

# KIC 006183511

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006183511-01	OBS	2542.01	0.727331	131.643172	365.8	0.774	14.7	20.8	0.36	3460	0.70	122.80

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006183511-01	OBS	PC	0.96	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.

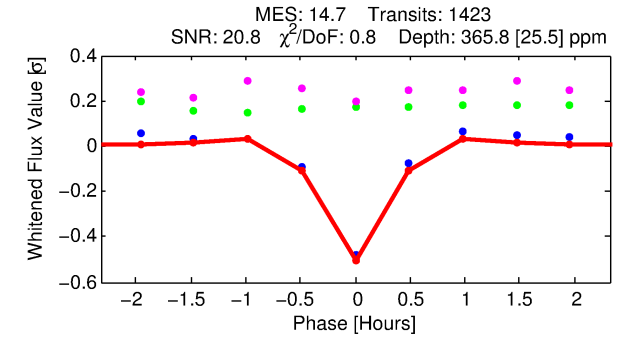
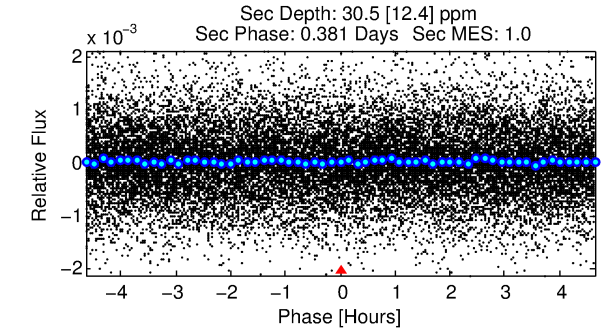
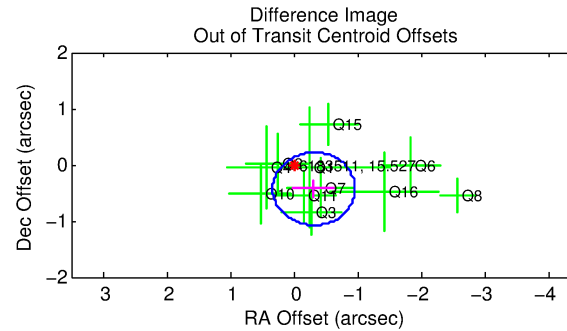
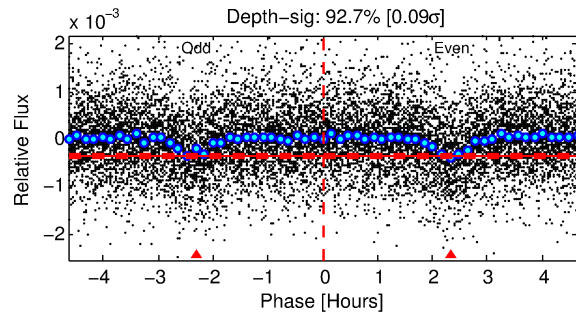
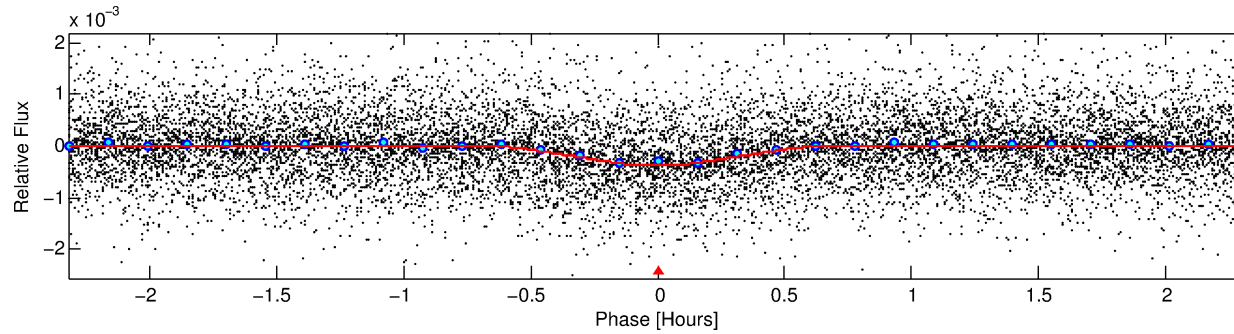
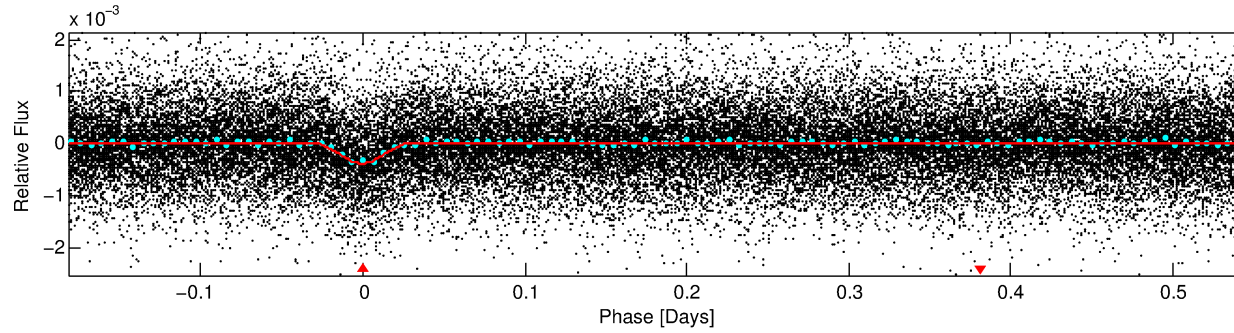
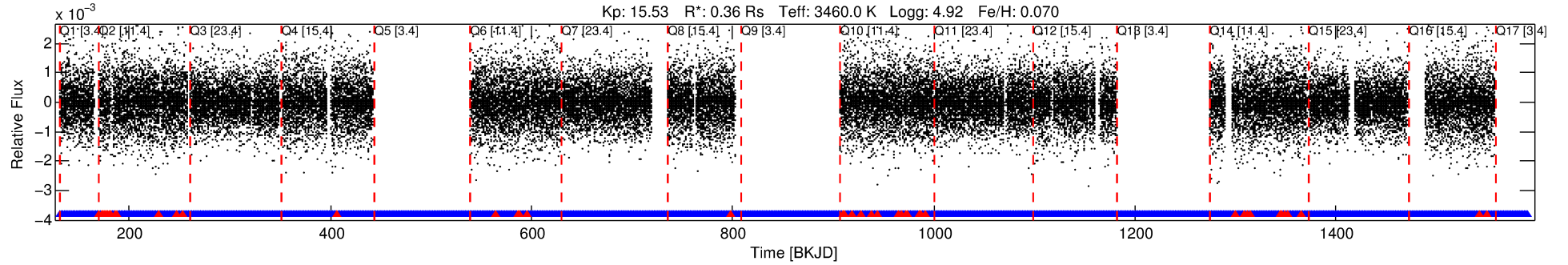
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006183511-01

No Significant Match Found

# DV One-Page Summary

KIC: 6183511 Candidate: 1 of 1 Period: 0.727 d  
KOI: K02542.01 Corr: 0.911



## DV Fit Results:

Period = 0.72733 [0.00001] d  
Epoch = 131.6432 [0.0007] BKJD  
Rp/R\* = 0.0181 [0.0084]  
a/R\* = 6.43 [12.15]  
b = 0.49 [2.97]  
Seff = 122.80 [22.13]  
Teq = 849 [38] K  
Rp = 0.70 [0.35] Re  
a = 0.0115 [0.0014] AU  
Ag = 4.47 [4.57] [0.76σ]  
Teffp = 1908 [485] K [2.18σ]

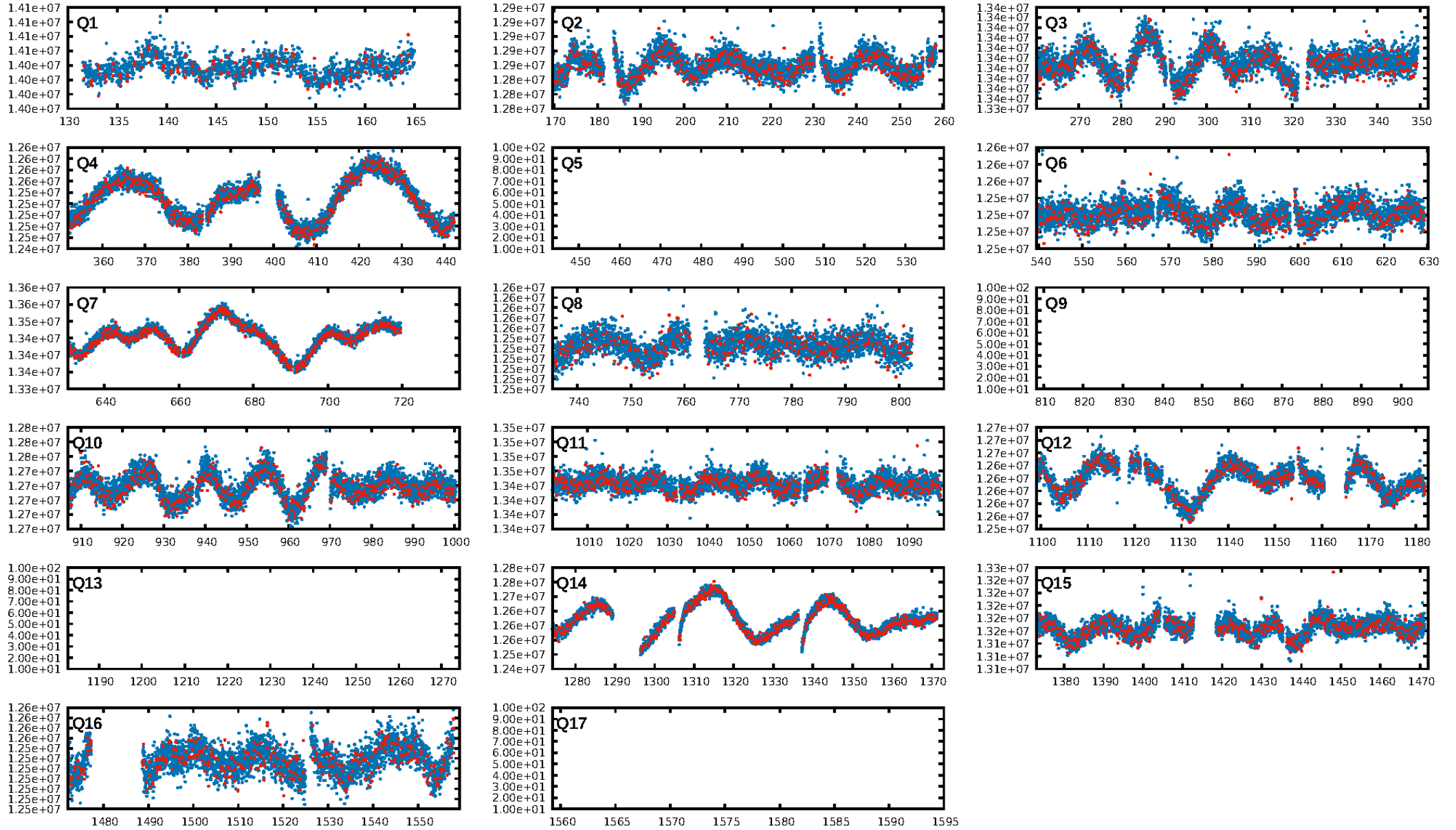
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.42e-45  
RollingBand-fgt: 0.96 [1327/1377]  
GhostDiagnostic-chr: 2.876  
Centroid-sig: 1.2%  
Centroid-so: 1.473 arcsec [1.96σ]  
OotOffset-rm: 0.533 arcsec [2.47σ]  
OotOffset-st: 3/4/3/1 [11]  
KicOffset-rm: 0.968 arcsec [3.81σ]  
KicOffset-st: 3/4/3/1 [11]  
DiffImageQuality-fgm: 1.00 [11/11]  
DiffImageOverlap-fno: 1.00 [13/13]

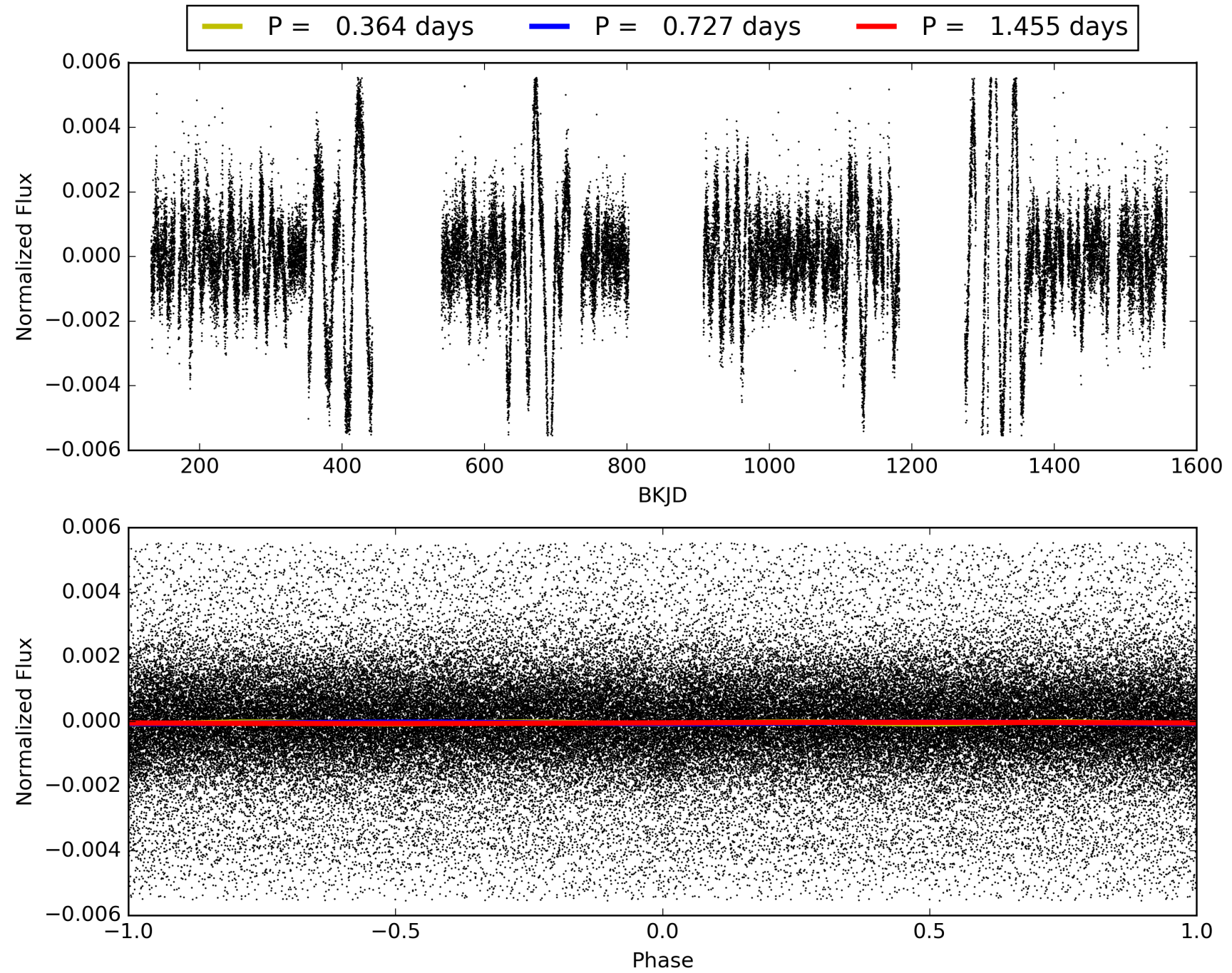
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:34:35 Z

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

# TCE 006183511-01, PDC Light Curves



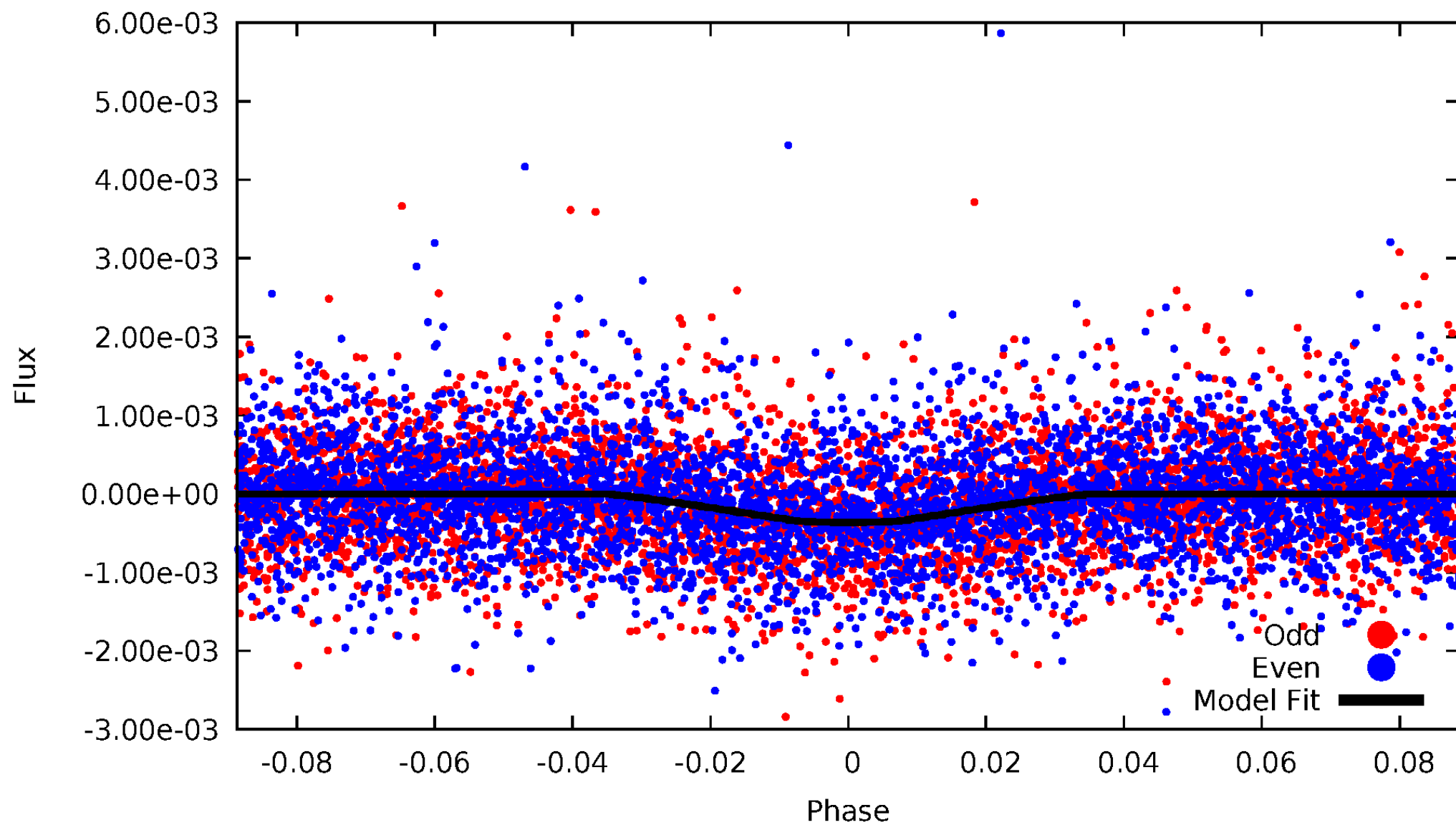
TCE 006183511-01





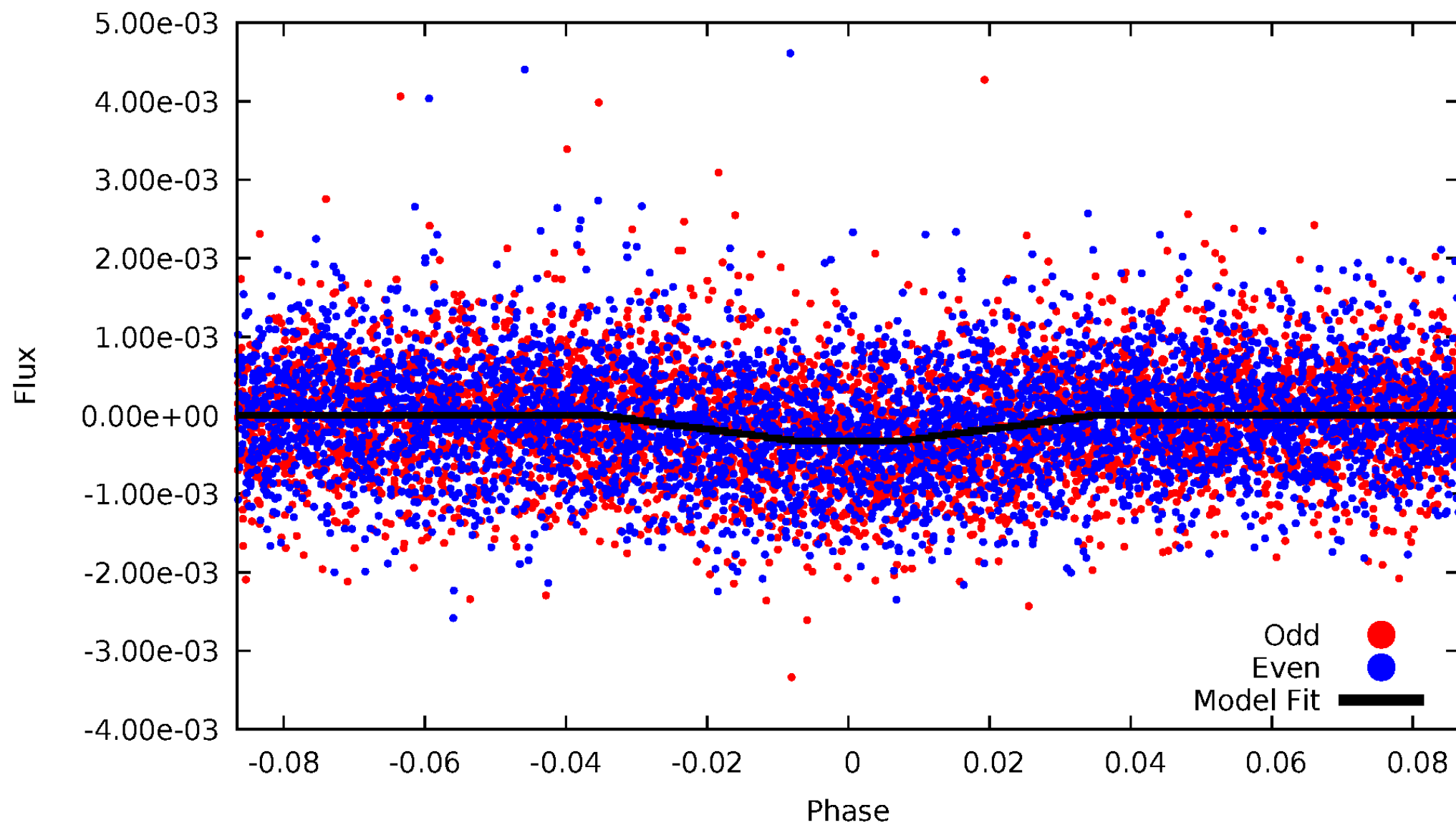
# DV Odd/Even

TCE 006183511-01



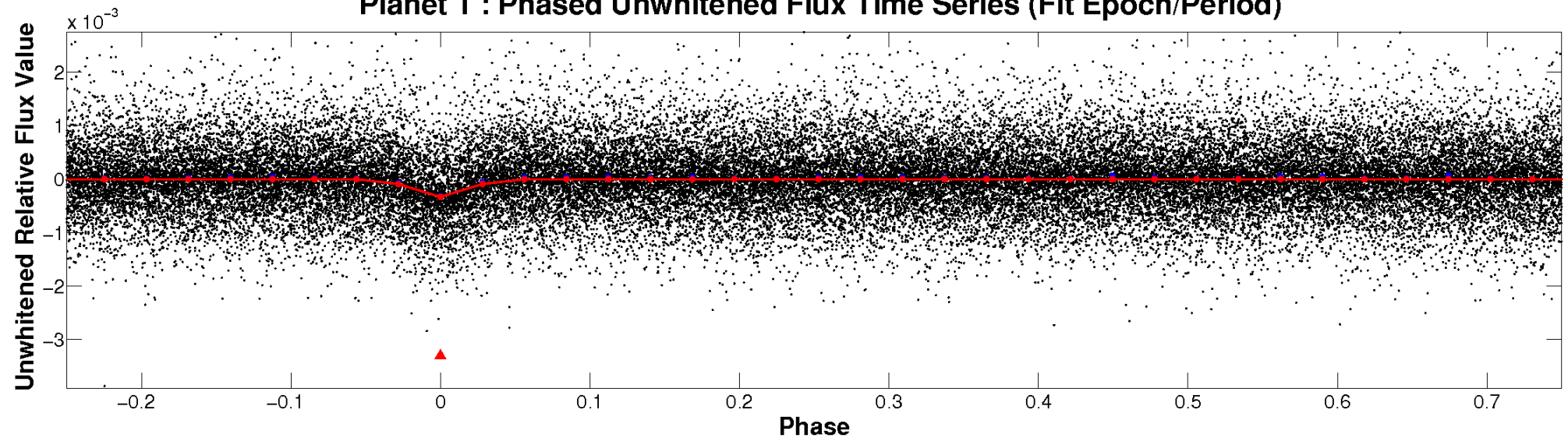
# ALT Odd/Even

TCE 006183511-01

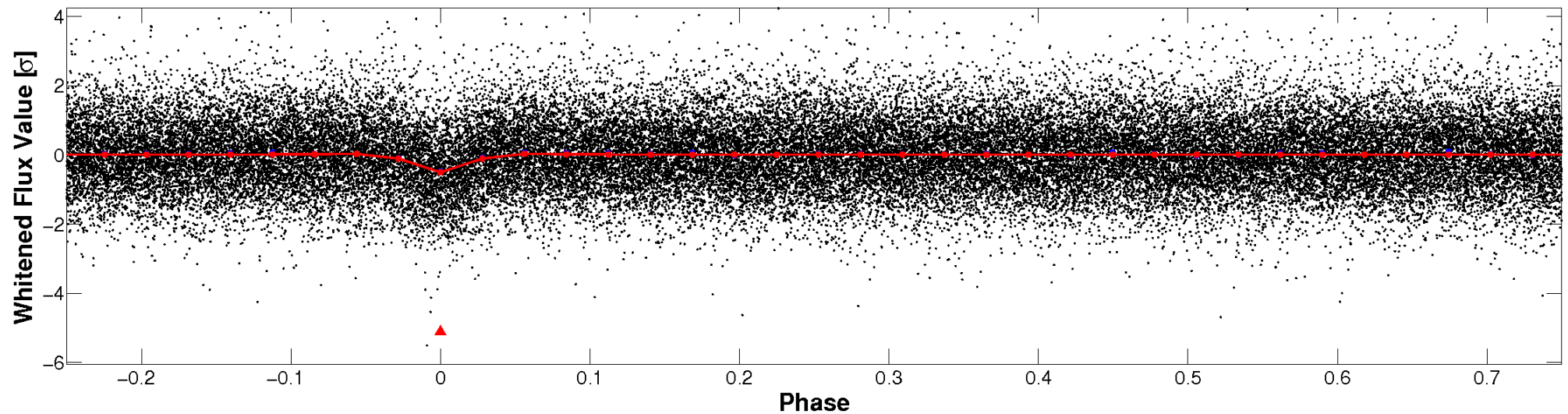


# Non-Whitened Vs. Whitened Light Curve

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

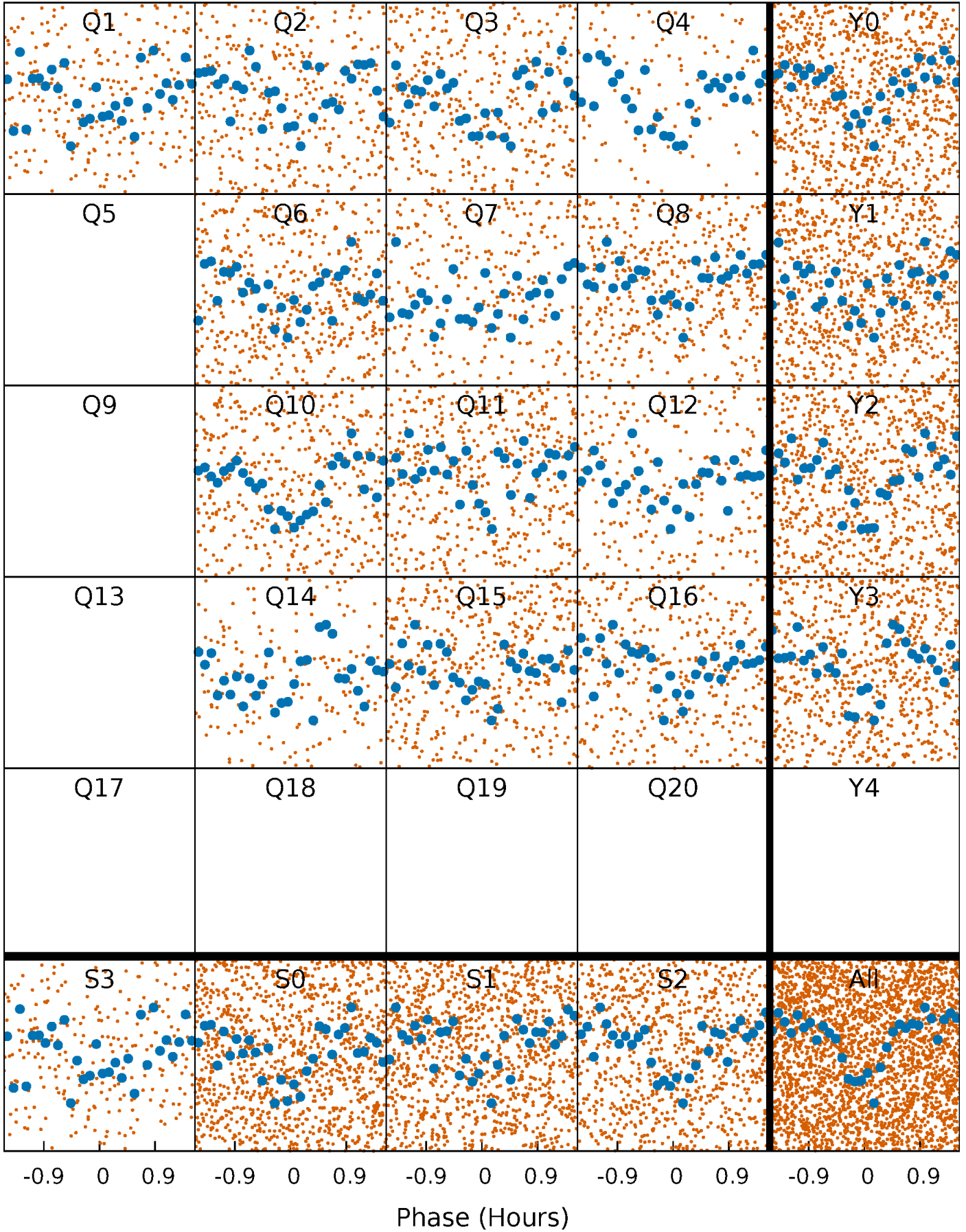


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

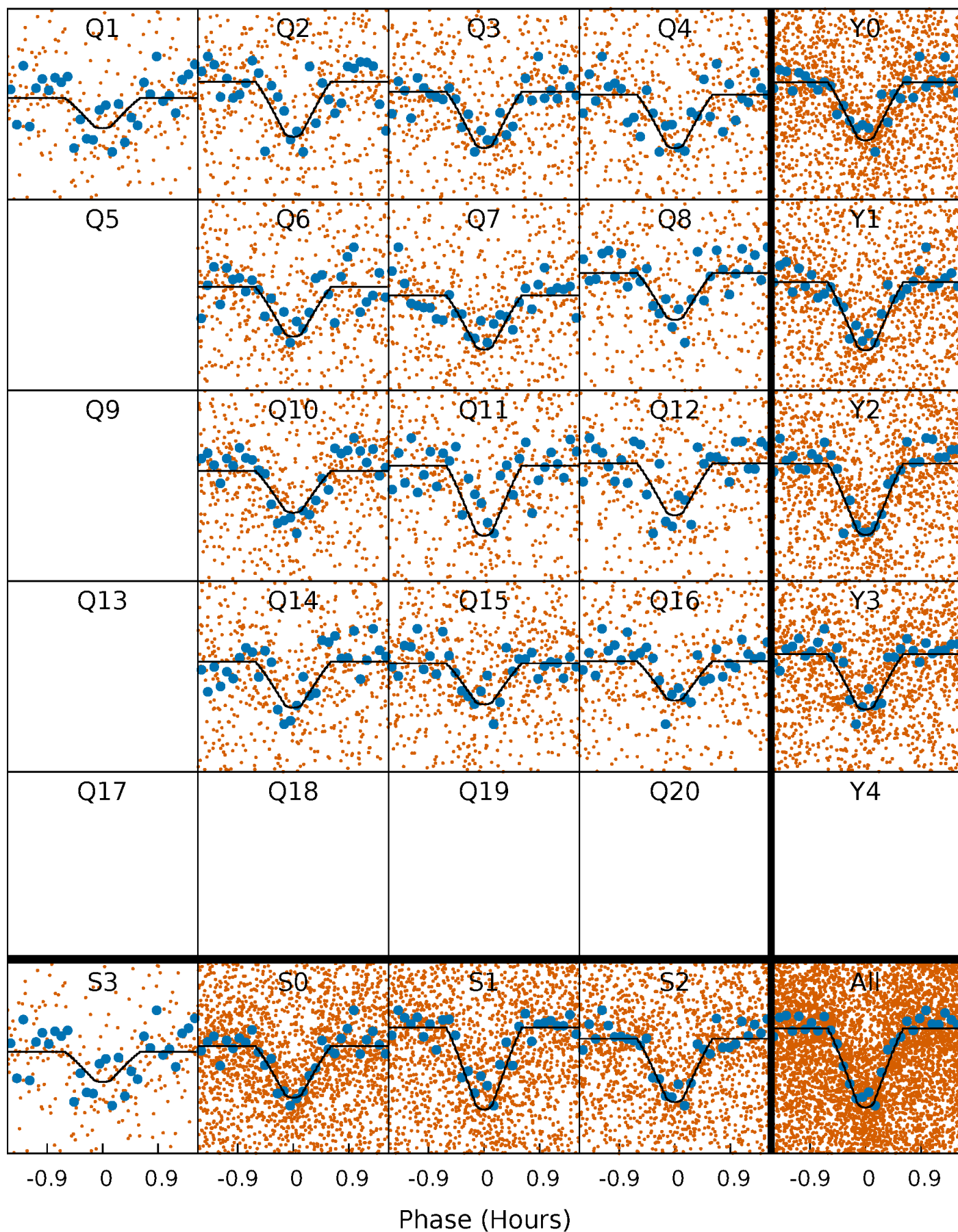
TCE 006183511-01 P= 0.727331 Days  $T_0=131.643172$  (BKJD)





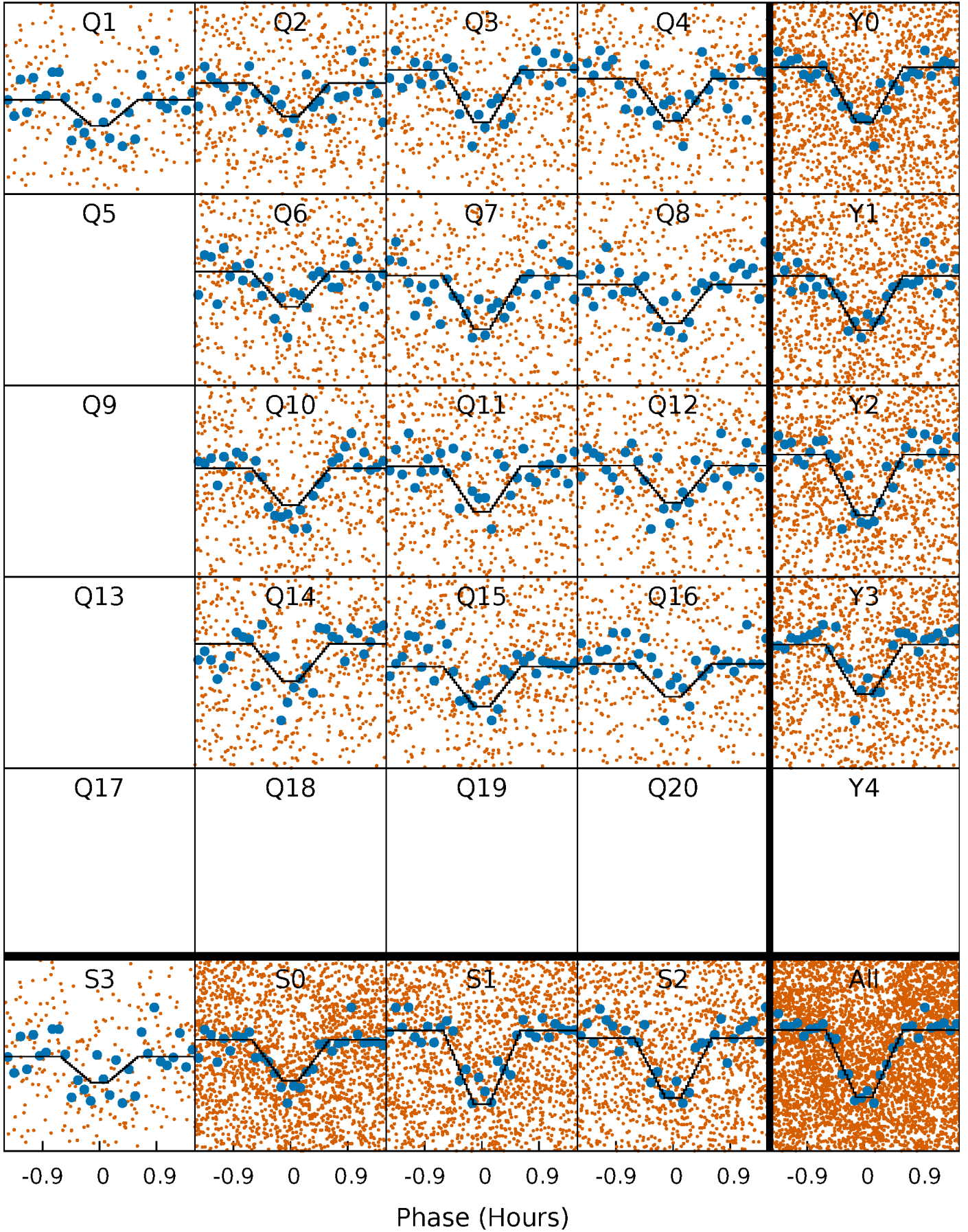
# DV Quarter-Phased Transit Curves

TCE 006183511-01 P= 0.727331 Days  $T_0=131.643172$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

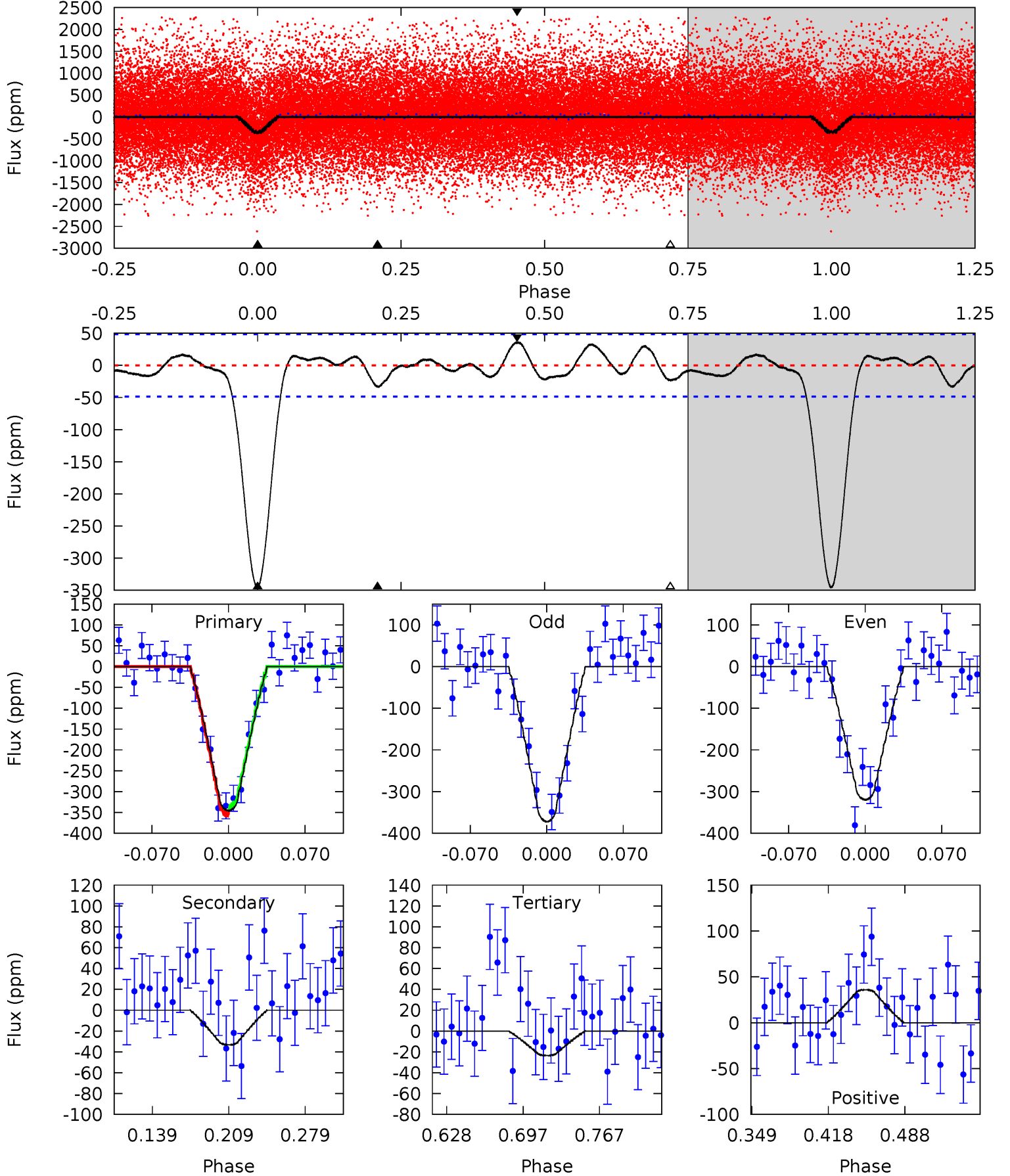
TCE 006183511-01 P= 0.727331 Days  $T_0=131.643152$  (BKJD)



# DV Model-Shift Uniqueness Test

006183511-01, P = 0.727331 Days, E = 130.915841 Days

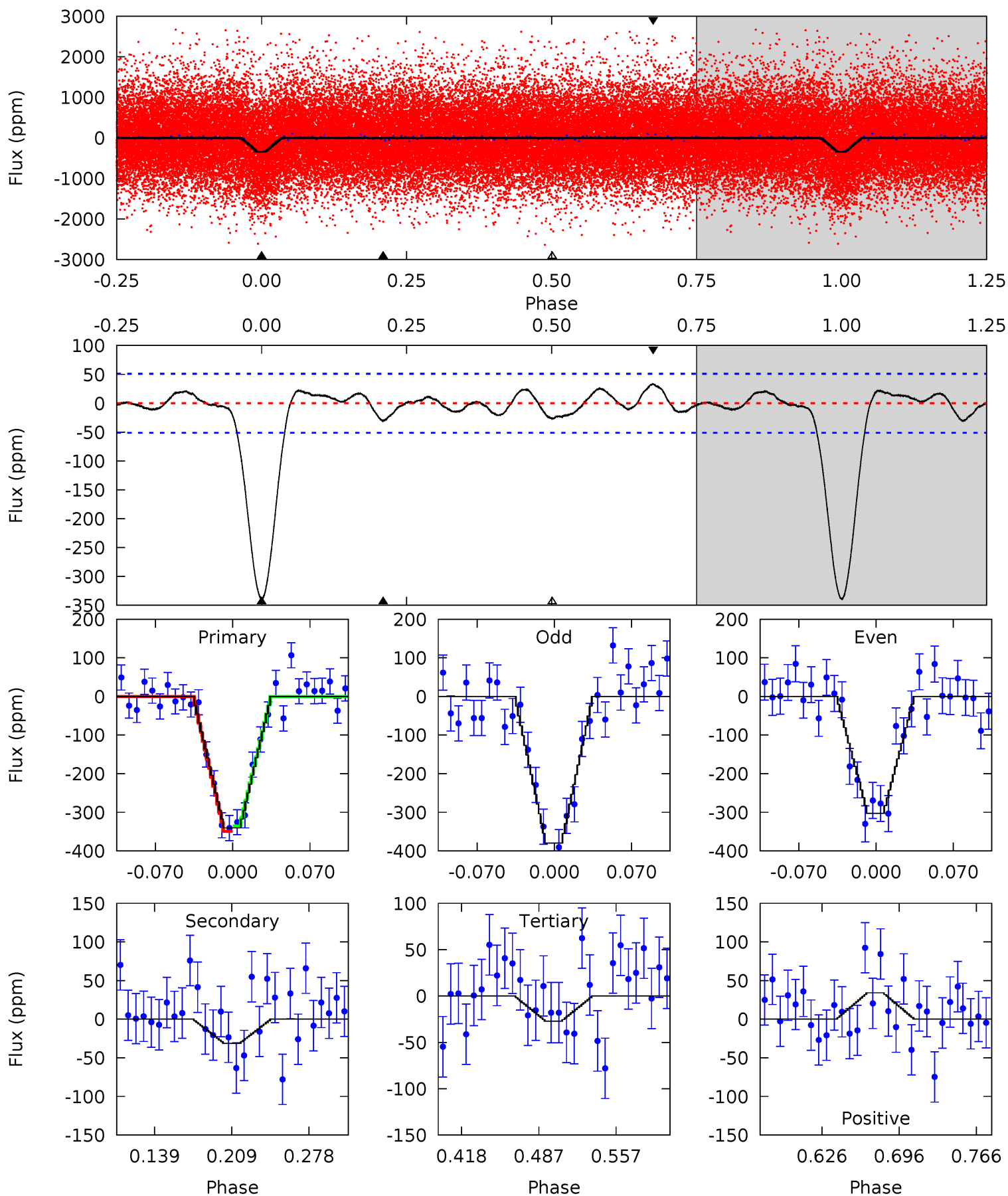
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.1	3.18	2.25	3.44	4.64	1.81	1.42	30.8	29.6	0.93	-0.25	2.53	0.97	0.09	0.90



# Alt Model-Shift Uniqueness Test

006183511-01, P = 0.727331 Days, E = 130.915821 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
30.9	2.83	2.47	3.09	4.64	1.81	1.26	28.4	27.8	0.37	-0.26	3.49	0.91	0.09	0.63





### Stellar Parameters For KIC 006183511

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3460^{+69}_{-83}$	$4.920^{+0.058}_{-0.071}$	$0.070^{+0.150}_{-0.150}$	$0.356^{+0.057}_{-0.057}$	$0.385^{+0.055}_{-0.076}$	$12.000^{+4.368}_{-3.201}$
	+2%/-2%	+1%/-1%	+214%/-214%	+16%/-16%	+14%/-20%	+36%/-27%
Source	SPE70	SPE60	SPE70	DSEP		

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

### Secondary Eclipse Parameters for KIC 006183511-01 / KOI 2542.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-33 \pm 10$	$0.71^{+0.32}_{-0.32}$	$1189^{+45}_{-46}$	$2477^{+423}_{-244}$	$4.558^{+10.887}_{-2.547}$
Alt.	$-31 \pm 11$	$0.70^{+0.35}_{-0.30}$	$1188^{+43}_{-41}$	$2466^{+415}_{-269}$	$4.361^{+9.694}_{-2.541}$

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

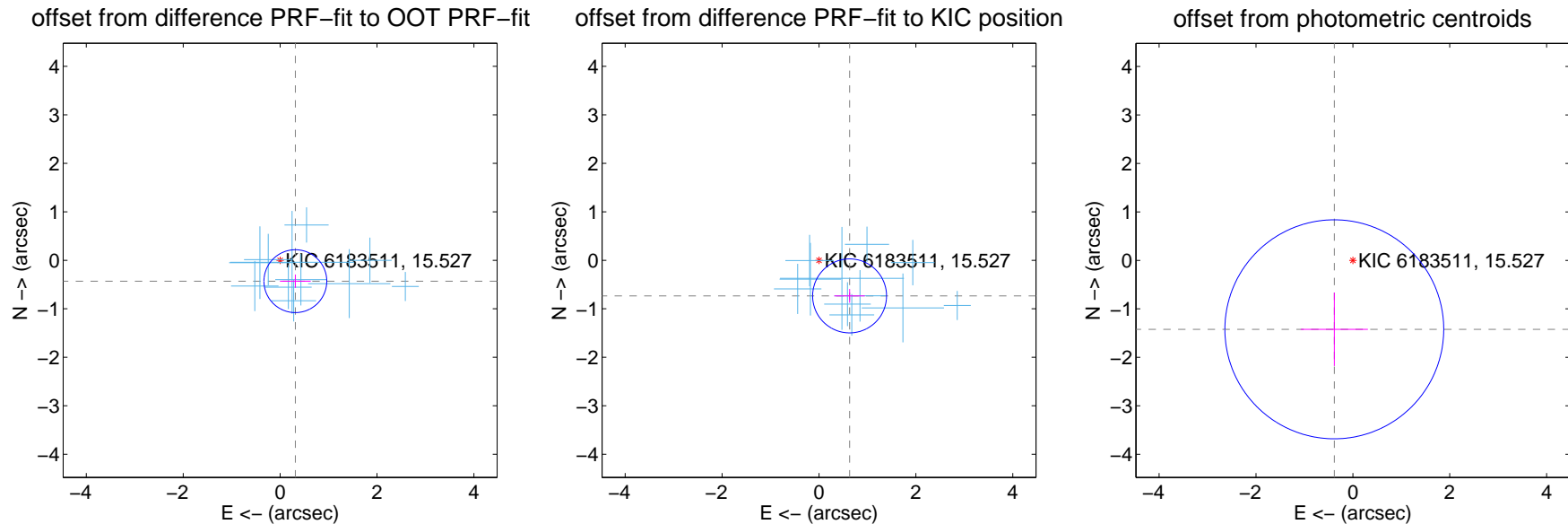
## DV Centroid Data

Supplemental centroid analysis for 006183511-01. Kepler magnitude: 15.53. Transit SNR 20.84

There are 11 quarters with good PRF difference image offsets

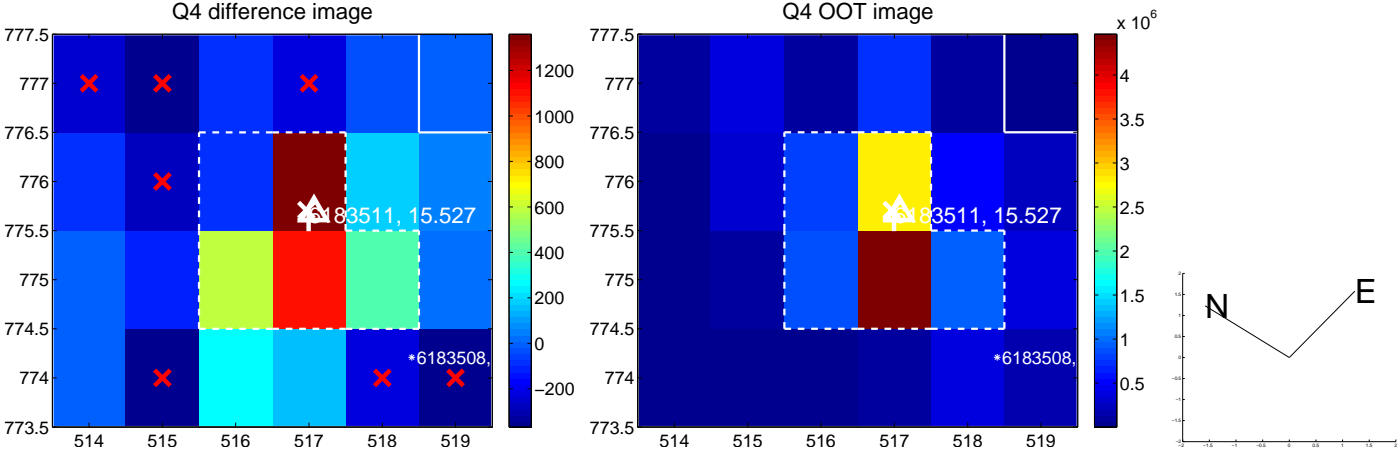
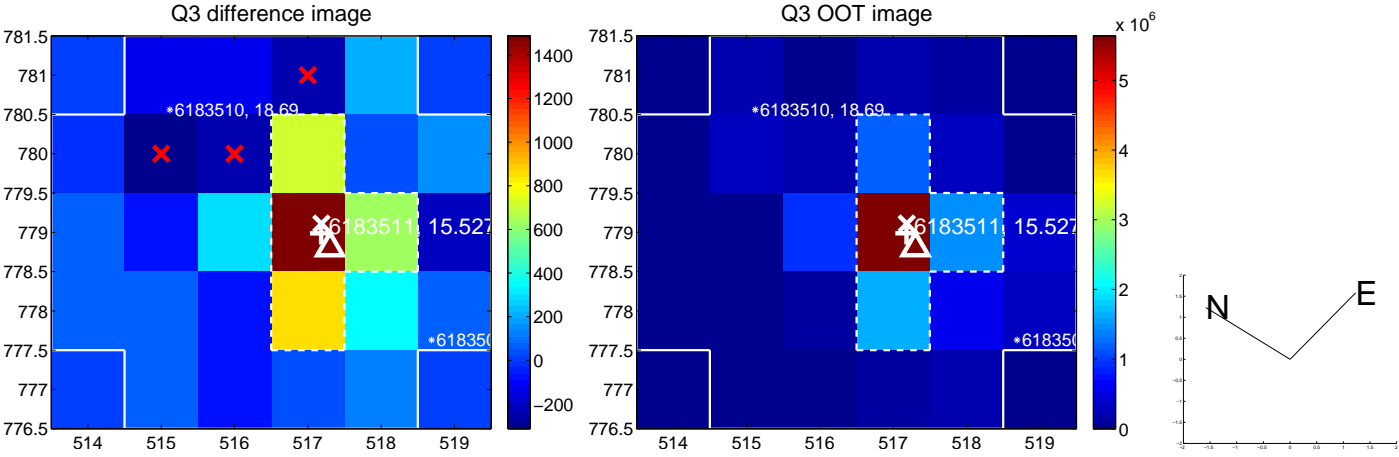
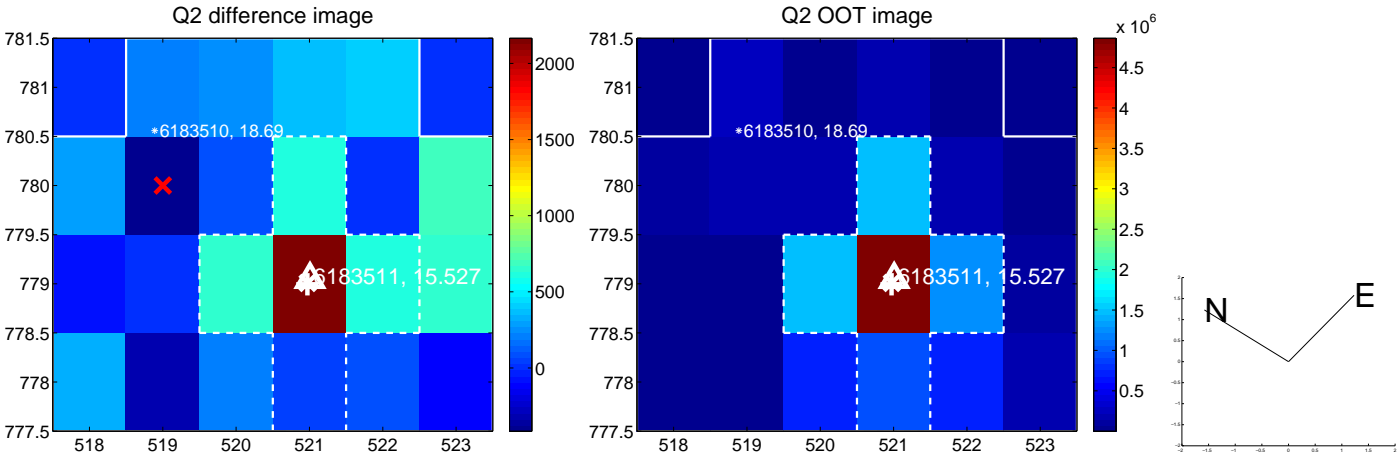
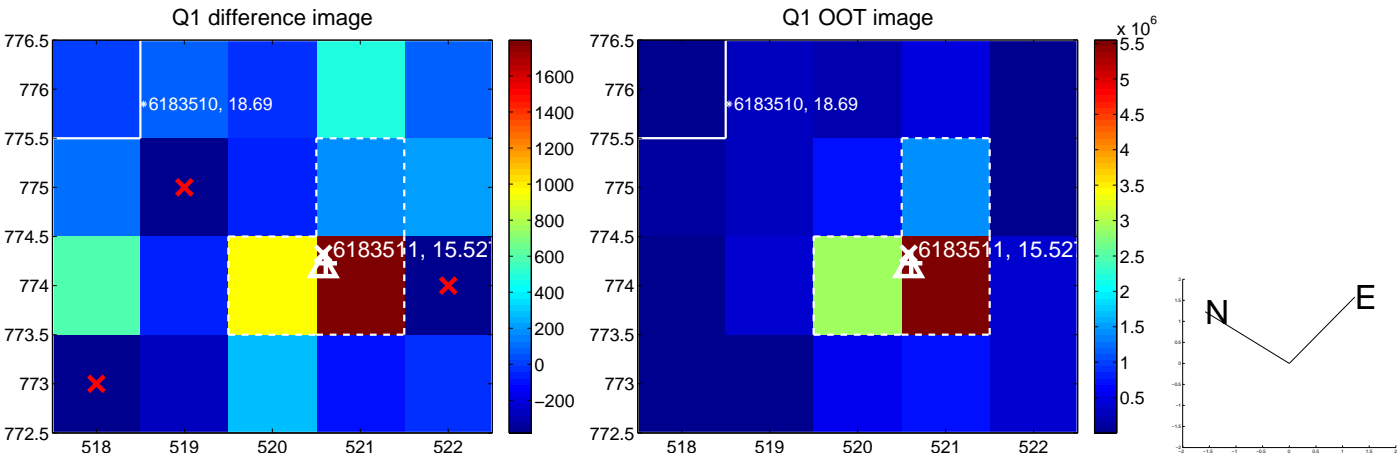
The direct PRF centroid is offset from the target star catalog position by about 0.59 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.533 \pm 0.216$	2.47	$-0.315 \pm 0.317$	$-0.430 \pm 0.138$
PRF-fit source offset from KIC position	$0.968 \pm 0.254$	3.81	$-0.632 \pm 0.314$	$-0.734 \pm 0.142$
photometric centroid source offset	$1.47 \pm 0.75$	1.96	$0.38 \pm 0.69$	$-1.42 \pm 0.76$

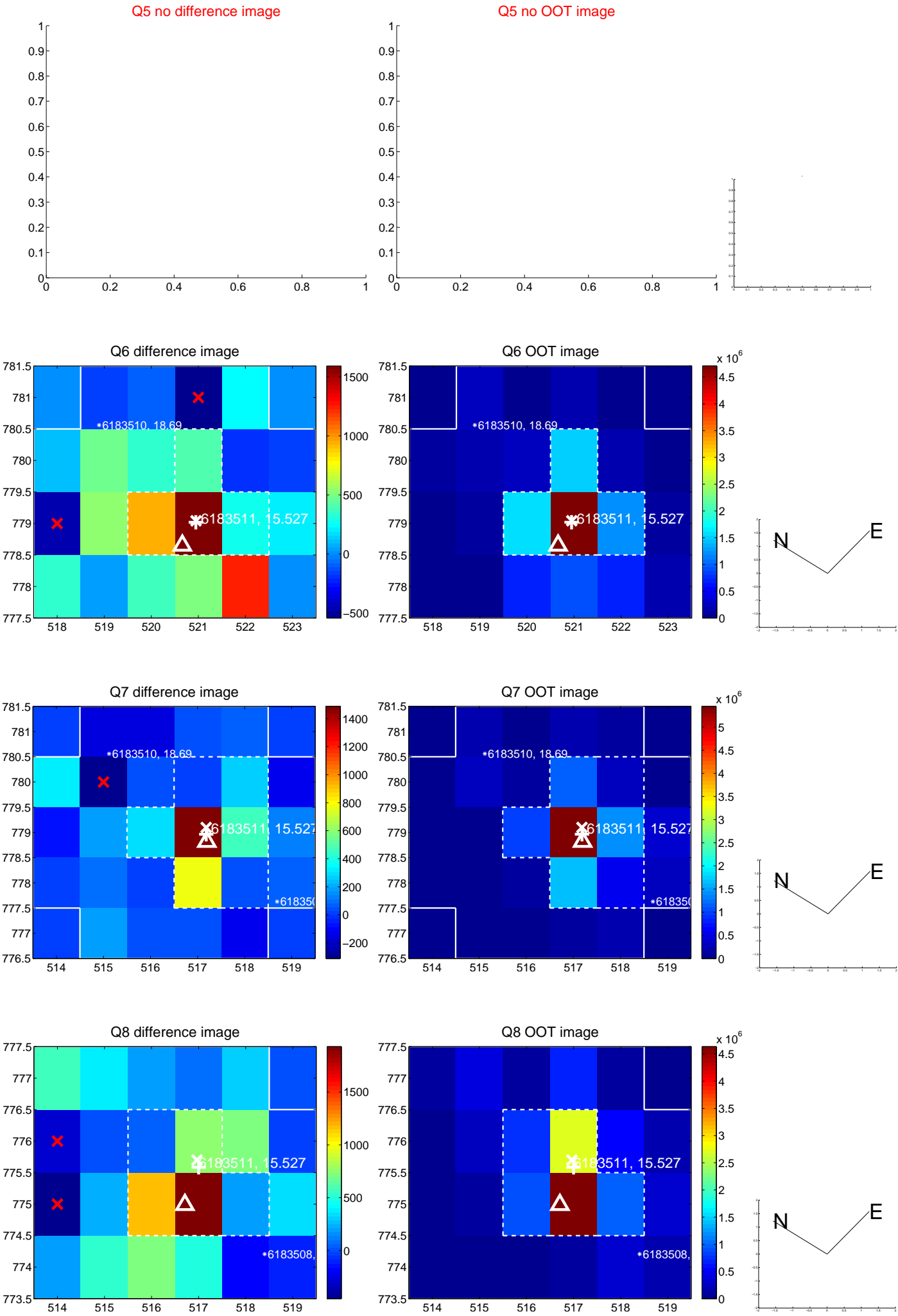


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

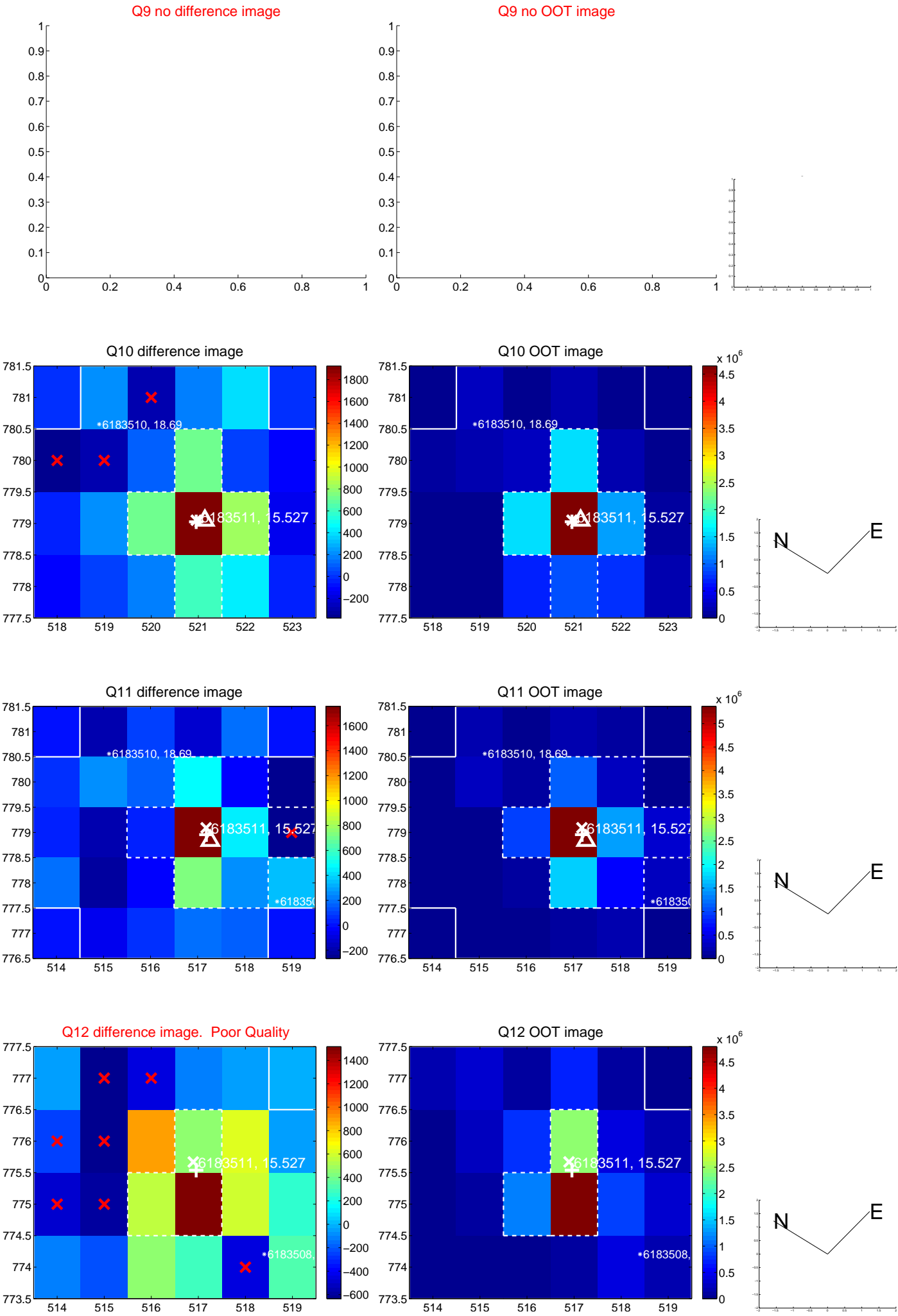


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

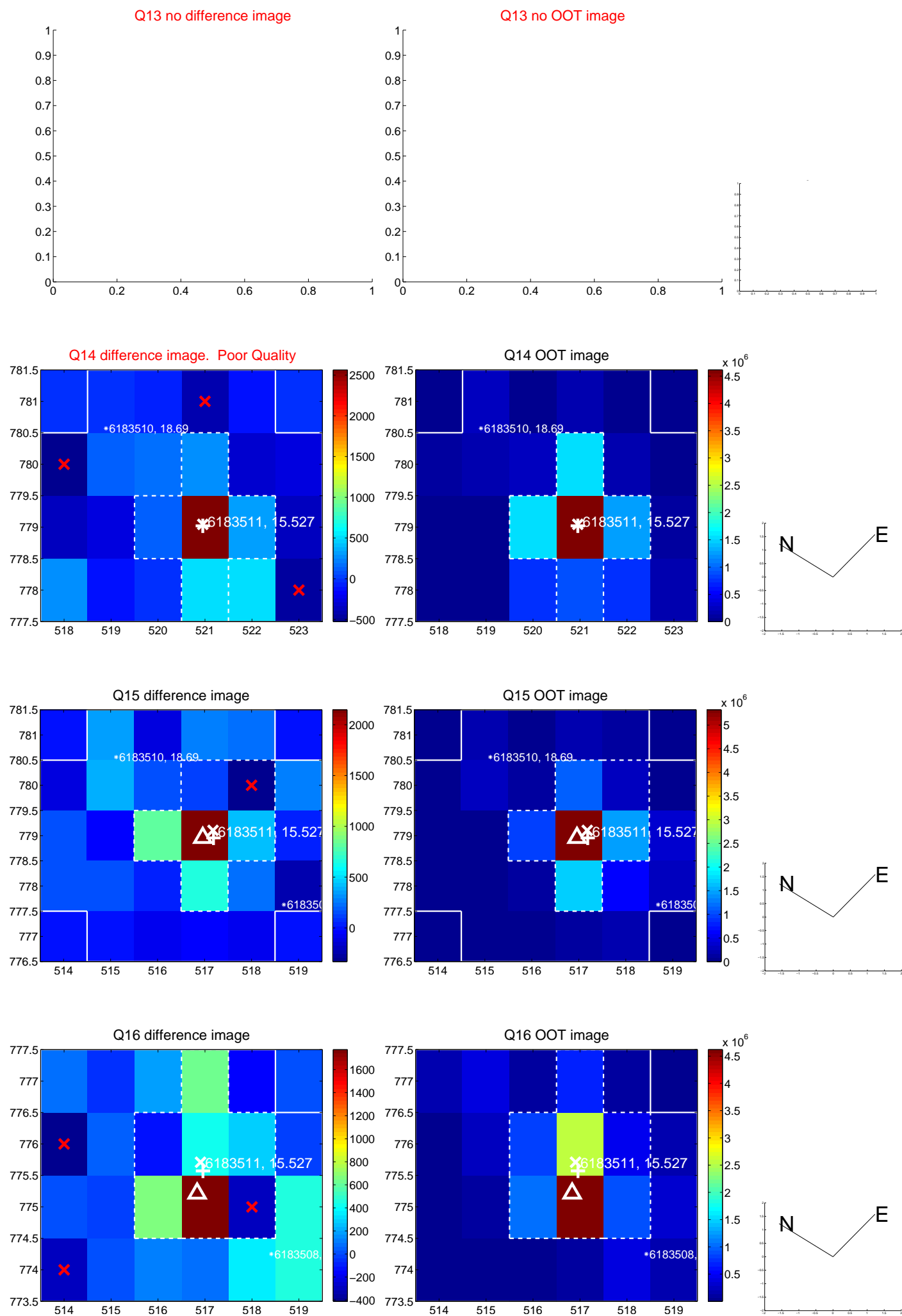




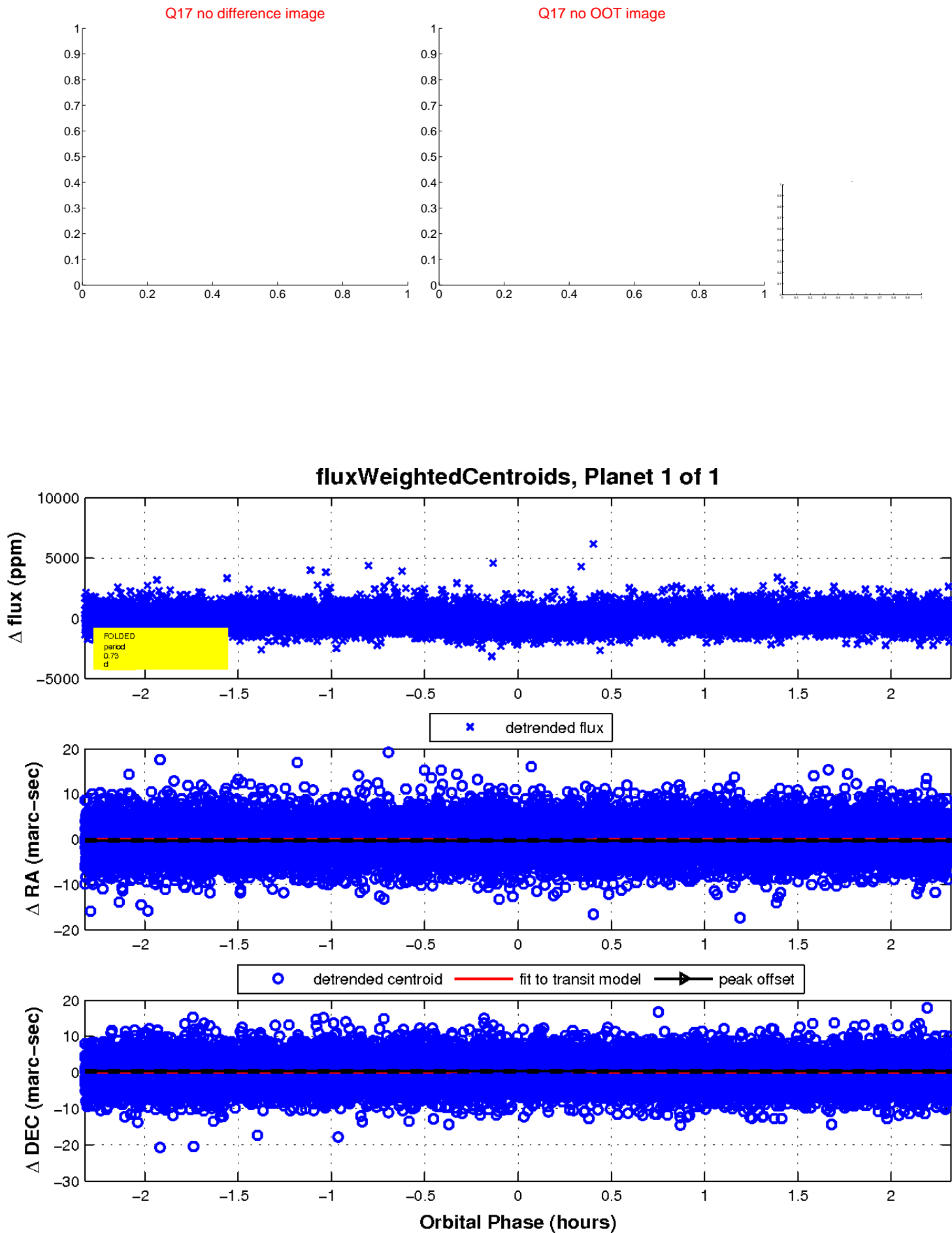
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

