

# KIC 005888187

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005888187-01	OBS	7749.01	133.634536	236.354645	397.8	1.759	8.2	9.6	0.92	5202	2.33	2.38

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005888187-01	OBS	PC	0.66	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.

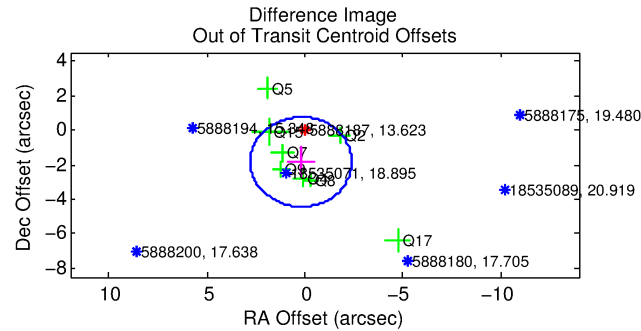
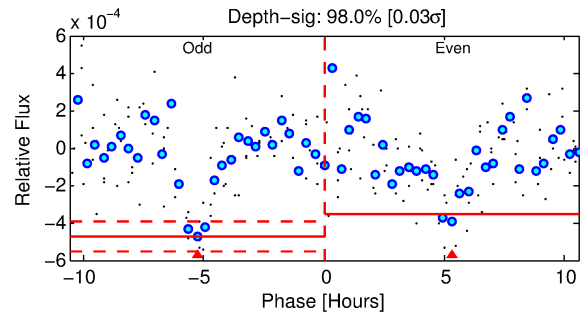
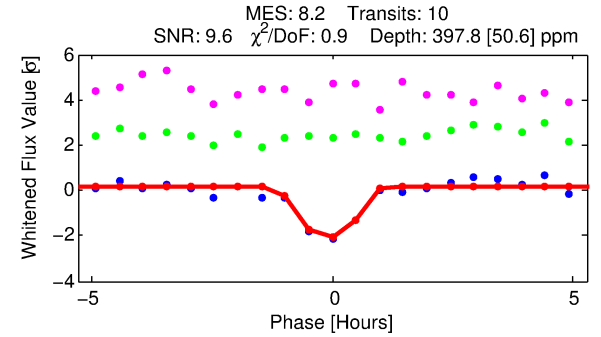
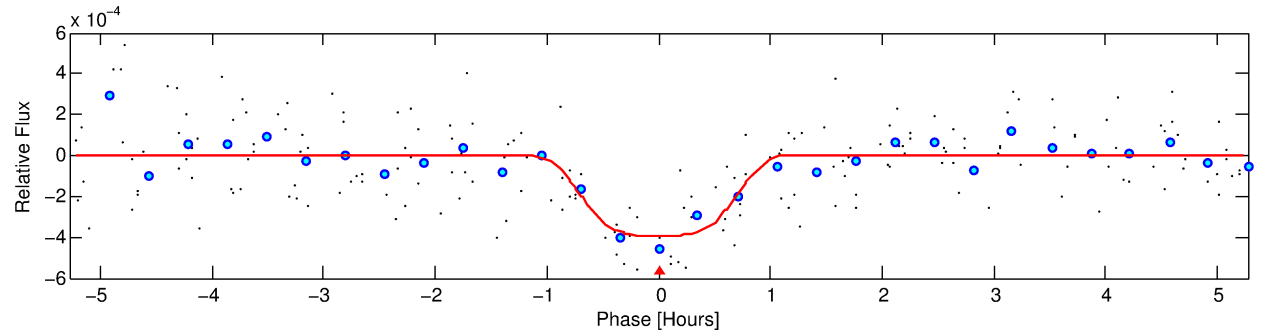
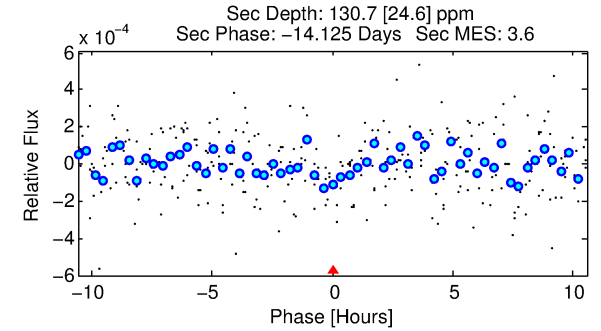
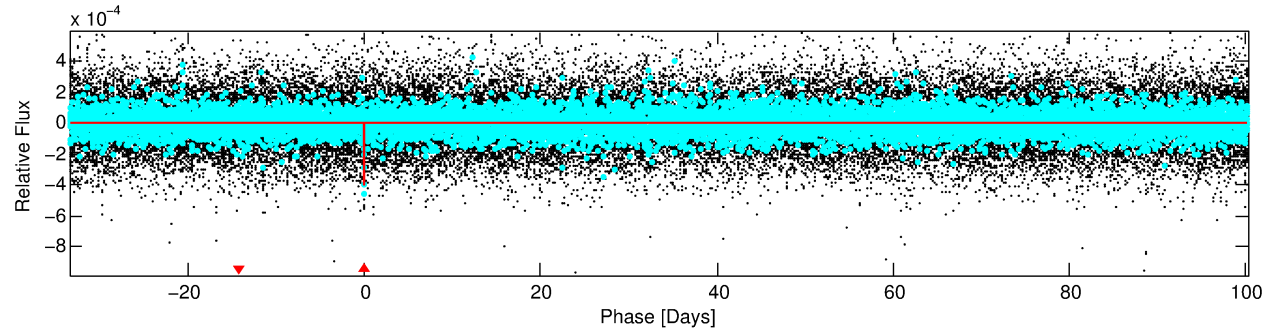
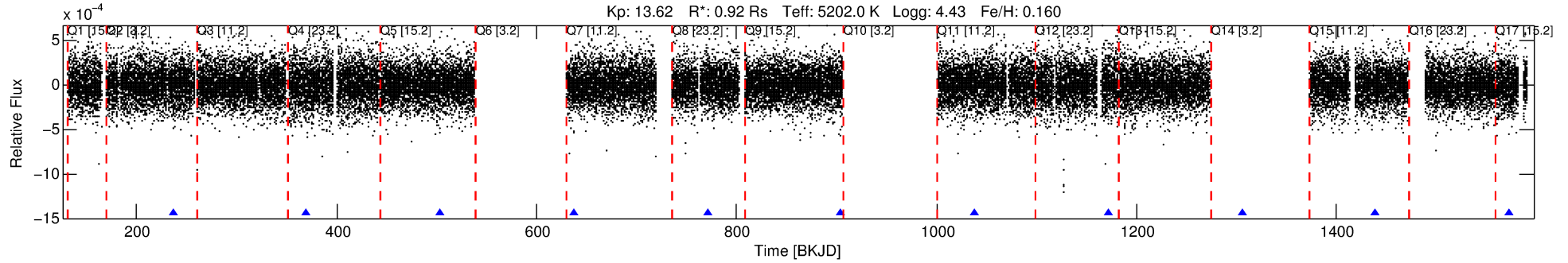
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005888187-01

No Significant Match Found

# DV One-Page Summary

KIC: 5888187 Candidate: 1 of 1 Period: 133.635 d



## DV Fit Results:

Period = 133.63454 [0.00075] d  
Epoch = 236.3546 [0.0045] BKJD  
Rp/R\* = 0.0233 [0.0127]  
a/R\* = 242.66 [553.36]  
b = 0.93 [0.32]  
Seff = 2.38 [0.44]  
Teq = 317 [15] K  
Rp = 2.33 [1.29] Re  
a = 0.4818 [0.0506] AU  
Ag = 3066.33 [3423.39] [0.90σ]  
Teffp = 3645 [1007] K [3.31σ]

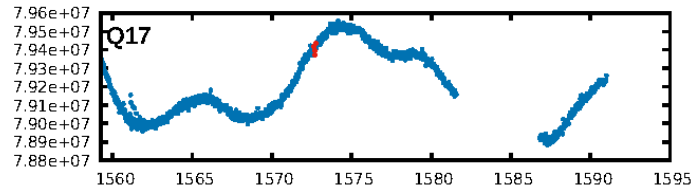
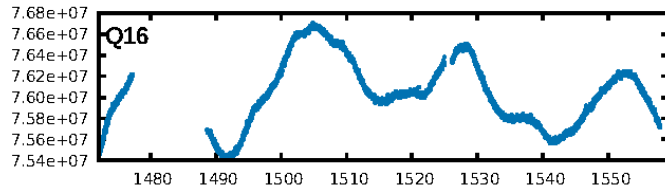
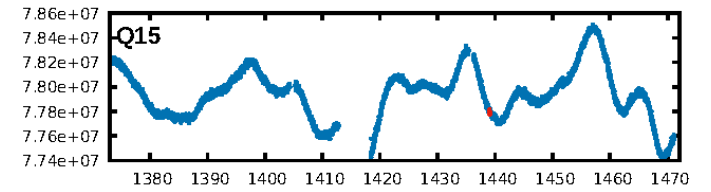
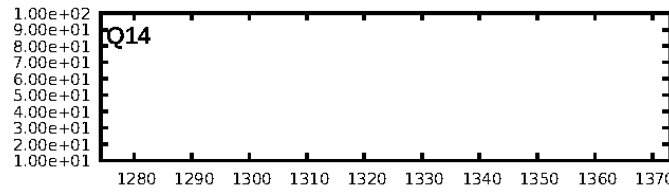
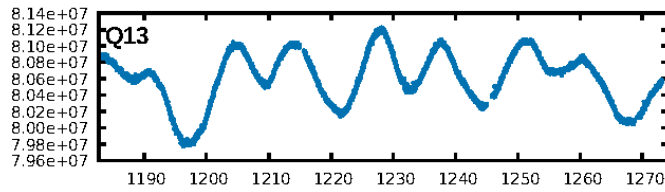
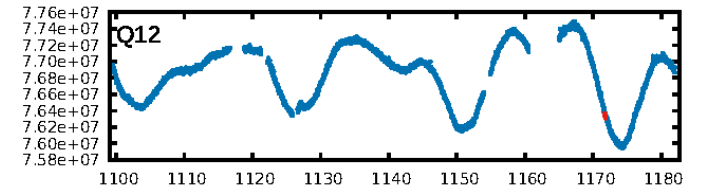
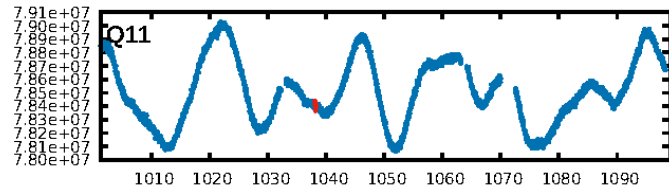
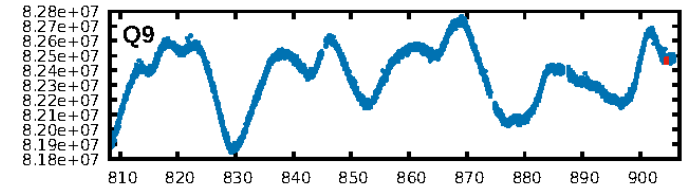
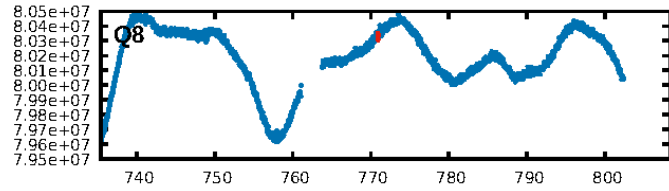
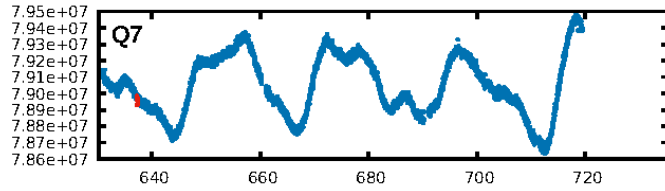
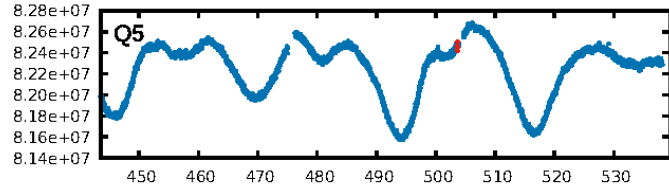
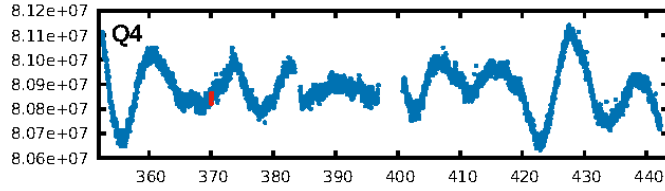
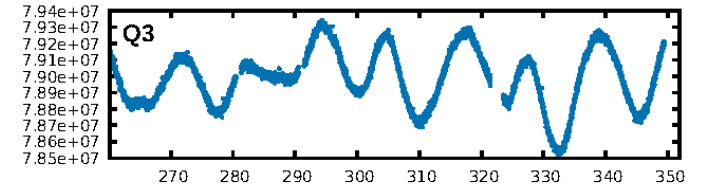
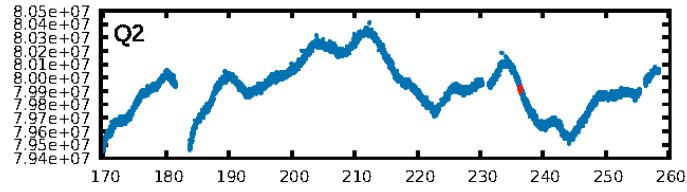
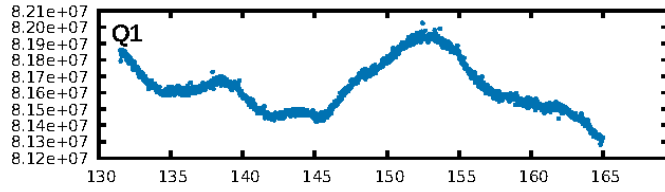
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 70.2%  
ModelChiSquareGof-sig: 99.8%  
Bootstrap-pfa: 1.53e-13  
RollingBand-fgt: 1.00 [9/9]  
GhostDiagnostic-chr: 1.742  
Centroid-sig: 22.1%  
Centroid-so: 1.472 arcsec [1.32σ]  
OotOffset-rm: 1.856 arcsec [2.15σ]  
OotOffset-st: 1/2/2/3 [8]  
KicOffset-rm: 2.037 arcsec [2.38σ]  
KicOffset-st: 1/2/2/3 [8]  
DiffImageQuality-fgm: 0.88 [7/8]  
DiffImageOverlap-fno: 1.00 [8/8]

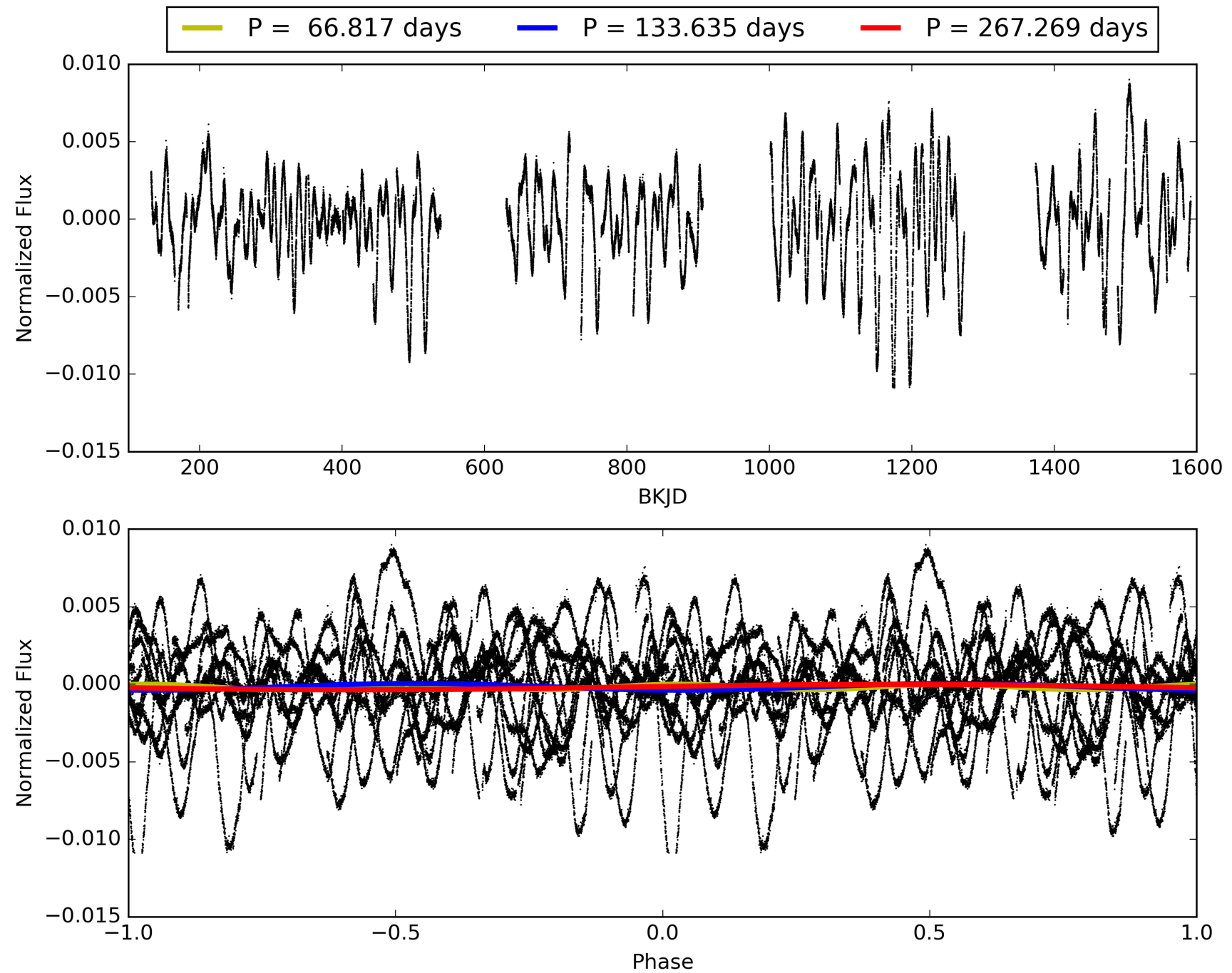
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:07:16 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005888187-01, PDC Light Curves

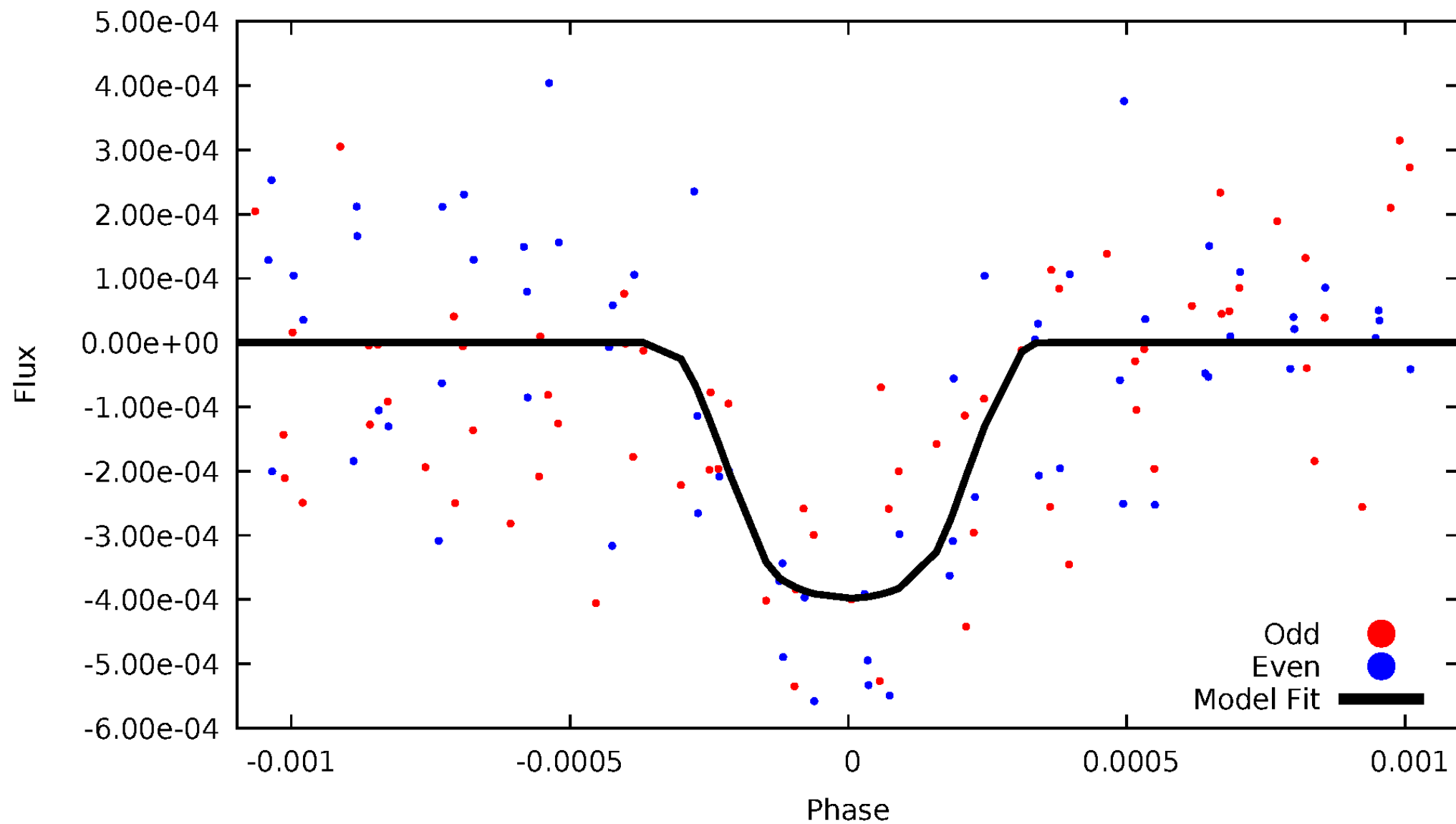


TCE 005888187-01



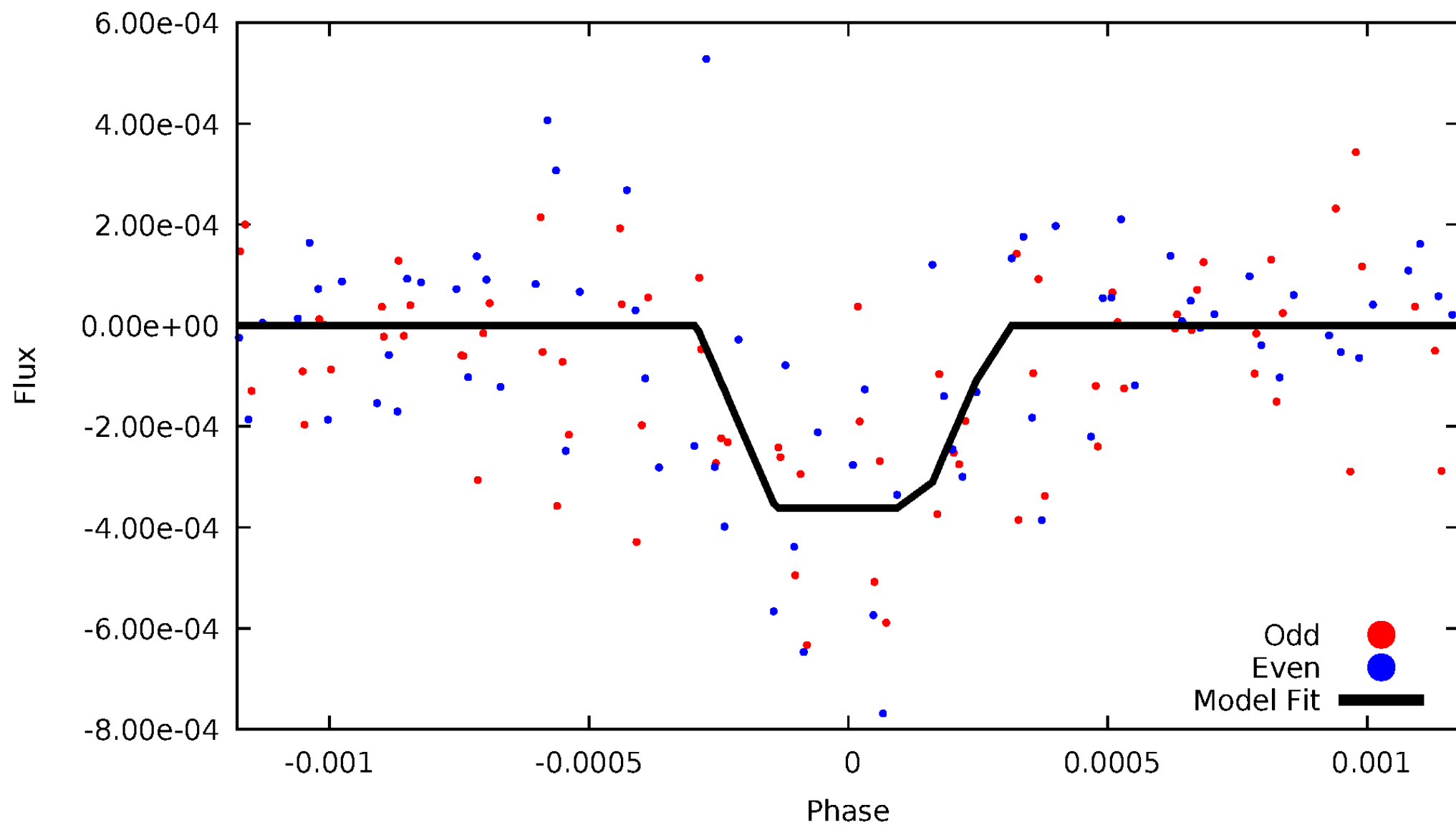
# DV Odd/Even

TCE 005888187-01



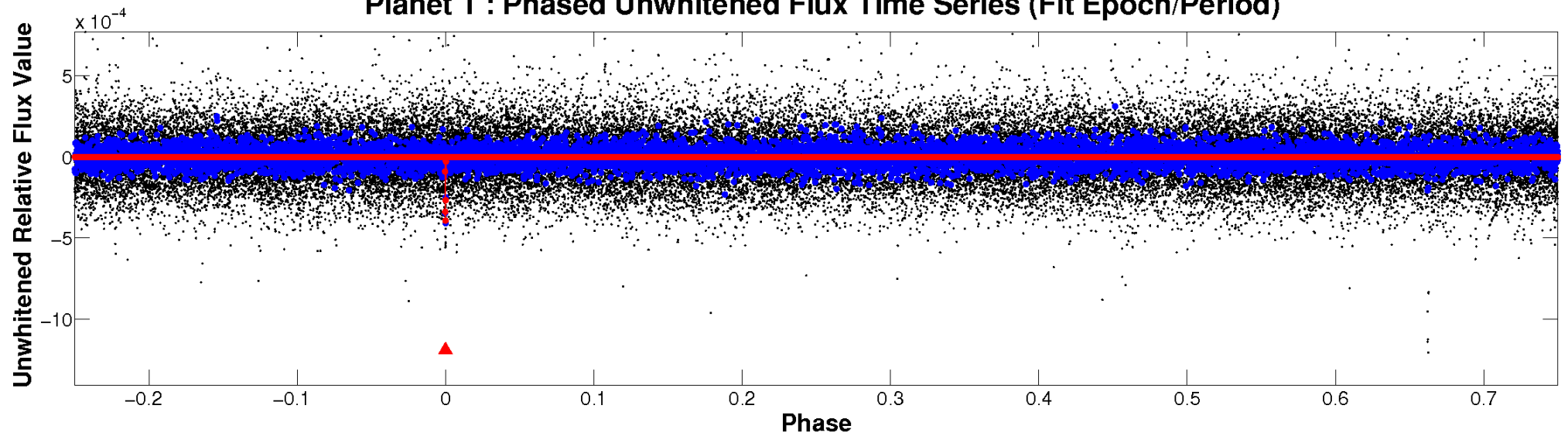
# ALT Odd/Even

TCE 005888187-01

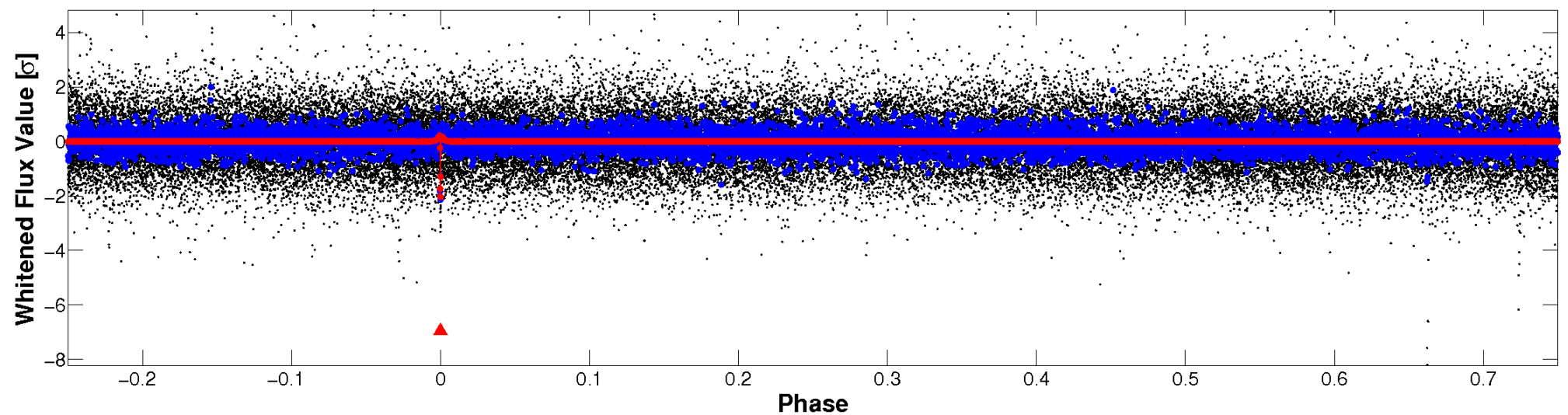


# Non-Whitened Vs. Whitened Light Curve

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

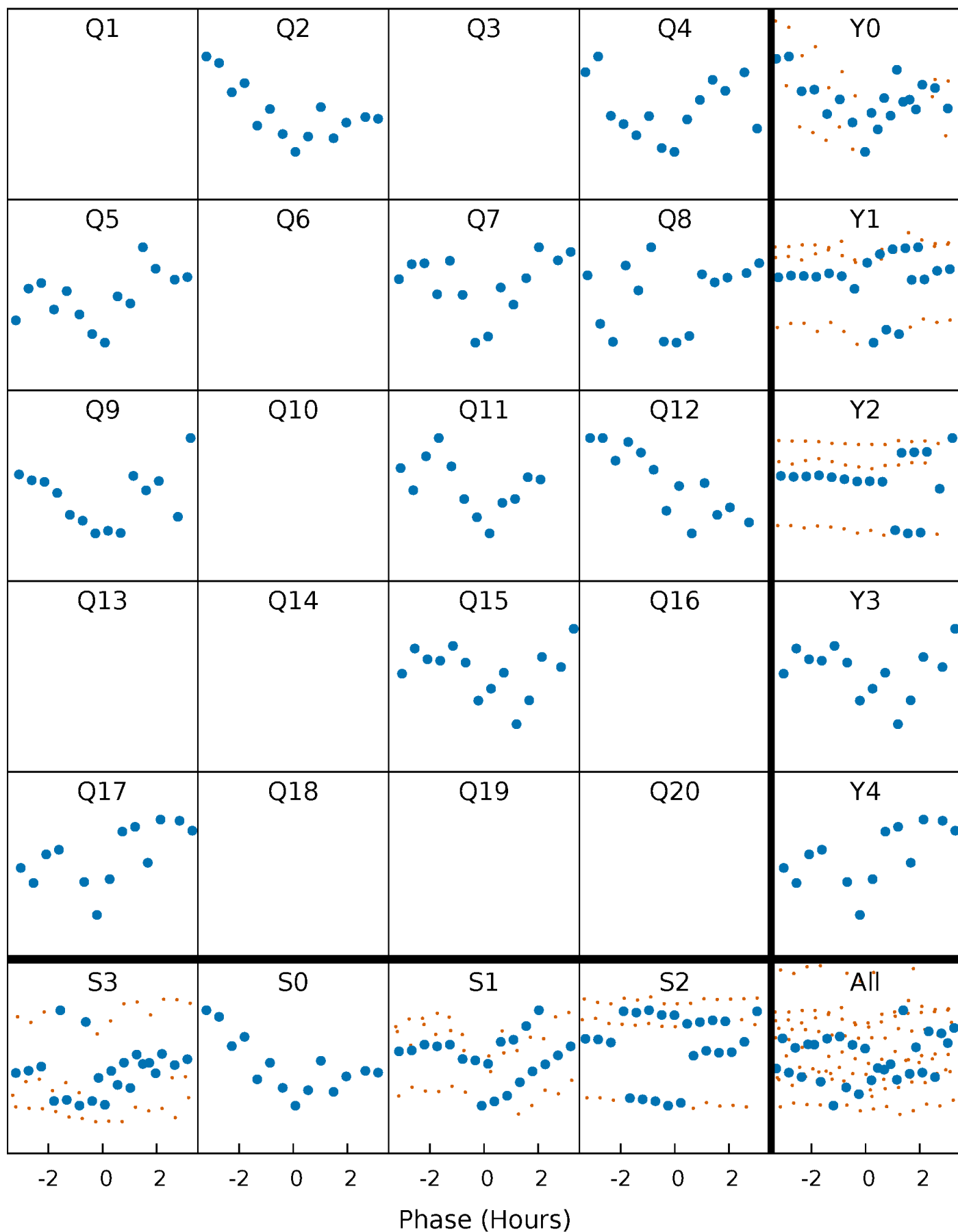


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

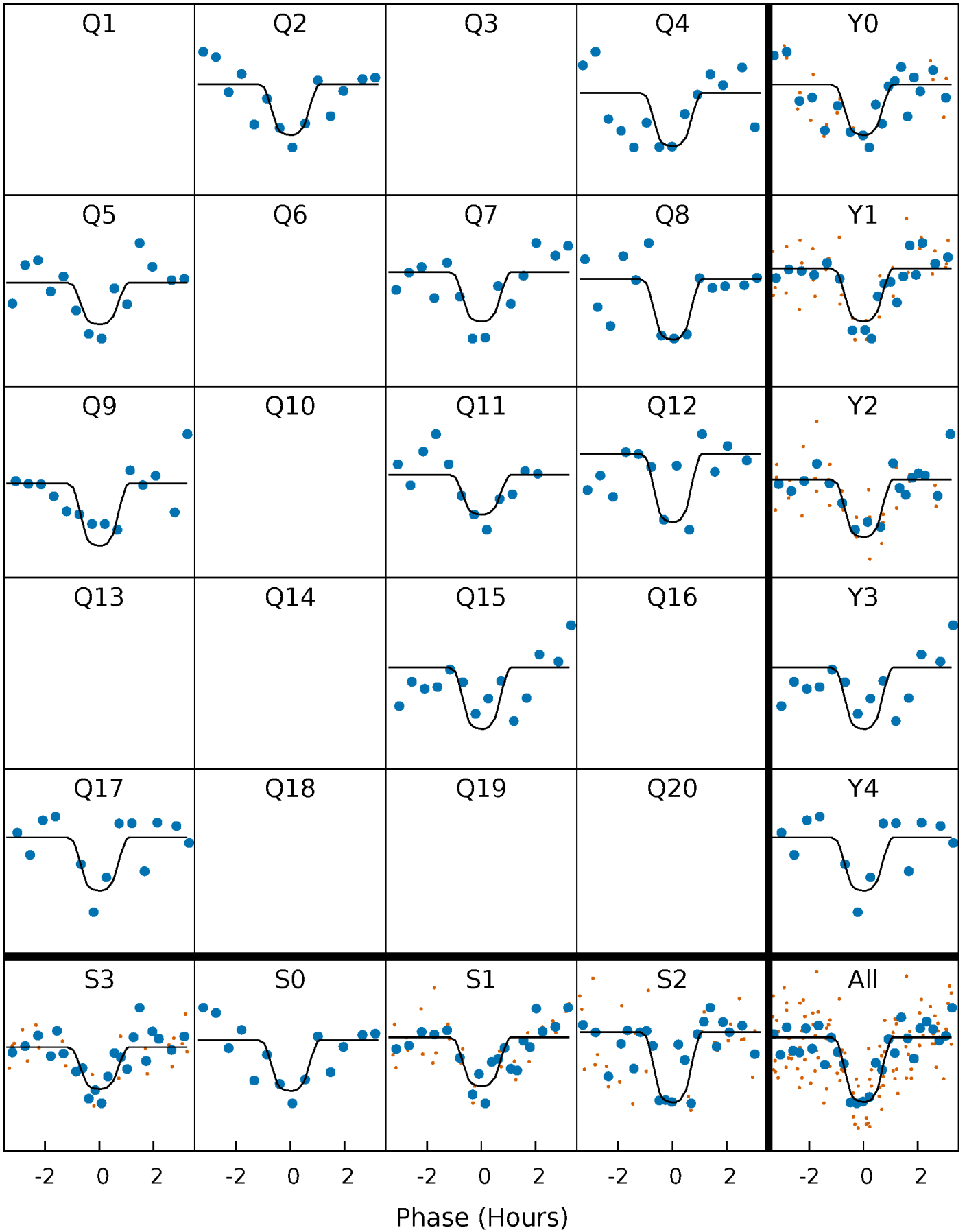
TCE 005888187-01 P=133.634536 Days  $T_0=236.354645$  (BKJD)





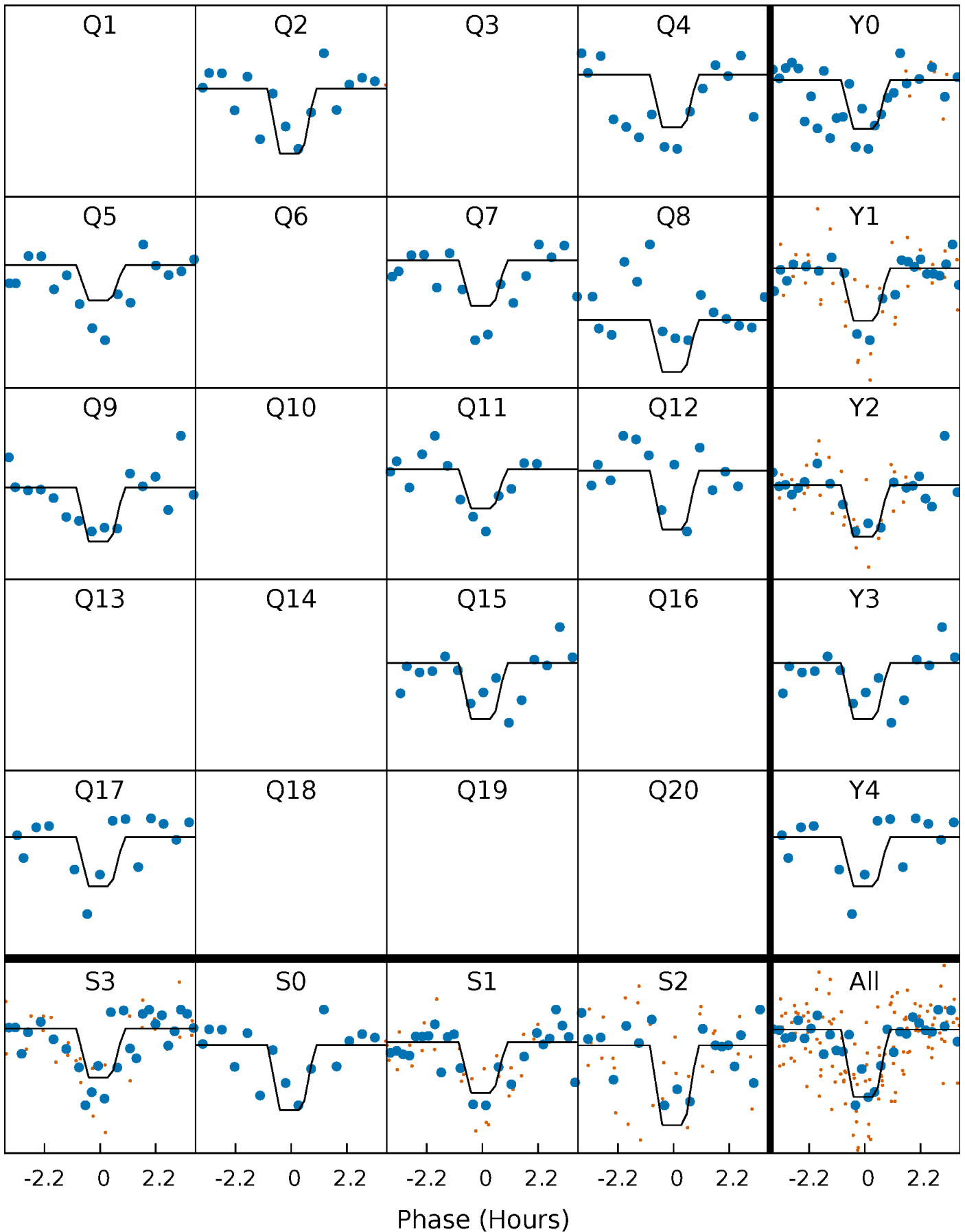
# DV Quarter-Phased Transit Curves

TCE 005888187-01 P=133.634536 Days  $T_0=236.354645$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

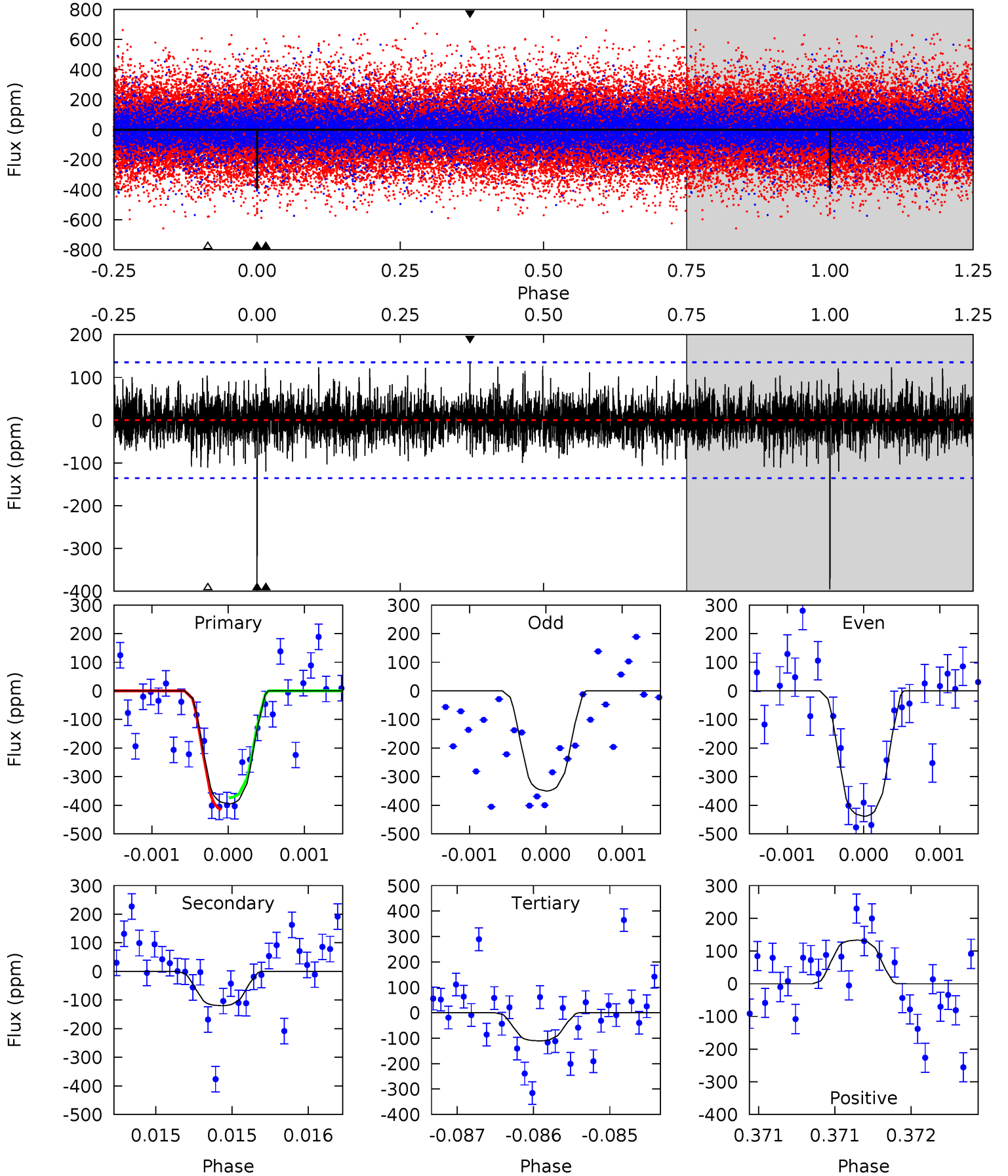
TCE 005888187-01 P=133.636436 Days  $T_0=236.346709$  (BKJD)



# DV Model-Shift Uniqueness Test

005888187-01,  $P = 133.634536$  Days,  $E = 102.720109$  Days

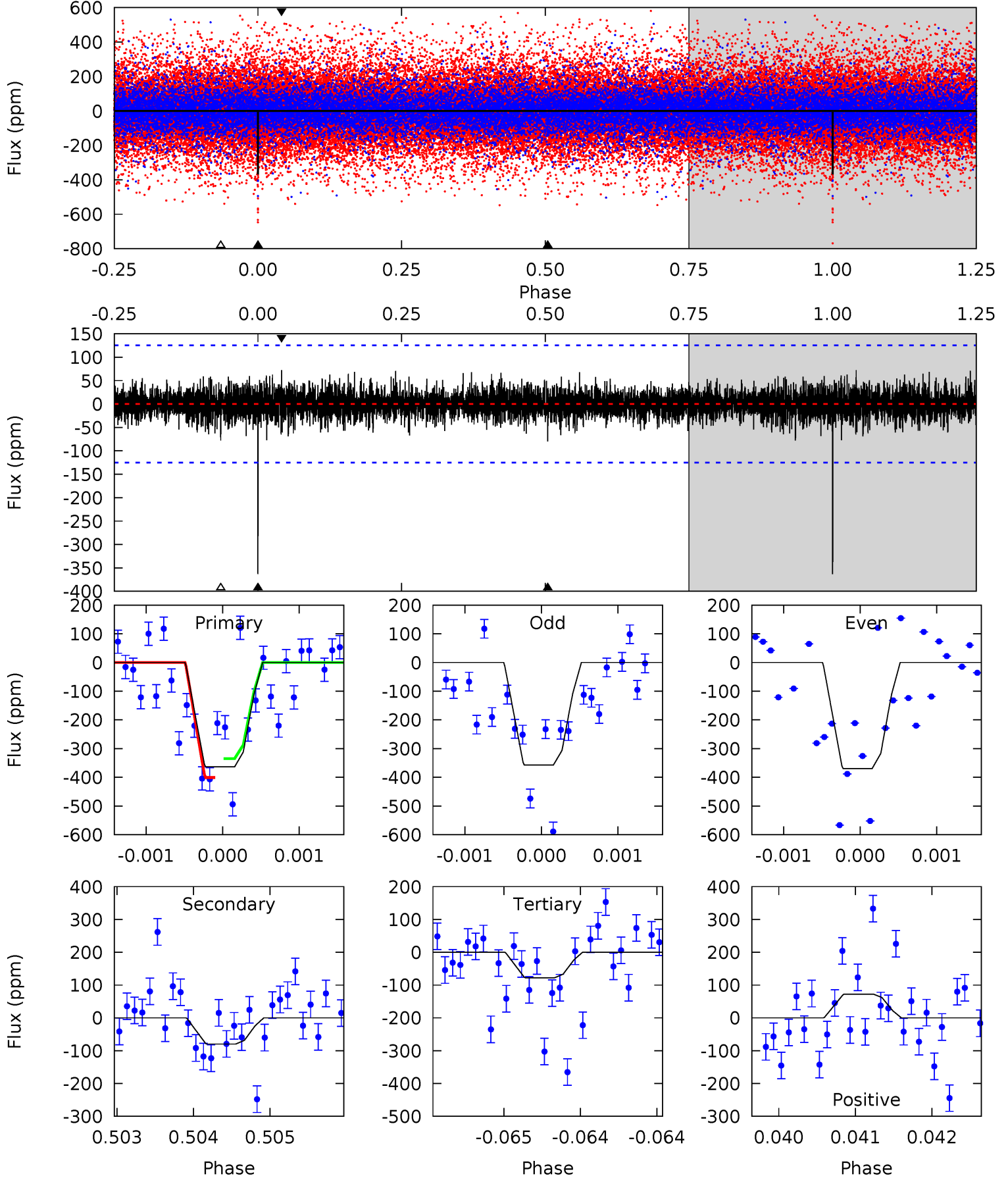
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	4.89	4.52	5.45	5.53	3.41	1.33	11.6	10.7	0.37	-0.56	1.80	0.98	0.25	0.85



# Alt Model-Shift Uniqueness Test

005888187-01, P = 133.636436 Days, E = 102.710273 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
16.1	3.53	3.45	3.21	5.54	3.43	0.88	12.6	12.9	0.08	0.32	0.27	1.23	0.17	1.46



### Stellar Parameters For KIC 005888187

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5202^{+83}_{-73}$	$4.434^{+0.104}_{-0.048}$	$0.160^{+0.150}_{-0.150}$	$0.918^{+0.058}_{-0.094}$	$0.834^{+0.064}_{-0.032}$	$1.519^{+0.600}_{-0.250}$
	+2%/-1%	+2%/-1%	+94%/-94%	+6%/-10%	+8%/-4%	+39%/-16%
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 005888187-01 / KOI 7749.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-120 \pm 24$	$2.45^{+1.29}_{-1.23}$	$440^{+12}_{-13}$	$3802^{+1110}_{-508}$	$2547^{+7347}_{-1503}$
Alt.	$-80 \pm 23$	$1.98^{+1.27}_{-1.13}$	$440^{+12}_{-14}$	$3807^{+1566}_{-561}$	$2625^{+12052}_{-1701}$

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

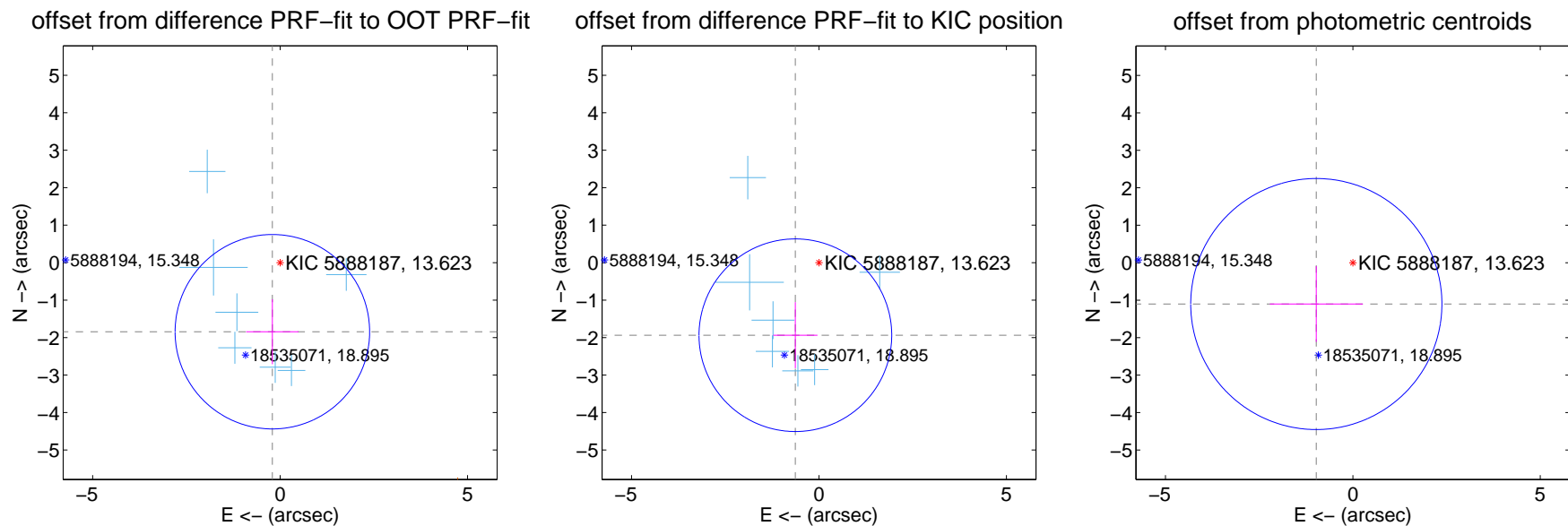
## DV Centroid Data

Supplemental centroid analysis for 005888187-01. Kepler magnitude: 13.62. Transit SNR 9.64

There are 7 quarters with good PRF difference image offsets

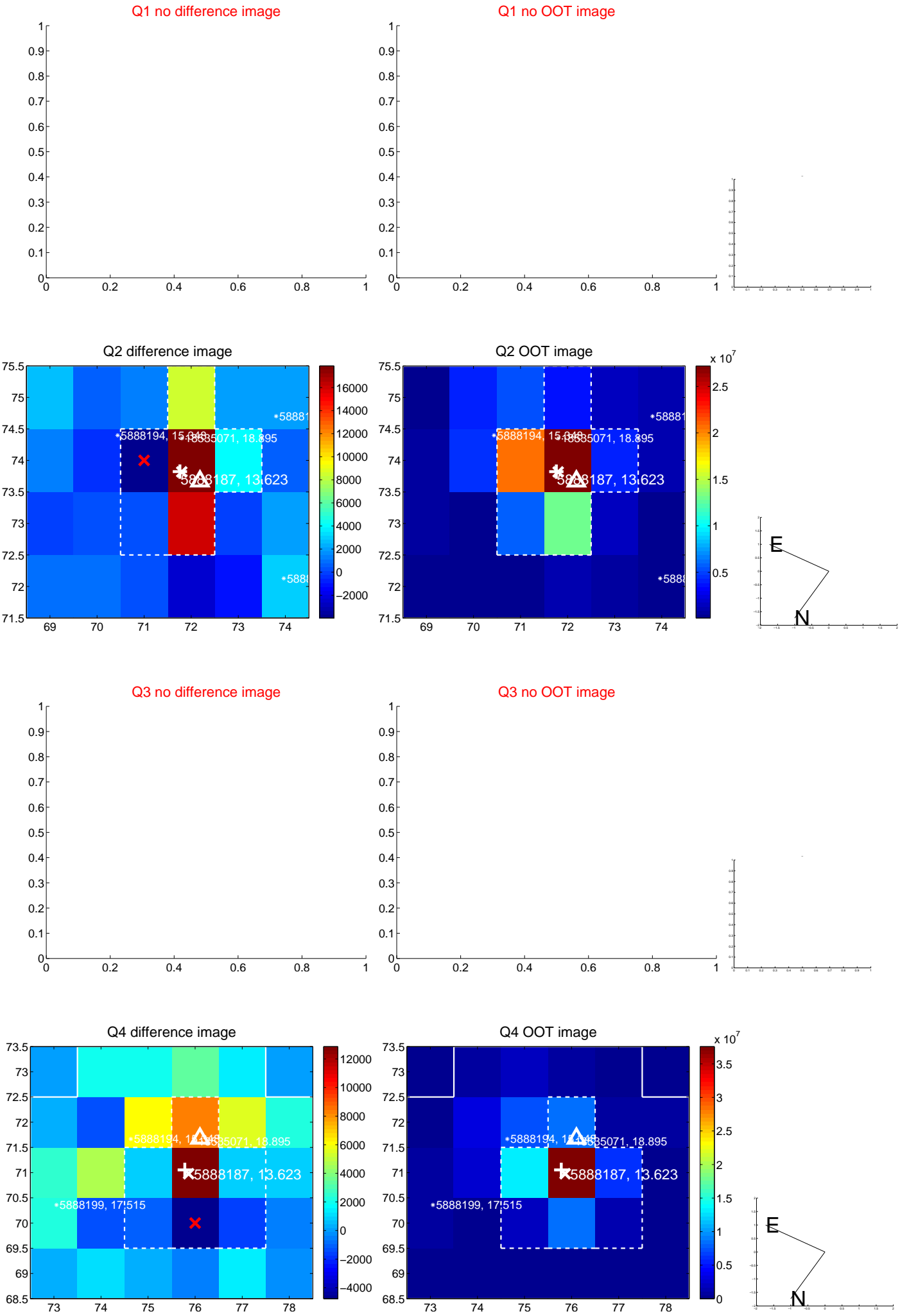
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.856 \pm 0.865$	2.15	$0.207 \pm 0.698$	$-1.844 \pm 0.867$
PRF-fit source offset from KIC position	$2.037 \pm 0.857$	2.38	$0.630 \pm 0.590$	$-1.937 \pm 0.880$
photometric centroid source offset	$1.47 \pm 1.12$	1.32	$0.98 \pm 1.24$	$-1.10 \pm 1.01$

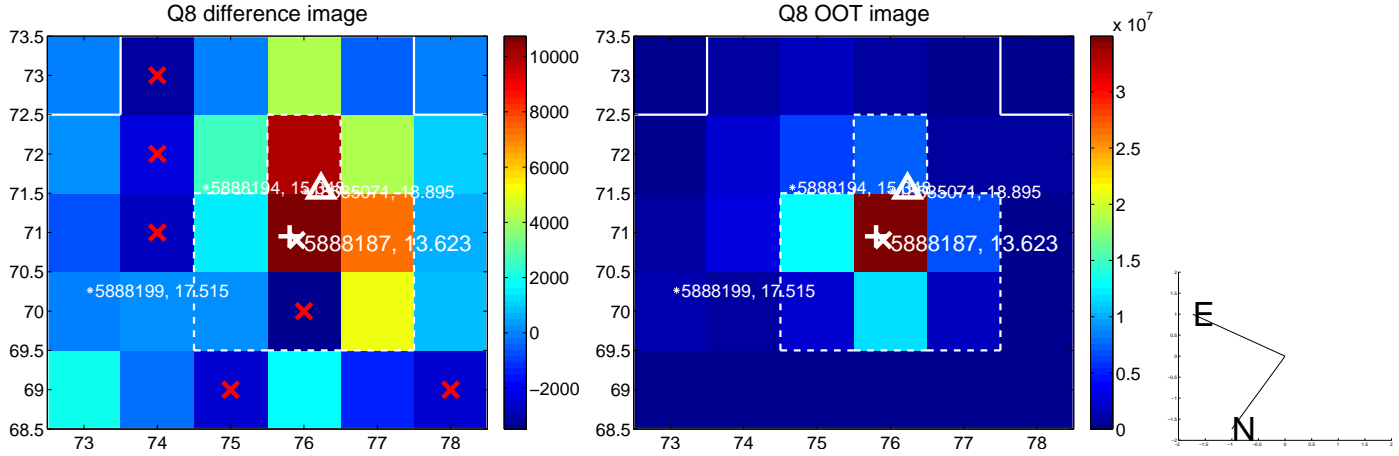
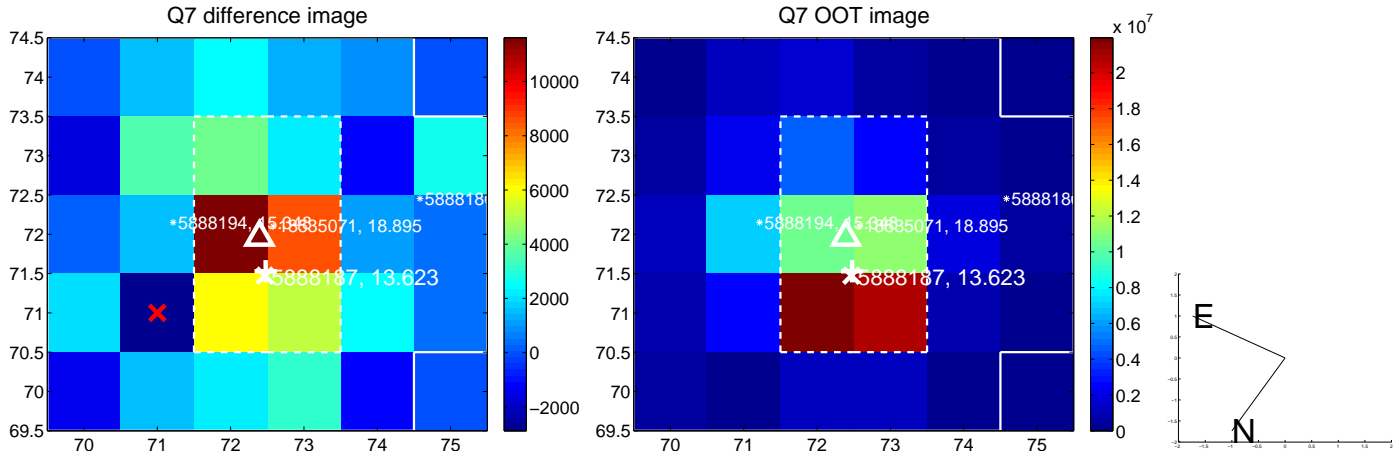
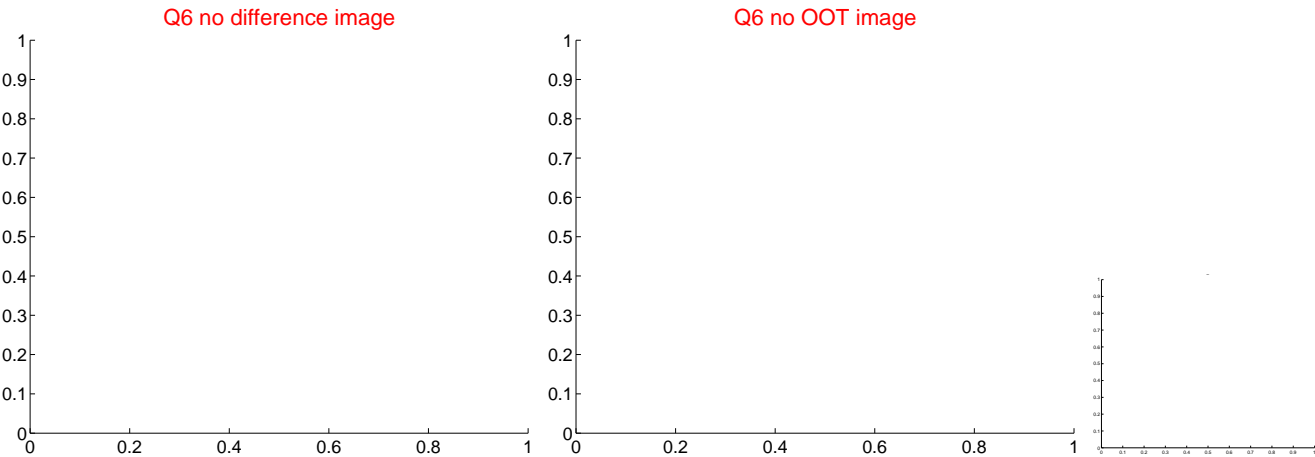
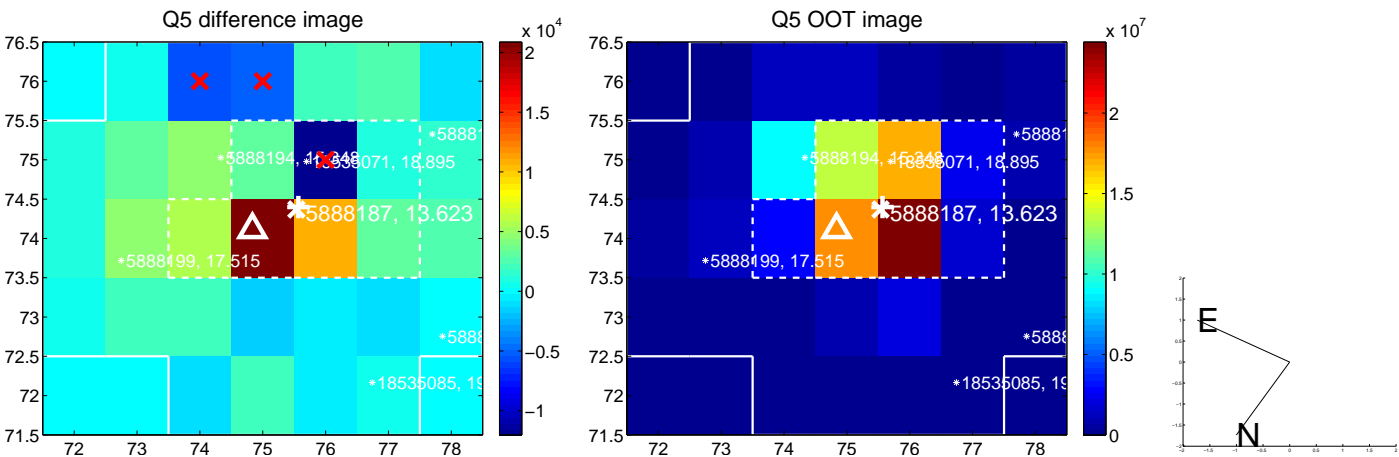


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

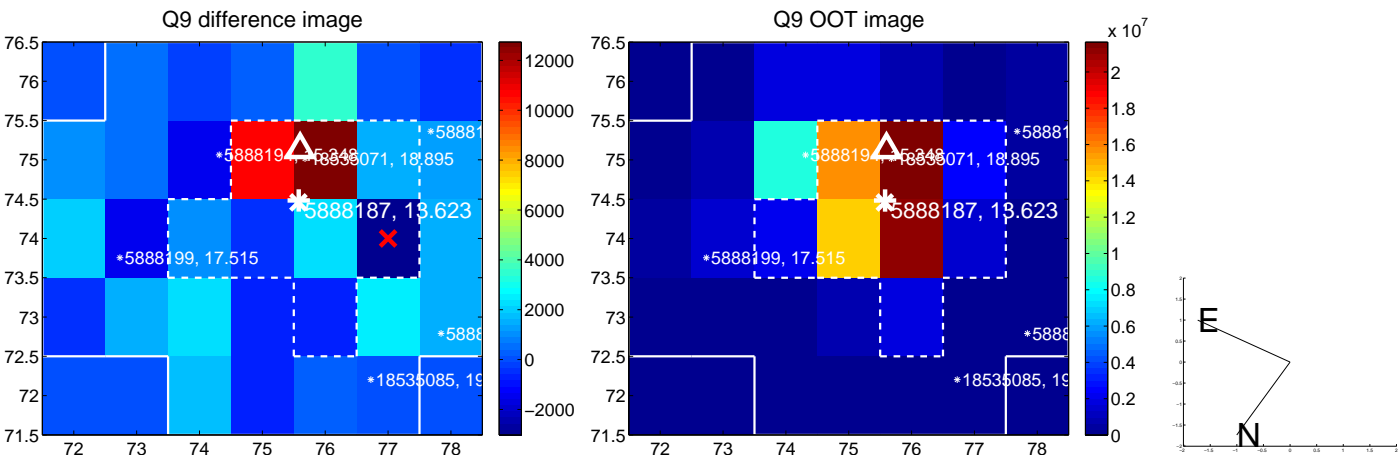


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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.

Q13 no difference image



Q13 no OOT image



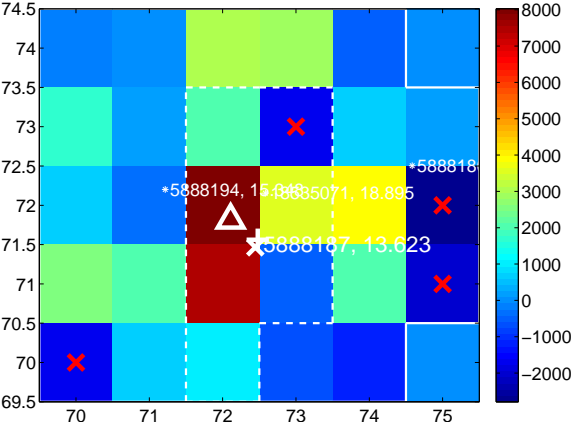
Q14 no difference image



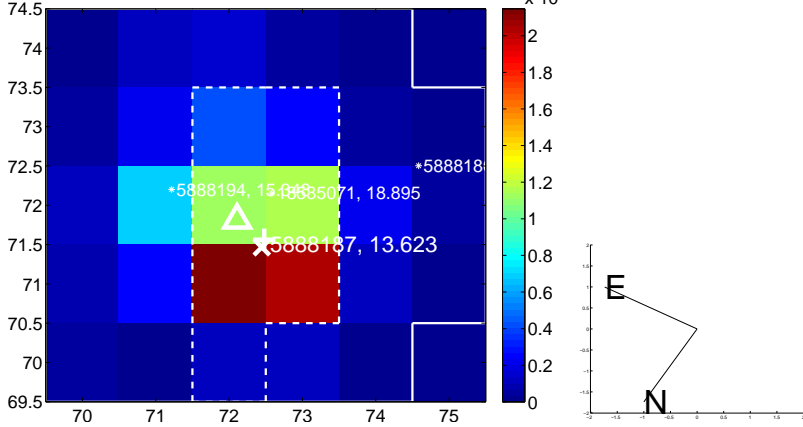
Q14 no OOT image



Q15 difference image



Q15 OOT image



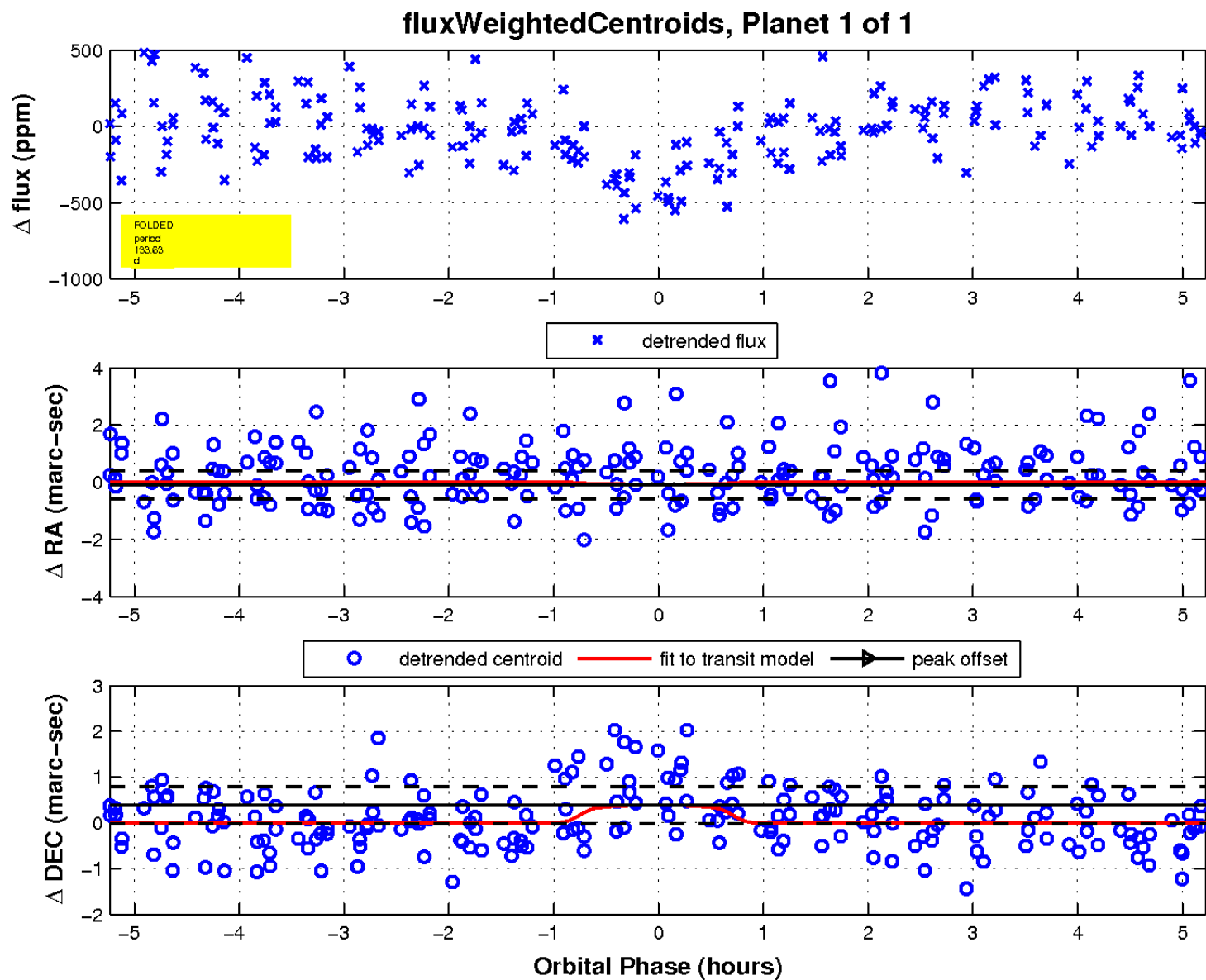
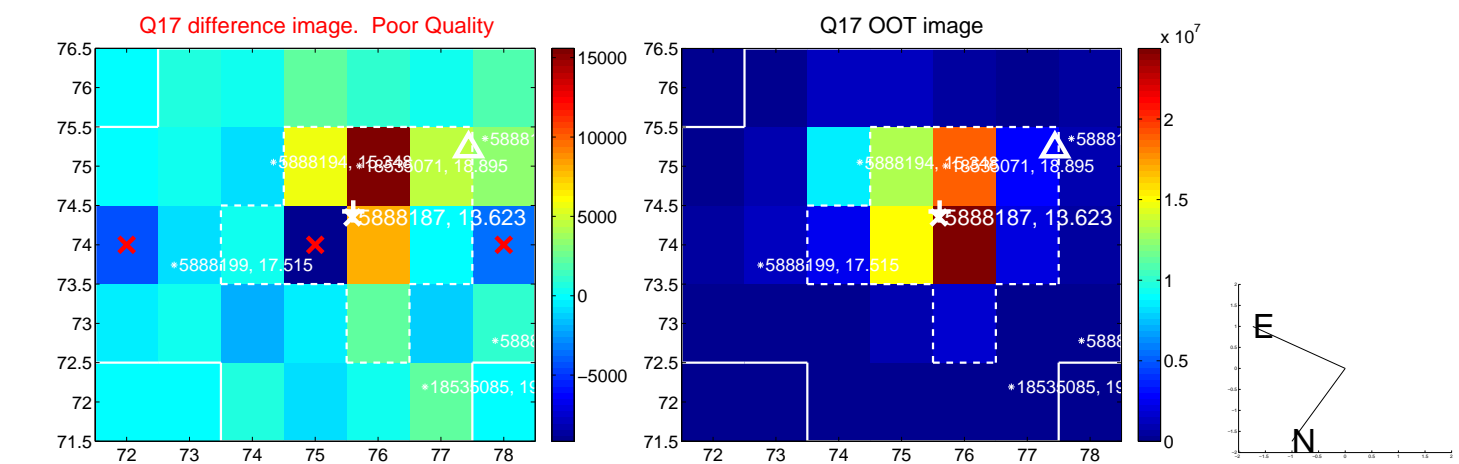
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

