

# KIC 011075279

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011075279-01	OBS	1431.01	345.159375	318.308192	5057.9	7.522	180.6	174.1	0.93	5597	7.76	0.80

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011075279-01	OBS	PC	1.00	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.

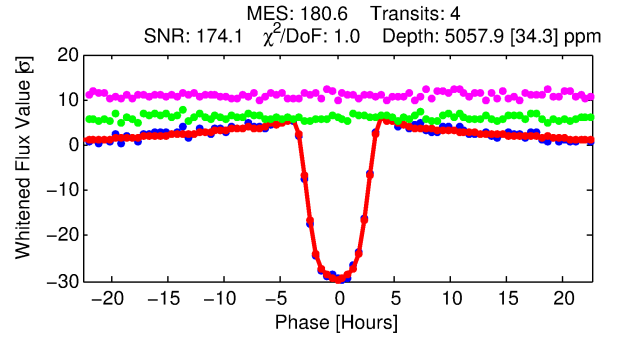
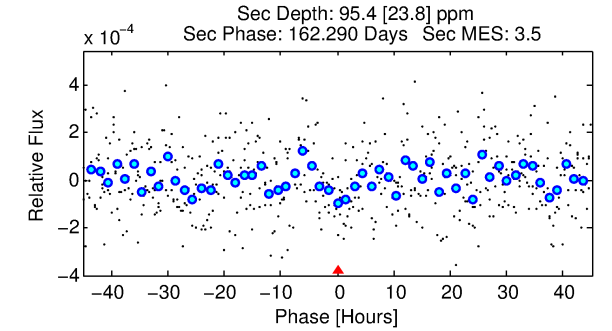
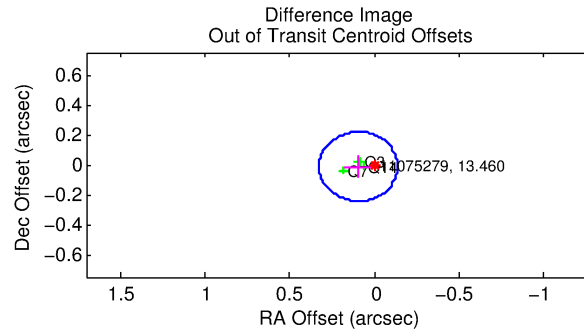
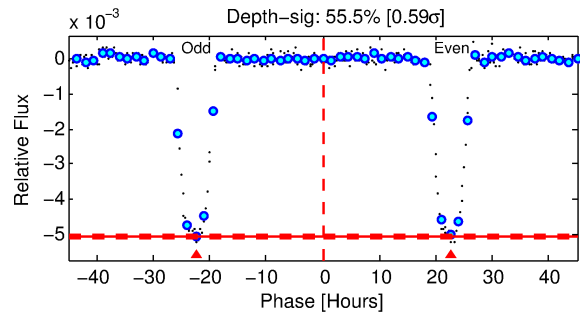
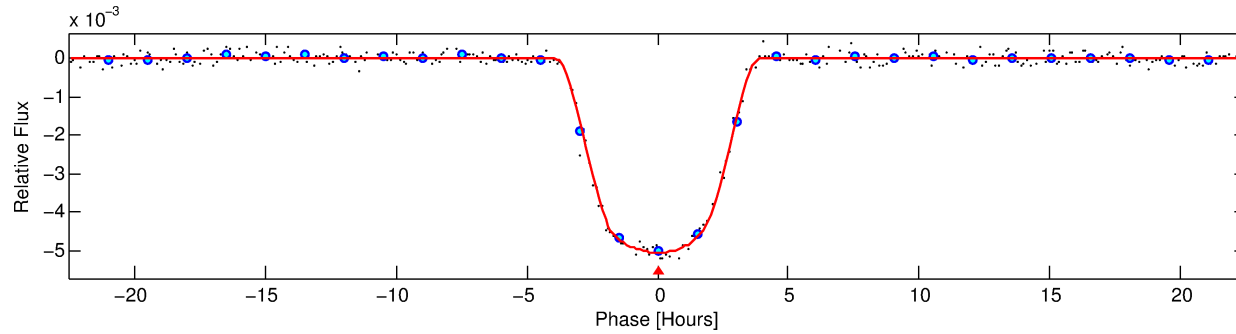
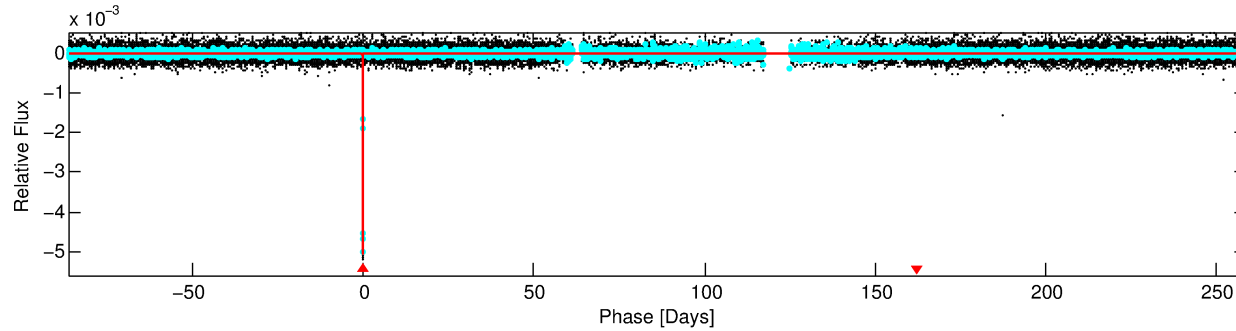
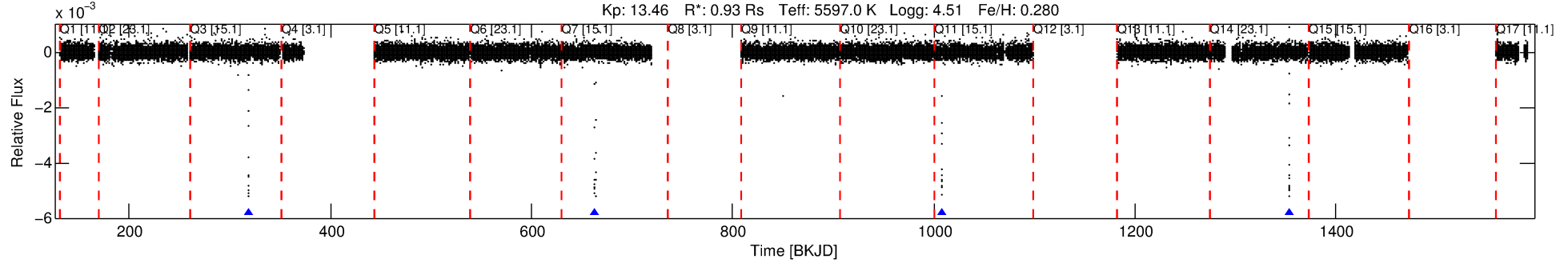
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011075279-01

No Significant Match Found

# DV One-Page Summary

KIC: 11075279 Candidate: 1 of 1 Period: 345.159 d  
KOI: K01431.01 Corr: 0.995



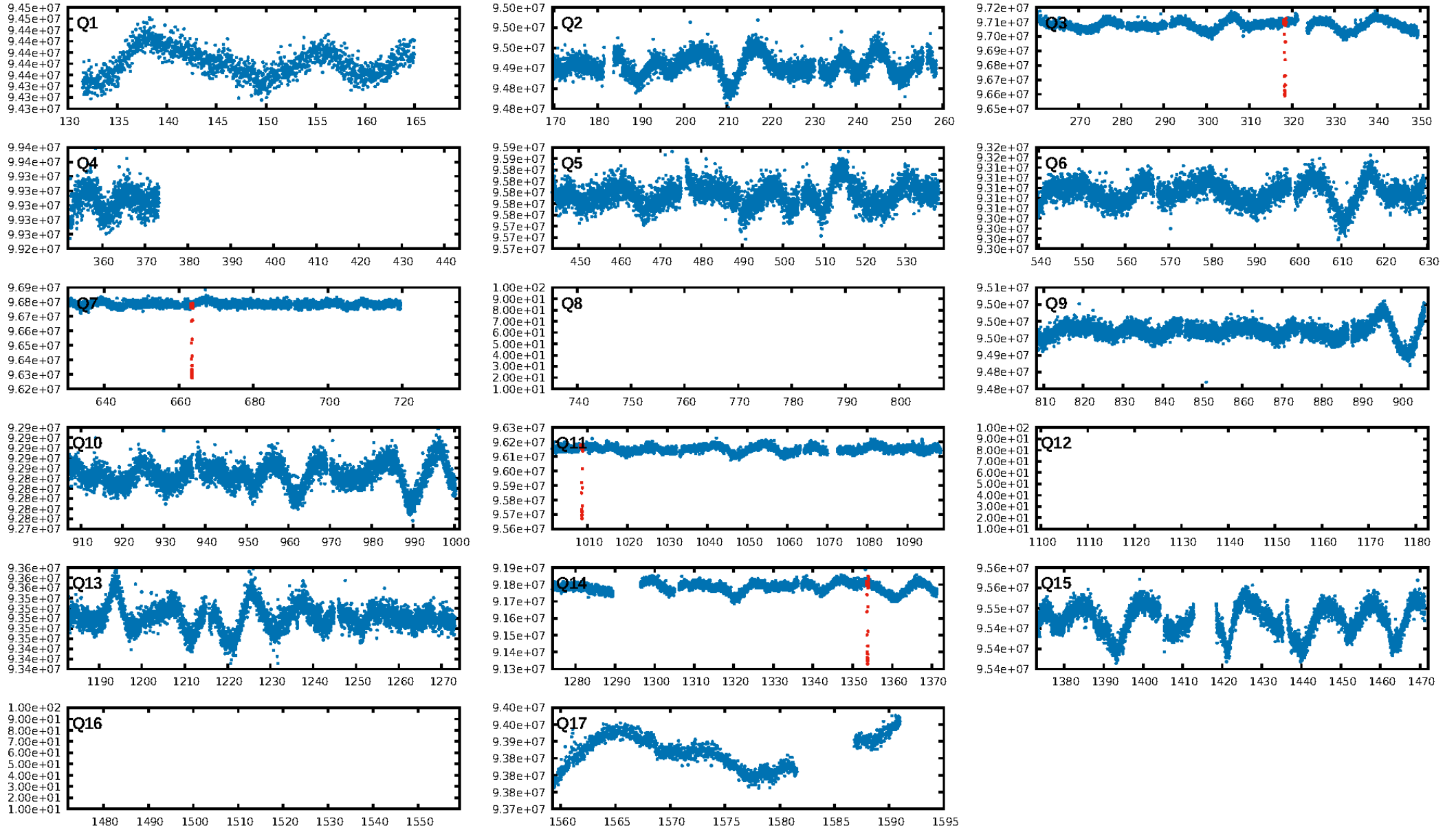
## DV Fit Results:

Period = 345.15938 [0.00044] d  
Epoch = 318.3082 [0.0008] BKJD  
Rp/R\* = 0.0764 [0.0005]  
a/R\* = 221.86 [3.68]  
b = 0.87 [0.00]  
Seff = 0.80 [0.18]  
Teq = 241 [13] K  
Rp = 7.76 [1.13] Re  
a = 0.9743 [0.1301] AU  
Ag = 827.90 [268.47] [3.08 $\sigma$ ]  
Teffp = 2002 [131] K [13.35 $\sigma$ ]

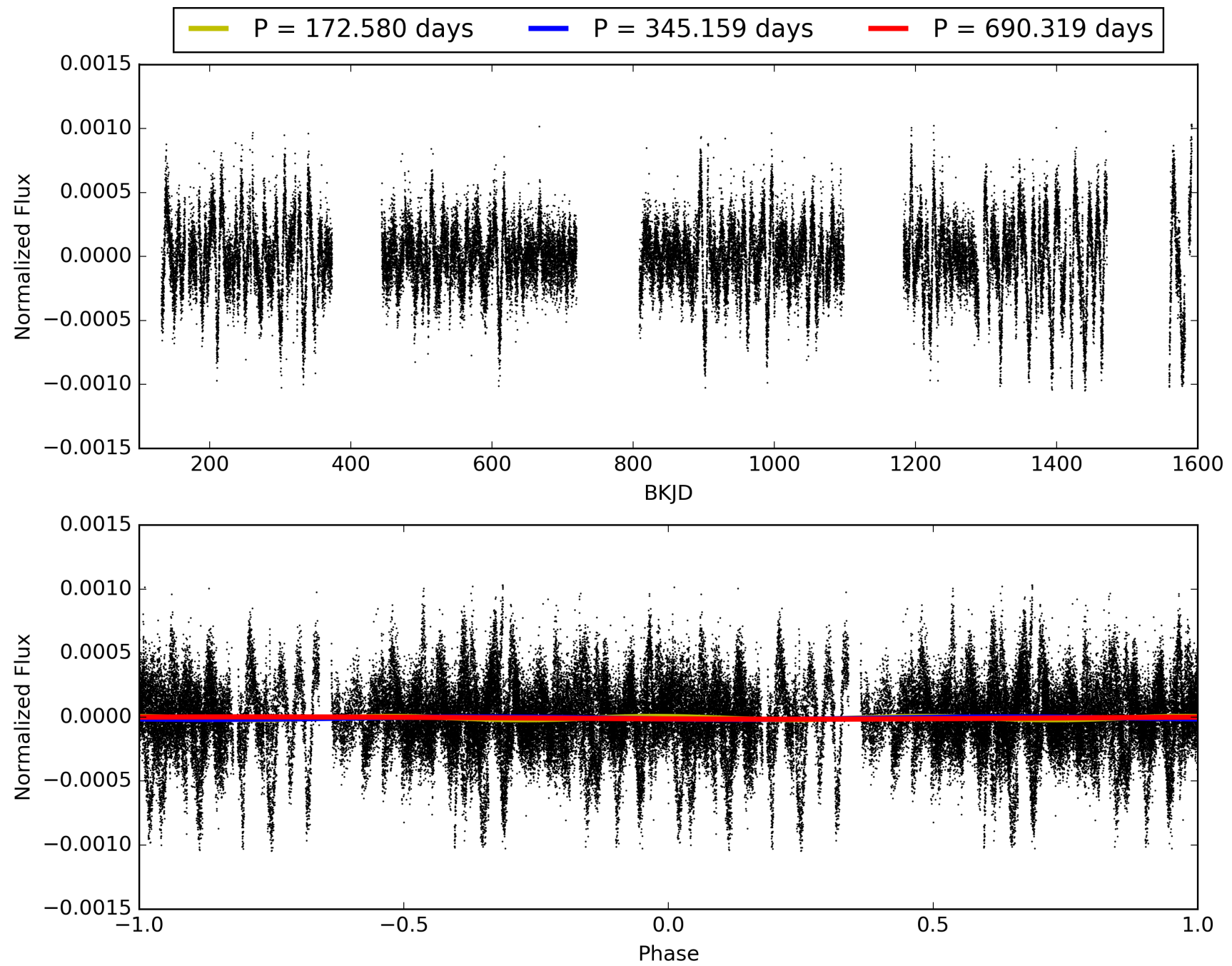
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 56.8%  
ModelChiSquareGof-sig: 99.6%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 5.616  
Centroid-sig: 89.7%  
Centroid-so: 0.224 arcsec [3.41 $\sigma$ ]  
OotOffset-rm: 0.097 arcsec [1.25 $\sigma$ ]  
KicOffset-rm: 0.236 arcsec [3.15 $\sigma$ ]  
OotOffset-st: 1/2/0/0 [3]  
KicOffset-st: 1/2/0/0 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

# TCE 011075279-01, PDC Light Curves

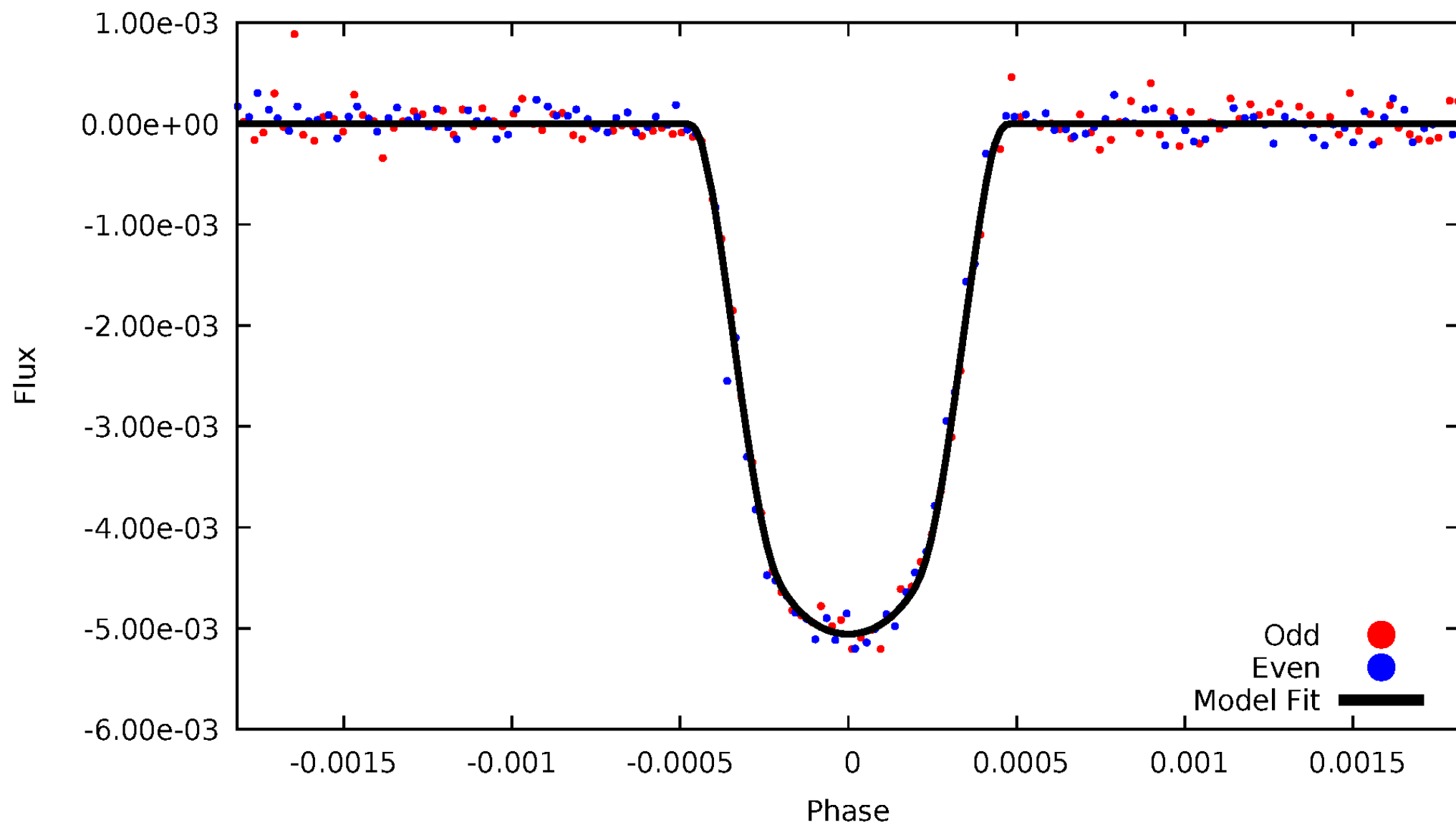


# TCE 011075279-01



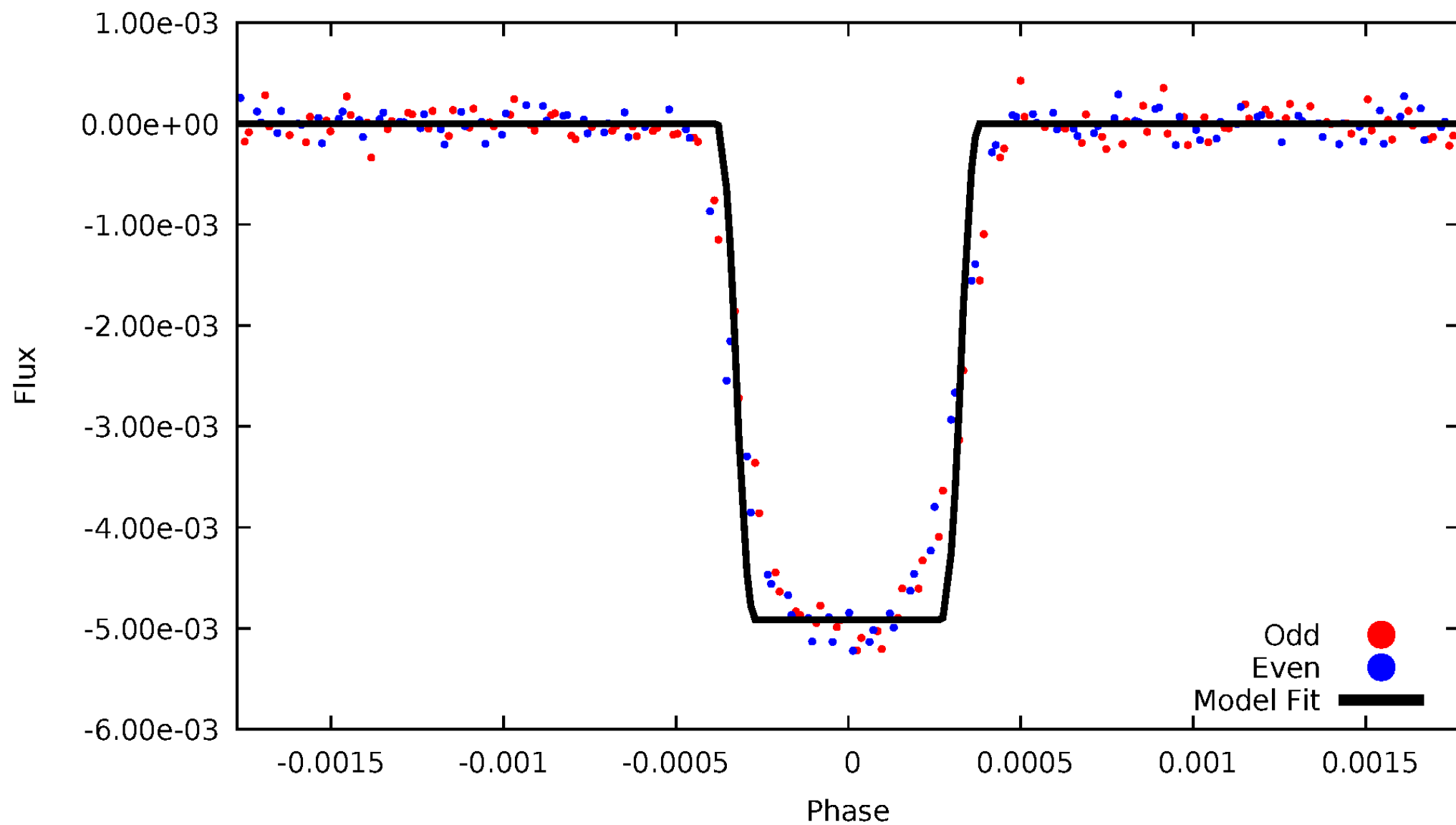
# DV Odd/Even

TCE 011075279-01



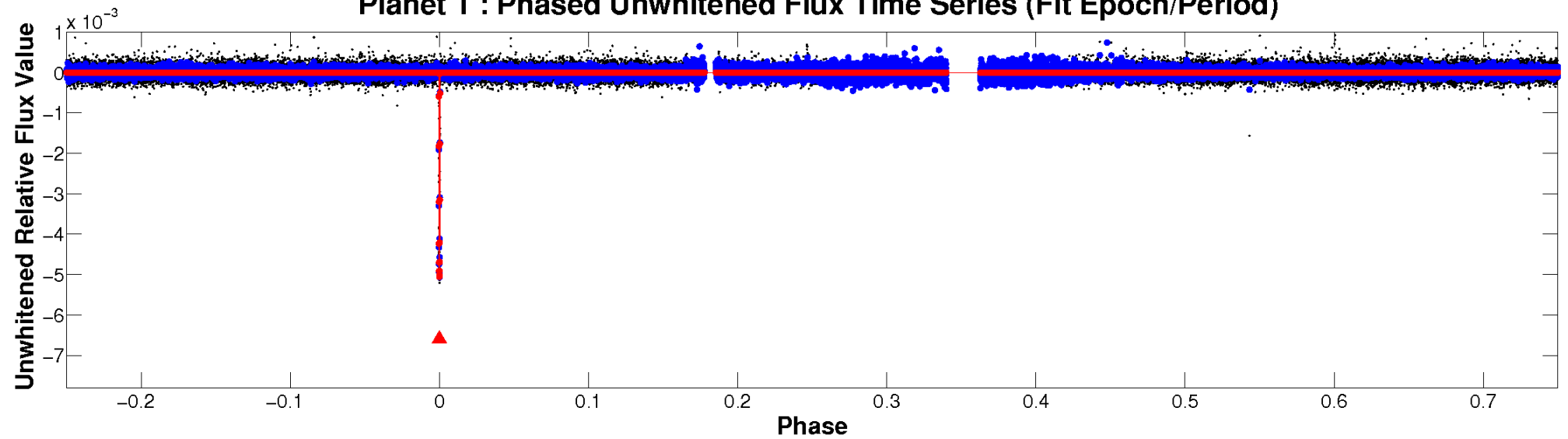
# ALT Odd/Even

TCE 011075279-01

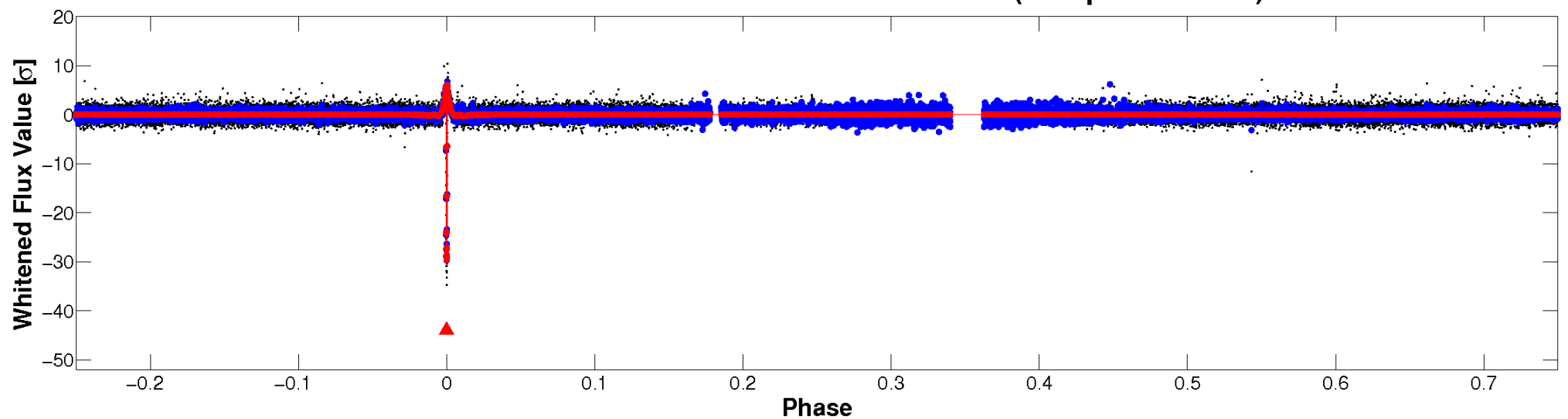


# Non-Whitened Vs. Whitened Light Curve

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

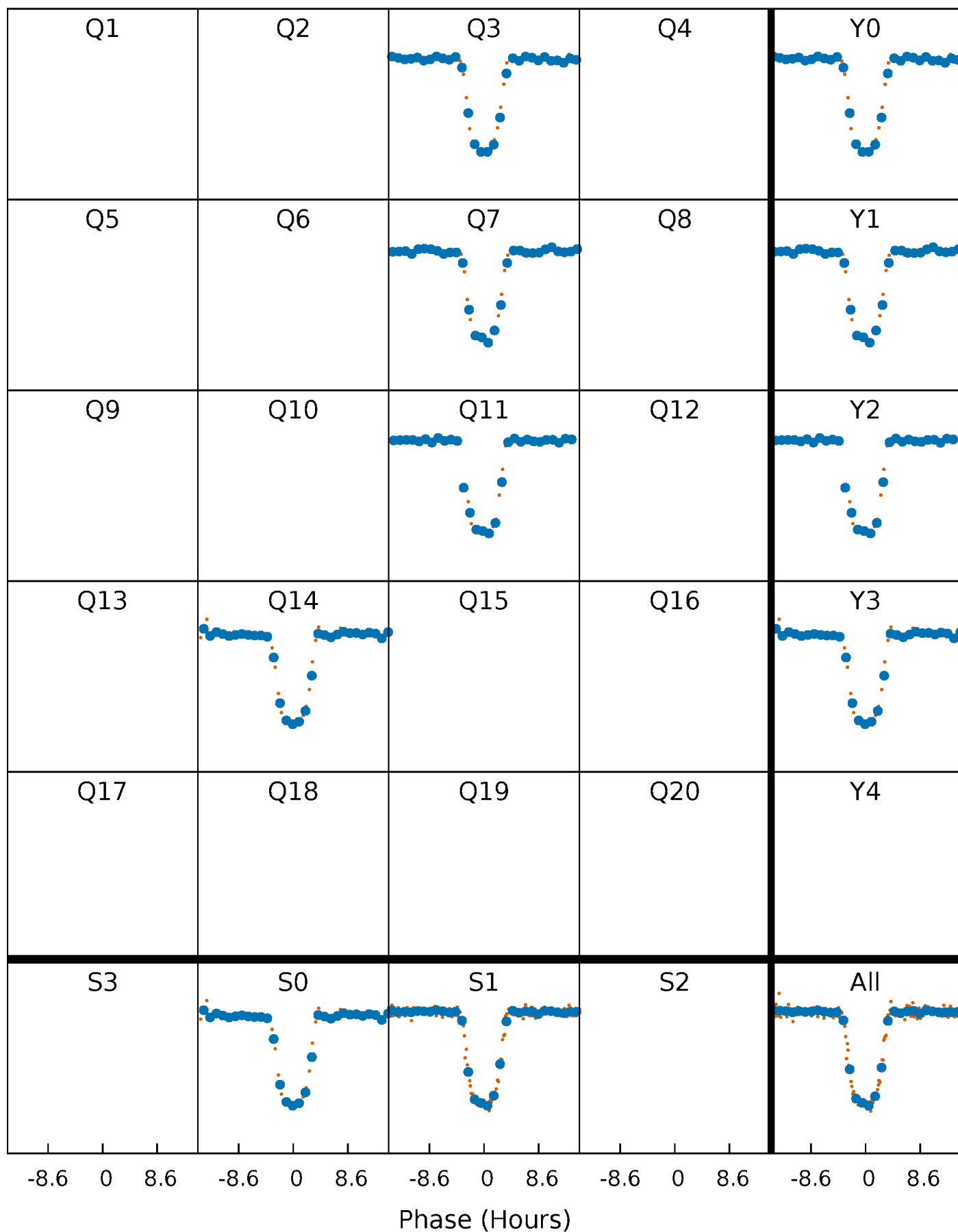


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

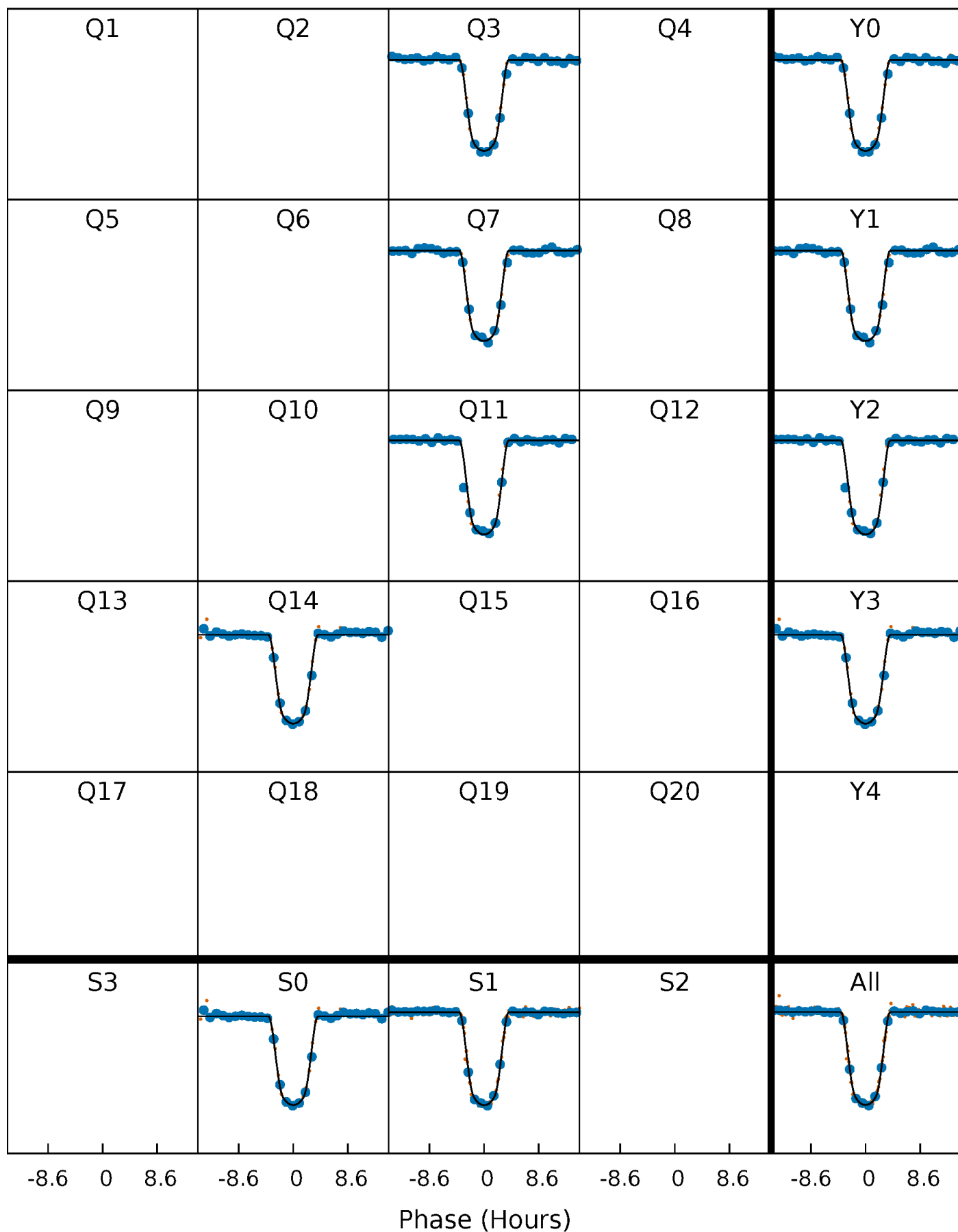
TCE 011075279-01 P=345.159375 Days  $T_0=318.308192$  (BKJD)





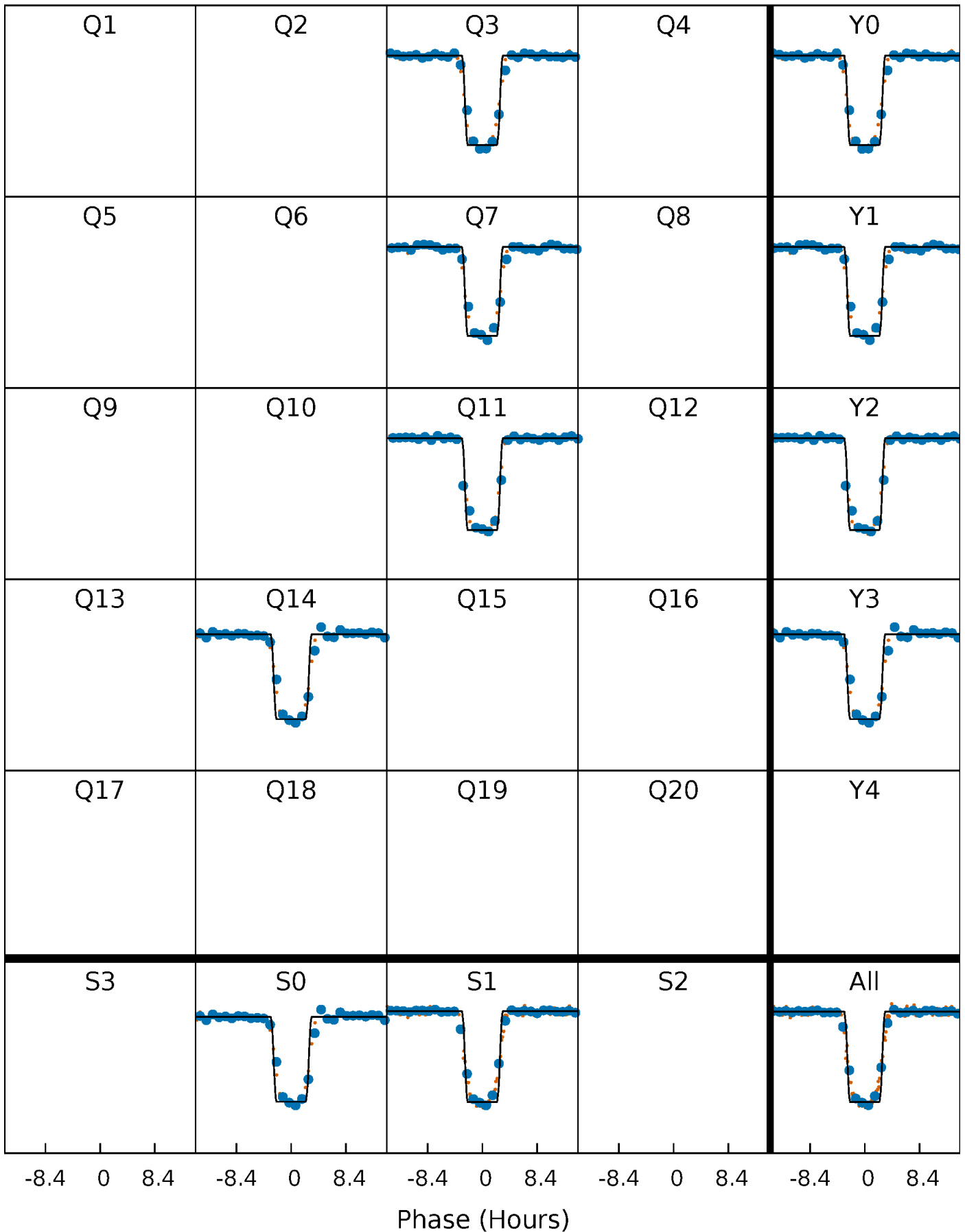
# DV Quarter-Phased Transit Curves

TCE 011075279-01 P=345.159375 Days  $T_0=318.308192$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

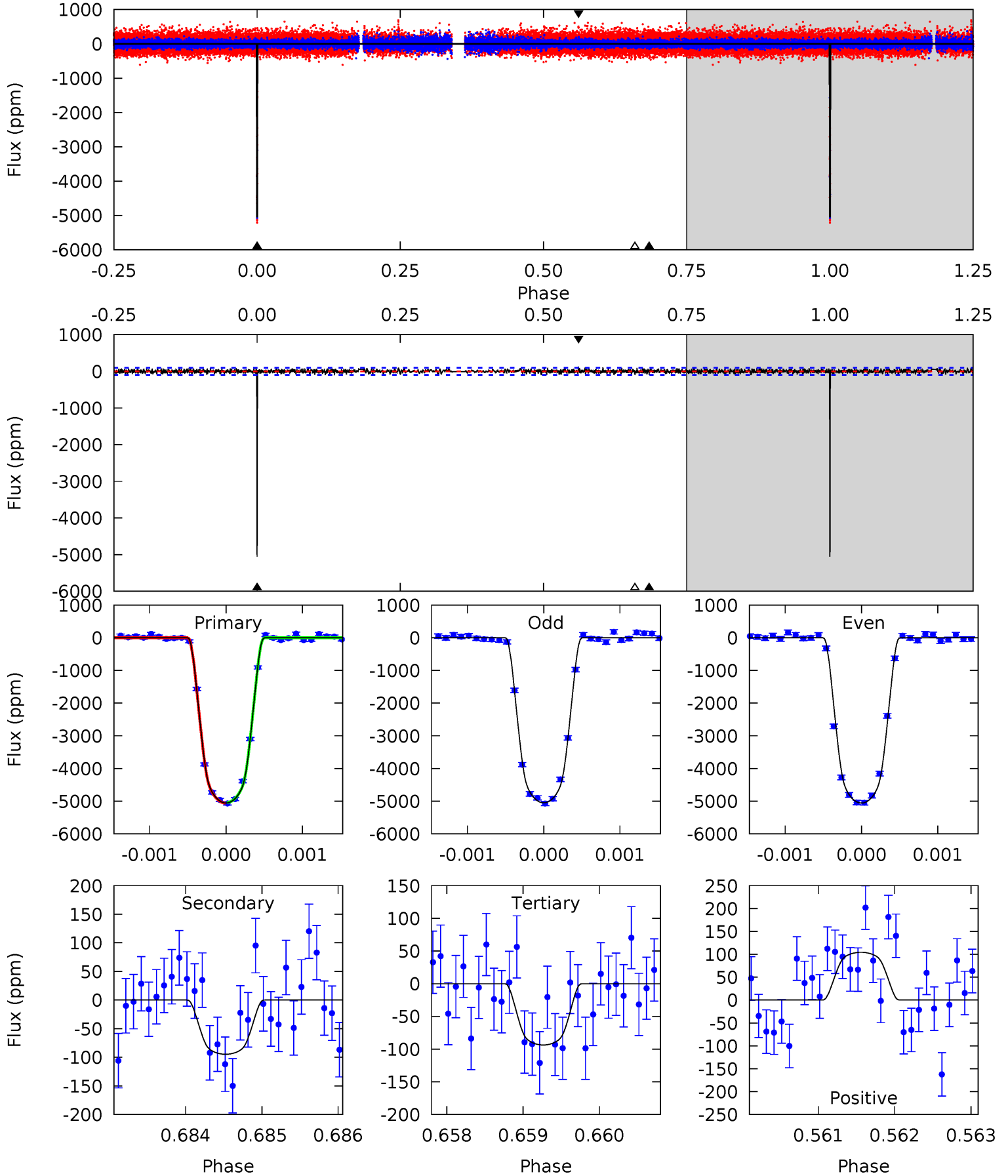
TCE 011075279-01 P=345.156884 Days  $T_0=318.310620$  (BKJD)



# DV Model-Shift Uniqueness Test

011075279-01,  $P = 345.159375$  Days,  $E = 318.308192$  Days

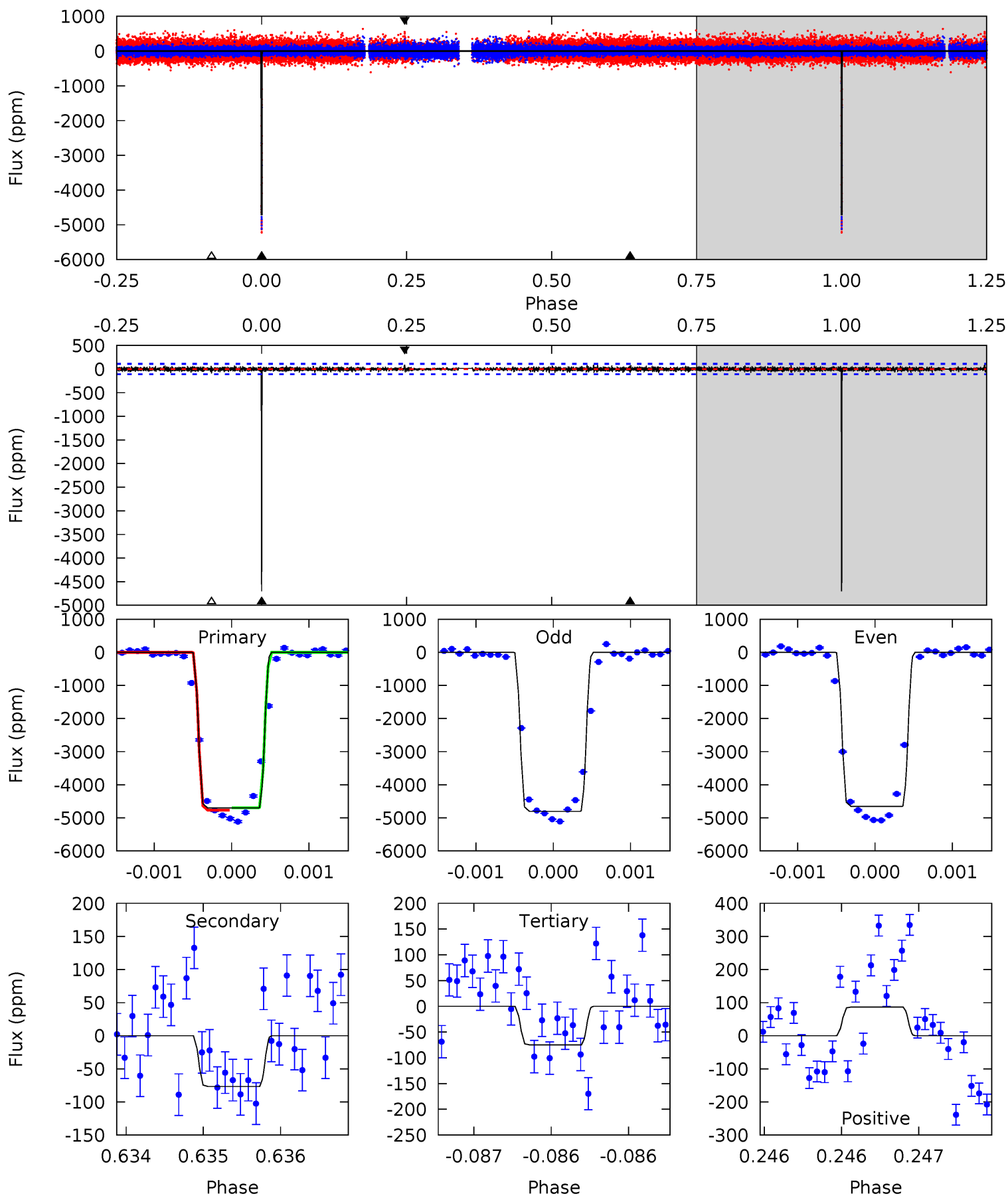
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
285.1	5.34	5.29	5.88	5.46	3.31	1.54	279.8	279.2	0.06	-0.54	0.22	1.00	0.02	0.46



# Alt Model-Shift Uniqueness Test

011075279-01,  $P = 345.156884$  Days,  $E = 318.310620$  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
237.4	3.87	3.78	4.38	5.50	3.37	0.99	233.6	233.0	0.08	-0.51	3.61	1.00	0.02	1.72



### Stellar Parameters For KIC 011075279

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5597^{+112}_{-112}$	$4.515^{+0.021}_{-0.119}$	$0.280^{+0.150}_{-0.150}$	$0.931^{+0.136}_{-0.042}$	$1.032^{+0.043}_{-0.068}$	$1.804^{+0.184}_{-0.610}$
	+2%/-2%	+0%/-3%	+54%/-54%	+15%/-5%	+4%/-7%	+10%/-34%
Source	SPE59	SPE59	SPE59	DSEP		

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

### Secondary Eclipse Parameters for KIC 011075279-01 / KOI 1431.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-95 \pm 18$	$7.84^{+0.64}_{-0.27}$	$342^{+13}_{-10}$	$2753^{+72}_{-84}$	$776^{+159}_{-167}$
Alt.	$-77 \pm 20$	$7.23^{+0.60}_{-0.26}$	$342^{+13}_{-10}$	$2737^{+102}_{-107}$	$733^{+211}_{-216}$

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

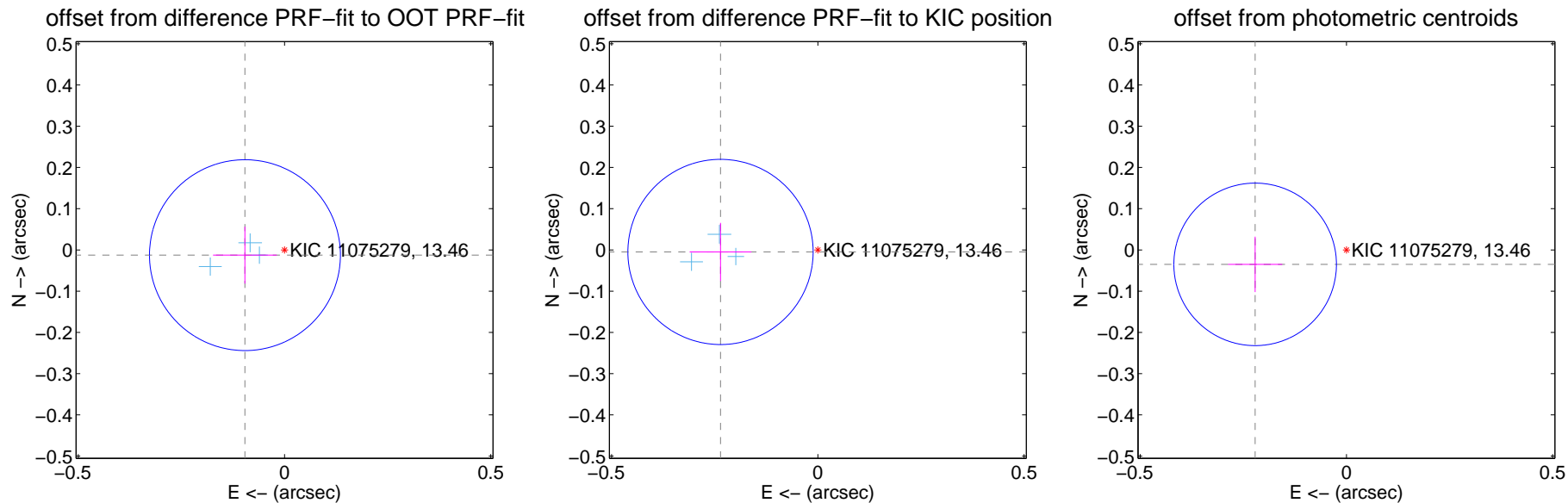
## DV Centroid Data

Supplemental centroid analysis for 011075279-01. Kepler magnitude: 13.46. Transit SNR 174.12

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.097 \pm 0.077$	1.25	$0.096 \pm 0.077$	$-0.013 \pm 0.069$
PRF-fit source offset from KIC position	$0.236 \pm 0.075$	3.15	$0.236 \pm 0.075$	$-0.005 \pm 0.071$
photometric centroid source offset	$0.22 \pm 0.07$	3.41	$0.22 \pm 0.07$	$-0.03 \pm 0.07$



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



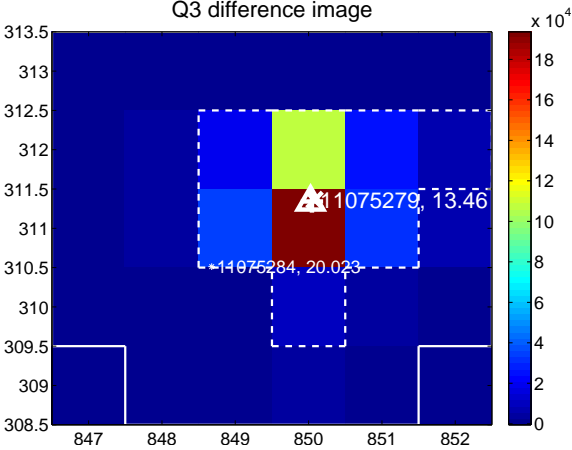
Q2 no difference image



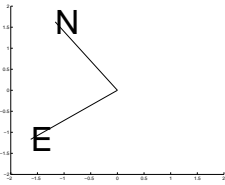
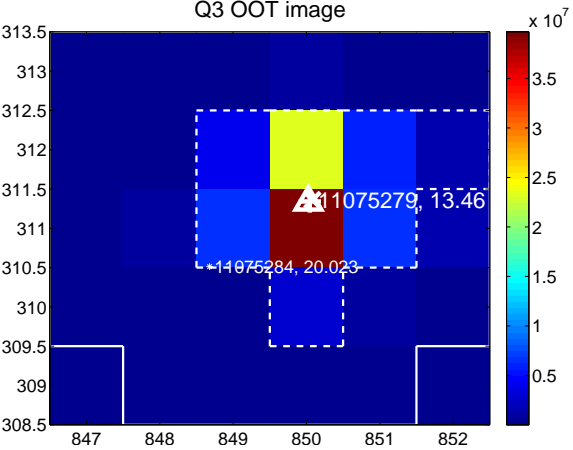
Q2 no OOT image



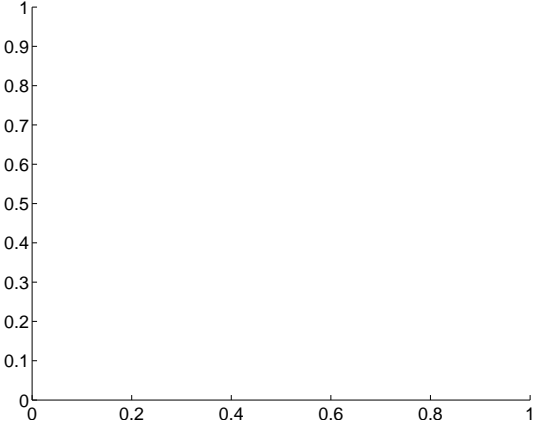
Q3 difference image



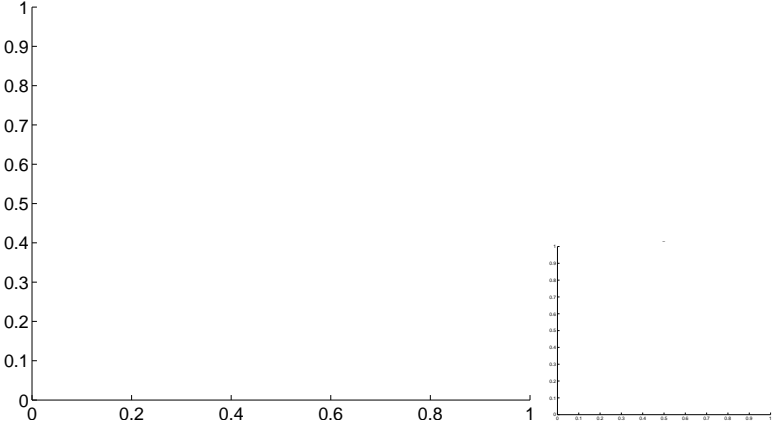
Q3 OOT image



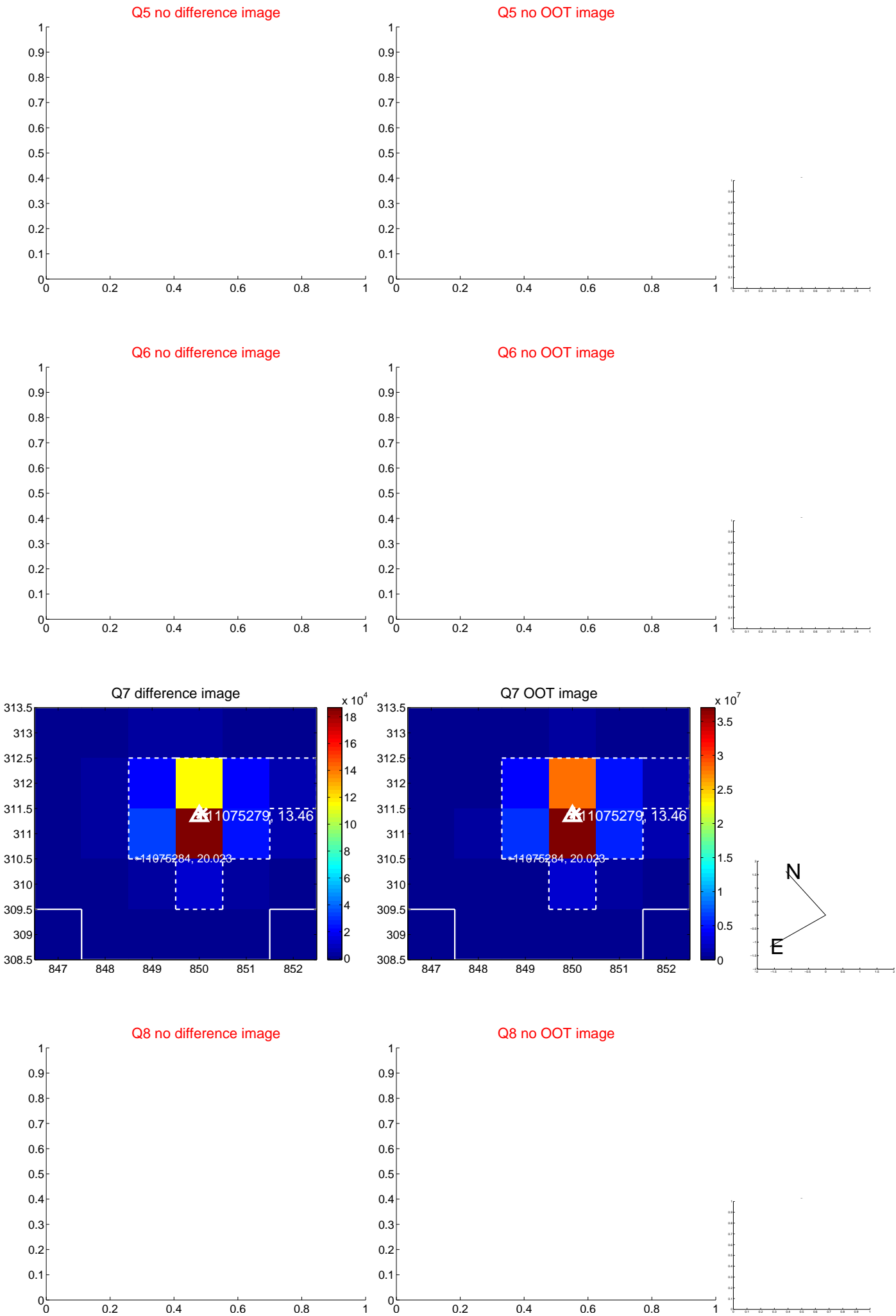
Q4 no difference image



Q4 no OOT image



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

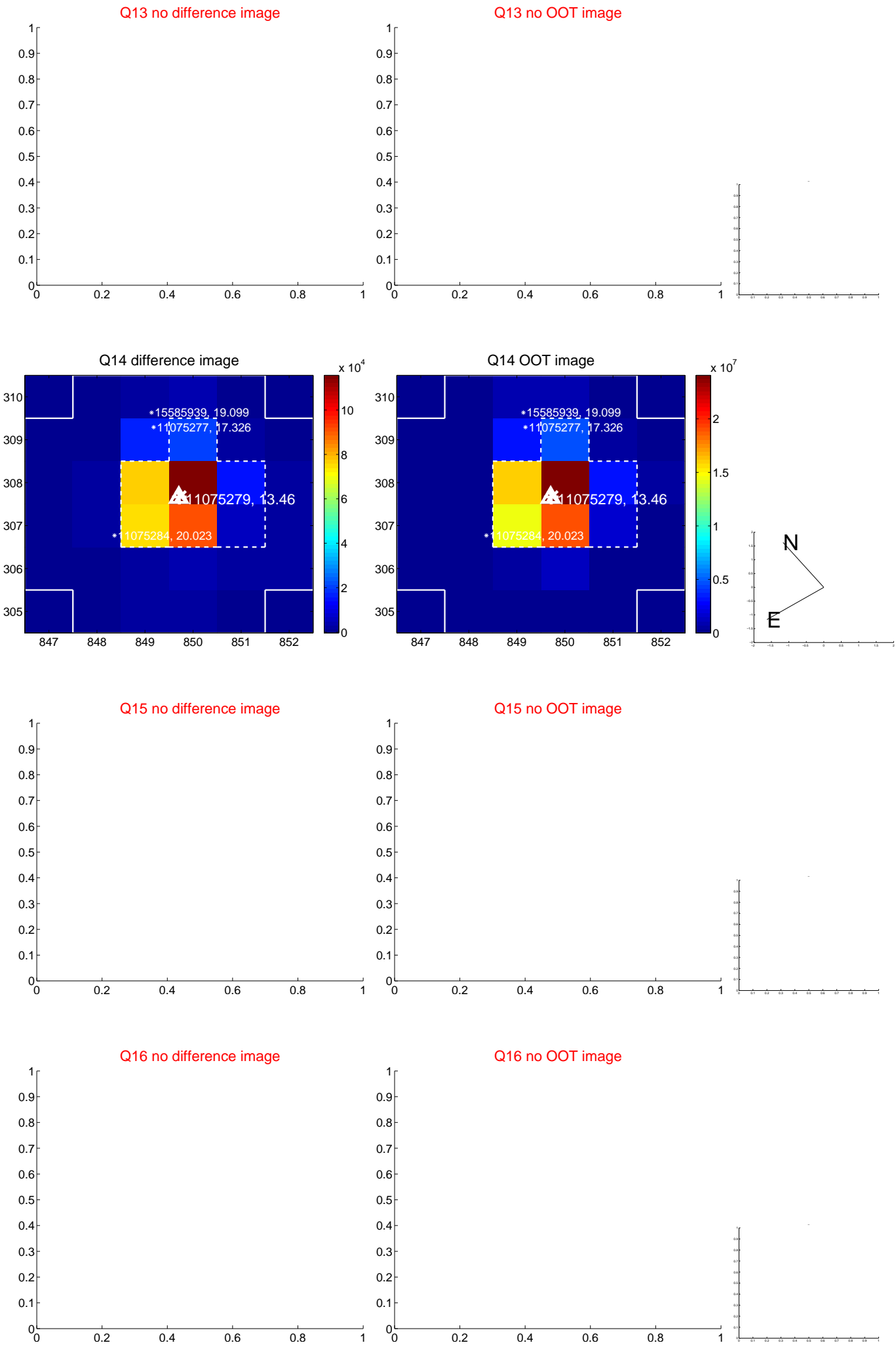




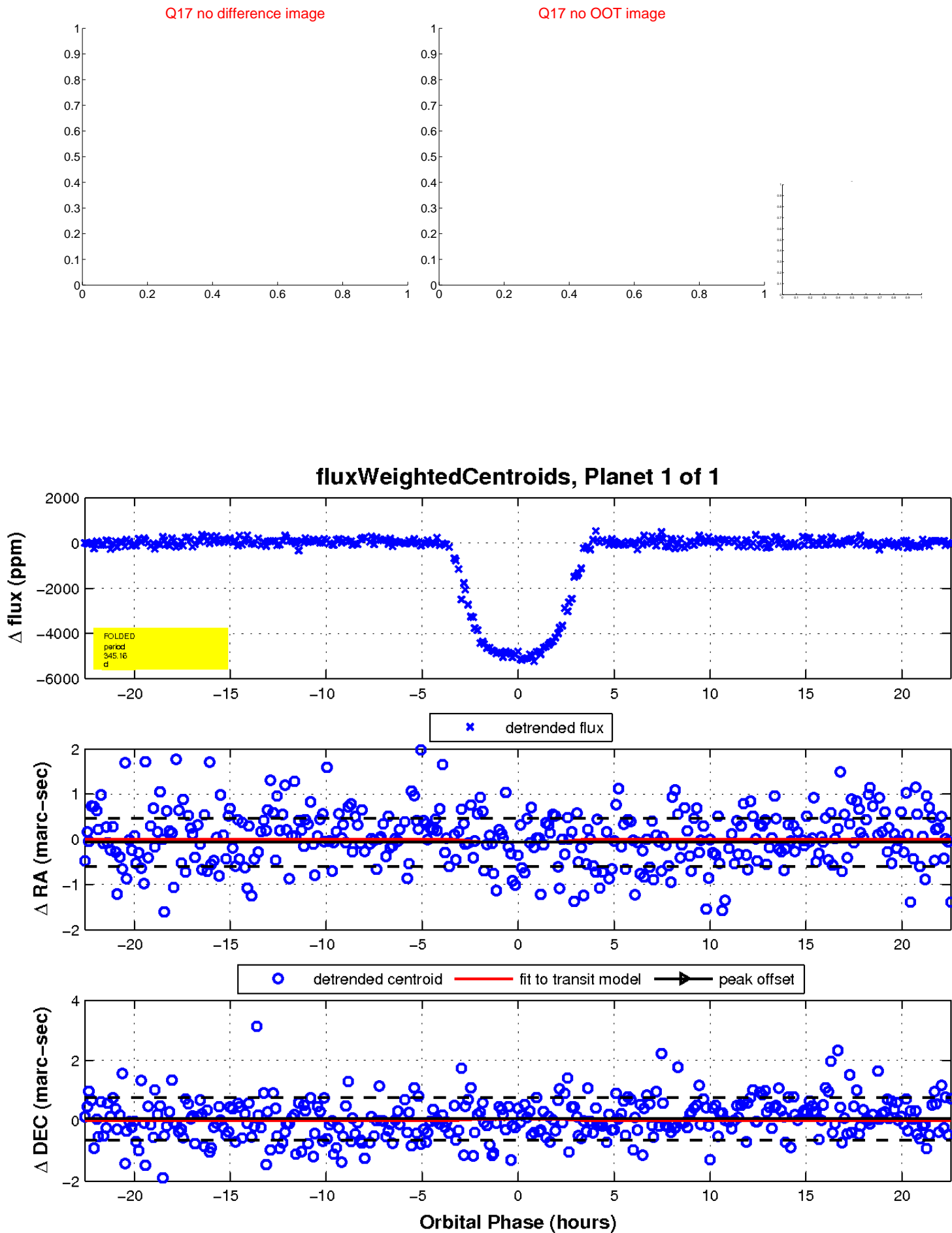
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

