

# KIC 001433899

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
001433899-01	OBS	No	1.041483	131.666524	55.3	4.912	7.7	7.8	0.81	5338	0.63	1308.39

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001433899-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

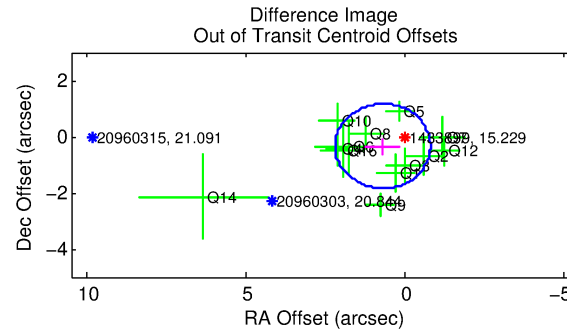
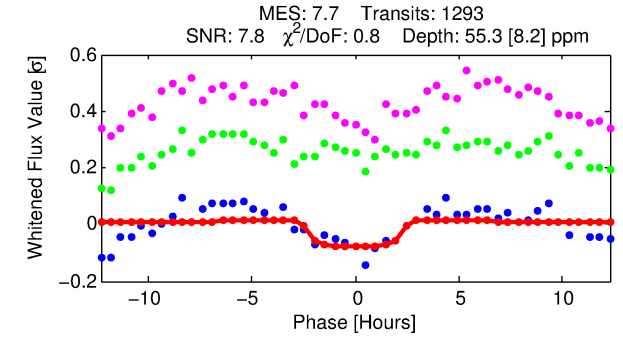
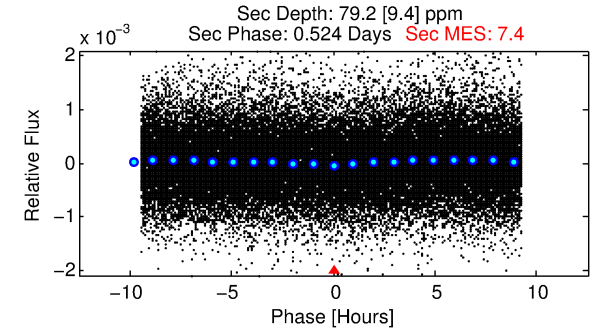
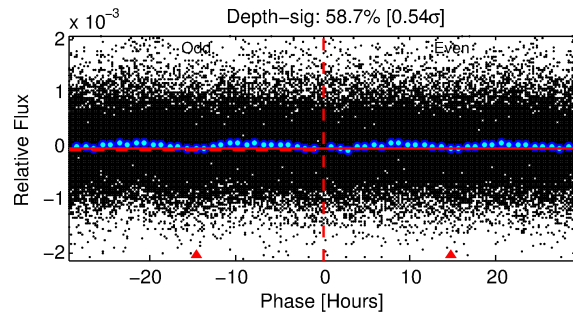
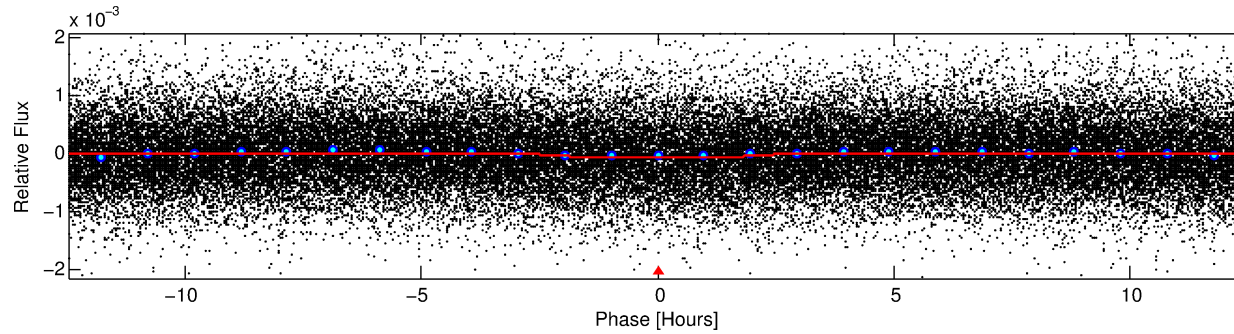
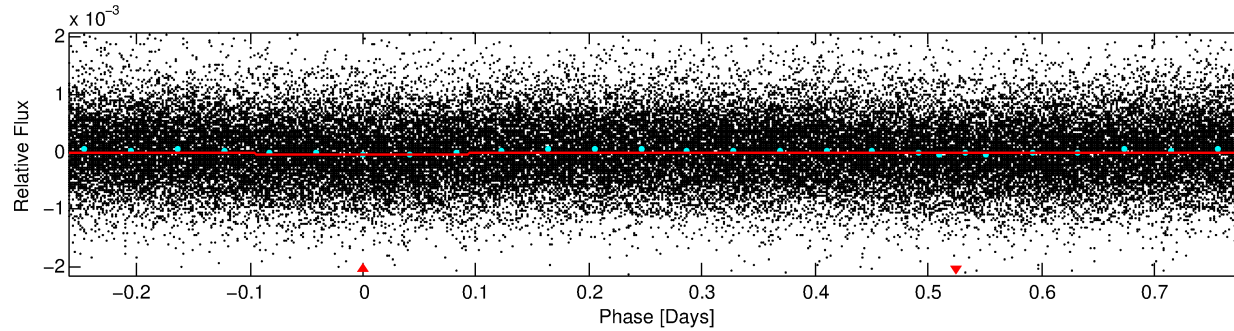
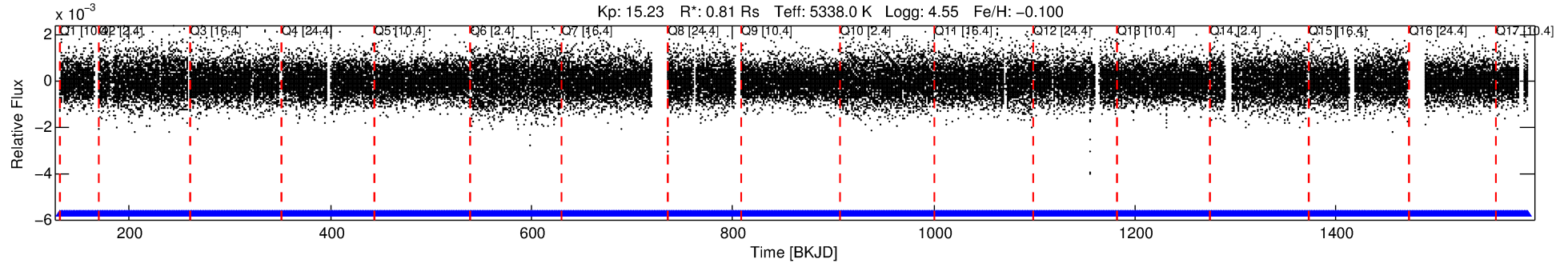
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 001433899-01

No Significant Match Found

# DV One-Page Summary

KIC: 1433899 Candidate: 1 of 1 Period: 1.041 d



## DV Fit Results:

Period = 1.04148 [0.00002] d  
Epoch = 131.6665 [0.0063] BKJD  
Rp/R\* = 0.0072 [0.0068]  
a/R\* = 1.46 [2.87]  
b = 0.67 [3.09]  
Seff = 1308.39 [299.24]  
Teq = 1534 [88] K  
Rp = 0.63 [0.61] Re  
a = 0.0190 [0.0026] AU  
Ag = 39.23 [74.86] [0.51 $\sigma$ ]  
Teffp = 5934 [2822] K [1.56 $\sigma$ ]

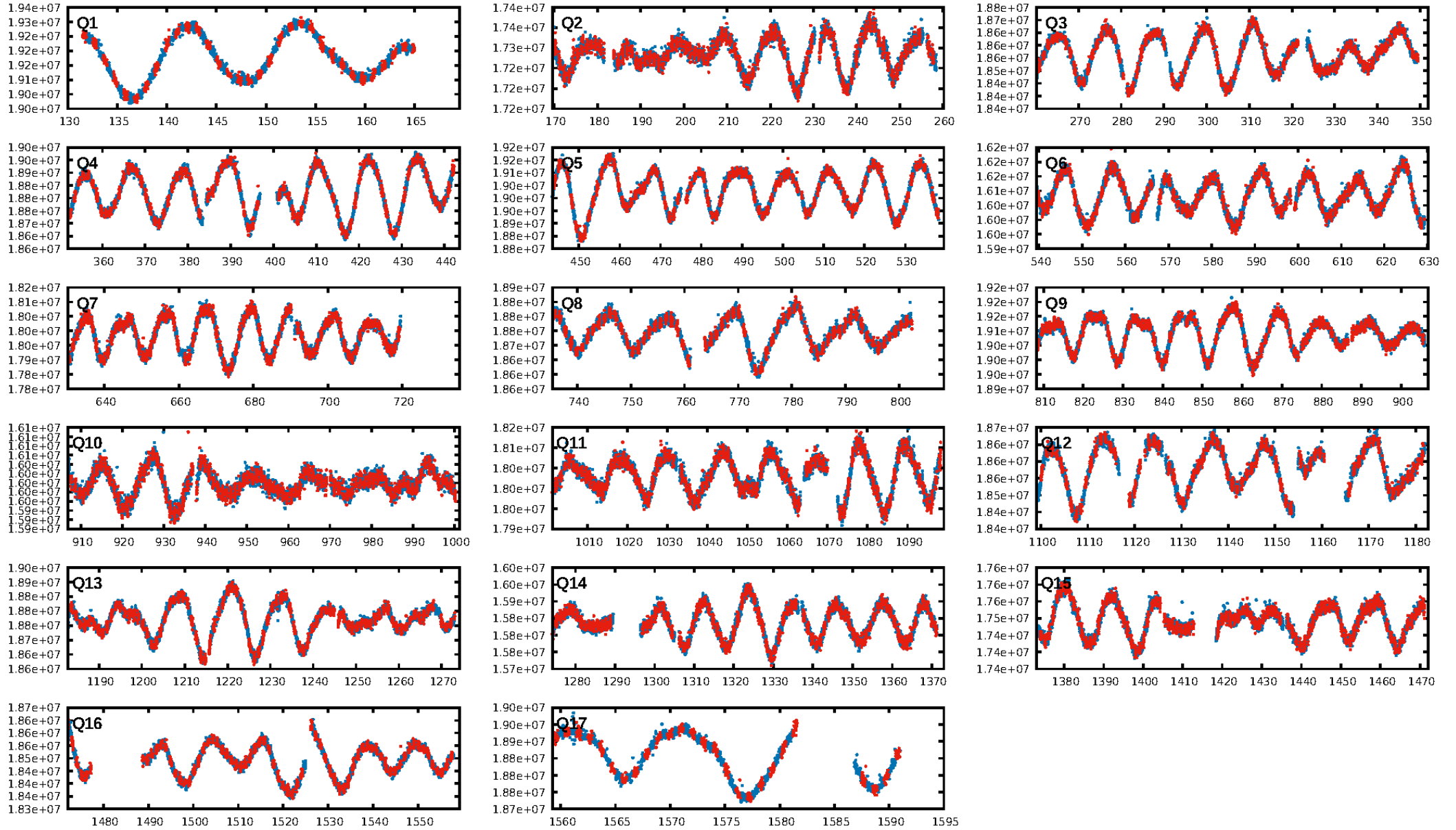
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
**Bootstrap-pfa: 2.40e-10**  
RollingBand-fgm: 1.00 [1234/1234]  
**GhostDiagnostic-chr: 0.738**  
**Centroid-sig: 0.0%**  
Centroid-so: 4.095 arcsec [2.53 $\sigma$ ]  
OotOffset-rm: 0.781 arcsec [1.56 $\sigma$ ]  
KicOffset-rm: 0.763 arcsec [1.33 $\sigma$ ]  
OotOffset-st: 4/2/4/3 [13]  
KicOffset-st: 4/2/4/3 [13]  
DiffImageQuality-fgm: 0.62 [8/13]  
DiffImageOverlap-fno: 1.00 [17/17]

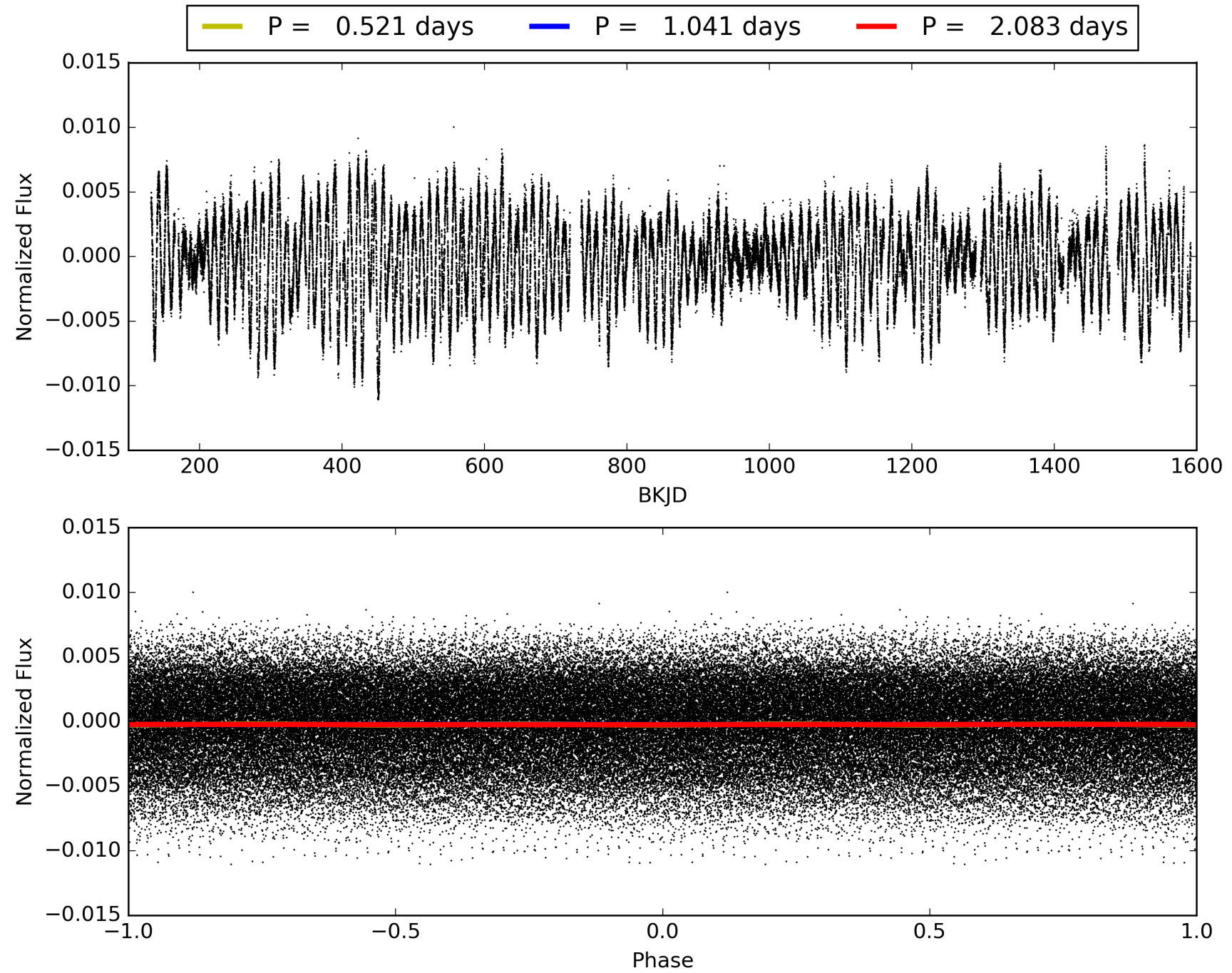
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:55:36 Z

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

# TCE 001433899-01, PDC Light Curves

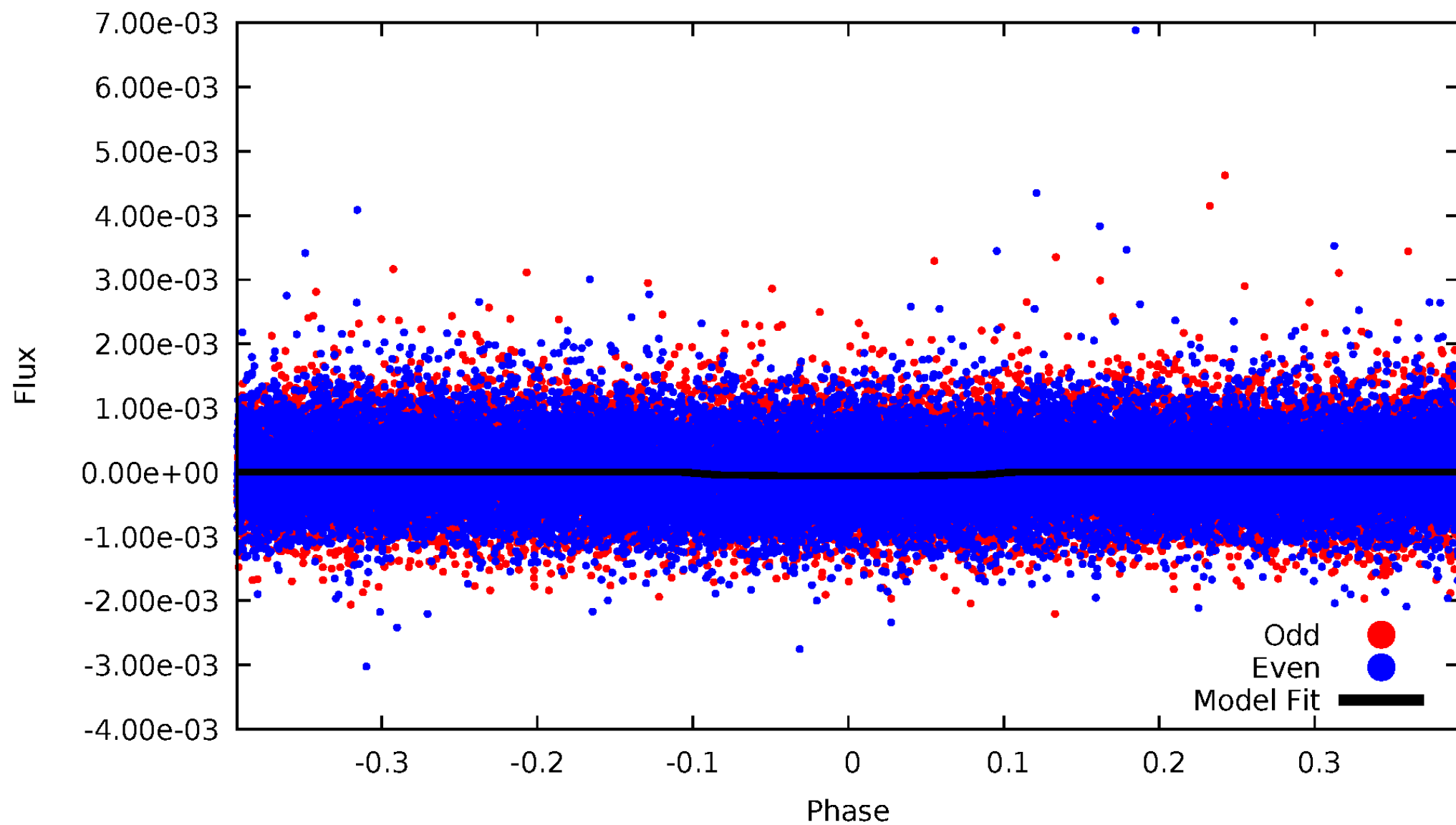


TCE 001433899-01



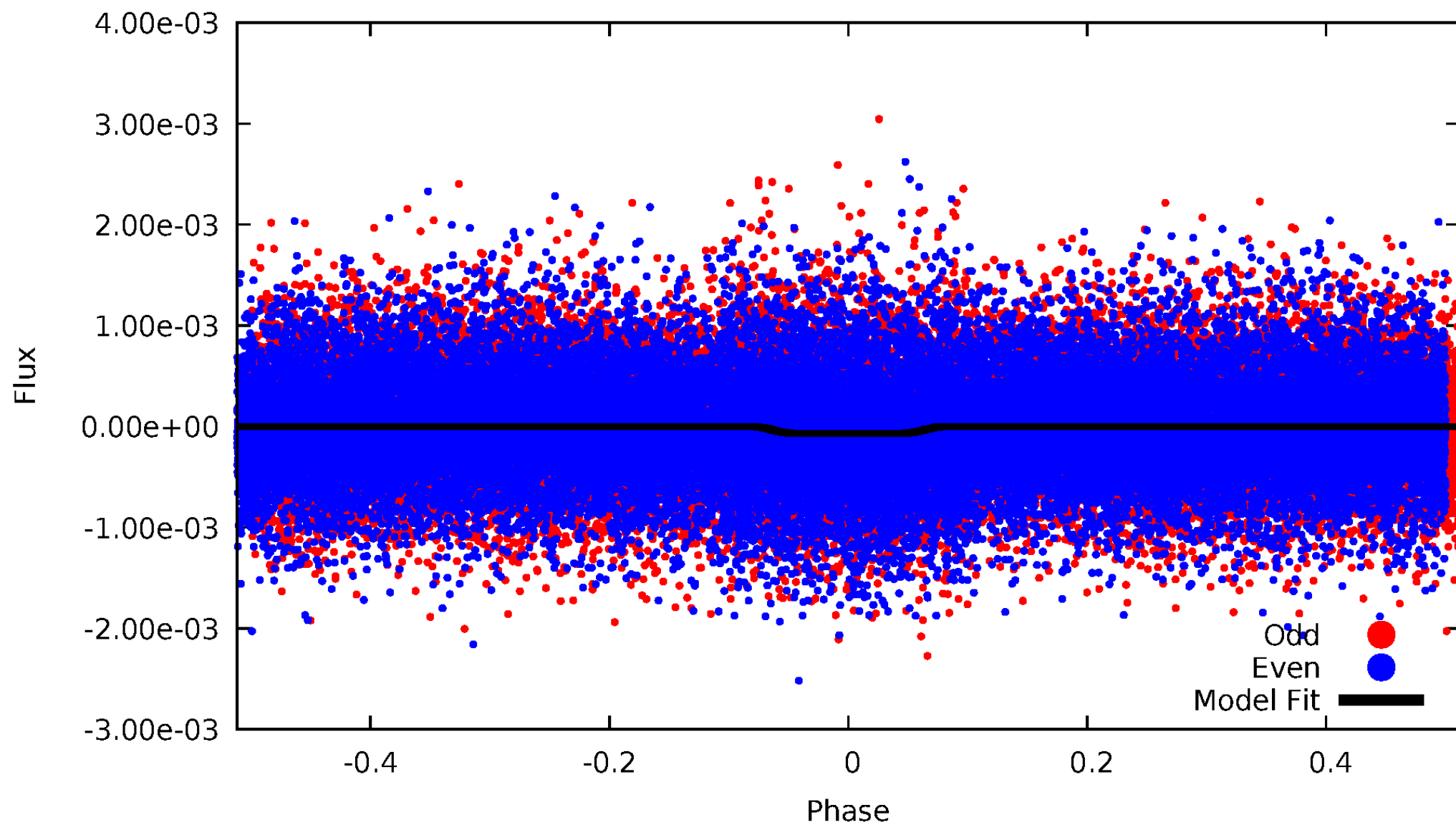
# DV Odd/Even

TCE 001433899-01



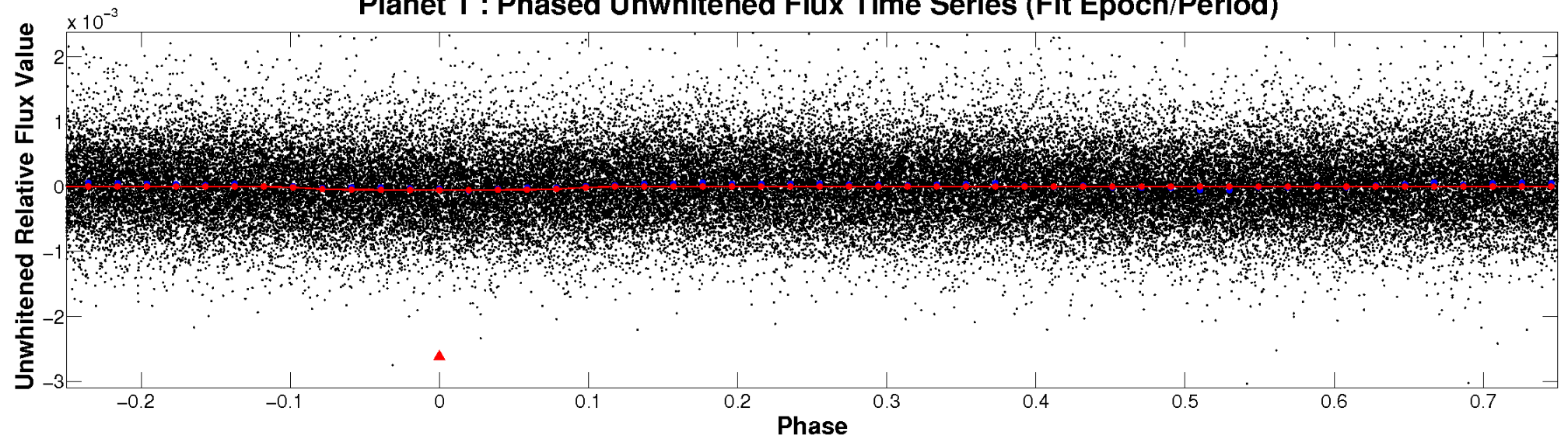
# ALT Odd/Even

TCE 001433899-01

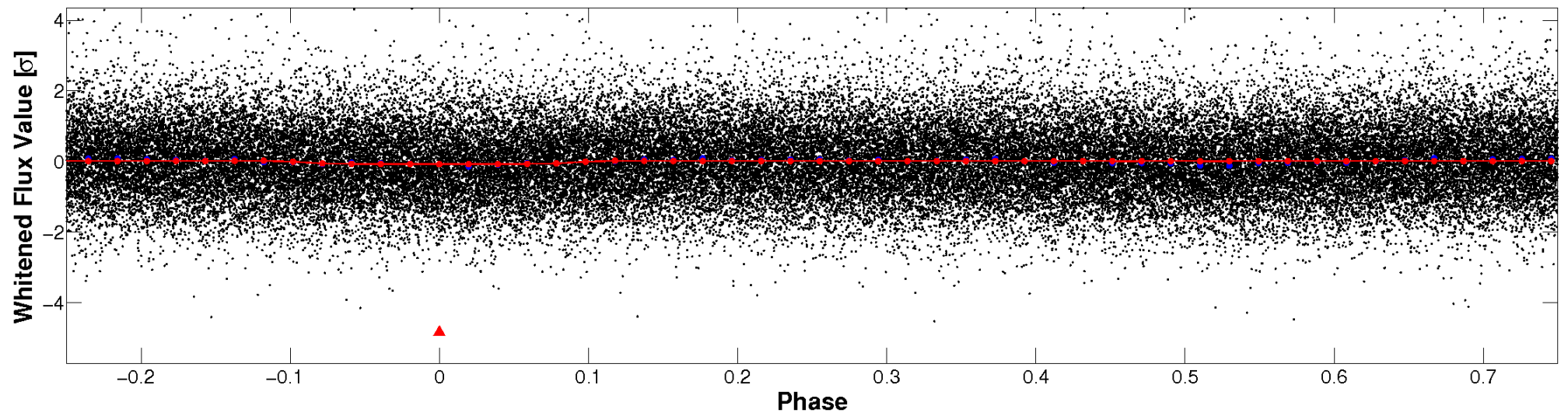


# Non-Whitened Vs. Whitened Light Curve

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

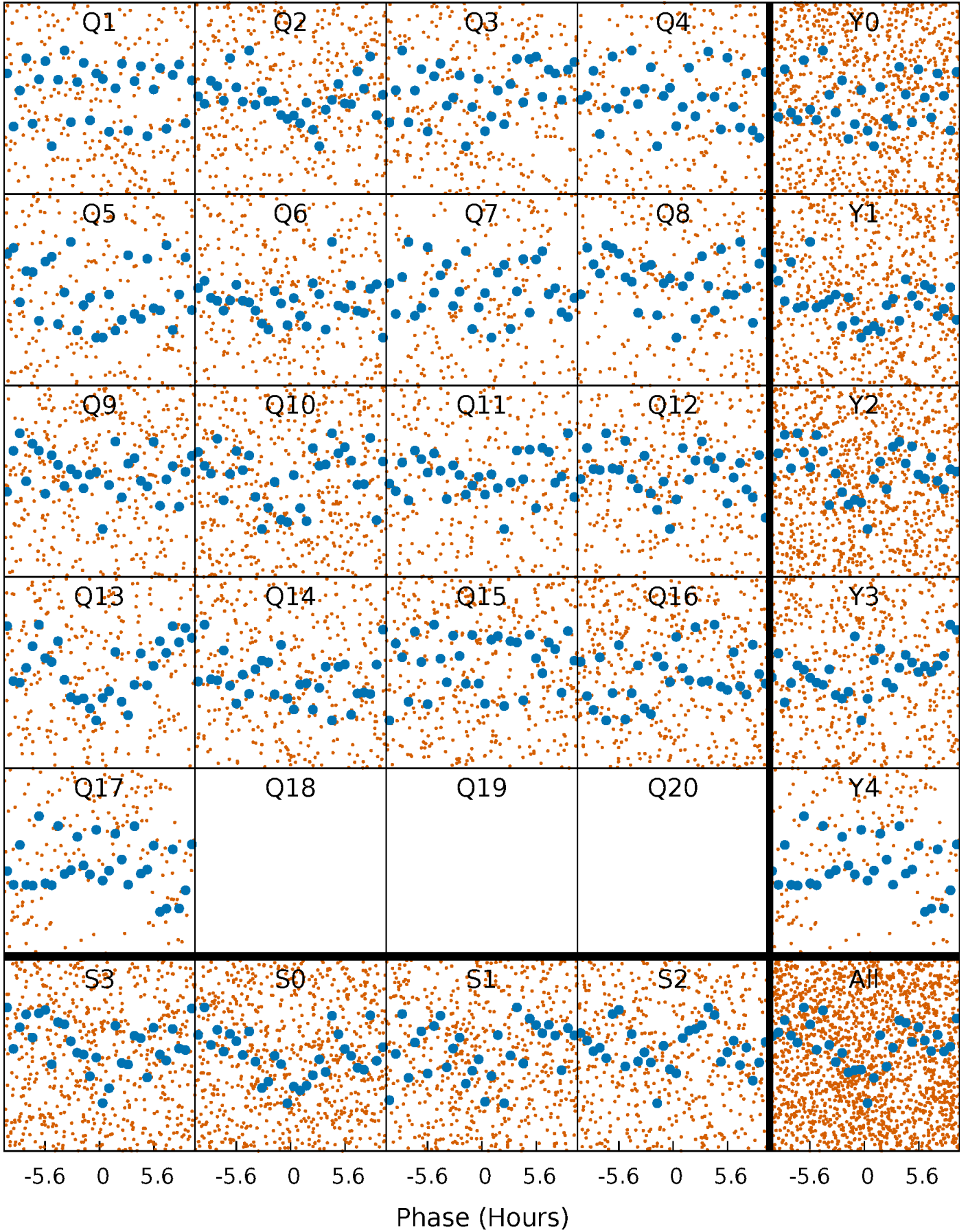


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



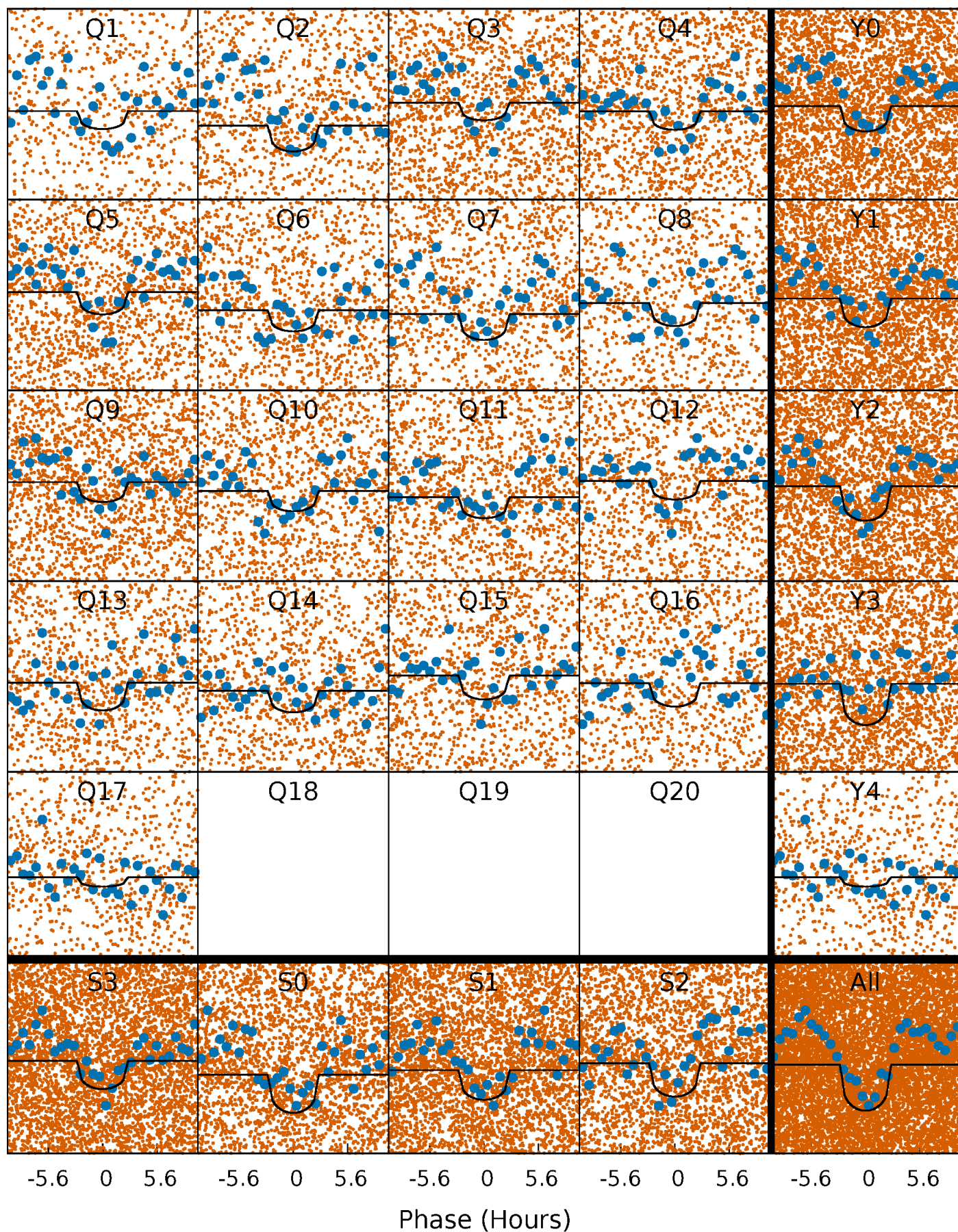
# PDC Quarter-Phased Transit Curves

TCE 001433899-01   P= 1.041483 Days    $T_0=131.666524$  (BKJD)



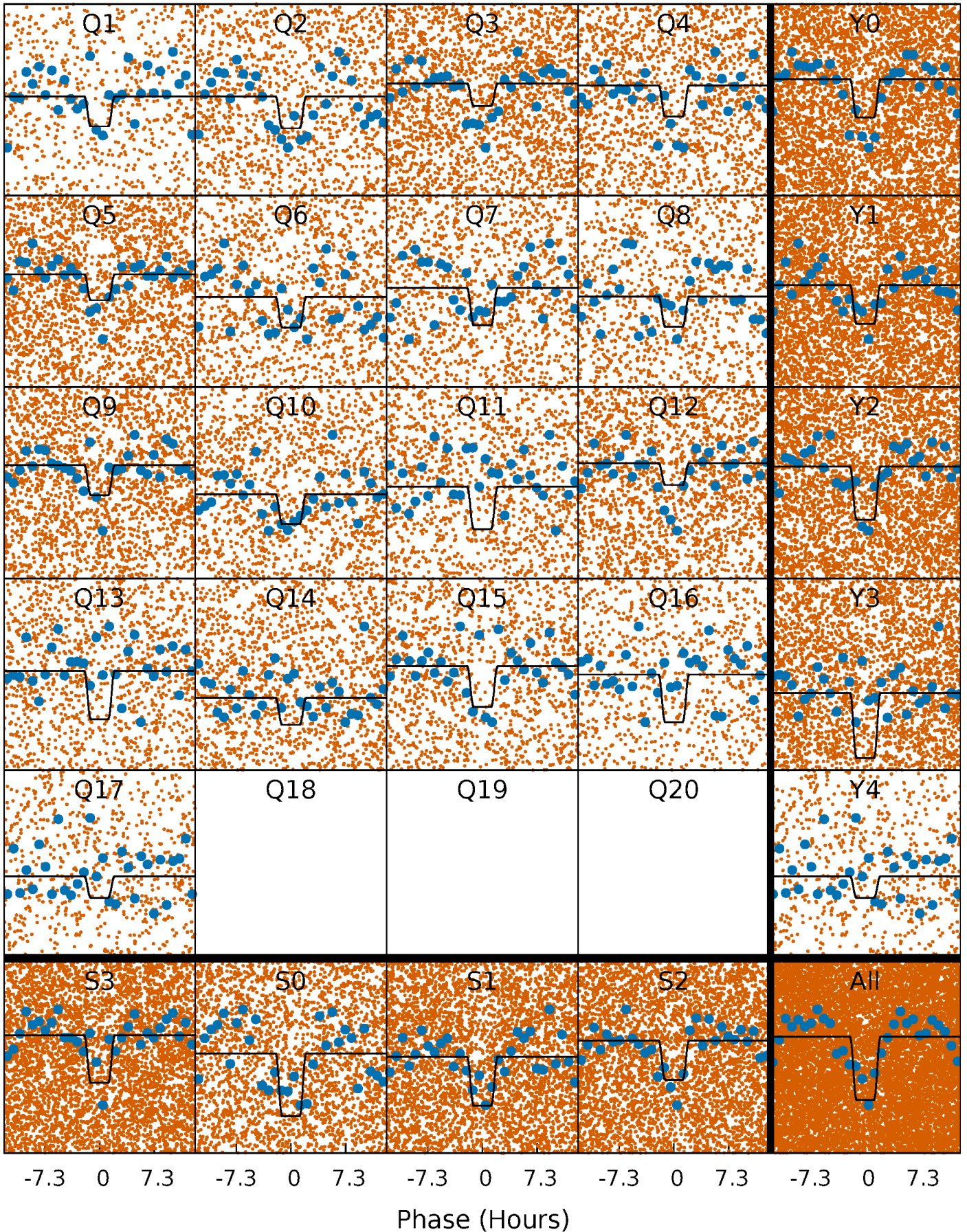
# DV Quarter-Phased Transit Curves

TCE 001433899-01   P= 1.041483 Days    $T_0=131.666524$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

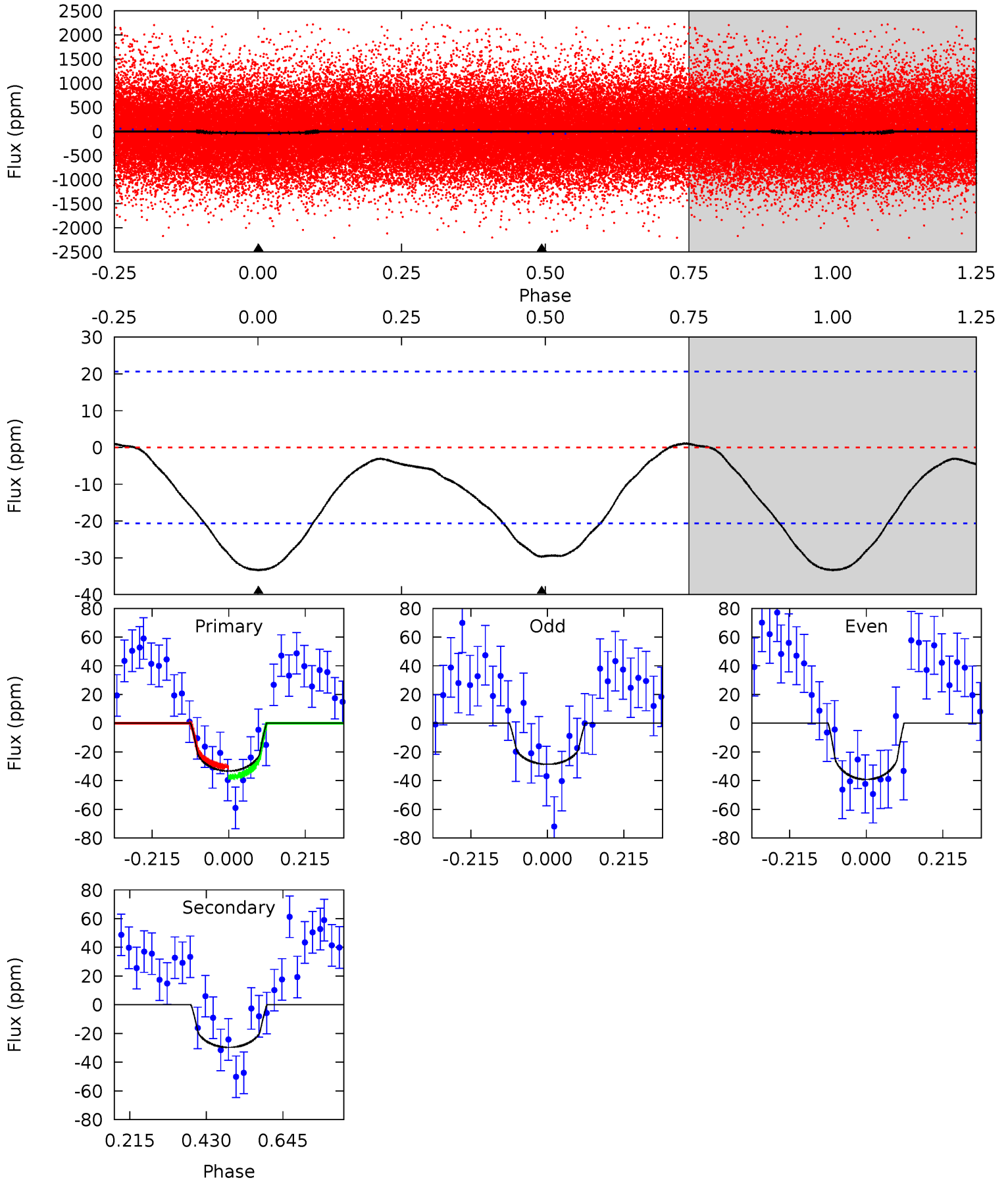
TCE 001433899-01 P= 1.041433 Days  $T_0=131.699511$  (BKJD)



# DV Model-Shift Uniqueness Test

001433899-01, P = 1.041483 Days, E = 130.625041 Days

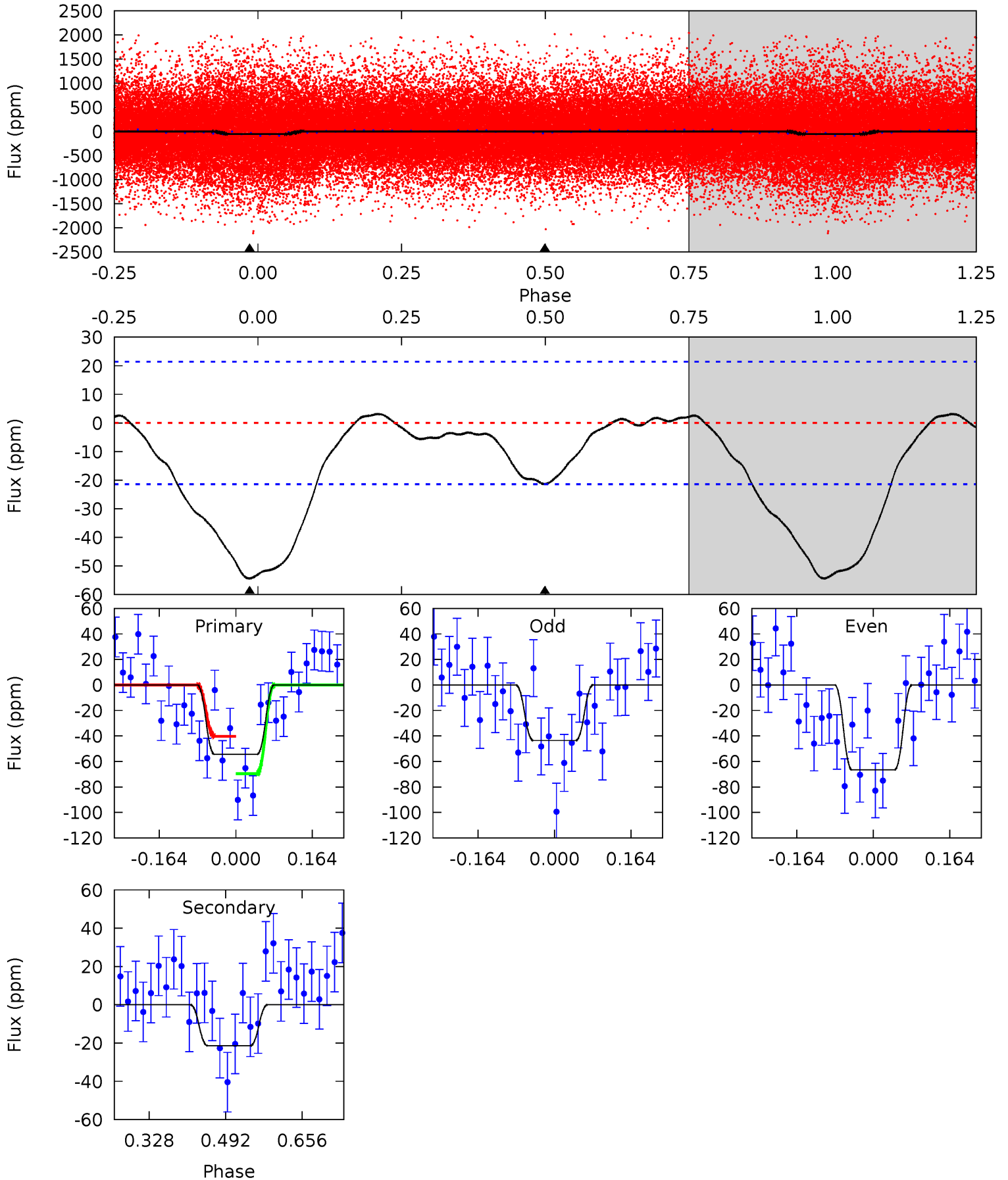
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.10	6.33	0	0	4.40	1.24	0.52	7.10	7.10	6.33	6.33	1.14	0.82	0.03	0.78



# Alt Model-Shift Uniqueness Test

001433899-01, P = 1.041433 Days, E = 130.658078 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
11.3	4.46	0	0	4.46	1.39	0.68	11.3	11.3	4.46	4.46	2.40	1.02	0.05	3.04



### Stellar Parameters For KIC 001433899

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5338^{+159}_{-143}$	$4.551^{+0.045}_{-0.105}$	$-0.100^{+0.300}_{-0.300}$	$0.805^{+0.133}_{-0.071}$	$0.839^{+0.087}_{-0.078}$	$2.269^{+0.534}_{-0.738}$
	+3%/-3%	+1%/-2%	+300%/-300%	+17%/-9%	+10%/-9%	+24%/-33%
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 001433899-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-30 \pm 5$	$0.74^{+0.57}_{-0.45}$	$2171^{+93}_{-88}$	$4453^{+2458}_{-860}$	$10^{+58}_{-7}$
Alt.	$-21 \pm 5$	$0.81^{+0.56}_{-0.46}$	$2167^{+100}_{-87}$	$4017^{+1800}_{-694}$	$6.229^{+29.220}_{-4.175}$

$T_{\text{max}}$  = 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

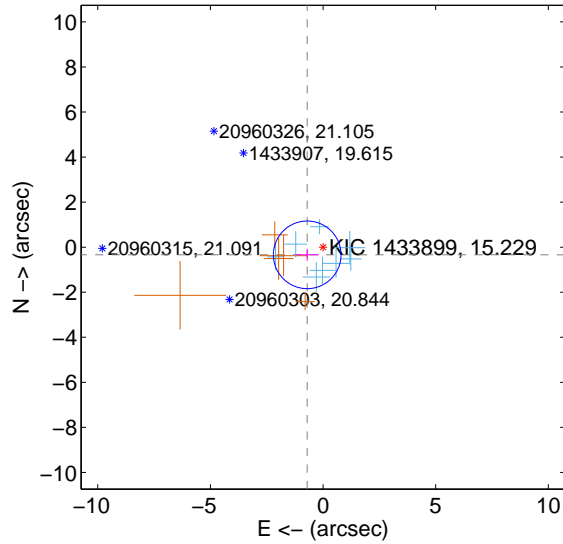
Supplemental centroid analysis for 001433899-01. Kepler magnitude: 15.23. Transit SNR 7.79

There are 8 quarters with good PRF difference image offsets

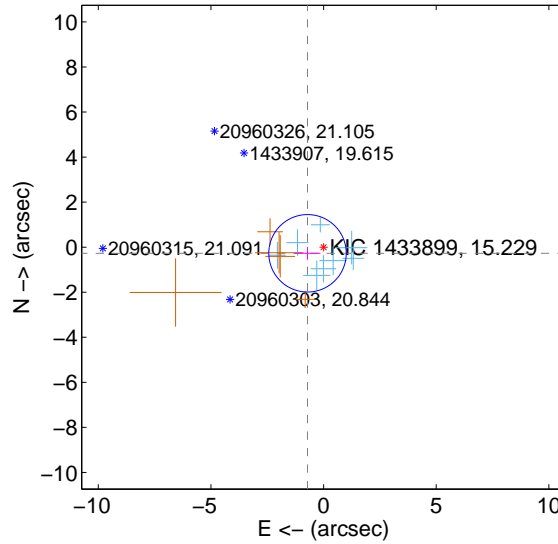
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.781 \pm 0.500$	1.56	$0.703 \pm 0.510$	$-0.340 \pm 0.265$
PRF-fit source offset from KIC position	$0.763 \pm 0.573$	1.33	$0.713 \pm 0.571$	$-0.272 \pm 0.286$
photometric centroid source offset	$4.09 \pm 1.62$	2.53	$4.02 \pm 1.62$	$0.77 \pm 1.51$

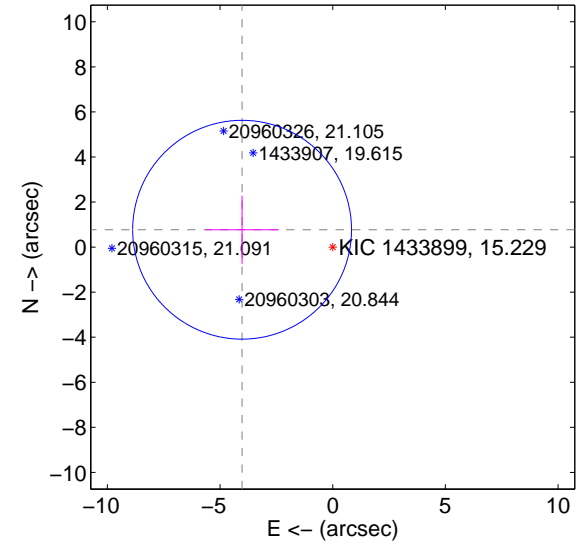
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

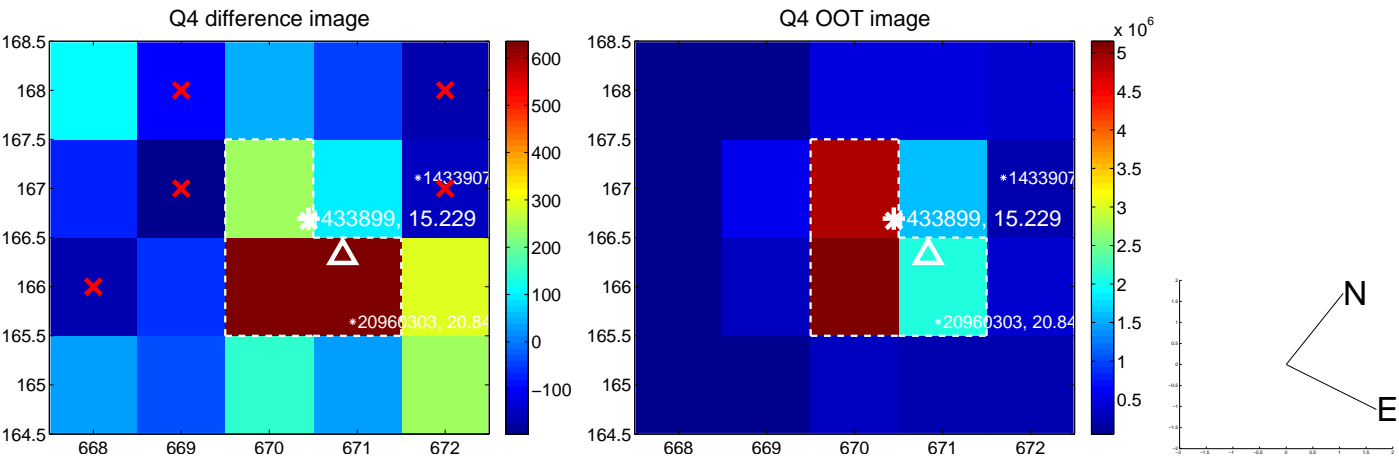
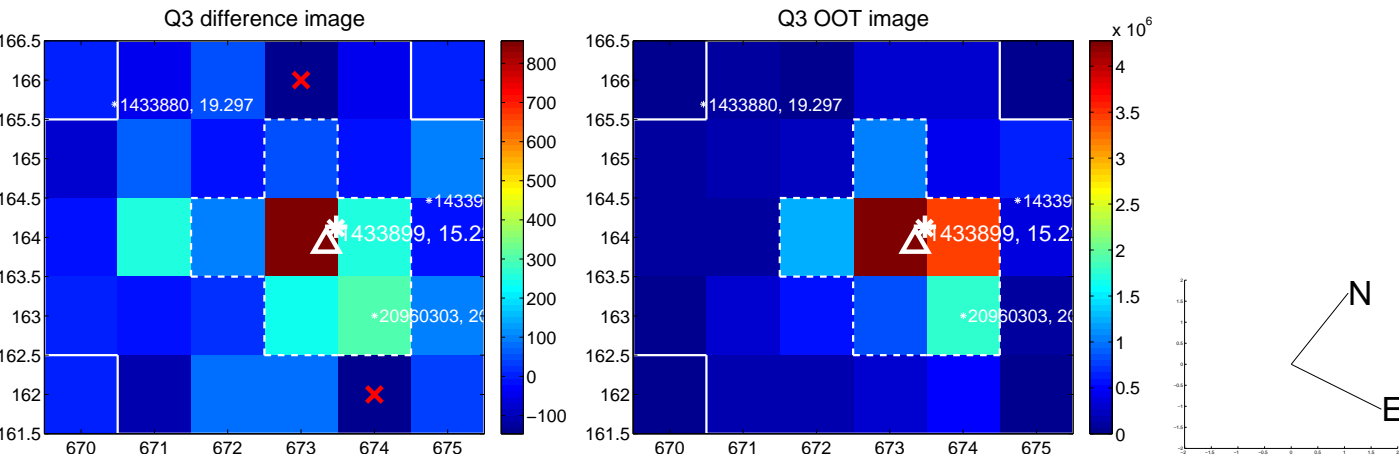
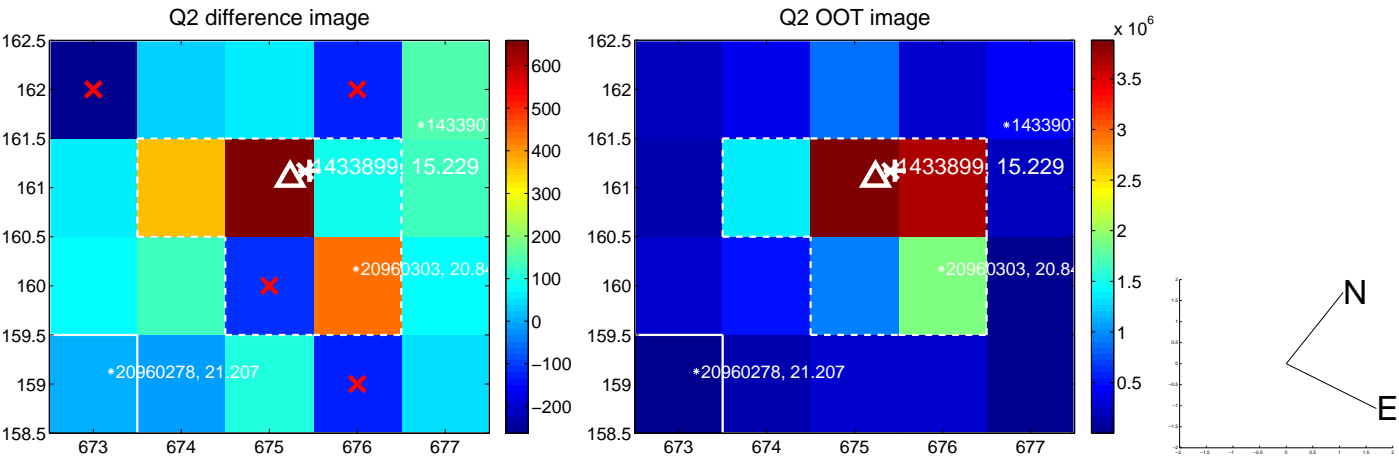
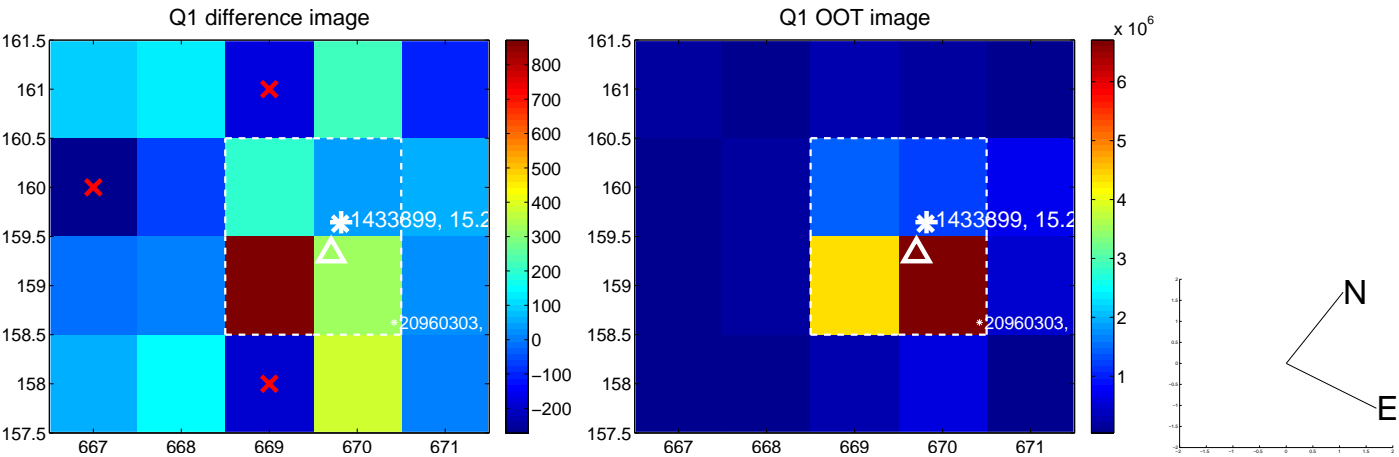


offset from photometric centroids

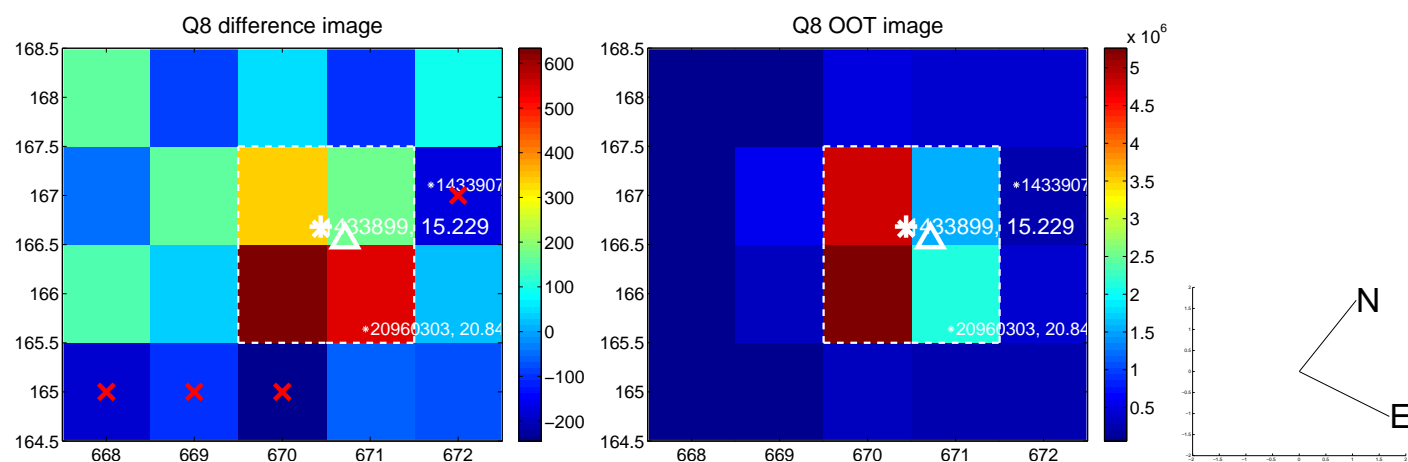
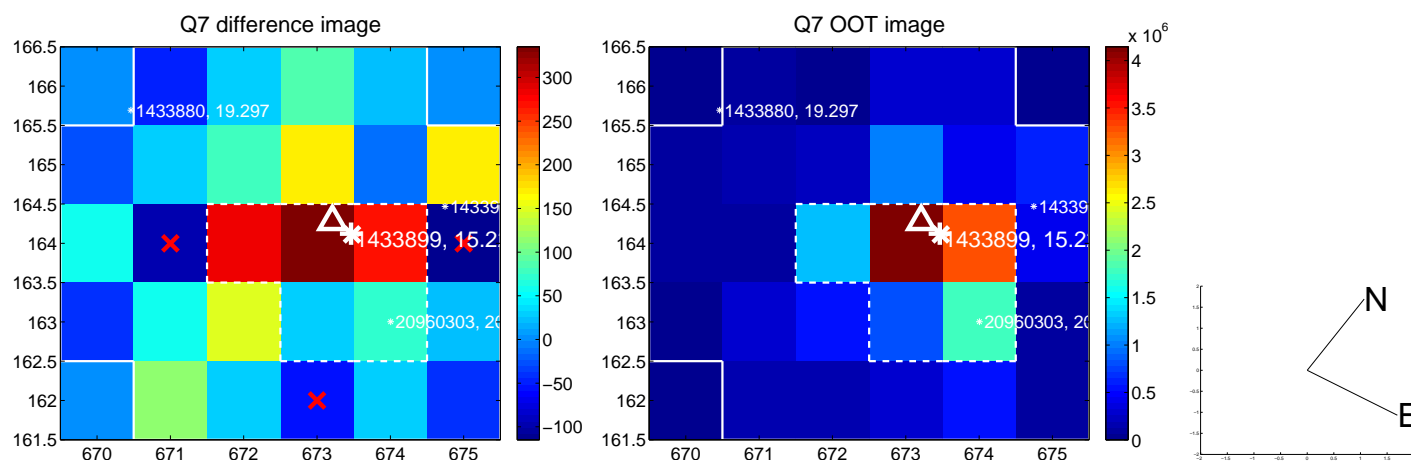
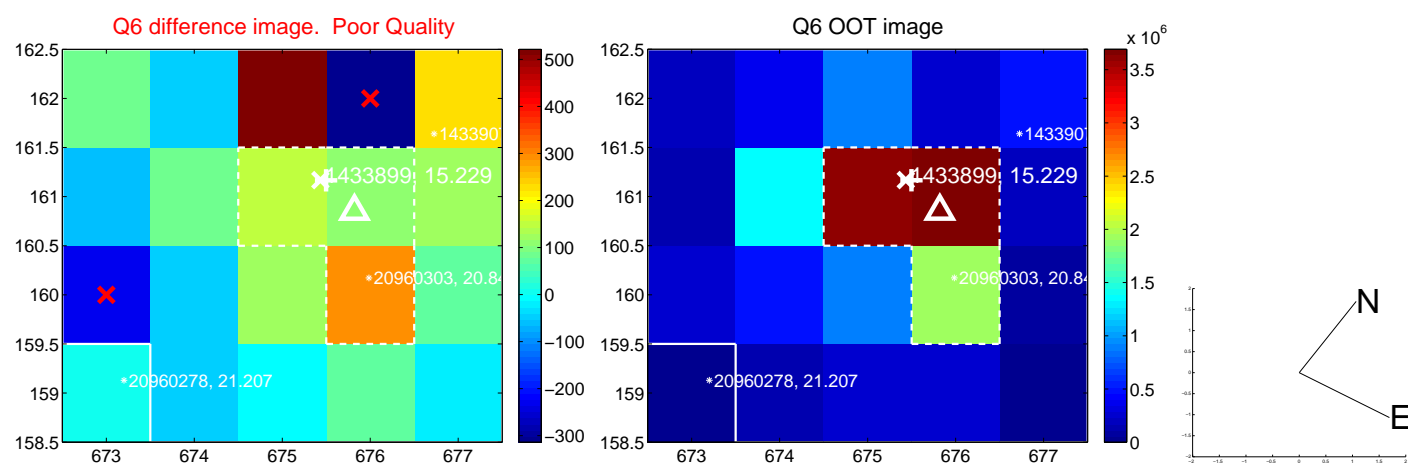
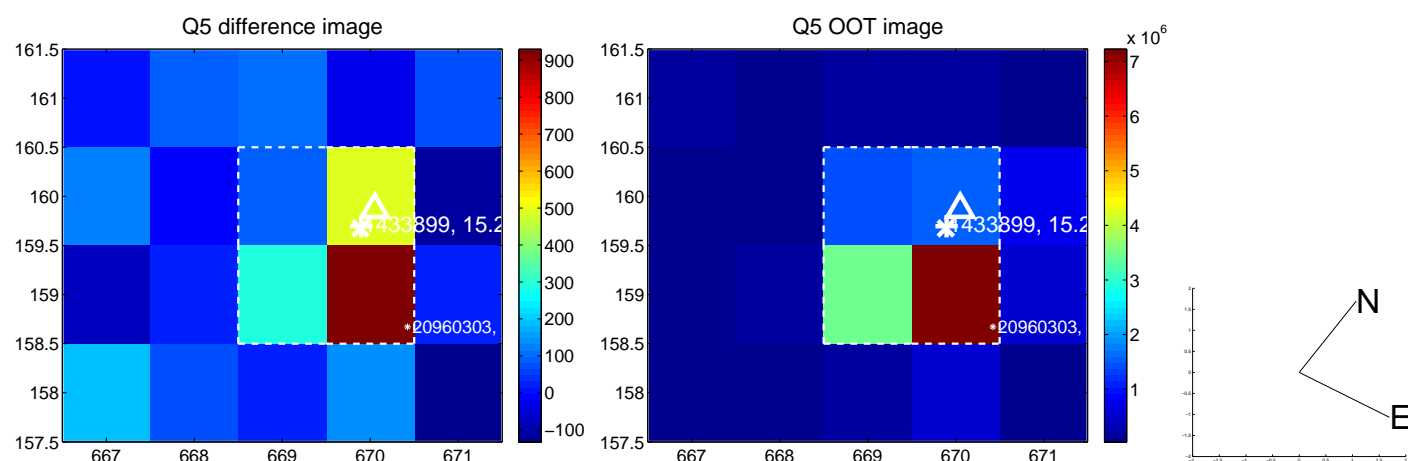


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

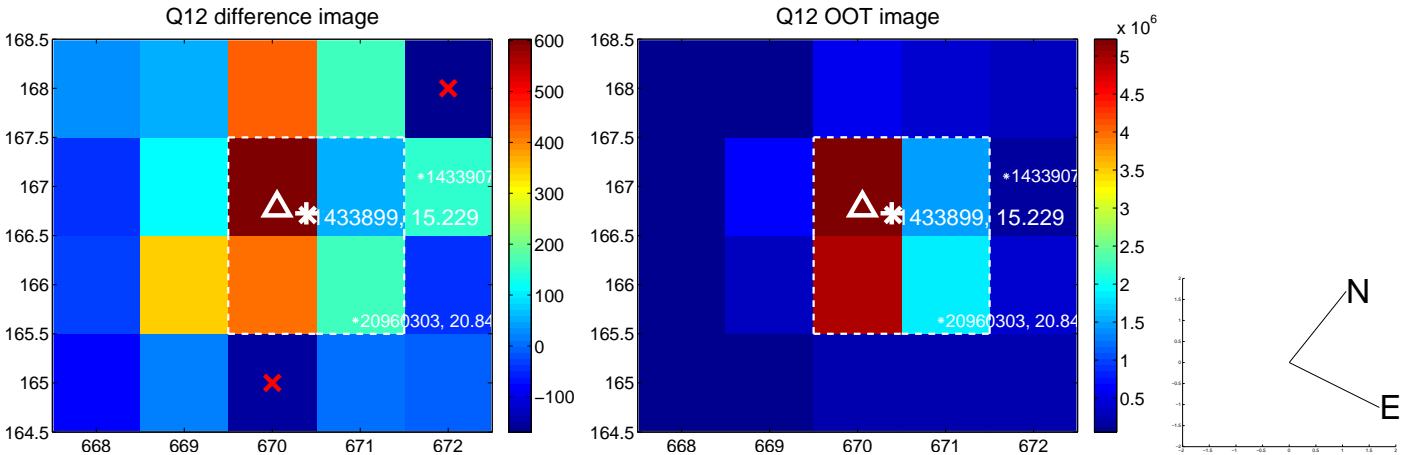
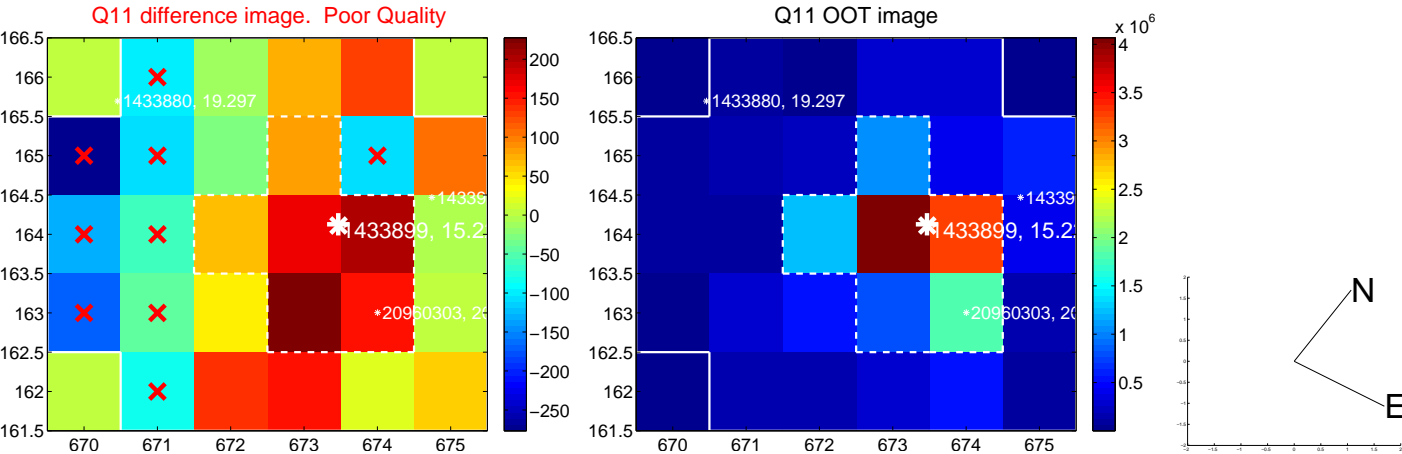
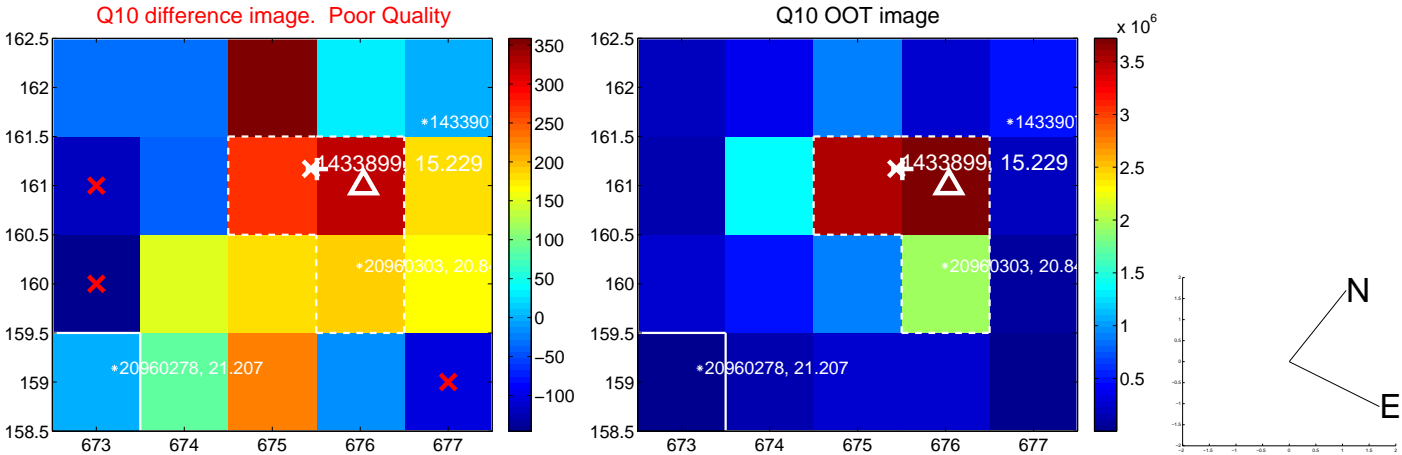
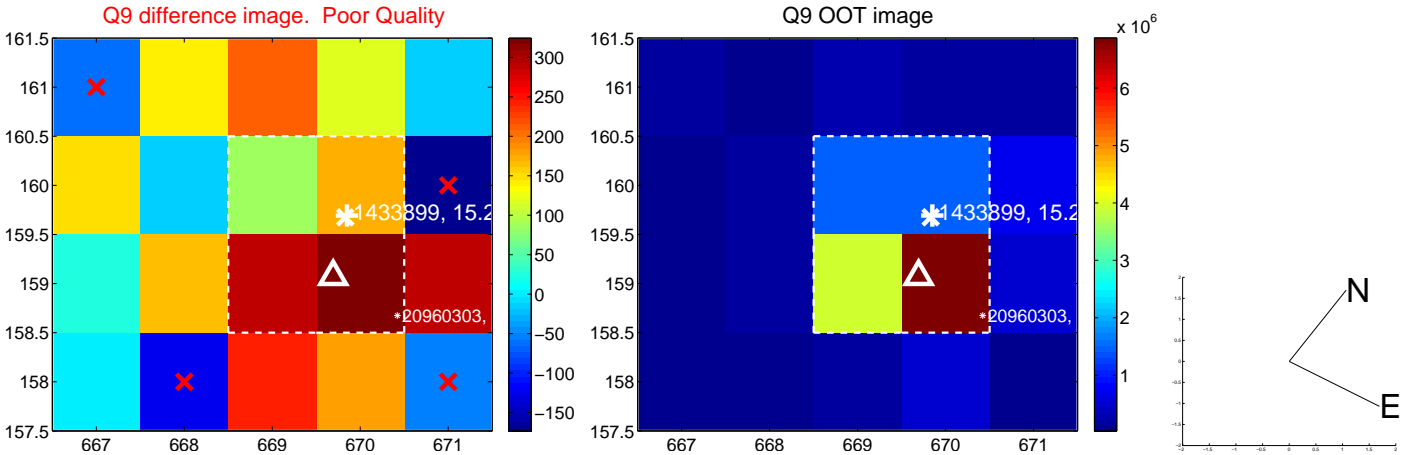
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



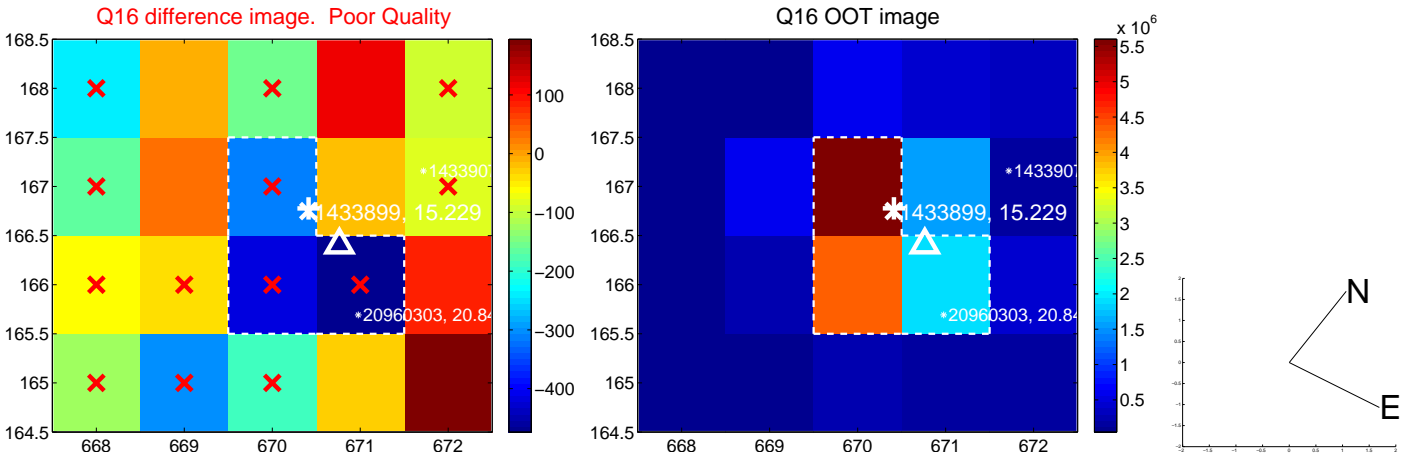
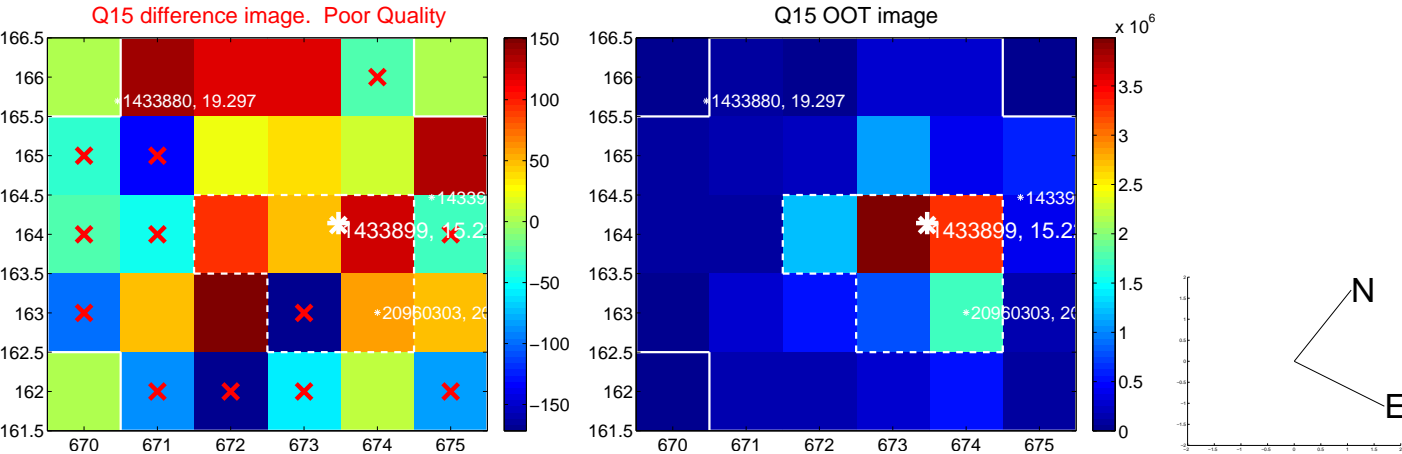
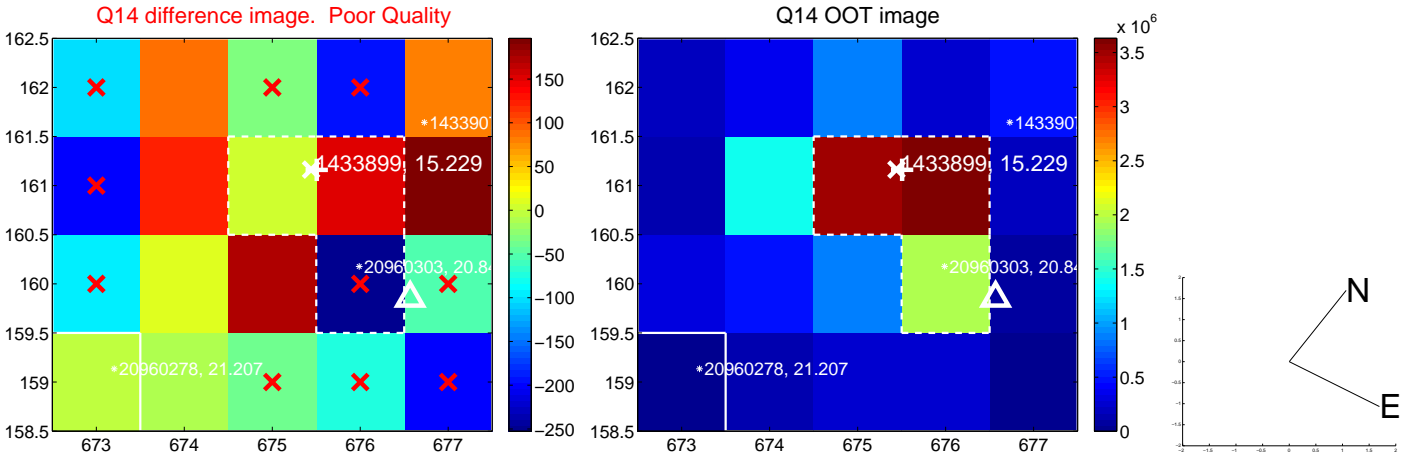
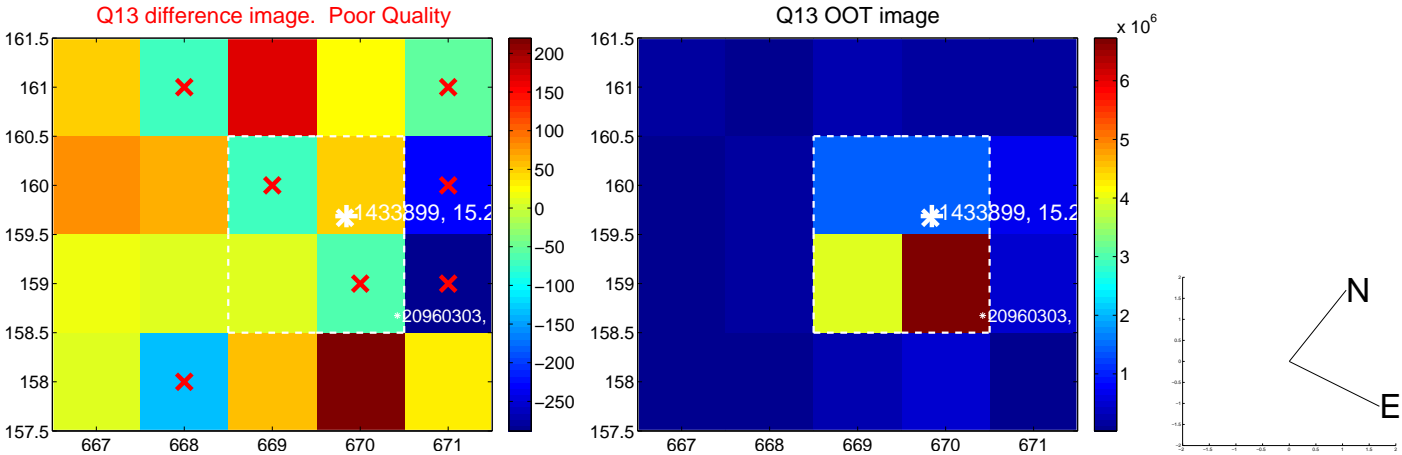
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



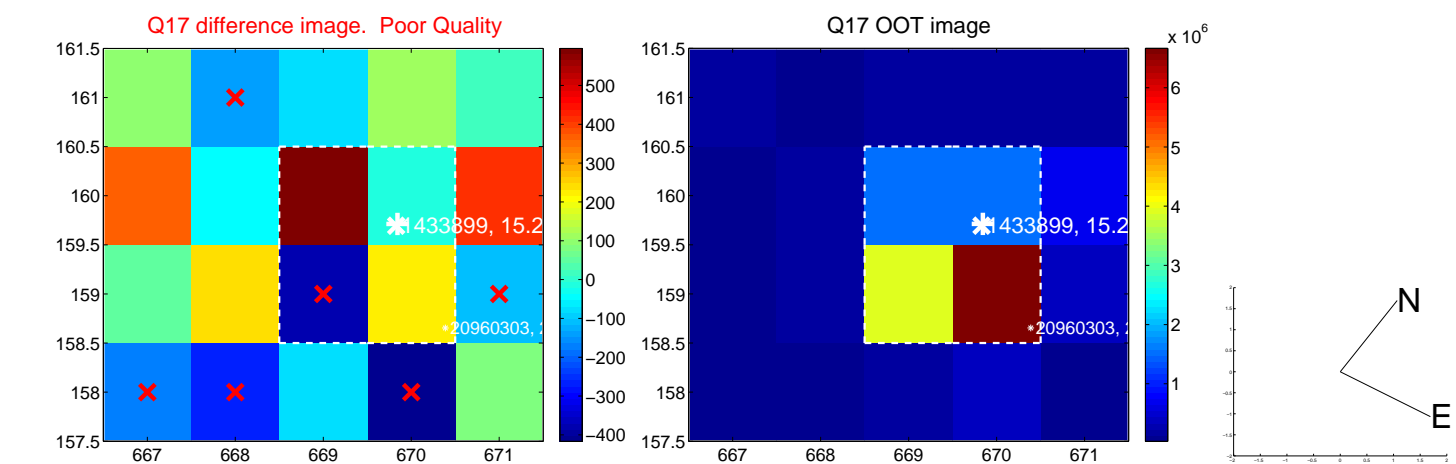
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



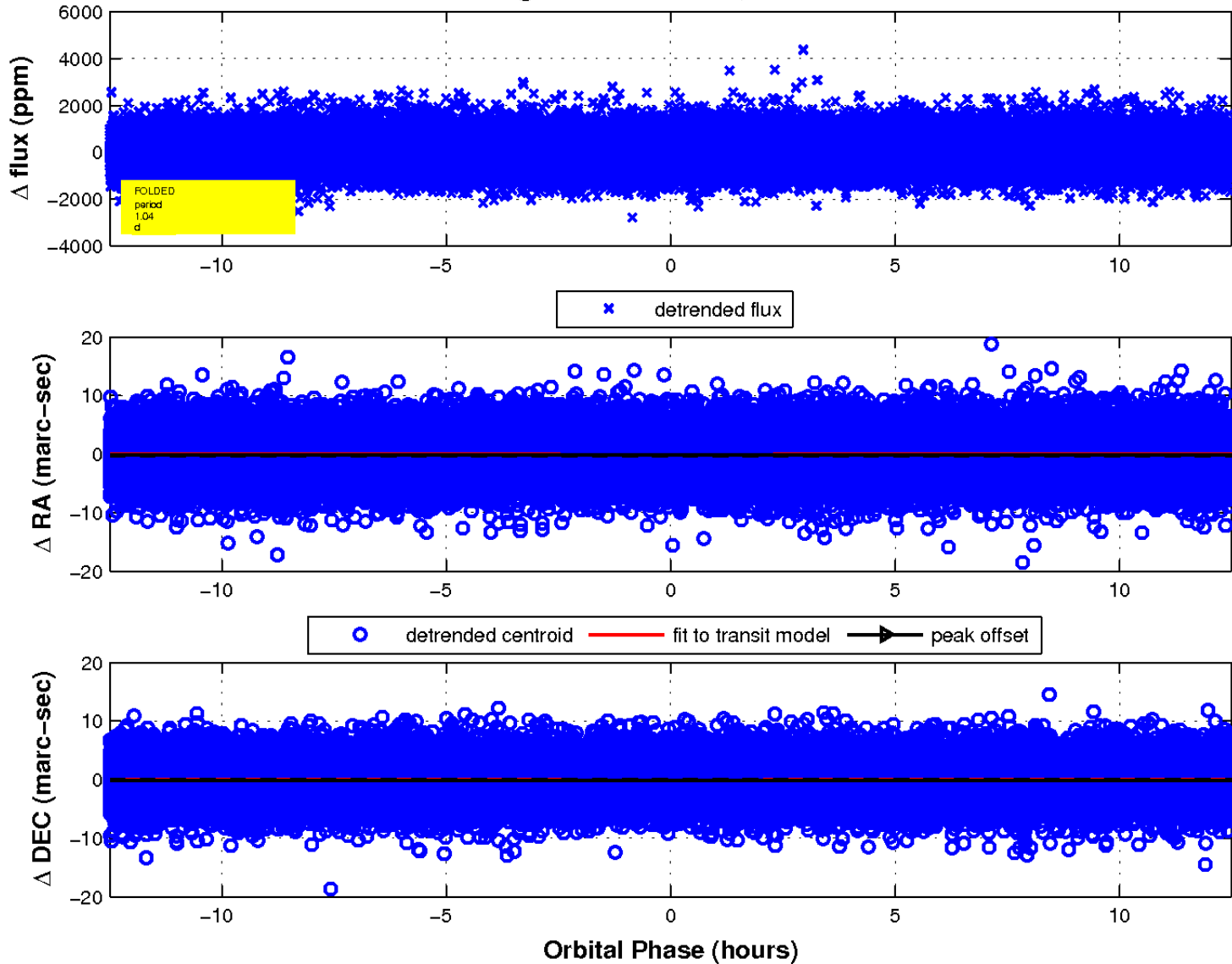
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

