

# KIC 005949765

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005949765-01	OBS	No	372.746562	145.891168	92.3	16.984	8.2	8.3	1.39	6395	1.52	2.75

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005949765-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

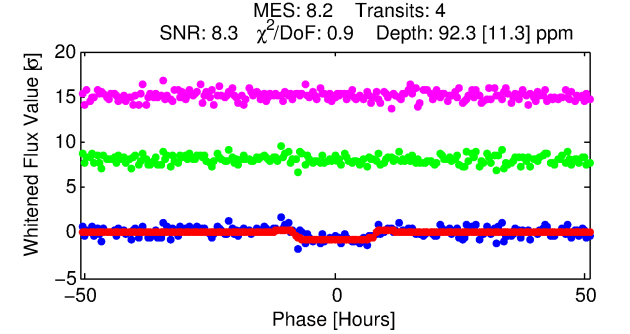
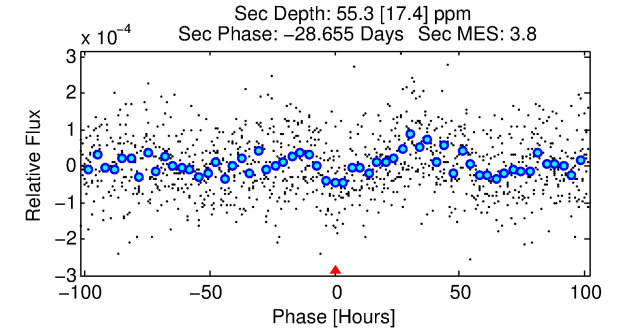
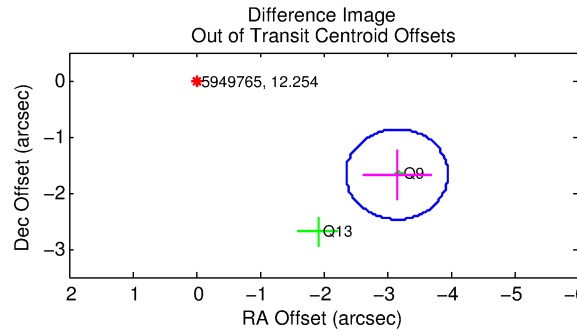
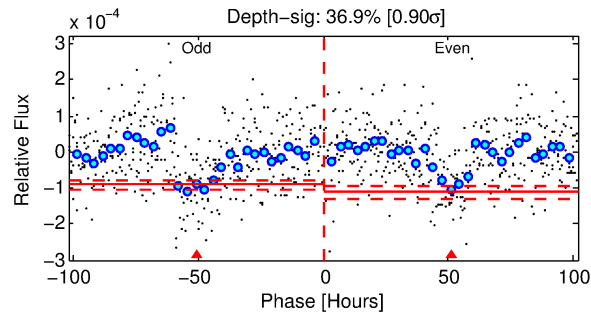
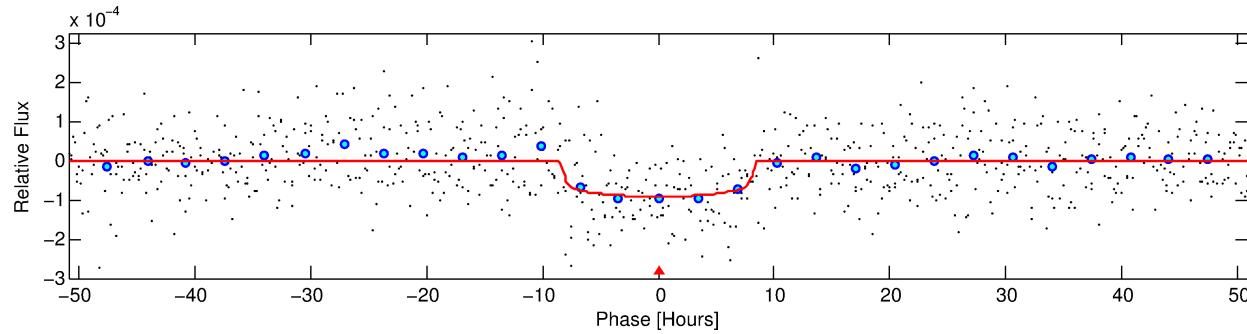
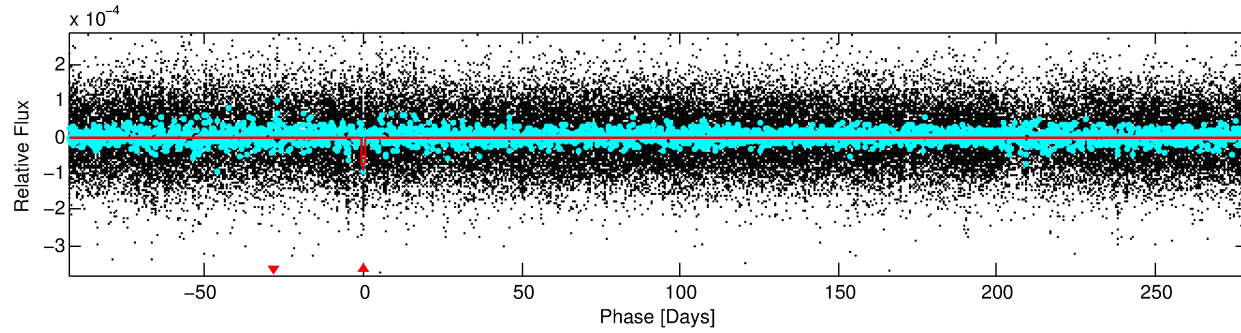
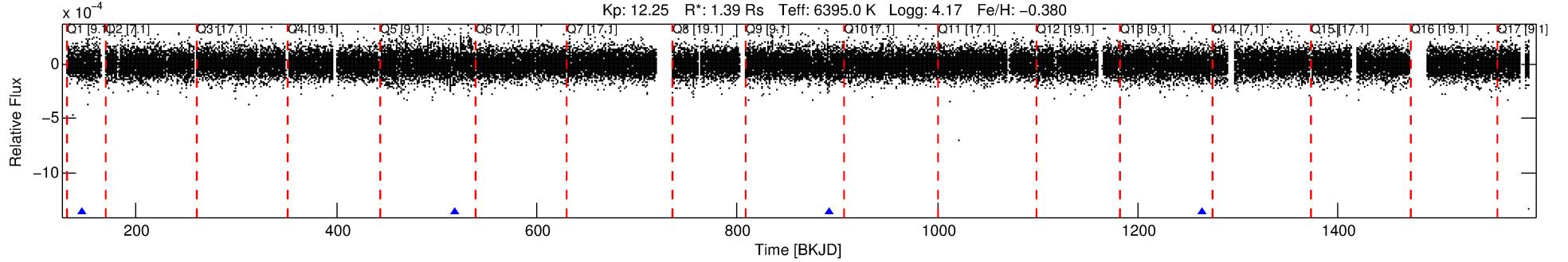
## Ephemeris Match Information For 005949765-01

No Significant Match Found

# DV One-Page Summary

KIC: 5949765 Candidate: 1 of 1 Period: 372.747 d  
KOI: K05212 Corr: No Ephemeris Match

Kp: 12.25 R\*: 1.39 Rs Teff: 6395.0 K Logg: 4.17 Fe/H: -0.380



## DV Fit Results:

Period = 372.74656 [0.00954] d  
Epoch = 145.8912 [0.0173] BKJD  
Rp/R\* = 0.0100 [0.0017]  
a/R\* = 89.66 [80.45]  
b = 0.86 [0.28]  
Seff = 2.75 [1.17]  
Teq = 328 [35] K  
Rp = 1.52 [0.49] Re  
a = 1.0299 [0.2679] AU  
Ag = 13967.69 [8694.04] [1.61σ]  
Teffp = 5517 [662] K [7.83σ]

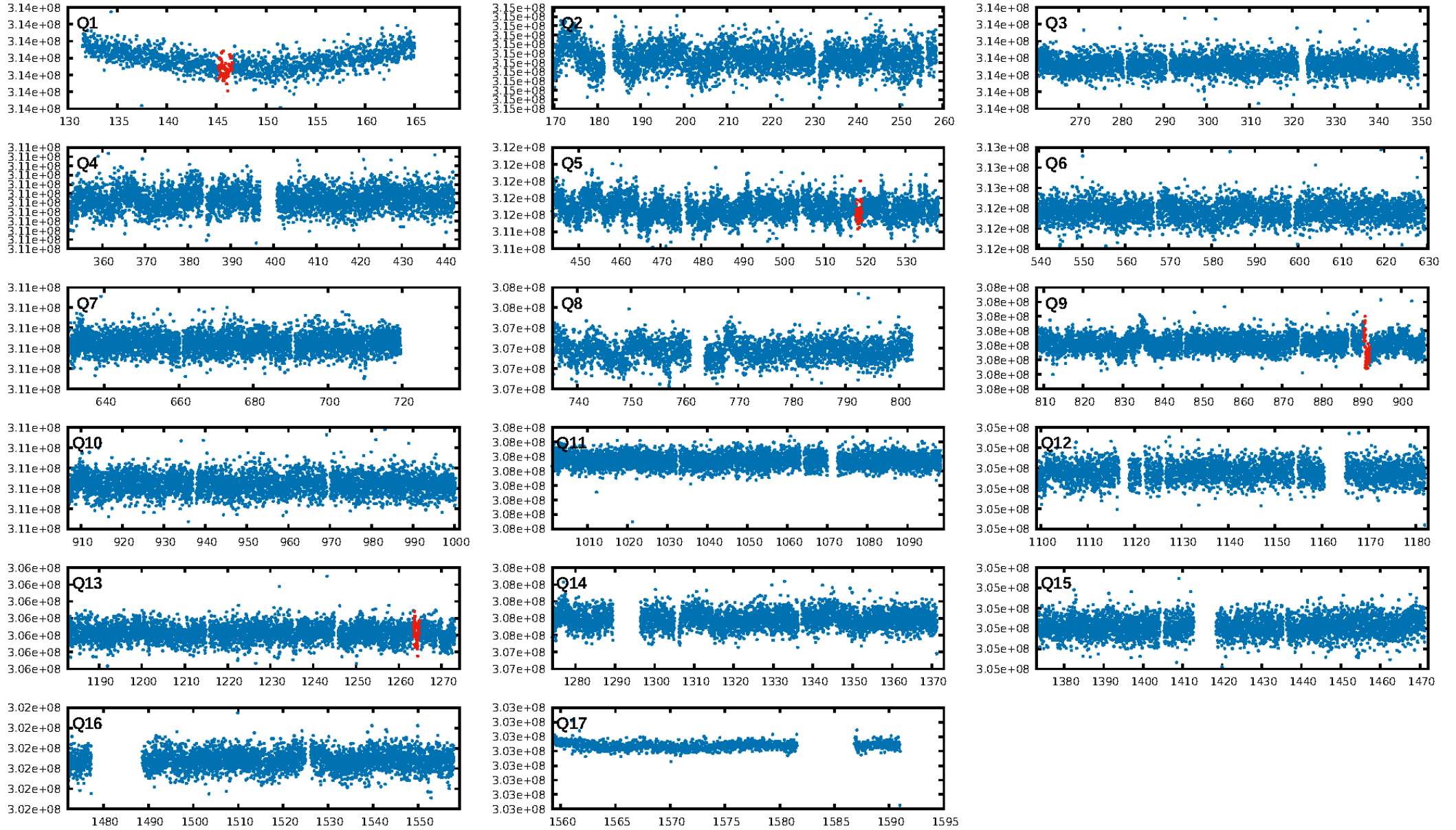
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 3.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.39e-12  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -15.09  
Centroid-sig: 0.0%  
Centroid-so: 2.444 arcsec [2.31σ]  
OotOffset-rm: 3.571 arcsec [13.36σ]  
KicOffset-rm: 3.401 arcsec [14.18σ]  
OotOffset-st: 0/0/0/2 [2]  
KicOffset-st: 0/0/0/2 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [4/4]

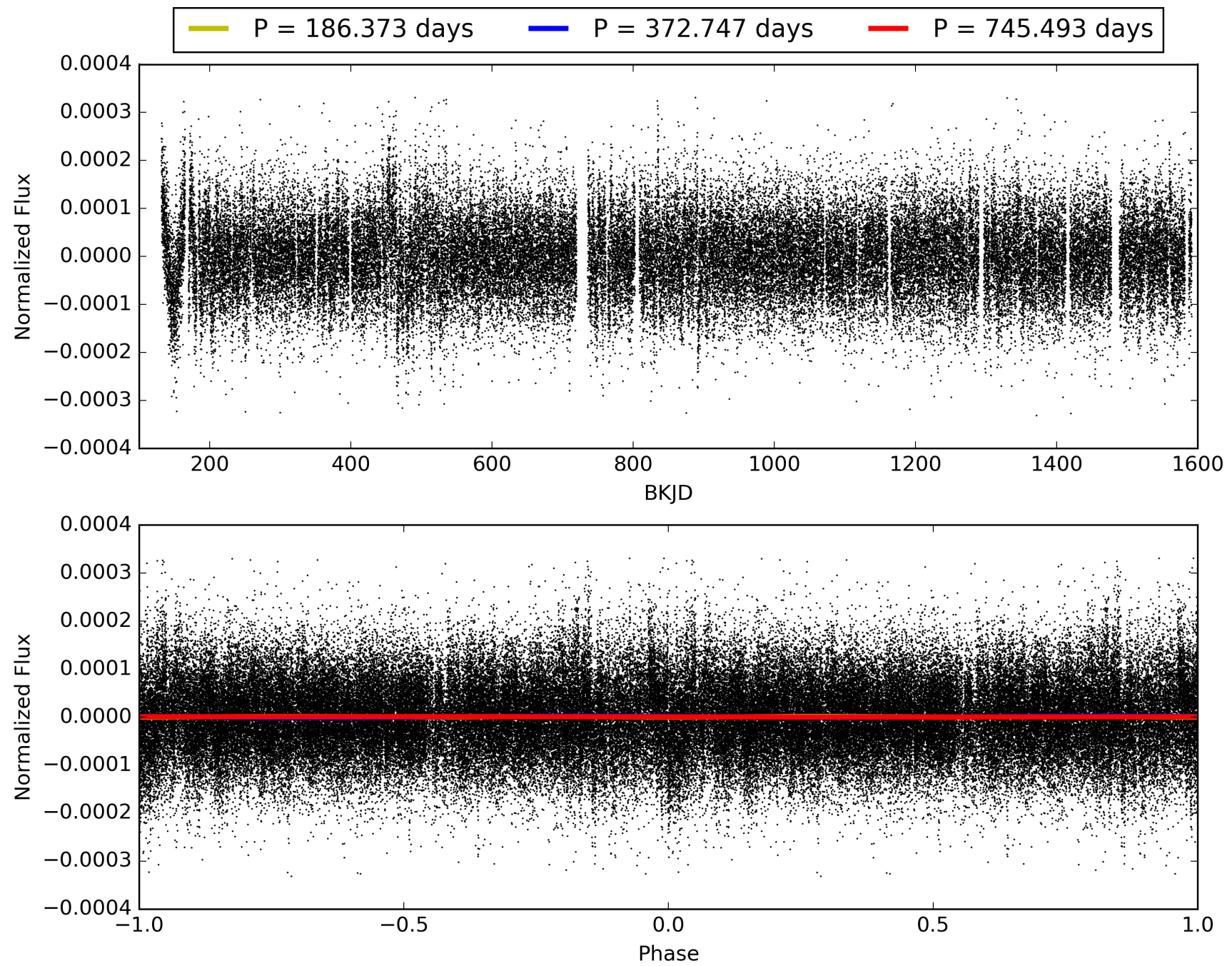
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:02:51 Z

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

# TCE 005949765-01, PDC Light Curves

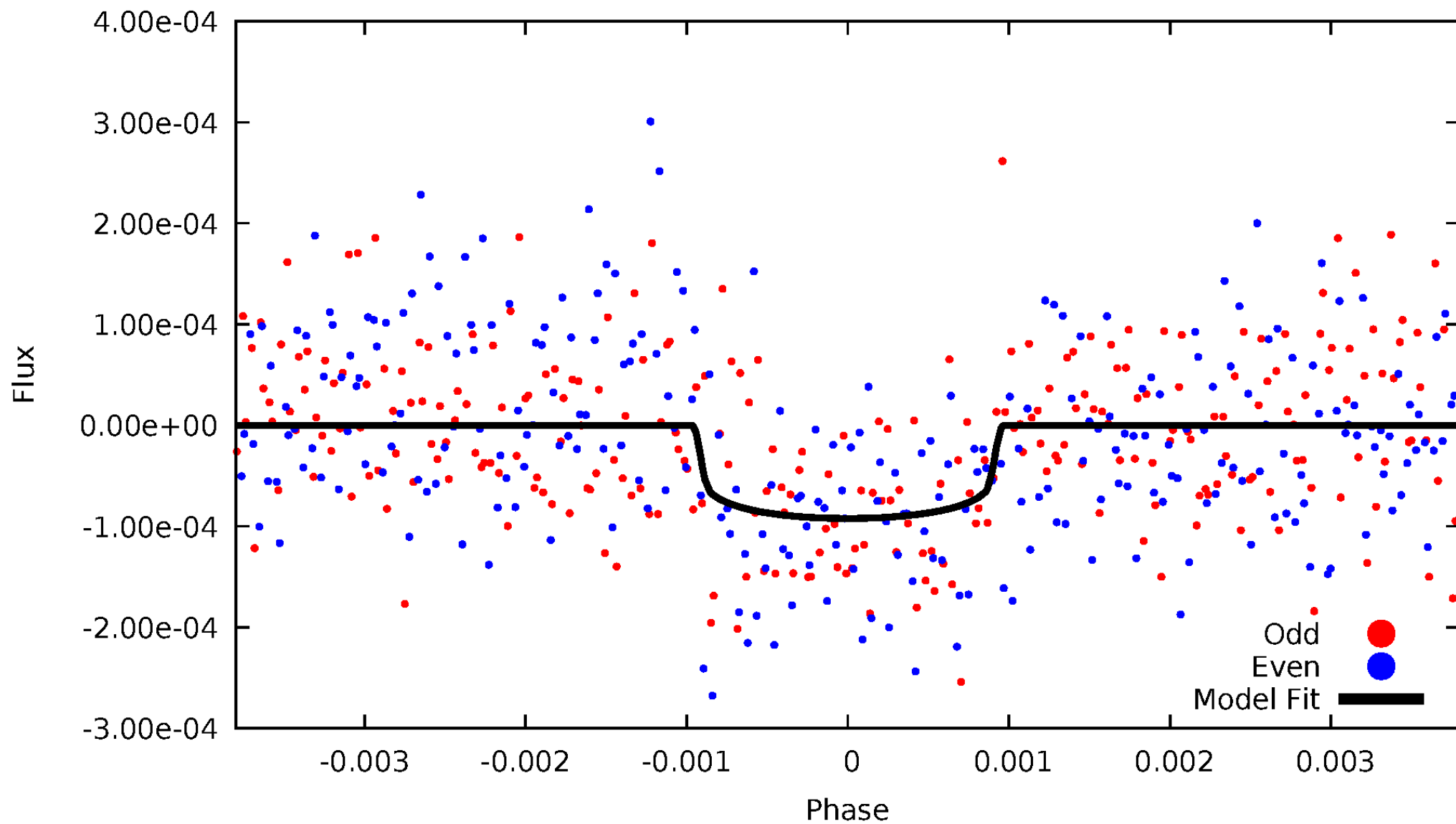


TCE 005949765-01



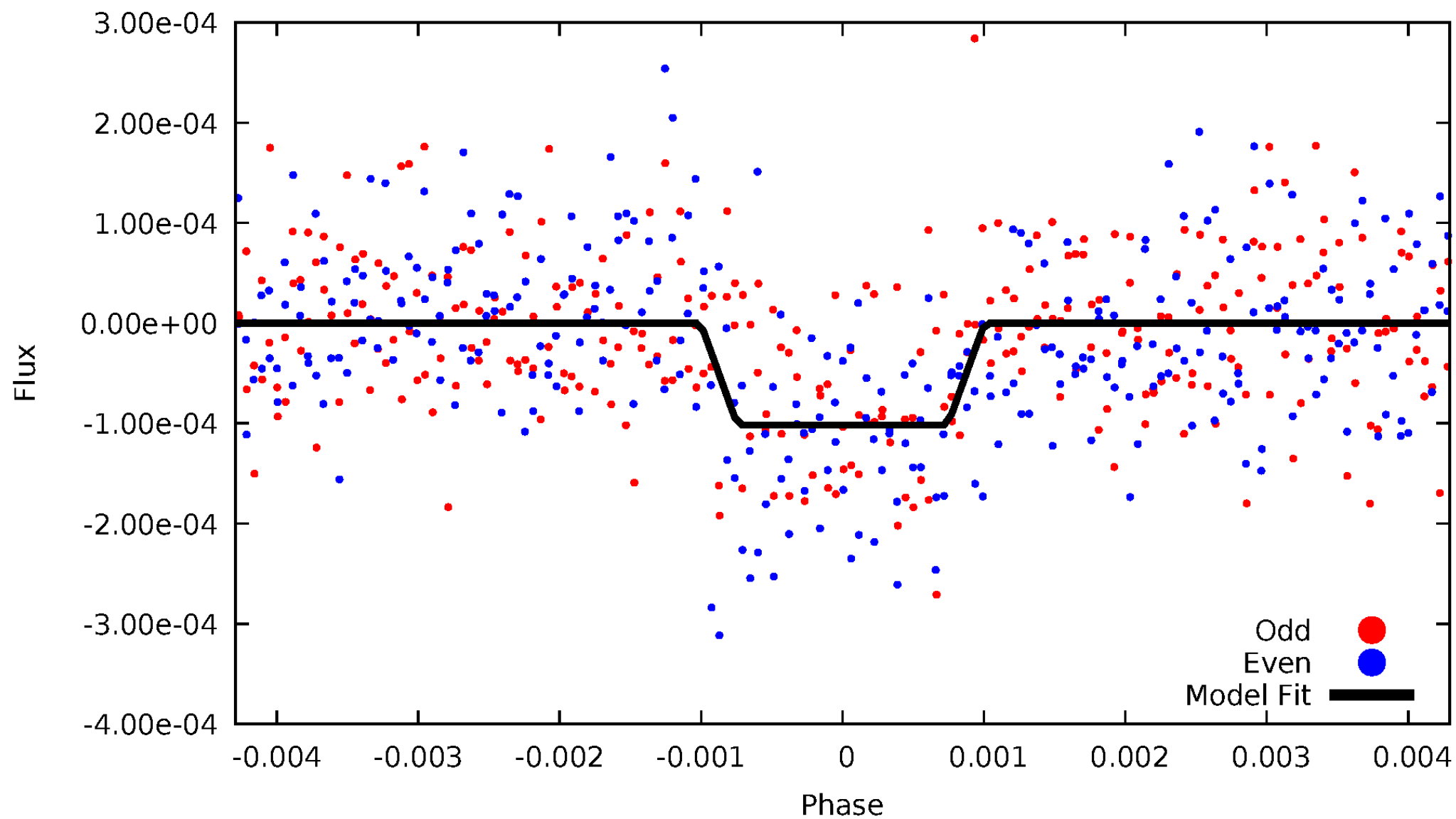
# DV Odd/Even

TCE 005949765-01



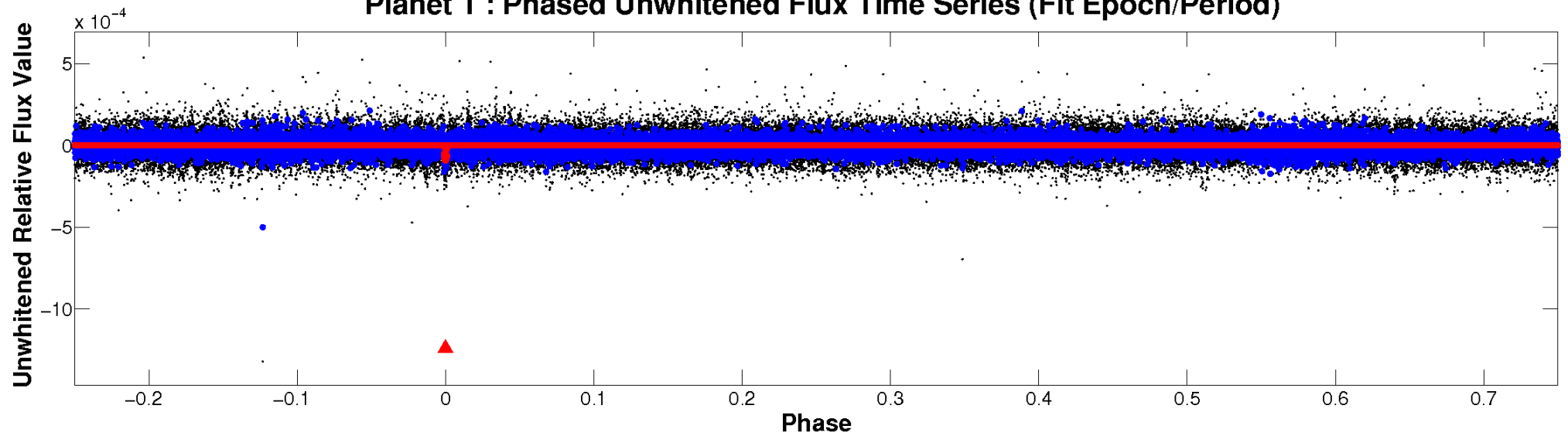
# ALT Odd/Even

TCE 005949765-01

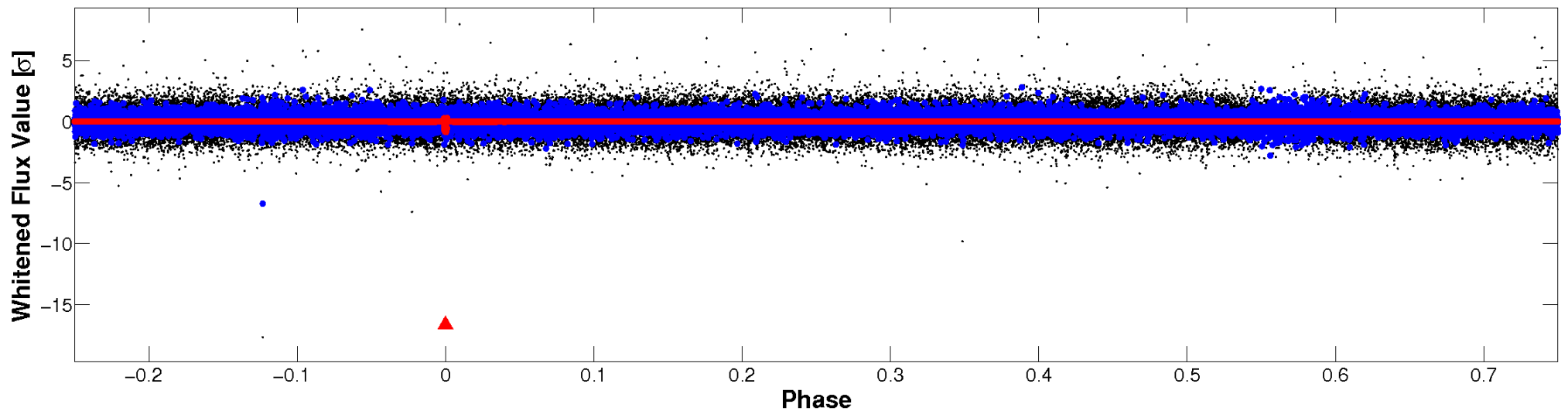


# Non-Whitened Vs. Whitened Light Curve

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



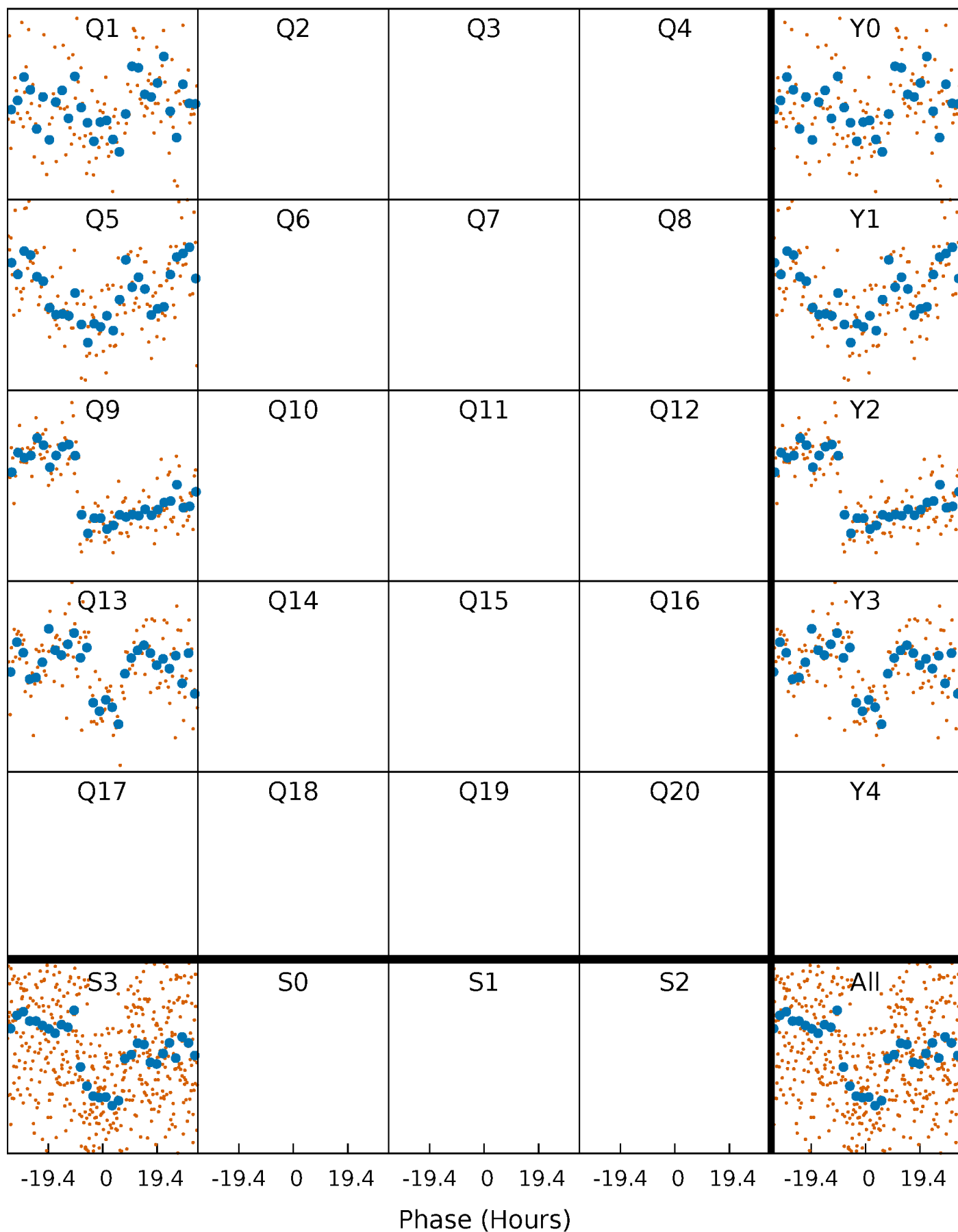
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

TCE 005949765-01 P=372.746561 Days  $T_0=145.891168$  (BKJD)





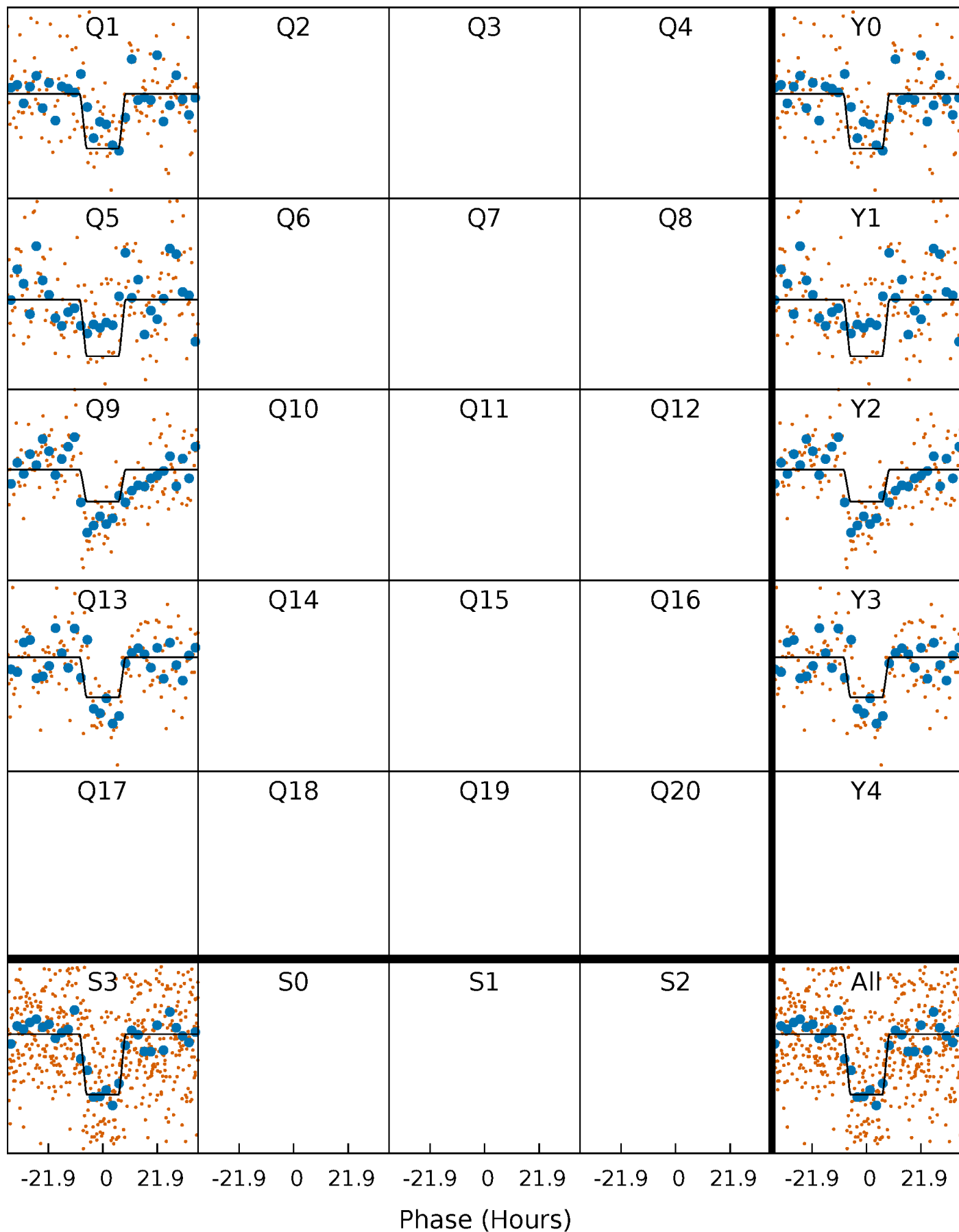
# DV Quarter-Phased Transit Curves

TCE 005949765-01     $P=372.746561$  Days     $T_0=145.891168$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

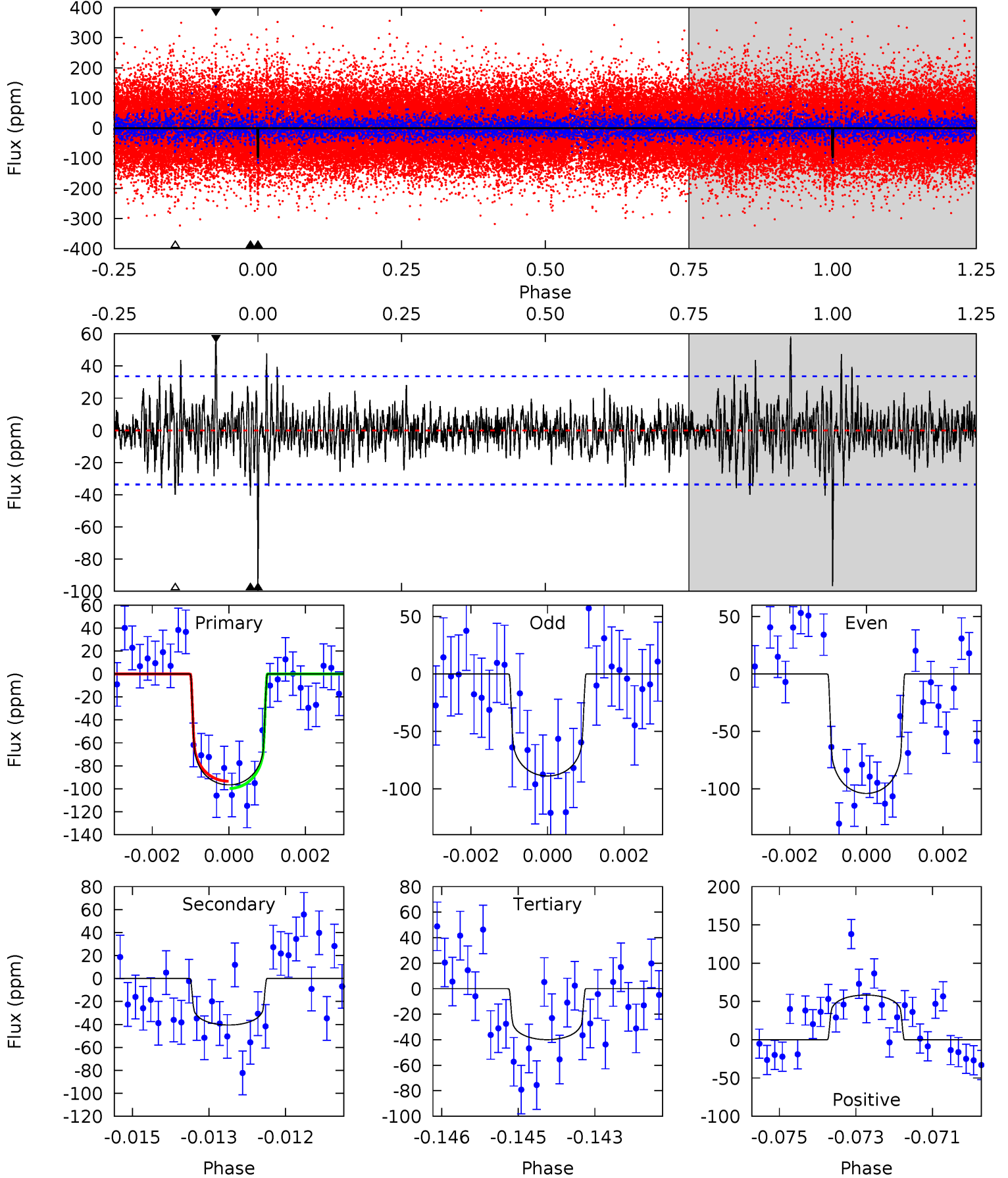
TCE 005949765-01 P=372.749002 Days  $T_0=145.898016$  (BKJD)



# DV Model-Shift Uniqueness Test

005949765-01, P = 372.746561 Days, E = 145.891168 Days

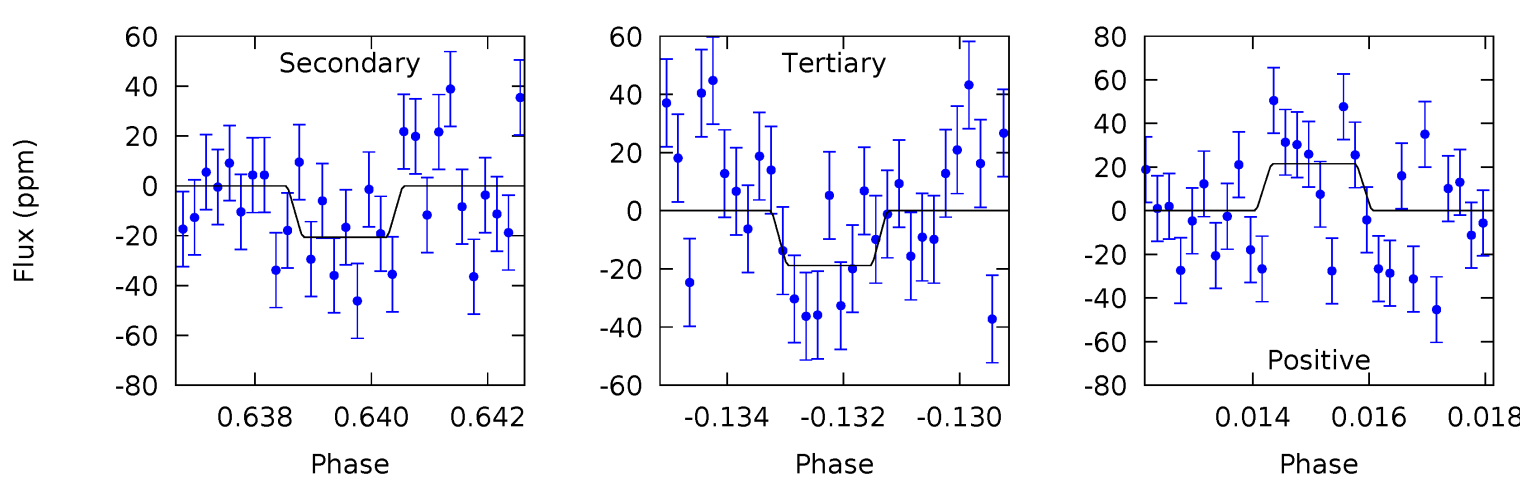
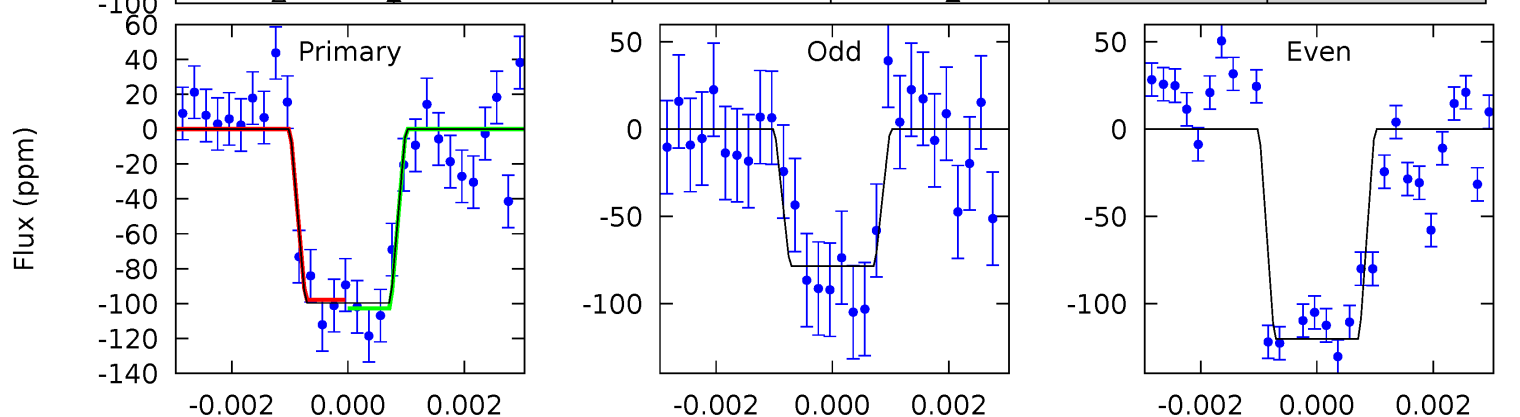
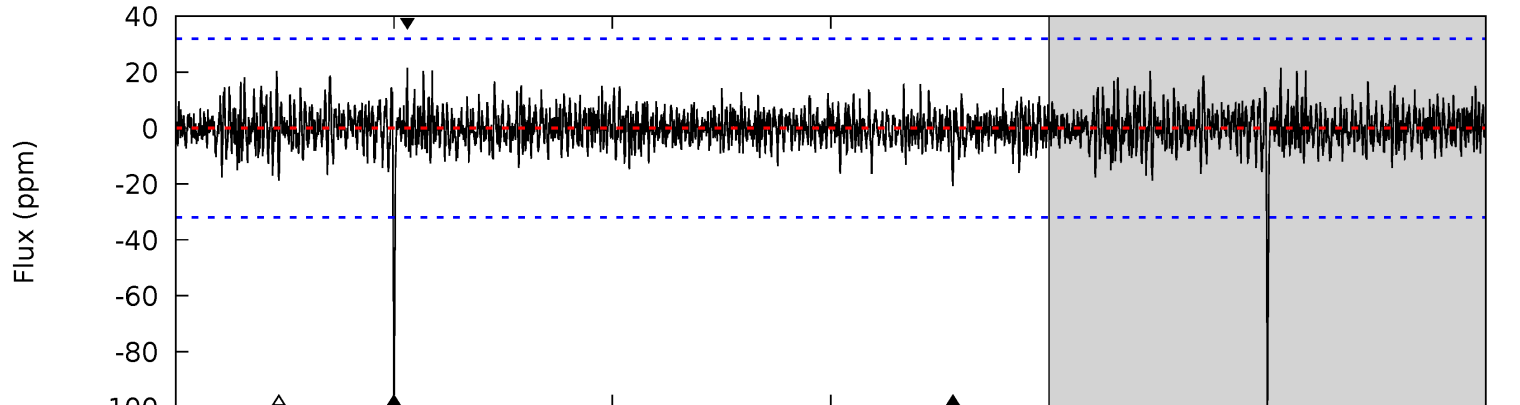
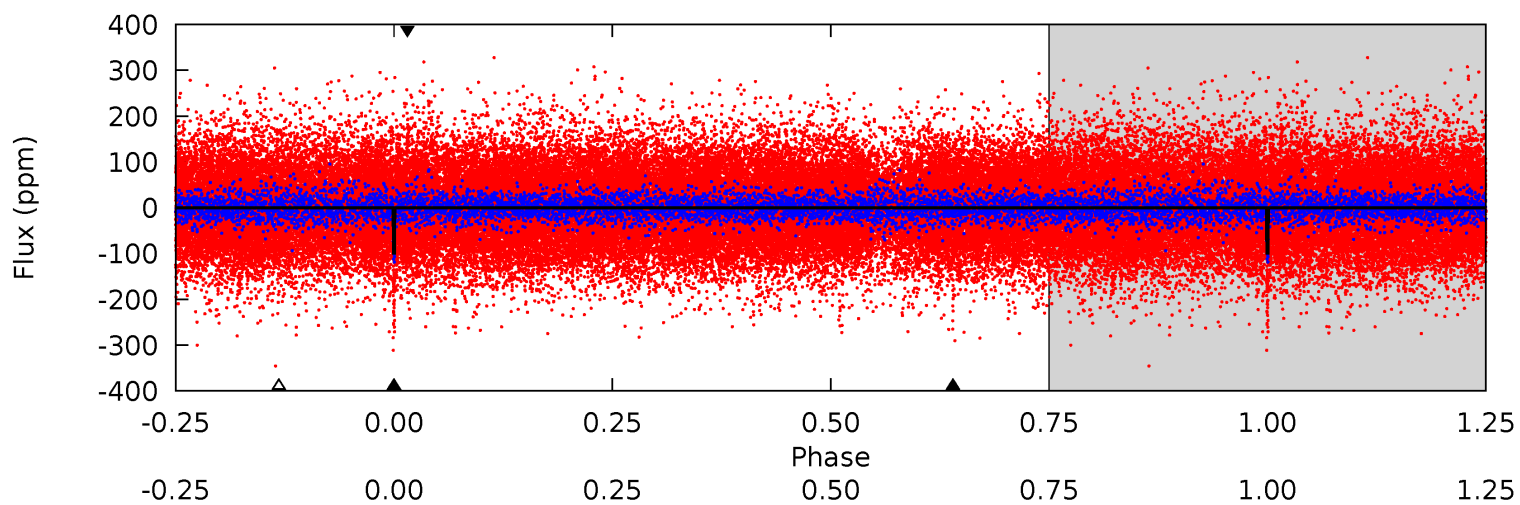
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	6.43	6.34	9.26	5.33	3.10	1.58	8.99	6.07	0.09	-2.83	1.21	1.09	0.38	0.50



# Alt Model-Shift Uniqueness Test

005949765-01,  $P = 372.749002$  Days,  $E = 145.898016$  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
16.6	3.44	3.13	3.58	5.32	3.09	0.88	13.5	13.0	0.31	-0.14	3.48	1.06	0.18	0.40



### Stellar Parameters For KIC 005949765

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6395^{+162}_{-178}$	$4.170^{+0.240}_{-0.160}$	$-0.380^{+0.300}_{-0.300}$	$1.394^{+0.384}_{-0.346}$	$1.047^{+0.177}_{-0.118}$	$0.544^{+0.659}_{-0.262}$
	+3%/-3%	+6%/-4%	+79%/-79%	+28%/-25%	+17%/-11%	+121%/-48%
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 005949765-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-41 \pm 6$	$1.50^{+0.34}_{-0.34}$	$455^{+35}_{-35}$	$5172^{+509}_{-400}$	$10685^{+7350}_{-3715}$
Alt.	$-21 \pm 6$	$1.51^{+0.36}_{-0.32}$	$455^{+32}_{-34}$	$4466^{+439}_{-371}$	$5266^{+3619}_{-2102}$

$T_{\text{max}}$  = 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

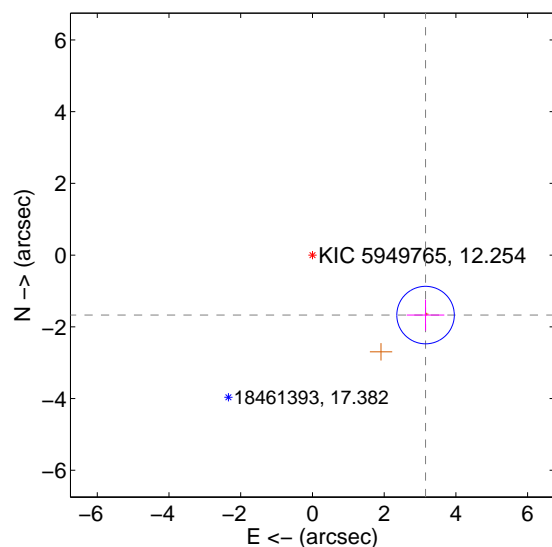
Supplemental centroid analysis for 005949765-01. Kepler magnitude: 12.25. Transit SNR 8.27

There are 0 quarters with good PRF difference image offsets

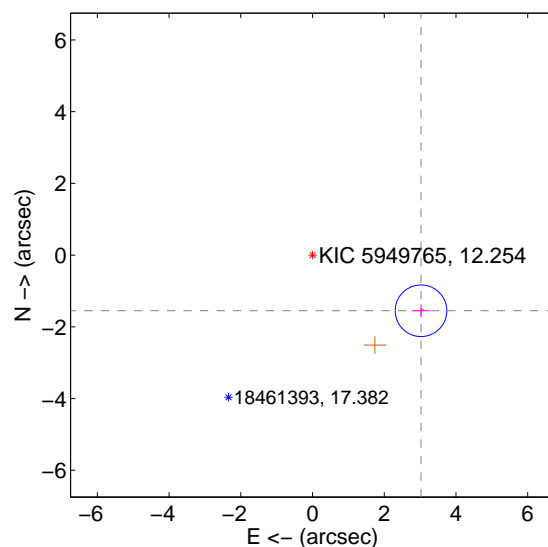
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.571 \pm 0.267$	13.36	$-3.155 \pm 0.524$	$-1.673 \pm 0.433$
PRF-fit source offset from KIC position	$3.401 \pm 0.240$	14.18	$-3.026 \pm 0.252$	$-1.553 \pm 0.187$
photometric centroid source offset	$2.44 \pm 1.06$	2.31	$1.06 \pm 1.01$	$-2.20 \pm 1.07$

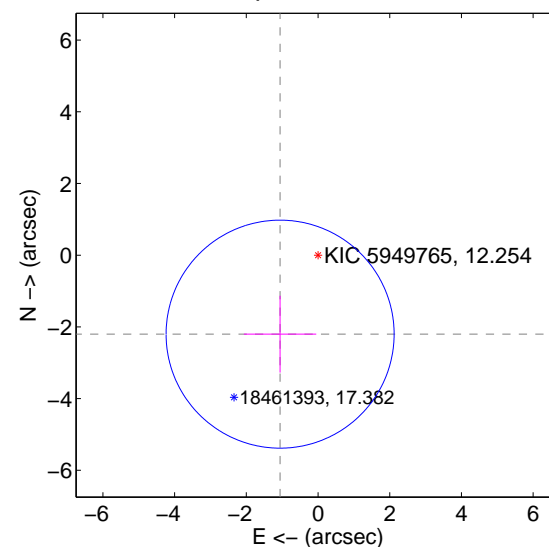
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

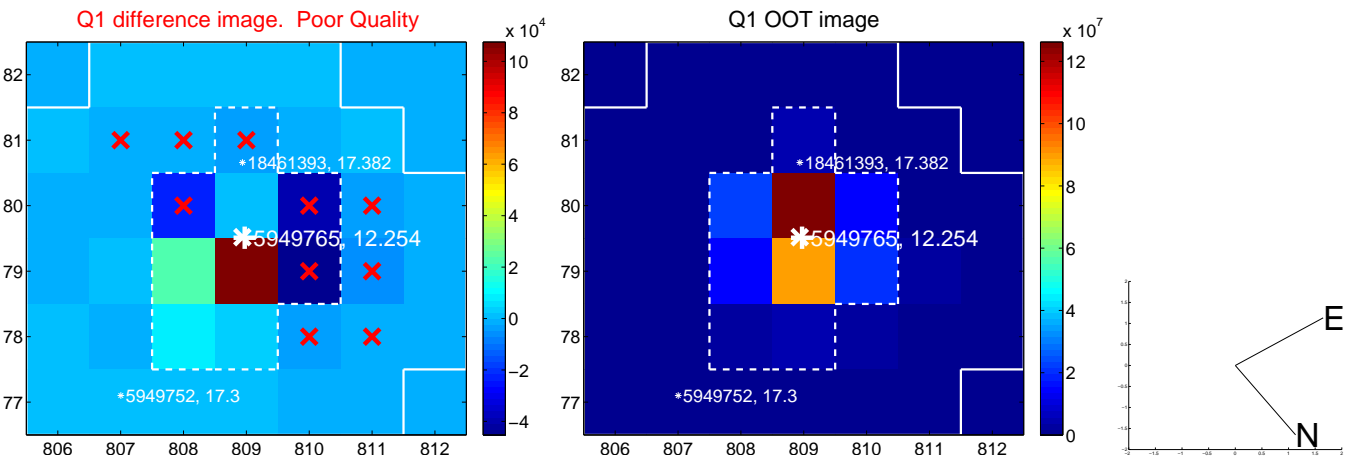


offset from photometric centroids



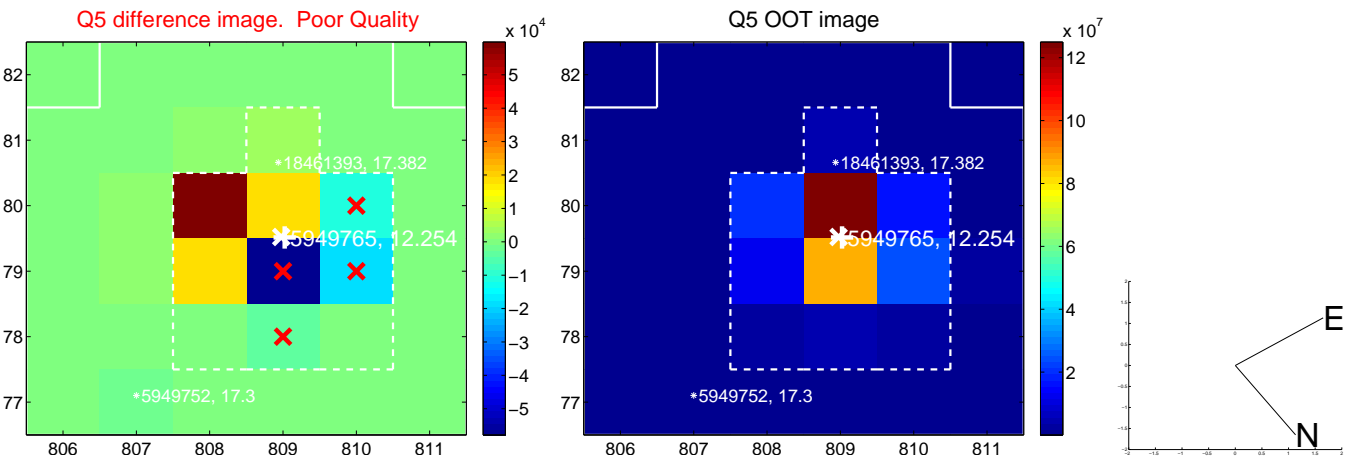
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . 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.

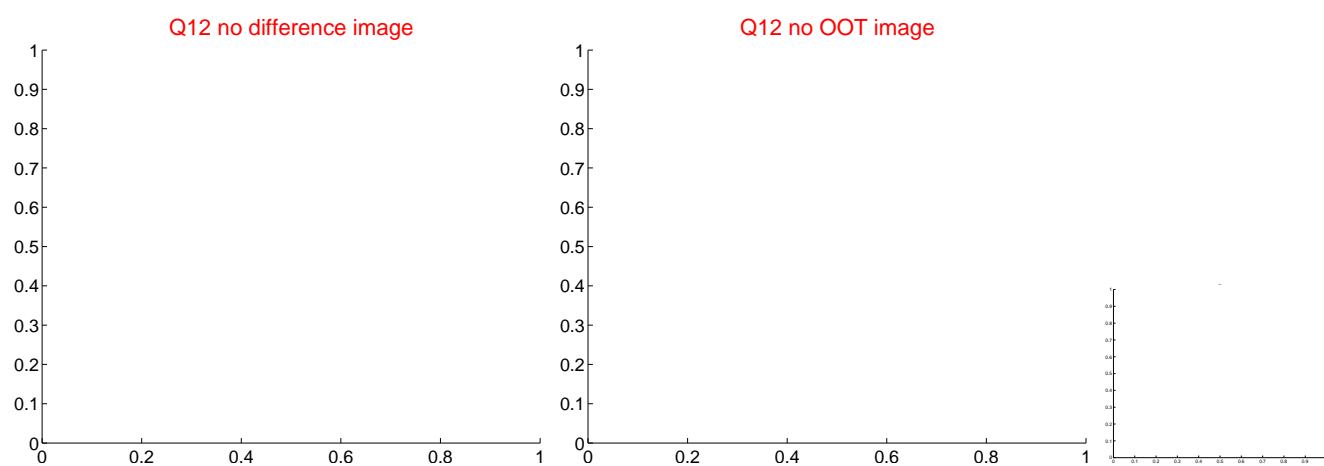
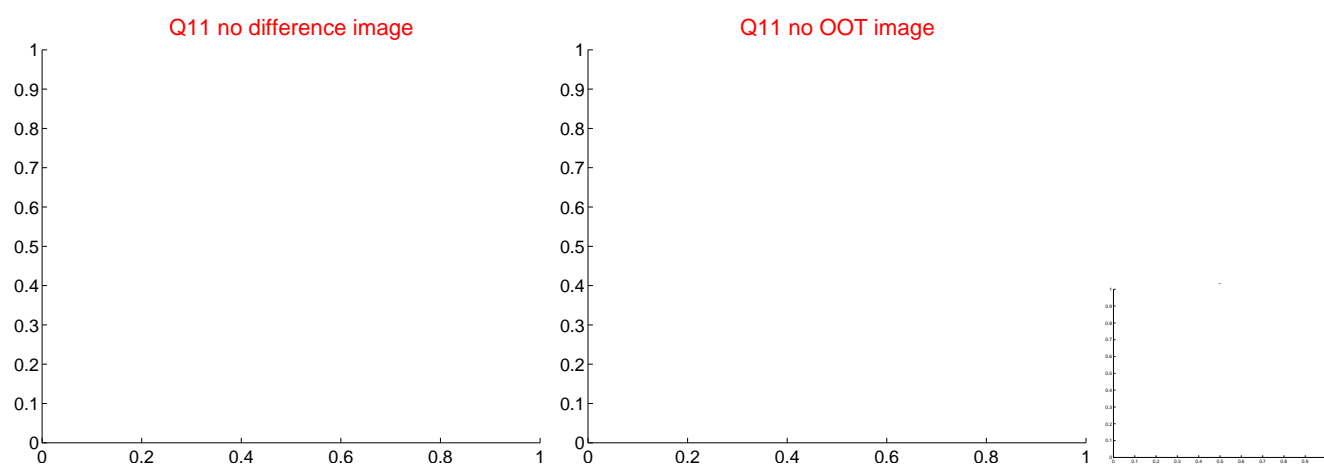
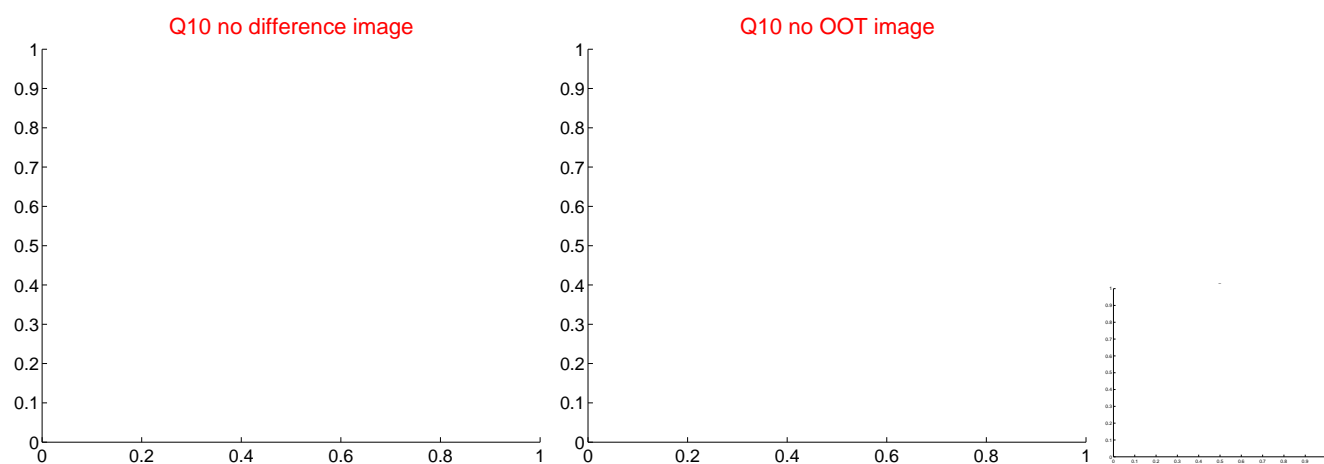
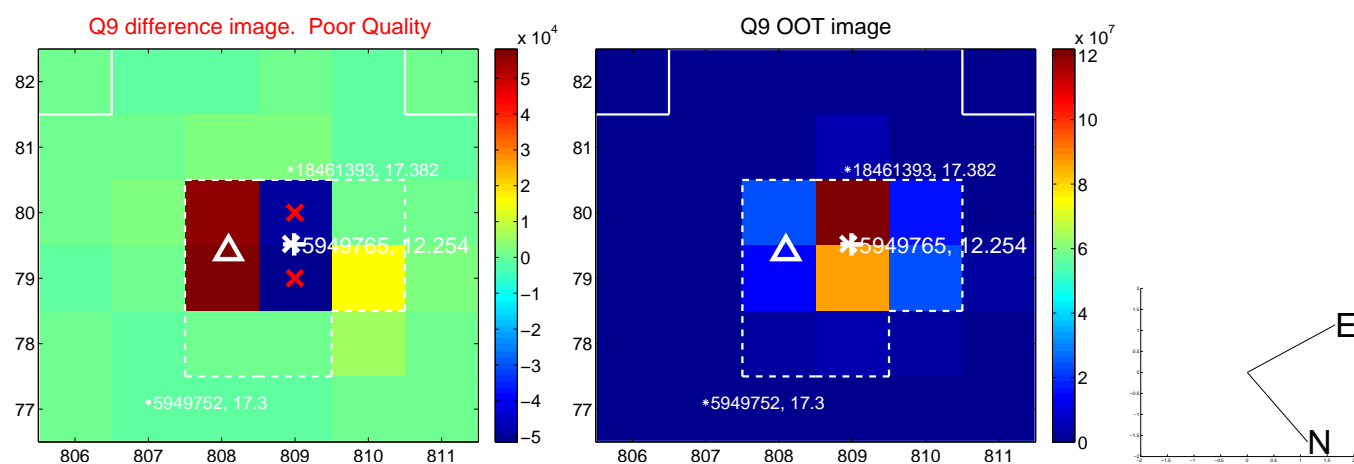




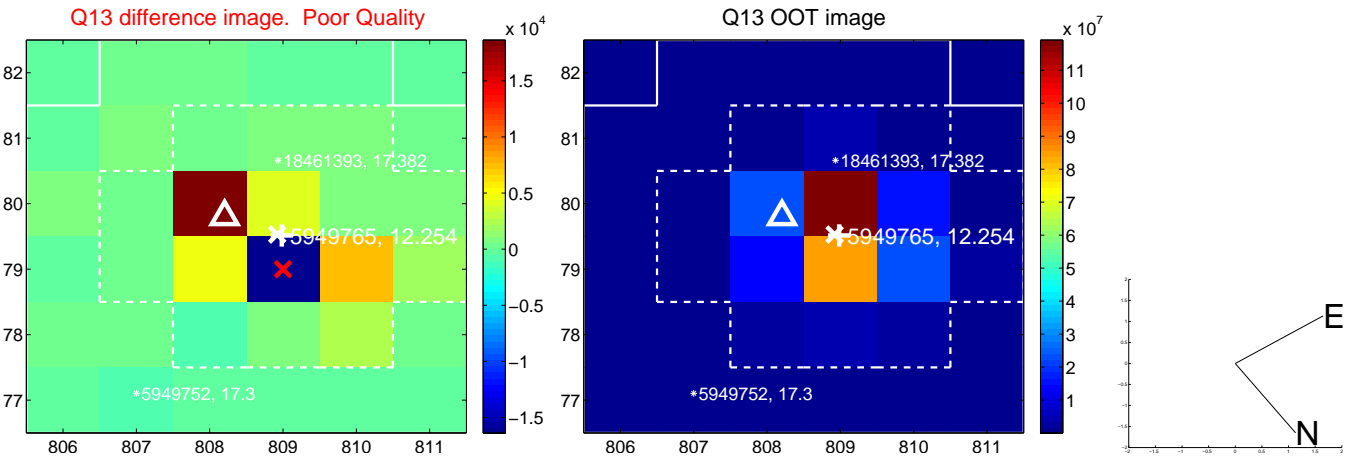
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



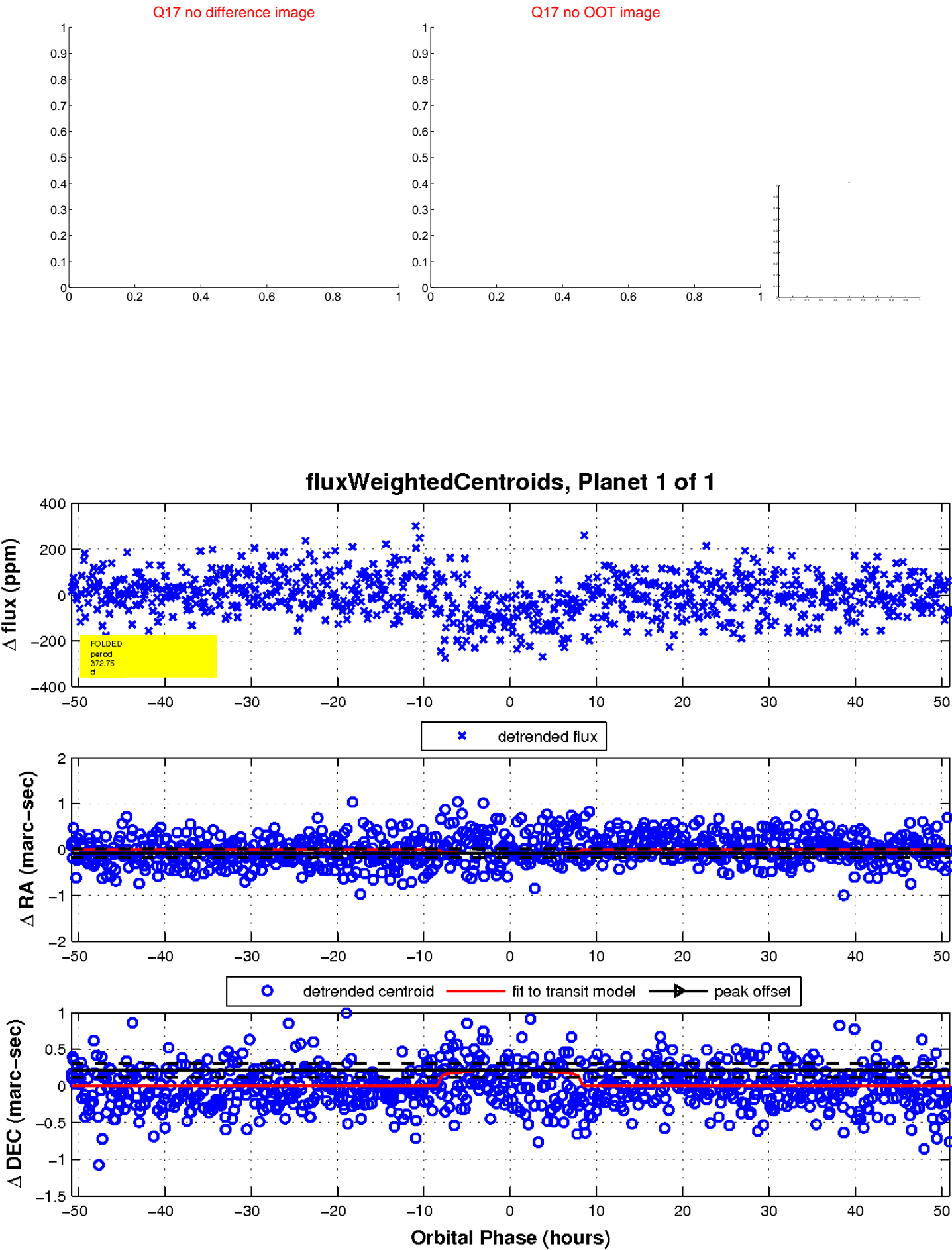
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



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



UKIRT Image

Declination

