

# KIC 010489345

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010489345-01	OBS	2266.01	1.003929	132.101364	476.2	1.420	20.6	23.7	0.74	4949	1.64	959.19

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010489345-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

**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 010489345-01

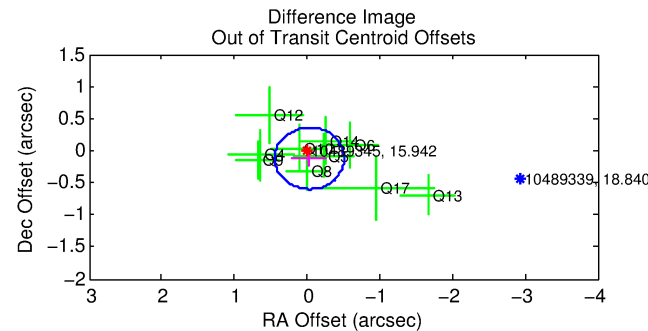
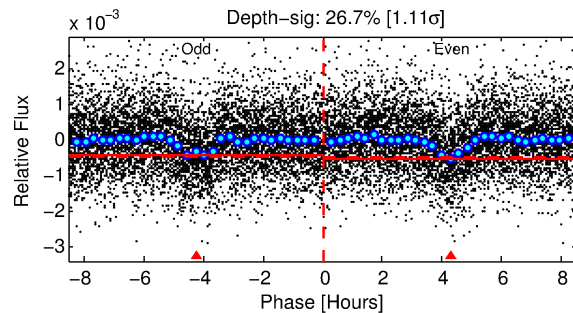
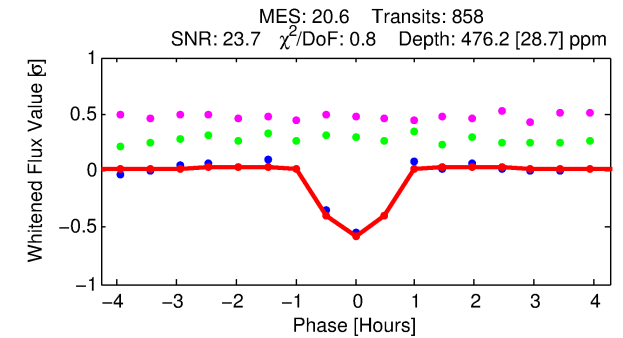
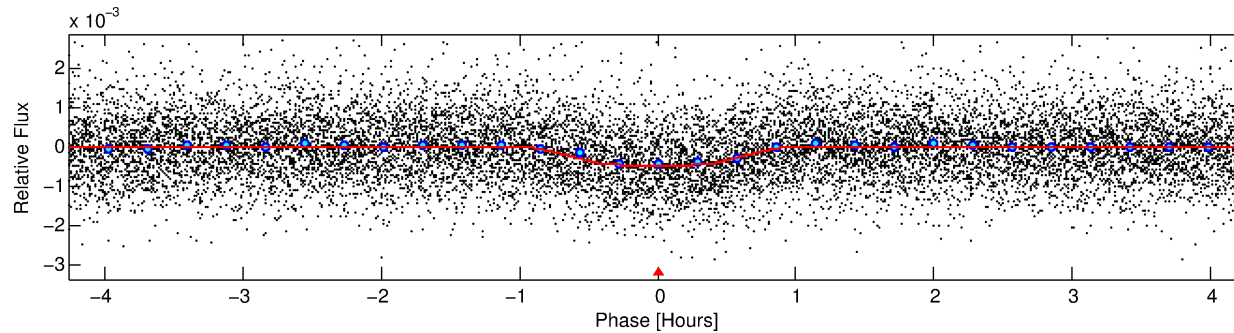
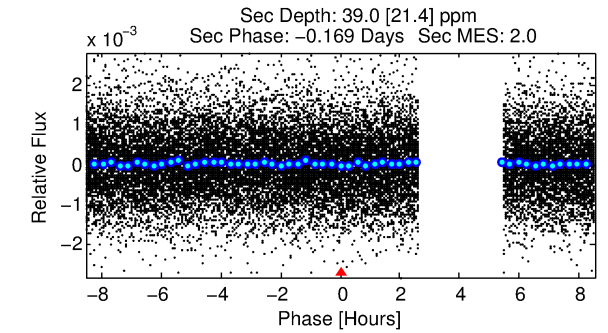
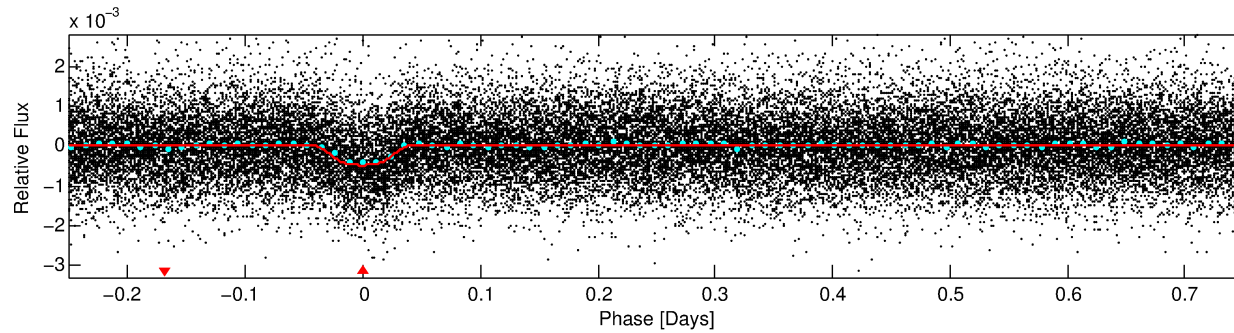
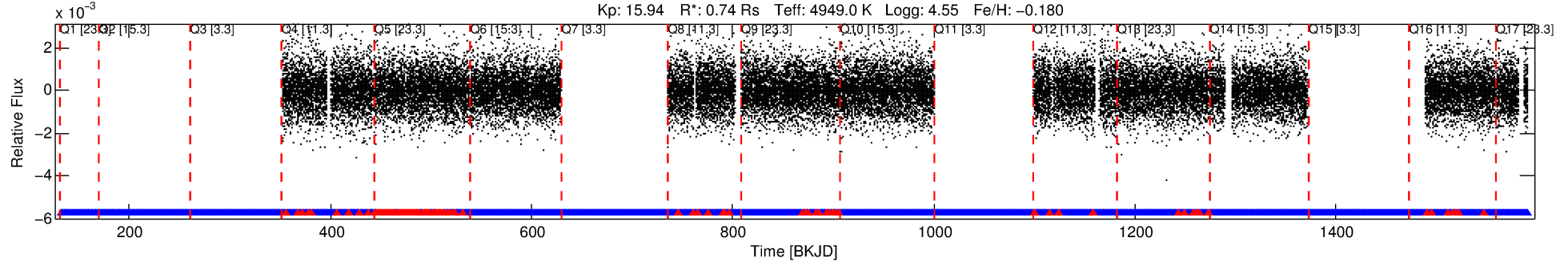
No Significant Match Found

# DV One-Page Summary

KIC: 10489345 Candidate: 1 of 1 Period: 1.004 d

KOI: K02266.01 Corr: 0.969

Kp: 15.94 R\*: 0.74 Rs Teff: 4949.0 K Logg: 4.55 Fe/H: -0.180



## DV Fit Results:

Period = 1.00393 [0.00000] d  
Epoch = 132.1014 [0.0009] BKJD  
Rp/R\* = 0.0202 [0.0097]  
a/R\* = 4.90 [7.64]  
b = 0.48 [2.63]  
Seff = 959.19 [185.75]  
Teq = 1419 [69] K  
Rp = 1.64 [0.80] Re  
a = 0.0175 [0.0016] AU  
Ag = 2.47 [2.75] [0.53σ]  
Teffp = 2750 [767] K [1.73σ]

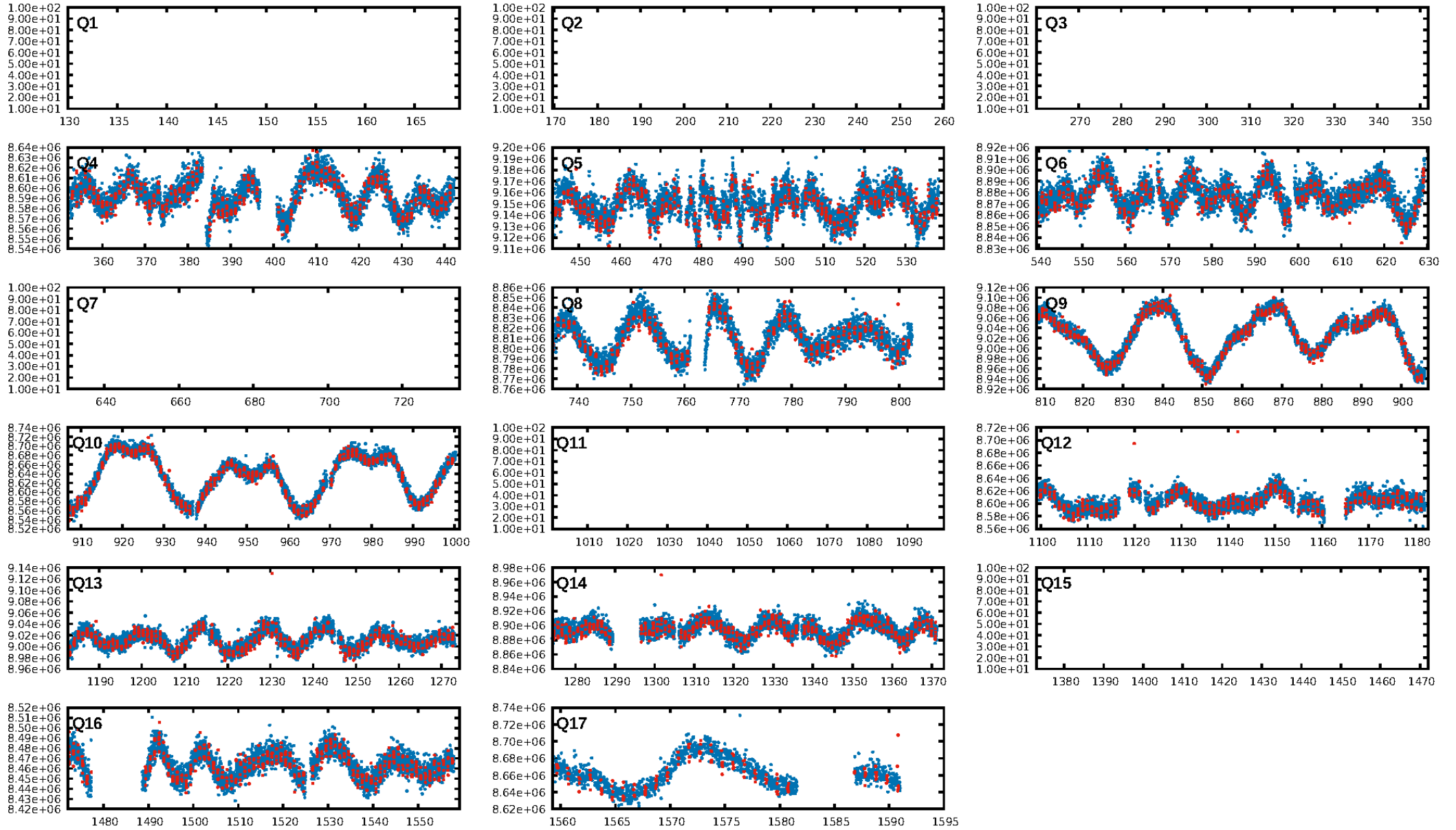
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.01e-88  
RollingBand-fgt: 0.87 [724/831]  
GhostDiagnostic-chr: 2.815  
Centroid-sig: 55.3%  
Centroid-so: 0.401 arcsec [0.66σ]  
OotOffset-rm: 0.125 arcsec [0.78σ]  
KicOffset-rm: 0.322 arcsec [1.81σ]  
OotOffset-st: 3/0/3/4 [10]  
KicOffset-st: 3/0/3/4 [10]  
DiffImageQuality-fgm: 1.00 [10/10]  
DiffImageOverlap-fno: 1.00 [11/11]

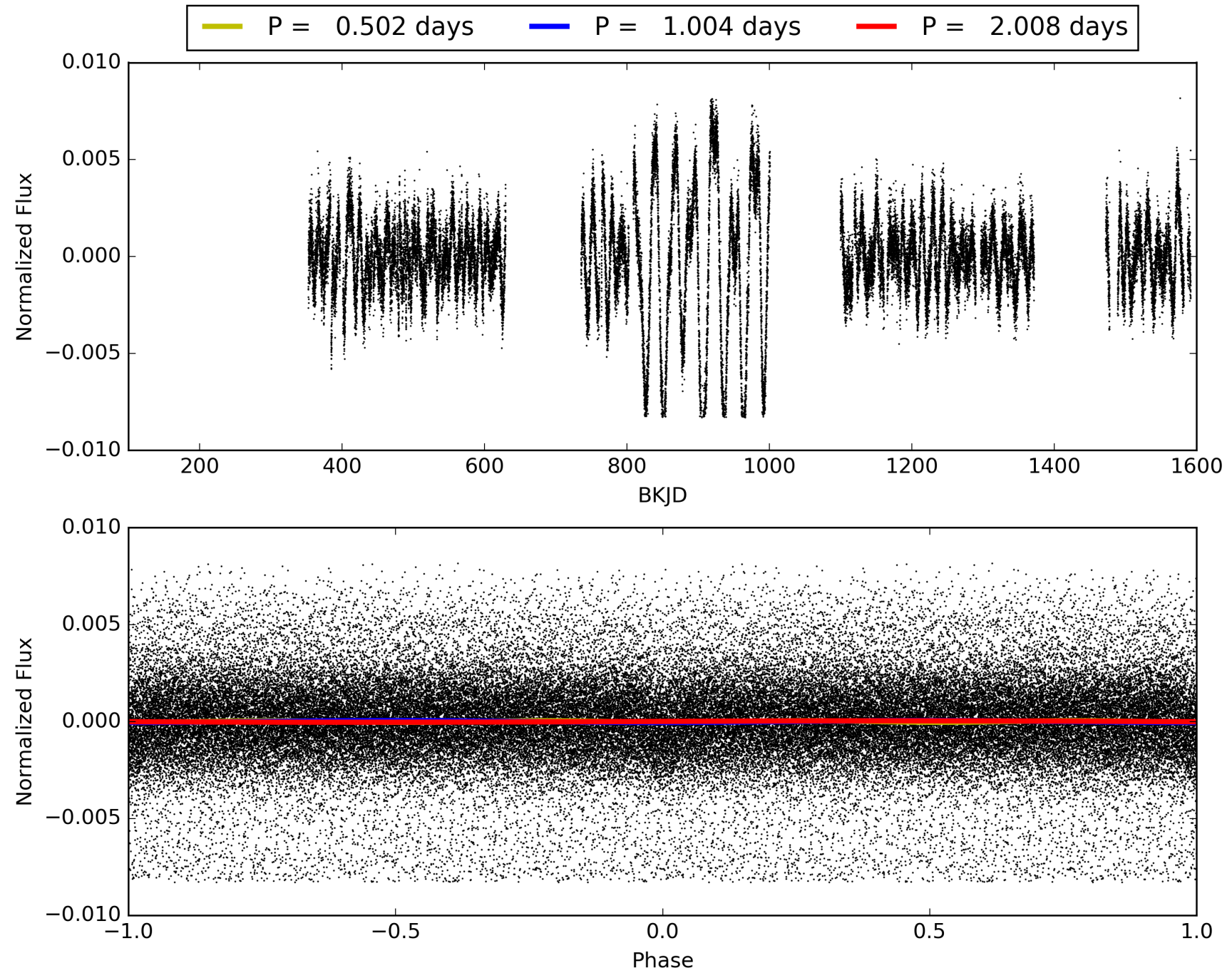
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:55:41 Z

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

# TCE 010489345-01, PDC Light Curves

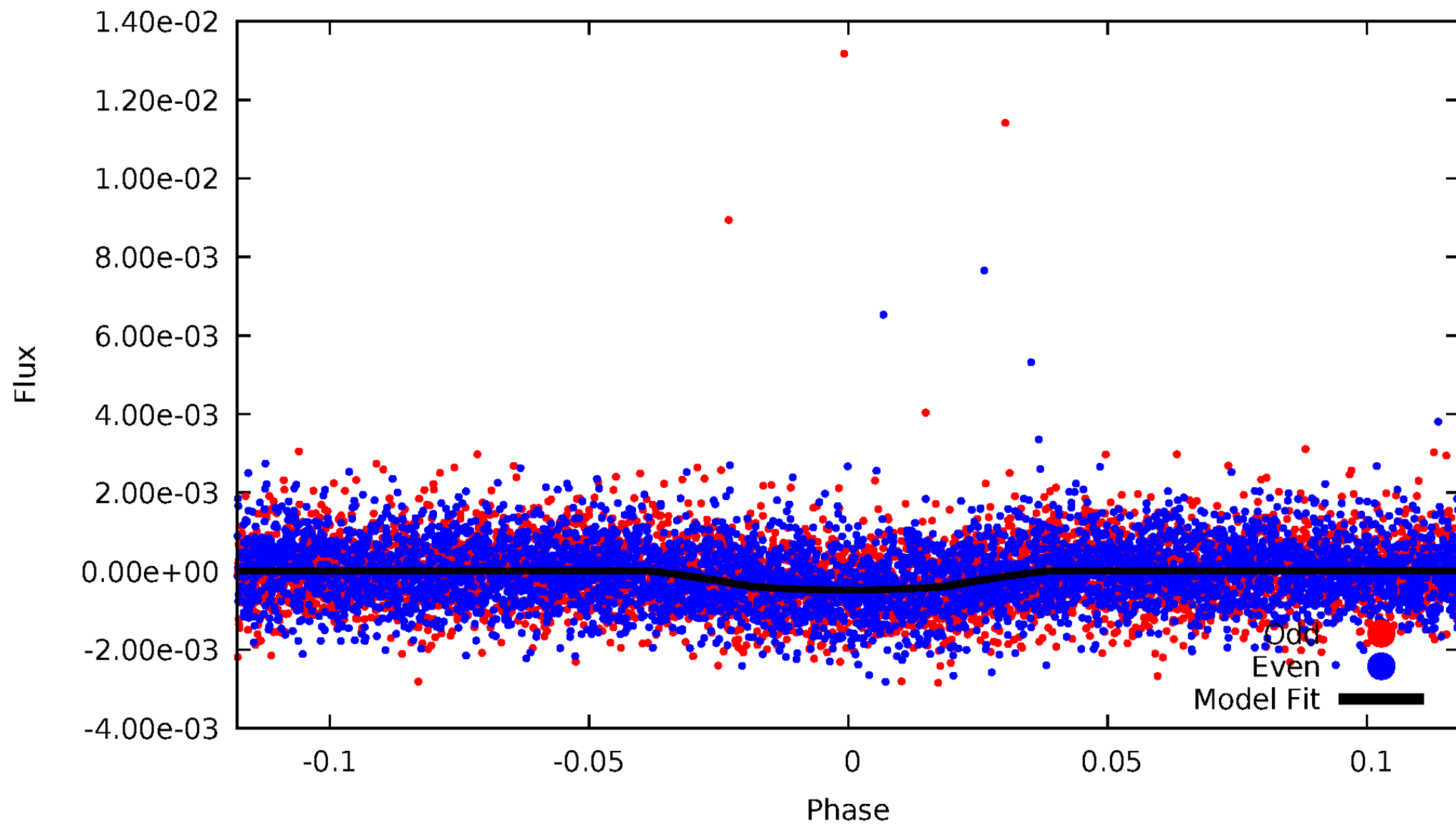


TCE 010489345-01



# DV Odd/Even

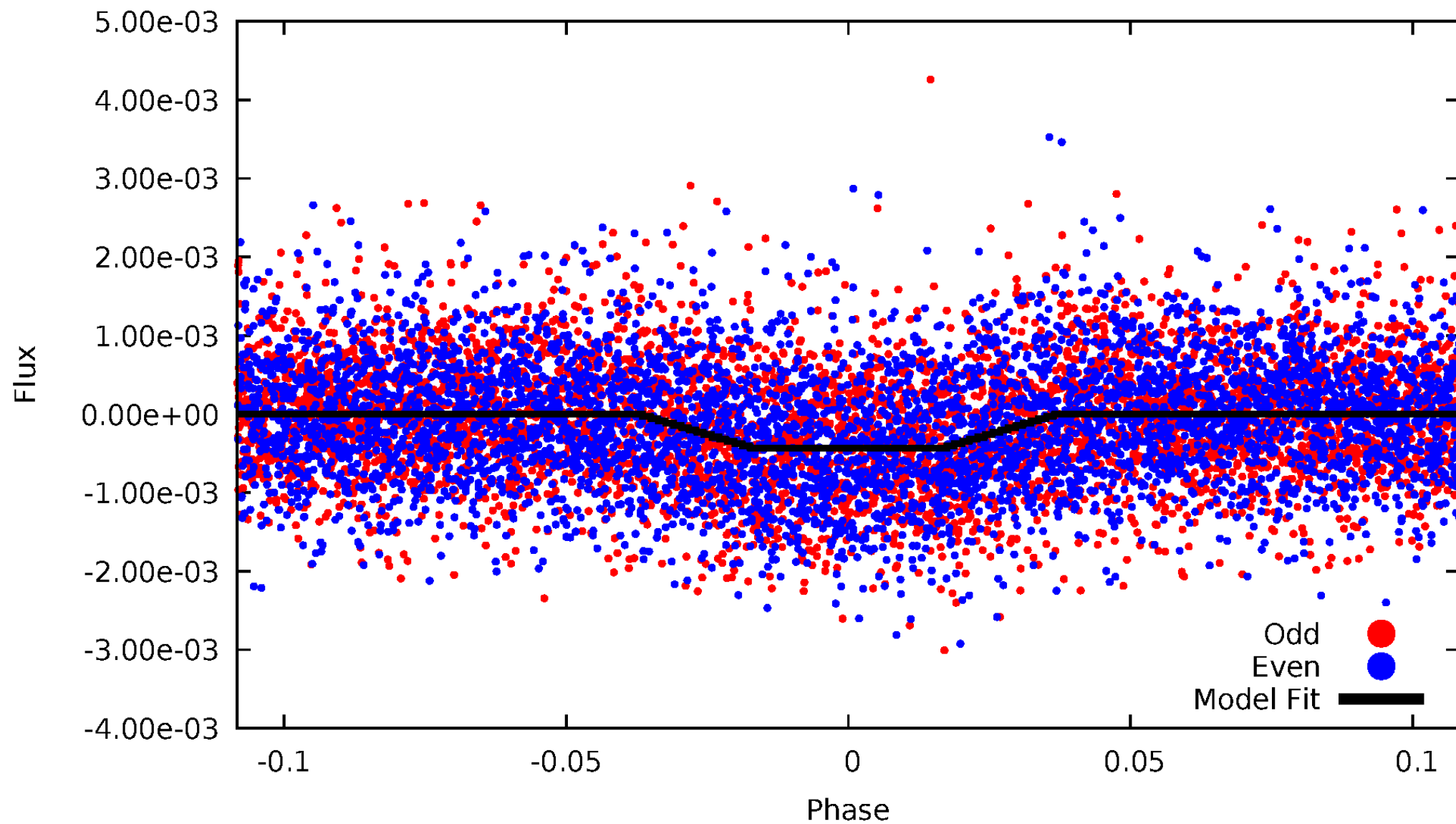
TCE 010489345-01





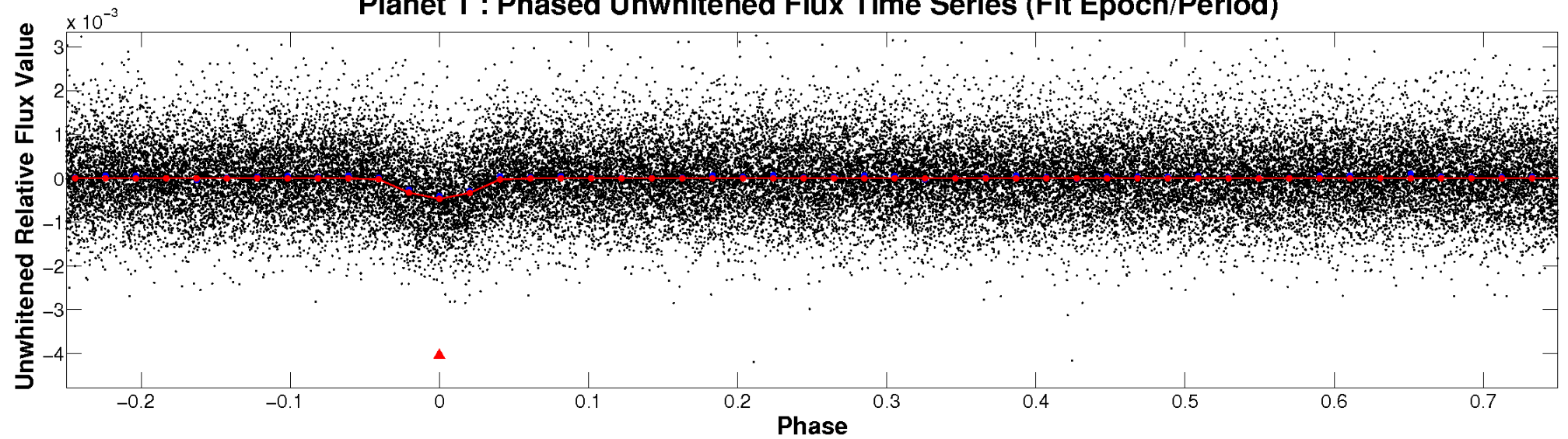
# ALT Odd/Even

TCE 010489345-01

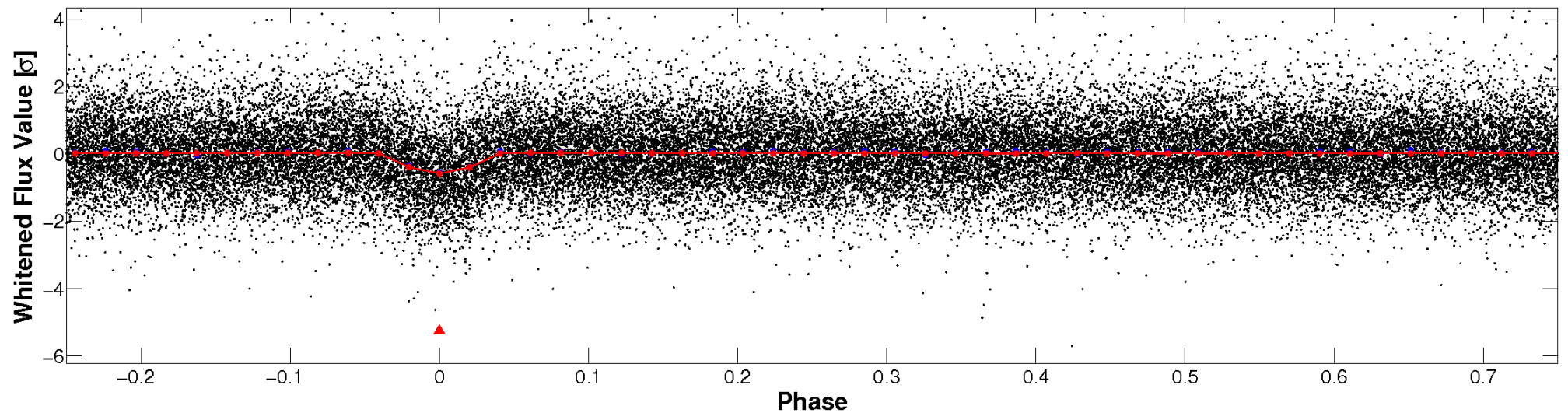


# Non-Whitened Vs. Whitened Light Curve

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

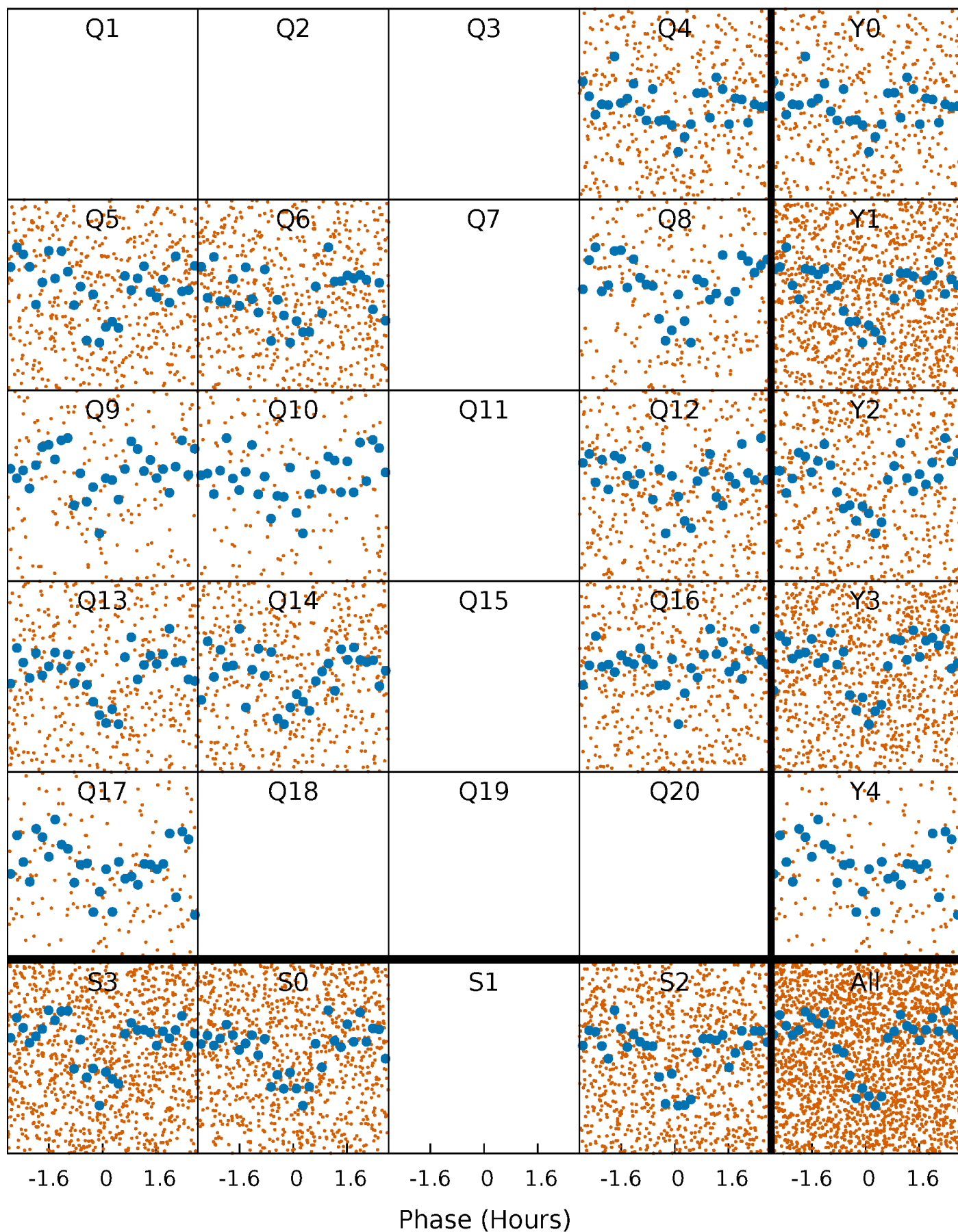


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

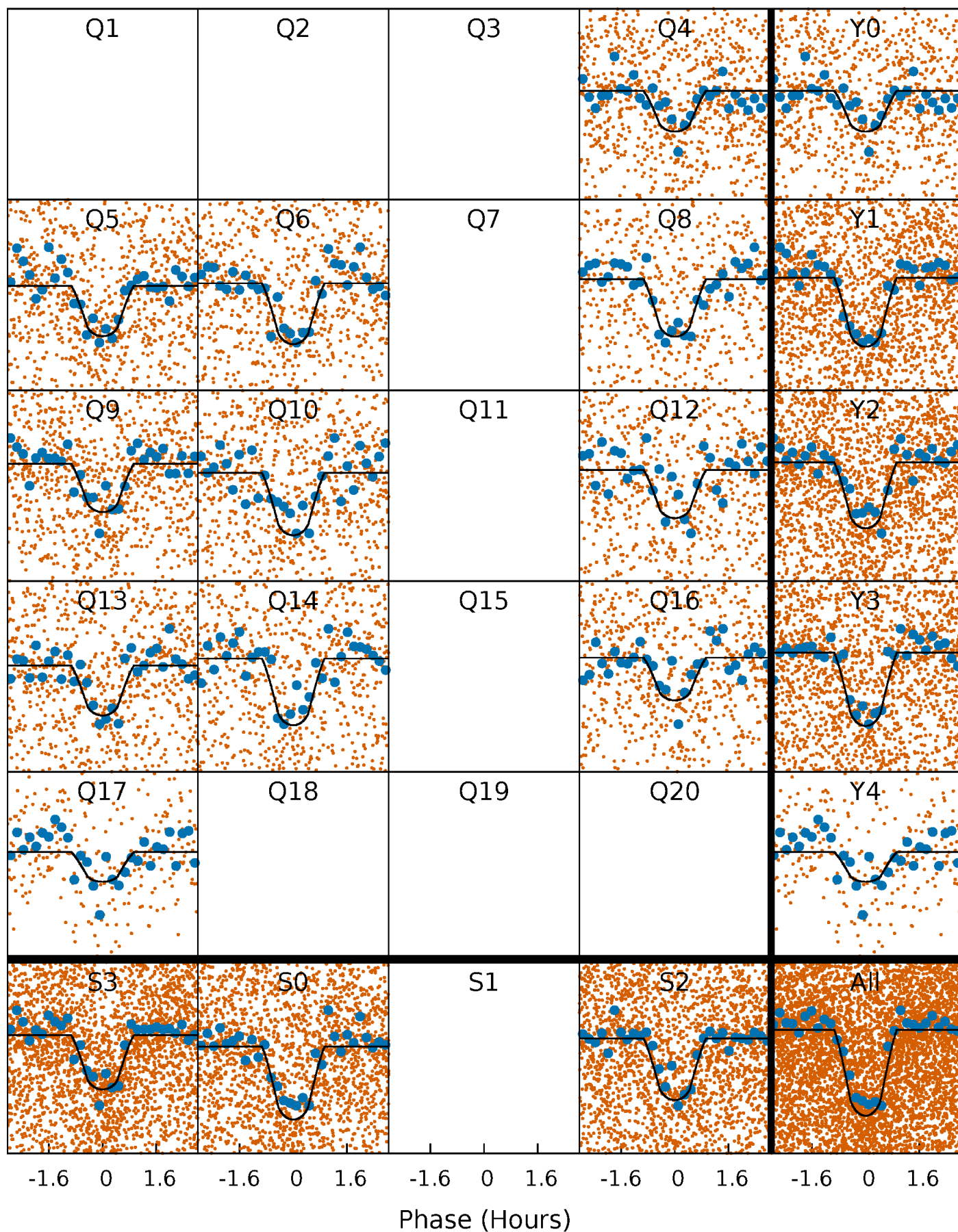
TCE 010489345-01 P= 1.003929 Days  $T_0=132.101363$  (BKJD)





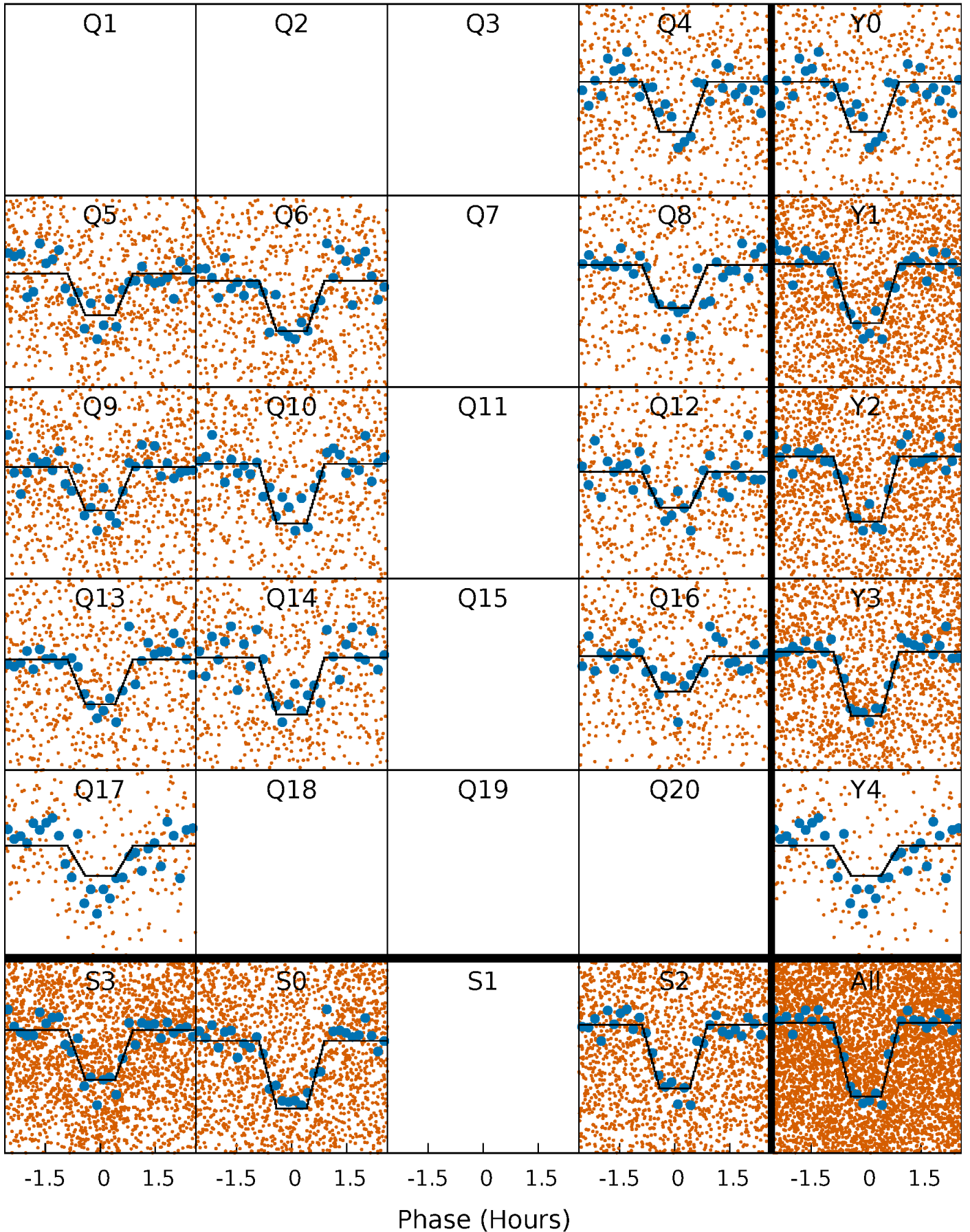
# DV Quarter-Phased Transit Curves

TCE 010489345-01 P= 1.003929 Days  $T_0=132.101363$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

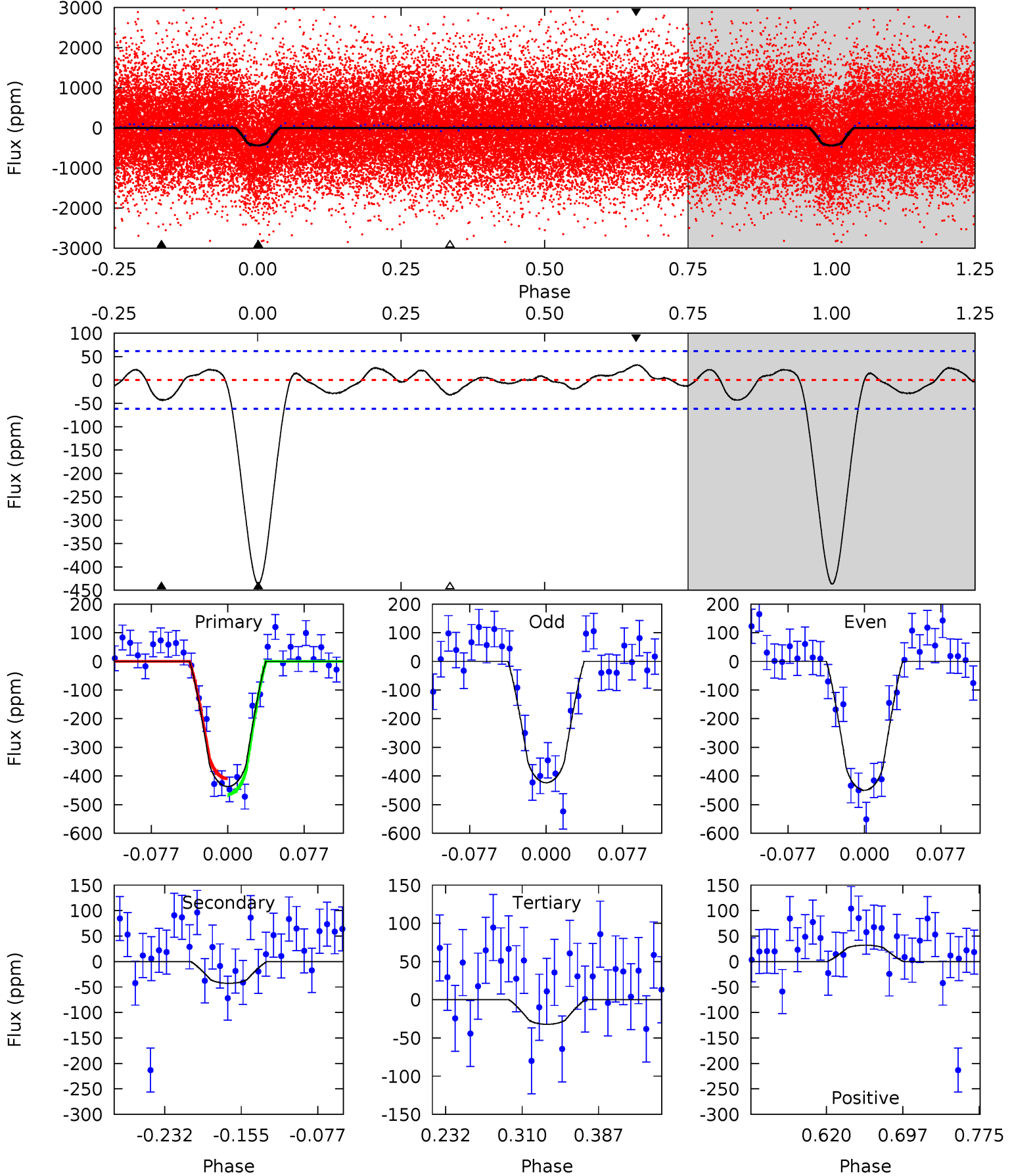
TCE 010489345-01 P= 1.003932 Days  $T_0=132.099248$  (BKJD)



# DV Model-Shift Uniqueness Test

010489345-01, P = 1.003929 Days, E = 132.101363 Days

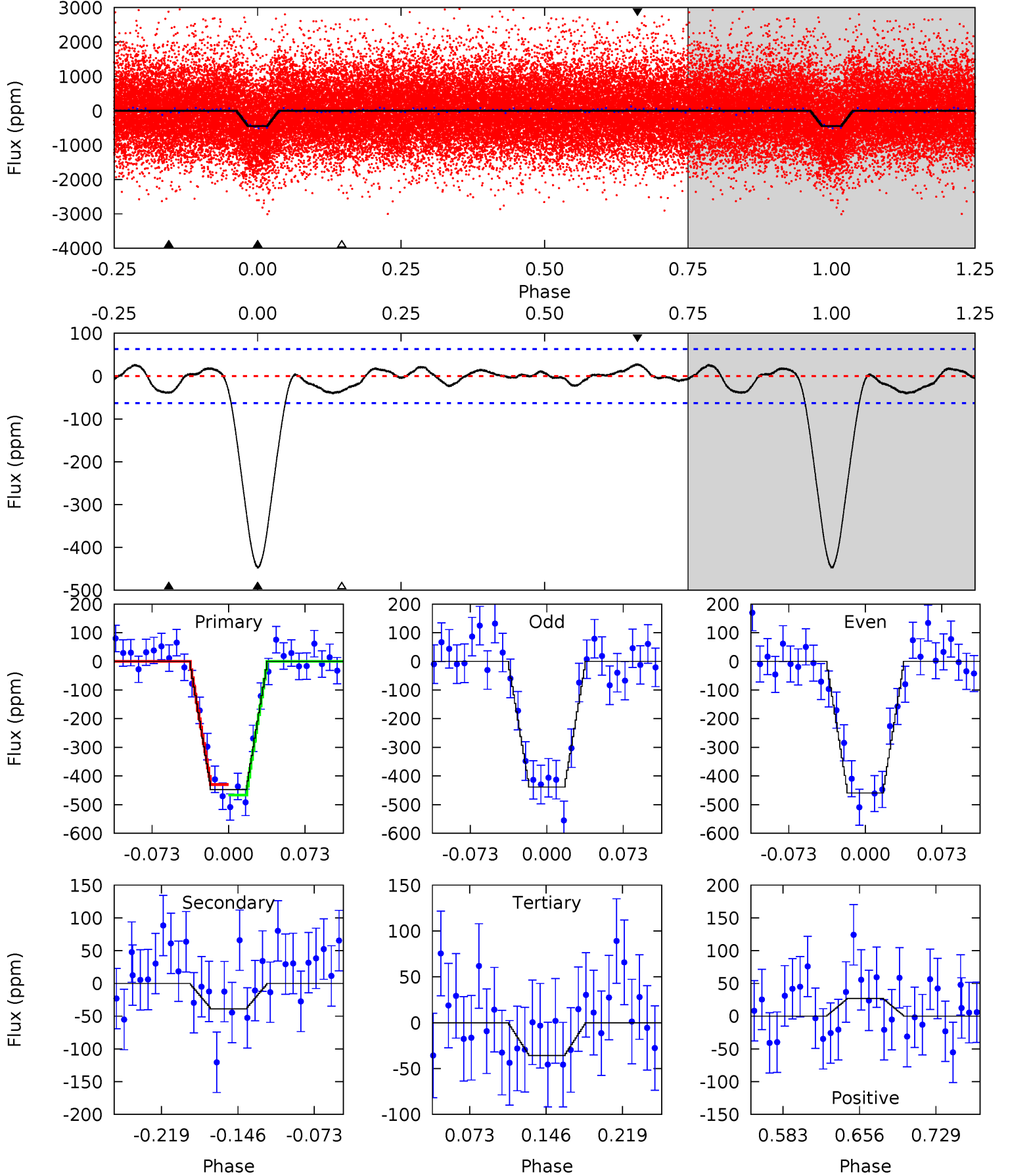
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.7	3.21	2.41	2.41	4.62	1.77	1.13	30.3	30.3	0.80	0.80	0.99	0.96	0.07	2.05



# Alt Model-Shift Uniqueness Test

010489345-01, P = 1.003932 Days, E = 132.099248 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
32.9	2.85	2.63	2.00	4.63	1.79	1.09	30.2	30.9	0.22	0.85	0.76	0.97	0.06	1.35



### Stellar Parameters For KIC 010489345

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4949^{+176}_{-176}$	$4.552^{+0.072}_{-0.048}$	$-0.180^{+0.300}_{-0.300}$	$0.741^{+0.072}_{-0.079}$	$0.715^{+0.095}_{-0.055}$	$2.472^{+0.782}_{-0.413}$
	+4%/-4%	+2%/-1%	+167%/-167%	+10%/-11%	+13%/-8%	+32%/-17%
Source	KIC0	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 010489345-01 / KOI 2266.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-43 \pm 13$	$1.66^{+0.87}_{-0.78}$	$1977^{+83}_{-93}$	$3199^{+892}_{-443}$	$2.489^{+7.762}_{-1.411}$
Alt.	$-39 \pm 14$	$1.75^{+0.80}_{-0.76}$	$1974^{+89}_{-82}$	$3093^{+768}_{-444}$	$2.056^{+4.972}_{-1.187}$

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



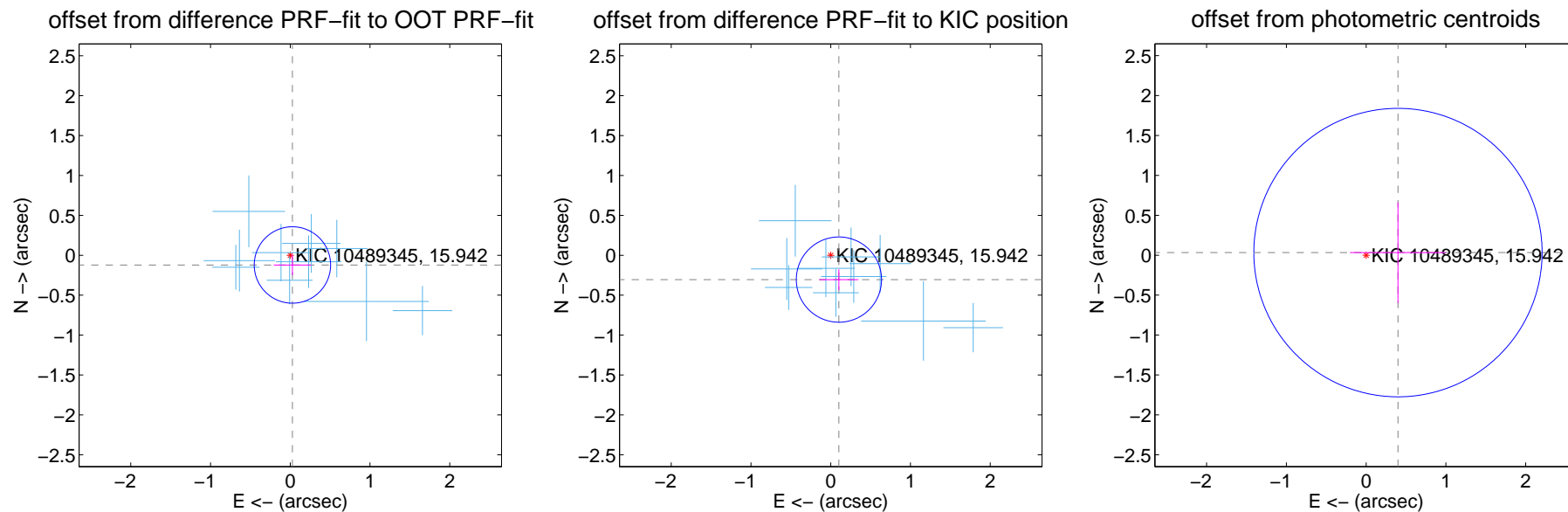
## DV Centroid Data

Supplemental centroid analysis for 010489345-01. Kepler magnitude: 15.94. Transit SNR 23.70

There are 10 quarters with good PRF difference image offsets

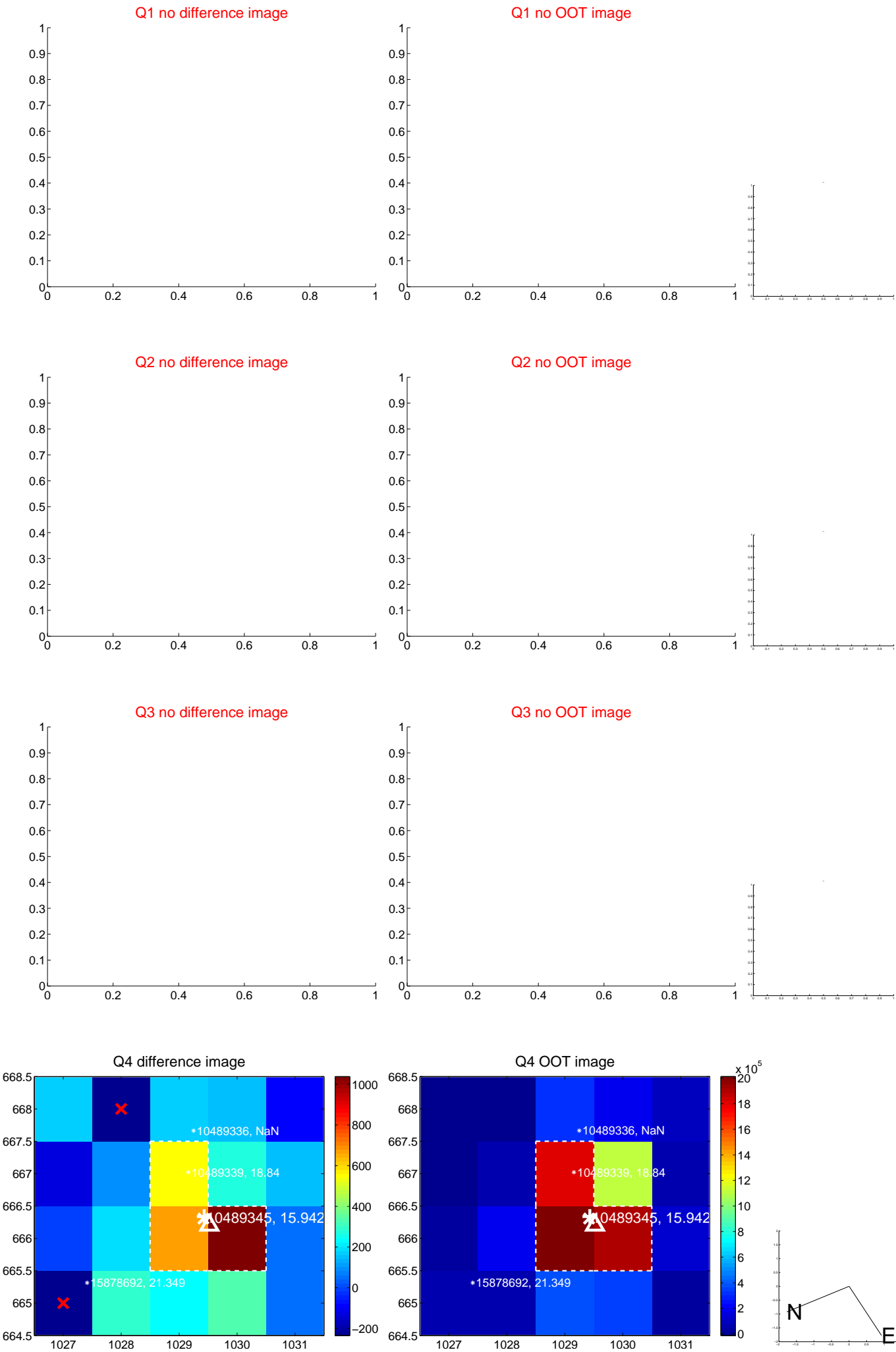
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.125 \pm 0.160$	0.78	$-0.027 \pm 0.235$	$-0.122 \pm 0.128$
PRF-fit source offset from KIC position	$0.322 \pm 0.178$	1.81	$-0.103 \pm 0.245$	$-0.305 \pm 0.130$
photometric centroid source offset	$0.40 \pm 0.60$	0.66	$-0.40 \pm 0.60$	$0.03 \pm 0.63$

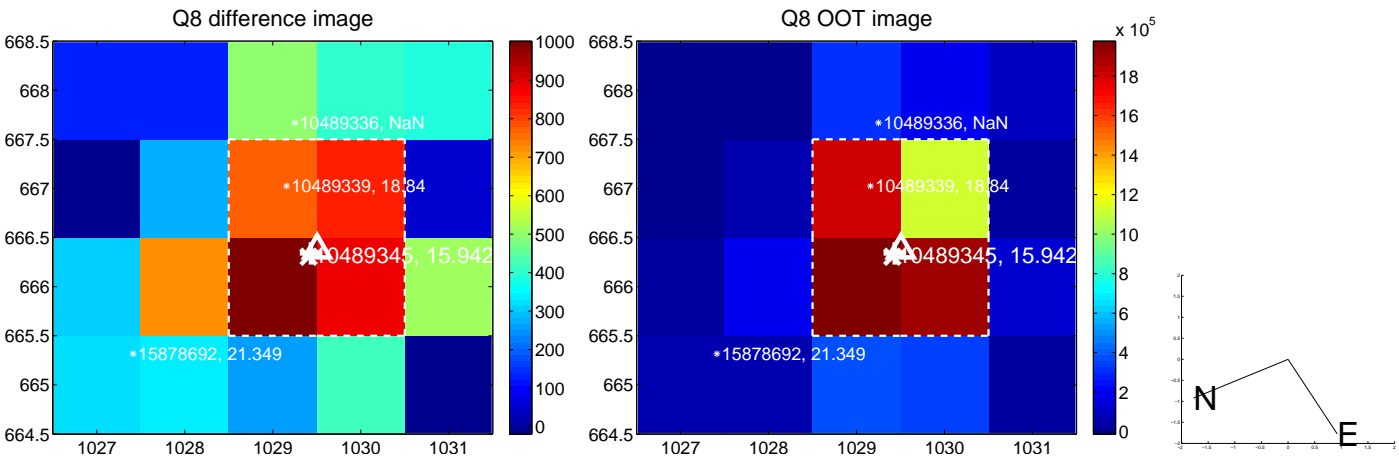
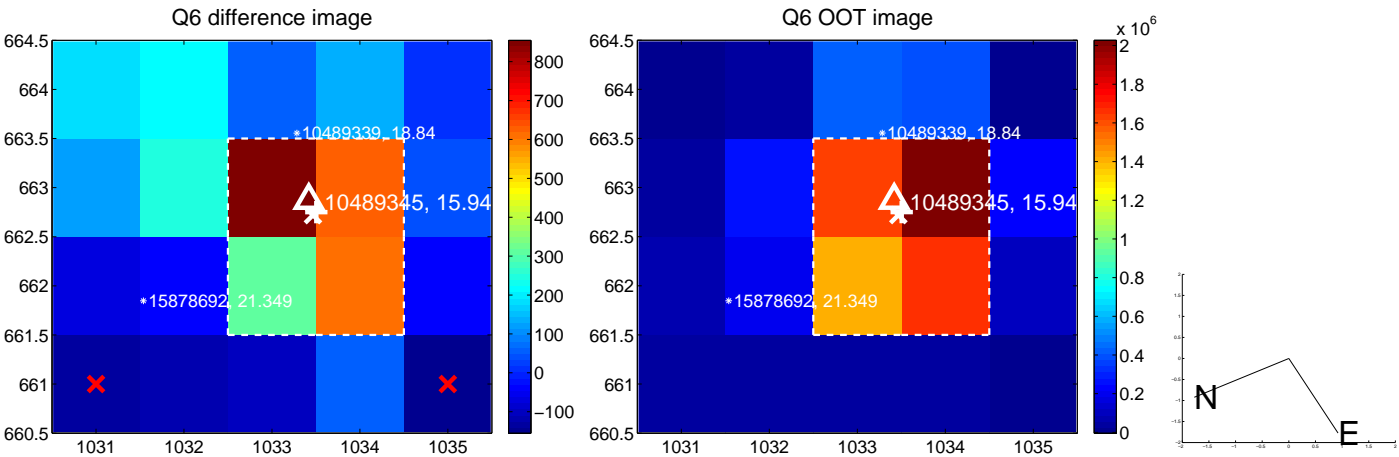
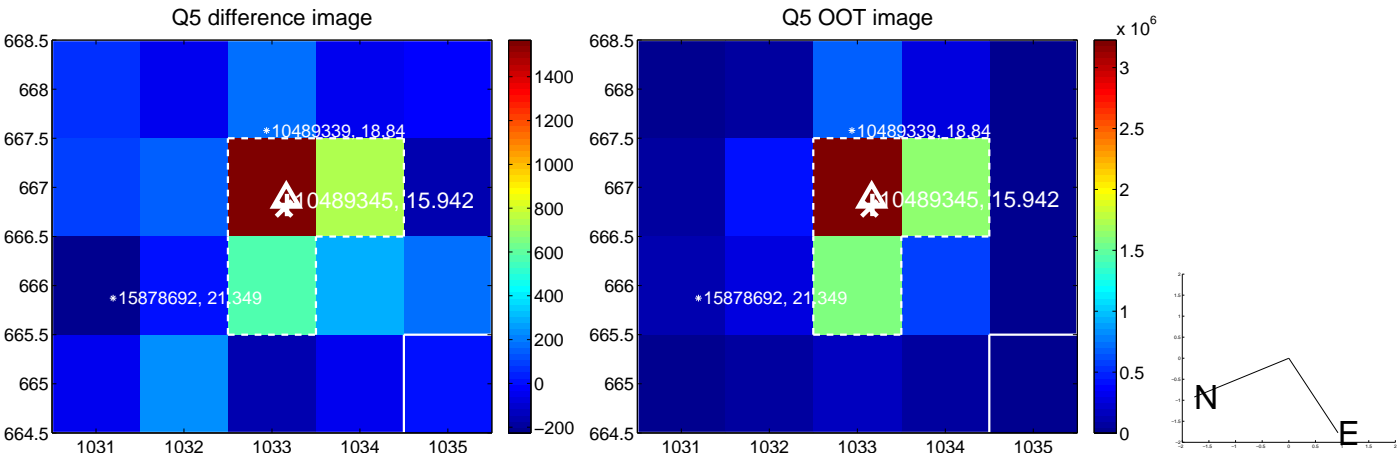


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

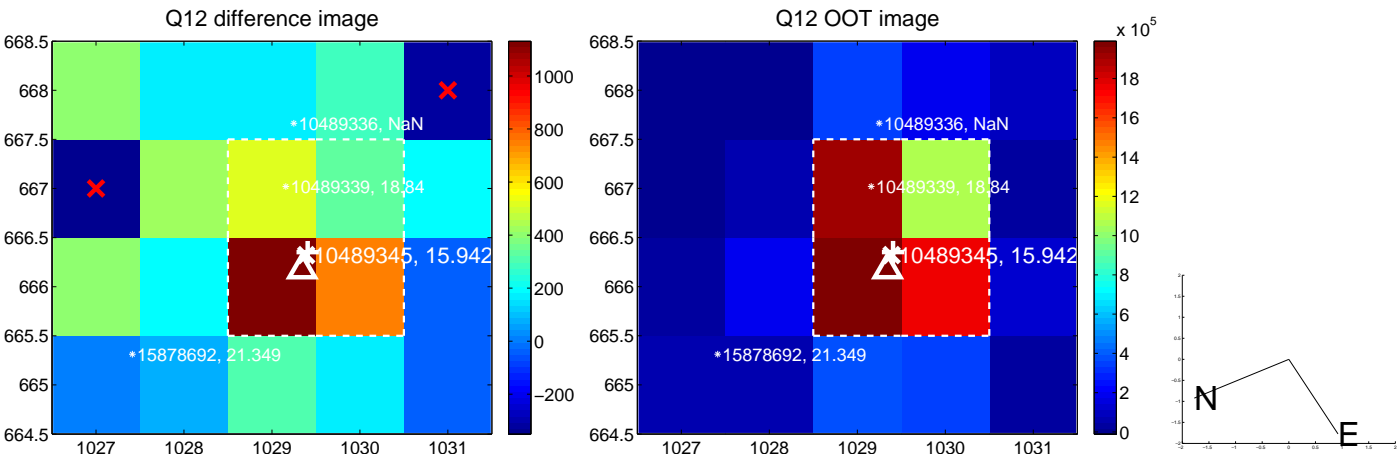
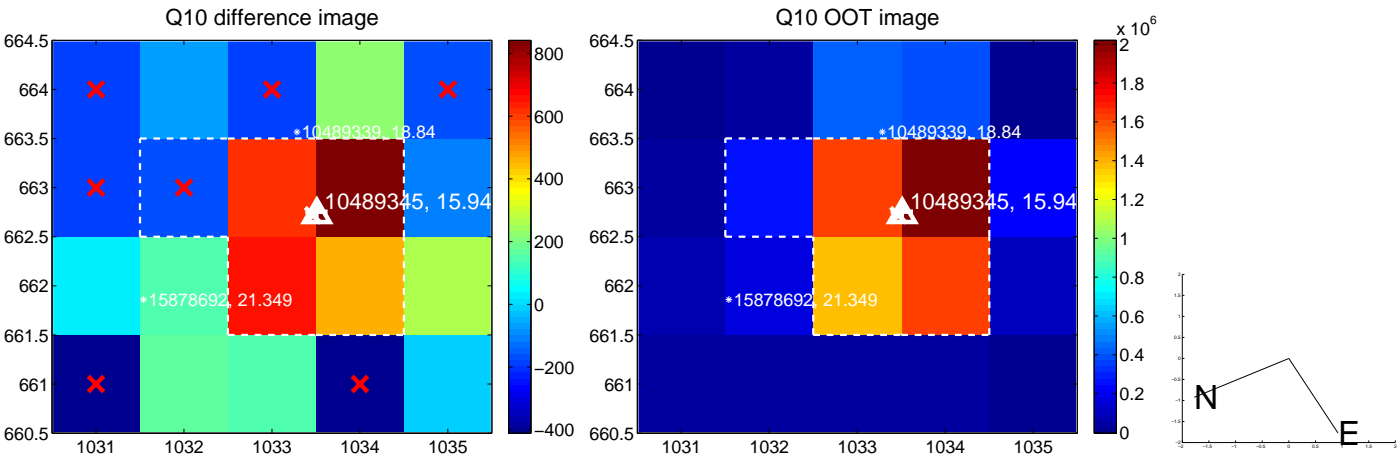
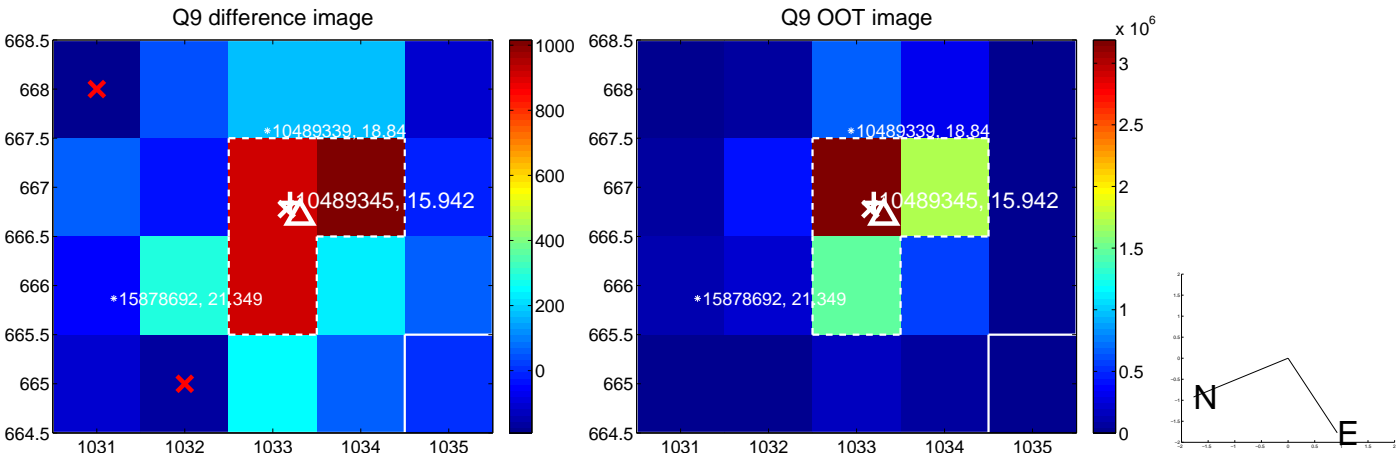
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



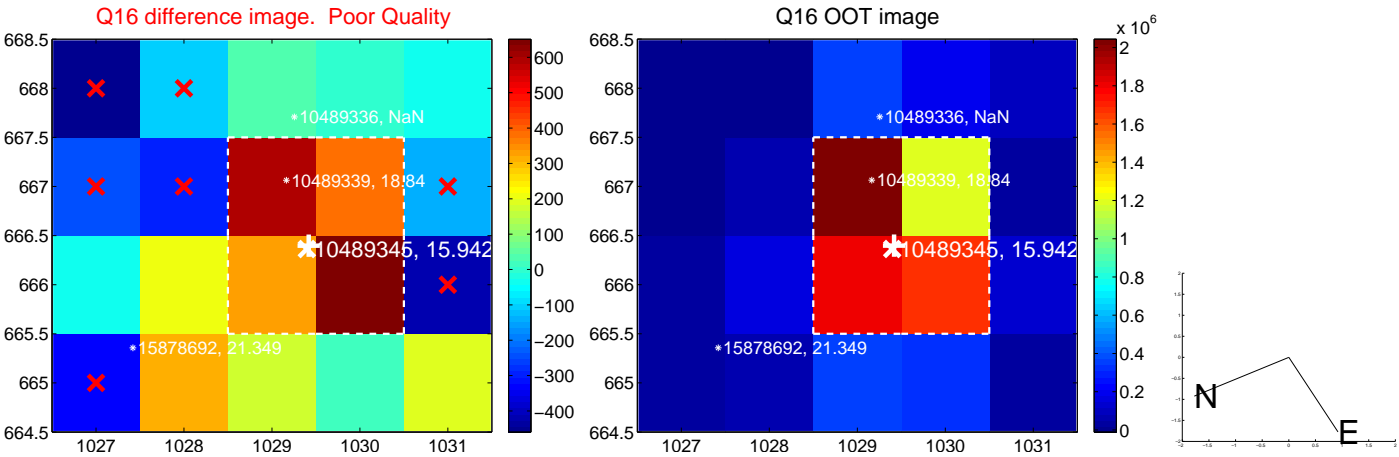
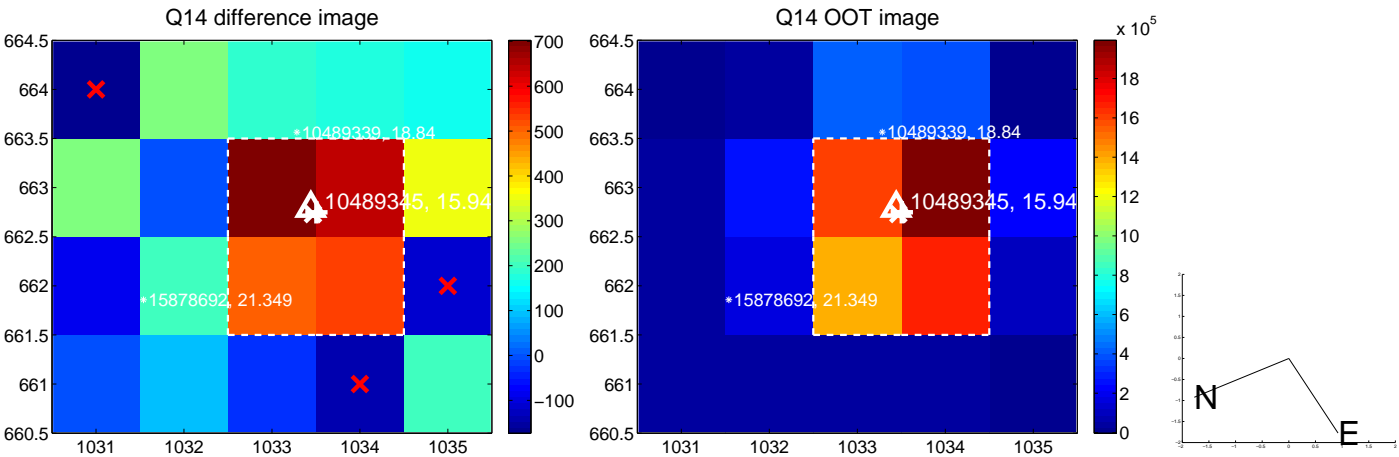
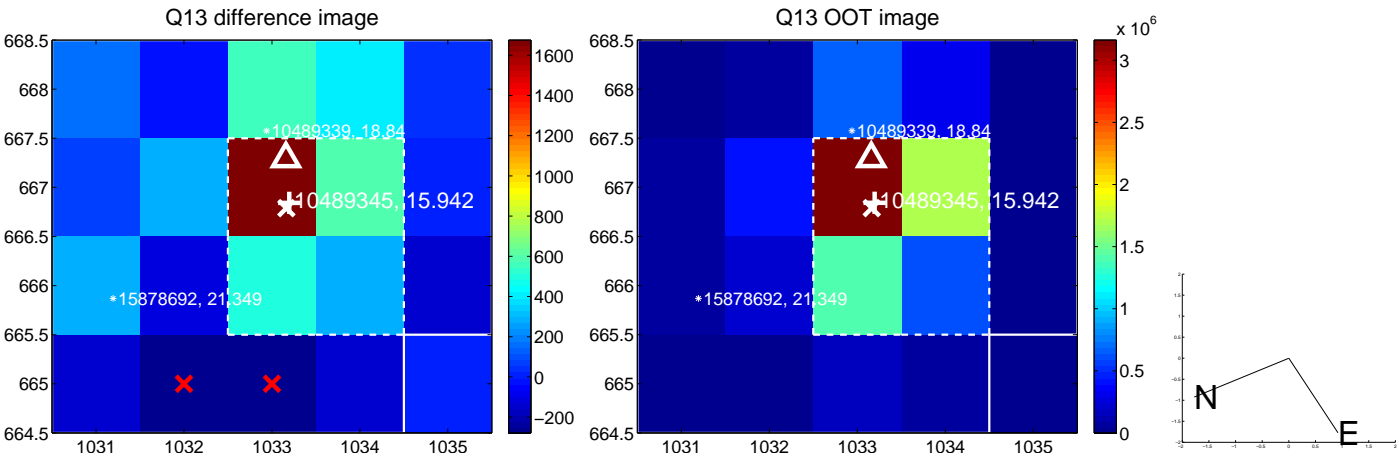
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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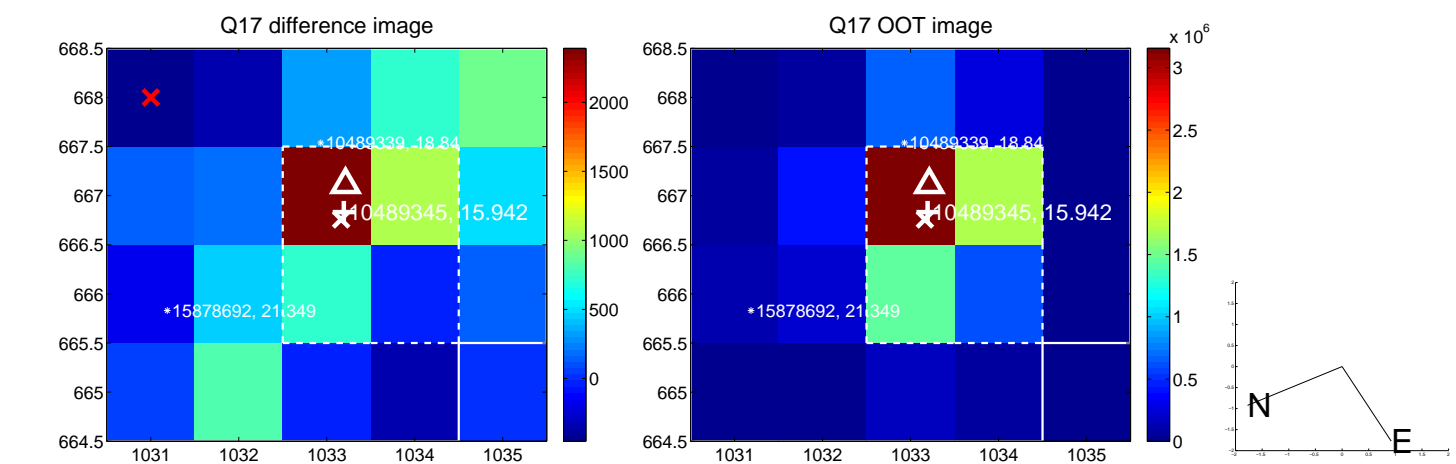


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

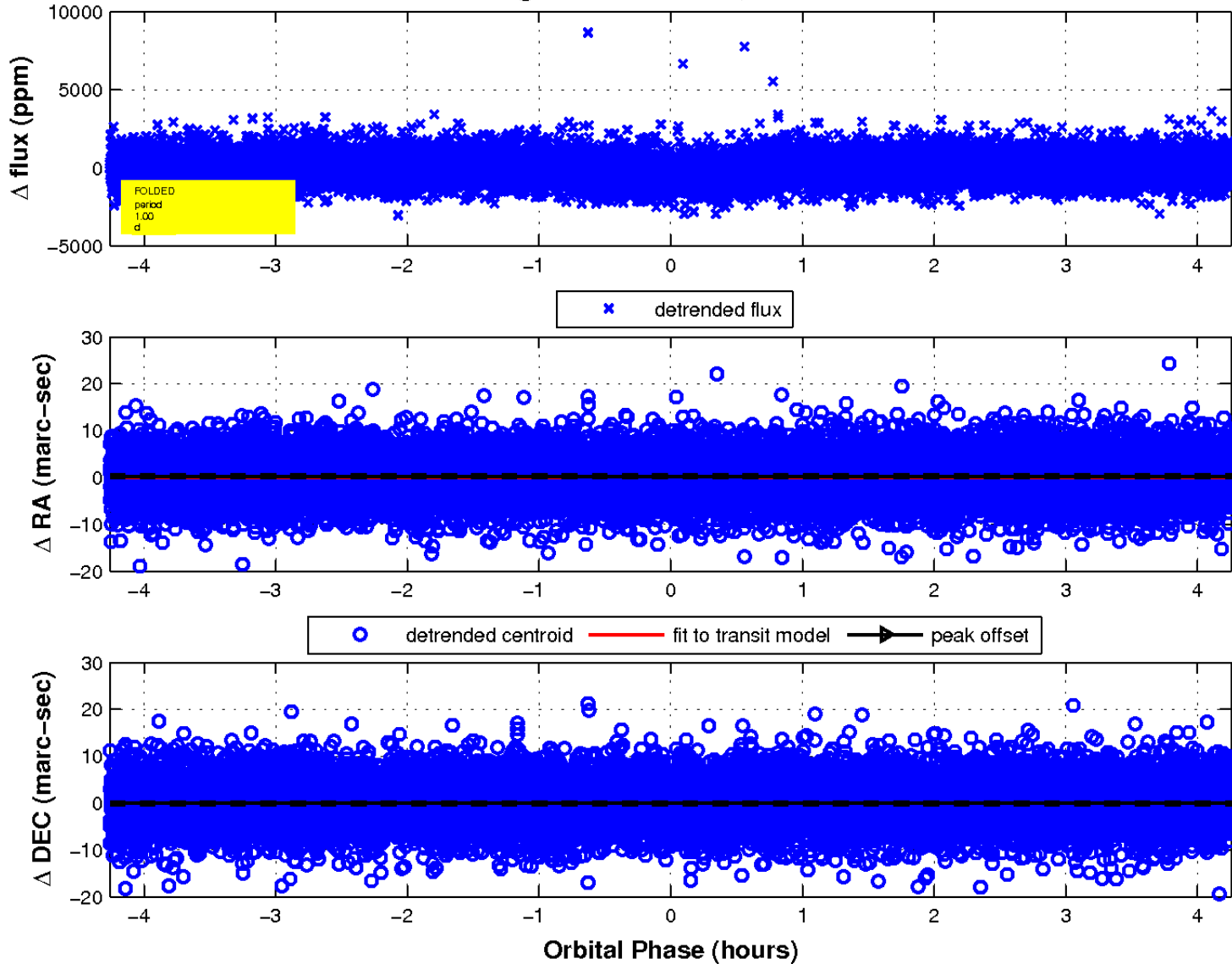




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

