

# KIC 011774383

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011774383-01	OBS	8065.01	0.520225	131.840767	11520.2	0.912	11.7	22.7	1.00	5780	11.79	6237.59

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011774383-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—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.

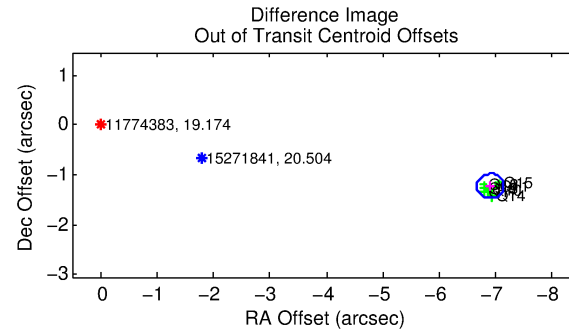
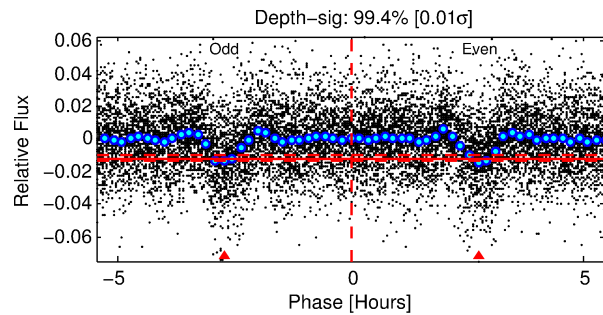
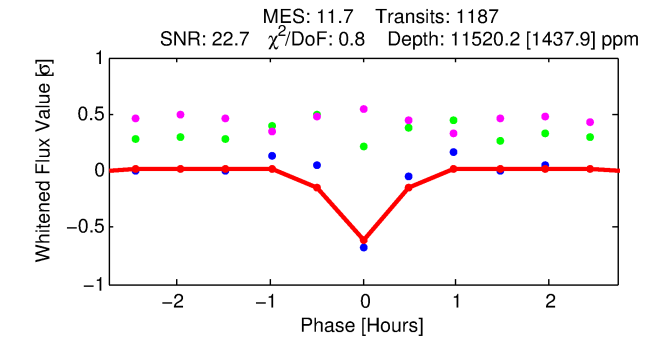
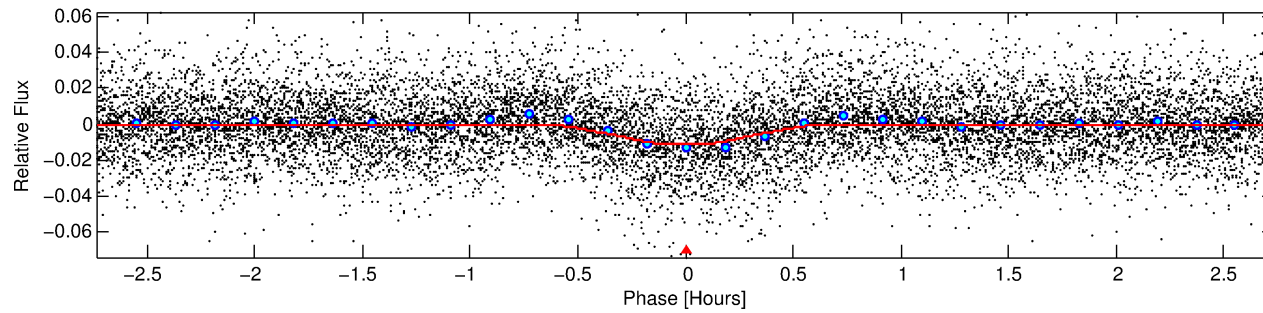
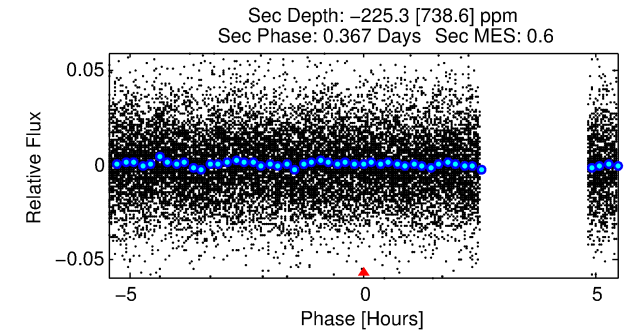
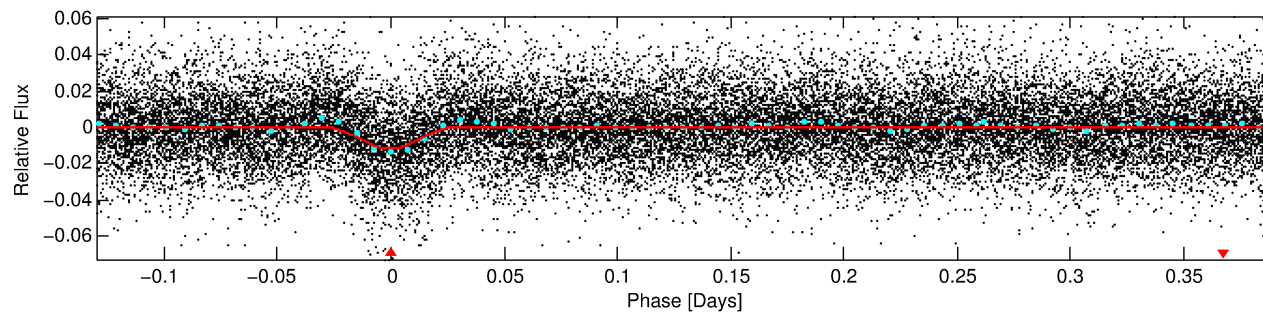
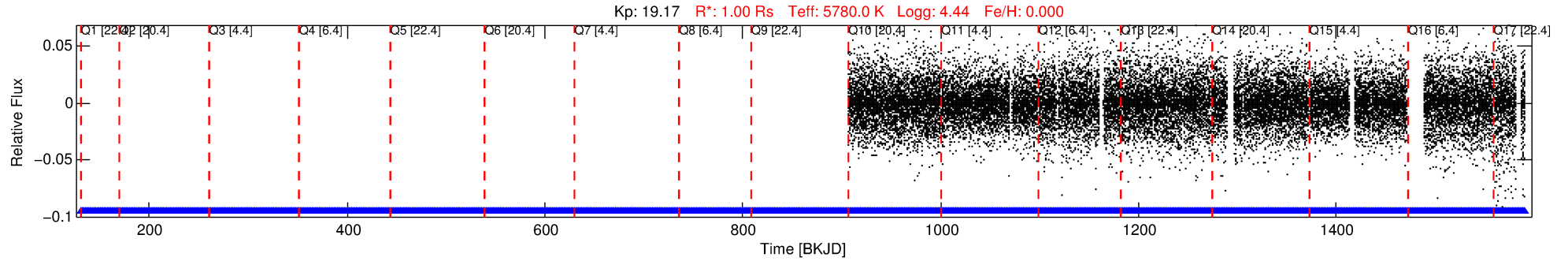
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011774383-01

No Significant Match Found

# DV One-Page Summary

KIC: 11774383 Candidate: 1 of 1 Period: 0.520 d



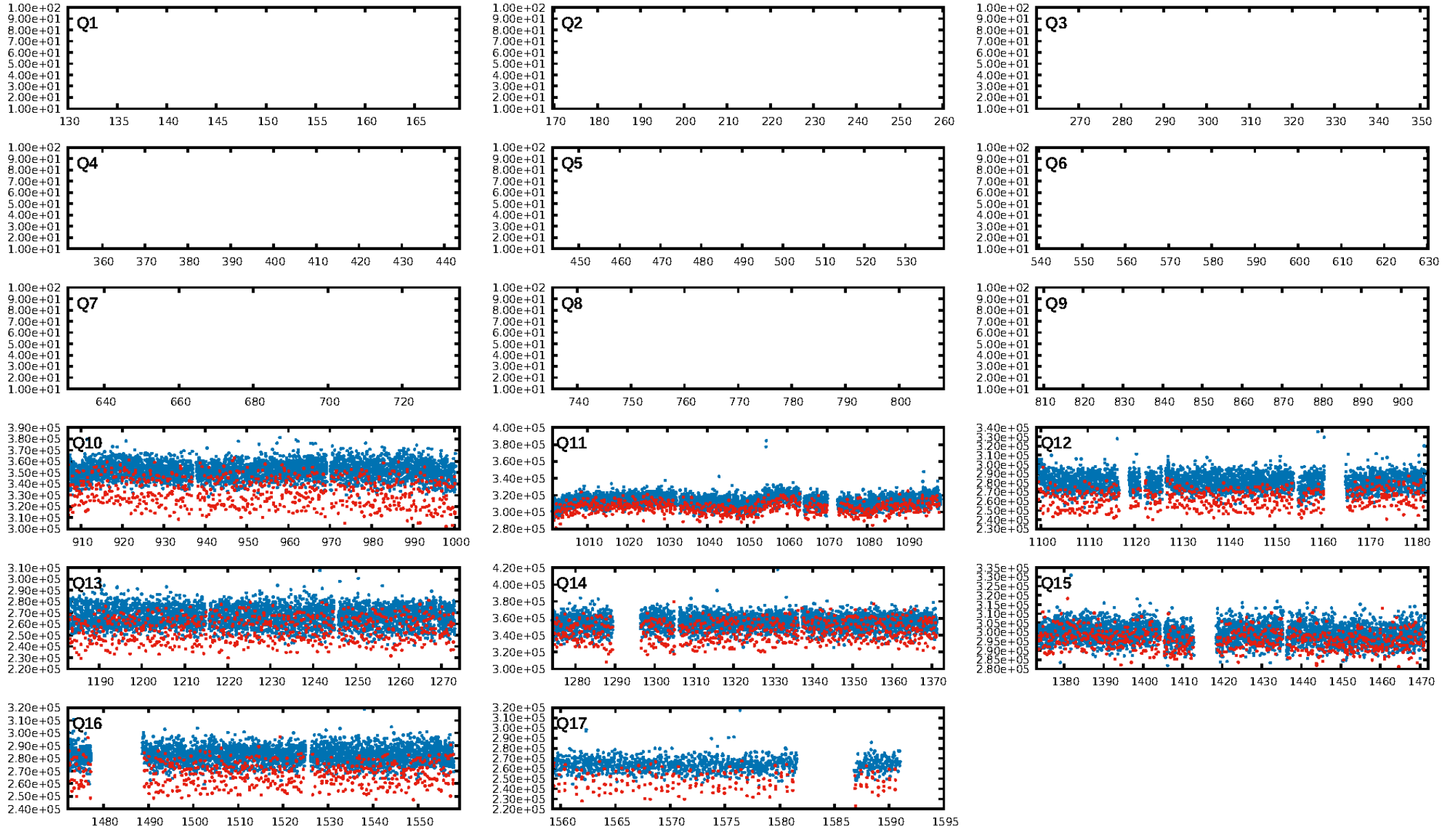
## DV Fit Results:

Period = 0.52023 [0.00001] d  
Epoch = 131.8408 [0.0006] BKJD  
Rp/R\* = 0.1081 [0.0303]  
a/R\* = 3.76 [3.54]  
b = 0.72 [0.70]  
Seff = 6237.59 [0.16]  
Teq = 2266 [0] K  
Rp = 11.79 [3.31] Re  
a = 0.0127 [0.0000] AU  
Ag = N/A  
Teffp = N/A

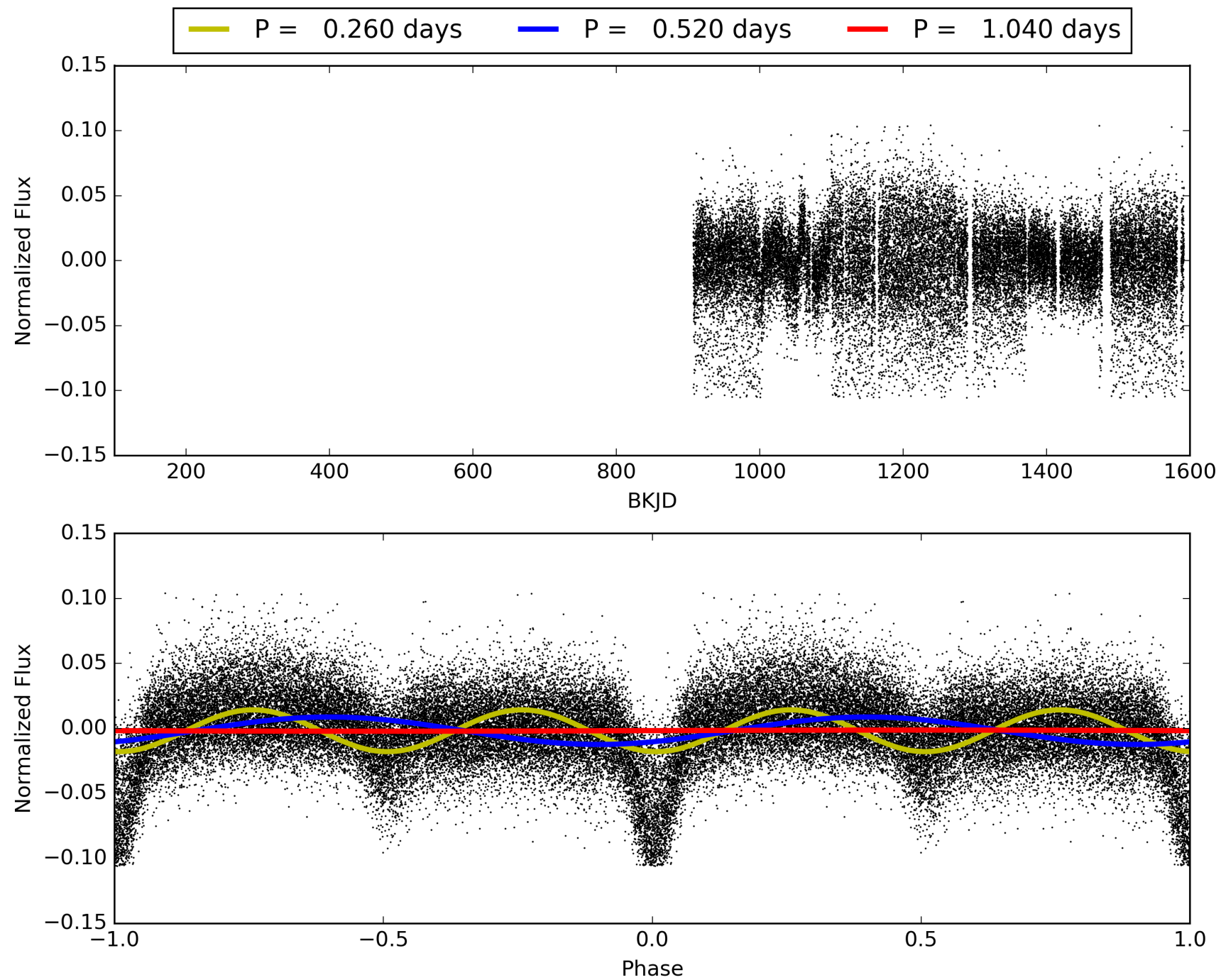
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 5.17e-32  
RollingBand-fgt: 1.00 [1137/1137]  
GhostDiagnostic-chr: 0.9523  
Centroid-sig: 0.0%  
Centroid-so: 4.233 arcsec [145.57 $\sigma$ ]  
OotOffset-rm: 7.004 arcsec [86.51 $\sigma$ ]  
KicOffset-rm: 1.951 arcsec [24.83 $\sigma$ ]  
OotOffset-st: 2/2/2/2 [8]  
KicOffset-st: 2/2/2/2 [8]  
DiffImageQuality-fgm: 1.00 [8/8]  
DiffImageOverlap-fno: 1.00 [8/8]

# TCE 011774383-01, PDC Light Curves

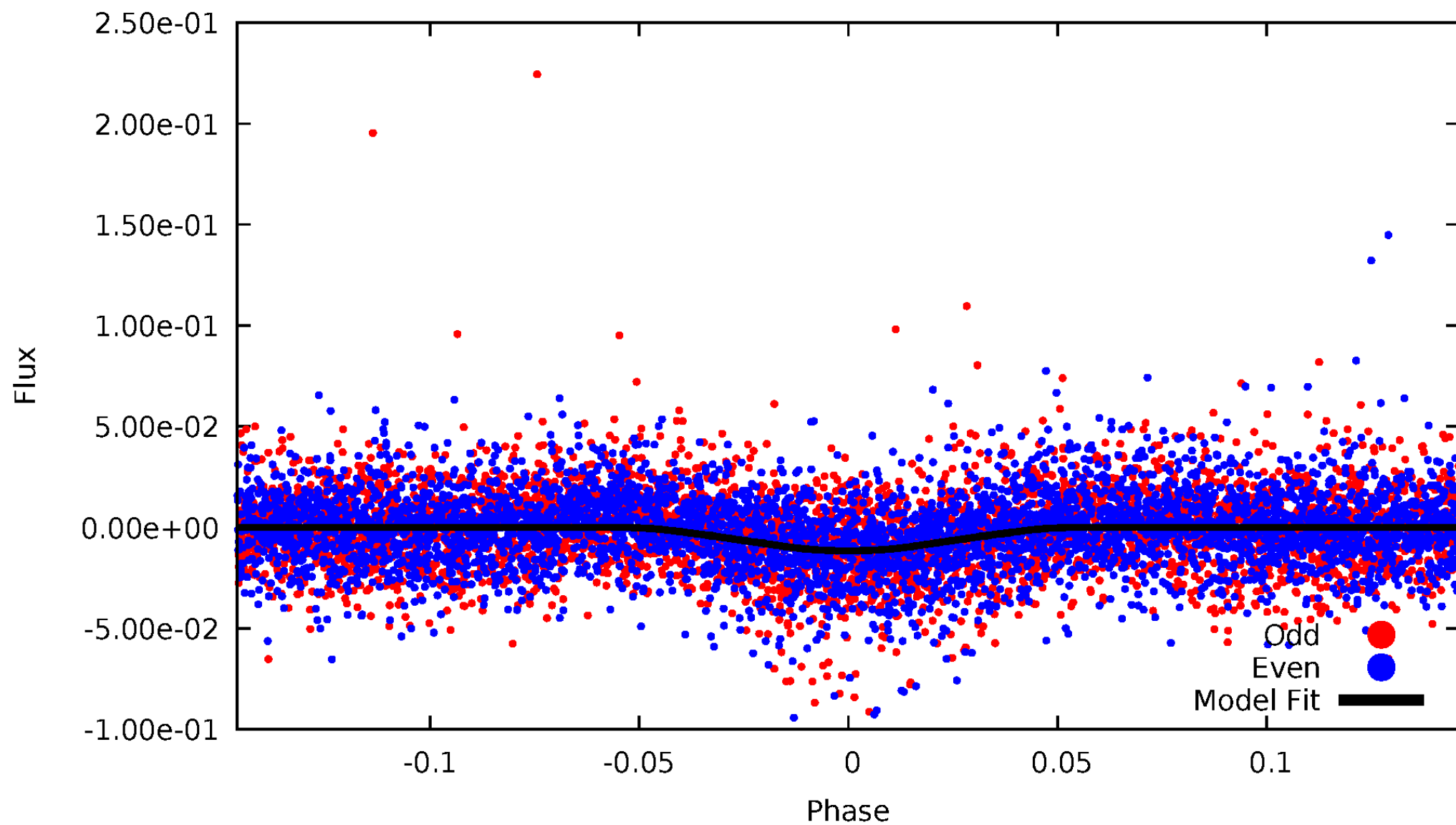


# TCE 011774383-01



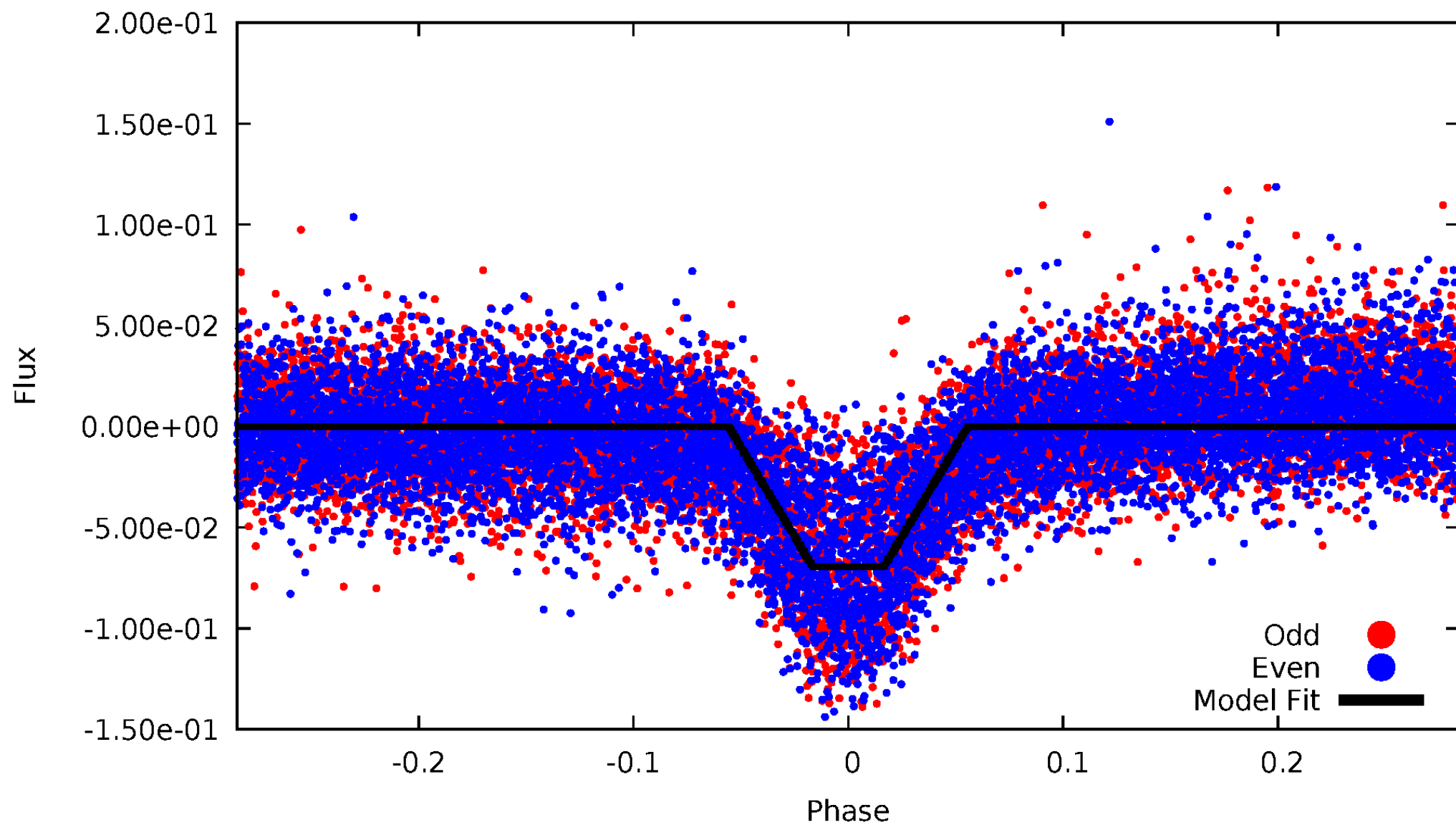
DV Odd/Even

TCE 011774383-01



# ALT Odd/Even

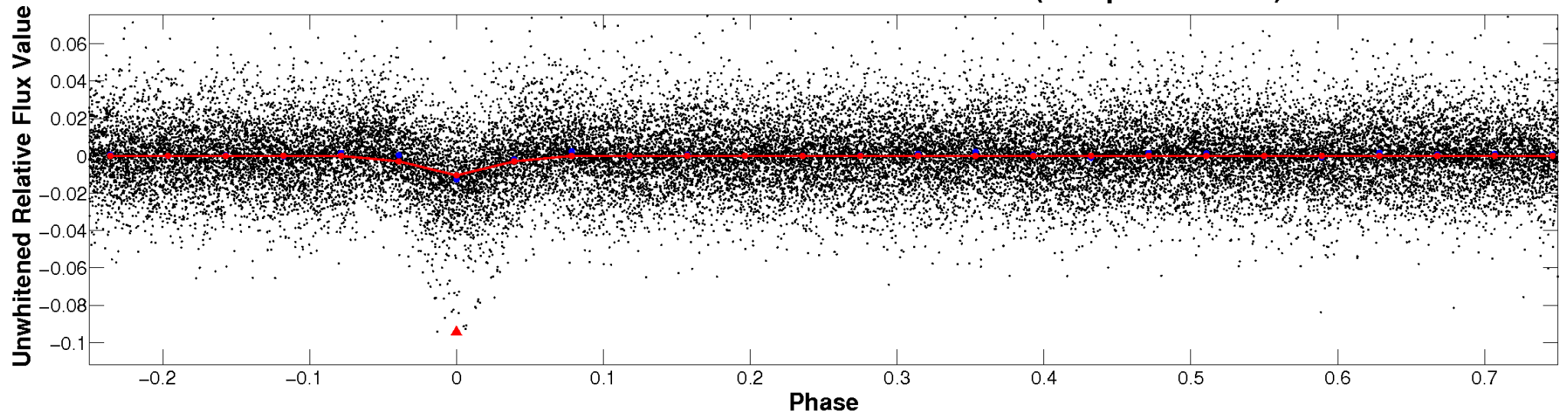
TCE 011774383-01



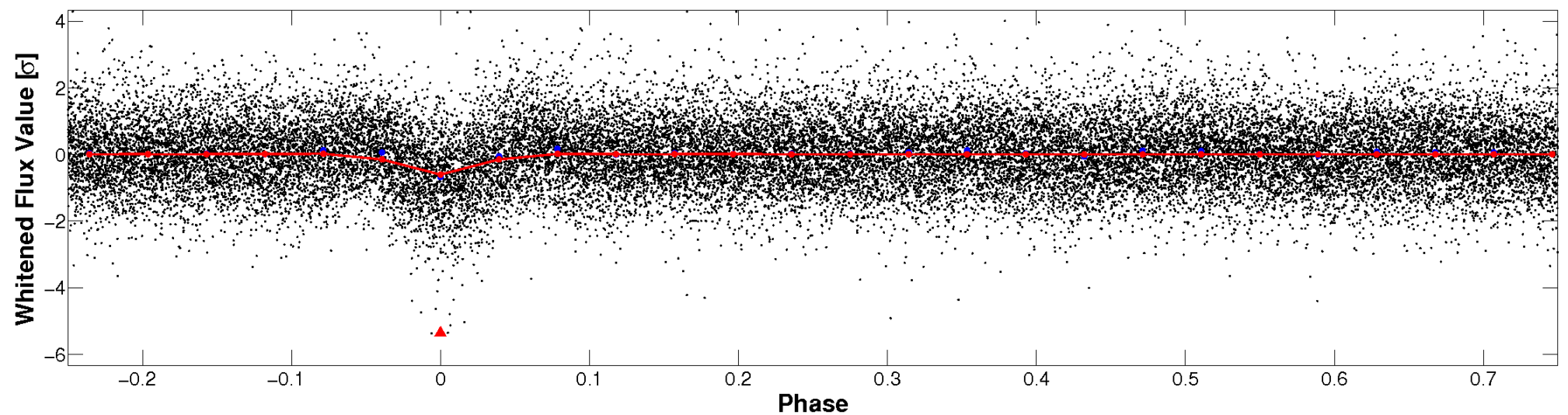


# Non-Whitened Vs. Whitened Light Curve

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

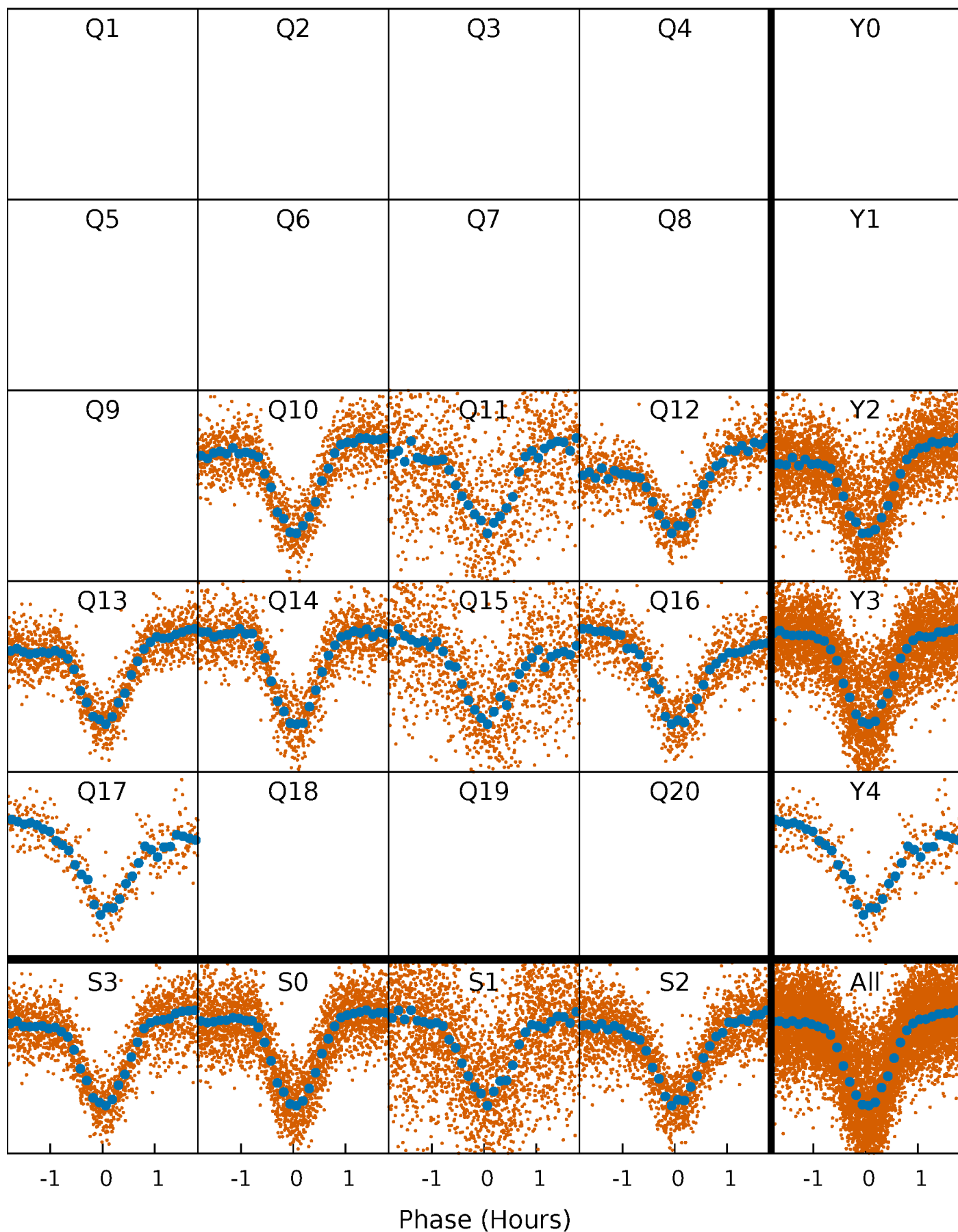


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

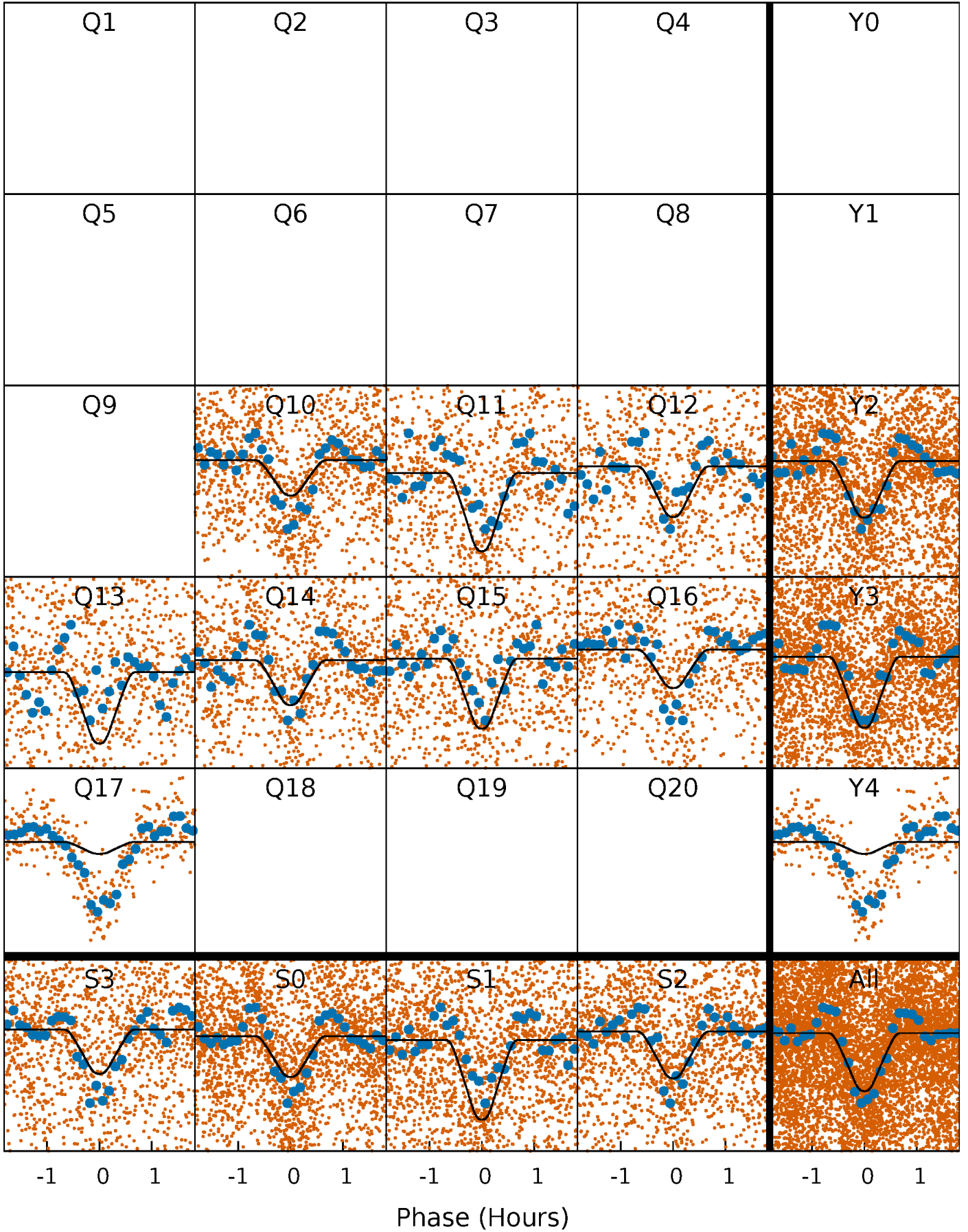
TCE 011774383-01   P= 0.520225 Days    $T_0=131.840767$  (BKJD)





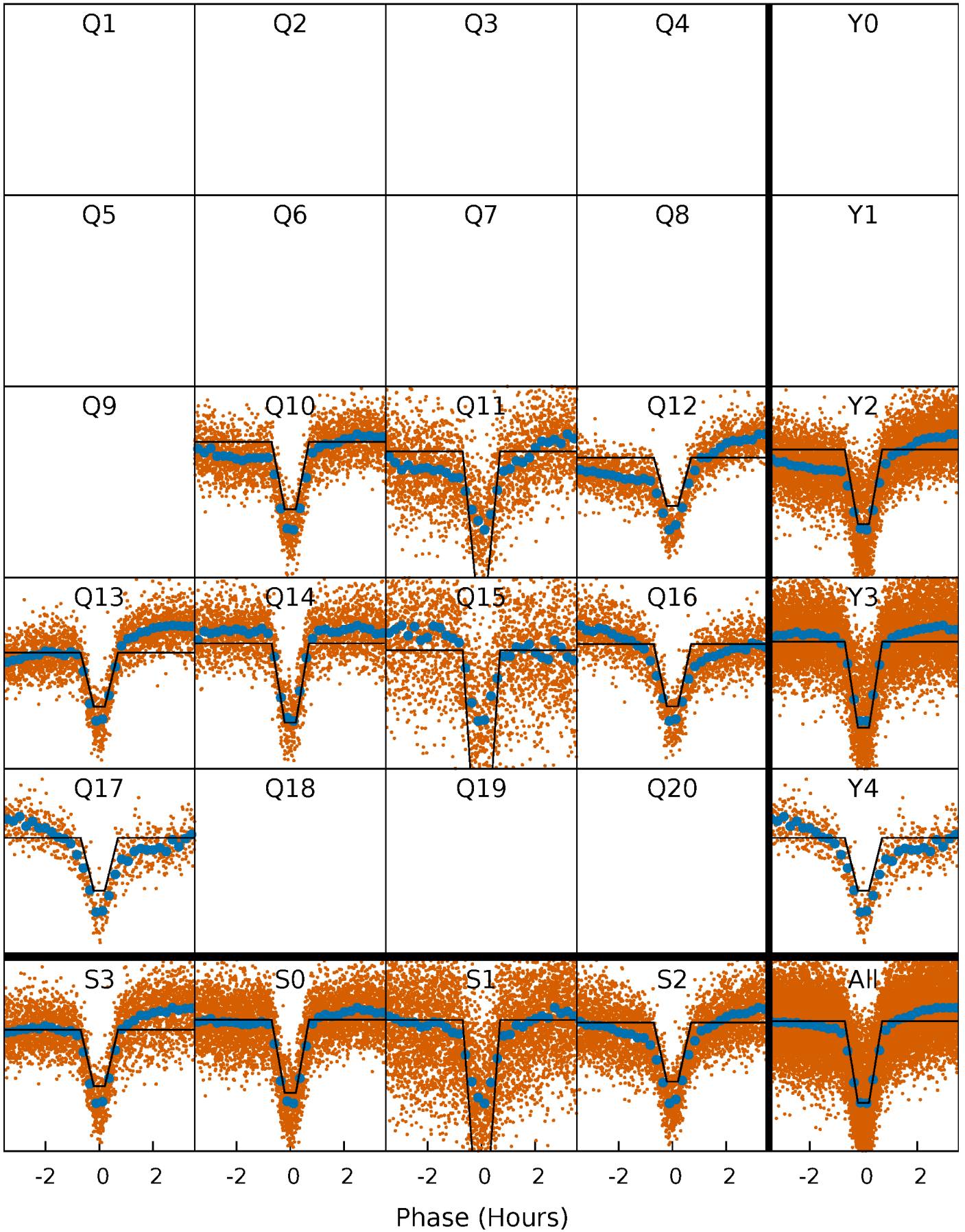
# DV Quarter-Phased Transit Curves

TCE 011774383-01   P= 0.520225 Days    $T_0=131.840767$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

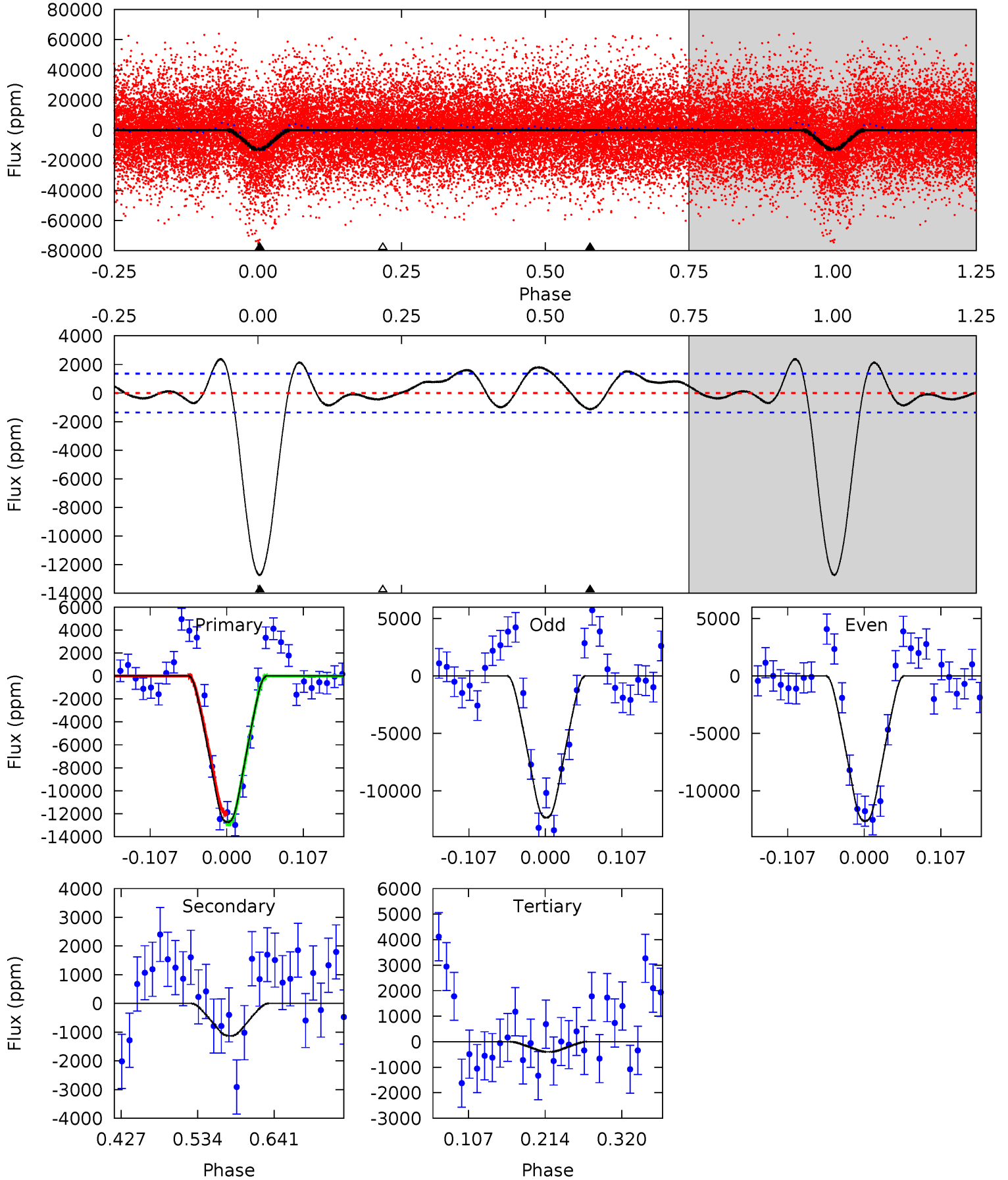
TCE 011774383-01   P= 0.520226 Days    $T_0=131.840952$  (BKJD)



# DV Model-Shift Uniqueness Test

011774383-01, P = 0.520225 Days, E = 131.840767 Days

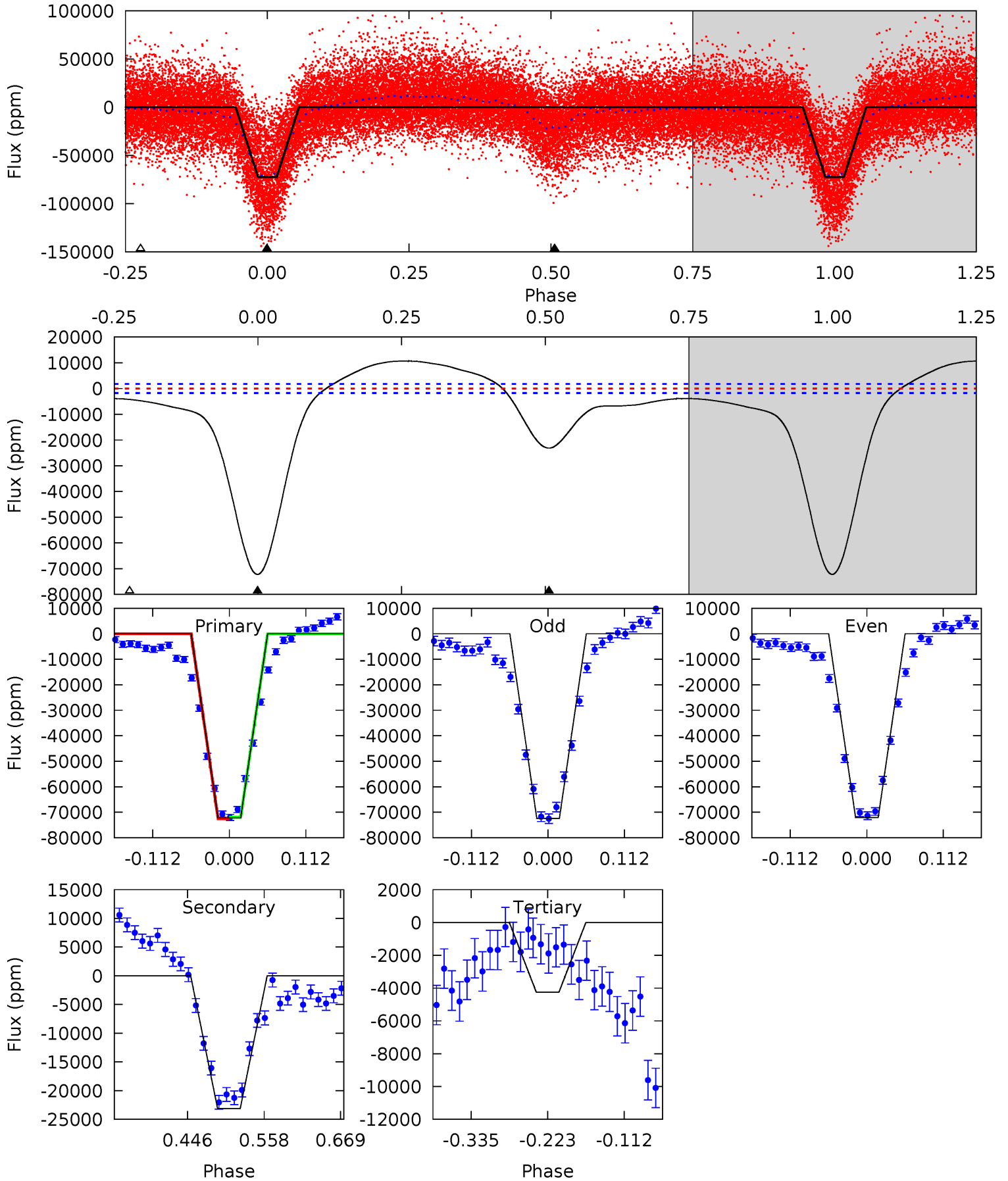
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.6	3.78	1.33	0	4.55	1.61	2.19	41.2	42.6	2.45	3.78	0.50	1.13	0.16	1.33



# Alt Model-Shift Uniqueness Test

011774383-01, P = 0.520226 Days, E = 131.840952 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
183.7	58.9	10.8	0	4.54	1.59	17.8	172.9	183.7	48.1	58.9	0.41	0.94	0.13	0.71



### Stellar Parameters For KIC 011774383

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5780^{+1}_{-1}$	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

### Secondary Eclipse Parameters for KIC 011774383-01 / KOI 8065.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	-1129±299	$11.84^{+3.44}_{-3.19}$	$3172^{+150}_{-144}$	$3332^{+579}_{-628}$	$0.710^{+0.660}_{-0.317}$
Alt.	-23143±393	$28.75^{+4.22}_{-3.69}$	$3175^{+139}_{-150}$	$4479^{+274}_{-272}$	$2.536^{+0.789}_{-0.600}$

$T_{max}$  = 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

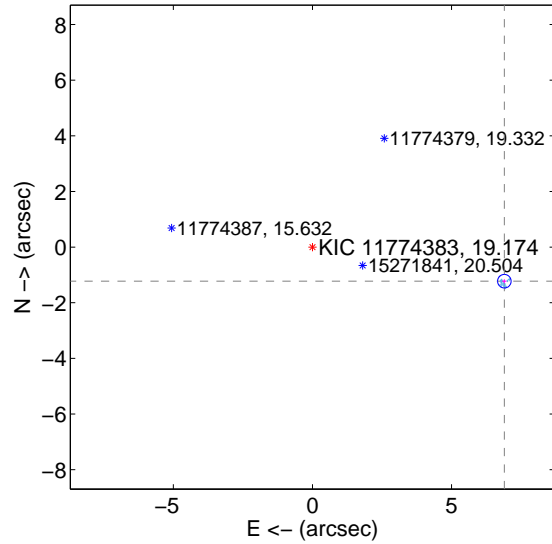
Supplemental centroid analysis for 011774383-01. Kepler magnitude: 19.17. Transit SNR 22.74

There are 8 quarters with good PRF difference image offsets

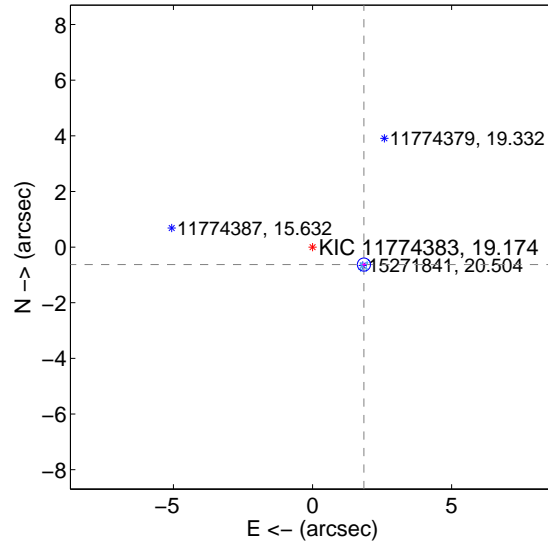
The OOT PRF centroid is offset from the target star catalog position by about 5.09 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$7.004 \pm 0.081$	86.51	$-6.896 \pm 0.081$	$-1.225 \pm 0.071$
PRF-fit source offset from KIC position	$1.951 \pm 0.079$	24.83	$-1.847 \pm 0.079$	$-0.628 \pm 0.072$
photometric centroid source offset	$4.23 \pm 0.03$	145.57	$4.22 \pm 0.03$	$0.28 \pm 0.02$

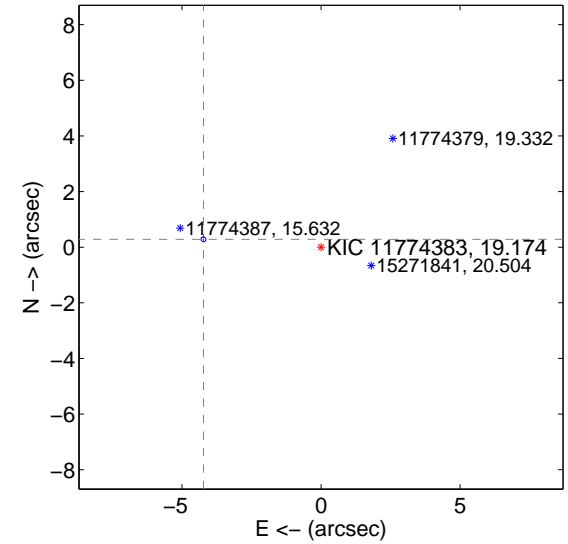
offset from difference PRF-fit to OOT PRF-fit



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.

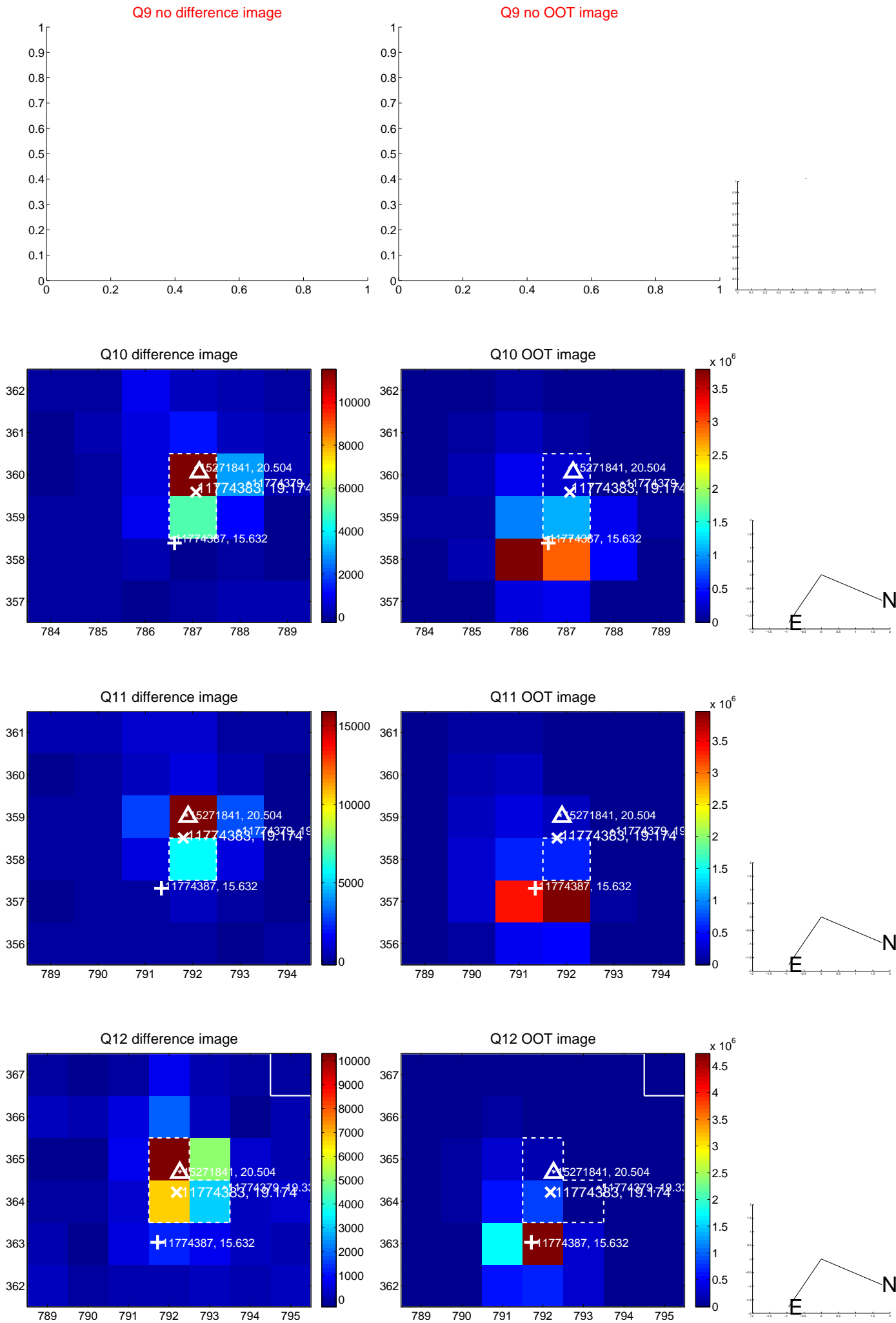
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



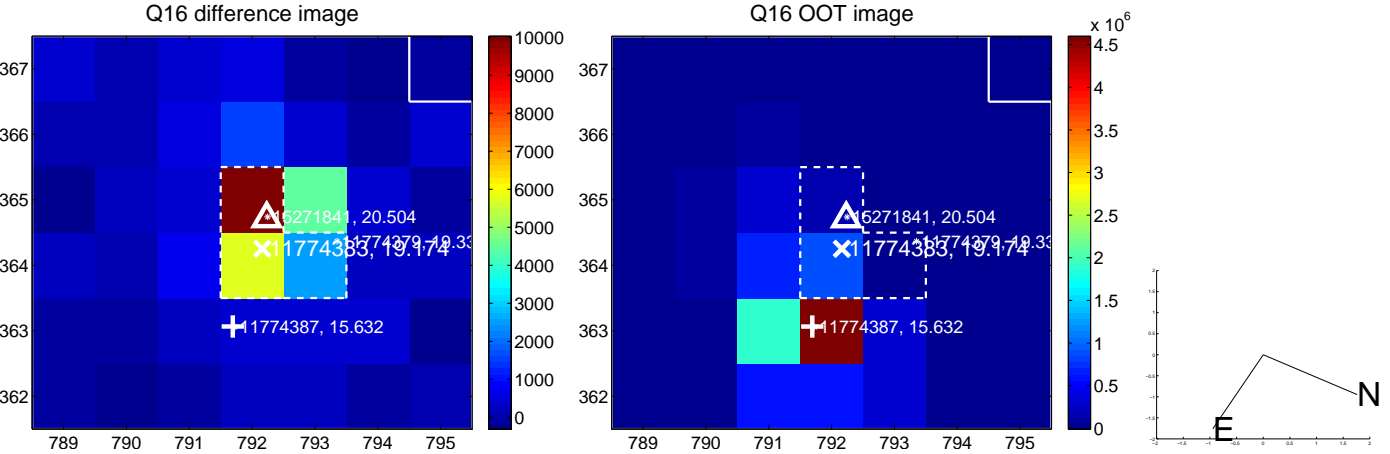
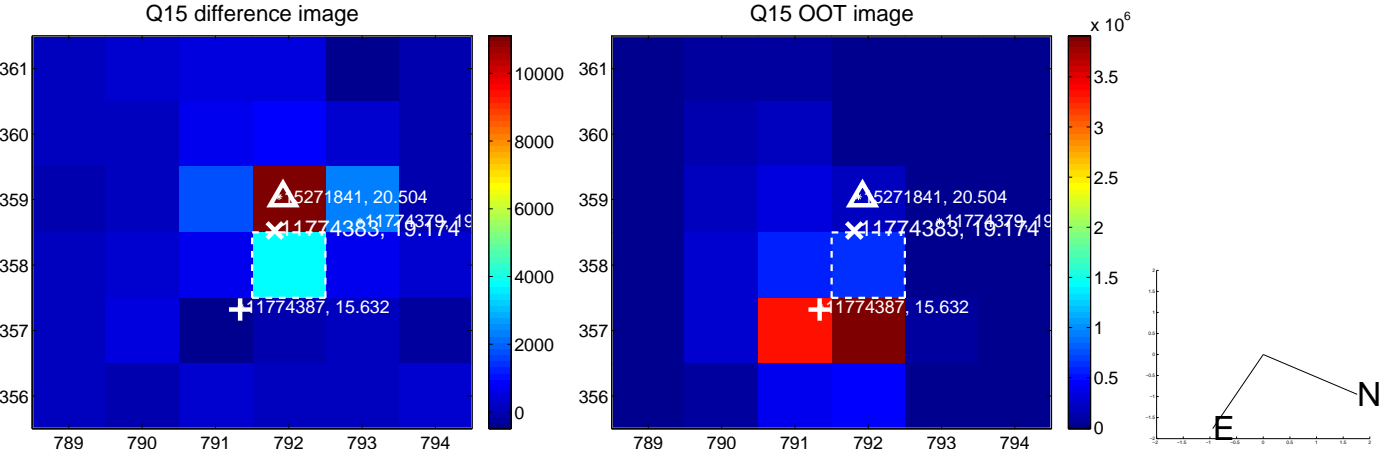
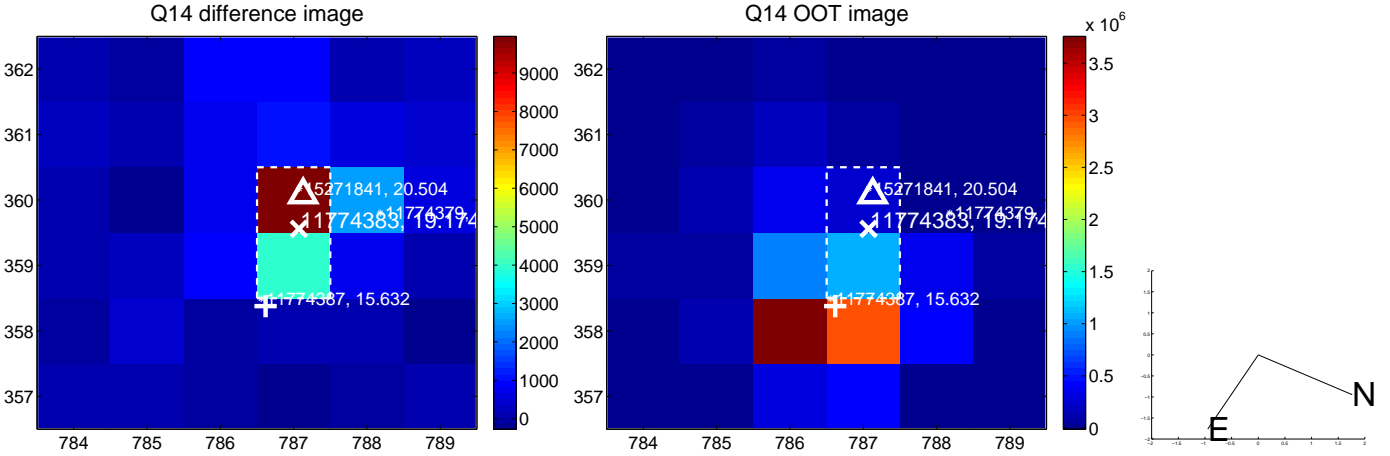
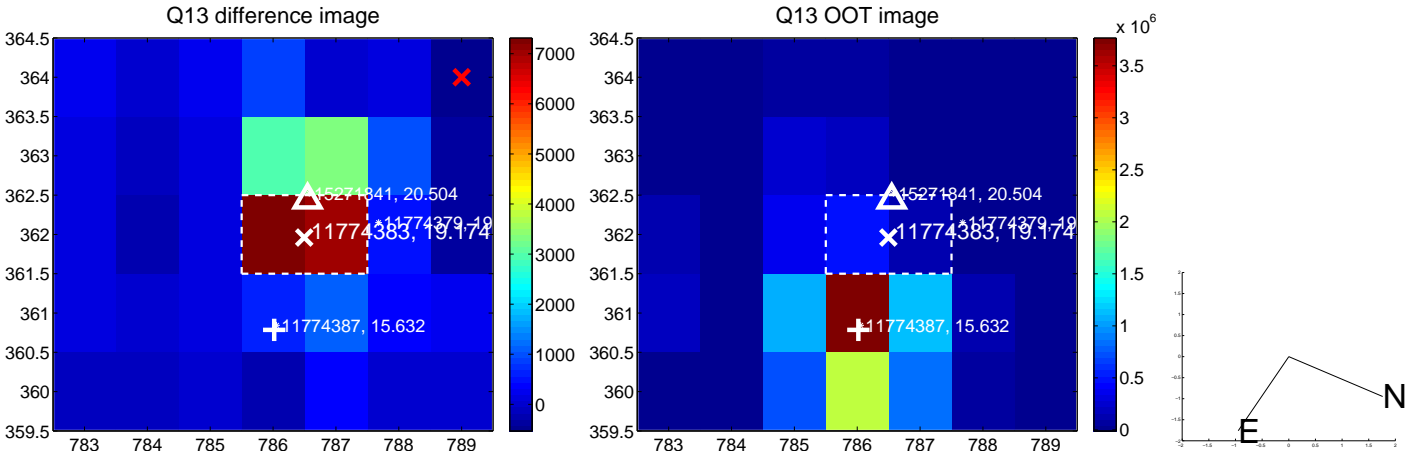
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.







# UKIRT Image

Declination

