

# KIC 009613302

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009613302-01	OBS	No	0.911057	131.884239	8.8	2.556	12.1	10.1	1.70	7435	0.52	17188.95

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009613302-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—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.

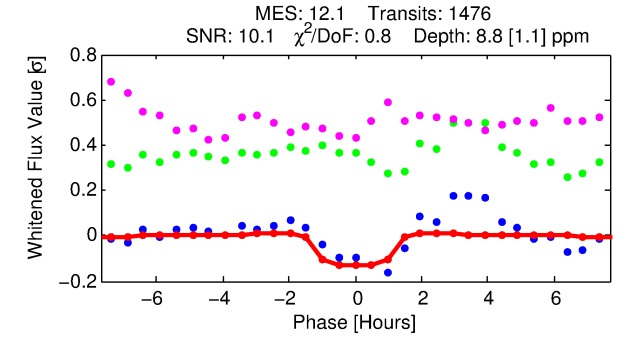
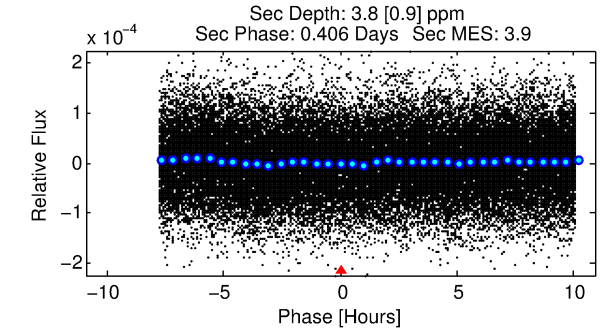
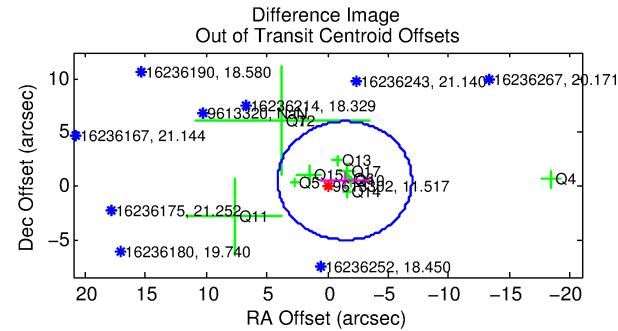
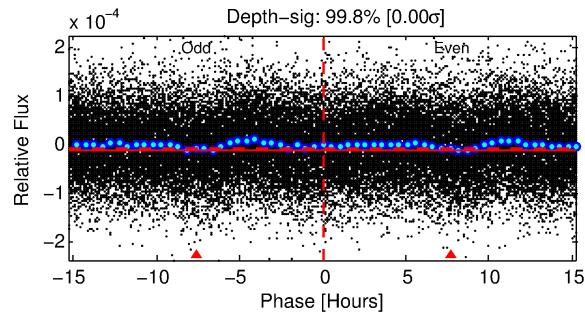
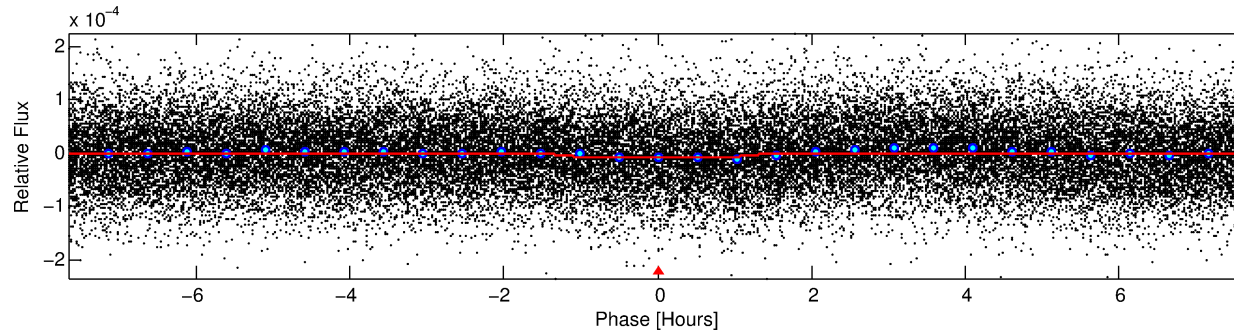
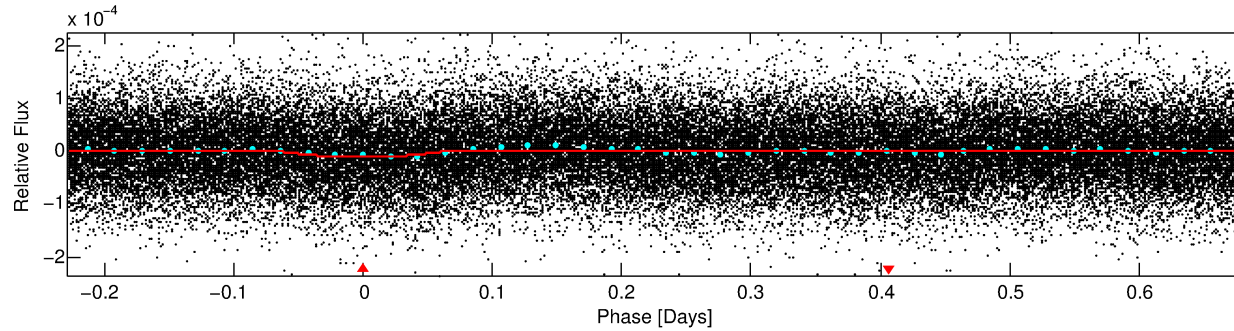
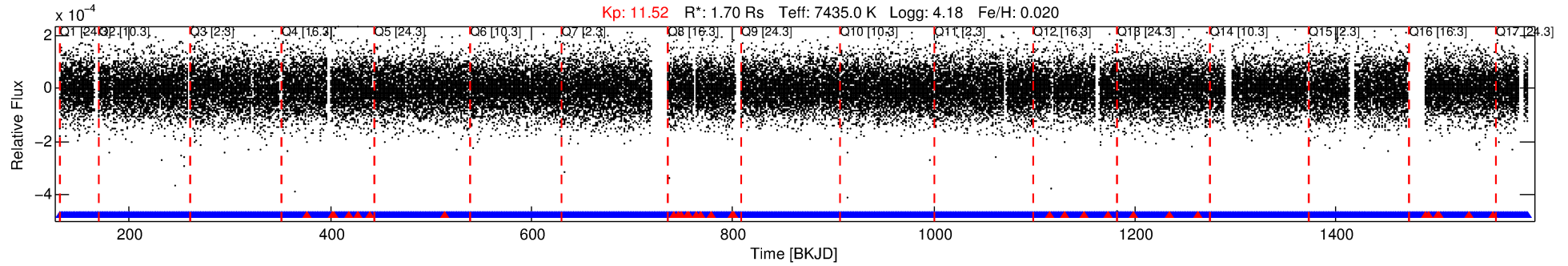
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009613302-01

No Significant Match Found

# DV One-Page Summary

KIC: 9613302 Candidate: 1 of 1 Period: 0.911 d



## DV Fit Results:

Period = 0.91106 [0.00001] d  
Epoch = 131.8842 [0.0031] BKJD  
Rp/R\* = 0.0028 [0.0004]  
a/R\* = 2.47 [1.67]  
b = 0.50 [1.21]  
Seff = 17188.95 [7068.48]  
Teq = 2920 [300] K  
Rp = 0.52 [0.19] Re  
a = 0.0214 [0.0056] AU  
Ag = 3.50 [1.83] [1.37σ]  
Teffp = 6175 [636] K [4.63σ]

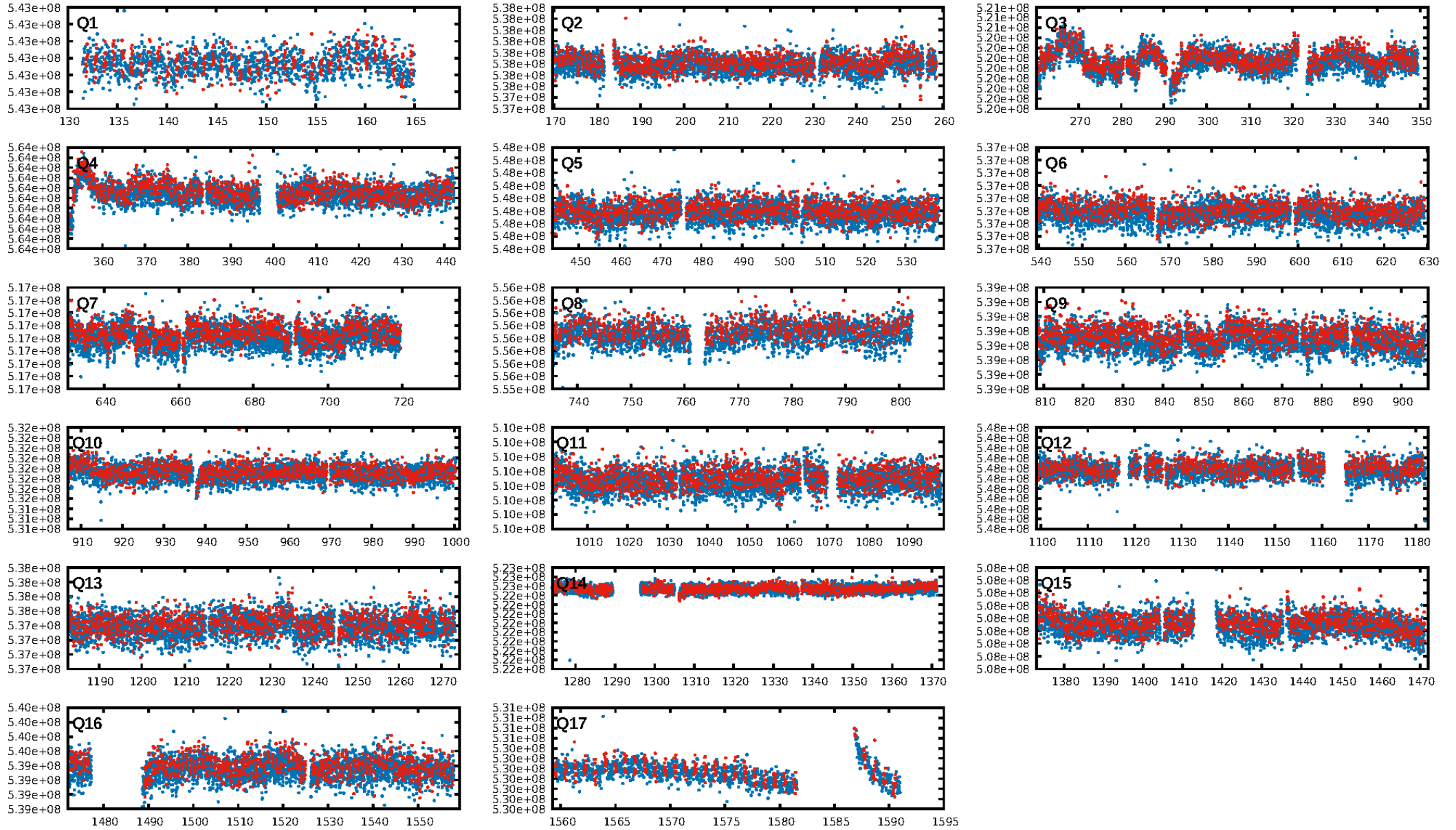
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.01e-30  
RollingBand-fgt: 0.98 [1378/1409]  
GhostDiagnostic-chr: -2.319  
Centroid-sig: 1.0%  
Centroid-so: 3.386 arcsec [2.20σ]  
OotOffset-rm: 1.512 arcsec [0.82σ]  
OotOffset-st: 3/3/2/3 [11]  
KicOffset-rm: 1.398 arcsec [0.75σ]  
KicOffset-st: 3/3/2/3 [11]  
DiffImageQuality-fgm: 0.27 [3/11]  
DiffImageOverlap-fno: 1.00 [17/17]

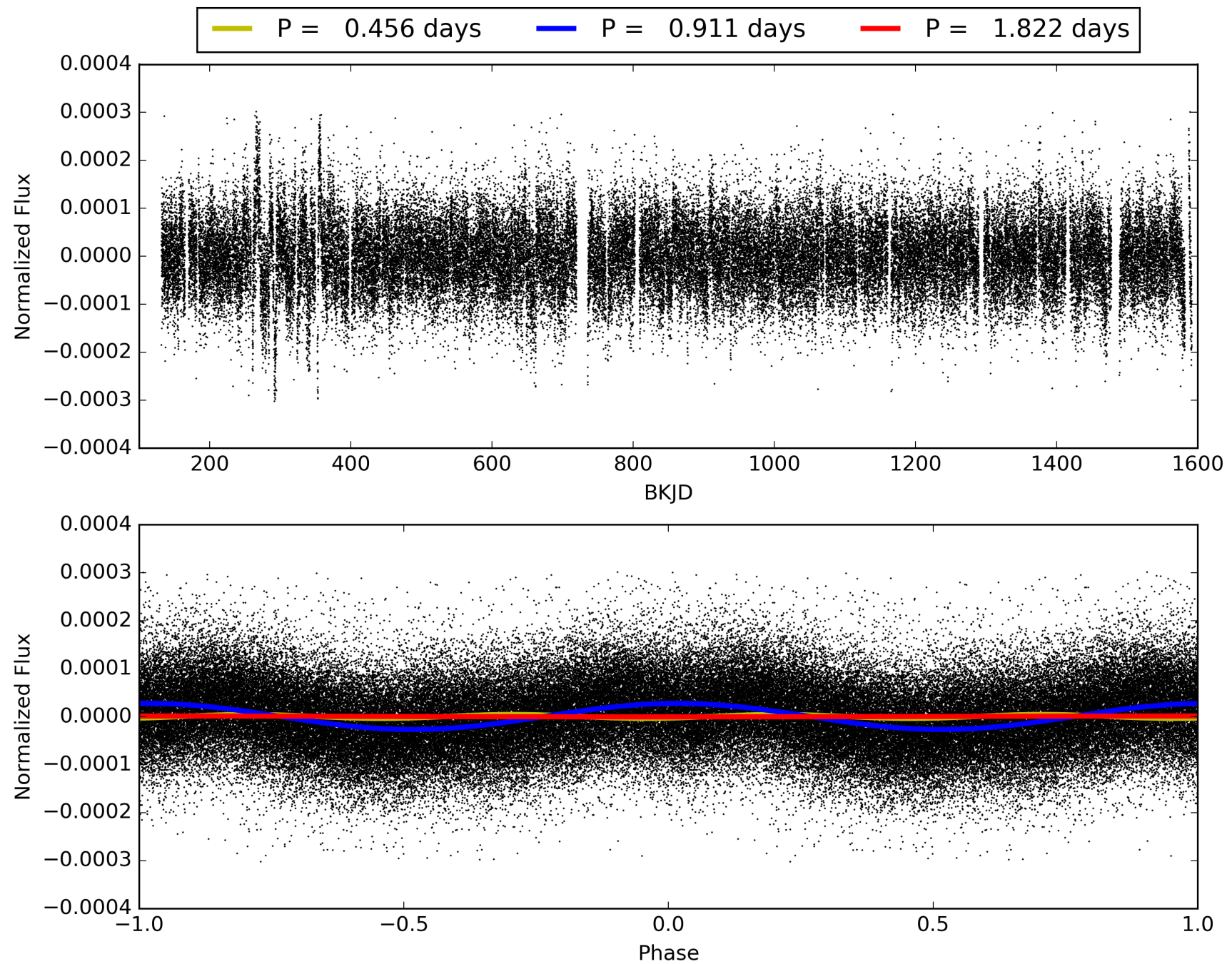
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:52:24 Z

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

# TCE 009613302-01, PDC Light Curves



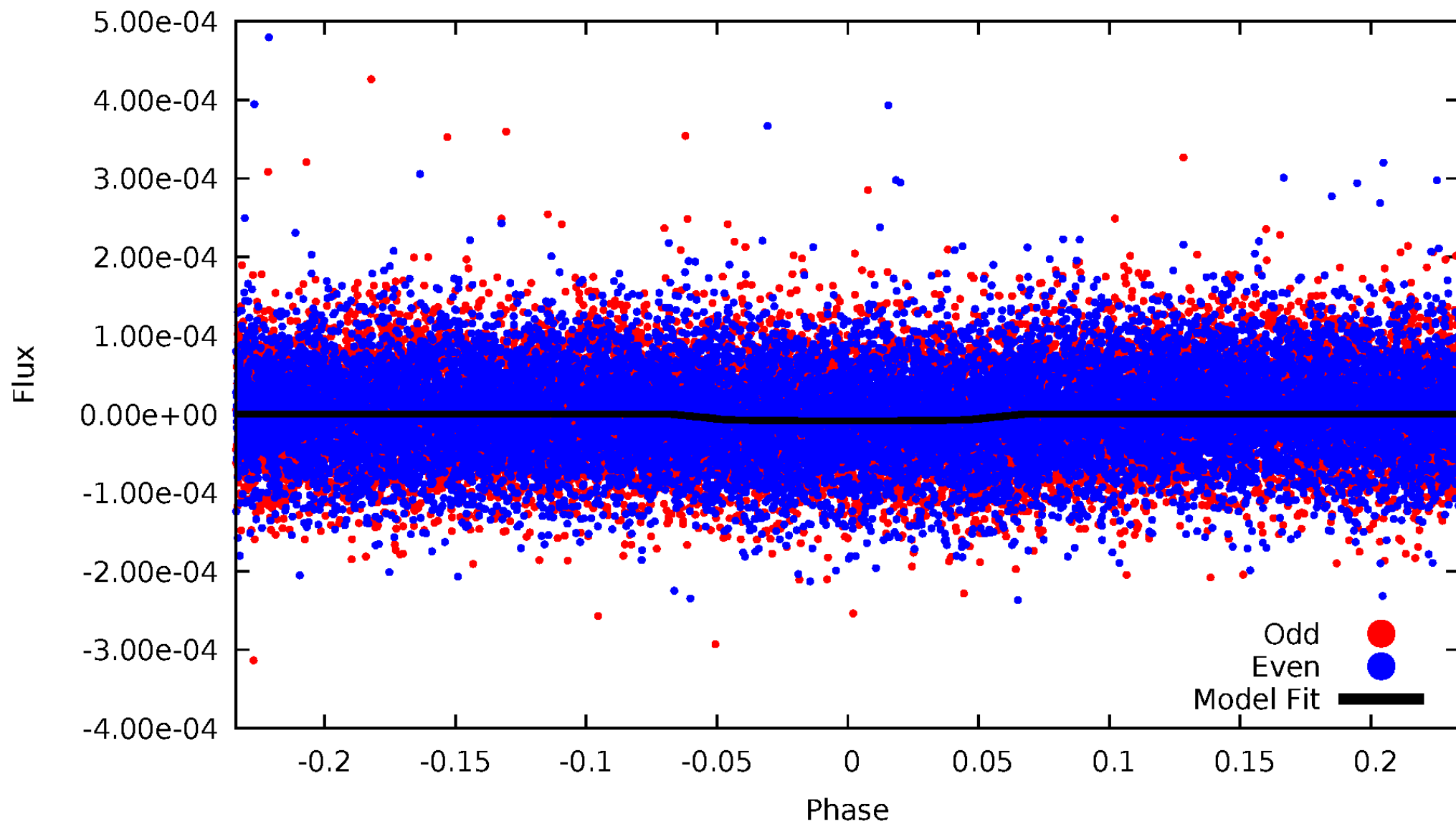
# TCE 009613302-01





# DV Odd/Even

TCE 009613302-01



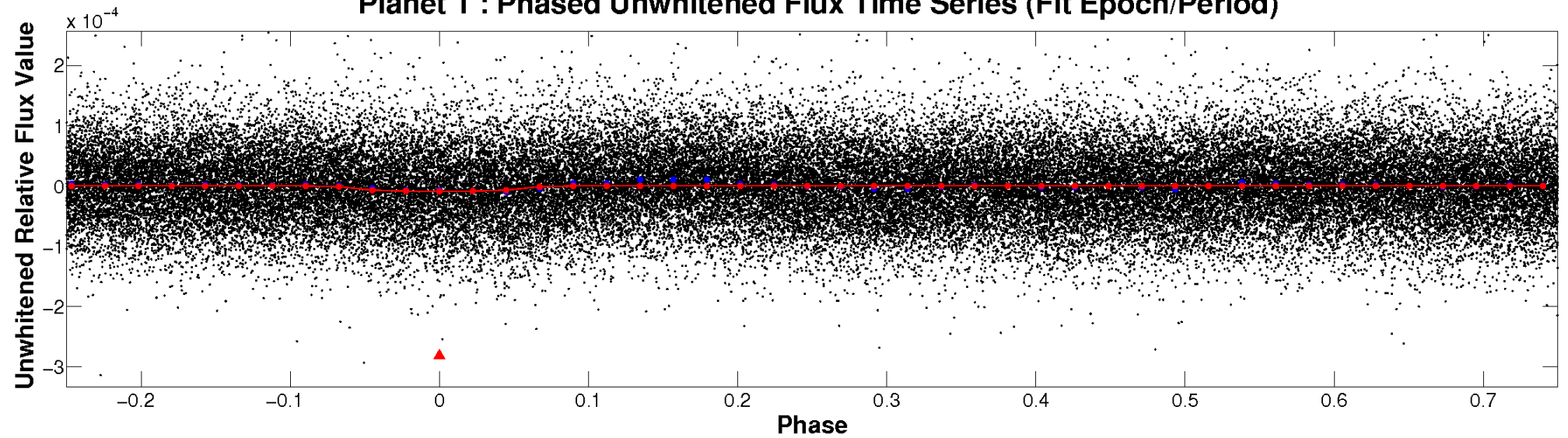


ALT Odd/Even

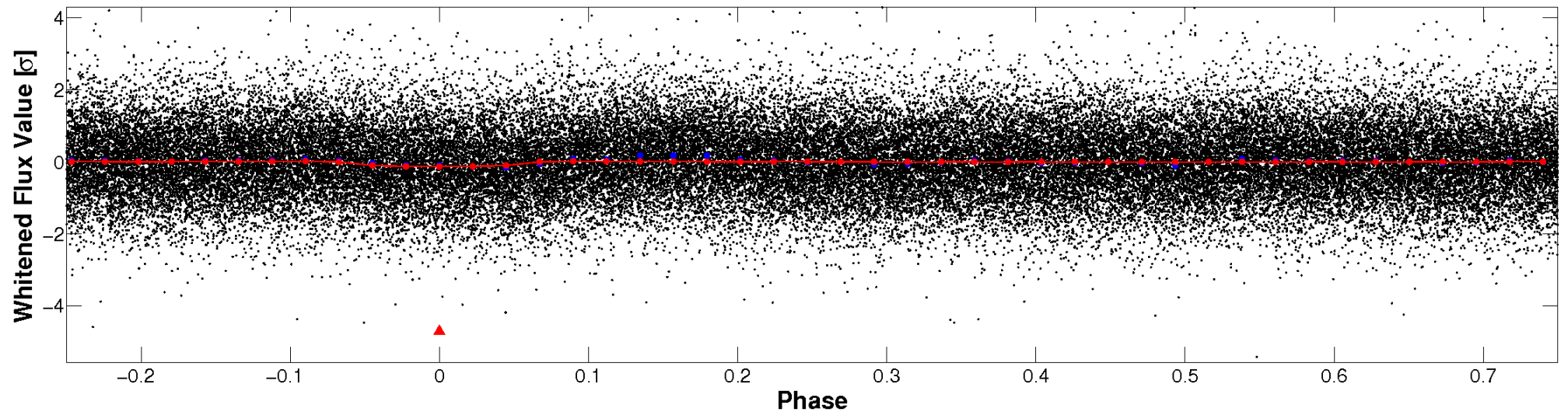
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

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



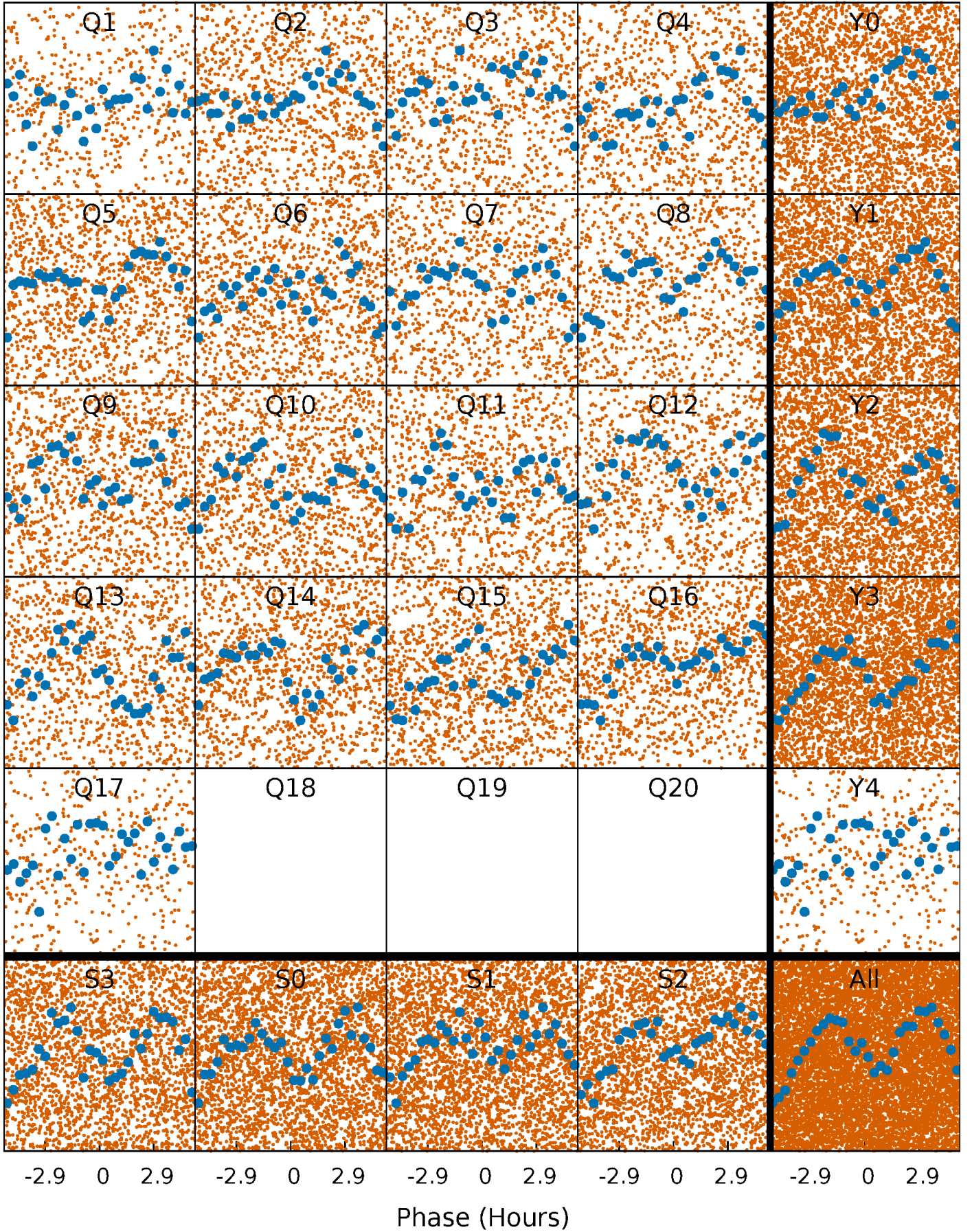
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





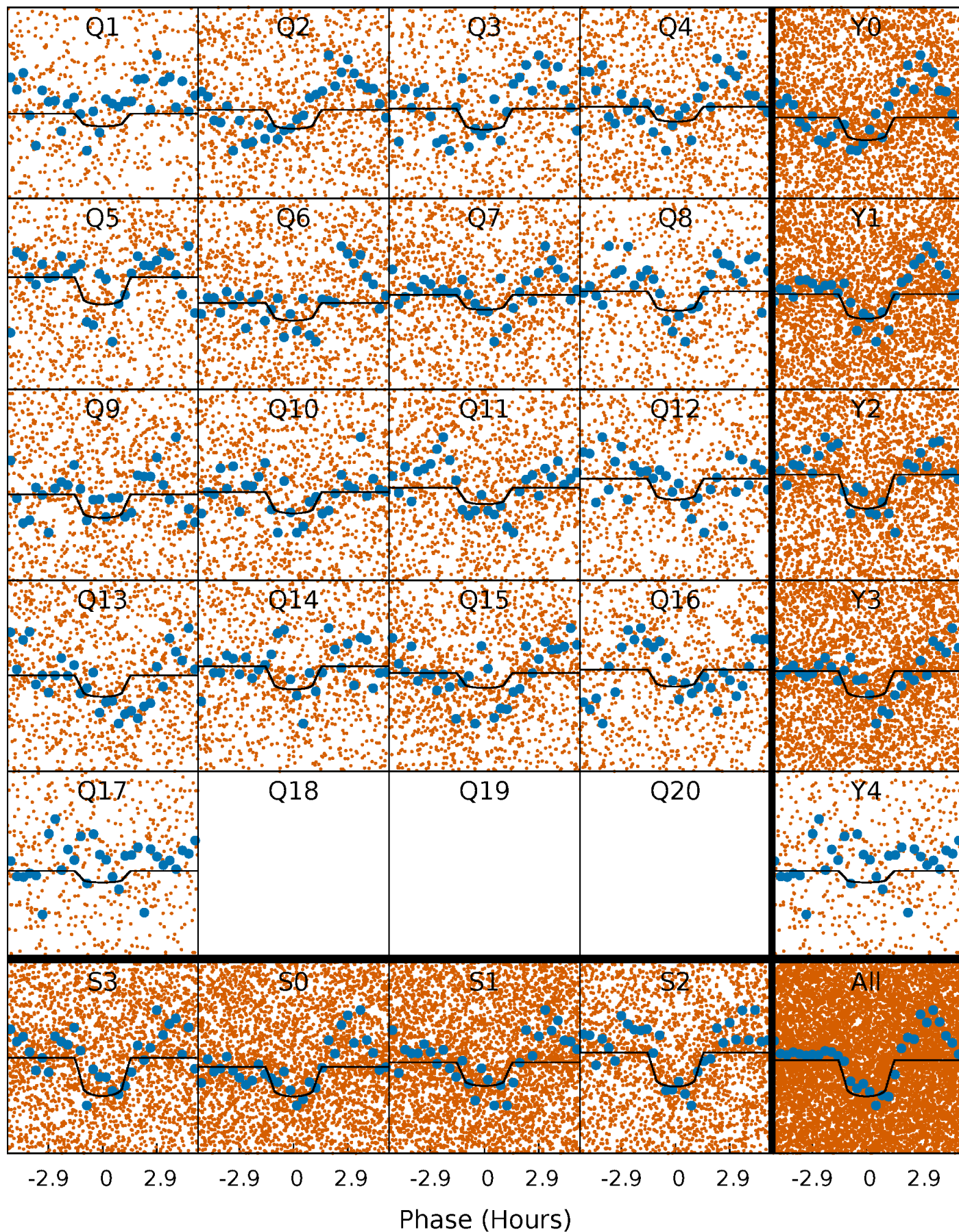
# PDC Quarter-Phased Transit Curves

TCE 009613302-01   P= 0.911057 Days    $T_0=131.884239$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 009613302-01 P= 0.911057 Days  $T_0=131.884239$  (BKJD)



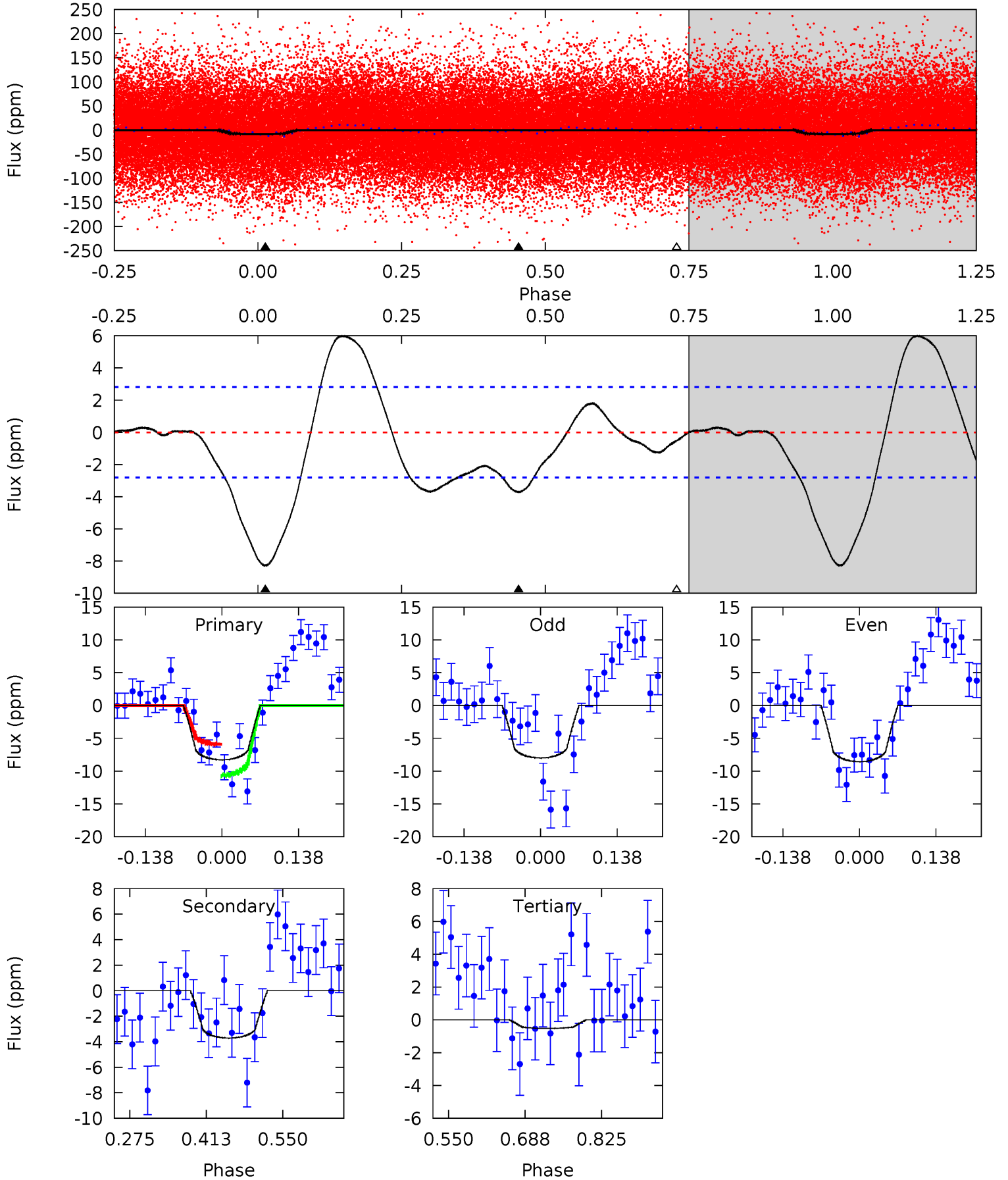
This plot does not exist for this TCE.



# DV Model-Shift Uniqueness Test

009613302-01, P = 0.911057 Days, E = 130.973182 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
13.3	5.94	0.83	0	4.50	1.49	3.62	12.4	13.3	5.11	5.94	0.46	1.05	0.42	3.80



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 009613302

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7435^{+207}_{-337}$	$4.177^{+0.105}_{-0.195}$	$0.020^{+0.200}_{-0.350}$	$1.698^{+0.550}_{-0.296}$	$1.580^{+0.200}_{-0.244}$	$0.454^{+0.230}_{-0.245}$
	+3%/-5%	+3%/-5%	+1000%/-1750%	+32%/-17%	+13%/-15%	+51%/-54%
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 009613302-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-4 \pm 1$	$0.54^{+0.12}_{-0.09}$	$4118^{+331}_{-263}$	$5857^{+623}_{-519}$	$3.164^{+1.519}_{-1.063}$
Alt.	N/A	N/A	N/A	N/A	N/A

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



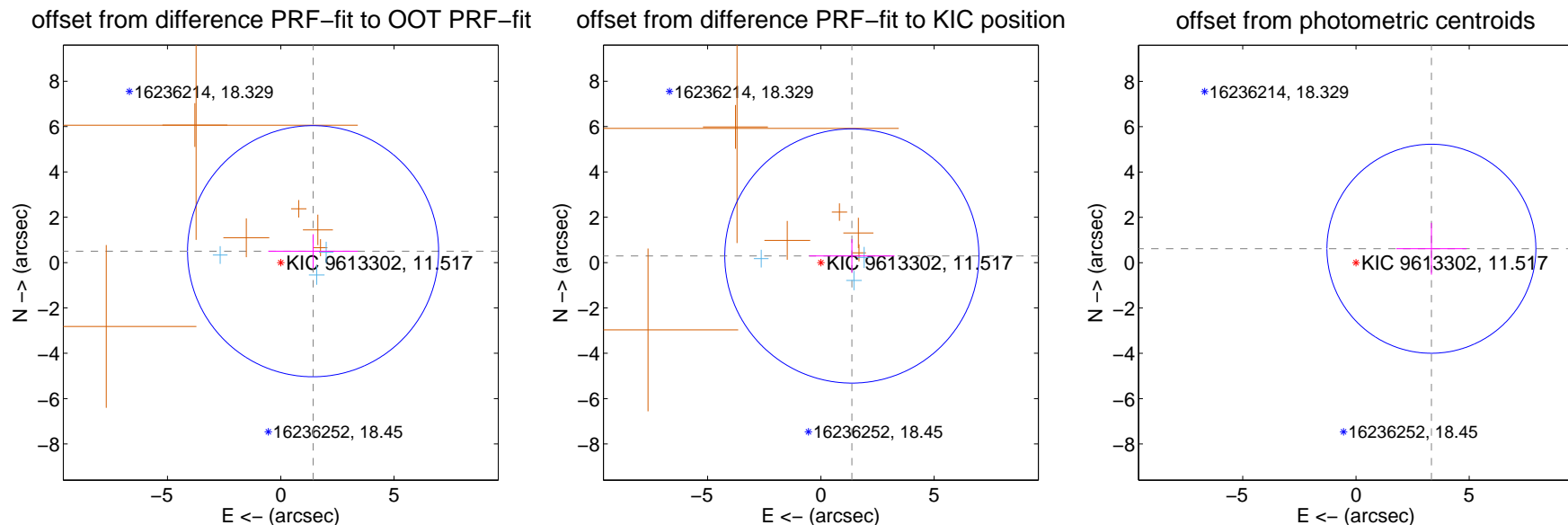
## DV Centroid Data

Supplemental centroid analysis for 009613302-01. **Kepler magnitude: 11.52.** Transit SNR 10.06

**There are 3 quarters with good PRF difference image offsets**

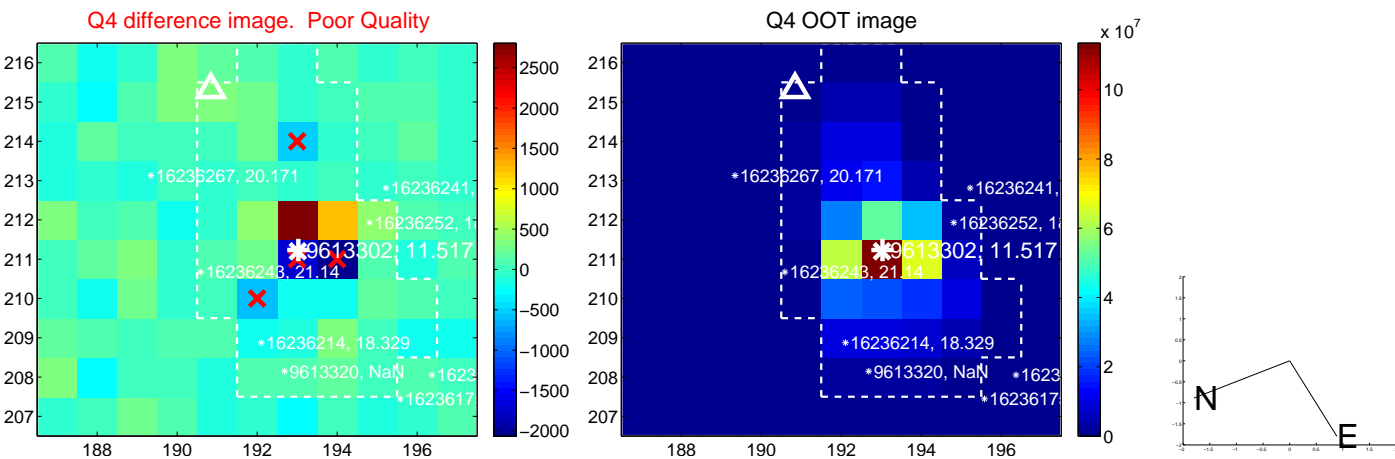
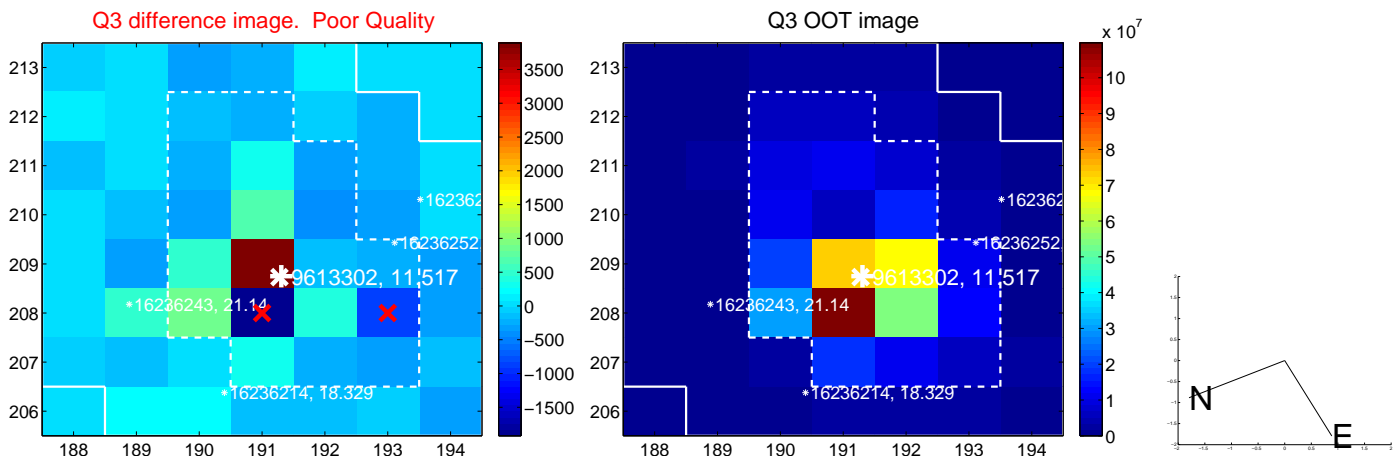
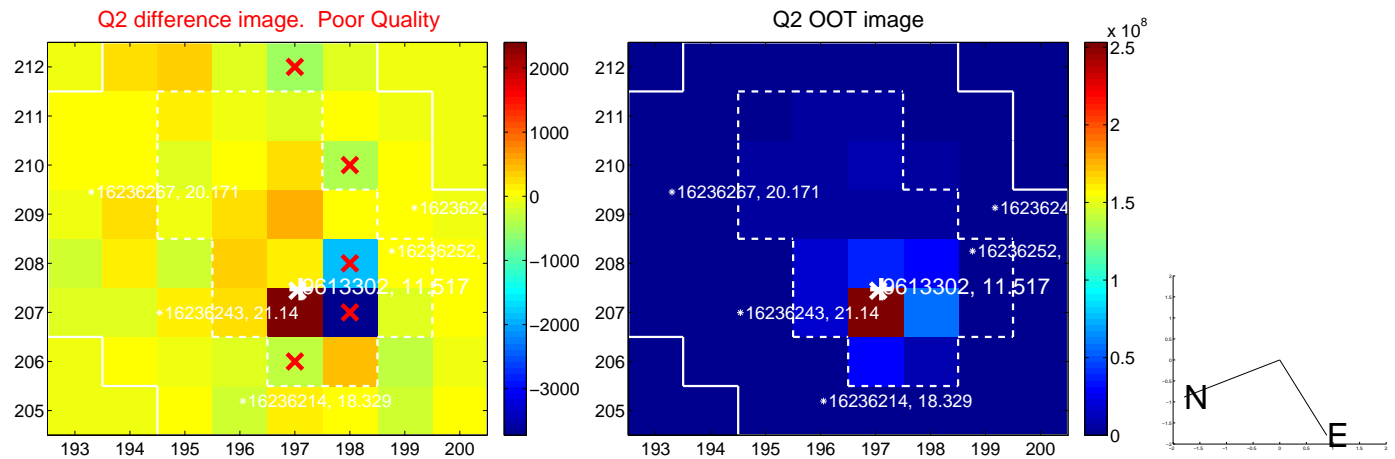
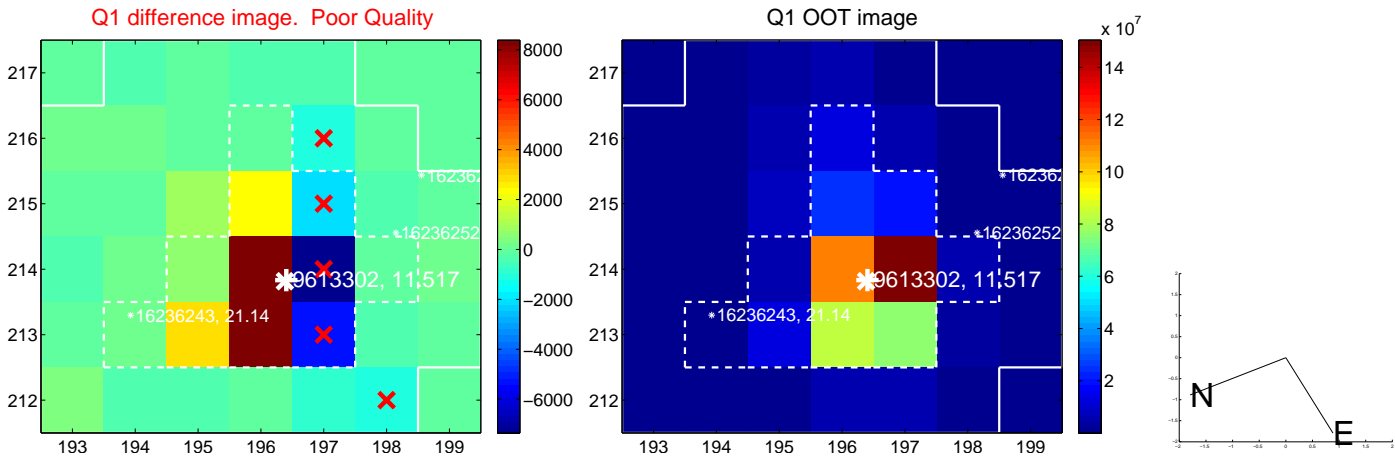
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.512 \pm 1.846$	0.82	$-1.426 \pm 1.975$	$0.503 \pm 0.747$
PRF-fit source offset from KIC position	$1.398 \pm 1.869$	0.75	$-1.367 \pm 1.880$	$0.291 \pm 0.740$
photometric centroid source offset	$3.39 \pm 1.54$	2.20	$-3.33 \pm 1.55$	$0.61 \pm 1.14$

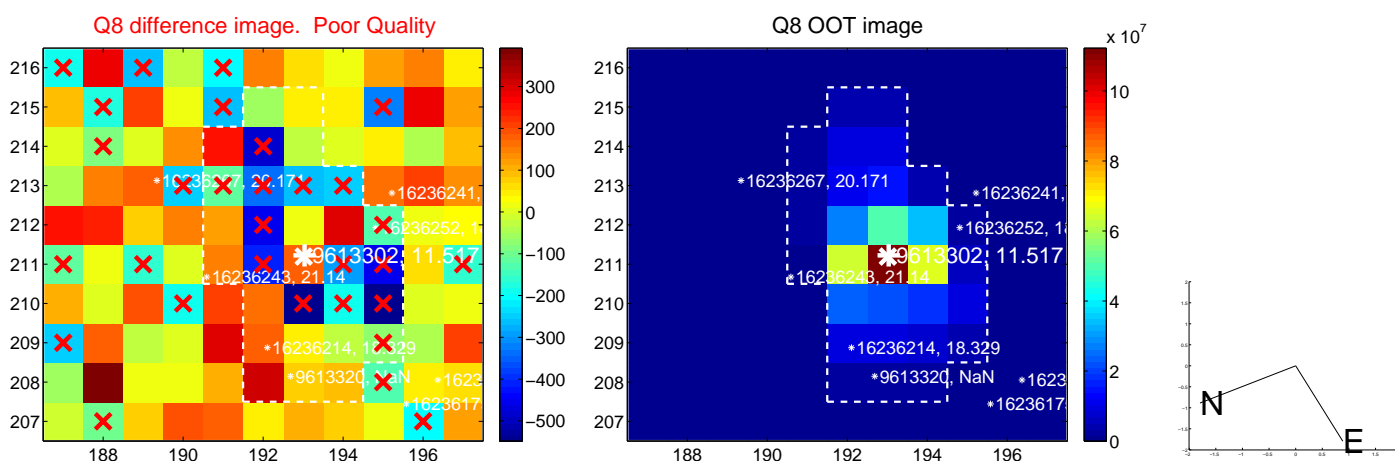
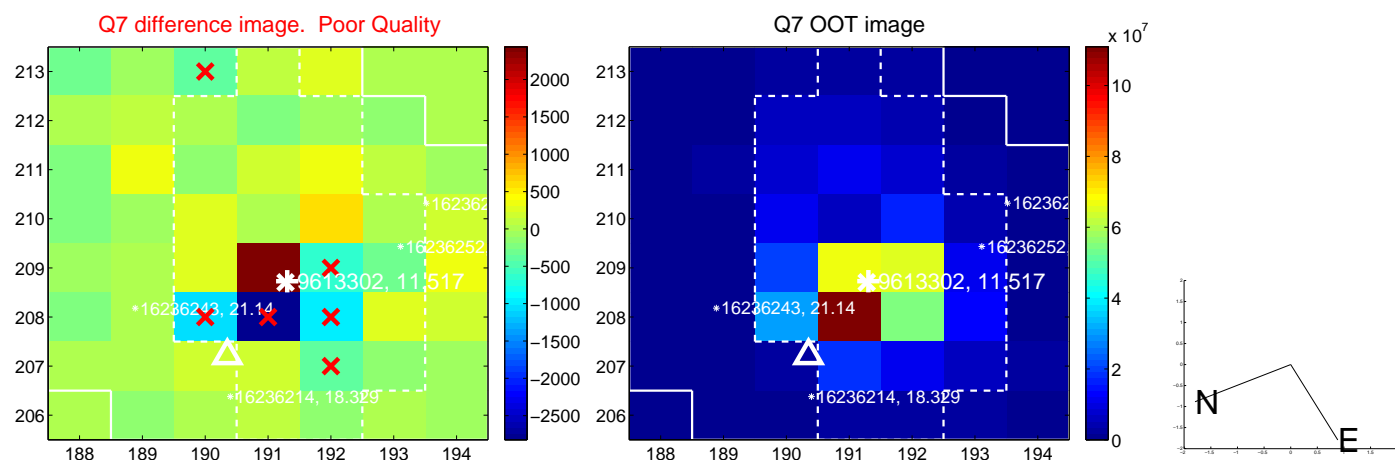
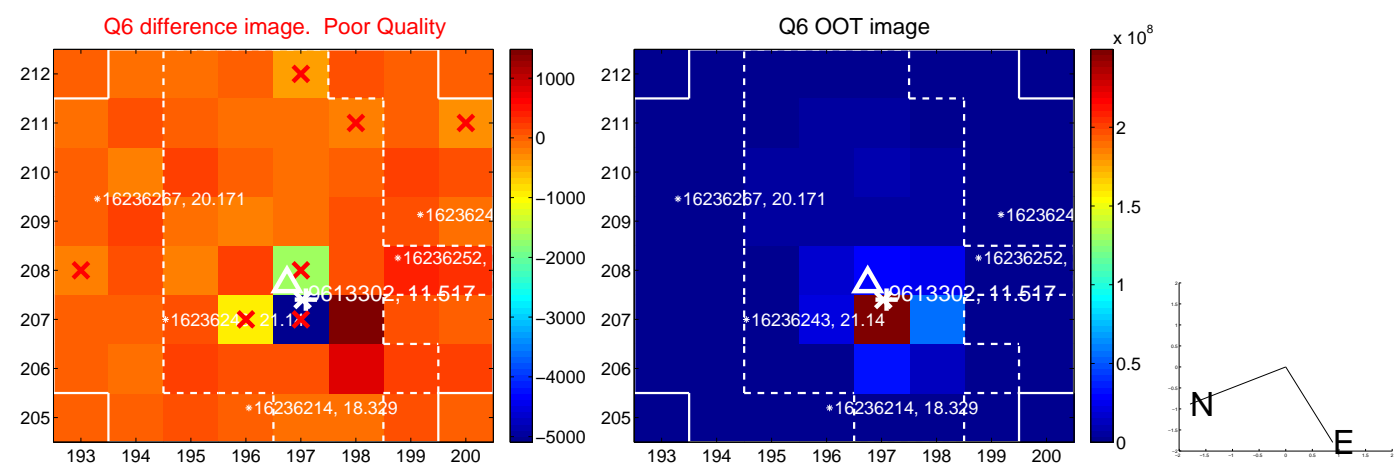
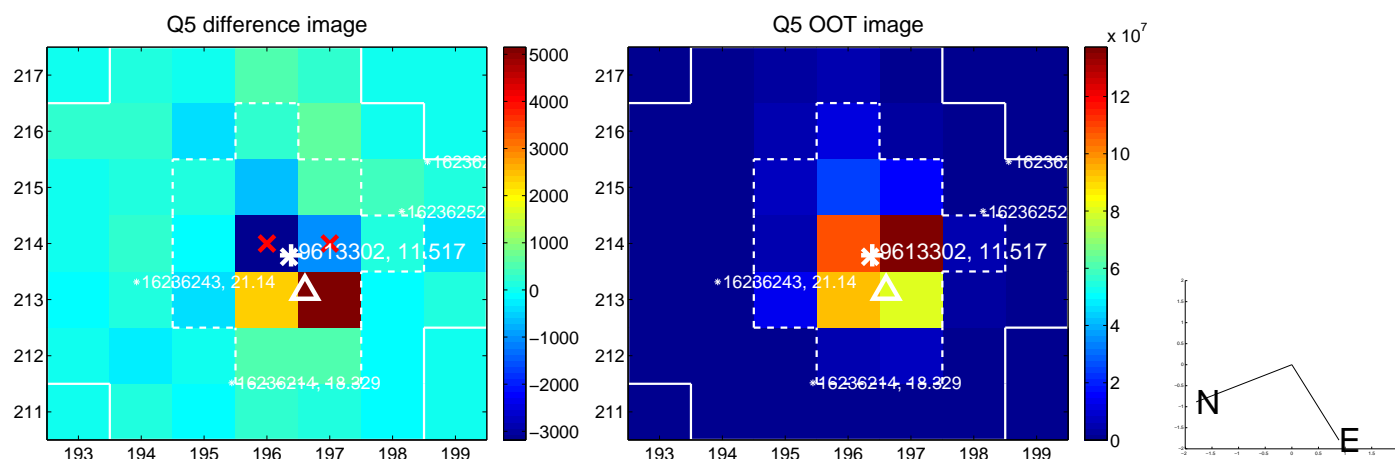


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

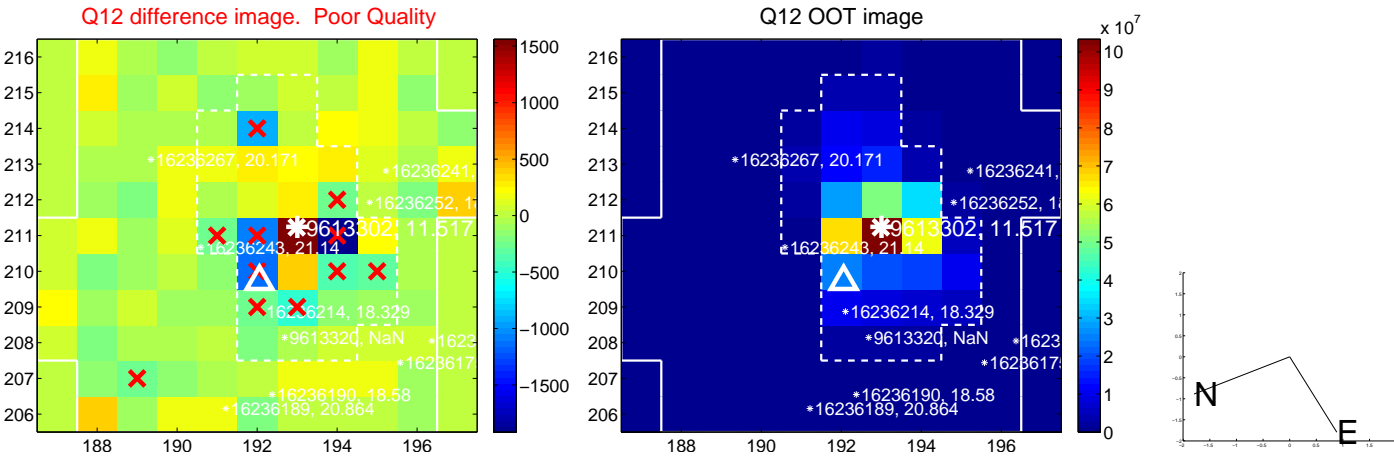
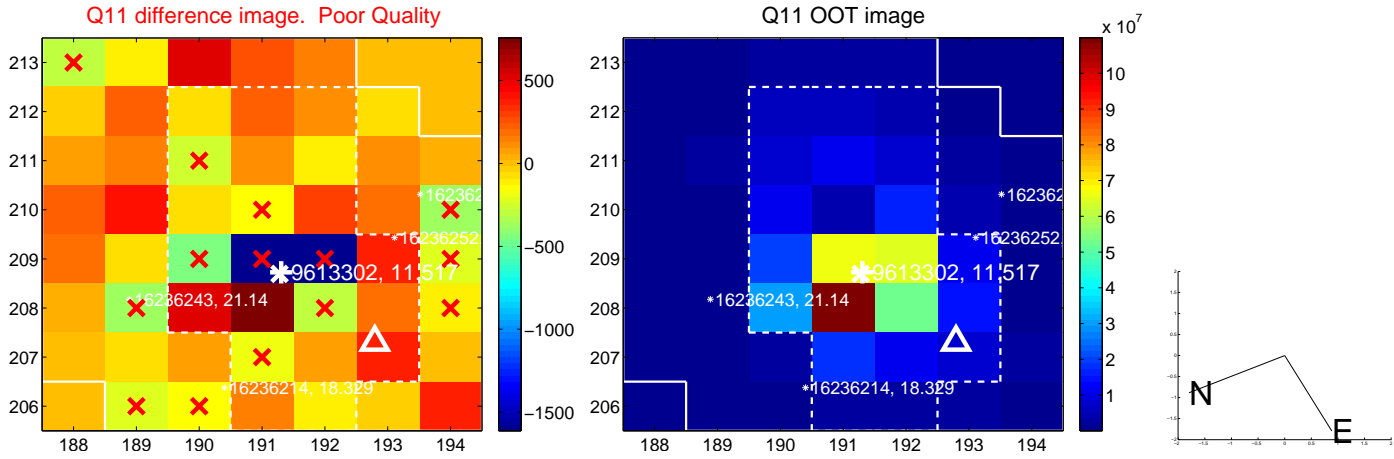
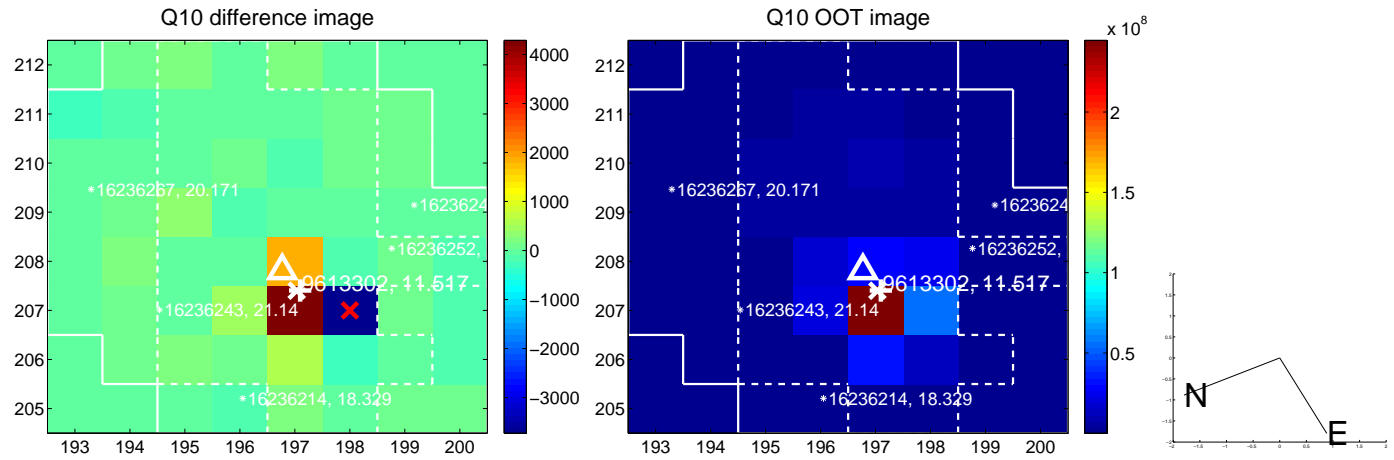
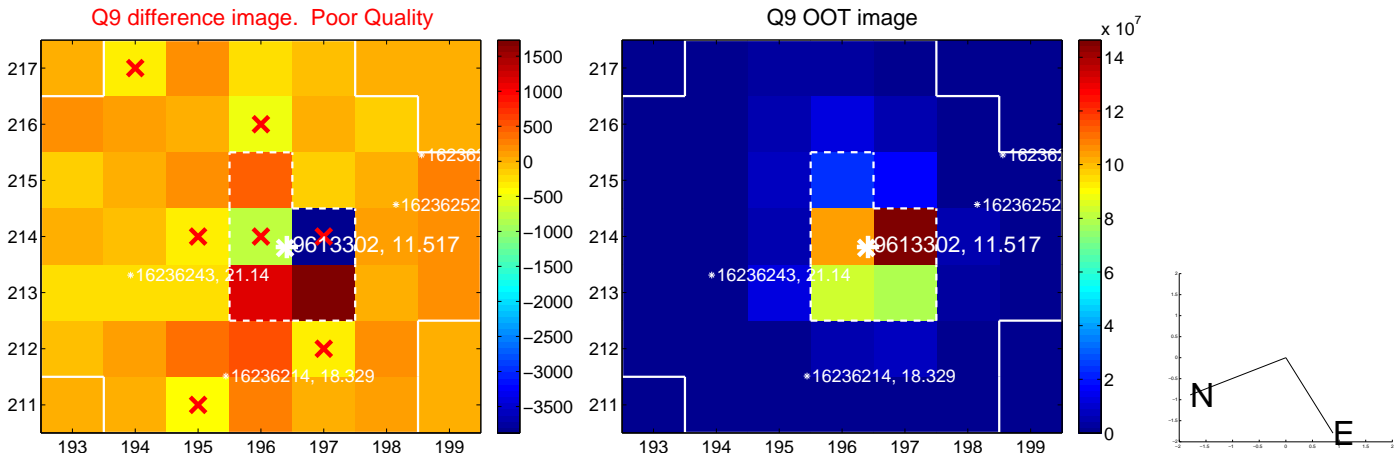
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



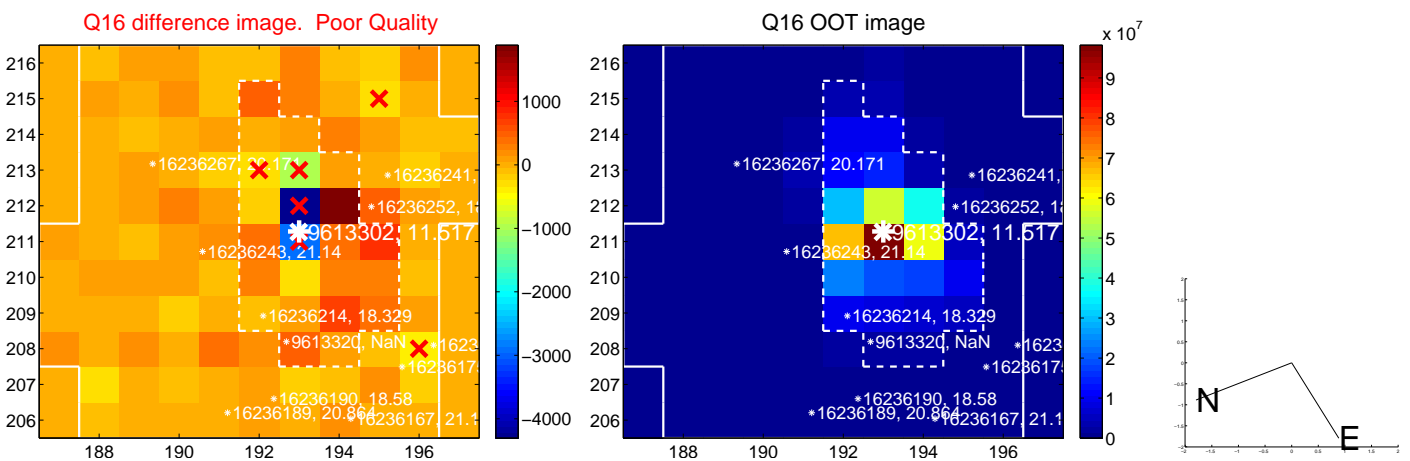
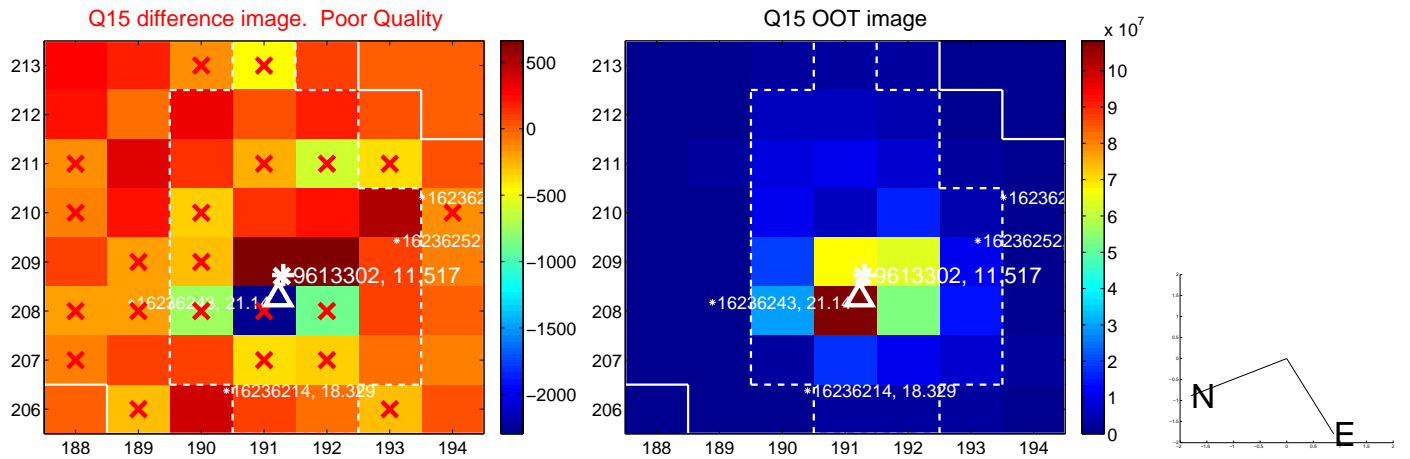
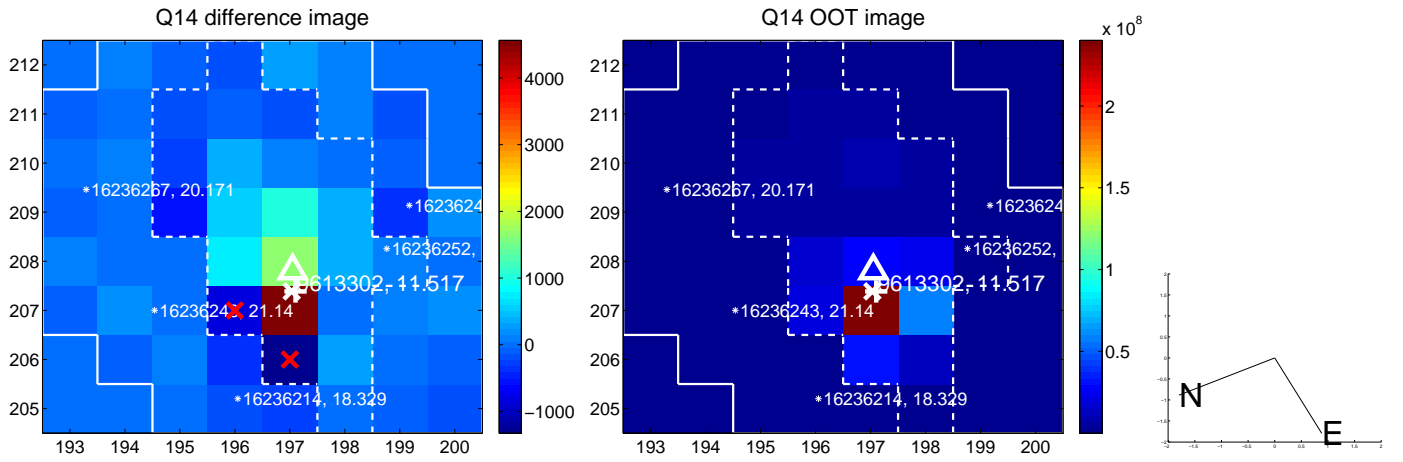
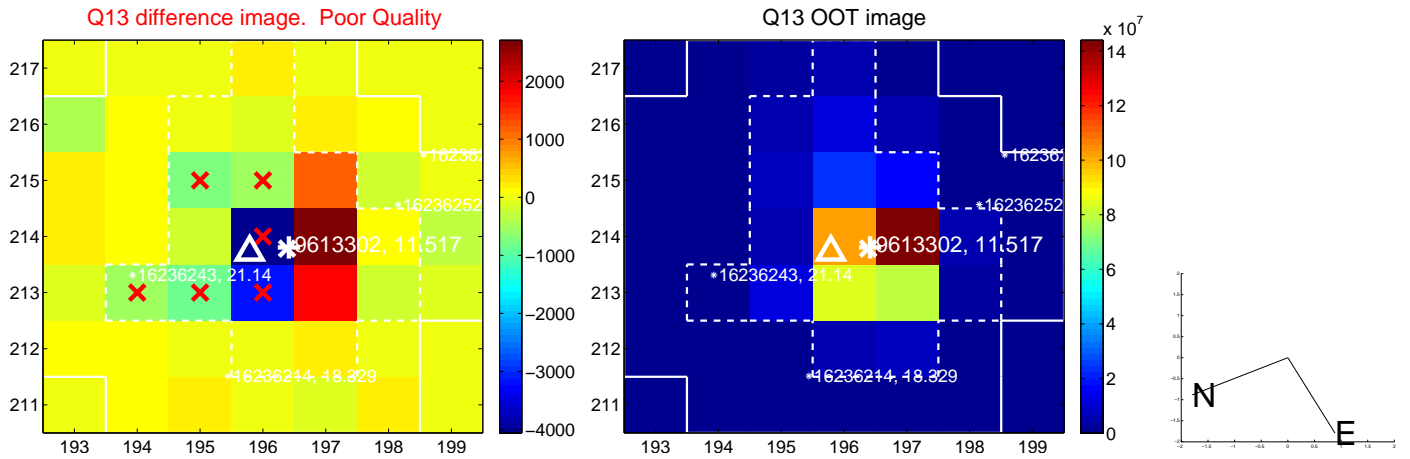
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



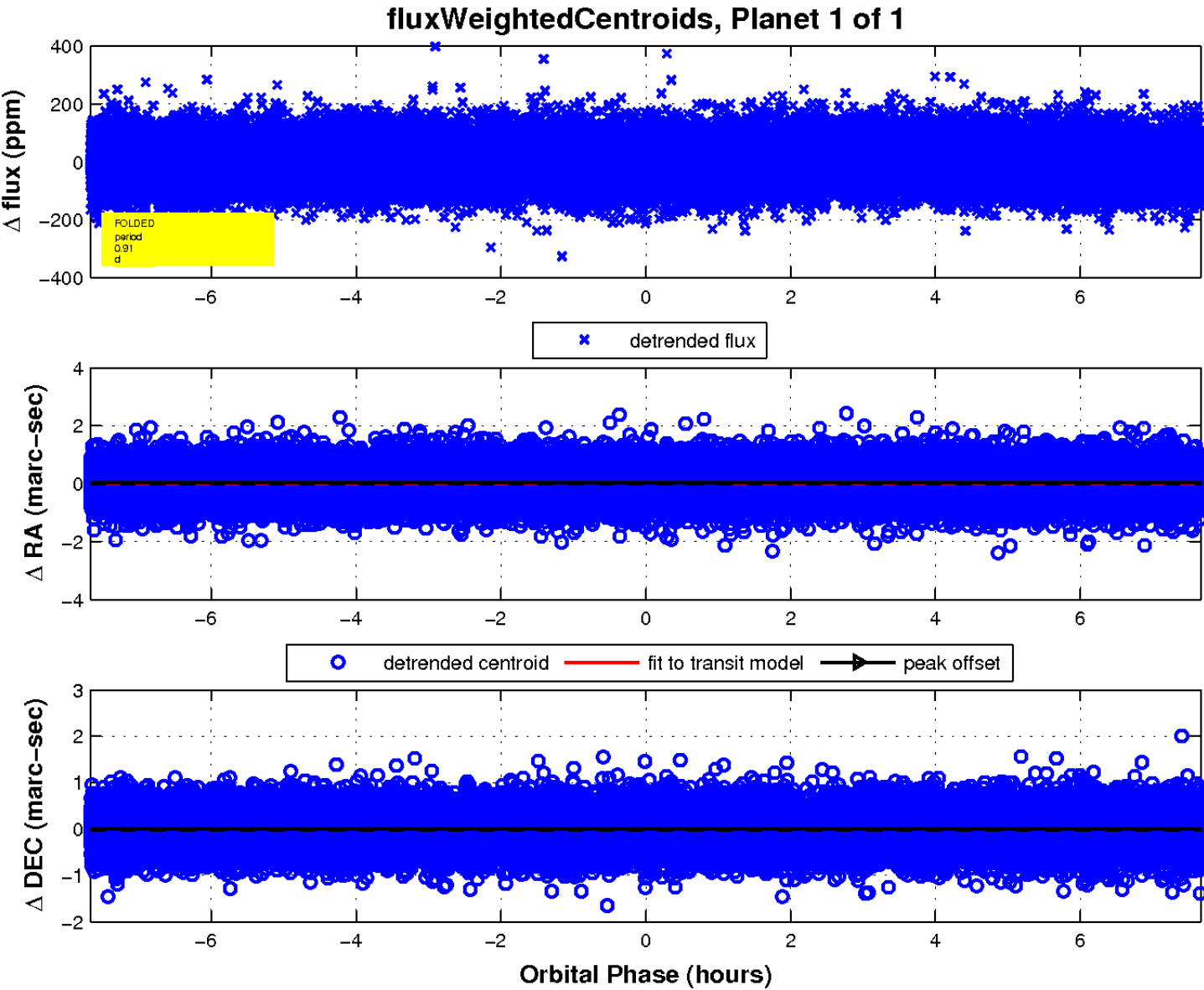
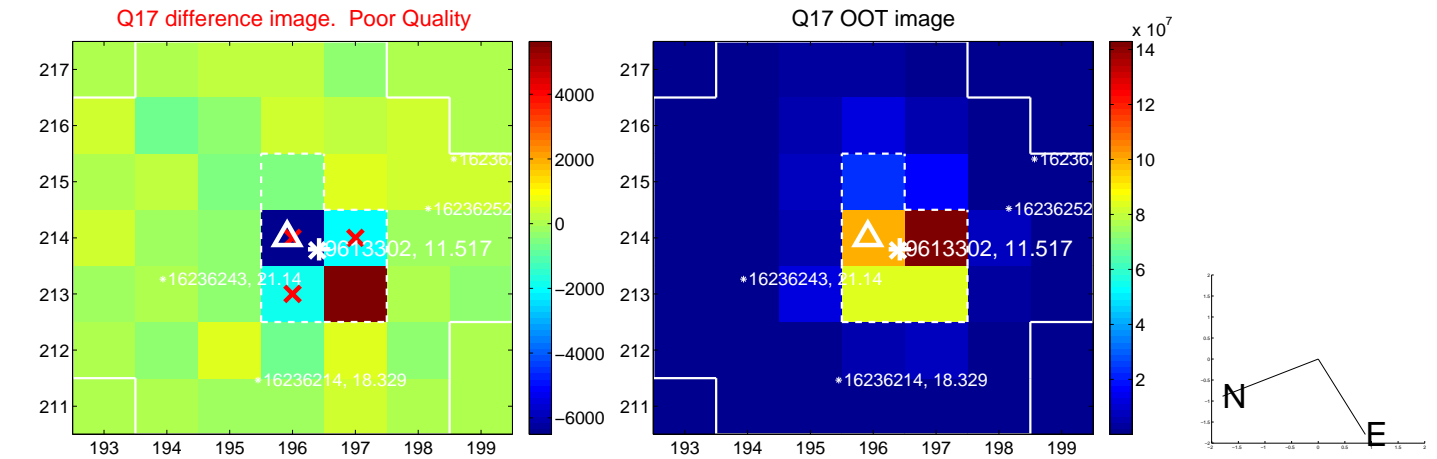
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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





UKIRT Image

Declination

