

# KIC 005269407

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005269407-01	OBS	6548.01	0.958892	131.676094	232247.7	2.754	7401.1	3173.1	0.89	5530	51.83	2186.14

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005269407-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED

**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.

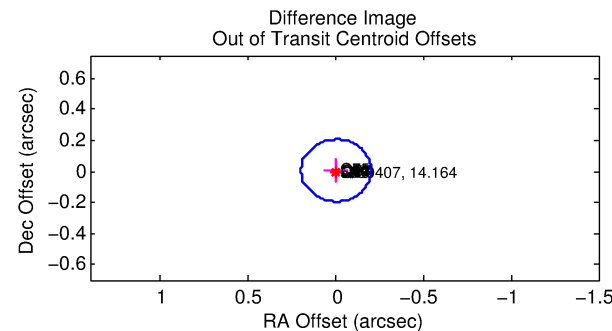
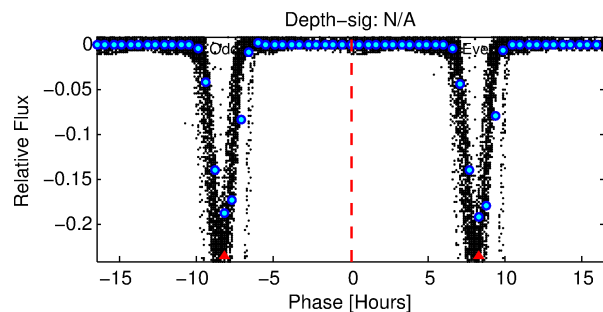
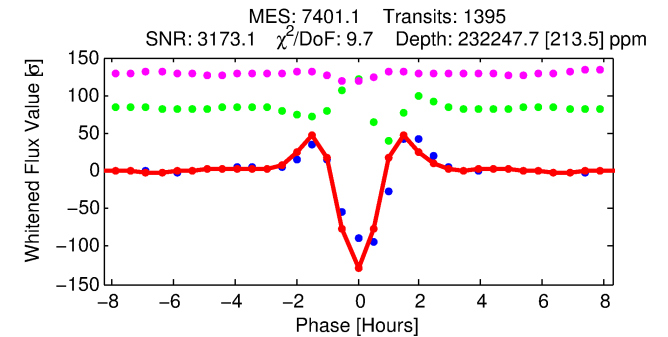
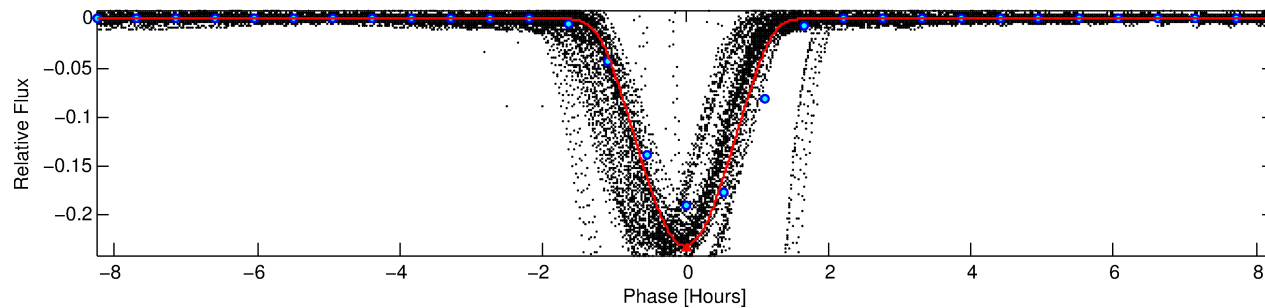
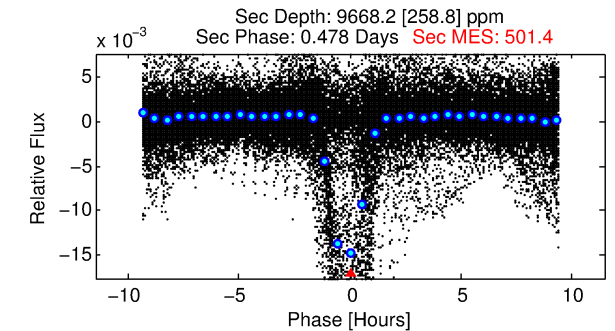
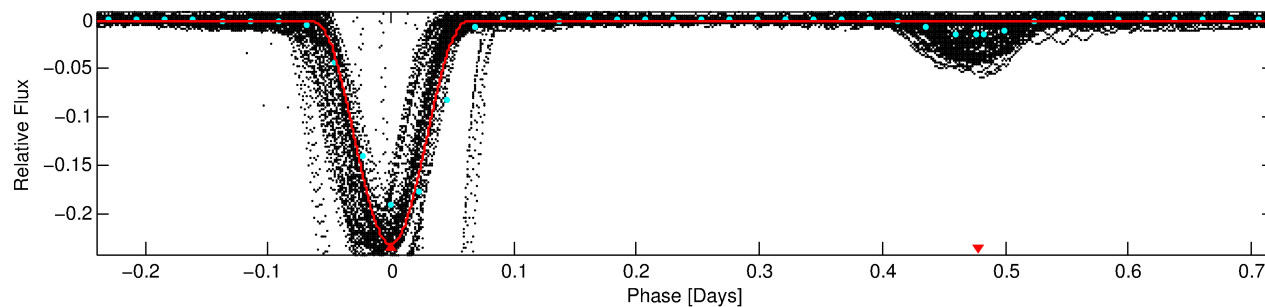
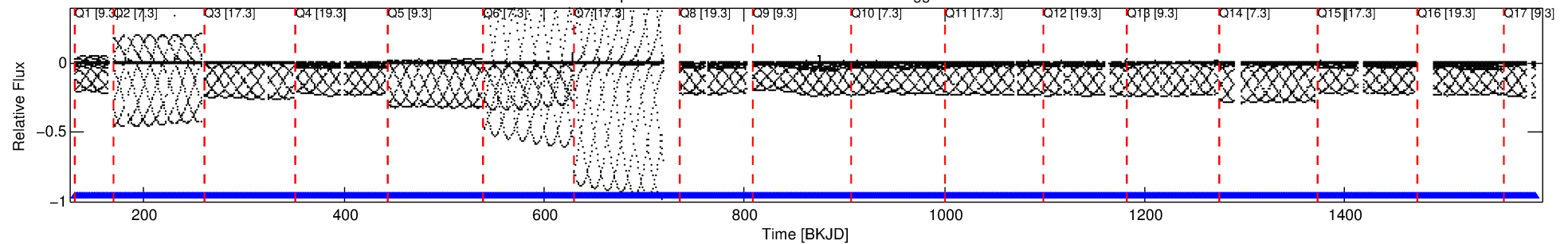
## Ephemeris Match Information For 005269407-01

No Significant Match Found

# DV One-Page Summary

KIC: 5269407 Candidate: 1 of 1 Period: 0.959 d  
KOI: K06548.01 Corr: 0.923

Kp: 14.16 R\*: 0.89 Rs Teff: 5530.0 K Logg: 4.42 Fe/H: -0.340



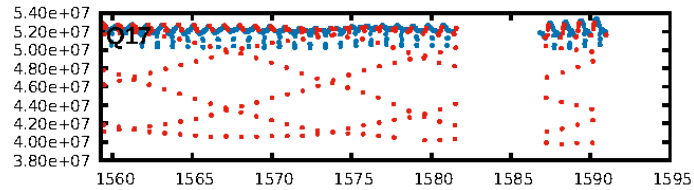
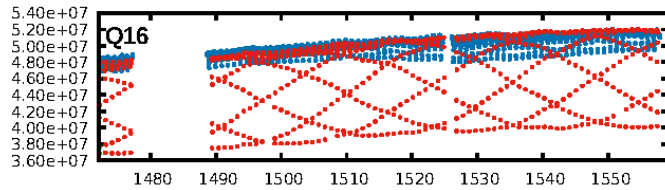
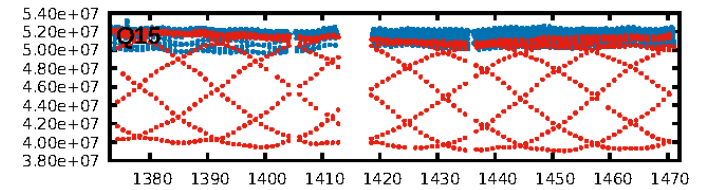
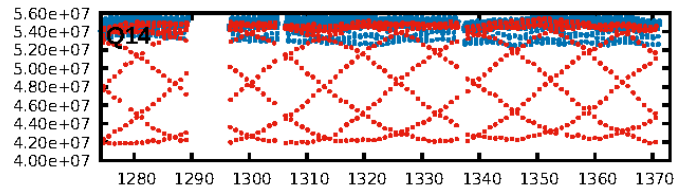
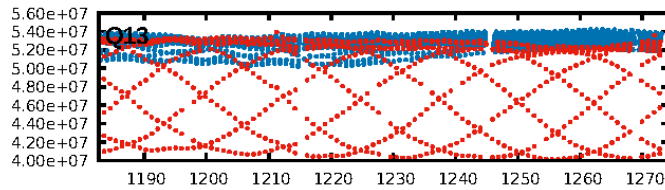
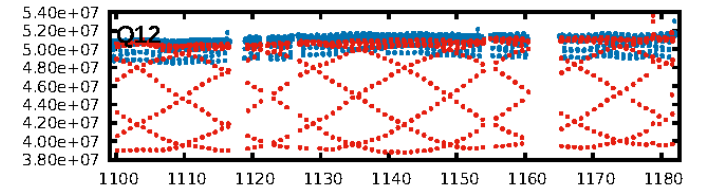
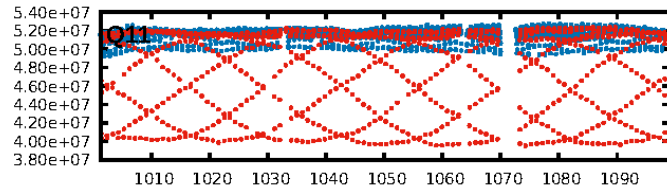
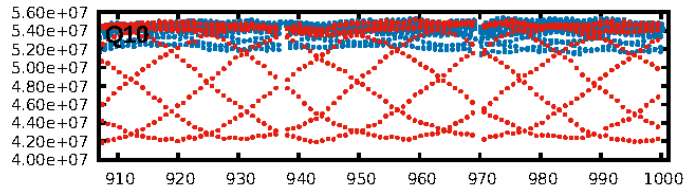
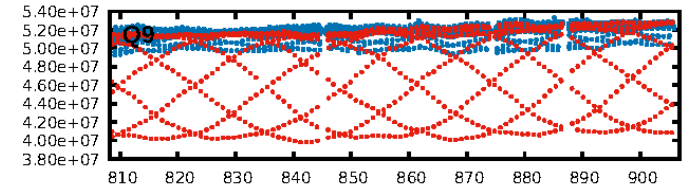
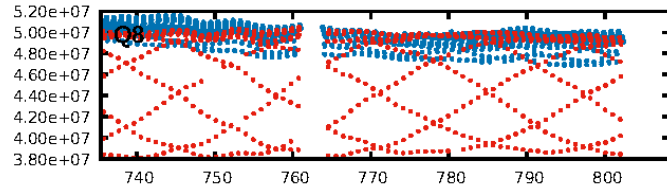
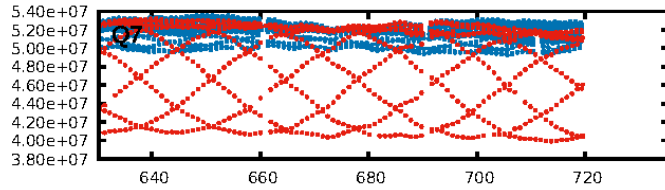
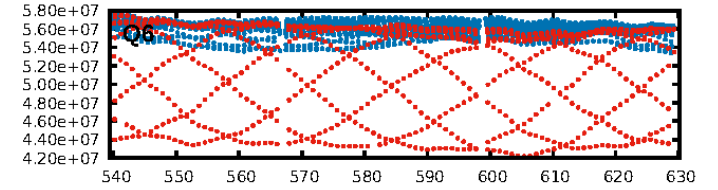
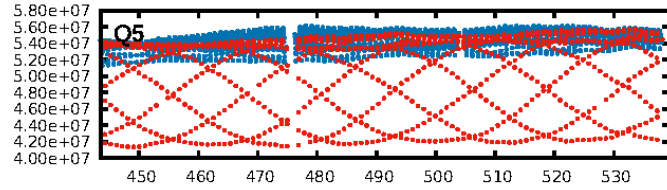
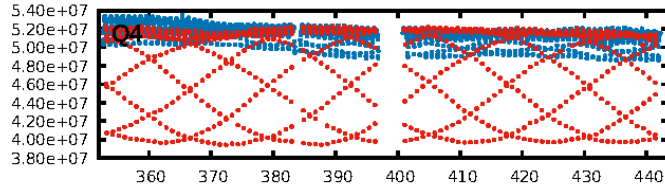
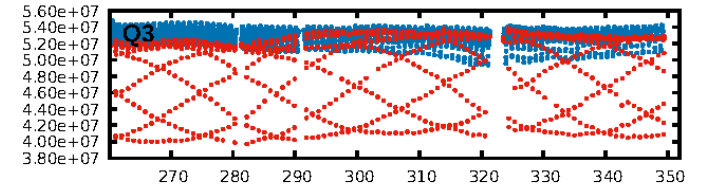
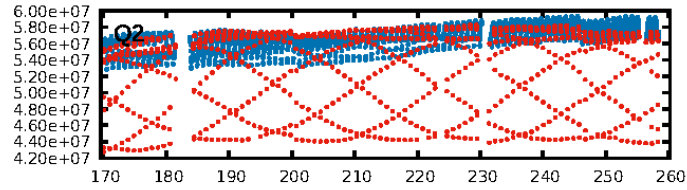
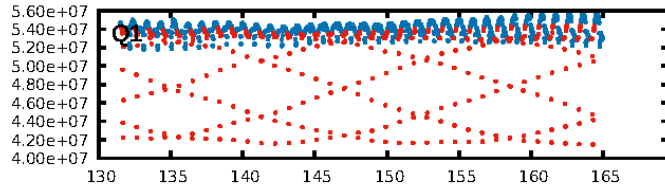
## DV Fit Results:

Period = 0.95889 [0.00000] d  
Epoch = 131.6761 [0.0000] BKJD  
Rp/R\* = 0.5324 [0.0129]  
a/R\* = 3.81 [0.01]  
b = 0.68 [0.02]  
Seff = 2186.14 [804.45]  
Teff = 1744 [160] K  
**Rp = 51.82 [13.25] Re**  
a = 0.0175 [0.0040] AU  
Ag = 0.60 [0.21] [-1.86σ]  
**Teffp = 2376 [78] K [3.55σ]**

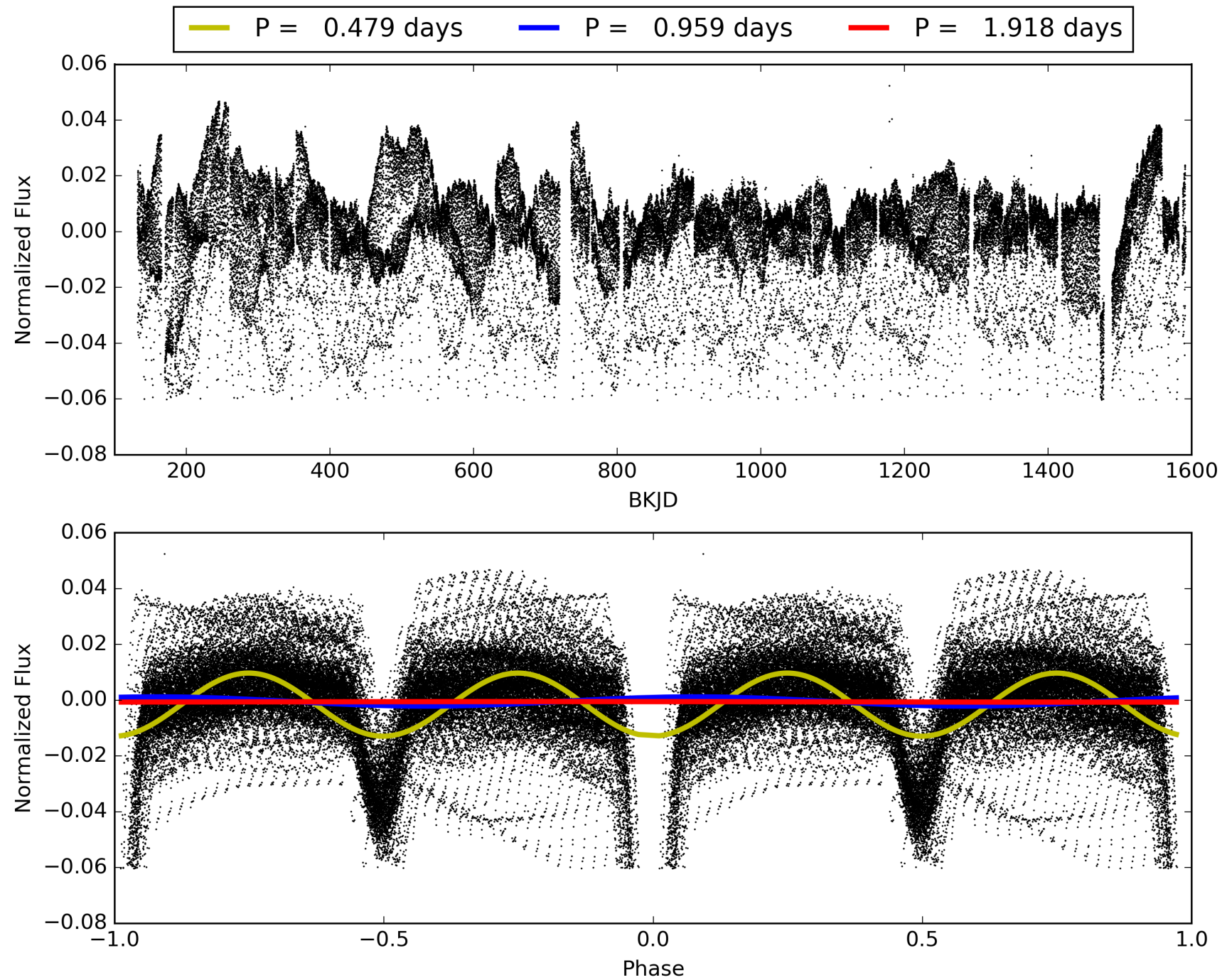
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1332/1332]  
GhostDiagnostic-chr: 1.429  
Centroid-sig: N/A  
**Centroid-so: 0.194 arcsec [586.47σ]**  
OotOffset-rm: 0.007 arcsec [0.11σ]  
KicOffset-rm: 0.127 arcsec [1.90σ]  
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]

## TCE 005269407-01, PDC Light Curves

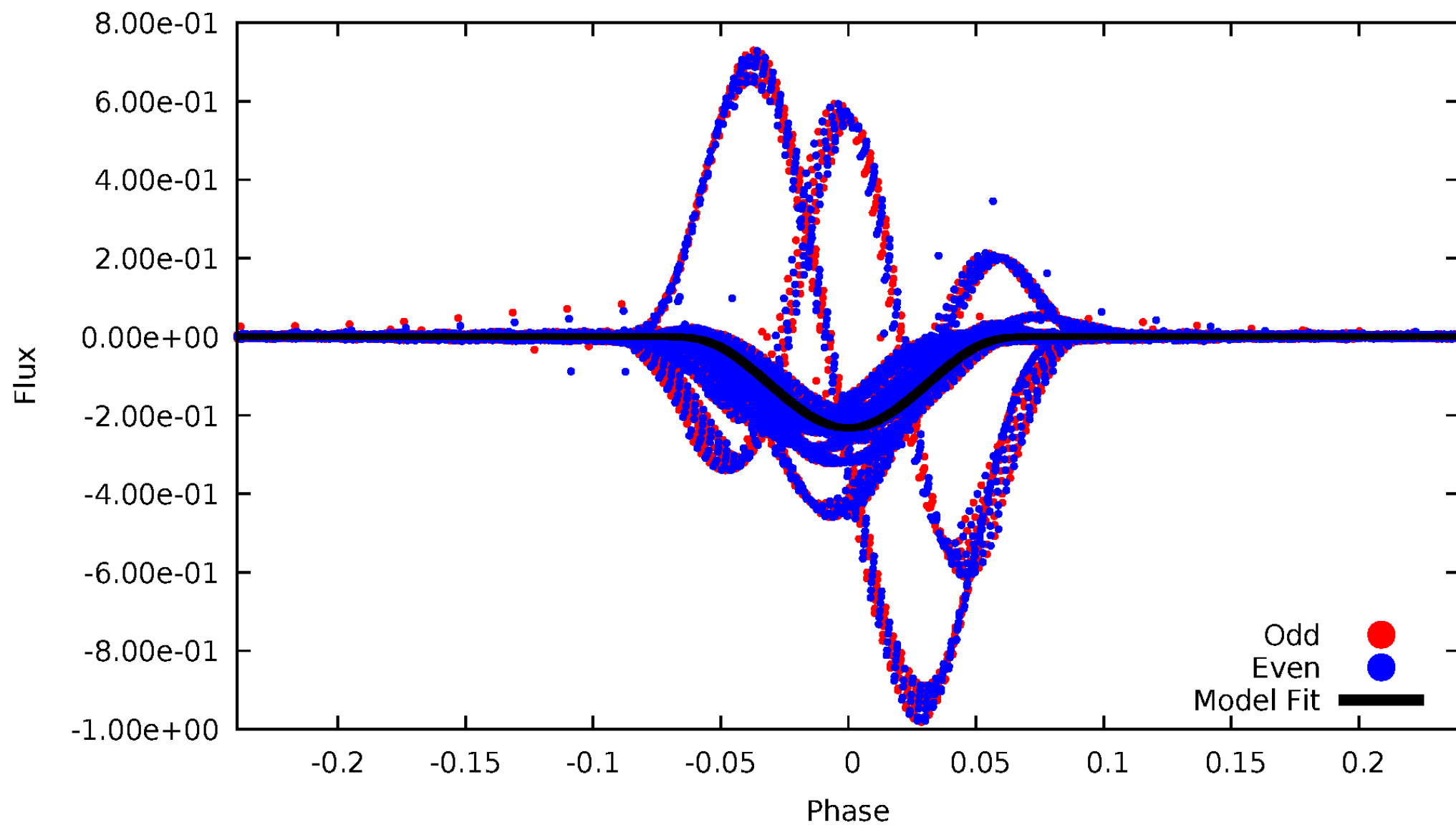


TCE 005269407-01



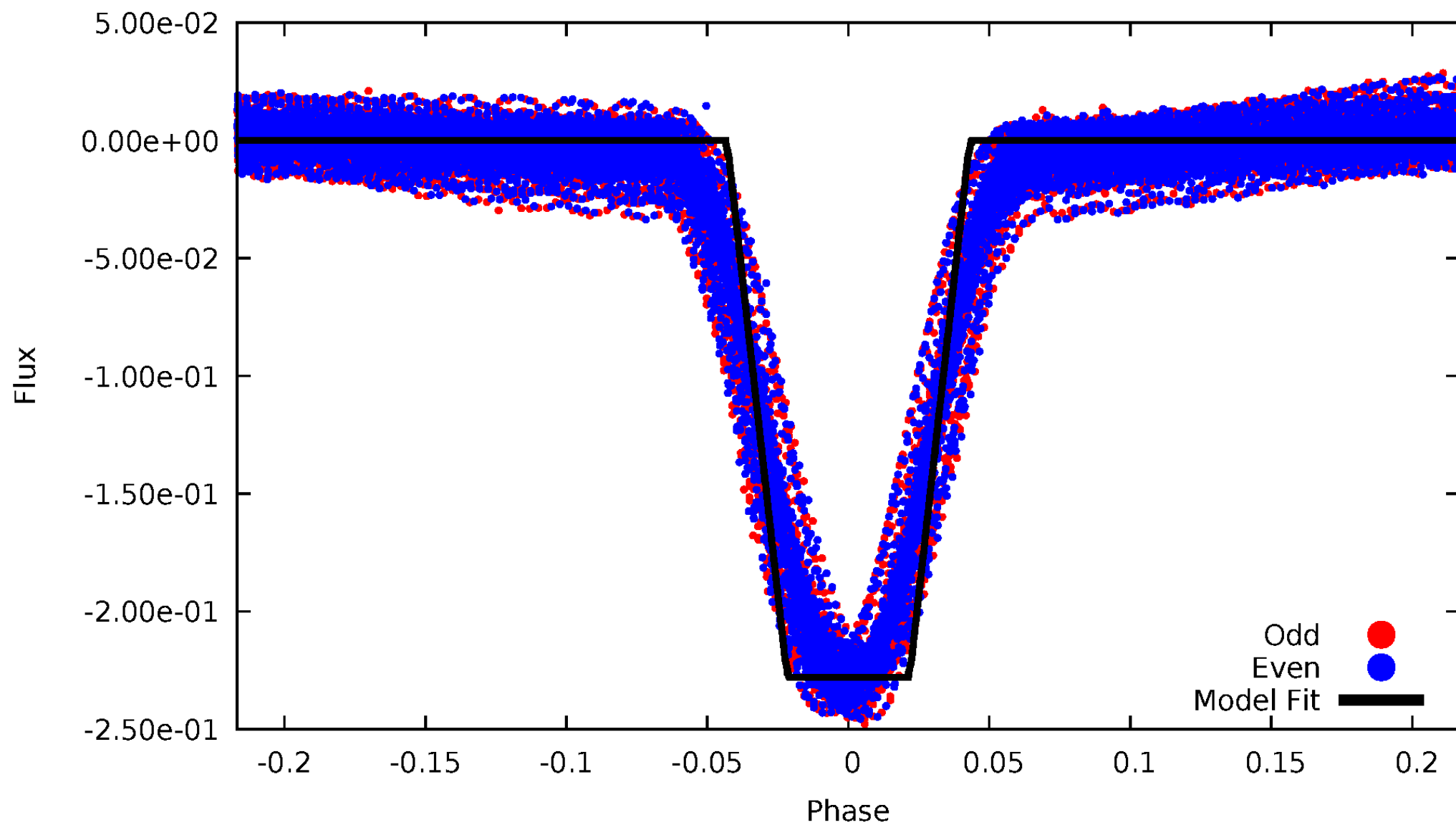
# DV Odd/Even

TCE 005269407-01



# ALT Odd/Even

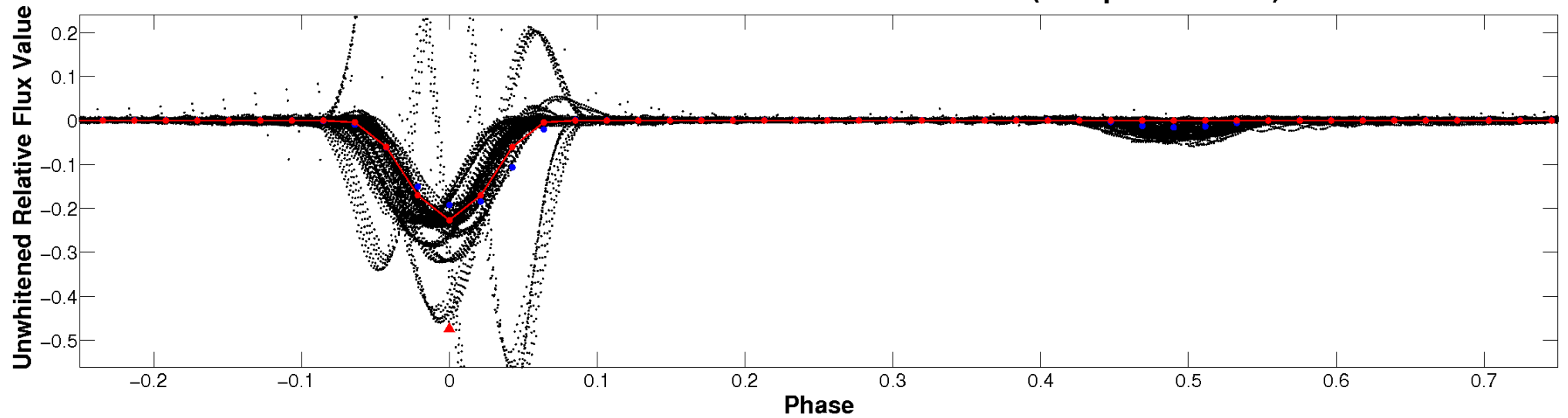
TCE 005269407-01



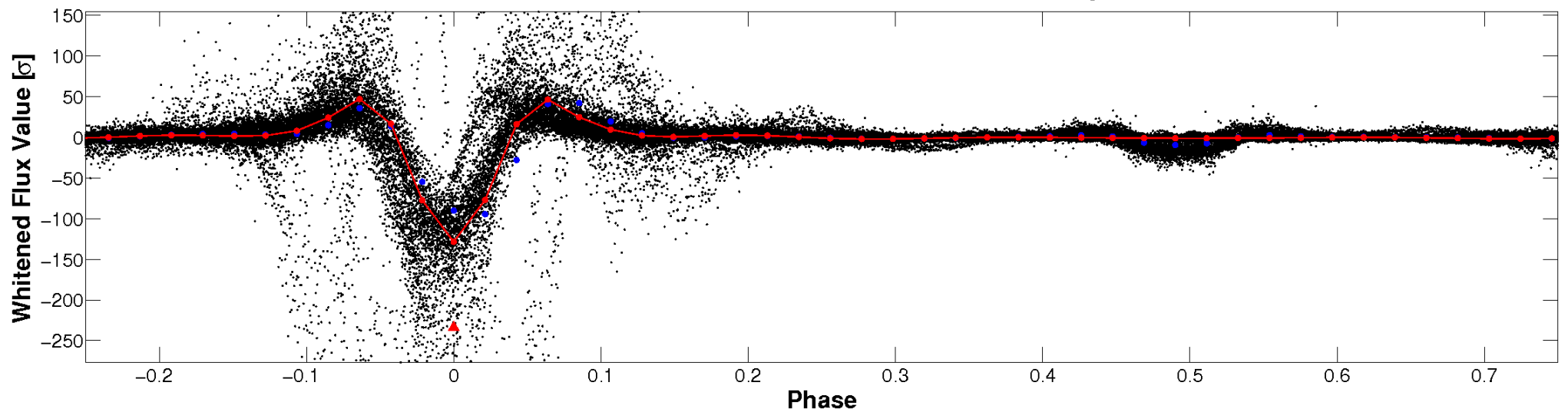


# Non-Whitened Vs. Whitened Light Curve

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

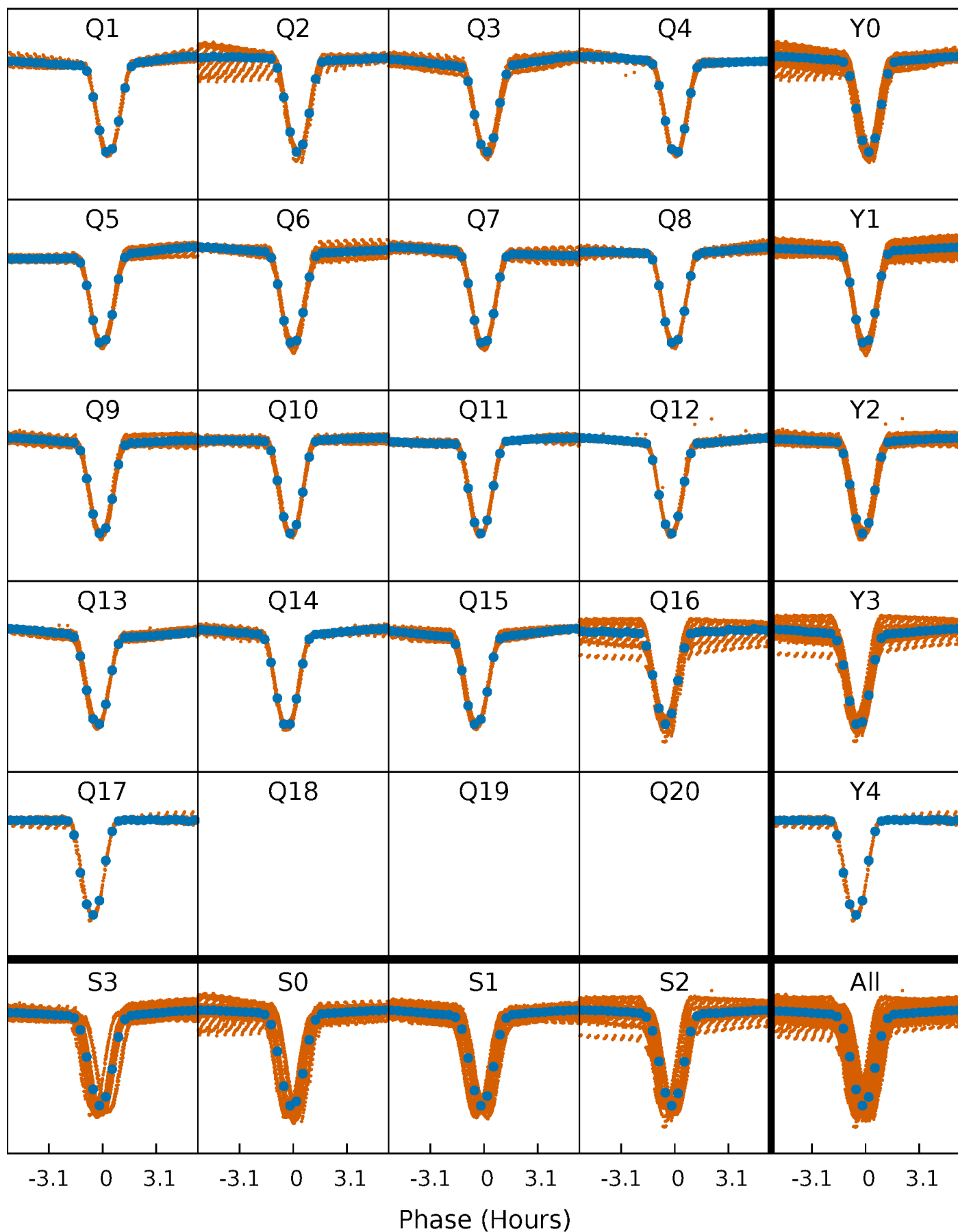


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

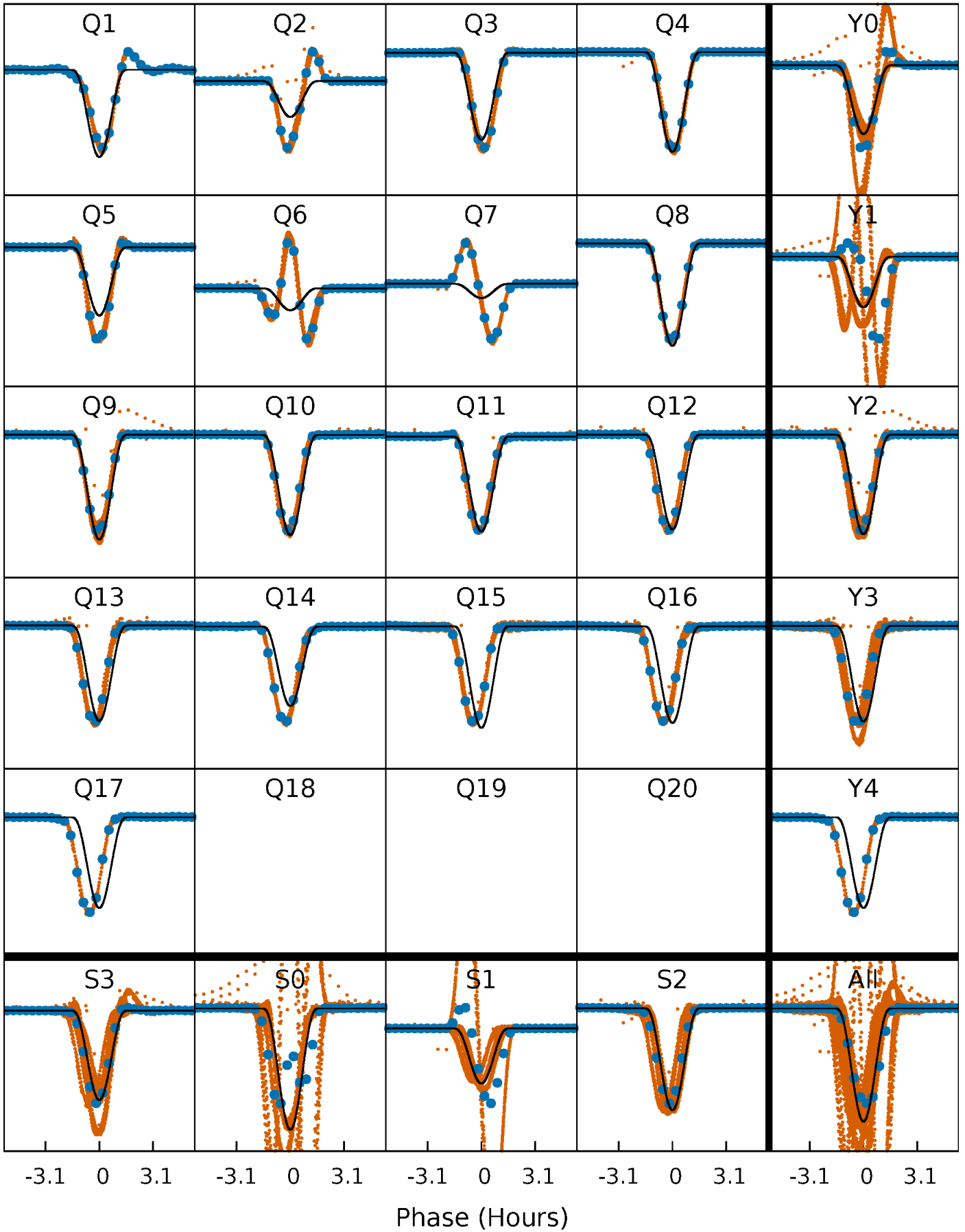
TCE 005269407-01   P= 0.958892 Days    $T_0=131.676094$  (BKJD)





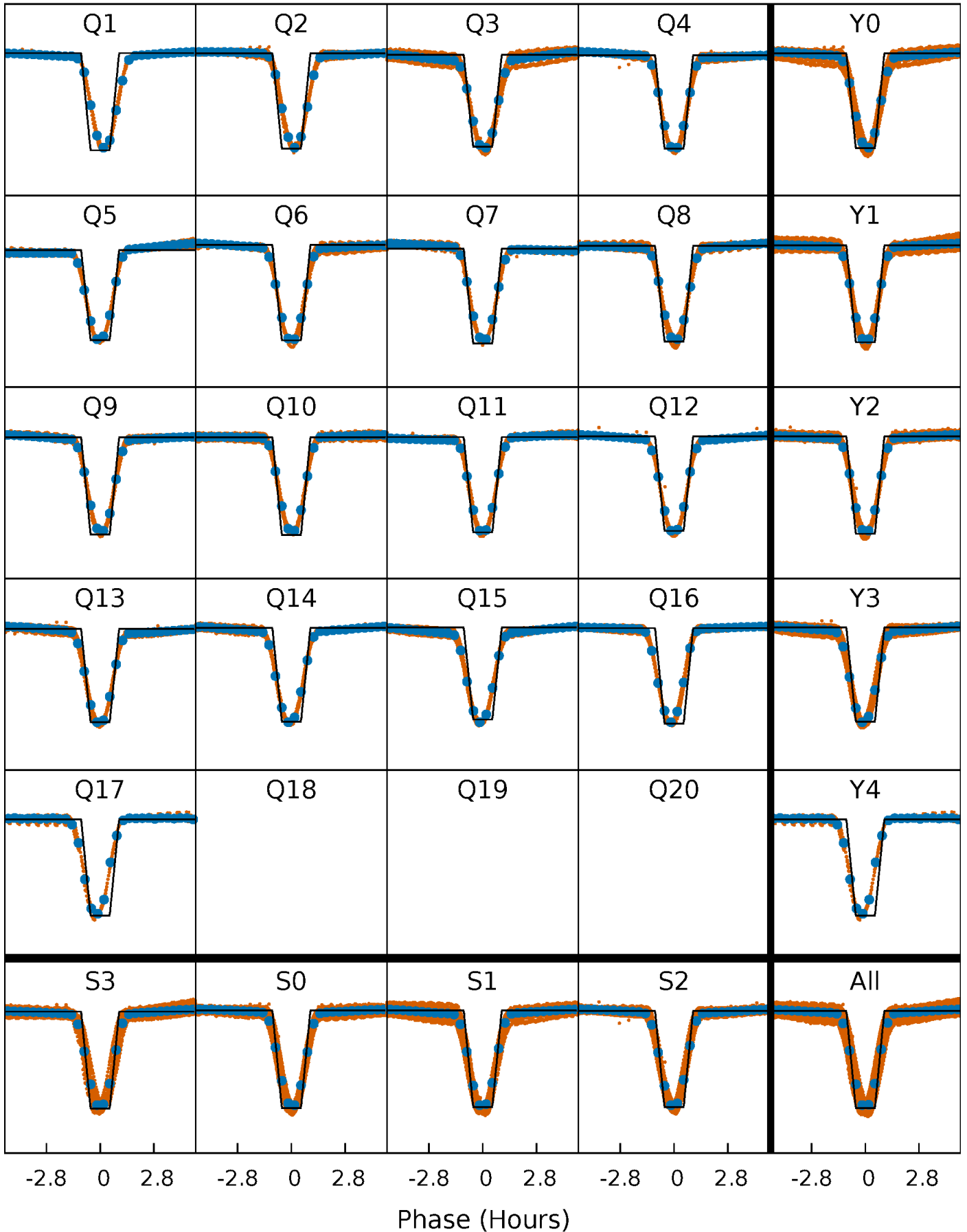
# DV Quarter-Phased Transit Curves

TCE 005269407-01 P= 0.958892 Days  $T_0=131.676094$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

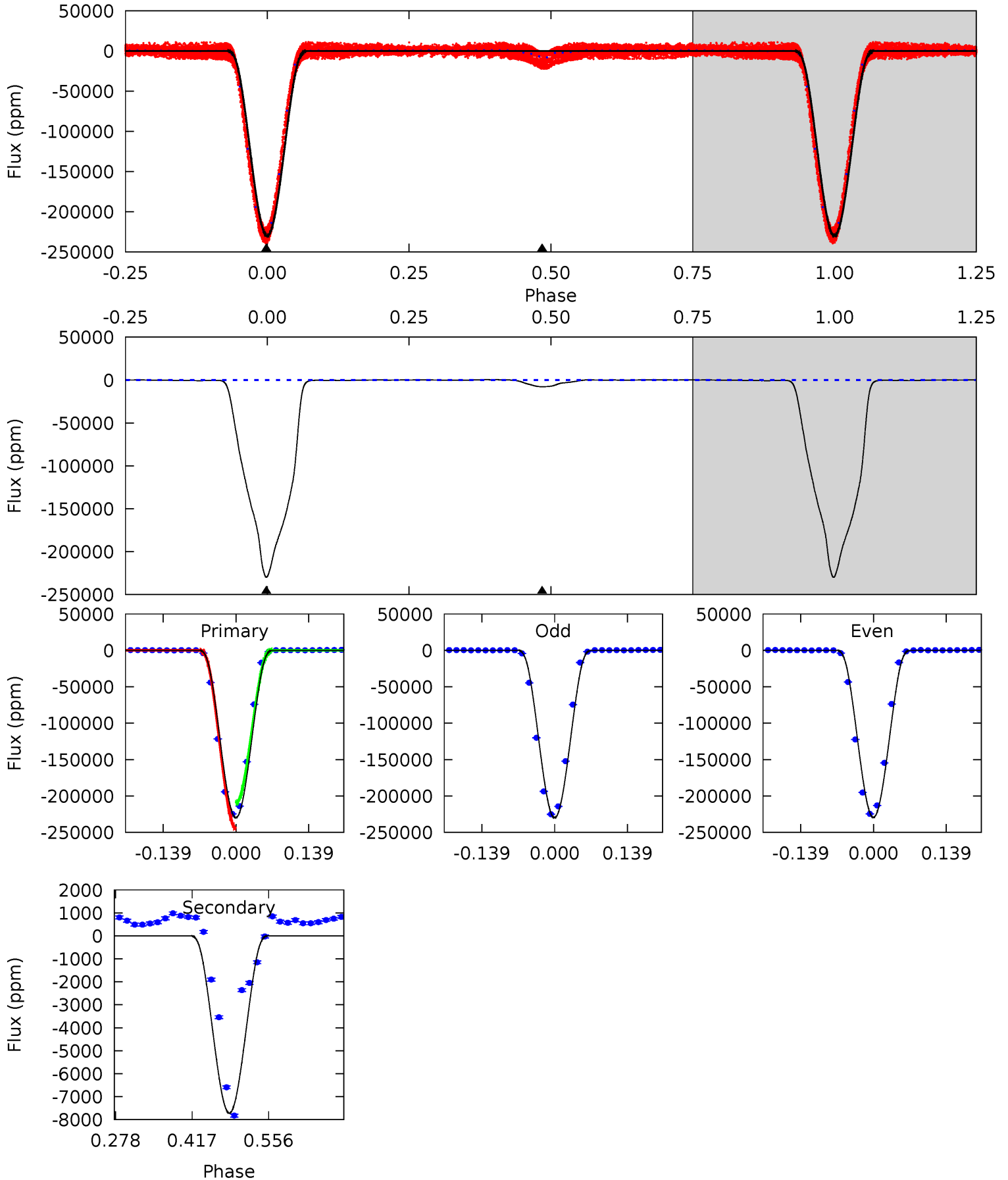
TCE 005269407-01     $P = 0.958878$  Days     $T_0 = 131.681584$  (BKJD)



# DV Model-Shift Uniqueness Test

005269407-01, P = 0.958892 Days, E = 130.717202 Days

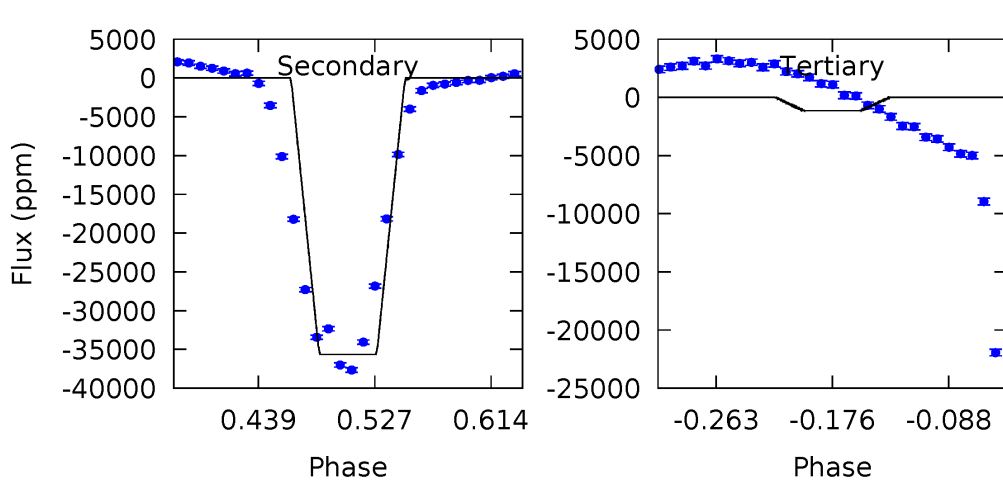
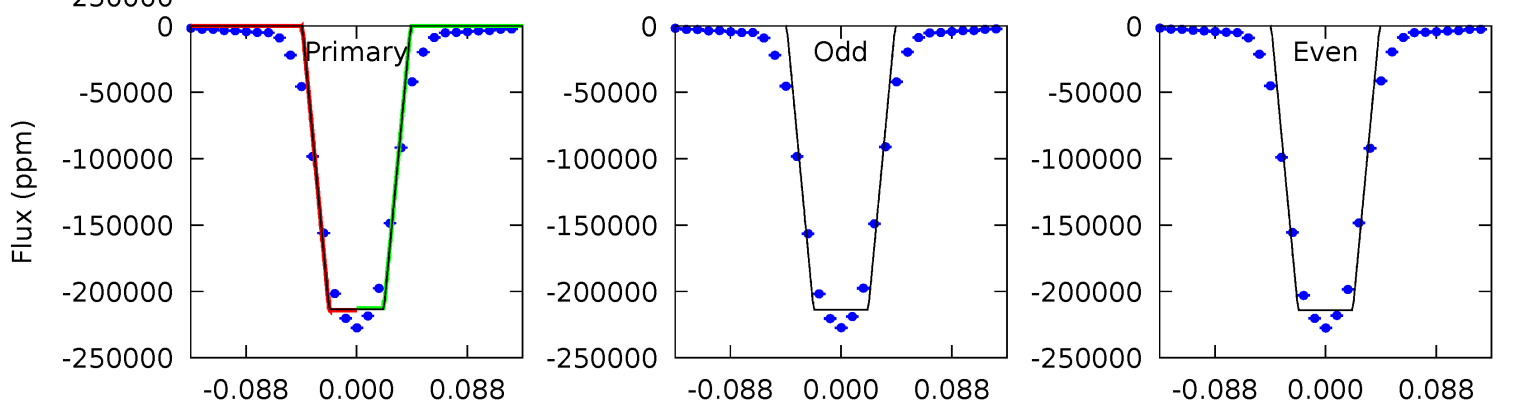
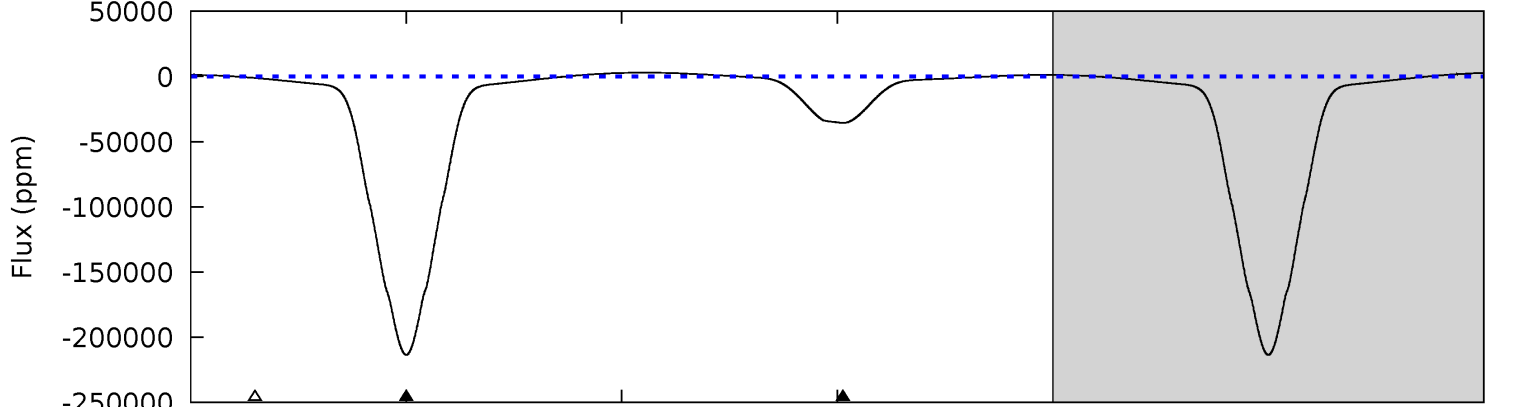
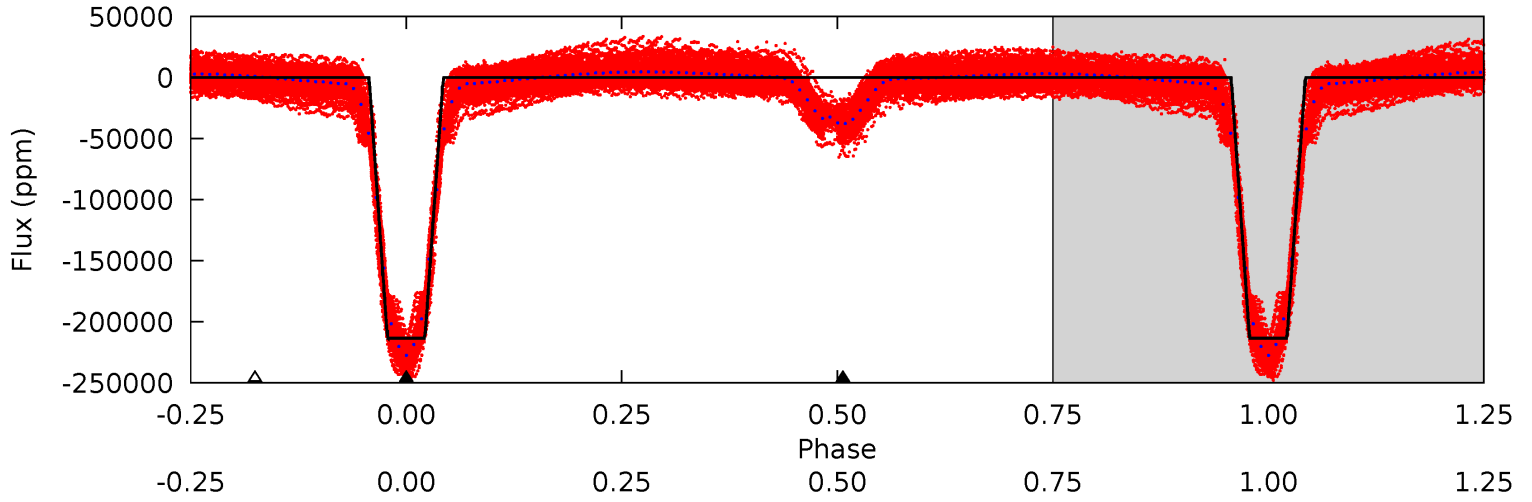
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5492	184.4	0	0	4.50	1.48	4.78	5492	5492	184.4	184.4	6.41	0.96	0.00	0



# Alt Model-Shift Uniqueness Test

005269407-01, P = 0.958878 Days, E = 130.722706 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
1964	327.9	10.5	0	4.59	1.71	23.3	1954	1964	317.4	327.9	1.88	1.00	0.01	6.72



### Stellar Parameters For KIC 005269407

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5530^{+165}_{-149}$	$4.425^{+0.144}_{-0.198}$	$-0.340^{+0.350}_{-0.250}$	$0.892^{+0.227}_{-0.132}$	$0.773^{+0.131}_{-0.049}$	$1.532^{+0.951}_{-0.784}$
	+3%/-3%	+3%/-4%	+103%/-74%	+25%/-15%	+17%/-6%	+62%/-51%
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 005269407-01 / KOI 6548.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-7719 \pm 42$	$52.60^{+8.20}_{-5.27}$	$2449^{+174}_{-142}$	$2573^{+114}_{-191}$	$0.479^{+0.106}_{-0.110}$
Alt.	$-35640 \pm 109$	$47.32^{+7.26}_{-5.02}$	$2461^{+168}_{-157}$	$3780^{+98}_{-86}$	$2.794^{+0.684}_{-0.649}$

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

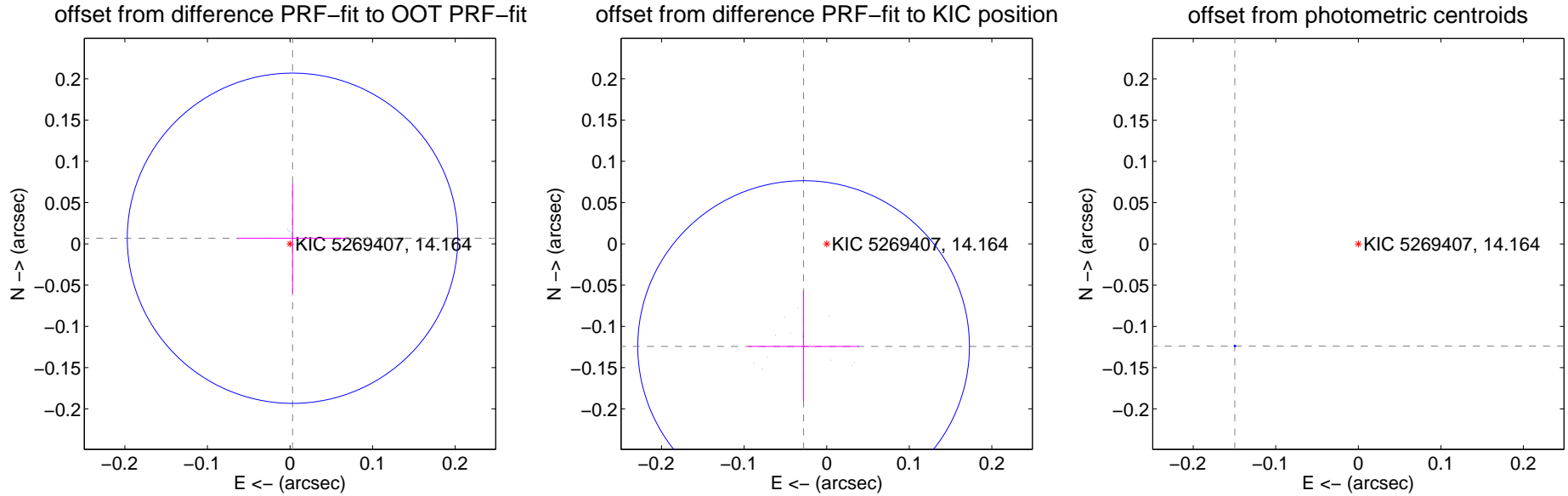
## DV Centroid Data

Supplemental centroid analysis for 005269407-01. Kepler magnitude: 14.16. Transit SNR 3173.07

There are 17 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

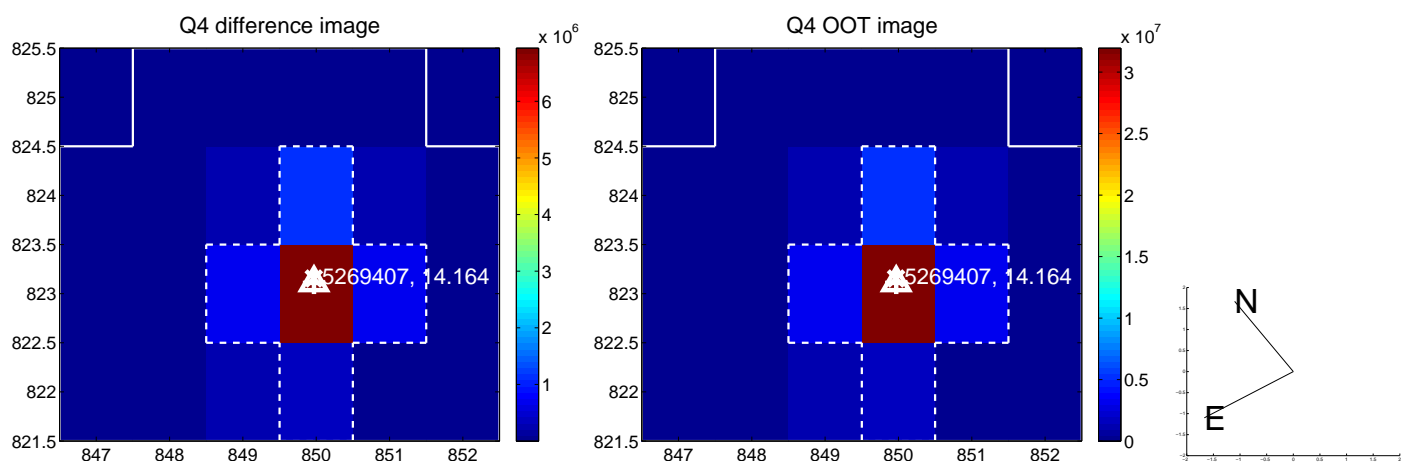
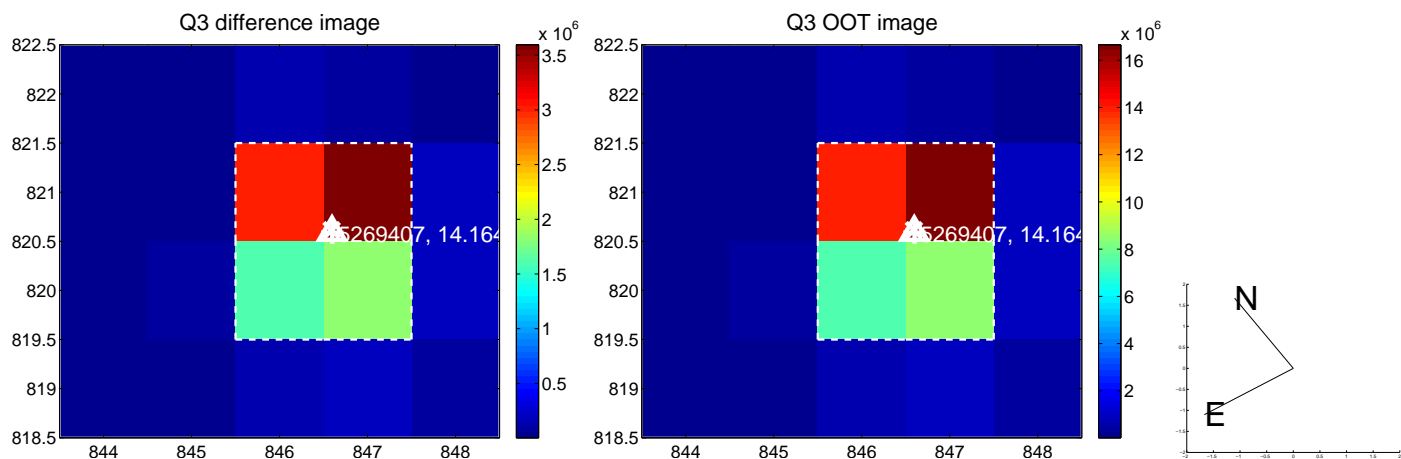
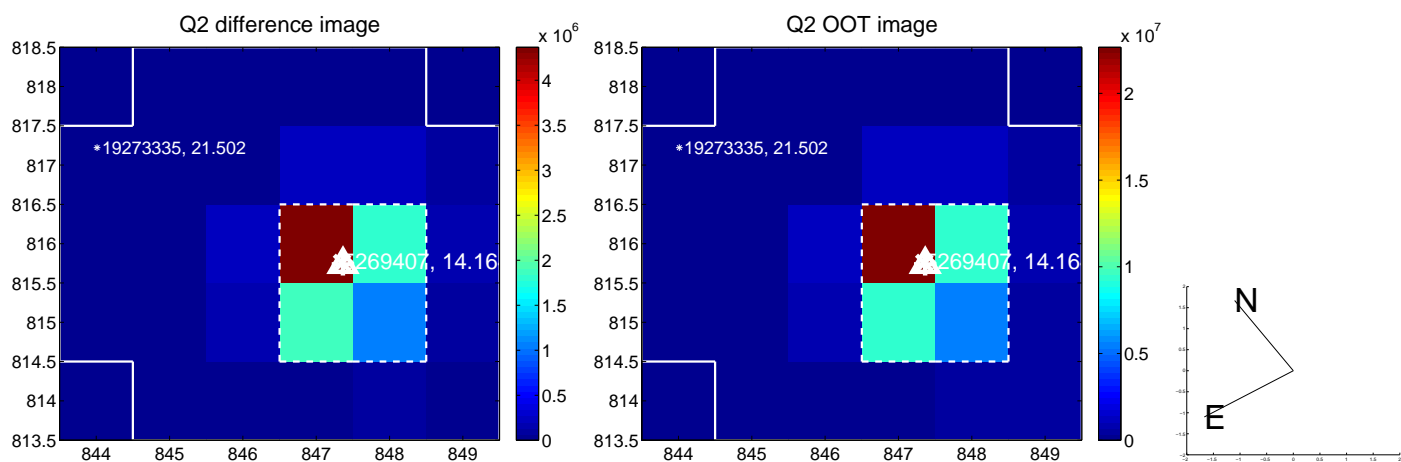
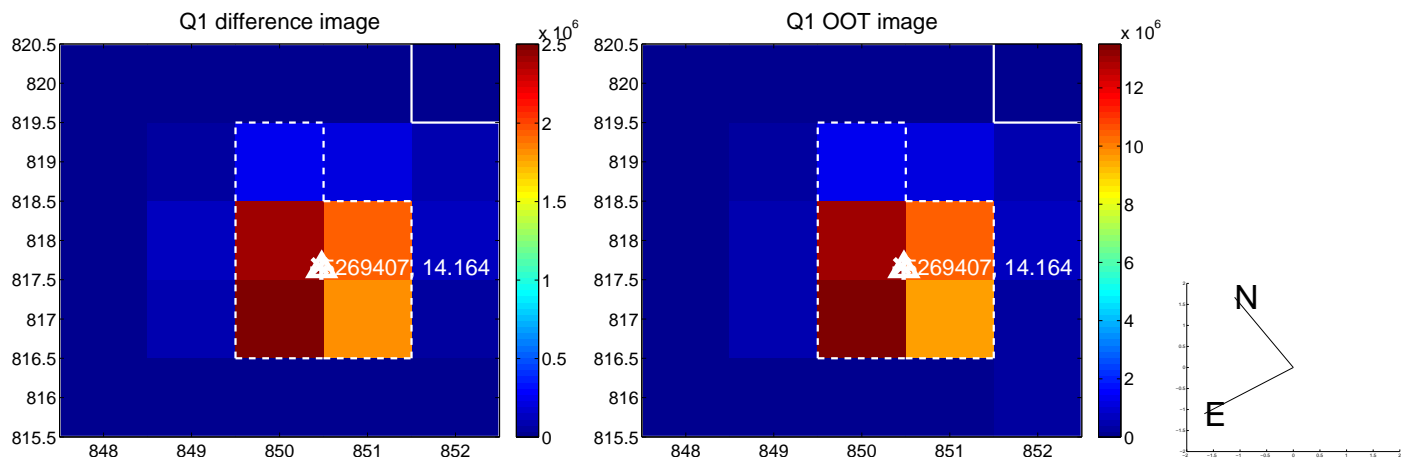
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.007 \pm 0.067$	0.11	$-0.003 \pm 0.067$	$0.007 \pm 0.067$
PRF-fit source offset from KIC position	$0.127 \pm 0.067$	1.90	$0.028 \pm 0.068$	$-0.124 \pm 0.067$
photometric centroid source offset	$0.19 \pm 0.00$	586.47	$0.15 \pm 0.00$	$-0.12 \pm 0.00$



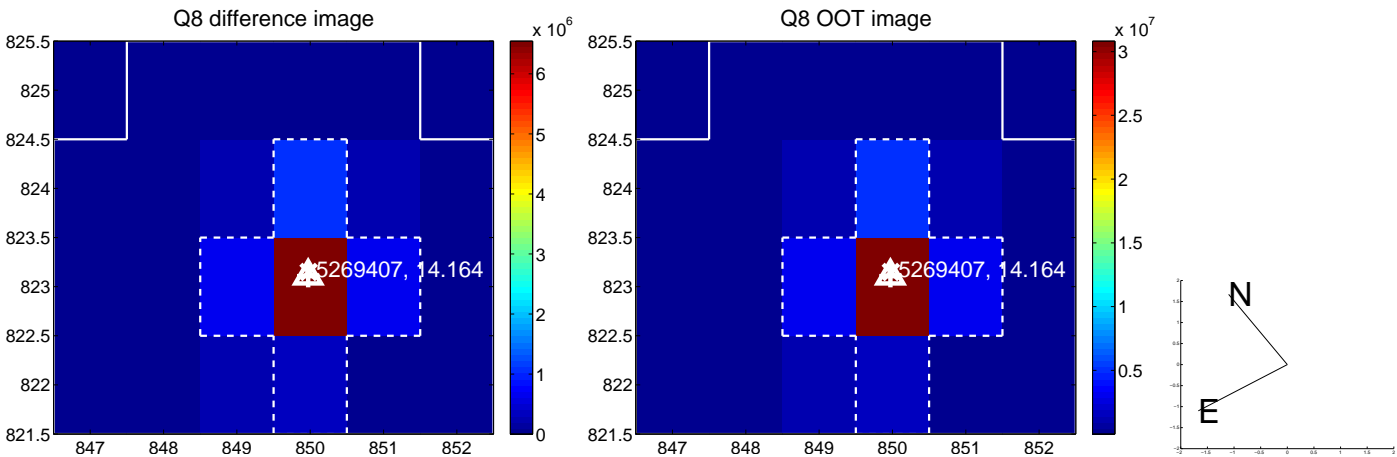
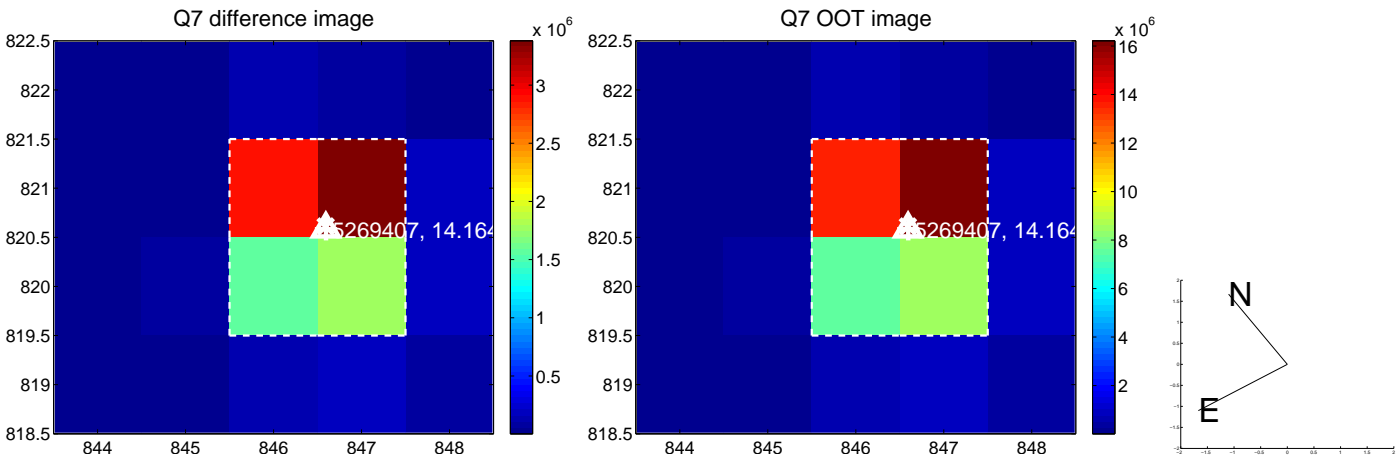
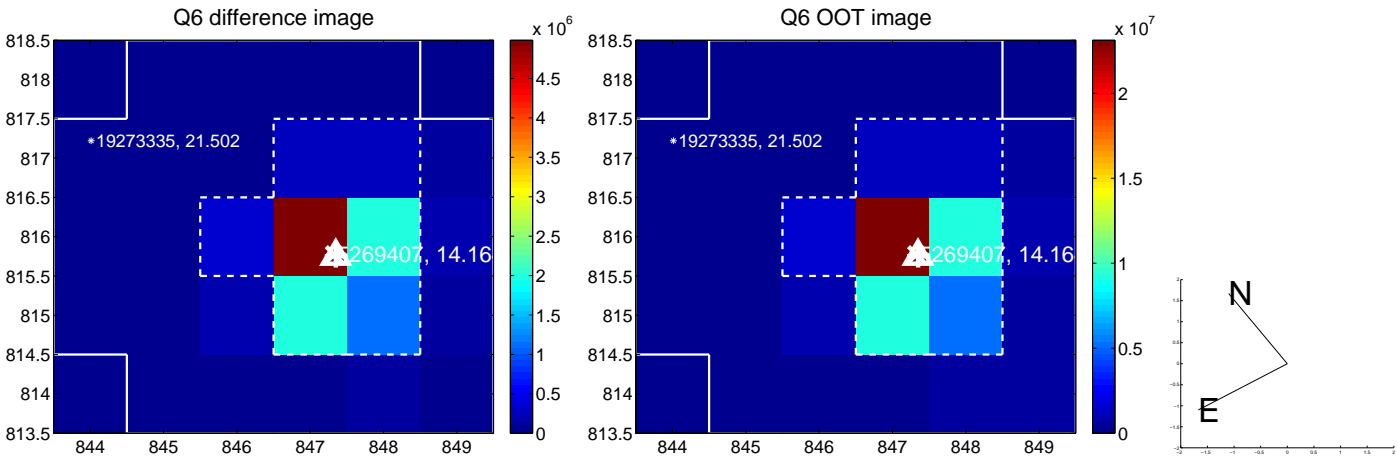
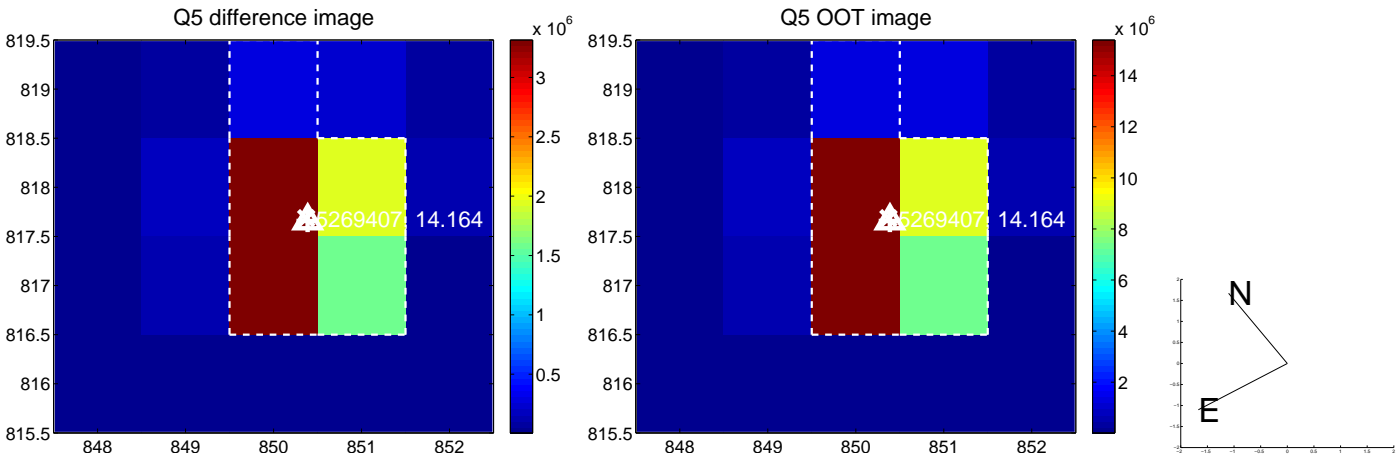
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



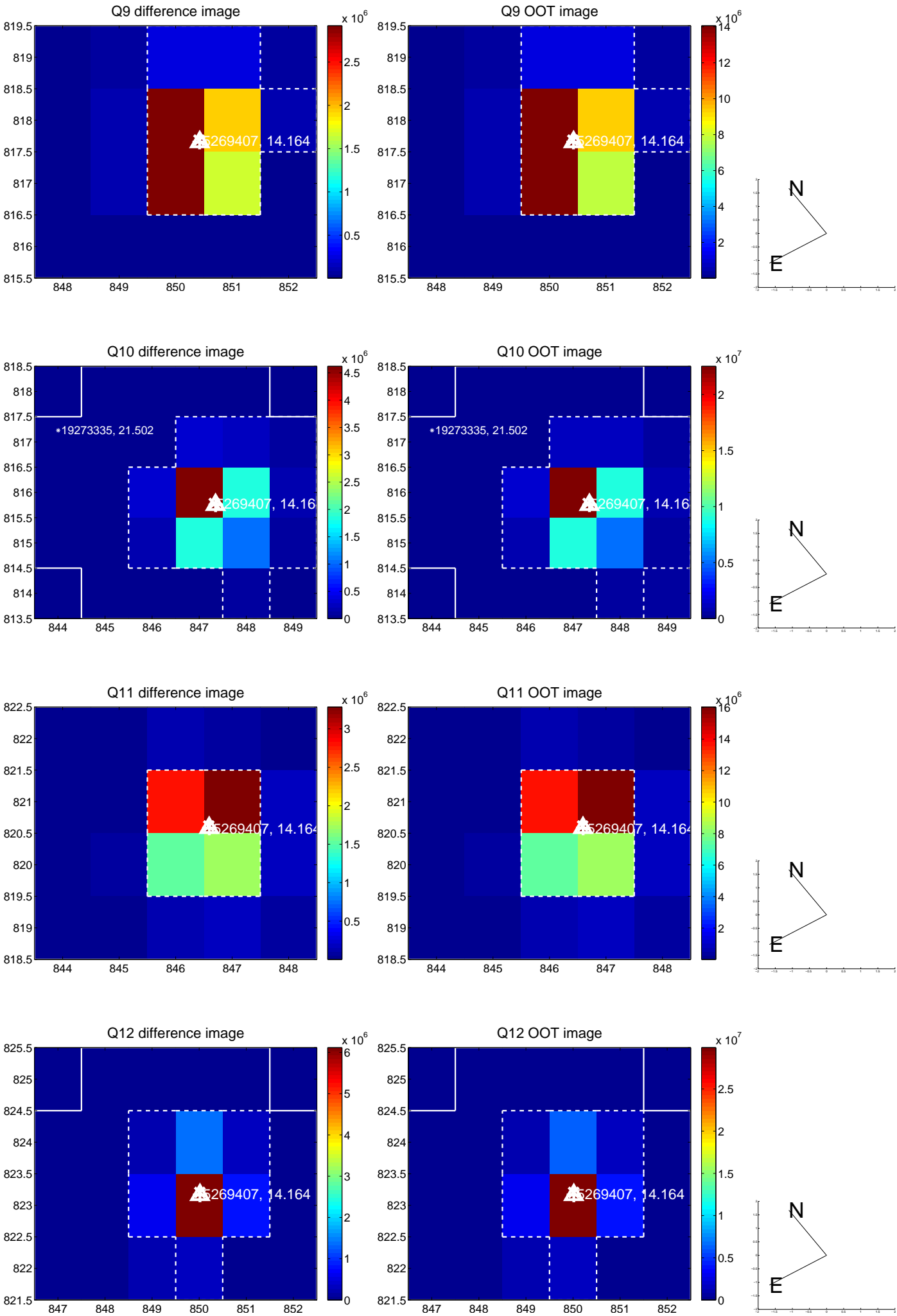
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



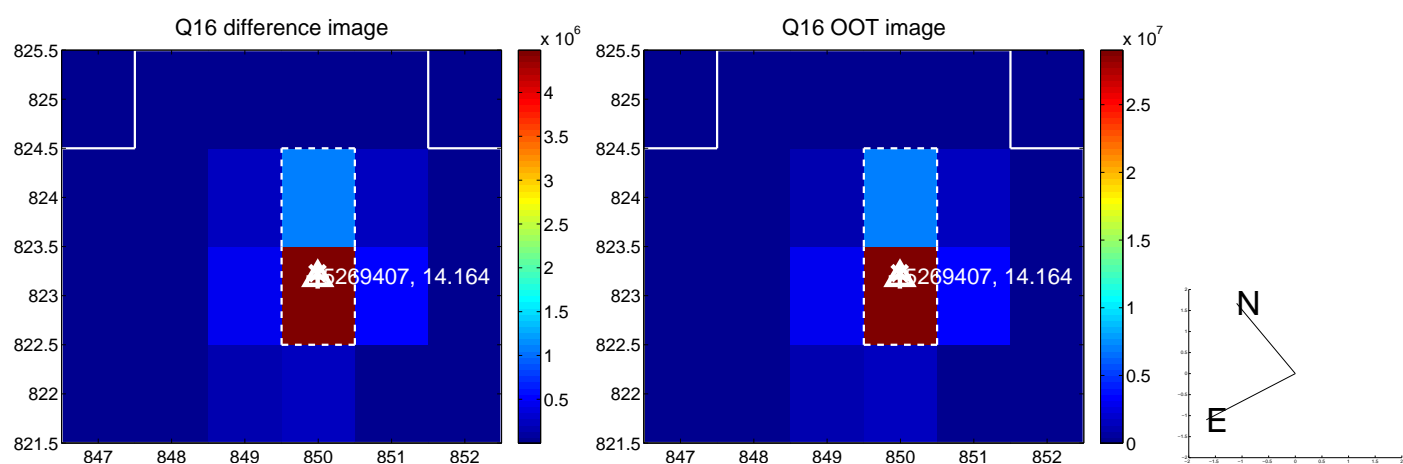
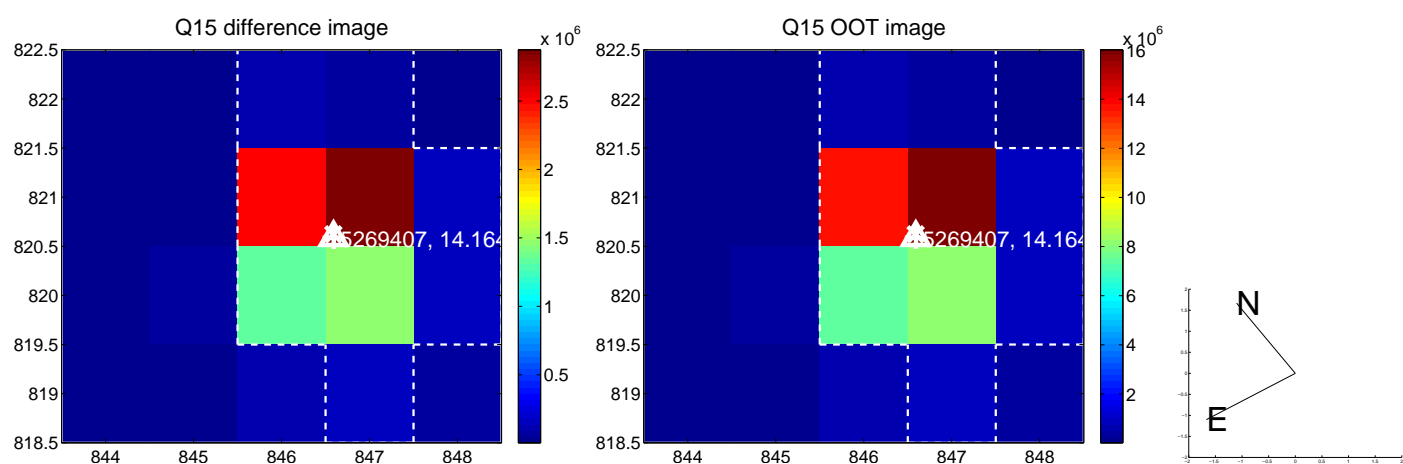
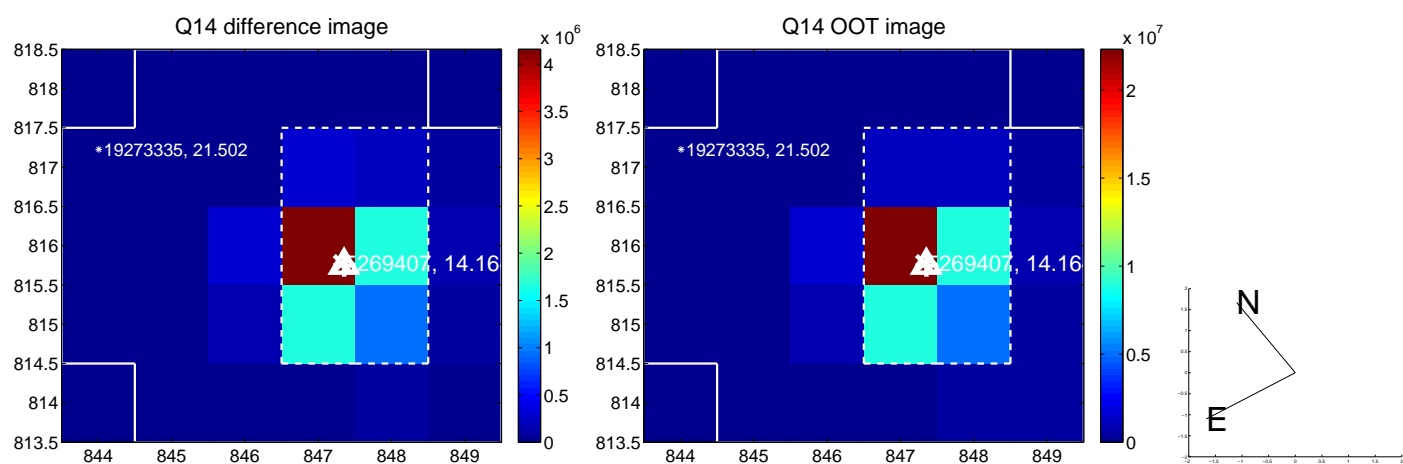
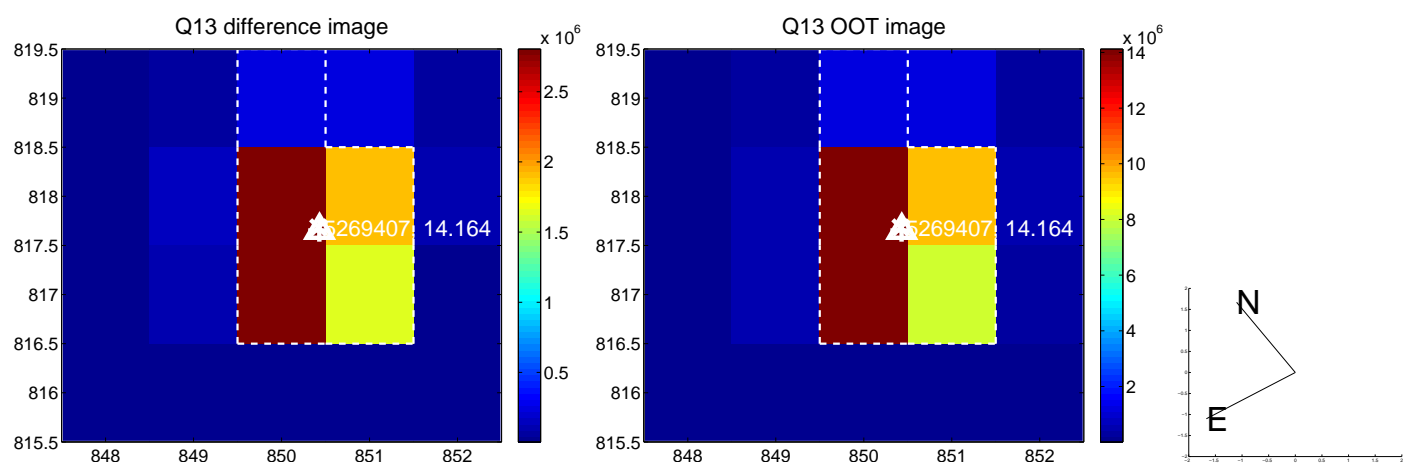
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



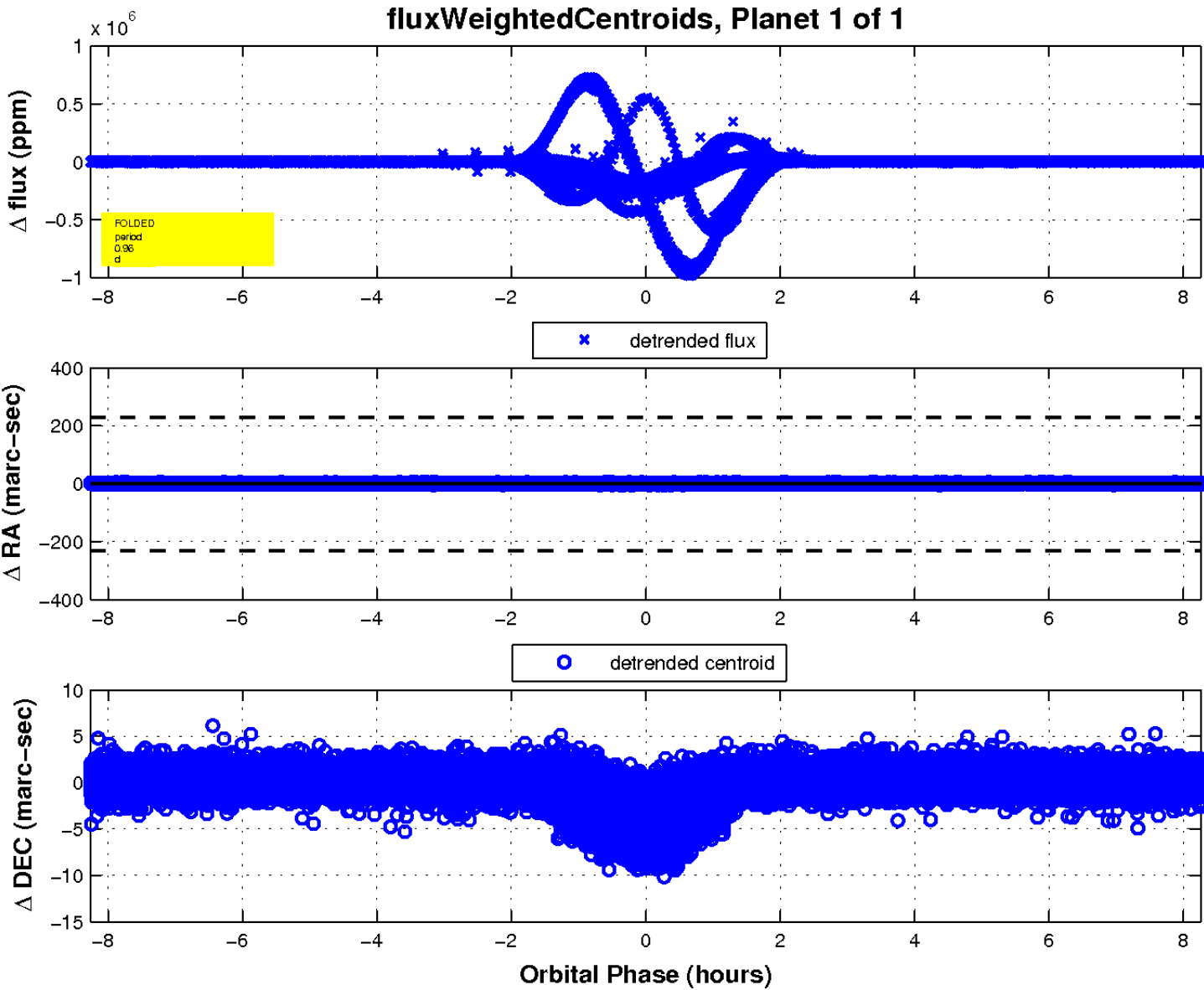
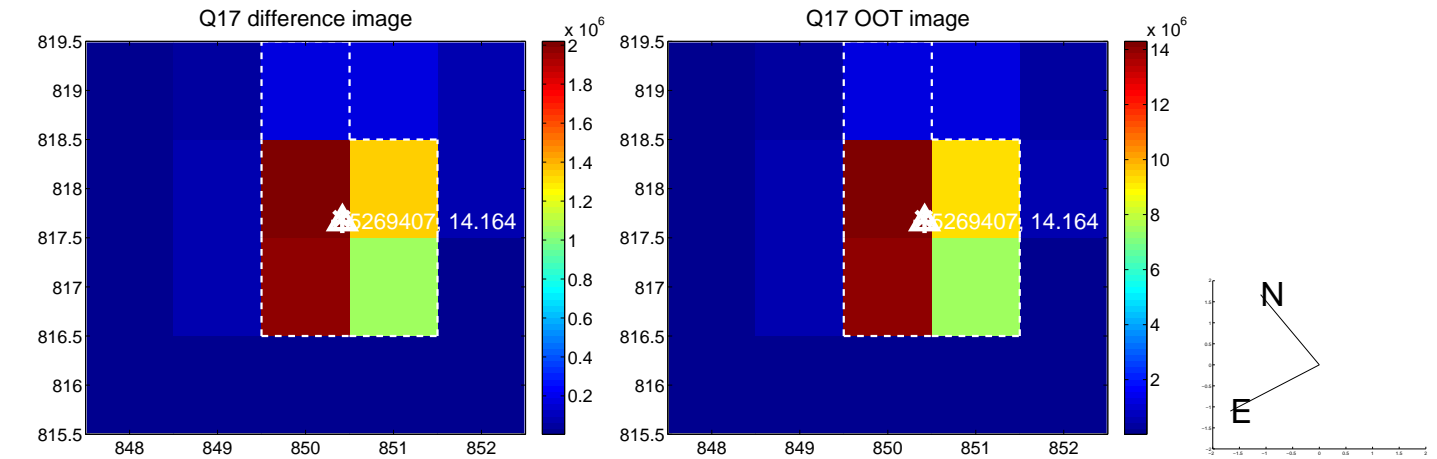
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

