

# KIC 007868899

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007868899-01	OBS	No	5.132101	134.082102	39.3	27.652	9.2	7.6	0.98	5758	0.61	285.24

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007868899-01	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.

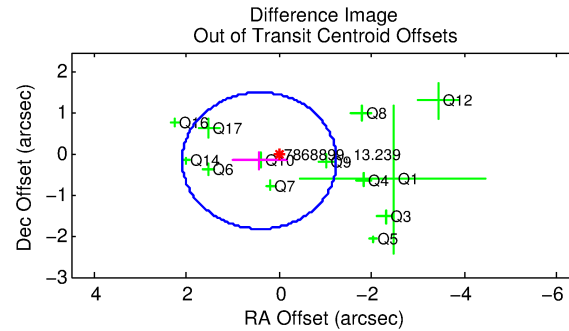
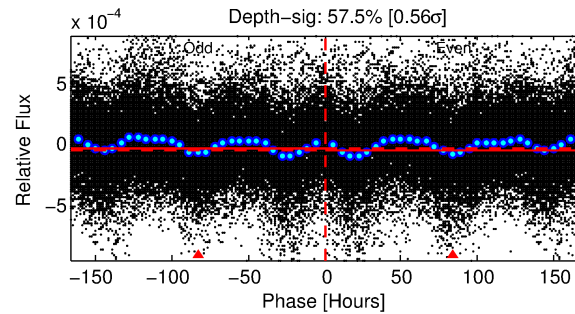
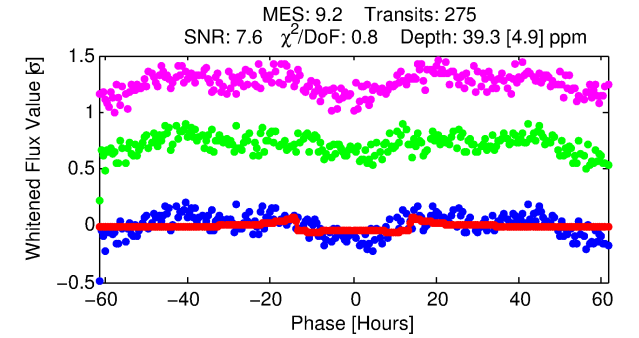
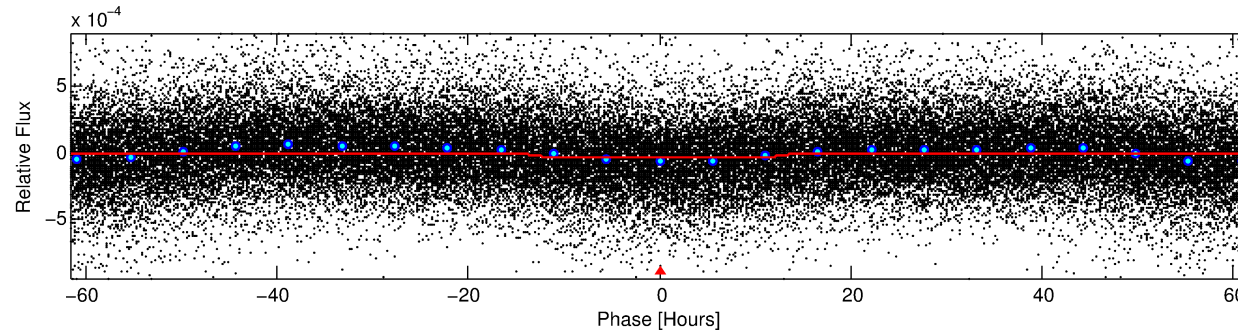
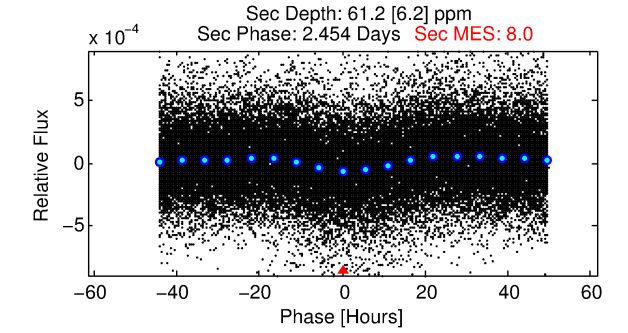
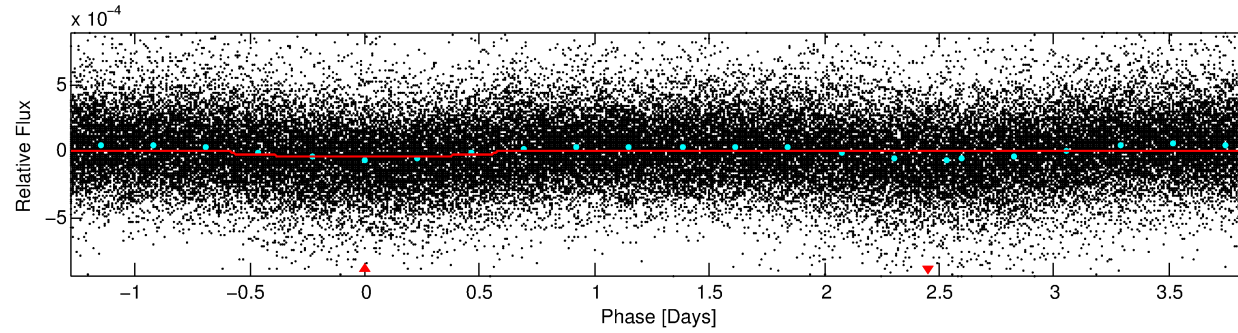
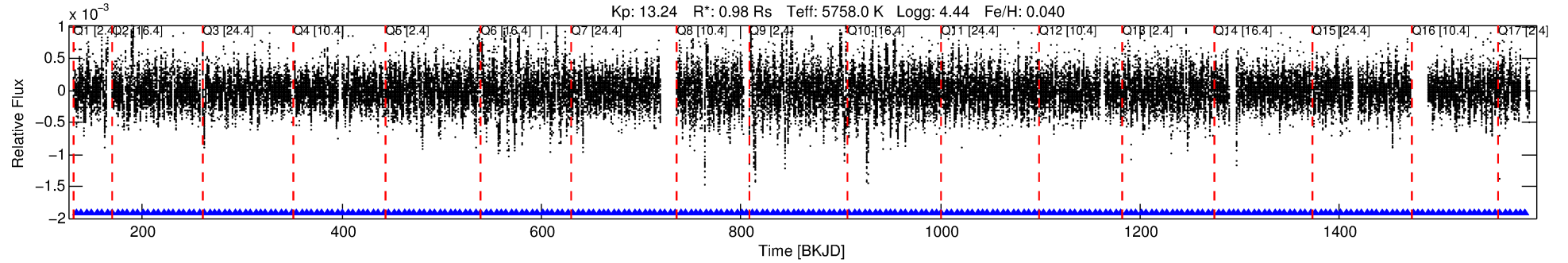
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007868899-01

No Significant Match Found

# DV One-Page Summary

KIC: 7868899 Candidate: 1 of 1 Period: 5.132 d



## DV Fit Results:

Period = 5.13210 [0.00008] d  
Epoch = 134.0821 [0.0109] BKJD  
Rp/R\* = 0.0057 [0.0034]  
a/R\* = 1.55 [2.40]  
b = 0.05 [54.06]  
Seff = 285.24 [106.13]  
Teff = 1048 [97] K  
Rp = 0.61 [0.40] Re  
a = 0.0579 [0.0140] AU  
Ag = 303.17 [379.97] [0.80σ]  
Teffp = 6761 [2039] K [2.80σ]

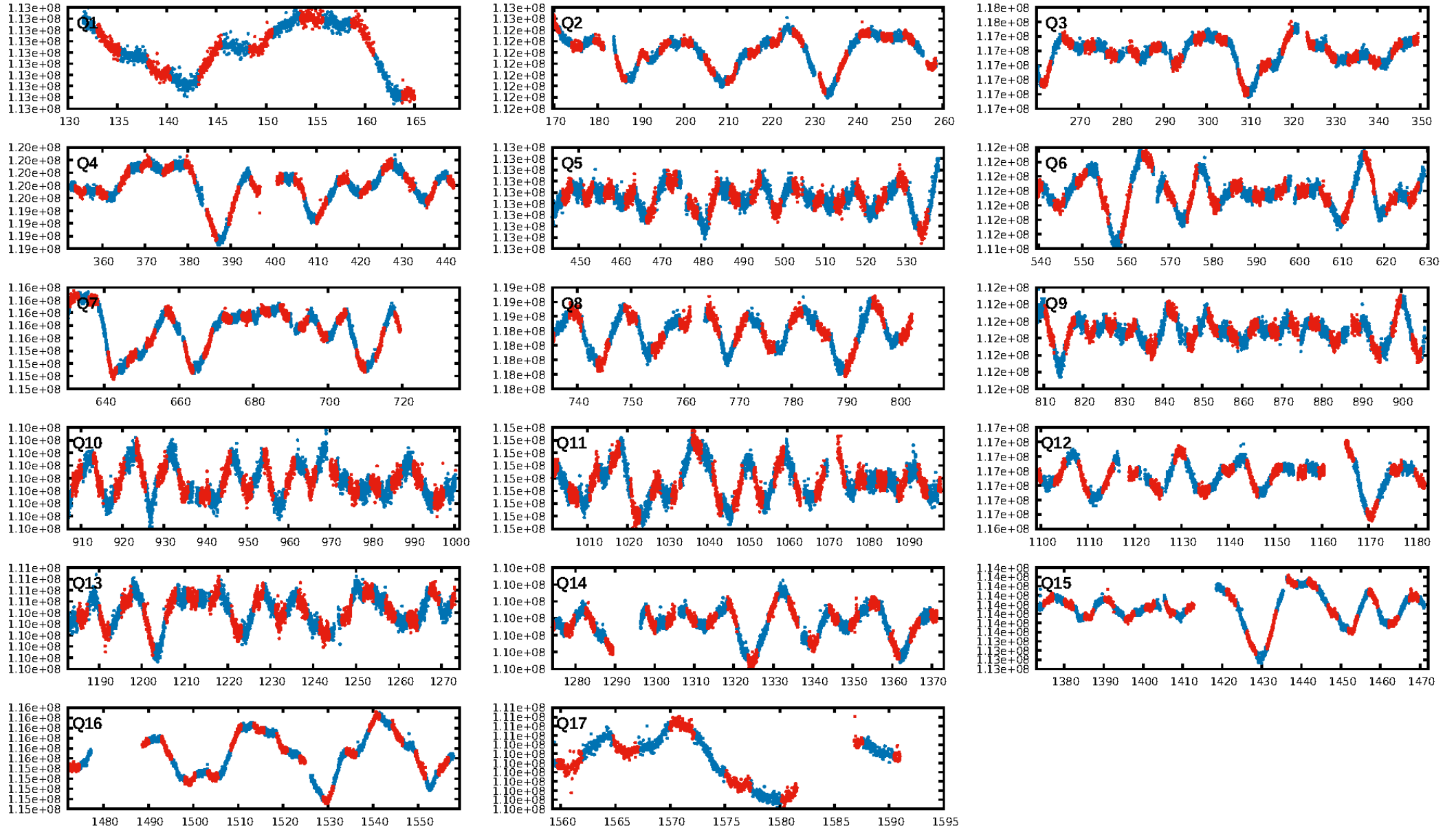
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 5.60e-24  
RollingBand-fgt: 1.00 [262/262]  
**GhostDiagnostic-chr: 0.9448**  
Centroid-sig: 41.4%  
Centroid-so: 0.632 arcsec [0.97σ]  
OotOffset-rm: 0.455 arcsec [0.82σ]  
KicOffset-rm: 0.418 arcsec [0.76σ]  
OotOffset-st: 3/2/4/4 [13]  
KicOffset-st: 3/2/4/4 [13]  
DiffImageQuality-fgm: 0.62 [8/13]  
DiffImageOverlap-fno: 1.00 [17/17]

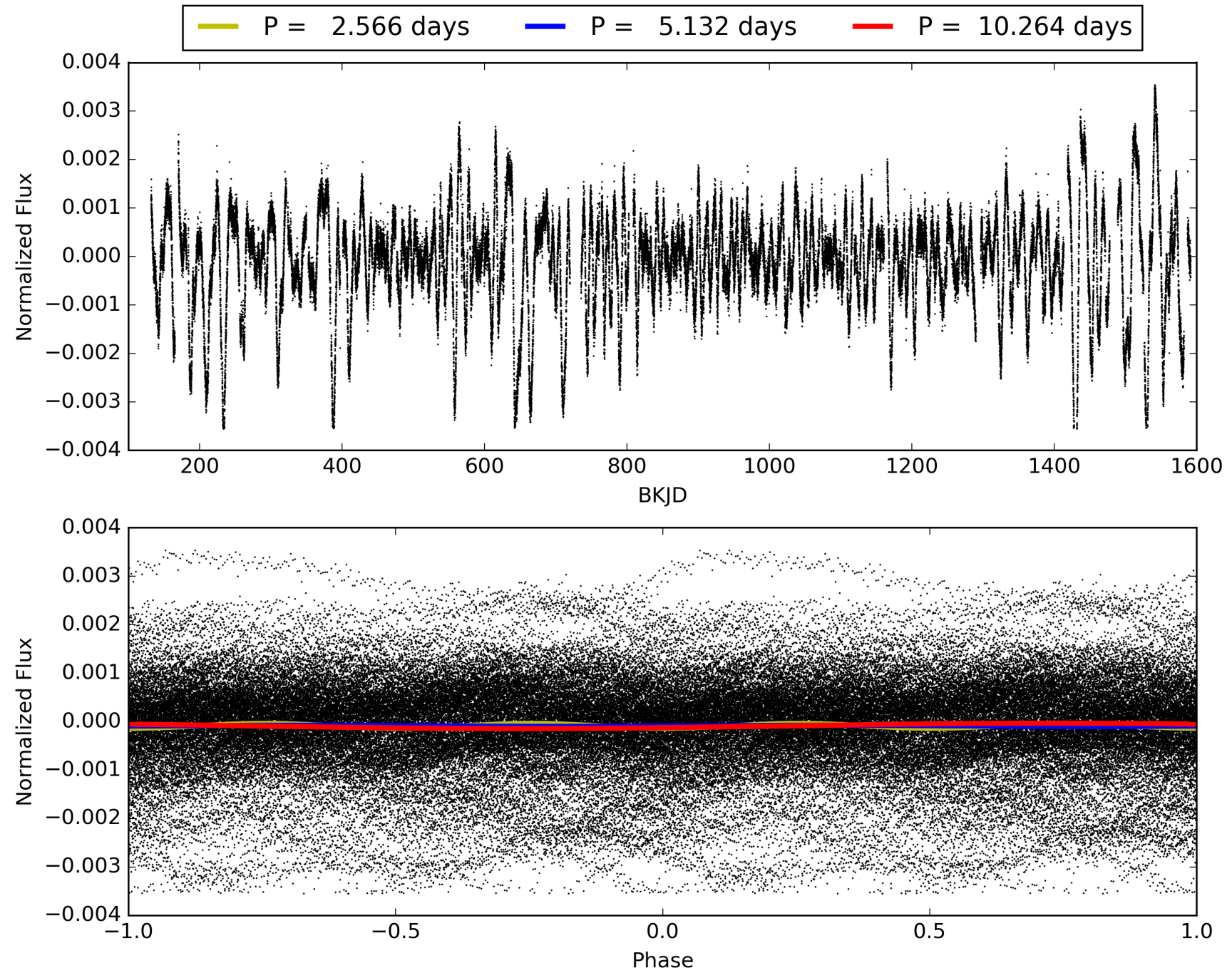
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:51:45 Z

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

# TCE 007868899-01, PDC Light Curves

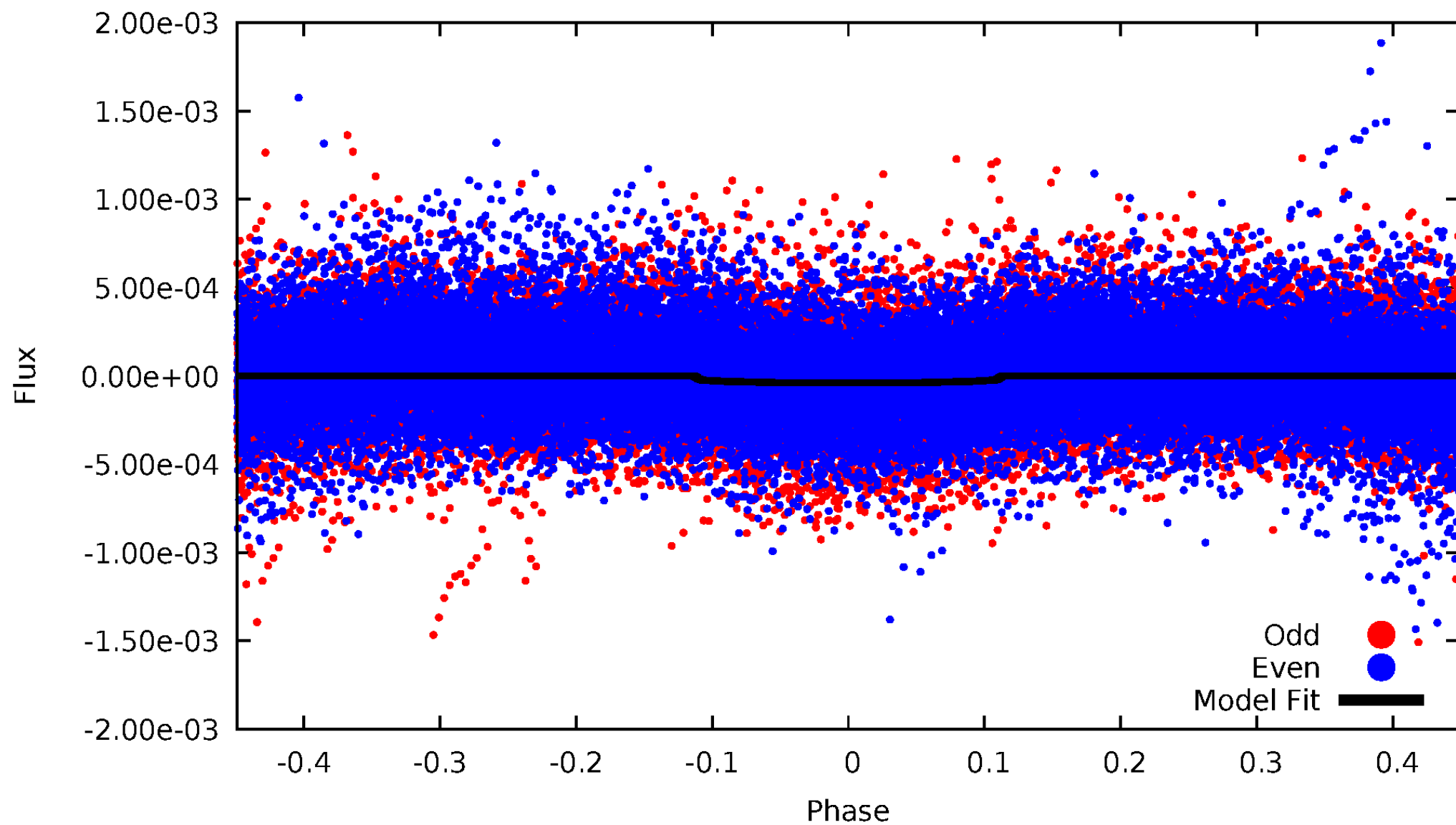


TCE 007868899-01



# DV Odd/Even

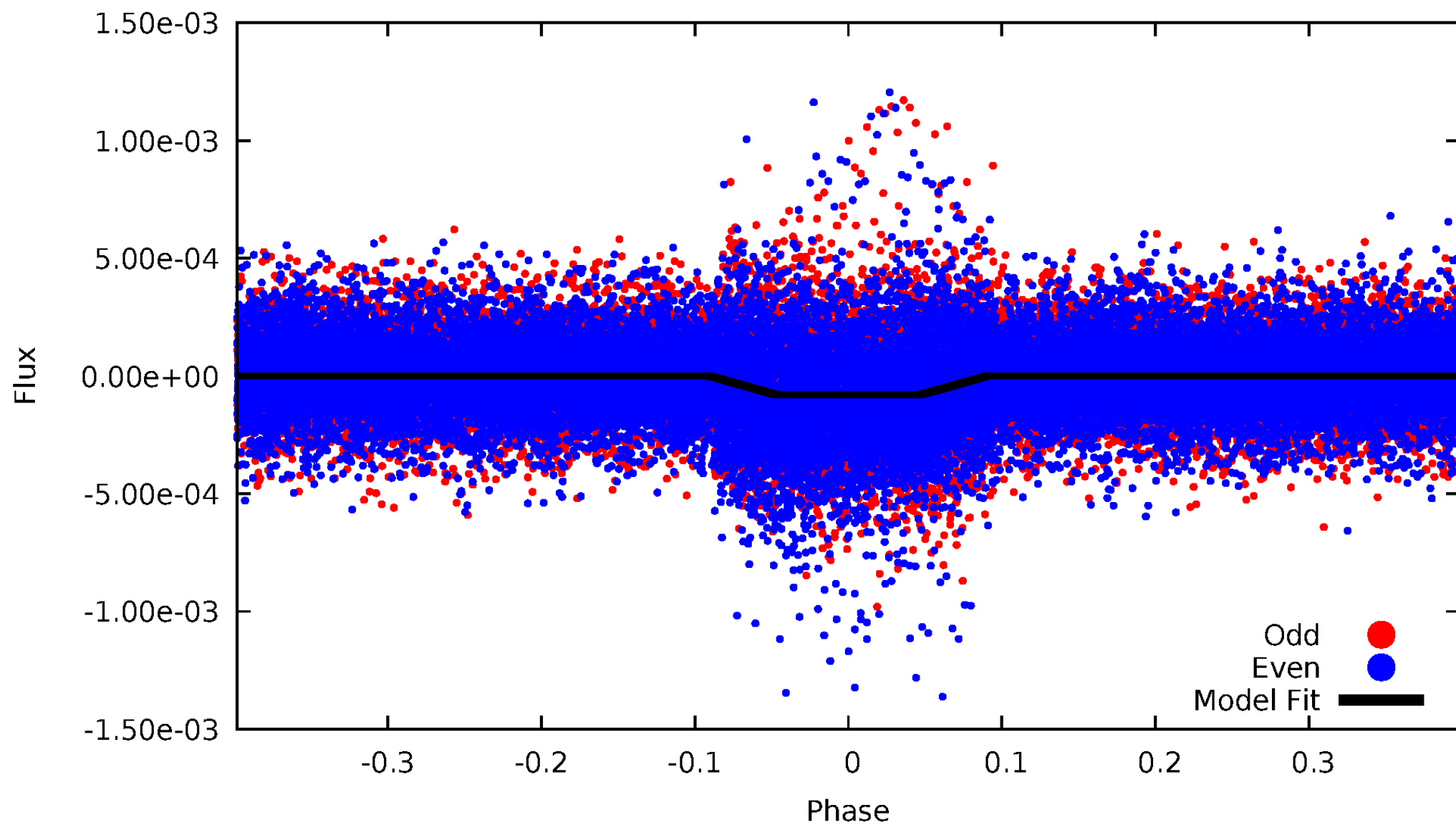
TCE 007868899-01



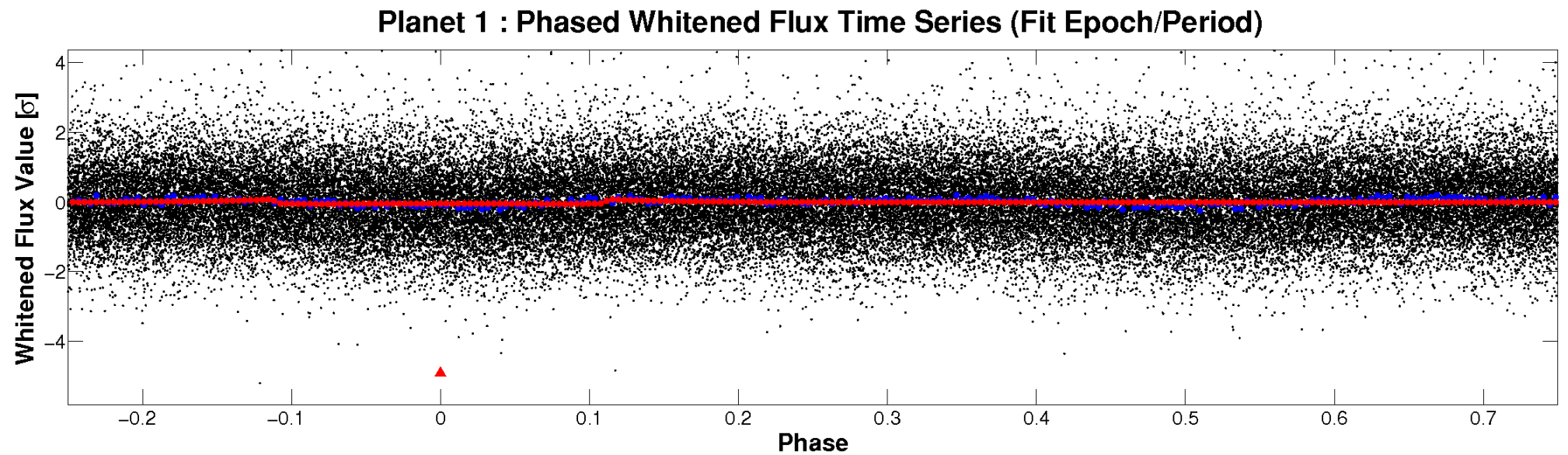
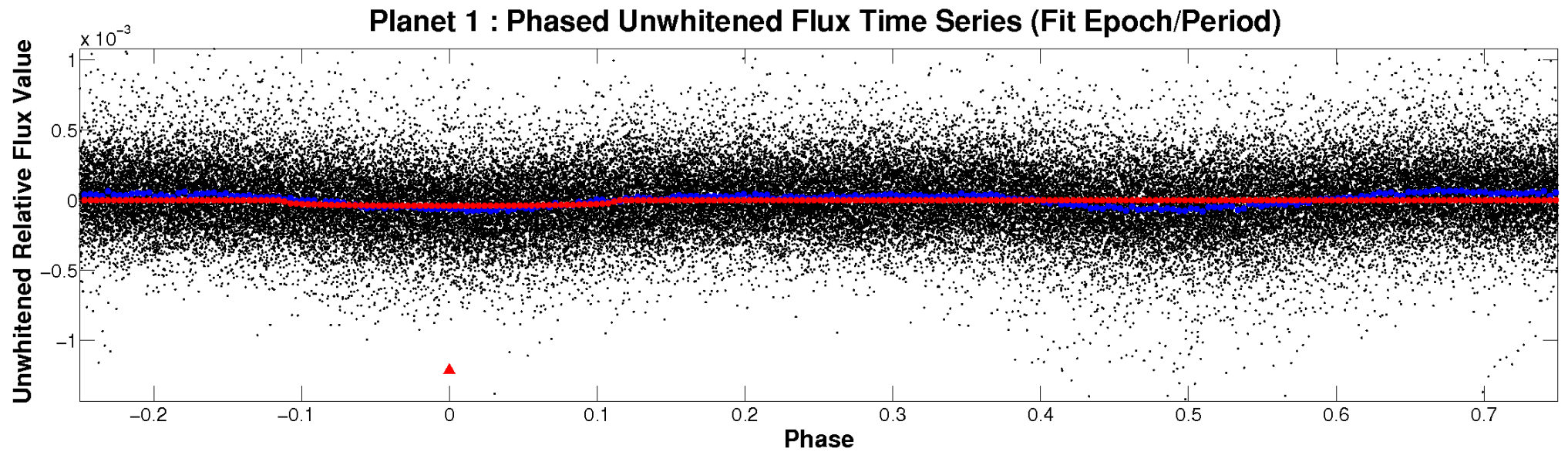


# ALT Odd/Even

TCE 007868899-01

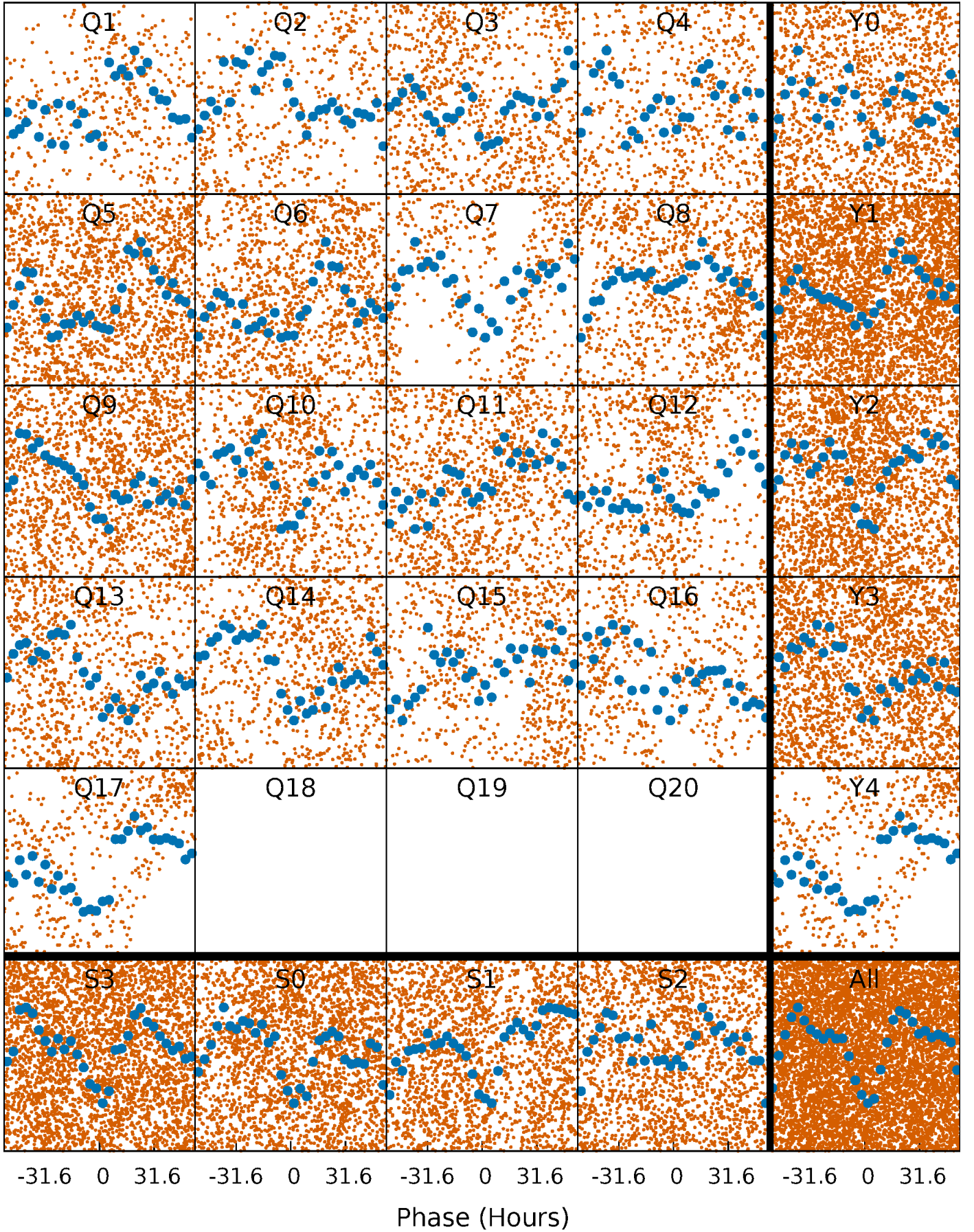


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

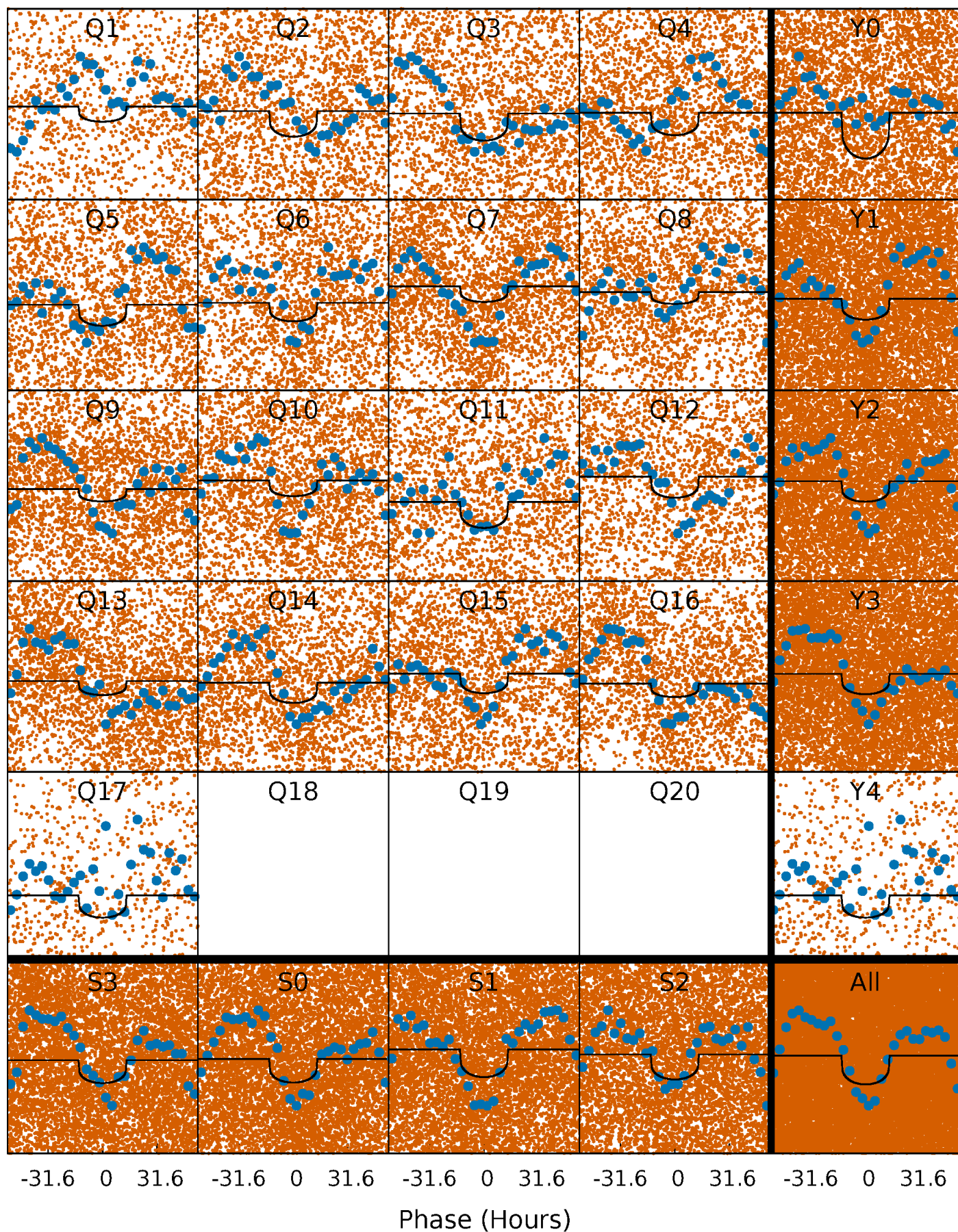
TCE 007868899-01 P= 5.132101 Days  $T_0=134.082102$  (BKJD)





# DV Quarter-Phased Transit Curves

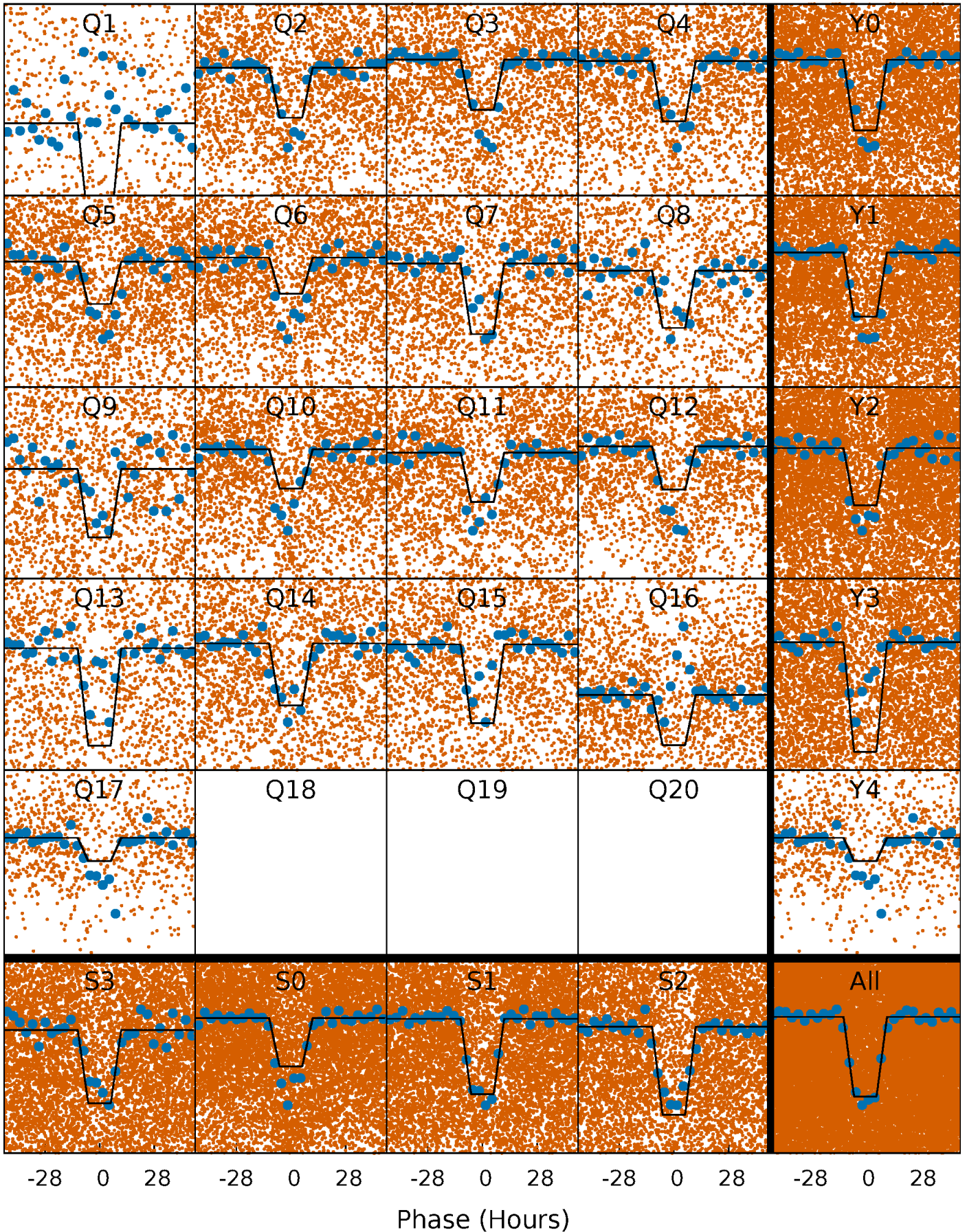
TCE 007868899-01 P= 5.132101 Days  $T_0=134.082102$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

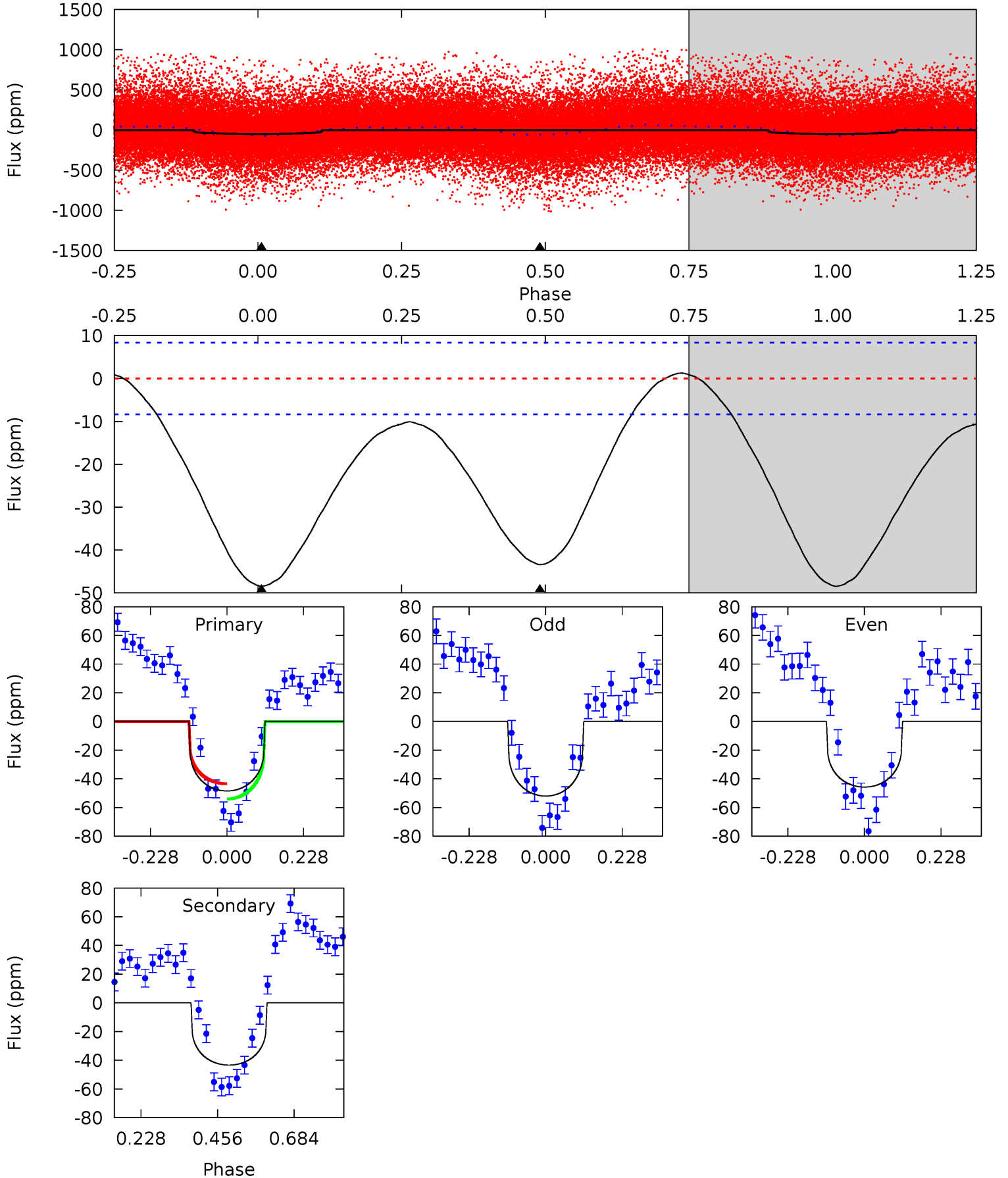
TCE 007868899-01 P= 5.130839 Days  $T_0=134.275235$  (BKJD)



# DV Model-Shift Uniqueness Test

007868899-01, P = 5.132101 Days, E = 128.950001 Days

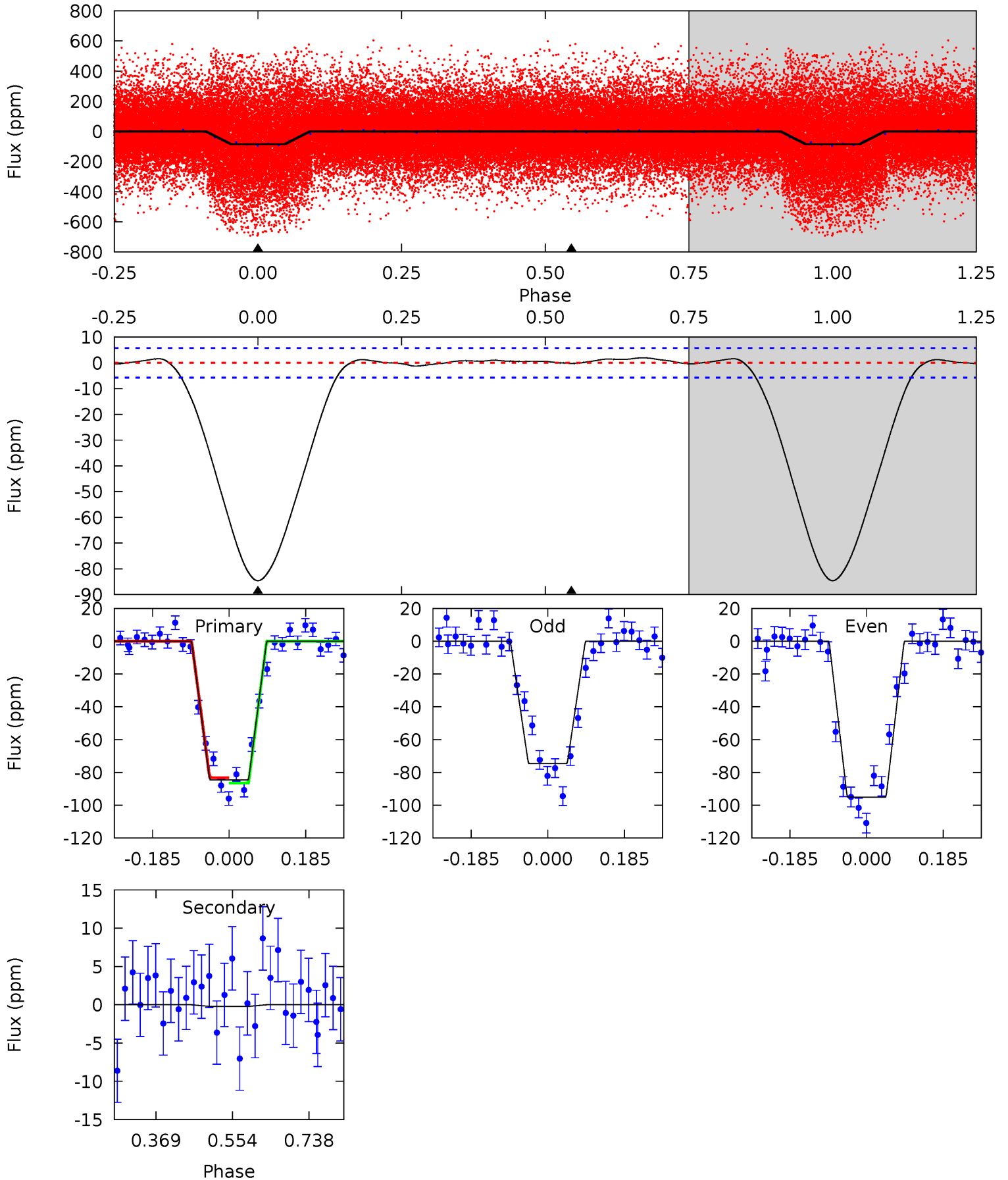
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.5	22.8	0	0	4.39	1.21	2.81	25.5	25.5	22.8	22.8	1.64	0.95	0.03	2.73



# Alt Model-Shift Uniqueness Test

007868899-01, P = 5.130839 Days, E = 129.144396 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
65.2	0.16	0	0	4.43	1.33	0.50	65.2	65.2	0.16	0.16	7.87	0.97	0.02	1.26





### Stellar Parameters For KIC 007868899

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5758^{+138}_{-156}$	$4.443^{+0.070}_{-0.196}$	$0.040^{+0.250}_{-0.300}$	$0.985^{+0.281}_{-0.120}$	$0.981^{+0.114}_{-0.102}$	$1.448^{+0.509}_{-0.735}$
	+2%/-3%	+2%/-4%	+625%/-750%	+29%/-12%	+12%/-10%	+35%/-51%
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 007868899-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-43 \pm 2$	$0.66^{+0.40}_{-0.36}$	$1485^{+97}_{-64}$	$6046^{+3480}_{-1120}$	$179^{+694}_{-107}$
Alt.	$-0 \pm 1$	$1.00^{+0.43}_{-0.39}$	$1481^{+103}_{-63}$	$1835^{+1071}_{-4643}$	$0.365^{+3.079}_{-2.535}$

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

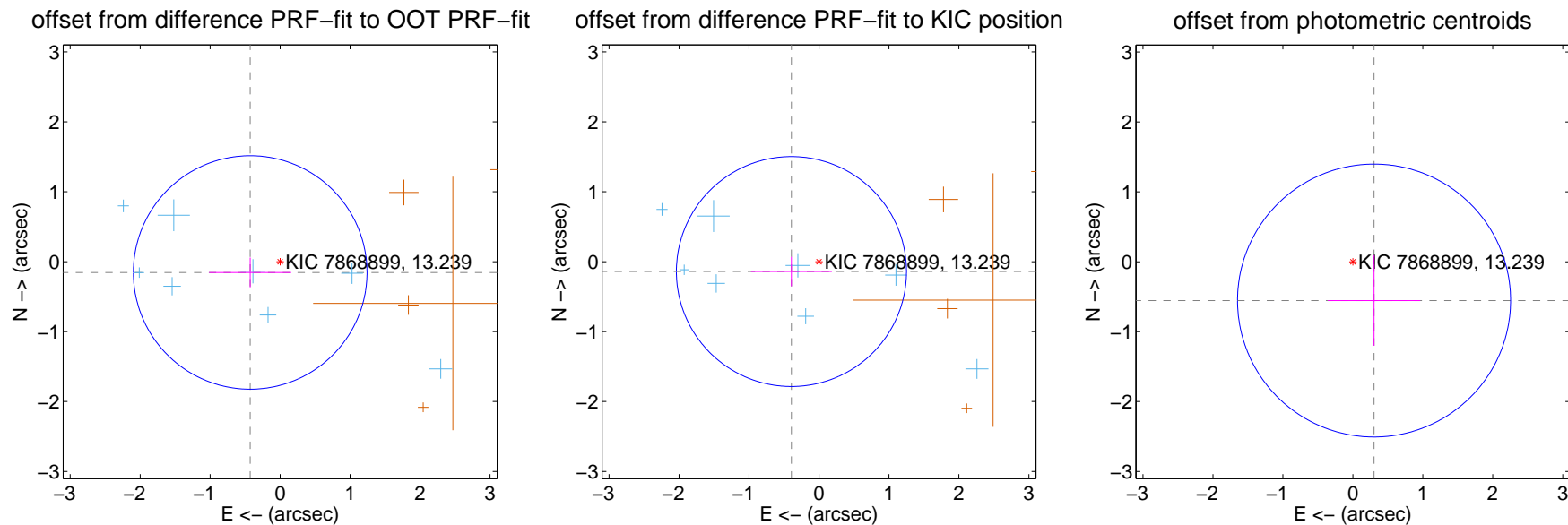
## DV Centroid Data

Supplemental centroid analysis for 007868899-01. Kepler magnitude: 13.24. Transit SNR 7.63

There are 8 quarters with good PRF difference image offsets

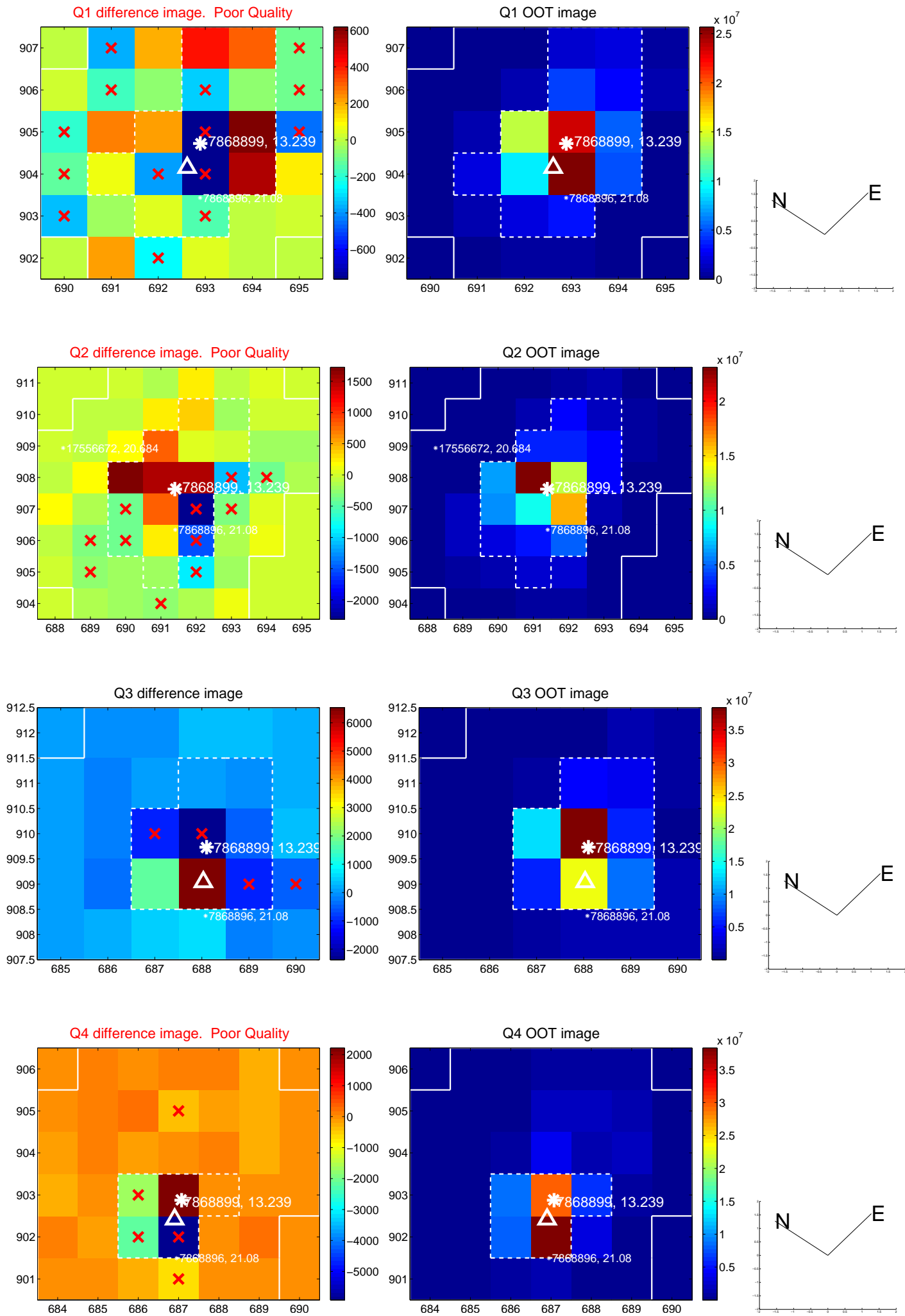
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.455 \pm 0.557$	0.82	$0.428 \pm 0.587$	$-0.154 \pm 0.213$
PRF-fit source offset from KIC position	$0.418 \pm 0.548$	0.76	$0.394 \pm 0.577$	$-0.141 \pm 0.210$
photometric centroid source offset	$0.63 \pm 0.65$	0.97	$-0.30 \pm 0.66$	$-0.55 \pm 0.65$

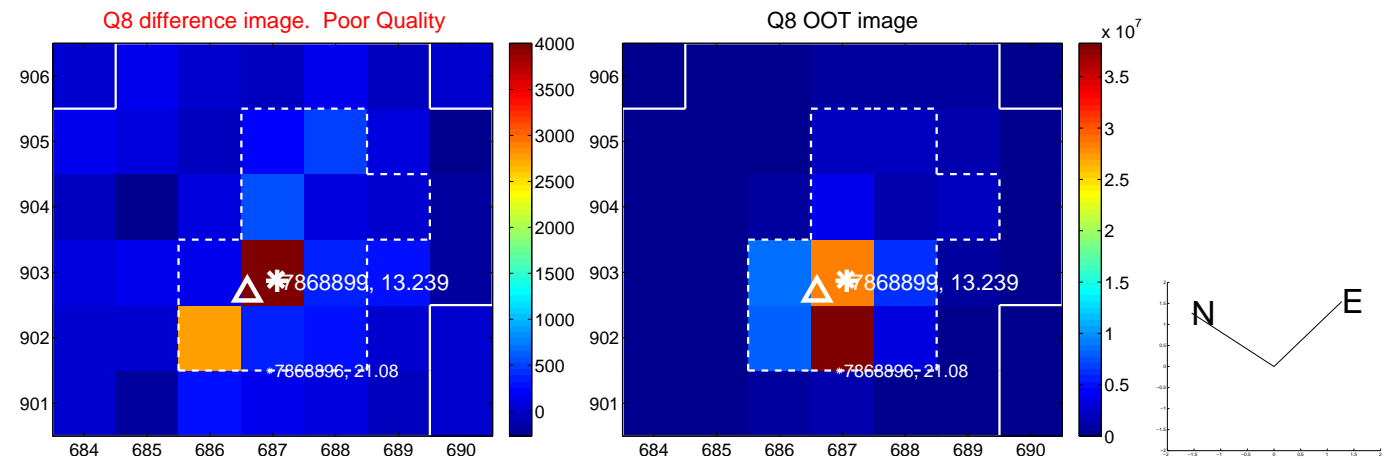
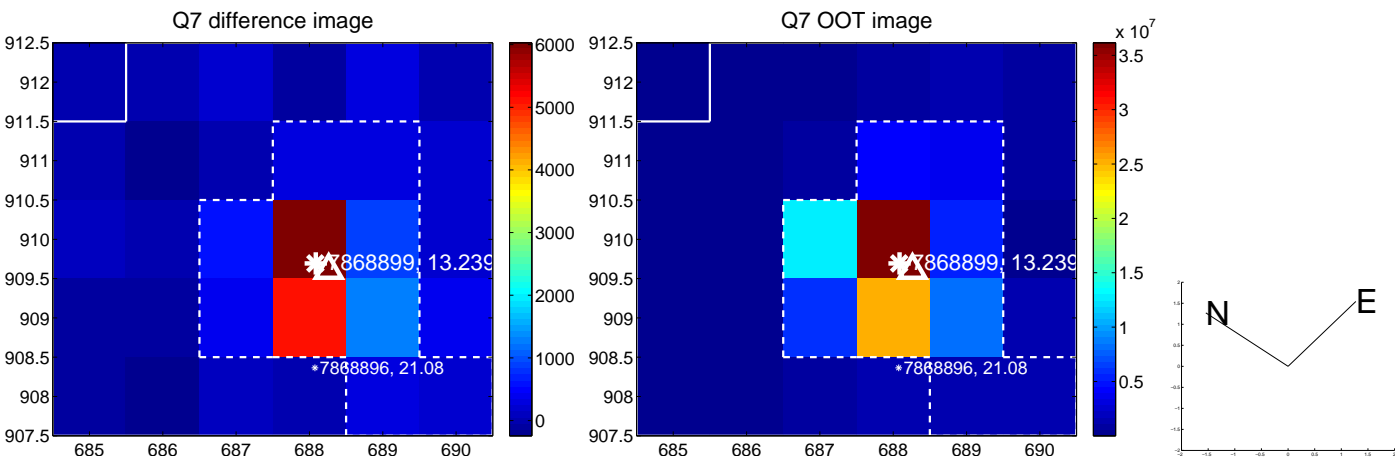
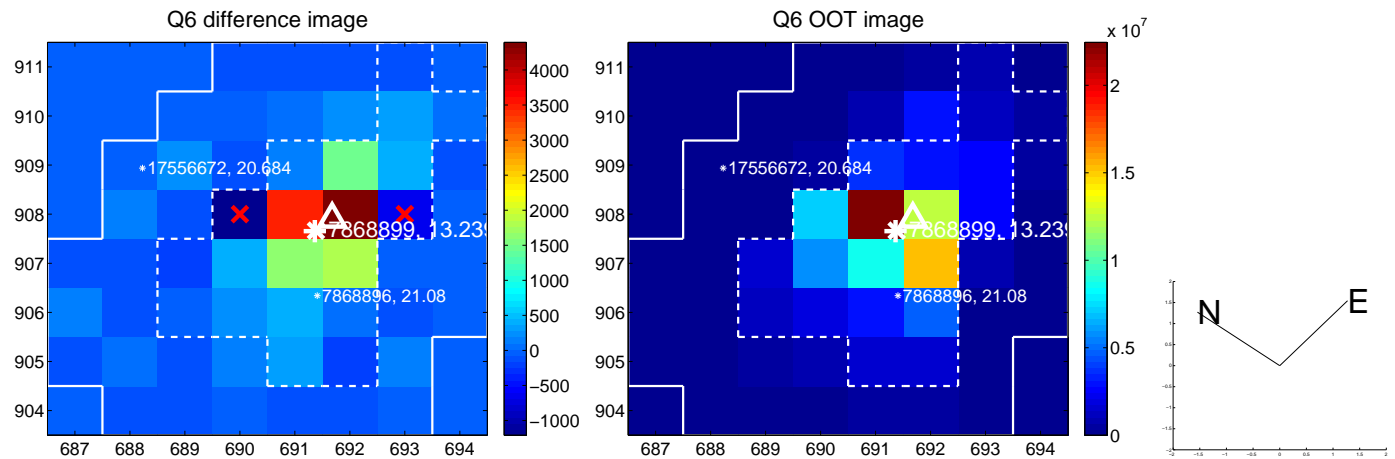
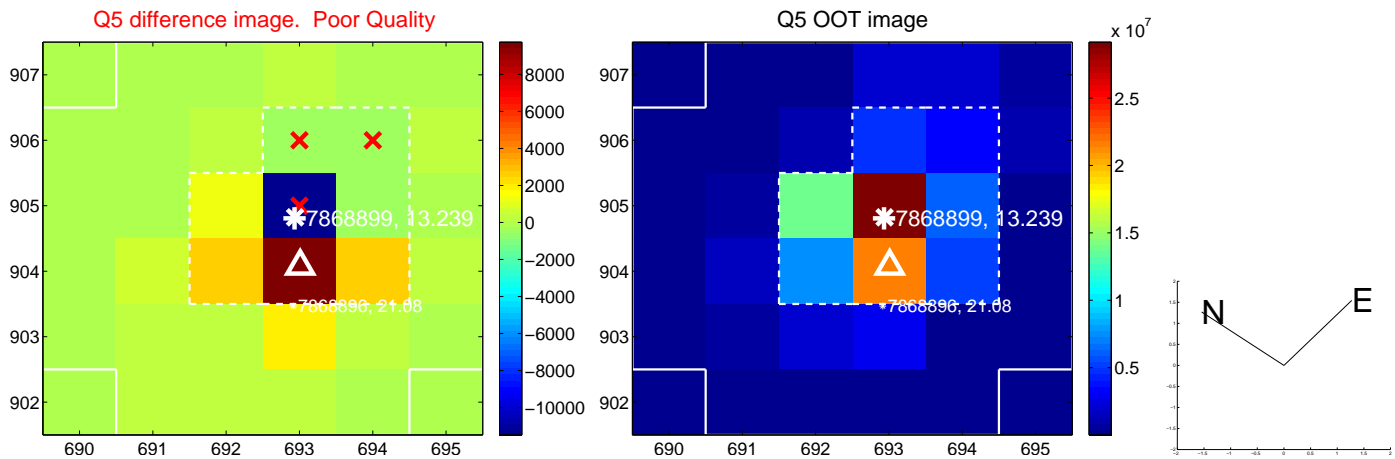


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

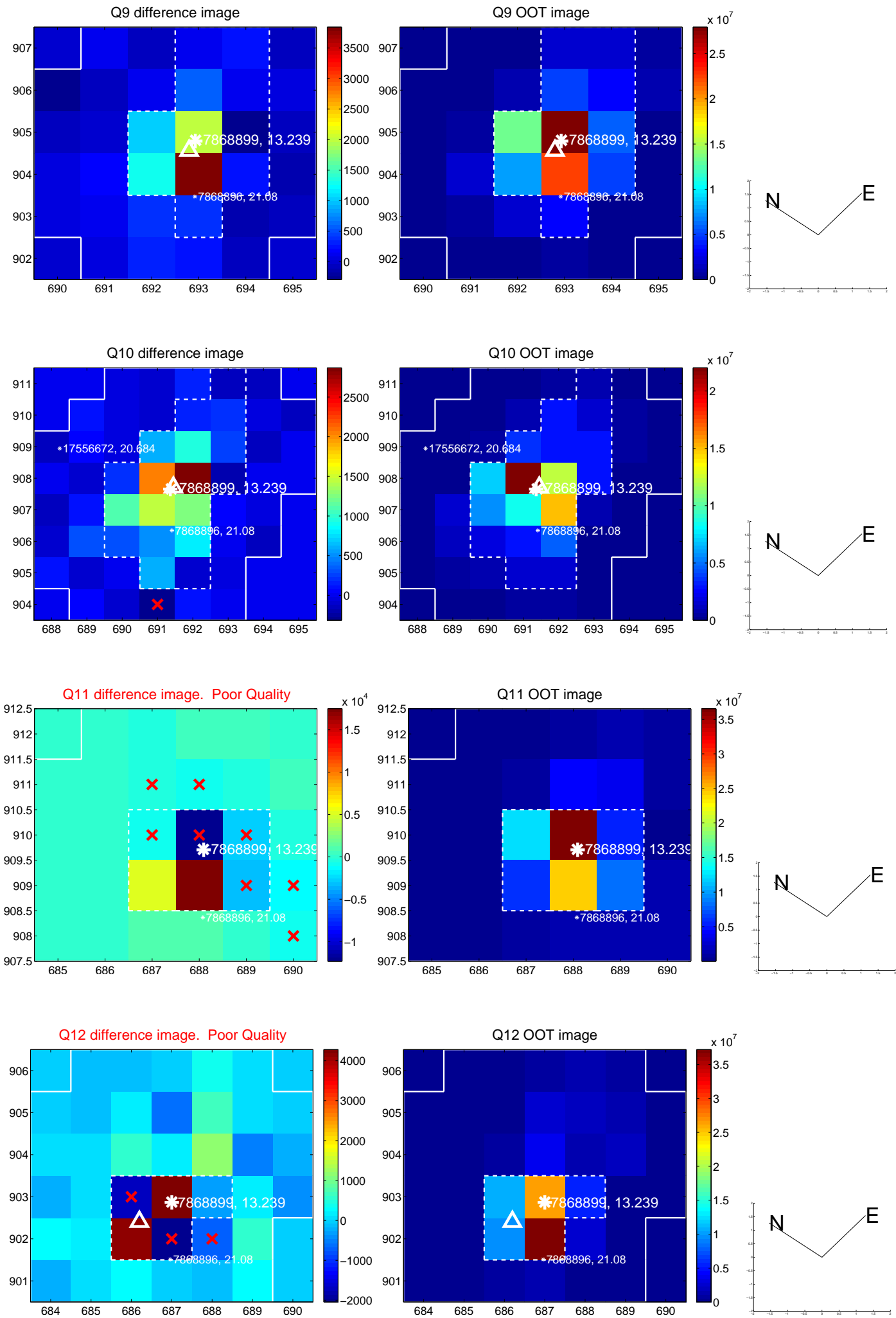


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

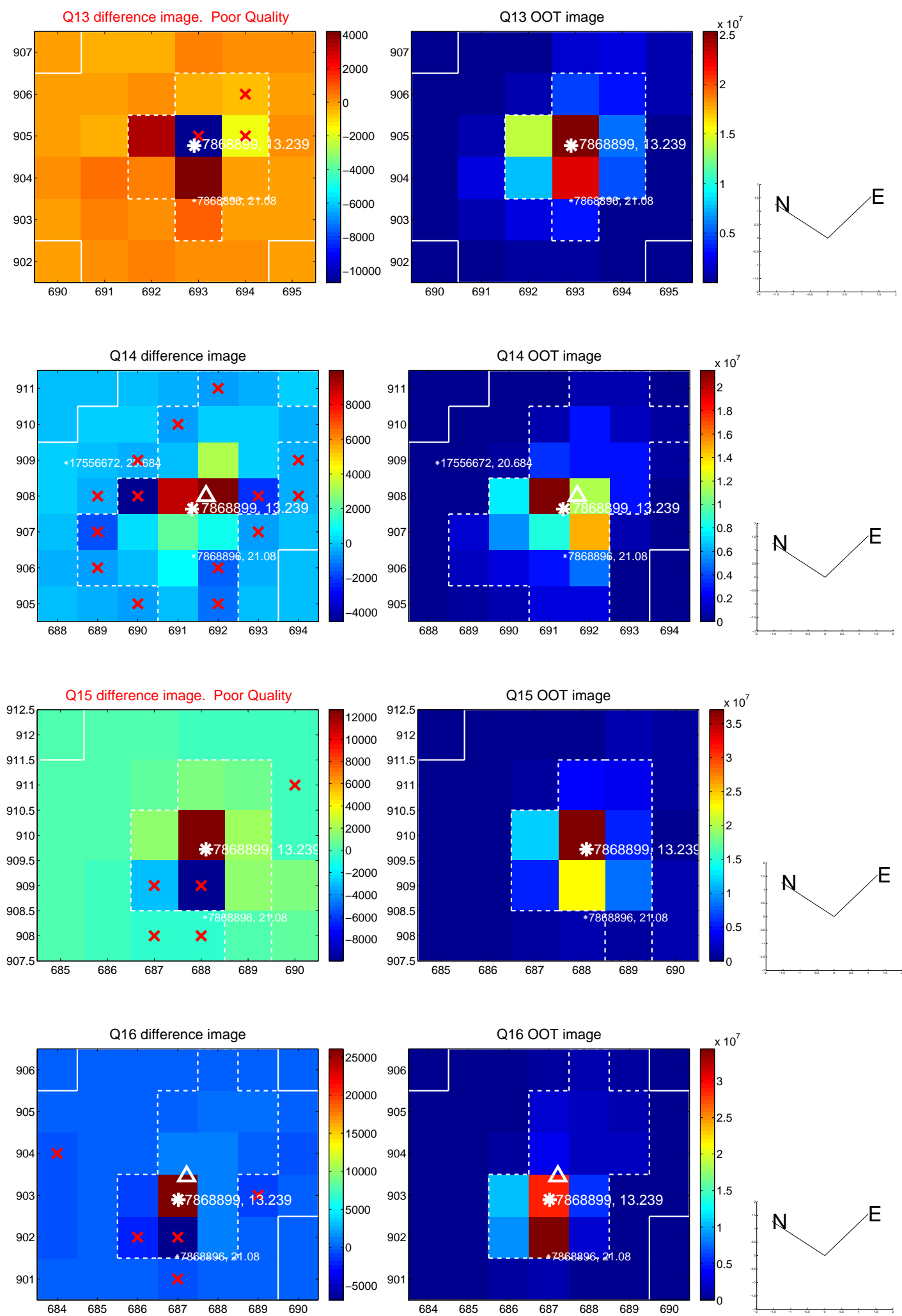




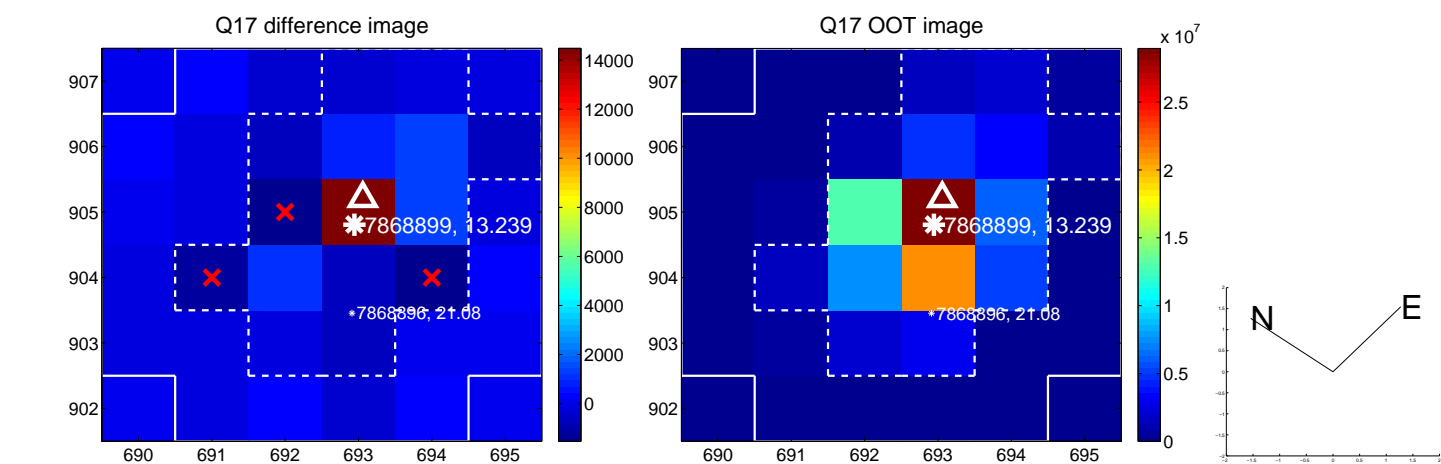
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



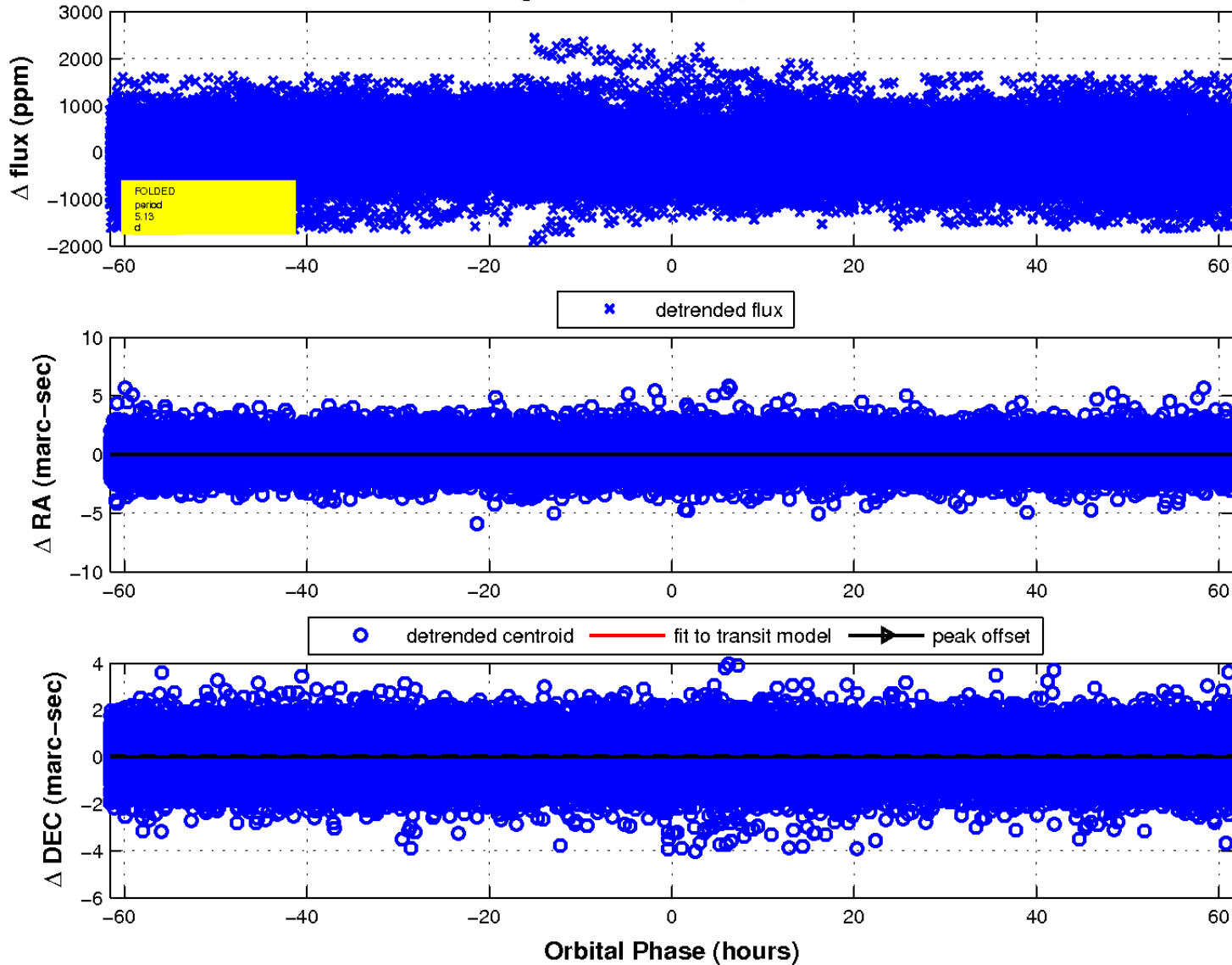
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

