

# KIC 008280615

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008280615-01	OBS	No	1.092623	132.406431	14.5	7.536	7.7	10.9	2.11	7868	0.82	24087.67

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008280615-01	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.

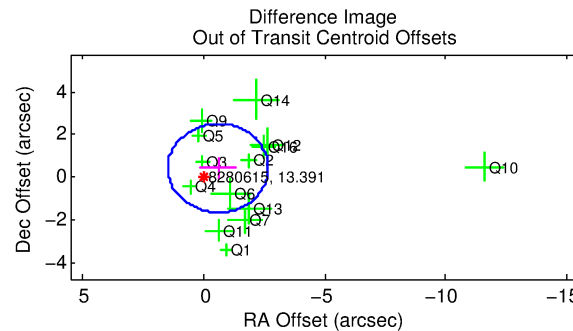
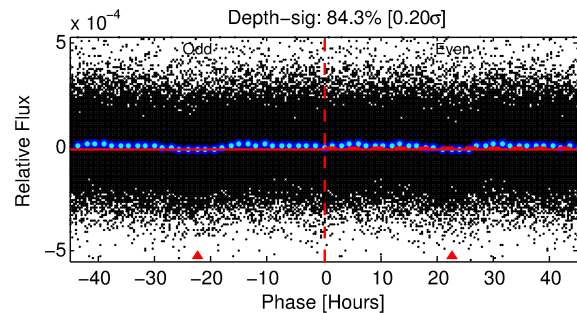
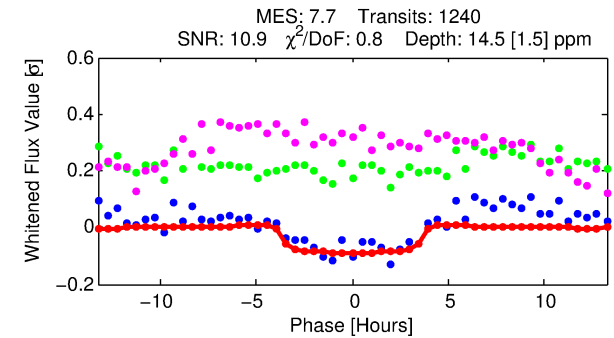
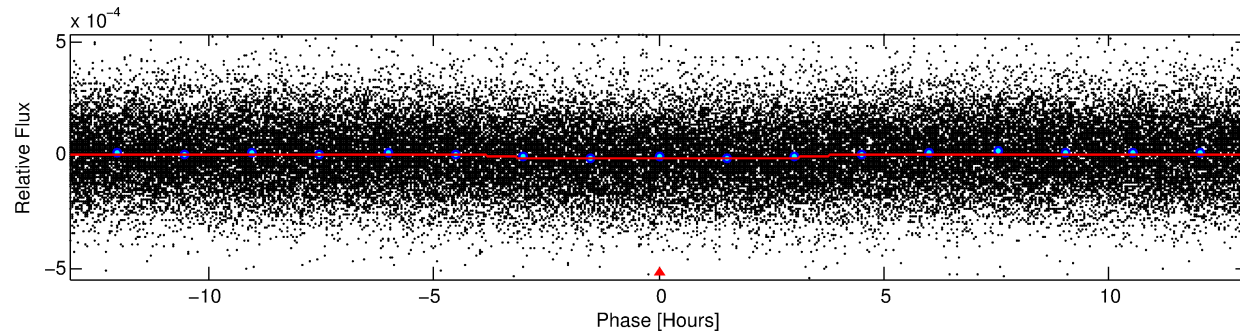
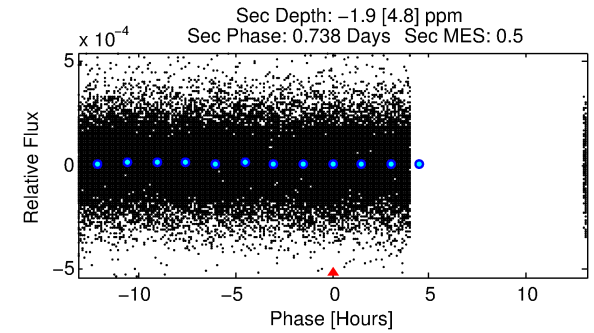
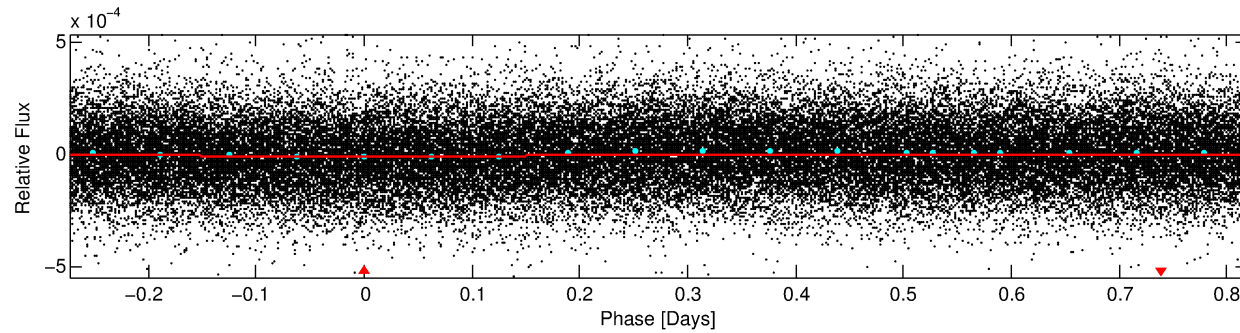
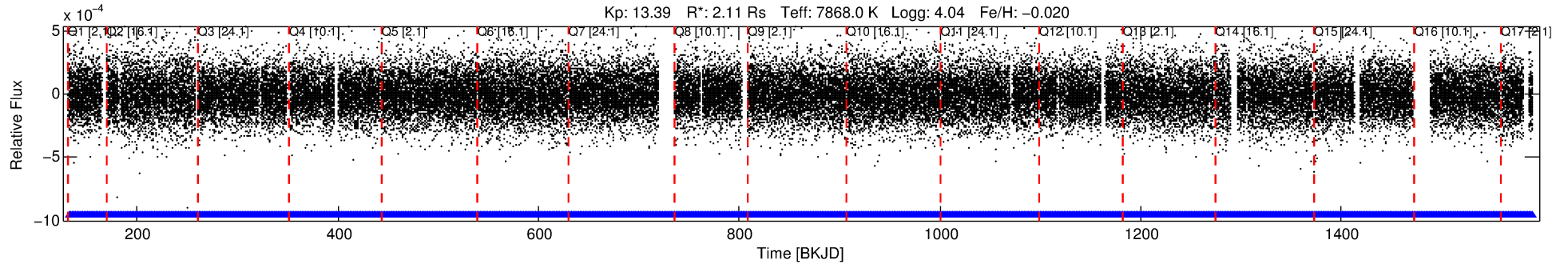
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008280615-01

No Significant Match Found

# DV One-Page Summary

KIC: 8280615 Candidate: 1 of 1 Period: 1.093 d



## DV Fit Results:

Period = 1.09262 [0.00002] d  
Epoch = 132.4064 [0.0063] BKJD  
Rp/R\* = 0.0036 [0.0026]  
a/R\* = 1.25 [2.01]  
b = 0.33 [11.91]  
Seff = 24087.67 [8251.75]  
Teff = 3177 [272] K  
Rp = 0.82 [0.64] Re  
a = 0.0252 [0.0052] AU  
Ag = N/A  
Teffp = N/A

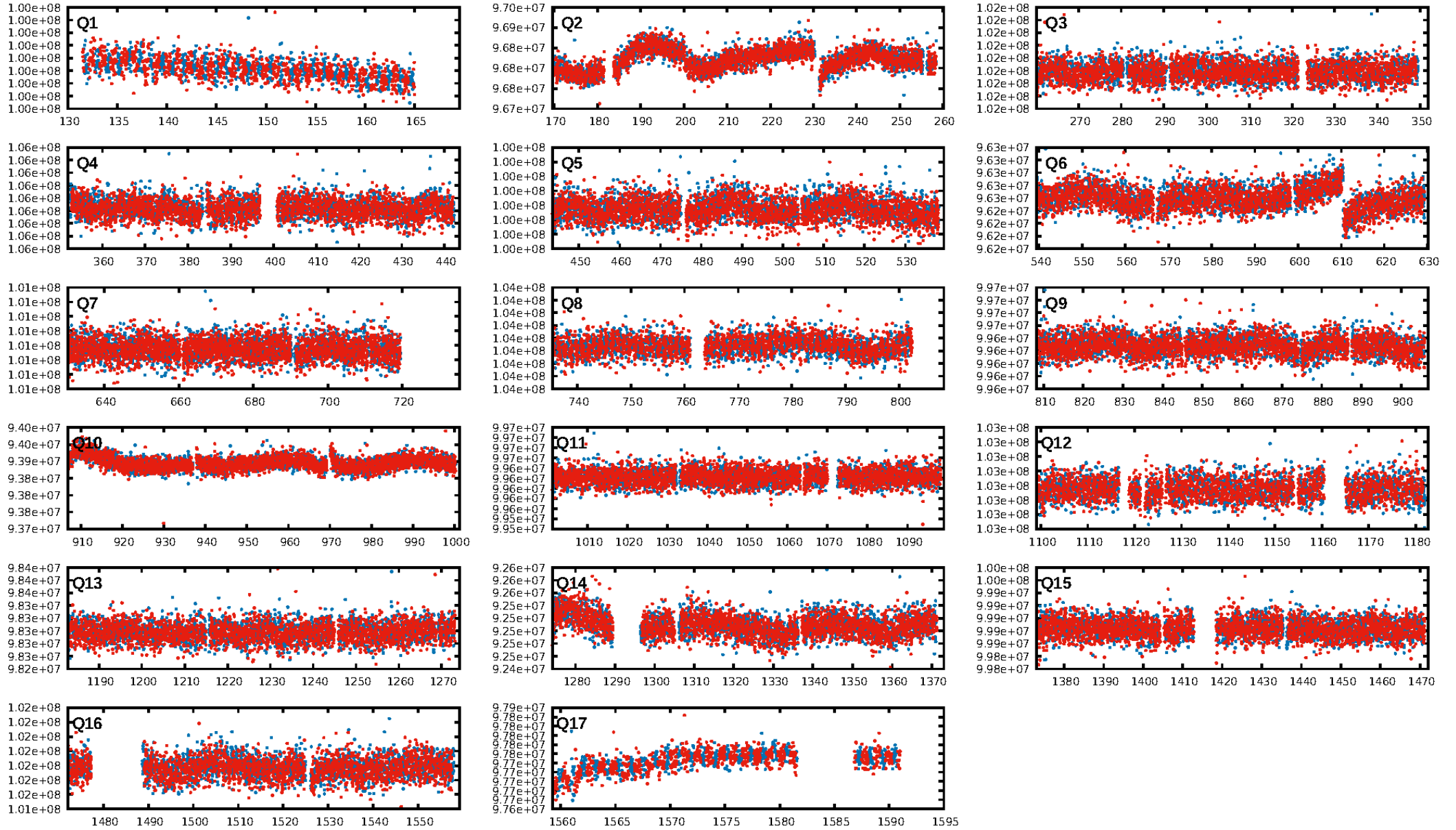
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 6.13e-13  
RollingBand-fgt: 1.00 [1184/1184]  
GhostDiagnostic-chr: 4.405  
Centroid-sig: 0.0%  
Centroid-so: 4.802 arcsec [3.90σ]  
OotOffset-rm: 0.739 arcsec [1.07σ]  
KicOffset-rm: 0.760 arcsec [1.07σ]  
OotOffset-st: 4/3/3/4 [14]  
KicOffset-st: 4/3/3/4 [14]  
DiffImageQuality-fgm: 0.64 [9/14]  
DiffImageOverlap-fno: 1.00 [17/17]

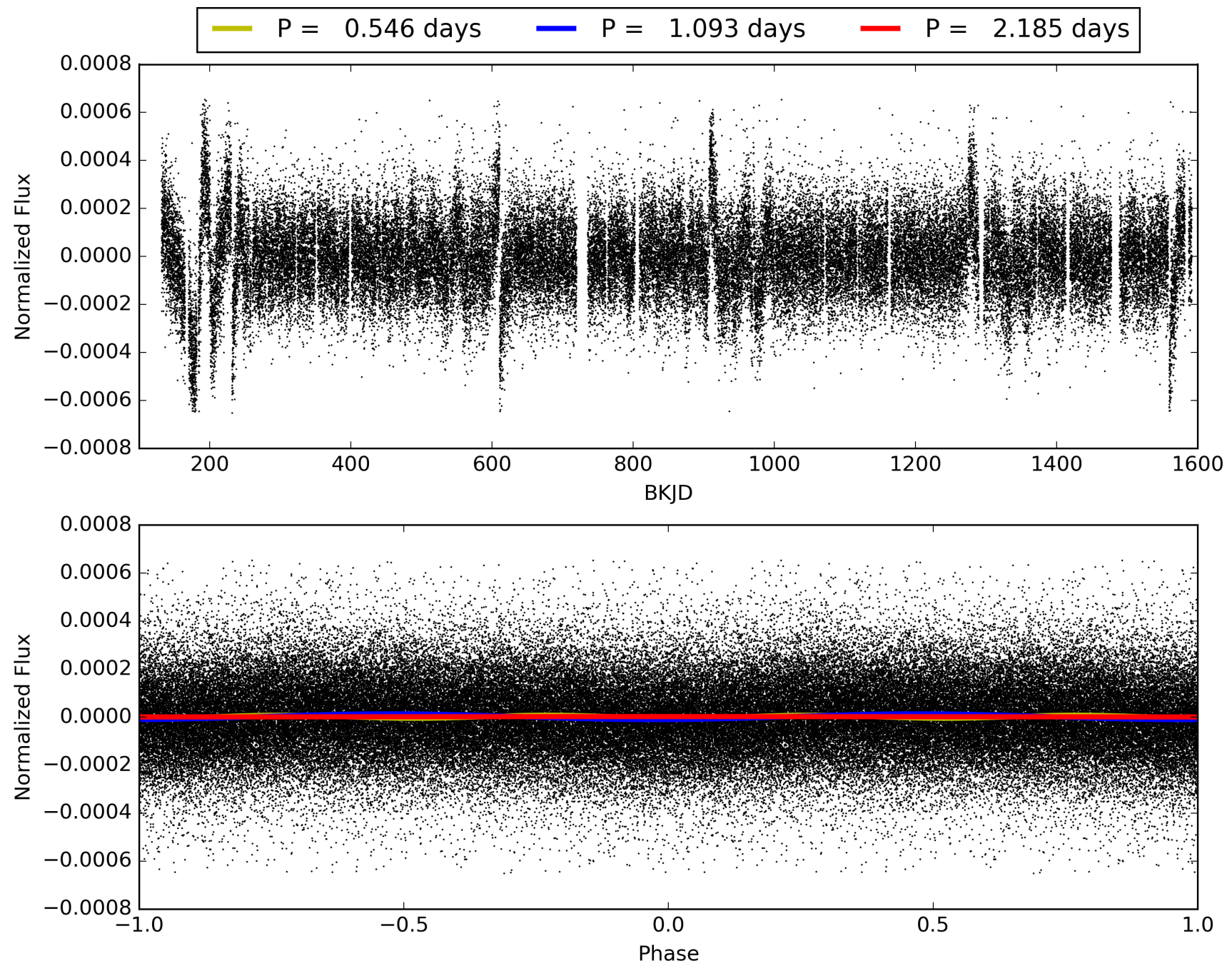
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 02:40:24 Z

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

# TCE 008280615-01, PDC Light Curves



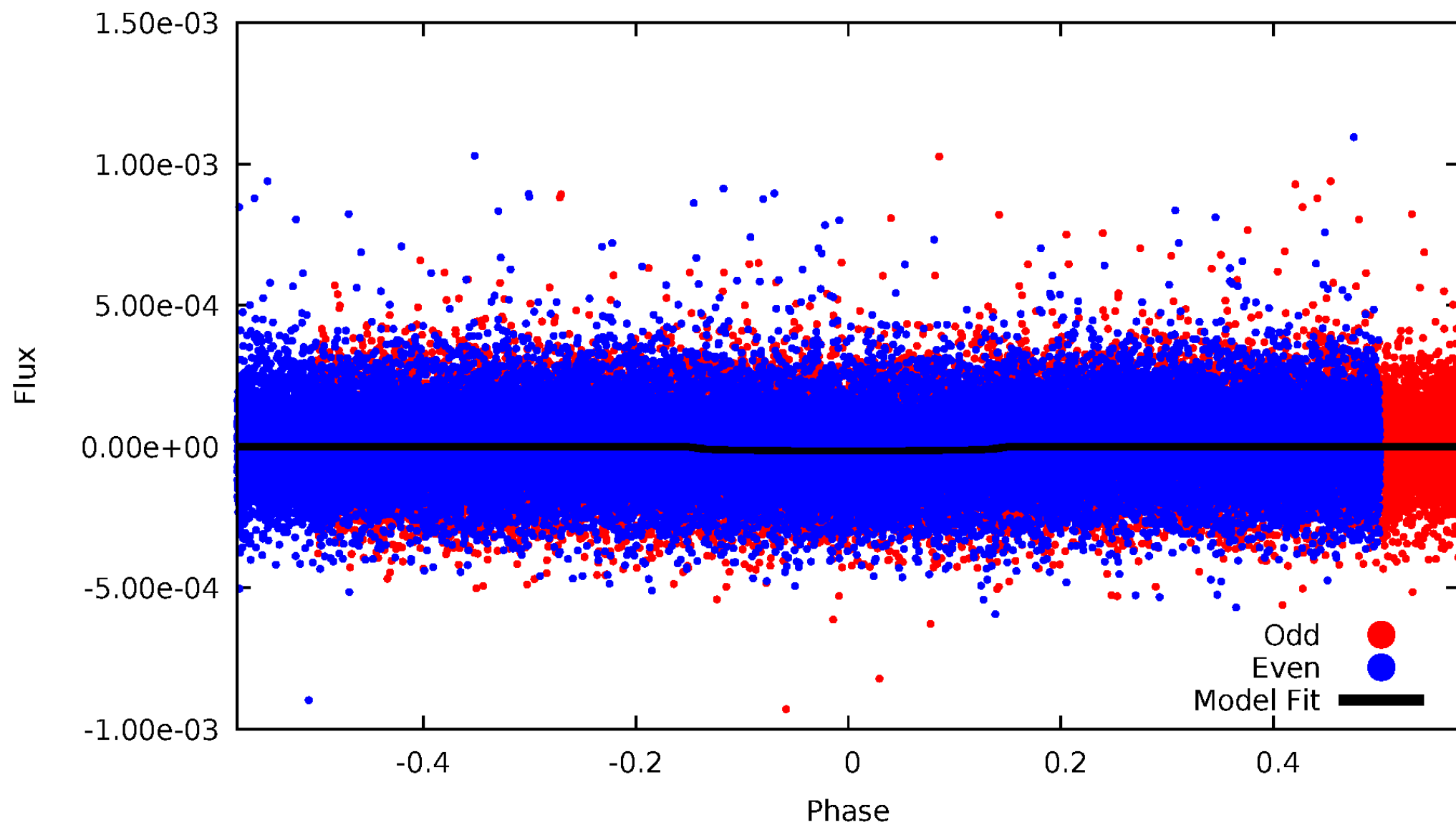
TCE 008280615-01





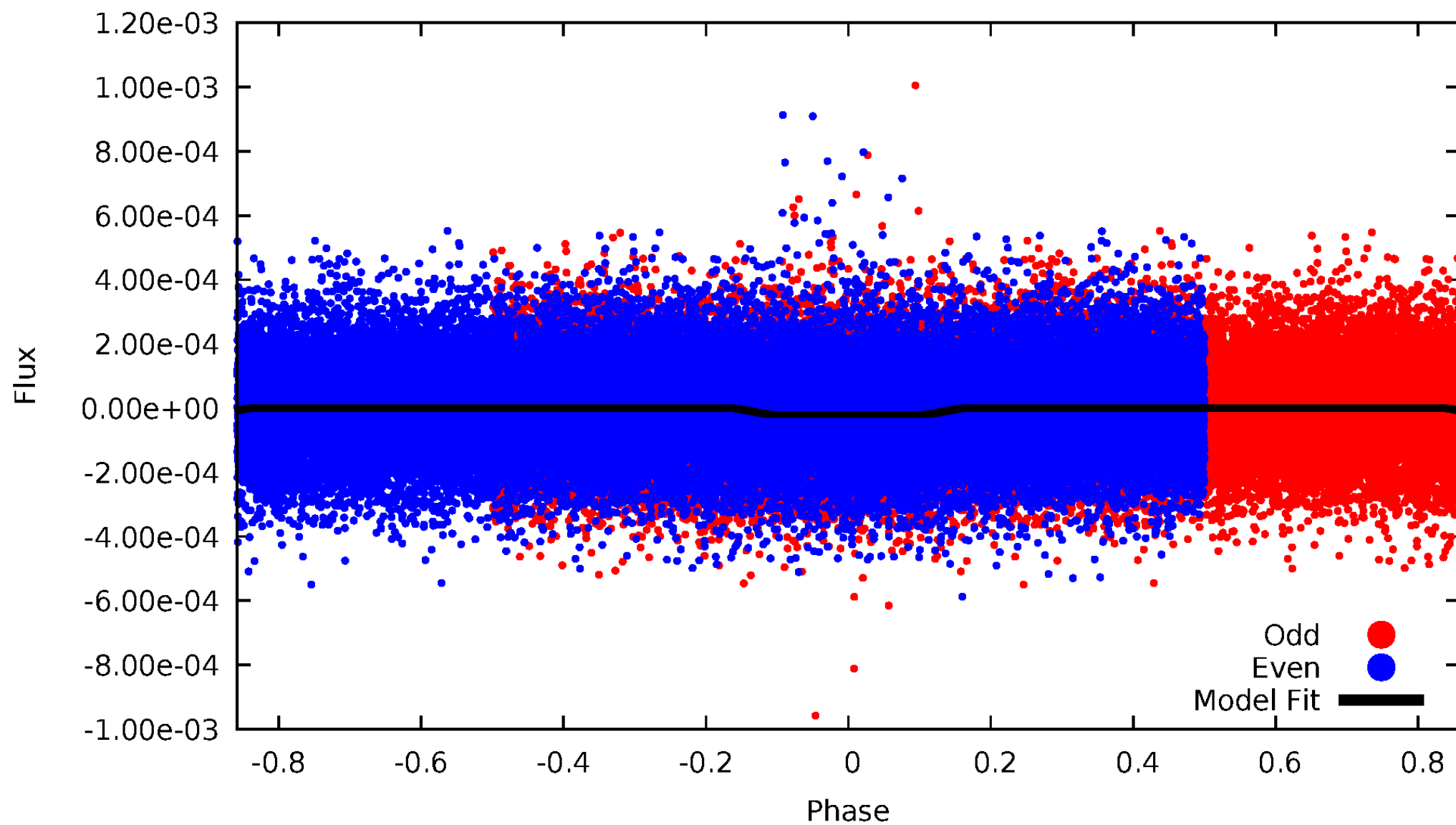
# DV Odd/Even

TCE 008280615-01



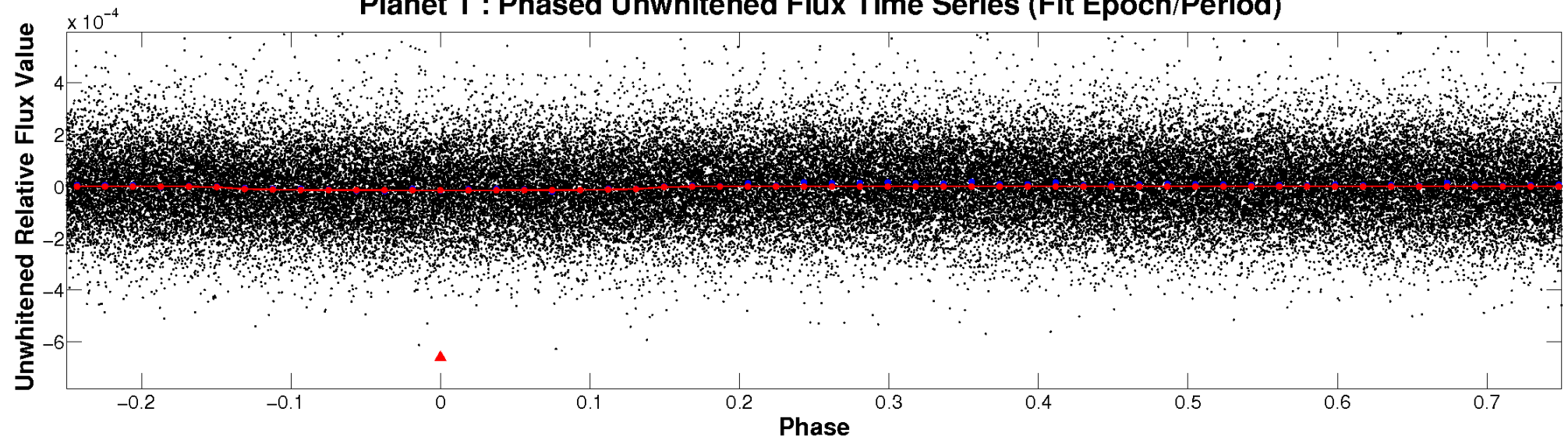
# ALT Odd/Even

TCE 008280615-01

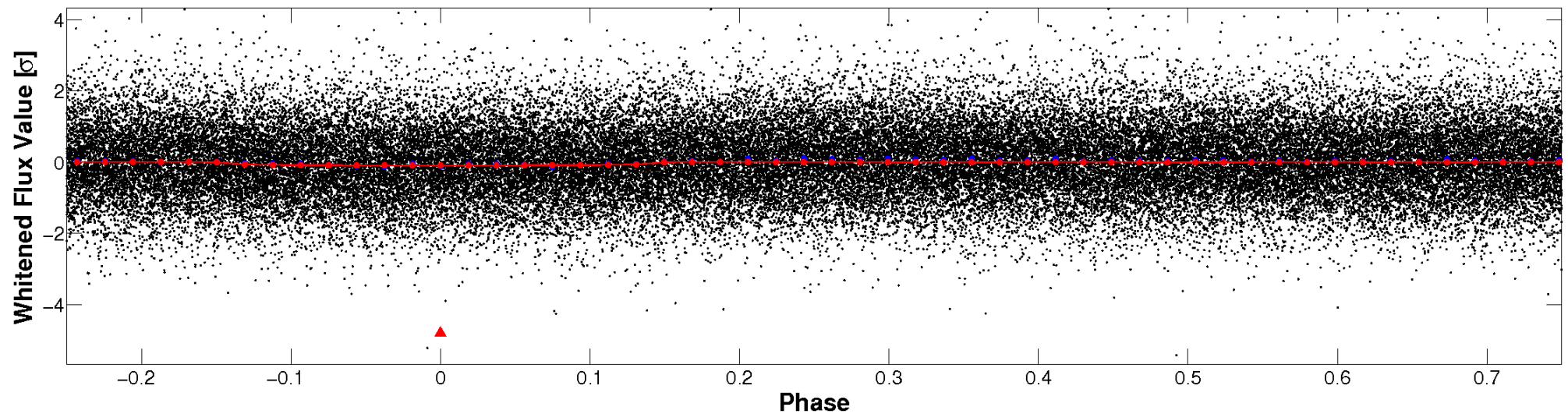


# Non-Whitened Vs. Whitened Light Curve

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

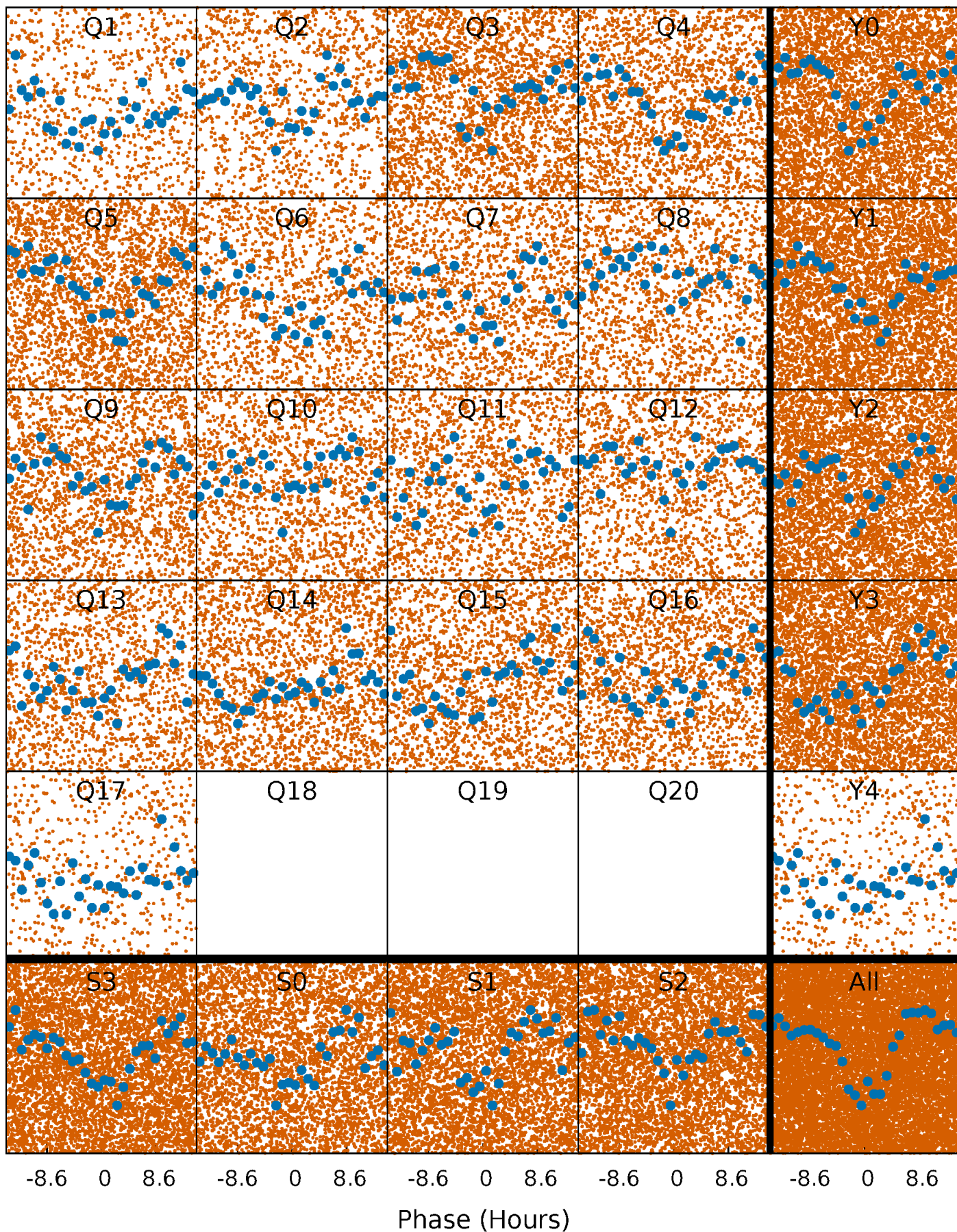


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

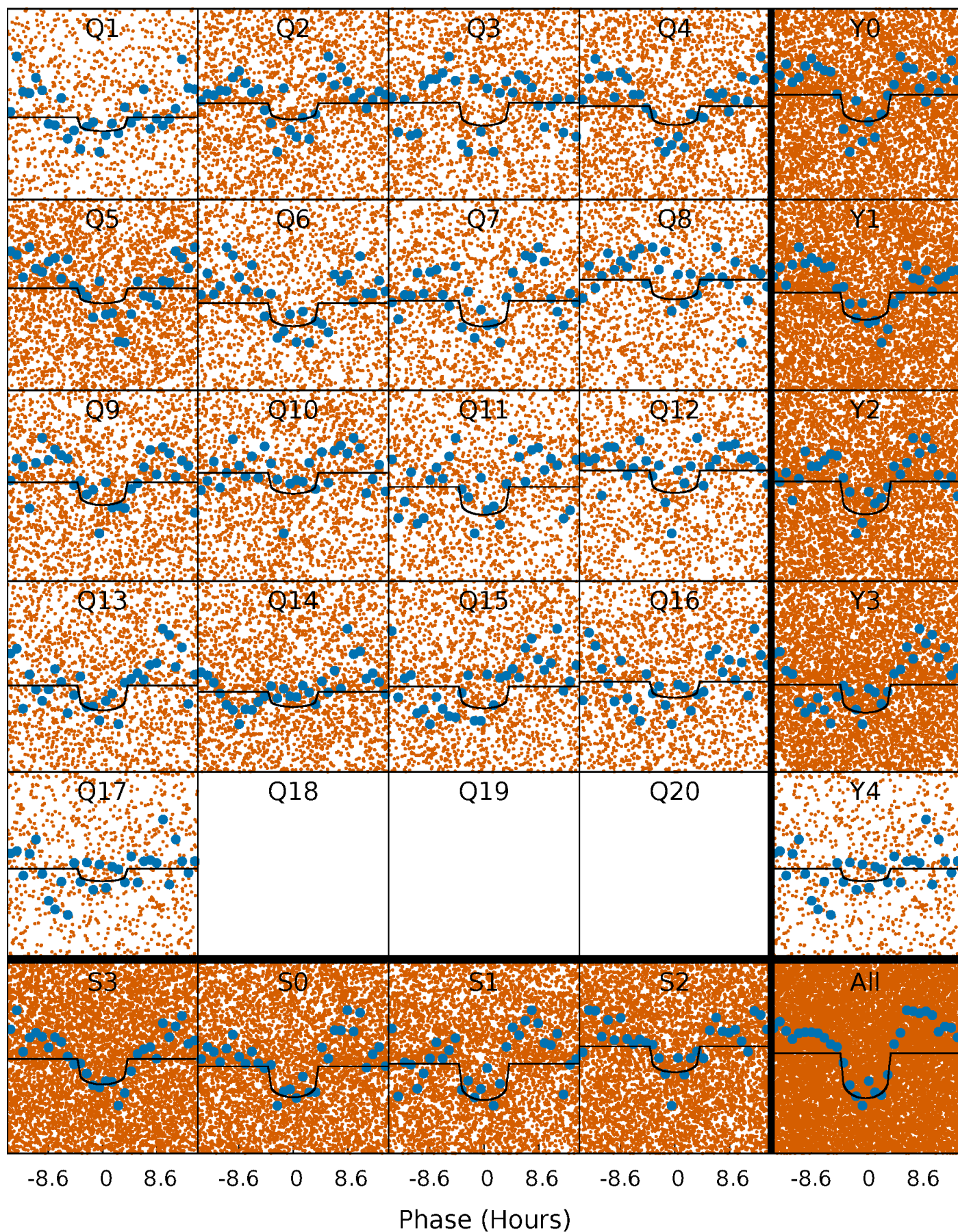
TCE 008280615-01 P= 1.092623 Days  $T_0=132.406431$  (BKJD)





# DV Quarter-Phased Transit Curves

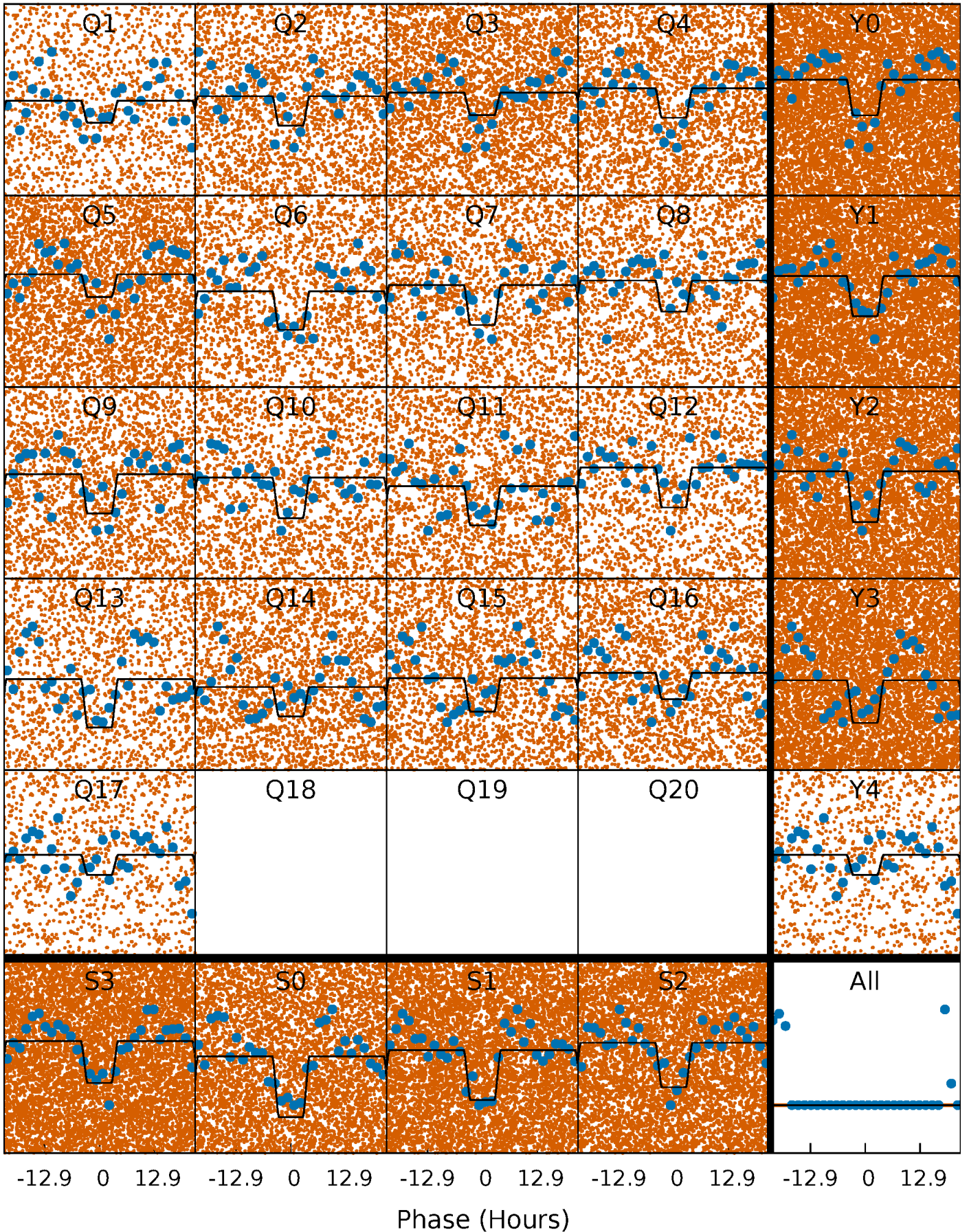
TCE 008280615-01 P= 1.092623 Days  $T_0=132.406431$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

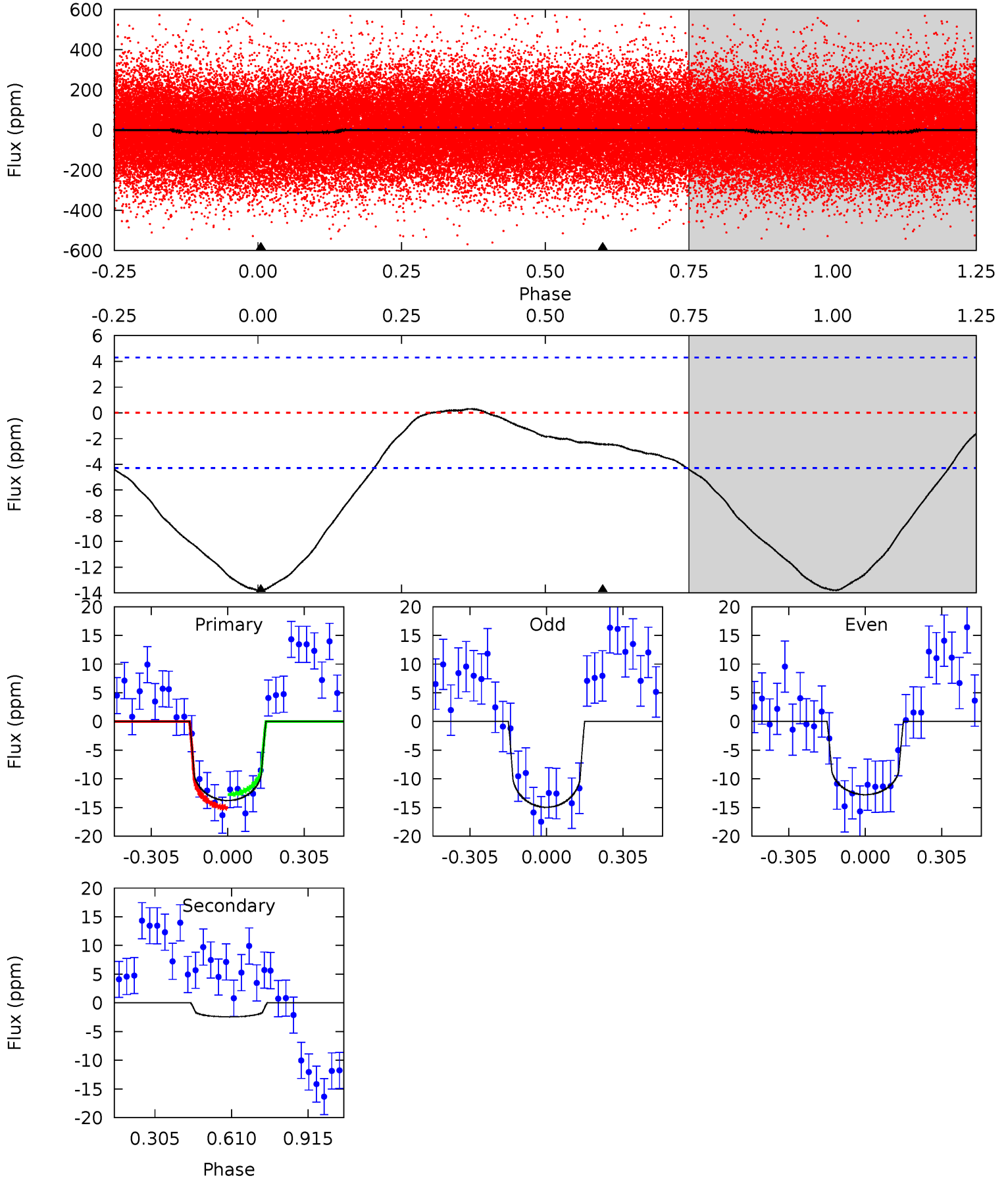
TCE 008280615-01 P= 1.092579 Days  $T_0=132.431695$  (BKJD)



# DV Model-Shift Uniqueness Test

008280615-01, P = 1.092623 Days, E = 131.313808 Days

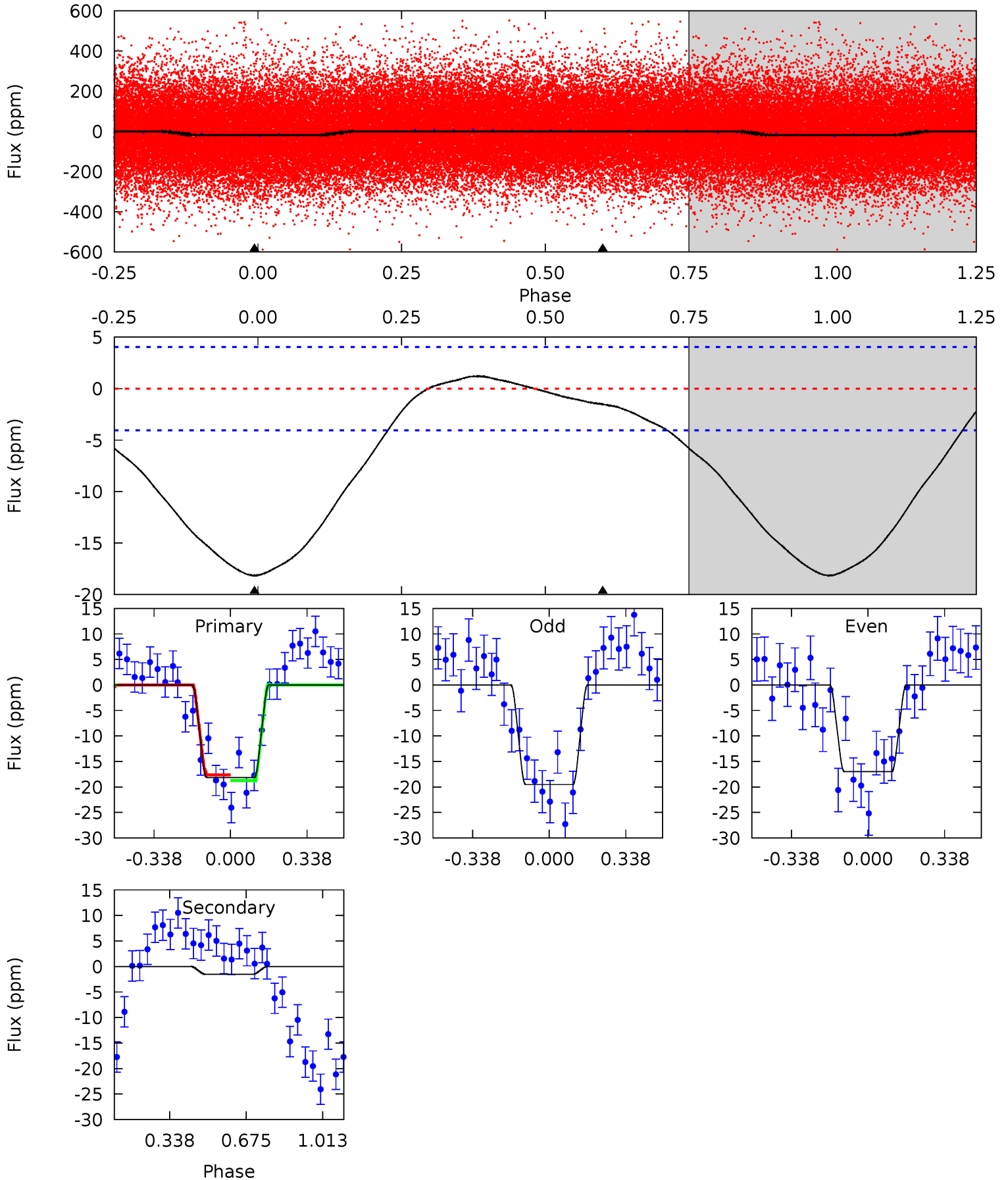
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	2.46	0	0	4.33	1.03	0.47	13.9	13.9	2.46	2.46	1.11	1.00	0.02	1.14



# Alt Model-Shift Uniqueness Test

008280615-01, P = 1.092579 Days, E = 131.339116 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
19.3	1.62	0	0	4.30	0.96	1.01	19.3	19.3	1.62	1.62	1.35	0.88	0.06	0.59





### Stellar Parameters For KIC 008280615

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7868^{+216}_{-324}$	$4.042^{+0.165}_{-0.149}$	$-0.020^{+0.200}_{-0.350}$	$2.114^{+0.461}_{-0.512}$	$1.794^{+0.160}_{-0.321}$	$0.268^{+0.258}_{-0.113}$
	+3%/-4%	+4%/-4%	+1000%/-1750%	+22%/-24%	+9%/-18%	+96%/-42%
Source	KIC0	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 008280615-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-2 \pm 1$	$0.91^{+0.57}_{-0.53}$	$4416^{+283}_{-279}$	$4507^{+2826}_{-1886}$	$0.971^{+4.599}_{-0.651}$
Alt.	$-2 \pm 1$	$1.05^{+0.59}_{-0.55}$	$4414^{+289}_{-285}$	$3361^{+2184}_{-6949}$	$0.438^{+1.622}_{-0.316}$

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

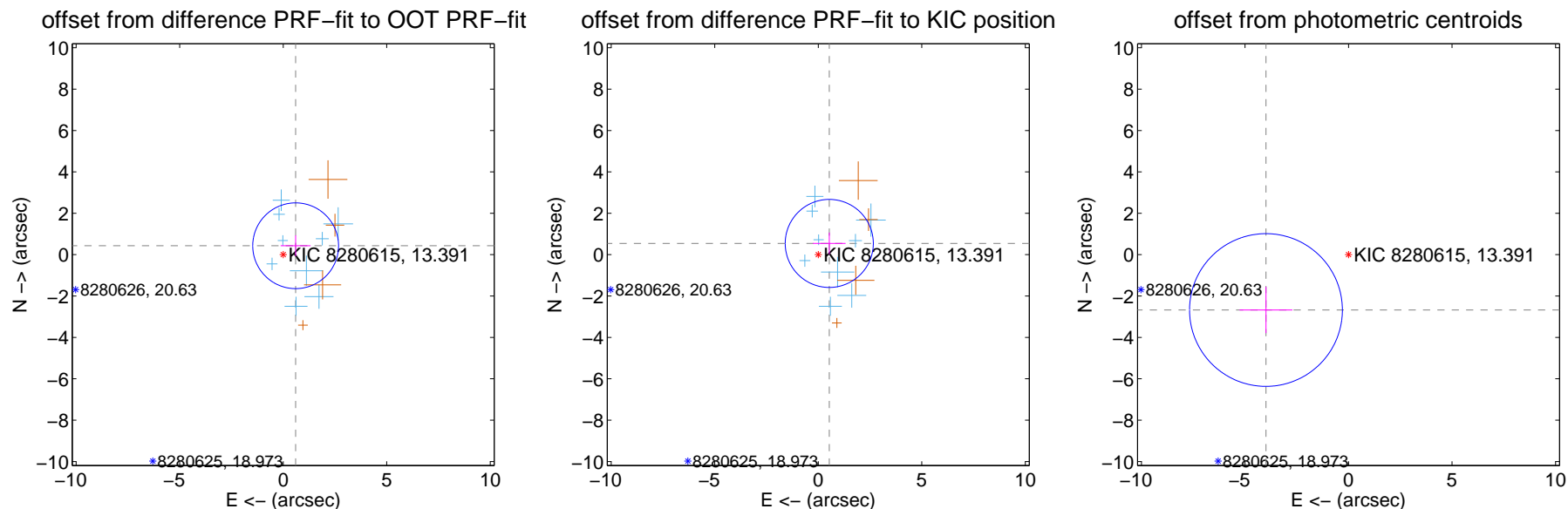
## DV Centroid Data

Supplemental centroid analysis for 008280615-01. Kepler magnitude: 13.39. Transit SNR 10.87

There are 9 quarters with good PRF difference image offsets

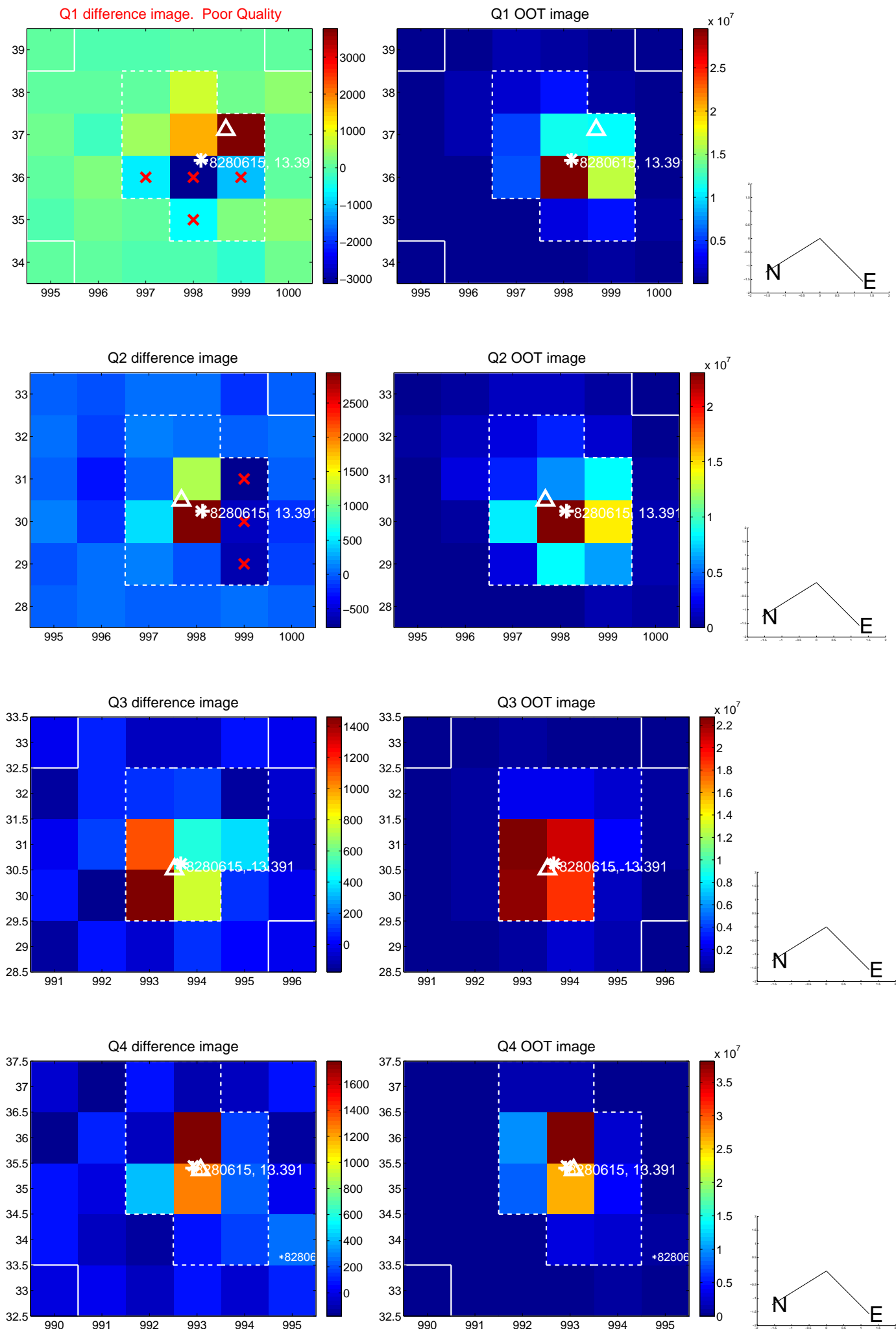
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.739 \pm 0.691$	1.07	$-0.601 \pm 0.723$	$0.430 \pm 0.504$
PRF-fit source offset from KIC position	$0.760 \pm 0.709$	1.07	$-0.531 \pm 0.788$	$0.543 \pm 0.527$
photometric centroid source offset	$4.80 \pm 1.23$	3.90	$3.99 \pm 1.28$	$-2.68 \pm 1.12$

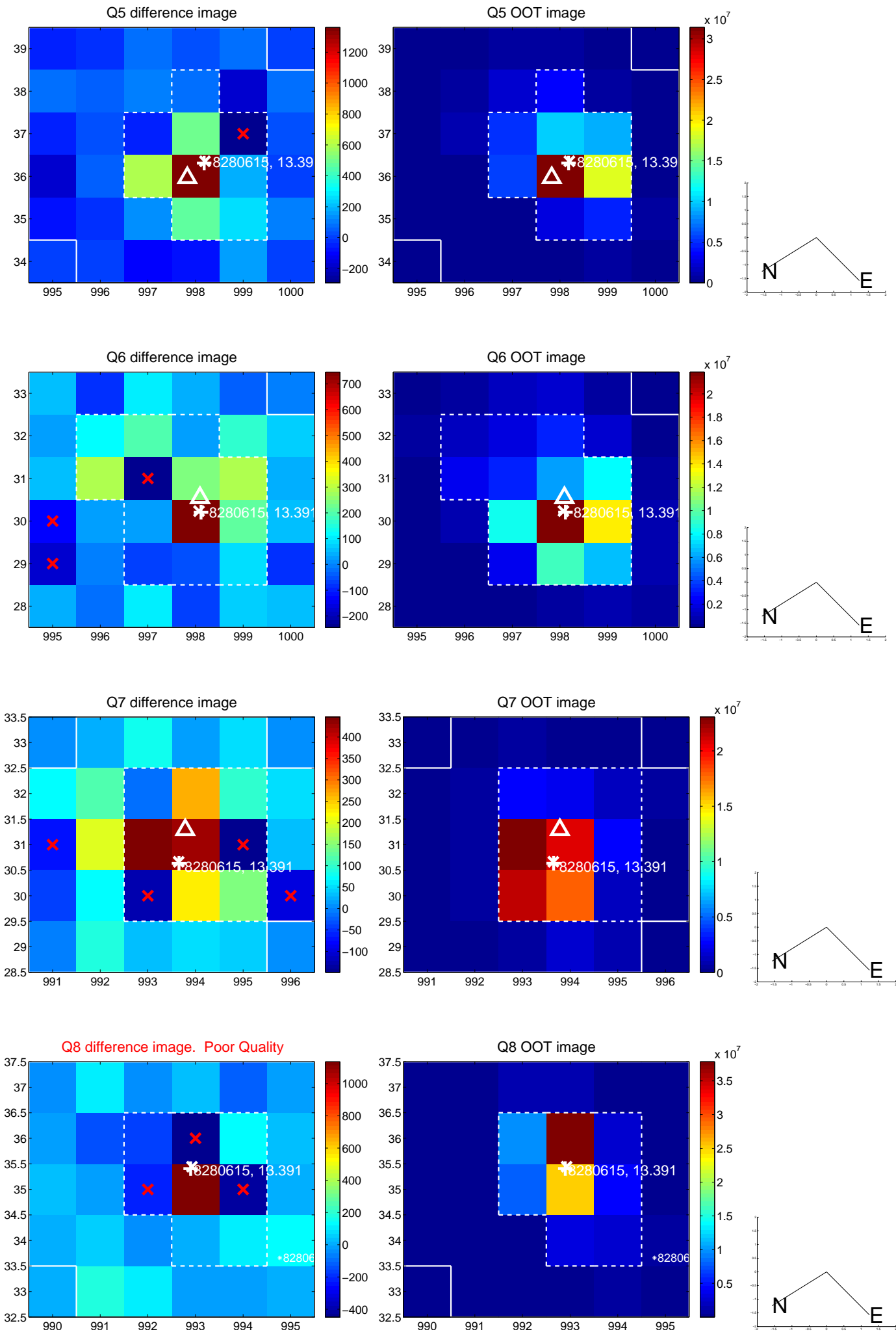


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

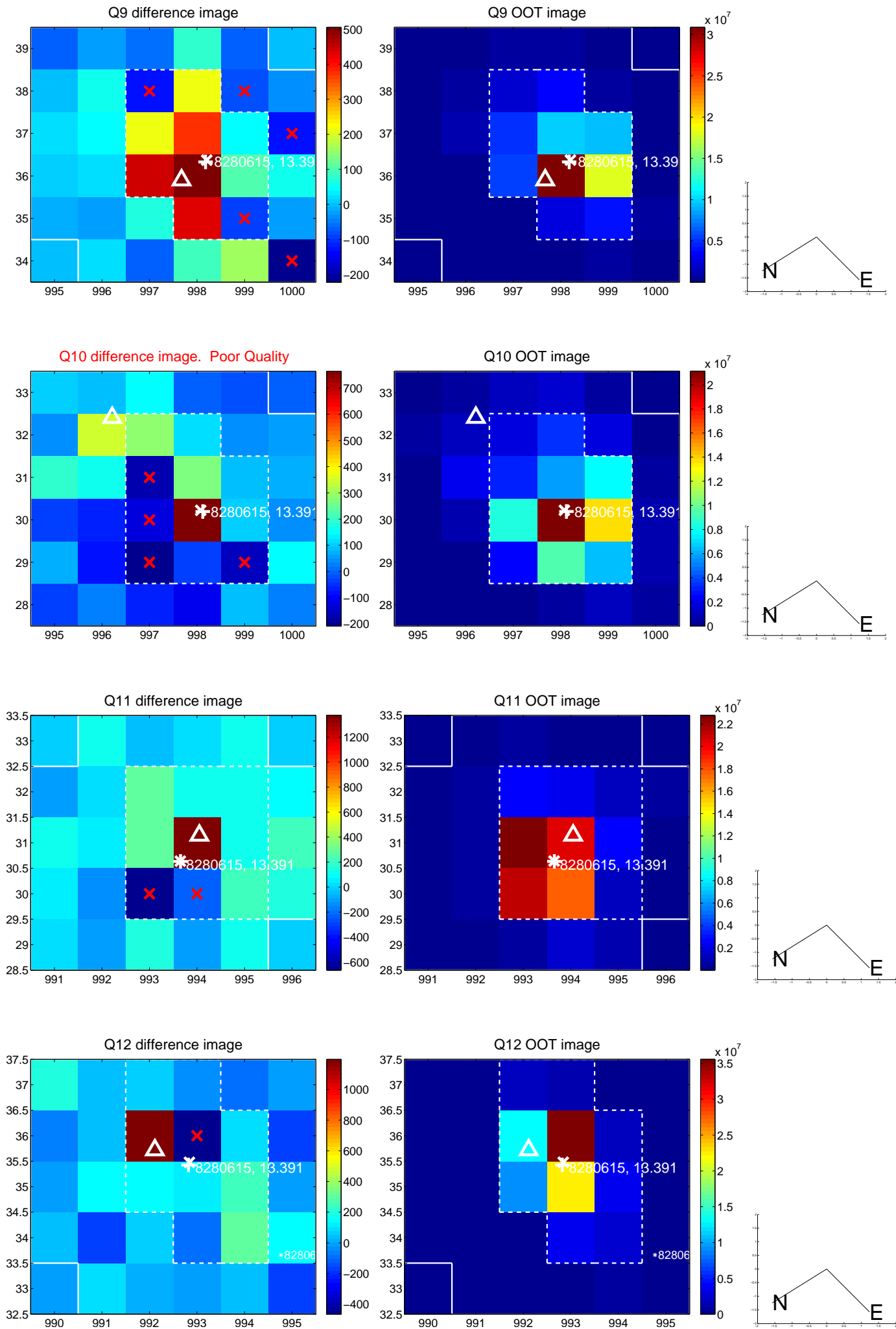


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

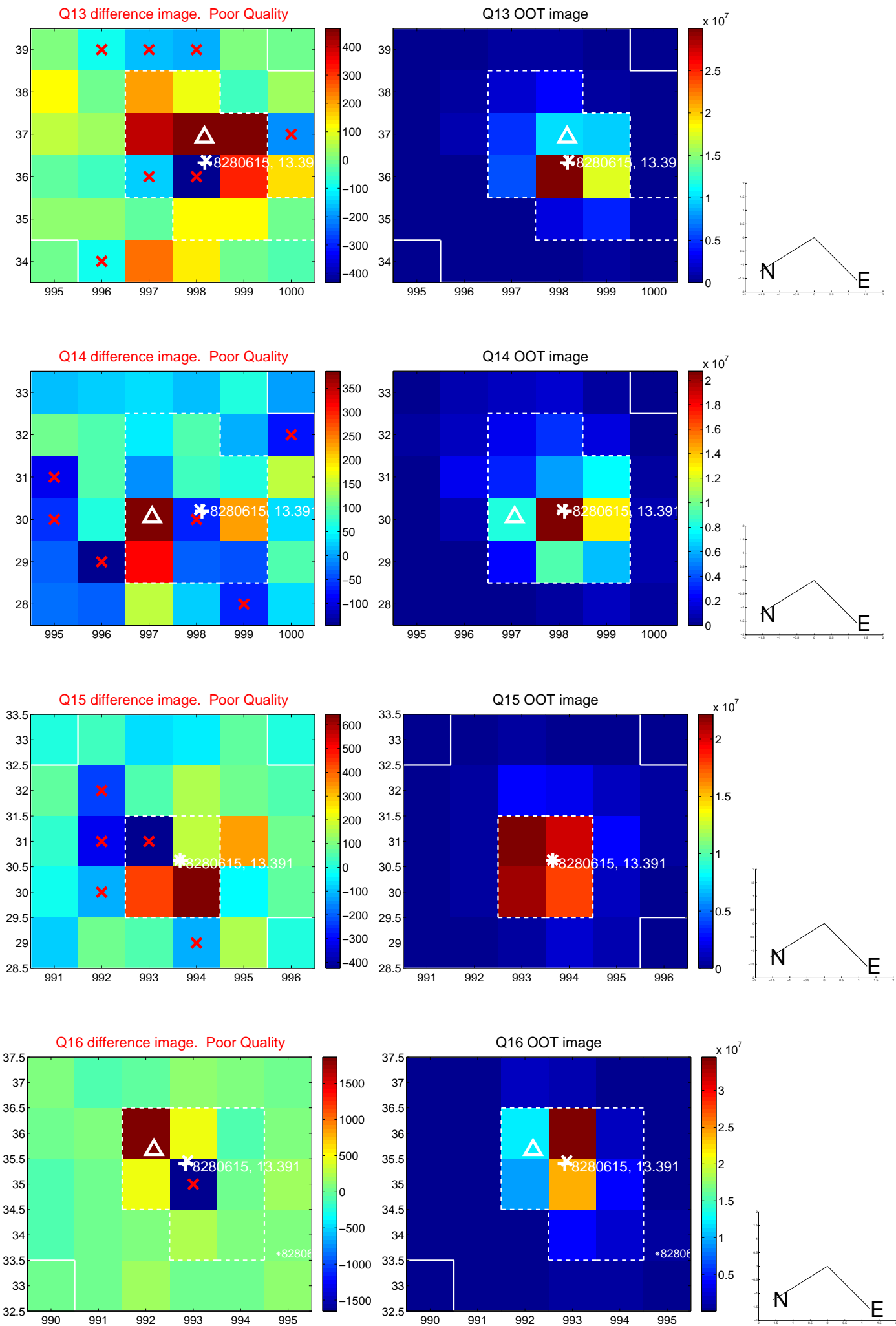




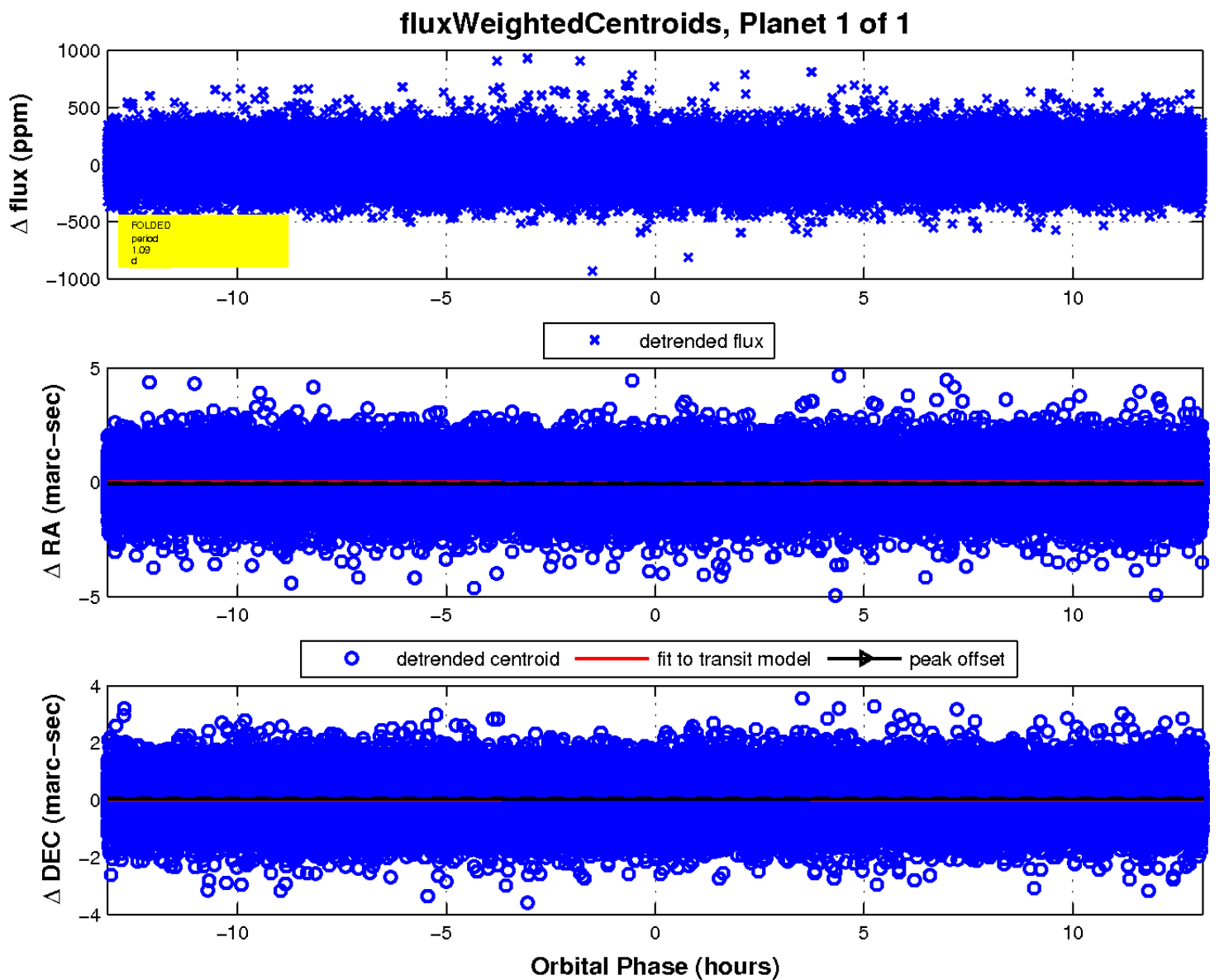
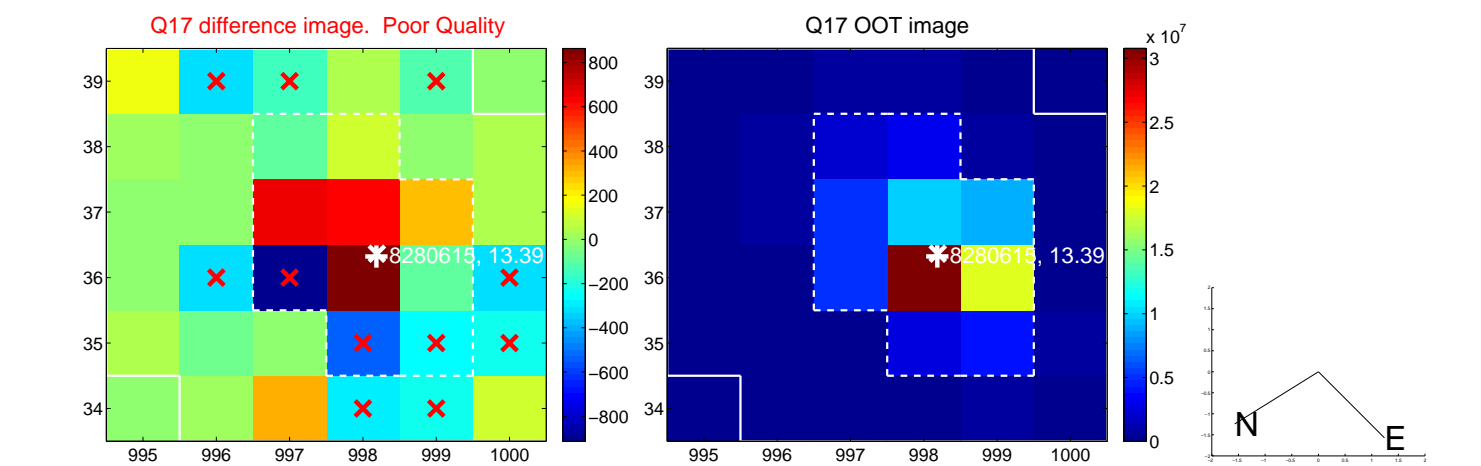
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

