

# KIC 010664975

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010664975-01	OBS	No	0.542437	131.670463	9.1	1.254	11.0	11.2	3.28	8169	1.16	161698.47

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010664975-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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

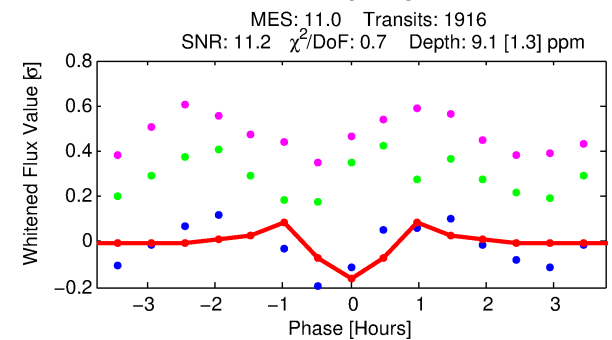
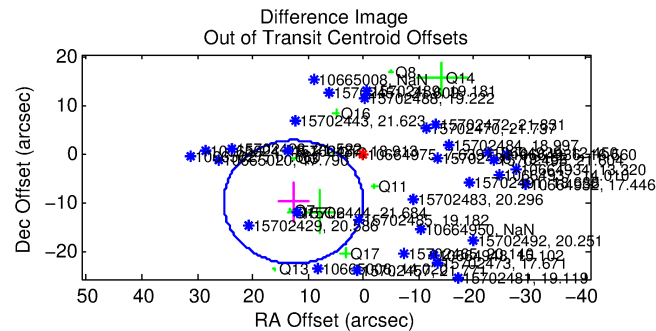
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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 010664975-01

No Significant Match Found

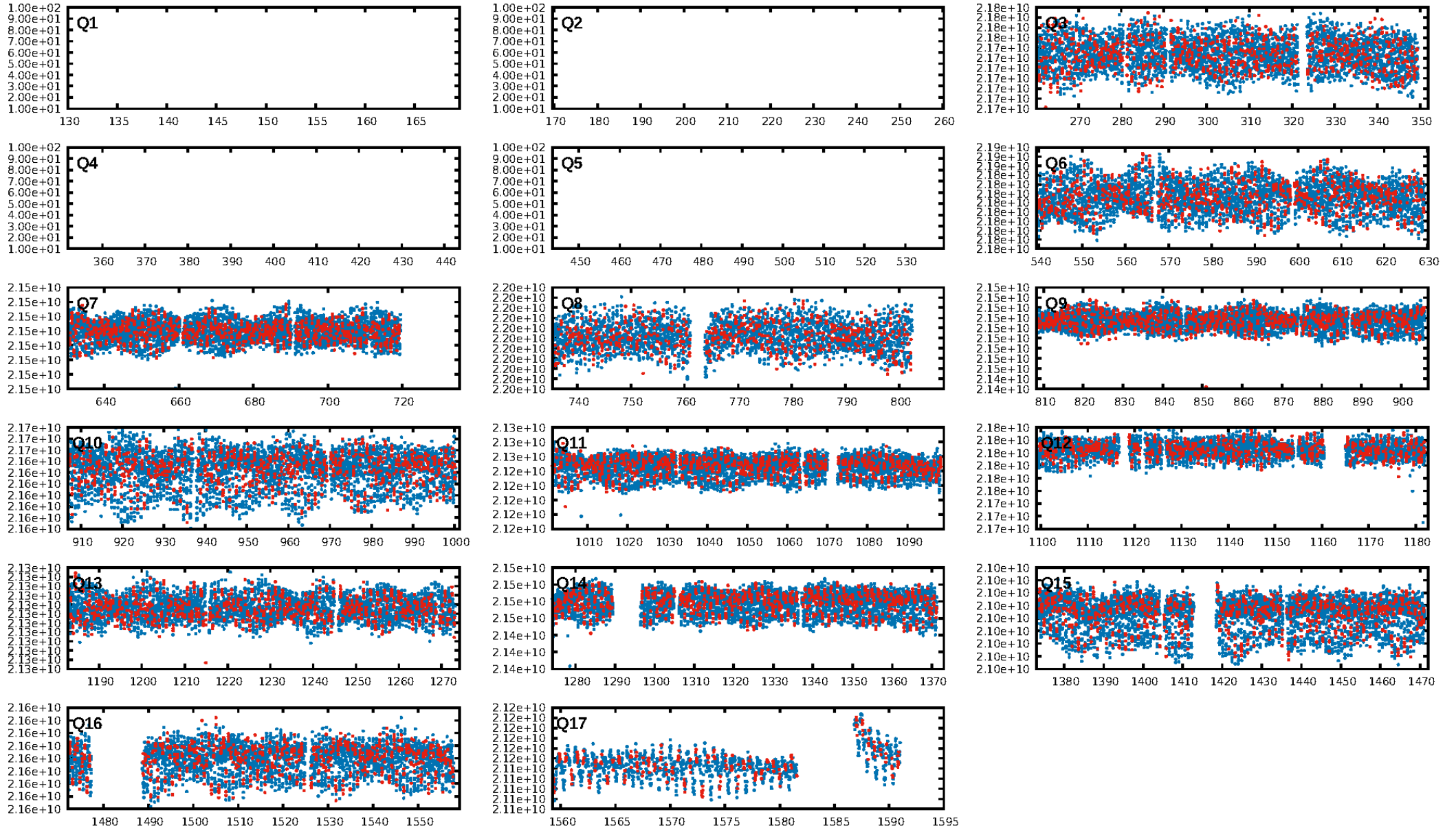
## KIC: 10664975    Candidate: 1 of 1    Period: 0.542 d



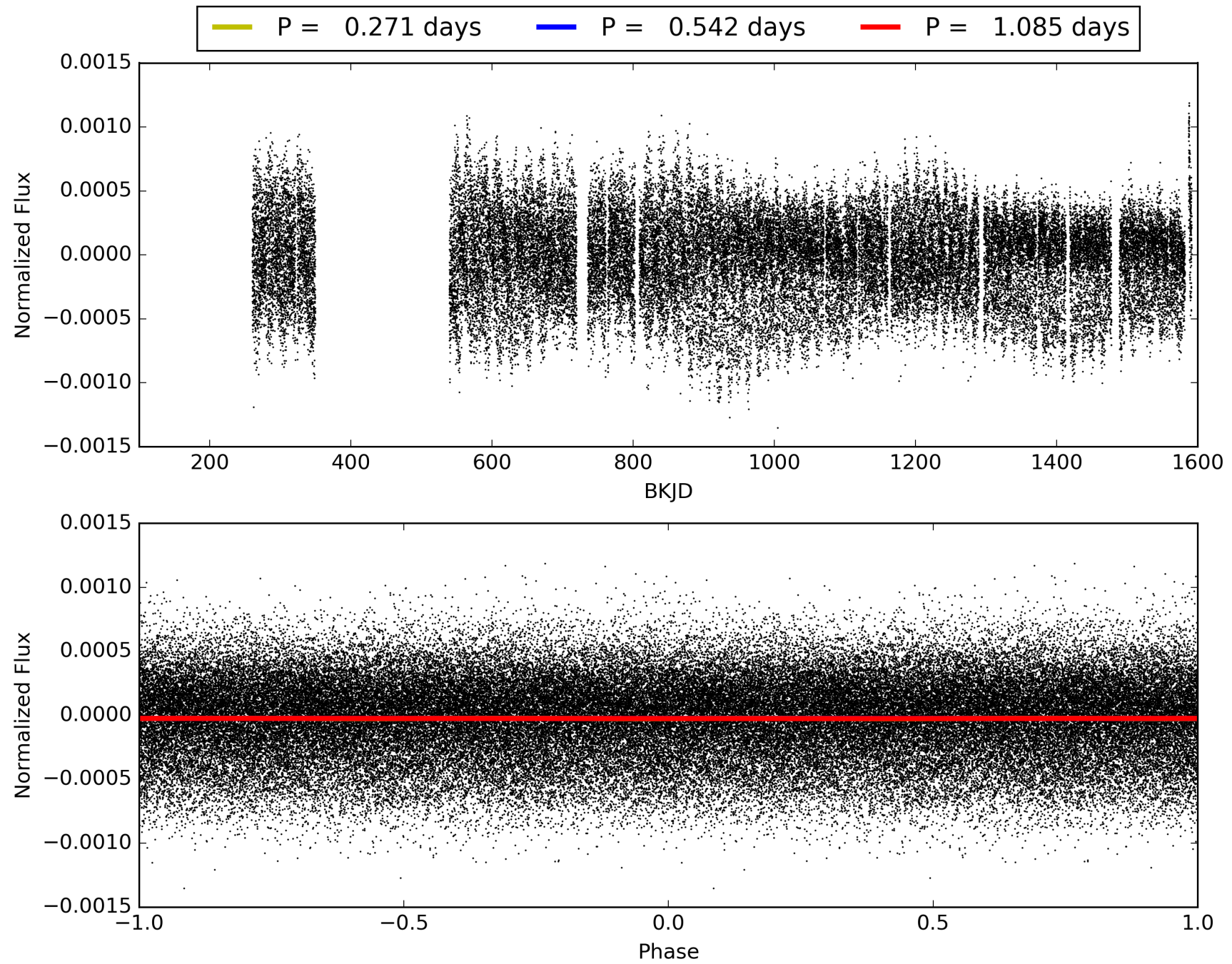
ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.76e-25  
RollingBand-fgt: 0.35 [645/1866]  
GhostDiagnostic-chr: N/A  
  
Centroid-sig: N/A  
Centroid-so: 7.907 arcsec [2.01σ]  
OotOffset-rm: 15.971 arcsec [3.79σ]  
KicOffset-rm: 13.210 arcsec [3.27σ]  
OotOffset-st: 2/4/3/2 [11]  
KicOffset-st: 2/4/3/2 [11]  
DiffImageQuality-fgm: 0.00 [0/11]  
DiffImageOverlap-fno: 1.00 [13/13]

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

# TCE 010664975-01, PDC Light Curves



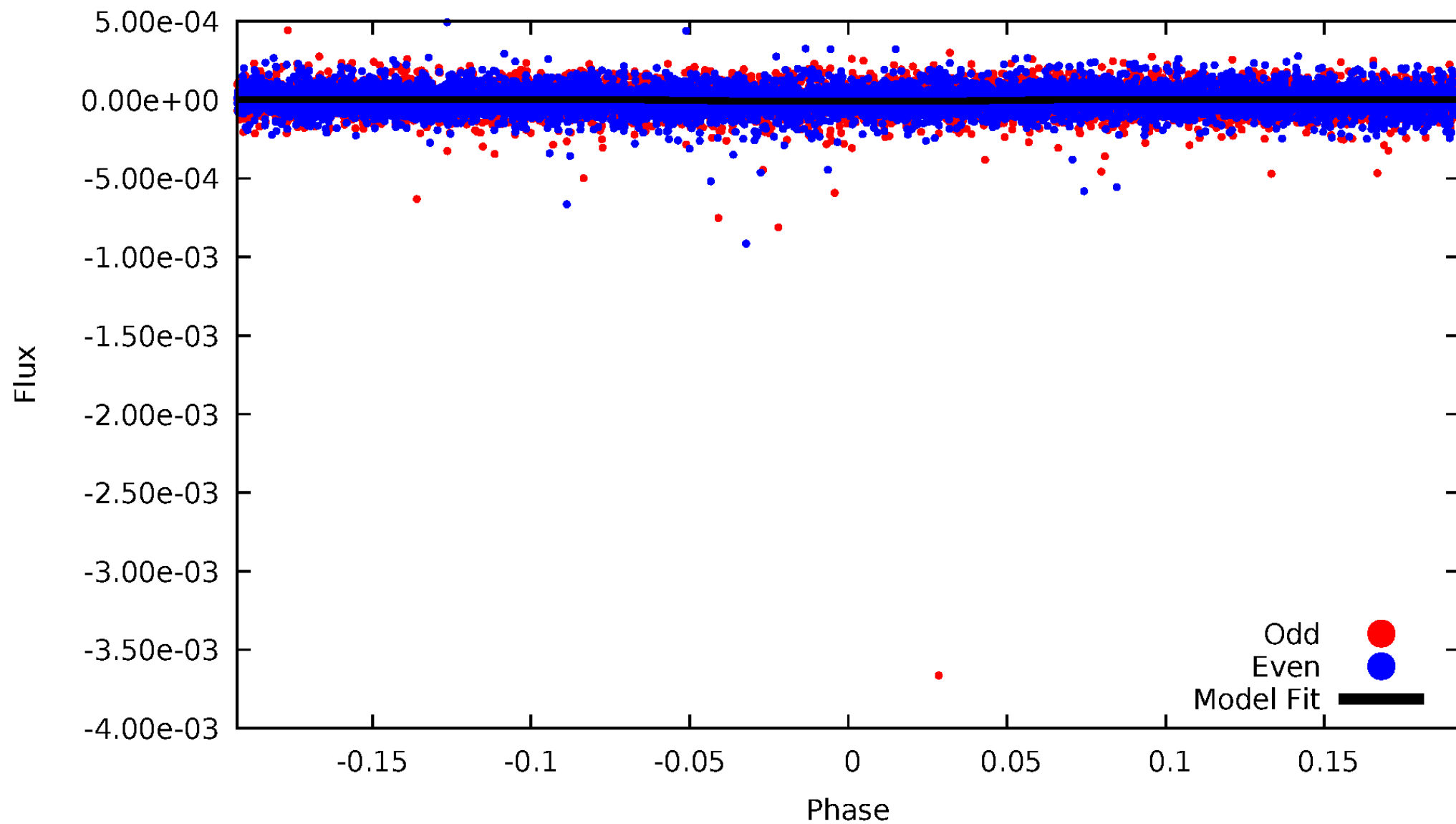
TCE 010664975-01





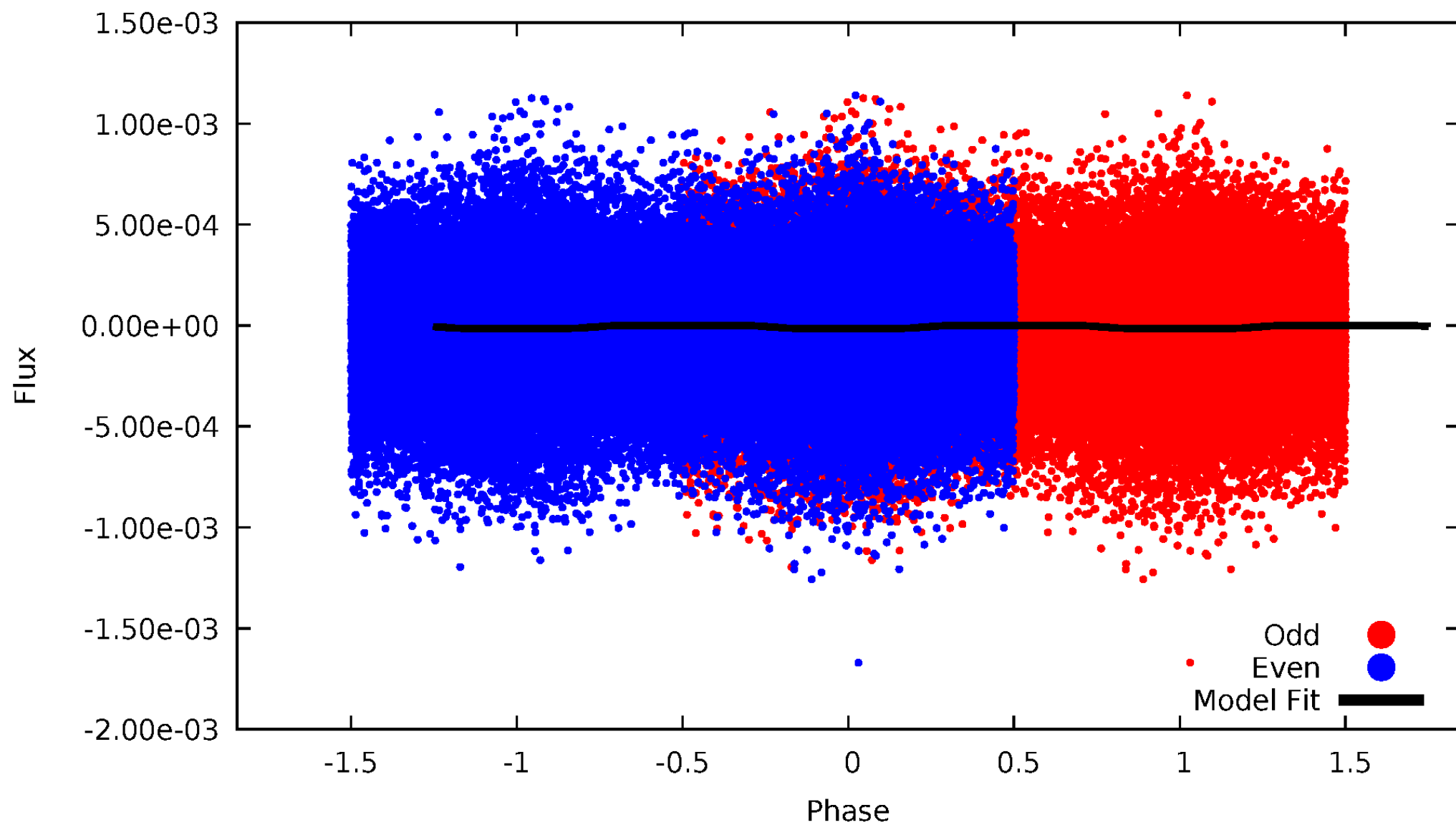
# DV Odd/Even

TCE 010664975-01



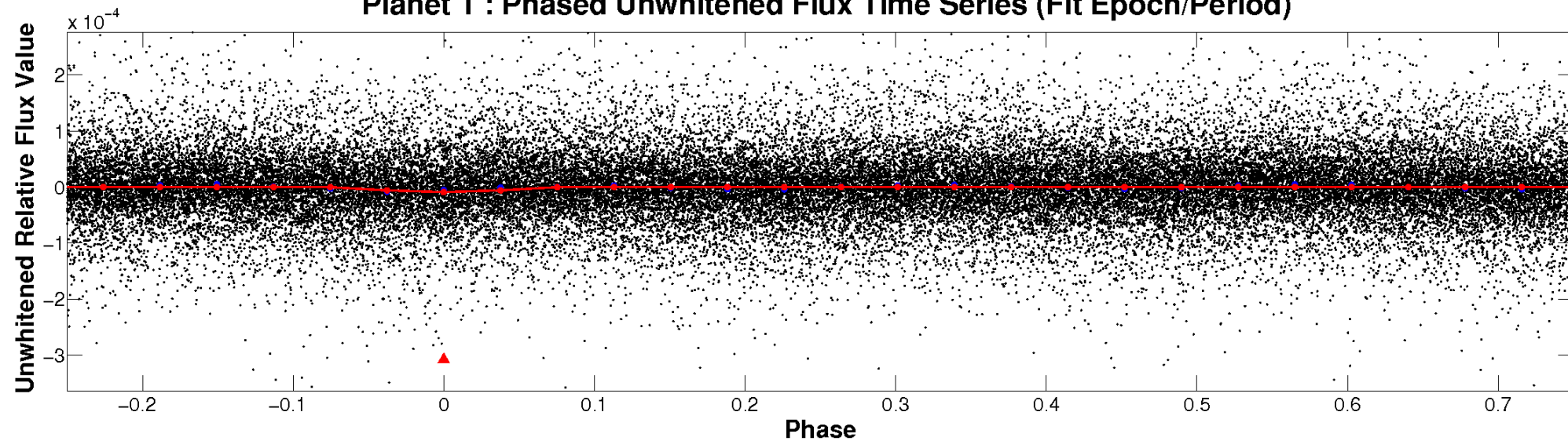
# ALT Odd/Even

TCE 010664975-01

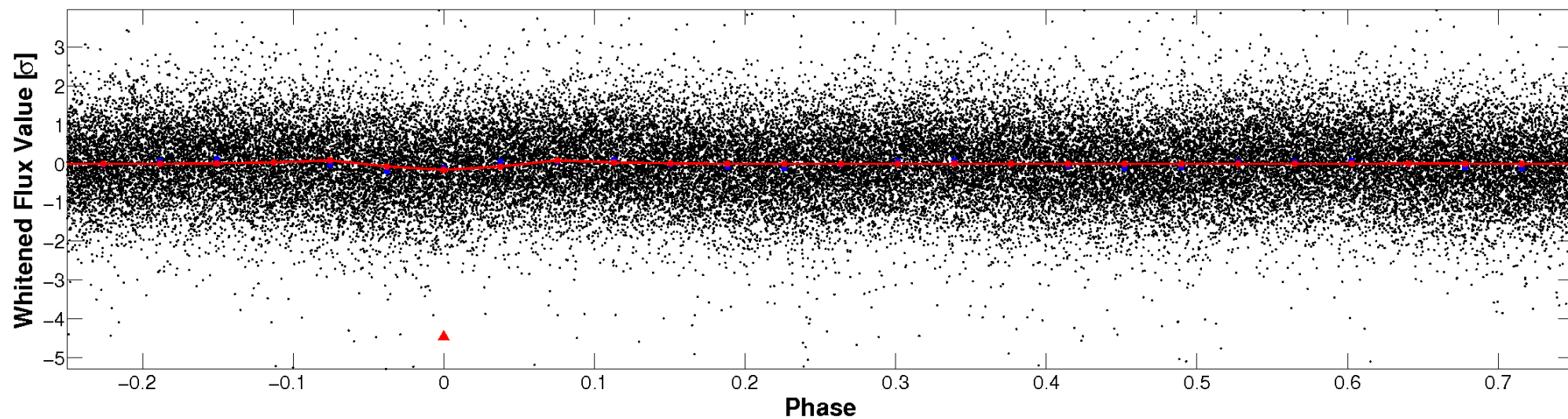


# Non-Whitened Vs. Whitened Light Curve

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

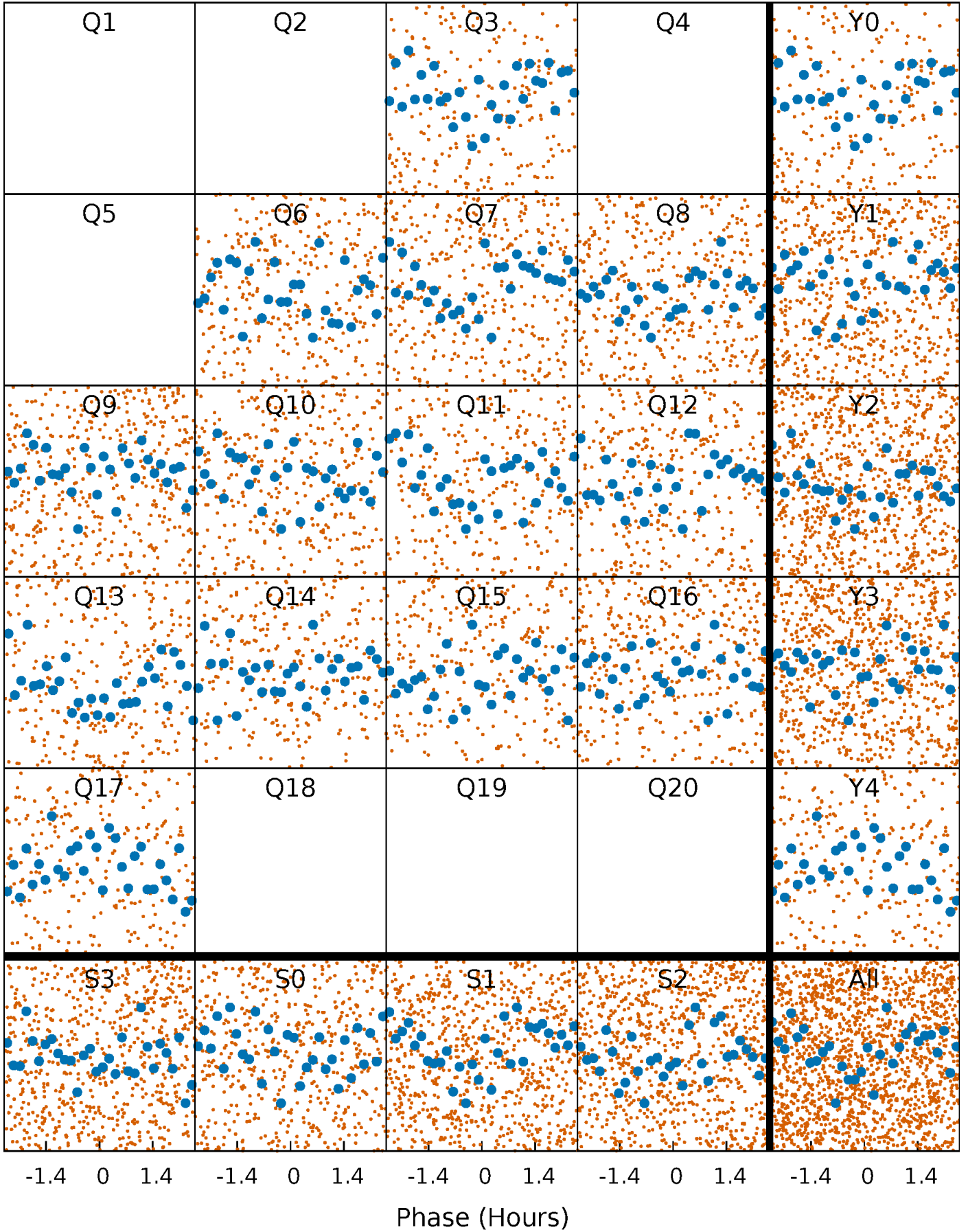


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

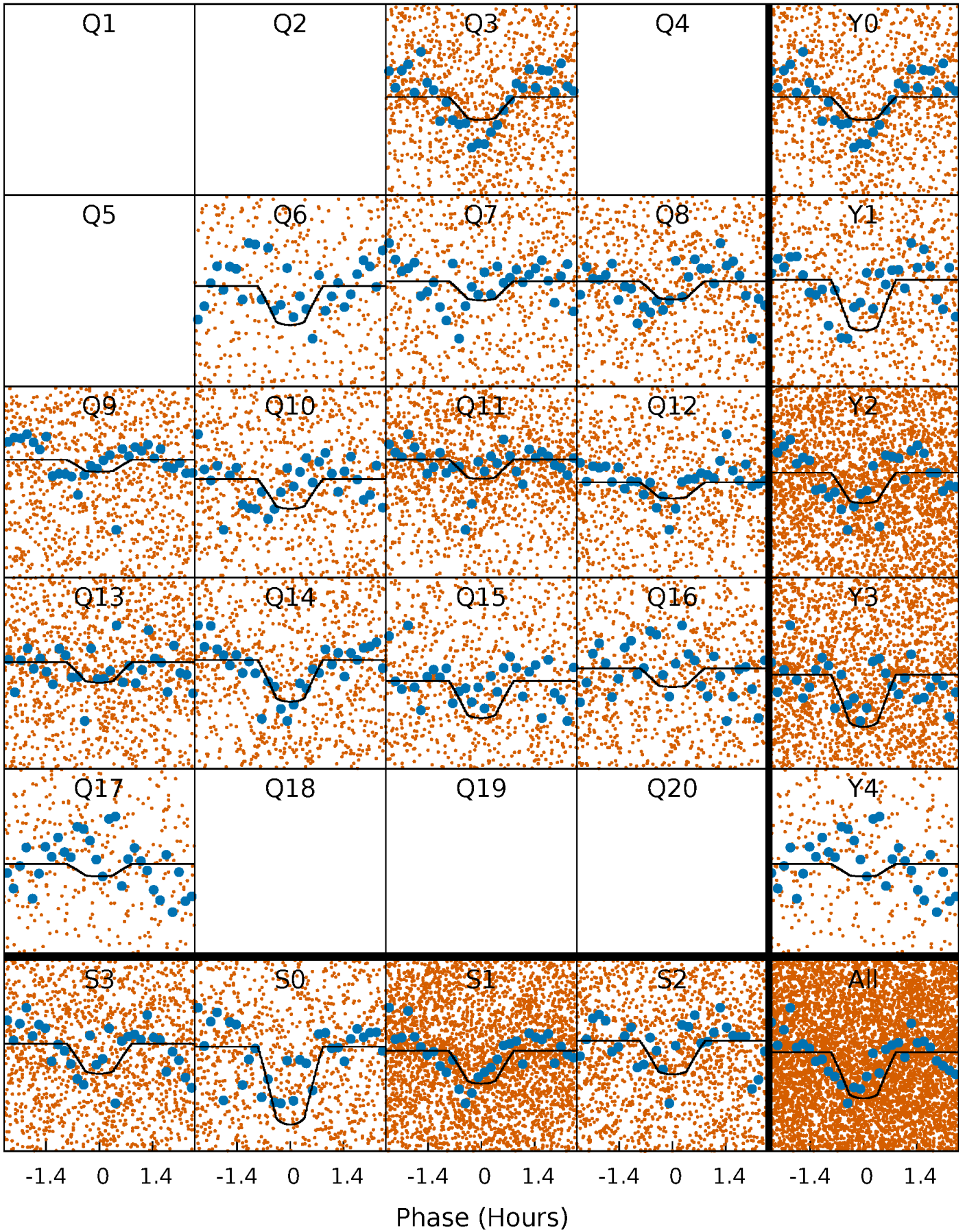
TCE 010664975-01   P= 0.542437 Days    $T_0=131.670463$  (BKJD)





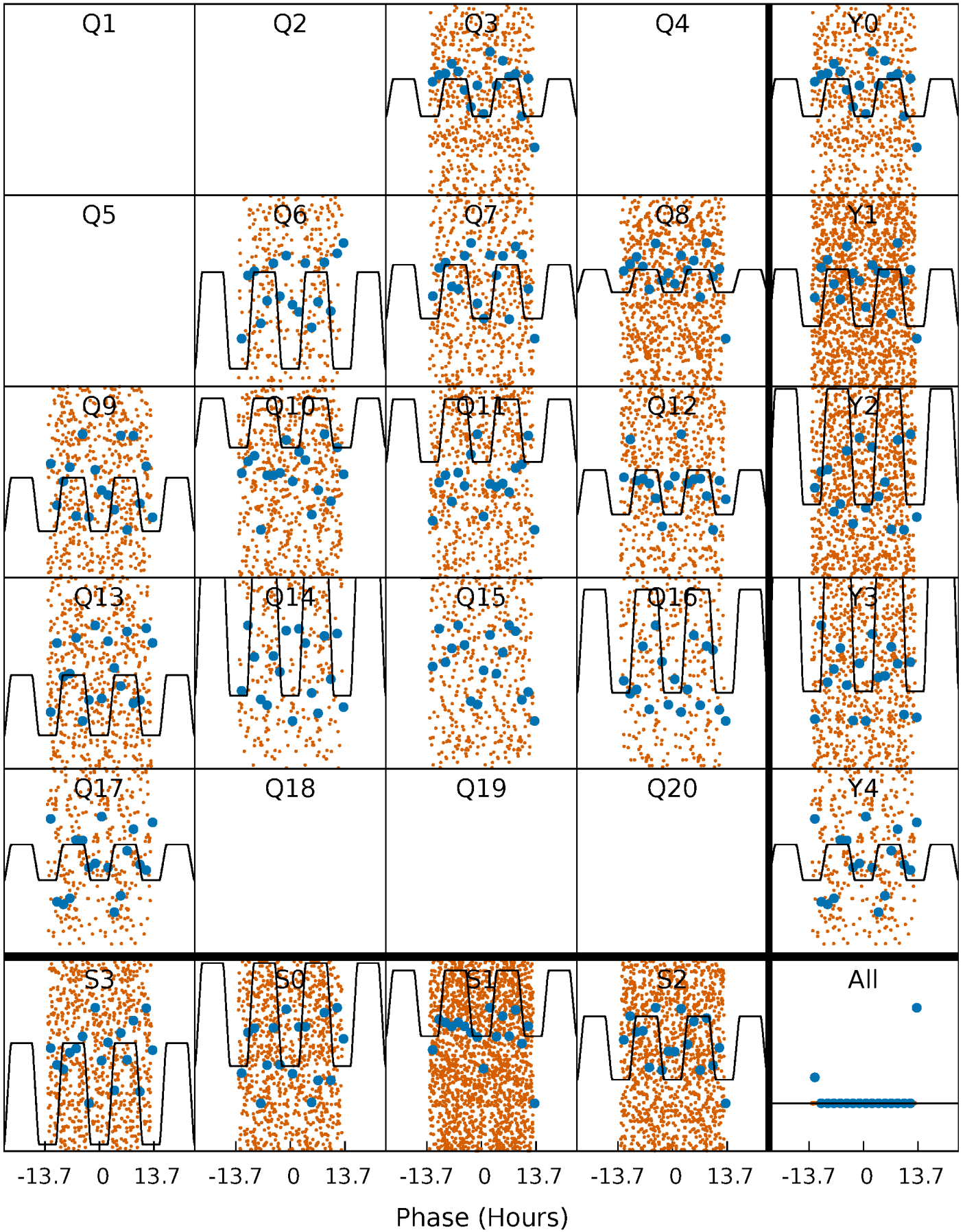
# DV Quarter-Phased Transit Curves

TCE 010664975-01   P= 0.542437 Days    $T_0=131.670463$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

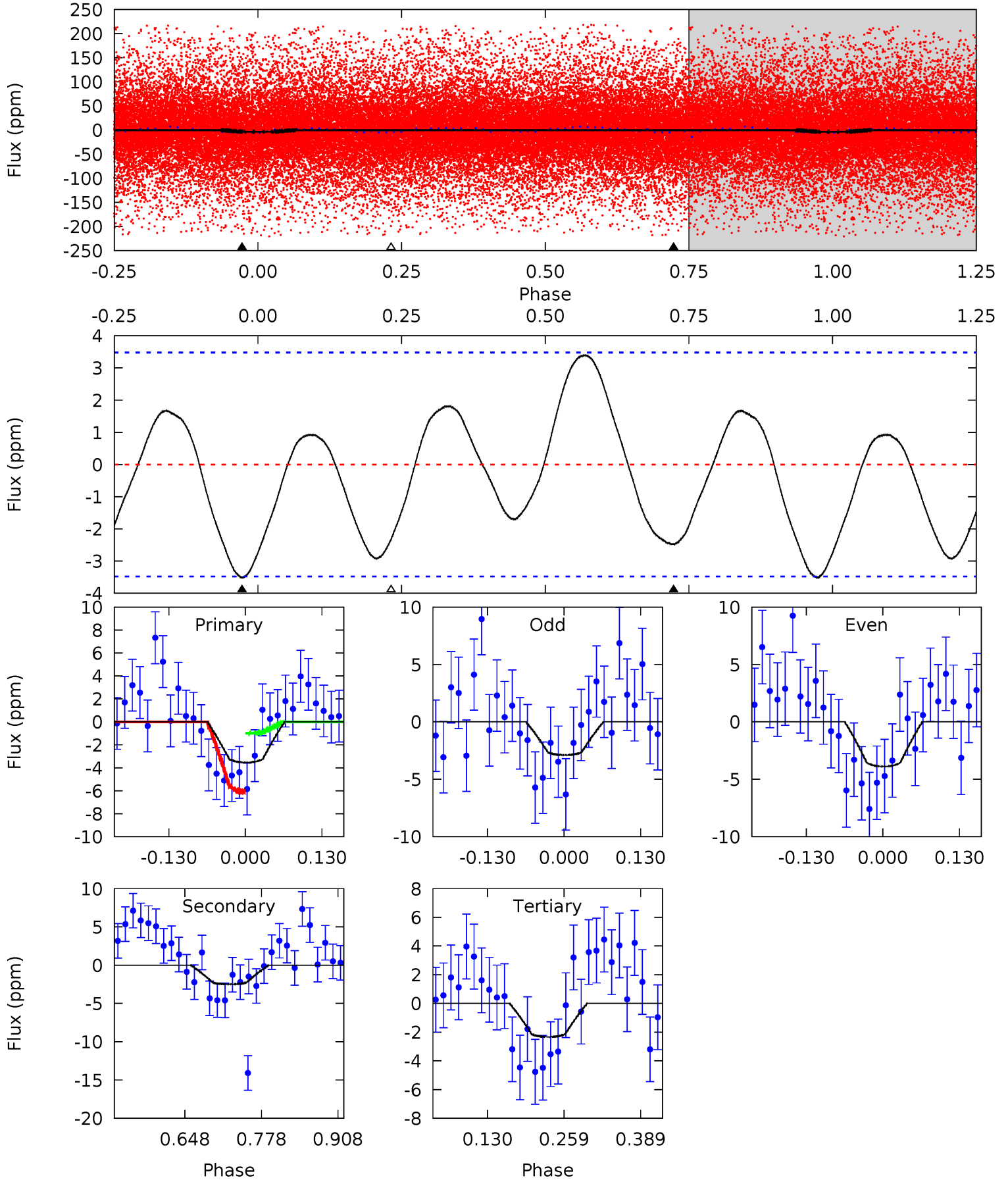
TCE 010664975-01   P= 0.542420 Days    $T_0=131.670336$  (BKJD)



# DV Model-Shift Uniqueness Test

010664975-01, P = 0.542437 Days, E = 131.670463 Days

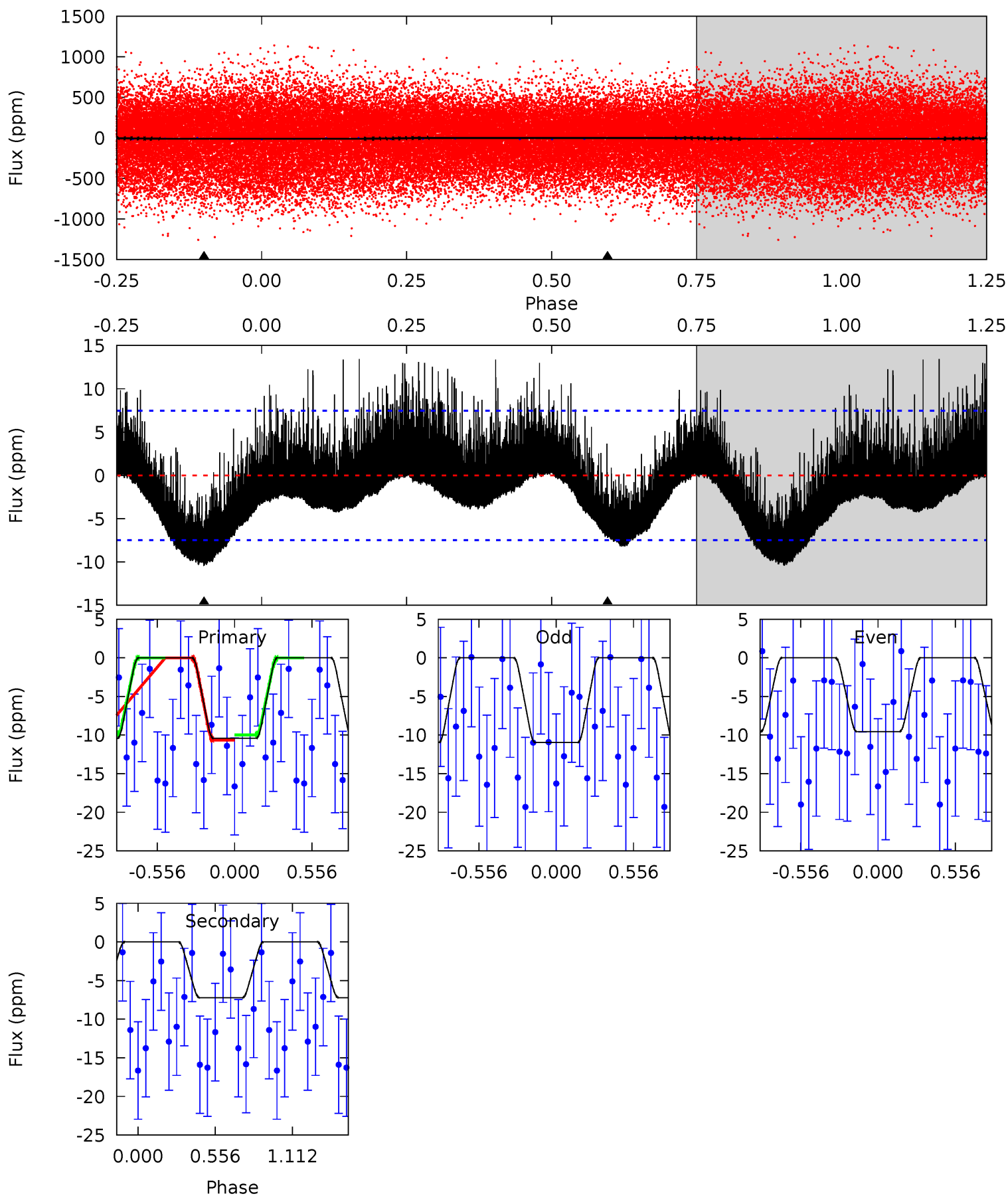
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.58	3.23	3.02	0	4.51	1.52	2.31	1.56	4.58	0.21	3.23	0.65	1.29	0.49	3.37



# Alt Model-Shift Uniqueness Test

010664975-01, P = 0.542420 Days, E = 131.670336 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
5.84	4.04	0	0	4.19	0.59	1.16	5.84	5.84	4.04	4.04	0.38	-2.02	0.56	0.15



### Stellar Parameters For KIC 010664975

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8169^{+223}_{-334}$	$3.699^{+0.476}_{-0.112}$	$-0.320^{+0.200}_{-0.300}$	$3.284^{+0.678}_{-1.583}$	$1.964^{+0.376}_{-0.501}$	$0.078^{+0.362}_{-0.028}$
	+3%/-4%	+13%/-3%	+62%/-94%	+21%/-48%	+19%/-26%	+464%/-36%
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 010664975-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-2 \pm 1$	$1.11^{+0.22}_{-0.29}$	$6945^{+525}_{-871}$	$-2580^{+7403}_{-2123}$	$0.296^{+0.240}_{-0.109}$
Alt.	$-7 \pm 2$	$1.32^{+0.26}_{-0.36}$	$6944^{+541}_{-900}$	$5622^{+804}_{-1113}$	$0.633^{+0.459}_{-0.232}$

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



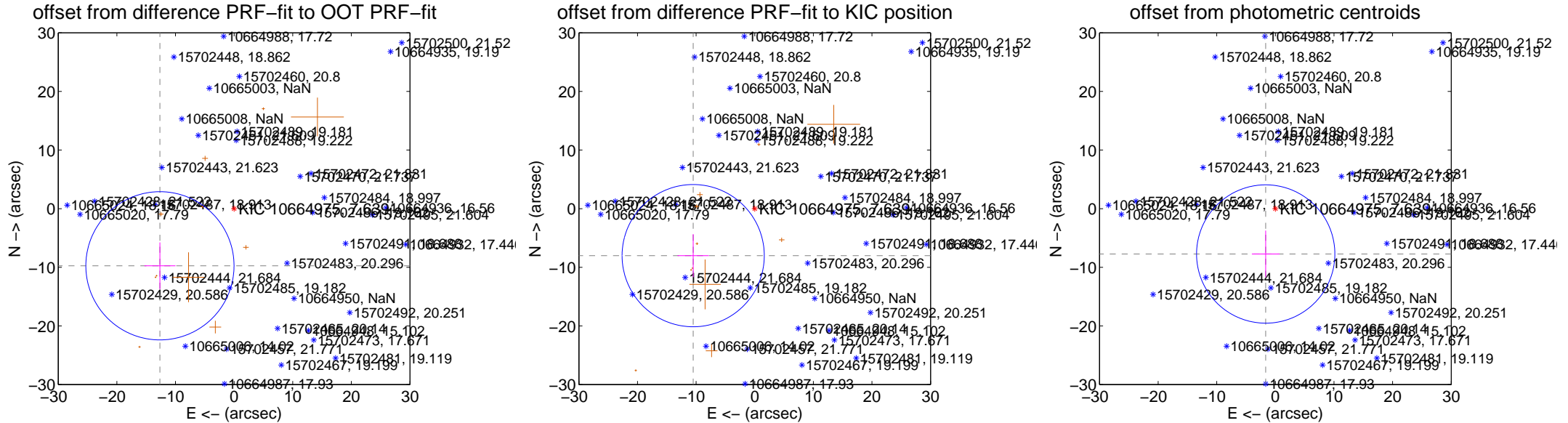
## DV Centroid Data

Supplemental centroid analysis for 010664975-01. **Kepler magnitude: 7.64.** Transit SNR 11.16

There are 0 quarters with good PRF difference image offsets

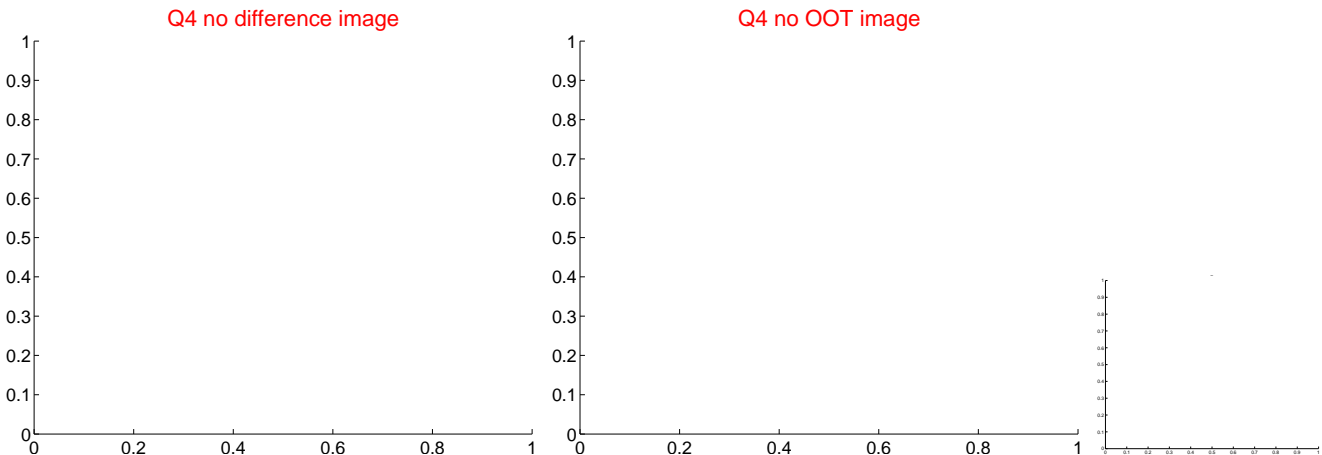
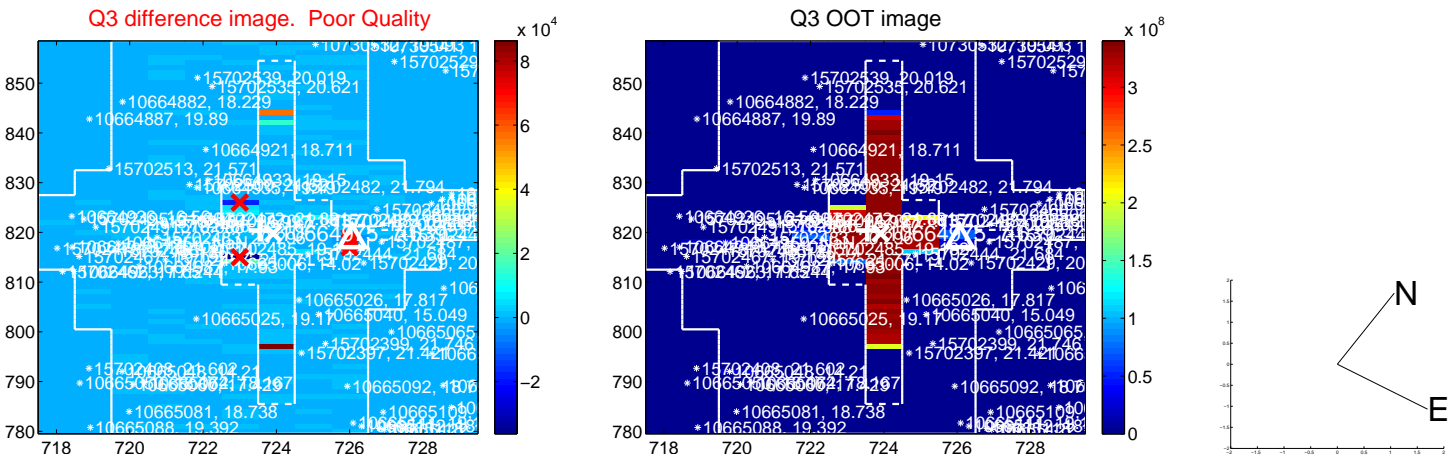
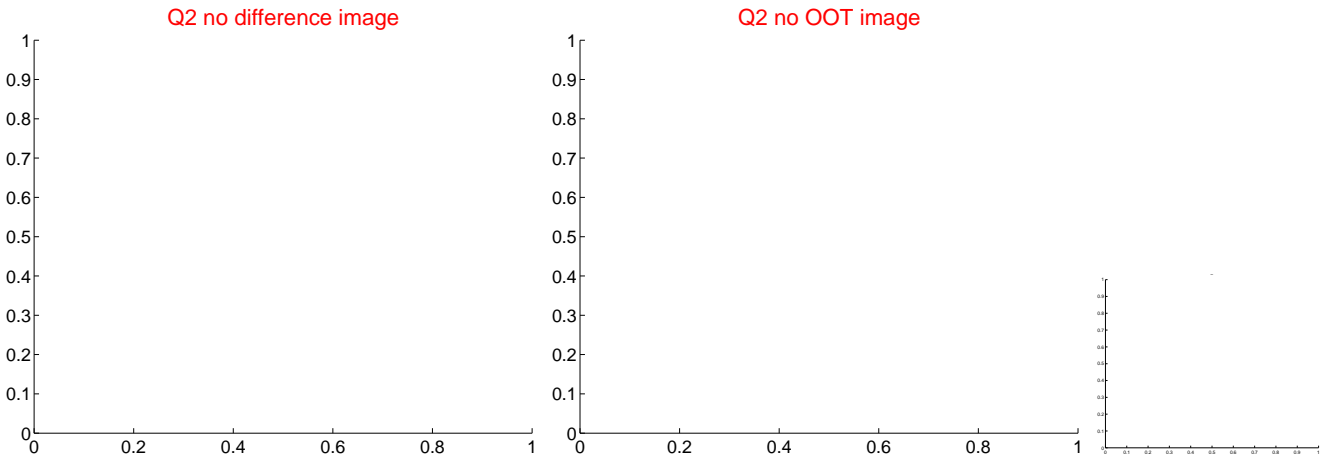
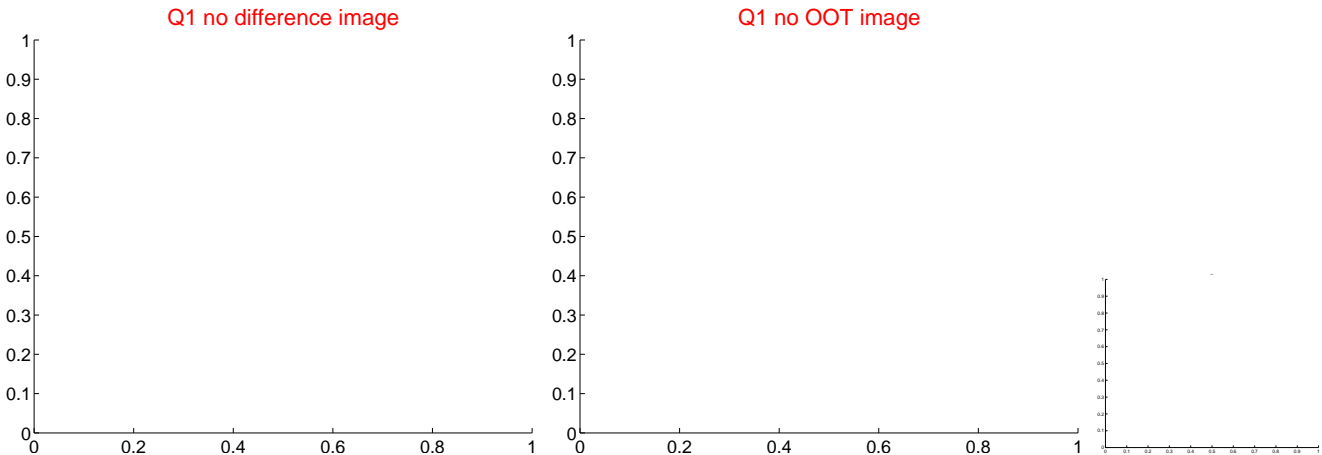
The OOT PRF centroid is offset from the target star catalog position by about 5.80 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>15.971 \pm 4.213</math></b>	<b>3.79</b>	$12.652 \pm 2.650$	$-9.746 \pm 3.988$
PRF-fit source offset from KIC position	<b><math>13.210 \pm 4.043</math></b>	<b>3.27</b>	$10.503 \pm 2.665$	$-8.013 \pm 3.678$
photometric centroid source offset	$7.91 \pm 3.93$	2.01	$1.65 \pm 2.36$	$-7.73 \pm 3.99$

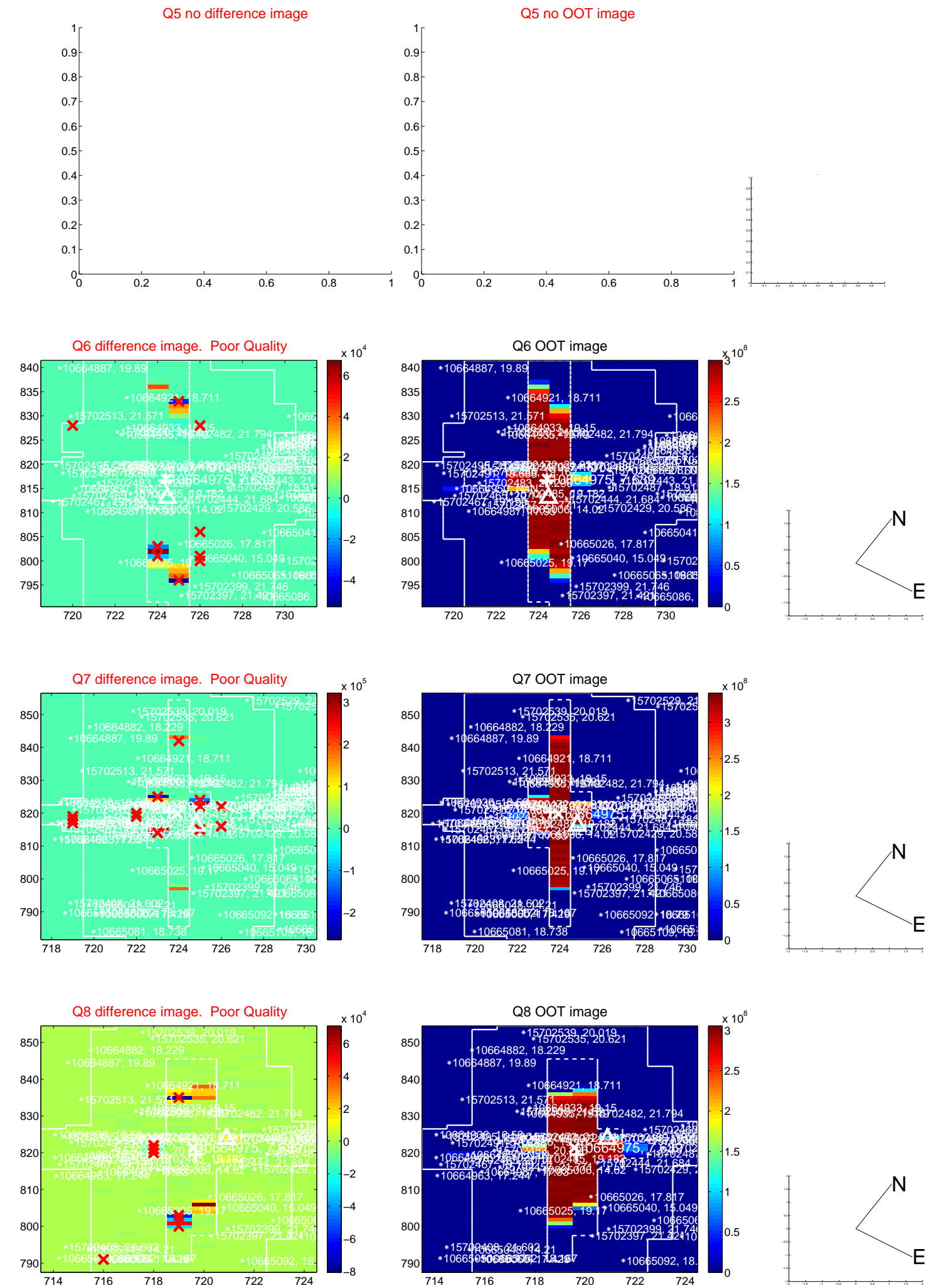


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

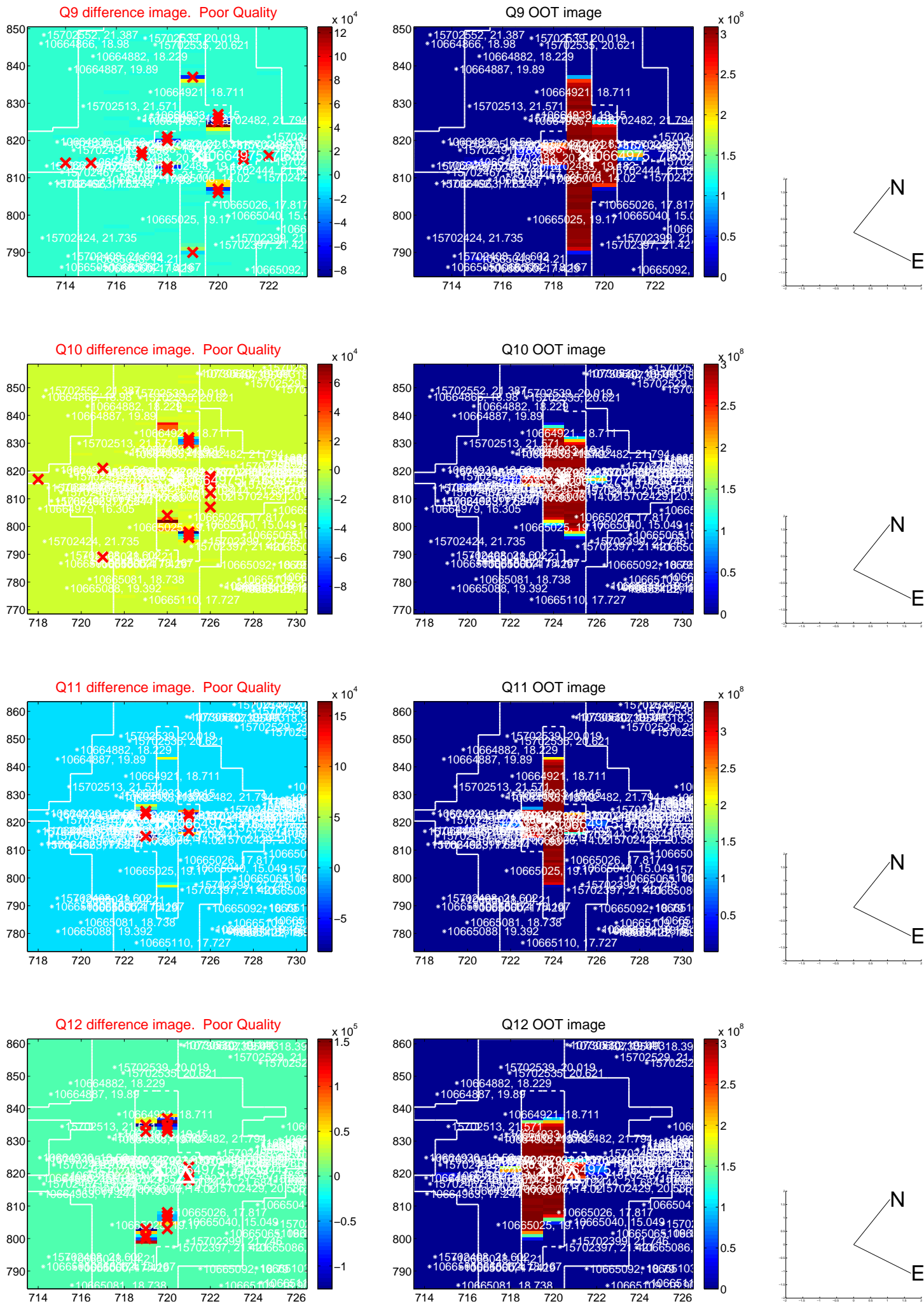
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

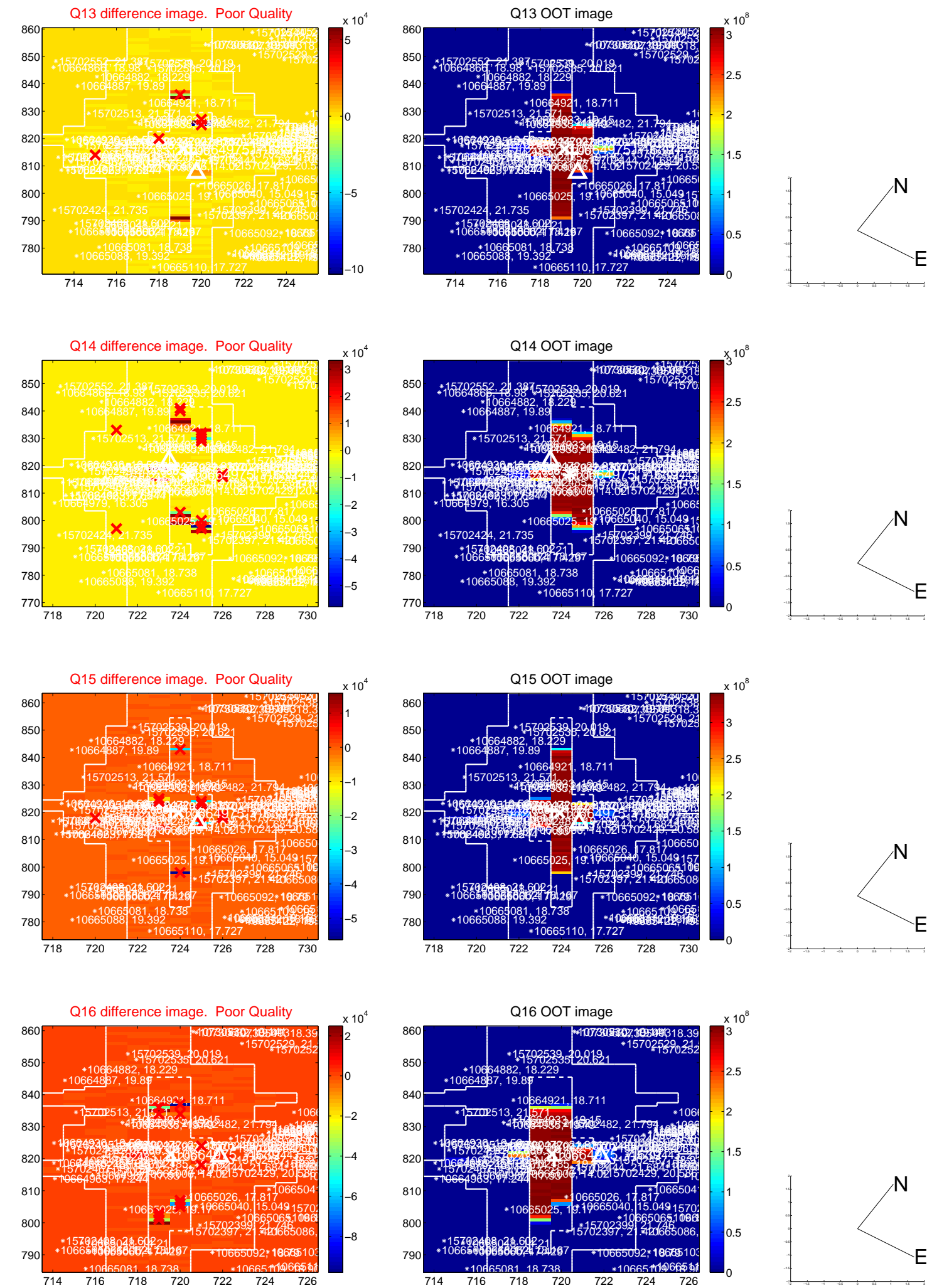


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



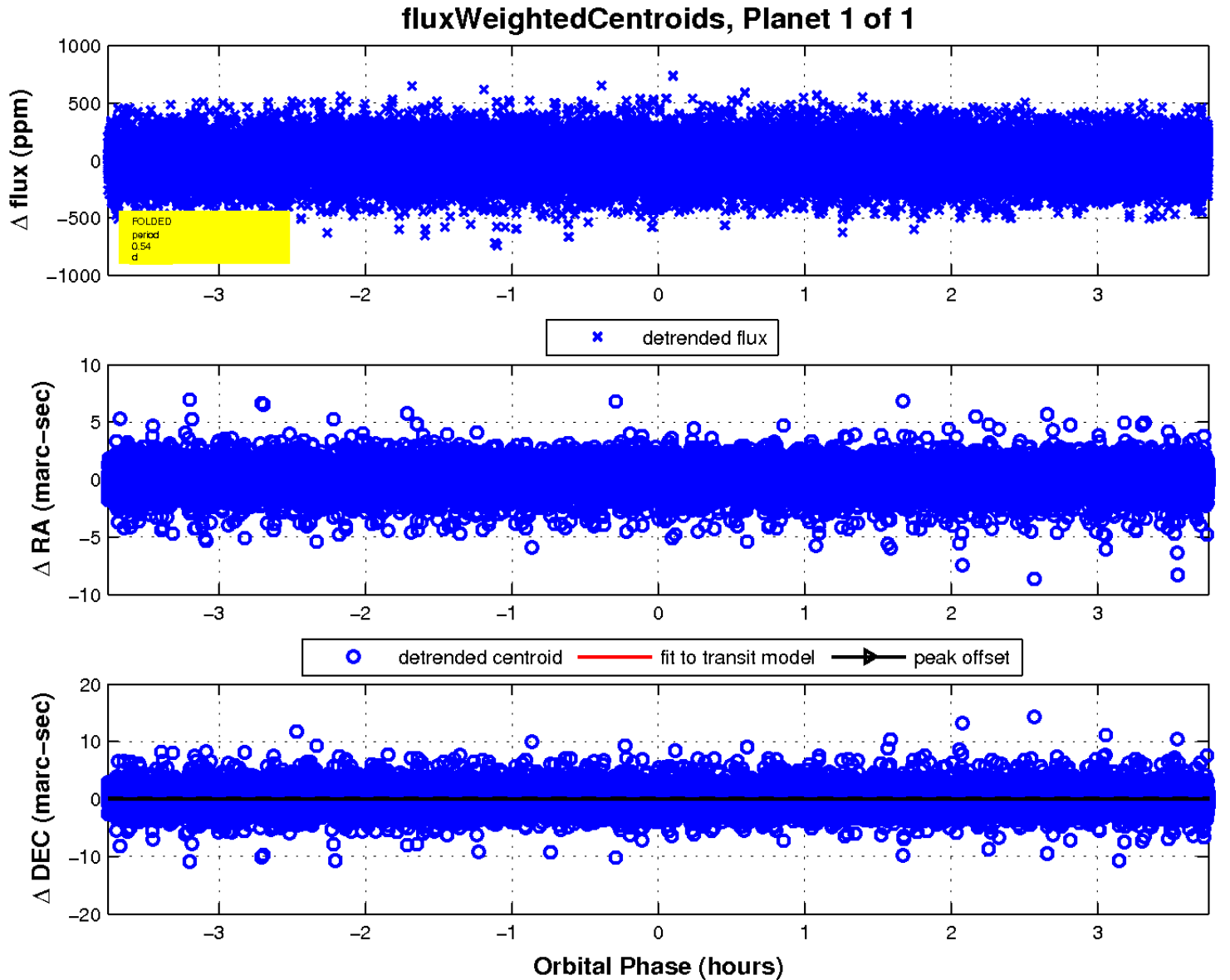
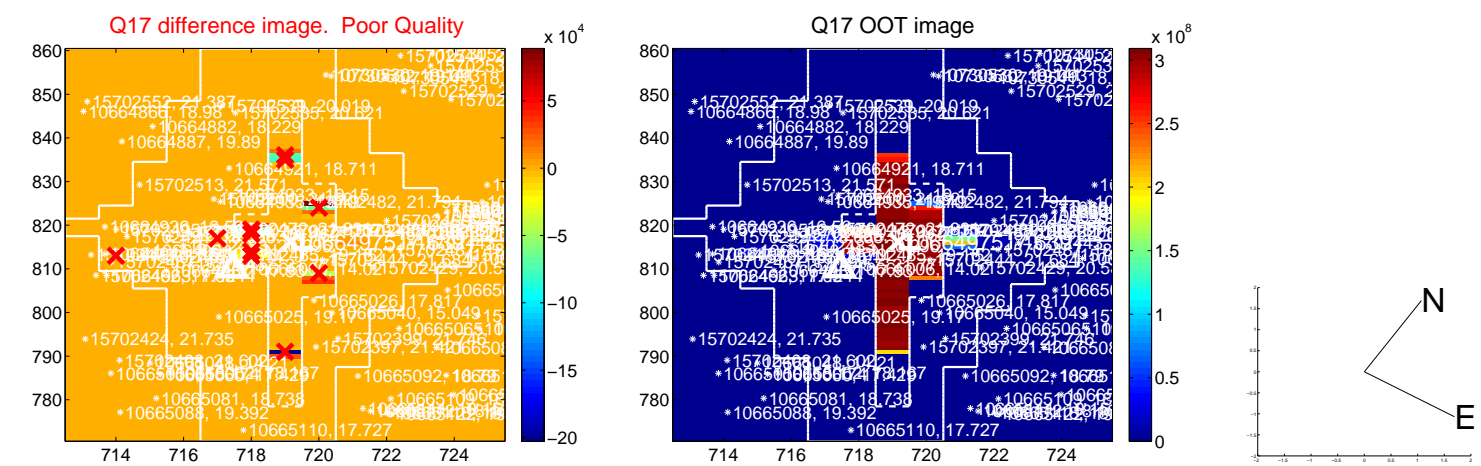


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.





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



UKIRT Image

