

# KIC 003654095

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003654095-01	OBS	2667.01	1.303573	131.771854	208.3	1.185	17.5	20.1	0.95	6045	1.64	1951.20

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003654095-01	OBS	FP	0.00	0	0	1	0	CENT_UNRESOLVED_OFFSET

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

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

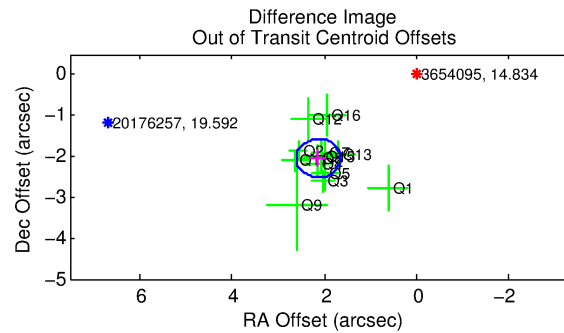
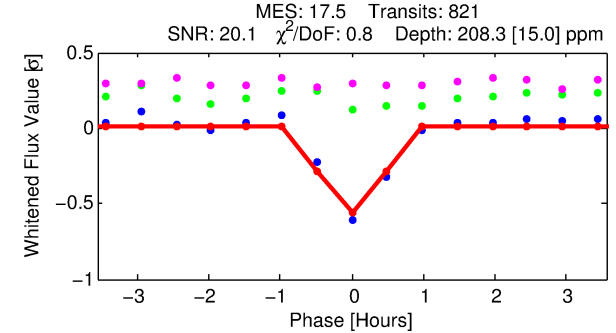
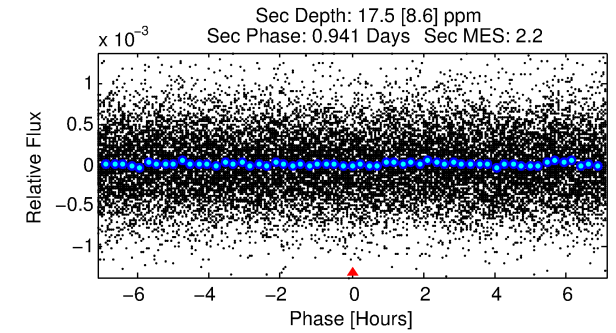
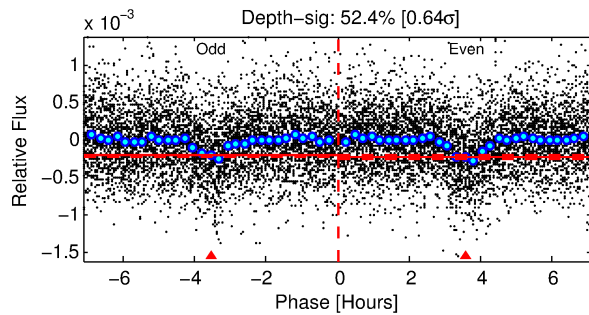
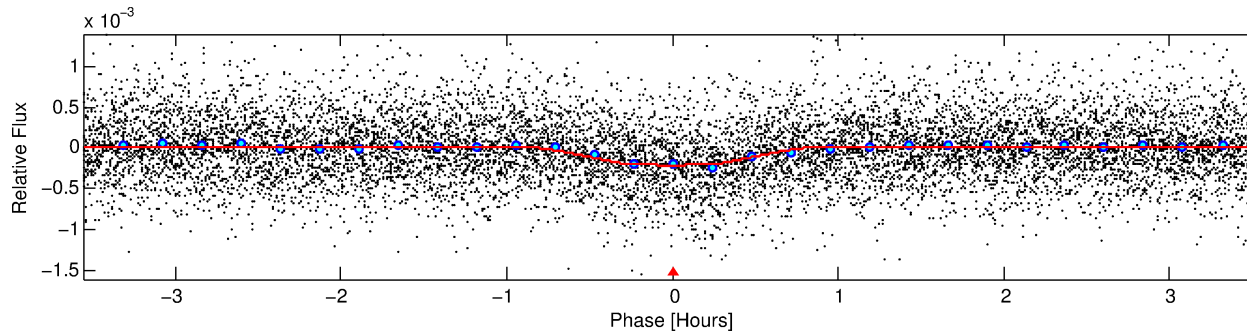
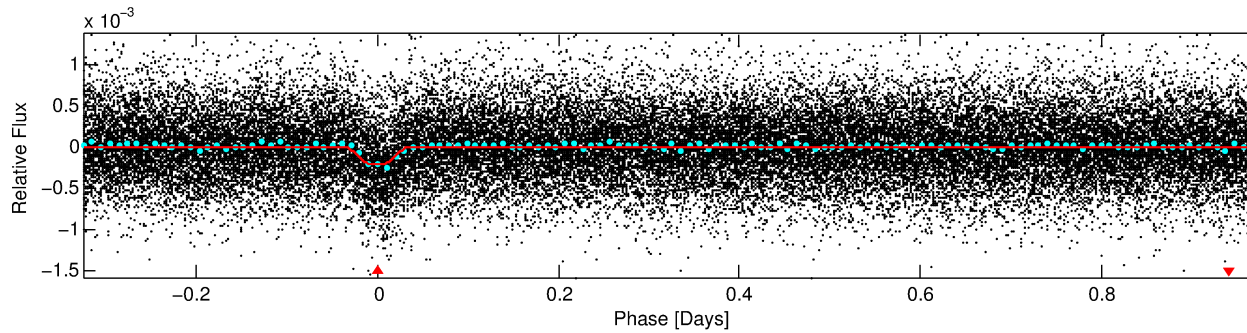
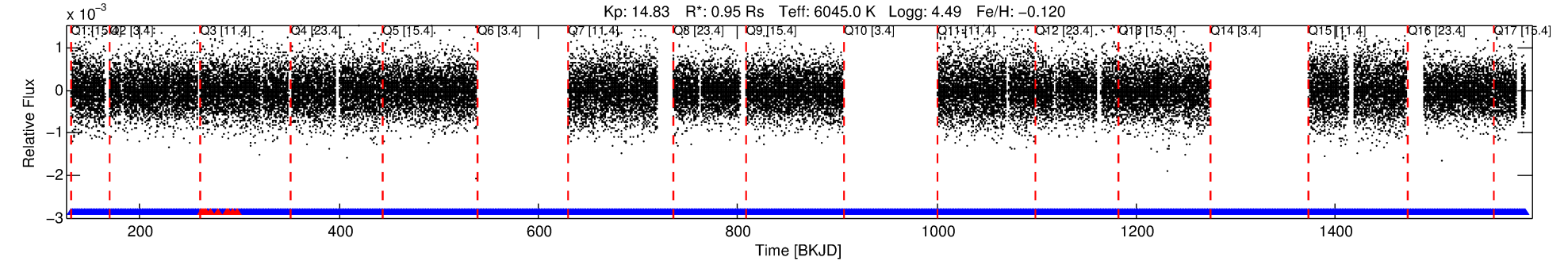
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003654095-01

No Significant Match Found

# DV One-Page Summary

KIC: 3654095 Candidate: 1 of 1 Period: 1.304 d  
KOI: K02667.01 Corr: 0.917



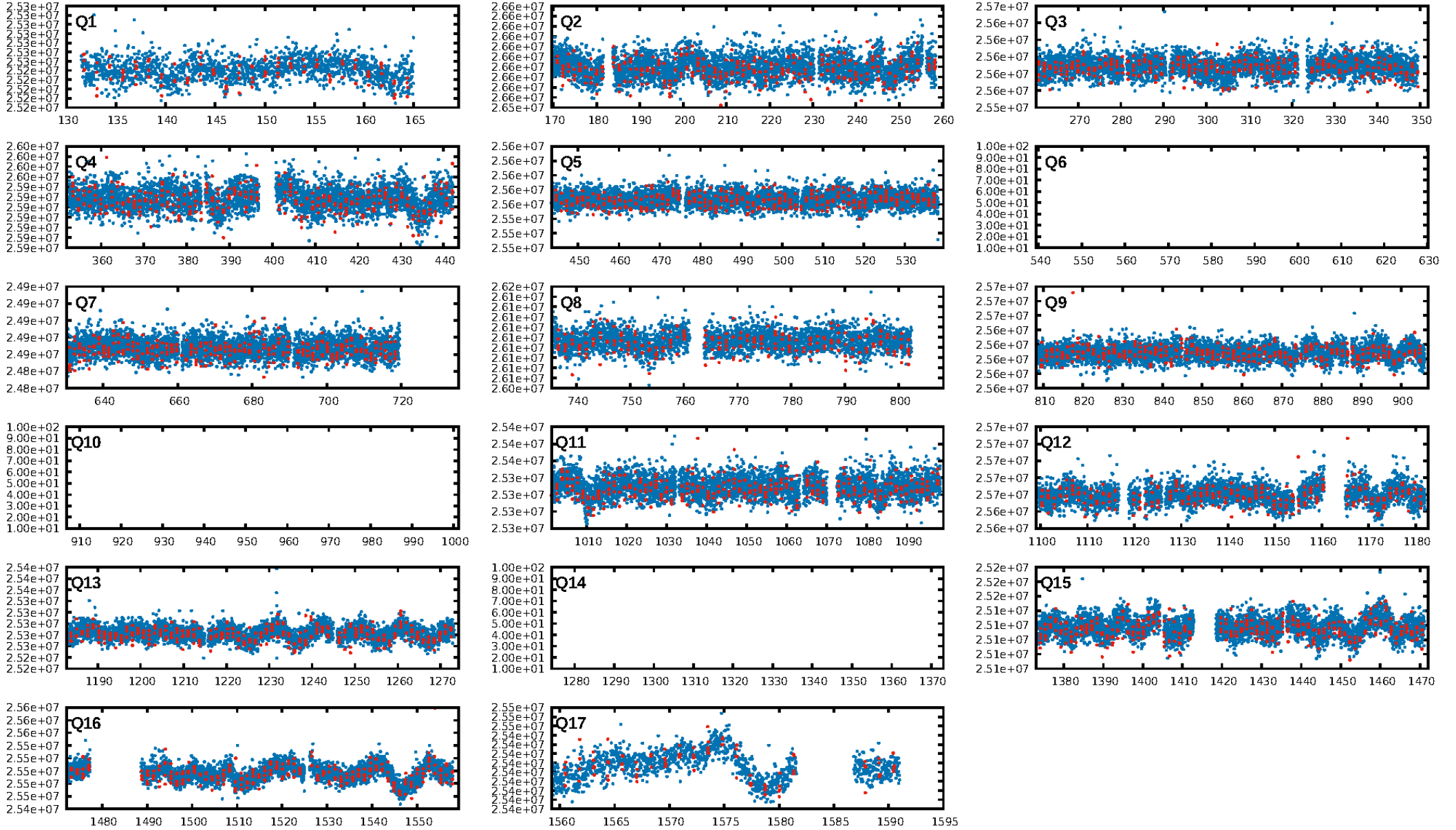
## DV Fit Results:

Period = 1.30357 [0.00001] d  
Epoch = 131.7719 [0.0010] BKJD  
Rp/R\* = 0.0157 [0.0052]  
a/R\* = 4.05 [6.41]  
b = 0.90 [0.36]  
Seff = 1951.20 [777.29]  
Teq = 1695 [169] K  
Rp = 1.64 [0.73] Re  
a = 0.0236 [0.0060] AU  
Ag = 2.01 [1.82] [0.56 $\sigma$ ]  
Teffp = 3120 [649] K [2.13 $\sigma$ ]

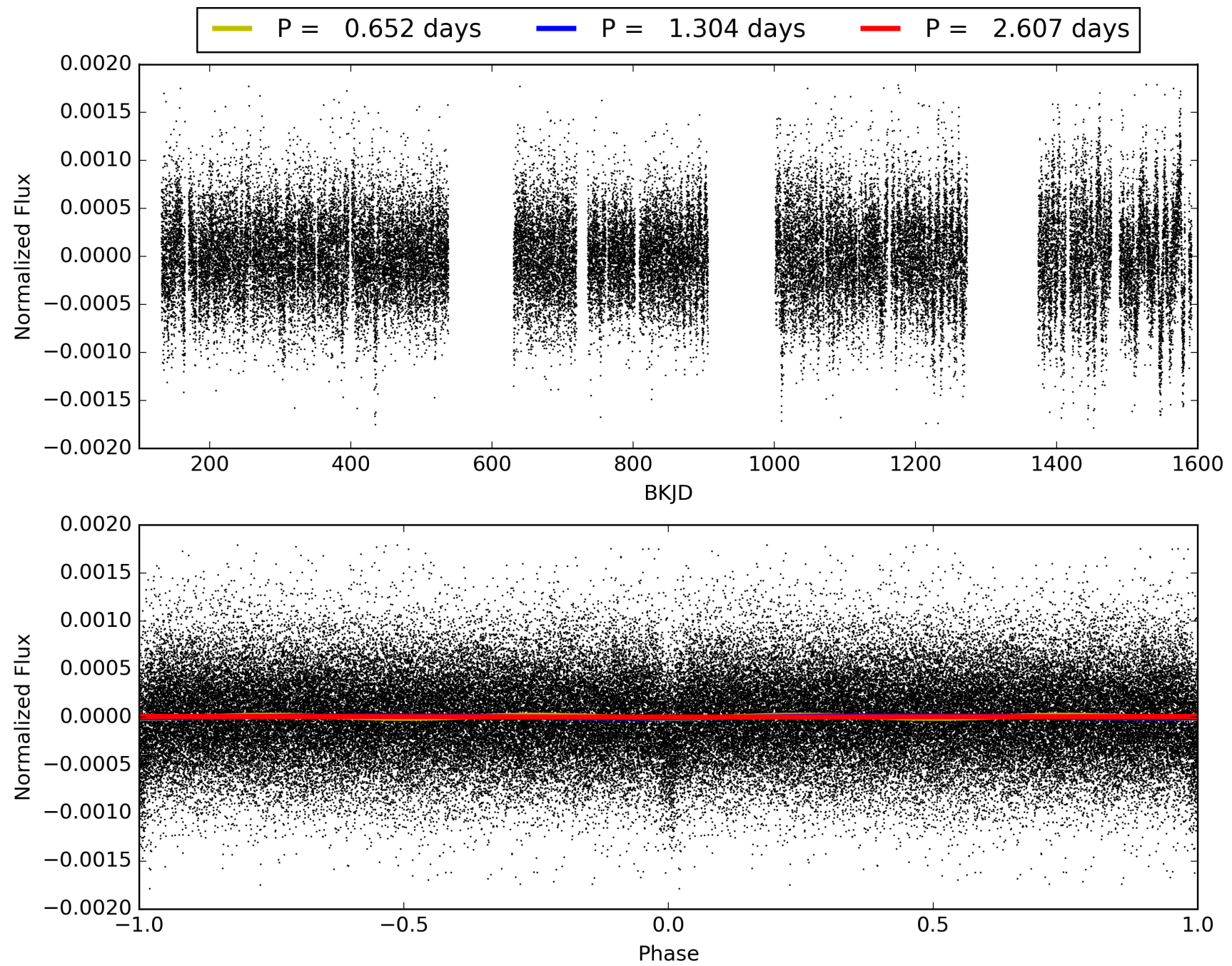
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.40e-66  
RollingBand-fgt: 0.99 [764/775]  
GhostDiagnostic-chr: 1.218  
Centroid-sig: 0.0%  
Centroid-so: 4.653 arcsec [7.05 $\sigma$ ]  
OotOffset-rm: 2.953 arcsec [18.70 $\sigma$ ]  
KicOffset-rm: 3.007 arcsec [21.19 $\sigma$ ]  
OotOffset-st: 1/4/4/4 [13]  
KicOffset-st: 1/4/4/4 [13]  
DiffImageQuality-fgm: 1.00 [13/13]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 003654095-01, PDC Light Curves



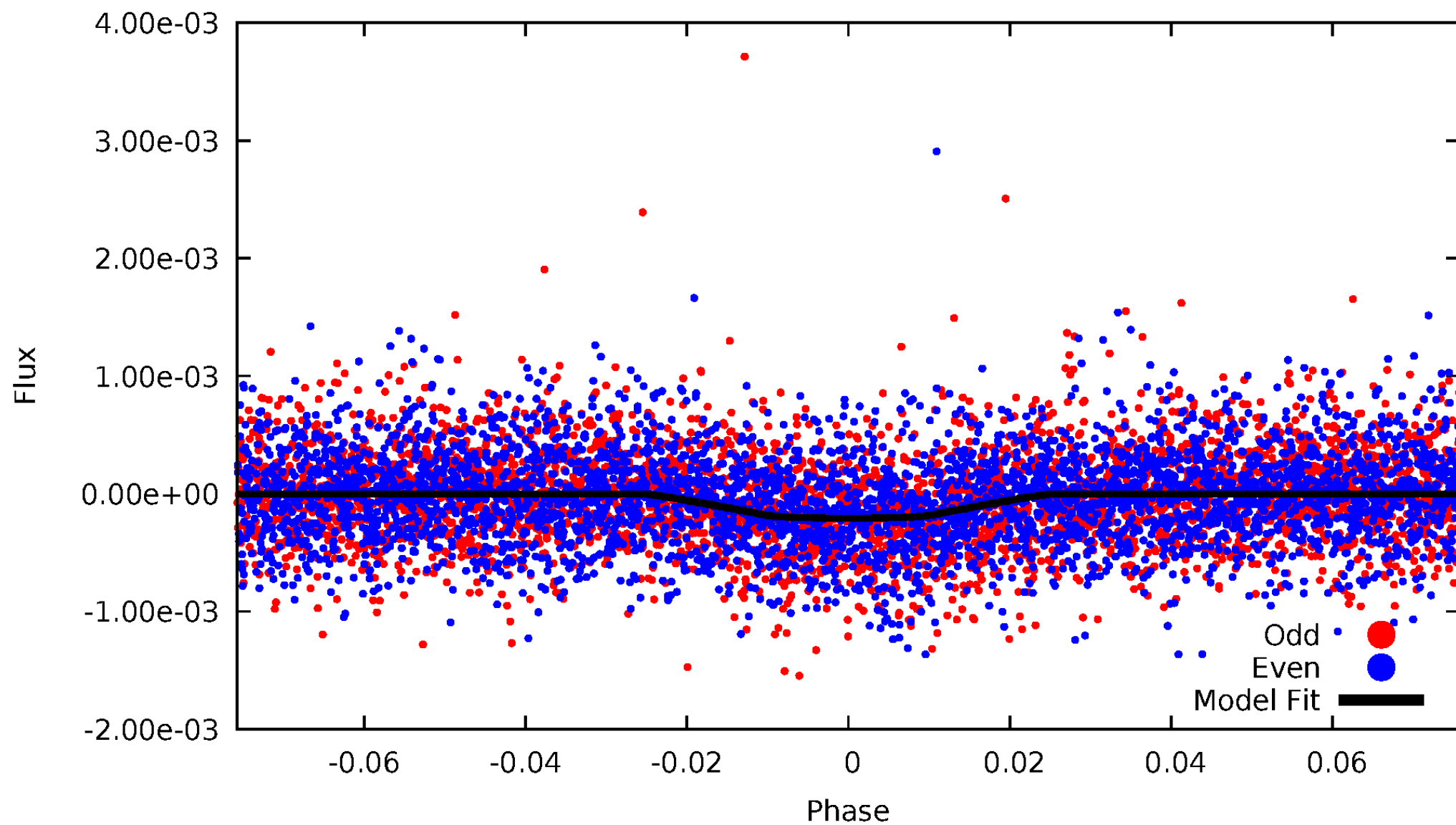
TCE 003654095-01





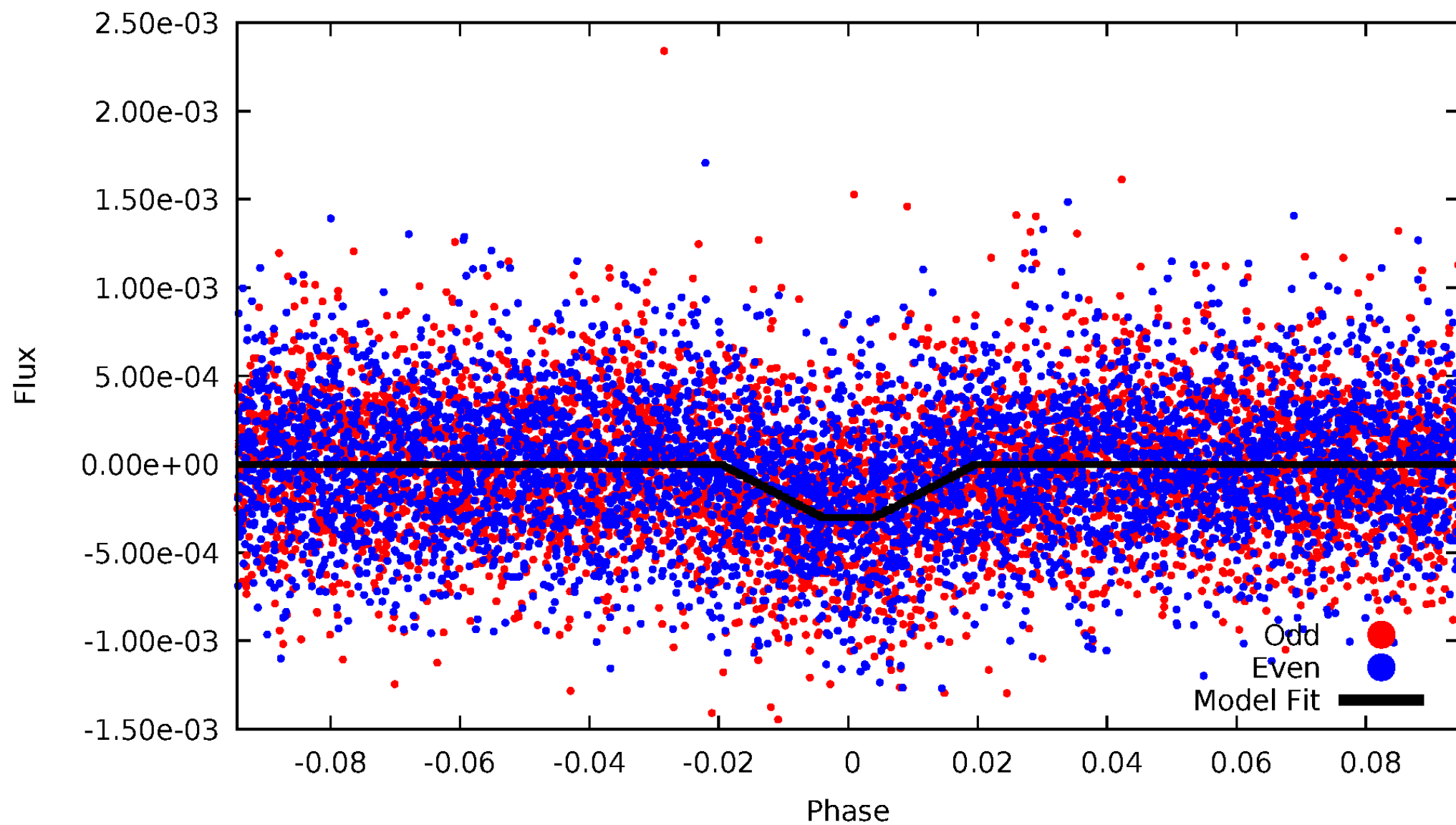
# DV Odd/Even

TCE 003654095-01

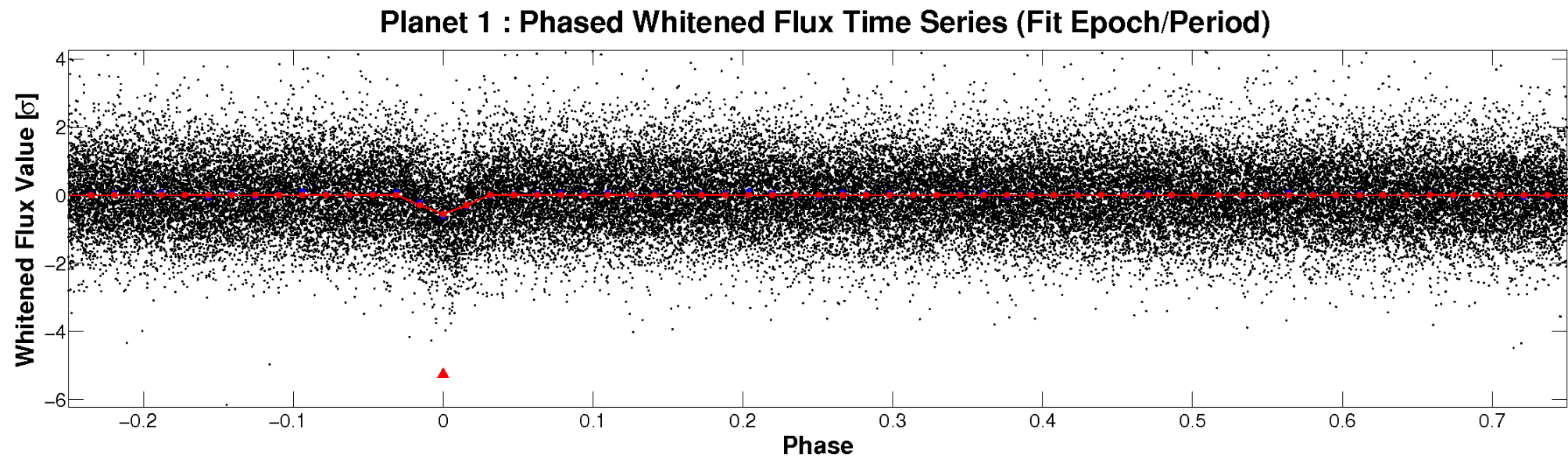
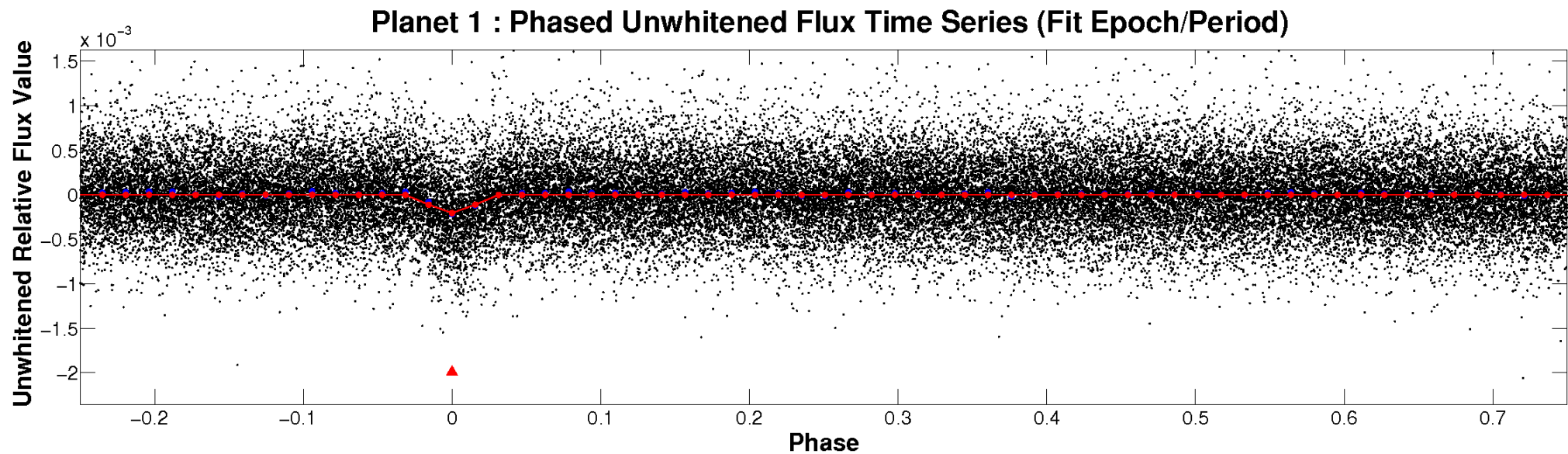


# ALT Odd/Even

TCE 003654095-01

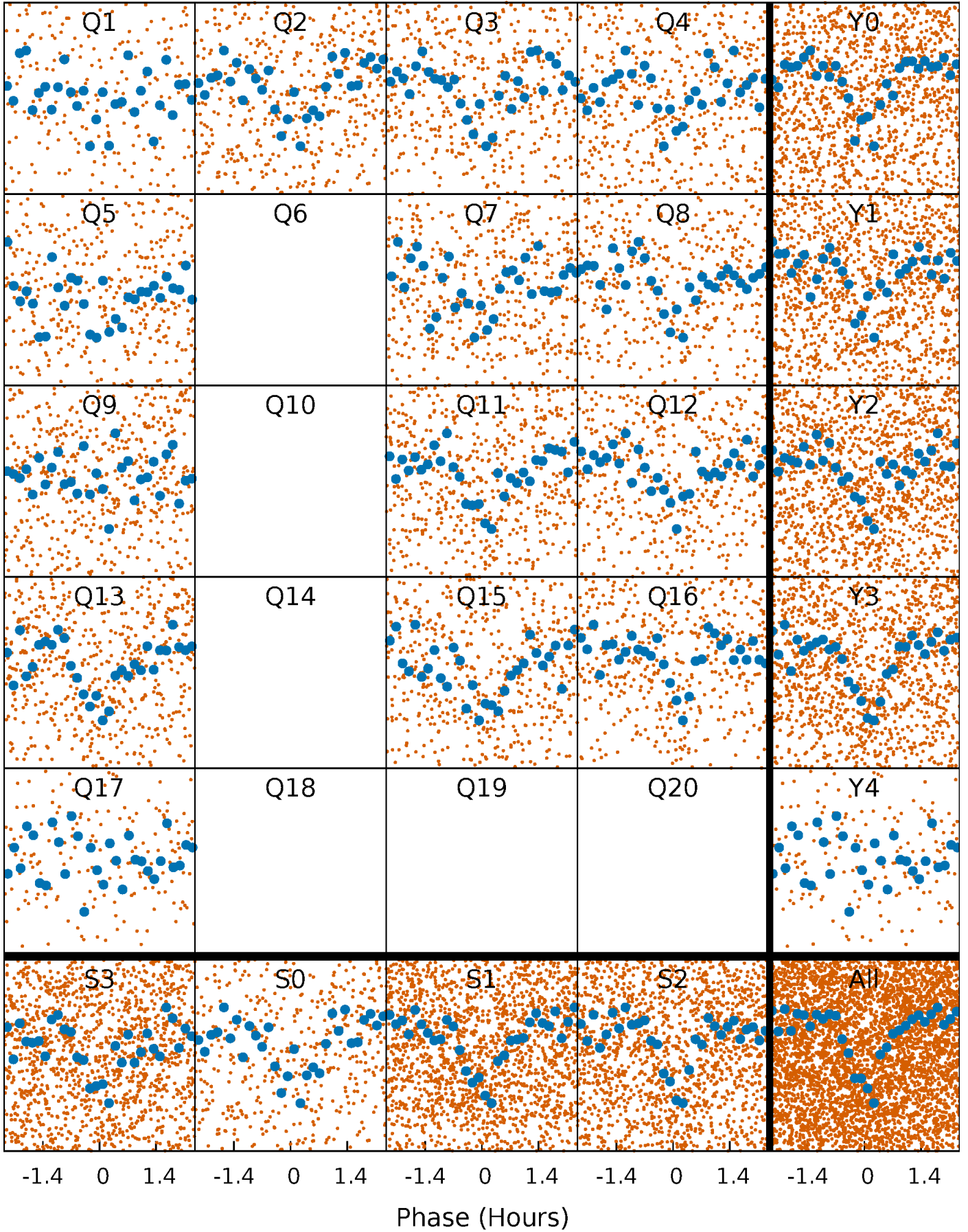


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

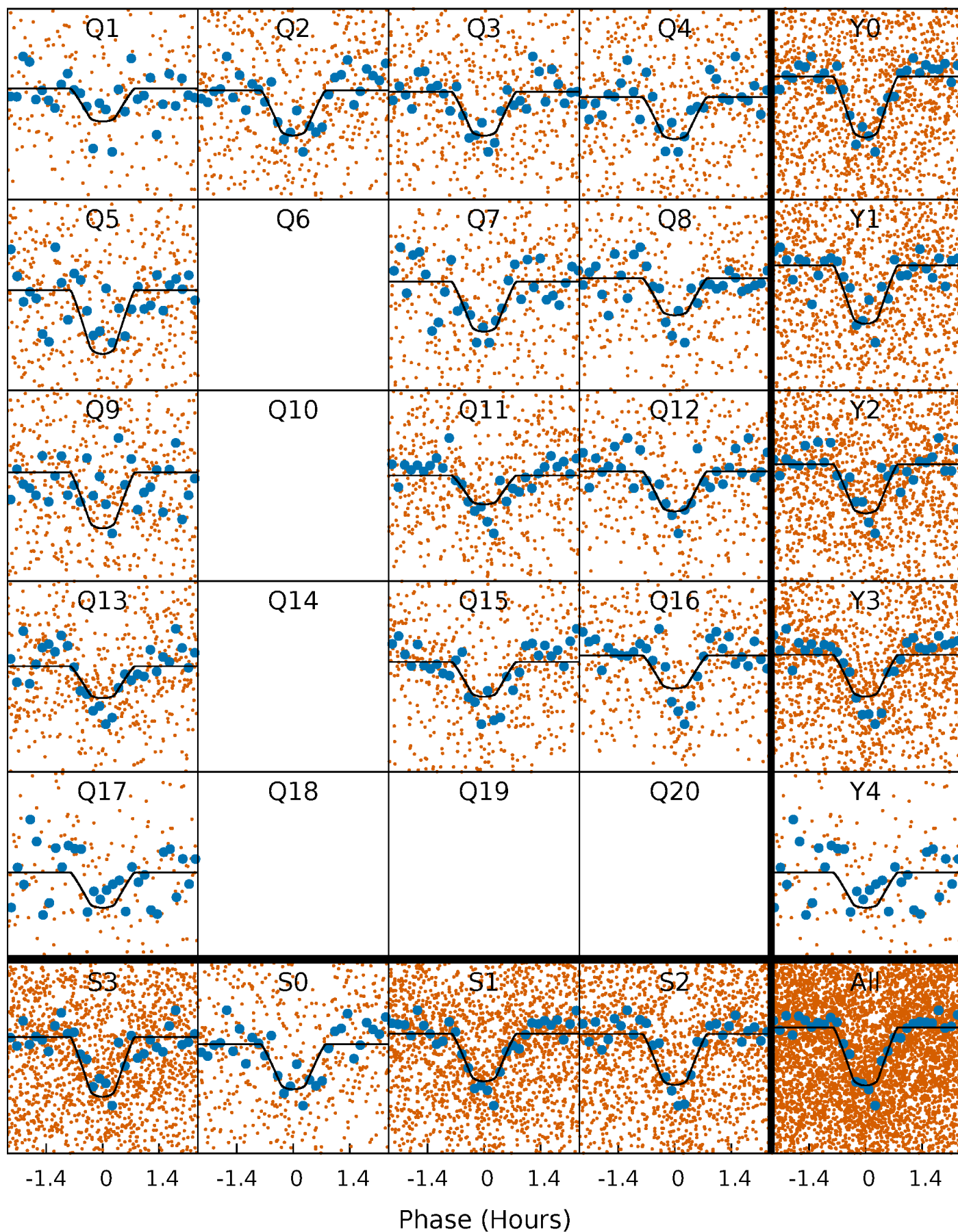
TCE 003654095-01   P= 1.303573 Days    $T_0=131.771854$  (BKJD)





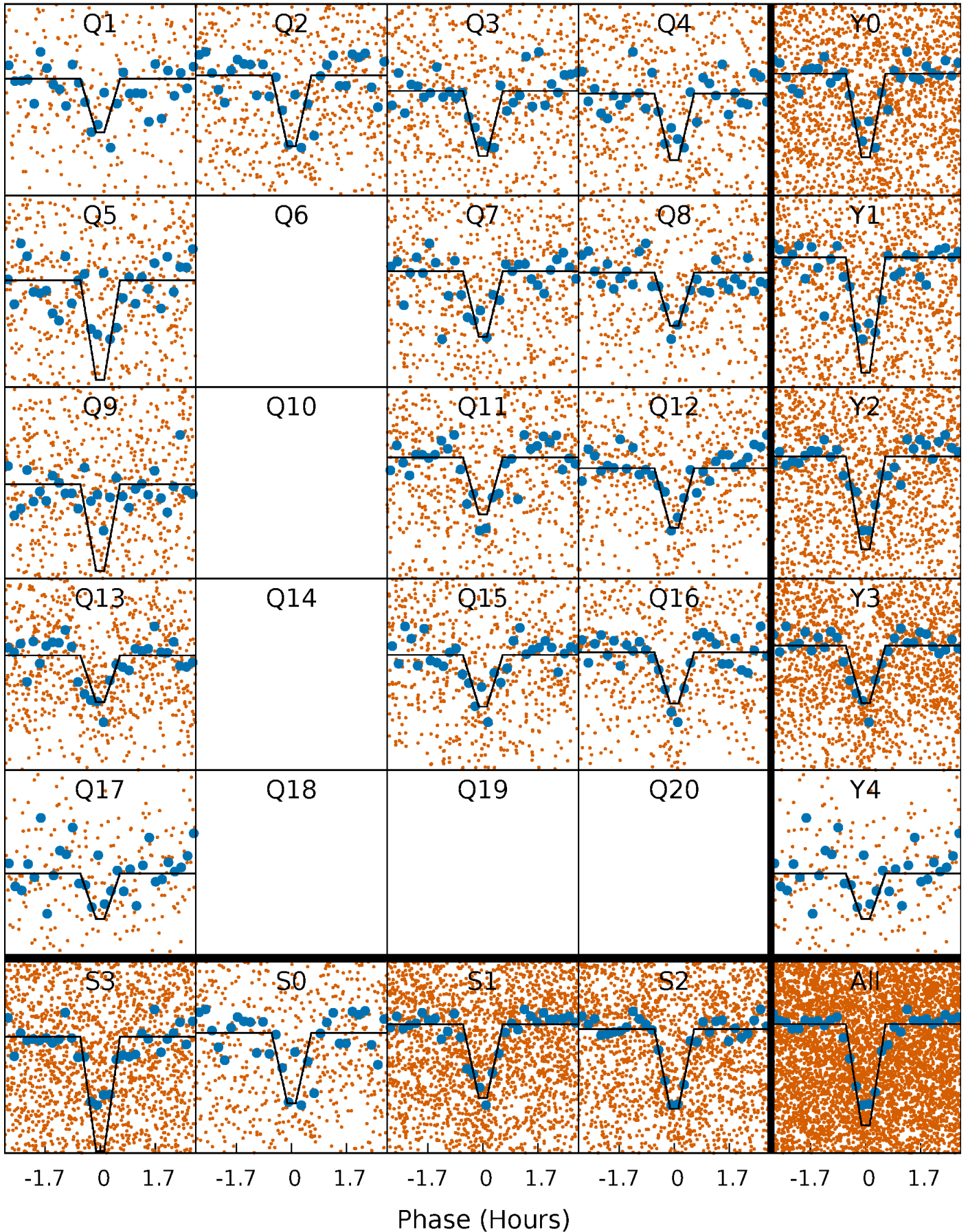
# DV Quarter-Phased Transit Curves

TCE 003654095-01 P= 1.303573 Days  $T_0=131.771854$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

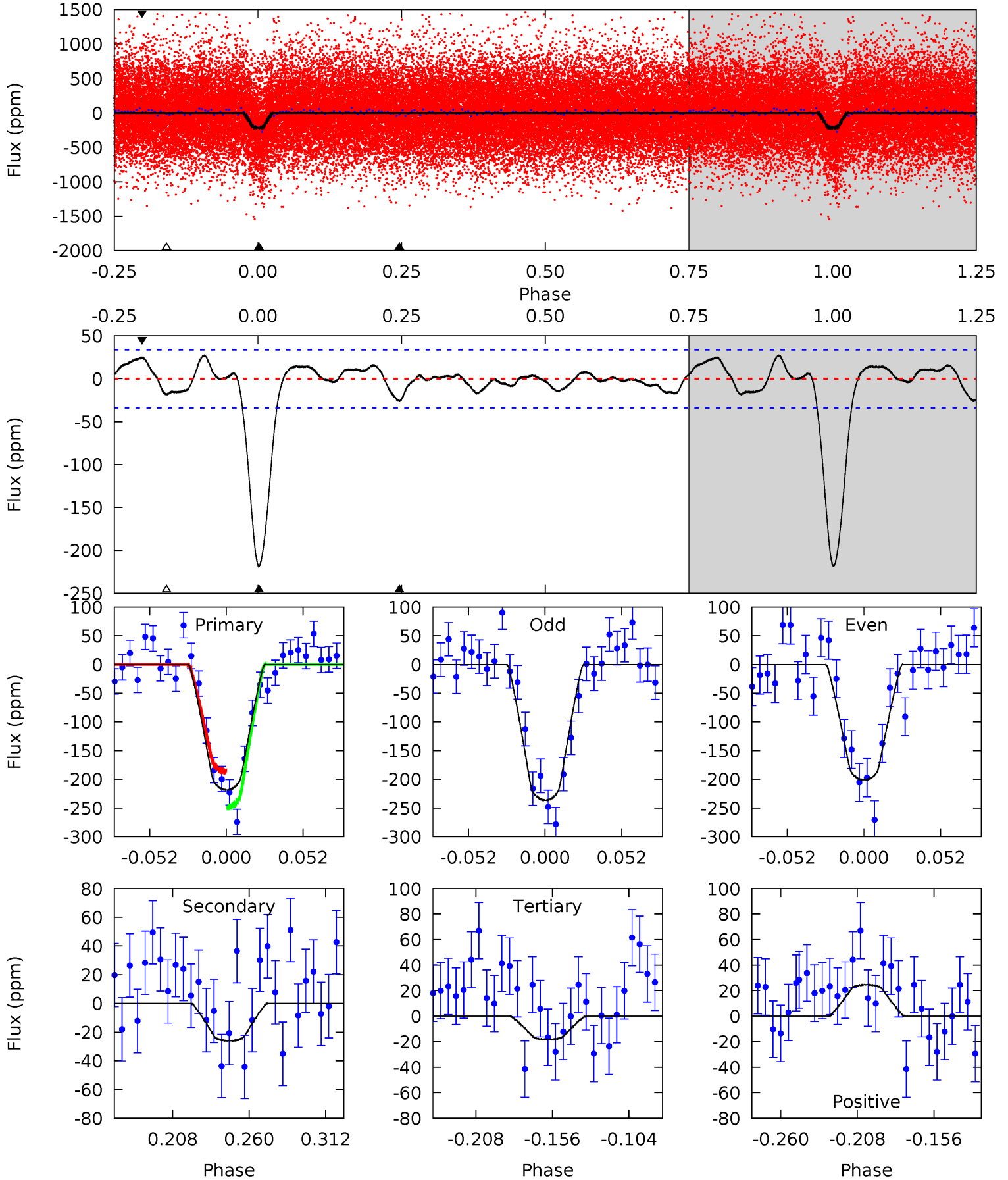
TCE 003654095-01 P= 1.303582 Days  $T_0=131.769637$  (BKJD)



# DV Model-Shift Uniqueness Test

003654095-01, P = 1.303573 Days, E = 130.468281 Days

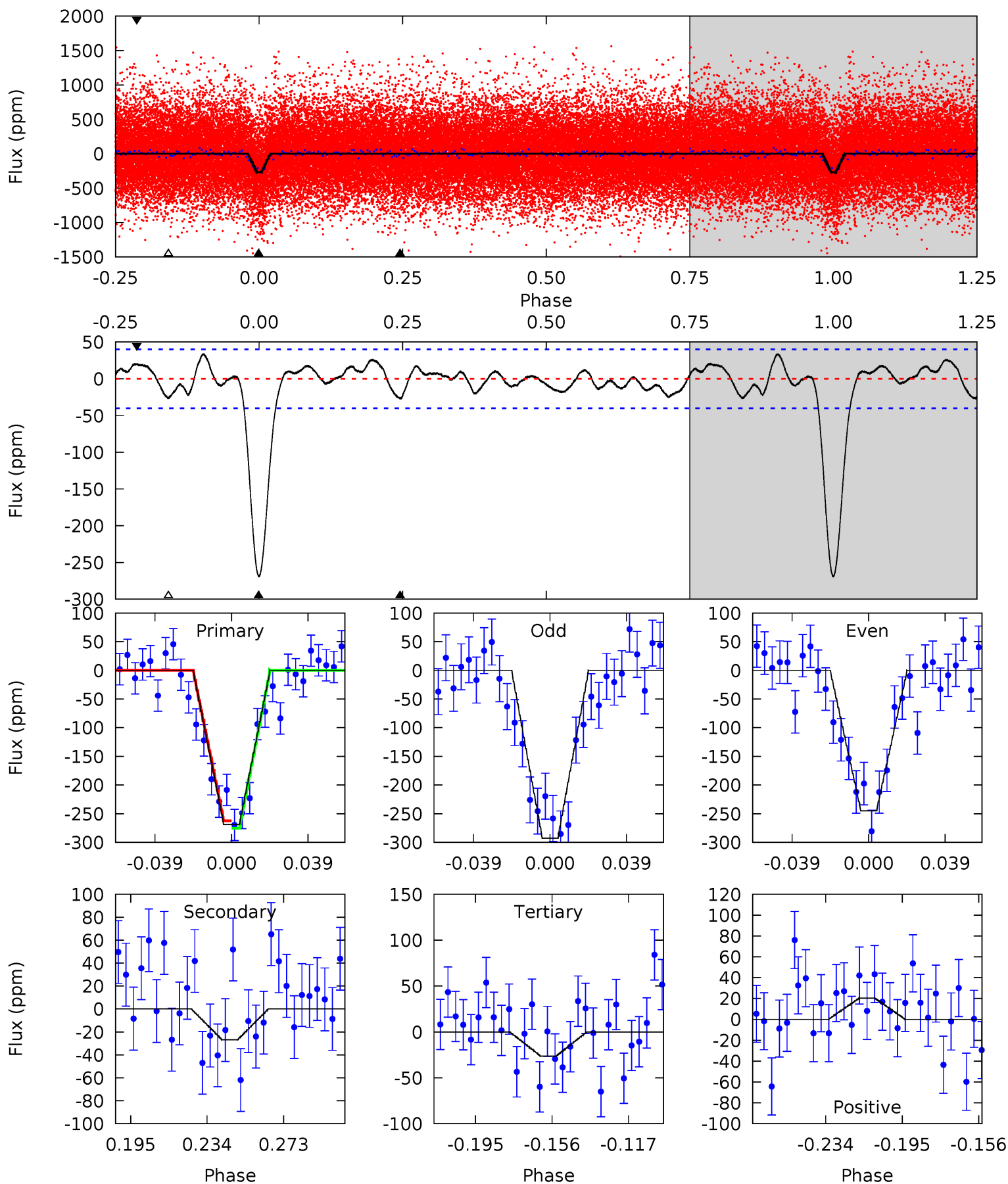
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.4	3.63	2.54	3.44	4.70	1.94	1.44	27.9	27.0	1.09	0.19	2.47	0.96	0.11	4.36



# Alt Model-Shift Uniqueness Test

003654095-01, P = 1.303582 Days, E = 130.466055 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
32.0	3.20	3.13	2.42	4.76	2.06	1.46	28.9	29.6	0.07	0.78	2.82	0.97	0.11	0.77





### Stellar Parameters For KIC 003654095

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6045^{+180}_{-198}$	$4.494^{+0.052}_{-0.208}$	$-0.120^{+0.300}_{-0.300}$	$0.955^{+0.285}_{-0.102}$	$1.038^{+0.127}_{-0.141}$	$1.679^{+0.450}_{-0.849}$
	+3%/-3%	+1%/-5%	+250%/-250%	+30%/-11%	+12%/-14%	+27%/-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 003654095-01 / KOI 2667.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-26 \pm 7$	$1.70^{+0.63}_{-0.57}$	$2426^{+172}_{-127}$	$3736^{+669}_{-432}$	$2.602^{+3.411}_{-1.321}$
Alt.	$-27 \pm 8$	$1.90^{+0.61}_{-0.55}$	$2418^{+163}_{-123}$	$3605^{+577}_{-408}$	$2.170^{+2.673}_{-1.025}$

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

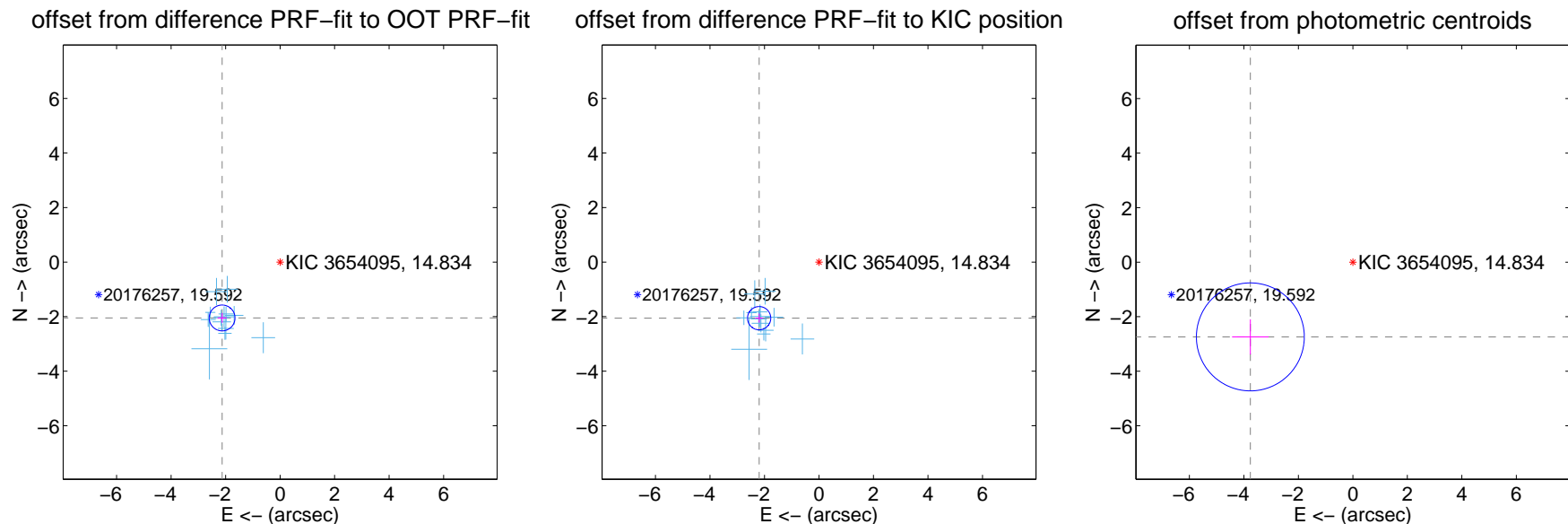
## DV Centroid Data

Supplemental centroid analysis for 003654095-01. Kepler magnitude: 14.83. Transit SNR 20.13

There are 13 quarters with good PRF difference image offsets

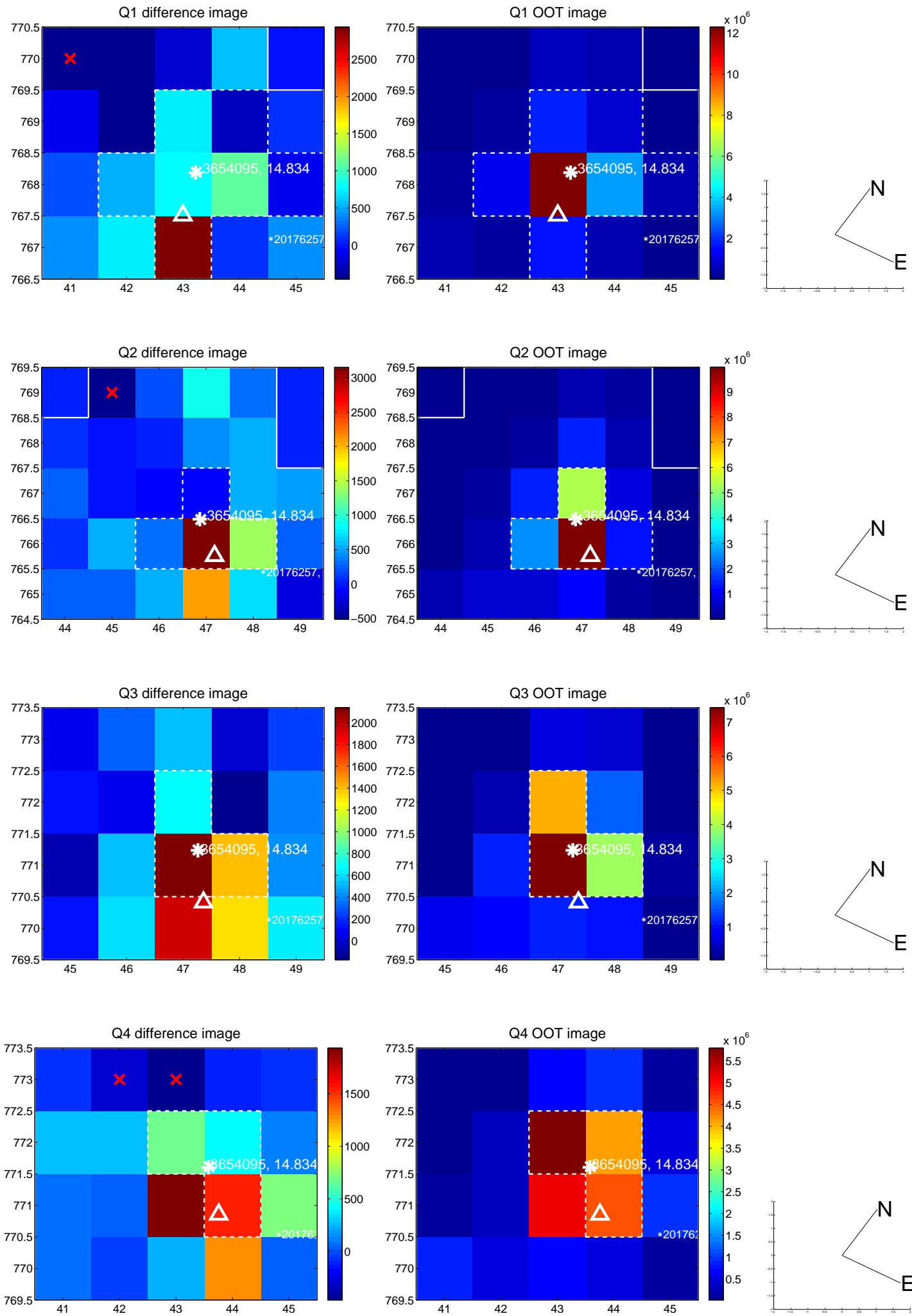
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.953 \pm 0.158$	18.70	$2.128 \pm 0.166$	$-2.047 \pm 0.182$
PRF-fit source offset from KIC position	$3.007 \pm 0.142$	21.19	$2.195 \pm 0.145$	$-2.056 \pm 0.165$
photometric centroid source offset	$4.65 \pm 0.66$	7.05	$3.76 \pm 0.67$	$-2.74 \pm 0.64$



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.

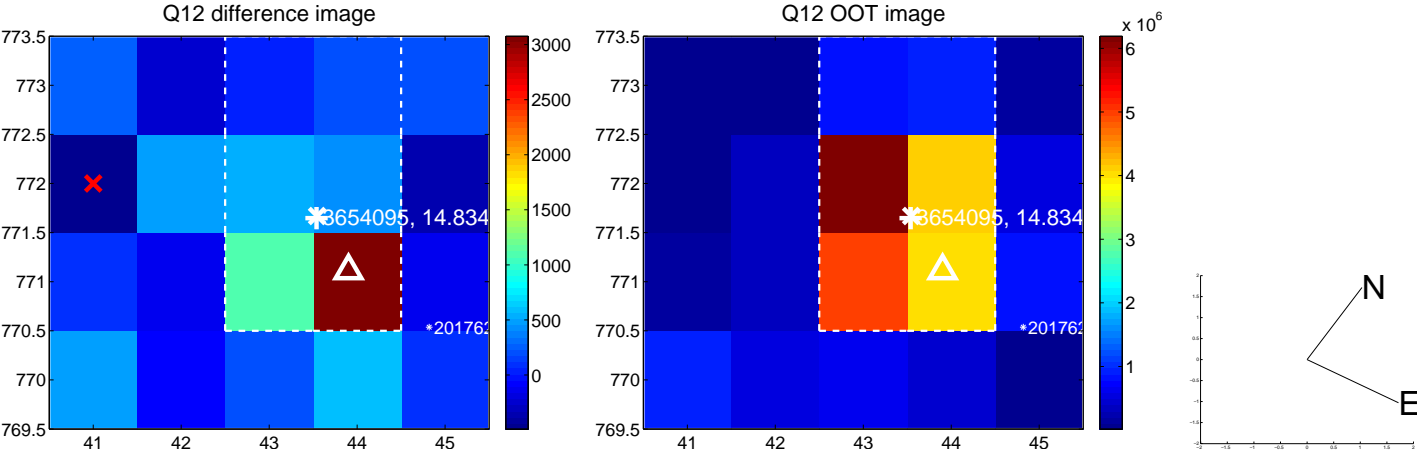
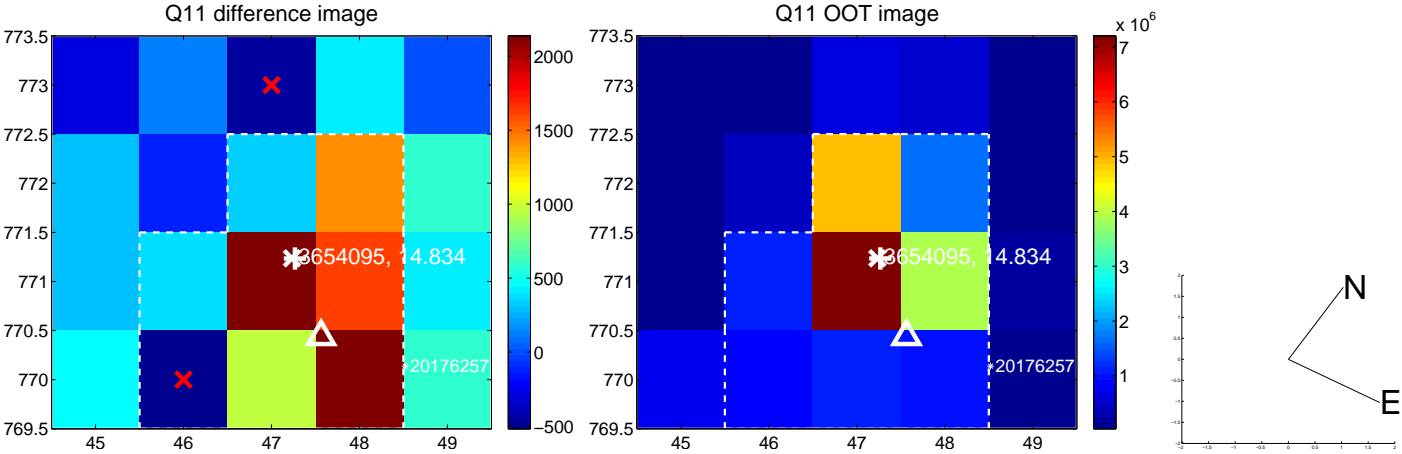
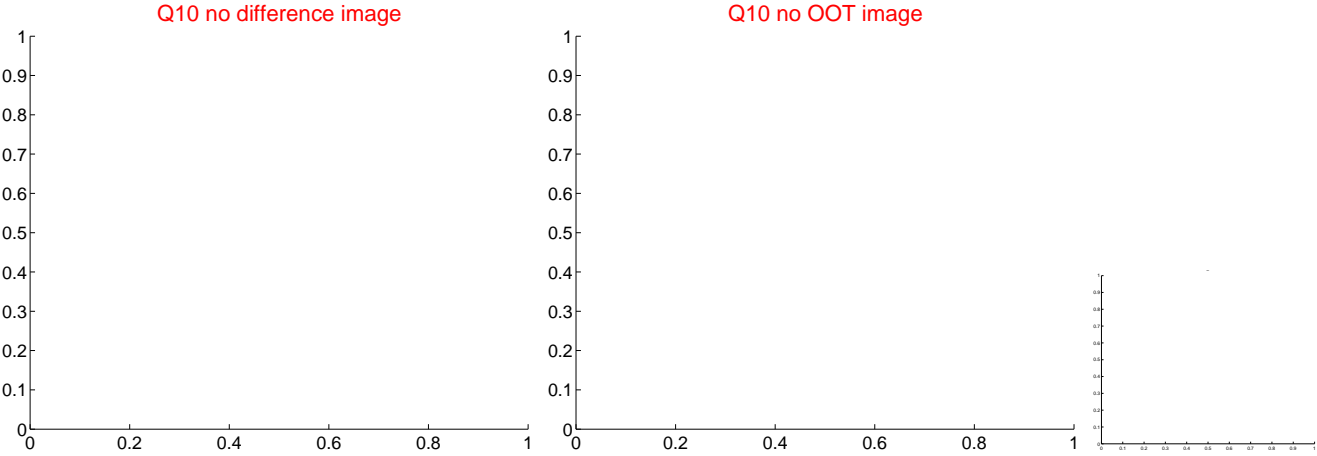
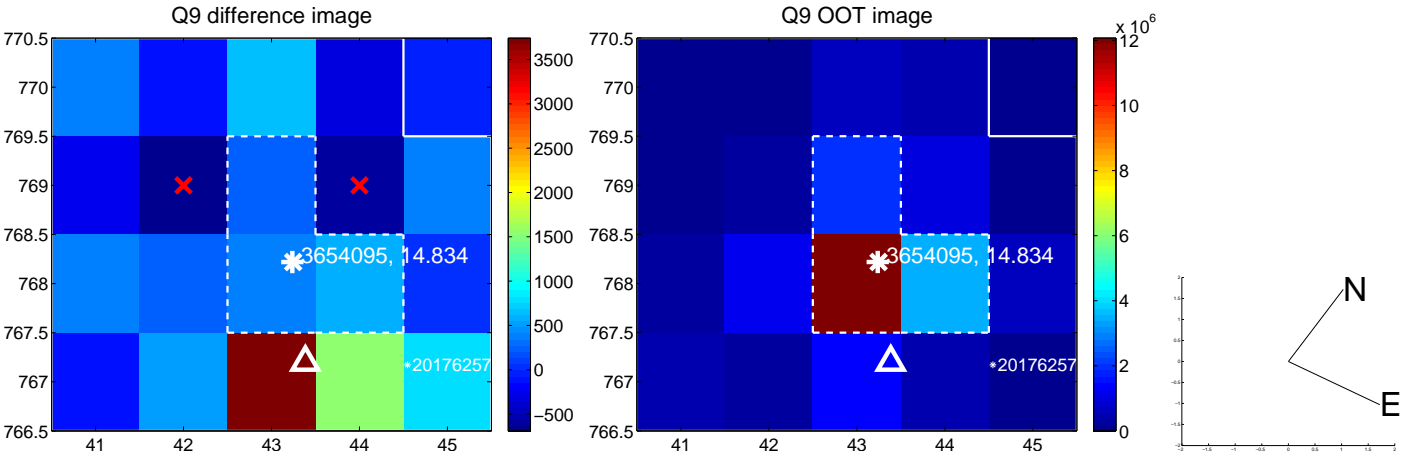
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



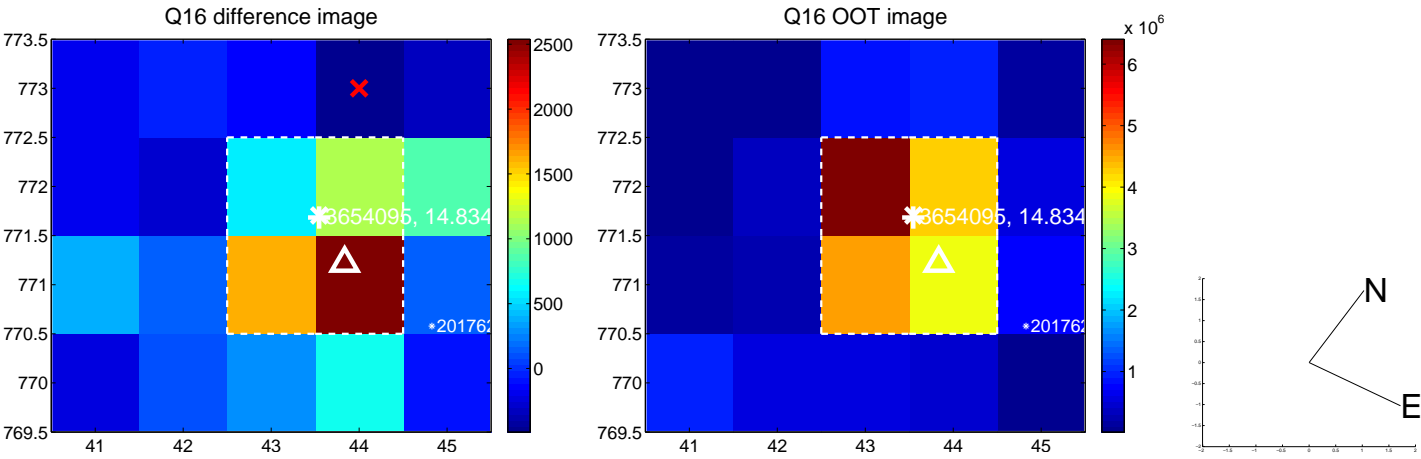
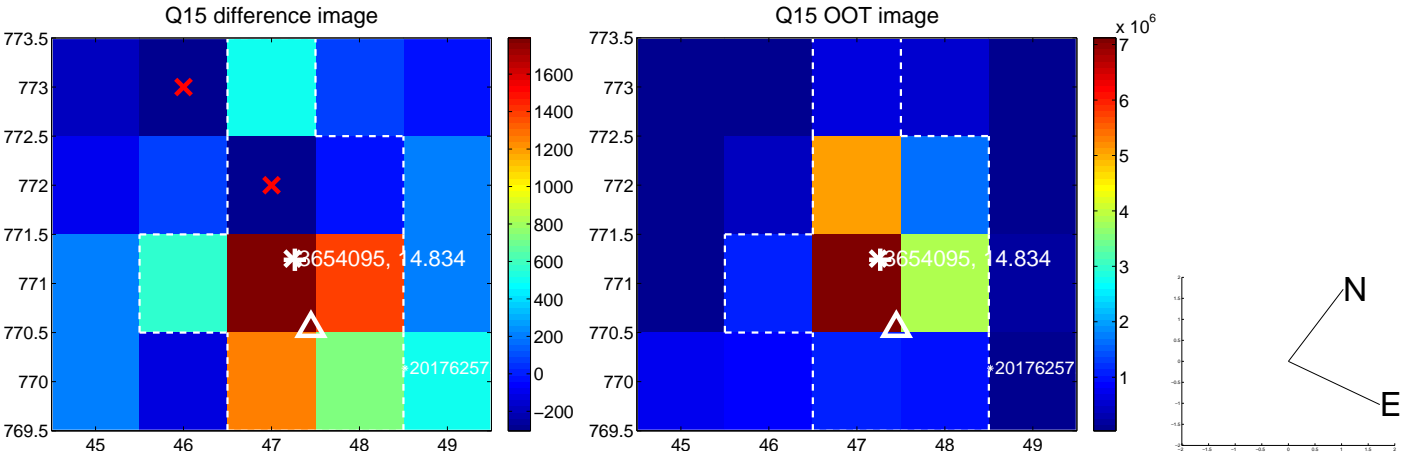
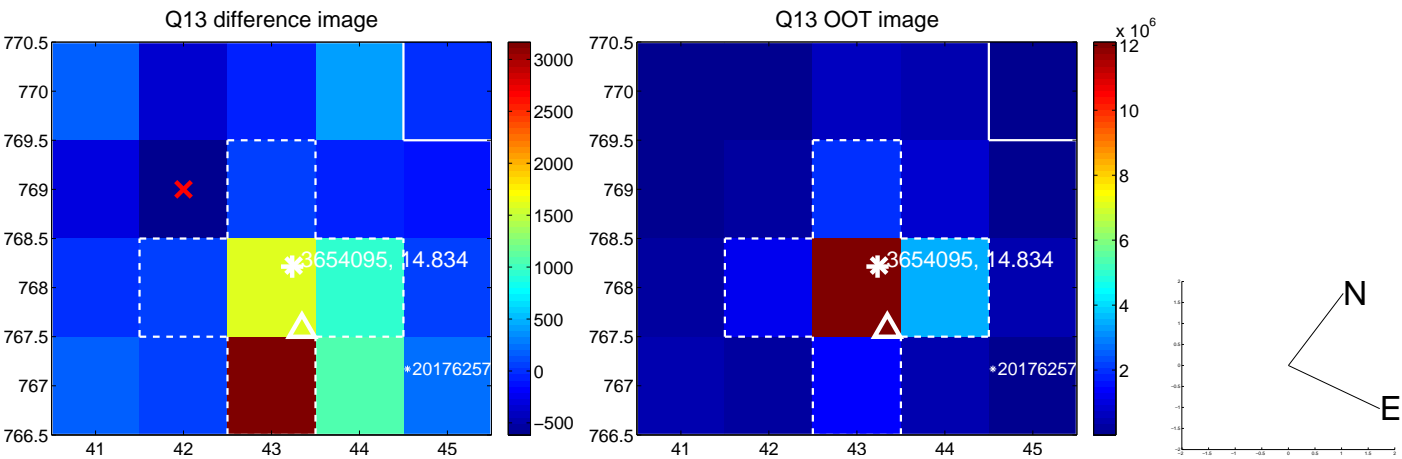




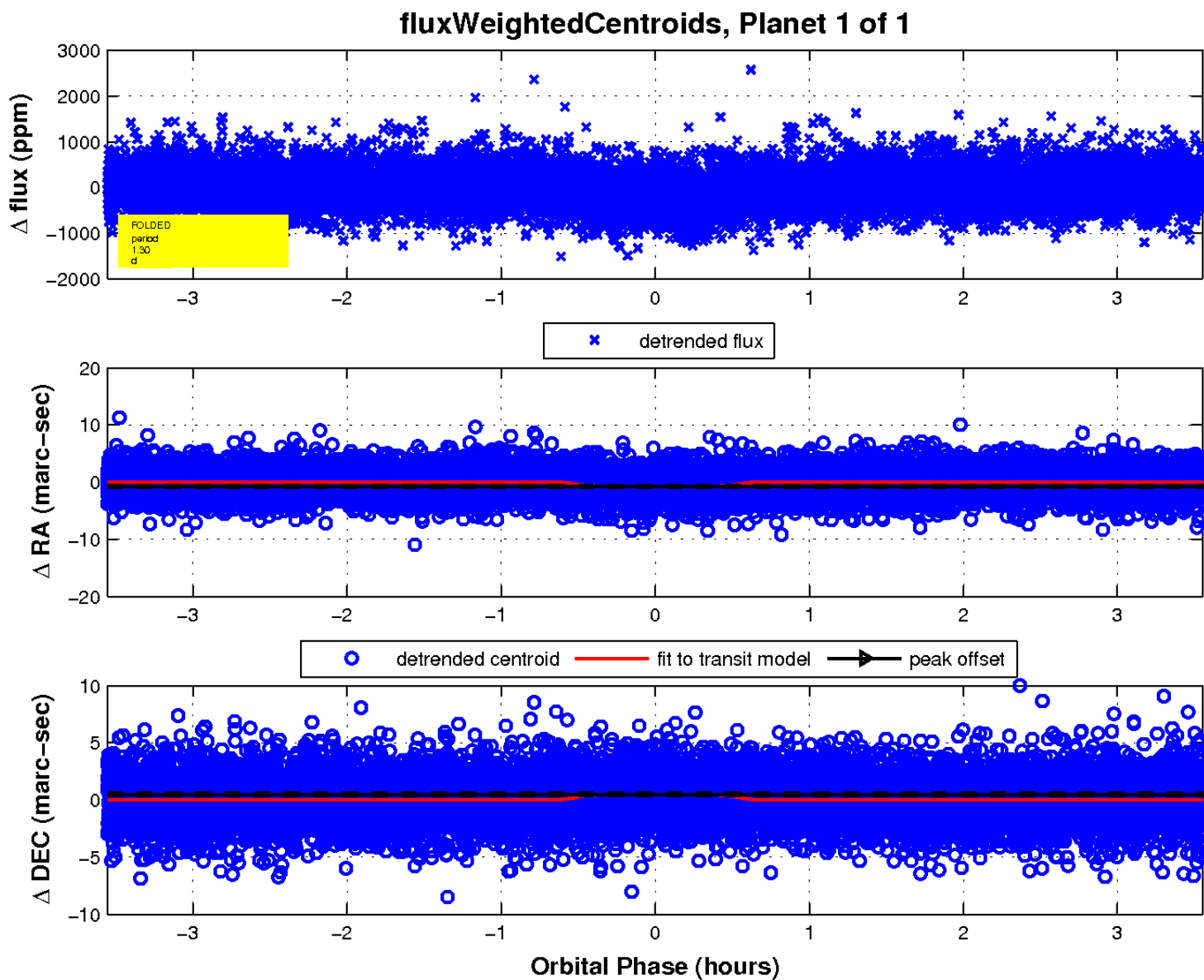
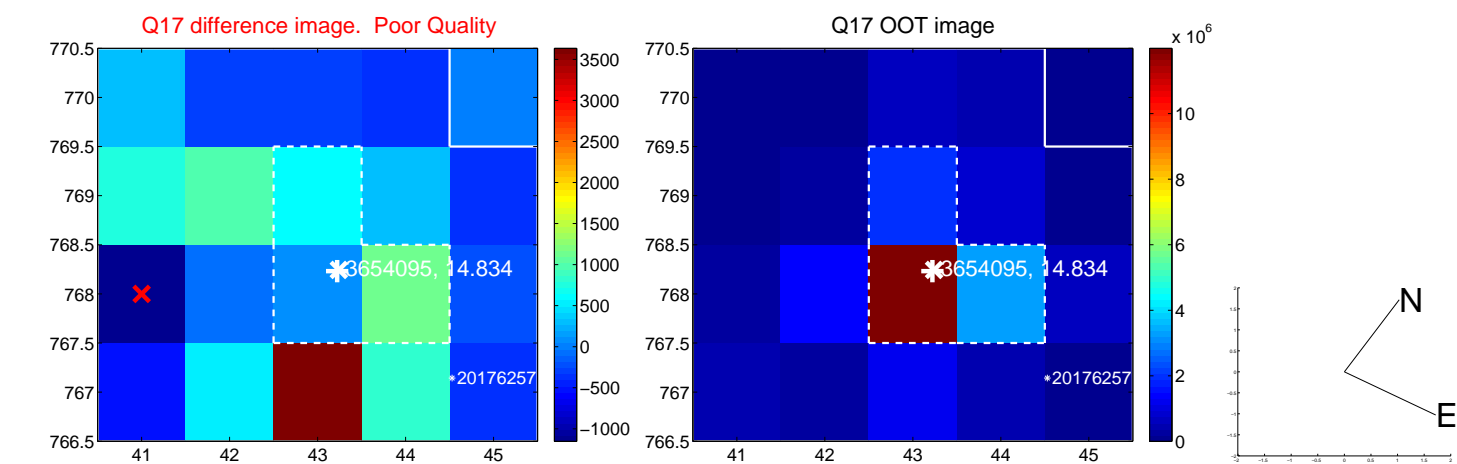
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

