

# KIC 010880507

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010880507-01	OBS	2936.01	6.480363	132.846552	140.2	3.433	12.6	13.3	0.98	5496	1.34	180.29

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010880507-01	OBS	PC	0.73	0	0	0	0	CENT_KIC_POS

**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.

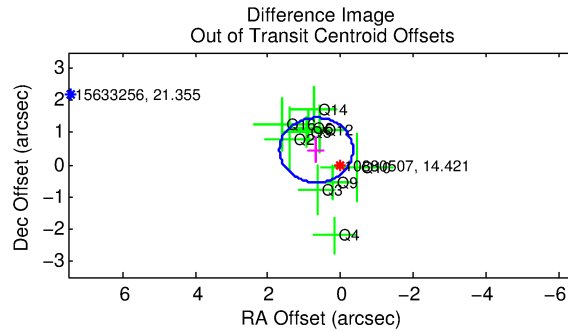
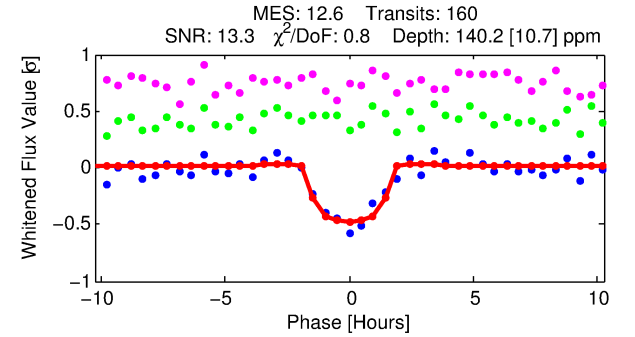
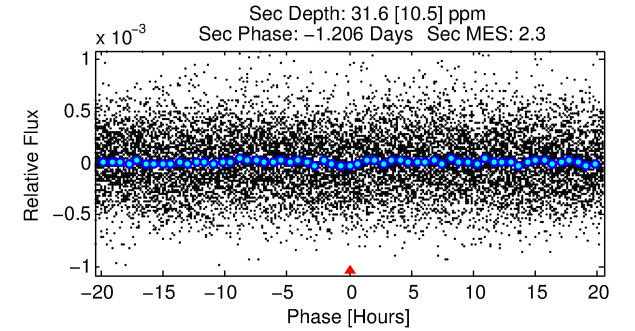
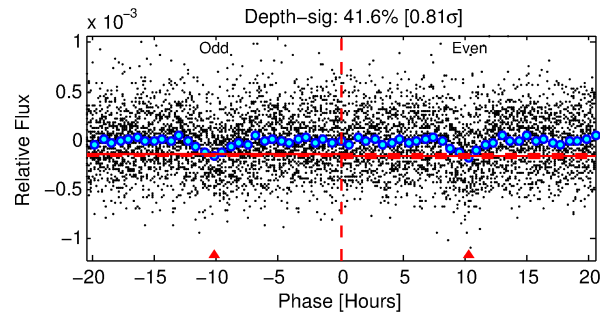
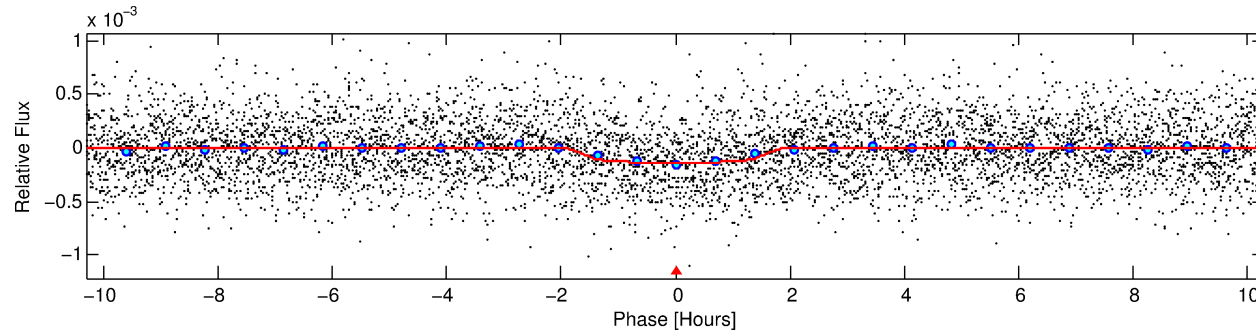
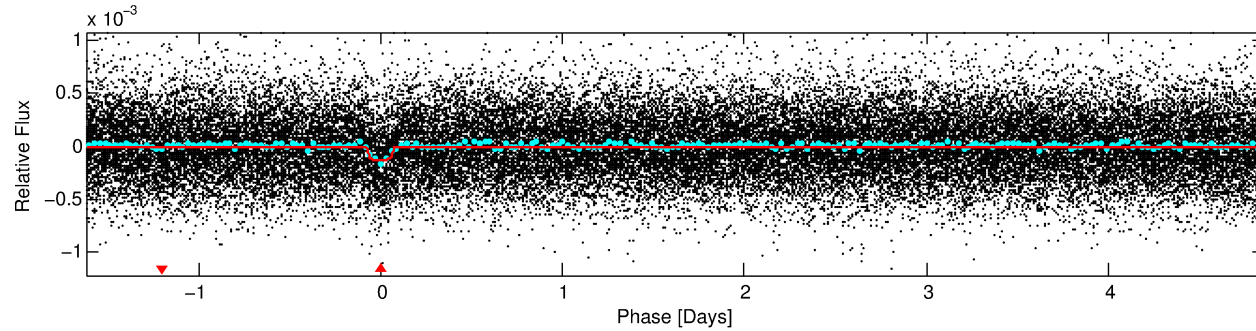
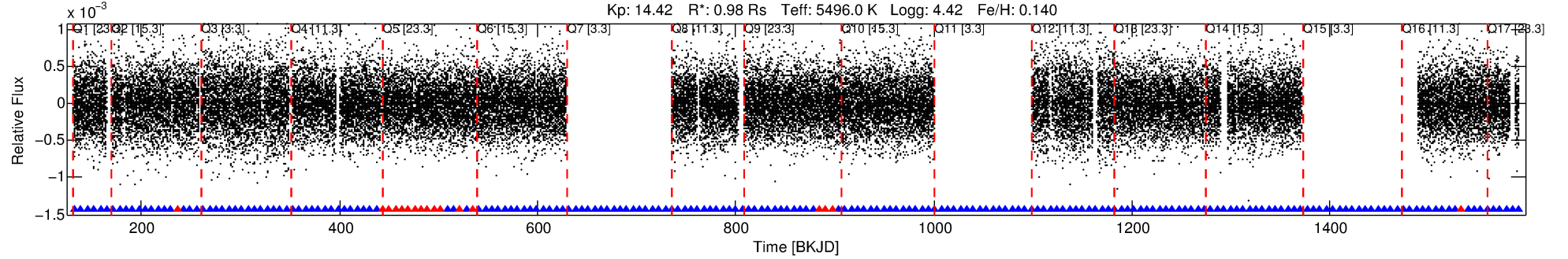
## Ephemeris Match Information For 010880507-01

No Significant Match Found

# DV One-Page Summary

KIC: 10880507 Candidate: 1 of 1 Period: 6.480 d

KOI: K02936.01 Corr: 0.934



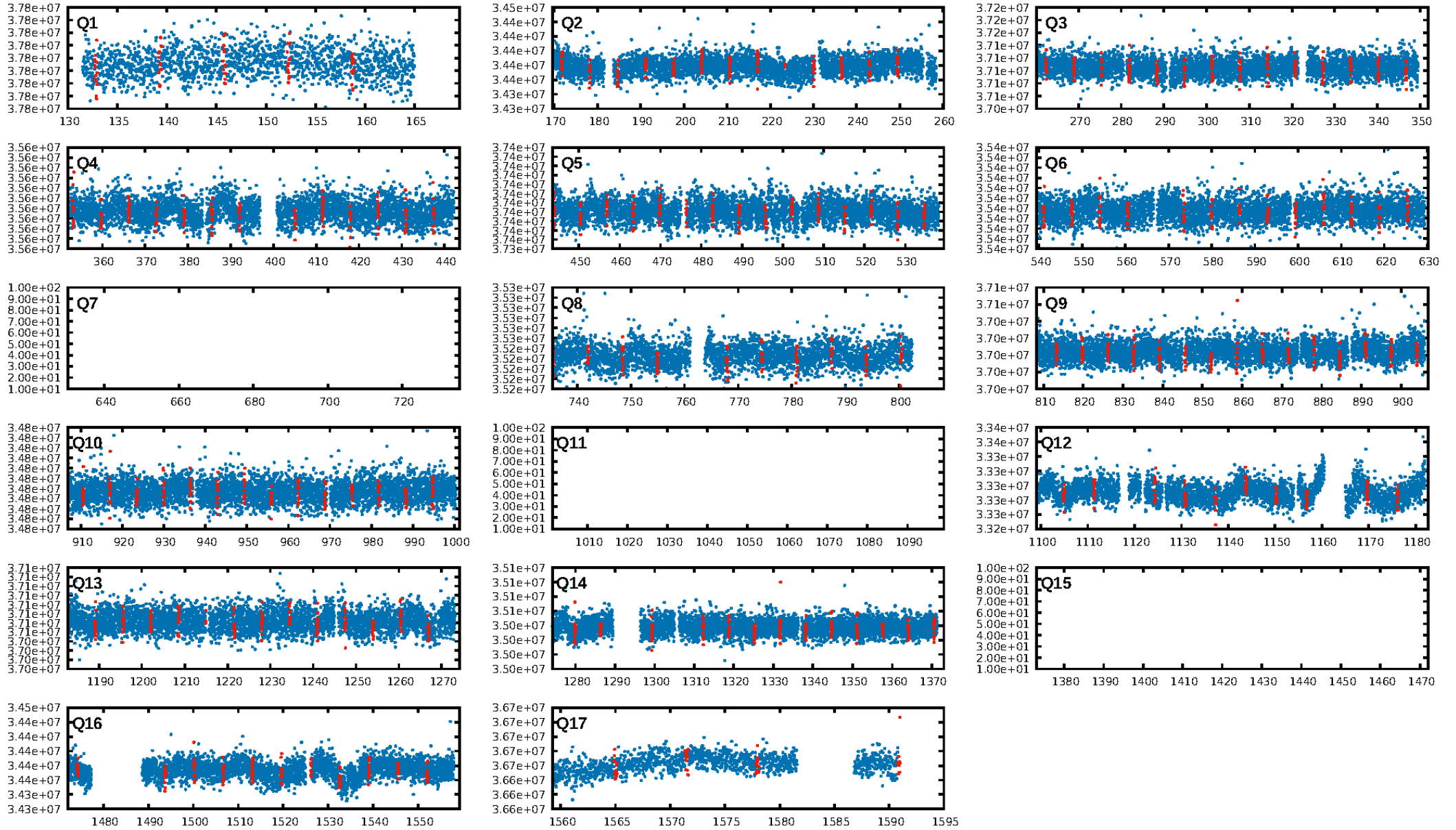
## DV Fit Results:

Period = 6.48036 [0.00004] d  
Epoch = 132.8466 [0.0047] BKJD  
Rp/R\* = 0.0125 [0.0080]  
a/R\* = 7.92 [21.31]  
b = 0.85 [0.89]  
Seff = 180.30 [32.32]  
Teff = 934 [42] K  
Rp = 1.34 [0.88] Re  
a = 0.0662 [0.0074] AU  
Ag = 42.31 [56.63] [0.73 $\sigma$ ]  
Teffp = 3684 [1224] K [2.24 $\sigma$ ]

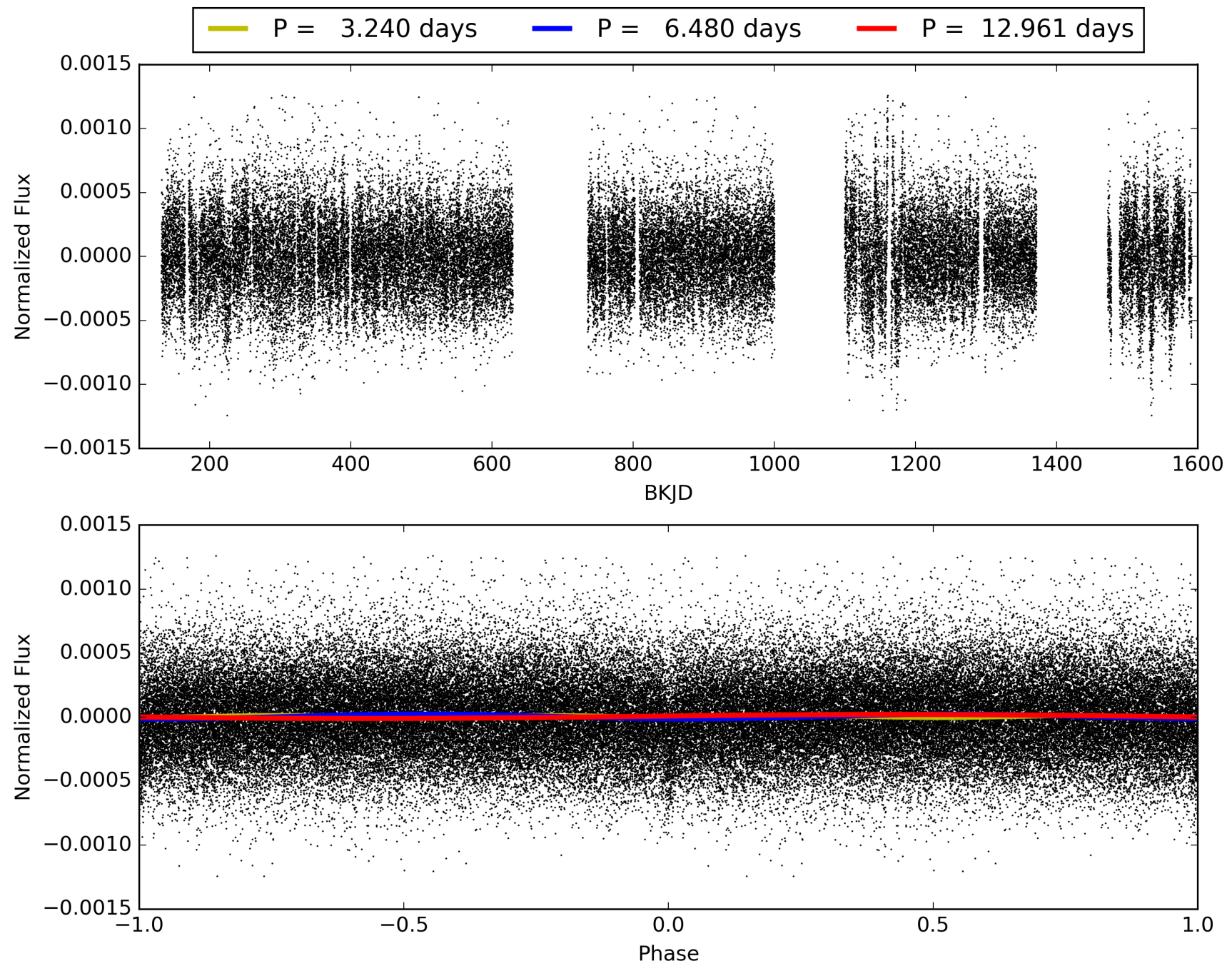
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.32e-36  
RollingBand-fgt: 0.89 [134/151]  
GhostDiagnostic-chr: 1.491  
Centroid-sig: 56.4%  
Centroid-so: 0.794 arcsec [0.69 $\sigma$ ]  
OotOffset-rm: 0.816 arcsec [2.43 $\sigma$ ]  
OotOffset-st: 4/1/3/2 [10]  
KicOffset-rm: 1.220 arcsec [3.55 $\sigma$ ]  
KicOffset-st: 4/1/3/2 [10]  
DiffImageQuality-fgm: 0.80 [8/10]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 010880507-01, PDC Light Curves

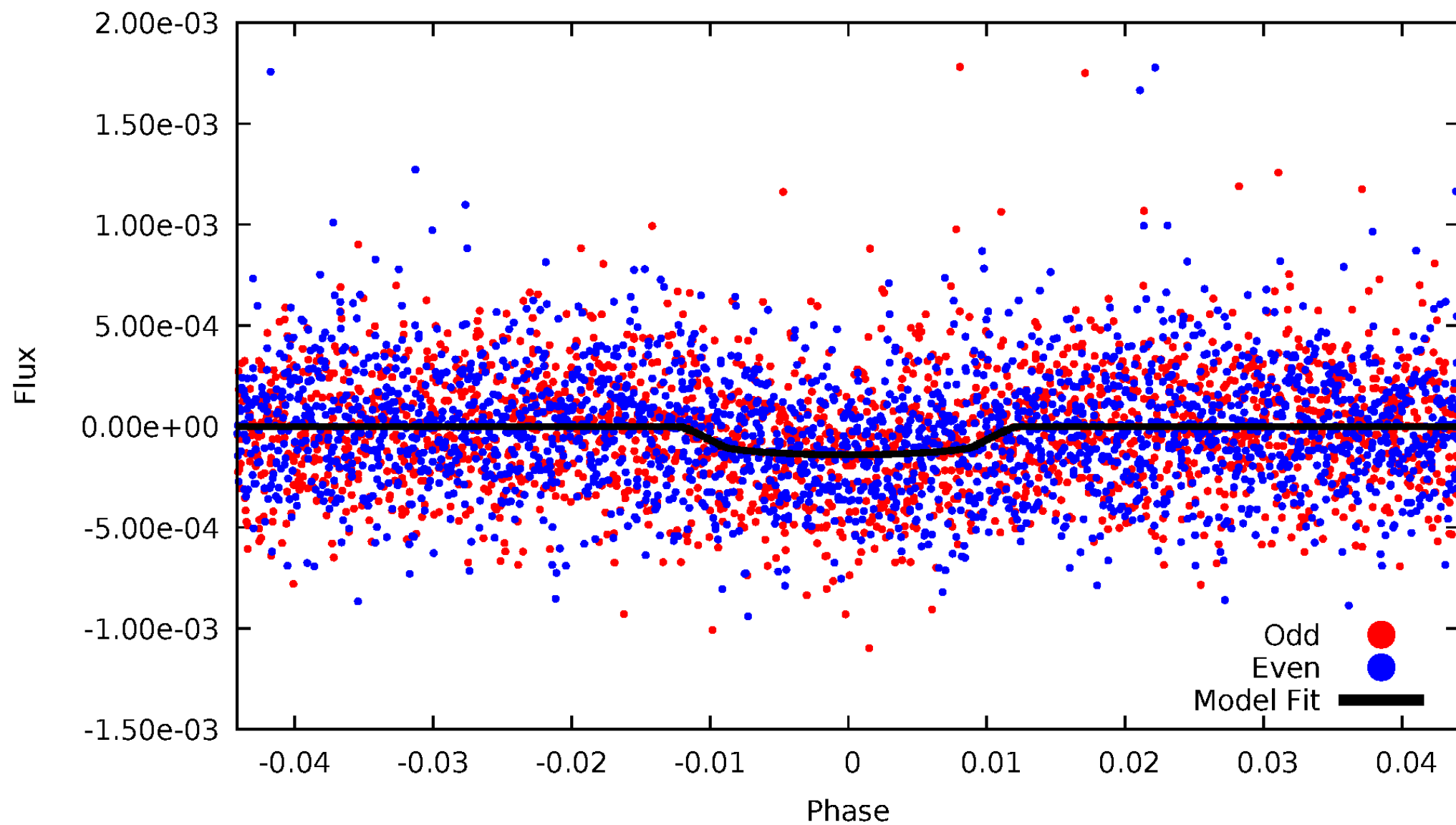


TCE 010880507-01



# DV Odd/Even

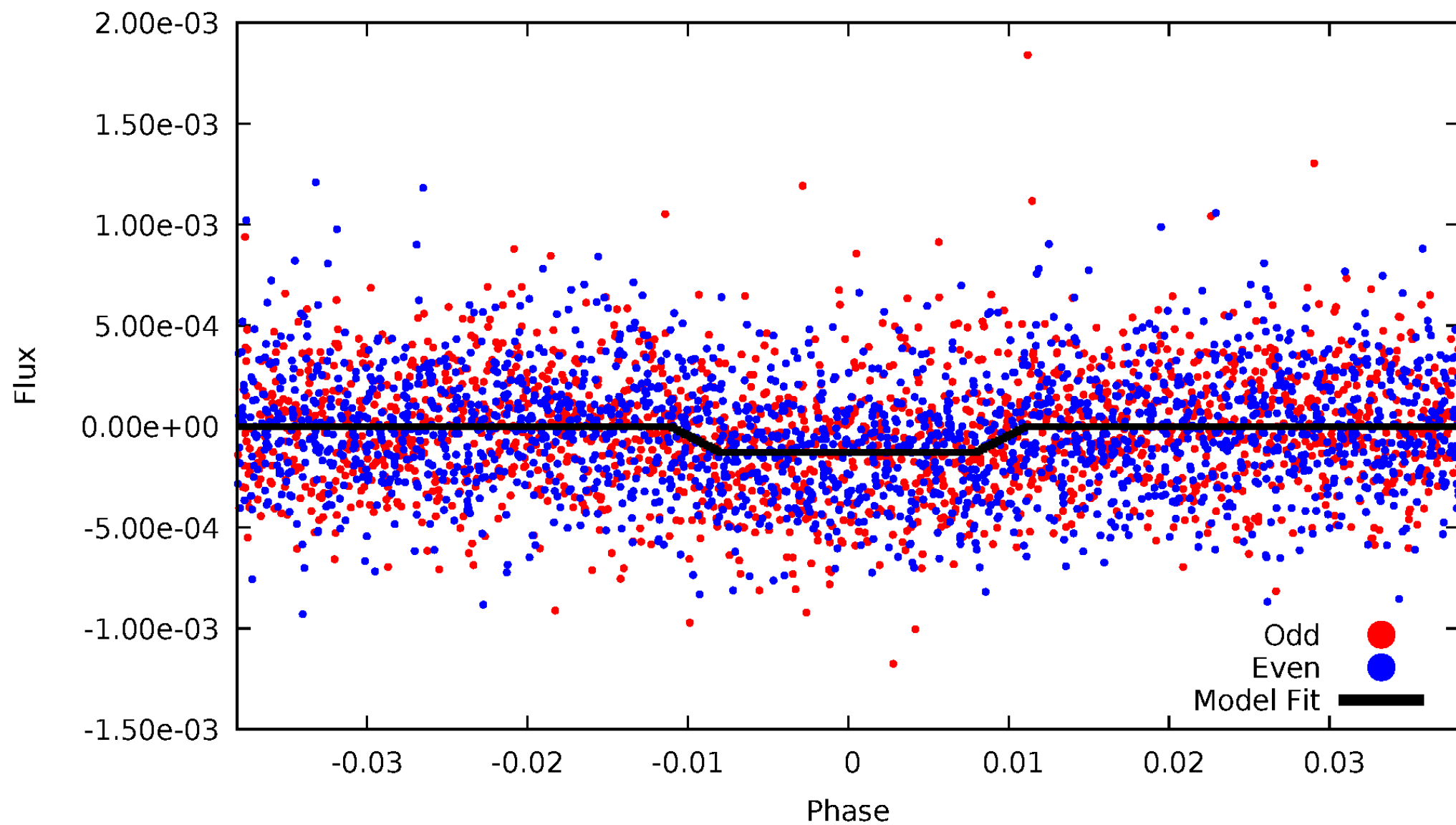
TCE 010880507-01



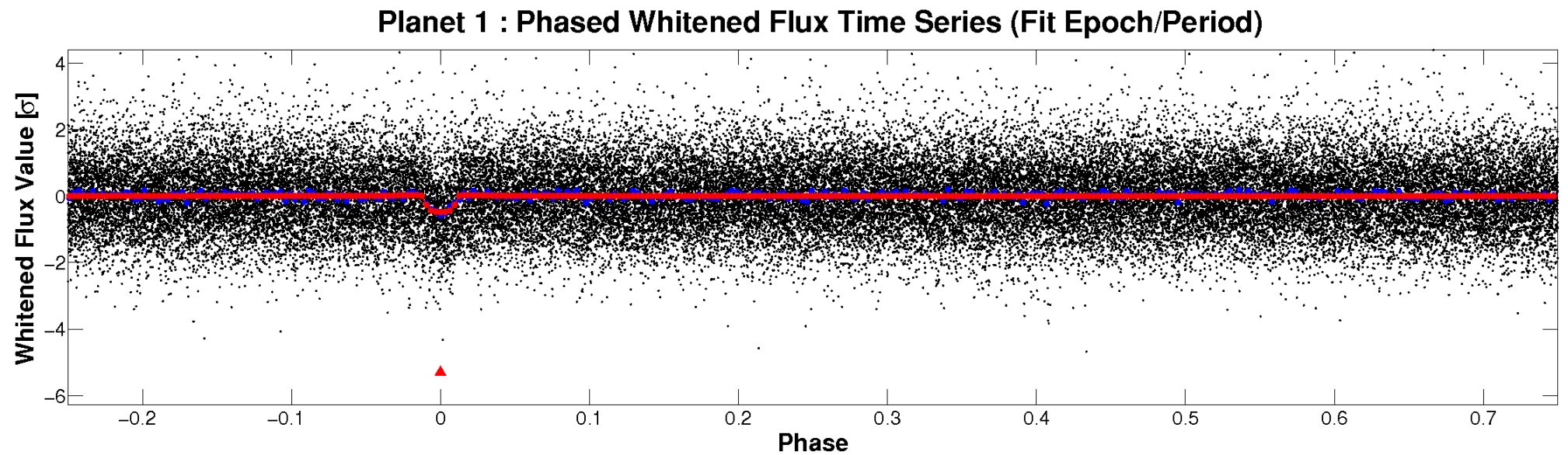
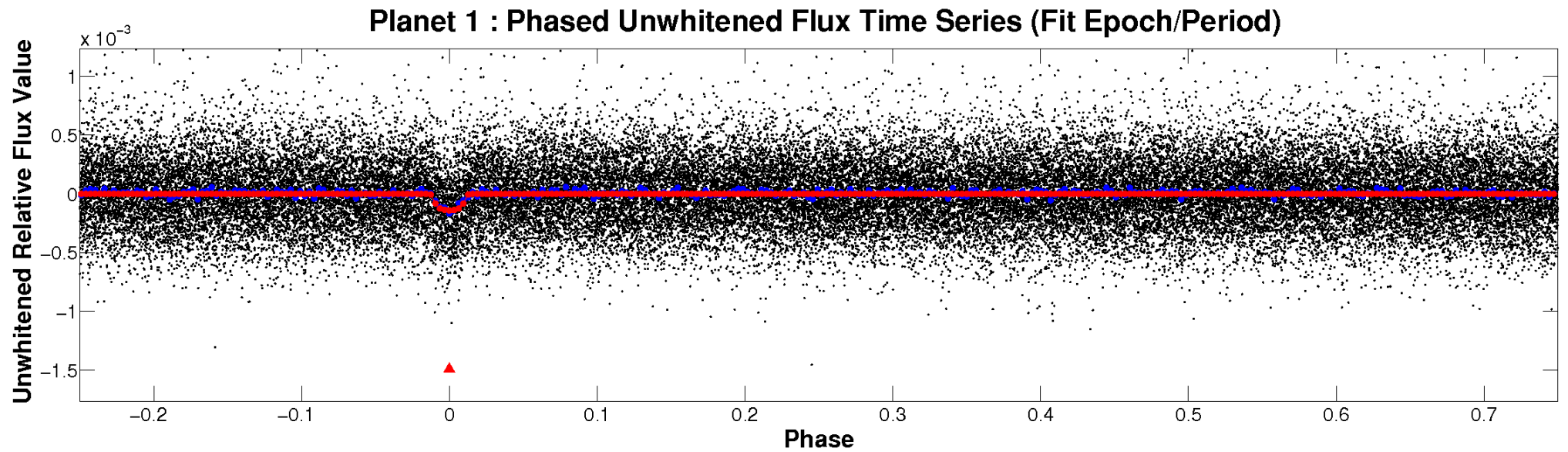


# ALT Odd/Even

TCE 010880507-01

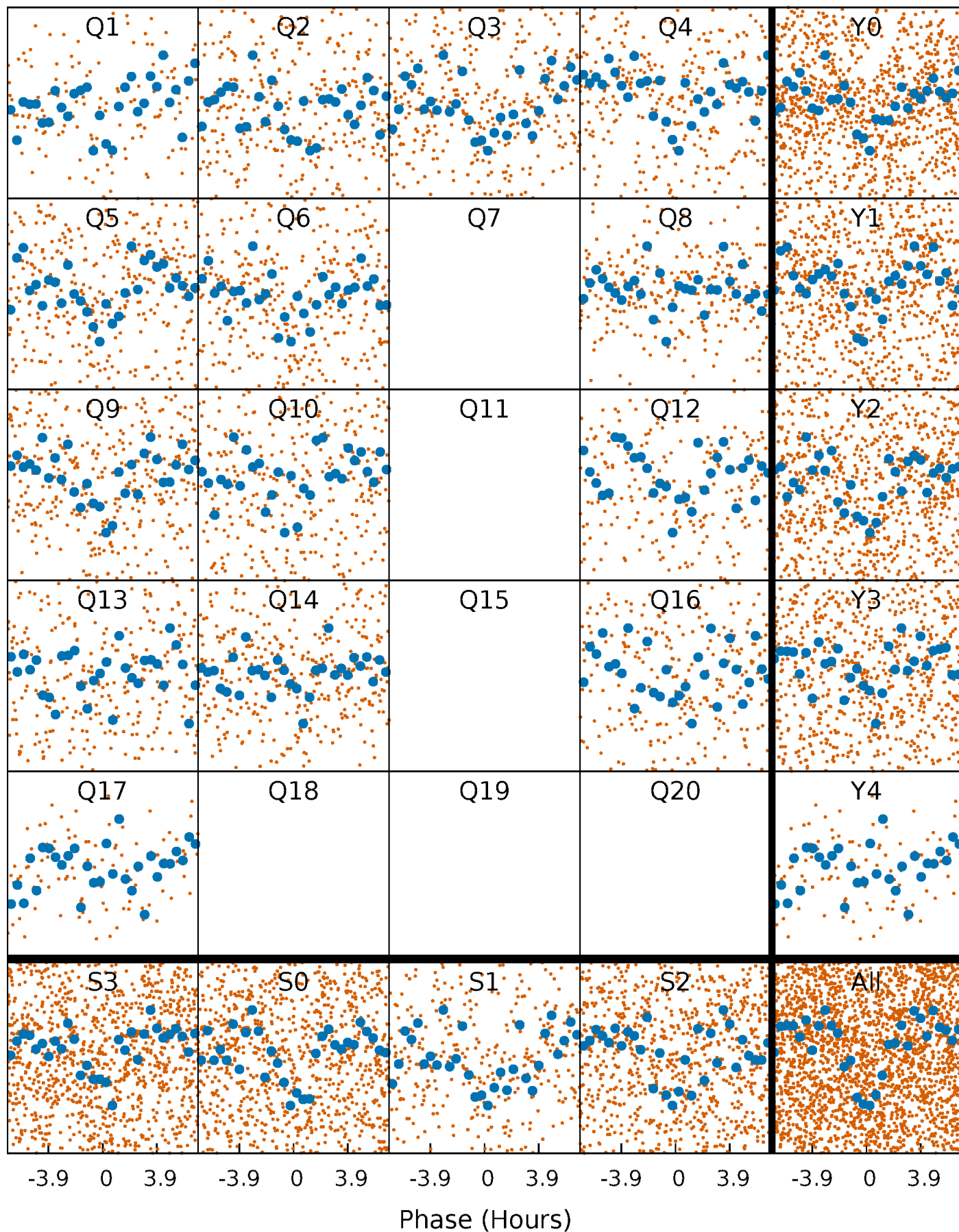


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

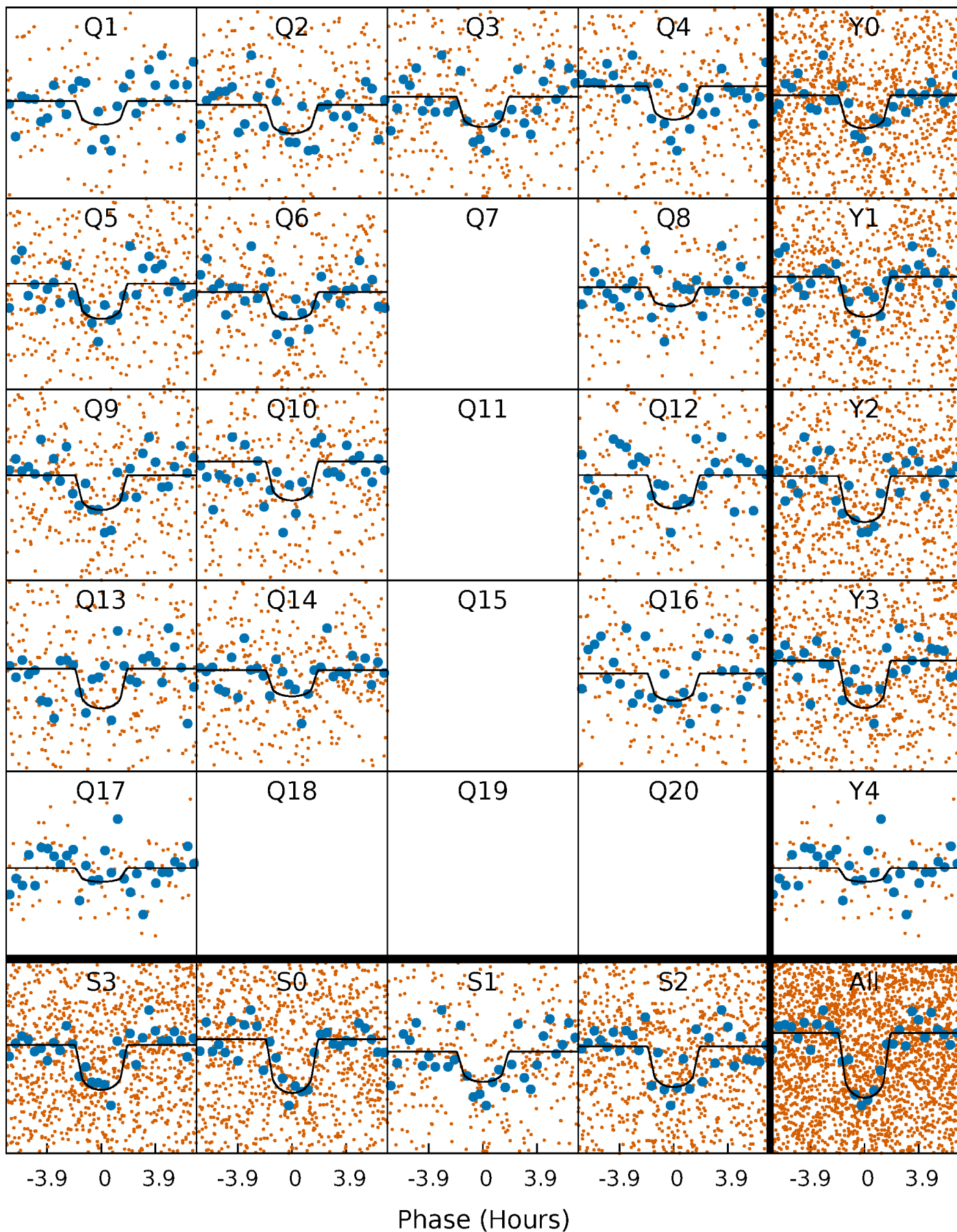
TCE 010880507-01 P= 6.480363 Days  $T_0=132.846552$  (BKJD)





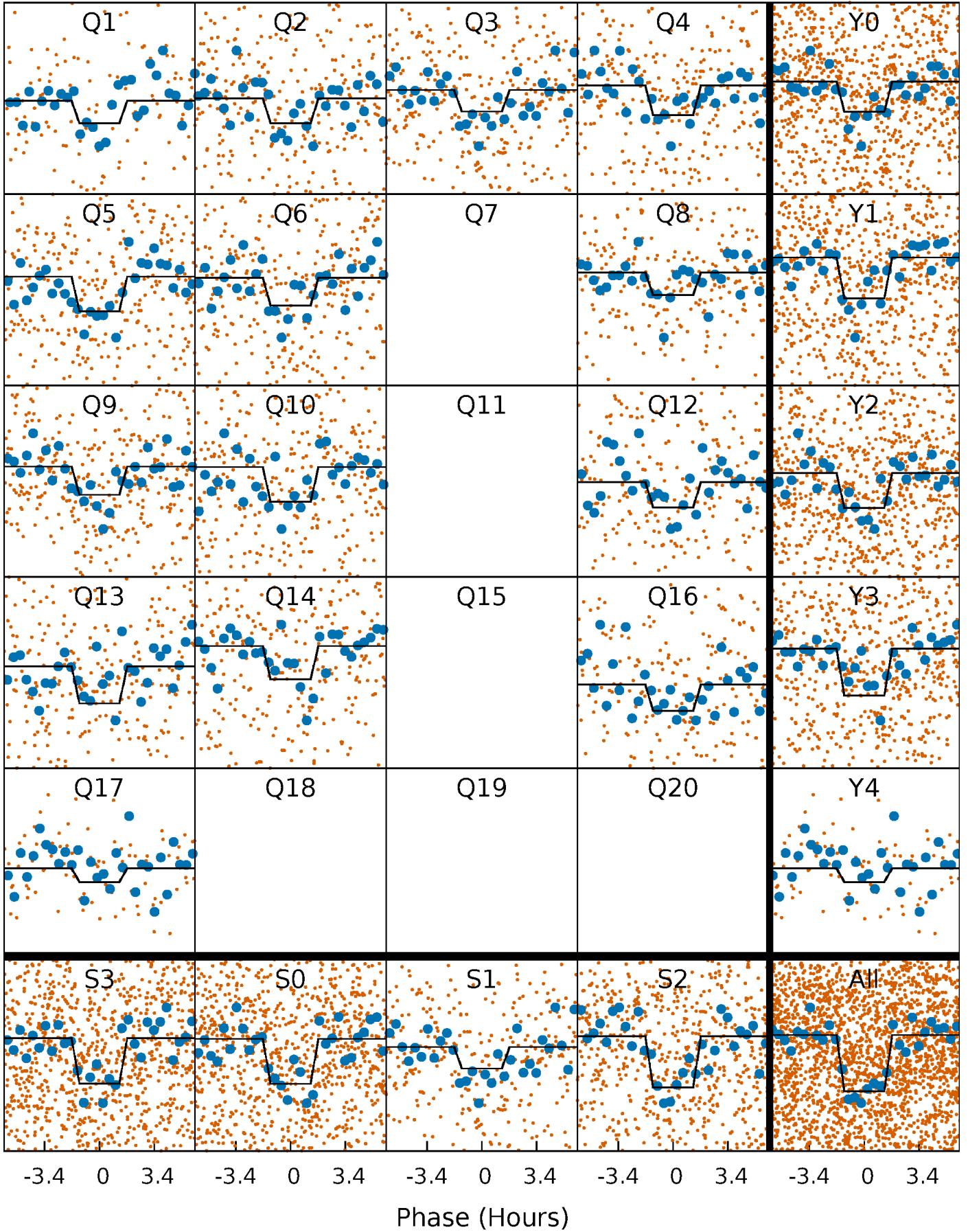
# DV Quarter-Phased Transit Curves

TCE 010880507-01 P= 6.480363 Days  $T_0=132.846552$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

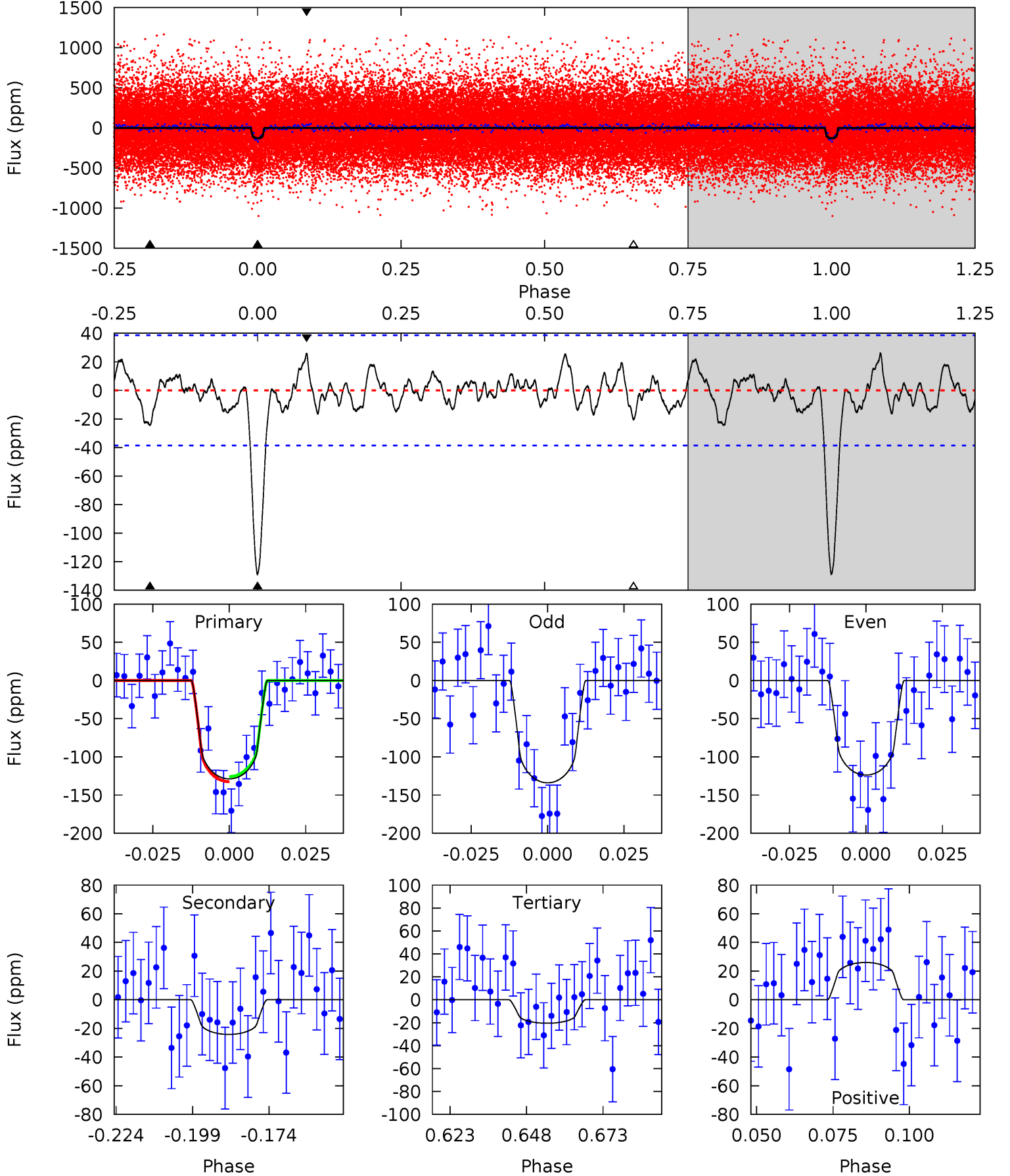
TCE 010880507-01 P= 6.480194 Days  $T_0=132.864401$  (BKJD)



# DV Model-Shift Uniqueness Test

010880507-01, P = 6.480363 Days, E = 126.366189 Days

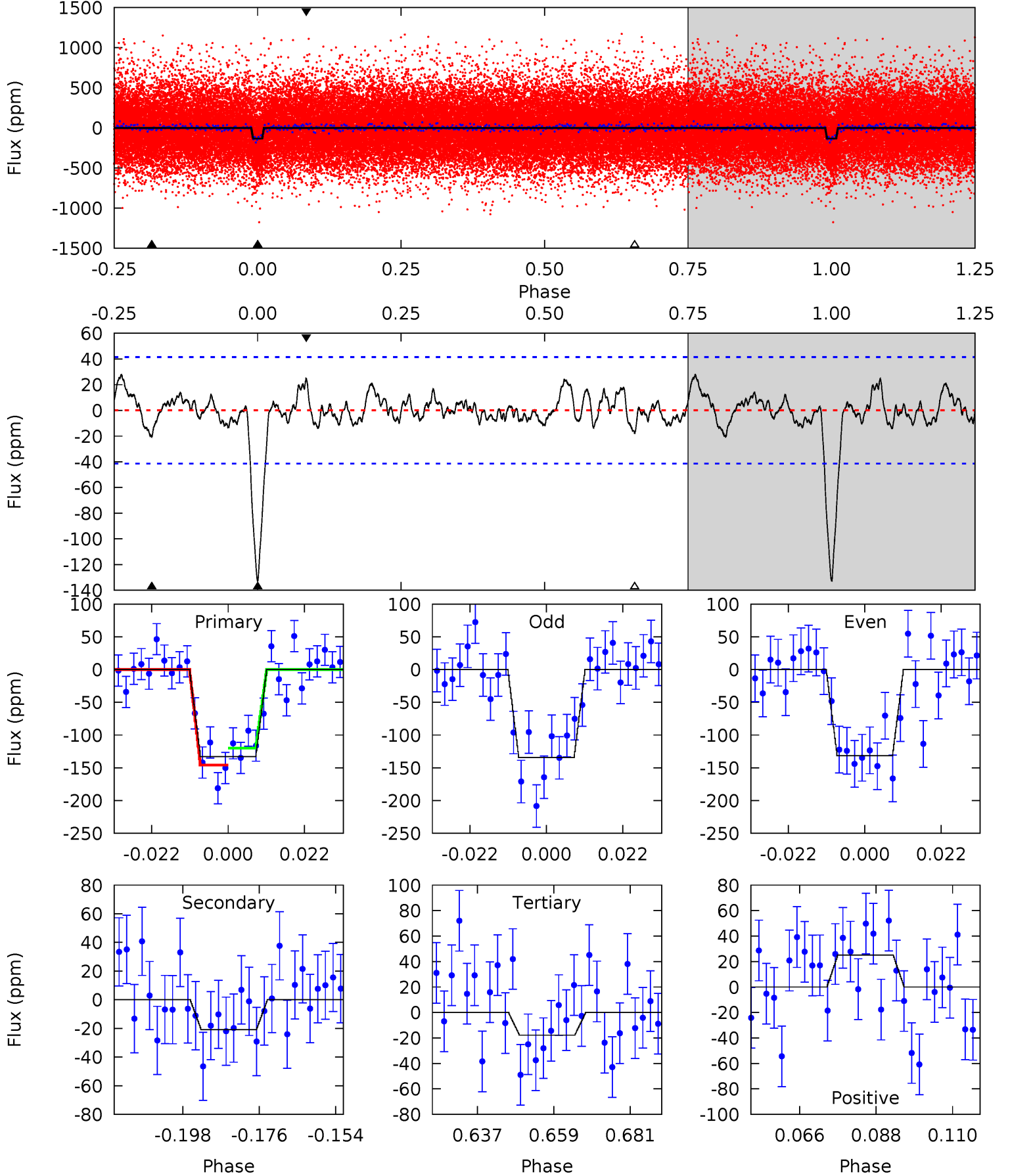
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	3.04	2.57	3.27	4.85	2.24	1.12	13.6	12.9	0.47	-0.23	0.64	0.93	0.17	0.42



# Alt Model-Shift Uniqueness Test

010880507-01, P = 6.480194 Days, E = 126.384207 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
15.6	2.45	2.09	2.95	4.87	2.29	1.04	13.5	12.7	0.36	-0.50	0.14	0.94	0.17	1.52



### Stellar Parameters For KIC 010880507

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5496^{+82}_{-74}$	$4.417^{+0.095}_{-0.095}$	$0.140^{+0.150}_{-0.150}$	$0.983^{+0.126}_{-0.094}$	$0.920^{+0.058}_{-0.044}$	$1.365^{+0.481}_{-0.390}$
	+1%/-1%	+2%/-2%	+107%/-107%	+13%/-10%	+6%/-5%	+35%/-29%
Source	SPE90	SPE90	SPE90	DSEP		

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

### Secondary Eclipse Parameters for KIC 010880507-01 / KOI 2936.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-24 \pm 8$	$1.44^{+0.80}_{-0.81}$	$1307^{+47}_{-45}$	$3699^{+1387}_{-533}$	$27^{+115}_{-17}$
Alt.	$-21 \pm 9$	$1.30^{+0.83}_{-0.73}$	$1304^{+49}_{-41}$	$3682^{+1476}_{-585}$	$27^{+128}_{-19}$

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



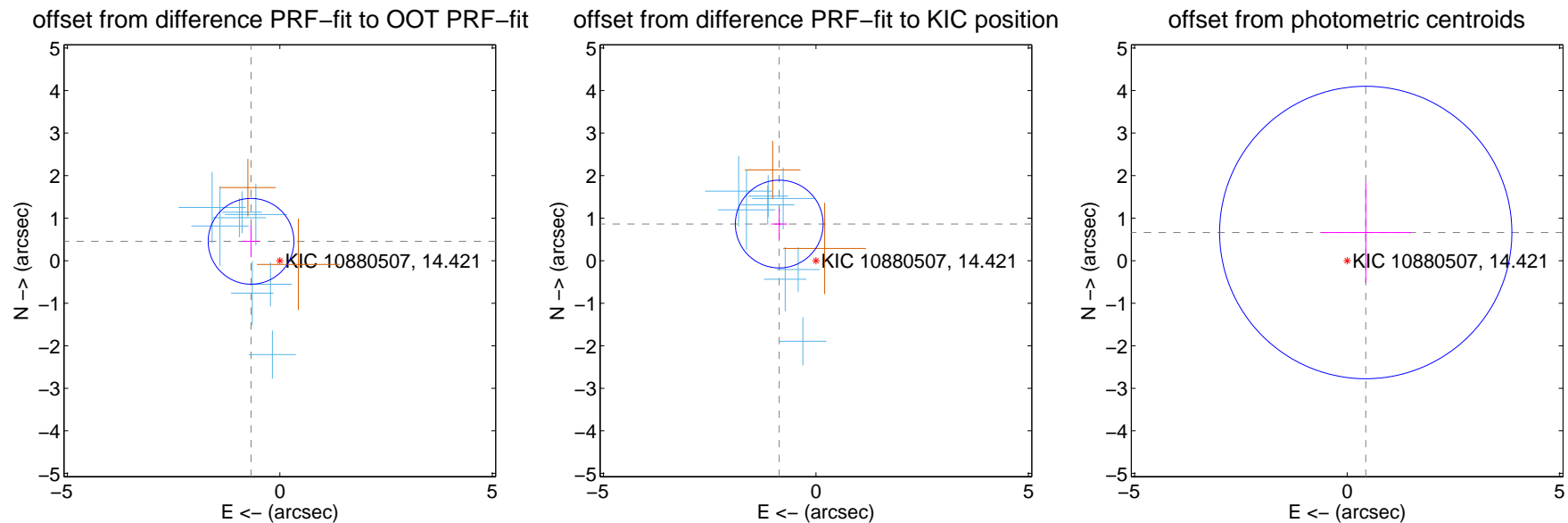
## DV Centroid Data

Supplemental centroid analysis for 010880507-01. Kepler magnitude: 14.42. Transit SNR 13.35

There are 8 quarters with good PRF difference image offsets

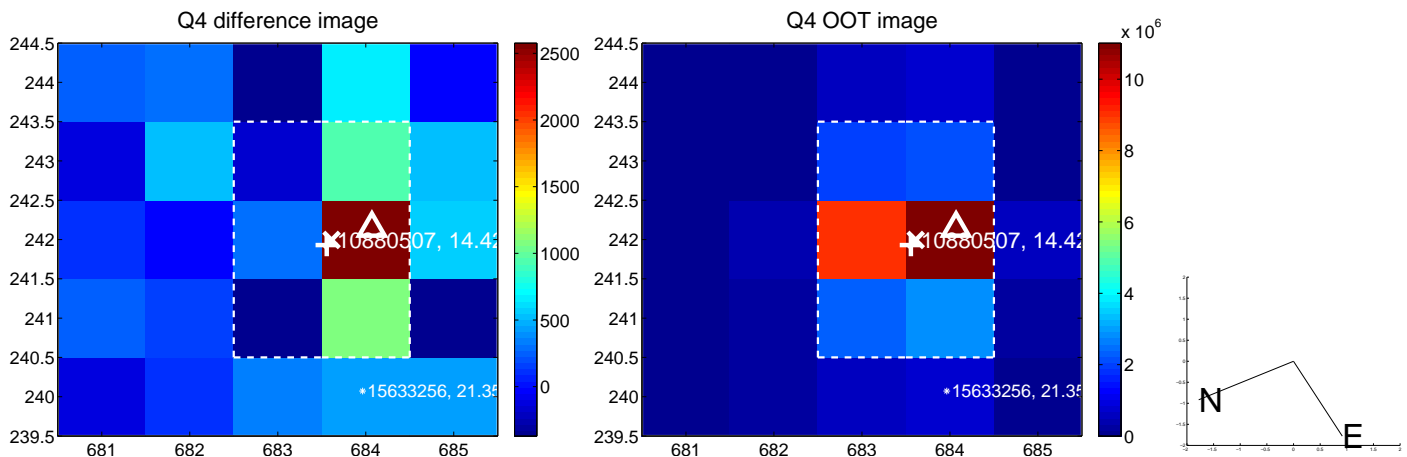
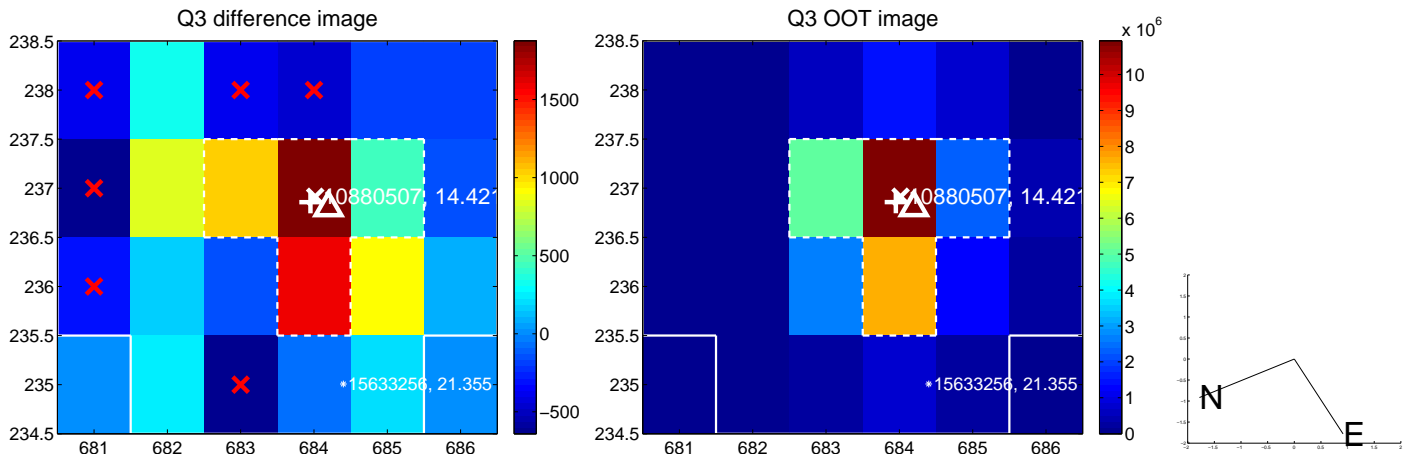
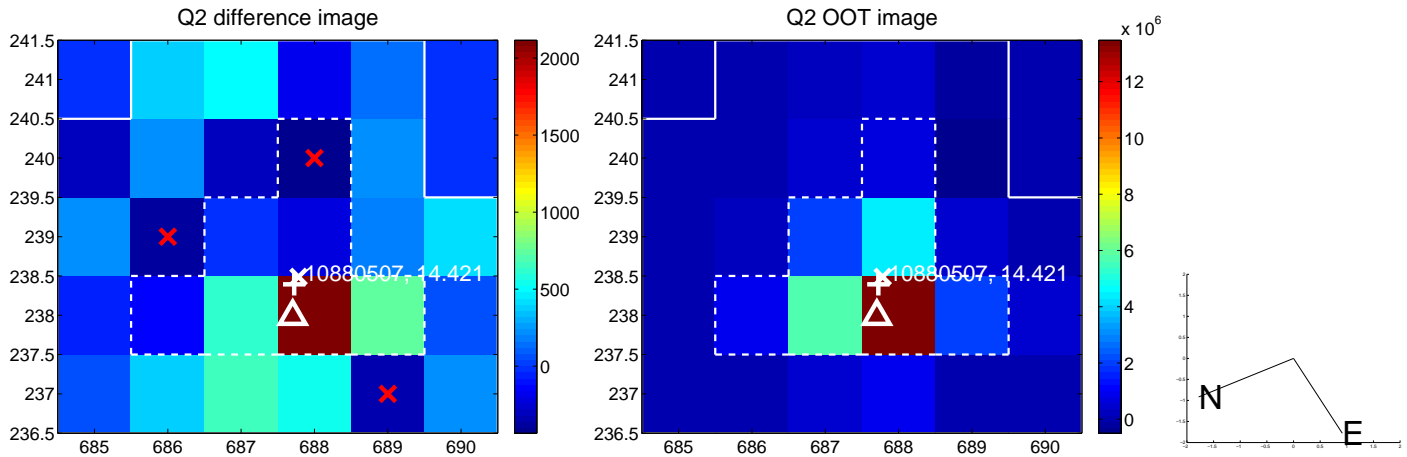
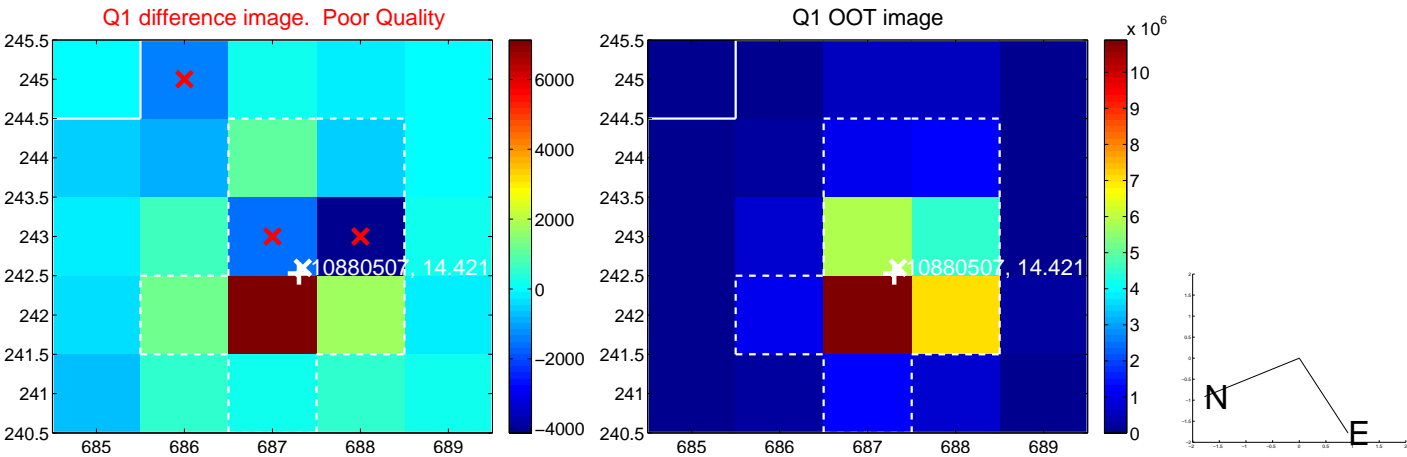
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.816 \pm 0.336$	2.43	$0.677 \pm 0.202$	$0.456 \pm 0.372$
PRF-fit source offset from KIC position	$1.220 \pm 0.344$	3.55	$0.863 \pm 0.188$	$0.862 \pm 0.355$
photometric centroid source offset	$0.79 \pm 1.15$	0.69	$-0.44 \pm 1.07$	$0.66 \pm 1.18$

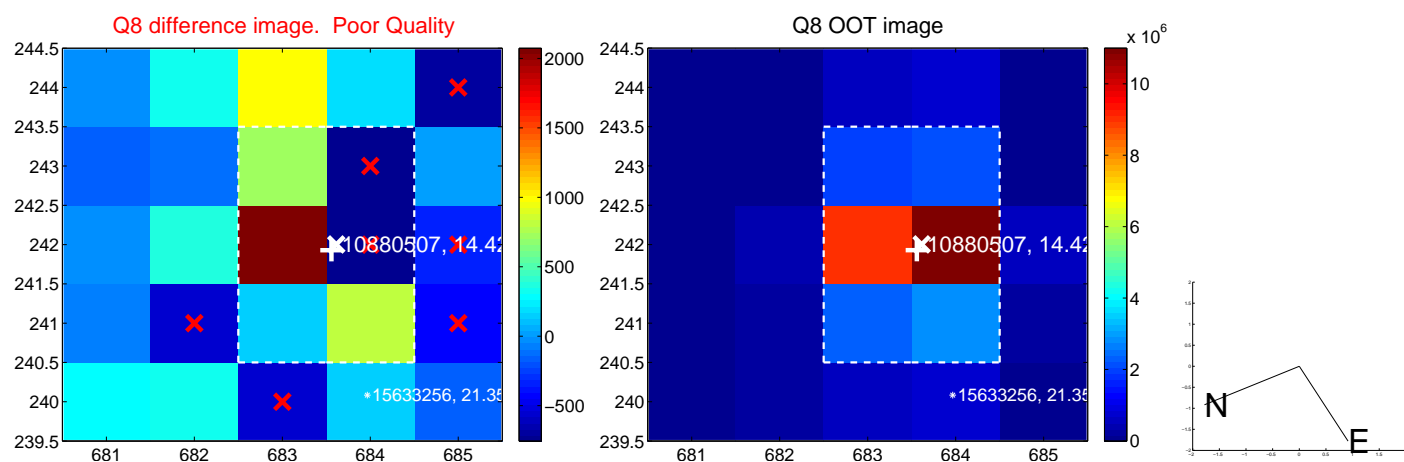
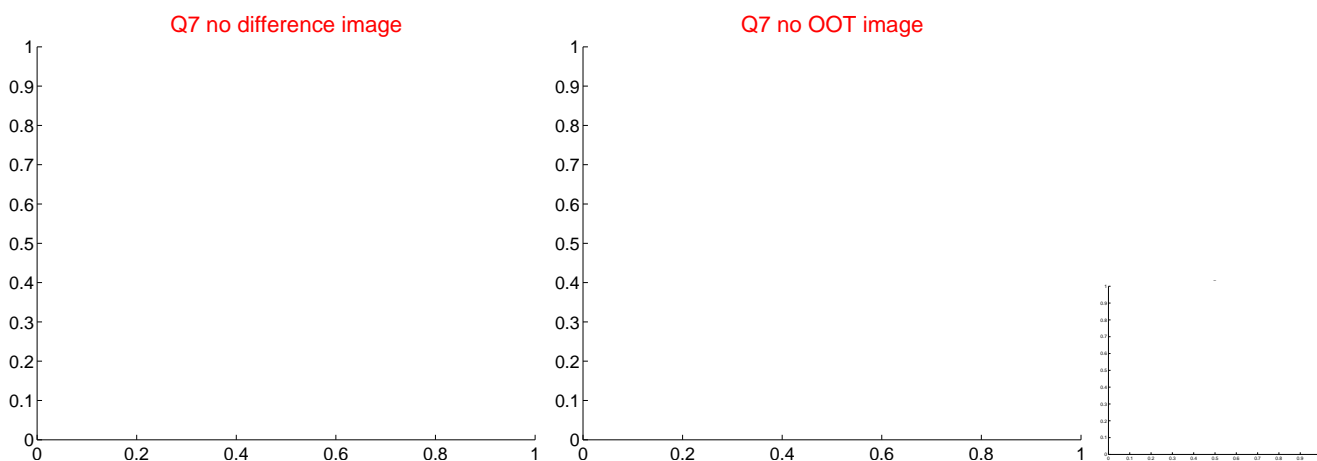
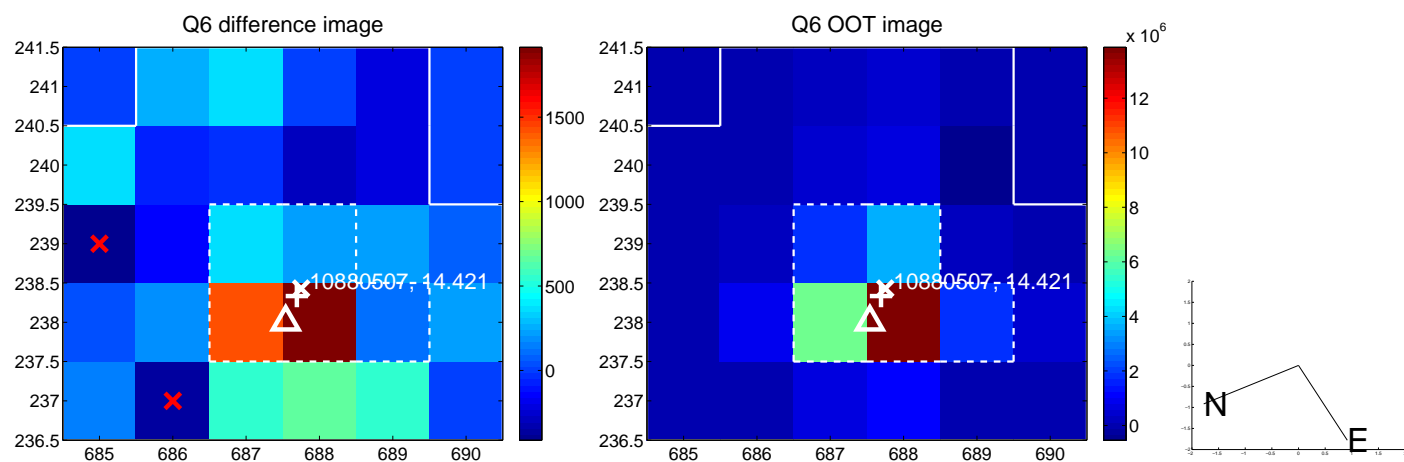
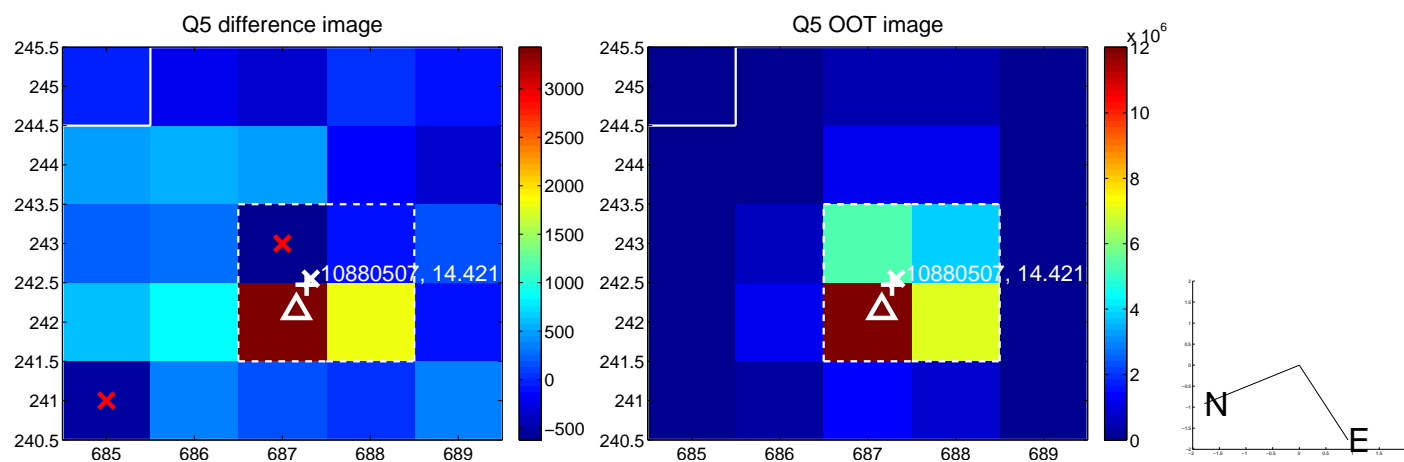


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

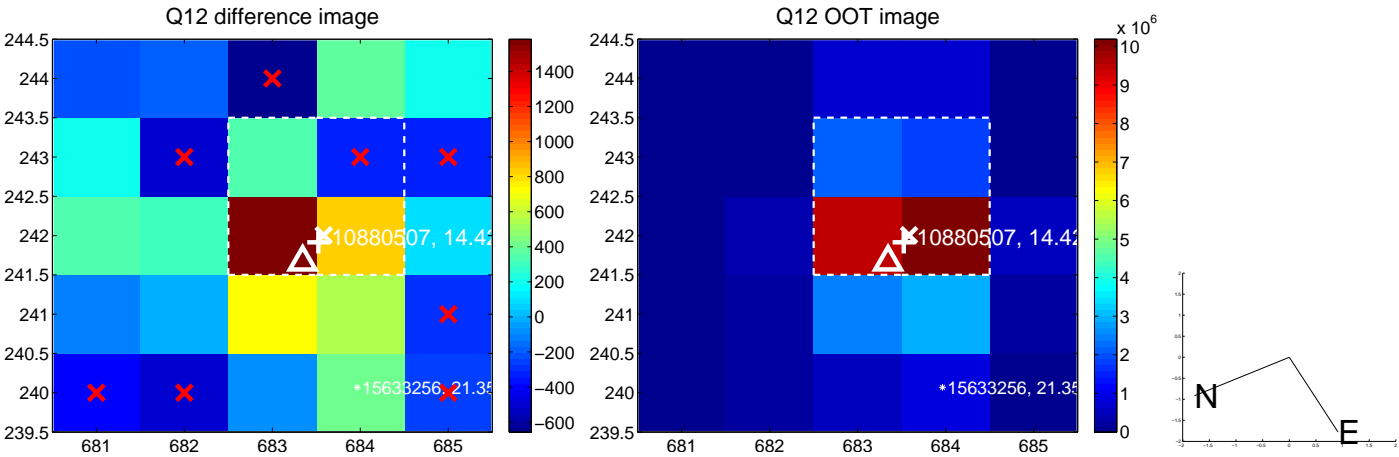
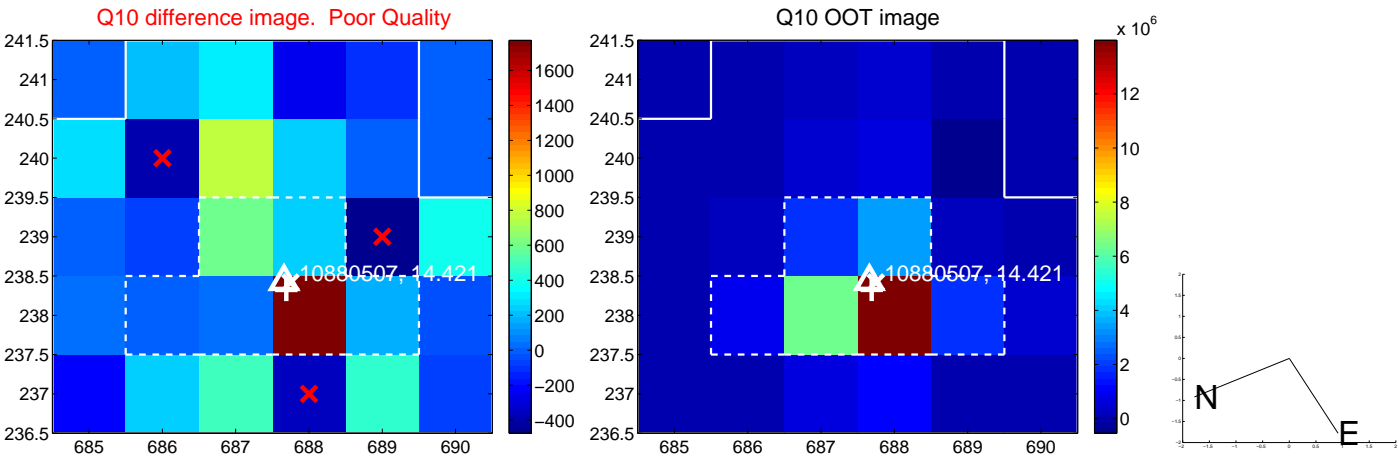
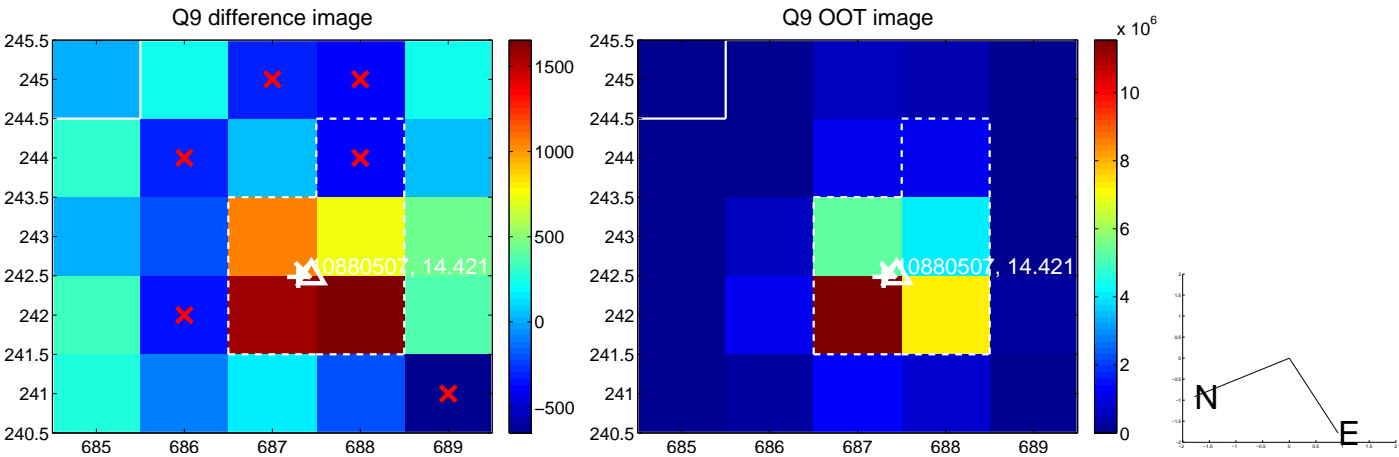
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



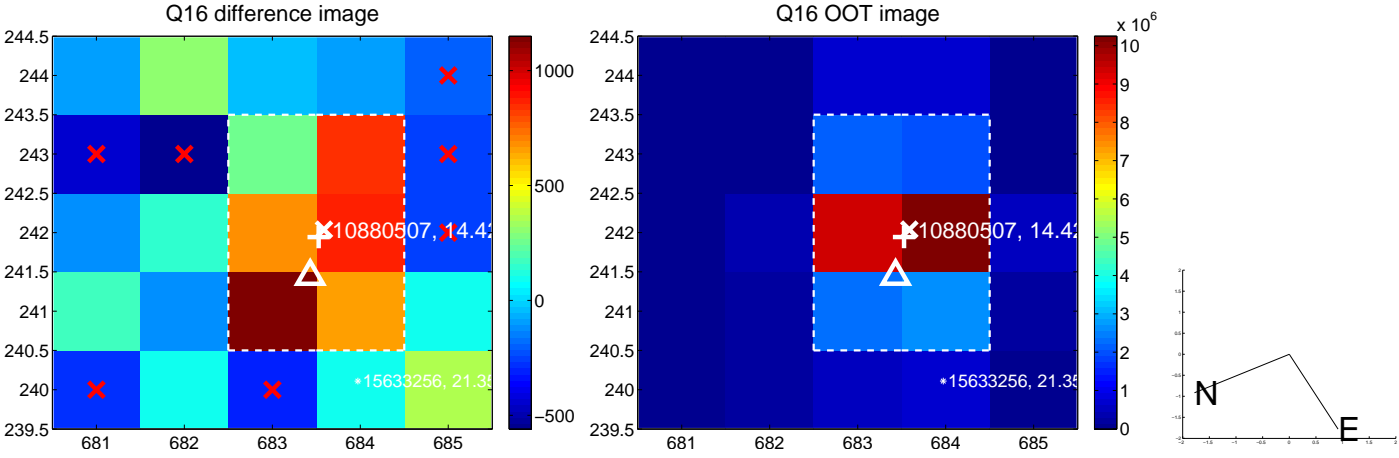
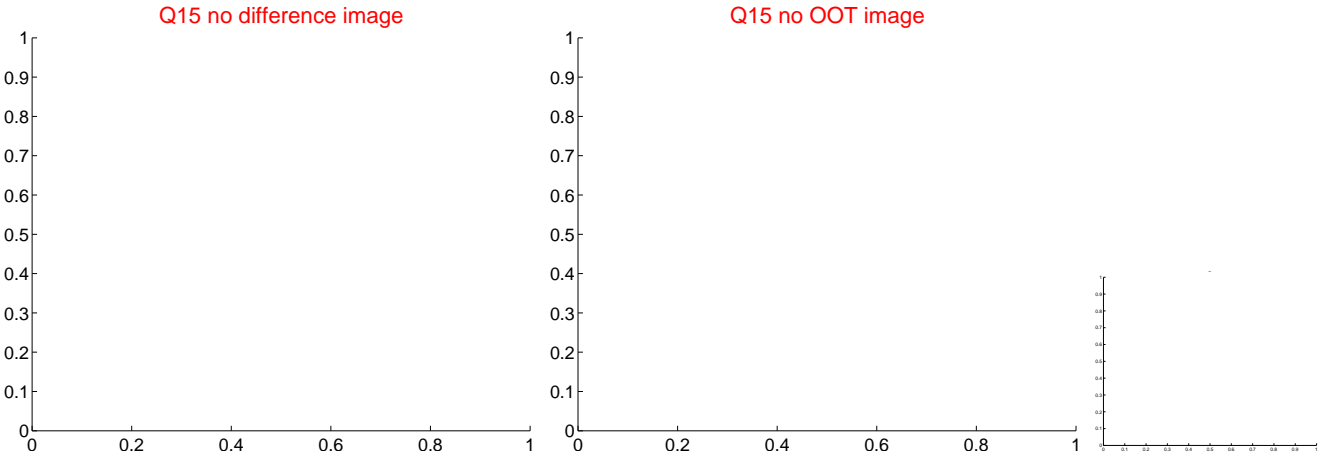
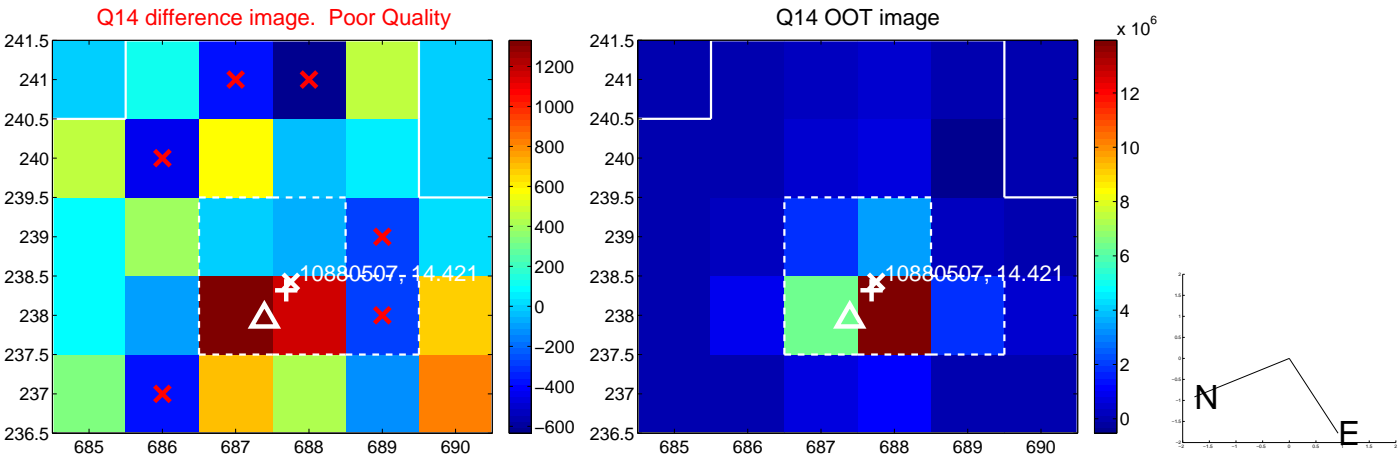
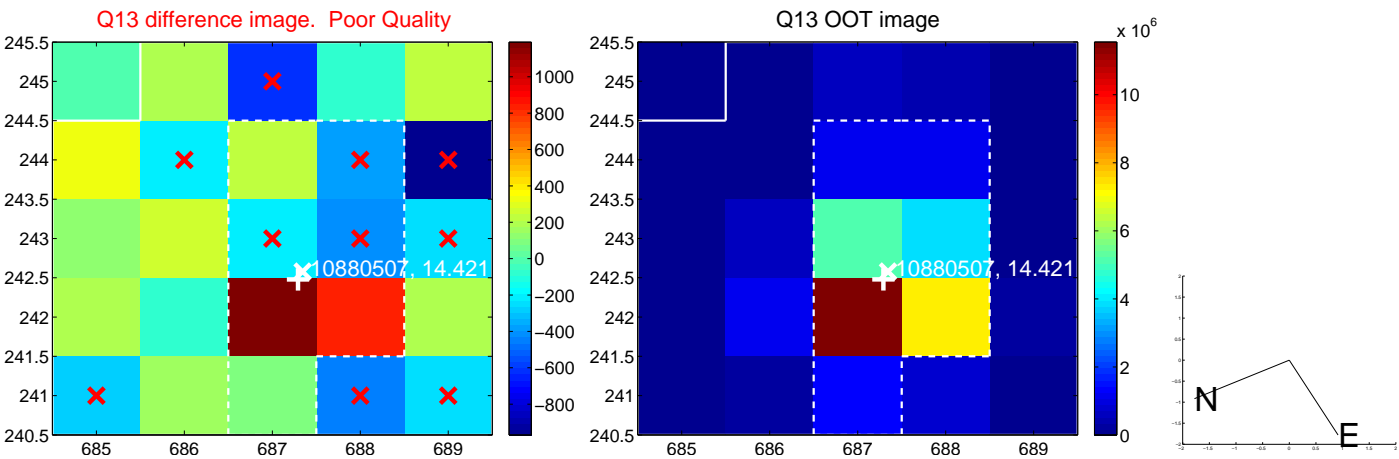
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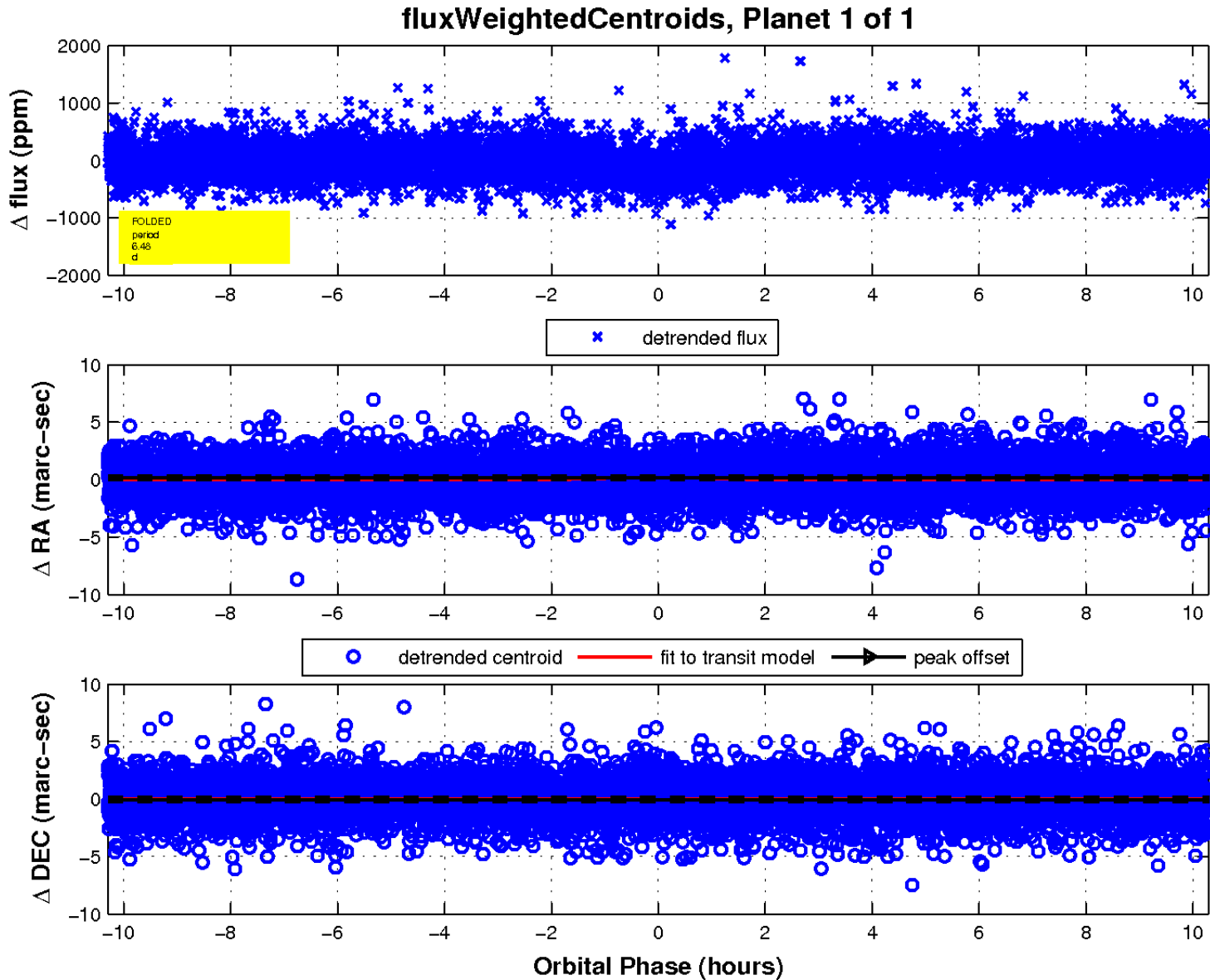
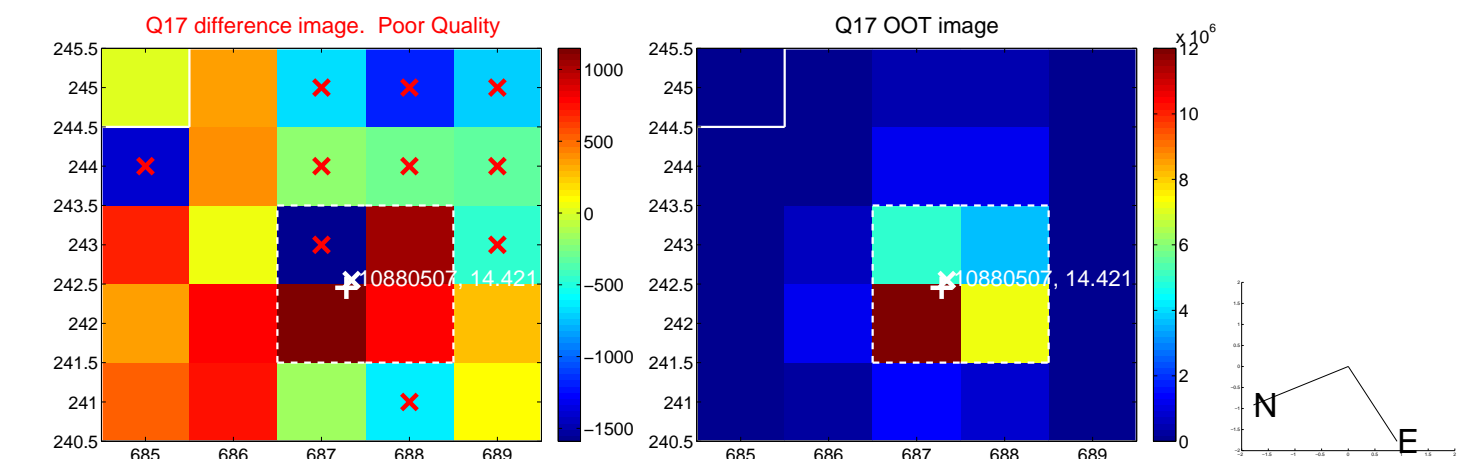


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

