

# KIC 005698883

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005698883-01	OBS	No	3.917885	134.336030	35.6	29.866	9.1	11.6	0.90	5425	0.55	300.36

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005698883-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

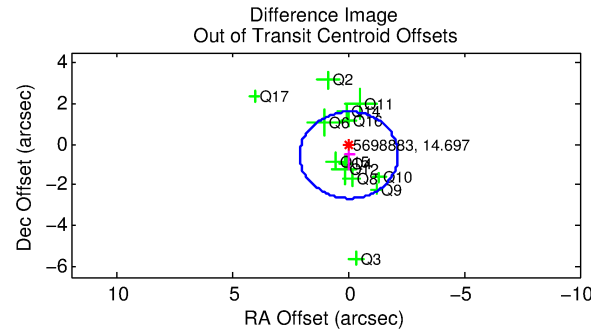
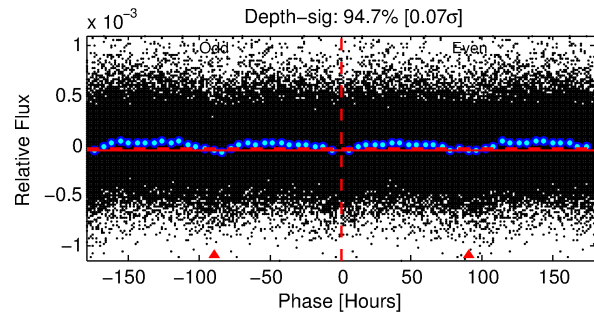
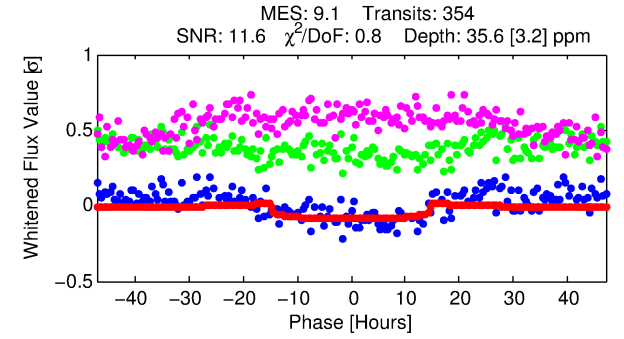
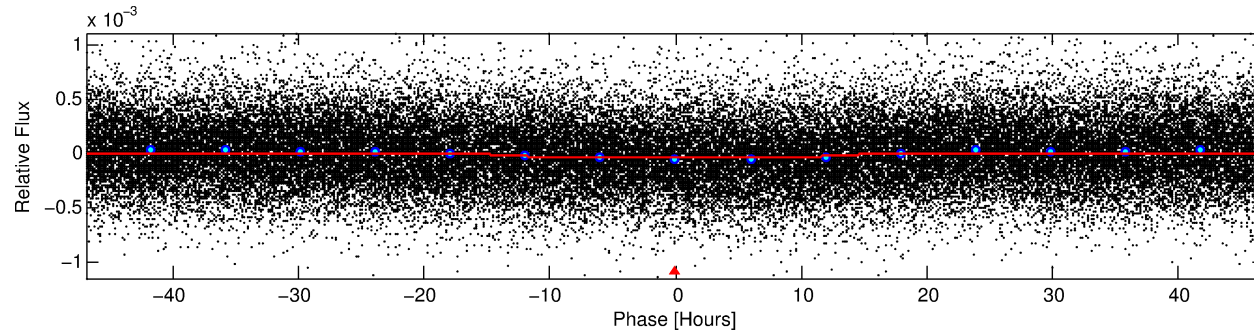
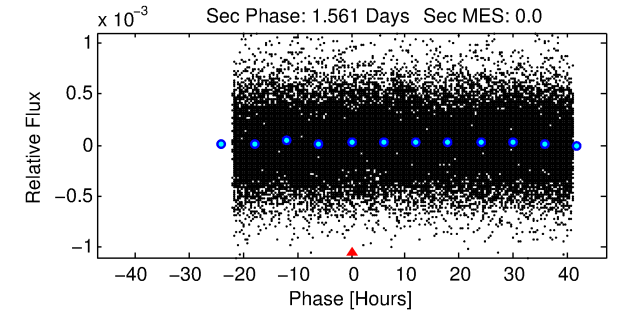
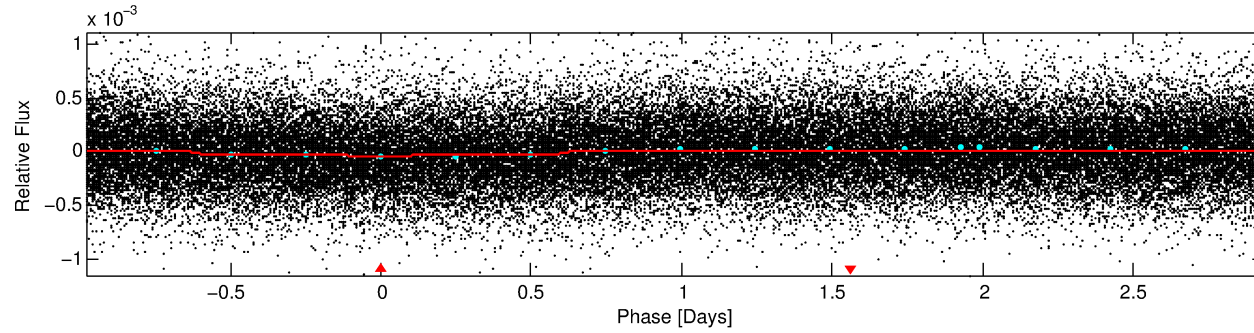
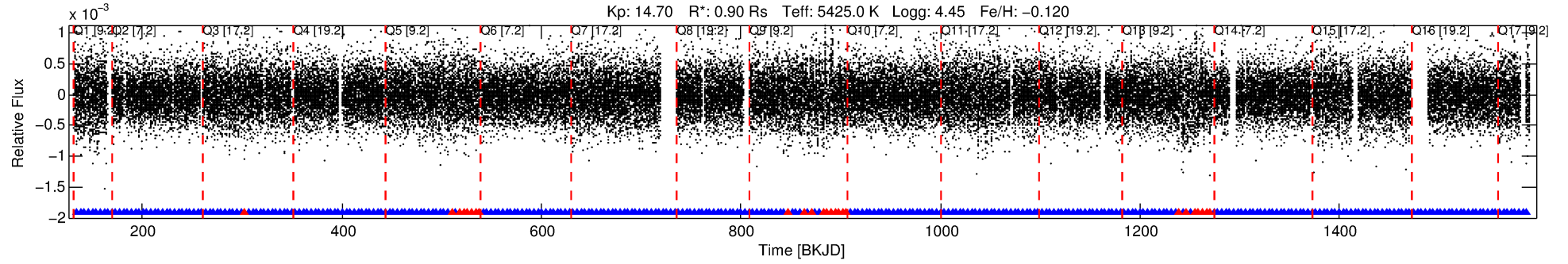
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005698883-01

No Significant Match Found

# DV One-Page Summary

KIC: 5698883 Candidate: 1 of 1 Period: 3.918 d



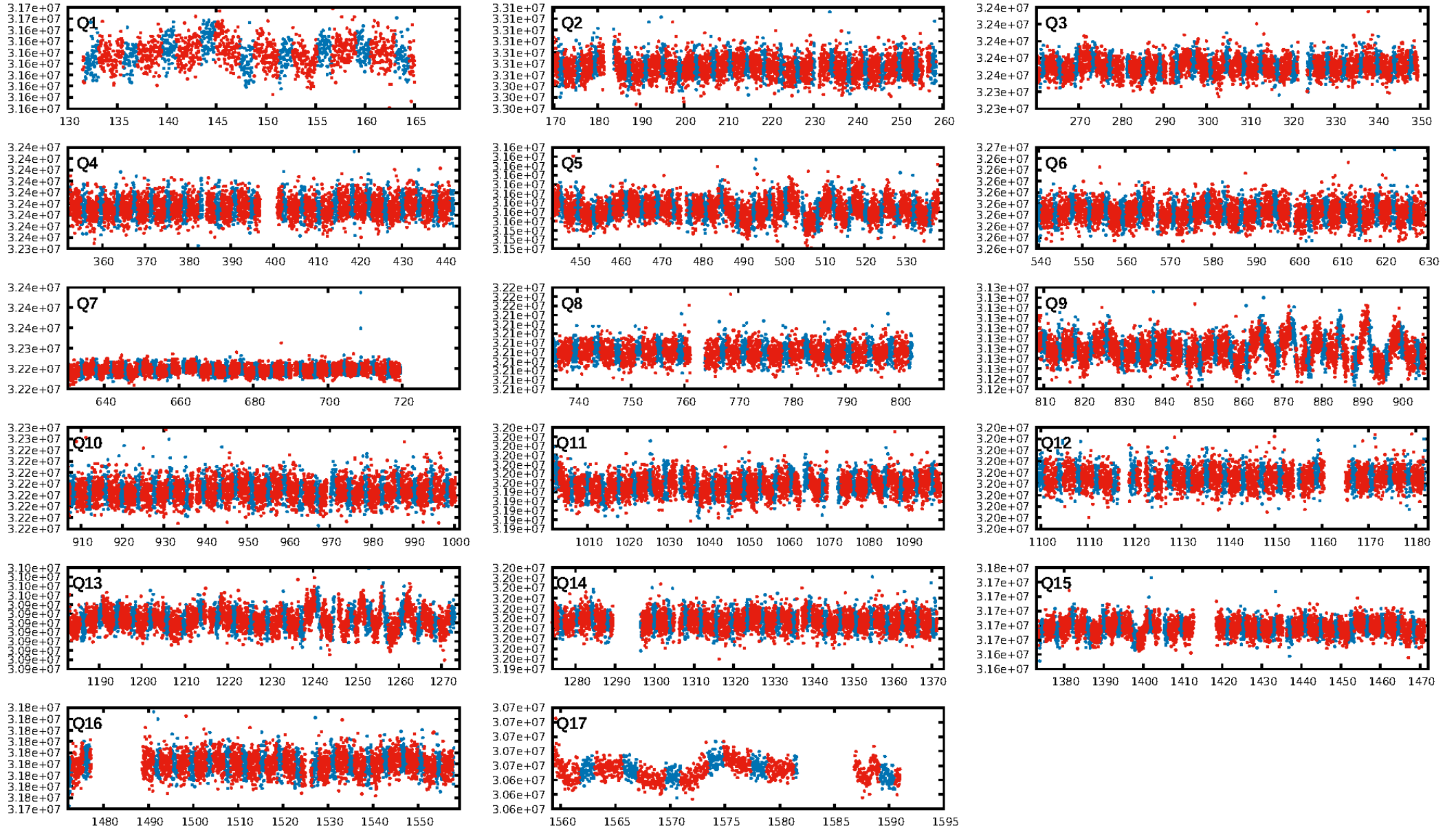
## DV Fit Results:

Period = 3.91788 [0.00011] d  
Epoch = 134.3360 [0.0201] BKJD  
Rp/R\* = 0.0056 [0.0031]  
a/R\* = 1.14 [0.60]  
b = 0.55 [2.87]  
Seff = 300.36 [54.51]  
Teff = 1062 [48] K  
Rp = 0.55 [0.31] Re  
a = 0.0455 [0.0047] AU  
Ag = N/A  
Teffp = N/A

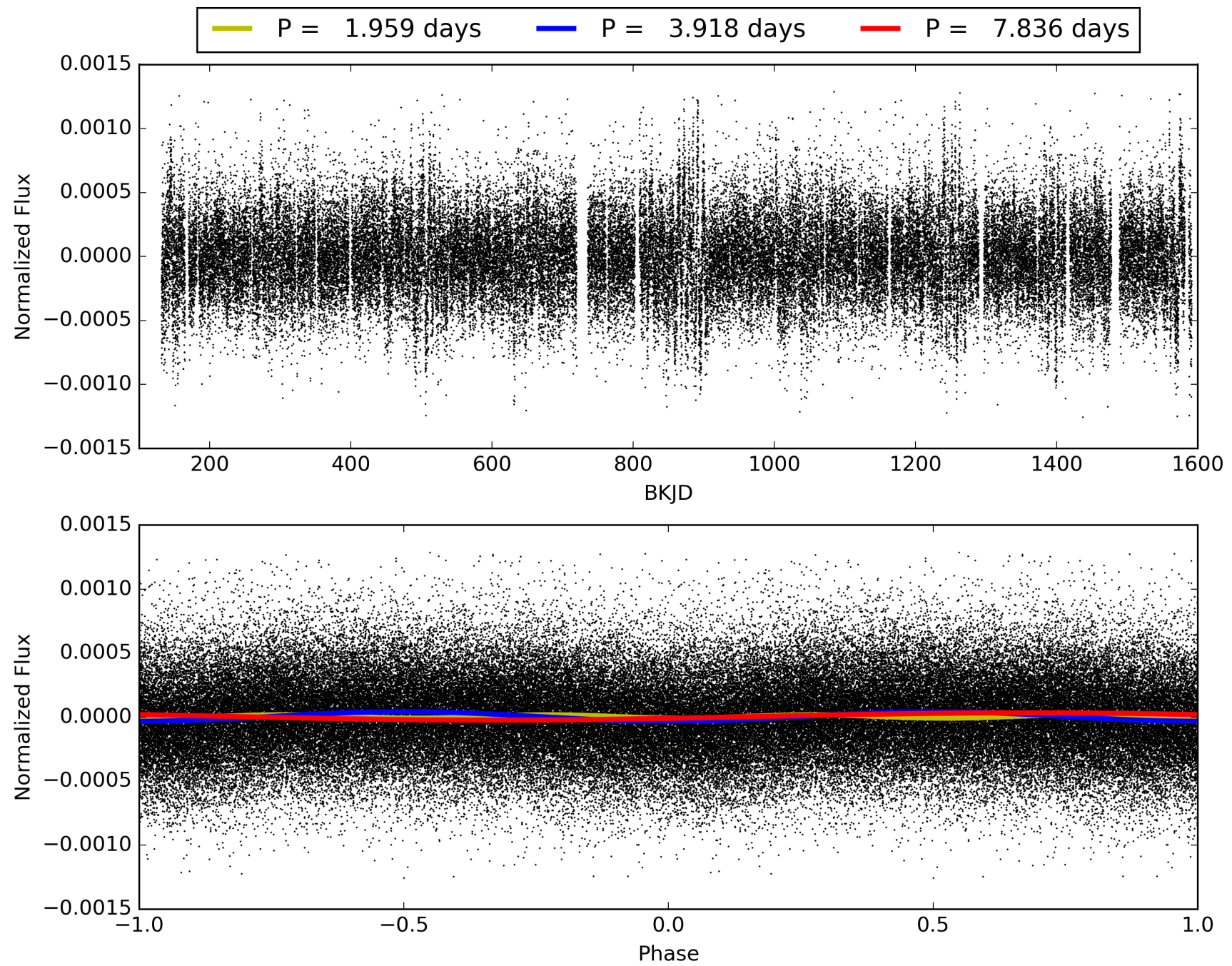
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.93 [314/339]  
GhostDiagnostic-chr: 4.255  
Centroid-sig: 0.3%  
Centroid-so: 2.268 arcsec [1.91 $\sigma$ ]  
OotOffset-rm: 0.534 arcsec [0.75 $\sigma$ ]  
KicOffset-rm: 0.461 arcsec [0.65 $\sigma$ ]  
OotOffset-st: 4/3/4/2 [13]  
KicOffset-st: 4/3/4/2 [13]  
DiffImageQuality-fgm: 0.69 [9/13]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 005698883-01, PDC Light Curves



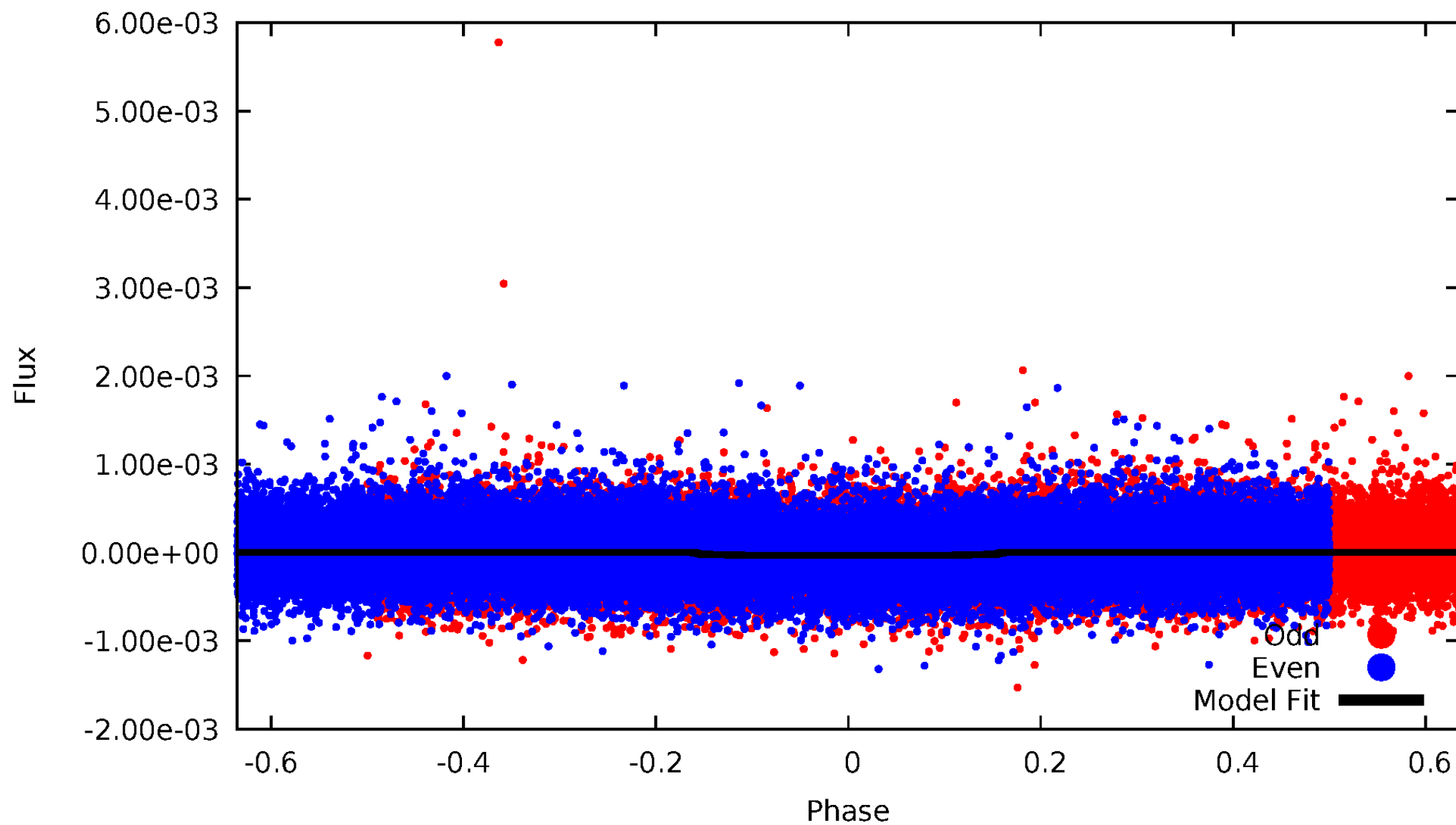
TCE 005698883-01





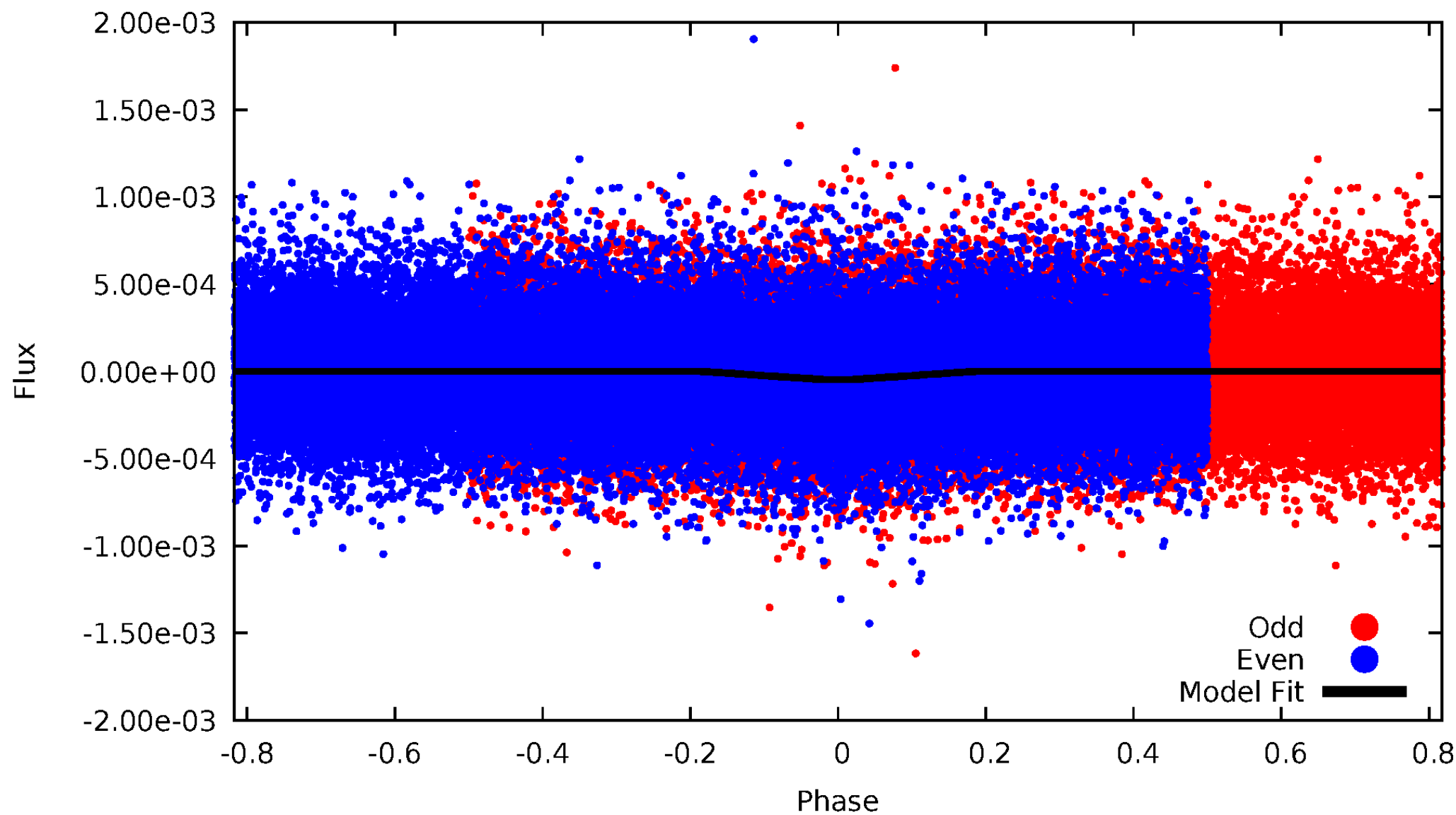
# DV Odd/Even

TCE 005698883-01

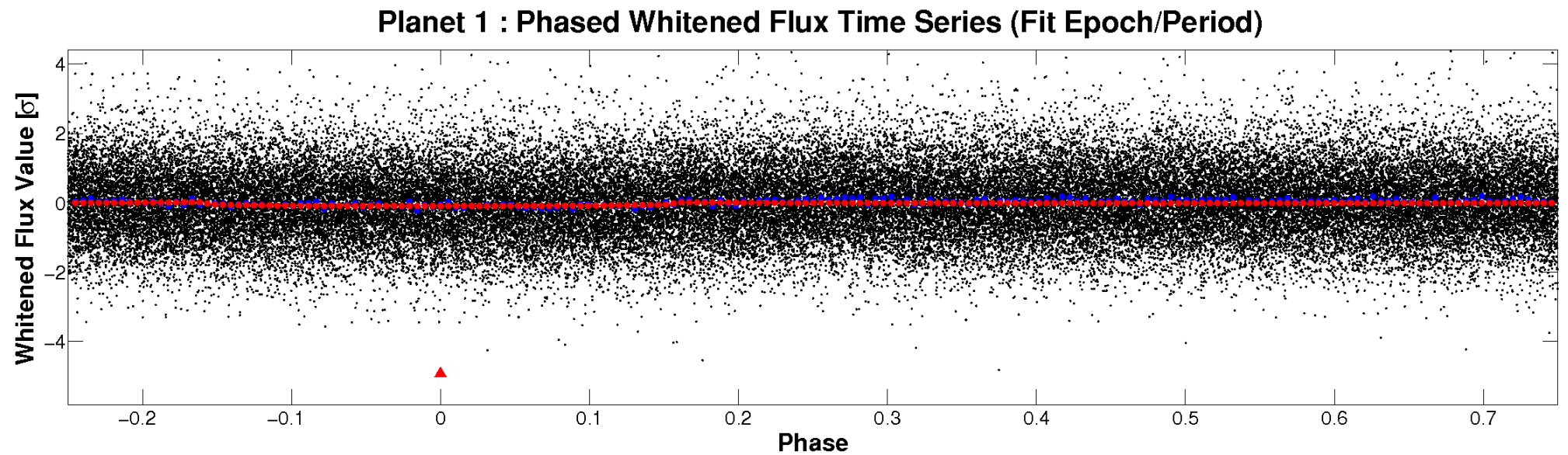
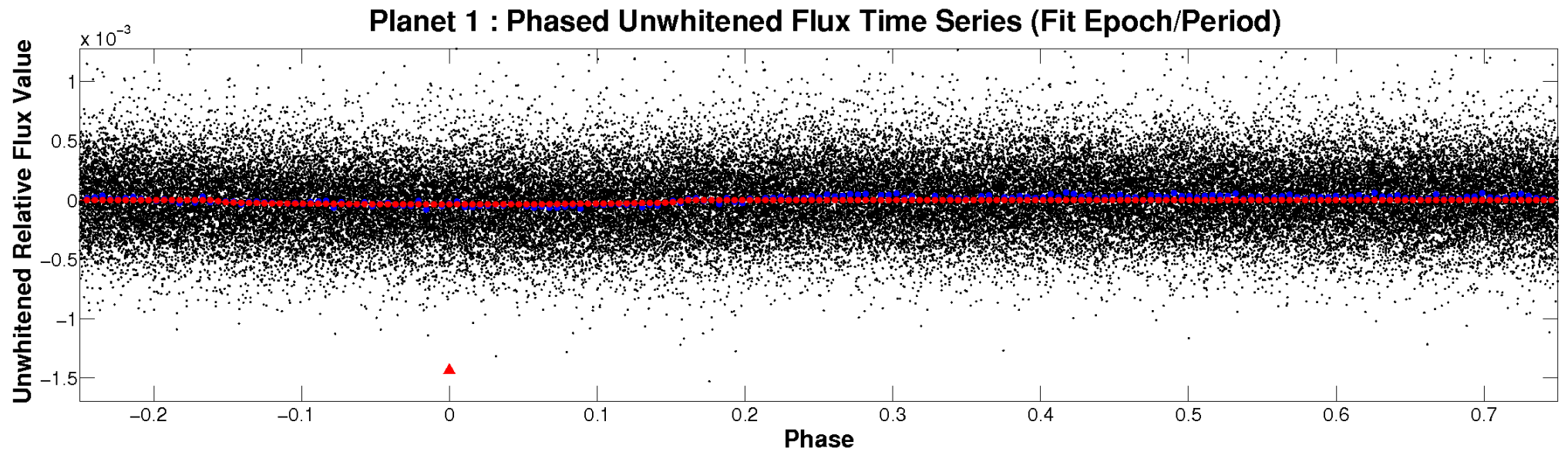


# ALT Odd/Even

TCE 005698883-01

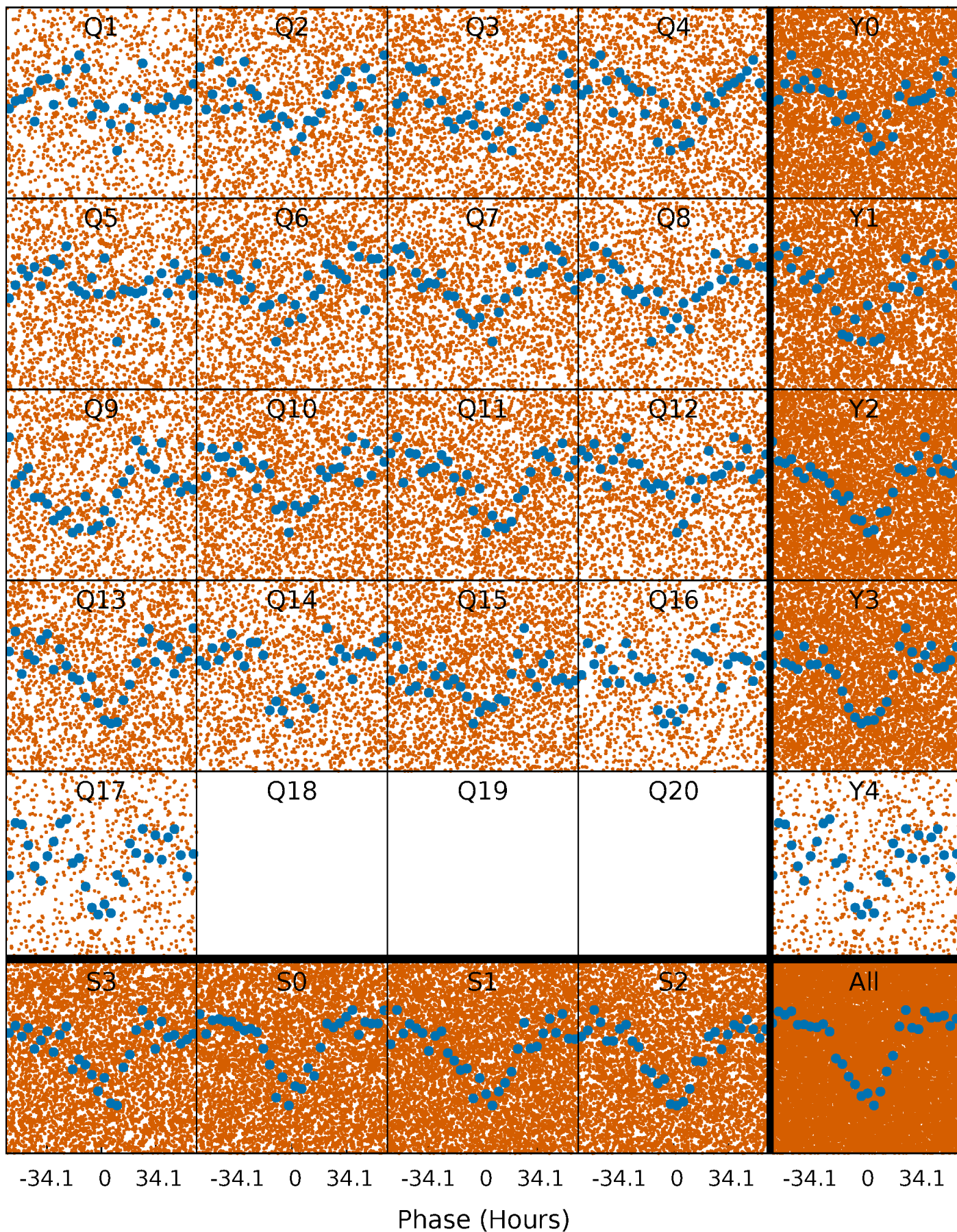


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

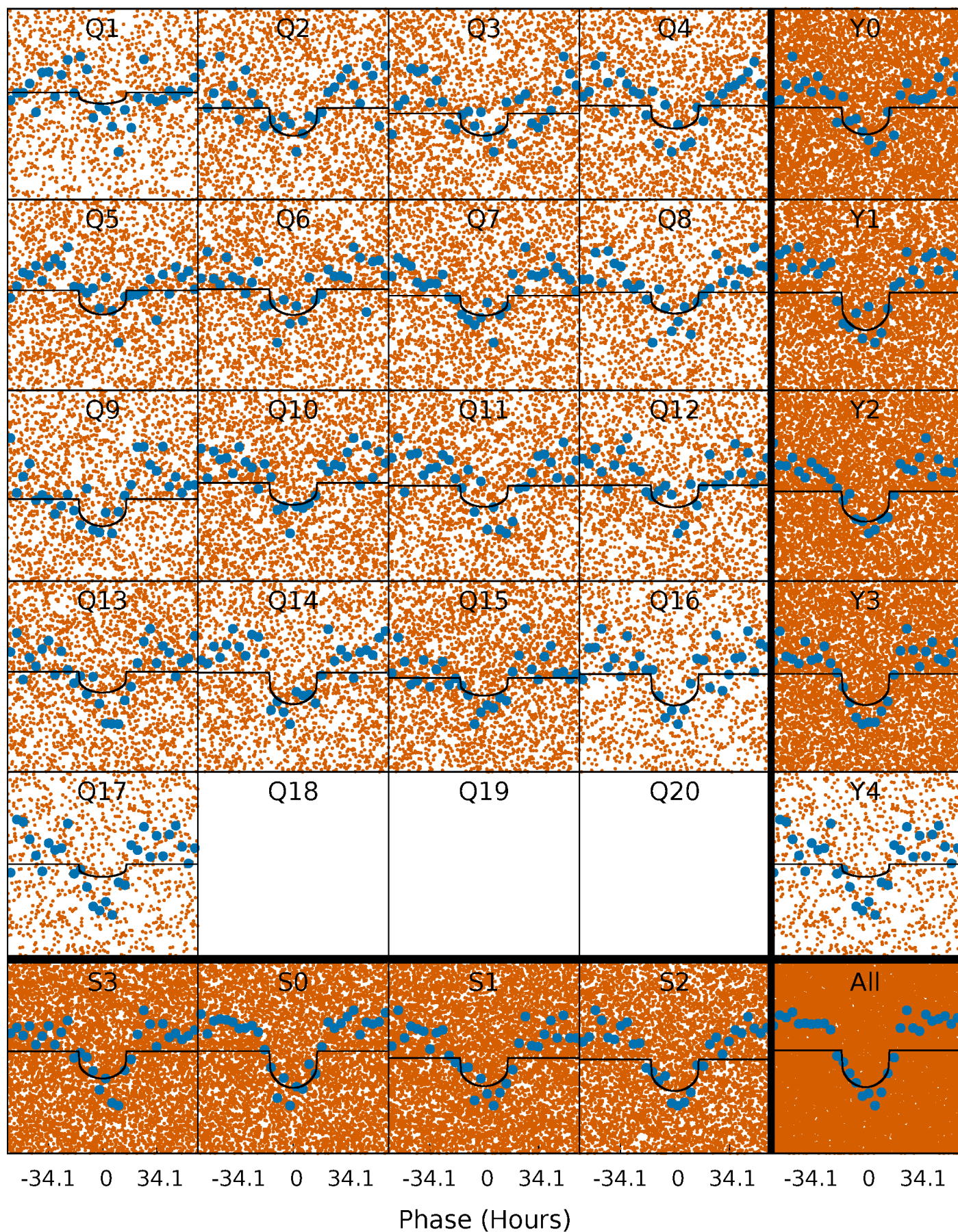
TCE 005698883-01 P= 3.917885 Days  $T_0=134.336030$  (BKJD)





# DV Quarter-Phased Transit Curves

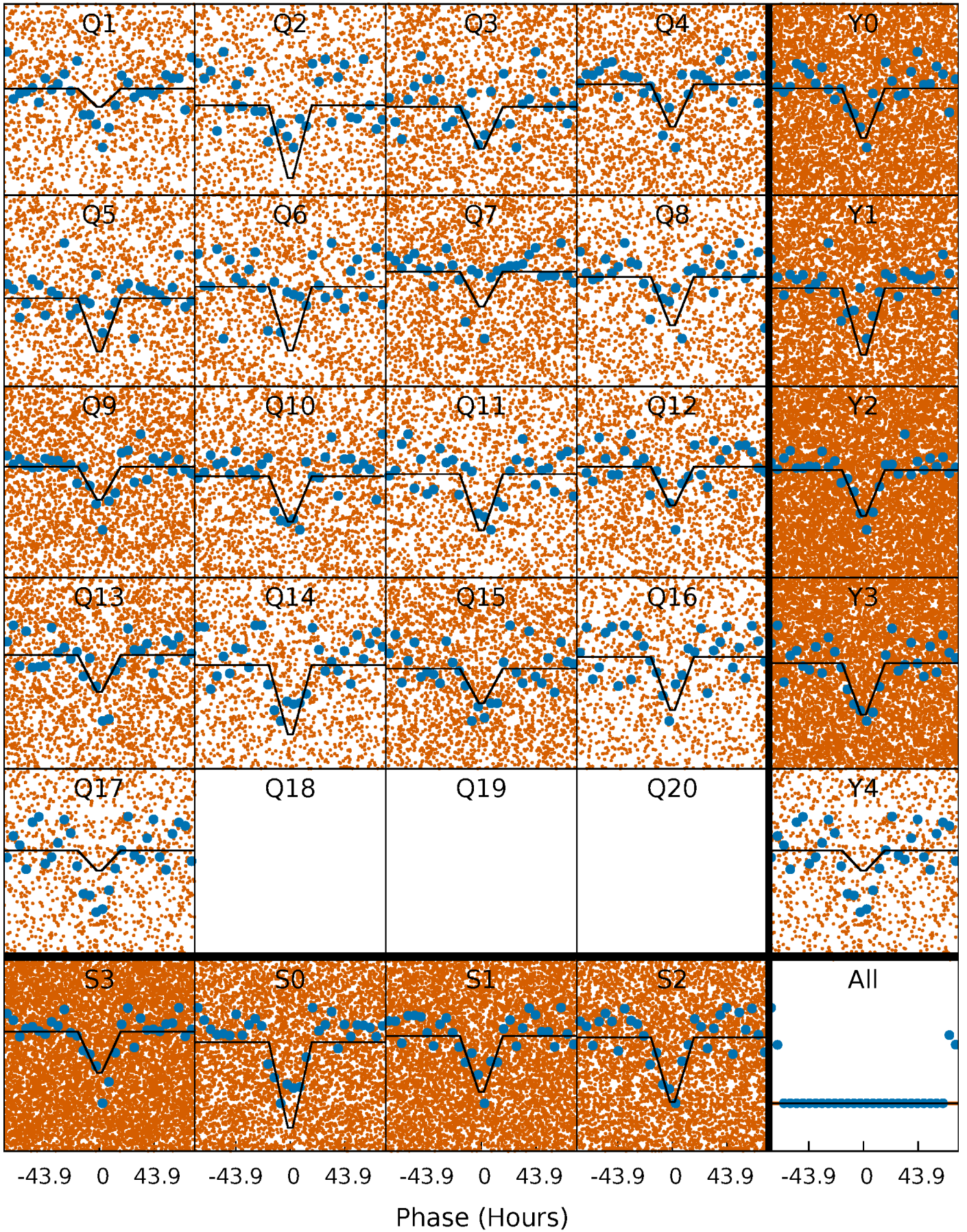
TCE 005698883-01 P= 3.917885 Days  $T_0=134.336030$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

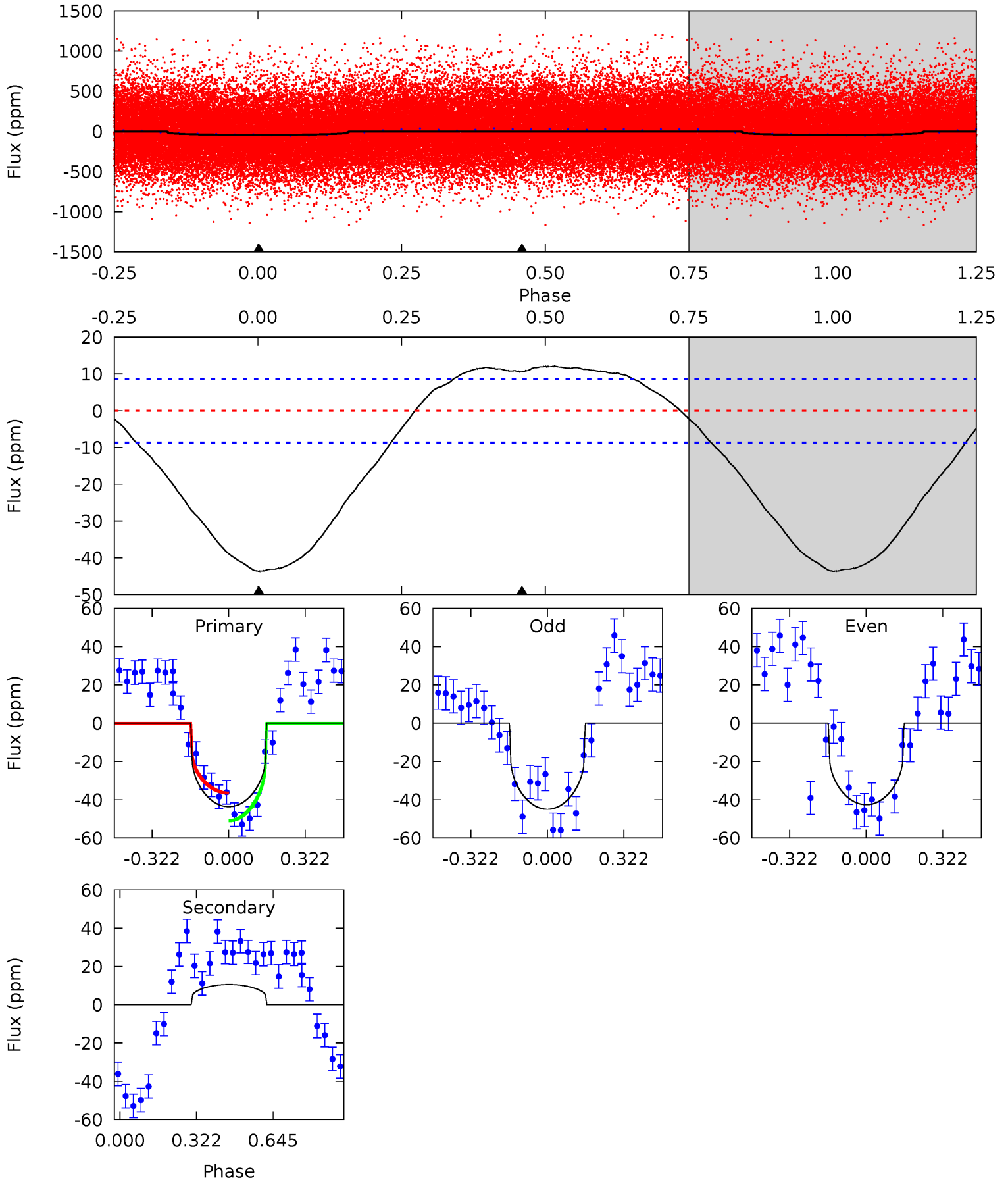
TCE 005698883-01 P= 3.917291 Days  $T_0=134.617418$  (BKJD)



# DV Model-Shift Uniqueness Test

005698883-01, P = 3.917885 Days, E = 130.418145 Days

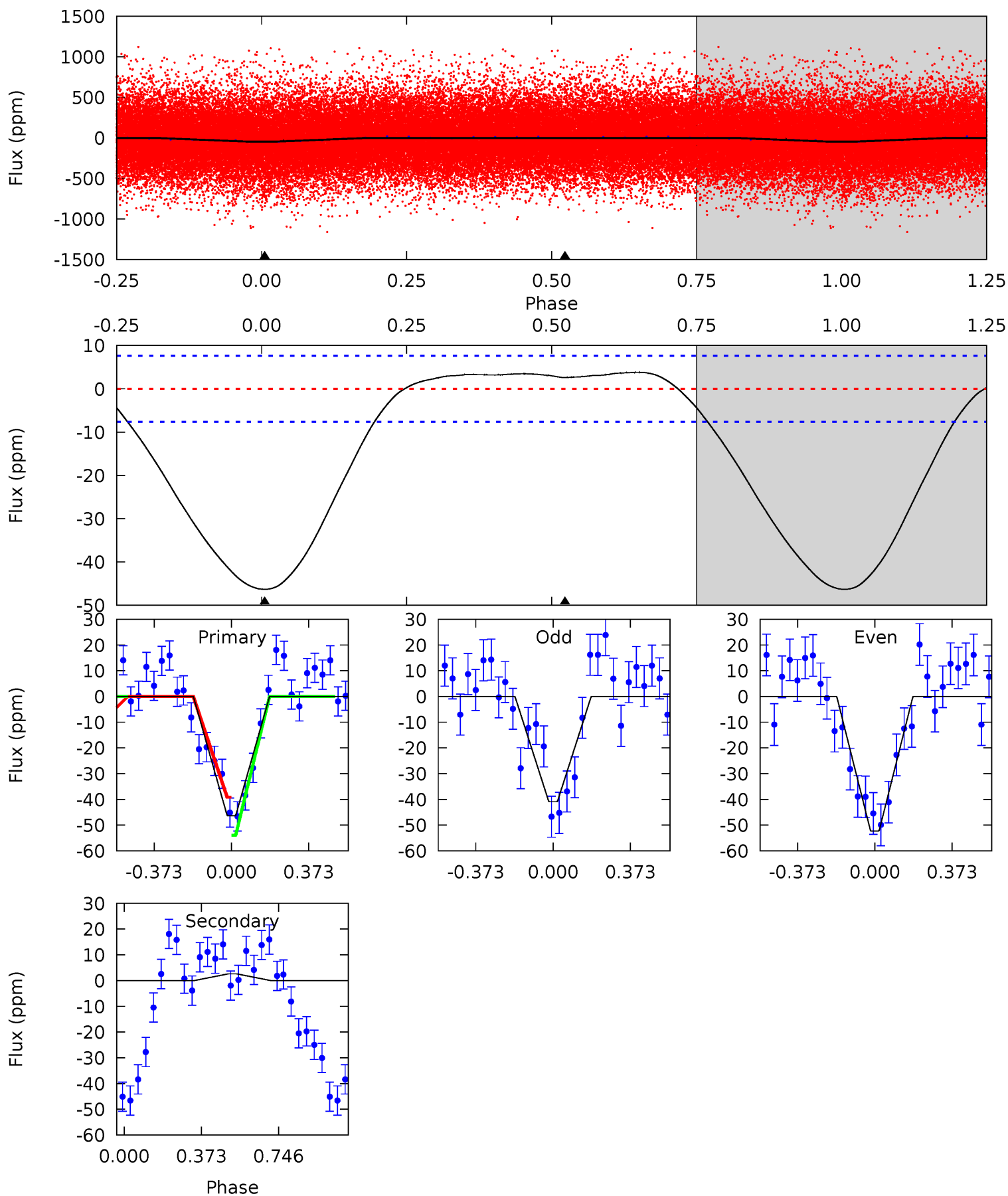
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.7	-5.27	0	0	4.31	0.99	2.16	21.7	21.7	-5.27	-5.27	0.58	0.91	0.22	3.57



# Alt Model-Shift Uniqueness Test

005698883-01, P = 3.917291 Days, E = 130.700127 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
26.0	-1.46	0	0	4.28	0.89	2.18	26.0	26.0	-1.46	-1.46	3.14	1.29	0.08	4.04





### Stellar Parameters For KIC 005698883

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$5425^{+75}_{-75}$	$4.447^{+0.104}_{-0.056}$	$-0.120^{+0.150}_{-0.150}$	$0.895^{+0.073}_{-0.089}$	$0.818^{+0.064}_{-0.032}$	$1.608^{+0.600}_{-0.306}$
	+1%/-1%	+2%/-1%	+125%/-125%	+8%/-10%	+8%/-4%	+37%/-19%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 005698883-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$11 \pm 2$	$0.56^{+0.30}_{-0.27}$	$1475^{+41}_{-43}$	$-4310^{+624}_{-1336}$	$-40.611^{+24.507}_{-107.384}$
Alt.	$3 \pm 2$	$0.67^{+0.31}_{-0.31}$	$1478^{+41}_{-48}$	$-3148^{+475}_{-759}$	$-5.663^{+4.106}_{-16.824}$

$T_{max}$  = 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

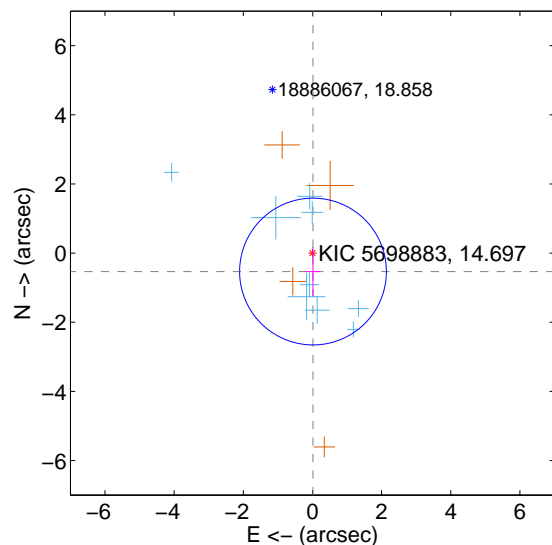
Supplemental centroid analysis for 005698883-01. Kepler magnitude: 14.70. Transit SNR 11.61

There are 9 quarters with good PRF difference image offsets

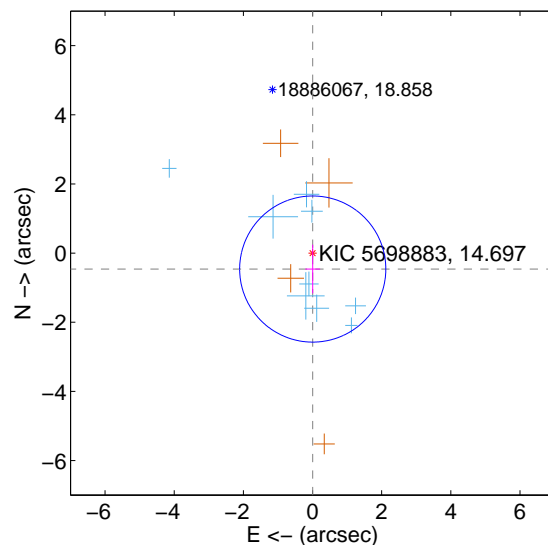
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.534 \pm 0.708$	0.75	$-0.016 \pm 0.205$	$-0.534 \pm 0.708$
PRF-fit source offset from KIC position	$0.461 \pm 0.705$	0.65	$-0.006 \pm 0.215$	$-0.461 \pm 0.705$
photometric centroid source offset	$2.27 \pm 1.19$	1.91	$-1.27 \pm 1.25$	$1.88 \pm 1.16$

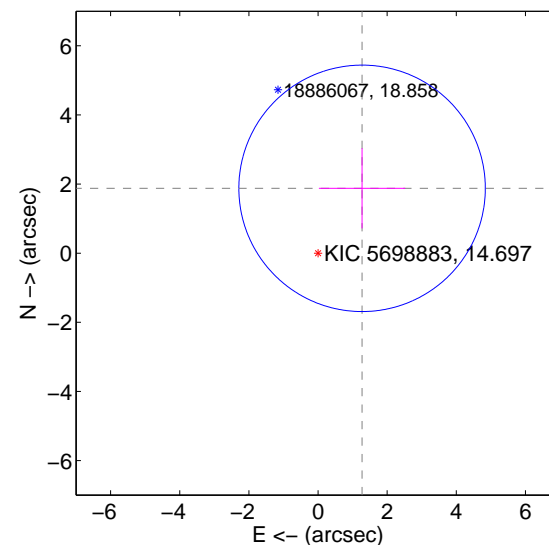
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

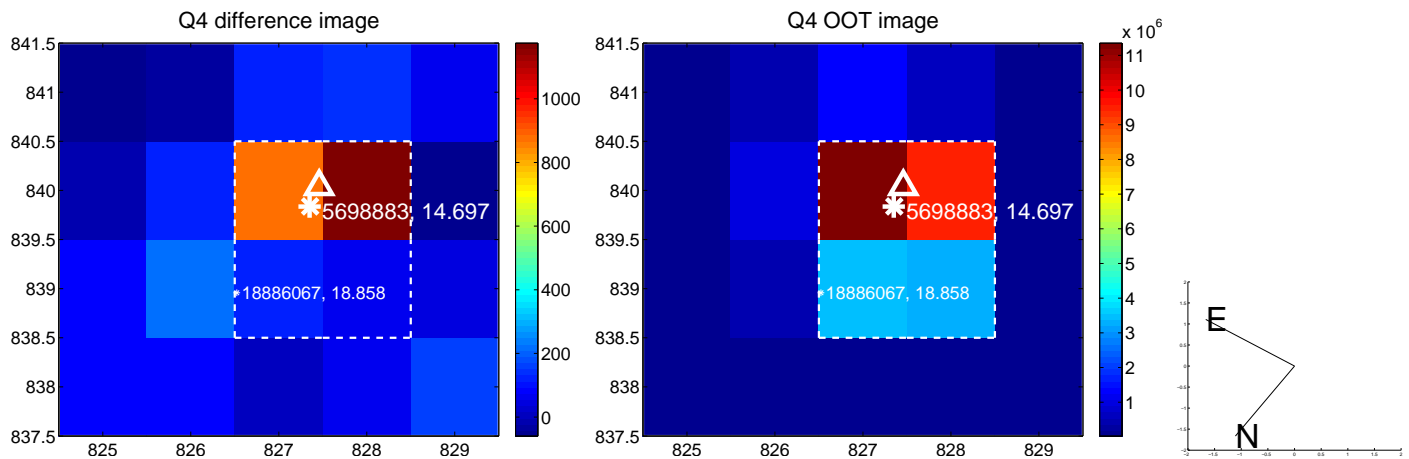
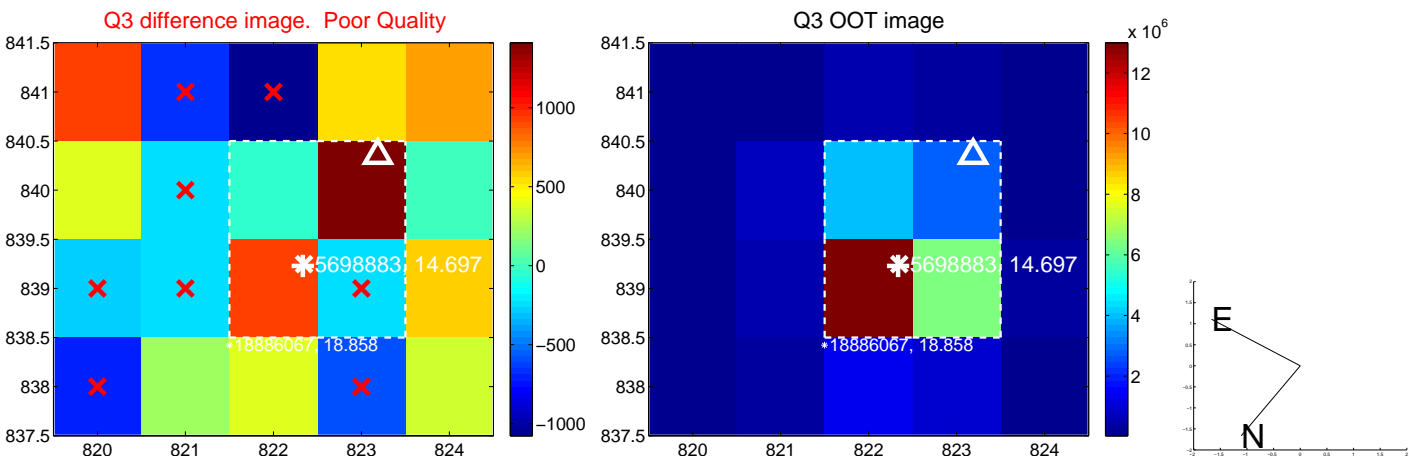
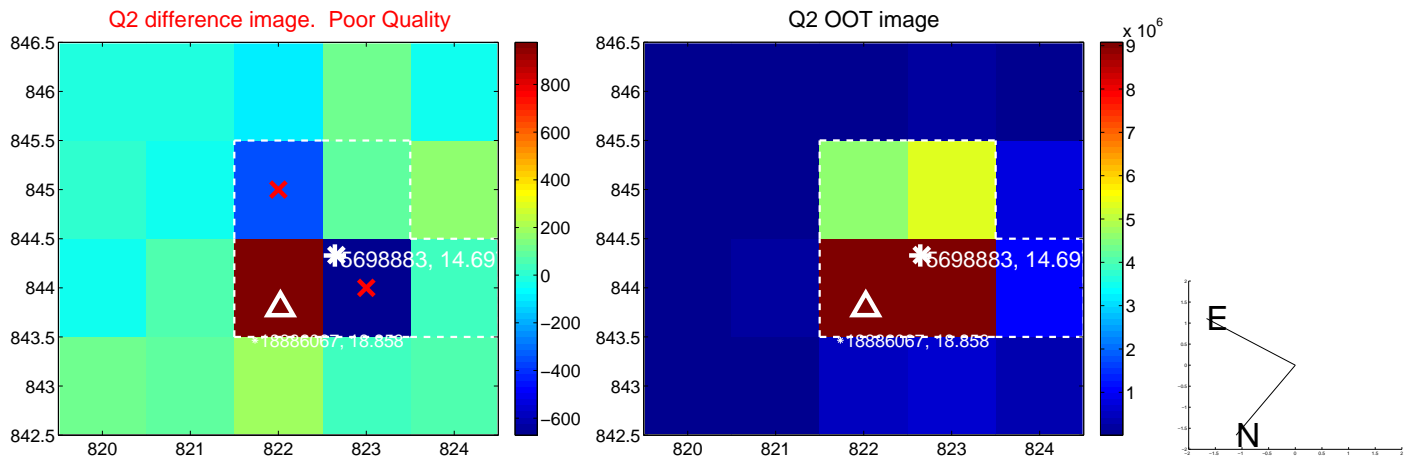
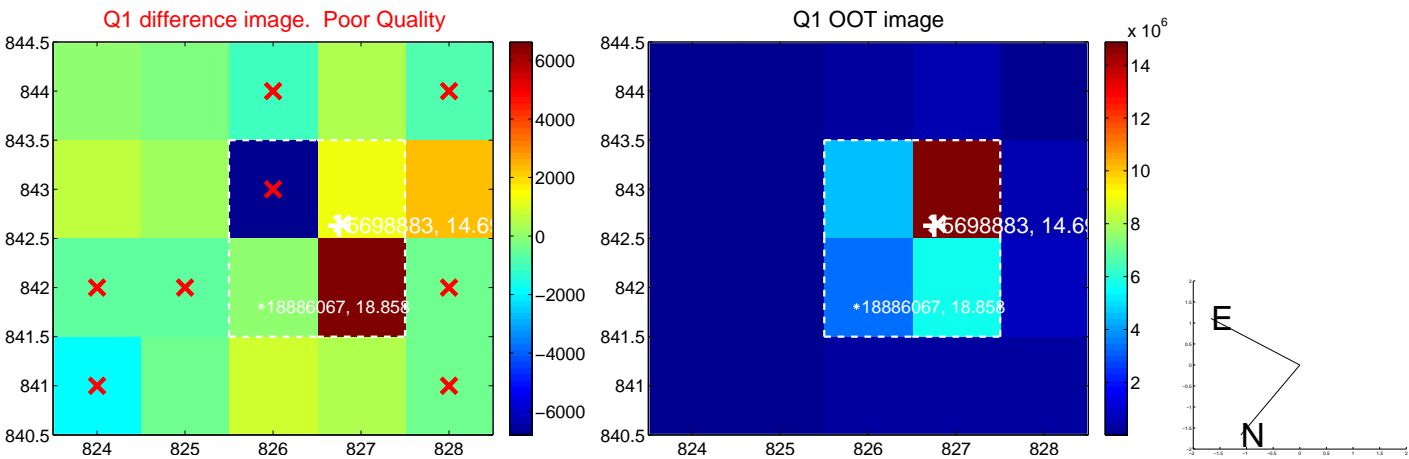


offset from photometric centroids

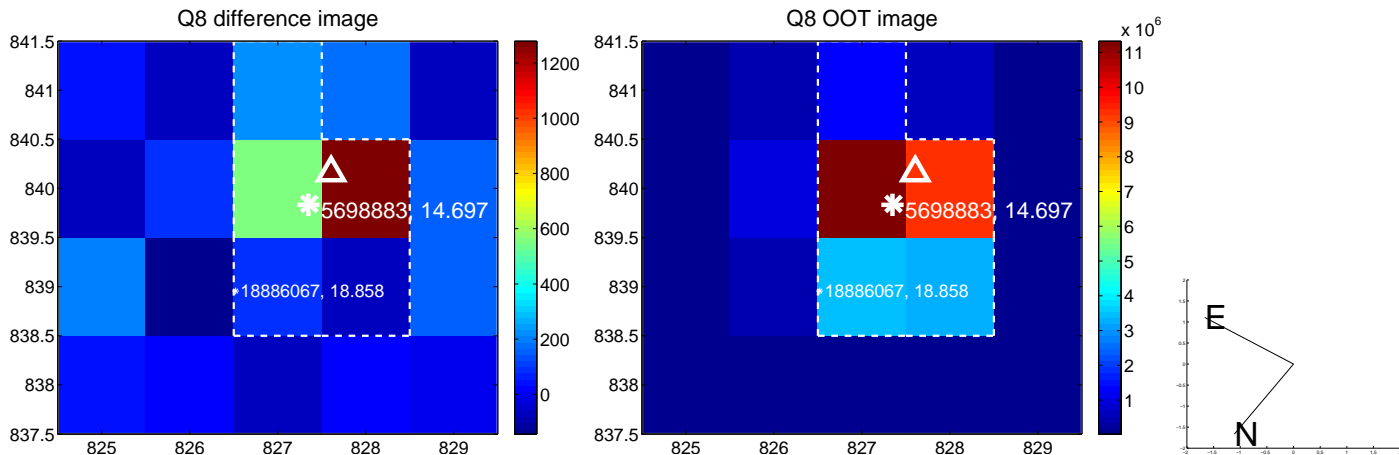
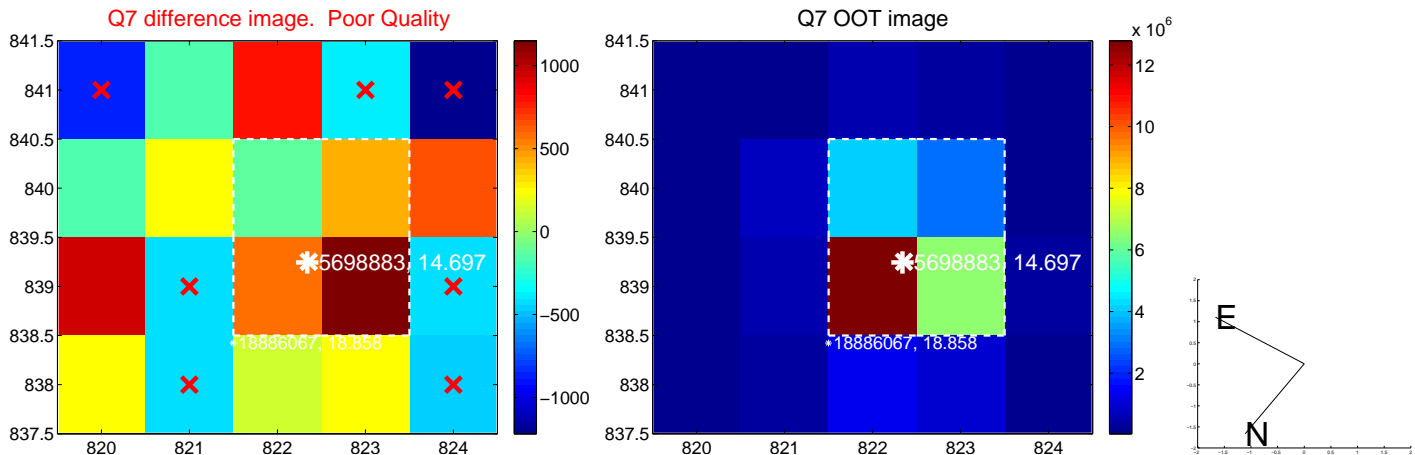
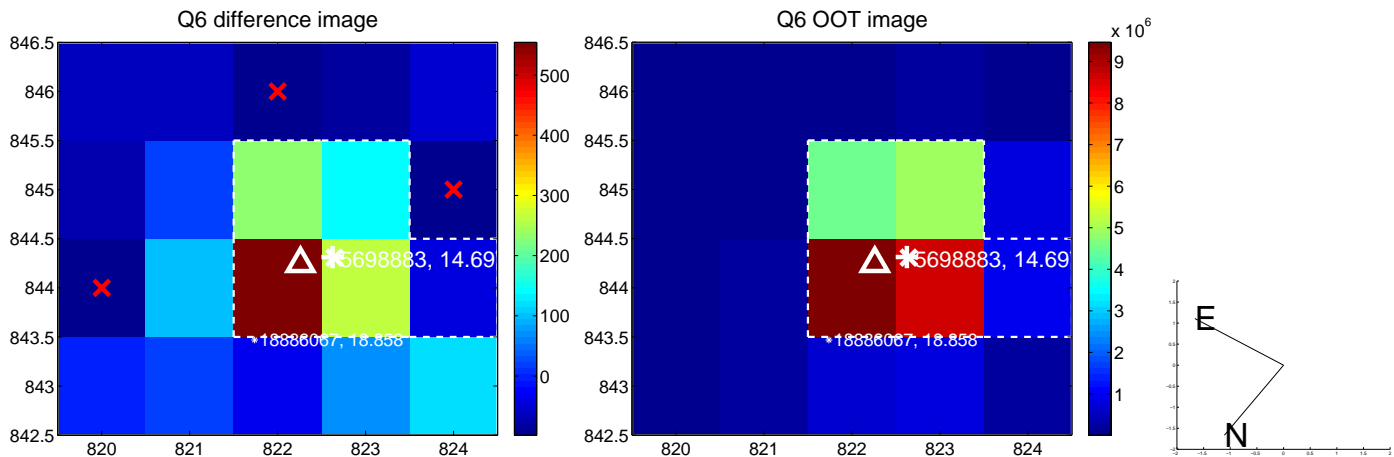
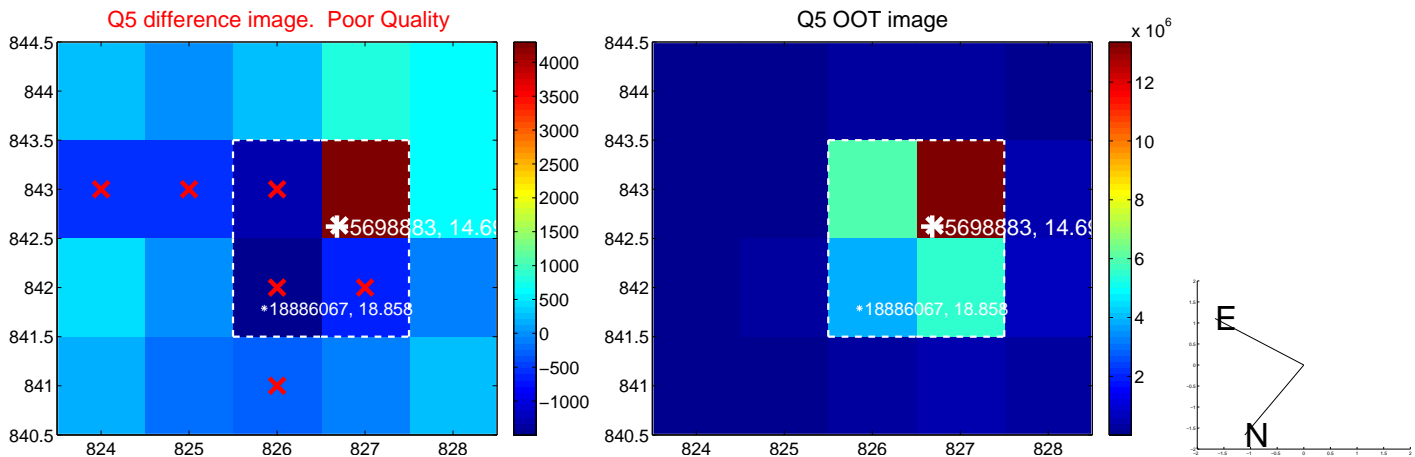


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

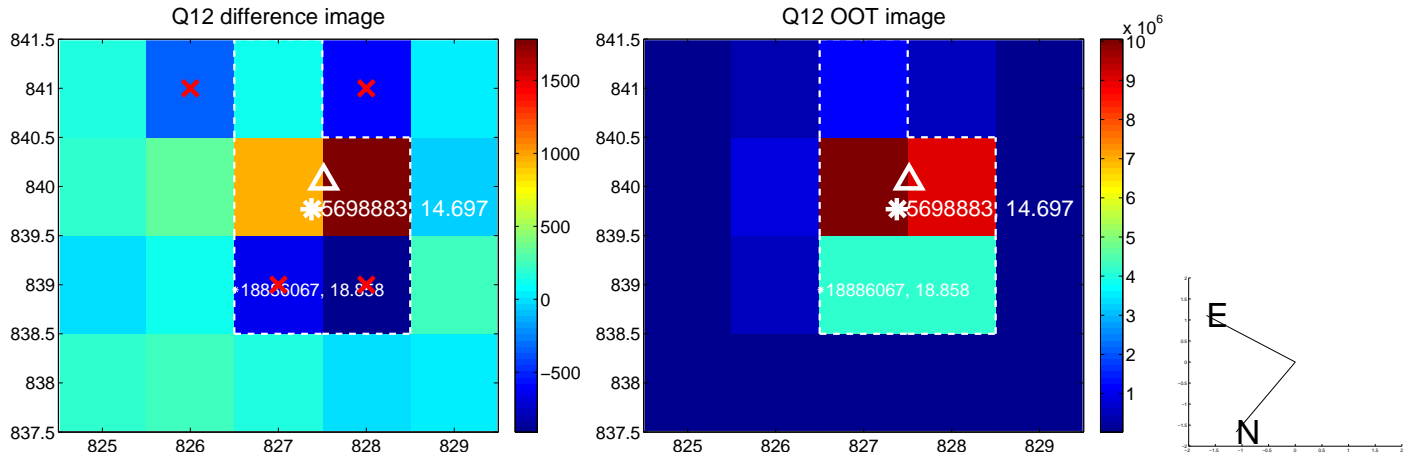
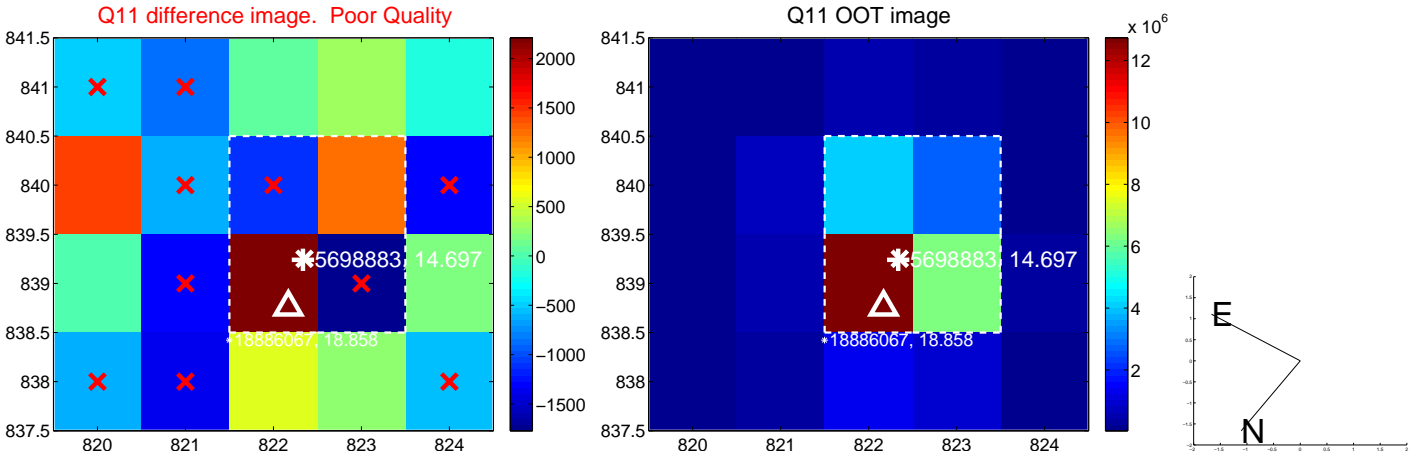
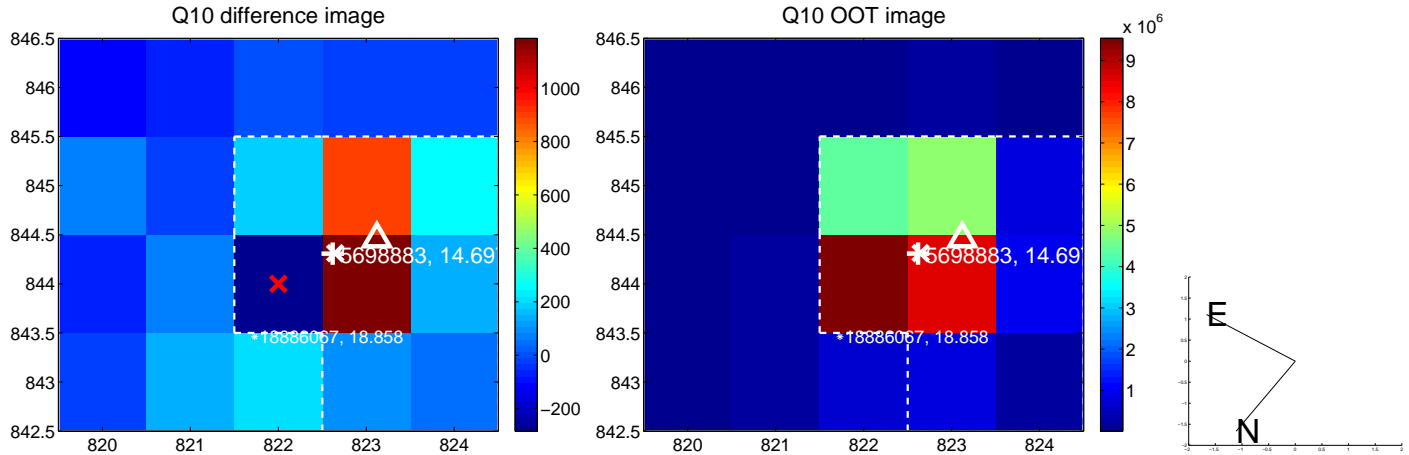
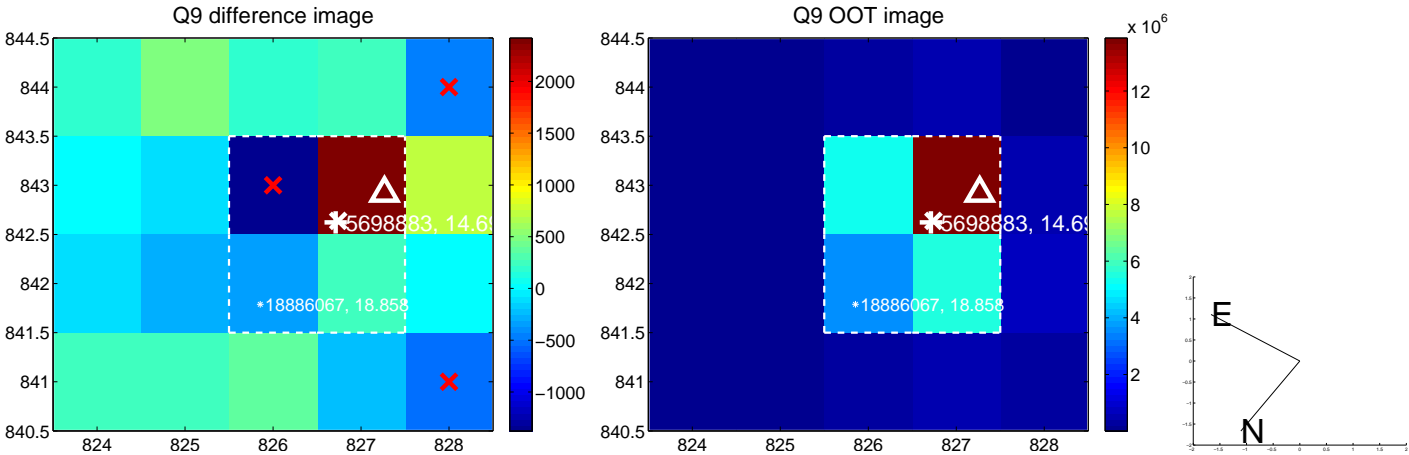


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

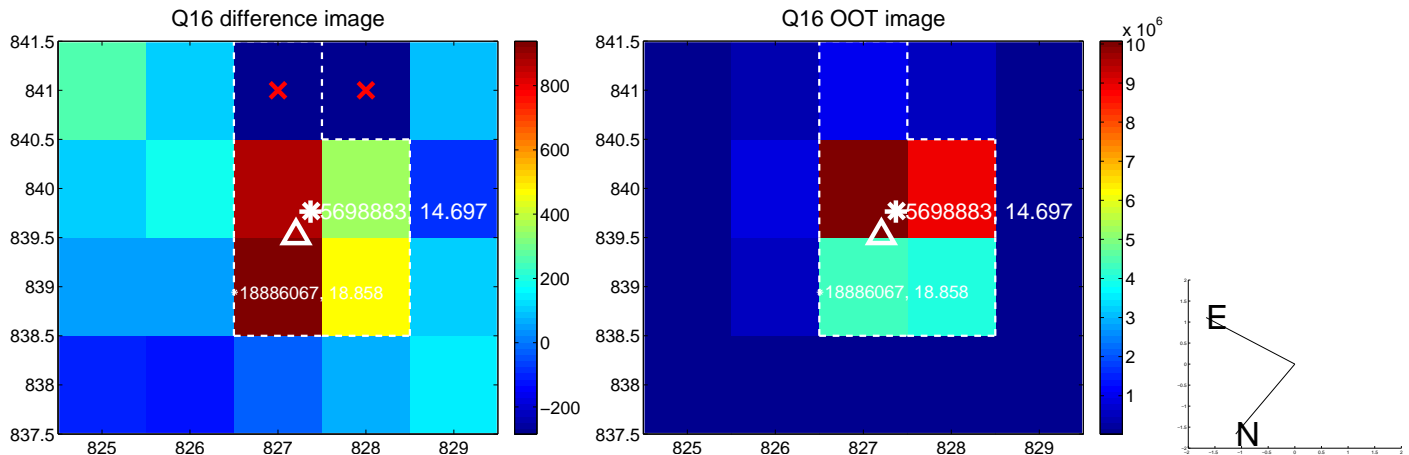
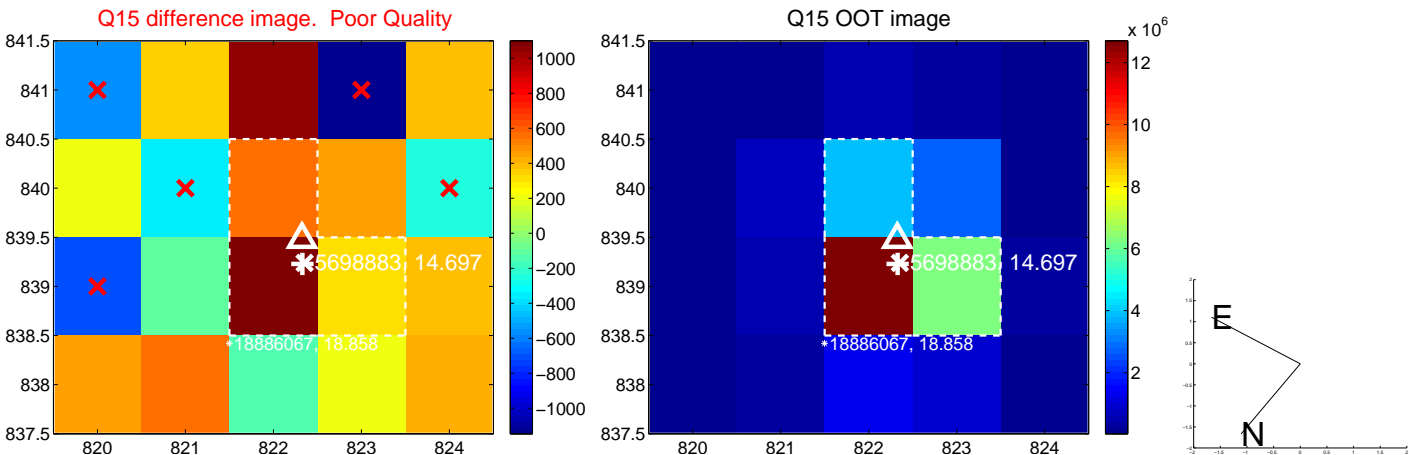
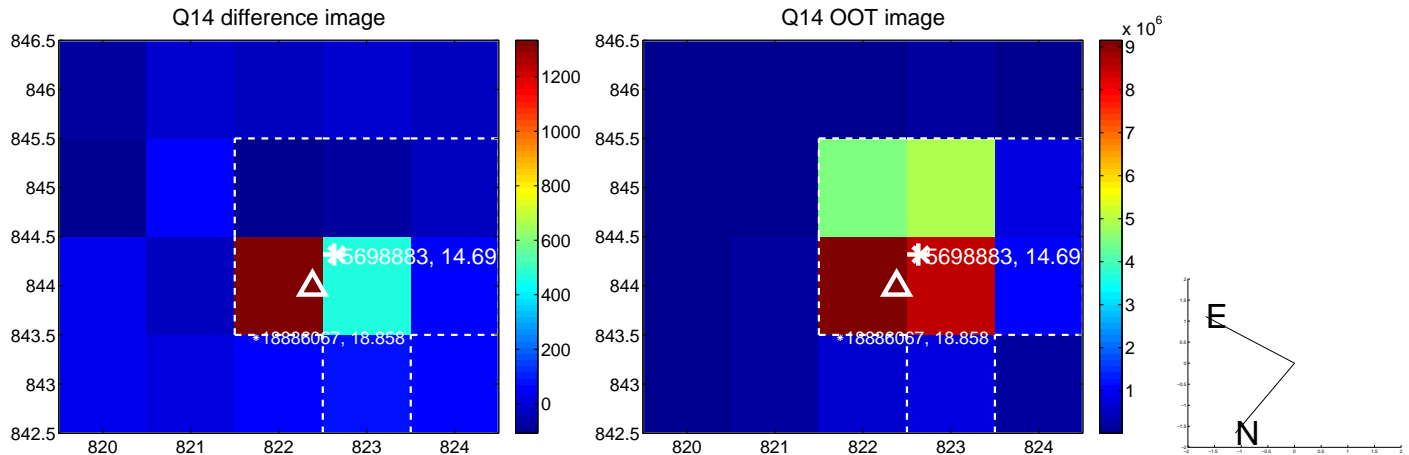
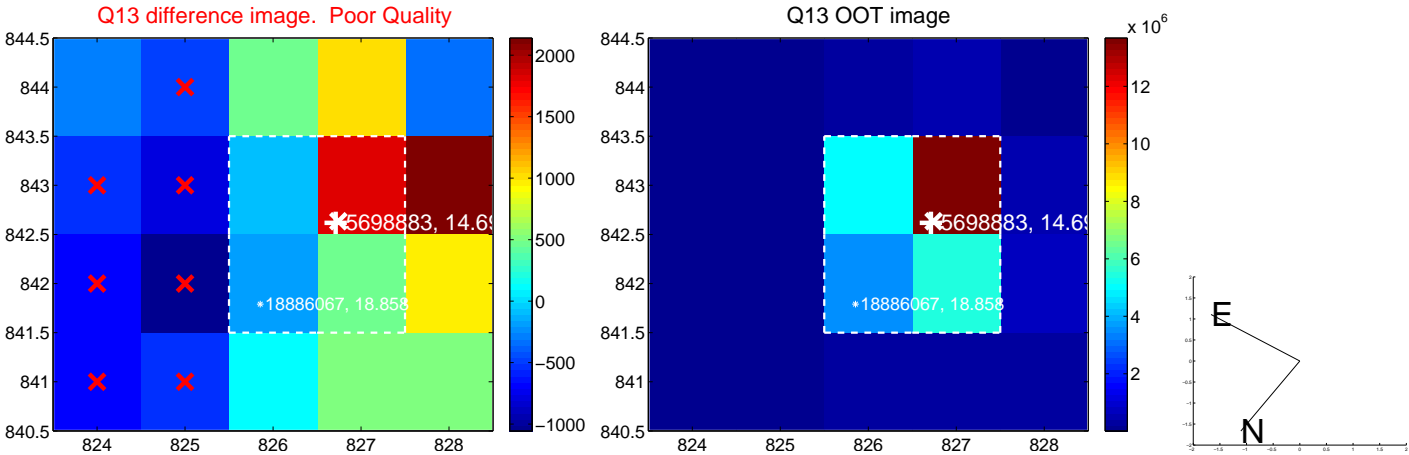




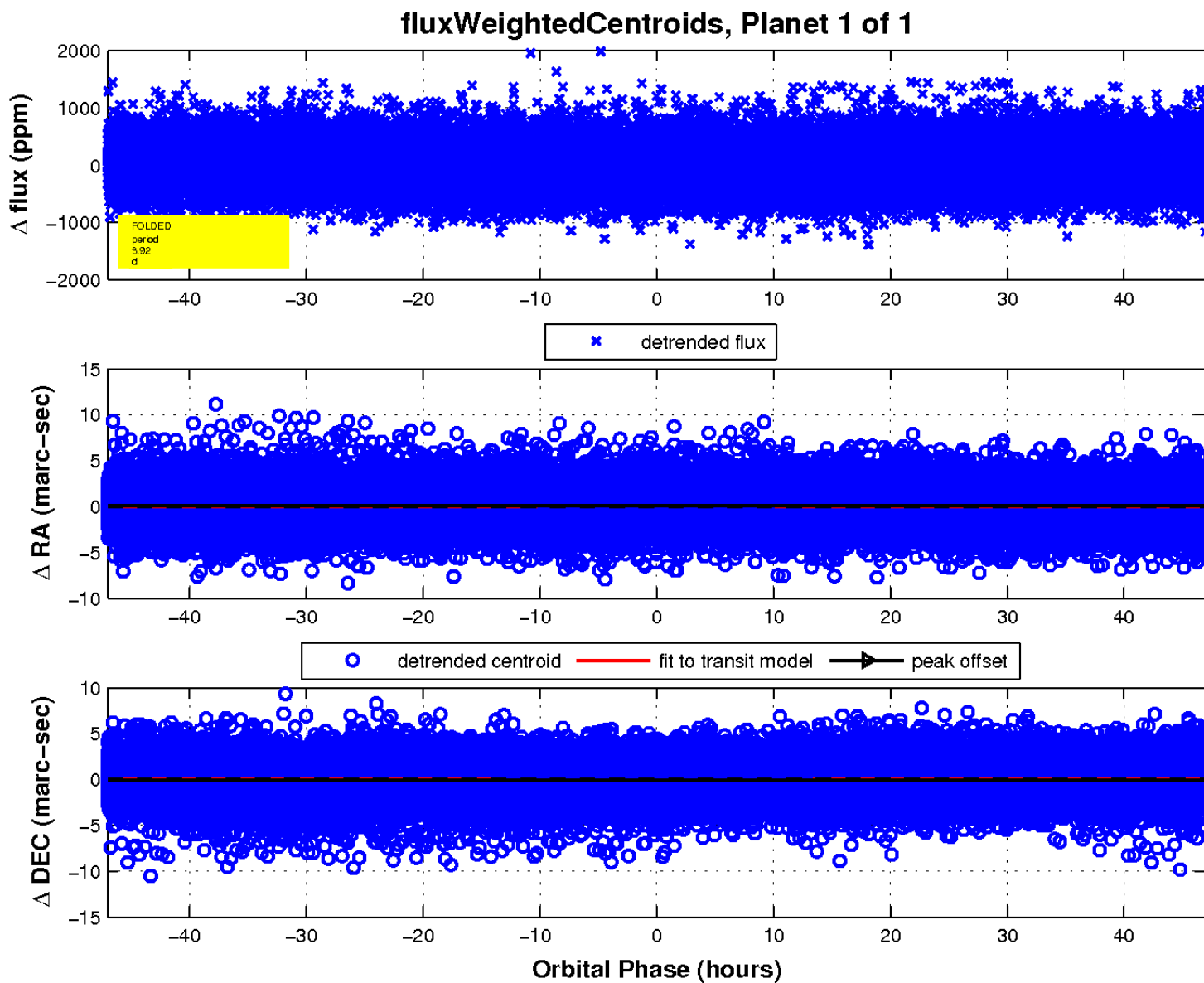
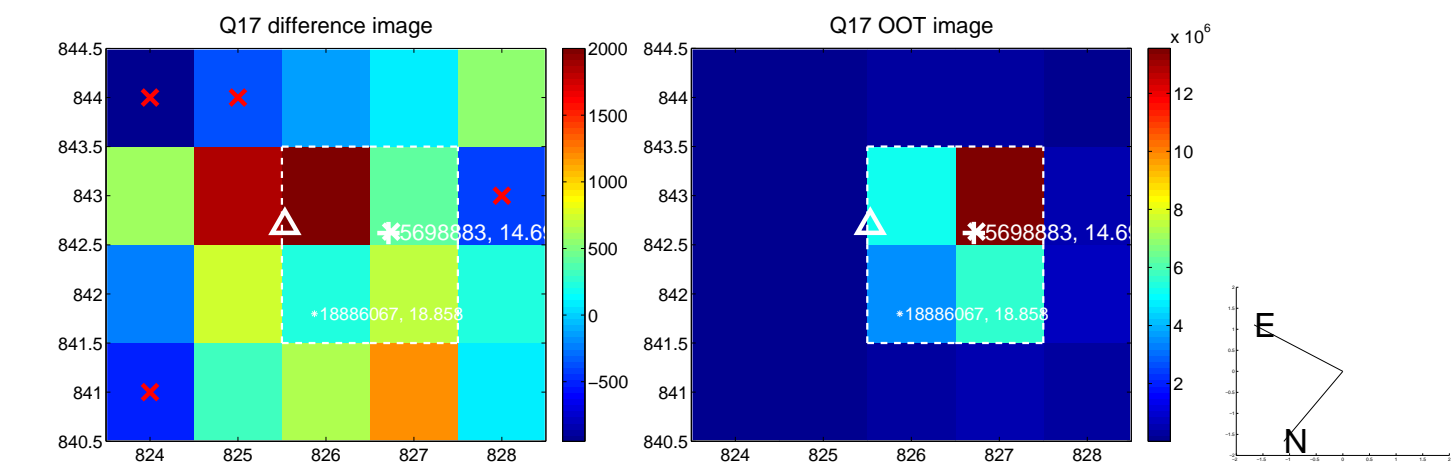
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

