

# KIC 003733046

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003733046-01	OBS	No	346.185403	387.951956	466.6	17.122	8.8	9.7	0.92	5799	2.13	1.05

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003733046-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—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.

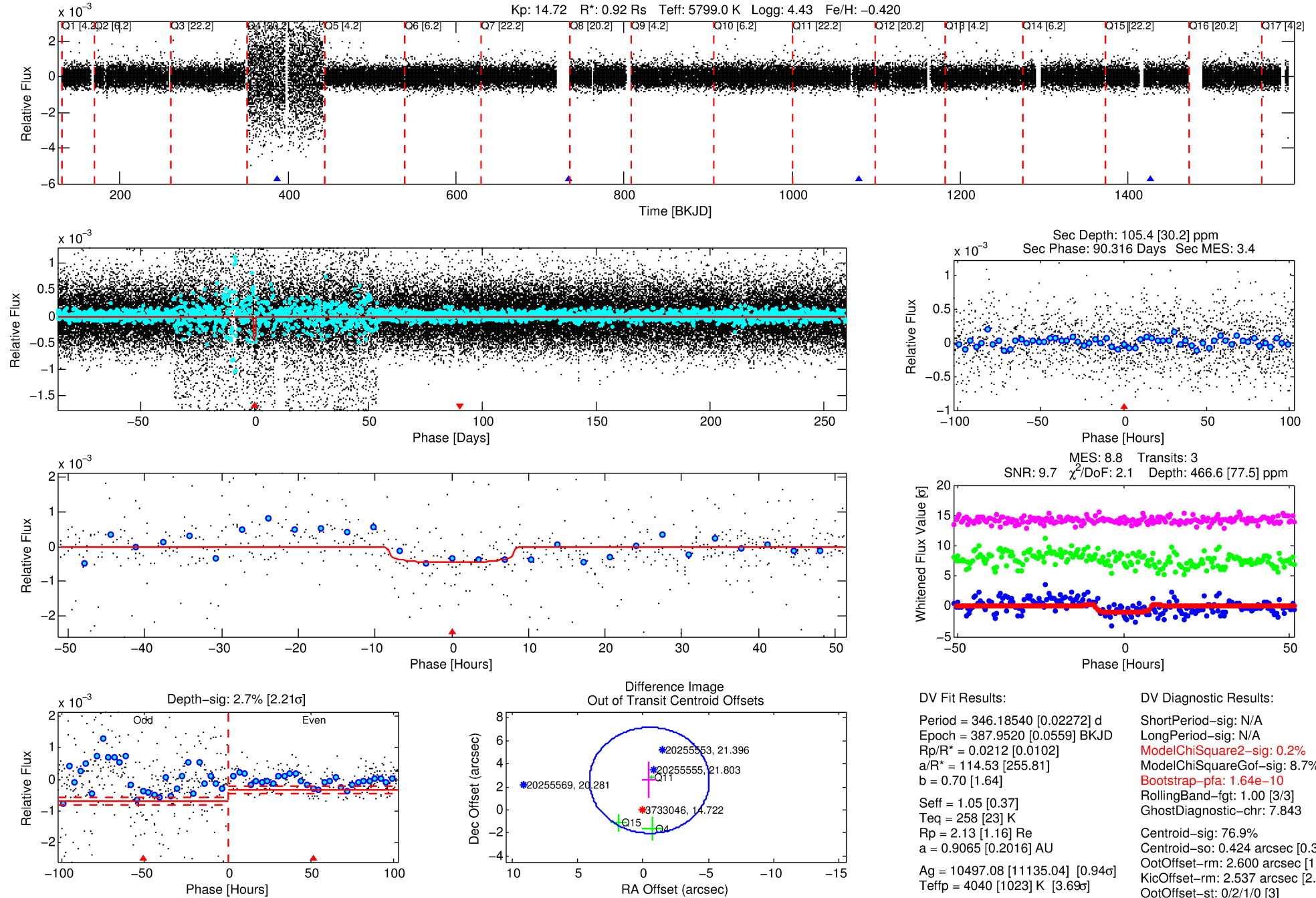
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003733046-01

No Significant Match Found

# DV One-Page Summary

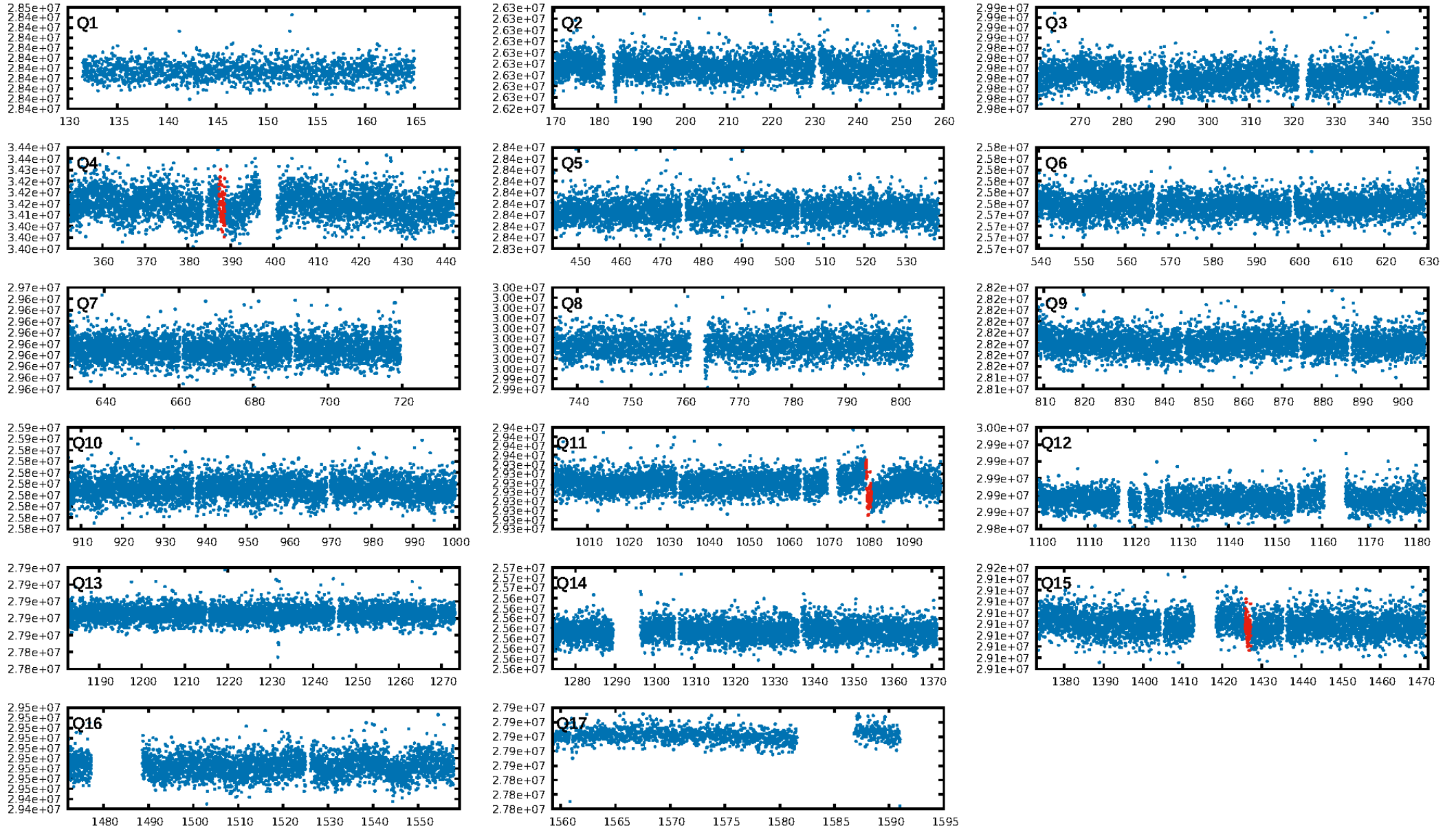
KIC: 3733046 Candidate: 1 of 1 Period: 346.185 d



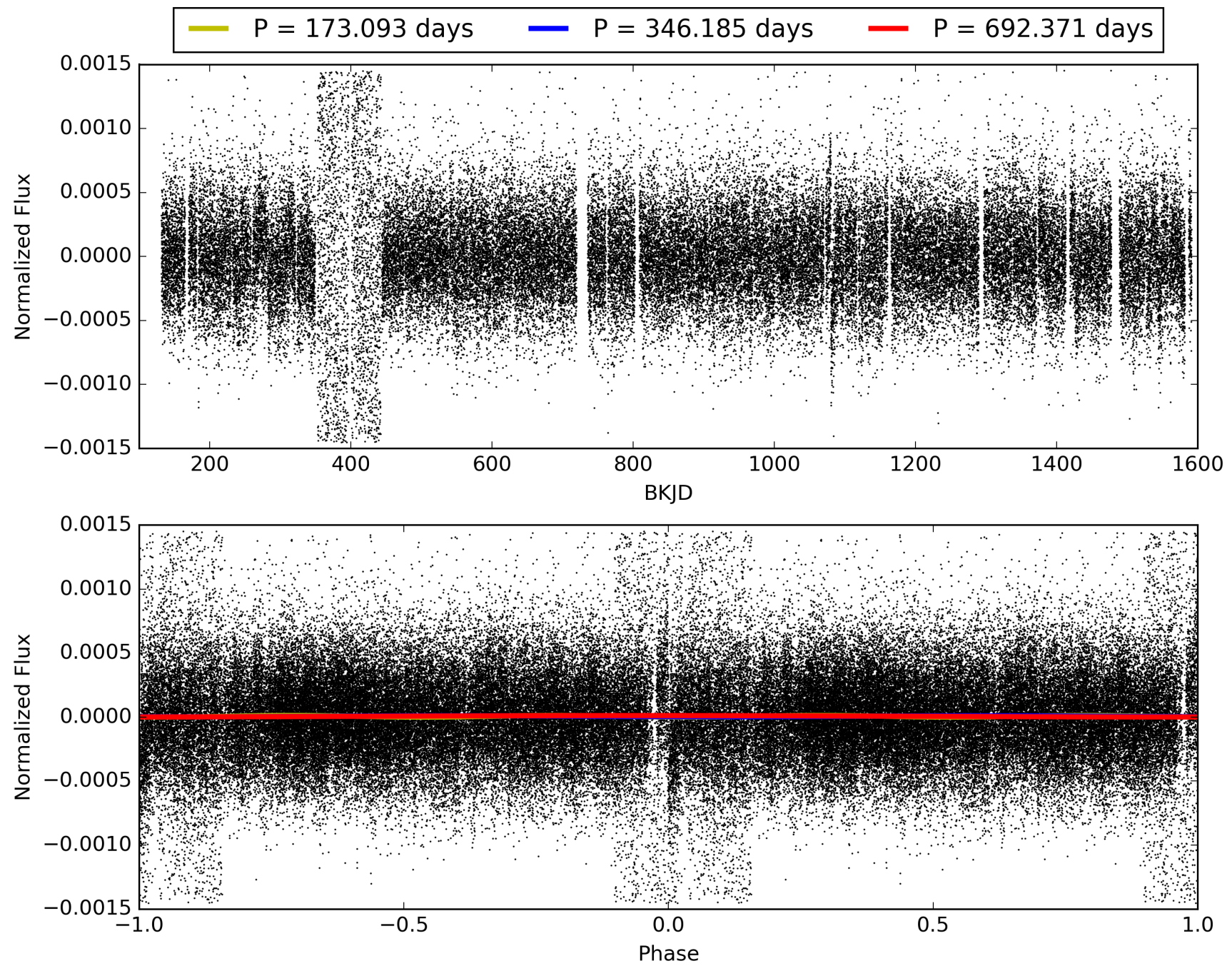
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:15:17 Z

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

# TCE 003733046-01, PDC Light Curves

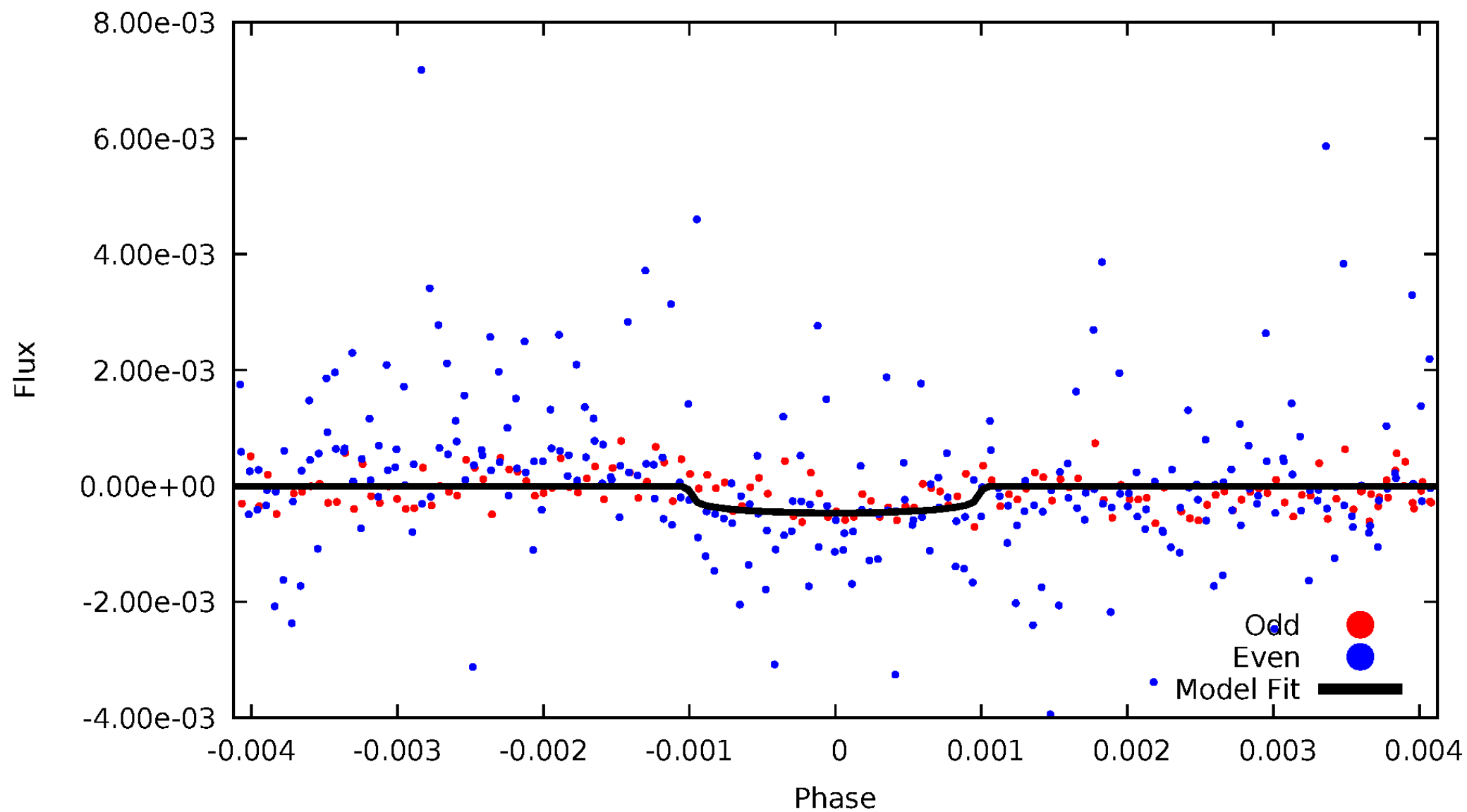


TCE 003733046-01



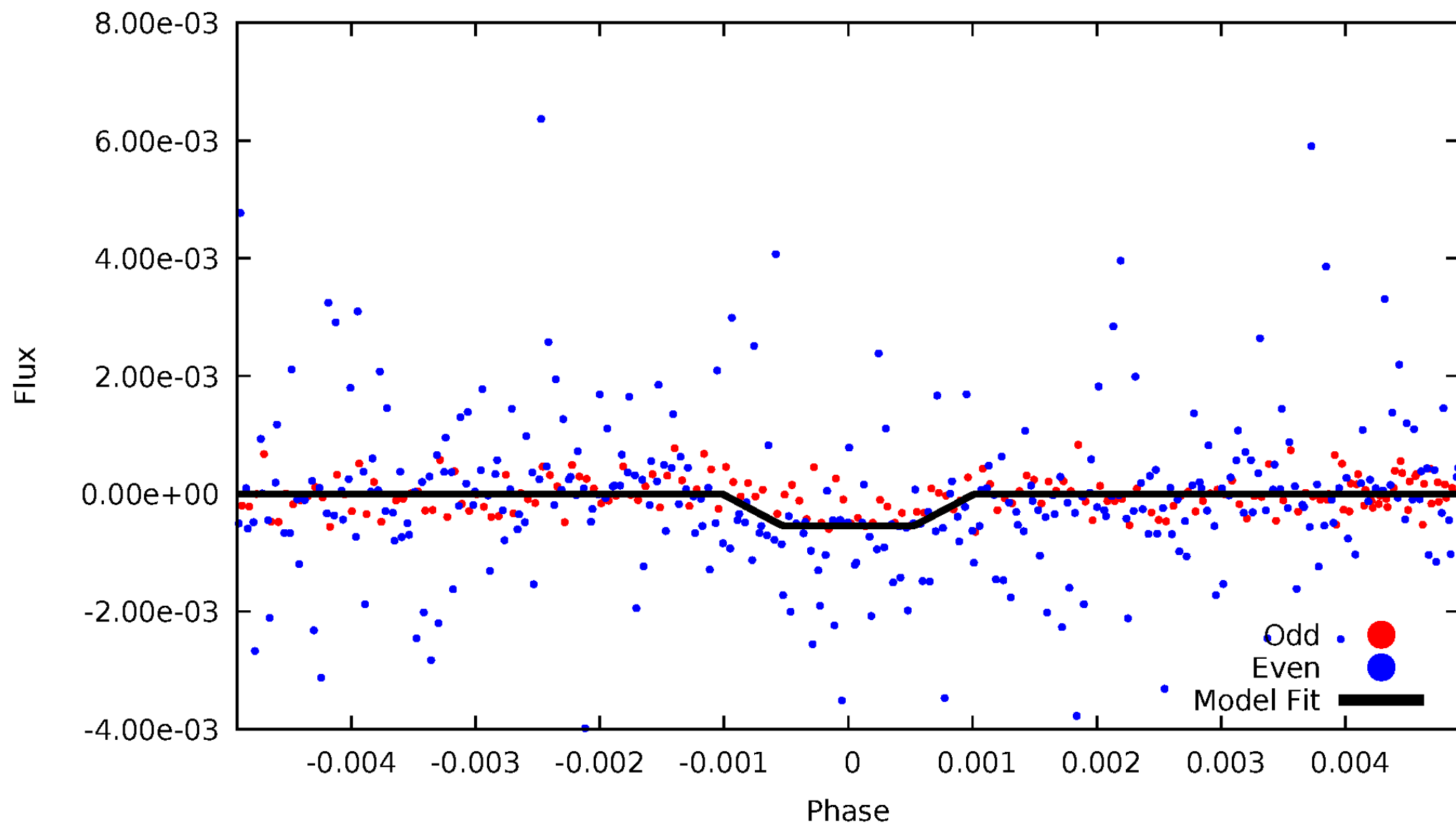
# DV Odd/Even

TCE 003733046-01



# ALT Odd/Even

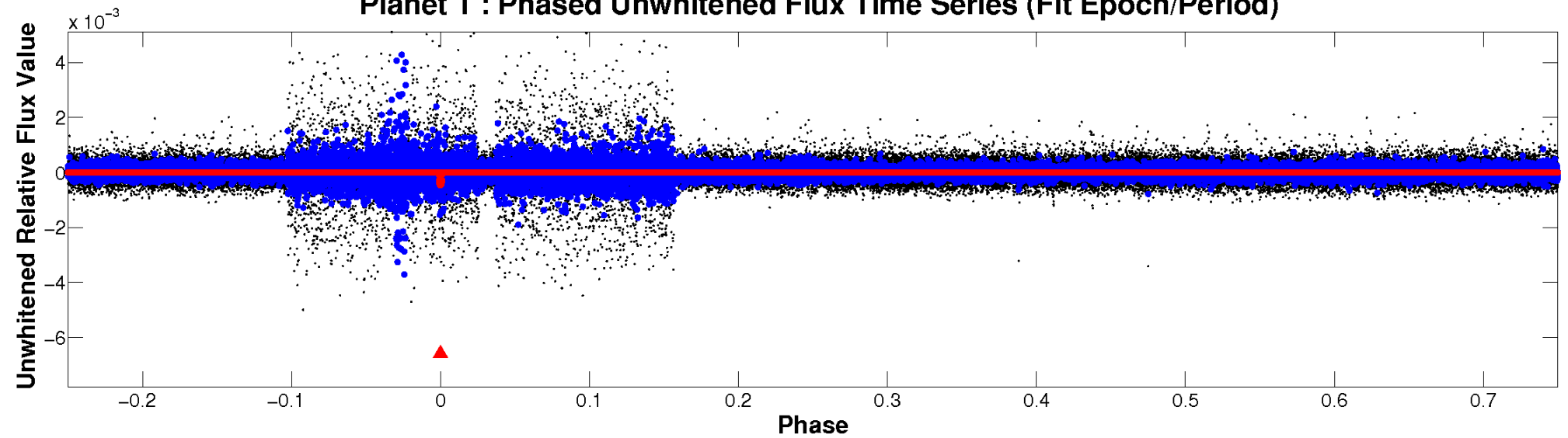
TCE 003733046-01



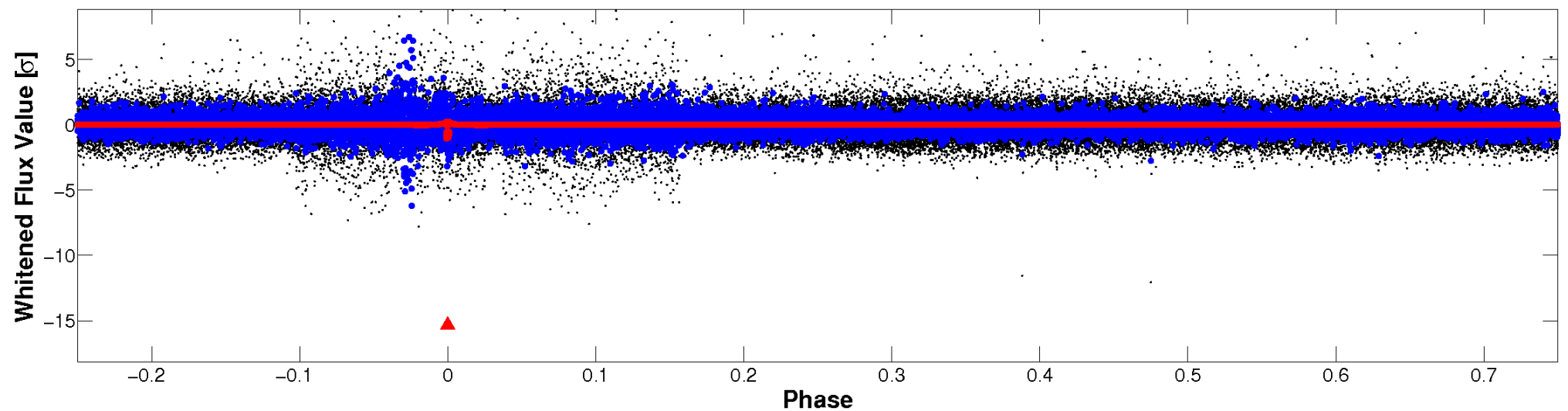


# Non-Whitened Vs. Whitened Light Curve

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

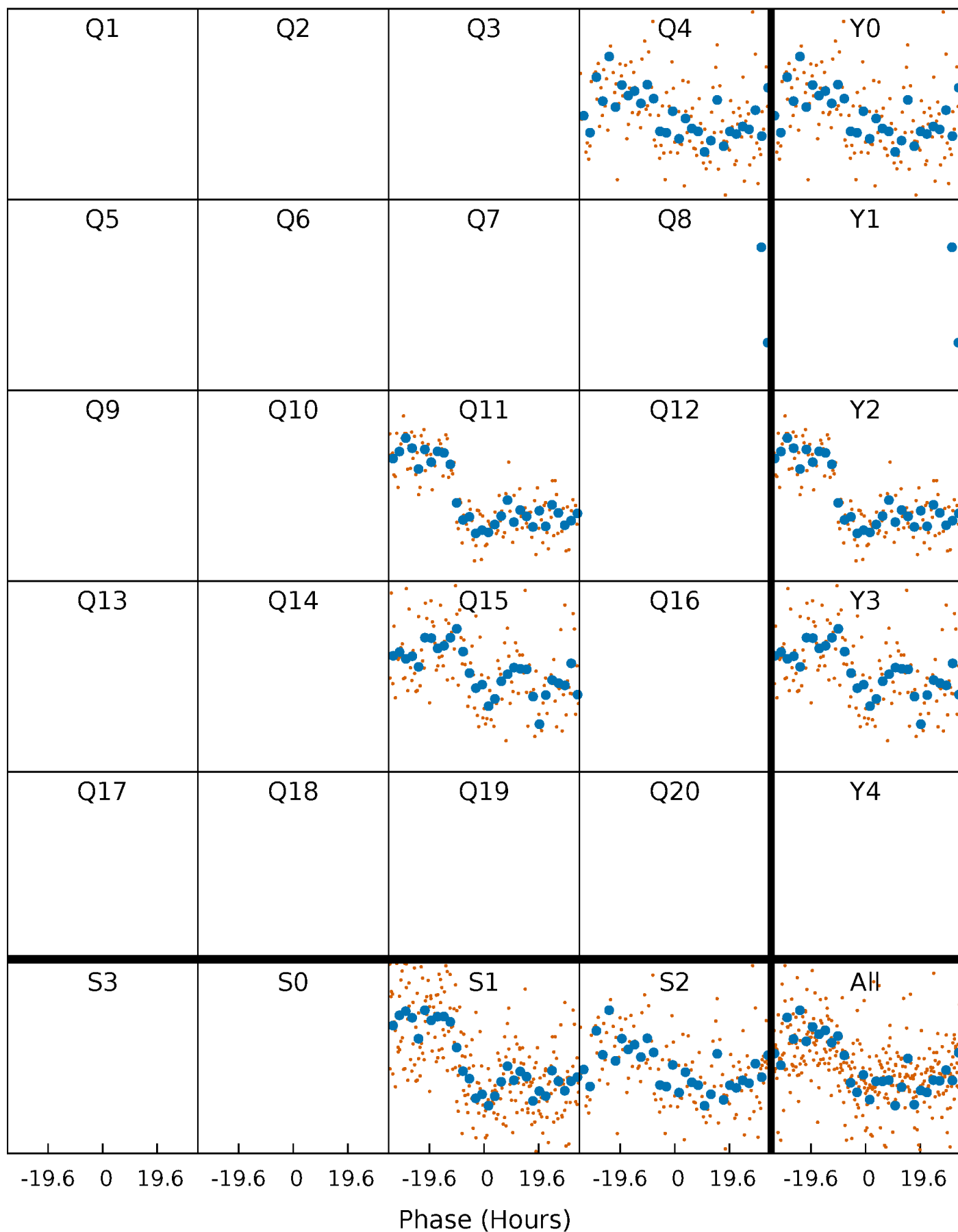


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

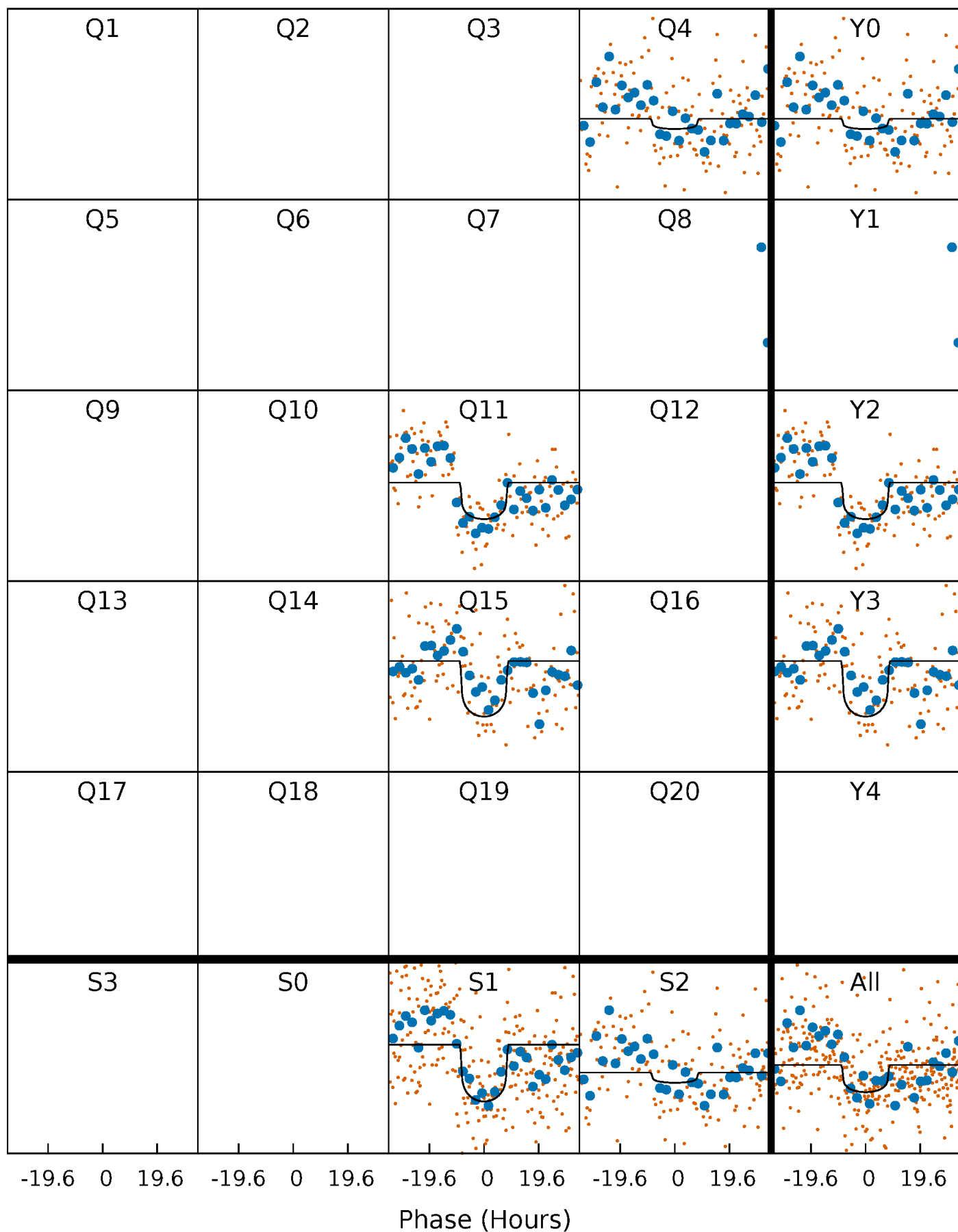
TCE 003733046-01 P=346.185403 Days  $T_0=387.951956$  (BKJD)





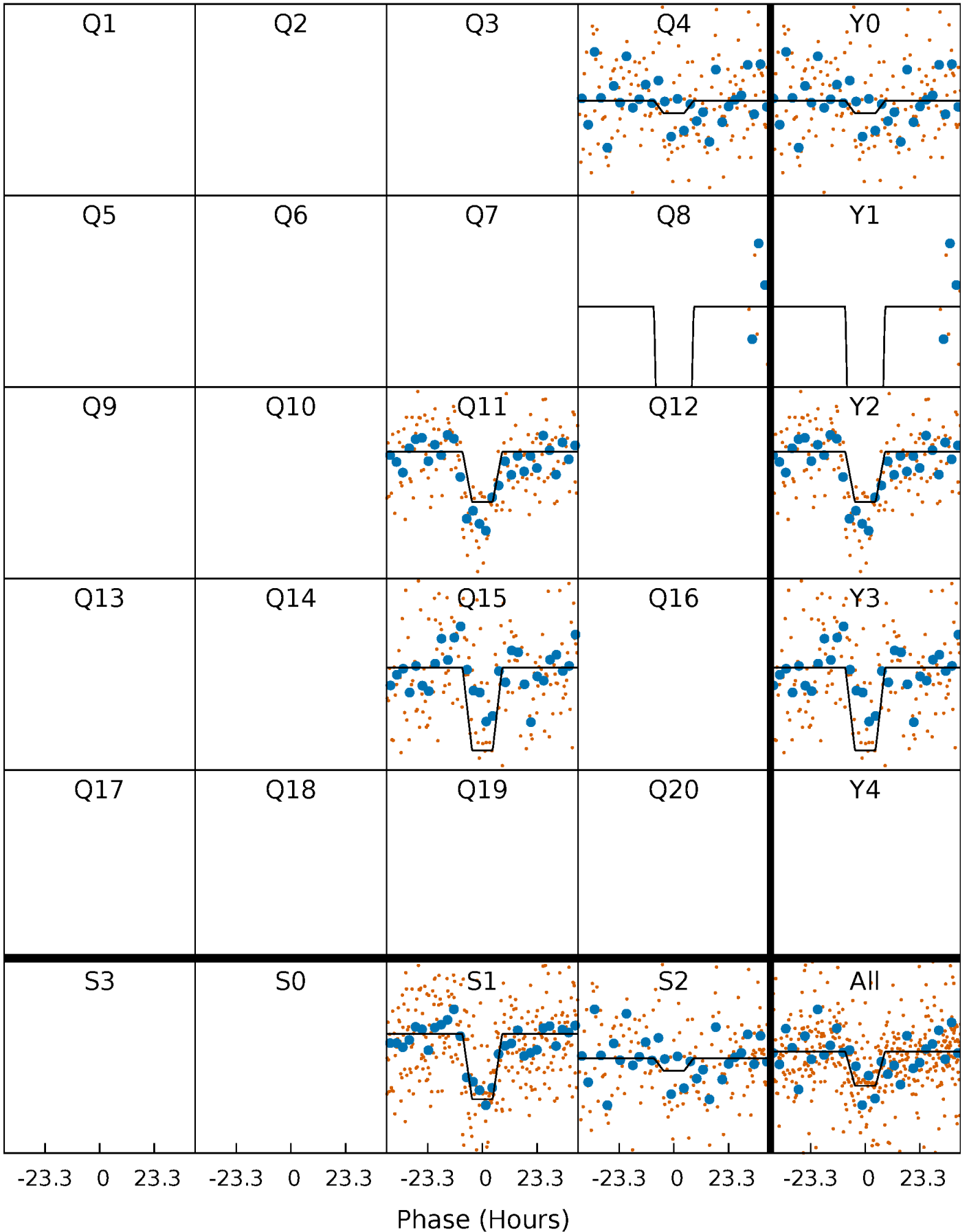
# DV Quarter-Phased Transit Curves

TCE 003733046-01 P=346.185403 Days  $T_0=387.951956$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

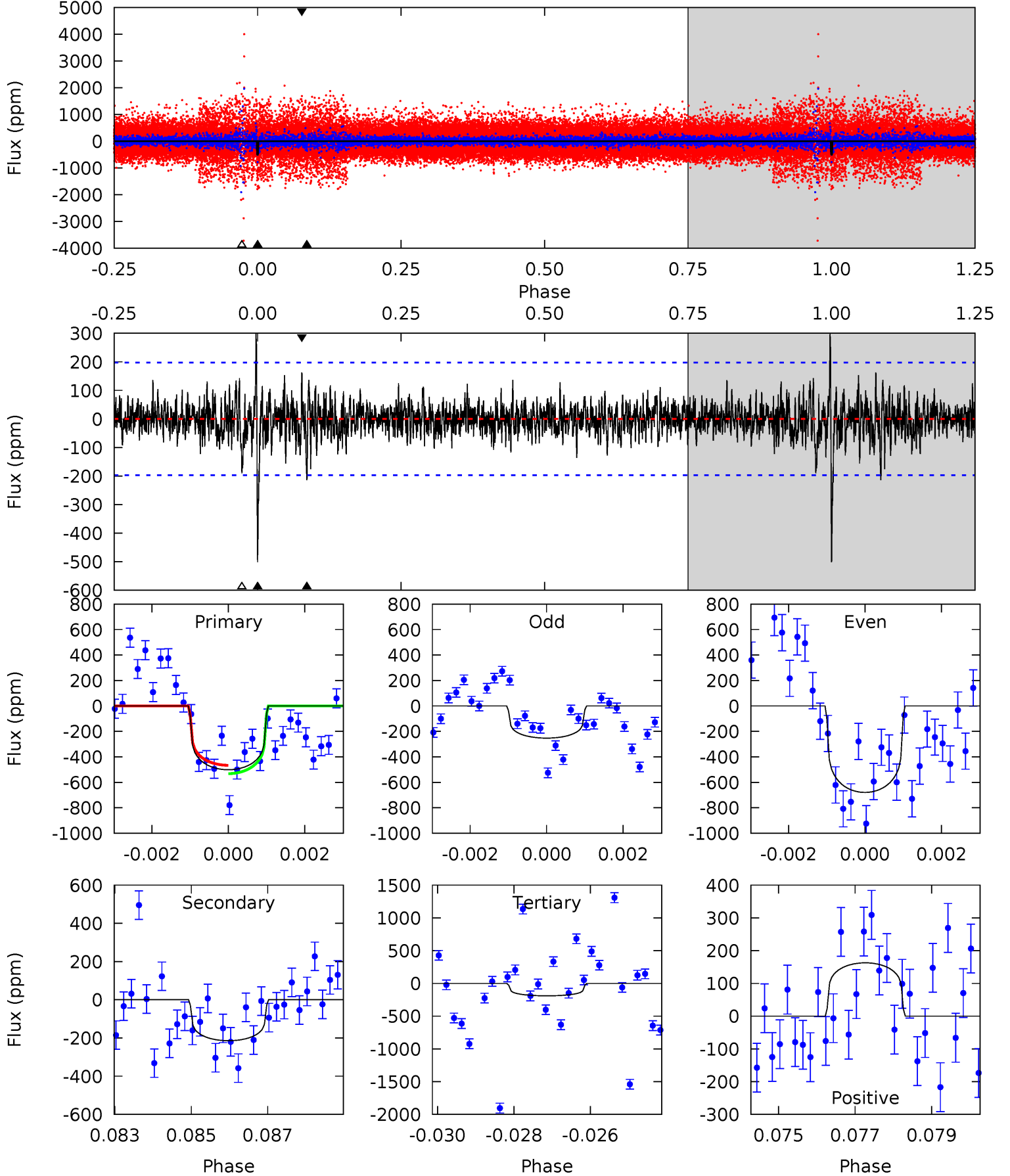
TCE 003733046-01 P=346.219429 Days  $T_0=387.825550$  (BKJD)



# DV Model-Shift Uniqueness Test

003733046-01, P = 346.185403 Days, E = 41.766553 Days

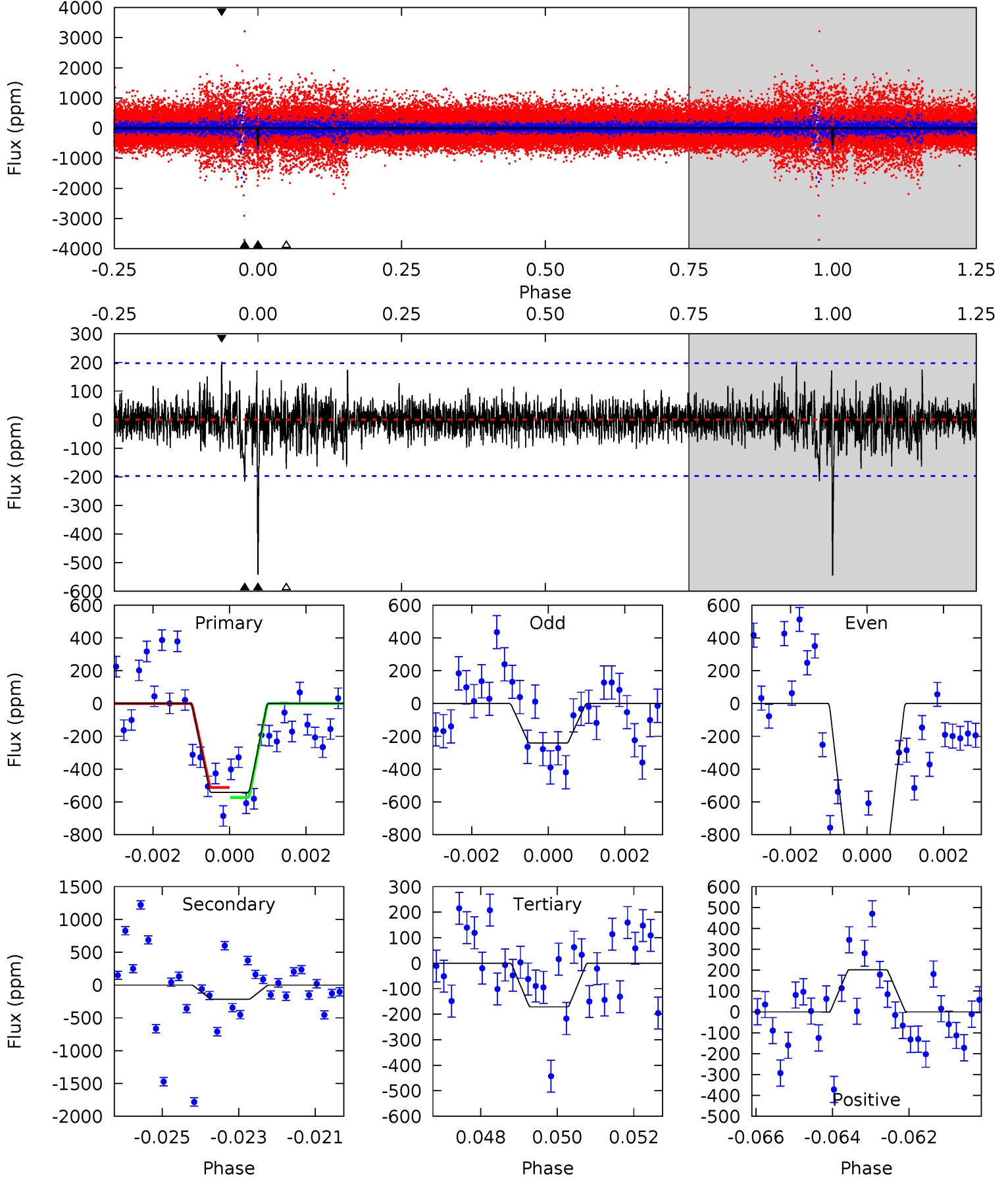
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	5.79	5.13	4.40	5.33	3.09	1.16	8.40	9.14	0.66	1.39	5.52	0.90	0.37	0.89



# Alt Model-Shift Uniqueness Test

003733046-01, P = 346.219429 Days, E = 41.606121 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
14.6	5.82	4.62	5.46	5.32	3.08	1.11	10.0	9.19	1.20	0.36	9.46	0.82	0.27	0.81



### Stellar Parameters For KIC 003733046

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5799^{+158}_{-158}$	$4.426^{+0.124}_{-0.186}$	$-0.420^{+0.300}_{-0.300}$	$0.923^{+0.236}_{-0.127}$	$0.828^{+0.117}_{-0.063}$	$1.483^{+0.807}_{-0.711}$
	+3%/-3%	+3%/-4%	+71%/-71%	+26%/-14%	+14%/-8%	+54%/-48%
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 003733046-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-214 \pm 37$	$2.14^{+1.11}_{-0.93}$	$364^{+25}_{-19}$	$4926^{+1482}_{-717}$	$21057^{+42360}_{-11844}$
Alt.	$-216 \pm 37$	$2.40^{+1.16}_{-1.09}$	$365^{+23}_{-20}$	$4767^{+1471}_{-691}$	$16835^{+43126}_{-9266}$

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

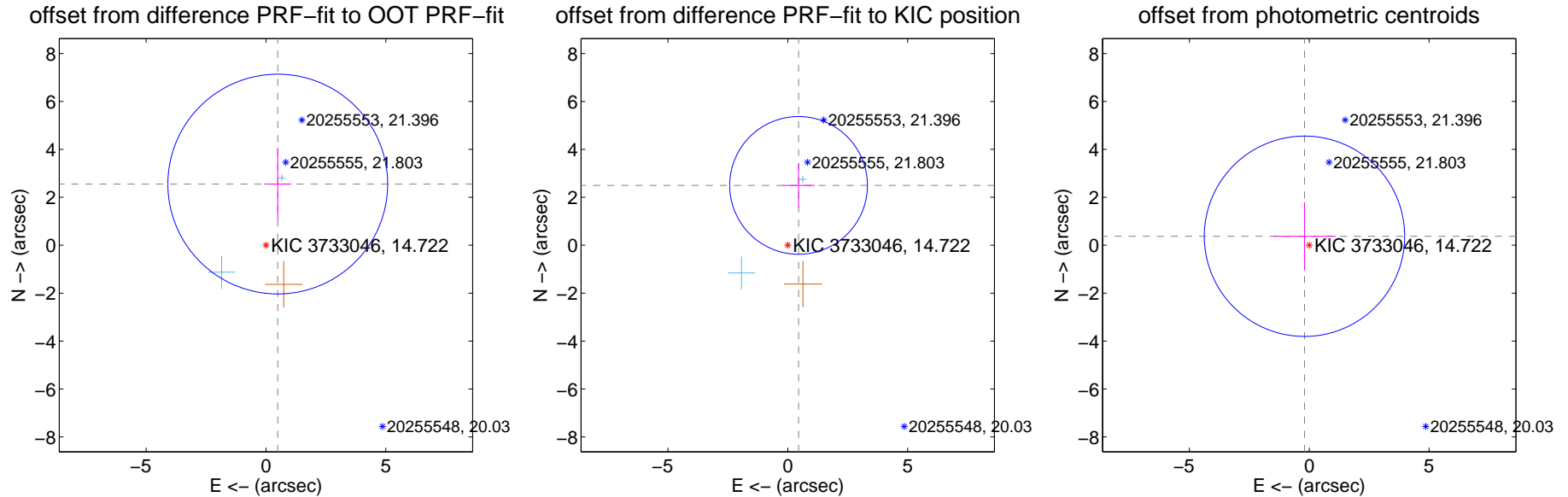
## DV Centroid Data

Supplemental centroid analysis for 003733046-01. Kepler magnitude: 14.72. Transit SNR 9.66

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

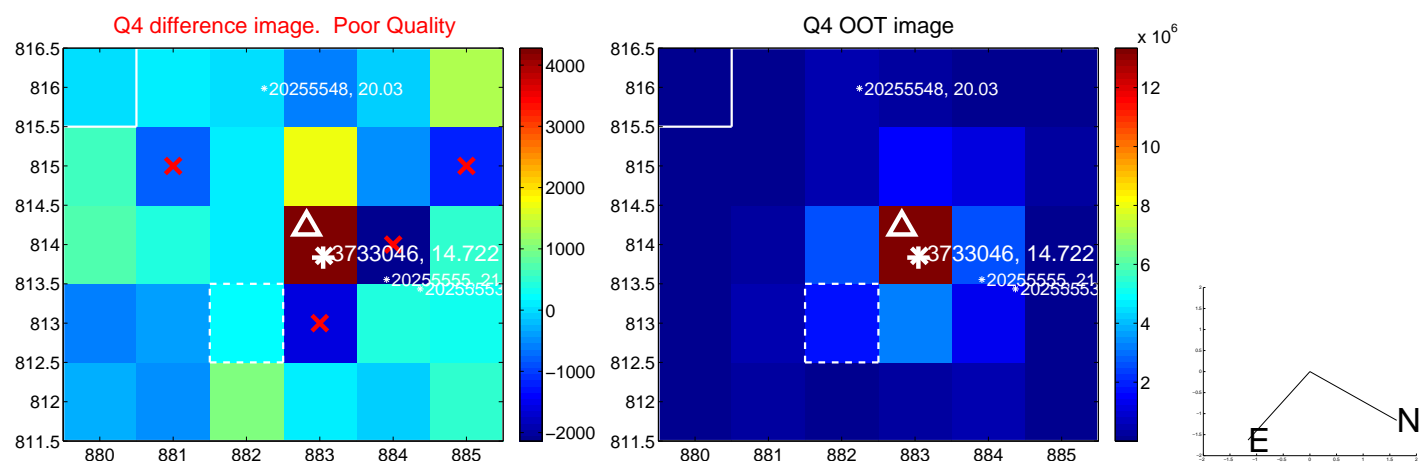
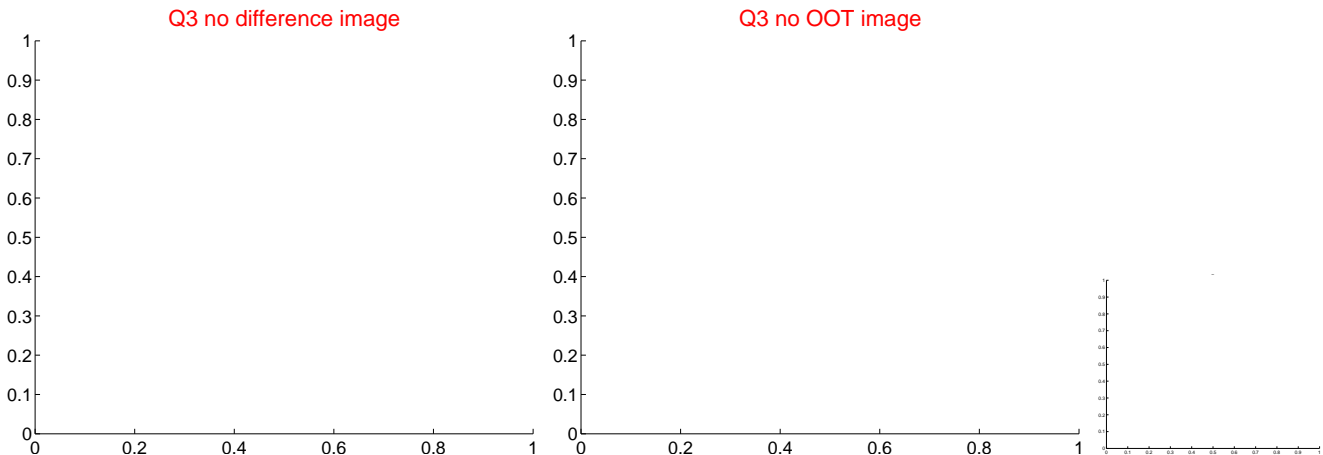
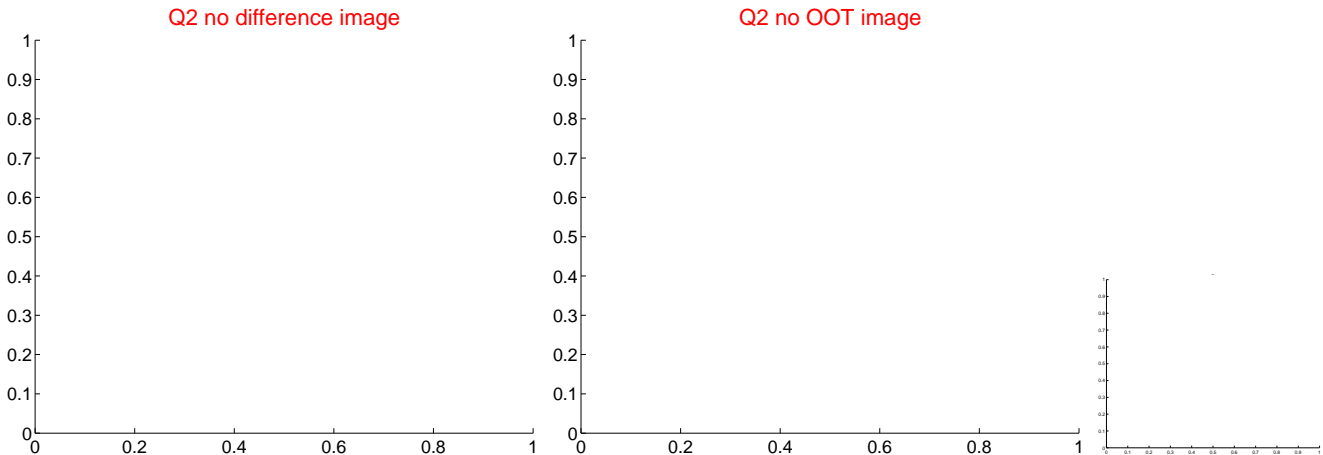
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.600 \pm 1.528$	1.70	$-0.492 \pm 0.566$	$2.553 \pm 1.510$
PRF-fit source offset from KIC position	$2.537 \pm 0.958$	2.65	$-0.450 \pm 0.671$	$2.497 \pm 0.929$
photometric centroid source offset	$0.42 \pm 1.39$	0.30	$0.20 \pm 1.31$	$0.37 \pm 1.42$



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.



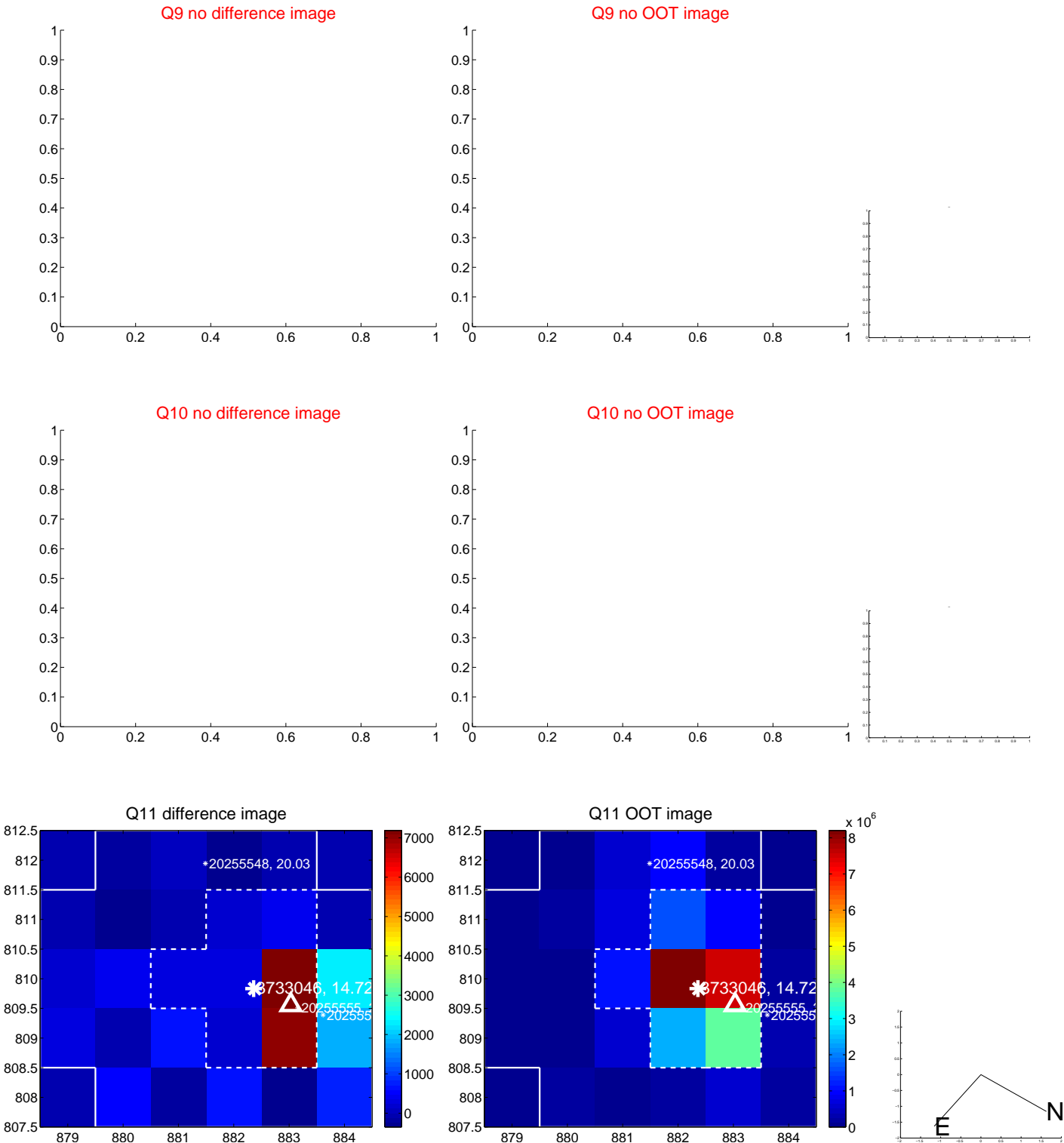
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



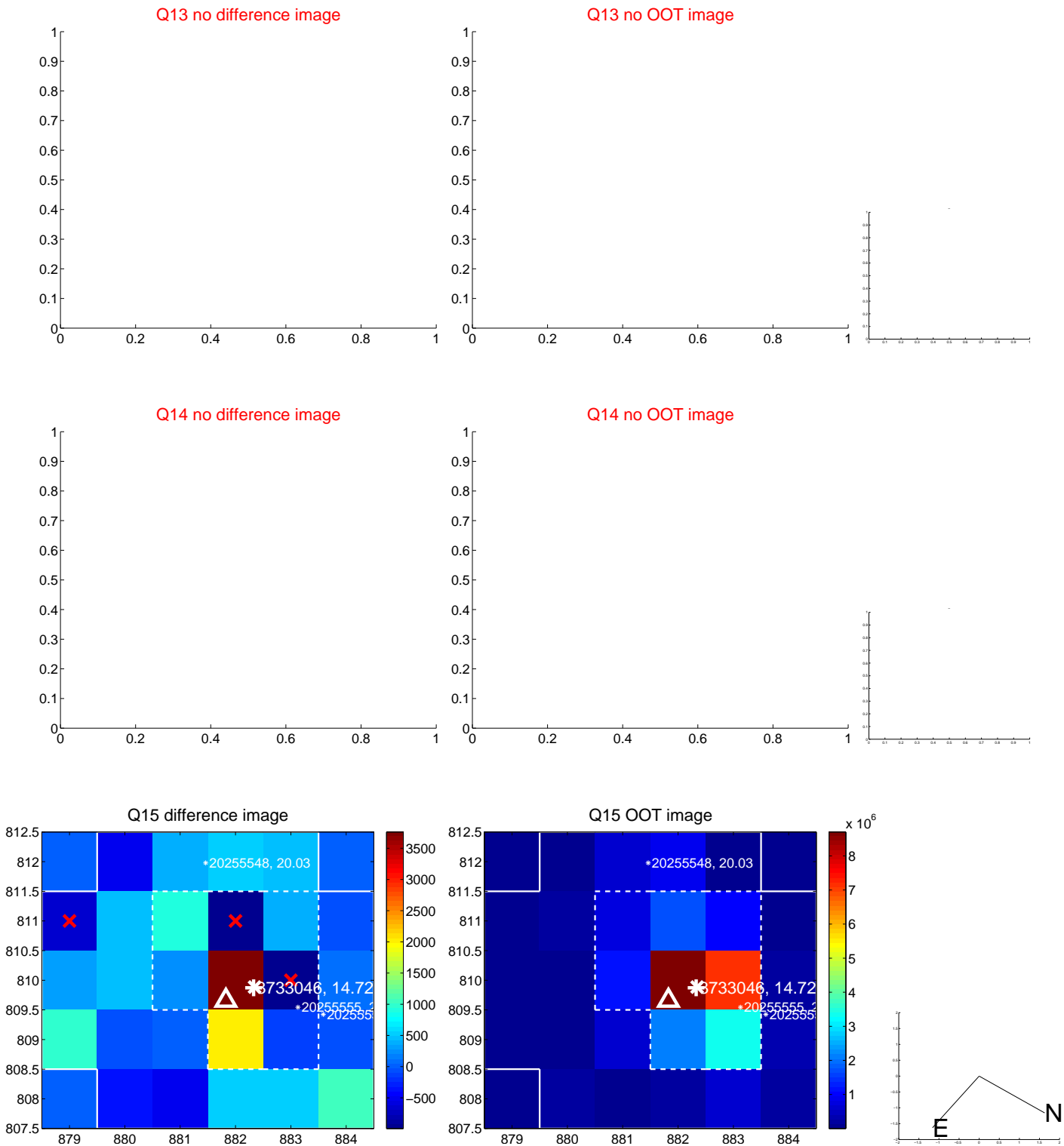
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



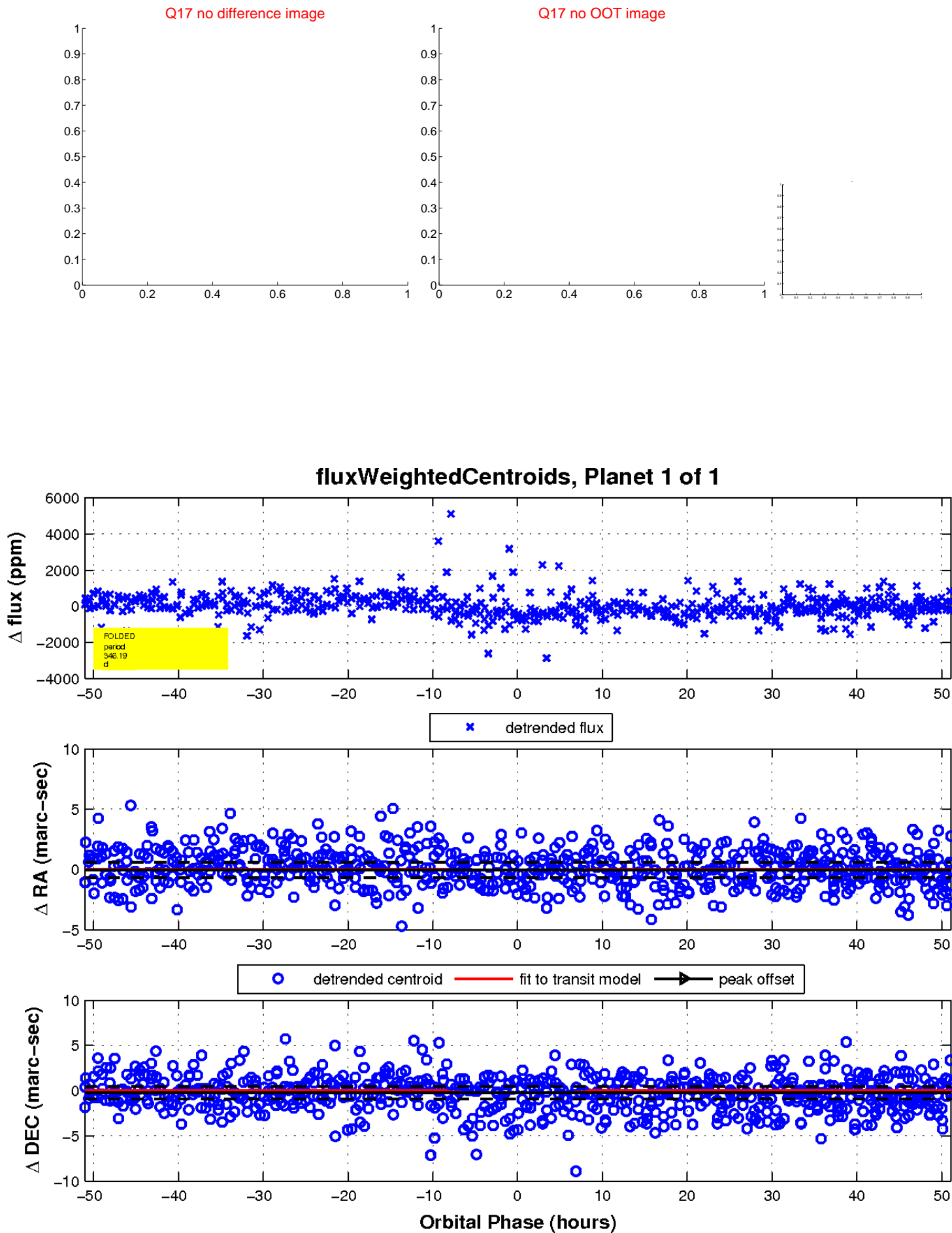
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

