

# KIC 006923148

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006923148-01	OBS	No	482.764909	302.014862	59.5	10.998	7.9	7.8	0.98	6163	0.87	0.87

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006923148-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—CENT_SATURATED

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

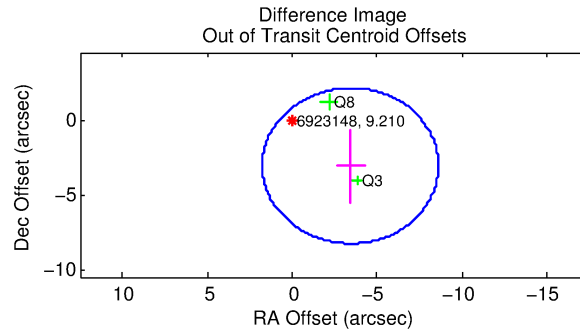
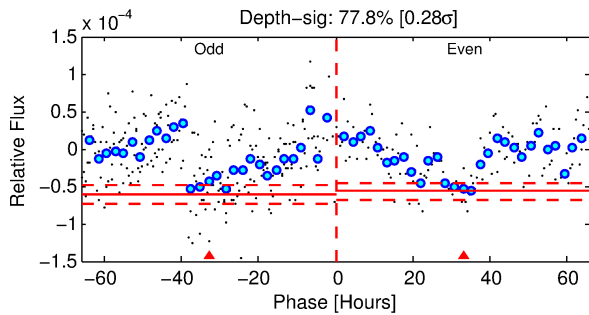
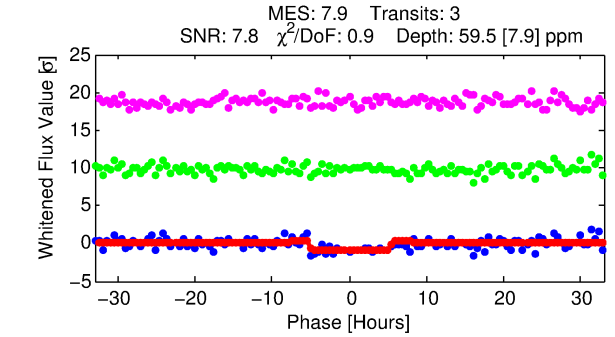
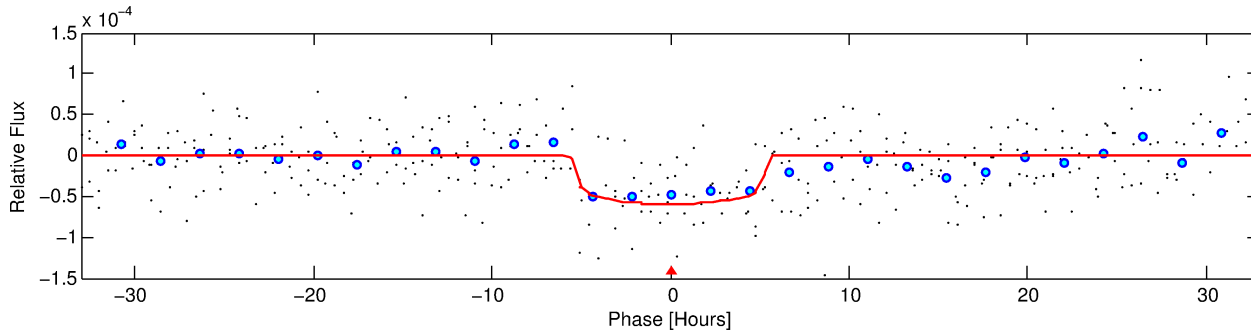
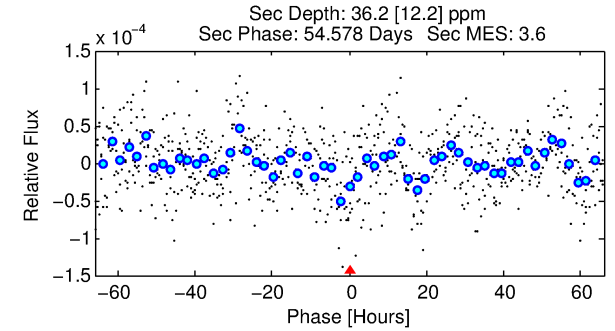
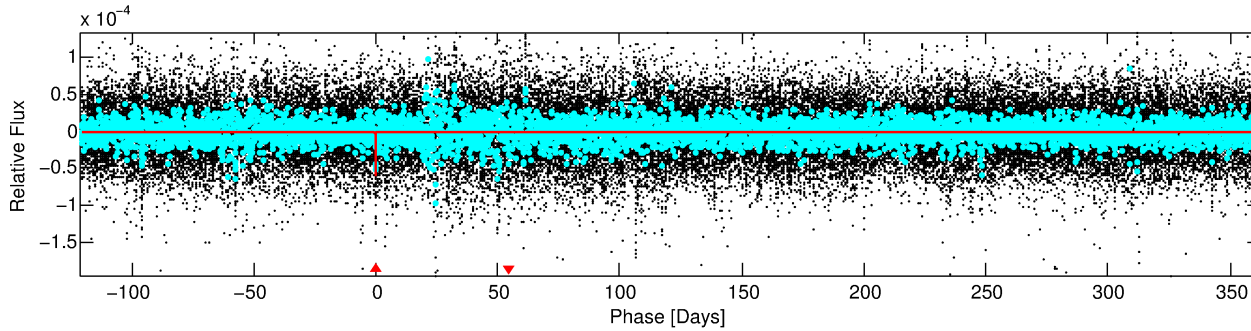
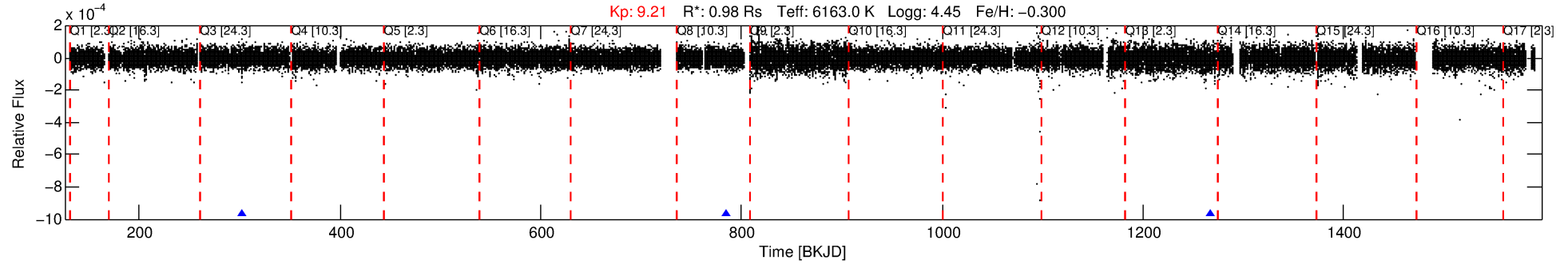
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006923148-01

No Significant Match Found

# DV One-Page Summary

KIC: 6923148 Candidate: 1 of 1 Period: 482.765 d



## DV Fit Results:

Period = 482.76491 [0.01114] d  
Epoch = 302.0149 [0.0135] BKJD  
Rp/R\* = 0.0081 [0.0016]  
a/R\* = 168.82 [172.60]  
b = 0.87 [0.28]  
Seff = 0.87 [0.35]  
Teq = 246 [25] K  
Rp = 0.87 [0.32] Re  
a = 1.1999 [0.3065] AU  
Ag = 37590.39 [24231.94] [1.55σ]  
Teffp = 5303 [729] K [6.94σ]

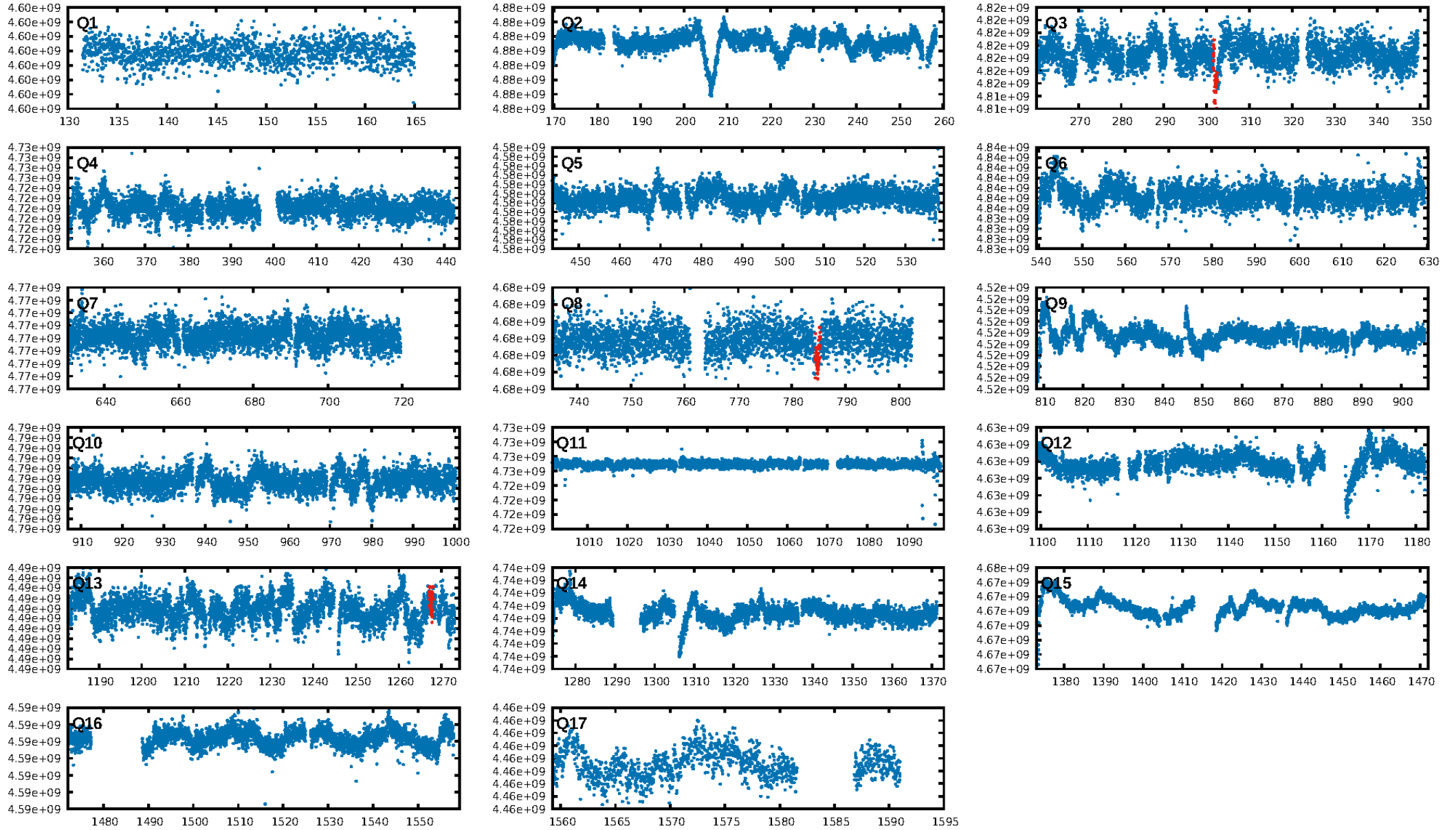
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 17.8%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 2.64e-09**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 21.9%  
Centroid-so: 3.676 arcsec [0.95σ]  
OotOffset-rm: 4.618 arcsec [2.67σ]  
**KicOffset-rm: 7.241 arcsec [3.14σ]**  
OotOffset-st: 0/1/1/0 [2]  
KicOffset-st: 0/1/1/0 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [2/2]

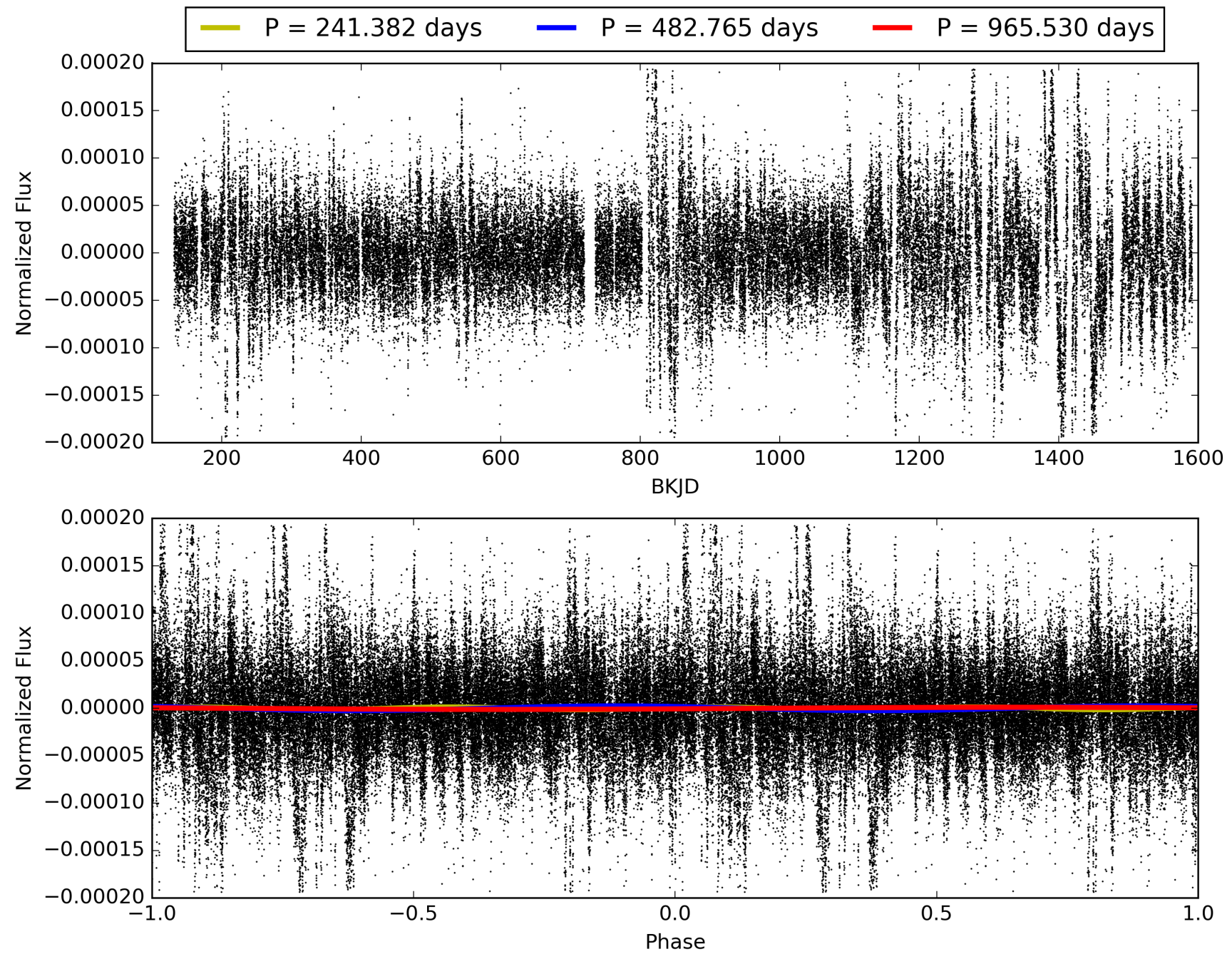
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:12:34 Z

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

# TCE 006923148-01, PDC Light Curves

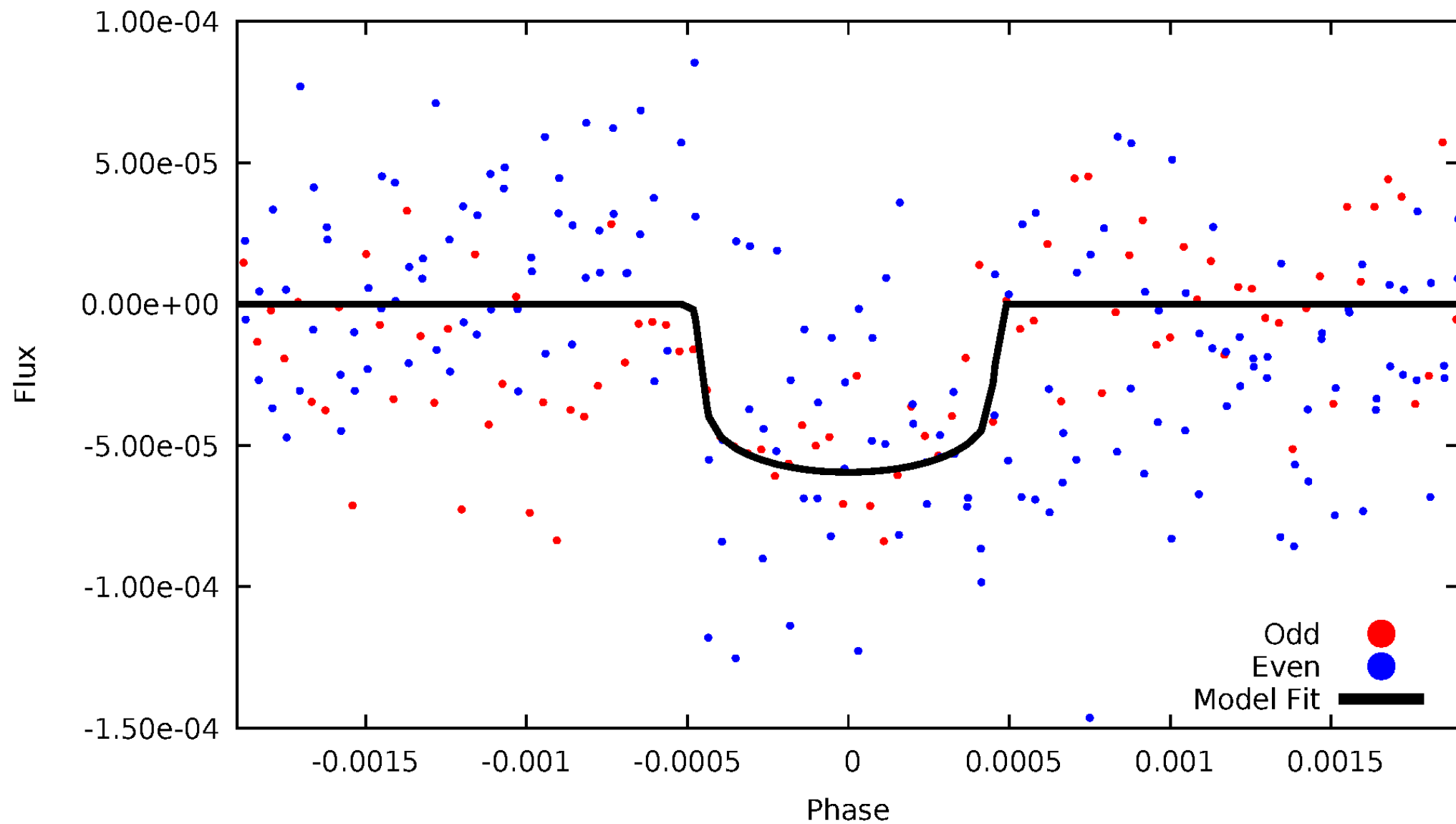


# TCE 006923148-01



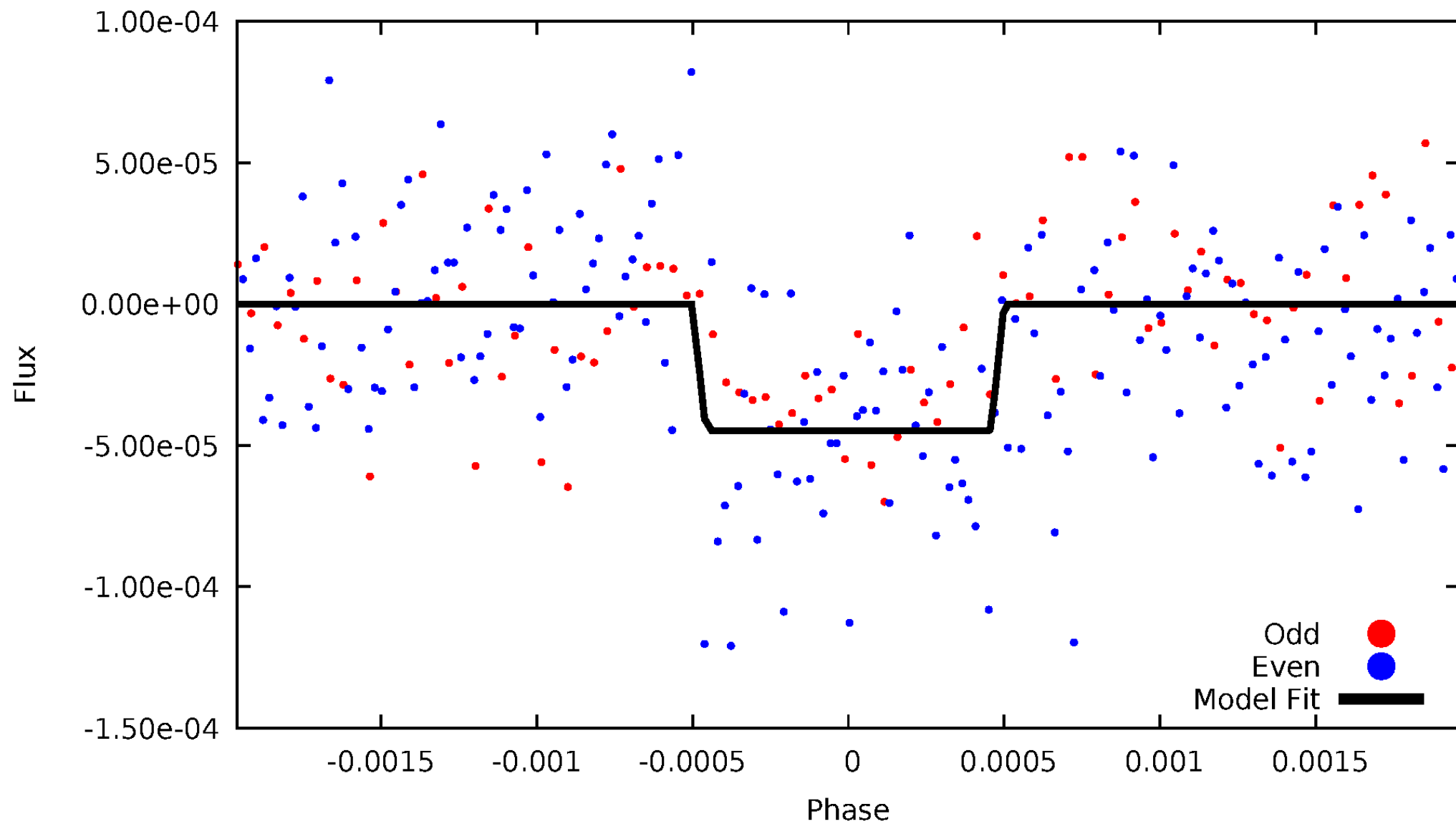
# DV Odd/Even

TCE 006923148-01



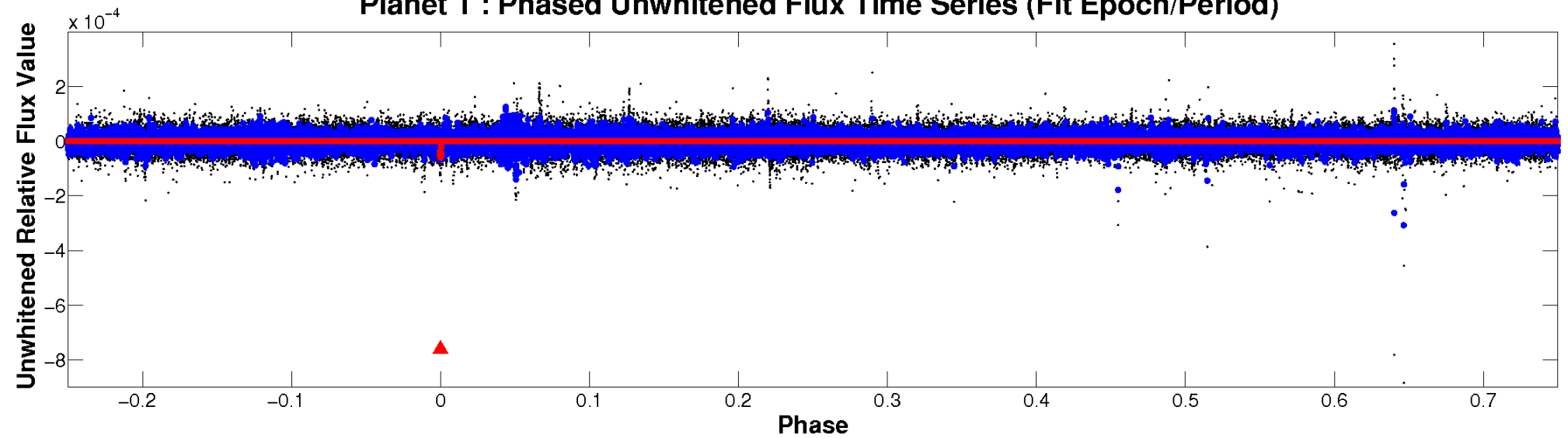
# ALT Odd/Even

TCE 006923148-01

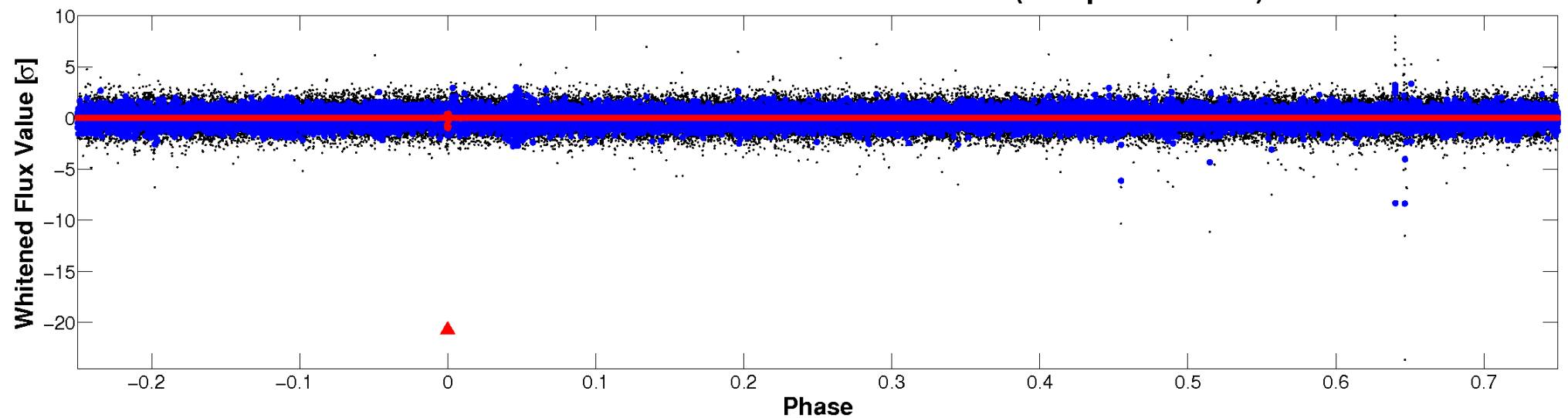


# Non-Whitened Vs. Whitened Light Curve

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



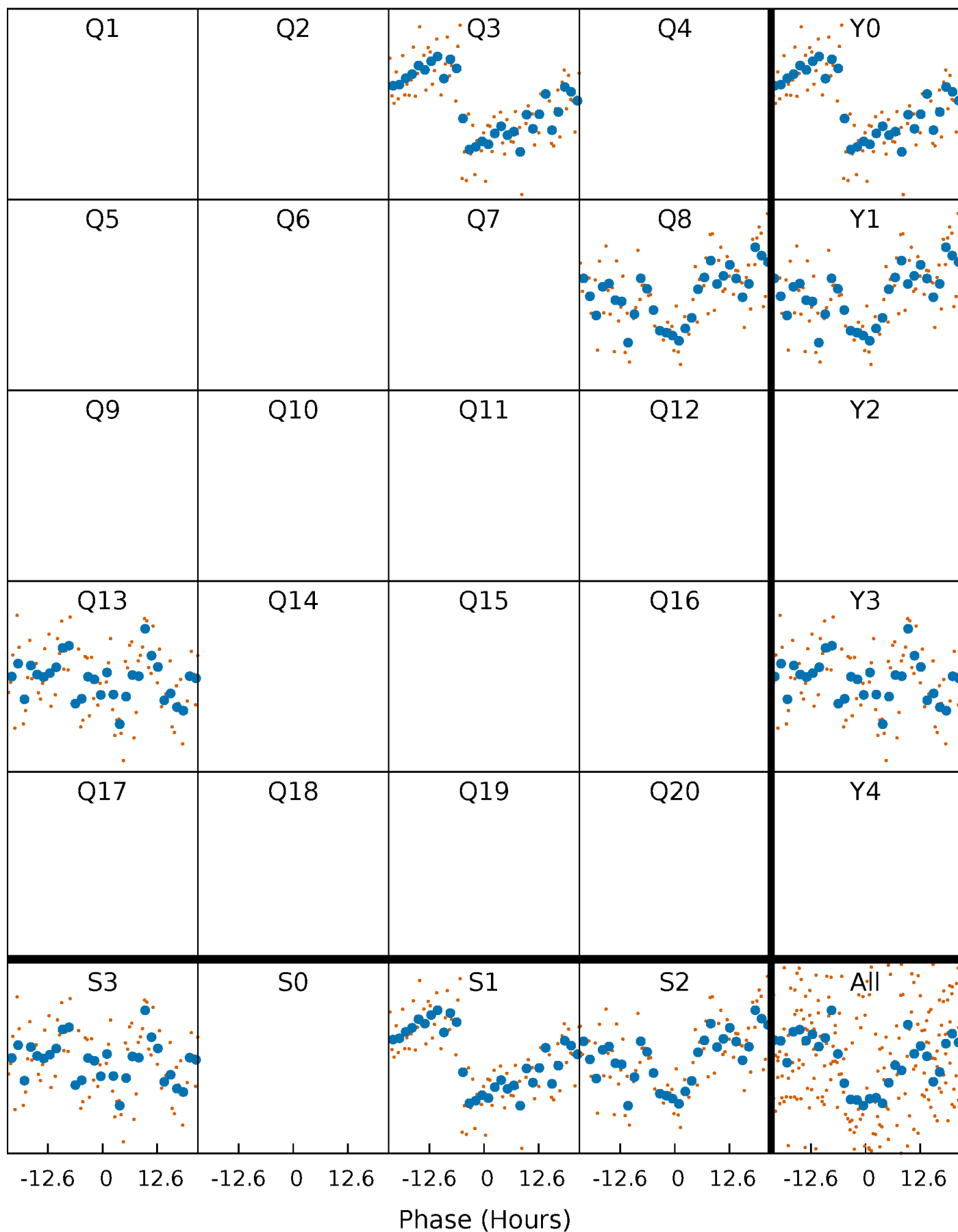
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

TCE 006923148-01 P=482.764909 Days  $T_0=302.014862$  (BKJD)





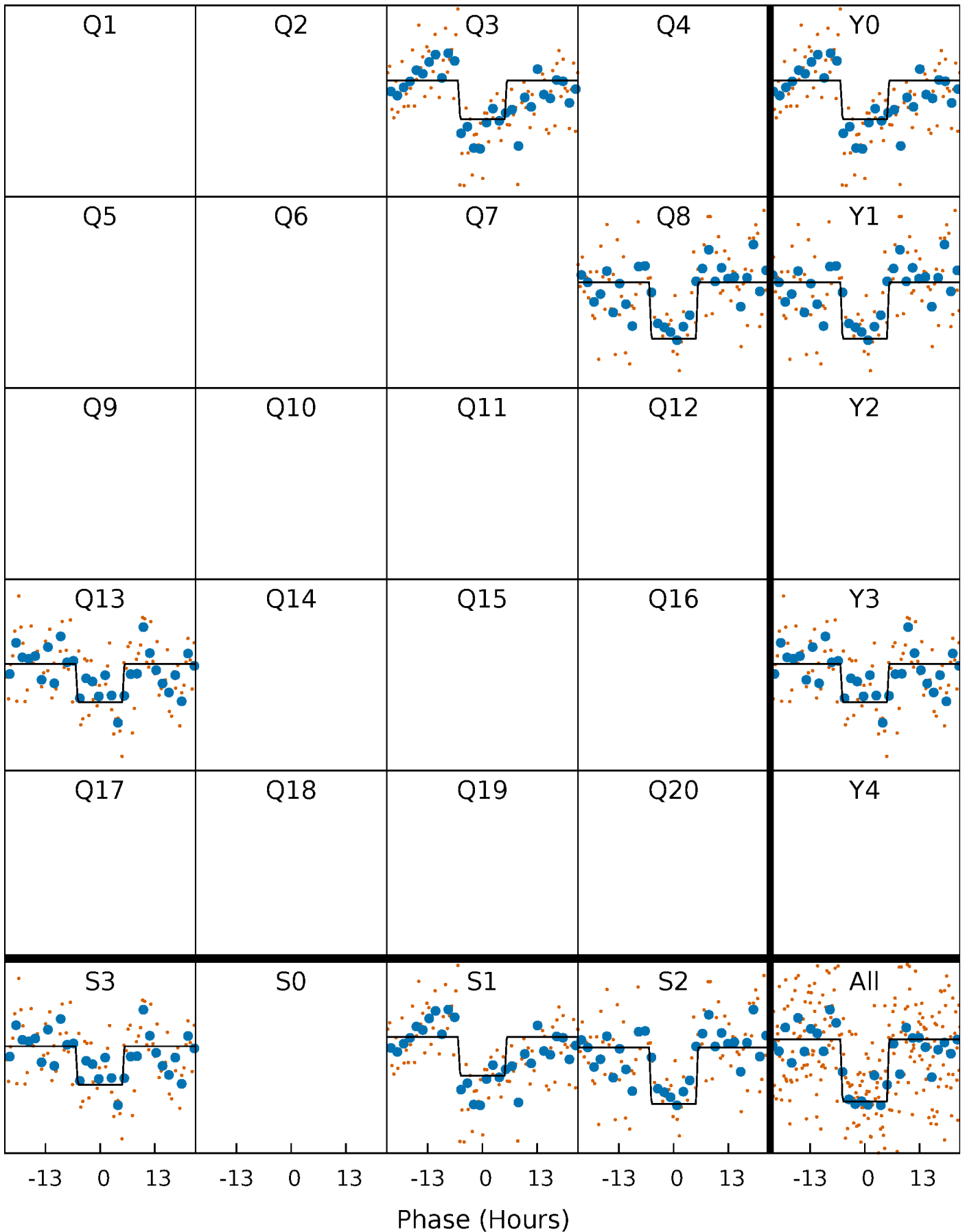
# DV Quarter-Phased Transit Curves

TCE 006923148-01 P=482.764909 Days  $T_0=302.014862$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

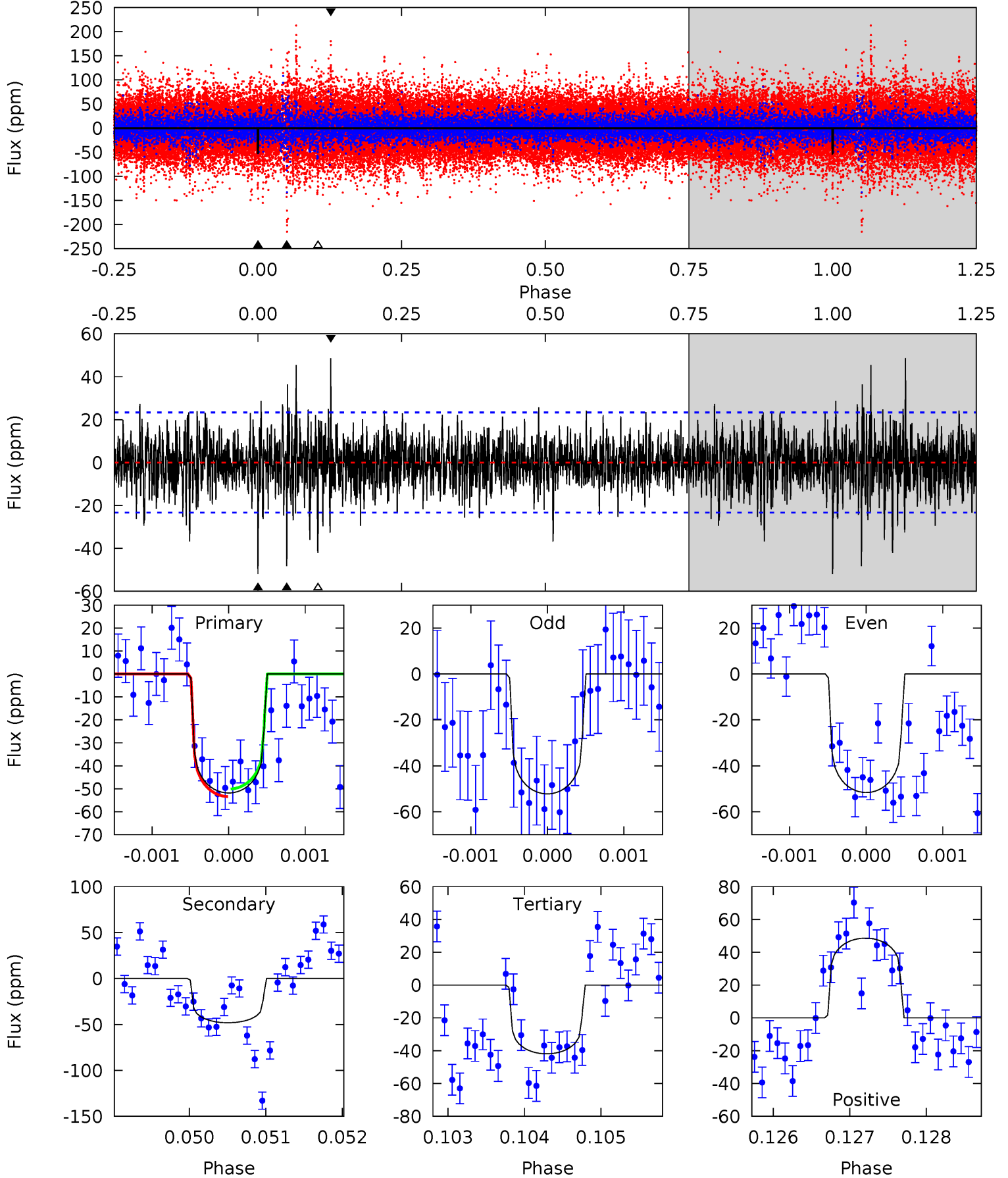
TCE 006923148-01 P=482.749666 Days  $T_0=302.027541$  (BKJD)



# DV Model-Shift Uniqueness Test

006923148-01, P = 482.764909 Days, E = 302.014862 Days

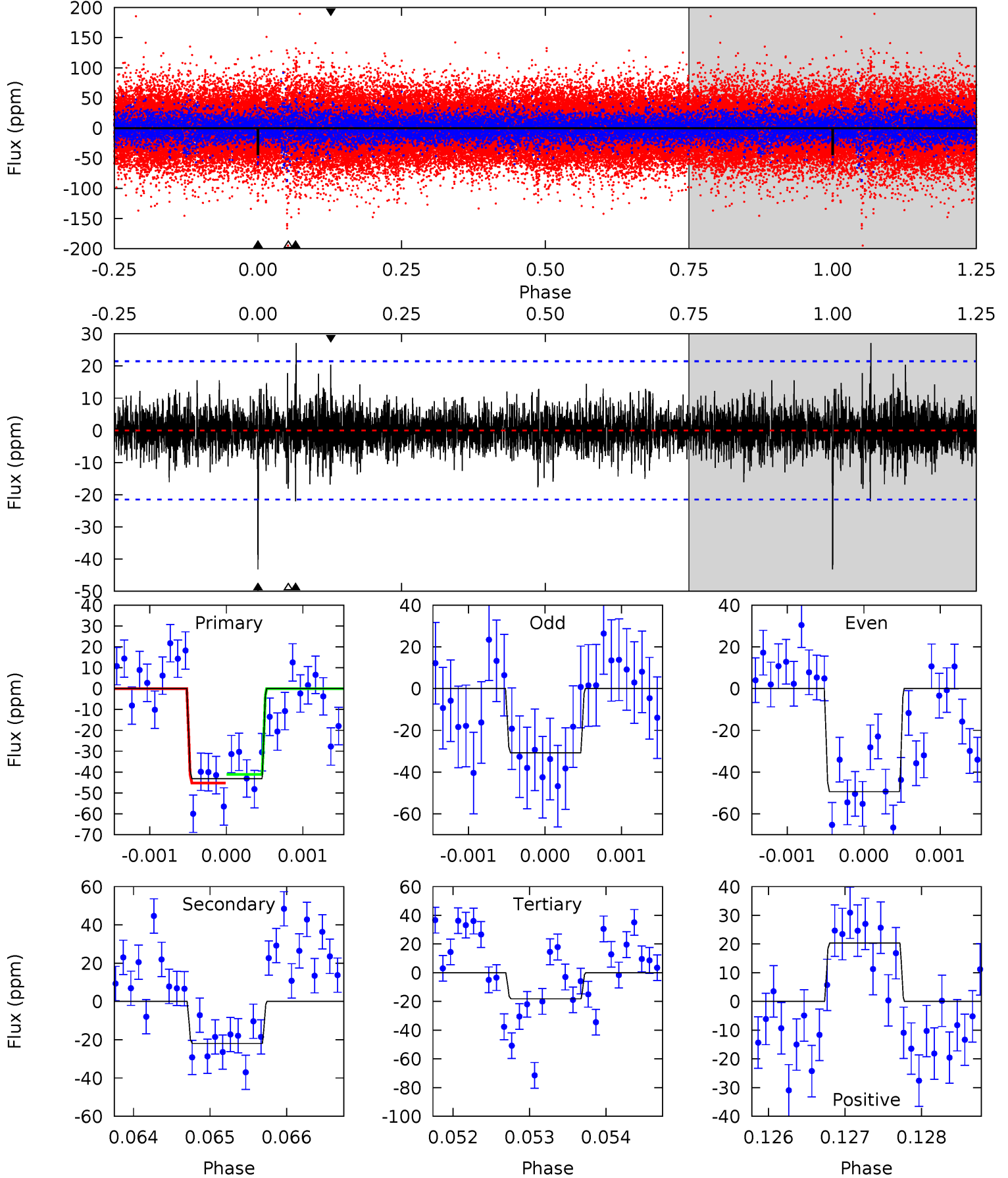
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	11.3	9.80	11.4	5.46	3.30	2.08	2.32	0.76	1.46	-0.09	0.06	0.99	0.48	0.39



# Alt Model-Shift Uniqueness Test

006923148-01, P = 482.749666 Days, E = 302.027541 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
11.0	5.57	4.61	5.18	5.46	3.30	1.09	6.35	5.78	0.97	0.40	2.19	1.17	0.39	0.52



### Stellar Parameters For KIC 006923148

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$6163^{+197}_{-241}$	$4.446^{+0.072}_{-0.203}$	$-0.300^{+0.250}_{-0.300}$	$0.985^{+0.299}_{-0.128}$	$0.986^{+0.147}_{-0.120}$	$1.452^{+0.530}_{-0.750}$
	+3%/-4%	+2%/-5%	+83%/-100%	+30%/-13%	+15%/-12%	+37%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 006923148-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-48 \pm 4$	$0.91^{+0.24}_{-0.20}$	$351^{+25}_{-21}$	$5687^{+705}_{-527}$	$45568^{+28611}_{-16992}$
Alt.	$-22 \pm 4$	$0.75^{+0.22}_{-0.19}$	$350^{+25}_{-19}$	$5207^{+768}_{-532}$	$30616^{+25751}_{-13622}$

$T_{max}$  = 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

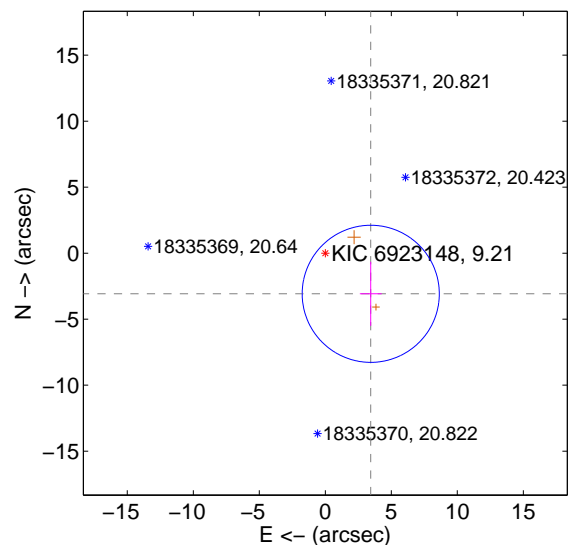
Supplemental centroid analysis for 006923148-01. **Kepler magnitude: 9.21.** Transit SNR 7.80

There are 0 quarters with good PRF difference image offsets

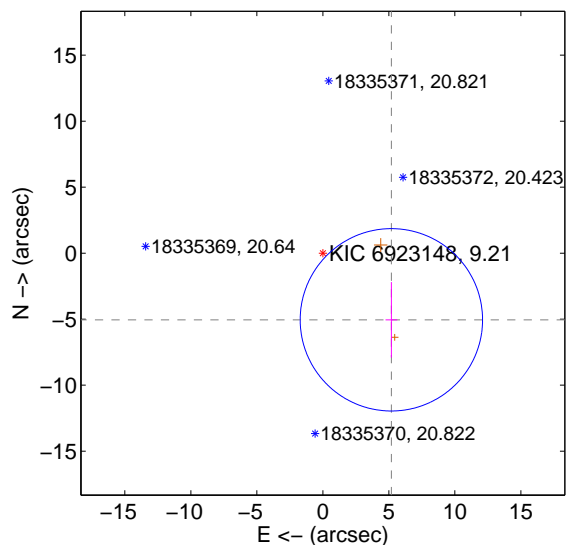
The OOT PRF centroid is offset from the target star catalog position by about 2.28 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.618 \pm 1.731$	2.67	$-3.442 \pm 0.830$	$-3.078 \pm 2.425$
PRF-fit source offset from KIC position	<b><math>7.241 \pm 2.302</math></b>	<b>3.14</b>	$-5.191 \pm 0.440$	$-5.048 \pm 2.855$
photometric centroid source offset	$3.68 \pm 3.87$	0.95	$-3.41 \pm 4.00$	$1.37 \pm 2.89$

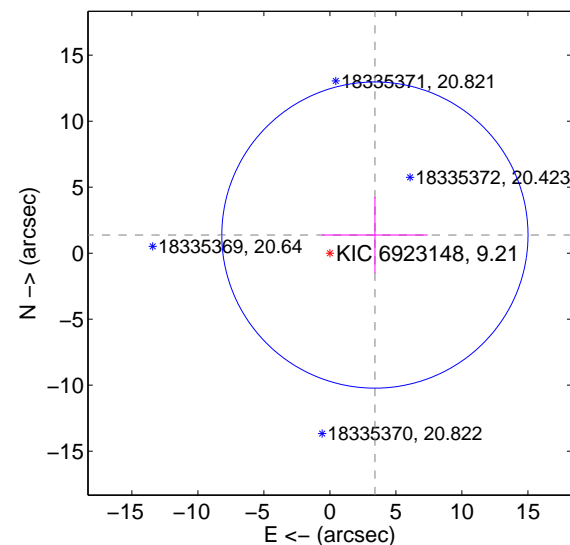
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

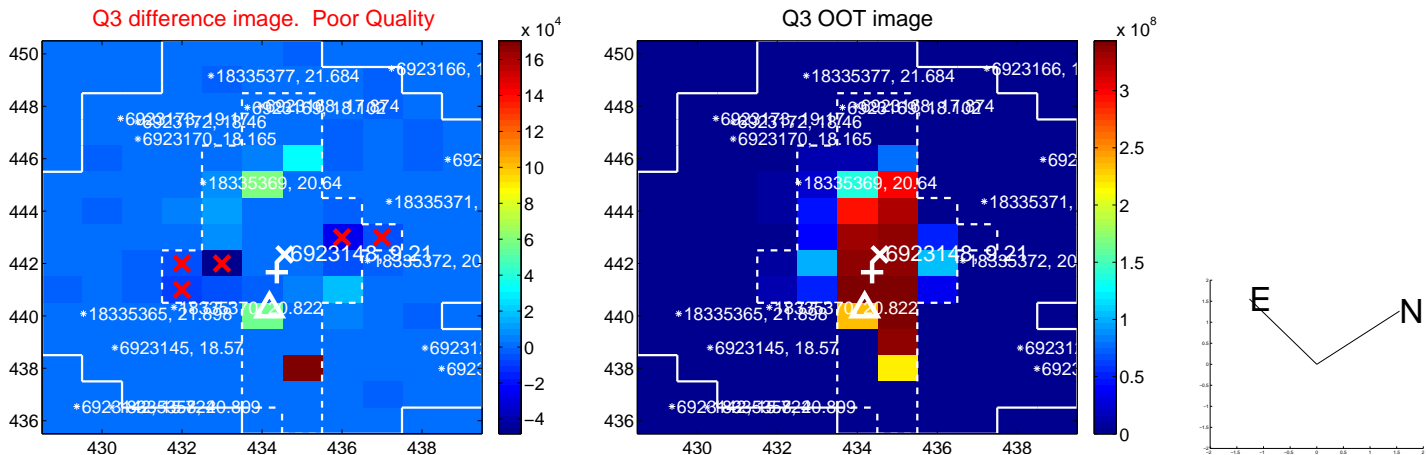


offset from photometric centroids



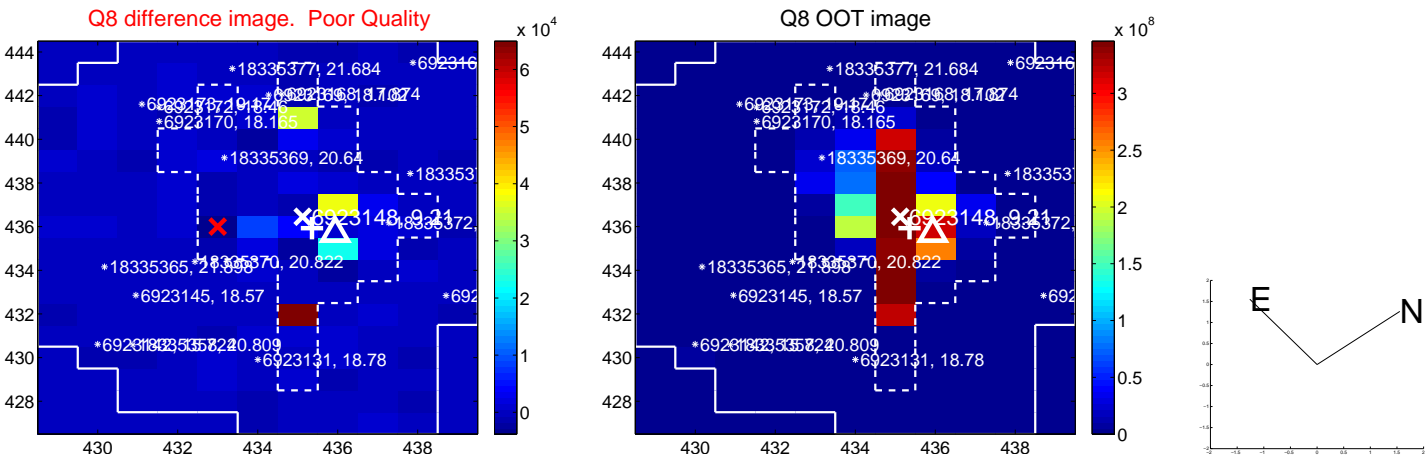
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



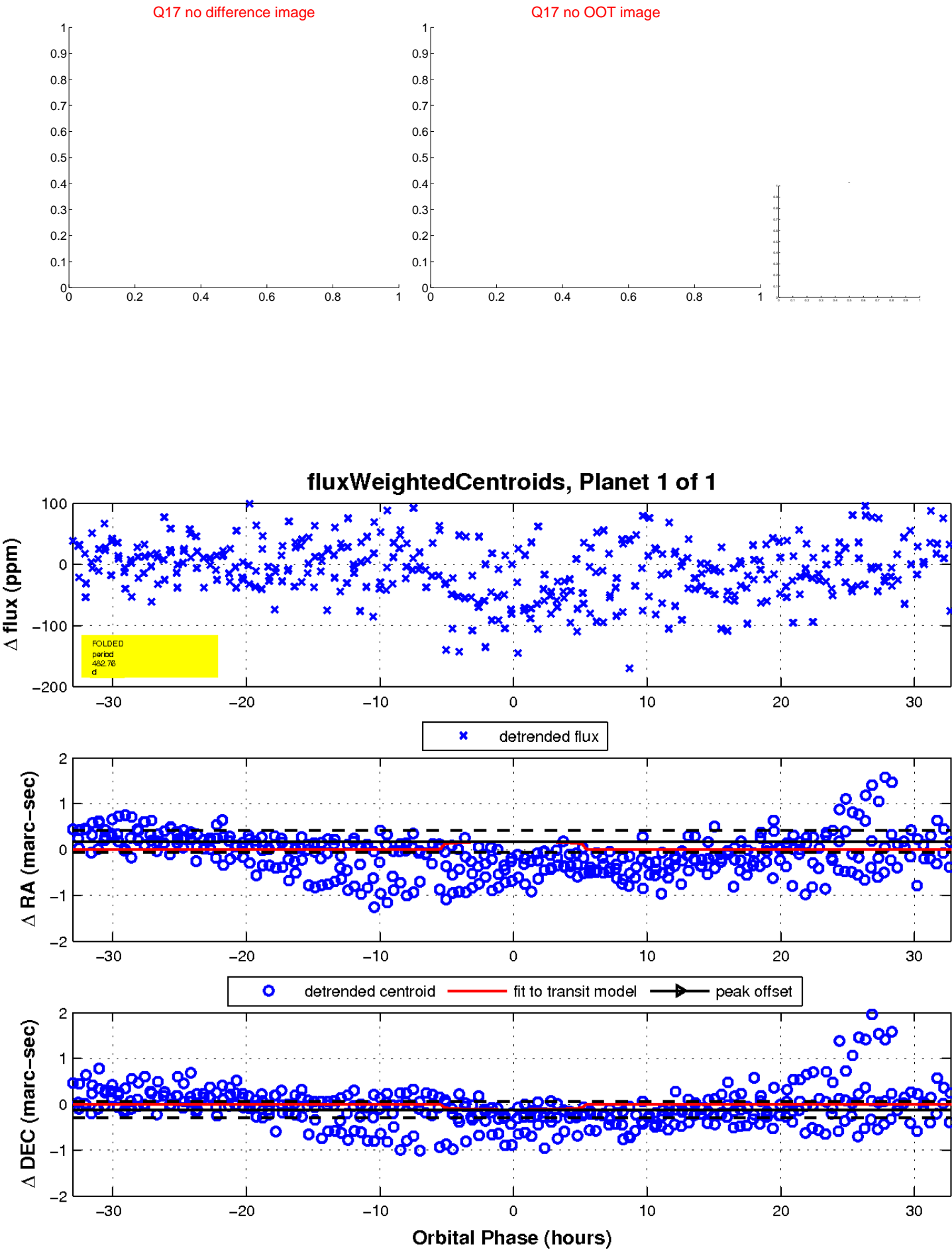
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

