

# KIC 005390733

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005390733-01	OBS	No	3.368638	134.336732	108.3	23.598	8.7	10.3	1.27	6890	1.61	1440.07

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005390733-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

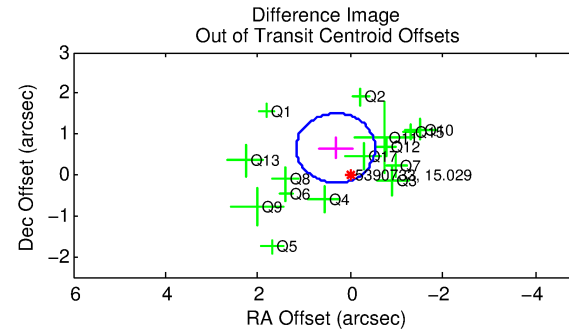
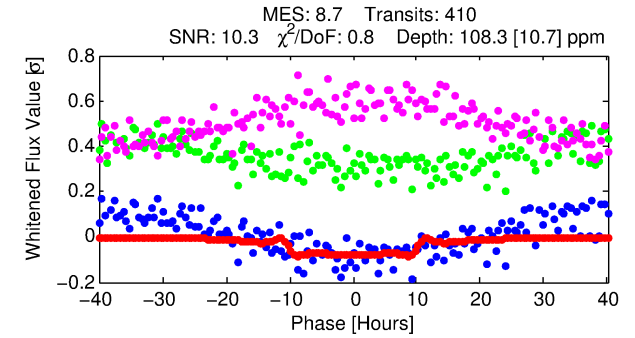
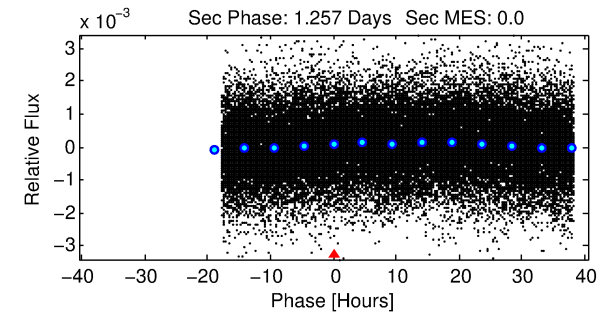
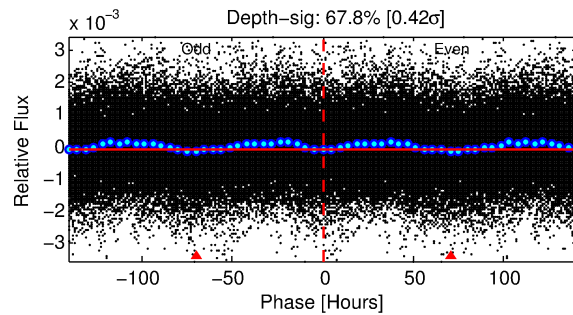
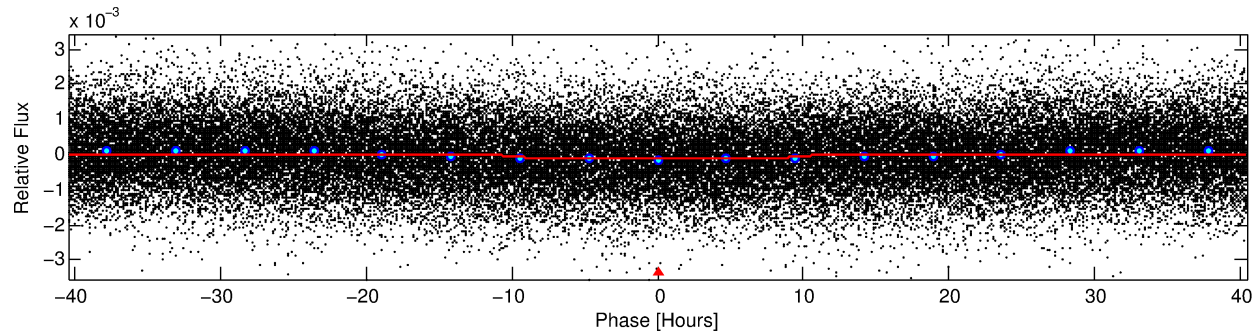
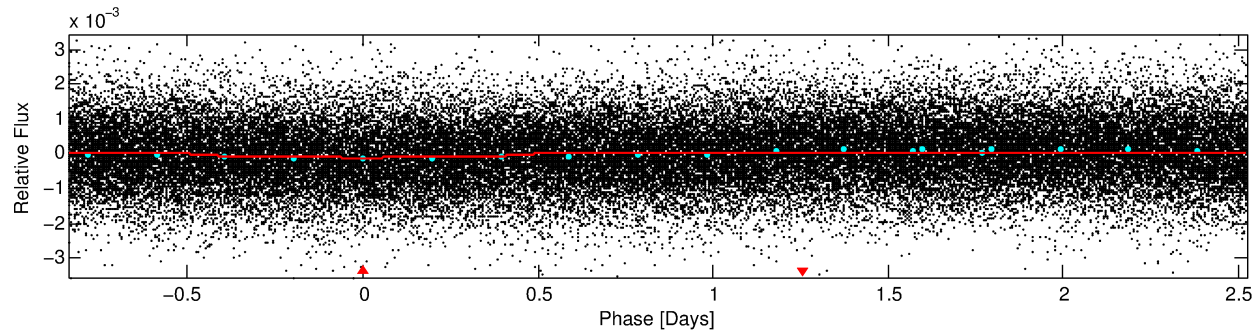
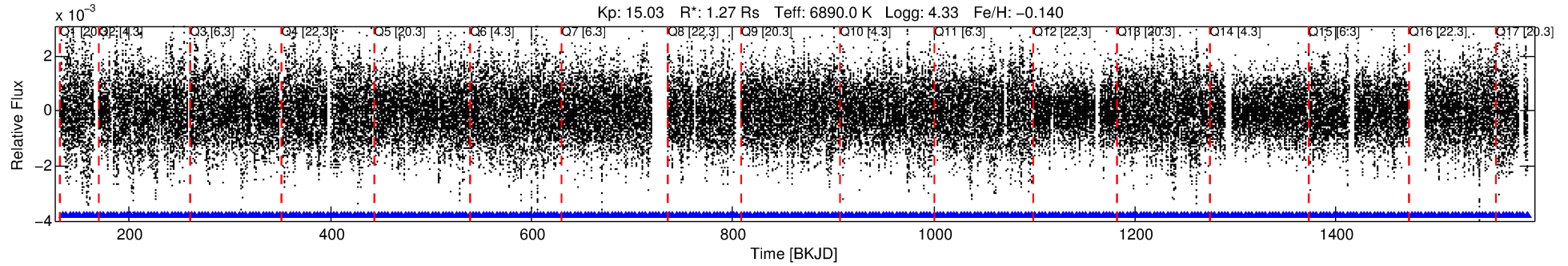
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005390733-01

No Significant Match Found

# DV One-Page Summary

KIC: 5390733 Candidate: 1 of 1 Period: 3.369 d



## DV Fit Results:

Period = 3.36864 [0.00014] d  
Epoch = 134.3367 [0.0326] BKJD  
Rp/R\* = 0.0116 [0.0007]  
a/R\* = 1.05 [0.02]  
b = 0.95 [0.03]  
Seff = 1440.07 [565.13]  
Teq = 1571 [154] K  
Rp = 1.61 [0.52] Re  
a = 0.0477 [0.0121] AU  
Ag = N/A  
Teffp = N/A

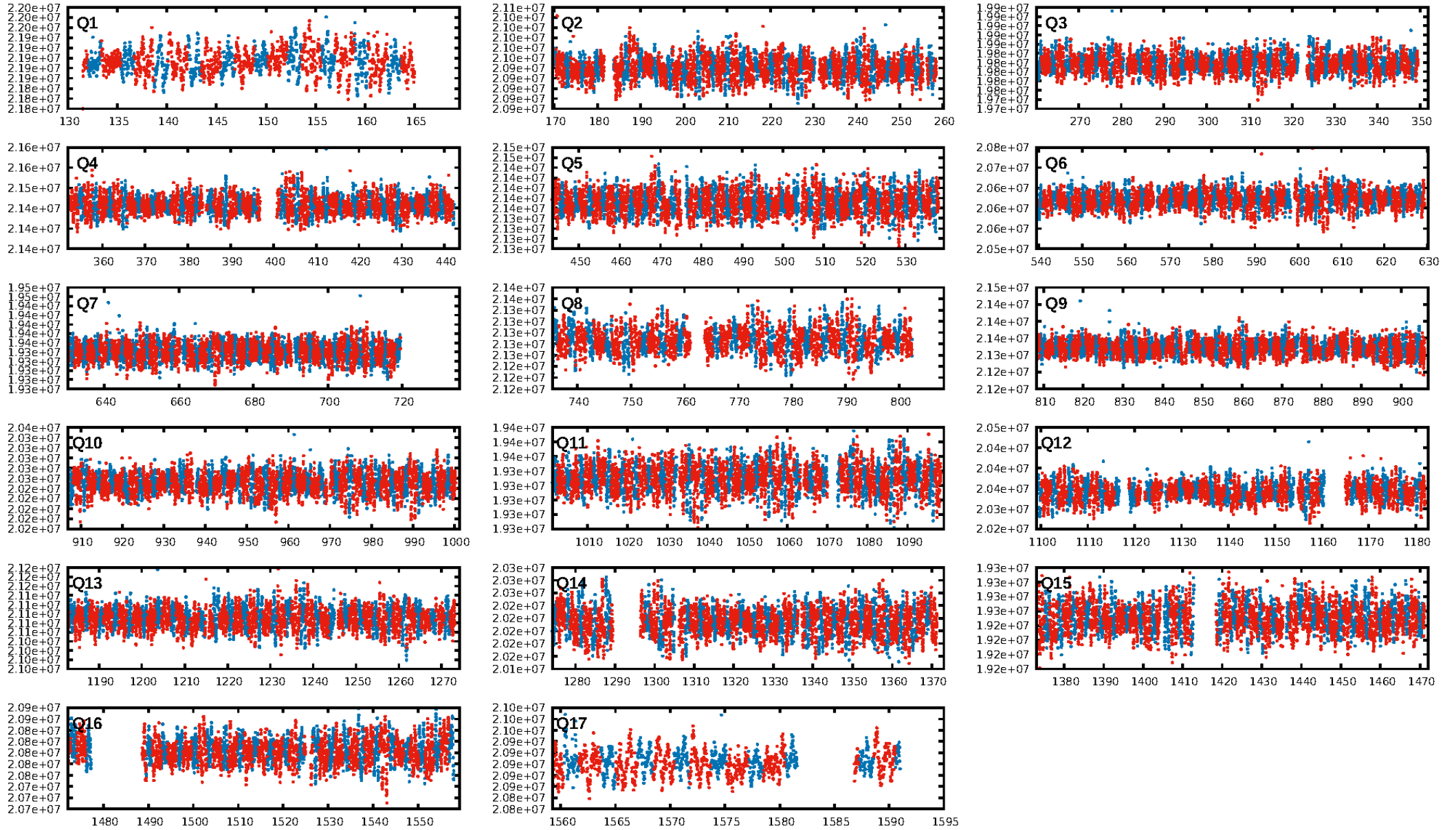
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [392/392]  
GhostDiagnostic-chr: 1.184  
Centroid-sig: 0.0%  
Centroid-so: 1.324 arcsec [2.43 $\sigma$ ]  
OotOffset-rm: 0.728 arcsec [2.56 $\sigma$ ]  
KicOffset-rm: 0.612 arcsec [1.89 $\sigma$ ]  
OotOffset-st: 3/4/3/5 [15]  
KicOffset-st: 3/4/3/5 [15]  
DiffImageQuality-fgm: 1.00 [15/15]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:05:48 Z

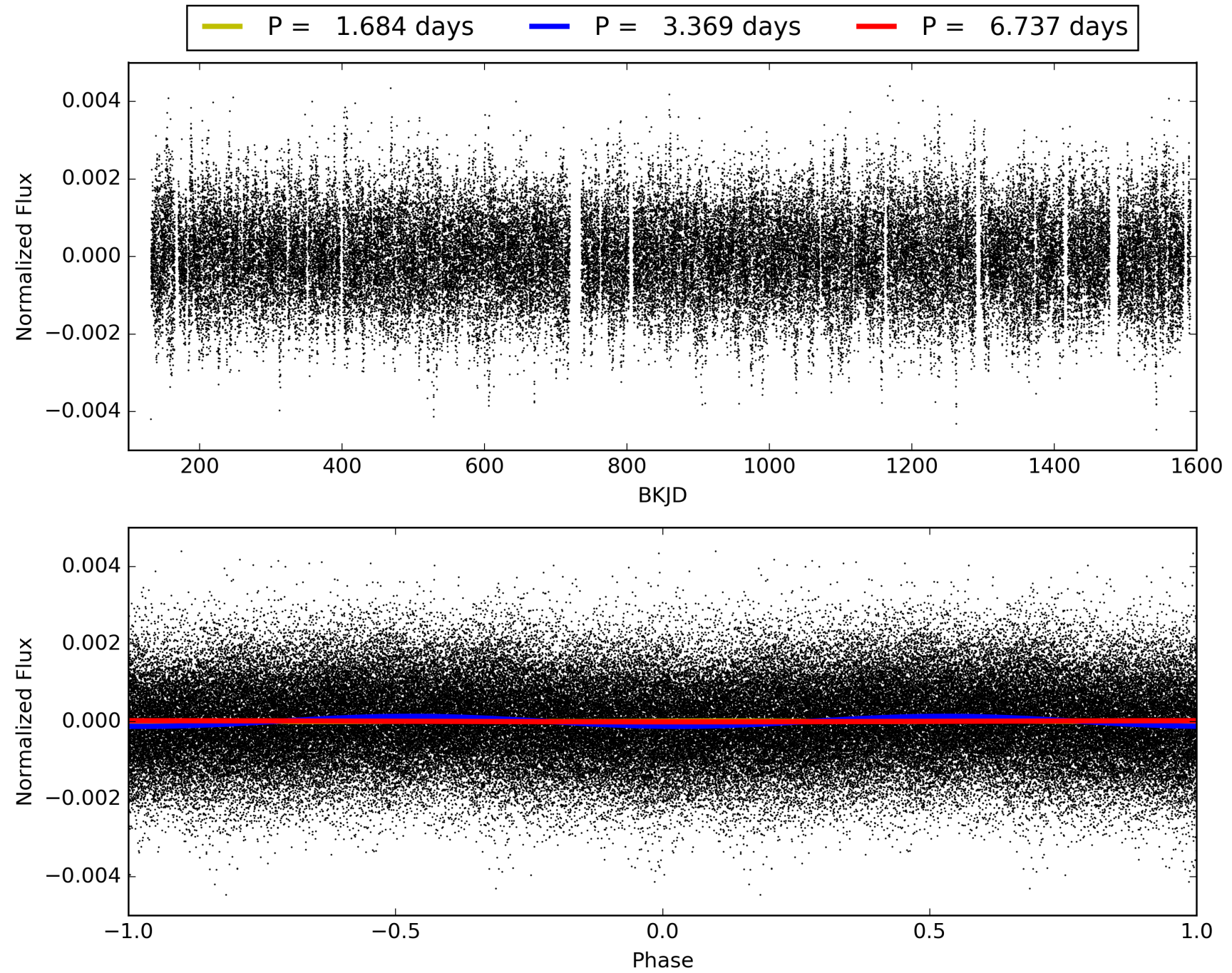
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005390733-01, PDC Light Curves



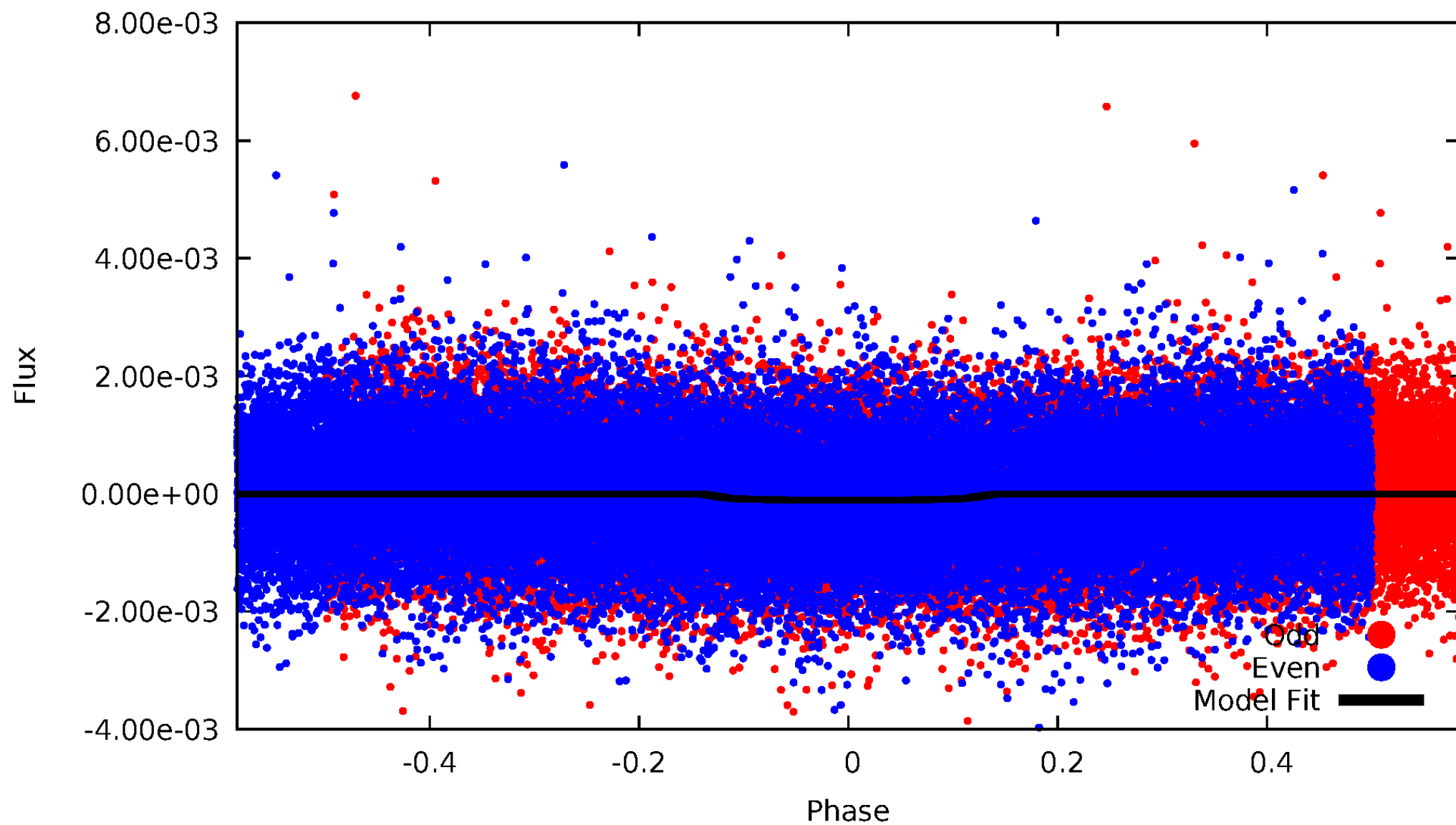


TCE 005390733-01



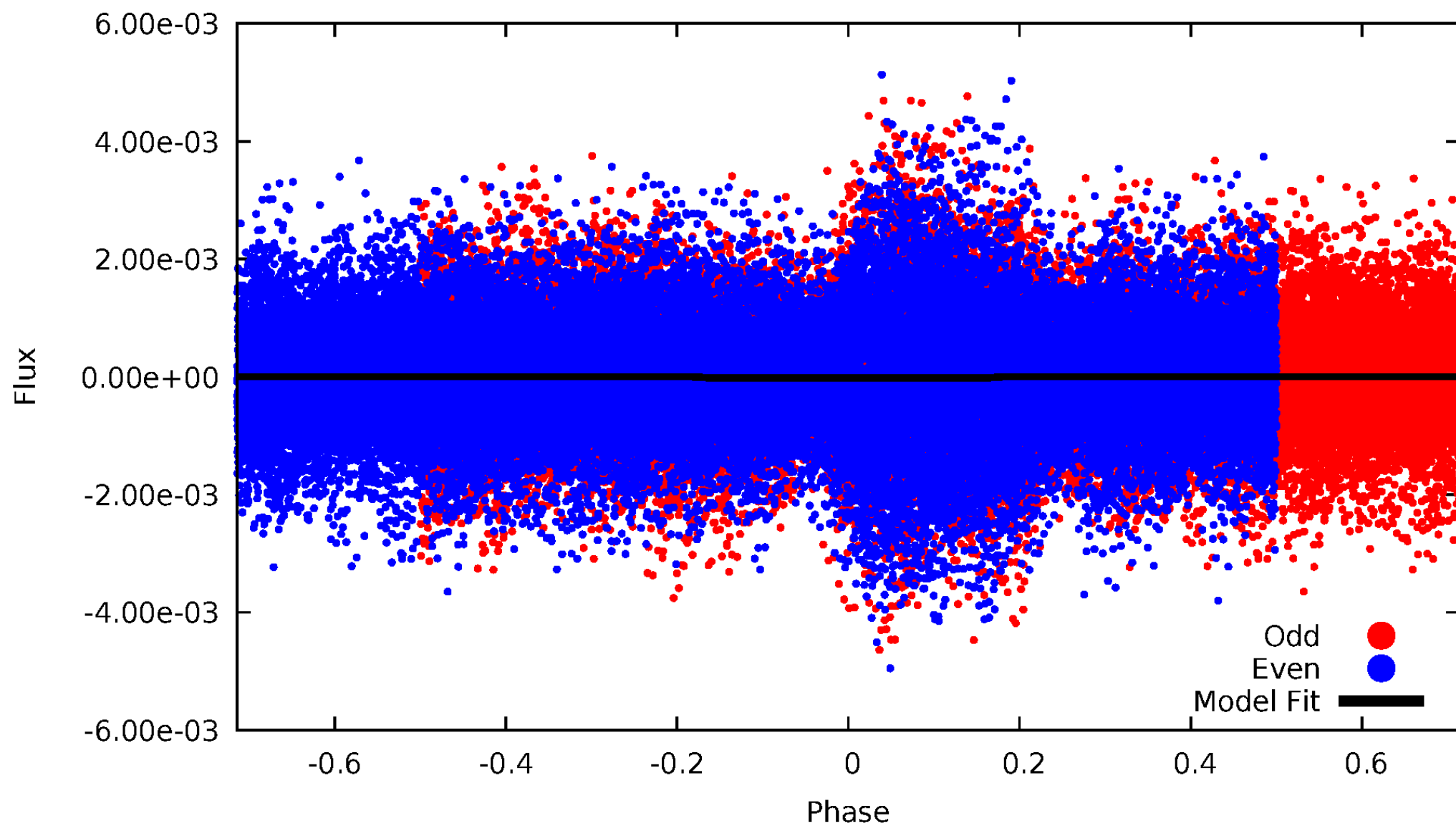
# DV Odd/Even

TCE 005390733-01



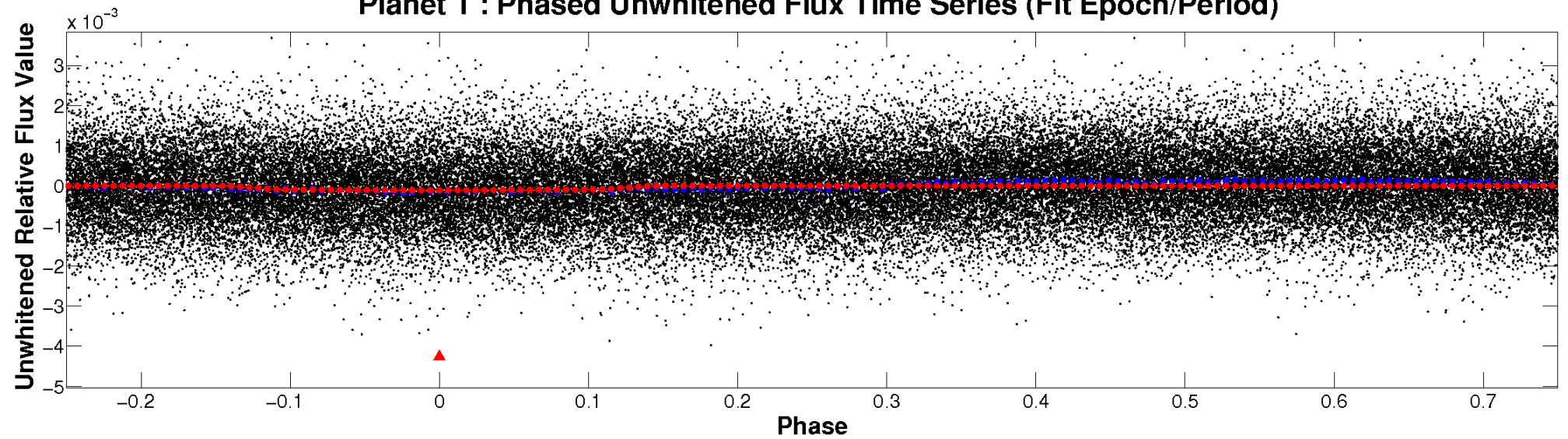
# ALT Odd/Even

TCE 005390733-01

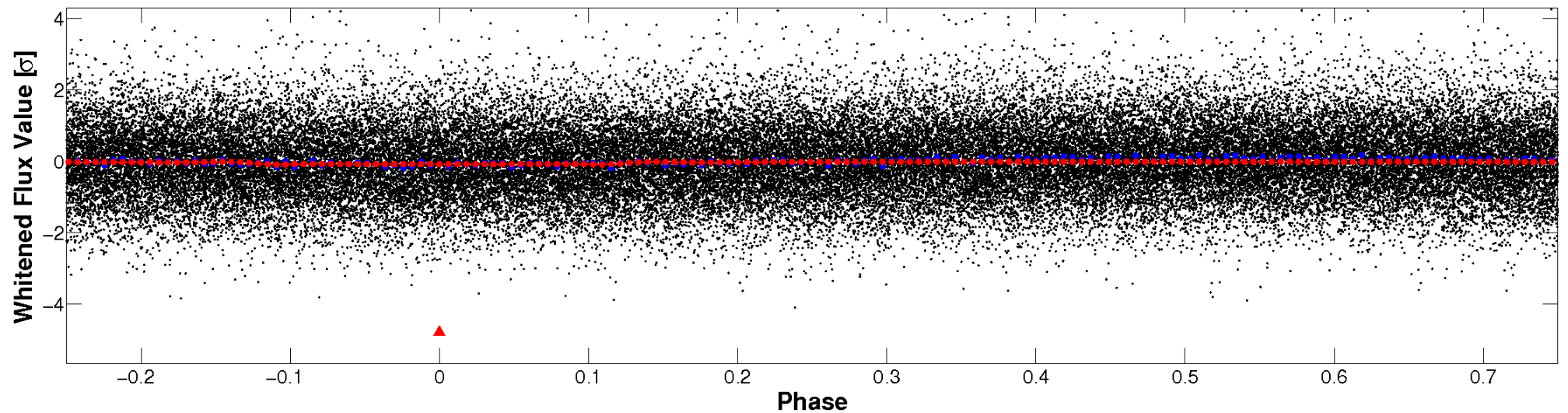


# Non-Whitened Vs. Whitened Light Curve

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



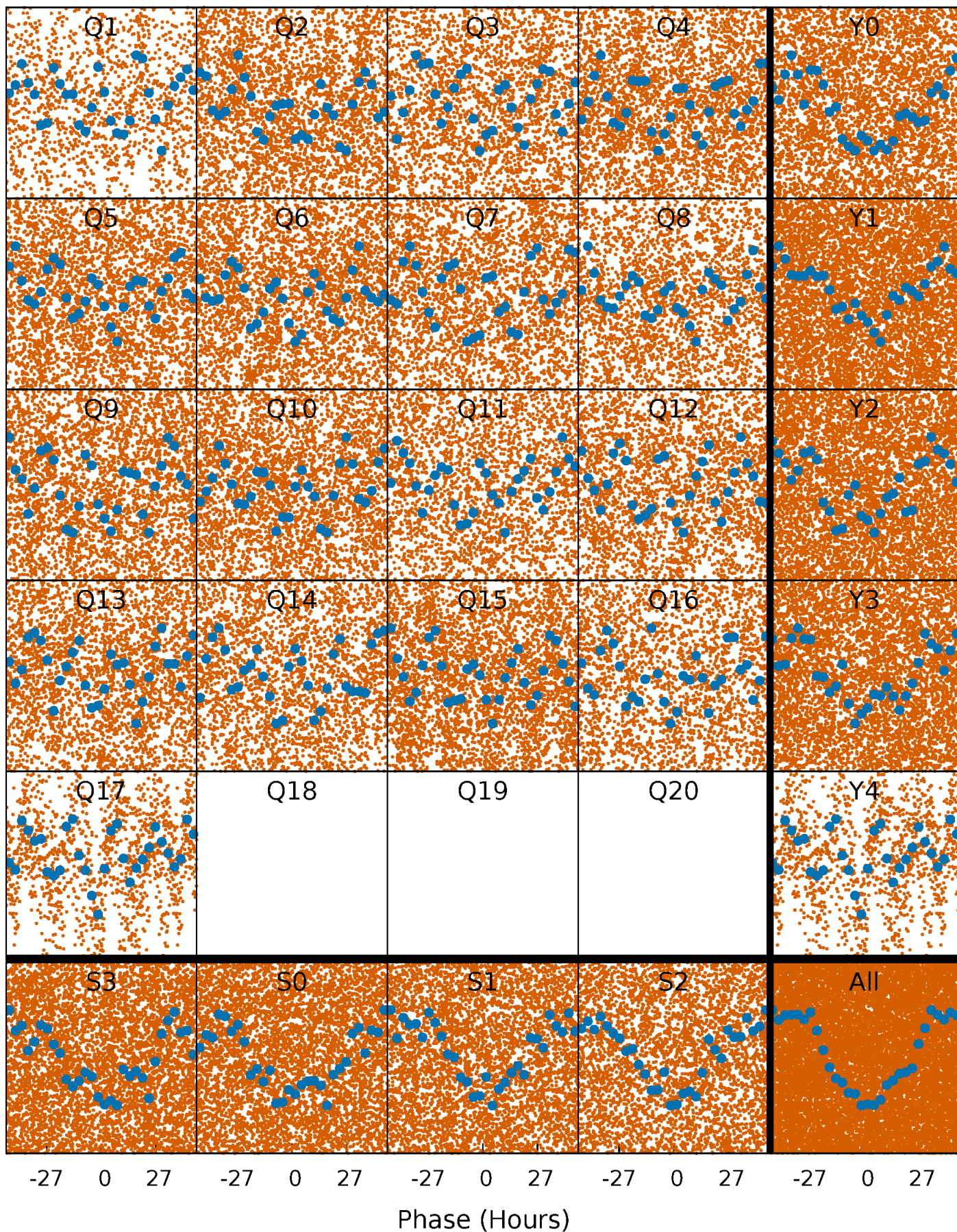
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

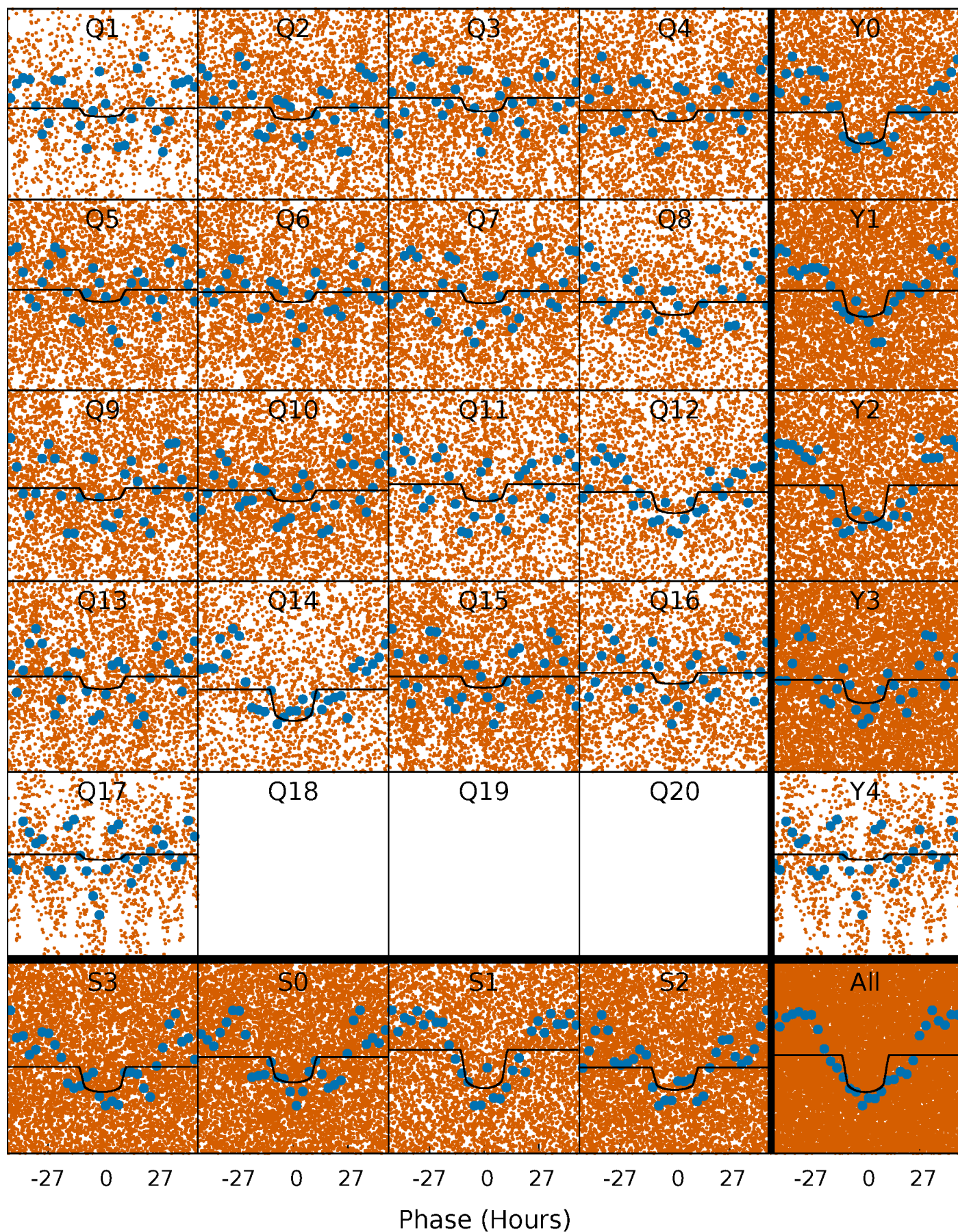
TCE 005390733-01 P= 3.368638 Days  $T_0=134.336732$  (BKJD)





# DV Quarter-Phased Transit Curves

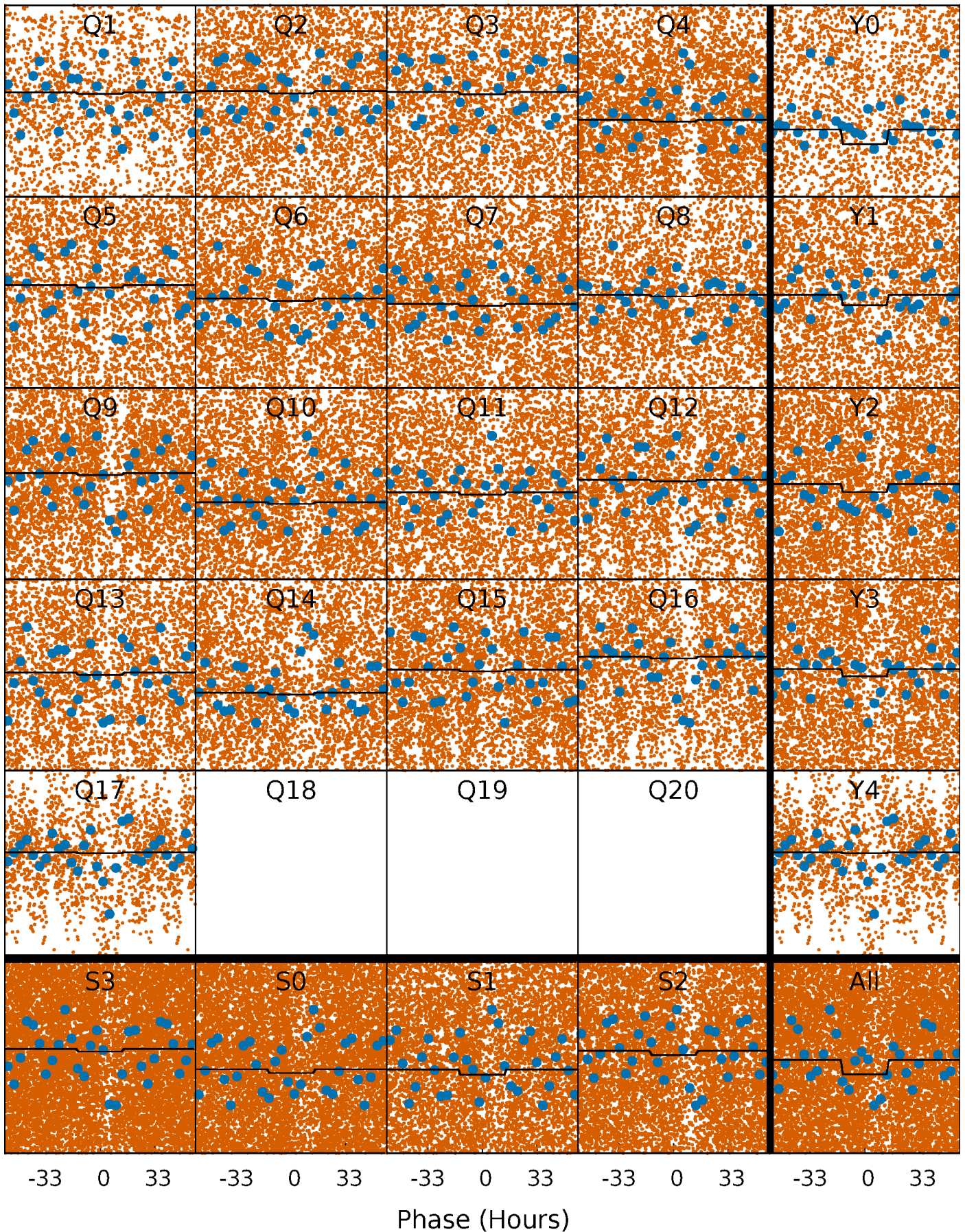
TCE 005390733-01 P= 3.368638 Days  $T_0=134.336732$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

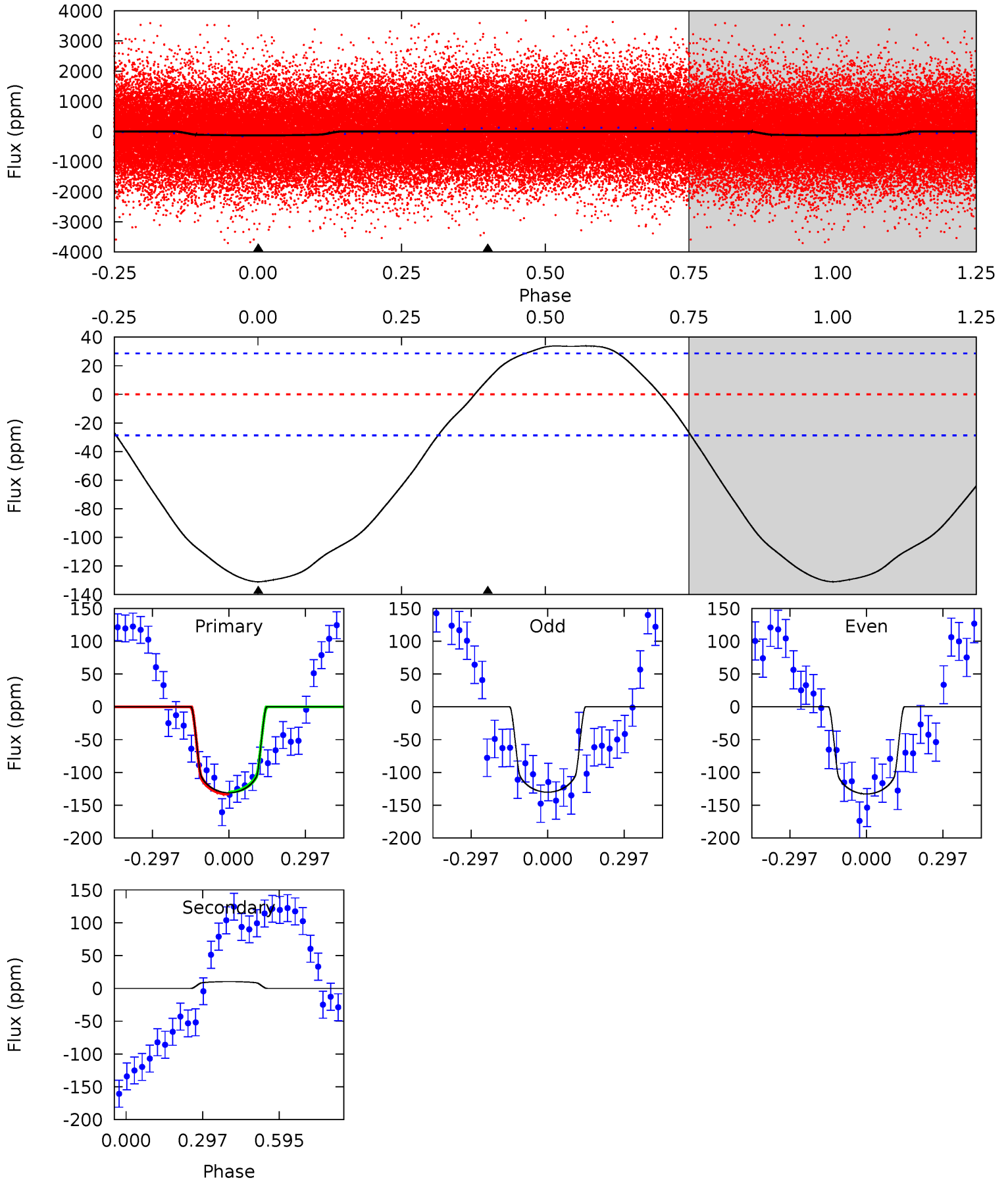
TCE 005390733-01 P= 3.368042 Days  $T_0=134.231757$  (BKJD)



# DV Model-Shift Uniqueness Test

005390733-01, P = 3.368638 Days, E = 130.968094 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
19.8	-1.56	0	0	4.33	1.04	2.09	19.8	19.8	-1.56	-1.56	0.20	0.97	0.21	0.23

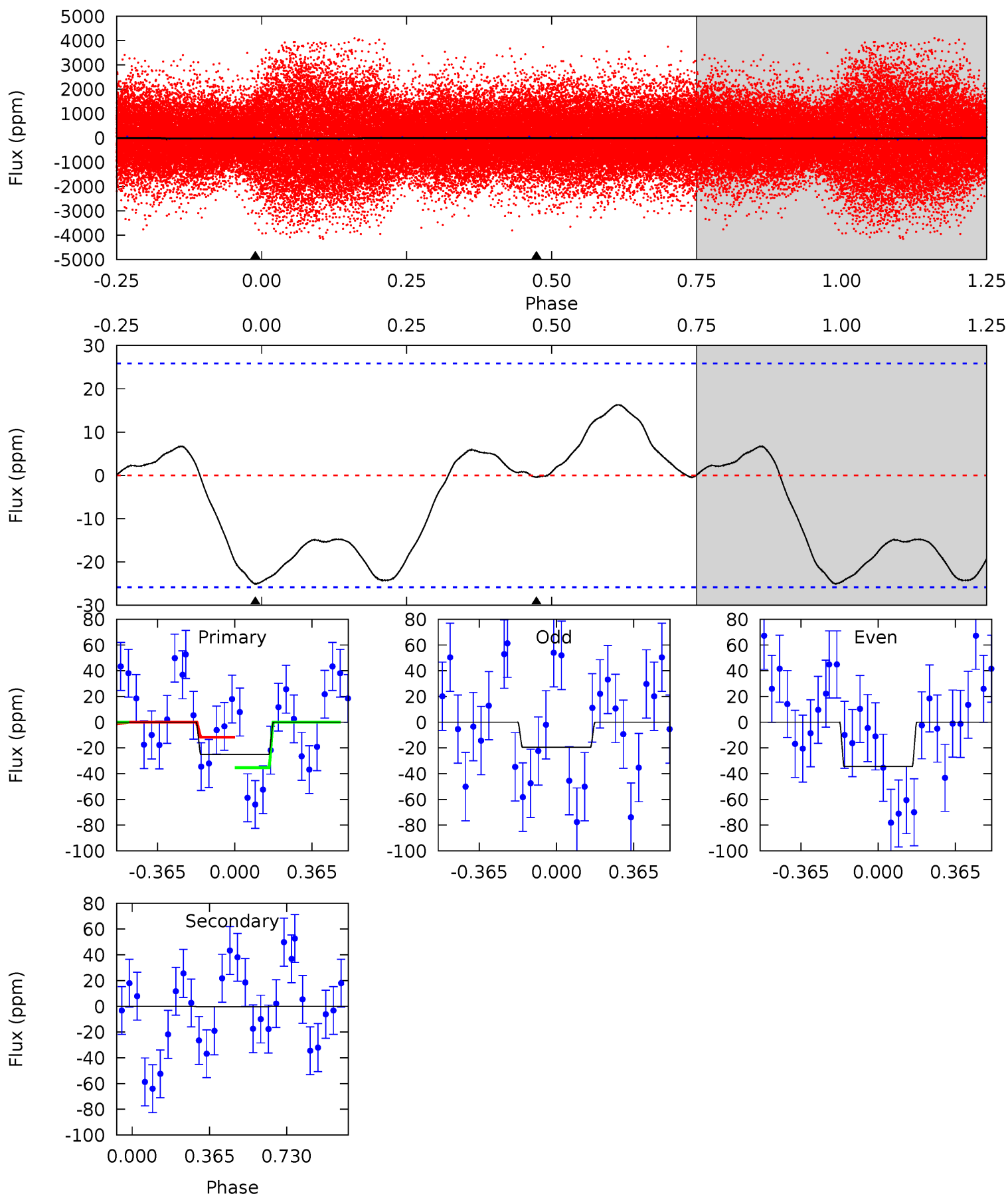




# Alt Model-Shift Uniqueness Test

005390733-01, P = 3.368042 Days, E = 130.863715 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
4.15	0.06	0	0	4.29	0.91	1.88	4.15	4.15	0.06	0.06	1.28	1.09	0.39	2.05



### Stellar Parameters For KIC 005390733

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6890^{+219}_{-302}$	$4.333^{+0.065}_{-0.182}$	$-0.140^{+0.250}_{-0.350}$	$1.273^{+0.406}_{-0.174}$	$1.288^{+0.187}_{-0.187}$	$0.879^{+0.251}_{-0.469}$
	+3%/-4%	+2%/-4%	+179%/-250%	+32%/-14%	+15%/-15%	+29%/-53%
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 005390733-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$10 \pm 7$	$1.67^{+0.26}_{-0.19}$	$2230^{+158}_{-127}$	$-4002^{+589}_{-367}$	$-4.444^{+2.786}_{-3.292}$
Alt.	$-0 \pm 6$	$0.58^{+0.14}_{-0.12}$	$2237^{+159}_{-145}$	$3306^{+2107}_{-8630}$	$1.585^{+20.935}_{-21.987}$

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

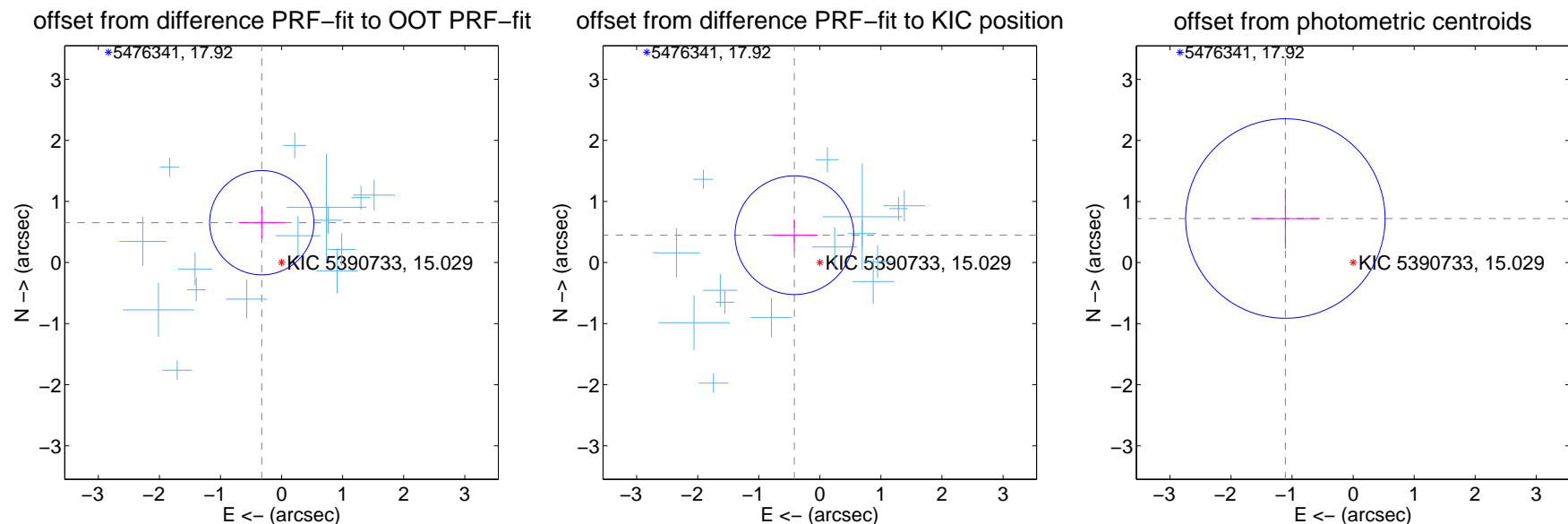
## DV Centroid Data

Supplemental centroid analysis for 005390733-01. Kepler magnitude: 15.03. Transit SNR 10.27

There are 15 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

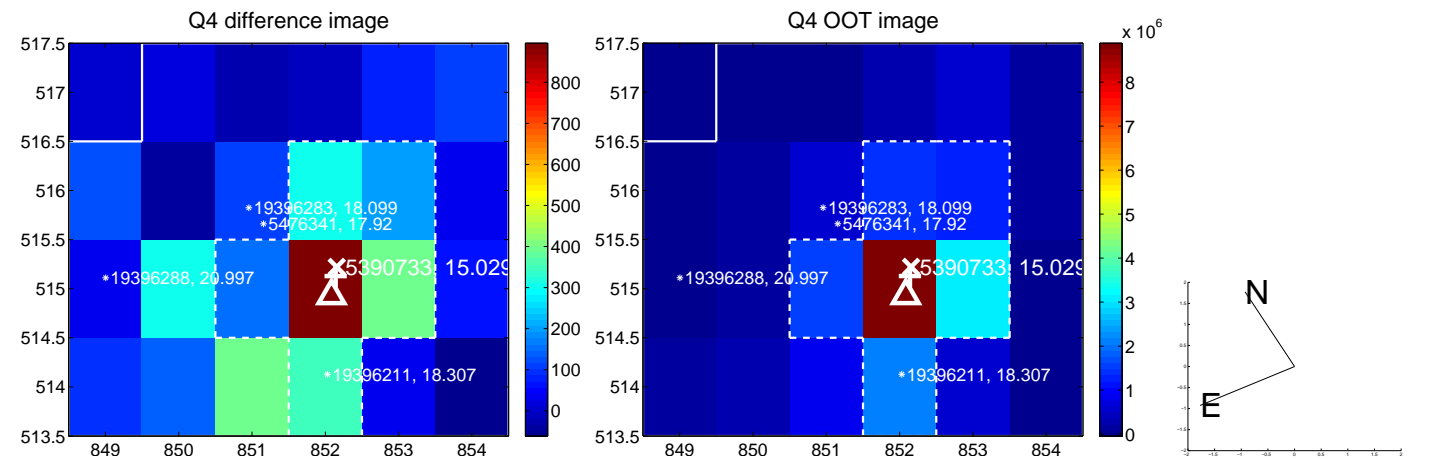
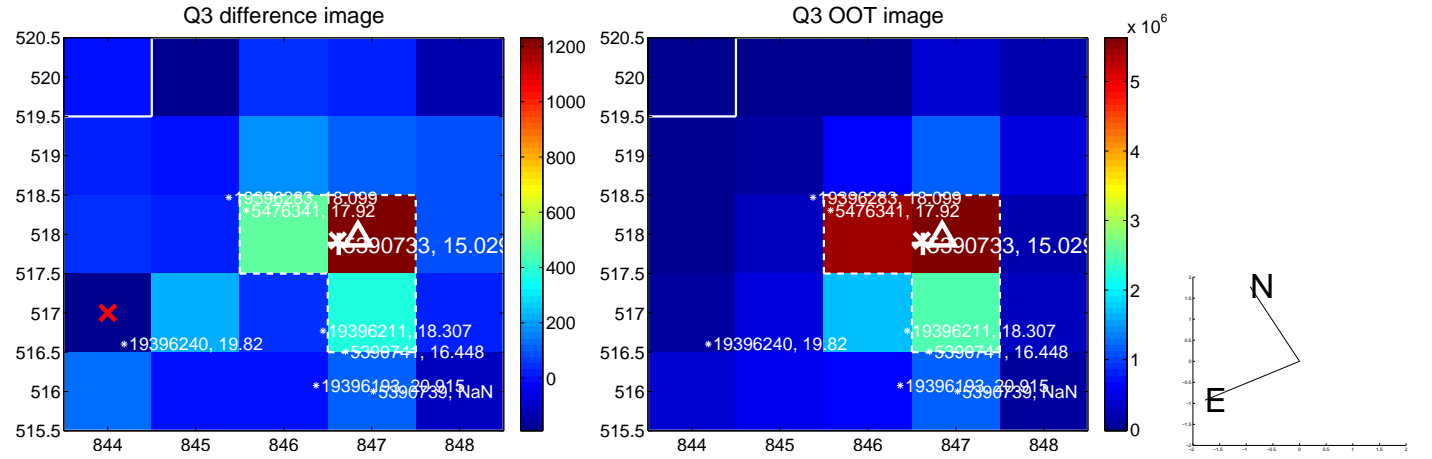
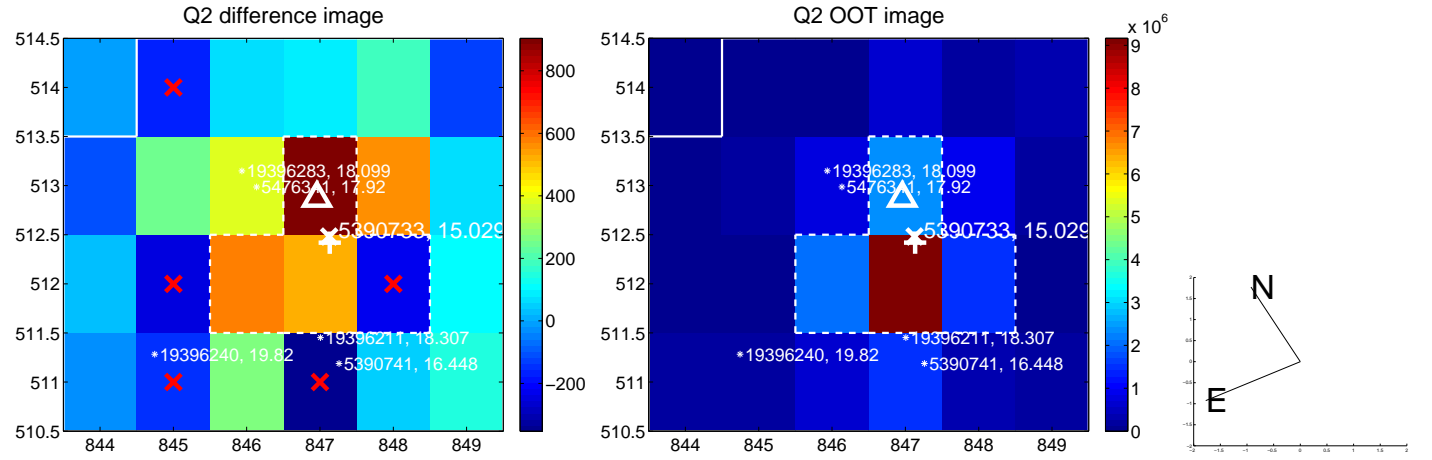
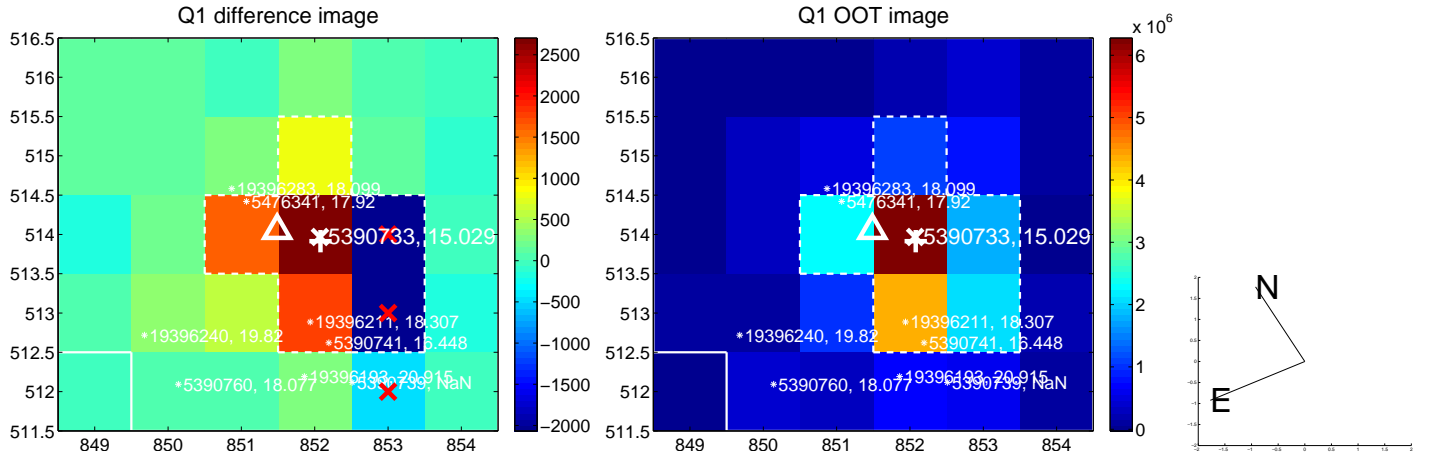
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.728 \pm 0.284$	2.56	$0.325 \pm 0.376$	$0.652 \pm 0.257$
PRF-fit source offset from KIC position	$0.612 \pm 0.324$	1.89	$0.417 \pm 0.384$	$0.448 \pm 0.261$
photometric centroid source offset	$1.32 \pm 0.54$	2.43	$1.11 \pm 0.56$	$0.72 \pm 0.50$



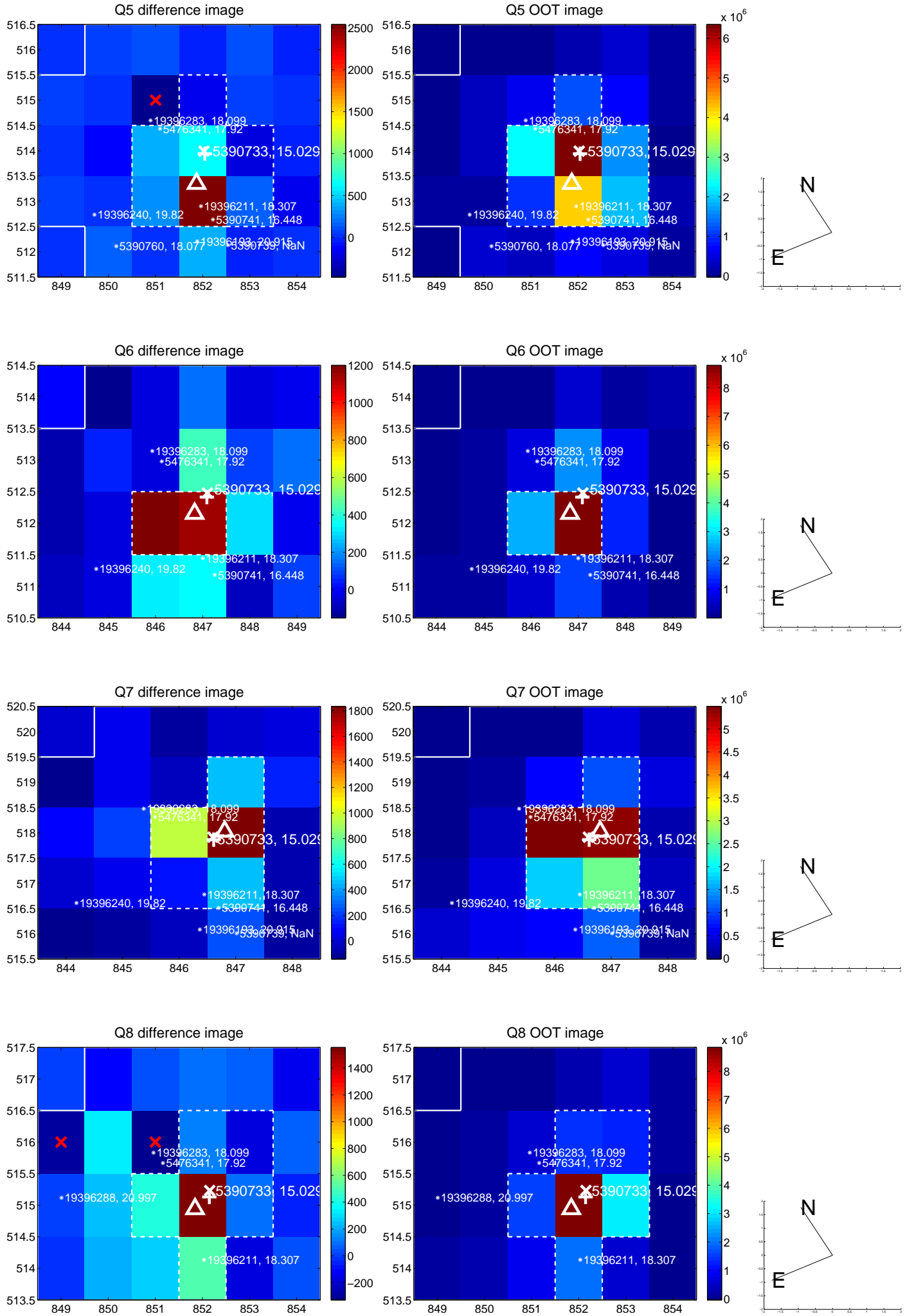
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



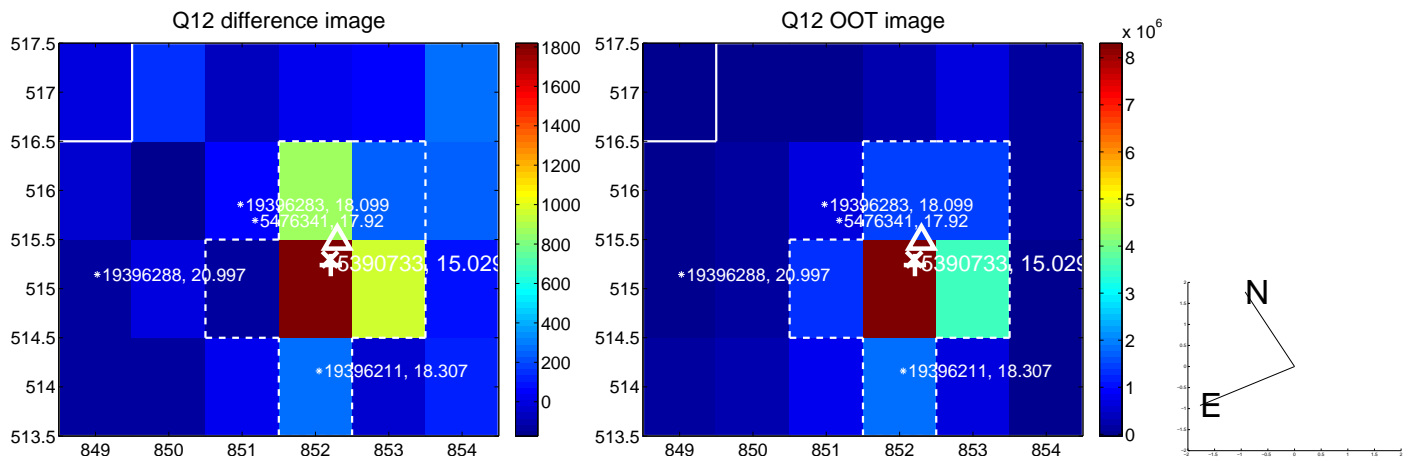
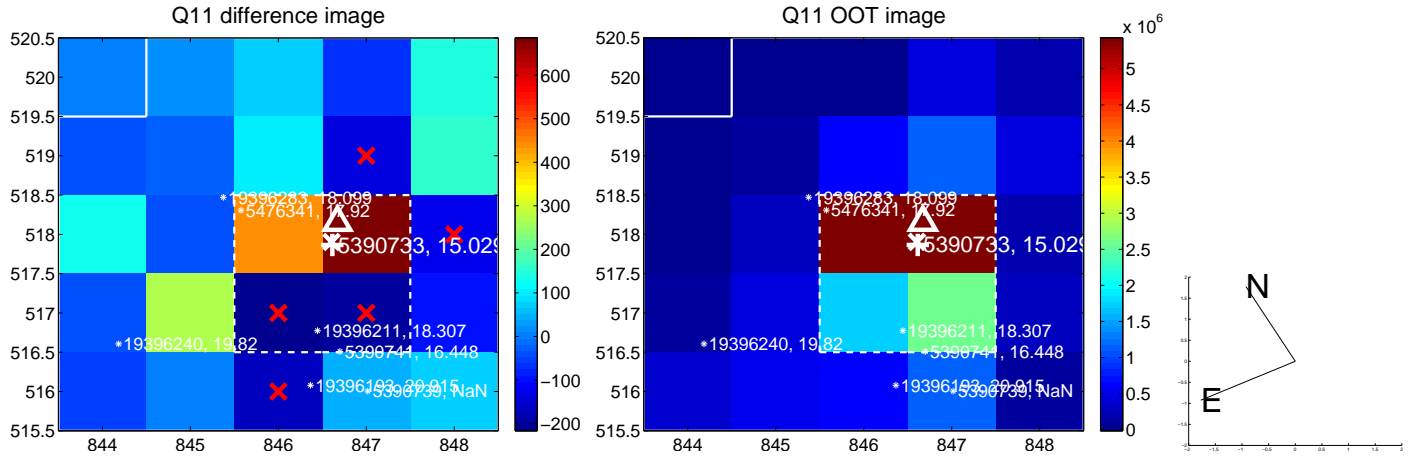
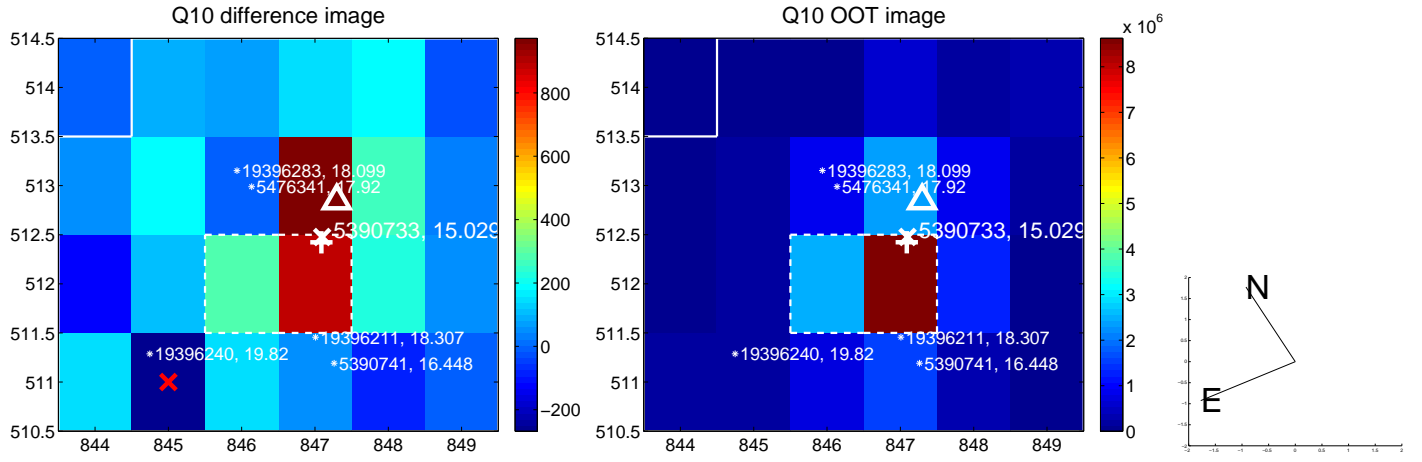
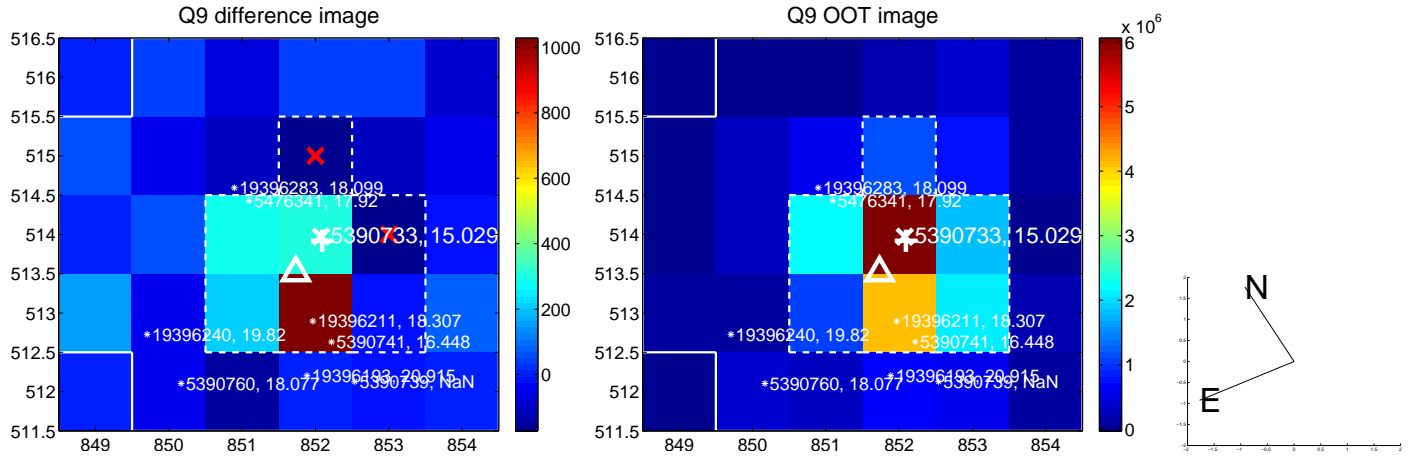
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

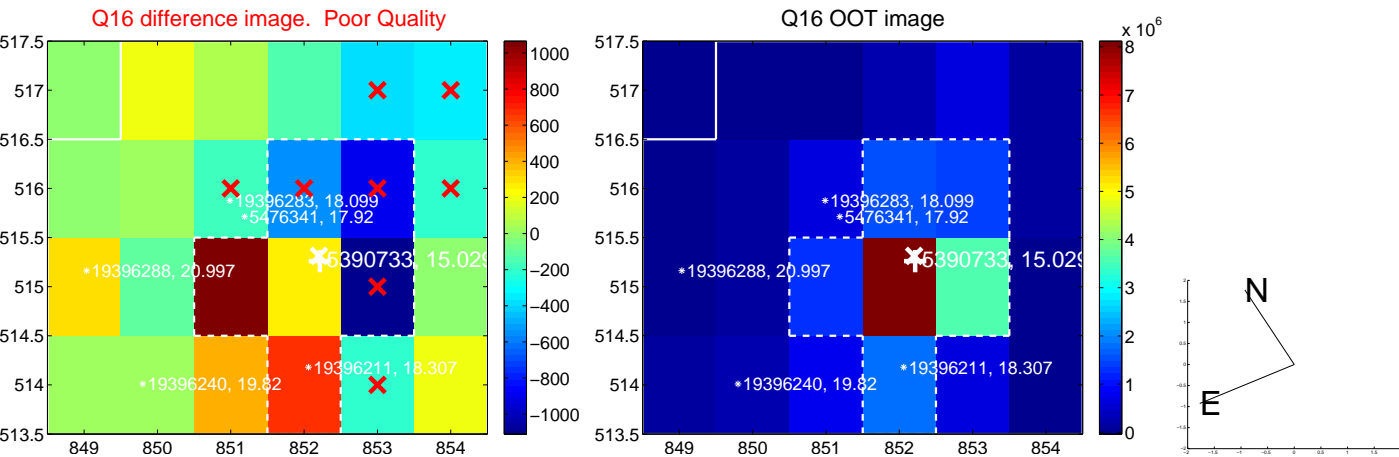
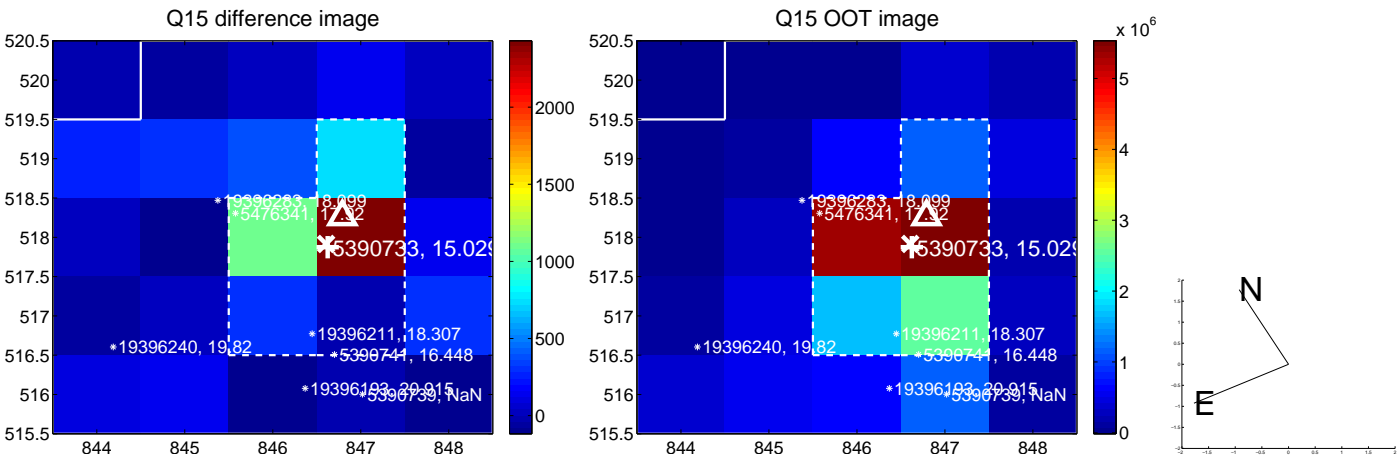
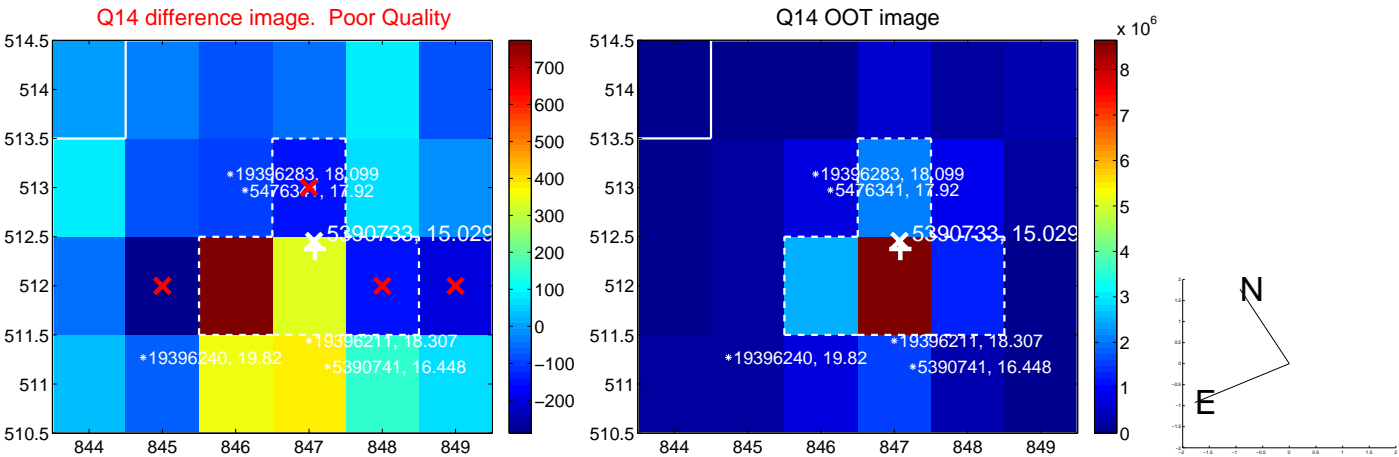
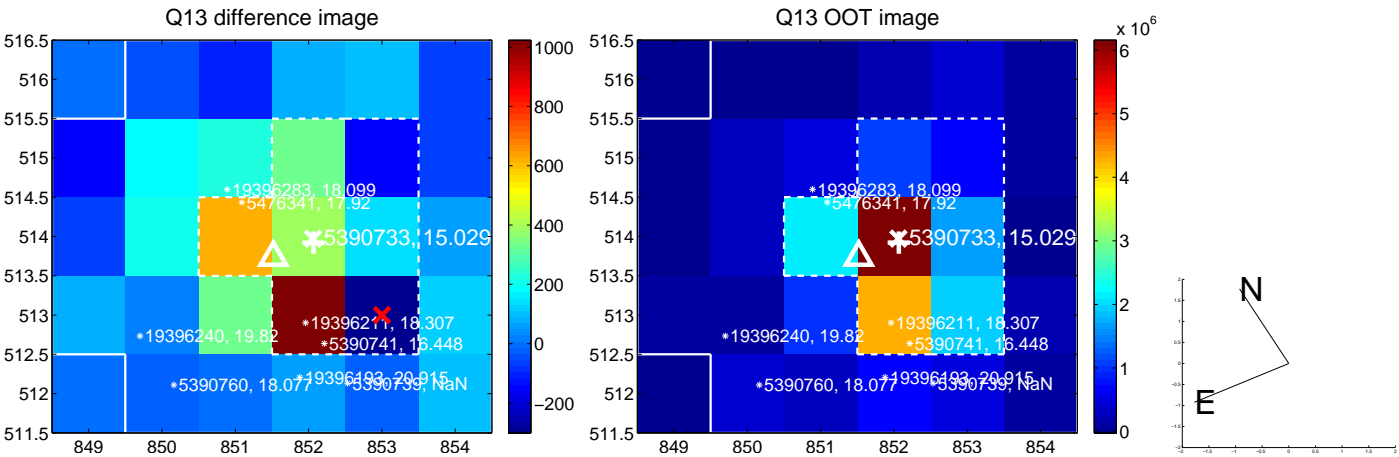


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

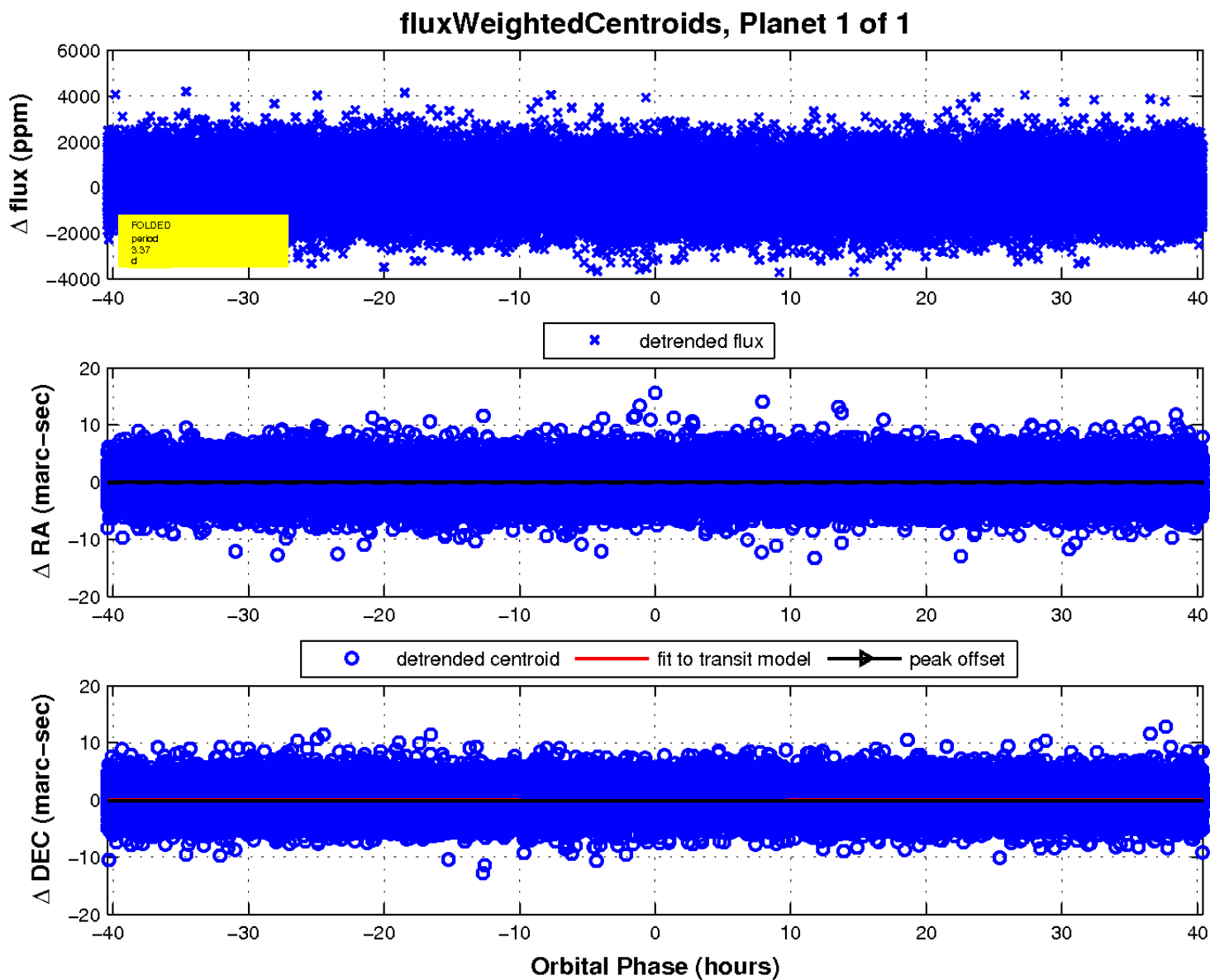
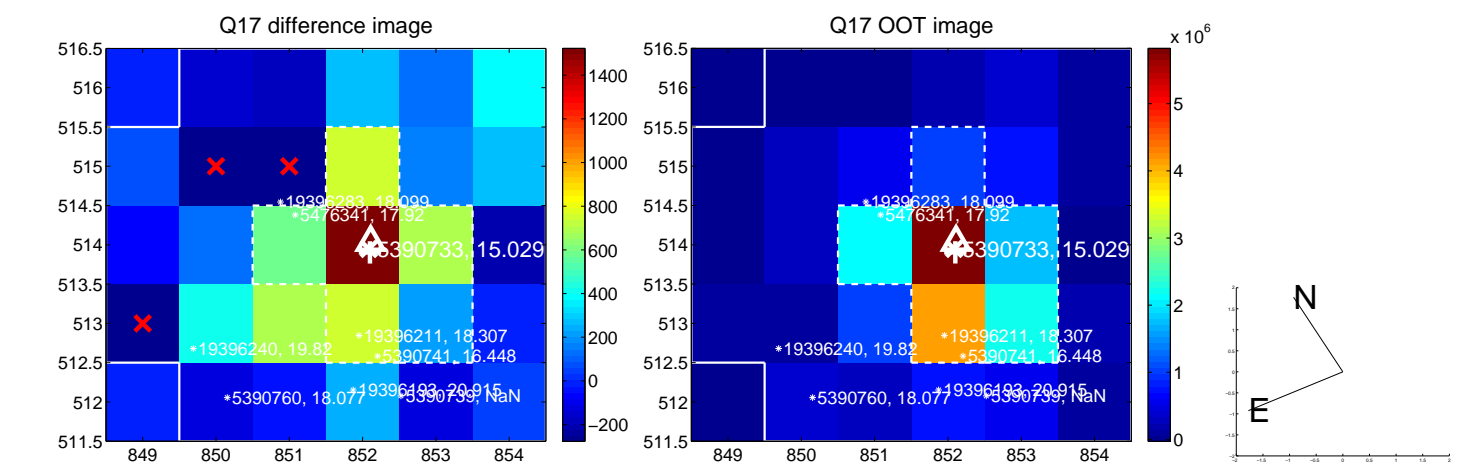




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

