

# KIC 003545135

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003545135-01	OBS	2755.01	8.482995	132.964956	67.0	2.471	18.0	19.3	0.93	5827	0.91	141.43

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003545135-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

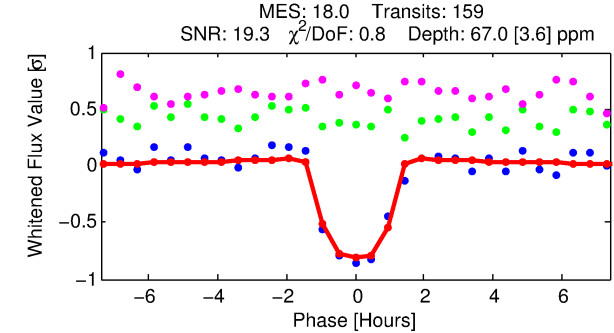
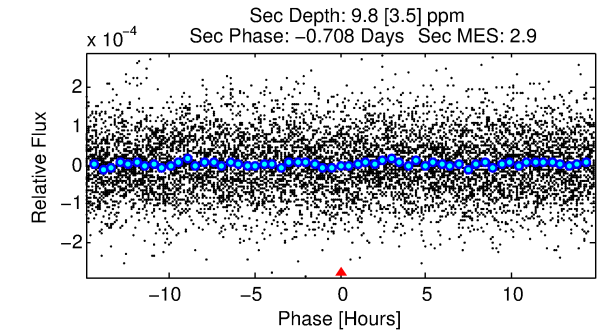
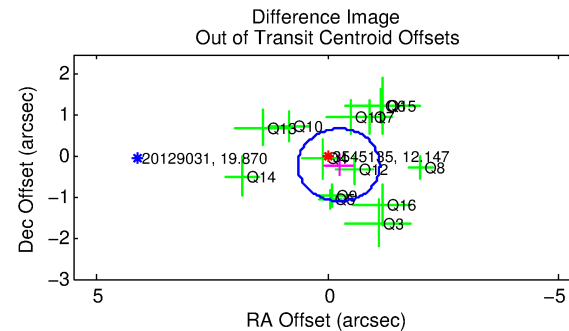
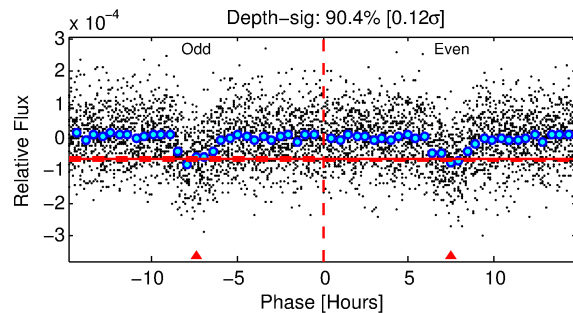
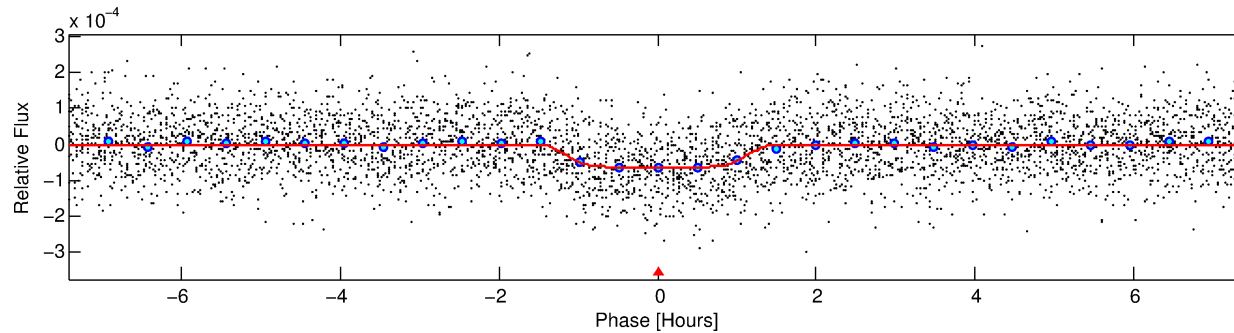
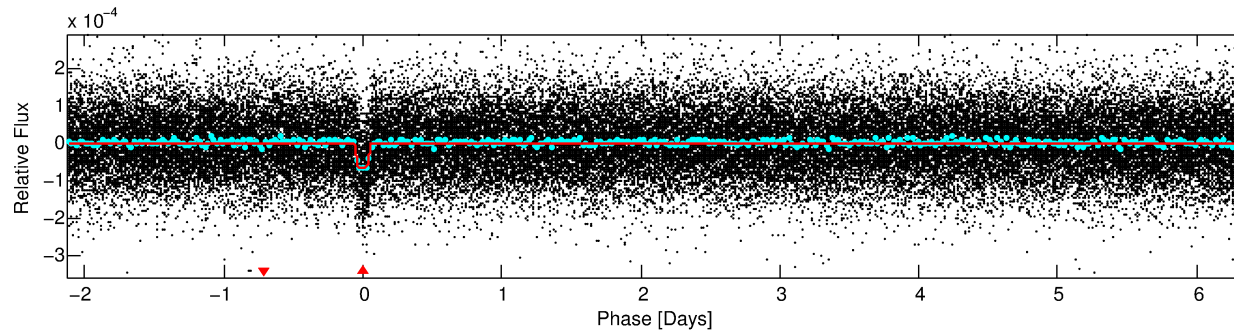
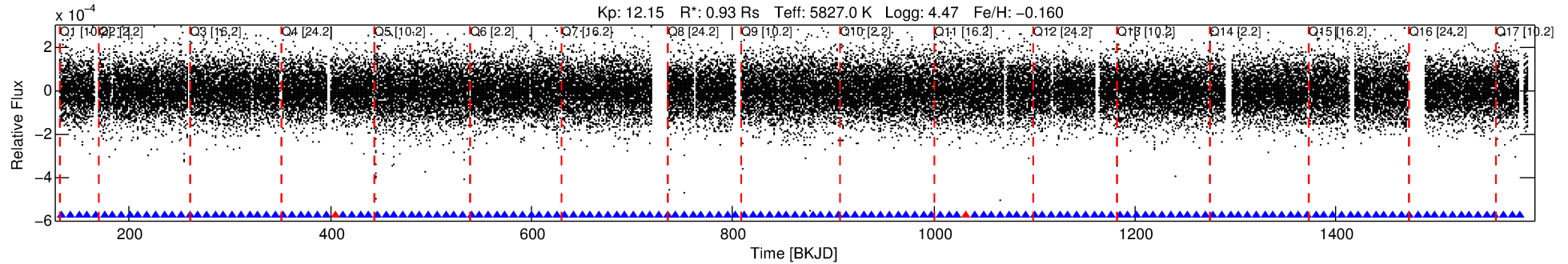
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003545135-01

No Significant Match Found

# DV One-Page Summary

KIC: 3545135 Candidate: 1 of 1 Period: 8.483 d  
KOI: K02755.01 Corr: 0.972



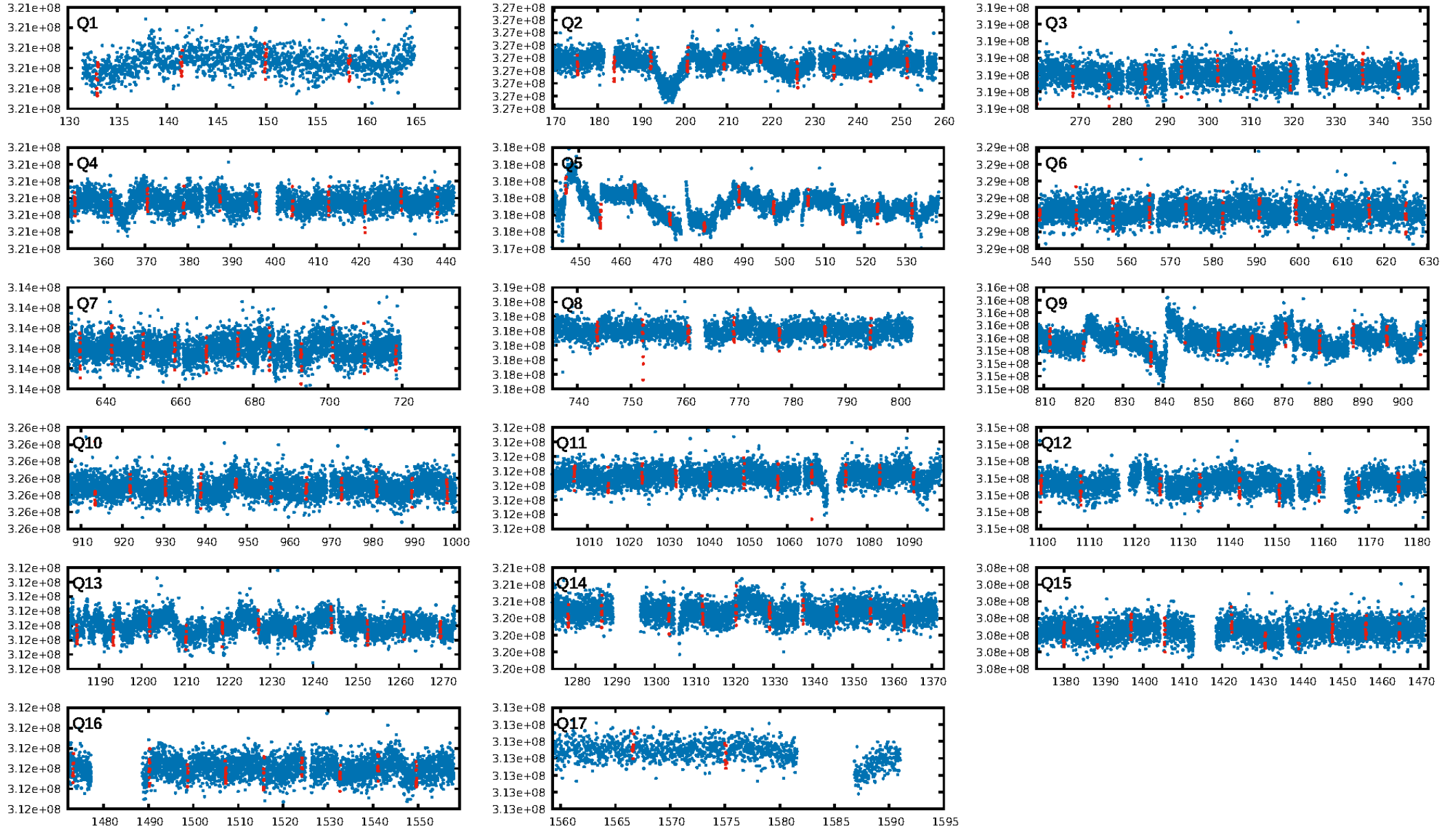
## DV Fit Results:

Period = 8.48300 [0.00003] d  
Epoch = 132.9650 [0.0027] BKJD  
Rp/R\* = 0.0089 [0.0032]  
a/R\* = 11.97 [20.98]  
b = 0.90 [0.38]  
Seff = 141.43 [29.31]  
Teq = 879 [46] K  
Rp = 0.91 [0.34] Re  
a = 0.0797 [0.0098] AU  
Ag = 41.54 [33.96] [1.19 $\sigma$ ]  
Teff = 3451 [689] K [3.72 $\sigma$ ]

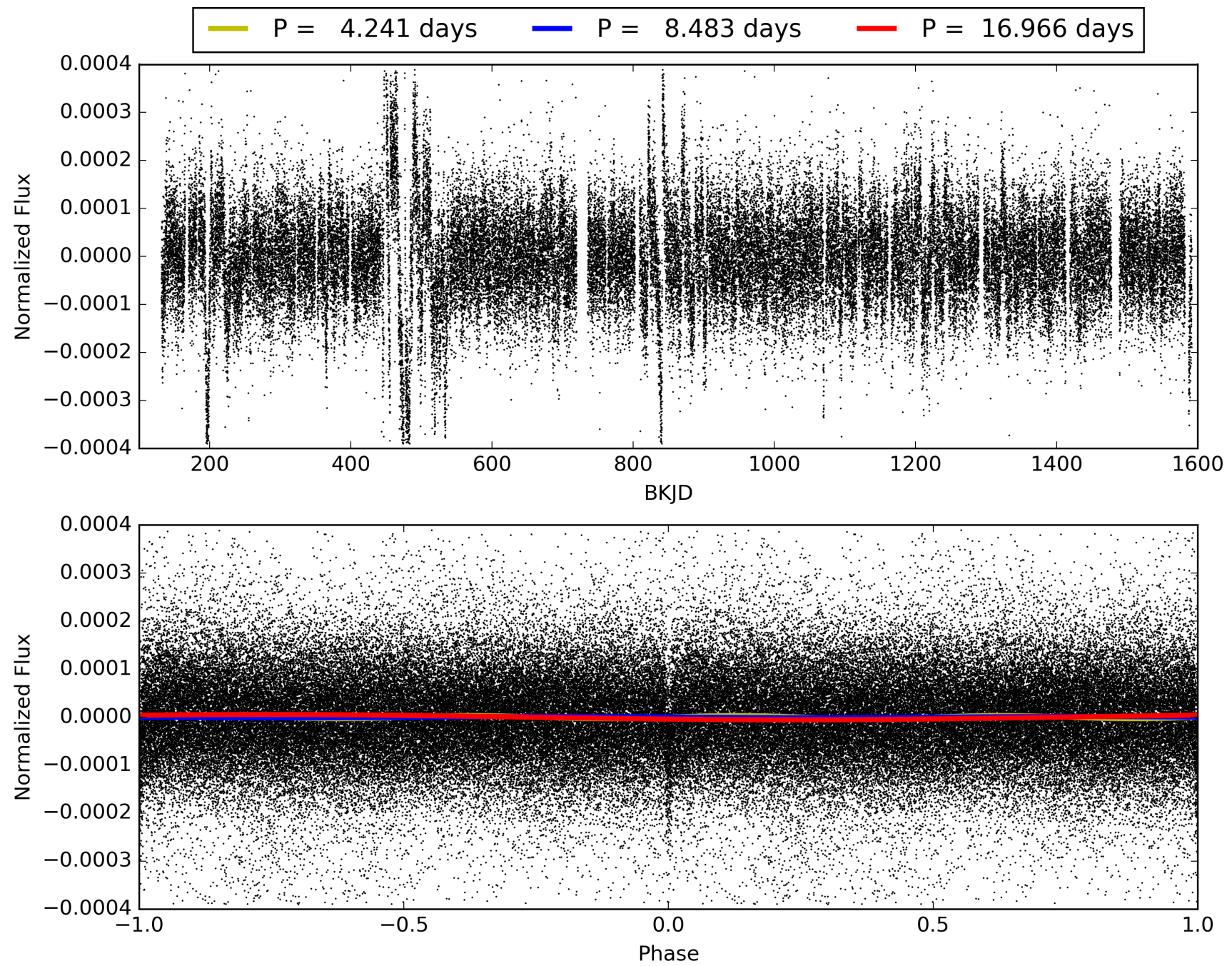
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 3.24e-71  
RollingBand-fgt: 0.99 [151/153]  
GhostDiagnostic-chr: 3.444  
Centroid-sig: 15.6%  
Centroid-so: 0.602 arcsec [0.78 $\sigma$ ]  
OotOffset-rm: 0.322 arcsec [1.09 $\sigma$ ]  
KicOffset-rm: 0.354 arcsec [1.25 $\sigma$ ]  
OotOffset-st: 3/4/4/3 [14]  
KicOffset-st: 3/4/4/3 [14]  
DiffImageQuality-fgm: 0.93 [13/14]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 003545135-01, PDC Light Curves



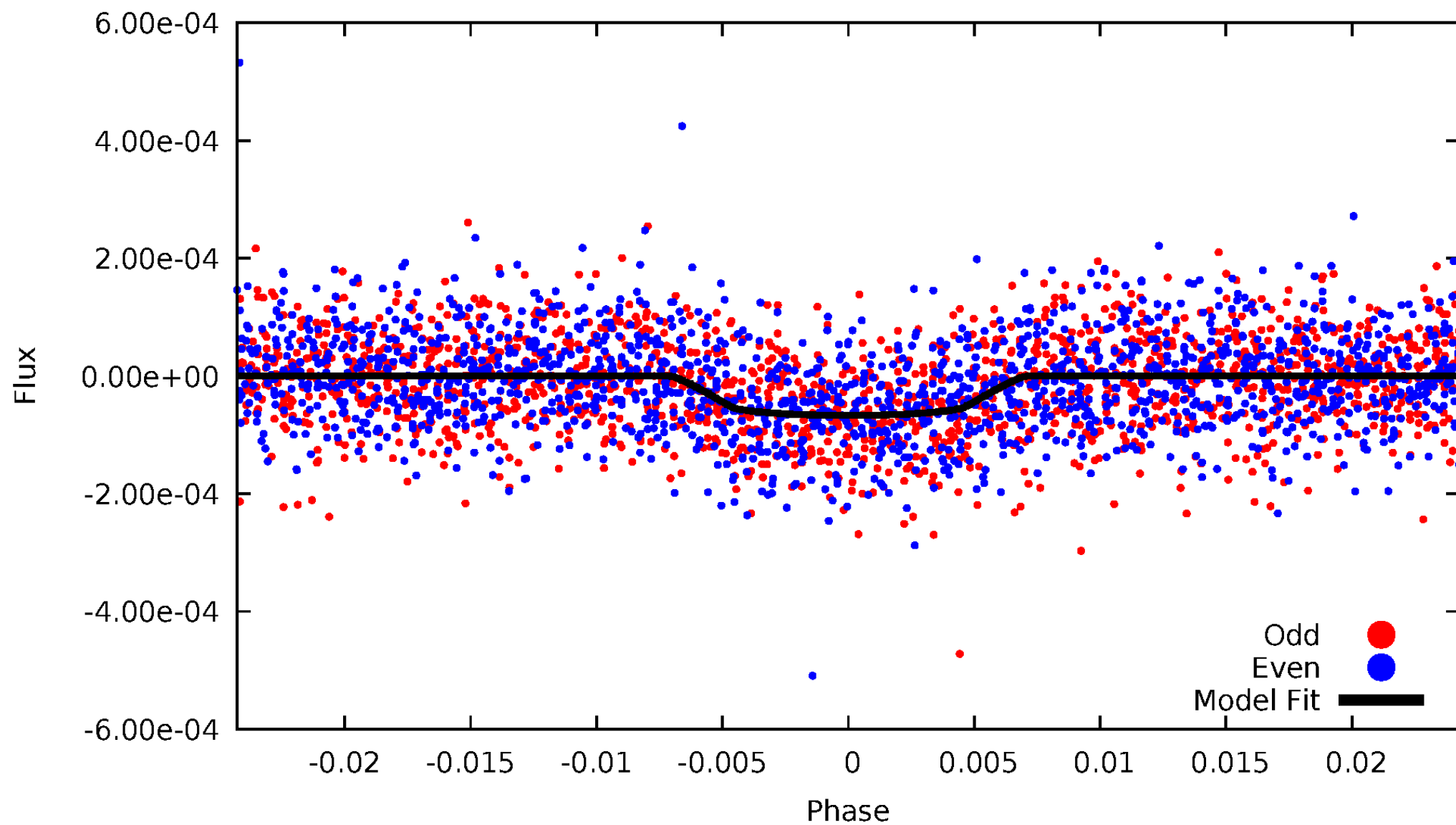
TCE 003545135-01





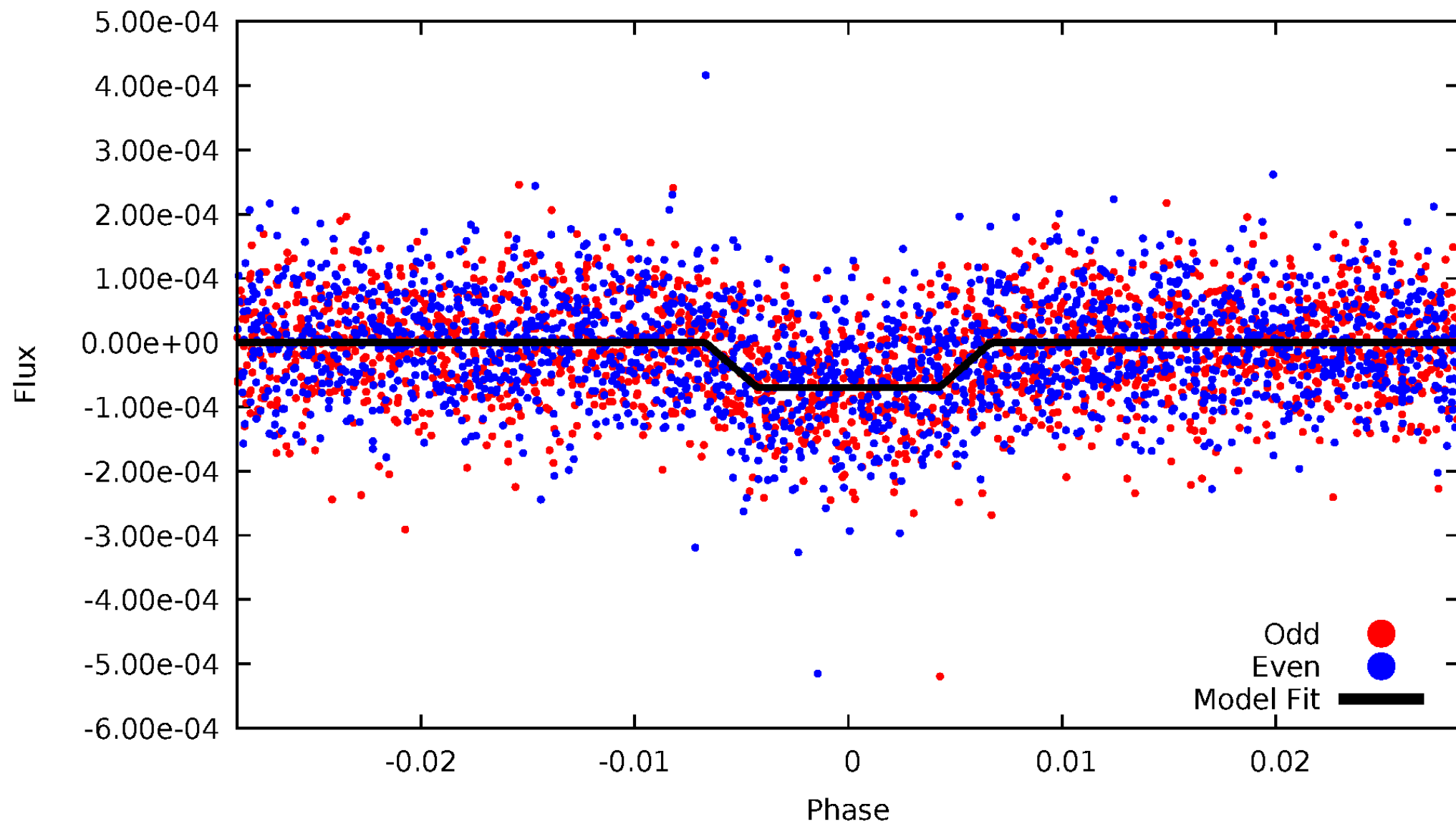
# DV Odd/Even

TCE 003545135-01



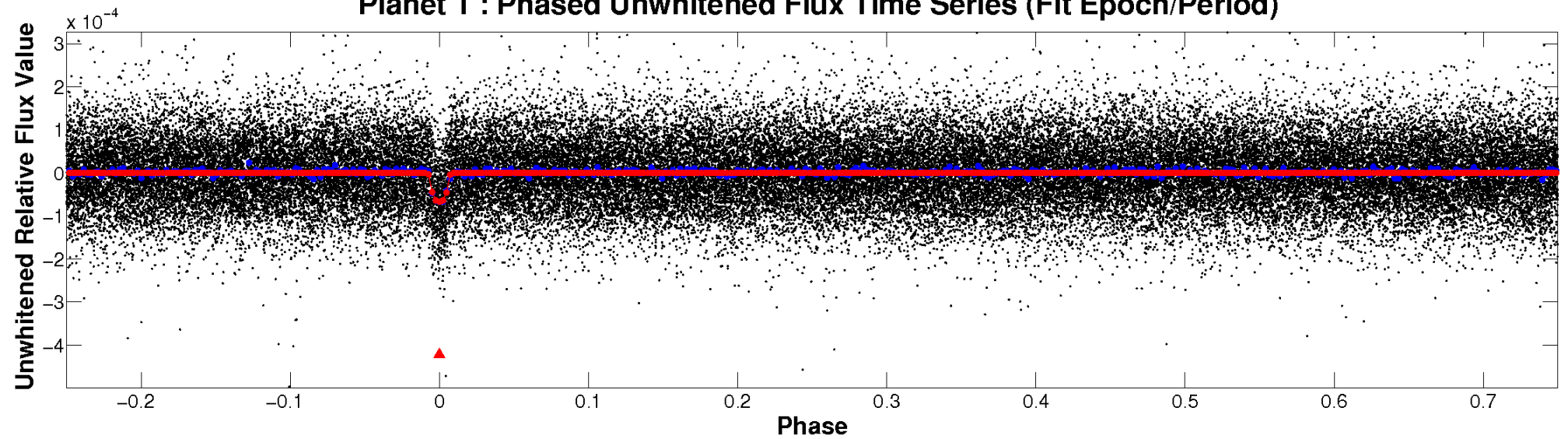
# ALT Odd/Even

TCE 003545135-01

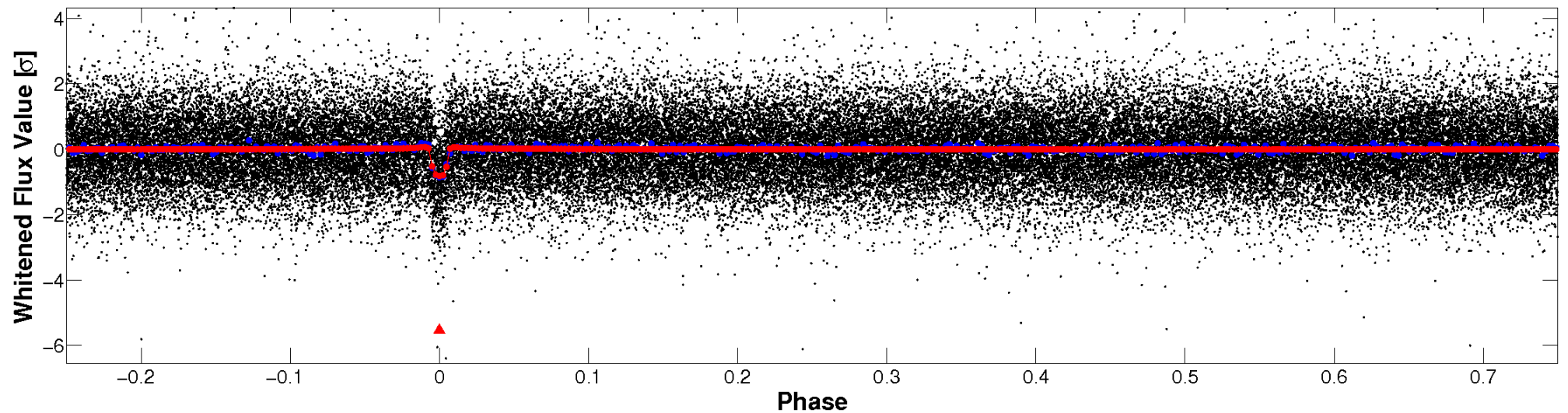


# Non-Whitened Vs. Whitened Light Curve

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

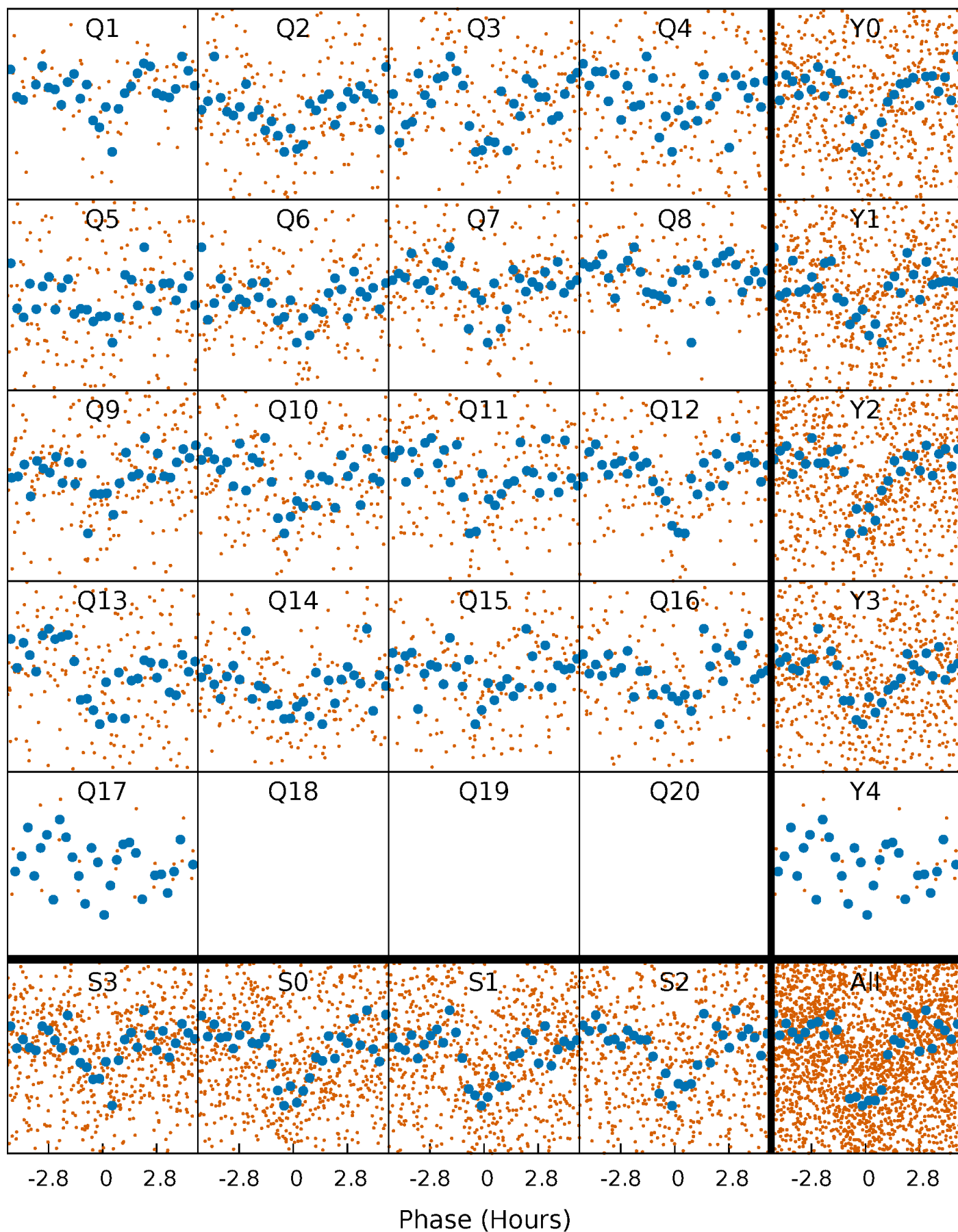


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

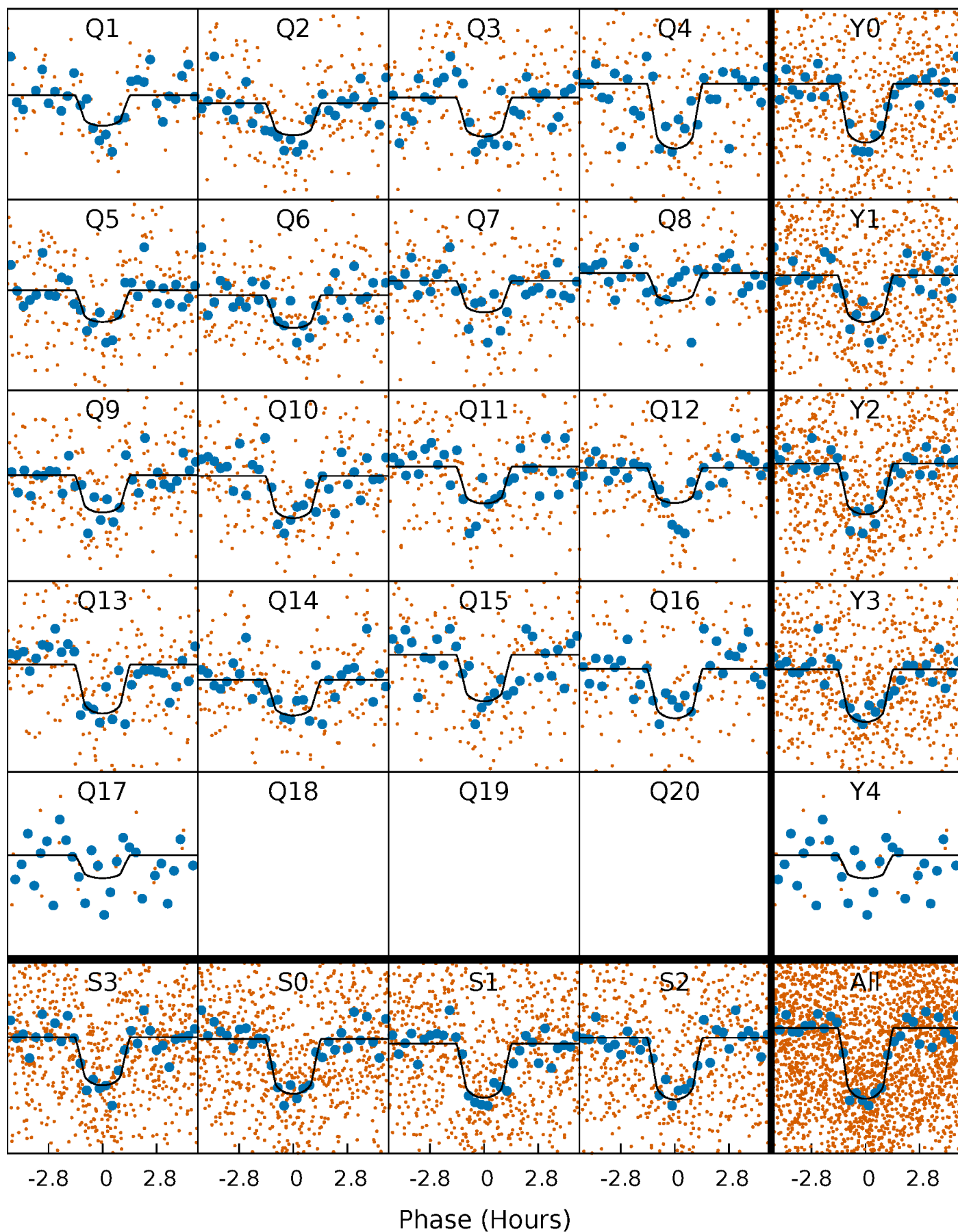
TCE 003545135-01 P= 8.482995 Days  $T_0=132.964956$  (BKJD)





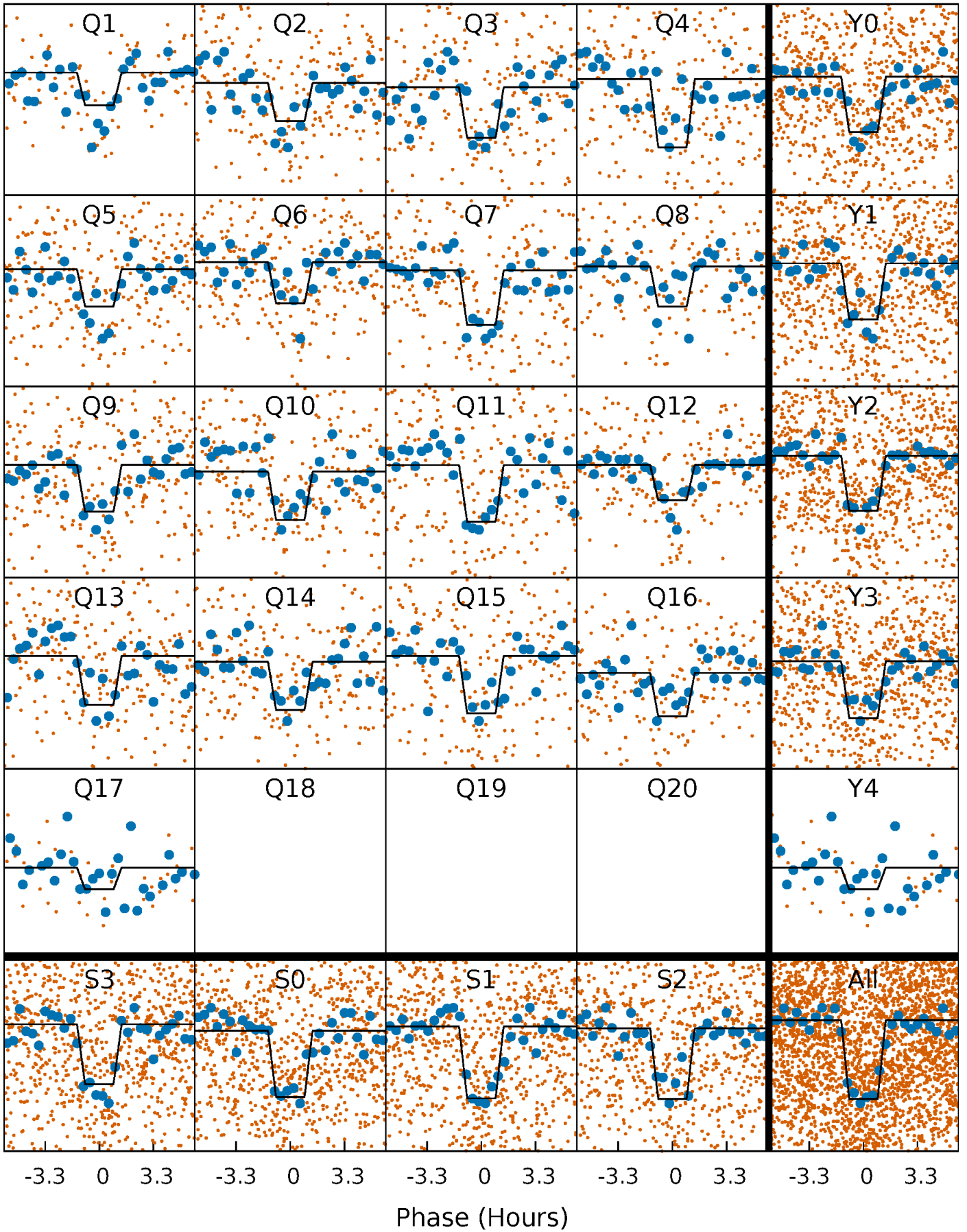
# DV Quarter-Phased Transit Curves

TCE 003545135-01 P= 8.482995 Days  $T_0=132.964956$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

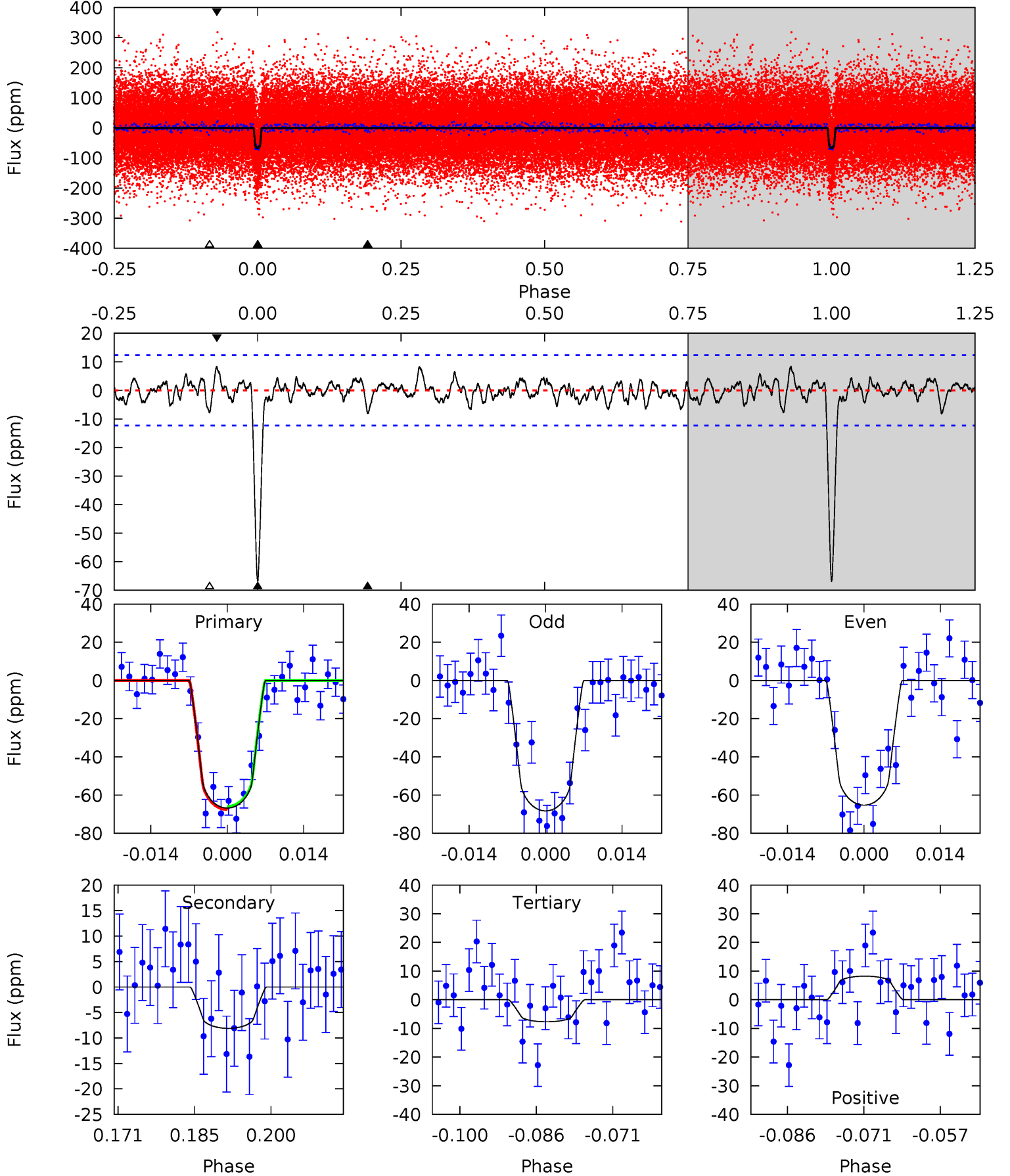
TCE 003545135-01 P= 8.482966 Days  $T_0=132.968287$  (BKJD)



# DV Model-Shift Uniqueness Test

003545135-01, P = 8.482995 Days, E = 124.481961 Days

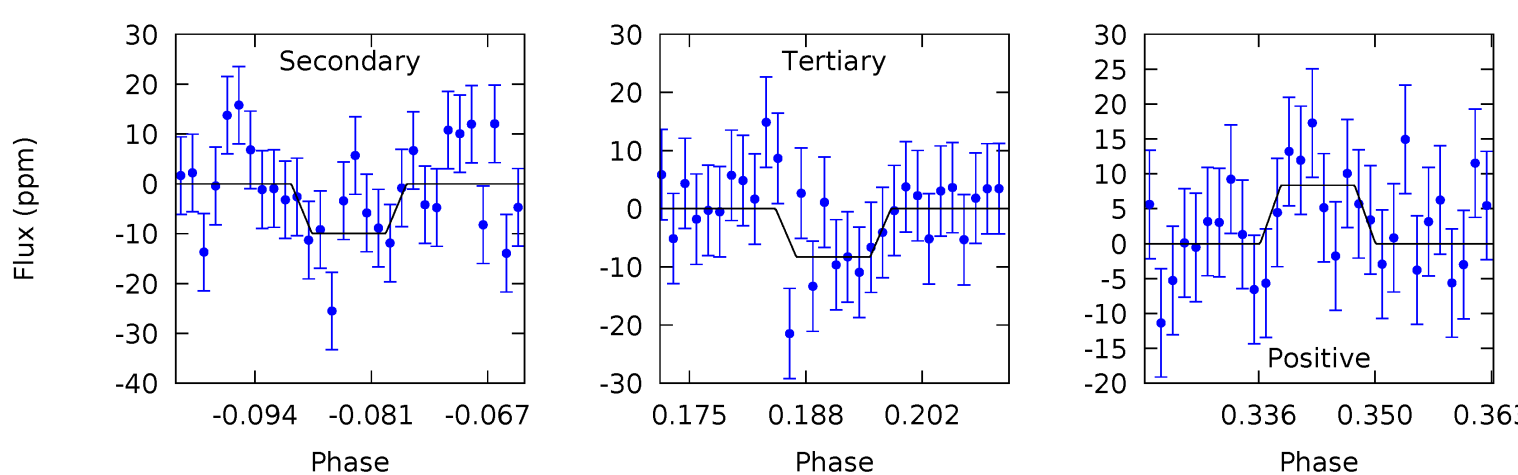
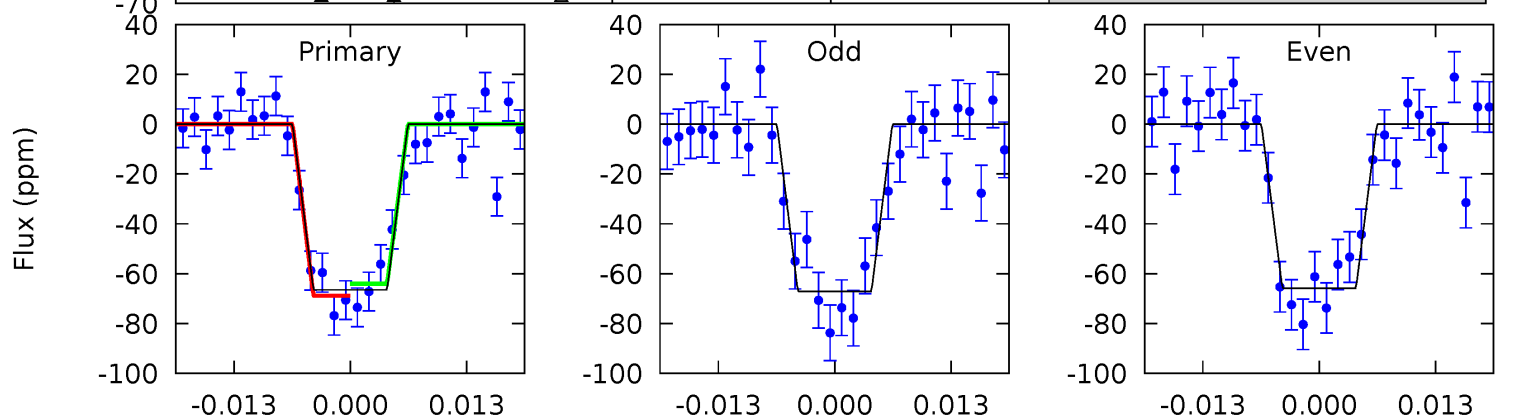
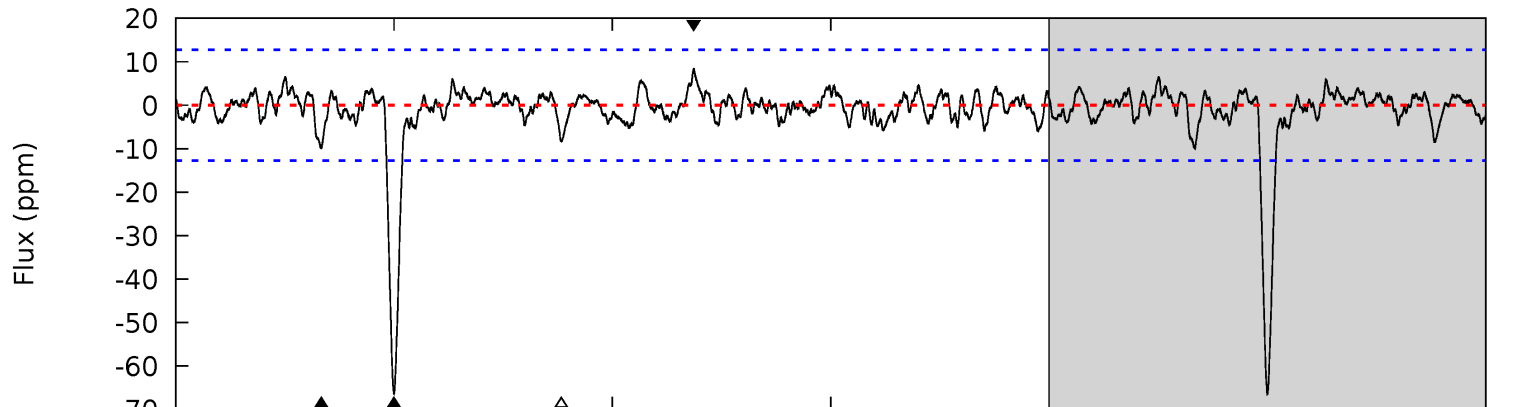
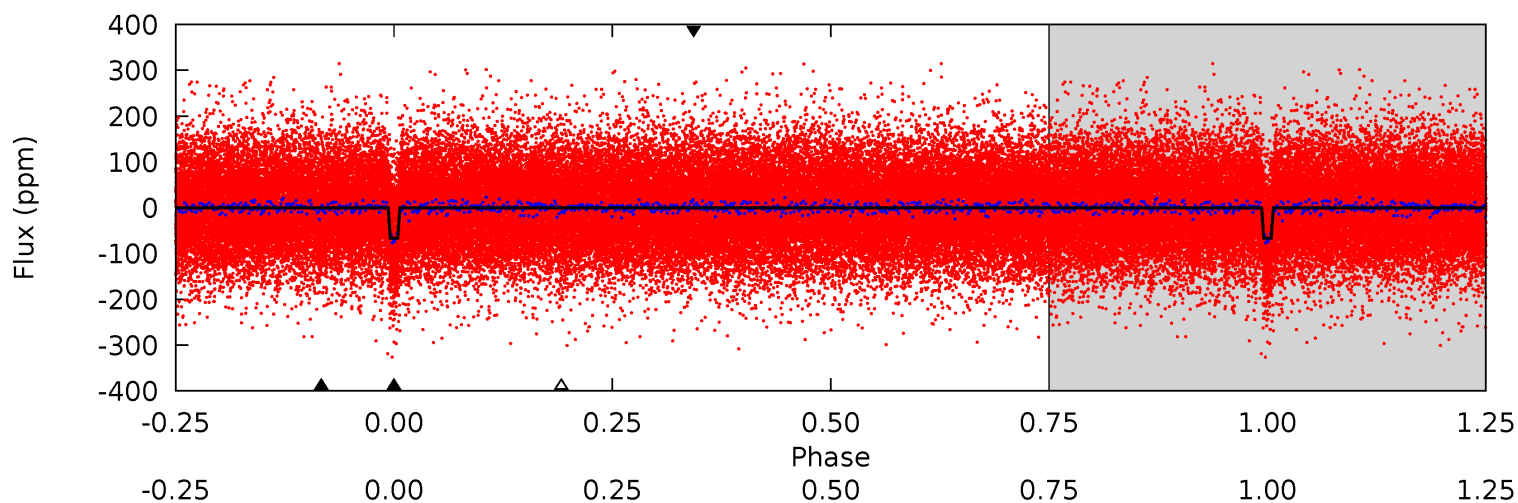
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.9	3.26	3.09	3.31	4.96	2.45	1.08	23.8	23.5	0.17	-0.05	0.61	1.05	0.11	0.32



# Alt Model-Shift Uniqueness Test

003545135-01, P = 8.482966 Days, E = 124.485321 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
25.9	3.89	3.25	3.26	4.97	2.47	1.01	22.7	22.7	0.64	0.63	0.24	1.09	0.11	0.94



### Stellar Parameters For KIC 003545135

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5827^{+104}_{-116}$	$4.471^{+0.059}_{-0.110}$	$-0.160^{+0.150}_{-0.150}$	$0.933^{+0.126}_{-0.073}$	$0.940^{+0.054}_{-0.067}$	$1.631^{+0.377}_{-0.521}$
	+2%/-2%	+1%/-2%	+94%/-94%	+14%/-8%	+6%/-7%	+23%/-32%
Source	SPE59	SPE59	SPE59	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 003545135-01 / KOI 2755.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-8 \pm 2$	$0.90^{+0.35}_{-0.32}$	$1238^{+49}_{-41}$	$3744^{+684}_{-425}$	$35^{+55}_{-19}$
Alt.	$-10 \pm 3$	$0.86^{+0.34}_{-0.34}$	$1238^{+47}_{-44}$	$3925^{+849}_{-449}$	$46^{+85}_{-24}$

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



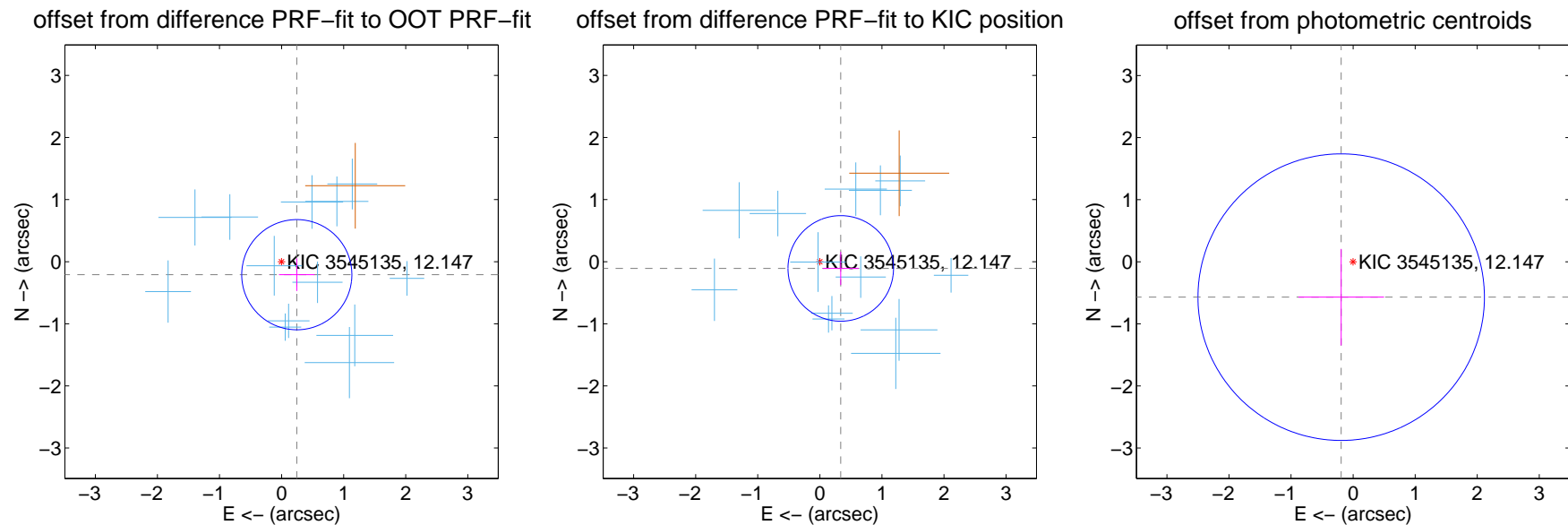
## DV Centroid Data

Supplemental centroid analysis for 003545135-01. Kepler magnitude: 12.15. Transit SNR 19.31

There are 13 quarters with good PRF difference image offsets

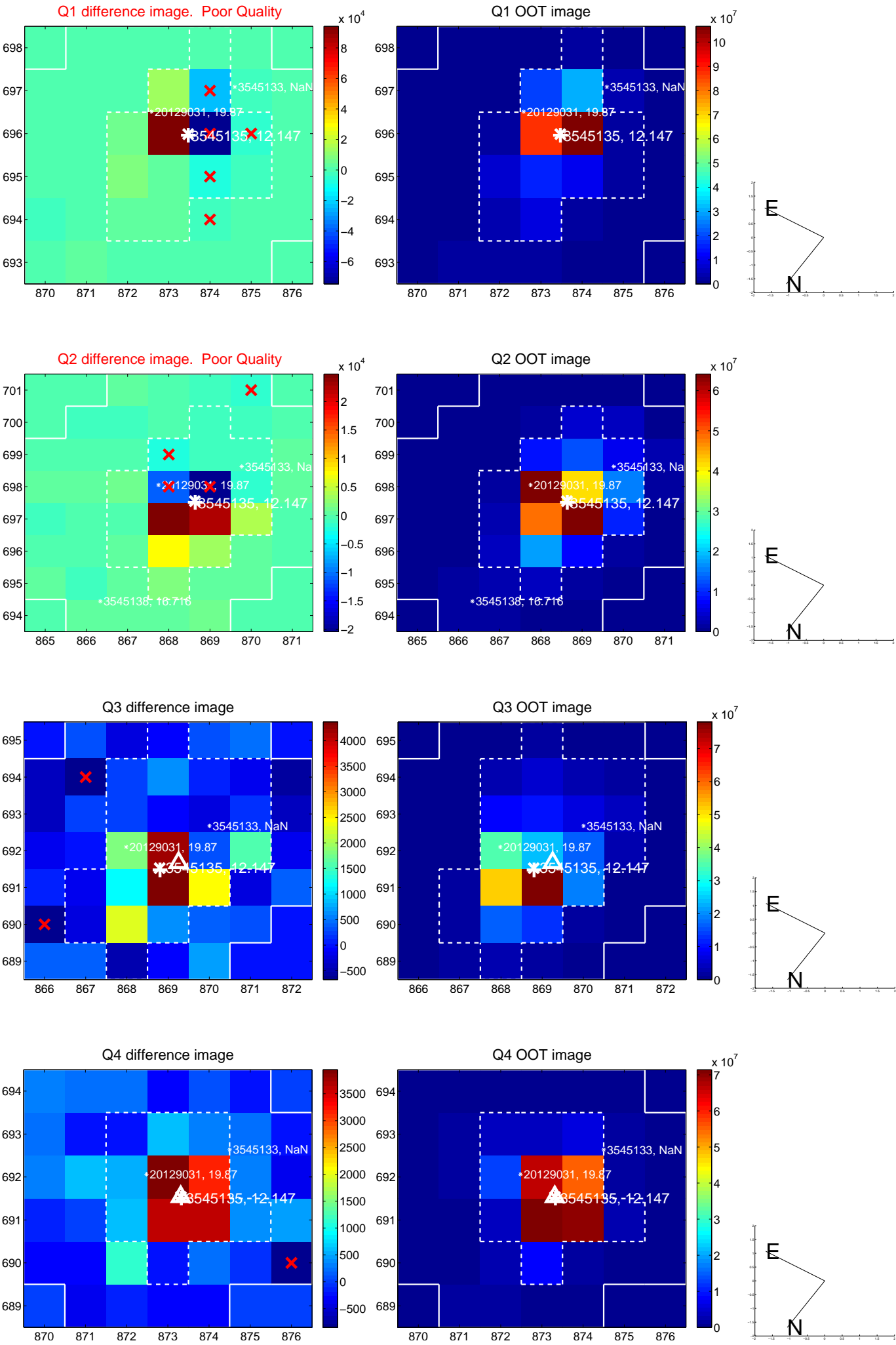
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.322 \pm 0.296$	1.09	$-0.245 \pm 0.287$	$-0.209 \pm 0.263$
PRF-fit source offset from KIC position	$0.354 \pm 0.283$	1.25	$-0.337 \pm 0.289$	$-0.108 \pm 0.265$
photometric centroid source offset	$0.60 \pm 0.77$	0.78	$0.19 \pm 0.69$	$-0.57 \pm 0.78$

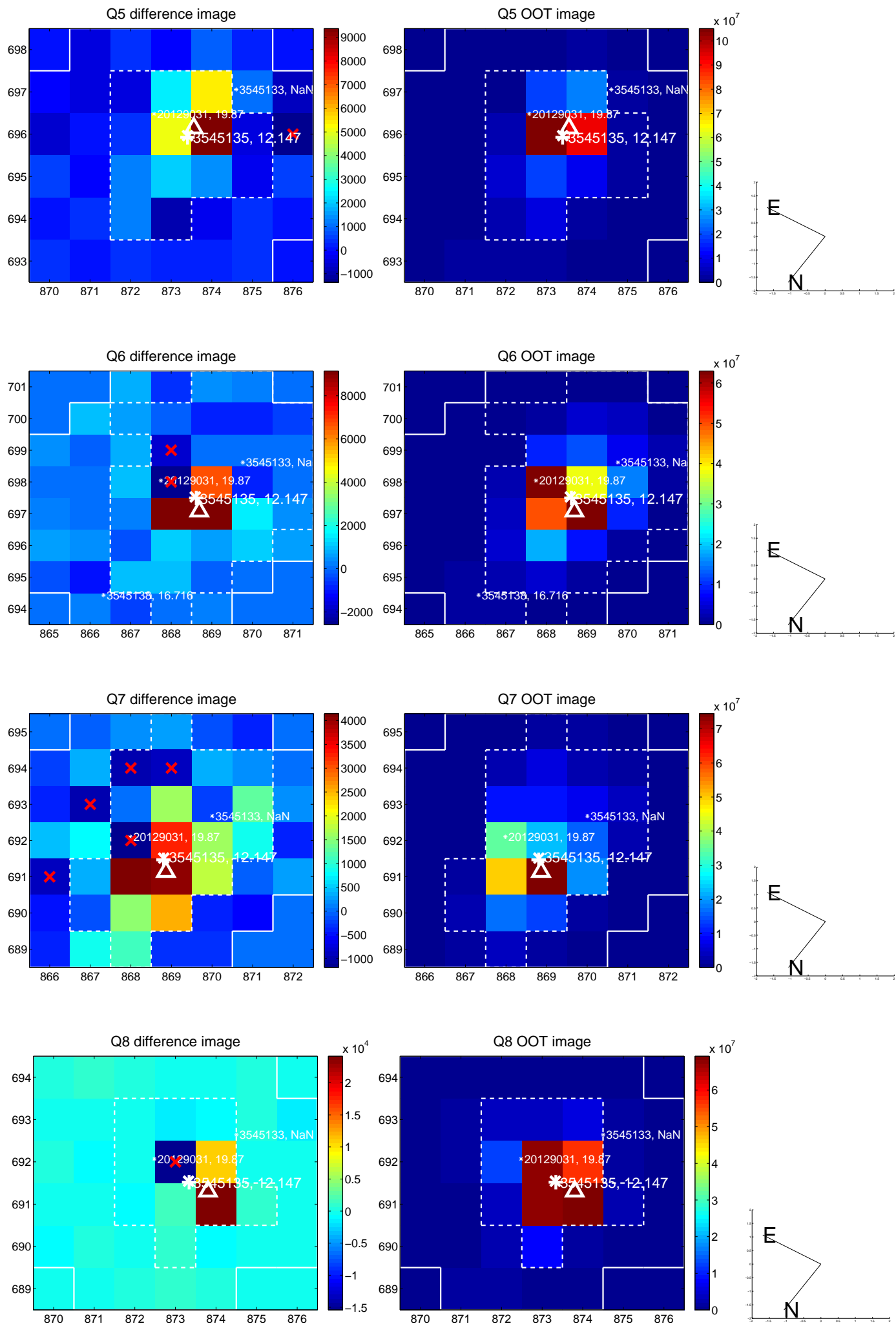


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

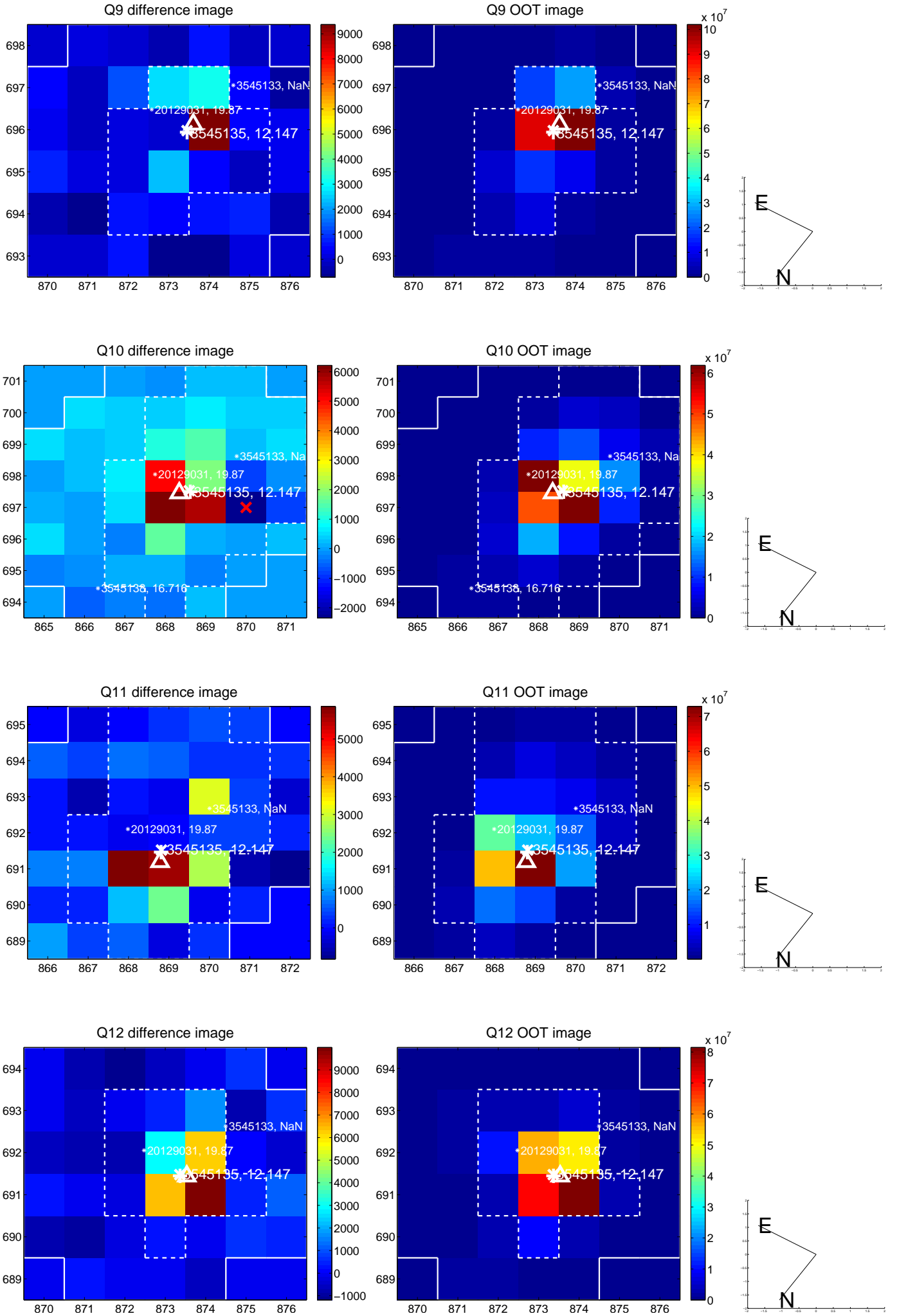
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



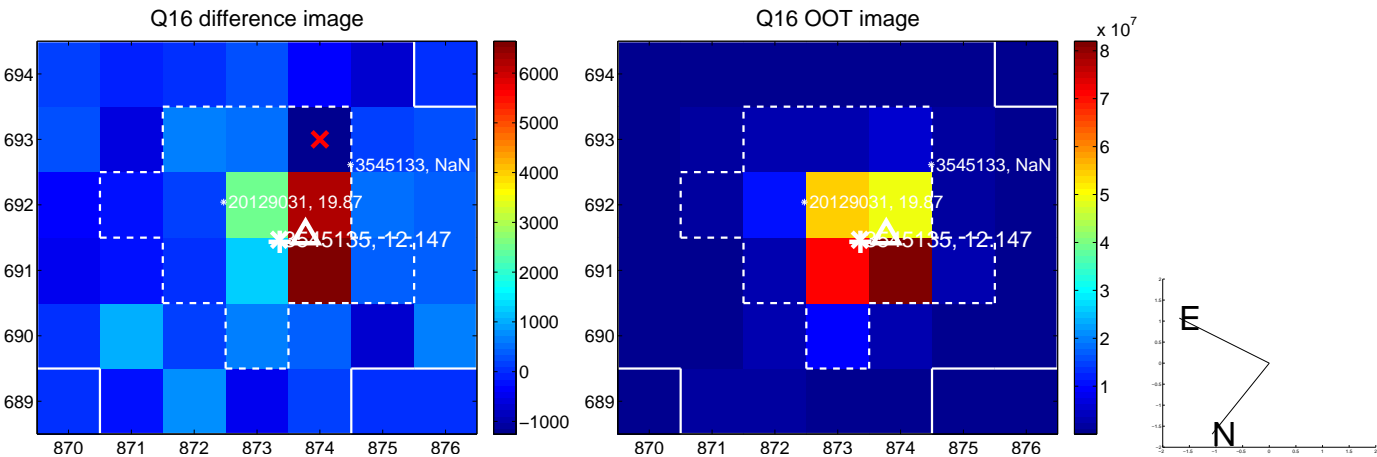
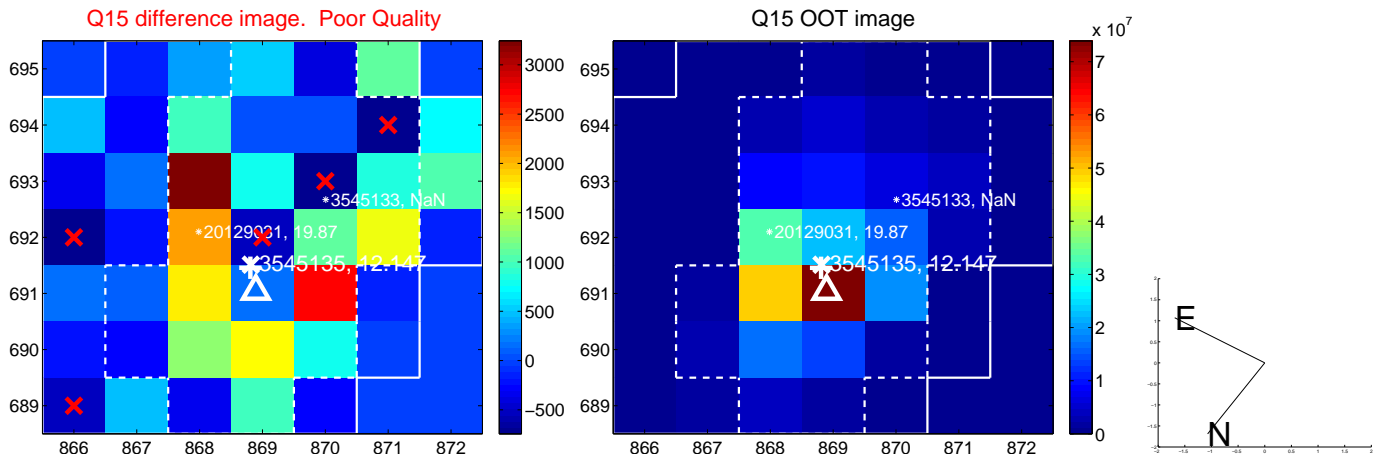
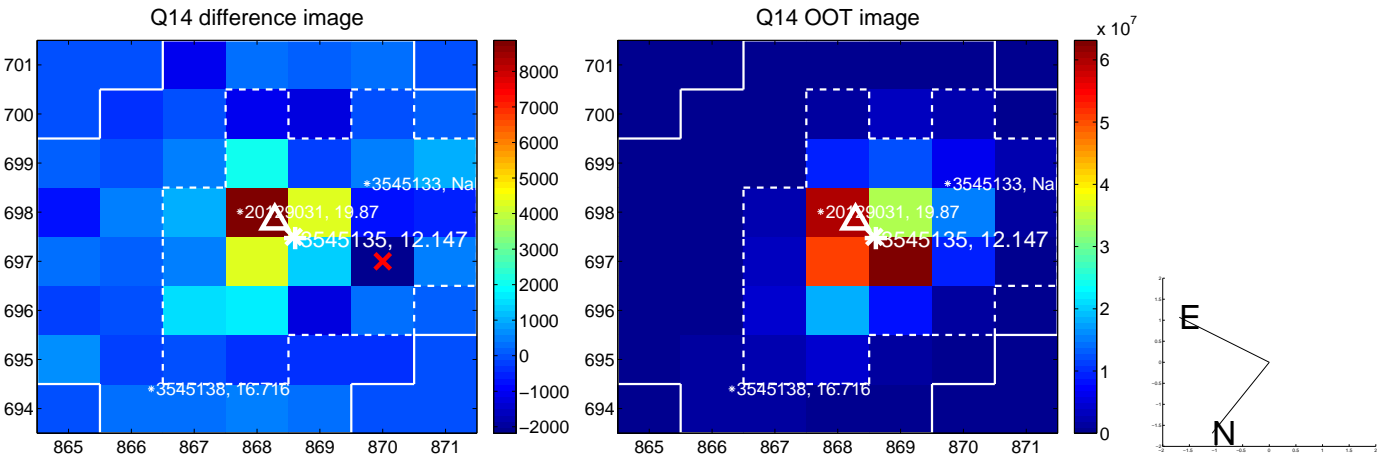
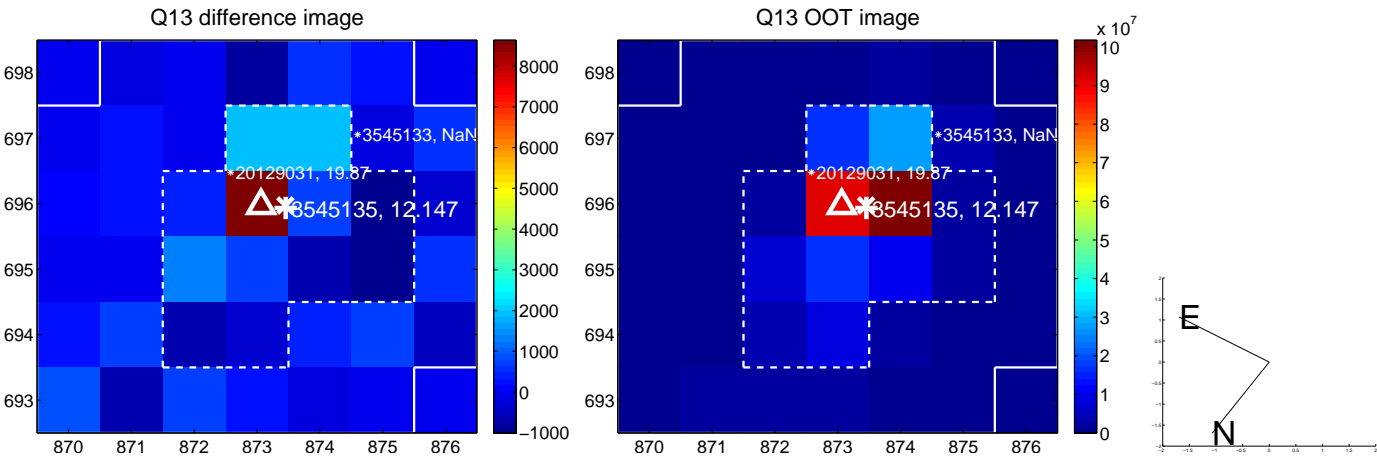
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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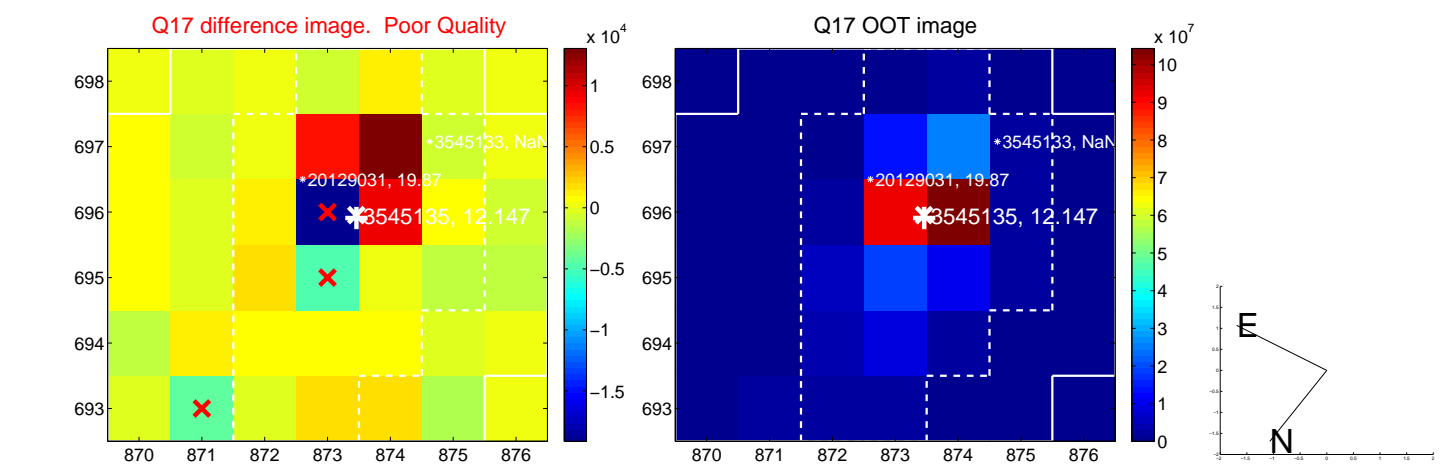


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

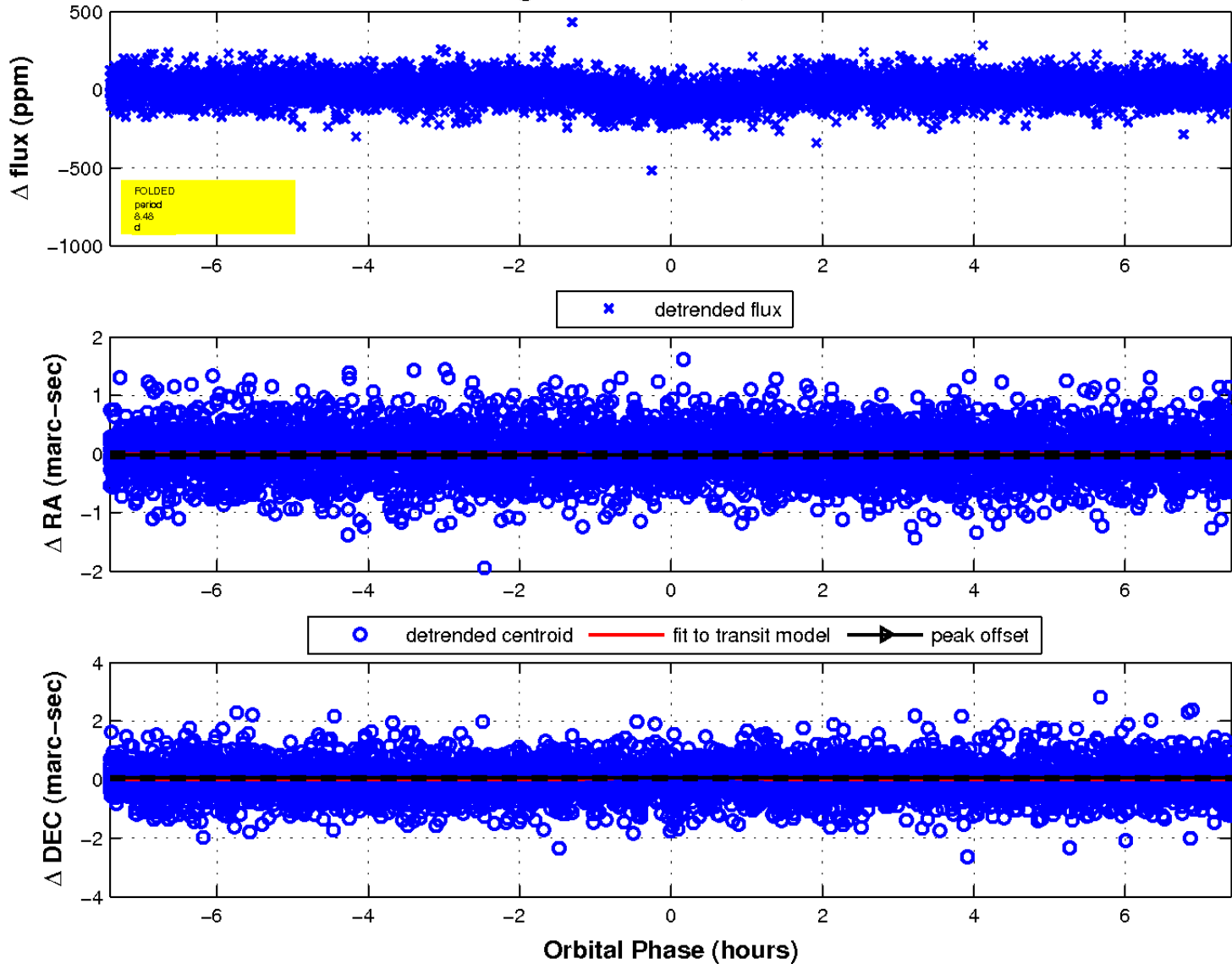




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

