

# KIC 006464285

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006464285-01	OBS	6716.01	0.843652	131.943286	41974.9	2.500	4442.5	-1.0	0.69	5220	14.07	1378.32

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006464285-01	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.

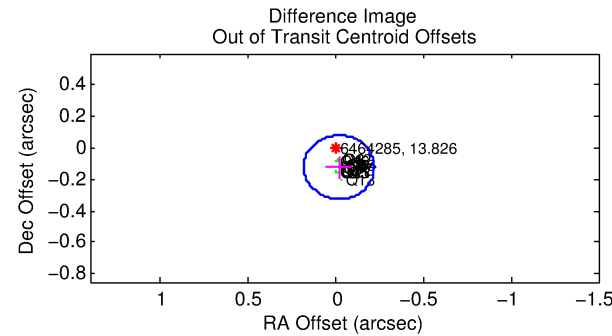
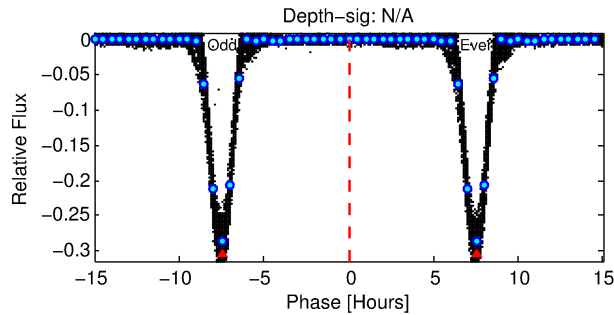
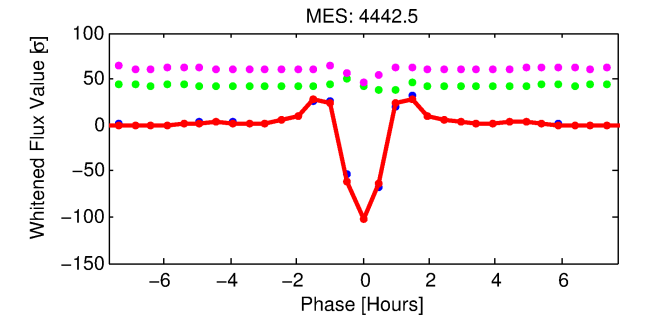
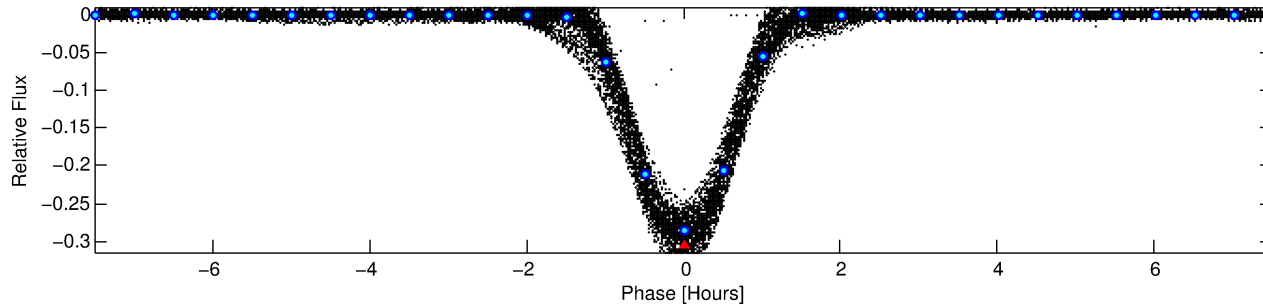
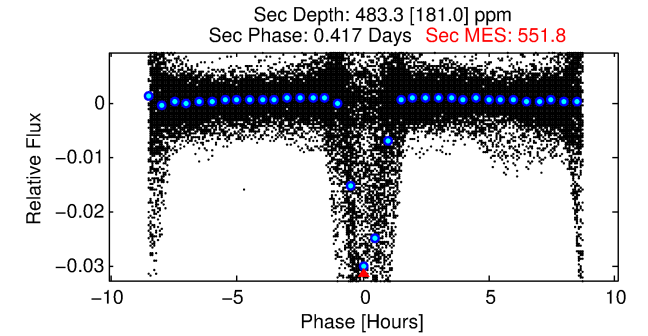
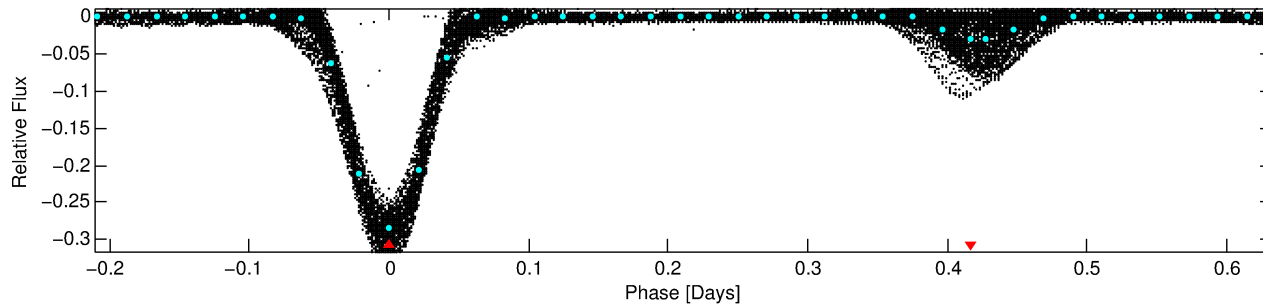
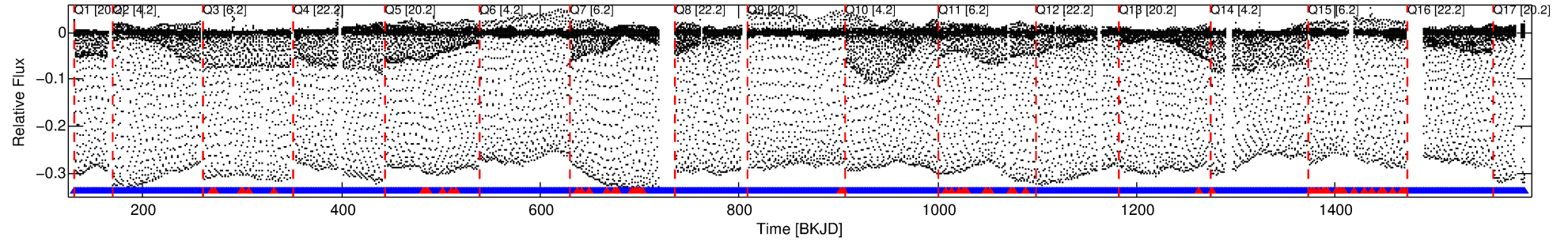
## Ephemeris Match Information For 006464285-01

No Significant Match Found

# DV One-Page Summary

KIC: 6464285 Candidate: 1 of 1 Period: 0.844 d  
KOI: K06716.01 Corr: 0.944

Kp: 13.83 R\*: 0.69 Rs Teff: 5220.0 K Logg: 4.58 Fe/H: -0.640



## TPS TCE Results:

Period = 0.84365 d  
Epoch = 131.9433 BKJD

DV fit results are unavailable

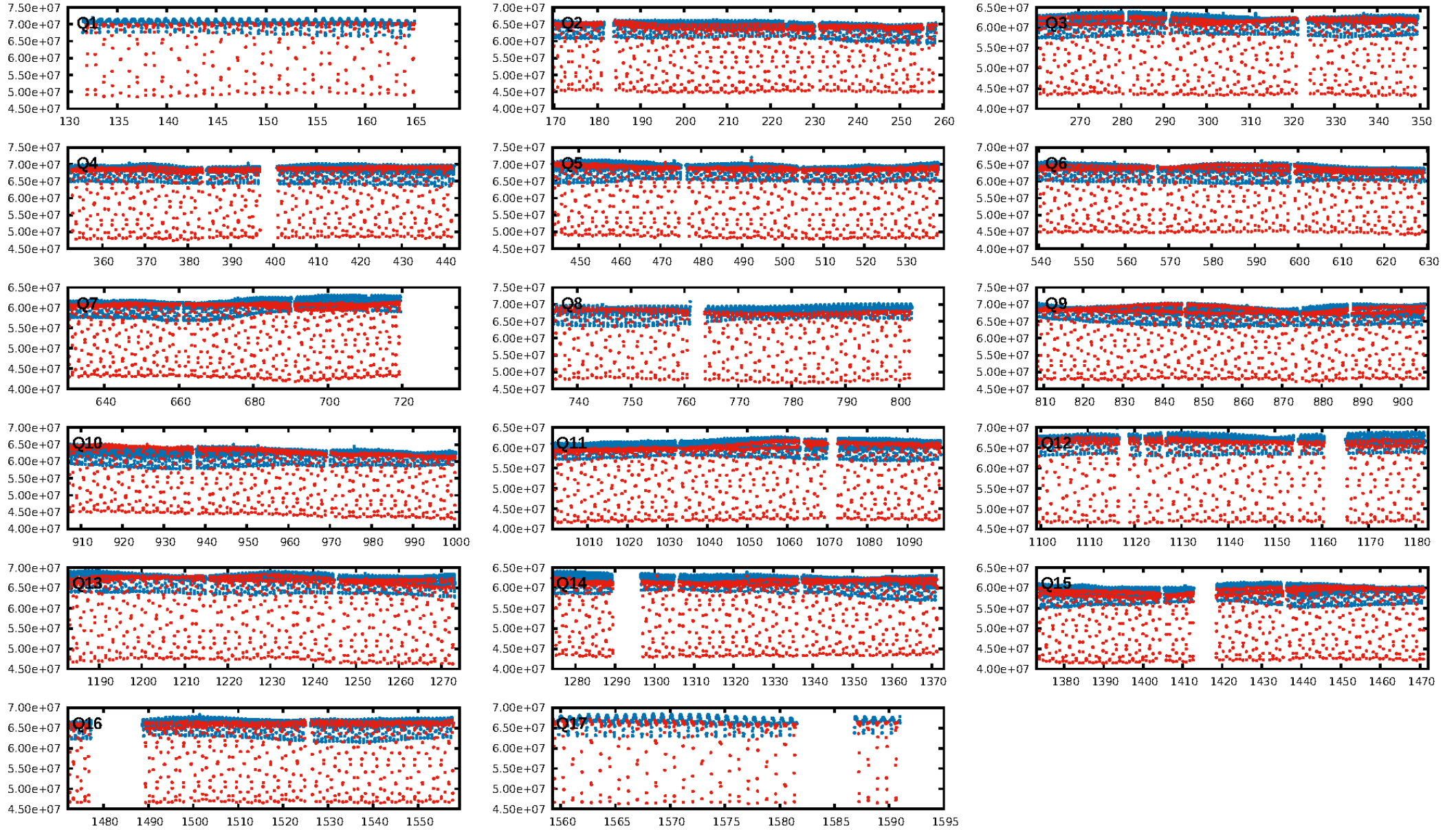
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.96 [1459/1519]  
GhostDiagnostic-chr: 1.59  
Centroid-sig: 0.0%  
Centroid-so: 0.498 arcsec [865.32σ]  
OotOffset-rm: 0.123 arcsec [1.83σ]  
KicOffset-rm: 0.134 arcsec [1.99σ]  
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]

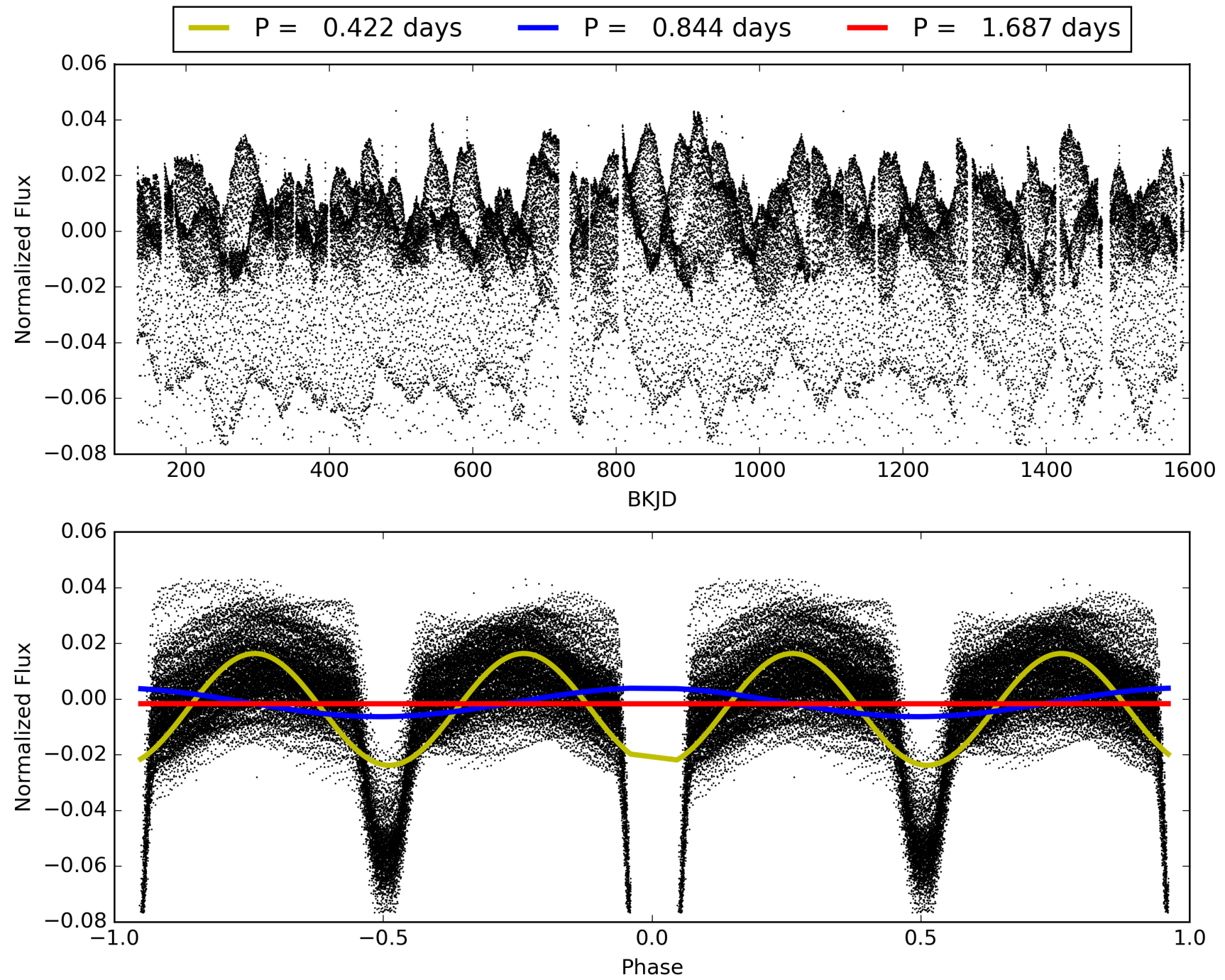
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:42:04 Z

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

# TCE 006464285-01, PDC Light Curves

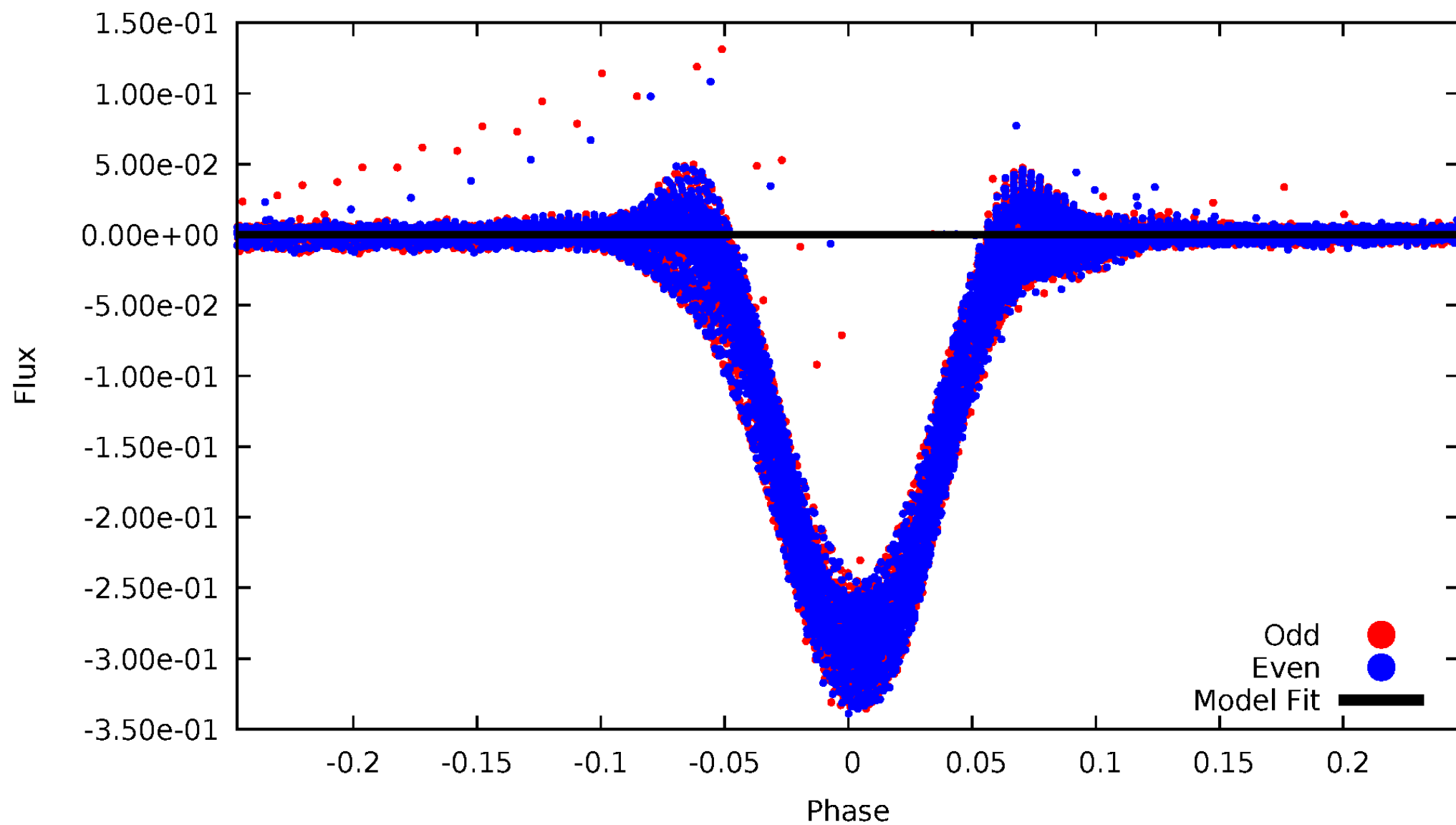


TCE 006464285-01



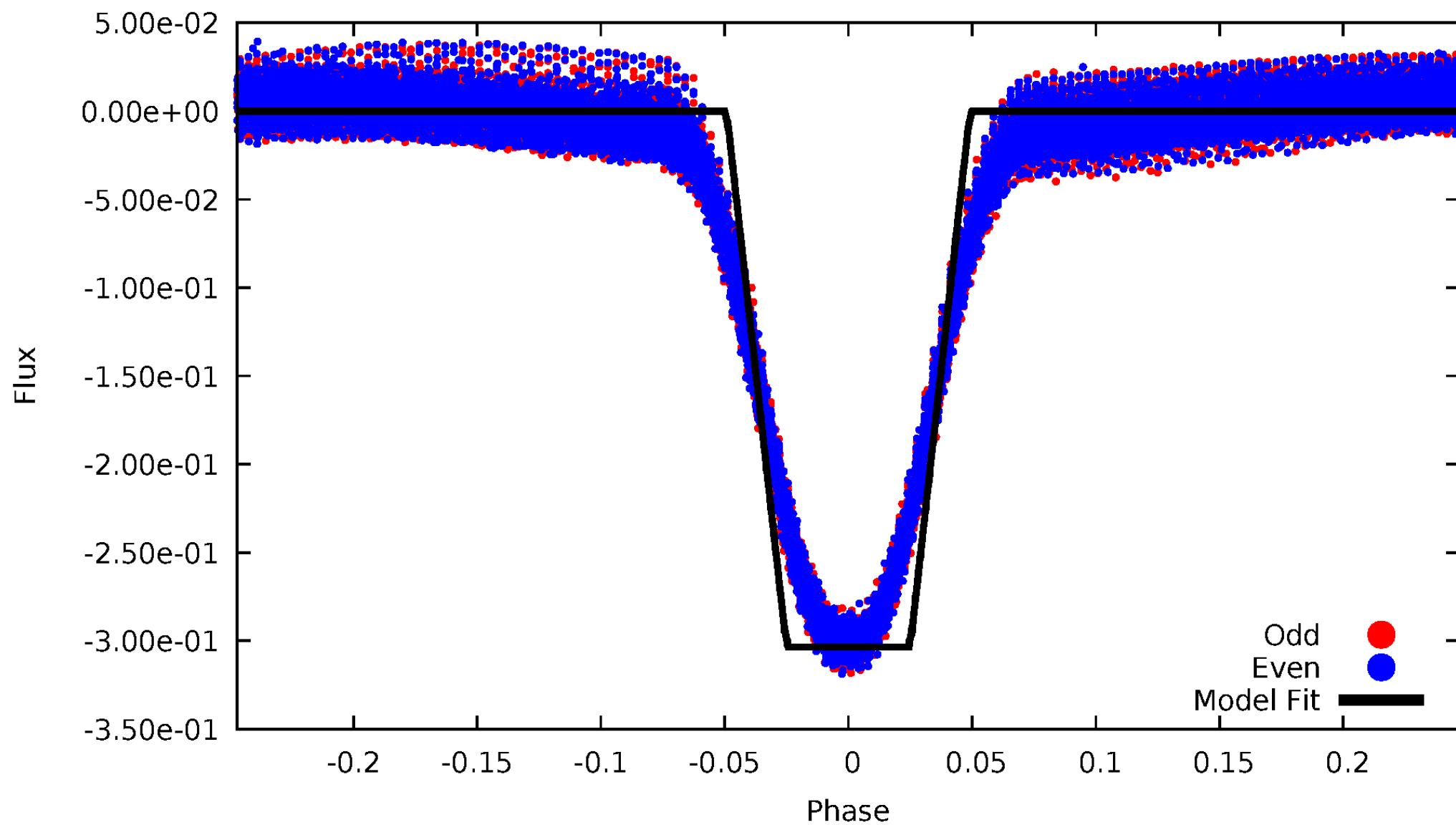
# DV Odd/Even

TCE 006464285-01



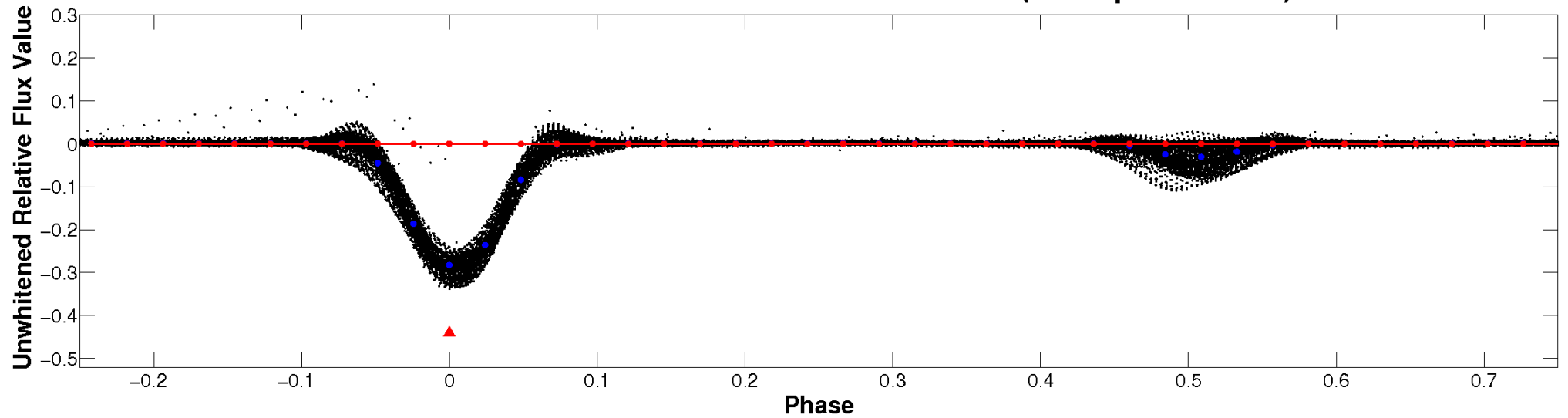
# ALT Odd/Even

TCE 006464285-01



# Non-Whitened Vs. Whitened Light Curve

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



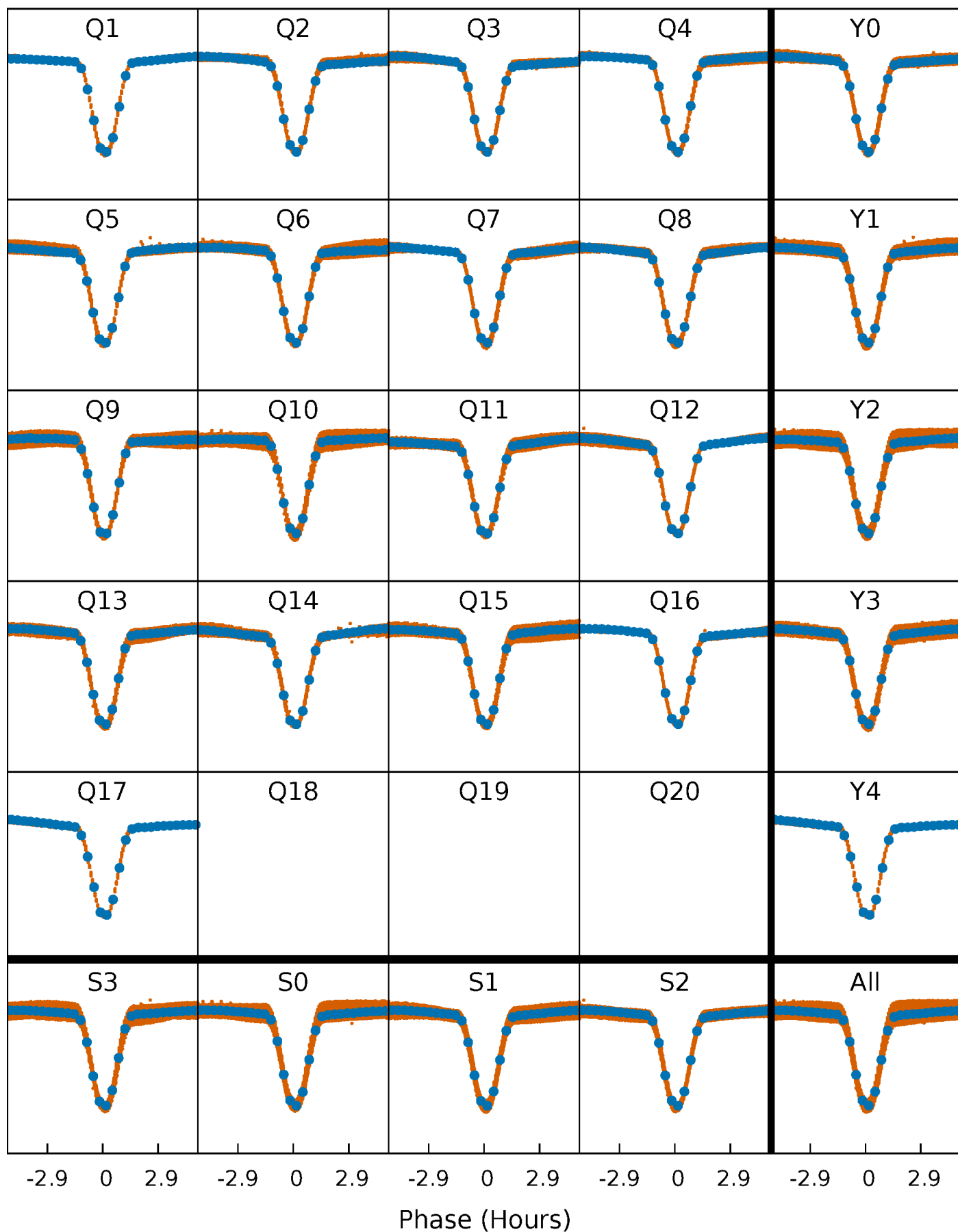
**Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)**





# PDC Quarter-Phased Transit Curves

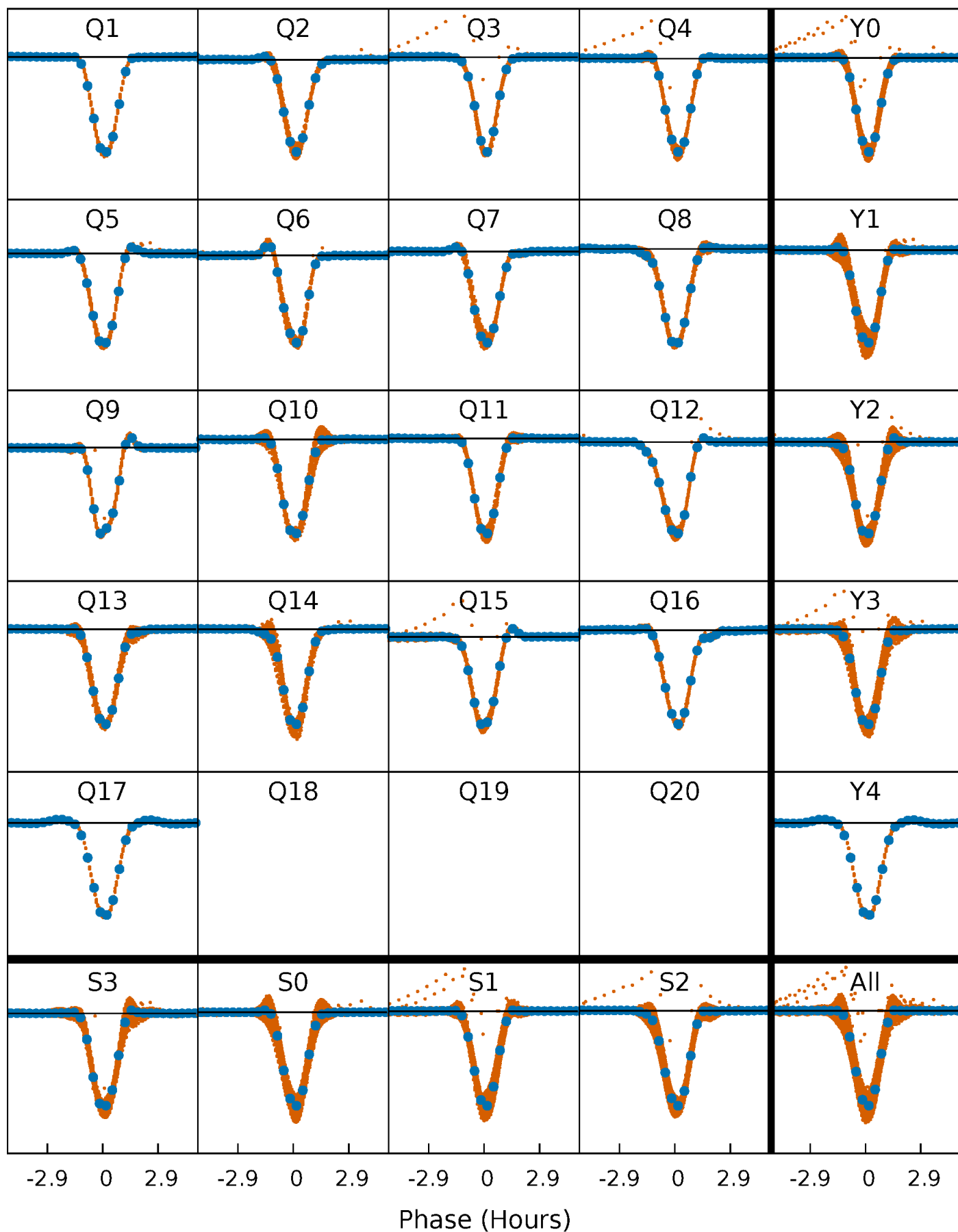
TCE 006464285-01 P= 0.843652 Days  $T_0=131.943286$  (BKJD)





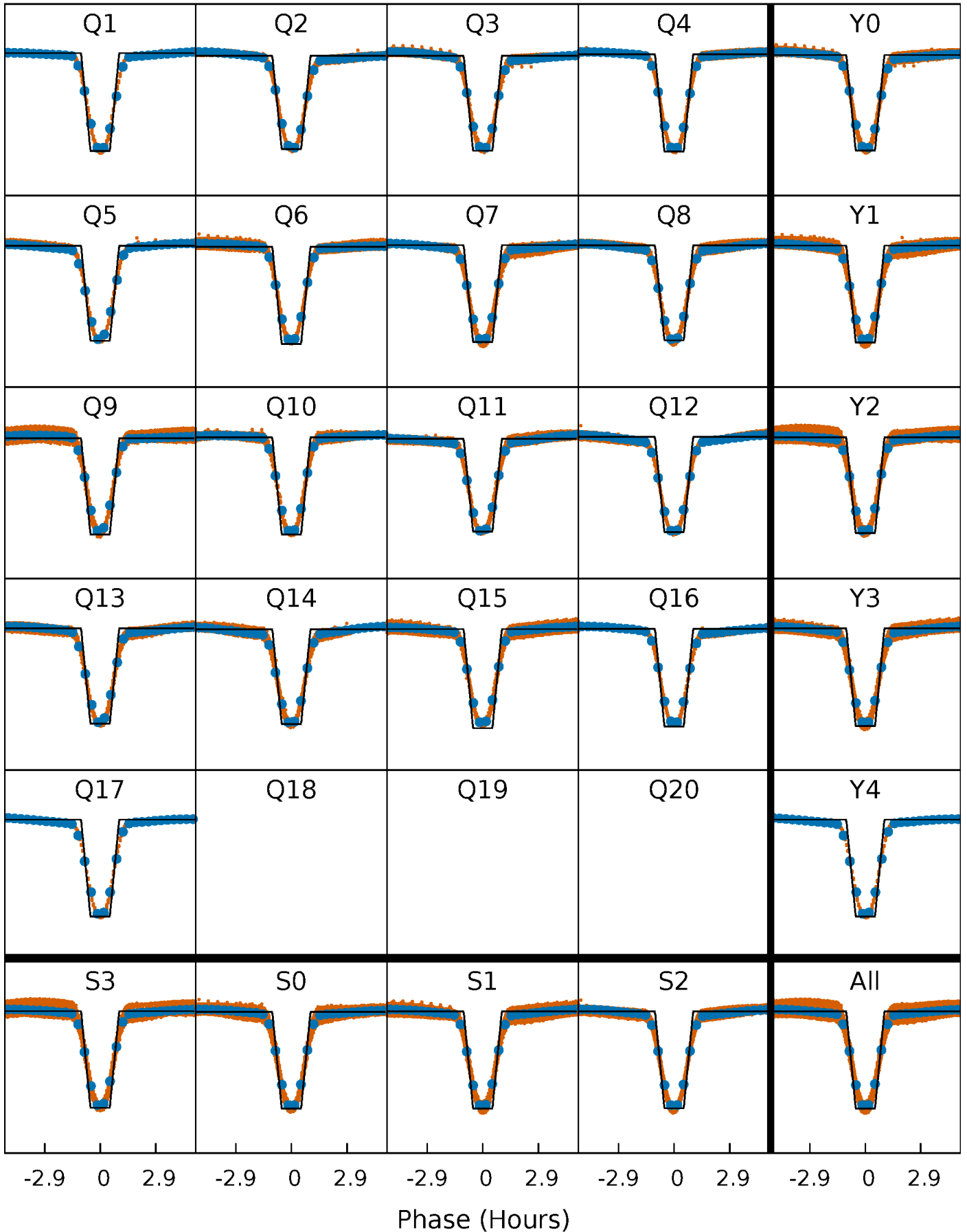
# DV Quarter-Phased Transit Curves

TCE 006464285-01 P= 0.843652 Days  $T_0=131.943286$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

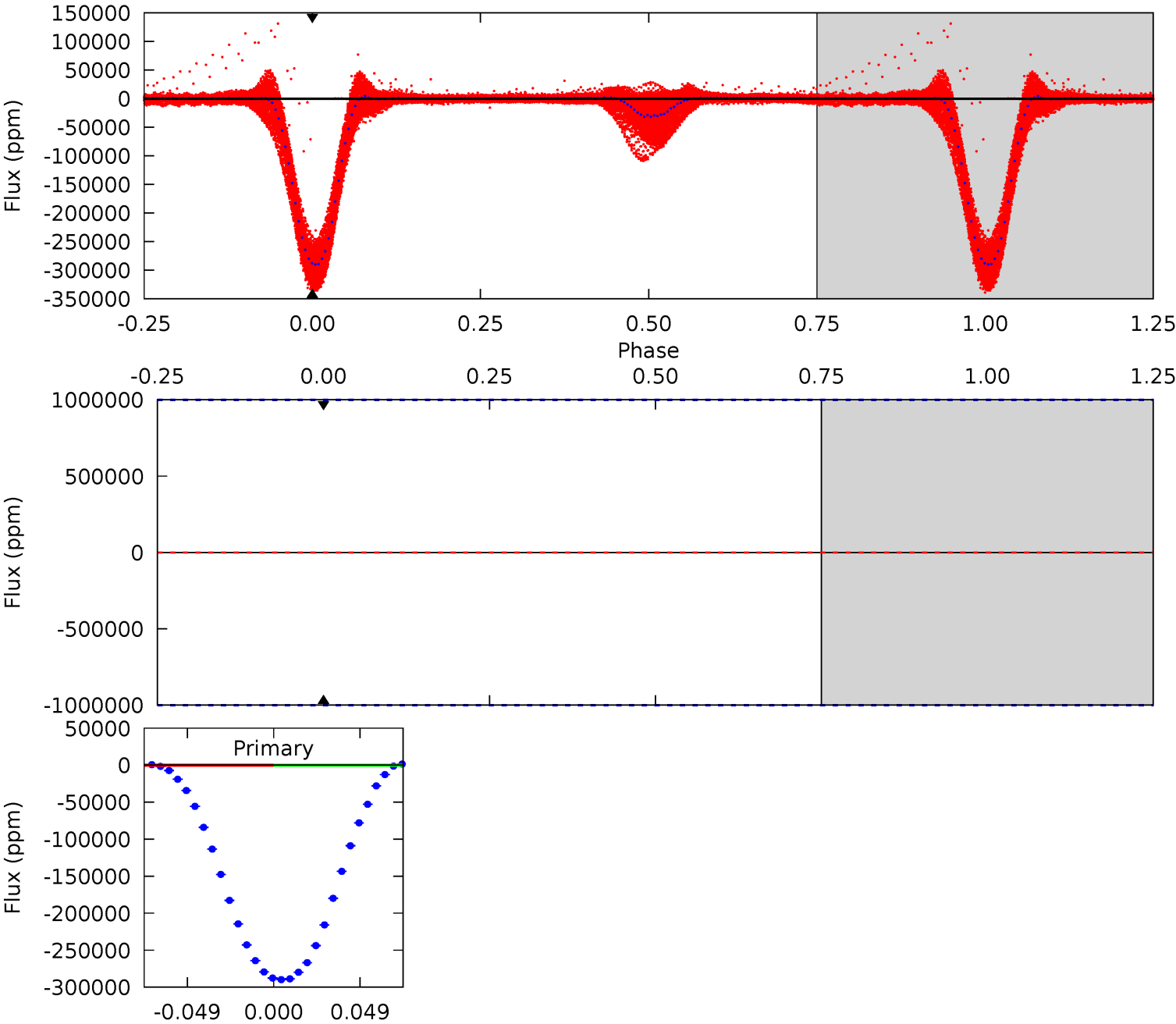
TCE 006464285-01   P= 0.843652 Days    $T_0=131.947334$  (BKJD)



# DV Model-Shift Uniqueness Test

006464285-01, P = 0.843652 Days, E = 131.099634 Days

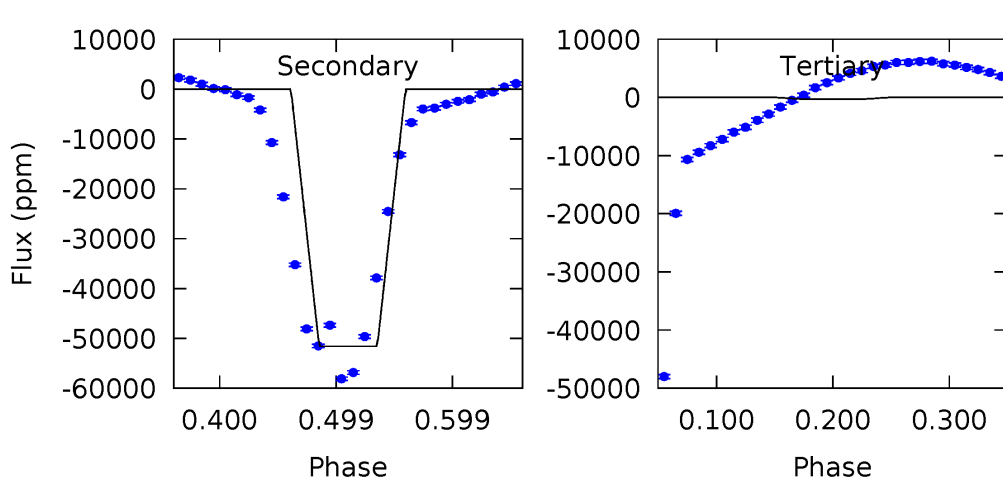
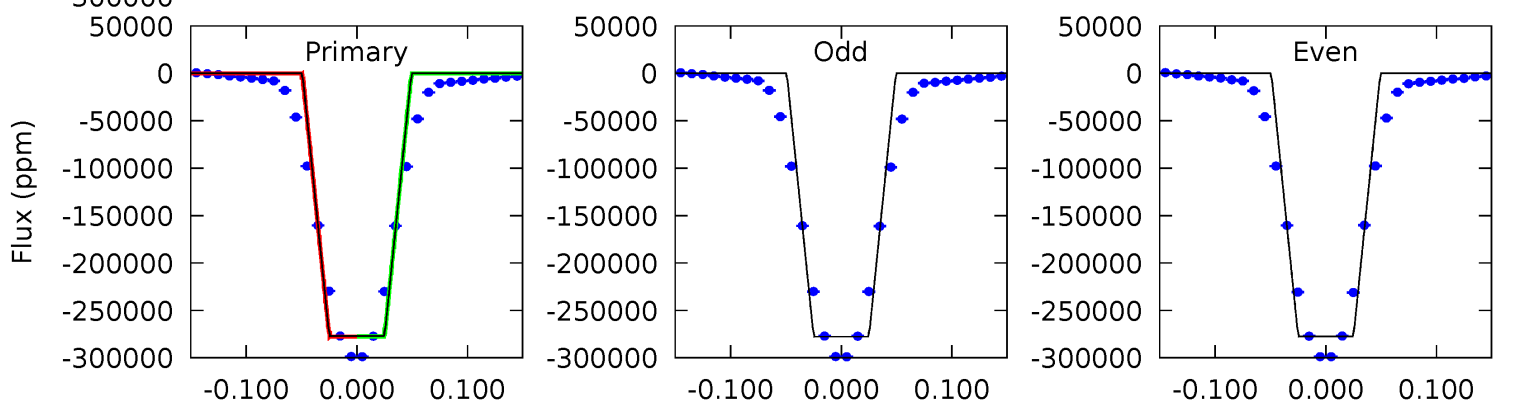
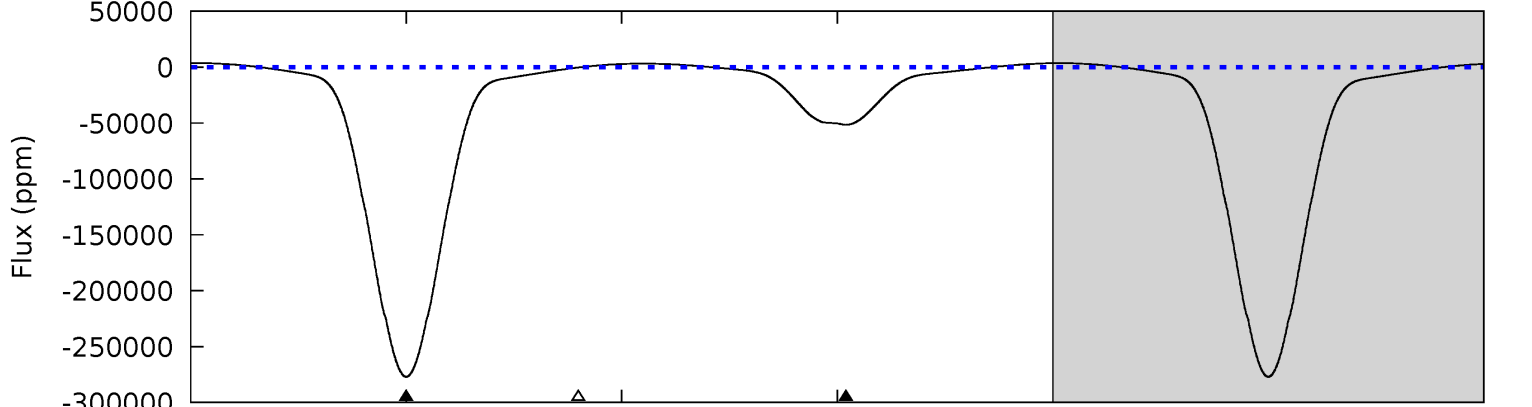
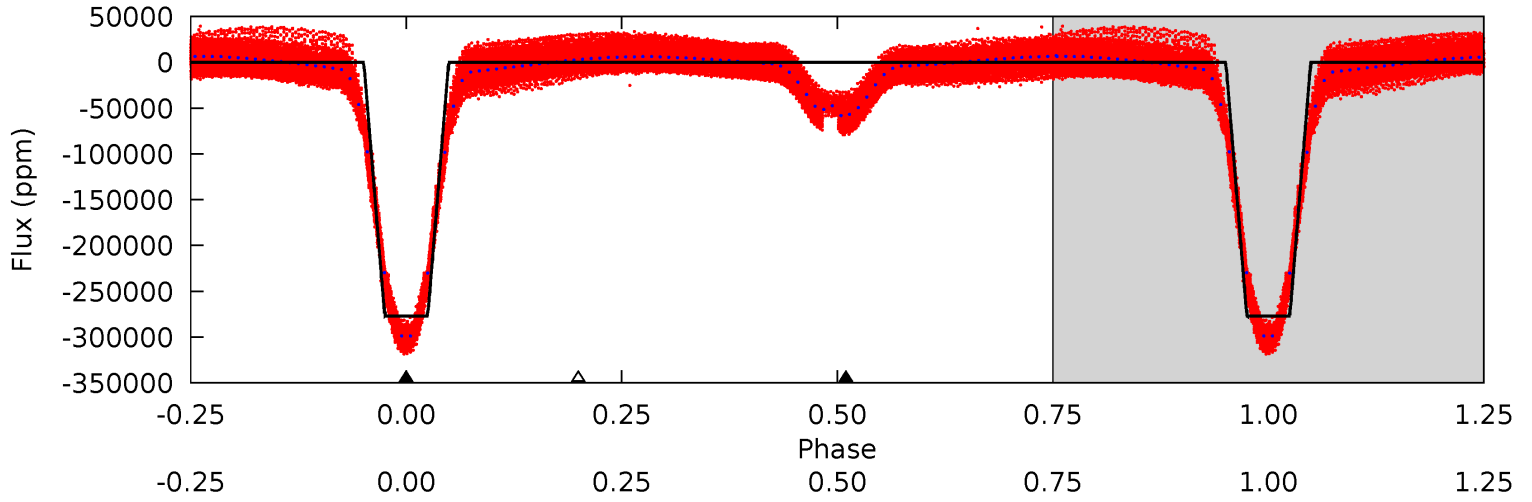
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

006464285-01, P = 0.843652 Days, E = 131.103682 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
2262	421.1	2.55	0	4.56	1.65	31.4	2260	2262	418.6	421.1	0.47	1.00	0.01	0.94



### Stellar Parameters For KIC 006464285

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5220^{+141}_{-141}$	$4.578^{+0.084}_{-0.052}$	$-0.640^{+0.350}_{-0.300}$	$0.695^{+0.067}_{-0.067}$	$0.665^{+0.079}_{-0.034}$	$2.797^{+0.988}_{-0.510}$
	+3%/-3%	+2%/-1%	+55%/-47%	+10%/-10%	+12%/-5%	+35%/-18%
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 006464285-01 / KOI 6716.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$13.95^{+7.66}_{-6.11}$	$2158^{+76}_{-77}$	$3844^{+3870}_{-10745}$	$4.699^{+96.867}_{-72.703}$
Alt.	$-51577 \pm 122$	$41.95^{+7.86}_{-8.22}$	$2162^{+75}_{-83}$	$3709^{+284}_{-229}$	$4.015^{+2.114}_{-1.161}$

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

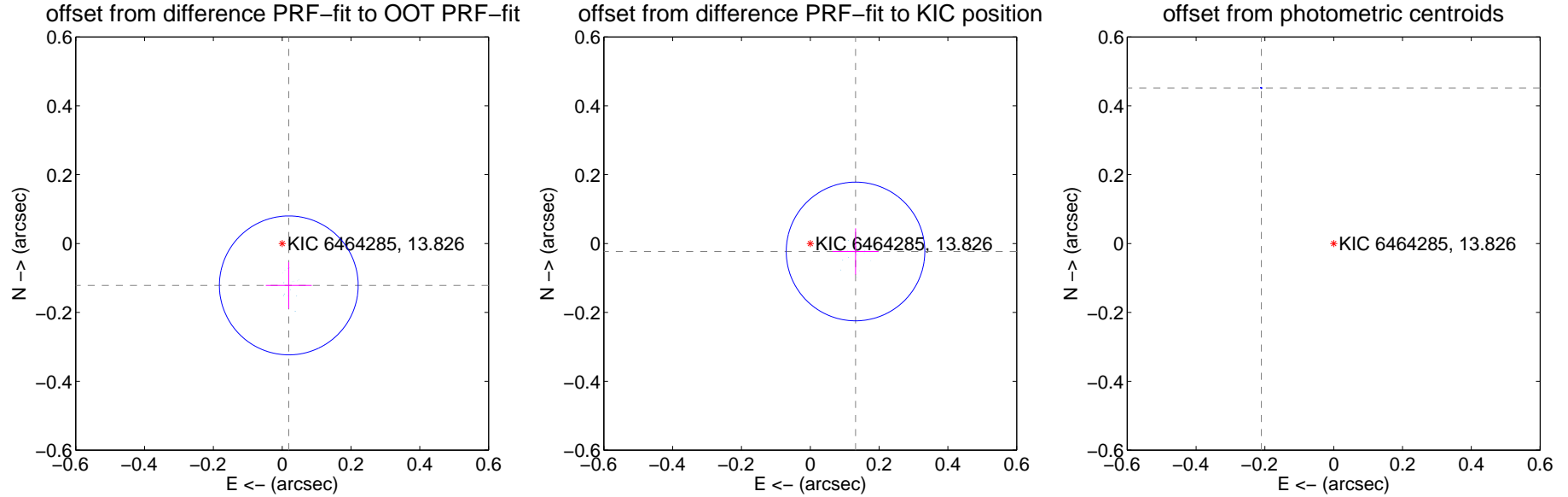
## DV Centroid Data

Supplemental centroid analysis for 006464285-01. Kepler magnitude: 13.83. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

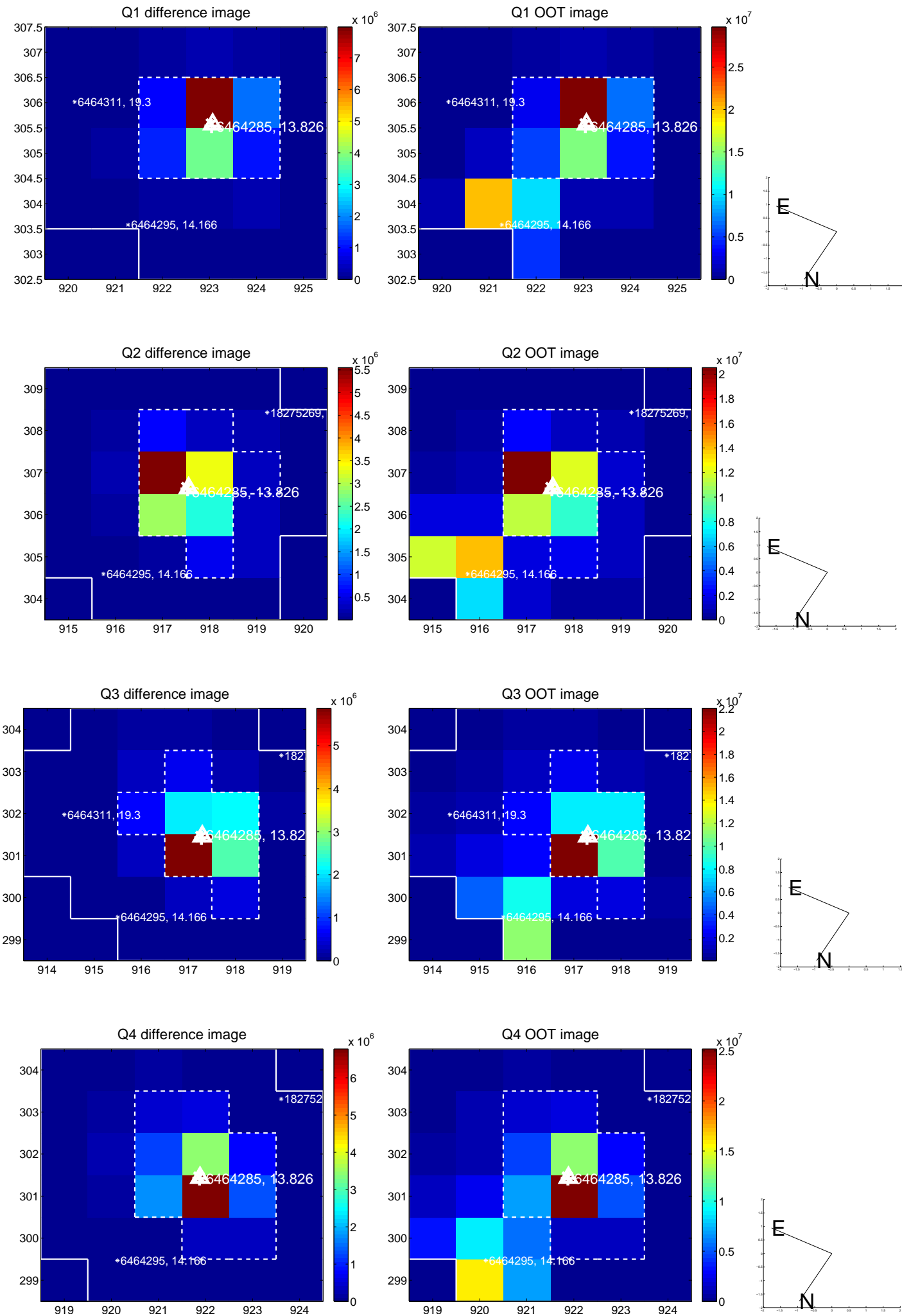
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.123 \pm 0.067$	1.83	$-0.019 \pm 0.067$	$-0.122 \pm 0.067$
PRF-fit source offset from KIC position	$0.134 \pm 0.067$	1.99	$-0.132 \pm 0.067$	$-0.023 \pm 0.067$
photometric centroid source offset	$0.50 \pm 0.00$	<b>865.32</b>	$0.21 \pm 0.00$	$0.45 \pm 0.00$



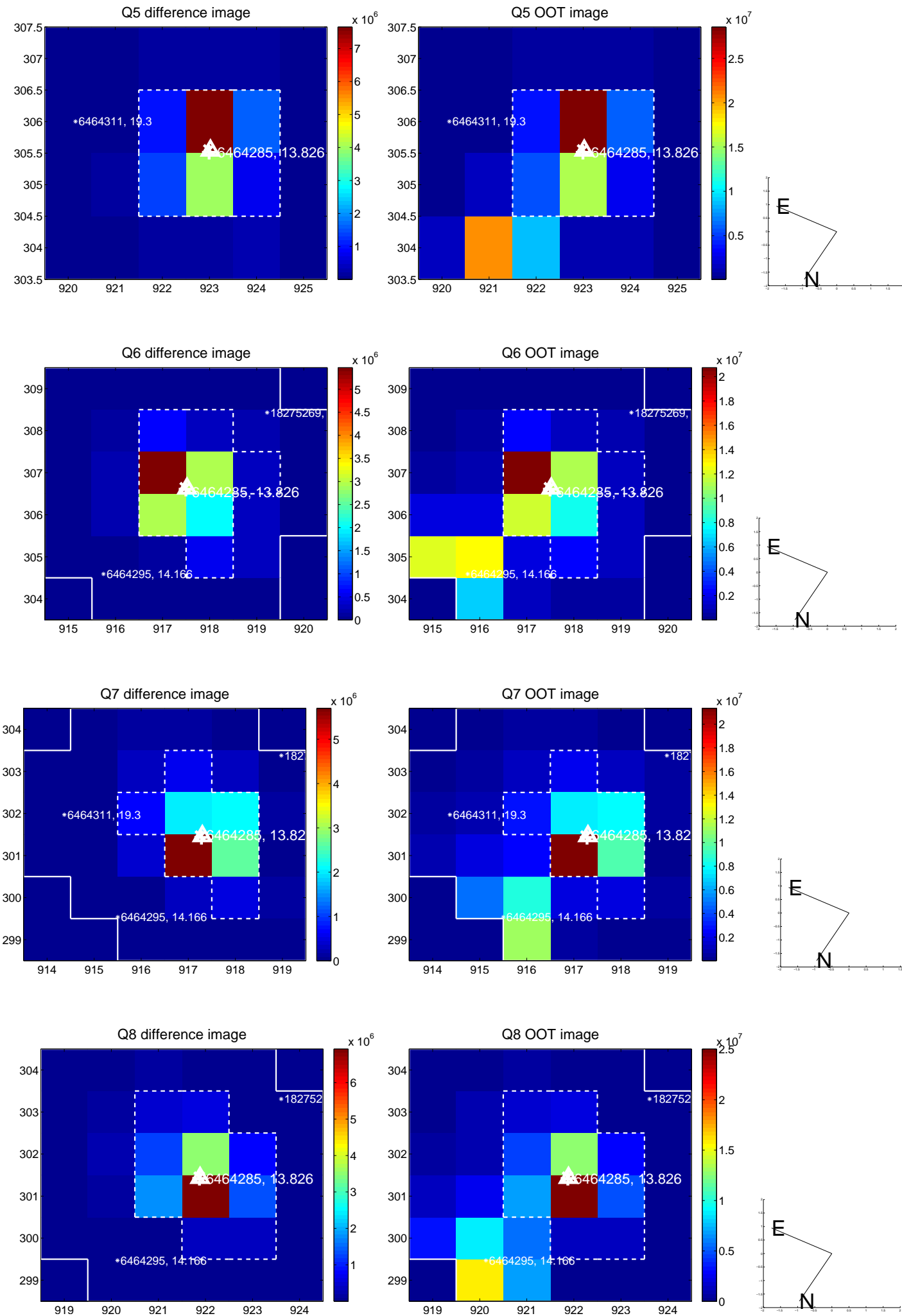
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

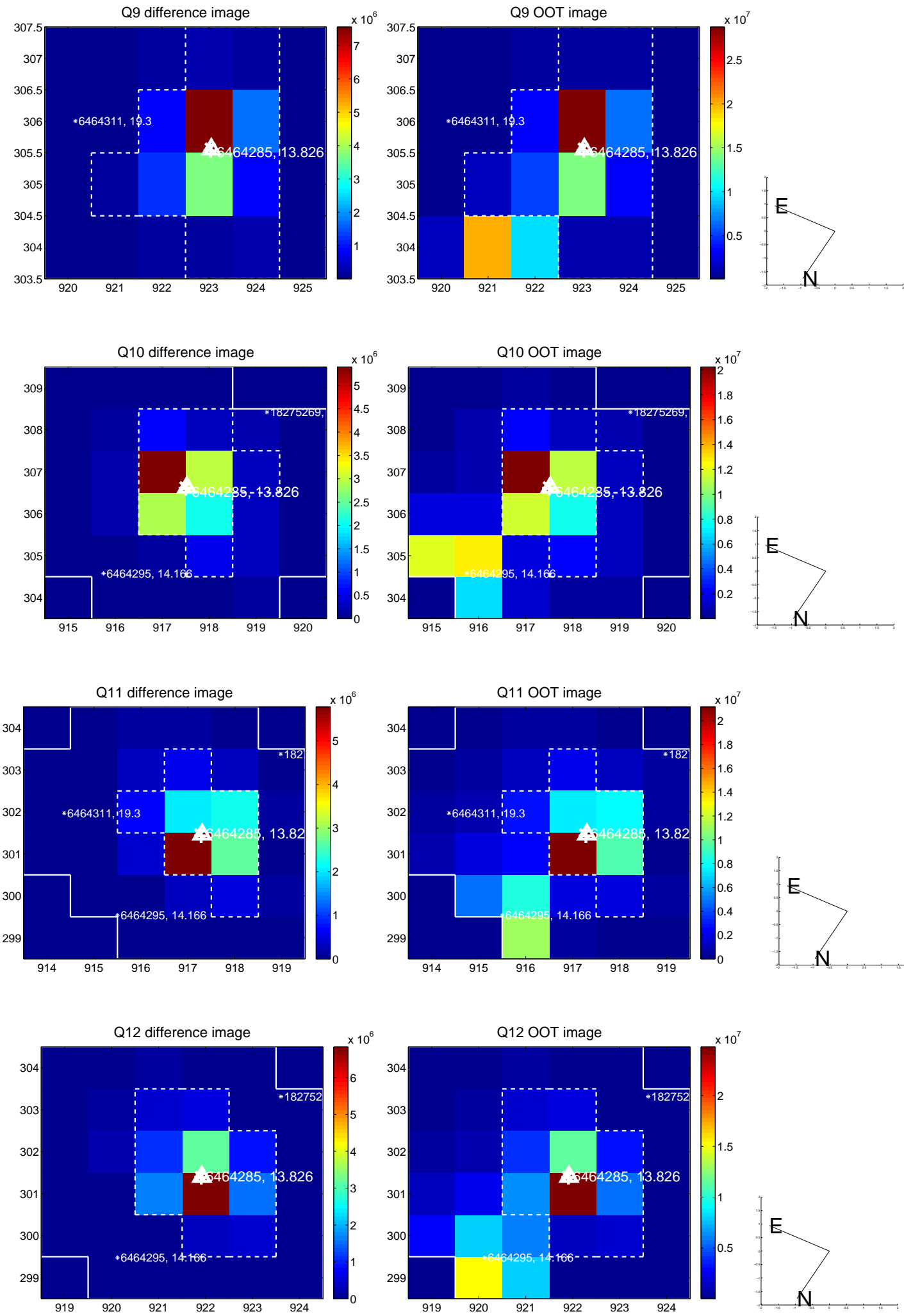




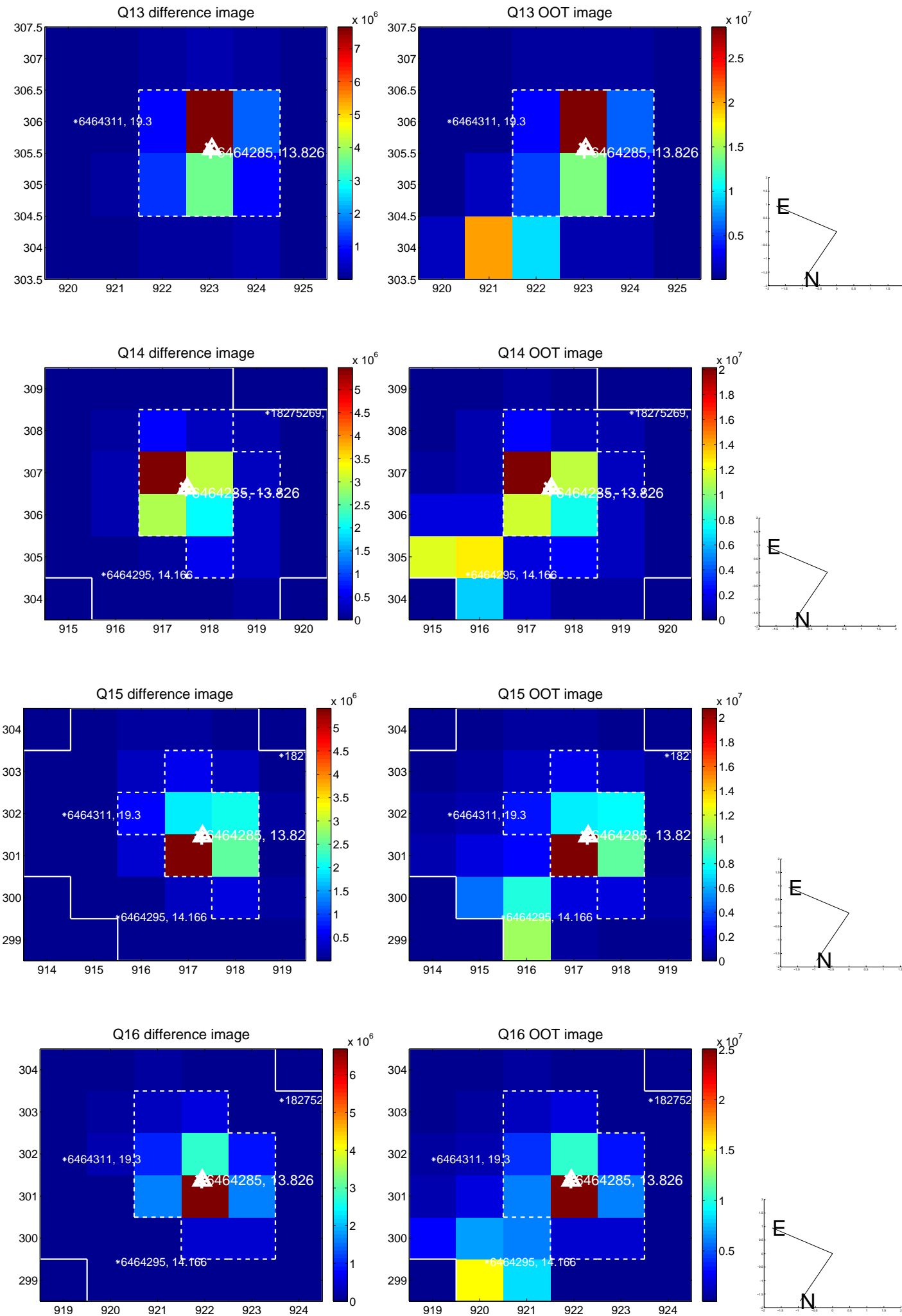
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



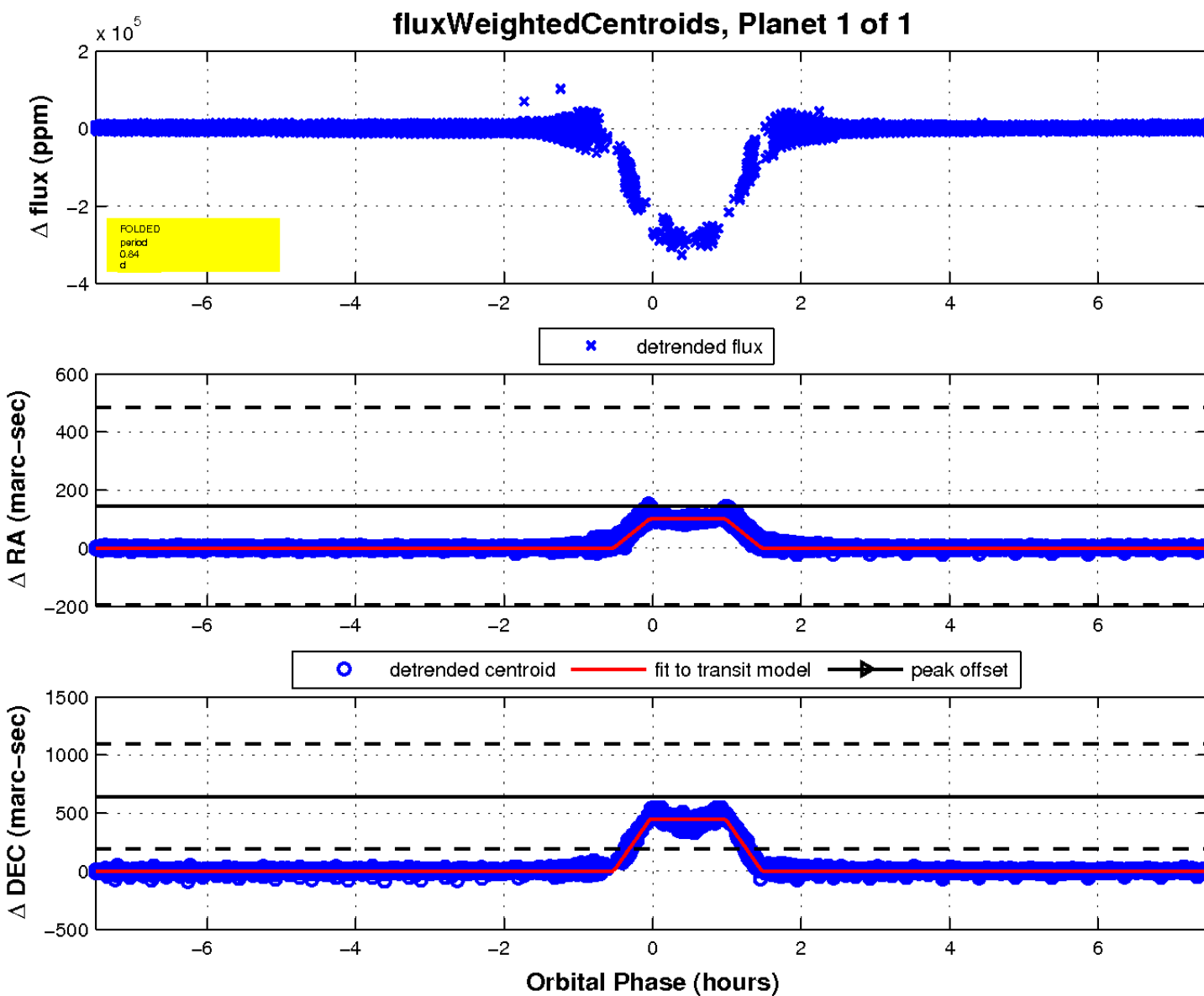
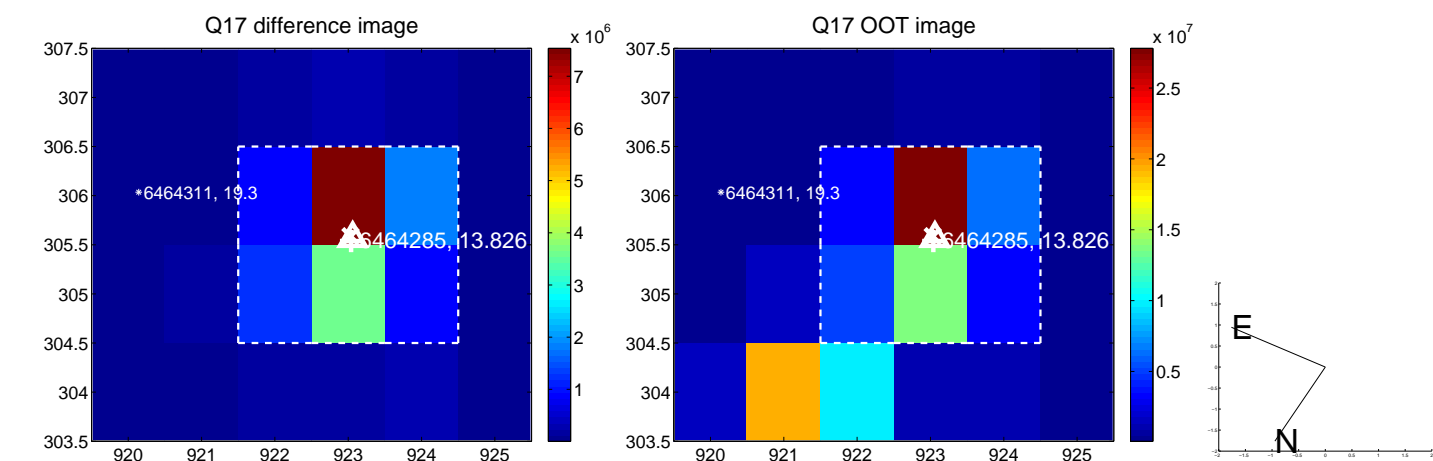
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

