

# KIC 007098255

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007098255-01	OBS	4762.01	11.567278	132.248853	382.2	2.612	9.8	10.8	0.69	4597	1.49	24.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007098255-01	OBS	PC	0.98	0	0	0	0	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.

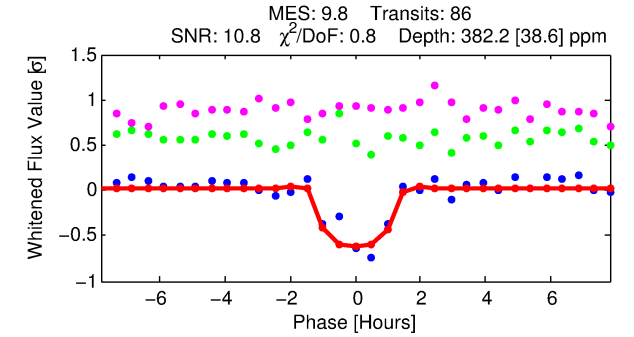
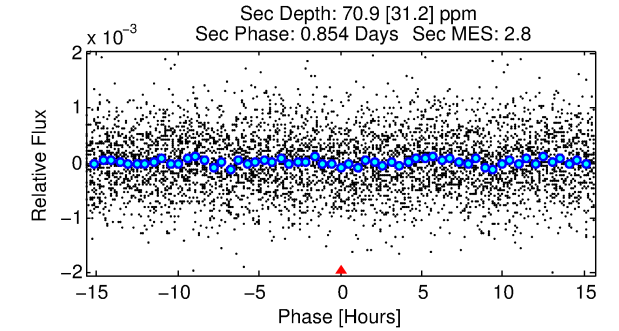
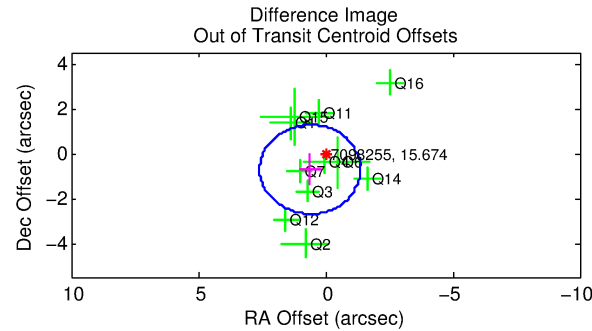
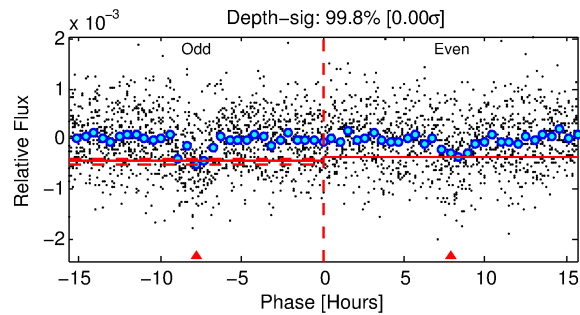
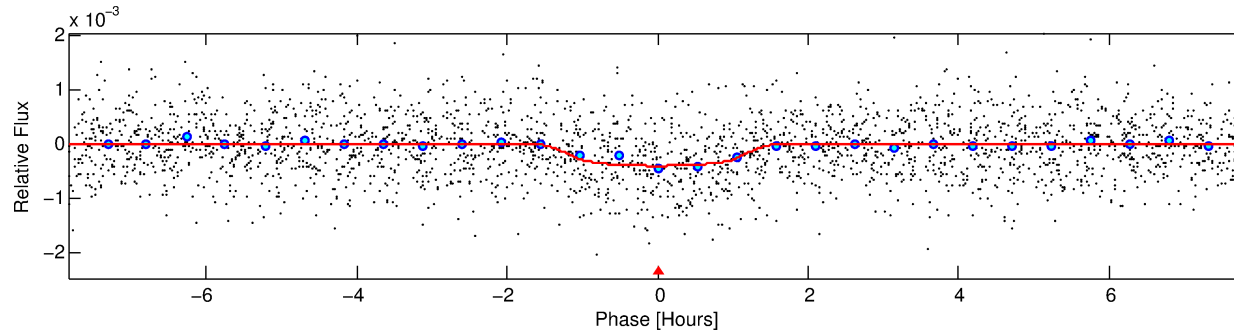
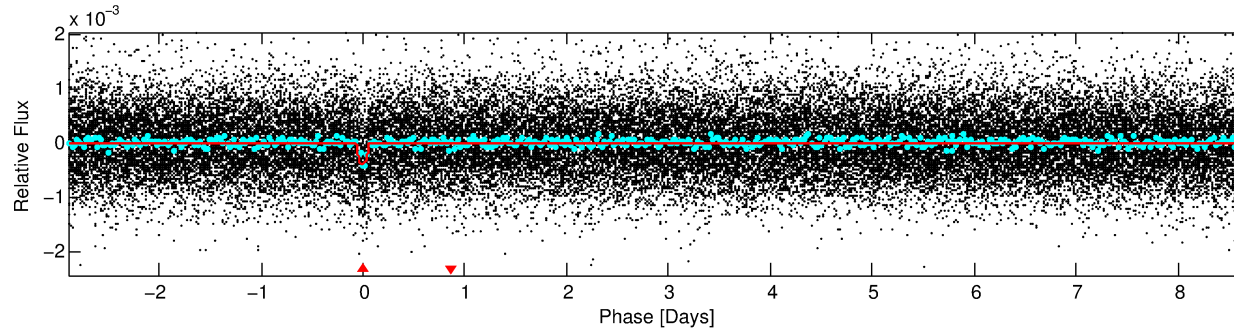
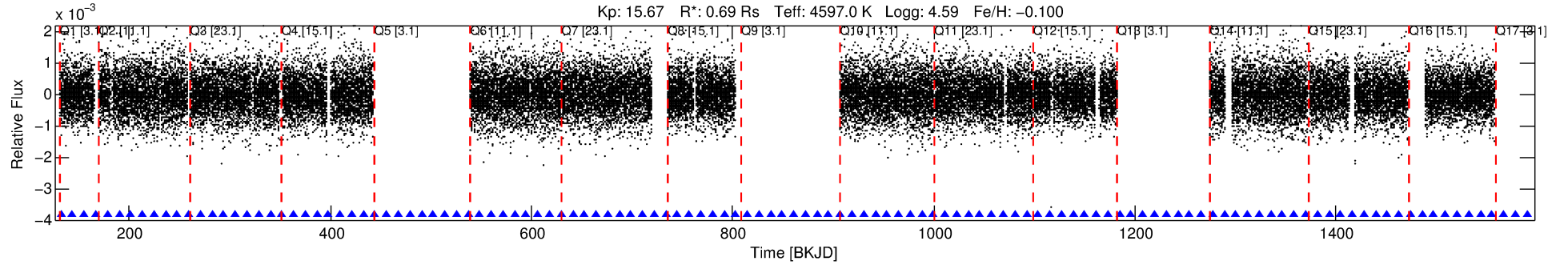
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007098255-01

No Significant Match Found

# DV One-Page Summary

KIC: 7098255 Candidate: 1 of 1 Period: 11.567 d  
KOI: K04762.01 Corr: 0.958



## DV Fit Results:

Period = 11.56728 [0.00007] d  
Epoch = 132.2489 [0.0053] BKJD  
Rp/R\* = 0.0198 [0.0208]  
a/R\* = 22.62 [77.92]  
b = 0.77 [1.88]  
Seff = 24.71 [3.94]  
Teq = 568 [23] K  
Rp = 1.49 [1.57] Re  
a = 0.0879 [0.0066] AU  
Ag = 135.19 [290.41] [0.46σ]  
Teffp = 2997 [1610] K [1.51σ]

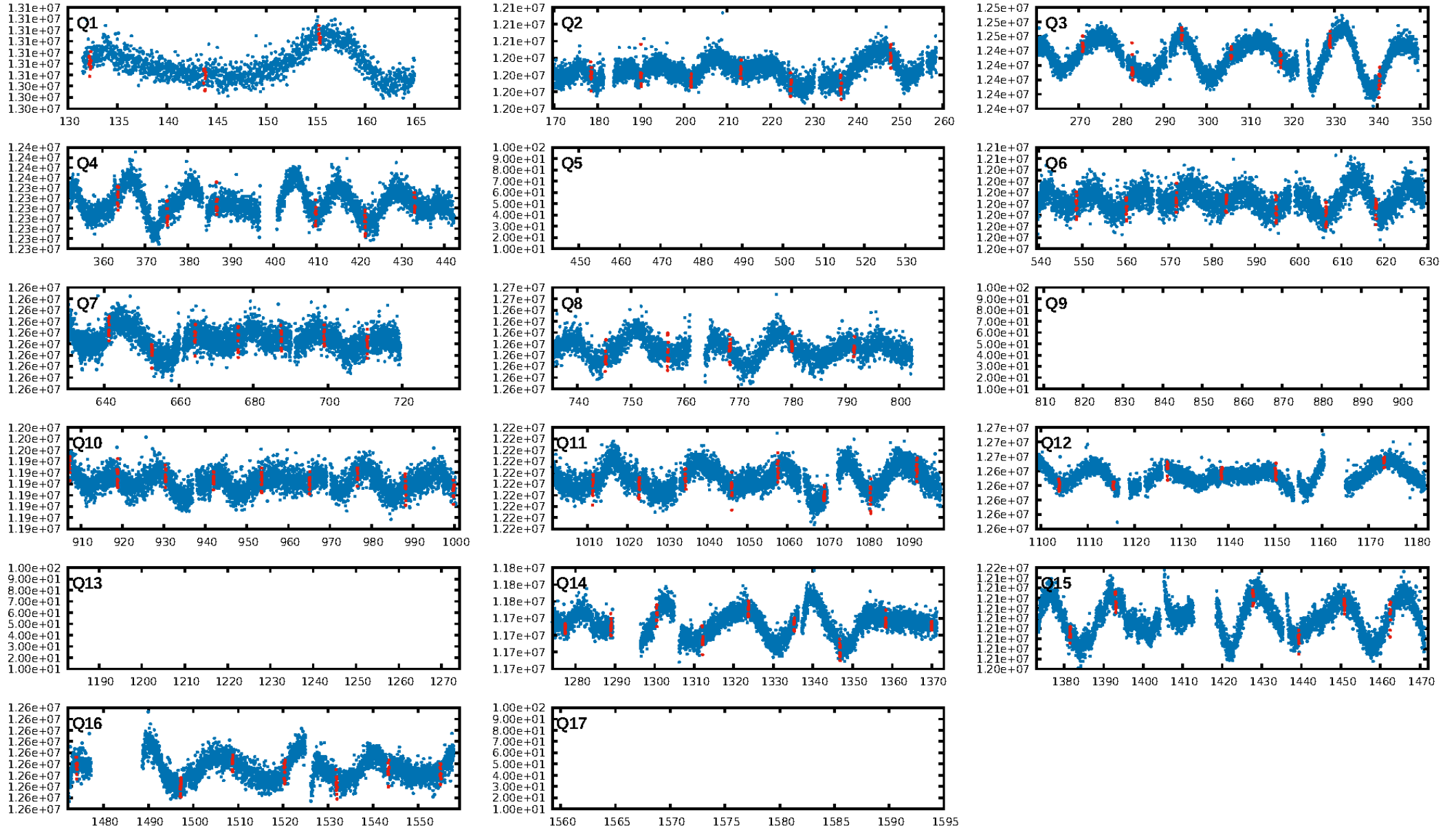
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 98.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.09e-22  
RollingBand-fgt: 1.00 [83/83]  
GhostDiagnostic-chr: -20.19  
Centroid-sig: 45.6%  
Centroid-so: 1.446 arcsec [1.26σ]  
OotOffset-rm: 0.938 arcsec [1.42σ]  
OotOffset-st: 3/4/3/1 [11]  
KicOffset-rm: 1.168 arcsec [1.84σ]  
KicOffset-st: 3/4/3/1 [11]  
DiffImageQuality-fgm: 0.82 [9/11]  
DiffImageOverlap-fno: 1.00 [13/13]

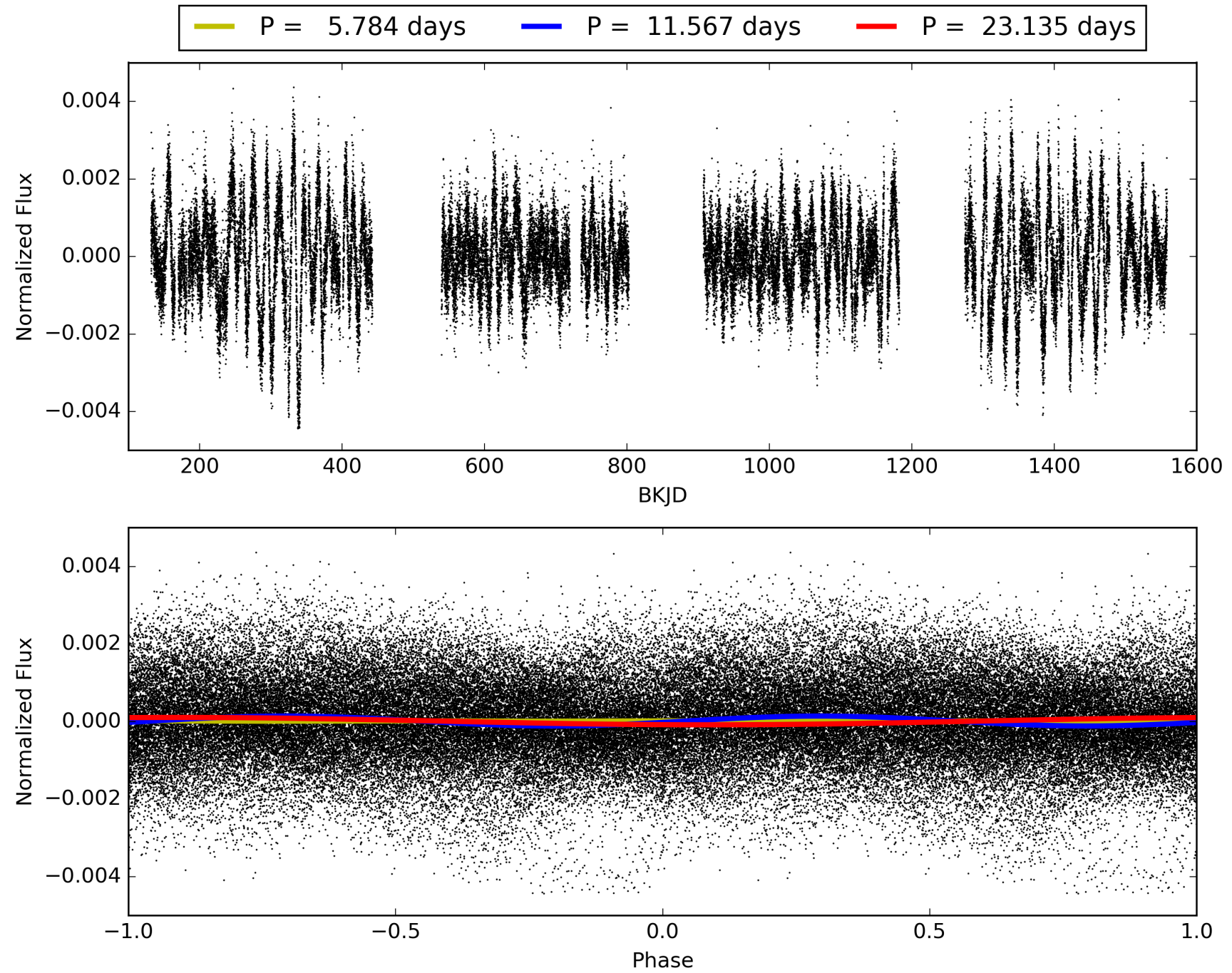
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:57:26 Z

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

# TCE 007098255-01, PDC Light Curves

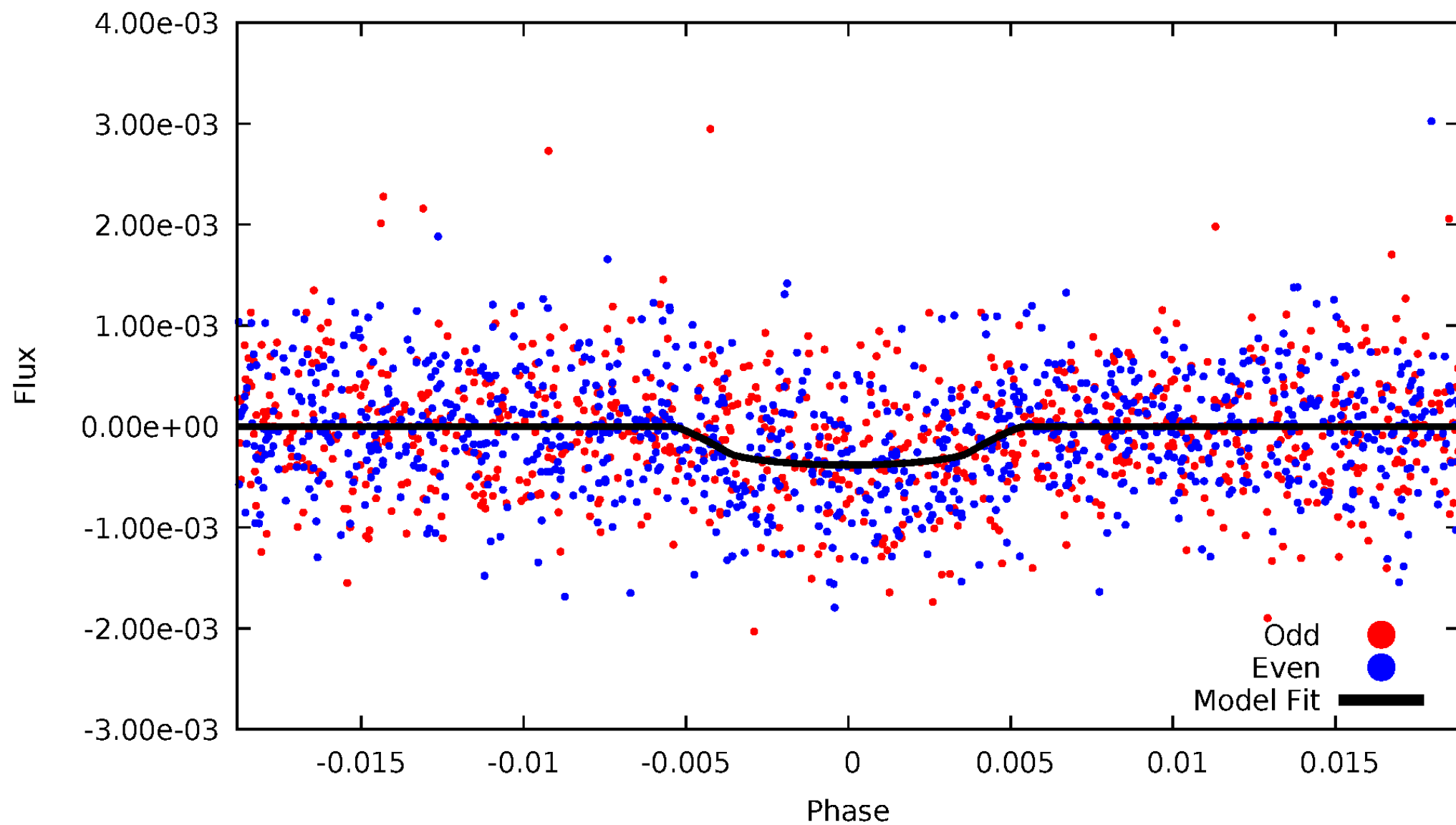


TCE 007098255-01



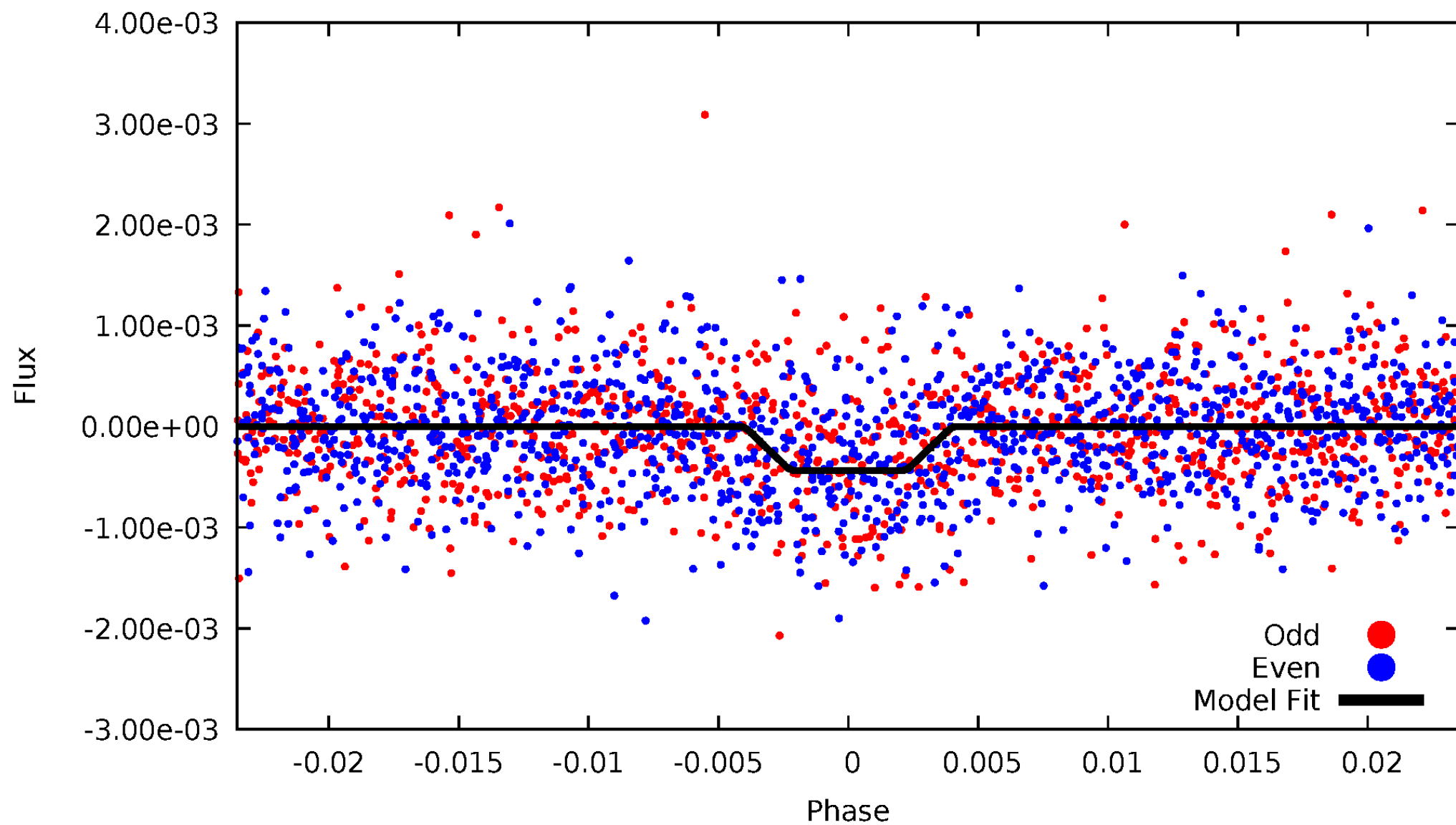
# DV Odd/Even

TCE 007098255-01



# ALT Odd/Even

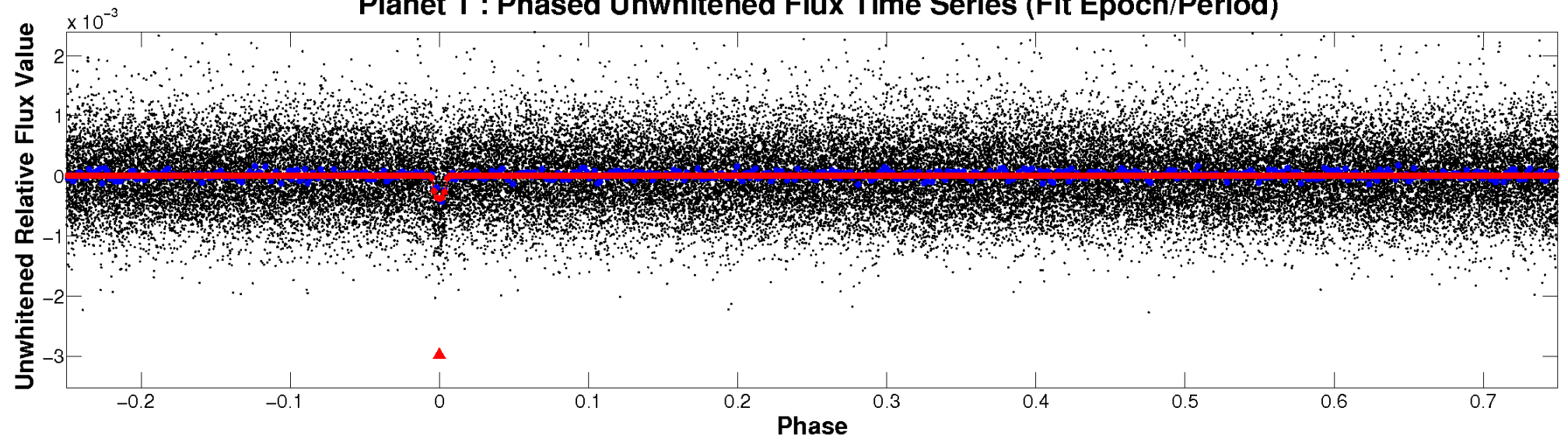
TCE 007098255-01



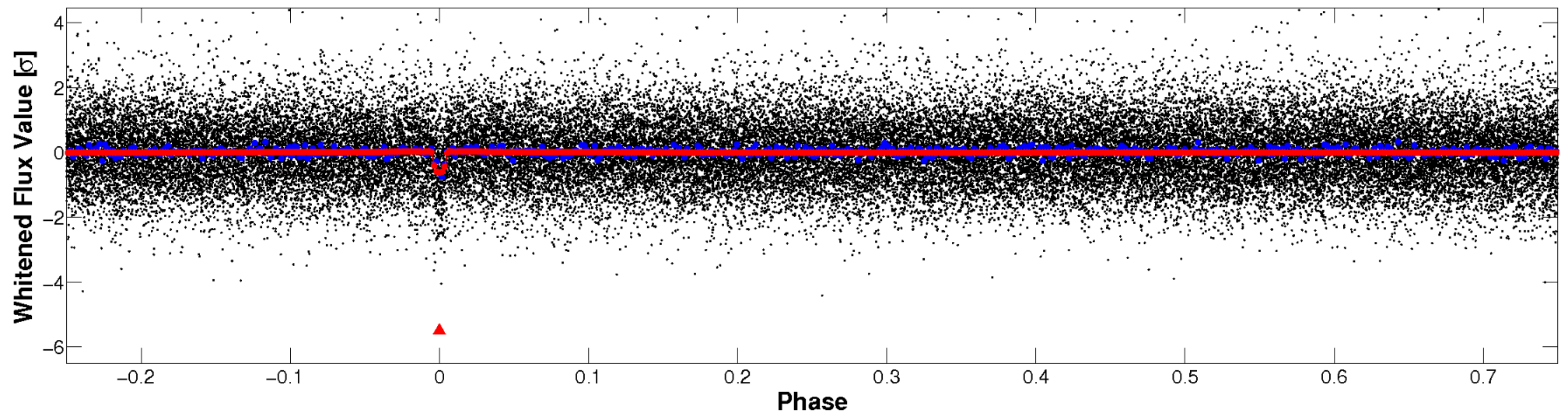


# Non-Whitened Vs. Whitened Light Curve

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

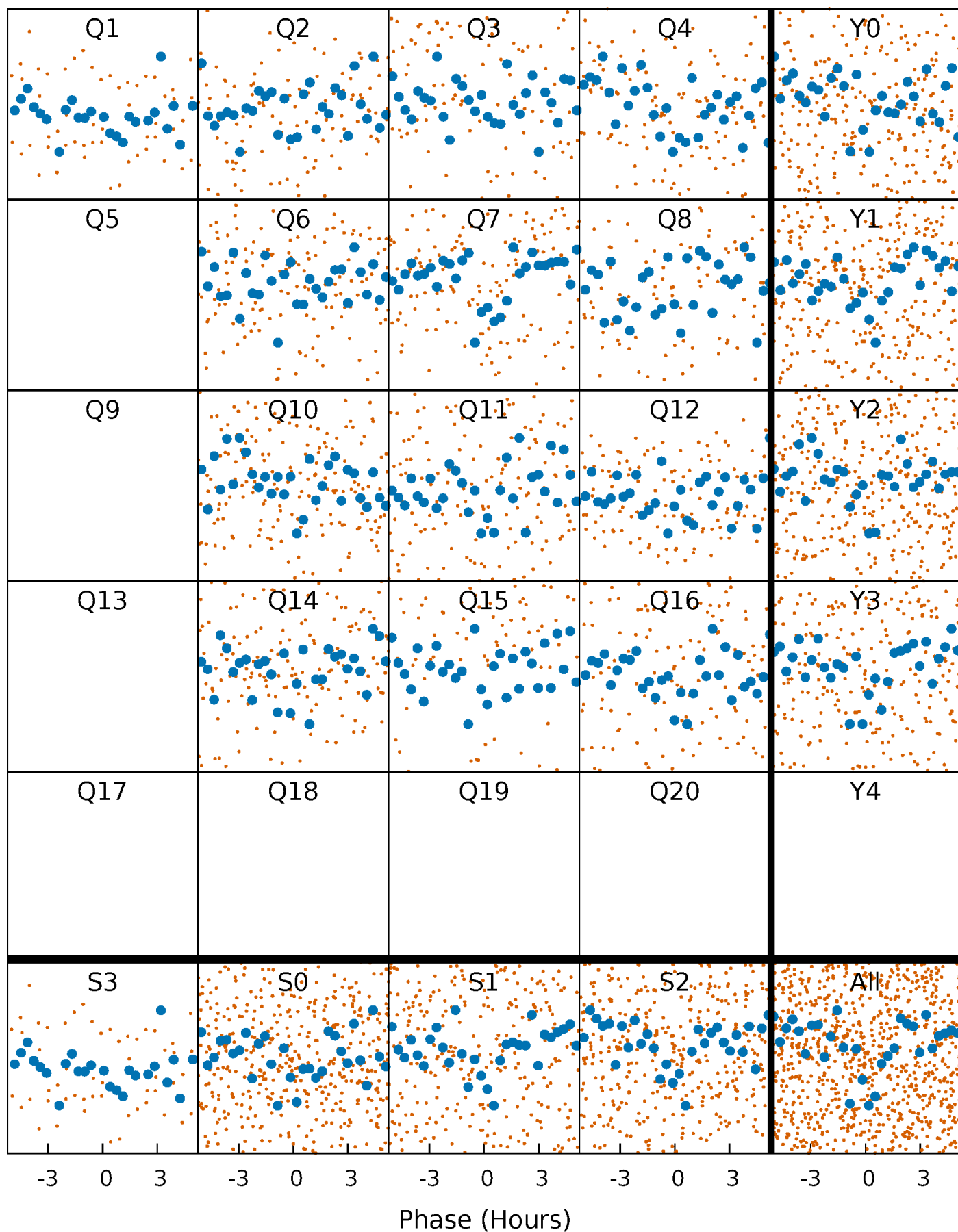


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

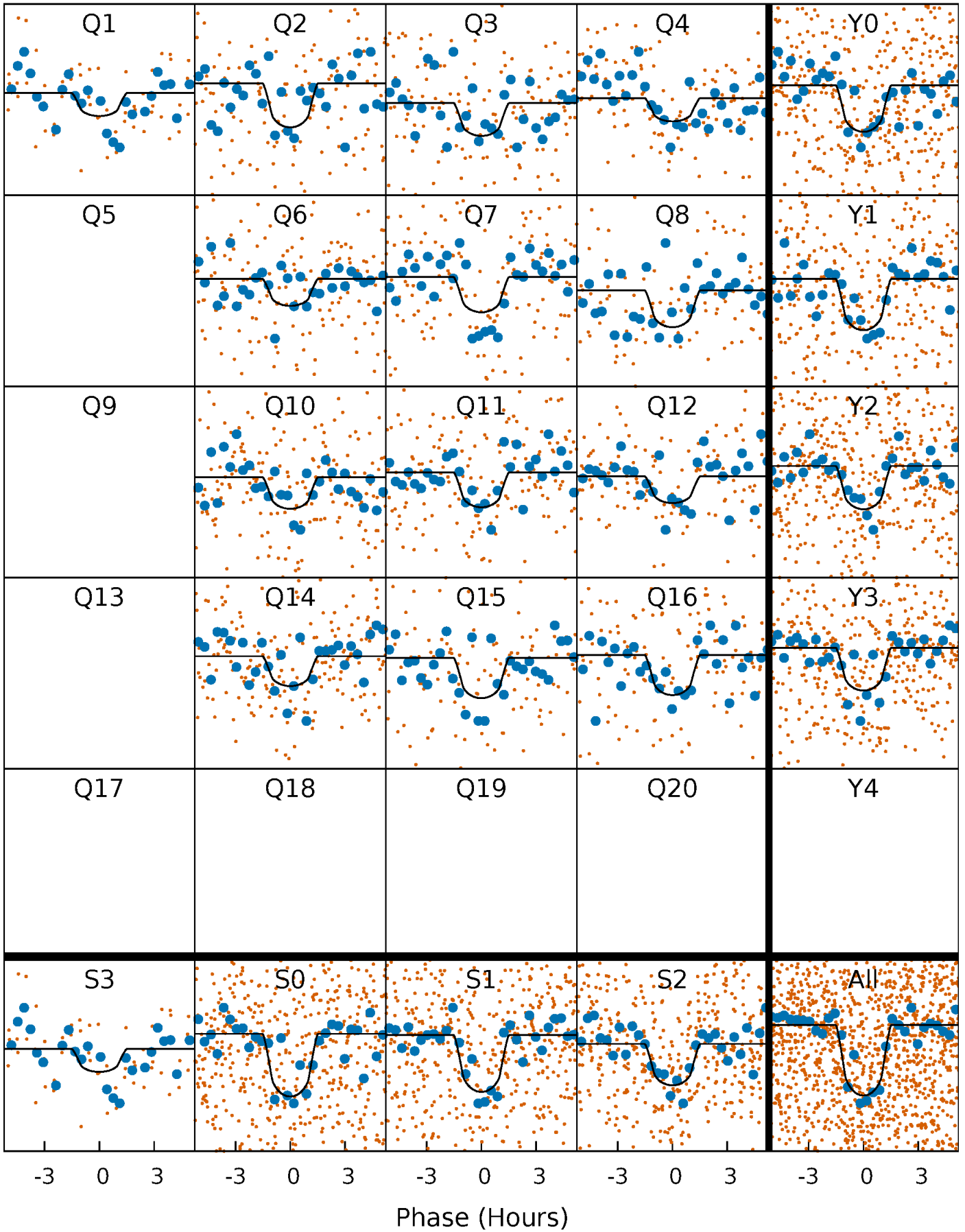
TCE 007098255-01 P= 11.567278 Days  $T_0=132.248853$  (BKJD)





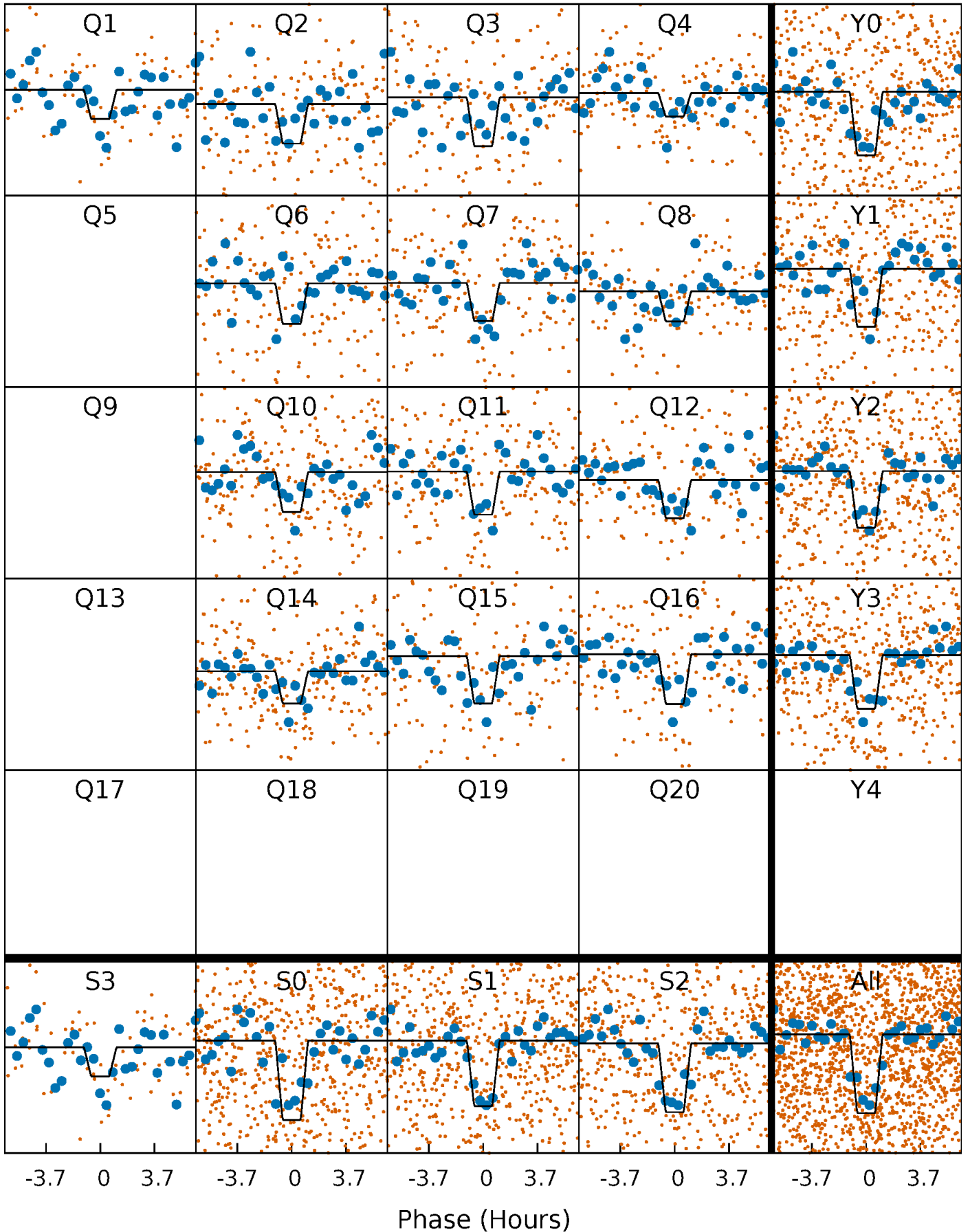
# DV Quarter-Phased Transit Curves

TCE 007098255-01 P= 11.567278 Days  $T_0=132.248853$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

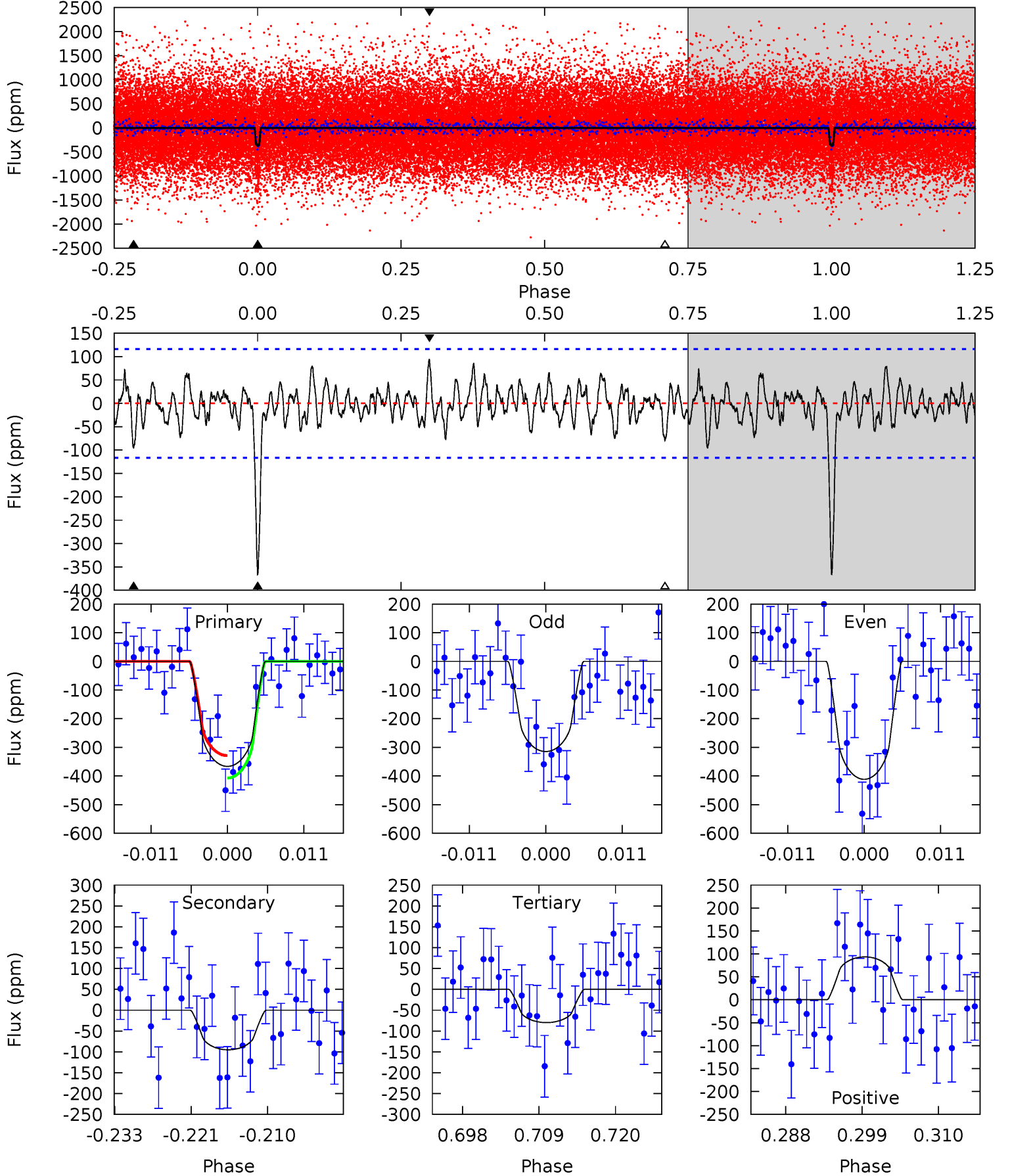
TCE 007098255-01 P= 11.567118 Days  $T_0=132.264393$  (BKJD)



# DV Model-Shift Uniqueness Test

007098255-01,  $P = 11.567278$  Days,  $E = 120.681575$  Days

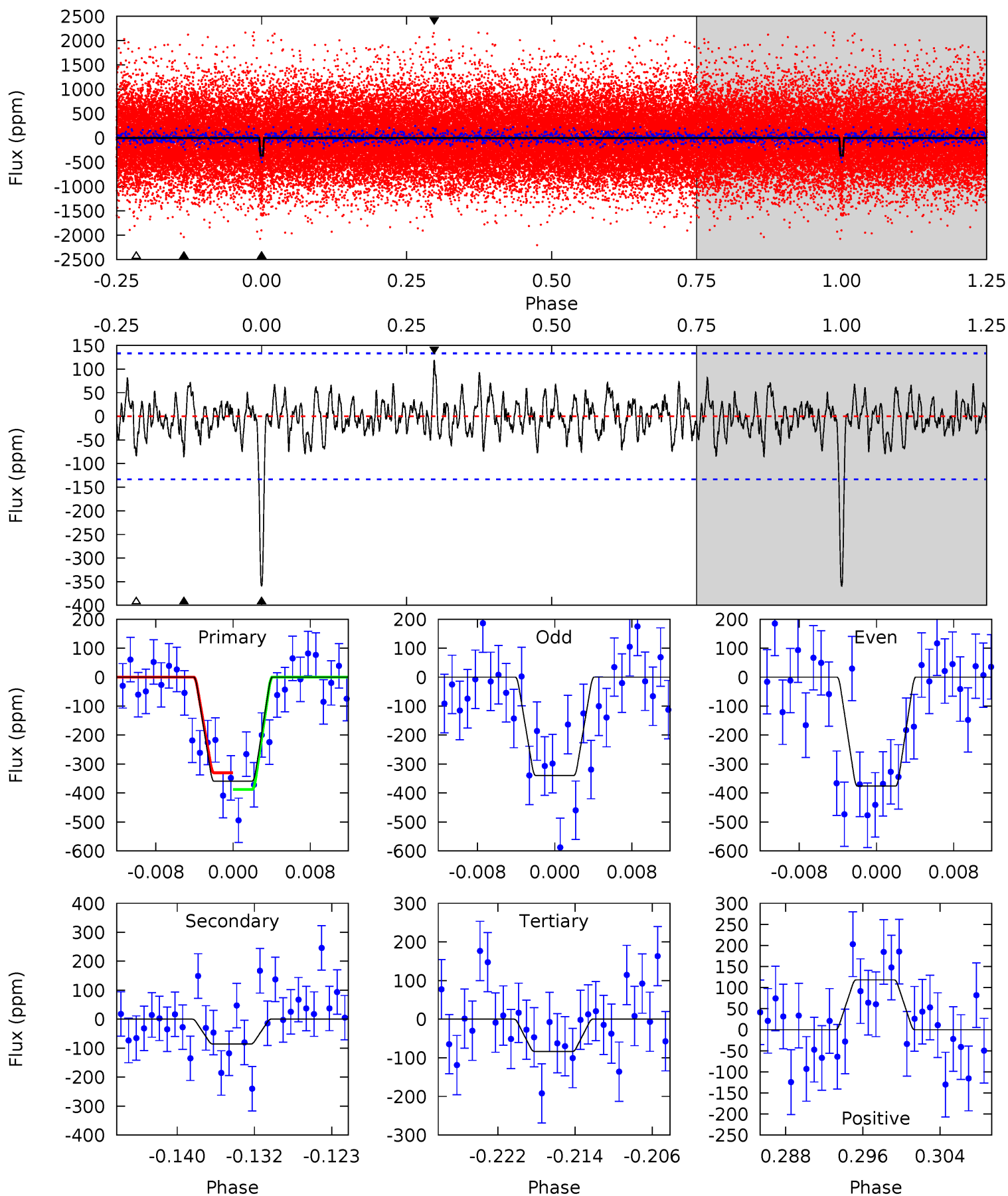
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	4.09	3.44	4.03	5.01	2.54	1.30	12.3	11.8	0.66	0.07	2.09	1.03	0.20	1.69



# Alt Model-Shift Uniqueness Test

007098255-01, P = 11.567118 Days, E = 120.697275 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
13.6	3.25	3.18	4.50	5.06	2.64	1.20	10.5	9.15	0.08	-1.24	0.70	1.07	0.25	1.09



### Stellar Parameters For KIC 007098255

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$4597^{+137}_{-137}$	$4.590^{+0.056}_{-0.024}$	$-0.100^{+0.300}_{-0.300}$	$0.691^{+0.043}_{-0.064}$	$0.678^{+0.073}_{-0.055}$	$2.890^{+0.725}_{-0.283}$
	+3%/-3%	+1%/-1%	+300%/-300%	+6%/-9%	+11%/-8%	+25%/-10%
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 007098255-01 / KOI 4762.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-95 \pm 23$	$1.89^{+1.32}_{-1.20}$	$789^{+25}_{-27}$	$3319^{+1287}_{-511}$	$113^{+706}_{-77}$
Alt.	$-86 \pm 26$	$1.88^{+1.30}_{-1.17}$	$789^{+29}_{-26}$	$3267^{+1214}_{-496}$	$98^{+567}_{-65}$

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

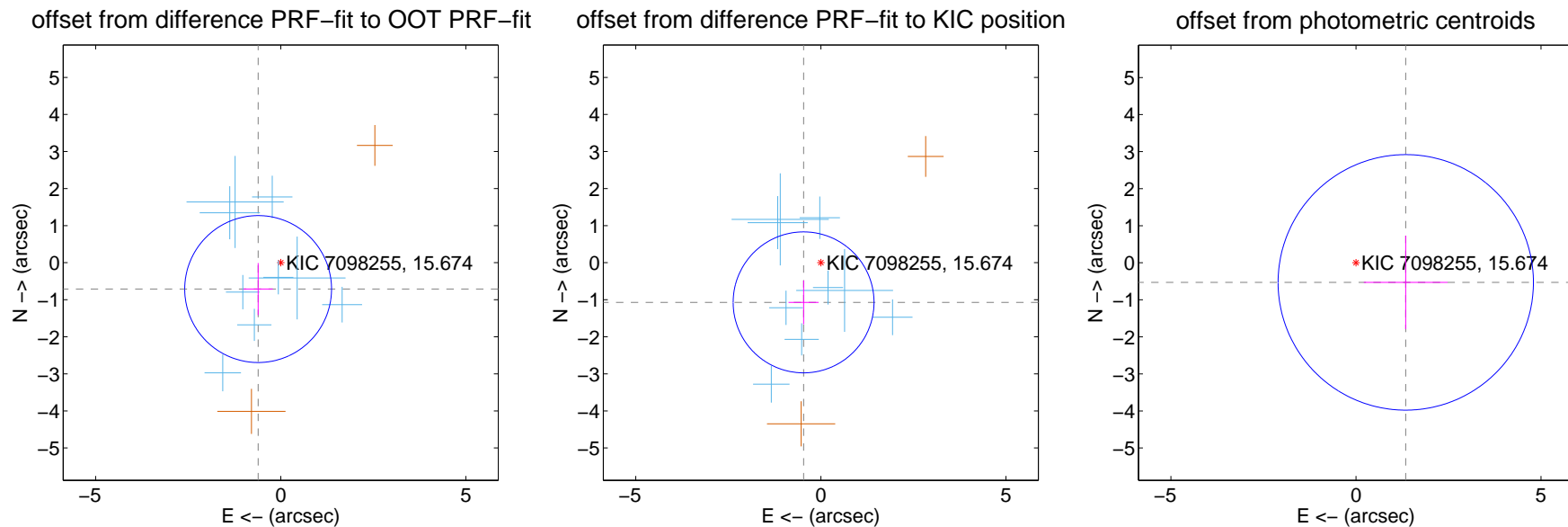
## DV Centroid Data

Supplemental centroid analysis for 007098255-01. Kepler magnitude: 15.67. Transit SNR 10.79

There are 9 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.42 arcsec

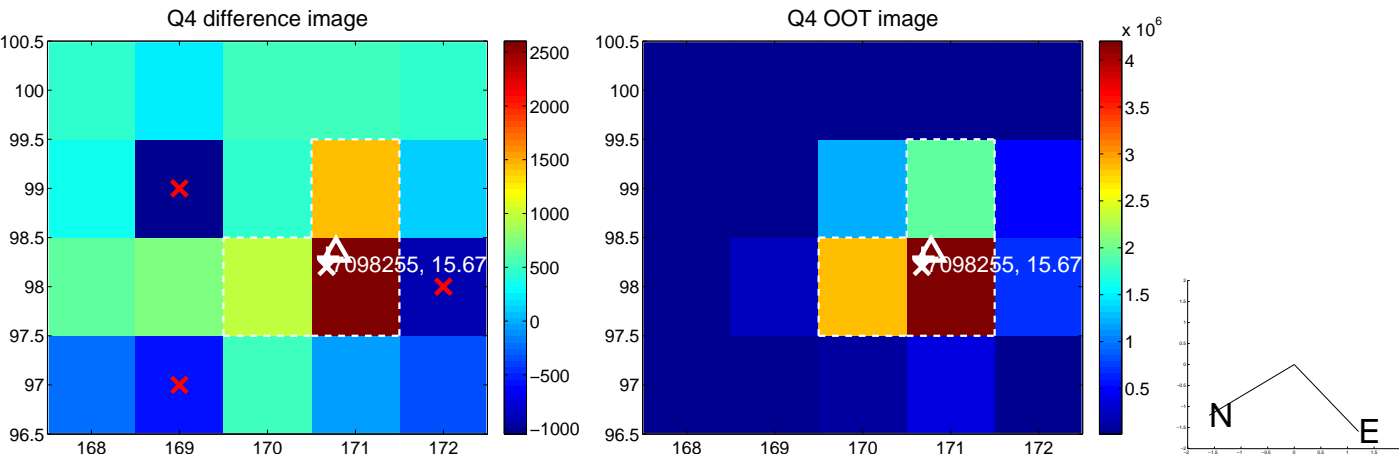
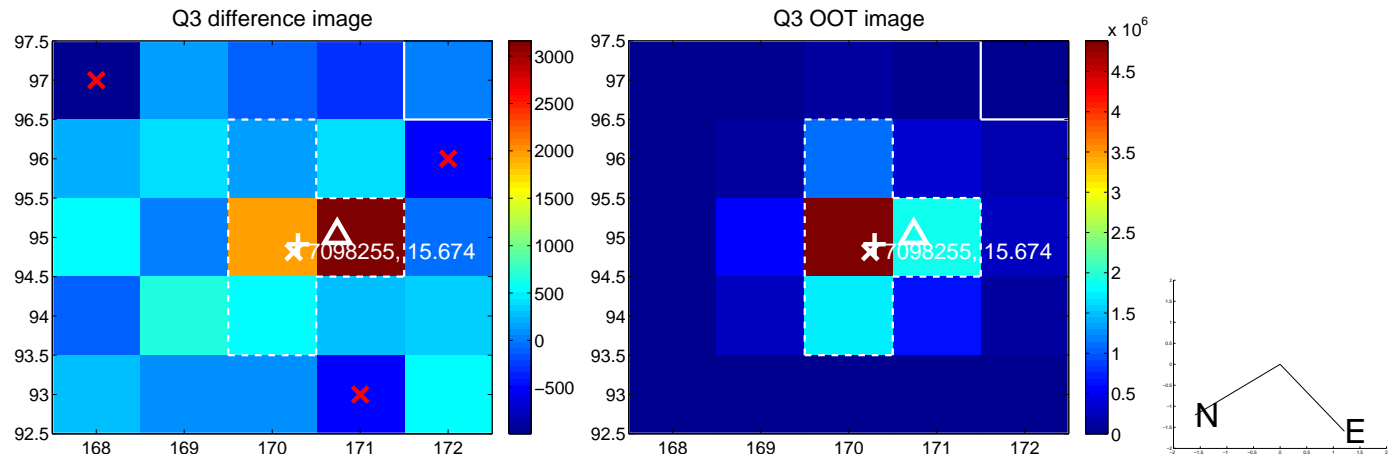
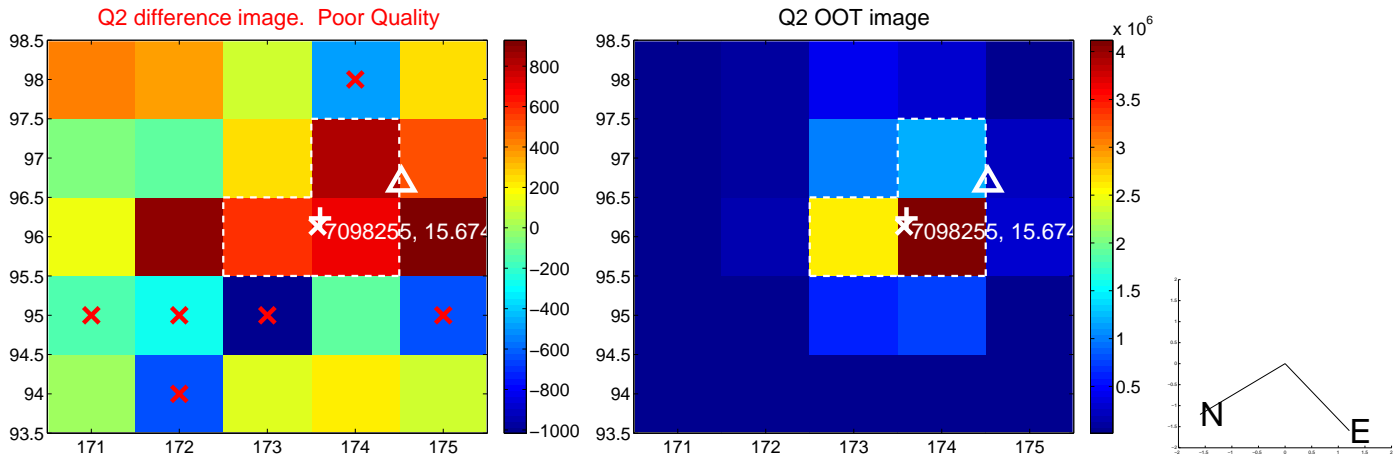
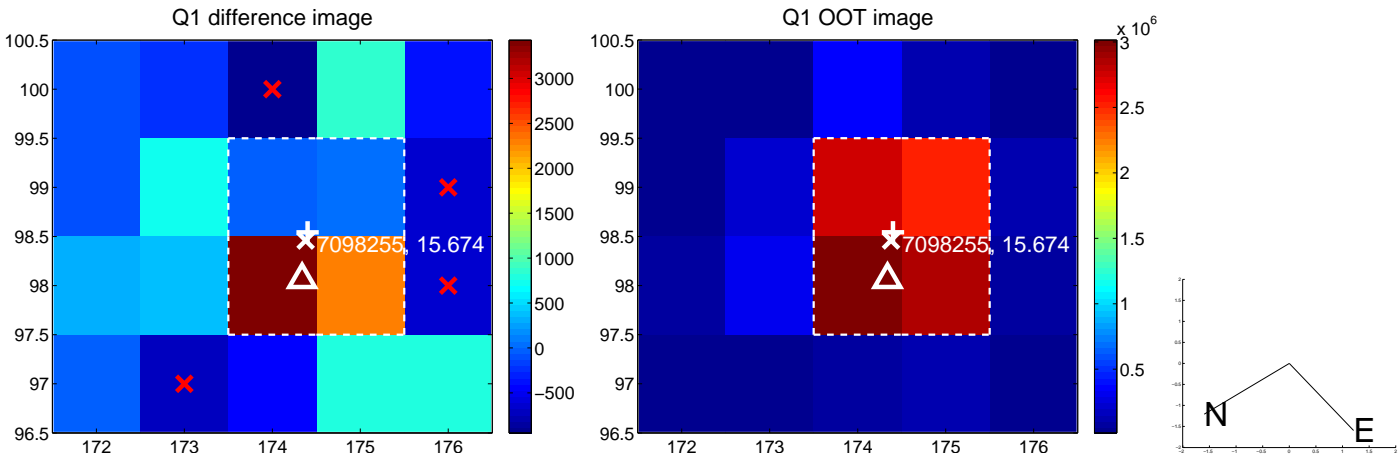
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.938 \pm 0.661$	1.42	$0.611 \pm 0.396$	$-0.712 \pm 0.701$
PRF-fit source offset from KIC position	$1.168 \pm 0.634$	1.84	$0.467 \pm 0.408$	$-1.071 \pm 0.592$
photometric centroid source offset	$1.45 \pm 1.15$	1.26	$-1.35 \pm 1.13$	$-0.53 \pm 1.26$



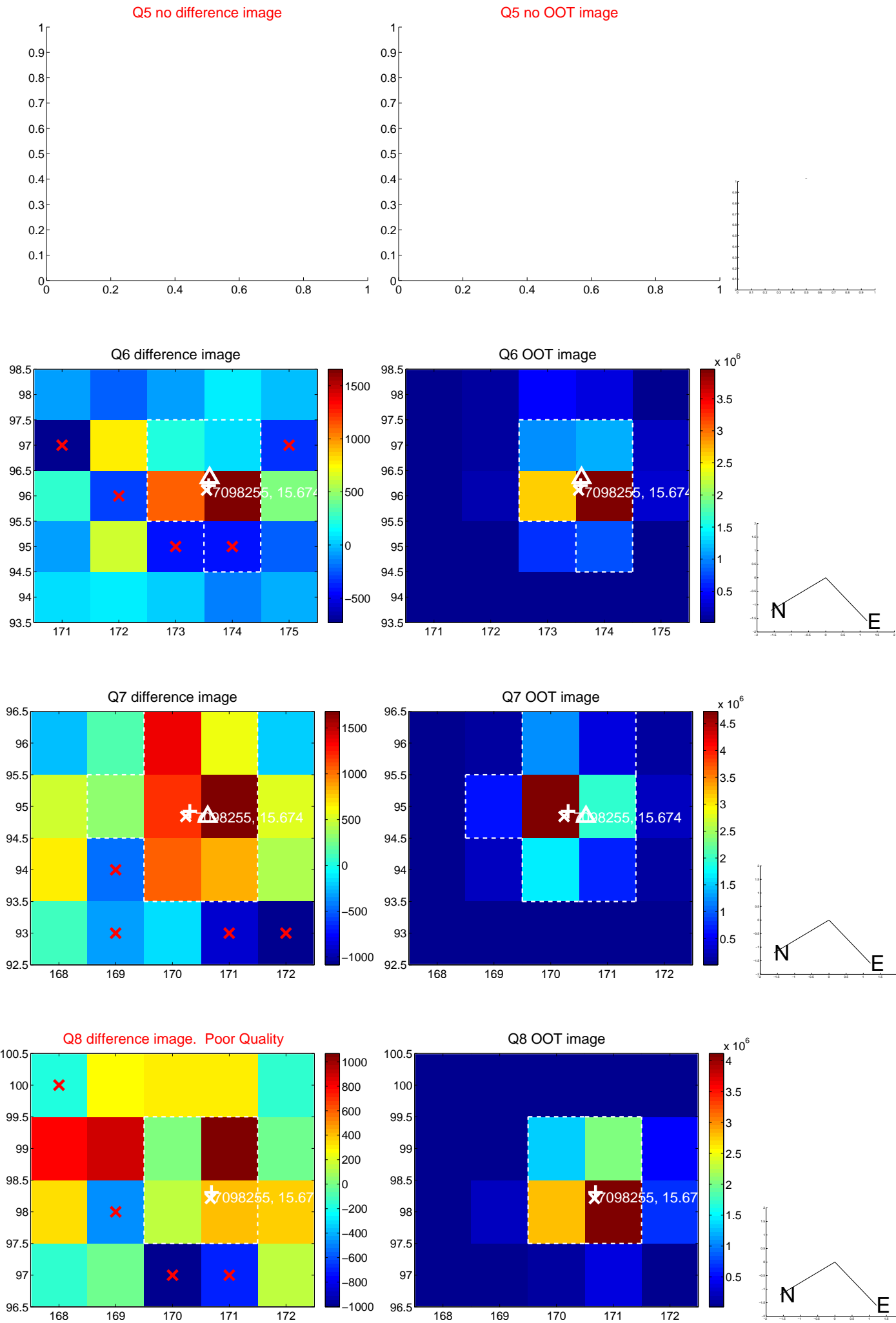
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



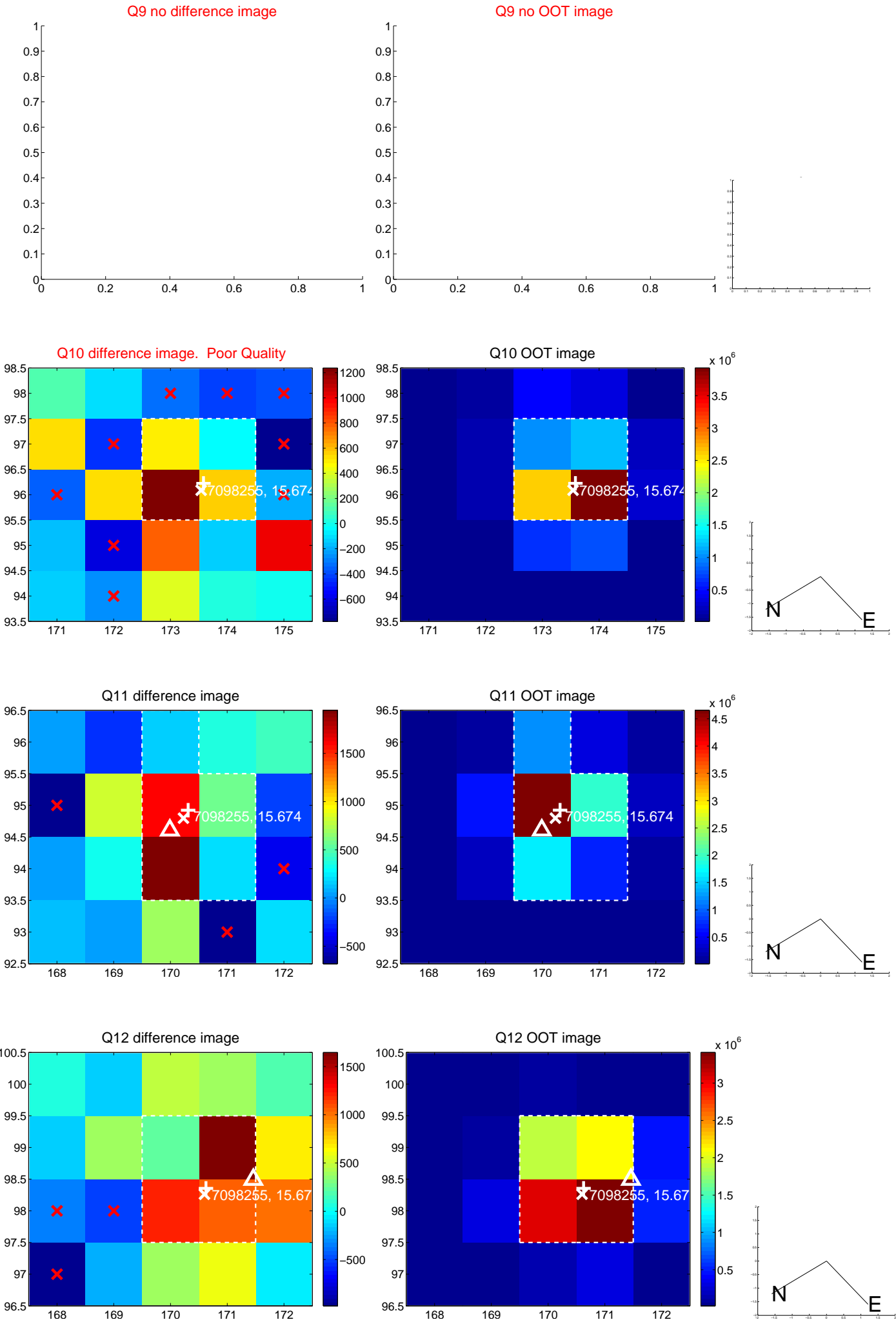
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



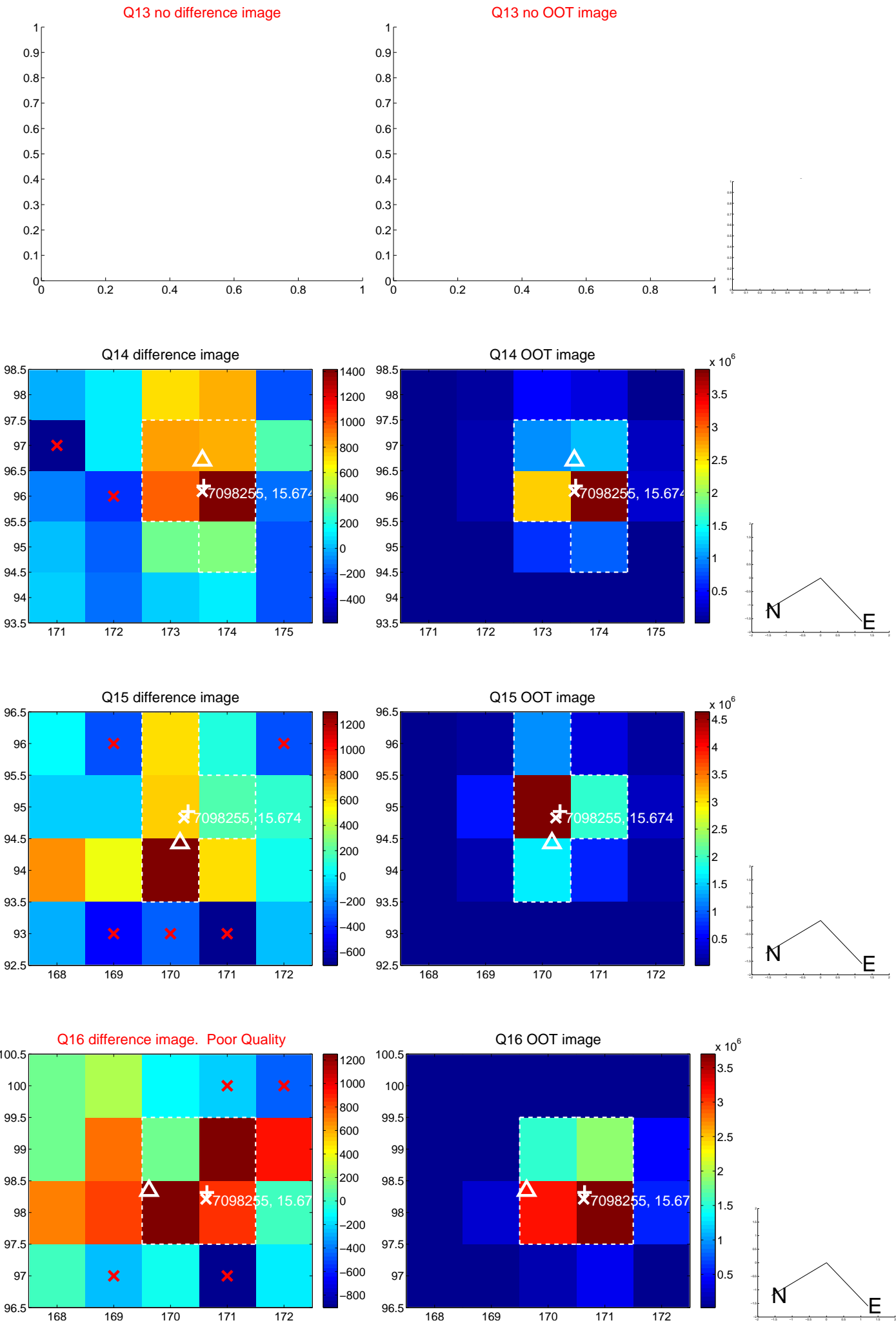
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



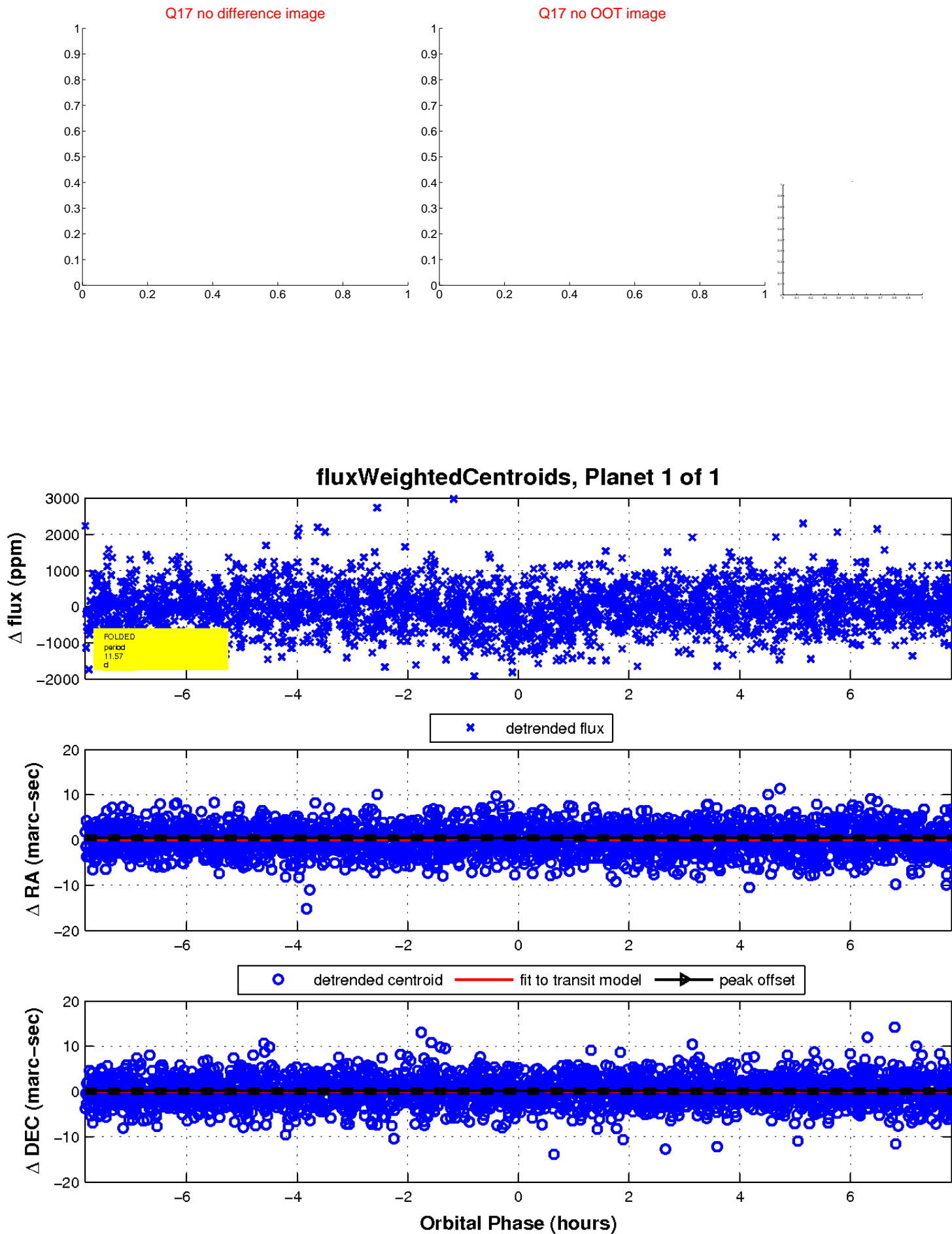
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



# UKIRT Image

Declination

