

# KIC 007381695

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007381695-01	OBS	6873.01	0.948669	131.890988	98.5	1.927	10.5	9.5	0.85	5576	1.01	1818.27

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007381695-01	OBS	FP	0.09	0	0	1	0	CENT_RESOLVED_OFFSET

**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 007381695-01

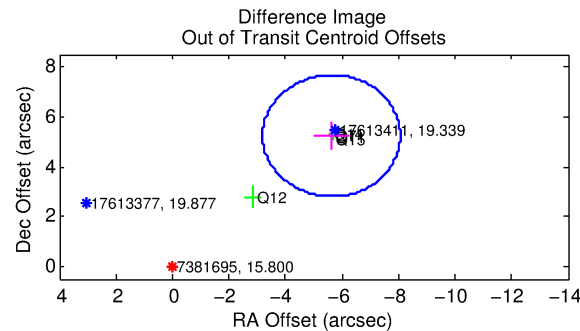
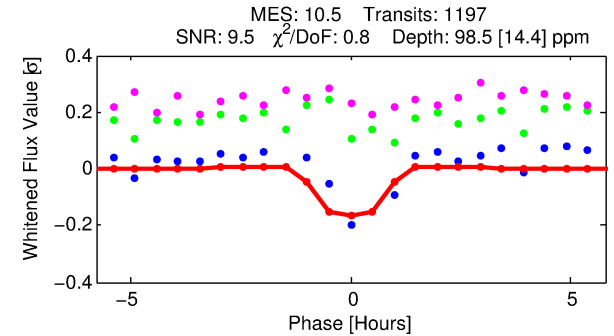
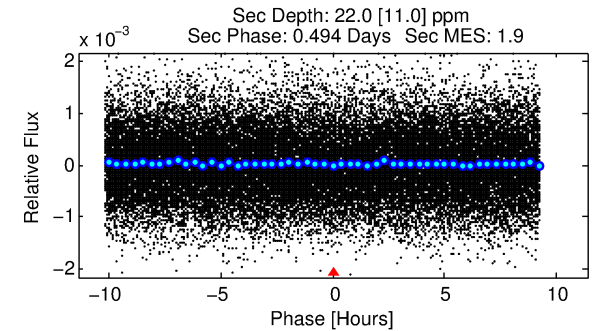
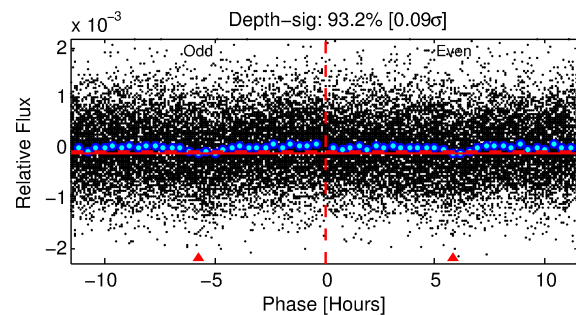
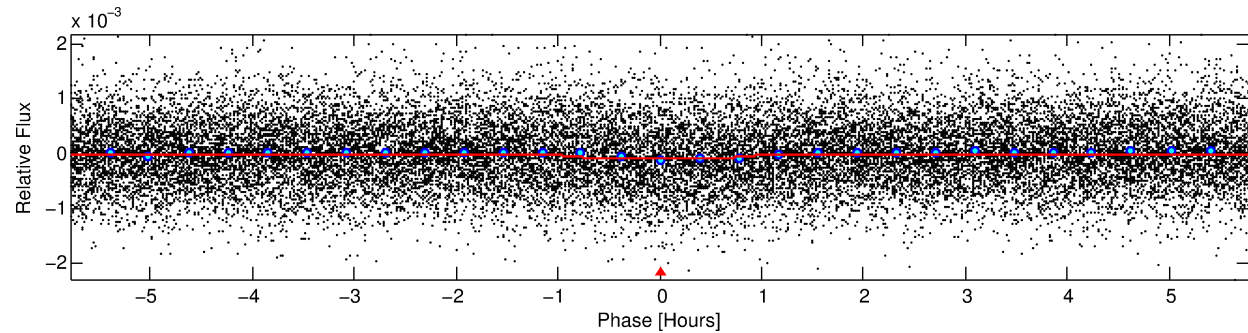
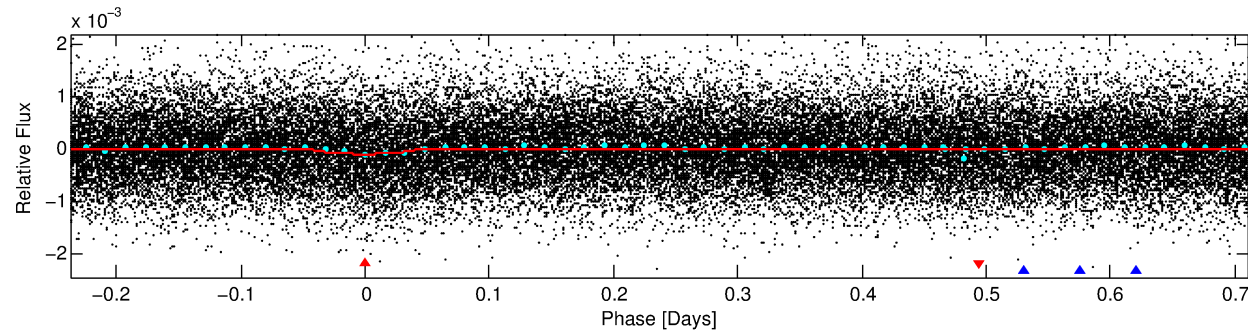
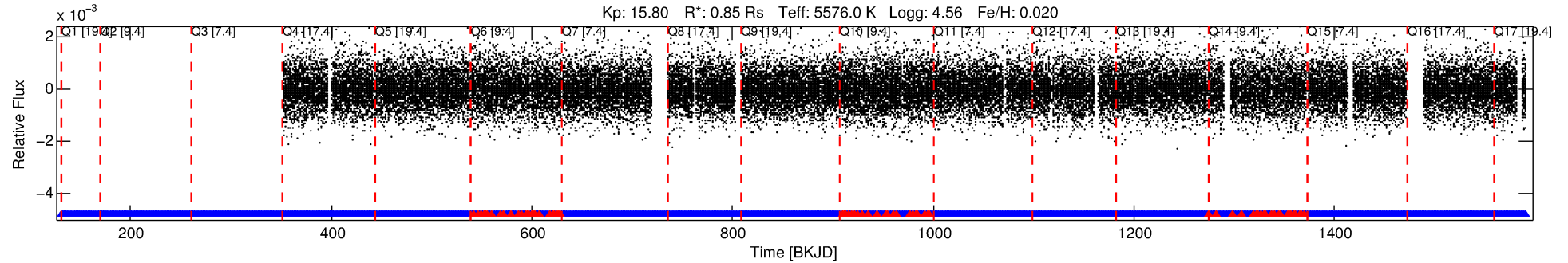
No Significant Match Found

# DV One-Page Summary

KIC: 7381695 Candidate: 1 of 2 Period: 0.949 d

KOI: K06873.01 Corr: 0.868

Kp: 15.80 R\*: 0.85 Rs Teff: 5576.0 K Logg: 4.56 Fe/H: 0.020



## DV Fit Results:

Period = 0.94867 [0.00001] d  
Epoch = 131.8910 [0.0029] BKJD  
Rp/R\* = 0.0108 [0.0098]  
a/R\* = 2.01 [6.22]  
b = 0.89 [0.95]  
Seff = 1818.27 [561.08]  
Teq = 1665 [128] K  
Rp = 1.01 [0.94] Re  
a = 0.0186 [0.0035] AU  
Ag = 4.13 [7.86] [0.40σ]  
Teff = 3671 [1732] K [1.15σ]

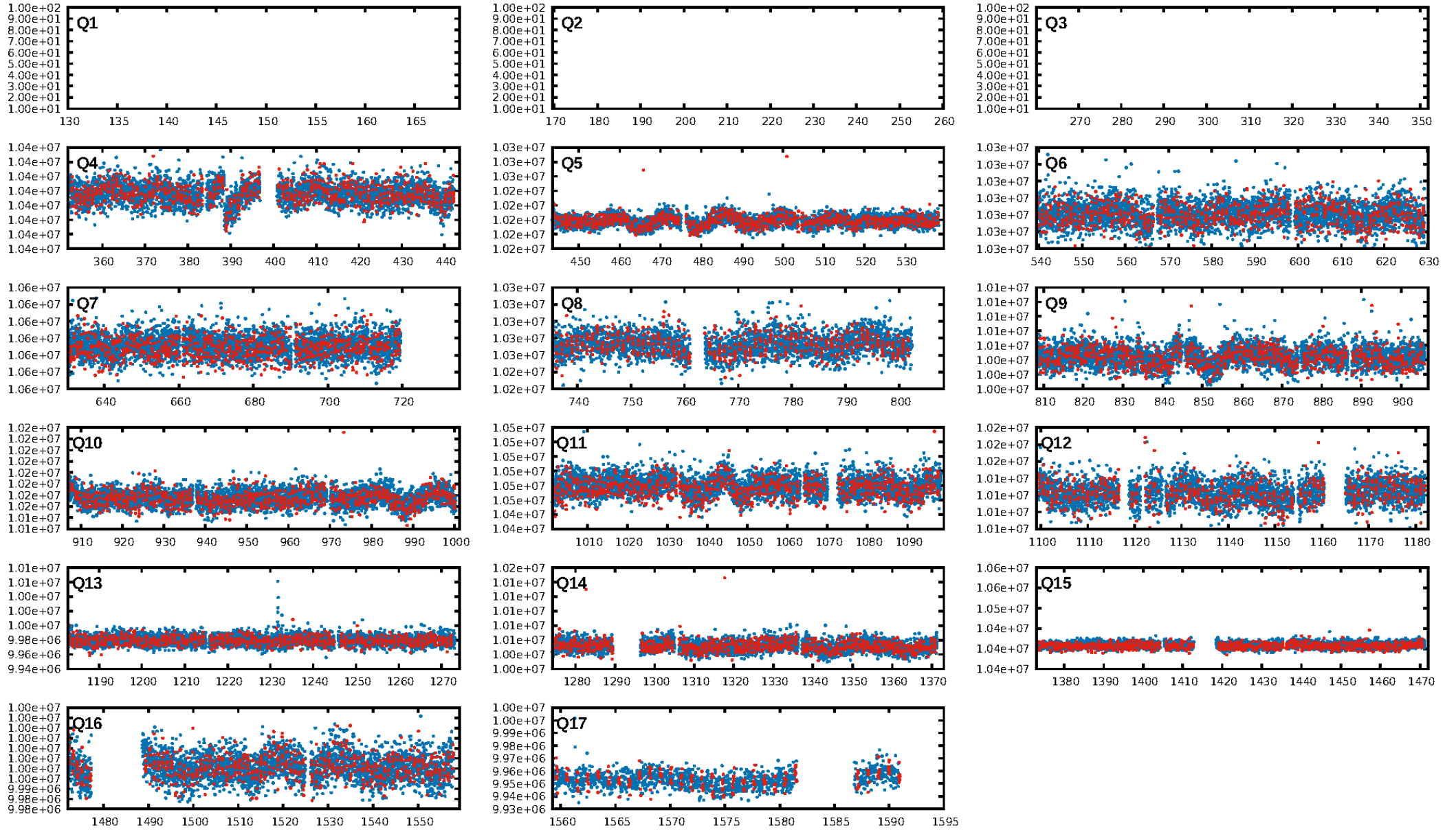
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [1739.60σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.38e-25  
RollingBand-fgt: 0.94 [1098/1168]  
GhostDiagnostic-chr: -0.7595  
Centroid-sig: 0.0%  
Centroid-so: 19.331 arcsec [12.66σ]  
OotOffset-rm: 7.685 arcsec [9.47σ]  
KicOffset-rm: 7.791 arcsec [11.09σ]  
OotOffset-st: 1/3/1/0 [5]  
KicOffset-st: 1/3/1/0 [5]  
DiffImageQuality-fgm: 1.00 [5/5]  
DiffImageOverlap-fno: 1.00 [14/14]

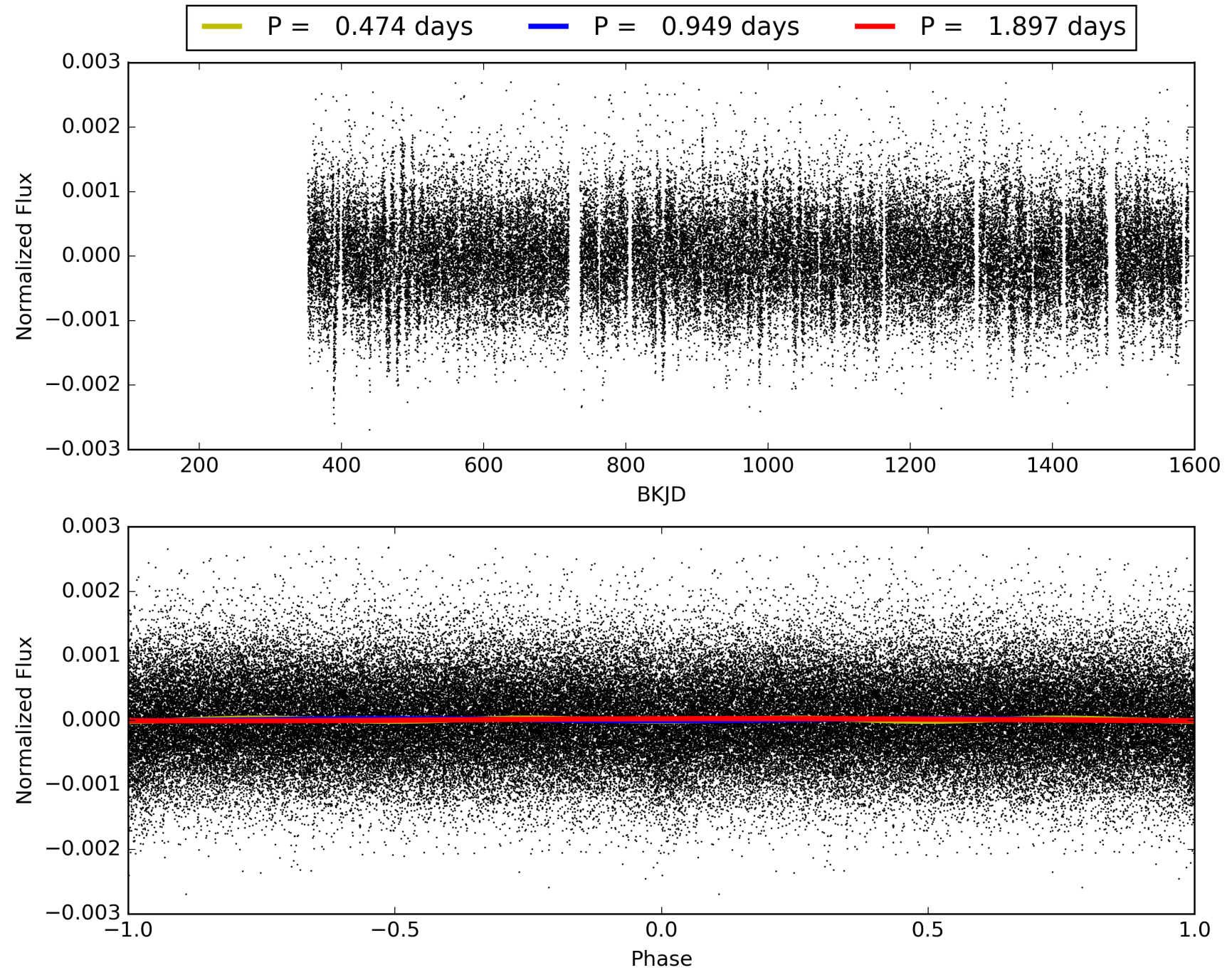
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:23:21 Z

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

# TCE 007381695-01, PDC Light Curves



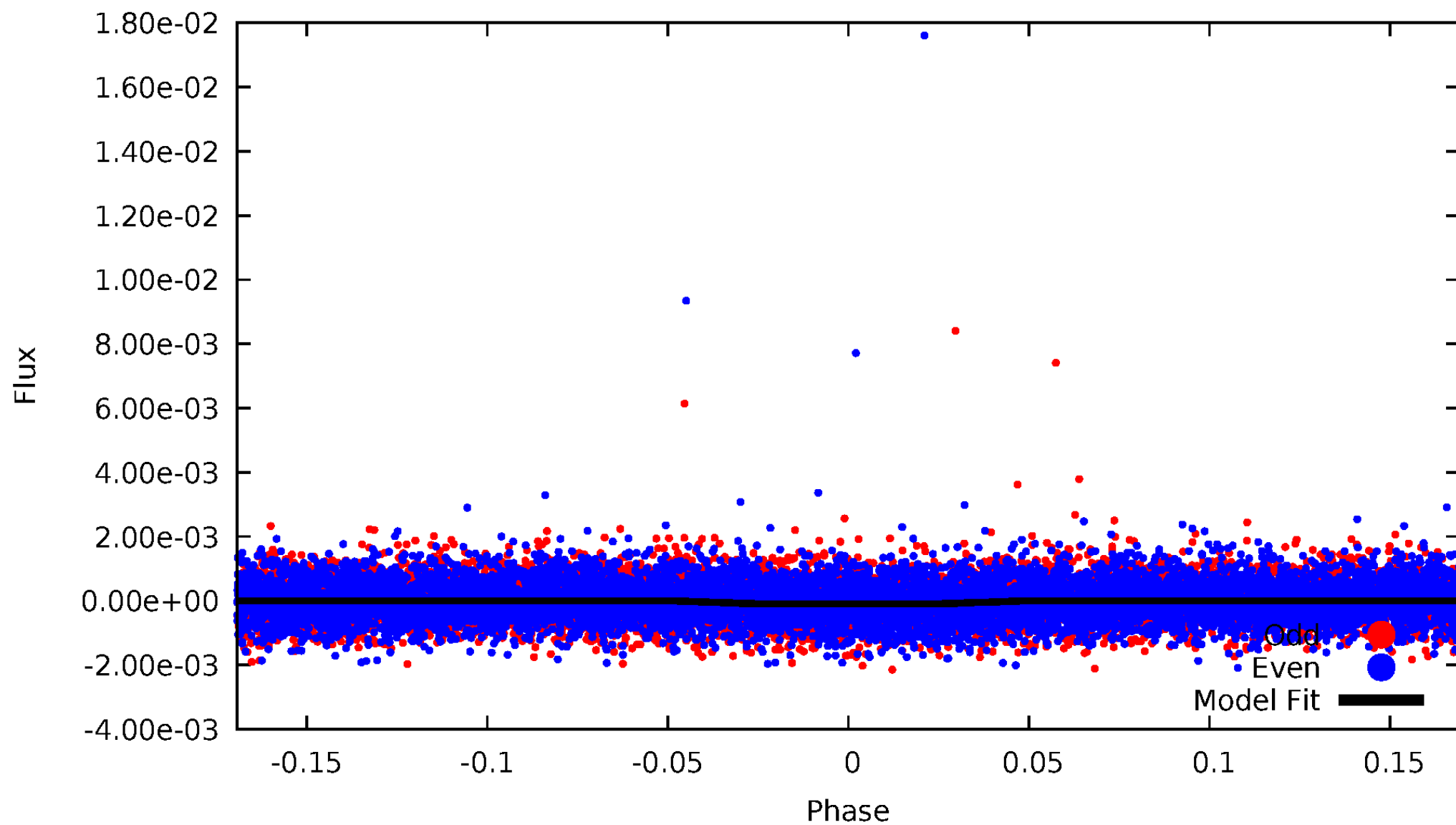
# TCE 007381695-01





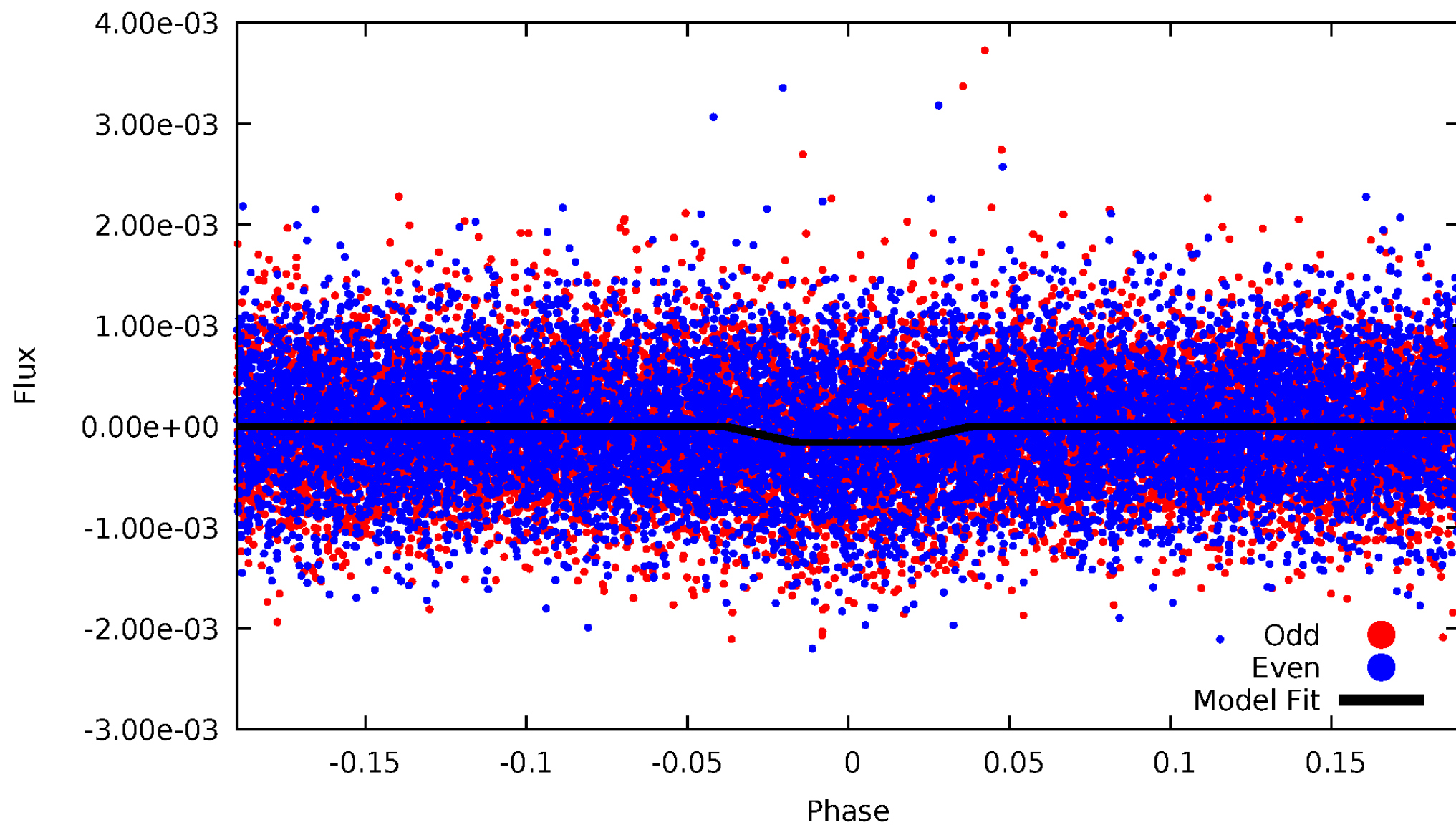
# DV Odd/Even

TCE 007381695-01



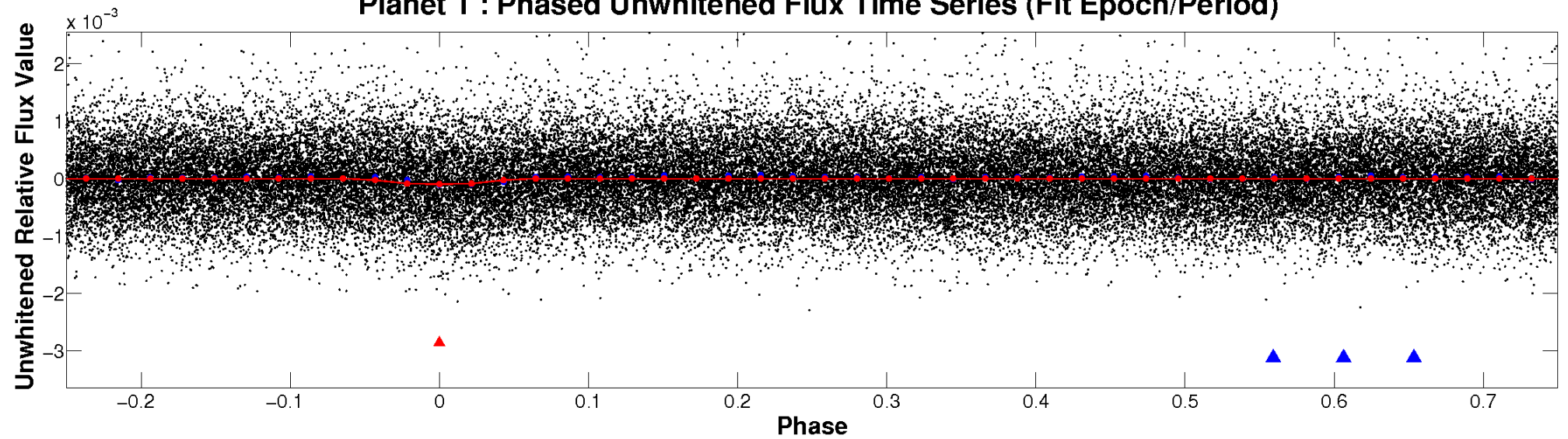
# ALT Odd/Even

TCE 007381695-01

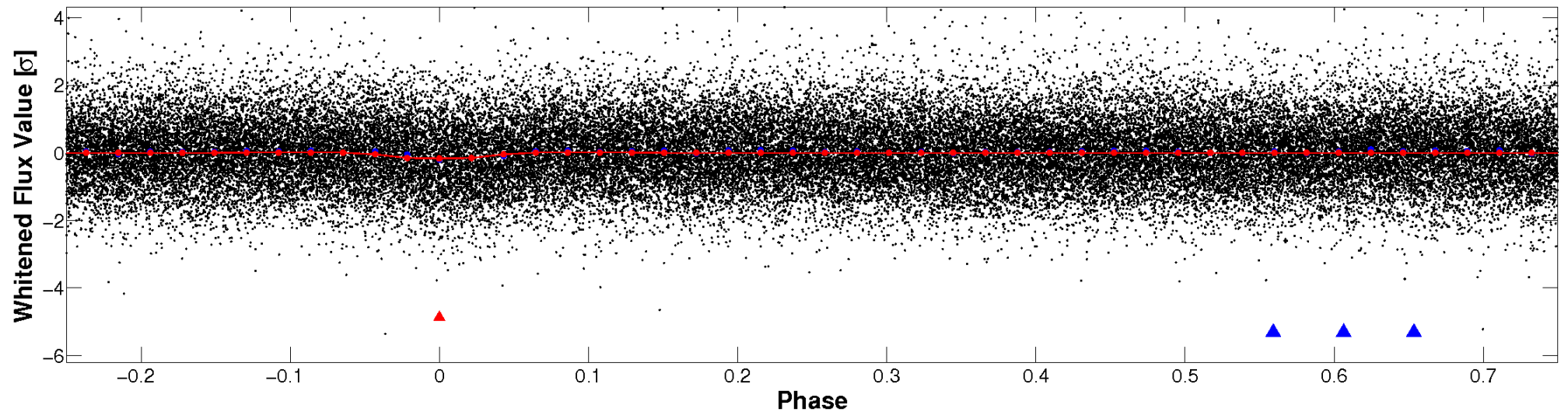


# Non-Whitened Vs. Whitened Light Curve

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

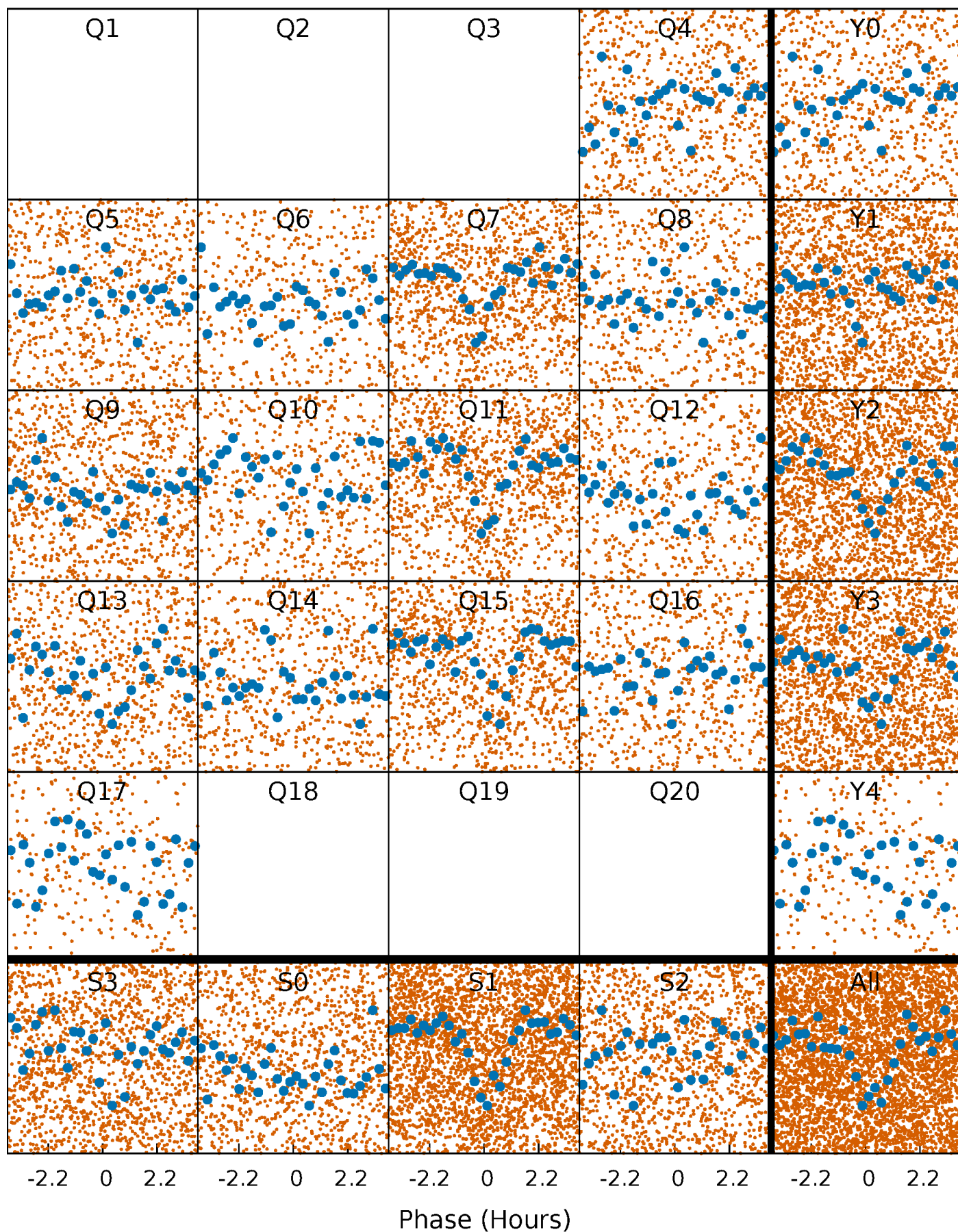


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

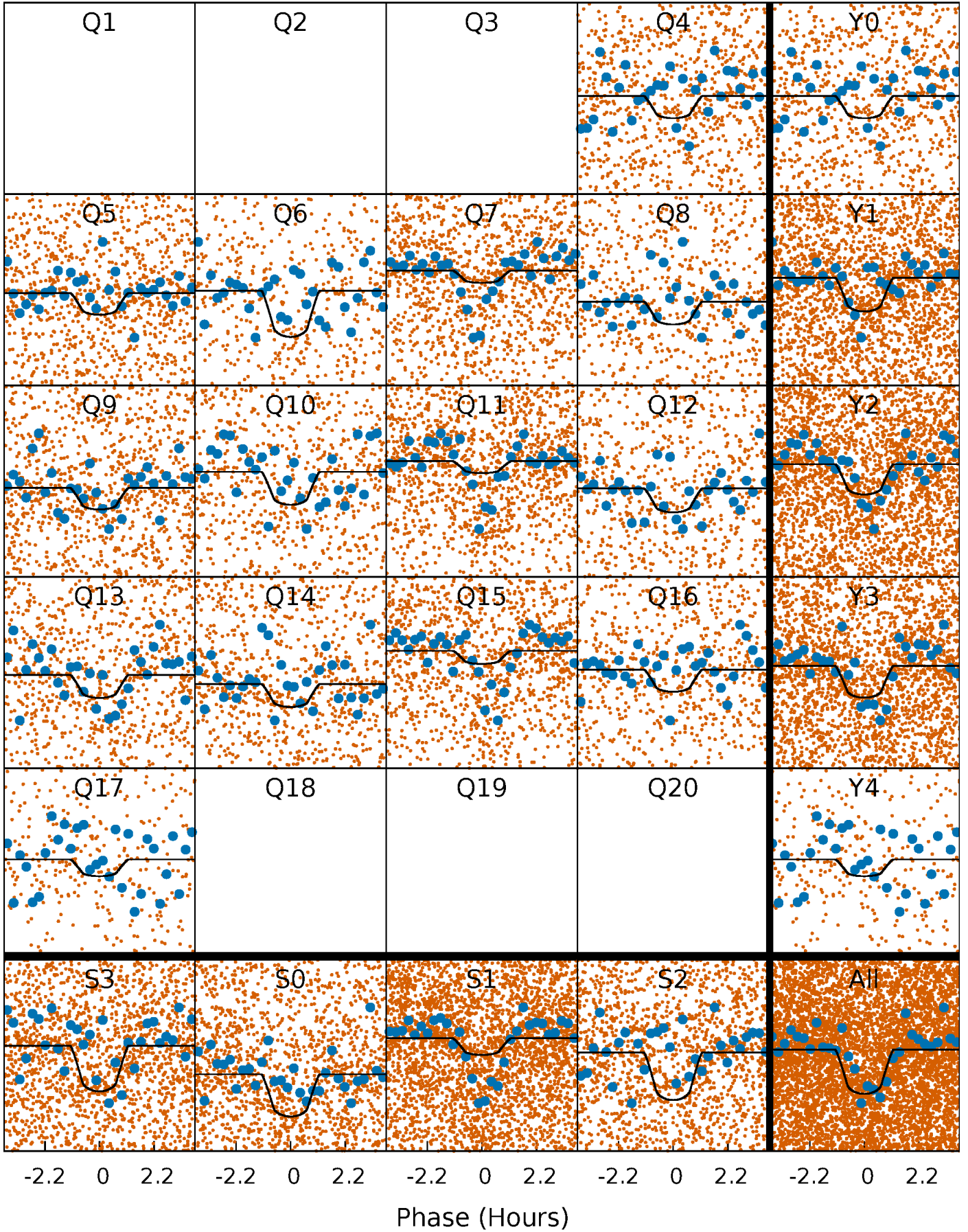
TCE 007381695-01   P= 0.948669 Days    $T_0=131.890988$  (BKJD)





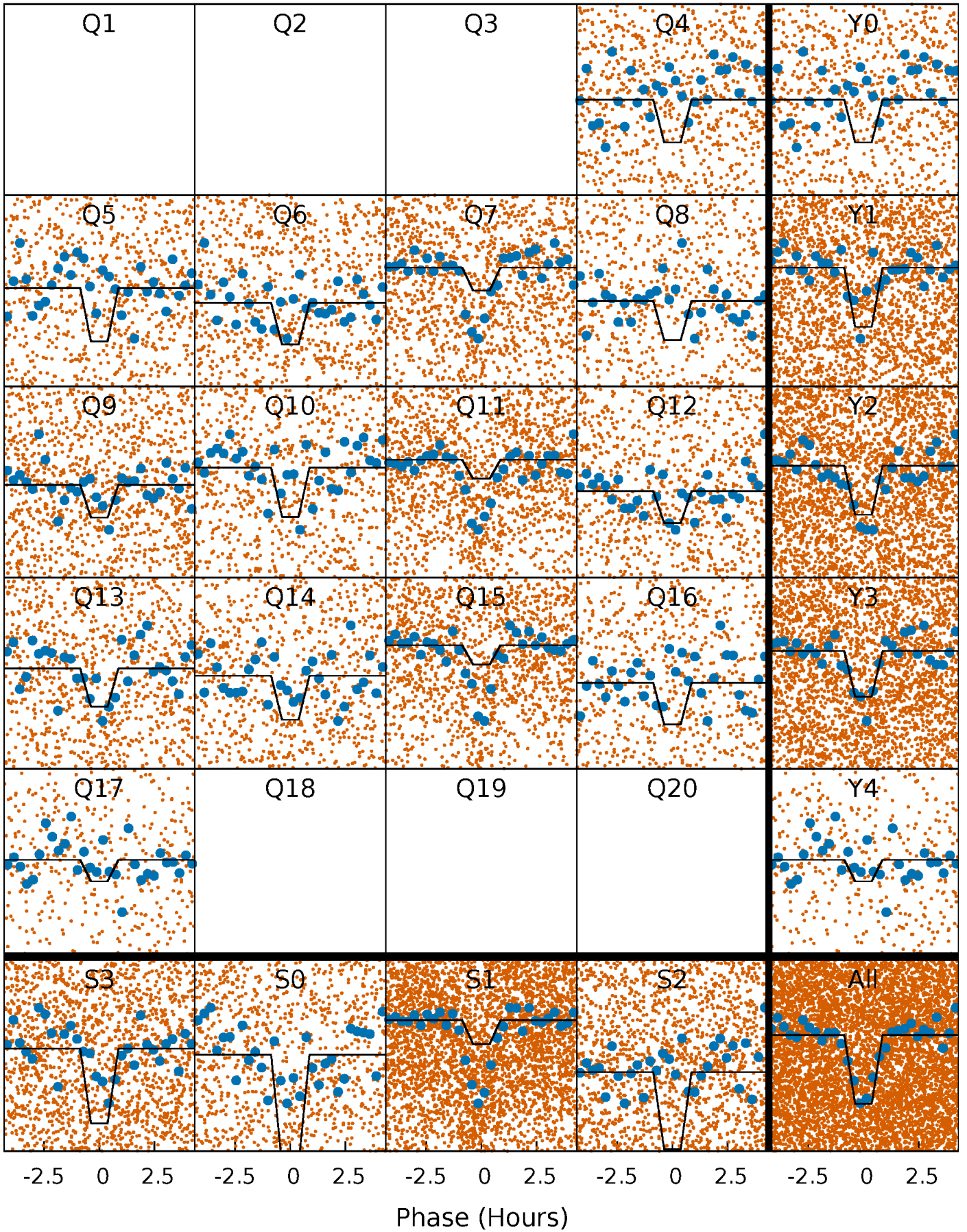
# DV Quarter-Phased Transit Curves

TCE 007381695-01   P= 0.948669 Days    $T_0=131.890988$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

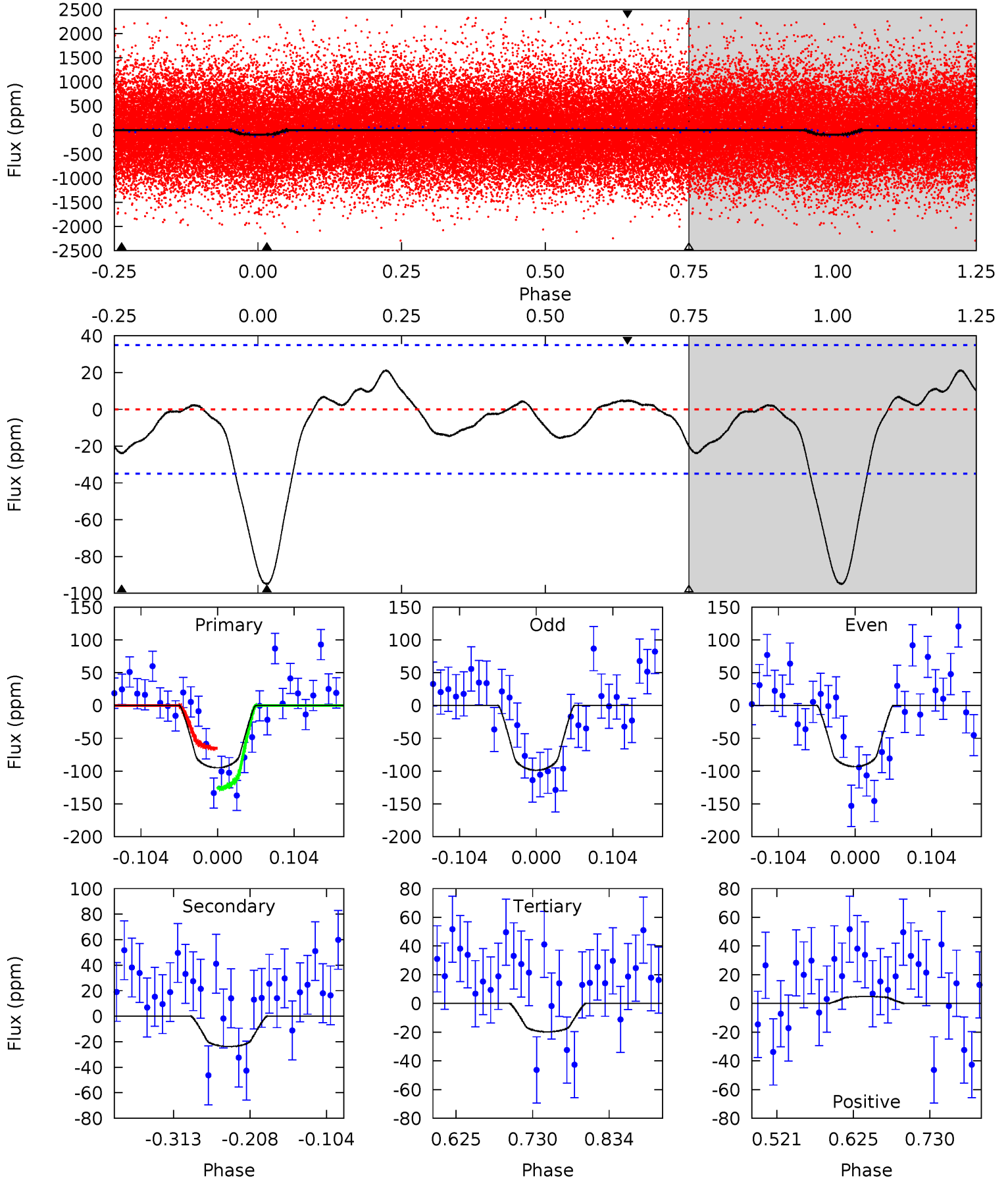
TCE 007381695-01 P= 0.948695 Days  $T_0=131.875414$  (BKJD)



# DV Model-Shift Uniqueness Test

007381695-01, P = 0.948669 Days, E = 131.890988 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
12.4	3.10	2.58	0.63	4.56	1.62	1.14	9.79	11.7	0.52	2.47	0.36	0.86	0.18	4.01

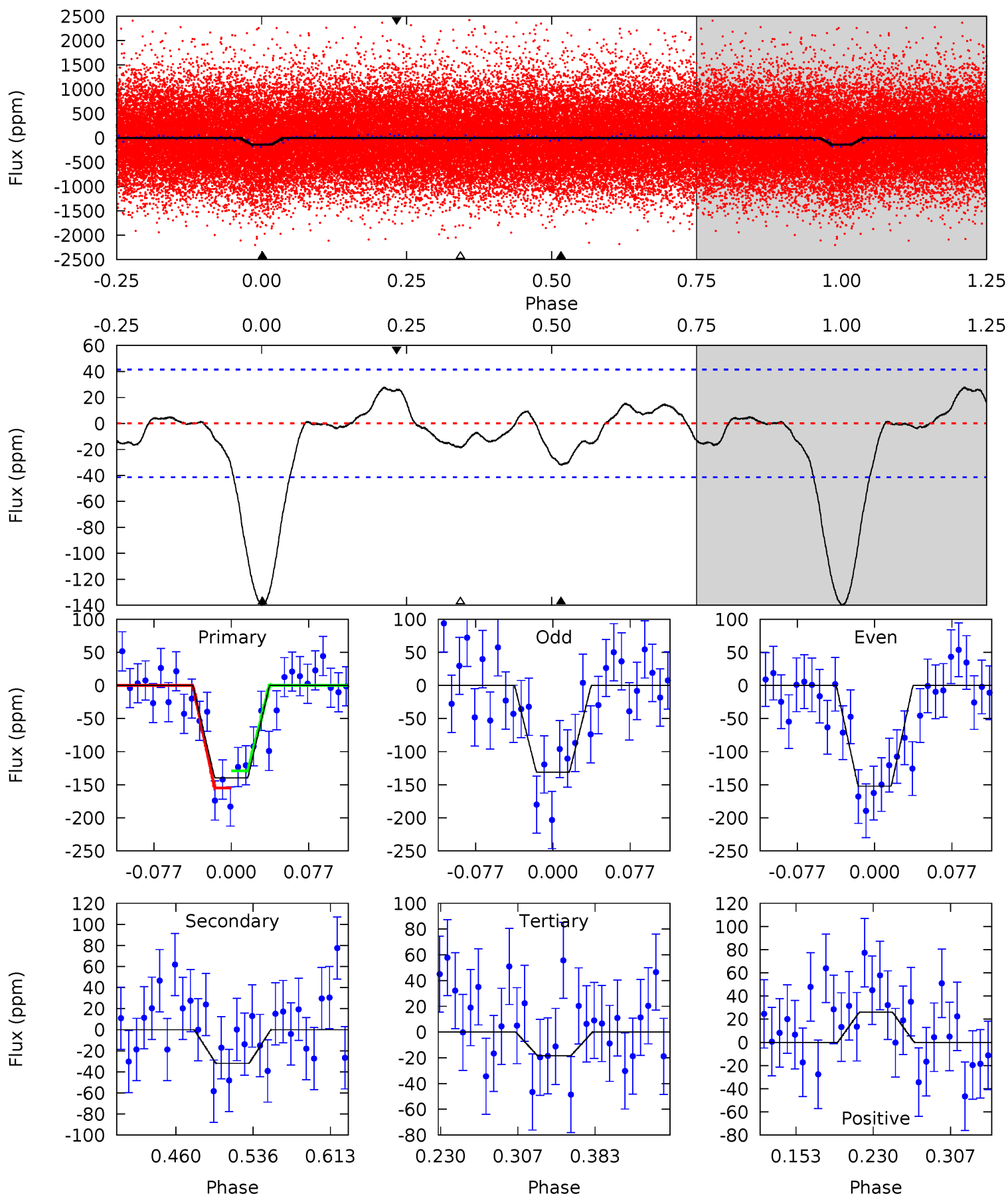




# Alt Model-Shift Uniqueness Test

007381695-01, P = 0.948695 Days, E = 131.875414 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	3.56	2.06	2.90	4.62	1.77	1.26	13.5	12.7	1.51	0.67	1.19	1.01	0.17	1.44





### Stellar Parameters For KIC 007381695

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5576^{+174}_{-194}$	$4.556^{+0.038}_{-0.152}$	$0.020^{+0.250}_{-0.300}$	$0.852^{+0.187}_{-0.080}$	$0.953^{+0.081}_{-0.112}$	$2.170^{+0.437}_{-0.918}$
	+3%/-3%	+1%/-3%	+1250%/-1500%	+22%/-9%	+8%/-12%	+20%/-42%
Source	KIC0	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 007381695-01 / KOI 6873.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-24 \pm 8$	$1.22^{+0.92}_{-0.71}$	$2362^{+143}_{-93}$	$3709^{+1675}_{-692}$	$2.911^{+14.635}_{-1.978}$
Alt.	$-32 \pm 9$	$1.35^{+0.91}_{-0.81}$	$2370^{+129}_{-105}$	$3797^{+1748}_{-685}$	$3.232^{+16.974}_{-2.179}$

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

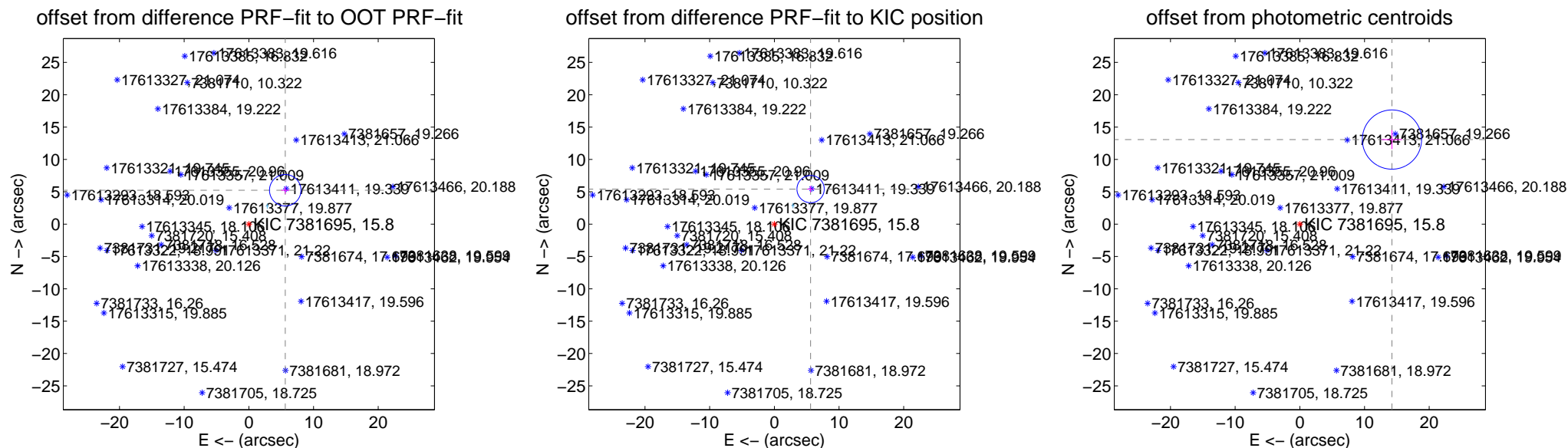
## DV Centroid Data

Supplemental centroid analysis for 007381695-01. Kepler magnitude: 15.80. Transit SNR 9.54

There are 5 quarters with good PRF difference image offsets

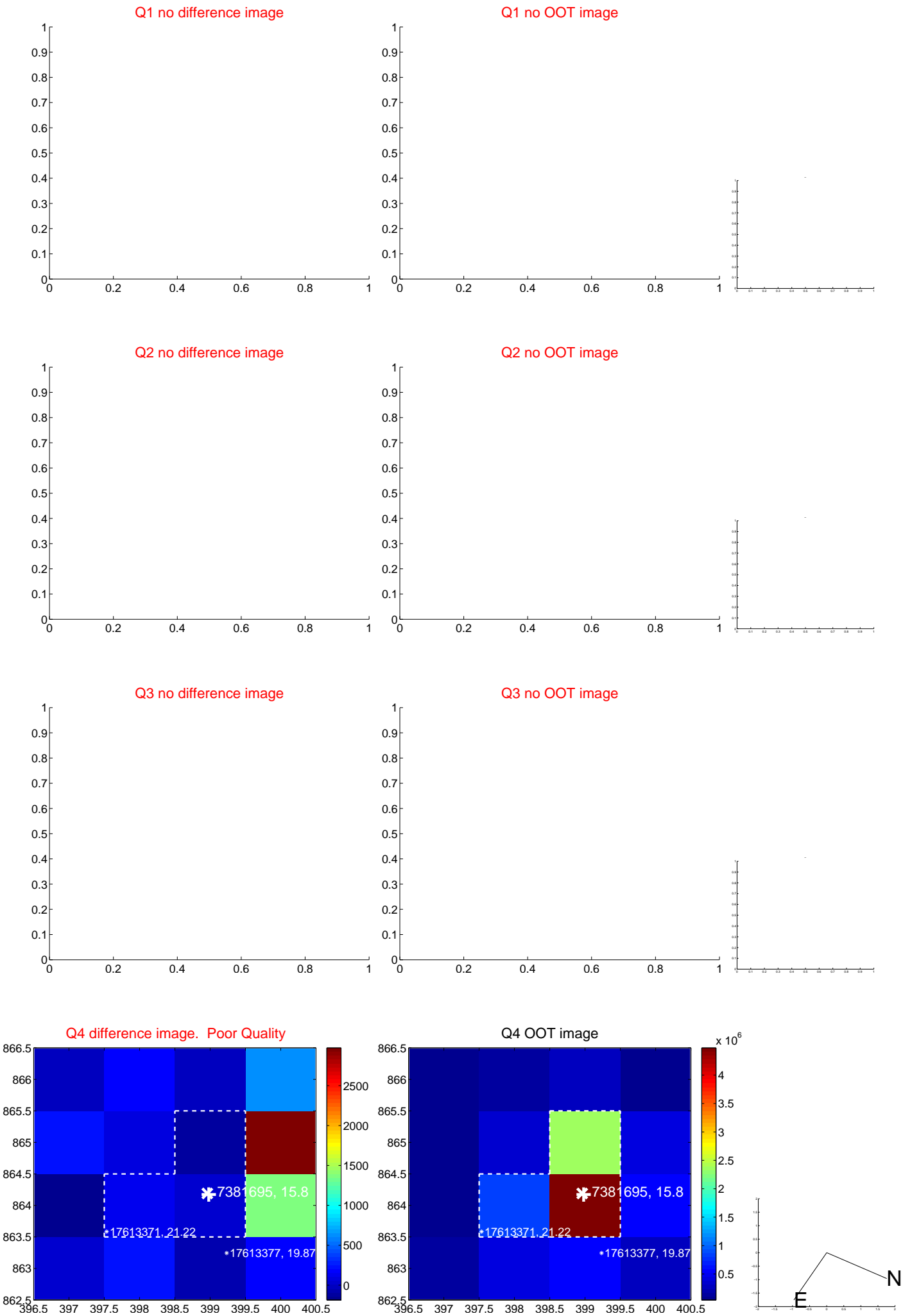
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>7.685 <math>\pm</math> 0.811</b>	<b>9.47</b>	-5.625 $\pm$ 0.607	5.237 $\pm$ 0.543
PRF-fit source offset from KIC position	<b>7.791 <math>\pm</math> 0.703</b>	<b>11.09</b>	-5.603 $\pm$ 0.518	5.414 $\pm$ 0.480
photometric centroid source offset	<b>19.33 <math>\pm</math> 1.53</b>	<b>12.66</b>	-14.24 $\pm$ 1.57	13.07 $\pm$ 1.47

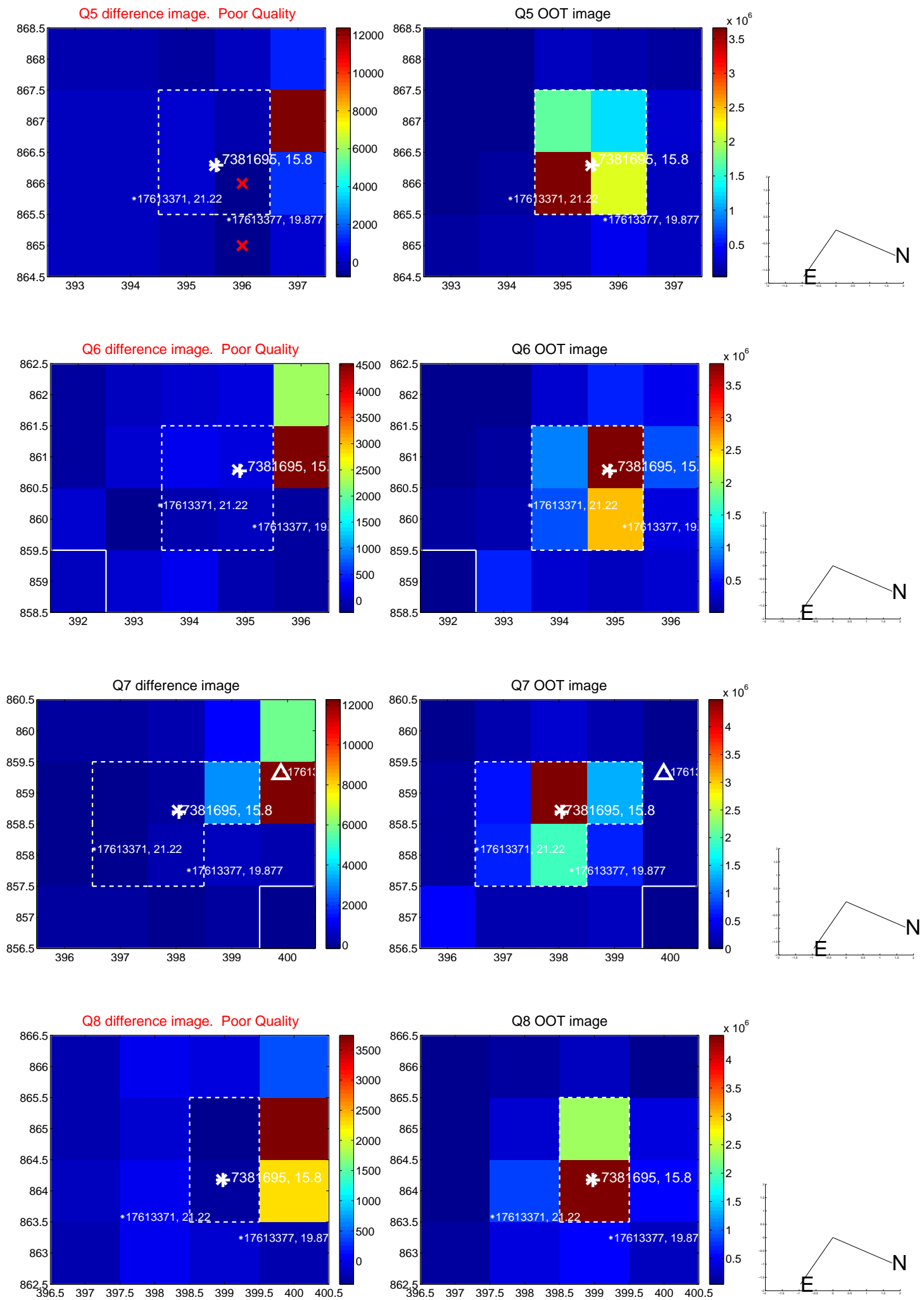


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

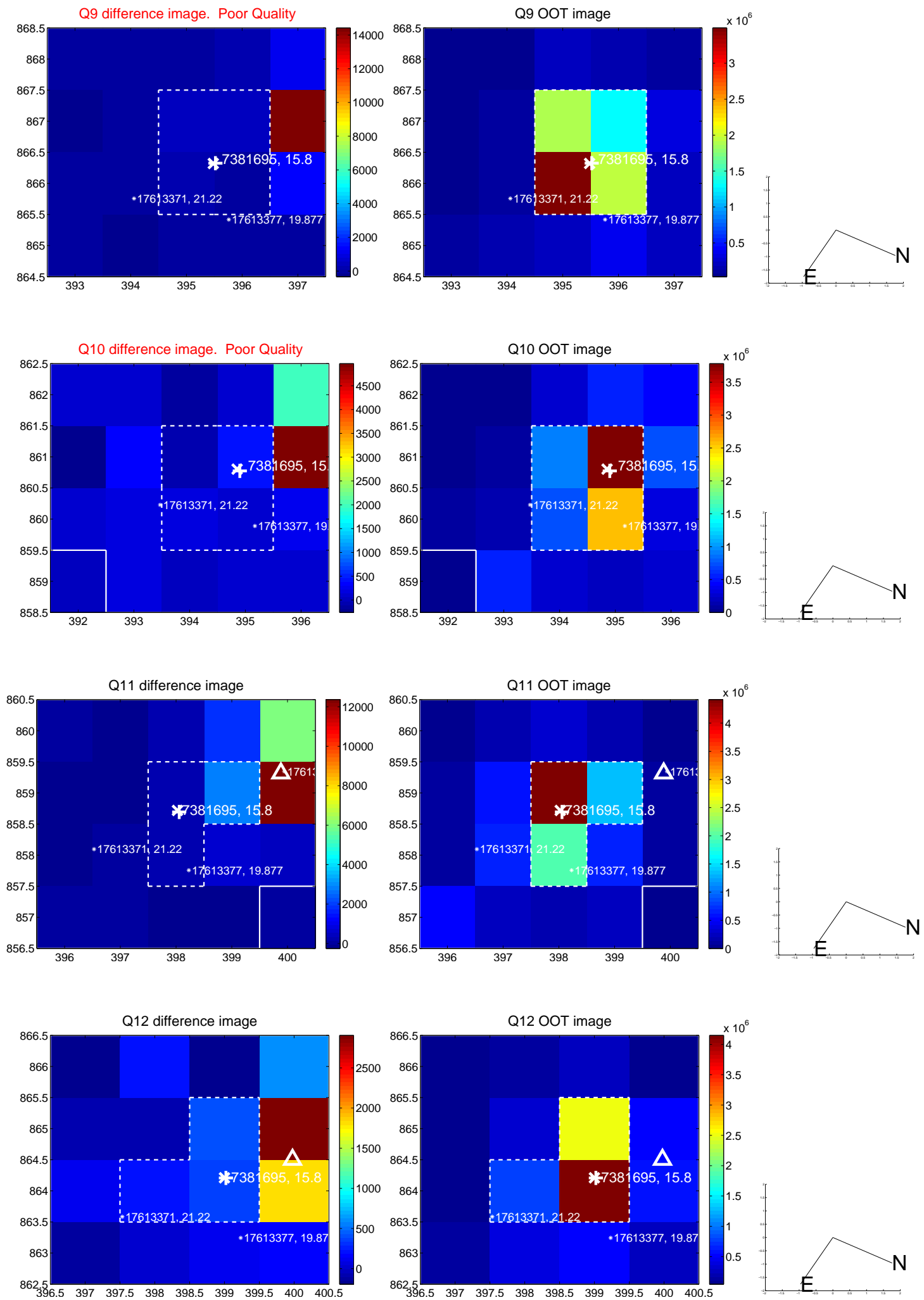


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

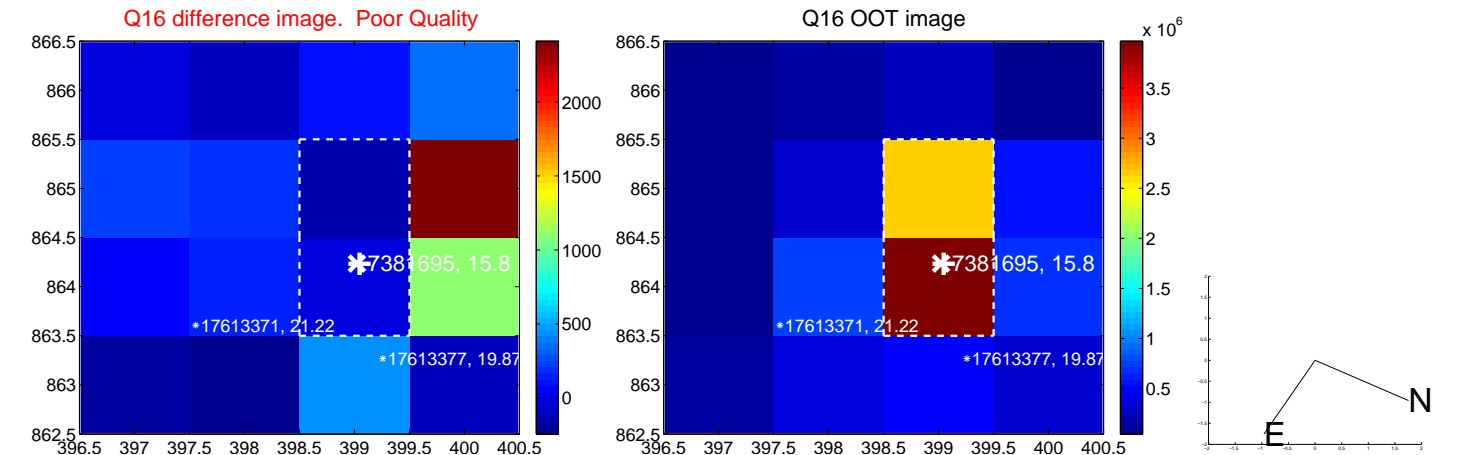
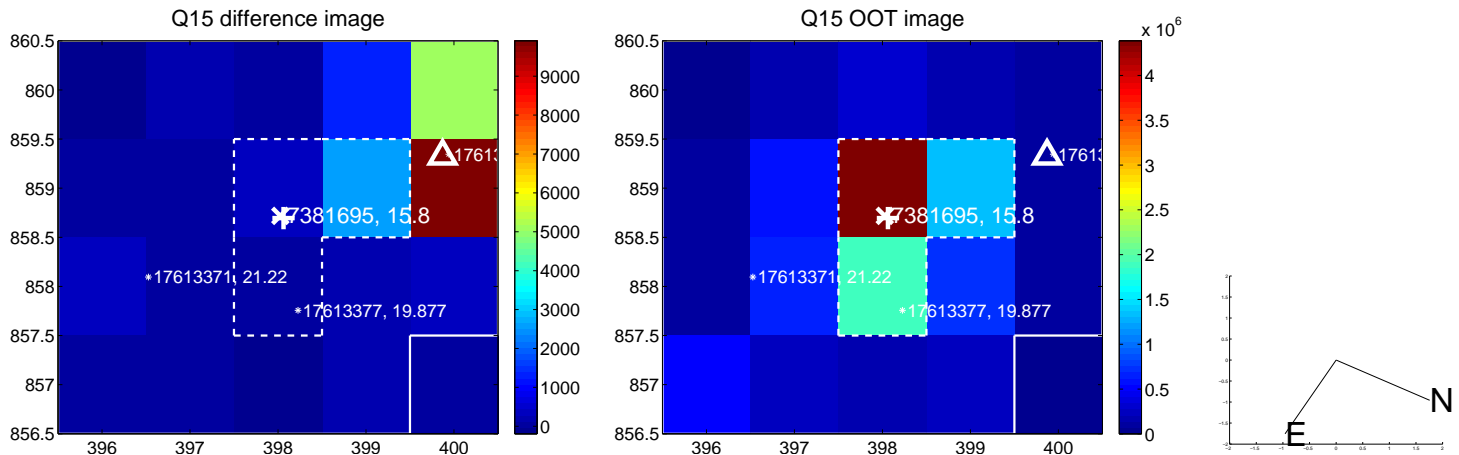
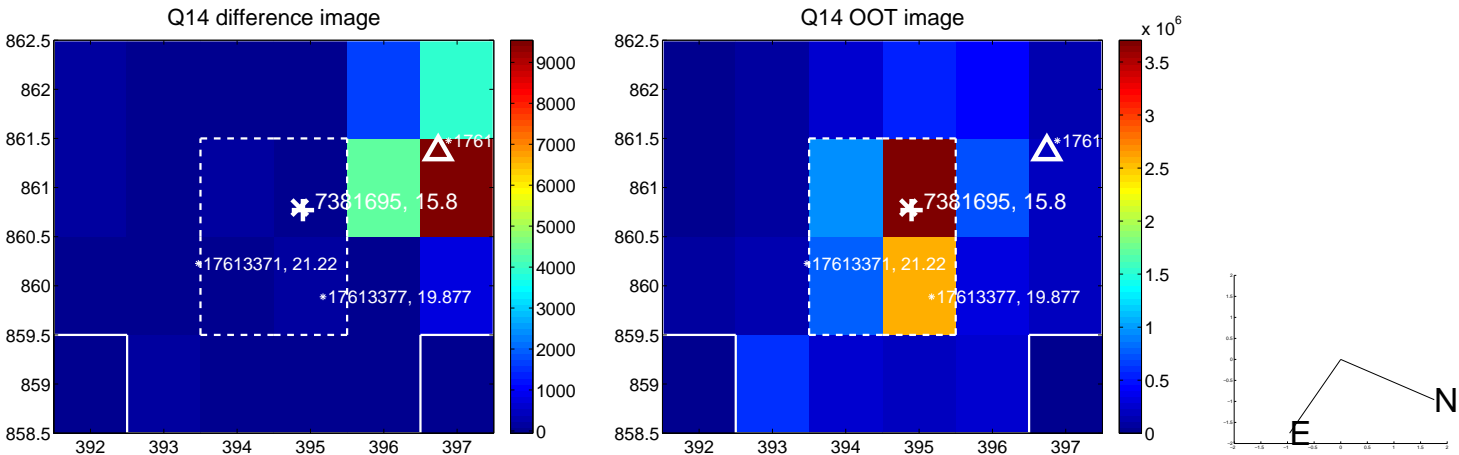
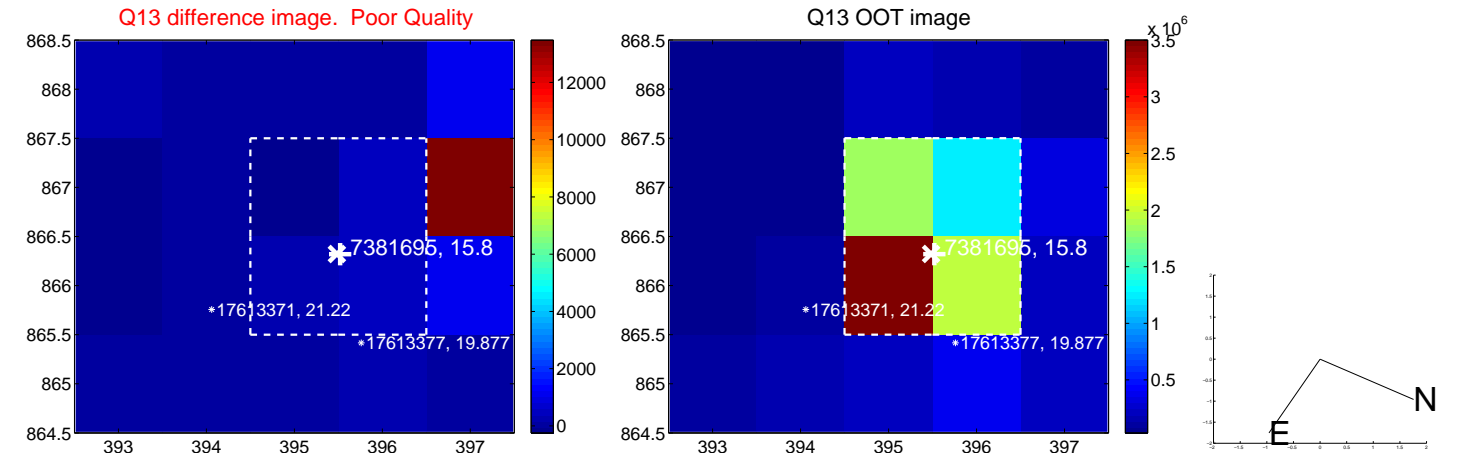




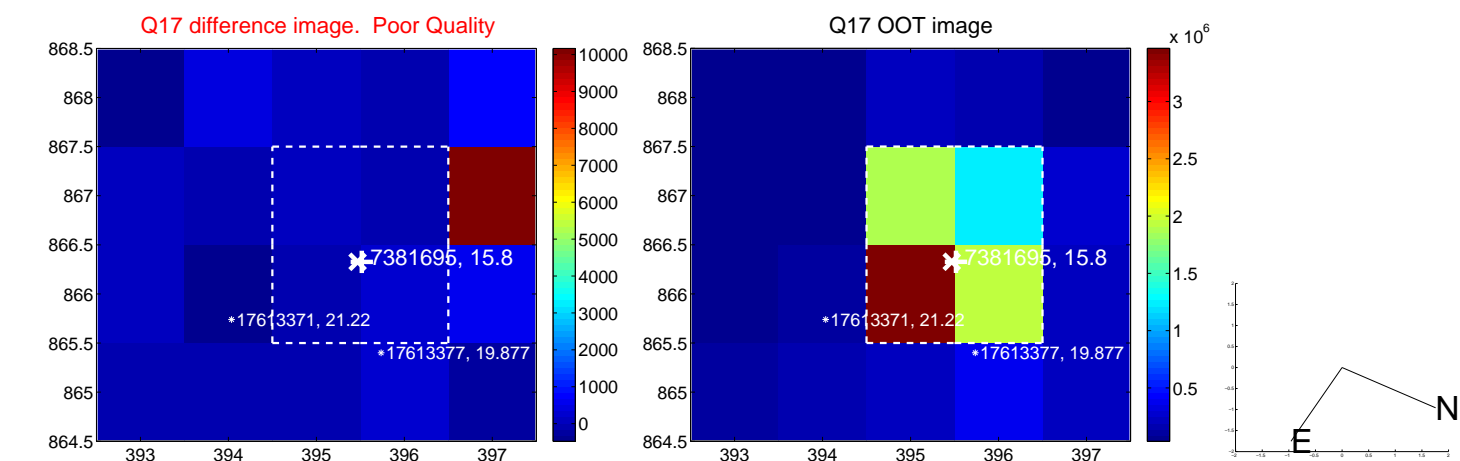
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



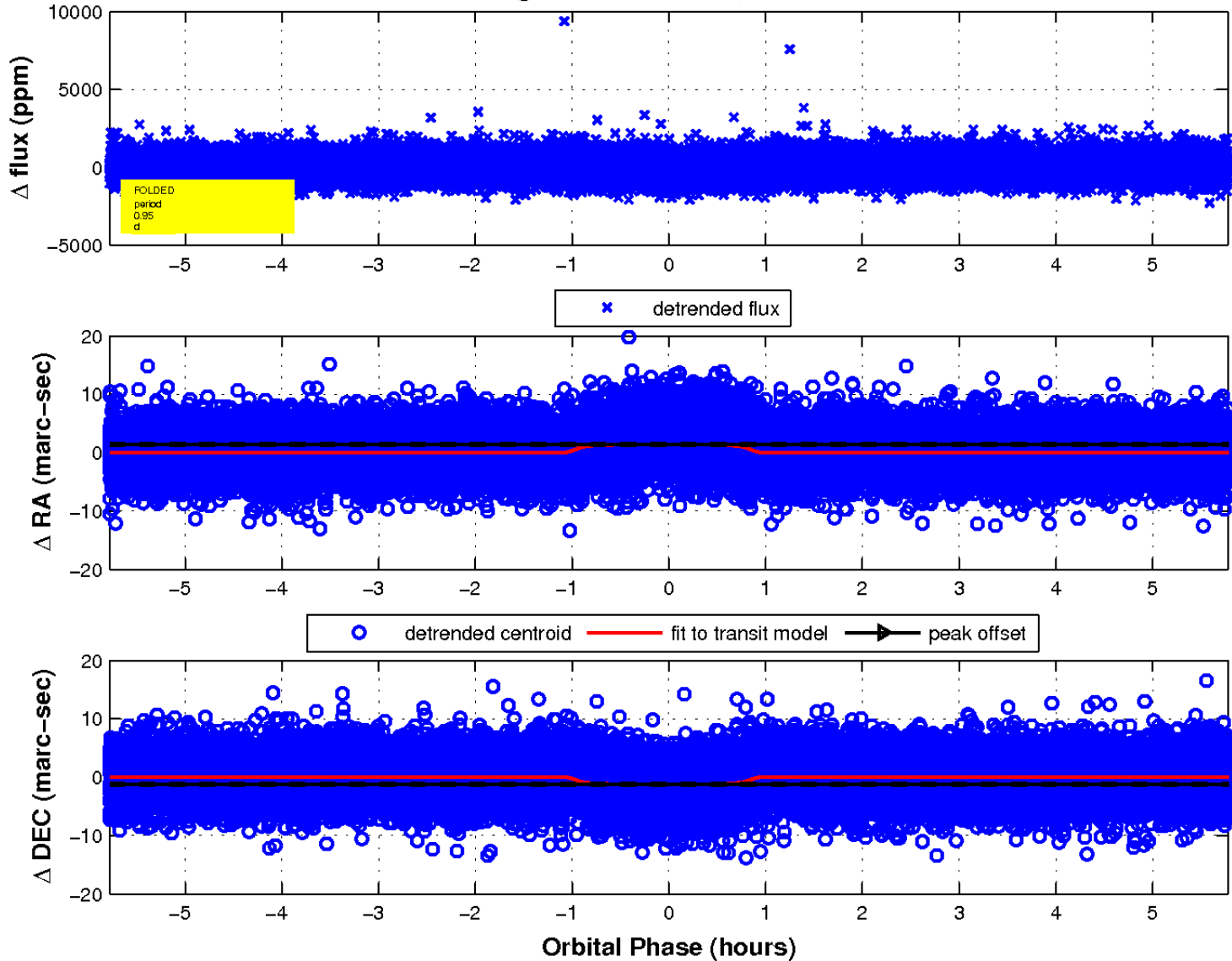
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

