

# KIC 001725193

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
001725193-01	OBS	4925.01	2.963842	134.119350	35316.7	5.419	2278.6	1709.8	1.16	6095	34.13	926.38

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001725193-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—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.

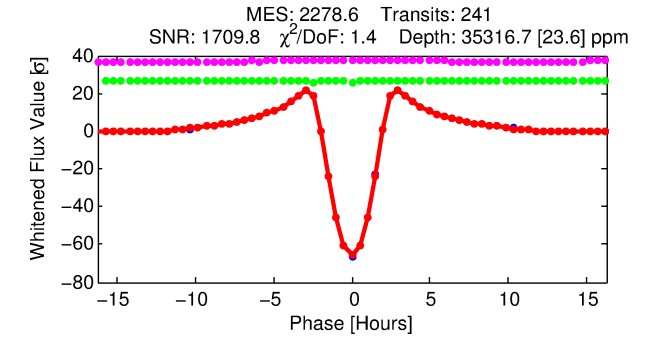
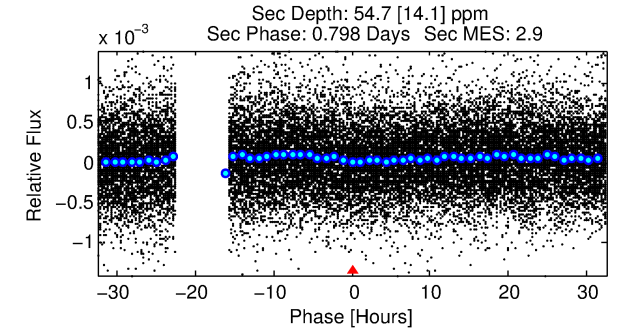
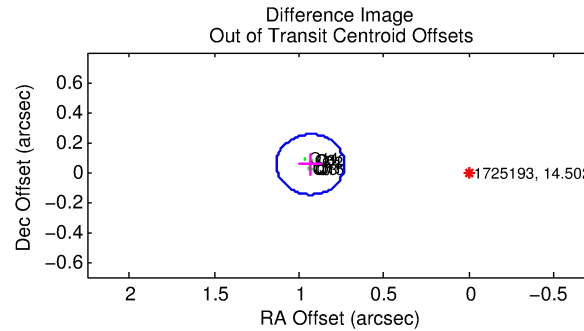
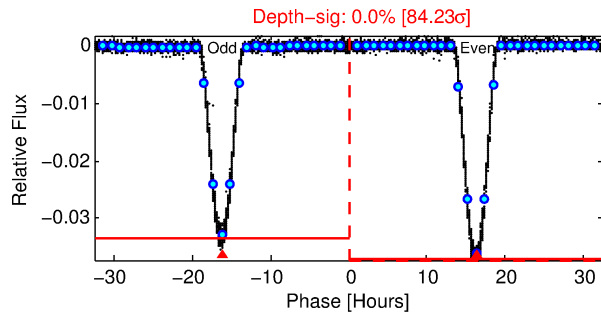
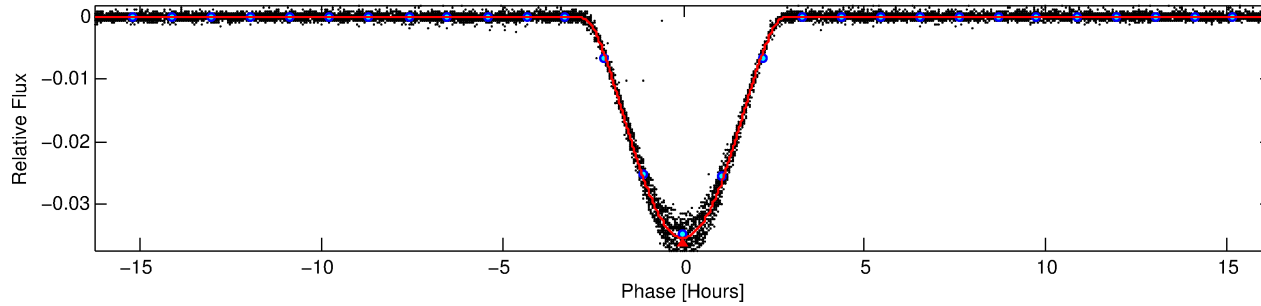
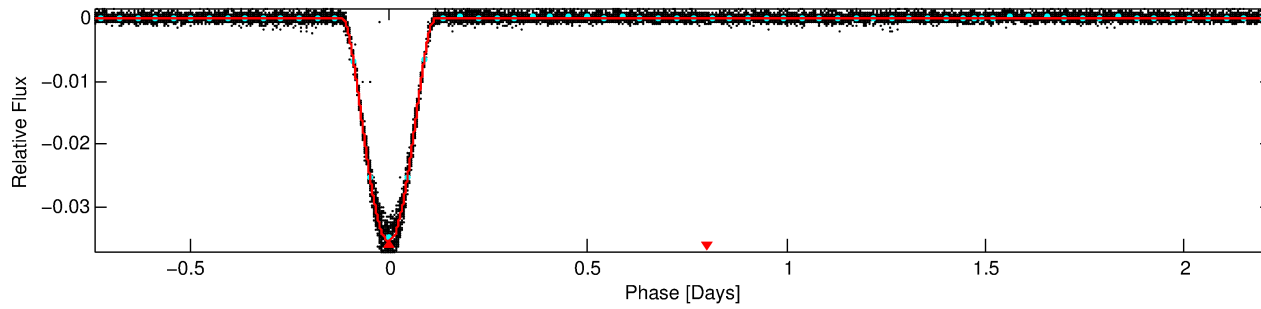
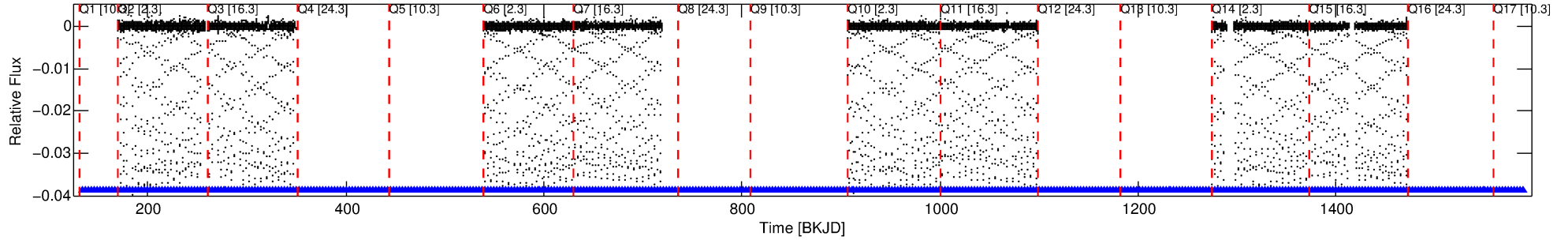
## Ephemeris Match Information For 001725193-01

No Significant Match Found

# DV One-Page Summary

KIC: 1725193 Candidate: 1 of 1 Period: 2.964 d  
KOI: K04925.01 Corr: 0.995

Kp: 14.50 R\*: 1.16 Rs Teff: 6095.0 K Logg: 4.37 Fe/H: 0.140



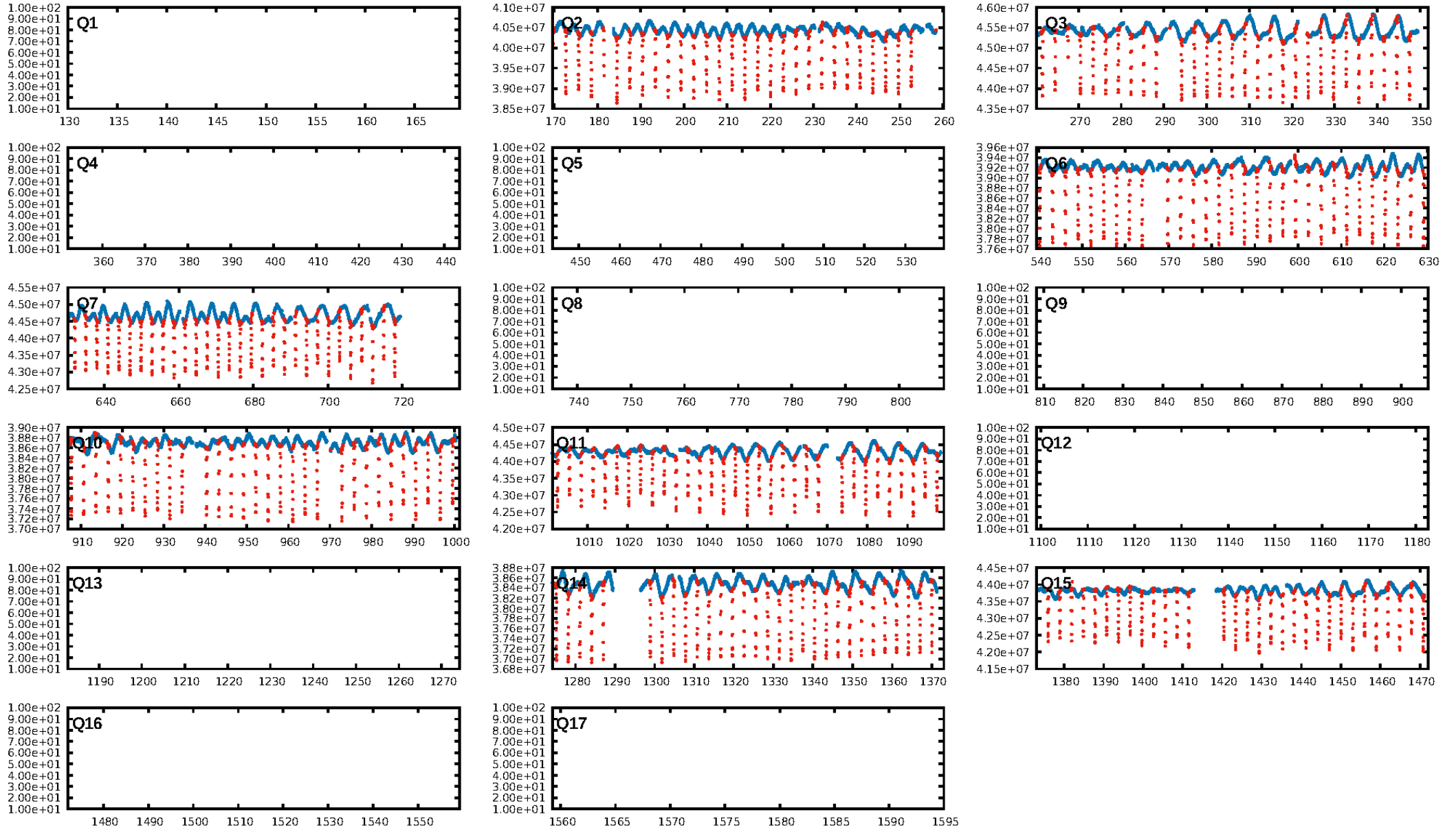
## DV Fit Results:

Period = 2.96384 [0.00000] d  
Epoch = 134.1193 [0.0001] BKJD  
Rp/R\* = 0.2701 [0.0057]  
a/R\* = 3.64 [0.00]  
b = 0.96 [0.01]  
Seff = 926.38 [377.05]  
Teff = 1407 [143] K  
Rp = 34.13 [10.93] Re  
a = 0.0423 [0.0112] AU  
Ag = 0.05 [0.02] [-44.95σ]  
Teffp = 1008 [76] K [-2.46σ]

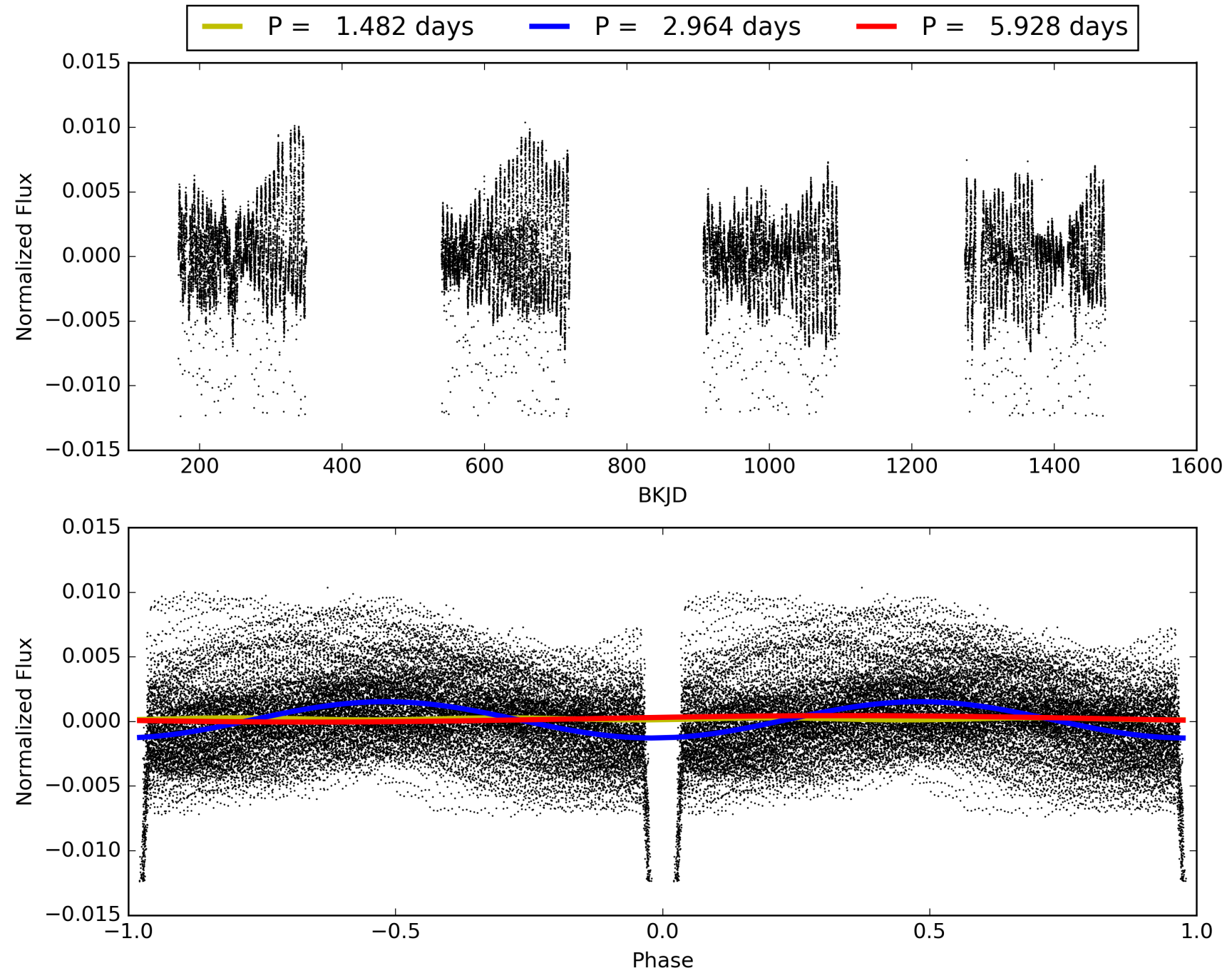
## DV Diagnostic Results:

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 [241/241]  
GhostDiagnostic-chr: 2.164  
Centroid-sig: 0.0%  
Centroid-so: 1.155 arcsec [253.74σ]  
OotOffset-rm: 0.935 arcsec [13.91σ]  
KicOffset-rm: 0.184 arcsec [1.98σ]  
OotOffset-st: 4/4/0/0 [8]  
KicOffset-st: 4/4/0/0 [8]  
DiffImageQuality-fgm: 1.00 [8/8]  
DiffImageOverlap-fno: 1.00 [8/8]

# TCE 001725193-01, PDC Light Curves

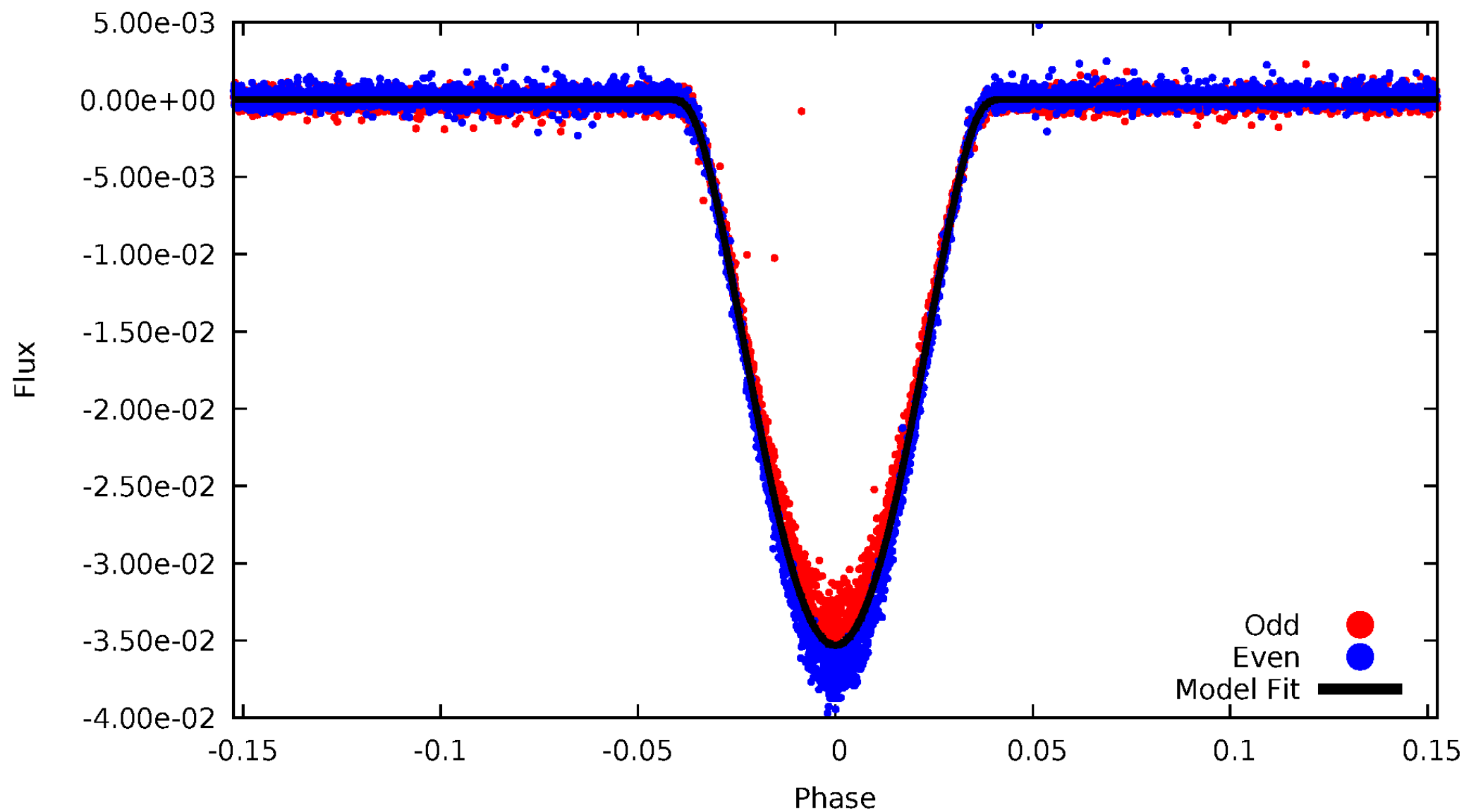


TCE 001725193-01



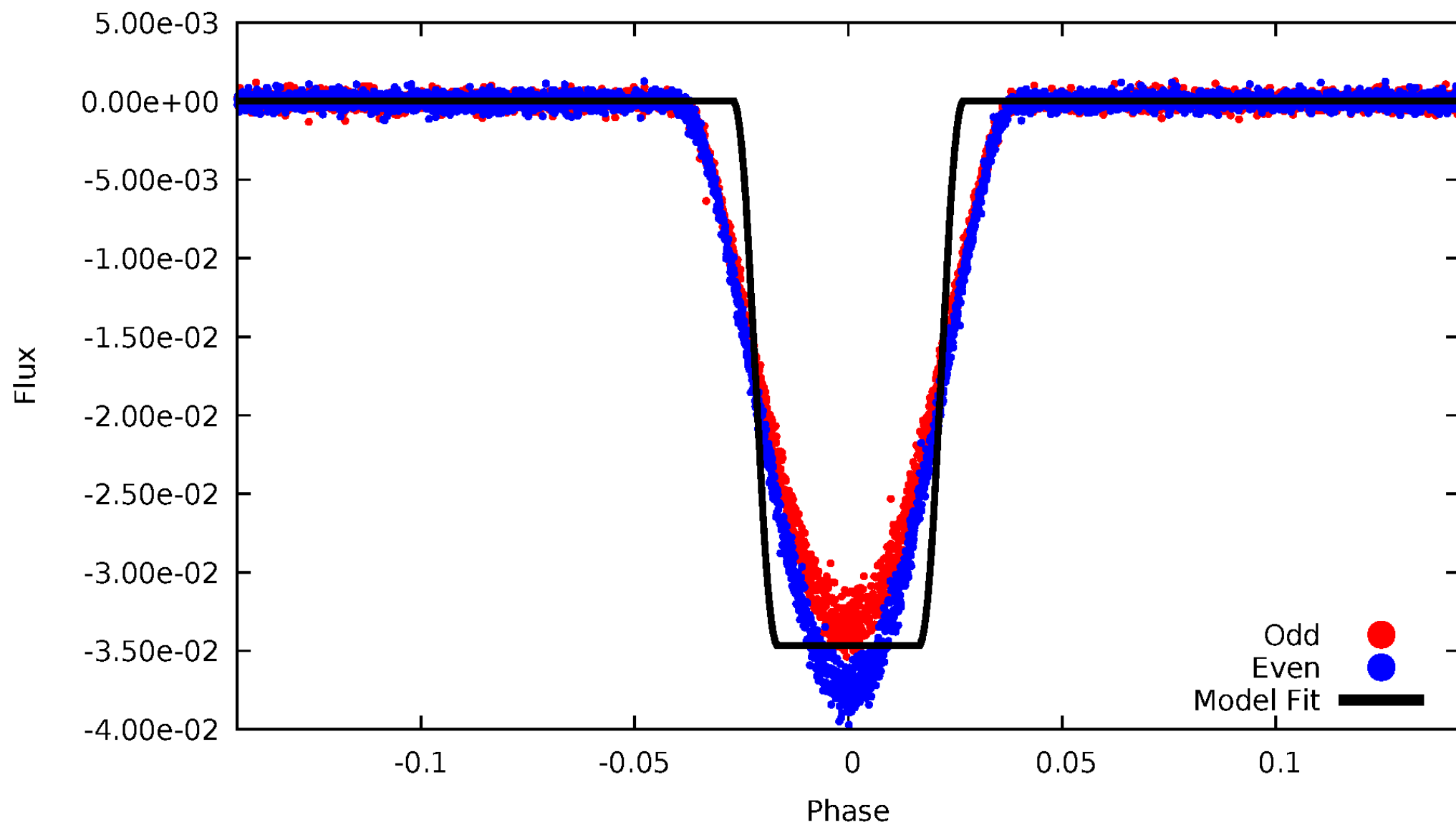
# DV Odd/Even

TCE 001725193-01



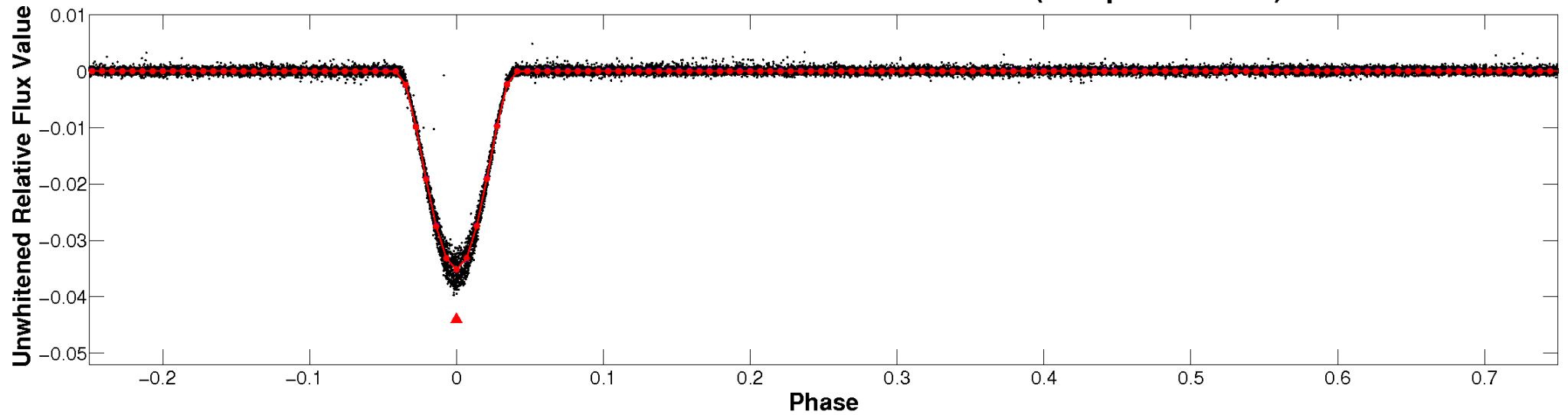
# ALT Odd/Even

TCE 001725193-01

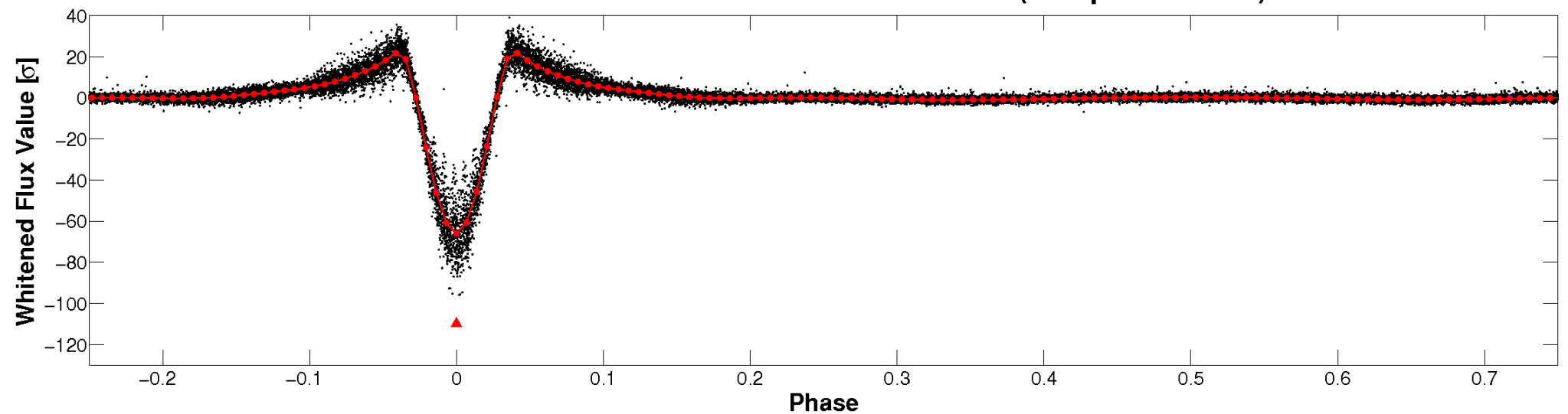


# Non-Whitened Vs. Whitened Light Curve

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

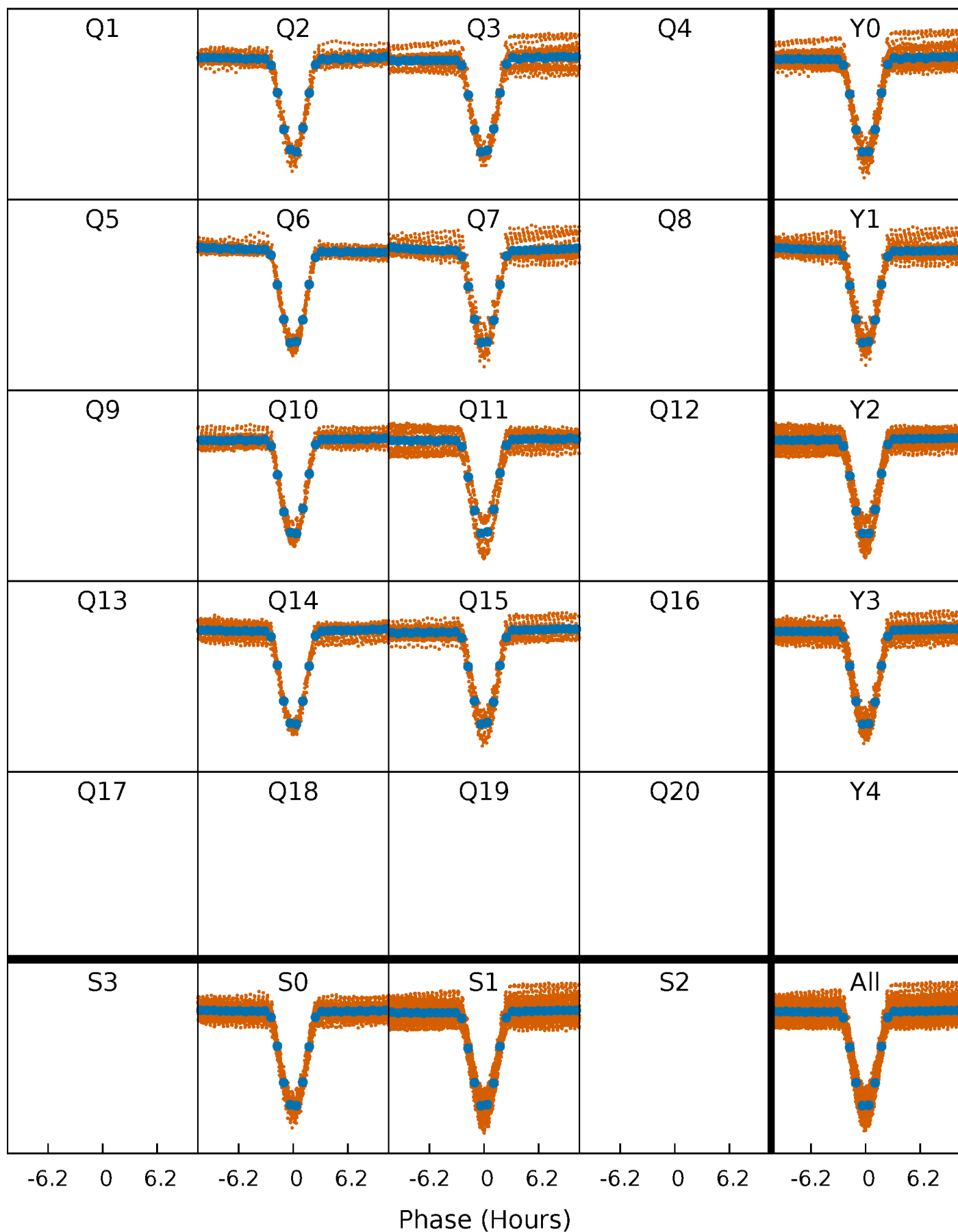


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

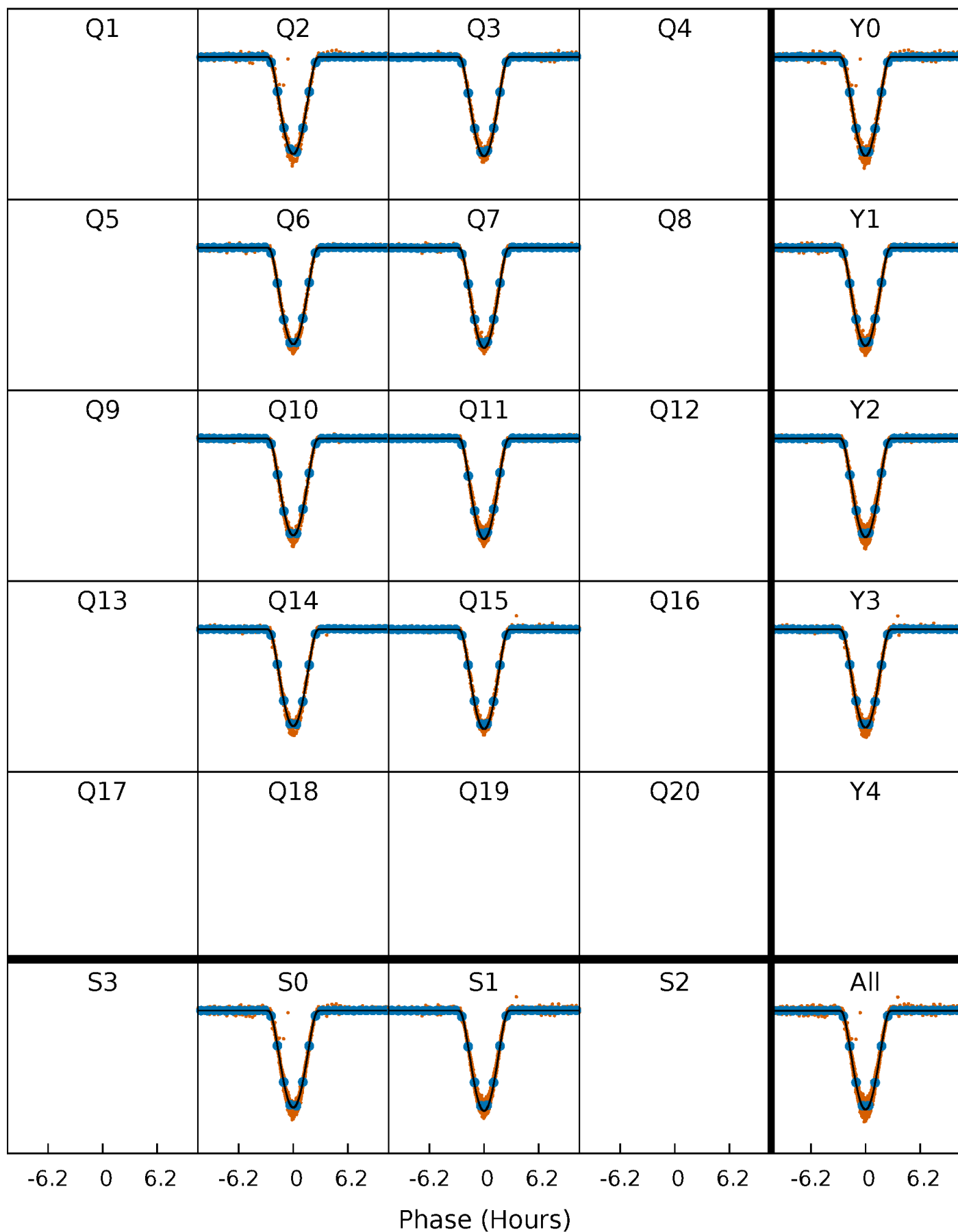
TCE 001725193-01 P= 2.963842 Days  $T_0=134.119350$  (BKJD)





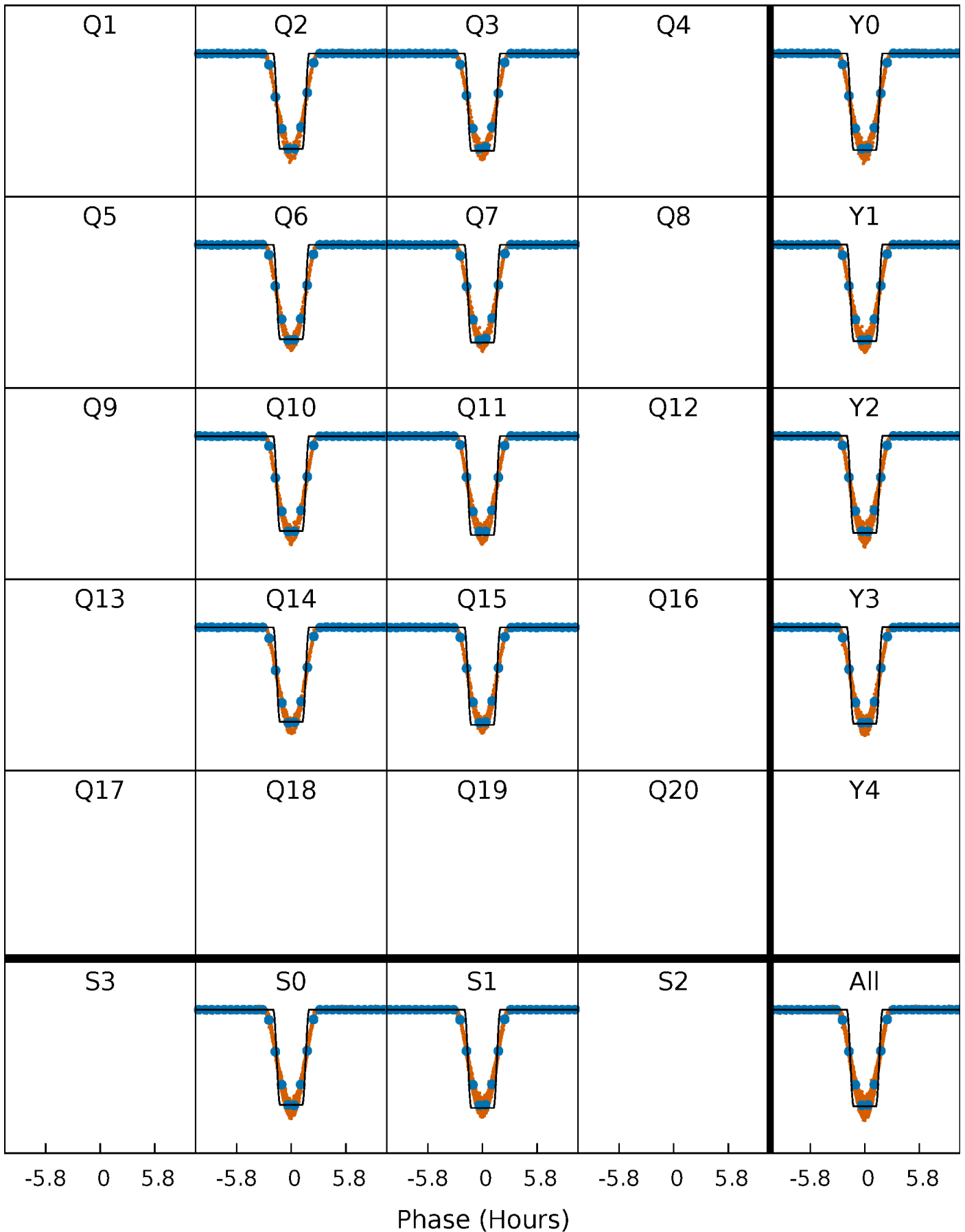
# DV Quarter-Phased Transit Curves

TCE 001725193-01 P= 2.963842 Days  $T_0=134.119350$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

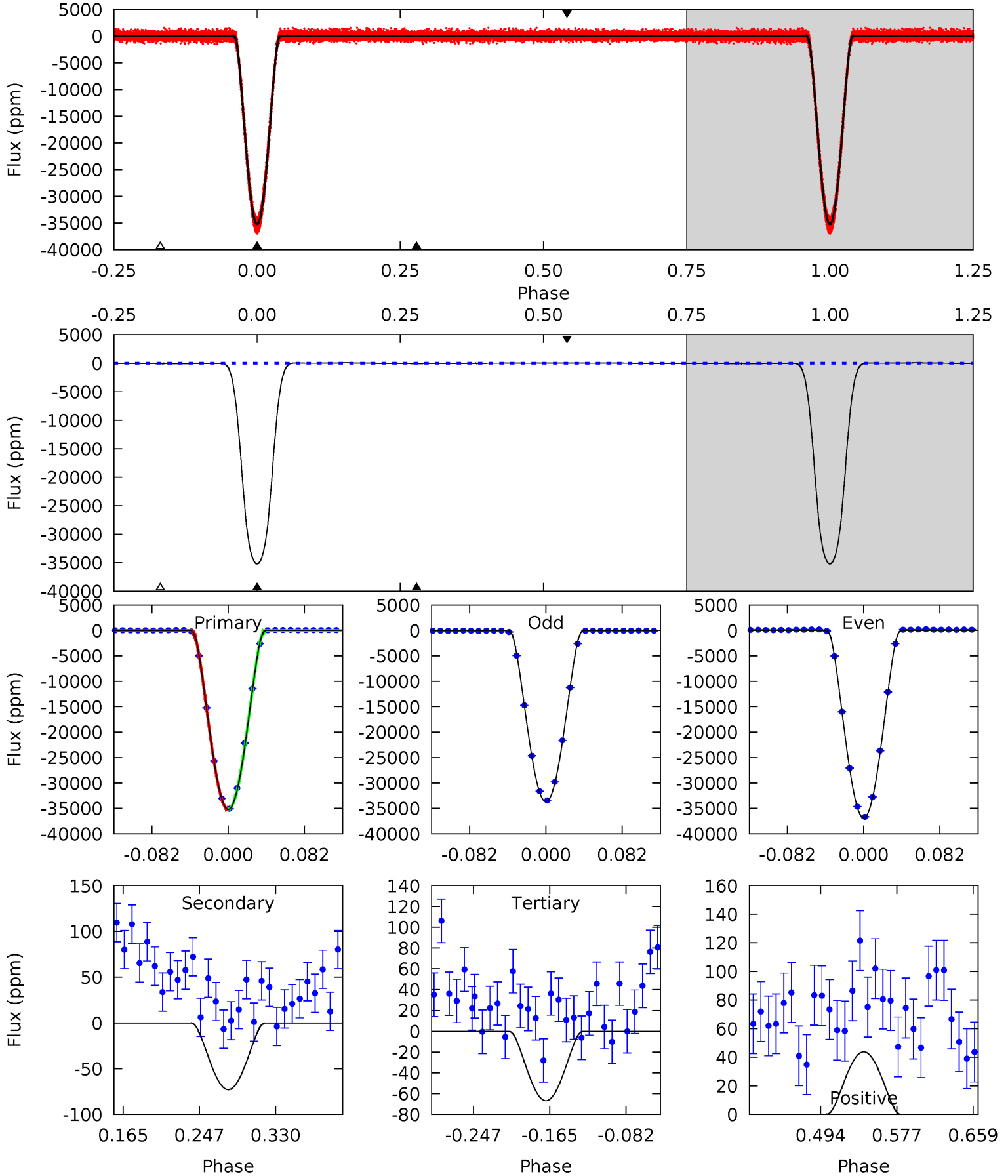
TCE 001725193-01   P= 2.963840 Days    $T_0=134.119961$  (BKJD)



# DV Model-Shift Uniqueness Test

001725193-01, P = 2.963842 Days, E = 134.119350 Days

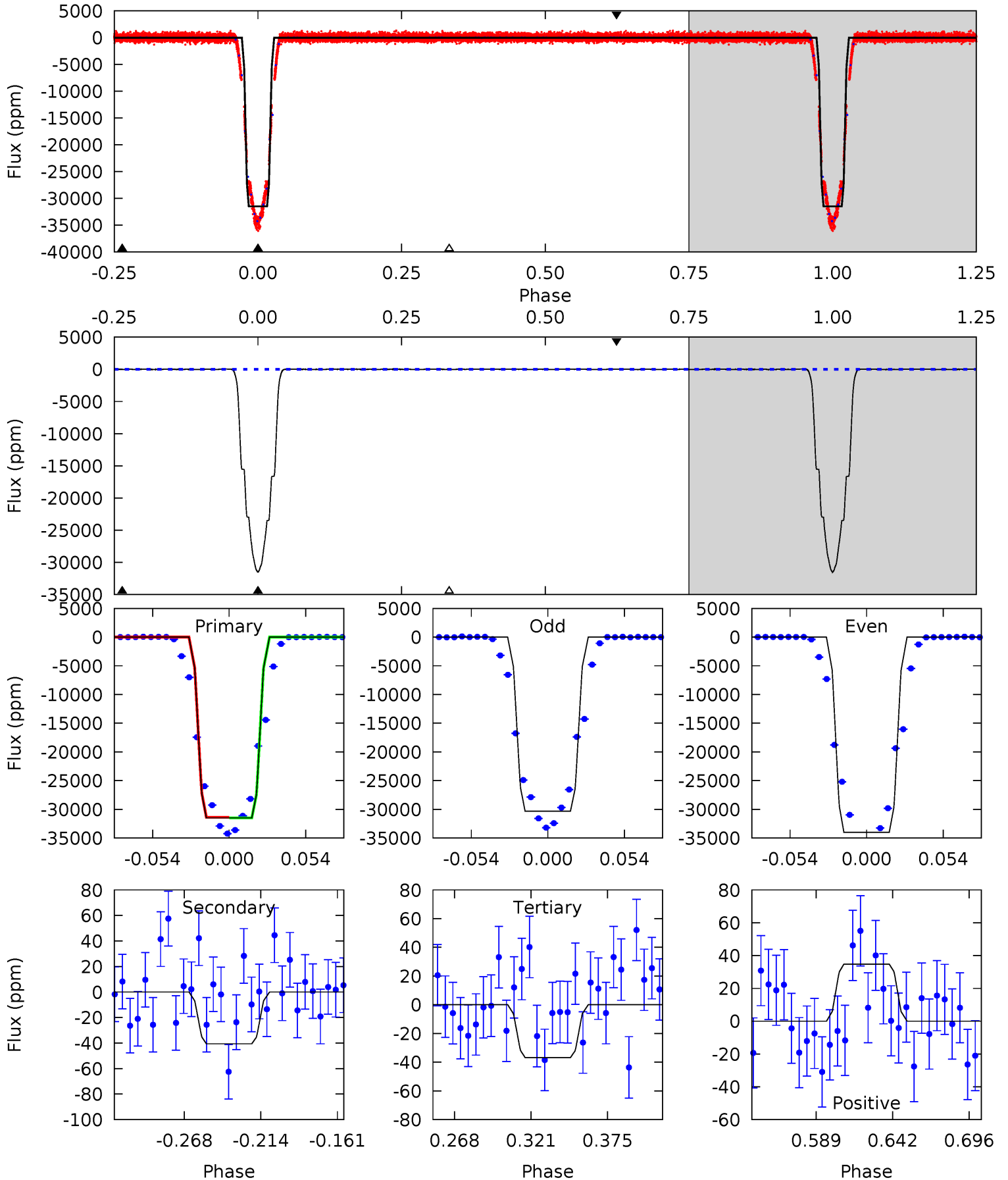
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4373	9.05	8.29	5.44	4.61	1.74	4.51	4364	4367	0.76	3.61	218.5	0.99	0.00	7.58



# Alt Model-Shift Uniqueness Test

001725193-01, P = 2.963840 Days, E = 134.119961 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
2516	3.24	2.93	2.77	4.69	1.93	1.16	2513	2513	0.31	0.47	197.2	1.00	0.00	0



### Stellar Parameters For KIC 001725193

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6095^{+169}_{-232}$	$4.371^{+0.087}_{-0.203}$	$0.140^{+0.200}_{-0.300}$	$1.158^{+0.370}_{-0.159}$	$1.154^{+0.151}_{-0.166}$	$1.046^{+0.410}_{-0.562}$
	+3%/-4%	+2%/-5%	+143%/-214%	+32%/-14%	+13%/-14%	+39%/-54%
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 001725193-01 / KOI 4925.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-73 \pm 8$	$34.68^{+6.04}_{-3.11}$	$1991^{+146}_{-115}$	$-2424^{+78}_{-105}$	$0.058^{+0.015}_{-0.015}$
Alt.	$-41 \pm 13$	$24.21^{+4.01}_{-2.57}$	$1992^{+153}_{-111}$	$-2421^{+87}_{-106}$	$0.062^{+0.030}_{-0.023}$

$T_{\text{max}}$  = 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

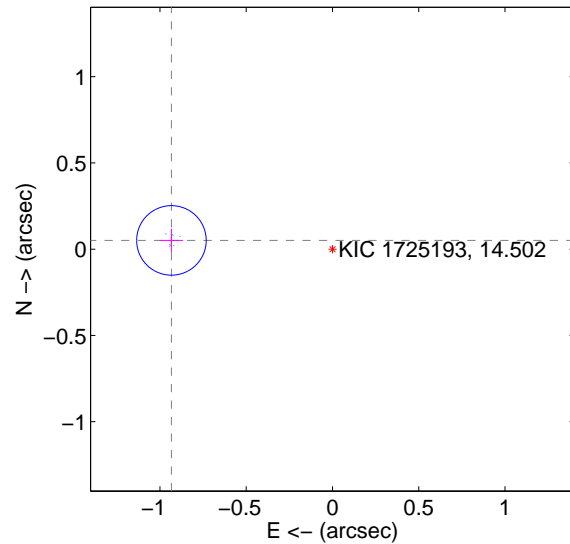
Supplemental centroid analysis for 001725193-01. Kepler magnitude: 14.50. Transit SNR 1709.77

There are 8 quarters with good PRF difference image offsets

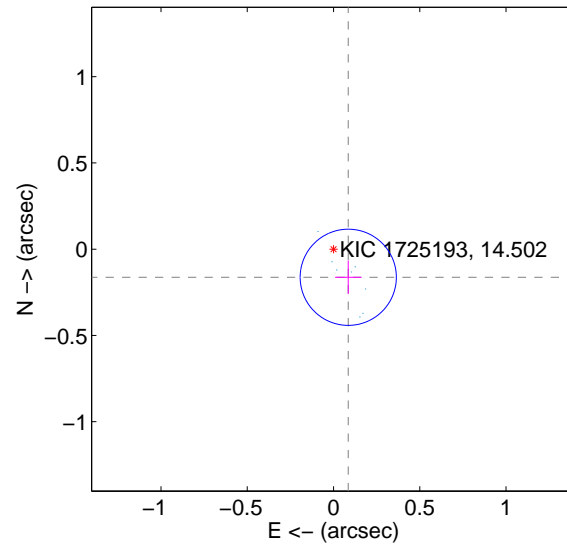
The direct PRF centroid is offset from the target star catalog position by about 0.97 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>0.935 \pm 0.067</math></b>	<b>13.91</b>	$0.933 \pm 0.067$	$0.051 \pm 0.068$
PRF-fit source offset from KIC position	$0.184 \pm 0.093$	1.98	$-0.085 \pm 0.077$	$-0.163 \pm 0.097$
photometric centroid source offset	<b><math>1.15 \pm 0.00</math></b>	<b>253.74</b>	$-0.44 \pm 0.01$	$-1.07 \pm 0.00$

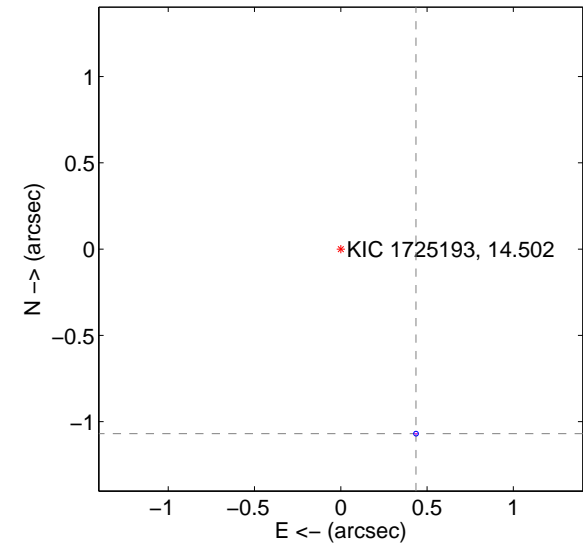
offset from difference PRF-fit to OOT PRF-fit



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.

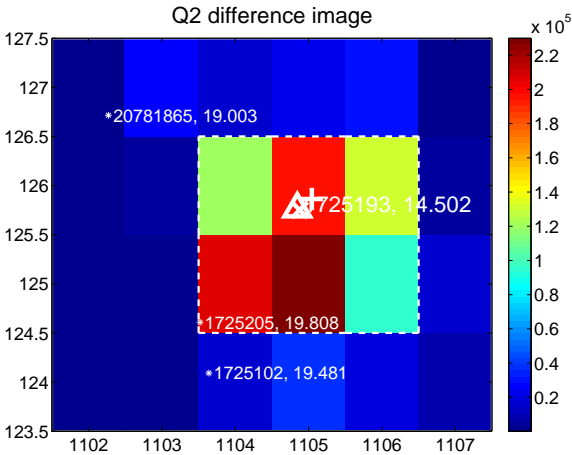
Q1 no difference image



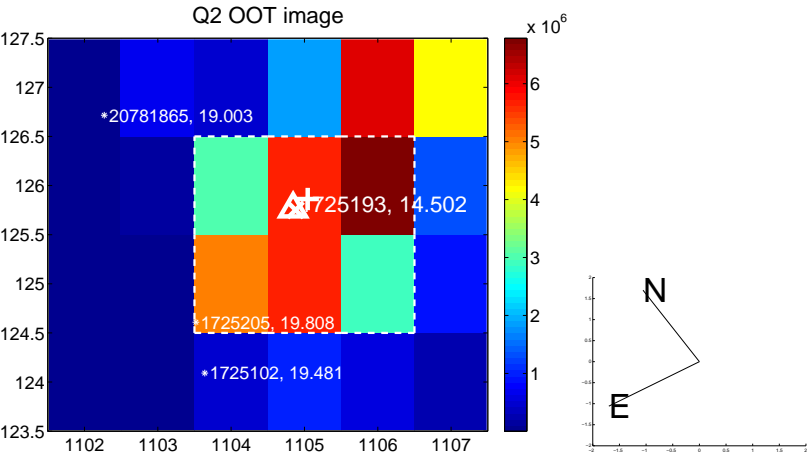
Q1 no OOT image



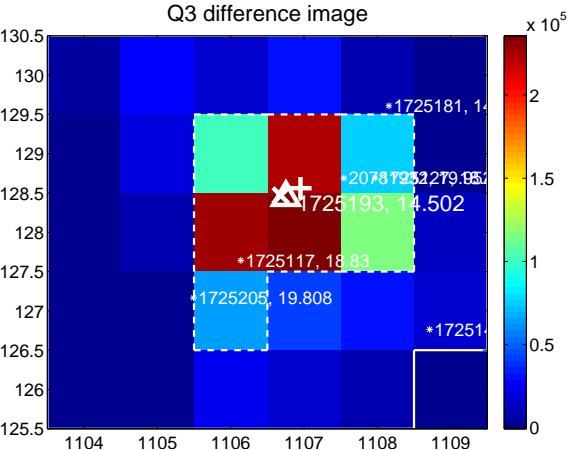
Q2 difference image



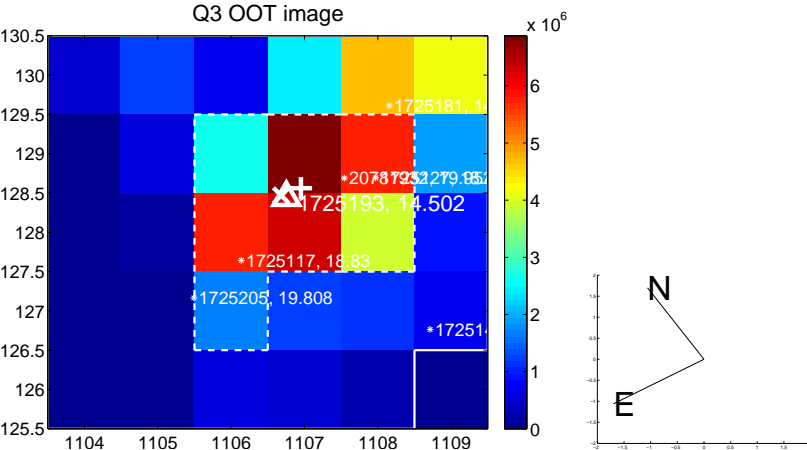
Q2 OOT image



Q3 difference image



Q3 OOT image



Q4 no difference image



Q4 no OOT image



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

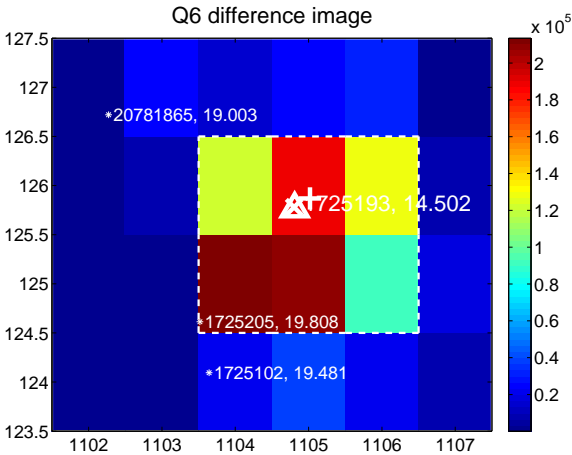
Q5 no difference image



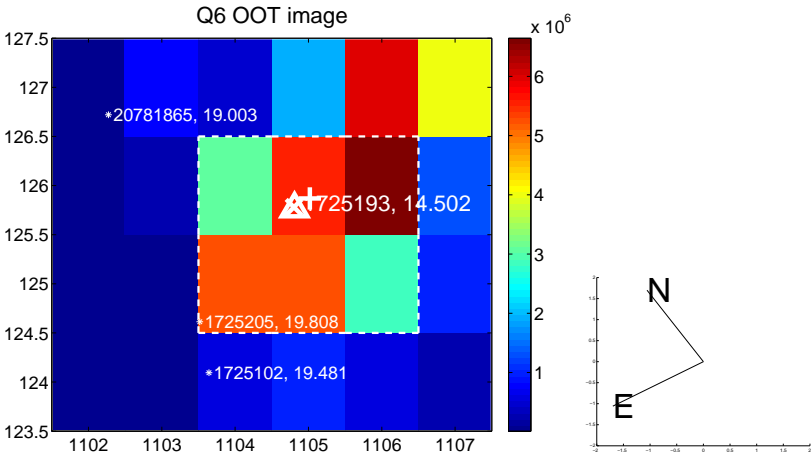
Q5 no OOT image



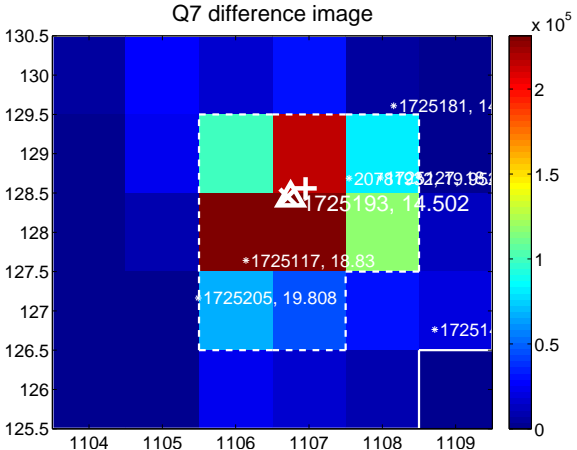
Q6 difference image



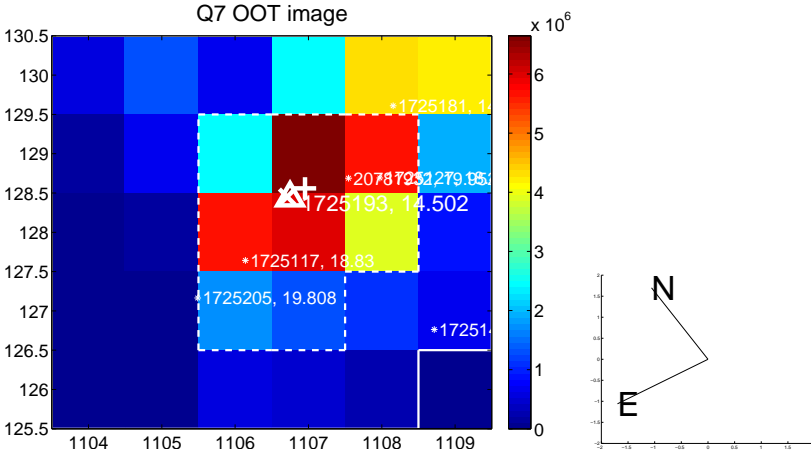
Q6 OOT image



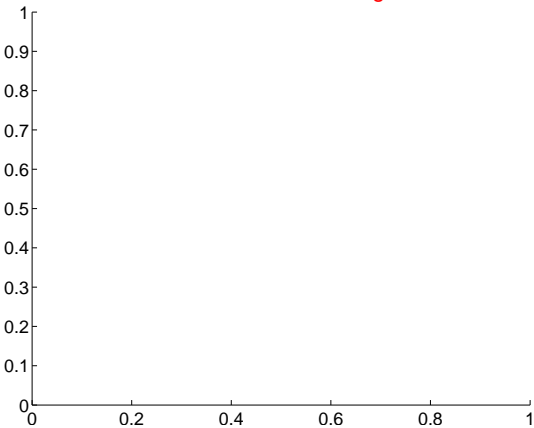
Q7 difference image



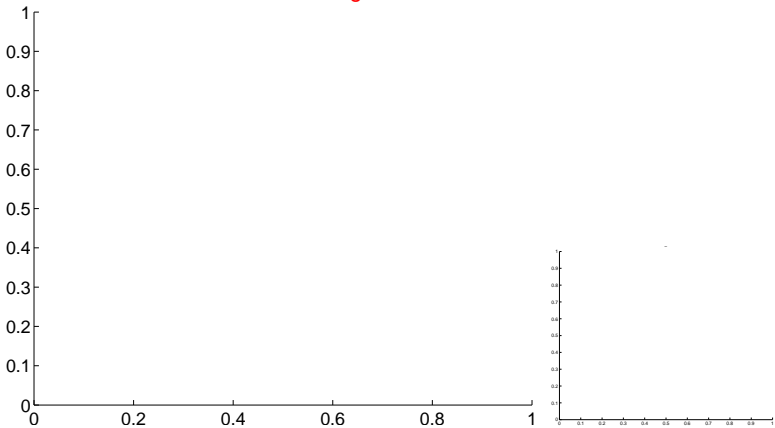
Q7 OOT image



Q8 no difference image



Q8 no OOT image





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

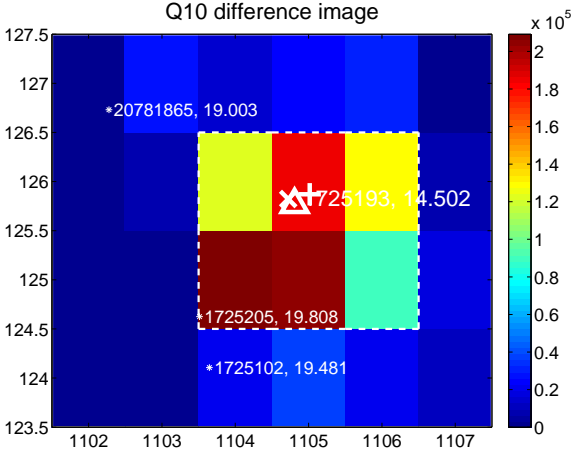
Q9 no difference image



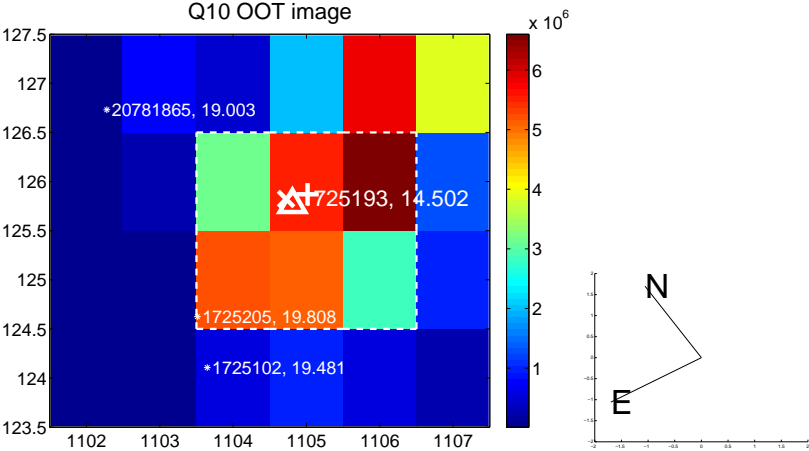
Q9 no OOT image



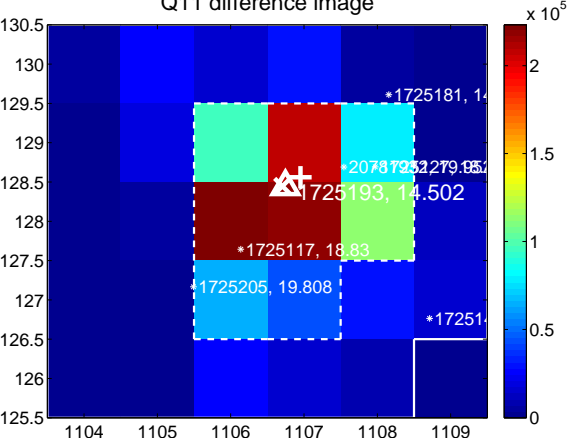
Q10 difference image



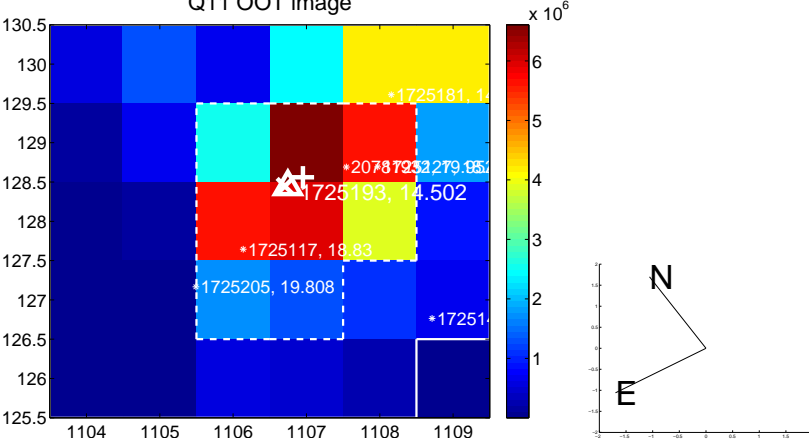
Q10 OOT image



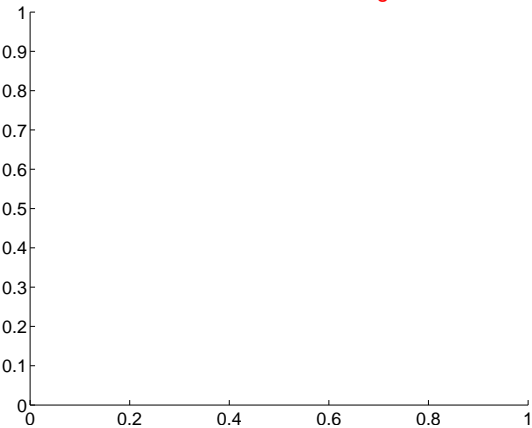
Q11 difference image



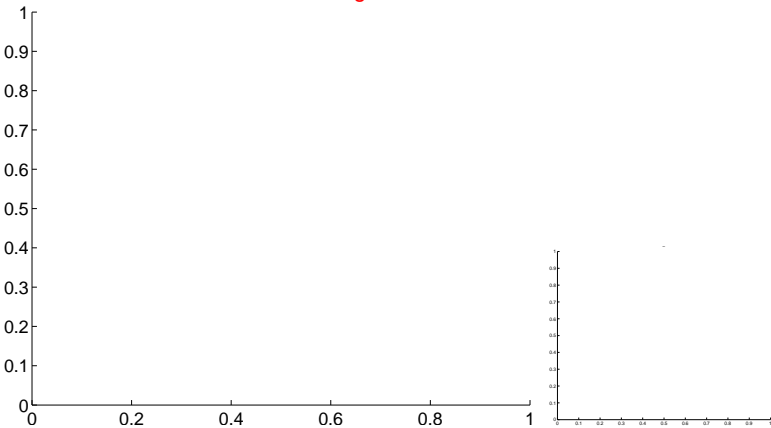
Q11 OOT image



Q12 no difference image



Q12 no OOT image



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

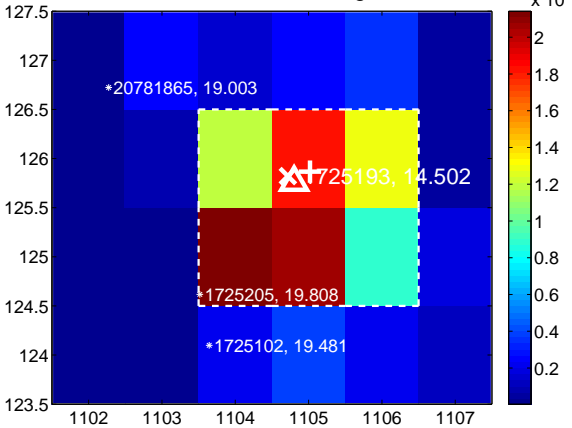
Q13 no difference image



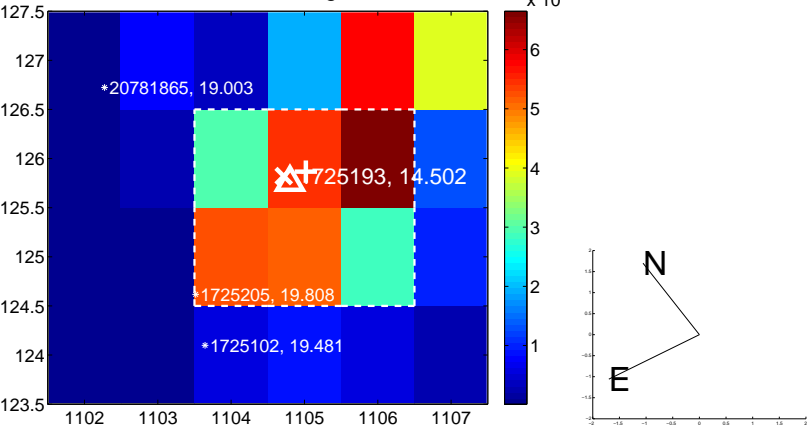
Q13 no OOT image



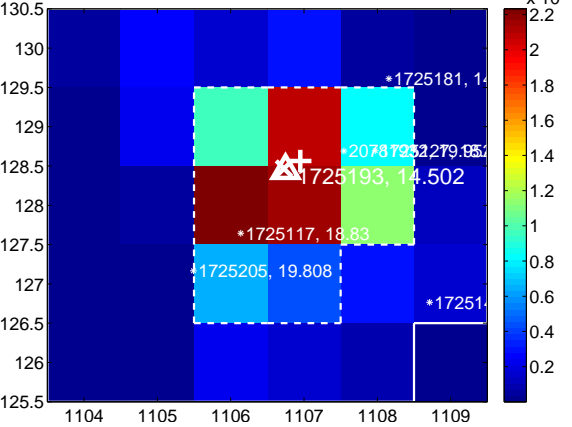
Q14 difference image



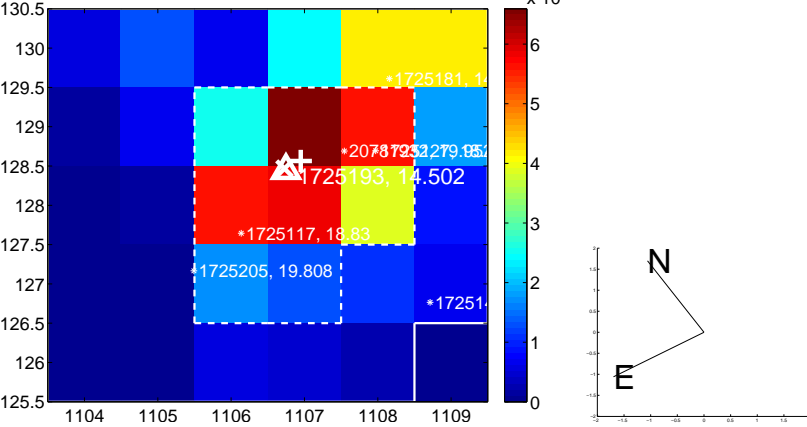
Q14 OOT image



Q15 difference image



Q15 OOT image



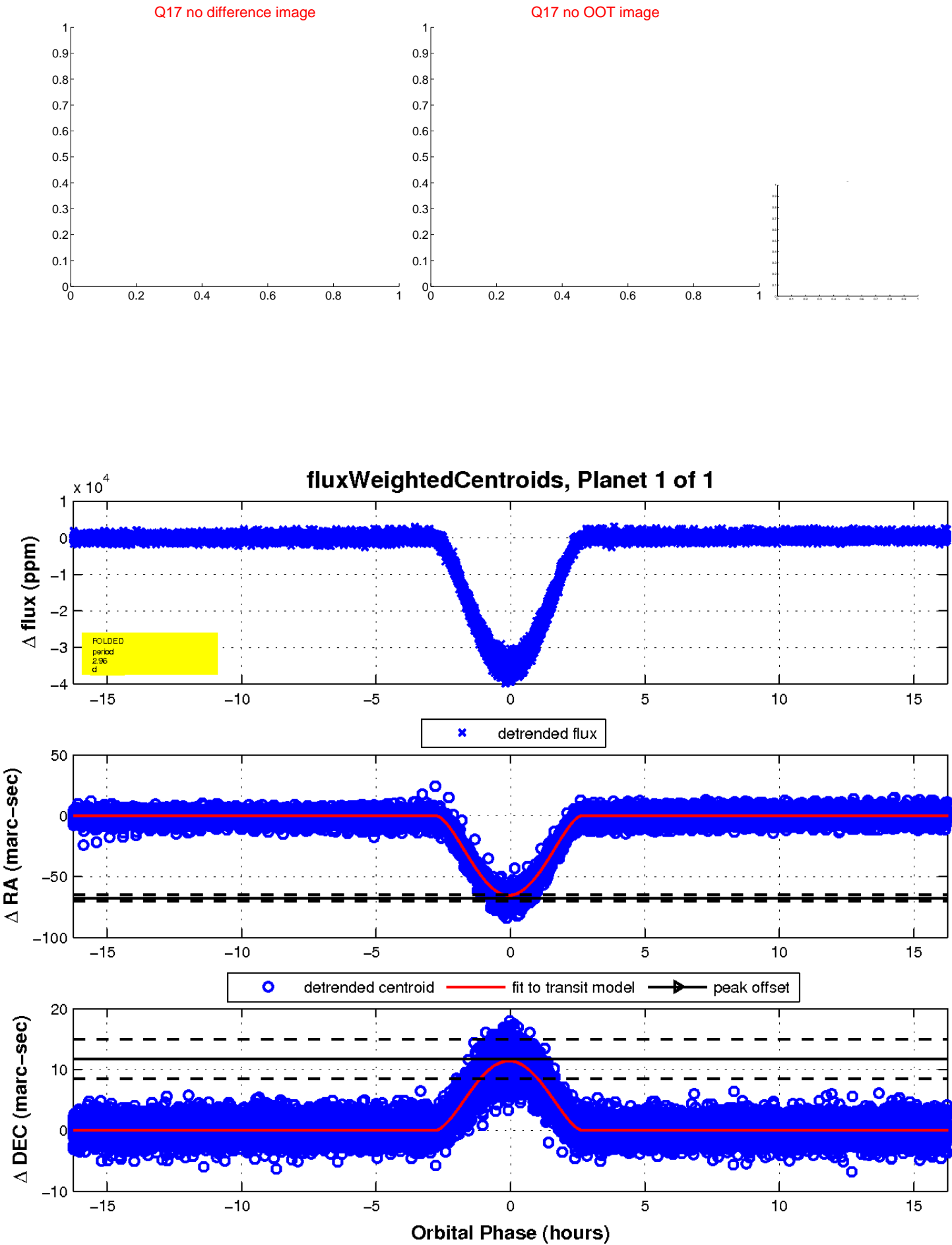
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

