

# KIC 011904835

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011904835-01	OBS	8068.01	9.463825	138.461649	186.9	7.599	8.2	8.0	0.88	5968	1.33	117.52

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011904835-01	OBS	PC	1.00	0	0	0	0	CENT_FEW_DIFFS

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

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

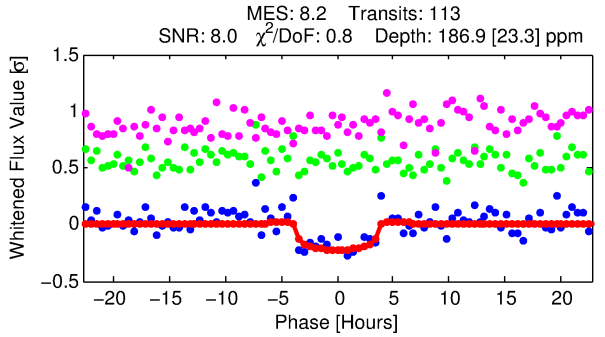
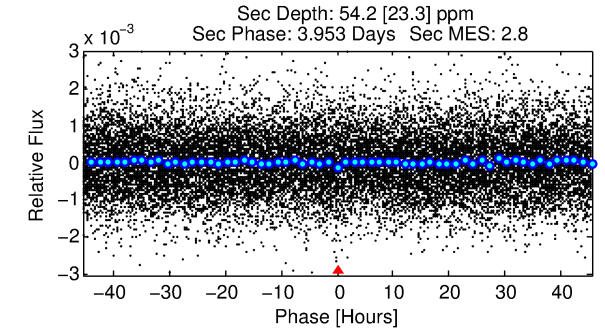
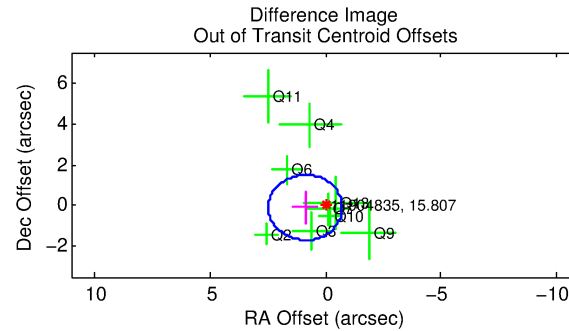
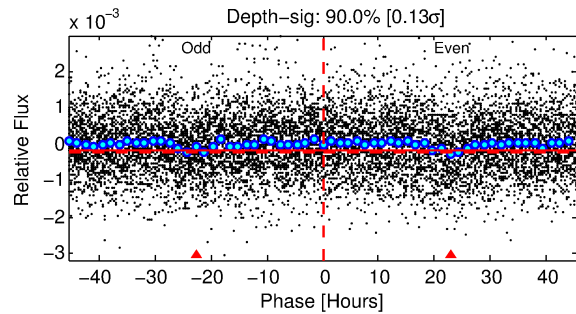
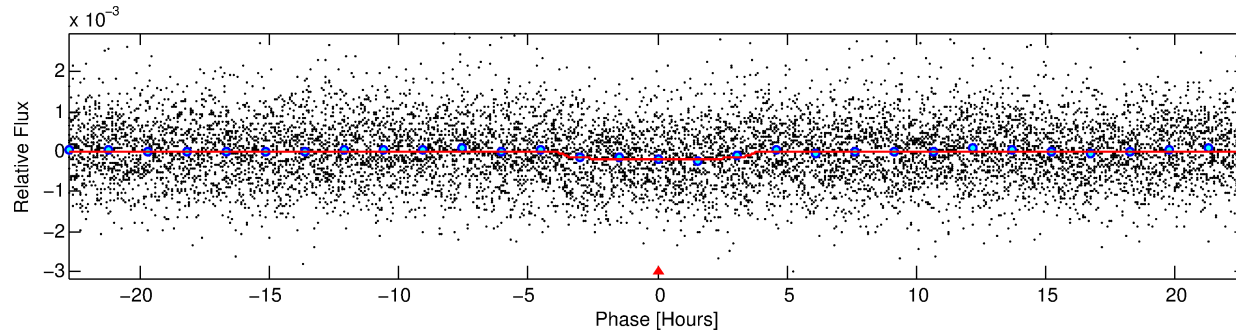
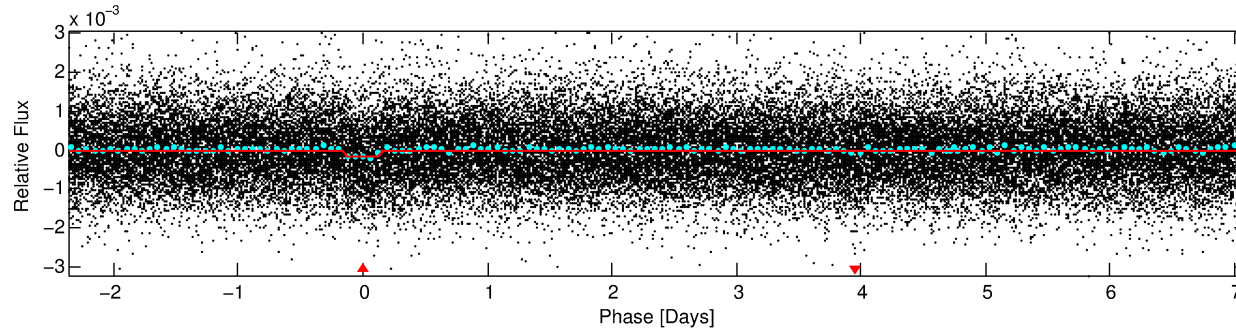
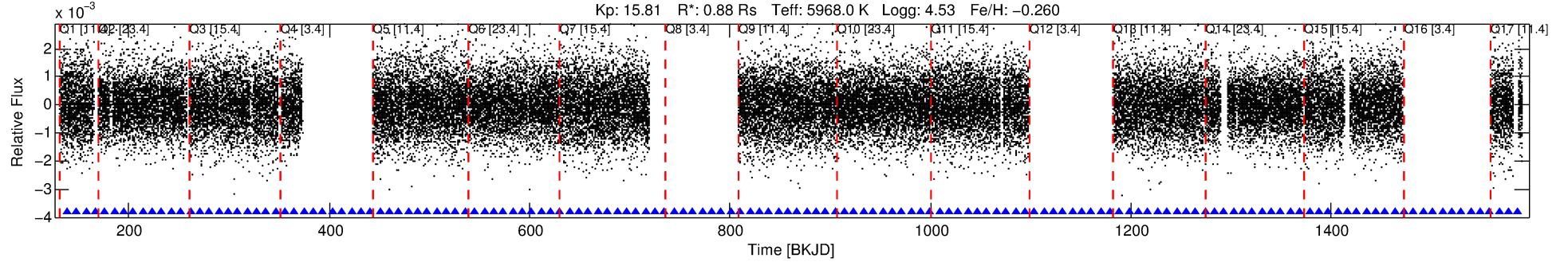
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011904835-01

No Significant Match Found

# DV One-Page Summary

KIC: 11904835 Candidate: 1 of 1 Period: 9.464 d



## DV Fit Results:

Period = 9.46383 [0.00020] d  
Epoch = 138.4616 [0.0157] BKJD  
Rp/R\* = 0.0139 [0.0087]  
a/R\* = 5.99 [18.13]  
b = 0.80 [1.41]  
Seff = 117.52 [45.56]  
Teq = 840 [81] K  
Rp = 1.33 [0.92] Re  
a = 0.0866 [0.0216] AU  
Ag = 125.85 [173.14] [0.72 $\sigma$ ]  
Teff = 4348 [1447] K [2.42 $\sigma$ ]

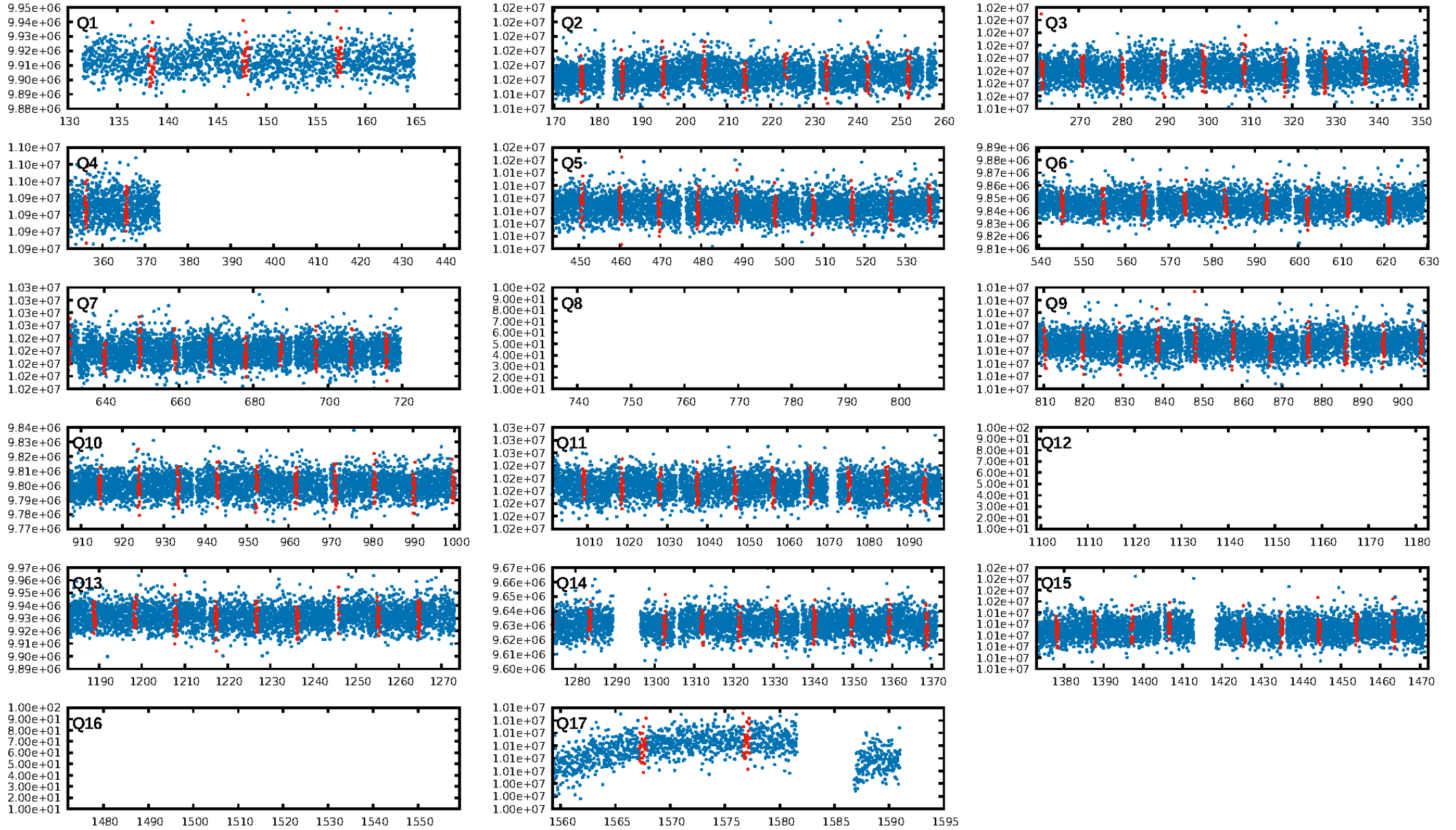
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.7%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 4.84e-17  
RollingBand-fgt: 1.00 [106/106]  
GhostDiagnostic-chr: 1.474  
Centroid-sig: 43.3%  
Centroid-so: 1.324 arcsec [0.76 $\sigma$ ]  
OotOffset-rm: 0.884 arcsec [1.66 $\sigma$ ]  
KicOffset-rm: 0.741 arcsec [1.31 $\sigma$ ]  
OotOffset-st: 3/3/1/2 [9]  
KicOffset-st: 3/3/1/2 [9]  
DiffImageQuality-fgm: 0.56 [5/9]  
DiffImageOverlap-fno: 1.00 [14/14]

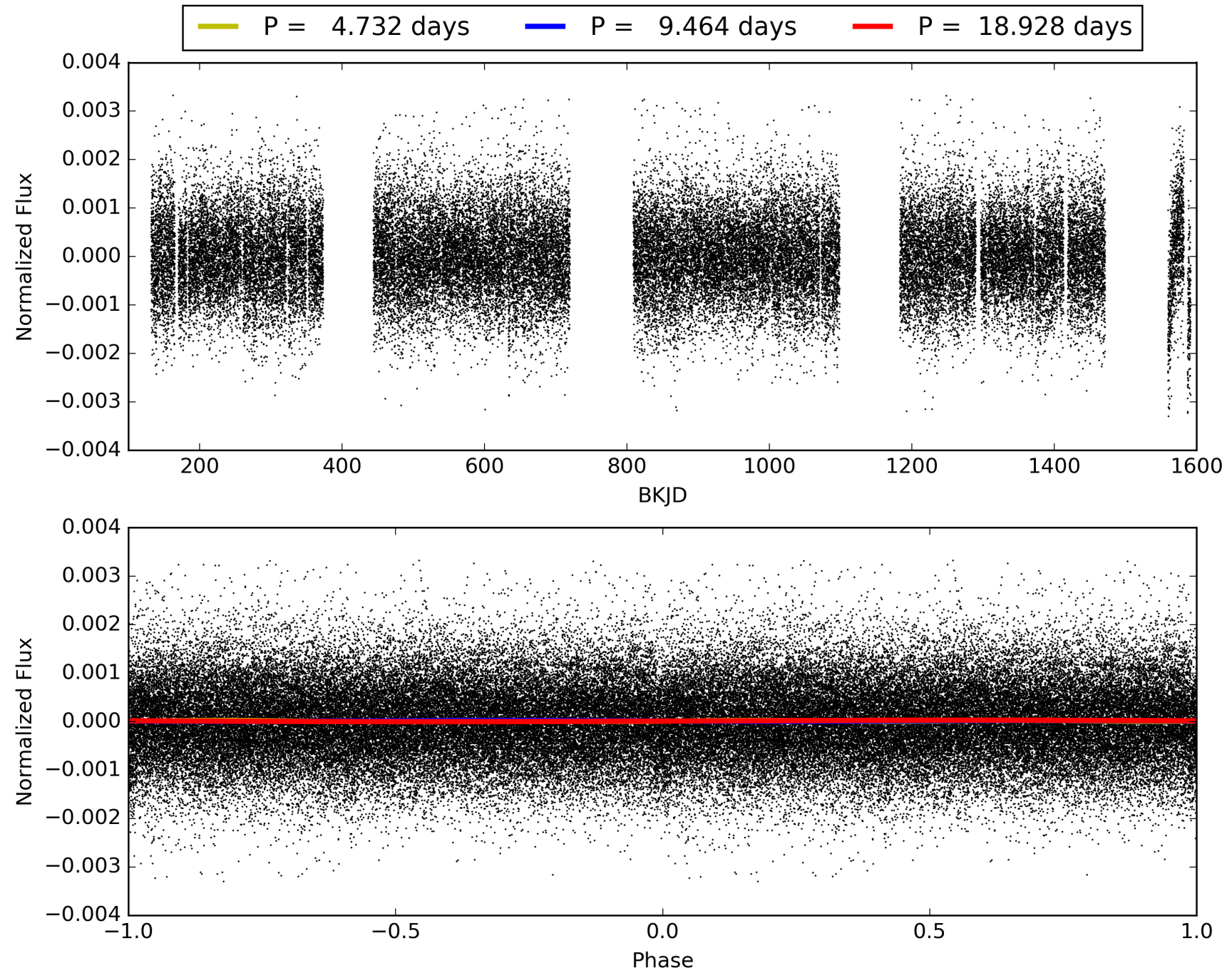
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:36:41 Z

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

# TCE 011904835-01, PDC Light Curves



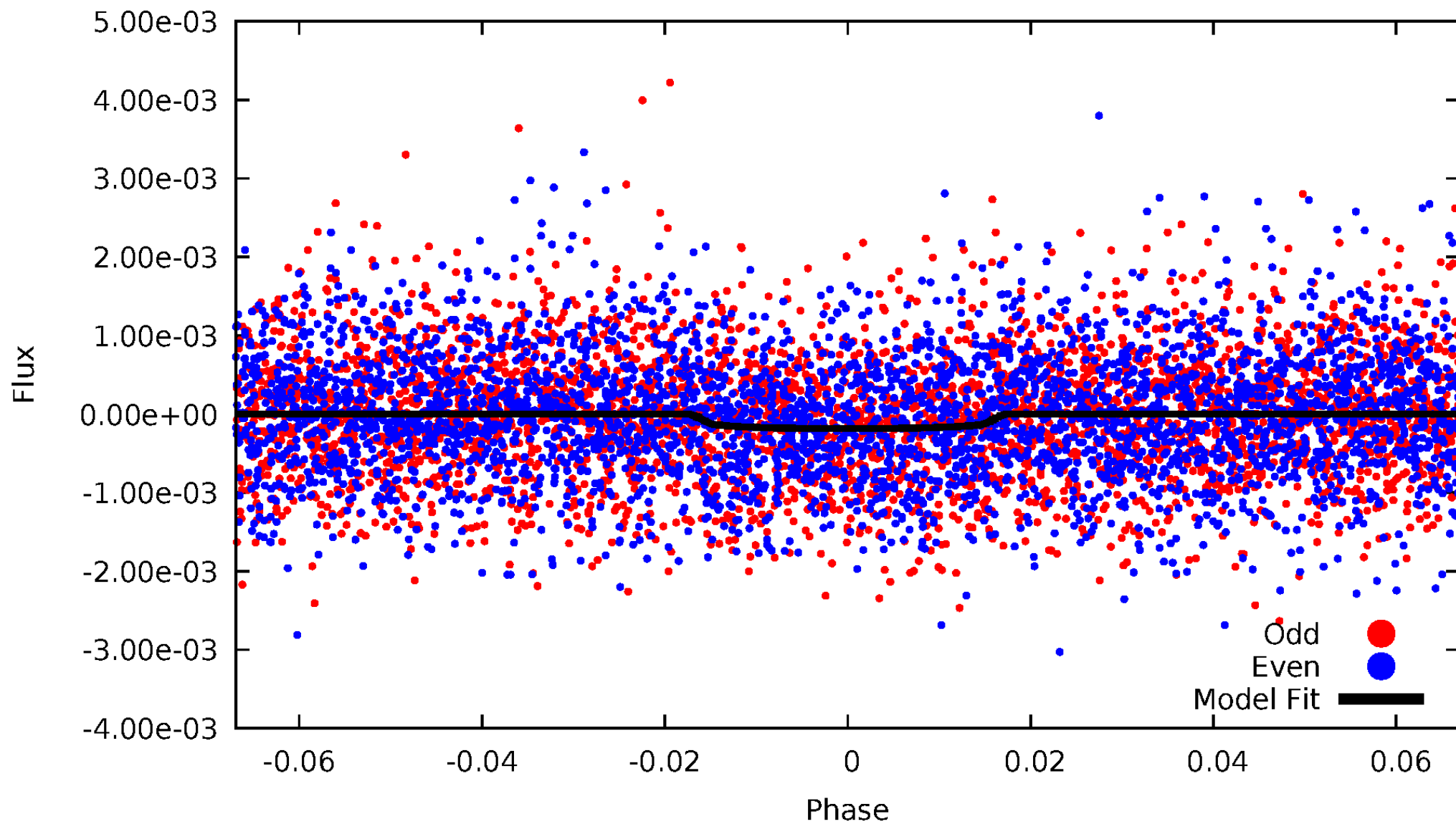
# TCE 011904835-01





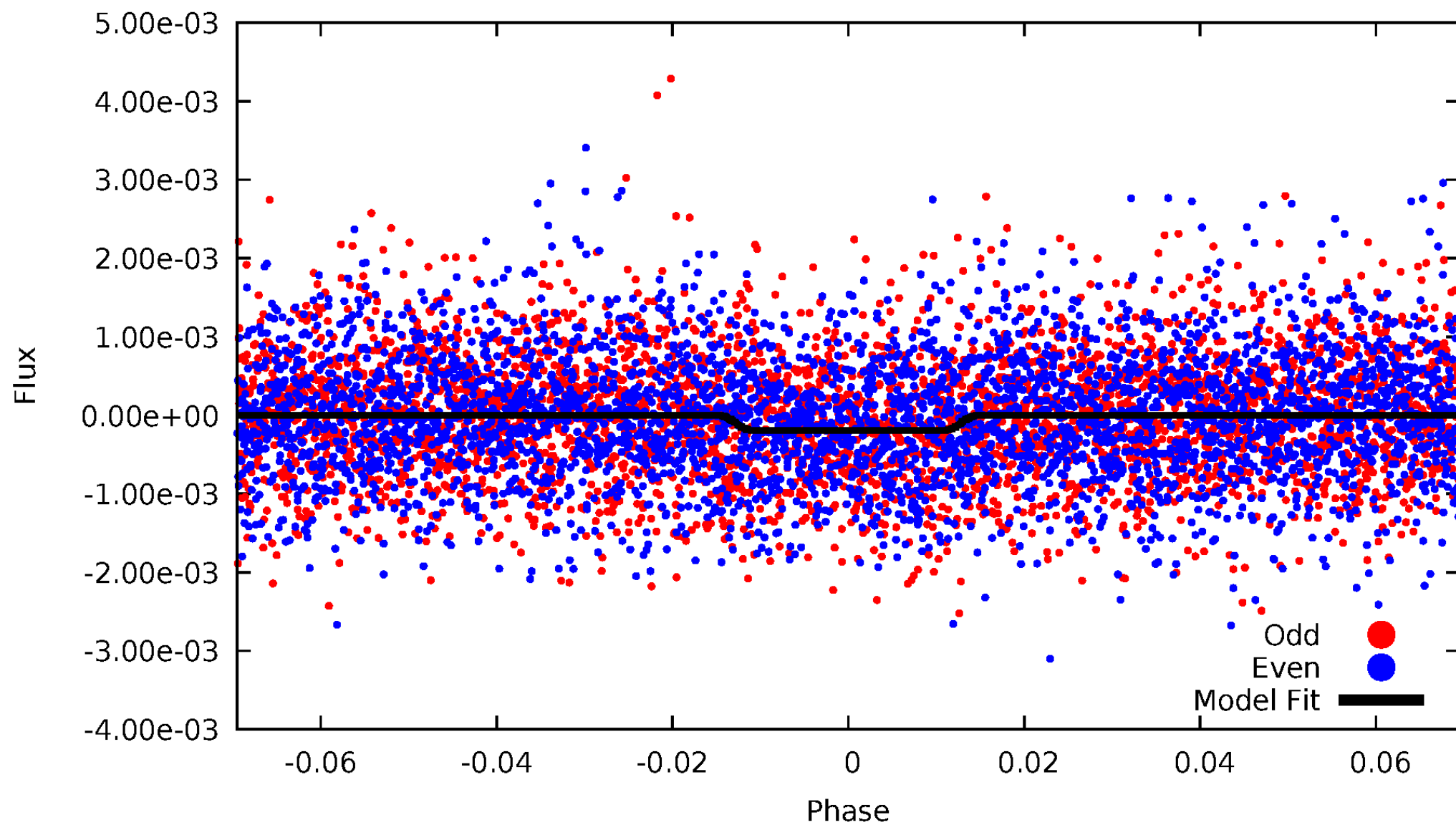
# DV Odd/Even

TCE 011904835-01



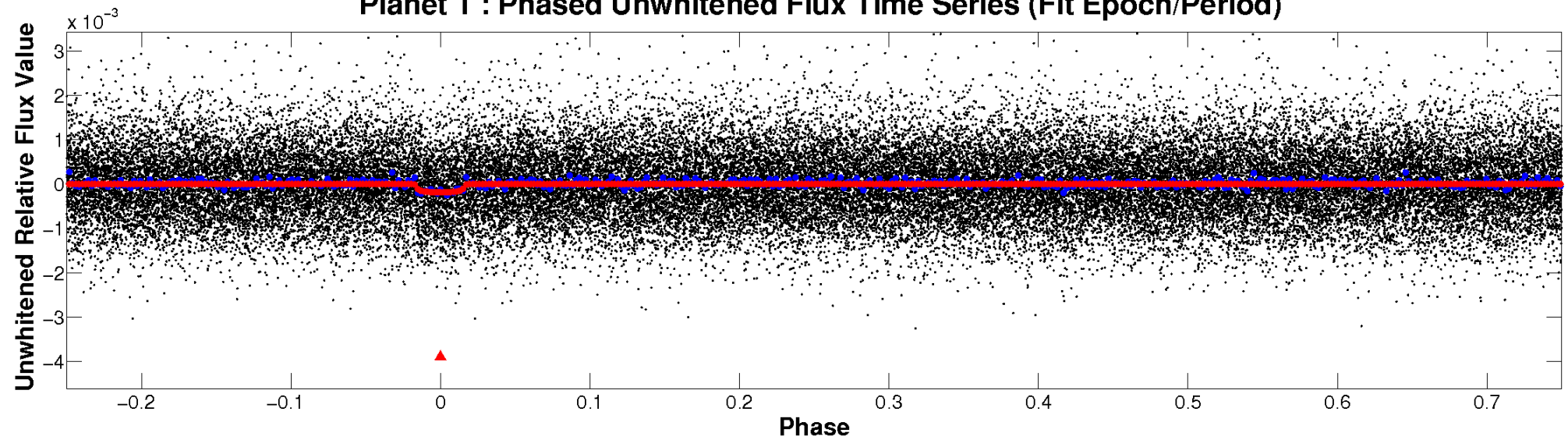
# ALT Odd/Even

TCE 011904835-01

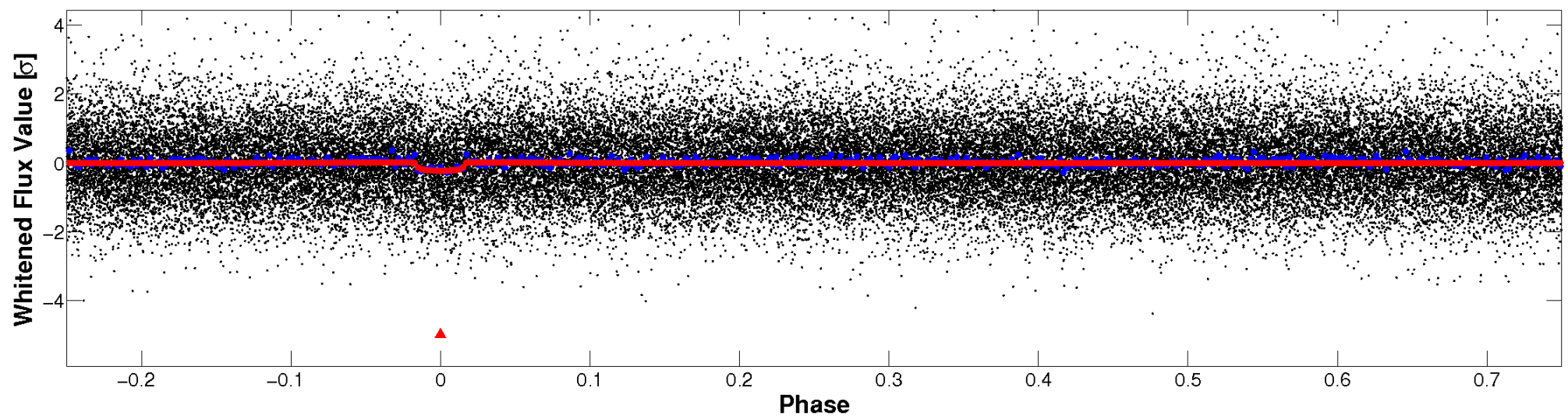


# Non-Whitened Vs. Whitened Light Curve

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

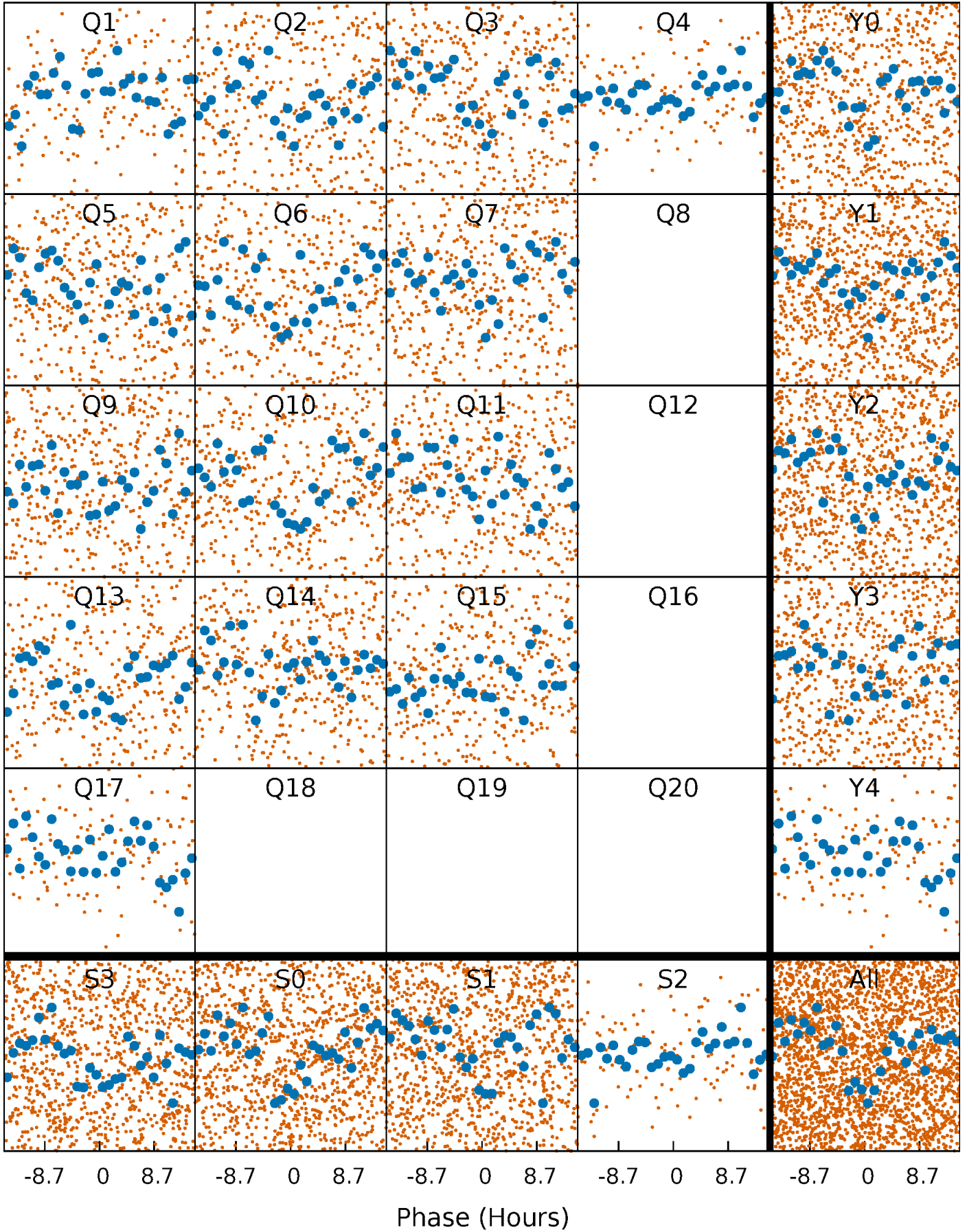


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

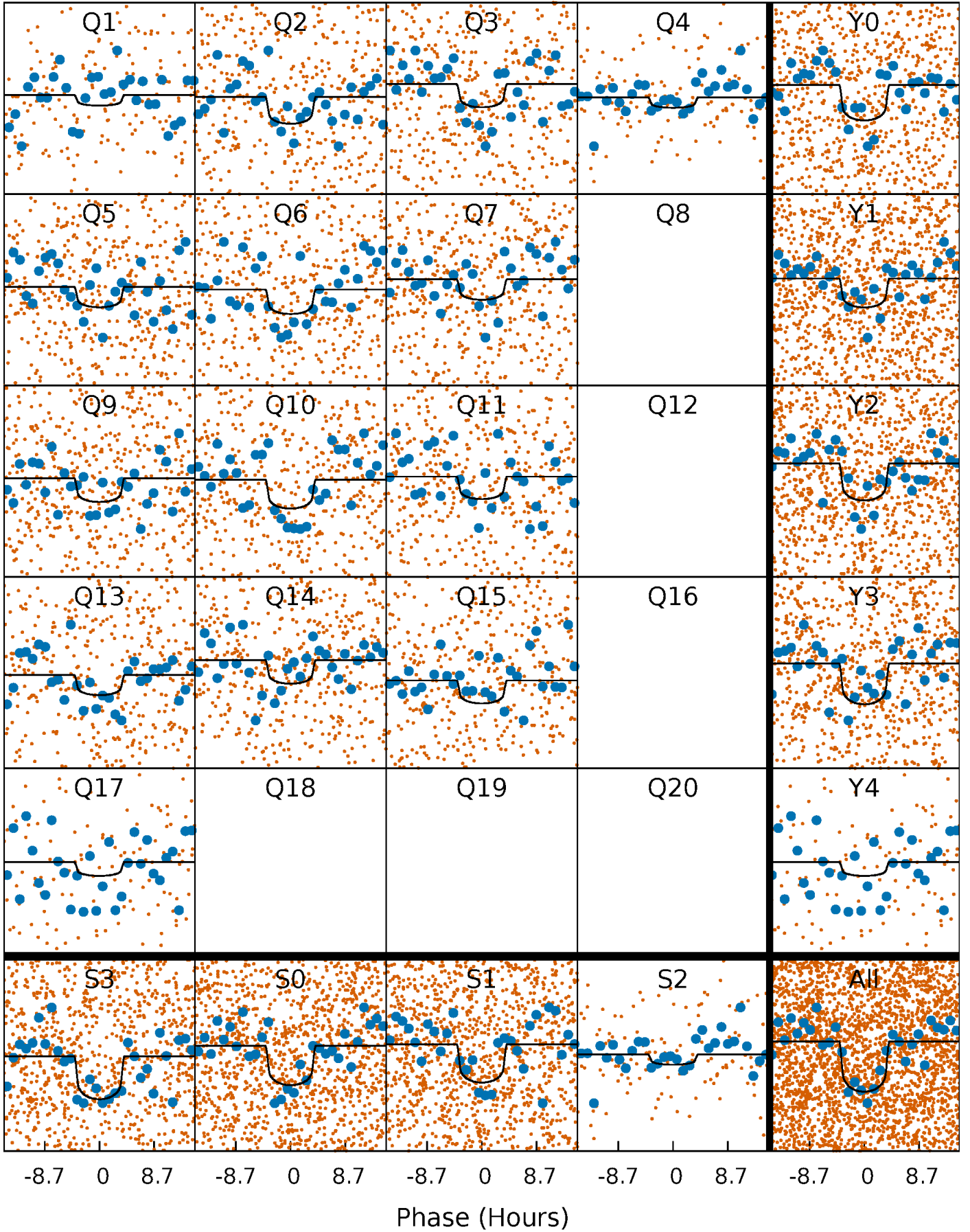
TCE 011904835-01 P= 9.463825 Days  $T_0=138.461649$  (BKJD)





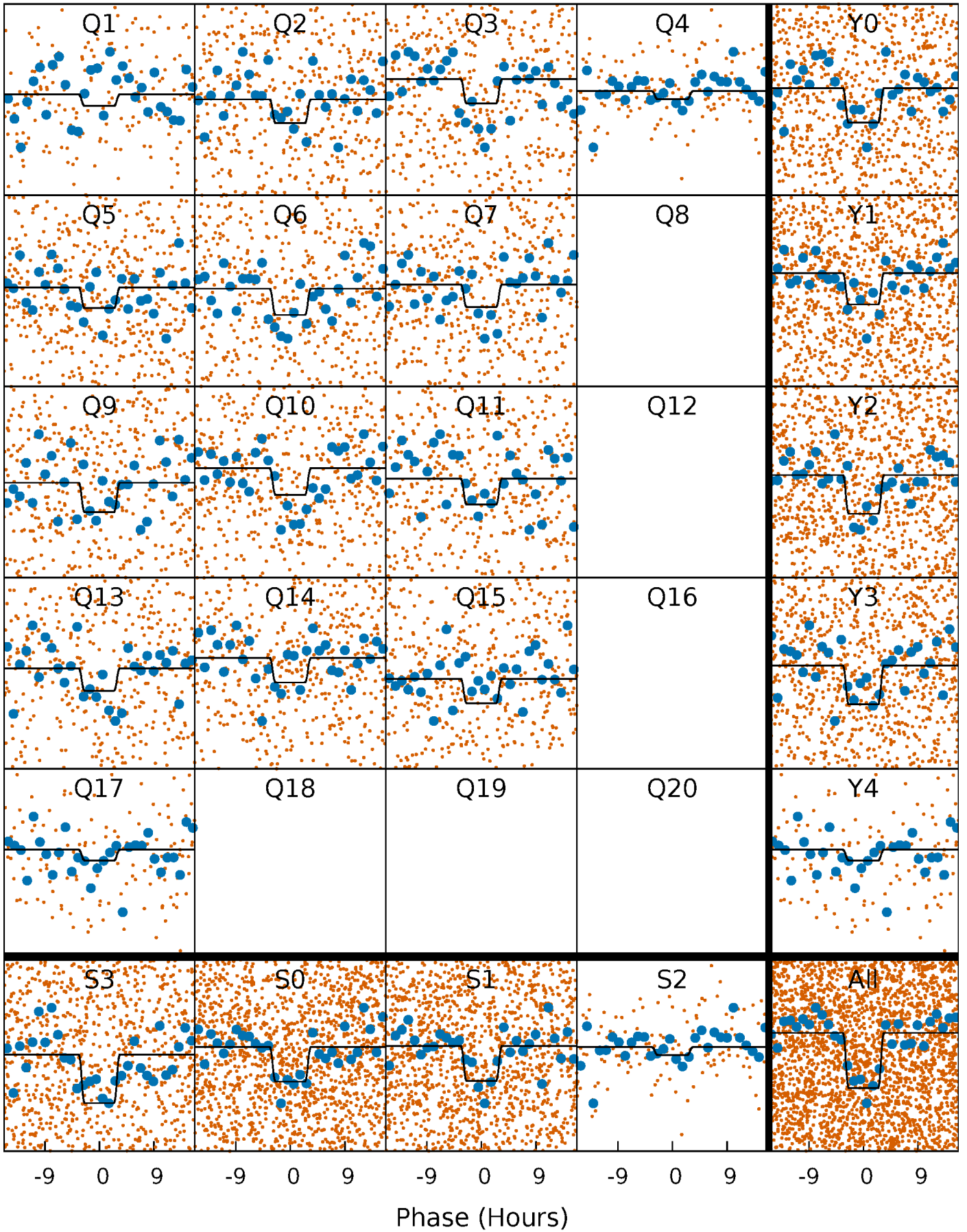
# DV Quarter-Phased Transit Curves

TCE 011904835-01 P= 9.463825 Days  $T_0=138.461649$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

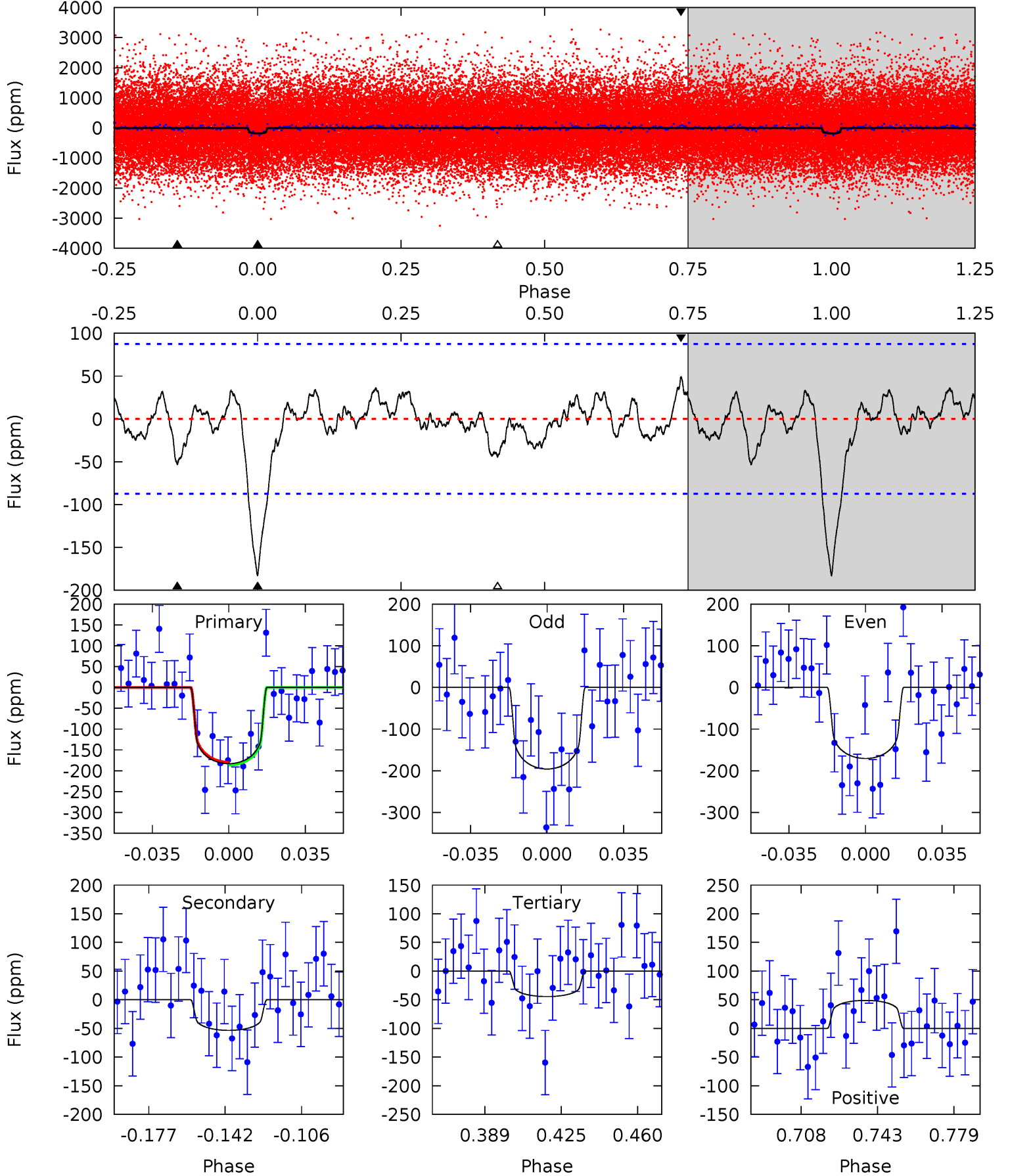
TCE 011904835-01 P= 9.463601 Days  $T_0=138.471388$  (BKJD)



# DV Model-Shift Uniqueness Test

011904835-01, P = 9.463825 Days, E = 128.997824 Days

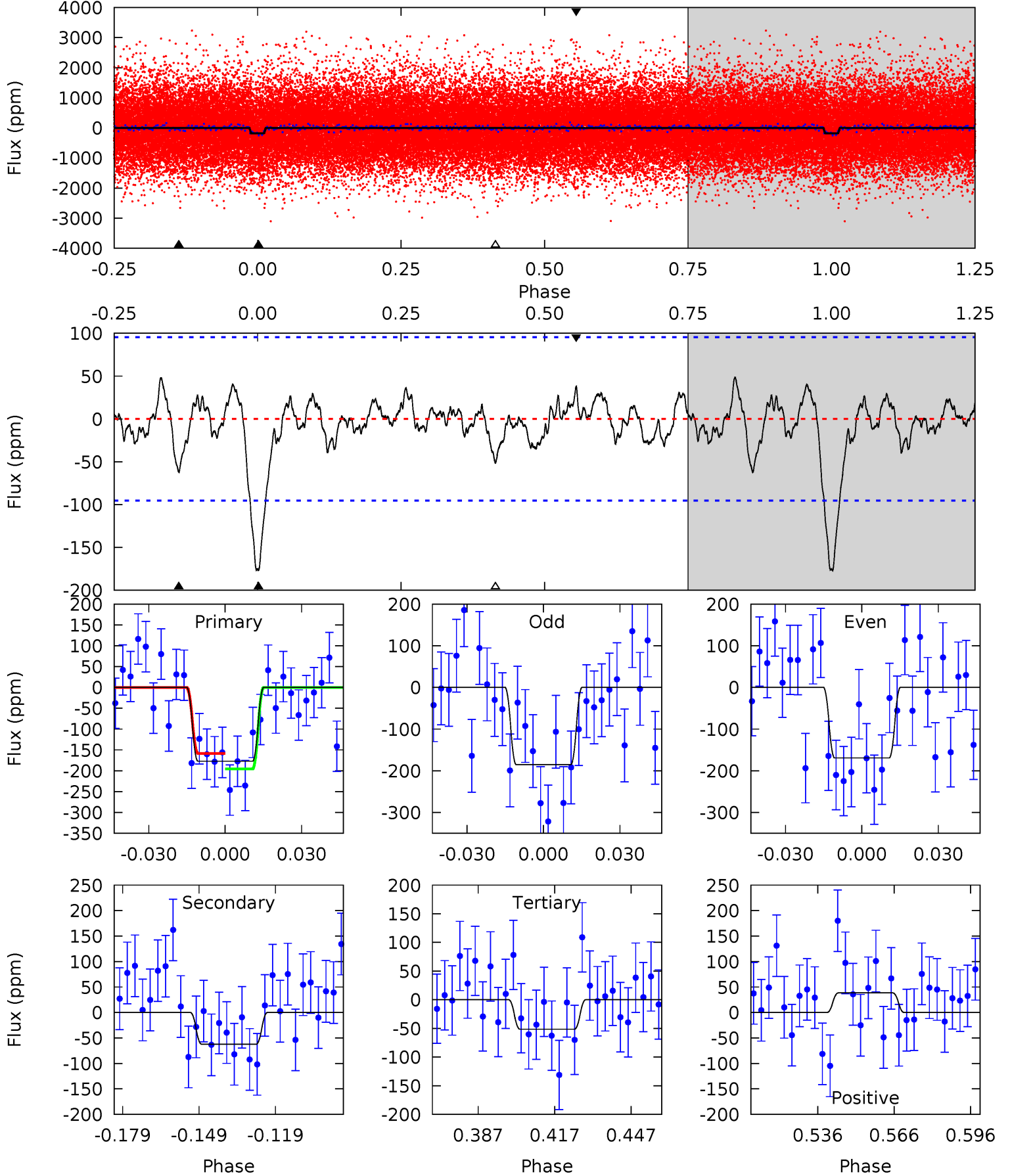
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	2.92	2.43	2.67	4.78	2.10	0.96	7.57	7.33	0.49	0.24	0.69	1.04	0.21	0.17



# Alt Model-Shift Uniqueness Test

011904835-01, P = 9.463601 Days, E = 129.007787 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
8.94	3.14	2.59	1.94	4.81	2.17	0.89	6.35	7.00	0.55	1.20	0.41	1.07	0.21	0.95





### Stellar Parameters For KIC 011904835

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5968^{+161}_{-179}$	$4.534^{+0.036}_{-0.204}$	$-0.260^{+0.300}_{-0.300}$	$0.881^{+0.257}_{-0.086}$	$0.970^{+0.106}_{-0.130}$	$1.995^{+0.394}_{-1.026}$
	+3%/-3%	+1%/-4%	+115%/-115%	+29%/-10%	+11%/-13%	+20%/-51%
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 011904835-01 / KOI 8068.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-53 \pm 18$	$1.45^{+0.93}_{-0.73}$	$1200^{+82}_{-55}$	$4378^{+1676}_{-717}$	$94^{+310}_{-60}$
Alt.	$-62 \pm 20$	$1.47^{+0.89}_{-0.82}$	$1203^{+82}_{-54}$	$4562^{+2121}_{-741}$	$116^{+502}_{-76}$

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

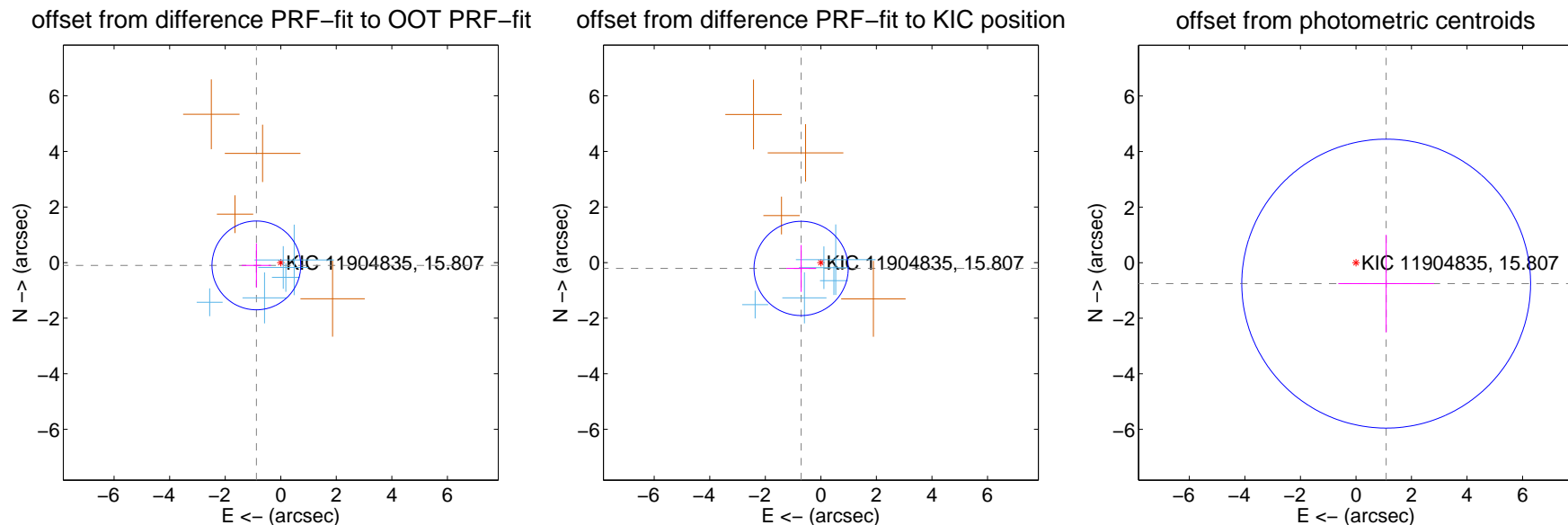
## DV Centroid Data

Supplemental centroid analysis for 011904835-01. Kepler magnitude: 15.81. Transit SNR 7.96

There are 5 quarters with good PRF difference image offsets

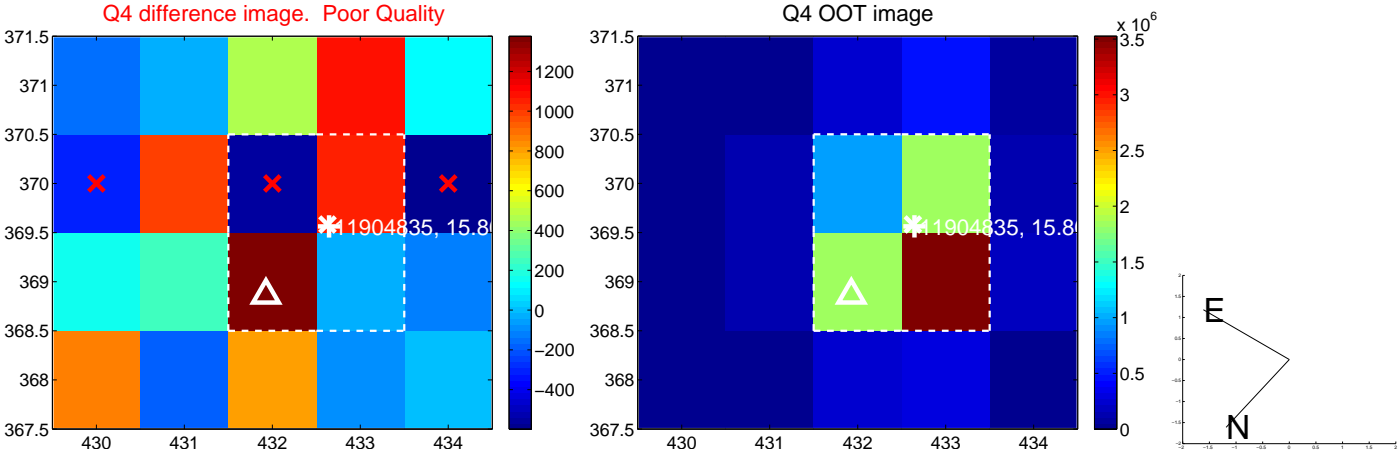
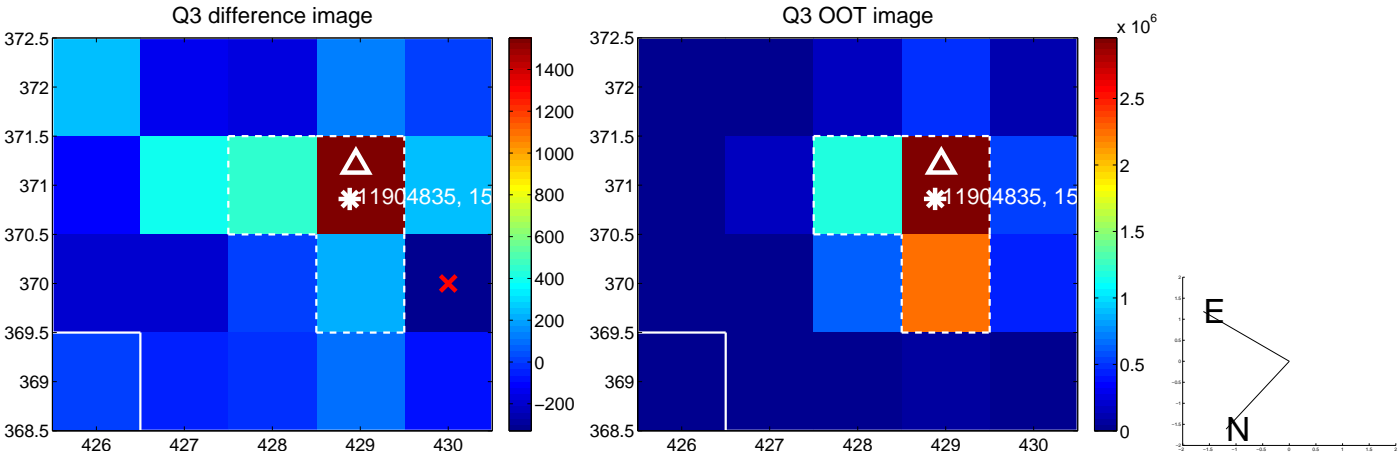
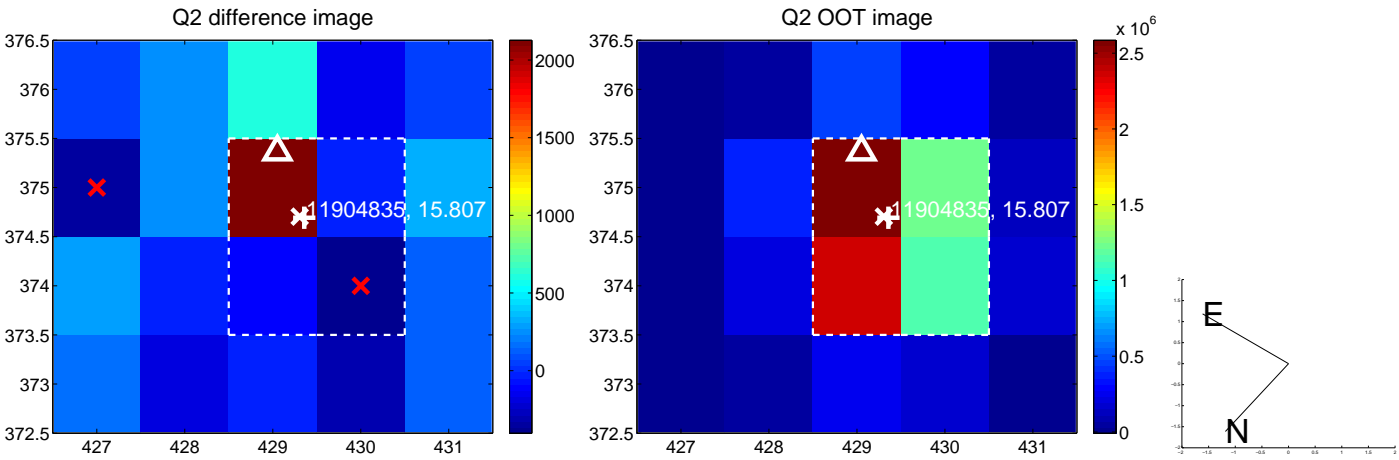
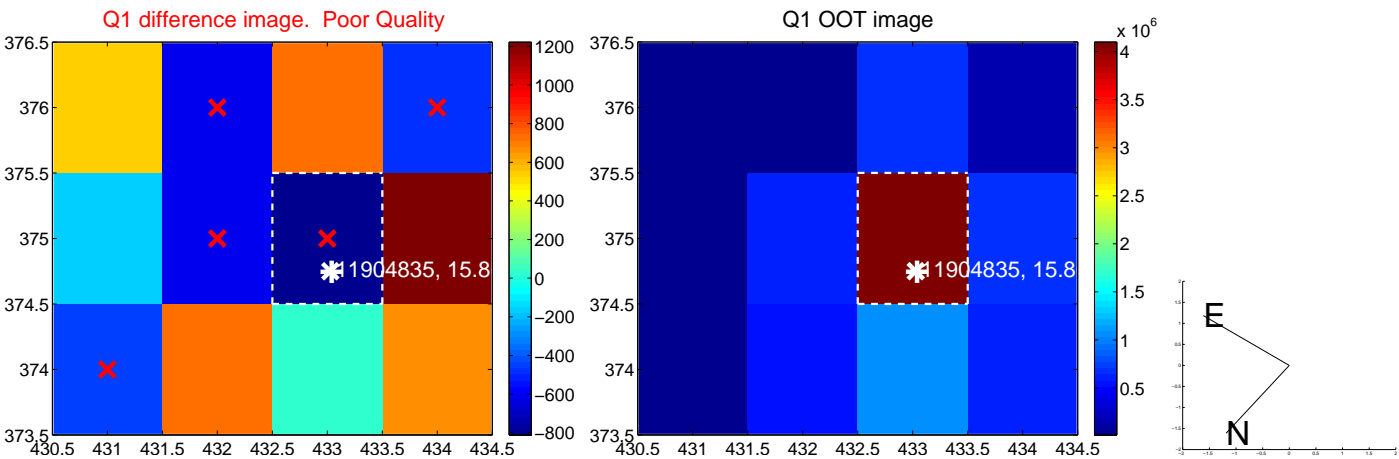
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.884 \pm 0.533$	1.66	$0.878 \pm 0.528$	$-0.102 \pm 0.791$
PRF-fit source offset from KIC position	$0.741 \pm 0.565$	1.31	$0.710 \pm 0.534$	$-0.210 \pm 0.843$
photometric centroid source offset	$1.32 \pm 1.73$	0.76	$-1.09 \pm 1.72$	$-0.75 \pm 1.76$

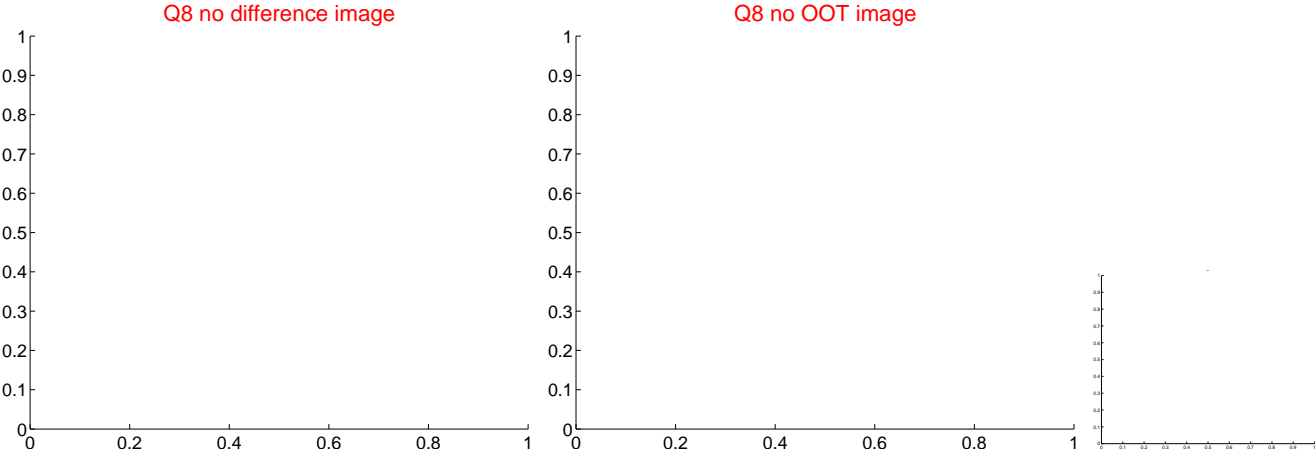
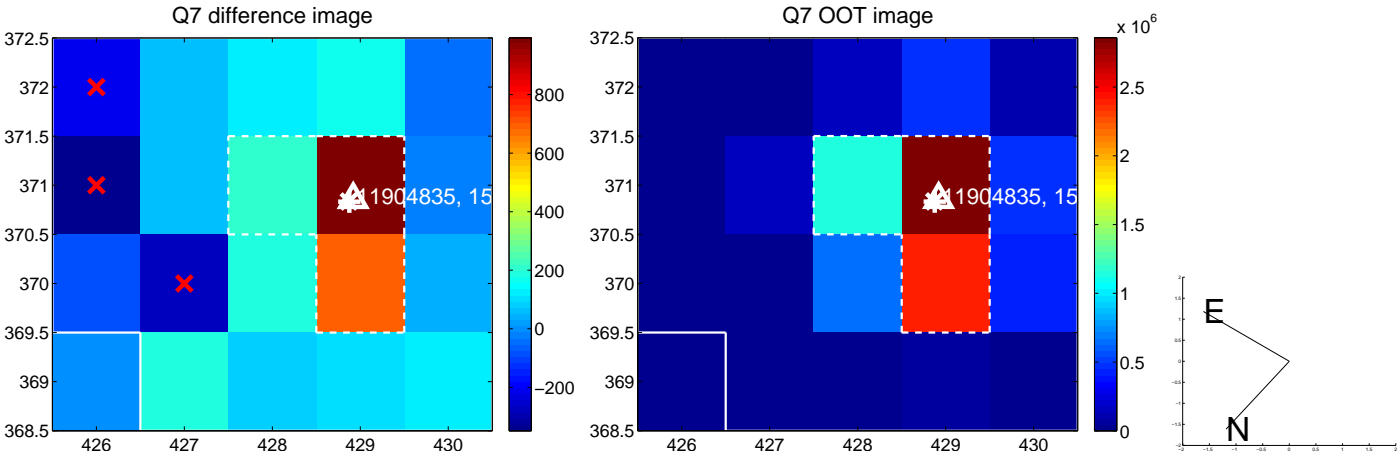
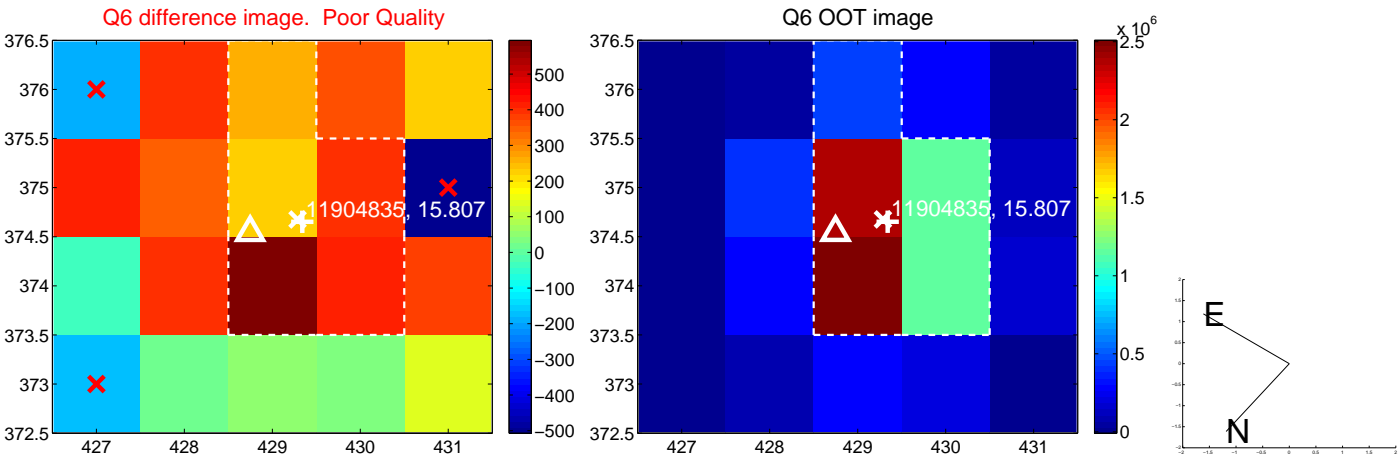
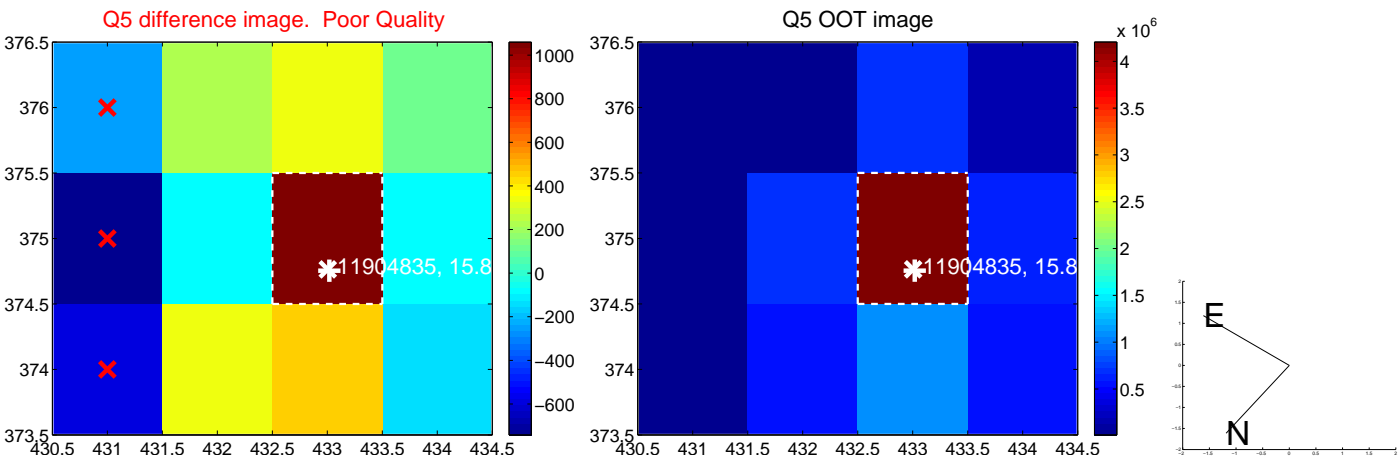


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

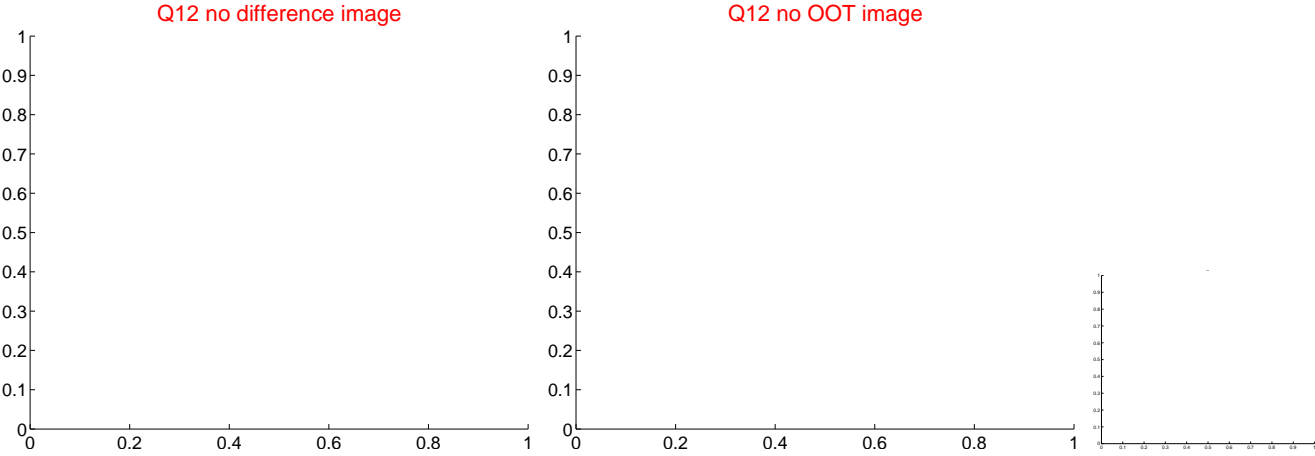
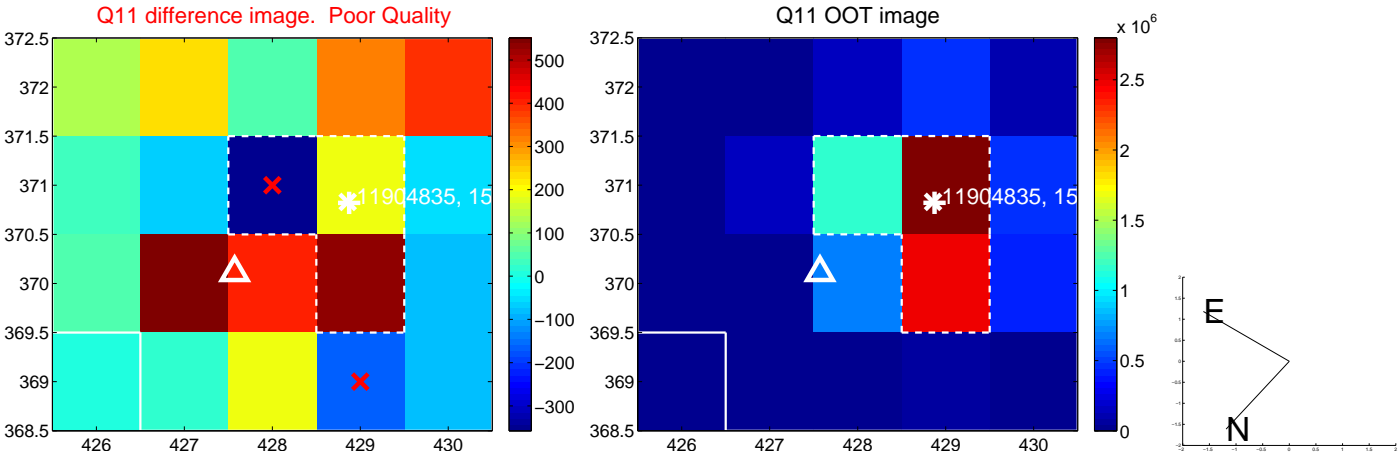
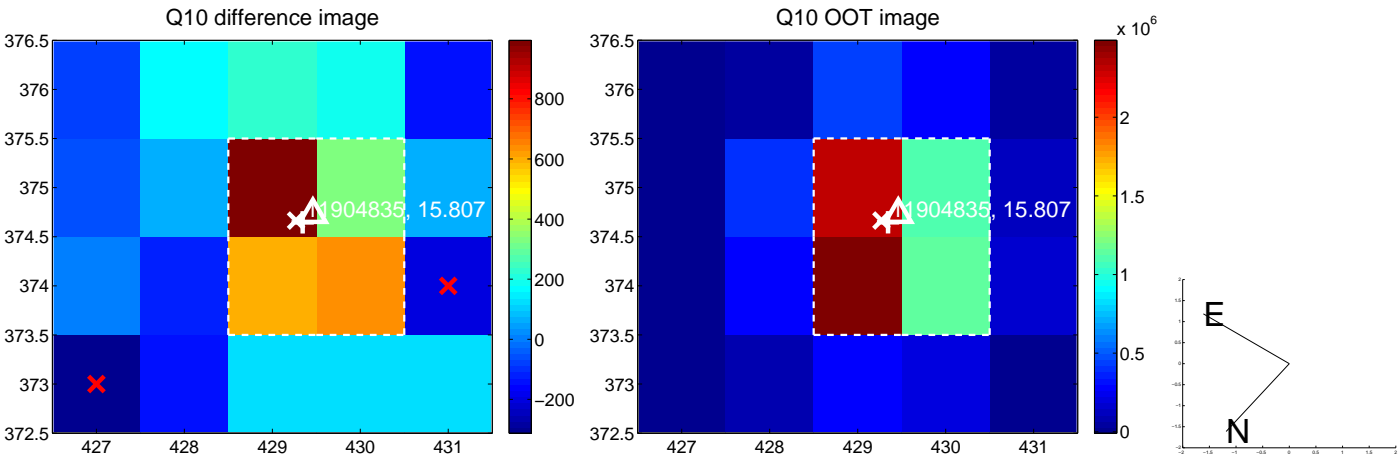
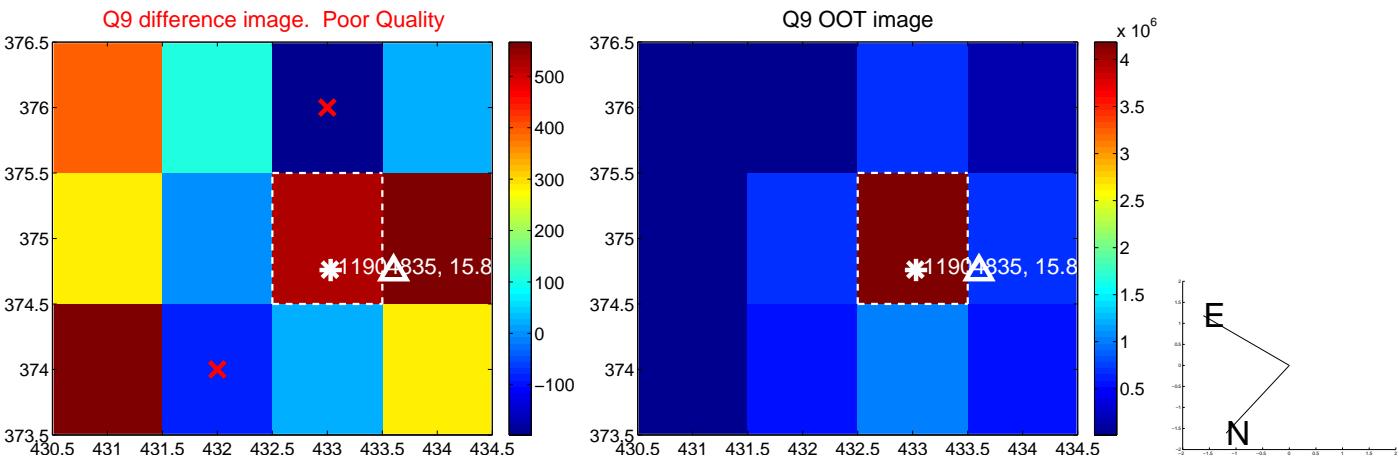


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

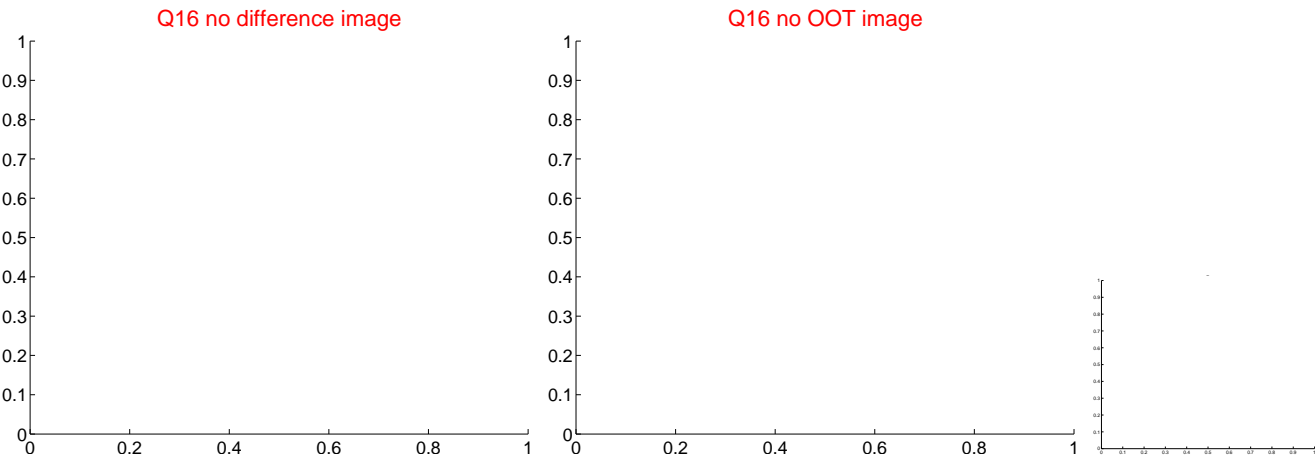
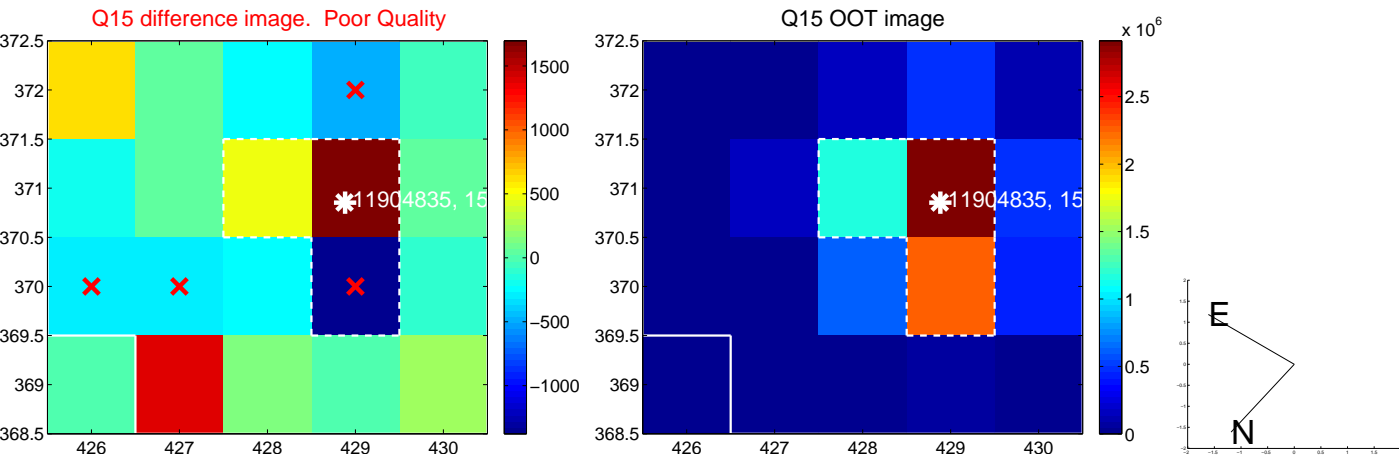
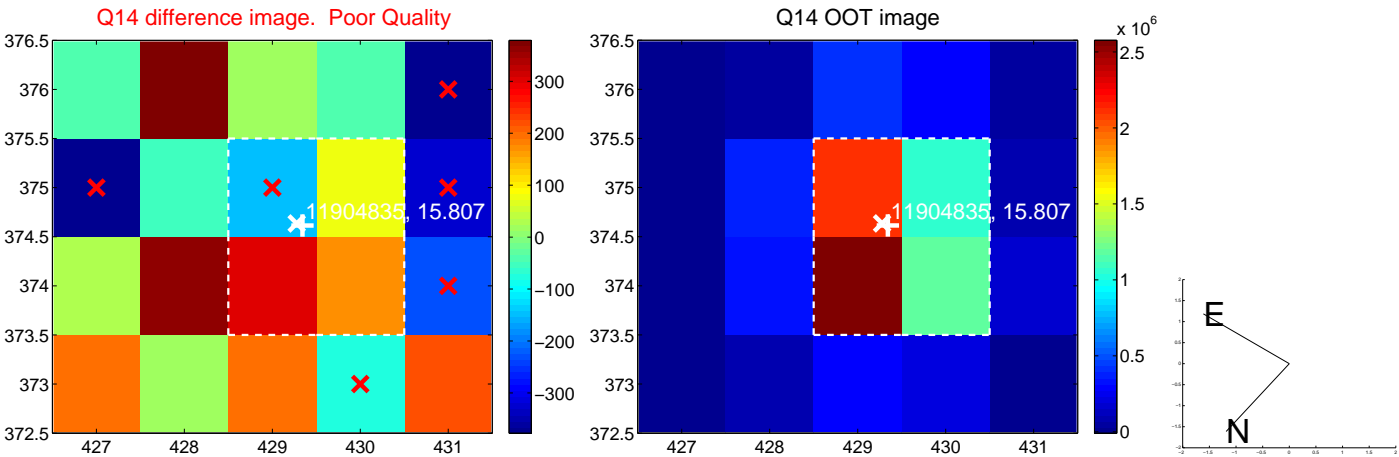
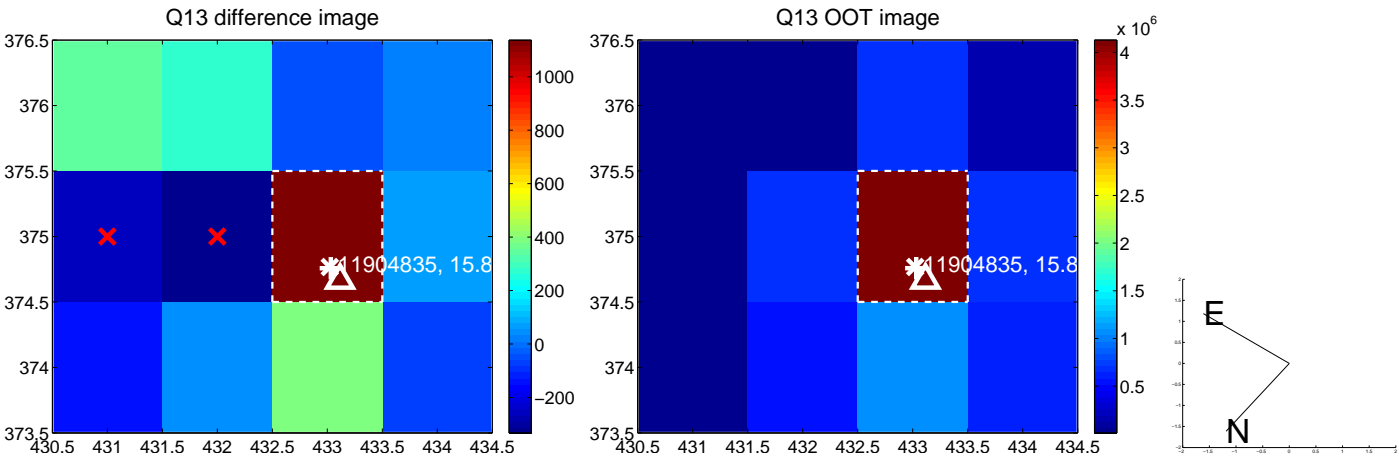




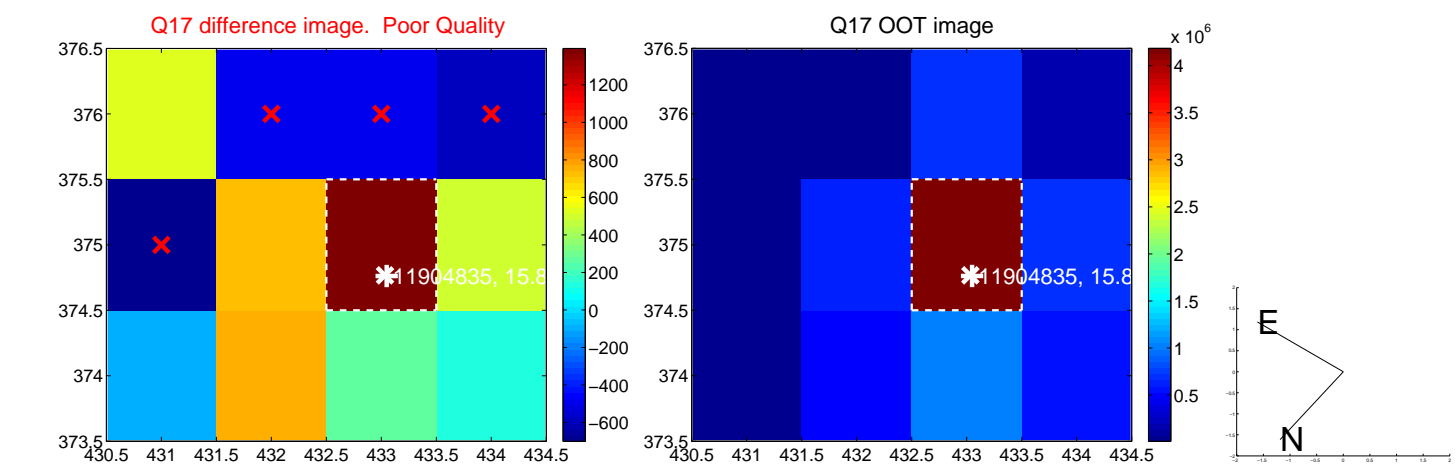
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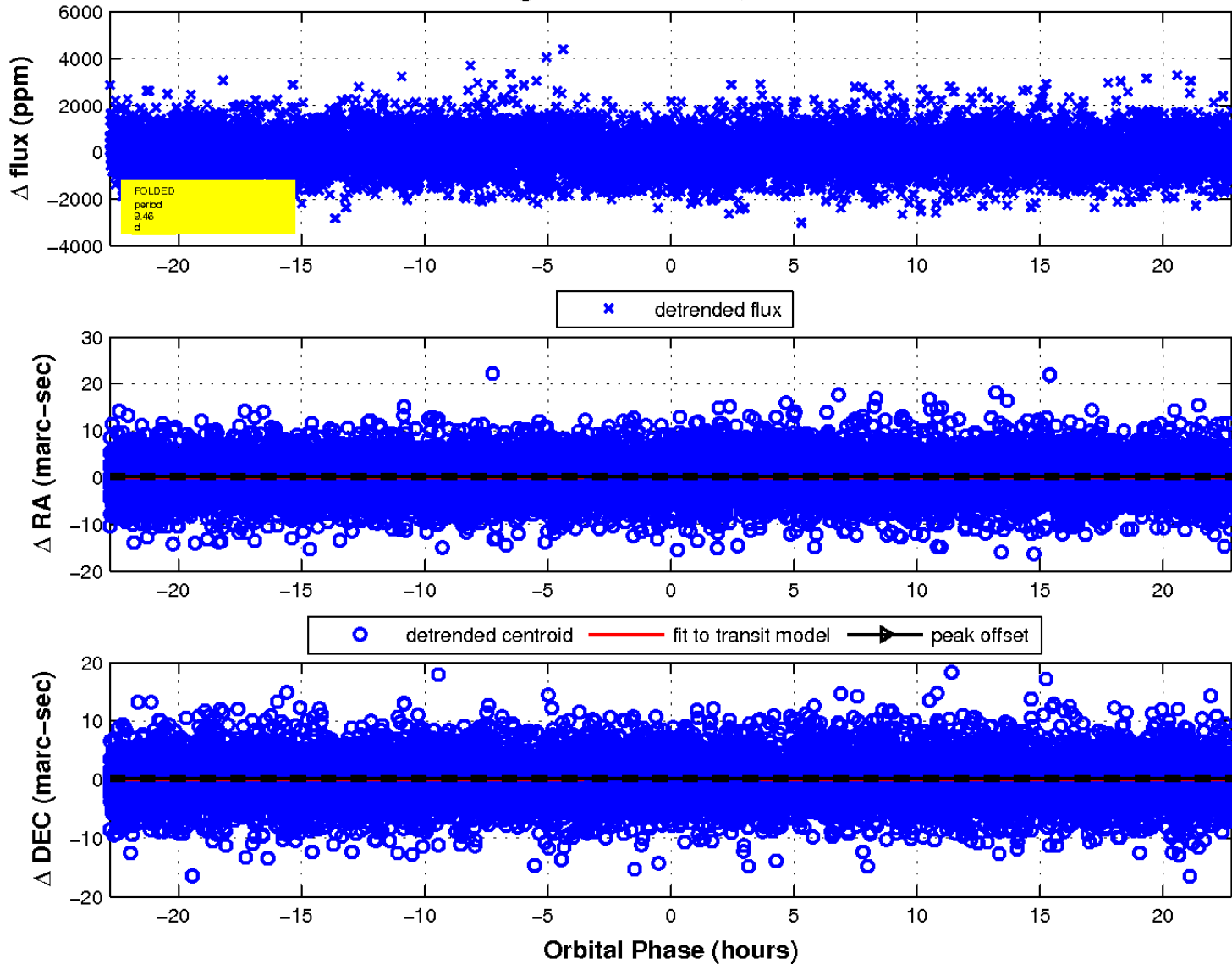
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

