

# KIC 003962433

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003962433-01	OBS	No	0.637707	131.913714	0.0	1.197	9.1	0.0	0.49	3738	0.01	315.48

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003962433-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

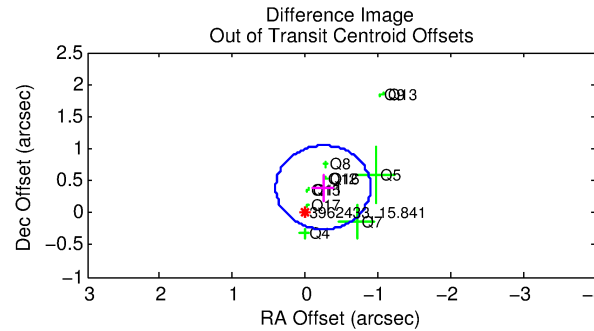
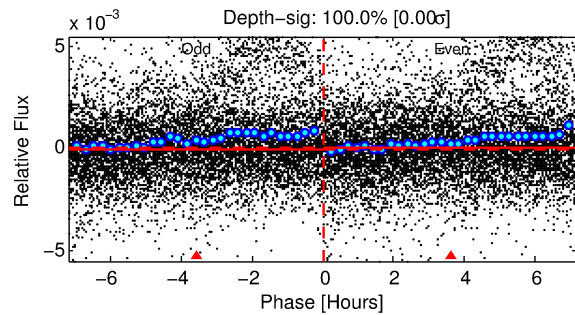
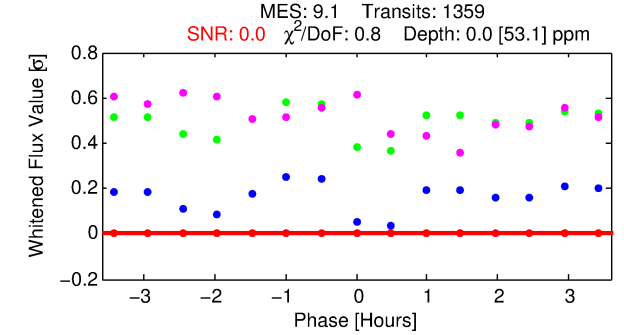
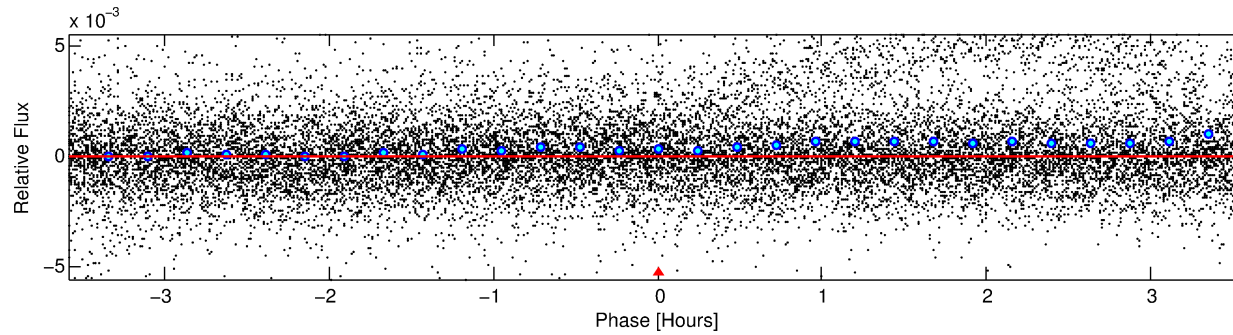
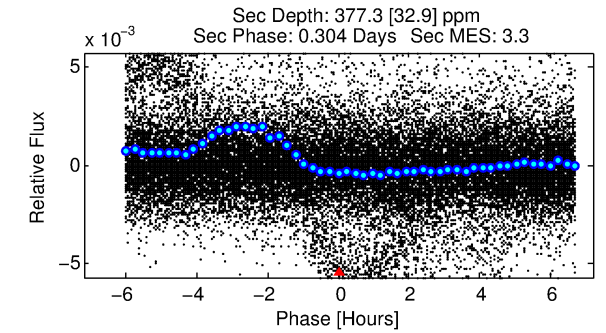
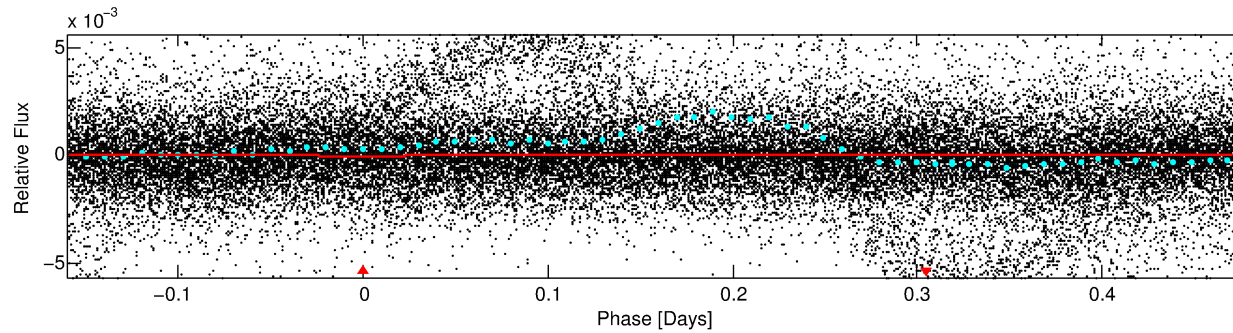
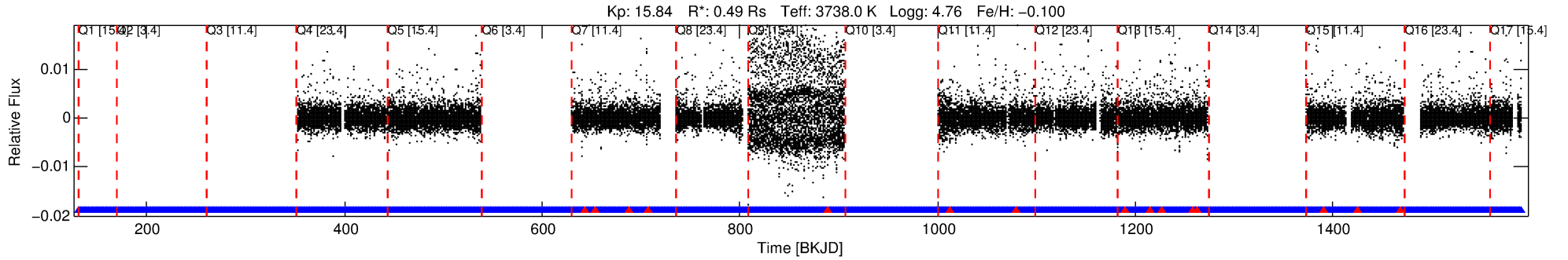
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003962433-01

No Significant Match Found

# DV One-Page Summary

KIC: 3962433 Candidate: 1 of 1 Period: 0.638 d



## DV Fit Results:

Period = 0.63771 [0.22333] d  
Epoch = 131.9137 [28.8636] BKJD  
Rp/R\* = 0.0002 [0.2358]  
a/R\* = 1.66 [641.21]  
b = 0.94 [78.72]  
Seff = 315.48 [153.27]  
Teq = 1075 [131] K  
Rp = 0.01 [12.53] Re  
a = 0.0115 [0.0028] AU  
Ag = 414579.19 [1280281600.74] [0.00σ]  
Teffp = 42161 [32553749] K [0.00σ]

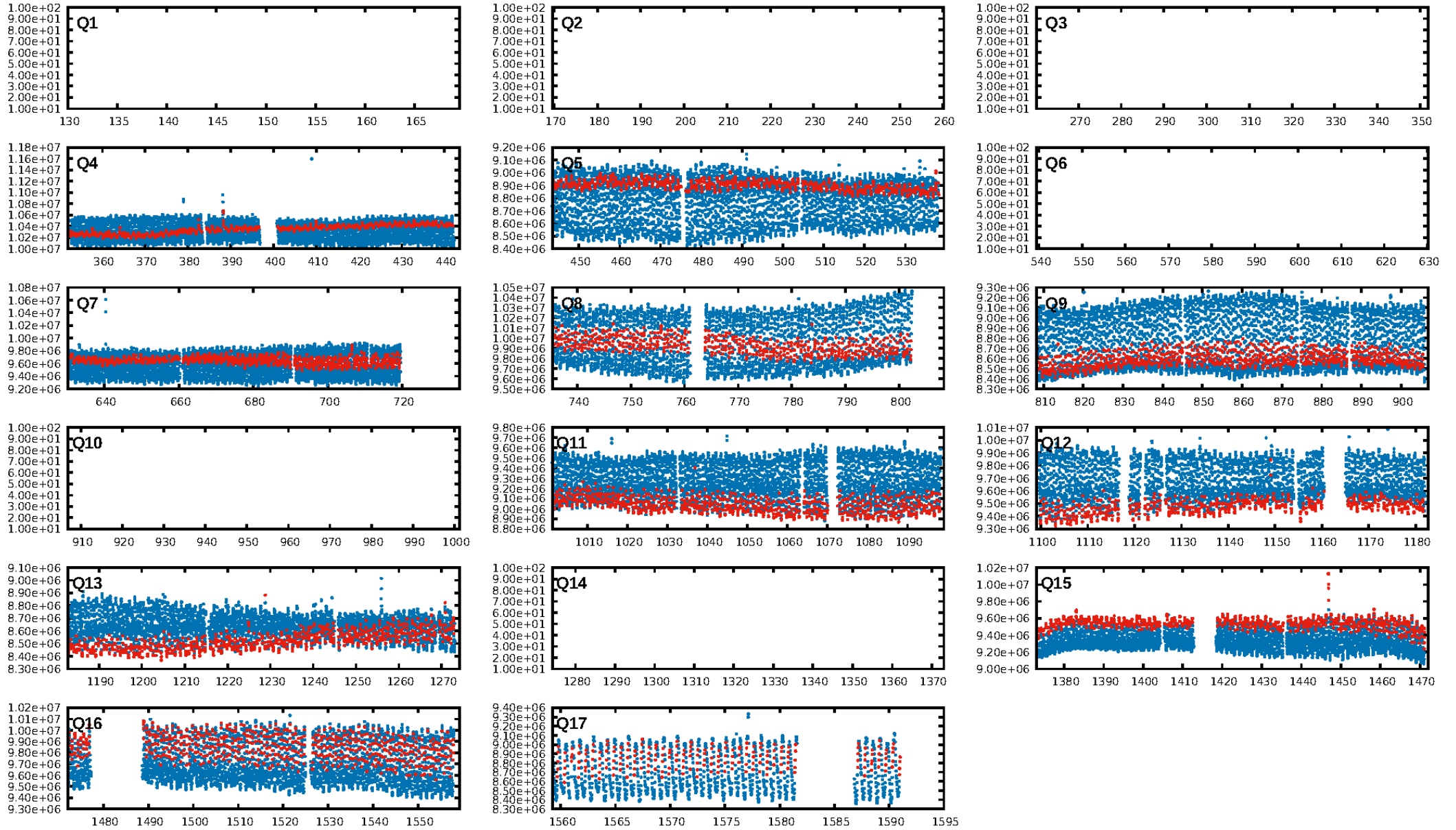
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.22e-13  
RollingBand-fgt: 0.99 [1302/1317]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.466 arcsec [2.14σ]  
KicOffset-rm: 0.056 arcsec [0.57σ]  
OotOffset-st: 0/3/4/4 [11]  
KicOffset-st: 0/3/4/4 [11]  
DiffImageQuality-fgm: 0.64 [7/11]  
DiffImageOverlap-fno: 1.00 [11/11]

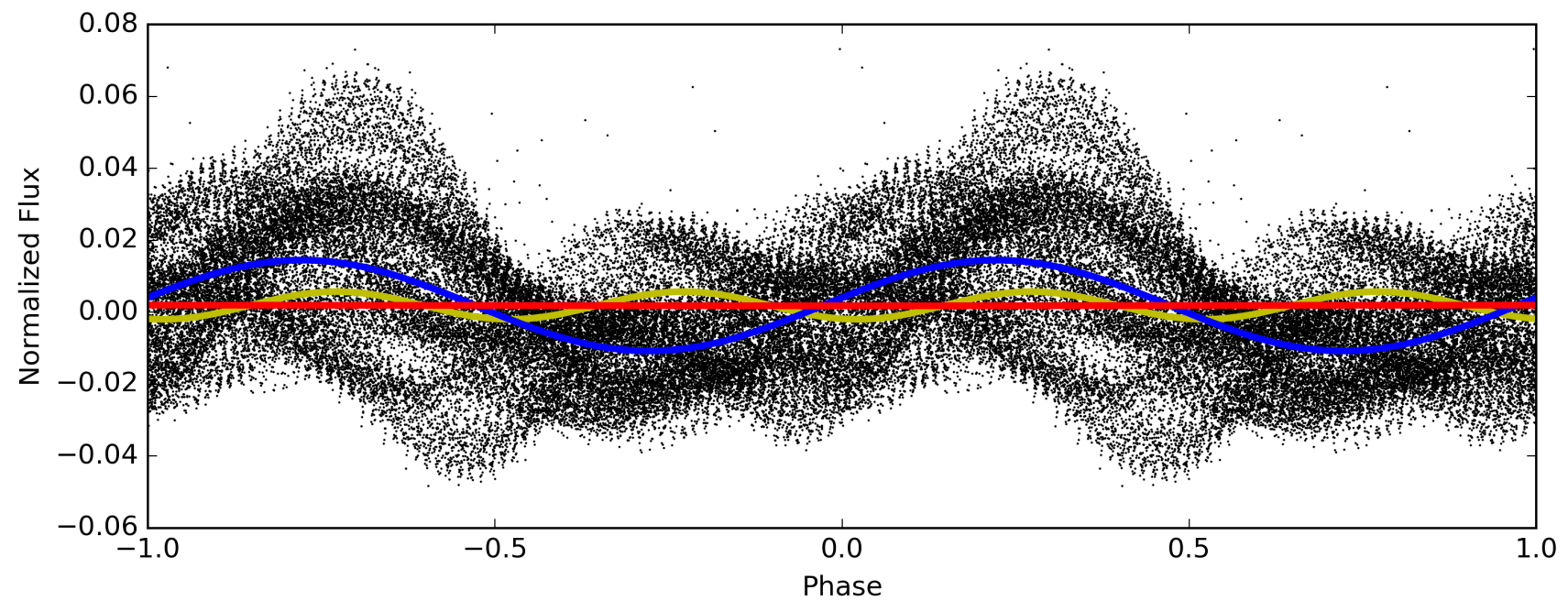
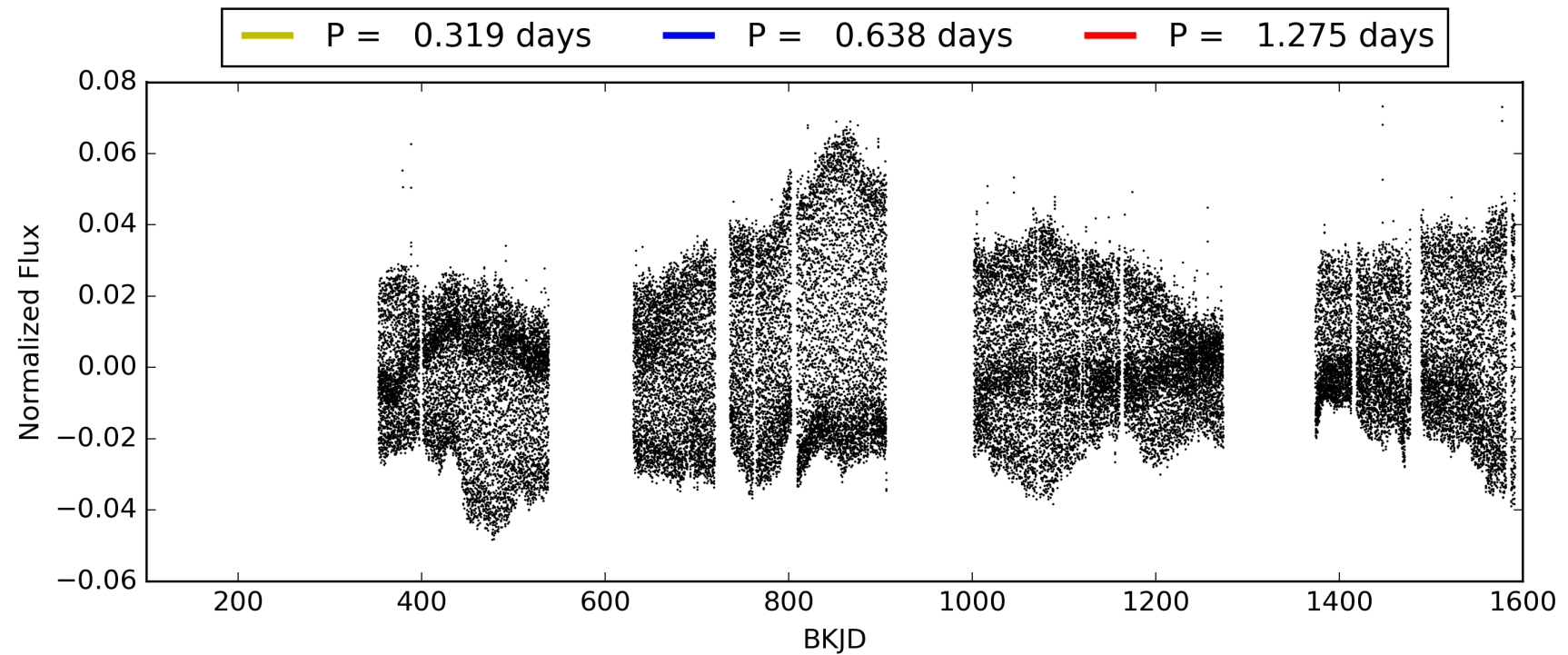
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:41:41 Z

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

# TCE 003962433-01, PDC Light Curves

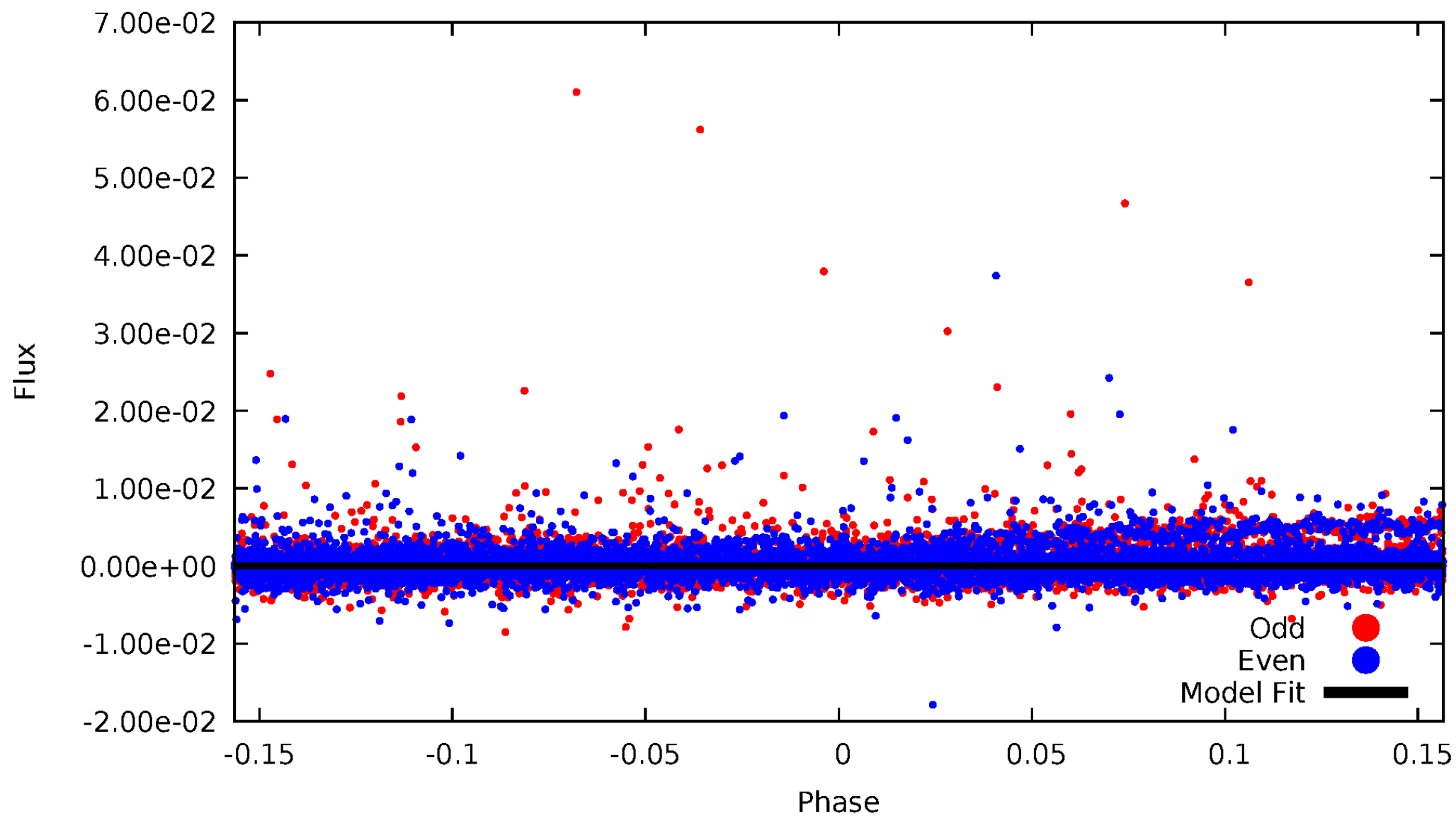


TCE 003962433-01



# DV Odd/Even

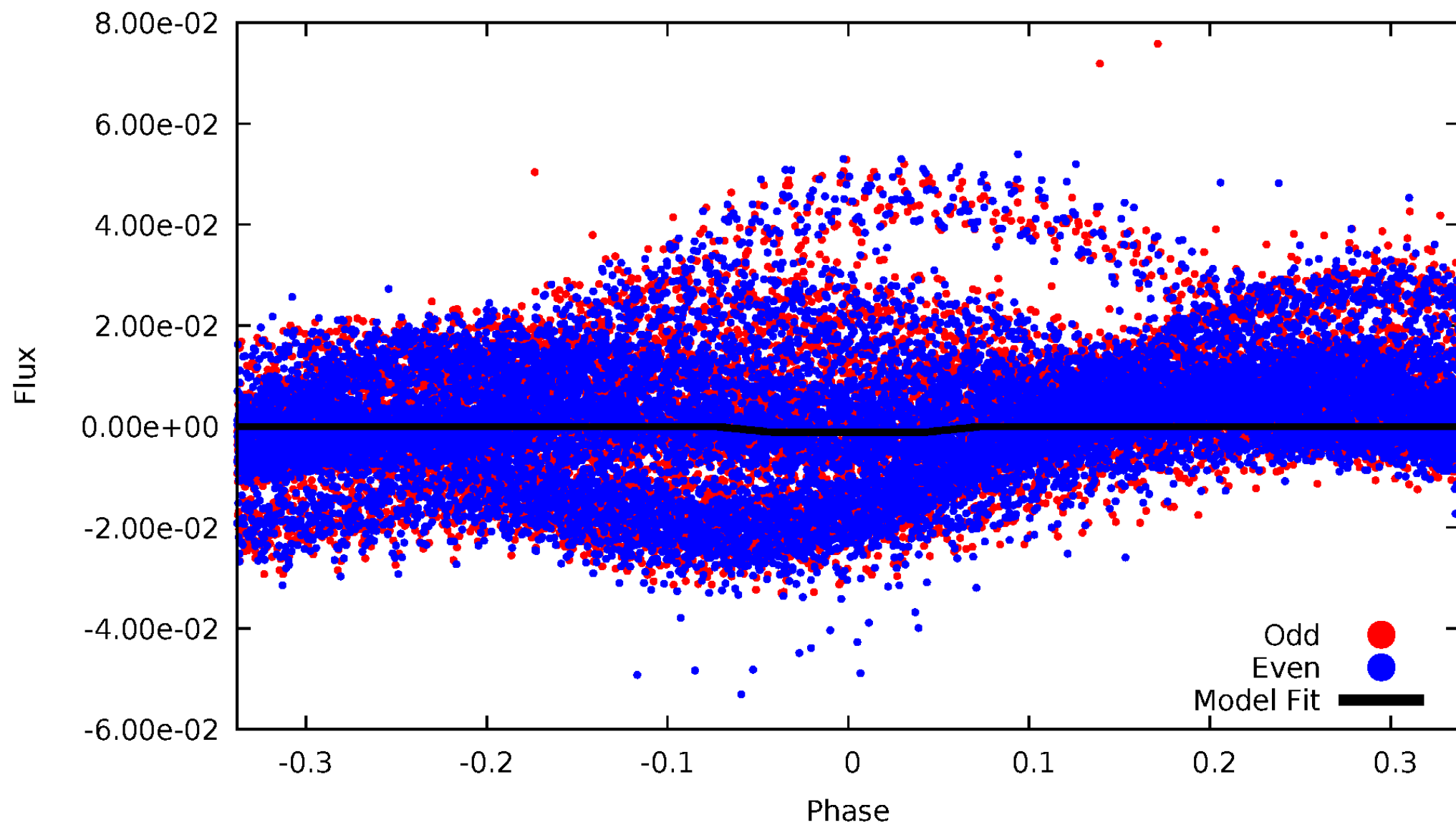
TCE 003962433-01





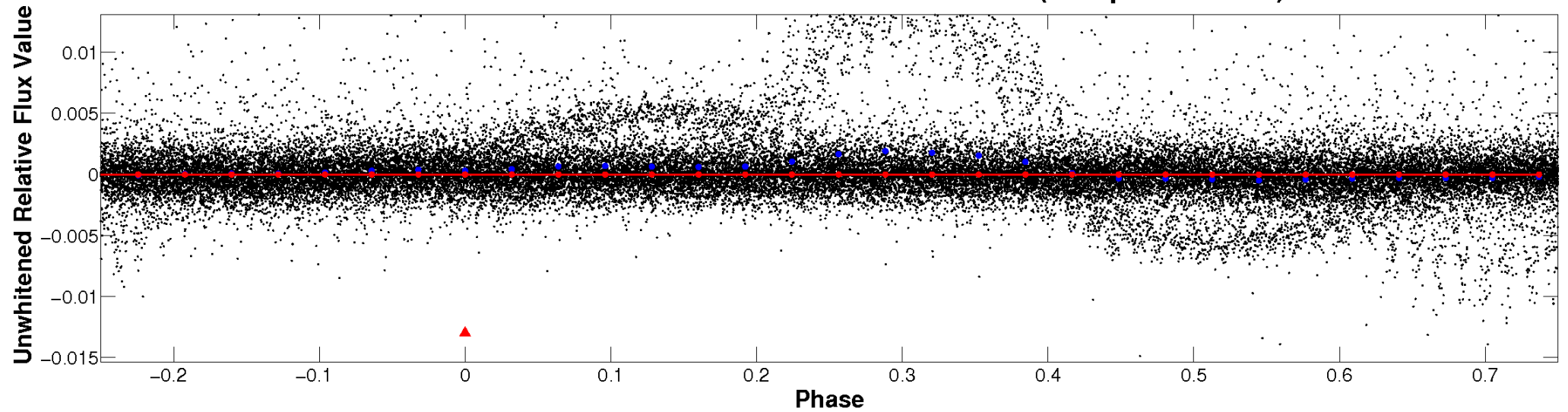
# ALT Odd/Even

TCE 003962433-01

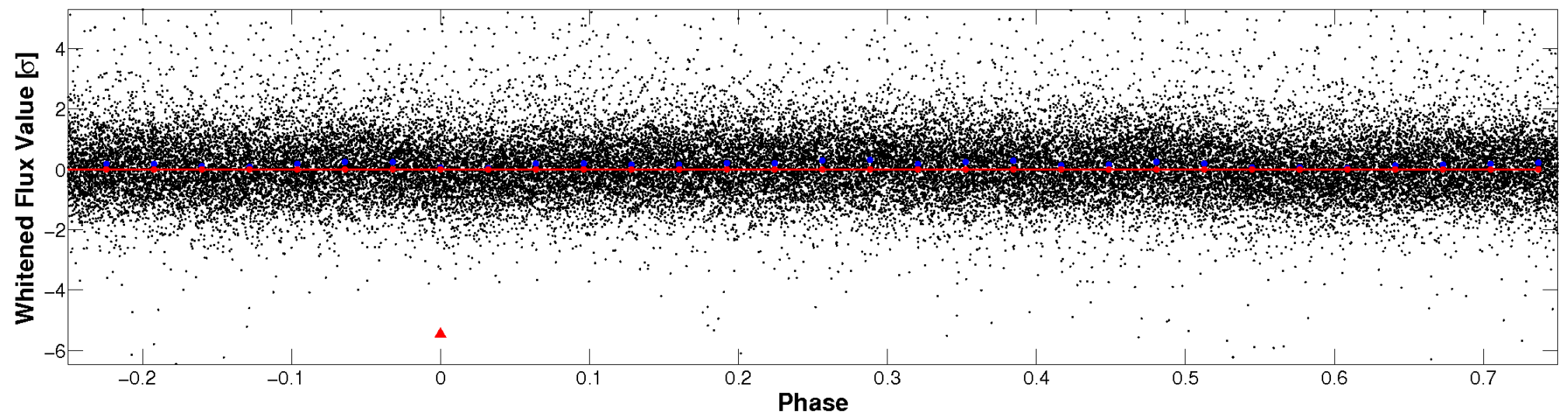


# Non-Whitened Vs. Whitened Light Curve

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

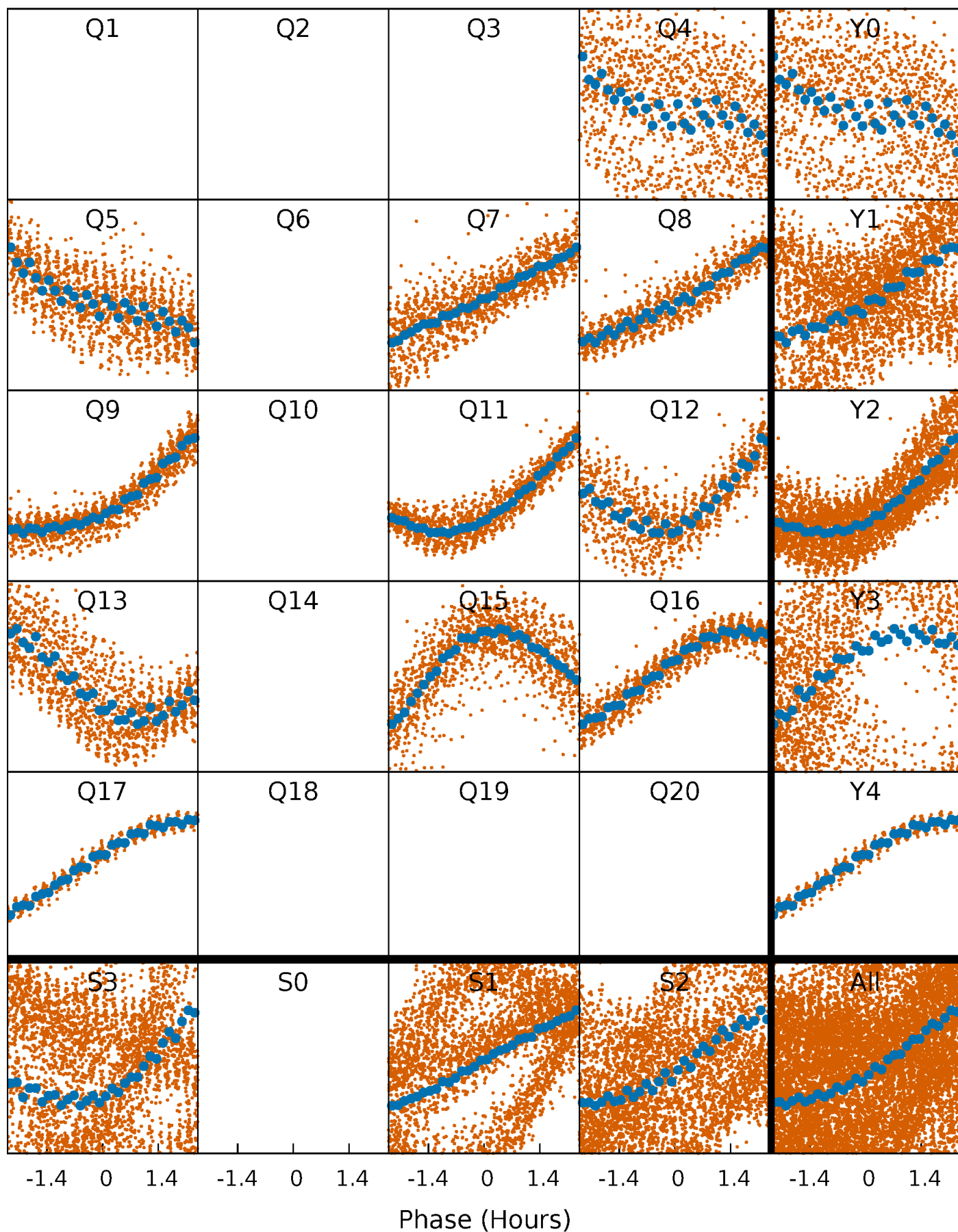


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

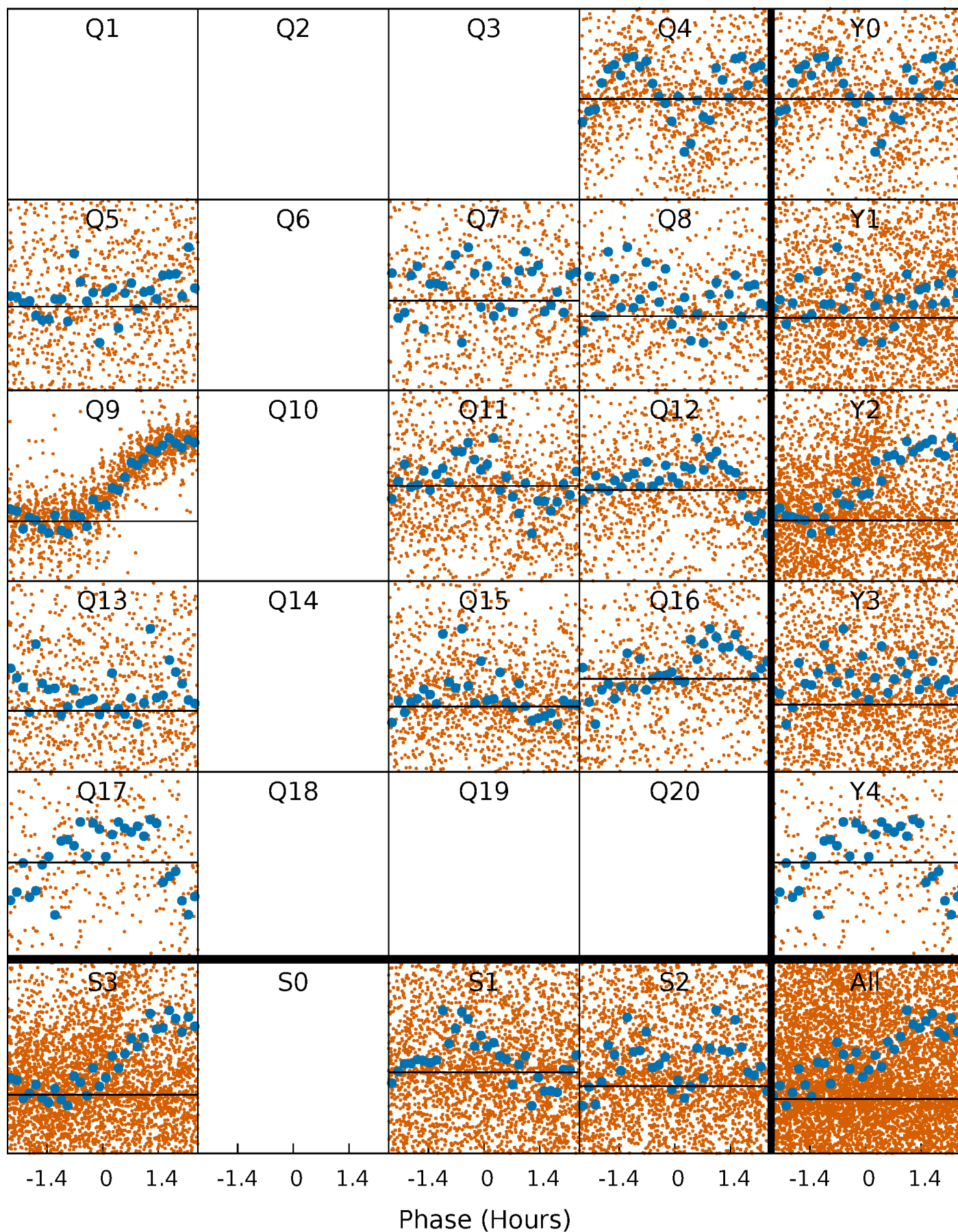
TCE 003962433-01 P= 0.637707 Days  $T_0=131.913714$  (BKJD)





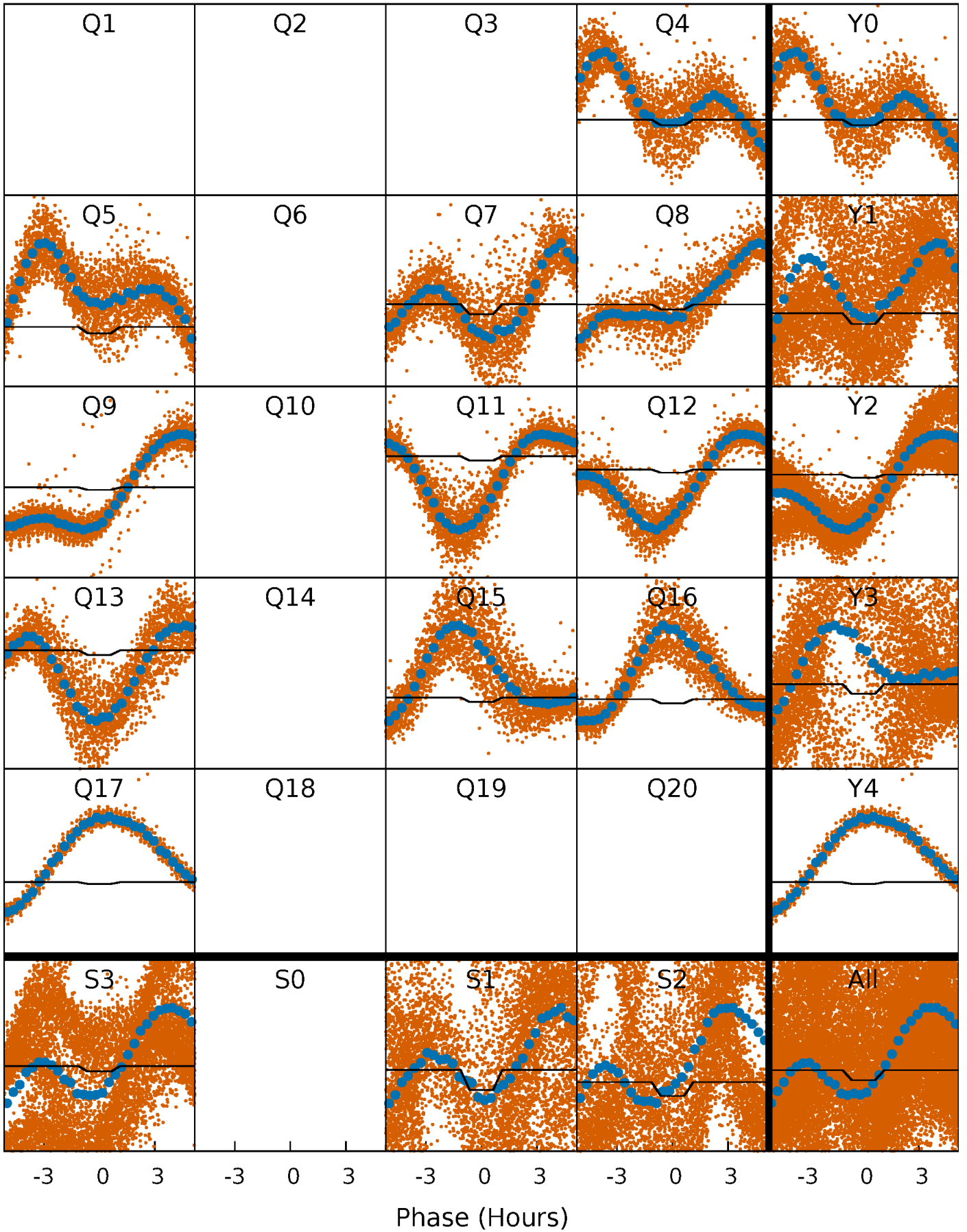
# DV Quarter-Phased Transit Curves

TCE 003962433-01 P= 0.637707 Days  $T_0=131.913714$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

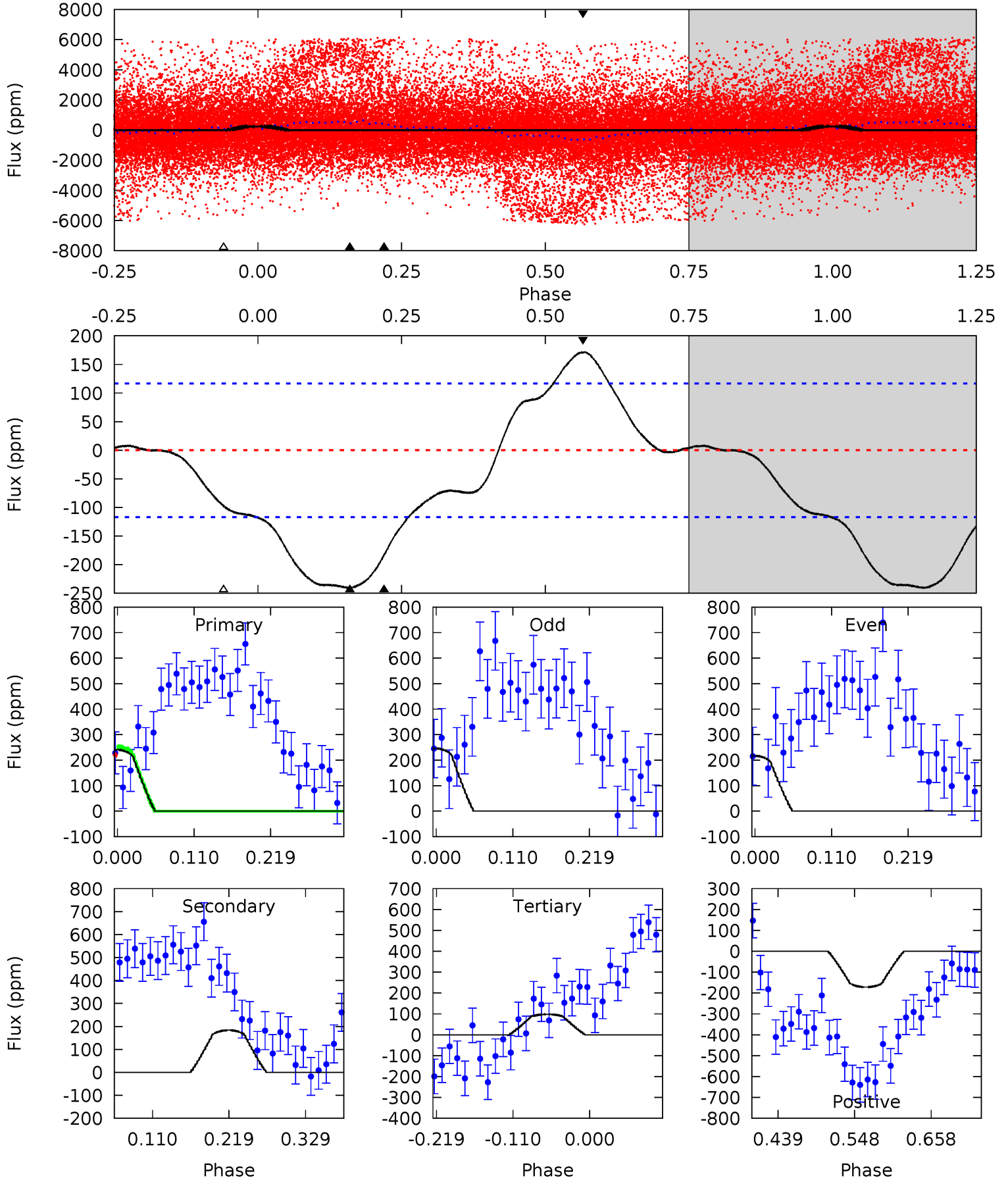
TCE 003962433-01   P= 0.637764 Days    $T_0=131.863760$  (BKJD)



# DV Model-Shift Uniqueness Test

003962433-01, P = 0.637707 Days, E = 131.913714 Days

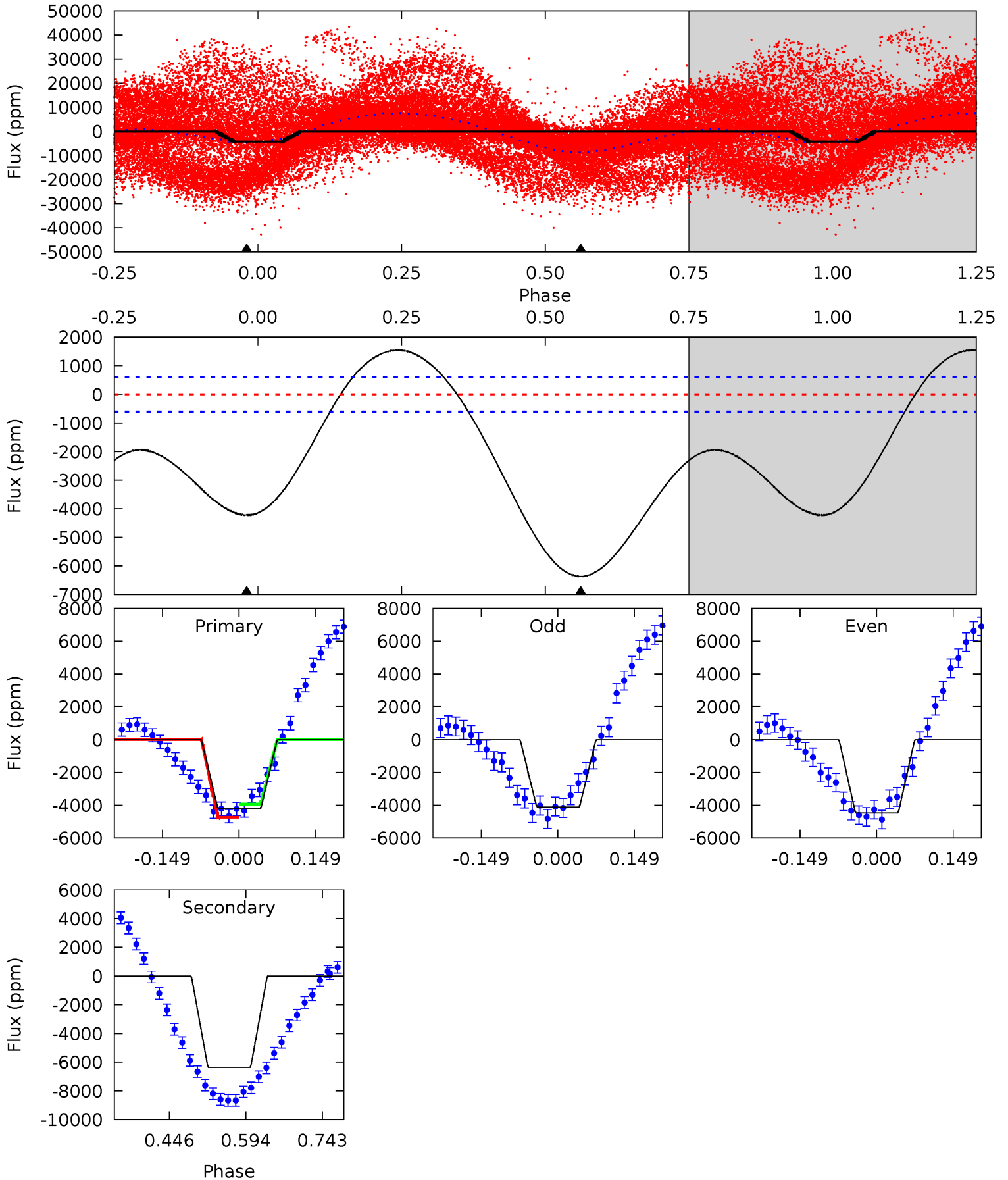
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.37	7.14	3.80	6.69	4.55	1.60	3.40	5.56	2.68	3.34	0.46	0.57	2.20	0.42	0.59



# Alt Model-Shift Uniqueness Test

003962433-01, P = 0.637764 Days, E = 131.863760 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
31.5	47.4	0	0	4.48	1.44	11.4	31.5	31.5	47.4	47.4	1.33	0.60	0.20	2.95



### Stellar Parameters For KIC 003962433

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3738^{+90}_{-90}$	$4.757^{+0.048}_{-0.028}$	$-0.100^{+0.100}_{-0.100}$	$0.487^{+0.035}_{-0.042}$	$0.495^{+0.037}_{-0.037}$	$6.038^{+1.402}_{-0.786}$
	+2%/-2%	+1%/-1%	+100%/-100%	+7%/-9%	+7%/-7%	+23%/-13%
Source	PHO2	PHO2	PHO2	DSEP		

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

### Secondary Eclipse Parameters for KIC 003962433-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-183 \pm 26$	$7.92^{+9.19}_{-5.66}$	$1494^{+241}_{-146}$	$-1846^{+4426}_{-268}$	$0.194^{+2.051}_{-0.153}$
Alt.	$-6363 \pm 134$	$9.45^{+9.12}_{-6.87}$	$1503^{+244}_{-153}$	$2891^{+1559}_{-526}$	$4.836^{+53.012}_{-3.771}$

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



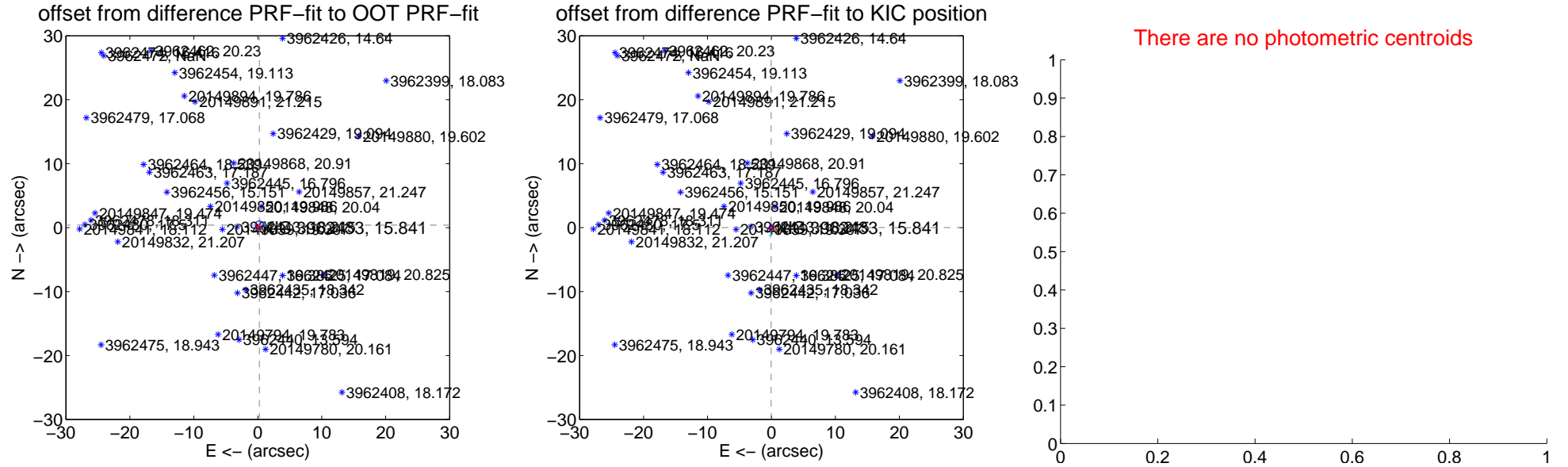
## DV Centroid Data

Supplemental centroid analysis for 003962433-01. Kepler magnitude: 15.84. Transit SNR 0.00

There are 7 quarters with good PRF difference image offsets

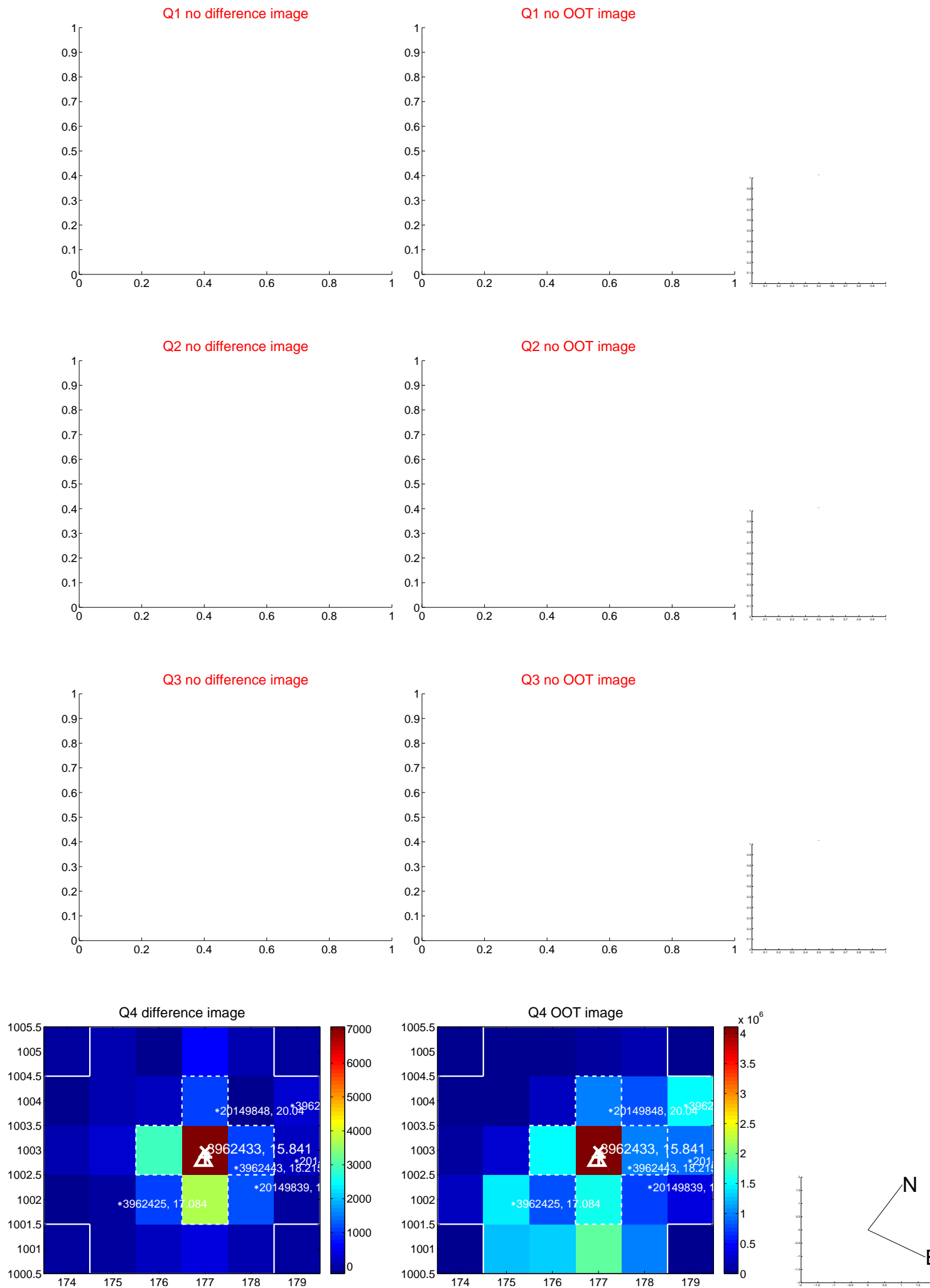
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.466 \pm 0.218$	2.14	$-0.247 \pm 0.137$	$0.395 \pm 0.200$
PRF-fit source offset from KIC position	$0.056 \pm 0.097$	0.57	$0.056 \pm 0.098$	$0.005 \pm 0.156$
photometric centroid source offset	—	—	—	—

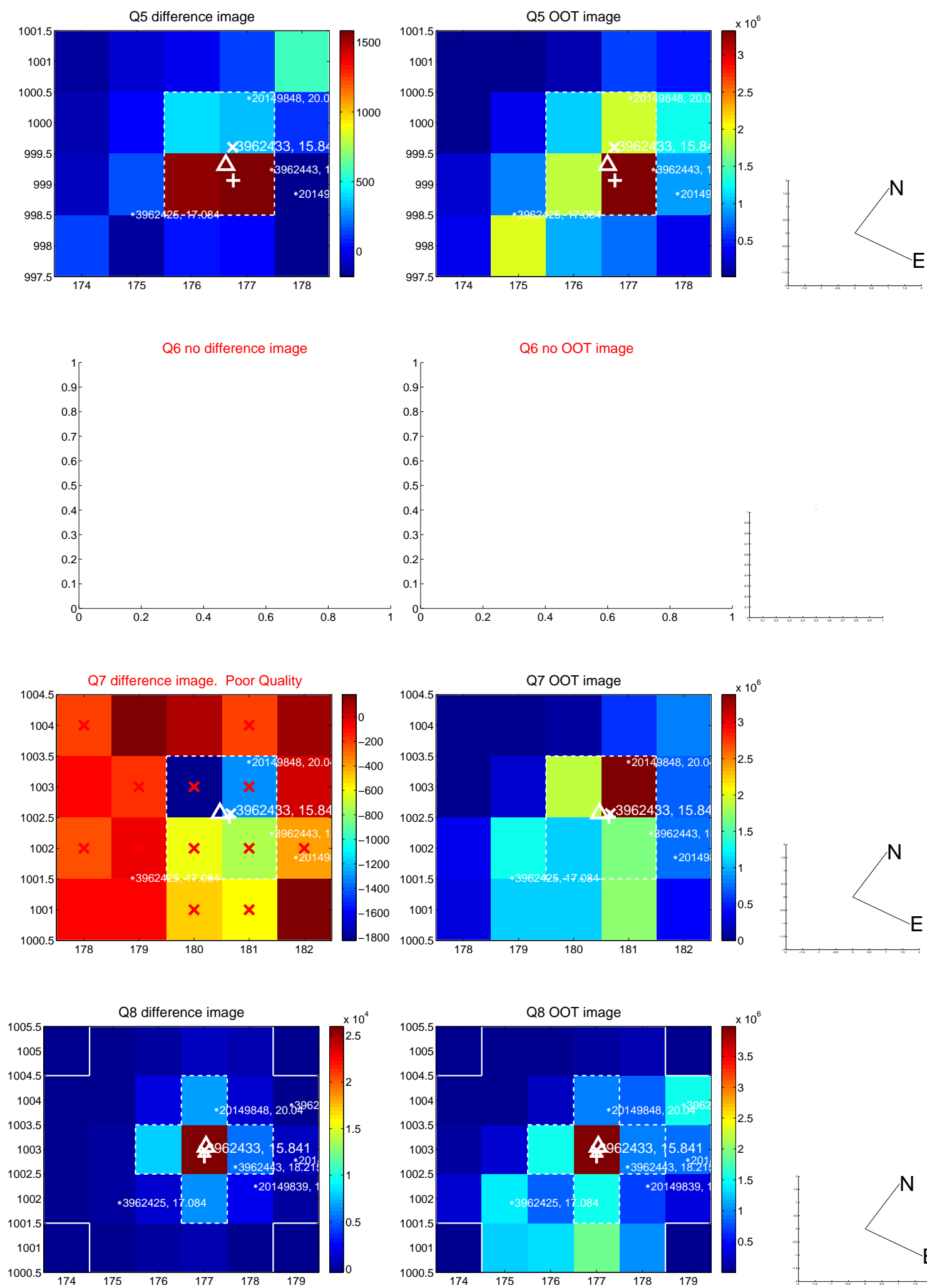


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

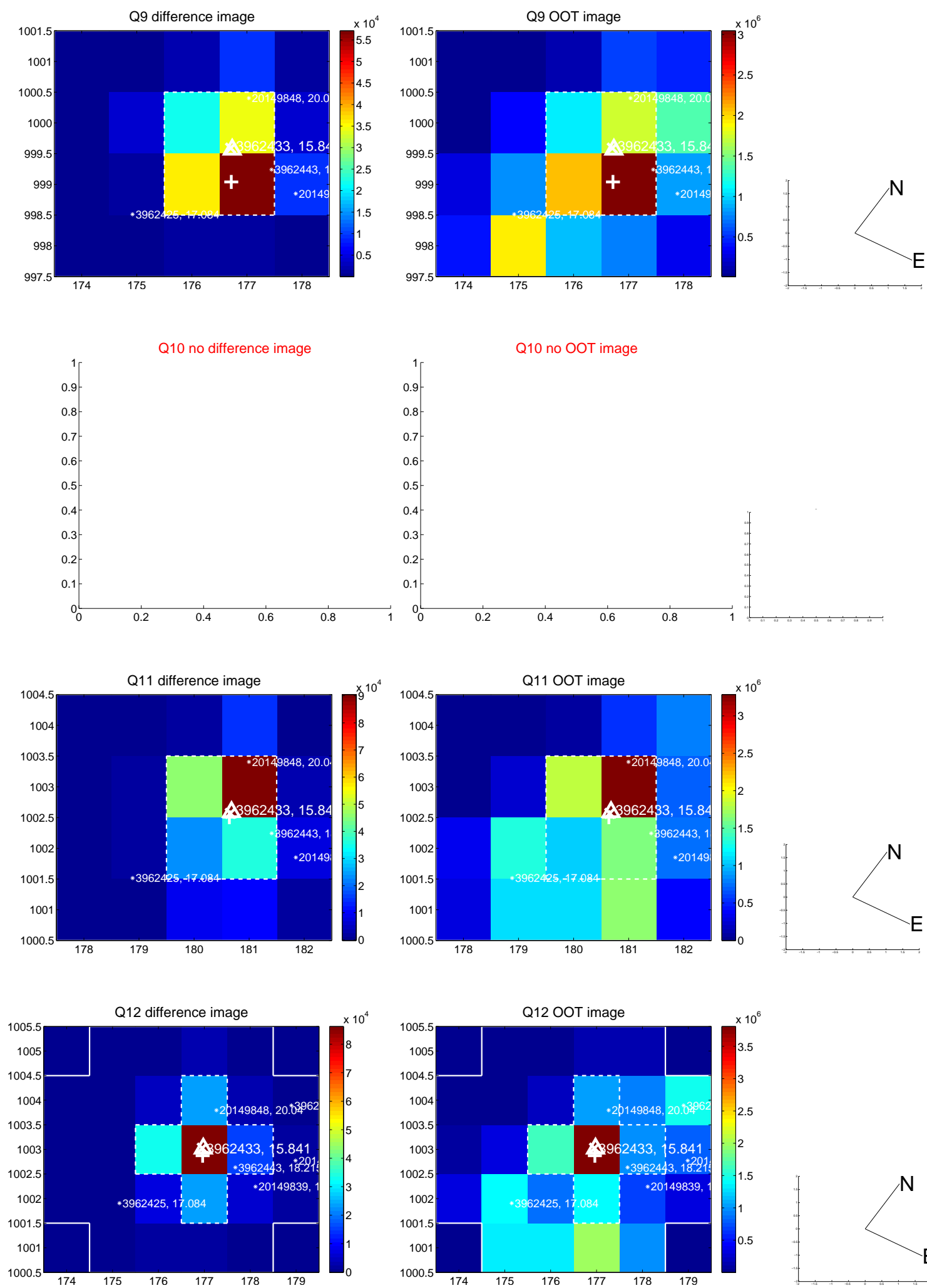
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



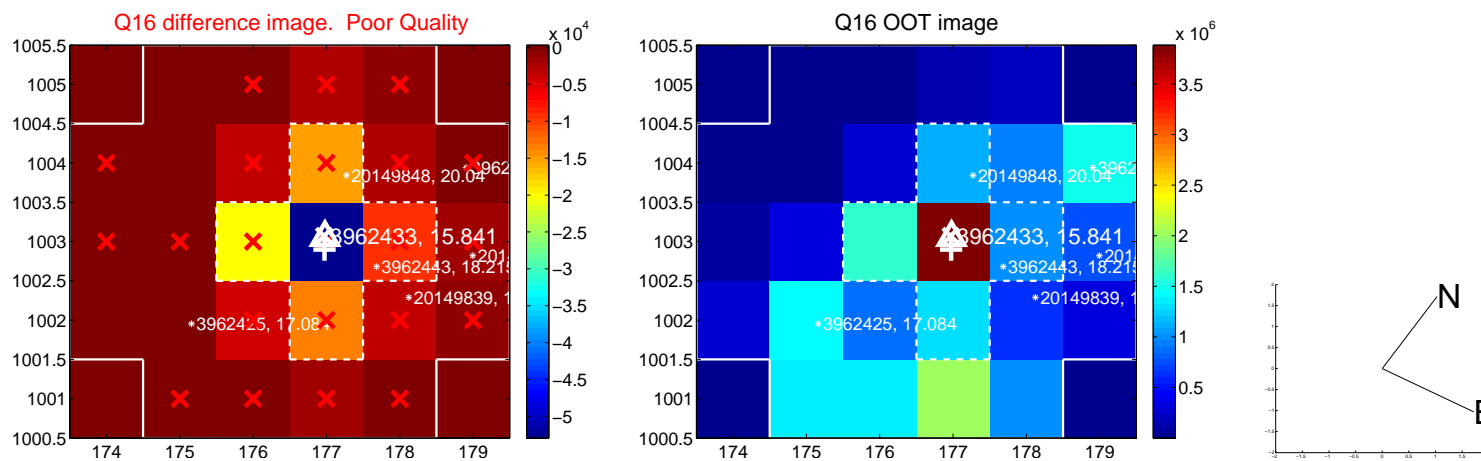
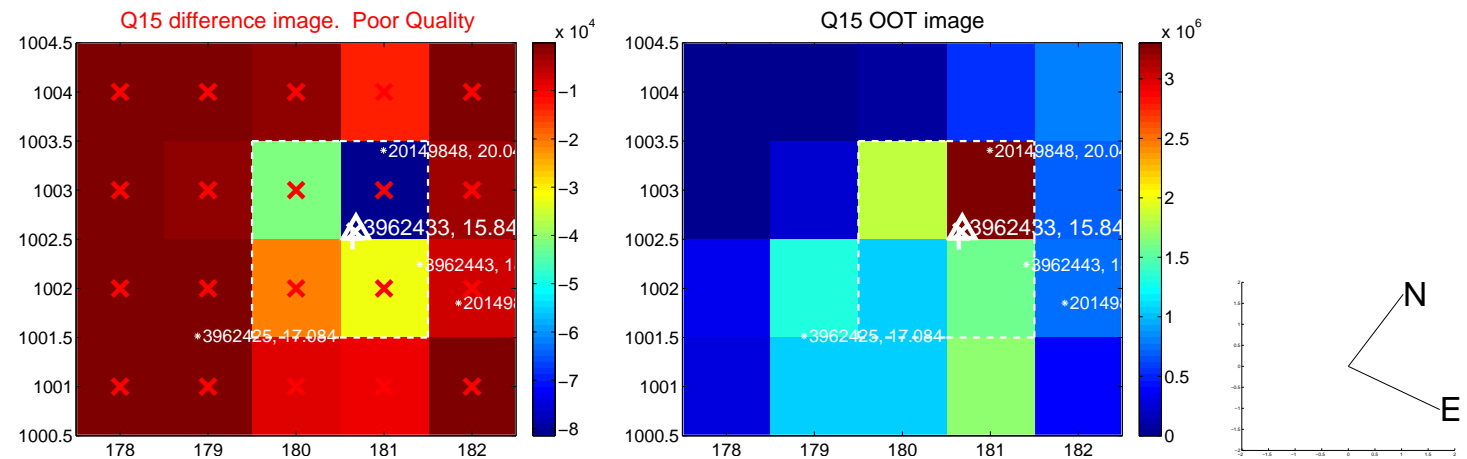
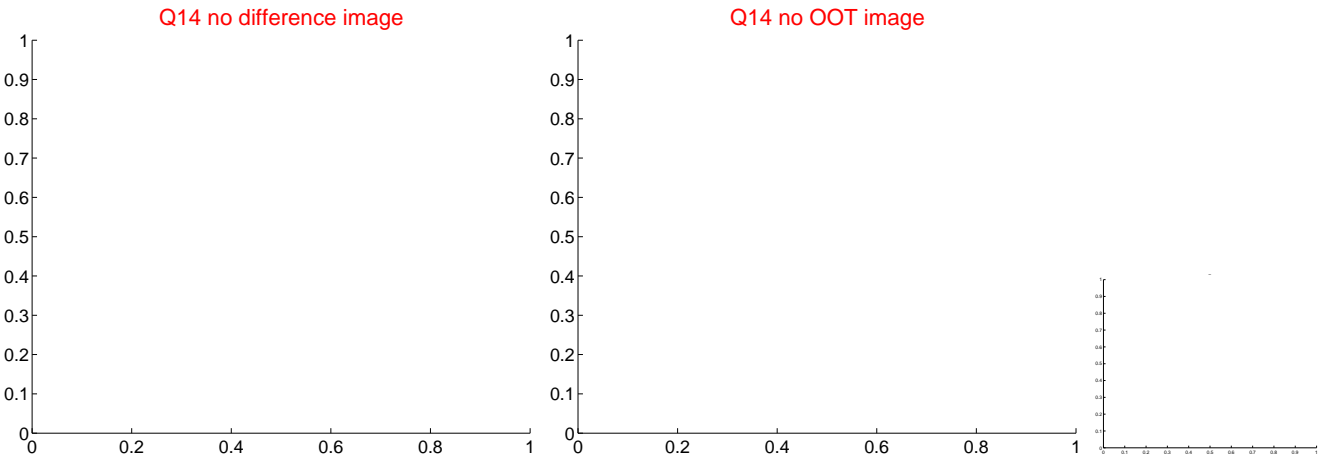
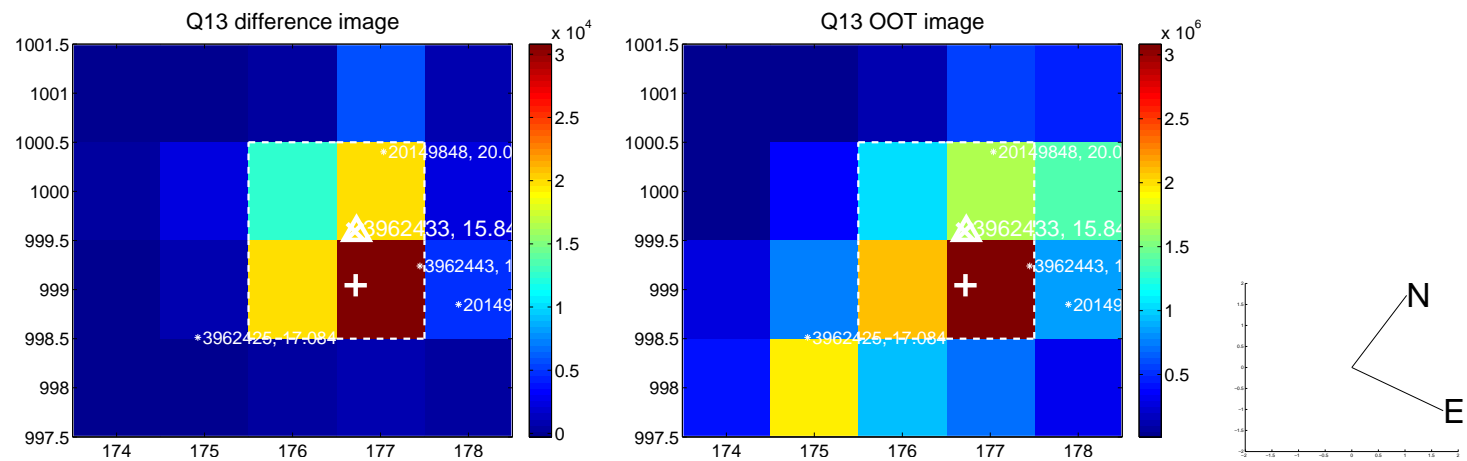
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

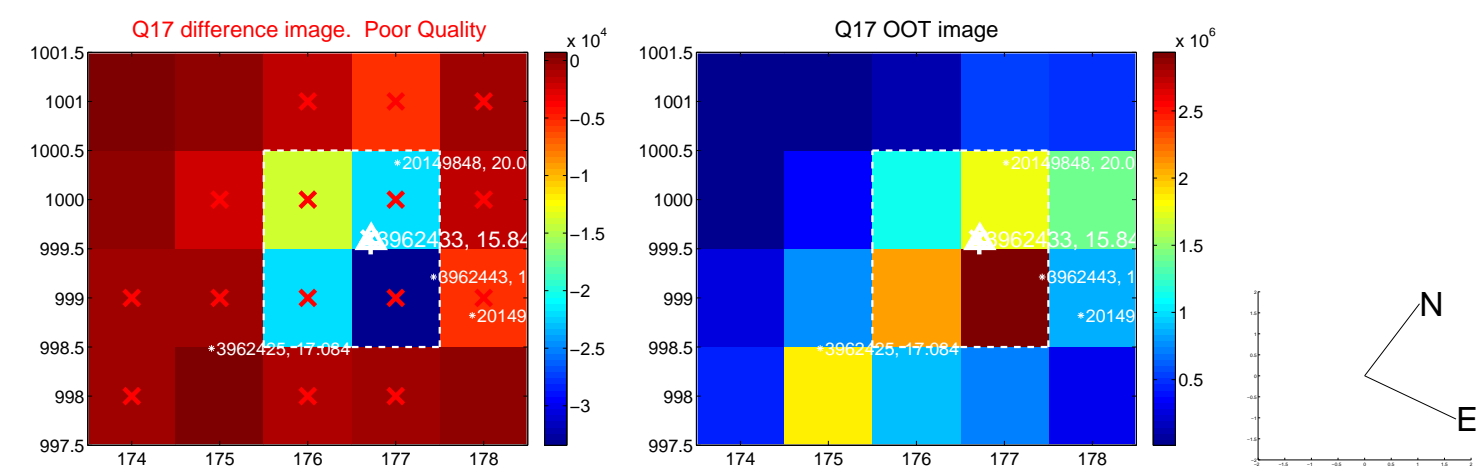


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



folded centroid time series figure for this object.

UKIRT Image

Declination

