

# KIC 006072771

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006072771-01	OBS	No	322.888083	216.159431	911.4	12.279	9.3	7.4	1.00	5780	3.19	1.18

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006072771-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

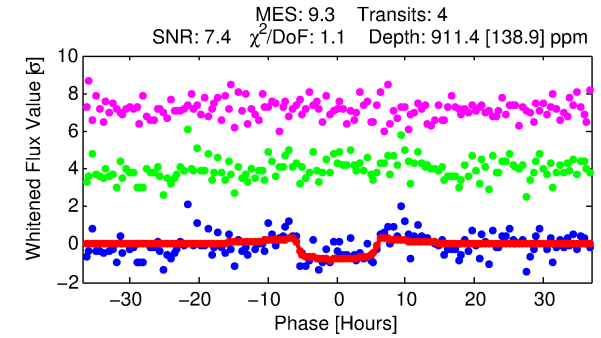
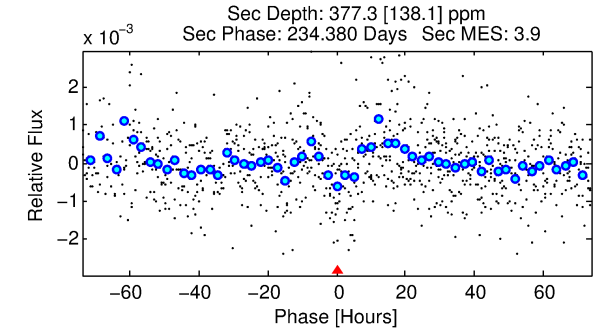
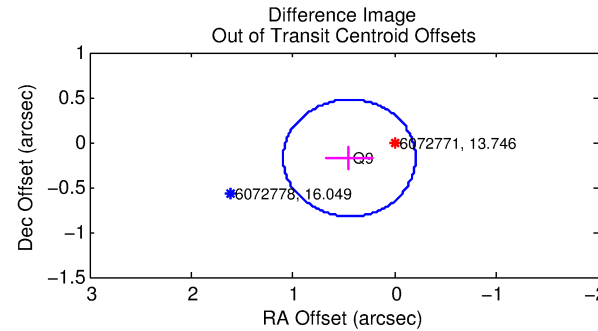
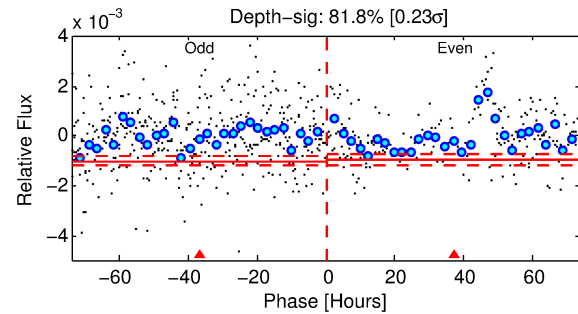
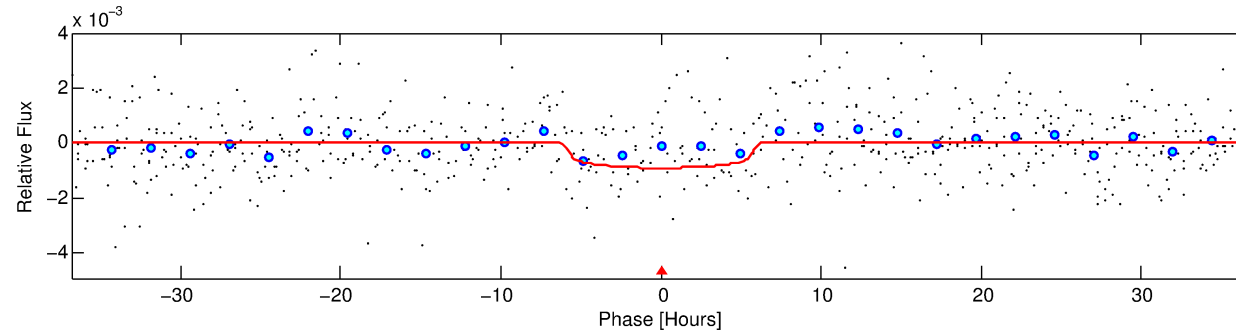
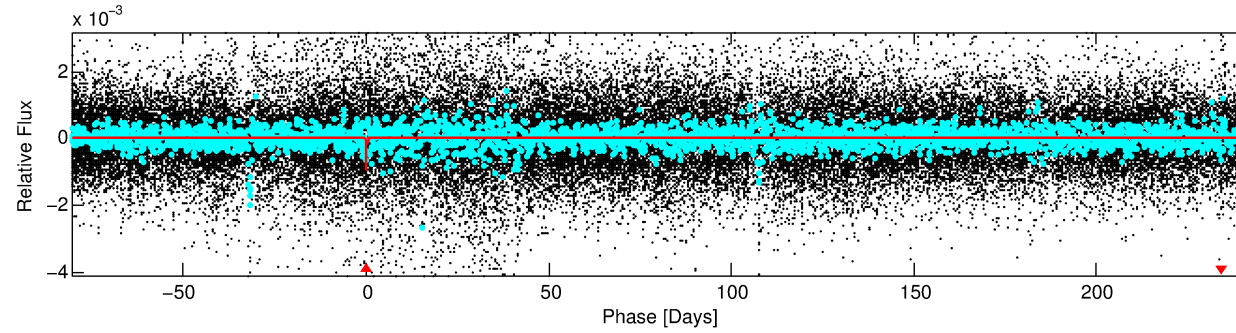
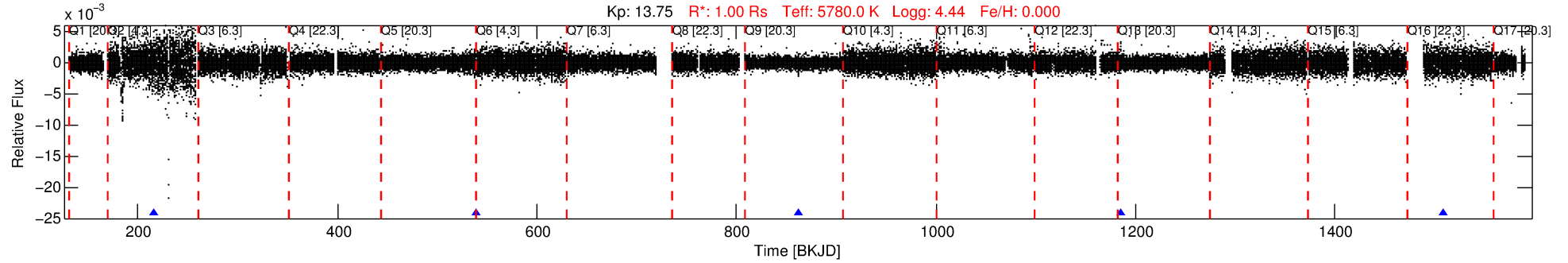
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006072771-01

No Significant Match Found

# DV One-Page Summary

KIC: 6072771 Candidate: 1 of 1 Period: 322.888 d



## DV Fit Results:

Period = 322.88808 [0.01459] d  
Epoch = 216.1594 [0.0388] BKJD  
Rp/R\* = 0.0293 [0.0137]  
a/R\* = 157.41 [316.03]  
b = 0.67 [1.69]  
Seff = 1.18 [0.00]  
Teq = 266 [0] K  
Rp = 3.19 [1.50] Re  
a = 0.9213 [0.0000] AU  
Ag = 17292.31 [17443.83] [0.99σ]  
Teffp = 4710 [1188] K [3.74σ]

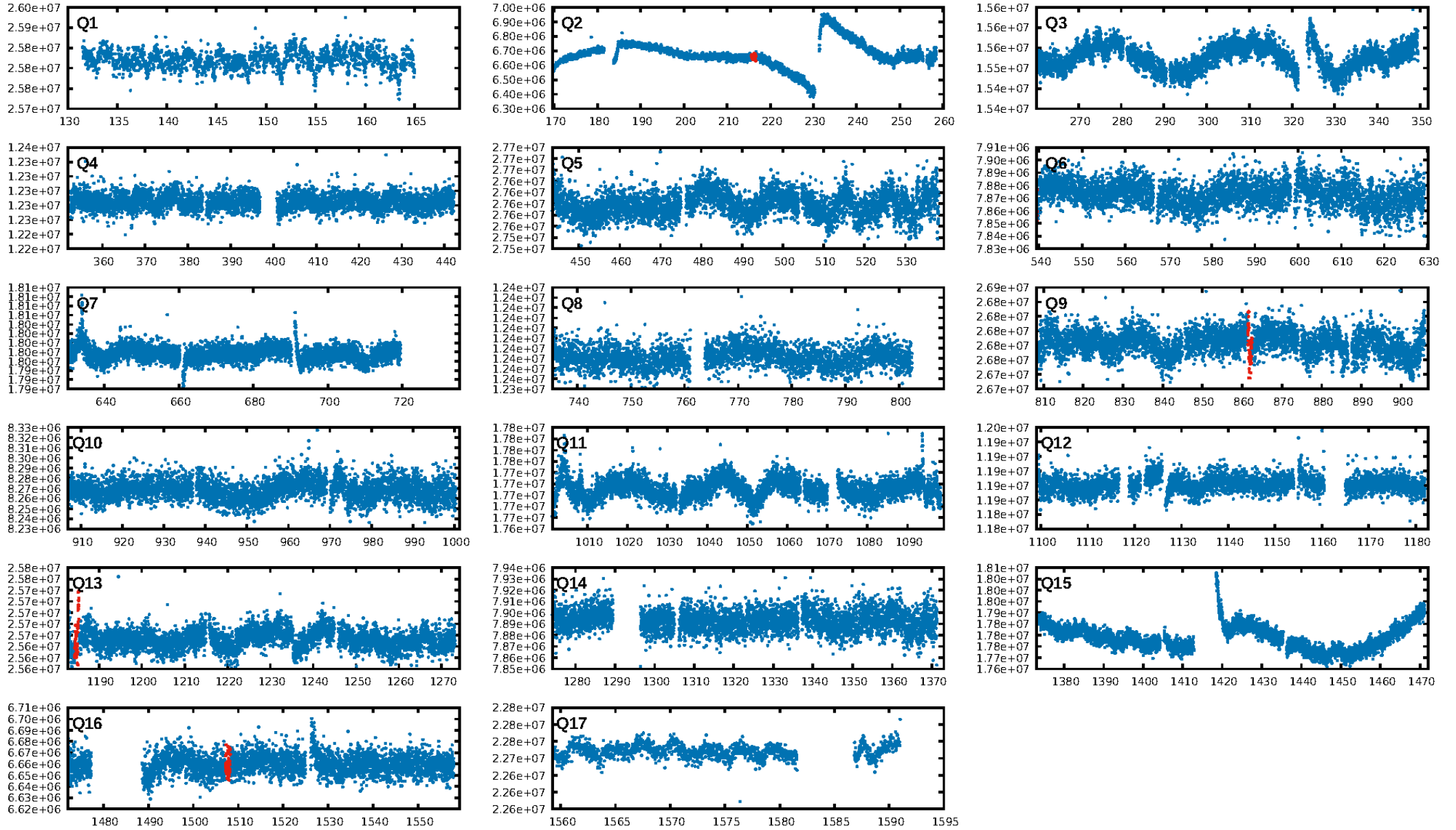
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 21.1%  
ModelChiSquareGof-sig: 98.2%  
Bootstrap-pfa: 5.86e-15  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 1.121  
Centroid-sig: 0.3%  
Centroid-so: 4.757 arcsec [13.82σ]  
OotOffset-rm: 0.479 arcsec [2.21σ]  
KicOffset-rm: 5.341 arcsec [27.88σ]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [3/3]

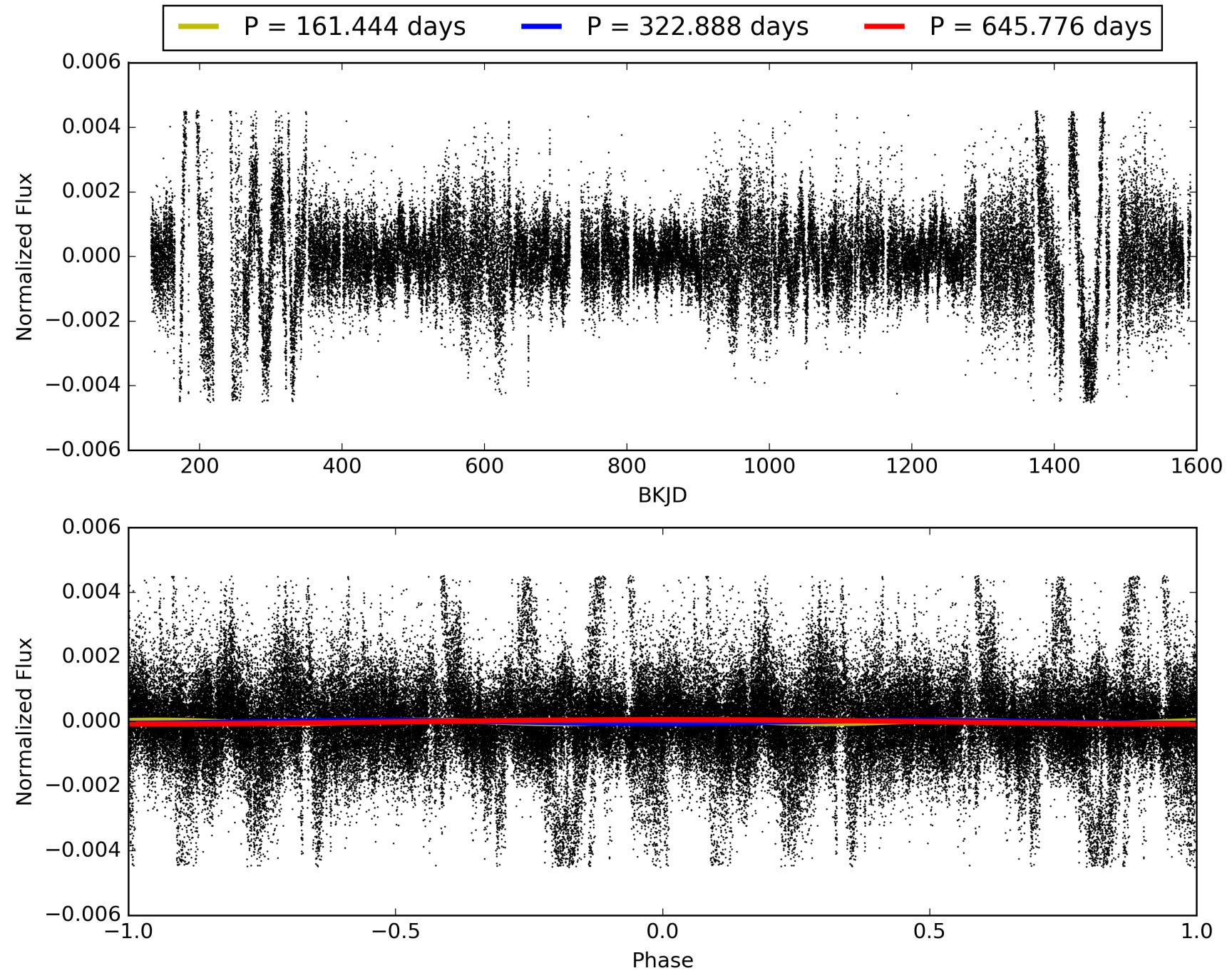
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:51:20 Z

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

# TCE 006072771-01, PDC Light Curves

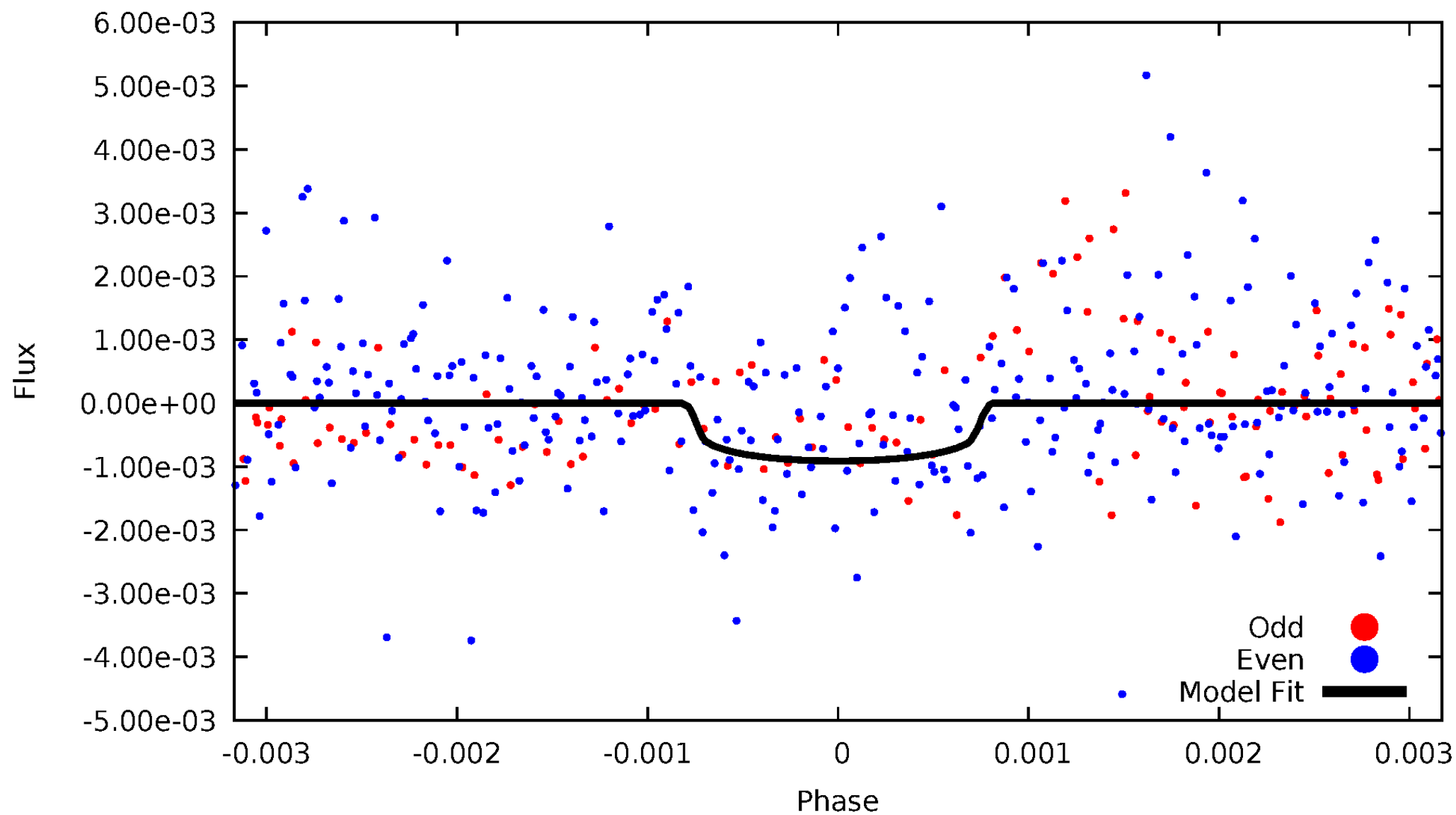


TCE 006072771-01



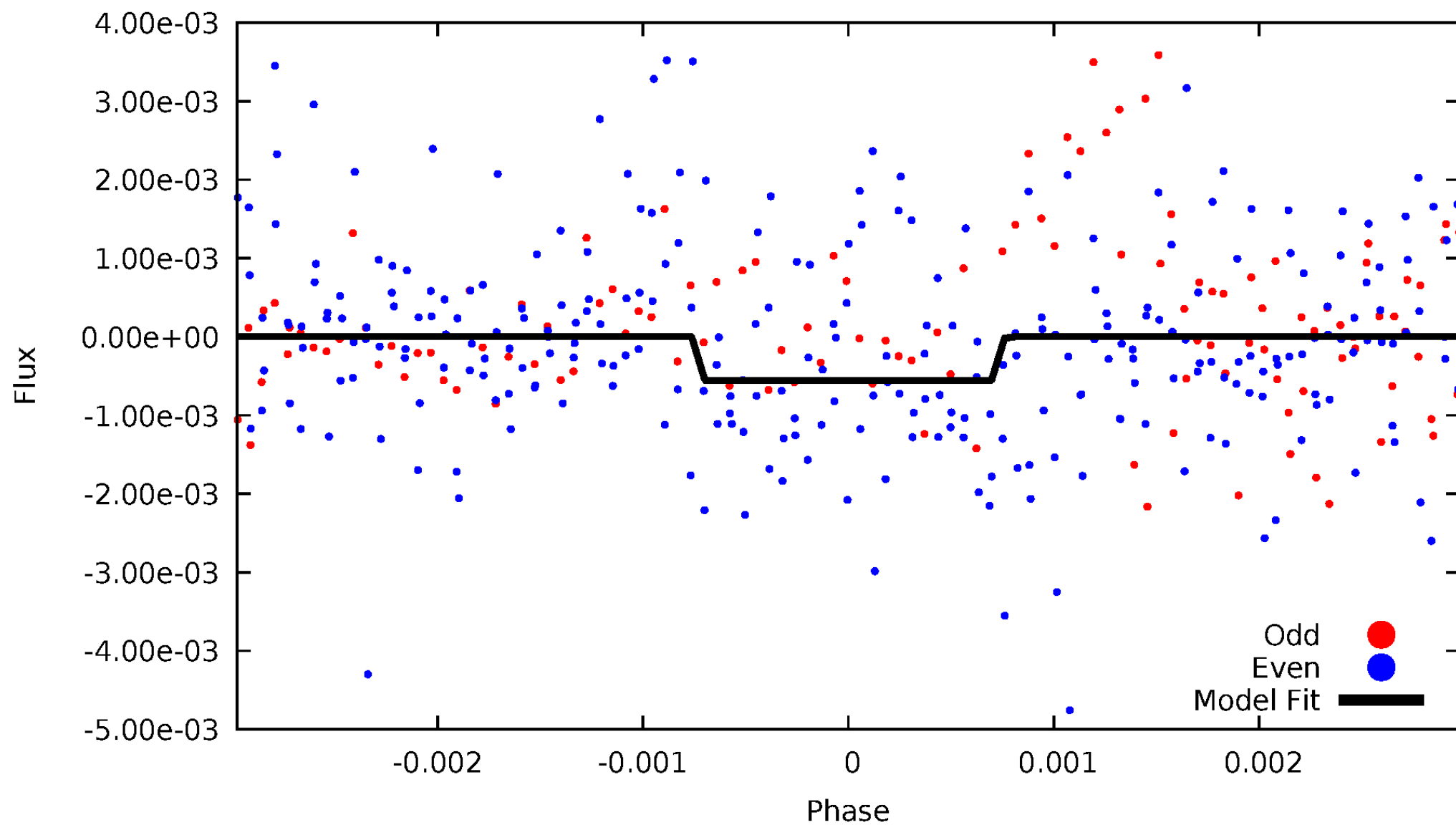
# DV Odd/Even

TCE 006072771-01

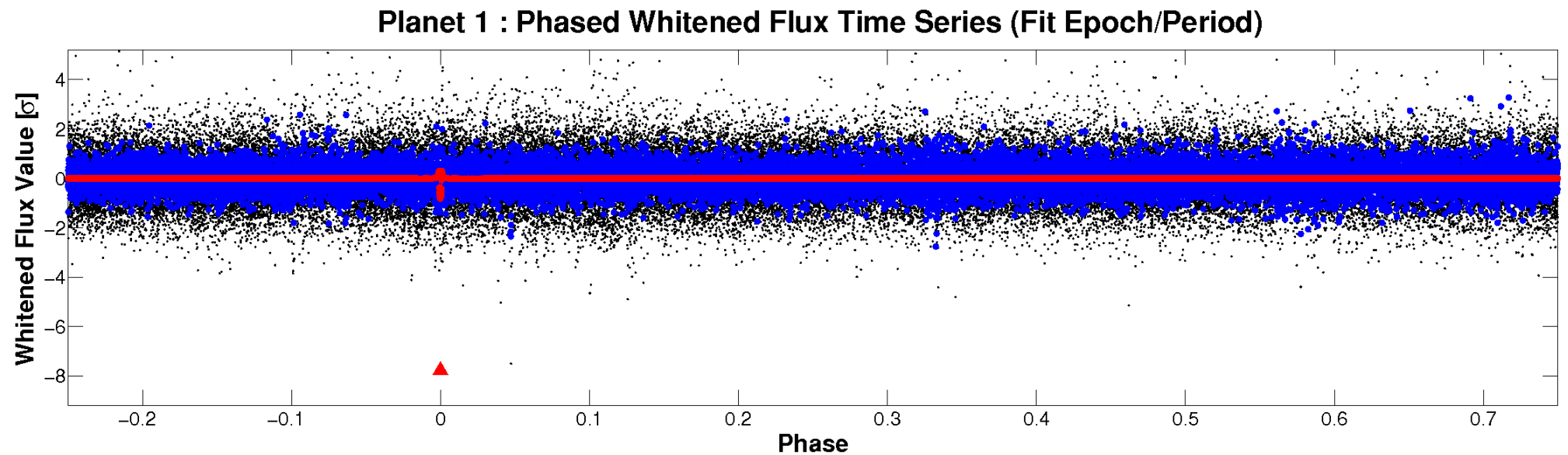
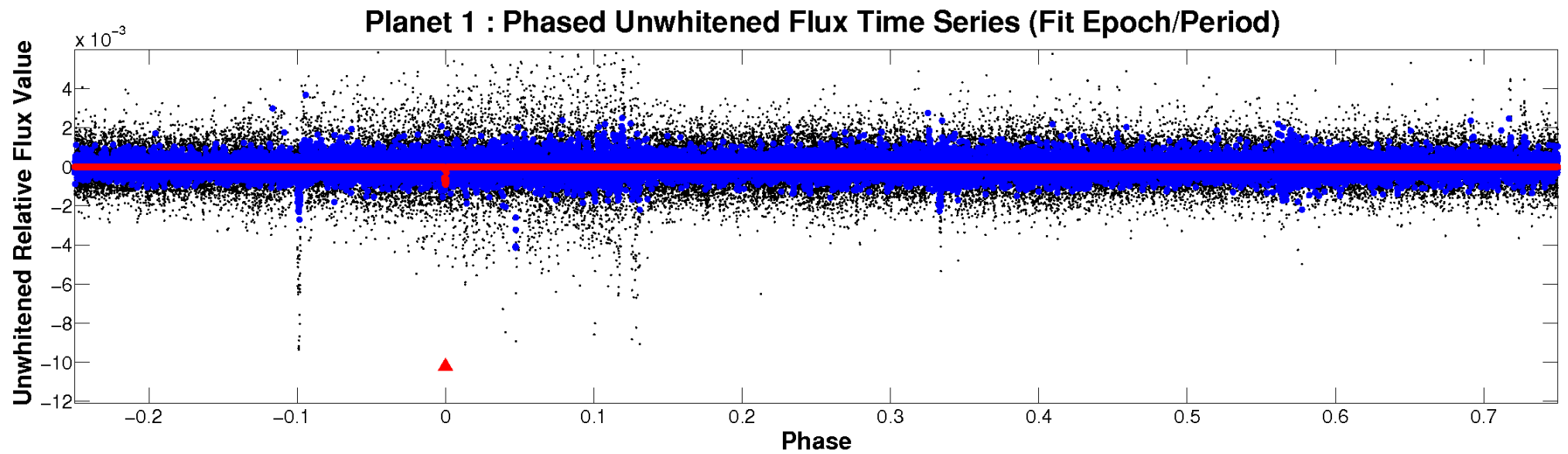


# ALT Odd/Even

TCE 006072771-01



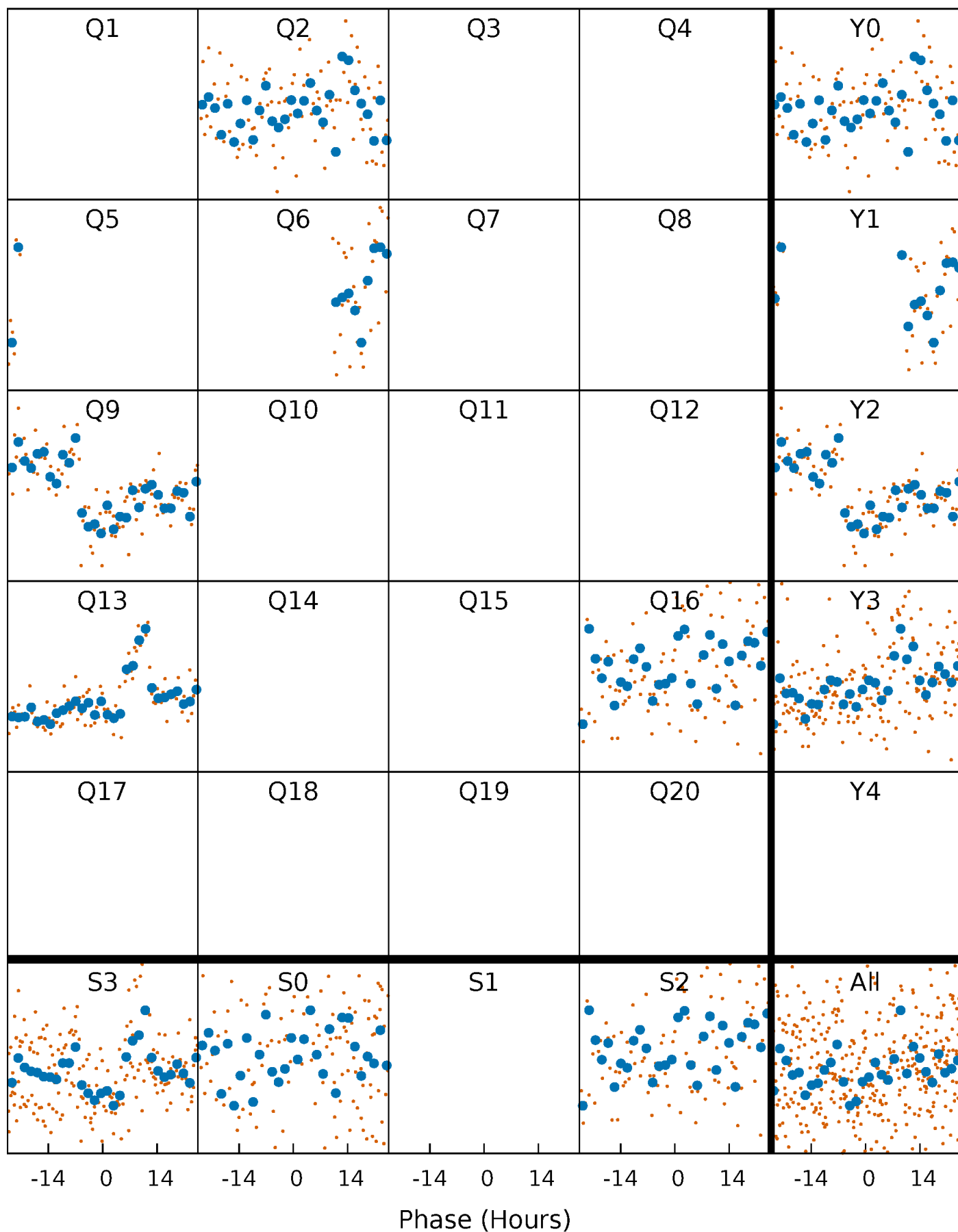
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

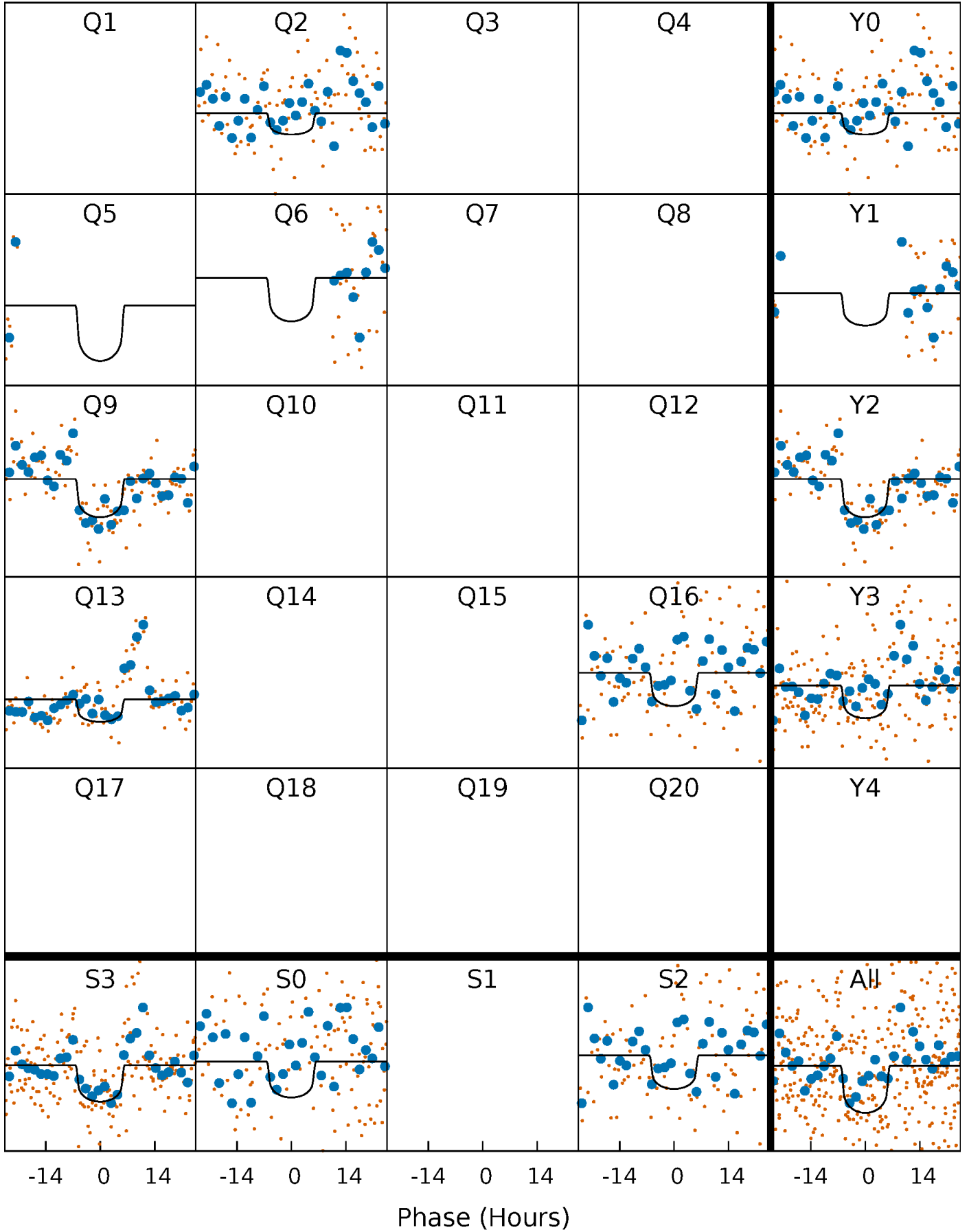
TCE 006072771-01 P=322.888083 Days  $T_0=216.159432$  (BKJD)





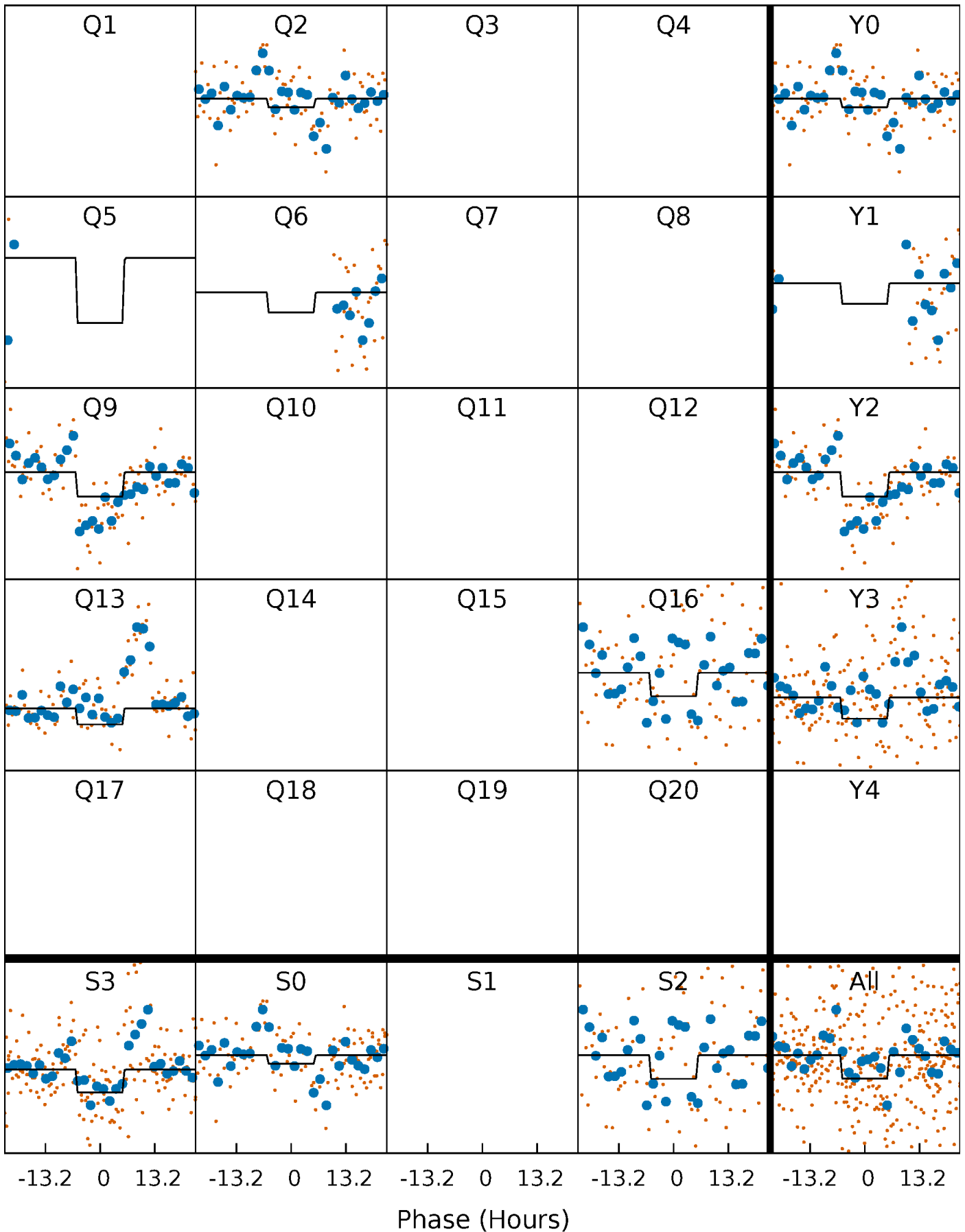
# DV Quarter-Phased Transit Curves

TCE 006072771-01 P=322.888083 Days  $T_0=216.159432$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

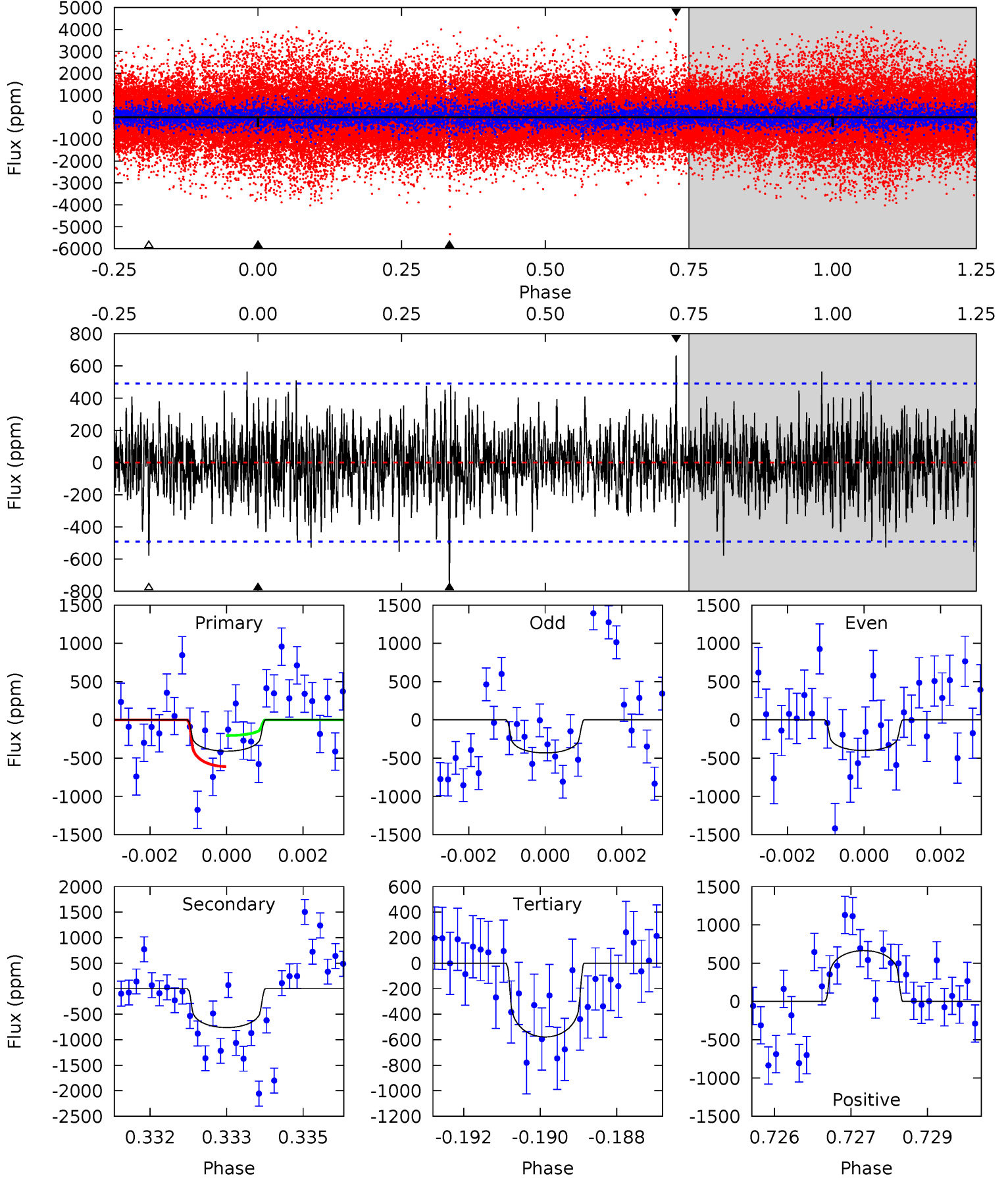
TCE 006072771-01 P=322.891115 Days  $T_0=216.149980$  (BKJD)



# DV Model-Shift Uniqueness Test

006072771-01, P = 322.888083 Days, E = 216.159432 Days

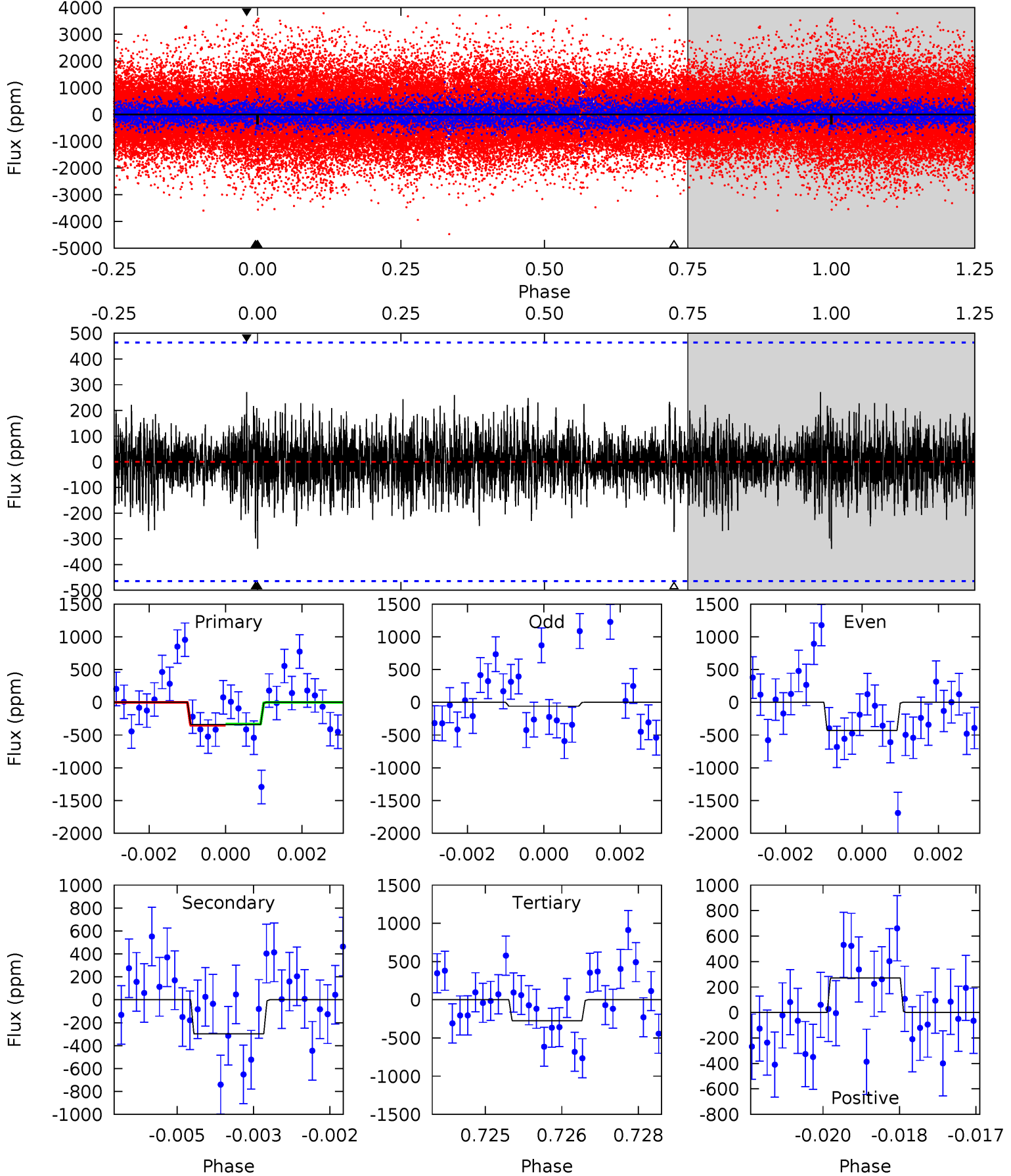
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.47	8.32	6.32	7.26	5.37	3.15	1.69	-1.86	-2.79	2.00	1.06	0.16	1.50	0.47	2.23



# Alt Model-Shift Uniqueness Test

006072771-01, P = 322.891115 Days, E = 216.149980 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
3.92	3.45	3.16	3.14	5.38	3.17	0.86	0.76	0.78	0.29	0.31	1.93	2.75	0.44	0.09



### Stellar Parameters For KIC 006072771

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5780^{+1}_{-1}$	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

### Secondary Eclipse Parameters for KIC 006072771-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-761 \pm 92$	$3.21^{+1.50}_{-1.48}$	$371^{+17}_{-19}$	$5587^{+2174}_{-871}$	$34319^{+86250}_{-18376}$
Alt.	$-298 \pm 86$	$2.59^{+1.45}_{-1.39}$	$372^{+17}_{-18}$	$4932^{+2444}_{-810}$	$19930^{+79548}_{-12006}$

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

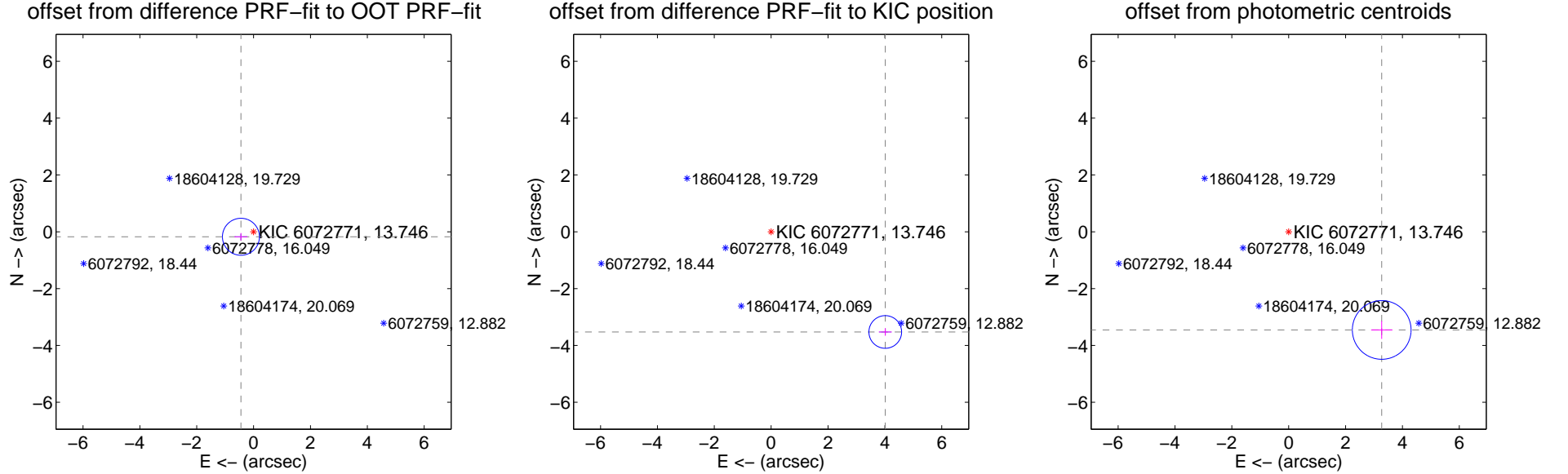
## DV Centroid Data

Supplemental centroid analysis for 006072771-01. Kepler magnitude: 13.75. Transit SNR 7.41

There are 1 quarters with good PRF difference image offsets

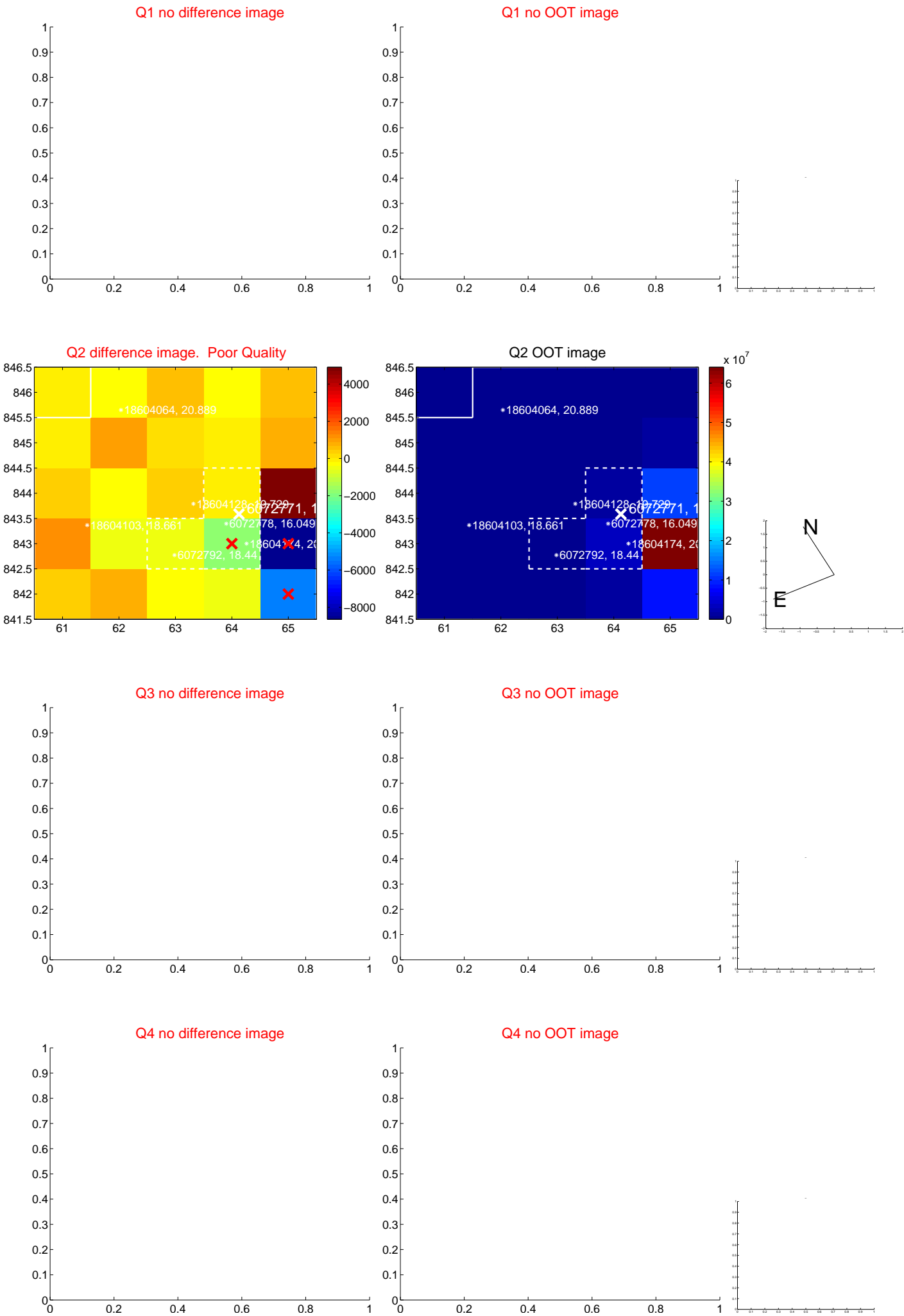
The OOT PRF centroid is offset from the target star catalog position by about 5.58 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.479 \pm 0.217$	2.21	$0.446 \pm 0.227$	$-0.176 \pm 0.132$
PRF-fit source offset from KIC position	$5.341 \pm 0.192$	27.88	$-4.013 \pm 0.227$	$-3.525 \pm 0.132$
photometric centroid source offset	$4.76 \pm 0.34$	13.82	$-3.27 \pm 0.37$	$-3.45 \pm 0.32$



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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

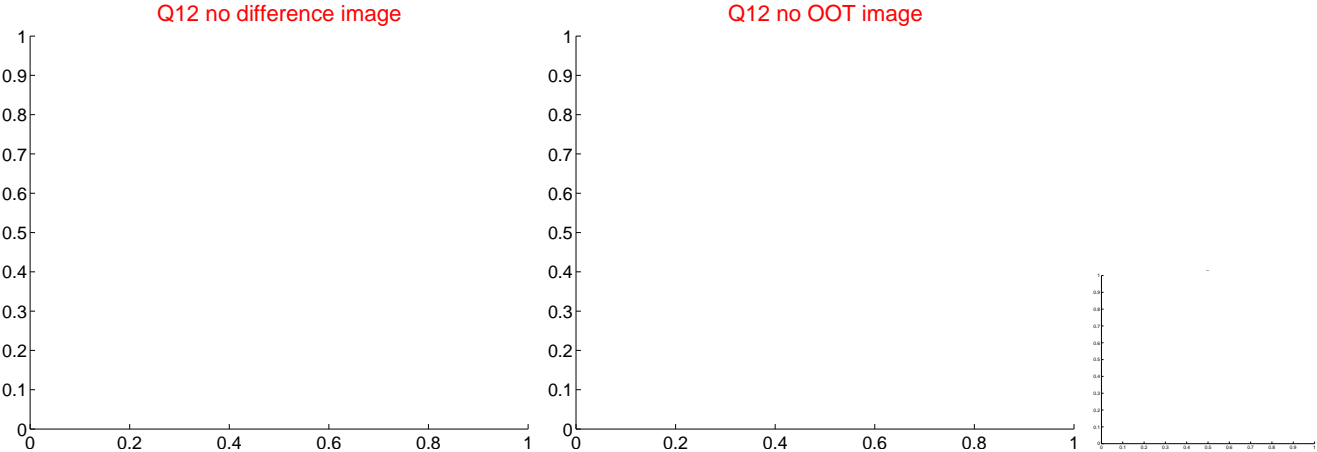
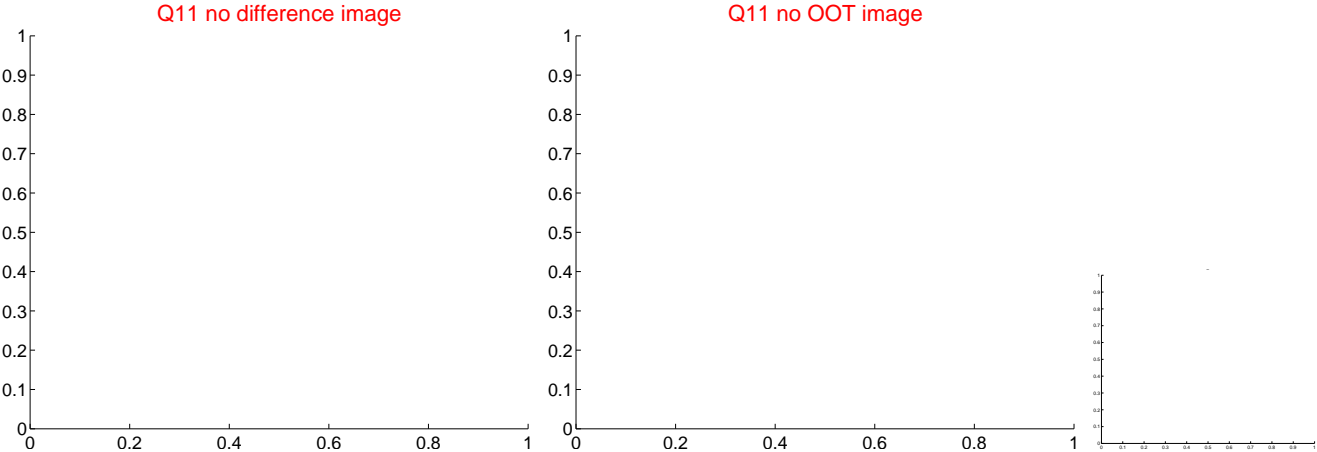
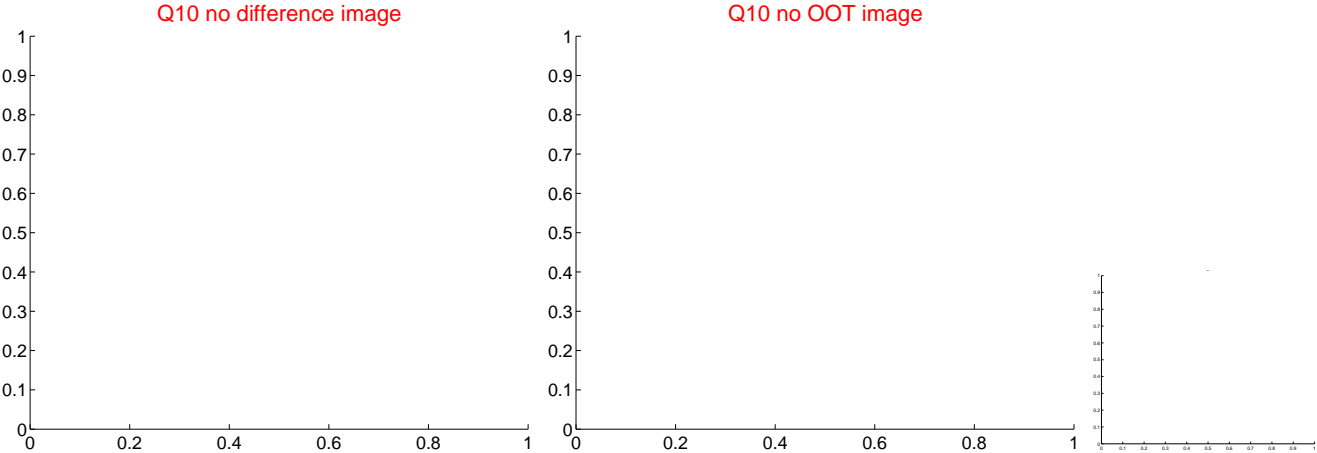
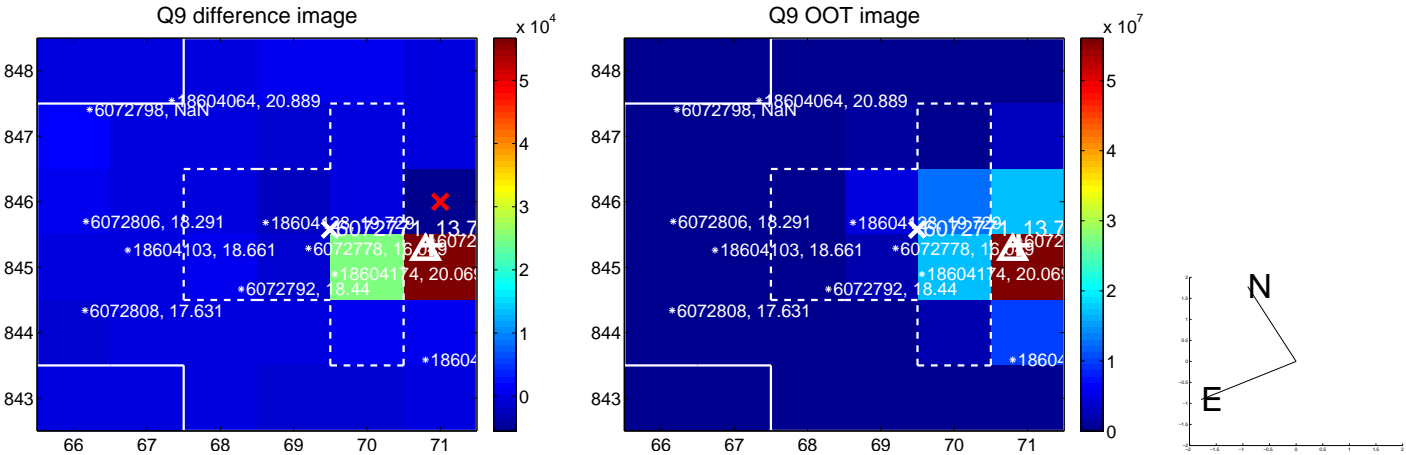




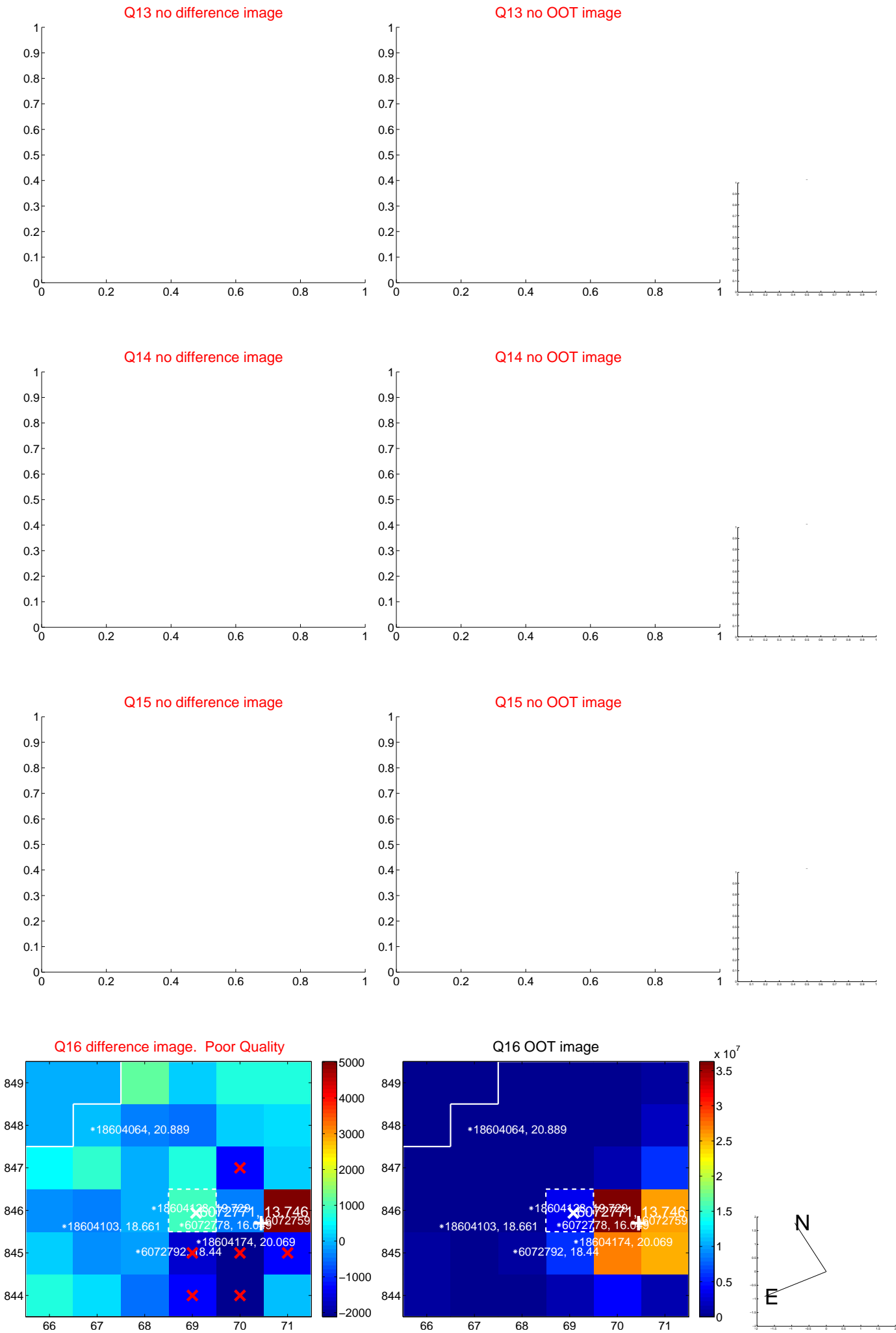
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



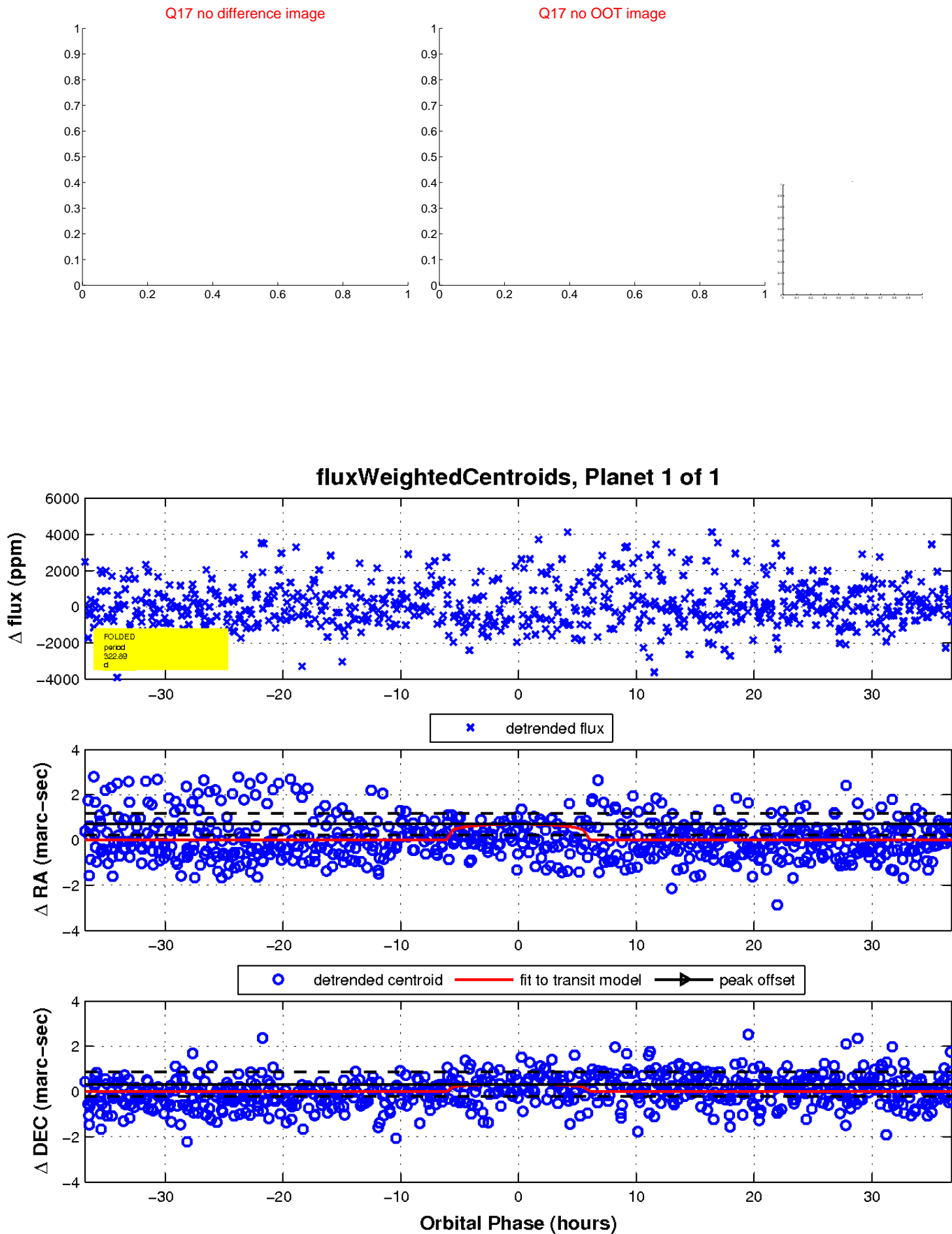
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



UKIRT Image

Declination

