

# KIC 006390080

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006390080-01	OBS	No	5.080714	132.288233	29.2	26.882	10.3	10.7	1.17	5933	0.64	466.45

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006390080-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

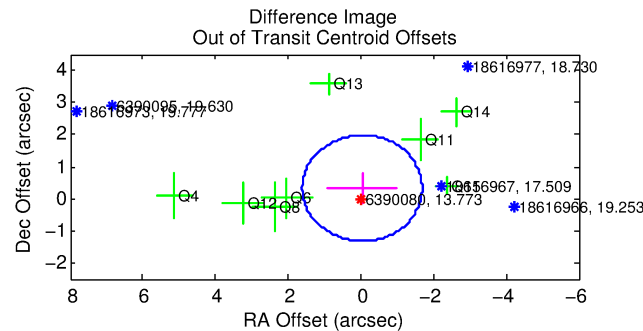
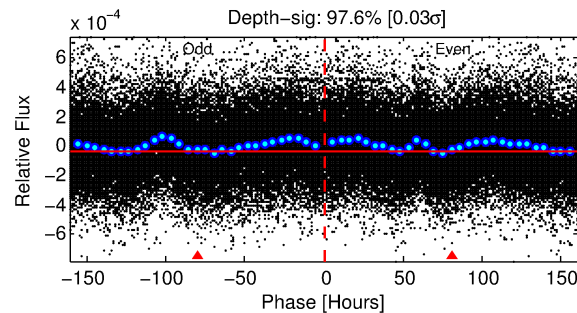
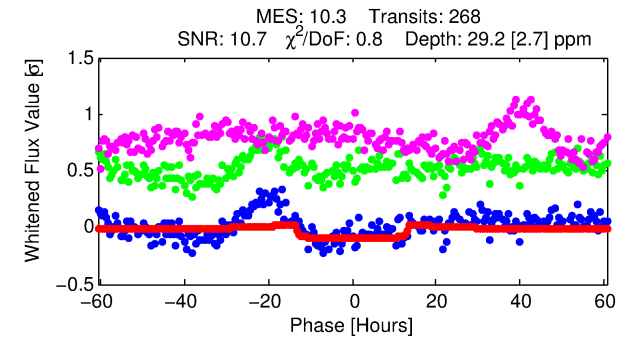
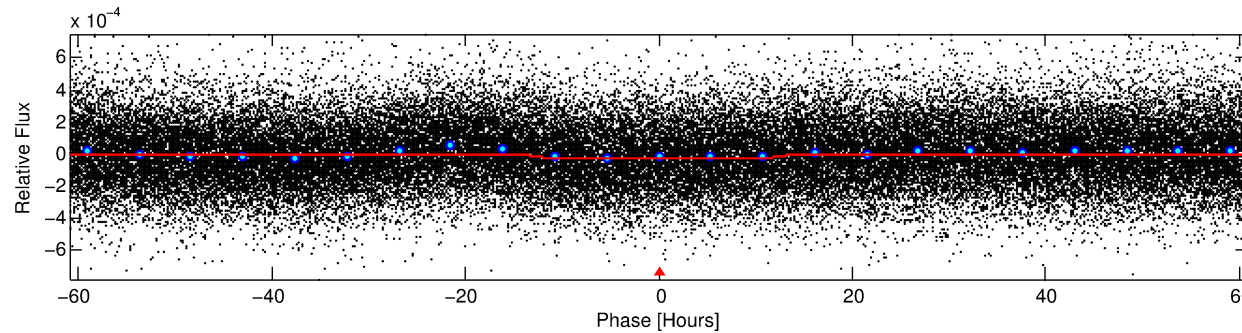
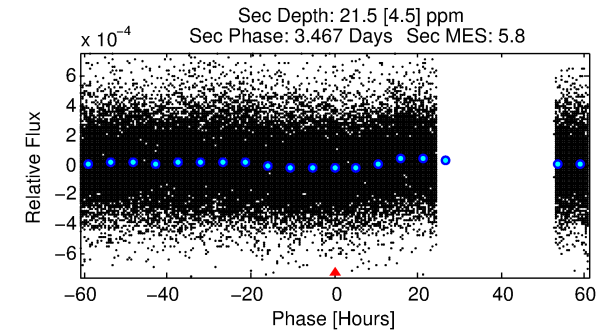
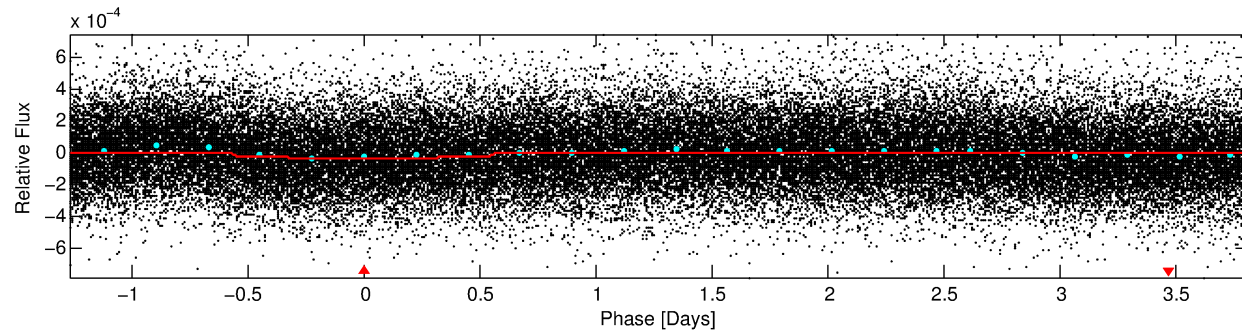
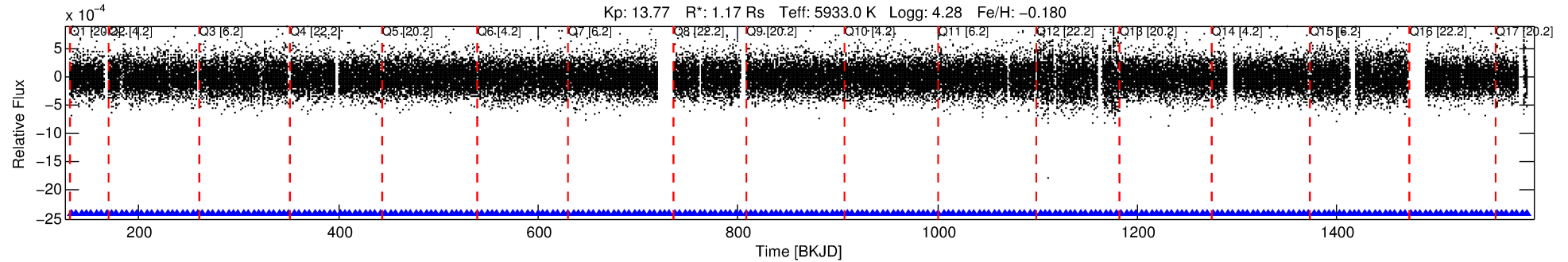
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006390080-01

No Significant Match Found

# DV One-Page Summary

KIC: 6390080 Candidate: 1 of 1 Period: 5.081 d



## DV Fit Results:

Period = 5.08071 [0.00012] d  
Epoch = 132.2882 [0.0168] BKJD  
Rp/R\* = 0.0050 [0.0032]  
a/R\* = 1.50 [2.48]  
b = 0.41 [6.17]  
Seff = 466.45 [169.87]  
Teq = 1185 [108] K  
Rp = 0.64 [0.44] Re  
a = 0.0569 [0.0133] AU  
Ag = 93.75 [124.34] [0.75σ]  
Teffp = 5701 [1834] K [2.46σ]

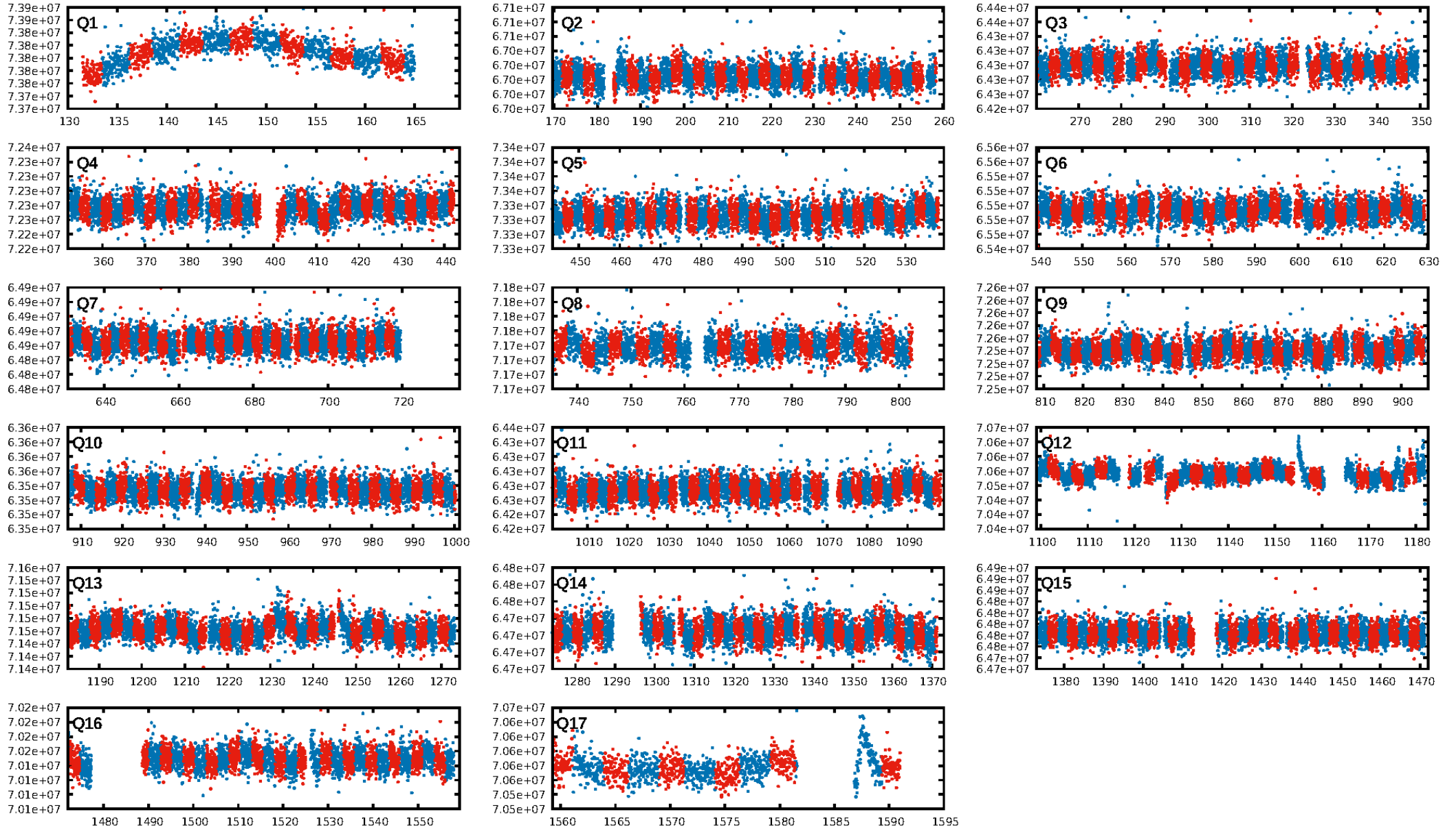
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.55e-28  
RollingBand-fgt: 1.00 [255/255]  
GhostDiagnostic-chr: 2.296  
Centroid-sig: 0.0%  
Centroid-so: 3.123 arcsec [2.82σ]  
OotOffset-rm: 0.331 arcsec [0.60σ]  
KicOffset-rm: 0.256 arcsec [0.42σ]  
OotOffset-st: 2/2/3/1 [8]  
KicOffset-st: 2/2/3/1 [8]  
DiffImageQuality-fgm: 0.12 [1/8]  
DiffImageOverlap-fno: 1.00 [17/17]

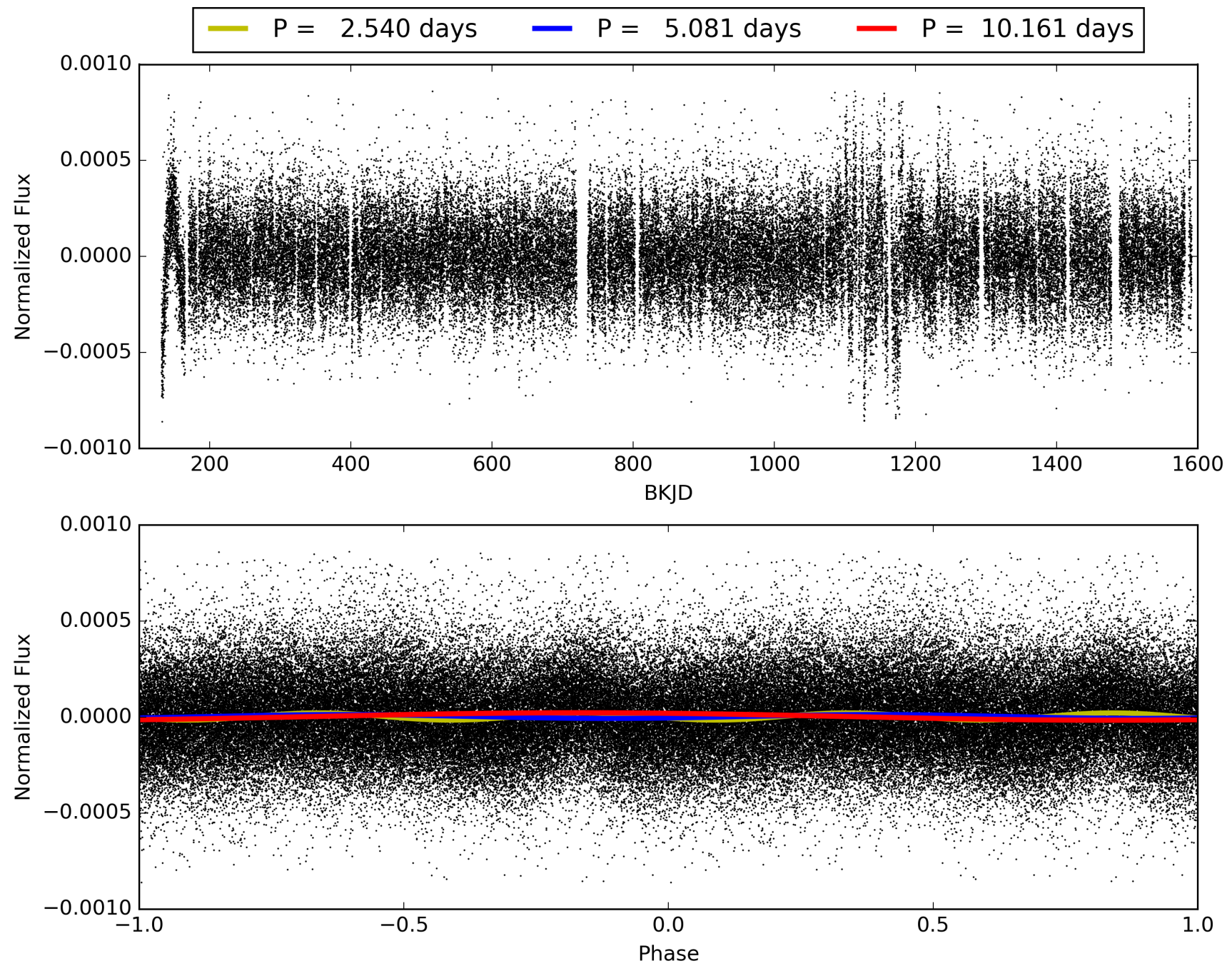
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:51:29 Z

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

# TCE 006390080-01, PDC Light Curves



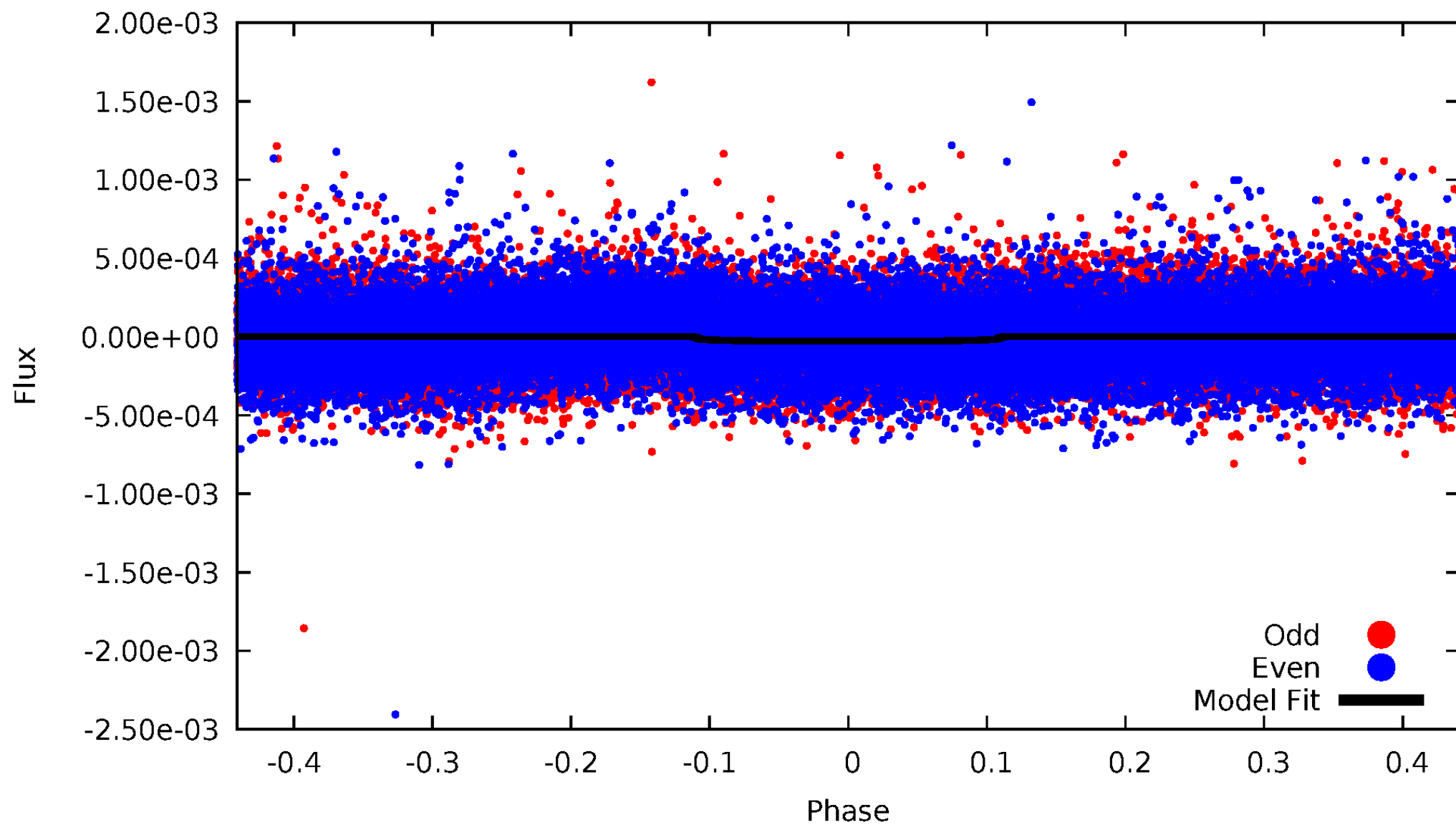
TCE 006390080-01





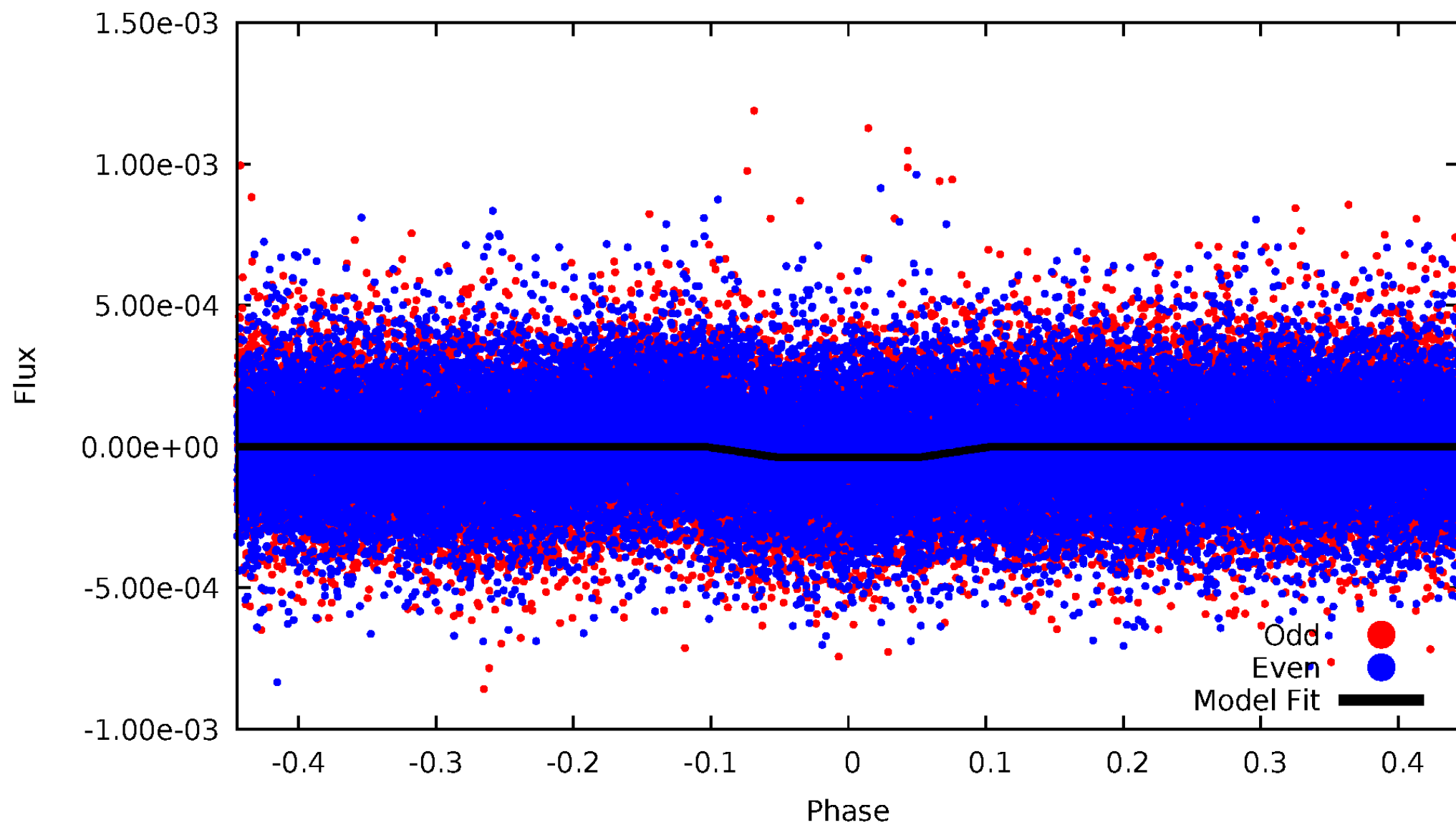
# DV Odd/Even

TCE 006390080-01



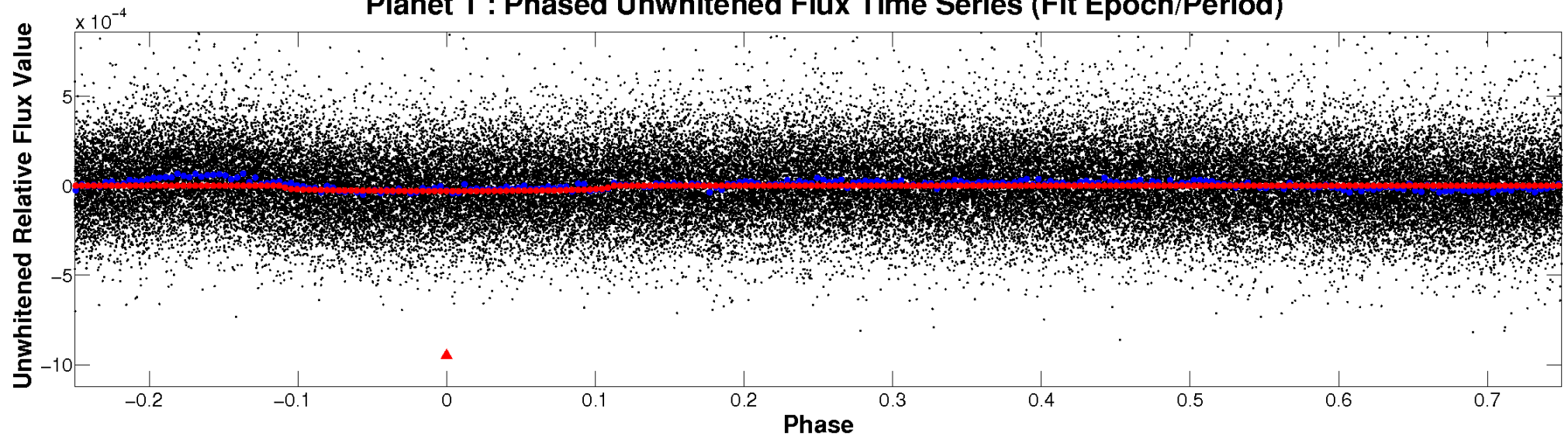
# ALT Odd/Even

TCE 006390080-01

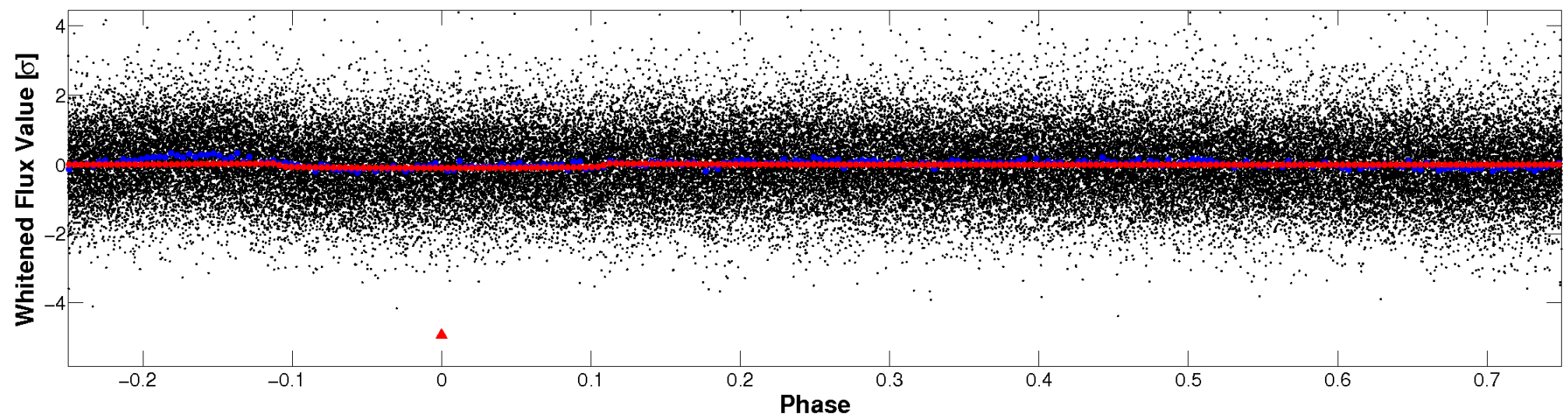


# Non-Whitened Vs. Whitened Light Curve

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

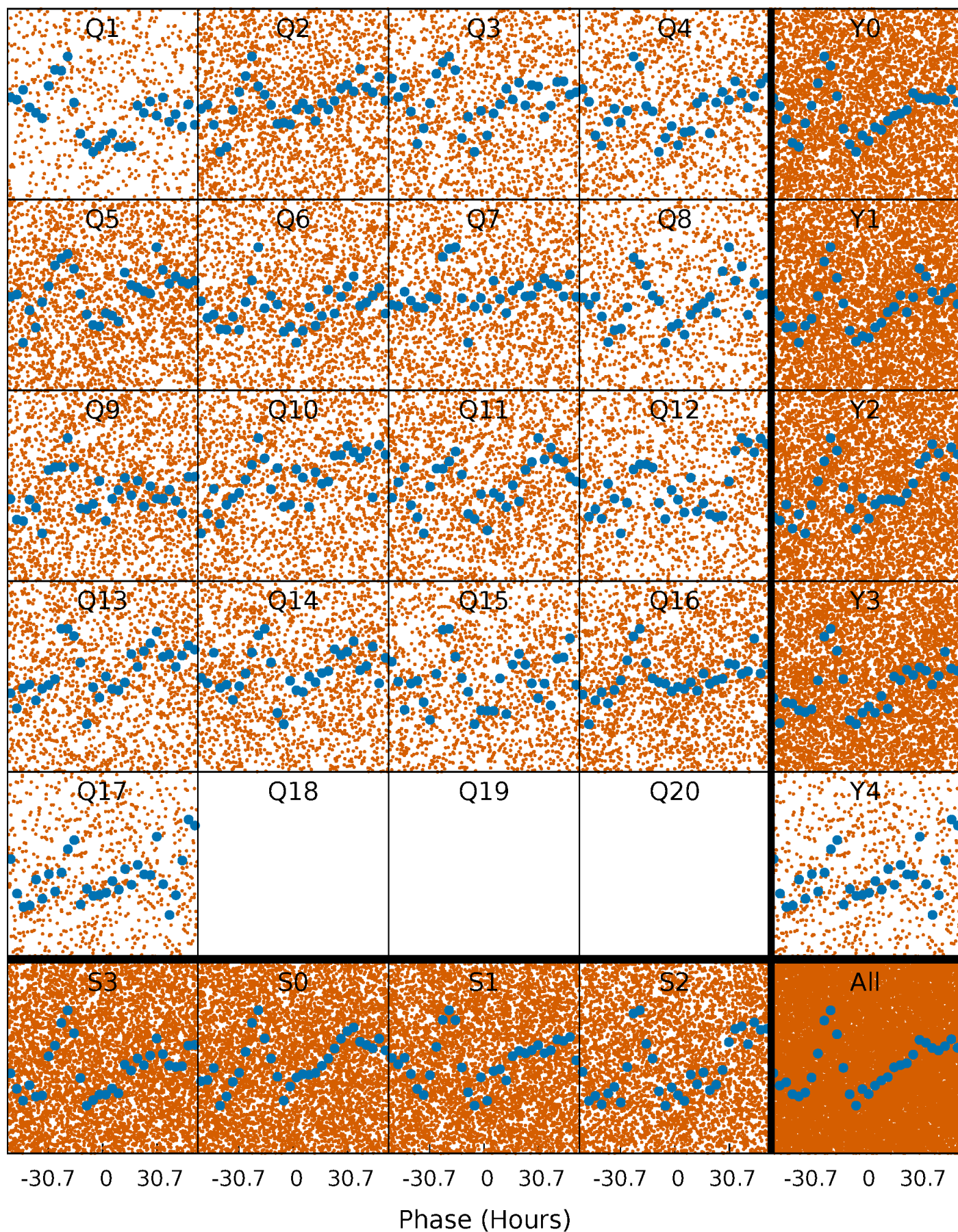


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

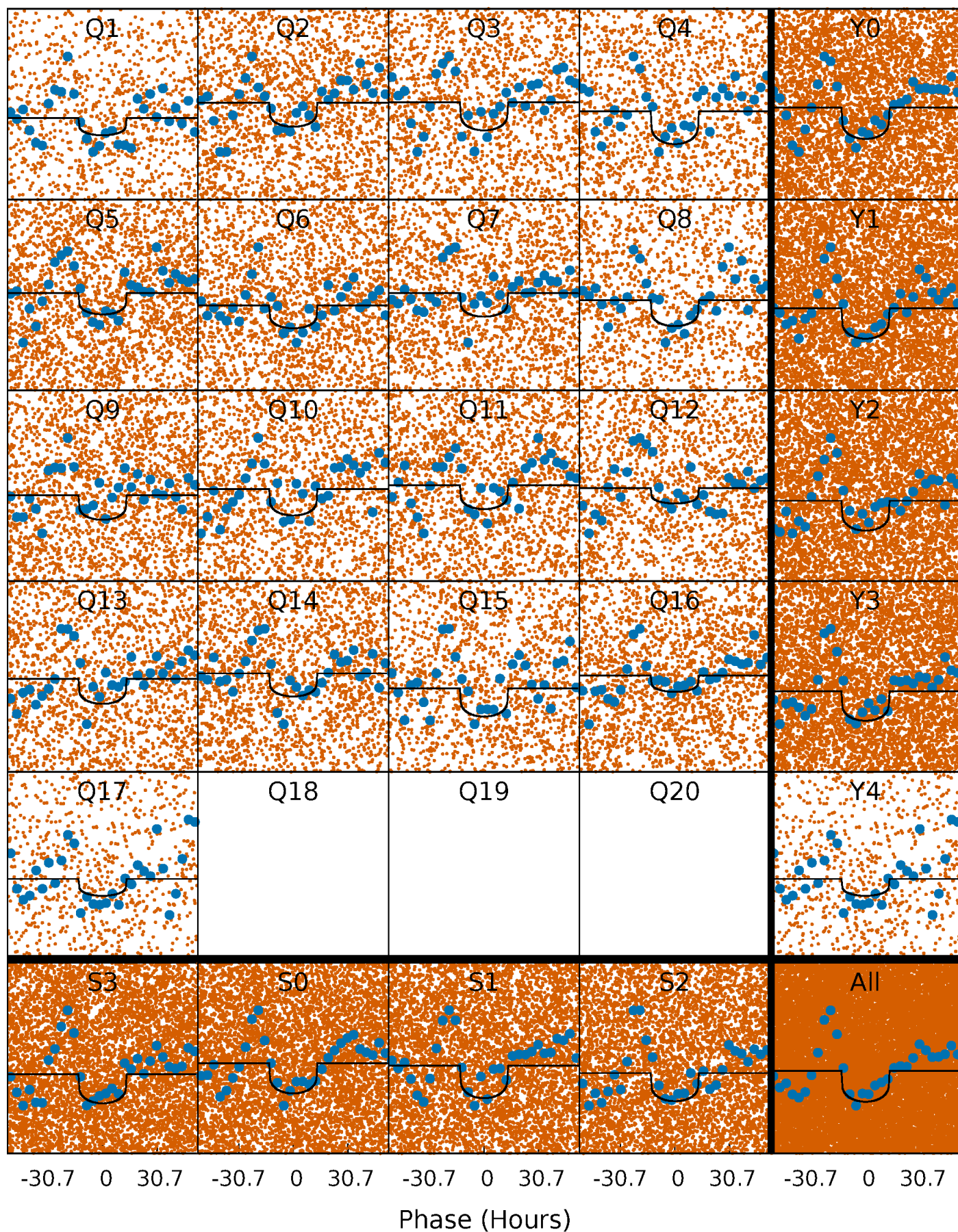
TCE 006390080-01 P= 5.080714 Days  $T_0=132.288233$  (BKJD)





# DV Quarter-Phased Transit Curves

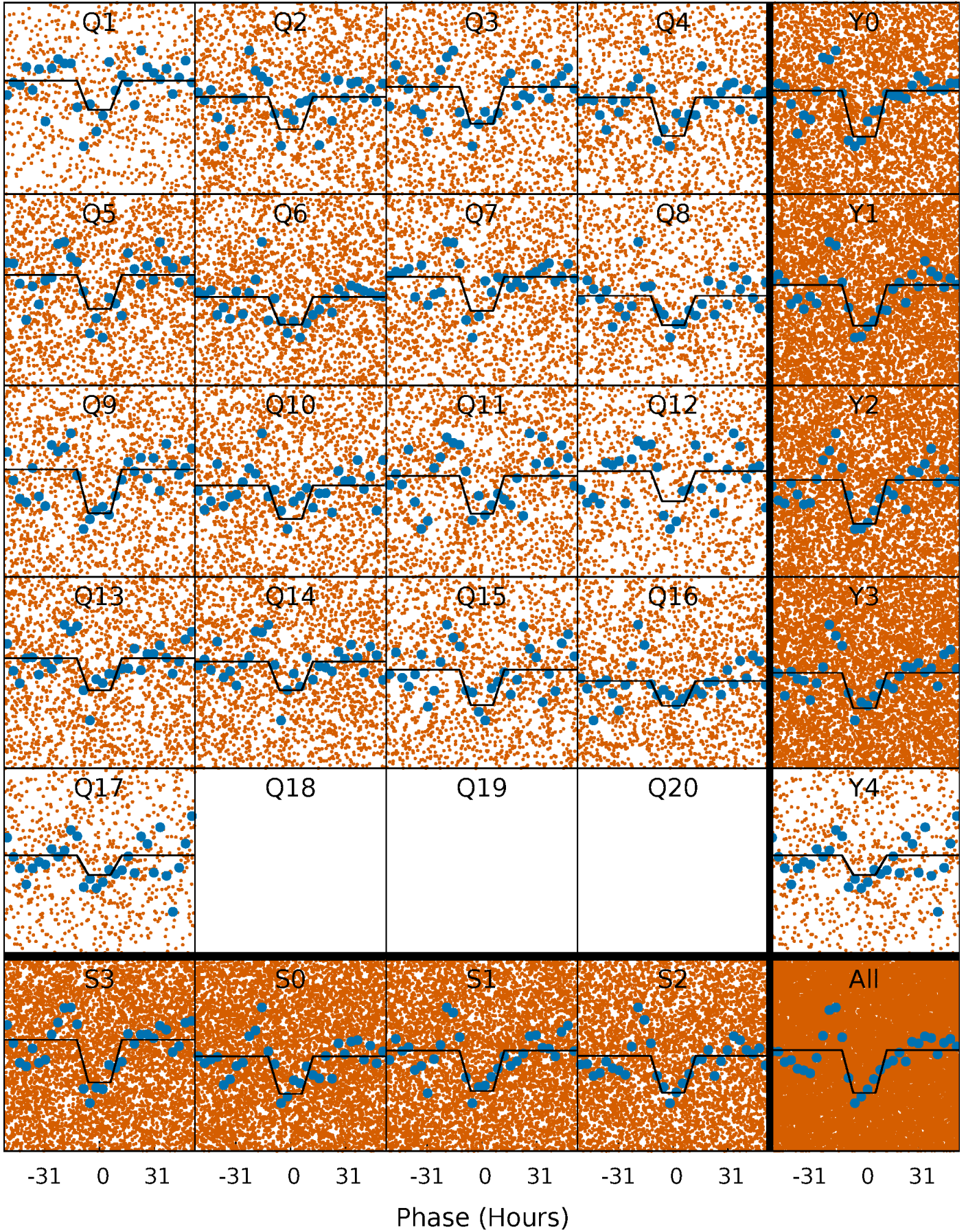
TCE 006390080-01 P= 5.080714 Days  $T_0=132.288233$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

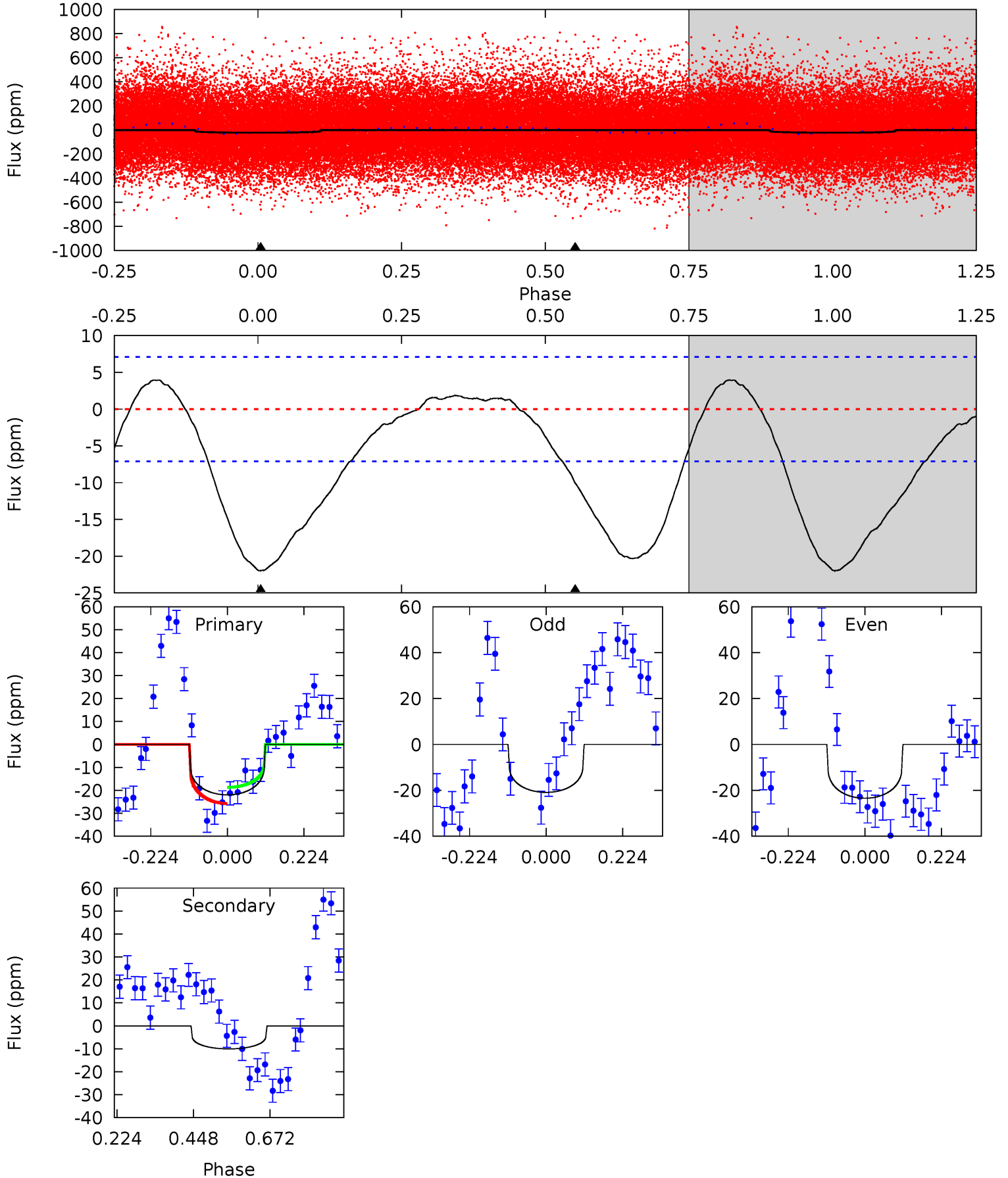
TCE 006390080-01 P= 5.080639 Days  $T_0=132.187063$  (BKJD)



# DV Model-Shift Uniqueness Test

006390080-01, P = 5.080714 Days, E = 127.207519 Days

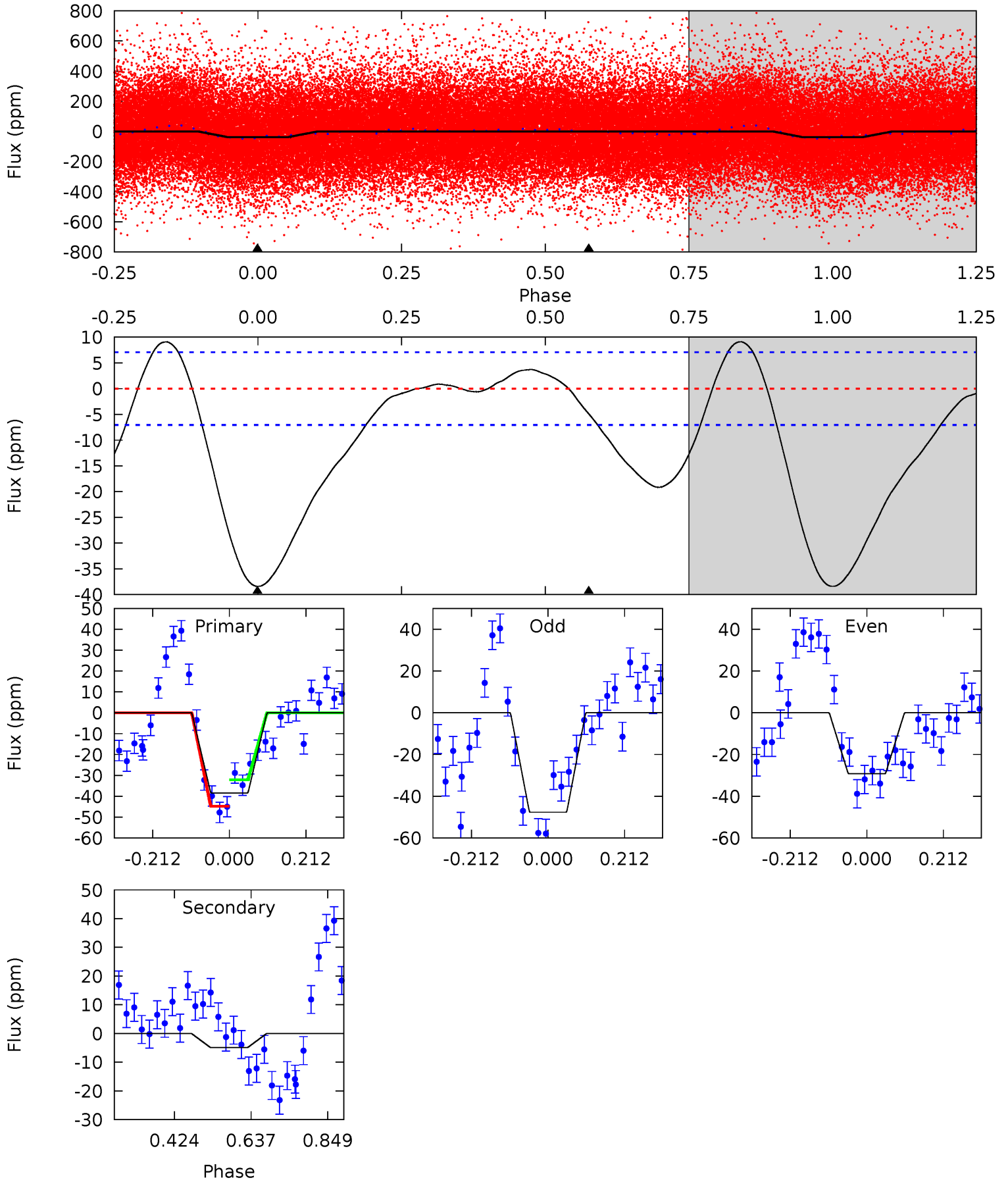
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	6.22	0	0	4.39	1.22	0.70	13.6	13.6	6.22	6.22	0.79	0.97	0.15	2.19



# Alt Model-Shift Uniqueness Test

006390080-01, P = 5.080639 Days, E = 127.106424 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
23.9	3.05	0	0	4.40	1.25	0.69	23.9	23.9	3.05	3.05	5.77	0.85	0.19	3.96





### Stellar Parameters For KIC 006390080

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5933^{+161}_{-179}$	$4.283^{+0.190}_{-0.171}$	$-0.180^{+0.300}_{-0.300}$	$1.167^{+0.318}_{-0.260}$	$0.955^{+0.146}_{-0.097}$	$0.845^{+0.793}_{-0.407}$
	+3%/-3%	+4%/-4%	+167%/-167%	+27%/-22%	+15%/-10%	+94%/-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 006390080-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-10 \pm 2$	$0.71^{+0.40}_{-0.39}$	$1655^{+120}_{-110}$	$4658^{+1993}_{-741}$	$36^{+144}_{-22}$
Alt.	$-5 \pm 2$	$0.81^{+0.45}_{-0.41}$	$1658^{+127}_{-120}$	$3819^{+1109}_{-501}$	$13^{+35}_{-8}$

$T_{\text{max}}$  = 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

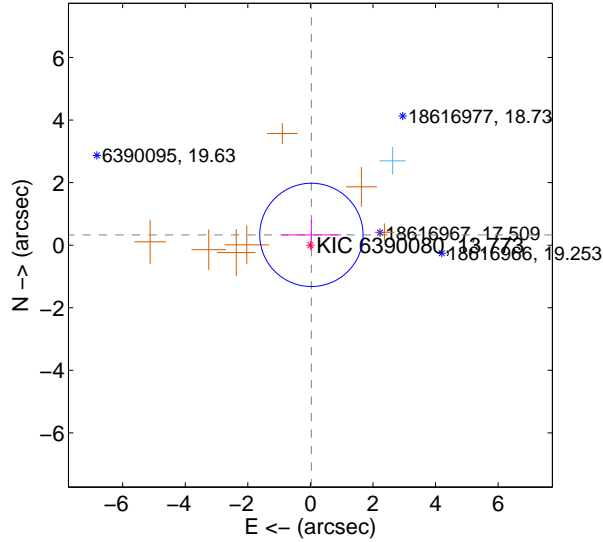
Supplemental centroid analysis for 006390080-01. Kepler magnitude: 13.77. Transit SNR 10.70

There are 1 quarters with good PRF difference image offsets

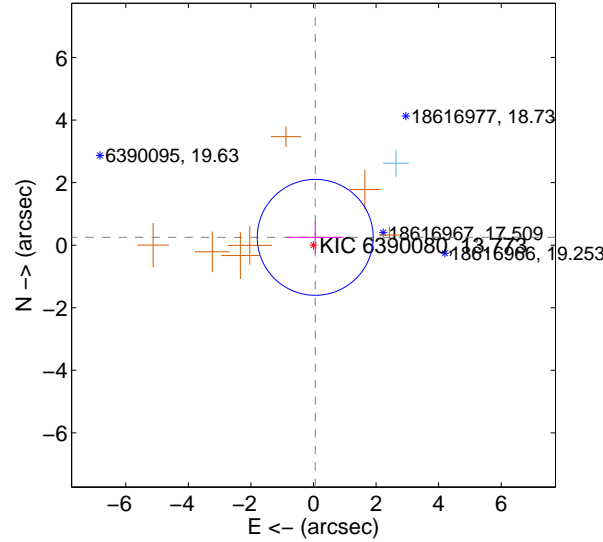
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.331 \pm 0.550$	0.60	$-0.033 \pm 0.951$	$0.329 \pm 0.491$
PRF-fit source offset from KIC position	$0.256 \pm 0.618$	0.42	$-0.055 \pm 0.912$	$0.250 \pm 0.510$
photometric centroid source offset	$3.12 \pm 1.11$	2.82	$-2.56 \pm 1.14$	$1.79 \pm 1.03$

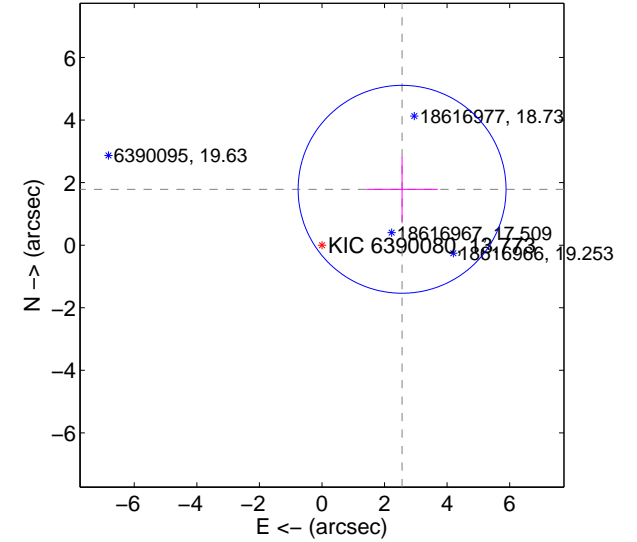
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

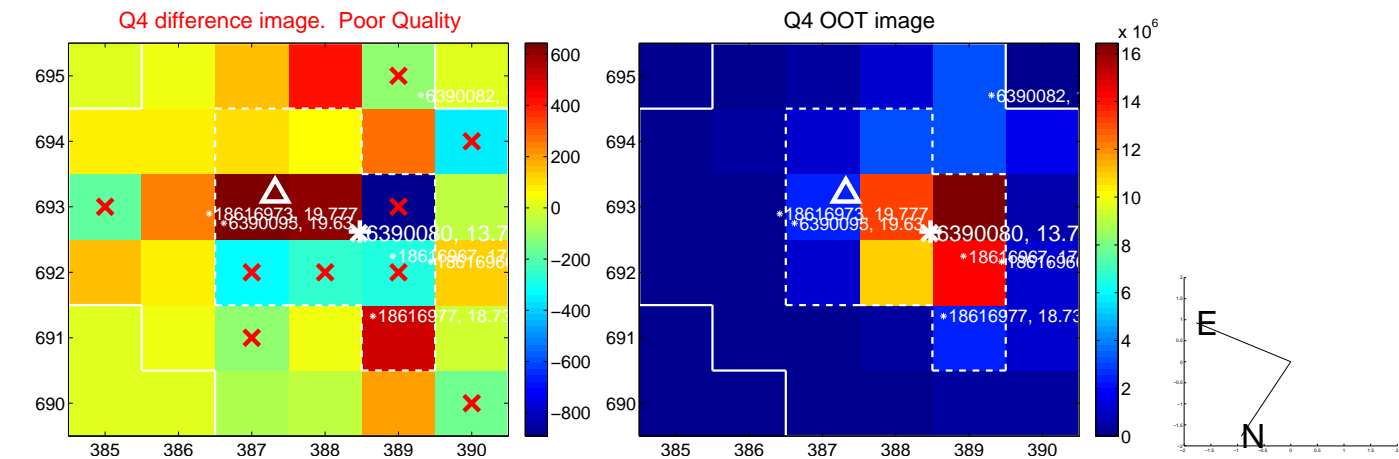
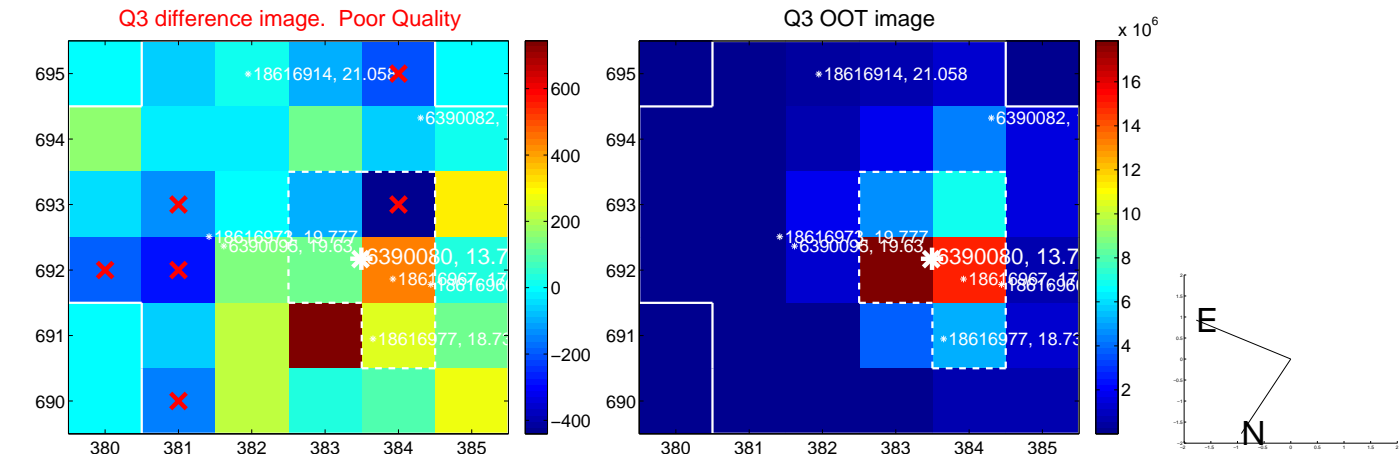
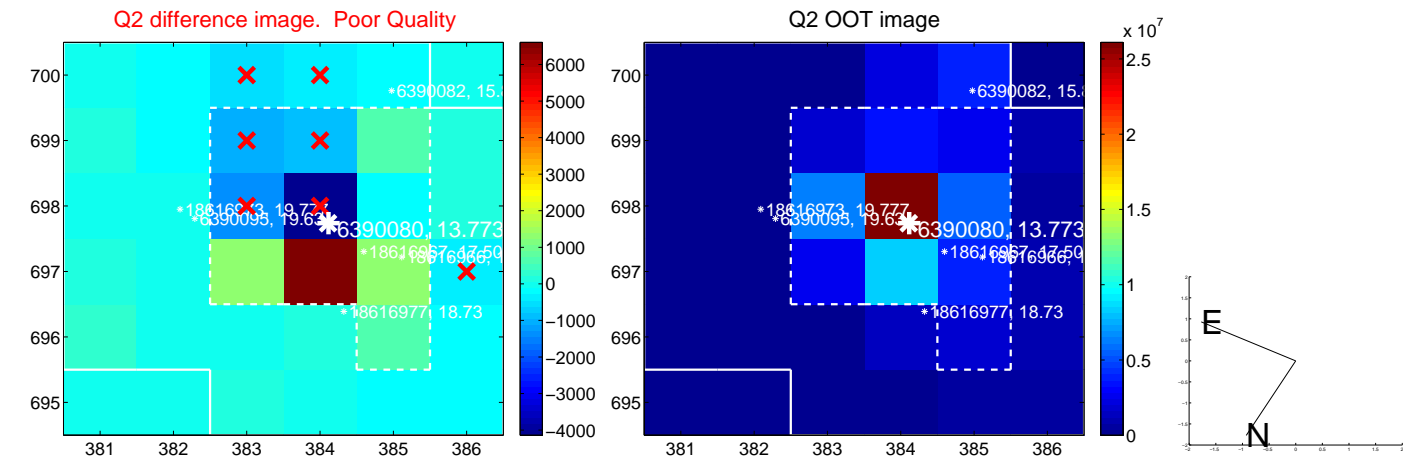
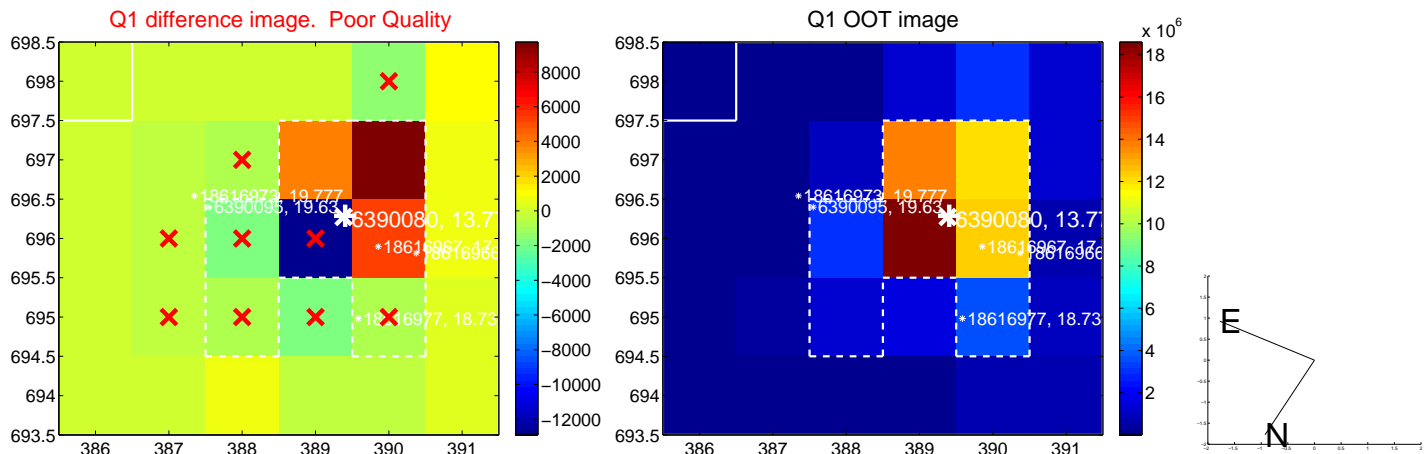


offset from photometric centroids

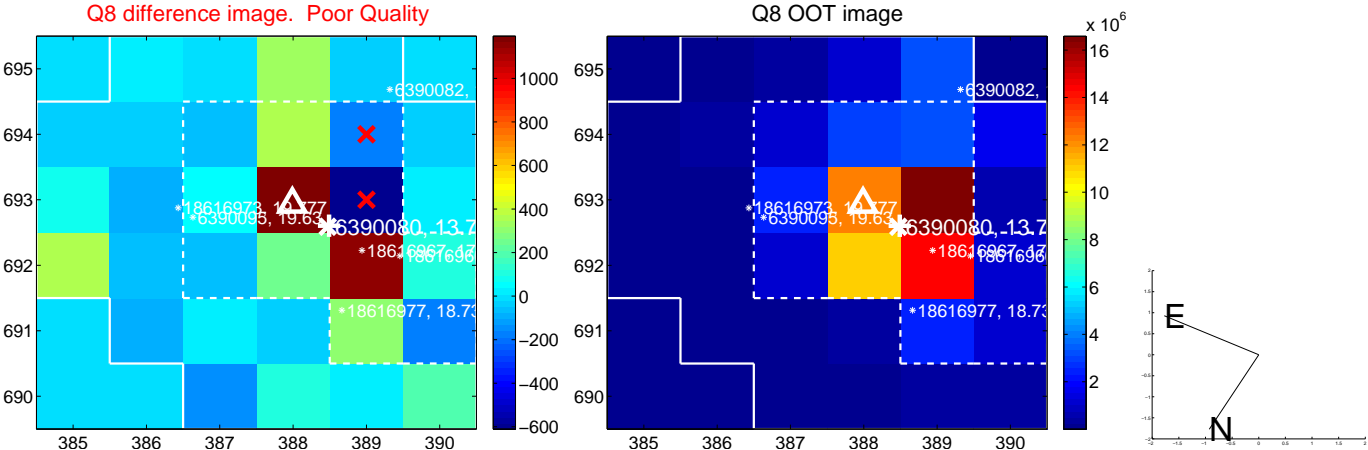
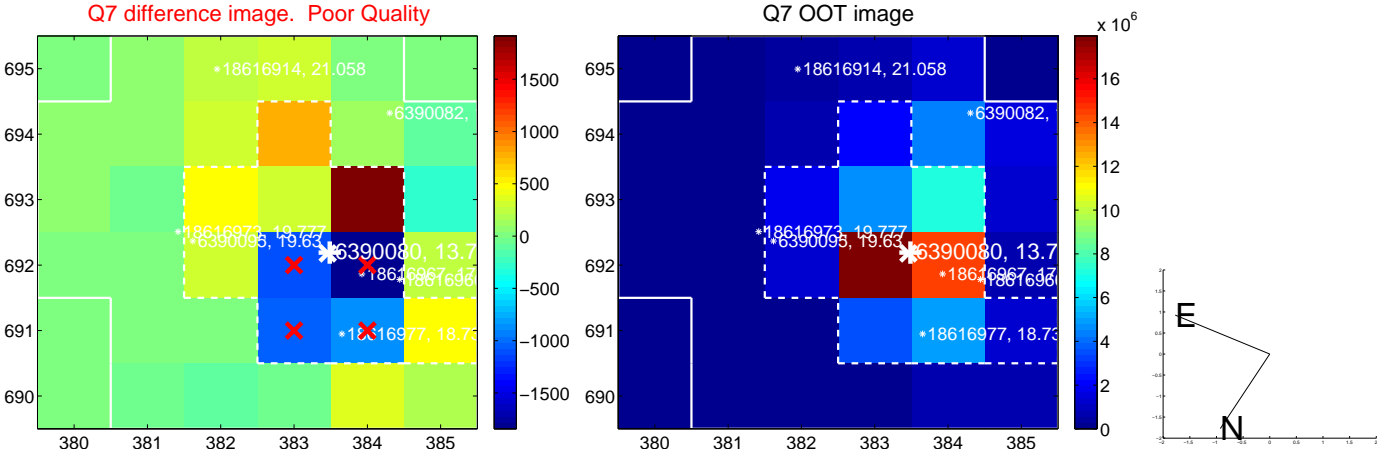
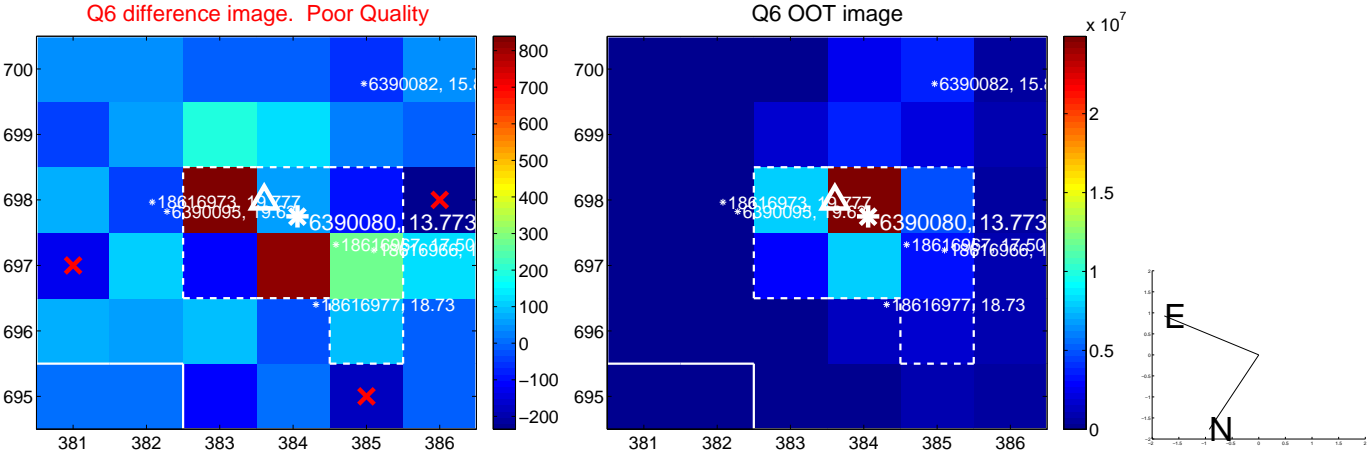
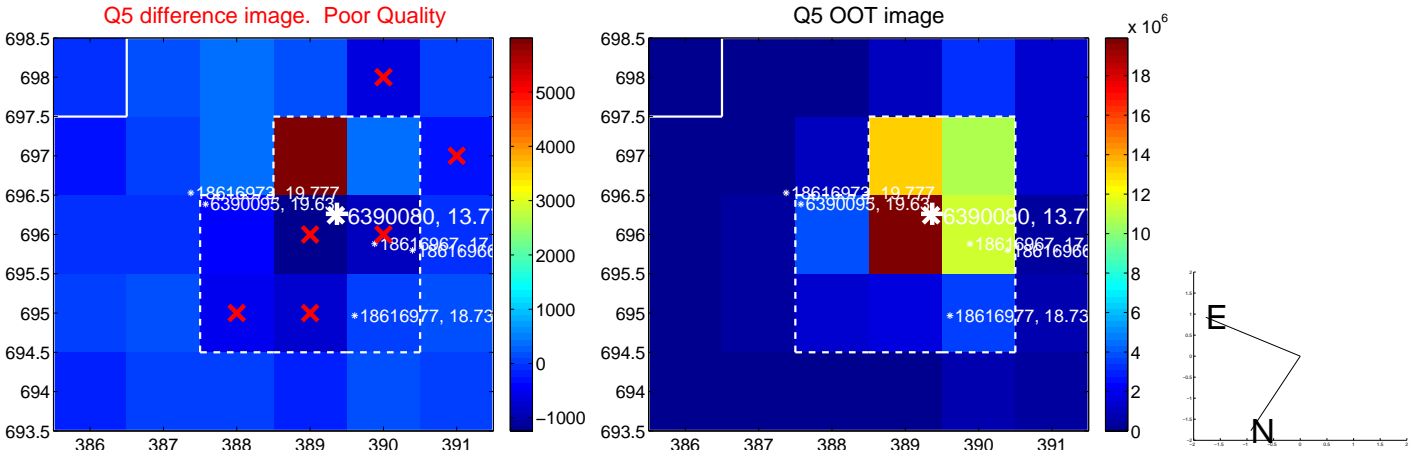


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

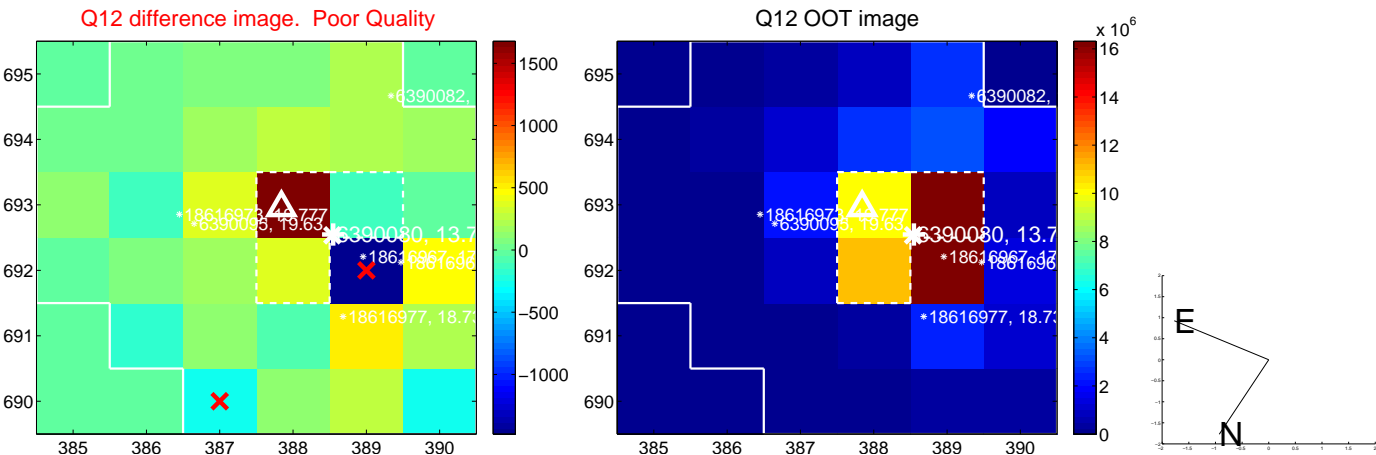
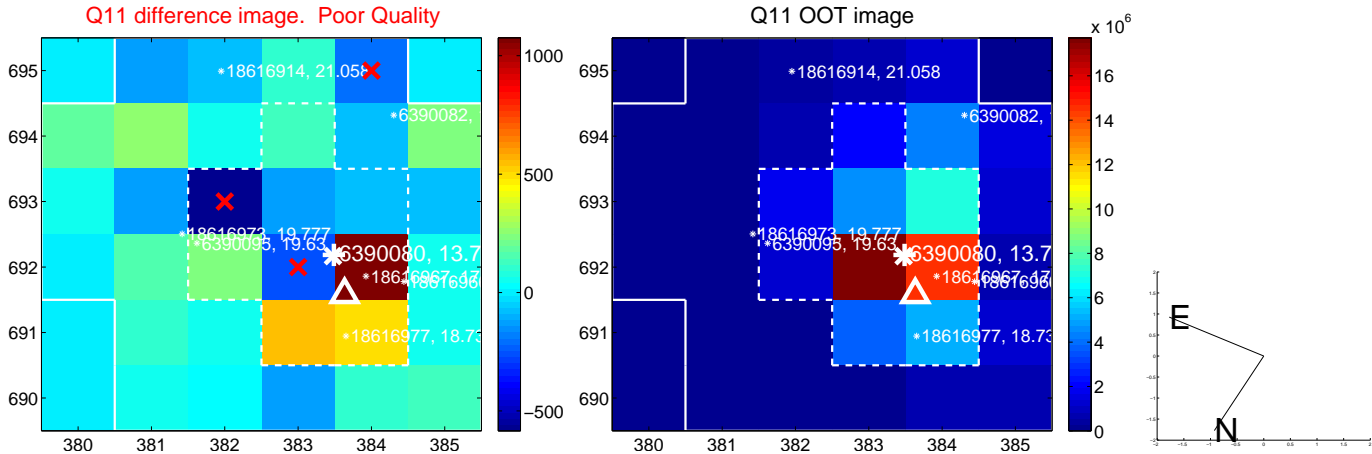
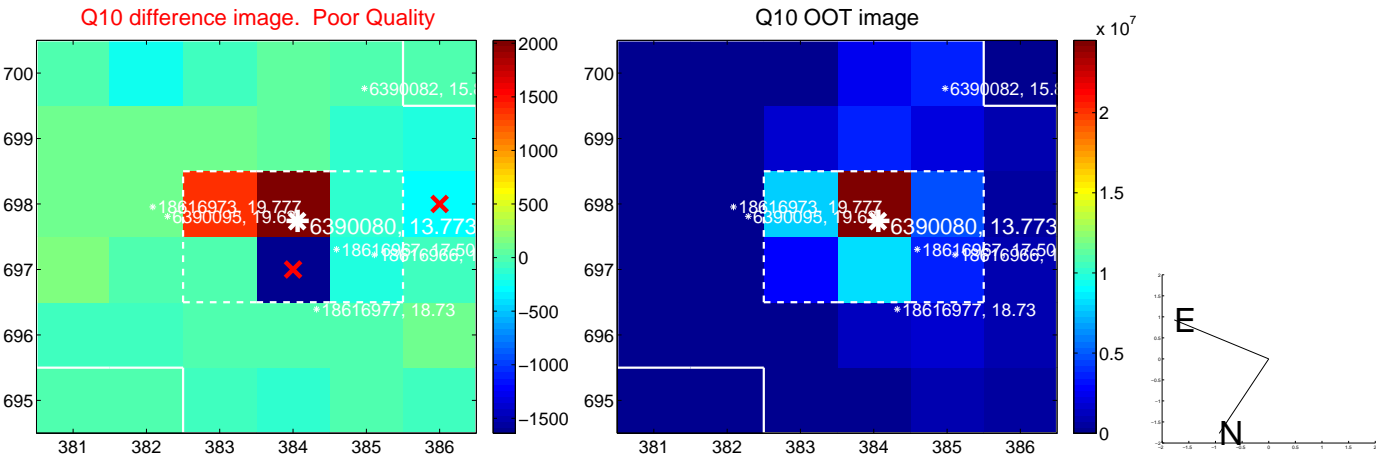
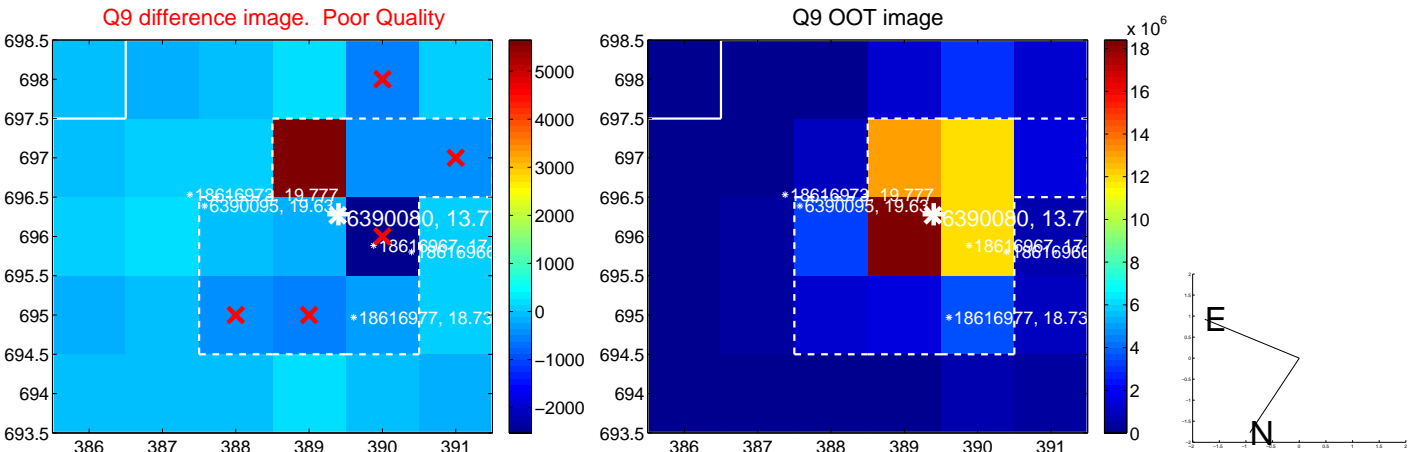


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

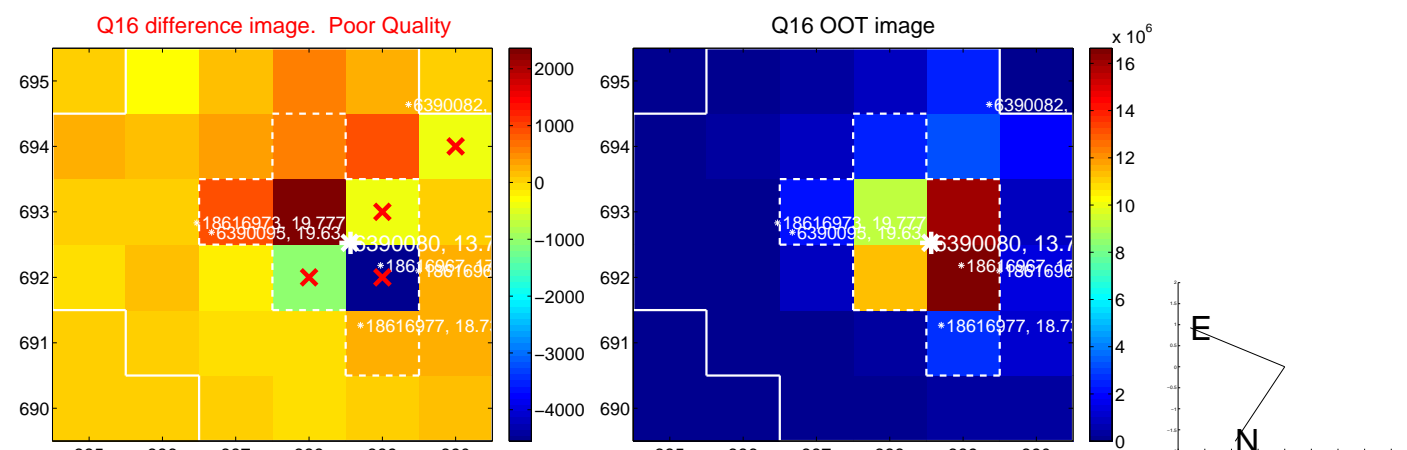
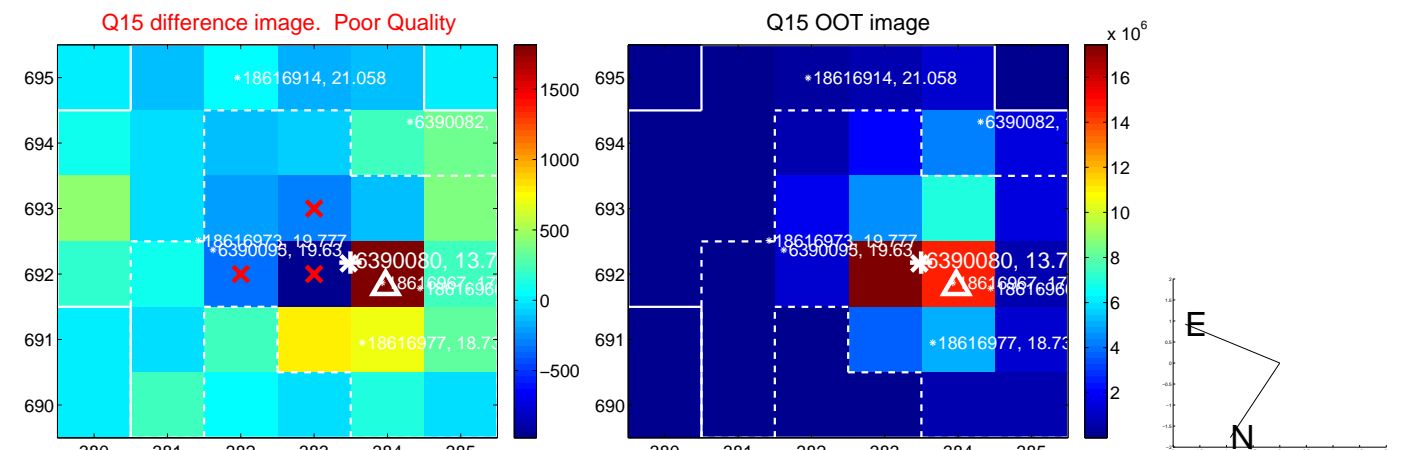
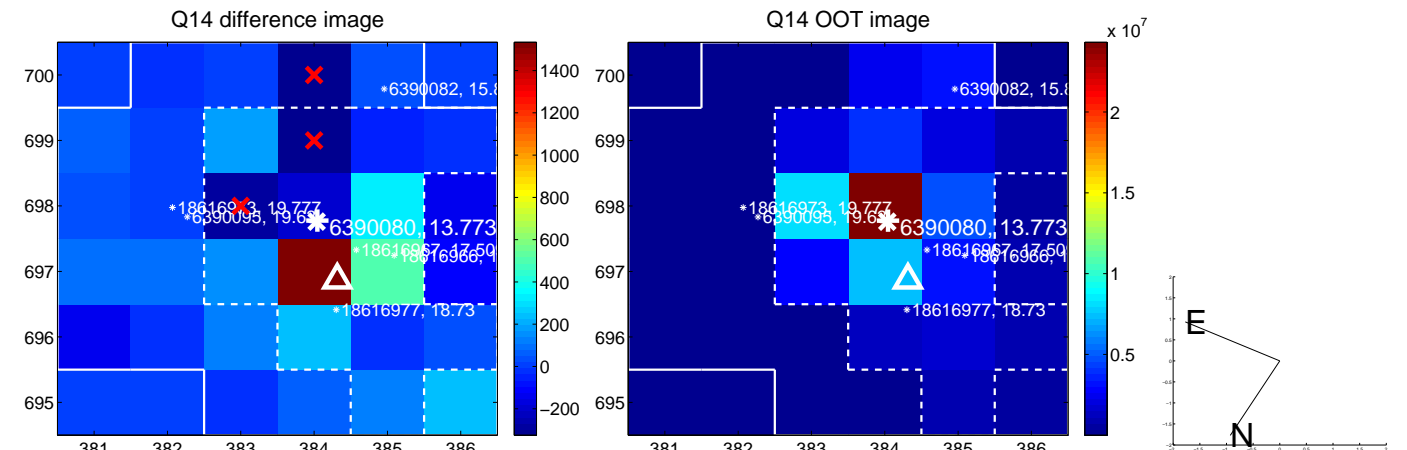
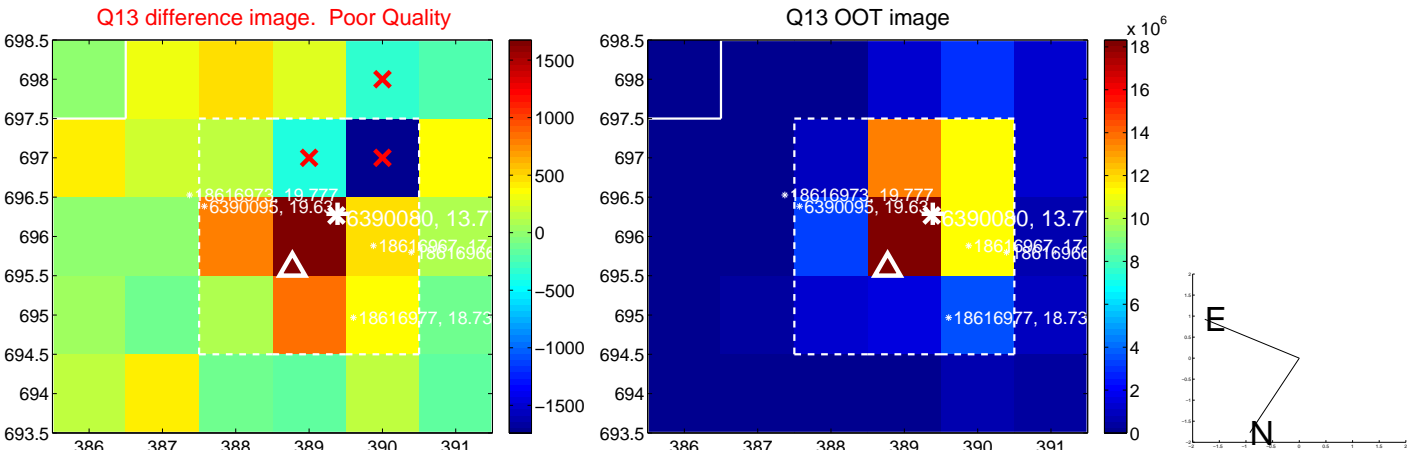




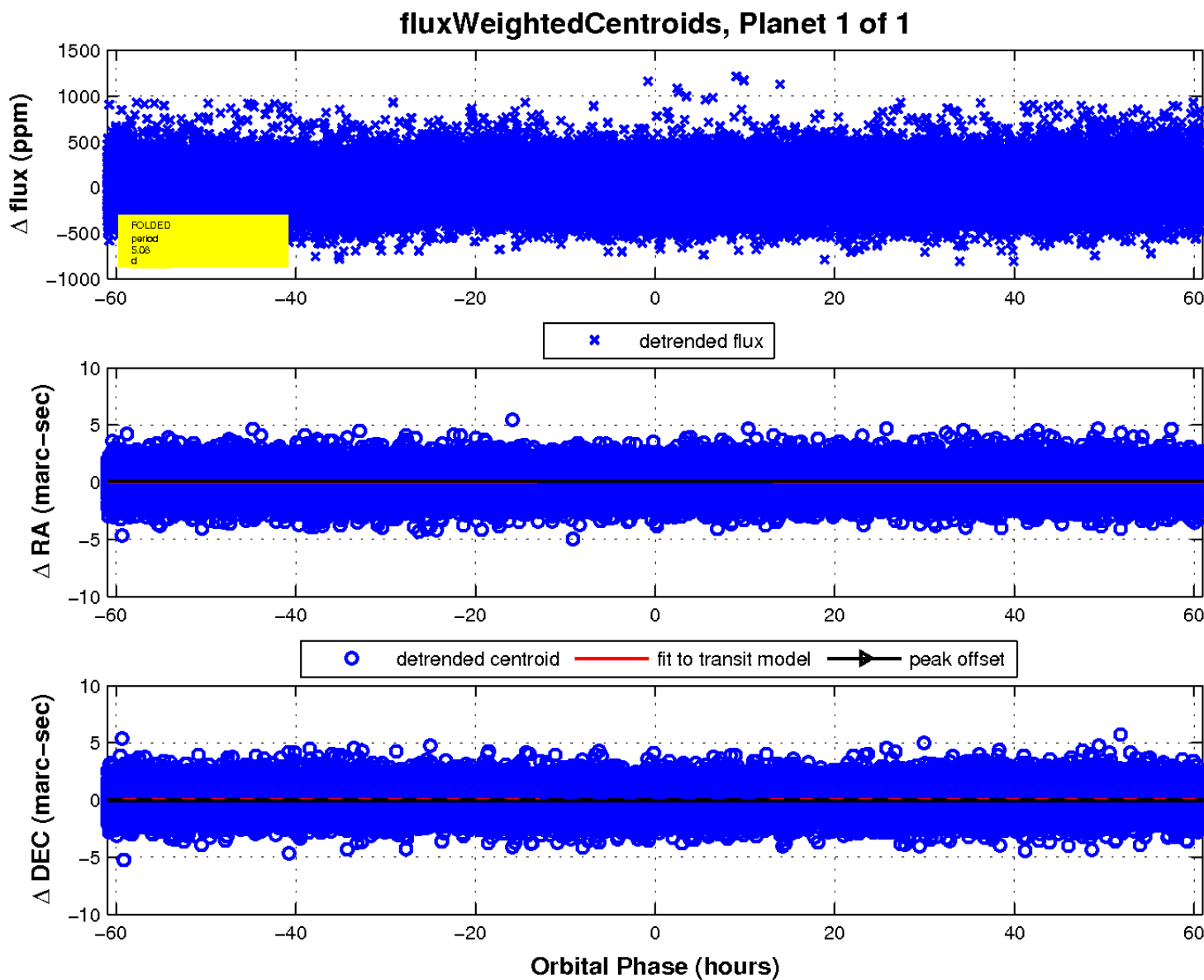
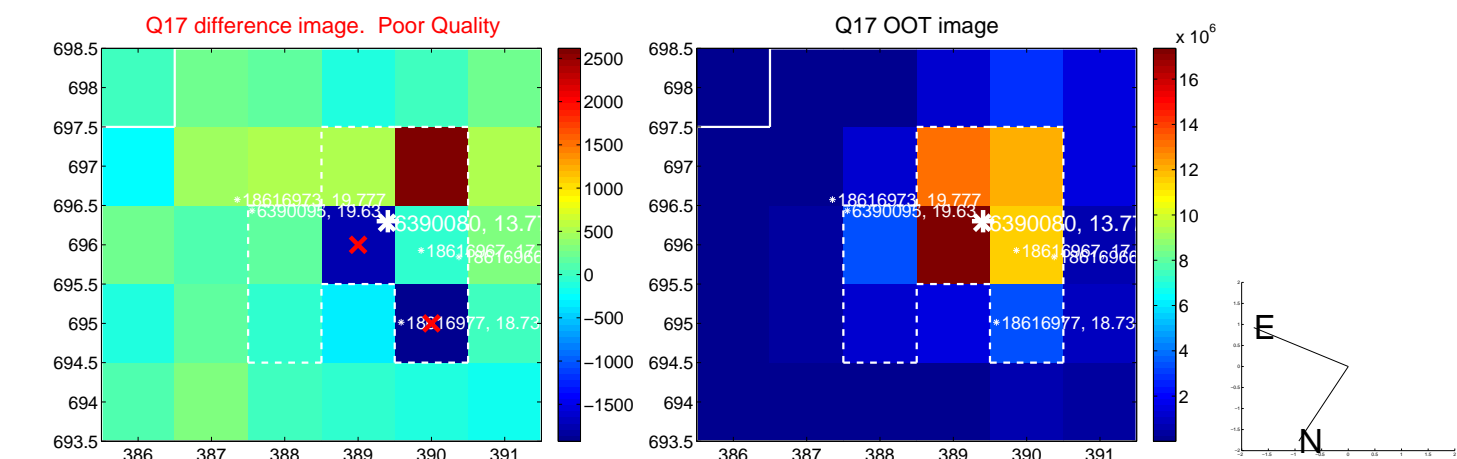
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

