

# KIC 005895158

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005895158-01	OBS	3935.01	1.093655	132.477911	215.1	1.544	21.2	28.7	0.87	5845	1.52	1890.31

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005895158-01	OBS	PC	1.00	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.

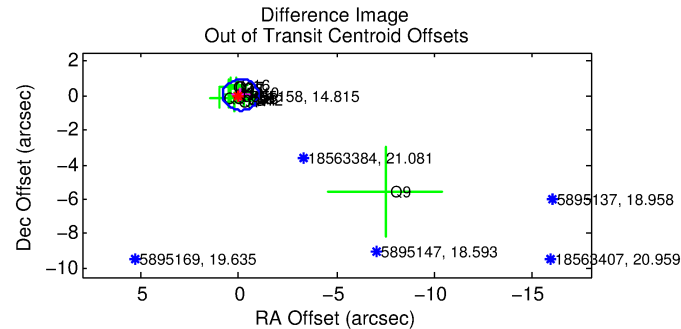
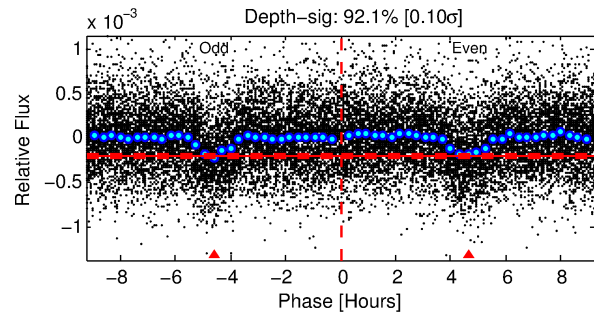
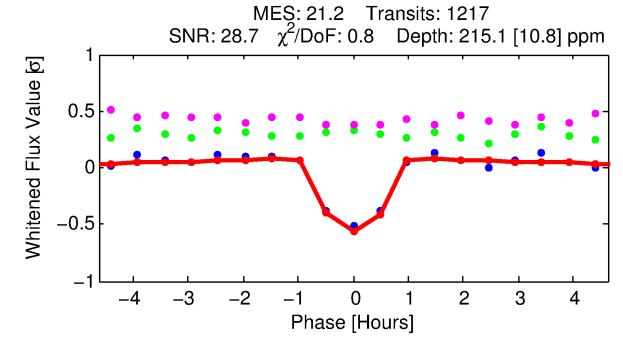
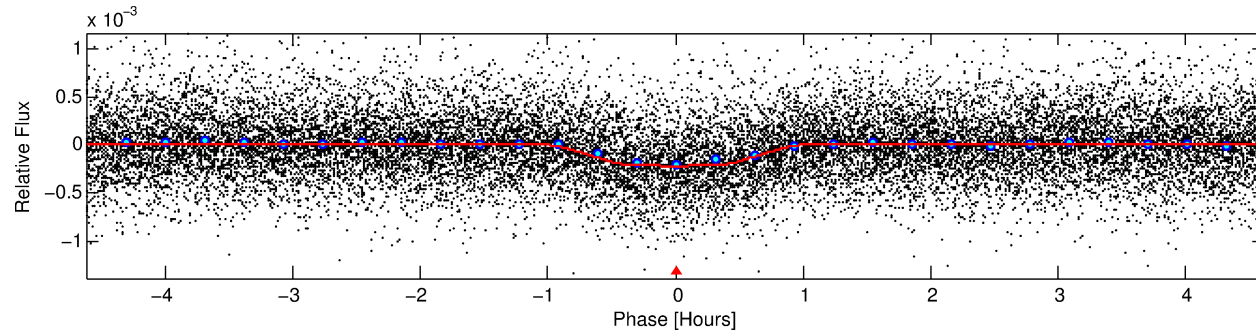
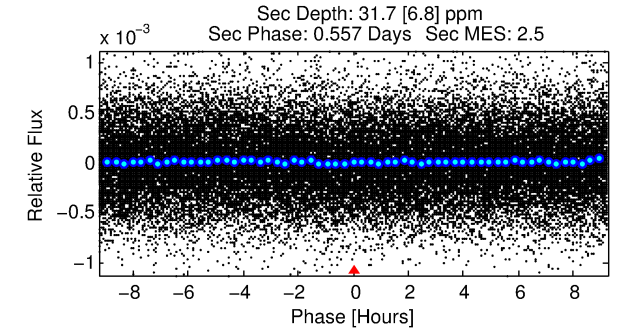
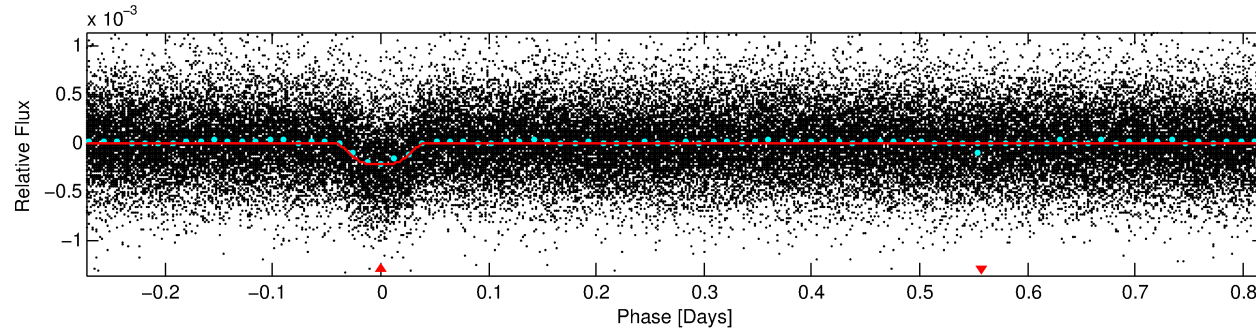
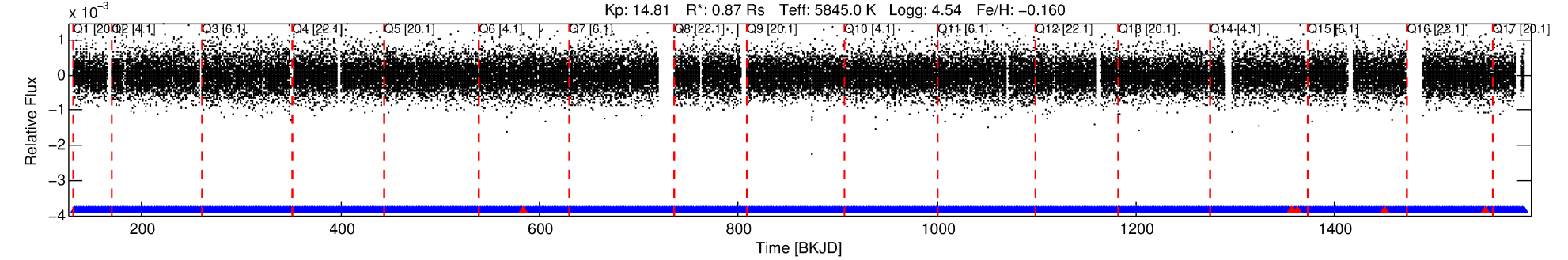
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005895158-01

No Significant Match Found

# DV One-Page Summary

KIC: 5895158 Candidate: 1 of 1 Period: 1.094 d  
KOI: K03935.01 Corr: 0.953



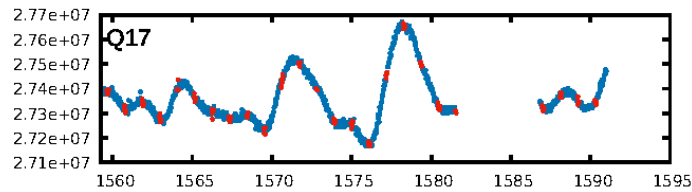
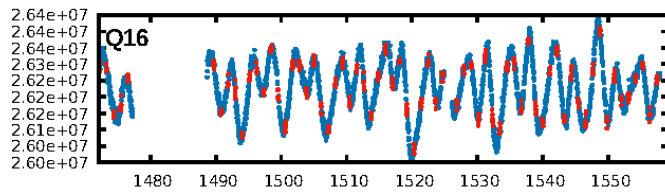
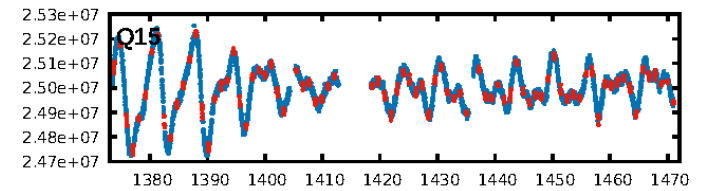
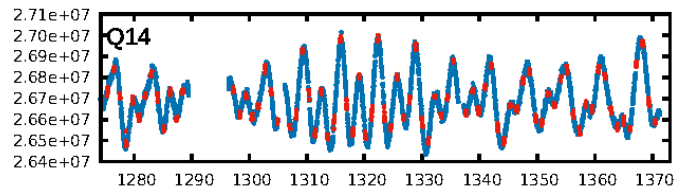
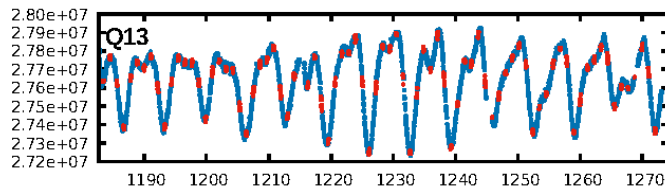
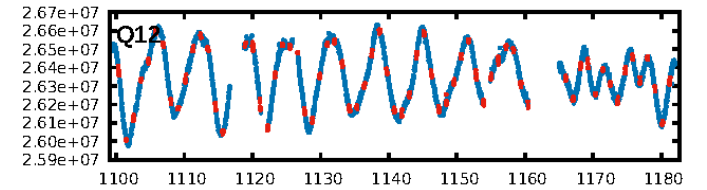
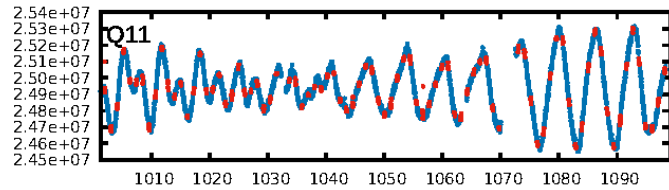
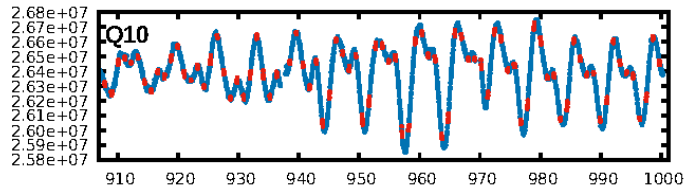
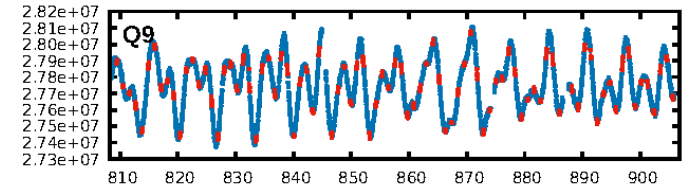
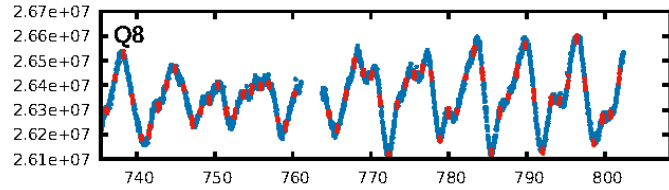
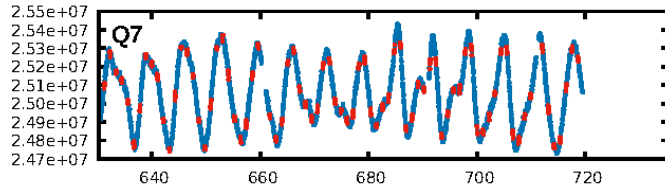
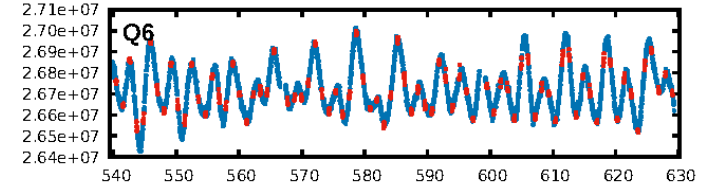
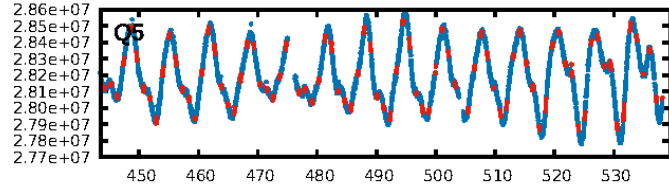
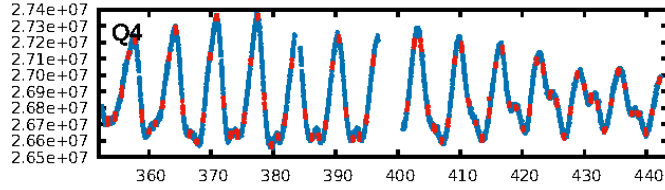
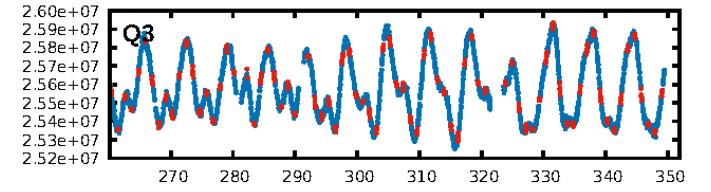
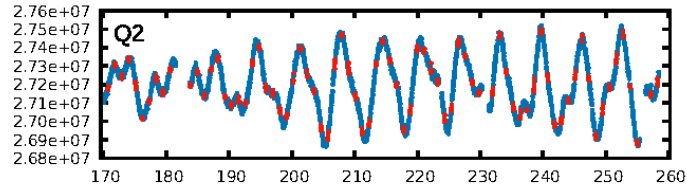
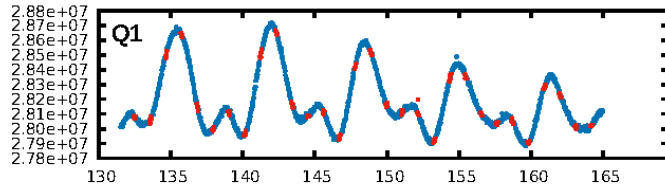
## DV Fit Results:

Period = 1.09366 [0.00000] d  
Epoch = 132.4779 [0.0007] BKJD  
Rp/R\* = 0.0160 [0.0041]  
a/R\* = 2.72 [2.95]  
b = 0.90 [0.27]  
Seff = 1890.31 [702.20]  
Teff = 1681 [156] K  
Rp = 1.52 [0.59] Re  
a = 0.0206 [0.0050] AU  
Ag = 3.18 [2.09] [1.04σ]  
Teffp = 3470 [493] K [3.46σ]

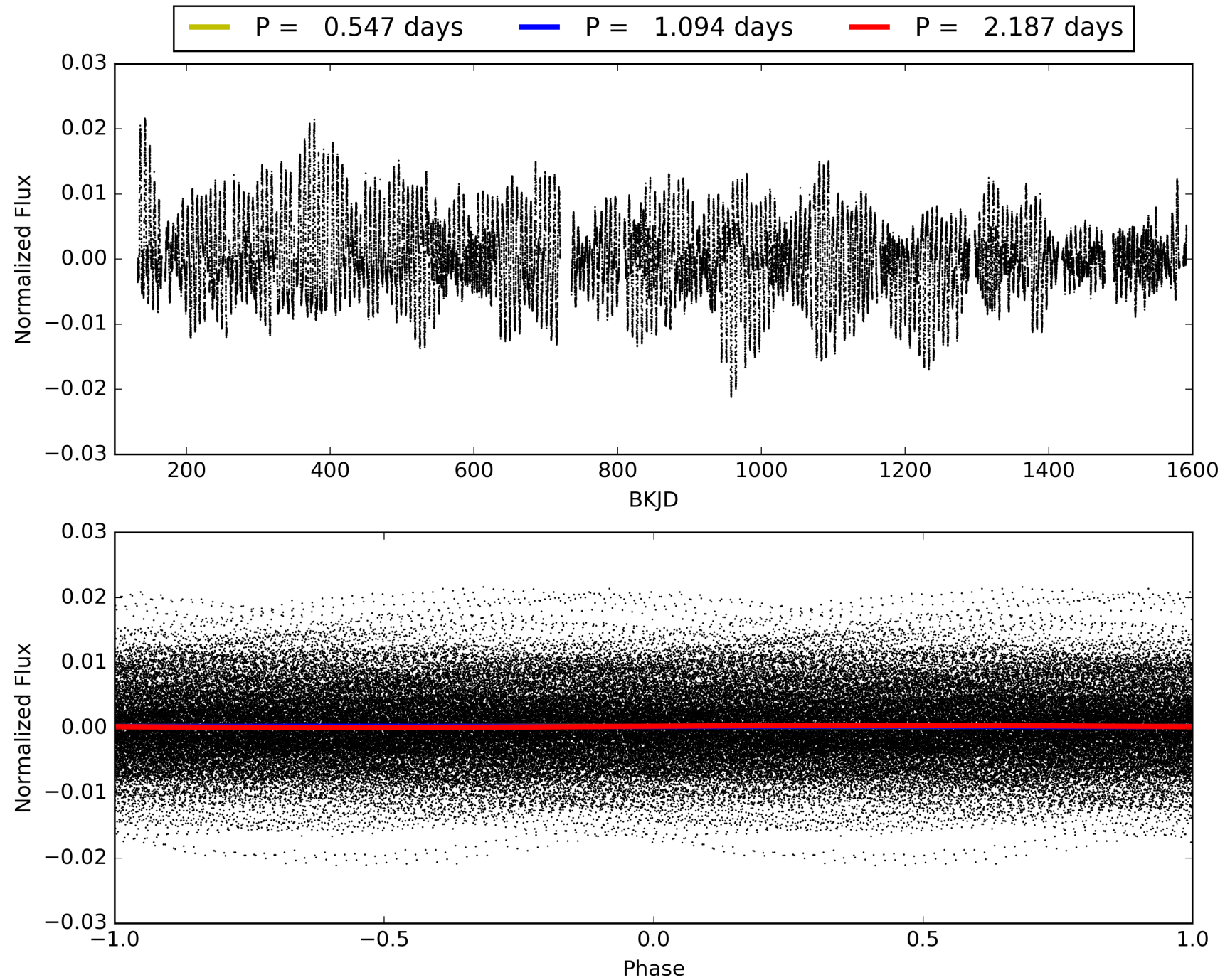
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.20e-93  
RollingBand-fgt: 0.99 [1156/1162]  
GhostDiagnostic-chr: 3.203  
Centroid-sig: 1.0%  
Centroid-so: 0.663 arcsec [1.53σ]  
OotOffset-rm: 0.111 arcsec [0.37σ]  
KicOffset-rm: 0.177 arcsec [0.32σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.94 [16/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 005895158-01, PDC Light Curves

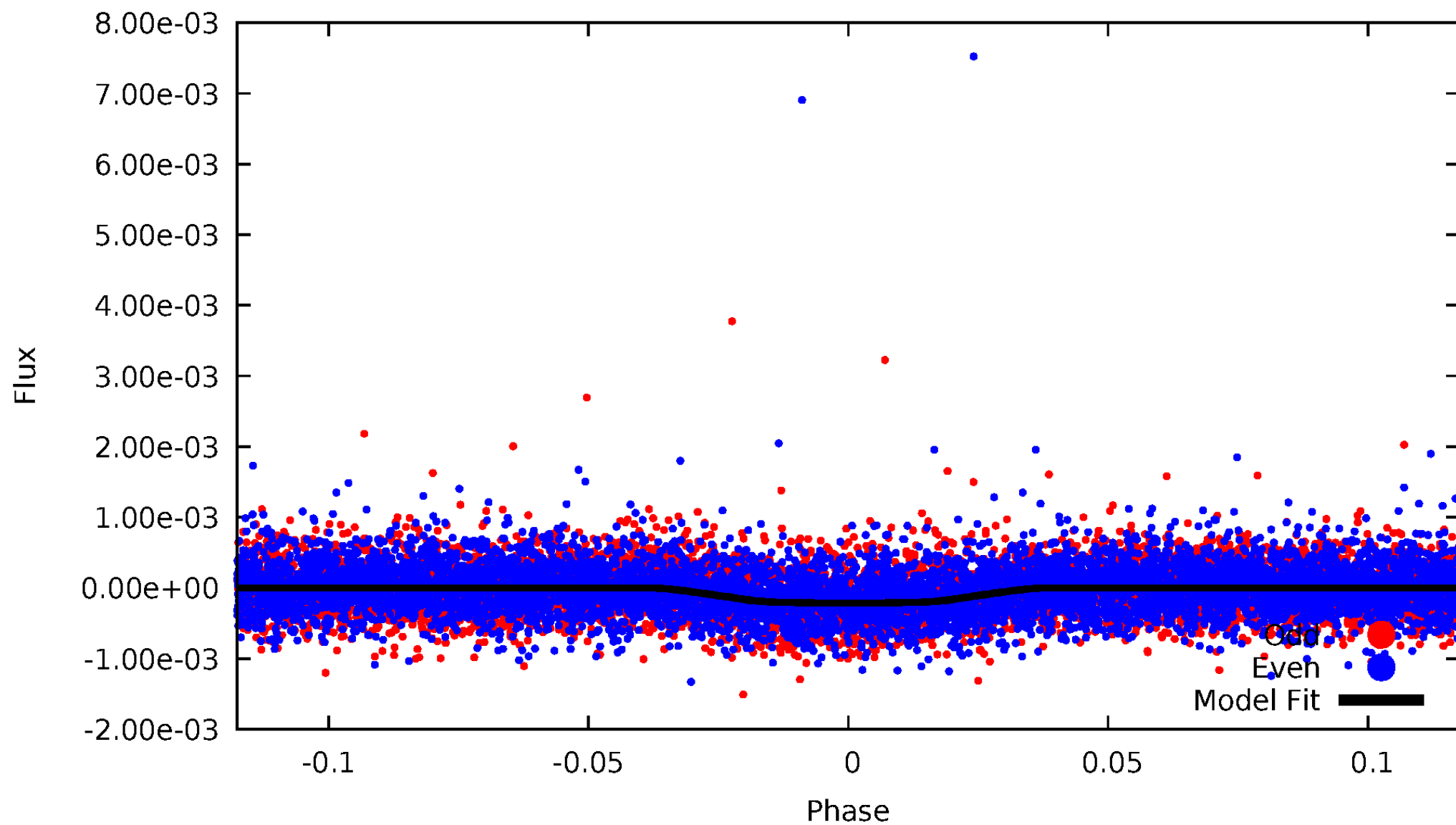


TCE 005895158-01



# DV Odd/Even

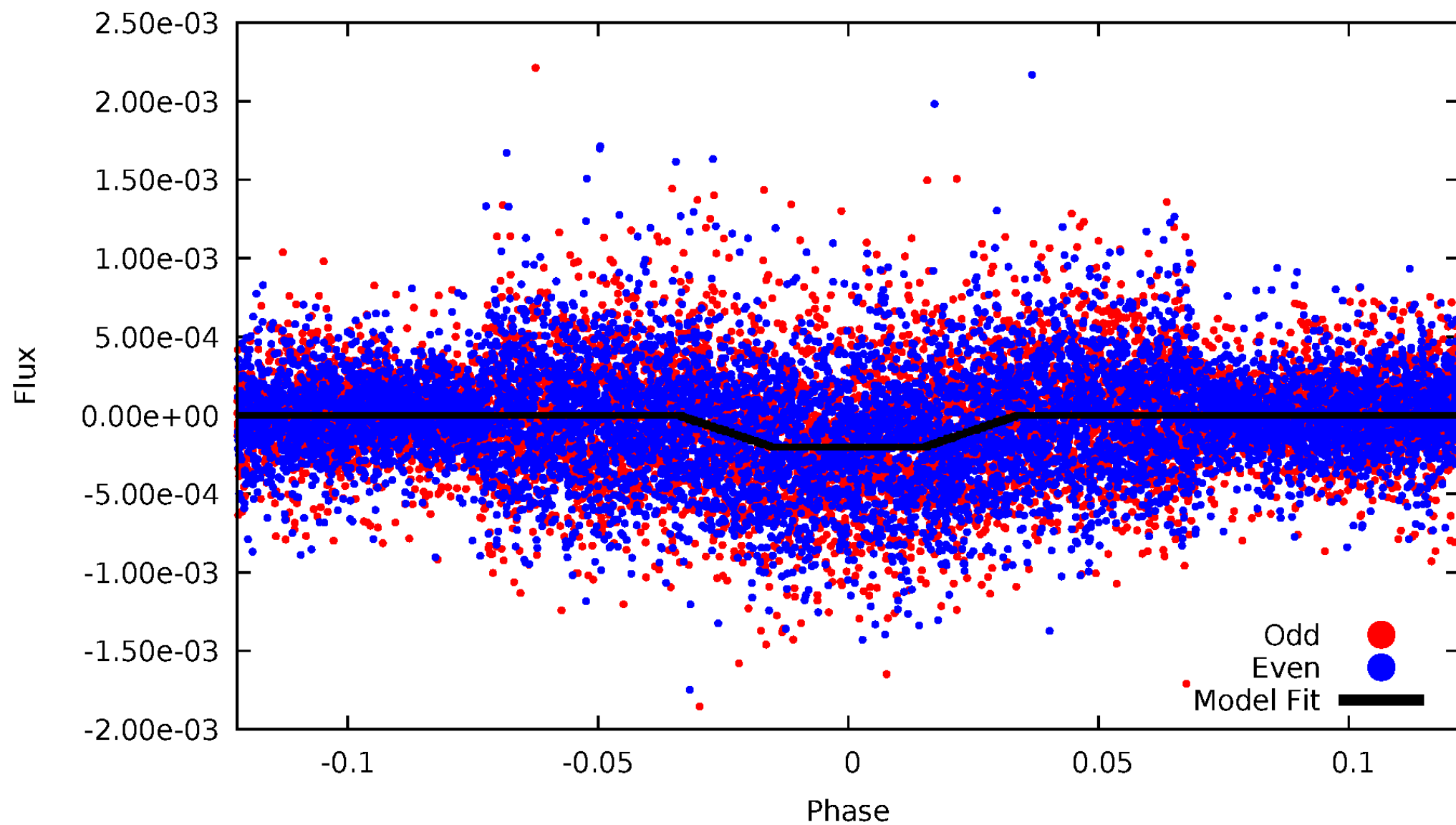
TCE 005895158-01





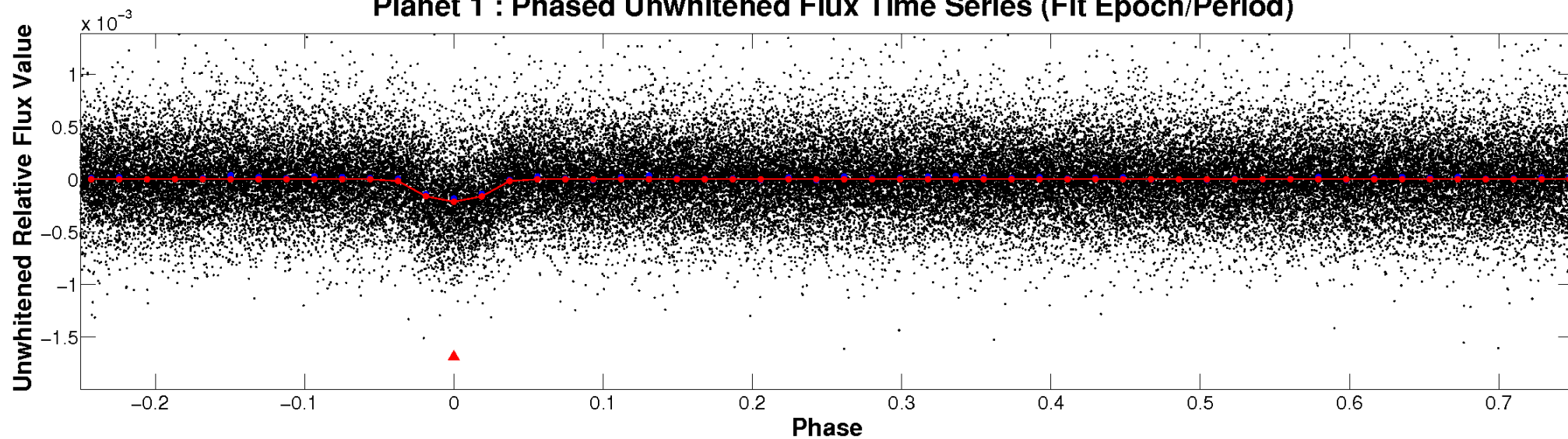
# ALT Odd/Even

TCE 005895158-01

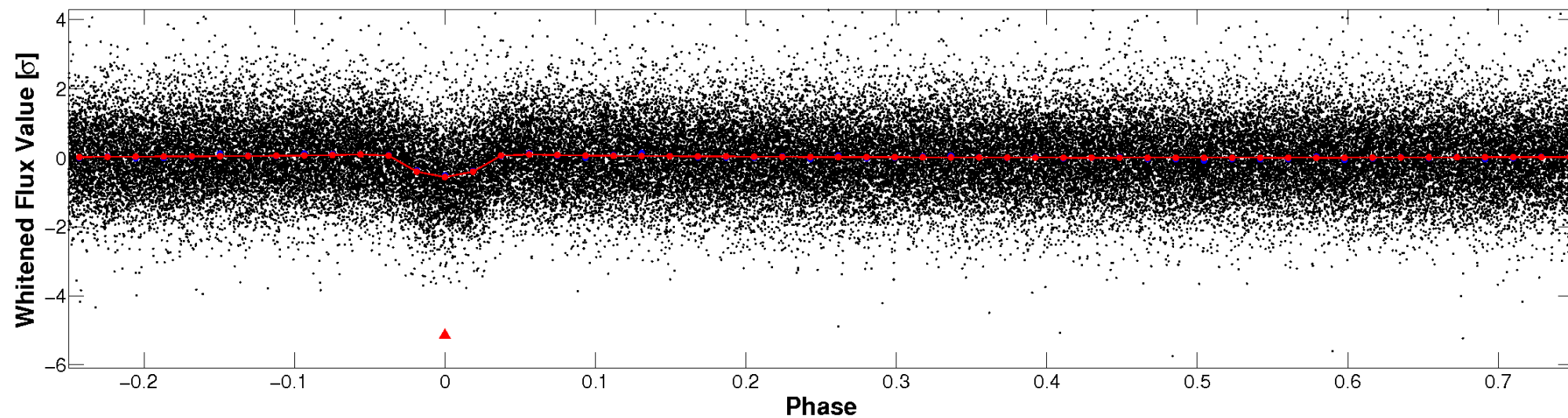


# Non-Whitened Vs. Whitened Light Curve

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

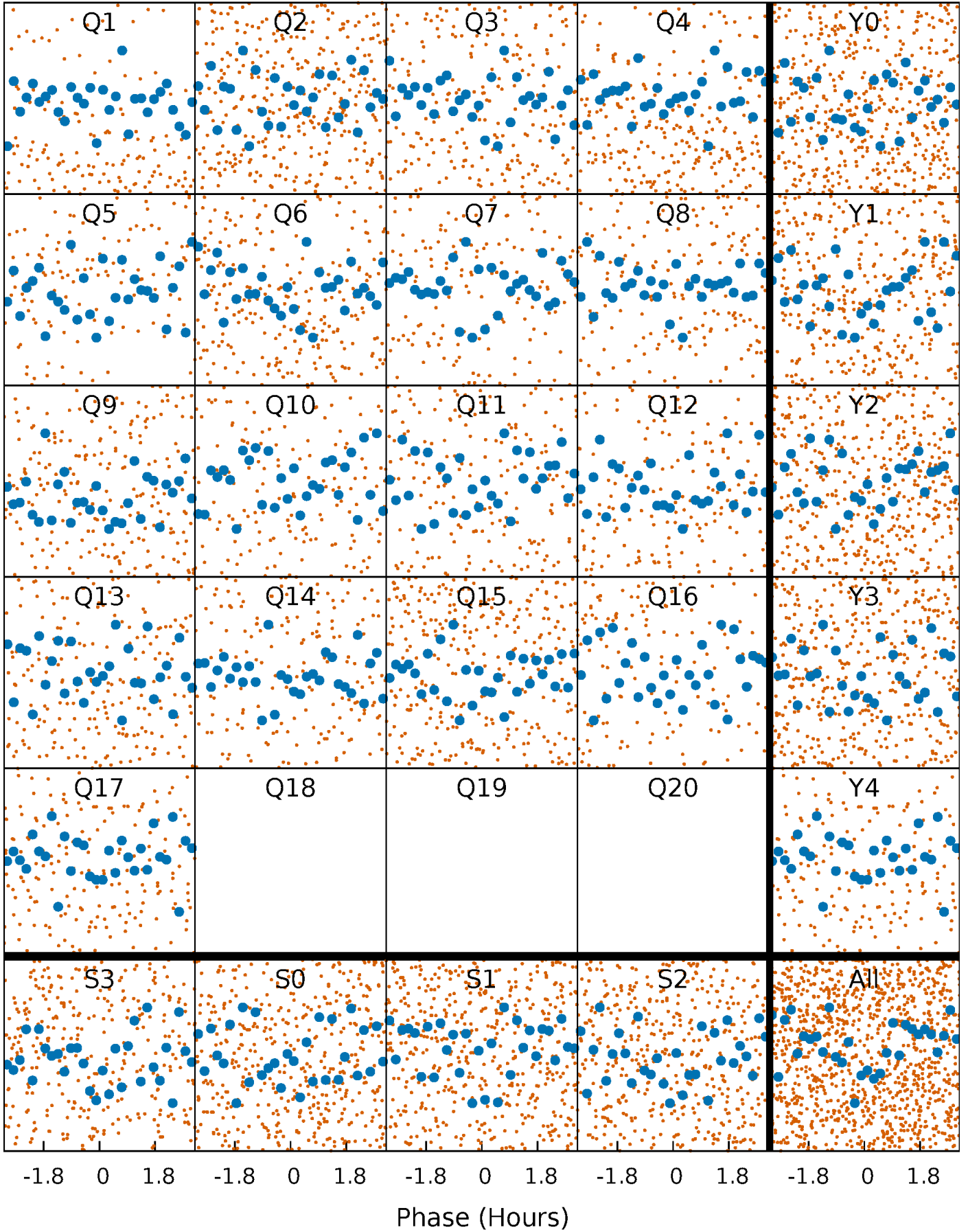


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

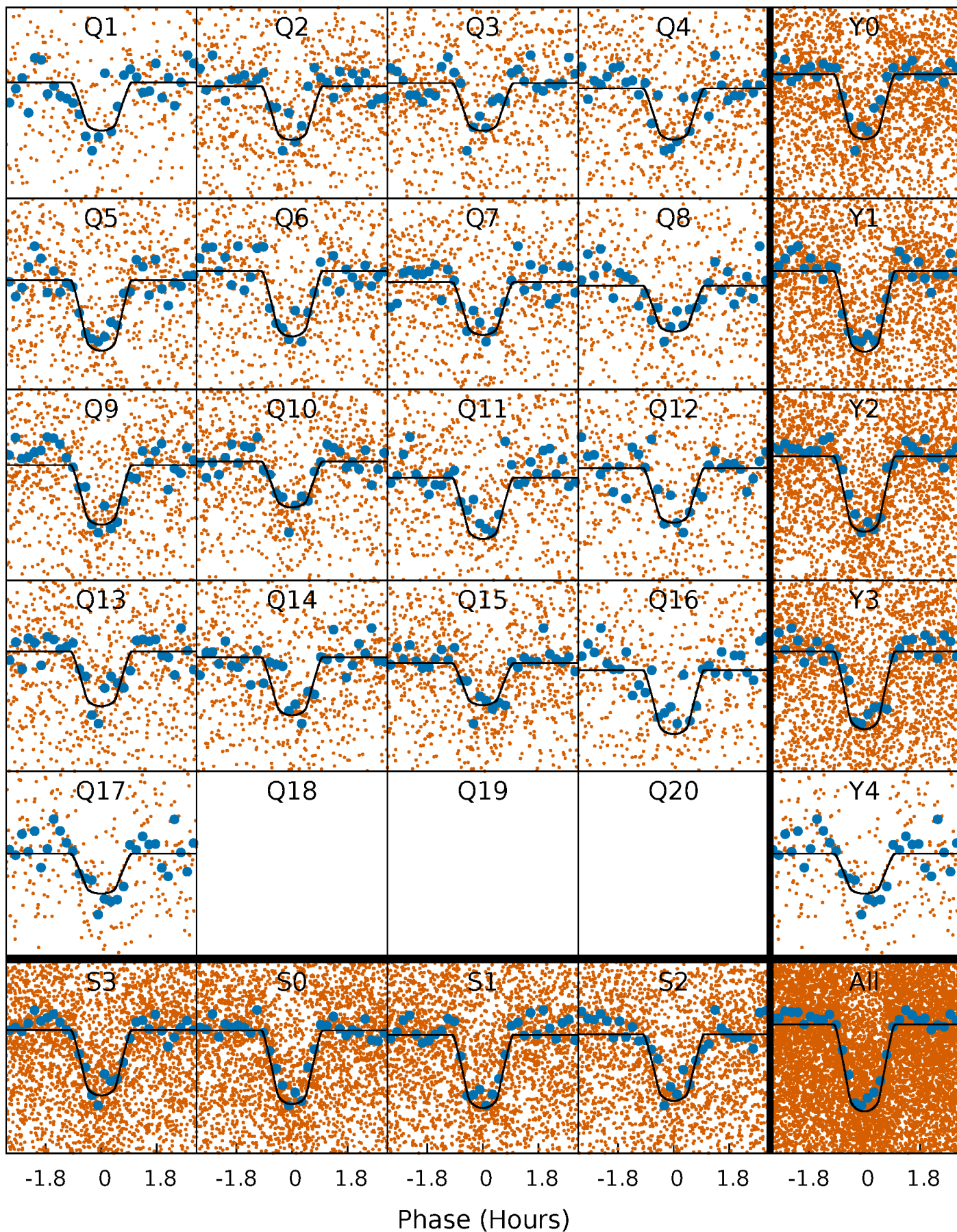
TCE 005895158-01   P= 1.093655 Days    $T_0=132.477911$  (BKJD)





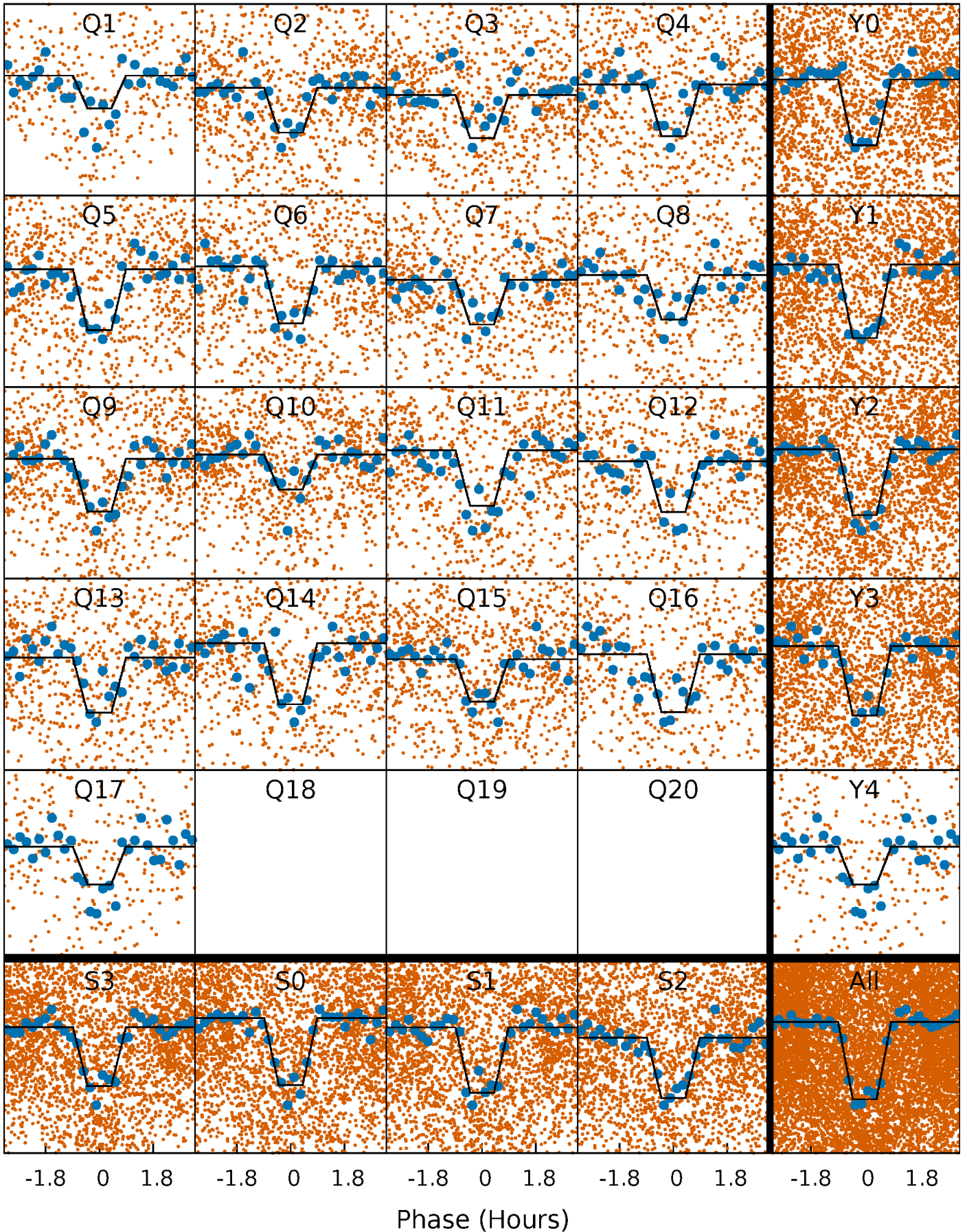
# DV Quarter-Phased Transit Curves

TCE 005895158-01 P= 1.093655 Days  $T_0=132.477911$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

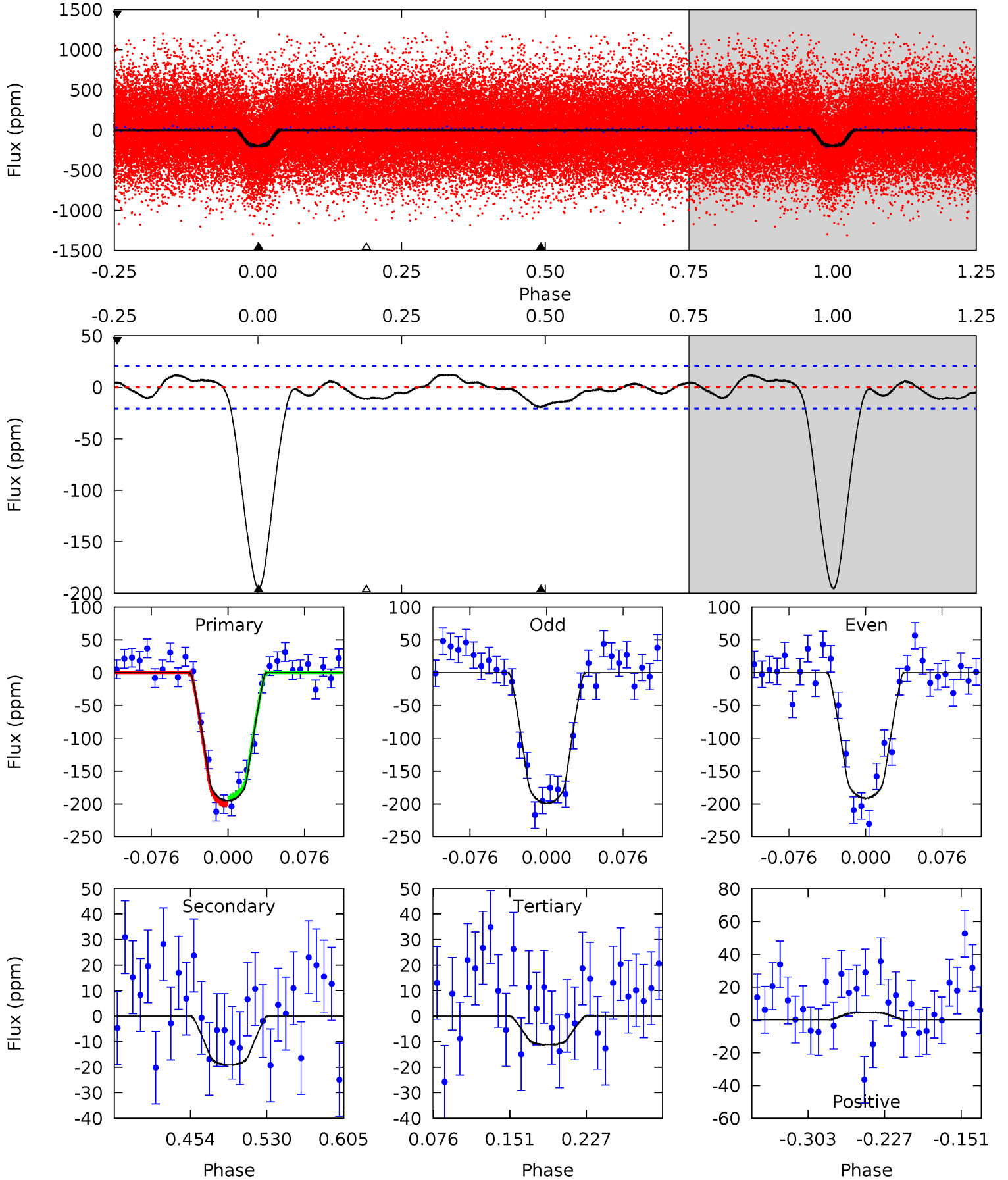
TCE 005895158-01 P= 1.093661 Days  $T_0=132.474603$  (BKJD)



# DV Model-Shift Uniqueness Test

005895158-01, P = 1.093655 Days, E = 131.384256 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
43.3	4.25	2.49	1.01	4.62	1.78	1.41	40.8	42.3	1.75	3.24	0.86	0.91	0.06	1.22

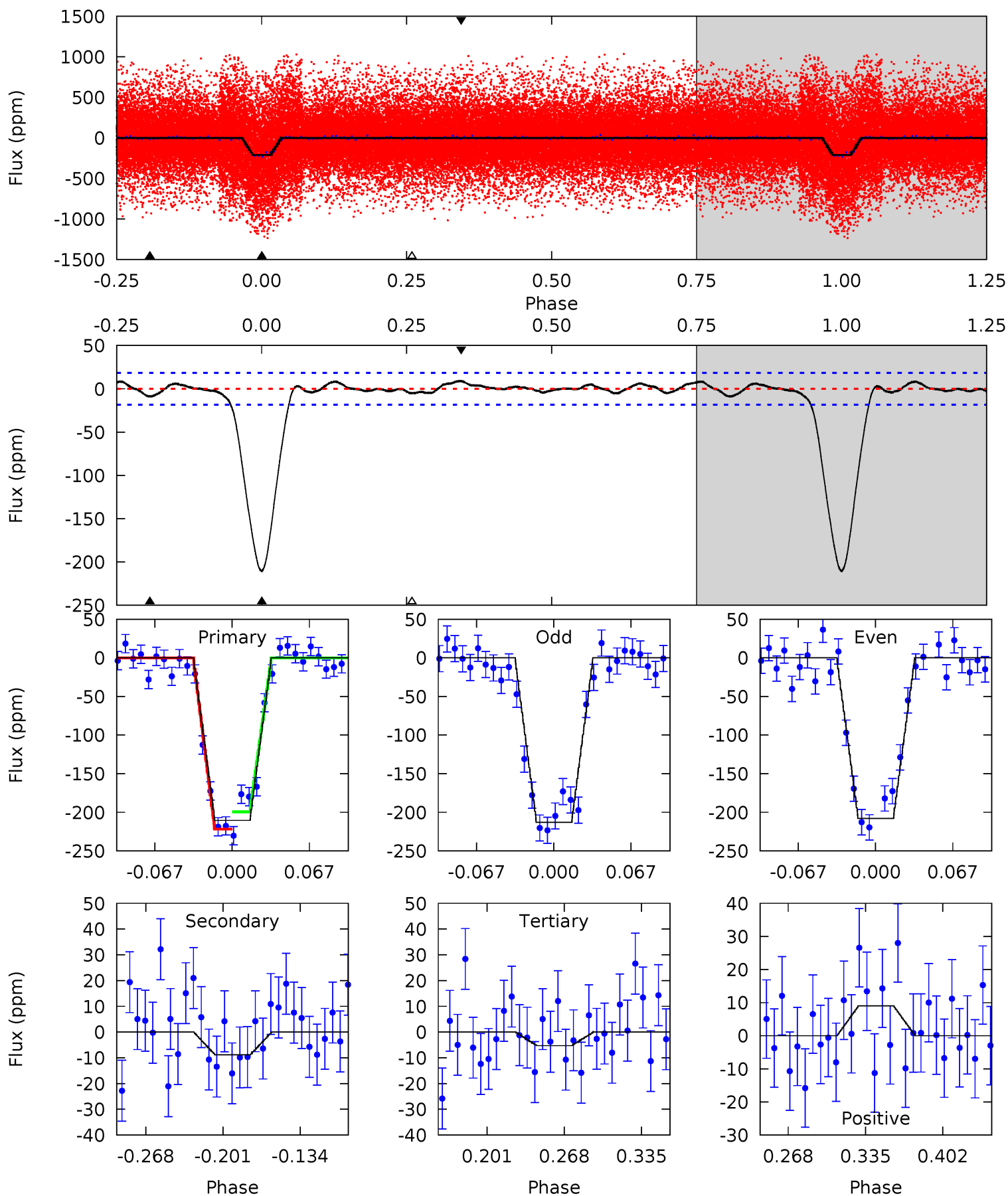




# Alt Model-Shift Uniqueness Test

005895158-01, P = 1.093661 Days, E = 131.380942 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
53.4	2.25	1.33	2.29	4.65	1.83	0.89	52.0	51.1	0.91	-0.04	0.63	1.02	0.04	2.82



### Stellar Parameters For KIC 005895158

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5845^{+139}_{-174}$	$4.541^{+0.036}_{-0.192}$	$-0.160^{+0.300}_{-0.300}$	$0.874^{+0.252}_{-0.084}$	$0.968^{+0.108}_{-0.132}$	$2.042^{+0.394}_{-1.038}$
	+2%/-3%	+1%/-4%	+188%/-188%	+29%/-10%	+11%/-14%	+19%/-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 005895158-01 / KOI 3935.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-19 \pm 5$	$1.60^{+0.47}_{-0.44}$	$2407^{+152}_{-105}$	$3398^{+415}_{-333}$	$1.625^{+1.576}_{-0.692}$
Alt.	$-9 \pm 4$	$1.43^{+0.45}_{-0.42}$	$2399^{+174}_{-108}$	$3050^{+500}_{-550}$	$0.941^{+1.161}_{-0.505}$

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



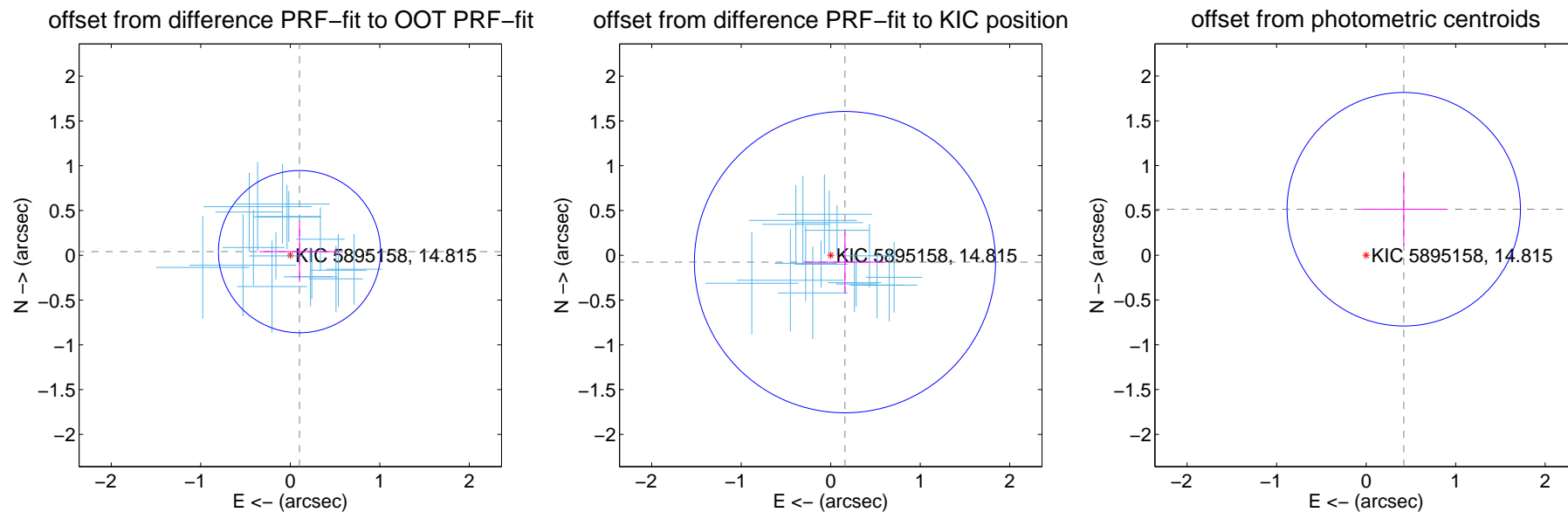
## DV Centroid Data

Supplemental centroid analysis for 005895158-01. Kepler magnitude: 14.81. Transit SNR 28.66

There are 16 quarters with good PRF difference image offsets

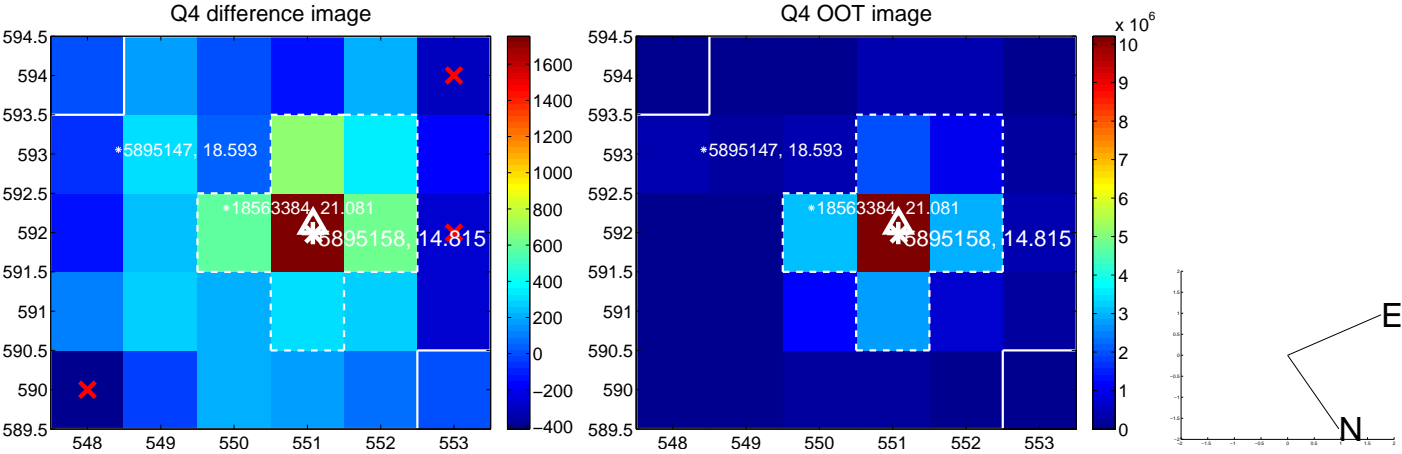
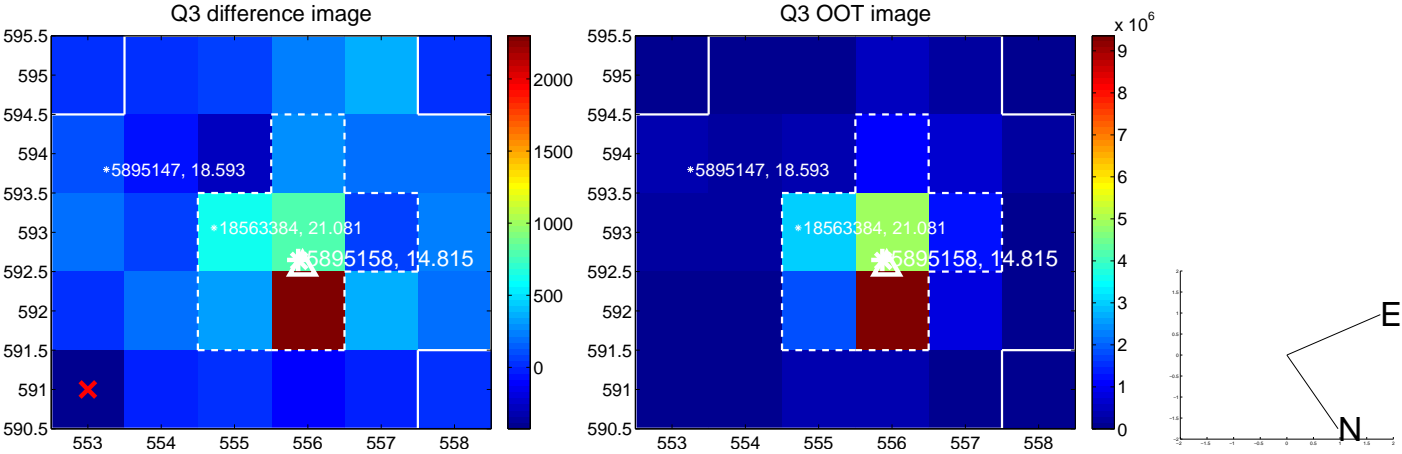
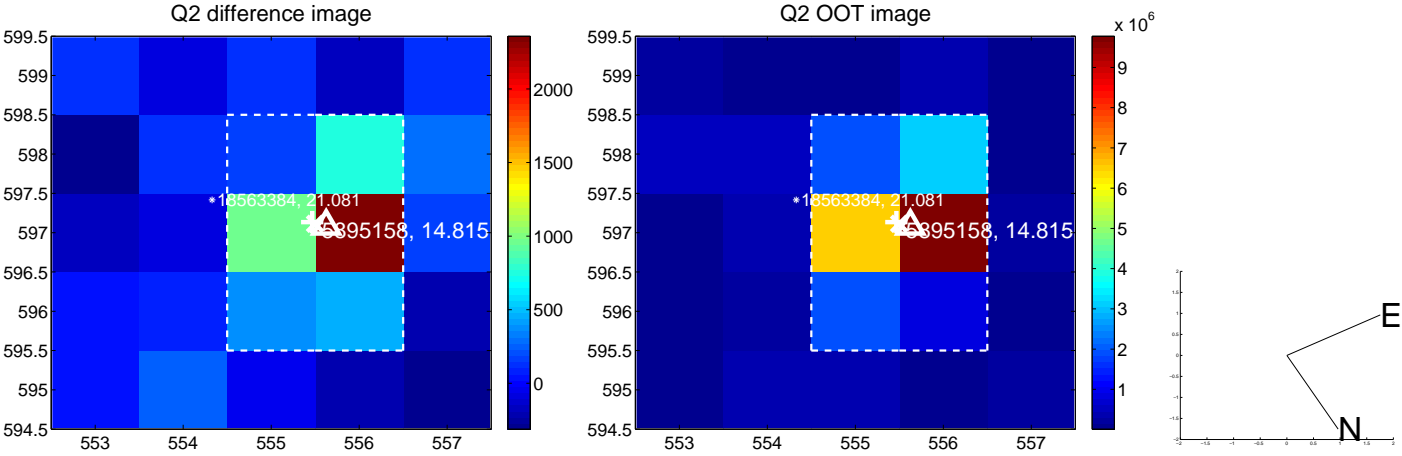
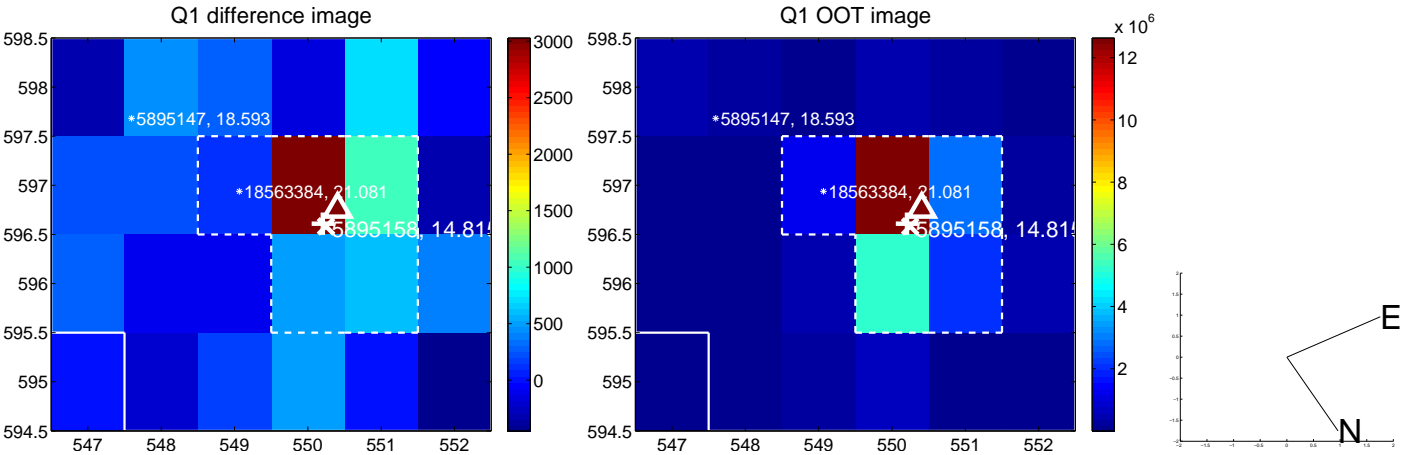
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.111 \pm 0.302$	0.37	$-0.103 \pm 0.446$	$0.041 \pm 0.340$
PRF-fit source offset from KIC position	$0.177 \pm 0.561$	0.32	$-0.159 \pm 0.463$	$-0.077 \pm 0.348$
photometric centroid source offset	$0.66 \pm 0.43$	1.53	$-0.42 \pm 0.47$	$0.51 \pm 0.41$

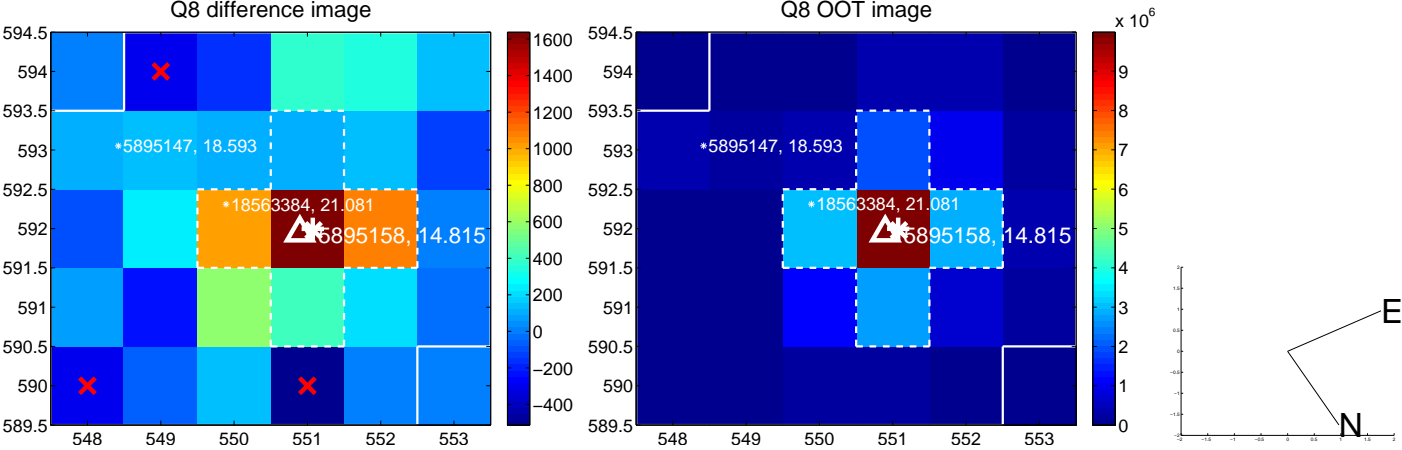
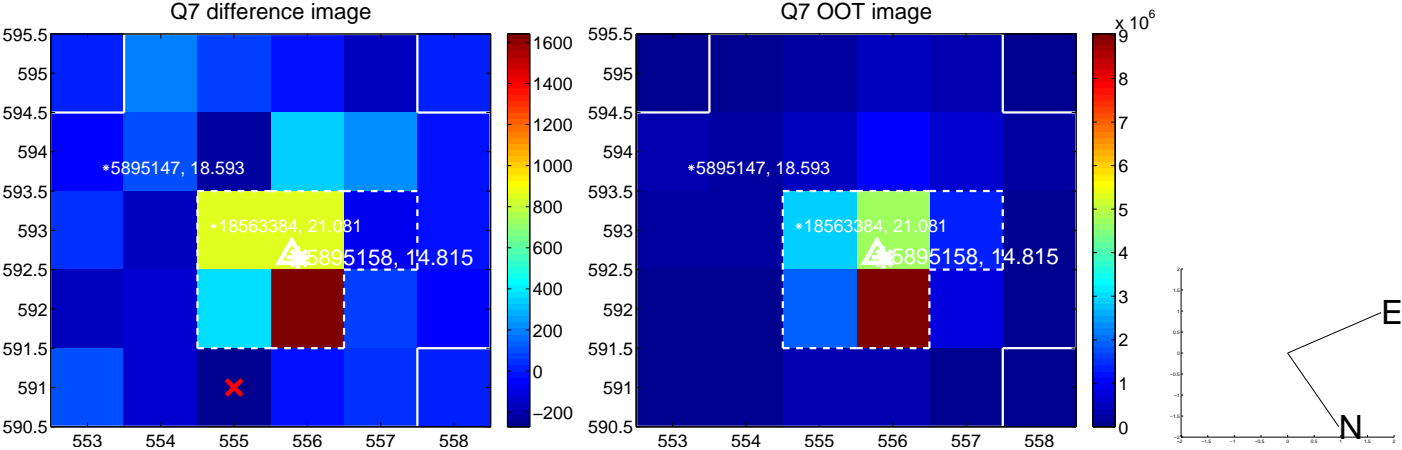
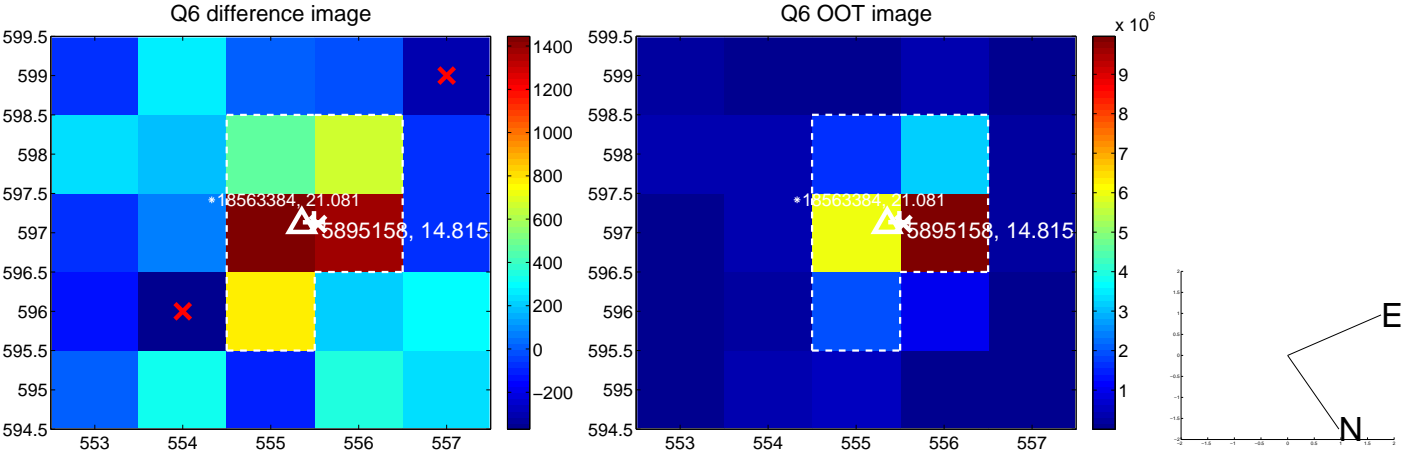
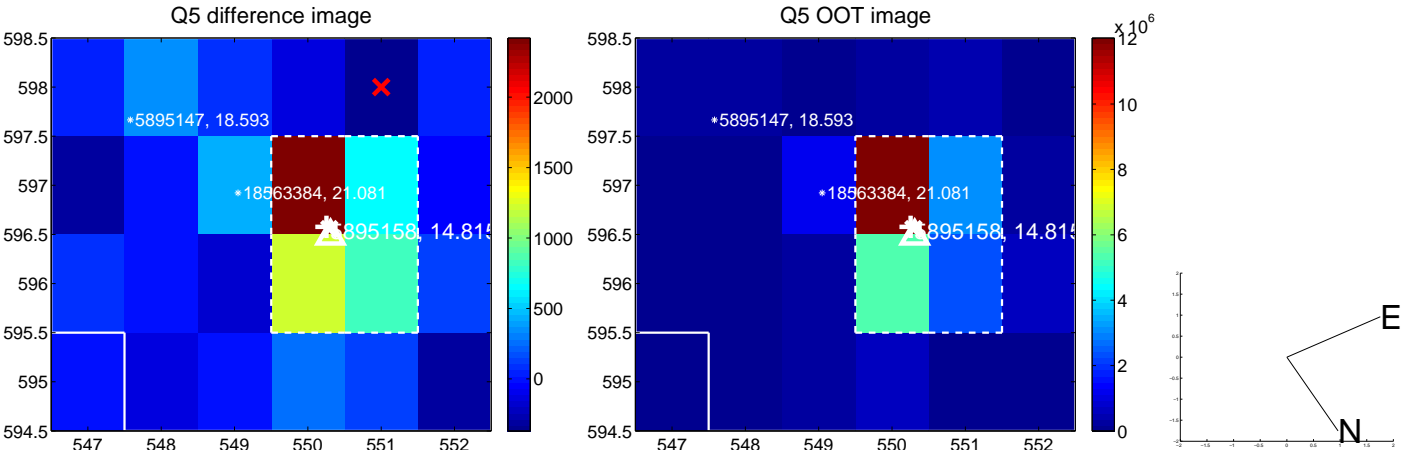


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

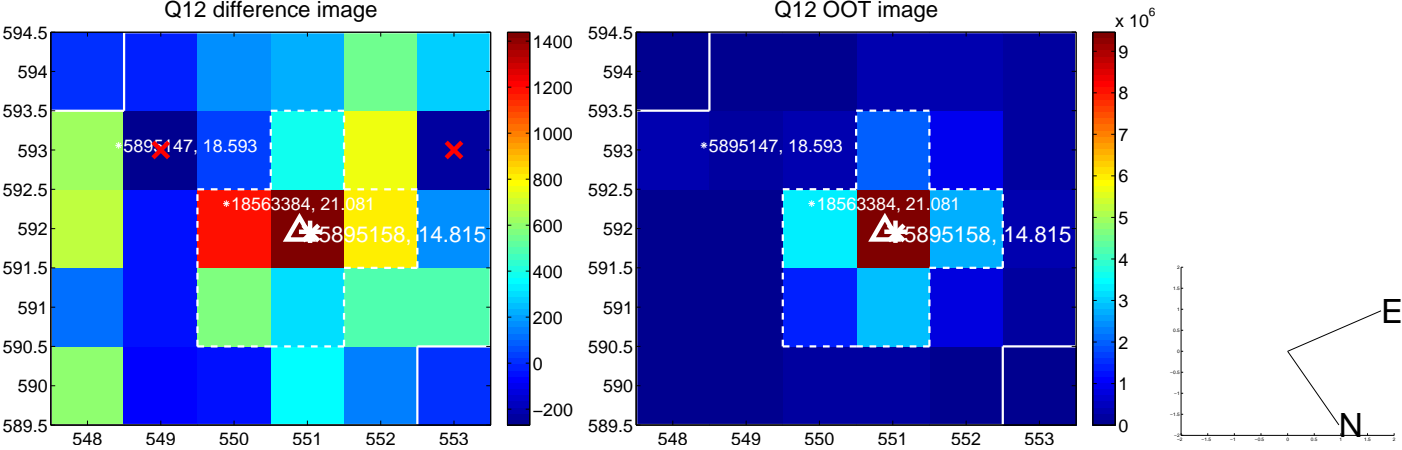
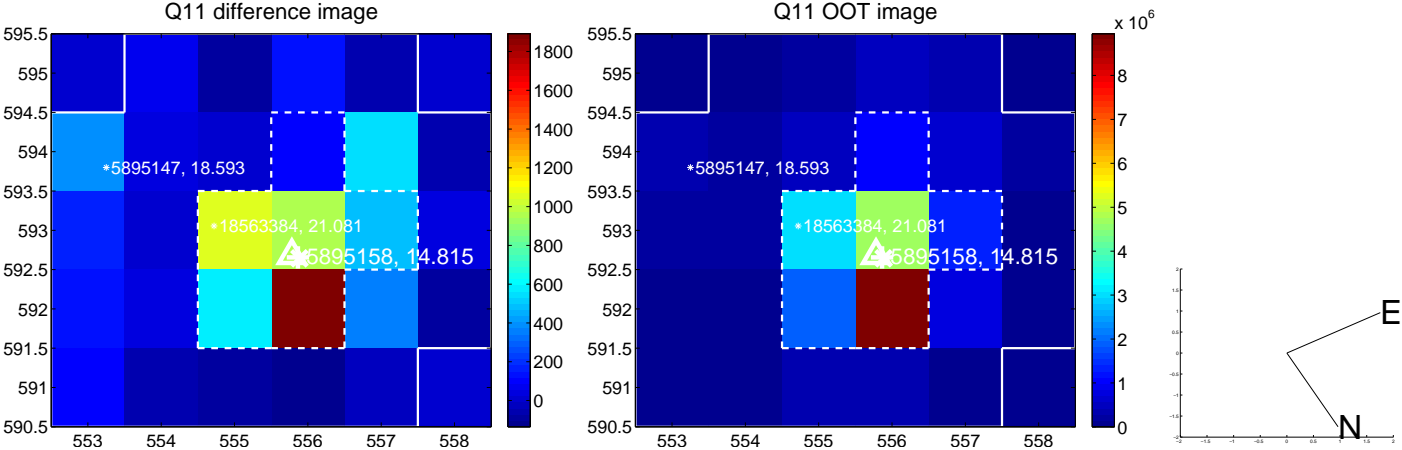
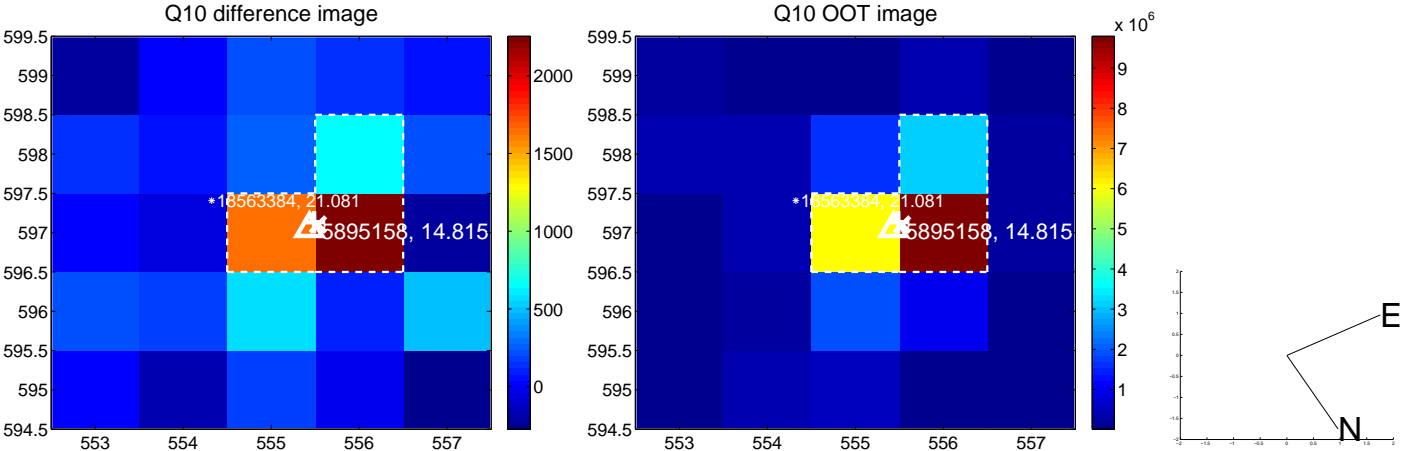
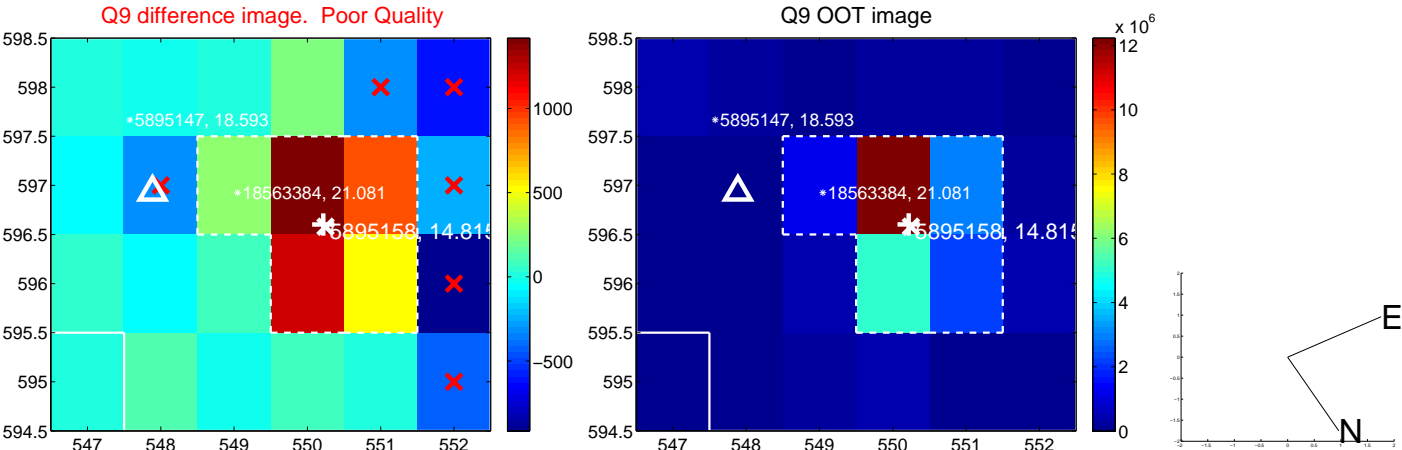
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



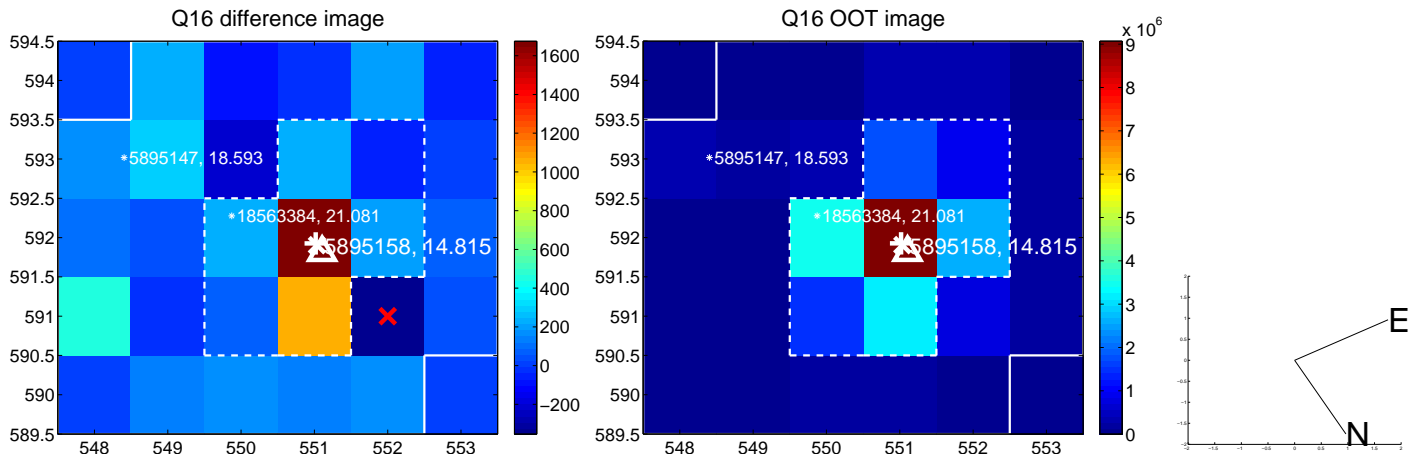
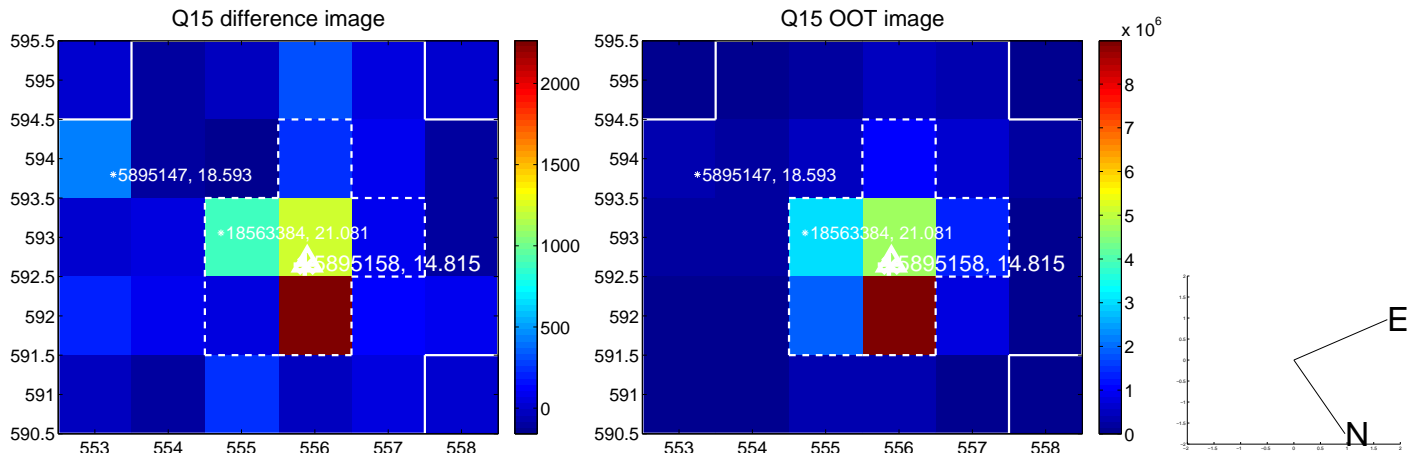
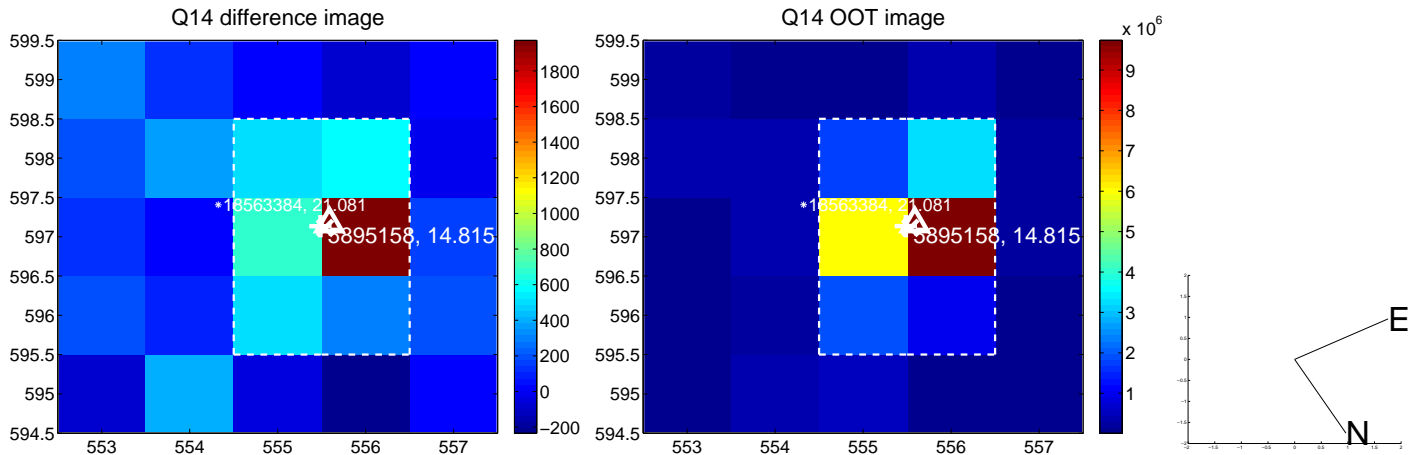
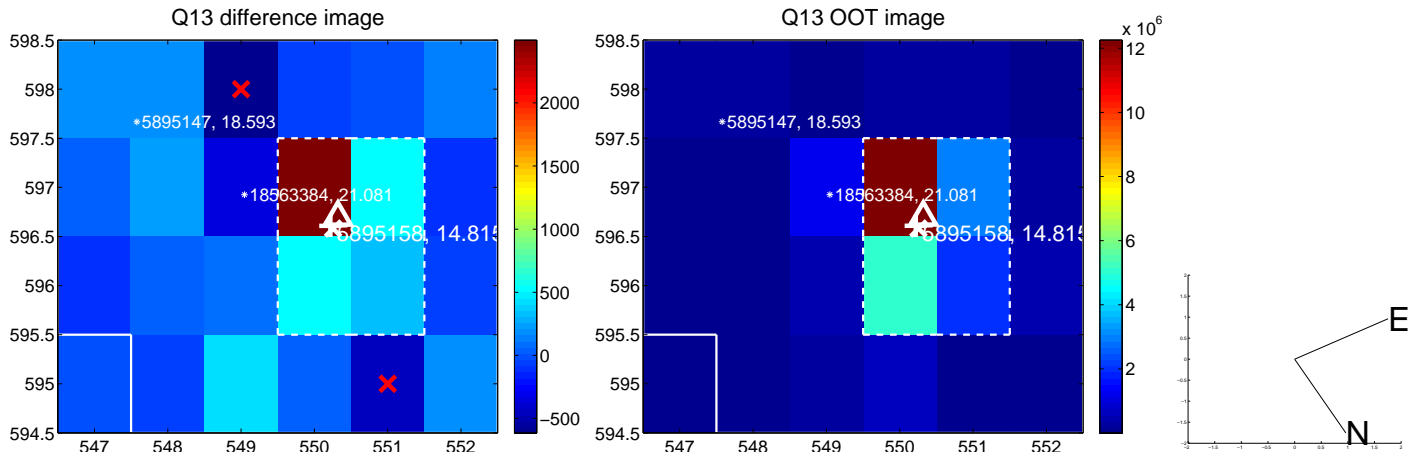
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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







# UKIRT Image

Declination

