

# KIC 007762723

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007762723-01	OBS	2663.01	9.887364	139.526170	61.7	4.208	10.9	11.8	0.82	5693	0.72	82.53

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007762723-01	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.

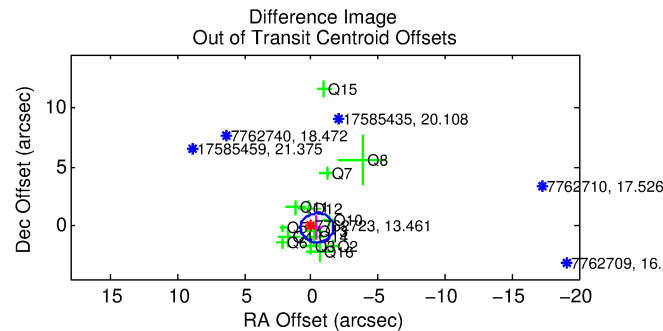
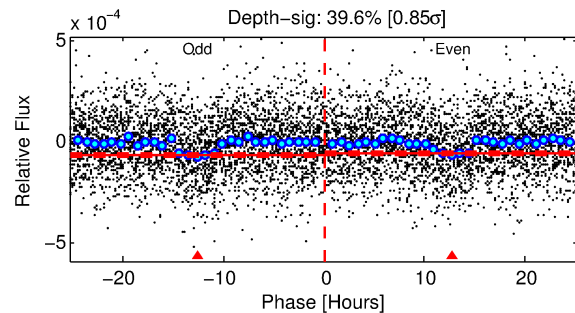
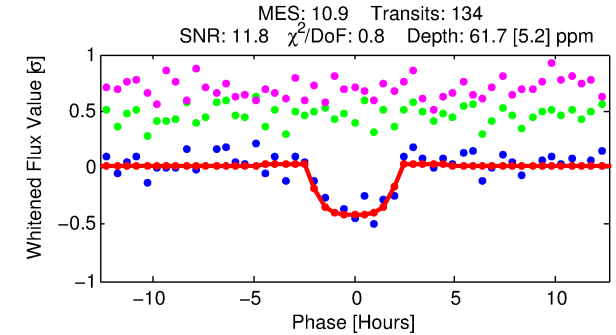
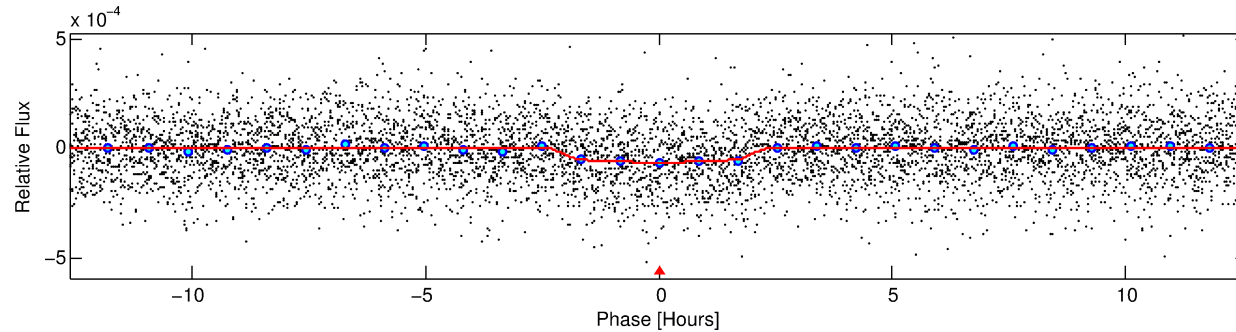
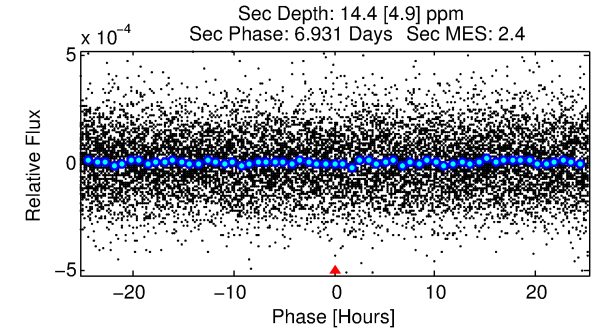
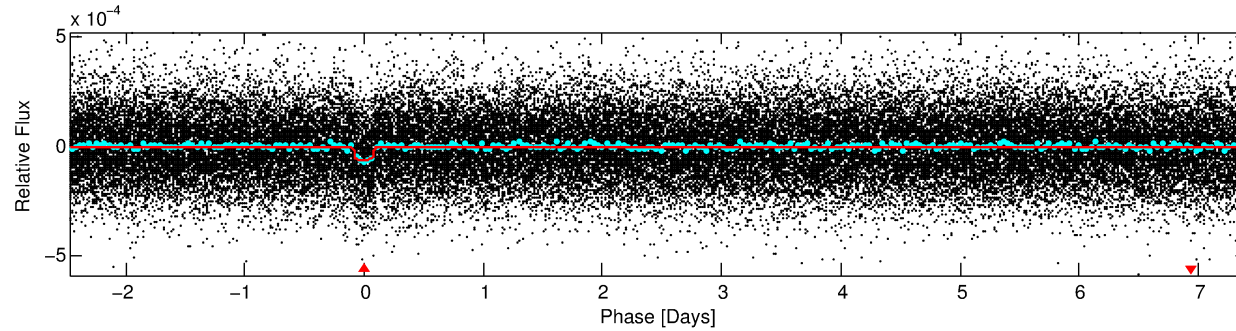
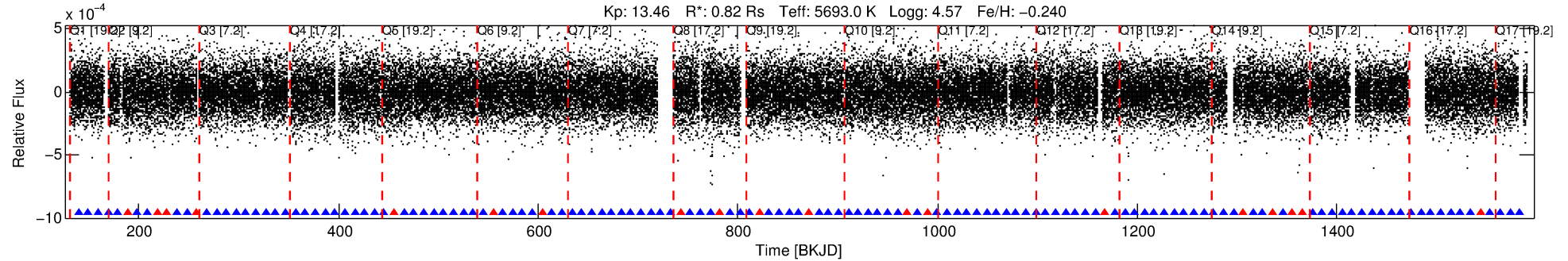
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007762723-01

No Significant Match Found

# DV One-Page Summary

KIC: 7762723 Candidate: 1 of 1 Period: 9.887 d  
KOI: K02663.01 Corr: 0.996



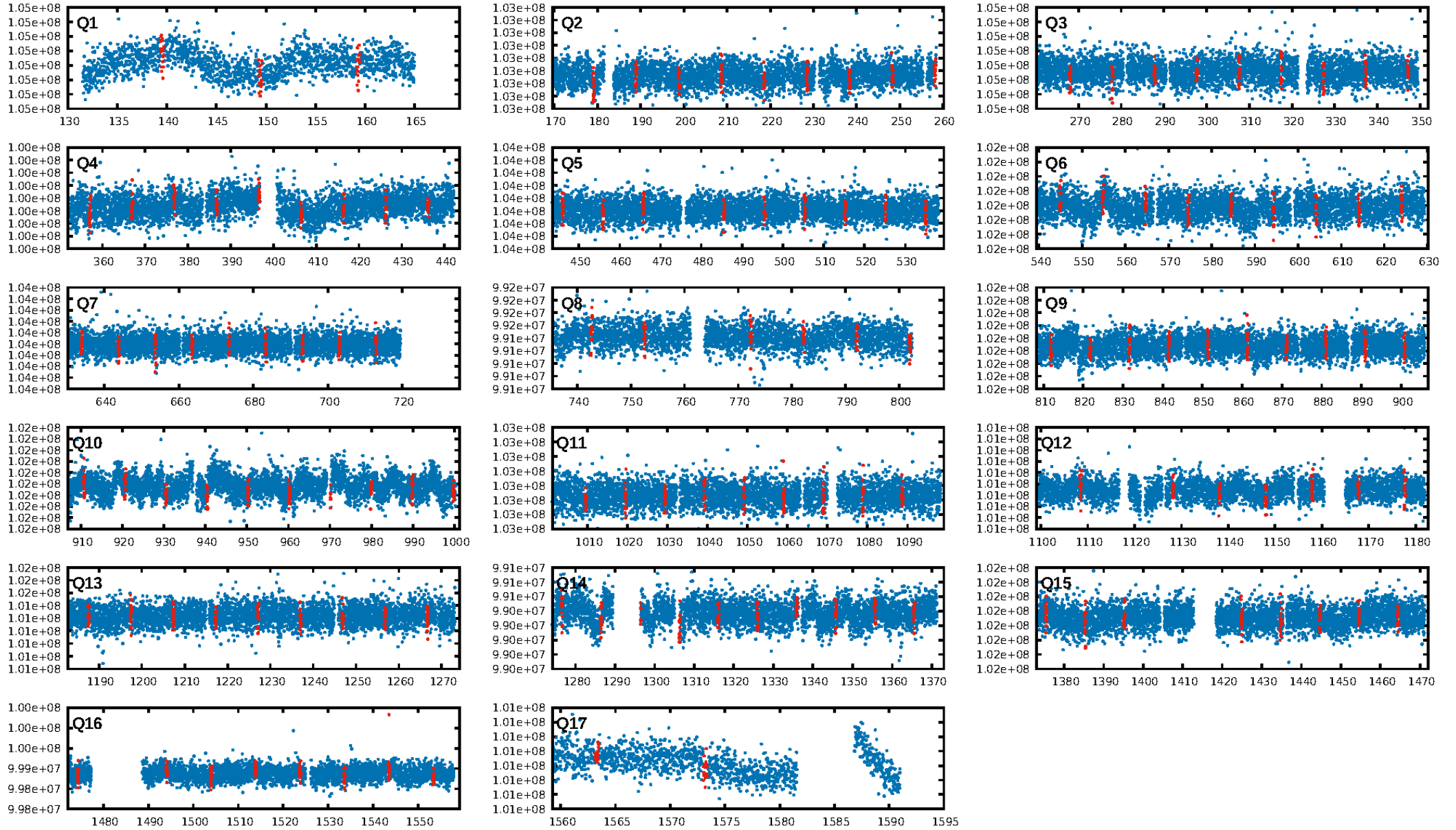
## DV Fit Results:

Period = 9.88736 [0.00008] d  
Epoch = 139.5262 [0.0068] BKJD  
Rp/R\* = 0.0081 [0.0044]  
a/R\* = 10.27 [25.38]  
b = 0.83 [0.94]  
Seff = 82.53 [28.17]  
Teff = 769 [66] K  
Rp = 0.72 [0.43] Re  
a = 0.0871 [0.0192] AU  
Ag = 114.78 [134.96] [0.84 $\sigma$ ]  
Teffp = 3889 [1104] K [2.82 $\sigma$ ]

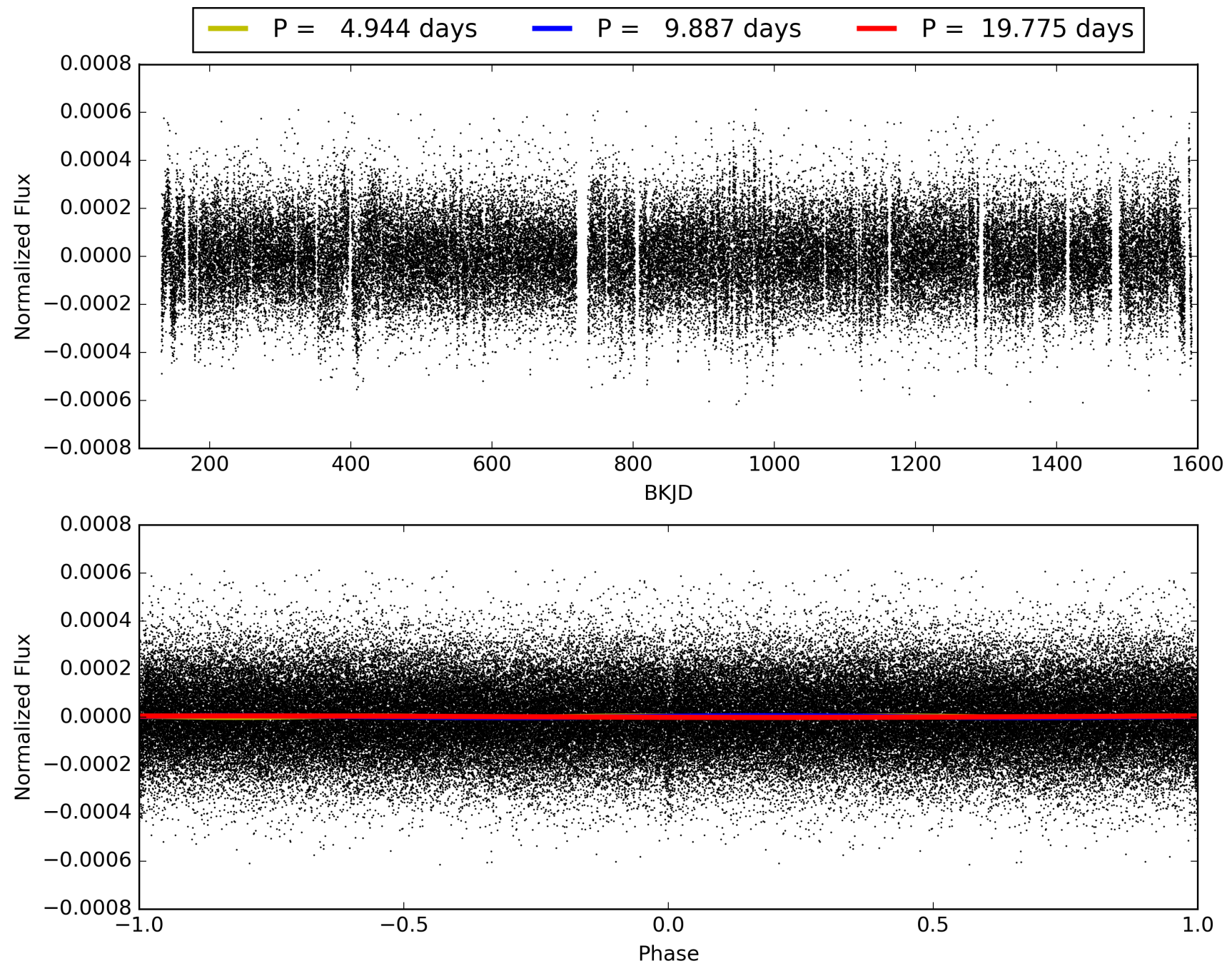
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.58e-26  
RollingBand-fgt: 0.85 [110/129]  
GhostDiagnostic-chr: 2.565  
Centroid-sig: 17.9%  
Centroid-so: 1.042 arcsec [0.91 $\sigma$ ]  
OotOffset-rm: 0.446 arcsec [1.08 $\sigma$ ]  
KicOffset-rm: 0.801 arcsec [2.10 $\sigma$ ]  
OotOffset-st: 4/4/4/2 [14]  
KicOffset-st: 4/4/4/2 [14]  
DiffImageQuality-fgm: 0.71 [10/14]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 007762723-01, PDC Light Curves

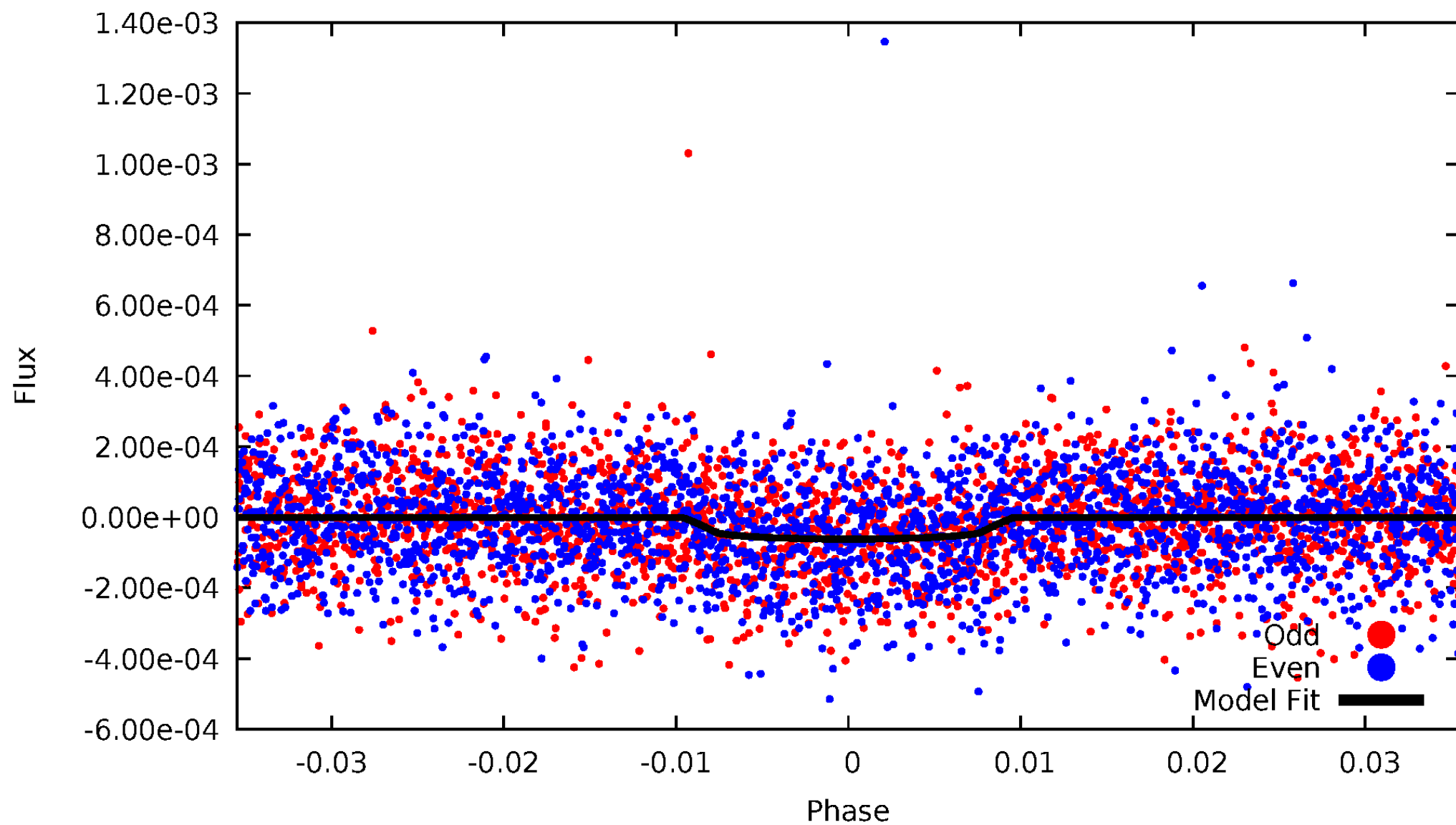


TCE 007762723-01



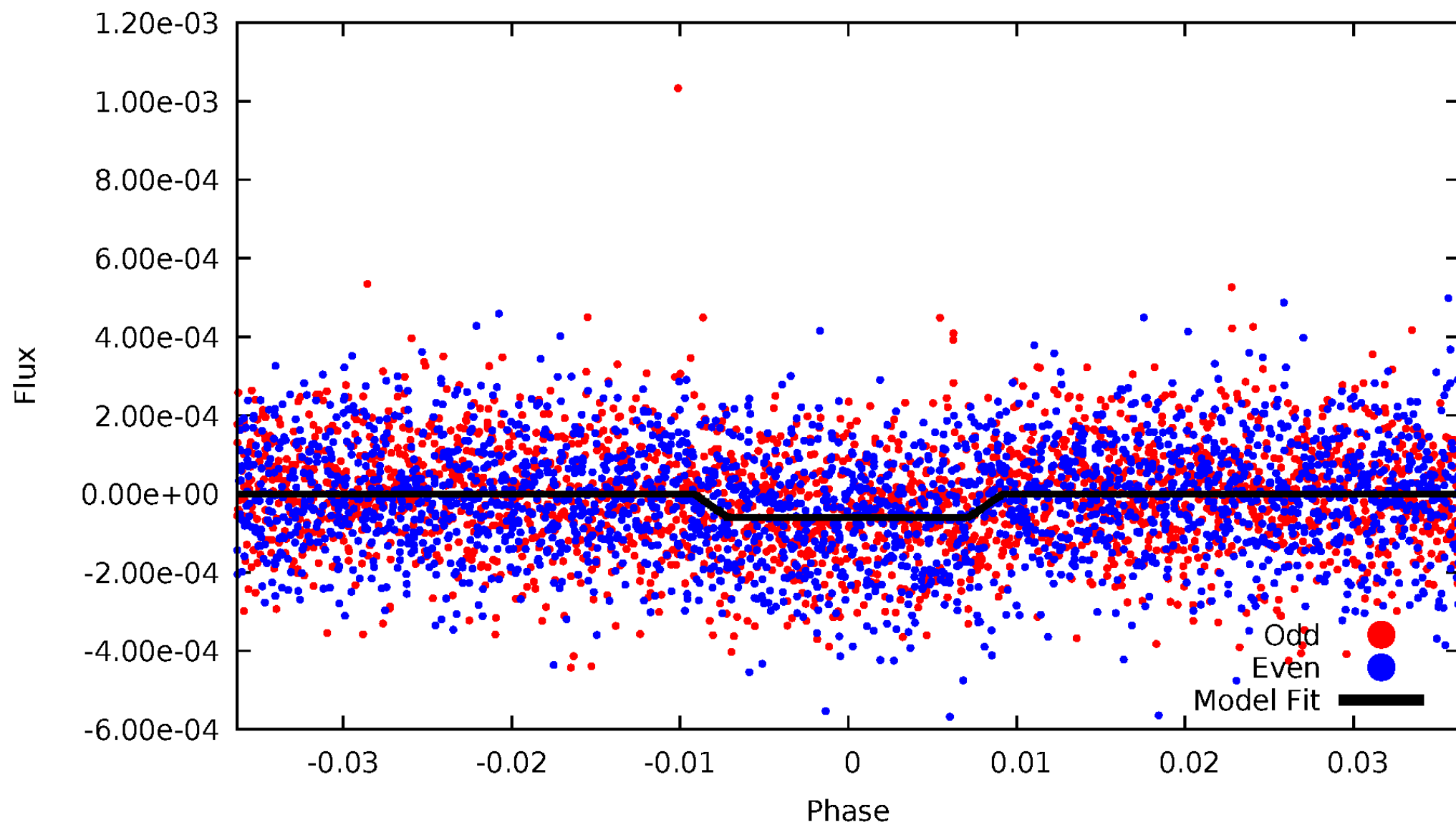
# DV Odd/Even

TCE 007762723-01



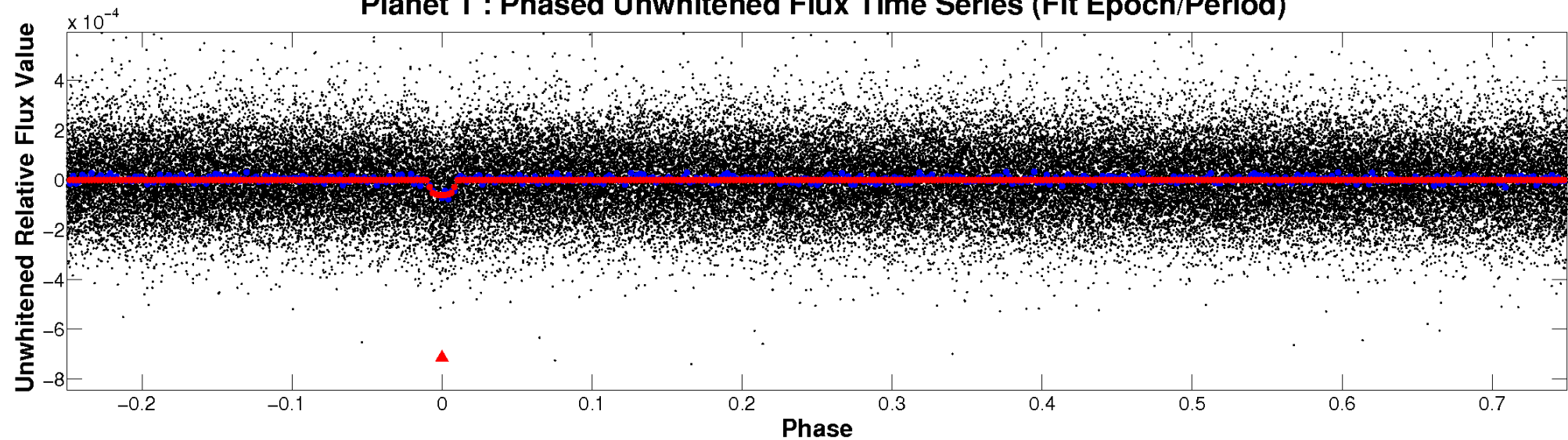
# ALT Odd/Even

TCE 007762723-01

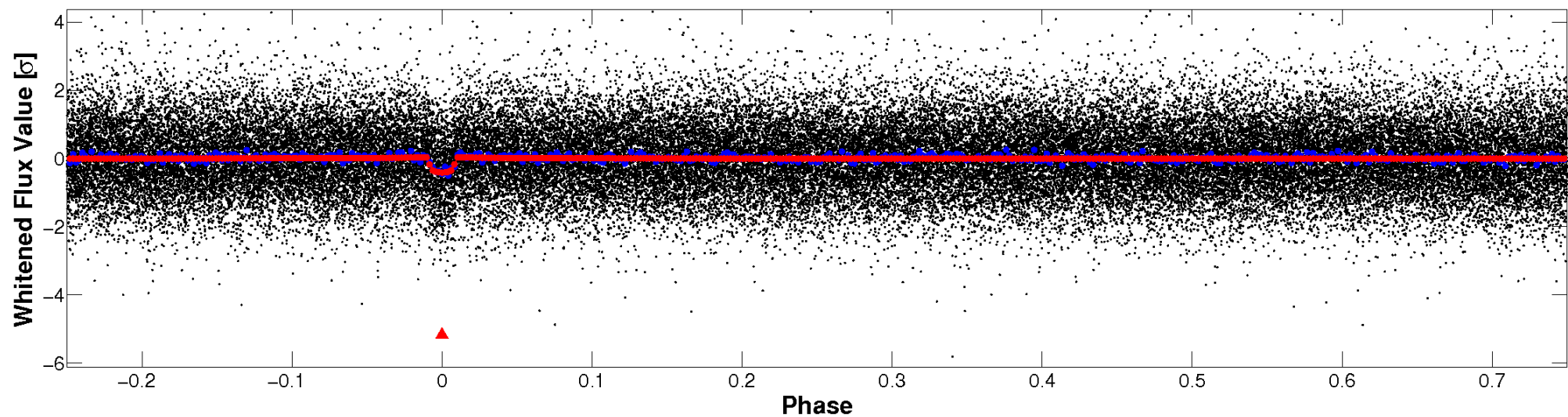


# Non-Whitened Vs. Whitened Light Curve

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

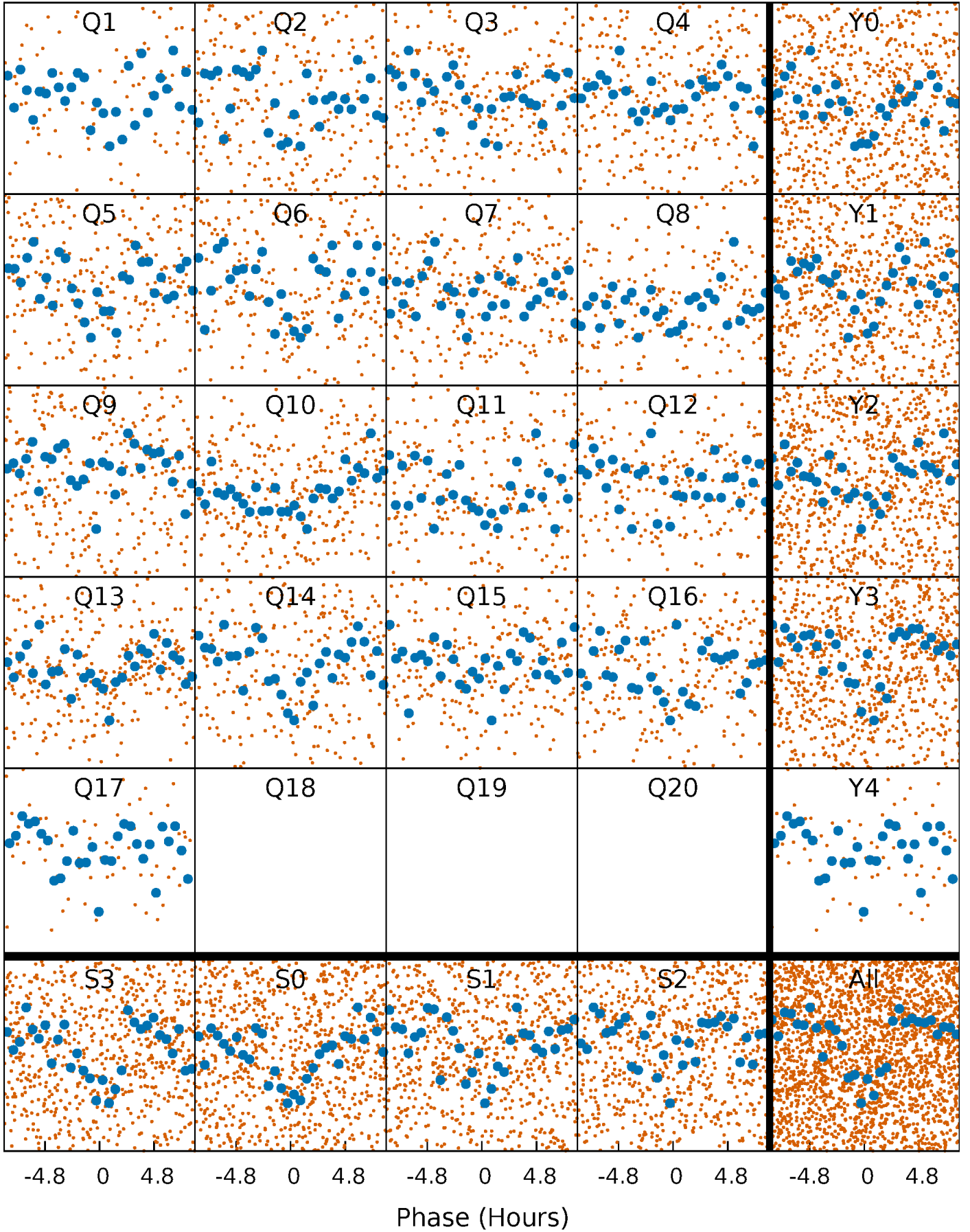


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



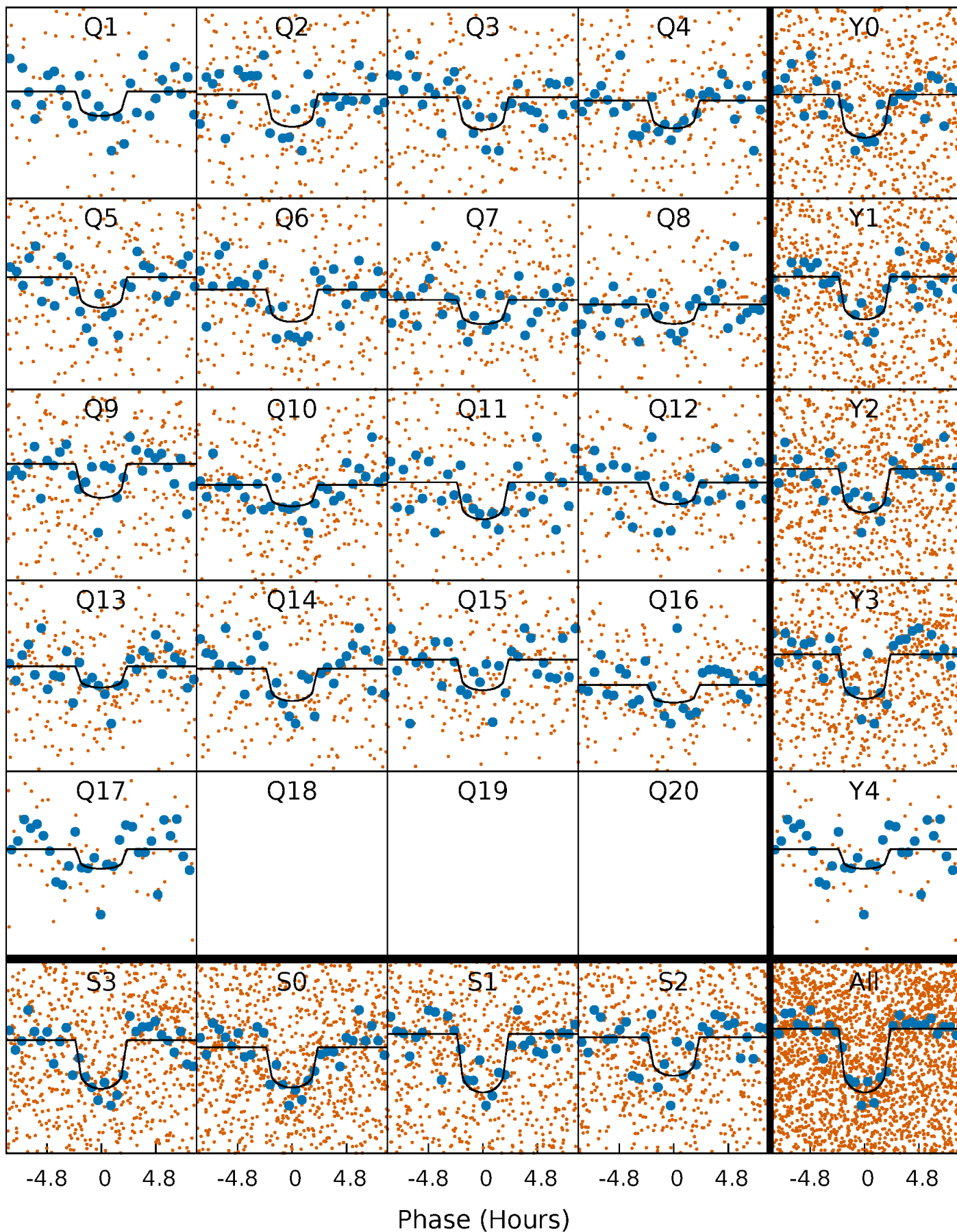
# PDC Quarter-Phased Transit Curves

TCE 007762723-01   P= 9.887364 Days    $T_0=139.526170$  (BKJD)



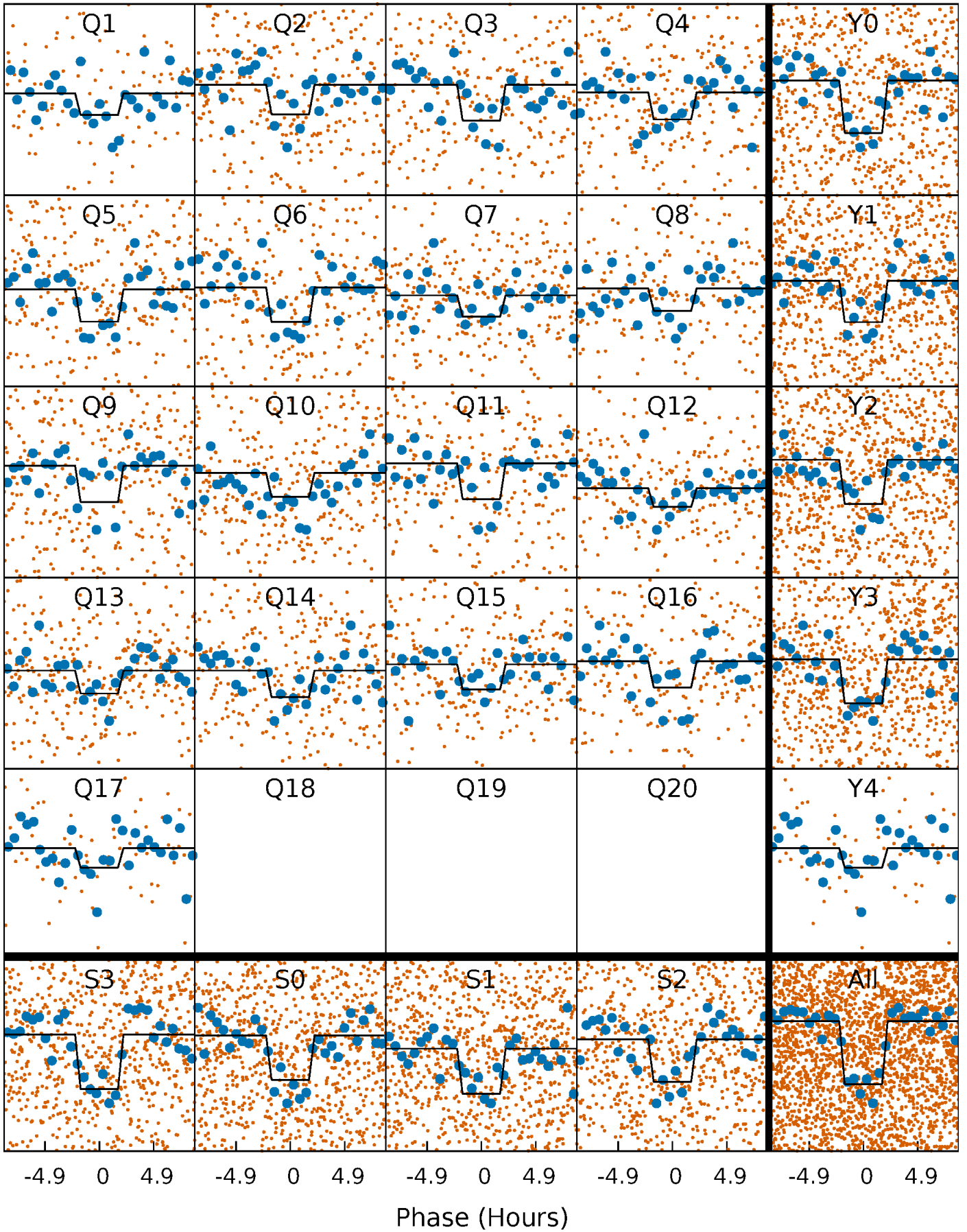
# DV Quarter-Phased Transit Curves

TCE 007762723-01 P= 9.887364 Days  $T_0=139.526170$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

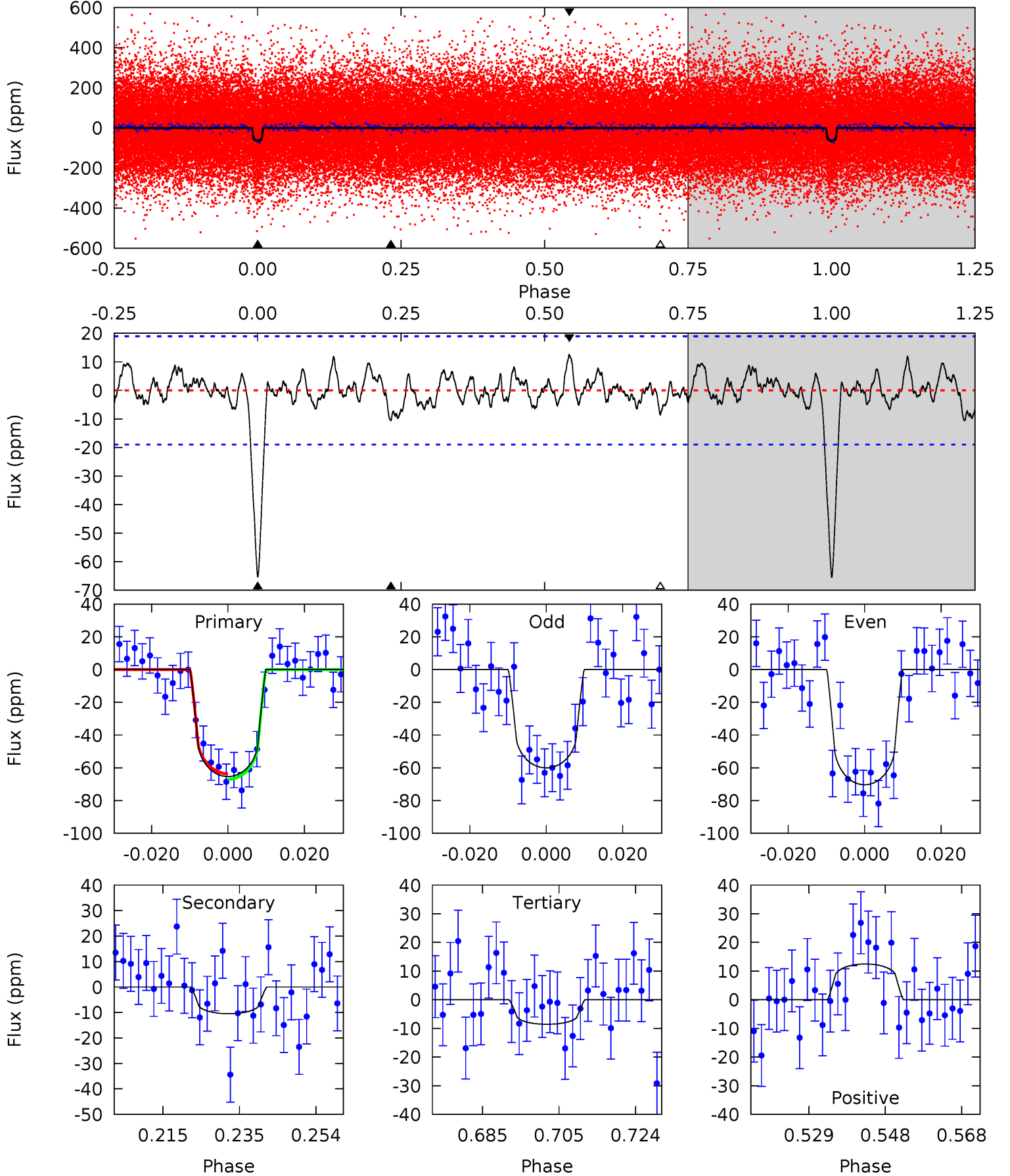
TCE 007762723-01 P= 9.887501 Days  $T_0=139.520038$  (BKJD)



# DV Model-Shift Uniqueness Test

007762723-01, P = 9.887364 Days, E = 129.638806 Days

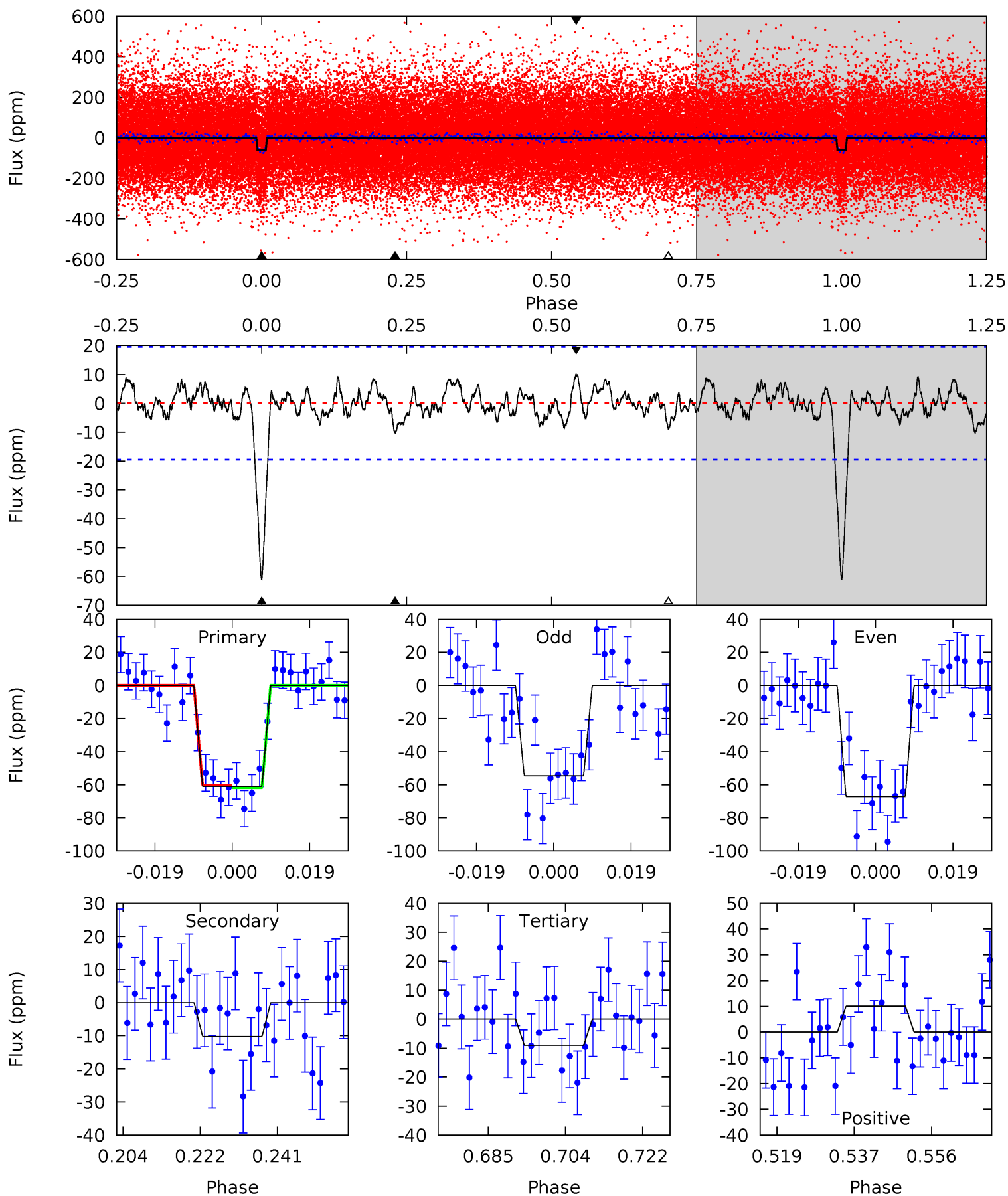
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.9	2.71	2.21	3.23	4.90	2.33	1.01	14.7	13.6	0.50	-0.52	1.33	1.08	0.16	0.44



# Alt Model-Shift Uniqueness Test

007762723-01, P = 9.887501 Days, E = 129.632537 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
15.4	2.56	2.25	2.52	4.91	2.35	0.96	13.1	12.8	0.31	0.04	1.58	1.10	0.14	0.17



### Stellar Parameters For KIC 007762723

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5693^{+136}_{-153}$	$4.570^{+0.032}_{-0.179}$	$-0.240^{+0.300}_{-0.300}$	$0.816^{+0.210}_{-0.070}$	$0.911^{+0.090}_{-0.100}$	$2.357^{+0.415}_{-1.128}$
	+2%/-3%	+1%/-4%	+125%/-125%	+26%/-9%	+10%/-11%	+18%/-48%
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 007762723-01 / KOI 2663.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-10 \pm 4$	$0.78^{+0.41}_{-0.36}$	$1097^{+72}_{-43}$	$3908^{+1003}_{-584}$	$72^{+172}_{-45}$
Alt.	$-10 \pm 4$	$0.76^{+0.41}_{-0.38}$	$1098^{+68}_{-45}$	$3888^{+1288}_{-594}$	$71^{+235}_{-46}$

$T_{max}$  = 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

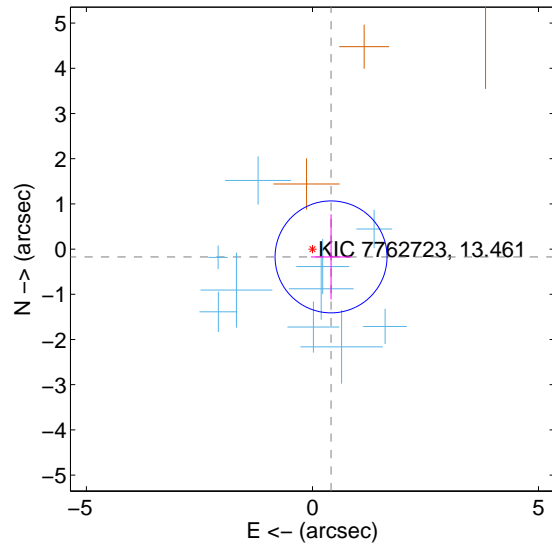
Supplemental centroid analysis for 007762723-01. Kepler magnitude: 13.46. Transit SNR 11.81

There are 10 quarters with good PRF difference image offsets

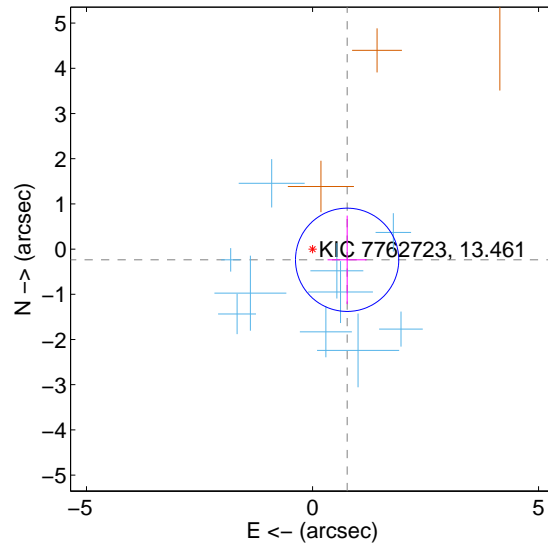
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.446 \pm 0.413$	1.08	$-0.412 \pm 0.446$	$-0.172 \pm 0.940$
PRF-fit source offset from KIC position	$0.801 \pm 0.381$	2.10	$-0.765 \pm 0.433$	$-0.237 \pm 0.977$
photometric centroid source offset	$1.04 \pm 1.14$	0.91	$0.50 \pm 1.01$	$0.91 \pm 1.18$

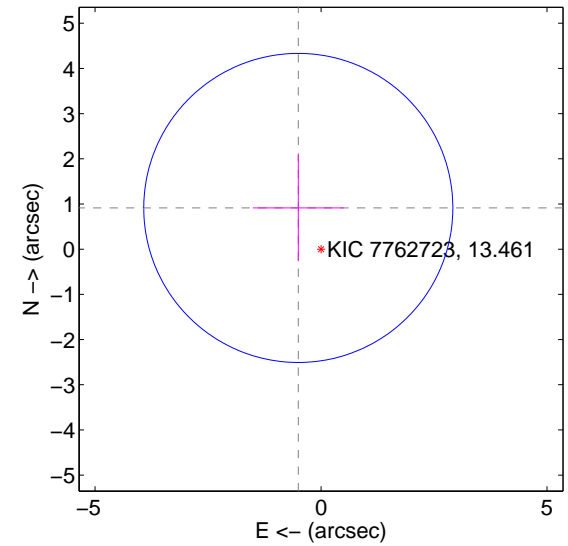
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

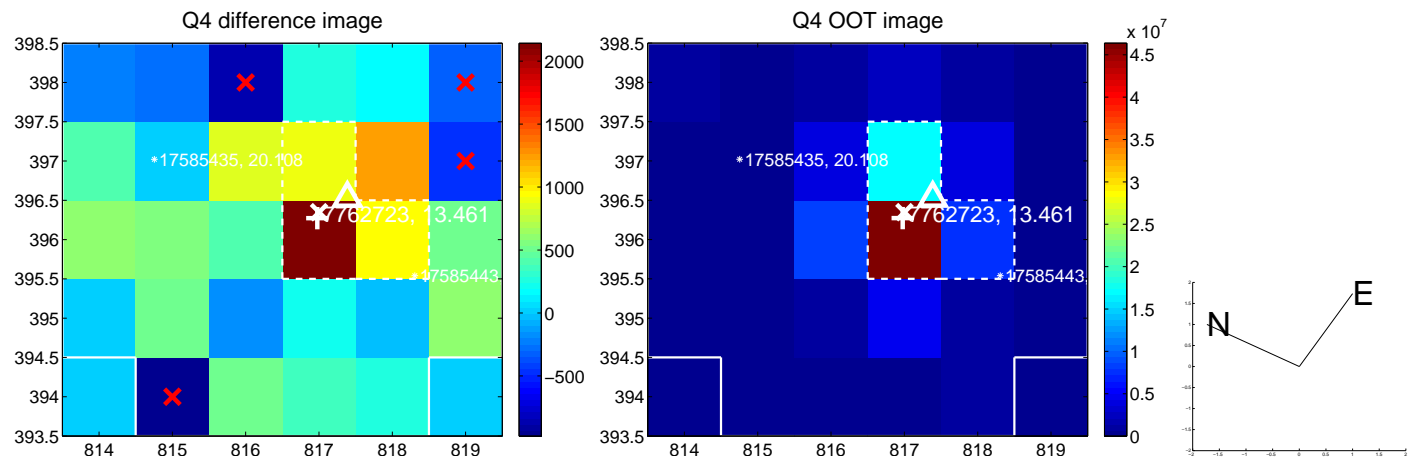
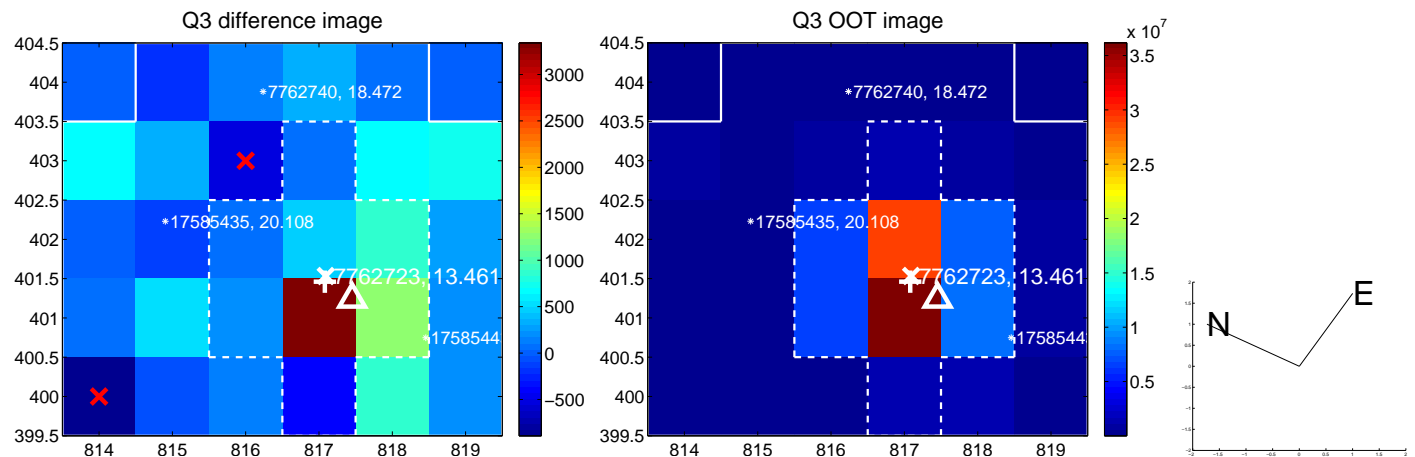
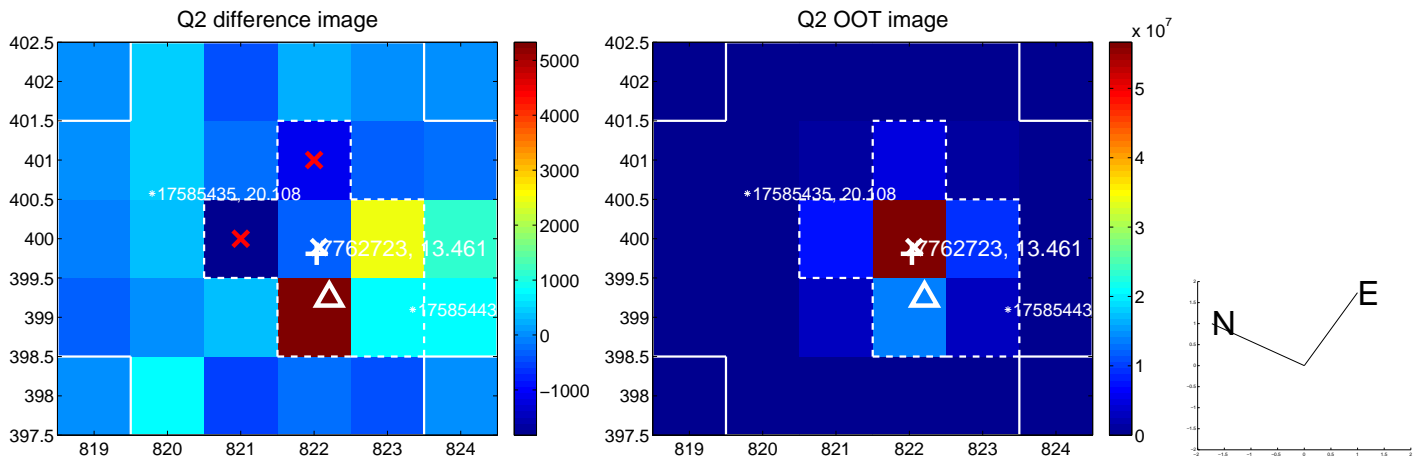
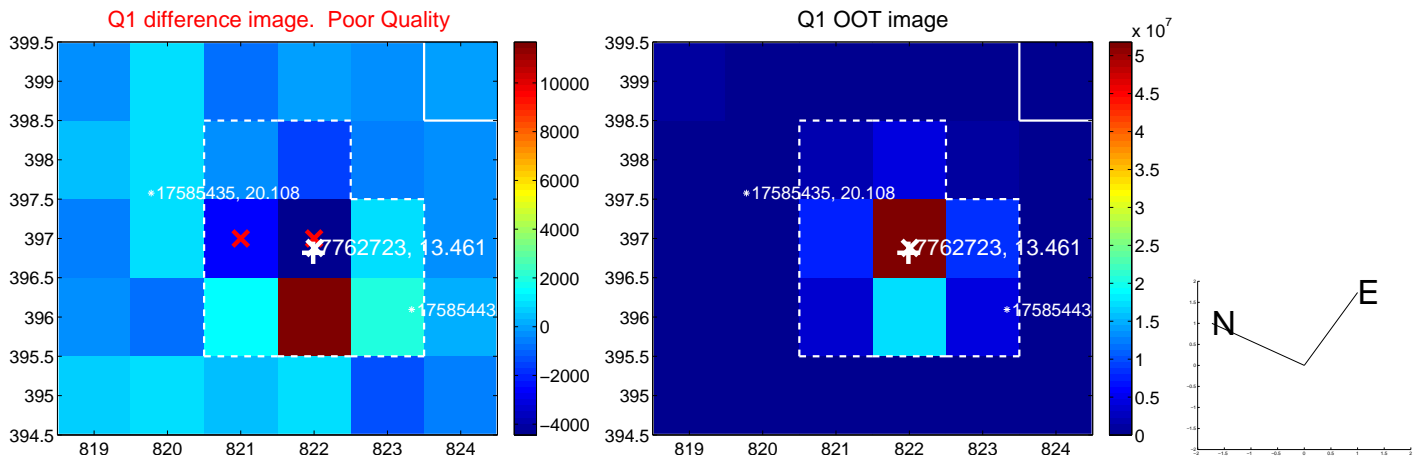


offset from photometric centroids

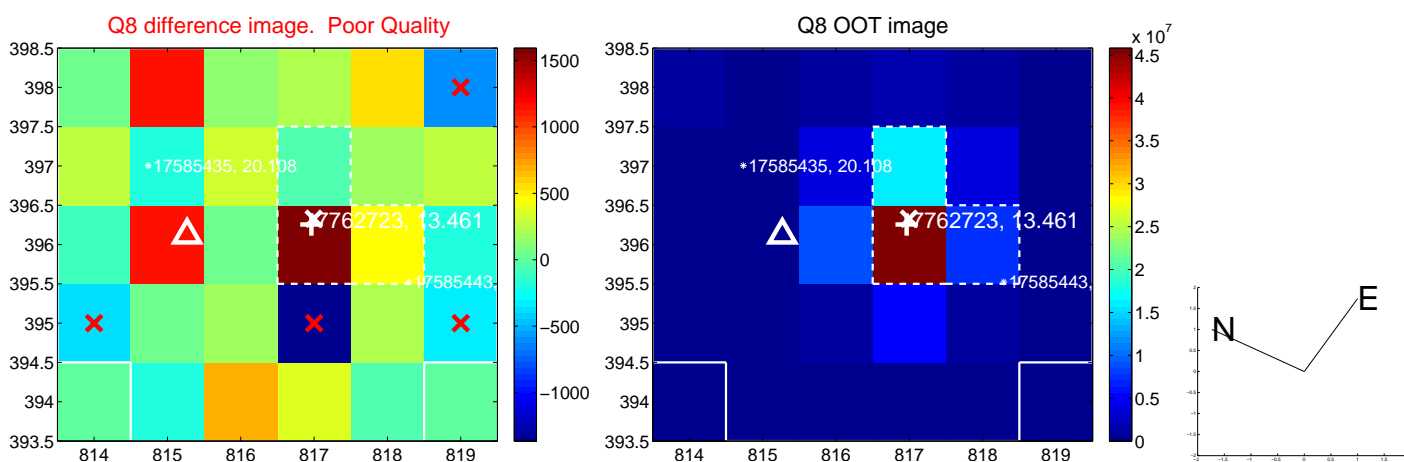
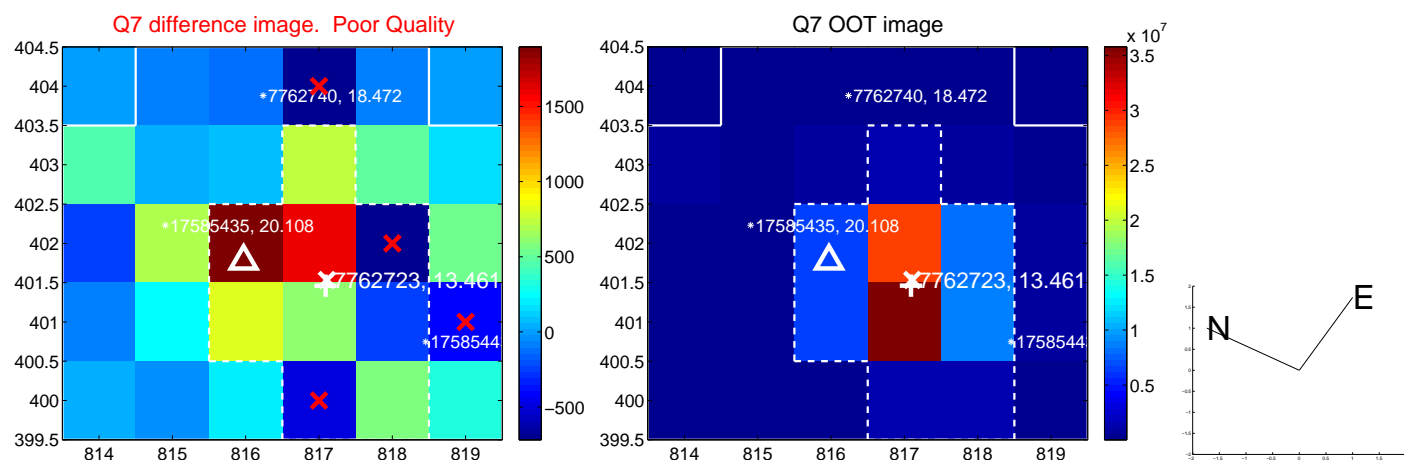
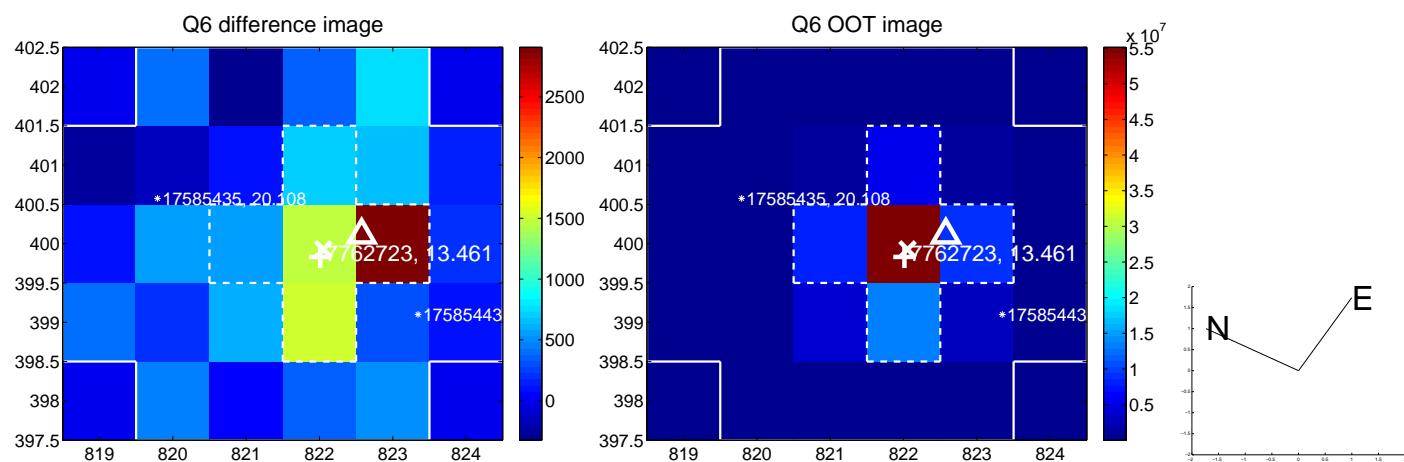
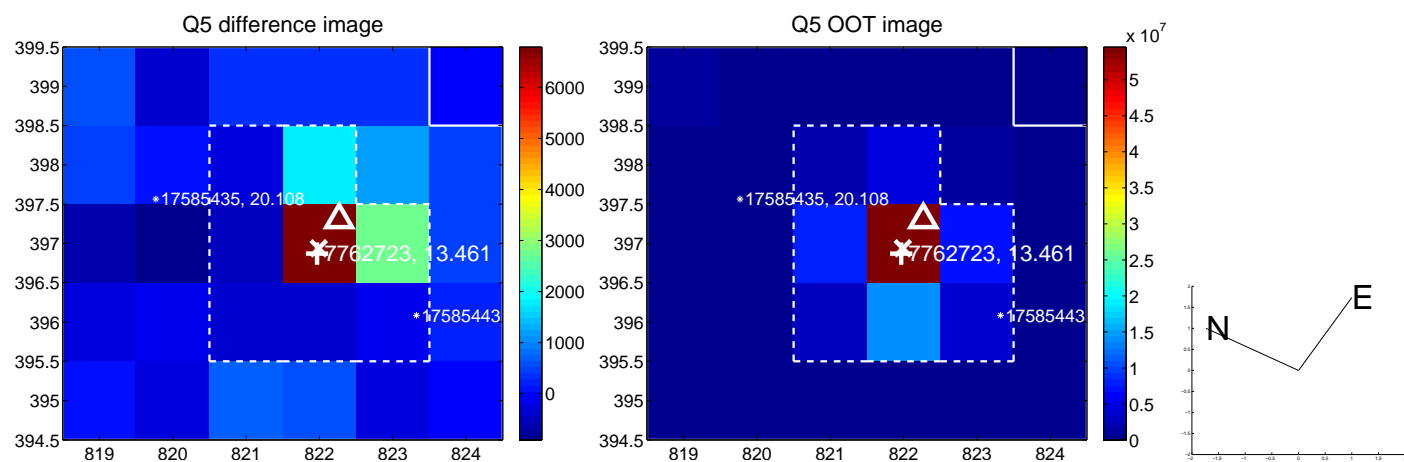


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

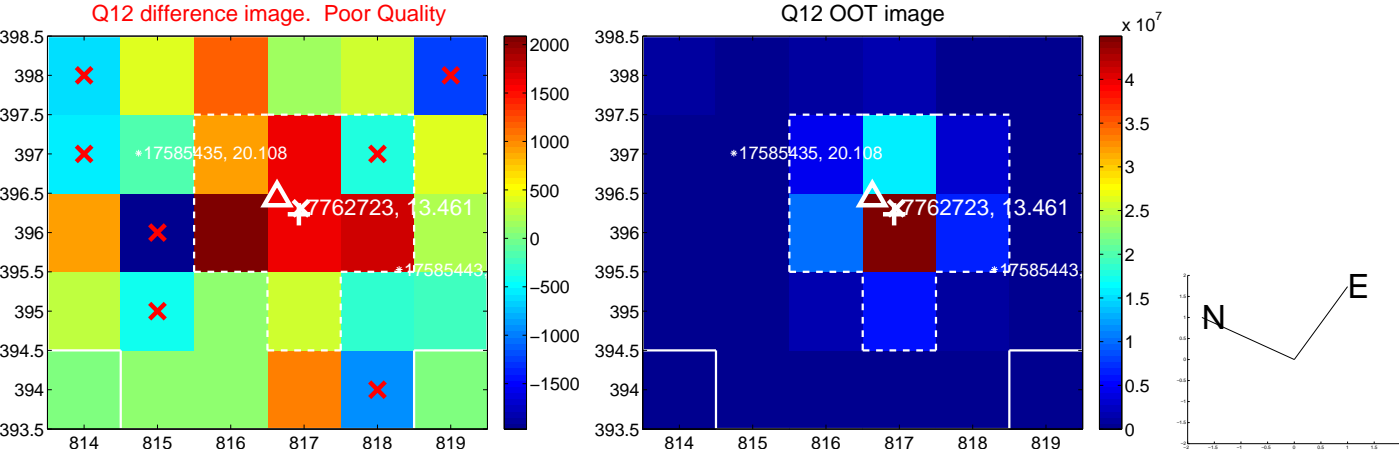
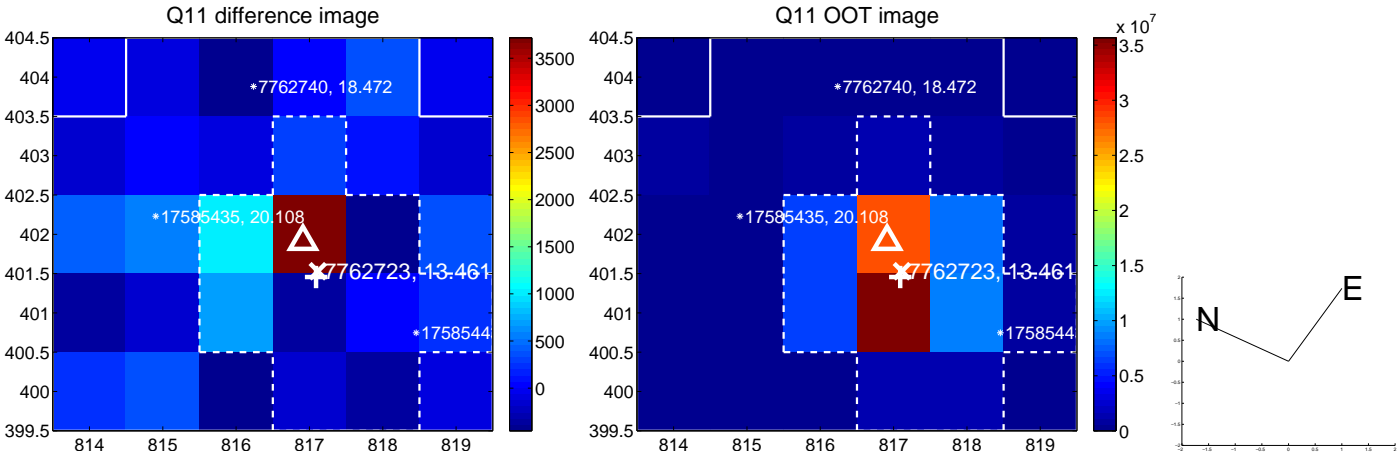
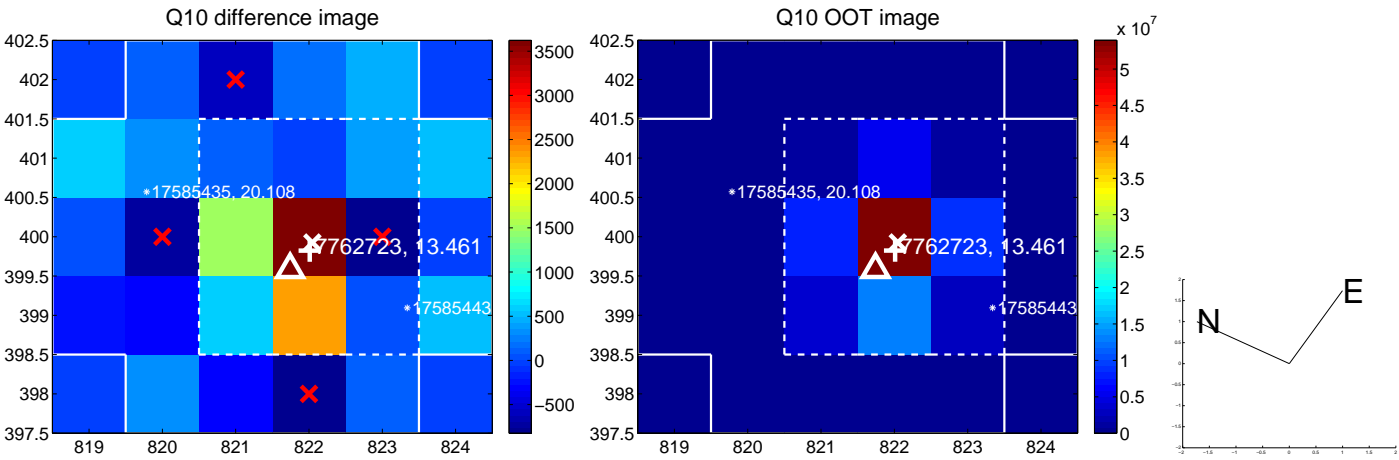
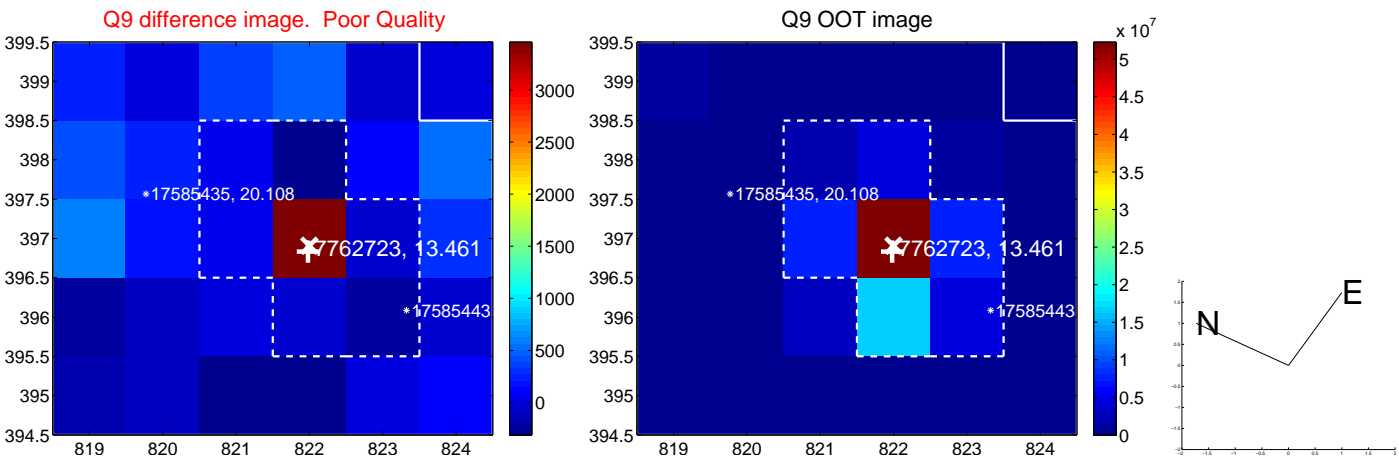
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



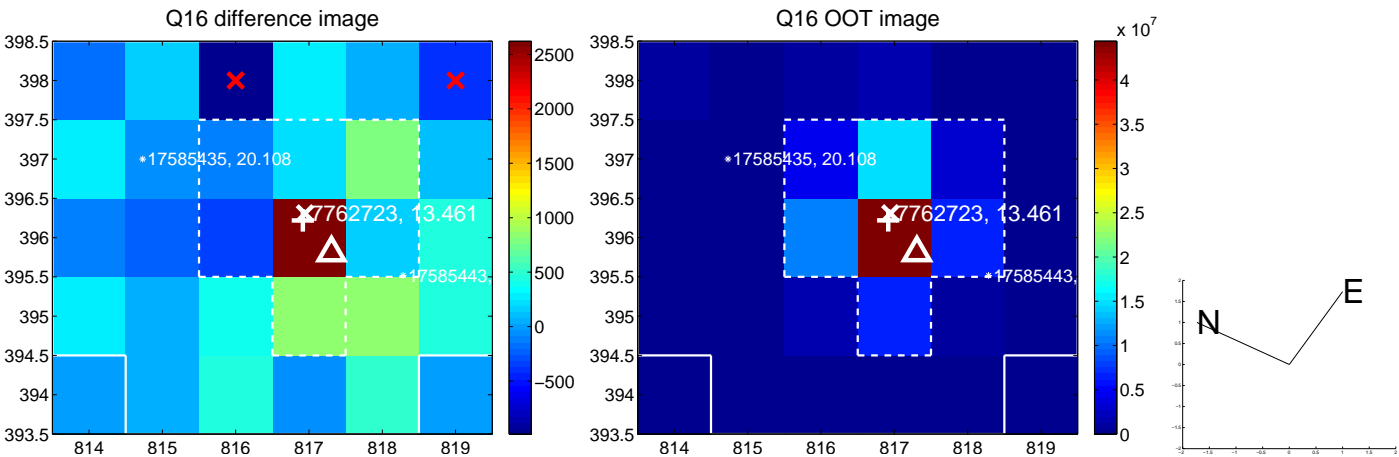
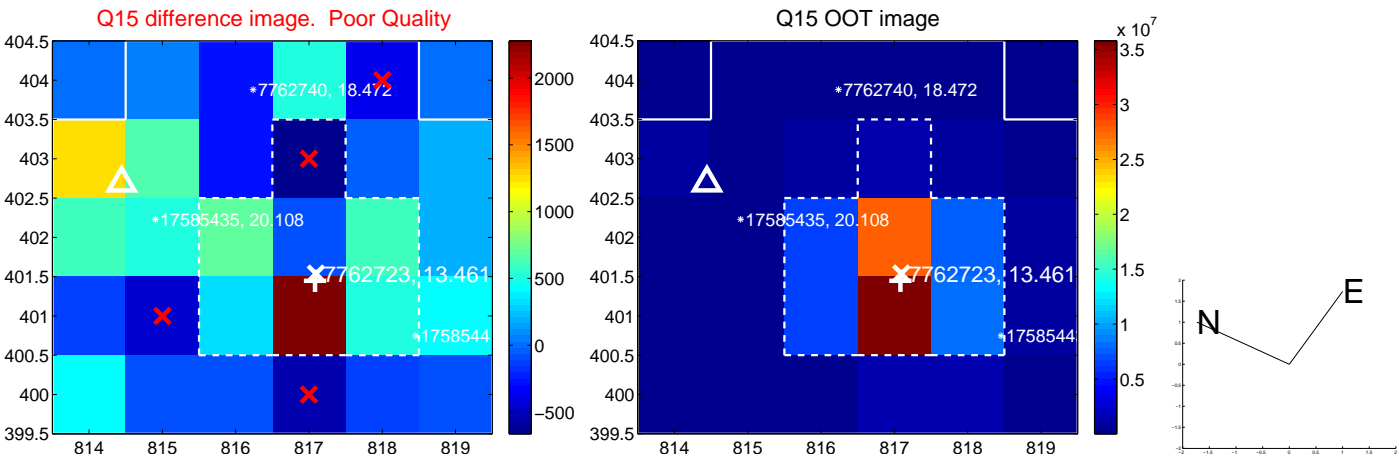
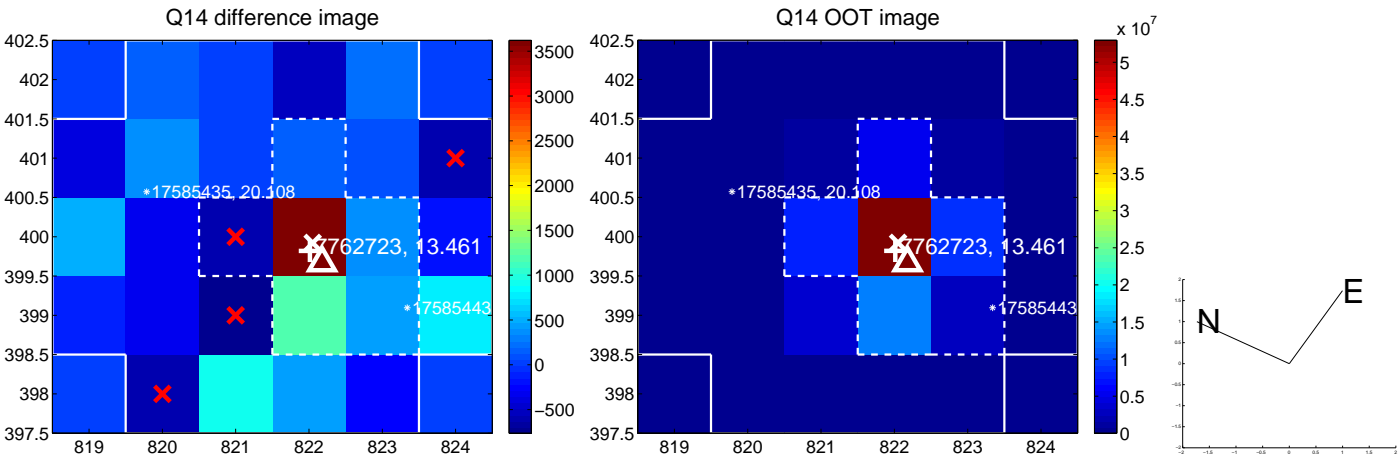
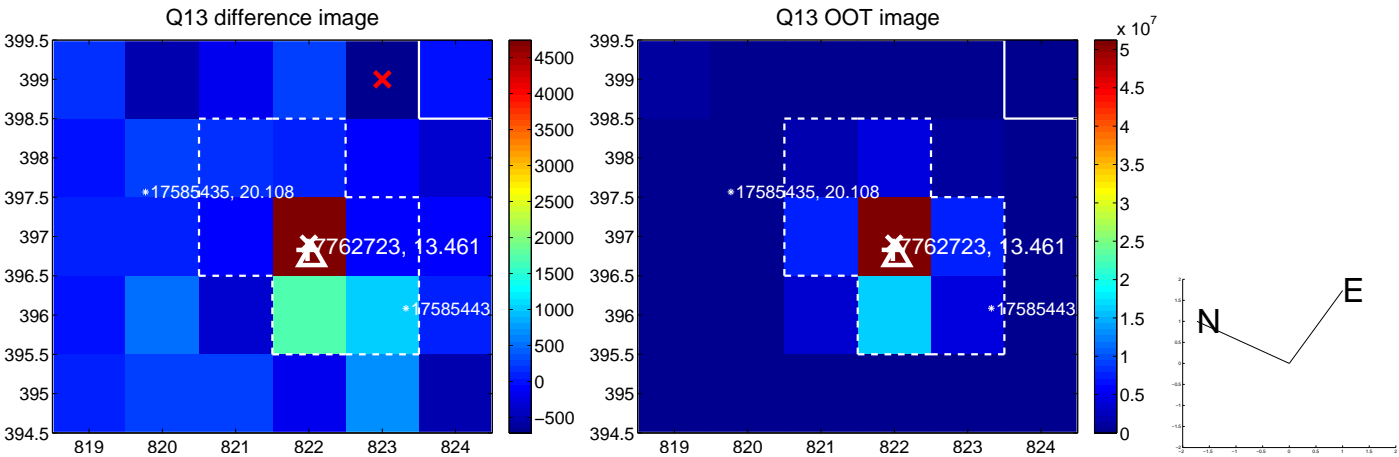
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



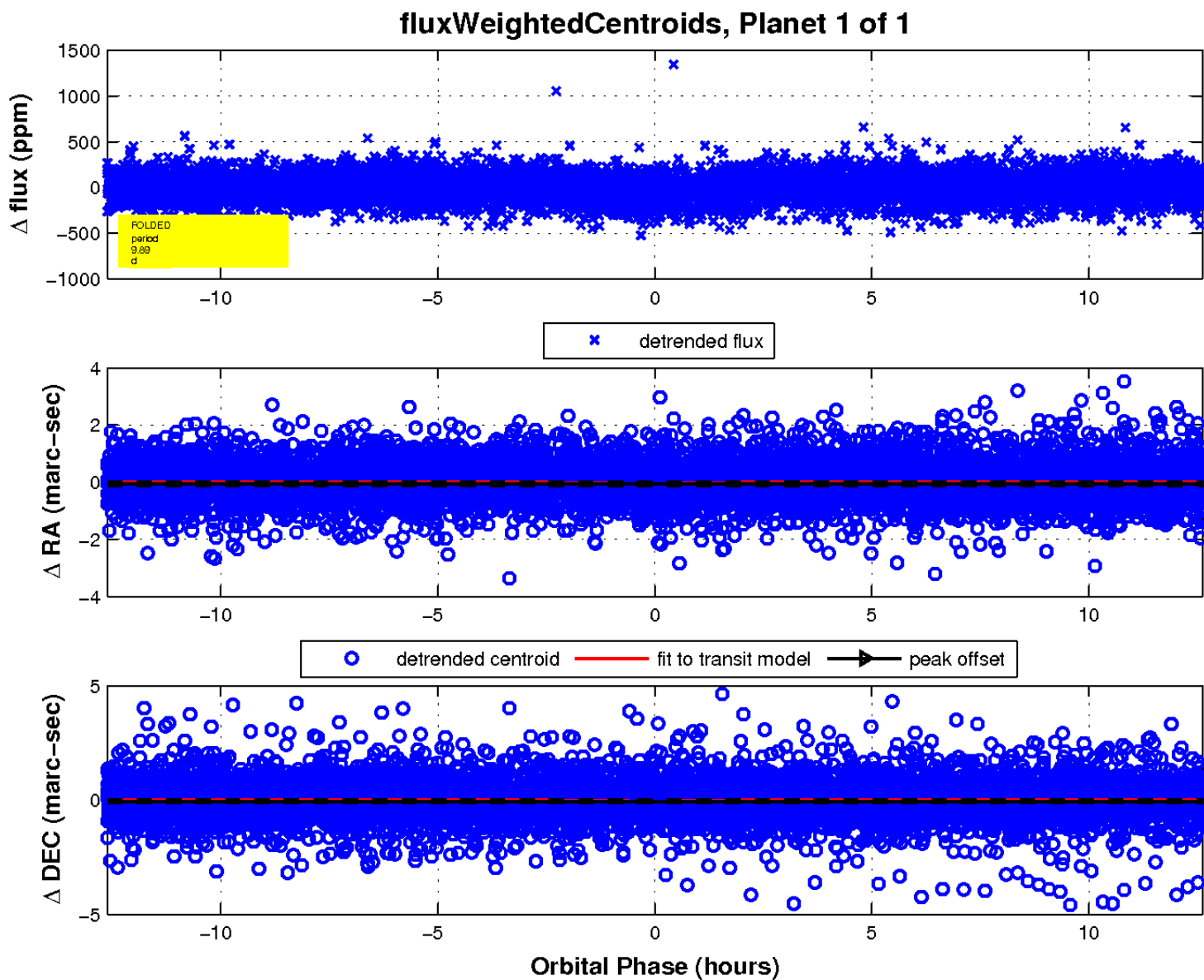
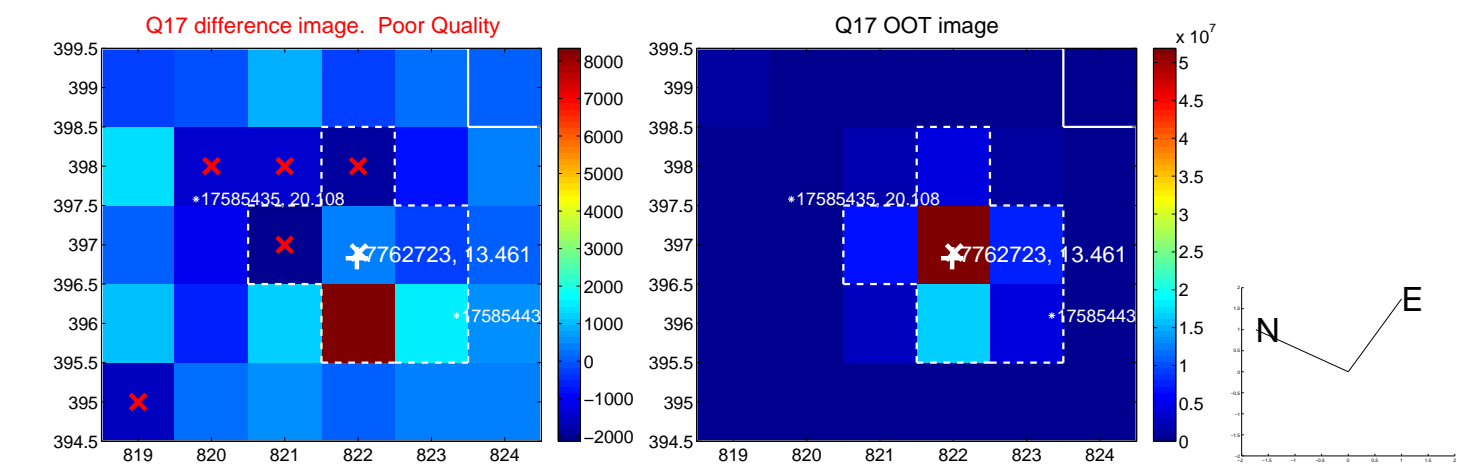
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

