

# KIC 008474900

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008474900-01	OBS	No	0.992654	131.559900	165.6	4.562	14.1	9.9	5.20	4904	8.11	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008474900-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

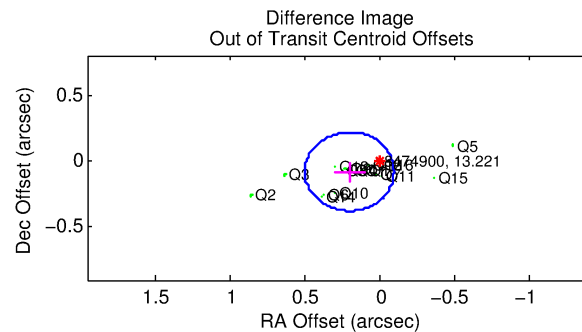
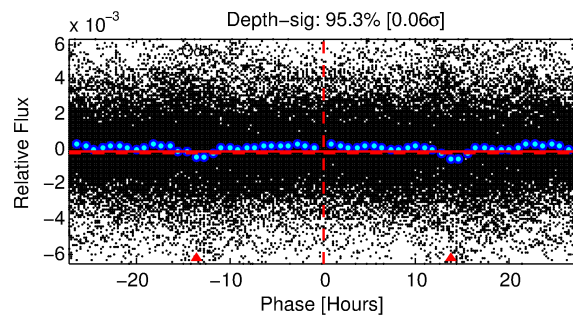
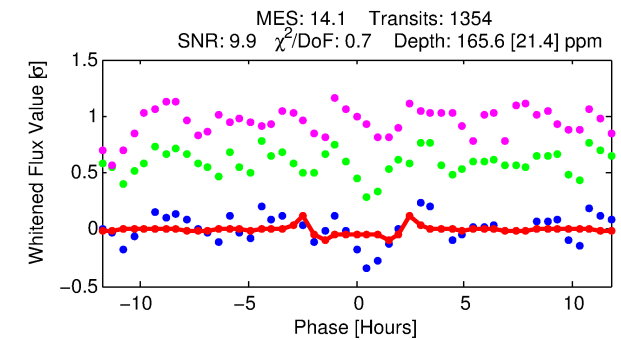
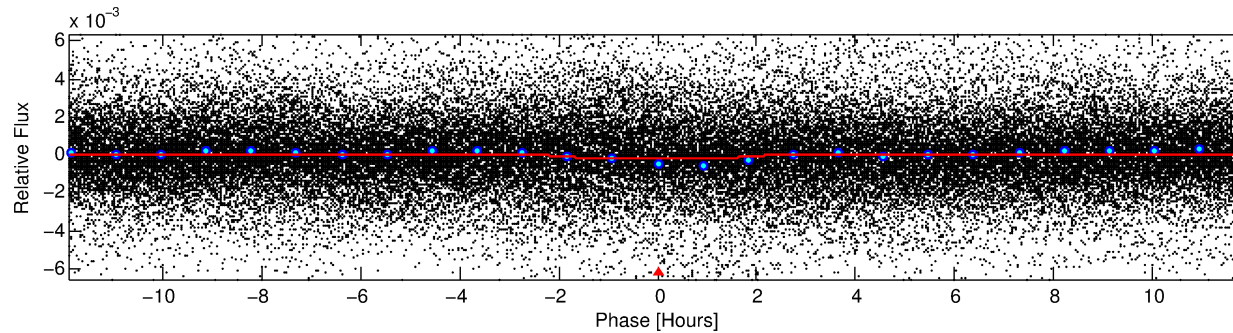
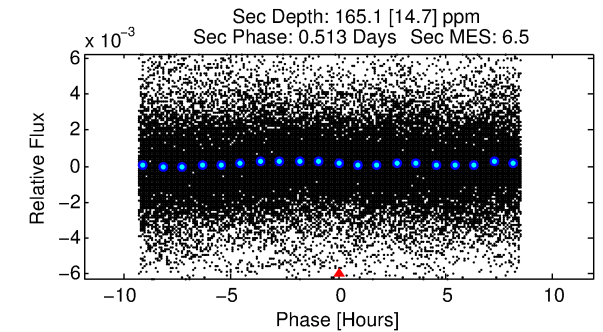
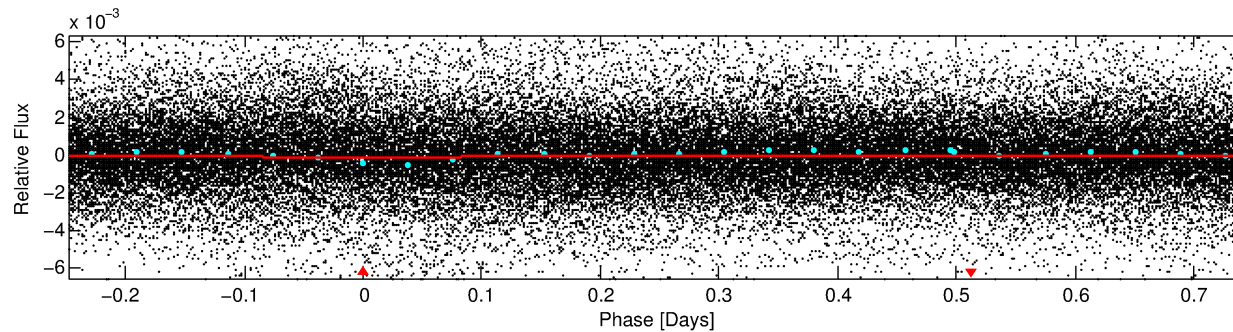
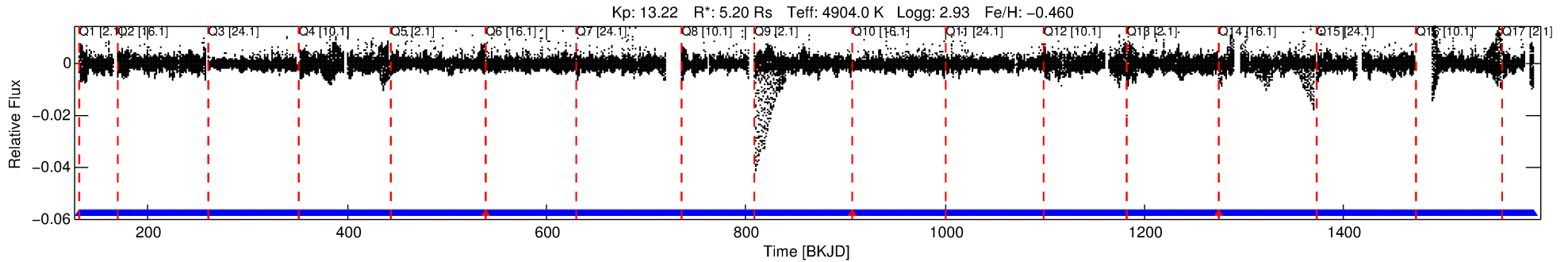
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008474900-01

No Significant Match Found

# DV One-Page Summary

KIC: 8474900 Candidate: 1 of 1 Period: 0.993 d



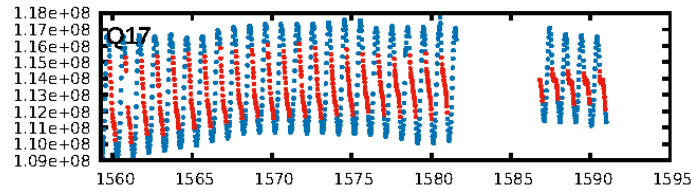
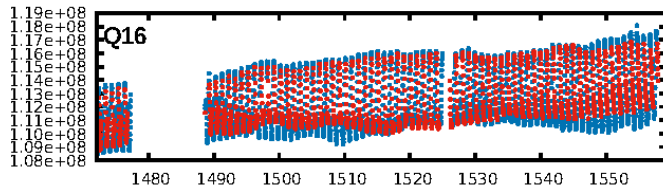
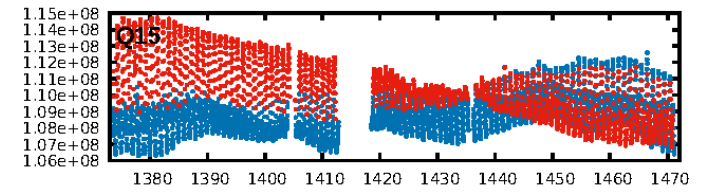
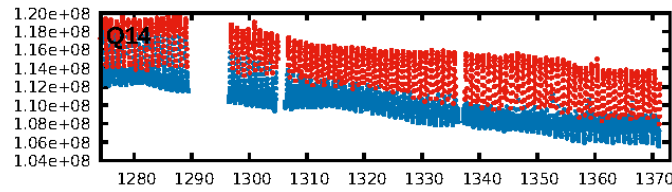
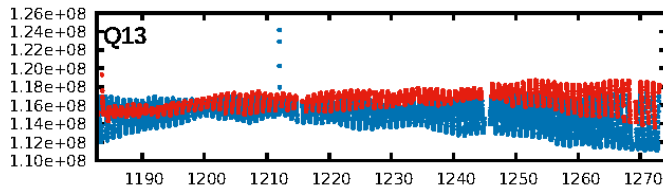
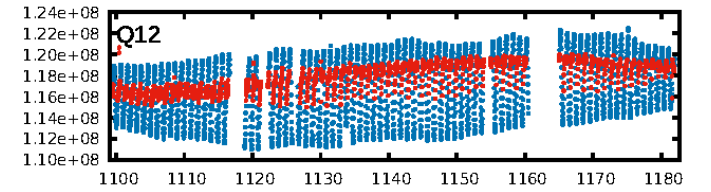
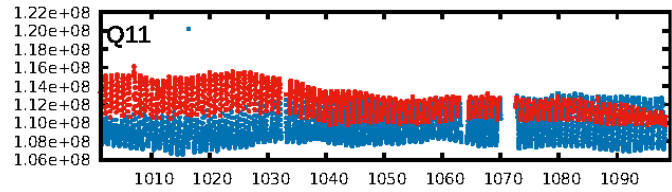
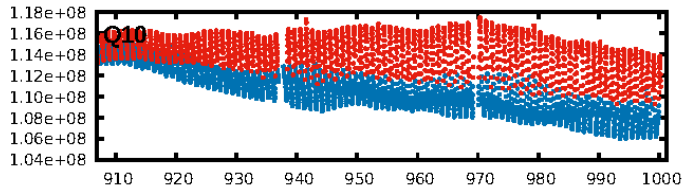
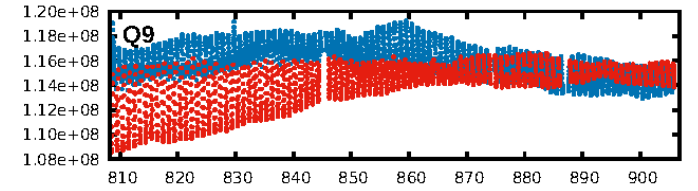
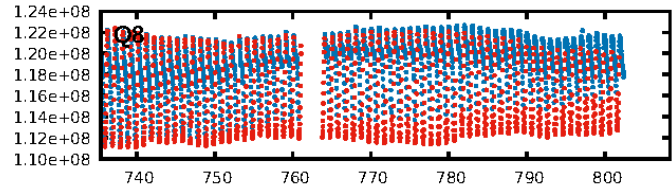
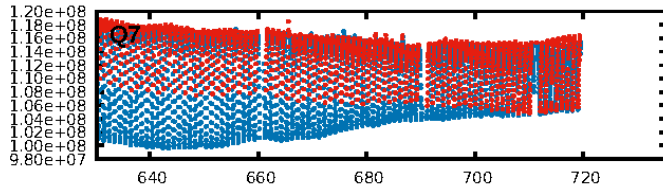
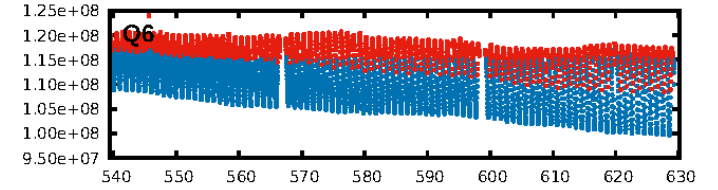
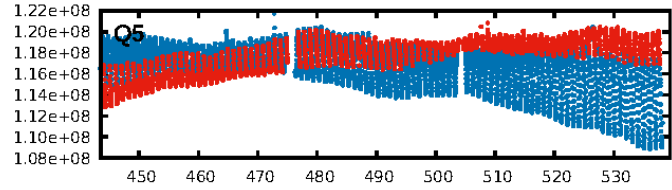
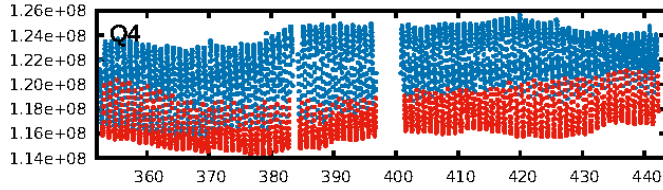
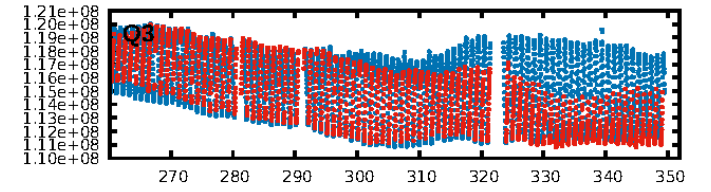
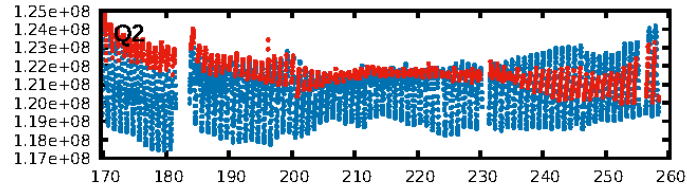
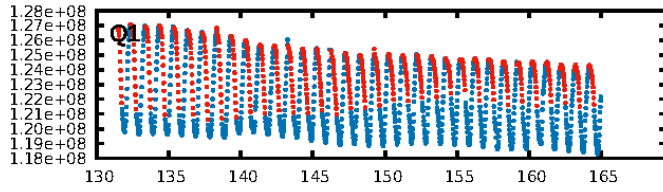
## DV Fit Results:

Period = 0.99265 [0.00001] d  
Epoch = 131.5599 [0.0013] BKJD  
Rp/R\* = 0.0143 [0.0018]  
a/R\* = 1.22 [0.15]  
b = 0.90 [0.08]  
Seff = N/A  
Teq = N/A  
Rp = 8.11 [5.40] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

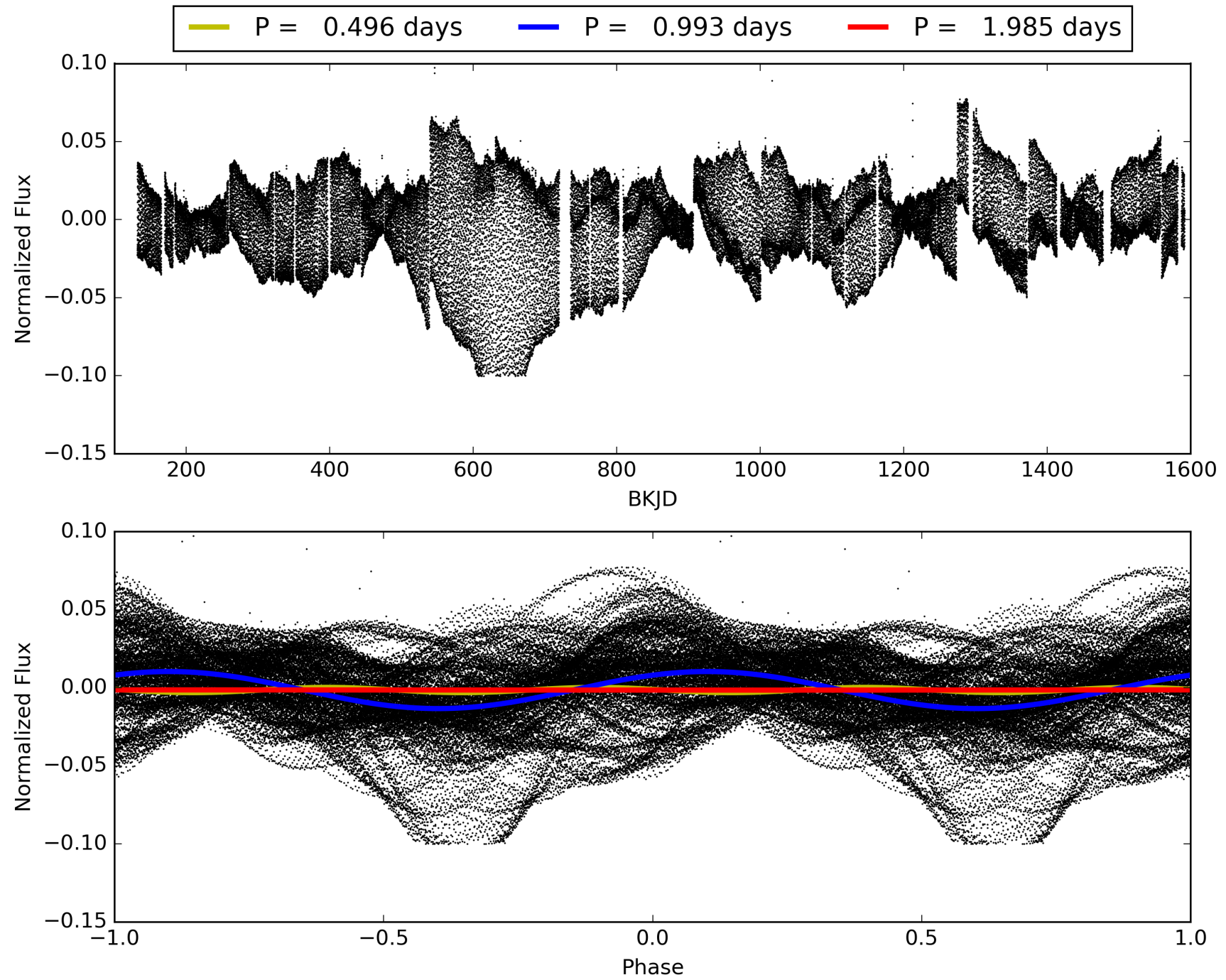
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.33e-39  
RollingBand-fgt: 1.00 [1290/1293]  
GhostDiagnostic-chr: 0.2229  
Centroid-sig: 54.0%  
Centroid-so: 0.882 arcsec [1.55σ]  
OotOffset-rm: 0.213 arcsec [2.15σ]  
KicOffset-rm: 0.198 arcsec [2.72σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.35 [6/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 008474900-01, PDC Light Curves



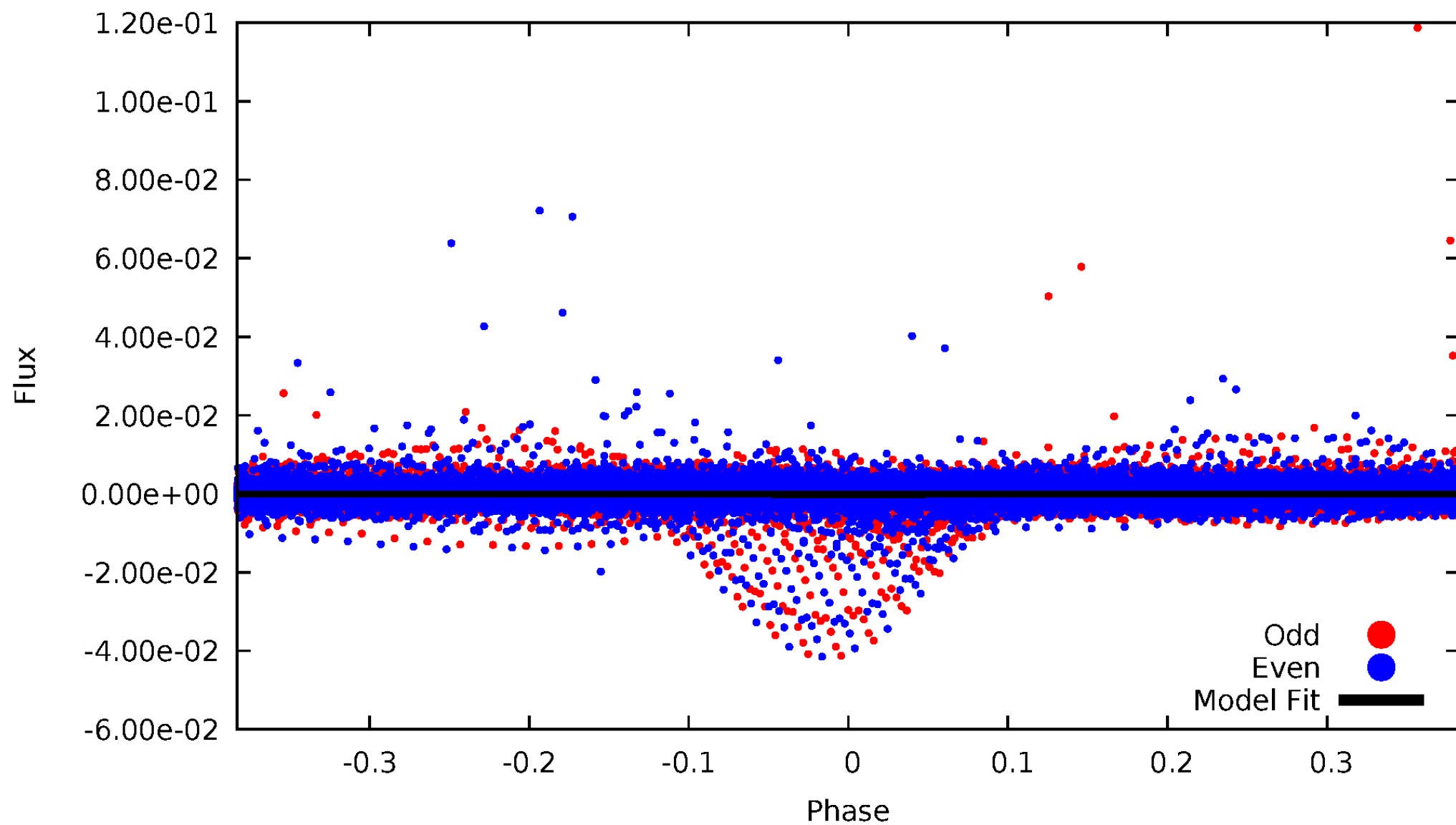
TCE 008474900-01





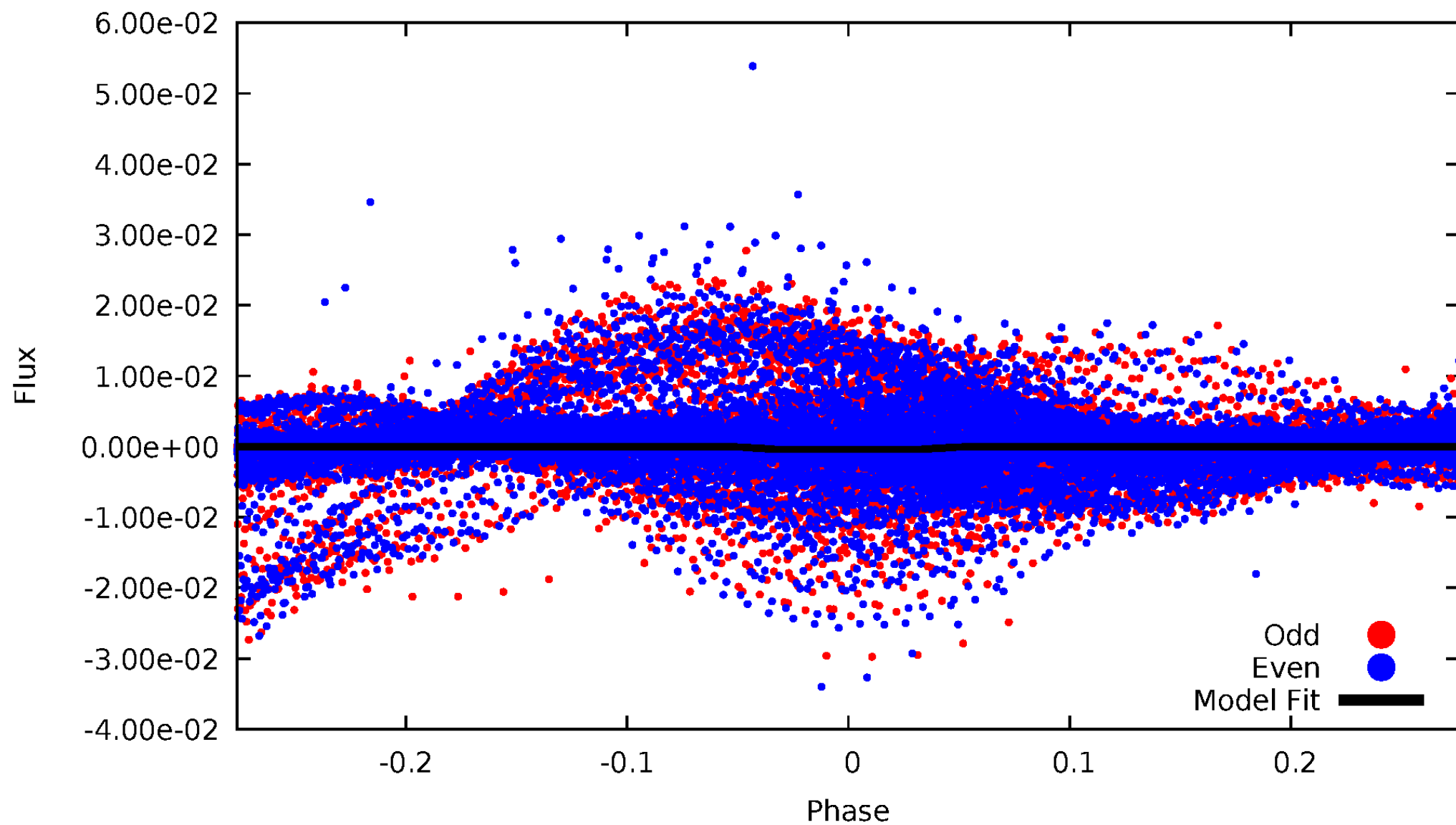
# DV Odd/Even

TCE 008474900-01



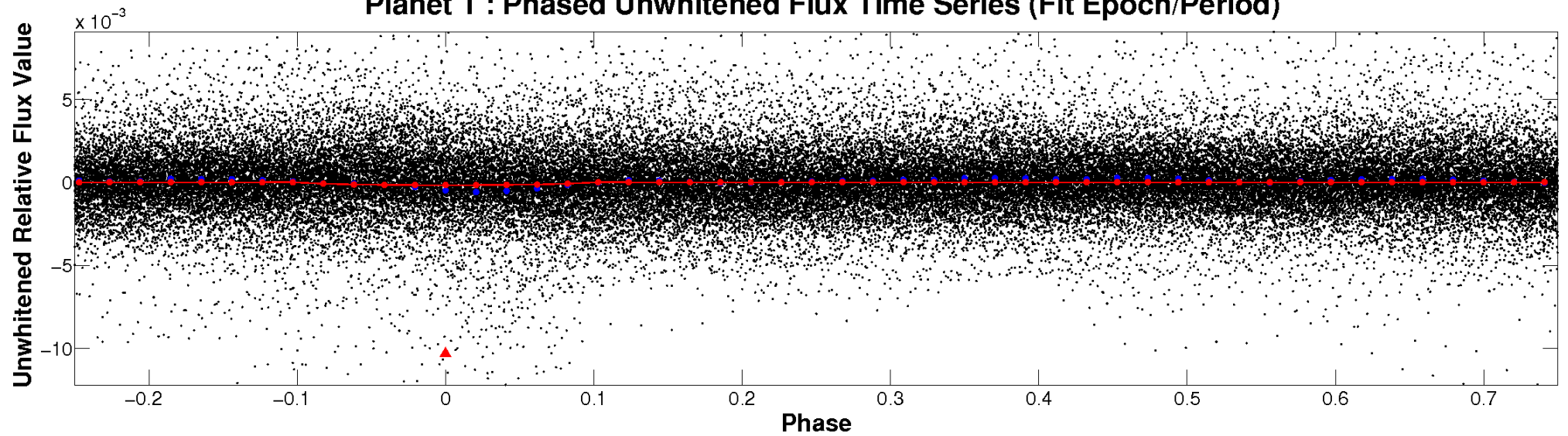
# ALT Odd/Even

TCE 008474900-01

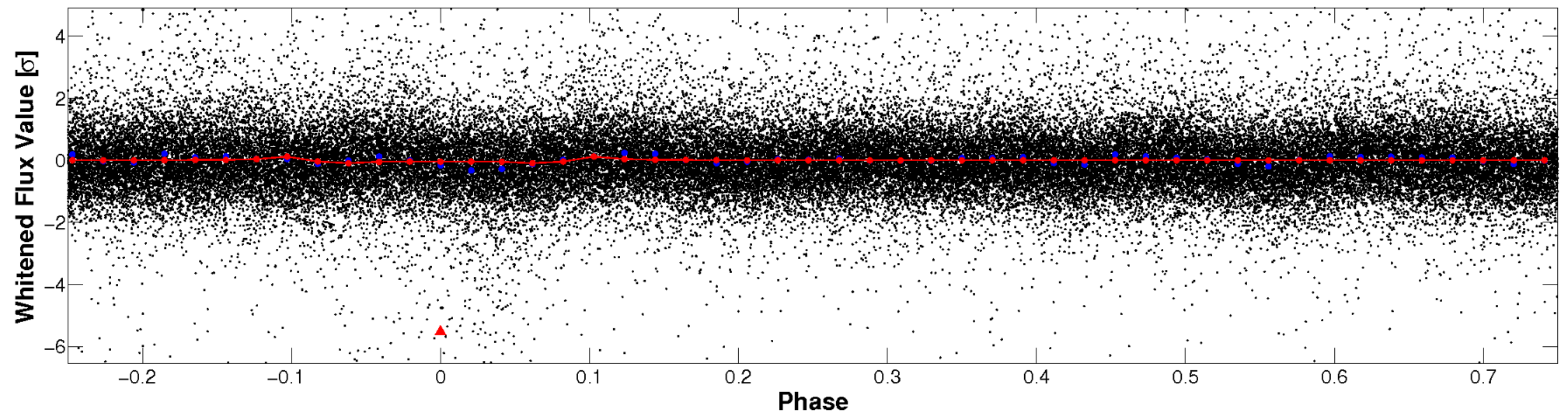


# Non-Whitened Vs. Whitened Light Curve

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

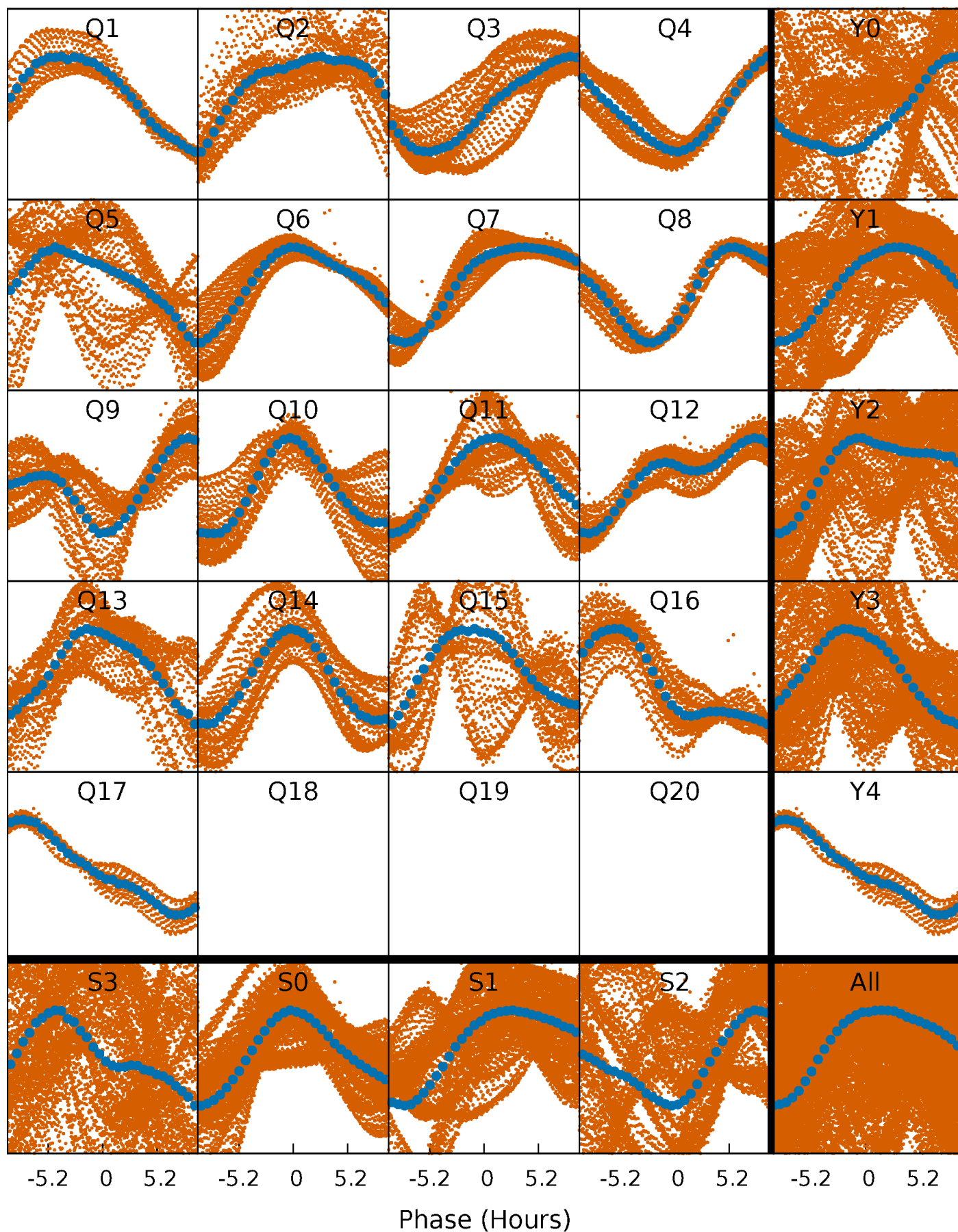


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

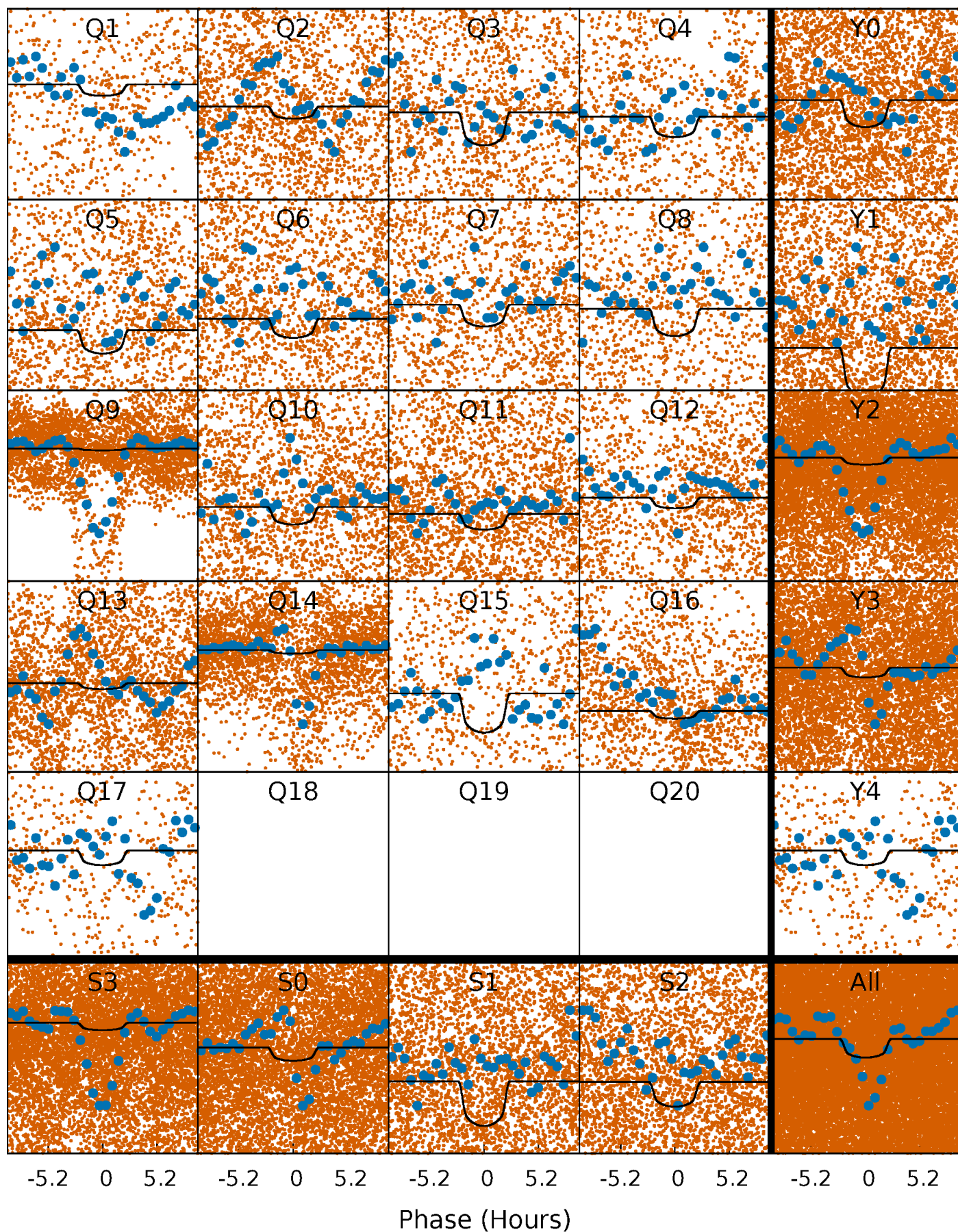
TCE 008474900-01   P= 0.992654 Days    $T_0=131.559900$  (BKJD)





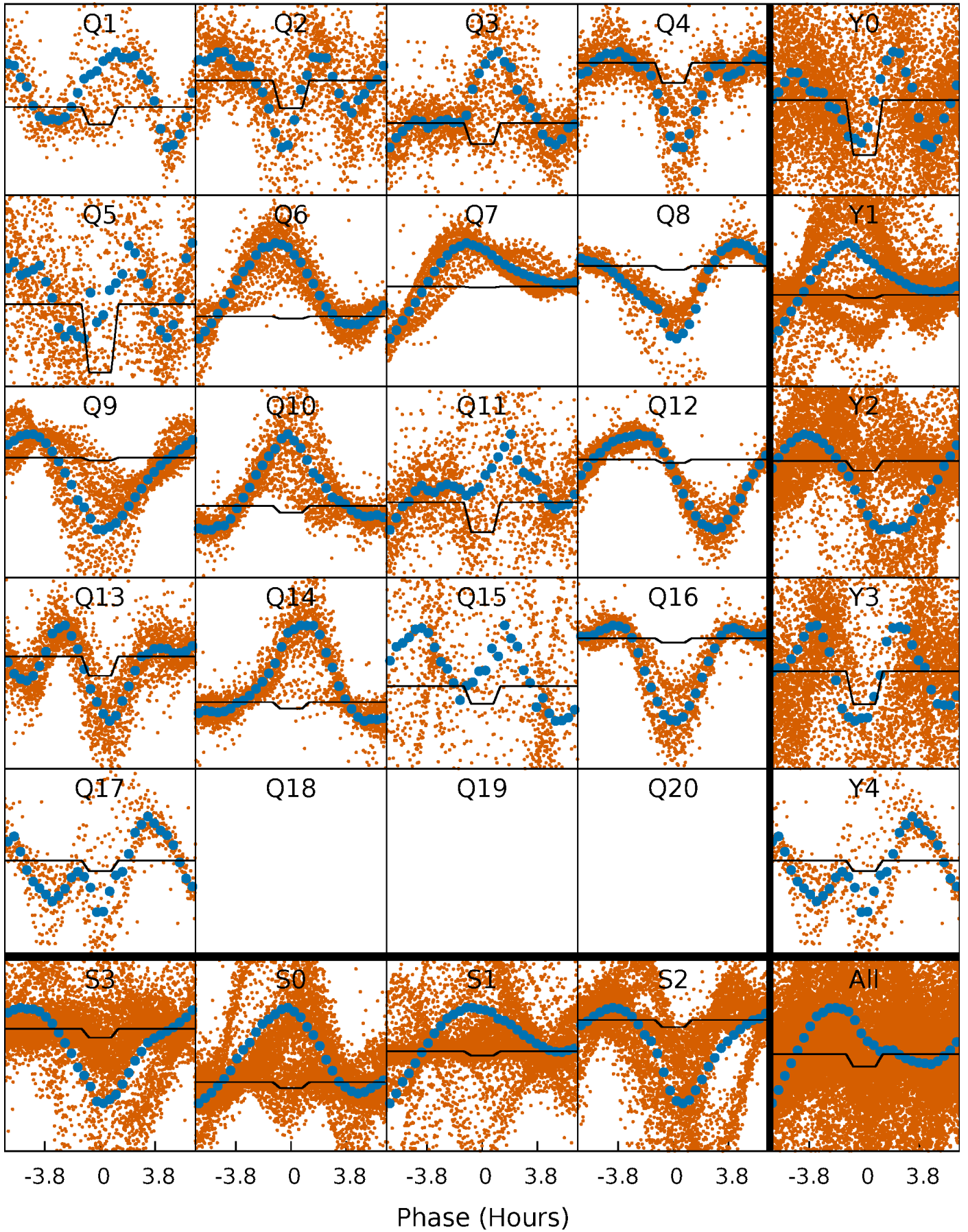
# DV Quarter-Phased Transit Curves

TCE 008474900-01   P= 0.992654 Days    $T_0=131.559900$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

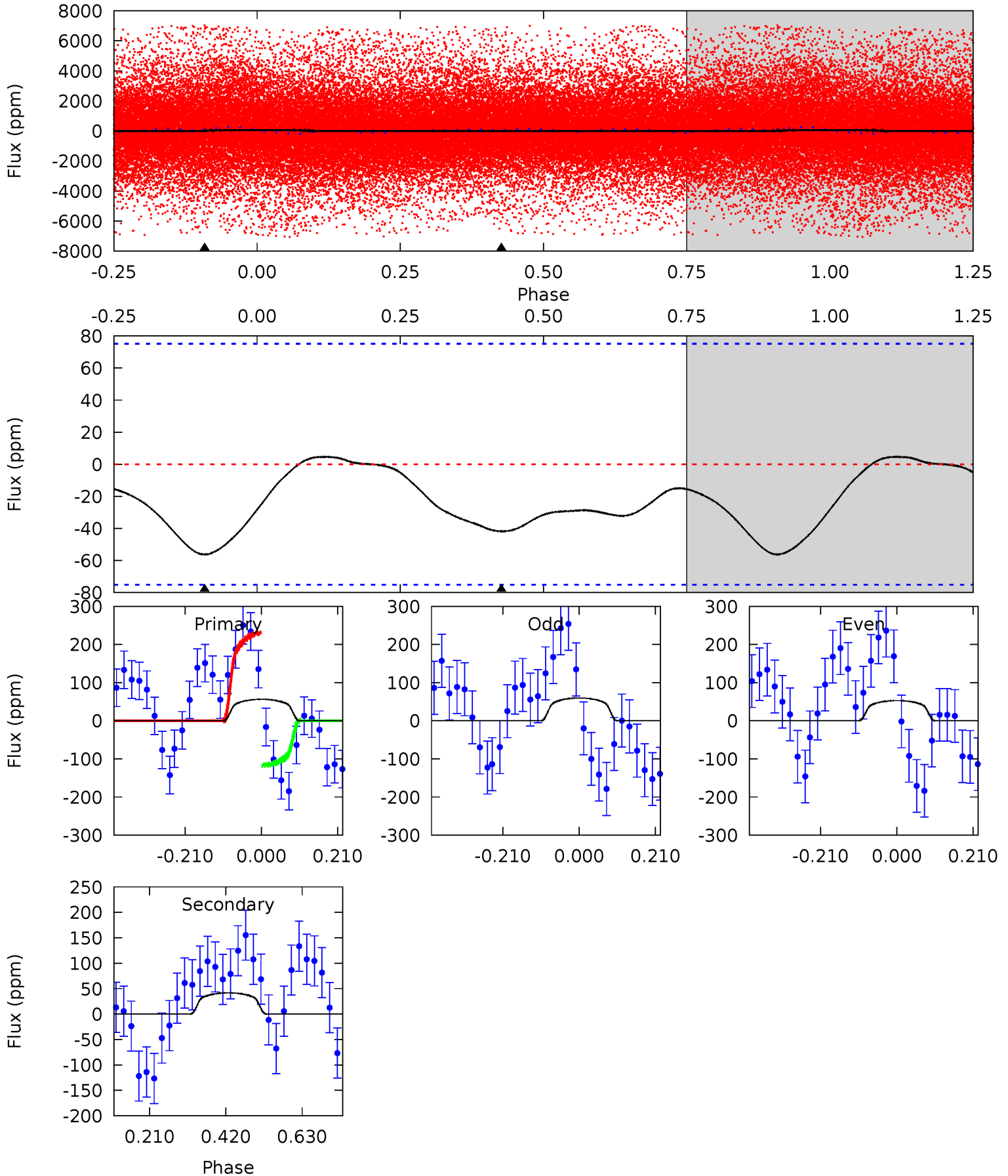
TCE 008474900-01   P= 0.992652 Days    $T_0=131.560596$  (BKJD)



# DV Model-Shift Uniqueness Test

008474900-01,  $P = 0.992654$  Days,  $E = 130.567246$  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
3.30	2.45	0	0	4.41	1.25	0.87	3.30	3.30	2.45	2.45	0.20	16.1	0.08	3.57

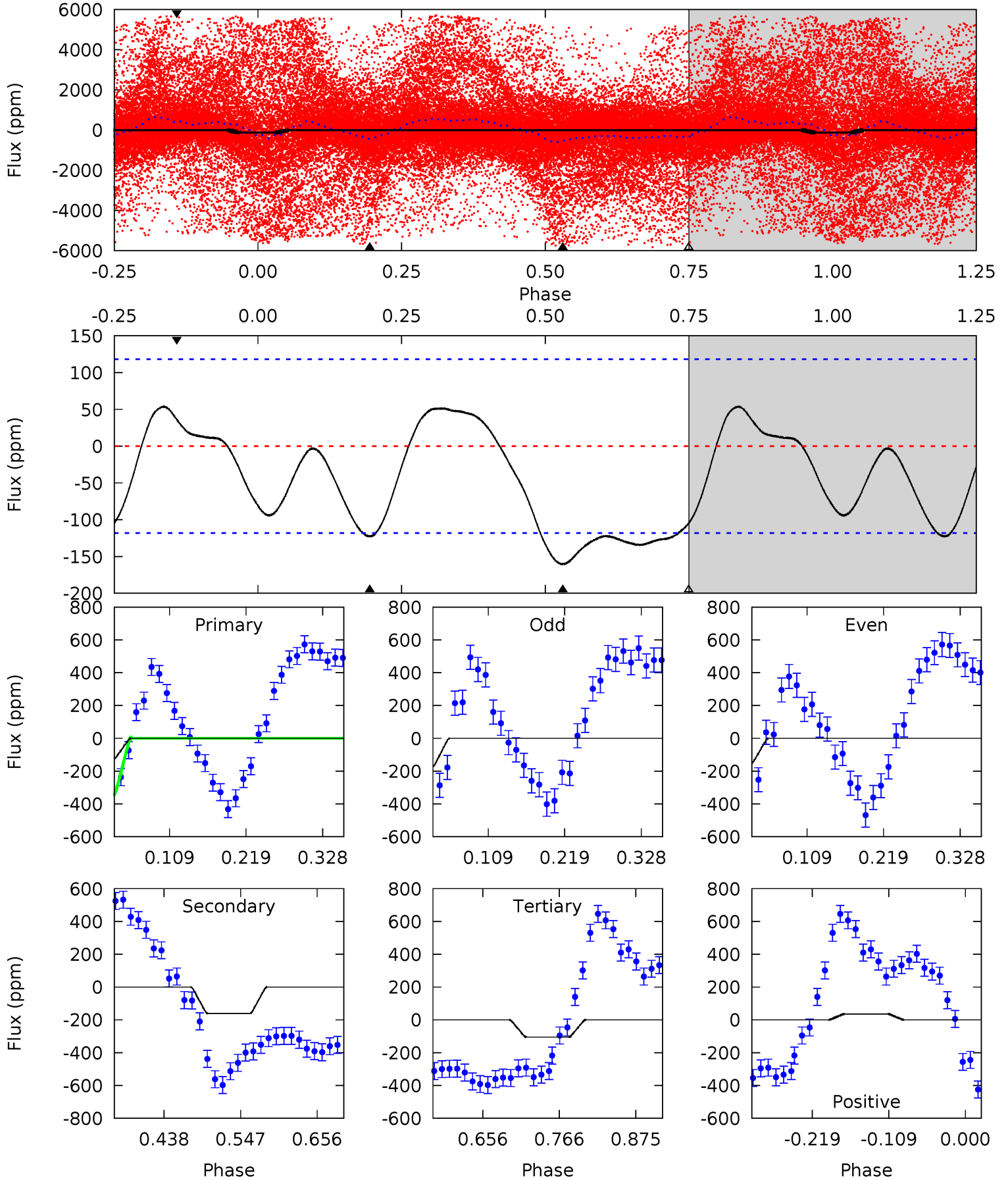




# Alt Model-Shift Uniqueness Test

008474900-01, P = 0.992652 Days, E = 131.560596 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
4.71	6.17	4.05	1.39	4.55	1.60	2.55	0.67	3.32	2.13	4.78	0.39	-2.57	0.25	5.24





### Stellar Parameters For KIC 008474900

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4904^{+147}_{-147}$	$2.933^{+0.637}_{-0.343}$	$-0.460^{+0.300}_{-0.250}$	$5.201^{+3.403}_{-2.784}$	$0.846^{+0.287}_{-0.235}$	$0.008^{+0.056}_{-0.006}$
	+3%/-3%	+22%/-12%	+65%/-54%	+65%/-54%	+34%/-28%	+661%/-70%
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 008474900-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-42 \pm 17$	$7.74^{+3.13}_{-2.42}$	$4980^{+825}_{-770}$	$-3848^{+1236}_{-696}$	$0.127^{+0.150}_{-0.073}$
Alt.	$-160 \pm 26$	$10.77^{+4.26}_{-3.41}$	$4968^{+791}_{-804}$	$-3085^{+6690}_{-1113}$	$0.255^{+0.277}_{-0.122}$

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

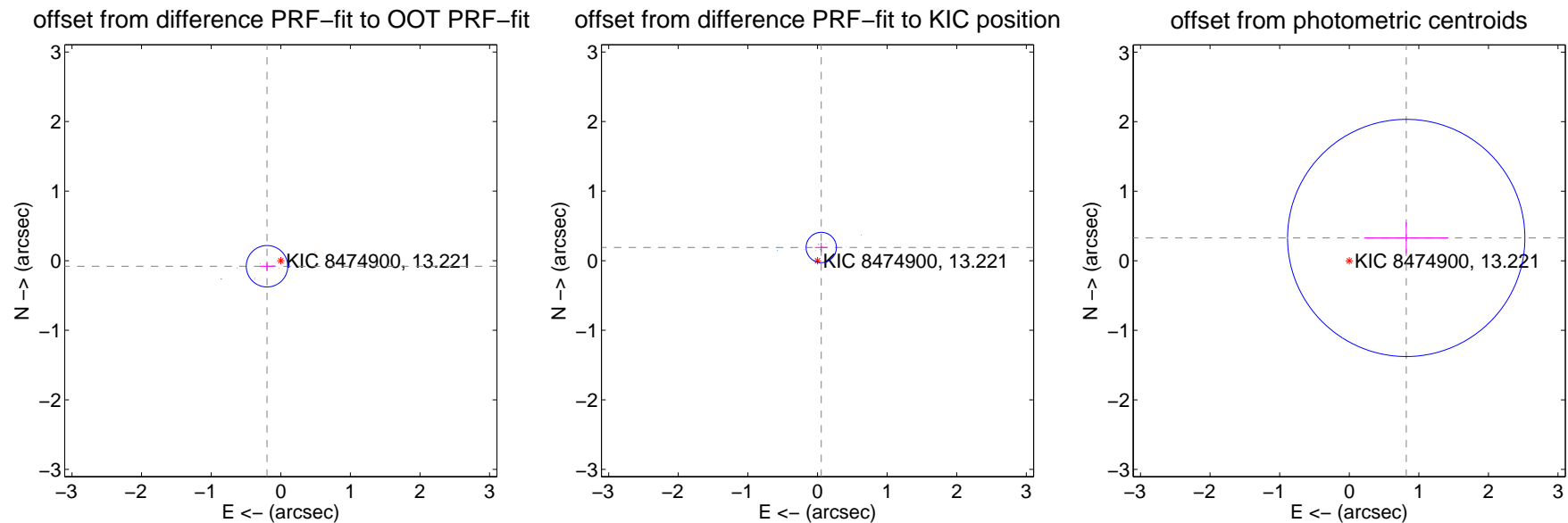
## DV Centroid Data

Supplemental centroid analysis for 008474900-01. Kepler magnitude: 13.22. Transit SNR 9.90

There are 6 quarters with good PRF difference image offsets

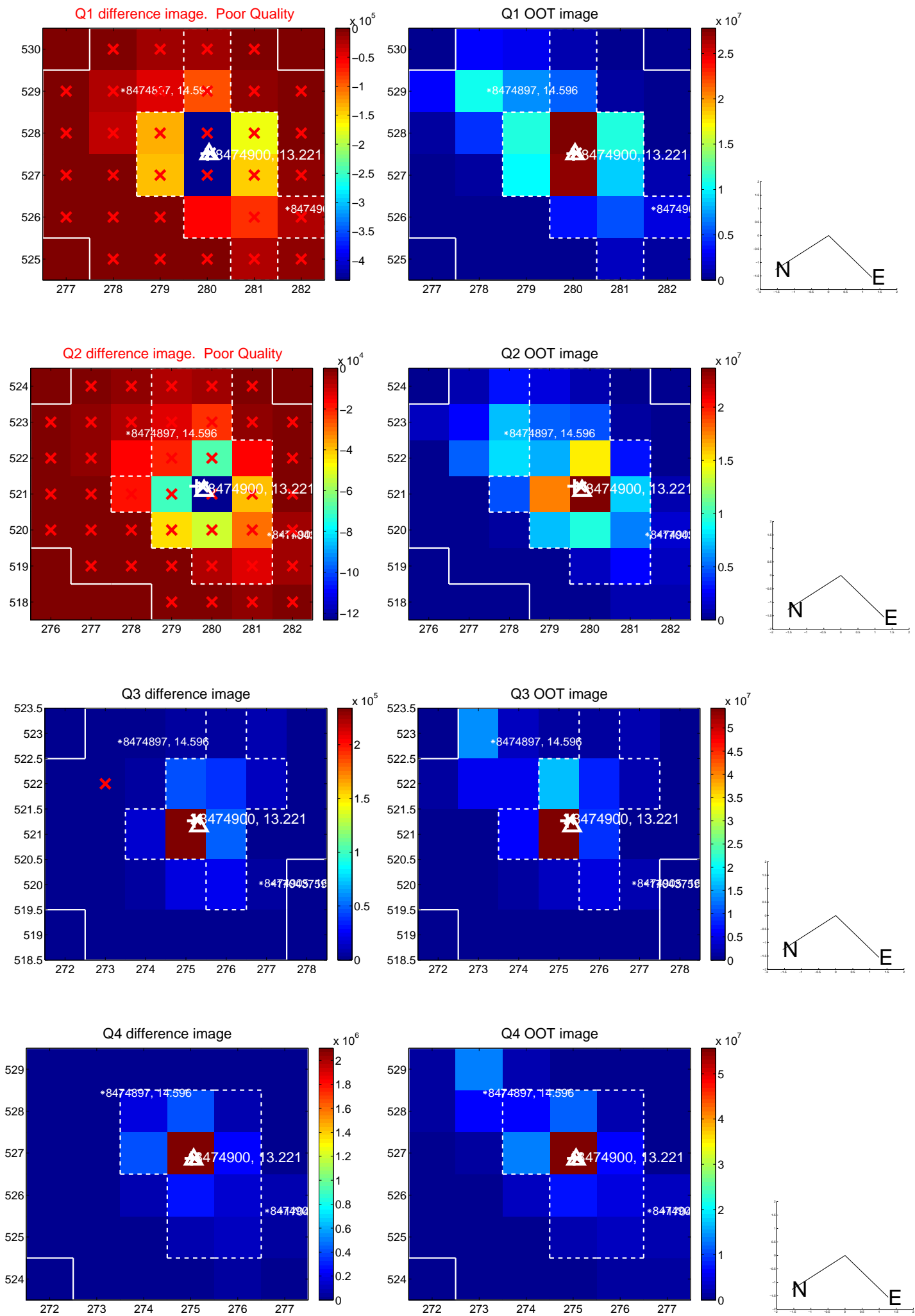
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.213 \pm 0.099$	2.15	$0.198 \pm 0.099$	$-0.080 \pm 0.071$
PRF-fit source offset from KIC position	$0.198 \pm 0.073$	2.72	$-0.054 \pm 0.092$	$0.190 \pm 0.068$
photometric centroid source offset	$0.88 \pm 0.57$	1.55	$-0.82 \pm 0.61$	$0.33 \pm 0.23$

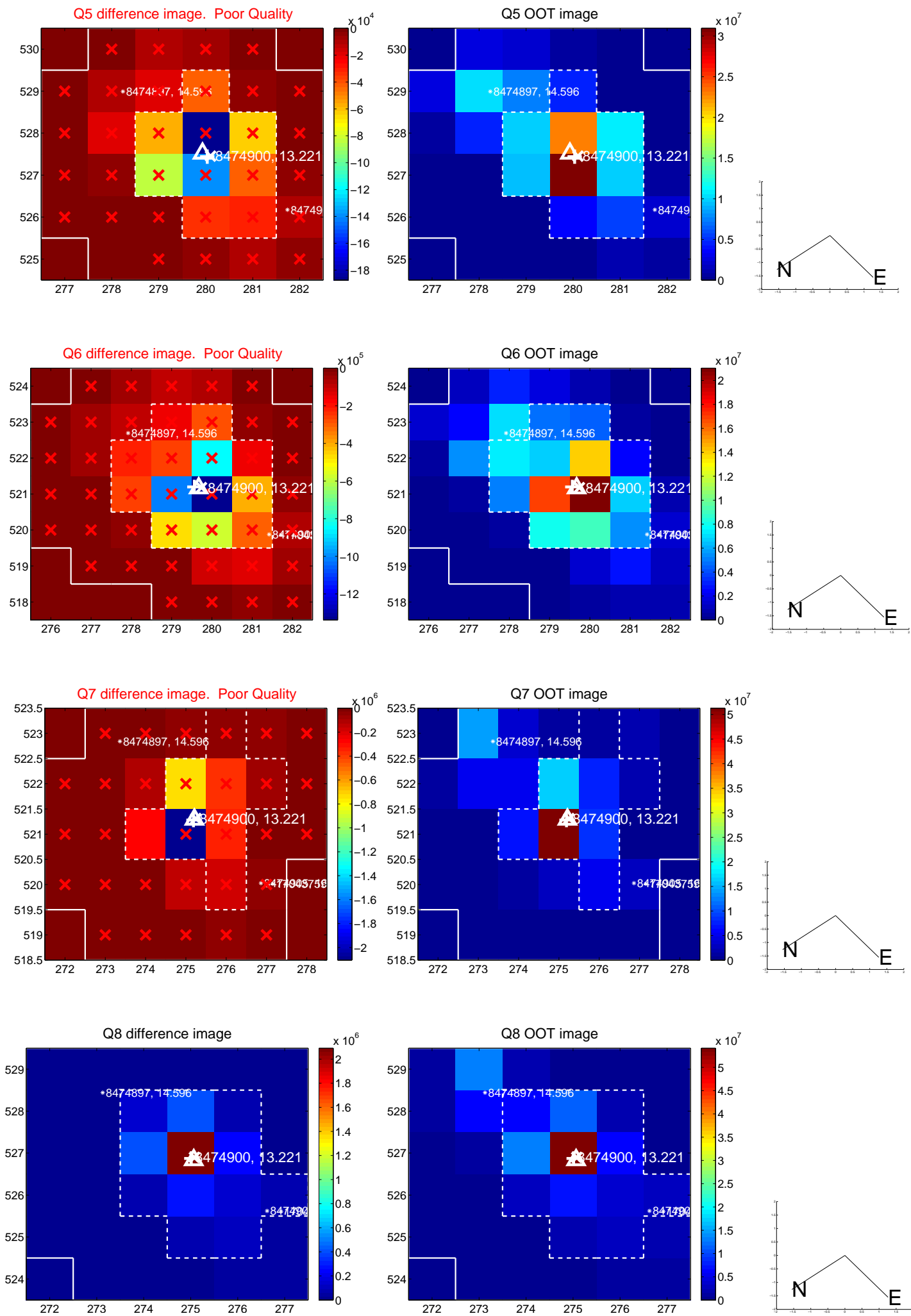


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

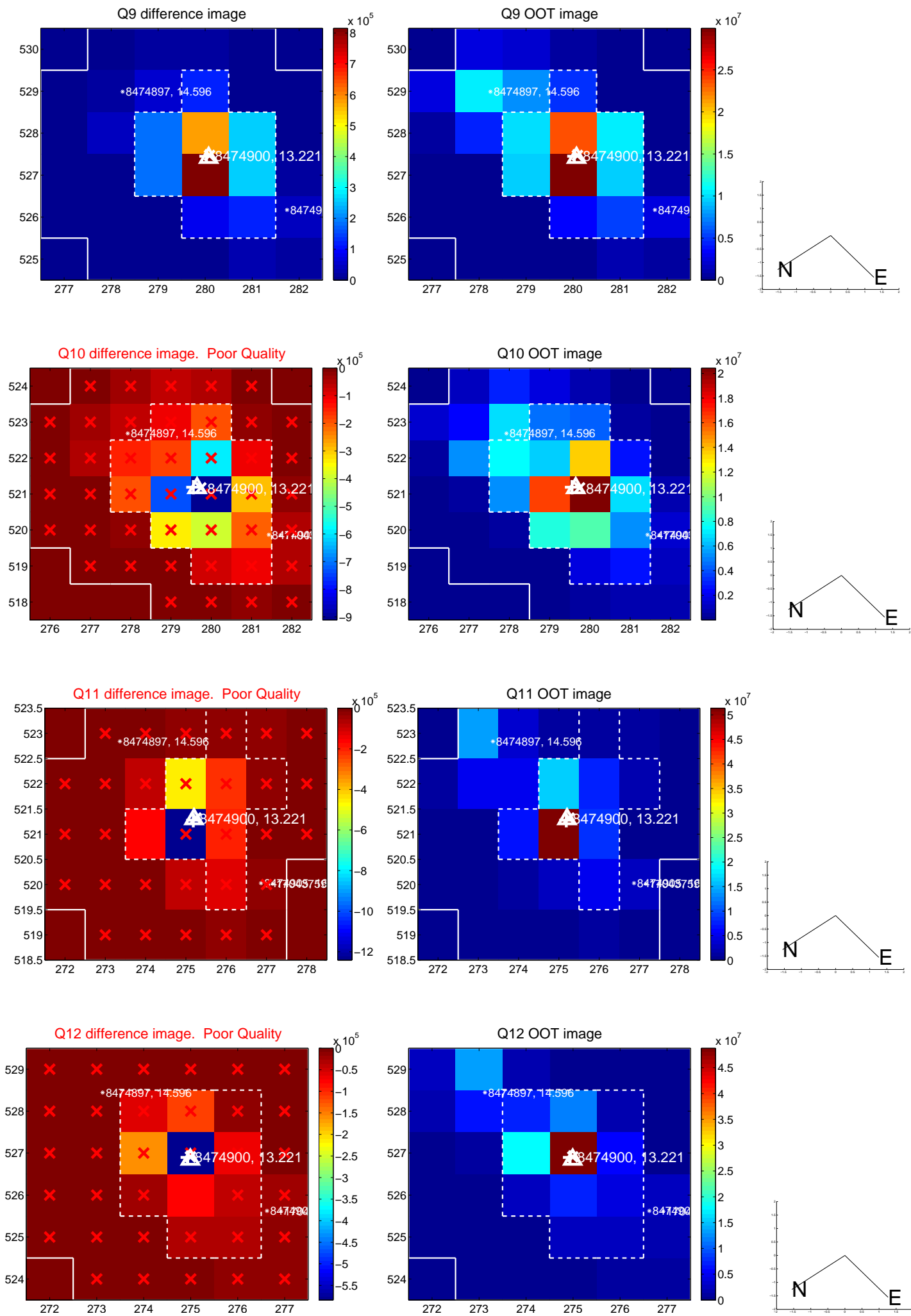


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

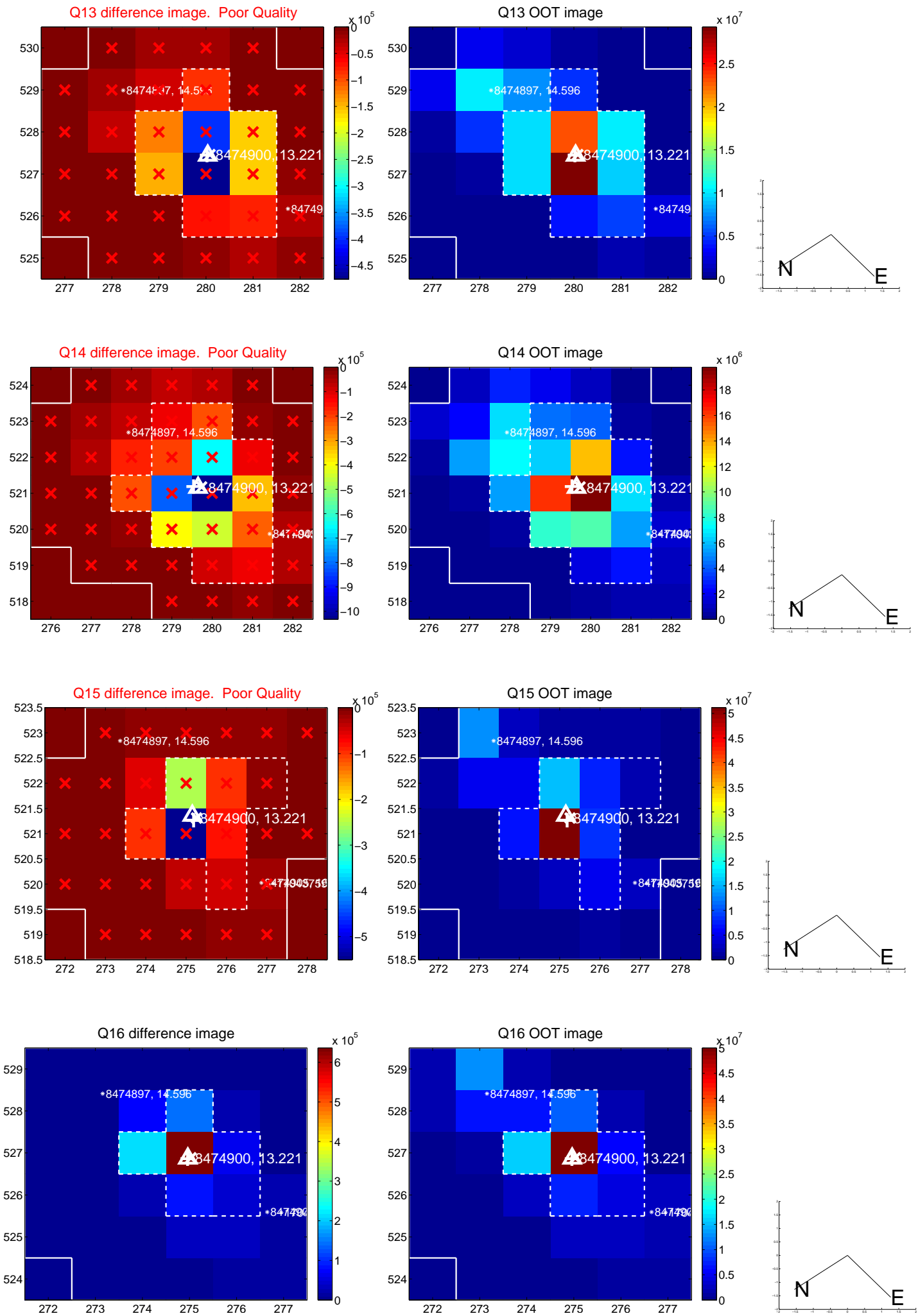




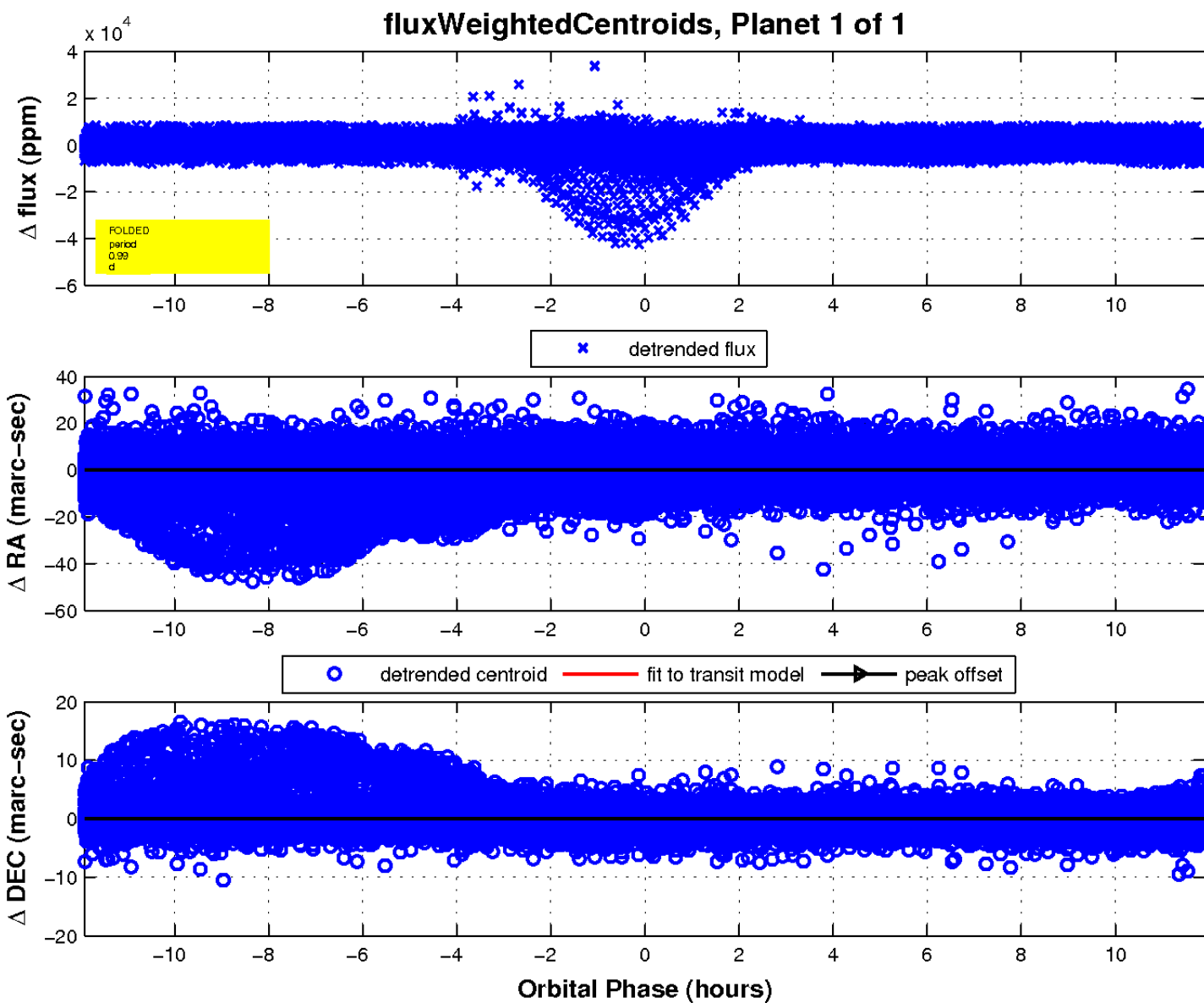
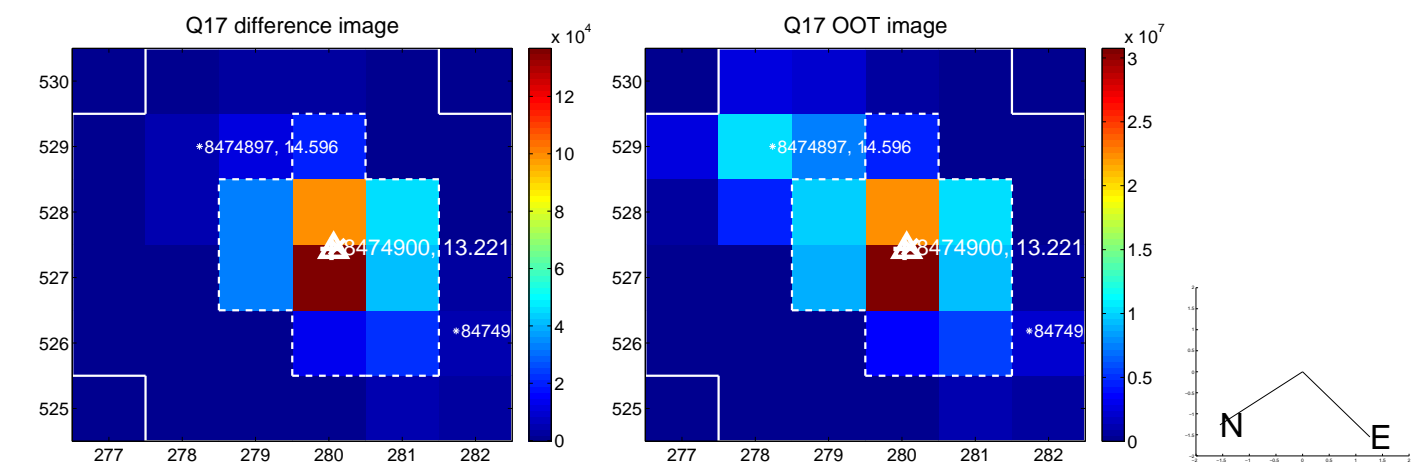
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

