

# KIC 010736223

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010736223-01	OBS	7367.01	1.105091	132.546611	174808.4	2.000	15415.9	-1.0	2.93	8011	124.79	47869.53

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010736223-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—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 010736223-01

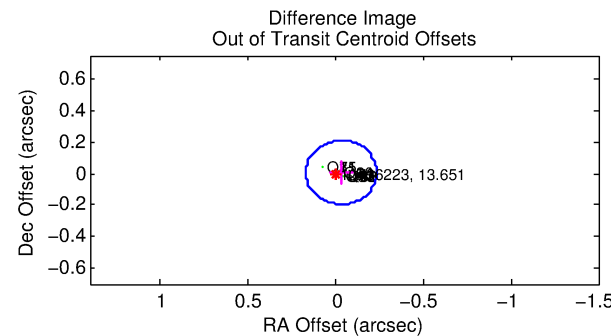
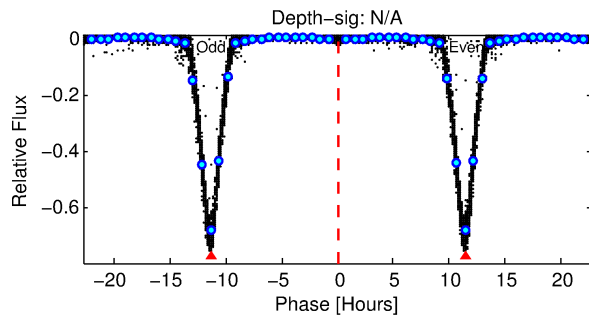
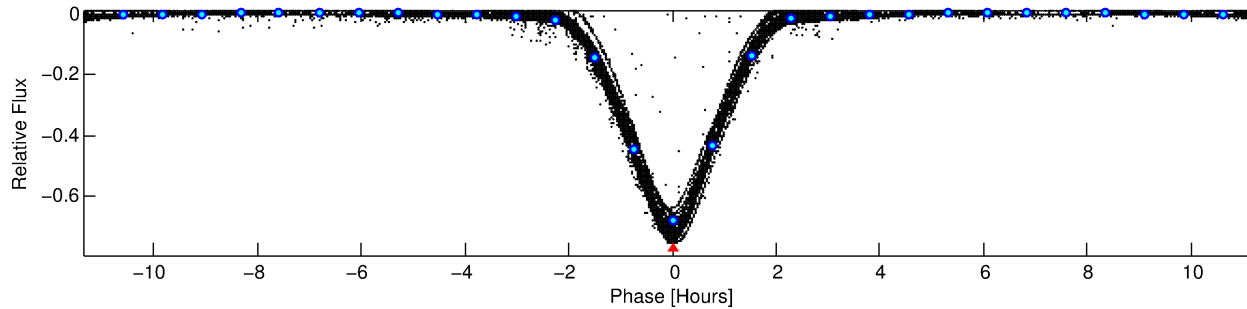
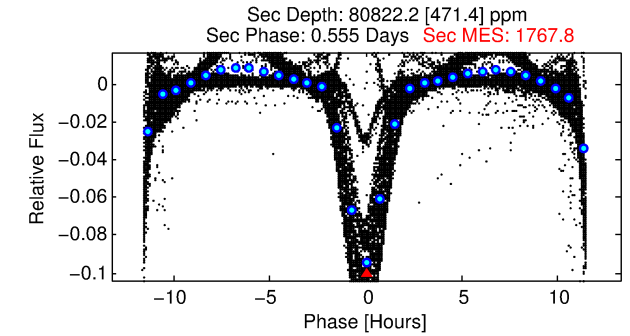
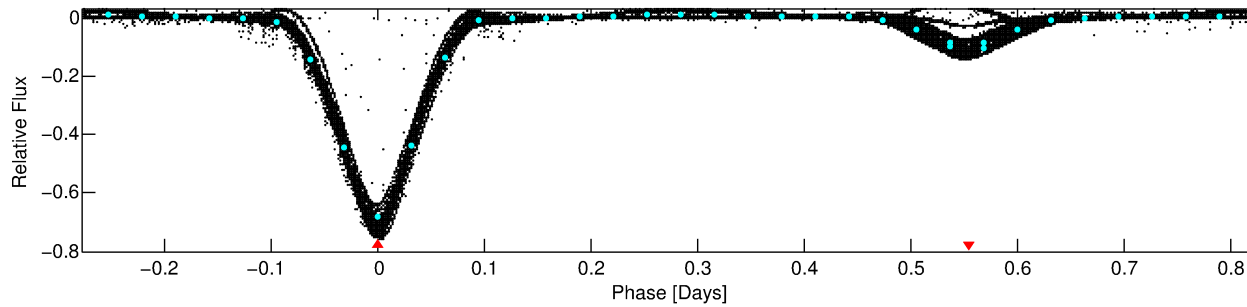
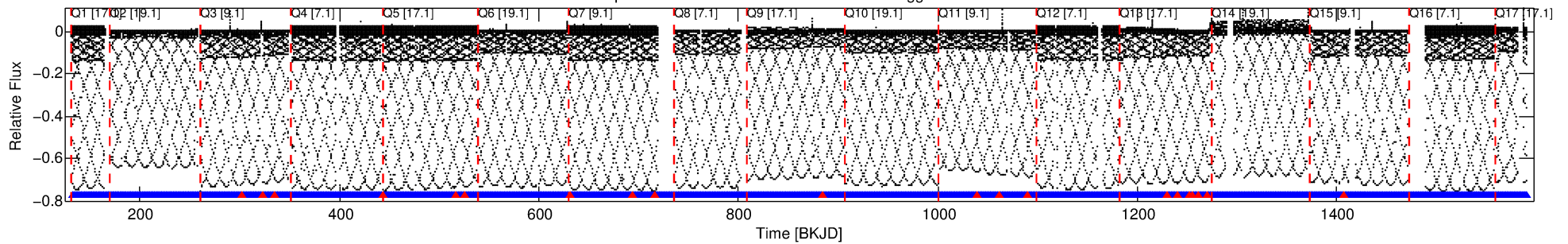
No Significant Match Found

# DV One-Page Summary

KIC: 10736223 Candidate: 1 of 1 Period: 1.105 d

KOI: K07367 Corr: No Ephemeris Match

Kp: 13.65 R\*: 2.93 Rs Teff: 8011.0 K Logg: 3.77 Fe/H: -0.200



## TPS TCE Results:

Period = 1.10509 d  
Epoch = 132.5466 BKJD

**DV fit results are unavailable**

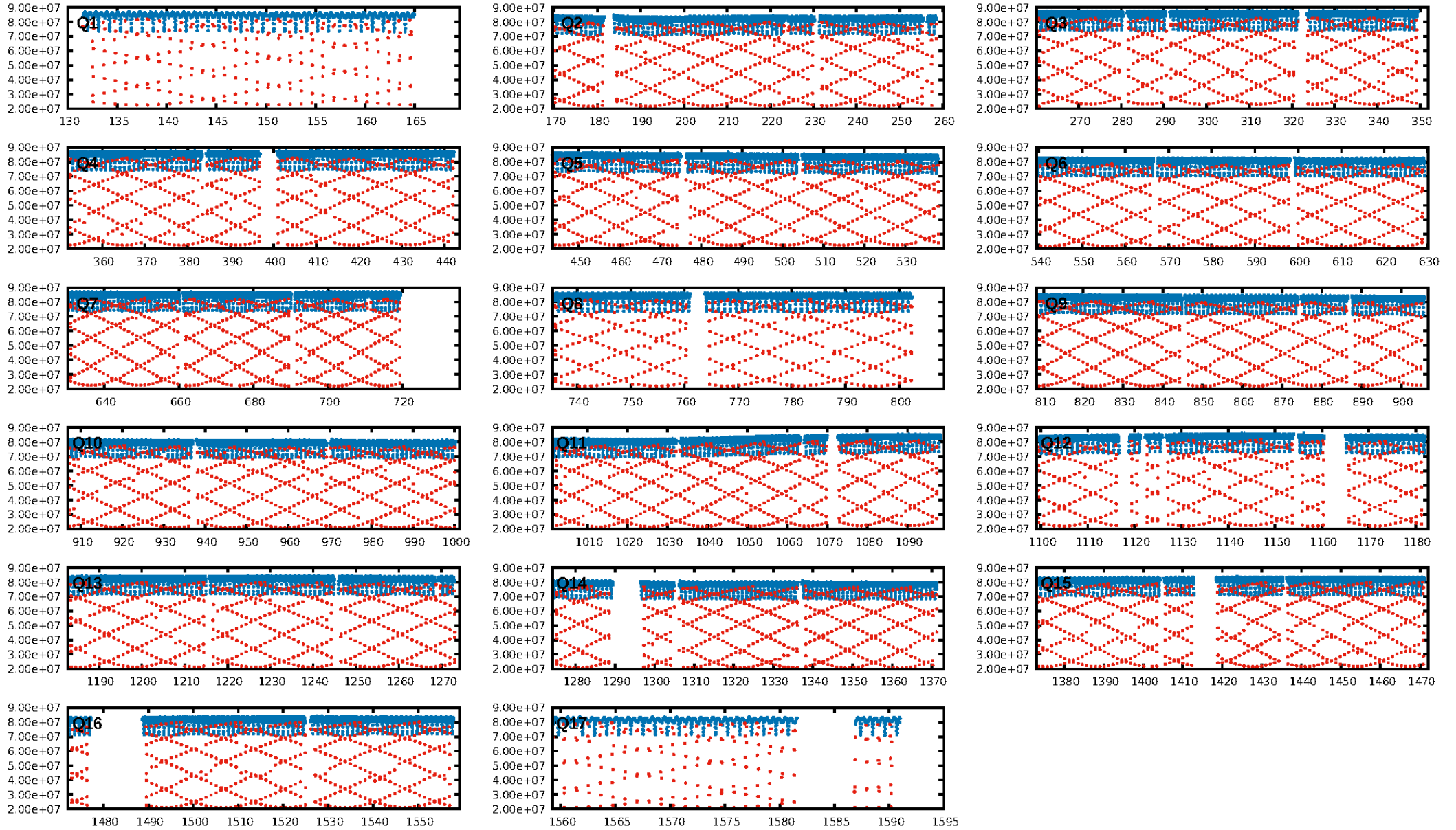
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.98 [1144/1164]  
**GhostDiagnostic-chr: 0.9816**  
Centroid-sig: N/A  
**Centroid-so: 0.153 arcsec [623.79σ]**  
OotOffset-rm: 0.034 arcsec [0.50σ]  
KicOffset-rm: 0.078 arcsec [1.14σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

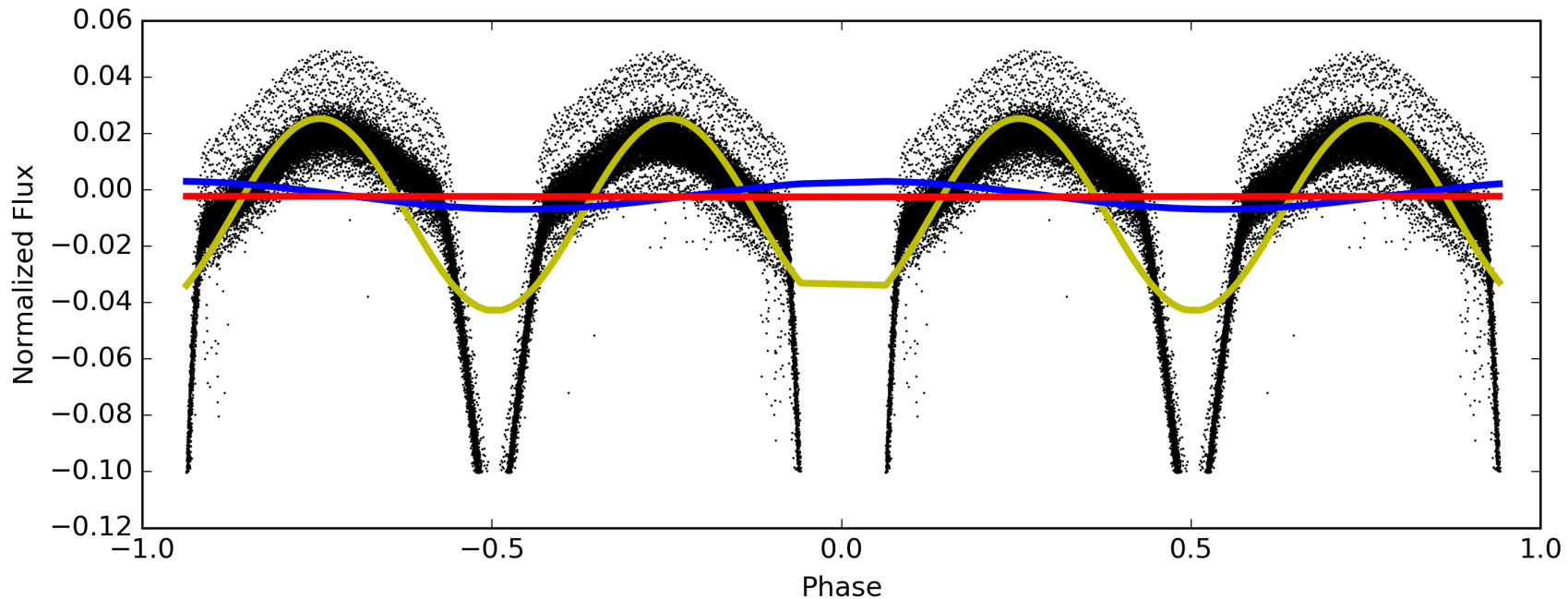
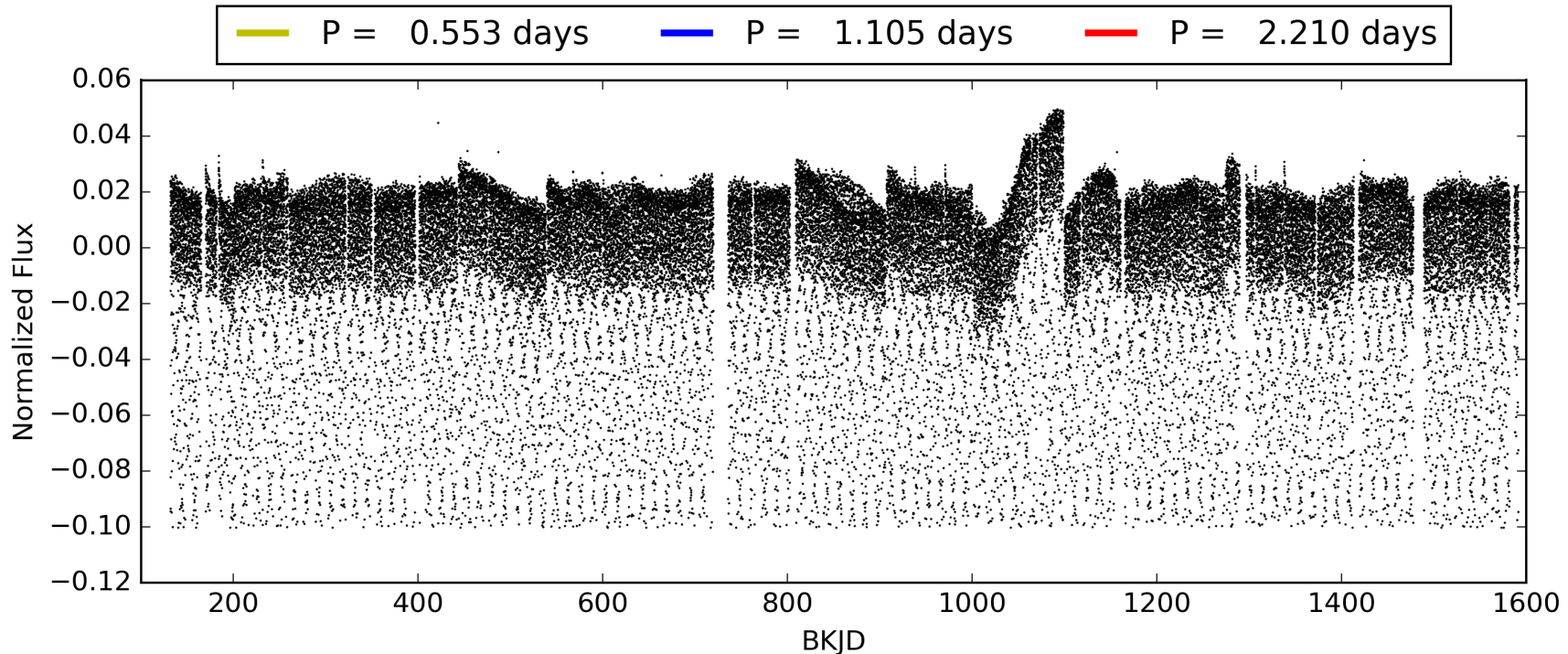
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:27:10 Z

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

# TCE 010736223-01, PDC Light Curves

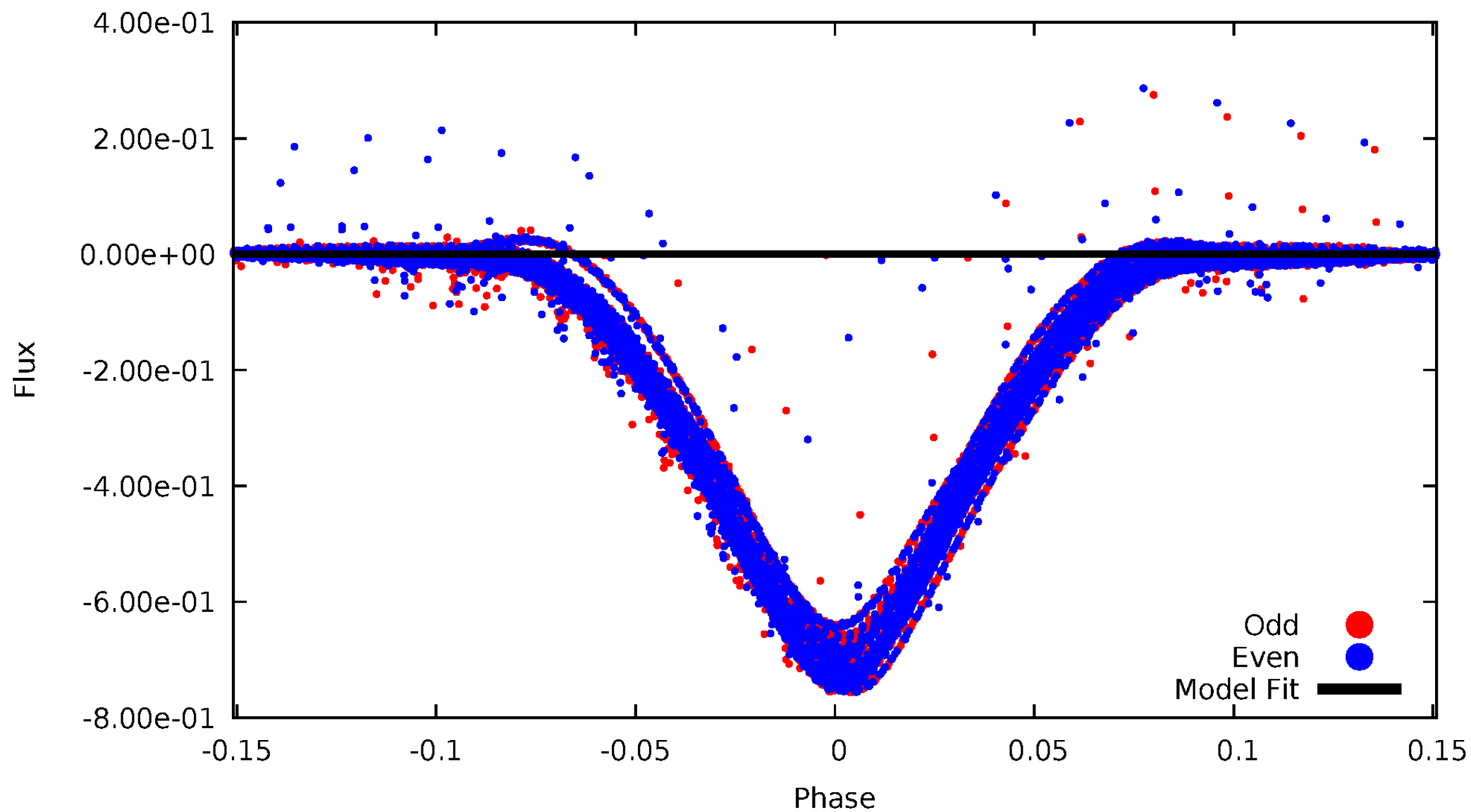


TCE 010736223-01



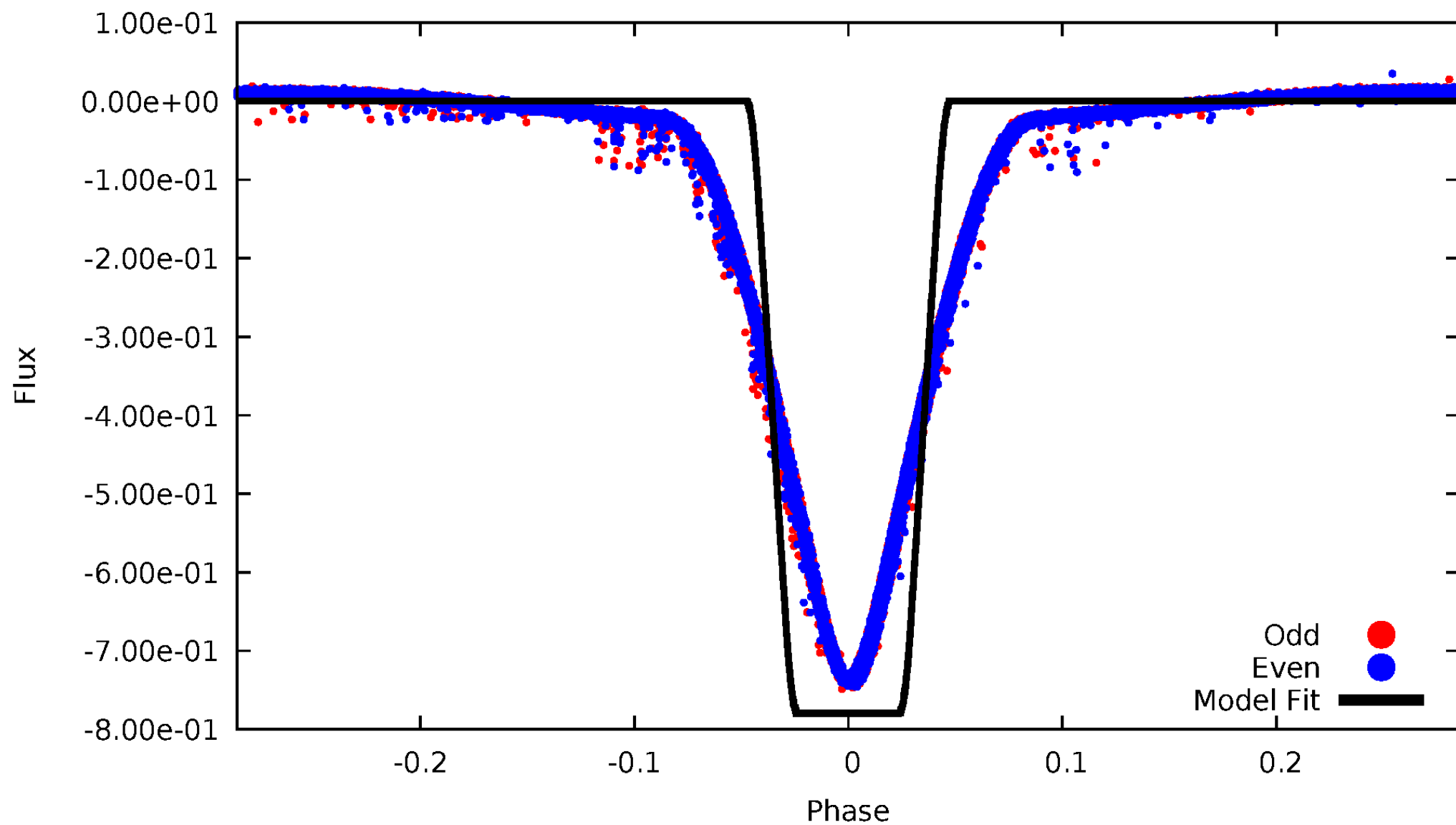
# DV Odd/Even

TCE 010736223-01



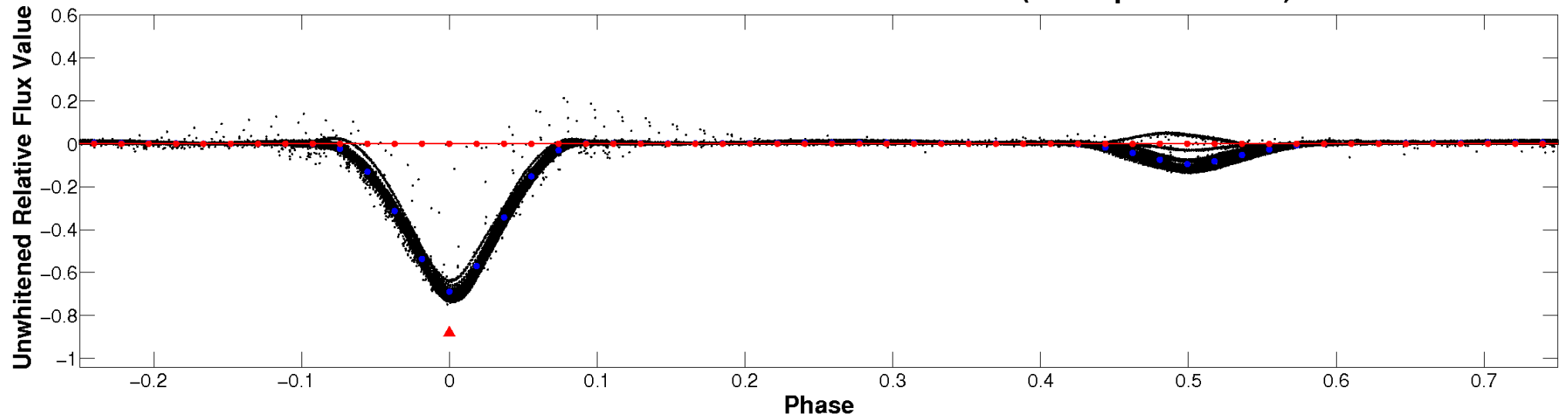
# ALT Odd/Even

TCE 010736223-01

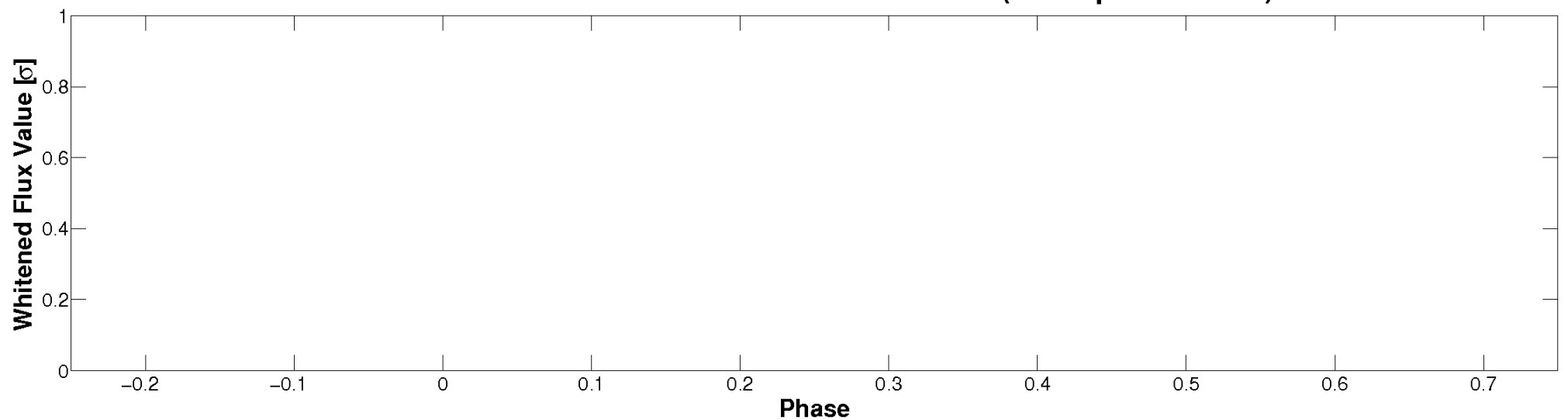


# Non-Whitened Vs. Whitened Light Curve

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

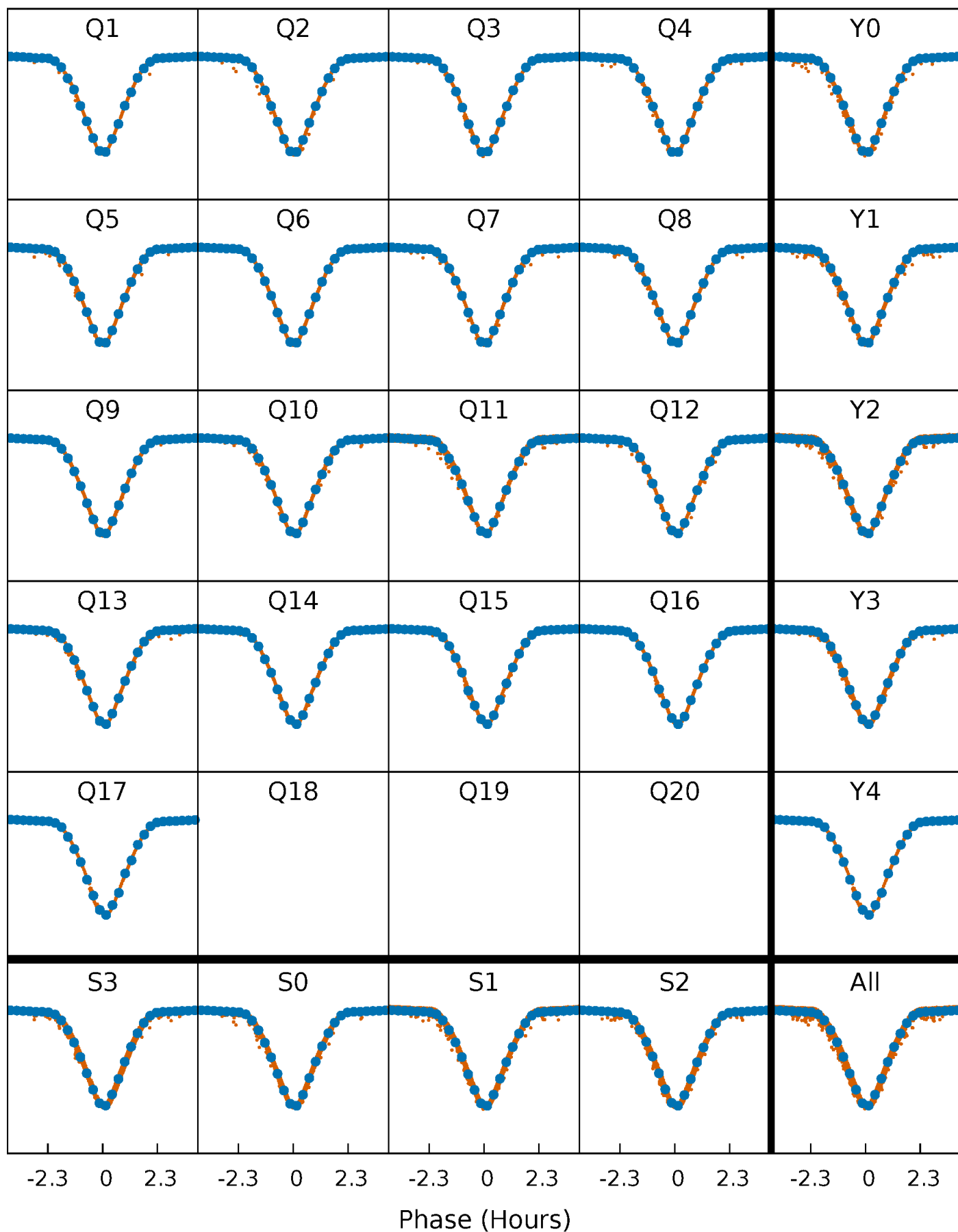


**Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



# PDC Quarter-Phased Transit Curves

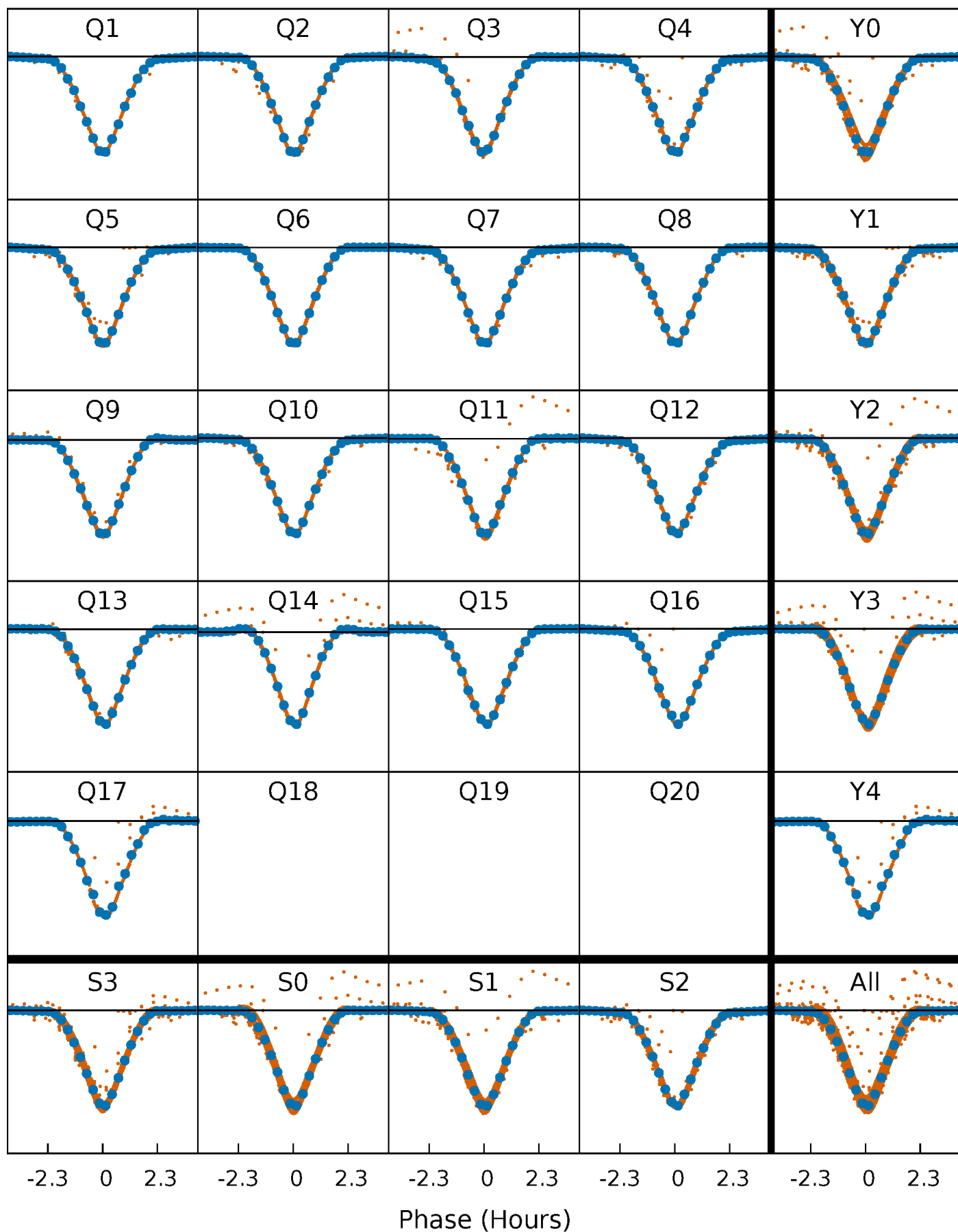
TCE 010736223-01 P= 1.105091 Days  $T_0=132.546611$  (BKJD)





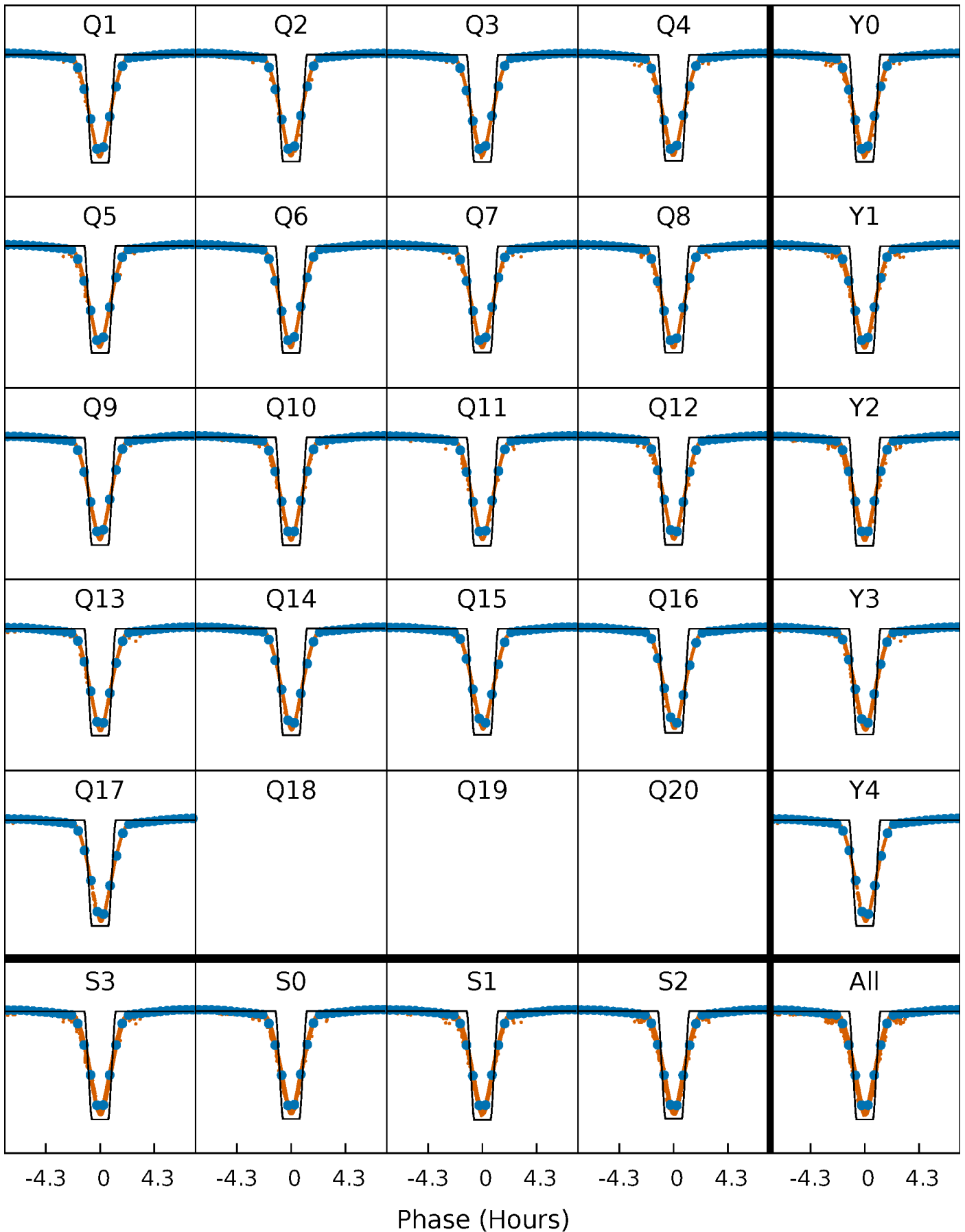
# DV Quarter-Phased Transit Curves

TCE 010736223-01 P= 1.105091 Days  $T_0=132.546611$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

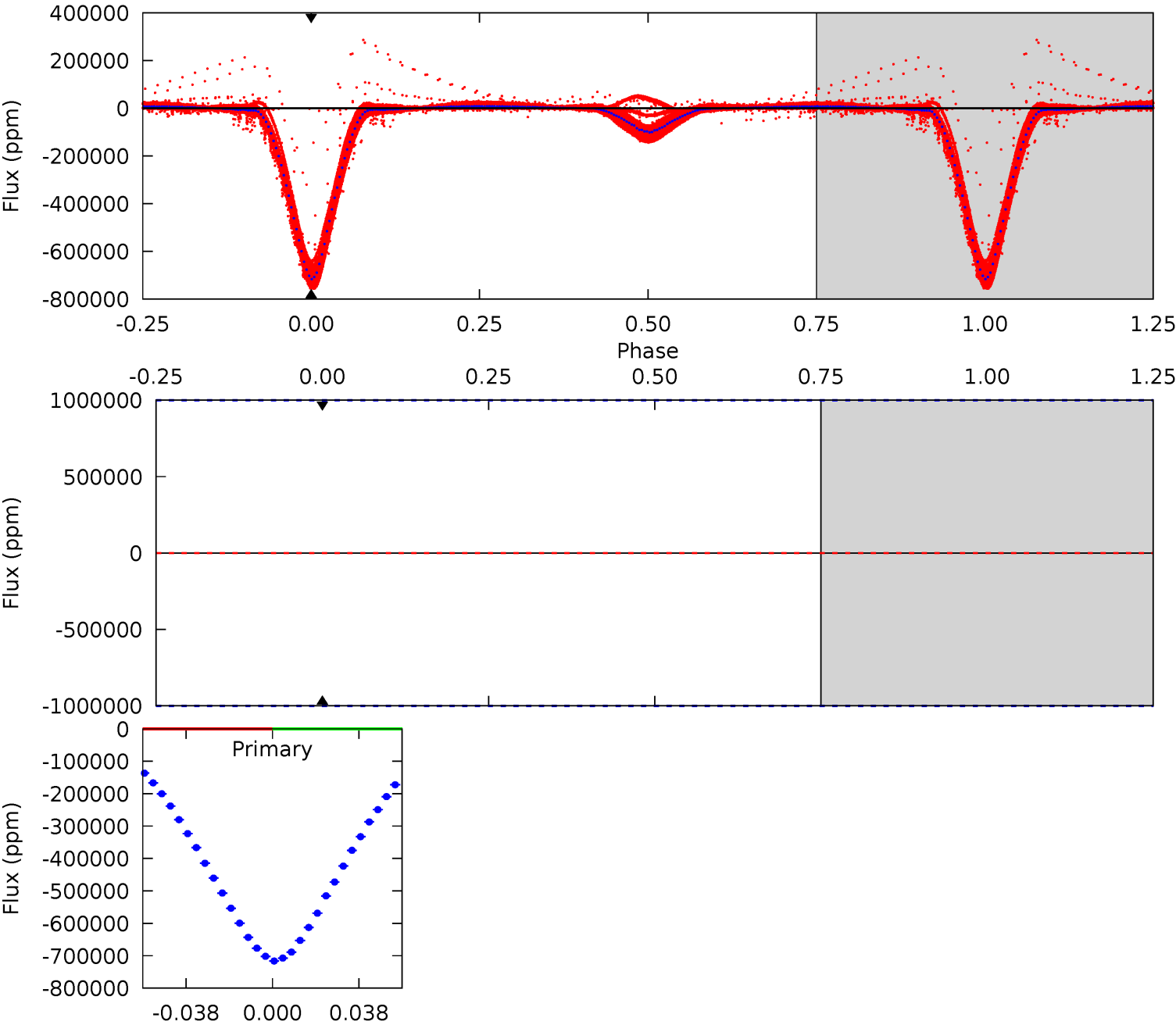
TCE 010736223-01 P= 1.105091 Days  $T_0=132.548400$  (BKJD)



DV Model-Shift Uniqueness Test

010736223-01, P = 1.105091 Days, E = 131.441520 Days

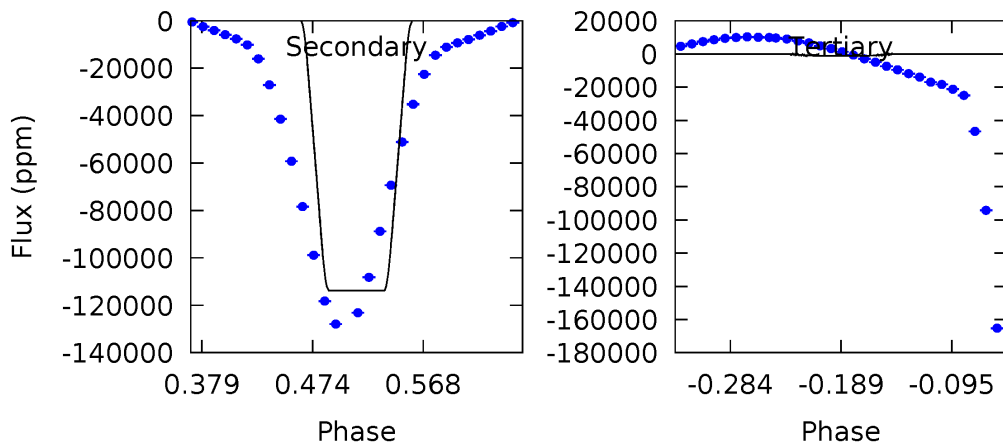
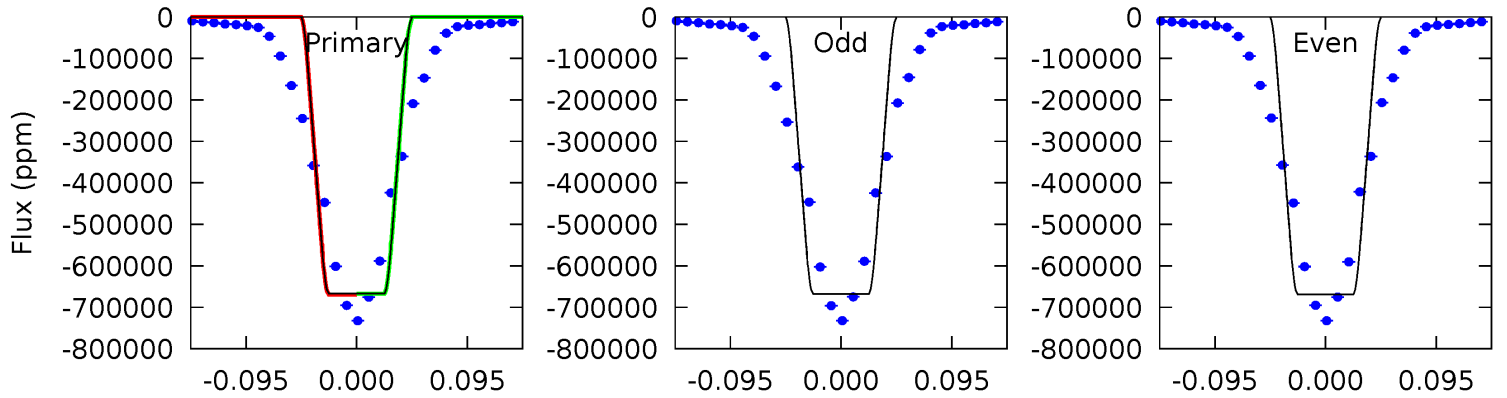
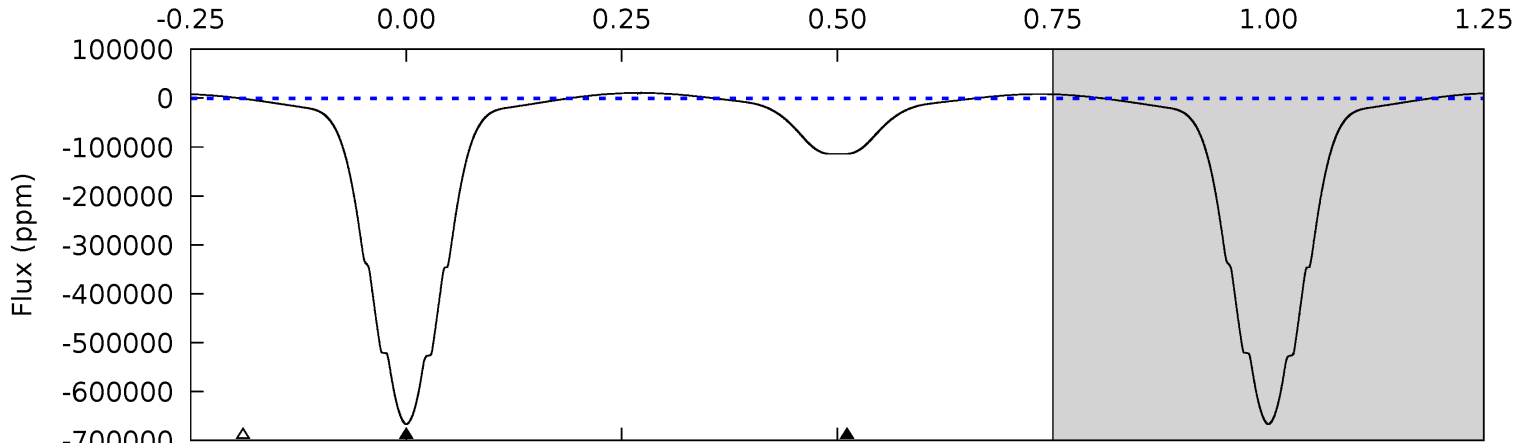
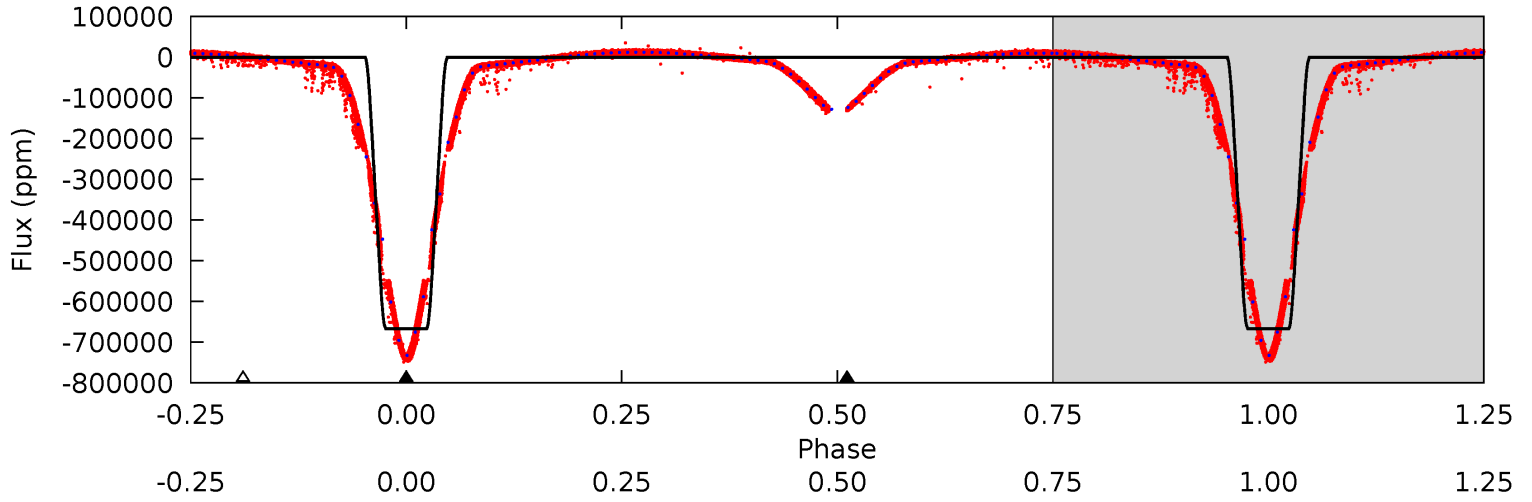
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

010736223-01, P = 1.105091 Days, E = 131.443309 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
4784	816.0	7.25	0	4.58	1.67	73.9	4776	4784	808.7	816.0	3.60	1.00	0.02	7.61



### Stellar Parameters For KIC 010736223

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8011^{+223}_{-335}$	$3.773^{+0.399}_{-0.070}$	$-0.200^{+0.200}_{-0.350}$	$2.927^{+0.314}_{-1.256}$	$1.855^{+0.101}_{-0.379}$	$0.104^{+0.353}_{-0.024}$
	+3%/-4%	+11%/-2%	+100%/-175%	+11%/-43%	+5%/-20%	+339%/-23%
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 010736223-01 / KOI 7367.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$112.97^{+37.66}_{-37.12}$	$5106^{+327}_{-529}$	$-4226^{+11563}_{-2994}$	$0.011^{+3.386}_{-2.781}$
Alt.	$-113754 \pm 139$	$261.99^{+52.58}_{-61.59}$	$5091^{+345}_{-543}$	$4461^{+426}_{-466}$	$0.680^{+0.437}_{-0.208}$

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

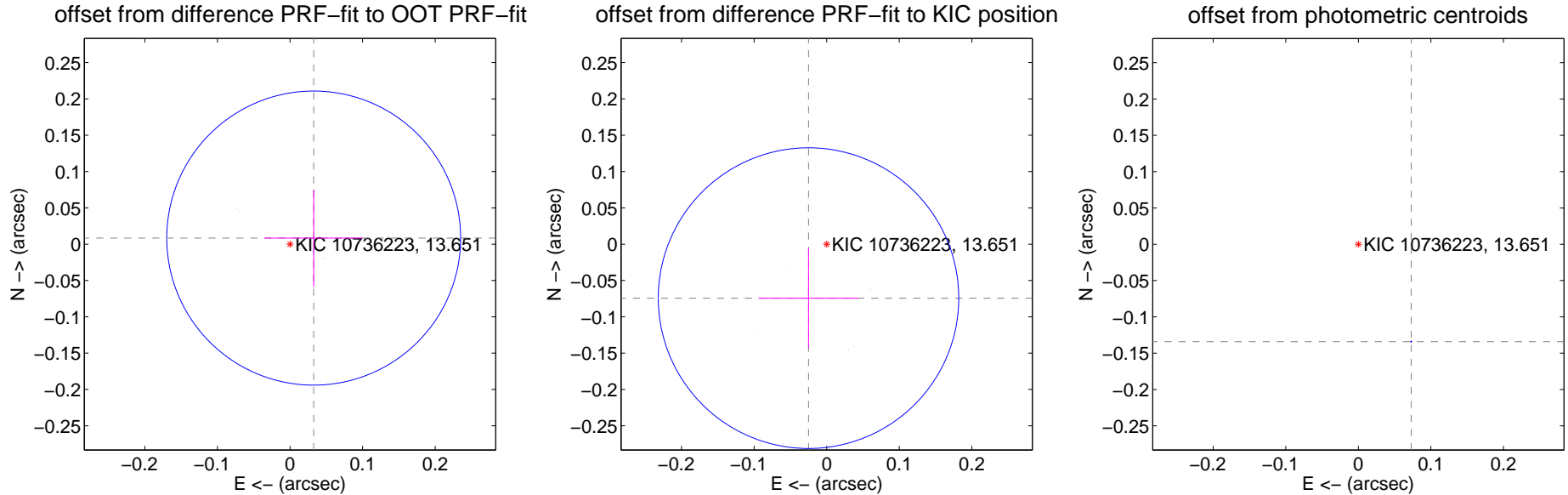
## DV Centroid Data

Supplemental centroid analysis for 010736223-01. Kepler magnitude: 13.65. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

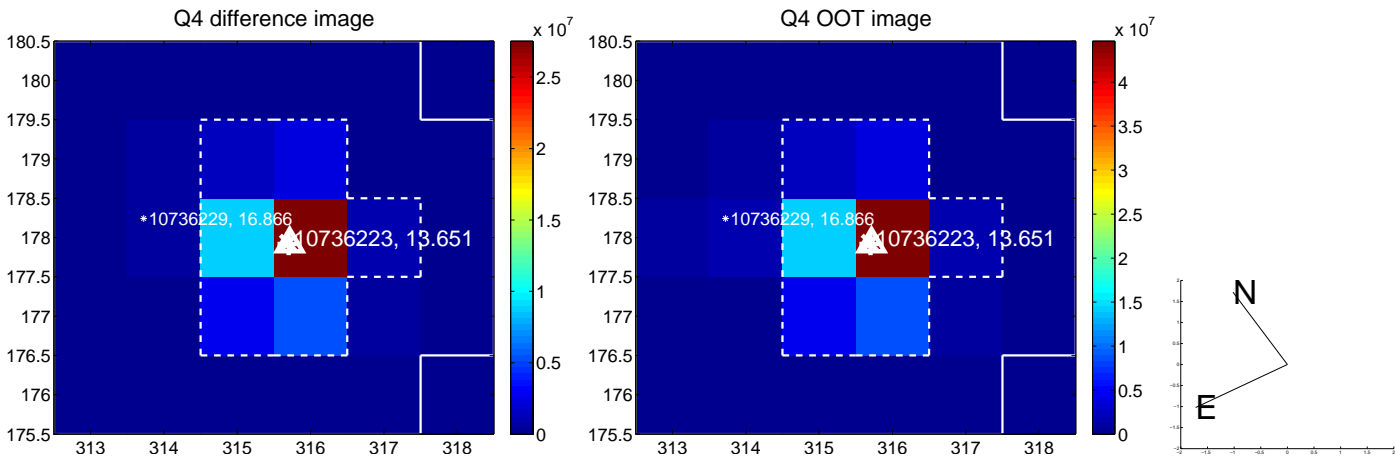
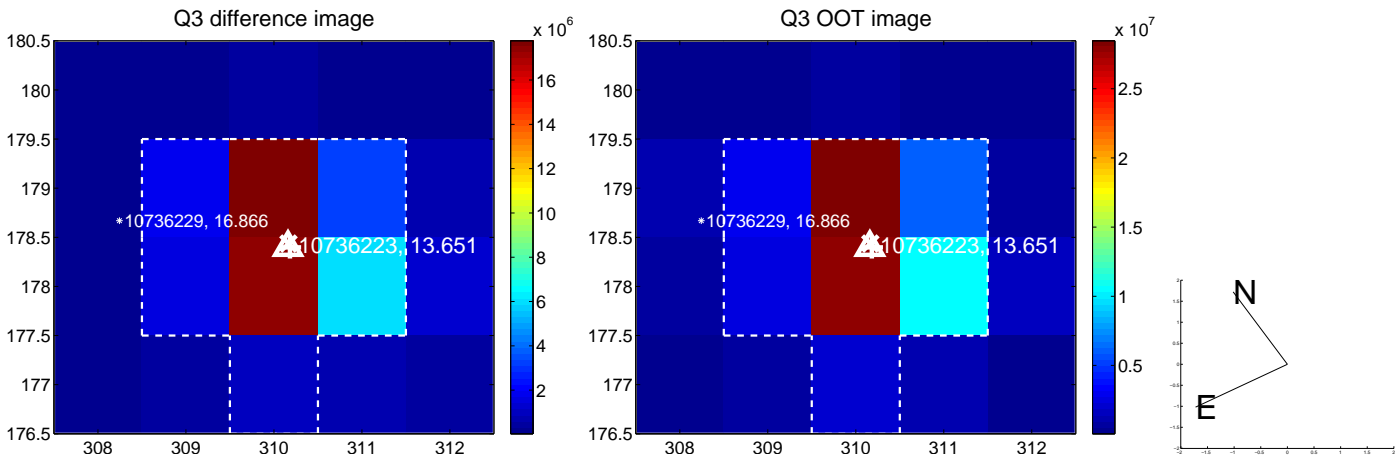
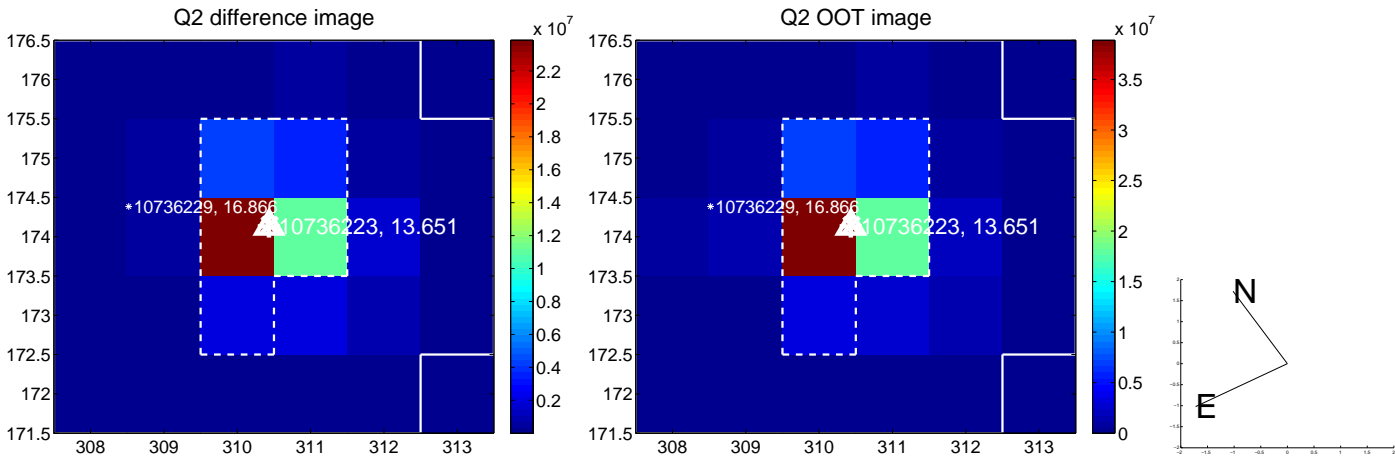
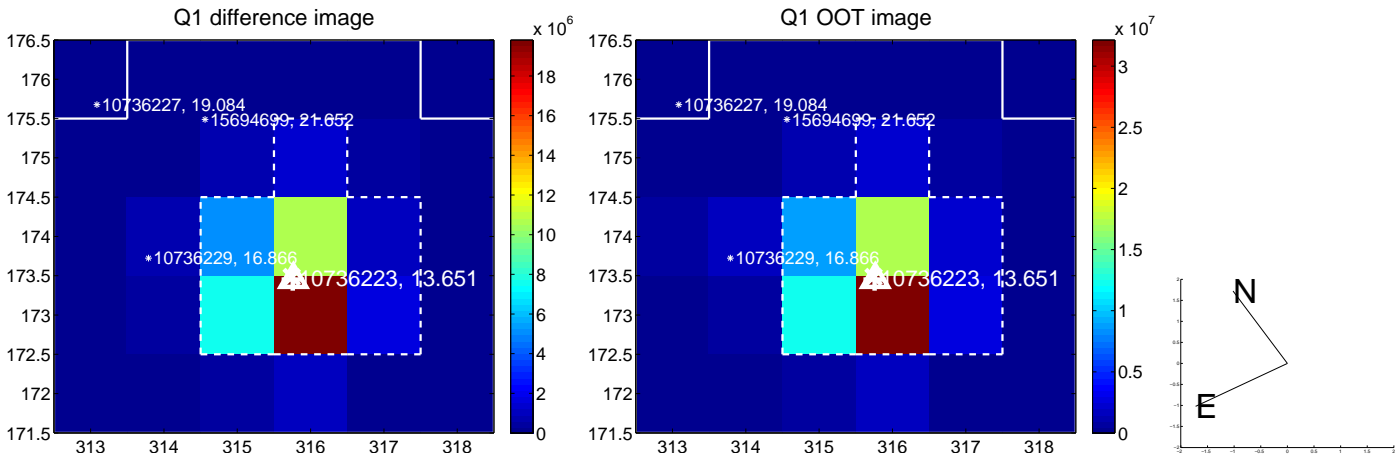
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.034 \pm 0.067$	0.50	$-0.033 \pm 0.068$	$0.008 \pm 0.067$
PRF-fit source offset from KIC position	$0.078 \pm 0.069$	1.14	$0.025 \pm 0.069$	$-0.074 \pm 0.069$
photometric centroid source offset	$0.15 \pm 0.00$	<b>623.79</b>	$-0.07 \pm 0.00$	$-0.13 \pm 0.00$

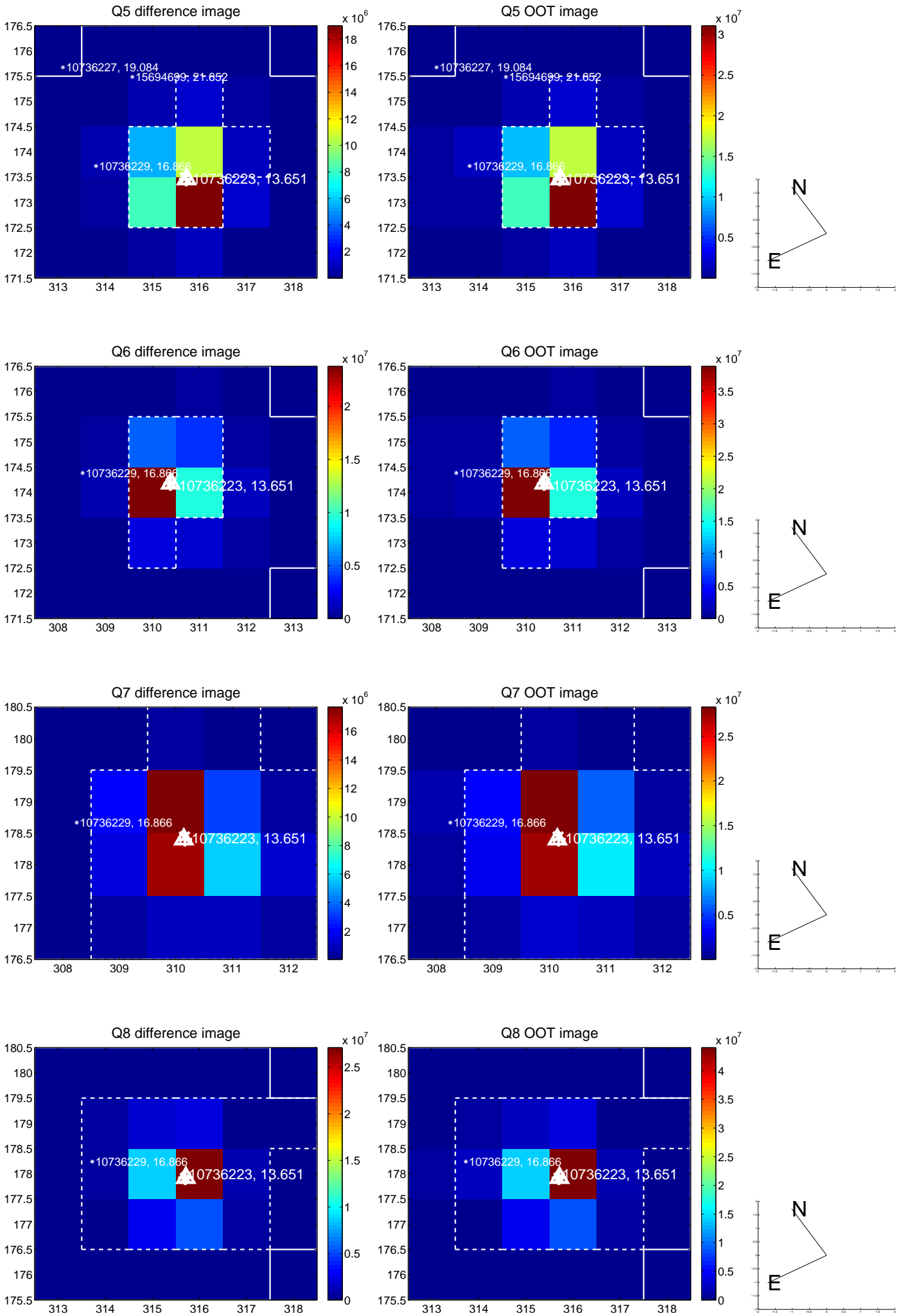


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

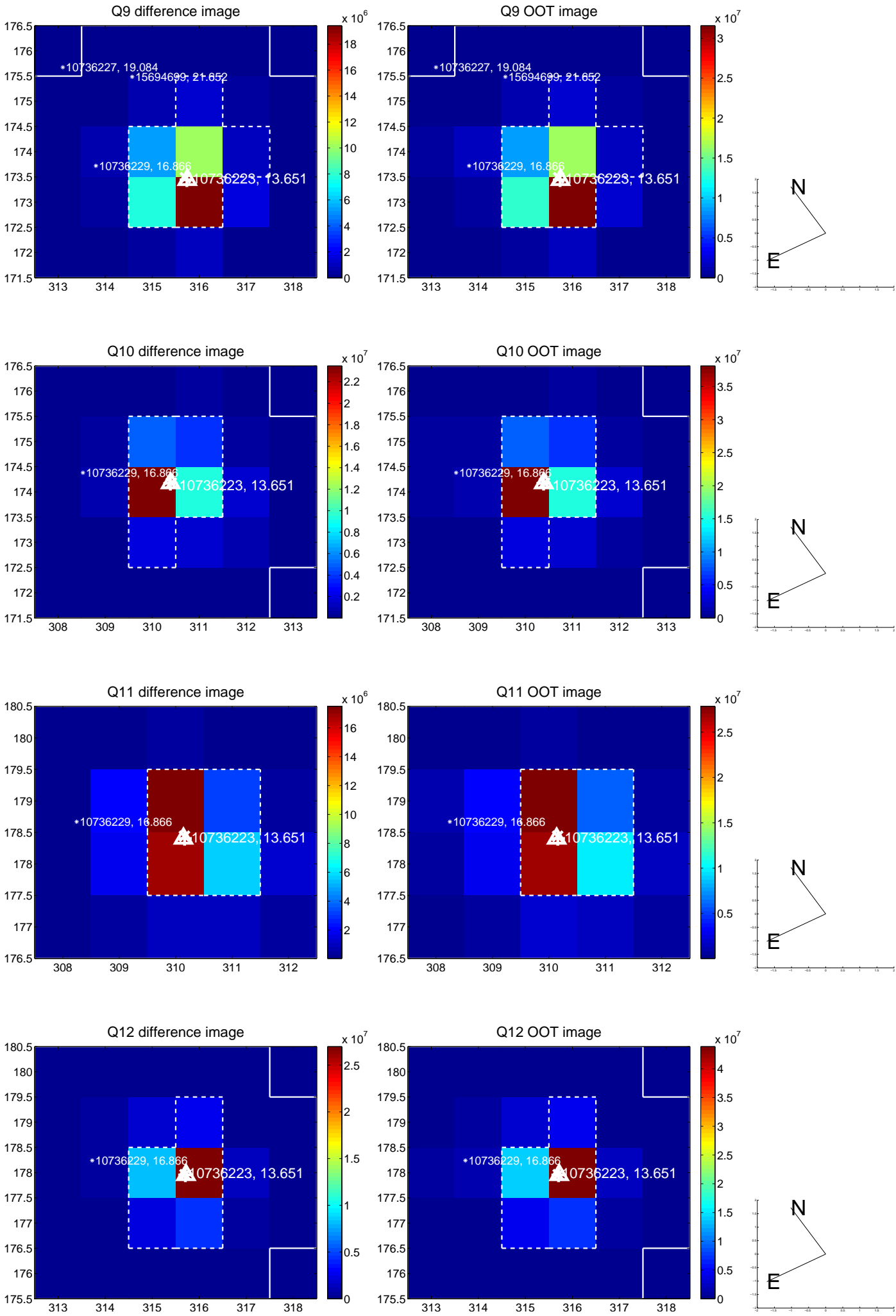


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

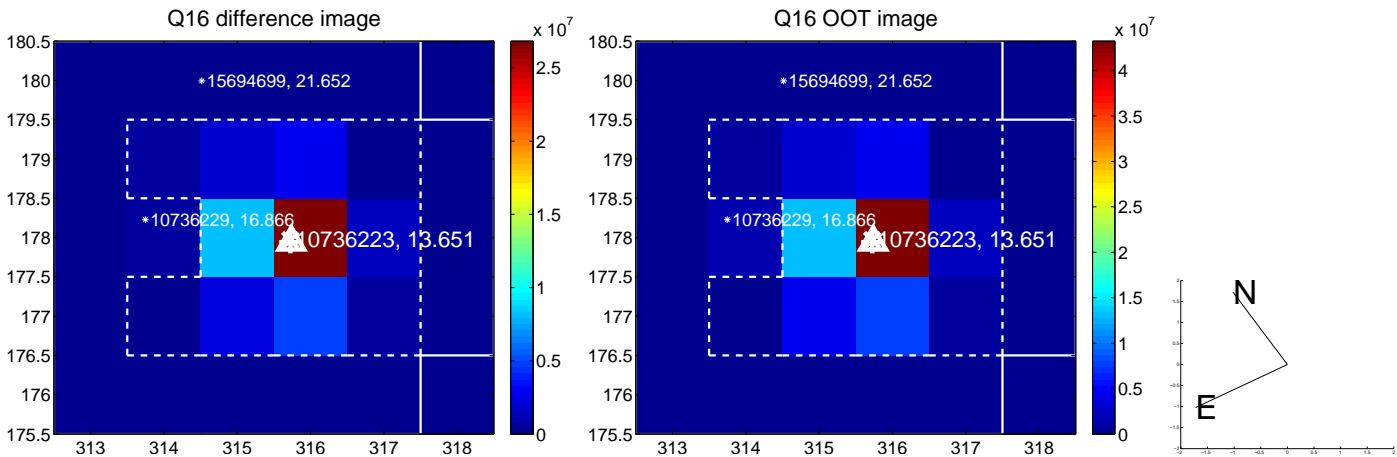
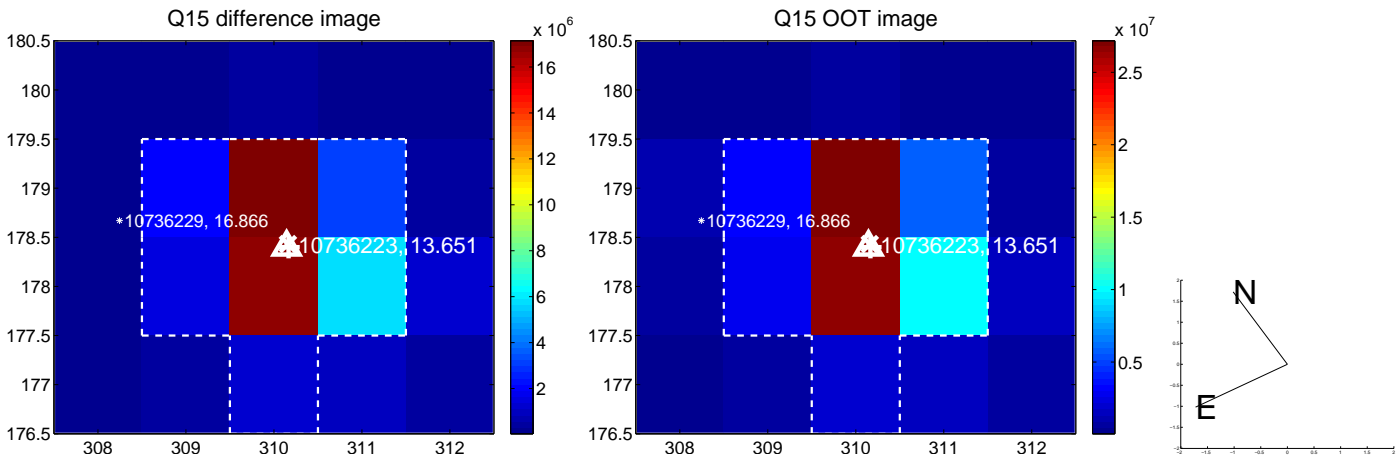
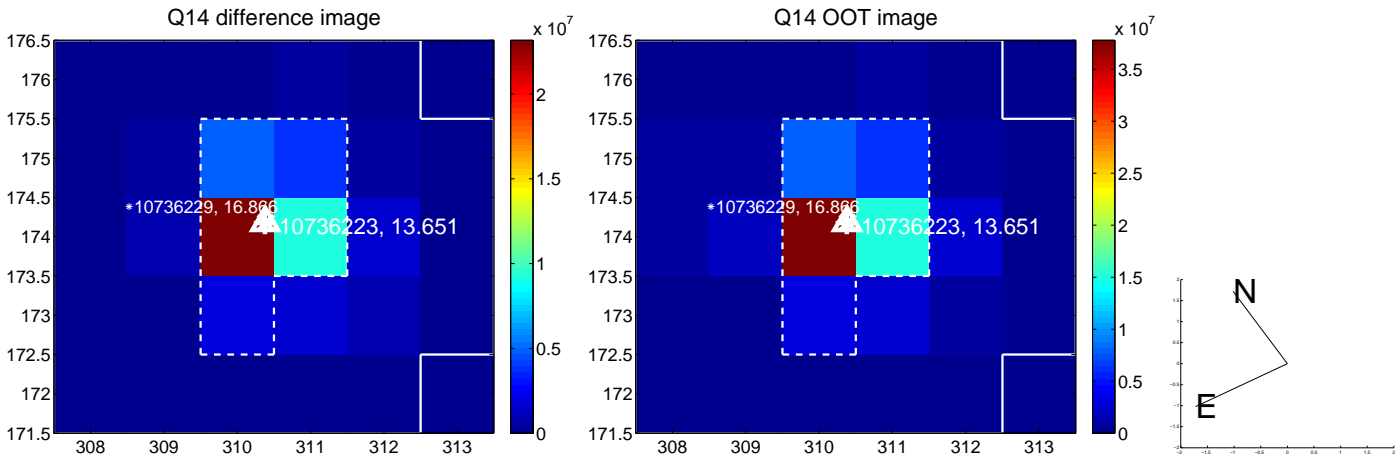
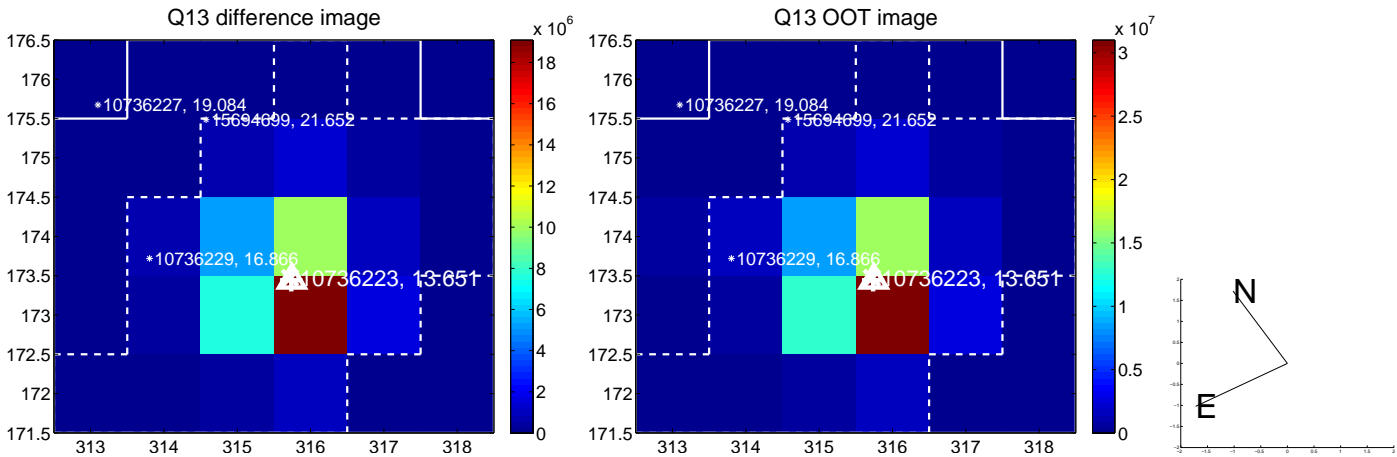




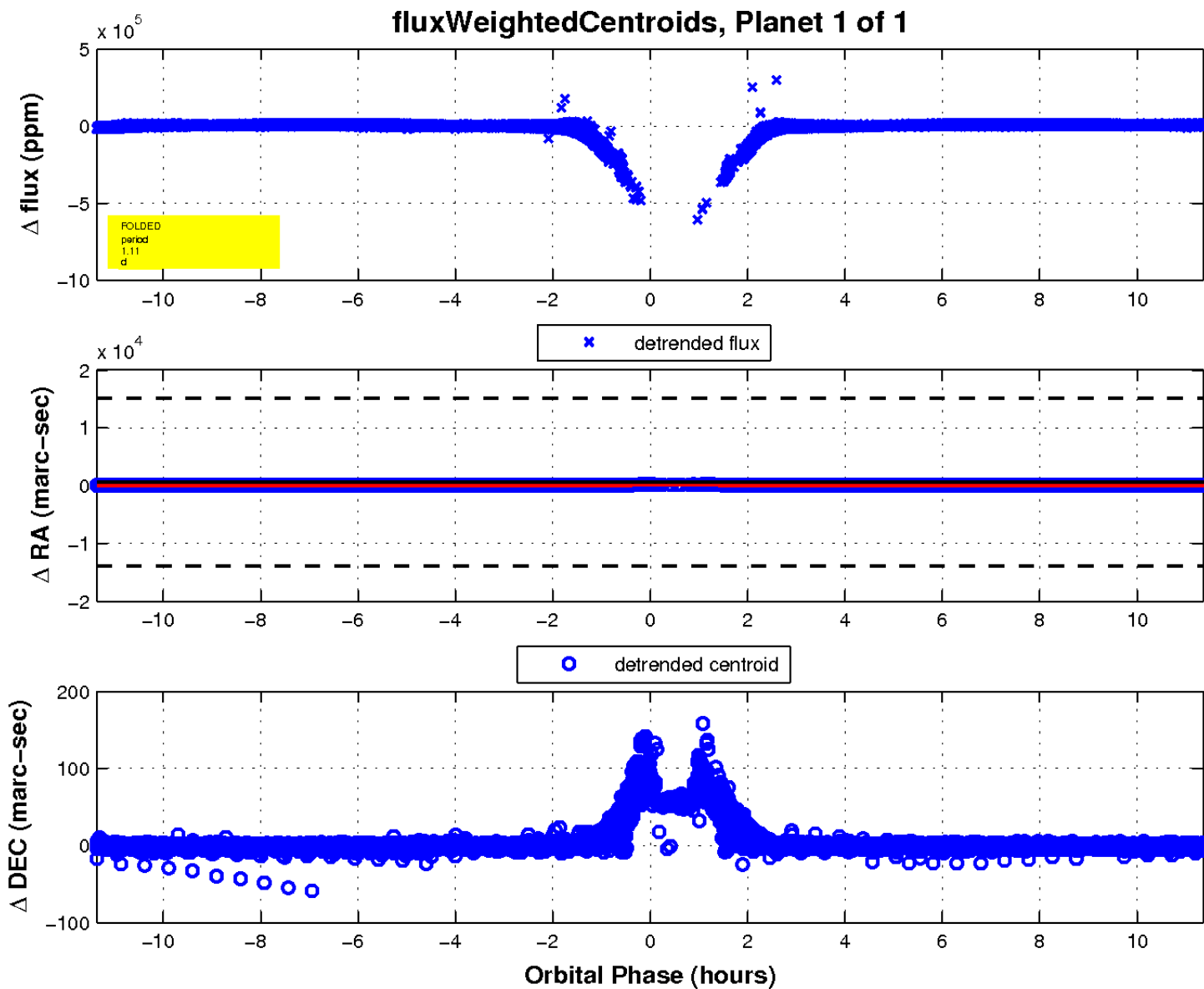
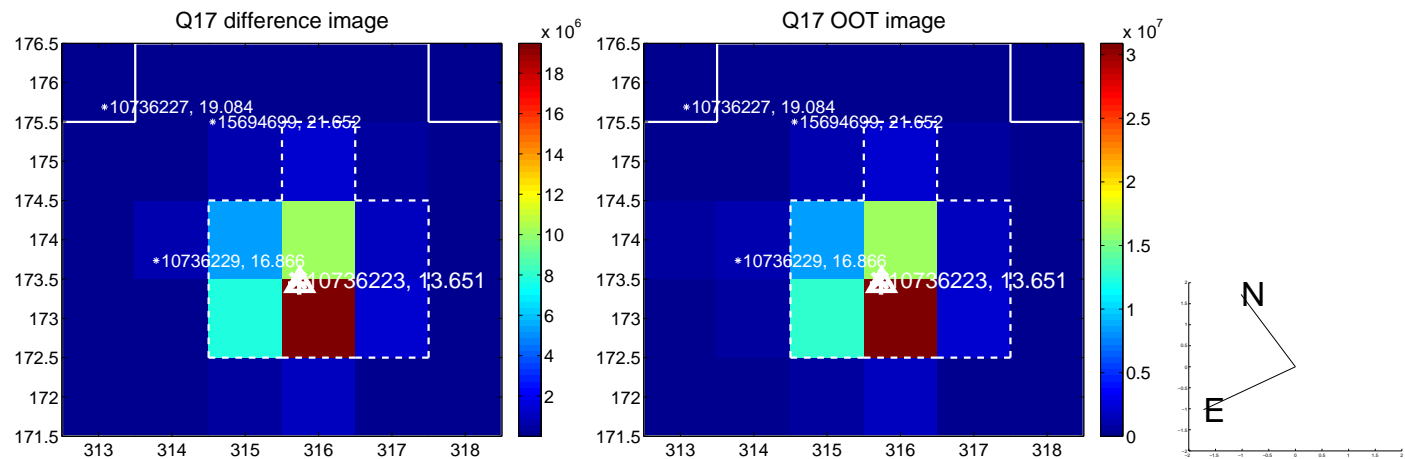
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

