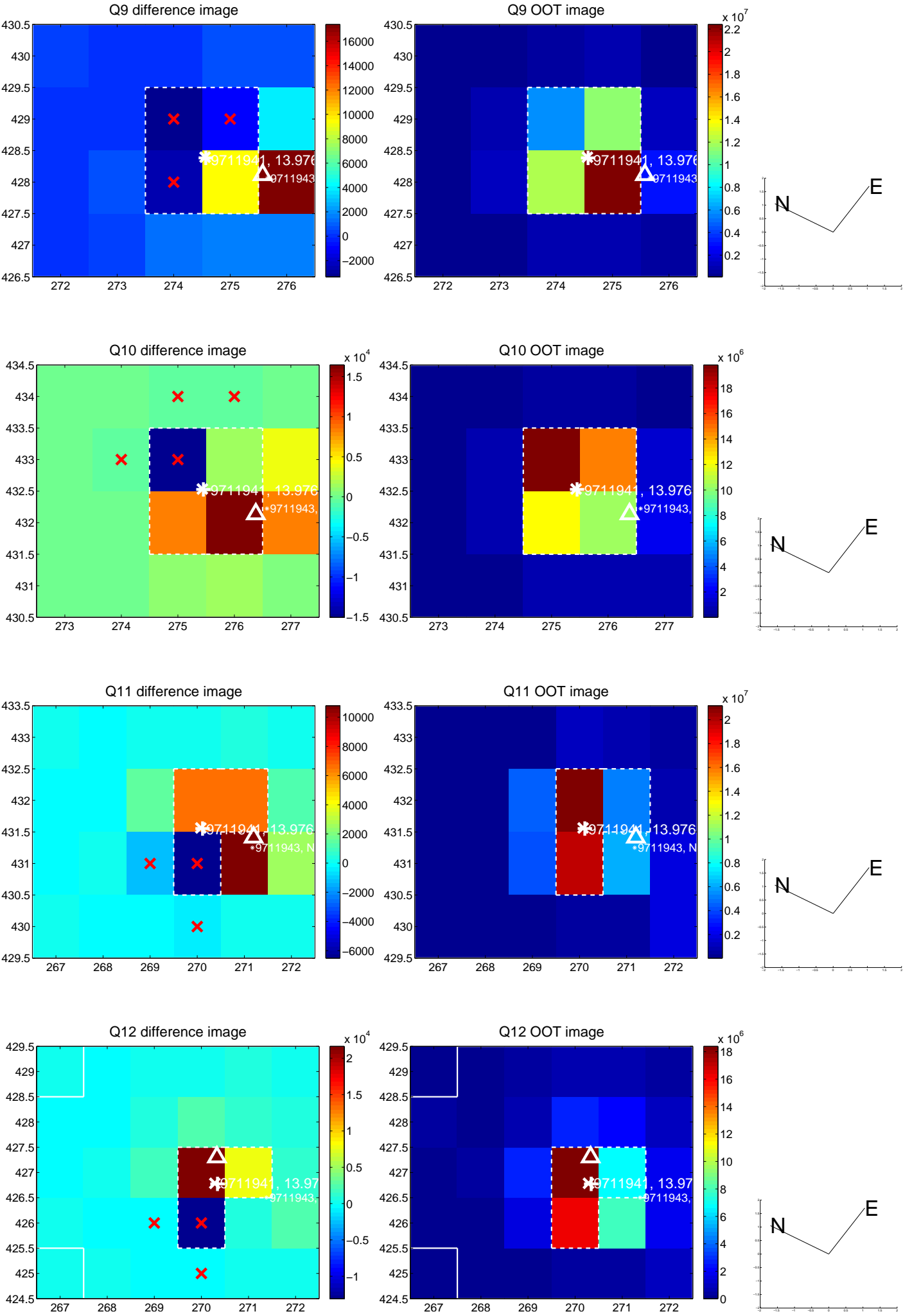
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



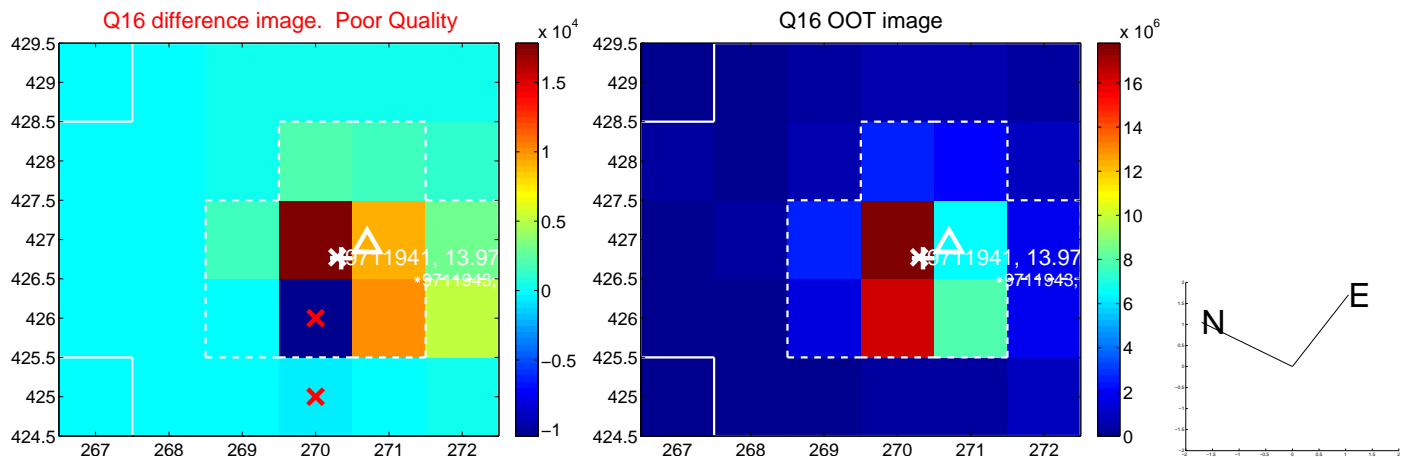
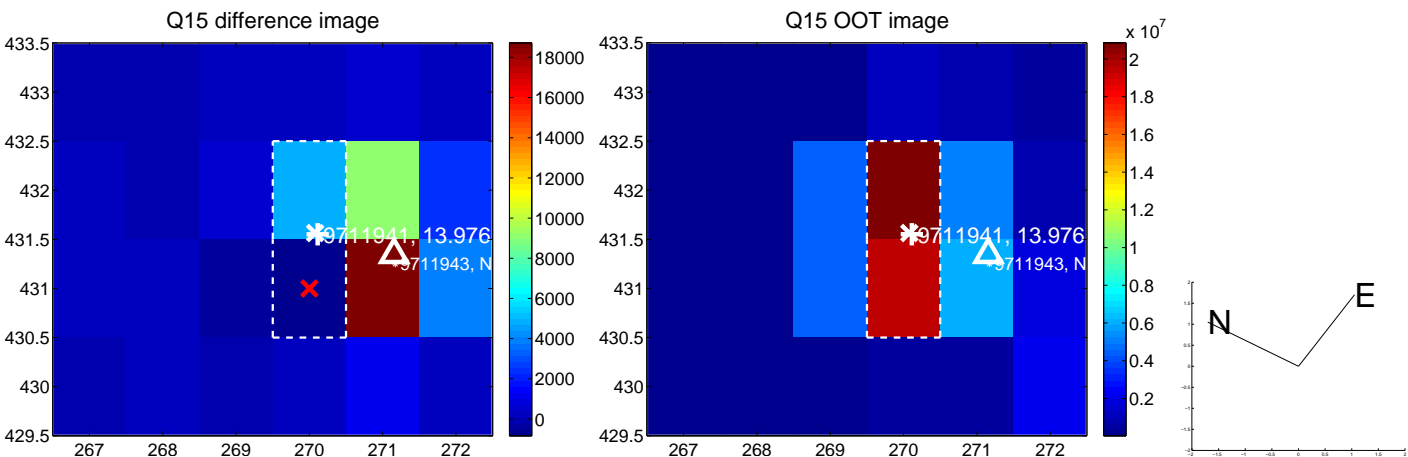
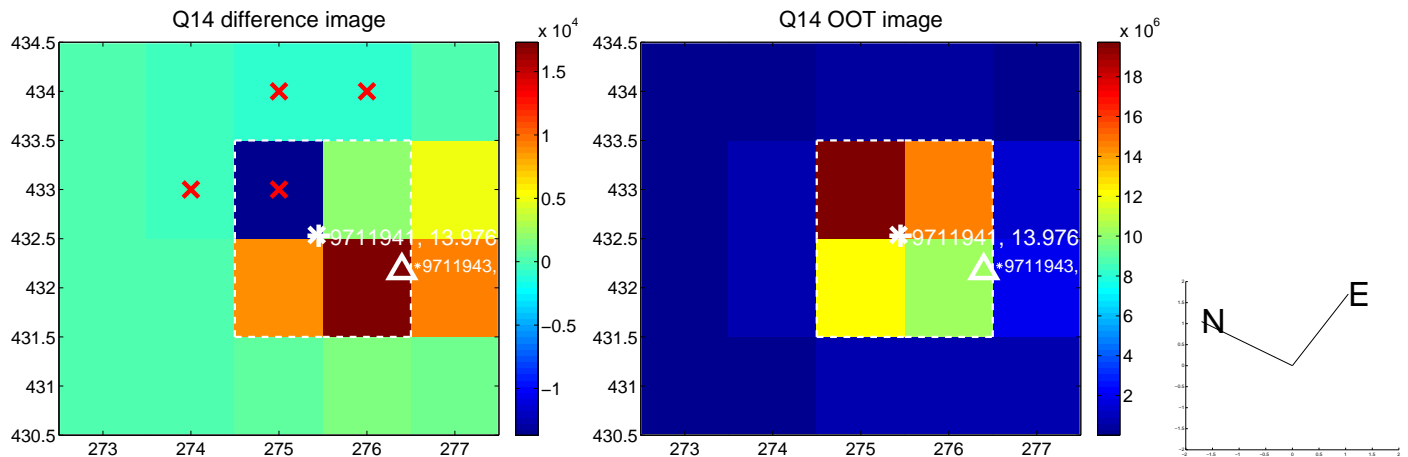
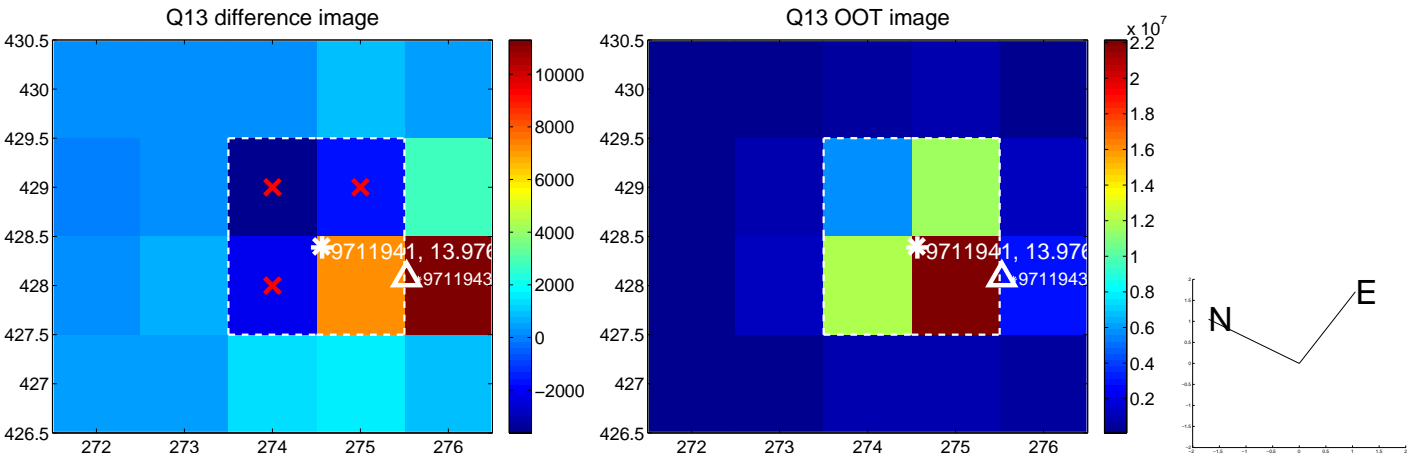
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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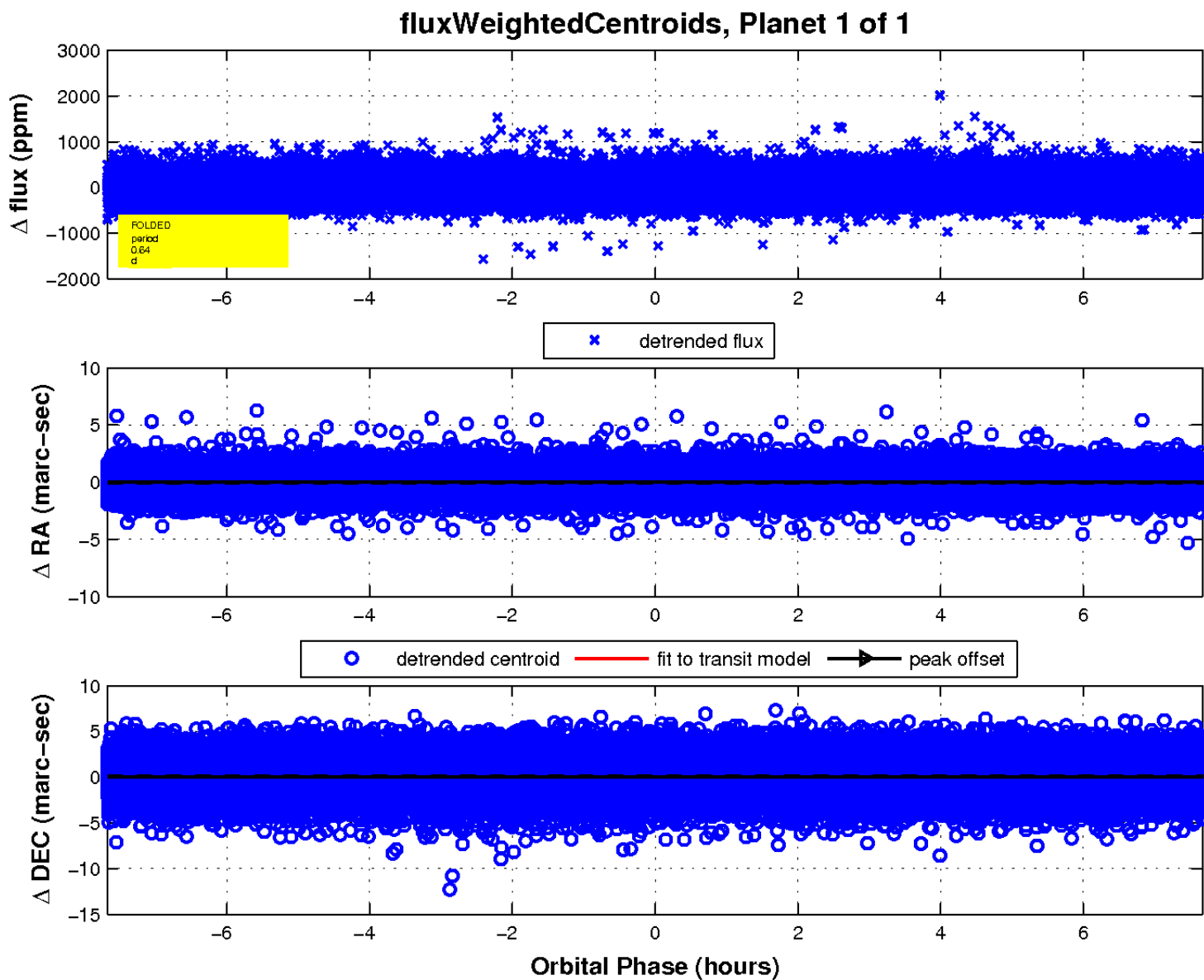
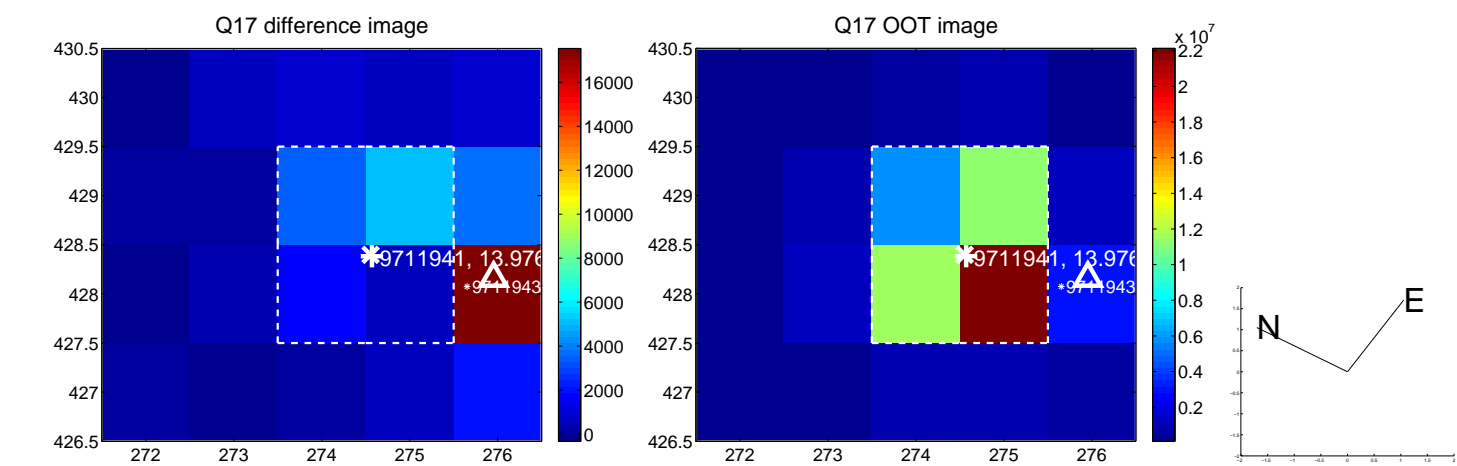


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

