

# KIC 006283224

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006283224-01	OBS	6682.01	0.766472	132.037602	195652.9	2.253	3538.8	2265.5	0.72	5297	48.41	1662.31

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006283224-01	OBS	FP	0.00	1	0	0	0	LPP_DV—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.

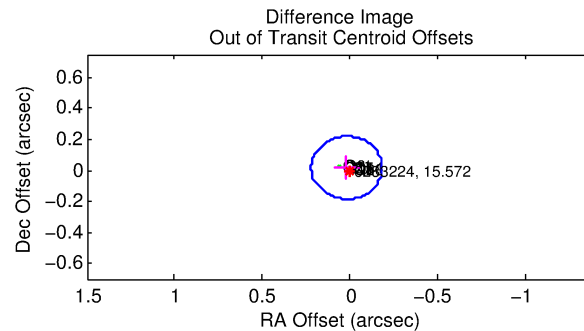
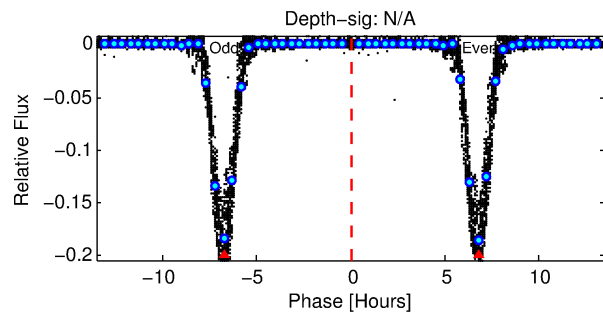
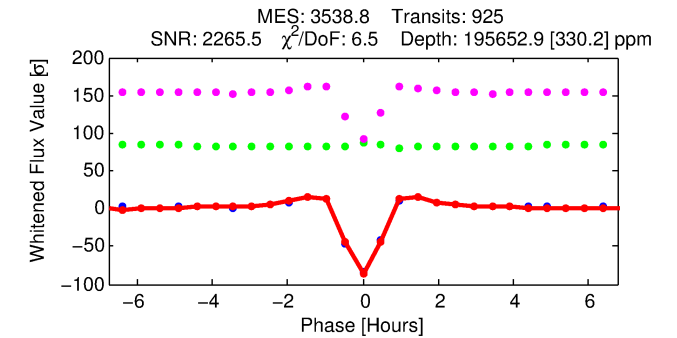
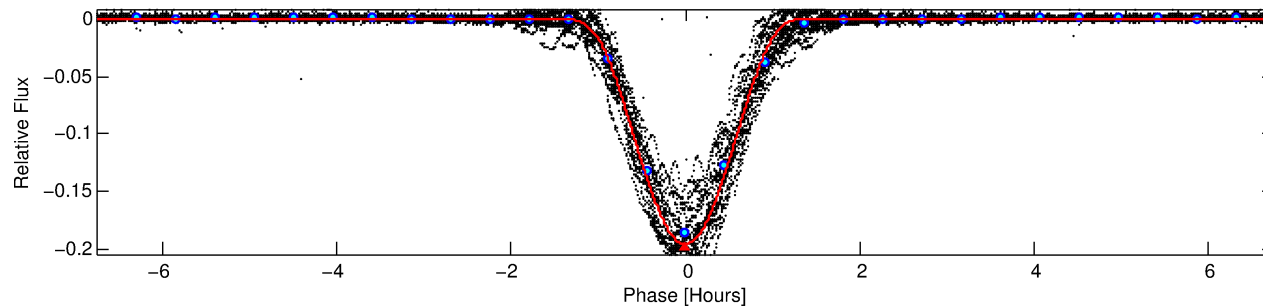
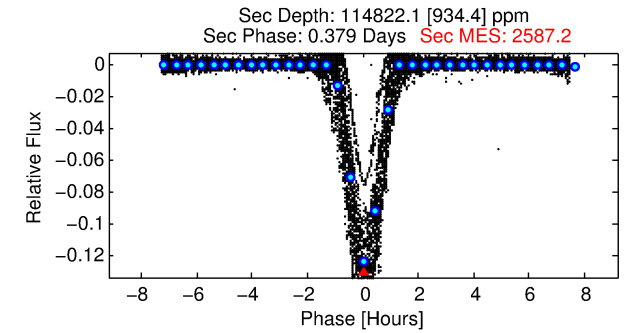
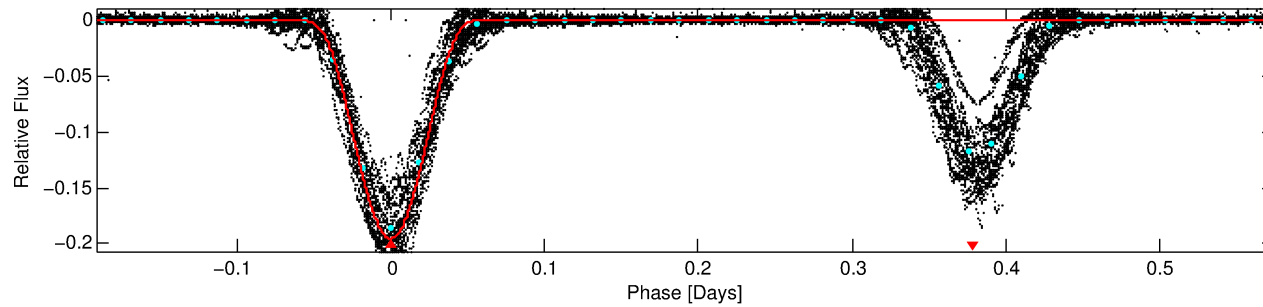
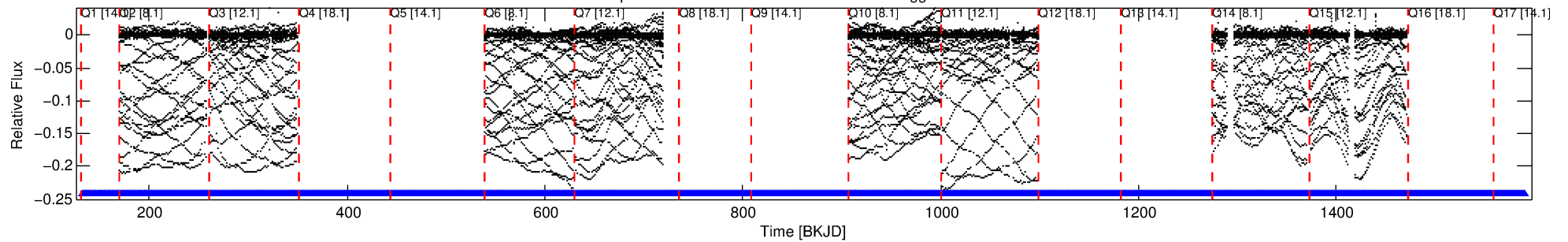
## Ephemeris Match Information For 006283224-01

No Significant Match Found

# DV One-Page Summary

KIC: 6283224 Candidate: 1 of 1 Period: 0.766 d  
KOI: K06682.01 Corr: 0.956

Kp: 15.57 R\*: 0.72 Rs Teff: 5297.0 K Logg: 4.59 Fe/H: -0.420



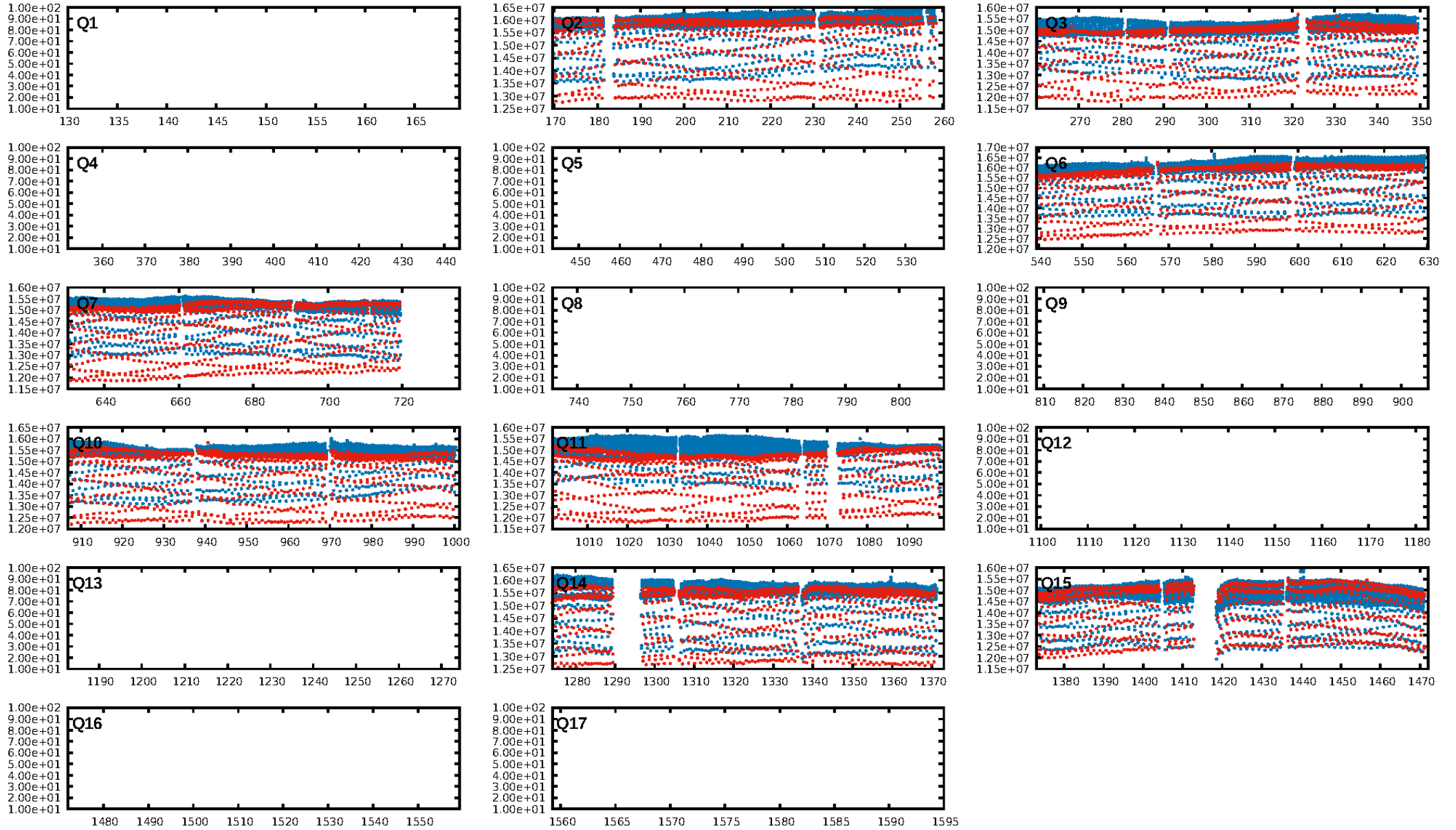
## DV Fit Results:

Period = 0.76647 [0.00000] d  
Epoch = 132.0376 [0.0000] BKJD  
Rp/R\* = 0.6145 [0.0414]  
a/R\* = 3.70 [0.05]  
b = 0.89 [0.06]  
Seff = 1662.30 [350.94]  
Teff = 1628 [86] K  
Rp = 48.41 [8.13] Re  
a = 0.0149 [0.0018] AU  
Ag = 5.96 [1.24] [4.01σ]  
Teffp = 3933 [192] K [10.98σ]

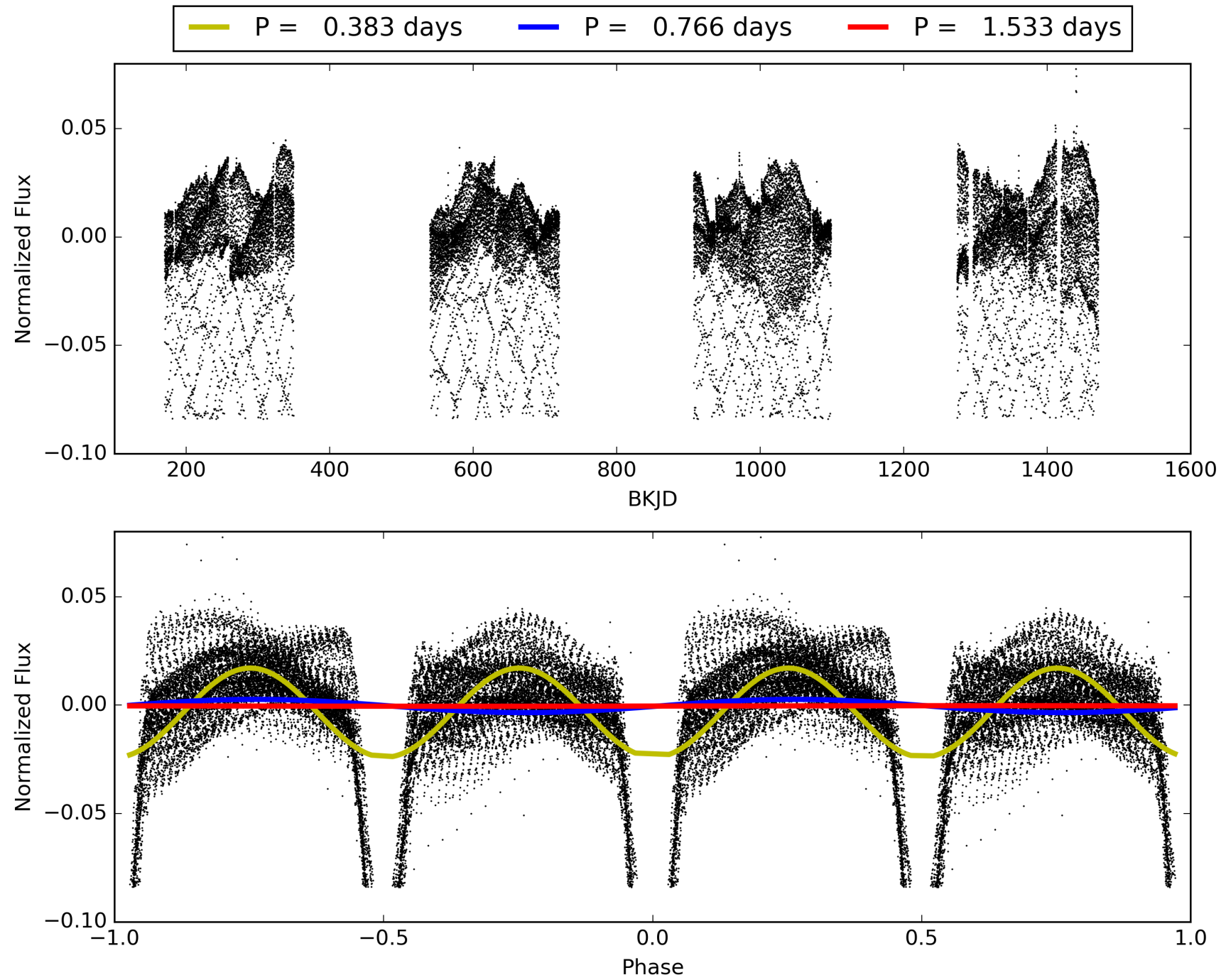
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [925/925]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 0.0%  
Centroid-so: 0.230 arcsec [208.93σ]  
OotOffset-rm: 0.027 arcsec [0.40σ]  
KicOffset-rm: 0.283 arcsec [3.93σ]  
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 006283224-01, PDC Light Curves

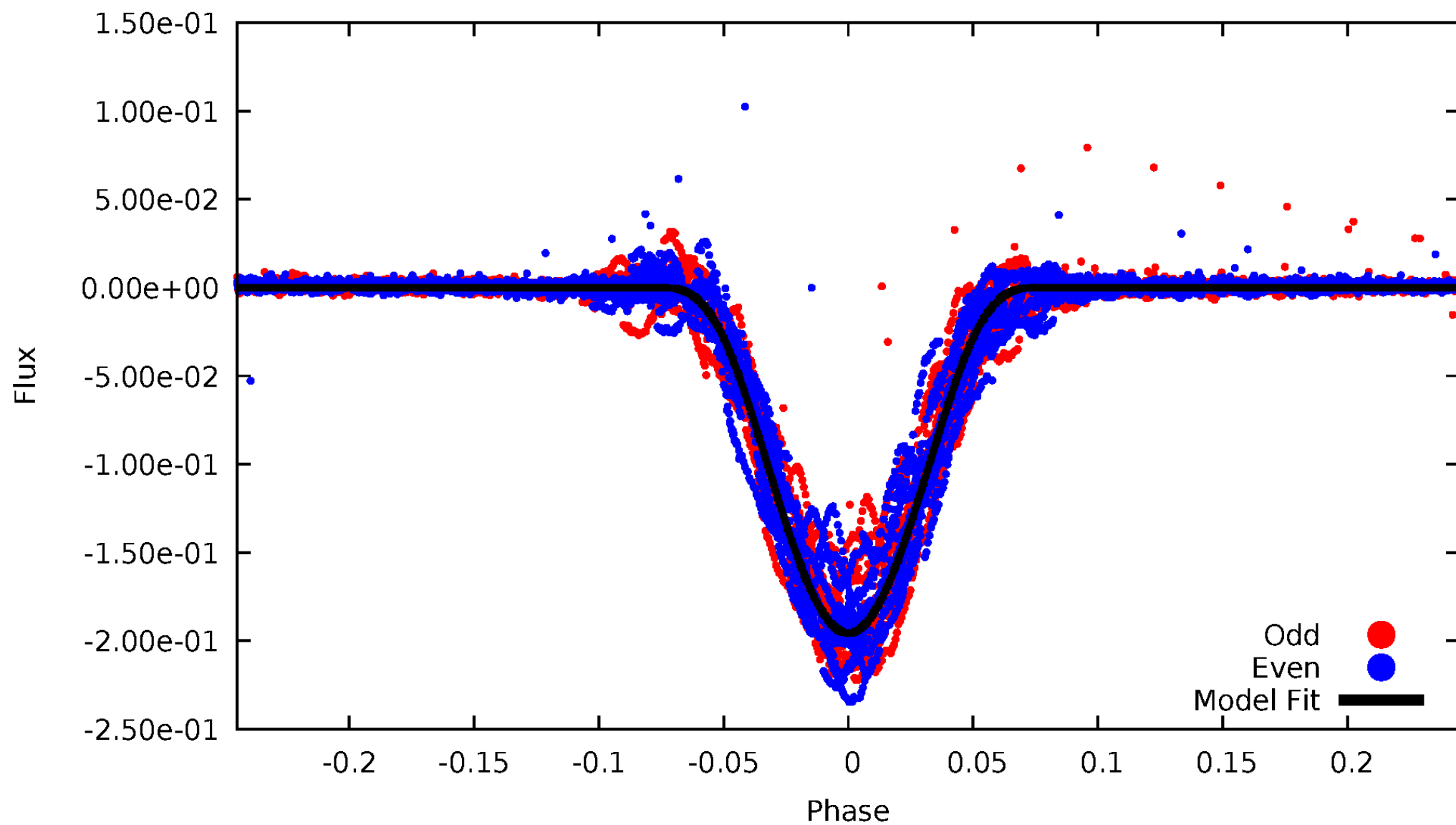


TCE 006283224-01



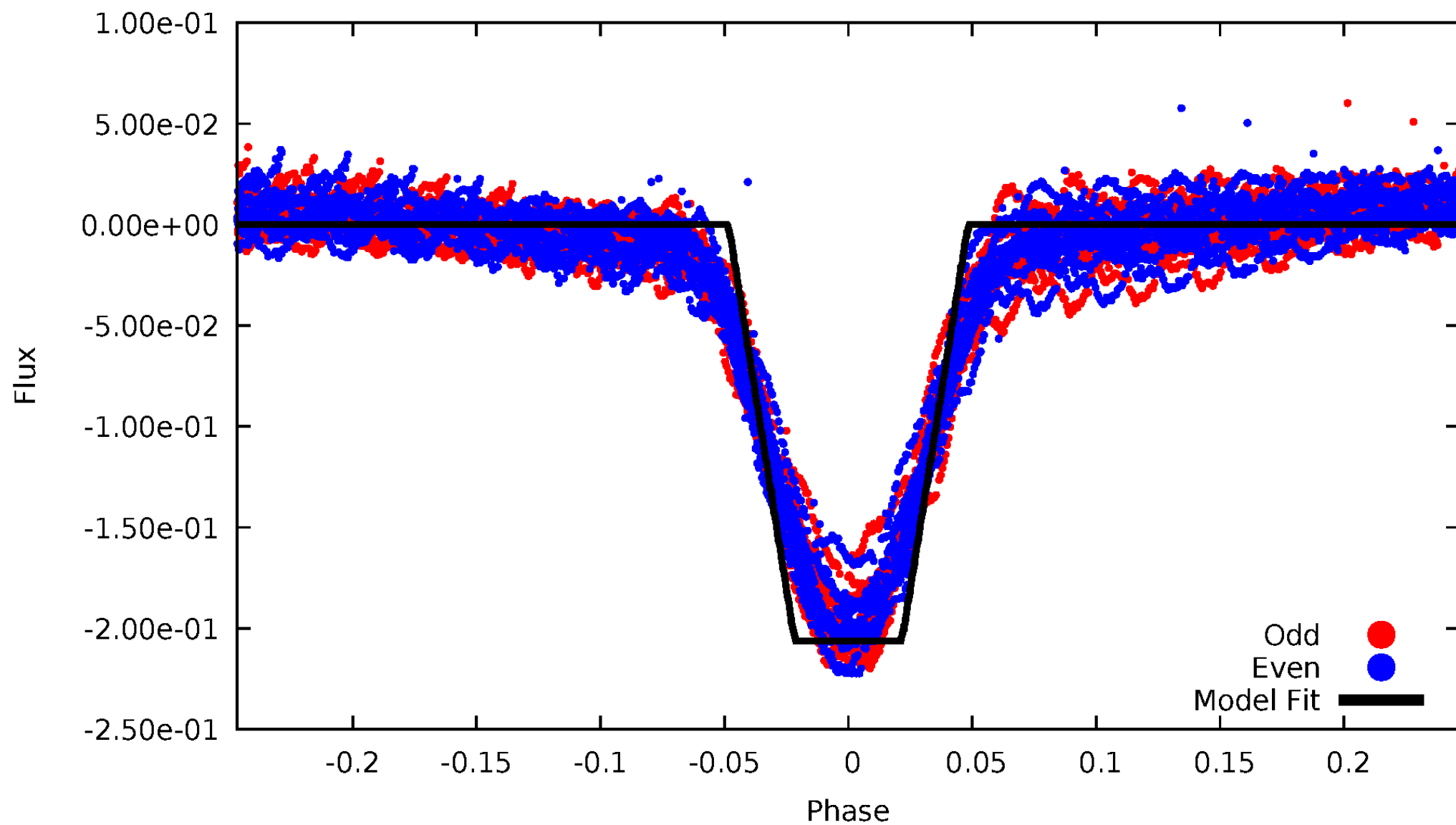
# DV Odd/Even

TCE 006283224-01



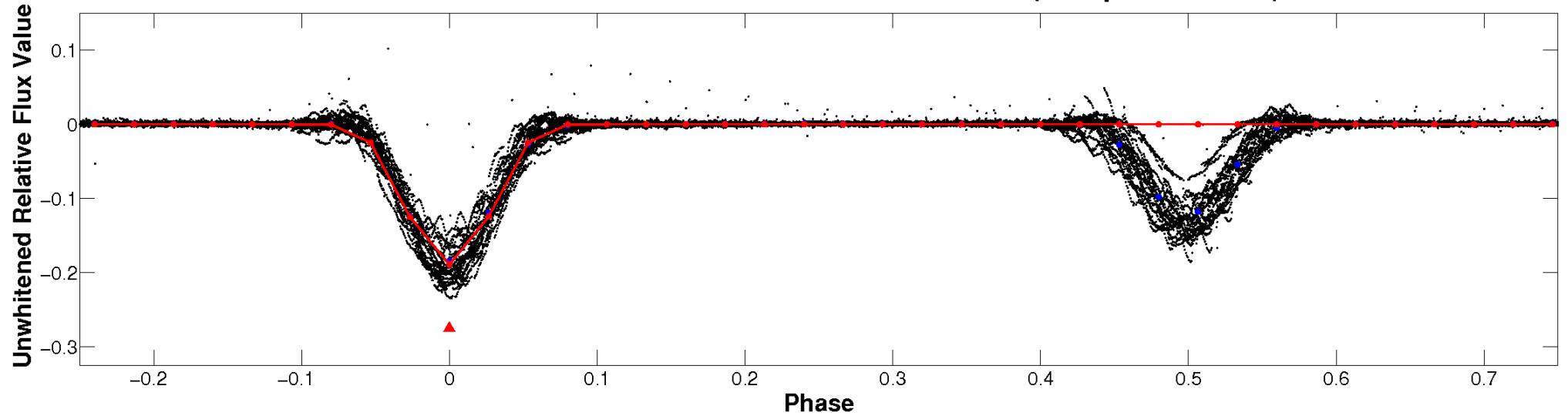
# ALT Odd/Even

TCE 006283224-01

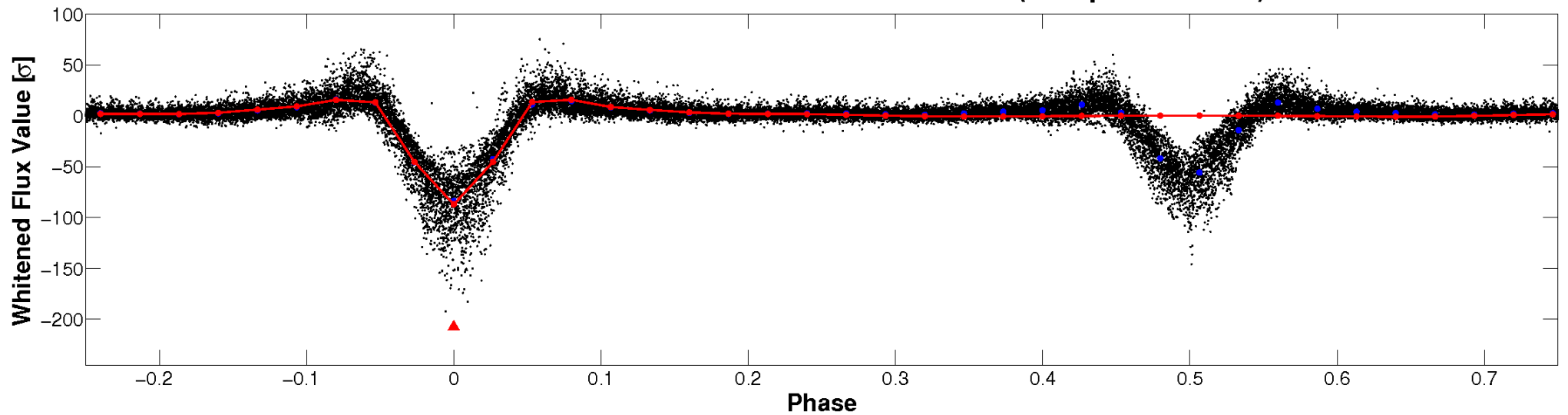


# Non-Whitened Vs. Whitened Light Curve

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

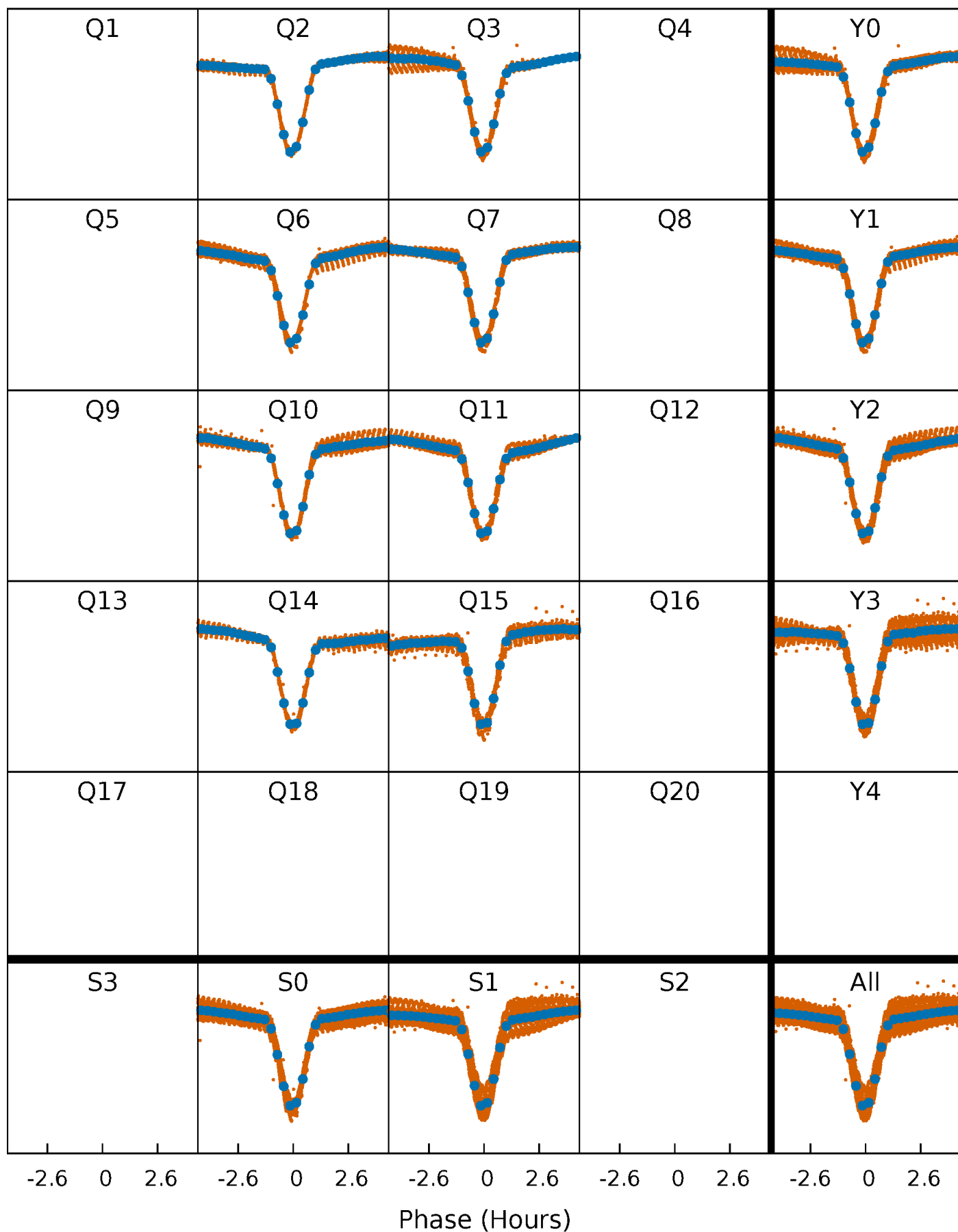


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



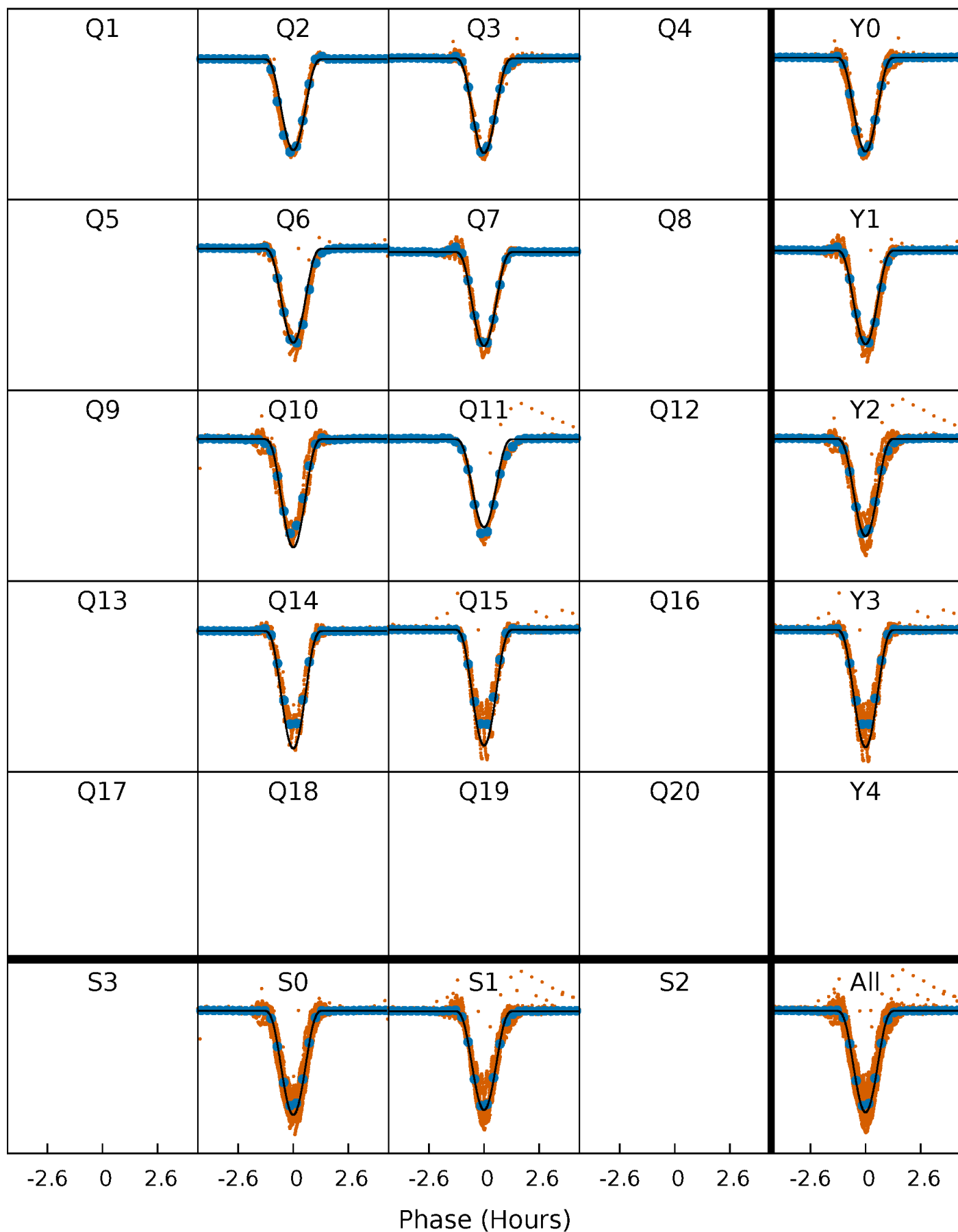
# PDC Quarter-Phased Transit Curves

TCE 006283224-01   P= 0.766472 Days    $T_0=132.037601$  (BKJD)



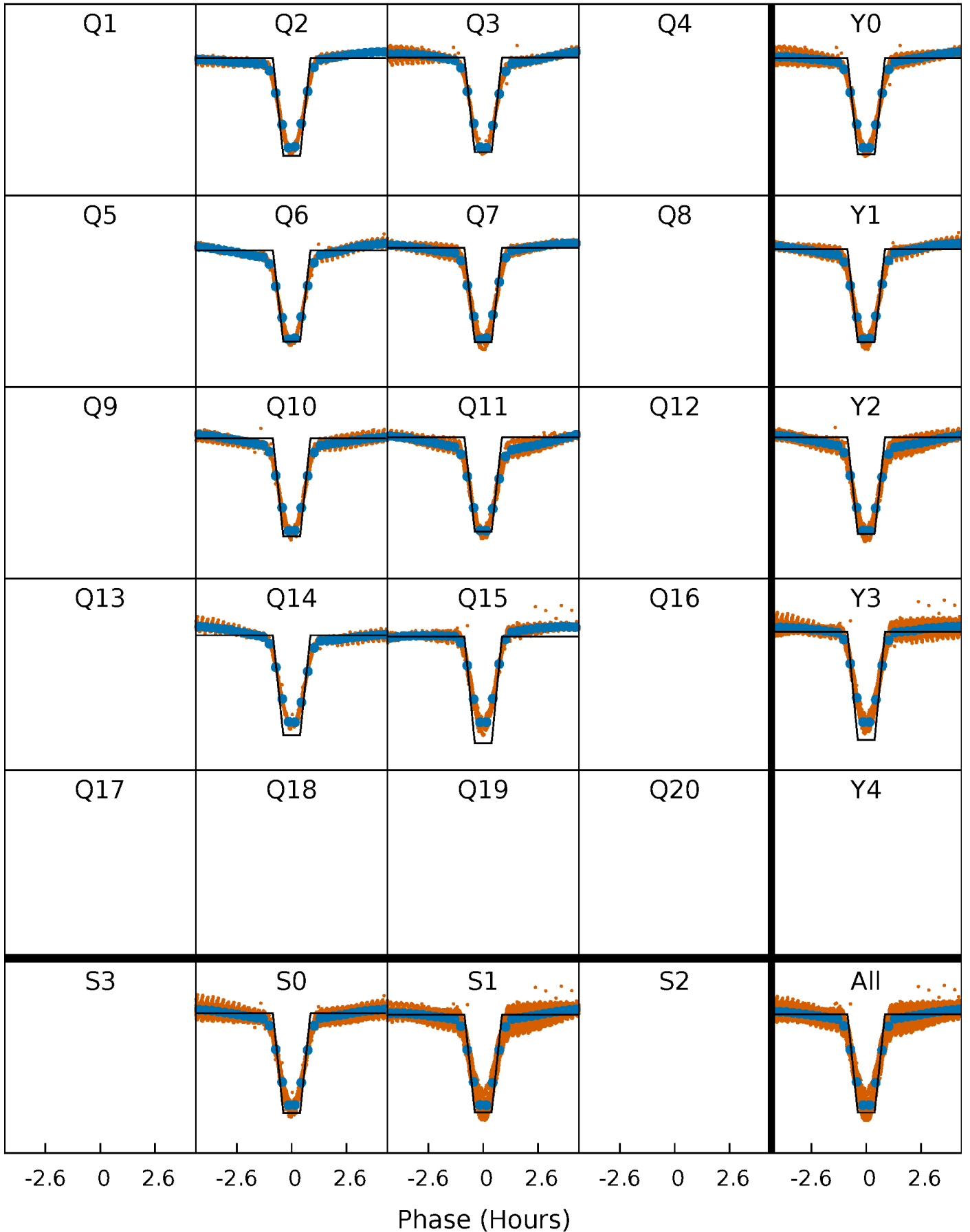
# DV Quarter-Phased Transit Curves

TCE 006283224-01 P= 0.766472 Days  $T_0=132.037601$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

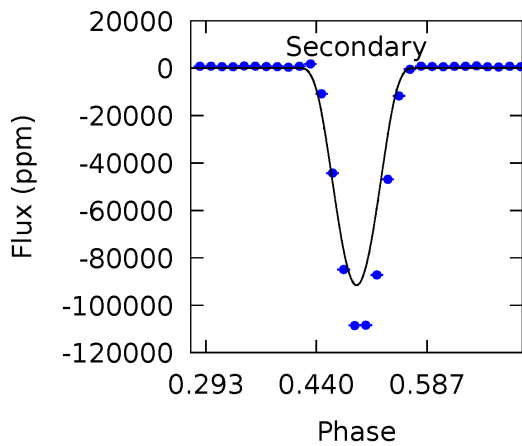
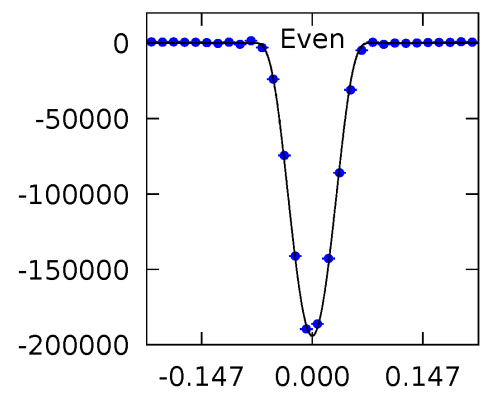
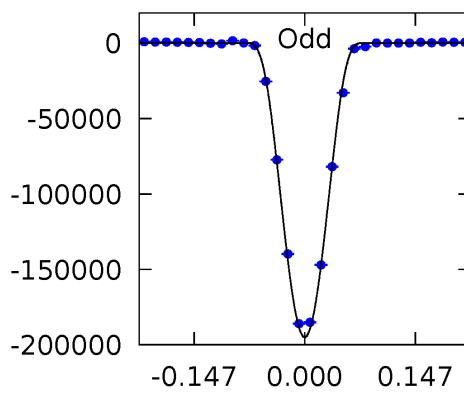
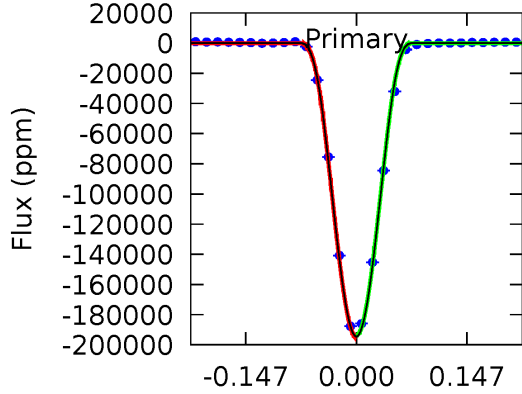
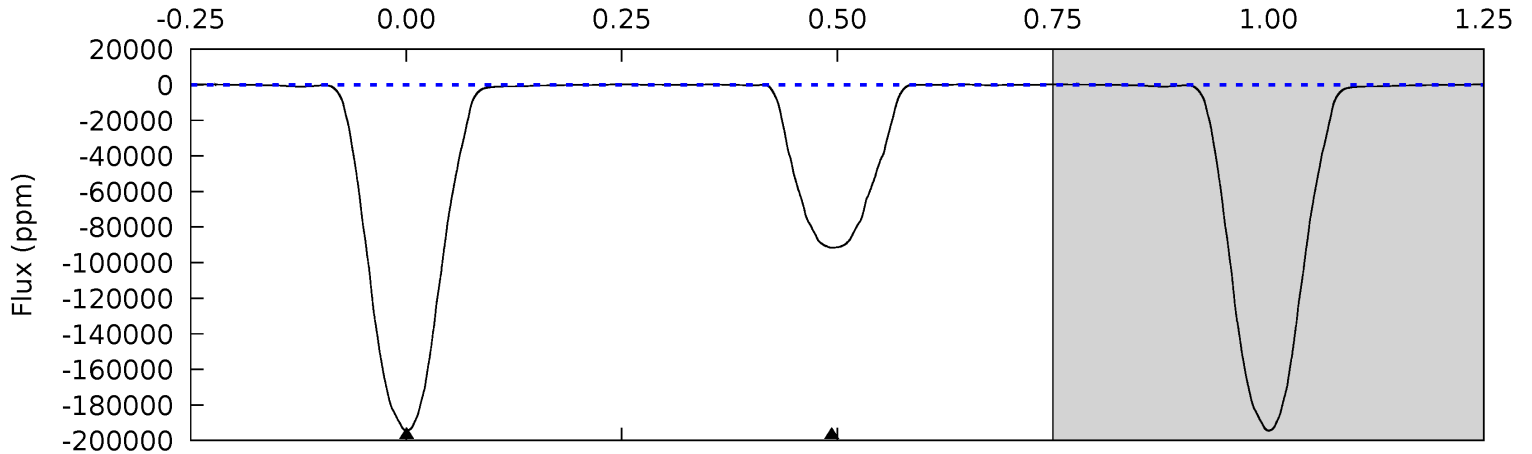
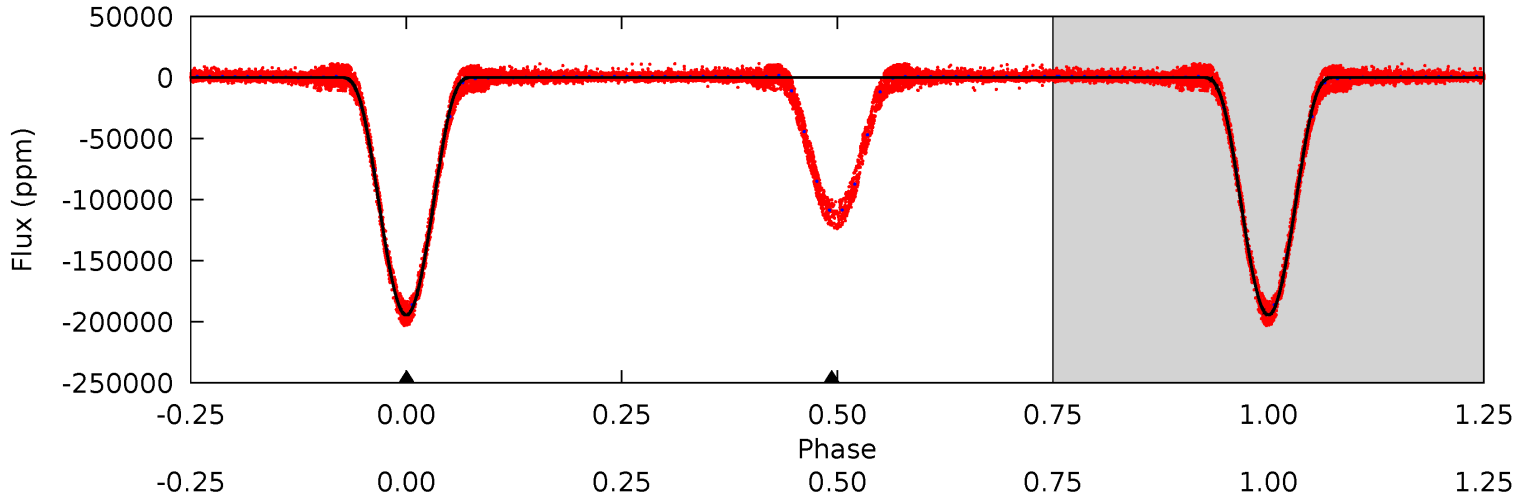
TCE 006283224-01   P= 0.766473 Days    $T_0=132.035078$  (BKJD)



# DV Model-Shift Uniqueness Test

006283224-01, P = 0.766472 Days, E = 132.037601 Days

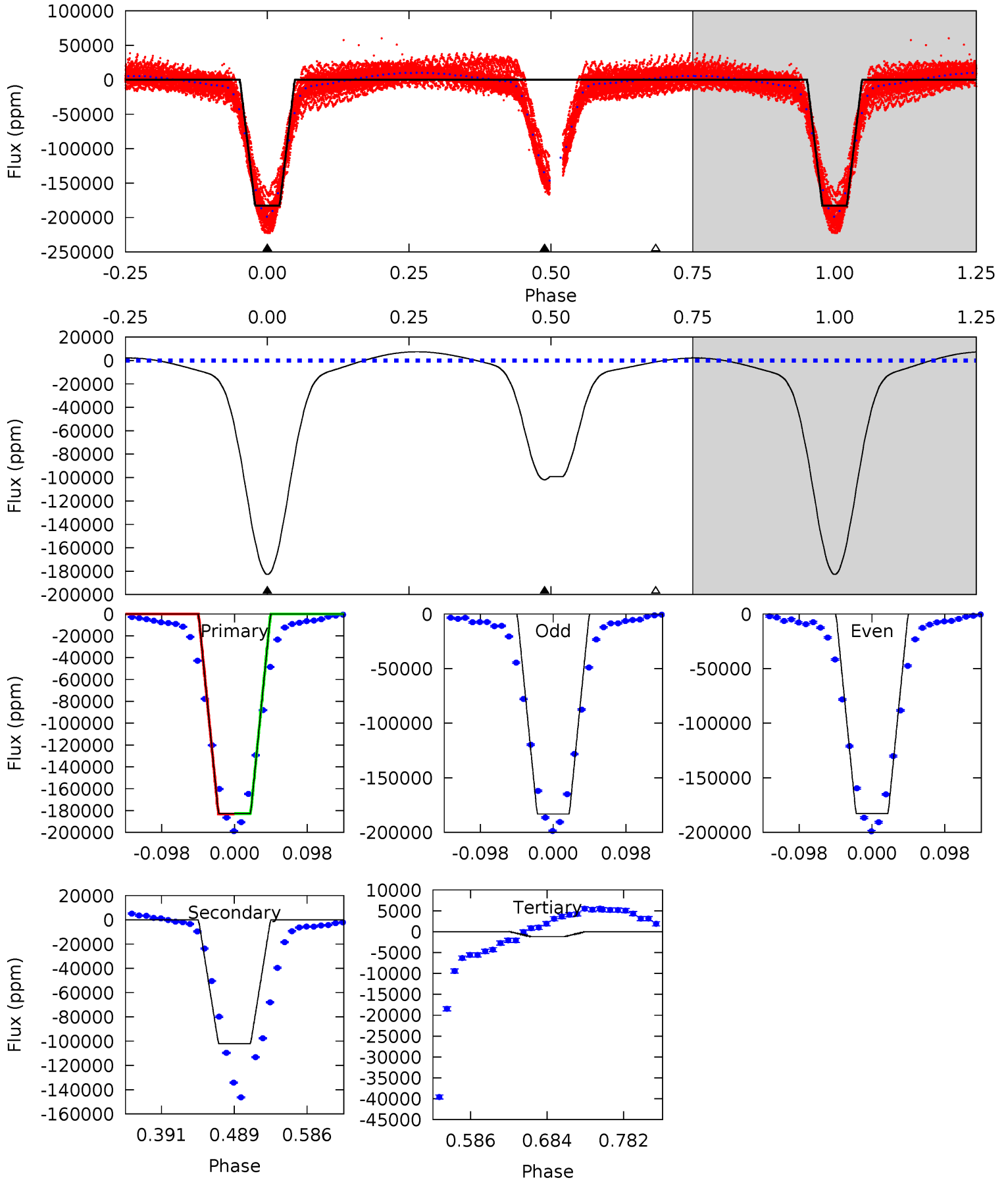
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5389	2537	0	0	4.48	1.45	5.02	5389	5389	2537	2537	11.8	0.98	0.00	0



# Alt Model-Shift Uniqueness Test

006283224-01, P = 0.766473 Days, E = 132.035078 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
957.7	534.0	6.21	0	4.57	1.66	27.8	951.5	957.7	527.8	534.0	1.01	0.99	0.04	1.22



### Stellar Parameters For KIC 006283224

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5297^{+186}_{-186}$	$4.594^{+0.052}_{-0.078}$	$-0.420^{+0.350}_{-0.300}$	$0.722^{+0.111}_{-0.060}$	$0.746^{+0.097}_{-0.060}$	$2.795^{+0.667}_{-0.769}$
	+4%/-4%	+1%/-2%	+83%/-71%	+15%/-8%	+13%/-8%	+24%/-28%
Source	KIC0	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 006283224-01 / KOI 6682.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-91549 \pm 36$	$49.42^{+4.37}_{-4.58}$	$2288^{+98}_{-99}$	$4024^{+158}_{-151}$	$5.103^{+0.863}_{-0.791}$
Alt.	$-101922 \pm 191$	$36.20^{+4.11}_{-3.84}$	$2285^{+106}_{-94}$	$4650^{+248}_{-220}$	$11^{+3}_{-2}$

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

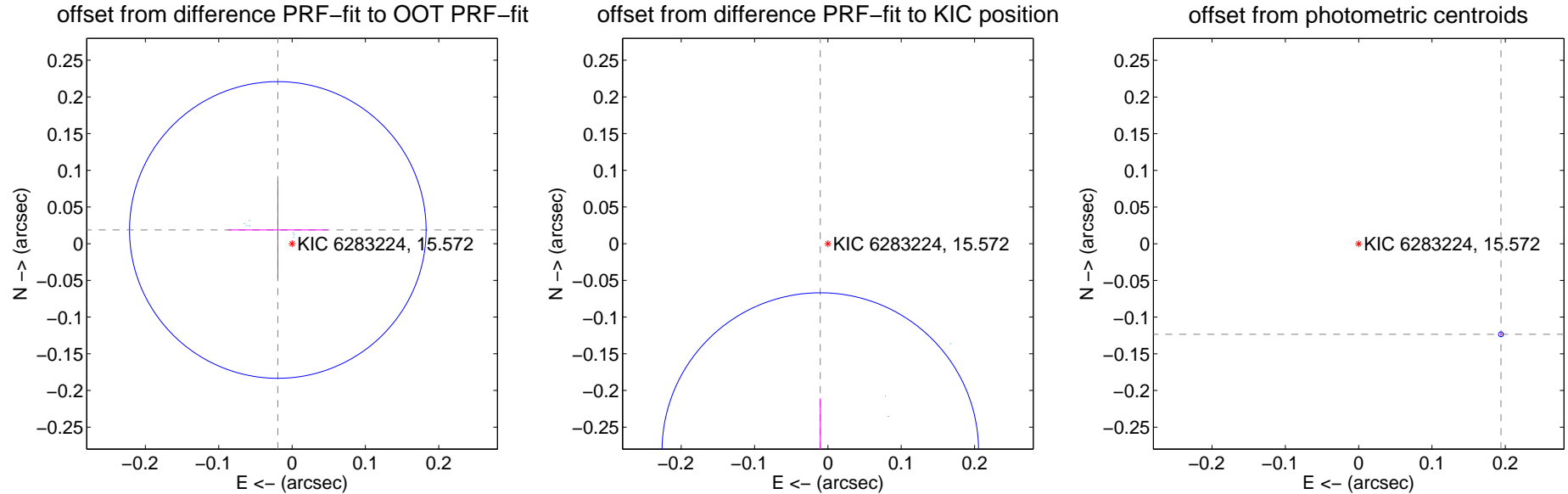
## DV Centroid Data

Supplemental centroid analysis for 006283224-01. Kepler magnitude: 15.57. Transit SNR 2265.54

There are 8 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

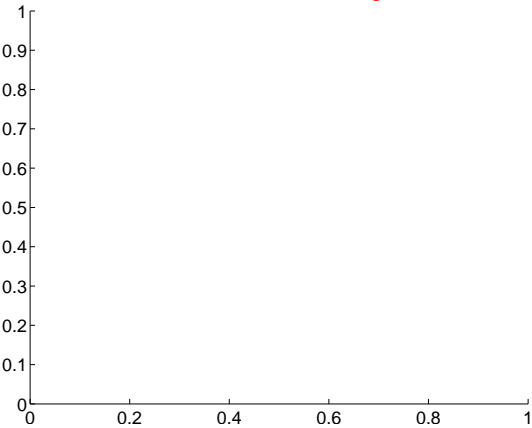
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.027 \pm 0.067$	0.40	$0.019 \pm 0.068$	$0.019 \pm 0.067$
PRF-fit source offset from KIC position	$0.283 \pm 0.072$	3.93	$0.010 \pm 0.076$	$-0.283 \pm 0.072$
photometric centroid source offset	$0.23 \pm 0.00$	208.93	$-0.19 \pm 0.00$	$-0.12 \pm 0.00$



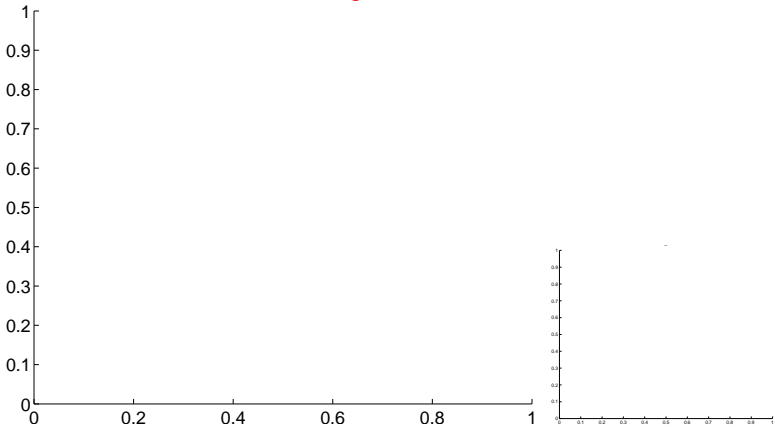
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

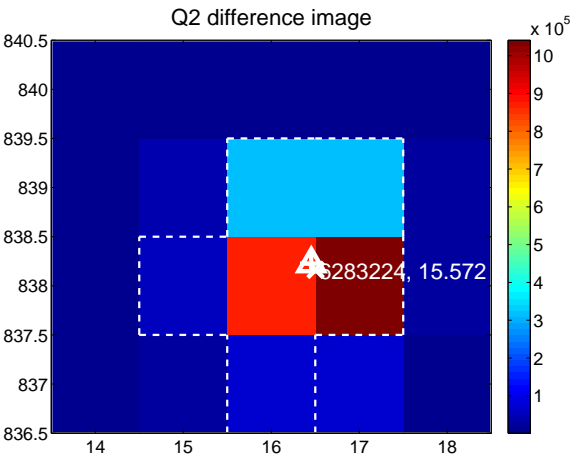
Q1 no difference image



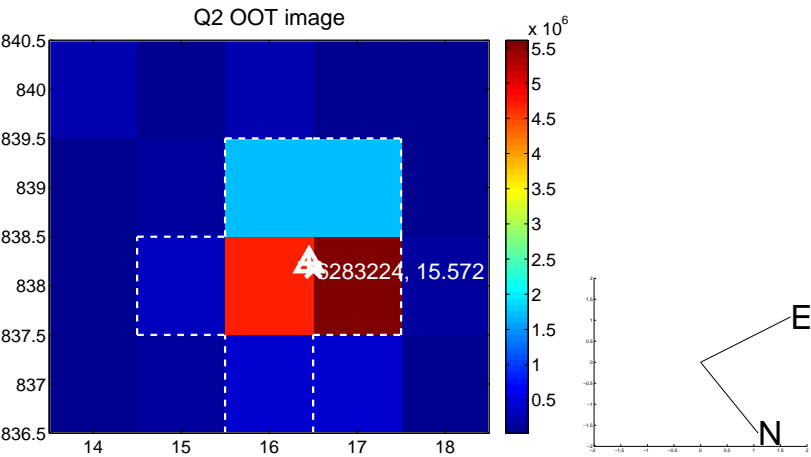
Q1 no OOT image



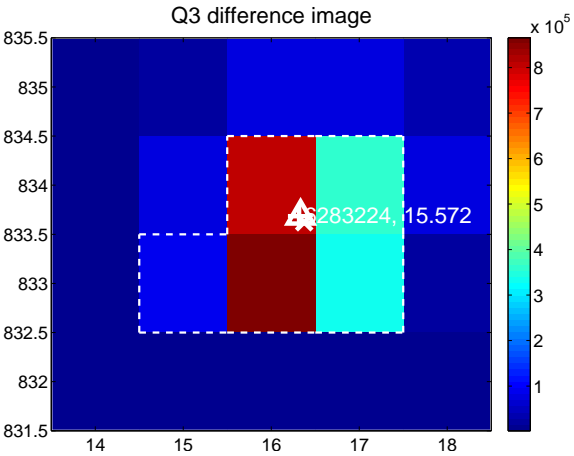
Q2 difference image



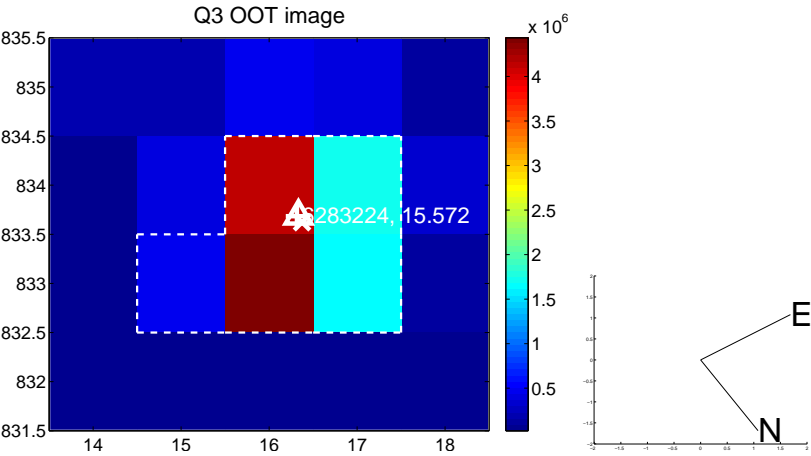
Q2 OOT image



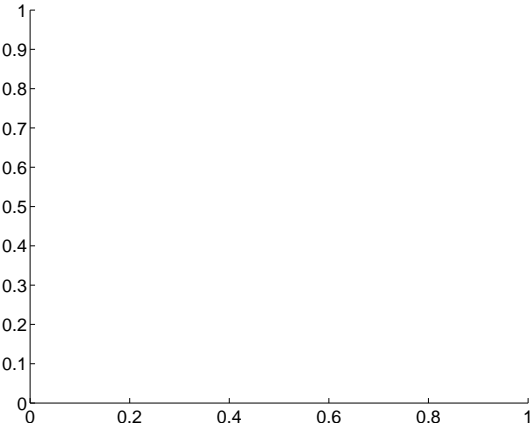
Q3 difference image



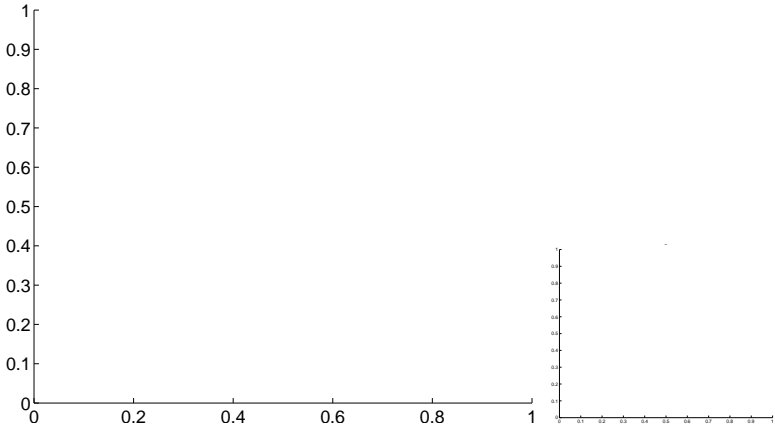
Q3 OOT image



Q4 no difference image

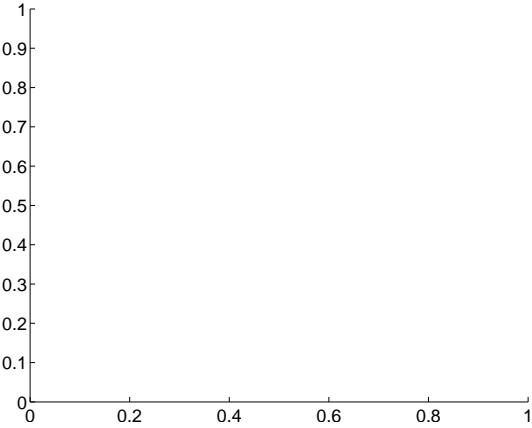


Q4 no OOT image

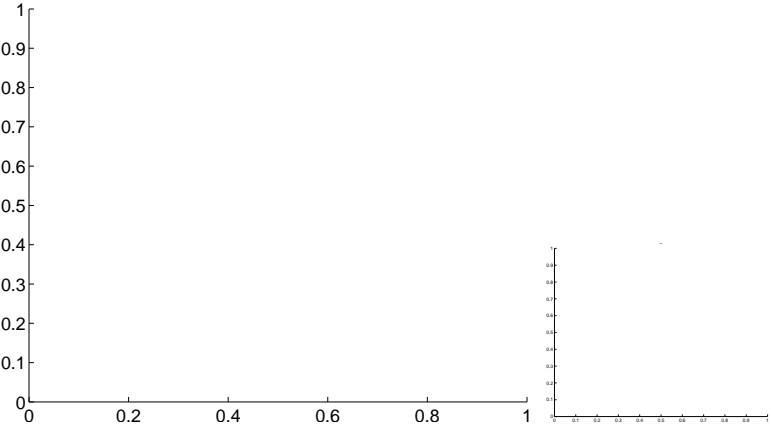


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

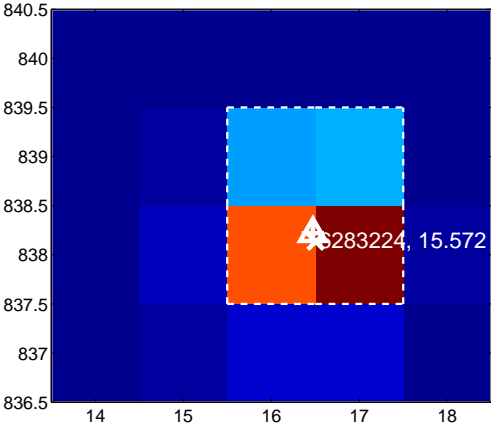
Q5 no difference image



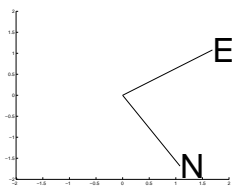
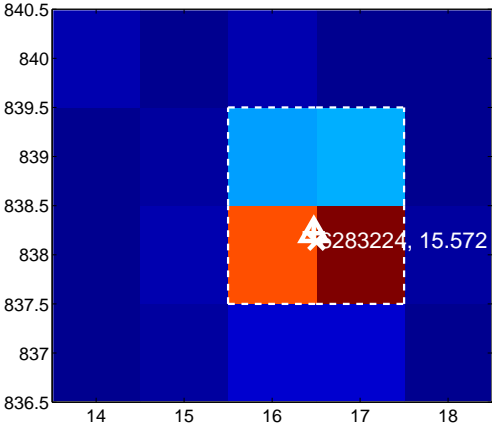
Q5 no OOT image



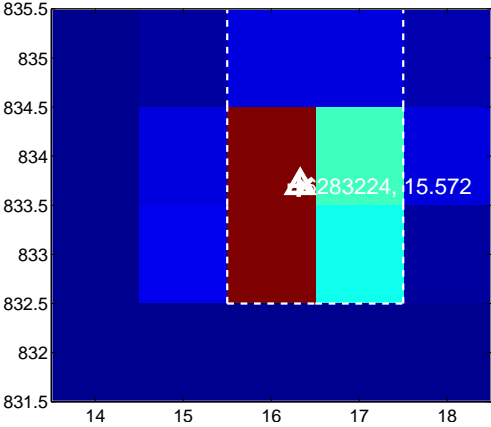
Q6 difference image



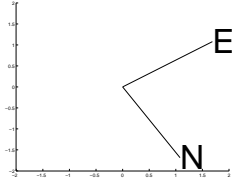
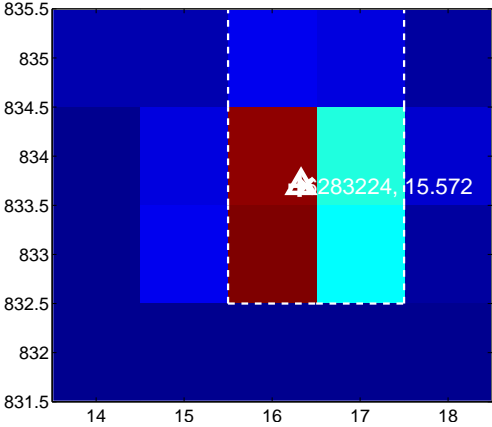
Q6 OOT image



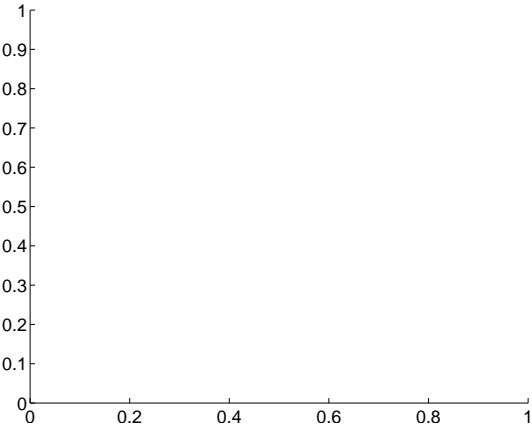
Q7 difference image



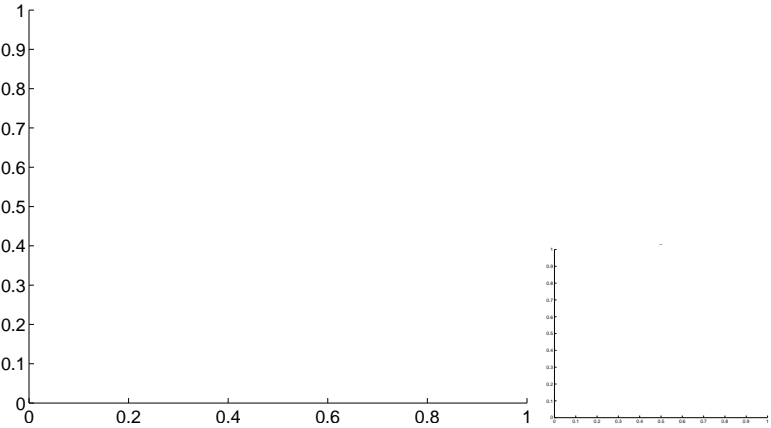
Q7 OOT image



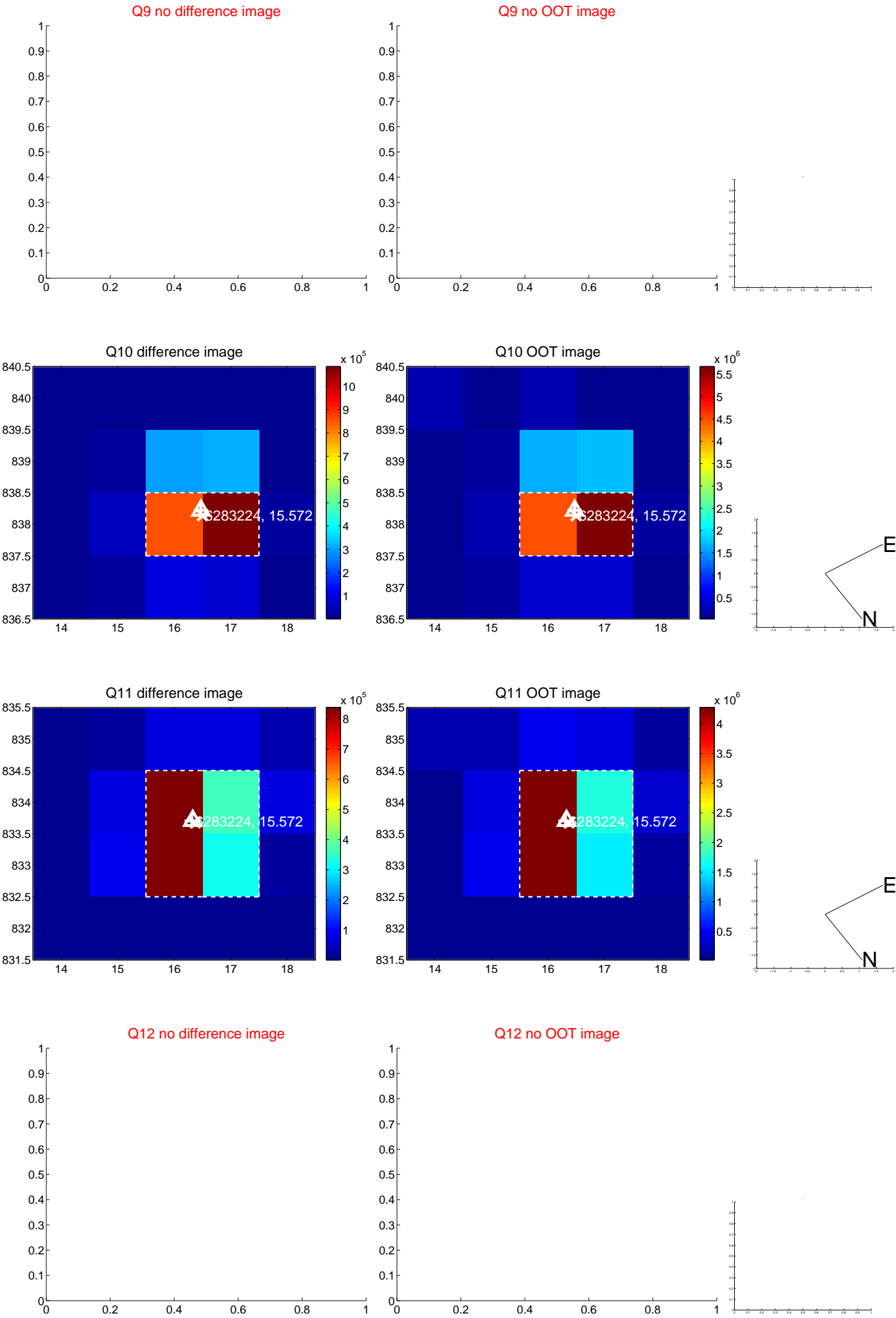
Q8 no difference image



Q8 no OOT image

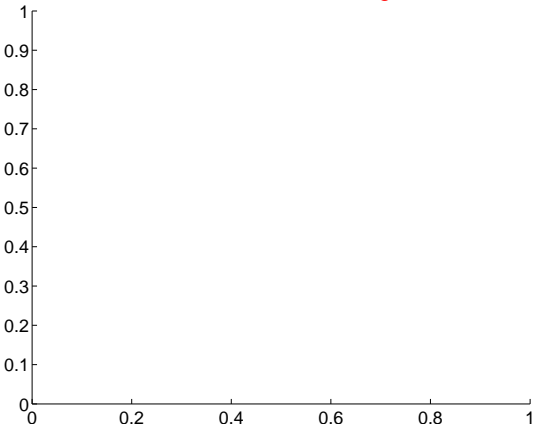


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

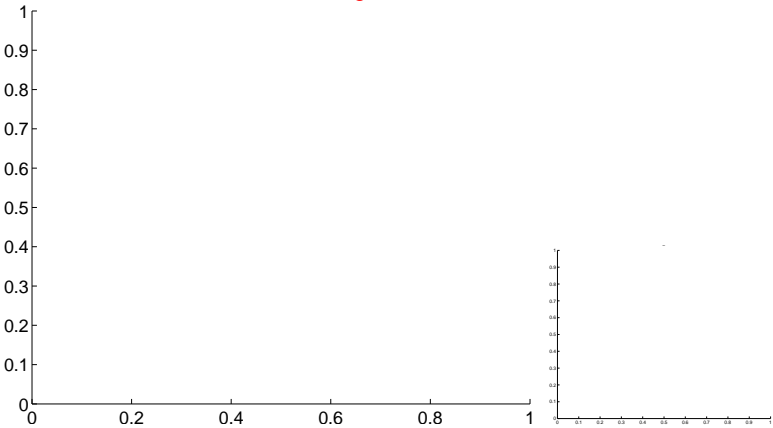


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

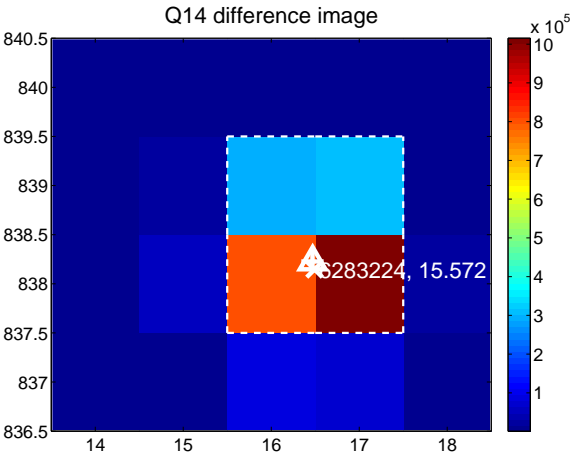
Q13 no difference image



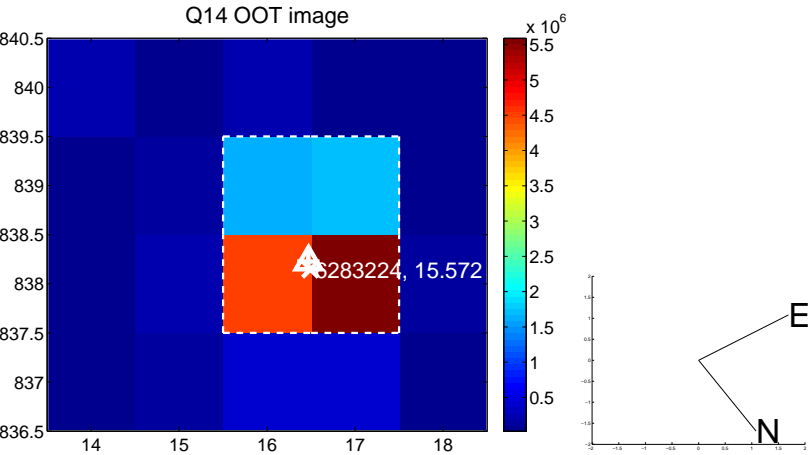
Q13 no OOT image



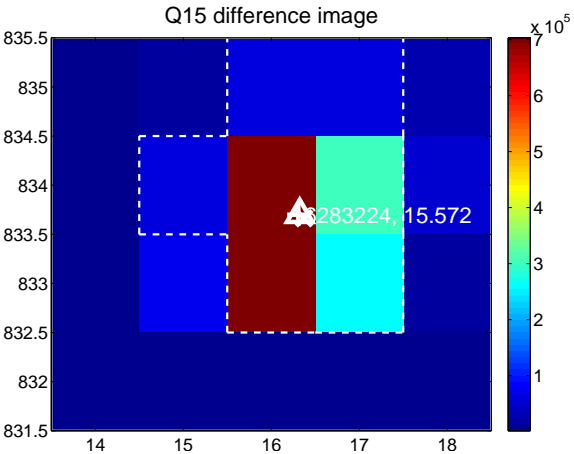
Q14 difference image



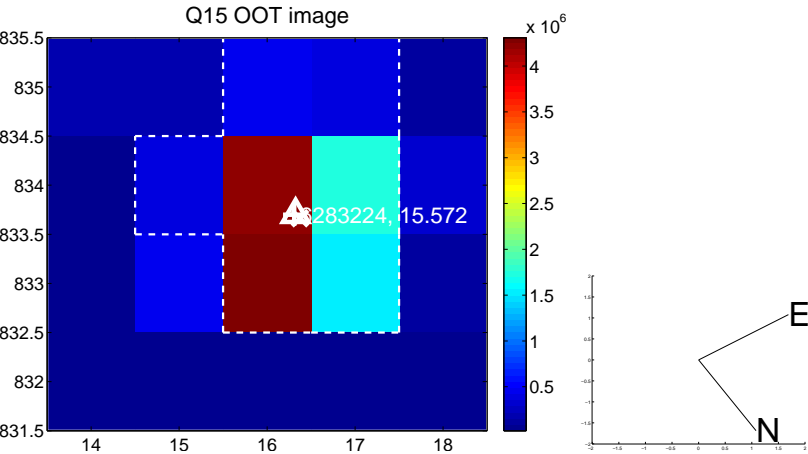
Q14 OOT image



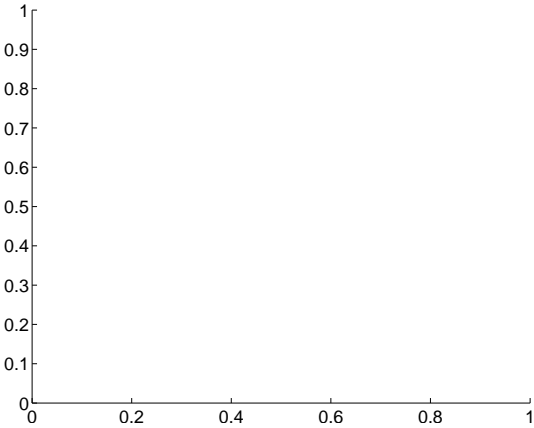
Q15 difference image



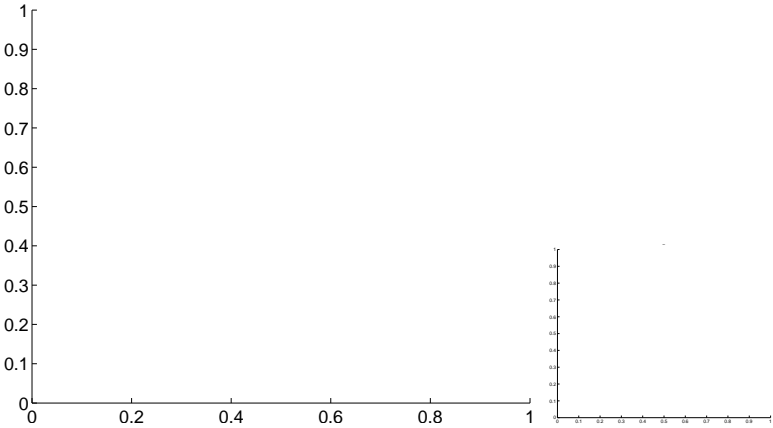
Q15 OOT image



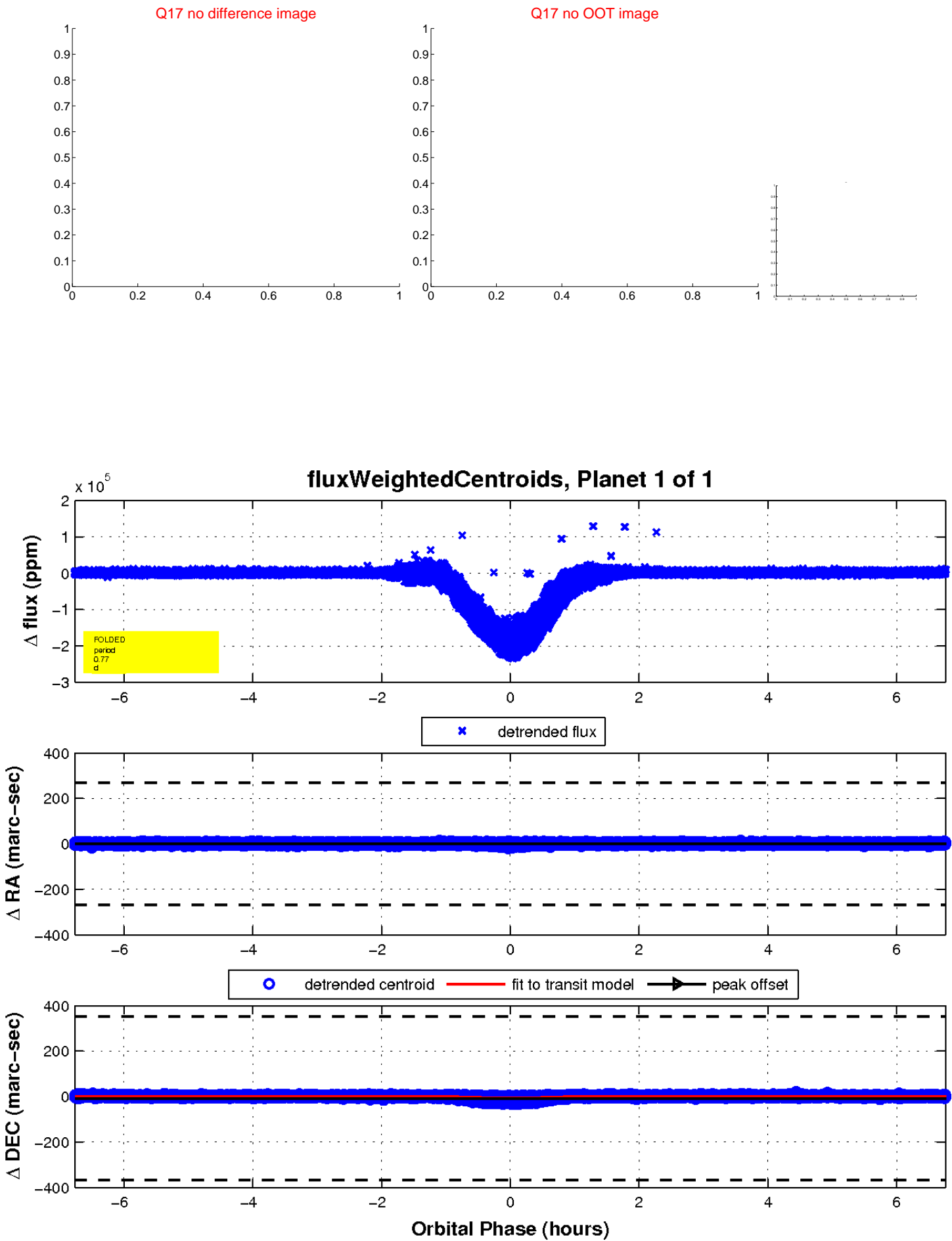
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

