

# KIC 007657969

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007657969-01	OBS	No	393.191466	277.079798	604.3	11.607	9.3	9.5	1.08	6055	3.91	1.16

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007657969-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—INCONSISTENT_TRANS—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.

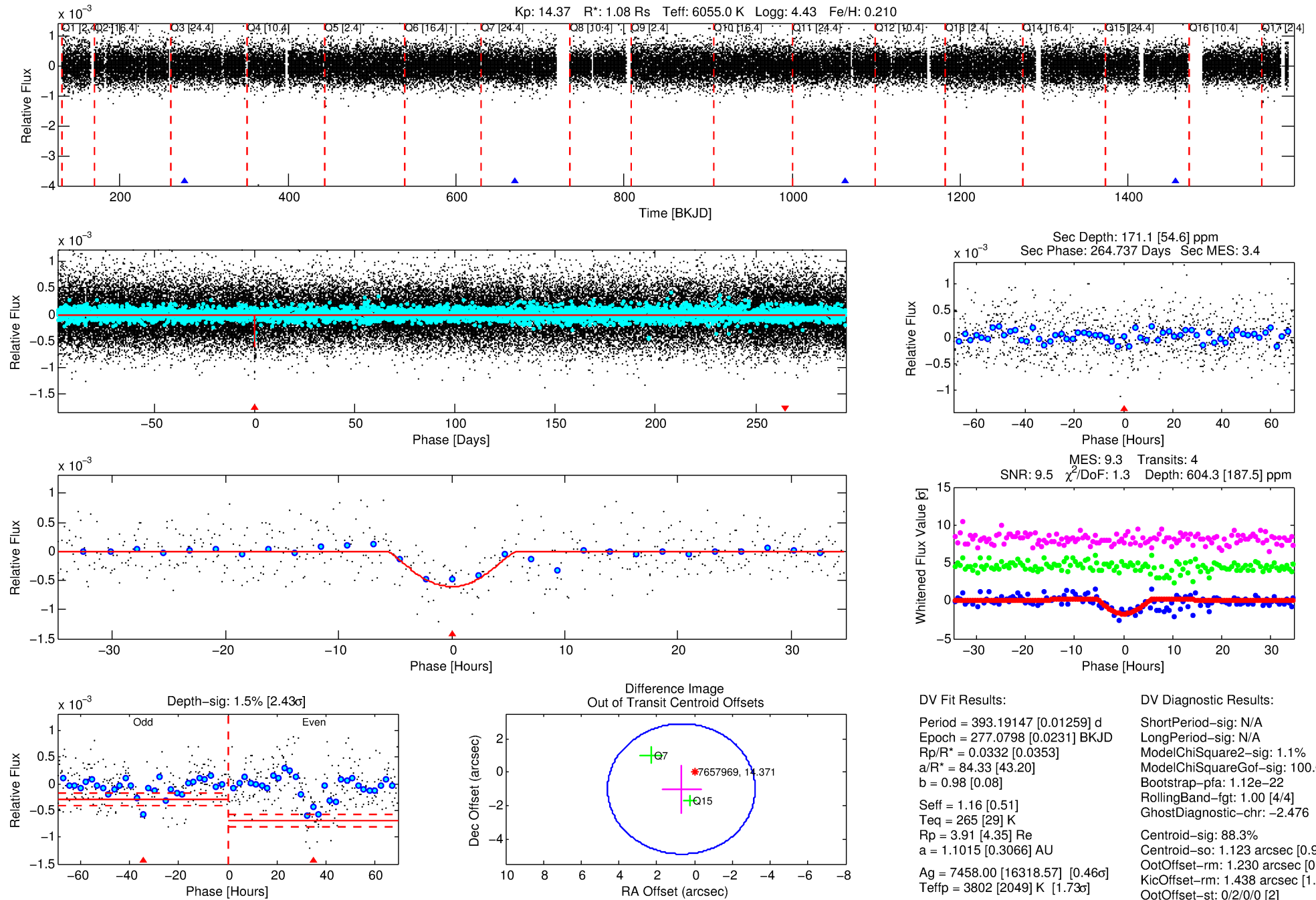
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007657969-01

No Significant Match Found

# DV One-Page Summary

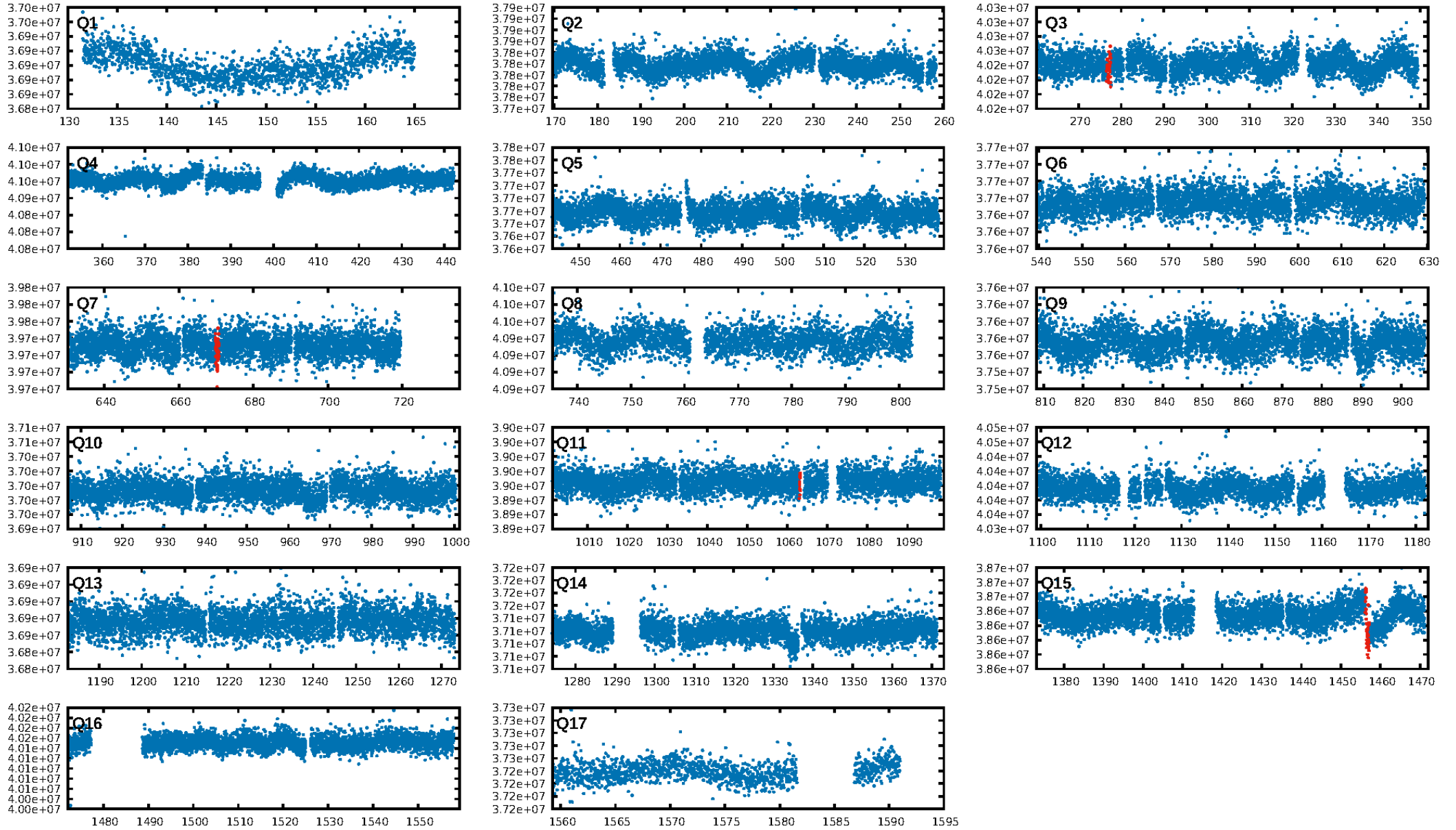
KIC: 7657969 Candidate: 1 of 1 Period: 393.191 d



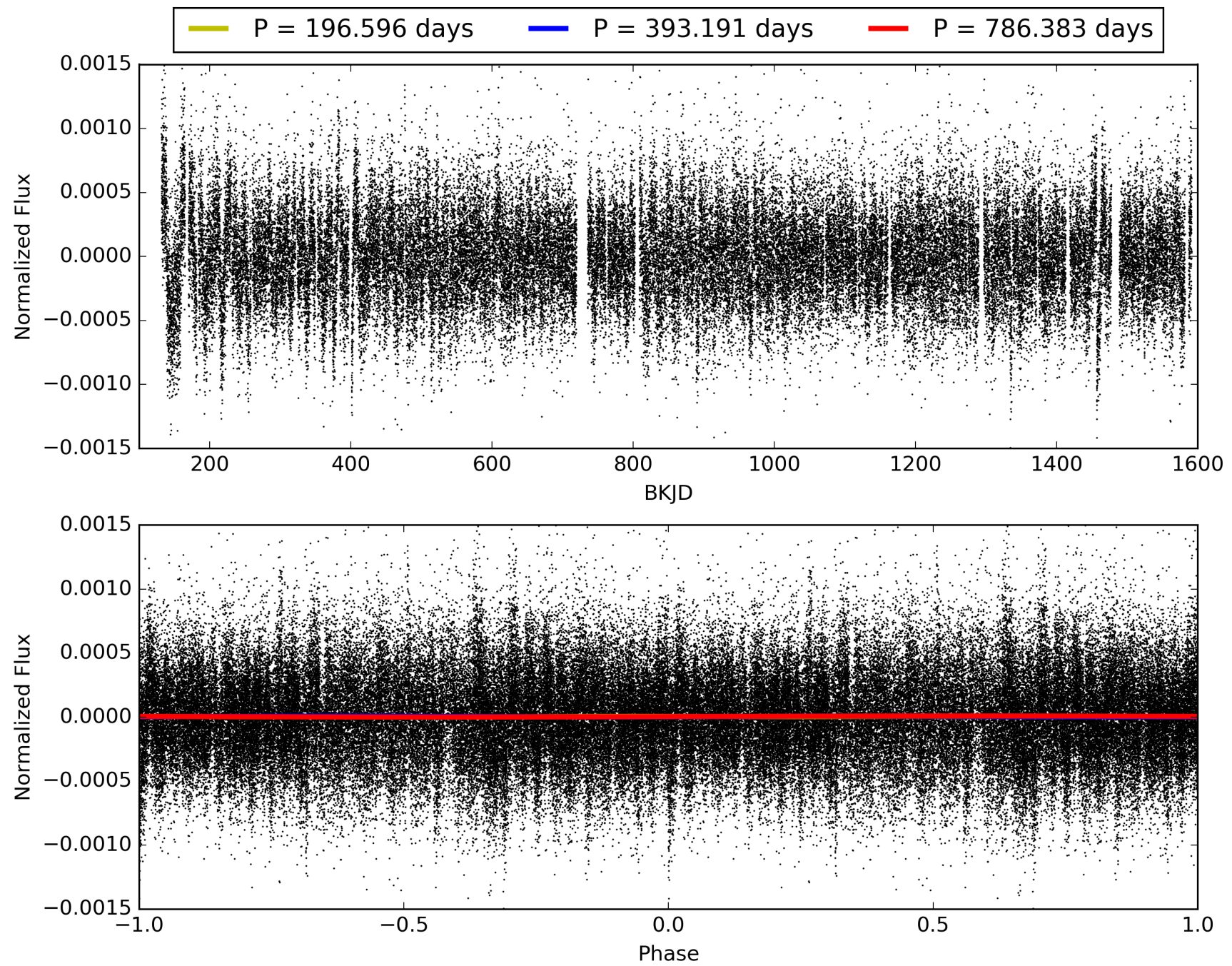
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:01:24 Z

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

# TCE 007657969-01, PDC Light Curves

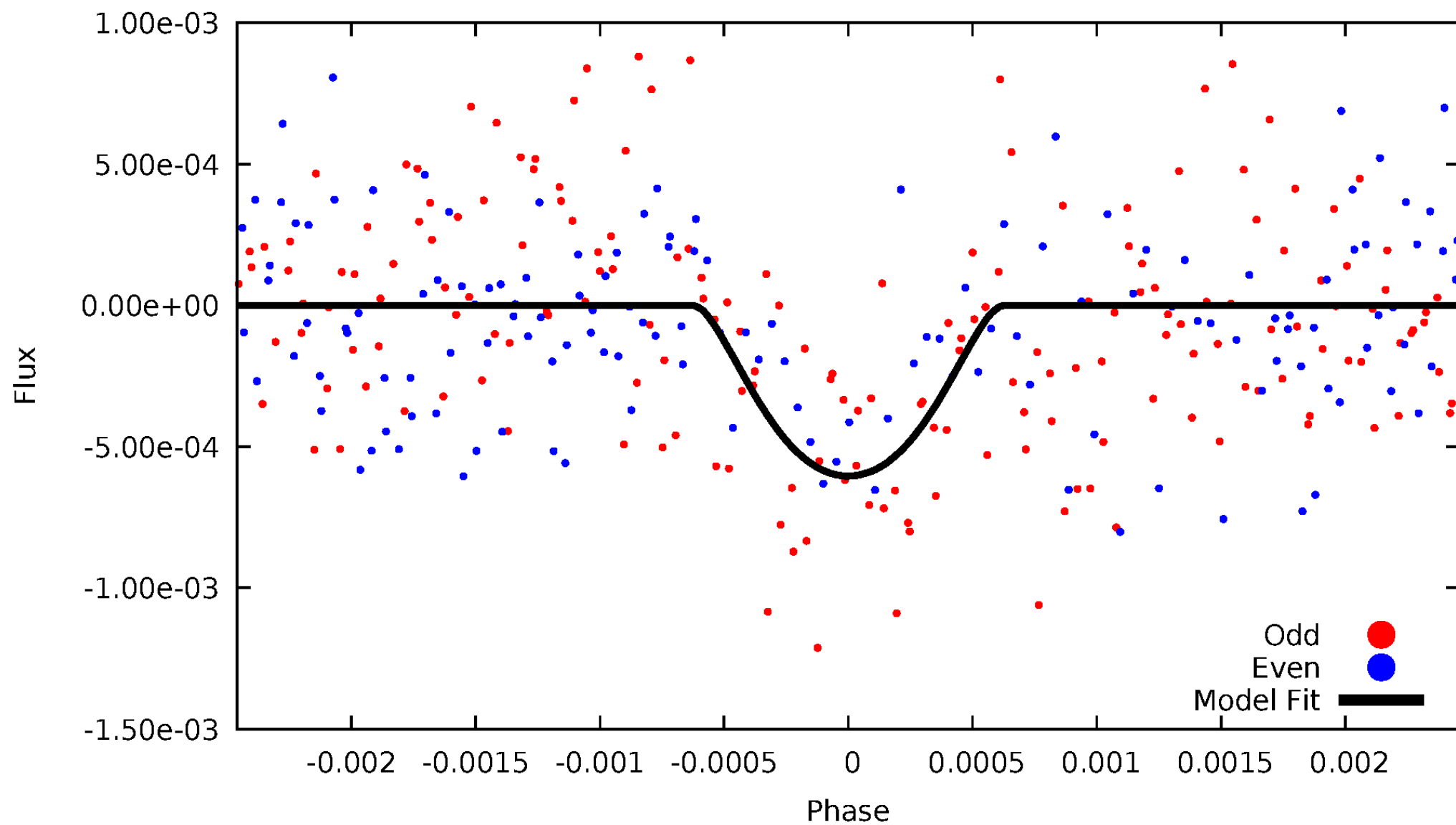


TCE 007657969-01



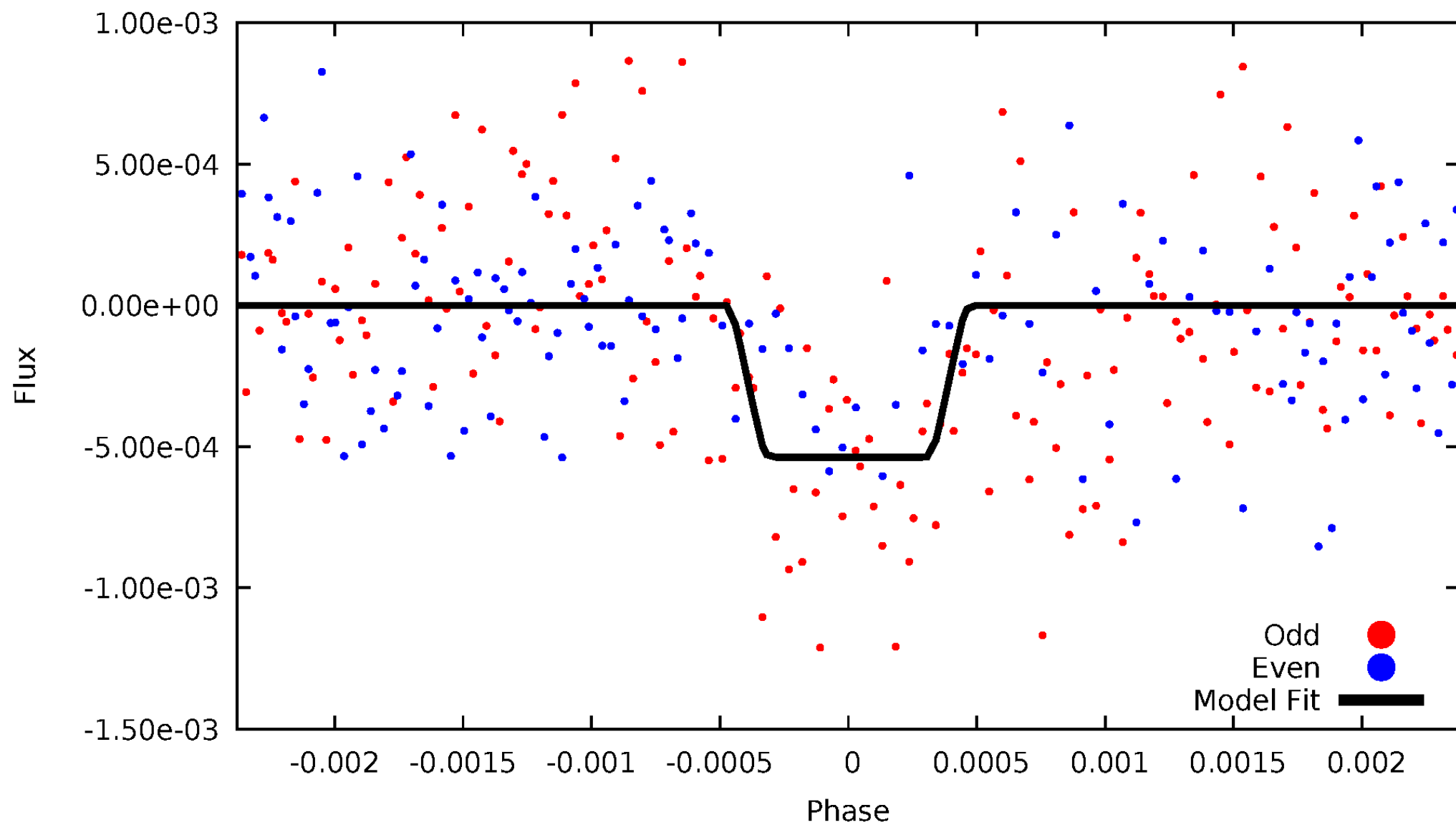
# DV Odd/Even

TCE 007657969-01



# ALT Odd/Even

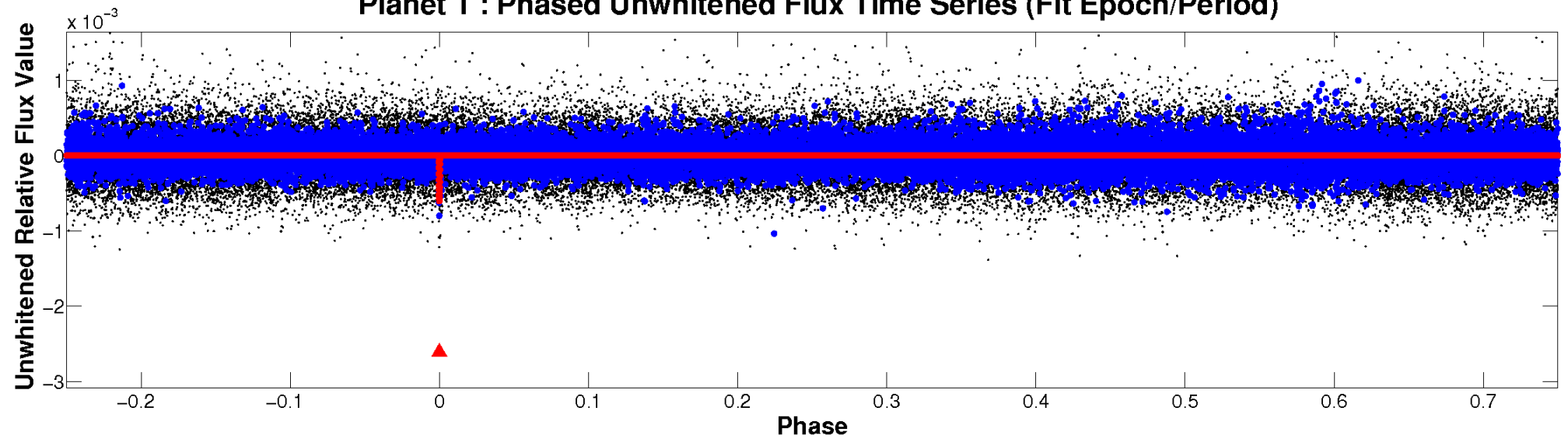
TCE 007657969-01



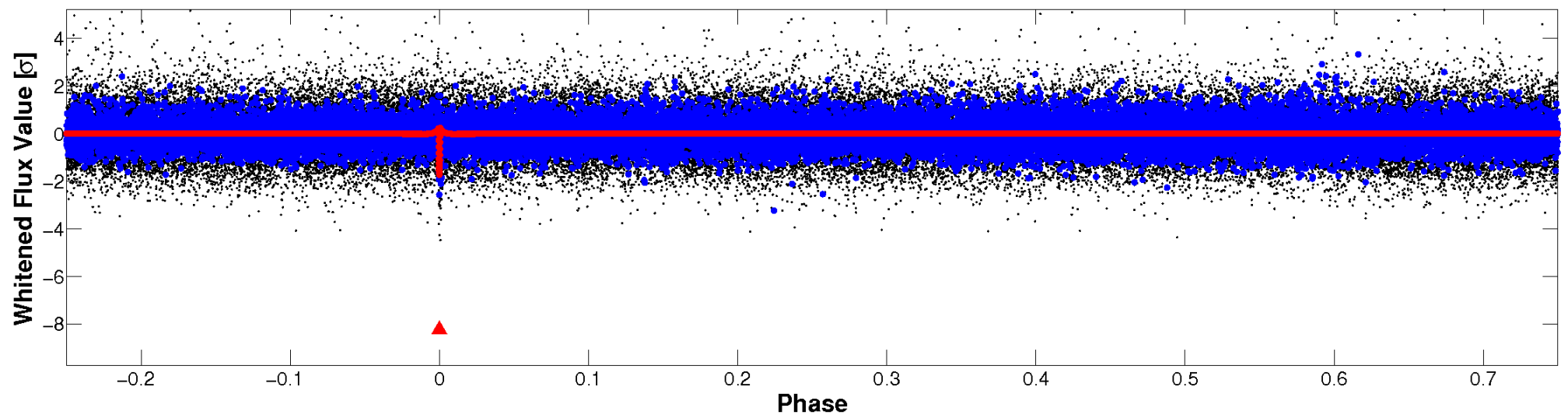


# Non-Whitened Vs. Whitened Light Curve

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

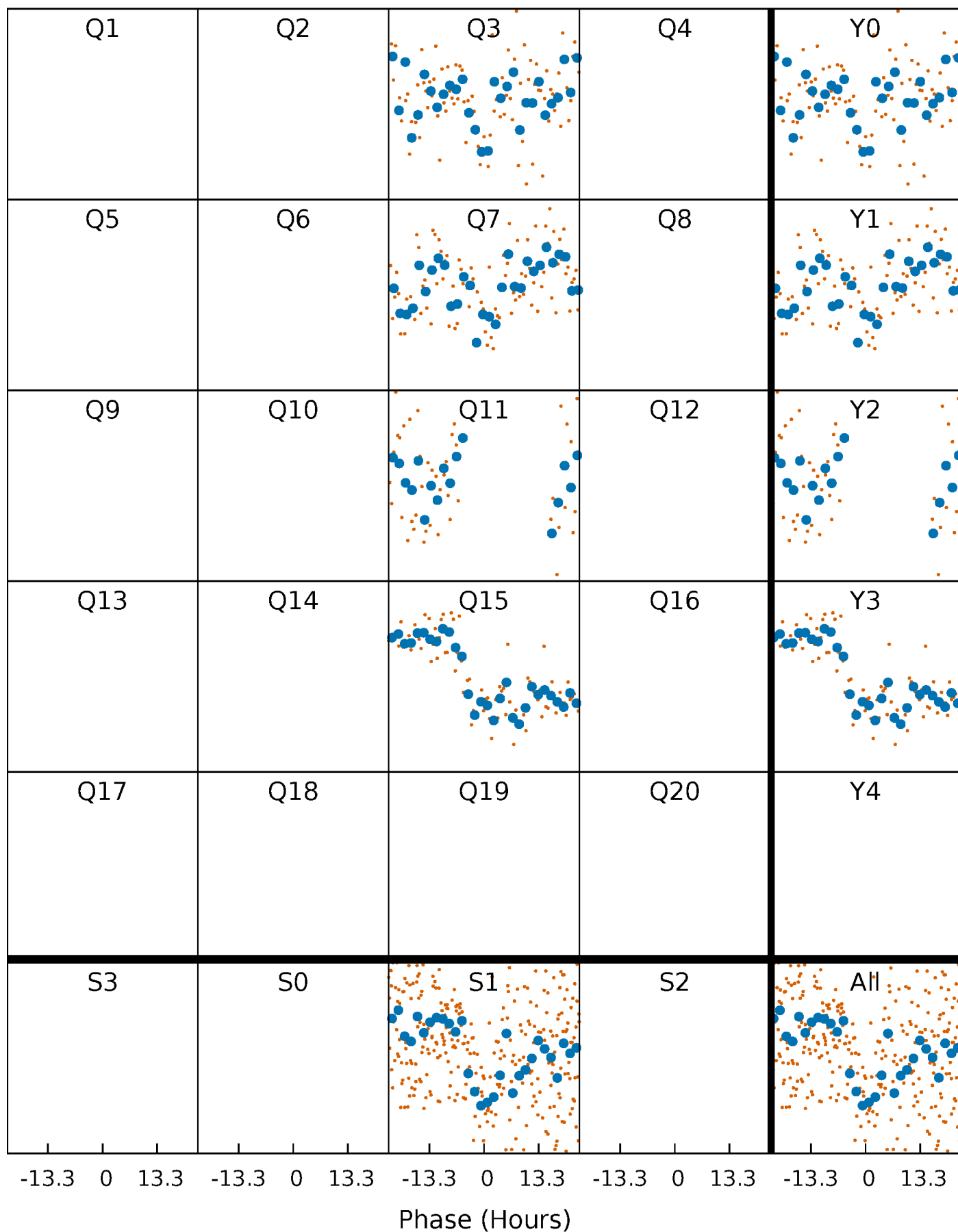


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

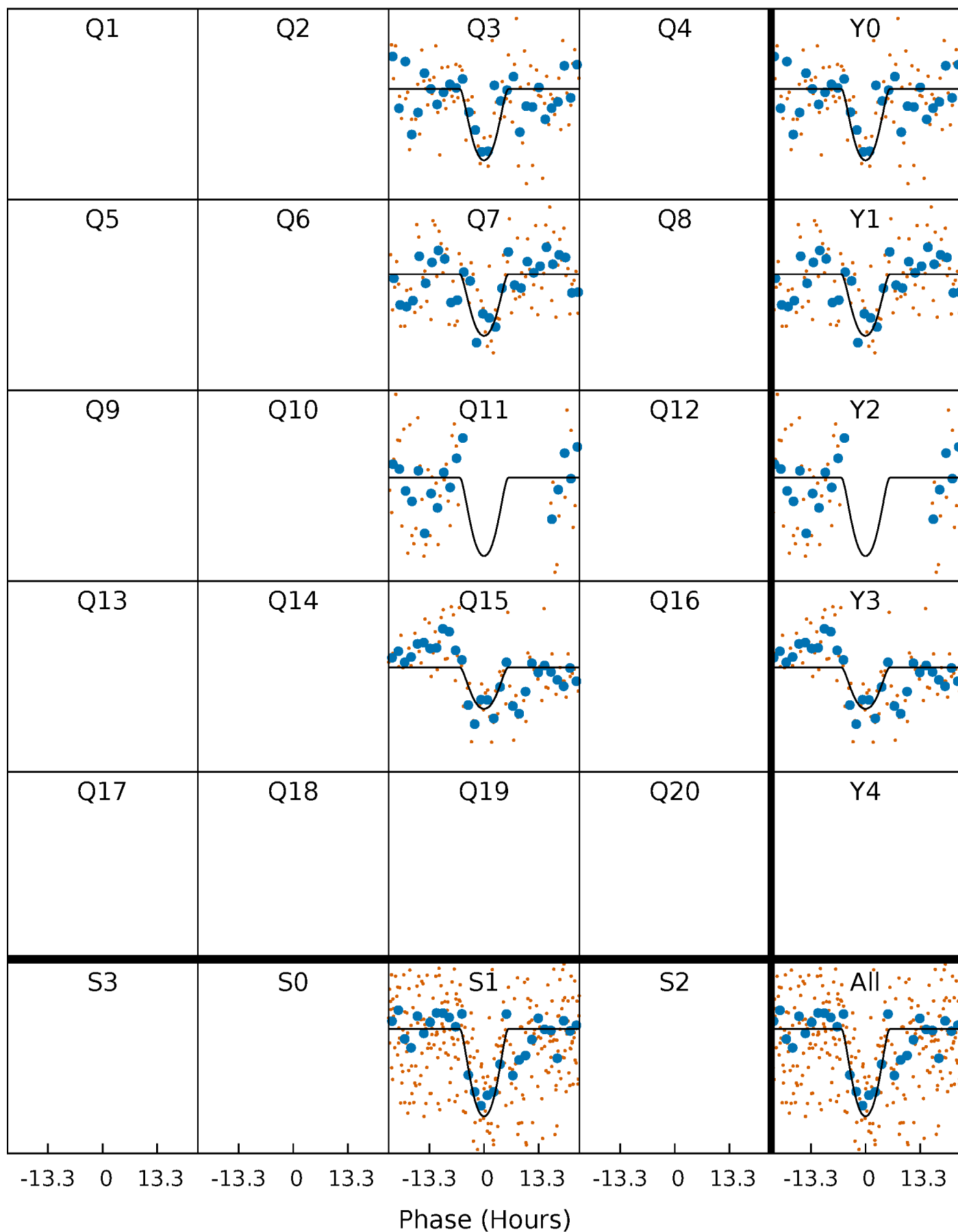
TCE 007657969-01 P=393.191466 Days  $T_0=277.079798$  (BKJD)





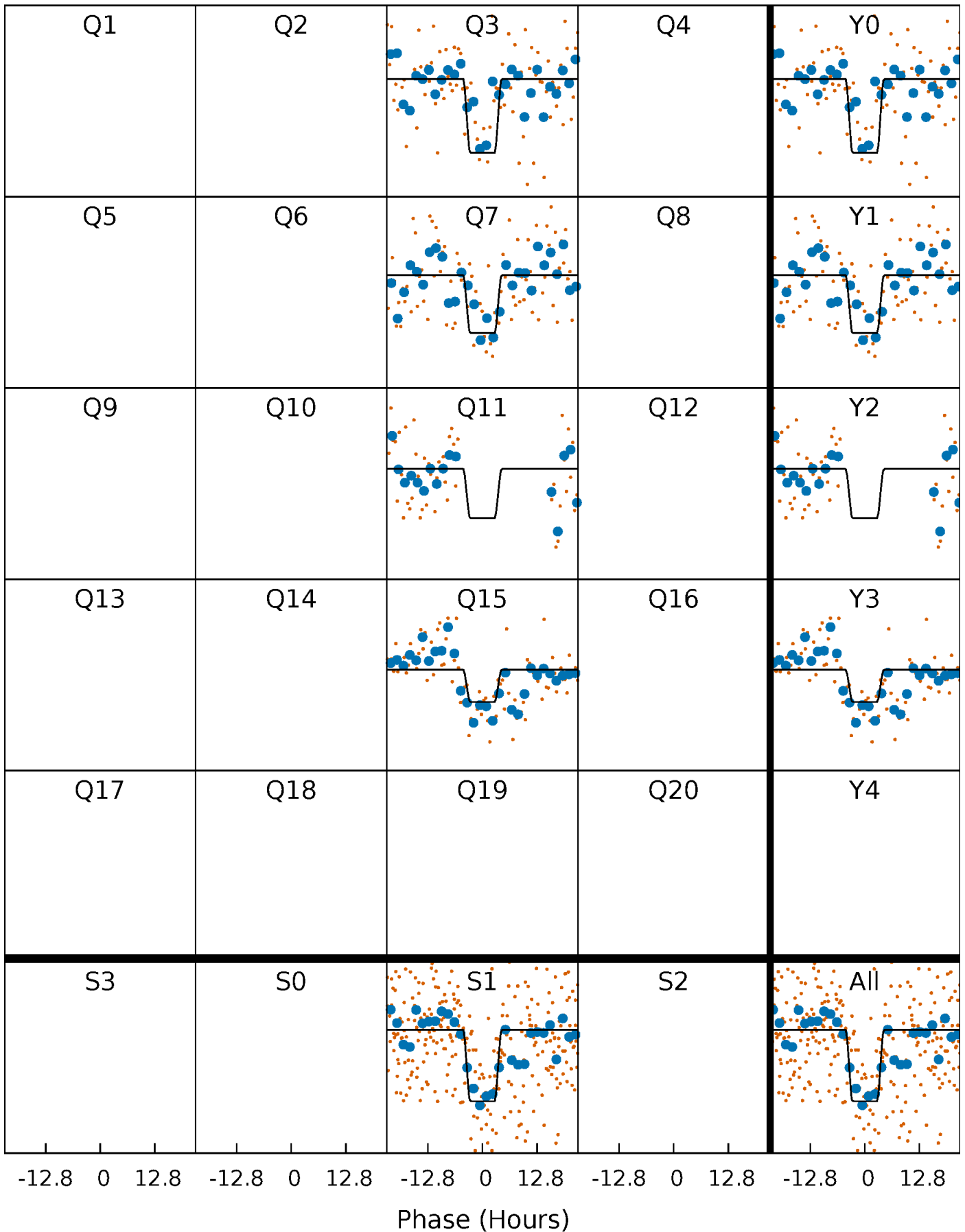
# DV Quarter-Phased Transit Curves

TCE 007657969-01 P=393.191466 Days  $T_0=277.079798$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

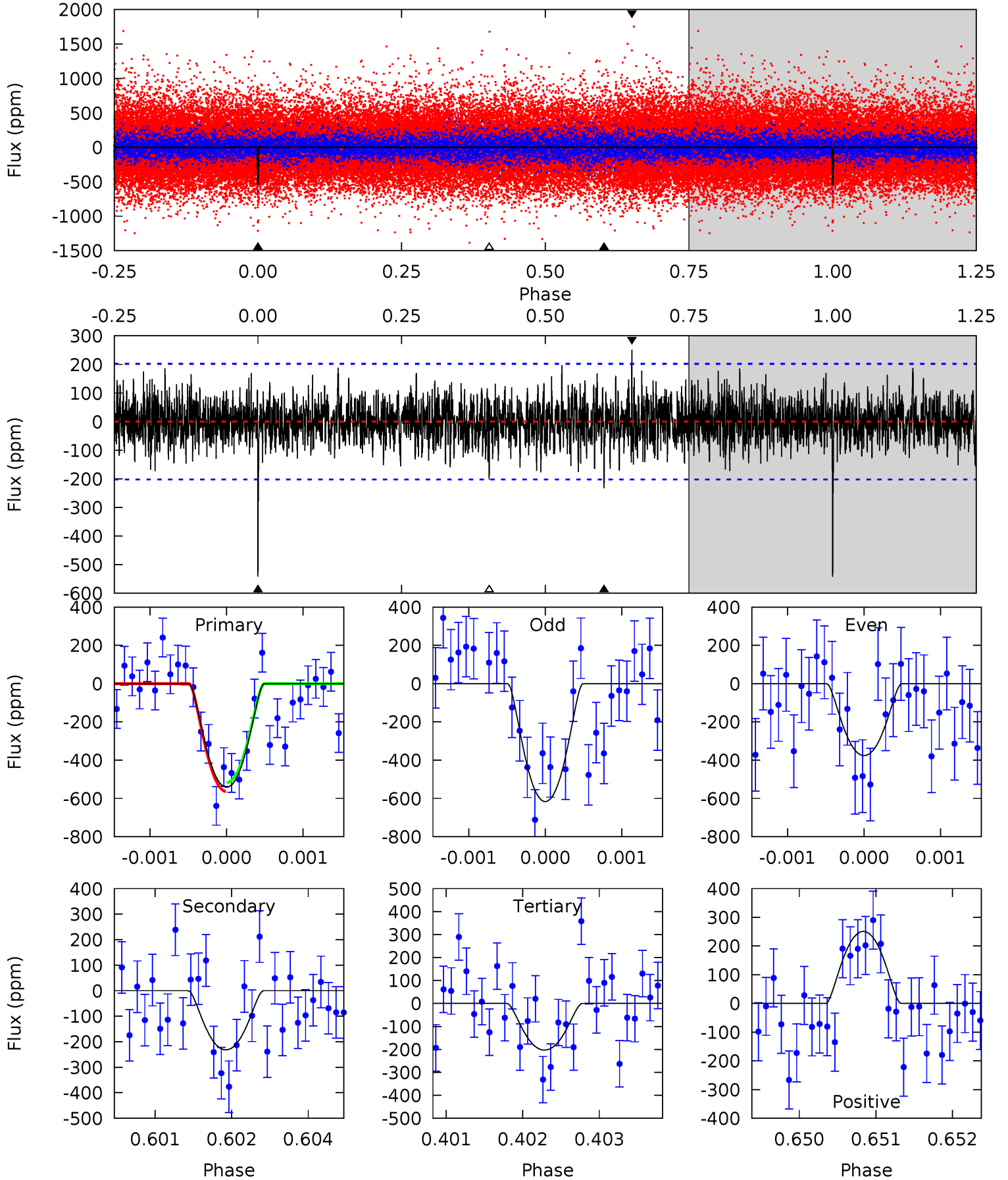
TCE 007657969-01 P=393.196184 Days  $T_0=277.069656$  (BKJD)



# DV Model-Shift Uniqueness Test

007657969-01, P = 393.191466 Days, E = 277.079798 Days

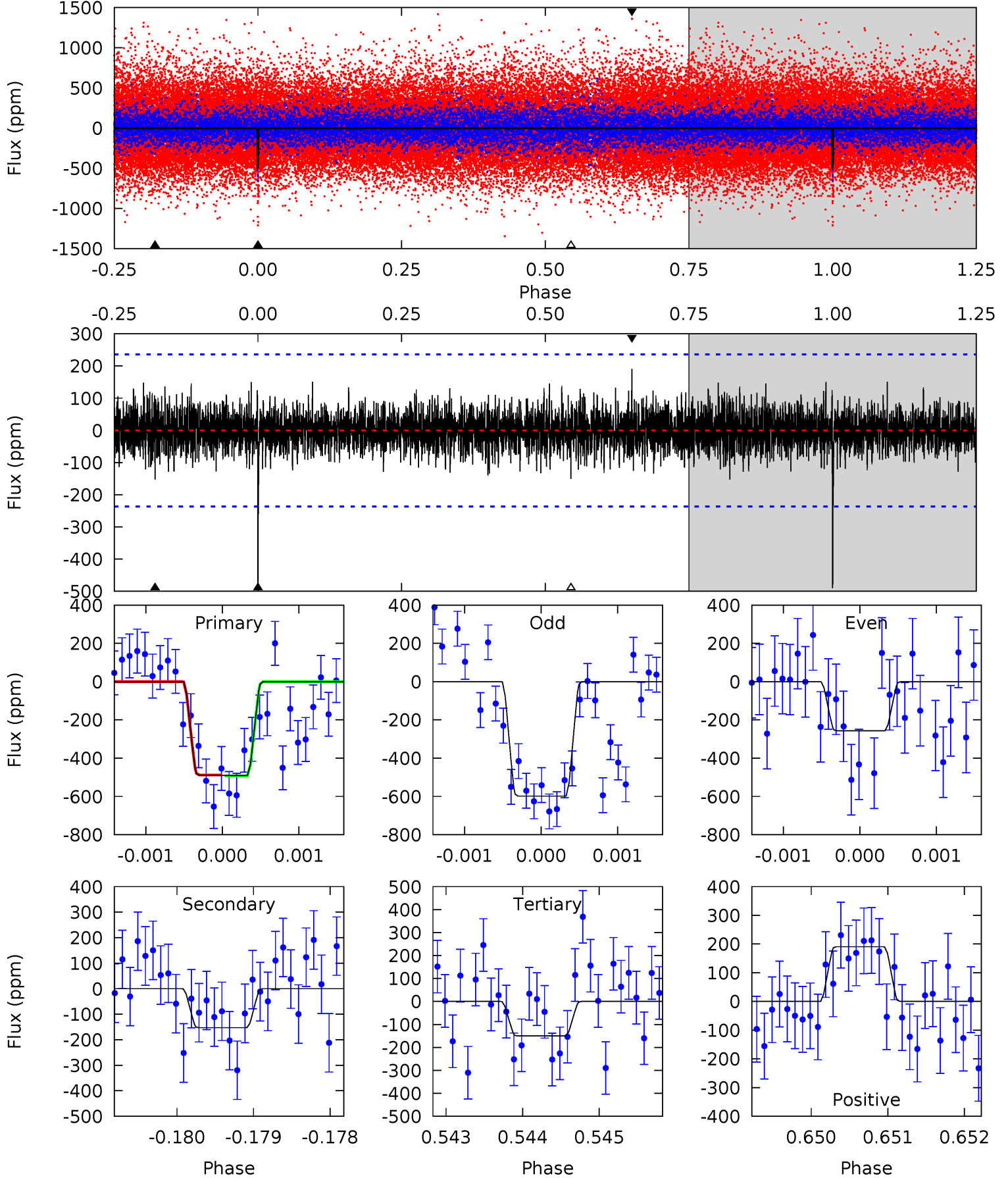
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	6.20	5.43	6.71	5.41	3.22	1.53	9.05	7.77	0.77	-0.51	3.07	1.08	0.32	0.63



# Alt Model-Shift Uniqueness Test

007657969-01, P = 393.196184 Days, E = 277.069656 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
11.3	3.53	3.47	4.41	5.46	3.31	1.00	7.85	6.92	0.06	-0.88	3.70	1.12	0.28	0.06



### Stellar Parameters For KIC 007657969

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6055^{+169}_{-232}$	$4.432^{+0.056}_{-0.224}$	$0.210^{+0.200}_{-0.300}$	$1.081^{+0.355}_{-0.118}$	$1.155^{+0.136}_{-0.166}$	$1.287^{+0.388}_{-0.702}$
	+3%/-4%	+1%/-5%	+95%/-143%	+33%/-11%	+12%/-14%	+30%/-55%
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 007657969-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-232 \pm 37$	$4.89^{+4.16}_{-3.09}$	$378^{+32}_{-20}$	$4103^{+2029}_{-783}$	$6618^{+39058}_{-4786}$
Alt.	$-153 \pm 43$	$4.62^{+3.66}_{-3.14}$	$376^{+29}_{-20}$	$3876^{+2290}_{-718}$	$4986^{+40614}_{-3697}$

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

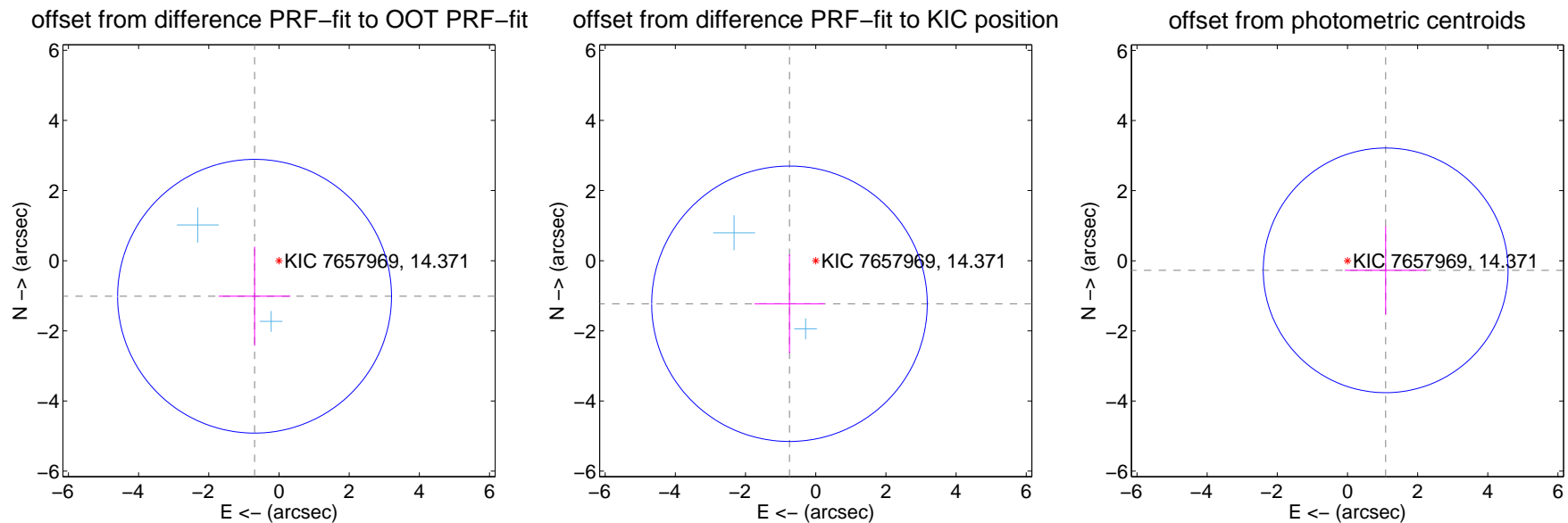
## DV Centroid Data

Supplemental centroid analysis for 007657969-01. Kepler magnitude: 14.37. Transit SNR 9.51

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.230 \pm 1.301$	0.95	$0.696 \pm 1.025$	$-1.013 \pm 1.413$
PRF-fit source offset from KIC position	$1.438 \pm 1.309$	1.10	$0.748 \pm 0.999$	$-1.228 \pm 1.407$
photometric centroid source offset	$1.12 \pm 1.16$	0.97	$-1.09 \pm 1.16$	$-0.27 \pm 1.26$



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.

Q1 no difference image



Q1 no OOT image



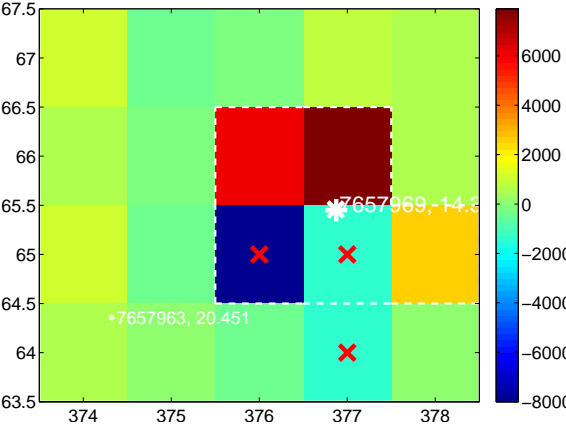
Q2 no difference image



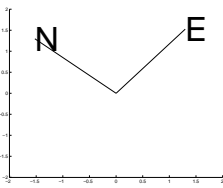
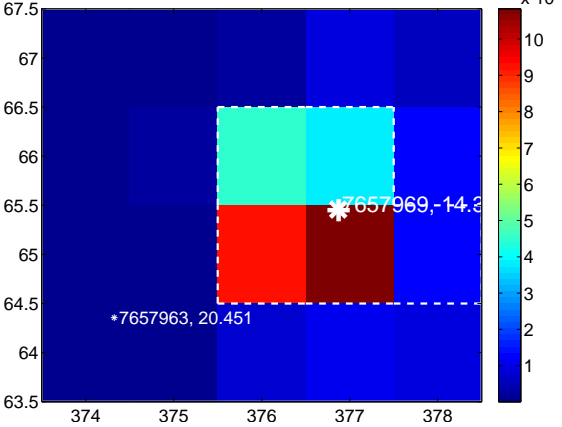
Q2 no OOT image



Q3 difference image. Poor Quality



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



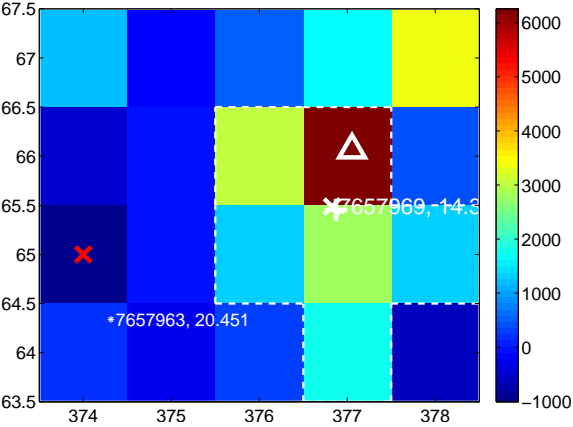
Q6 no difference image



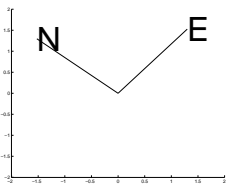
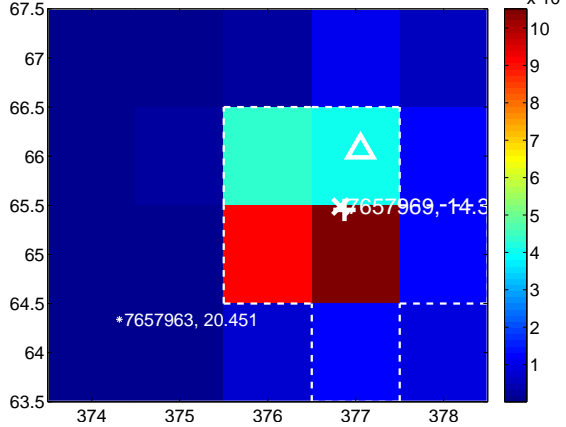
Q6 no OOT image



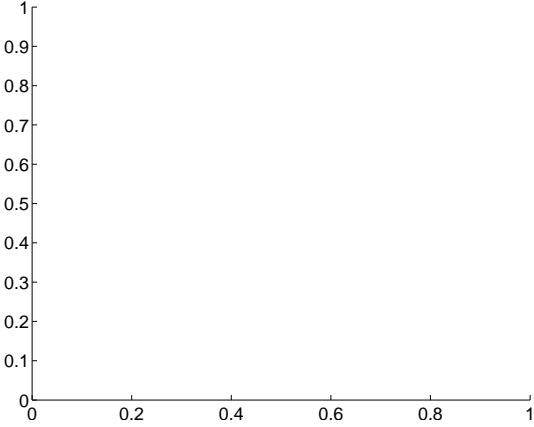
Q7 difference image



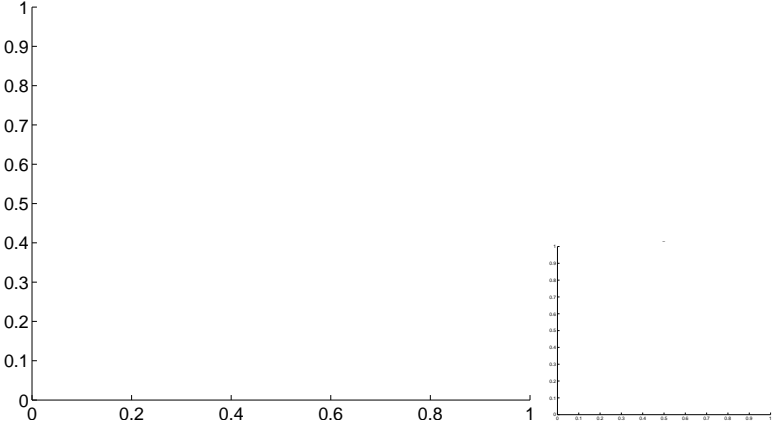
Q7 OOT image



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

Q13 no difference image



Q13 no OOT image



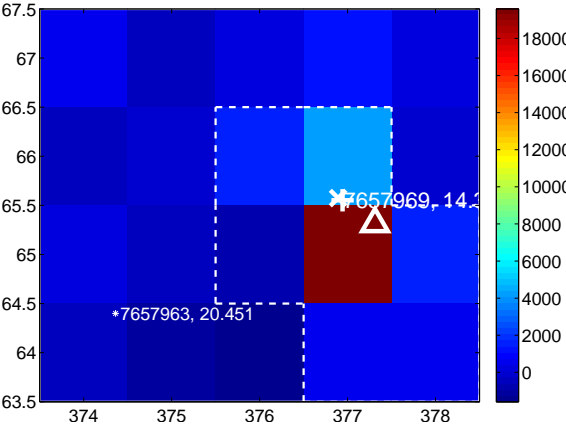
Q14 no difference image



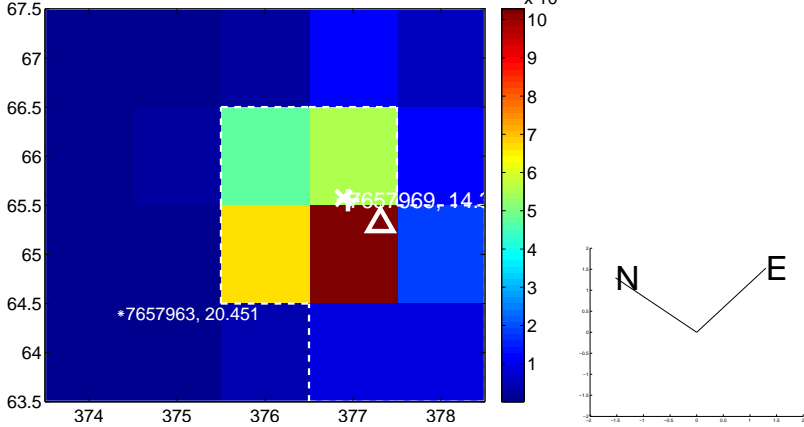
Q14 no OOT image



Q15 difference image



Q15 OOT image



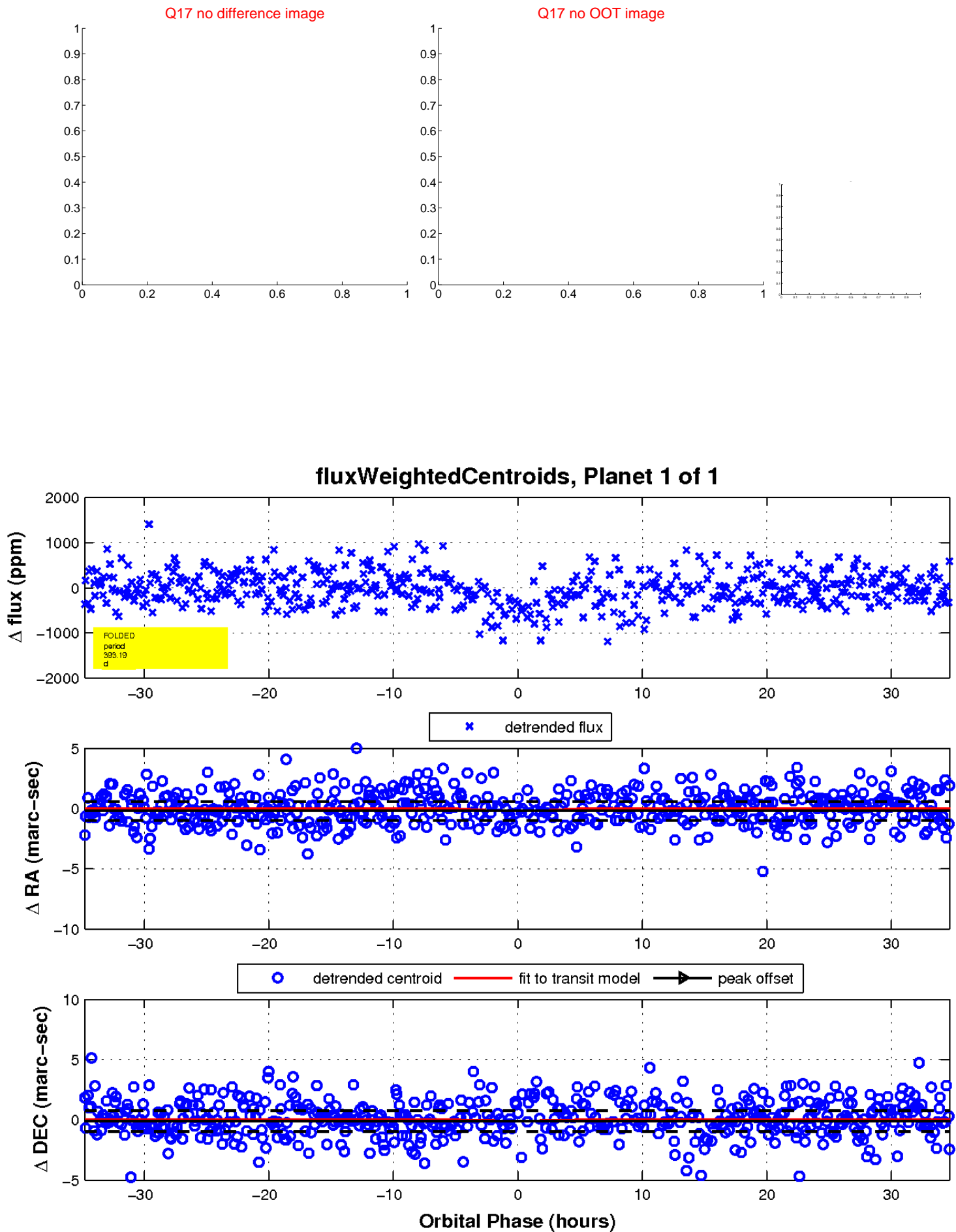
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

