

# KIC 005298349

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005298349-01	OBS	No	293.101685	417.052484	421.0	2.398	9.2	6.4	1.46	6099	3.15	3.40

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005298349-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

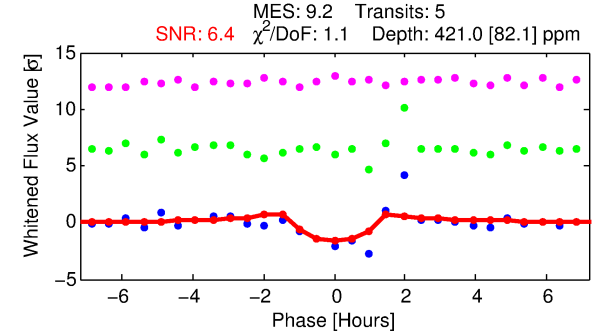
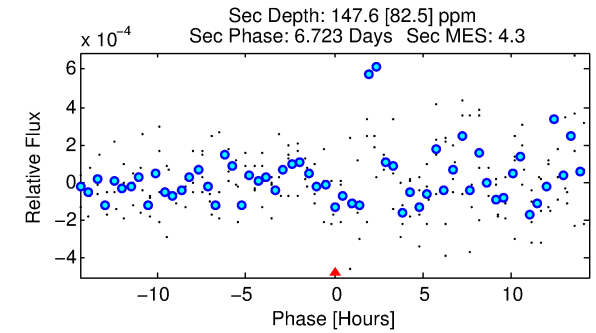
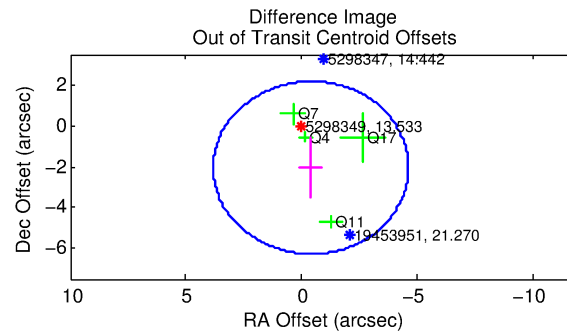
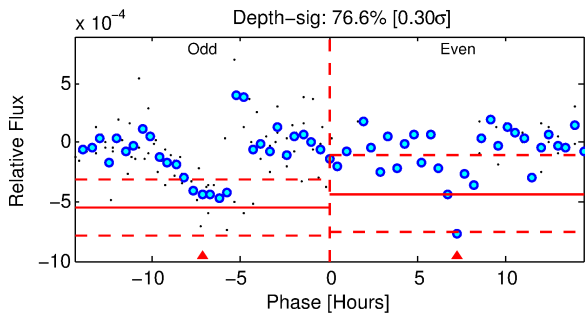
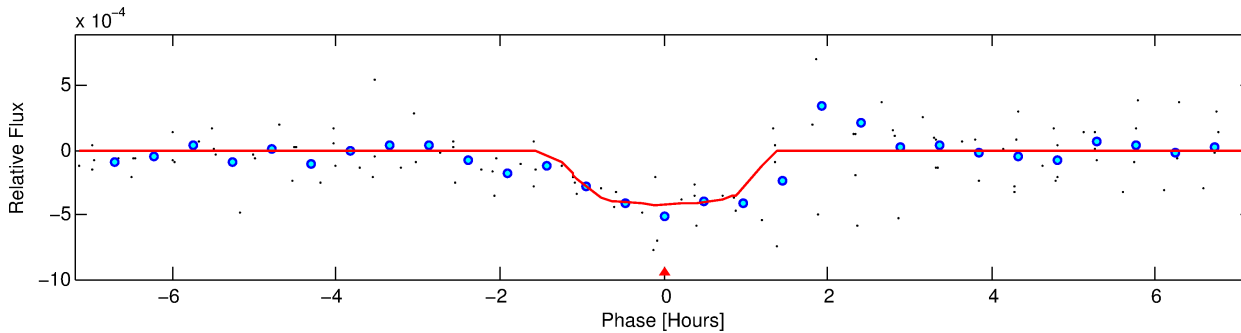
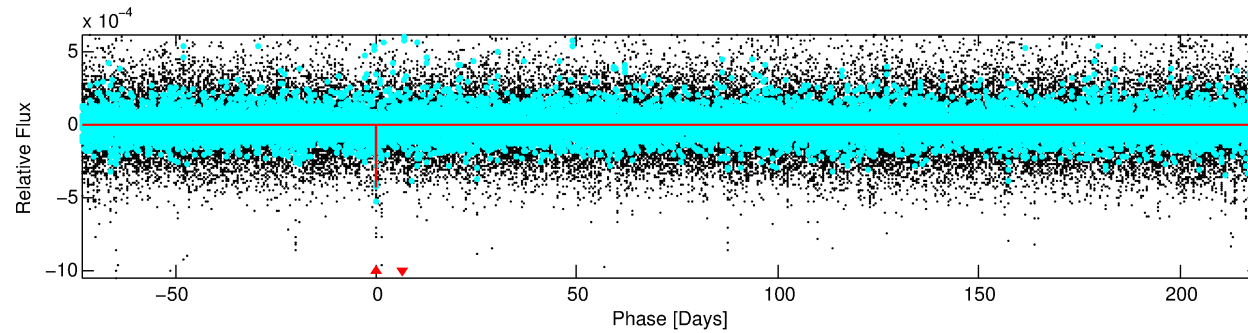
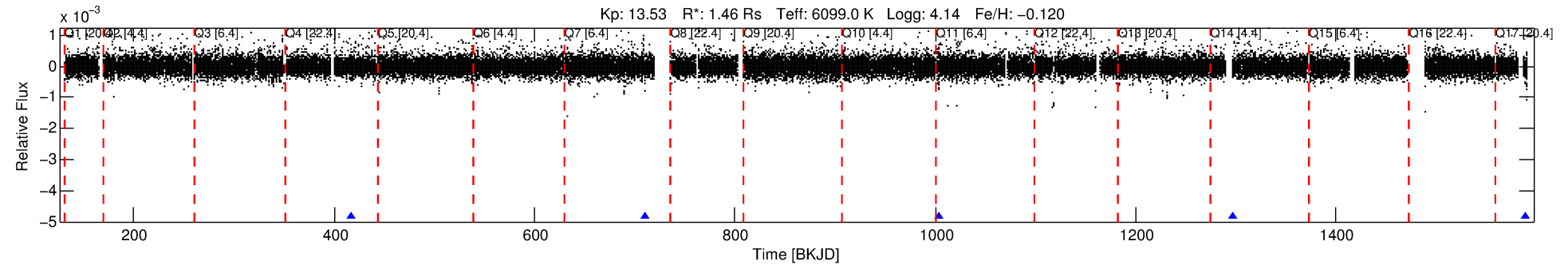
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005298349-01

No Significant Match Found

# DV One-Page Summary

KIC: 5298349 Candidate: 1 of 1 Period: 293.102 d



## DV Fit Results:

Period = 293.10169 [0.00303] d  
Epoch = 417.0525 [0.0075] BKJD  
Rp/R\* = 0.0197 [0.0642]  
a/R\* = 758.96 [12217.83]  
b = 0.62 [16.37]  
Seff = 3.40 [1.68]  
Teq = 346 [43] K  
Rp = 3.15 [10.30] Re  
a = 0.8835 [0.2542] AU  
Ag = 6381.47 [41793.20] [0.15 $\sigma$ ]  
Teffp = 4785 [7816] K [0.57 $\sigma$ ]

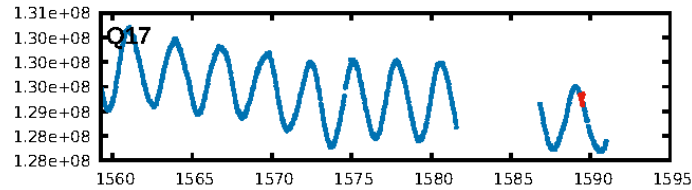
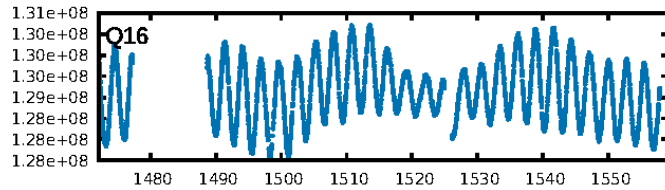
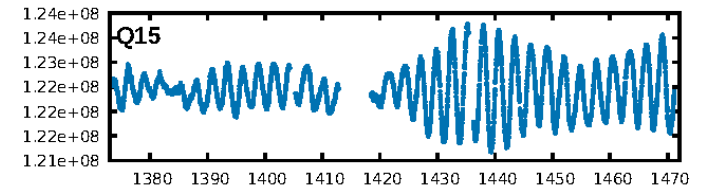
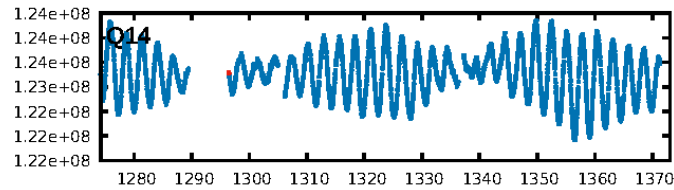
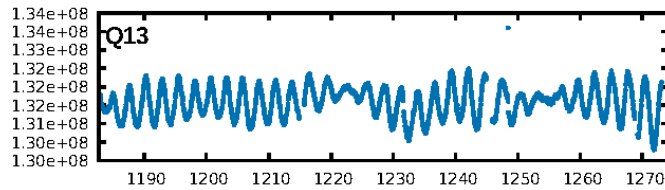
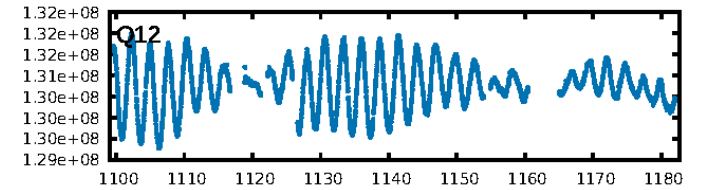
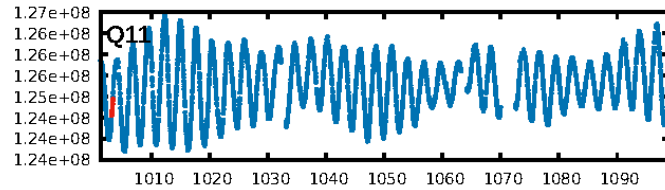
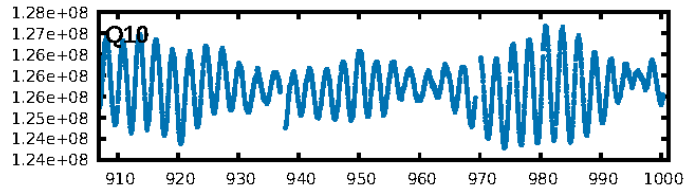
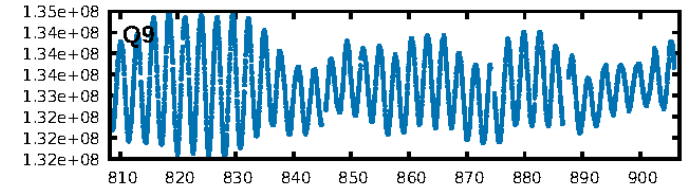
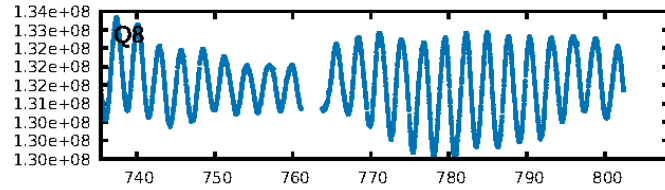
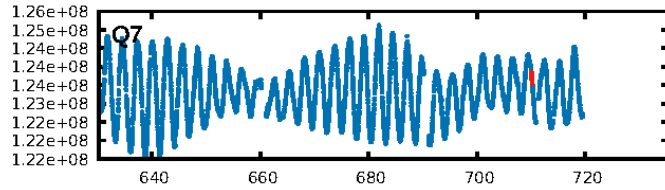
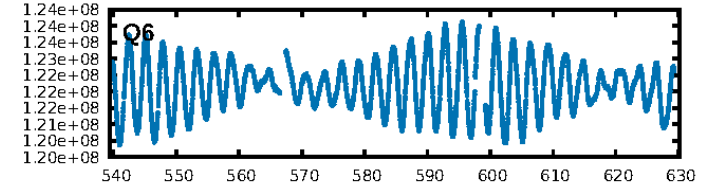
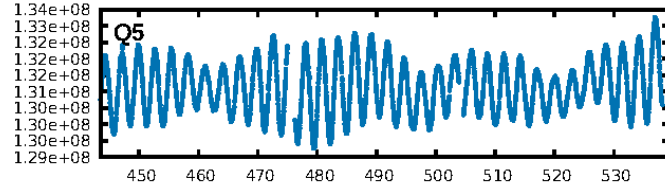
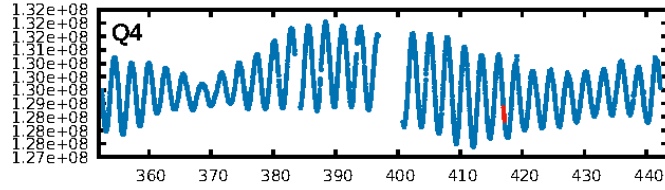
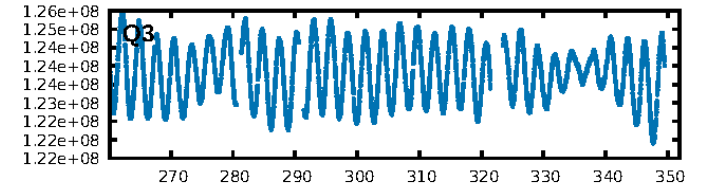
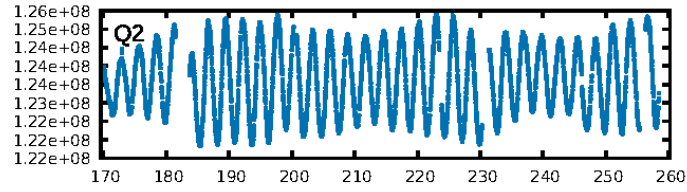
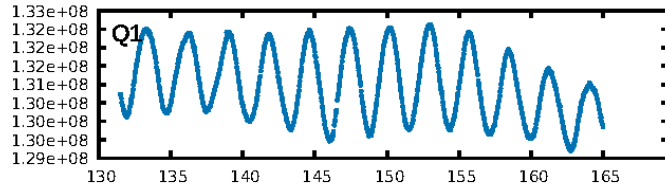
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 86.9%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 4.31e-10**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 0.002881  
Centroid-sig: 53.5%  
Centroid-so: 1.462 arcsec [1.14 $\sigma$ ]  
OotOffset-rm: 2.093 arcsec [1.49 $\sigma$ ]  
OotOffset-st: 0/2/1/1 [4]  
KicOffset-rm: 1.678 arcsec [1.16 $\sigma$ ]  
KicOffset-st: 0/2/1/1 [4]  
DiffImageQuality-fgm: 0.50 [2/4]  
DiffImageOverlap-fno: 1.00 [4/4]

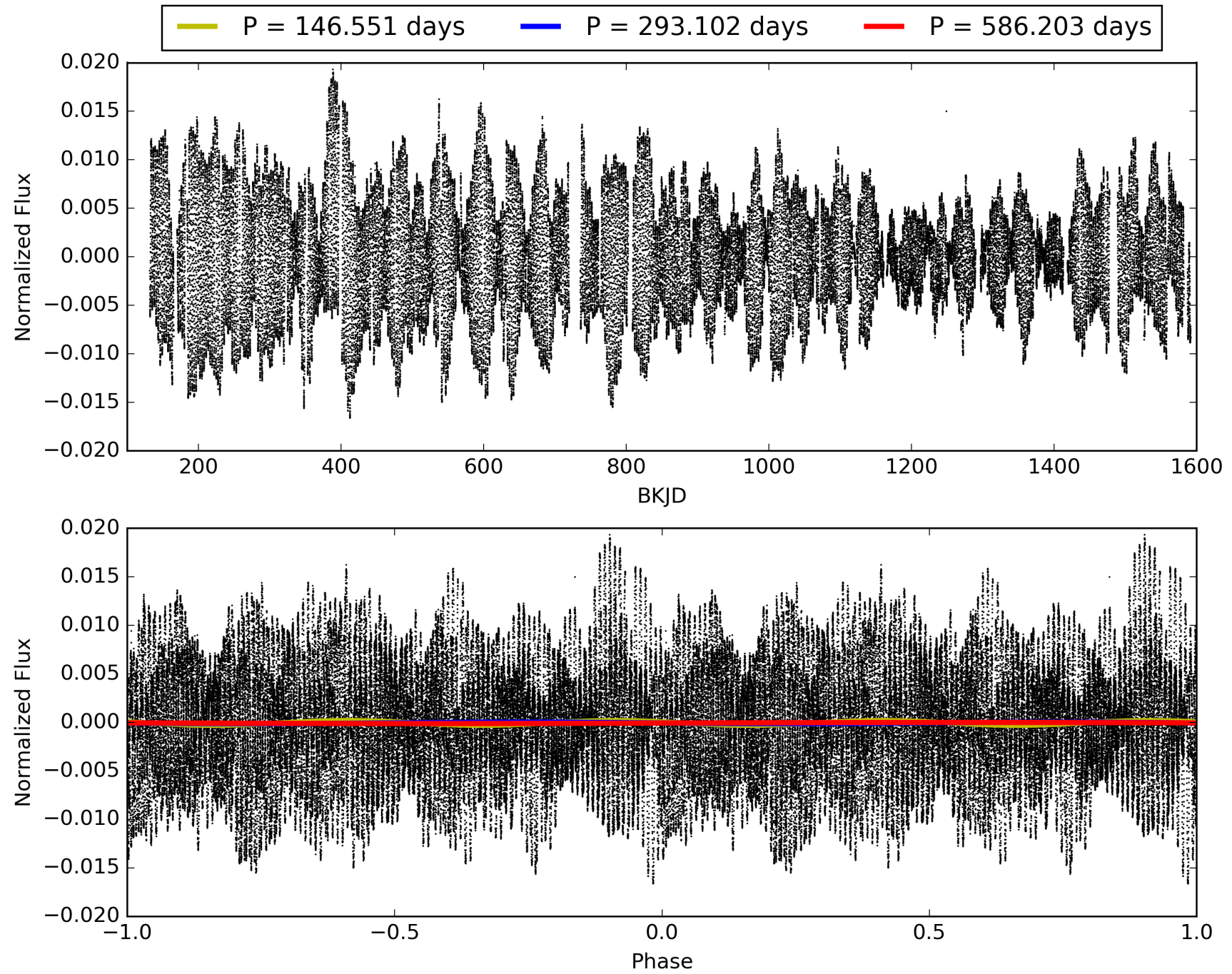
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:24:40 Z

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

# TCE 005298349-01, PDC Light Curves

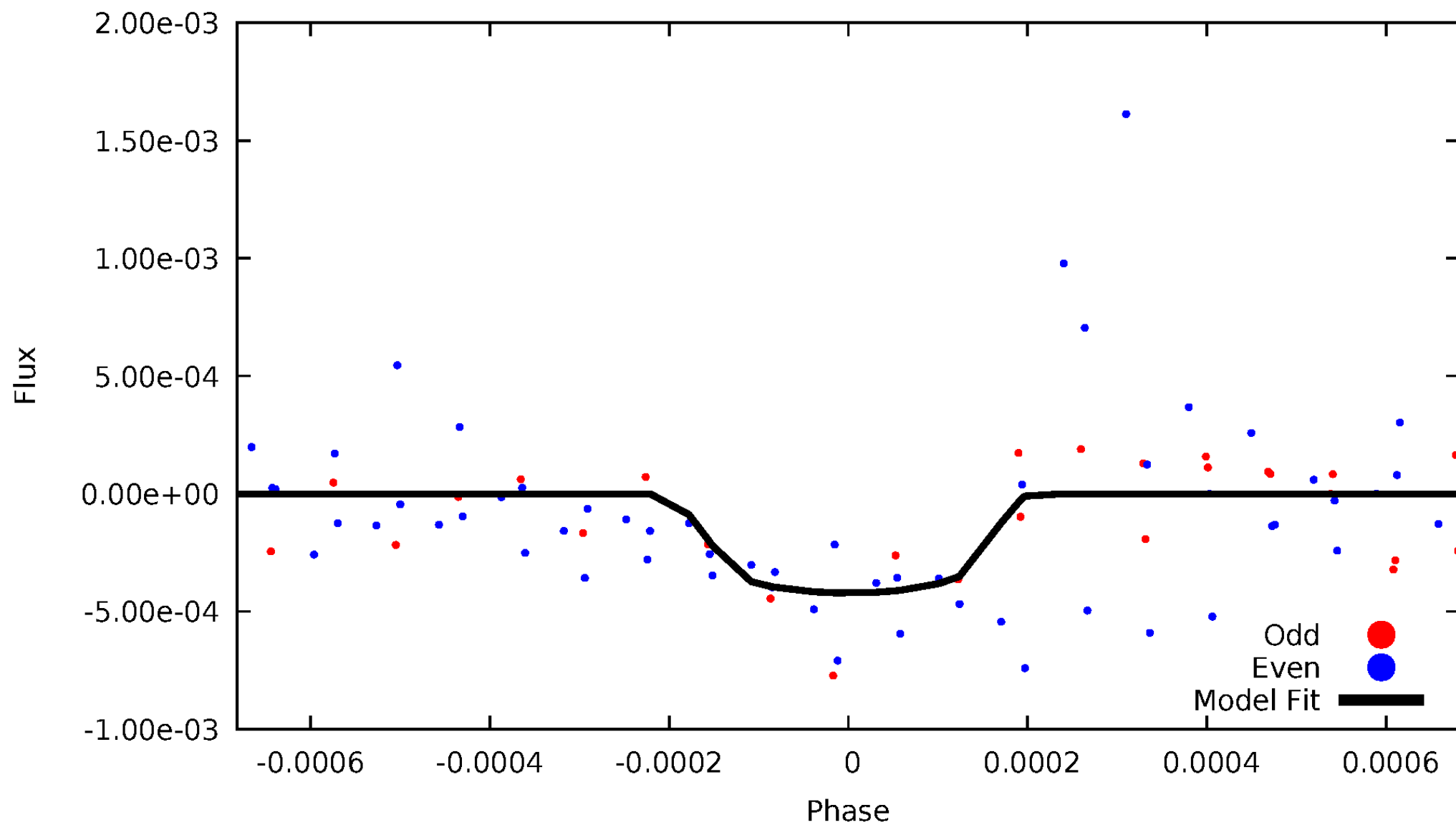


TCE 005298349-01



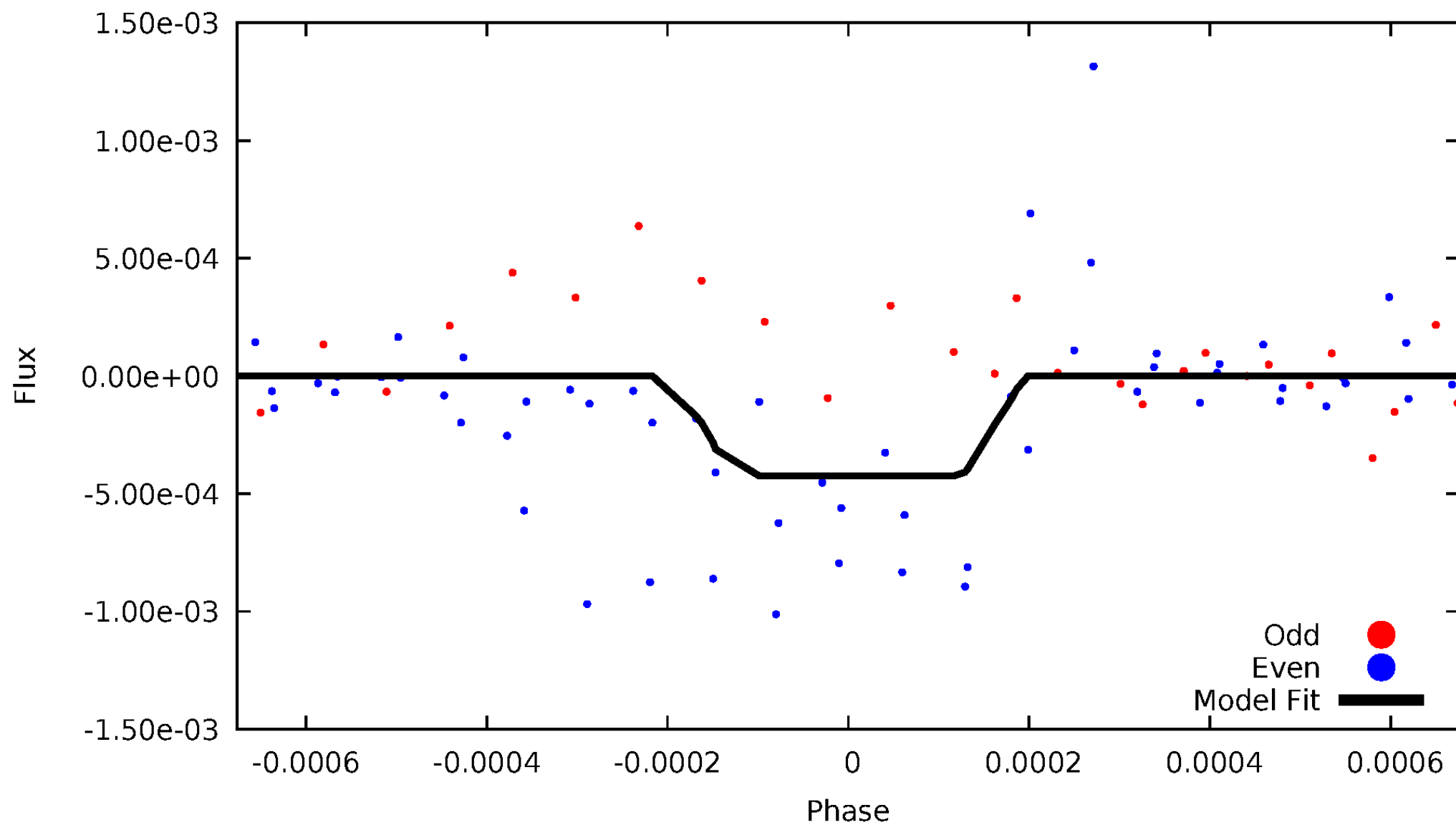
# DV Odd/Even

TCE 005298349-01



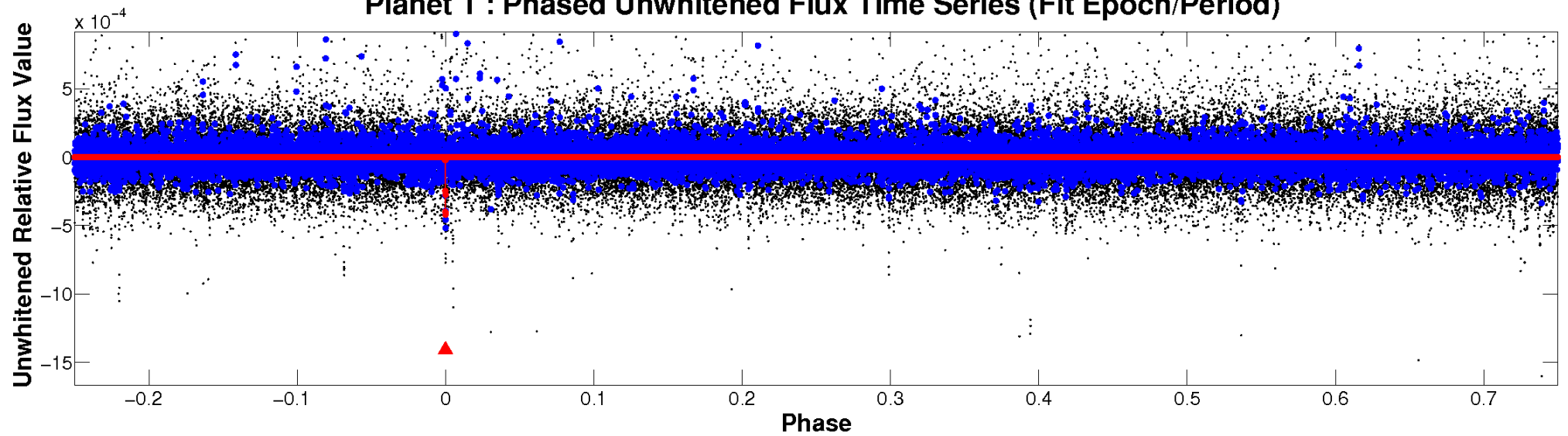
# ALT Odd/Even

TCE 005298349-01

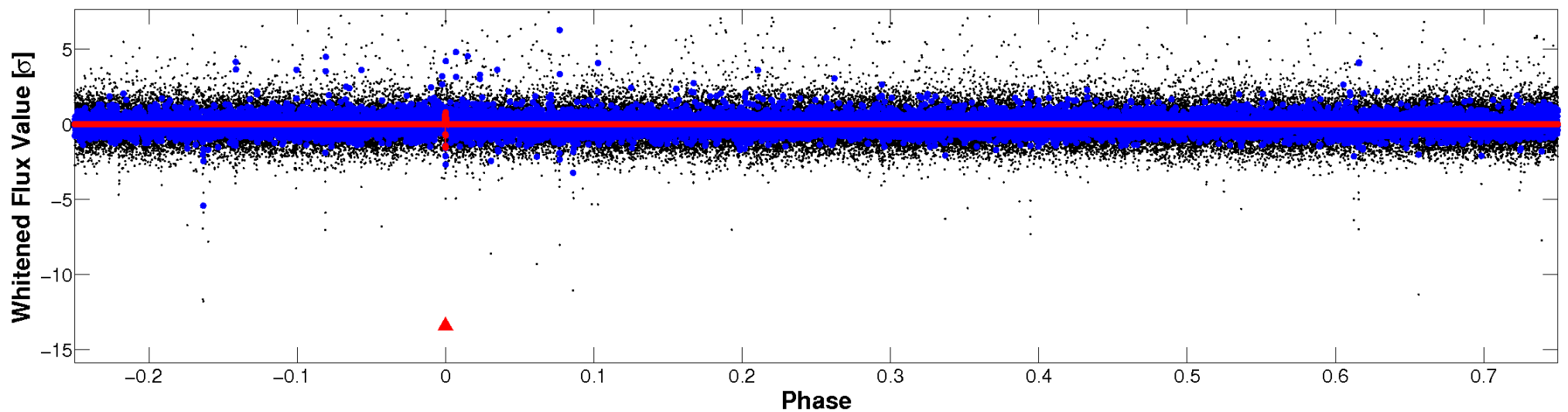


# Non-Whitened Vs. Whitened Light Curve

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

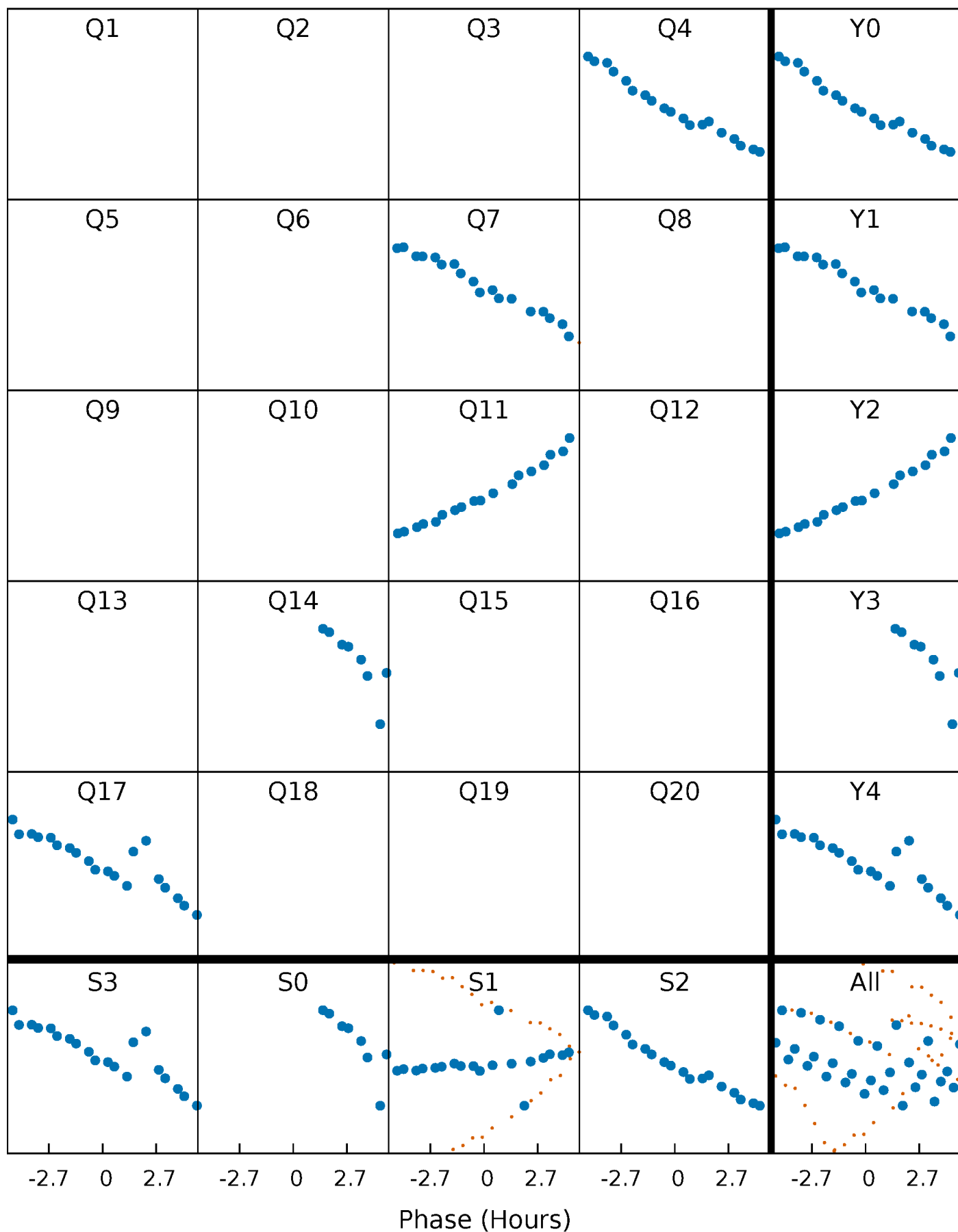


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



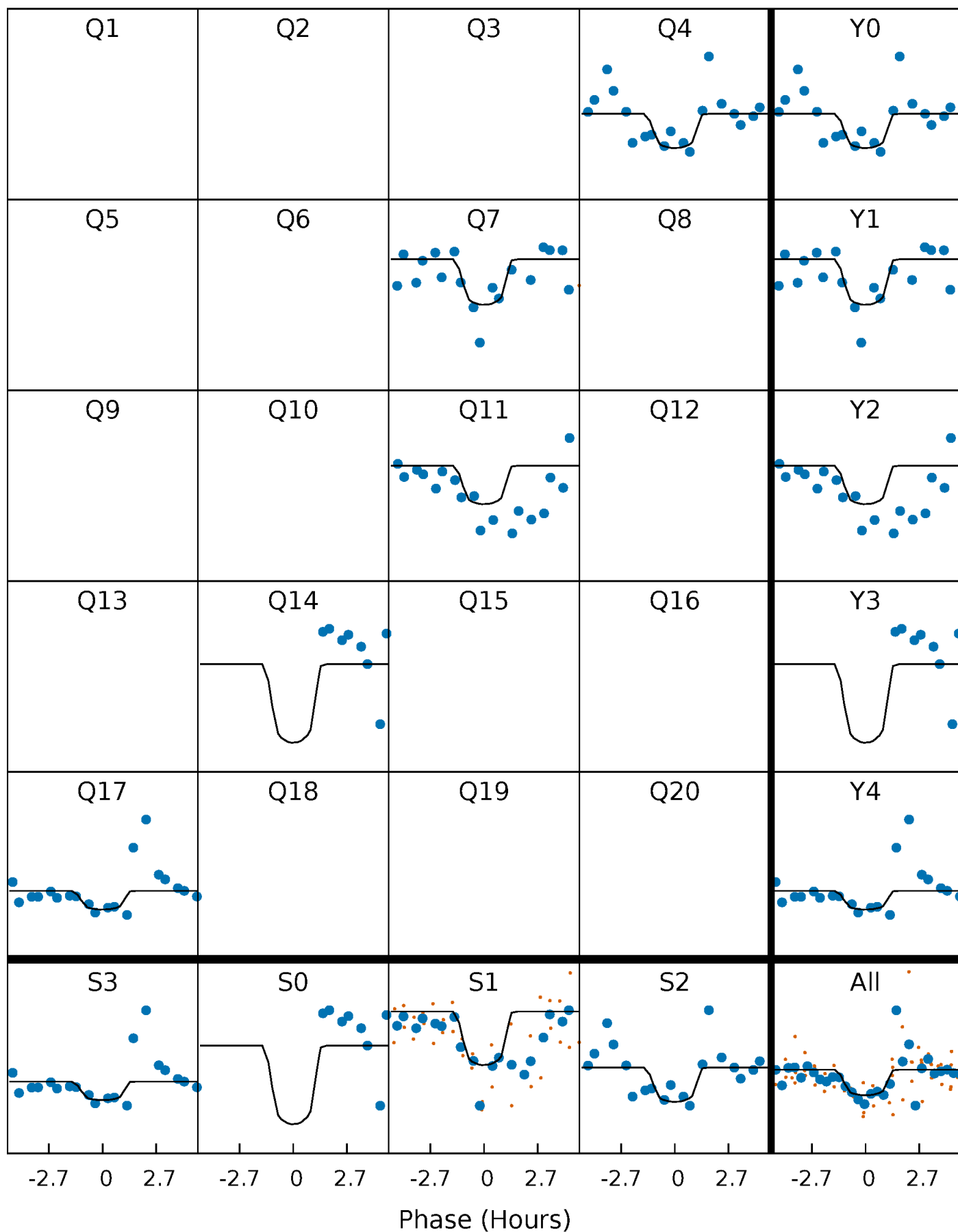
# PDC Quarter-Phased Transit Curves

TCE 005298349-01 P=293.101685 Days  $T_0=417.052484$  (BKJD)



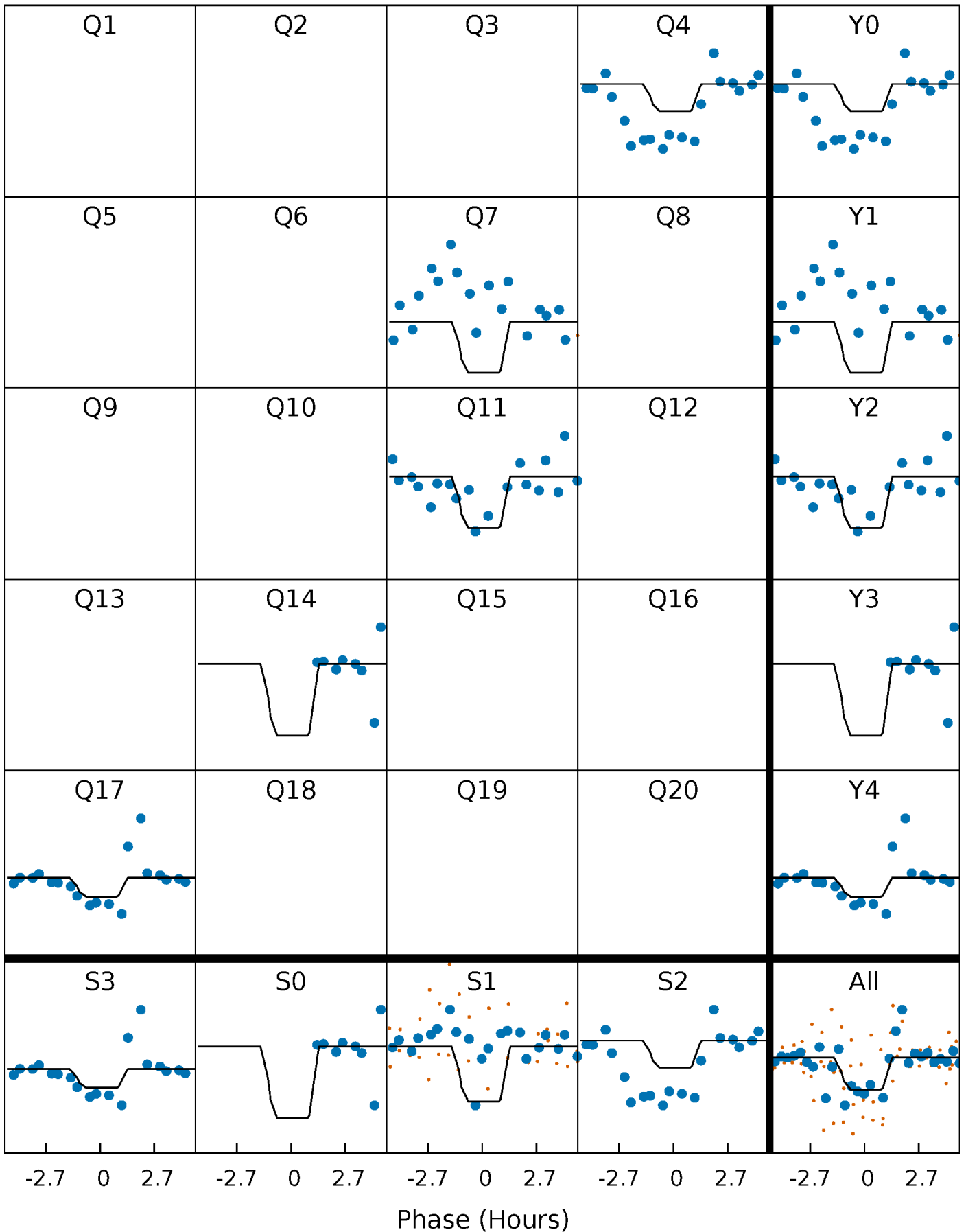
# DV Quarter-Phased Transit Curves

TCE 005298349-01 P=293.101685 Days  $T_0=417.052484$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

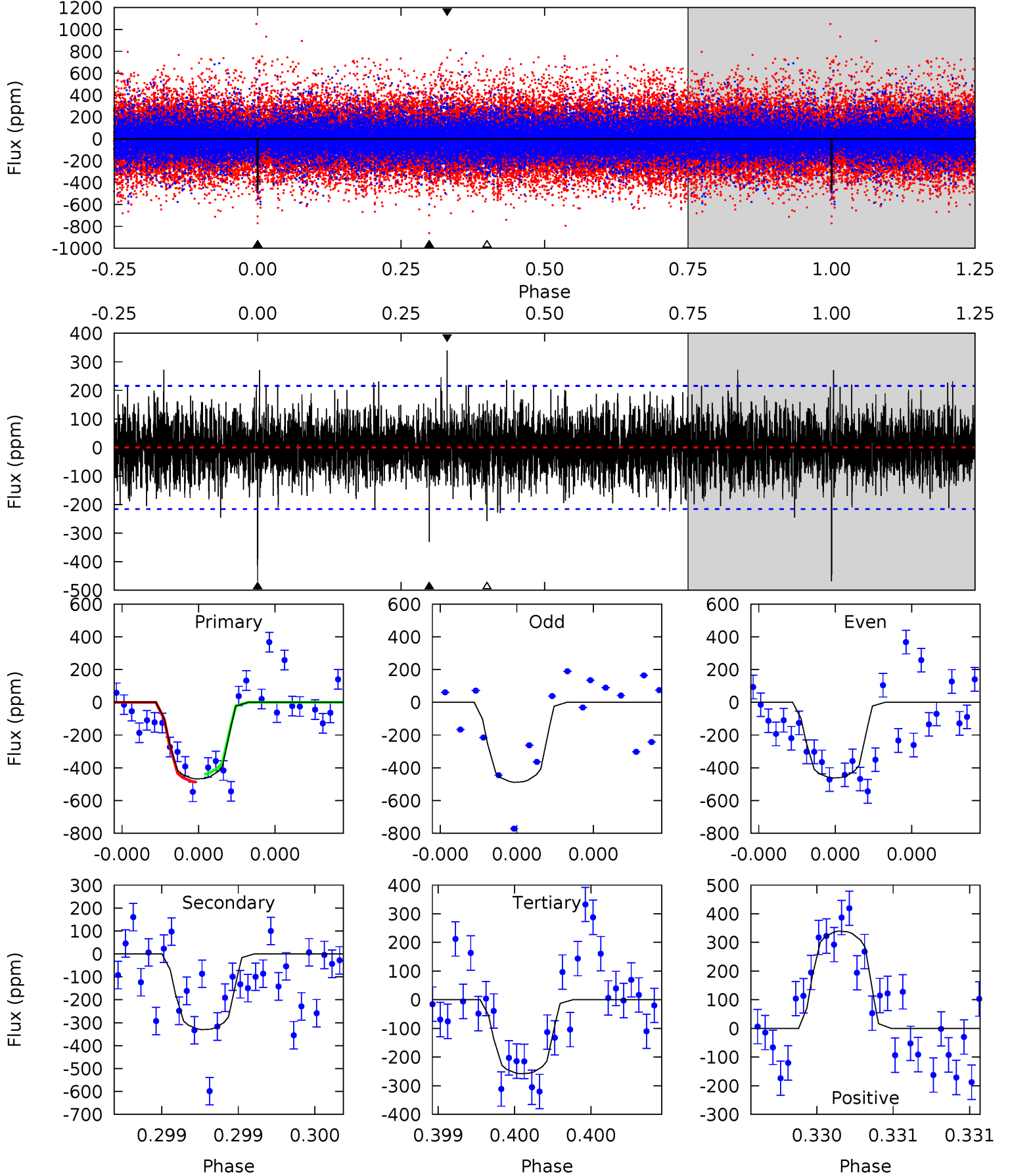
TCE 005298349-01   P=293.104896 Days    $T_0=417.051009$  (BKJD)



# DV Model-Shift Uniqueness Test

005298349-01, P = 293.101685 Days, E = 123.950799 Days

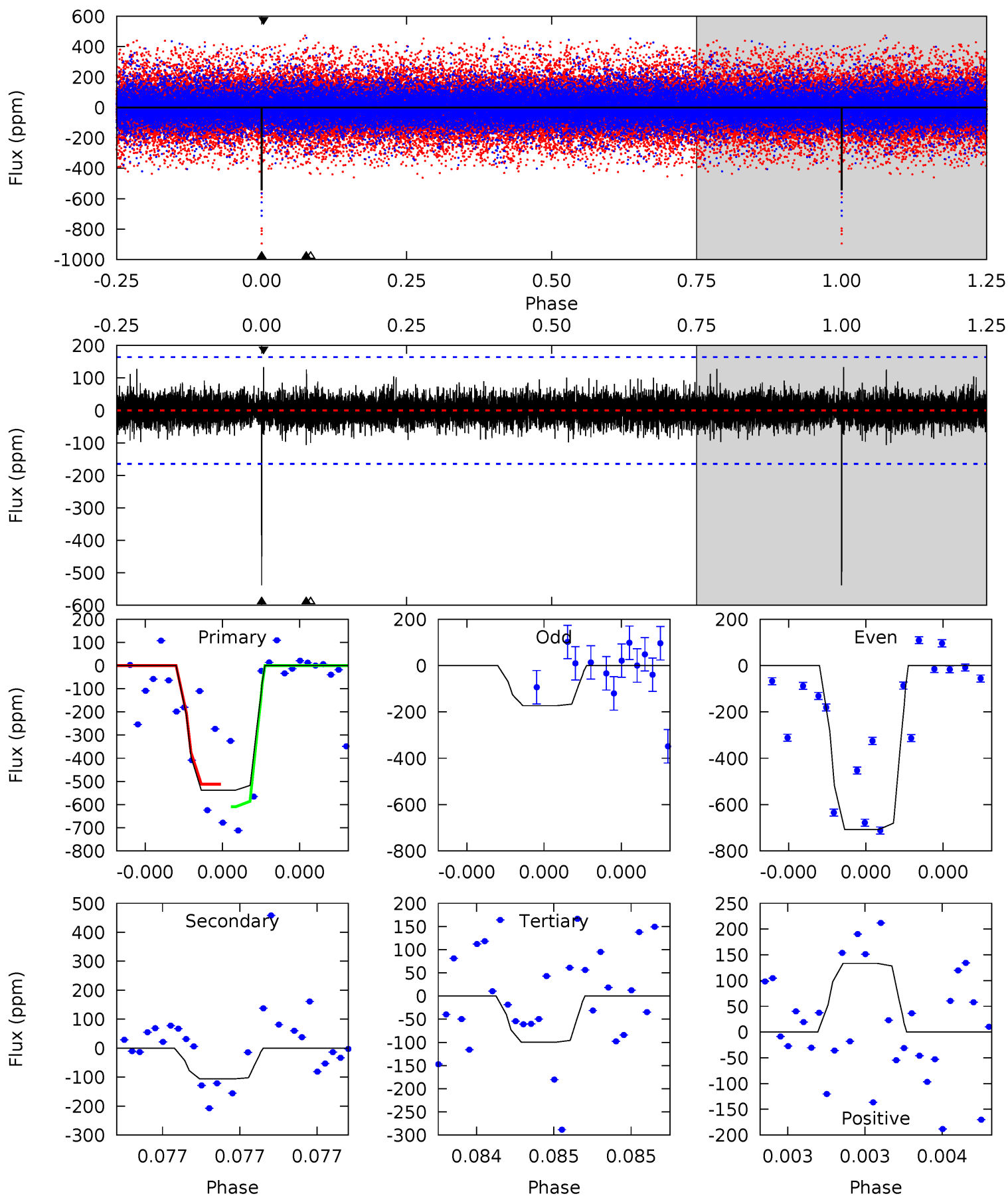
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	8.60	6.72	8.85	5.61	3.54	1.64	5.47	3.35	1.88	-0.24	0.31	1.01	0.42	0.62



# Alt Model-Shift Uniqueness Test

005298349-01, P = 293.104896 Days, E = 123.946113 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
18.4	3.63	3.41	4.57	5.63	3.57	0.87	15.0	13.9	0.22	-0.94	9.69	0.90	0.20	1.56



### Stellar Parameters For KIC 005298349

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6099^{+193}_{-236}$	$4.137^{+0.280}_{-0.172}$	$-0.120^{+0.300}_{-0.300}$	$1.463^{+0.420}_{-0.420}$	$1.070^{+0.178}_{-0.162}$	$0.482^{+0.772}_{-0.225}$
	+3%/-4%	+7%/-4%	+250%/-250%	+29%/-29%	+17%/-15%	+160%/-47%
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 005298349-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-330 \pm 38$	$8.10^{+8.49}_{-5.75}$	$479^{+36}_{-43}$	$3885^{+2793}_{-765}$	$2170^{+24985}_{-1652}$
Alt.	$-106 \pm 29$	$8.07^{+8.68}_{-5.29}$	$479^{+41}_{-42}$	$3259^{+1441}_{-593}$	$699^{+4837}_{-541}$

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

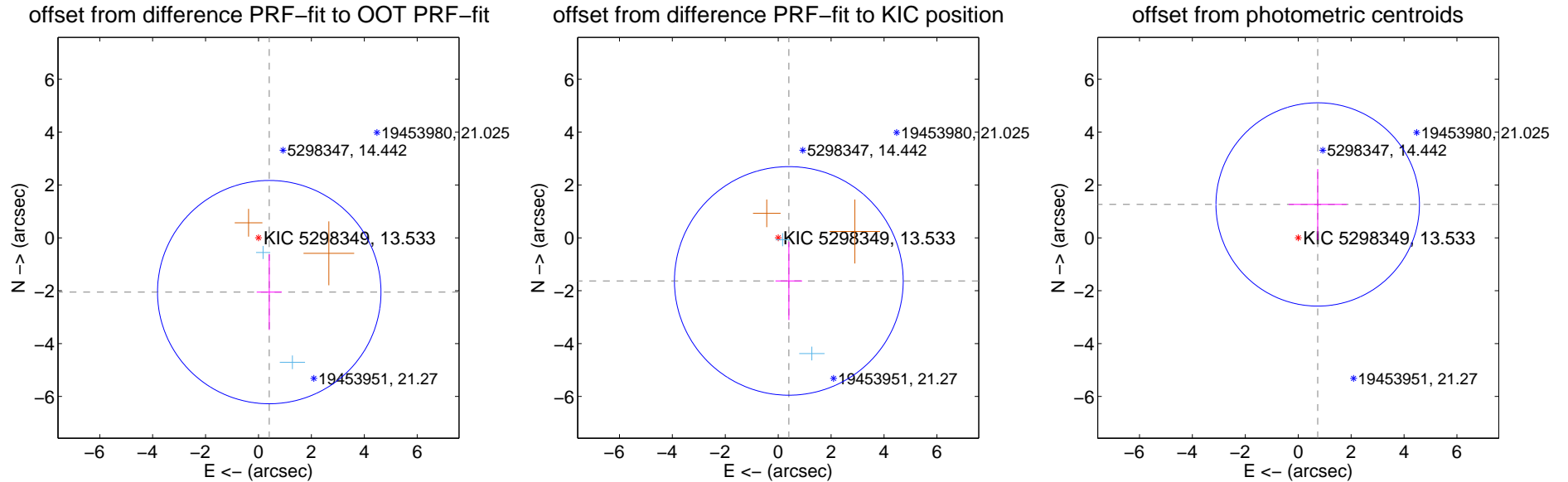
## DV Centroid Data

Supplemental centroid analysis for 005298349-01. Kepler magnitude: 13.53. Transit SNR 6.45

There are 2 quarters with good PRF difference image offsets

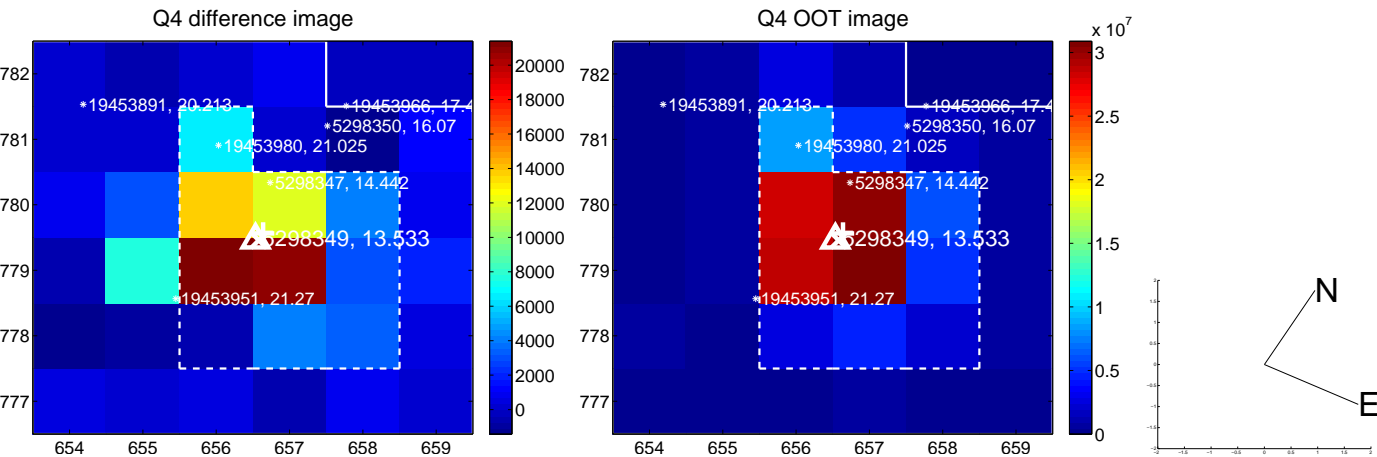
The direct PRF centroid is offset from the target star catalog position by about 0.86 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.093 \pm 1.408$	1.49	$-0.407 \pm 0.473$	$-2.053 \pm 1.432$
PRF-fit source offset from KIC position	$1.678 \pm 1.441$	1.16	$-0.402 \pm 0.504$	$-1.629 \pm 1.479$
photometric centroid source offset	$1.46 \pm 1.28$	1.14	$-0.74 \pm 1.10$	$1.26 \pm 1.34$



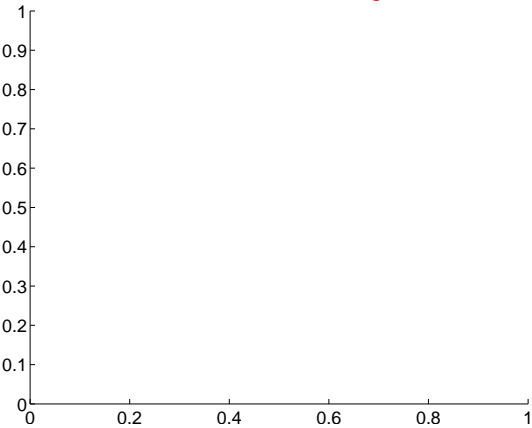
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

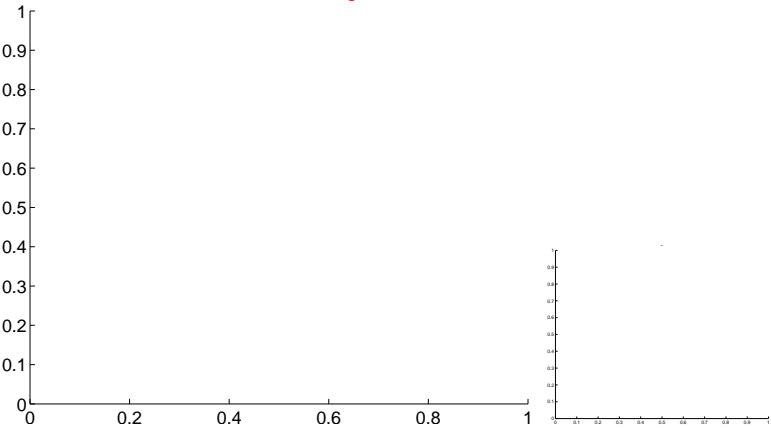


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

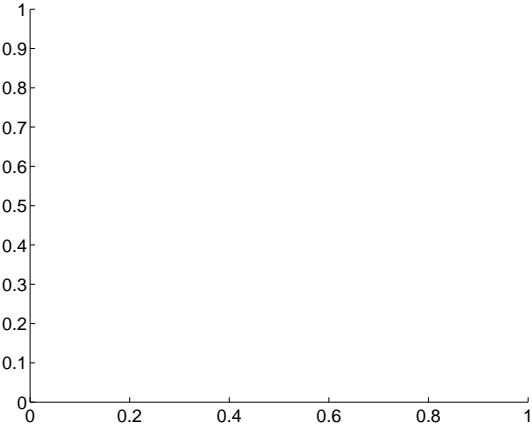
Q5 no difference image



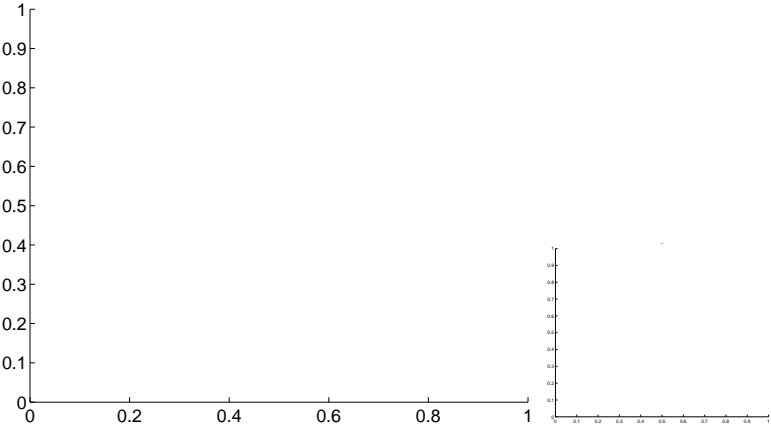
Q5 no OOT image



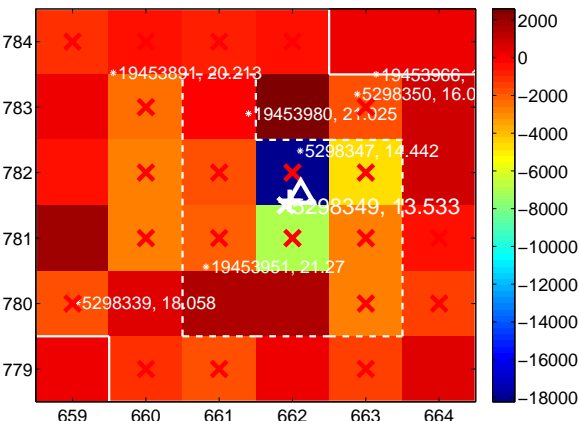
Q6 no difference image



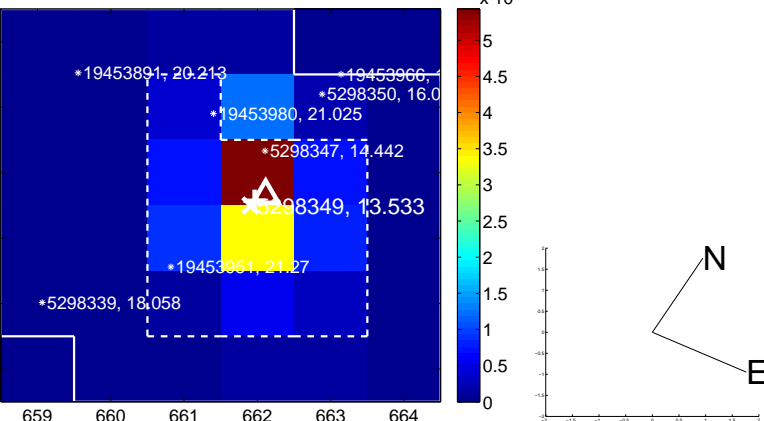
Q6 no OOT image



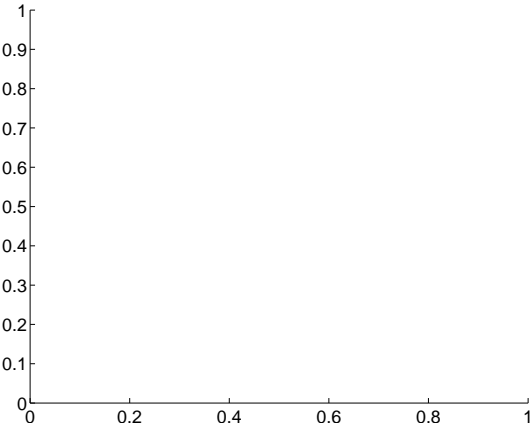
Q7 difference image. Poor Quality



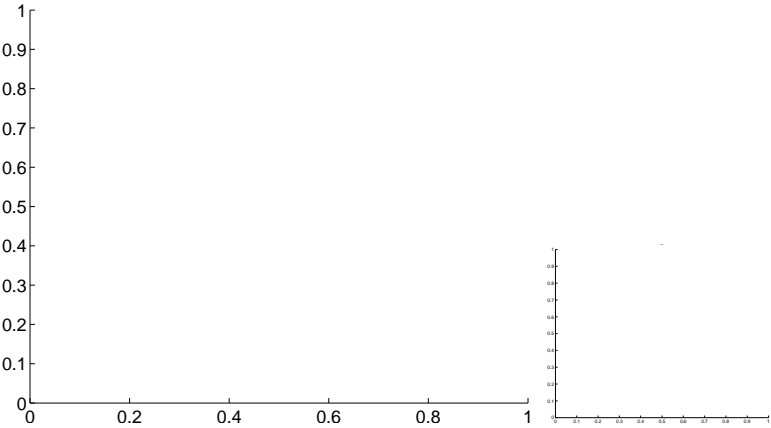
Q7 OOT image



Q8 no difference image

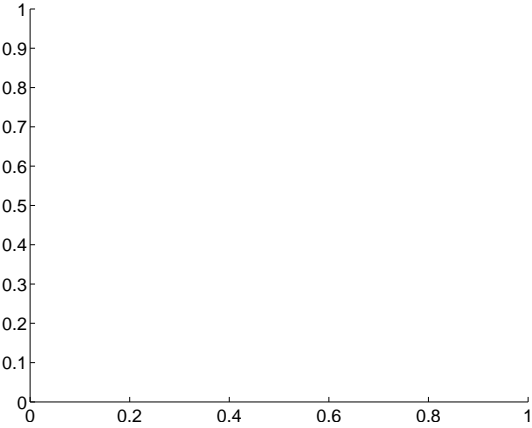


Q8 no OOT image

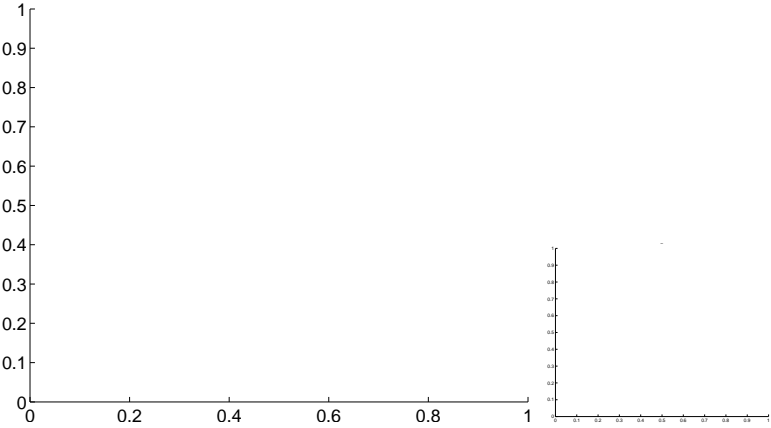


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

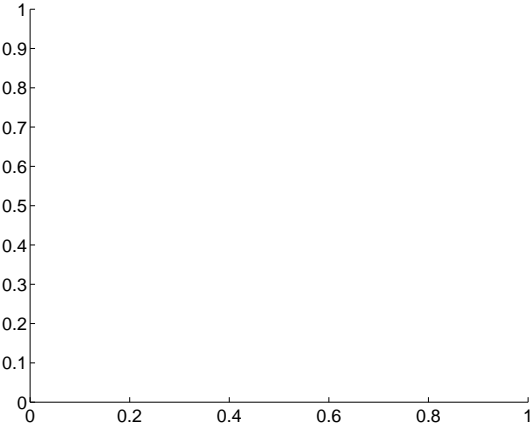
Q9 no difference image



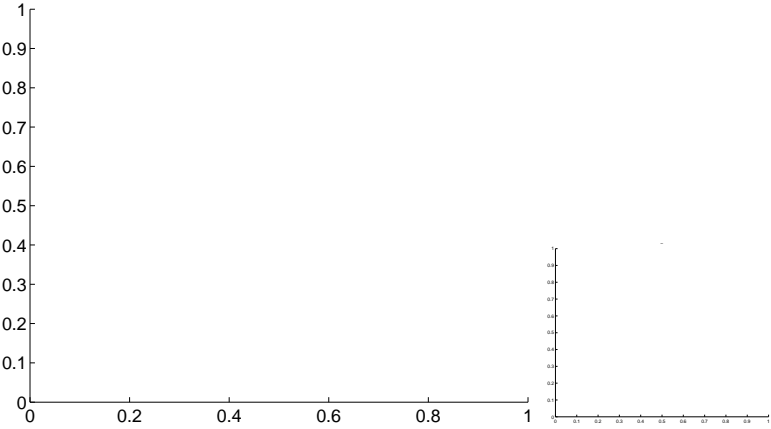
Q9 no OOT image



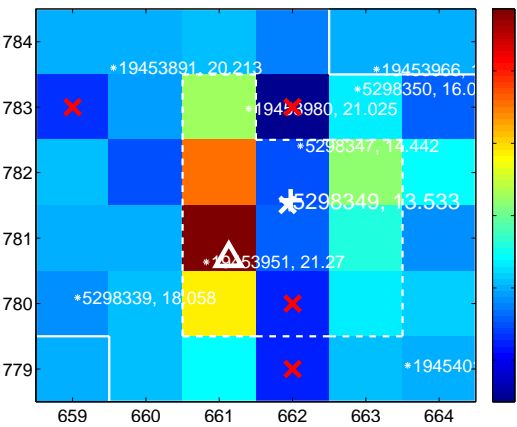
Q10 no difference image



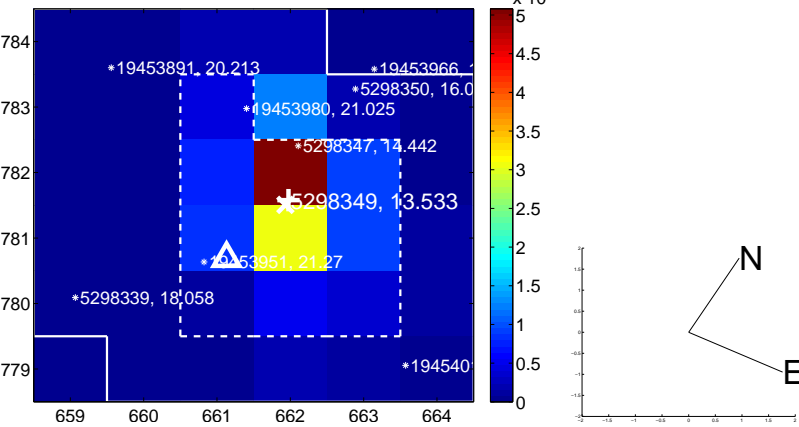
Q10 no OOT image



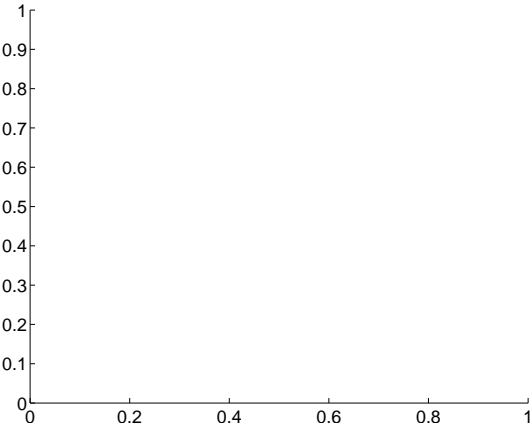
Q11 difference image



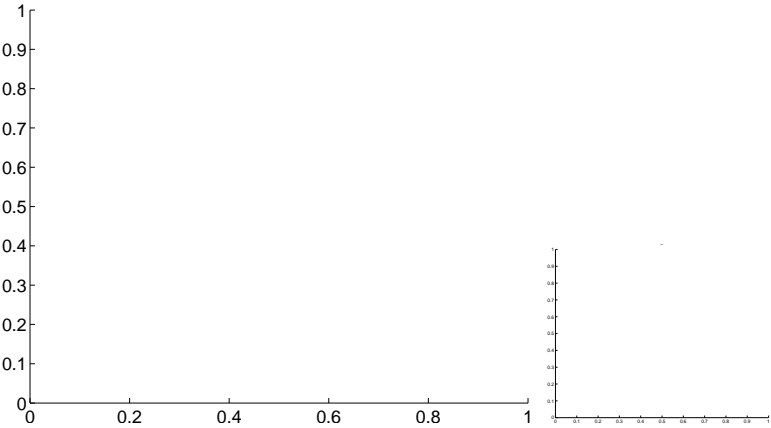
Q11 OOT image



Q12 no difference image



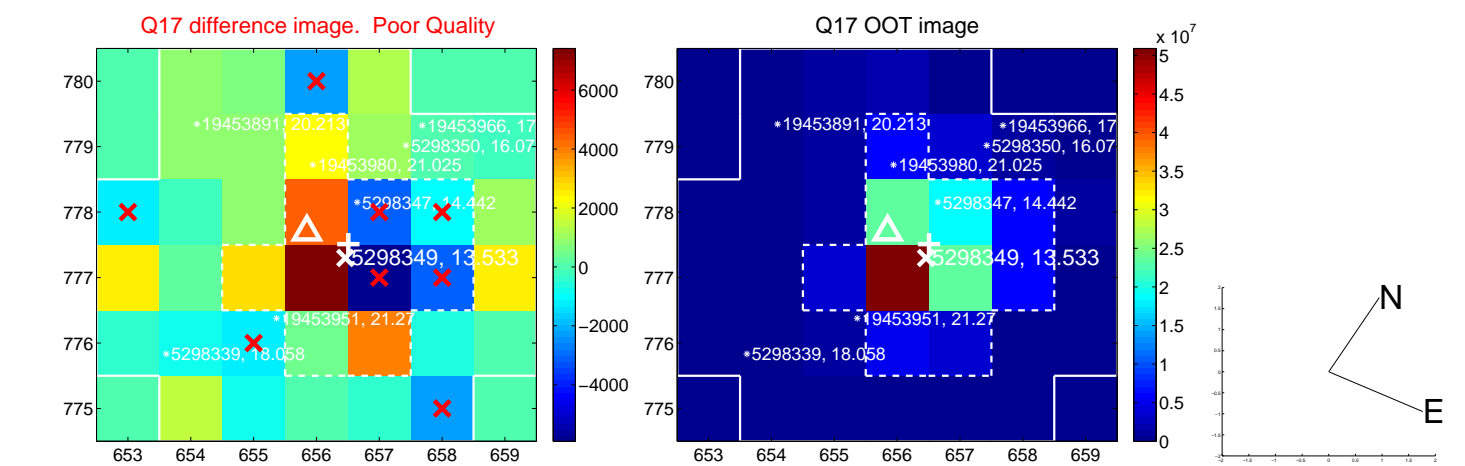
Q12 no OOT image



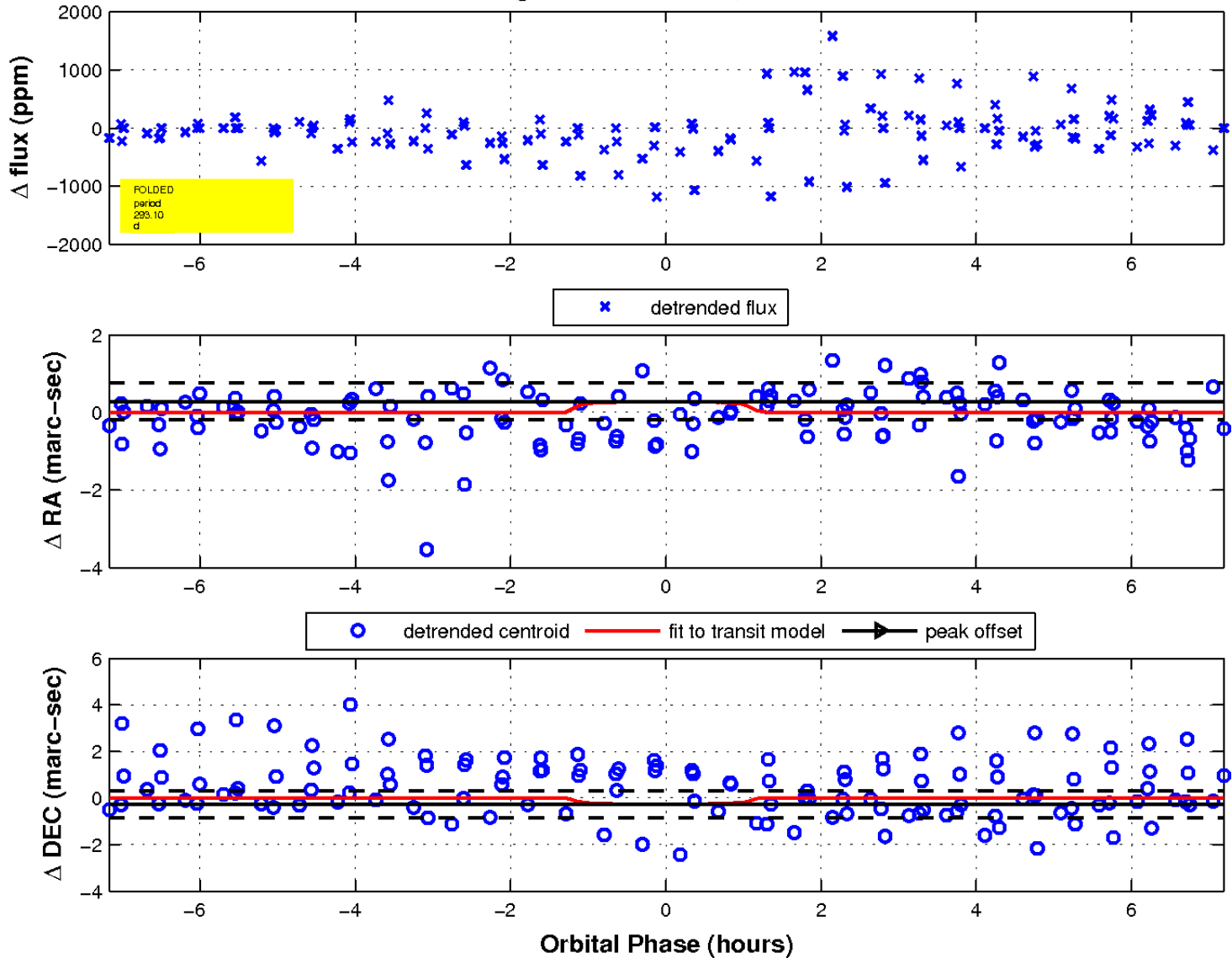
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

