

# KIC 005702770

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005702770-01	OBS	6617.01	8.001790	135.426845	85.8	3.601	7.4	8.1	0.88	5830	0.90	132.13

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005702770-01	OBS	PC	0.85	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.

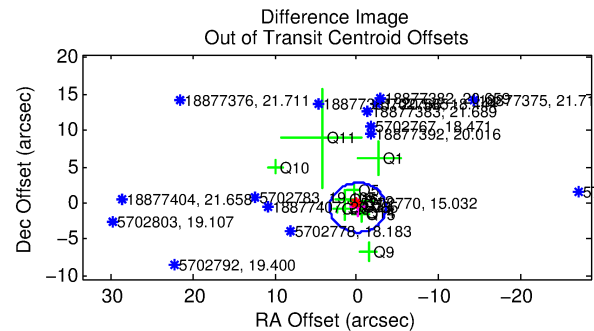
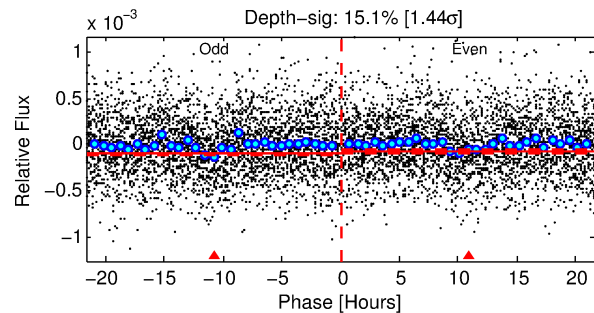
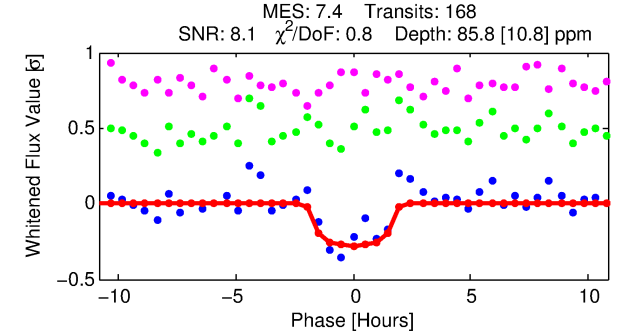
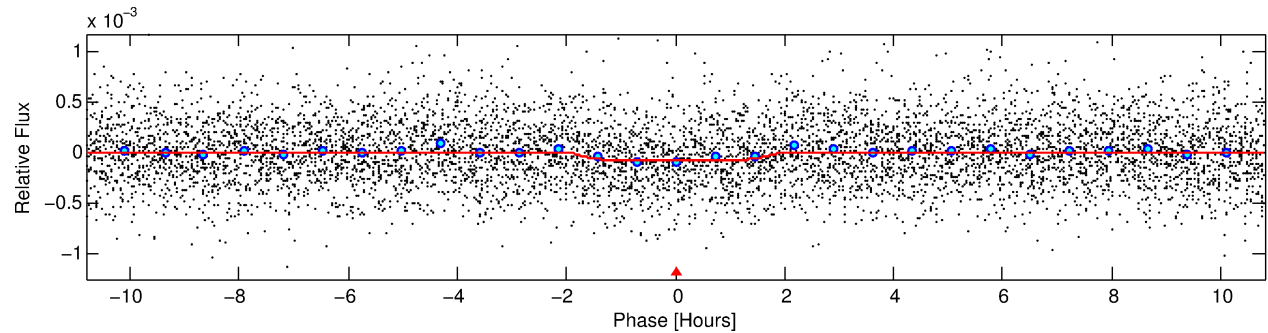
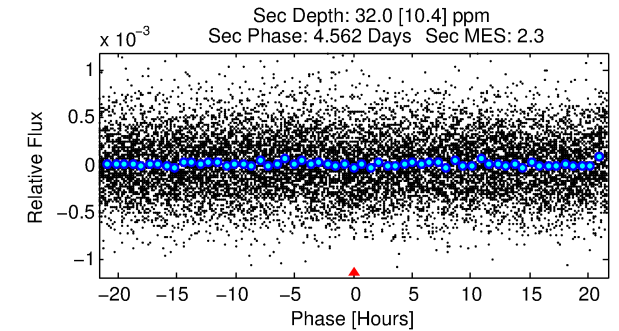
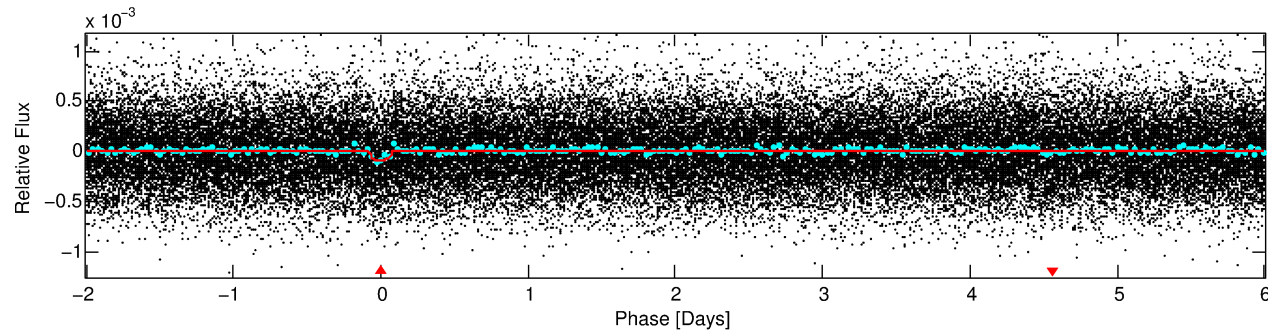
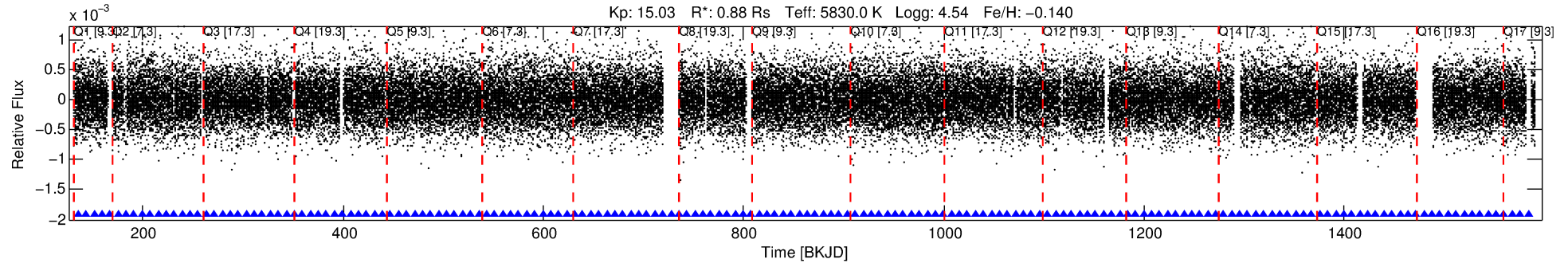
## Ephemeris Match Information For 005702770-01

No Significant Match Found

# DV One-Page Summary

KIC: 5702770 Candidate: 1 of 1 Period: 8.002 d

KOI: K06617.01 Corr: 0.939



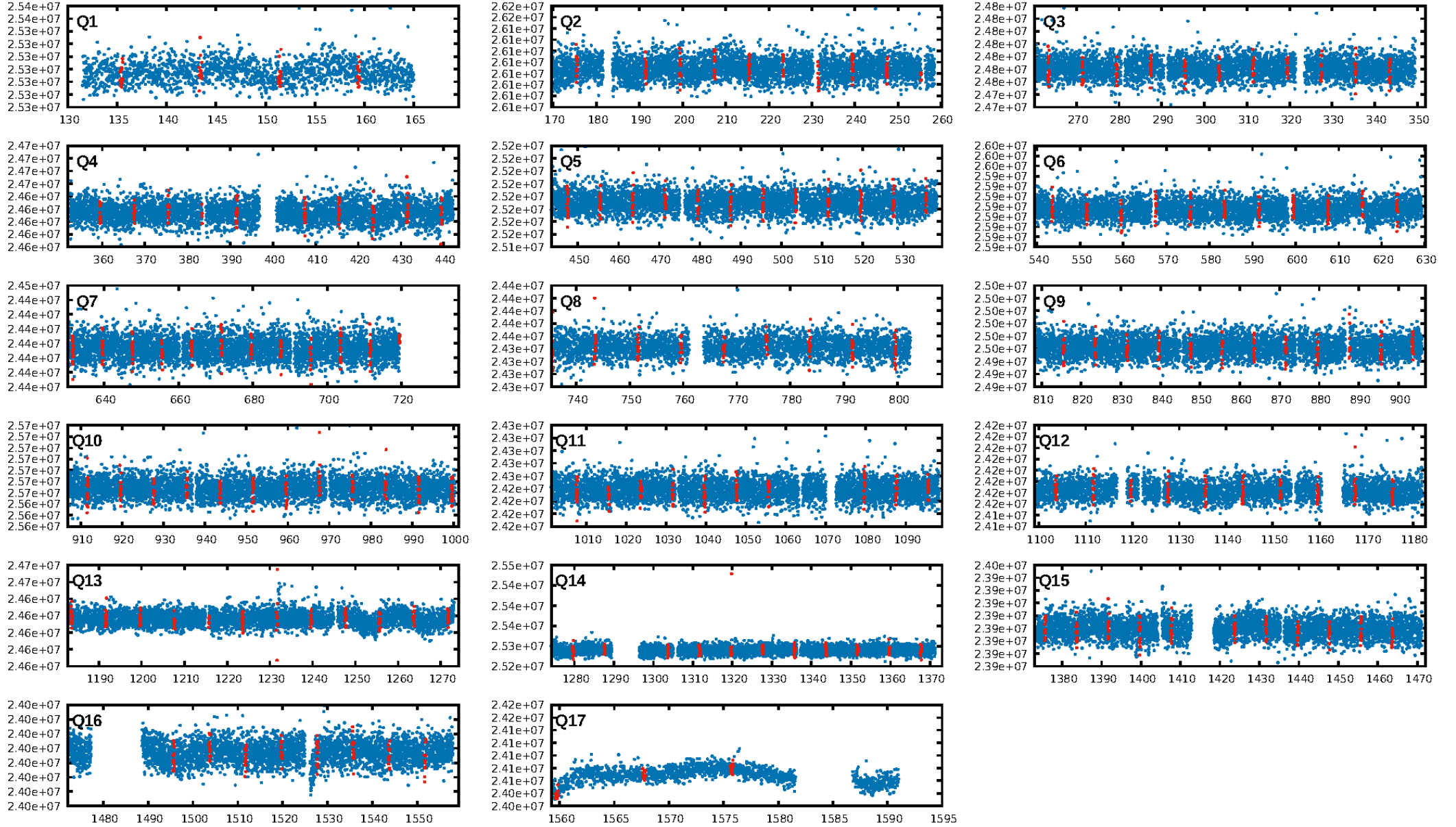
## DV Fit Results:

Period = 8.00179 [0.00009] d  
Epoch = 135.4268 [0.0091] BKJD  
Rp/R\* = 0.0094 [0.0069]  
a/R\* = 10.69 [36.46]  
b = 0.79 [1.66]  
Seff = 132.13 [49.27]  
Teff = 865 [81] K  
Rp = 0.90 [0.71] Re  
a = 0.0775 [0.0186] AU  
Ag = 131.53 [203.78] [0.64σ]  
Teffp = 4527 [1713] K [2.14σ]

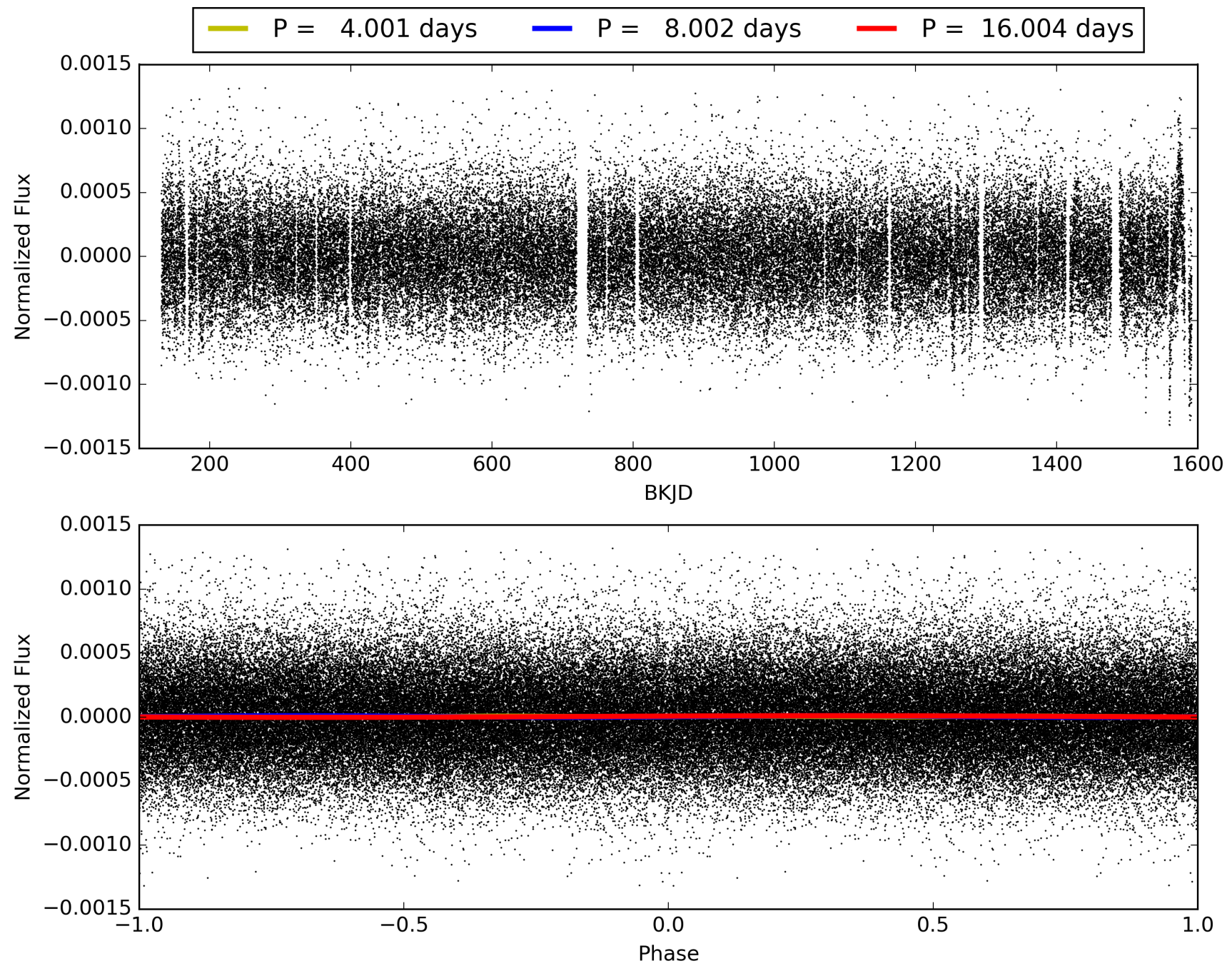
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.45e-13  
RollingBand-fgt: 1.00 [161/161]  
GhostDiagnostic-chr: 116.8  
Centroid-sig: 8.4%  
Centroid-so: 2.502 arcsec [1.49σ]  
OotOffset-rm: 0.660 arcsec [0.58σ]  
KicOffset-rm: 0.562 arcsec [0.53σ]  
OotOffset-st: 3/3/3/4 [13]  
KicOffset-st: 3/3/3/4 [13]  
DiffImageQuality-fgm: 0.54 [7/13]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 005702770-01, PDC Light Curves



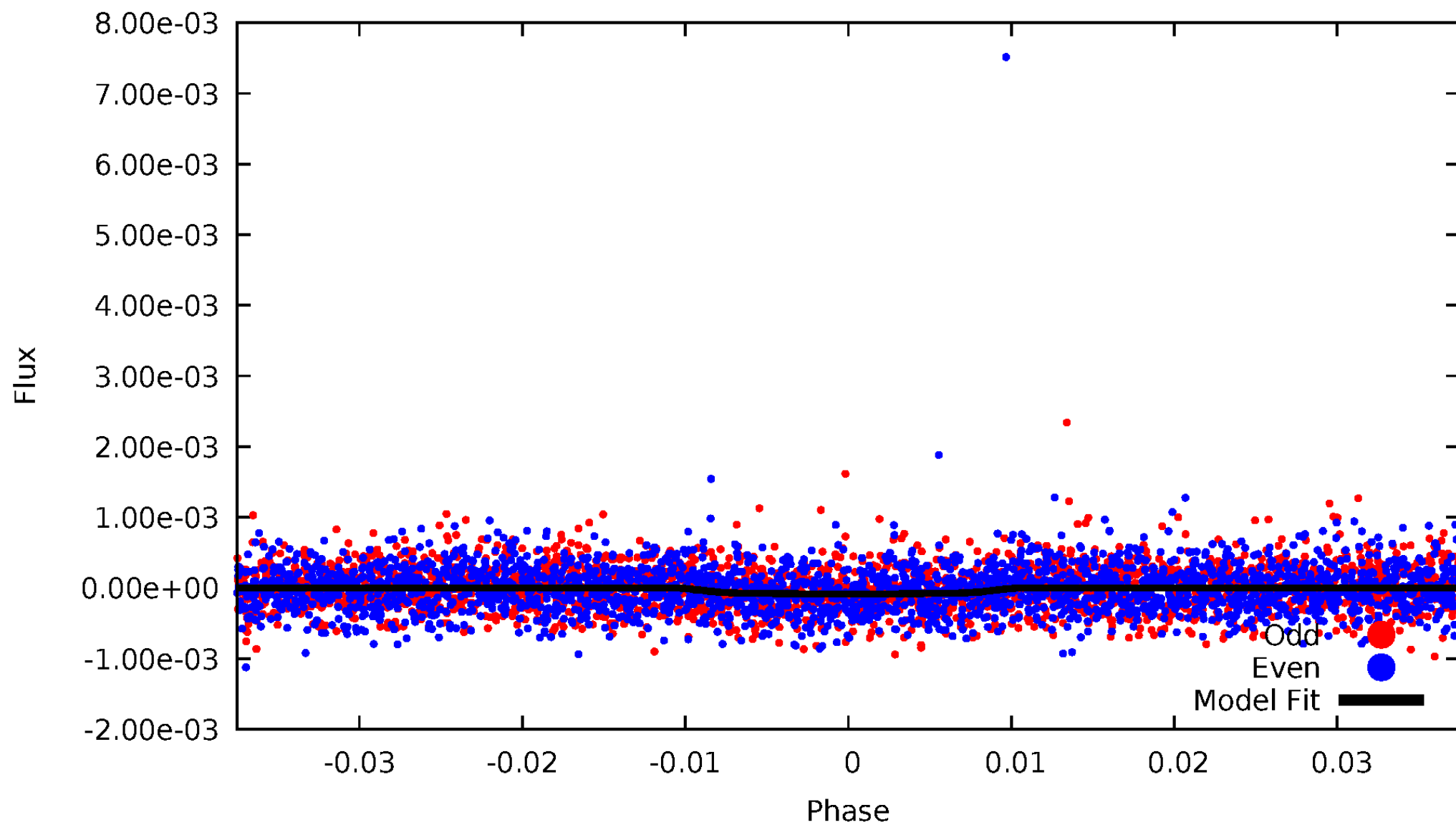
TCE 005702770-01





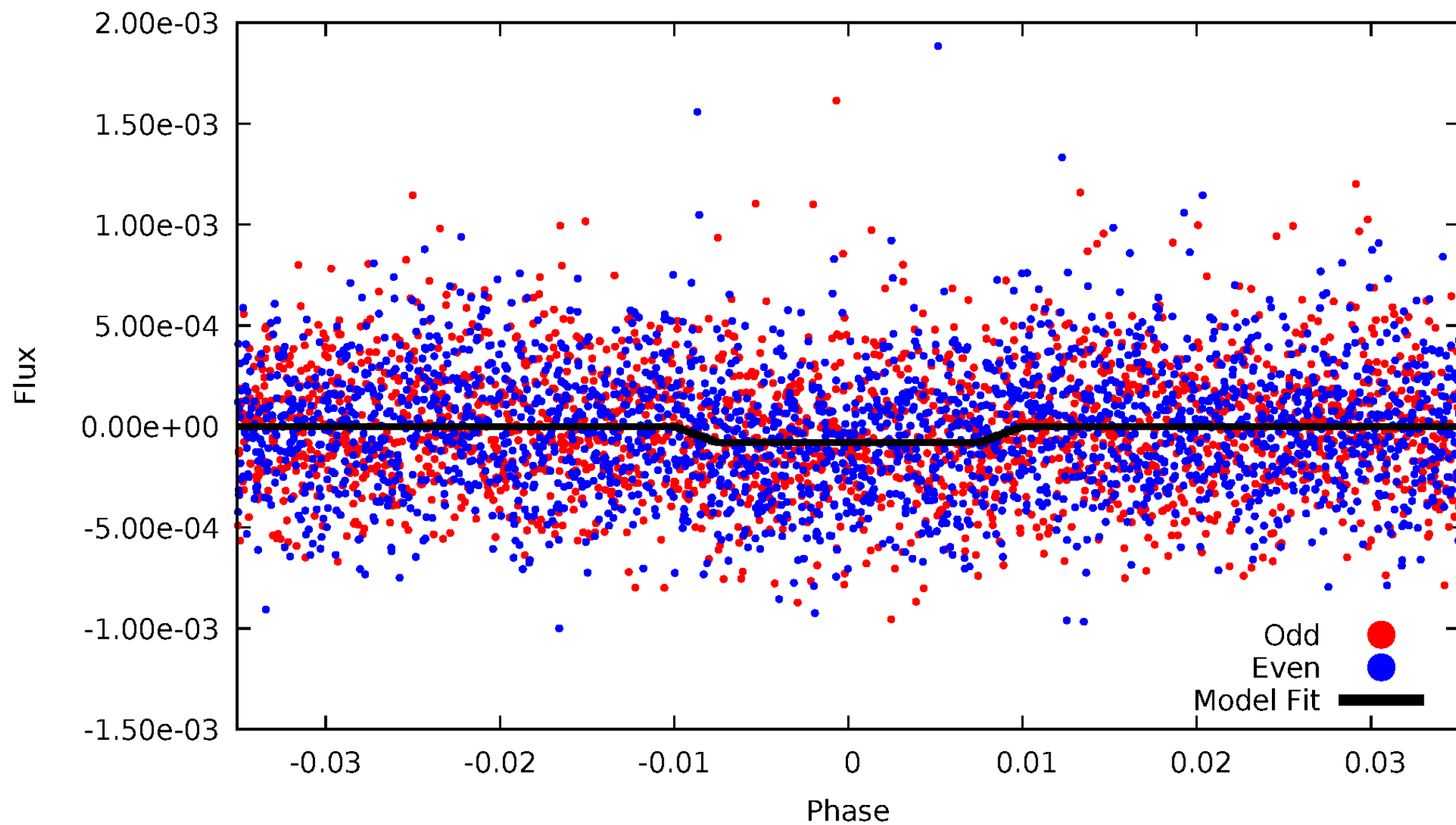
# DV Odd/Even

TCE 005702770-01

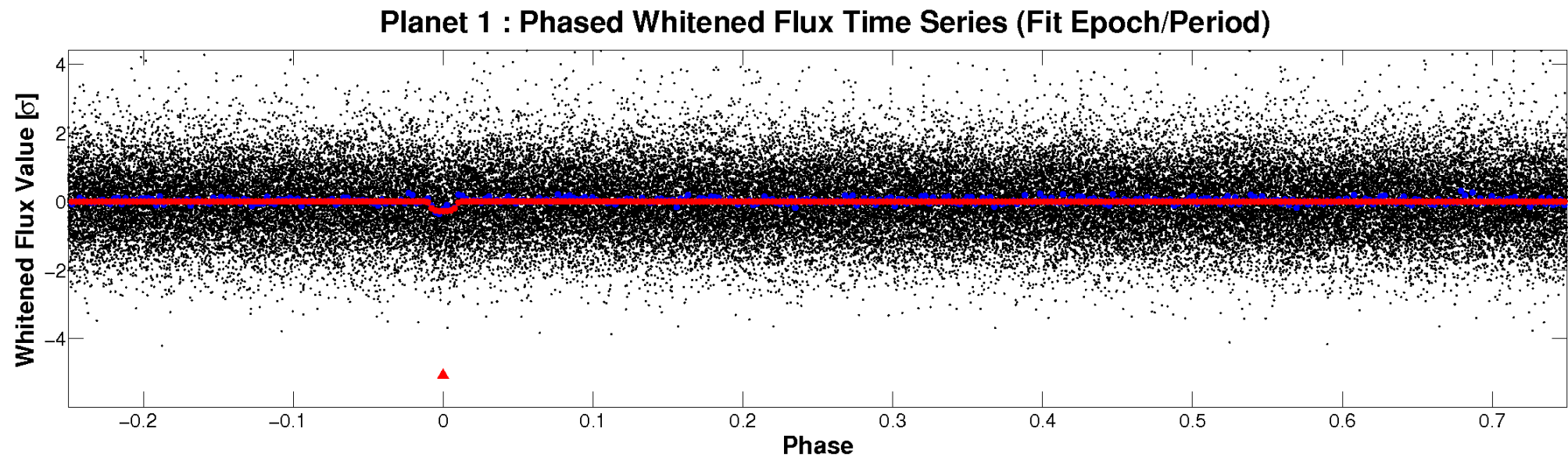
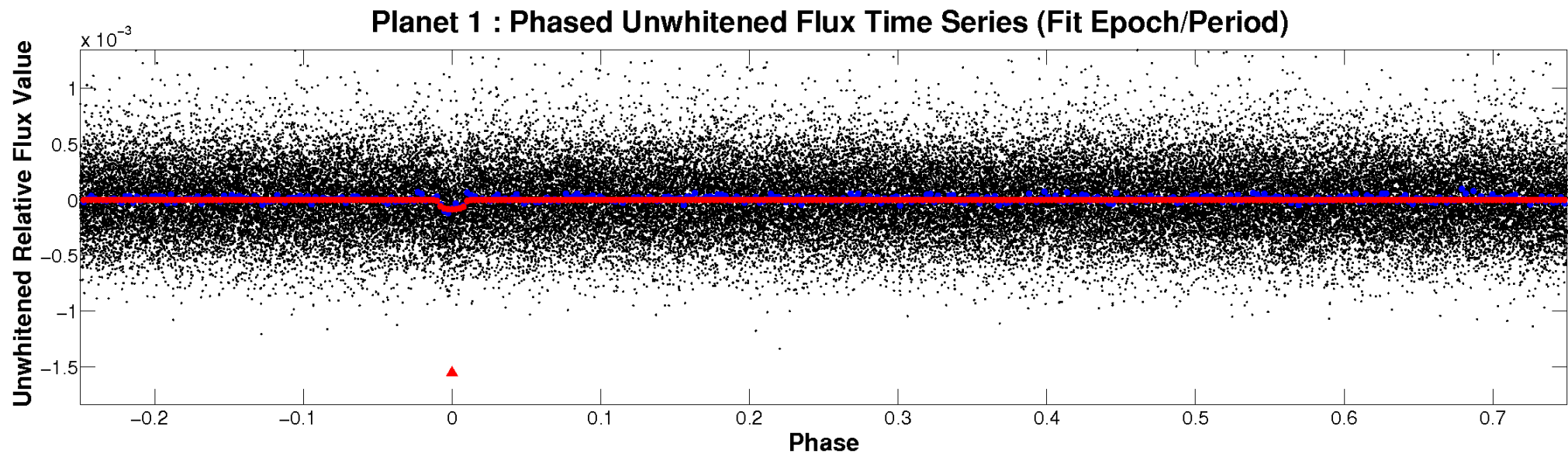


# ALT Odd/Even

TCE 005702770-01

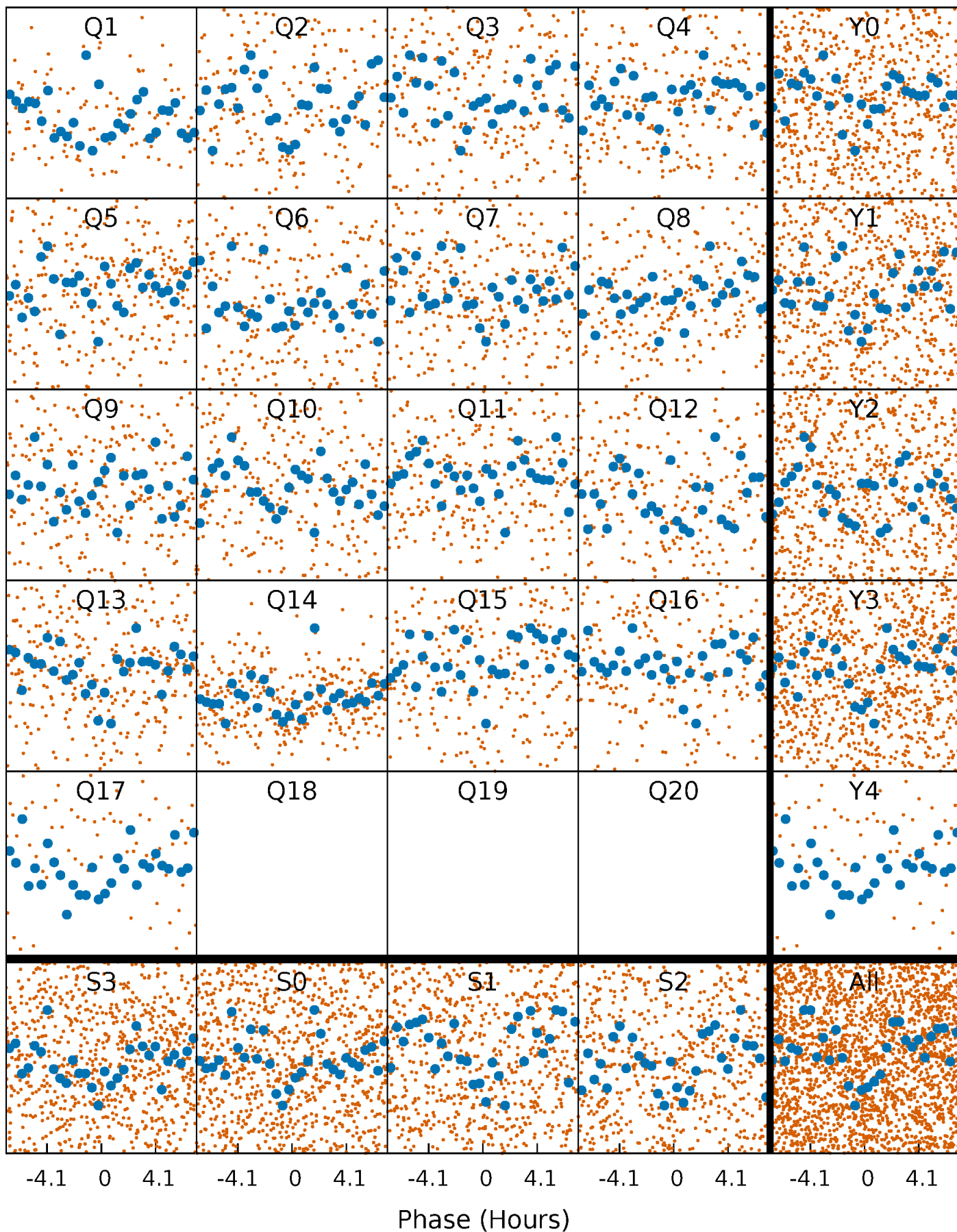


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

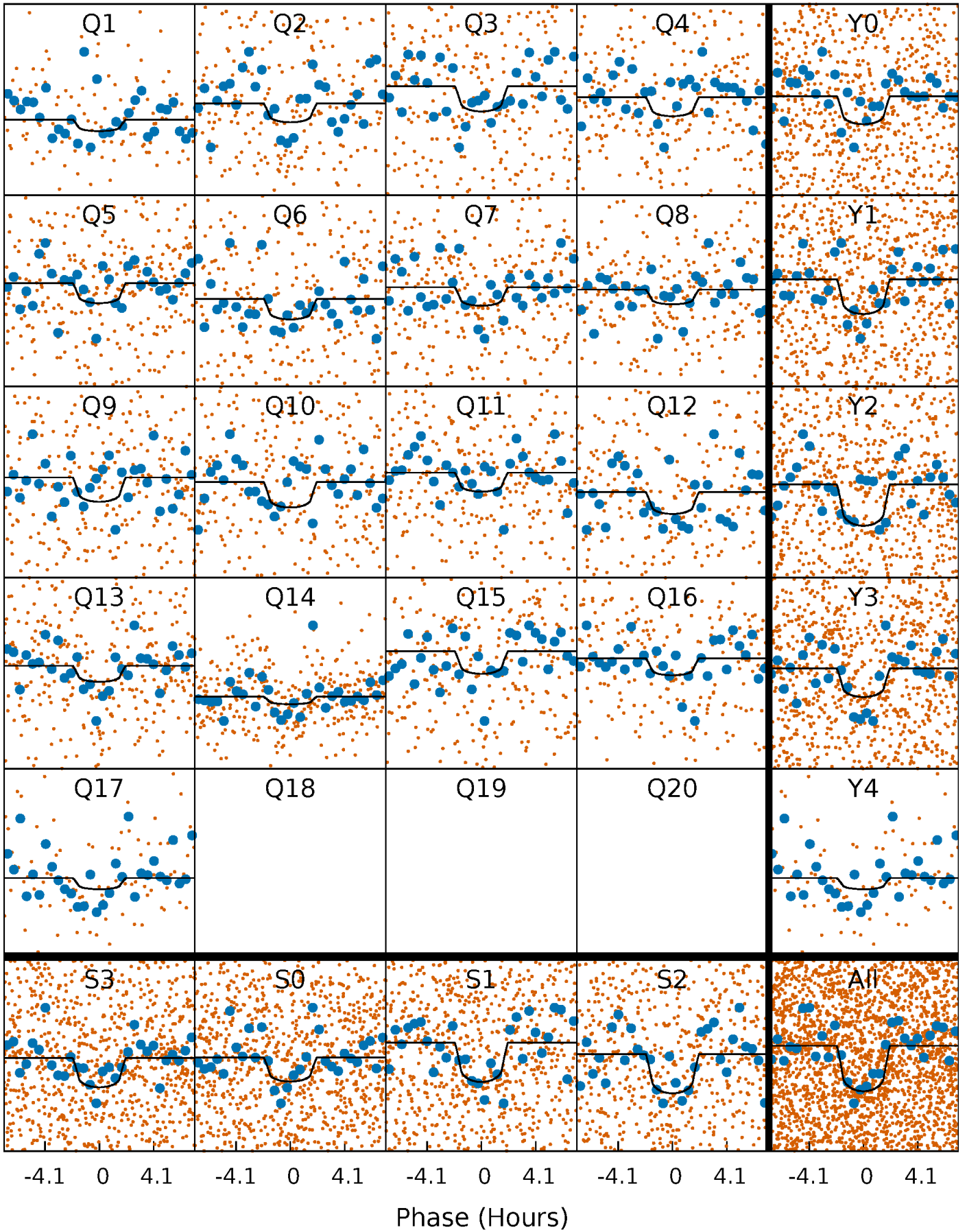
TCE 005702770-01   P= 8.001790 Days    $T_0=135.426845$  (BKJD)





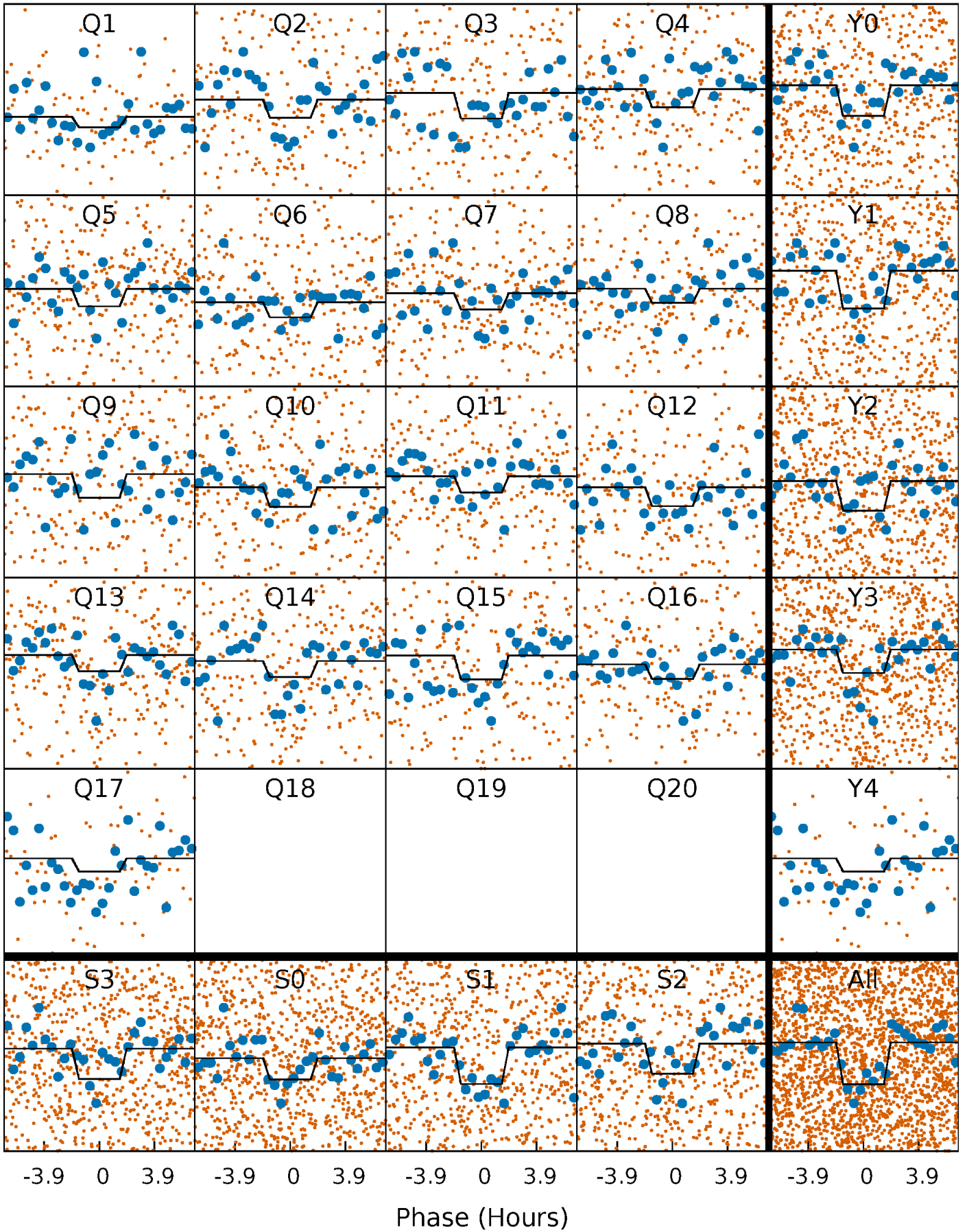
# DV Quarter-Phased Transit Curves

TCE 005702770-01 P= 8.001790 Days  $T_0=135.426845$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

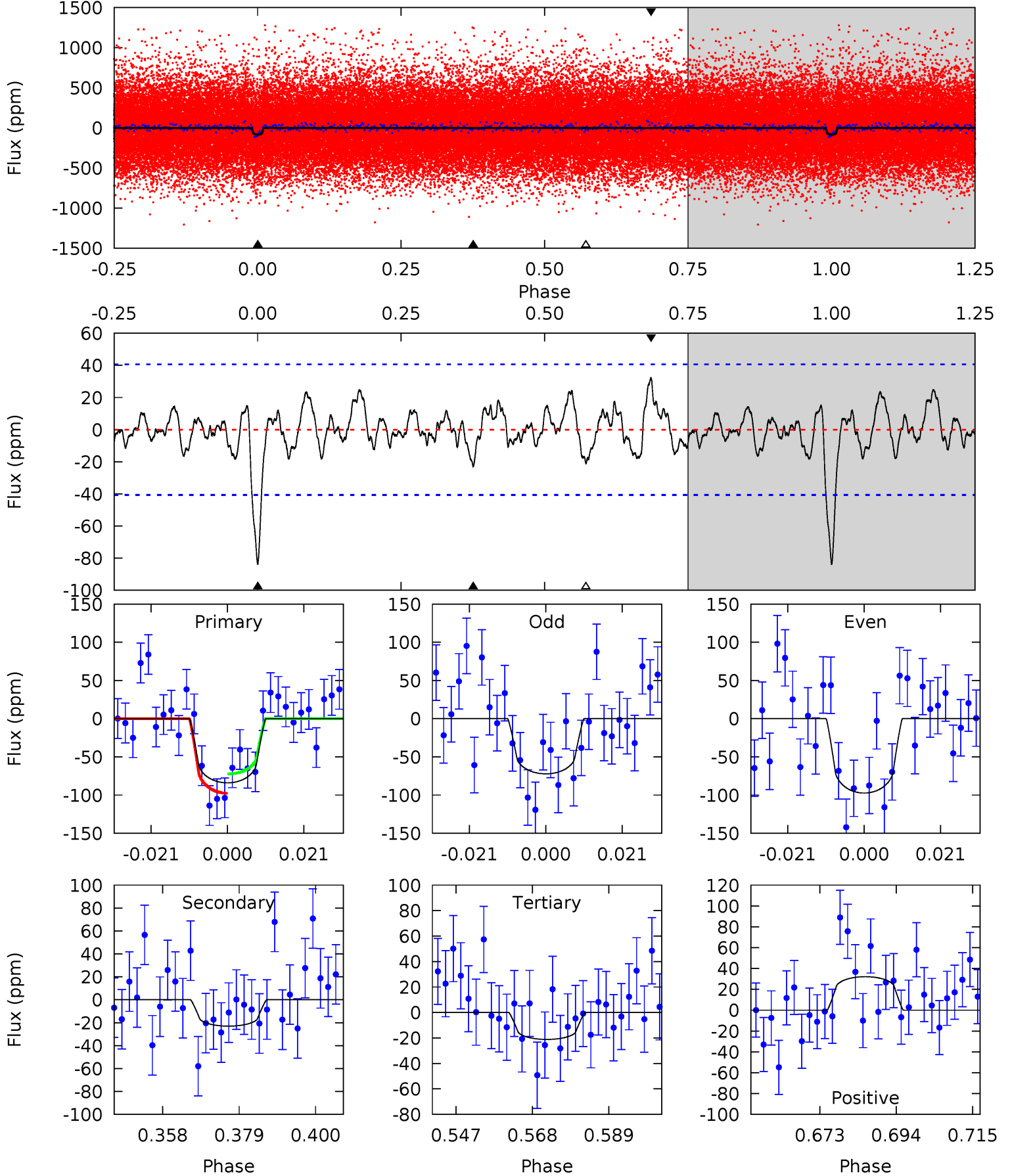
TCE 005702770-01 P= 8.001831 Days  $T_0=135.425699$  (BKJD)



# DV Model-Shift Uniqueness Test

005702770-01, P = 8.001790 Days, E = 127.425055 Days

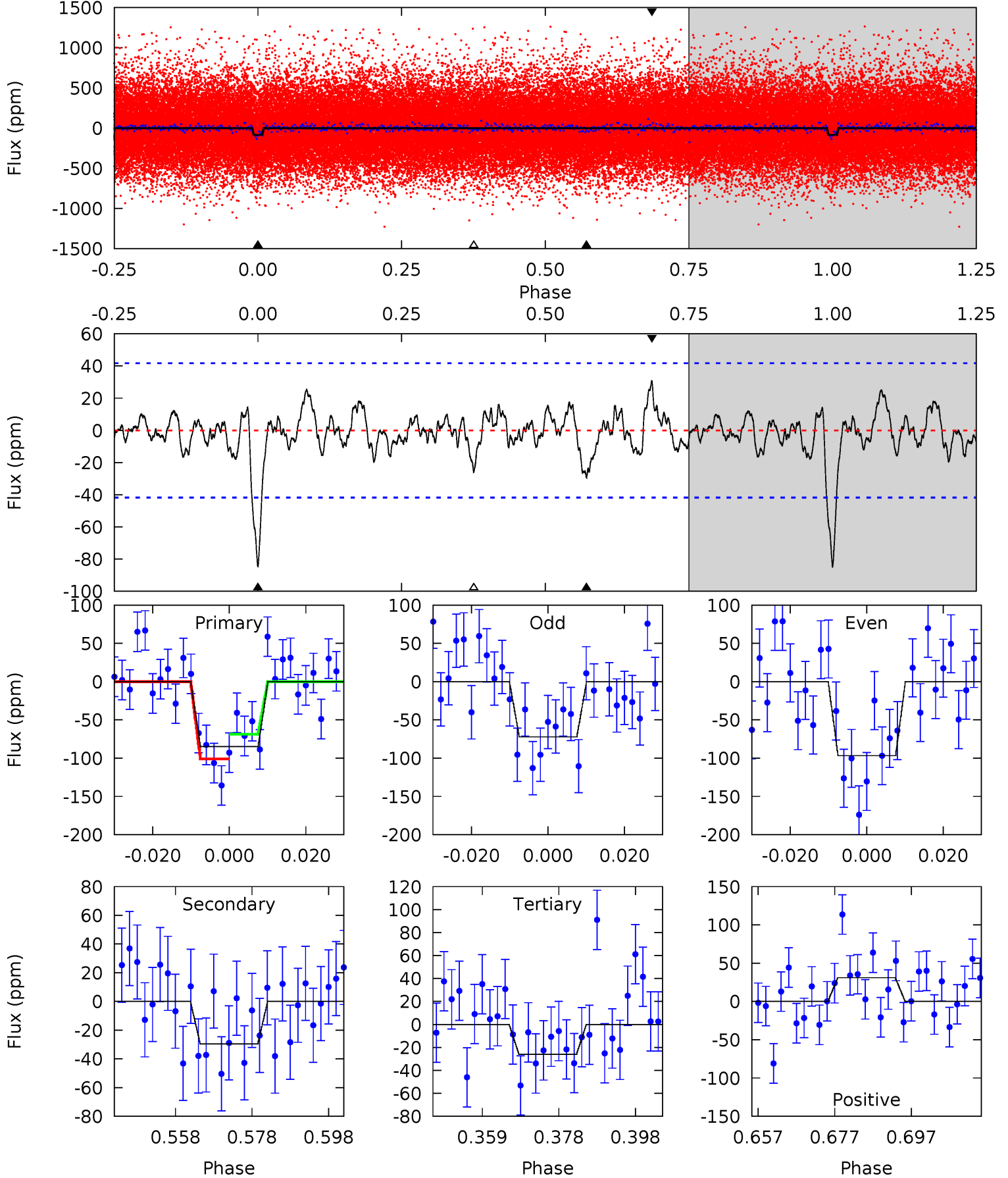
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	2.76	2.54	3.86	4.88	2.31	1.20	7.54	6.22	0.22	-1.10	1.51	0.95	0.28	1.52



# Alt Model-Shift Uniqueness Test

005702770-01, P = 8.001831 Days, E = 127.423868 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
9.95	3.47	3.05	3.65	4.89	2.33	1.05	6.90	6.30	0.42	-0.18	1.44	0.89	0.27	1.90





### Stellar Parameters For KIC 005702770

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5830^{+157}_{-175}$	$4.540^{+0.046}_{-0.195}$	$-0.140^{+0.300}_{-0.300}$	$0.876^{+0.246}_{-0.082}$	$0.970^{+0.104}_{-0.116}$	$2.036^{+0.393}_{-1.035}$
	+3%/-3%	+1%/-4%	+214%/-214%	+28%/-9%	+11%/-12%	+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 005702770-01 / KOI 6617.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-23 \pm 8$	$1.00^{+0.65}_{-0.60}$	$1237^{+87}_{-58}$	$4213^{+2025}_{-699}$	$70^{+397}_{-48}$
Alt.	$-30 \pm 9$	$0.97^{+0.68}_{-0.57}$	$1234^{+80}_{-53}$	$4505^{+2177}_{-770}$	$98^{+481}_{-63}$

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

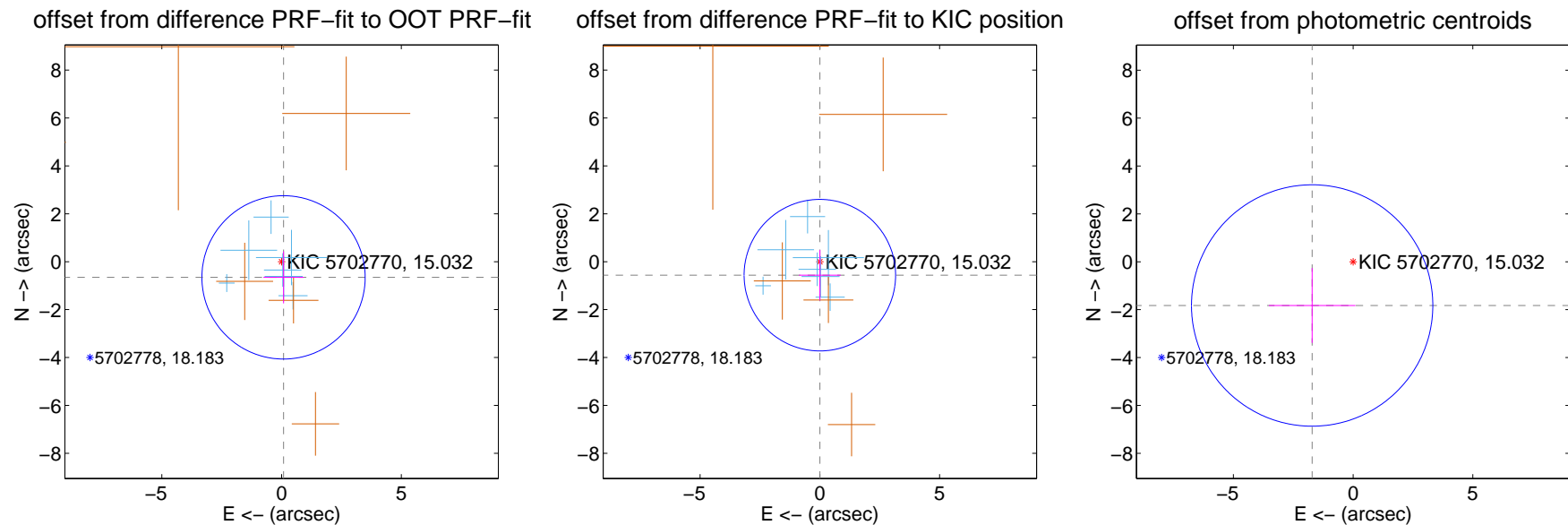
## DV Centroid Data

Supplemental centroid analysis for 005702770-01. Kepler magnitude: 15.03. Transit SNR 8.14

There are 7 quarters with good PRF difference image offsets

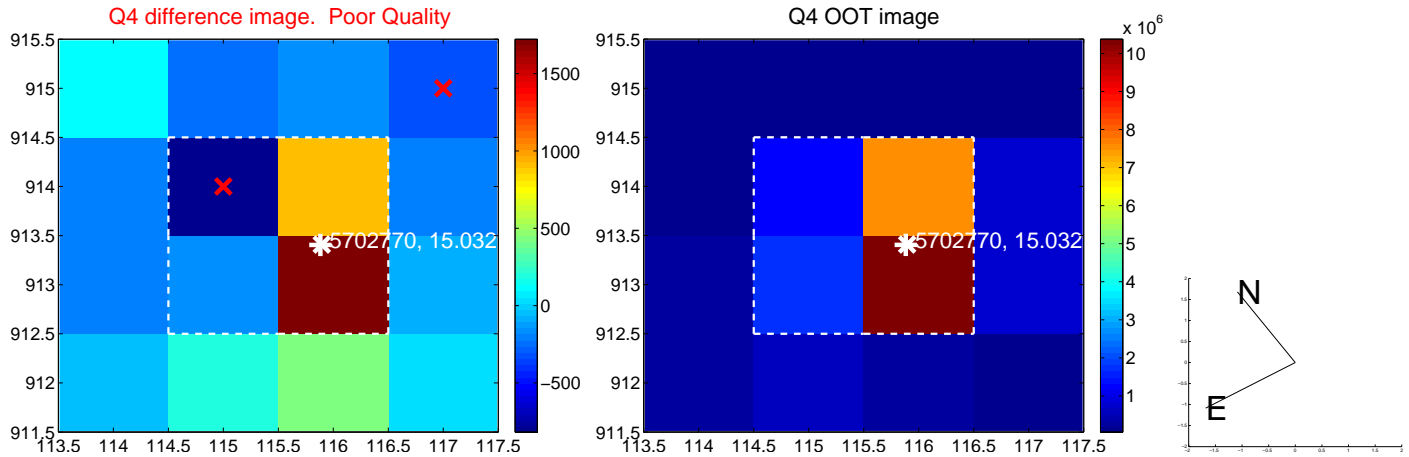
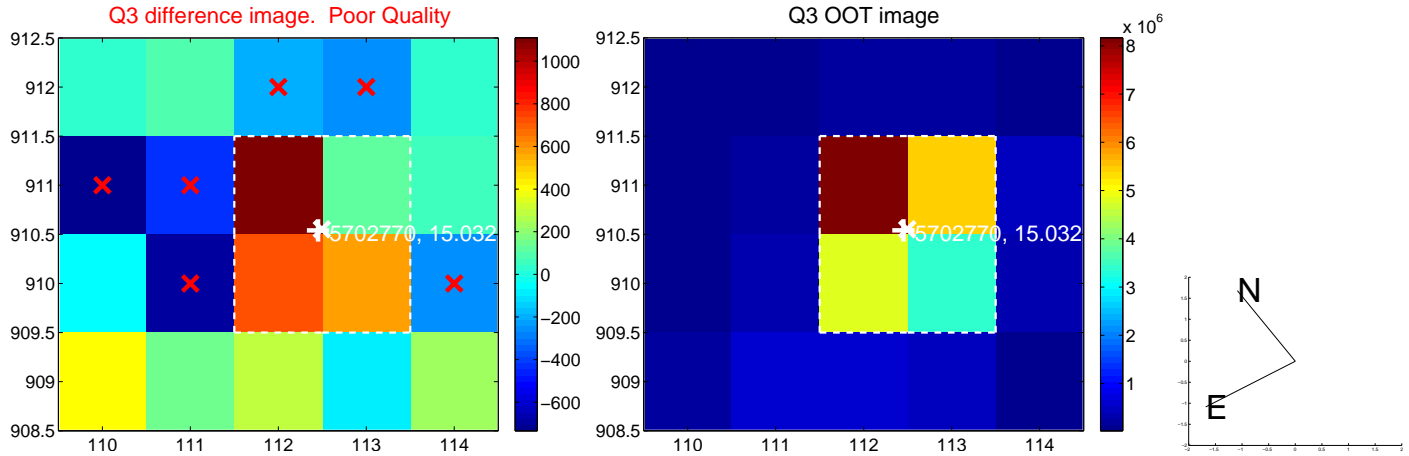
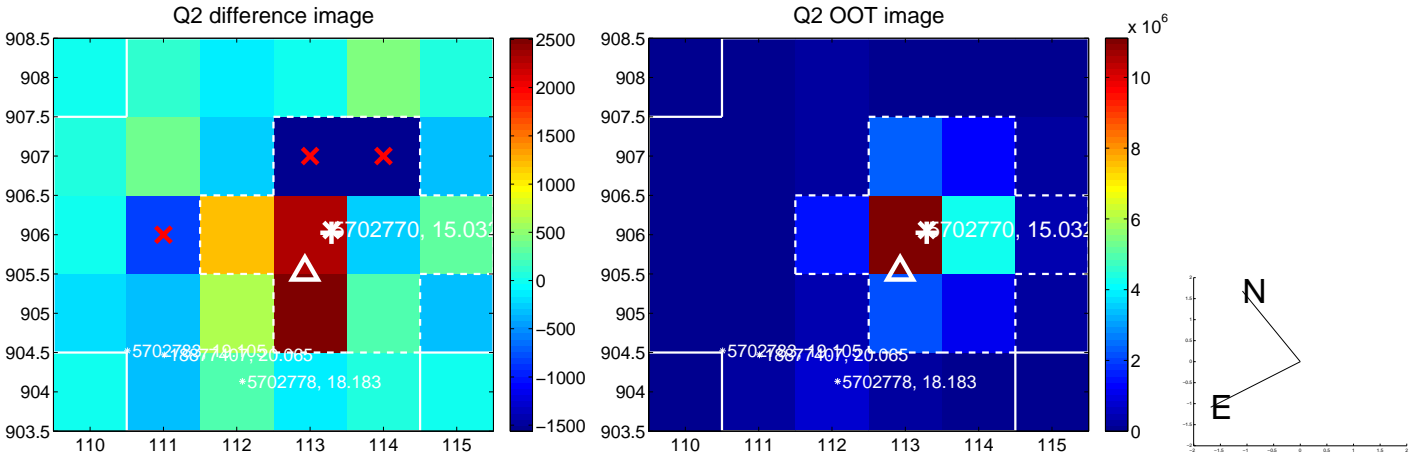
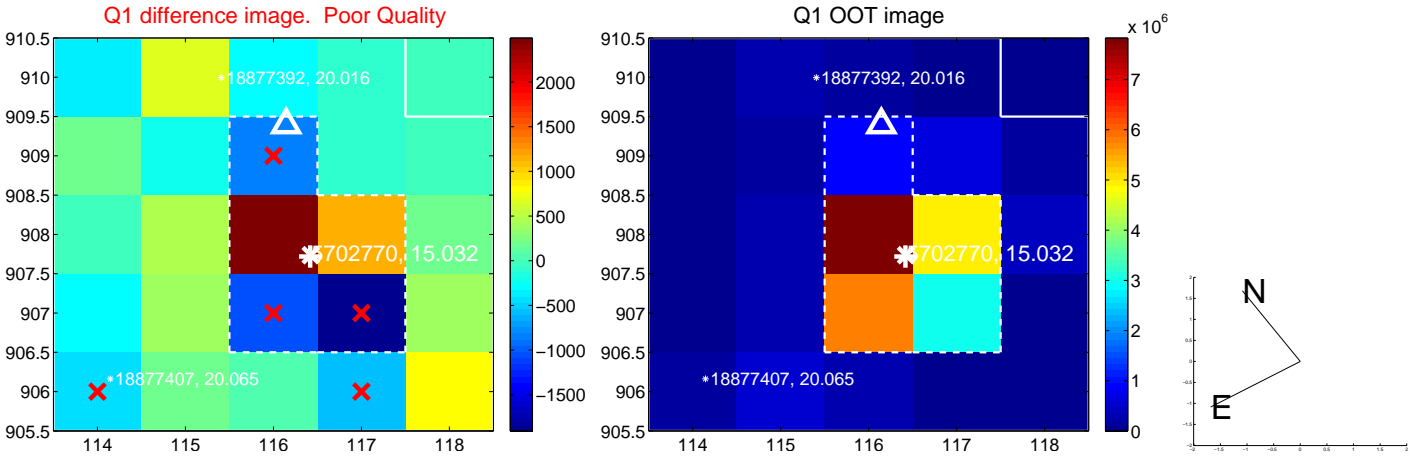
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.660 \pm 1.136$	0.58	$-0.082 \pm 0.842$	$-0.655 \pm 1.087$
PRF-fit source offset from KIC position	$0.562 \pm 1.054$	0.53	$-0.000 \pm 0.871$	$-0.562 \pm 1.054$
photometric centroid source offset	$2.50 \pm 1.68$	1.49	$1.71 \pm 1.81$	$-1.83 \pm 1.56$

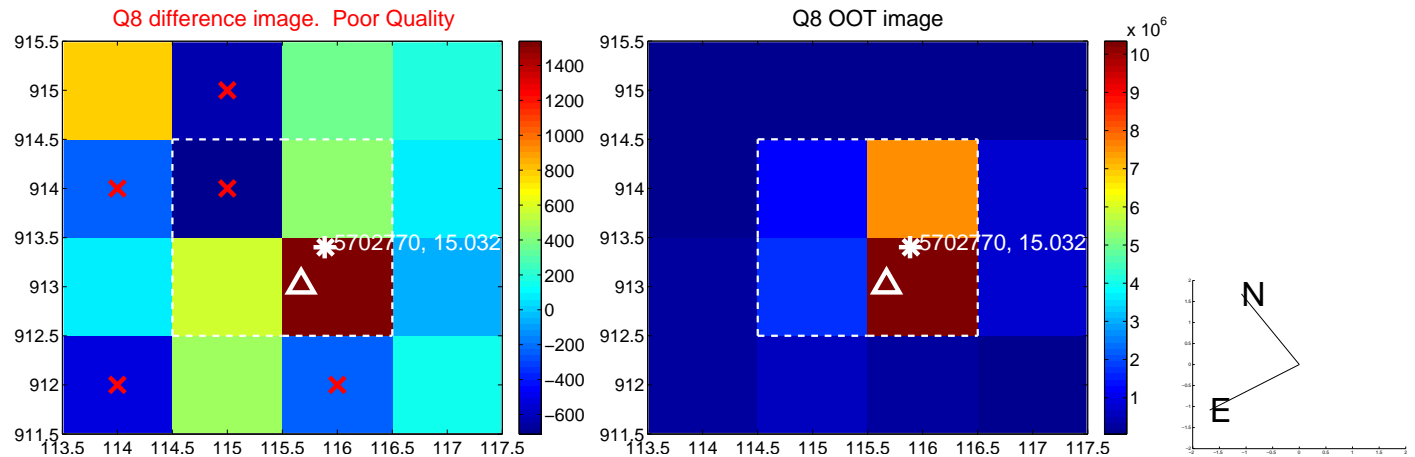
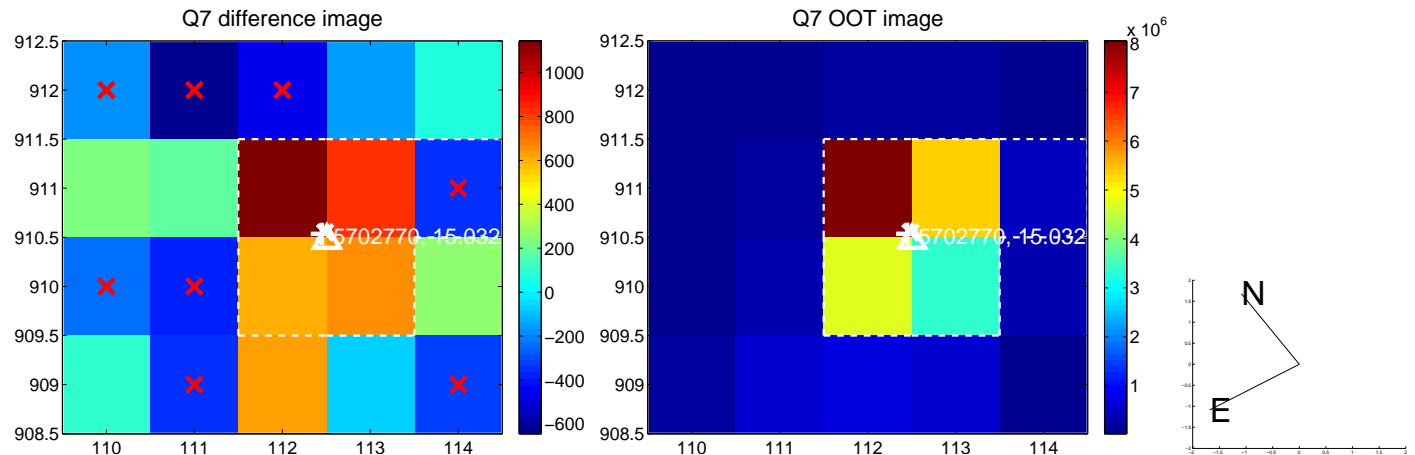
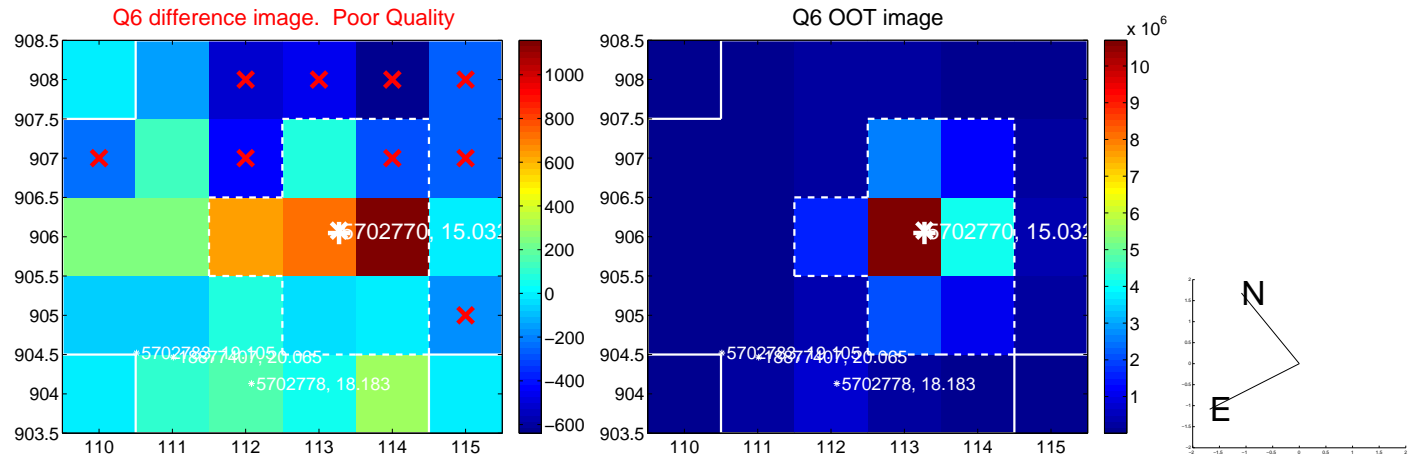
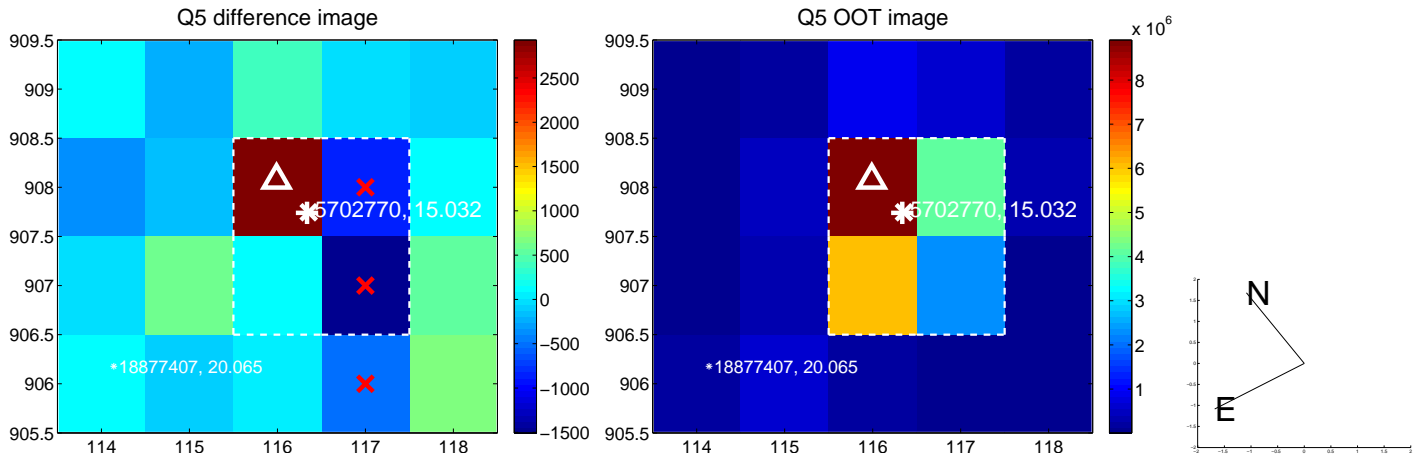


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

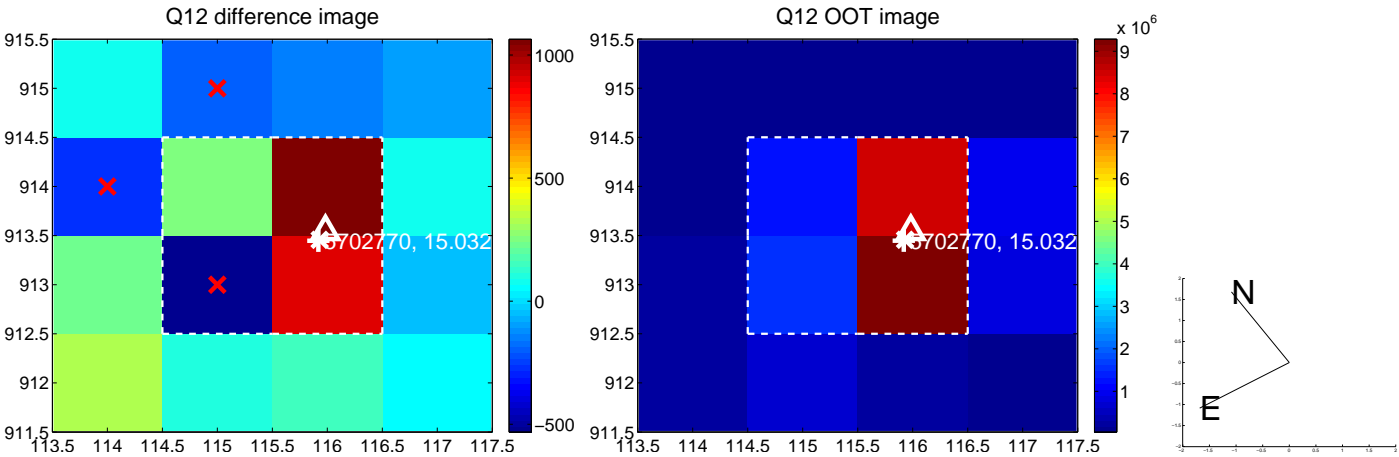
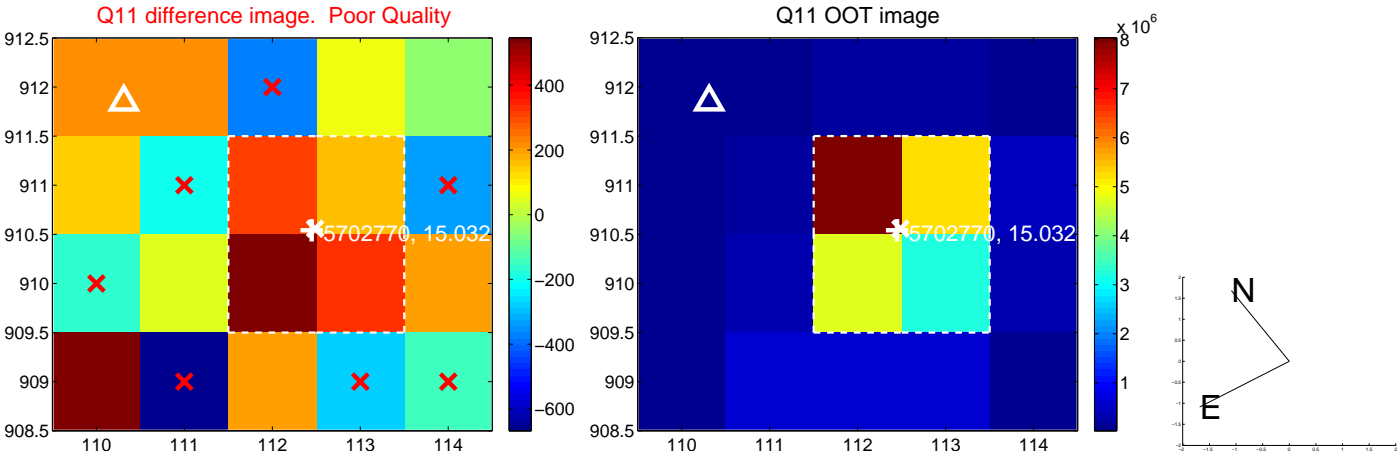
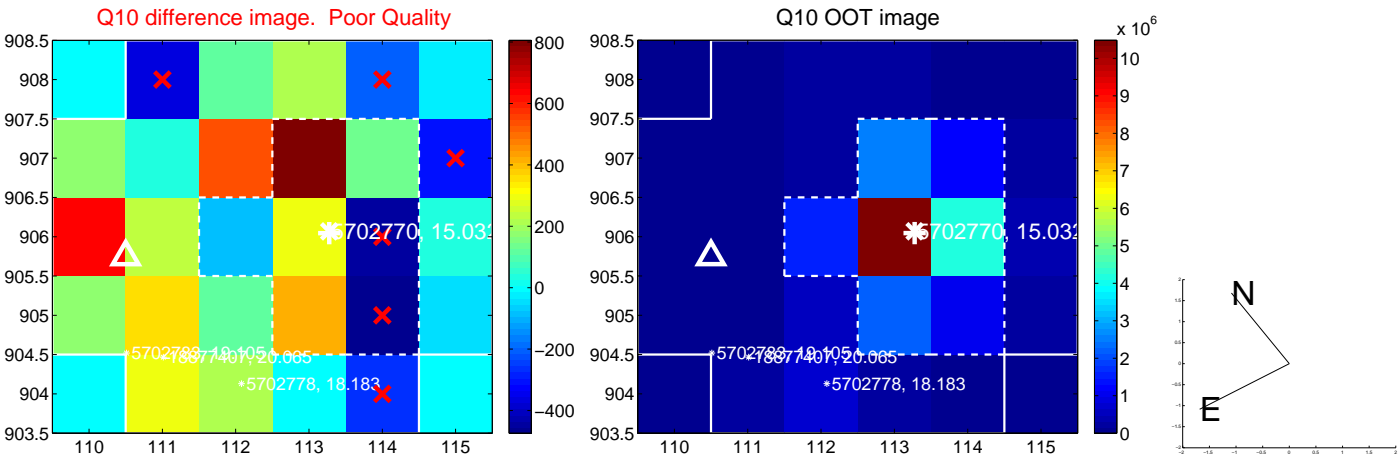
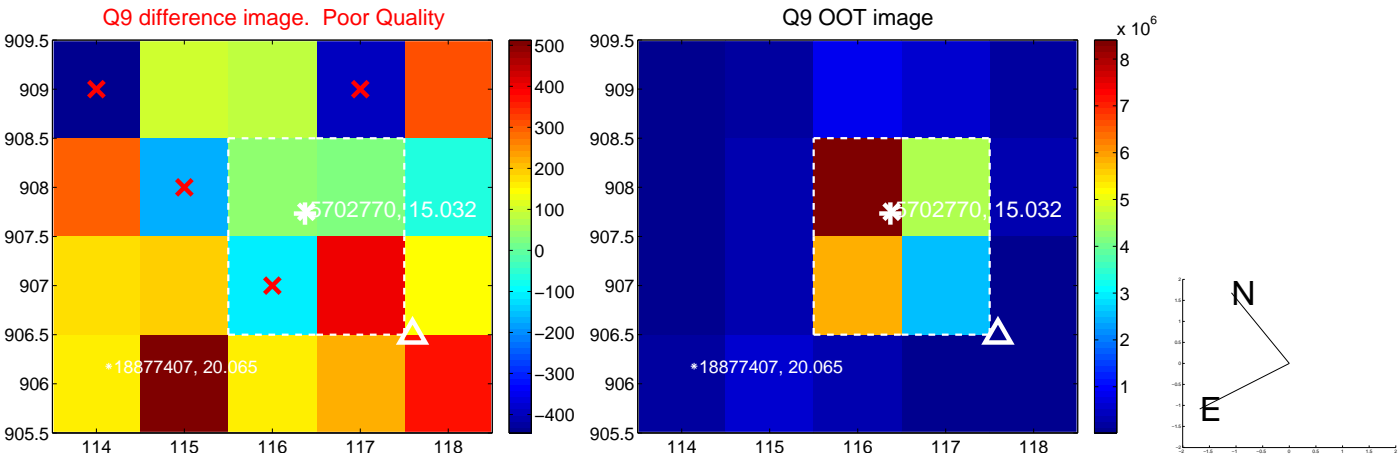


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

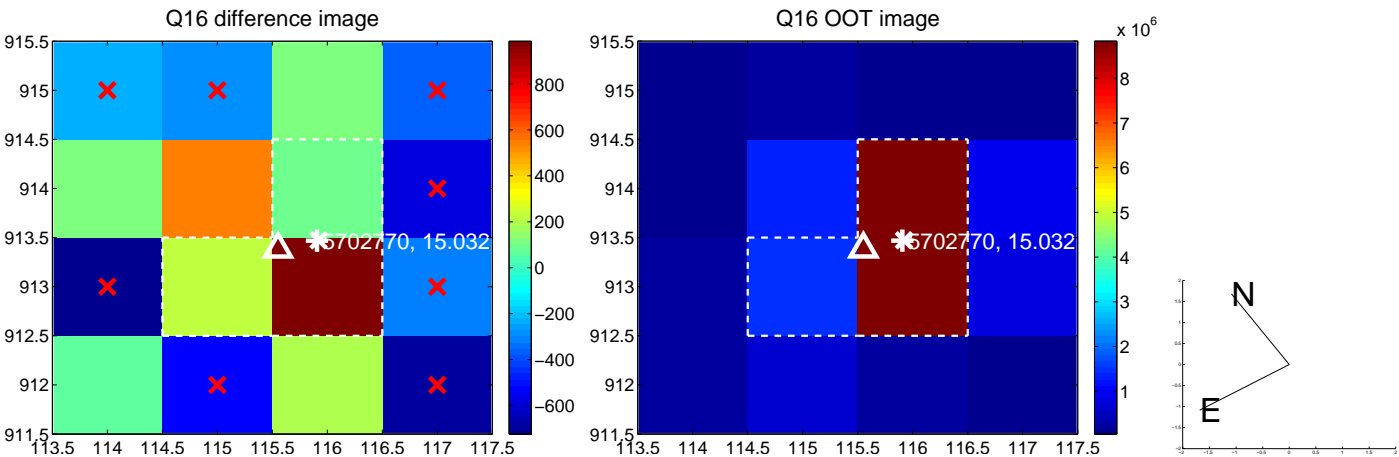
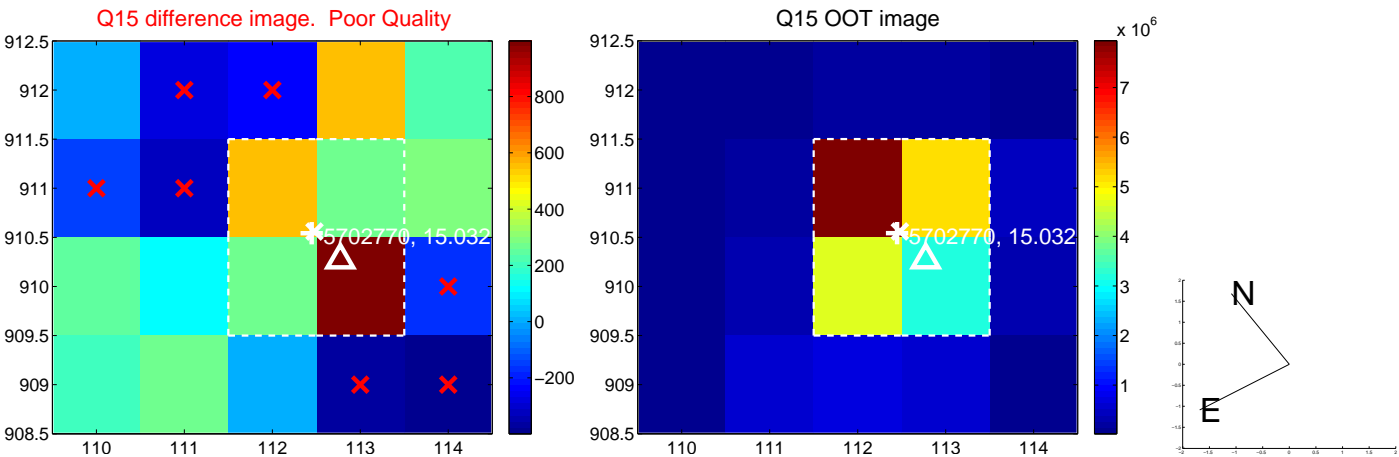
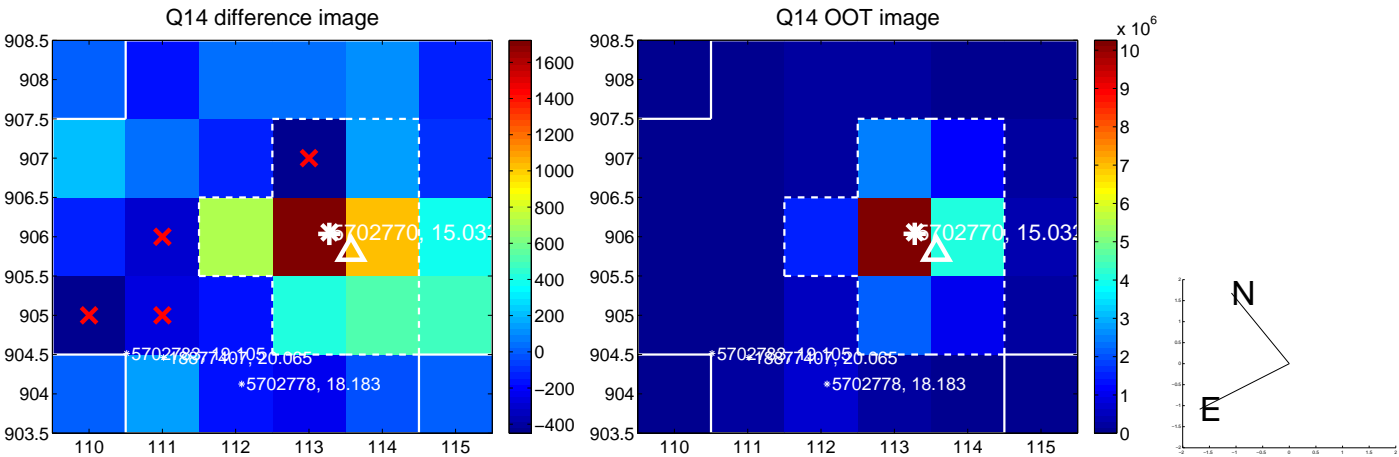
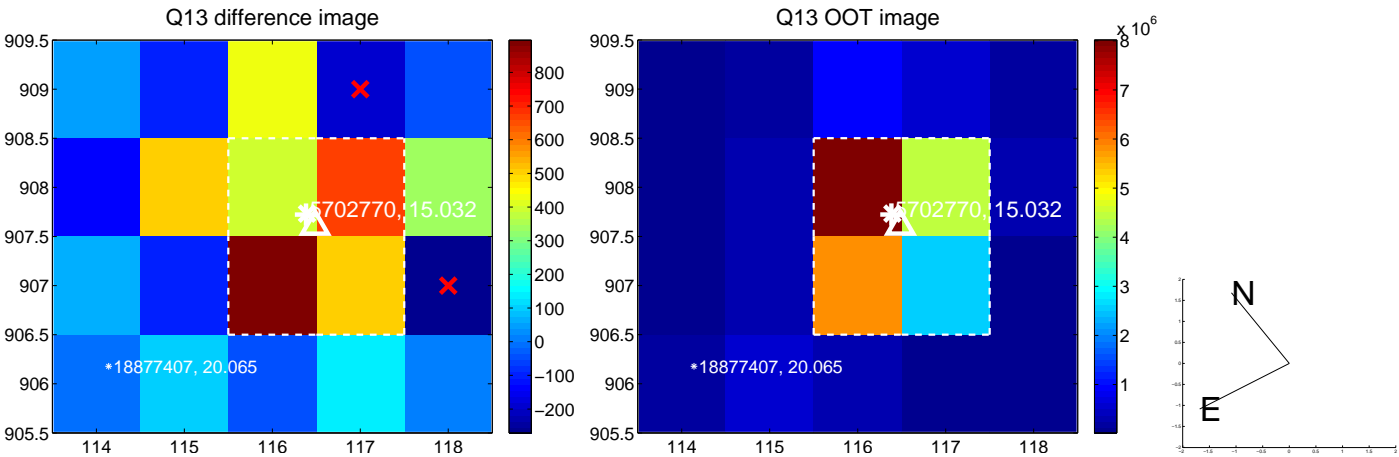




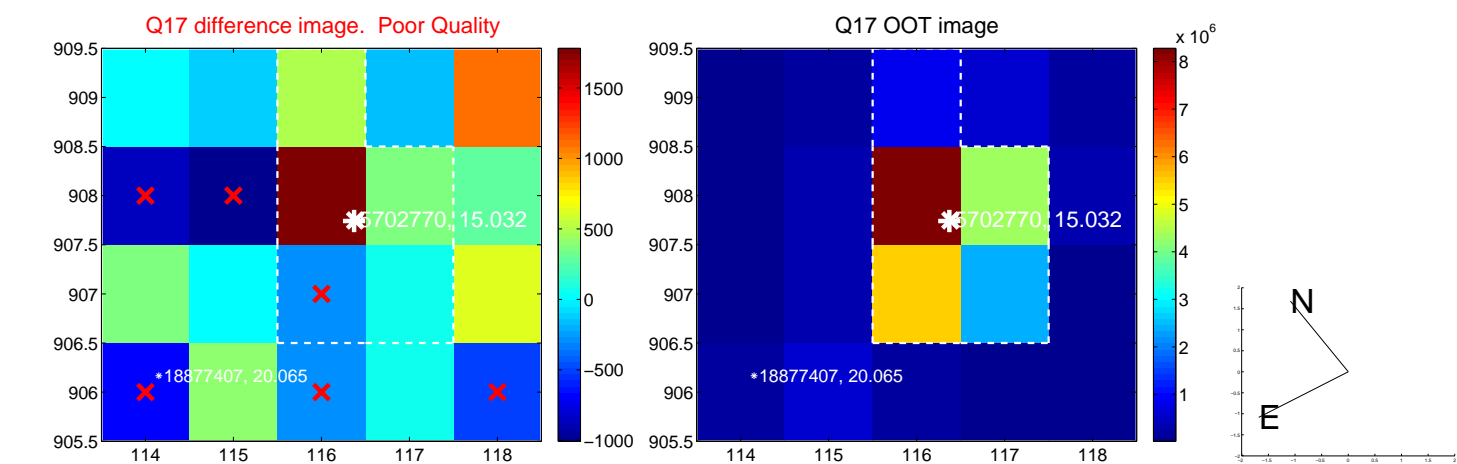
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



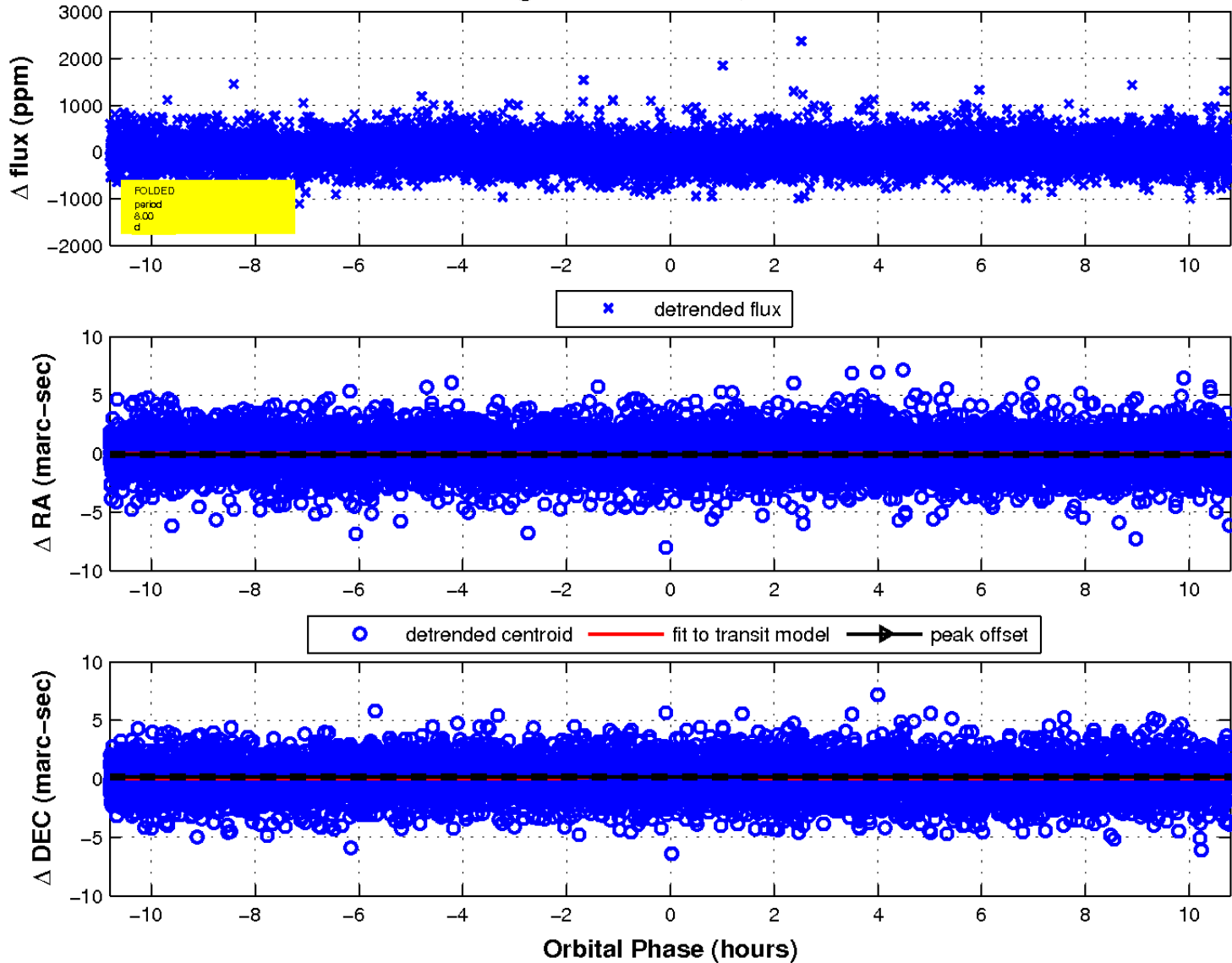
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



# UKIRT Image

Declination

