

# KIC 006777651

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006777651-01	OBS	No	379.938761	146.237292	465.4	5.295	7.1	7.2	0.94	5926	2.25	0.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006777651-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

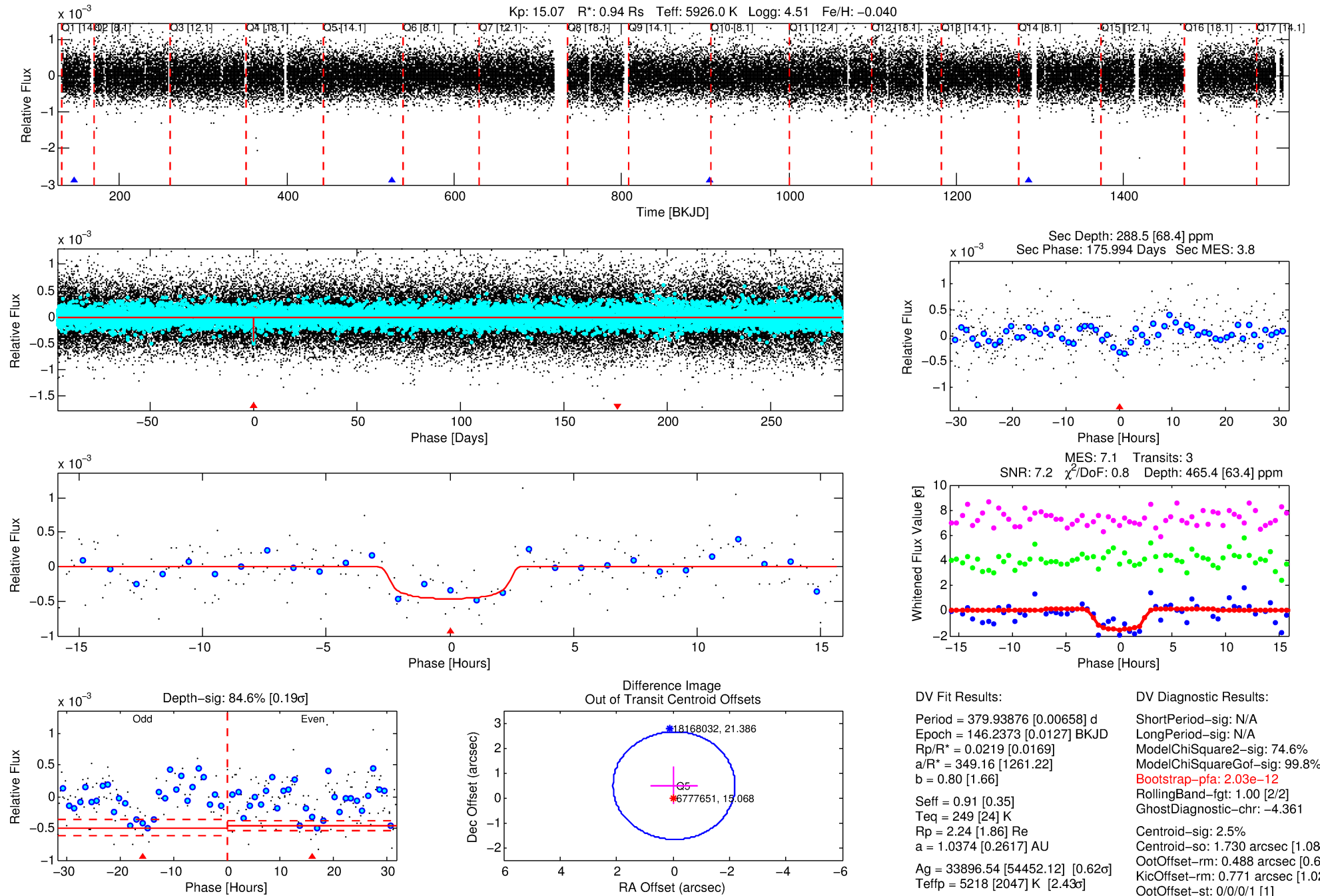
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006777651-01

No Significant Match Found

# DV One-Page Summary

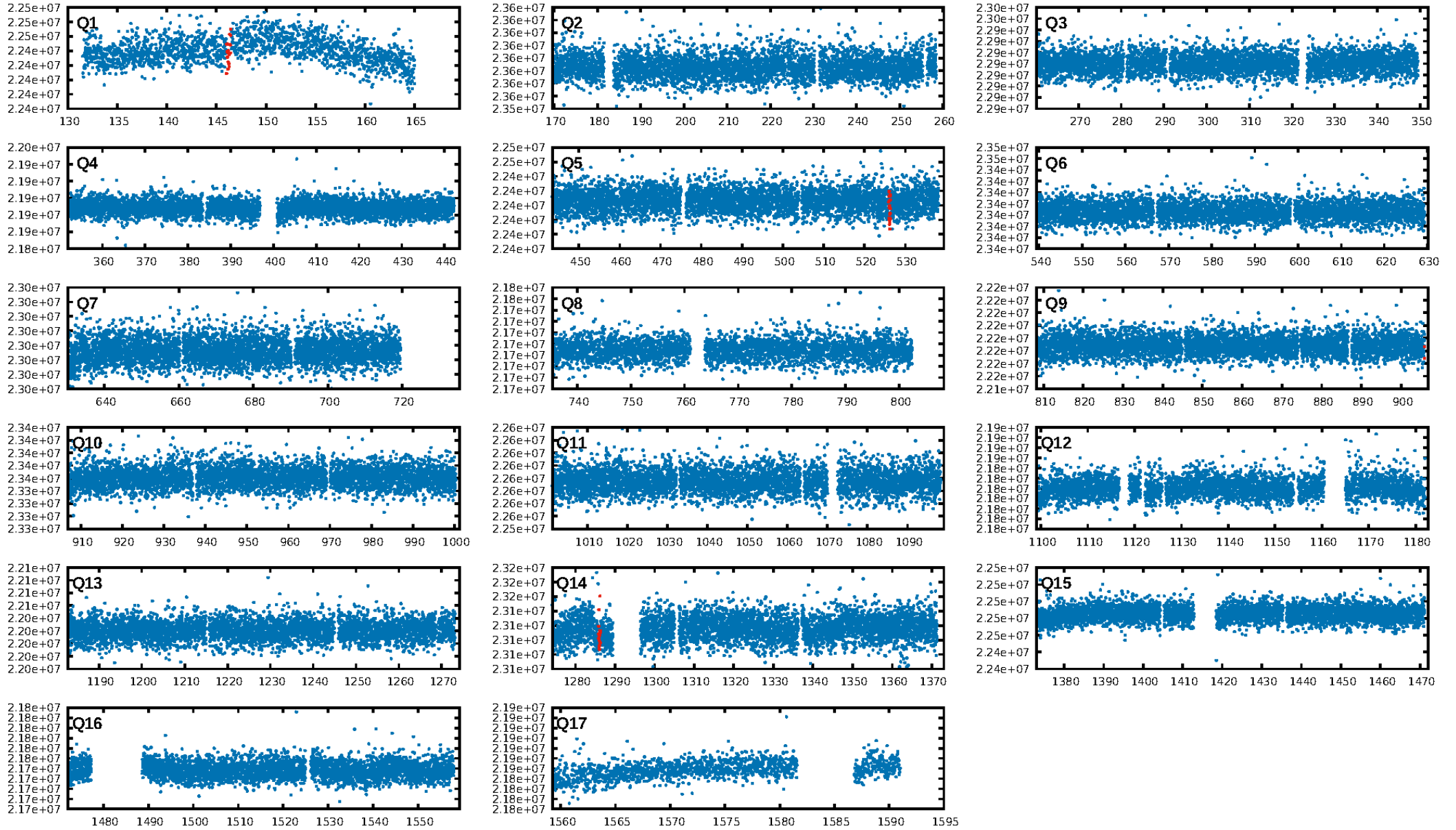
KIC: 6777651 Candidate: 1 of 1 Period: 379.939 d



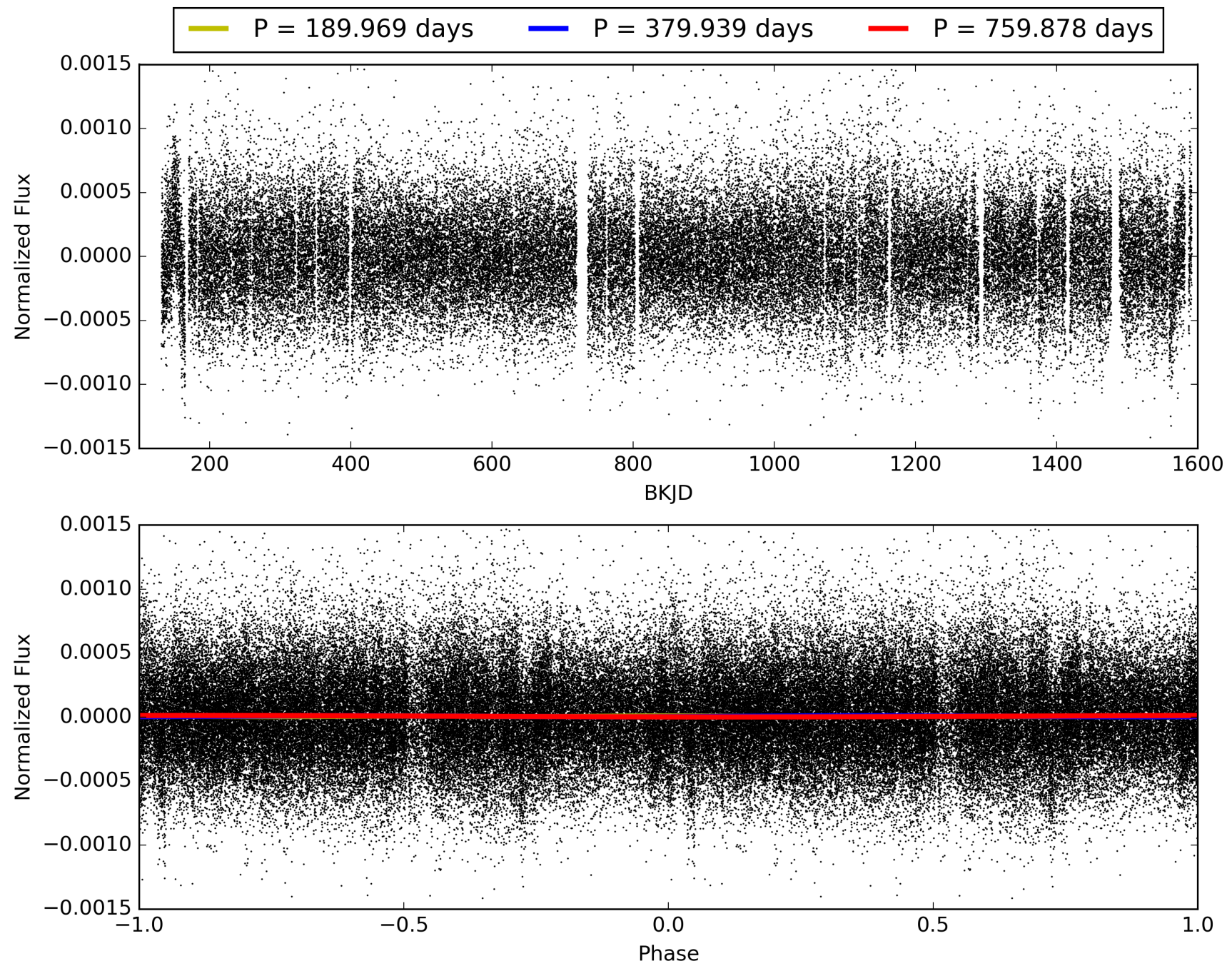
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:42:20 Z

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

# TCE 006777651-01, PDC Light Curves

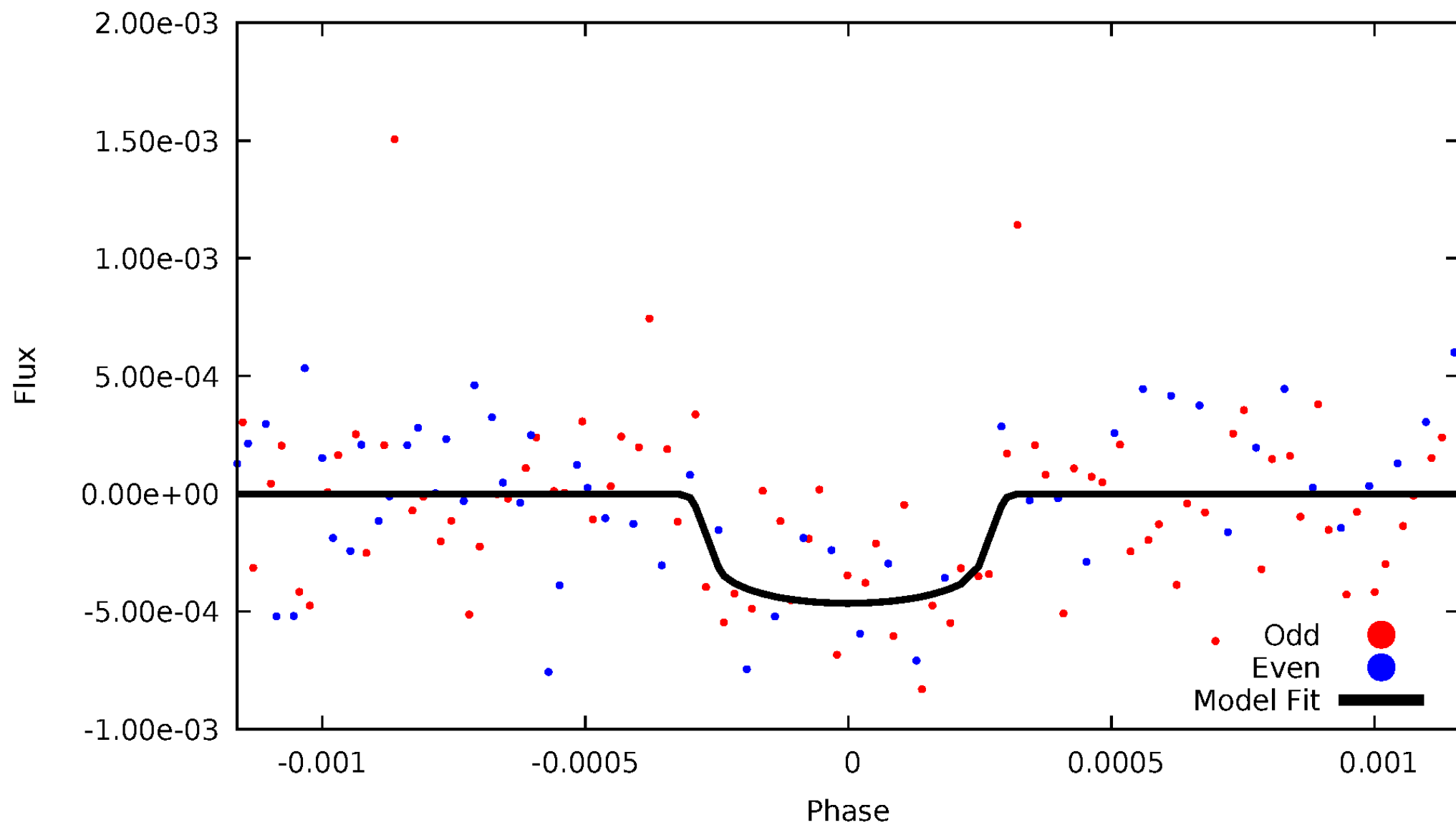


TCE 006777651-01



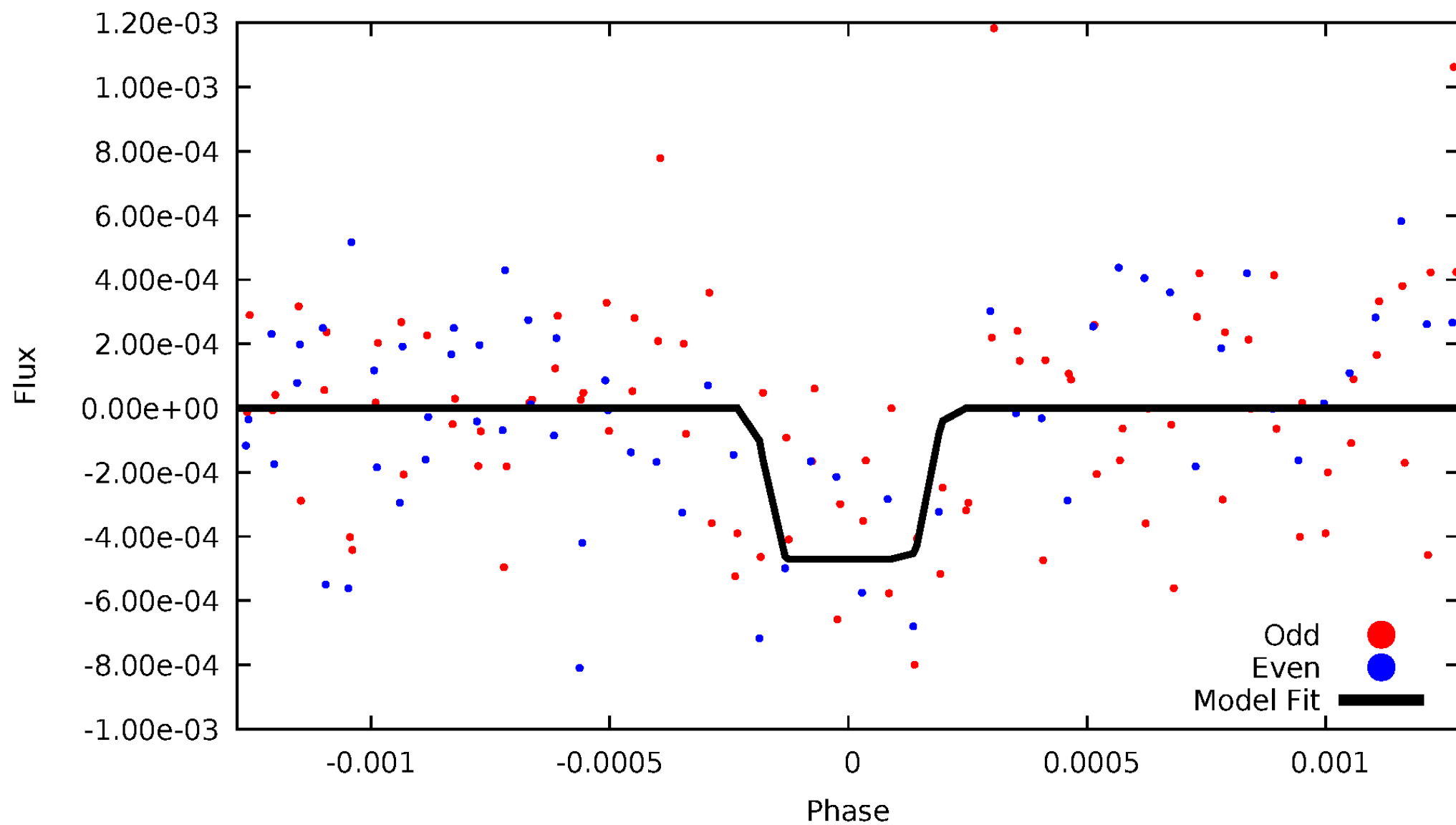
# DV Odd/Even

TCE 006777651-01



# ALT Odd/Even

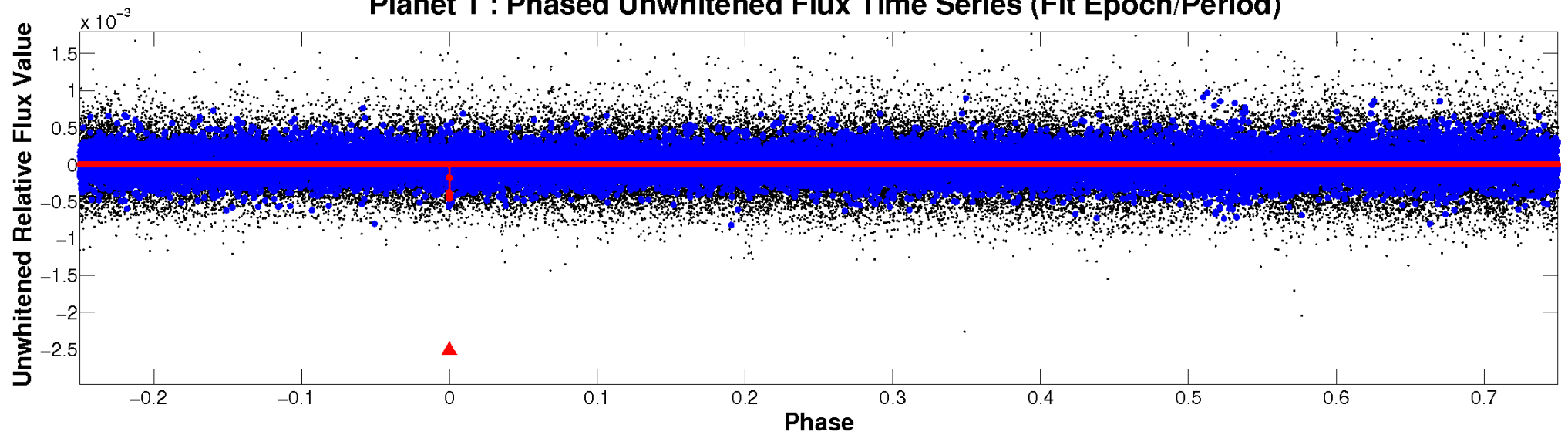
TCE 006777651-01



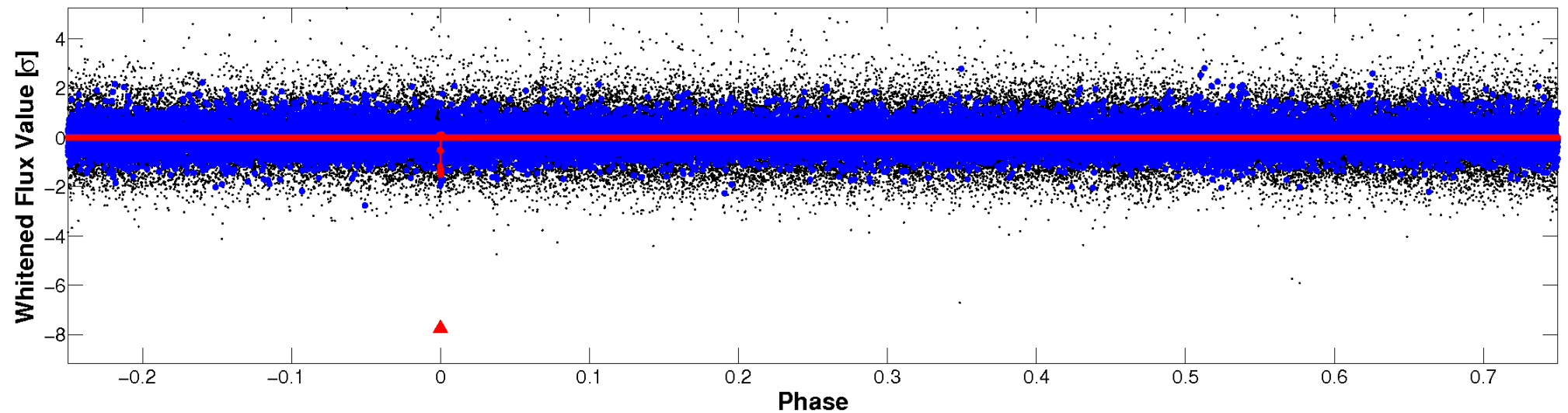


# Non-Whitened Vs. Whitened Light Curve

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

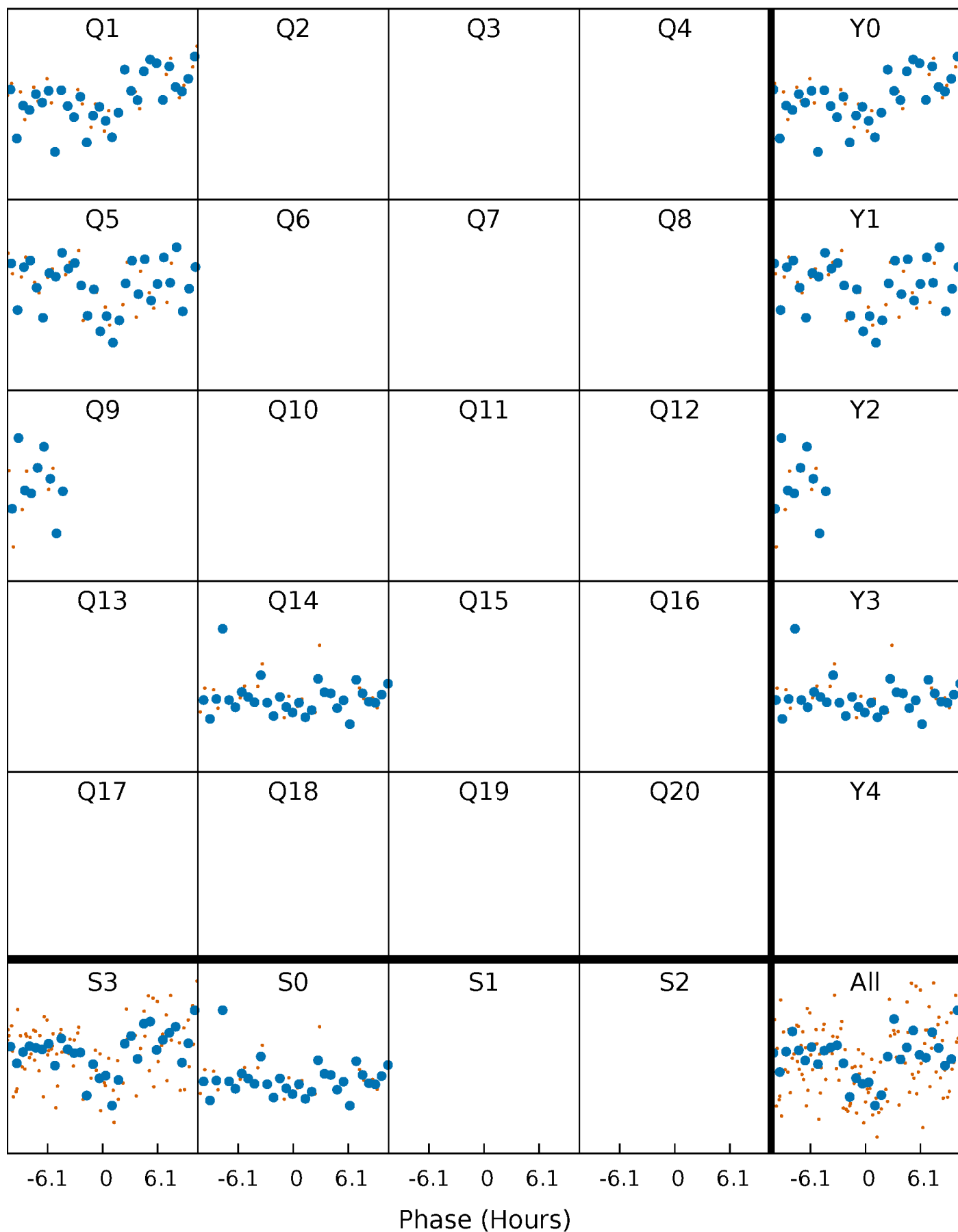


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

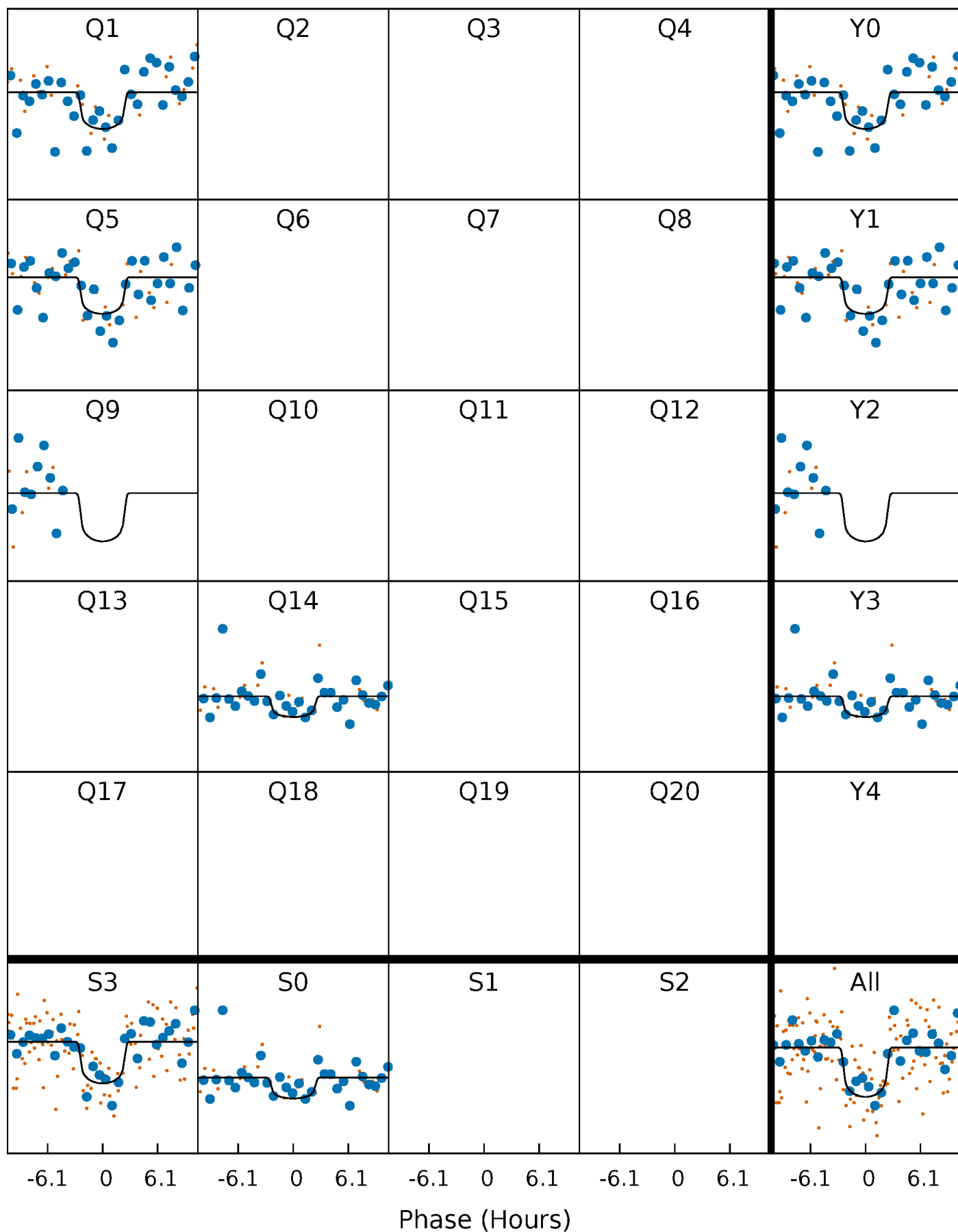
TCE 006777651-01 P=379.938761 Days  $T_0=146.237292$  (BKJD)





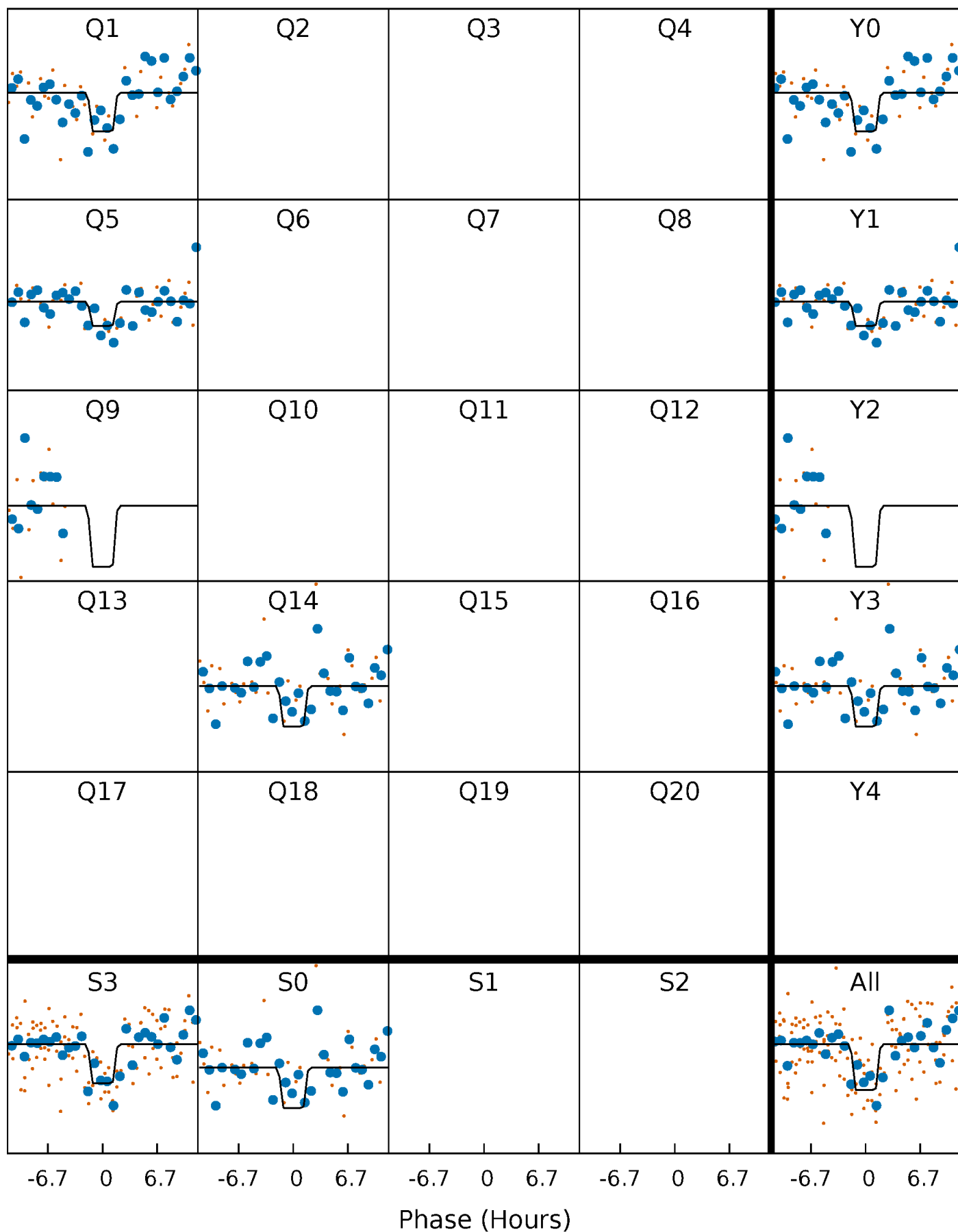
# DV Quarter-Phased Transit Curves

TCE 006777651-01 P=379.938761 Days  $T_0=146.237292$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

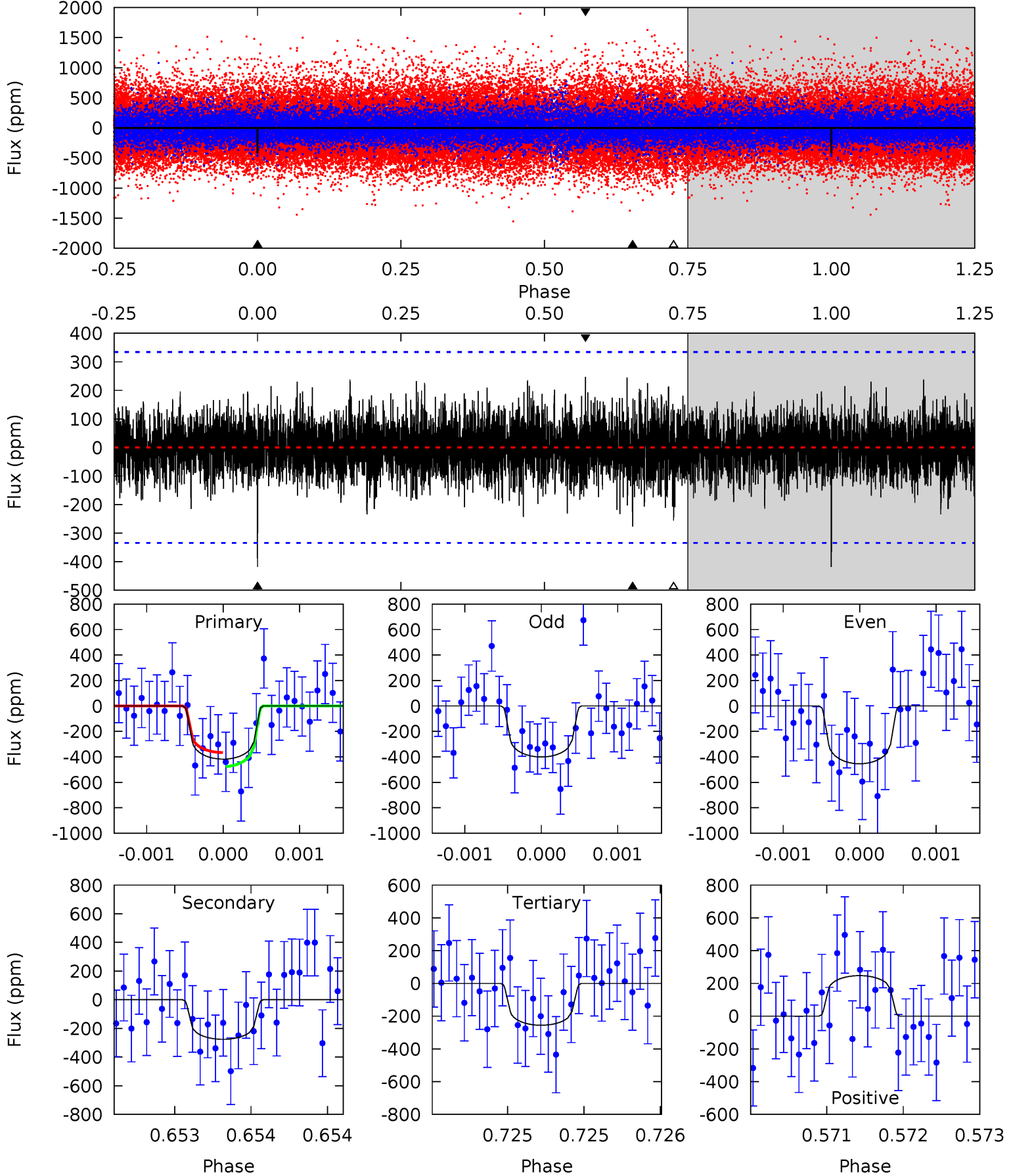
TCE 006777651-01 P=379.941615 Days  $T_0=146.234768$  (BKJD)



# DV Model-Shift Uniqueness Test

006777651-01, P = 379.938761 Days, E = 146.237292 Days

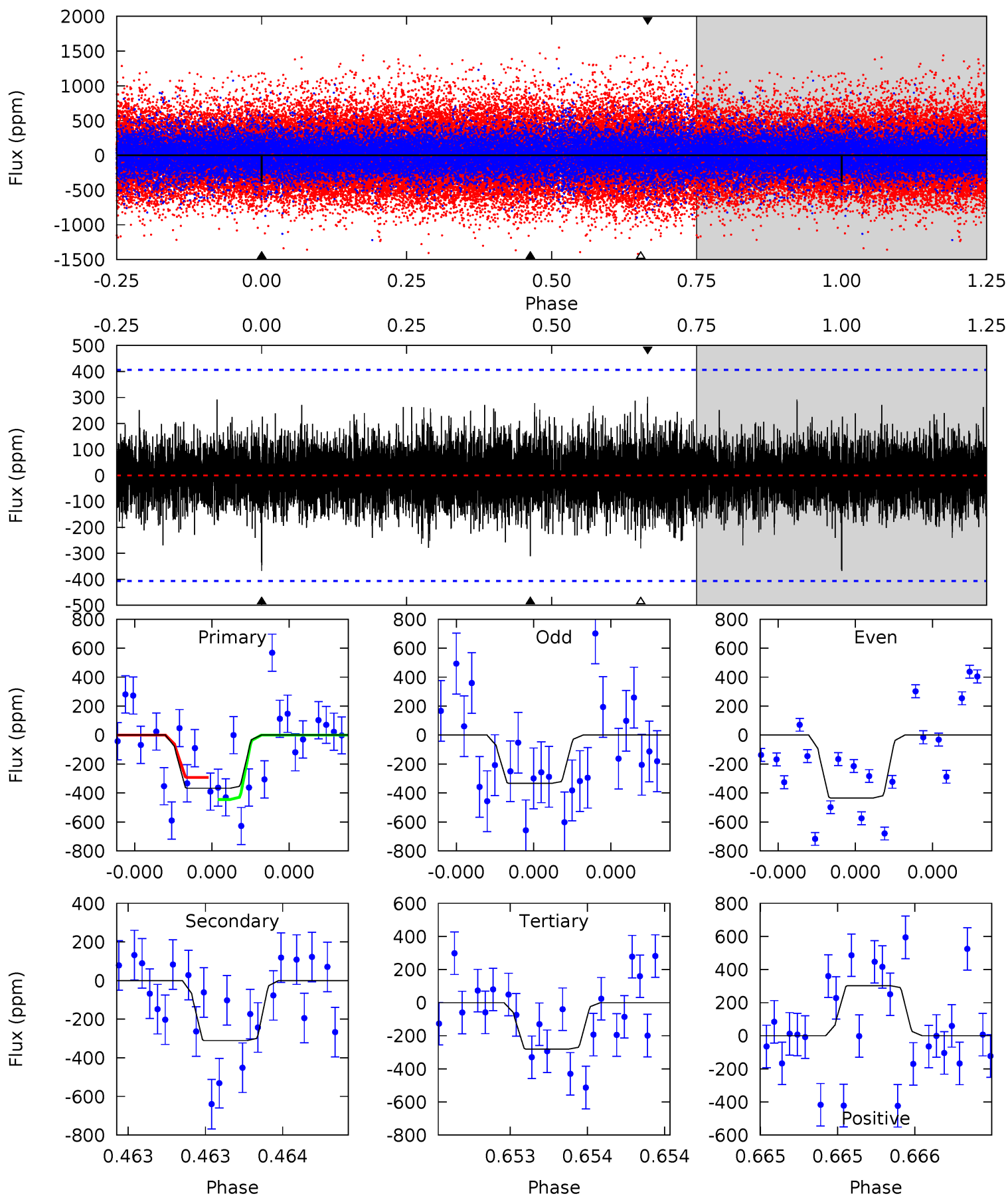
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.92	4.57	4.23	4.10	5.54	3.43	1.11	2.69	2.82	0.34	0.48	0.41	0.92	0.37	0.91



# Alt Model-Shift Uniqueness Test

006777651-01, P = 379.941615 Days, E = 146.234768 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
5.08	4.30	3.88	4.18	5.62	3.55	1.03	1.20	0.90	0.42	0.12	0.65	0.84	0.45	1.06



### Stellar Parameters For KIC 006777651

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5926^{+164}_{-184}$	$4.506^{+0.050}_{-0.200}$	$-0.040^{+0.250}_{-0.300}$	$0.939^{+0.282}_{-0.094}$	$1.030^{+0.115}_{-0.140}$	$1.752^{+0.450}_{-0.906}$
	+3%/-3%	+1%/-4%	+625%/-750%	+30%/-10%	+11%/-14%	+26%/-52%
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 006777651-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-276 \pm 60$	$2.46^{+1.88}_{-1.55}$	$355^{+23}_{-18}$	$5069^{+3442}_{-1012}$	$25546^{+159877}_{-17141}$
Alt.	$-311 \pm 72$	$2.59^{+1.82}_{-1.48}$	$355^{+25}_{-18}$	$5154^{+2626}_{-1012}$	$27149^{+115566}_{-17930}$

$T_{max}$  = 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

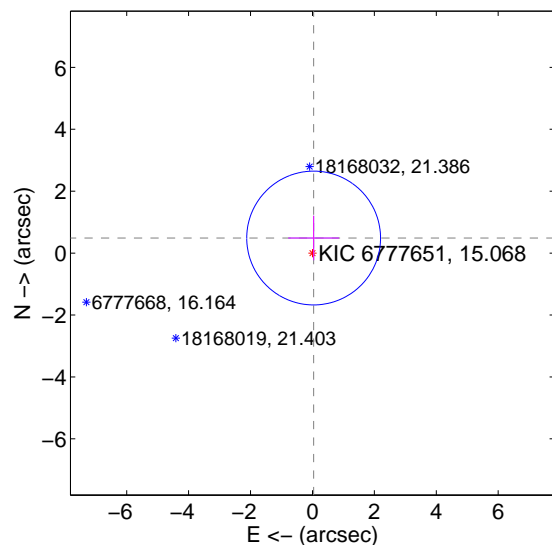
Supplemental centroid analysis for 006777651-01. Kepler magnitude: 15.07. Transit SNR 7.24

There are 1 quarters with good PRF difference image offsets

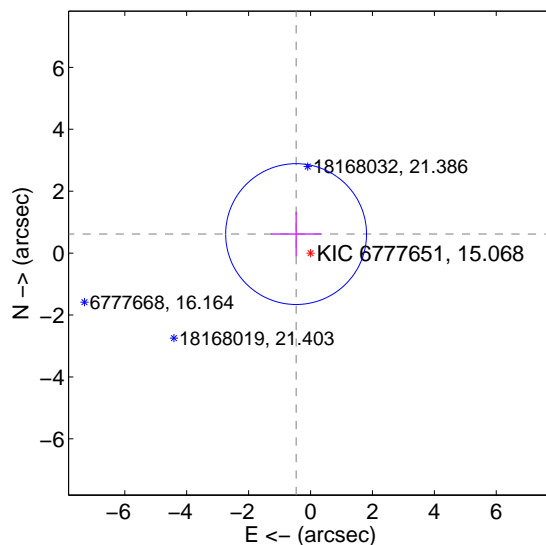
The direct PRF centroid is offset from the target star catalog position by about 0.52 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.488 \pm 0.720$	0.68	$-0.039 \pm 0.821$	$0.487 \pm 0.720$
PRF-fit source offset from KIC position	$0.771 \pm 0.758$	1.02	$0.466 \pm 0.821$	$0.614 \pm 0.720$
photometric centroid source offset	$1.73 \pm 1.59$	1.08	$-0.79 \pm 1.73$	$1.54 \pm 1.56$

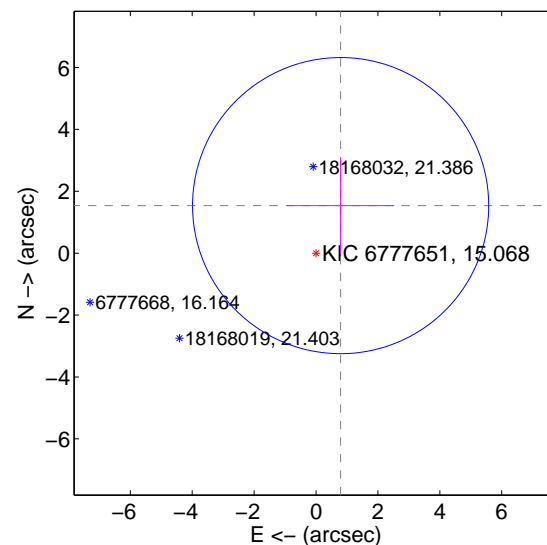
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

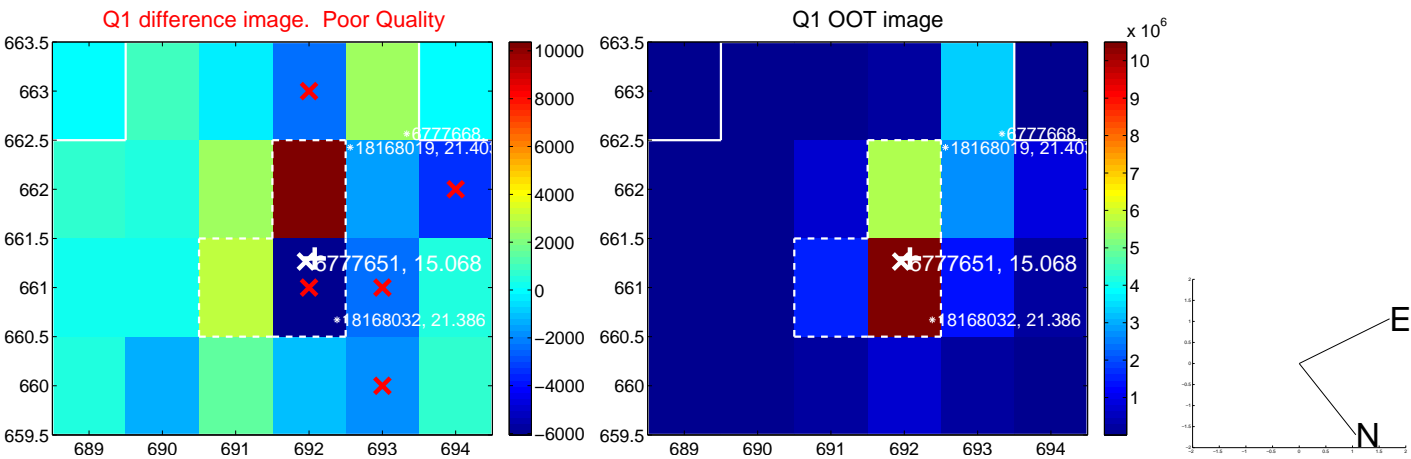


offset from photometric centroids



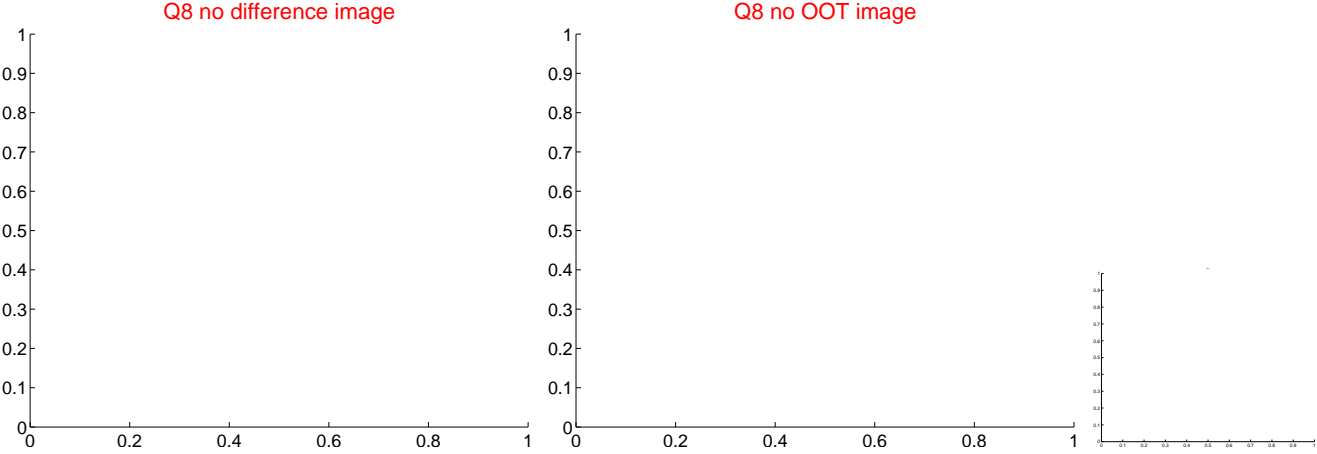
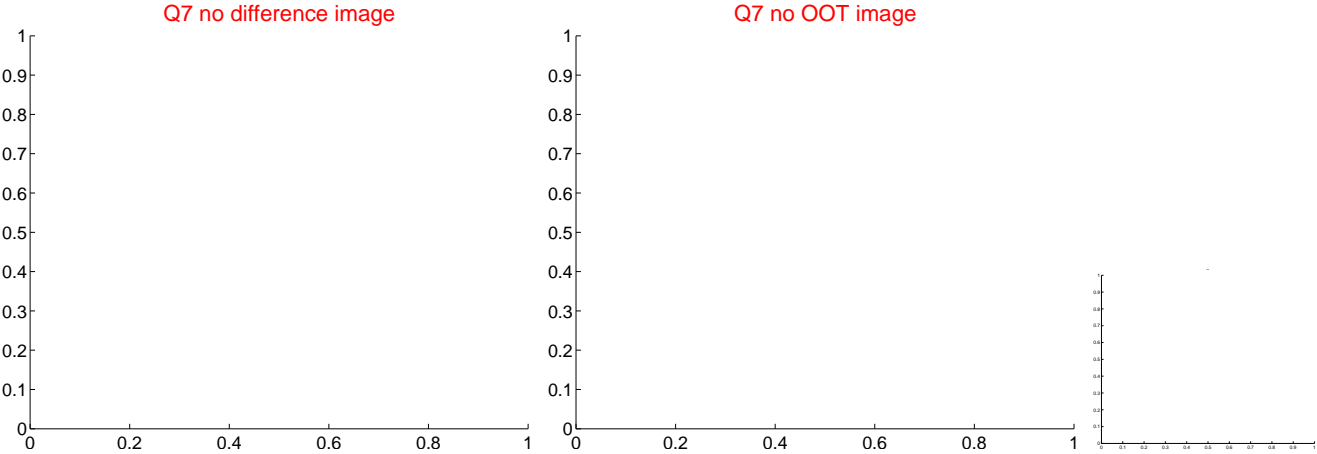
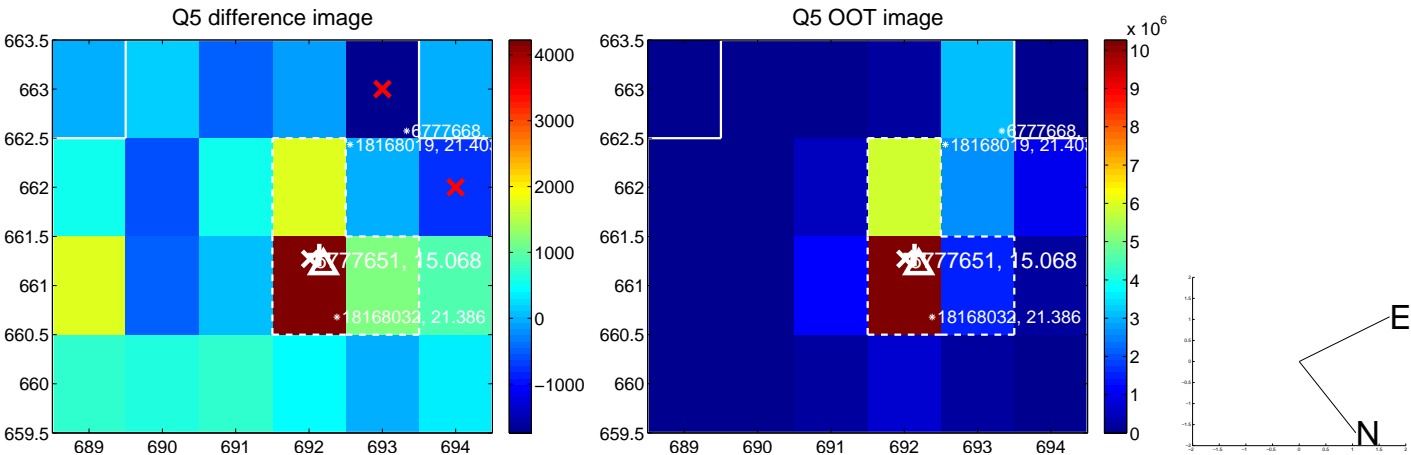
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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





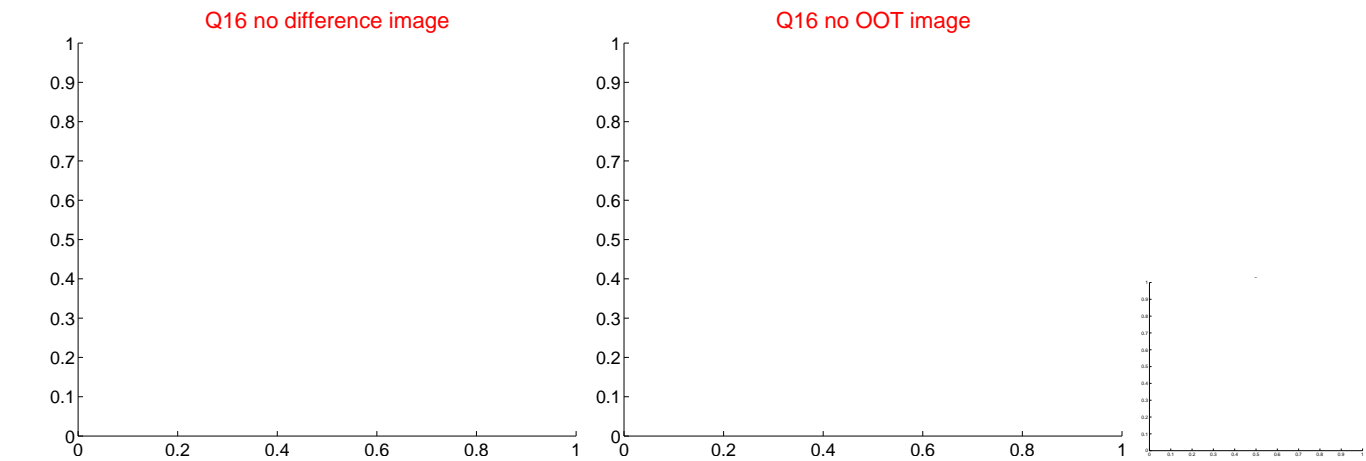
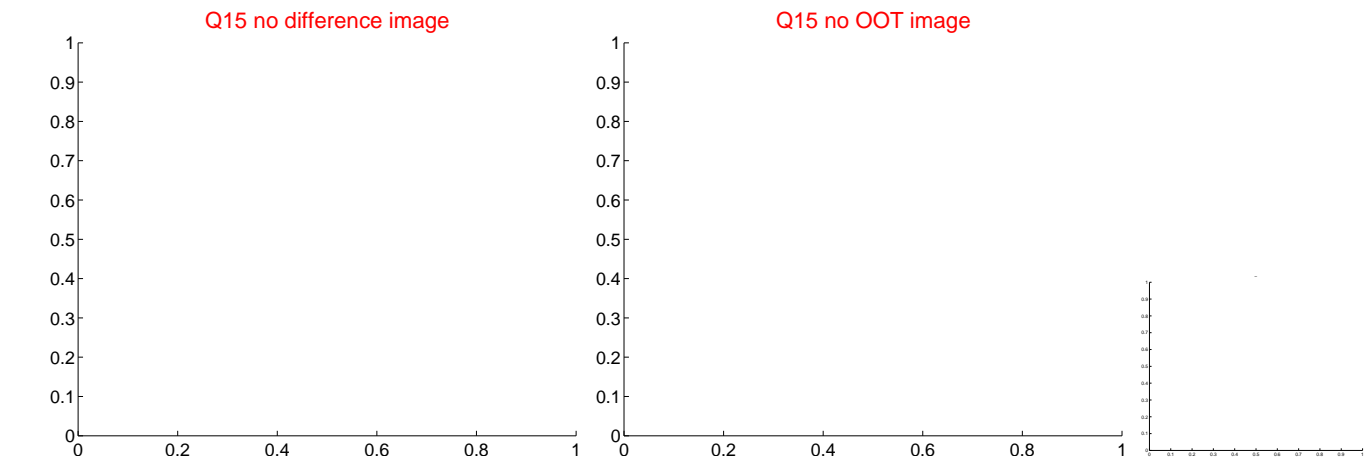
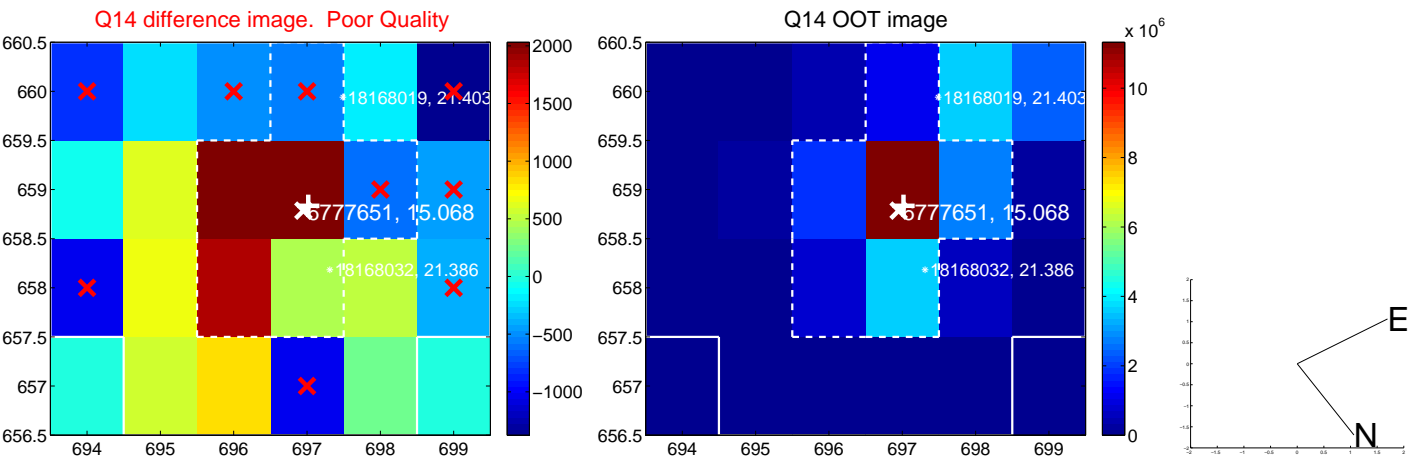
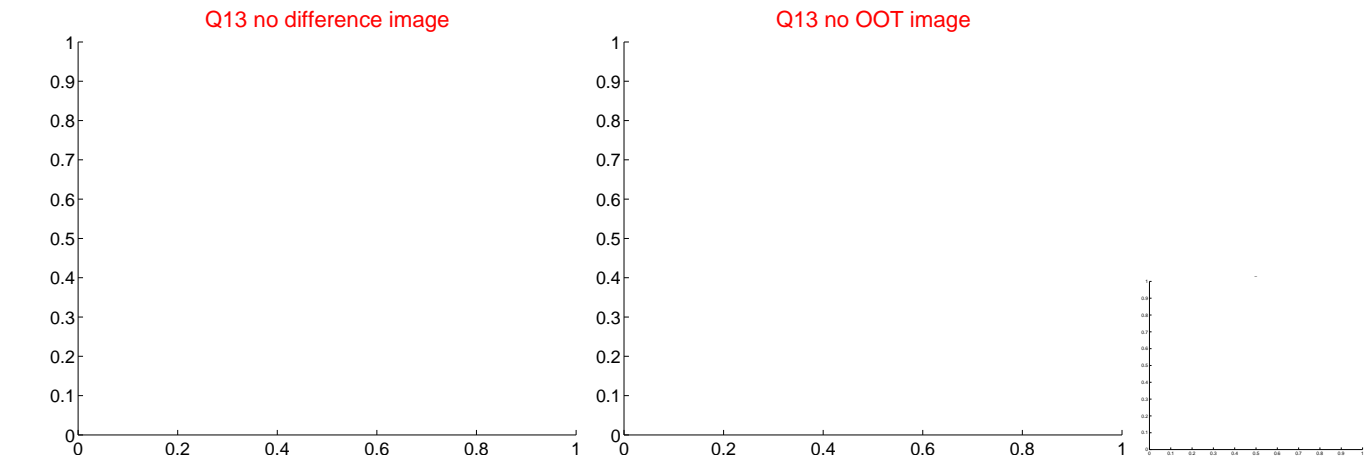
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



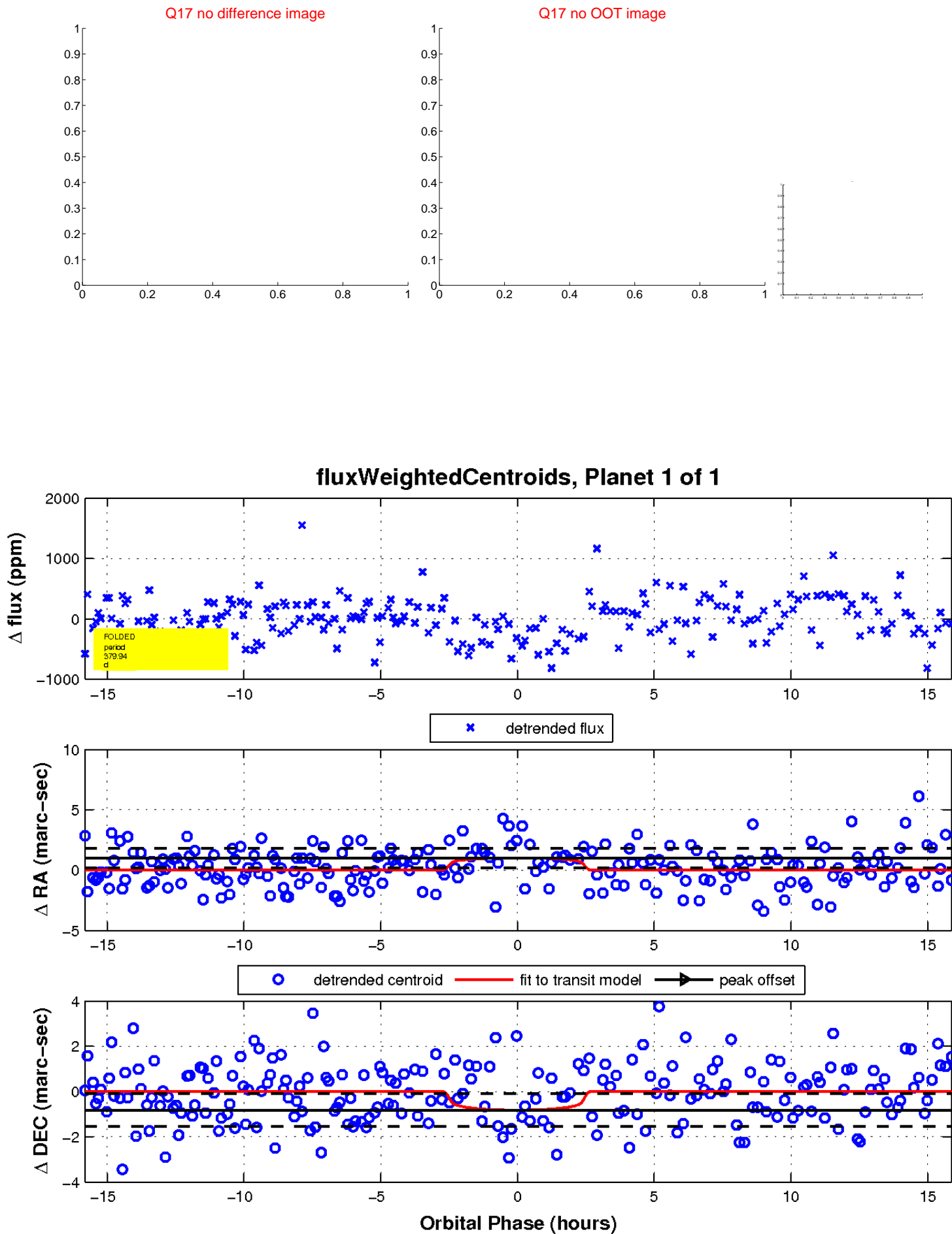
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

Declination

