

# KIC 007827095

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007827095-01	OBS	No	269.061206	350.103565	1162.8	3.657	7.2	7.5	1.03	6158	3.64	1.92

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007827095-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_FEW_DIFFS

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

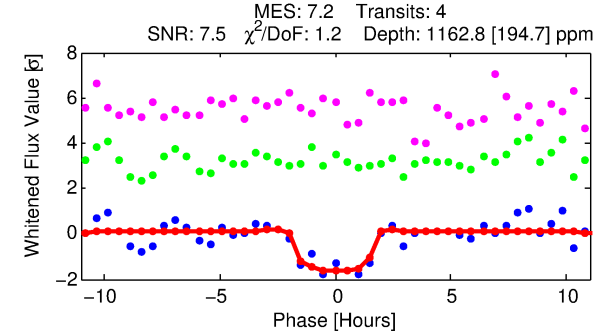
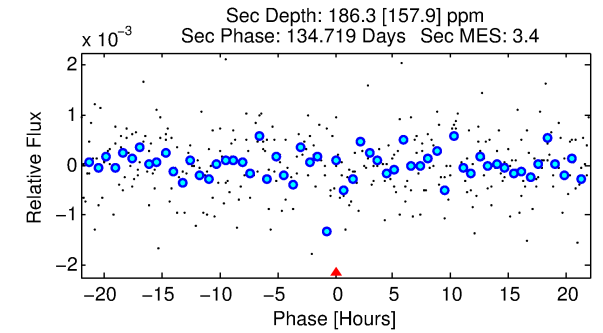
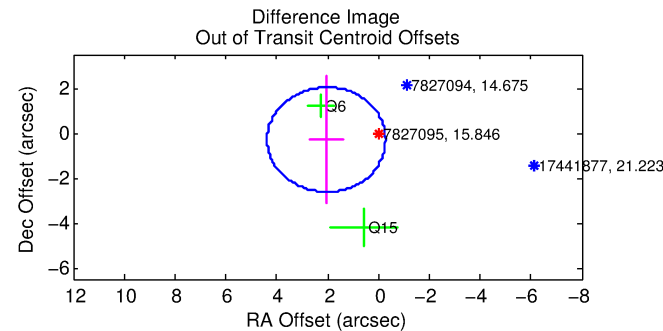
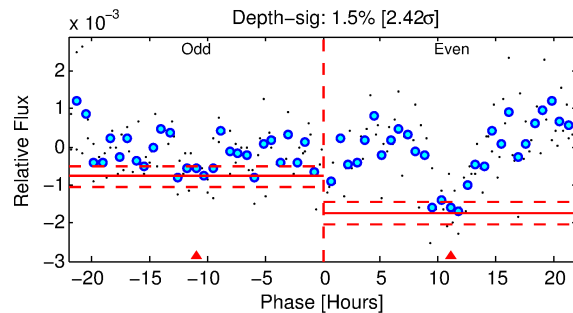
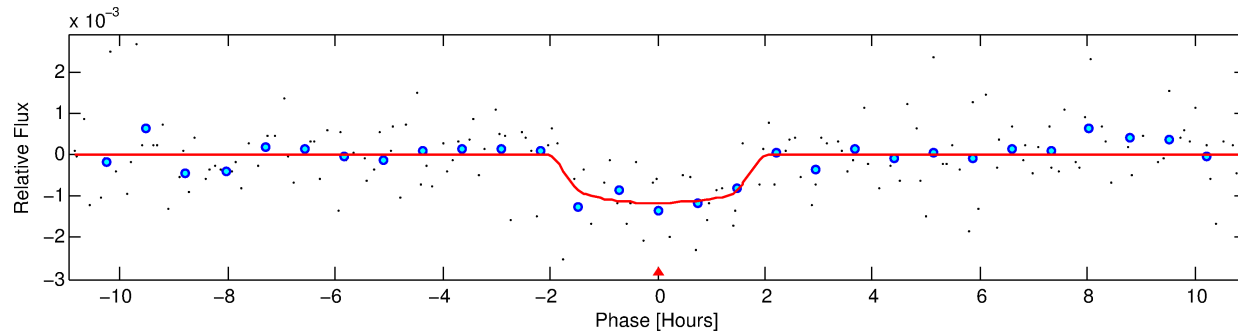
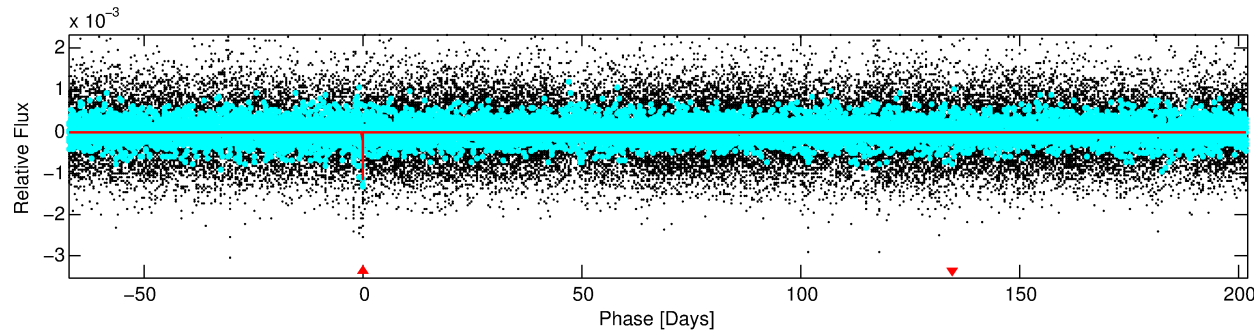
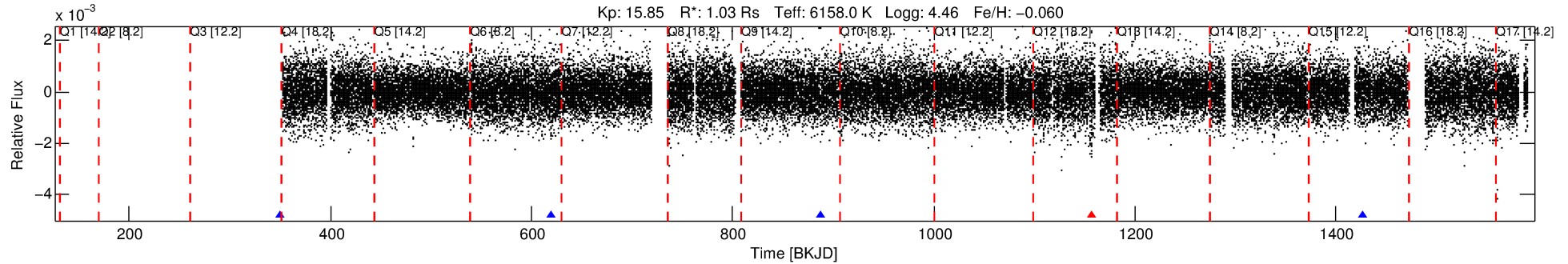
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007827095-01

No Significant Match Found

# DV One-Page Summary

KIC: 7827095 Candidate: 1 of 1 Period: 269.061 d



## DV Fit Results:

Period = 269.06121 [0.00558] d  
Epoch = 350.1036 [0.0145] BKJD  
Rp/R\* = 0.0325 [0.0508]  
a/R\* = 484.17 [3679.28]  
b = 0.57 [9.11]  
Seff = 1.92 [0.79]  
Teq = 300 [31] K  
Rp = 3.64 [5.79] Re  
a = 0.8408 [0.2127] AU  
Ag = 5479.50 [17875.51] [0.31σ]  
Teffp = 3992 [3238] K [1.14σ]

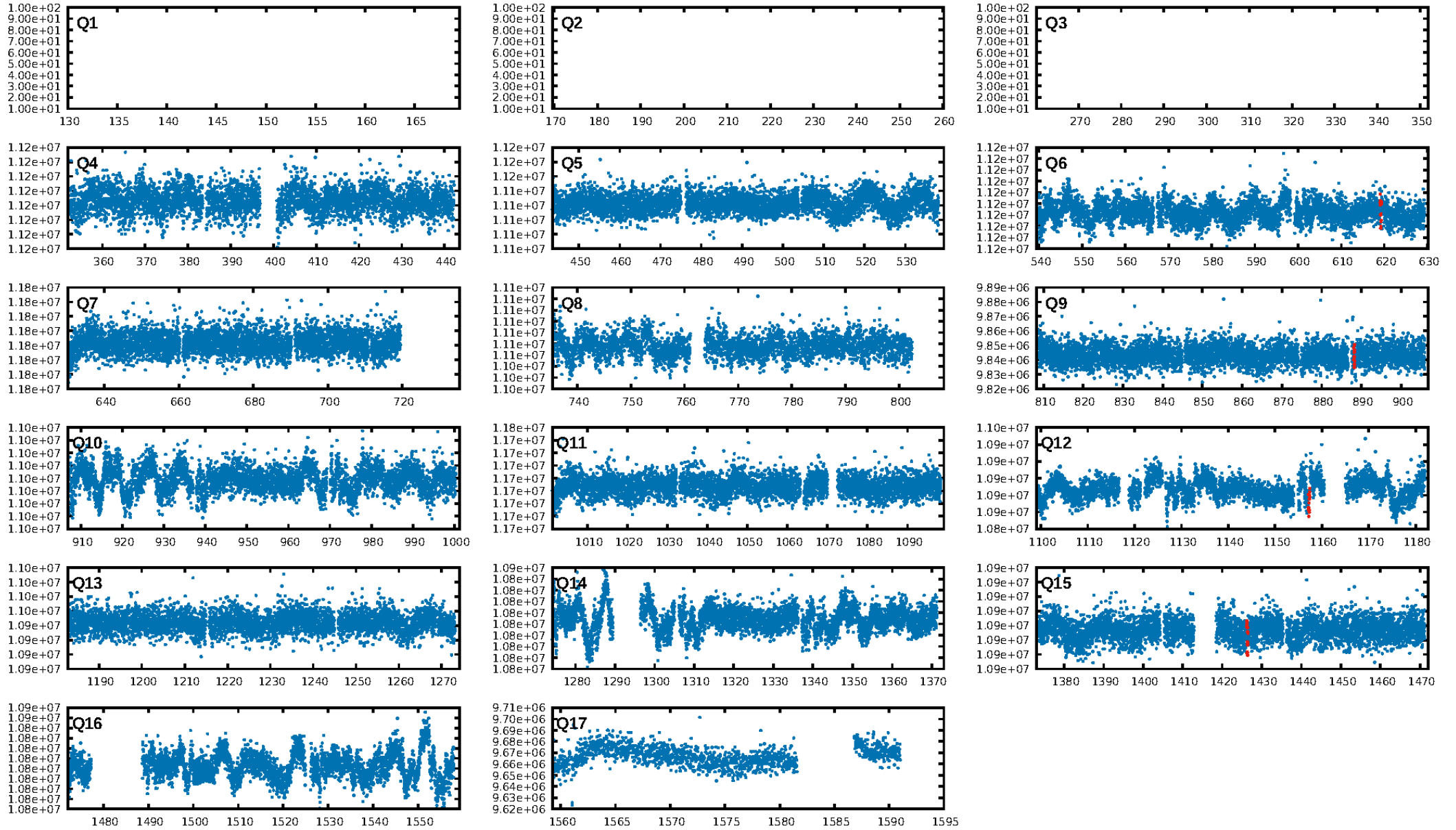
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 3.5%  
ModelChiSquareGof-sig: 95.3%  
**Bootstrap-pfa: 8.81e-12**  
**RollingBand-fgt: 0.75 [3/4]**  
GhostDiagnostic-chr: 27.12  
Centroid-sig: 61.7%  
Centroid-so: 0.966 arcsec [0.72σ]  
OotOffset-rm: 2.066 arcsec [2.66σ]  
KicOffset-rm: 1.968 arcsec [0.88σ]  
OotOffset-st: 1/1/0/0 [2]  
KicOffset-st: 1/1/0/0 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [4/4]

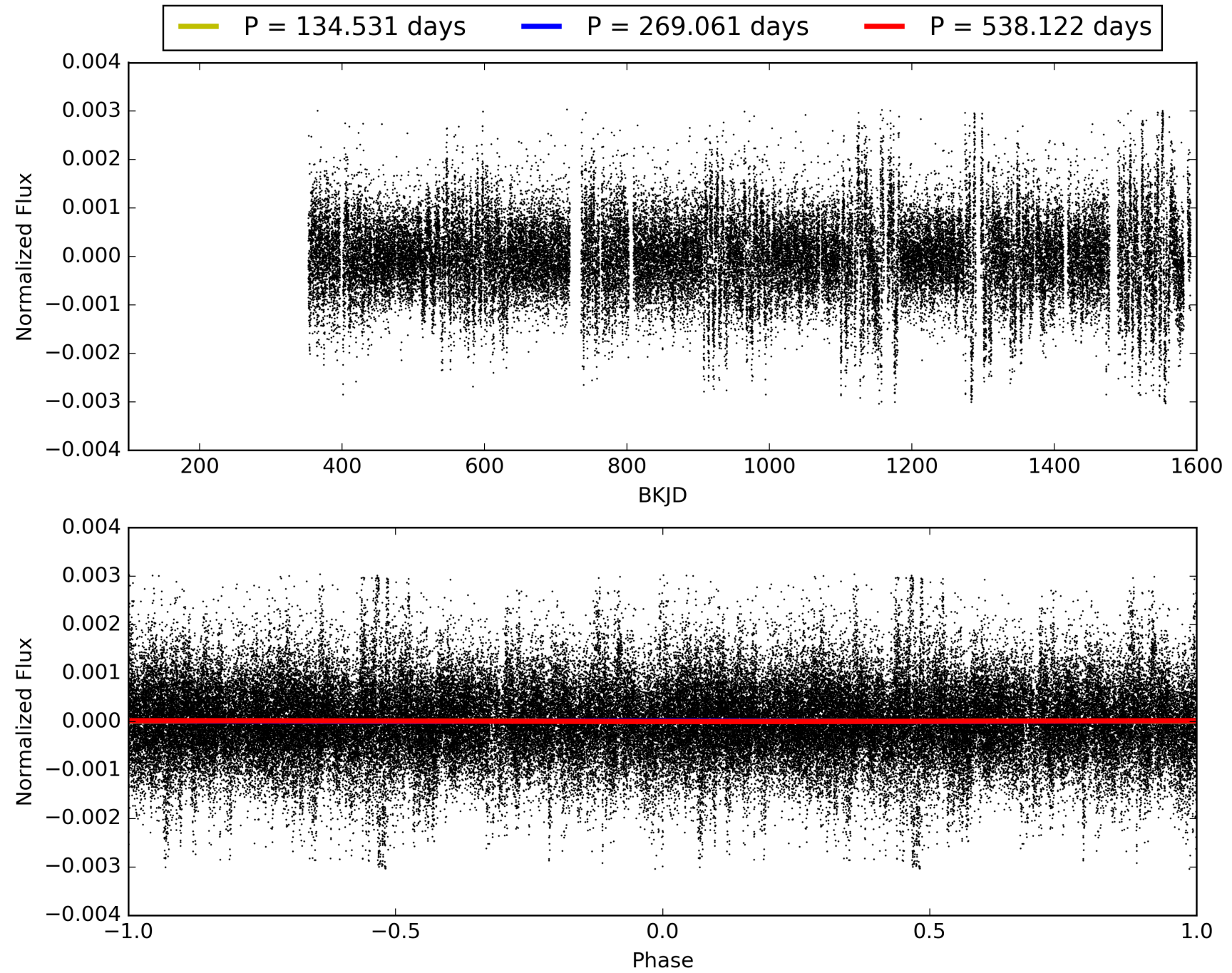
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:58:23 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007827095-01, PDC Light Curves

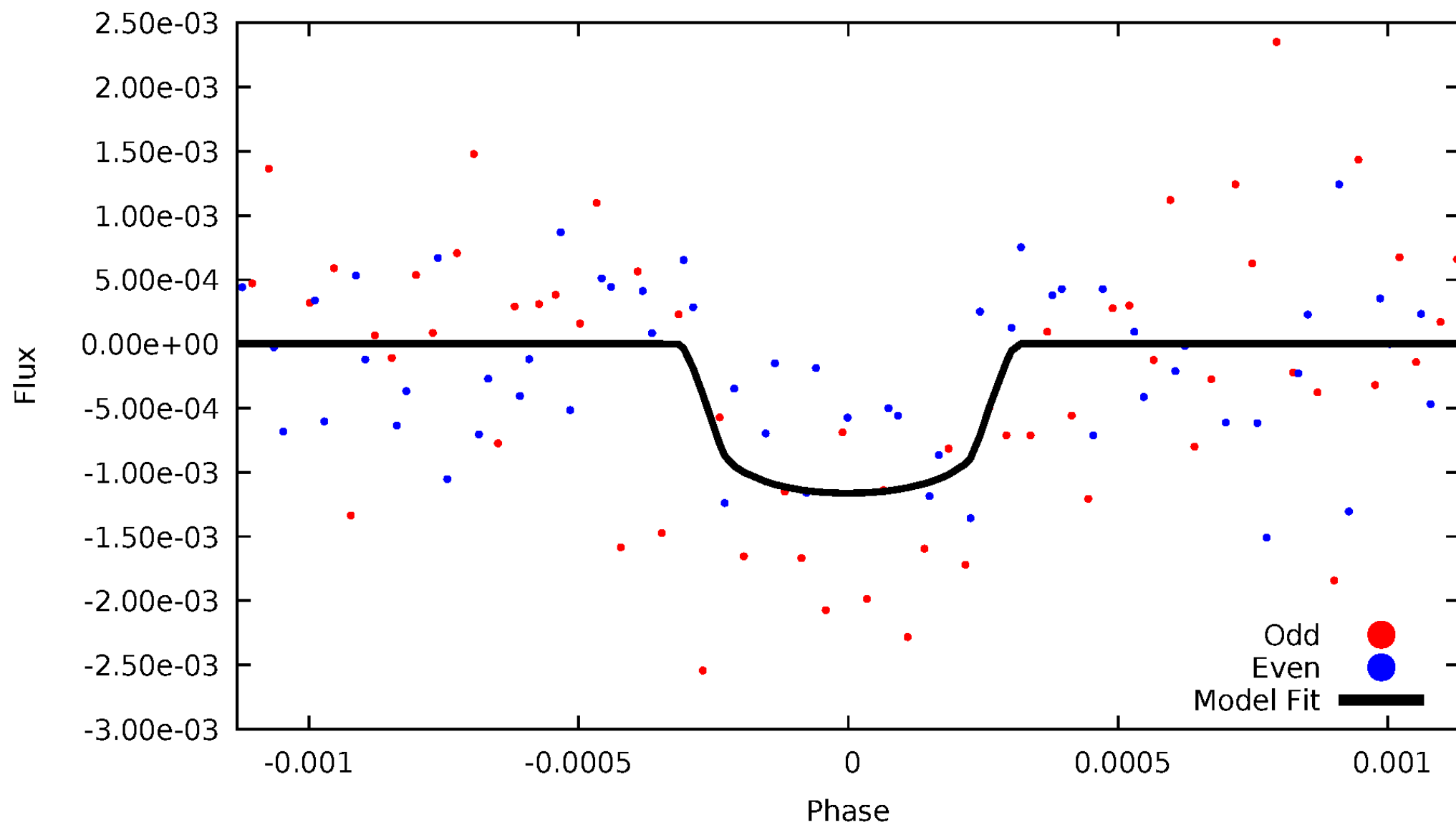


TCE 007827095-01



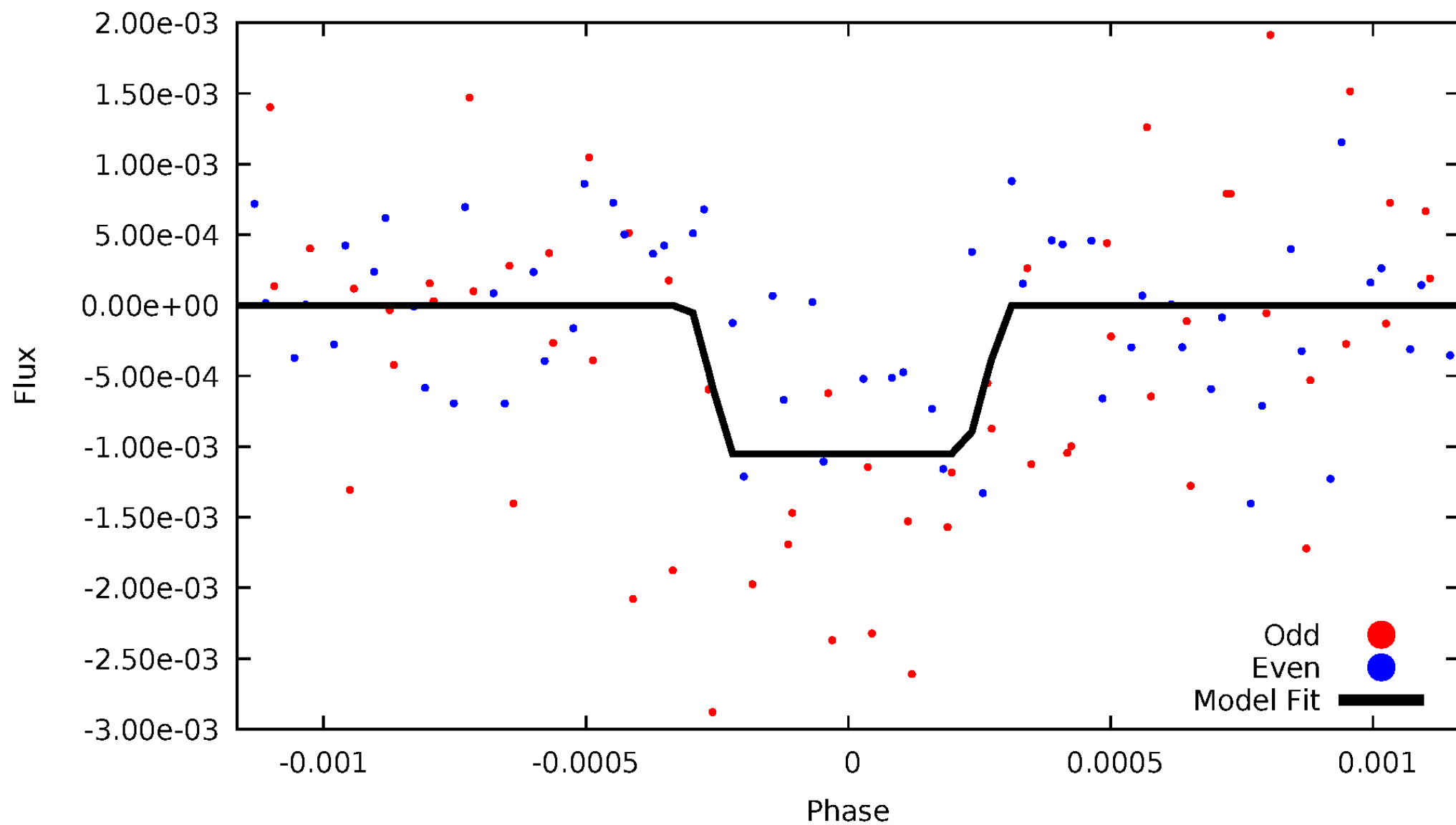
# DV Odd/Even

TCE 007827095-01



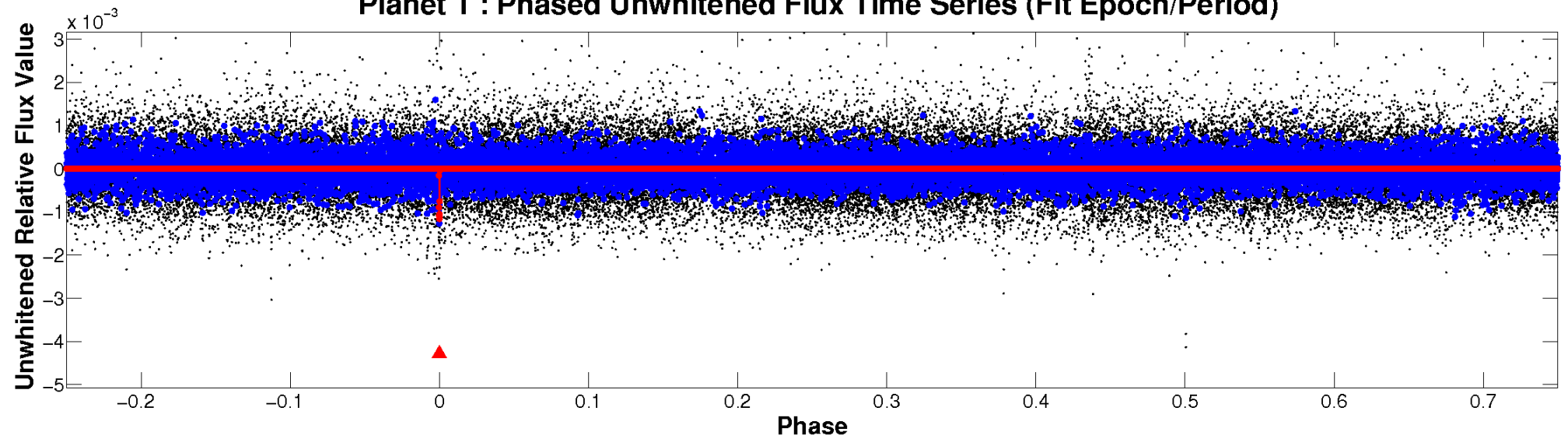
# ALT Odd/Even

TCE 007827095-01

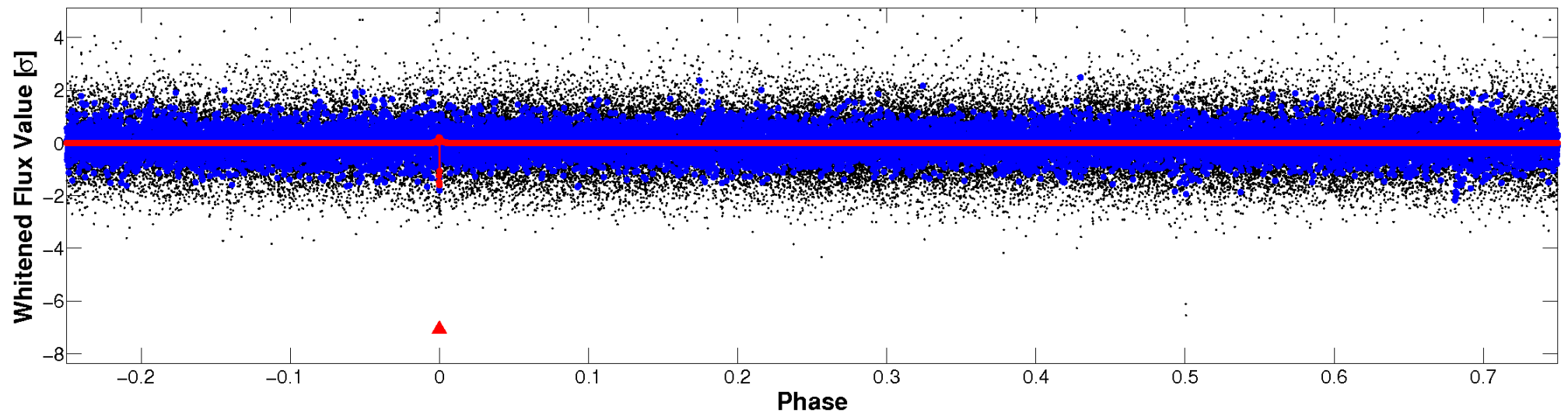


# Non-Whitened Vs. Whitened Light Curve

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



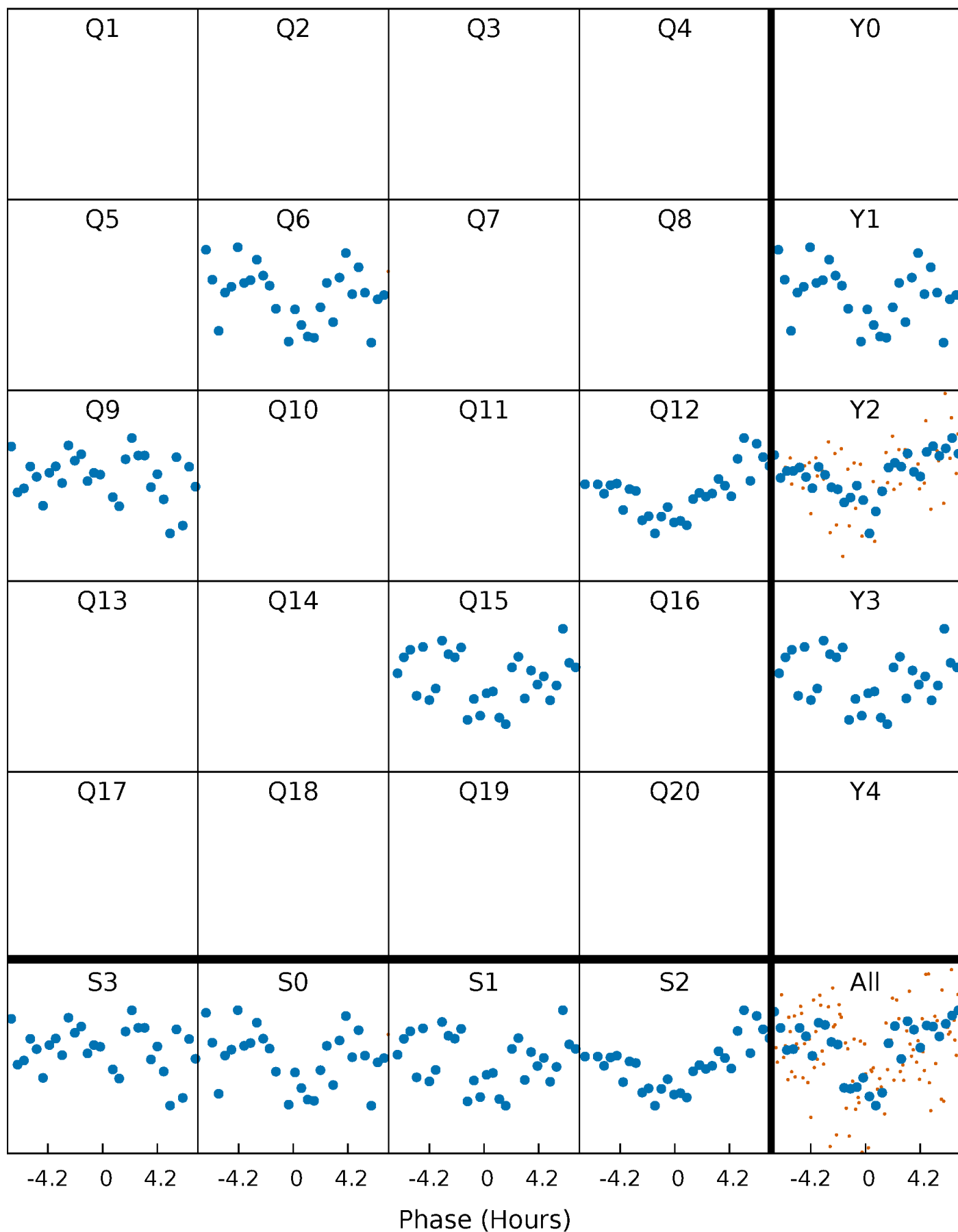
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

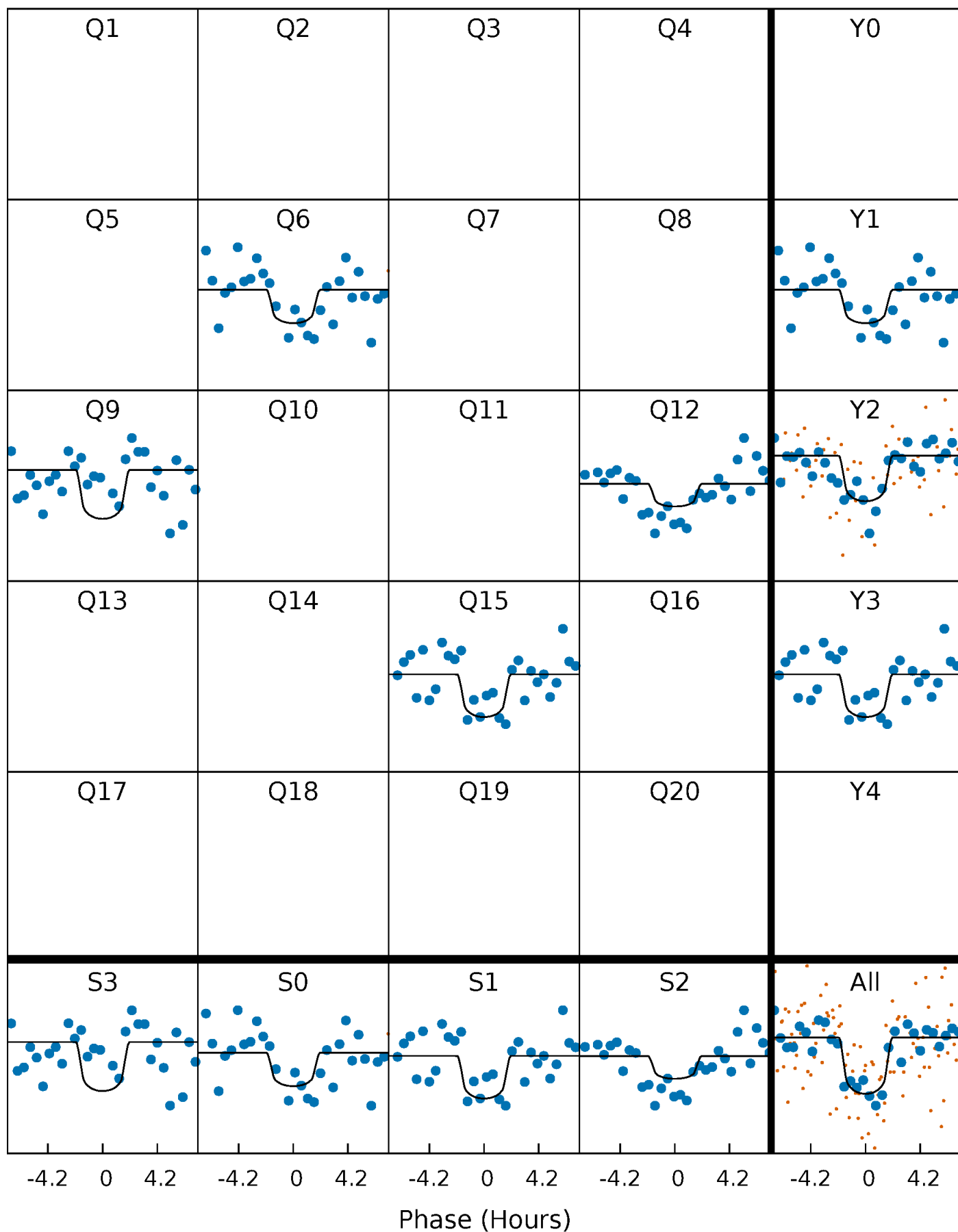
TCE 007827095-01 P=269.061206 Days  $T_0=350.103565$  (BKJD)





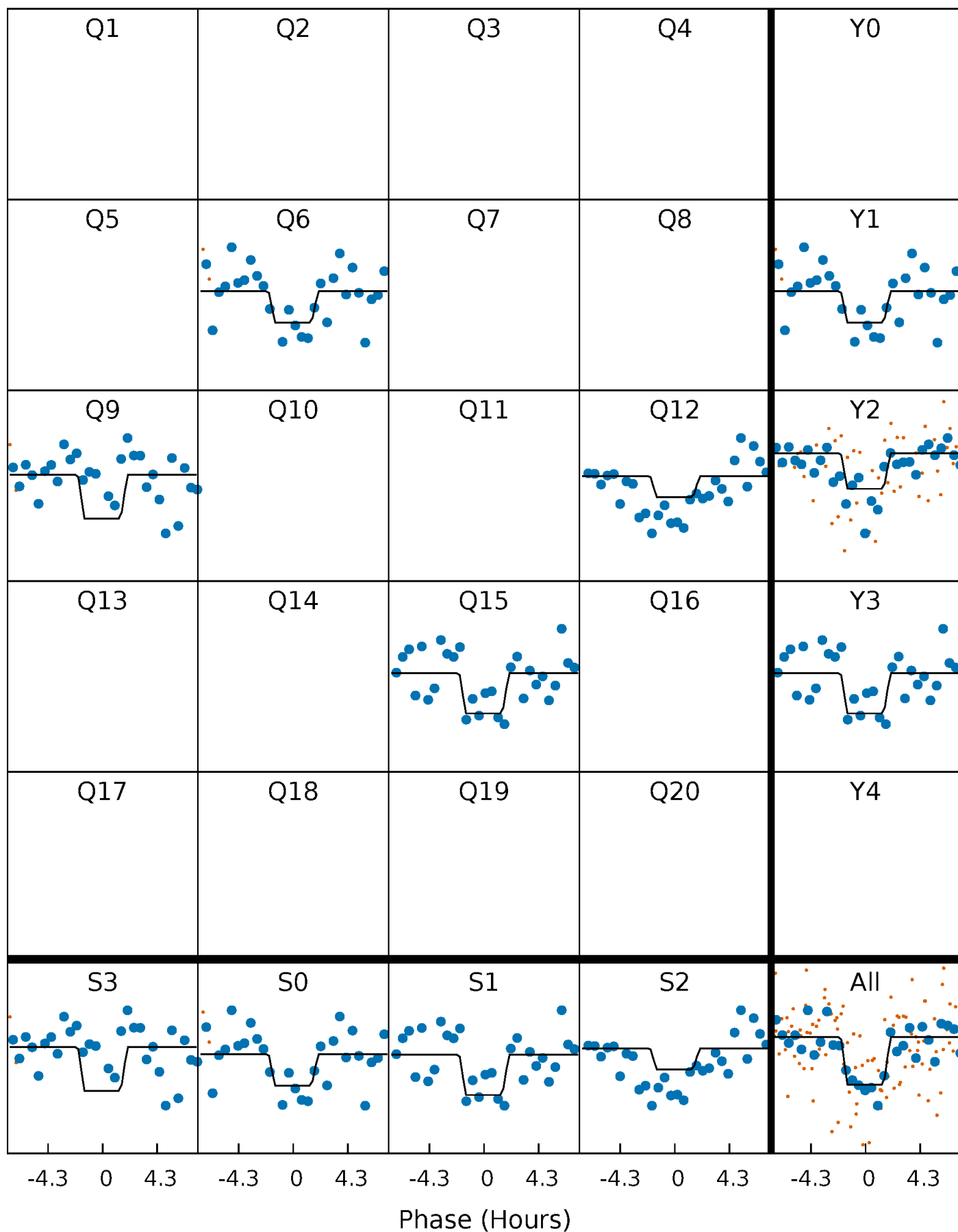
# DV Quarter-Phased Transit Curves

TCE 007827095-01 P=269.061206 Days  $T_0=350.103565$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

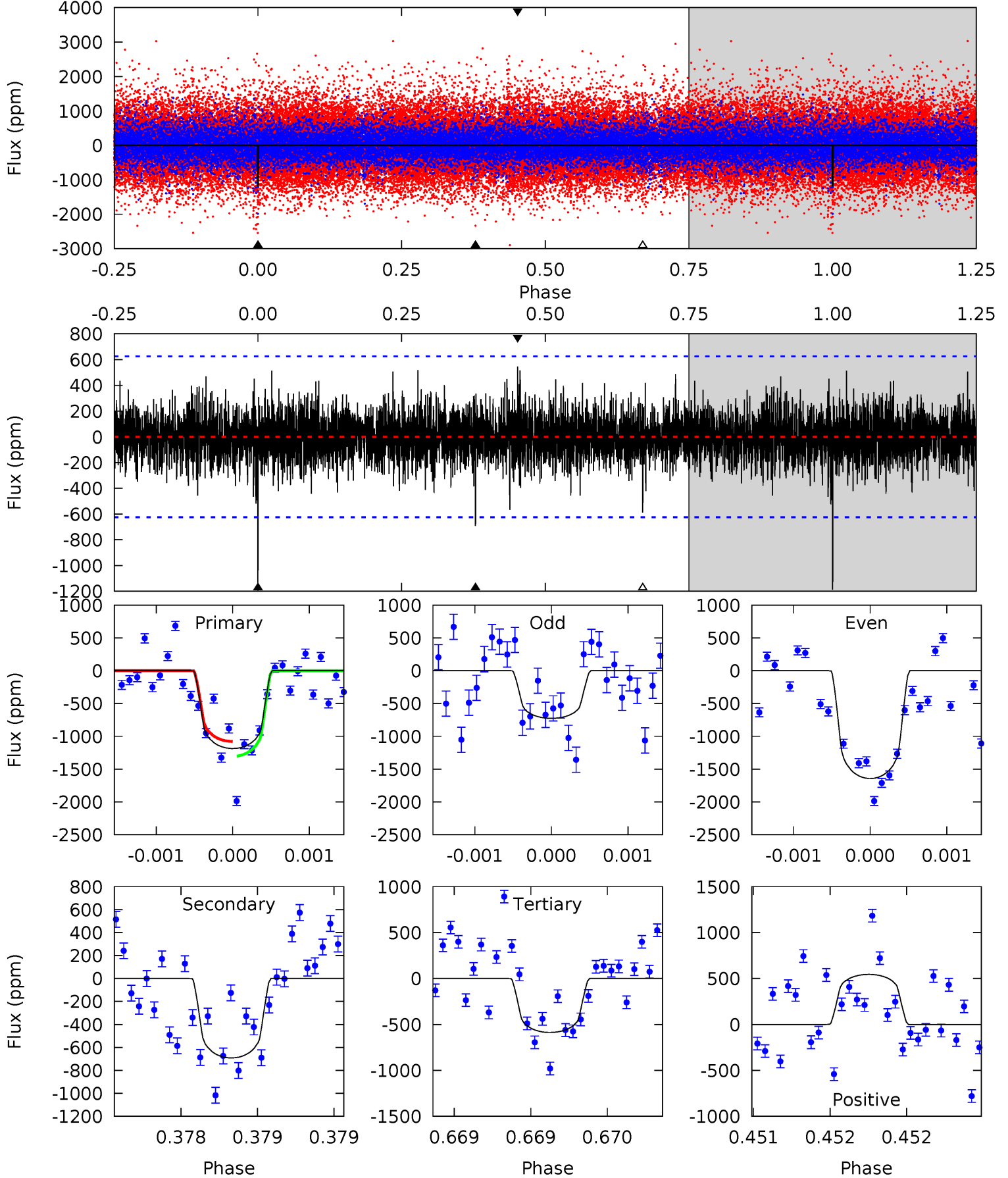
TCE 007827095-01 P=269.056002 Days  $T_0=350.116246$  (BKJD)



# DV Model-Shift Uniqueness Test

007827095-01, P = 269.061206 Days, E = 350.103565 Days

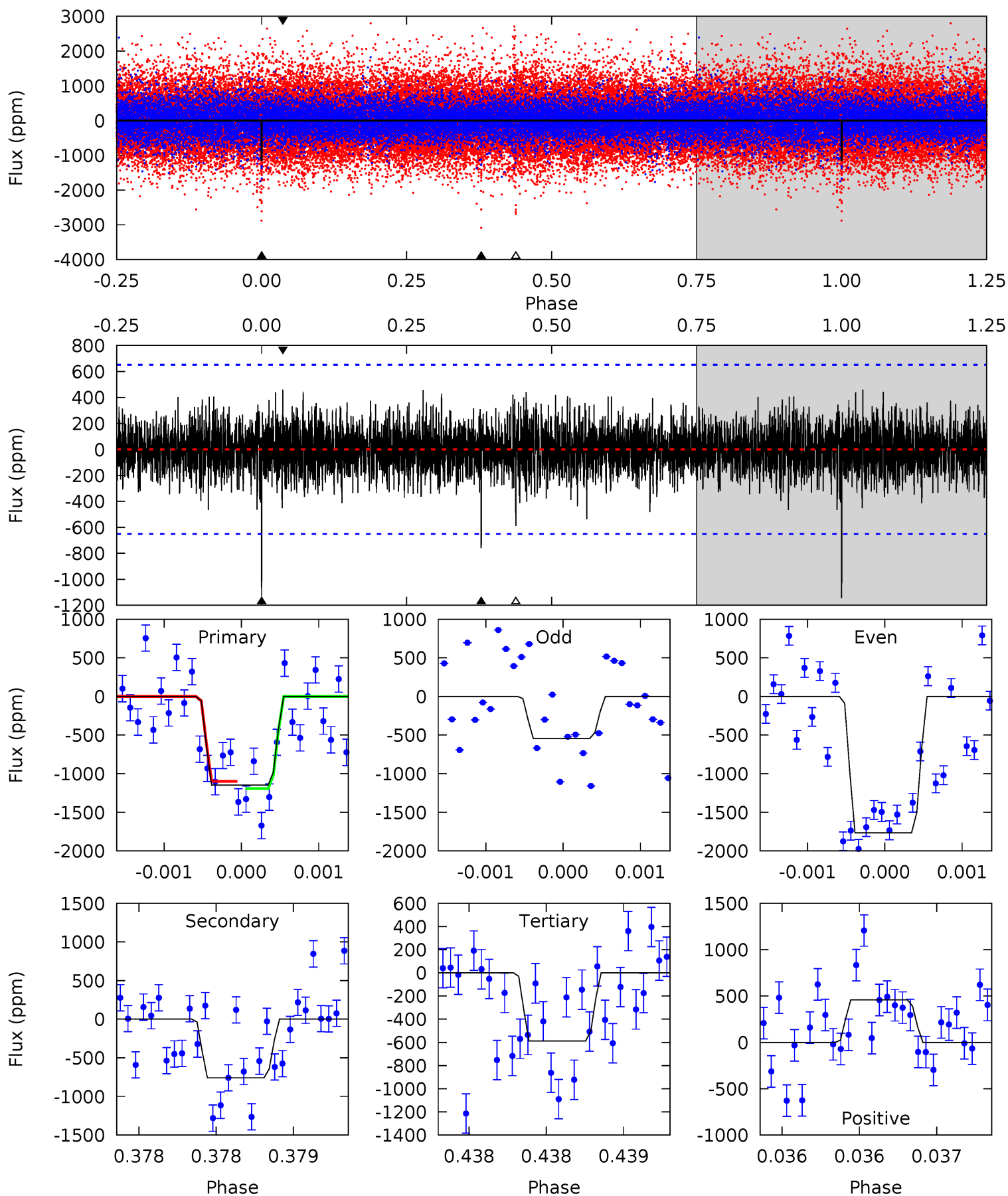
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	6.13	5.21	4.83	5.54	3.42	1.22	5.31	5.69	0.92	1.31	4.13	0.97	0.31	0.99



# Alt Model-Shift Uniqueness Test

007827095-01, P = 269.056002 Days, E = 350.116246 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
9.76	6.46	5.01	3.91	5.55	3.45	1.13	4.76	5.85	1.45	2.55	5.21	1.03	0.29	0.40



### Stellar Parameters For KIC 007827095

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6158^{+193}_{-257}$	$4.455^{+0.052}_{-0.208}$	$-0.060^{+0.250}_{-0.300}$	$1.026^{+0.302}_{-0.130}$	$1.092^{+0.151}_{-0.151}$	$1.423^{+0.390}_{-0.735}$
	+3%/-4%	+1%/-5%	+417%/-500%	+29%/-13%	+14%/-14%	+27%/-52%
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 007827095-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-692 \pm 113$	$5.87^{+5.31}_{-3.67}$	$430^{+32}_{-24}$	$4603^{+2823}_{-946}$	$7655^{+47298}_{-5640}$
Alt.	$-758 \pm 117$	$5.90^{+5.18}_{-4.04}$	$429^{+30}_{-23}$	$4701^{+3404}_{-1010}$	$8301^{+71226}_{-6149}$

$T_{max}$  = 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

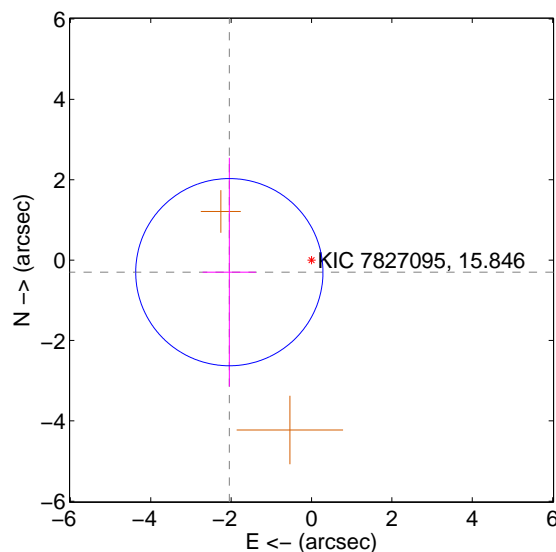
Supplemental centroid analysis for 007827095-01. Kepler magnitude: 15.85. Transit SNR 7.48

There are 0 quarters with good PRF difference image offsets

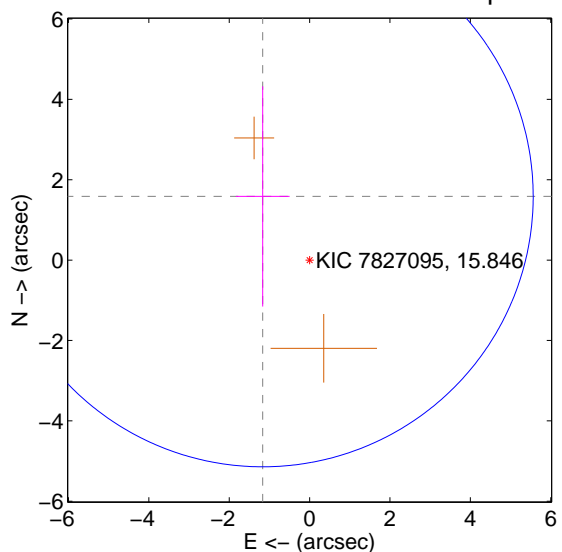
The OOT PRF centroid is offset from the target star catalog position by about 2.22 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.066 \pm 0.776$	2.66	$2.044 \pm 0.664$	$-0.300 \pm 2.847$
PRF-fit source offset from KIC position	$1.968 \pm 2.243$	0.88	$1.166 \pm 0.669$	$1.585 \pm 2.740$
photometric centroid source offset	$0.97 \pm 1.35$	0.72	$0.54 \pm 1.37$	$0.80 \pm 1.34$

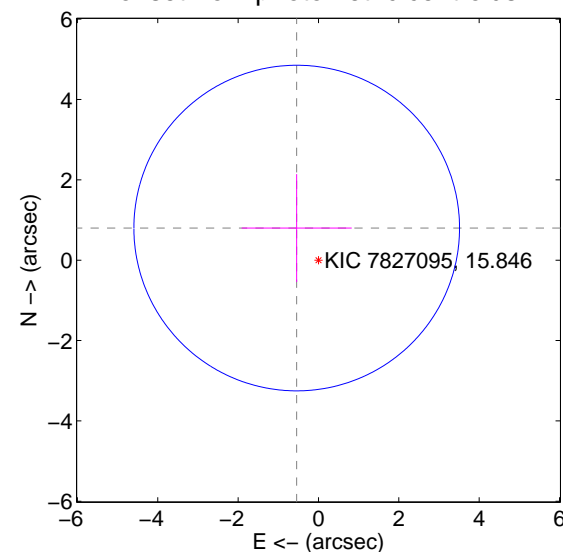
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



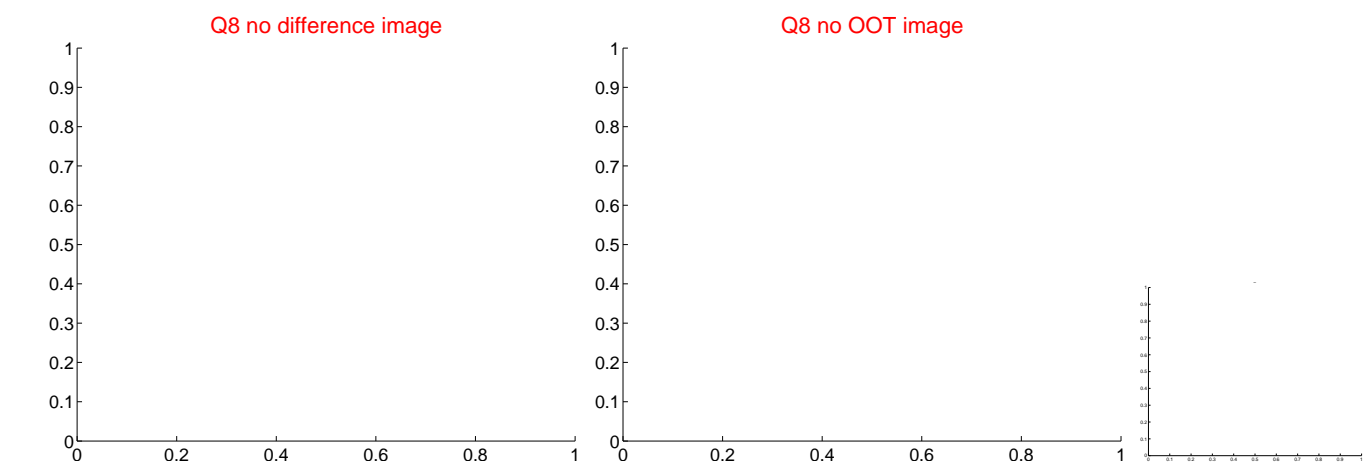
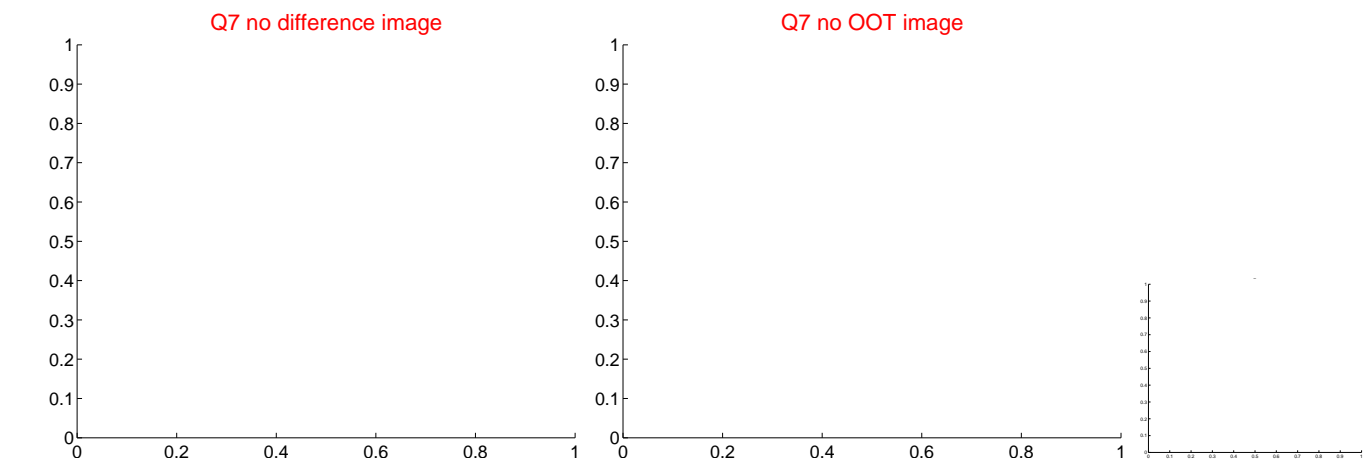
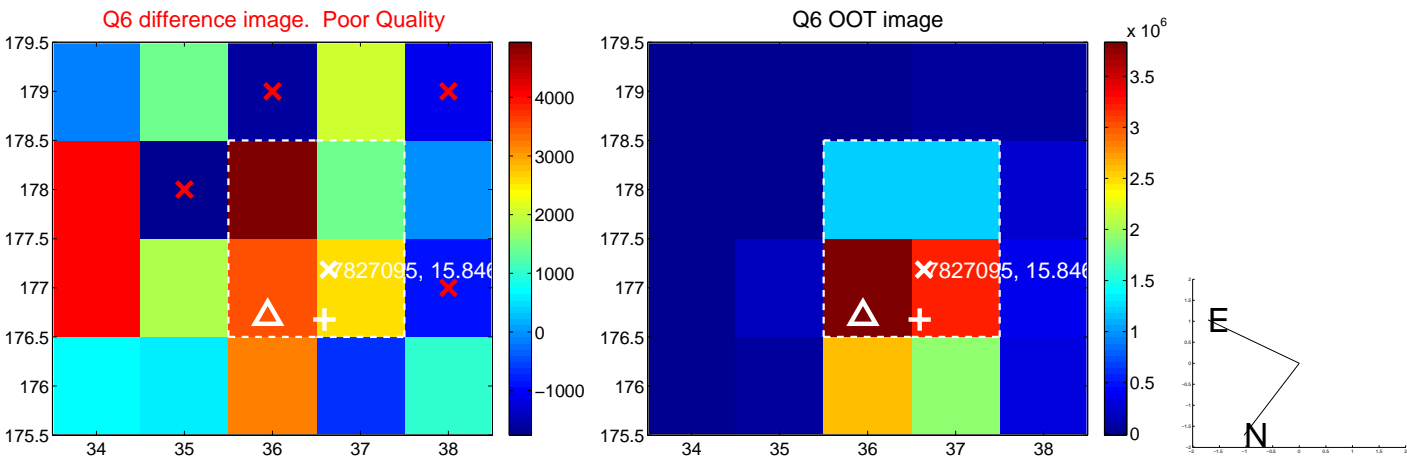
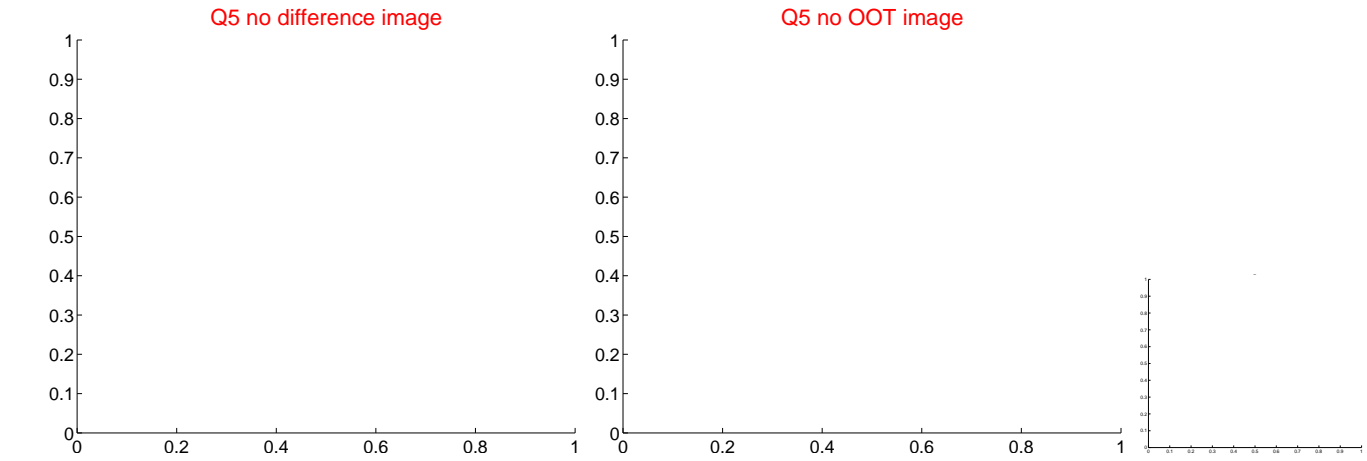
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

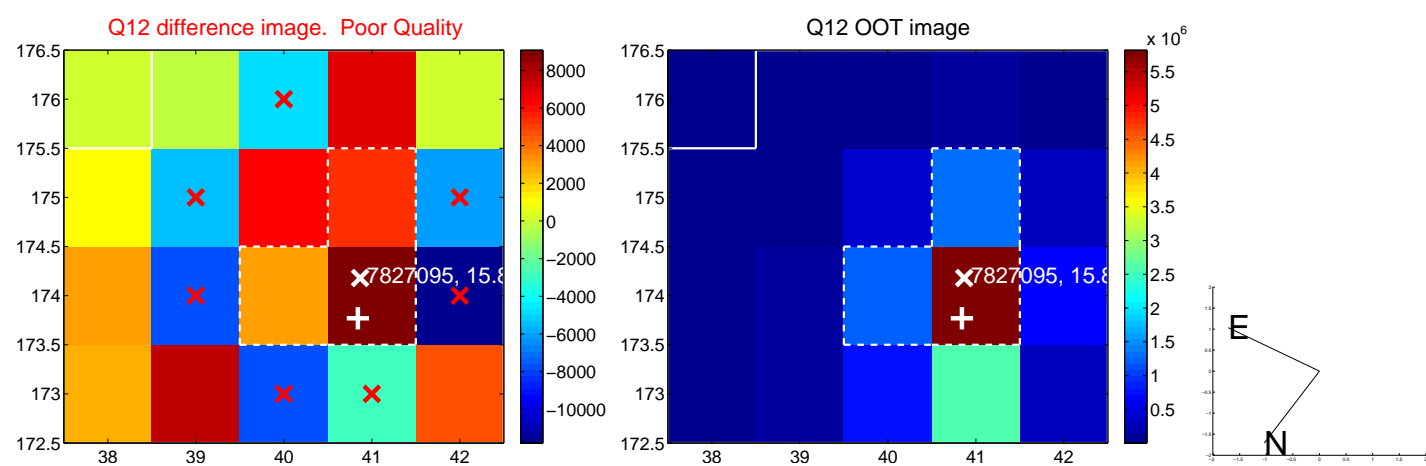
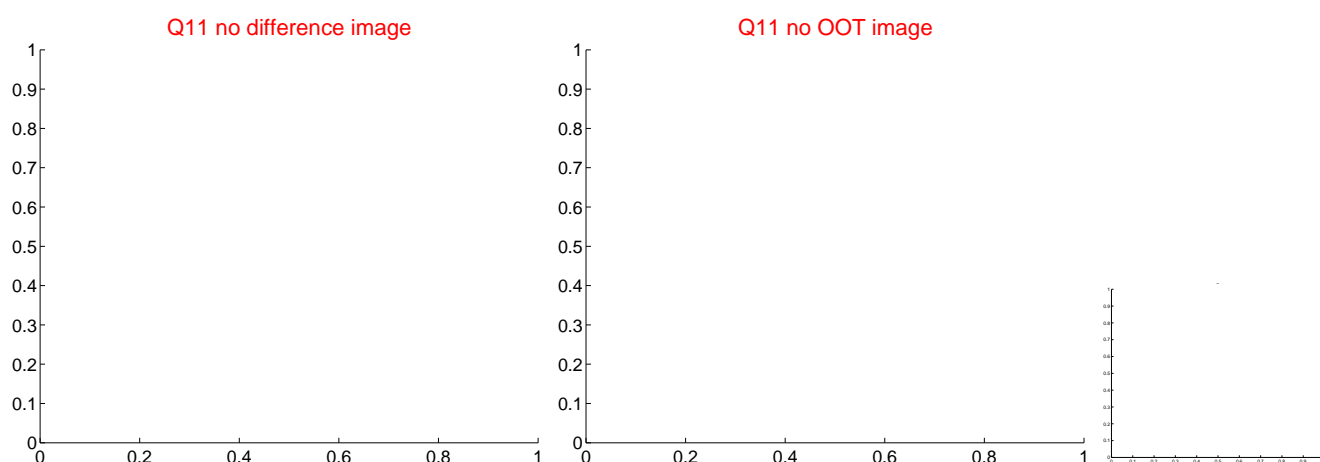
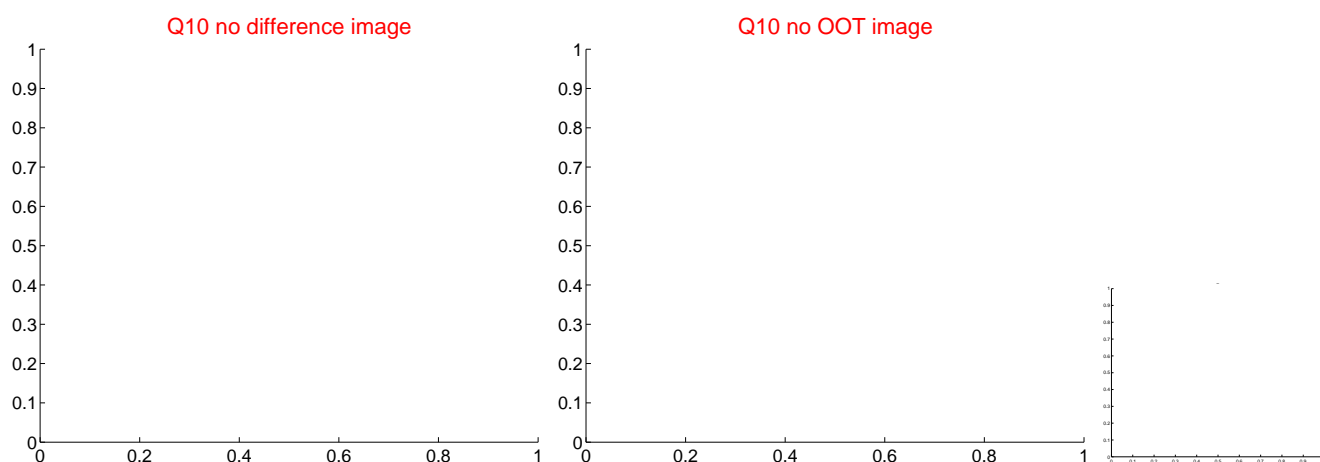
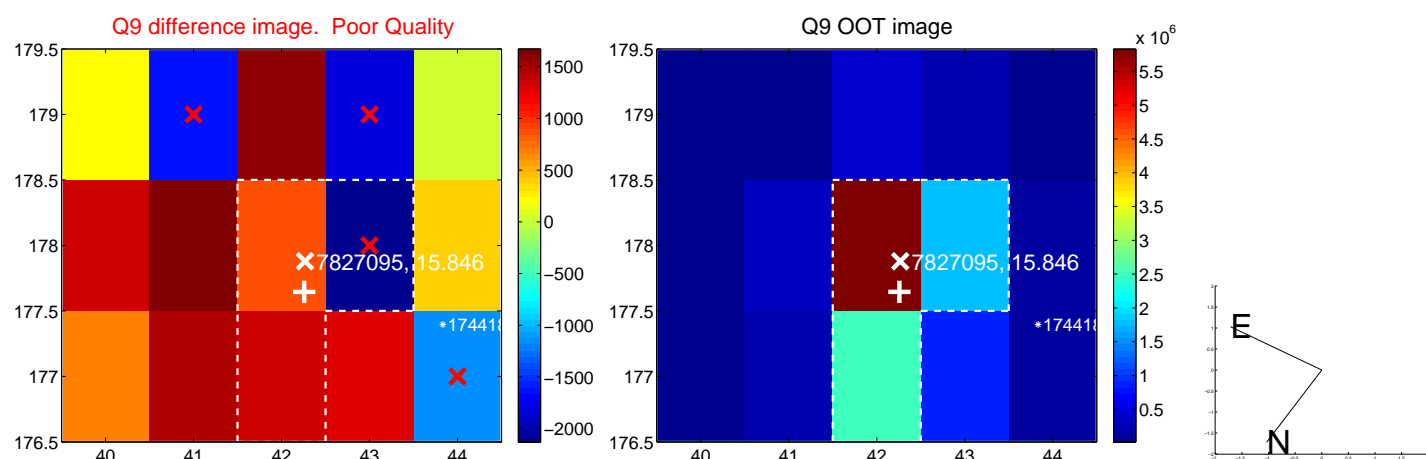




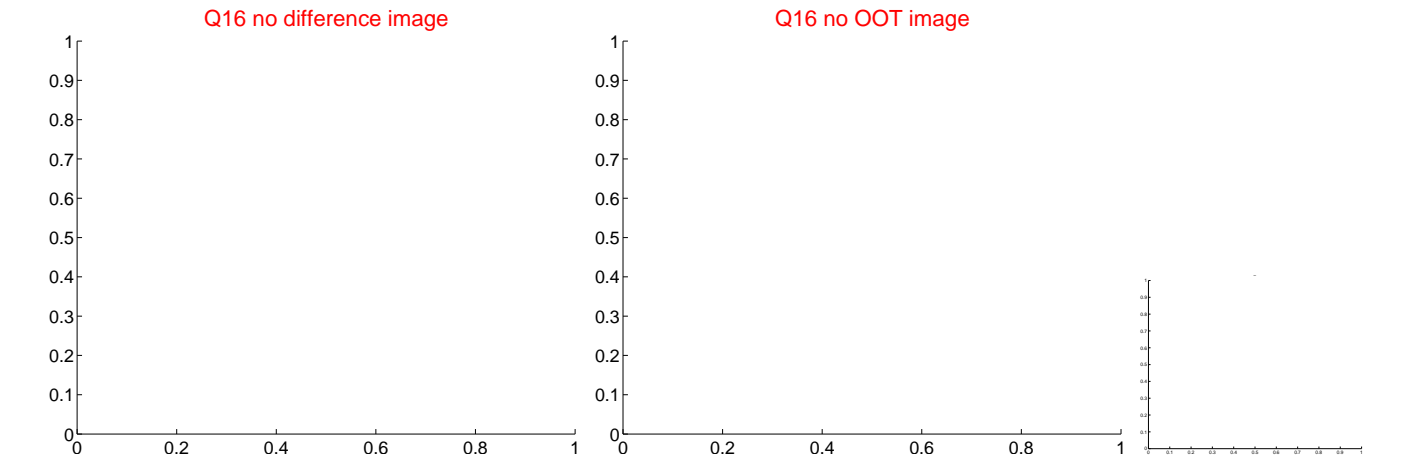
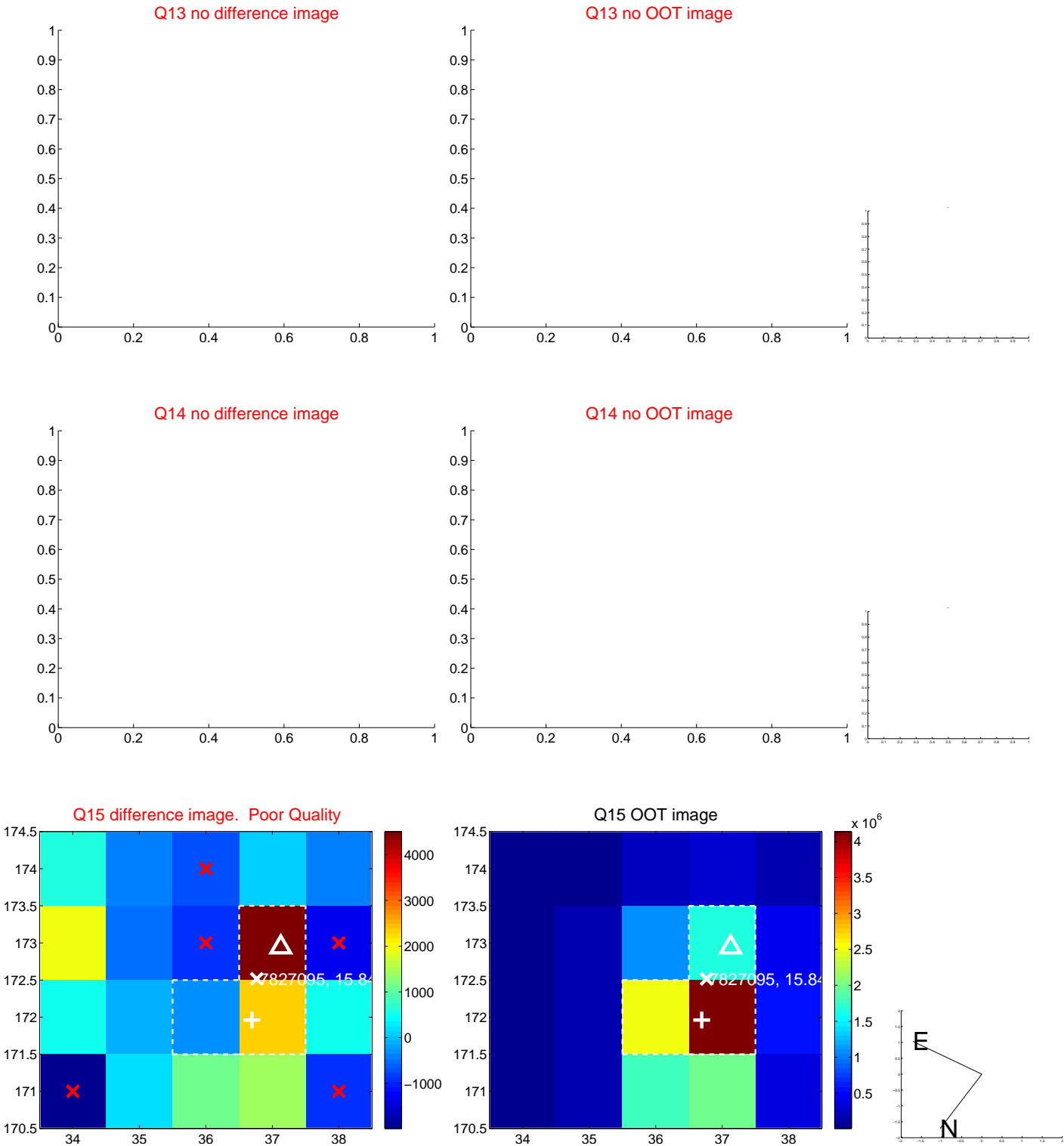
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



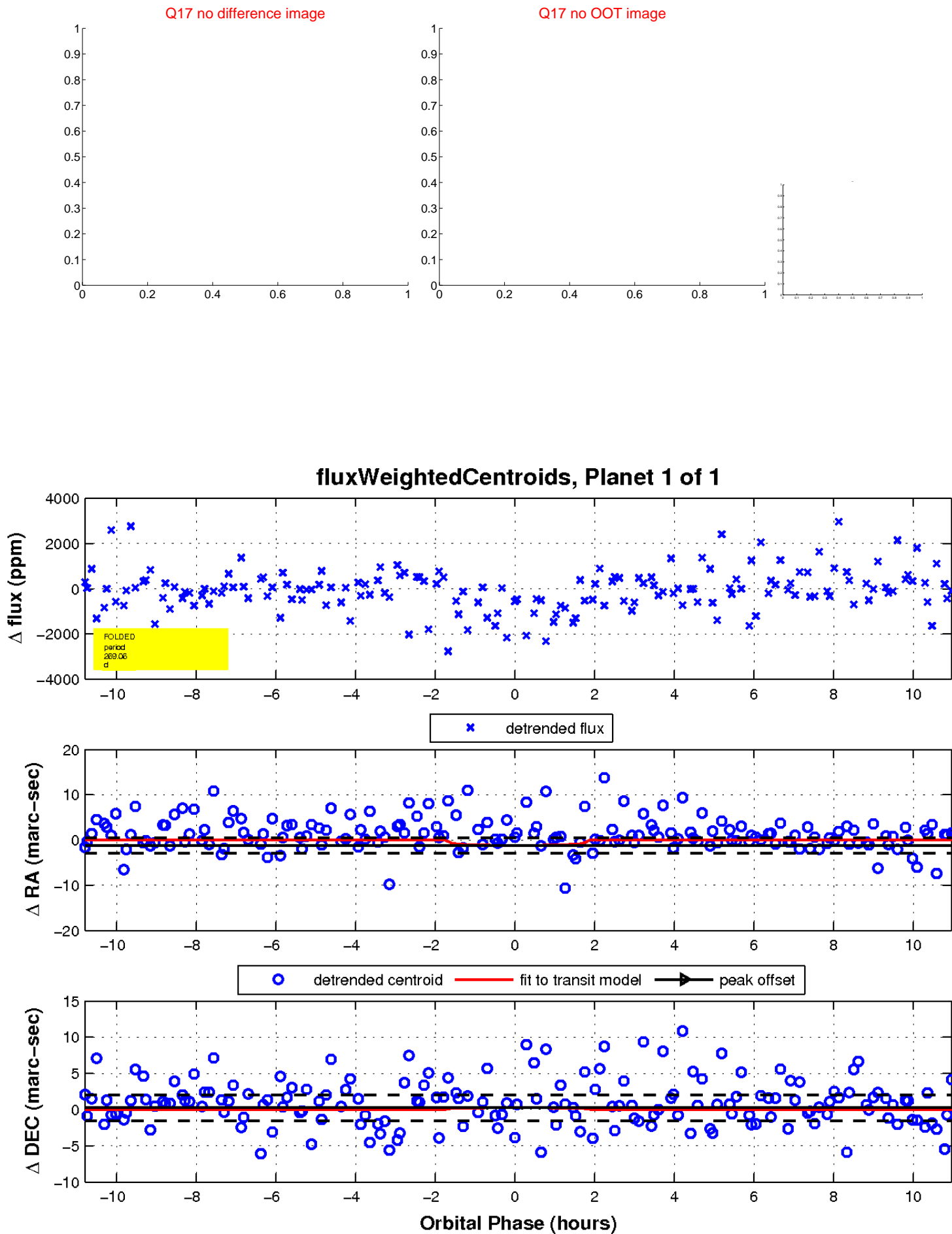
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

