

# KIC 011661913

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011661913-01	OBS	No	547.456972	335.520909	298.4	12.735	7.2	7.4	1.11	6244	2.02	0.93

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011661913-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—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.

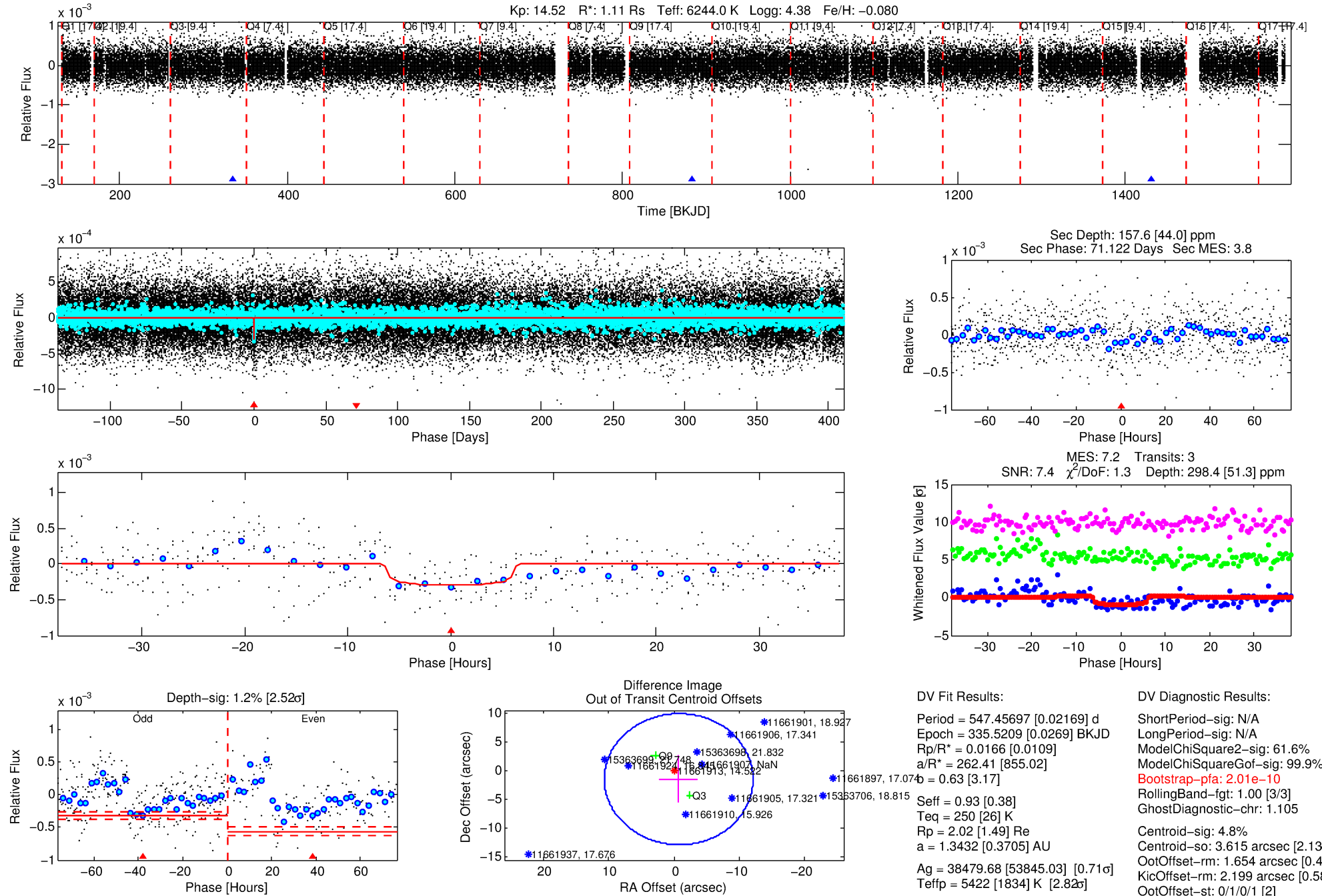
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011661913-01

No Significant Match Found

# DV One-Page Summary

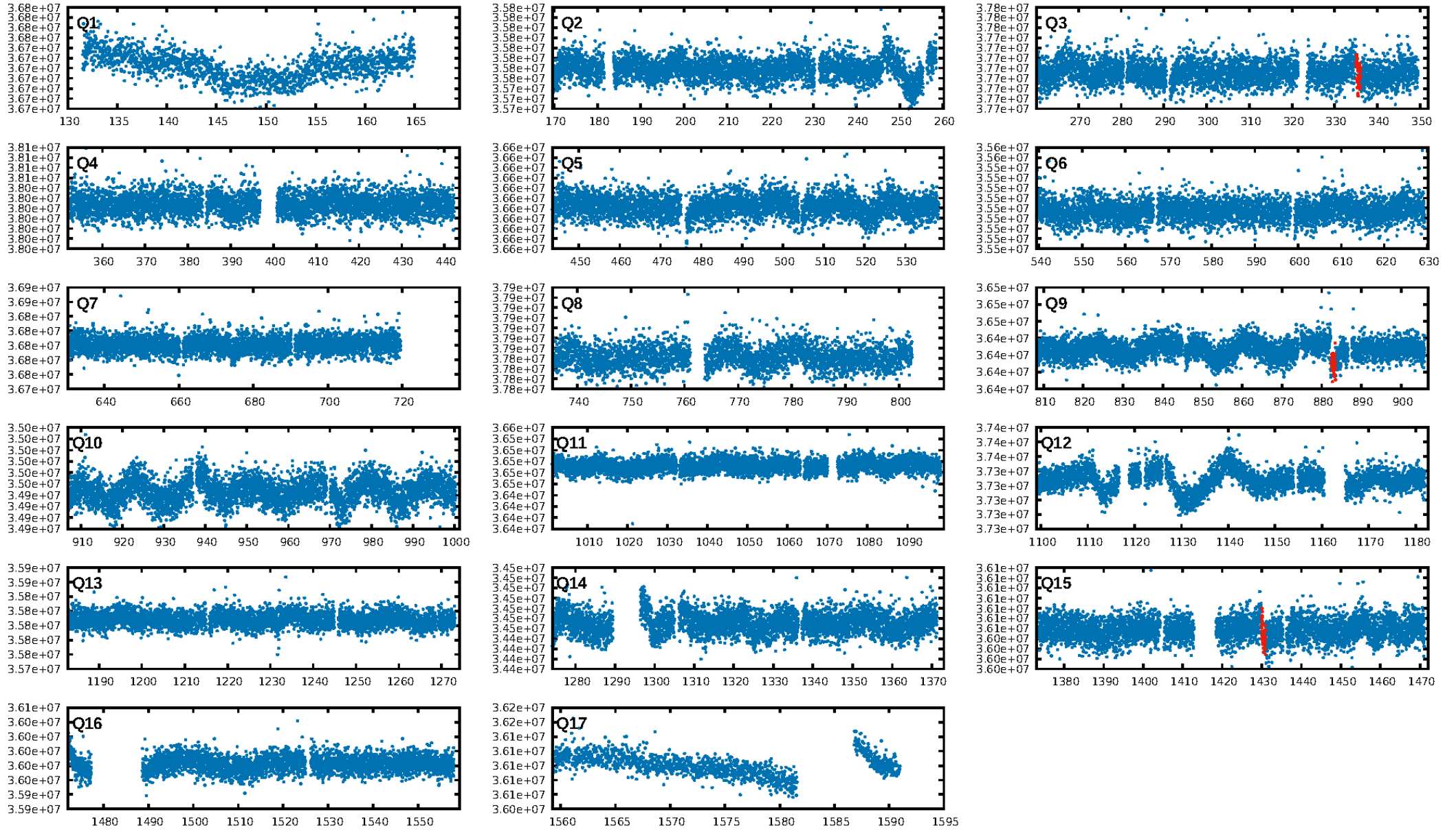
KIC: 11661913 Candidate: 1 of 1 Period: 547.457 d



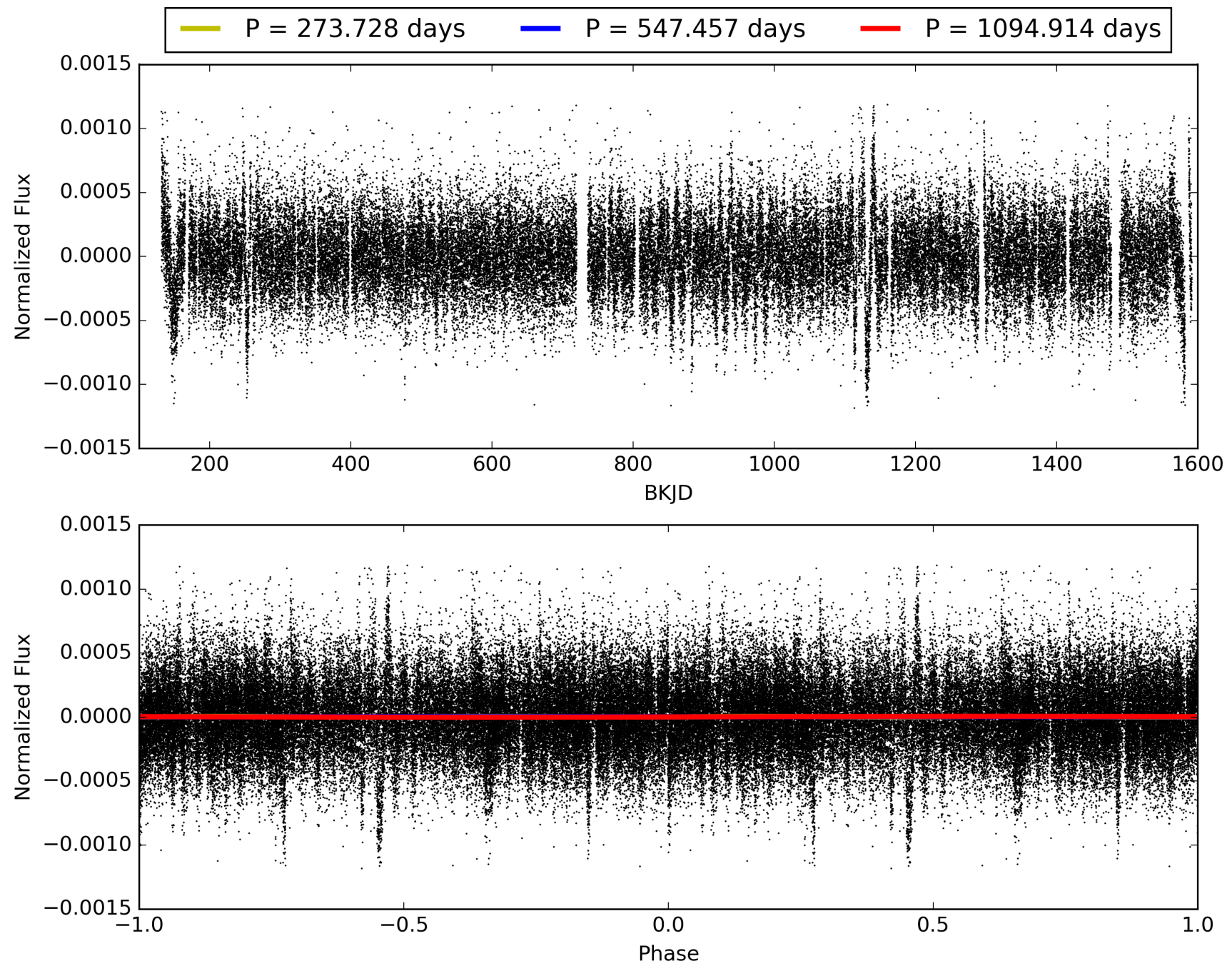
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:44:08 Z

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

# TCE 011661913-01, PDC Light Curves

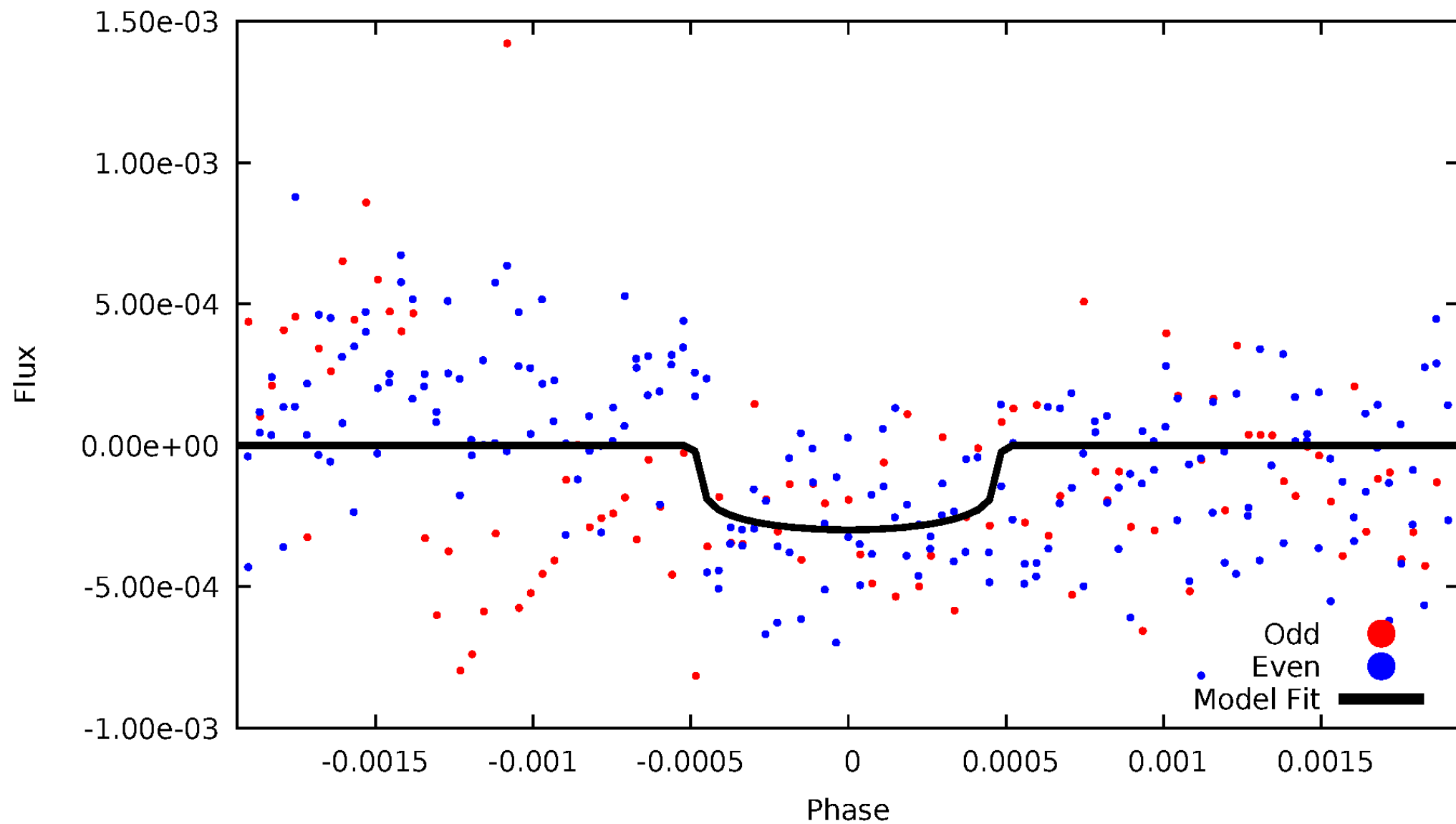


# TCE 011661913-01



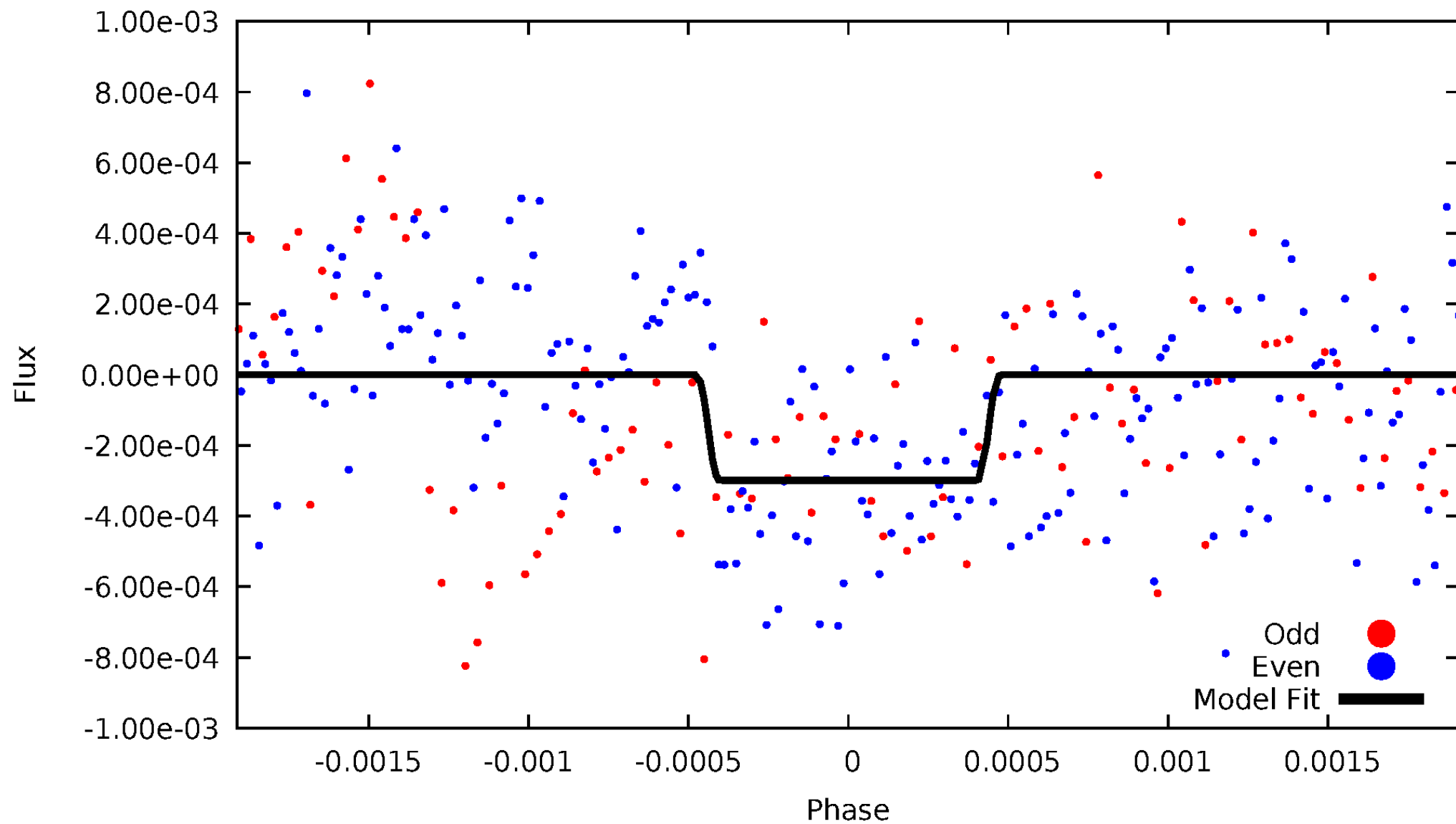
# DV Odd/Even

TCE 011661913-01

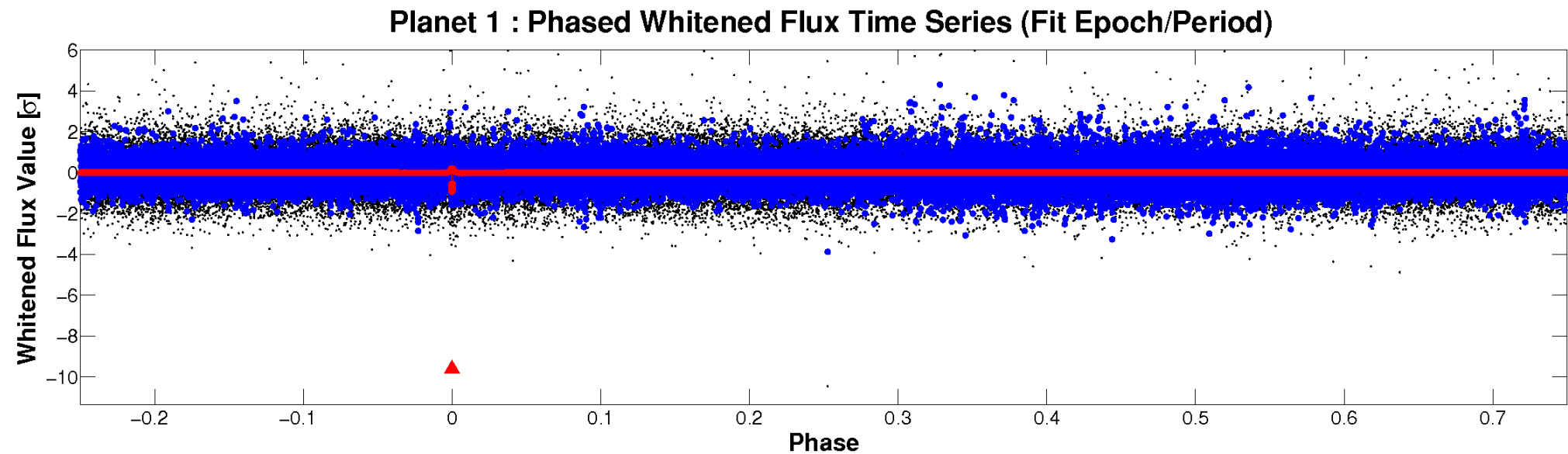
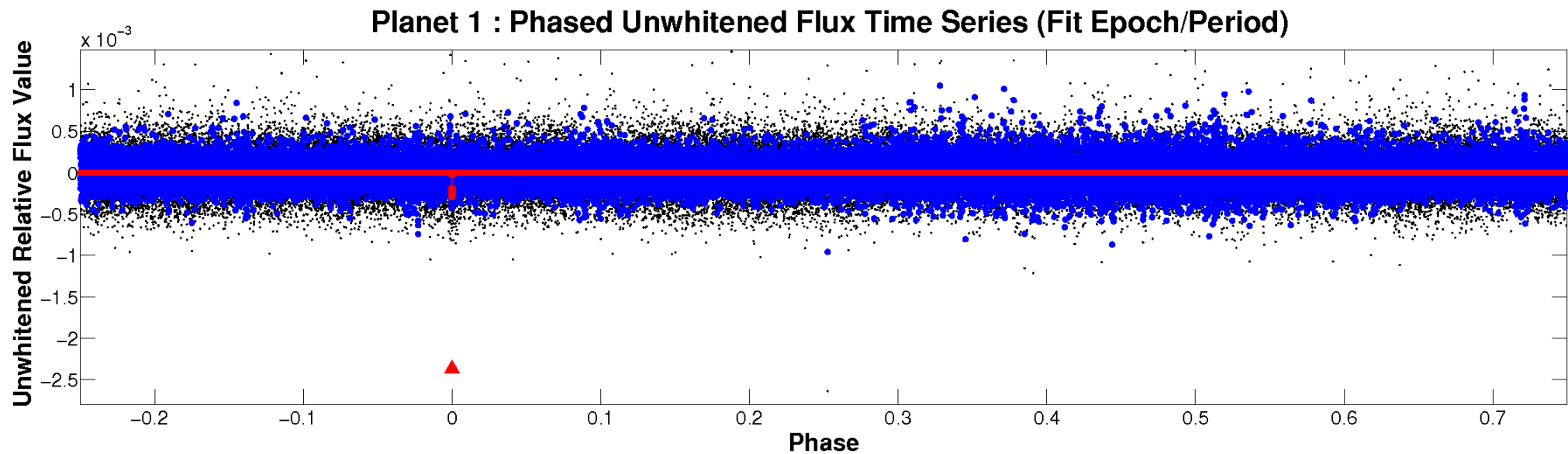


# ALT Odd/Even

TCE 011661913-01



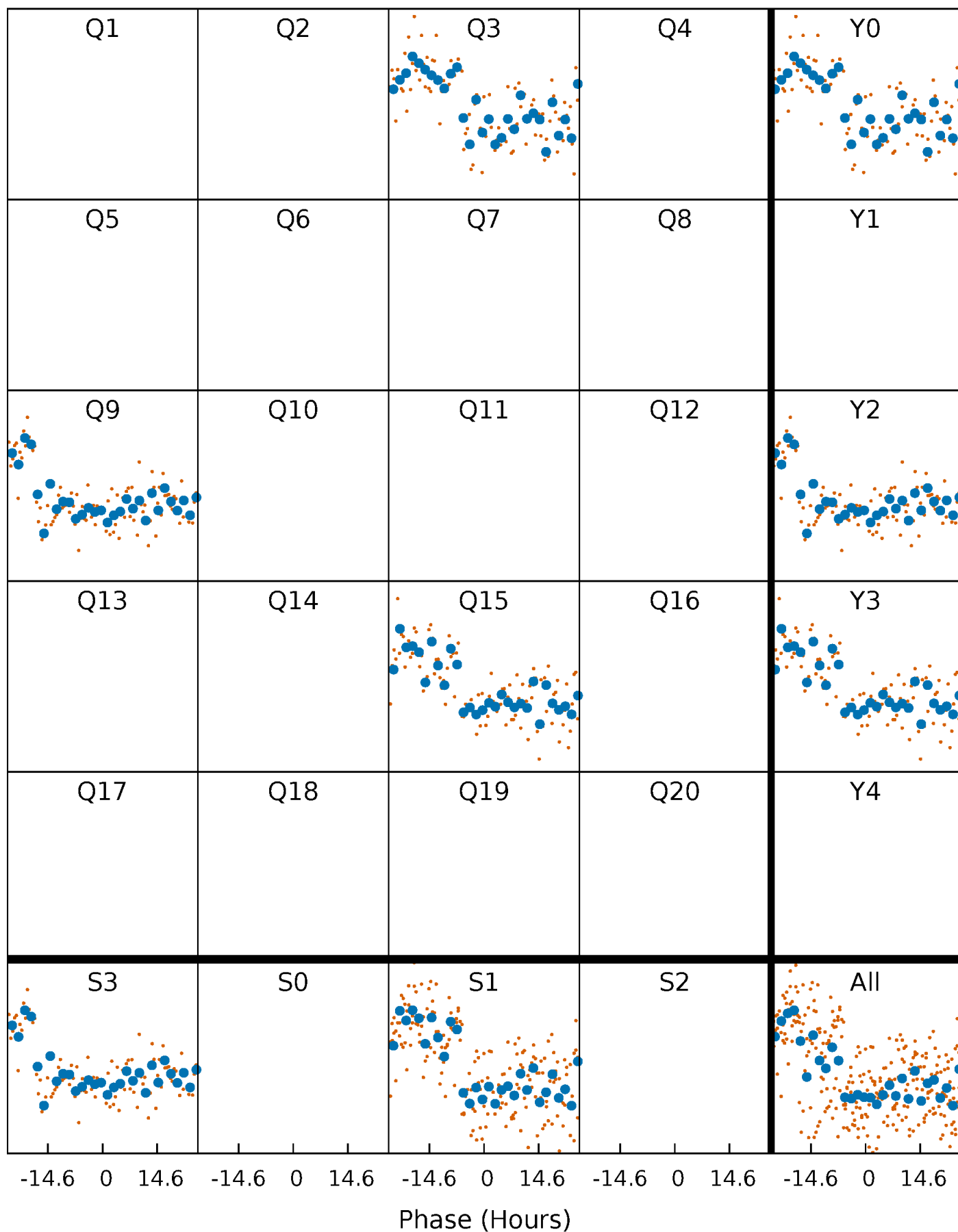
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

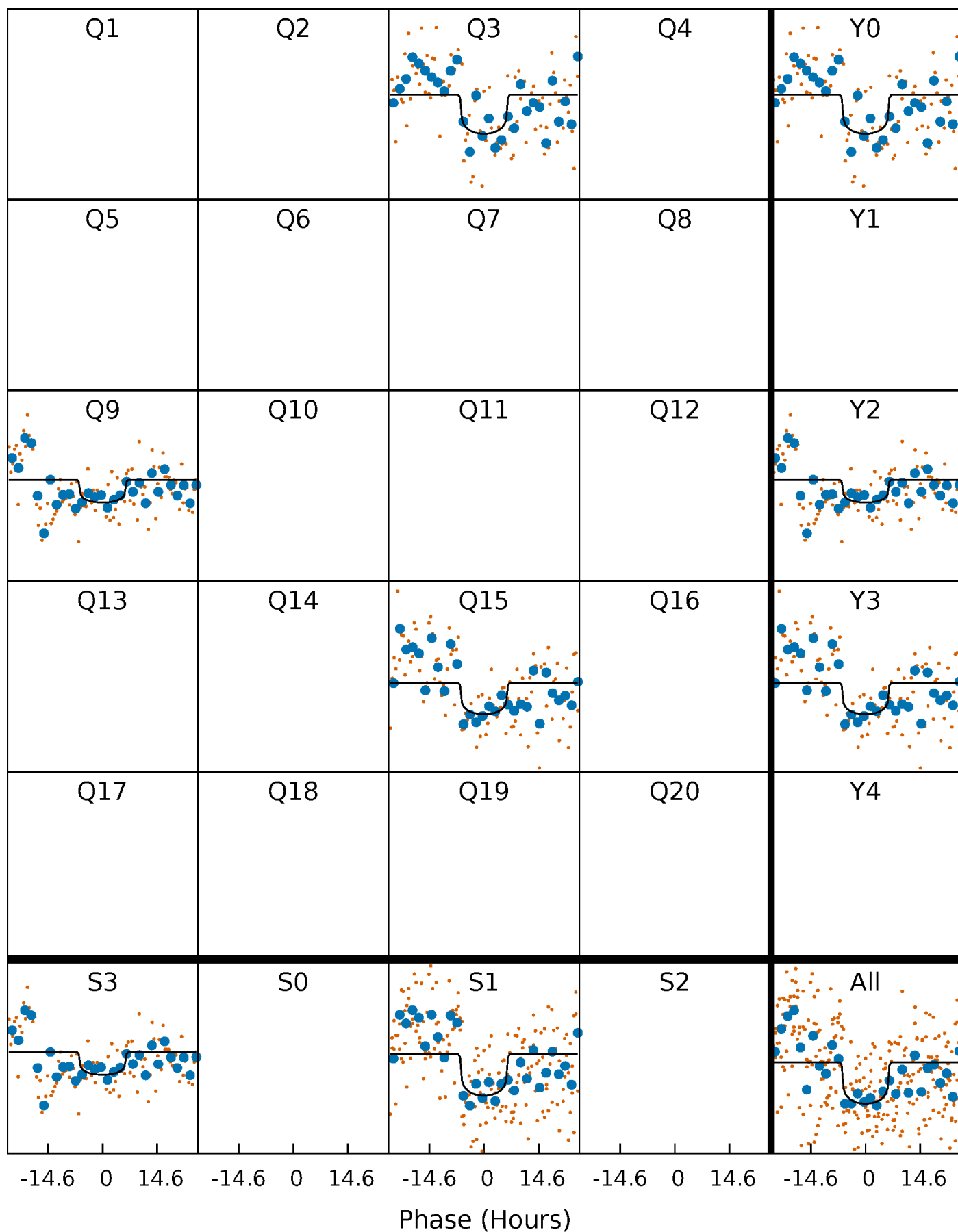
TCE 011661913-01 P=547.456972 Days  $T_0=335.520909$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 011661913-01 P=547.456972 Days  $T_0=335.520909$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

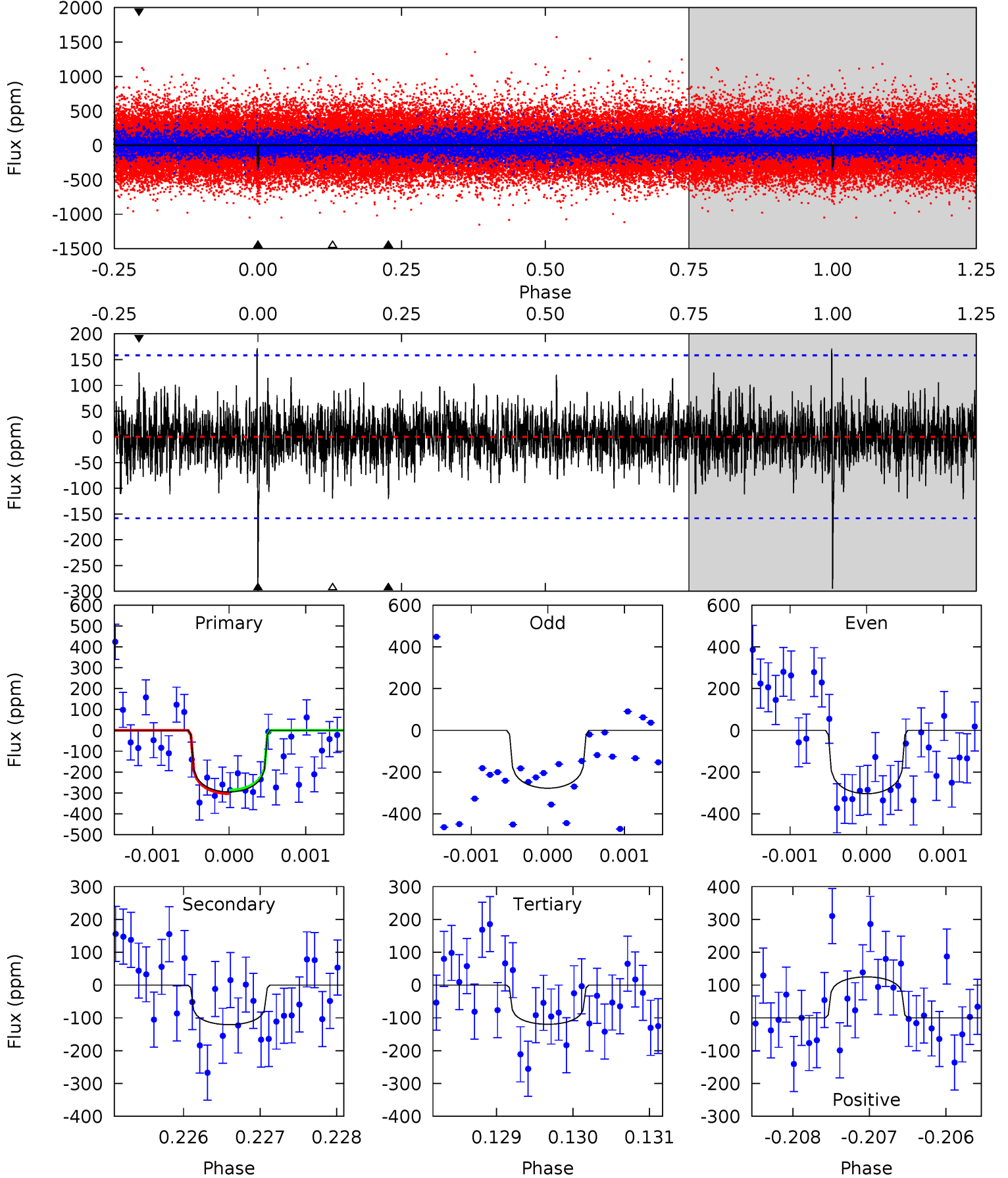
TCE 011661913-01 P=547.442317 Days  $T_0=335.517156$  (BKJD)



# DV Model-Shift Uniqueness Test

011661913-01, P = 547.456972 Days, E = 335.520909 Days

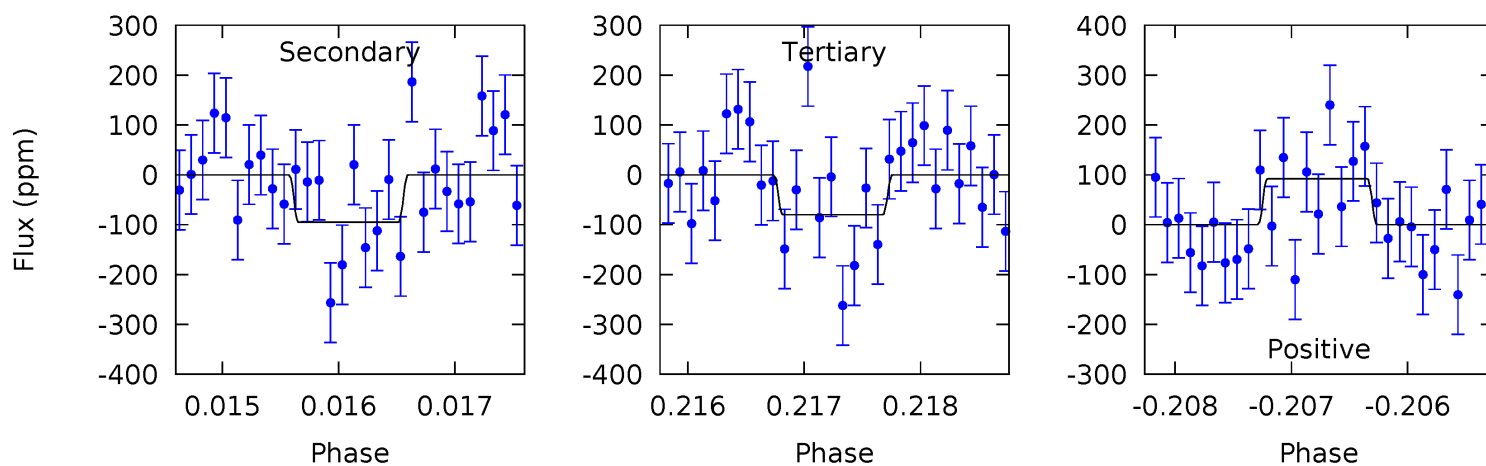
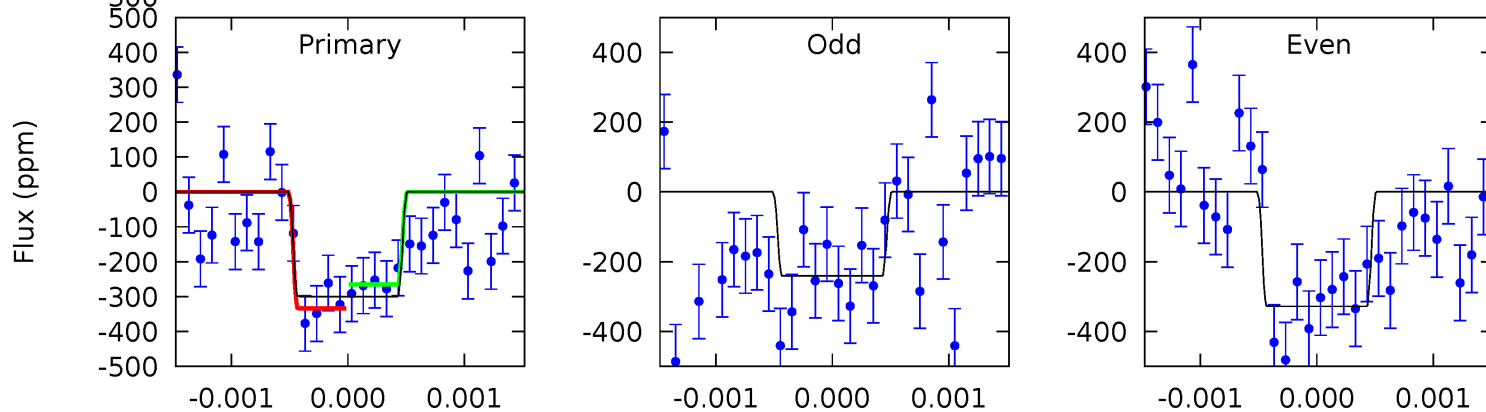
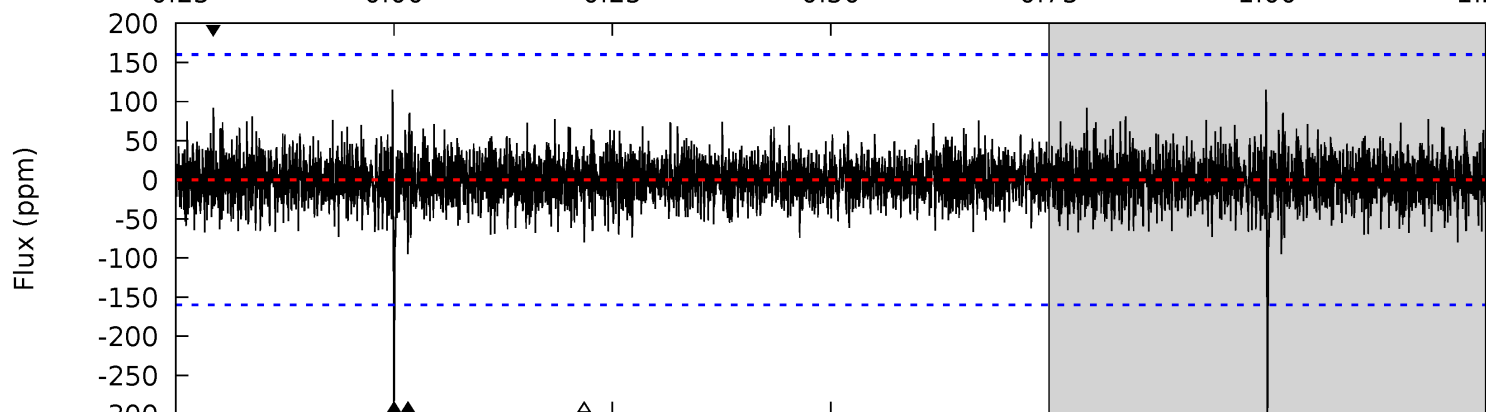
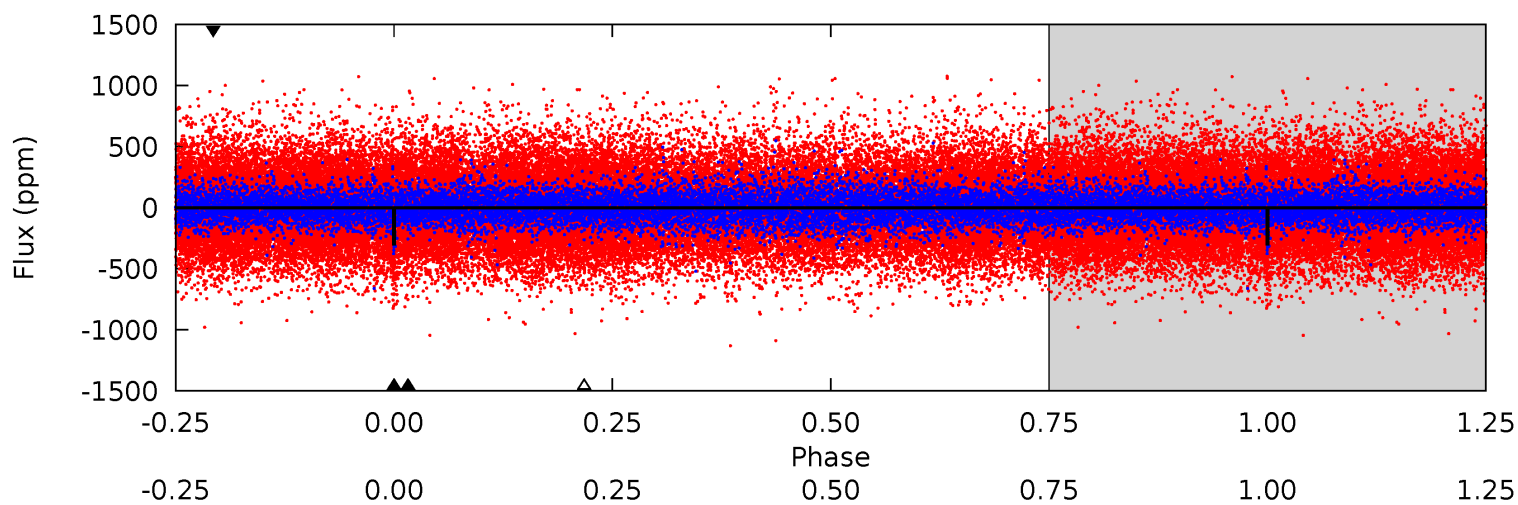
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	4.16	4.12	4.30	5.46	3.30	1.18	6.05	5.87	0.04	-0.15	0.43	0.98	0.37	0.29



# Alt Model-Shift Uniqueness Test

011661913-01, P = 547.442317 Days, E = 335.517156 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
10.2	3.24	2.73	3.14	5.46	3.31	0.79	7.50	7.09	0.51	0.10	1.41	0.97	0.28	1.18



### Stellar Parameters For KIC 011661913

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6244^{+168}_{-224}$	$4.380^{+0.087}_{-0.203}$	$-0.080^{+0.250}_{-0.300}$	$1.110^{+0.379}_{-0.152}$	$1.074^{+0.173}_{-0.129}$	$1.105^{+0.423}_{-0.580}$
	+3%/-4%	+2%/-5%	+312%/-375%	+34%/-14%	+16%/-12%	+38%/-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 011661913-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-121 \pm 29$	$2.23^{+1.35}_{-1.17}$	$354^{+27}_{-18}$	$4992^{+2181}_{-841}$	$24058^{+82397}_{-15228}$
Alt.	$-95 \pm 29$	$2.32^{+1.58}_{-1.21}$	$354^{+25}_{-21}$	$4610^{+1957}_{-801}$	$16137^{+64226}_{-10377}$

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

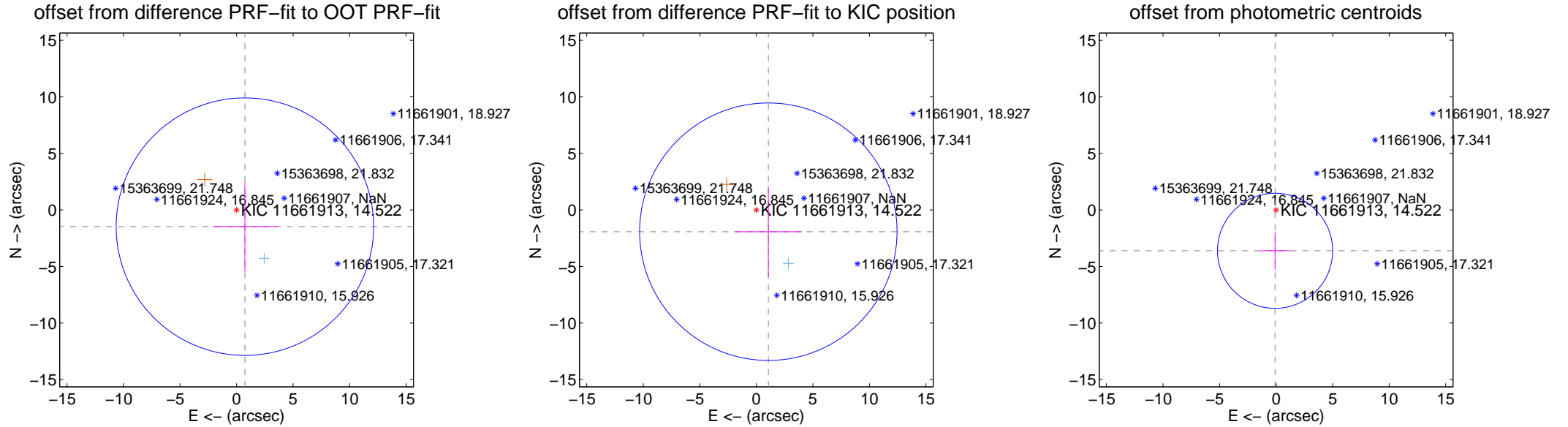
## DV Centroid Data

Supplemental centroid analysis for 011661913-01. Kepler magnitude: 14.52. Transit SNR 7.36

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.654 \pm 3.796$	0.44	$-0.736 \pm 2.876$	$-1.481 \pm 3.991$
PRF-fit source offset from KIC position	$2.199 \pm 3.795$	0.58	$-1.061 \pm 2.976$	$-1.926 \pm 4.011$
photometric centroid source offset	$3.62 \pm 1.70$	2.13	$0.09 \pm 1.36$	$-3.61 \pm 1.70$



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.

Q1 no difference image



Q1 no OOT image



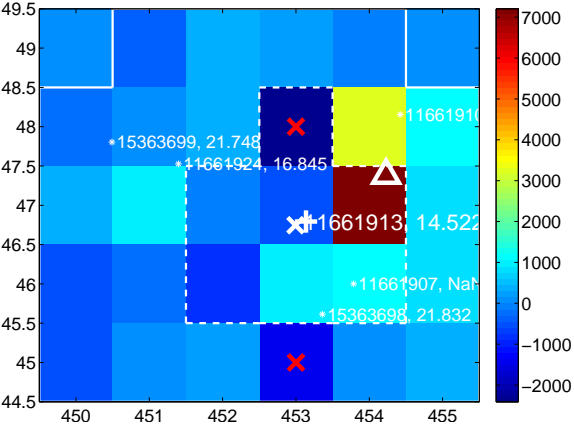
Q2 no difference image



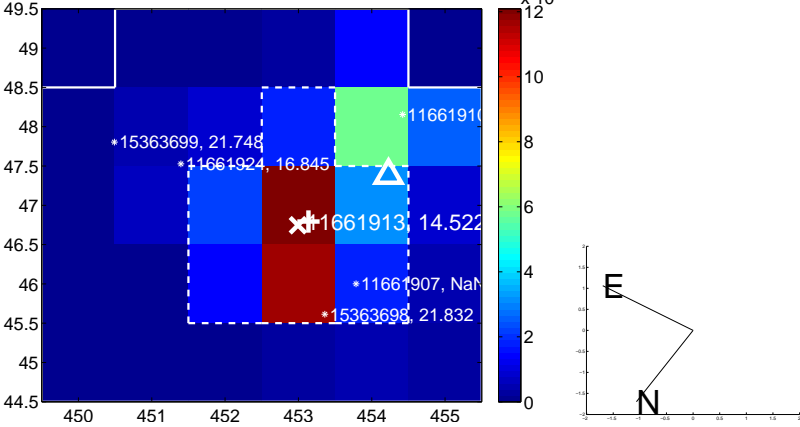
Q2 no OOT image



Q3 difference image



Q3 OOT image



Q4 no difference image



Q4 no OOT image

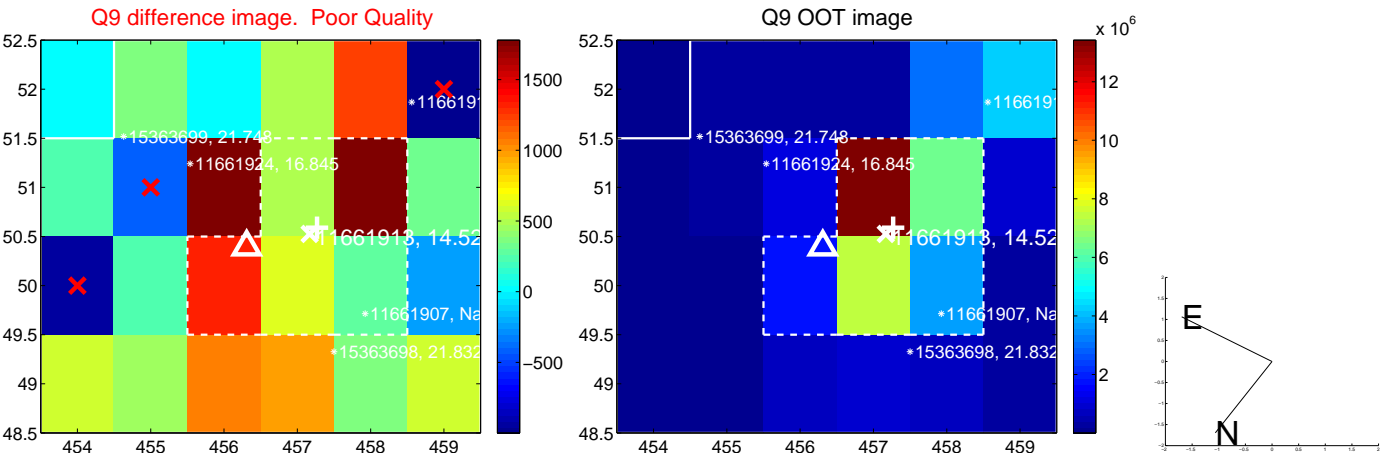




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.

Q13 no difference image



Q13 no OOT image



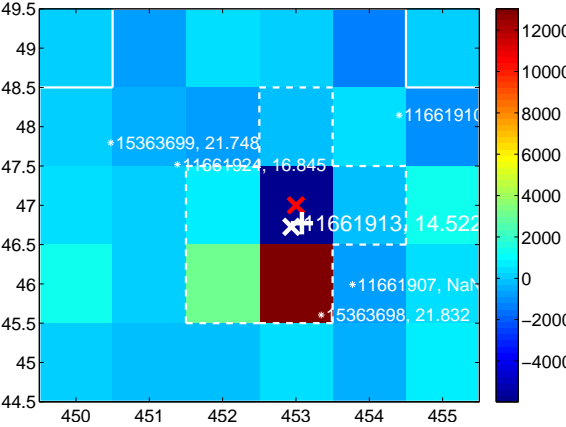
Q14 no difference image



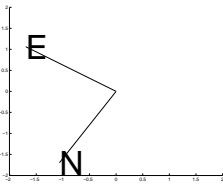
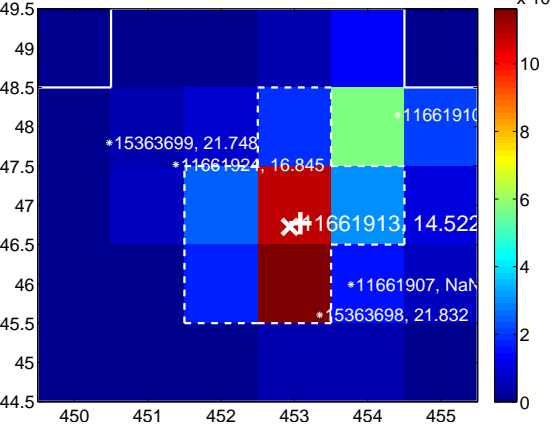
Q14 no OOT image



Q15 difference image. Poor Quality



Q15 OOT image



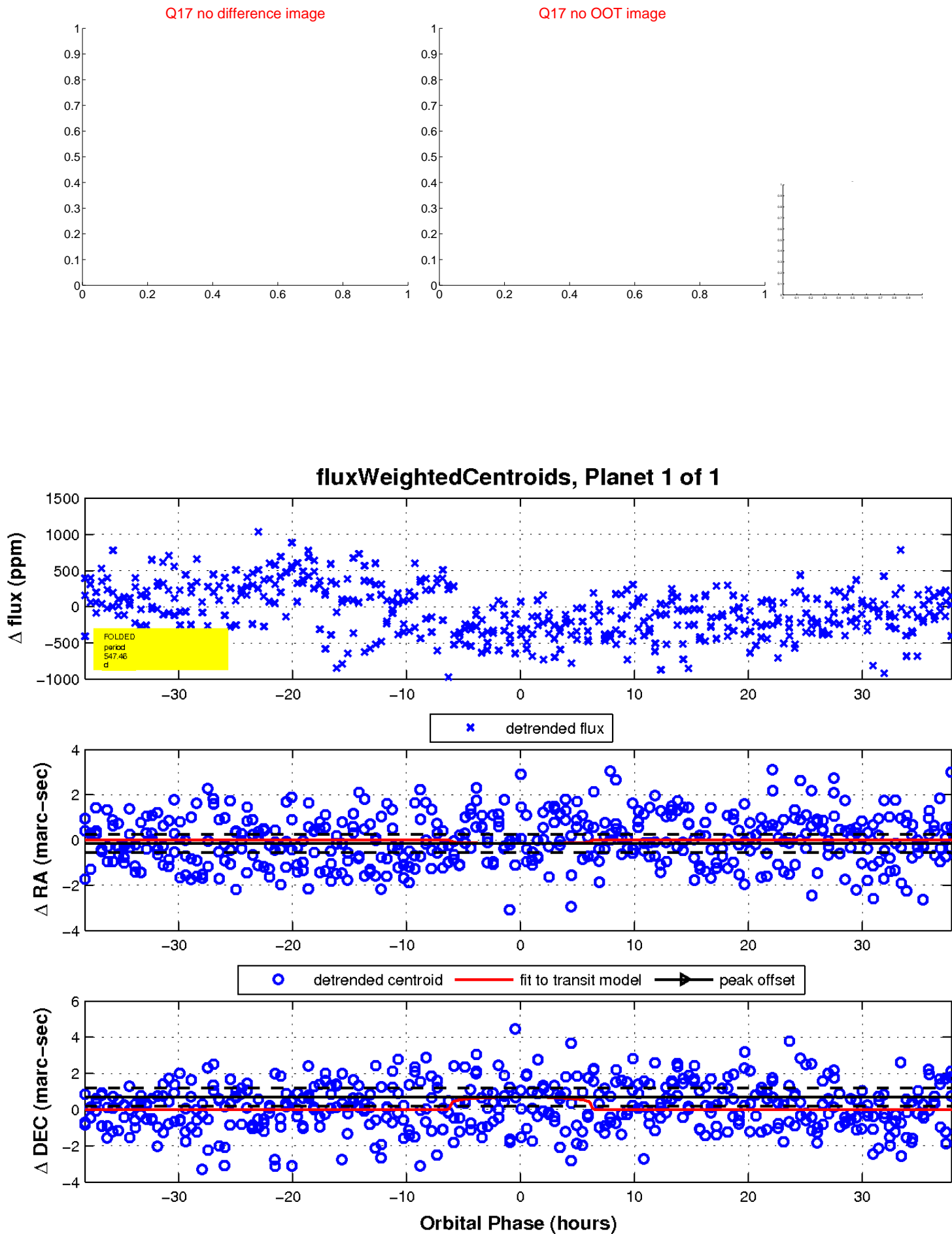
Q16 no difference image



Q16 no OOT image



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



# UKIRT Image

Declination

19:27:50.0

48.0

46.0

30.0

44.0

20.0 30.0 40.0 50.0 49:48:00.0 10.0

