

# KIC 003868442

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003868442-01	OBS	No	0.662224	132.109758	10.4	5.895	9.0	3.1	12.64	6734	4.20	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003868442-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS

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

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

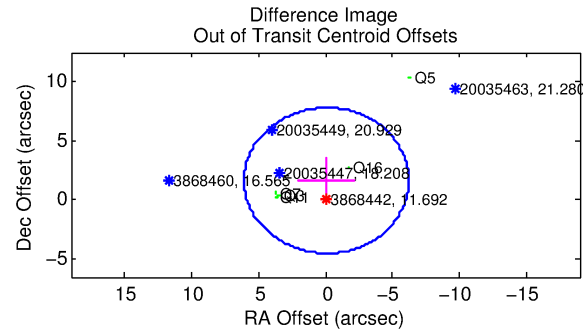
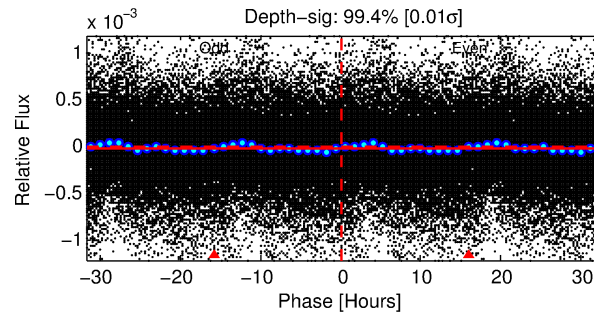
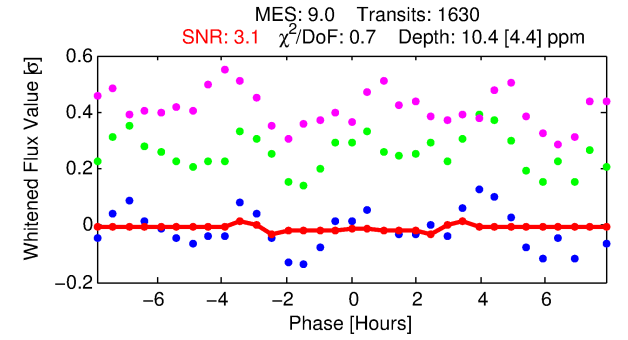
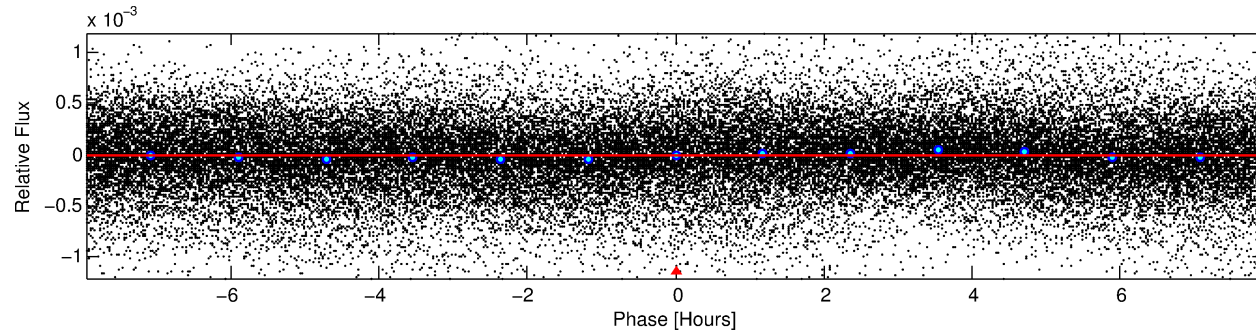
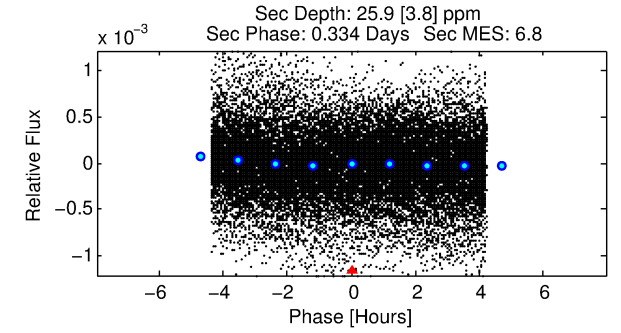
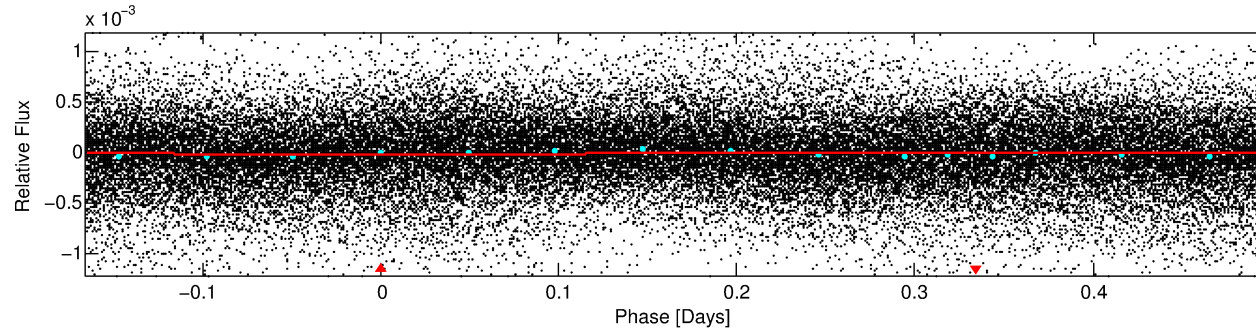
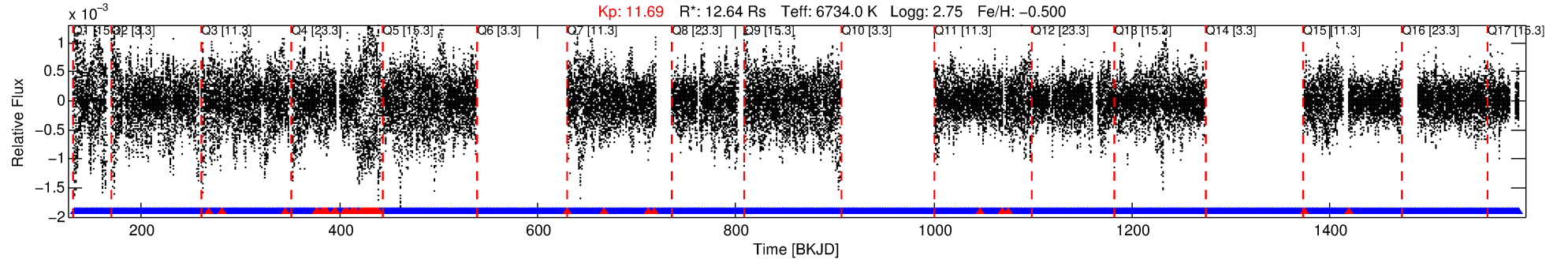
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003868442-01

No Significant Match Found

# DV One-Page Summary

KIC: 3868442 Candidate: 1 of 1 Period: 0.662 d



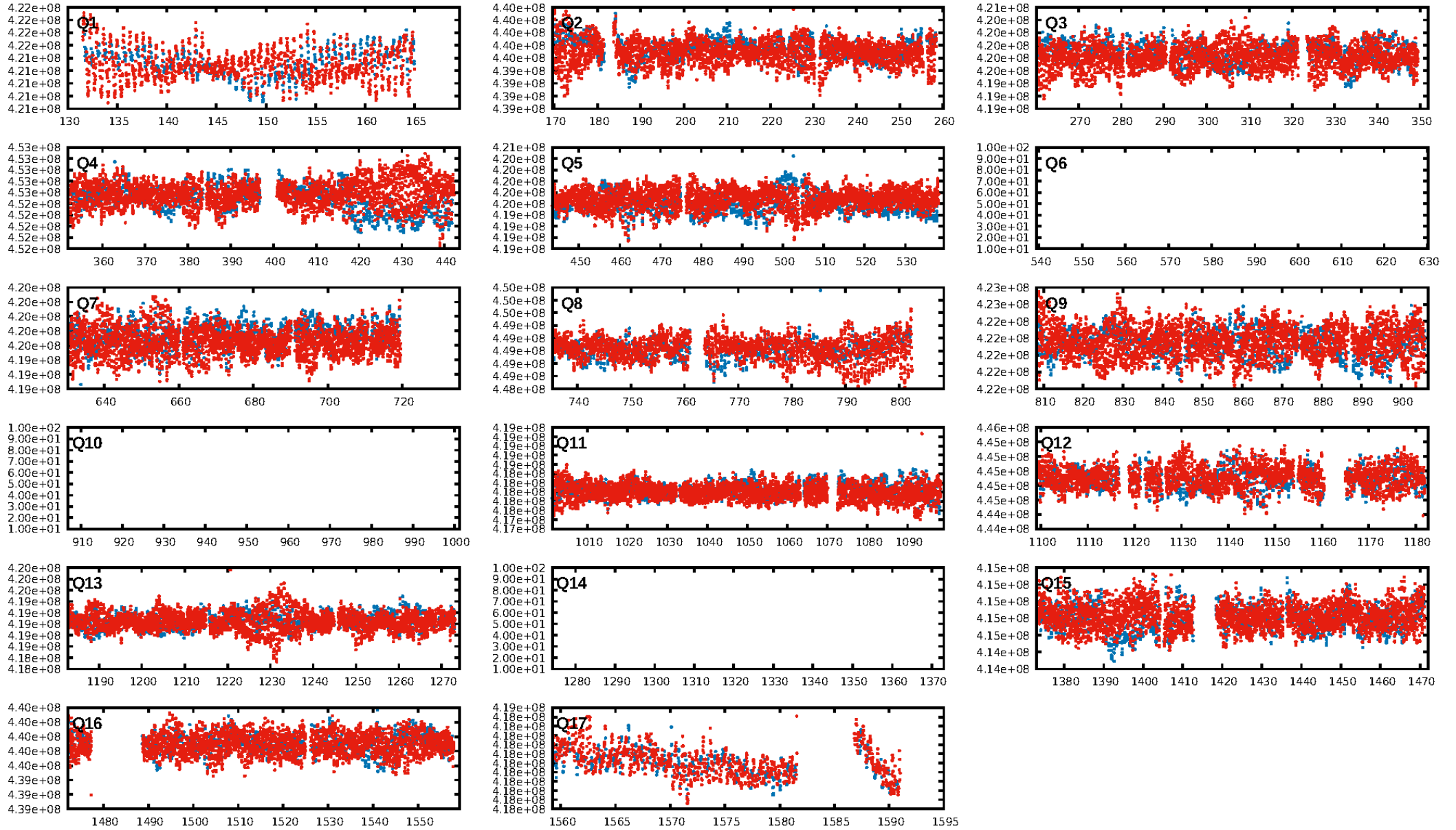
## DV Fit Results:

Period = 0.66222 [0.00003] d  
Epoch = 132.1098 [0.0052] BKJD  
Rp/R\* = 0.0030 [0.0024]  
a/R\* = 1.07 [0.66]  
b = 0.46 [8.12]  
Seff = N/A  
Teq = N/A  
Rp = 4.20 [4.22] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

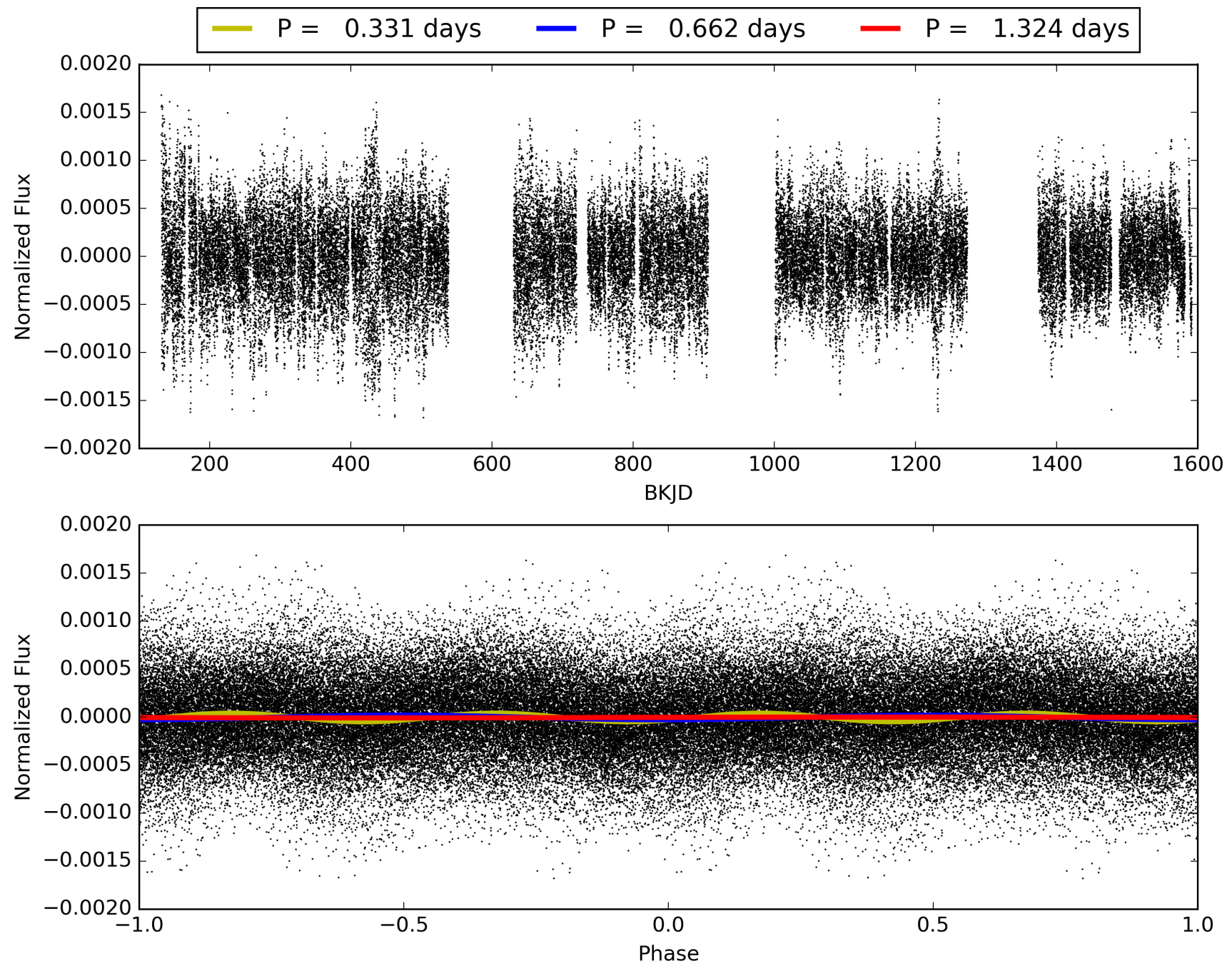
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.96 [1484/1538]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 1.656 arcsec [0.81σ]  
KicOffset-rm: 1.760 arcsec [1.11σ]  
OotOffset-st: 0/3/1/1 [5]  
KicOffset-st: 0/3/1/1 [5]  
DiffImageQuality-fgm: 0.00 [0/5]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 003868442-01, PDC Light Curves



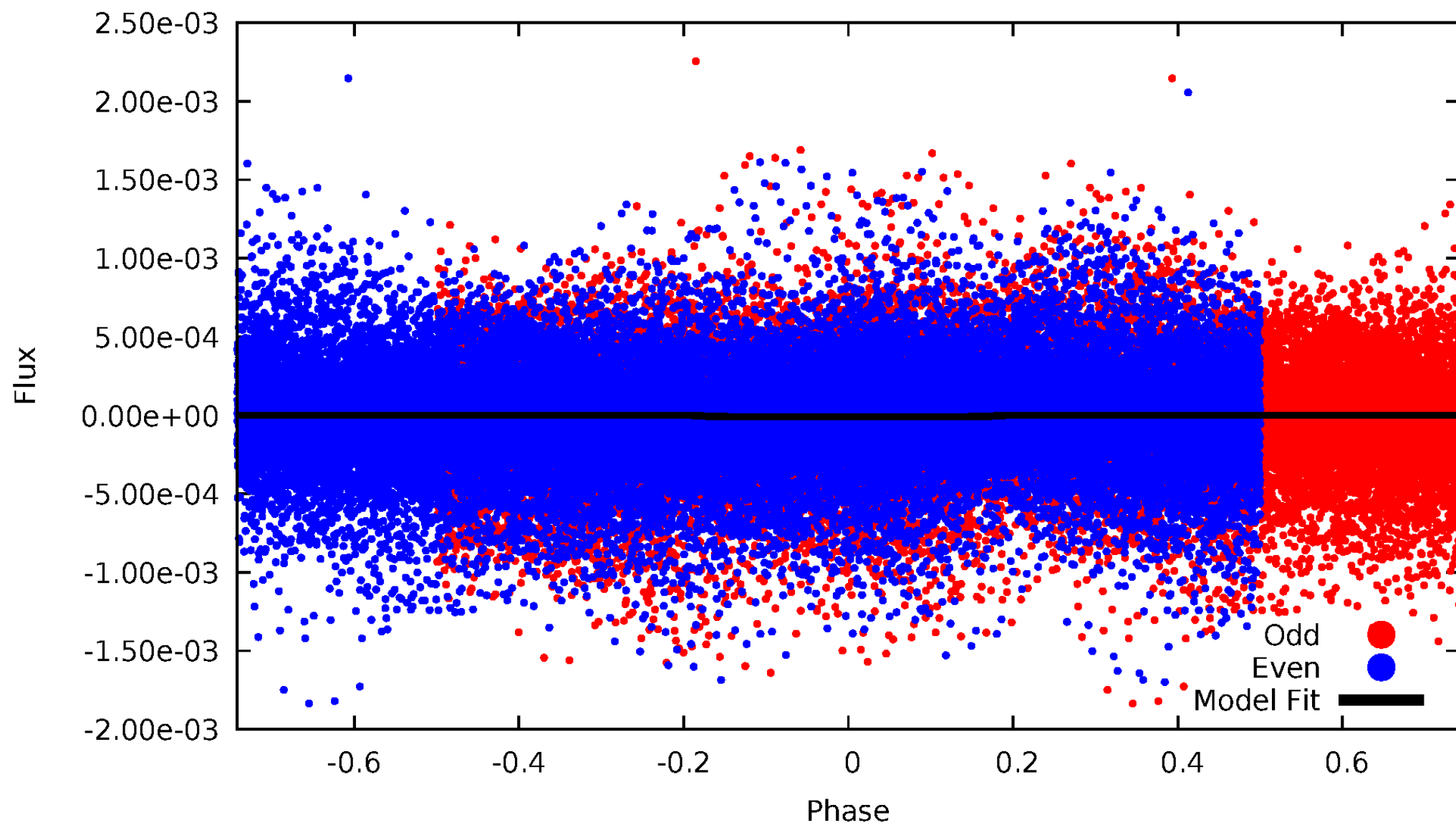
TCE 003868442-01





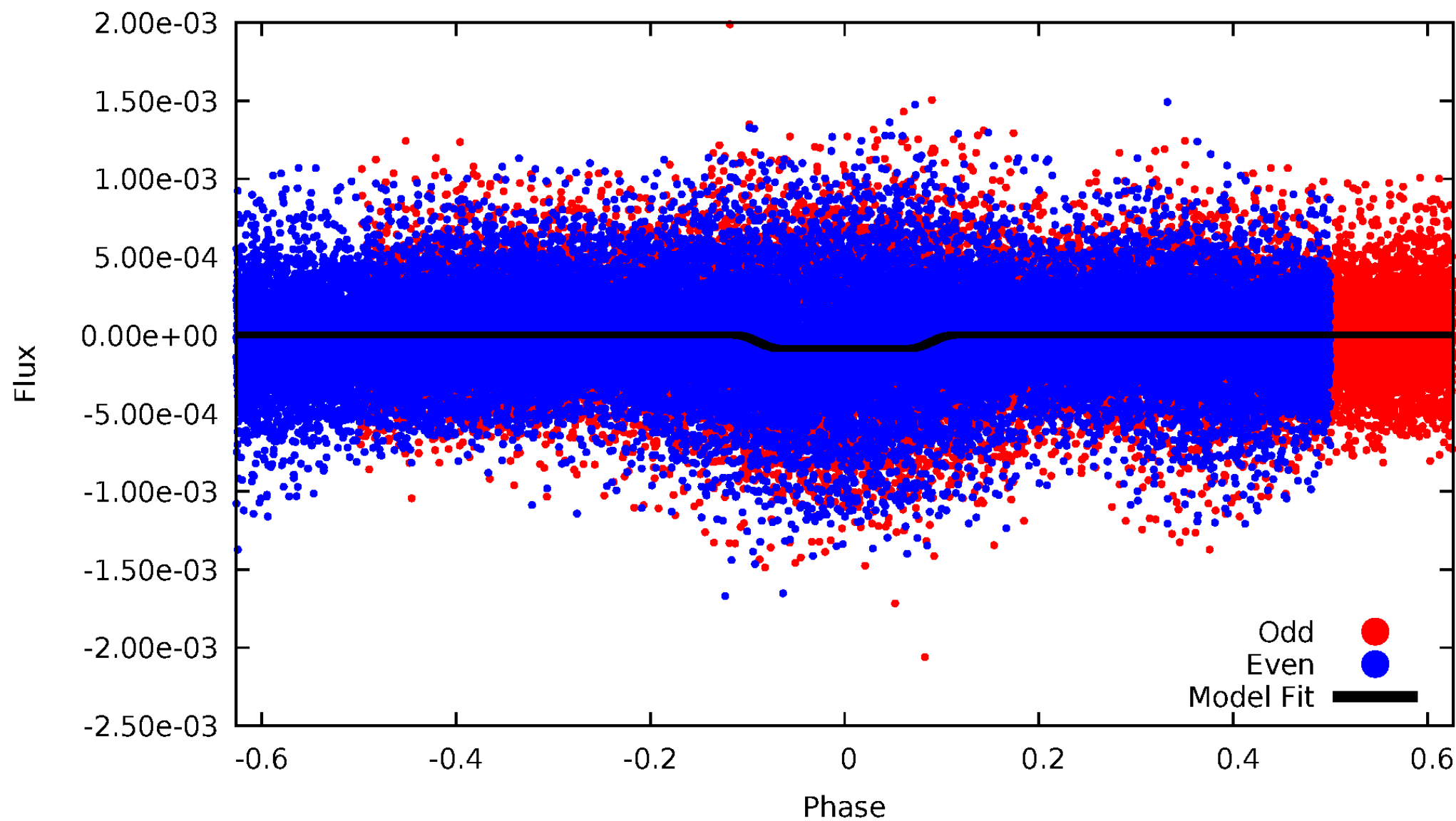
# DV Odd/Even

TCE 003868442-01



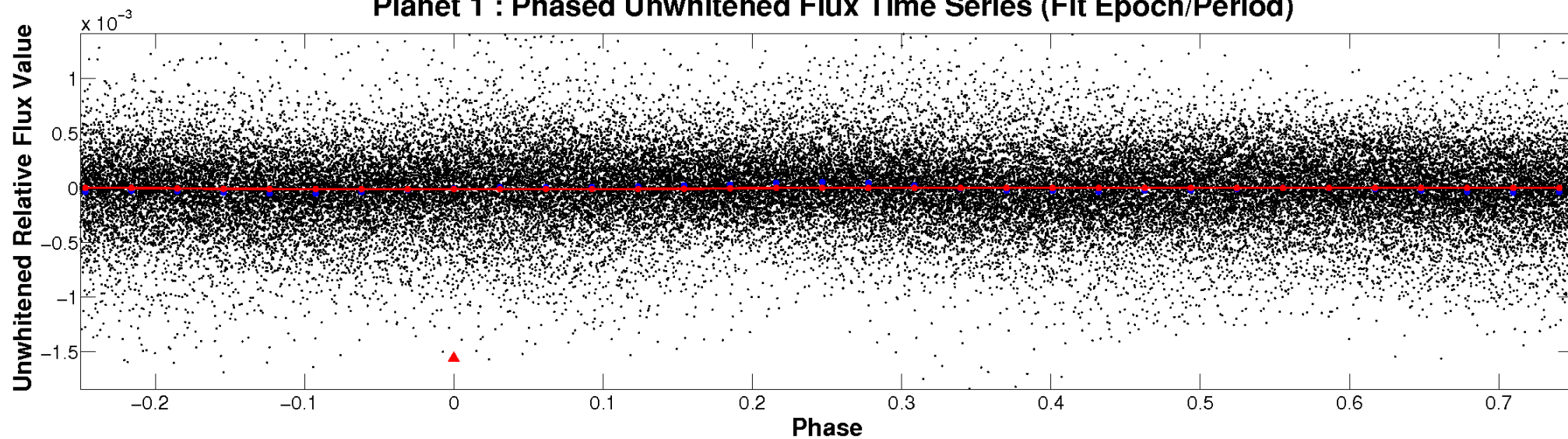
# ALT Odd/Even

TCE 003868442-01

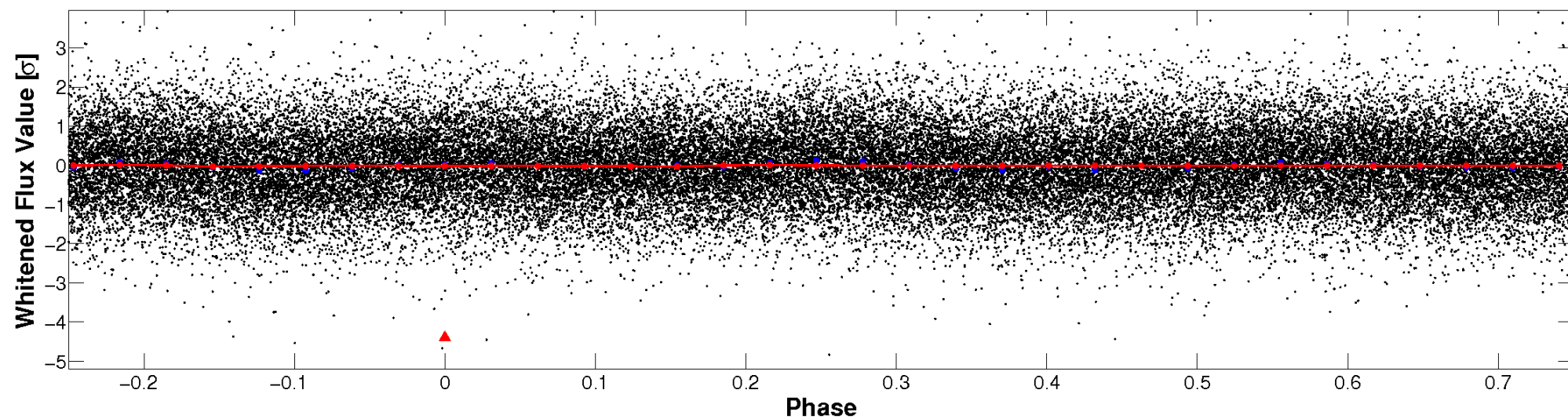


# Non-Whitened Vs. Whitened Light Curve

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

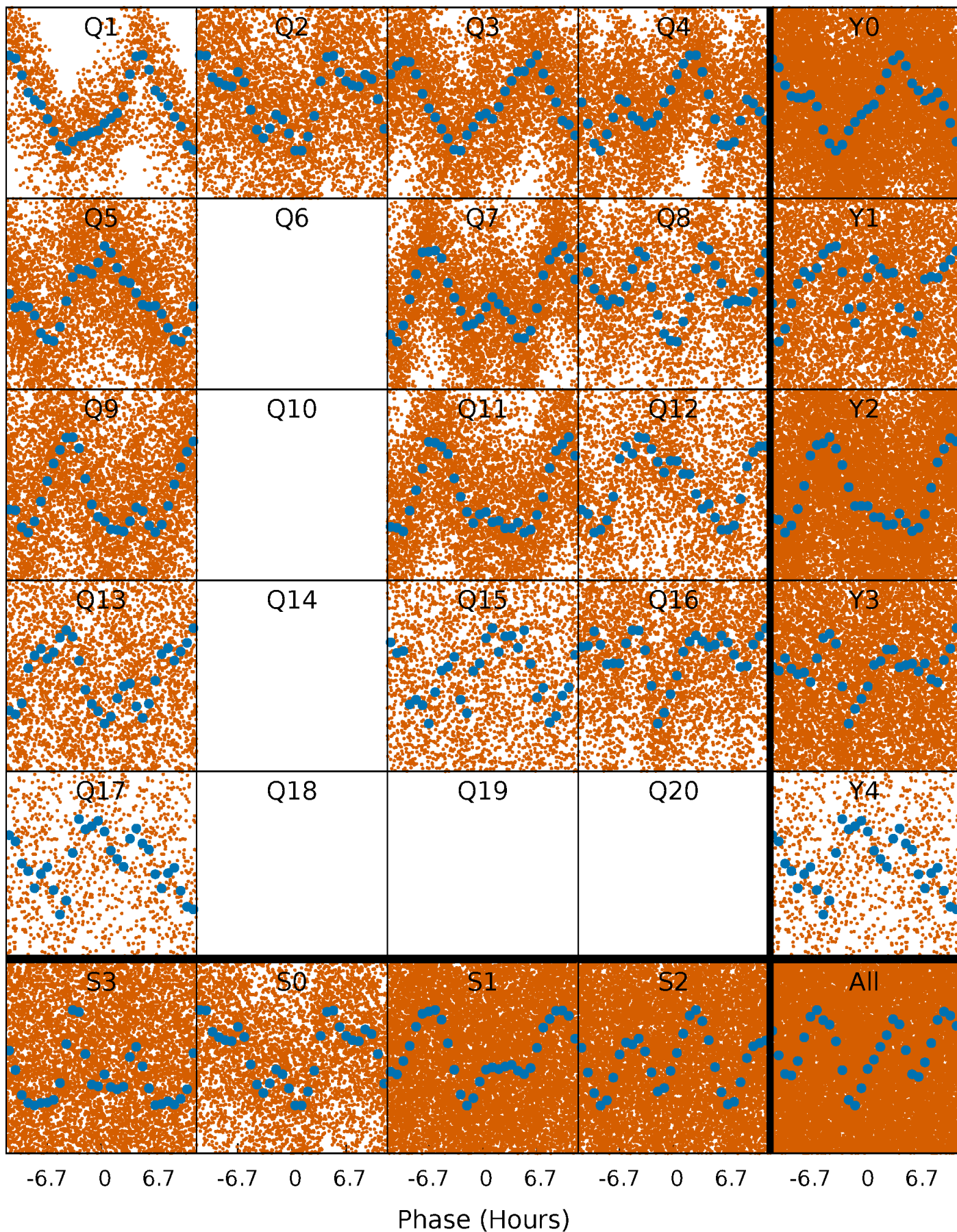


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

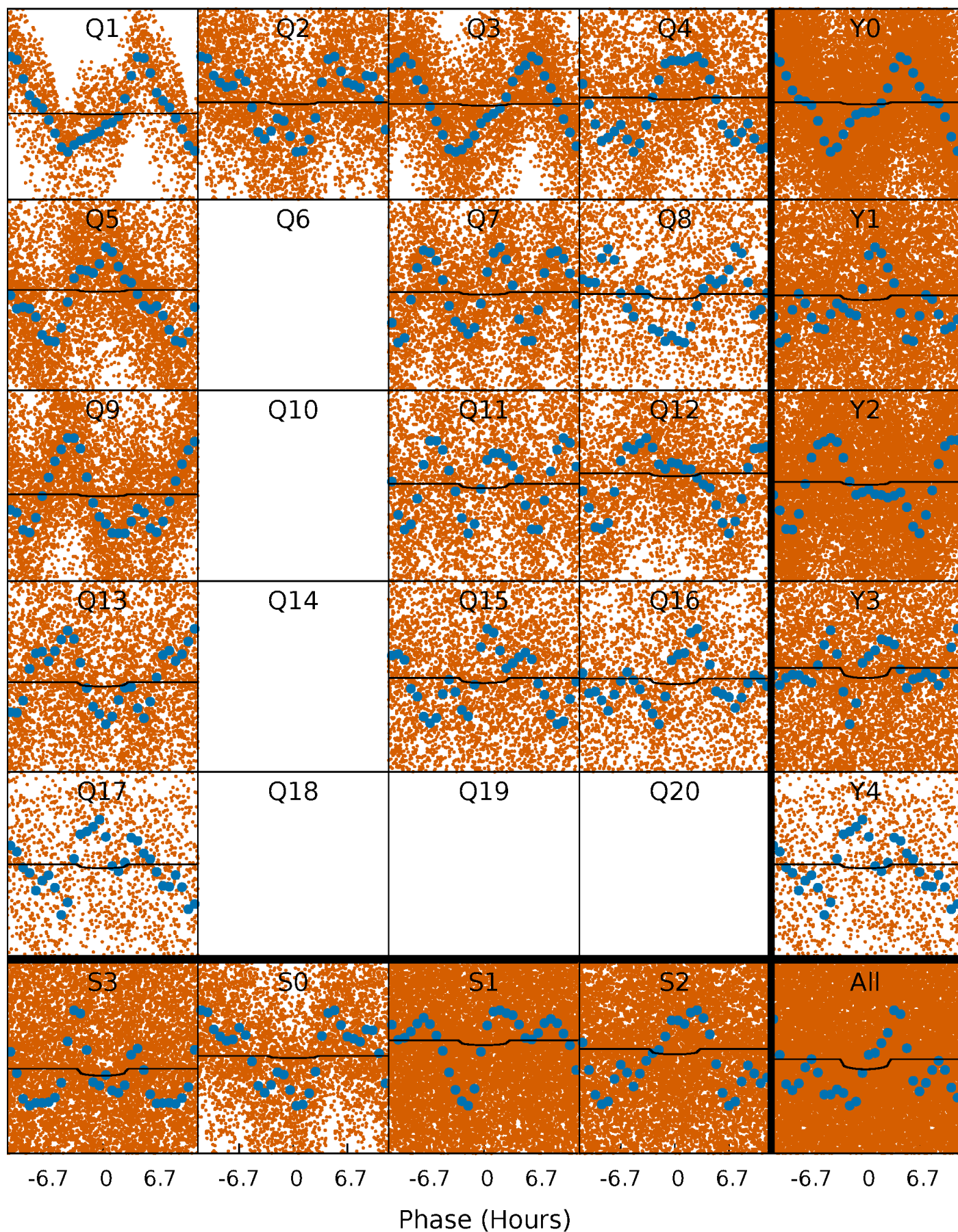
TCE 003868442-01   P= 0.662224 Days    $T_0=132.109758$  (BKJD)





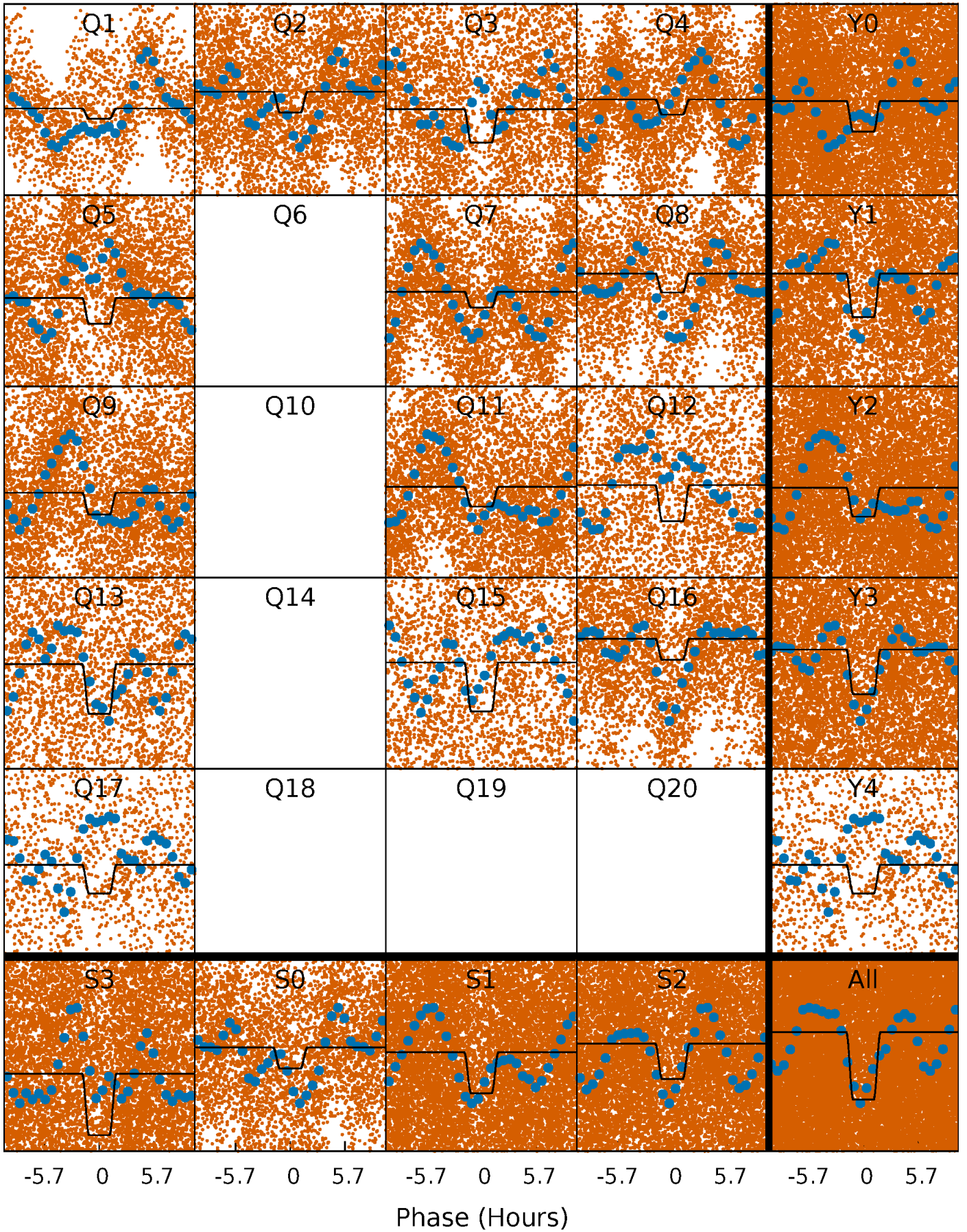
# DV Quarter-Phased Transit Curves

TCE 003868442-01 P= 0.662224 Days  $T_0=132.109758$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 003868442-01 P= 0.662202 Days  $T_0=132.101550$  (BKJD)

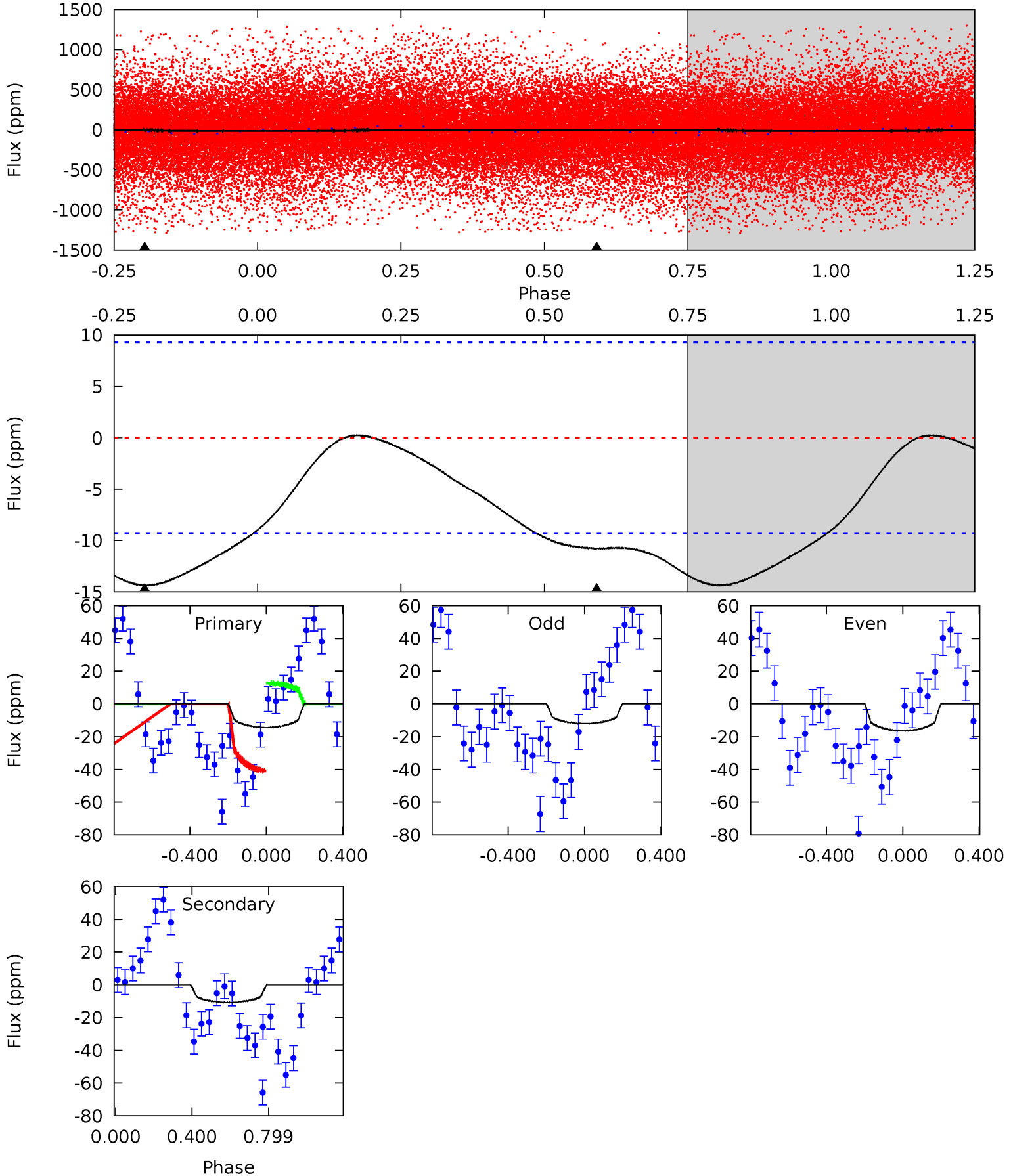




# DV Model-Shift Uniqueness Test

003868442-01, P = 0.662224 Days, E = 131.447534 Days

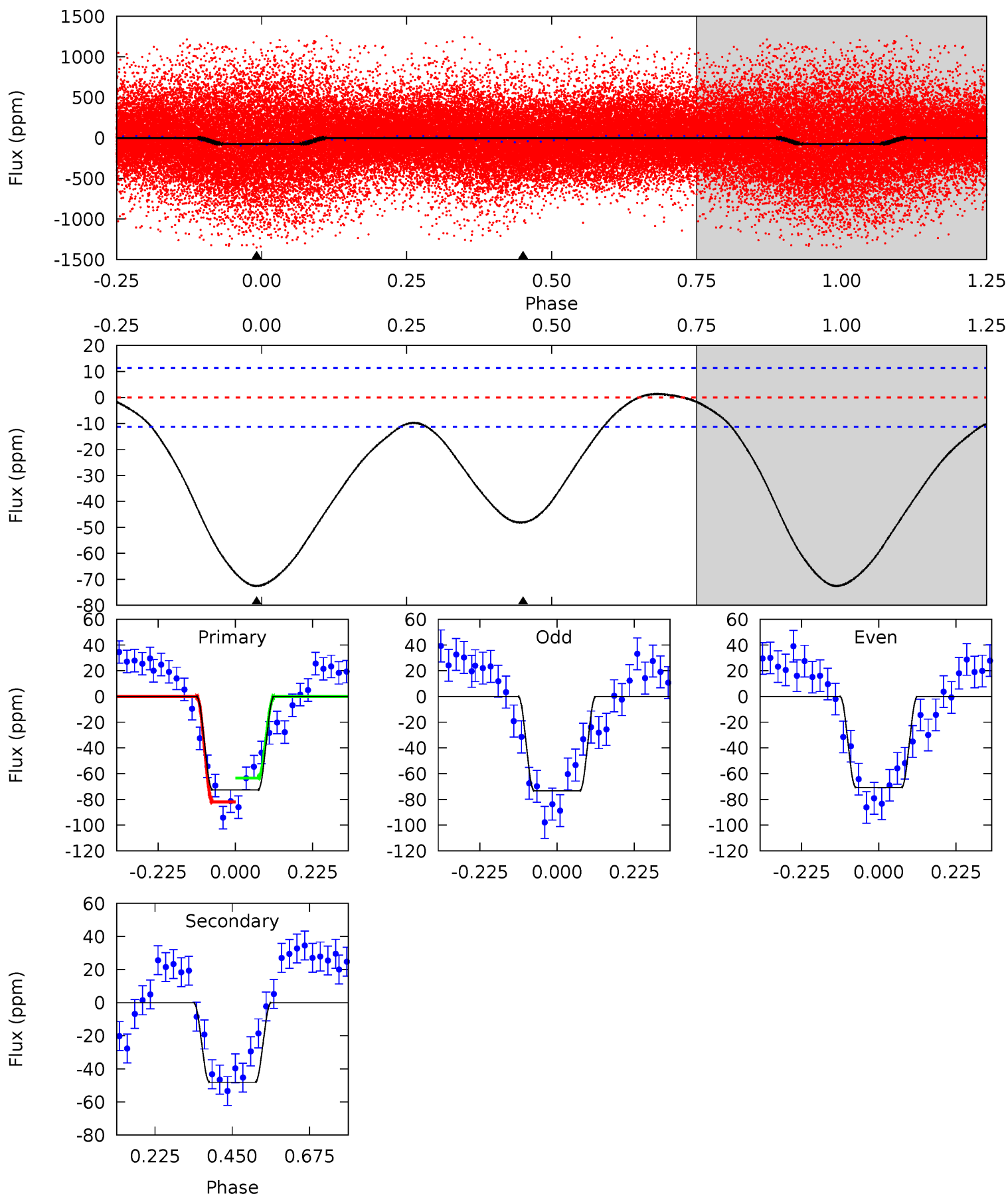
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.61	4.96	0	0	4.27	0.84	0.16	6.61	6.61	4.96	4.96	1.03	1.66	0.02	5.84



# Alt Model-Shift Uniqueness Test

003868442-01, P = 0.662202 Days, E = 131.439348 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
28.2	18.7	0	0	4.39	1.21	1.67	28.2	28.2	18.7	18.7	0.50	1.12	0.02	3.67





### Stellar Parameters For KIC 003868442

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6734^{+119}_{-277}$	$2.745^{+0.585}_{-0.033}$	$-0.500^{+0.600}_{-0.100}$	$12.643^{+0.851}_{-7.659}$	$3.239^{+0.071}_{-1.348}$	$0.002^{+0.022}_{-0.000}$
	+2%/-4%	+21%/-1%	+120%/-20%	+7%/-61%	+2%/-42%	+962%/-12%
Source	PHO1	FLK73	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 003868442-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-11 \pm 2$	$3.71^{+2.73}_{-2.26}$	$9390^{+690}_{-1453}$	$-5325^{+16877}_{-2194}$	$0.197^{+1.162}_{-0.131}$
Alt.	$-48 \pm 3$	$10.54^{+4.37}_{-3.82}$	$9335^{+724}_{-1299}$	$-6729^{+2709}_{-1088}$	$0.110^{+0.160}_{-0.053}$

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

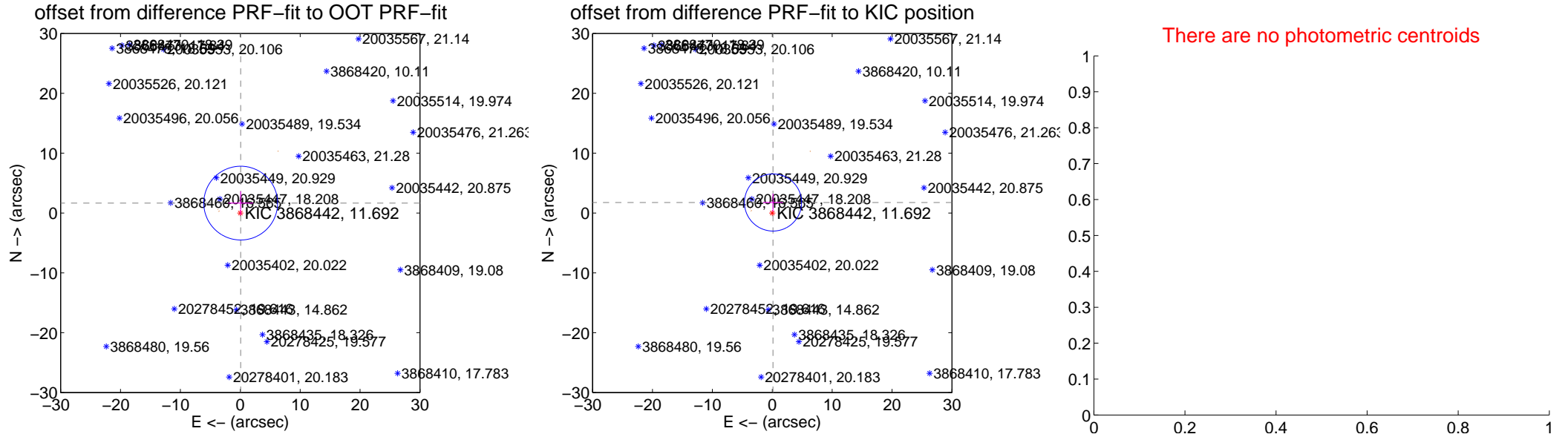
## DV Centroid Data

Supplemental centroid analysis for 003868442-01. **Kepler magnitude: 11.69.** Transit SNR 3.06

**There are 0 quarters with good PRF difference image offsets**

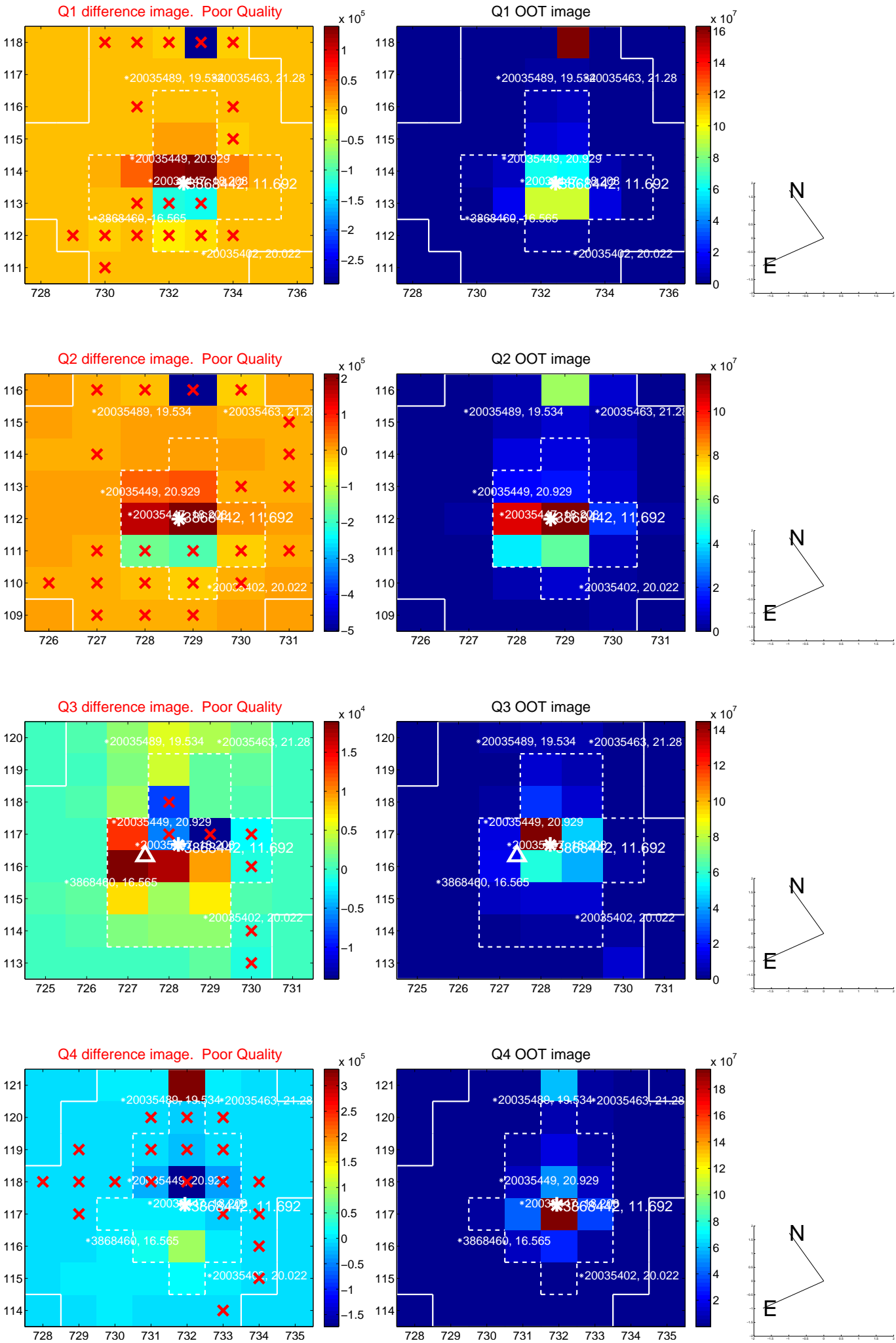
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.656 \pm 2.054$	0.81	$-0.070 \pm 2.086$	$1.654 \pm 1.971$
PRF-fit source offset from KIC position	$1.760 \pm 1.590$	1.11	$-0.128 \pm 1.647$	$1.755 \pm 1.480$
photometric centroid source offset	—	—	—	—

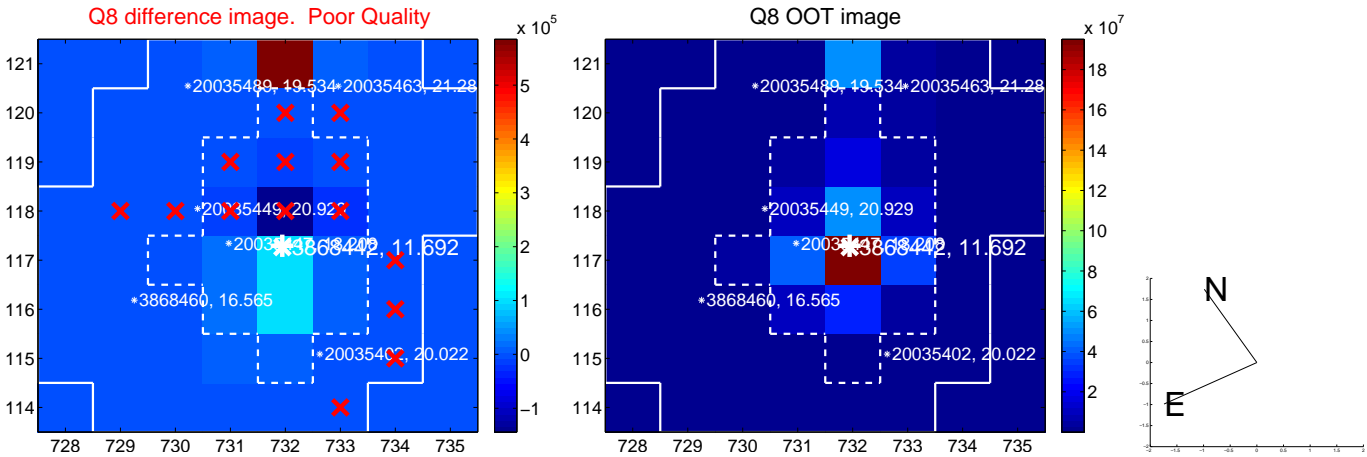
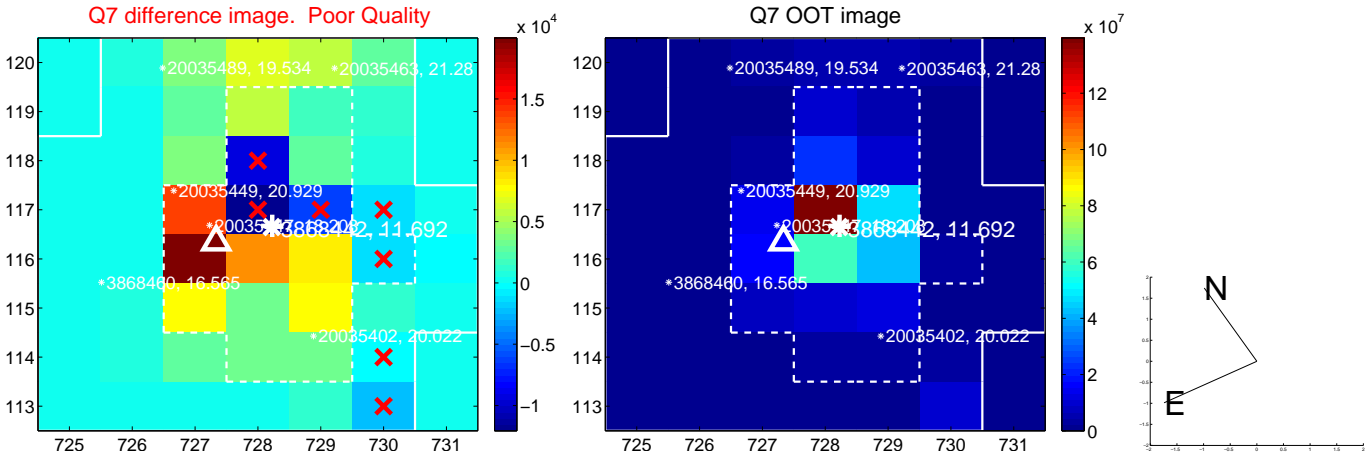
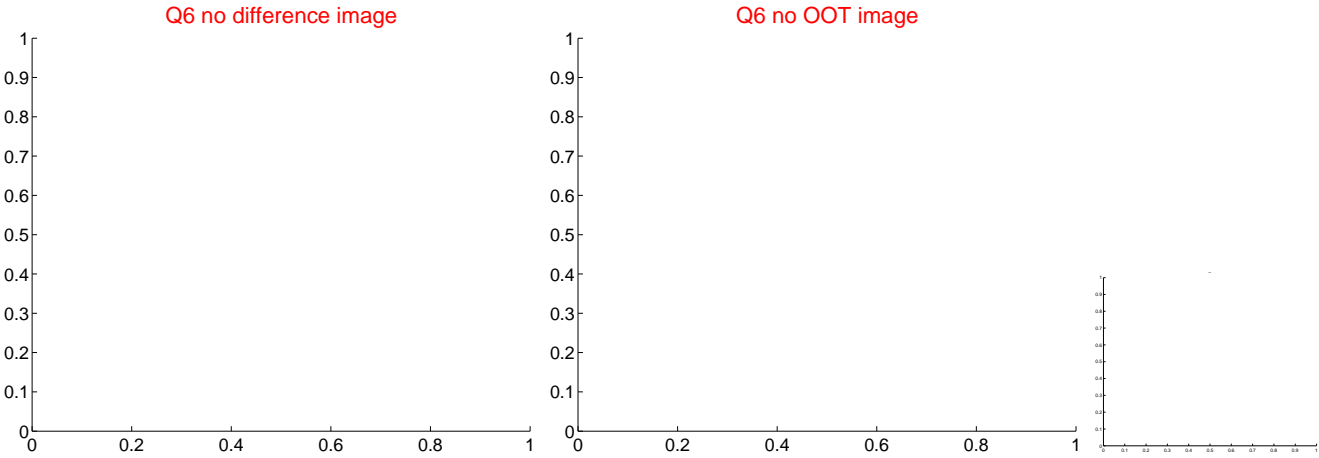
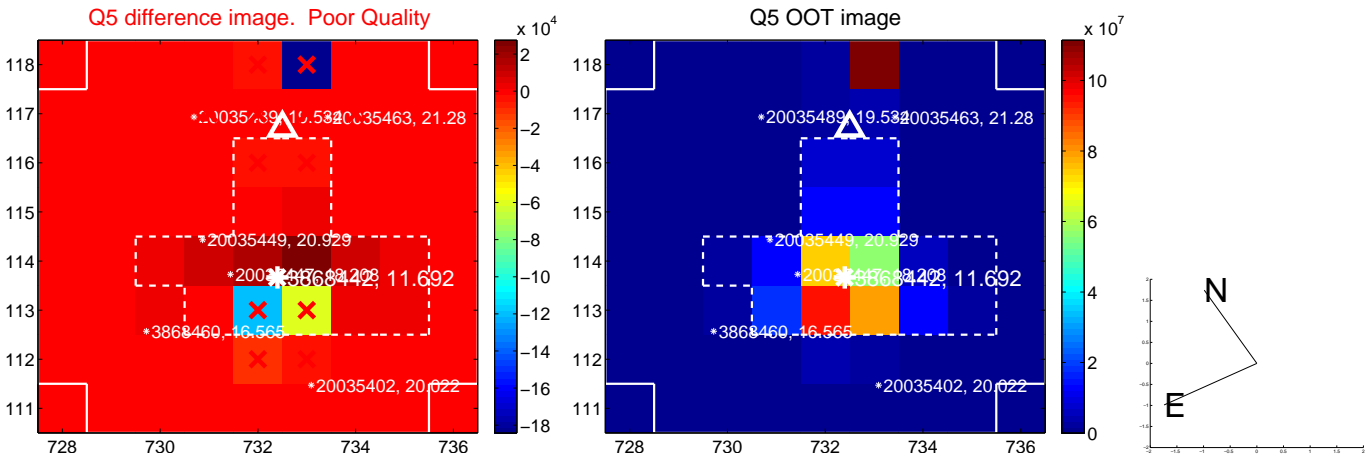


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

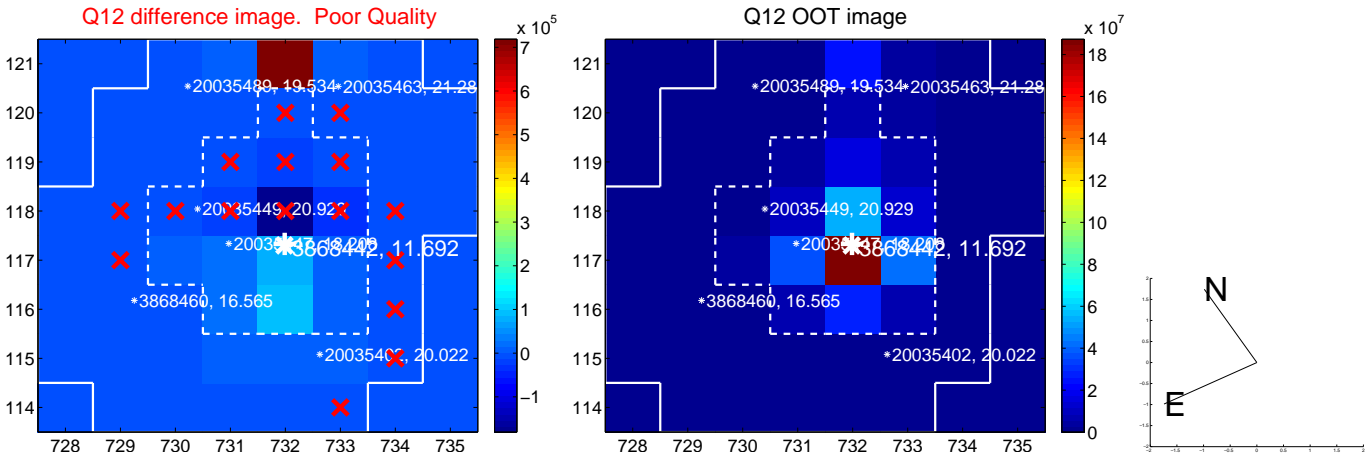
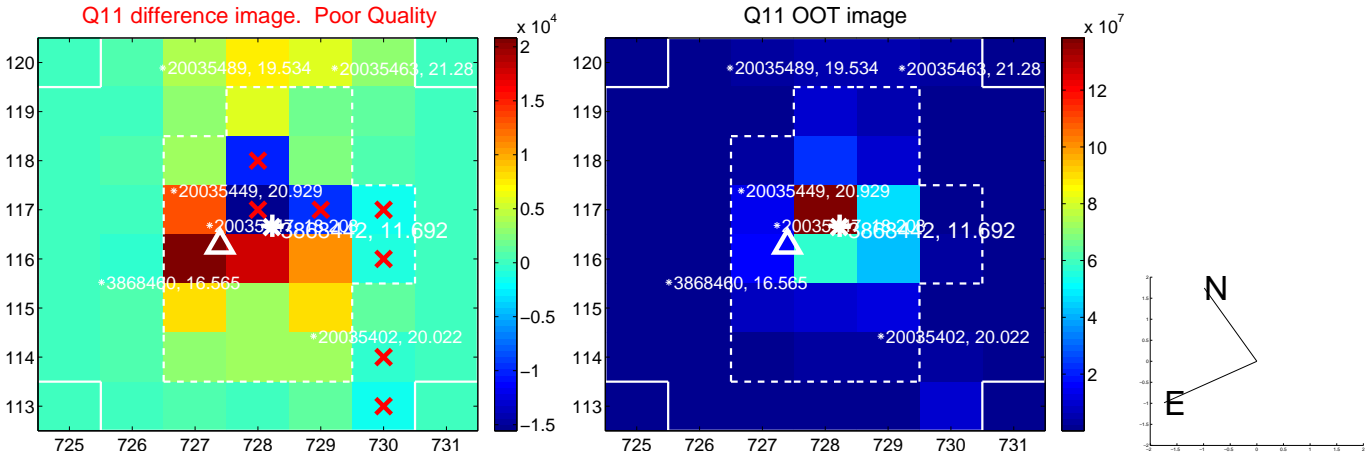
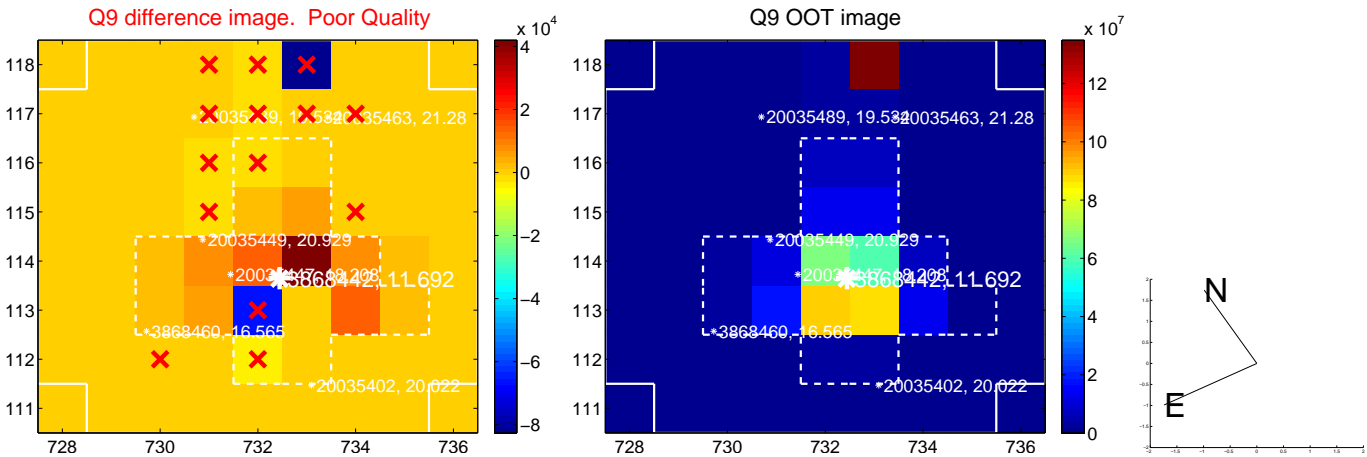


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

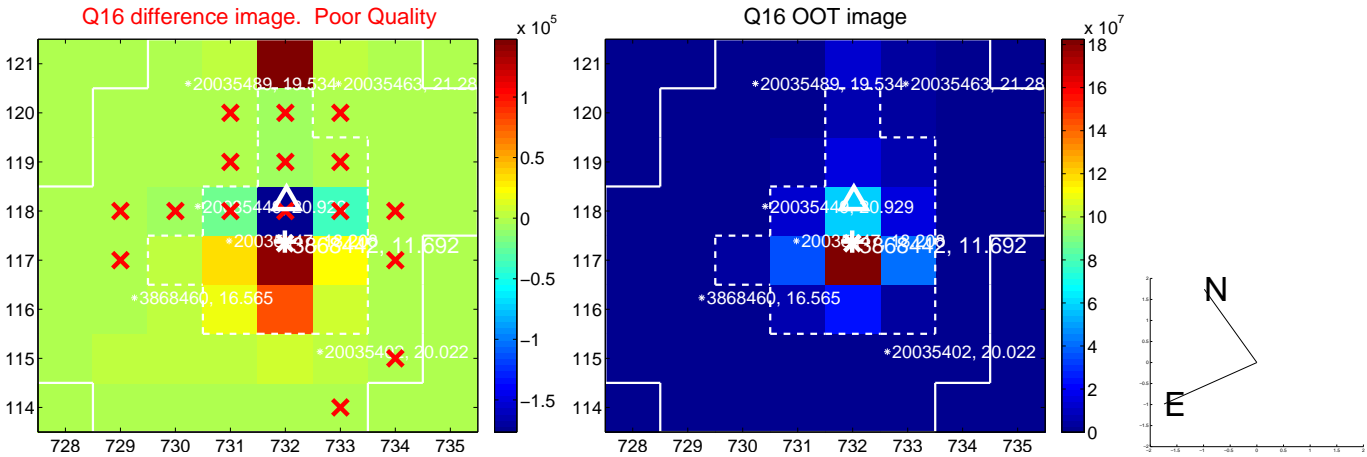
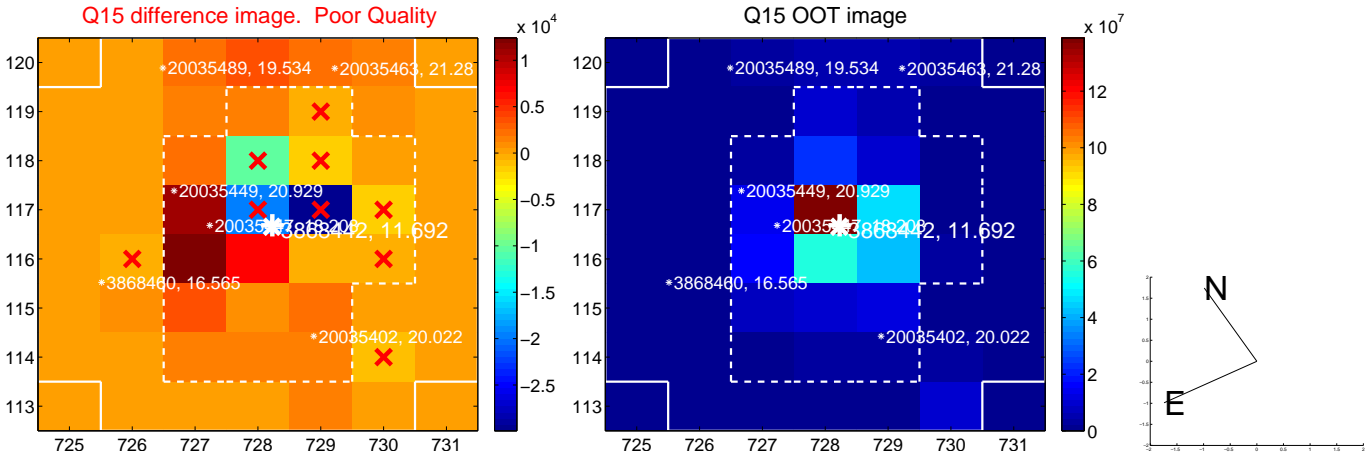
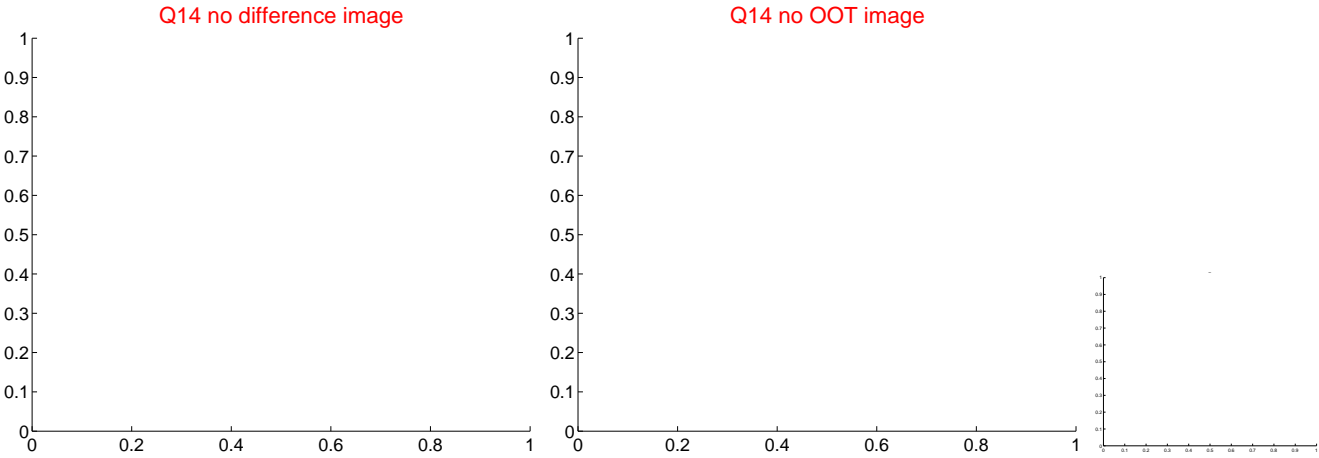
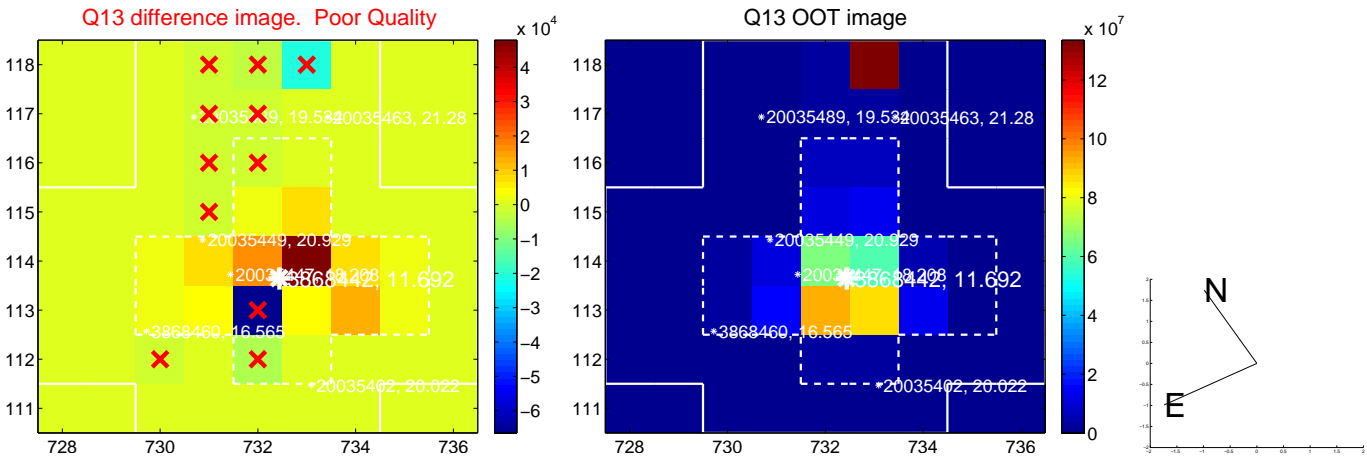




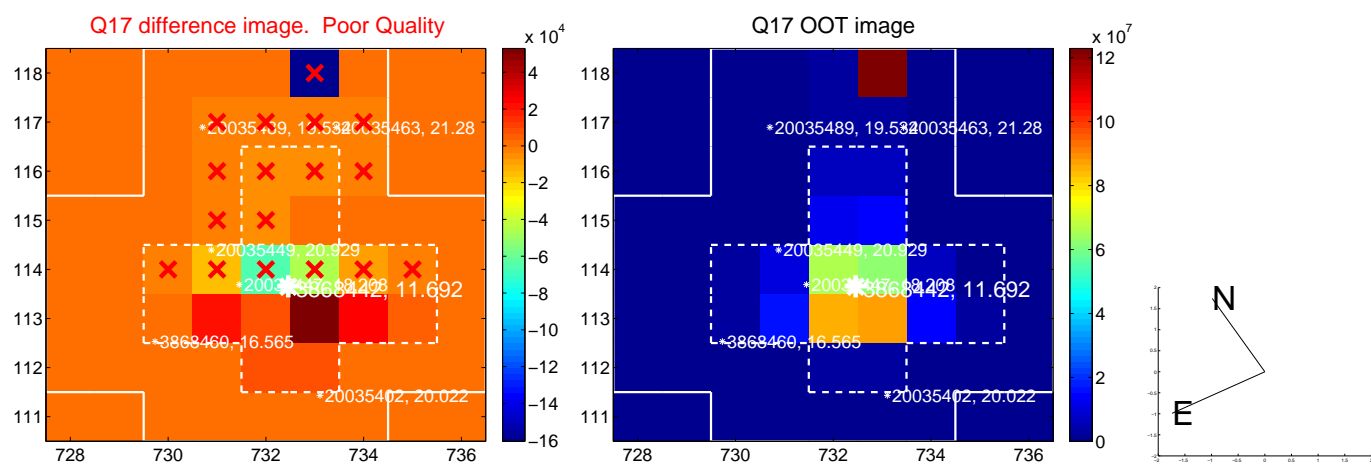
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



folded centroid time series figure for this object.



UKIRT Image

