

# KIC 009840197

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009840197-01	OBS	No	319.442968	247.645132	197.2	26.650	7.1	3.7	1.08	6214	1.63	1.67

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009840197-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_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.

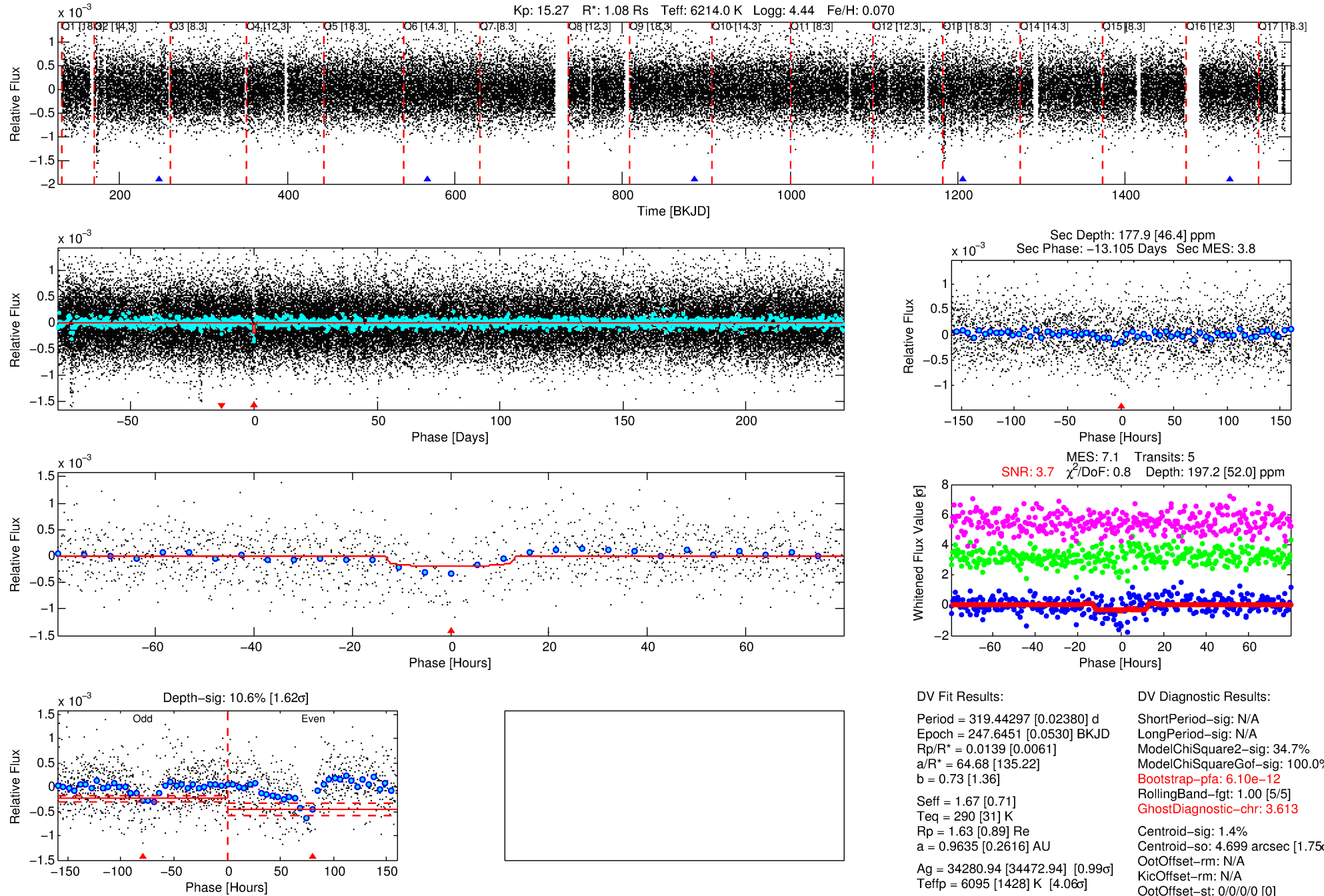
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009840197-01

No Significant Match Found

# DV One-Page Summary

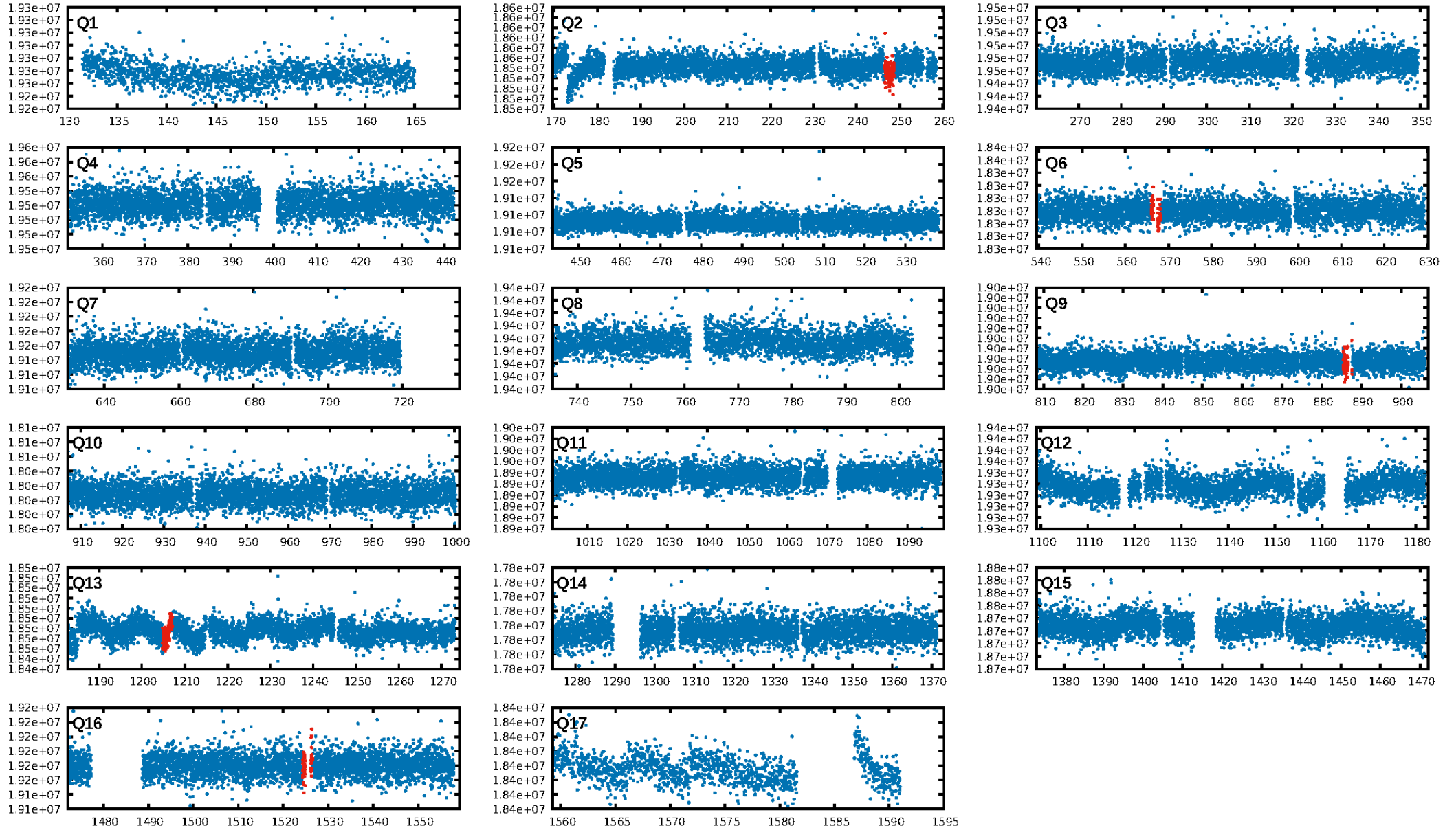
KIC: 9840197 Candidate: 1 of 1 Period: 319.443 d



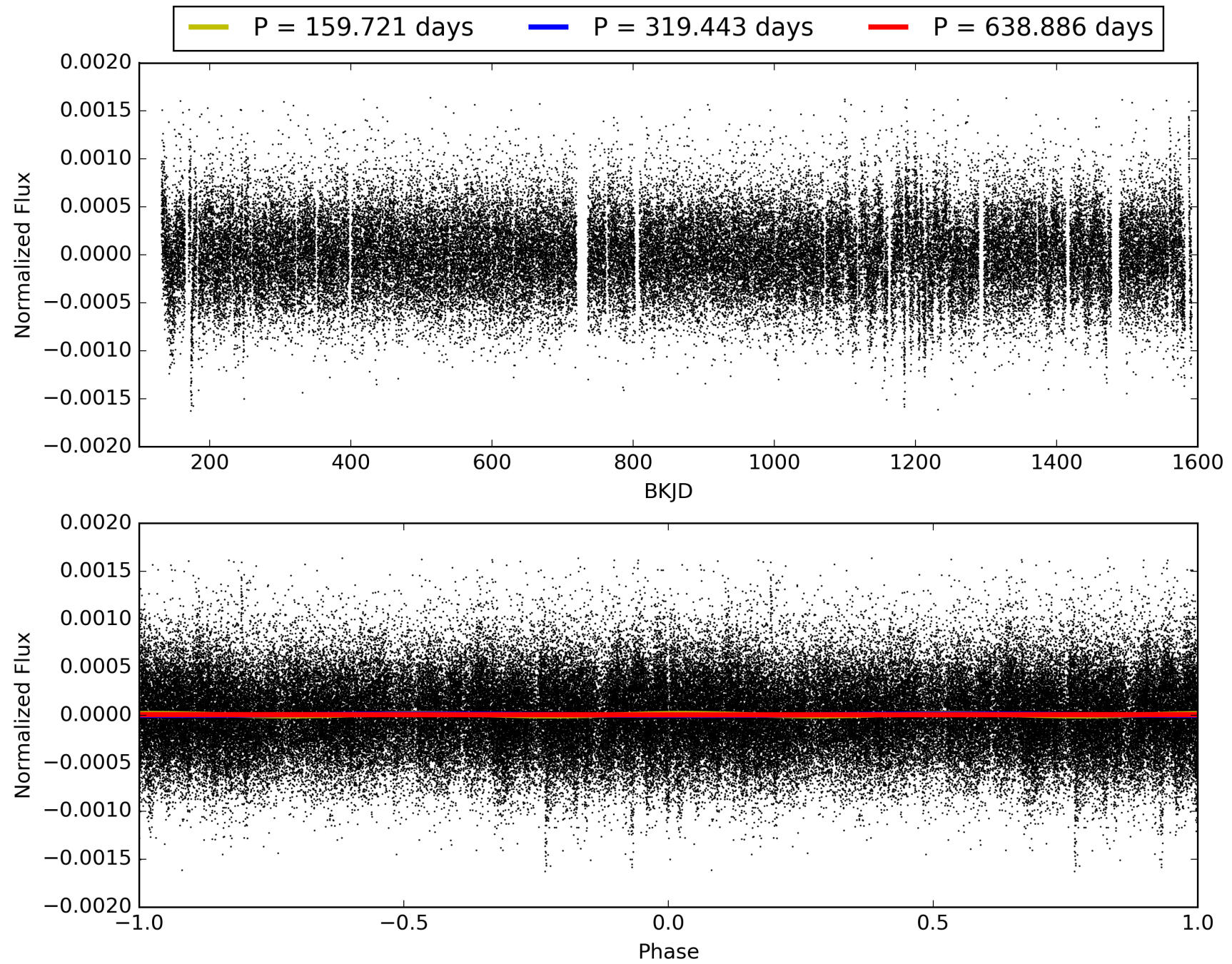
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:16:31 Z

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

# TCE 009840197-01, PDC Light Curves

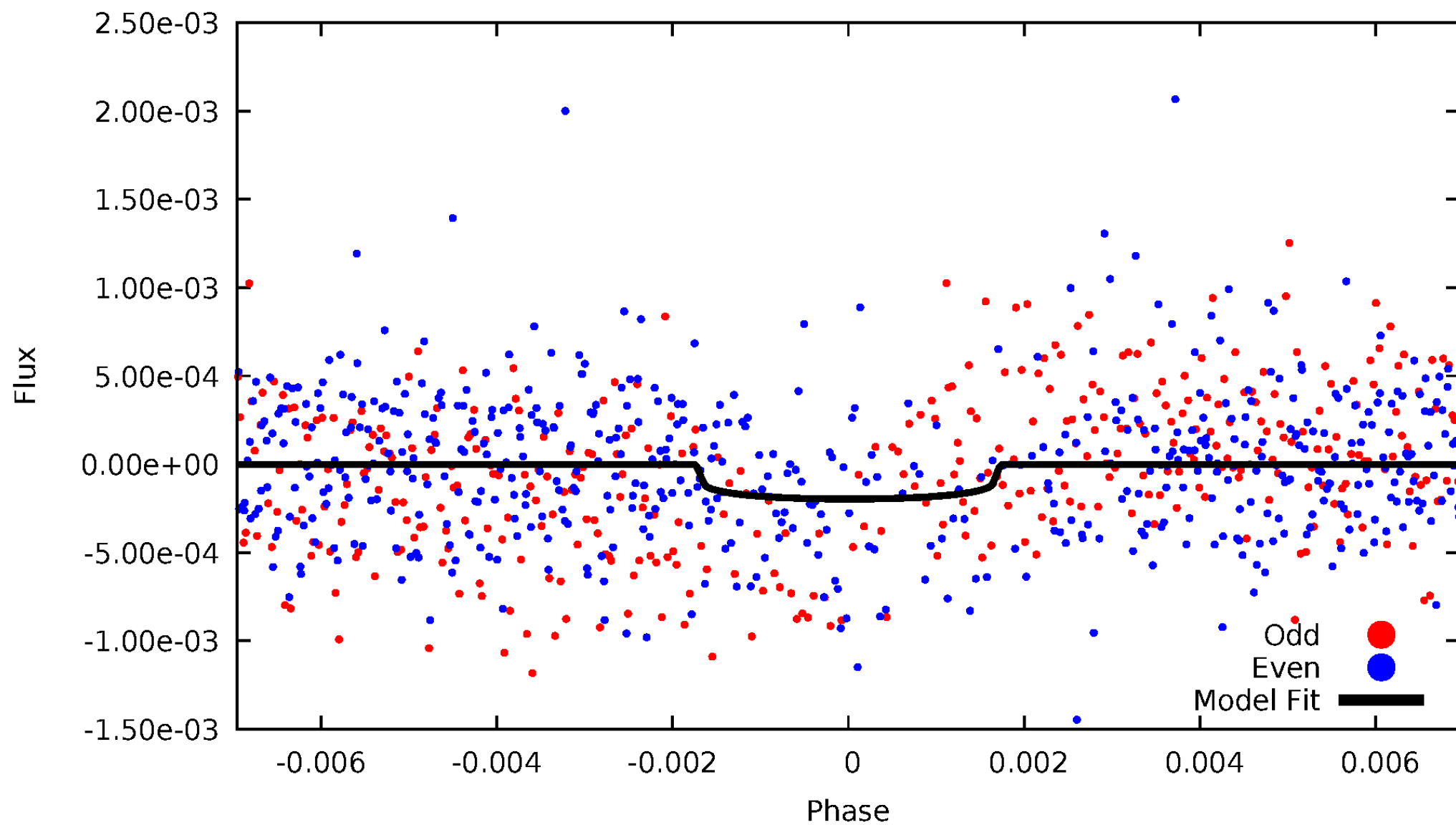


TCE 009840197-01



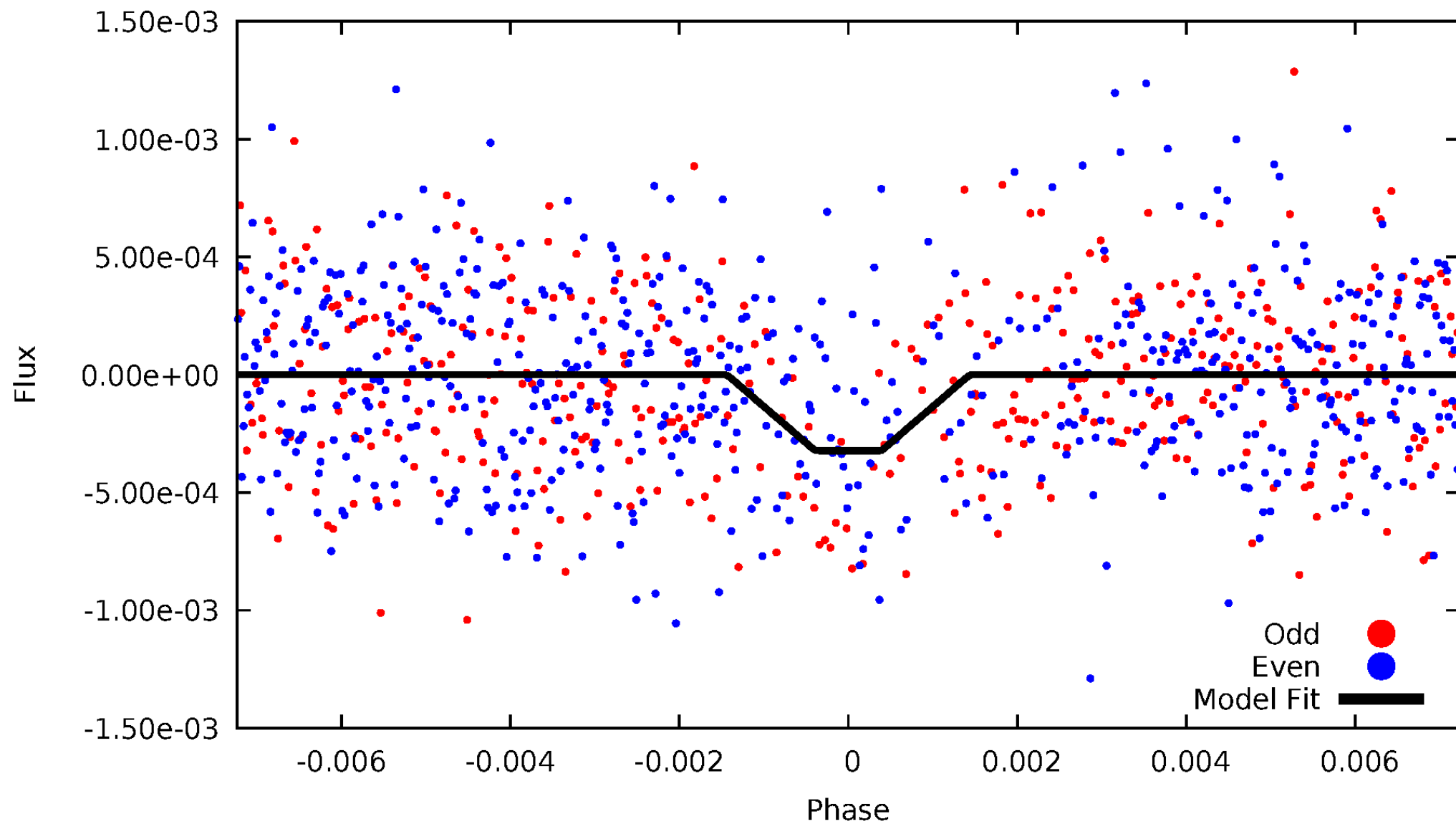
# DV Odd/Even

TCE 009840197-01



# ALT Odd/Even

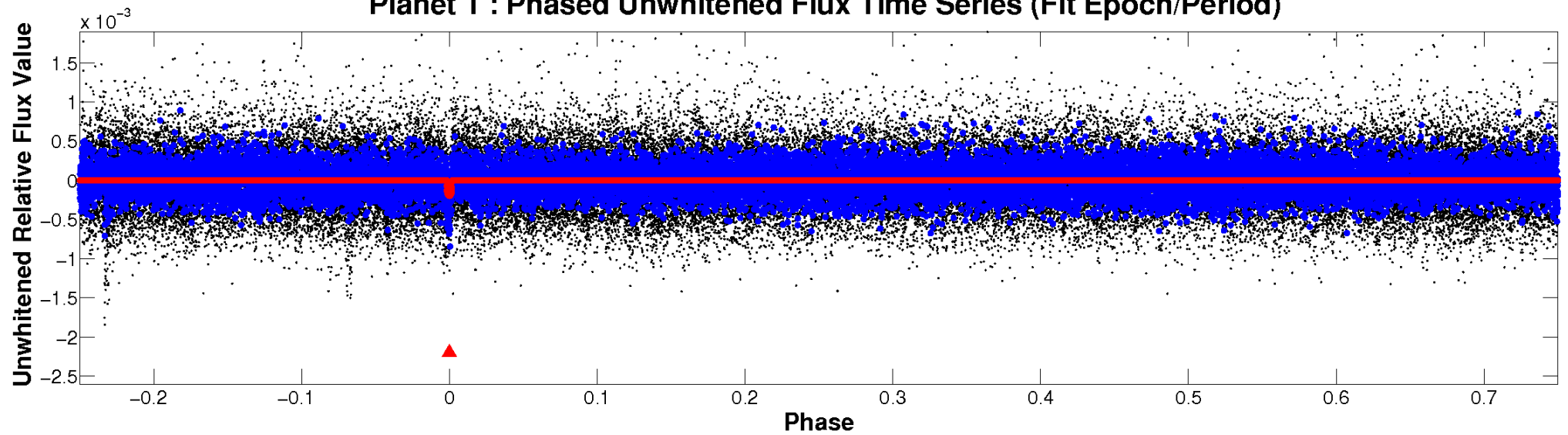
TCE 009840197-01



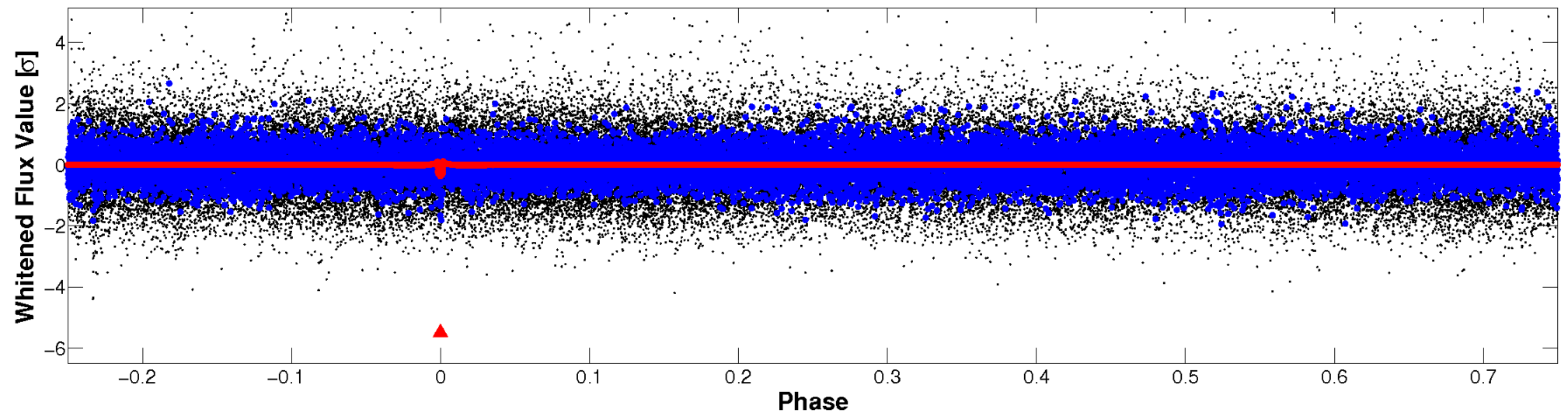


# Non-Whitened Vs. Whitened Light Curve

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

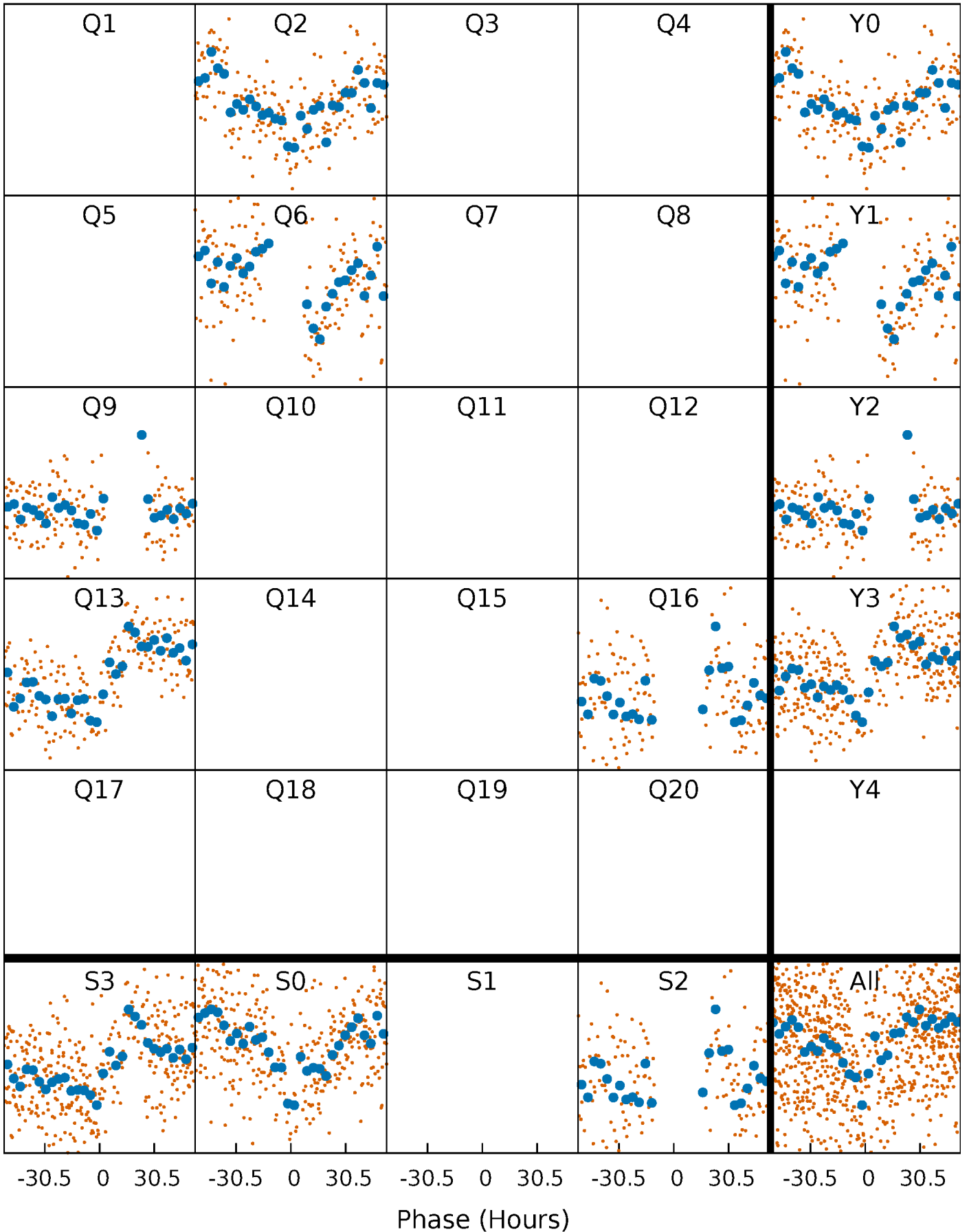


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

TCE 009840197-01 P=319.442968 Days  $T_0=247.645132$  (BKJD)





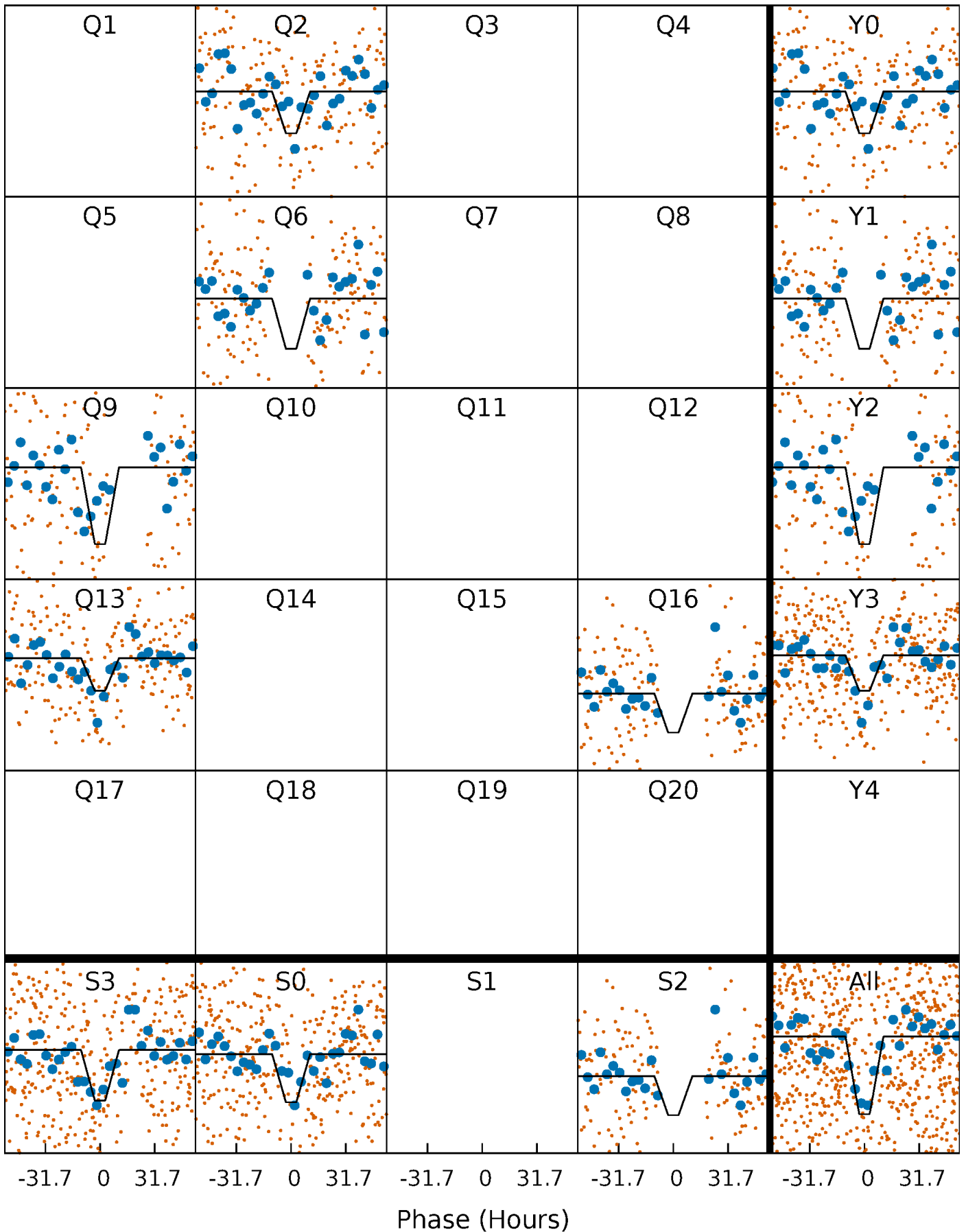
# DV Quarter-Phased Transit Curves

TCE 009840197-01 P=319.442968 Days  $T_0=247.645132$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

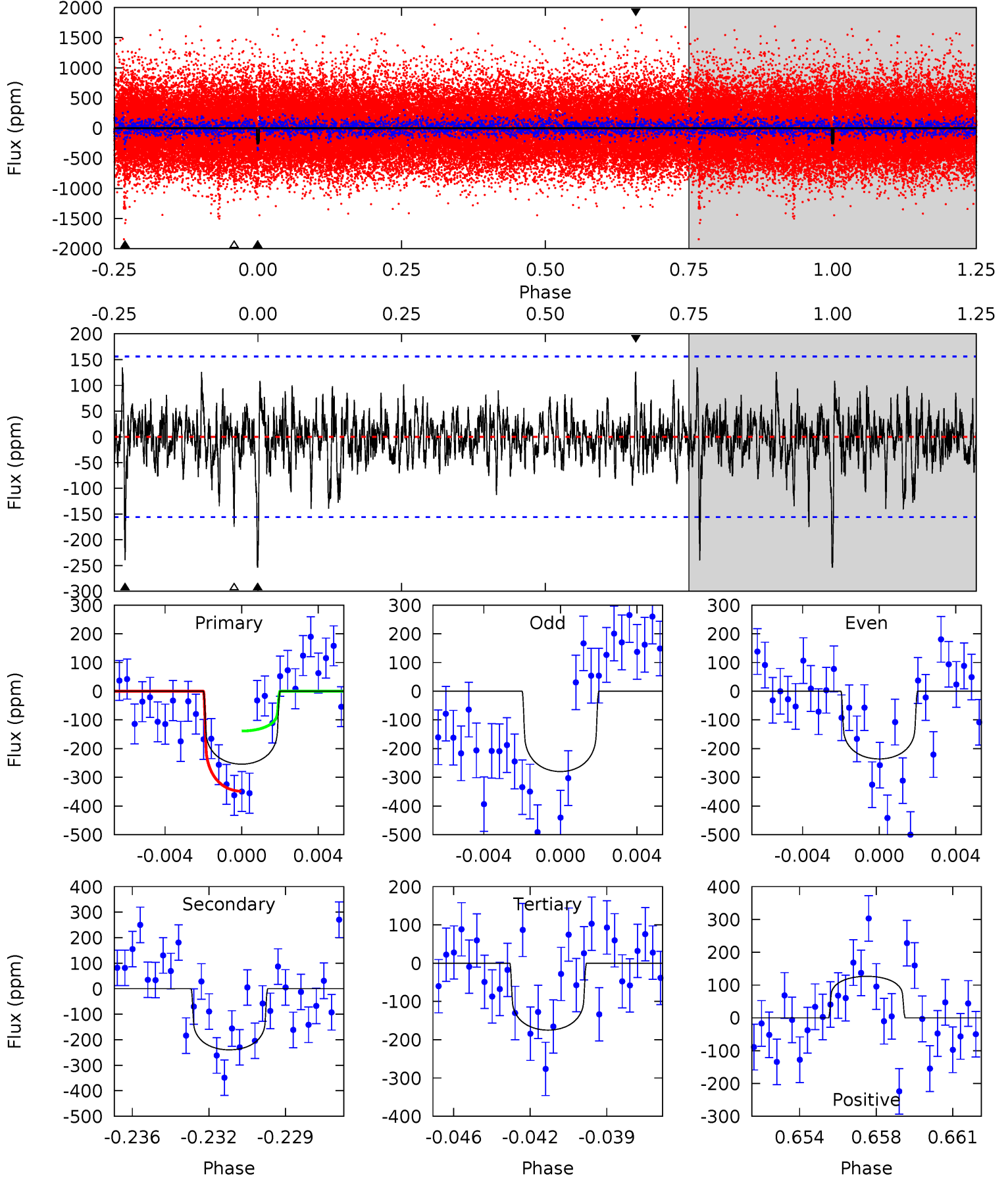
TCE 009840197-01     $P=319.444655$  Days     $T_0=247.561030$  (BKJD)



# DV Model-Shift Uniqueness Test

009840197-01,  $P = 319.442968$  Days,  $E = 247.645132$  Days

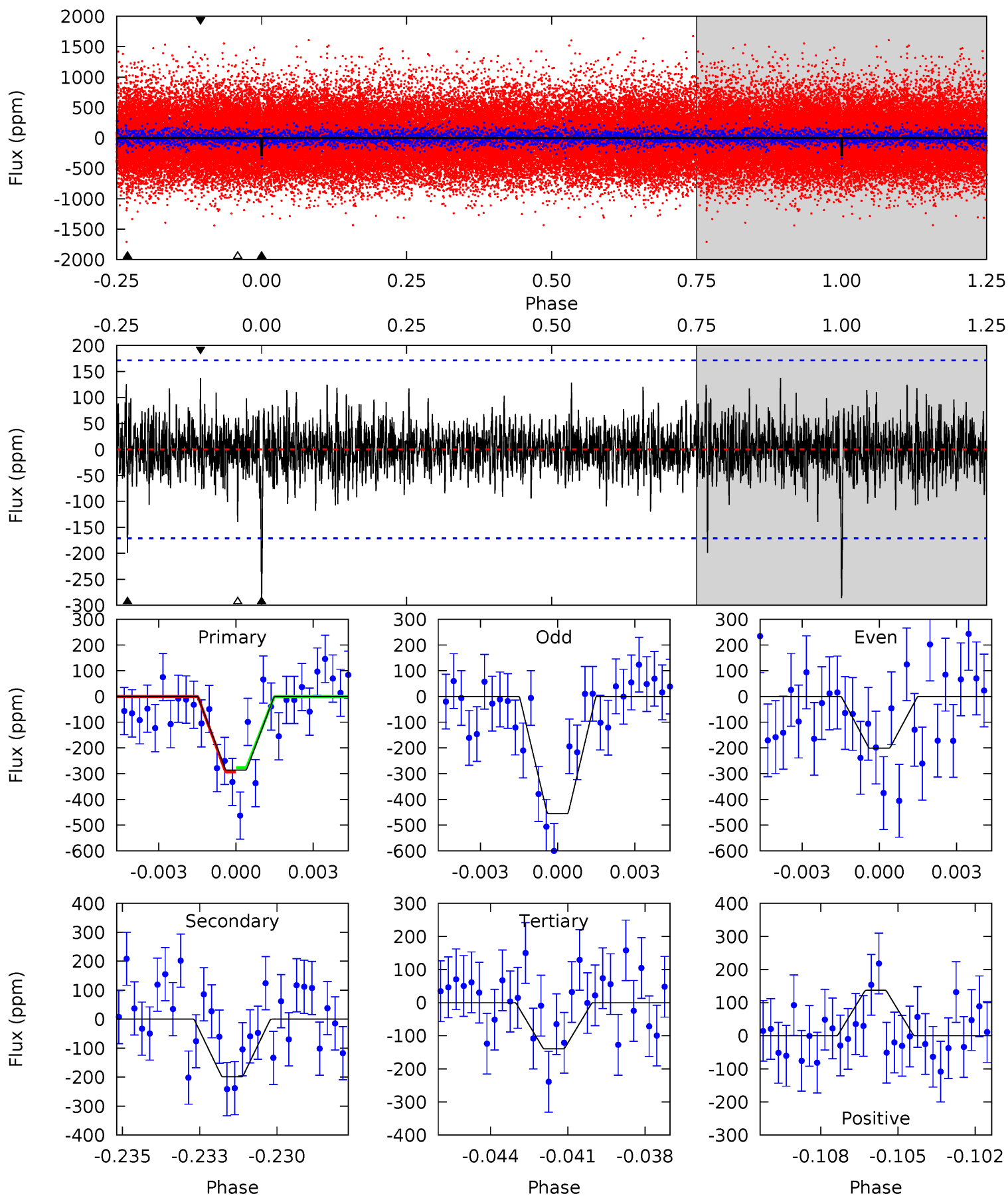
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.52	8.03	5.86	4.25	5.22	2.92	1.27	2.66	4.27	2.17	3.79	0.73	0.73	0.35	3.50



# Alt Model-Shift Uniqueness Test

009840197-01, P = 319.444655 Days, E = 247.561030 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
8.78	6.10	4.29	4.21	5.26	2.98	1.11	4.50	4.57	1.81	1.89	3.80	1.06	0.32	0.26



### Stellar Parameters For KIC 009840197

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6214^{+173}_{-239}$	$4.442^{+0.054}_{-0.216}$	$0.070^{+0.250}_{-0.300}$	$1.076^{+0.347}_{-0.116}$	$1.169^{+0.142}_{-0.173}$	$1.321^{+0.375}_{-0.693}$
	+3%/-4%	+1%/-5%	+357%/-429%	+32%/-11%	+12%/-15%	+28%/-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 009840197-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-240 \pm 30$	$1.68^{+0.76}_{-0.76}$	$413^{+31}_{-20}$	$6620^{+2710}_{-1142}$	$41853^{+99736}_{-22303}$
Alt.	$-199 \pm 33$	$2.21^{+0.89}_{-0.76}$	$412^{+33}_{-21}$	$5489^{+1266}_{-735}$	$20224^{+25998}_{-10330}$

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

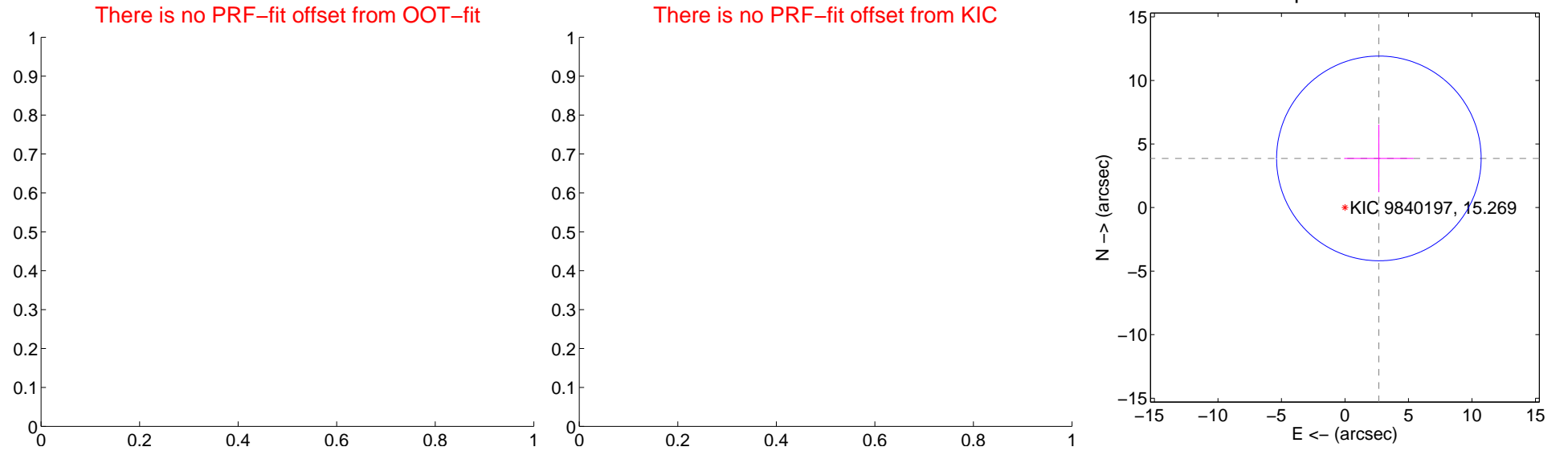
## DV Centroid Data

Supplemental centroid analysis for 009840197-01. Kepler magnitude: 15.27. Transit SNR 3.68

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$4.70 \pm 2.68$	1.75	$-2.67 \pm 2.73$	$3.87 \pm 2.66$



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.



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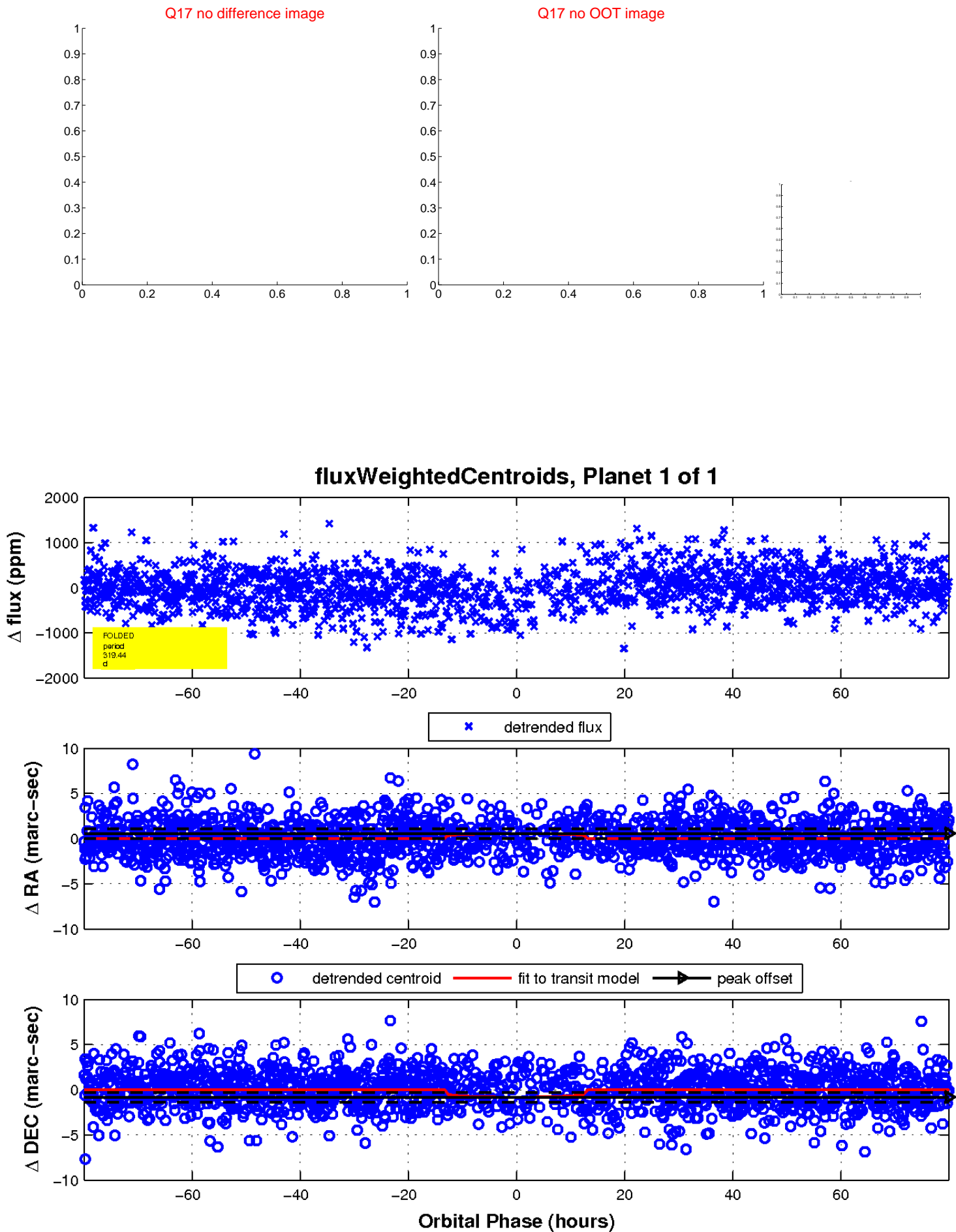
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UKIRT Image

Declination

