

# KIC 011817750

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011817750-01	OBS	7482.01	4.881276	131.711713	32685.5	4.770	5257.5	3835.2	1.95	7199	60.22	2131.22

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011817750-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED

**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.

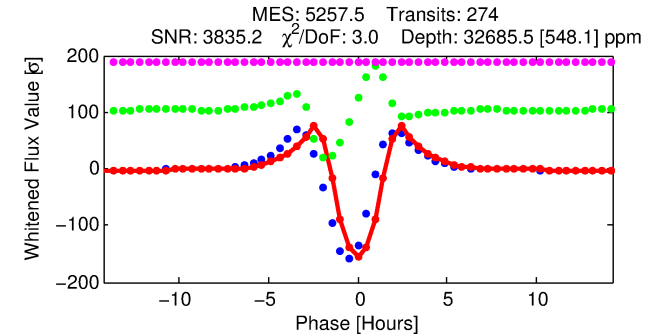
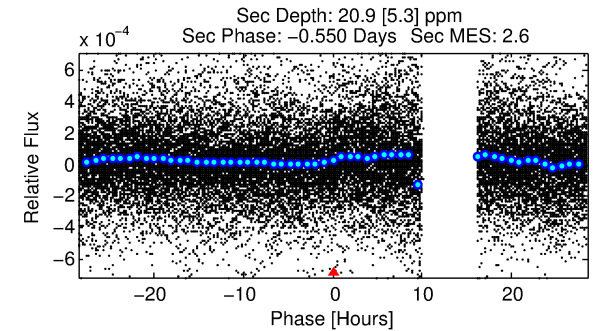
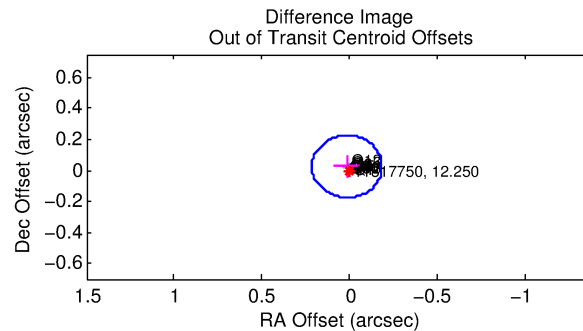
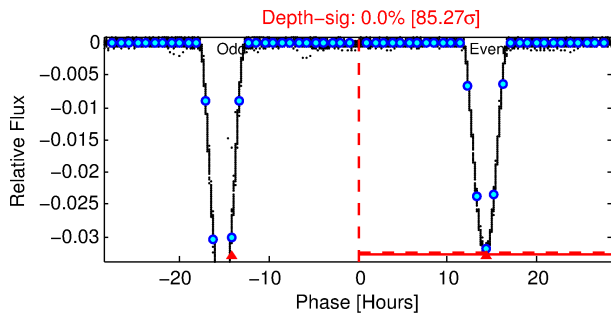
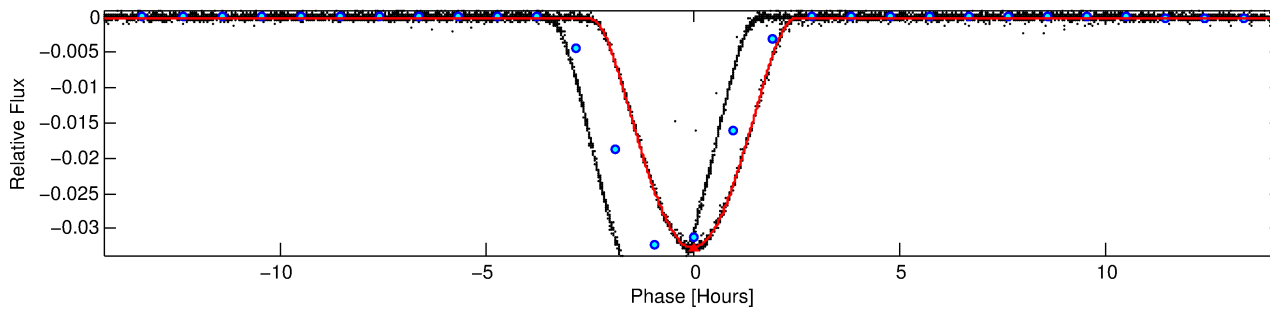
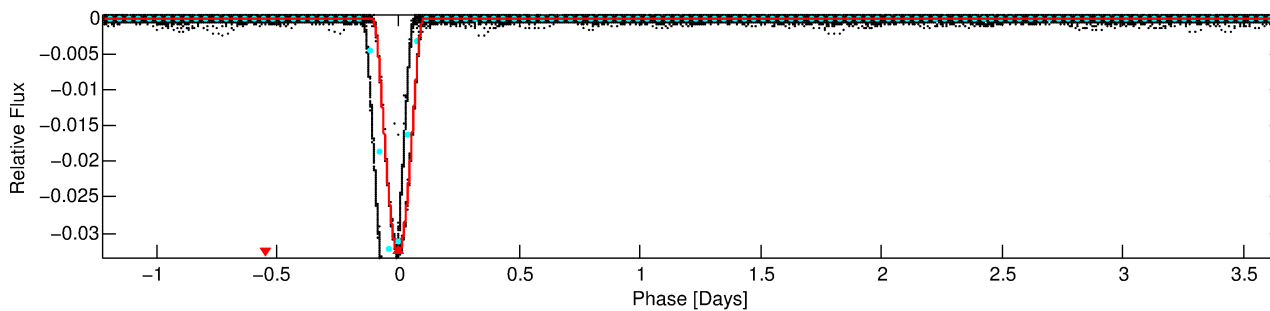
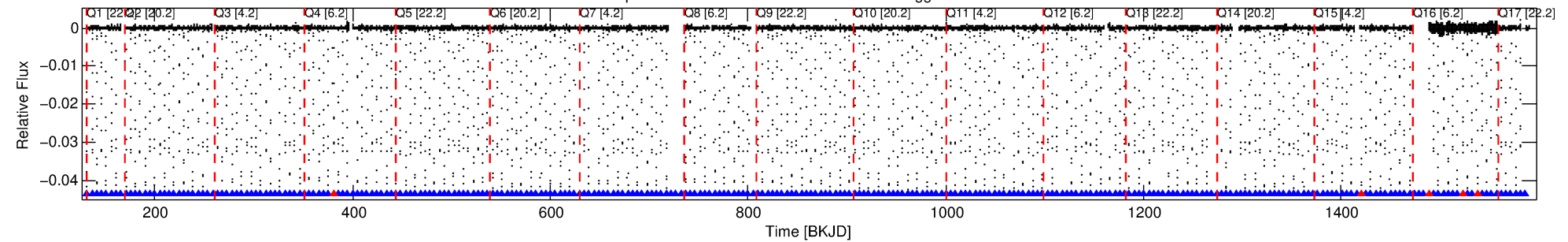
## Ephemeris Match Information For 011817750-01

No Significant Match Found

# DV One-Page Summary

KIC: 11817750 Candidate: 1 of 1 Period: 4.881 d  
KOI: K07482 Corr: No Ephemeris Match

Kp: 12.25 R\*: 1.95 Rs Teff: 7199.0 K Logg: 4.05 Fe/H: -0.040



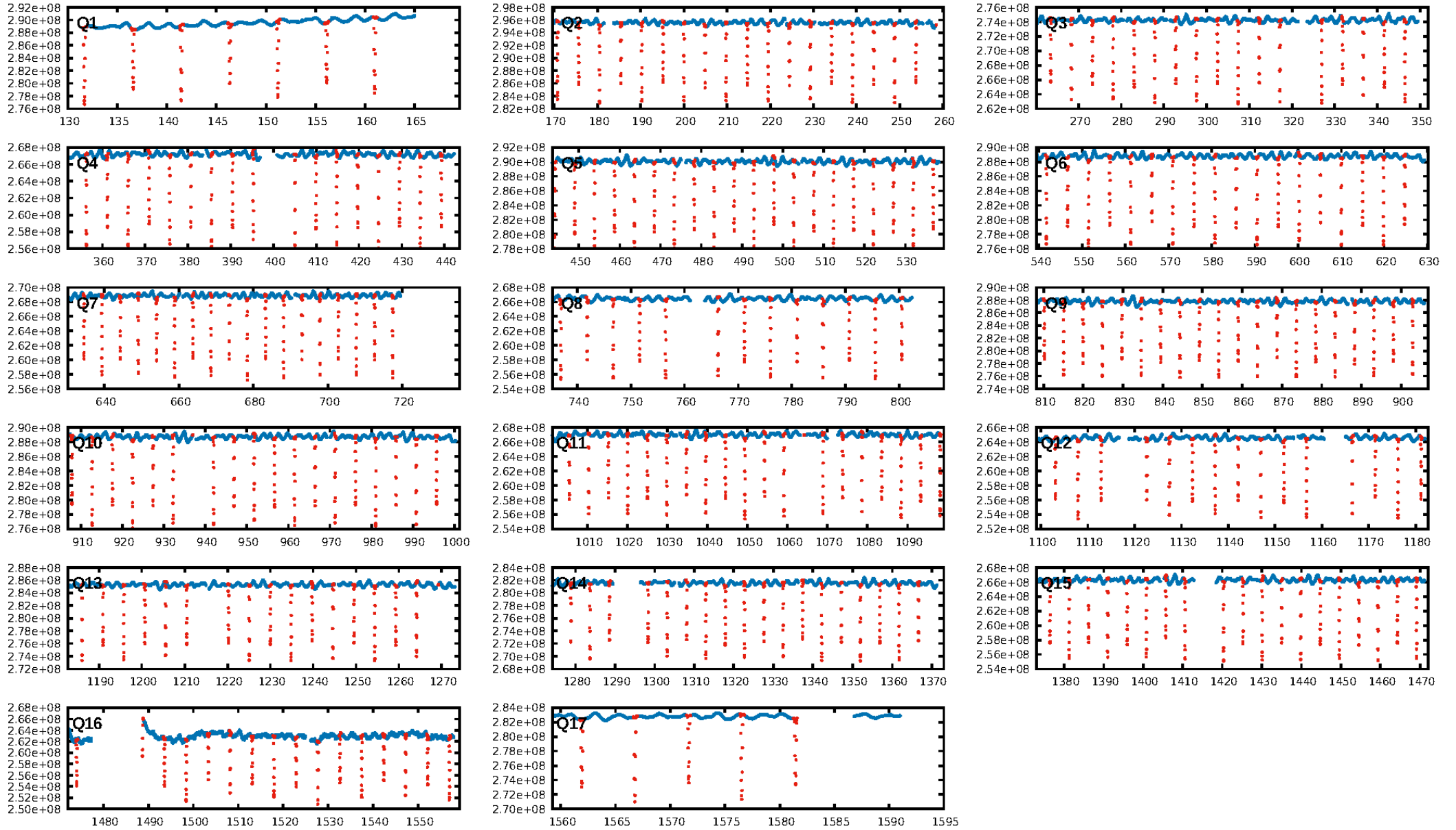
## DV Fit Results:

Period = 4.88128 [0.00000] d  
Epoch = 131.7117 [0.0000] BKJD  
Rp/R\* = 0.2830 [0.0049]  
a/R\* = 6.38 [0.01]  
b = 1.00 [0.00]  
Seff = 2131.22 [774.27]  
Teq = 1733 [157] K  
Rp = 60.22 [17.20] Re  
a = 0.0655 [0.0153] AU  
Ag = 0.01 [0.01] [-173.34σ]  
Teffp = 915 [69] K [-4.76σ]

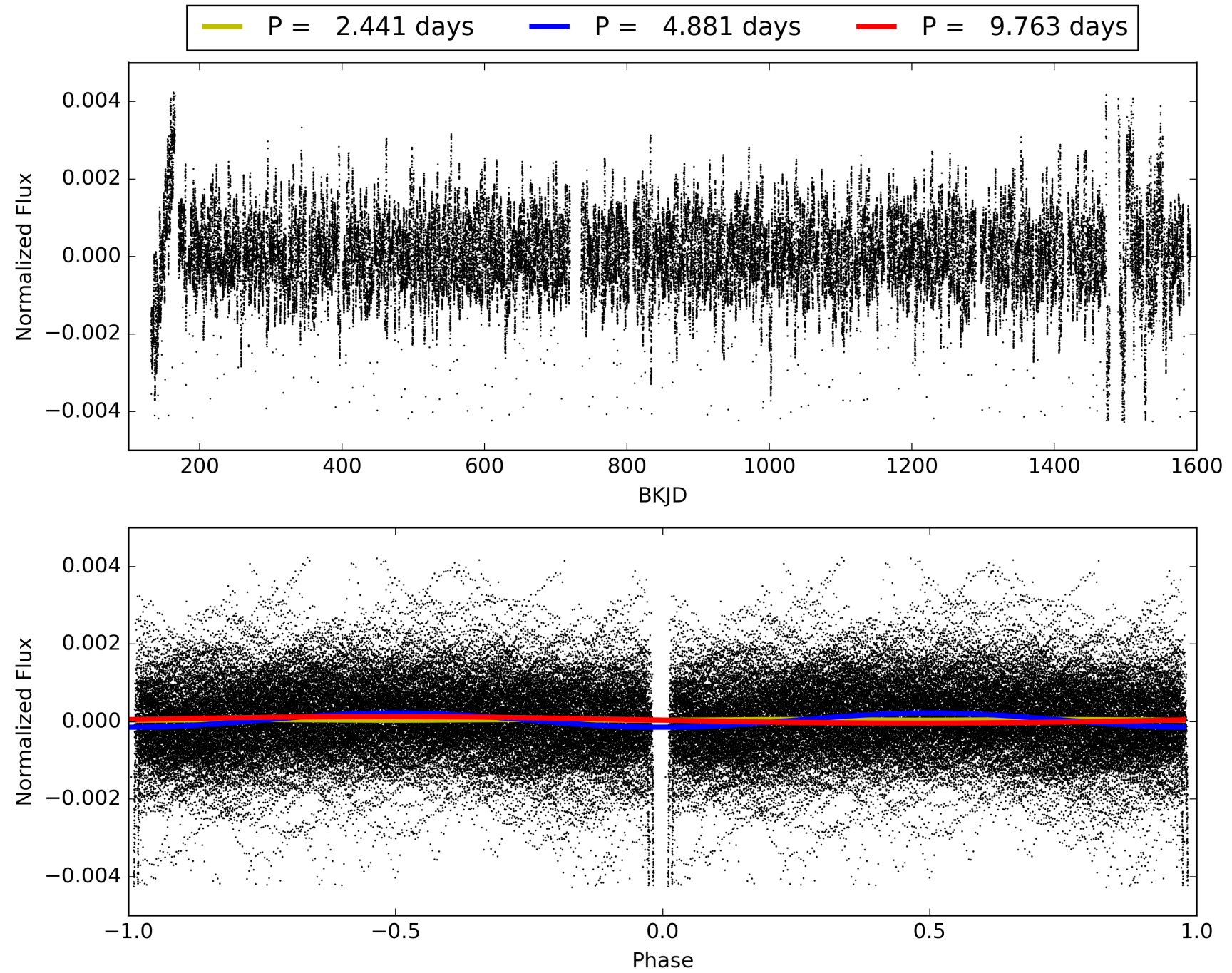
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 0.98 [257/262]  
GhostDiagnostic-chr: 5.239  
Centroid-sig: 0.0%  
Centroid-so: 0.129 arcsec [100.58σ]  
OotOffset-rm: 0.030 arcsec [0.46σ]  
KicOffset-rm: 0.136 arcsec [2.03σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 011817750-01, PDC Light Curves

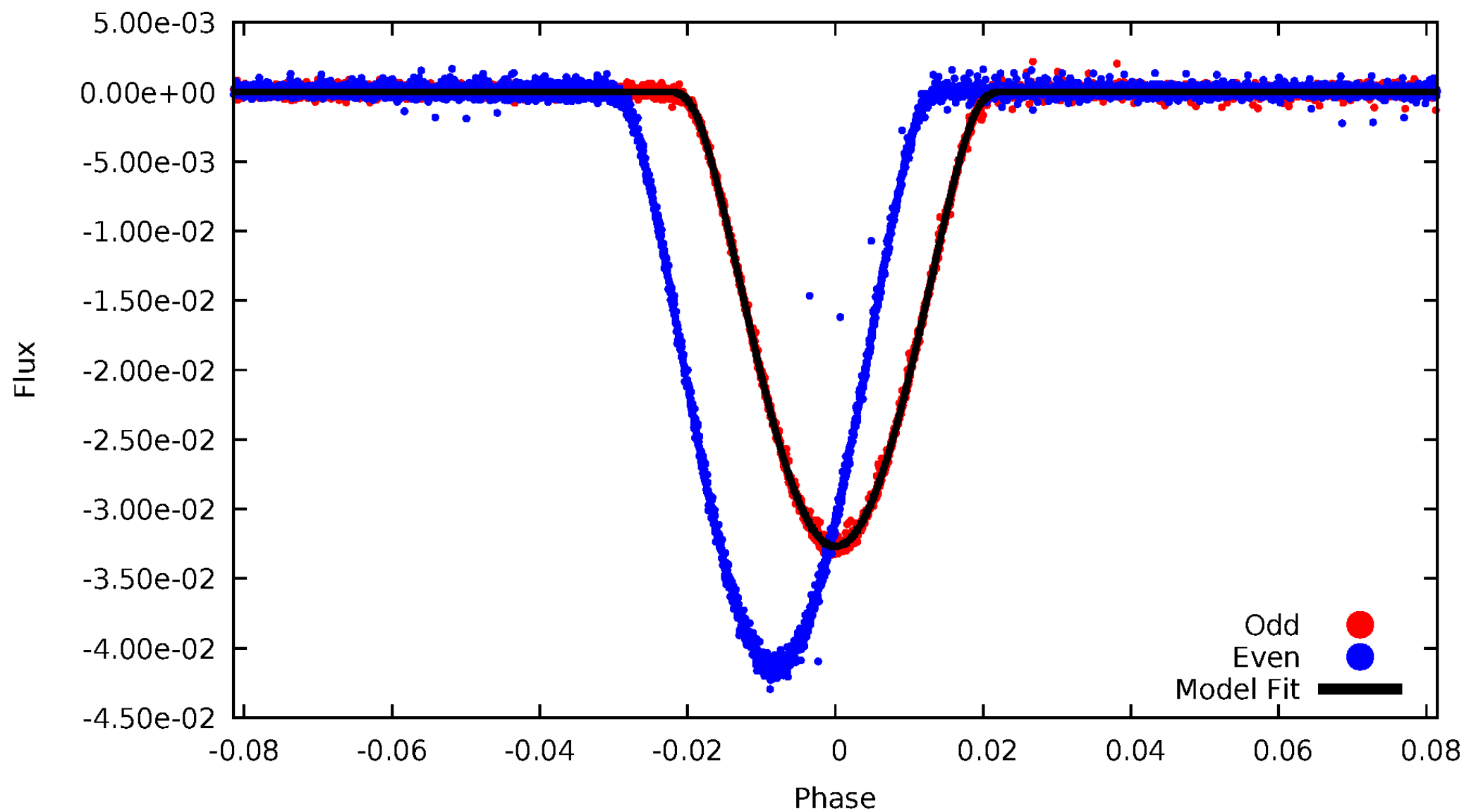


TCE 011817750-01



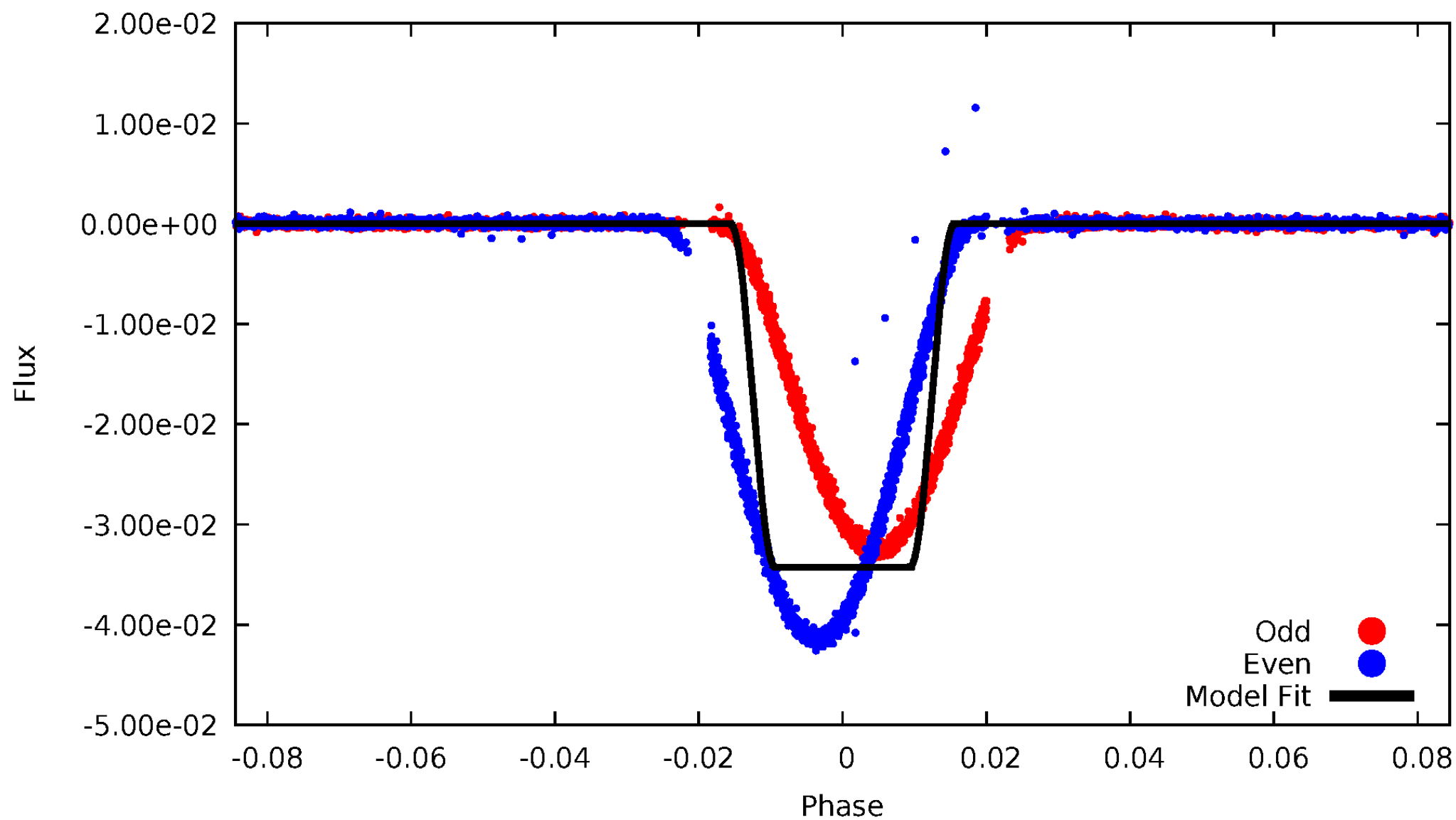
# DV Odd/Even

TCE 011817750-01



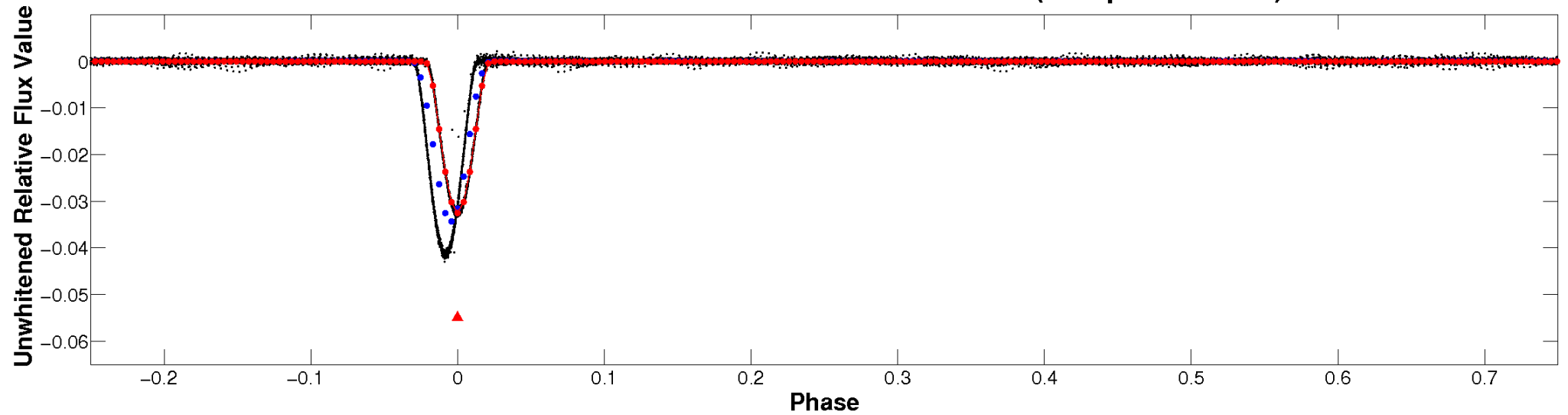
# ALT Odd/Even

TCE 011817750-01

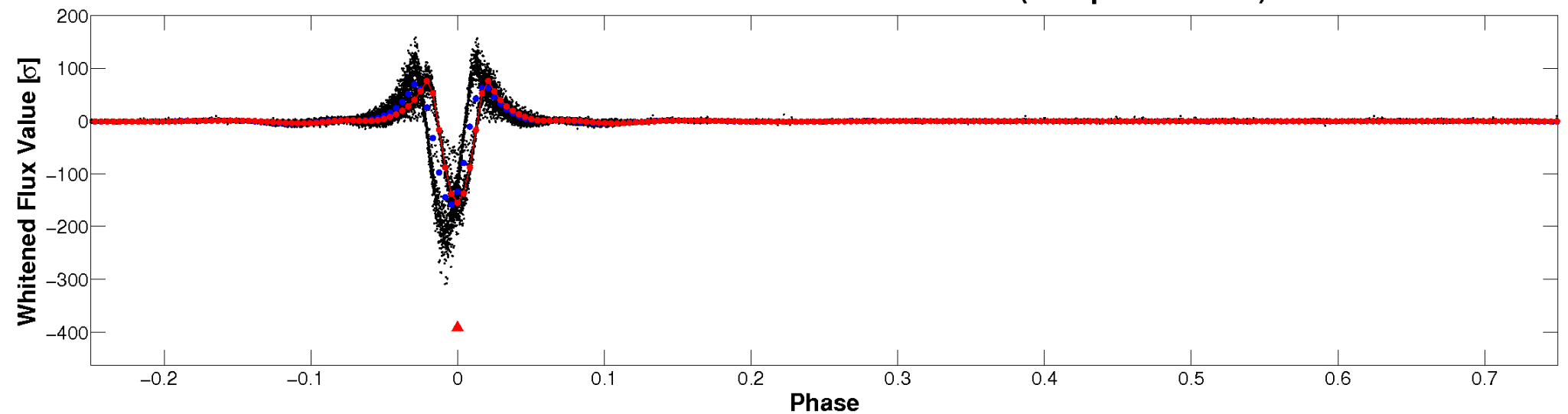


# Non-Whitened Vs. Whitened Light Curve

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

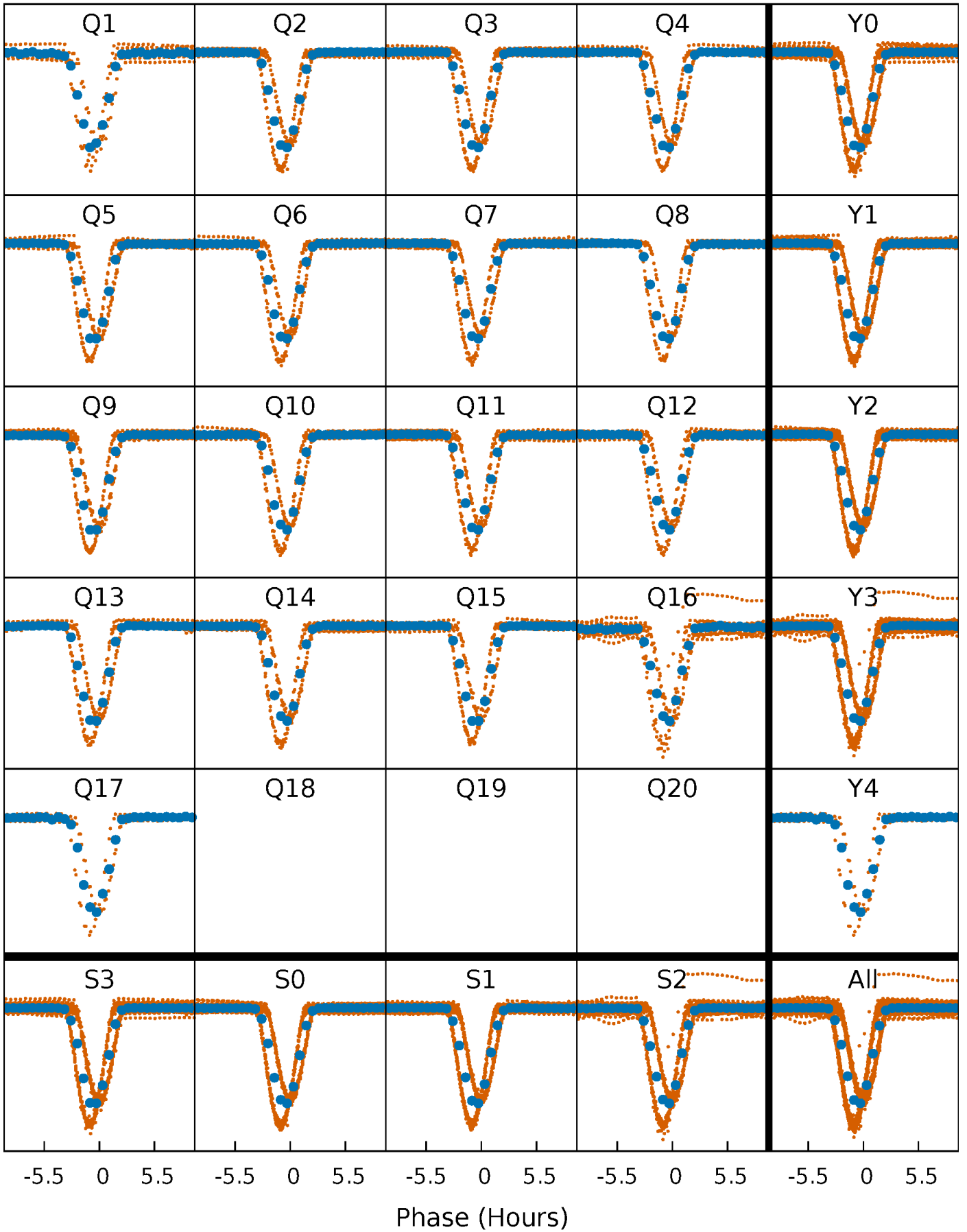


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

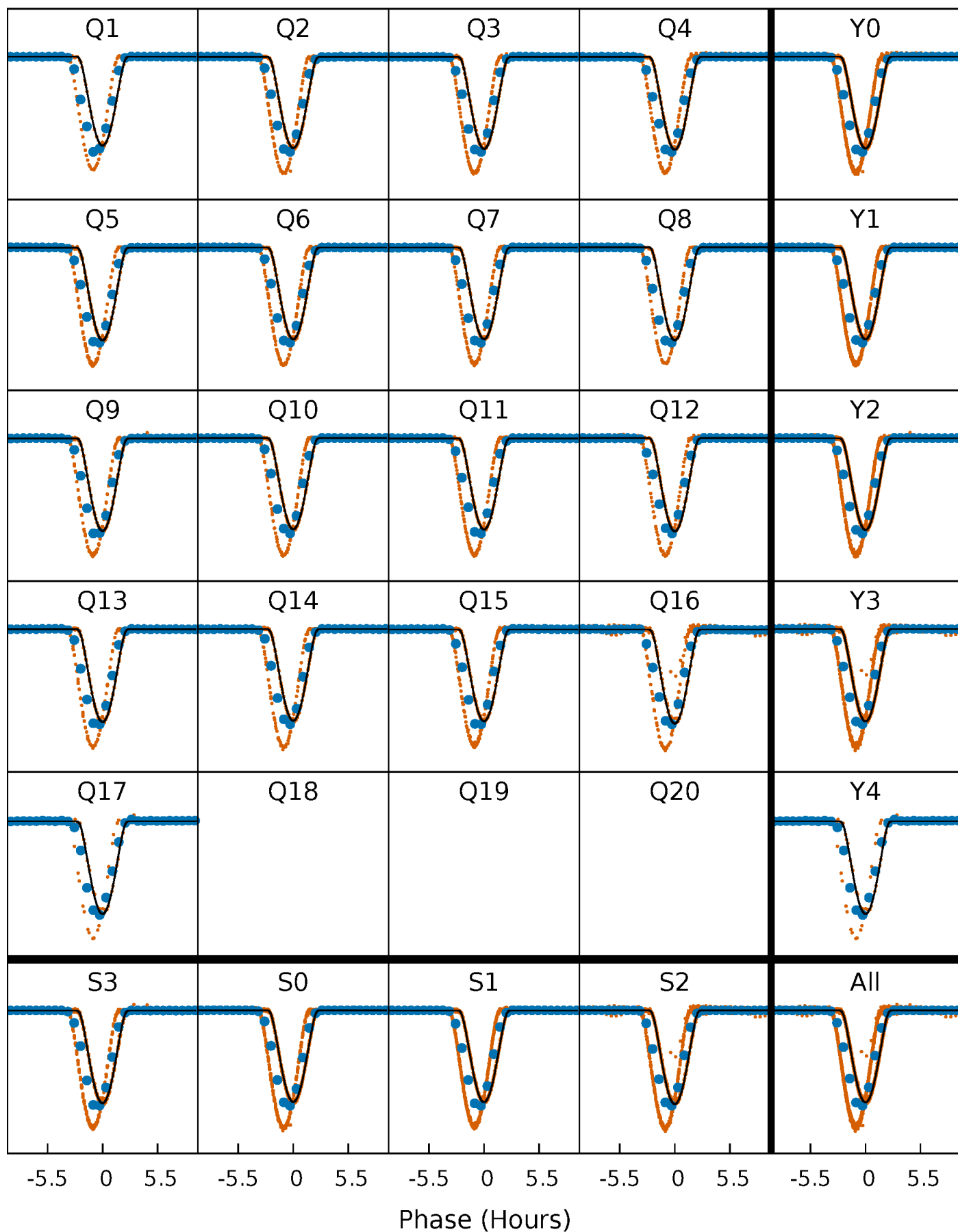
TCE 011817750-01 P= 4.881276 Days  $T_0=131.711713$  (BKJD)





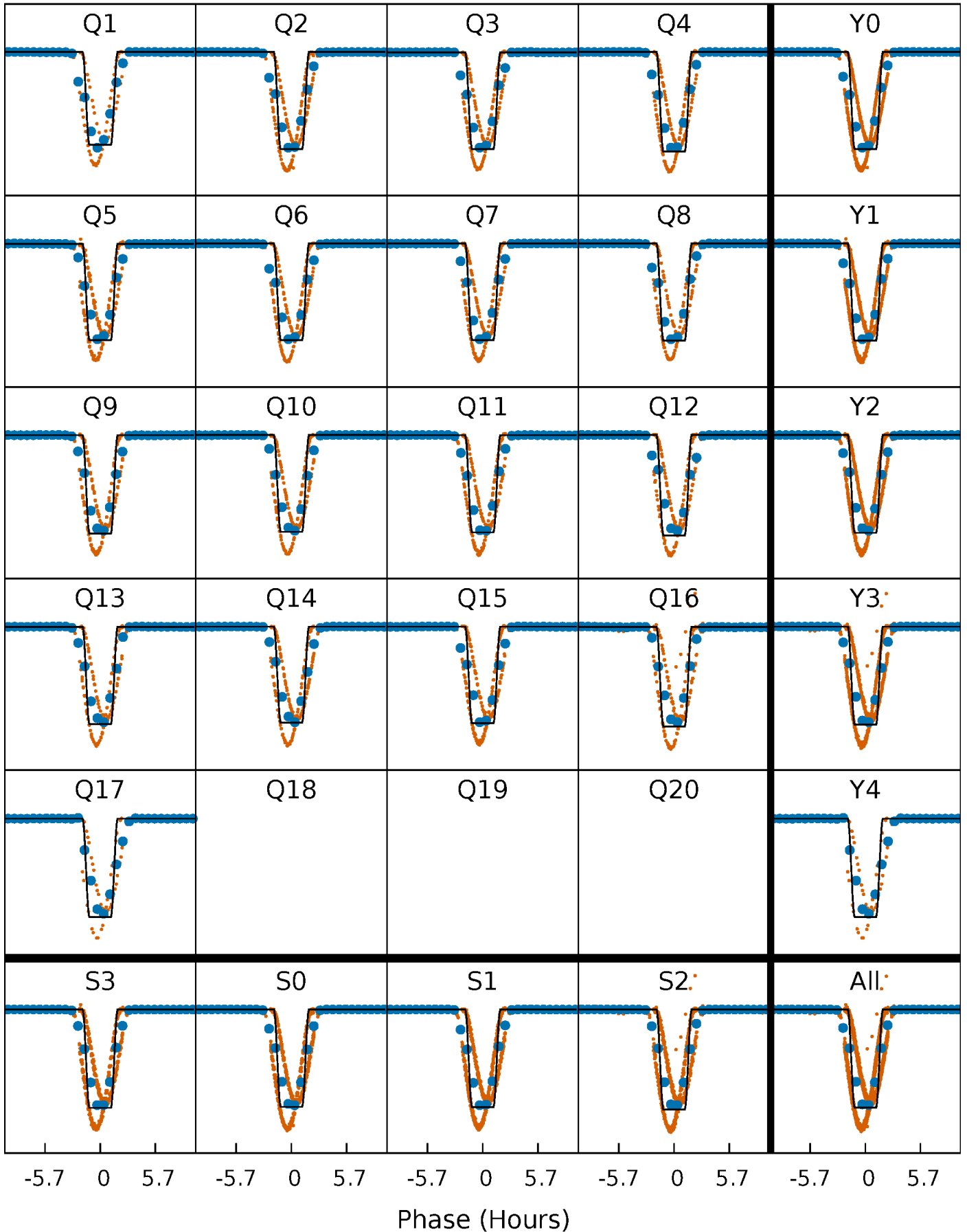
# DV Quarter-Phased Transit Curves

TCE 011817750-01   P= 4.881276 Days    $T_0=131.711713$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

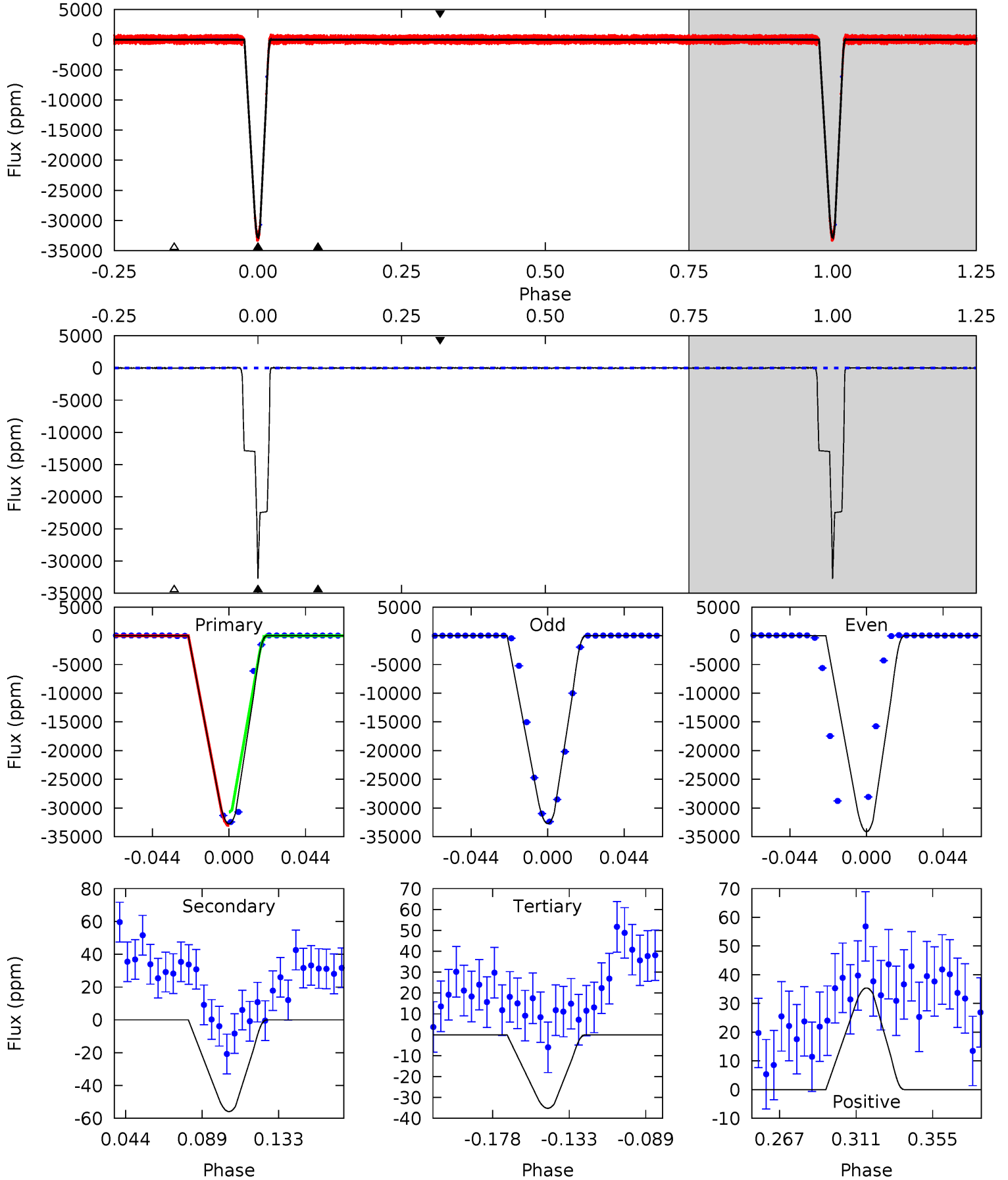
TCE 011817750-01   P= 4.881255 Days    $T_0=131.691682$  (BKJD)



# DV Model-Shift Uniqueness Test

011817750-01, P = 4.881276 Days, E = 126.830437 Days

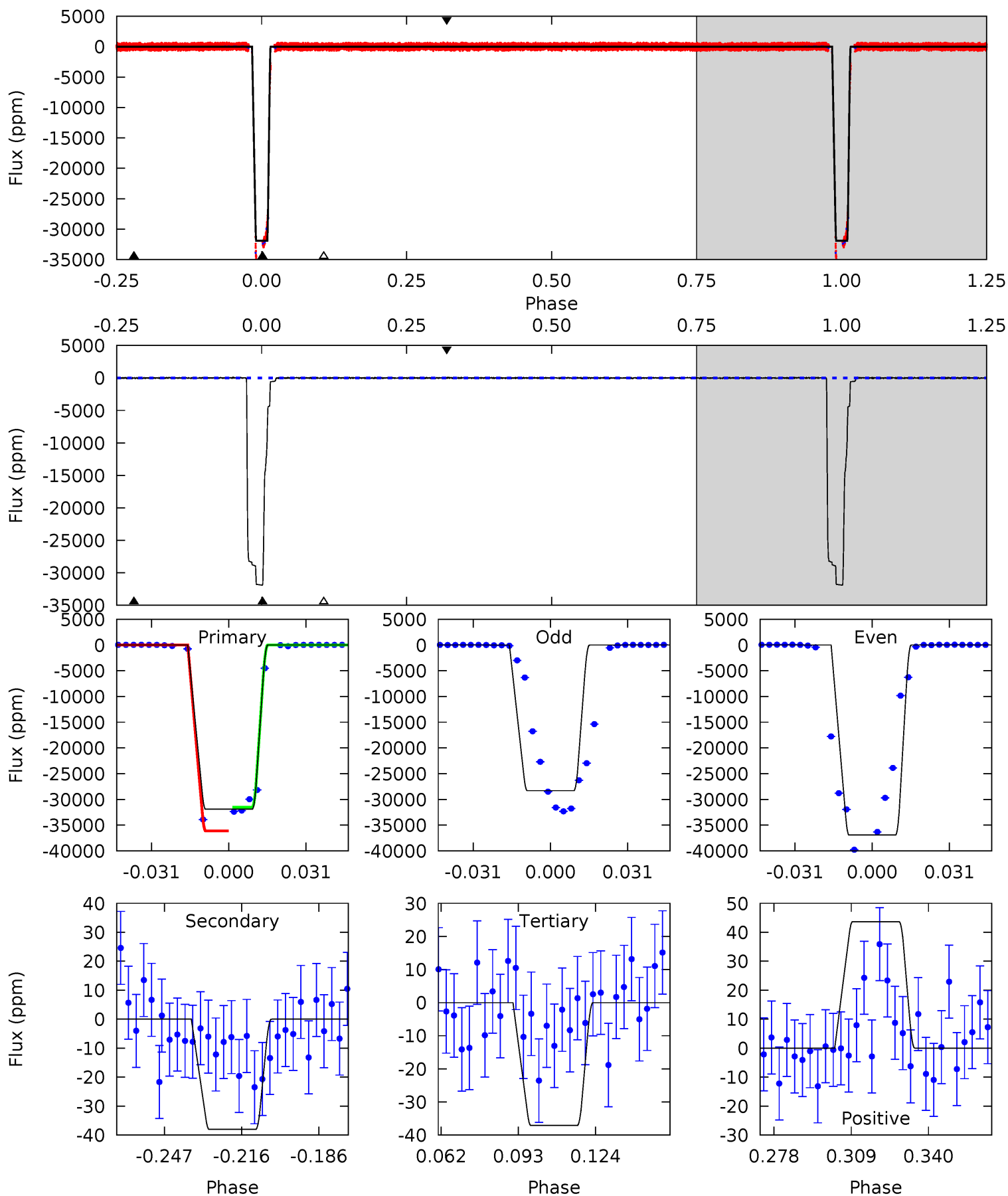
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3575	6.10	3.84	3.86	4.73	2.01	1.41	3571	3571	2.26	2.24	171.5	1.00	0.00	90.4



# Alt Model-Shift Uniqueness Test

011817750-01, P = 4.881255 Days, E = 126.810427 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
2549	3.04	2.96	3.49	4.81	2.16	0.97	2546	2546	0.08	-0.45	688.0	0.94	0.00	0



### Stellar Parameters For KIC 011817750

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7199^{+201}_{-277}$	$4.055^{+0.175}_{-0.175}$	$-0.040^{+0.250}_{-0.350}$	$1.950^{+0.556}_{-0.505}$	$1.571^{+0.221}_{-0.243}$	$0.299^{+0.277}_{-0.144}$
	+3%/-4%	+4%/-4%	+625%/-875%	+29%/-26%	+14%/-15%	+93%/-48%
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 011817750-01 / KOI 7482.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-56 \pm 9$	$61.31^{+8.70}_{-8.71}$	$2434^{+180}_{-180}$	$-2698^{+116}_{-114}$	$0.036^{+0.013}_{-0.011}$
Alt.	$-38 \pm 13$	$39.18^{+6.24}_{-4.67}$	$2409^{+196}_{-159}$	$-2649^{+106}_{-129}$	$0.058^{+0.026}_{-0.022}$

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

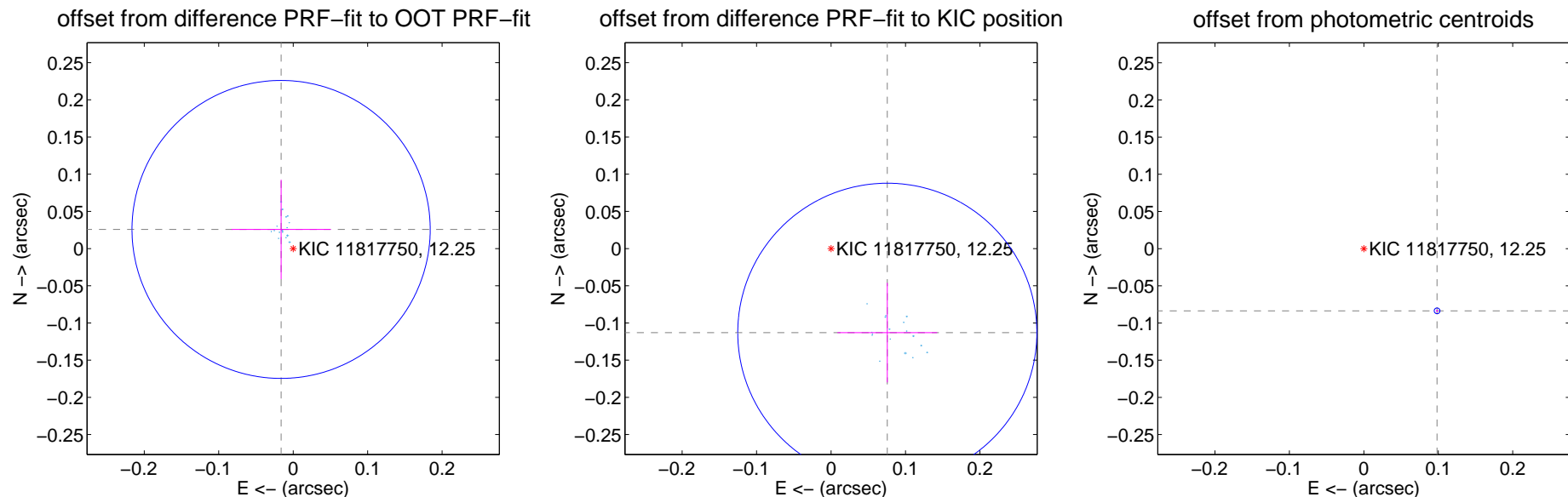
## DV Centroid Data

Supplemental centroid analysis for 011817750-01. Kepler magnitude: 12.25. Transit SNR 3835.23

There are 17 quarters with good PRF difference image offsets

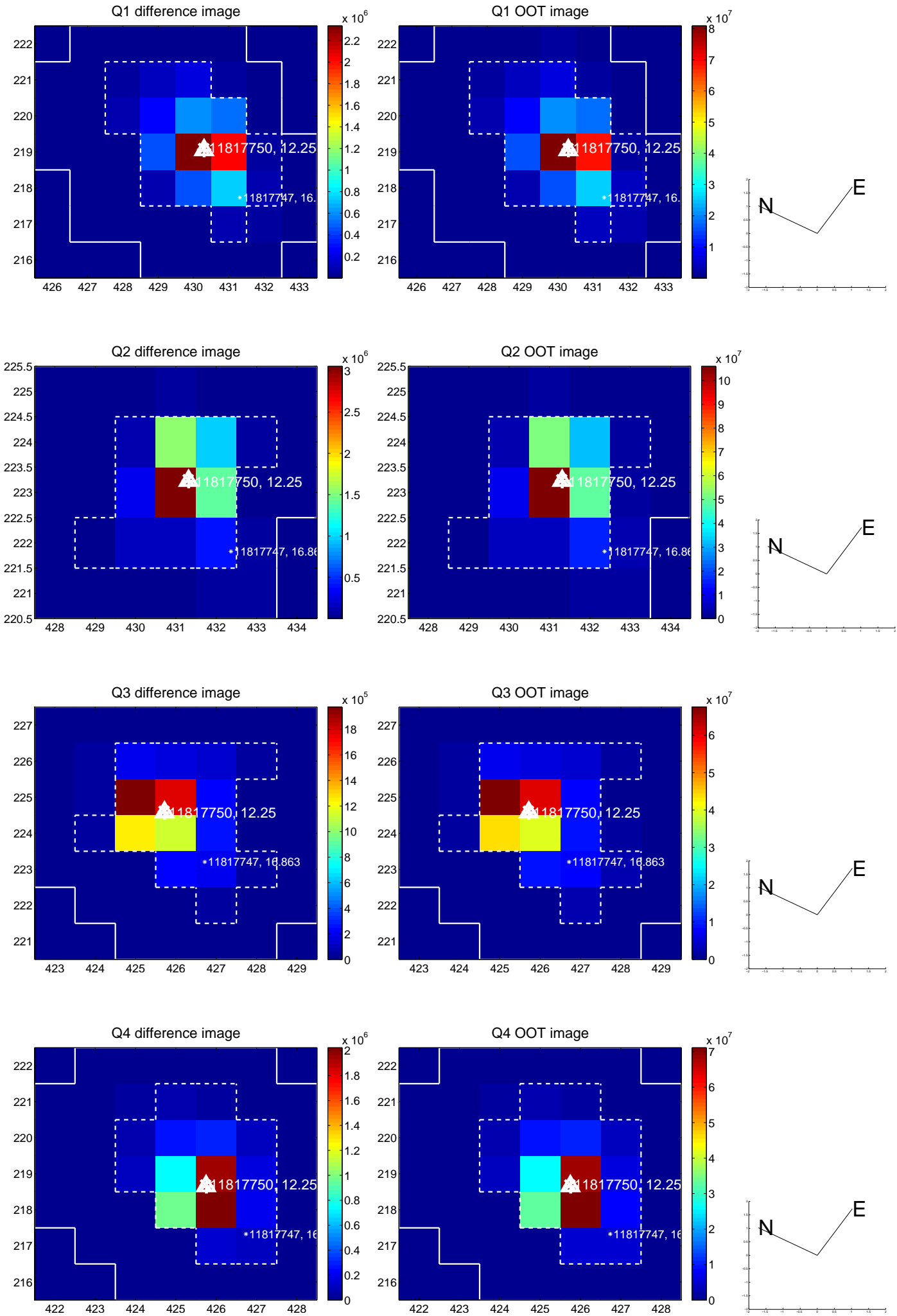
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.030 \pm 0.067$	0.46	$0.016 \pm 0.067$	$0.026 \pm 0.067$
PRF-fit source offset from KIC position	$0.136 \pm 0.067$	2.03	$-0.076 \pm 0.067$	$-0.113 \pm 0.067$
photometric centroid source offset	$0.13 \pm 0.00$	100.58	$-0.10 \pm 0.00$	$-0.08 \pm 0.00$

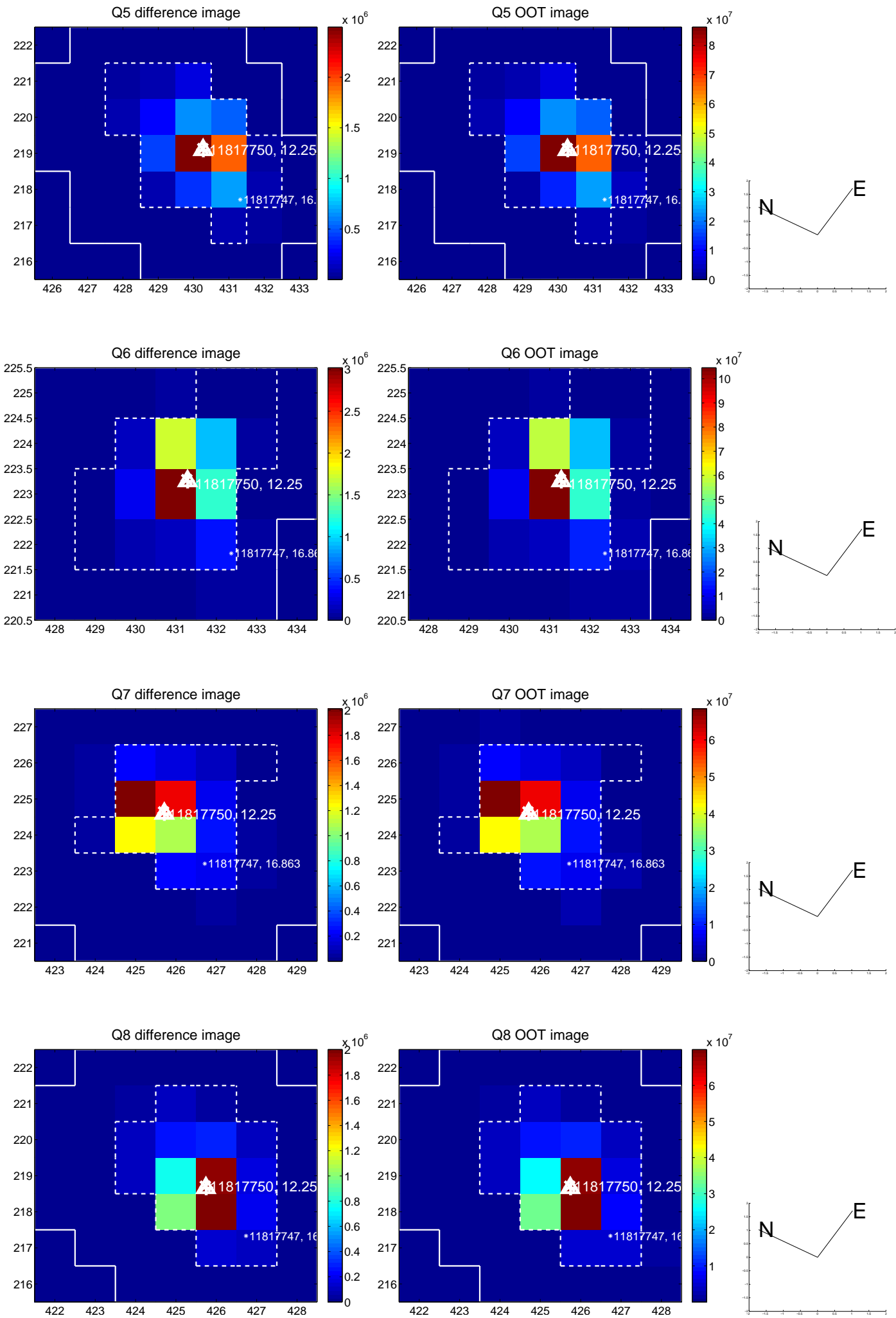


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

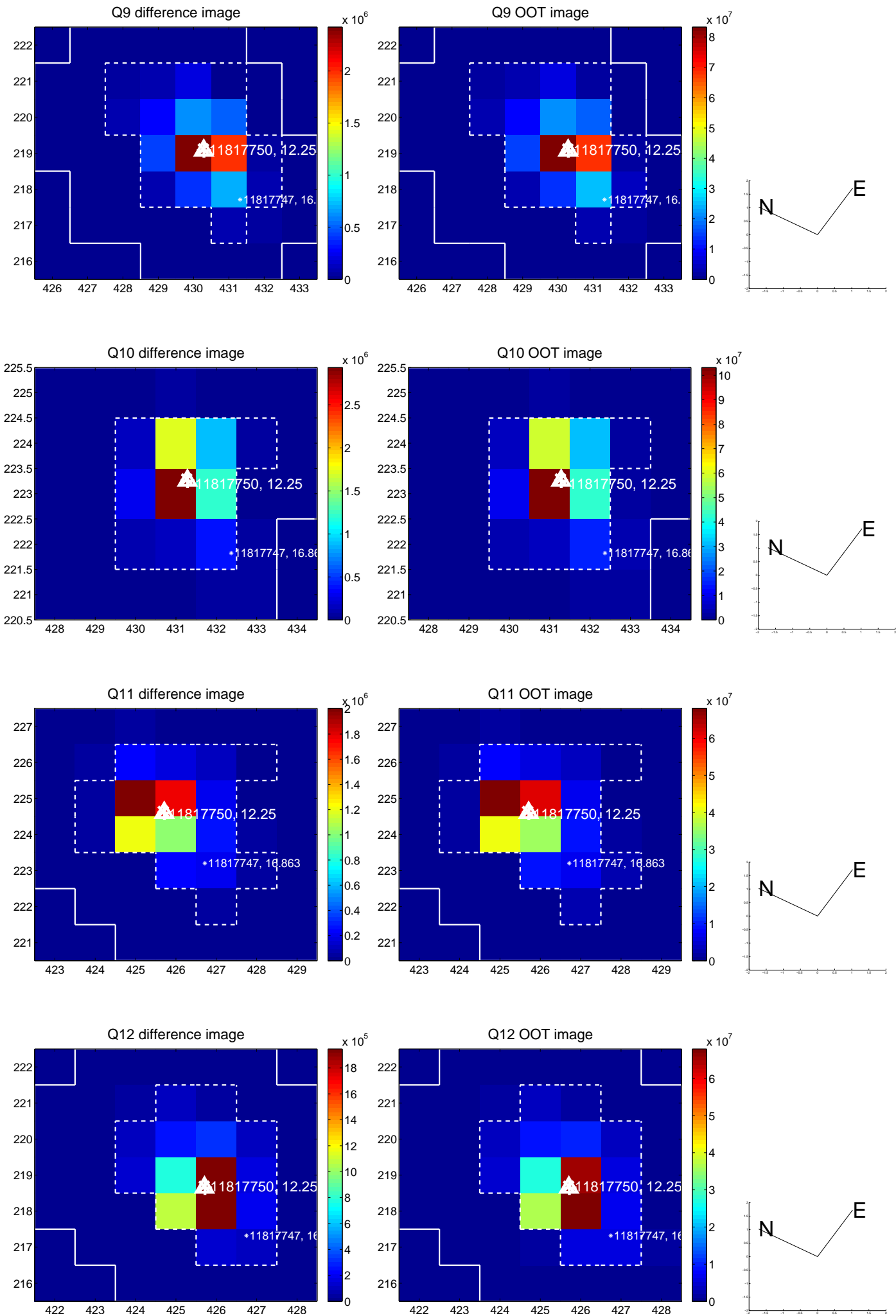


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

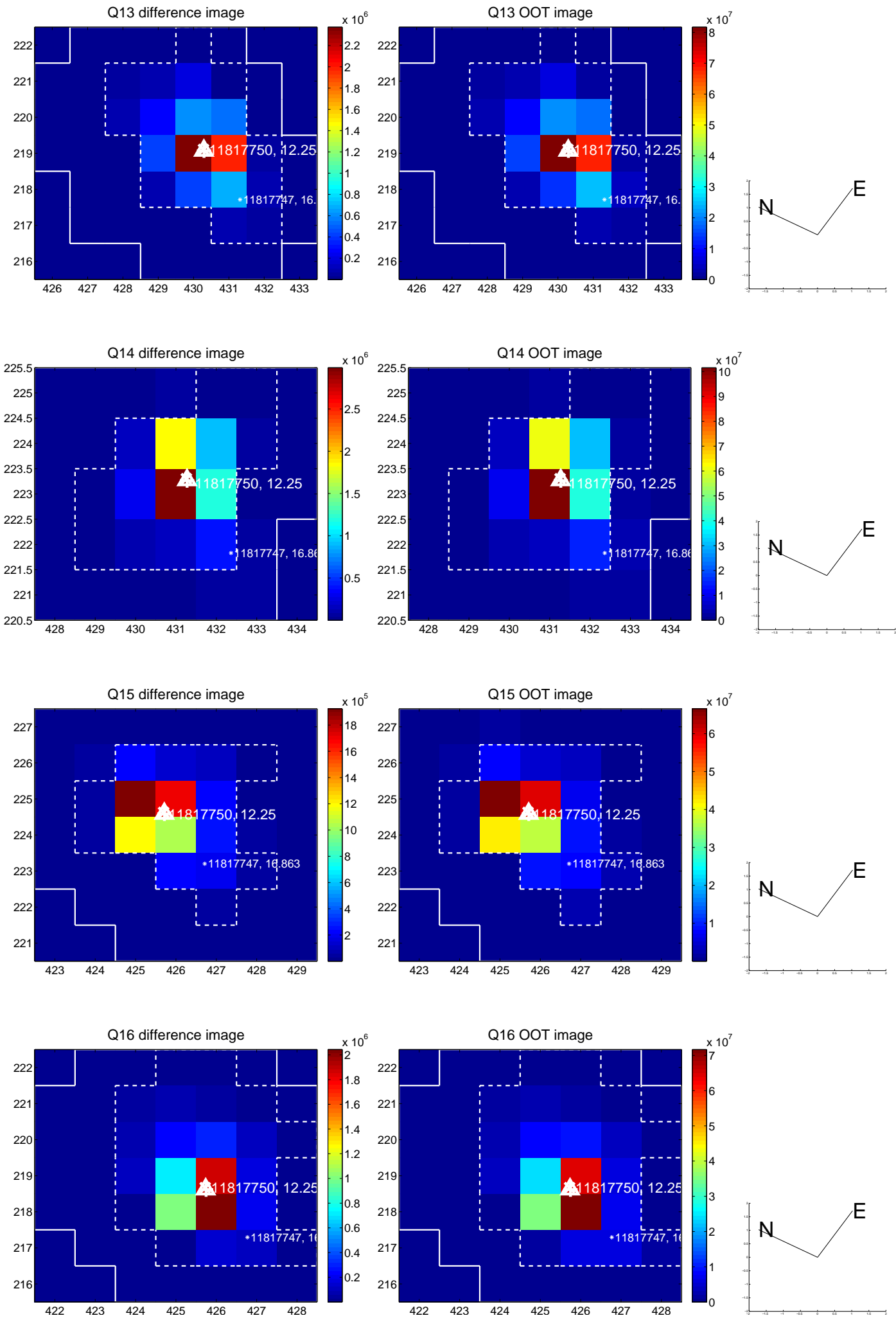




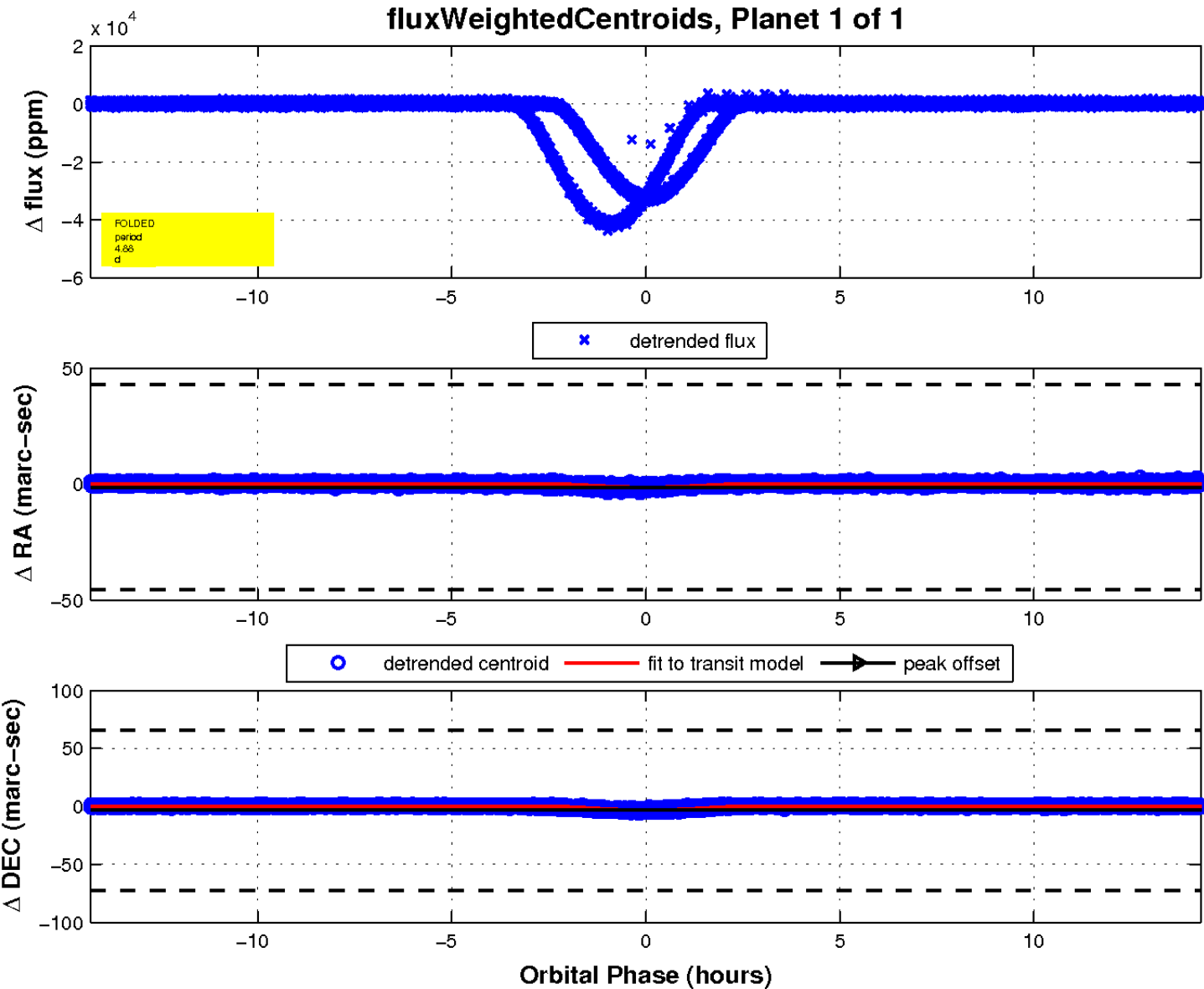
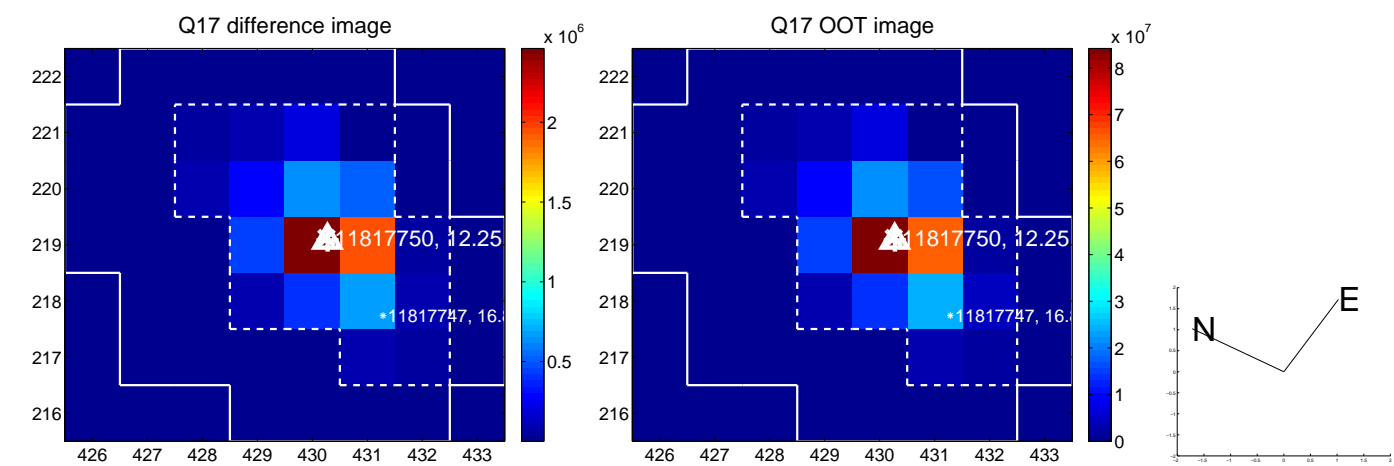
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

