

# KIC 004476062

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004476062-01	OBS	No	319.348035	209.286254	458.4	4.611	7.2	6.6	0.75	5169	1.79	0.49

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004476062-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—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.

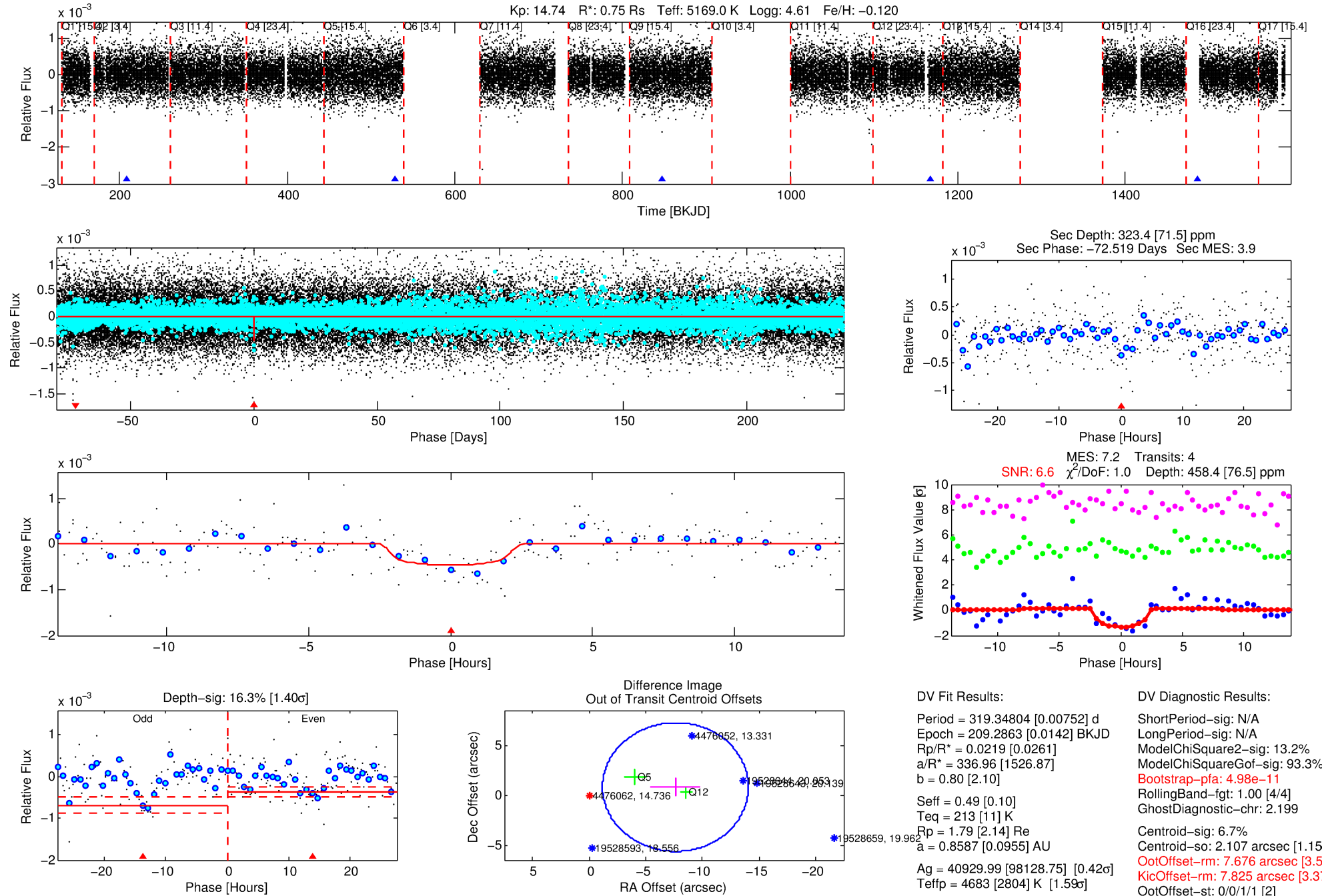
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004476062-01

No Significant Match Found

# DV One-Page Summary

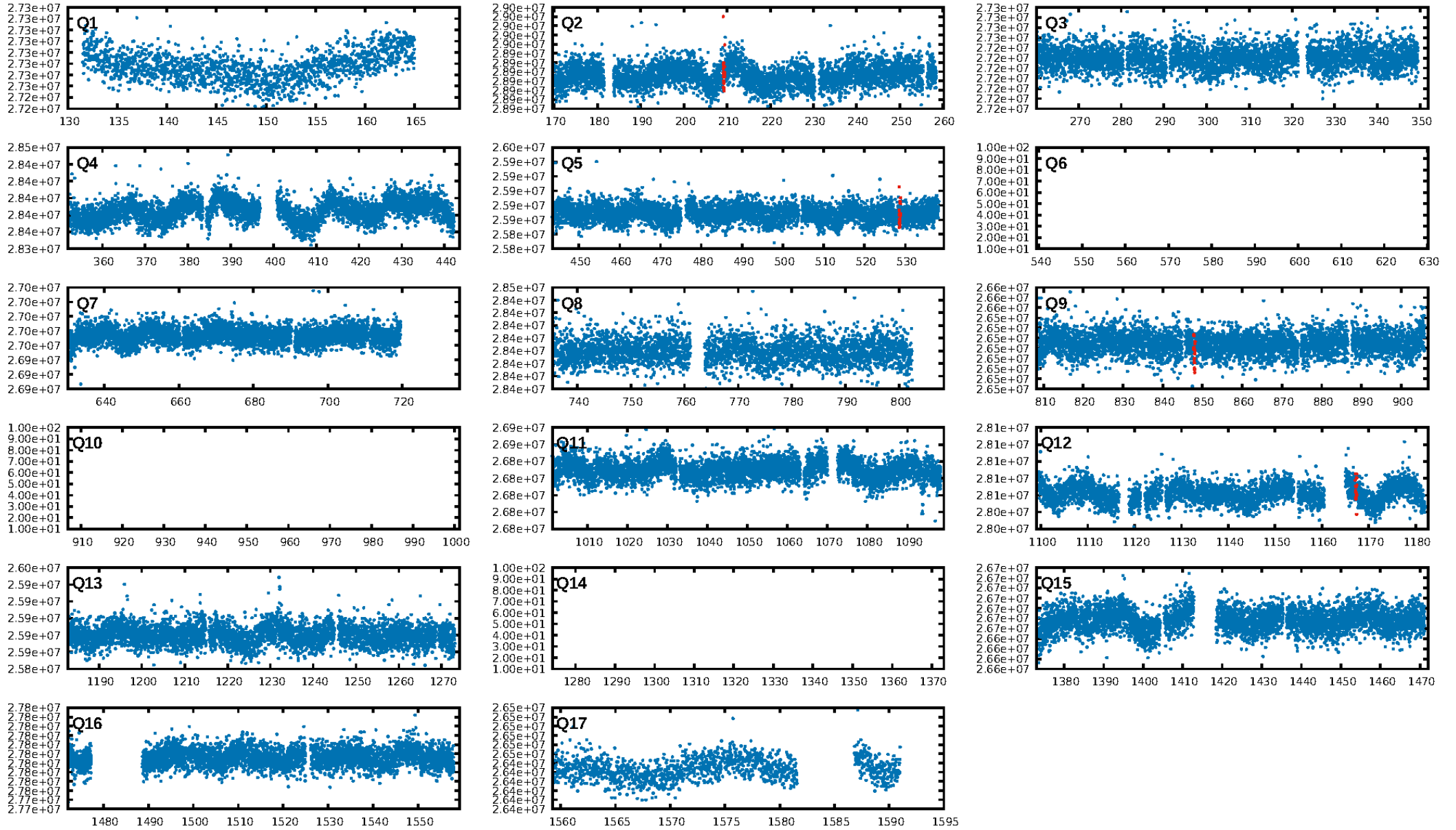
KIC: 4476062 Candidate: 1 of 1 Period: 319.348 d



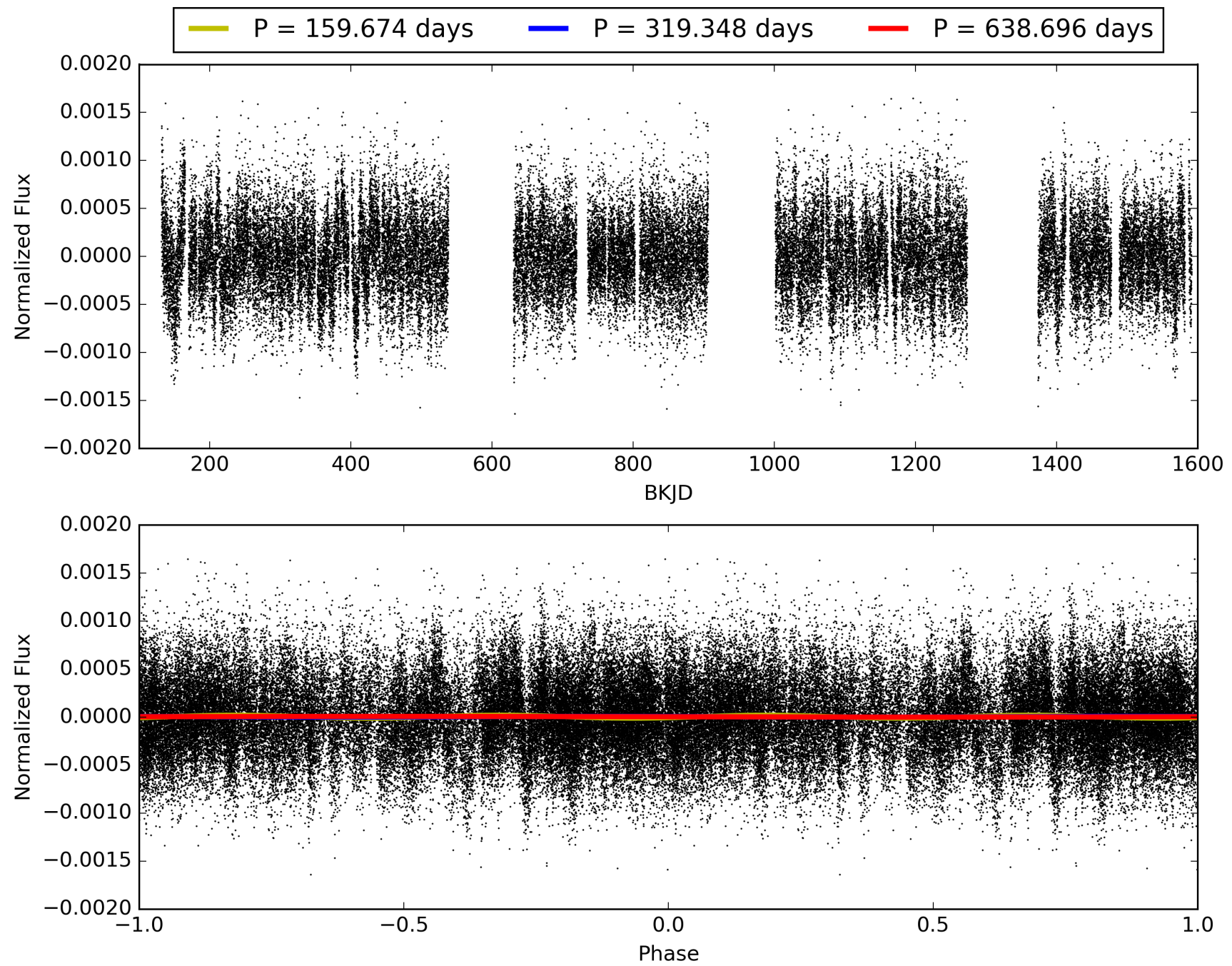
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 11:11:45 Z

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

# TCE 004476062-01, PDC Light Curves

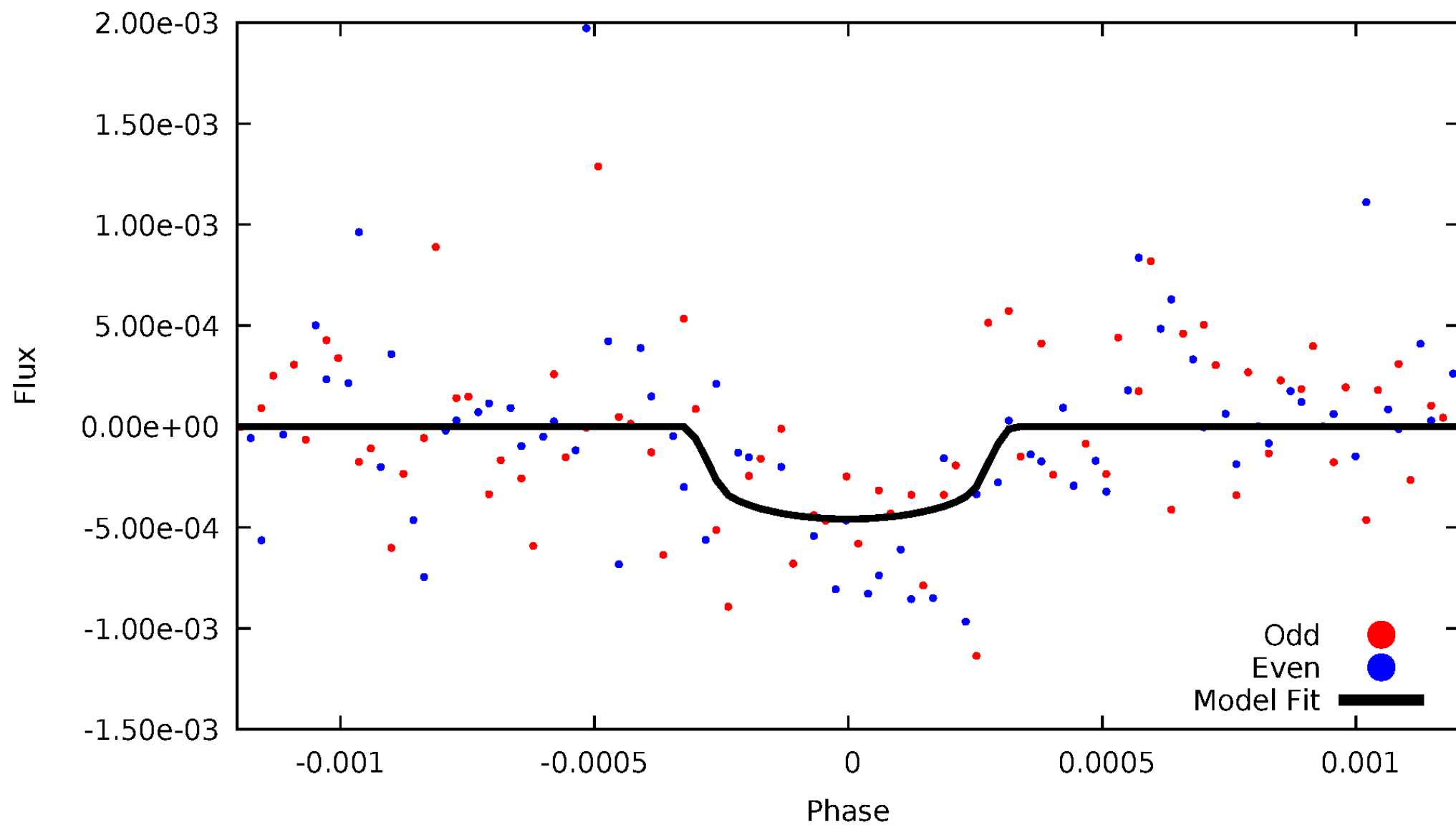


TCE 004476062-01



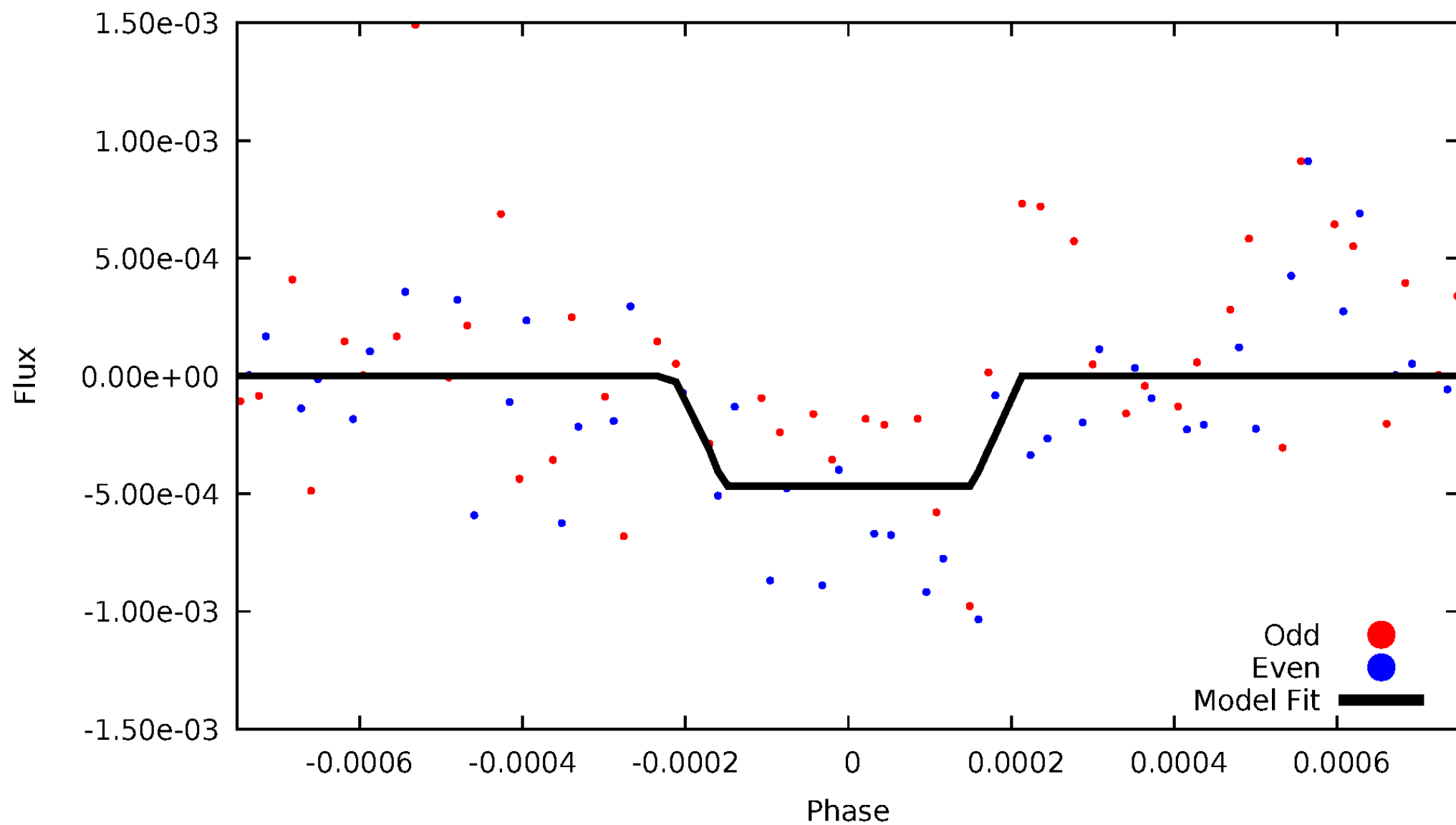
# DV Odd/Even

TCE 004476062-01



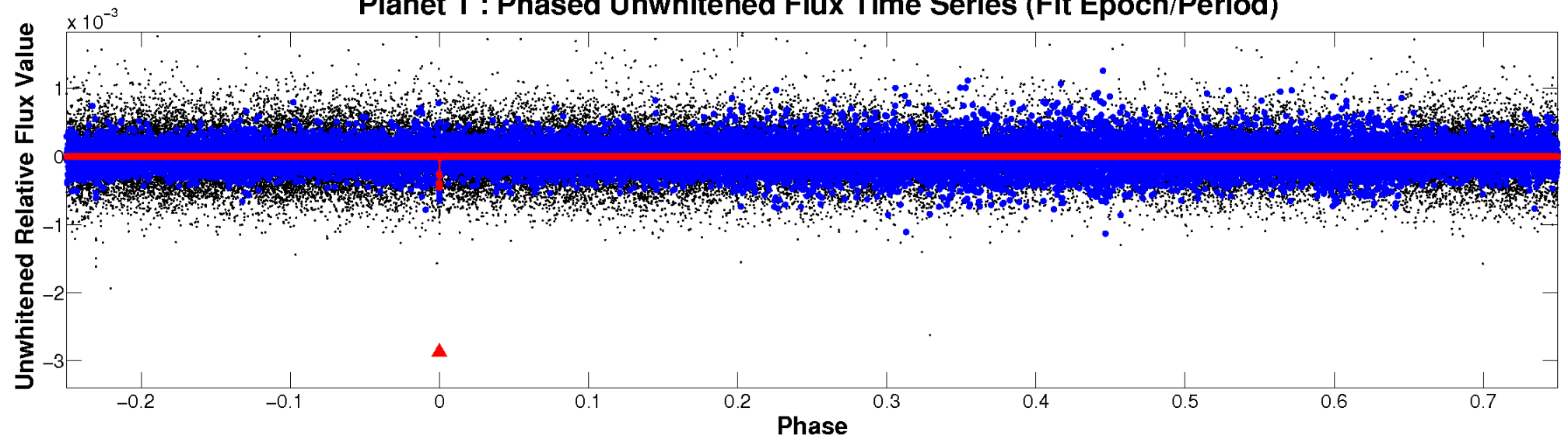
# ALT Odd/Even

TCE 004476062-01

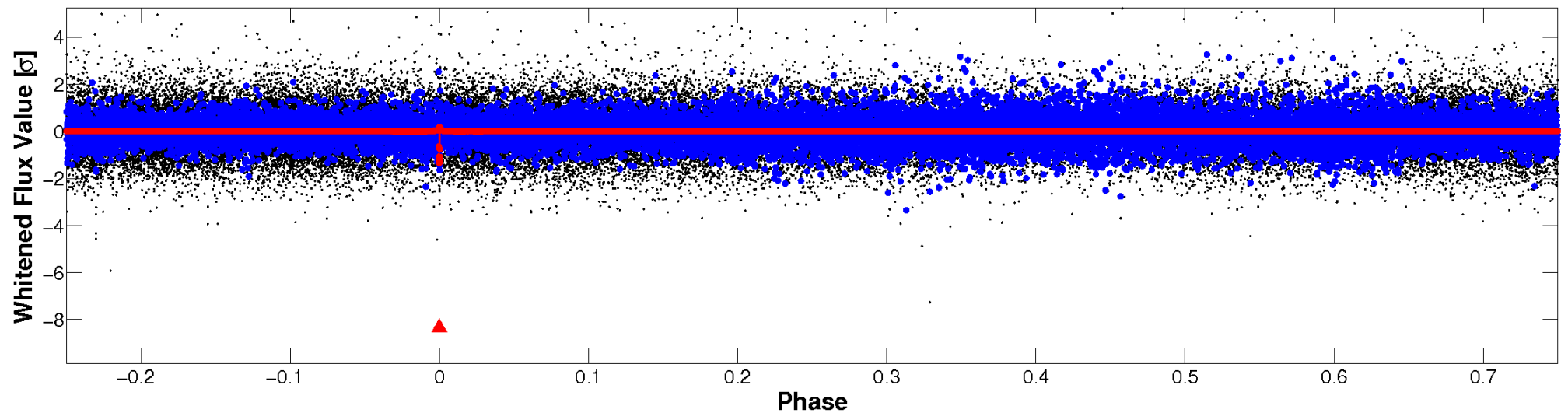


# Non-Whitened Vs. Whitened Light Curve

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



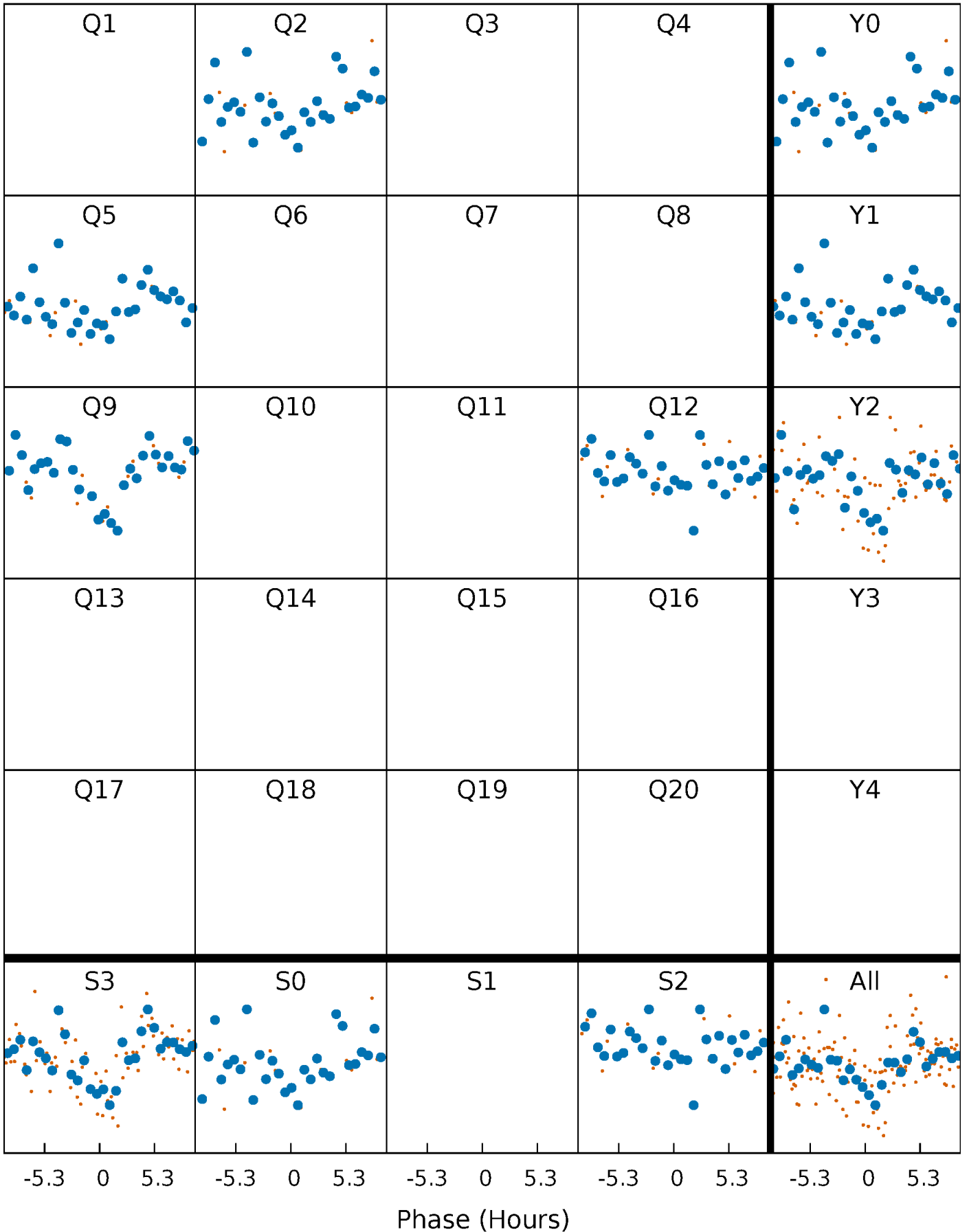
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

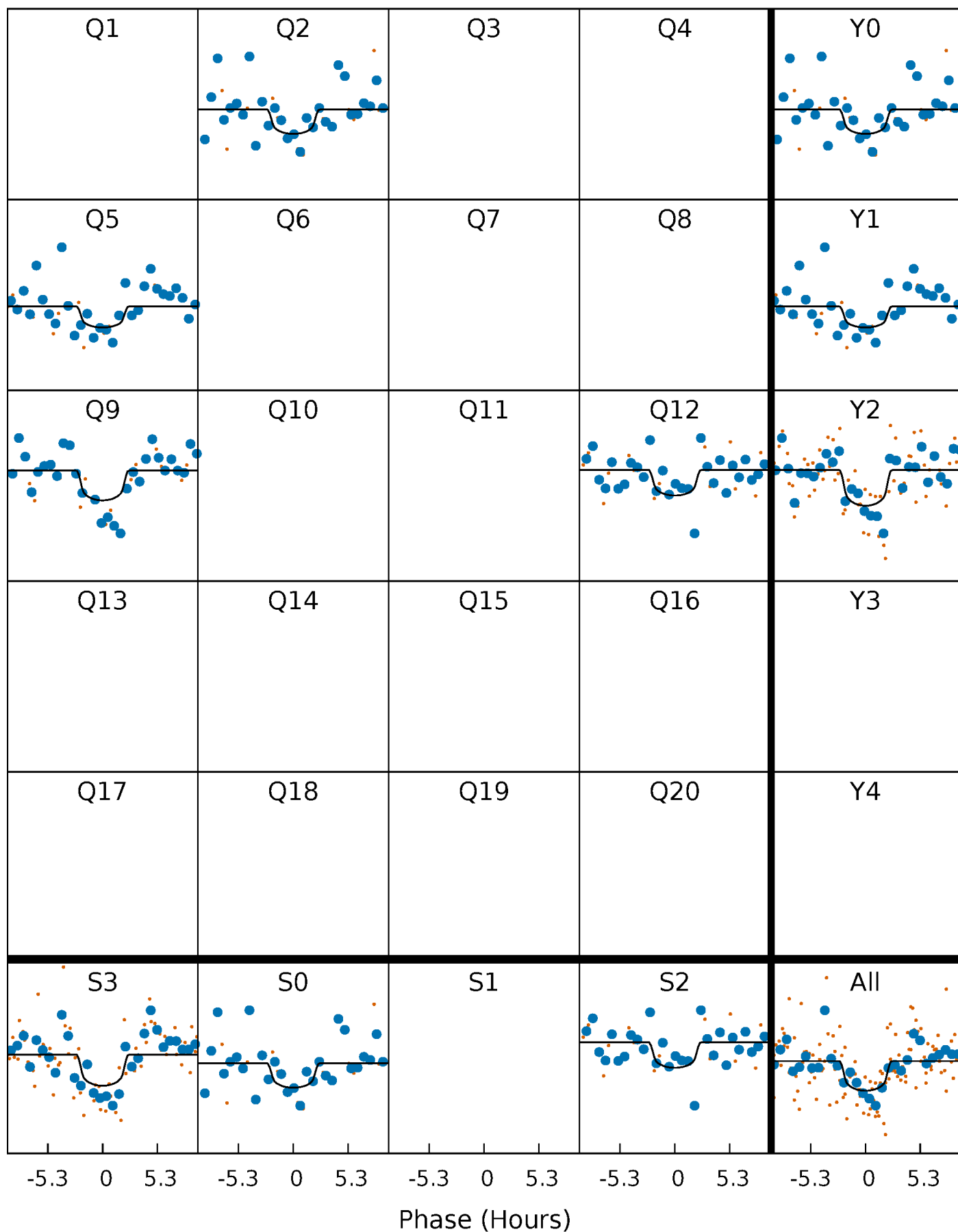
TCE 004476062-01     $P=319.348035$  Days     $T_0=209.286254$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 004476062-01 P=319.348035 Days  $T_0=209.286254$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

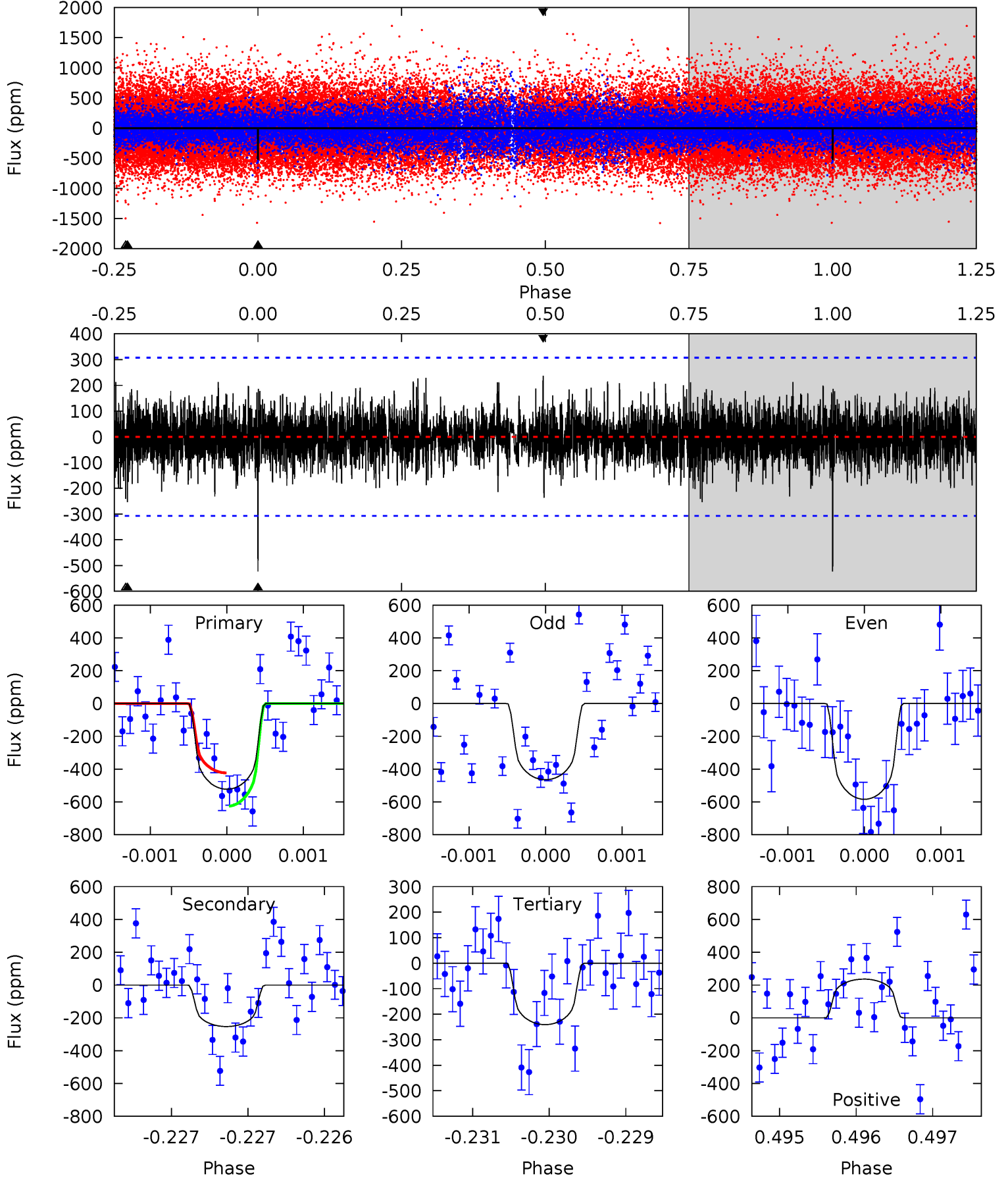
TCE 004476062-01 P=319.358176 Days  $T_0=209.288671$  (BKJD)



# DV Model-Shift Uniqueness Test

004476062-01, P = 319.348035 Days, E = 209.286254 Days

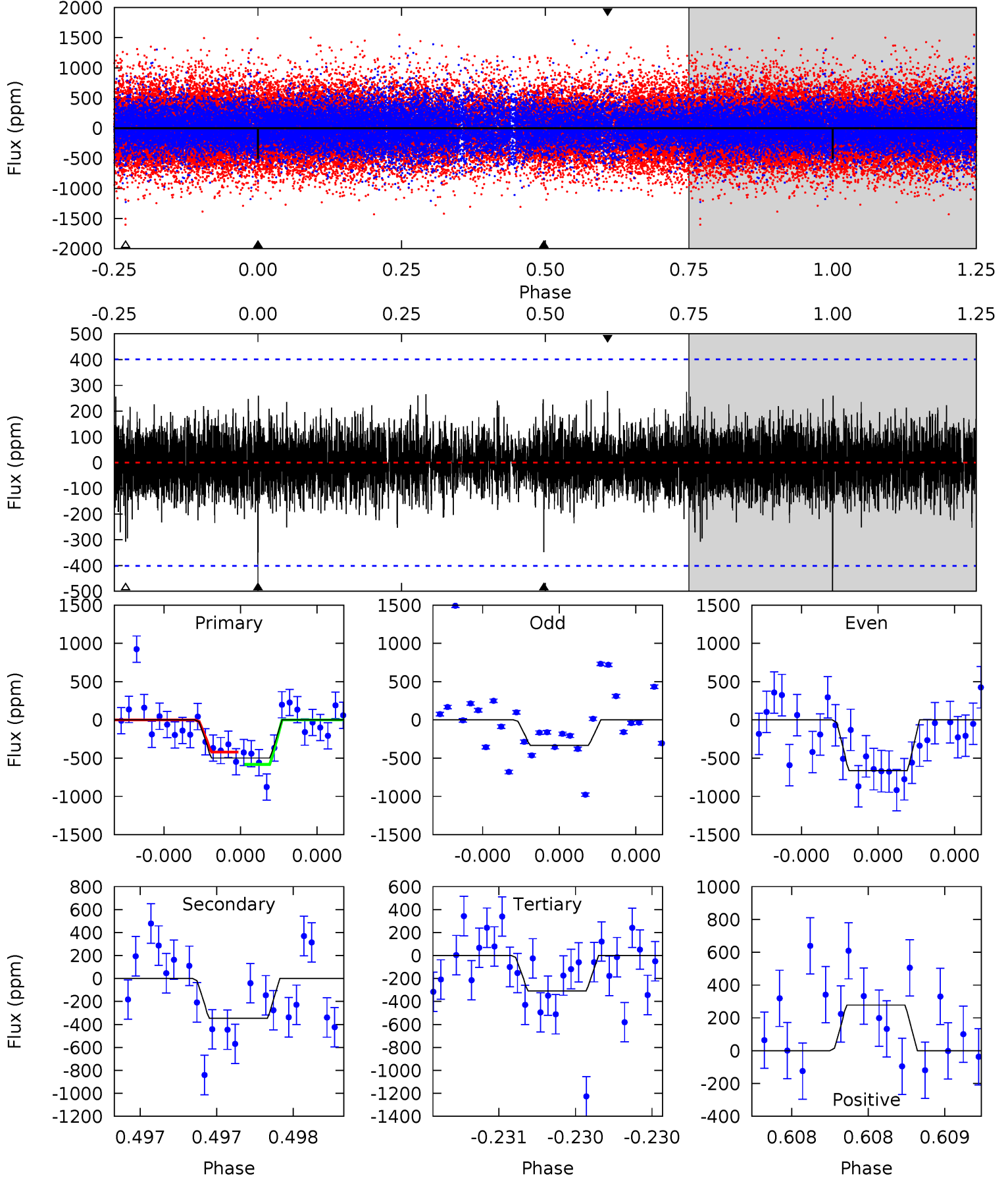
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.40	4.55	4.33	4.25	5.52	3.40	1.18	5.07	5.15	0.22	0.30	1.07	1.10	0.31	1.83



# Alt Model-Shift Uniqueness Test

004476062-01, P = 319.358176 Days, E = 209.288671 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
6.98	4.86	4.31	3.89	5.62	3.55	1.01	2.67	3.08	0.55	0.97	2.33	1.23	0.36	1.12



### Stellar Parameters For KIC 004476062

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5169^{+154}_{-138}$	$4.607^{+0.030}_{-0.090}$	$-0.120^{+0.300}_{-0.300}$	$0.749^{+0.098}_{-0.057}$	$0.839^{+0.058}_{-0.099}$	$2.813^{+0.435}_{-0.752}$
	+3%/-3%	+1%/-2%	+250%/-250%	+13%/-8%	+7%/-12%	+15%/-27%
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 004476062-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-253 \pm 56$	$2.27^{+1.96}_{-1.45}$	$302^{+12}_{-10}$	$4161^{+2168}_{-828}$	$19640^{+119629}_{-14311}$
Alt.	$-347 \pm 71$	$2.64^{+1.90}_{-1.73}$	$301^{+12}_{-11}$	$4192^{+2431}_{-715}$	$20198^{+144399}_{-13739}$

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

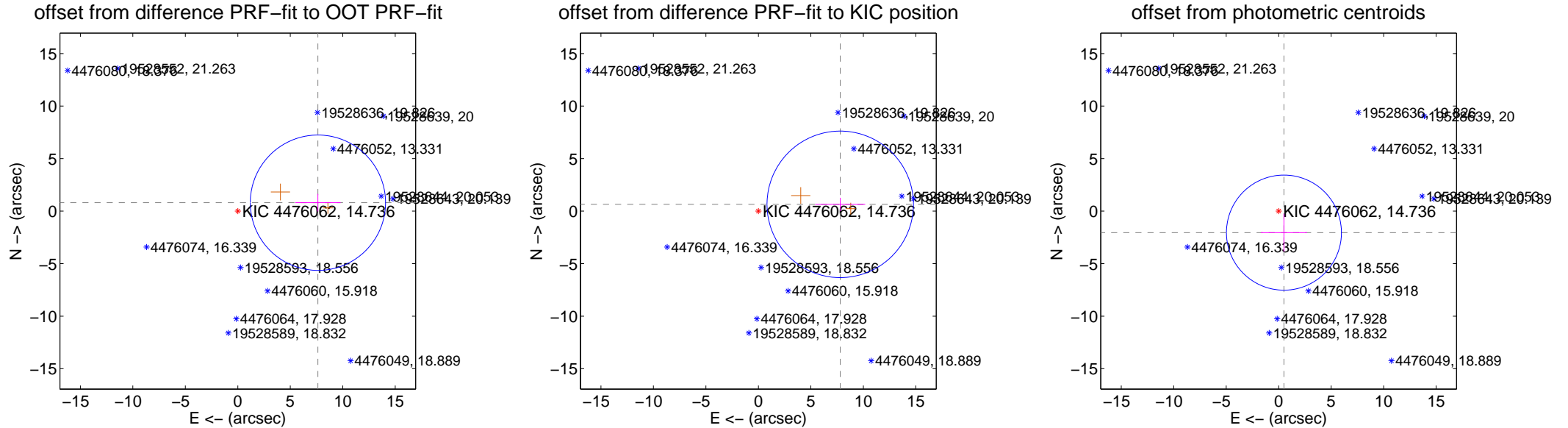
## DV Centroid Data

Supplemental centroid analysis for 004476062-01. Kepler magnitude: 14.74. Transit SNR 6.63

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	7.676 $\pm$ 2.148	3.57	-7.634 $\pm$ 2.158	0.802 $\pm$ 0.834
PRF-fit source offset from KIC position	7.825 $\pm$ 2.325	3.37	-7.799 $\pm$ 2.384	0.646 $\pm$ 0.625
photometric centroid source offset	2.11 $\pm$ 1.83	1.15	-0.50 $\pm$ 2.20	-2.05 $\pm$ 1.80



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.

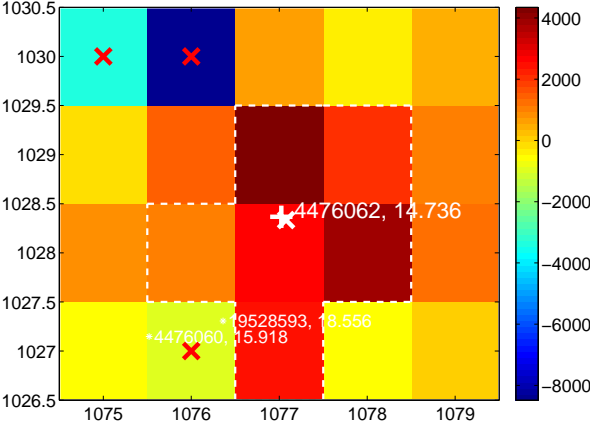
Q1 no difference image



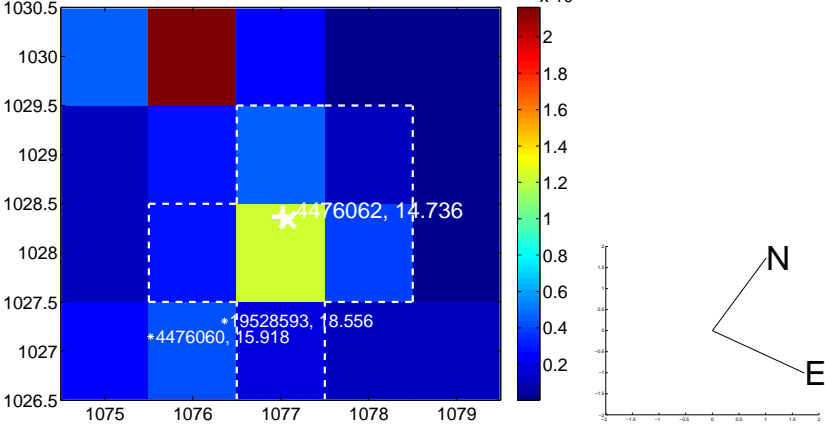
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



Q3 no difference image



Q3 no OOT image



Q4 no difference image

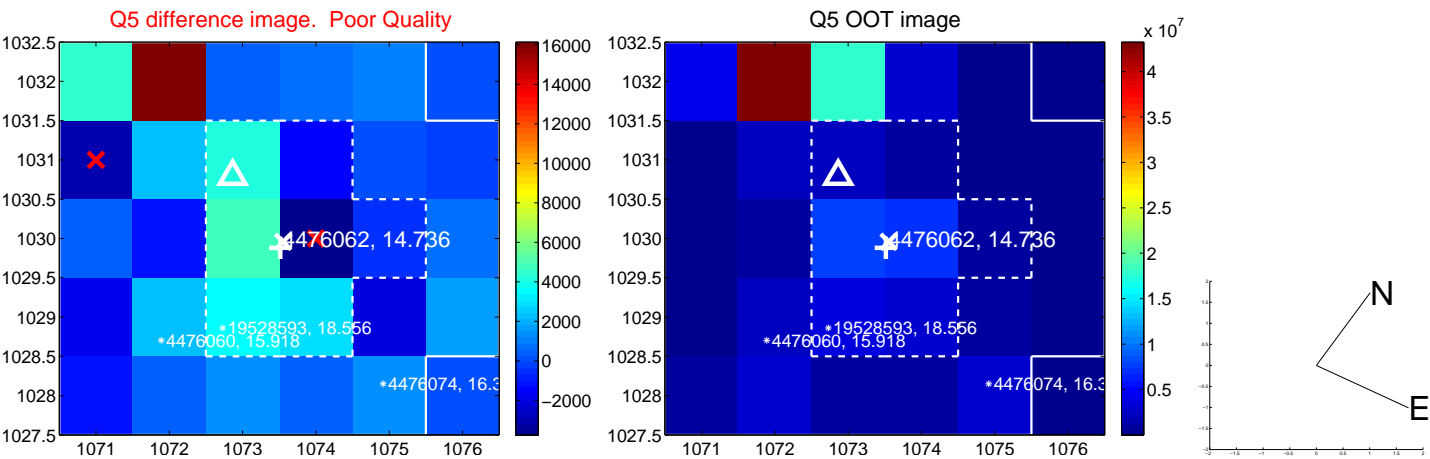


Q4 no OOT image

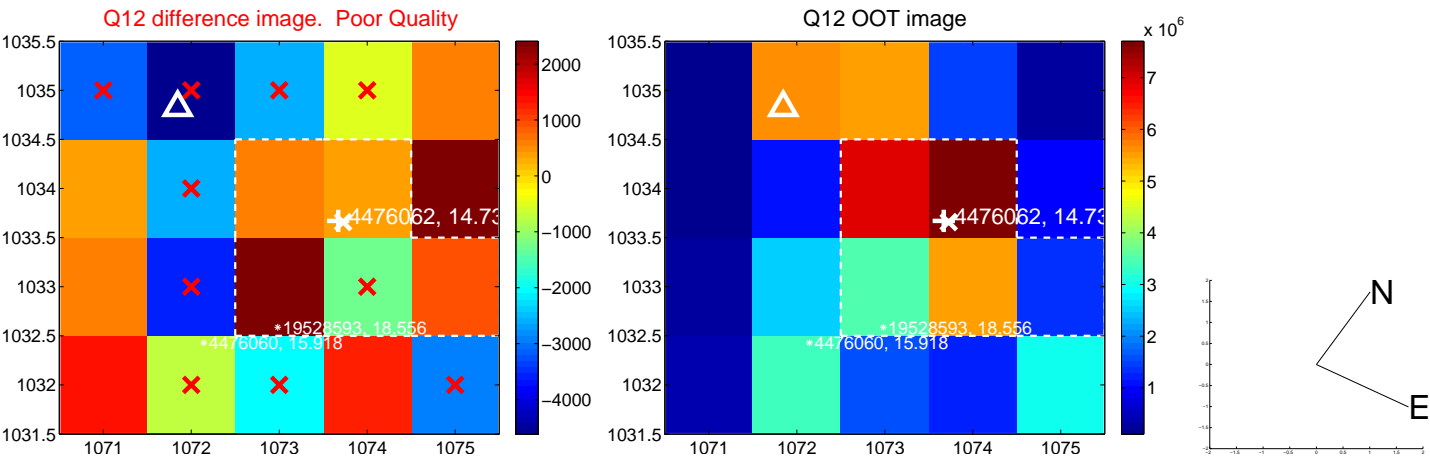
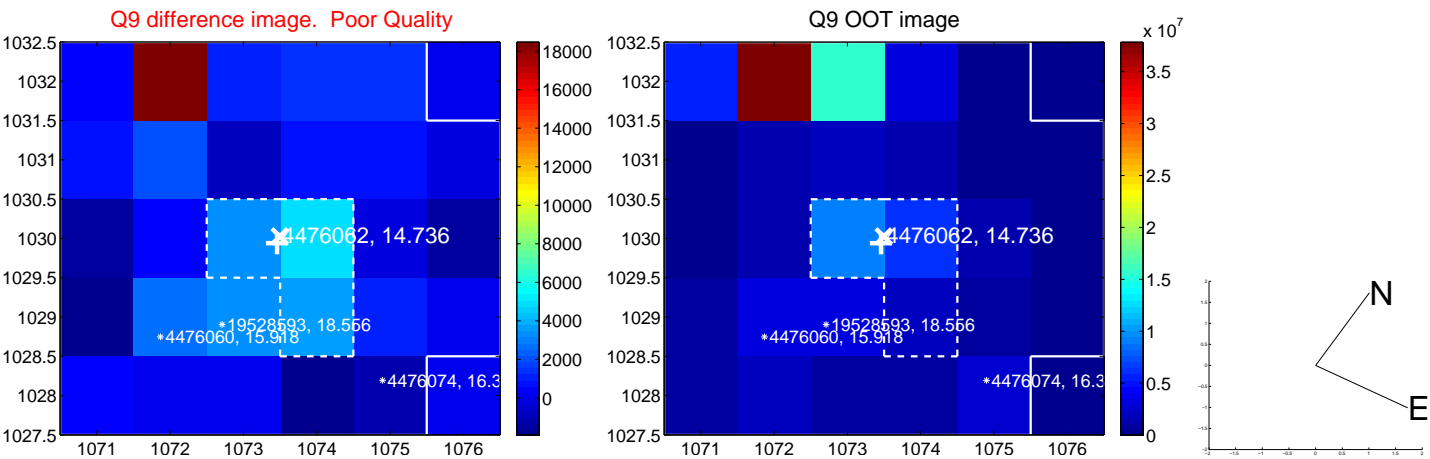




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



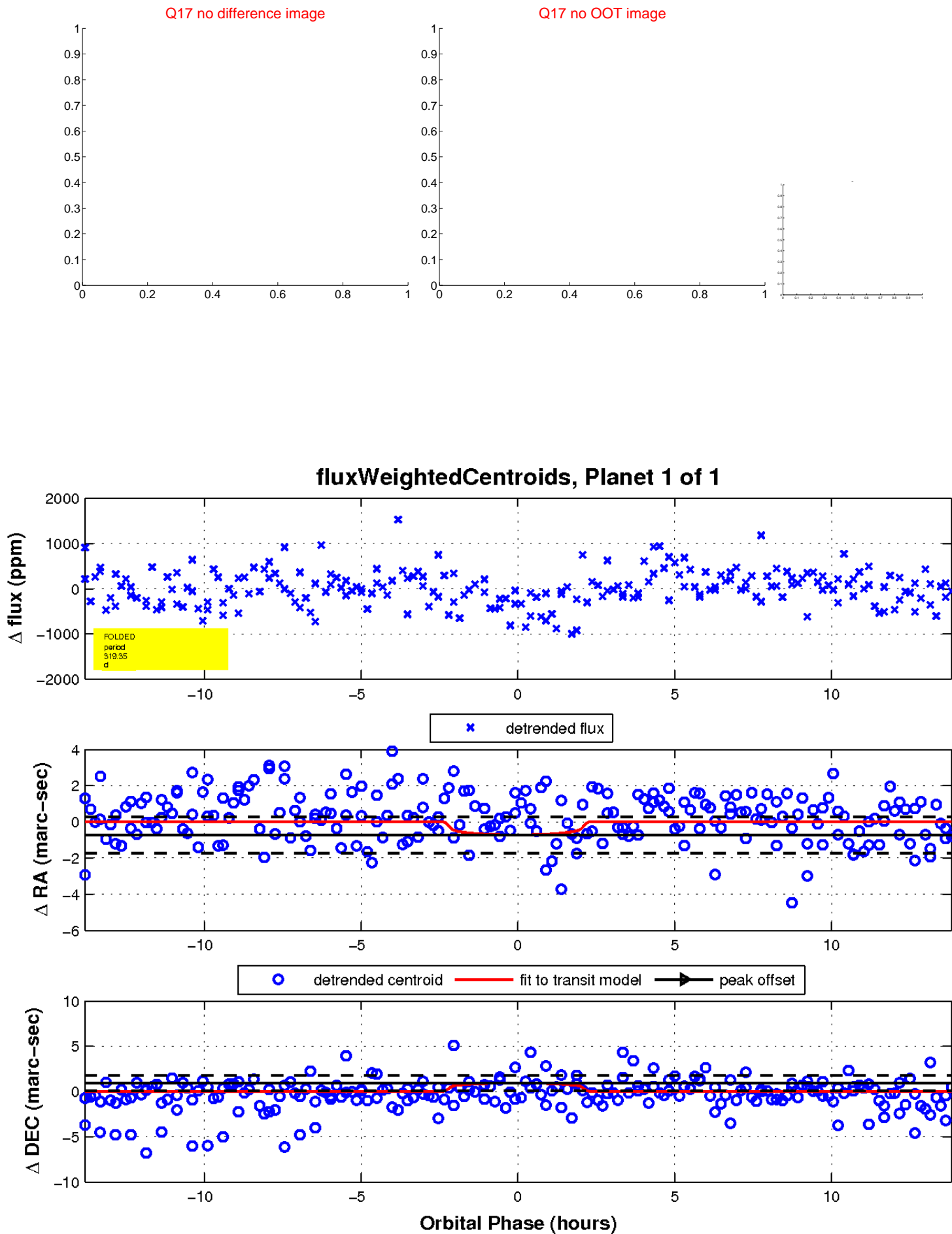
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

