

# KIC 005961019

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005961019-01	OBS	No	311.833459	322.338796	405.4	18.282	7.9	6.9	0.95	6117	2.02	1.37

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005961019-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_ALT—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.

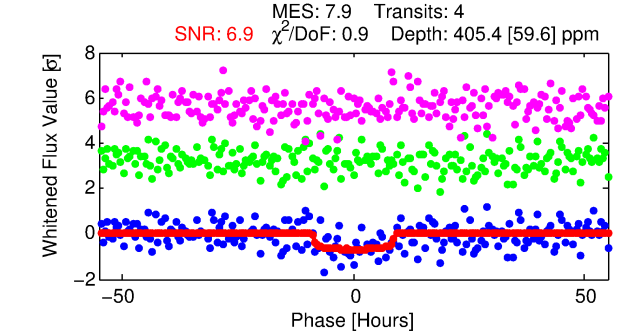
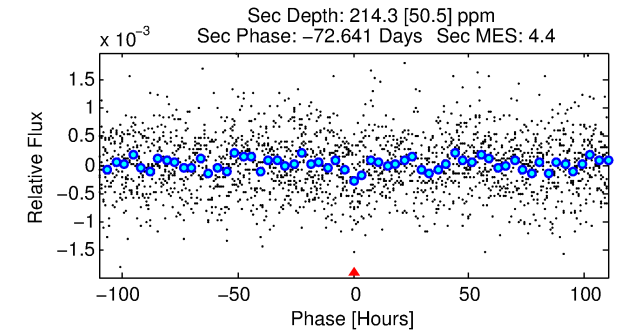
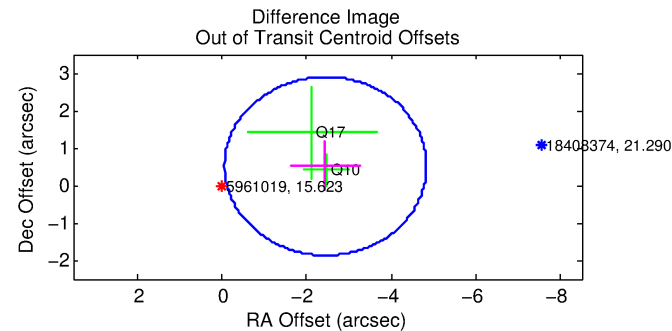
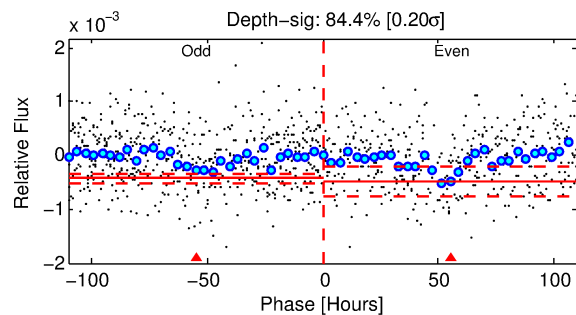
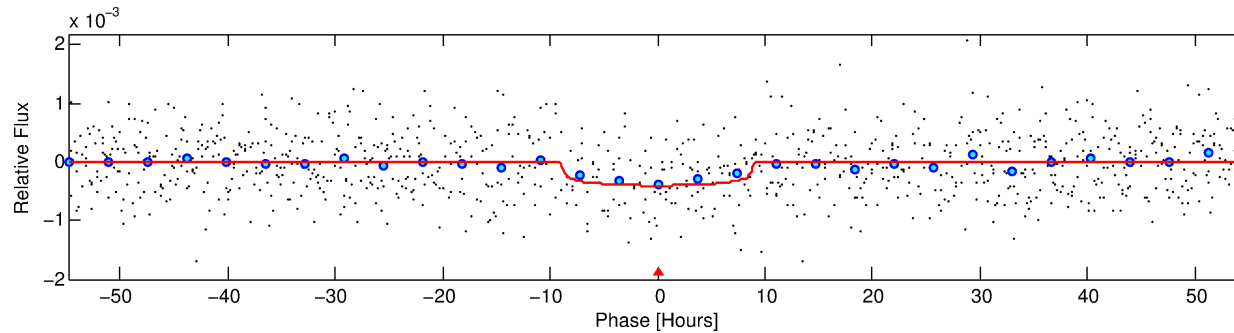
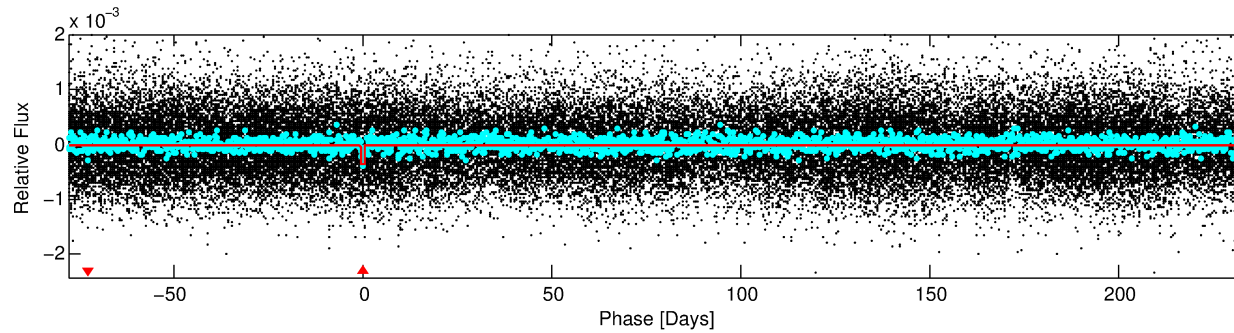
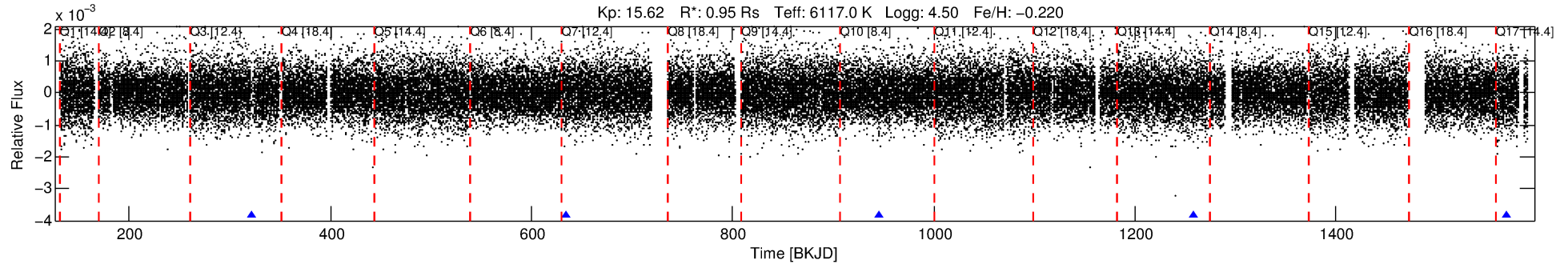
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005961019-01

No Significant Match Found

# DV One-Page Summary

KIC: 5961019 Candidate: 1 of 1 Period: 311.833 d



## DV Fit Results:

Period = 311.83346 [0.02076] d  
Epoch = 322.3388 [0.0598] BKJD  
Rp/R\* = 0.0195 [0.0090]  
a/R\* = 101.09 [230.13]  
b = 0.66 [1.94]  
Seff = 1.37 [0.58]  
Teq = 276 [29] K  
Rp = 2.02 [1.14] Re  
a = 0.9076 [0.2498] AU  
Ag = 23835.89 [24551.99] [0.97 $\sigma$ ]  
Teffp = 5296 [1269] K [3.96 $\sigma$ ]

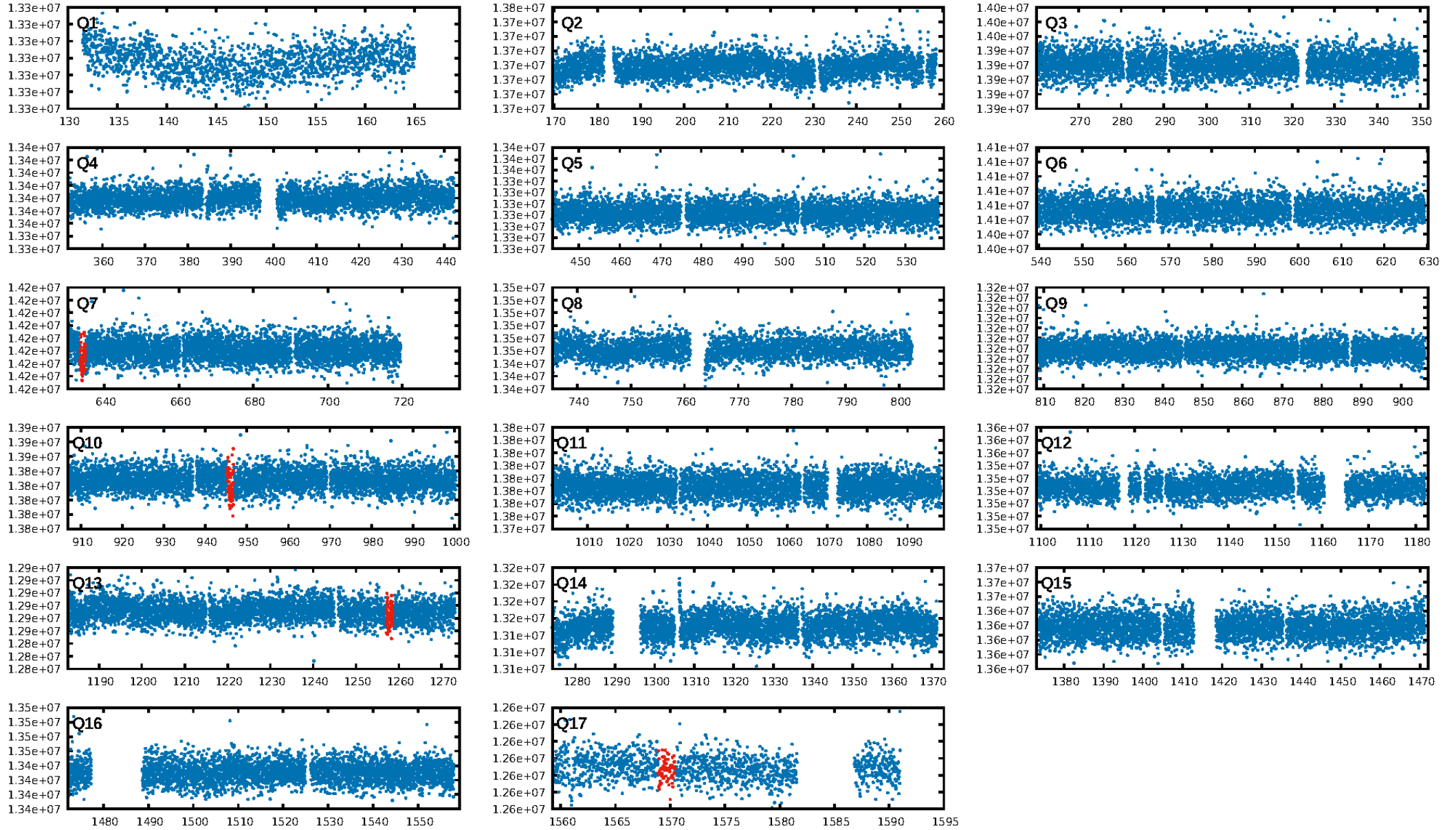
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.5%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 4.51e-18  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -2.51  
Centroid-sig: 7.6%  
Centroid-so: 2.791 arcsec [1.59 $\sigma$ ]  
OotOffset-rm: 2.505 arcsec [3.15 $\sigma$ ]  
KicOffset-rm: 2.378 arcsec [2.99 $\sigma$ ]  
OotOffset-st: 1/0/0/1 [2]  
KicOffset-st: 1/0/0/1 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [3/3]

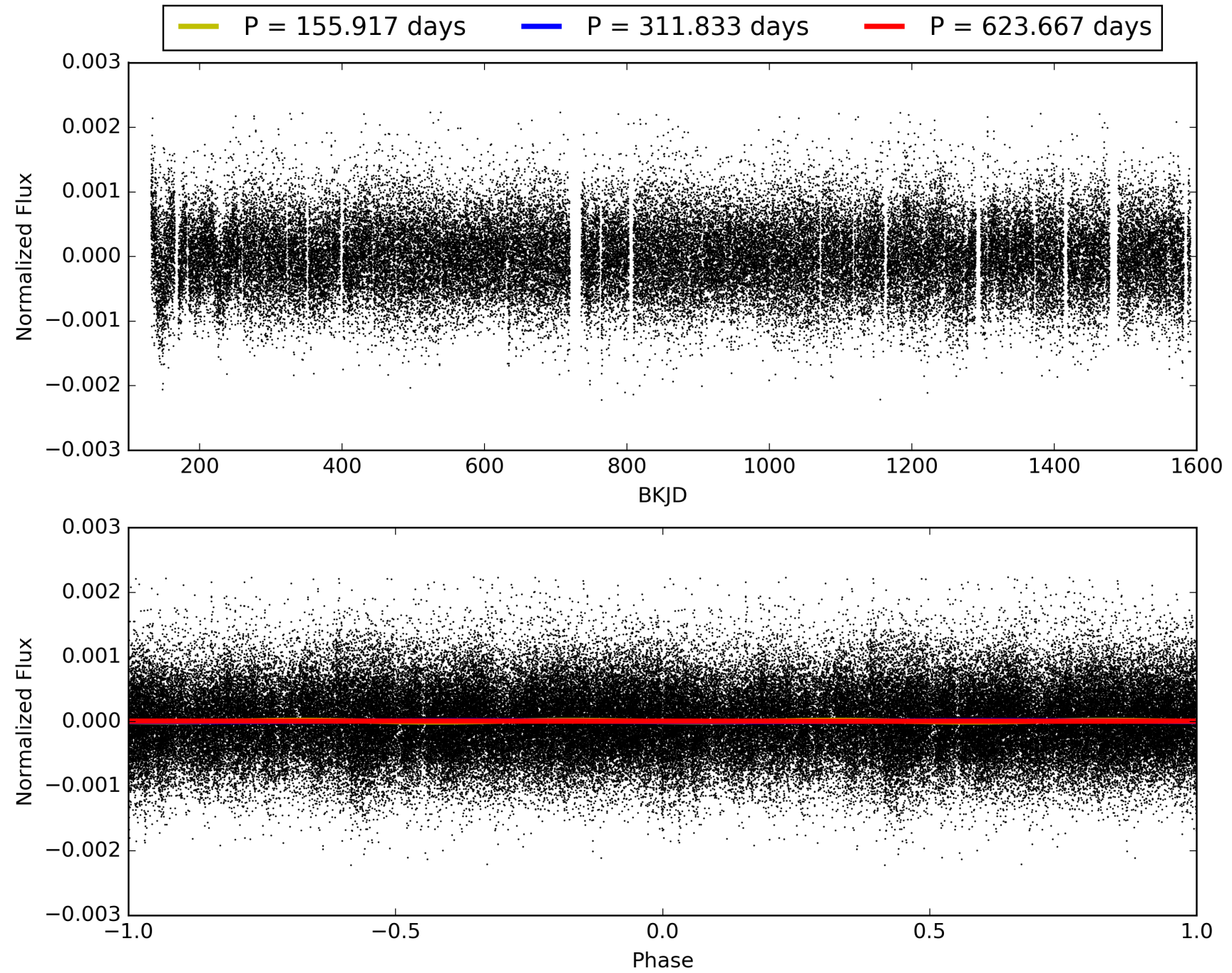
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:13:00 Z

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

# TCE 005961019-01, PDC Light Curves

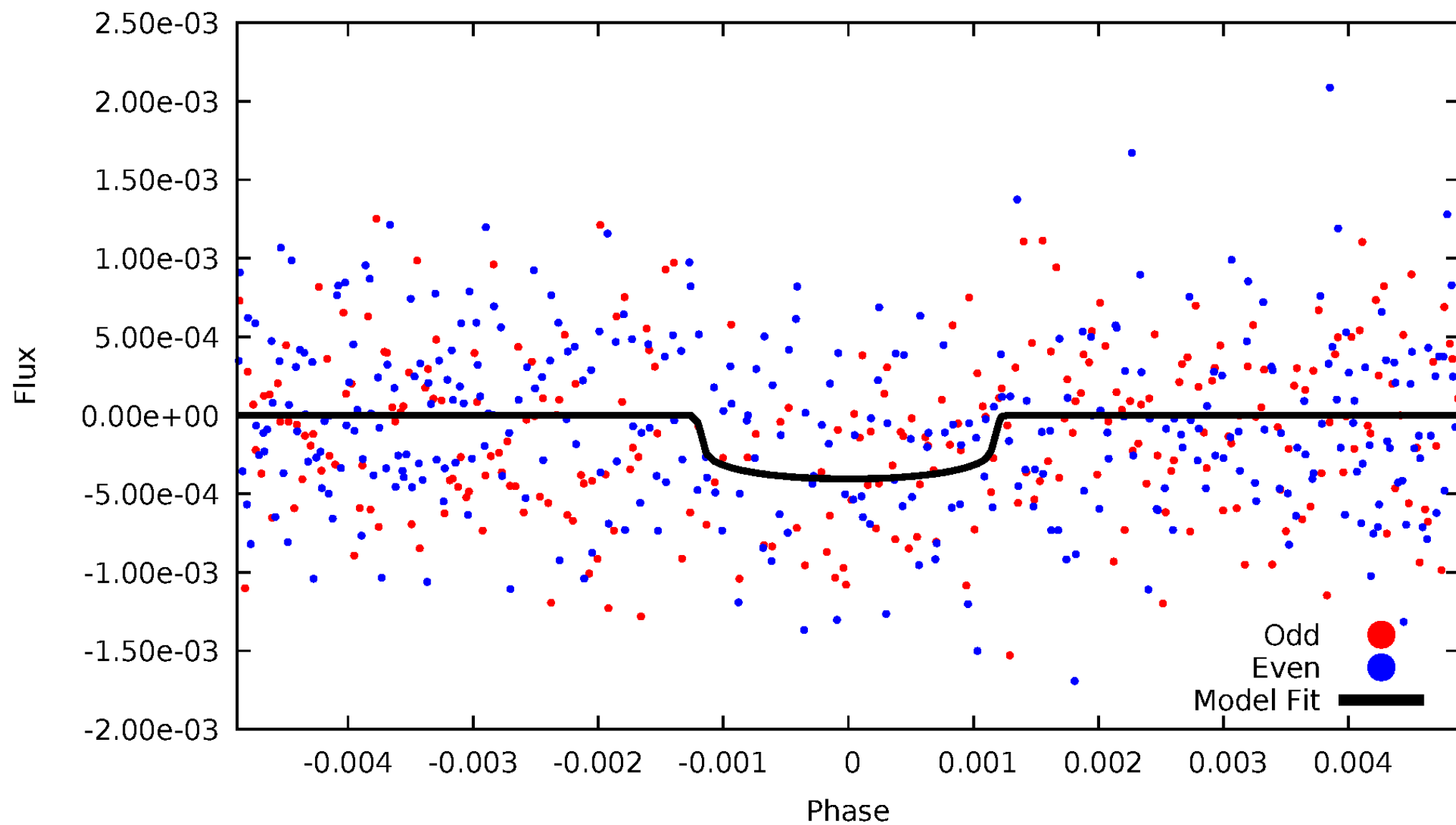


TCE 005961019-01



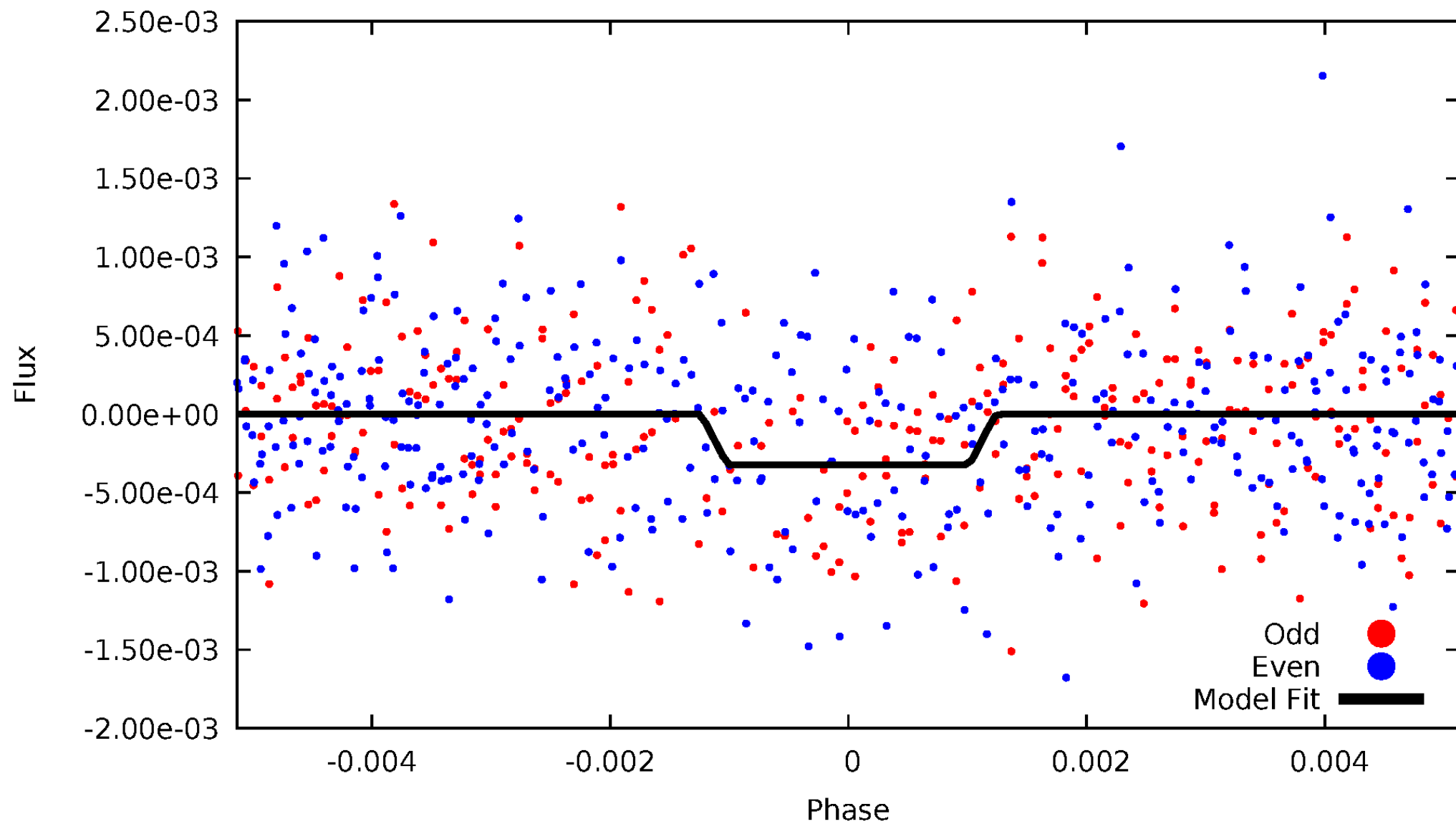
# DV Odd/Even

TCE 005961019-01



# ALT Odd/Even

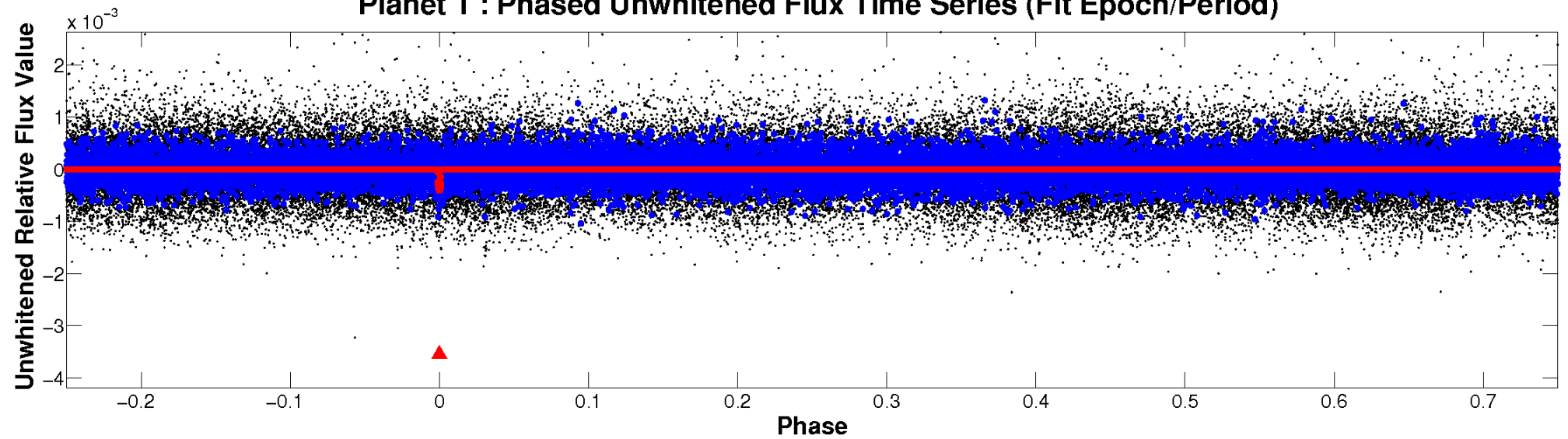
TCE 005961019-01



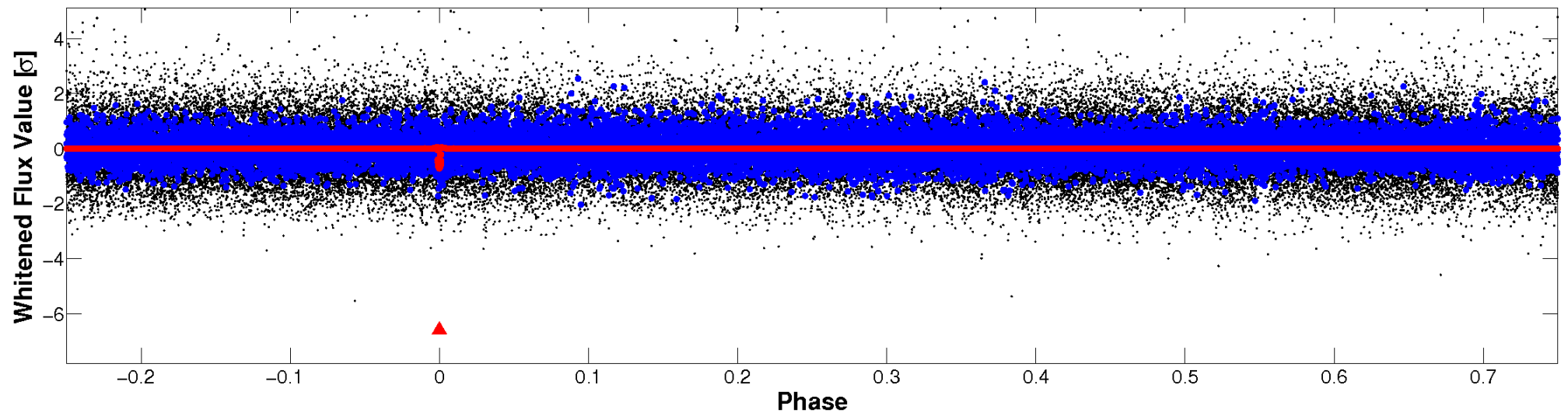


# Non-Whitened Vs. Whitened Light Curve

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

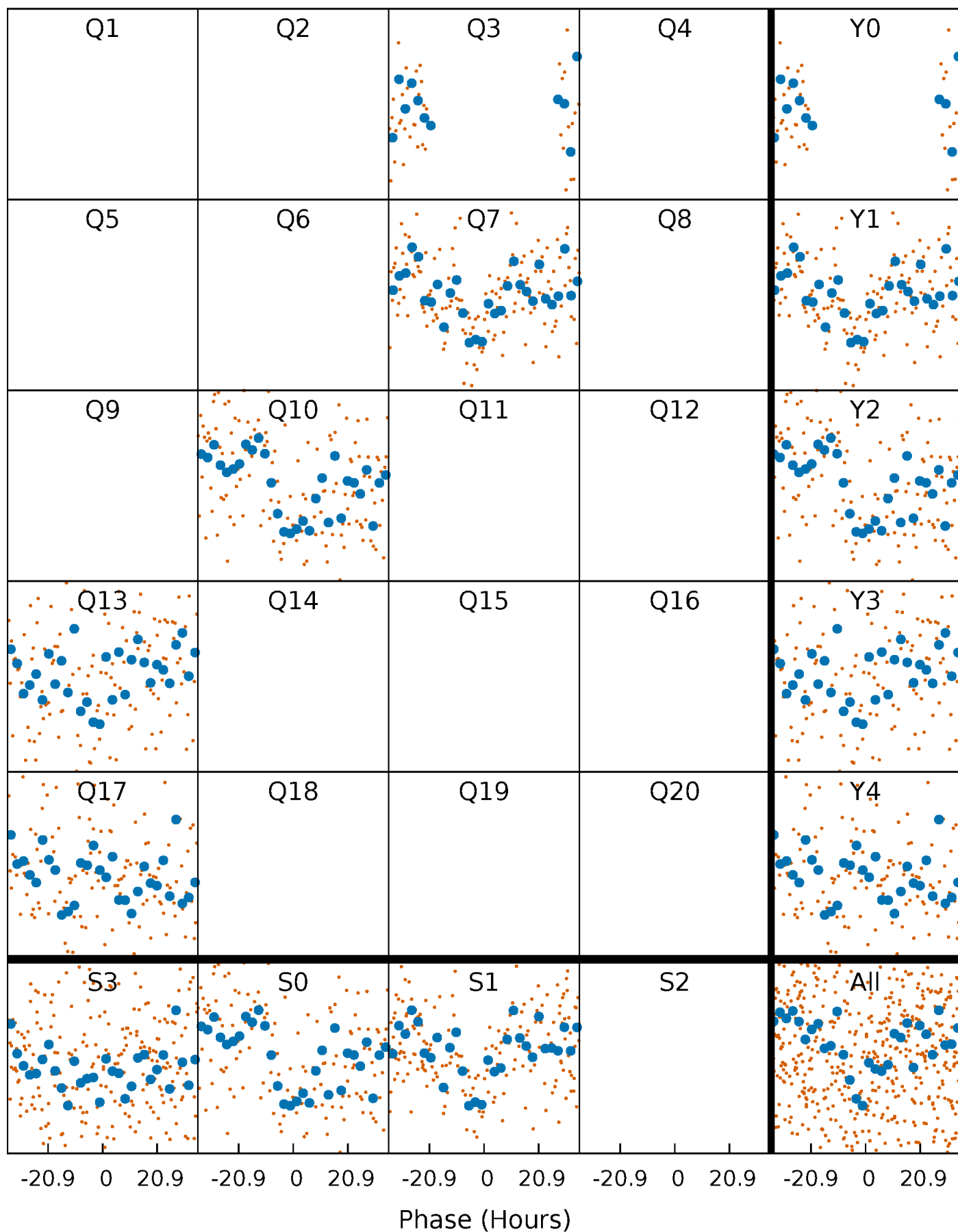


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

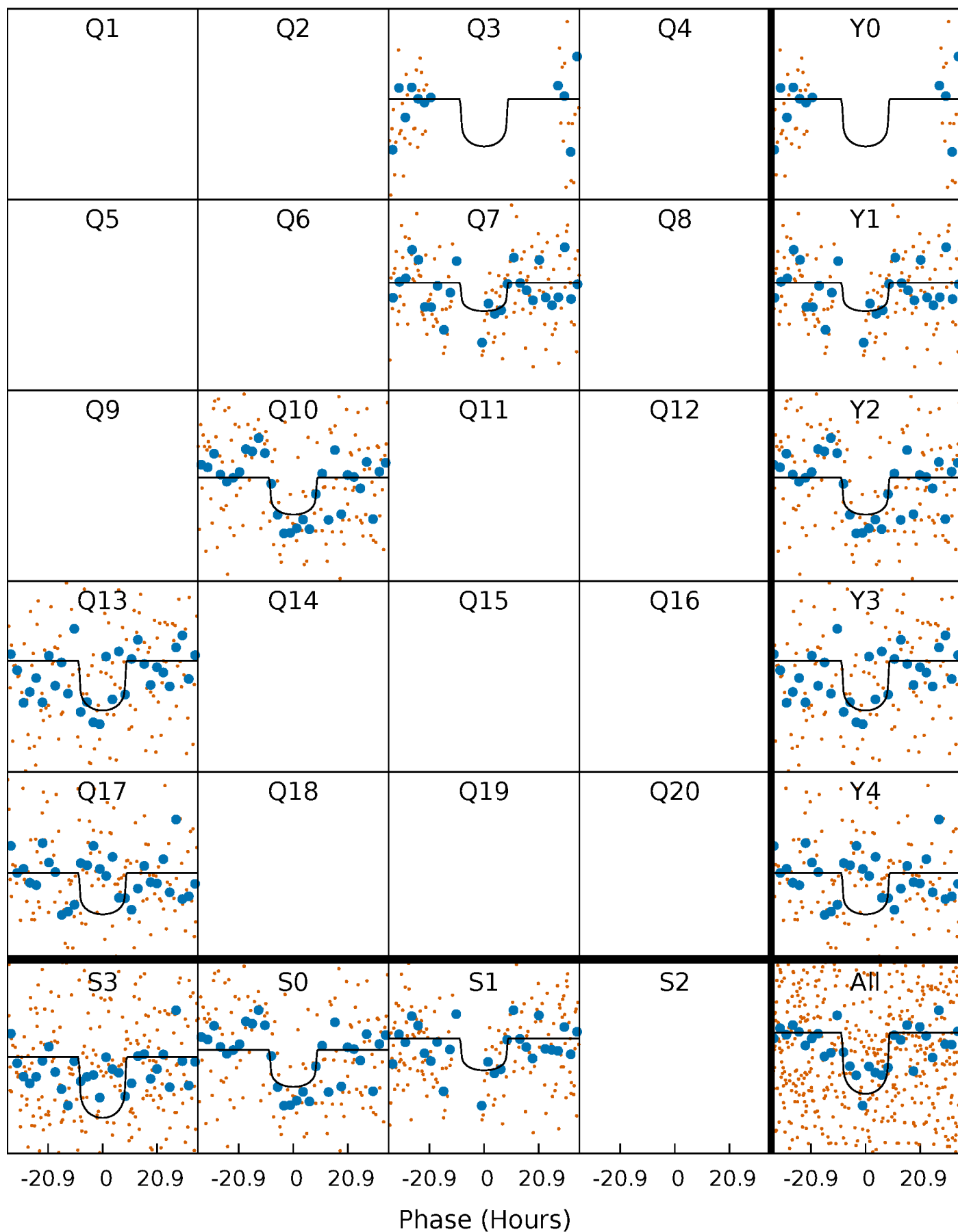
TCE 005961019-01 P=311.833459 Days  $T_0=322.338797$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 005961019-01 P=311.833459 Days  $T_0=322.338797$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

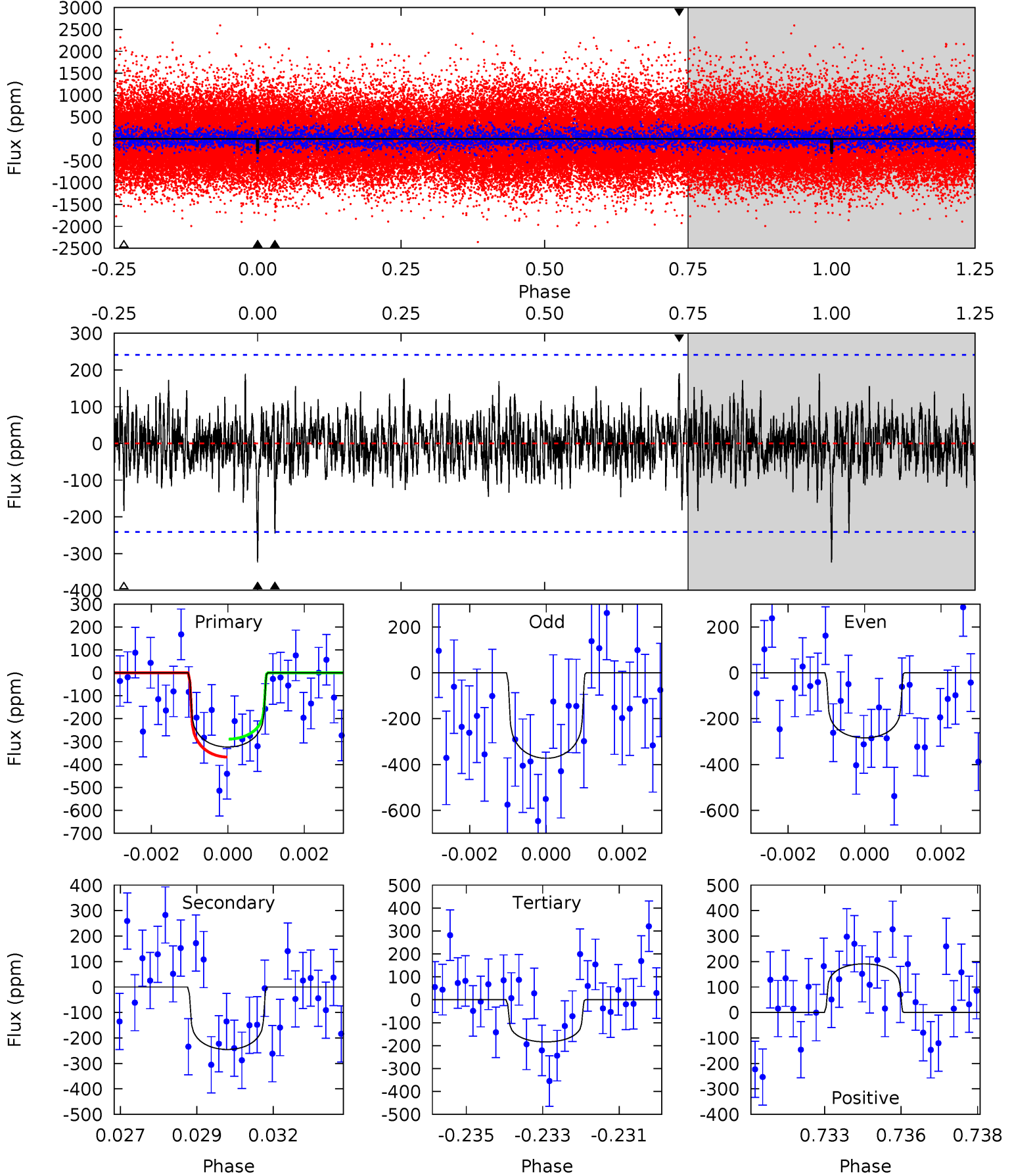
TCE 005961019-01 P=311.816126 Days  $T_0=322.367492$  (BKJD)



# DV Model-Shift Uniqueness Test

005961019-01, P = 311.833459 Days, E = 10.505338 Days

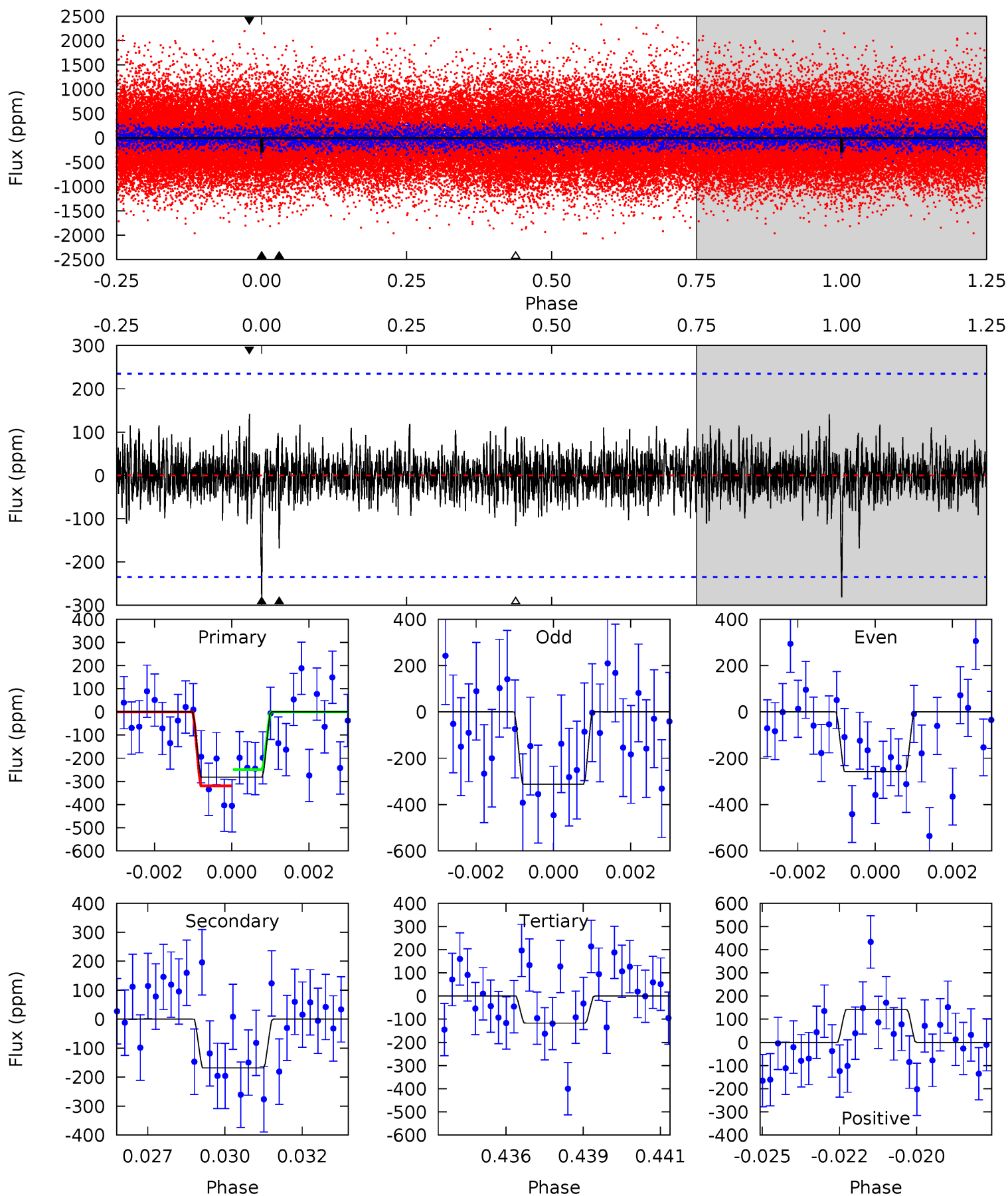
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.11	5.38	4.03	4.19	5.29	3.03	1.14	3.07	2.92	1.35	1.19	0.97	0.86	0.37	0.85



# Alt Model-Shift Uniqueness Test

005961019-01, P = 311.816126 Days, E = 10.551366 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
6.35	3.79	2.63	3.18	5.29	3.02	0.80	3.72	3.16	1.16	0.61	0.61	0.89	0.33	0.78



### Stellar Parameters For KIC 005961019

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6117^{+191}_{-212}$	$4.496^{+0.052}_{-0.221}$	$-0.220^{+0.250}_{-0.300}$	$0.947^{+0.308}_{-0.096}$	$1.025^{+0.139}_{-0.139}$	$1.702^{+0.478}_{-0.893}$
	+3%/-3%	+1%/-5%	+114%/-136%	+33%/-10%	+14%/-14%	+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 005961019-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-245 \pm 46$	$2.16^{+1.11}_{-0.97}$	$394^{+30}_{-21}$	$5416^{+1829}_{-837}$	$23488^{+50146}_{-13446}$
Alt.	$-168 \pm 44$	$2.01^{+1.00}_{-1.00}$	$395^{+30}_{-20}$	$5207^{+2088}_{-856}$	$18358^{+52472}_{-10795}$

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

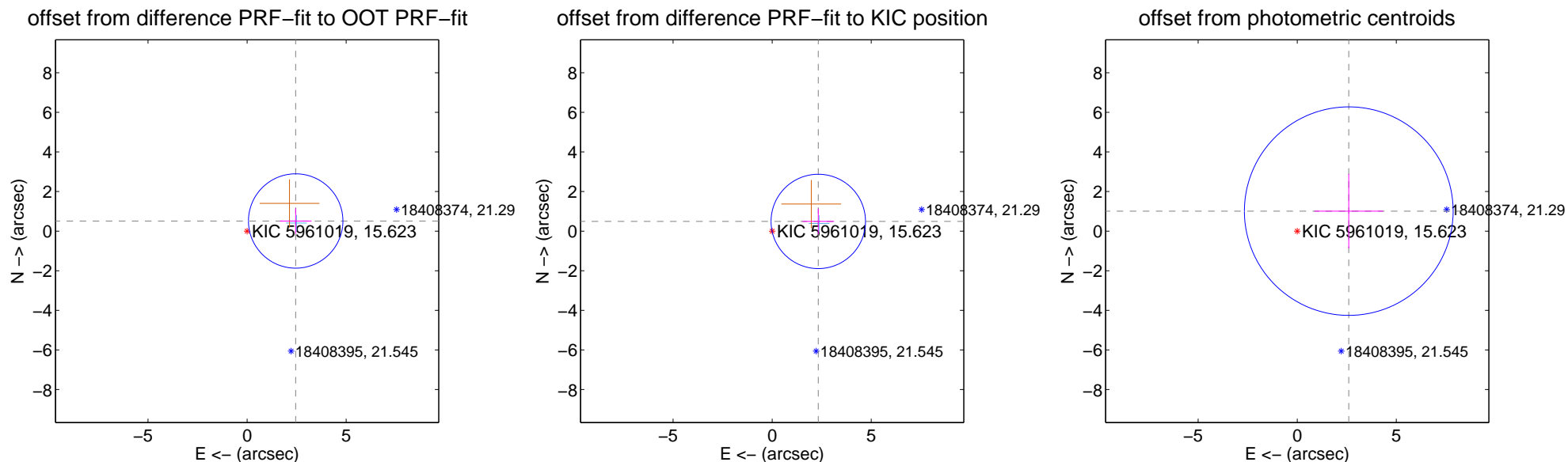
## DV Centroid Data

Supplemental centroid analysis for 005961019-01. Kepler magnitude: 15.62. Transit SNR 6.87

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>2.505 \pm 0.794</math></b>	<b>3.15</b>	$-2.452 \pm 0.800$	$0.512 \pm 0.645$
PRF-fit source offset from KIC position	$2.378 \pm 0.794$	2.99	$-2.327 \pm 0.800$	$0.491 \pm 0.645$
photometric centroid source offset	$2.79 \pm 1.76$	1.59	$-2.60 \pm 1.74$	$1.01 \pm 1.88$



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.



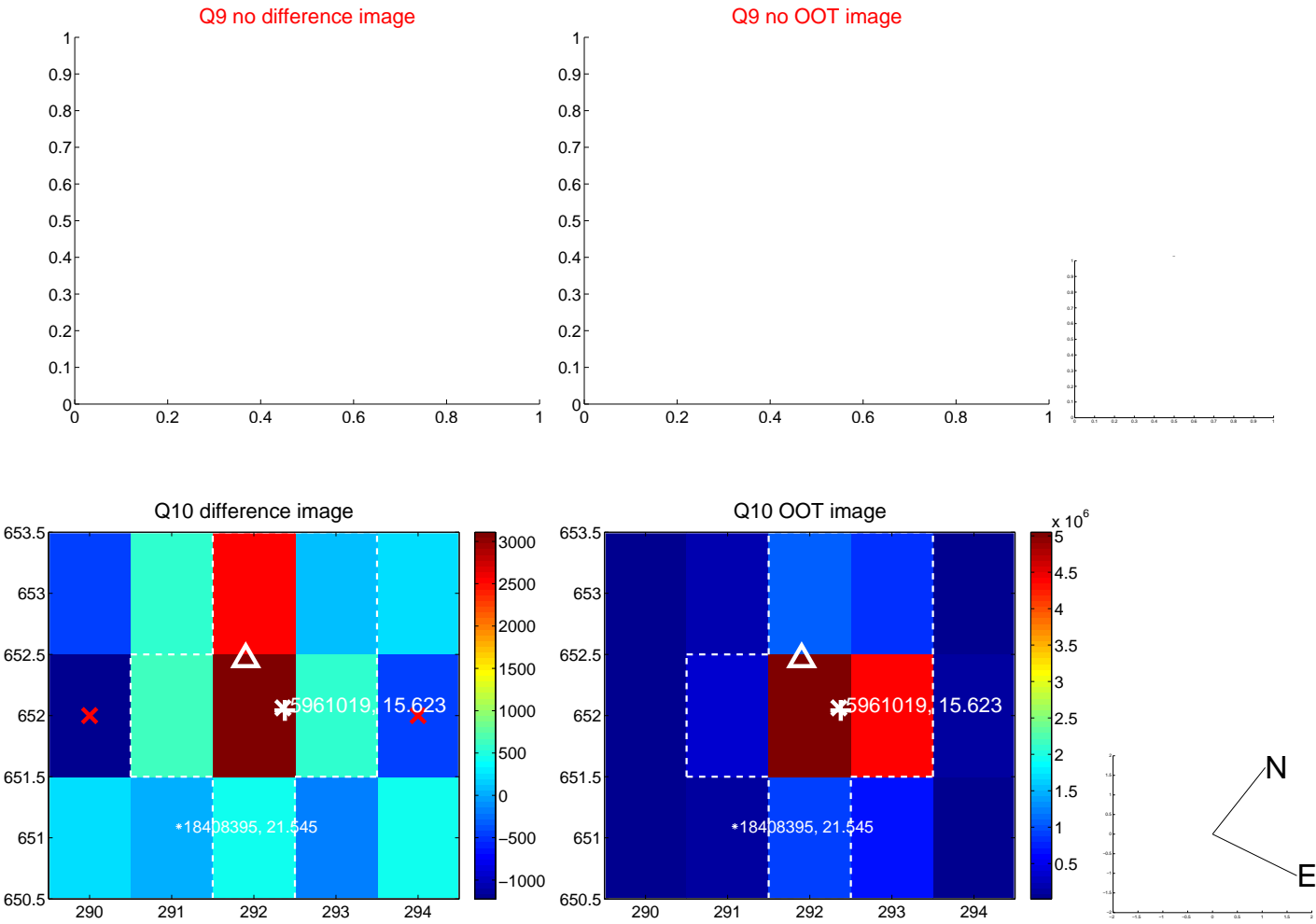
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



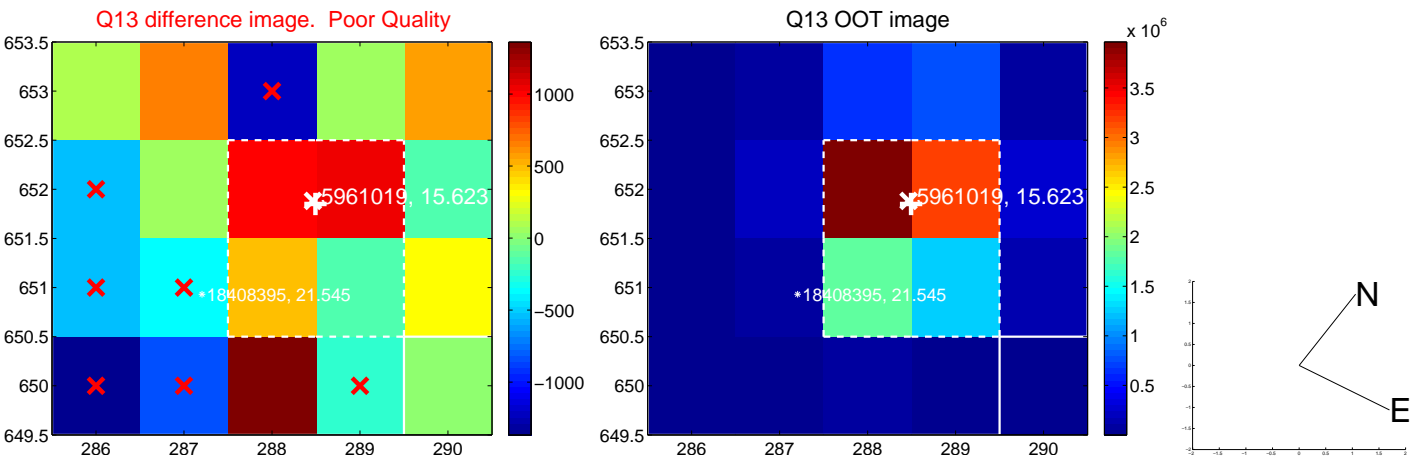
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



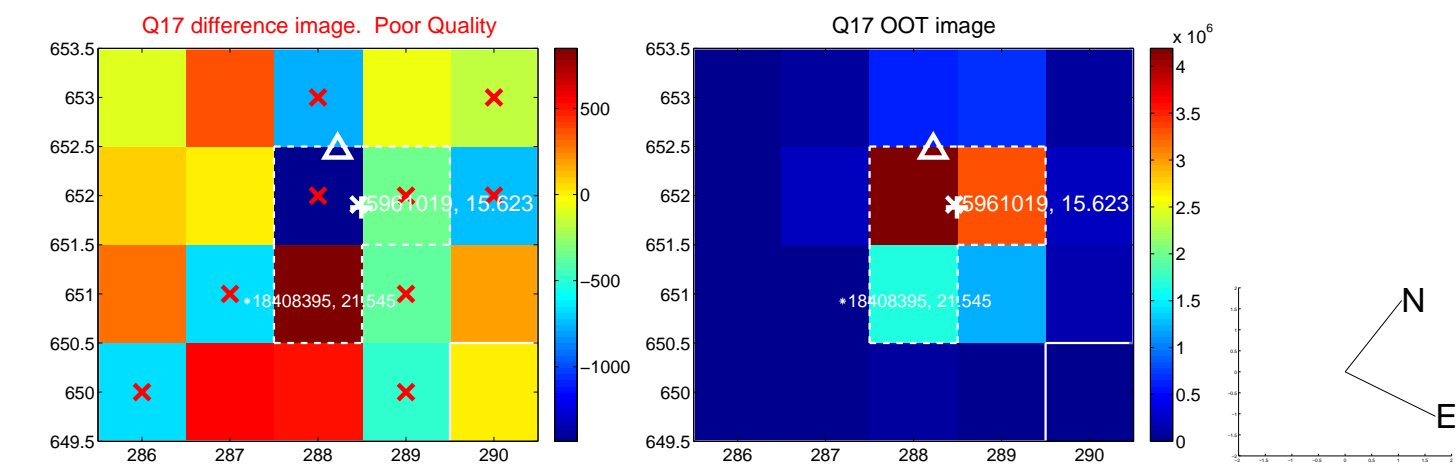
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



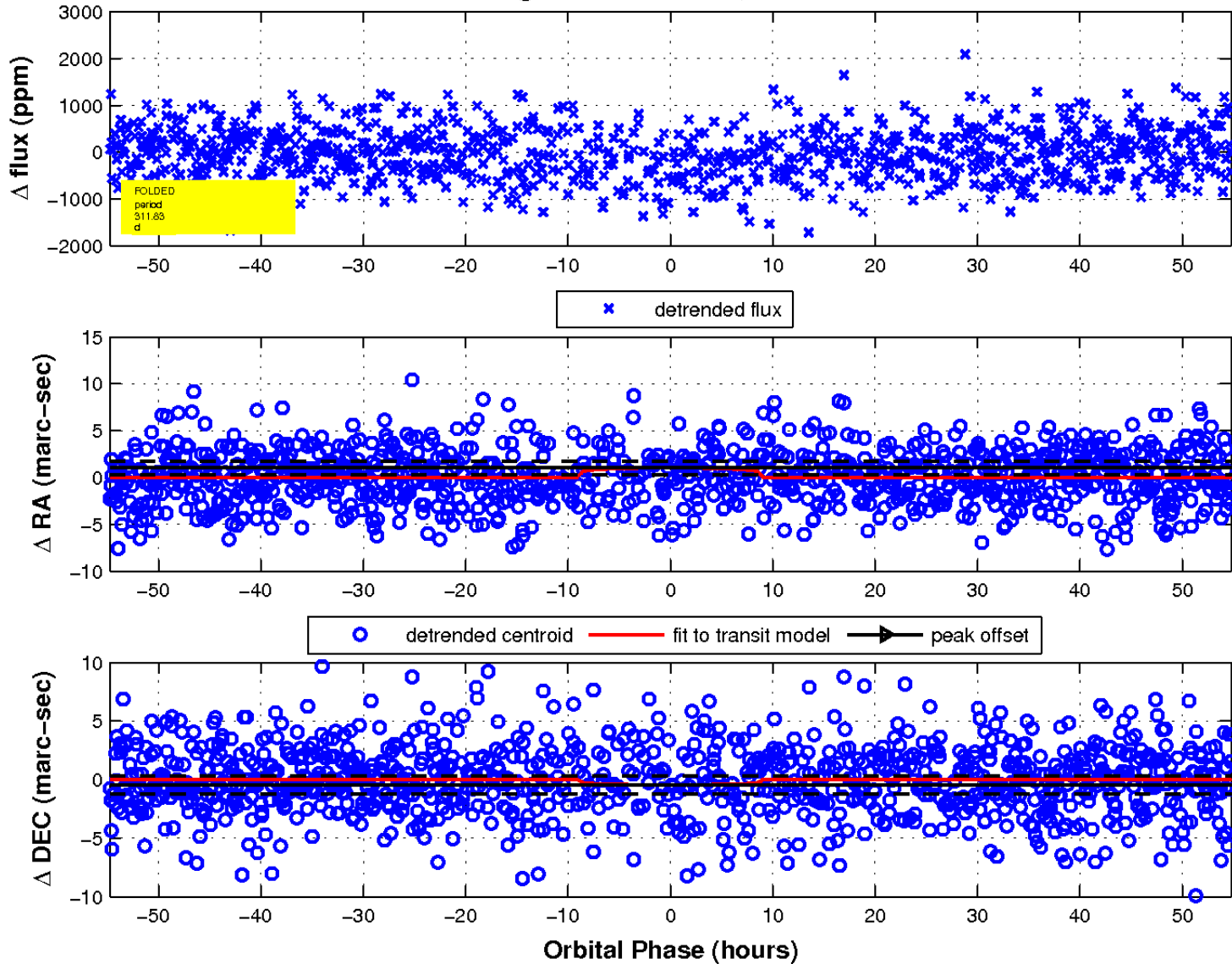
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

