

# KIC 011403044

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011403044-01	OBS	0766.01	4.125525	132.625969	1363.8	3.404	94.7	110.8	1.10	6174	4.74	566.12

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011403044-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

**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.

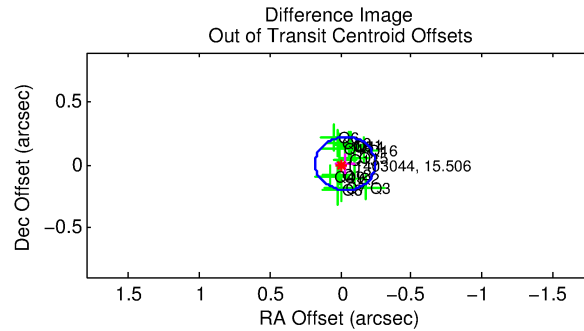
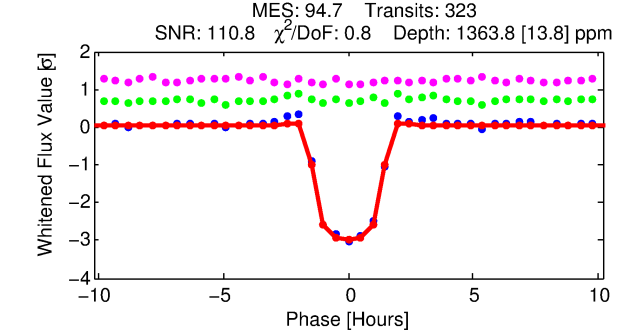
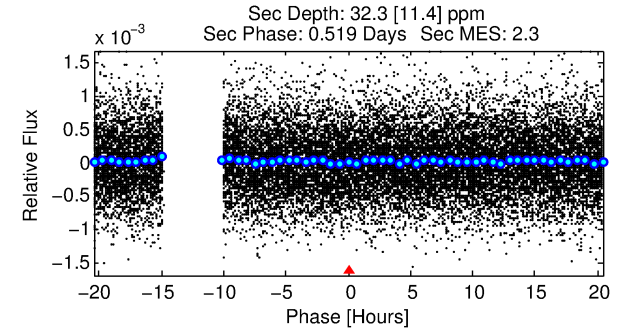
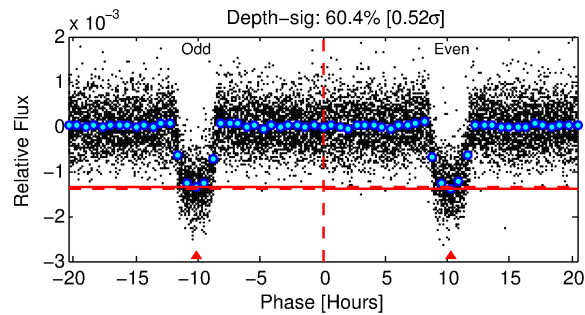
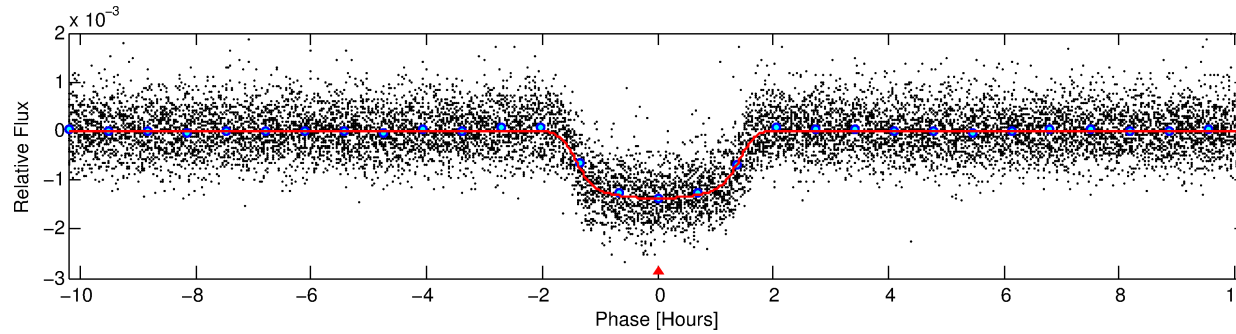
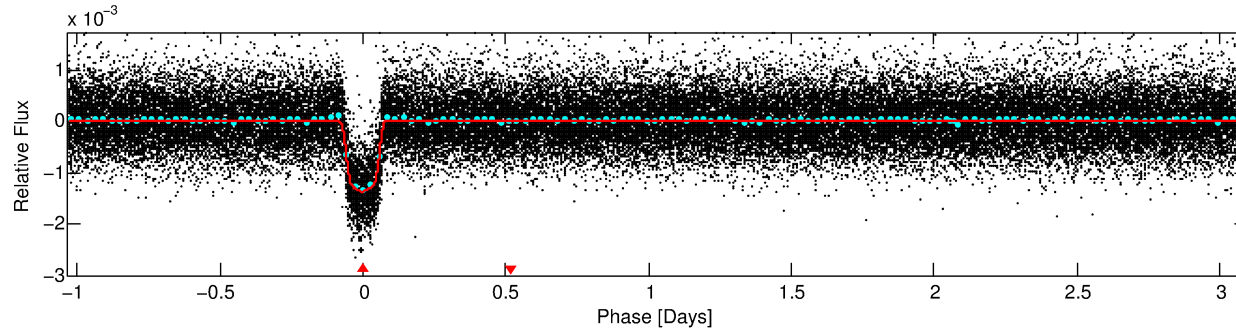
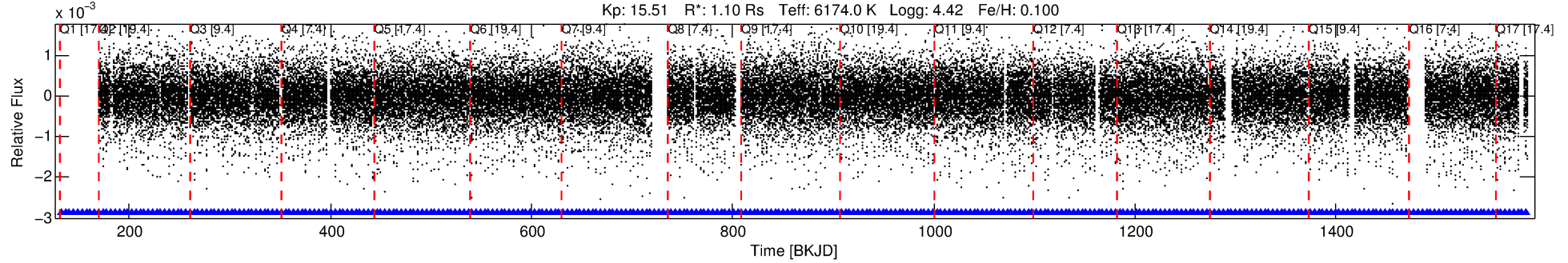
## Ephemeris Match Information For 011403044-01

No Significant Match Found

# DV One-Page Summary

KIC: 11403044 Candidate: 1 of 1 Period: 4.126 d  
KOI: K00766.01 Corr: 0.960

Kp: 15.51 R\*: 1.10 Rs Teff: 6174.0 K Logg: 4.42 Fe/H: 0.100



## DV Fit Results:

Period = 4.12552 [0.00000] d  
Epoch = 132.6260 [0.0006] BKJD  
Rp/R\* = 0.0393 [0.0007]  
a/R\* = 5.18 [0.39]  
b = 0.88 [0.02]  
Seff = 566.12 [236.63]  
Teq = 1244 [130] K  
Rp = 4.73 [1.54] Re  
a = 0.0529 [0.0143] AU  
Ag = 2.22 [1.17] [1.04σ]  
Teffp = 2346 [228] K [4.21σ]

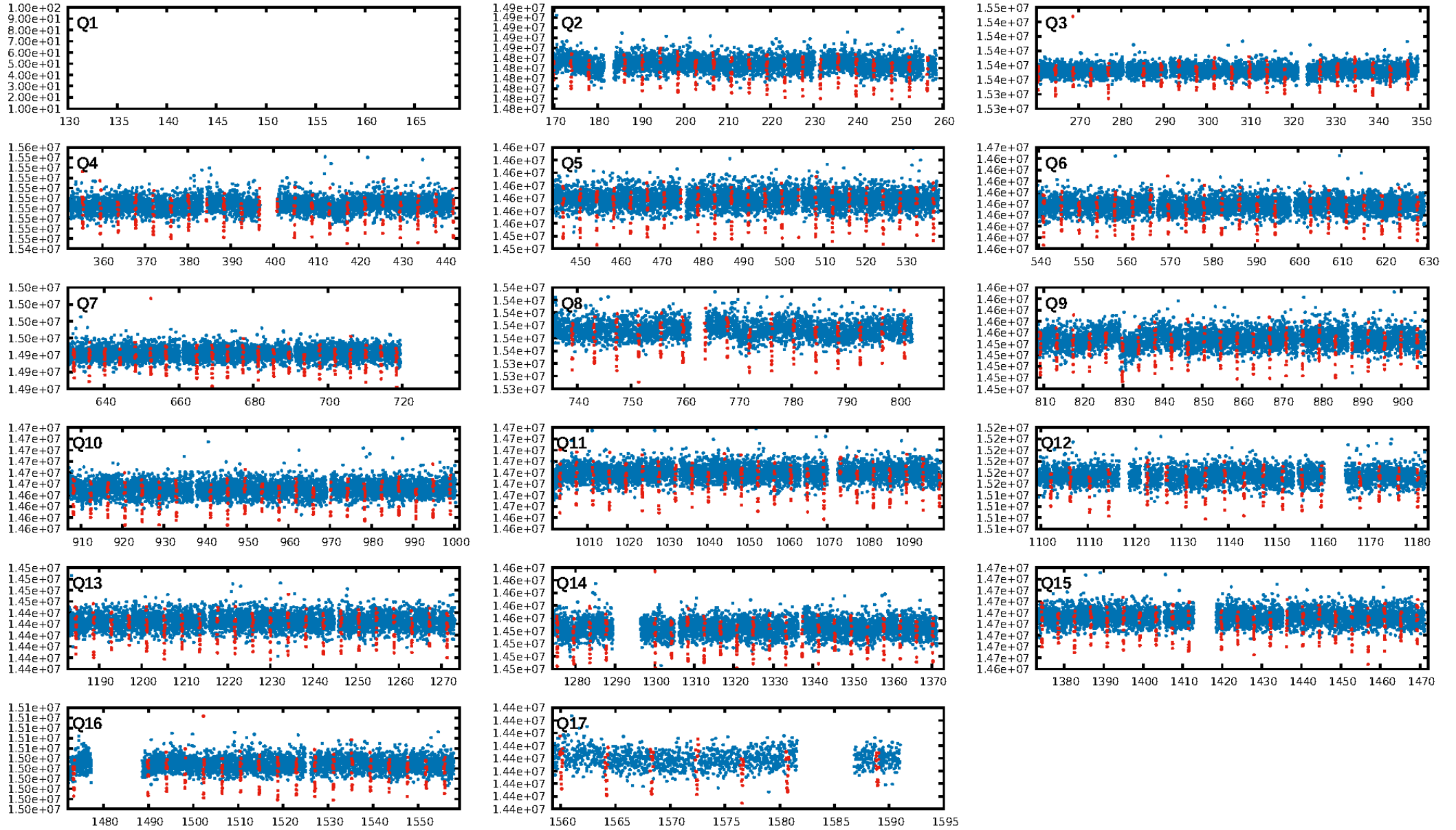
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [316/316]  
GhostDiagnostic-chr: 5.127  
Centroid-sig: 43.1%  
Centroid-so: 0.103 arcsec [0.84σ]  
OotOffset-rm: 0.035 arcsec [0.49σ]  
KicOffset-rm: 0.075 arcsec [1.03σ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 1.00 [16/16]  
DiffImageOverlap-fno: 1.00 [16/16]

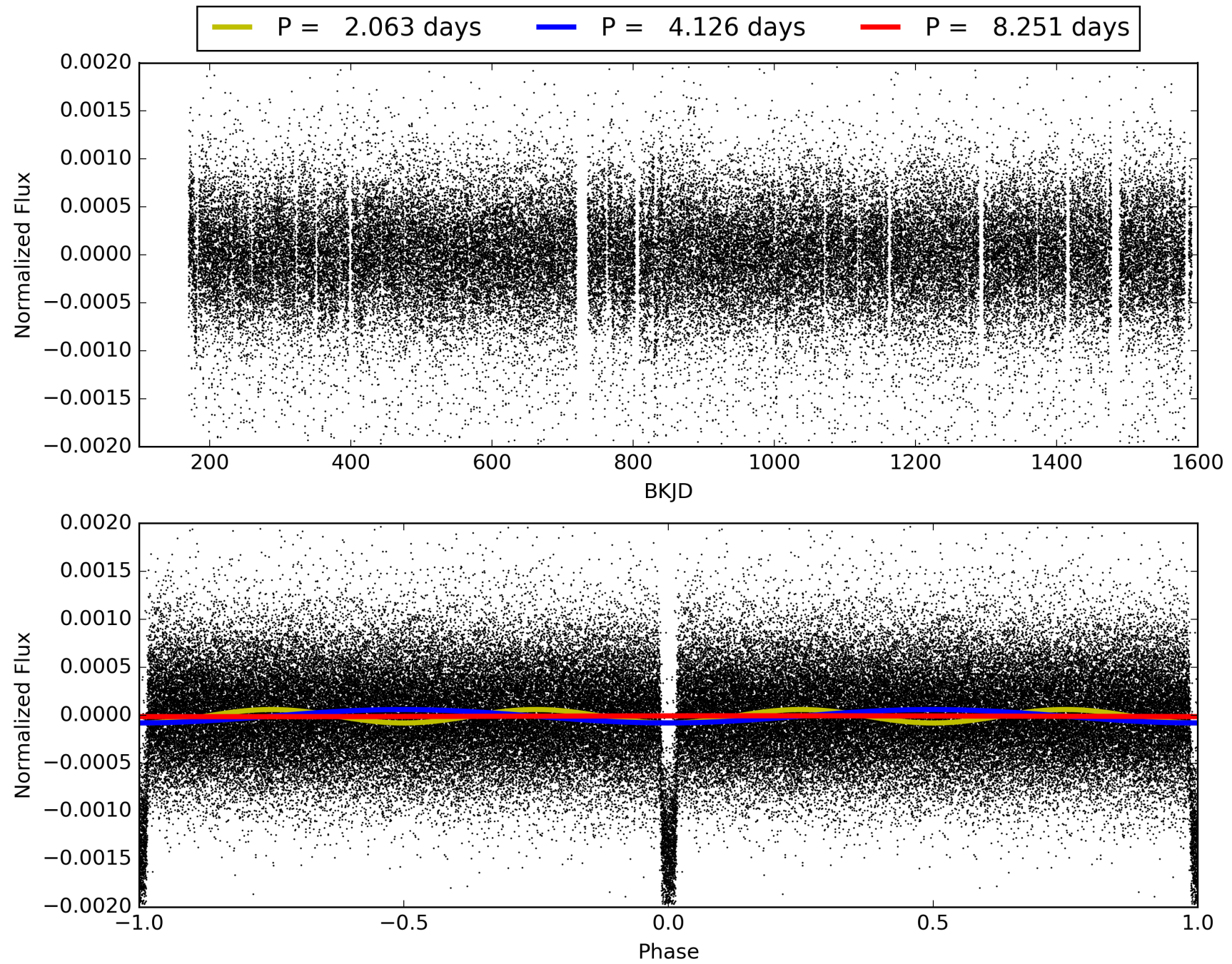
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:17:11 Z

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

# TCE 011403044-01, PDC Light Curves



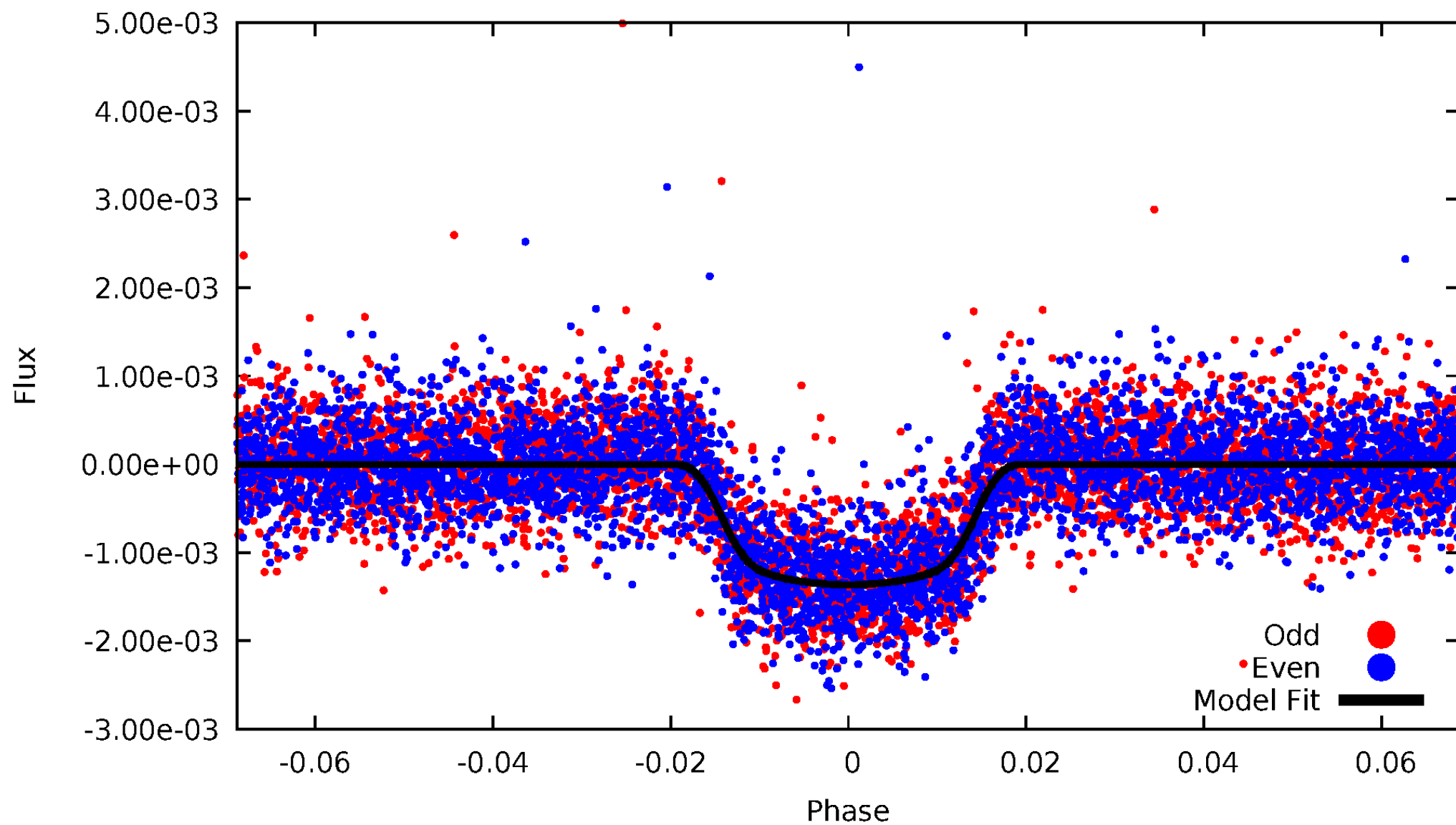
TCE 011403044-01





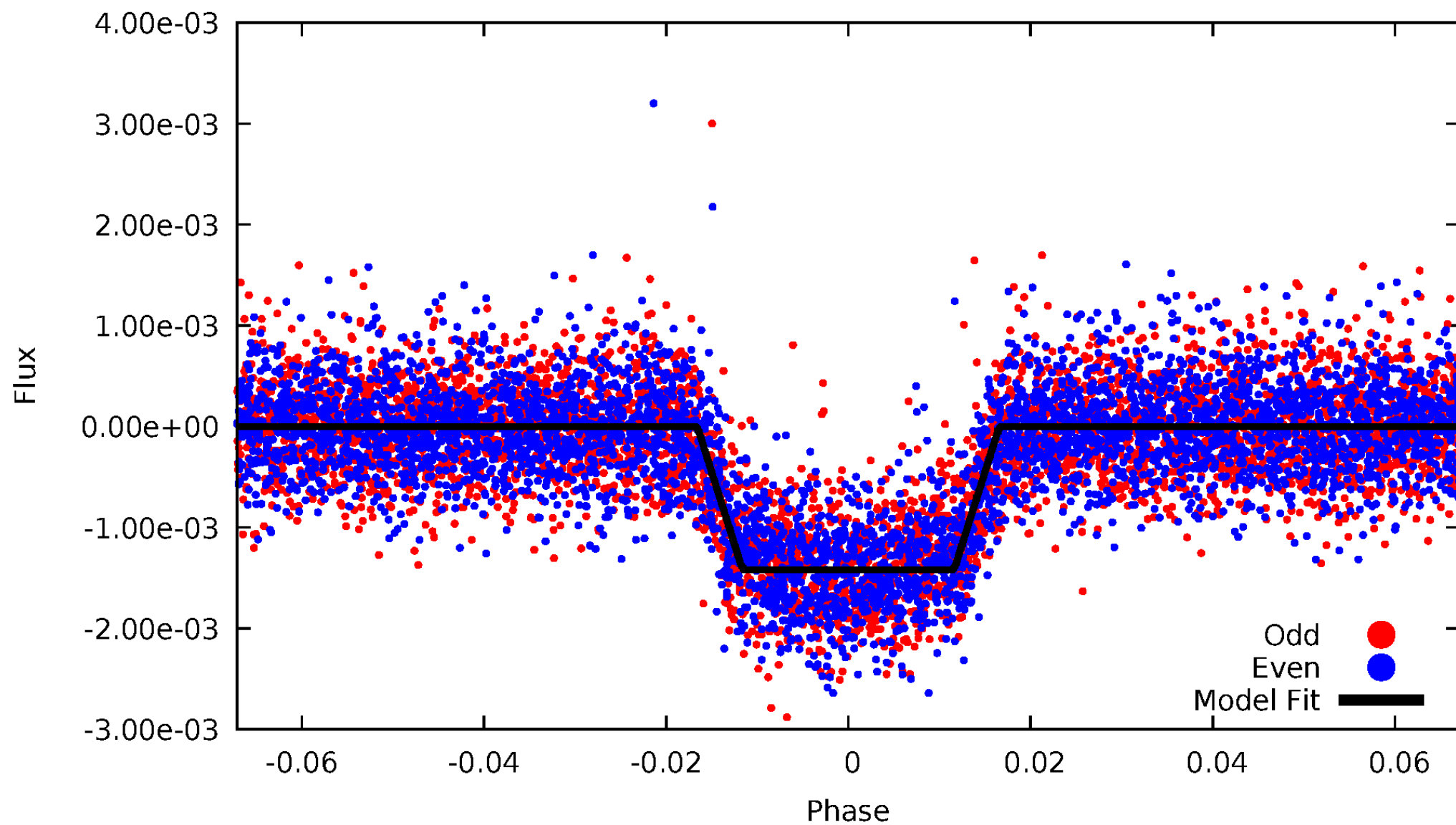
# DV Odd/Even

TCE 011403044-01



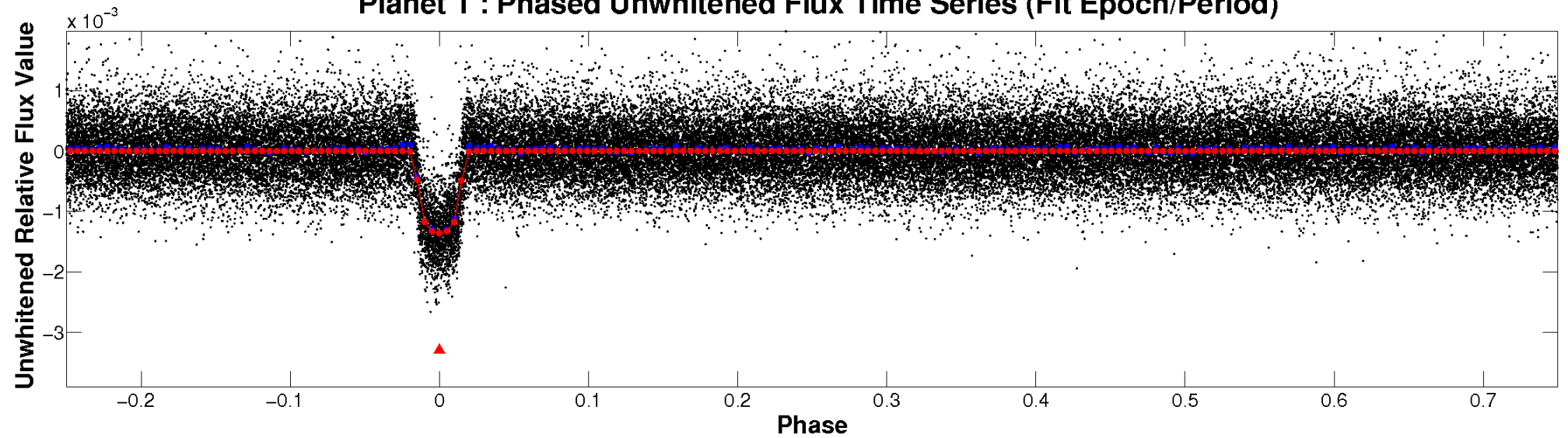
# ALT Odd/Even

TCE 011403044-01

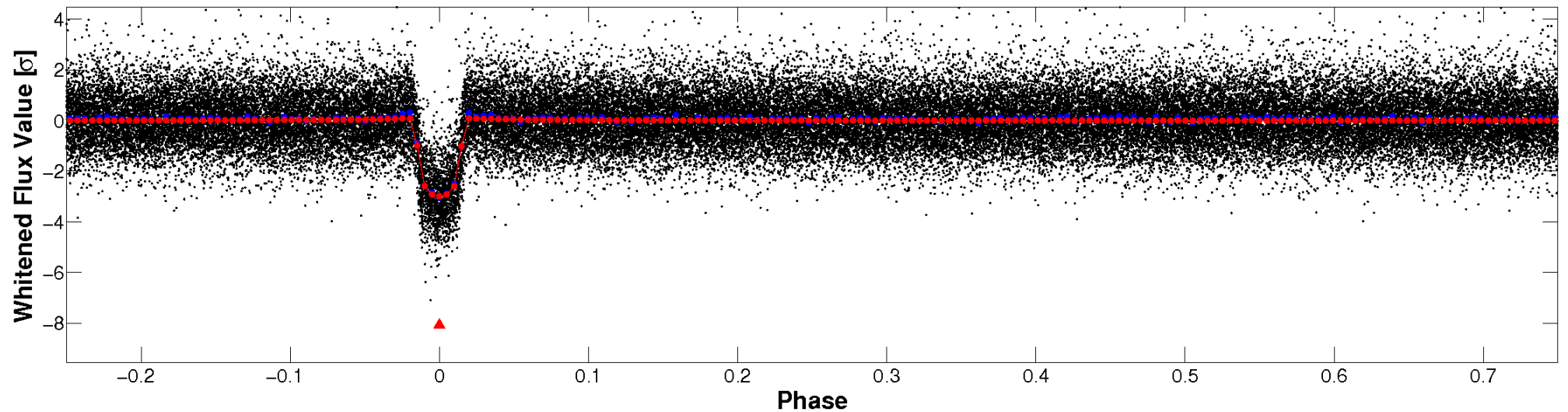


# Non-Whitened Vs. Whitened Light Curve

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

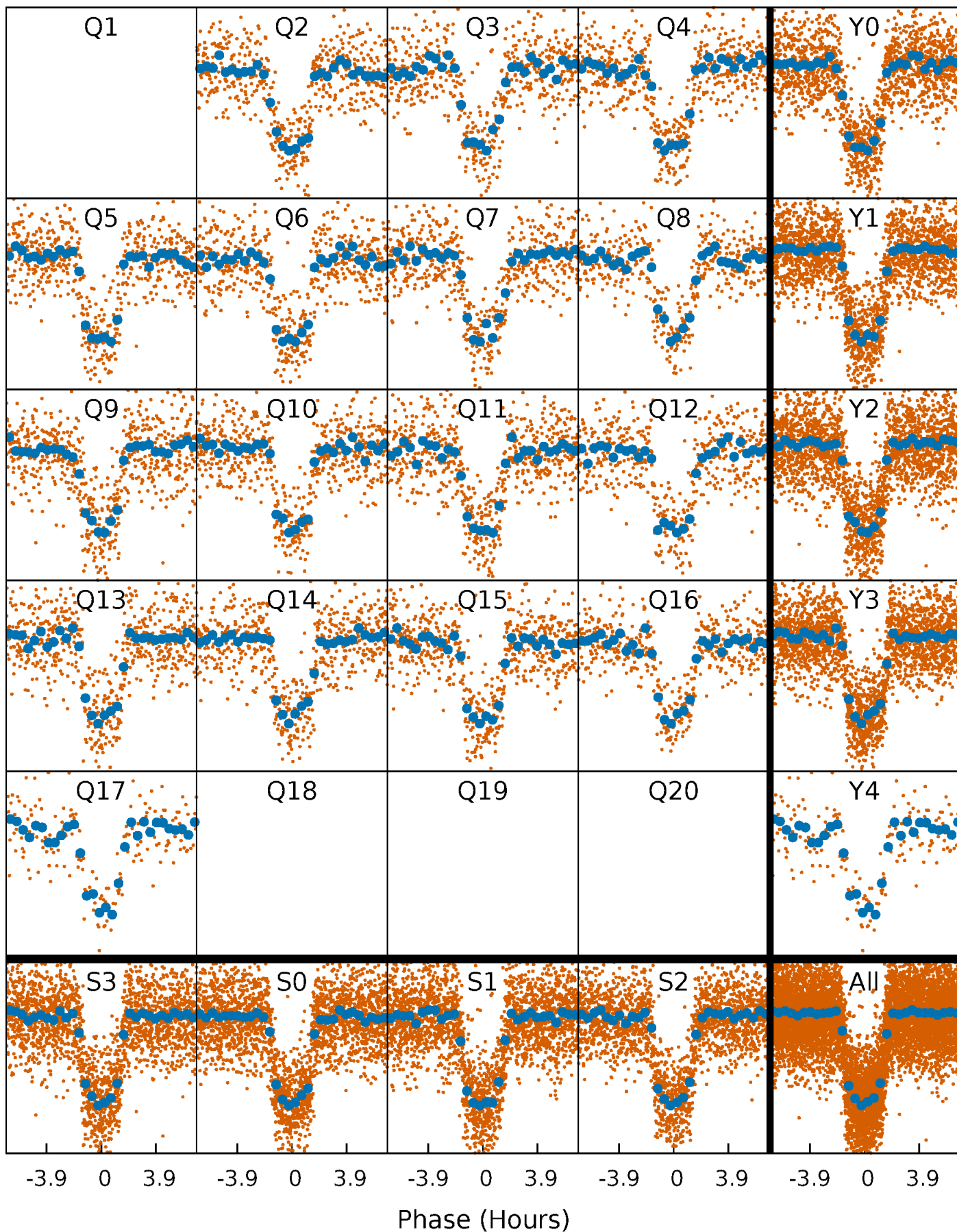


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

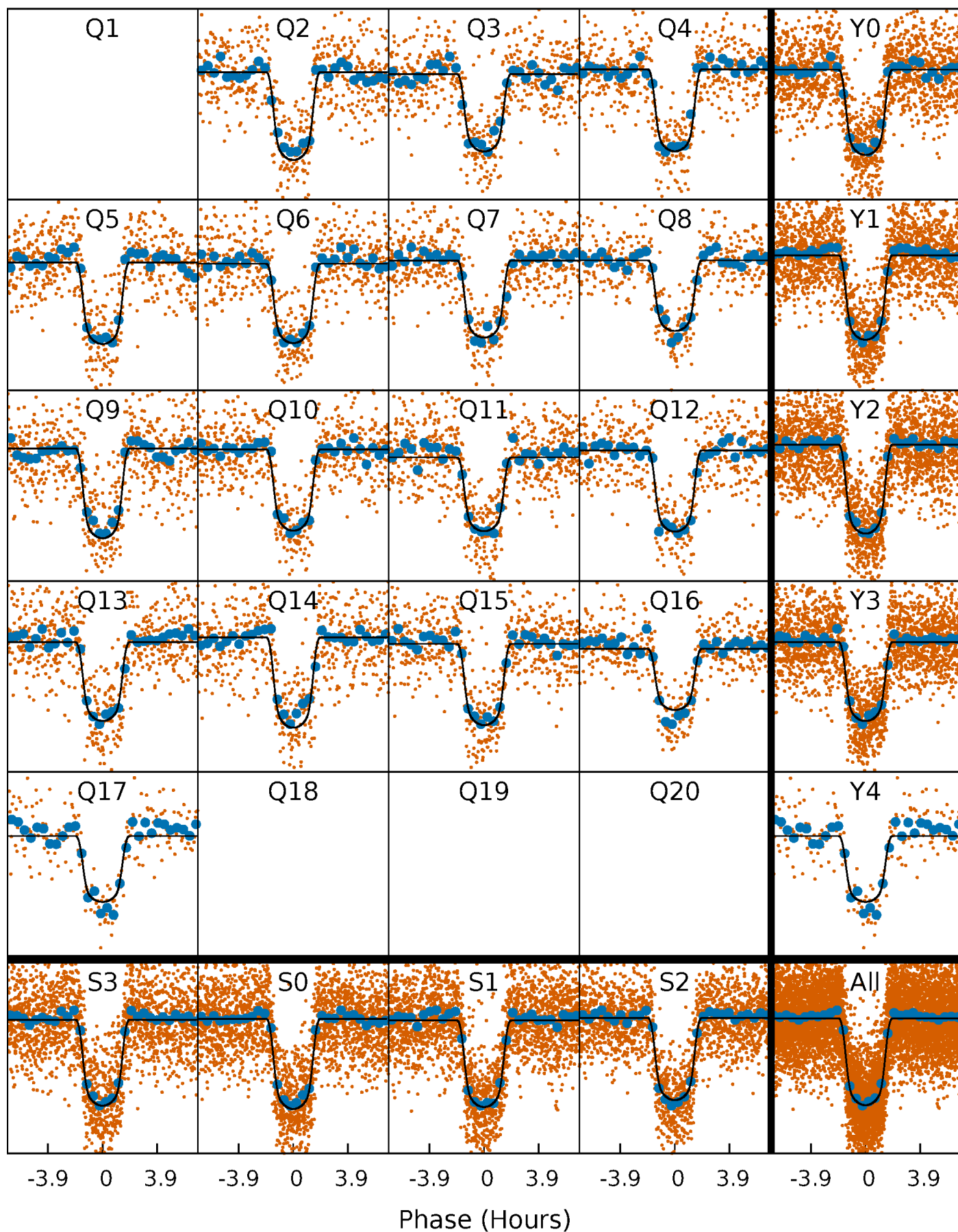
TCE 011403044-01 P= 4.125525 Days  $T_0=132.625969$  (BKJD)





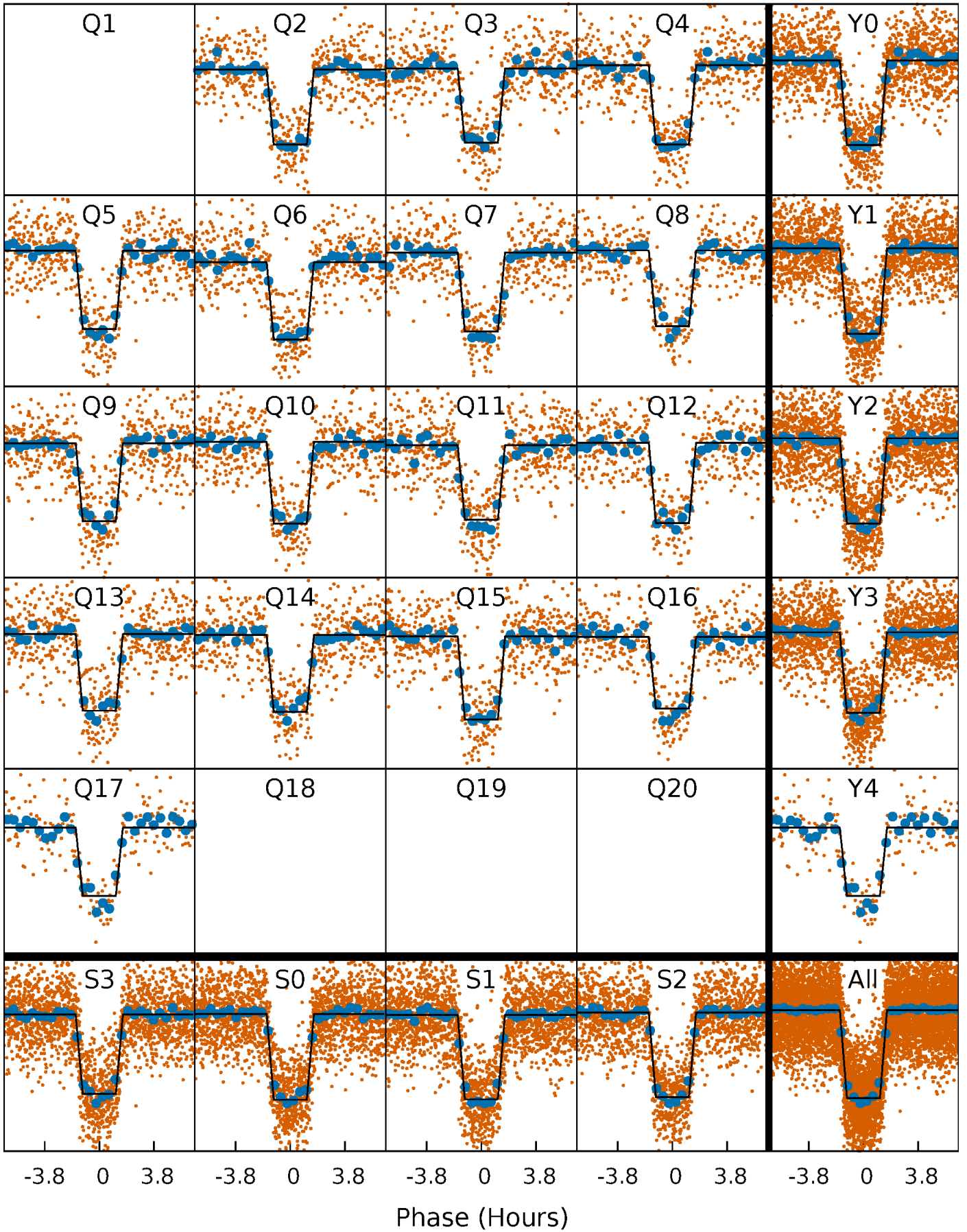
# DV Quarter-Phased Transit Curves

TCE 011403044-01 P= 4.125525 Days  $T_0=132.625969$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

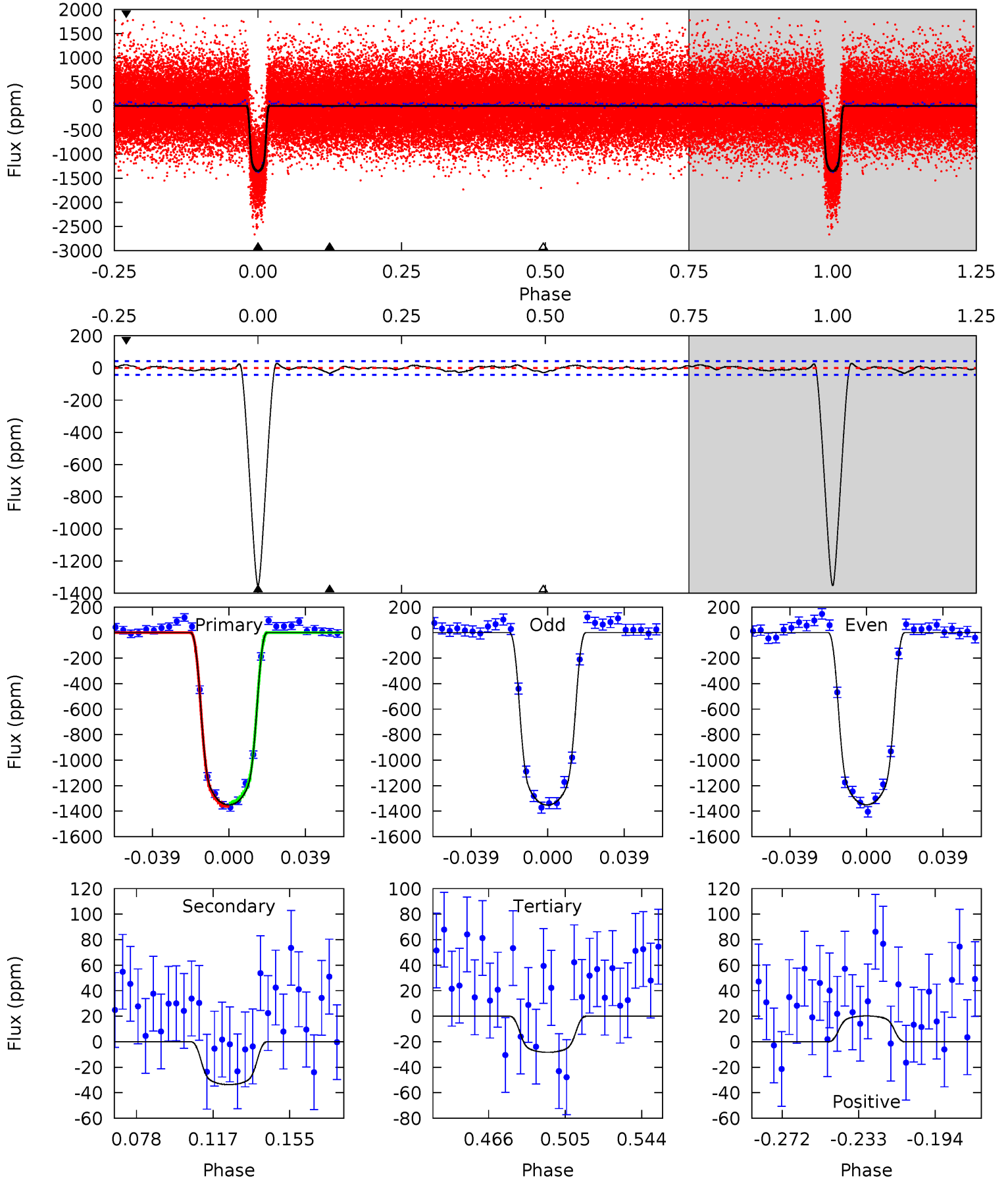
TCE 011403044-01 P= 4.125549 Days  $T_0=132.621803$  (BKJD)



# DV Model-Shift Uniqueness Test

011403044-01, P = 4.125525 Days, E = 132.625969 Days

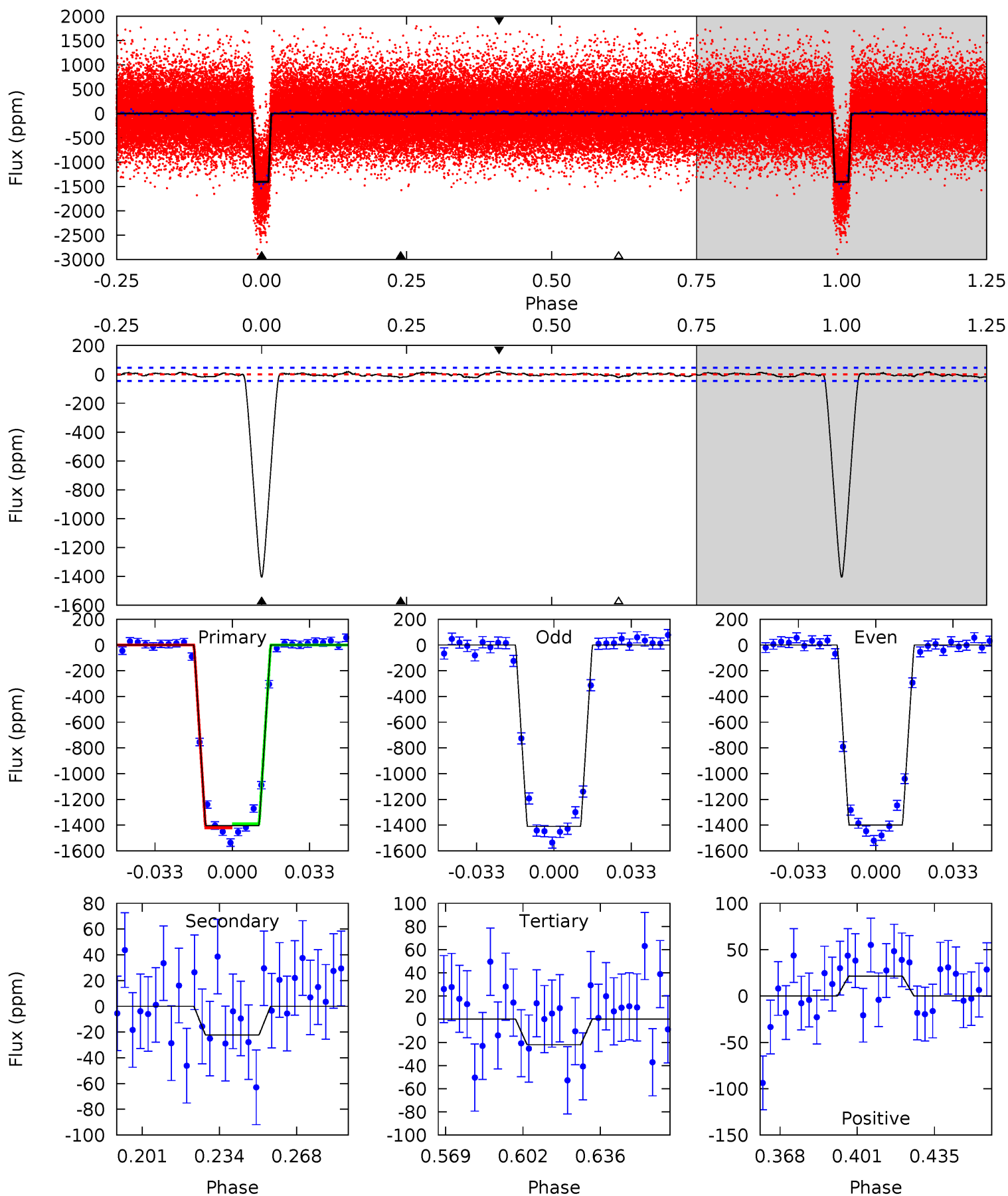
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
151.5	3.77	3.18	2.27	4.76	2.07	1.15	148.3	149.2	0.60	1.50	0.13	0.98	0.02	1.39



# Alt Model-Shift Uniqueness Test

011403044-01, P = 4.125549 Days, E = 132.621803 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
147.3	2.34	2.31	2.25	4.79	2.13	0.89	145.0	145.1	0.02	0.08	0.55	0.98	0.02	1.64





### Stellar Parameters For KIC 011403044

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6174^{+173}_{-239}$	$4.417^{+0.056}_{-0.210}$	$0.100^{+0.200}_{-0.300}$	$1.103^{+0.358}_{-0.128}$	$1.162^{+0.158}_{-0.158}$	$1.220^{+0.353}_{-0.645}$
	+3%/-4%	+1%/-5%	+200%/-300%	+32%/-12%	+14%/-14%	+29%/-53%
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 011403044-01 / KOI 0766.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-34 \pm 9$	$4.90^{+0.87}_{-0.42}$	$1781^{+139}_{-97}$	$2957^{+125}_{-169}$	$1.996^{+0.779}_{-0.672}$
Alt.	$-22 \pm 10$	$4.66^{+0.82}_{-0.40}$	$1766^{+139}_{-88}$	$2795^{+183}_{-288}$	$1.455^{+0.811}_{-0.676}$

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

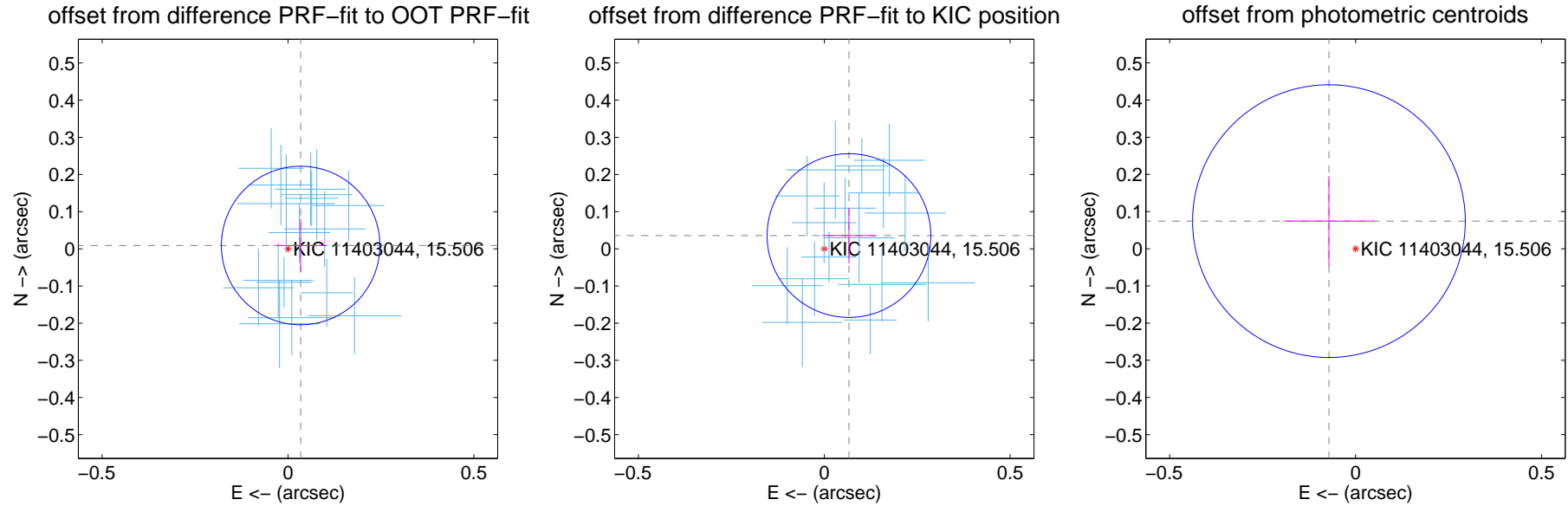
## DV Centroid Data

Supplemental centroid analysis for 011403044-01. Kepler magnitude: 15.51. Transit SNR 110.84

There are 16 quarters with good PRF difference image offsets

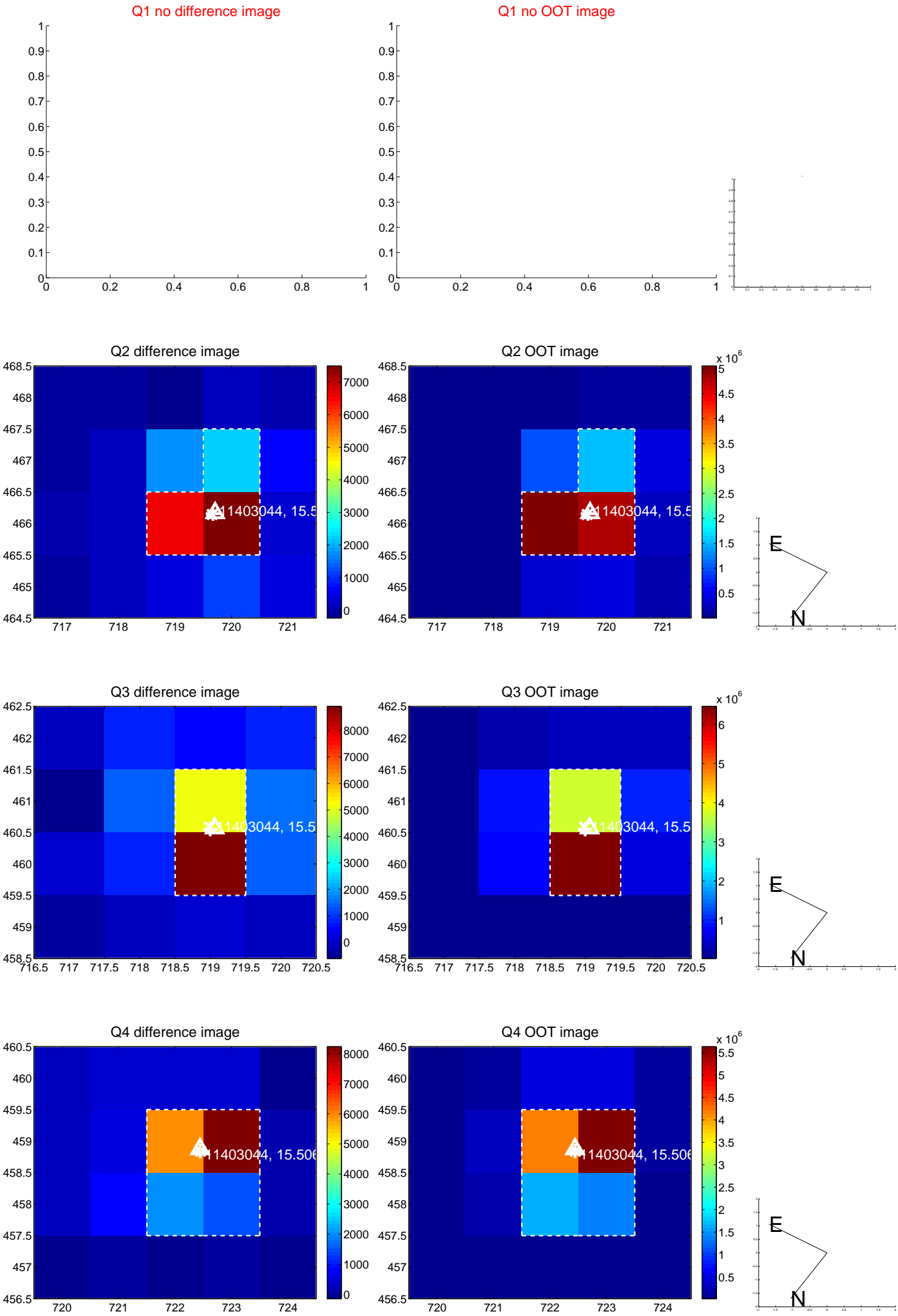
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.035 \pm 0.071$	0.49	$-0.034 \pm 0.071$	$0.009 \pm 0.071$
PRF-fit source offset from KIC position	$0.075 \pm 0.073$	1.03	$-0.066 \pm 0.072$	$0.036 \pm 0.075$
photometric centroid source offset	$0.10 \pm 0.12$	0.84	$0.07 \pm 0.12$	$0.07 \pm 0.12$

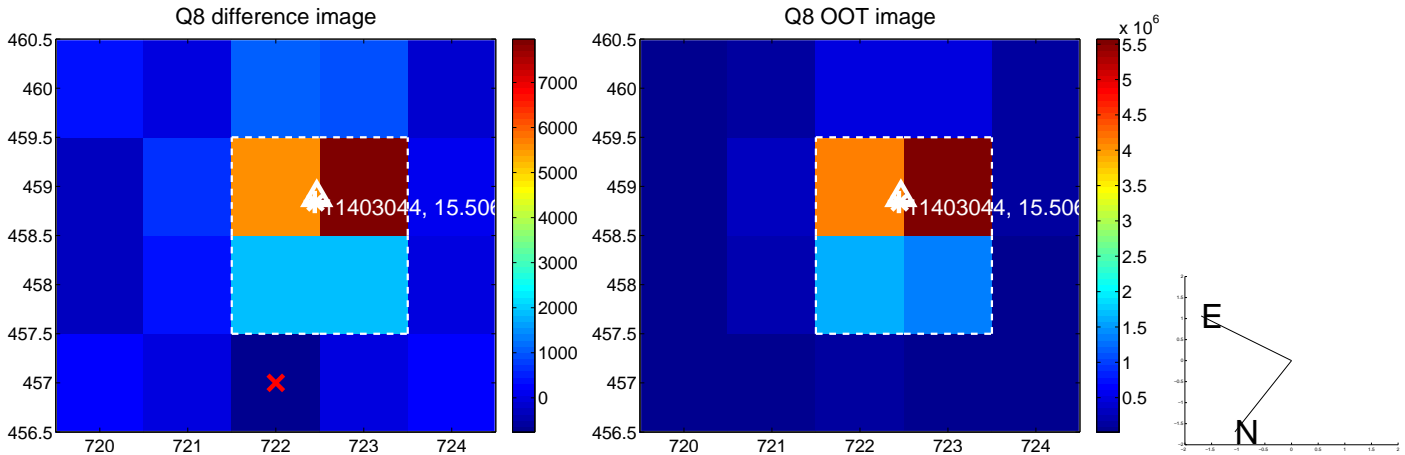
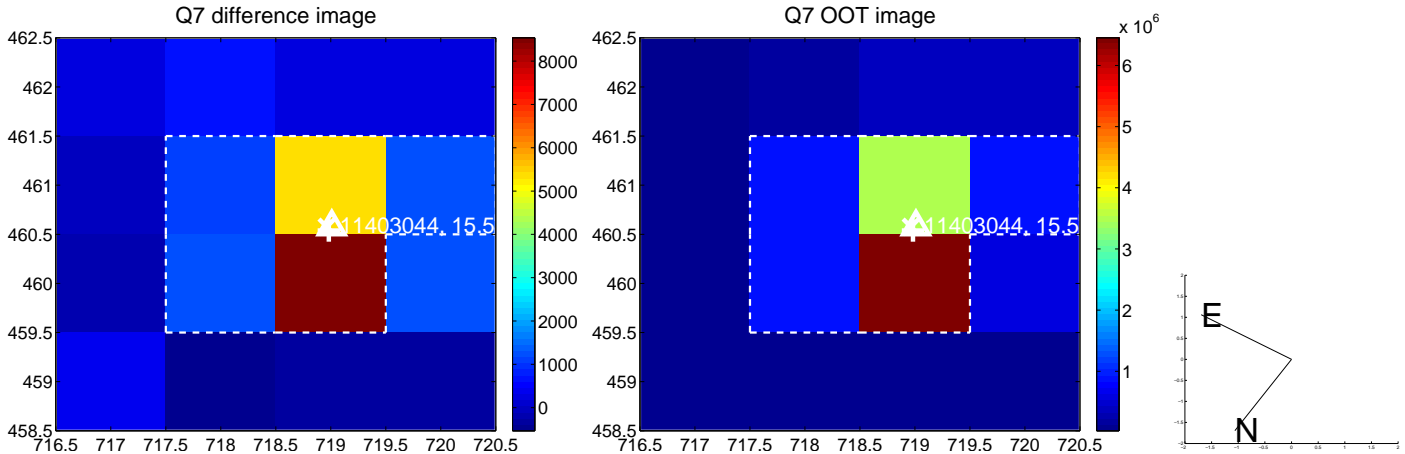
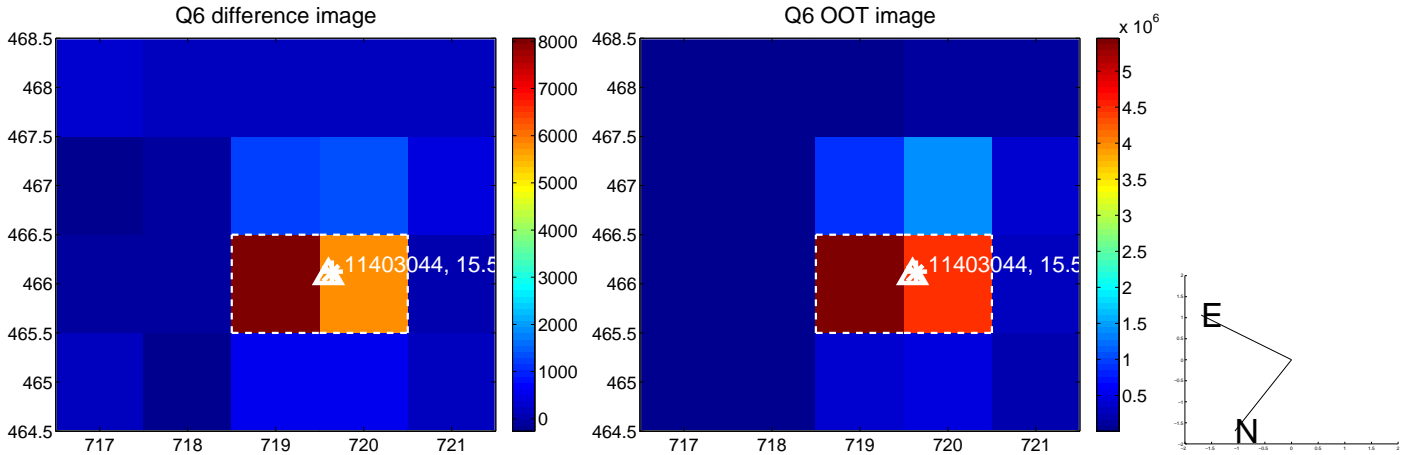
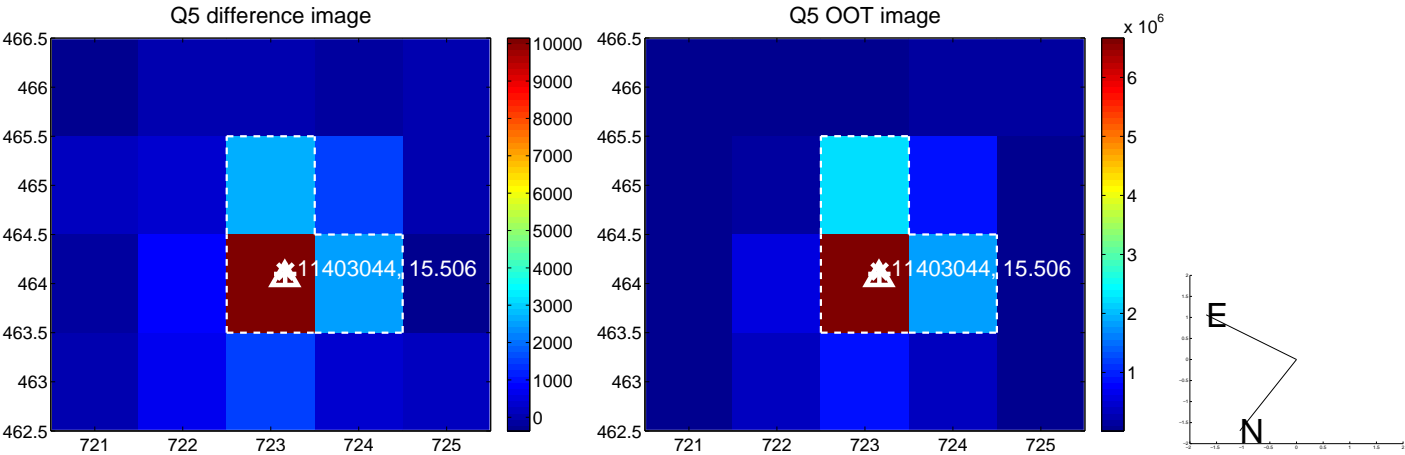


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

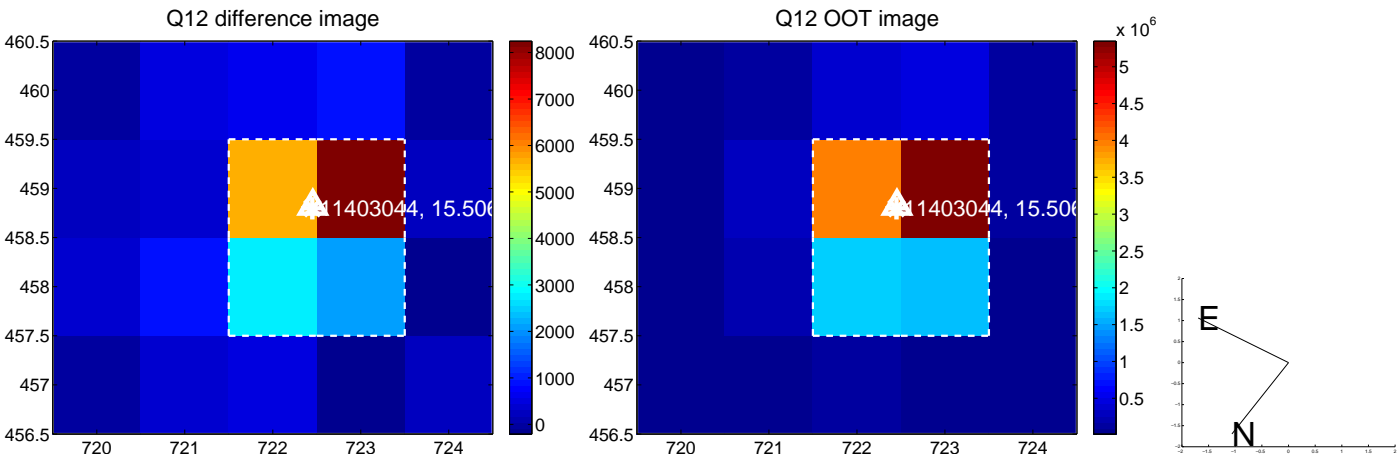
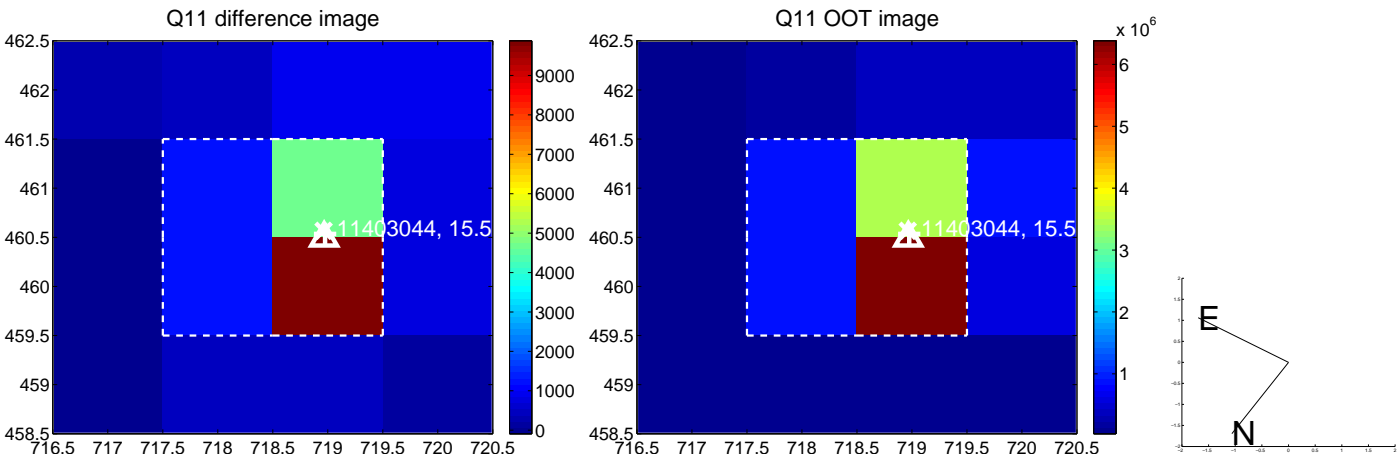
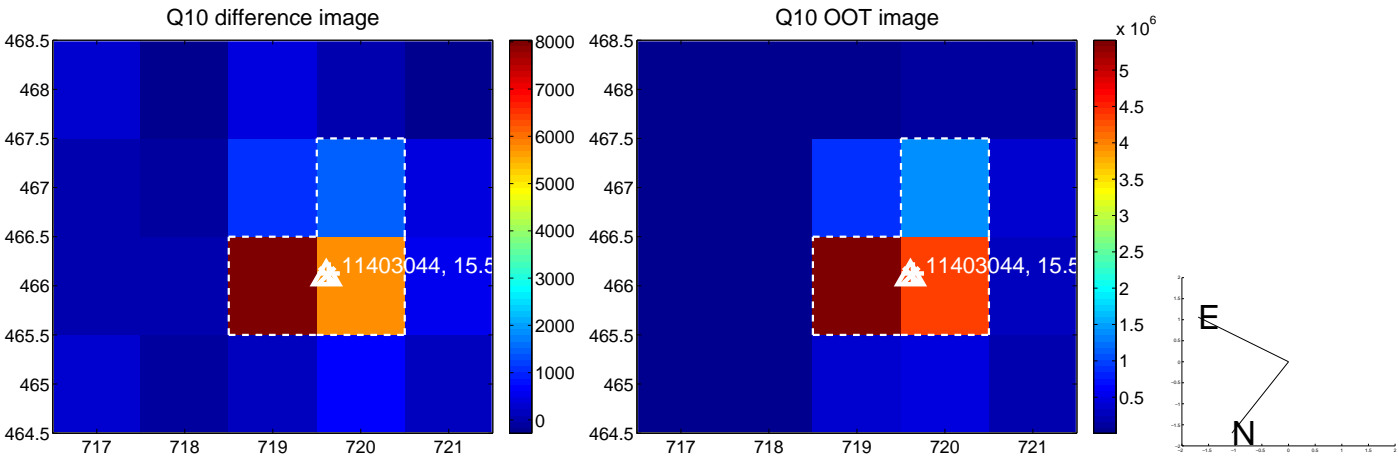
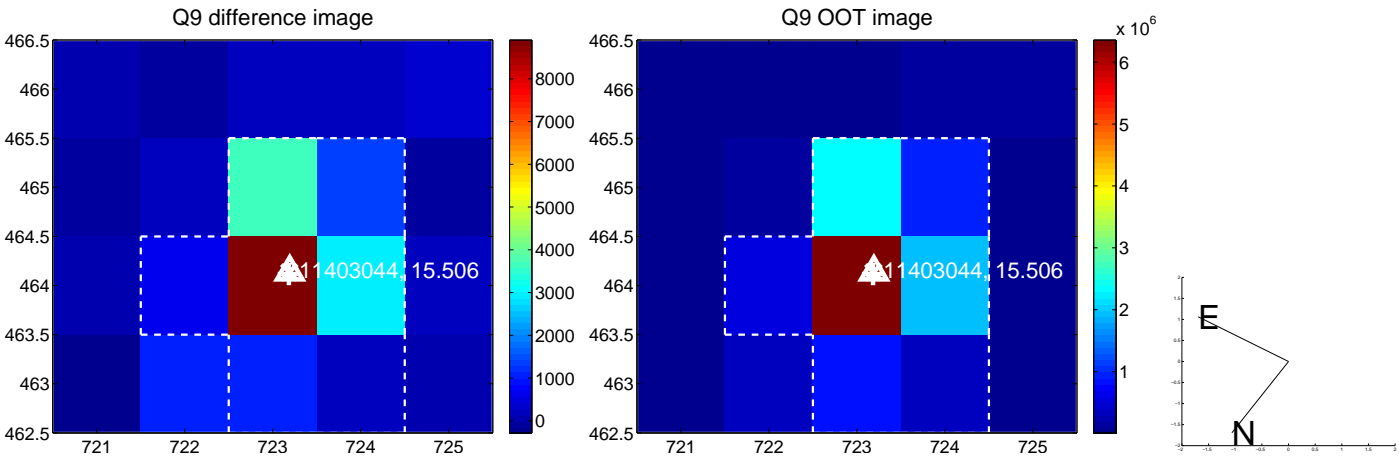


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

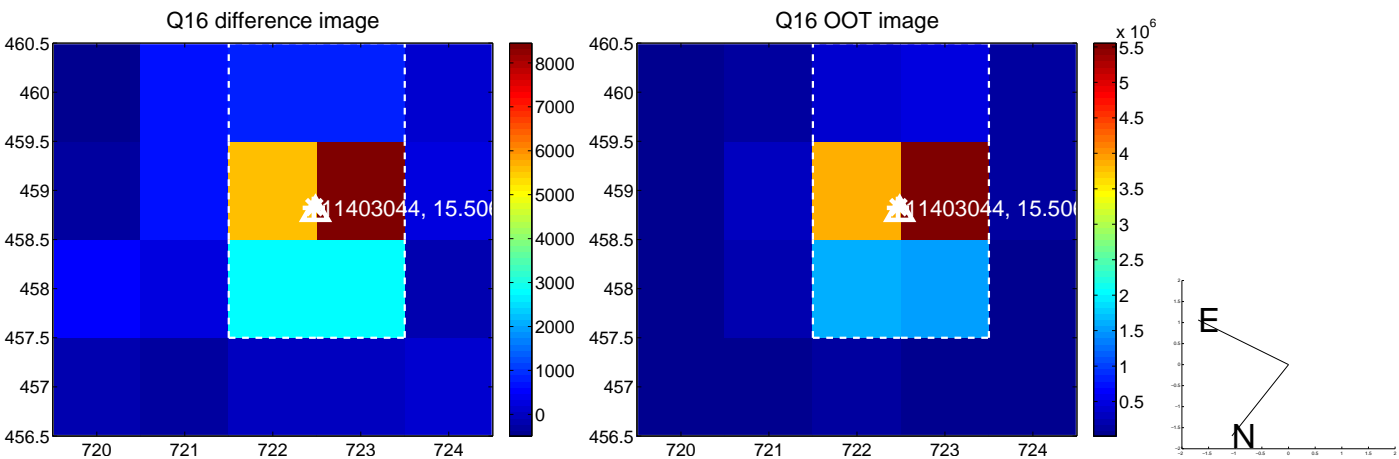
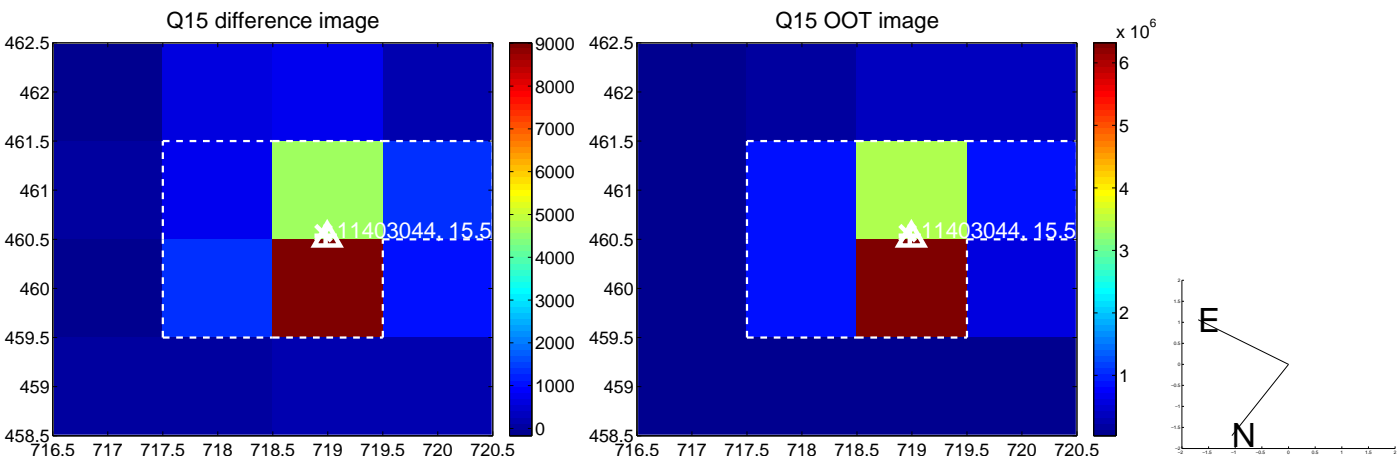
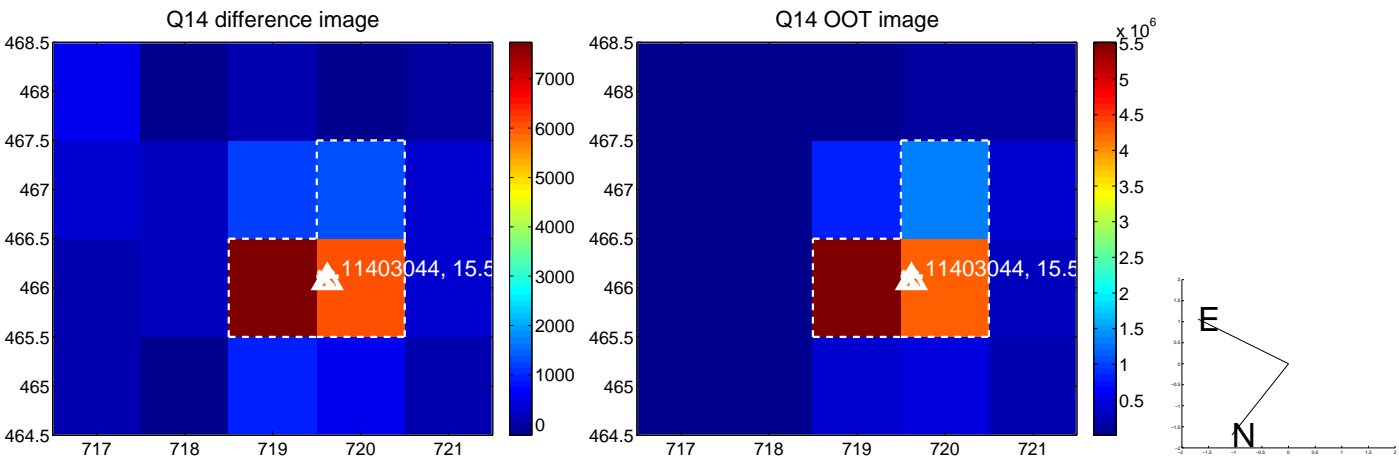
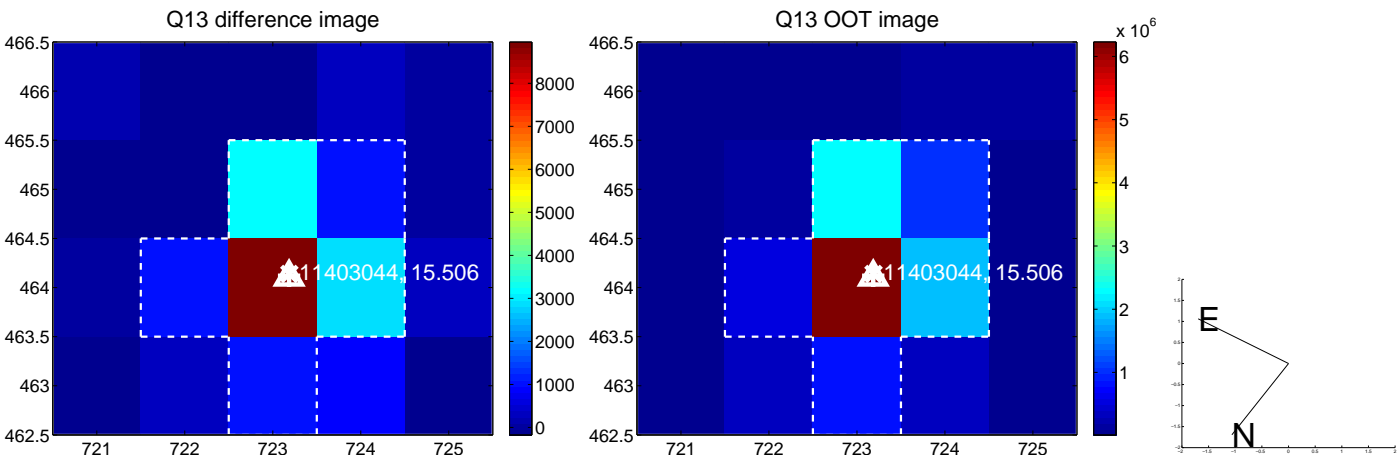




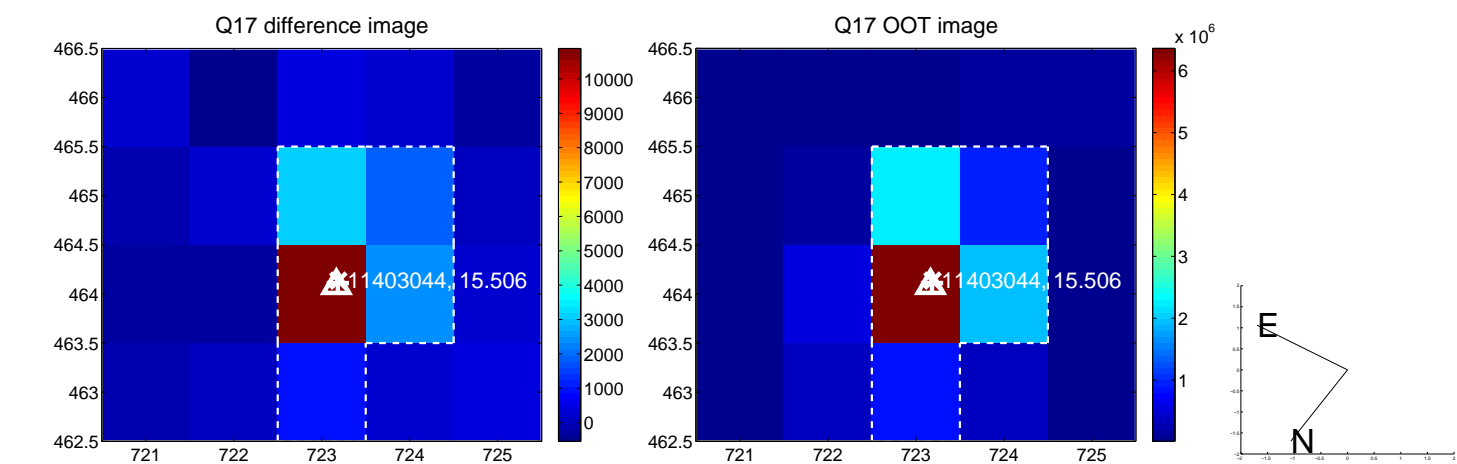
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



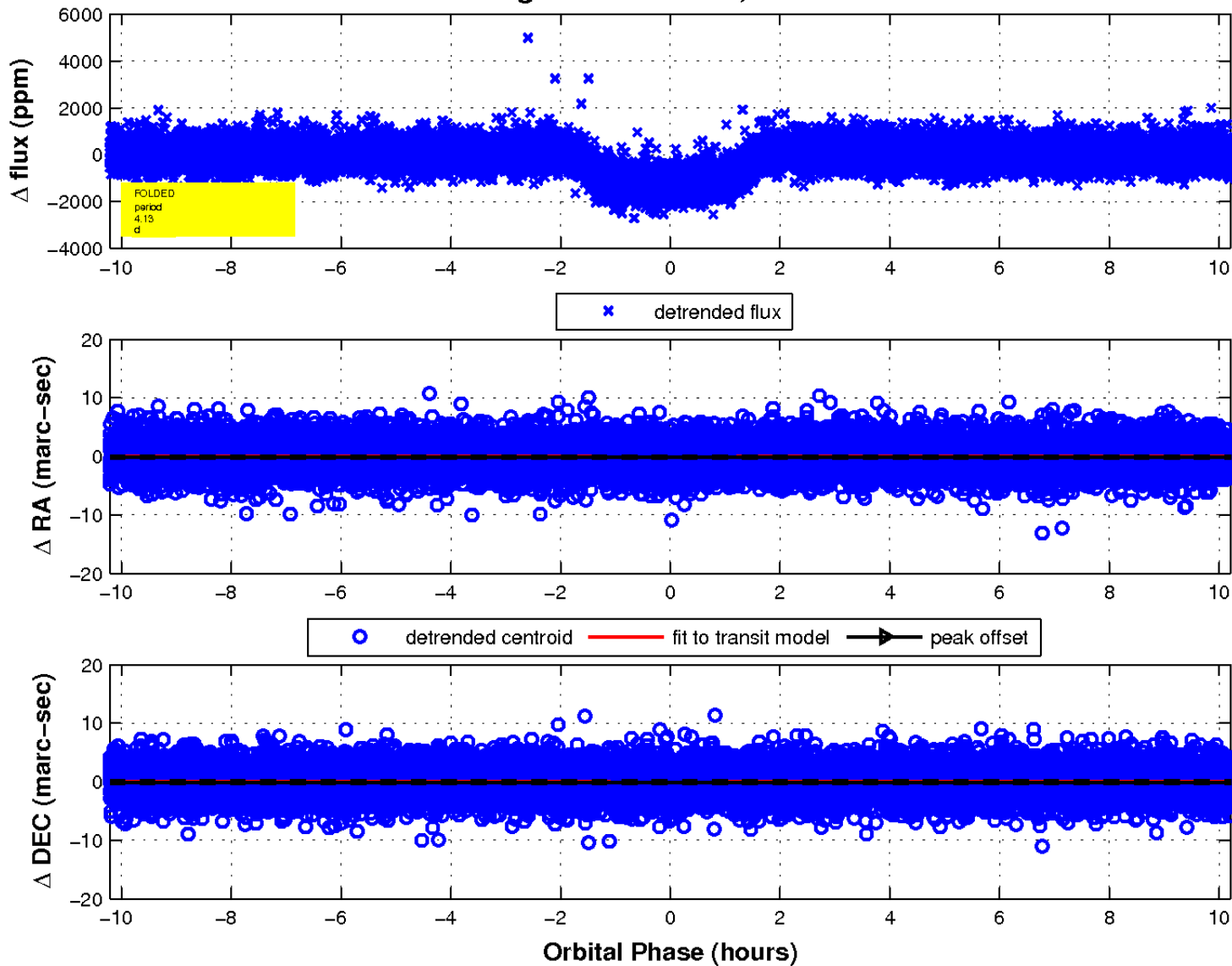
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

