

# KIC 011046028

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011046028-01	OBS	No	0.802038	132.041652	8.2	3.357	10.0	7.5	3.22	8319	0.99	96397.57

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011046028-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

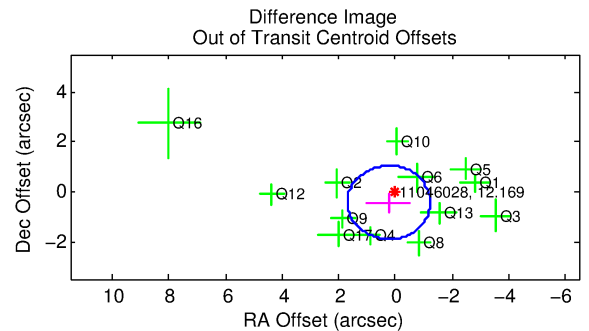
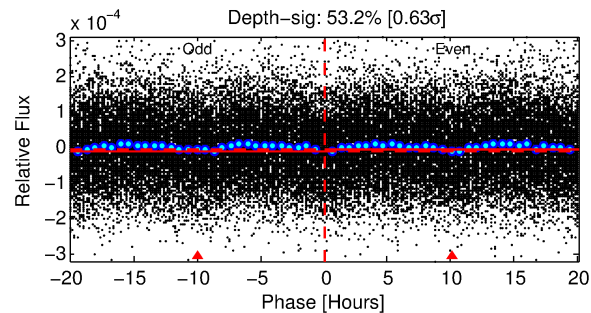
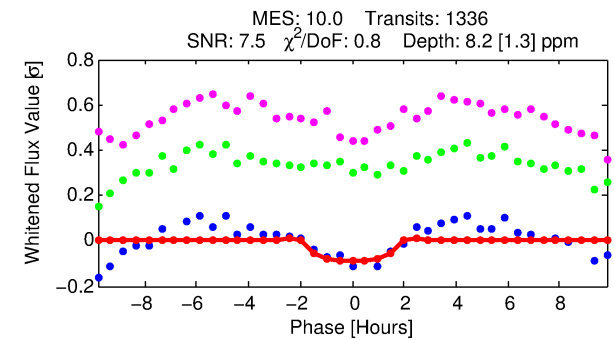
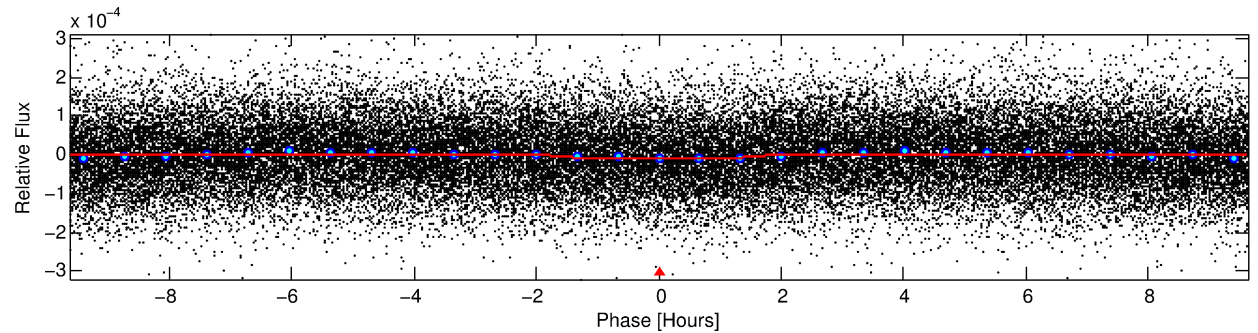
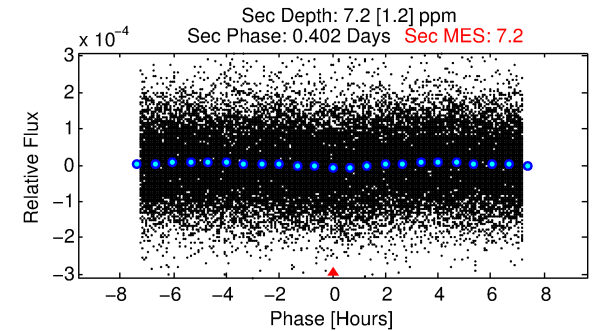
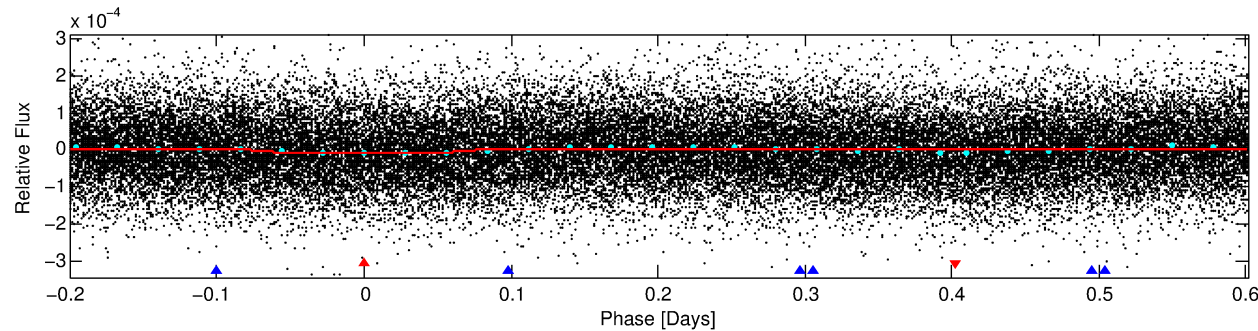
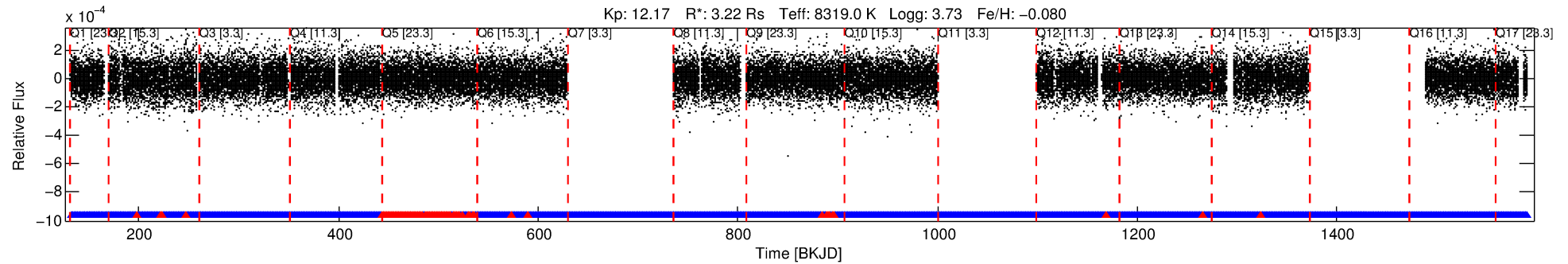
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011046028-01

No Significant Match Found

# DV One-Page Summary

KIC: 11046028 Candidate: 1 of 2 Period: 0.802 d



## DV Fit Results:

Period = 0.80204 [0.00001] d  
Epoch = 132.0417 [0.0052] BKJD  
Rp/R\* = 0.0028 [0.0005]  
a/R\* = 1.55 [0.93]  
b = 0.70 [0.76]  
Seff = 96397.57 [75742.06]  
Teq = 4493 [883] K  
Rp = 0.99 [0.48] Re  
a = 0.0215 [0.0094] AU  
Ag = 1.88 [1.56] [0.57σ]  
Teffp = 8136 [1075] K [2.62σ]

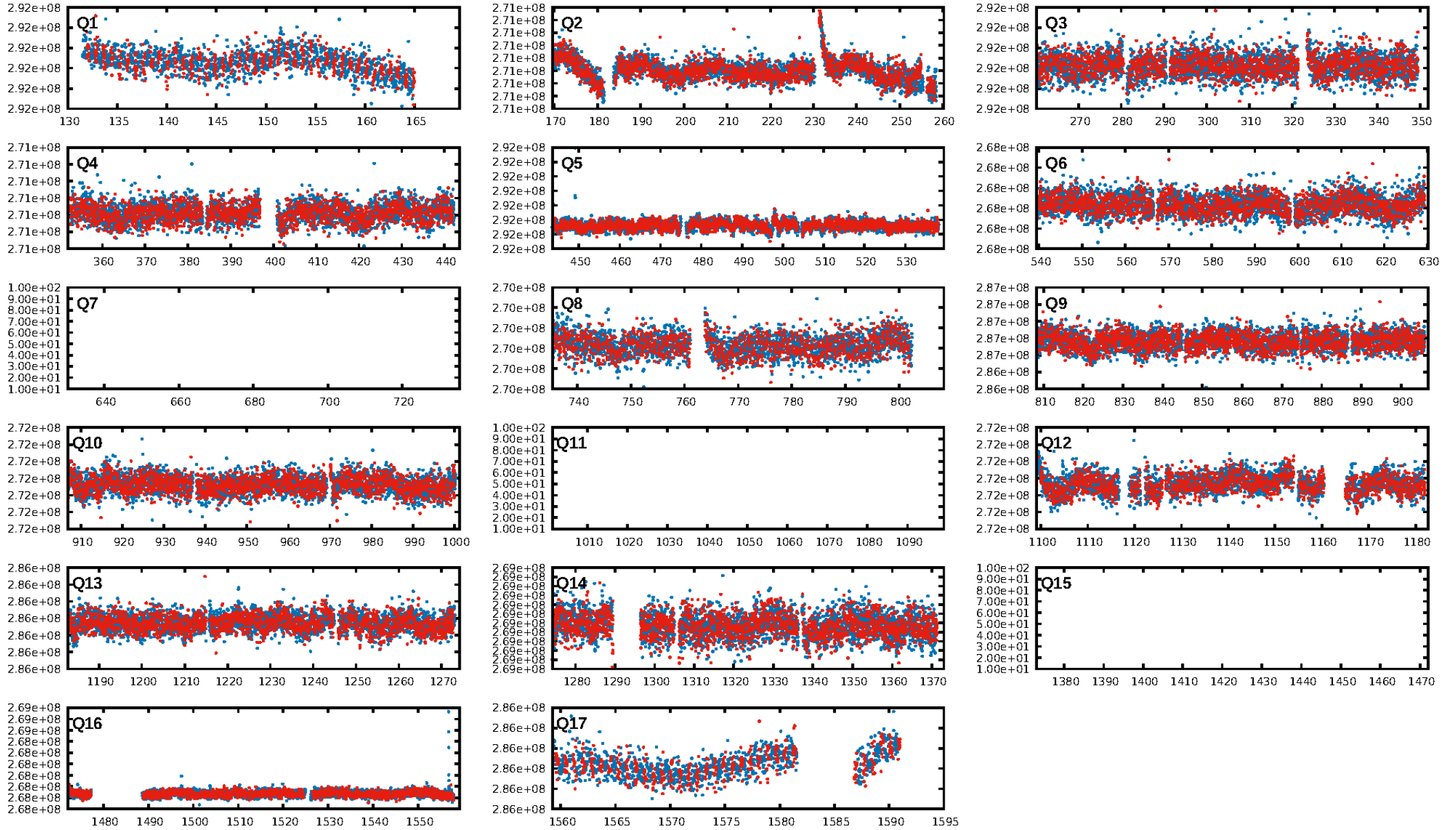
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [395.51σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.59e-18  
RollingBand-fgt: 0.92 [1157/1260]  
GhostDiagnostic-chr: -6.351  
Centroid-sig: 3.5%  
Centroid-so: 3.411 arcsec [2.16σ]  
OotOffset-rm: 0.492 arcsec [1.01σ]  
KicOffset-rm: 0.509 arcsec [1.11σ]  
OotOffset-st: 3/1/4/5 [13]  
KicOffset-st: 3/1/4/5 [13]  
DiffImageQuality-fgm: 0.62 [8/13]  
DiffImageOverlap-fno: 1.00 [14/14]

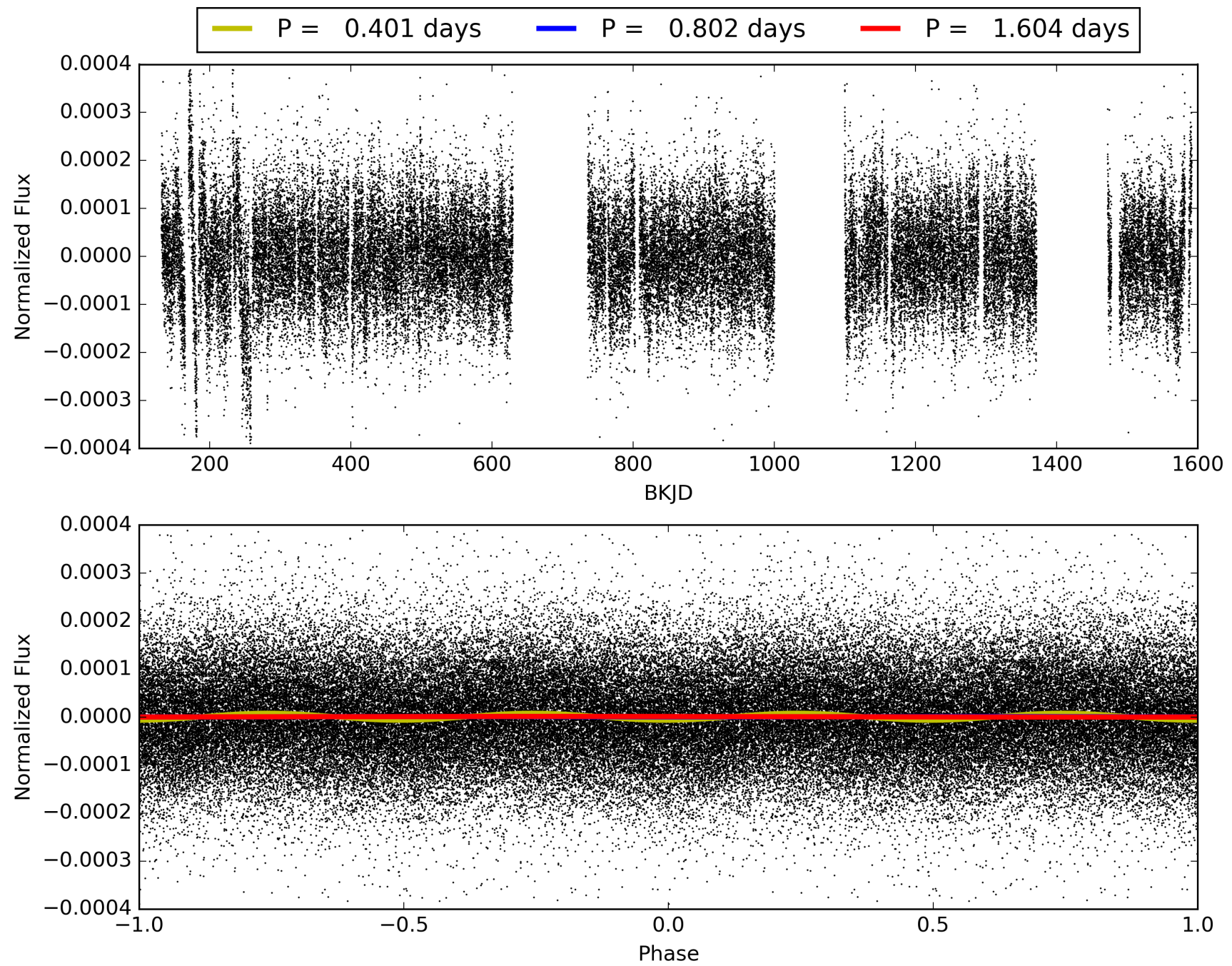
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:13:09 Z

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

# TCE 011046028-01, PDC Light Curves



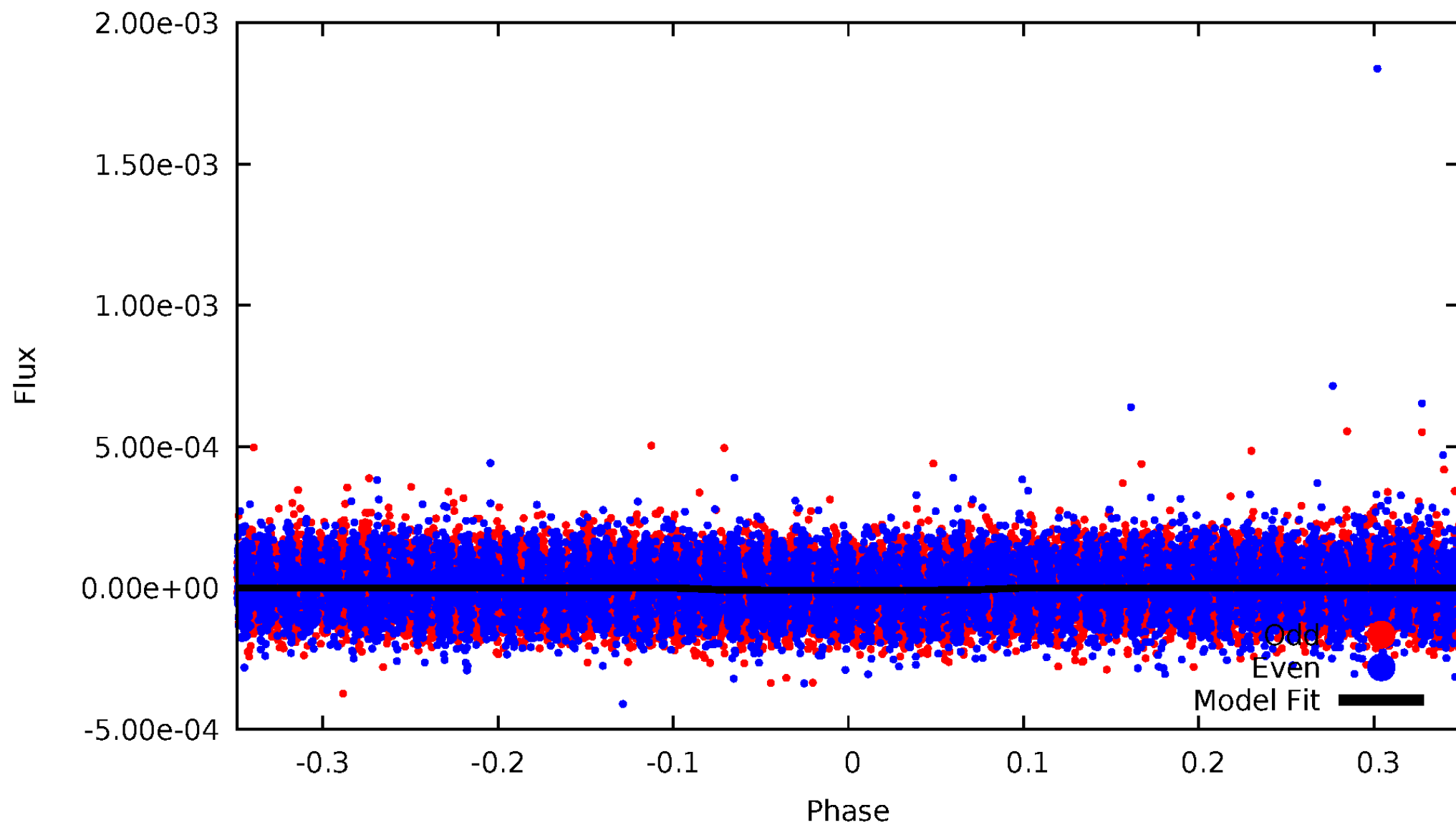
TCE 011046028-01





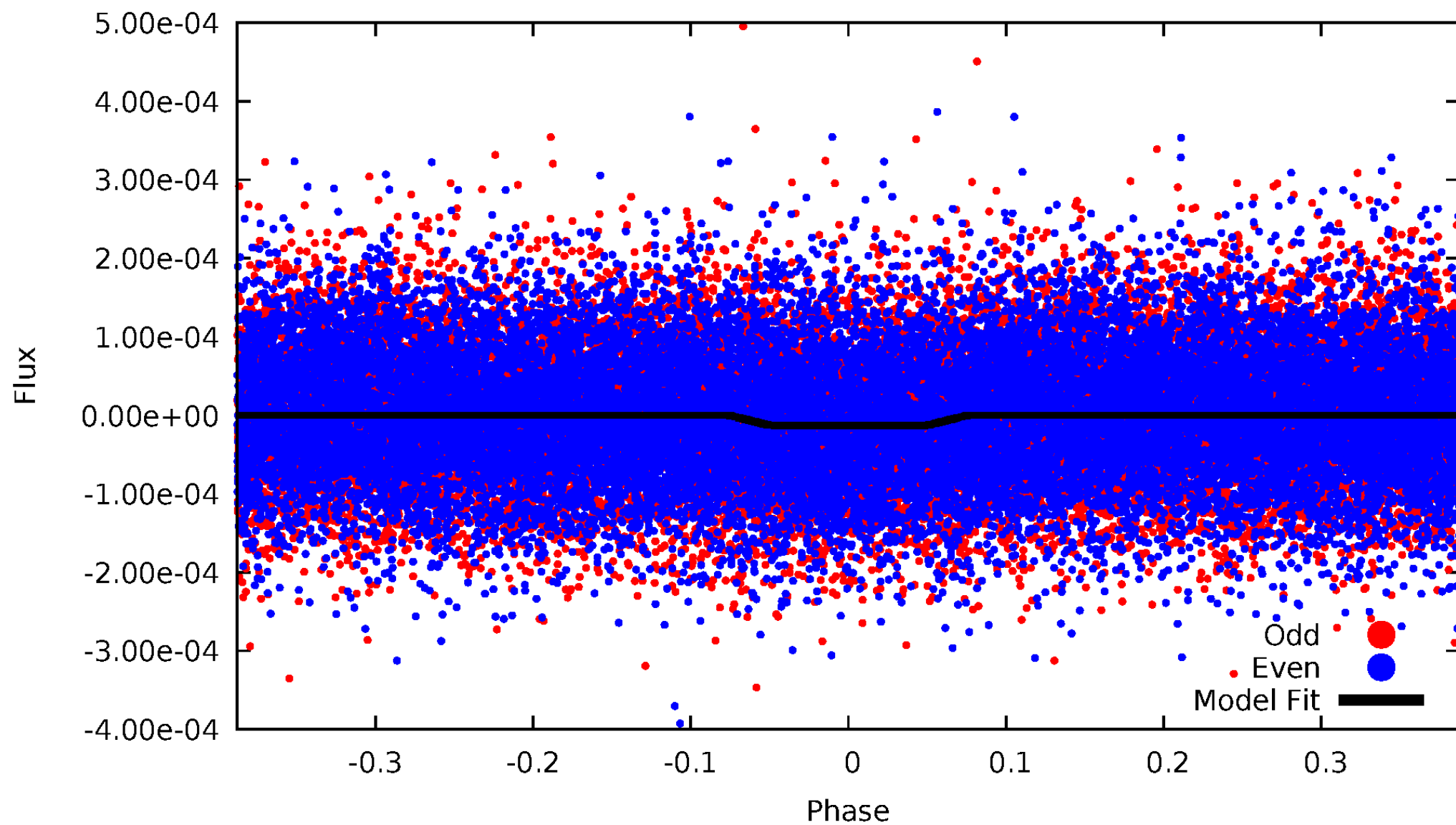
# DV Odd/Even

TCE 011046028-01

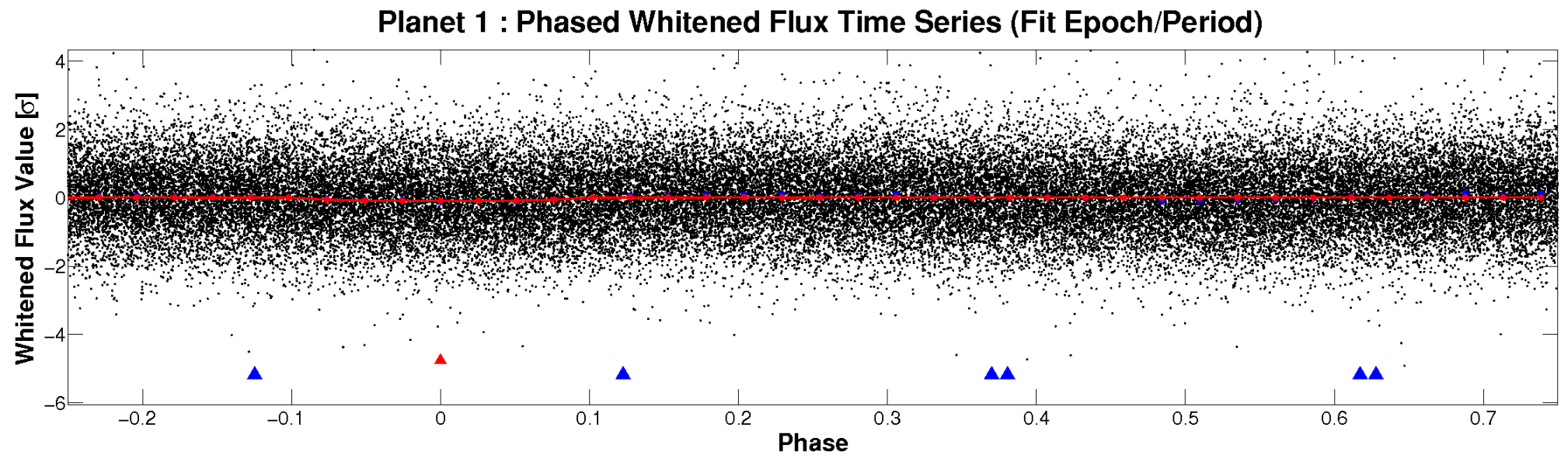
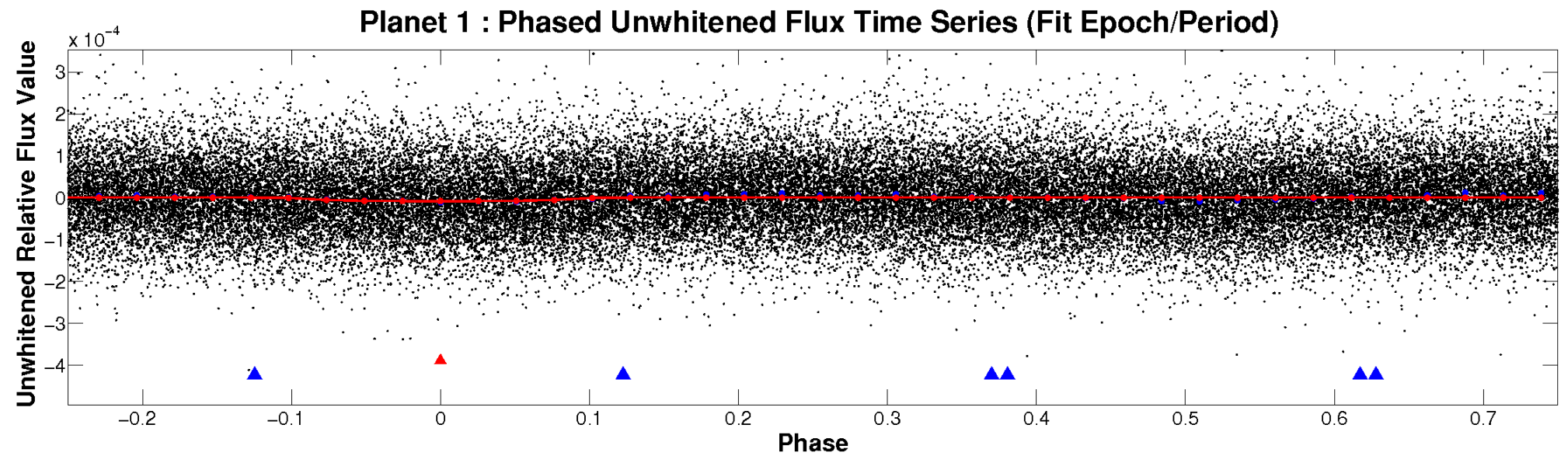


# ALT Odd/Even

TCE 011046028-01

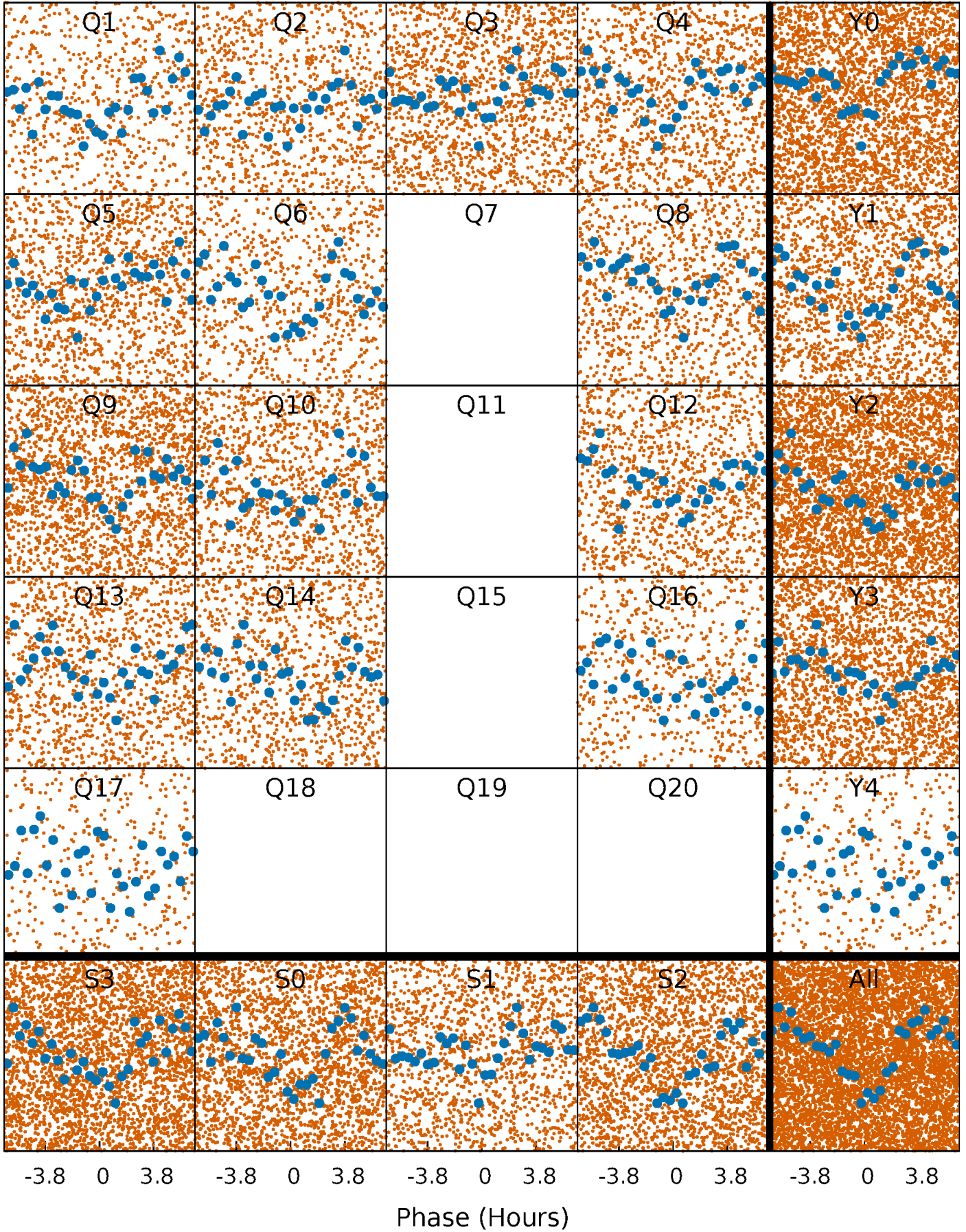


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

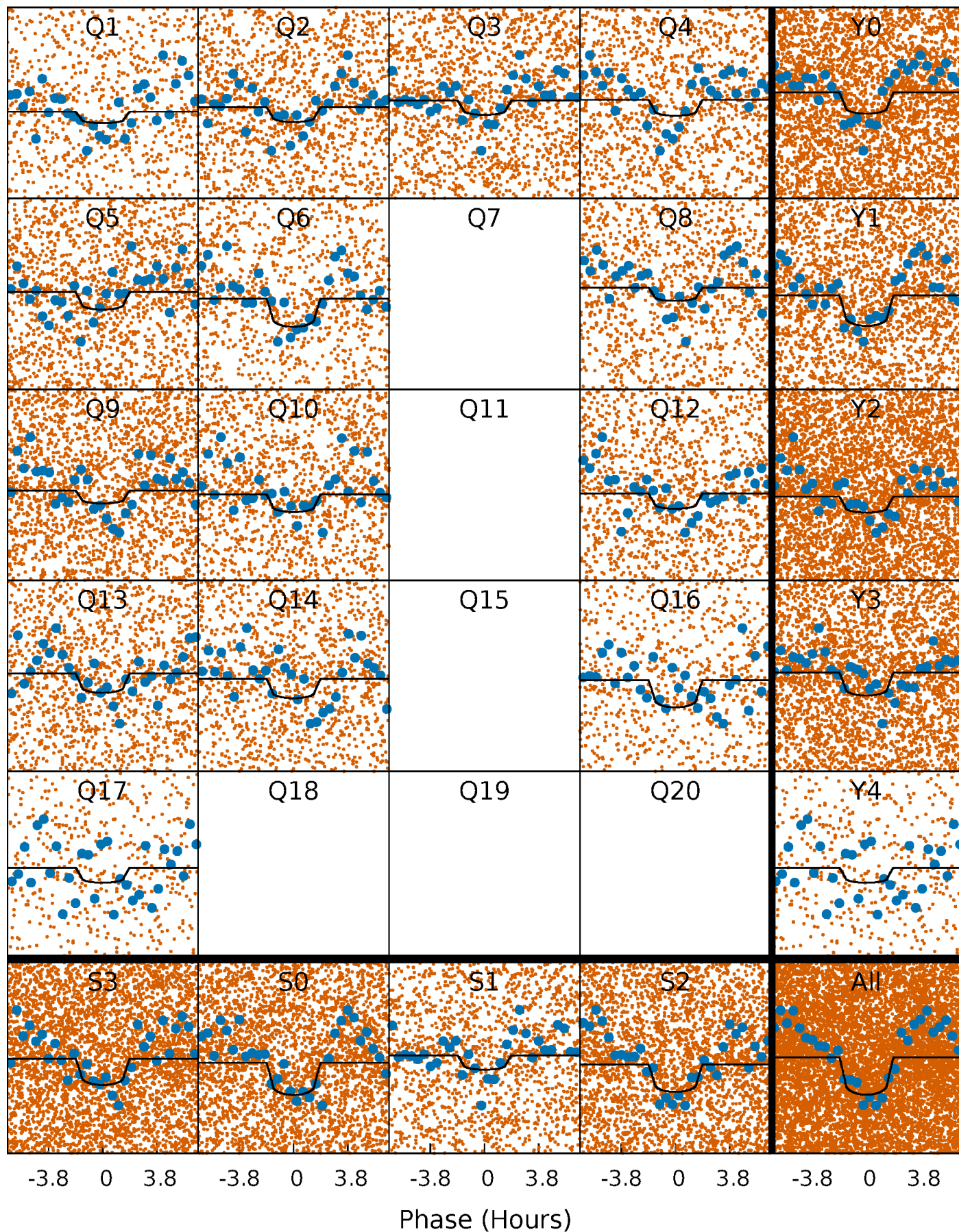
TCE 011046028-01 P= 0.802038 Days  $T_0=132.041652$  (BKJD)





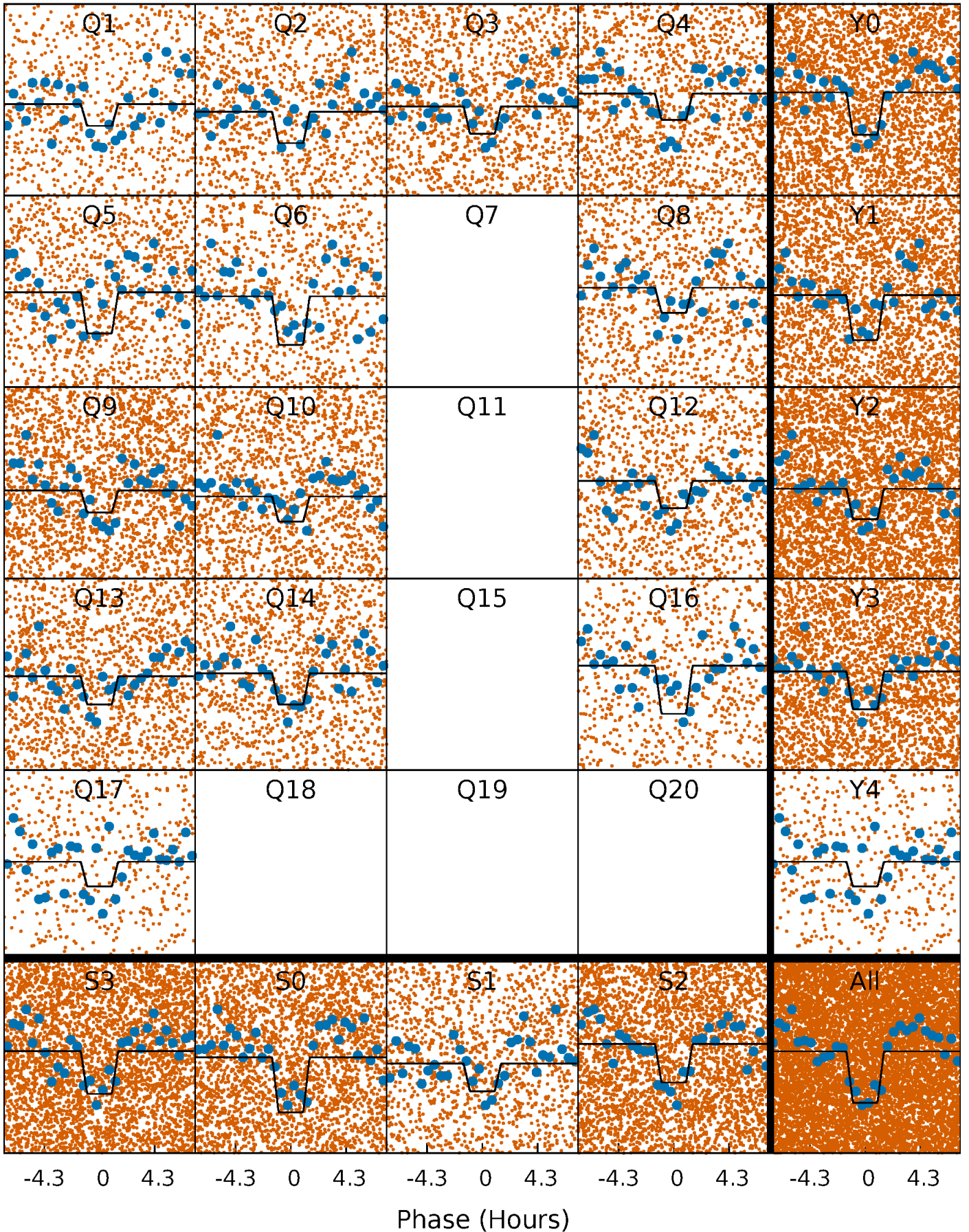
# DV Quarter-Phased Transit Curves

TCE 011046028-01 P= 0.802038 Days  $T_0=132.041652$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 011046028-01 P= 0.802113 Days  $T_0=131.999196$  (BKJD)

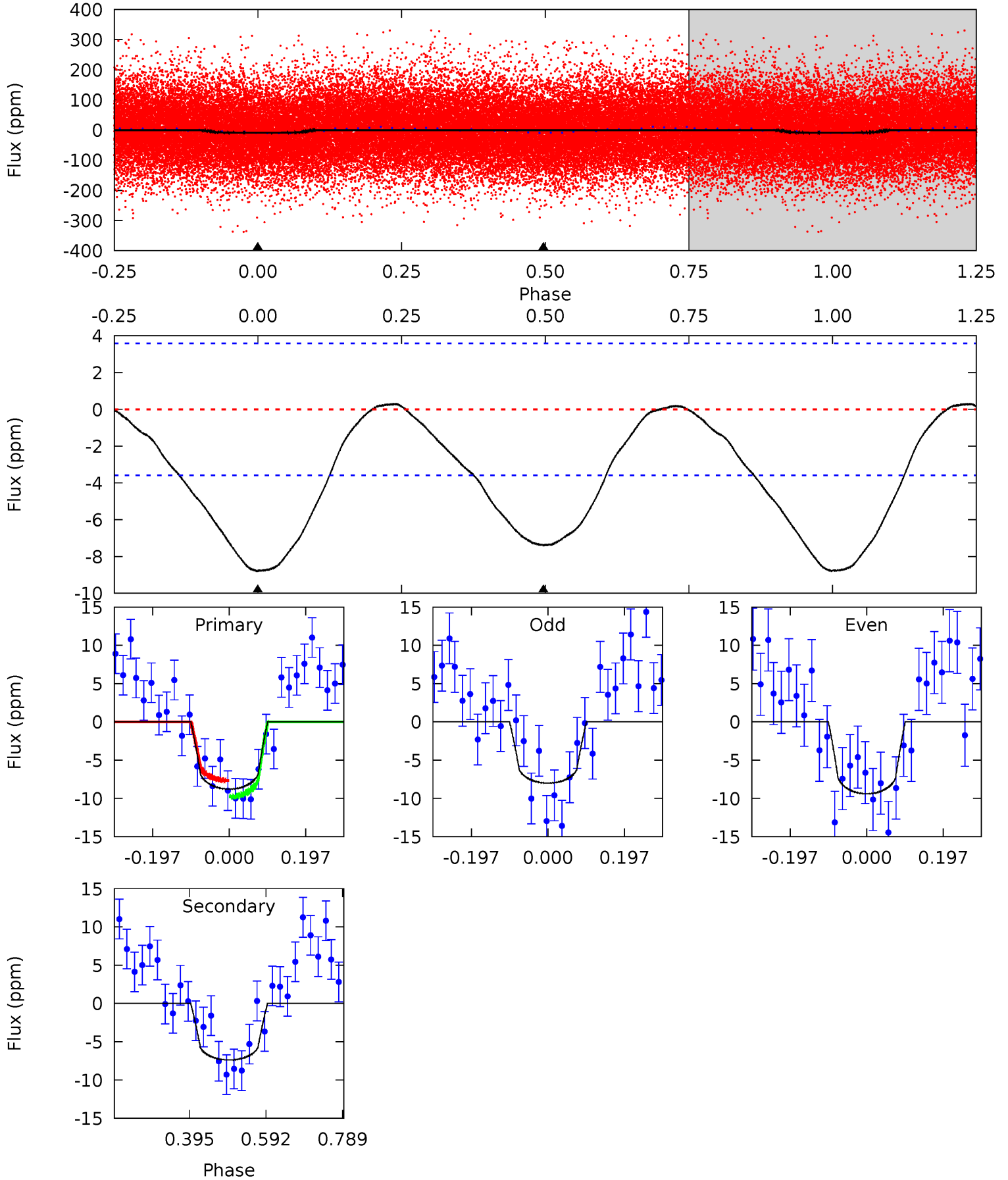




# DV Model-Shift Uniqueness Test

011046028-01, P = 0.802038 Days, E = 131.239614 Days

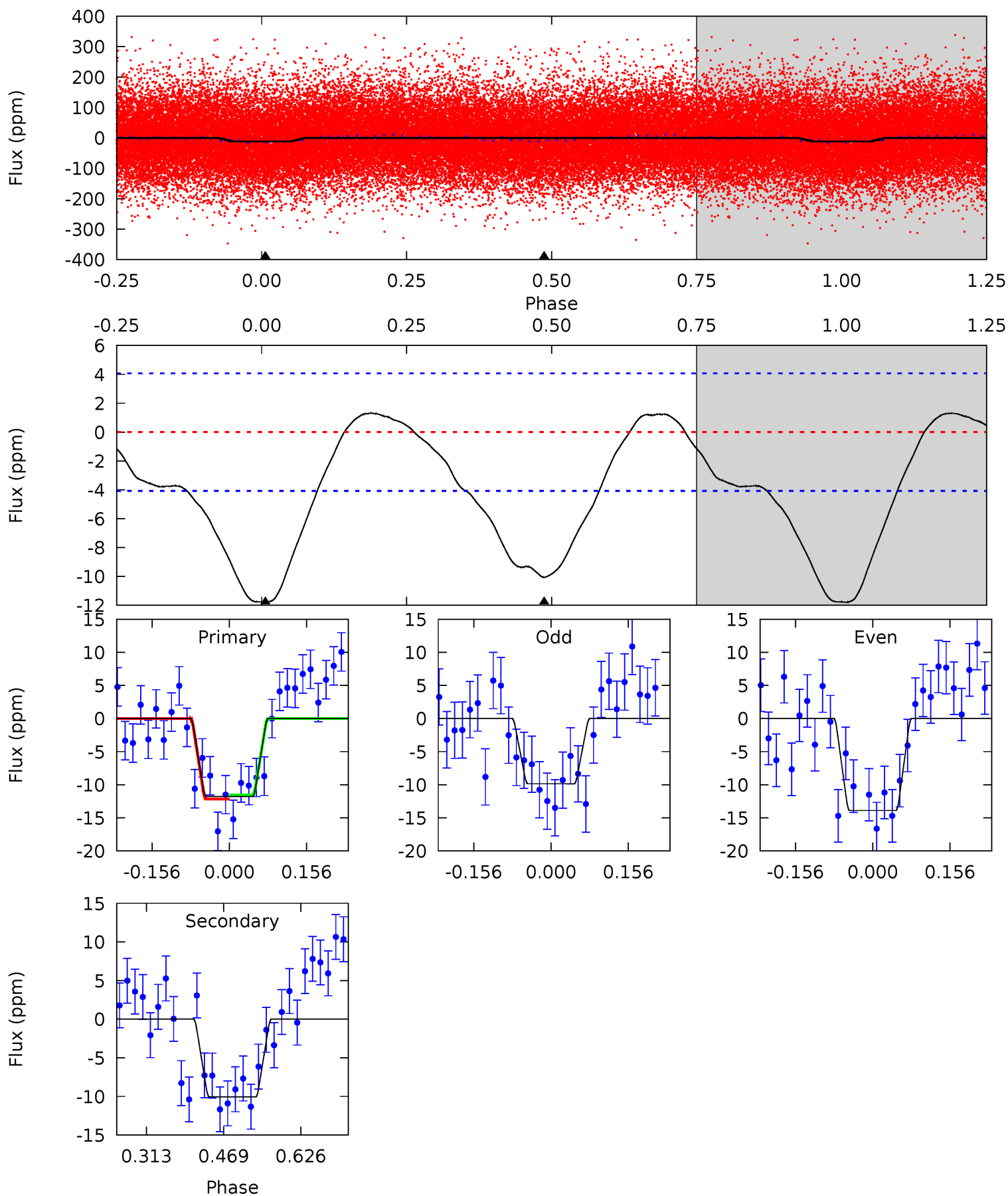
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	9.11	0	0	4.42	1.29	0.58	10.8	10.8	9.11	9.11	0.86	0.97	0.03	1.29



# Alt Model-Shift Uniqueness Test

011046028-01, P = 0.802113 Days, E = 131.197083 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
12.9	11.1	0	0	4.47	1.42	2.00	12.9	12.9	11.1	11.1	2.21	0.97	0.10	0.34





### Stellar Parameters For KIC 011046028

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8319^{+395}_{-678}$	$3.735^{+0.424}_{-0.106}$	$-0.080^{+0.150}_{-0.200}$	$3.219^{+0.769}_{-1.428}$	$2.053^{+0.325}_{-0.447}$	$0.087^{+0.309}_{-0.034}$
	+5%/-8%	+11%/-3%	+188%/-250%	+24%/-44%	+16%/-22%	+357%/-40%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 011046028-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-7 \pm 1$	$0.91^{+0.27}_{-0.26}$	$6001^{+607}_{-819}$	$7655^{+1385}_{-1040}$	$2.272^{+1.867}_{-0.912}$
Alt.	$-10 \pm 1$	$1.15^{+0.32}_{-0.30}$	$5943^{+654}_{-780}$	$7189^{+1109}_{-819}$	$1.932^{+1.491}_{-0.740}$

$T_{\text{max}}$  = 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

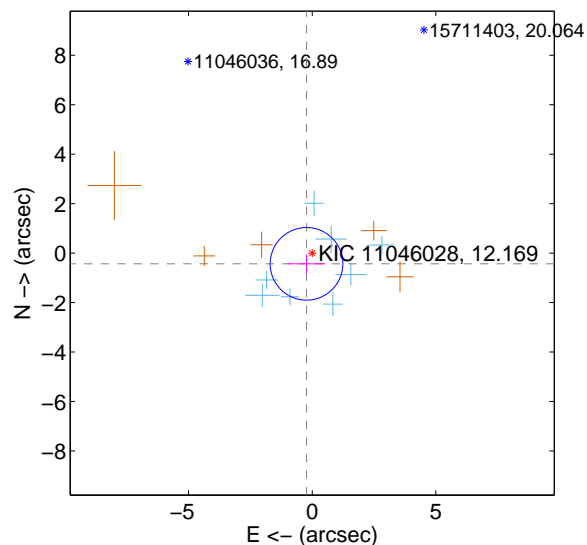
Supplemental centroid analysis for 011046028-01. Kepler magnitude: 12.17. Transit SNR 7.50

There are 8 quarters with good PRF difference image offsets

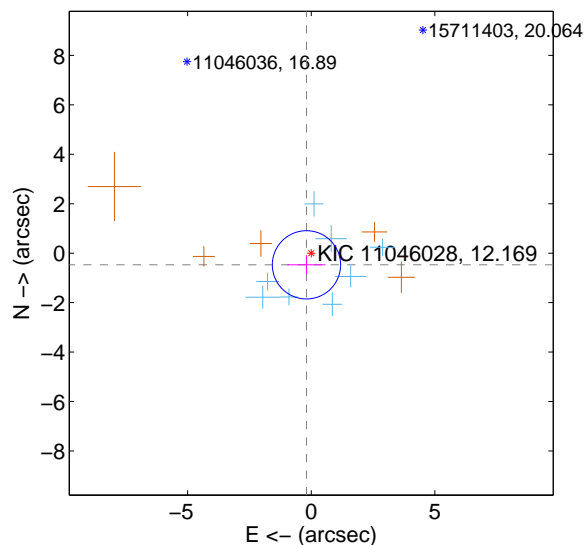
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.492 \pm 0.490$	1.01	$0.232 \pm 0.762$	$-0.435 \pm 0.378$
PRF-fit source offset from KIC position	$0.509 \pm 0.460$	1.11	$0.193 \pm 0.771$	$-0.472 \pm 0.385$
photometric centroid source offset	$3.41 \pm 1.58$	2.16	$3.37 \pm 1.58$	$0.51 \pm 1.62$

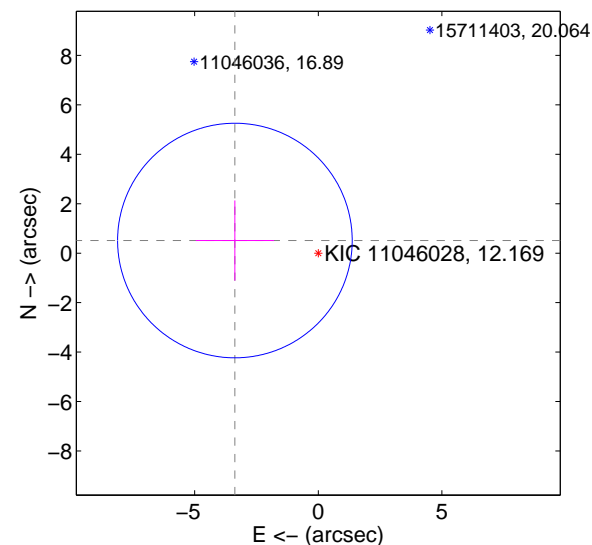
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

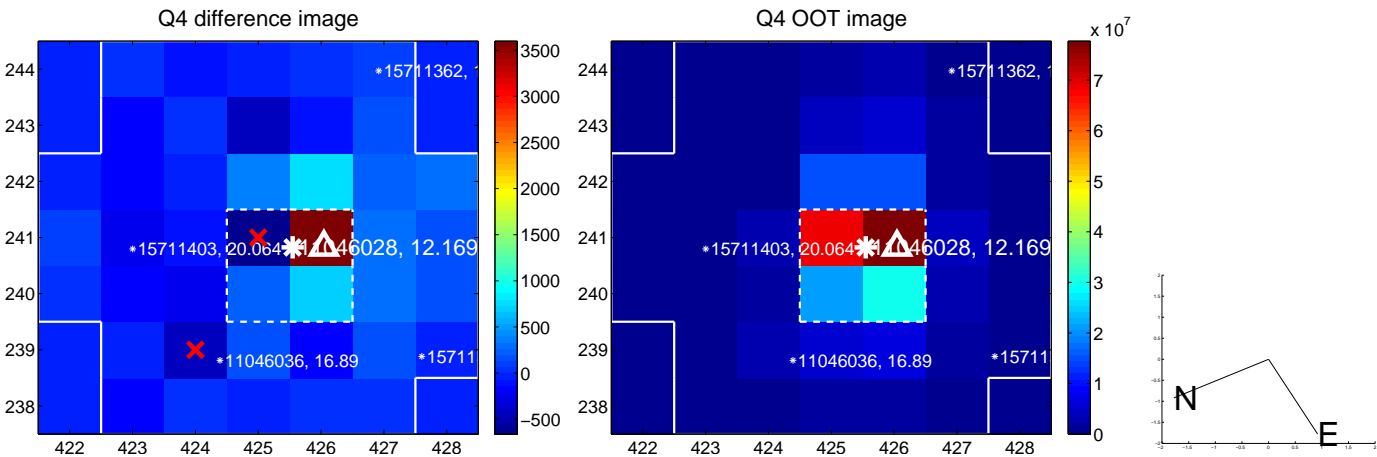
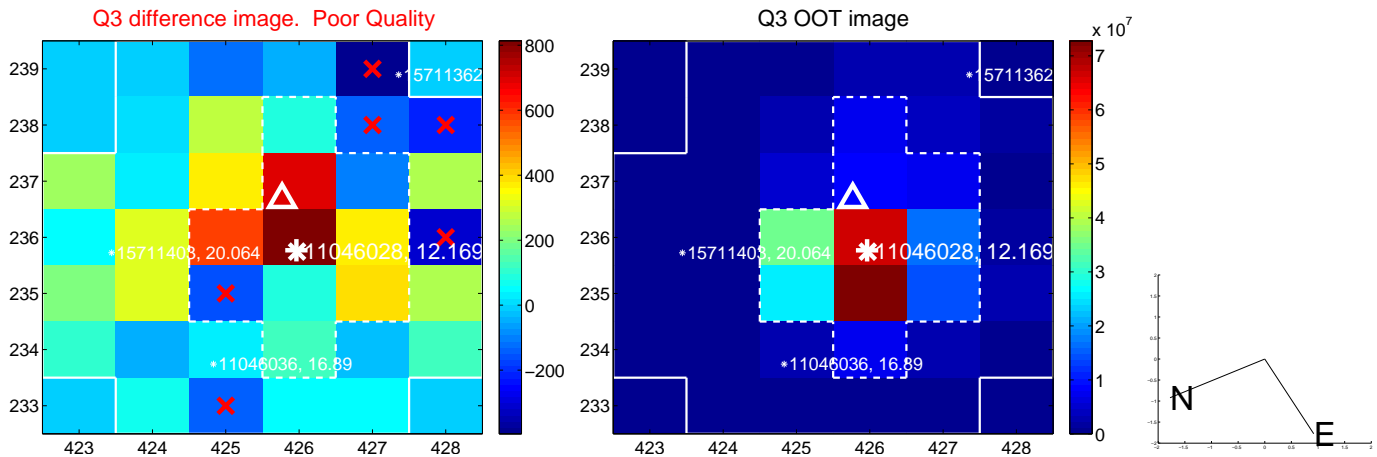
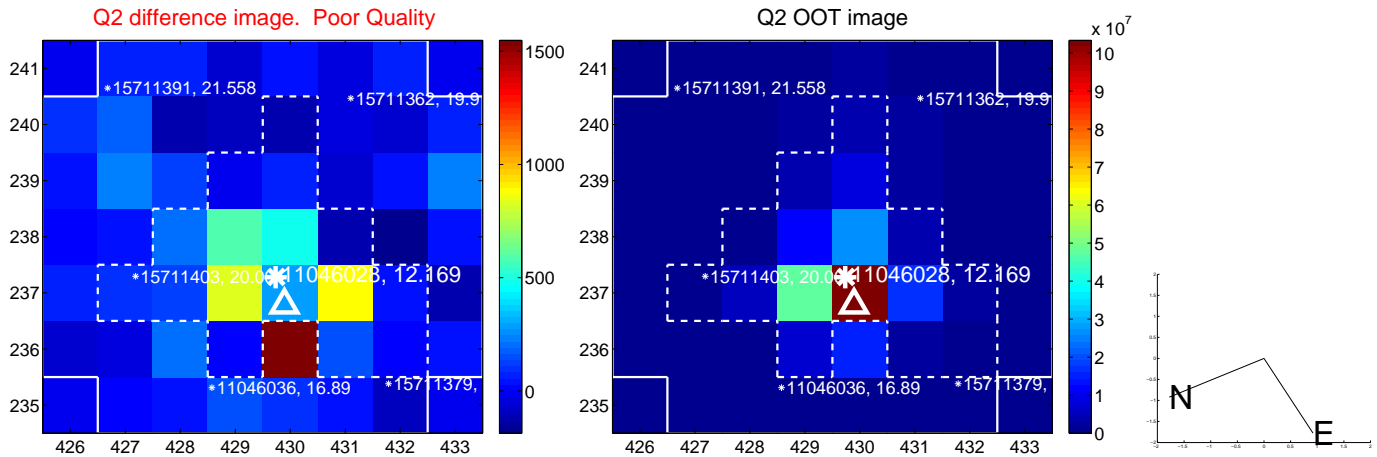
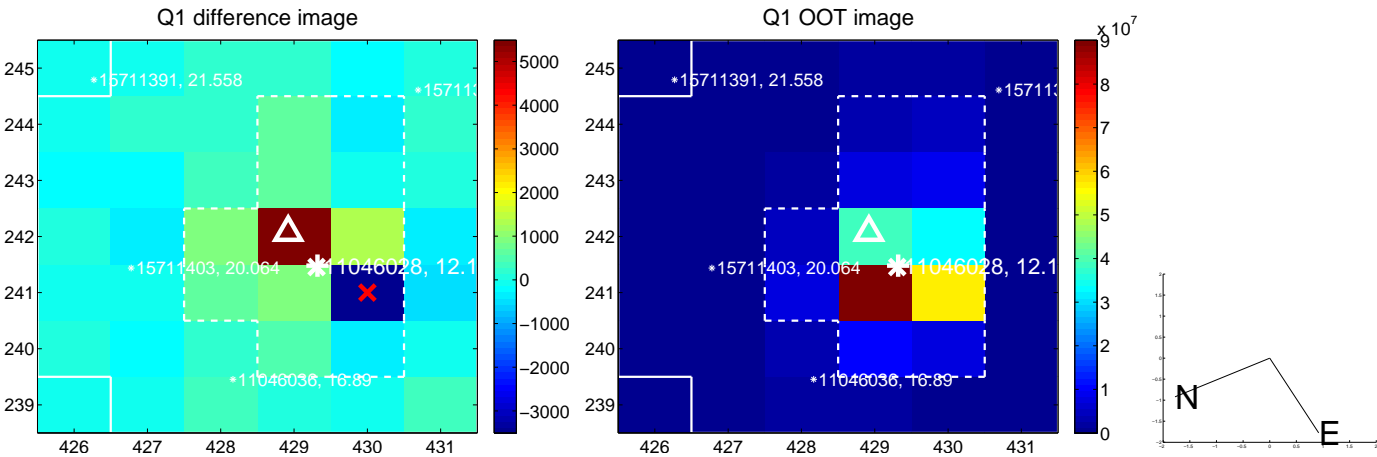


offset from photometric centroids

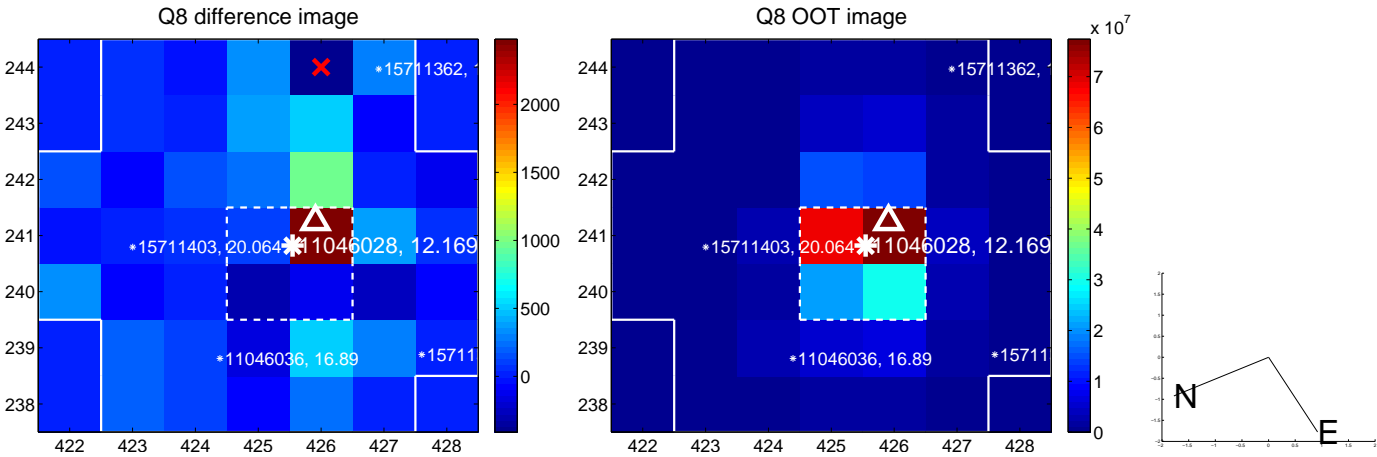
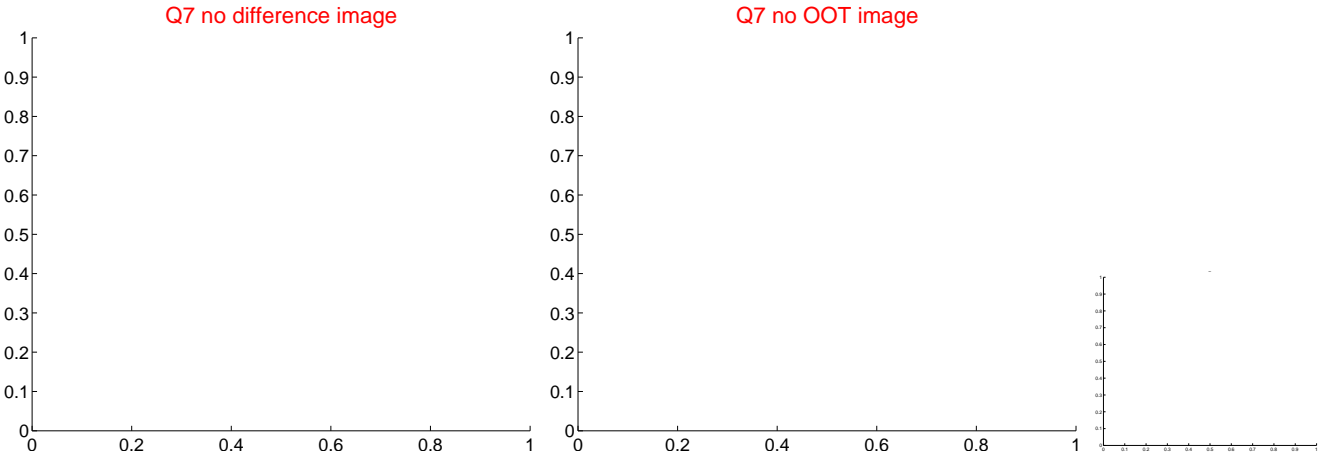
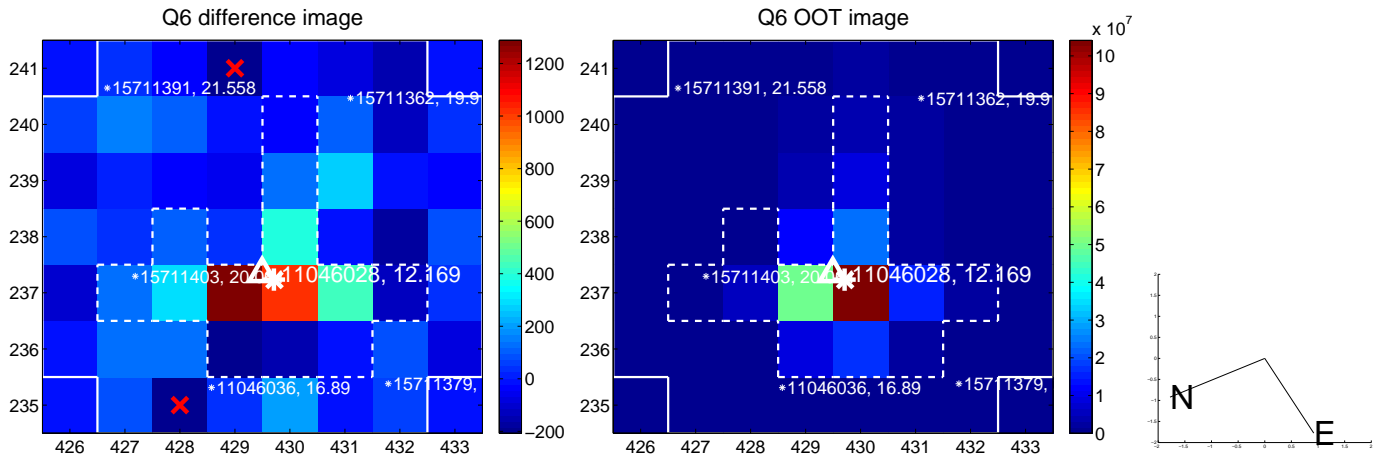
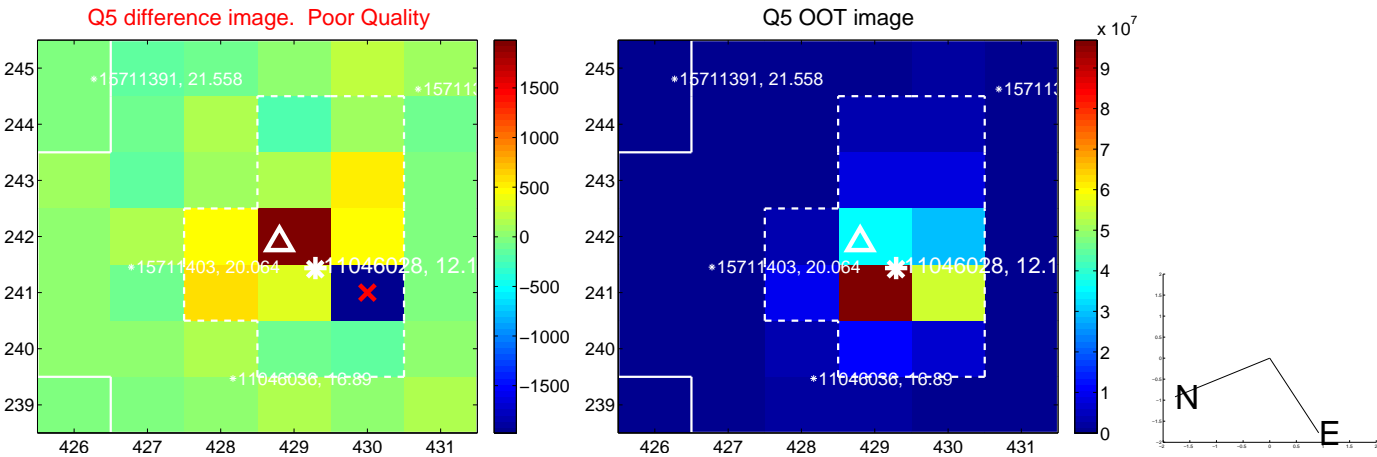


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

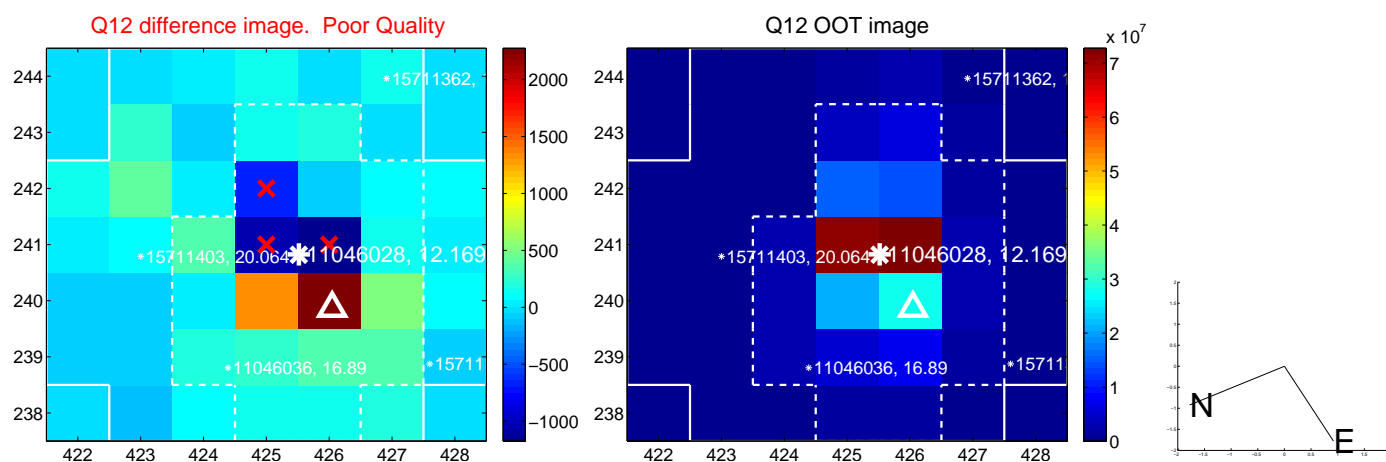
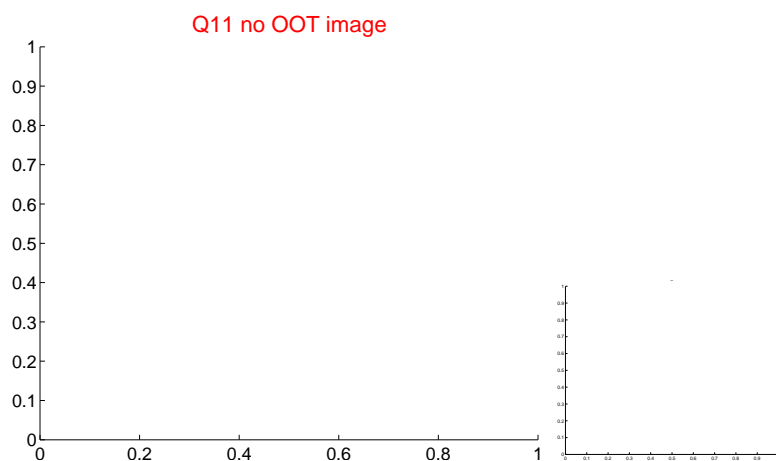
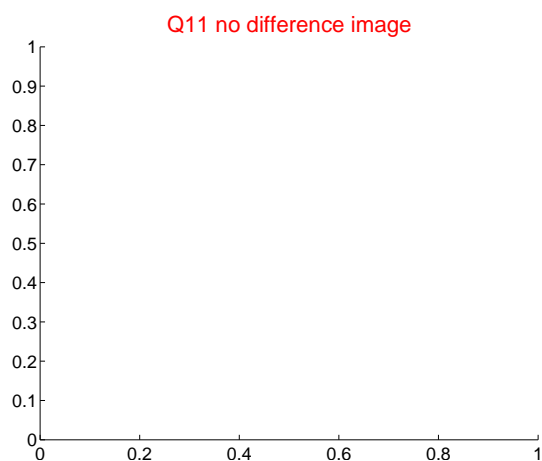
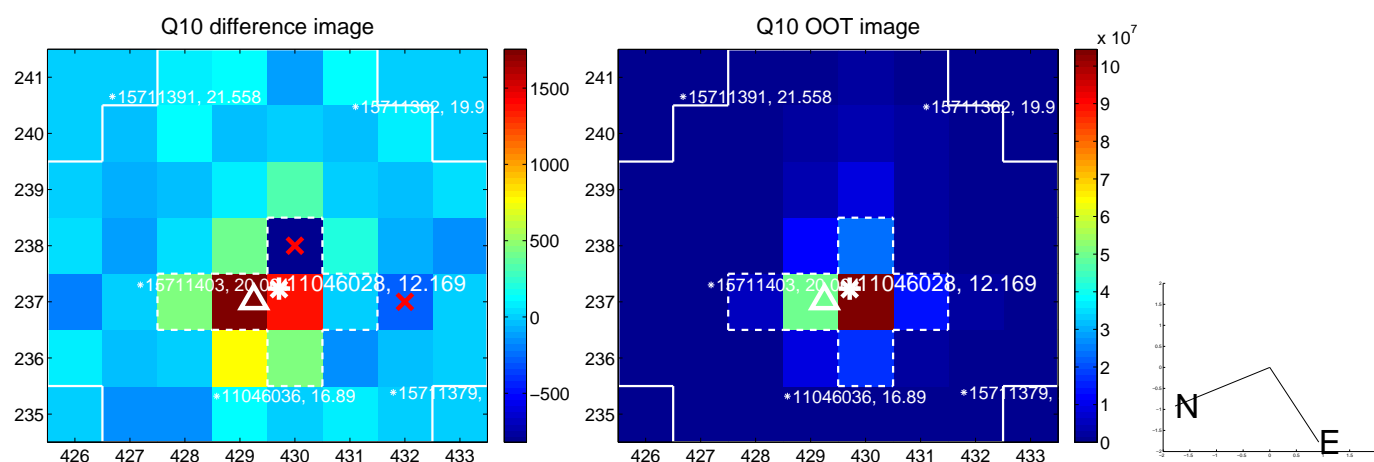
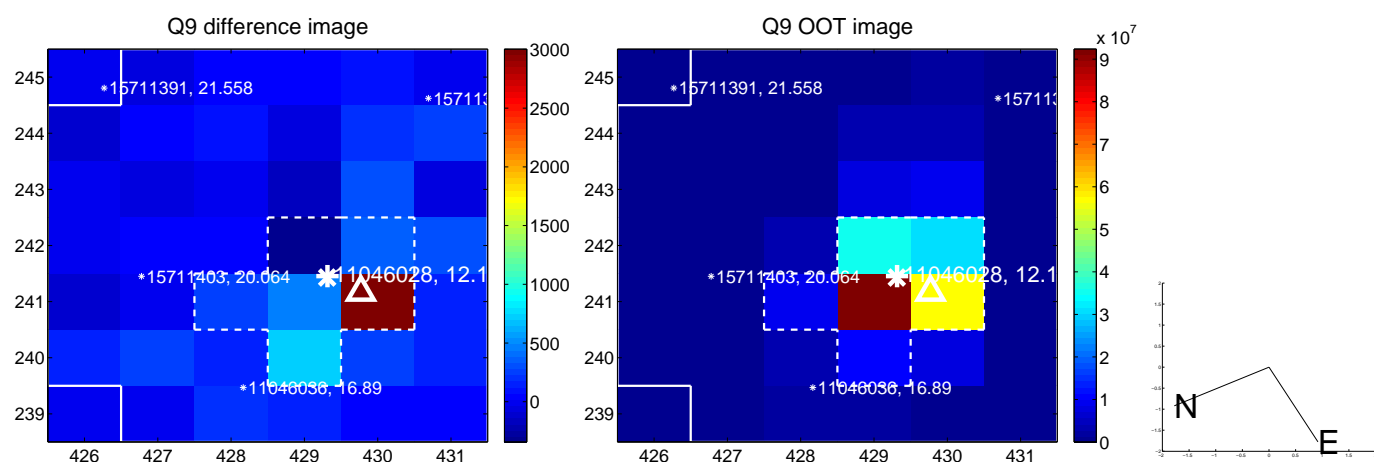


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

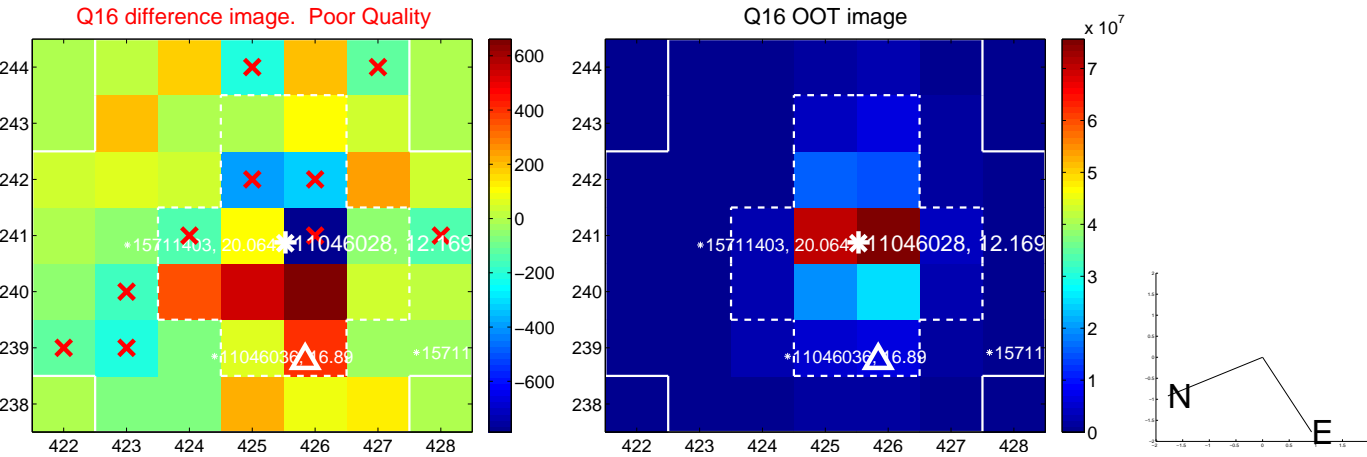
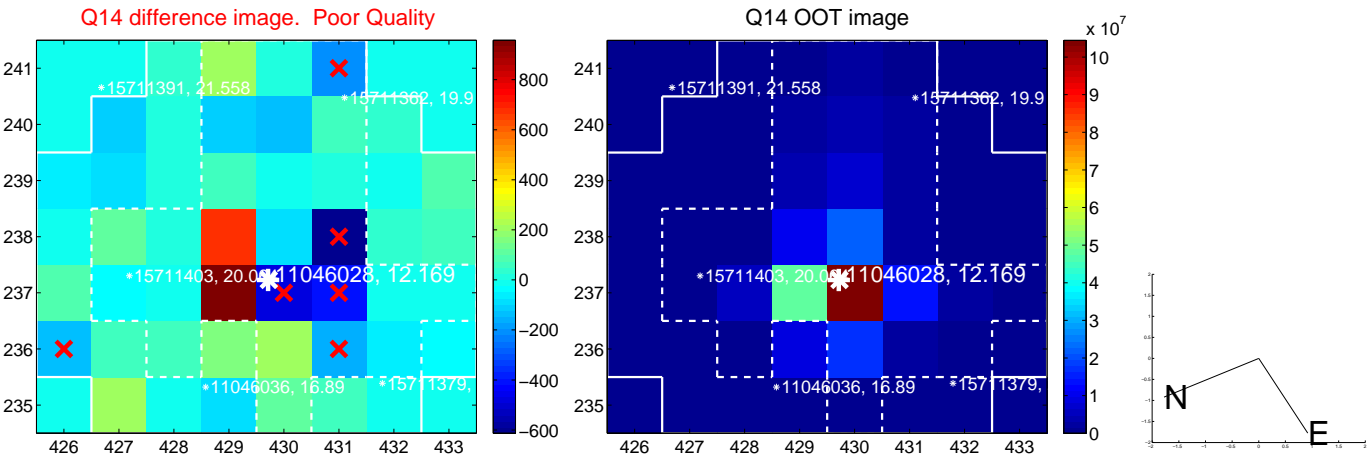
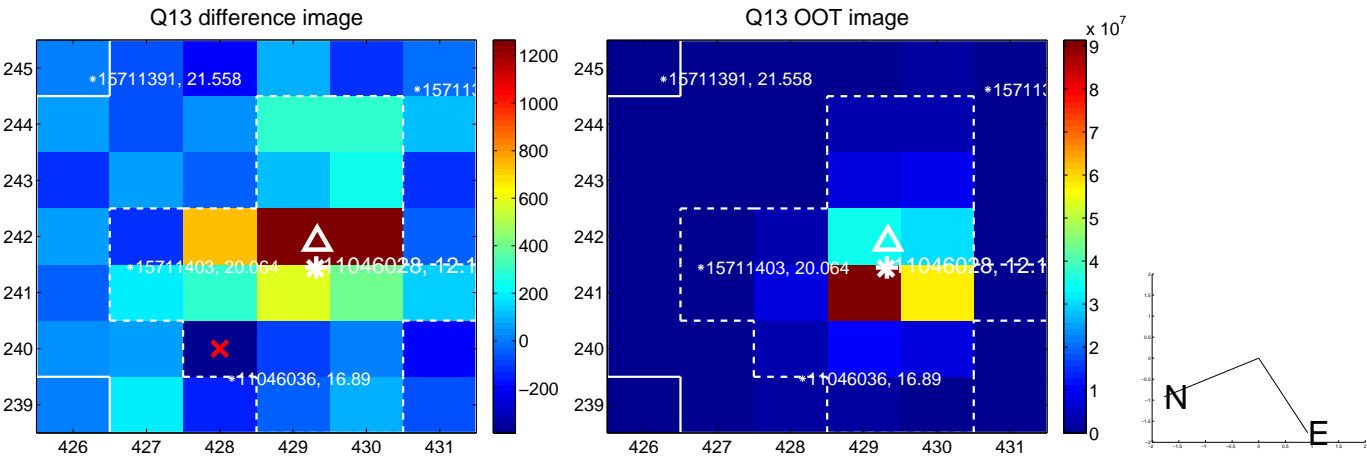




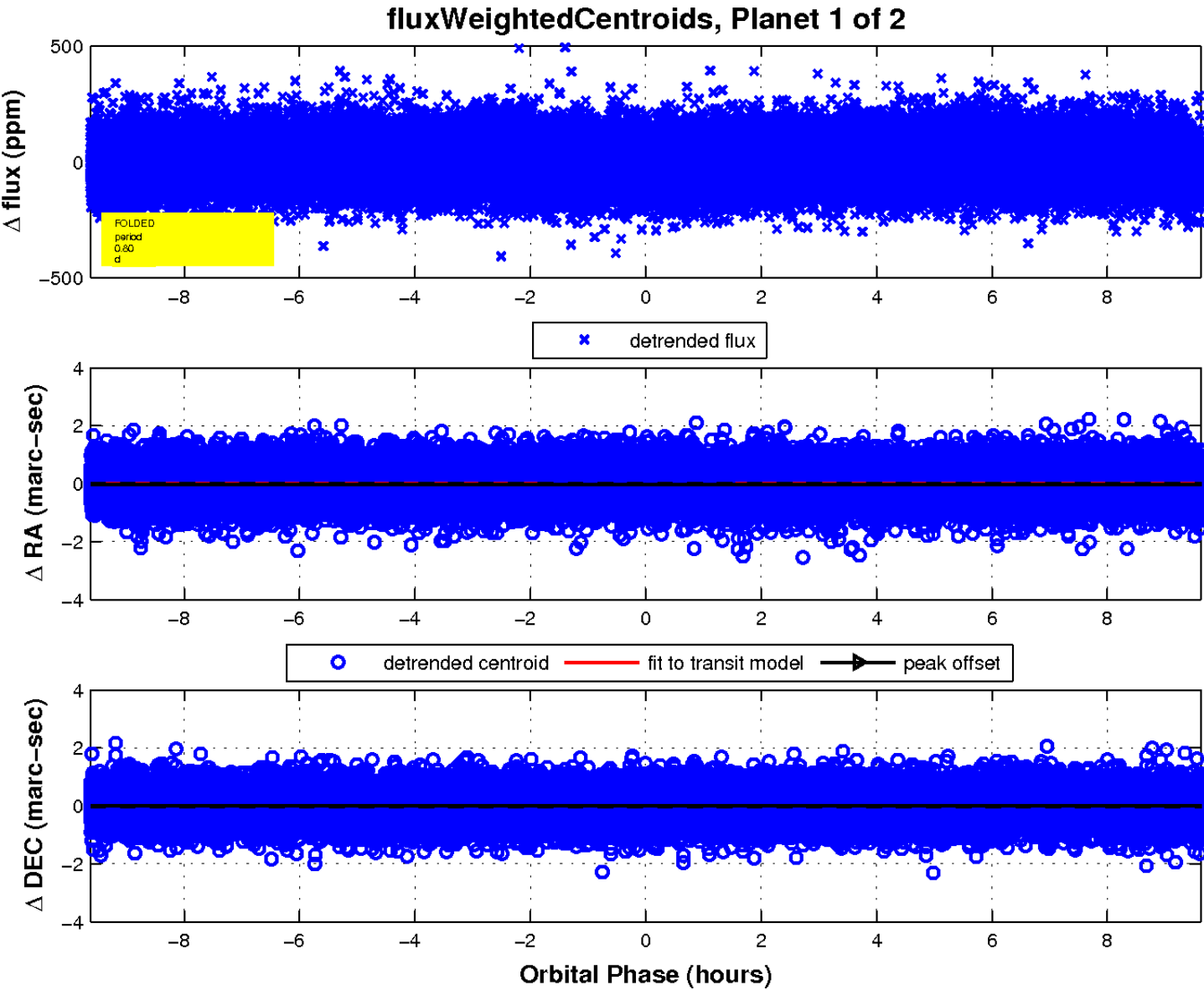
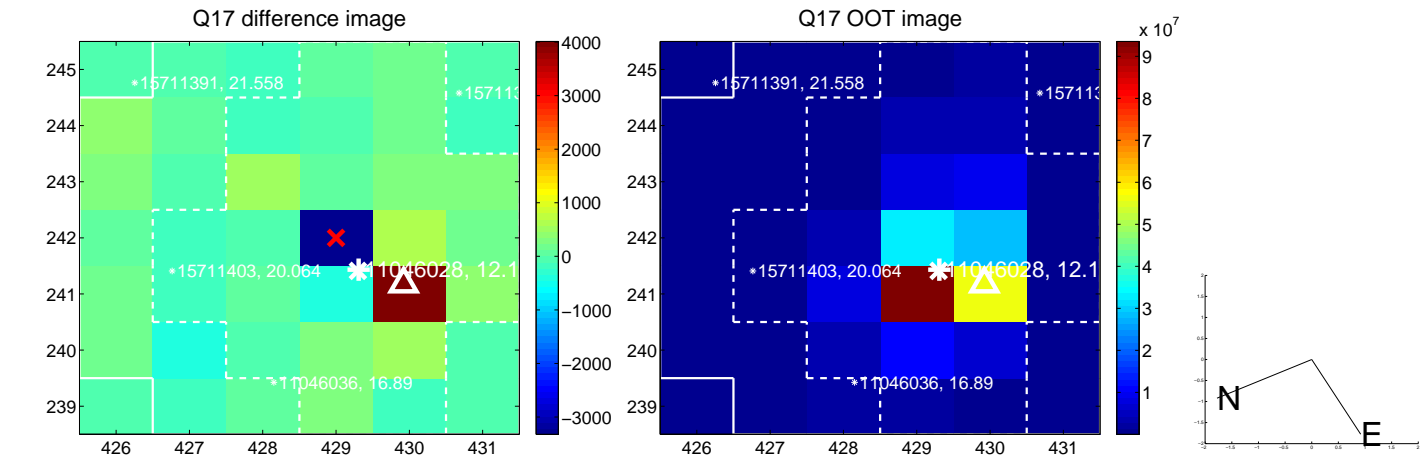
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

