

# KIC 011723564

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011723564-01	OBS	No	0.755202	131.965846	336.4	3.328	13.1	11.4	1.46	7022	2.71	14043.75

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011723564-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

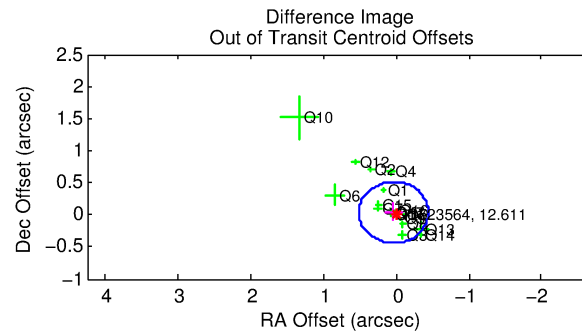
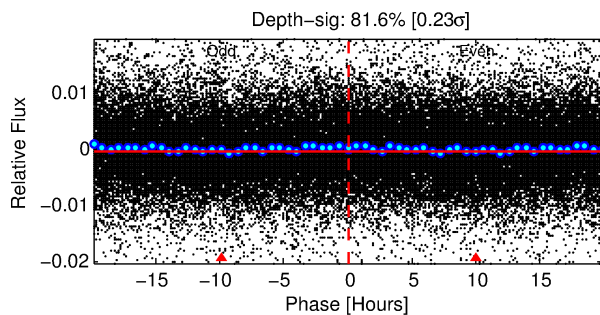
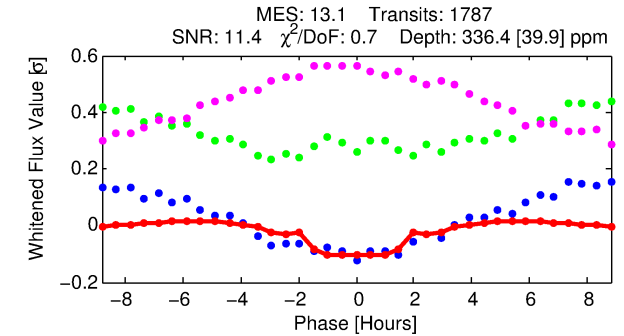
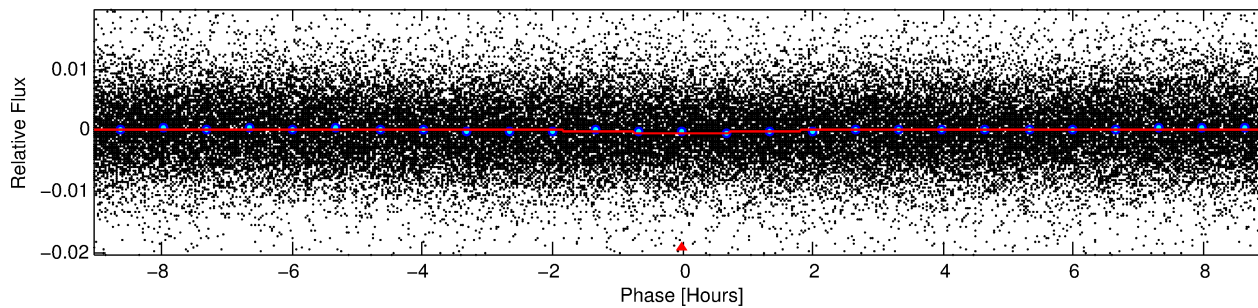
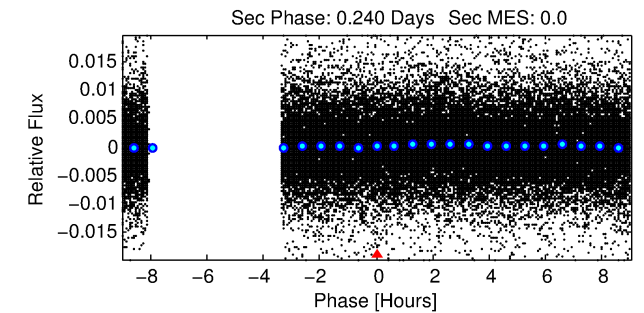
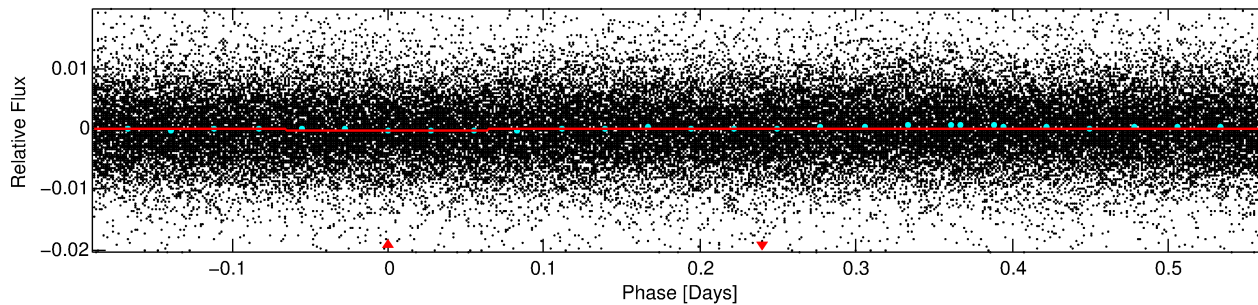
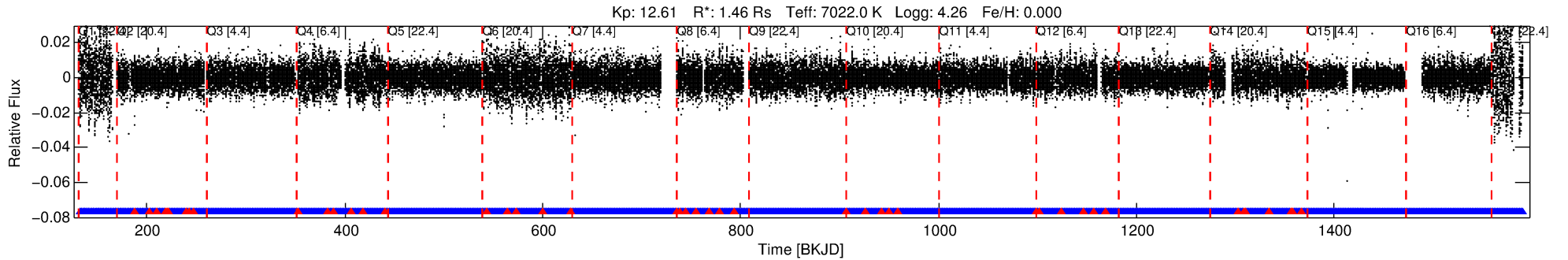
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011723564-01

No Significant Match Found

# DV One-Page Summary

KIC: 11723564 Candidate: 1 of 1 Period: 0.755 d



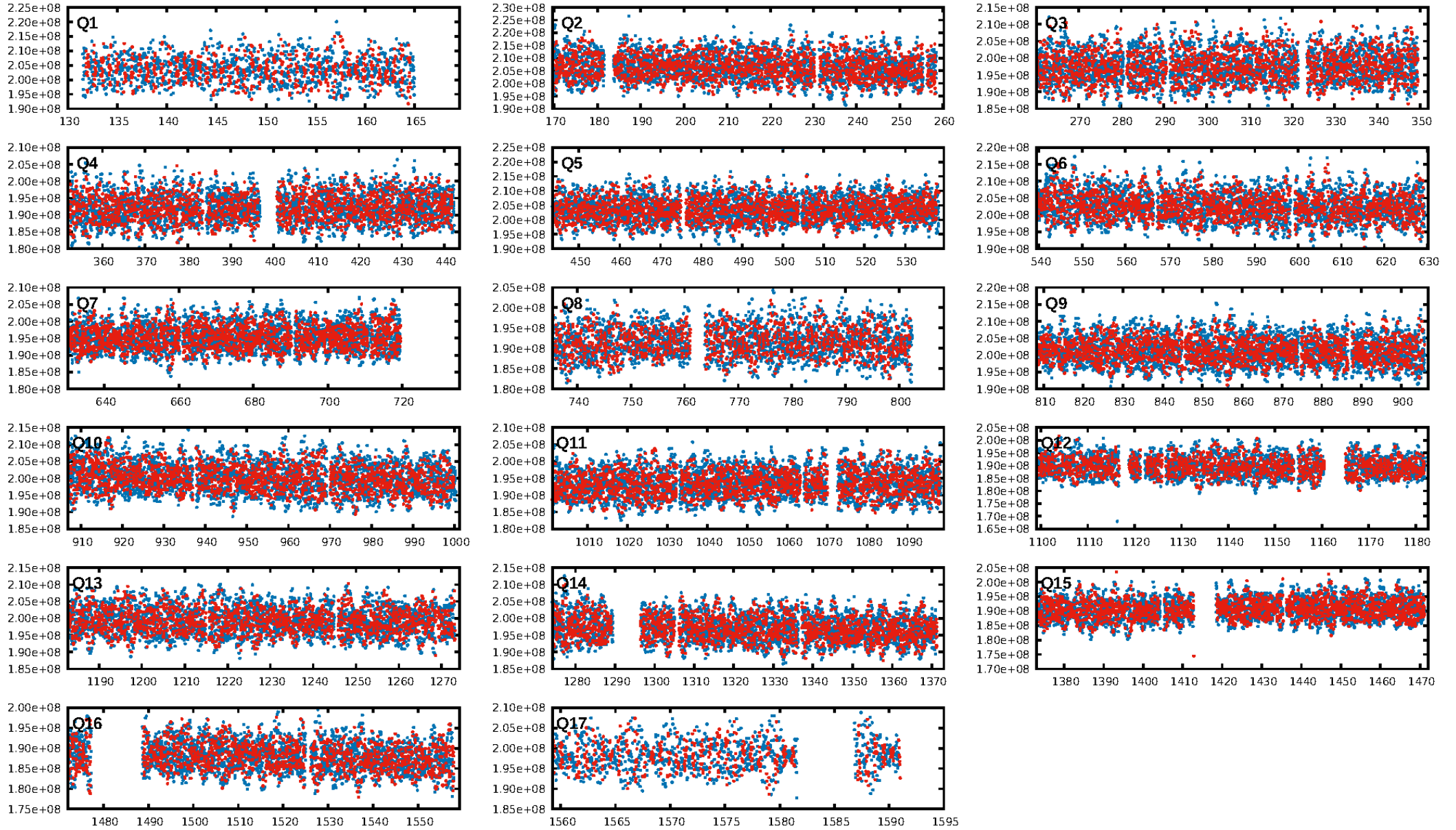
## DV Fit Results:

Period = 0.75520 [0.00001] d  
Epoch = 131.9658 [0.0031] BKJD  
Rp/R\* = 0.0170 [0.0182]  
a/R\* = 1.86 [8.12]  
b = 0.01 [671.49]  
Seff = 14043.75 [5917.86]  
Teq = 2776 [292] K  
Rp = 2.71 [3.05] Re  
a = 0.0182 [0.0052] AU  
Ag = N/A  
Teffp = N/A

## DV Diagnostic Results:

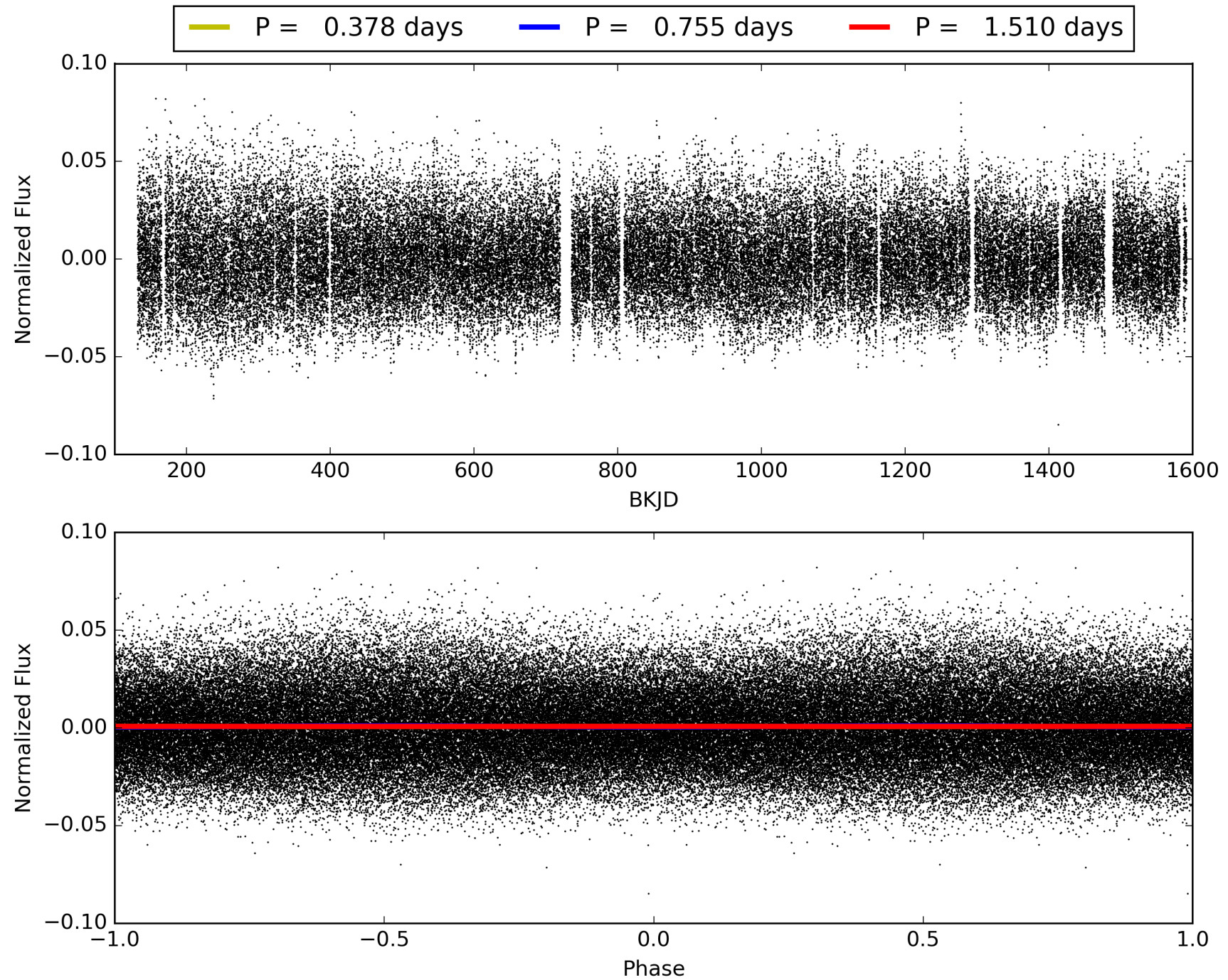
ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 5.90e-49  
RollingBand-fgt: 0.97 [1662/1707]  
**GhostDiagnostic-chr: 0.9794**  
Centroid-sig: 0.2%  
Centroid-so: 0.223 arcsec [4.48σ]  
OotOffset-rm: 0.050 arcsec [0.31σ]  
KicOffset-rm: 0.081 arcsec [0.63σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.76 [13/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 011723564-01, PDC Light Curves



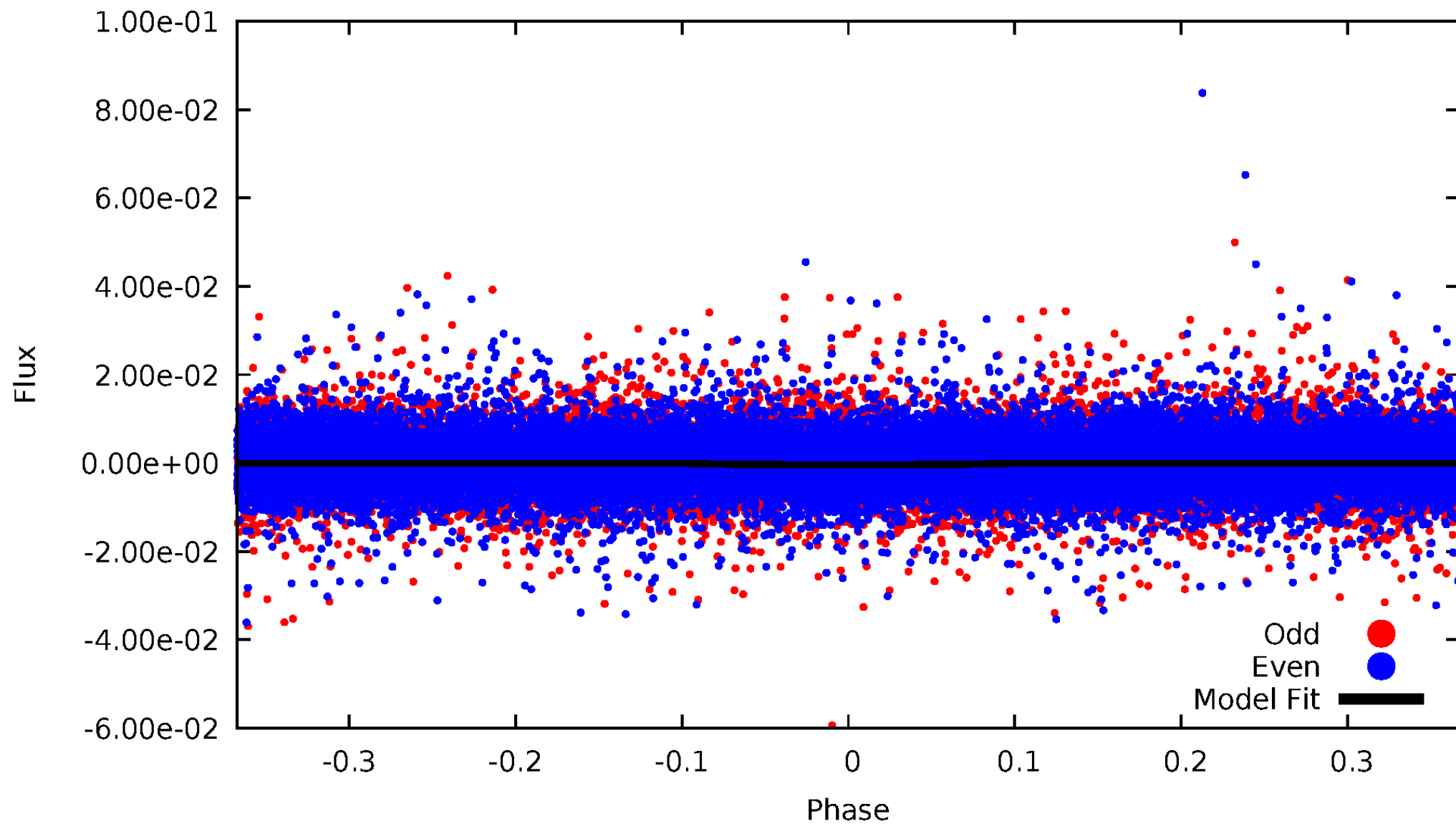


TCE 011723564-01



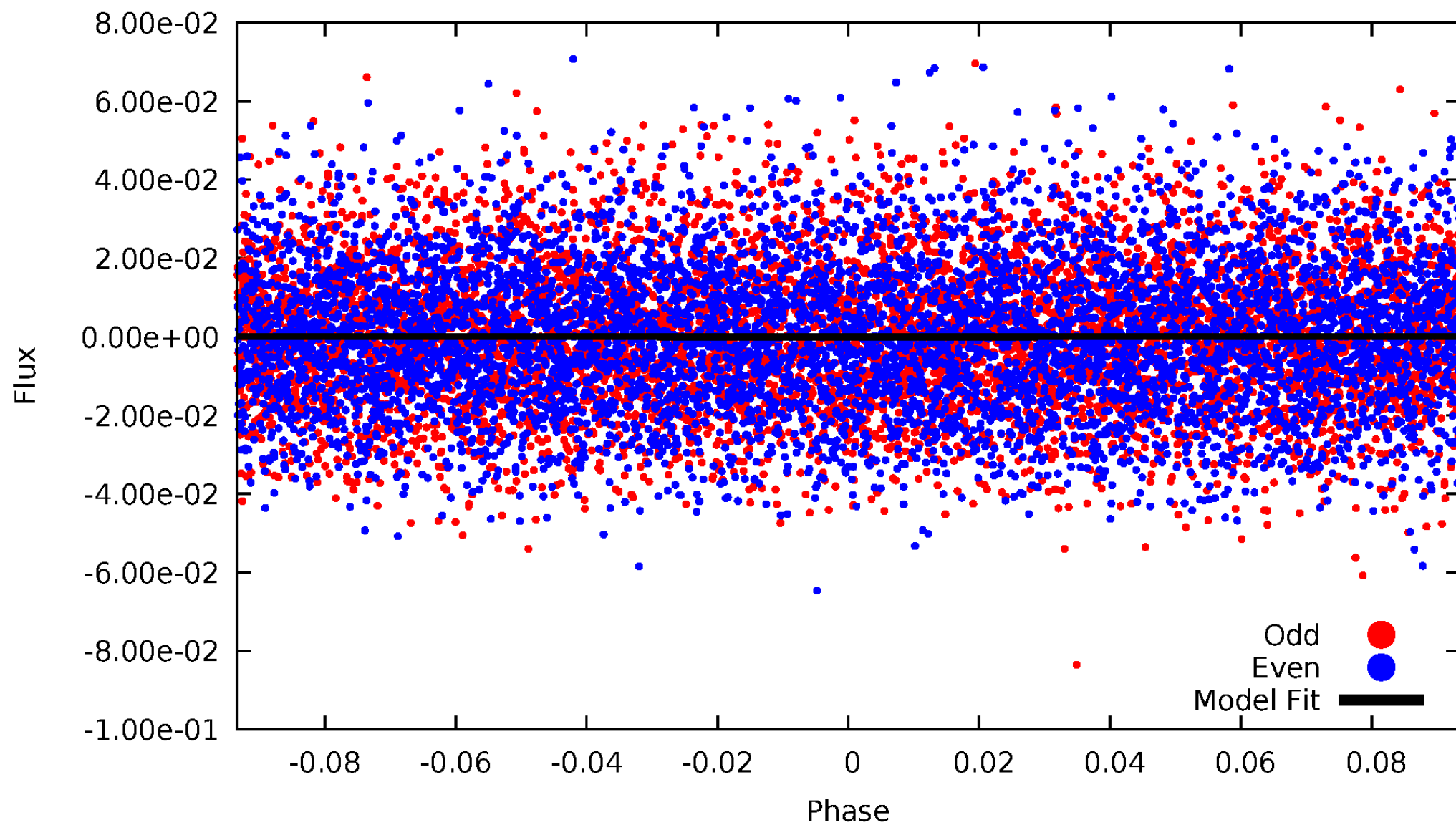
# DV Odd/Even

TCE 011723564-01



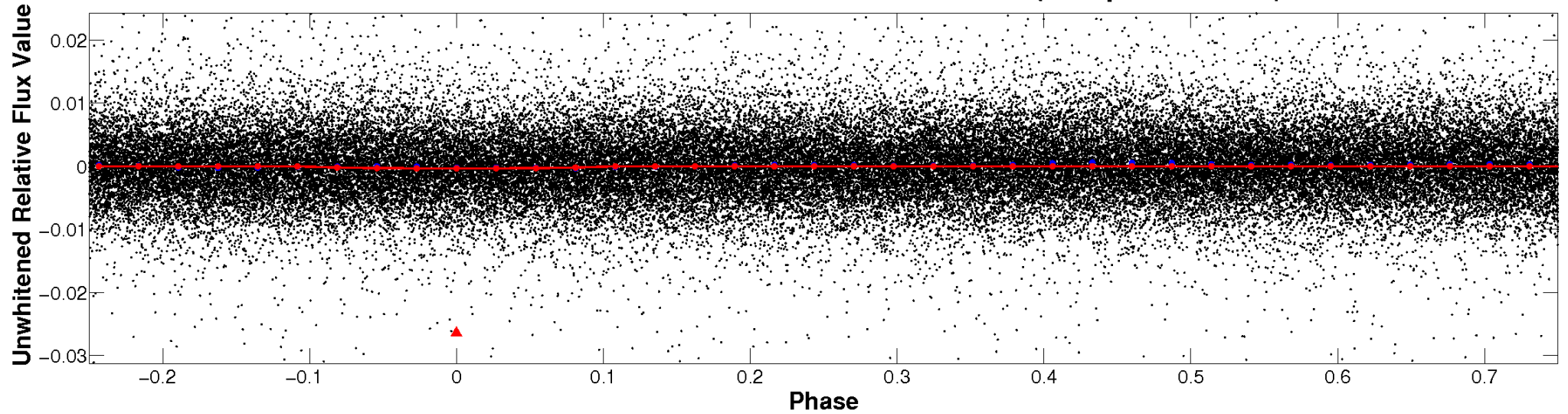
# ALT Odd/Even

TCE 011723564-01

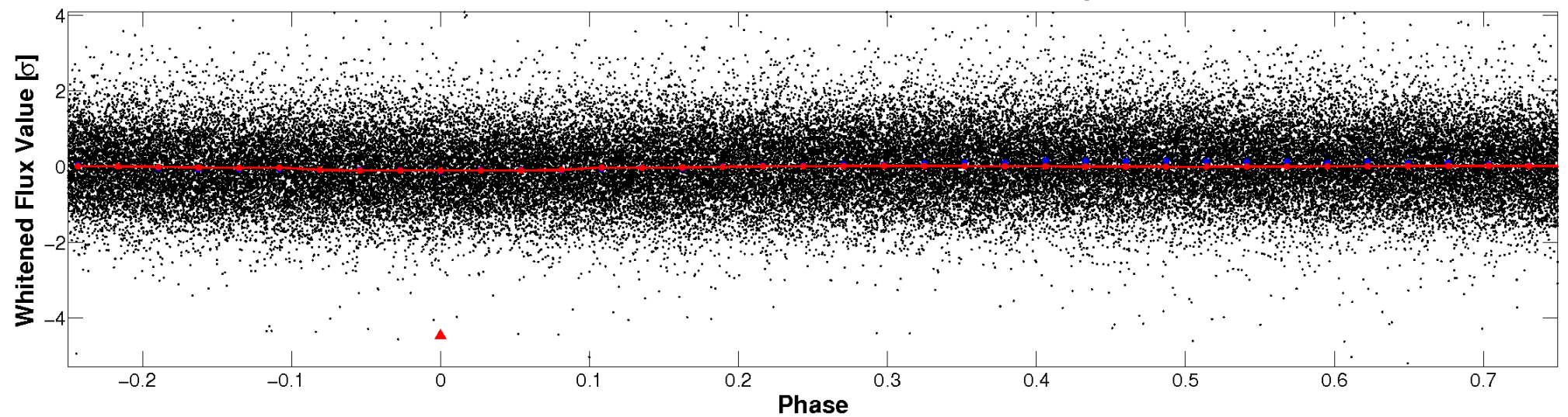


# Non-Whitened Vs. Whitened Light Curve

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



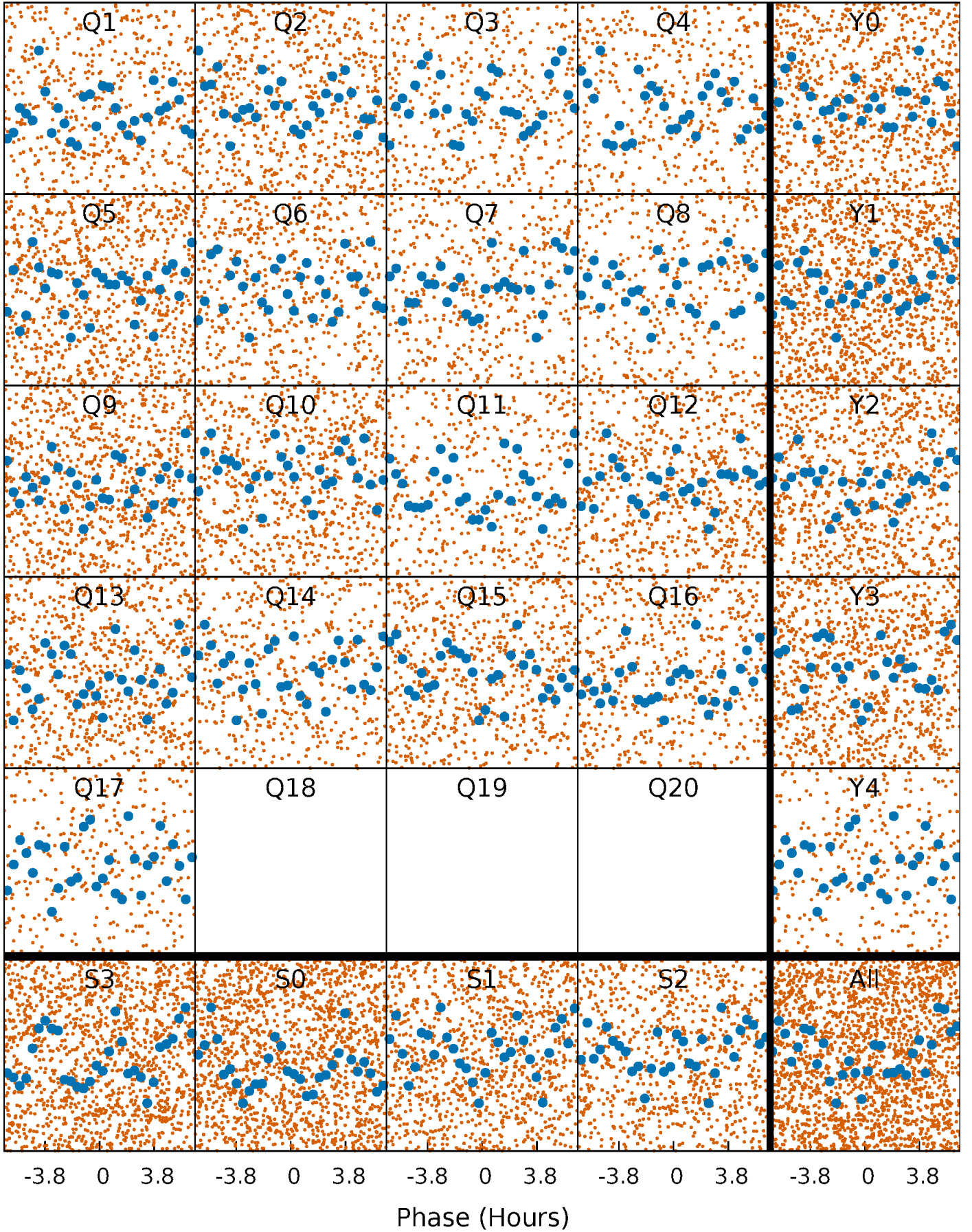
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

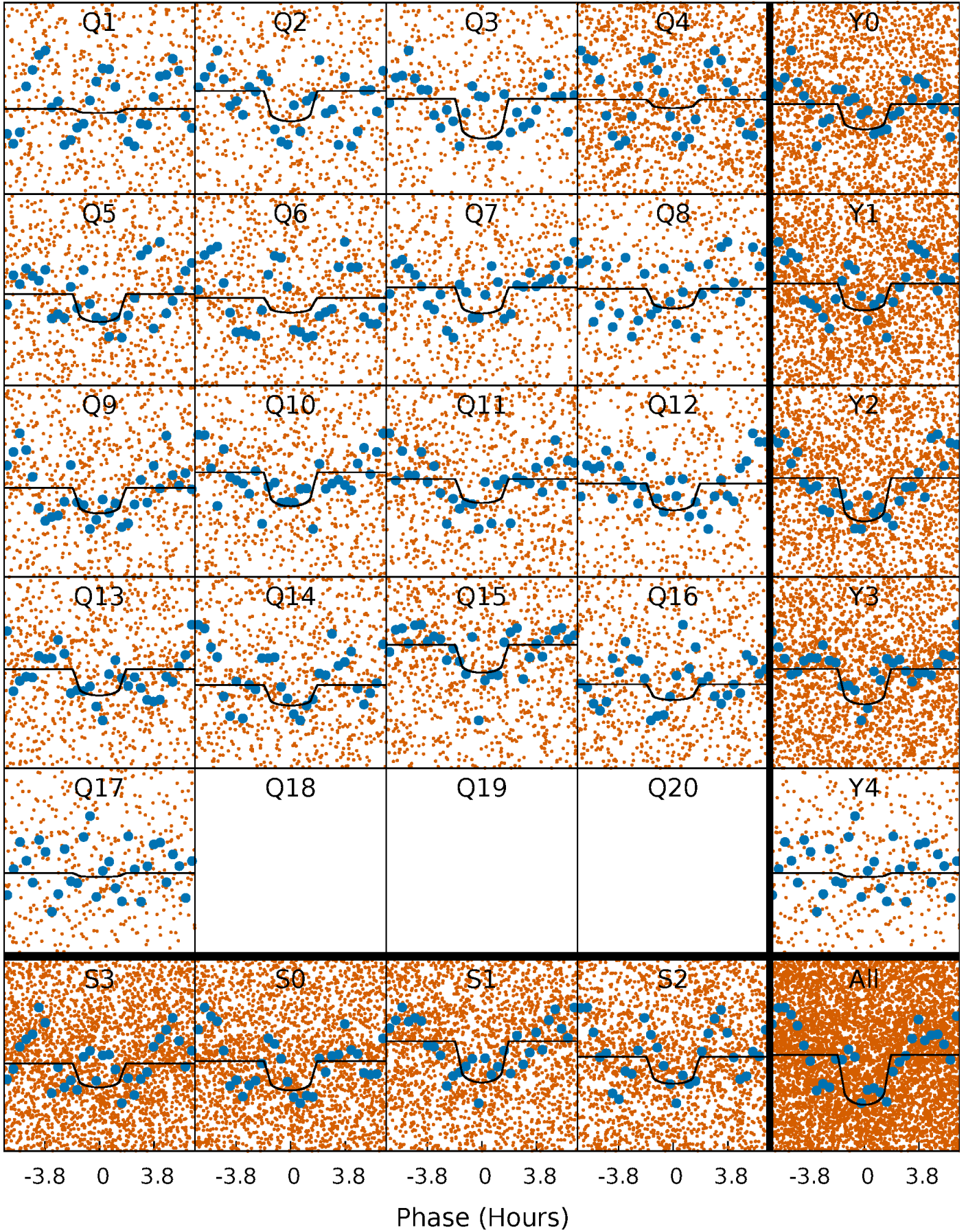
TCE 011723564-01 P= 0.755202 Days  $T_0=131.965846$  (BKJD)





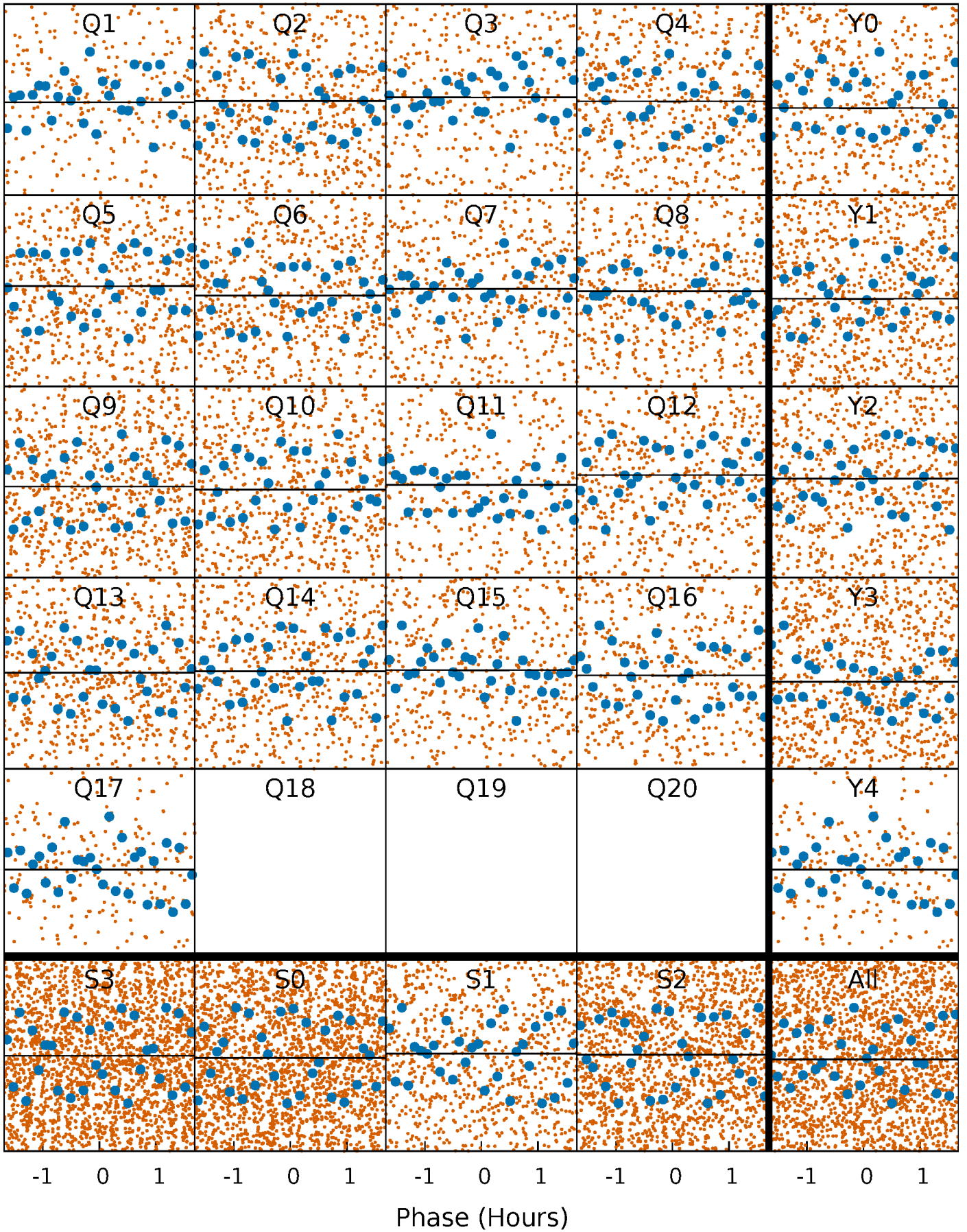
# DV Quarter-Phased Transit Curves

TCE 011723564-01 P= 0.755202 Days  $T_0=131.965846$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

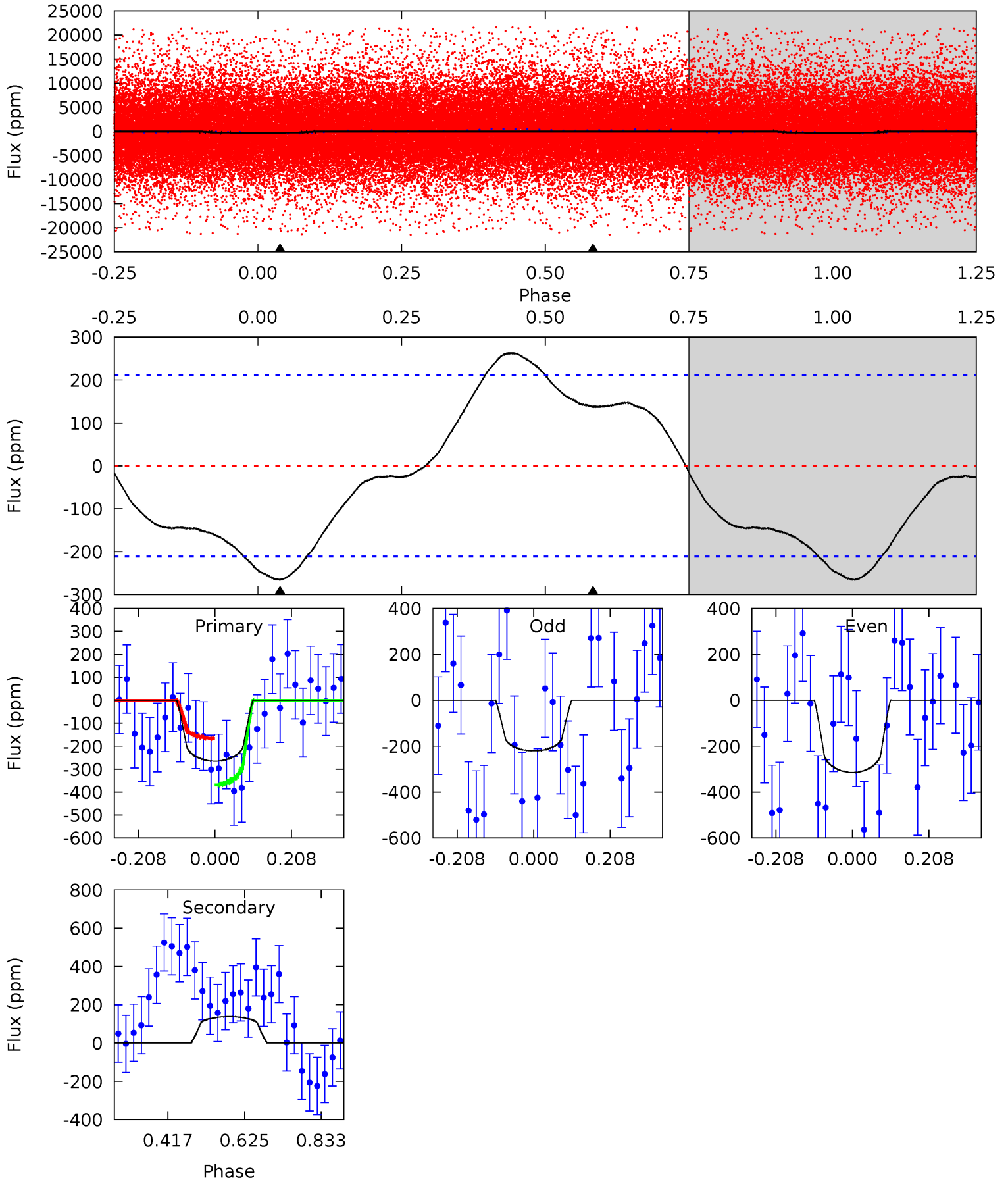
TCE 011723564-01 P= 0.755183 Days  $T_0=131.963969$  (BKJD)



# DV Model-Shift Uniqueness Test

011723564-01, P = 0.755202 Days, E = 131.210644 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
5.53	-2.88	0	0	4.41	1.26	1.83	5.53	5.53	-2.88	-2.88	1.00	1.17	0.50	2.16

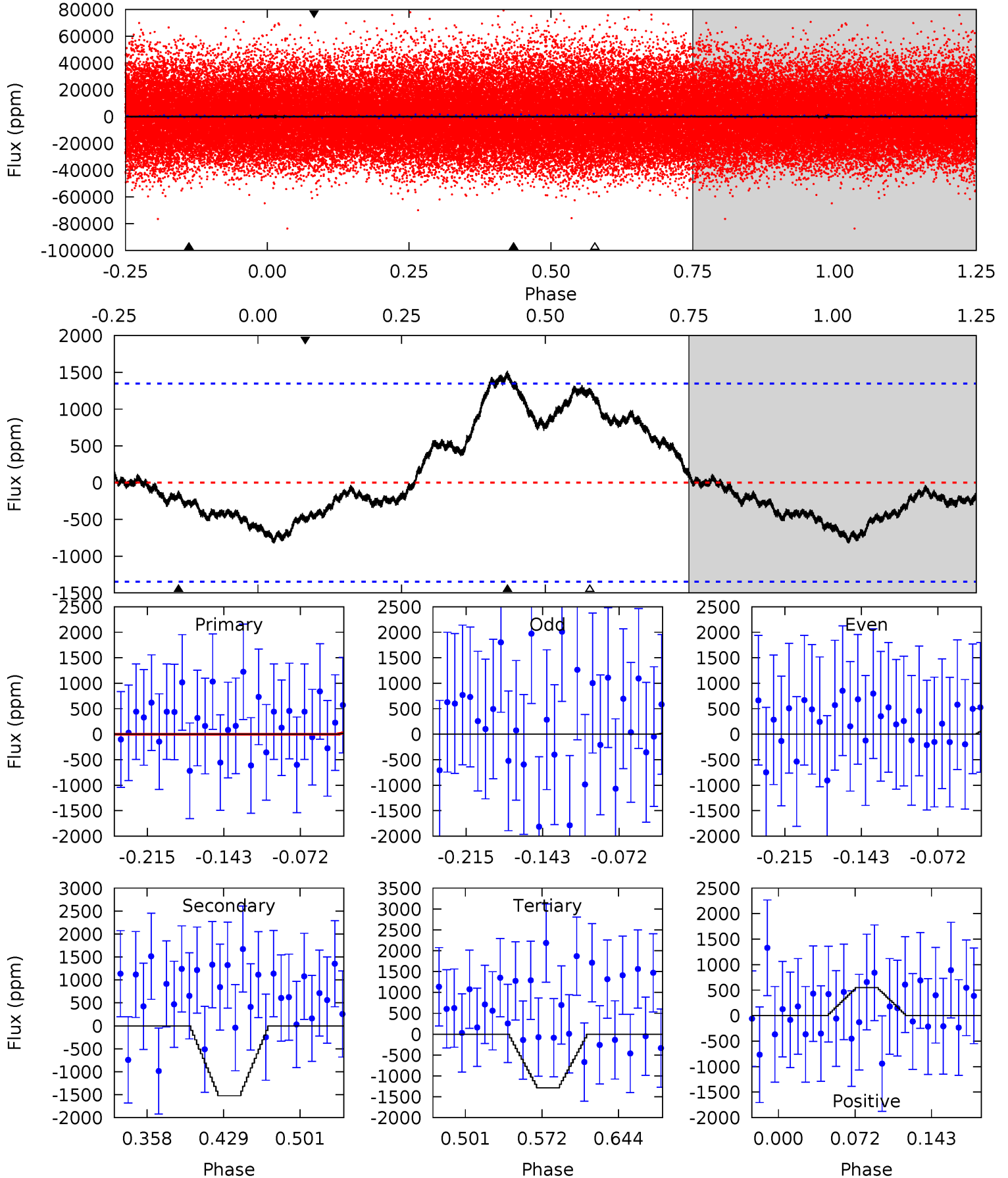




# Alt Model-Shift Uniqueness Test

011723564-01, P = 0.755183 Days, E = 131.208786 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
0.37	-5.24	-4.42	-1.88	4.63	1.80	2.06	4.79	2.26	-0.82	-3.36	0.38	-0.24	0.65	0.08





### Stellar Parameters For KIC 011723564

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7022^{+194}_{-242}$	$4.258^{+0.070}_{-0.210}$	$0.000^{+0.200}_{-0.400}$	$1.463^{+0.513}_{-0.205}$	$1.413^{+0.222}_{-0.202}$	$0.635^{+0.244}_{-0.338}$
	+3%/-3%	+2%/-5%	+inf%/-inf%	+35%/-14%	+16%/-14%	+38%/-53%
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 011723564-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$138 \pm 48$	$3.42^{+2.75}_{-2.11}$	$3950^{+312}_{-223}$	$-5464^{+999}_{-3492}$	$-2.097^{+1.541}_{-11.863}$
Alt.	$1524 \pm 291$	$2.23^{+2.57}_{-1.61}$	$3971^{+289}_{-216}$	$-15178^{+6688}_{-67469}$	$-51.180^{+40.272}_{-619.415}$

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

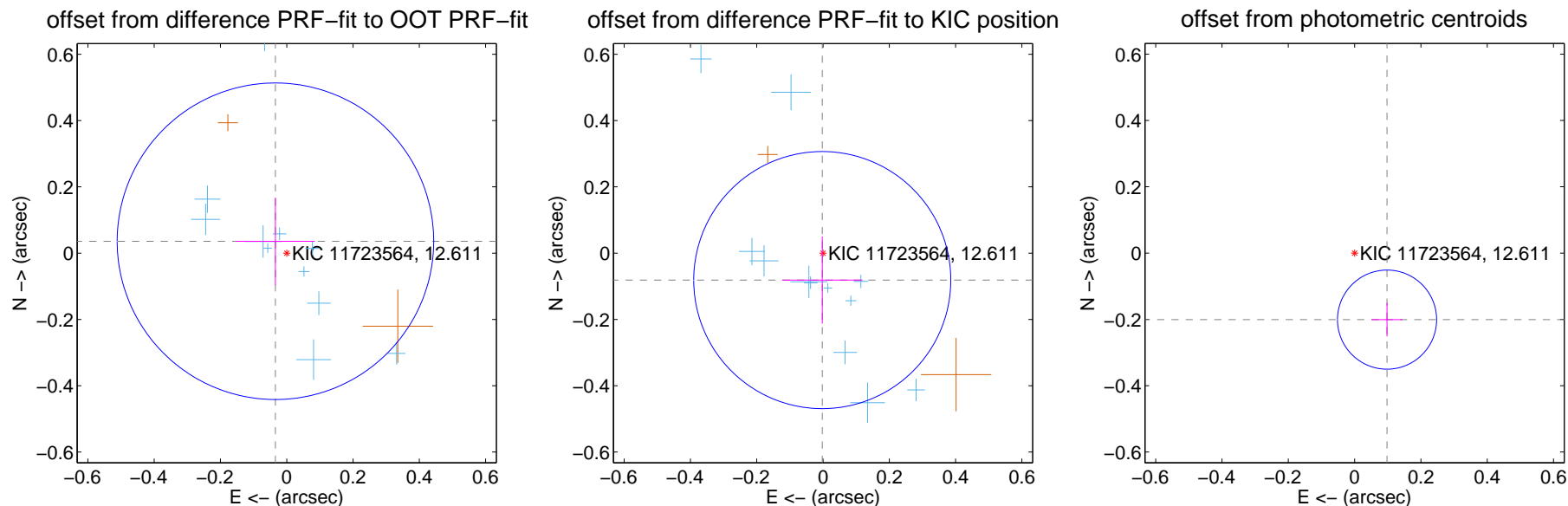
## DV Centroid Data

Supplemental centroid analysis for 011723564-01. Kepler magnitude: 12.61. Transit SNR 11.37

There are 13 quarters with good PRF difference image offsets

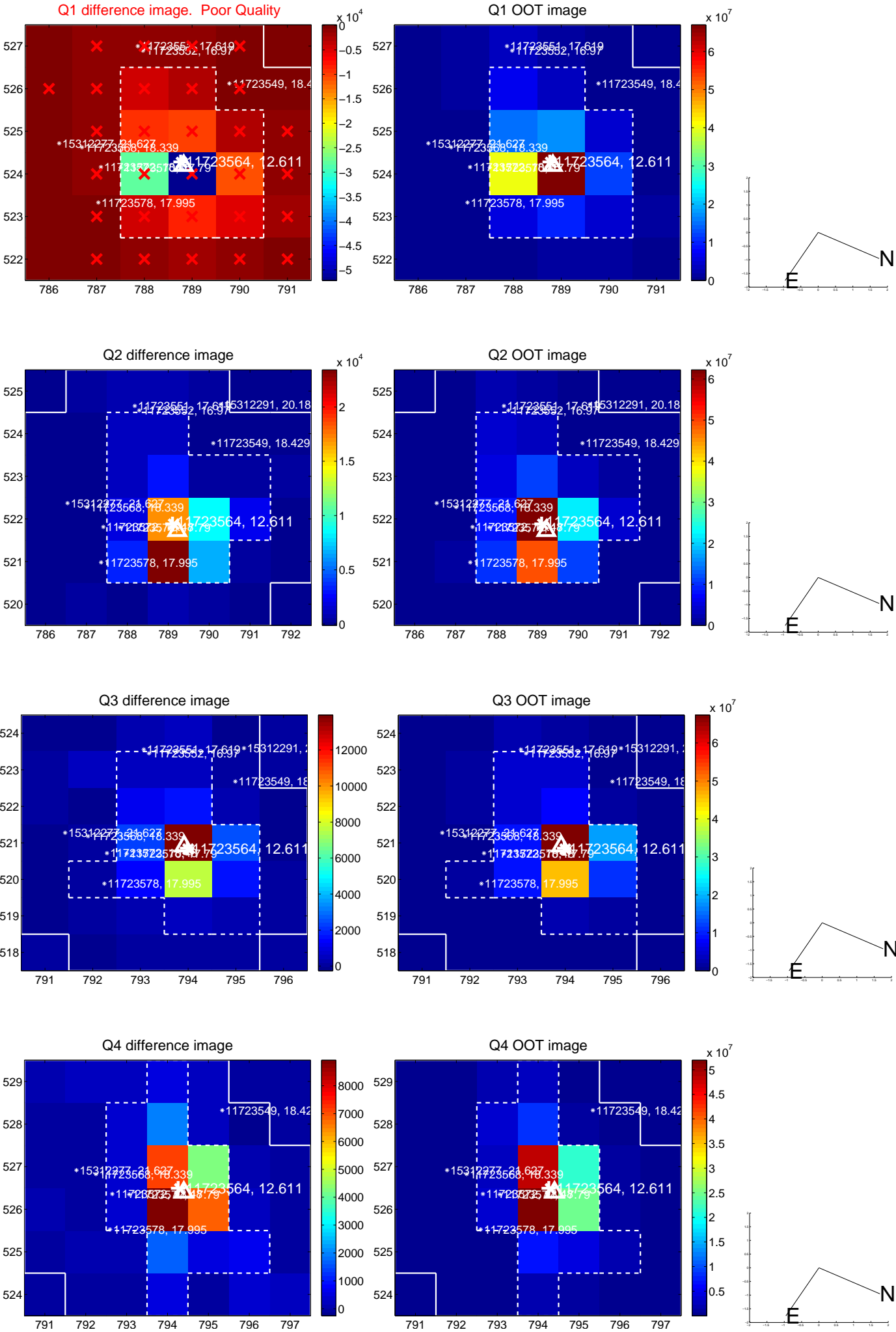
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.050 \pm 0.159$	0.31	$0.034 \pm 0.119$	$0.036 \pm 0.132$
PRF-fit source offset from KIC position	$0.081 \pm 0.129$	0.63	$0.002 \pm 0.121$	$-0.081 \pm 0.131$
photometric centroid source offset	$0.22 \pm 0.05$	4.48	$-0.10 \pm 0.05$	$-0.20 \pm 0.05$

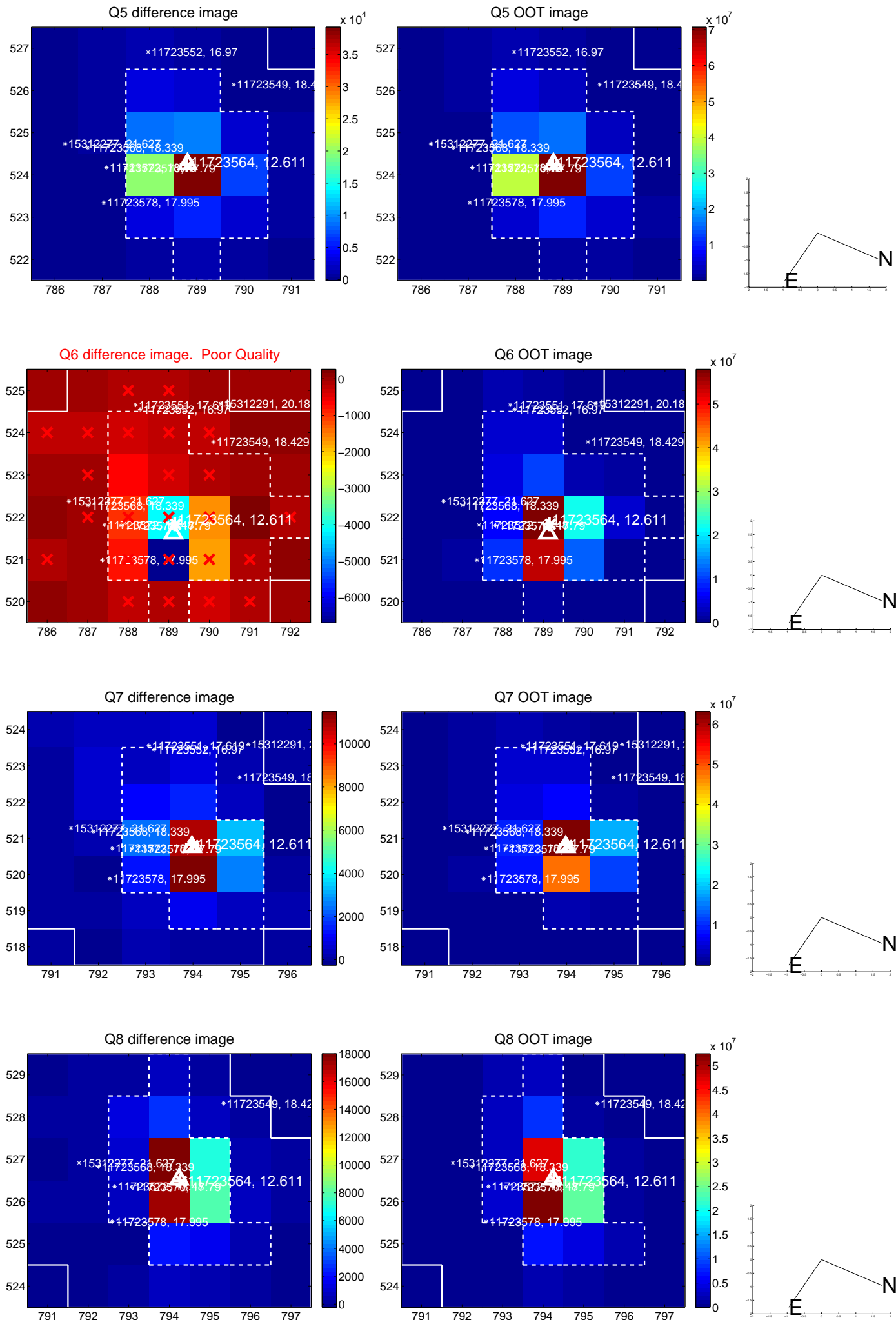


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

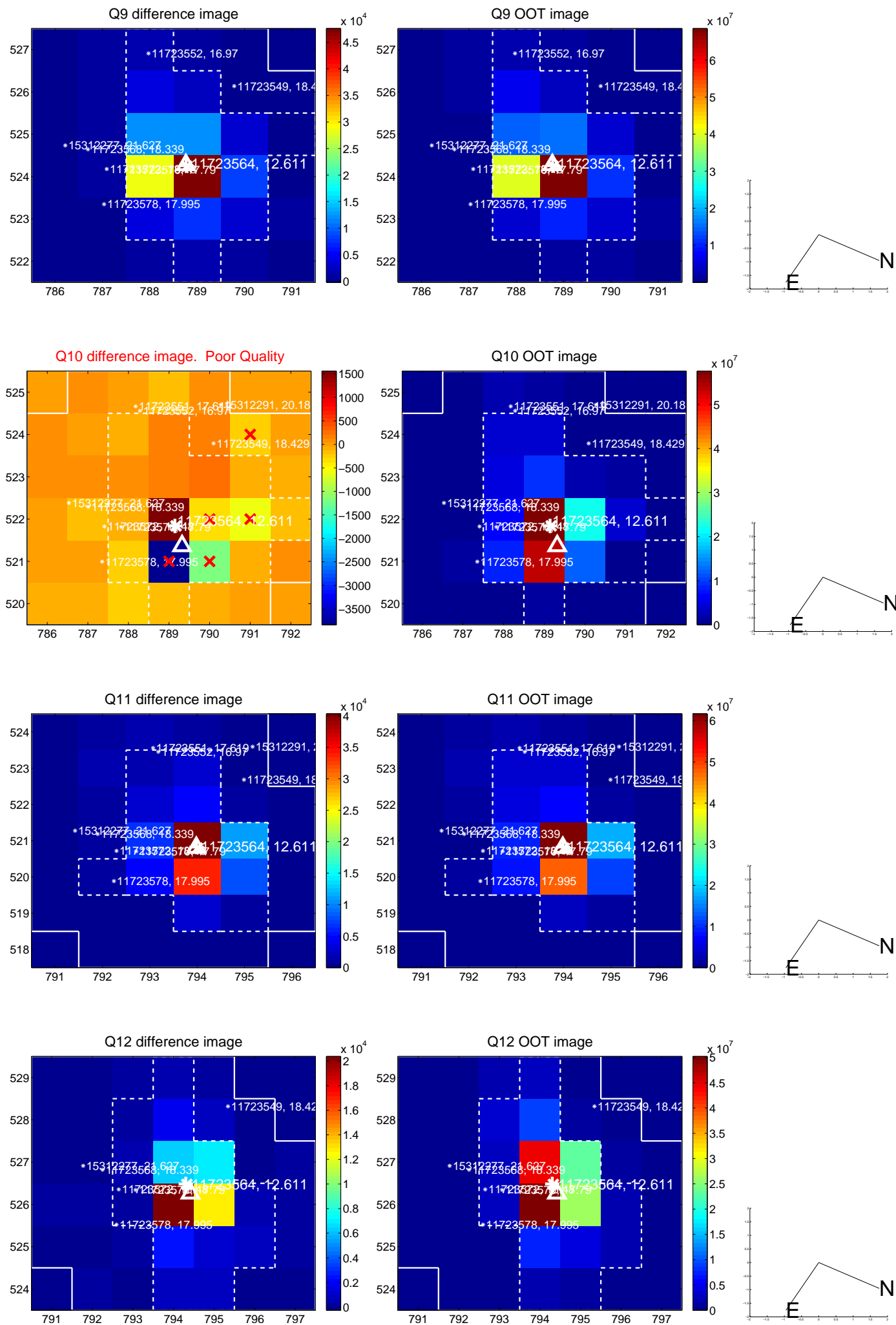


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

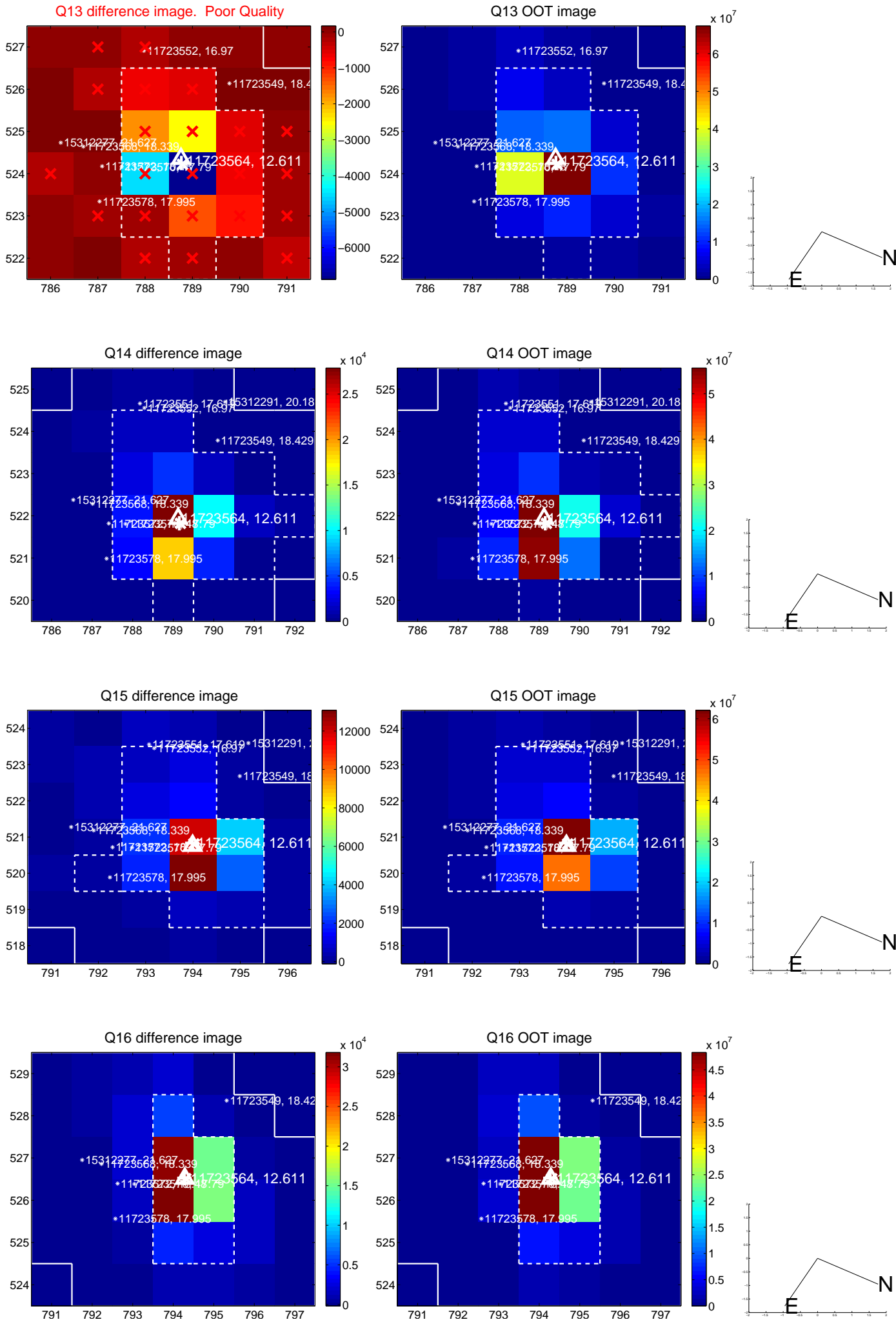




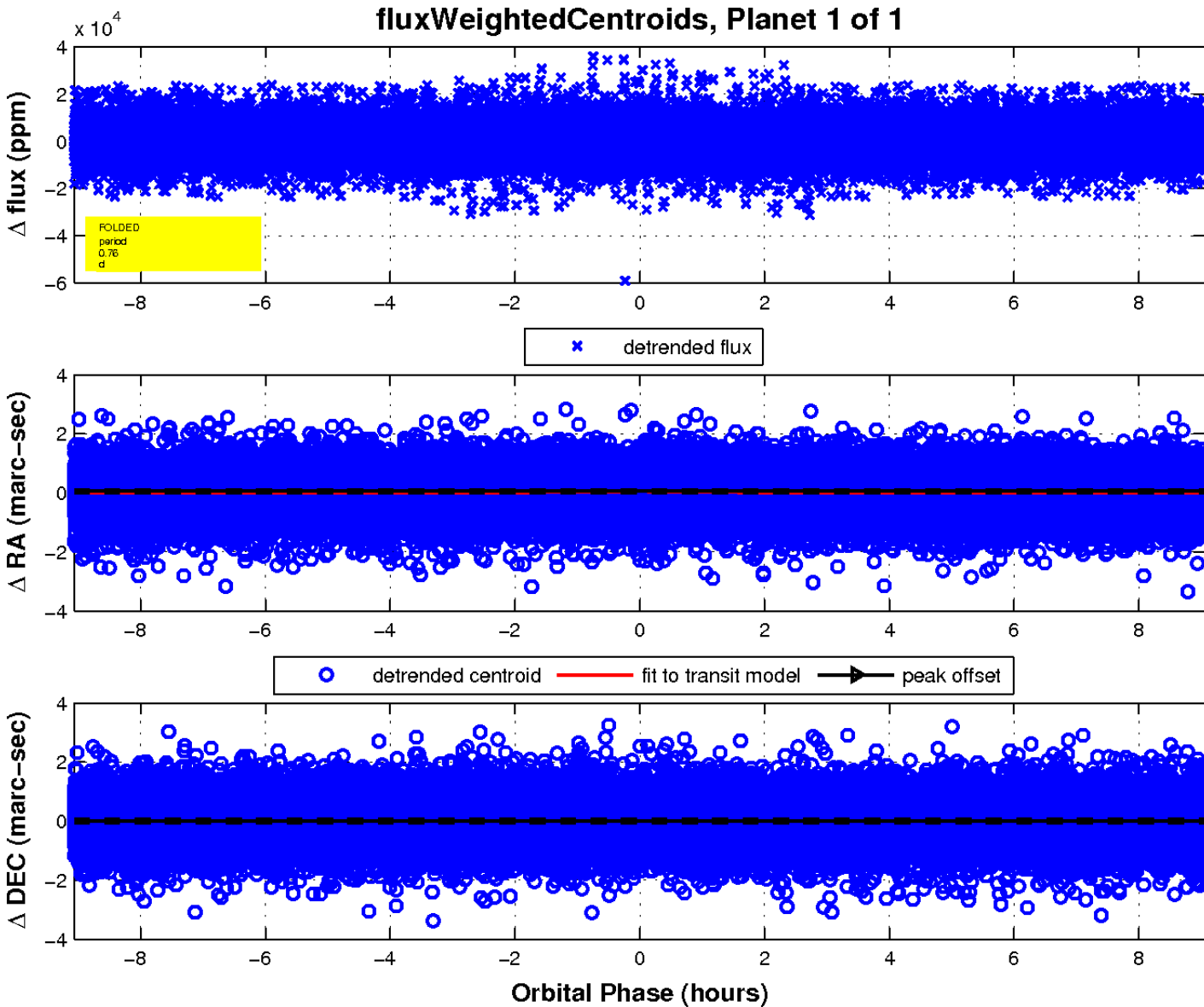
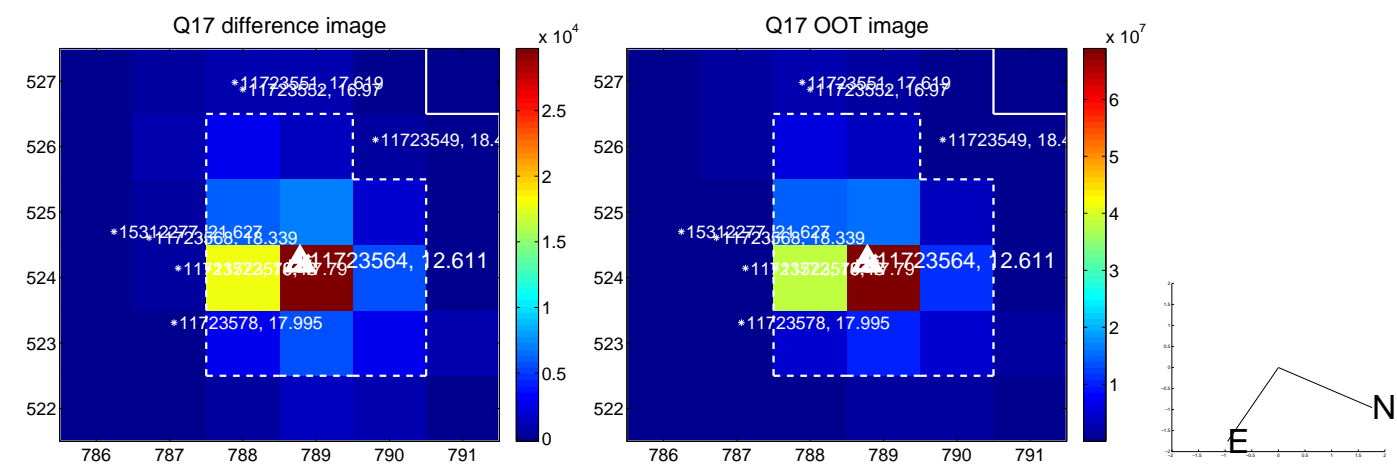
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

