

# KIC 008256882

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008256882-01	OBS	7003.01	2.411907	133.029131	59.4	1.997	9.4	9.6	1.59	5598	1.36	1770.94

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008256882-01	OBS	PC	1.00	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.

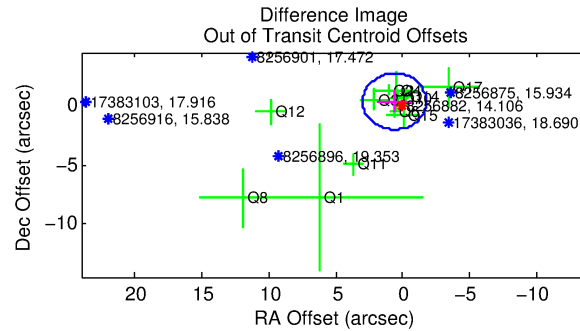
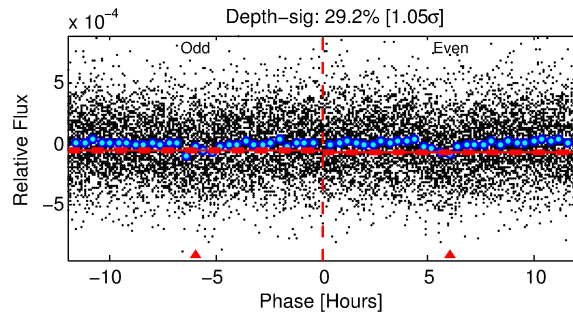
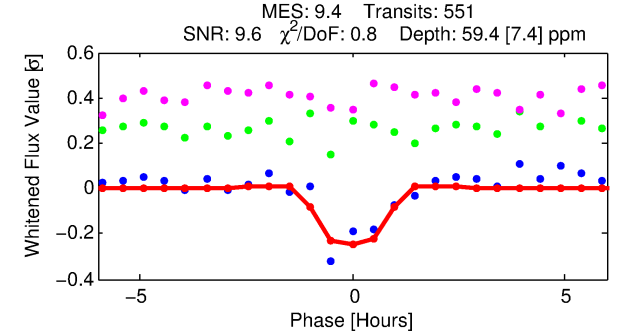
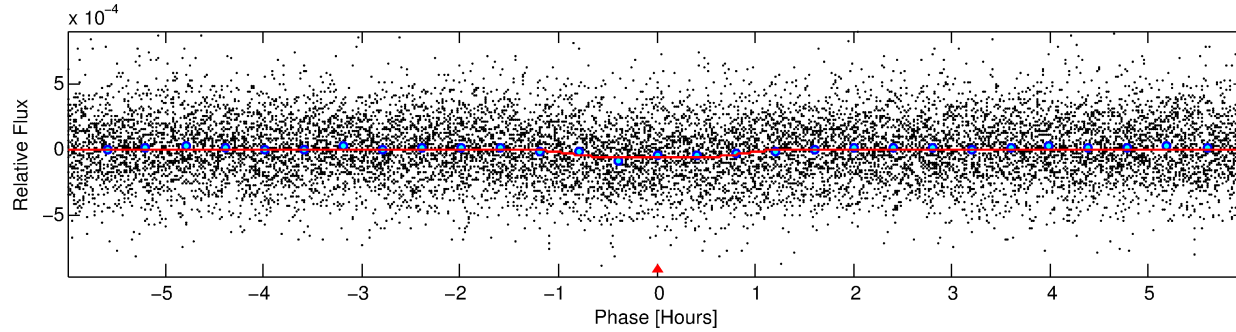
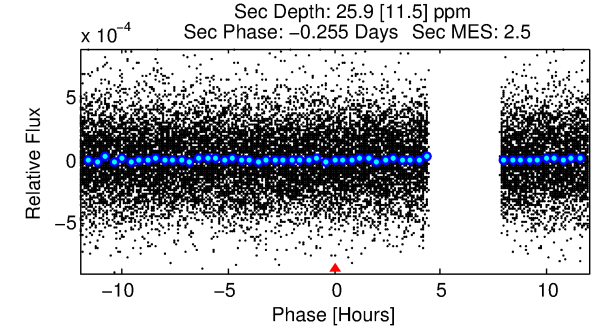
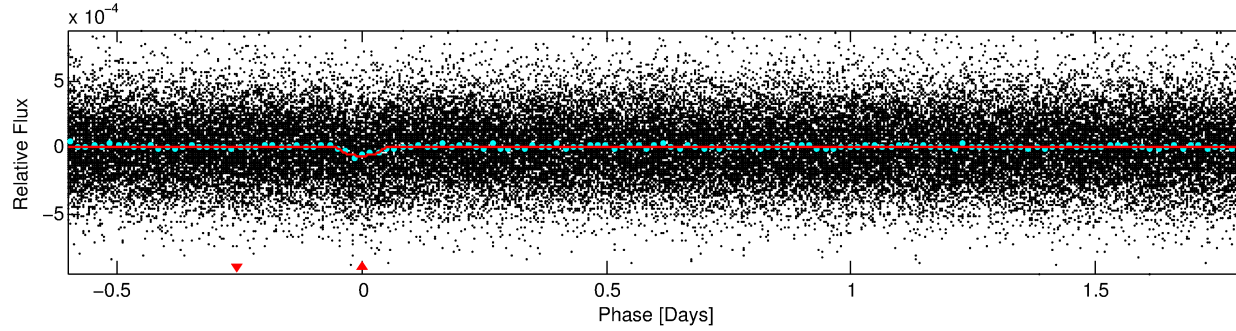
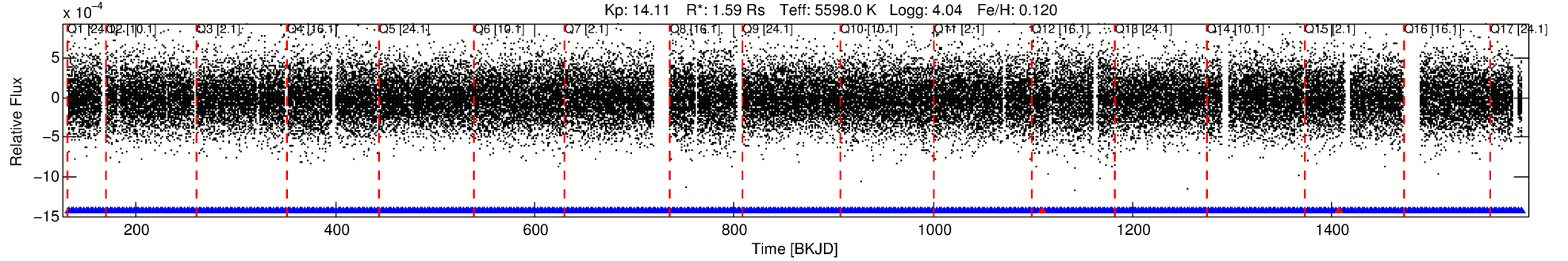
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008256882-01

No Significant Match Found

# DV One-Page Summary

KIC: 8256882 Candidate: 1 of 1 Period: 2.412 d  
KOI: K07003.01 Corr: 0.910



## DV Fit Results:

Period = 2.41191 [0.00002] d  
Epoch = 133.0291 [0.0035] BKJD  
Rp/R\* = 0.0078 [0.0036]  
a/R\* = 5.80 [10.72]  
b = 0.79 [0.91]  
Seff = 1770.94 [634.41]  
Teq = 1654 [148] K  
Rp = 1.36 [0.71] Re  
a = 0.0355 [0.0081] AU  
Ag = 9.66 [10.35] [0.84σ]  
Teffp = 4509 [1142] K [2.48σ]

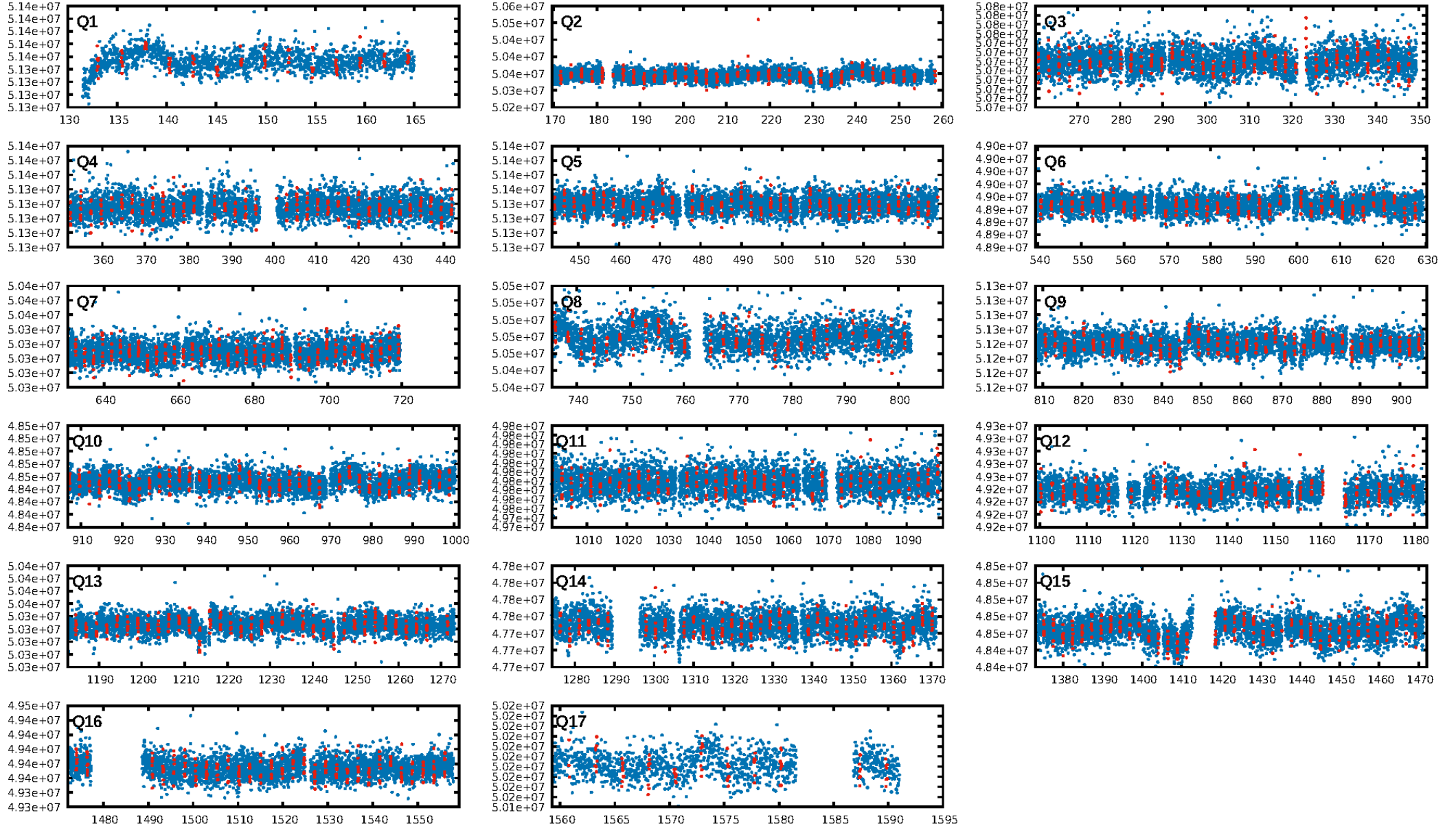
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.20e-20  
RollingBand-fgt: 1.00 [524/526]  
GhostDiagnostic-chr: 1.598  
Centroid-sig: N/A  
Centroid-so: 1.528 arcsec [1.25σ]  
OotOffset-rm: 0.703 arcsec [0.89σ]  
KicOffset-rm: 0.737 arcsec [1.02σ]  
OotOffset-st: 4/3/3/2 [12]  
KicOffset-st: 4/3/3/2 [12]  
DiffImageQuality-fgm: 0.33 [4/12]  
DiffImageOverlap-fno: 1.00 [17/17]

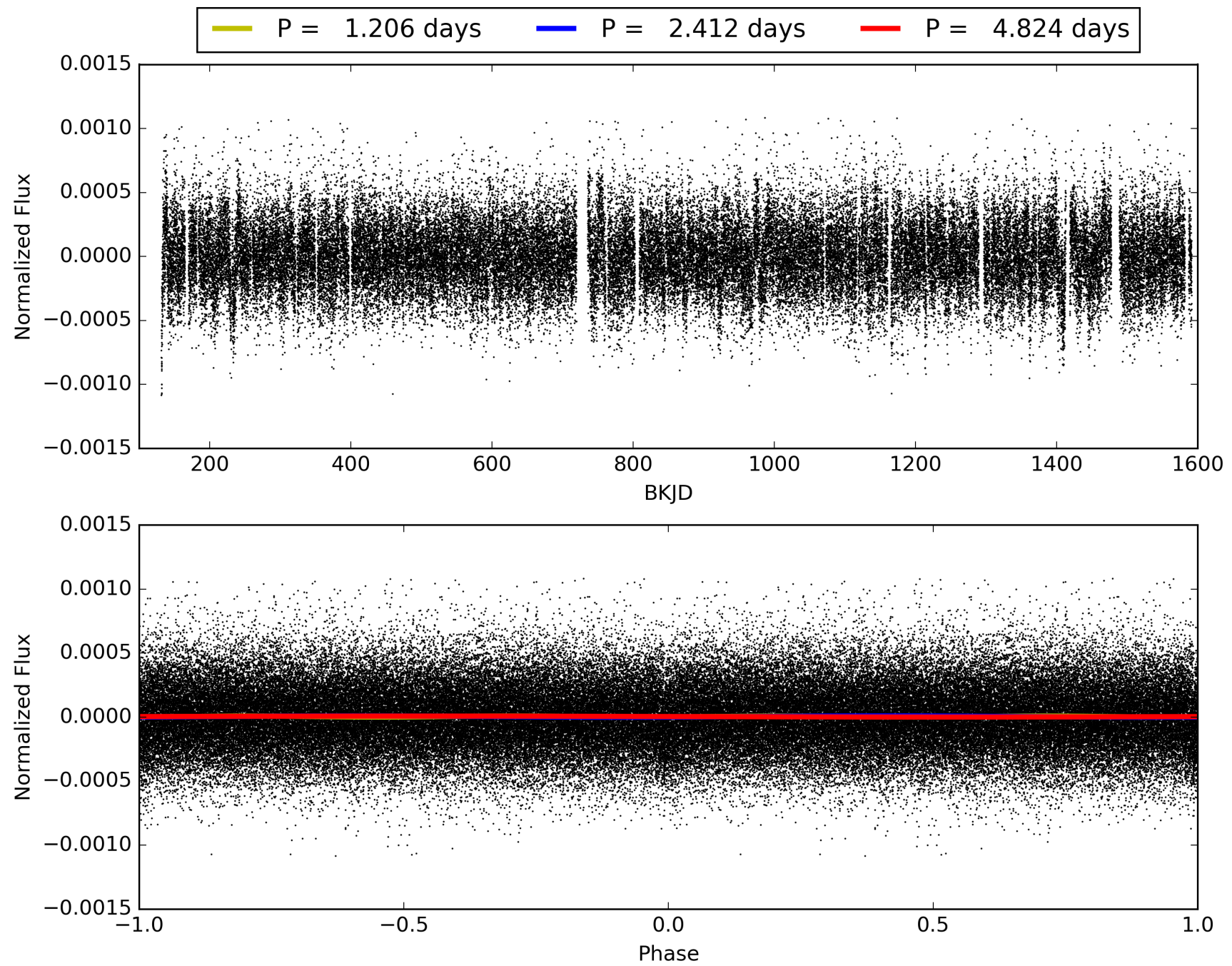
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:01:03 Z

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

# TCE 008256882-01, PDC Light Curves



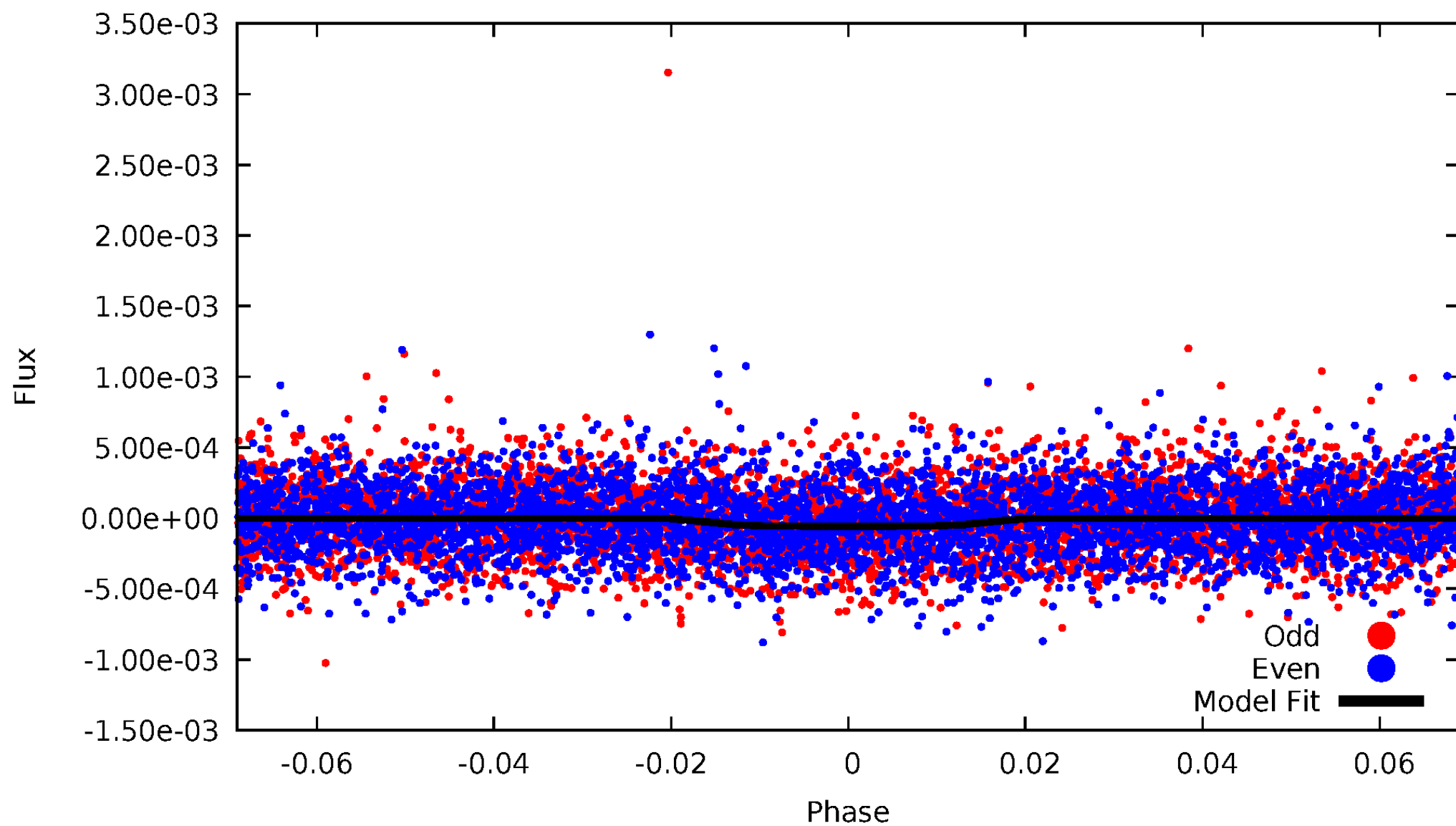
TCE 008256882-01





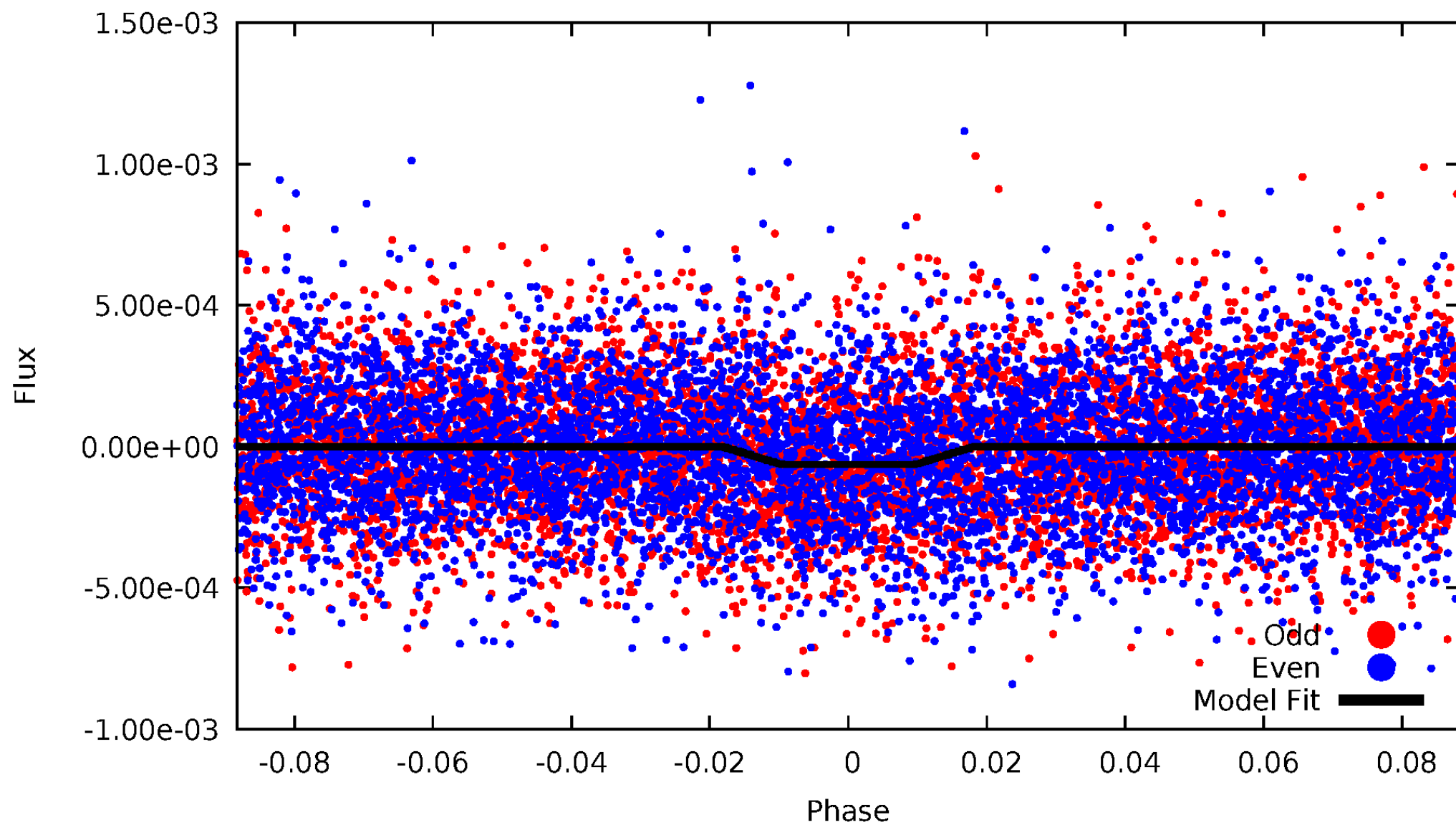
# DV Odd/Even

TCE 008256882-01



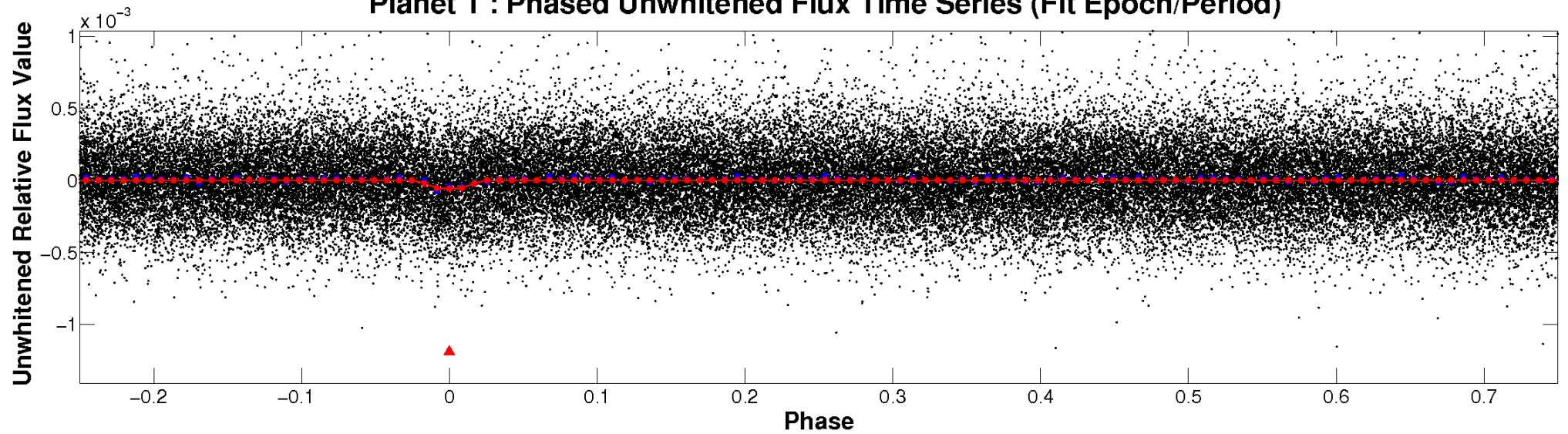
# ALT Odd/Even

TCE 008256882-01

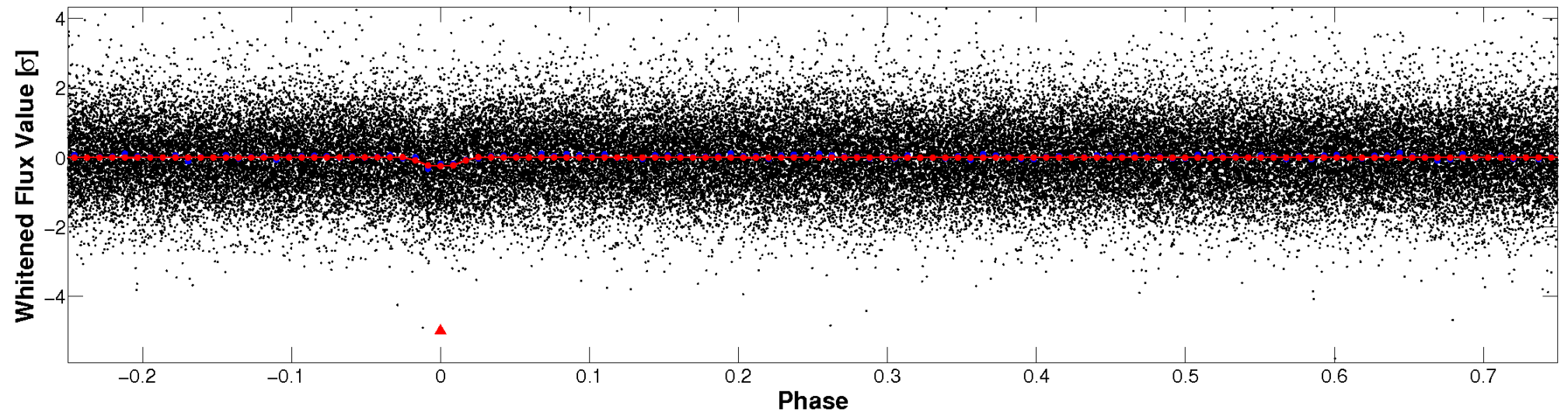


# Non-Whitened Vs. Whitened Light Curve

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

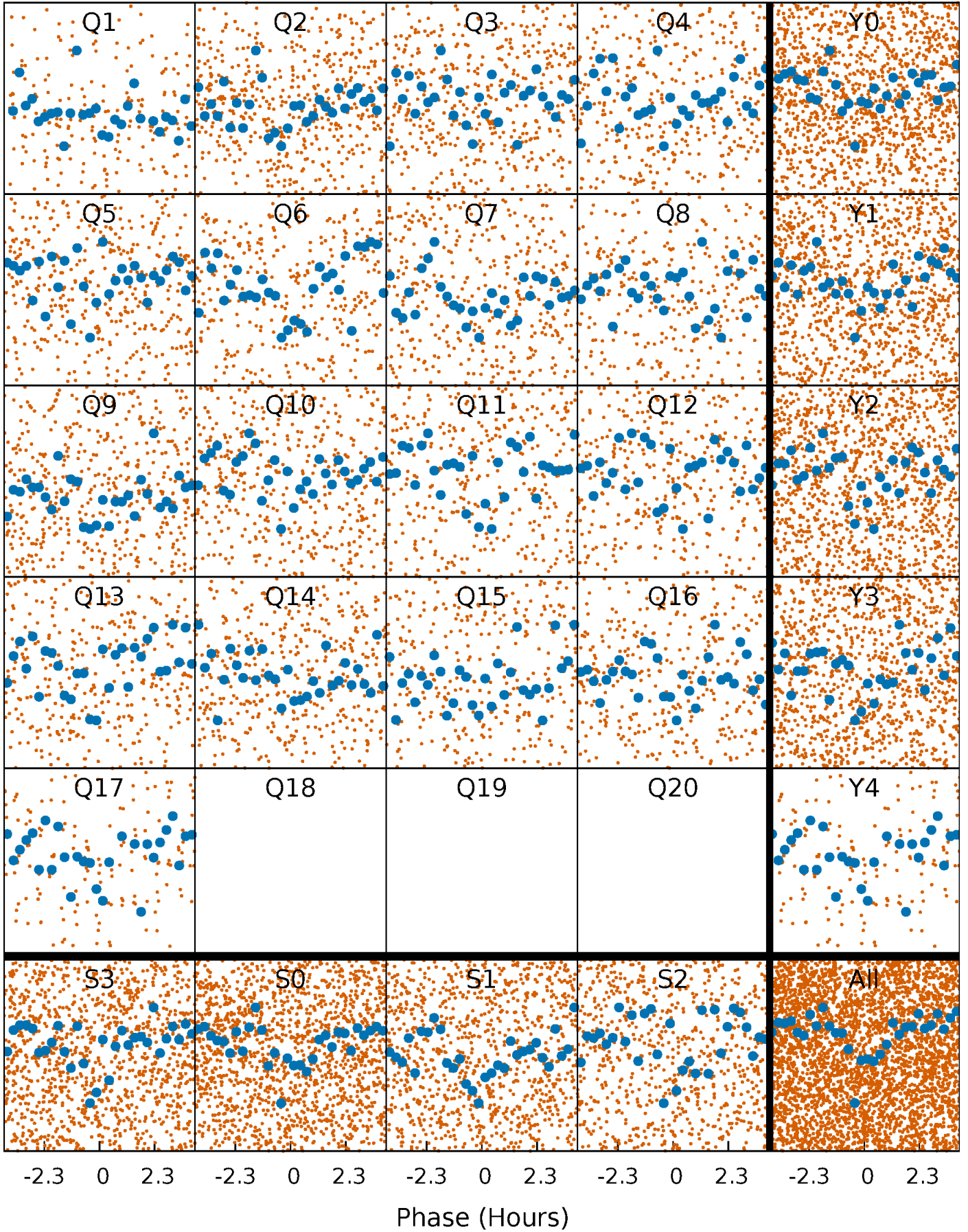


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

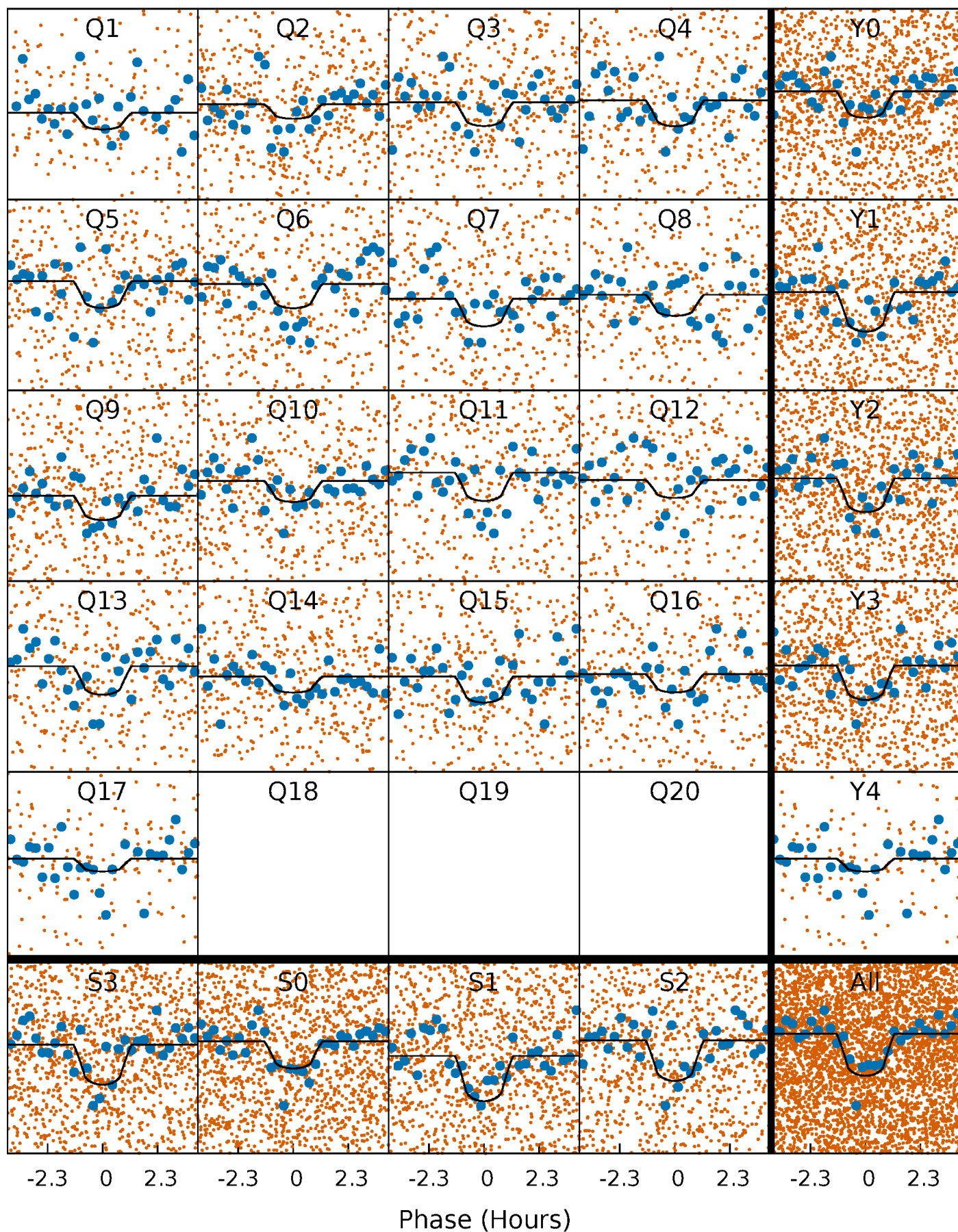
TCE 008256882-01   P= 2.411907 Days    $T_0=133.029131$  (BKJD)





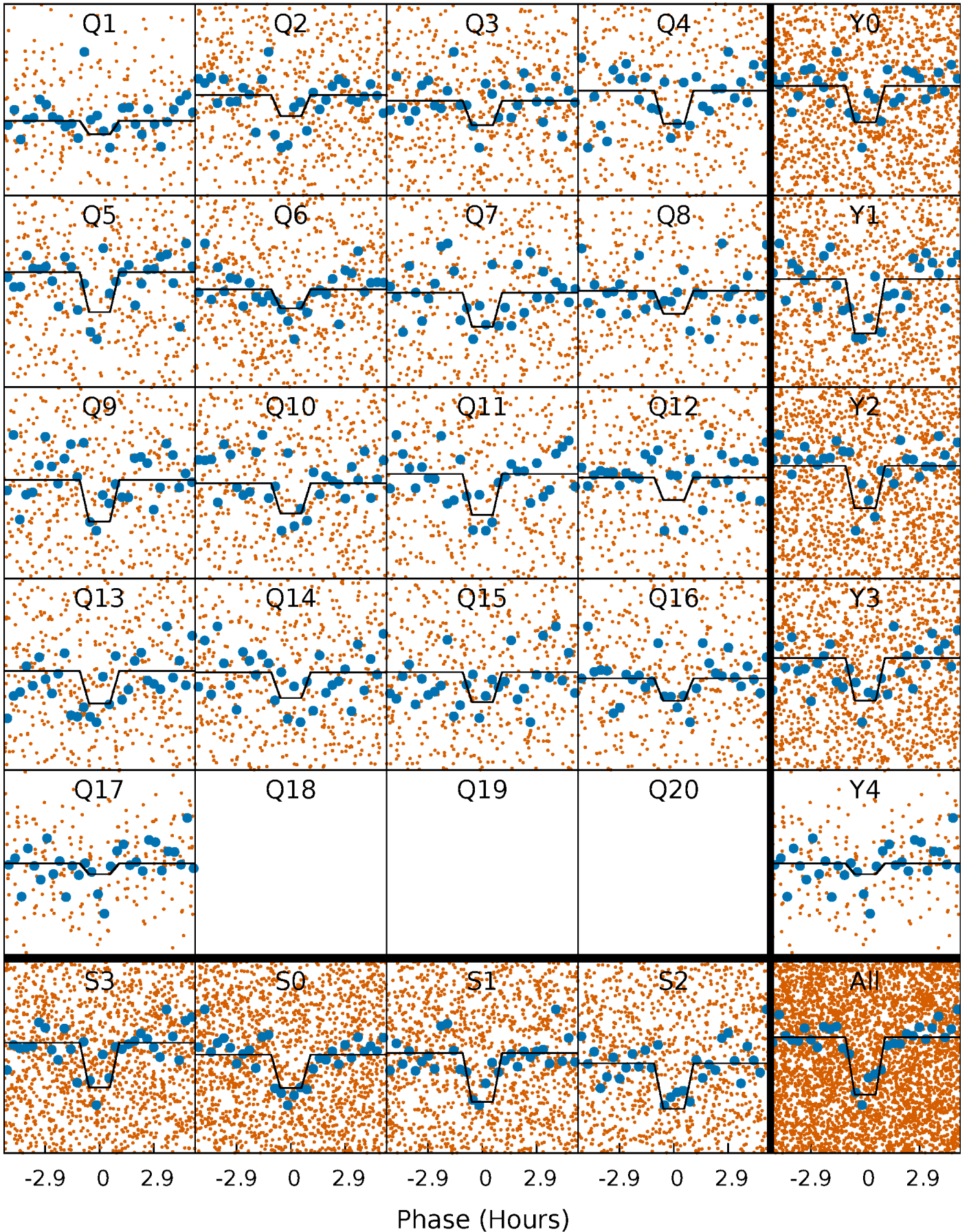
# DV Quarter-Phased Transit Curves

TCE 008256882-01 P= 2.411907 Days  $T_0=133.029131$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

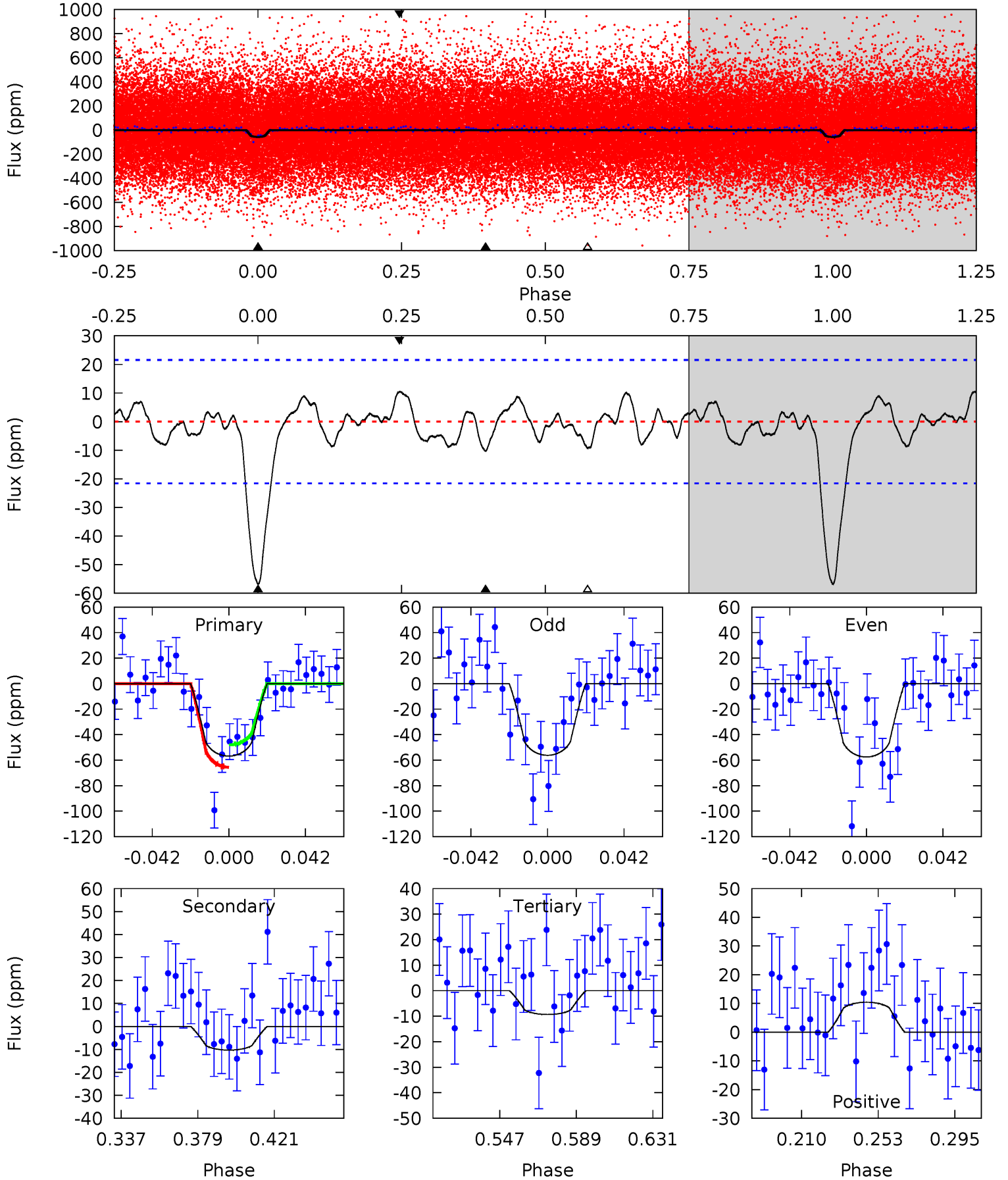
TCE 008256882-01 P= 2.411918 Days  $T_0=133.021968$  (BKJD)



# DV Model-Shift Uniqueness Test

008256882-01, P = 2.411907 Days, E = 130.617224 Days

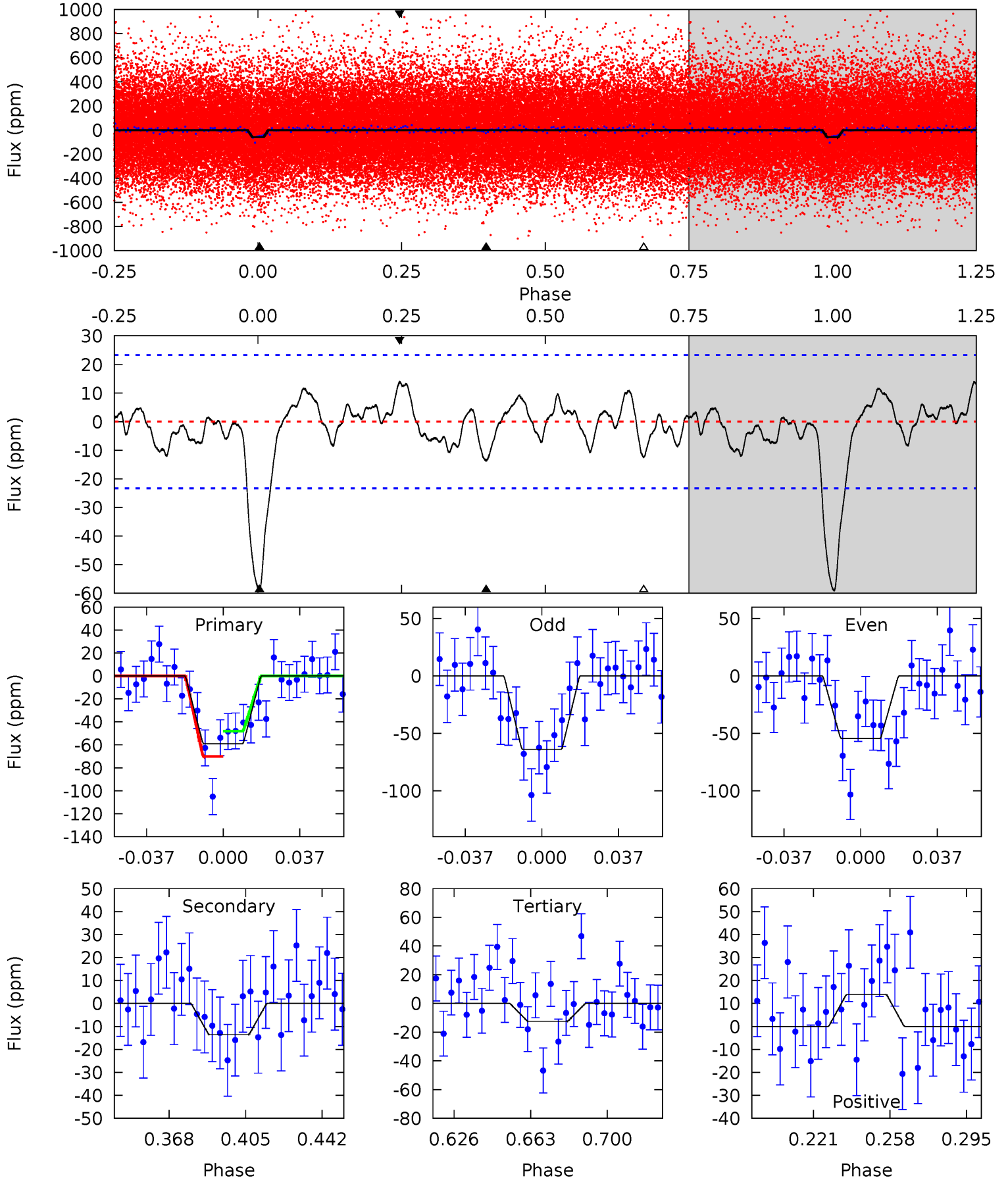
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	2.27	2.05	2.29	4.74	2.03	1.06	10.5	10.2	0.22	-0.02	0.15	1.04	0.15	1.94



# Alt Model-Shift Uniqueness Test

008256882-01, P = 2.411918 Days, E = 130.610050 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
12.1	2.79	2.55	2.85	4.77	2.09	1.18	9.58	9.27	0.24	-0.06	0.97	0.89	0.19	2.26





### Stellar Parameters For KIC 008256882

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5598^{+83}_{-75}$	$4.045^{+0.203}_{-0.087}$	$0.120^{+0.150}_{-0.150}$	$1.594^{+0.245}_{-0.398}$	$1.028^{+0.093}_{-0.085}$	$0.358^{+0.411}_{-0.099}$
	+1%/-1%	+5%/-2%	+125%/-125%	+15%/-25%	+9%/-8%	+115%/-28%
Source	SPE90	SPE90	SPE90	DSEP		

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

### Secondary Eclipse Parameters for KIC 008256882-01 / KOI 7003.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-10 \pm 5$	$1.37^{+0.63}_{-0.65}$	$2299^{+97}_{-144}$	$3841^{+1052}_{-639}$	$3.936^{+10.815}_{-2.518}$
Alt.	$-14 \pm 5$	$1.35^{+0.64}_{-0.60}$	$2293^{+98}_{-154}$	$4027^{+986}_{-607}$	$5.148^{+11.040}_{-3.053}$

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

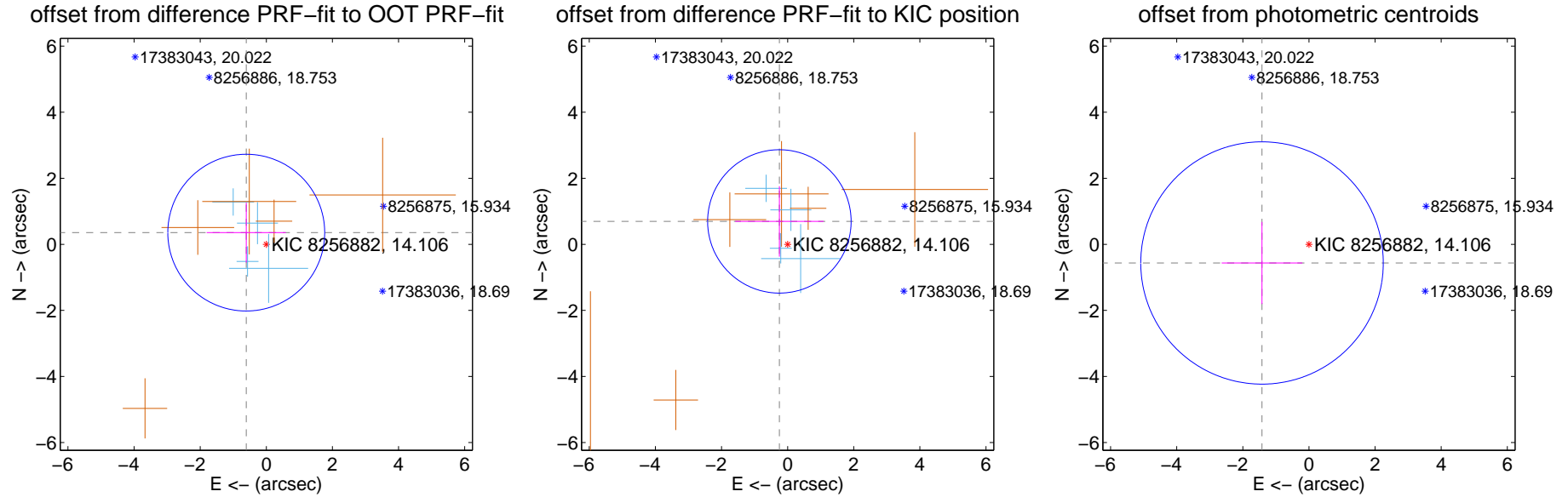
## DV Centroid Data

Supplemental centroid analysis for 008256882-01. Kepler magnitude: 14.11. Transit SNR 9.64

There are 4 quarters with good PRF difference image offsets

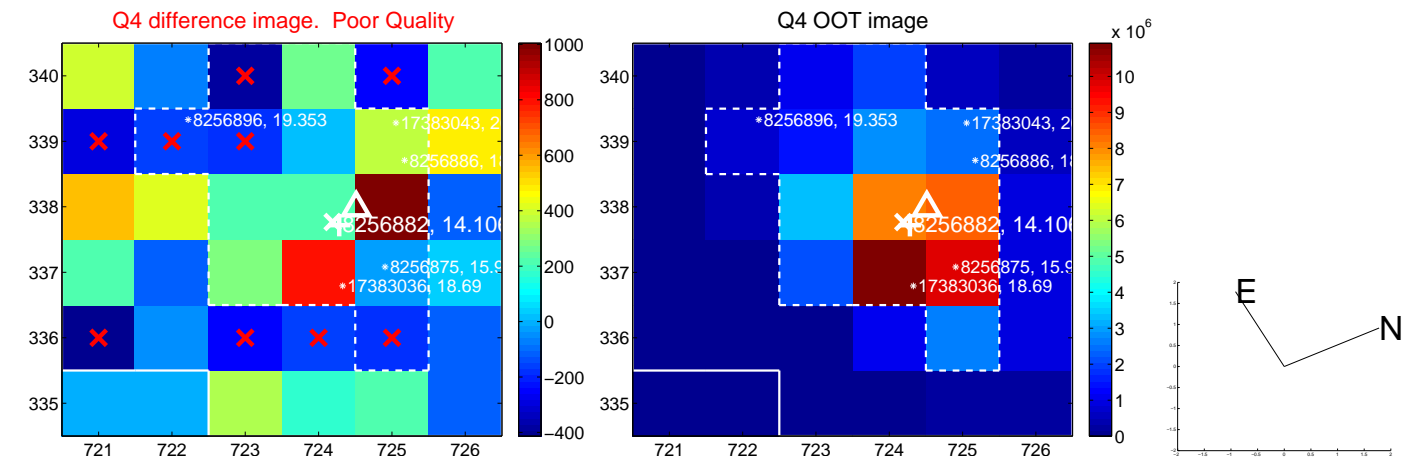
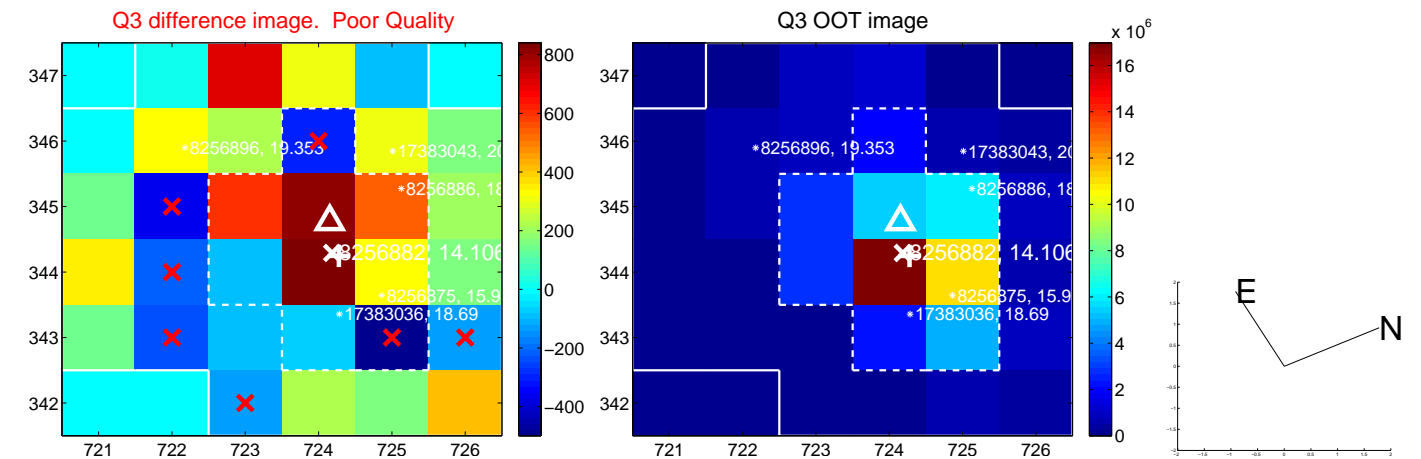
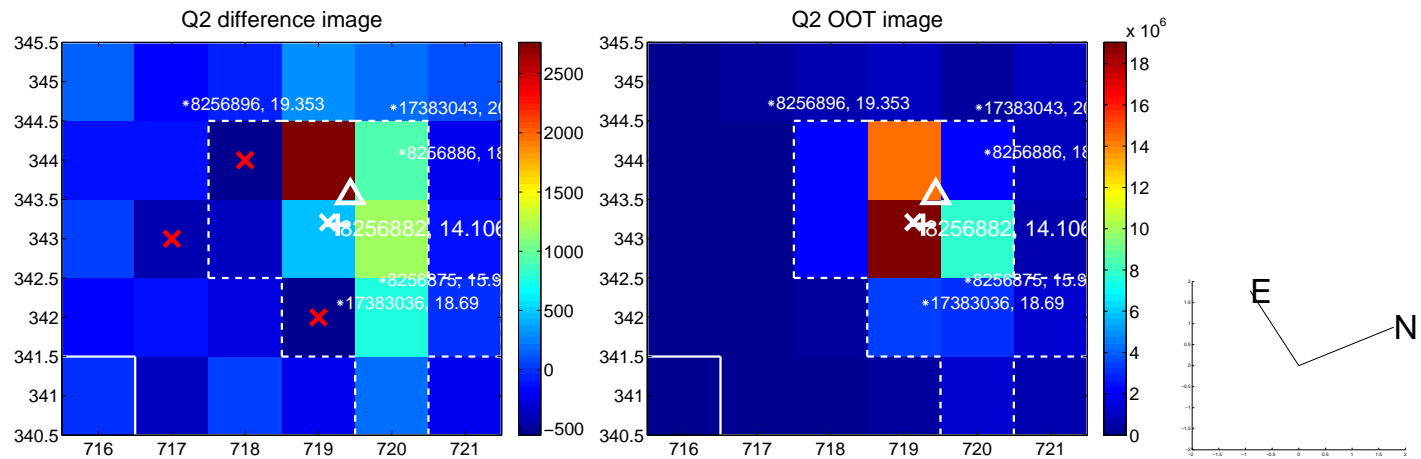
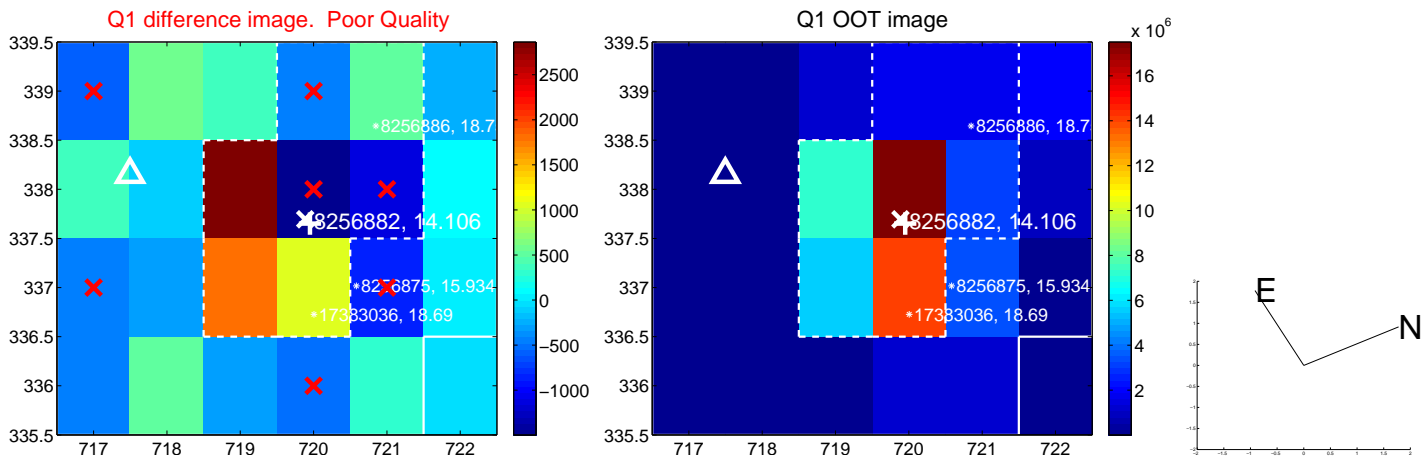
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.703 \pm 0.791$	0.89	$0.607 \pm 1.196$	$0.354 \pm 0.907$
PRF-fit source offset from KIC position	$0.737 \pm 0.723$	1.02	$0.250 \pm 1.336$	$0.694 \pm 1.066$
photometric centroid source offset	$1.53 \pm 1.22$	1.25	$1.42 \pm 1.22$	$-0.56 \pm 1.24$

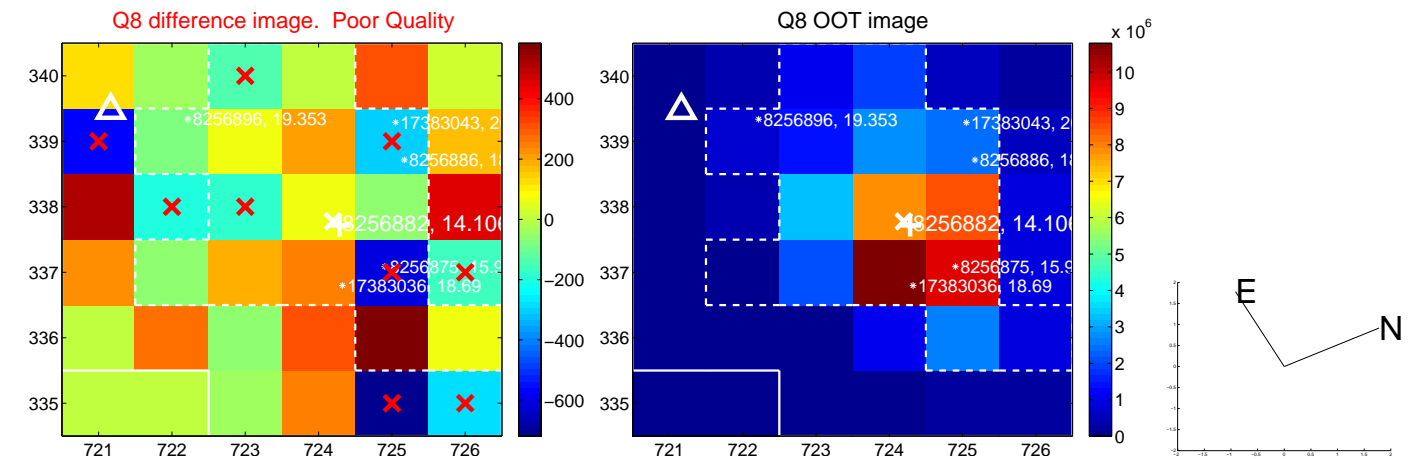
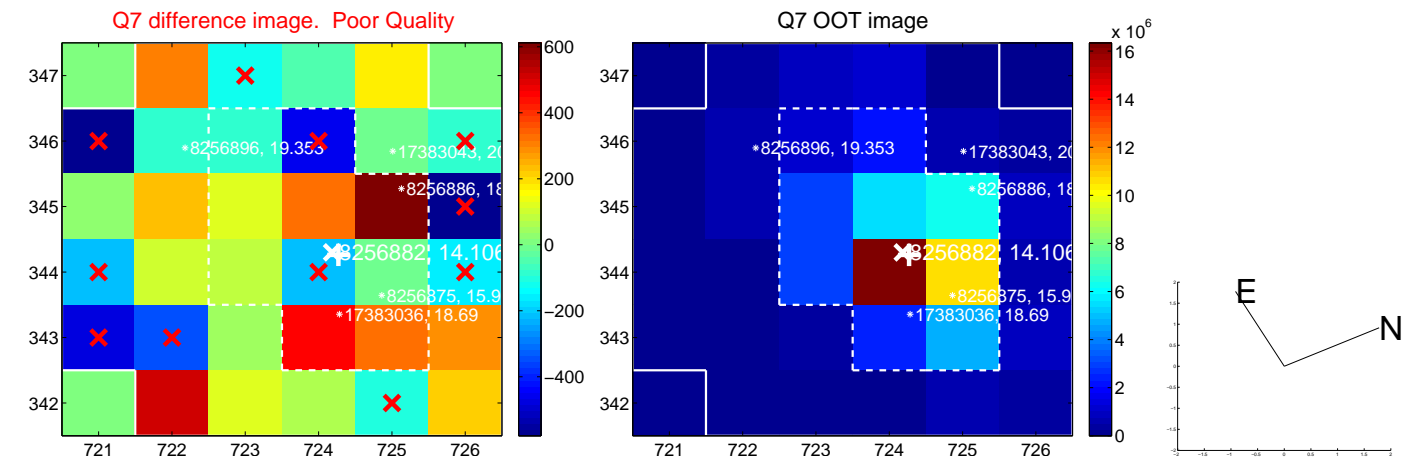
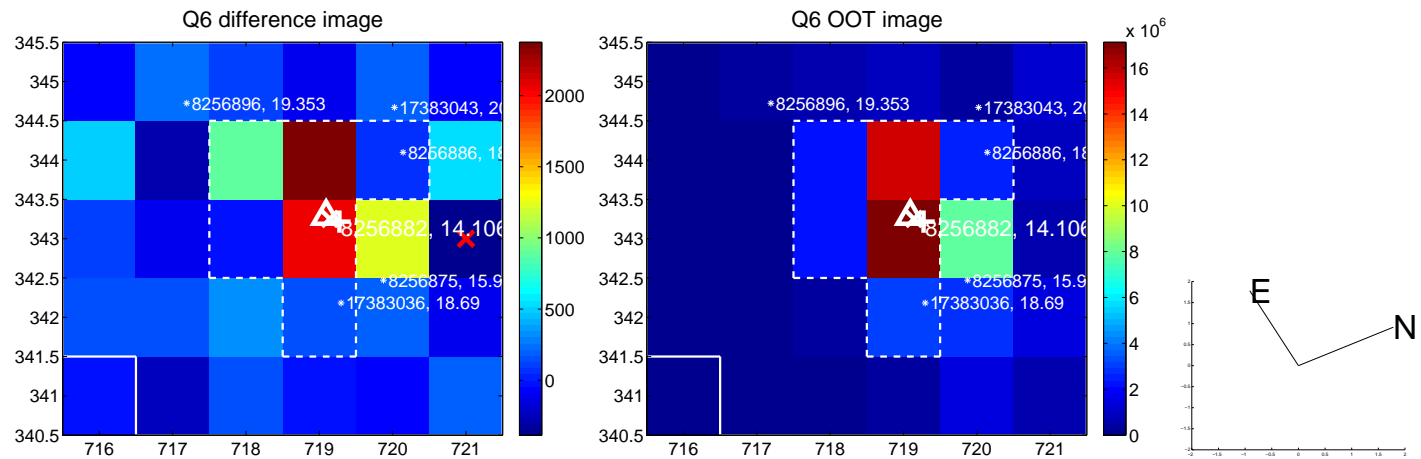
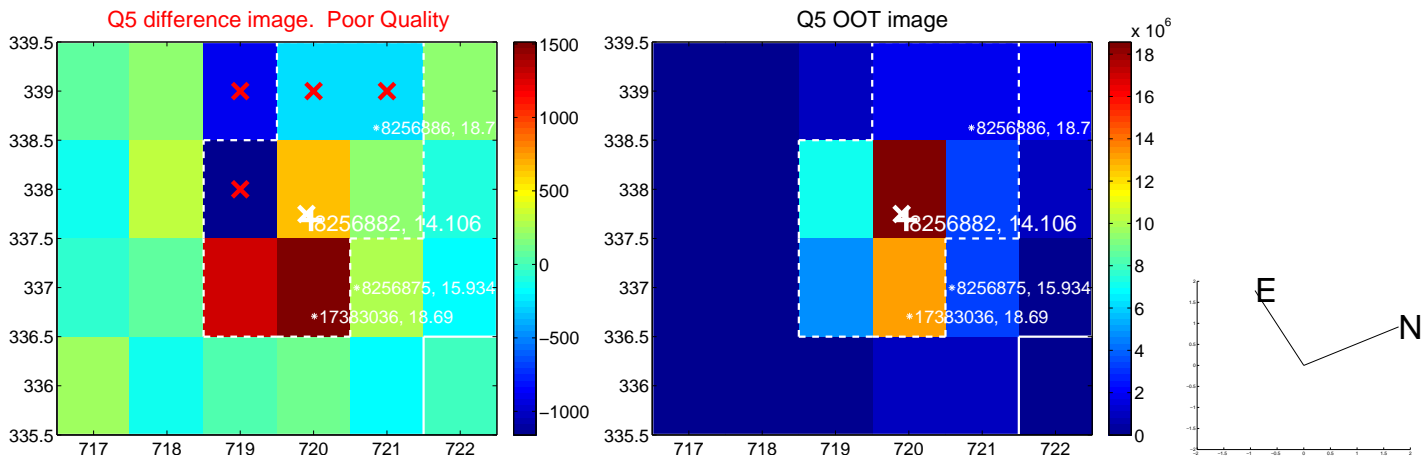


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

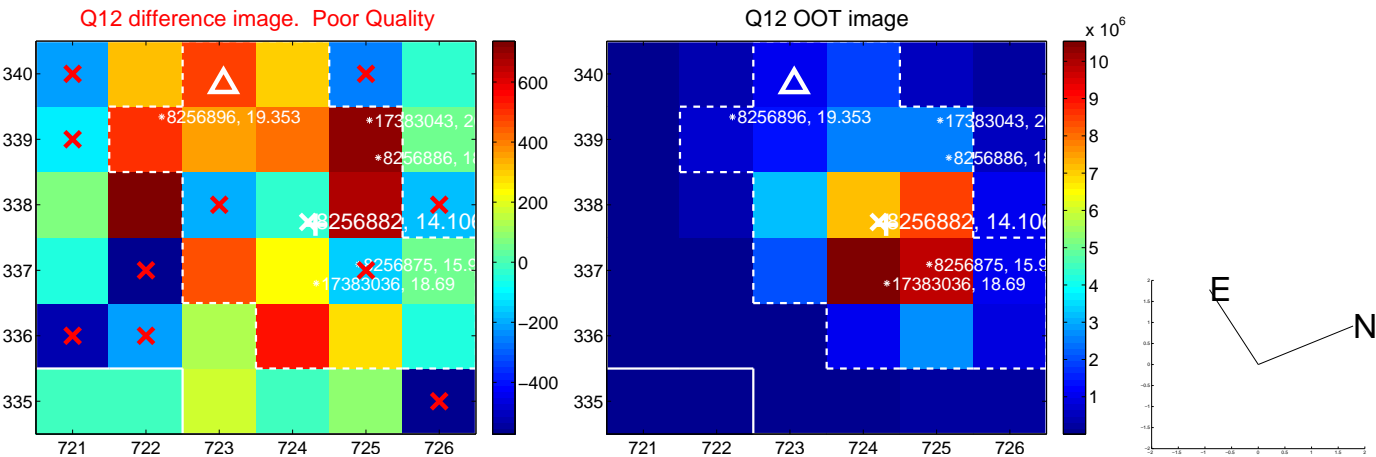
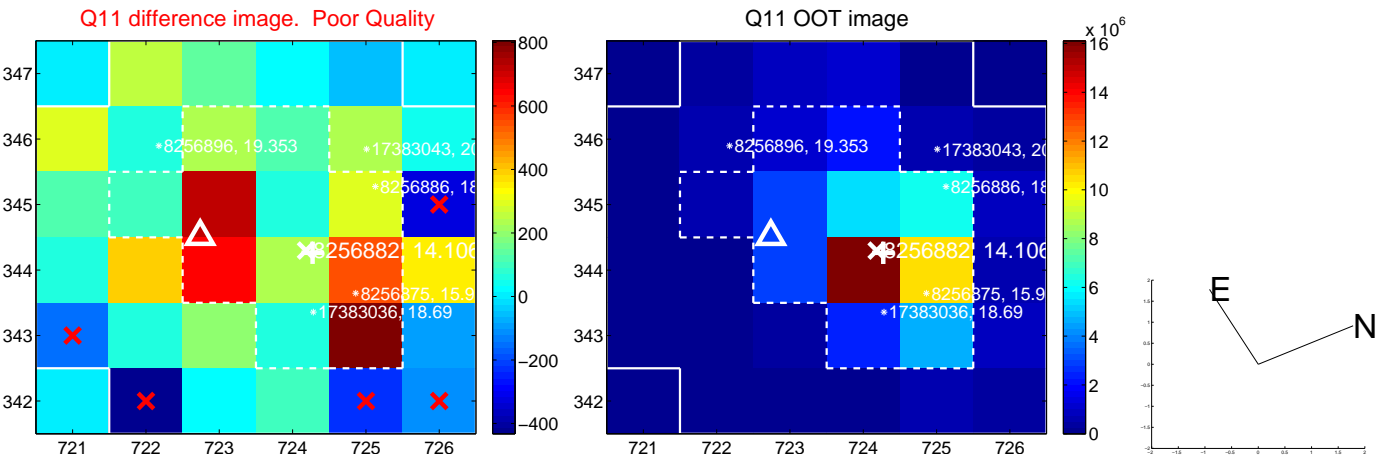
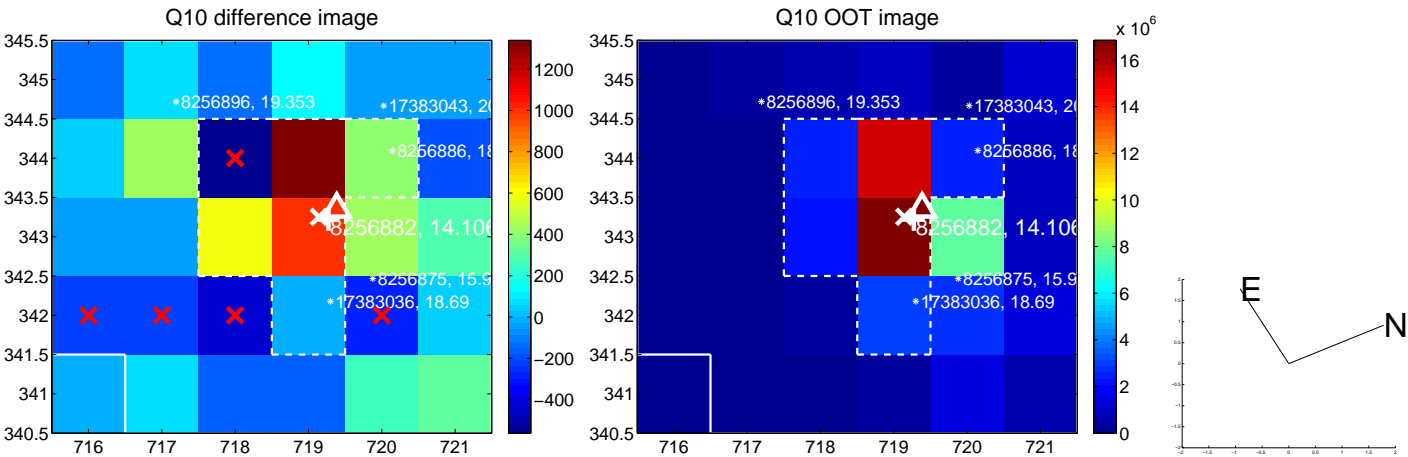
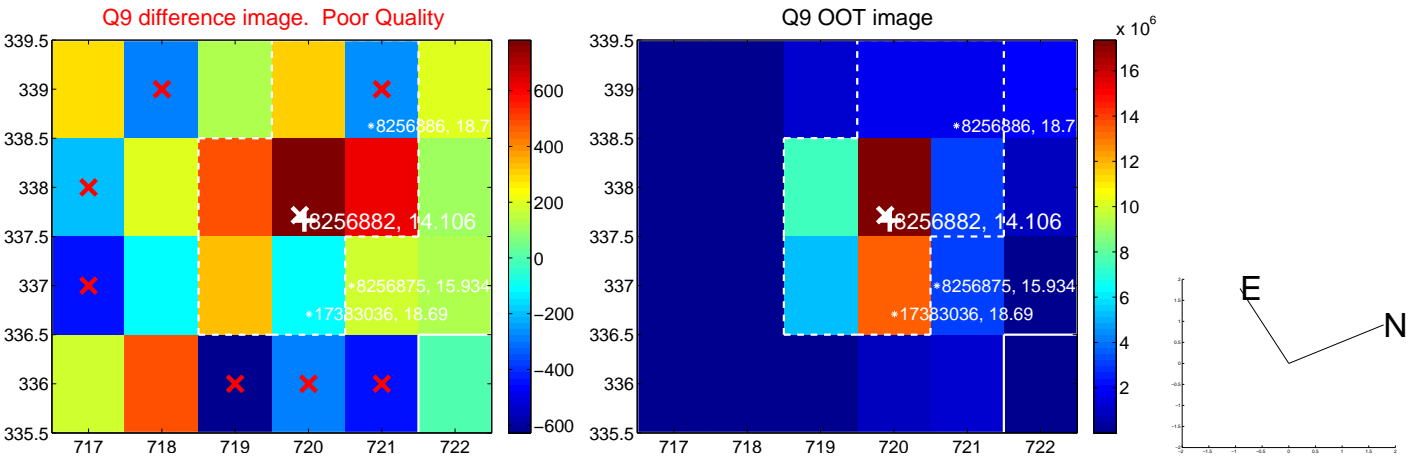


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

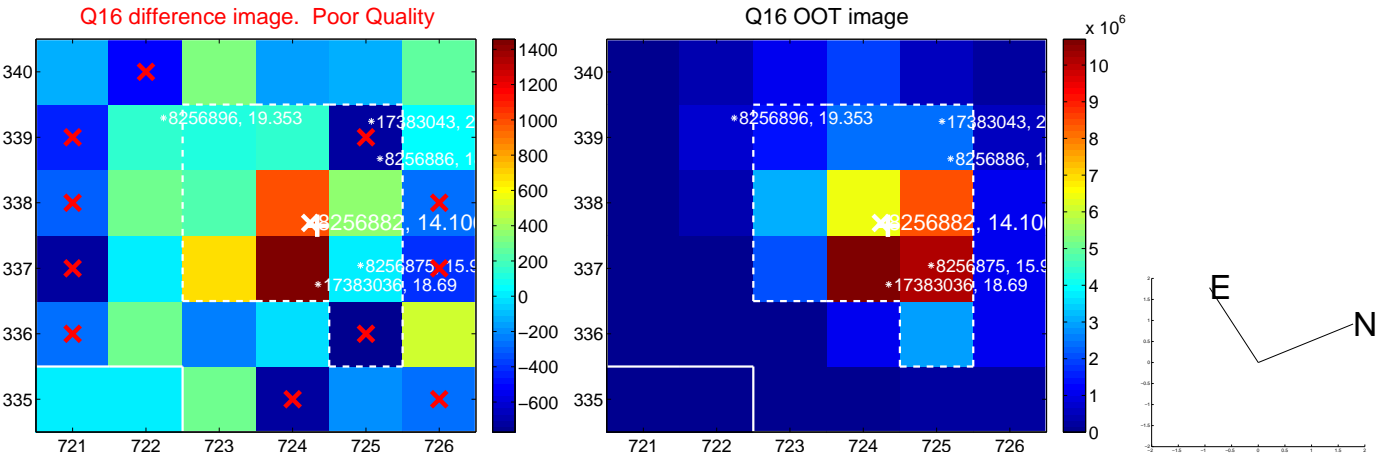
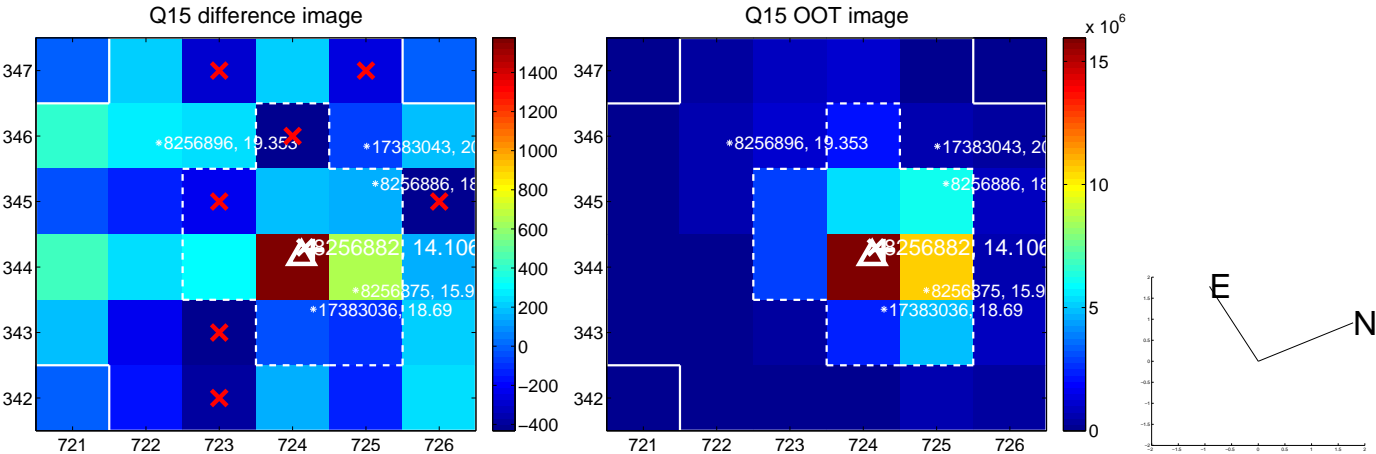
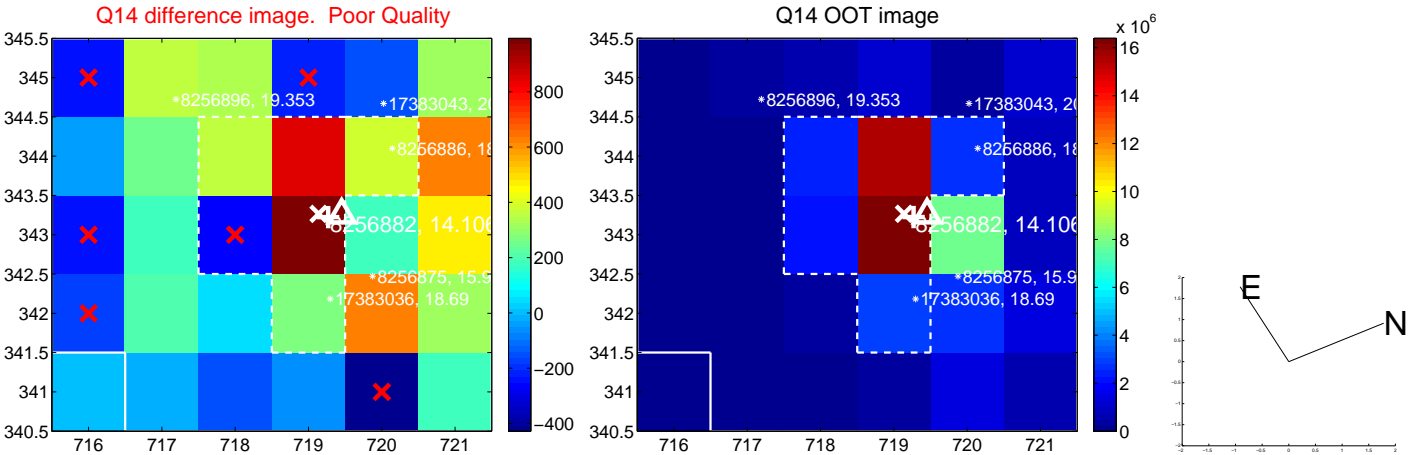
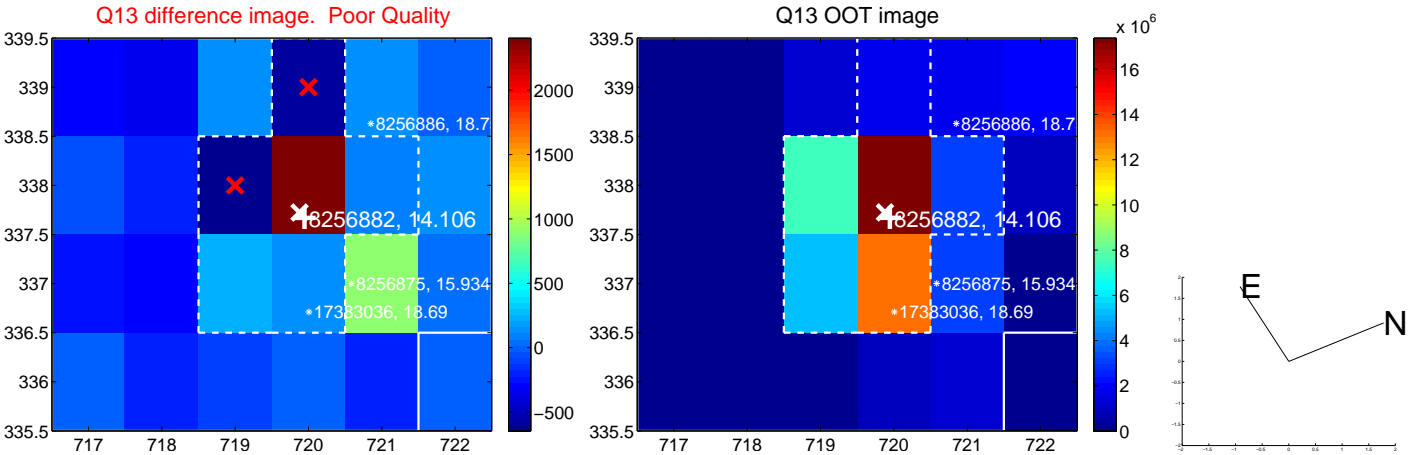




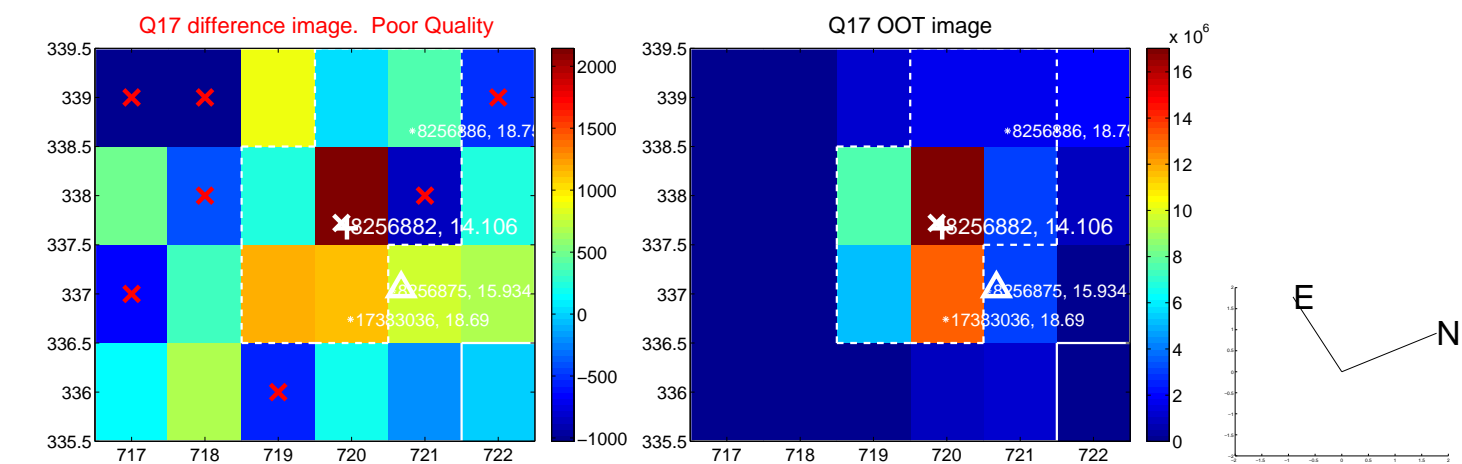
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



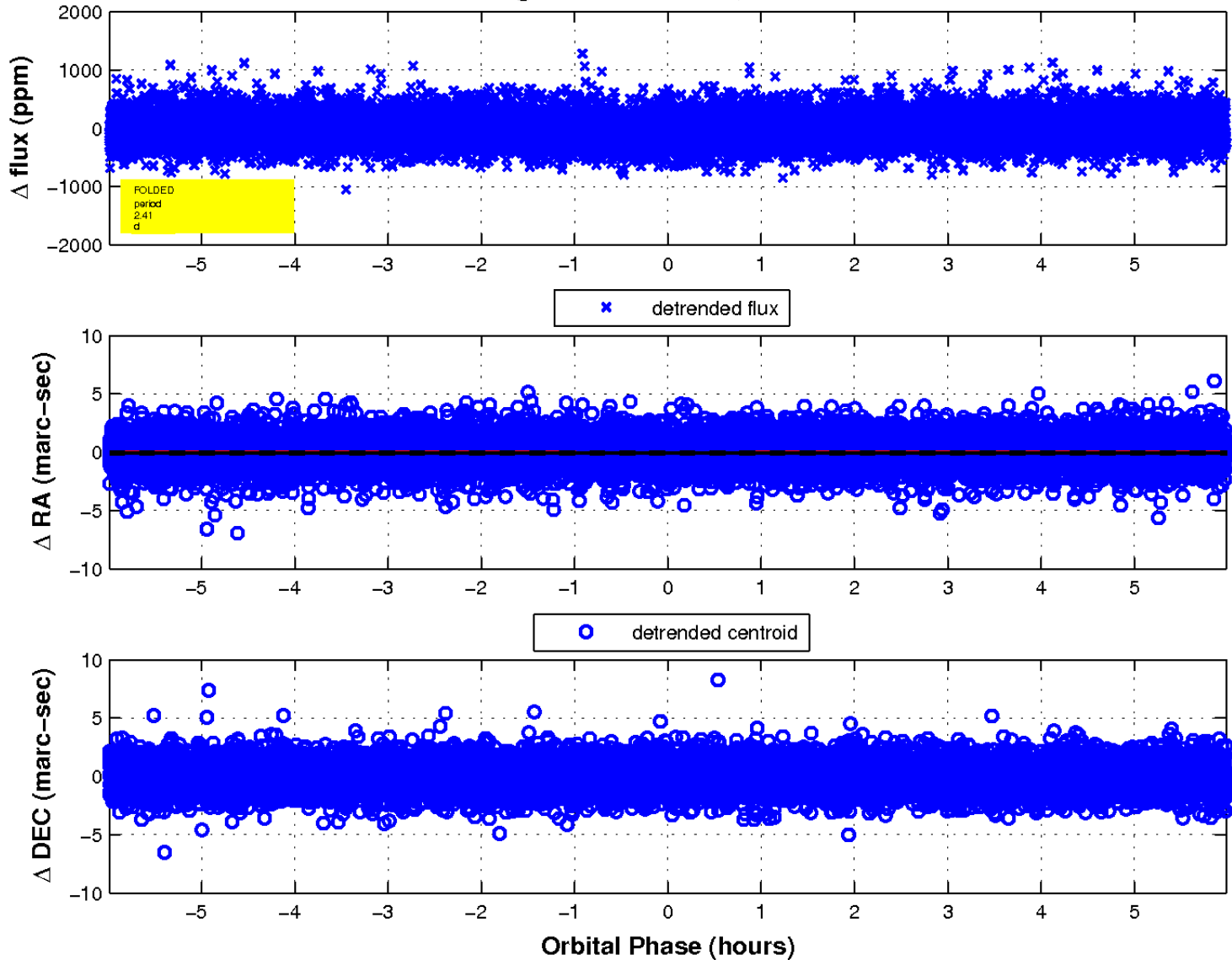
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

