

# KIC 004283747

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004283747-01	OBS	No	0.933657	132.015129	76.1	4.678	14.8	12.1	1.71	7531	1.72	18018.29

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004283747-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

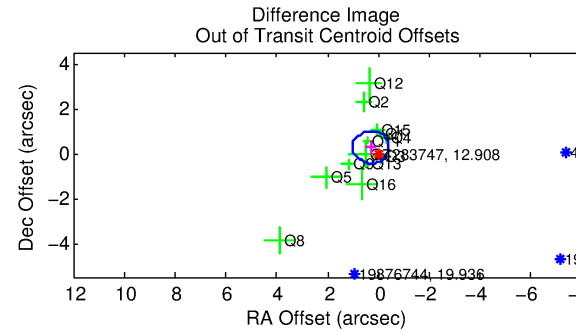
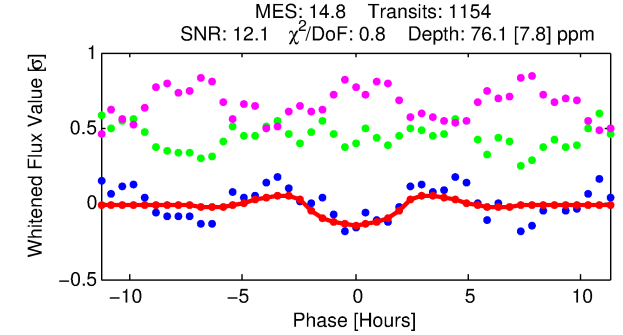
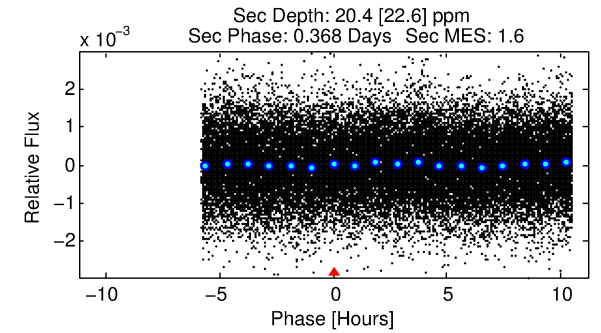
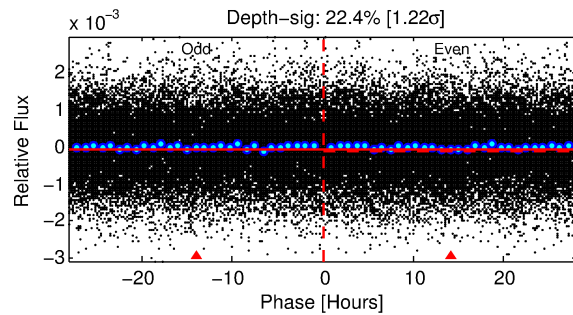
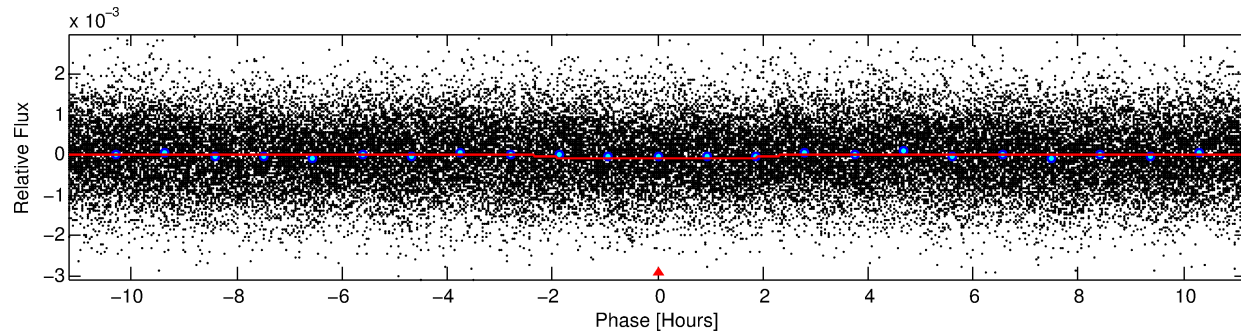
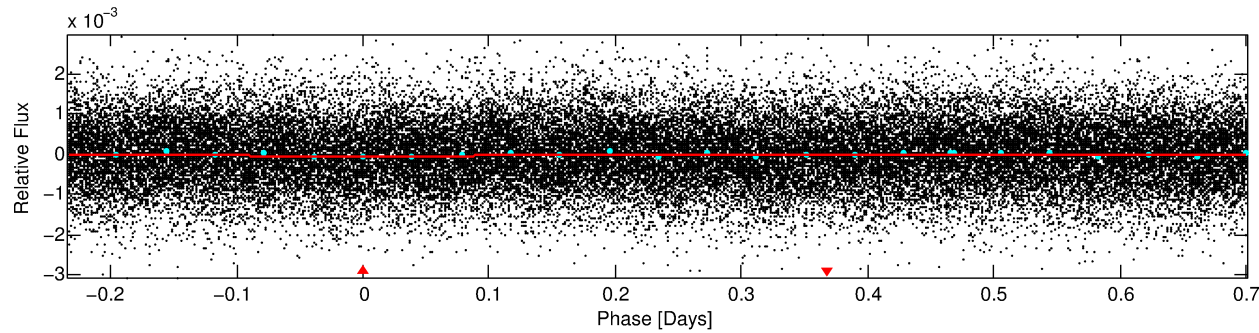
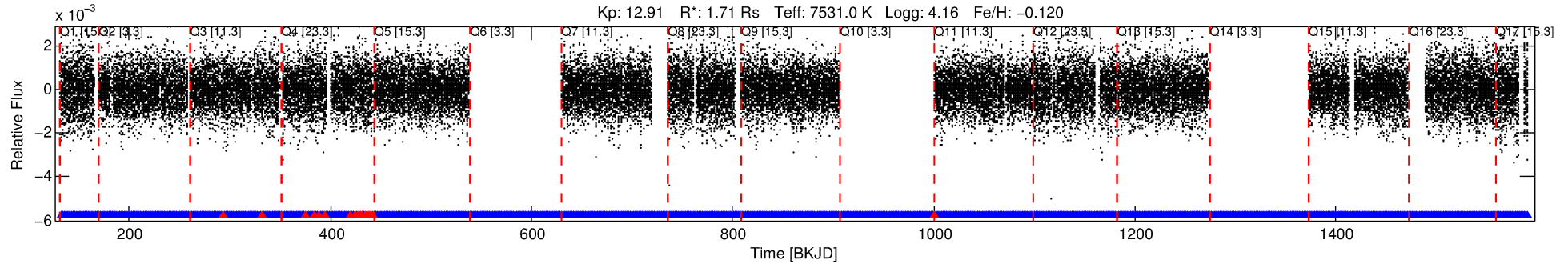
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004283747-01

No Significant Match Found

# DV One-Page Summary

KIC: 4283747 Candidate: 1 of 1 Period: 0.934 d



## DV Fit Results:

Period = 0.93366 [0.00001] d  
Epoch = 132.0151 [0.0042] BKJD  
Rp/R\* = 0.0092 [0.0044]  
a/R\* = 1.18 [1.01]  
b = 0.90 [0.69]  
Seff = 18018.29 [7153.67]  
Teq = 2954 [293] K  
Rp = 1.72 [0.99] Re  
a = 0.0216 [0.0057] AU  
Ag = 1.78 [2.67] [0.29 $\sigma$ ]  
Teffp = 5275 [1937] K [1.18 $\sigma$ ]

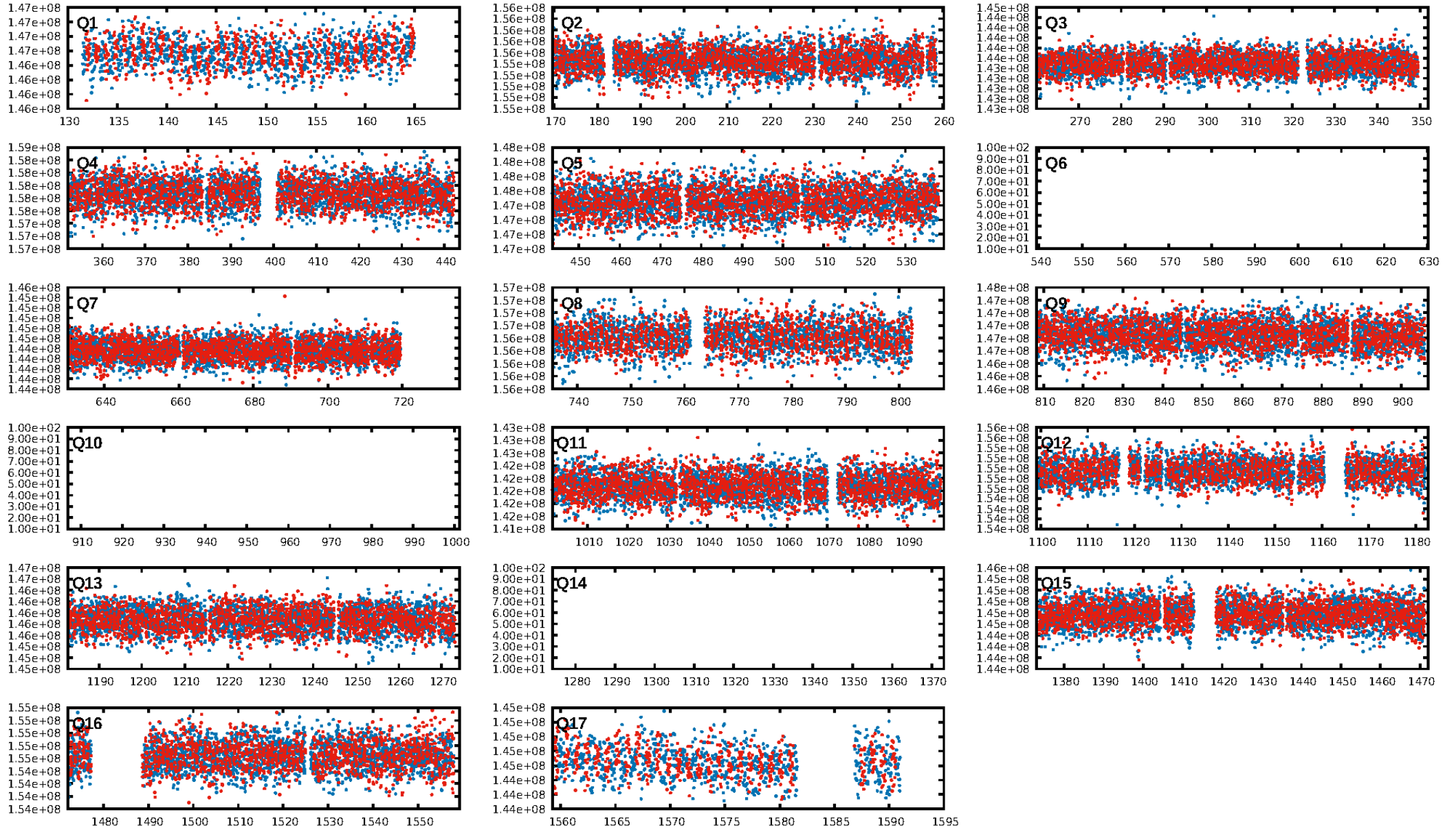
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.28e-48  
RollingBand-fgt: 0.98 [1067/1090]  
GhostDiagnostic-chr: 1.716  
Centroid-sig: 8.0%  
Centroid-so: 0.131 arcsec [0.45 $\sigma$ ]  
OotOffset-rm: 0.410 arcsec [1.73 $\sigma$ ]  
KicOffset-rm: 0.390 arcsec [1.02 $\sigma$ ]  
OotOffset-st: 1/4/4/4 [13]  
KicOffset-st: 1/4/4/4 [13]  
DiffImageQuality-fgm: 0.69 [9/13]  
DiffImageOverlap-fno: 1.00 [14/14]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:38:15 Z

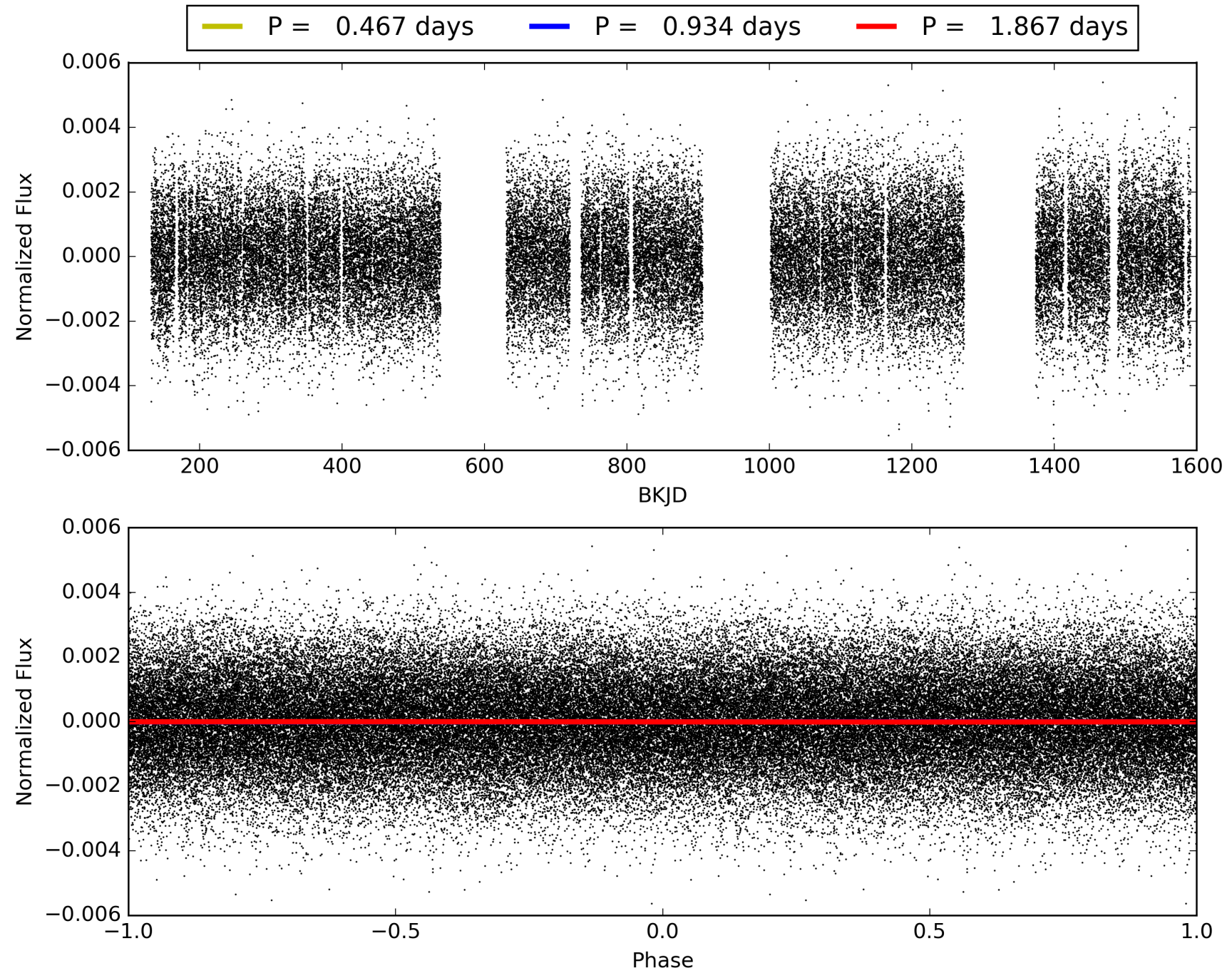
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 004283747-01, PDC Light Curves



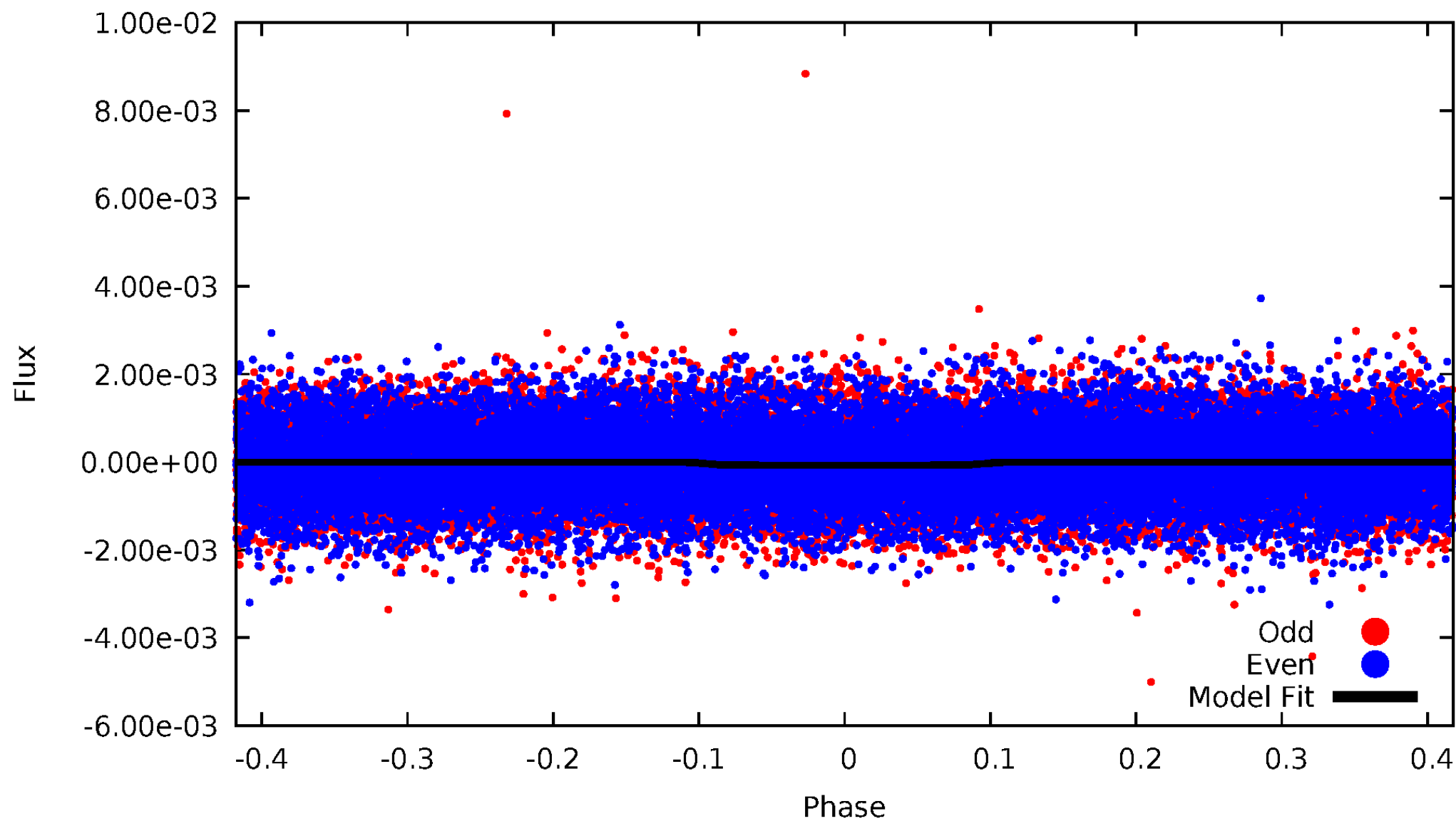


TCE 004283747-01



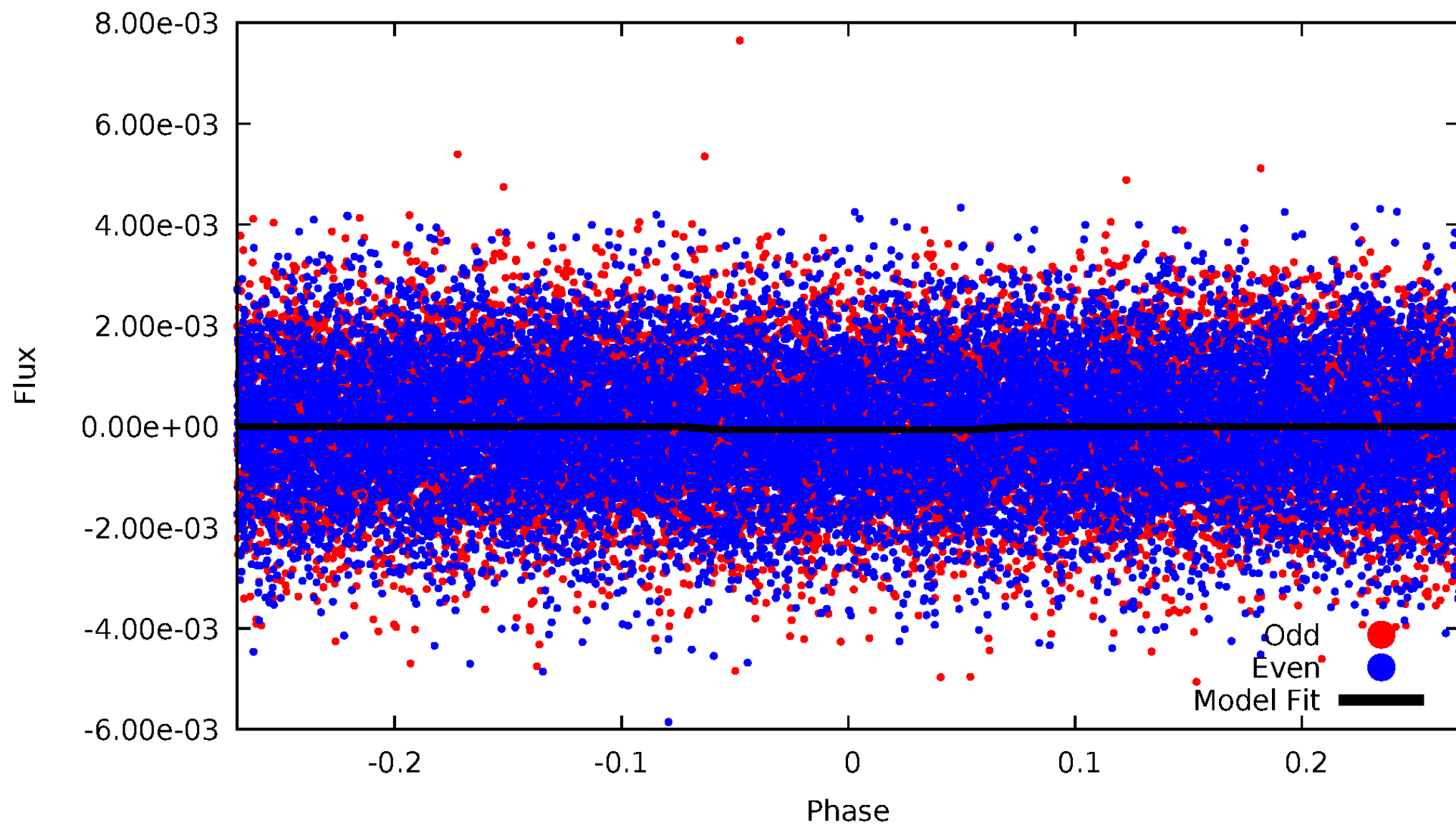
# DV Odd/Even

TCE 004283747-01



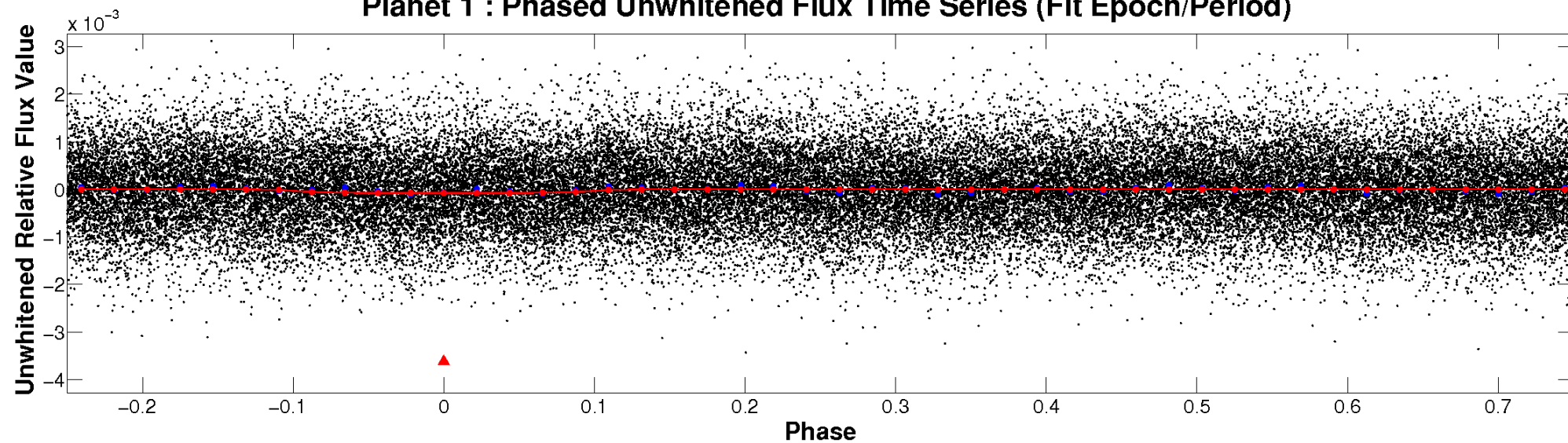
# ALT Odd/Even

TCE 004283747-01

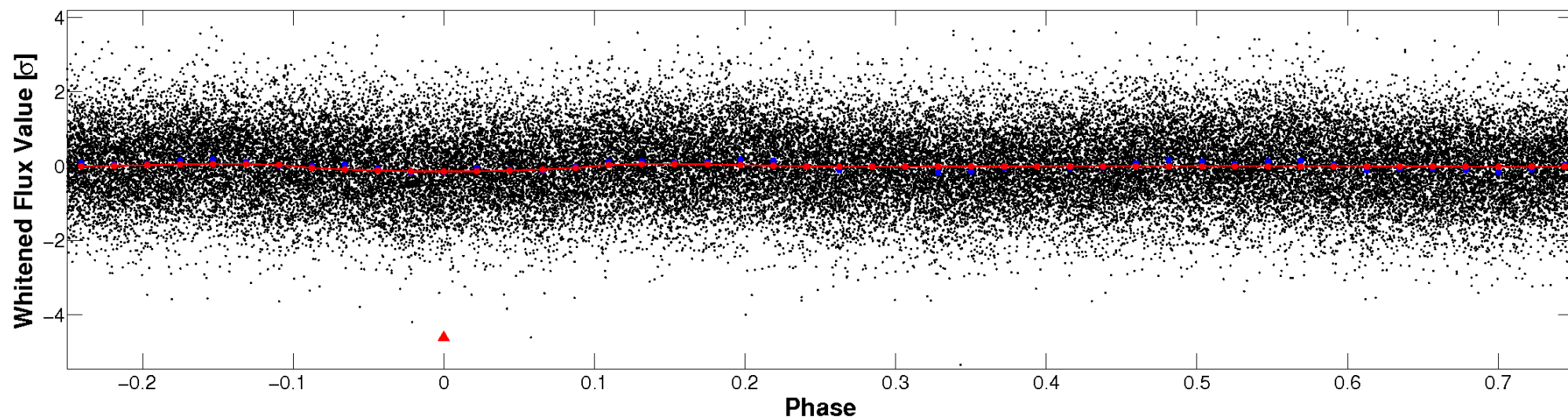


# Non-Whitened Vs. Whitened Light Curve

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



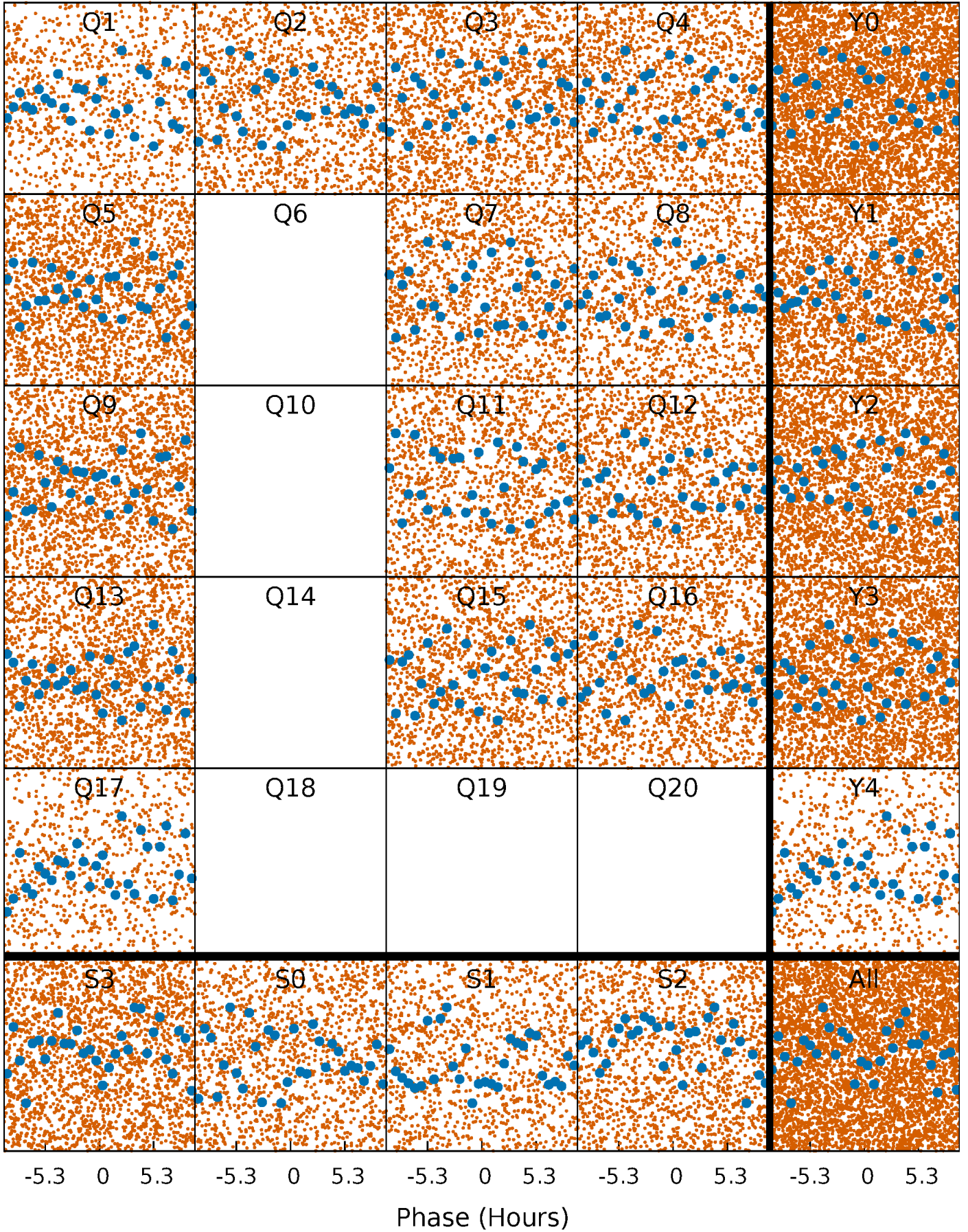
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

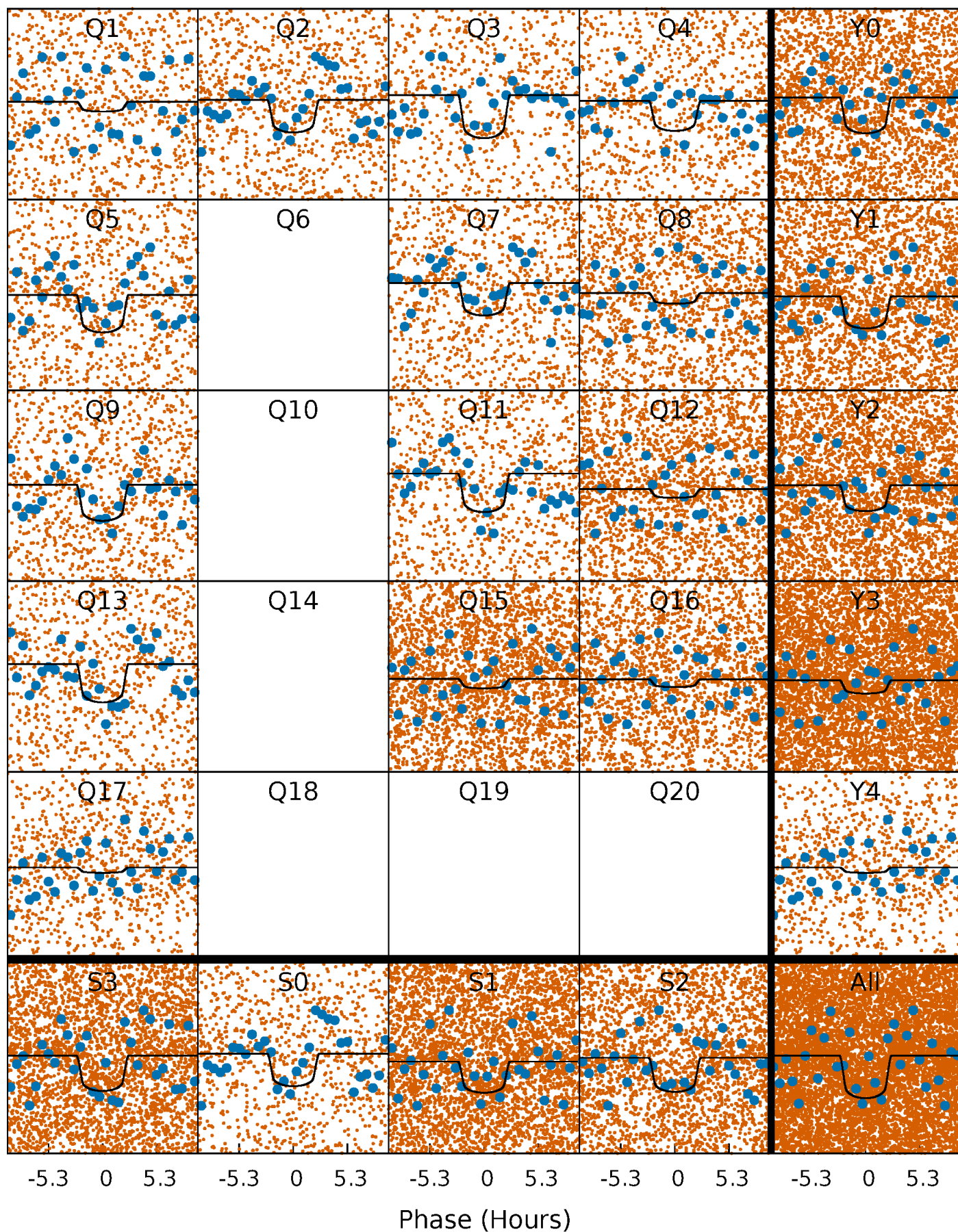
TCE 004283747-01   P= 0.933657 Days    $T_0=132.015129$  (BKJD)





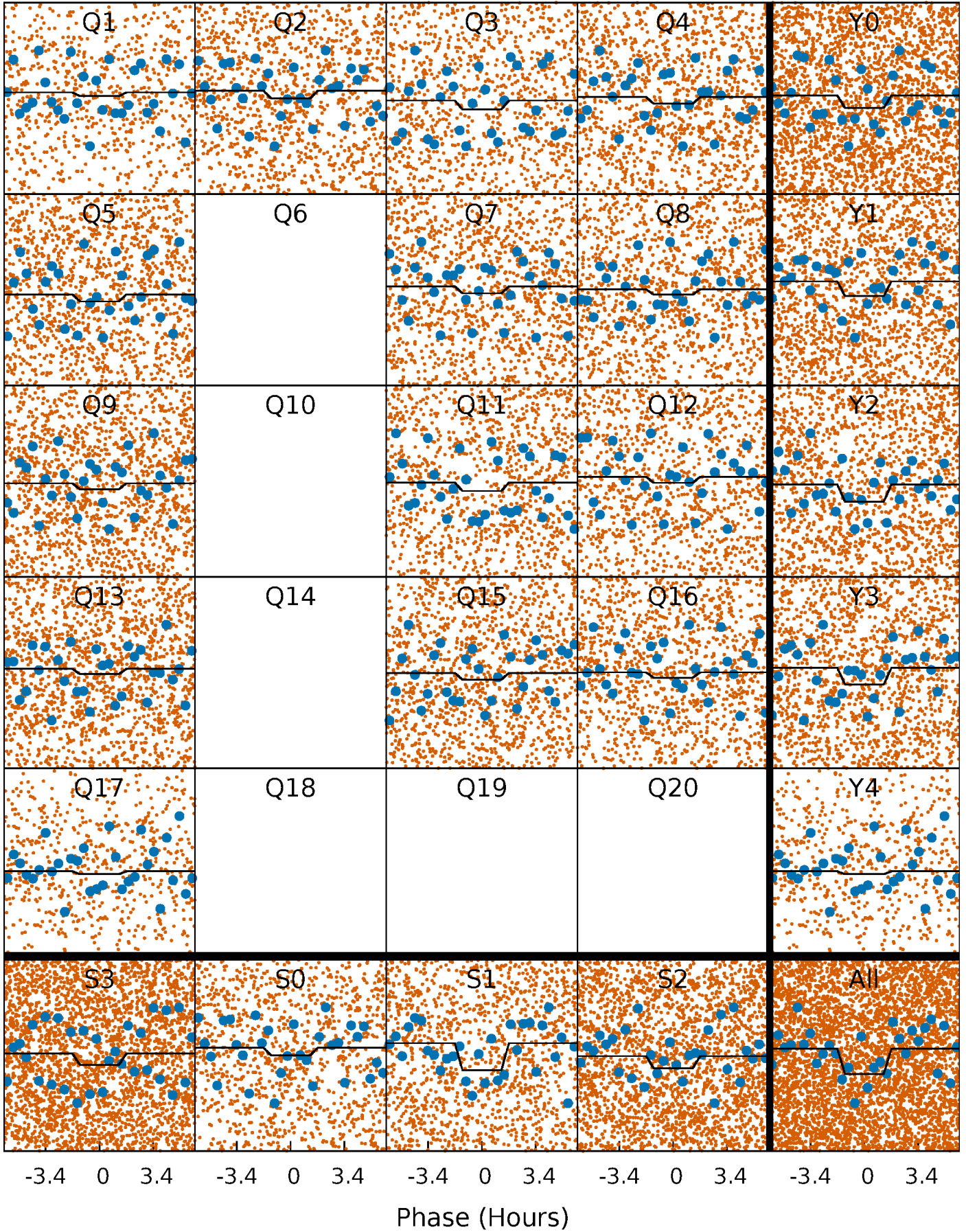
# DV Quarter-Phased Transit Curves

TCE 004283747-01   P= 0.933657 Days    $T_0=132.015129$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 004283747-01   P= 0.933703 Days    $T_0=132.007185$  (BKJD)

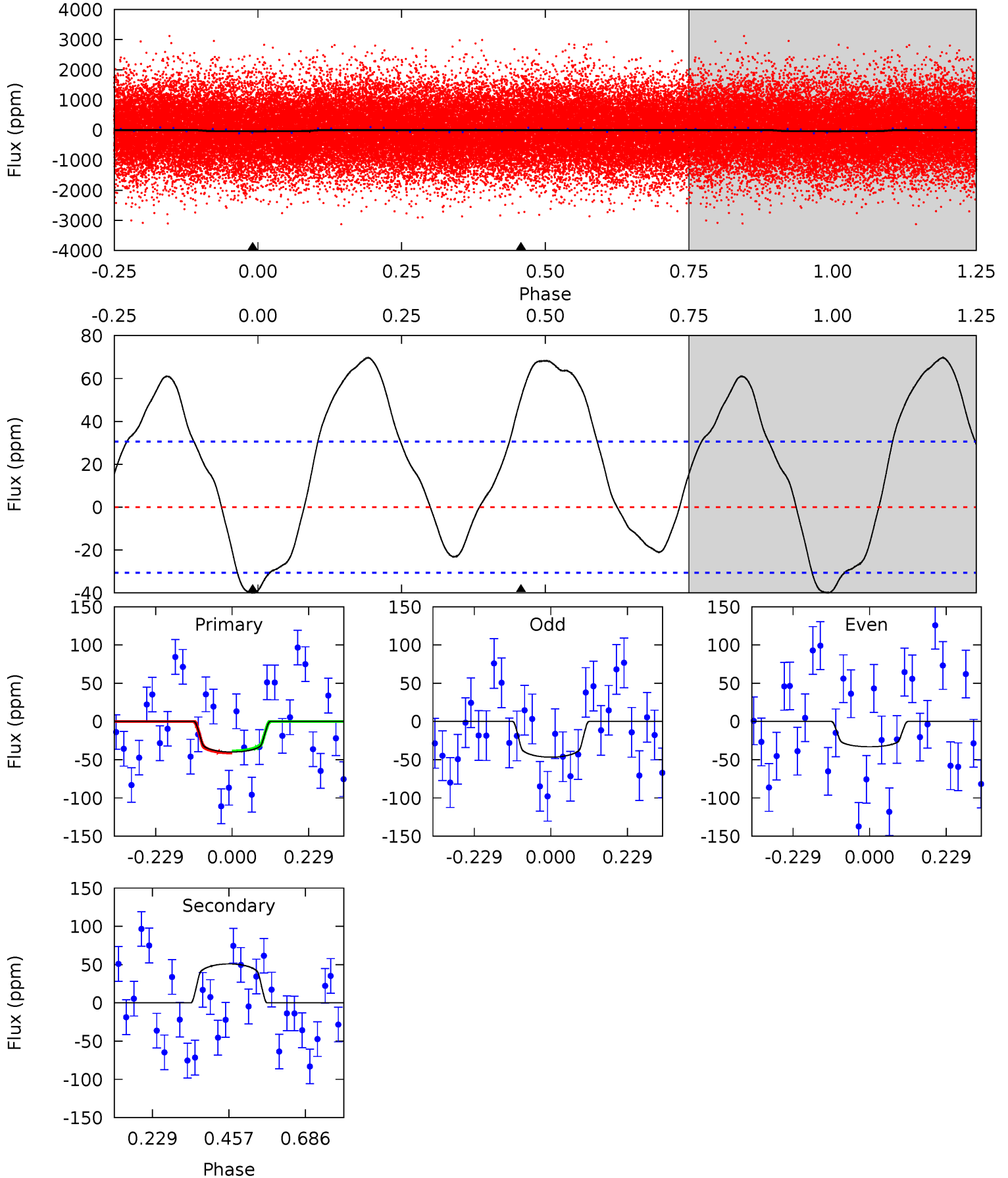




# DV Model-Shift Uniqueness Test

004283747-01, P = 0.933657 Days, E = 131.081472 Days

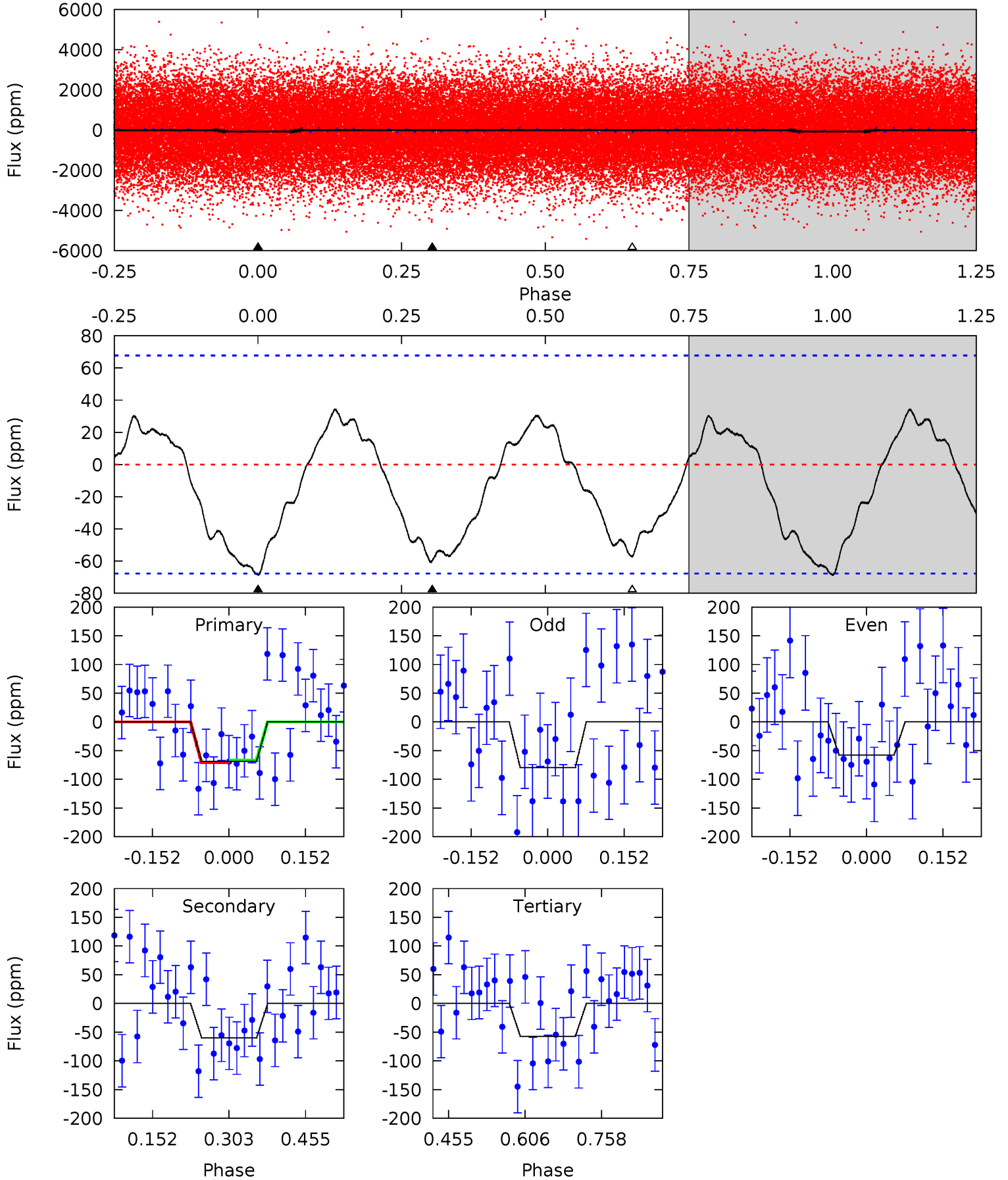
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.72	-7.30	0	0	4.39	1.20	3.70	5.72	5.72	-7.30	-7.30	0.97	1.65	0.64	0.18



# Alt Model-Shift Uniqueness Test

004283747-01, P = 0.933703 Days, E = 131.073482 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
4.55	3.96	3.79	0	4.48	1.43	1.85	0.76	4.55	0.17	3.96	0.73	1.25	0.33	0.15





### Stellar Parameters For KIC 004283747

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7531^{+235}_{-314}$	$4.161^{+0.124}_{-0.186}$	$-0.120^{+0.200}_{-0.350}$	$1.708^{+0.563}_{-0.303}$	$1.538^{+0.212}_{-0.235}$	$0.435^{+0.272}_{-0.227}$
	+3%/-4%	+3%/-4%	+167%/-292%	+33%/-18%	+14%/-15%	+62%/-52%
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 004283747-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$51 \pm 7$	$1.75^{+0.83}_{-0.84}$	$4163^{+295}_{-261}$	$-6623^{+1045}_{-2940}$	$-4.202^{+2.264}_{-10.863}$
Alt.	$-60 \pm 15$	$1.60^{+0.85}_{-0.72}$	$4149^{+300}_{-261}$	$6940^{+3749}_{-1489}$	$5.736^{+13.716}_{-3.389}$

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

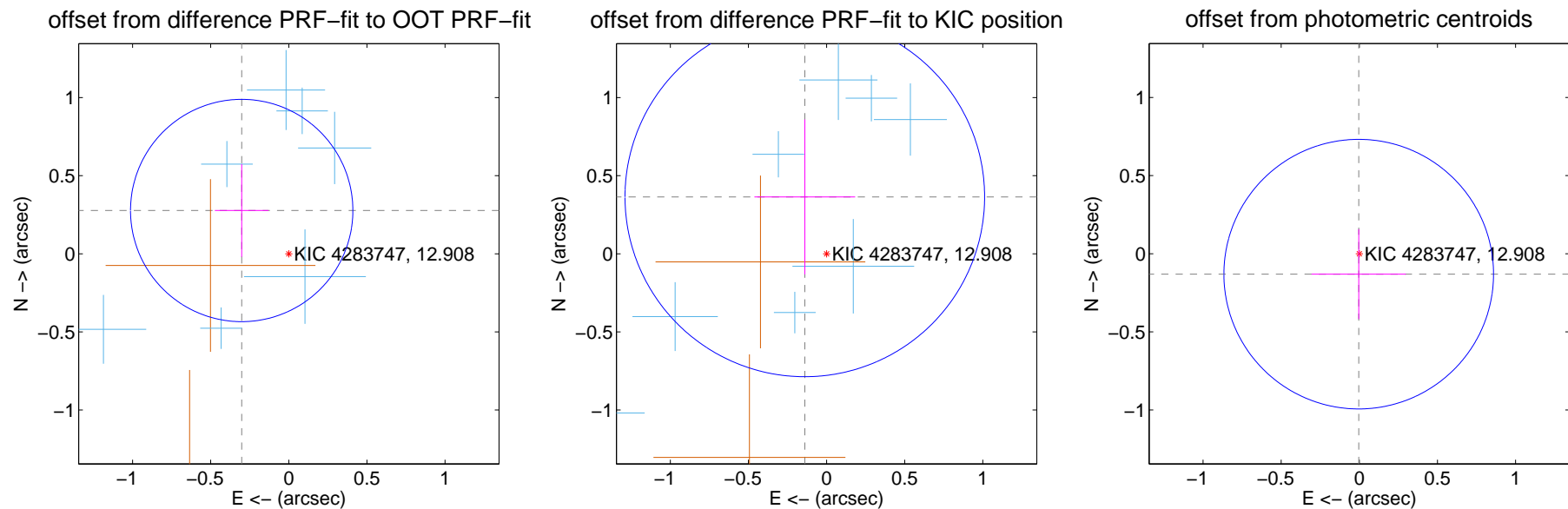
## DV Centroid Data

Supplemental centroid analysis for 004283747-01. Kepler magnitude: 12.91. Transit SNR 12.10

There are 9 quarters with good PRF difference image offsets

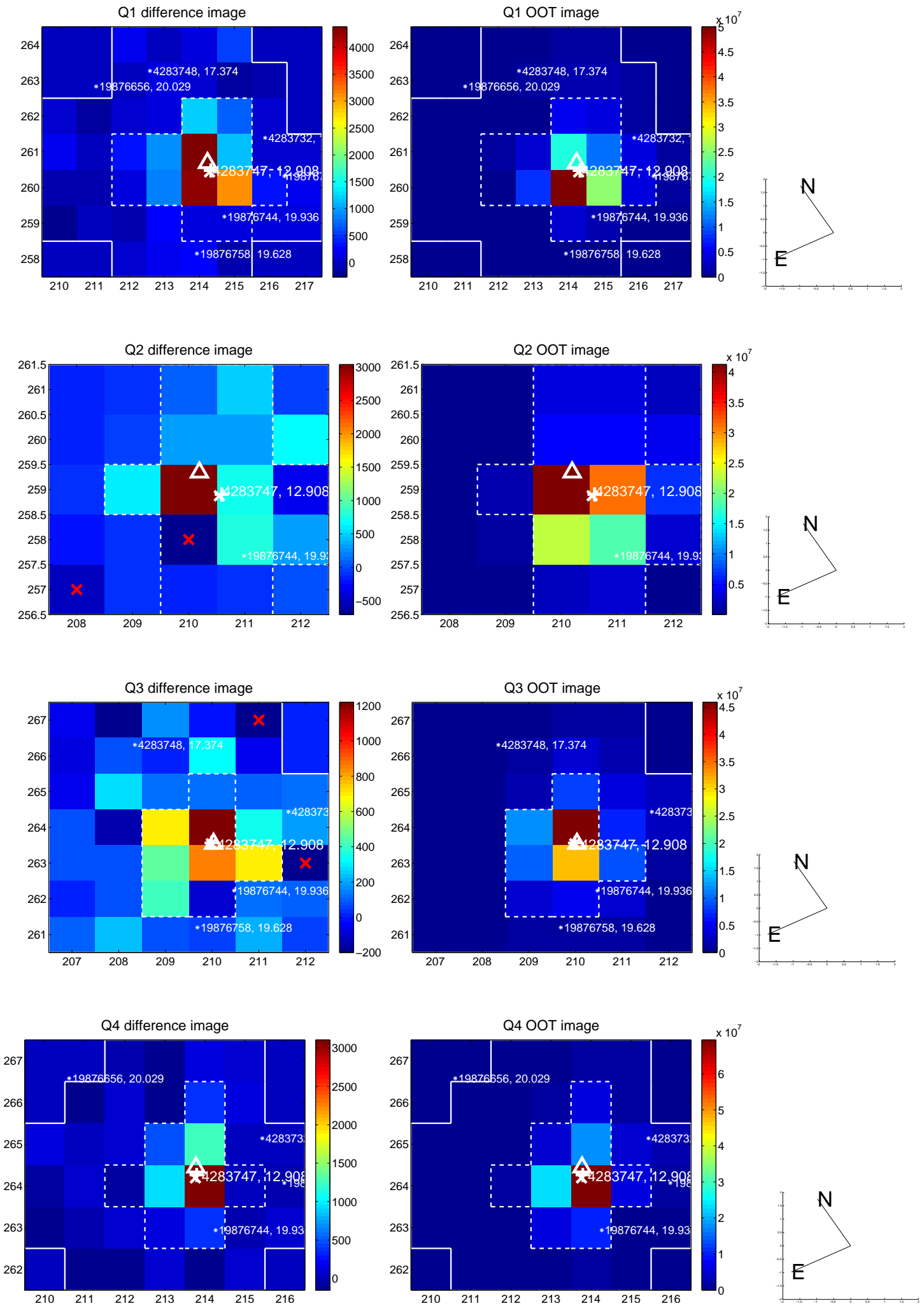
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.410 \pm 0.237$	1.73	$0.302 \pm 0.172$	$0.277 \pm 0.297$
PRF-fit source offset from KIC position	$0.390 \pm 0.384$	1.02	$0.139 \pm 0.322$	$0.364 \pm 0.496$
photometric centroid source offset	$0.13 \pm 0.29$	0.45	$0.00 \pm 0.30$	$-0.13 \pm 0.29$

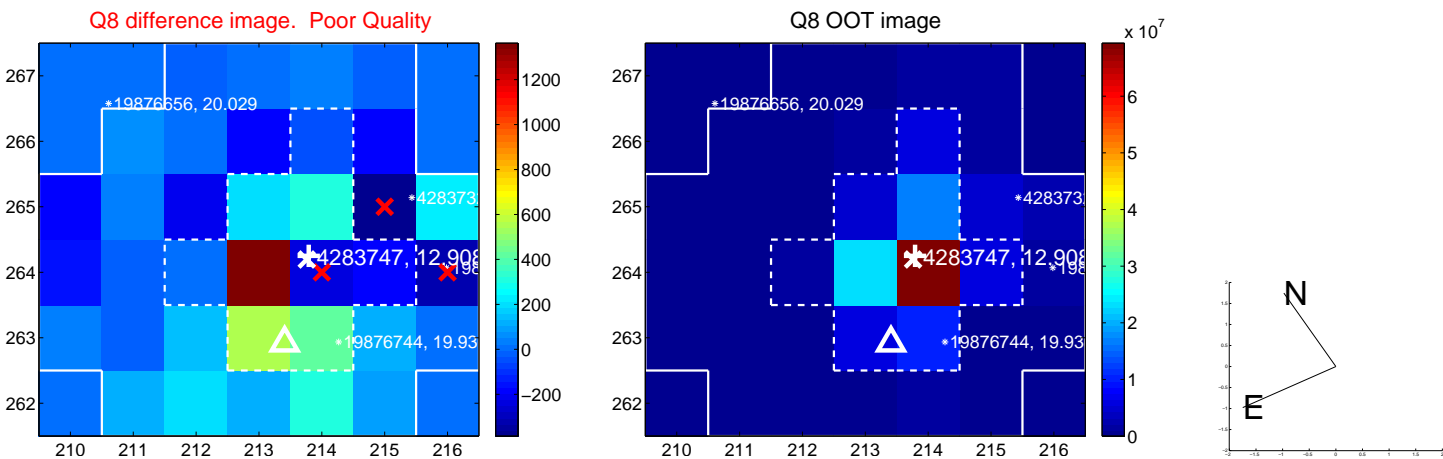
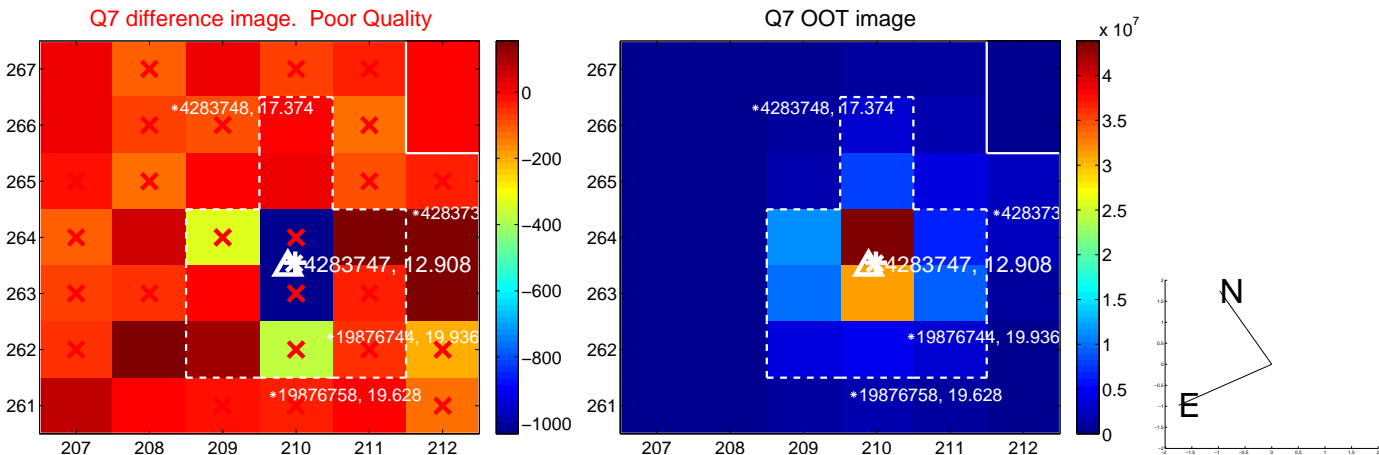
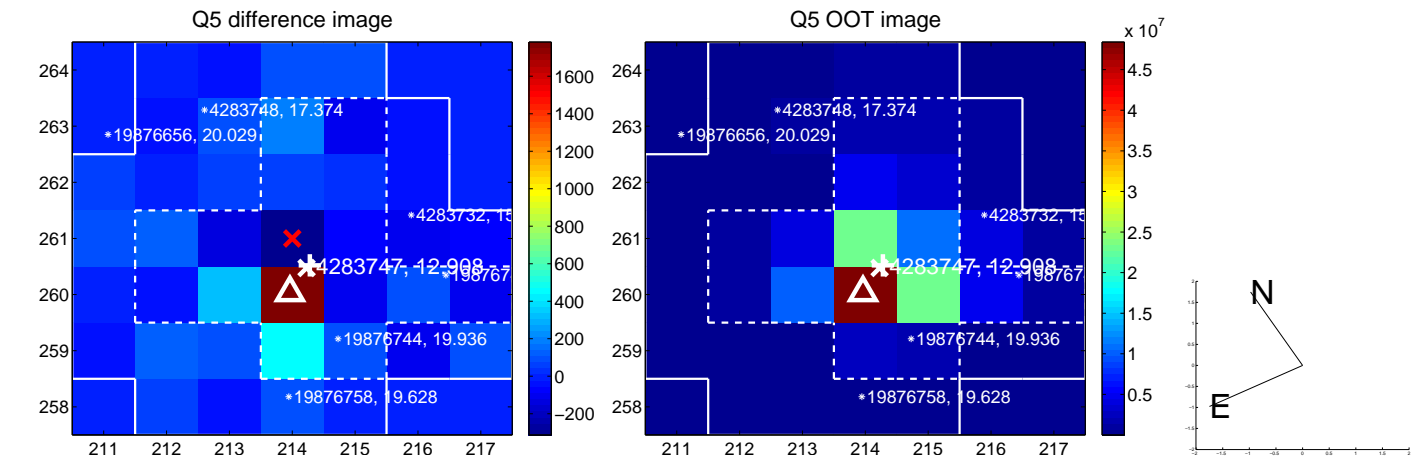


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

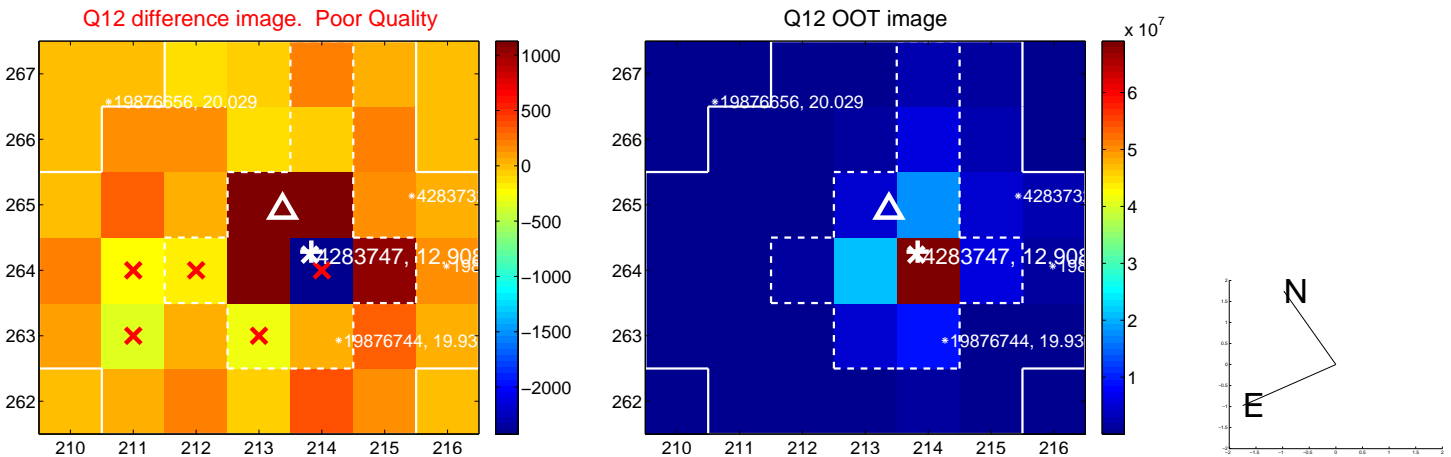
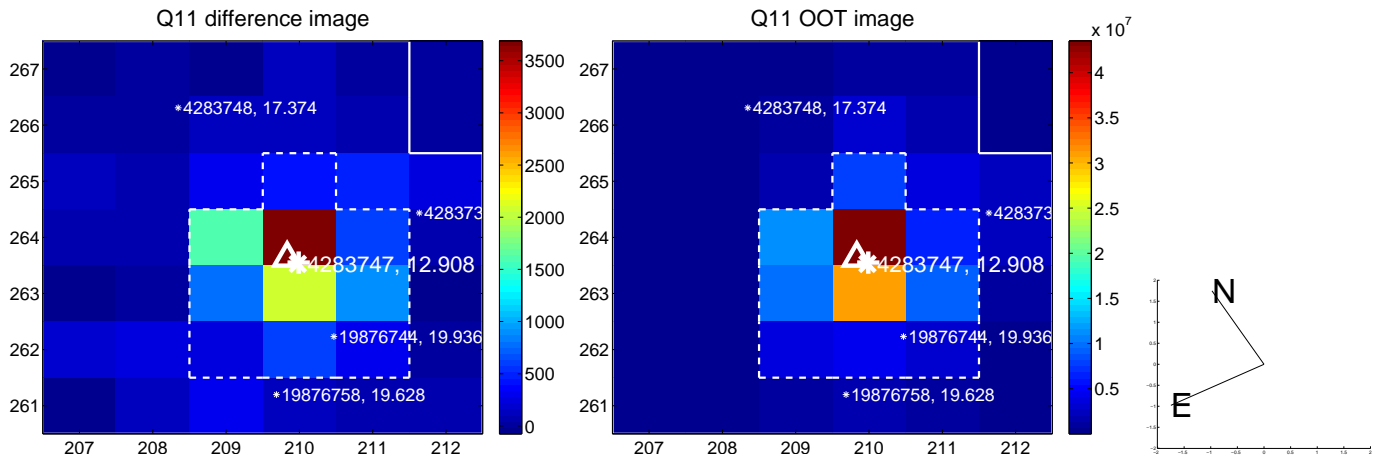
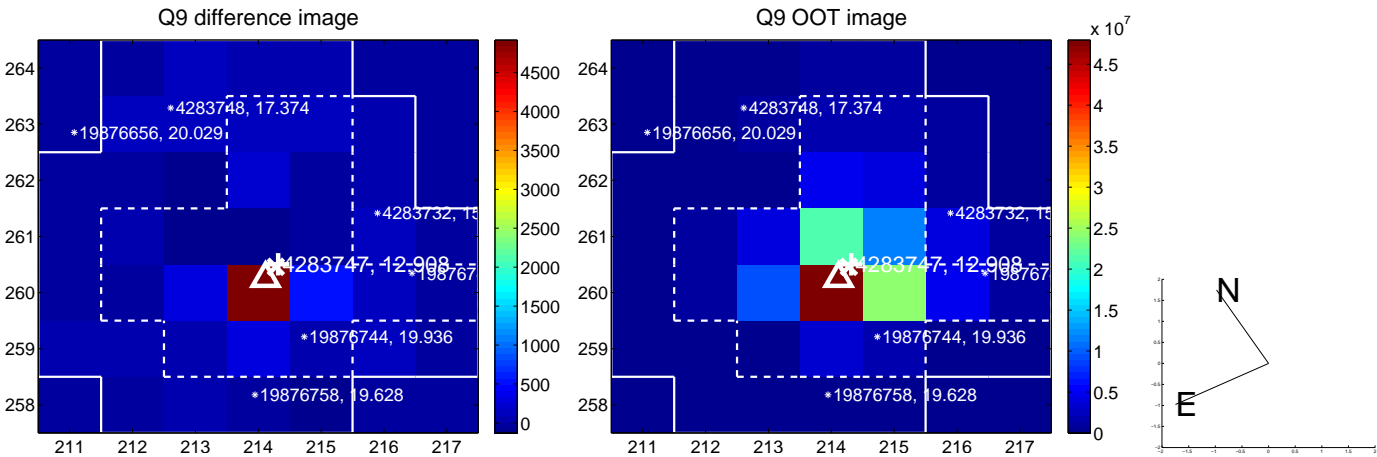


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

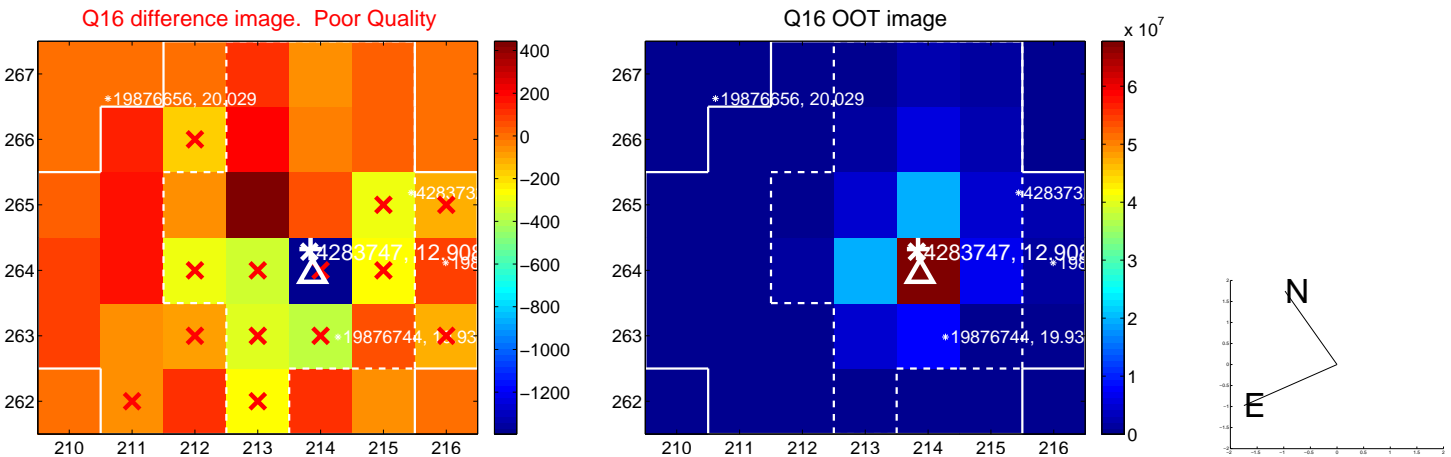
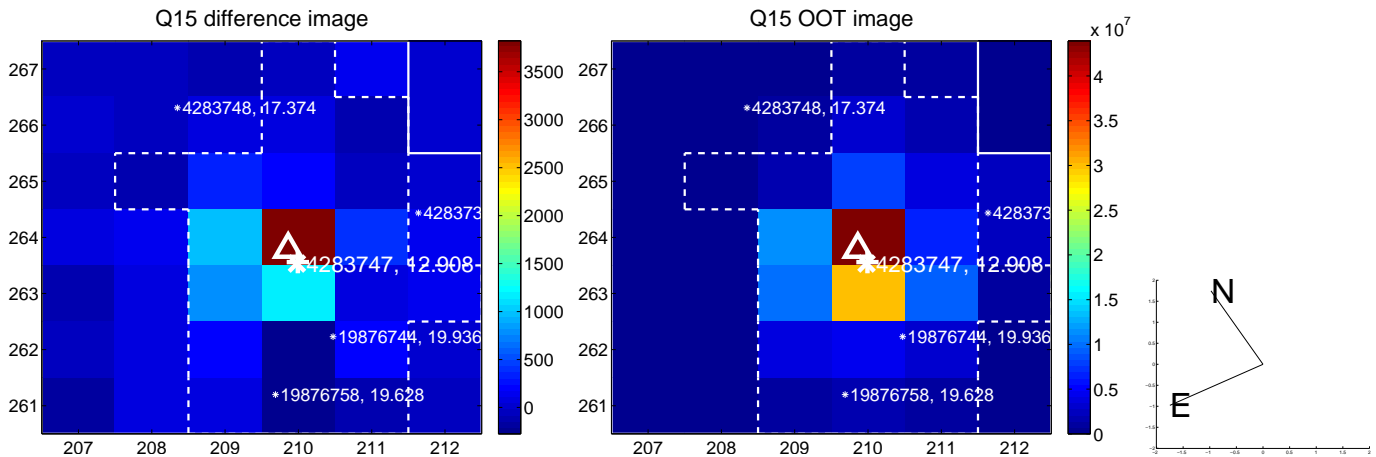
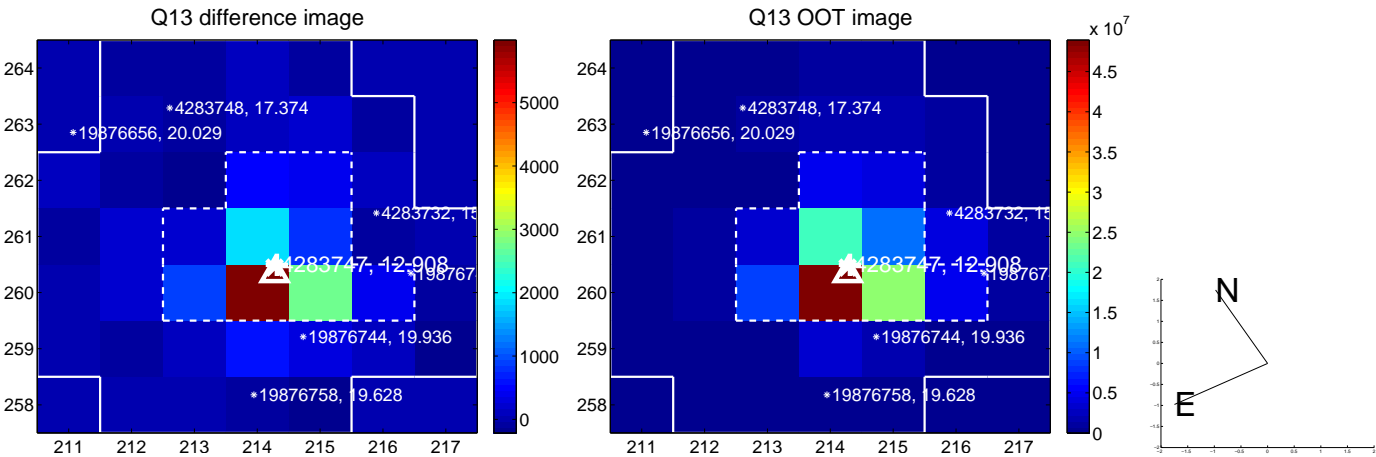




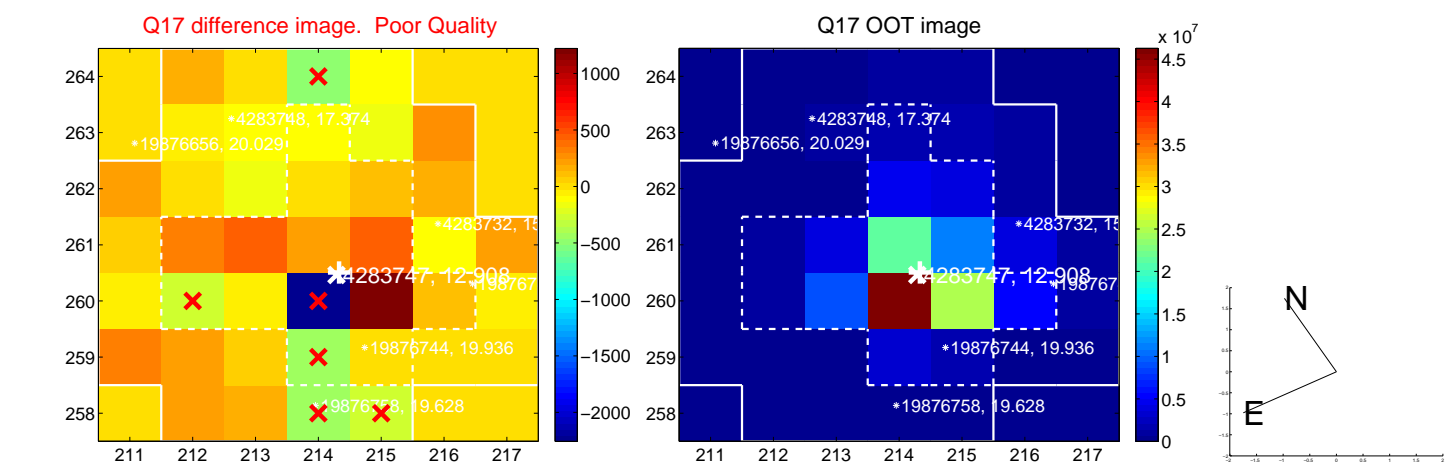
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



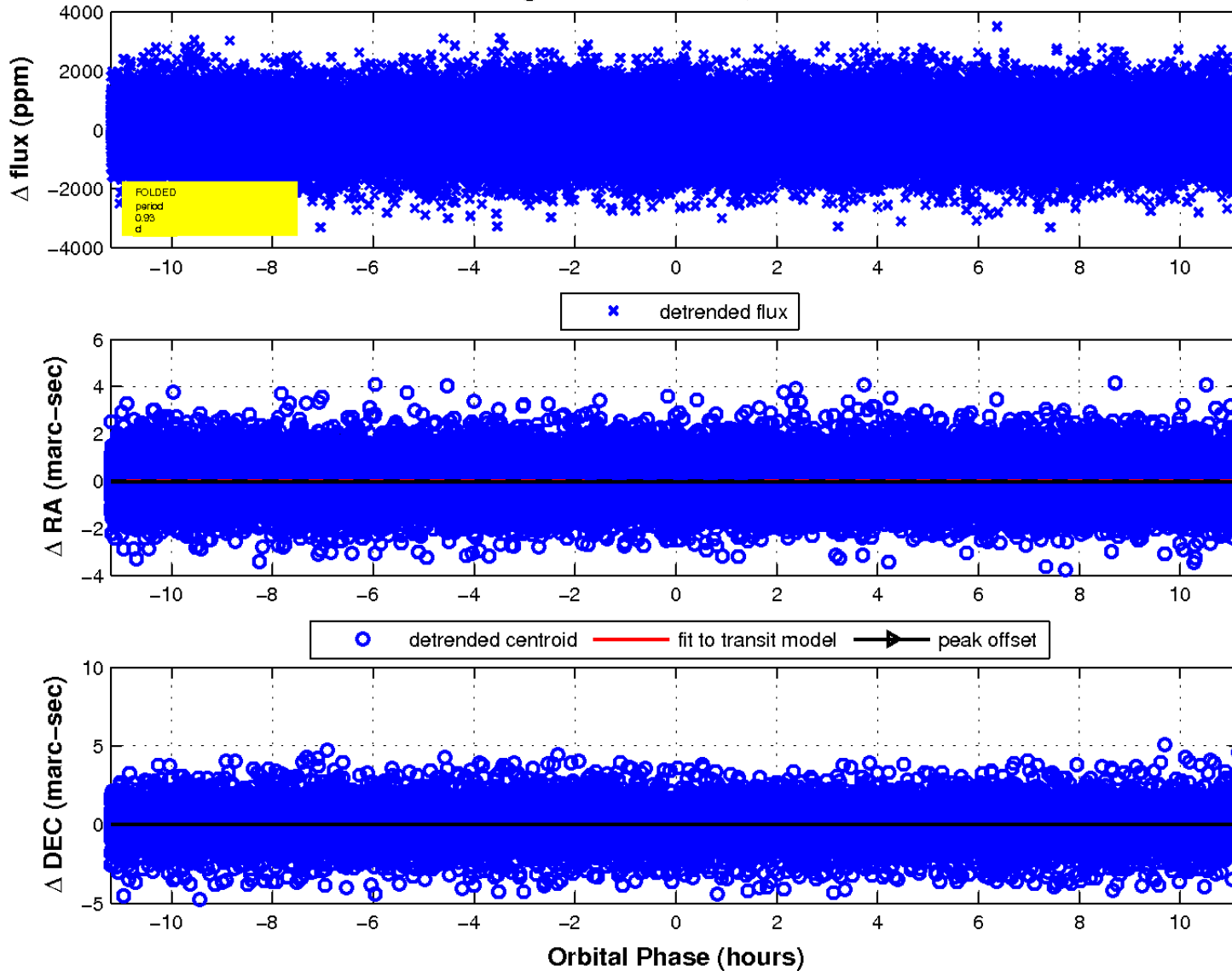
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

