

# KIC 009392668

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009392668-01	OBS	No	0.892852	132.400158	24.1	4.498	9.9	4.8	0.99	6153	0.50	3688.38

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009392668-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_UNRESOLVED_OFFSET

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

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

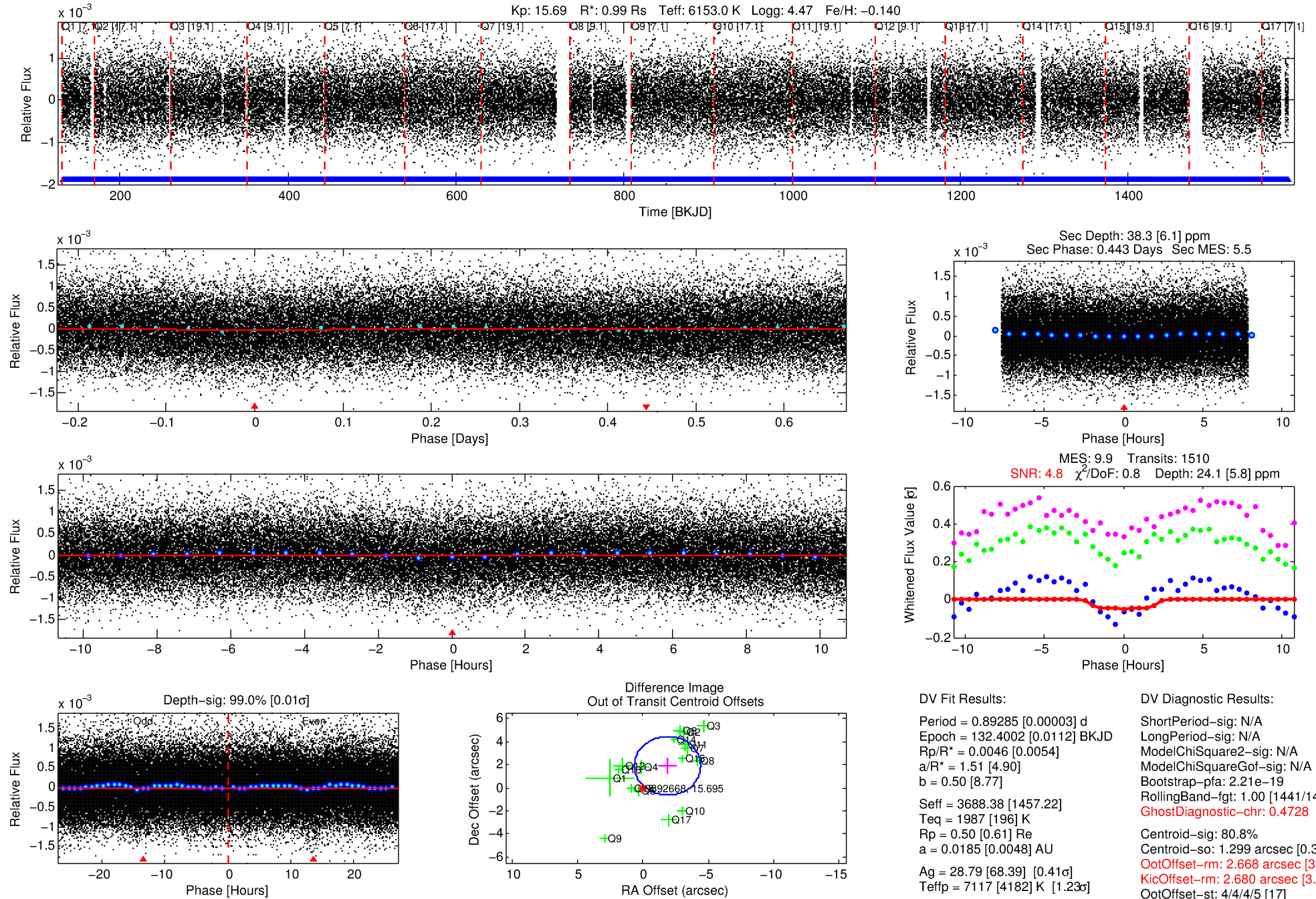
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009392668-01

No Significant Match Found

# DV One-Page Summary

KIC: 9392668 Candidate: 1 of 1 Period: 0.893 d



## DV Fit Results:

Period = 0.89285 [0.00003] d  
Epoch = 132.4002 [0.0112] BKJD  
Rp/R\* = 0.0046 [0.0054]  
a/R\* = 1.51 [4.90]  
b = 0.50 [8.77]  
Seff = 3688.38 [1457.22]  
Teff = 1987 [196] K  
Rp = 0.50 [0.61] Re  
a = 0.0185 [0.0048] AU  
Ag = 28.79 [68.39] [0.41 $\sigma$ ]  
Teffp = 7117 [4182] K [1.23 $\sigma$ ]

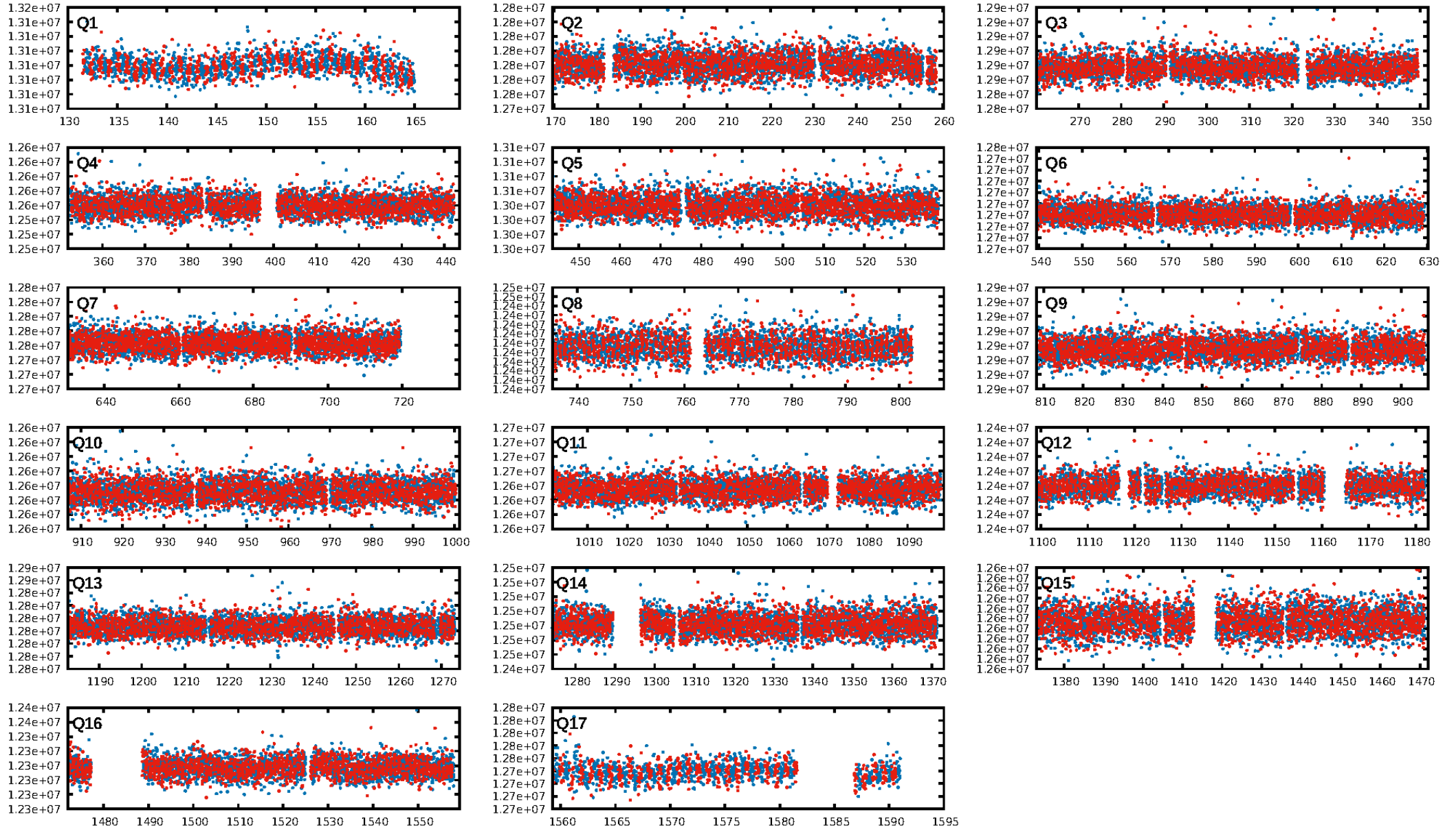
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.21e-19  
RollingBand-fgt: 1.00 [1441/1441]  
GhostDiagnostic-chr: 0.4728  
Centroid-sig: 80.8%  
Centroid-so: 1.299 arcsec [0.39 $\sigma$ ]  
OotOffset-rm: 2.668 arcsec [3.16 $\sigma$ ]  
KicOffset-rm: 2.680 arcsec [3.50 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.06 [1/17]  
DiffImageOverlap-fno: 1.00 [17/17]

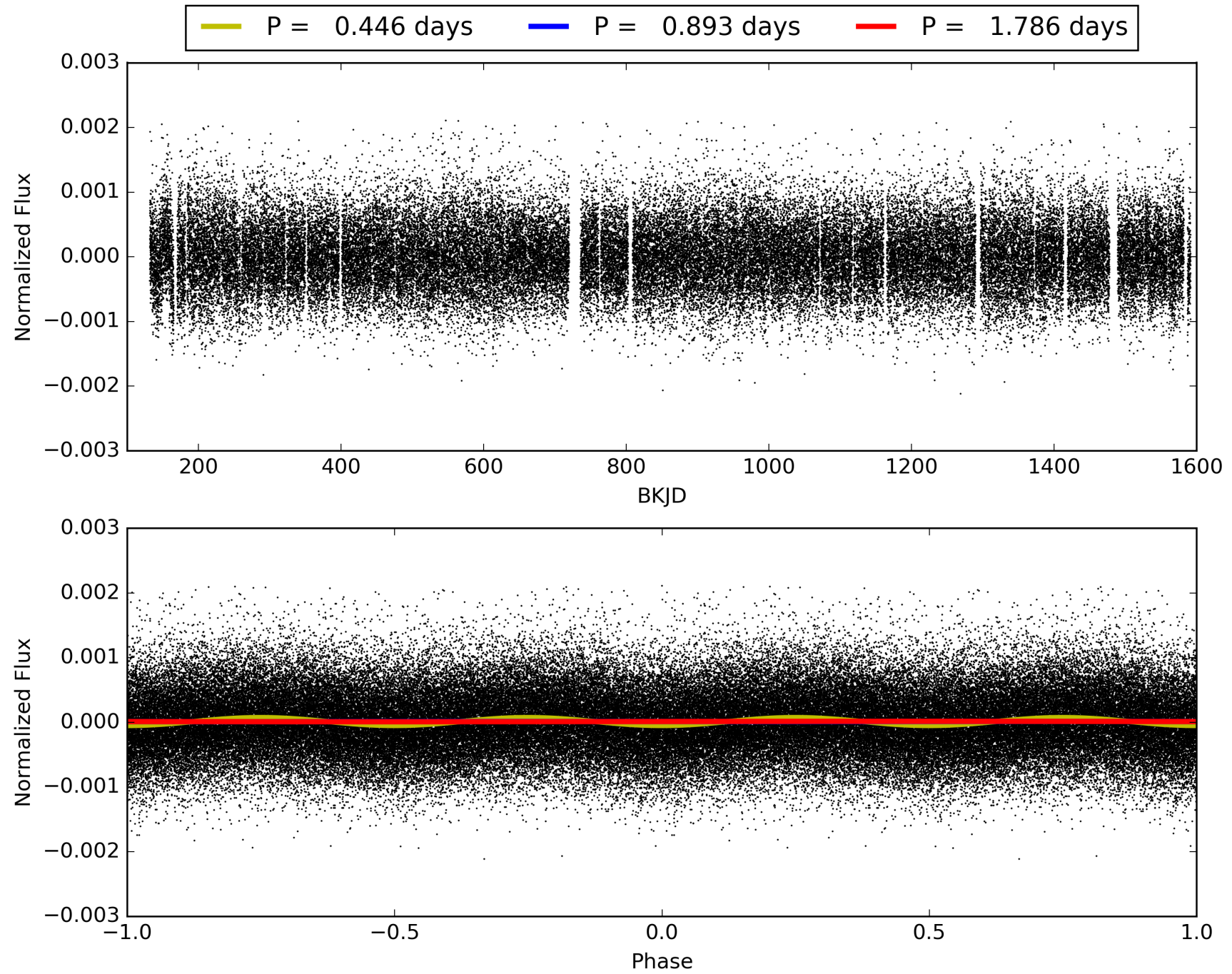
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:13:54 Z

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

# TCE 009392668-01, PDC Light Curves



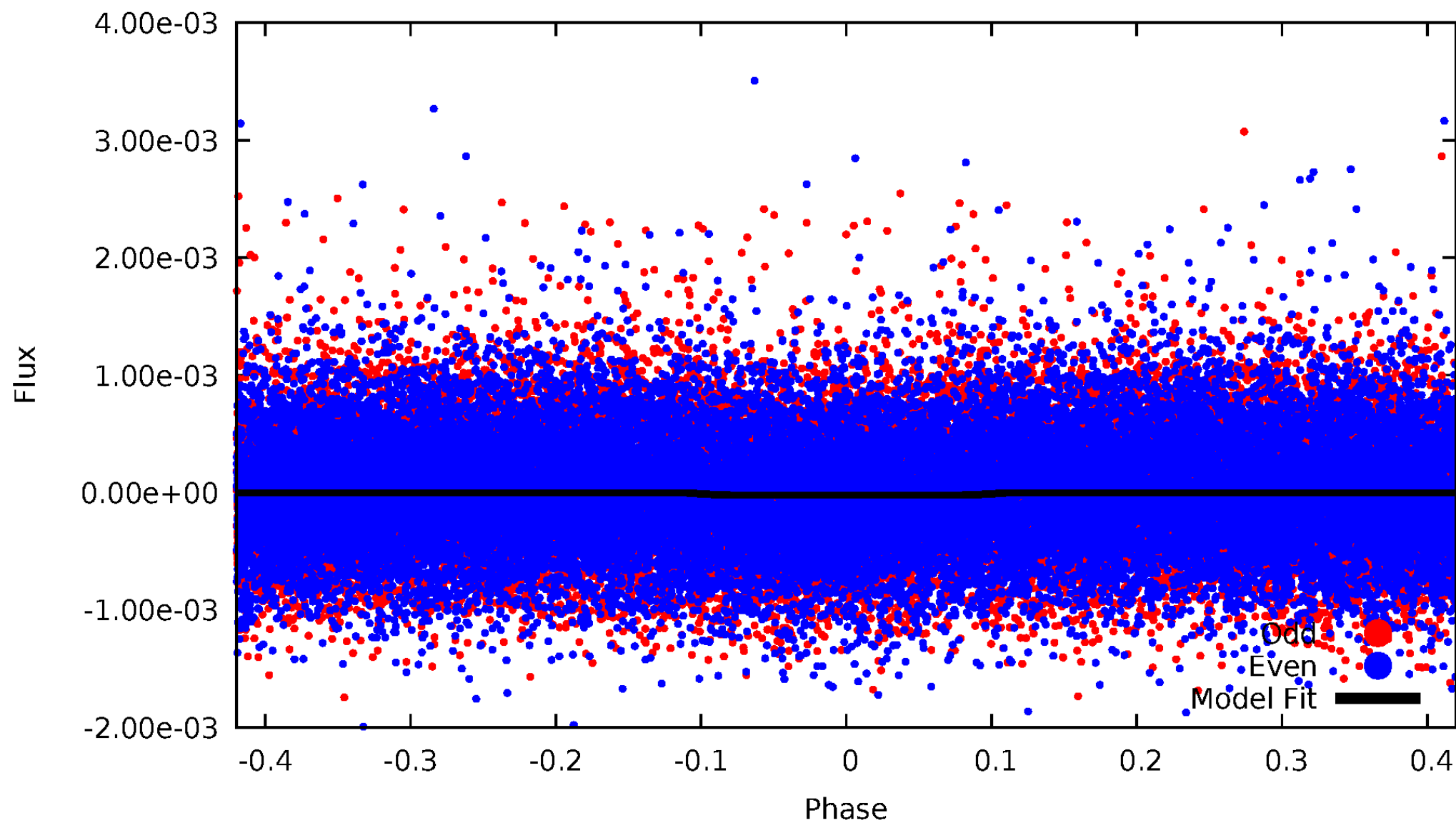
TCE 009392668-01





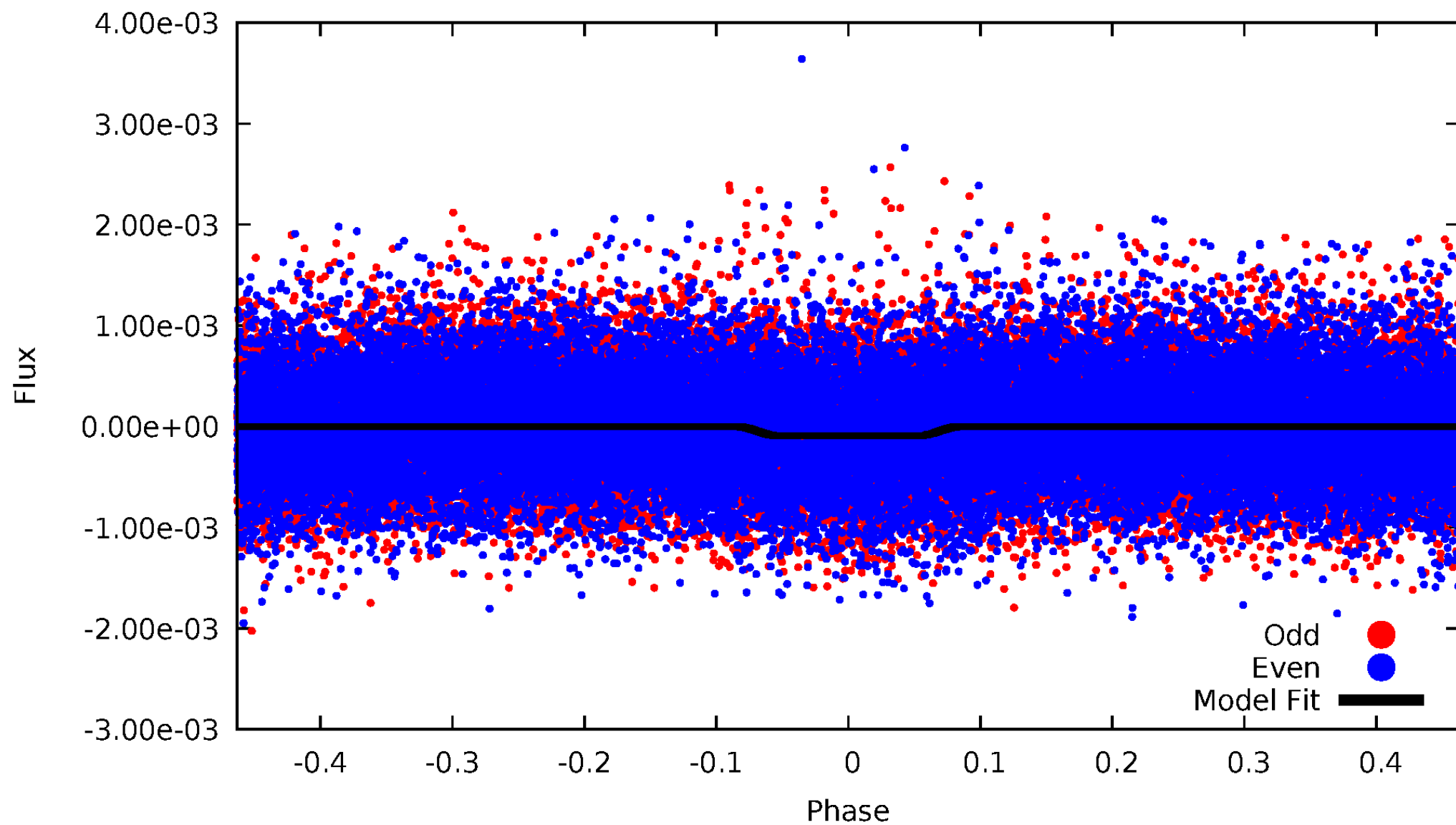
# DV Odd/Even

TCE 009392668-01

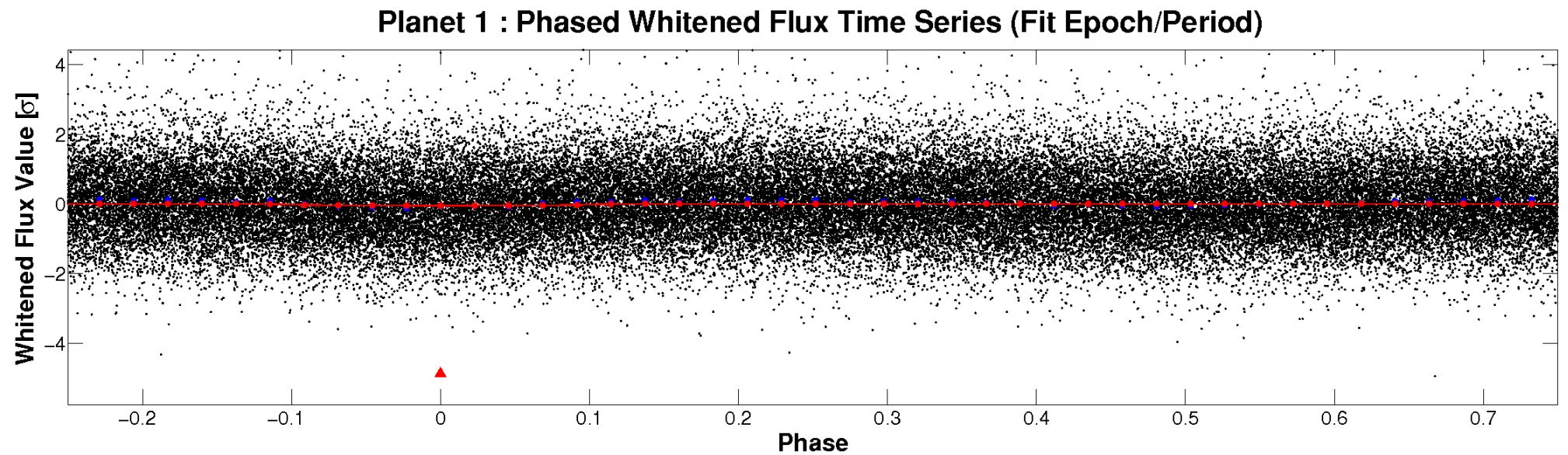
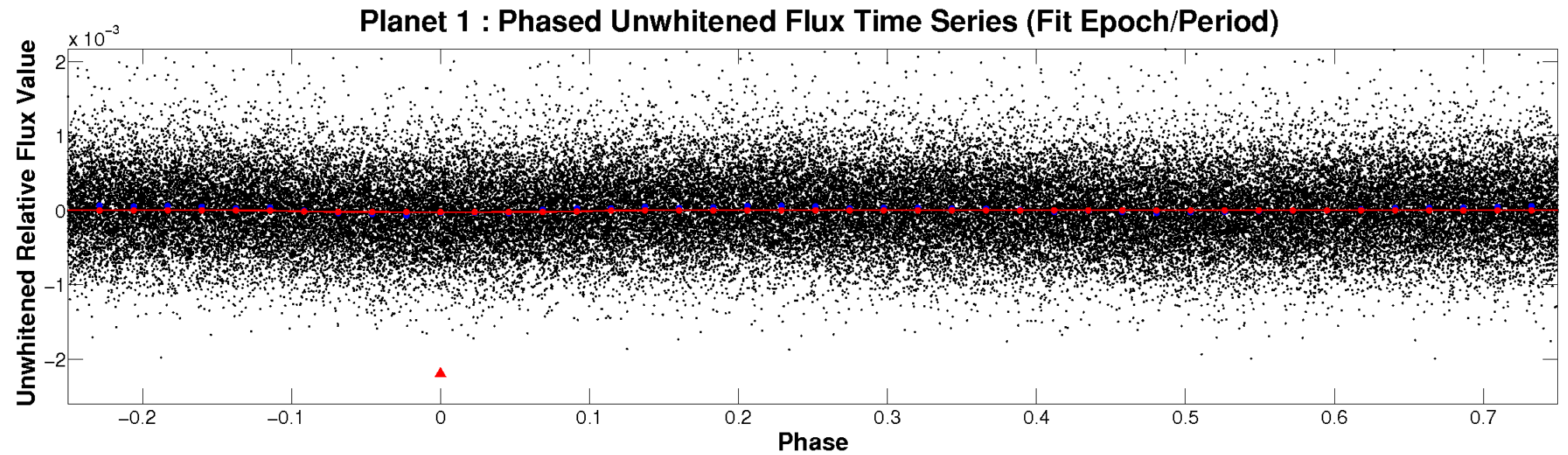


# ALT Odd/Even

TCE 009392668-01

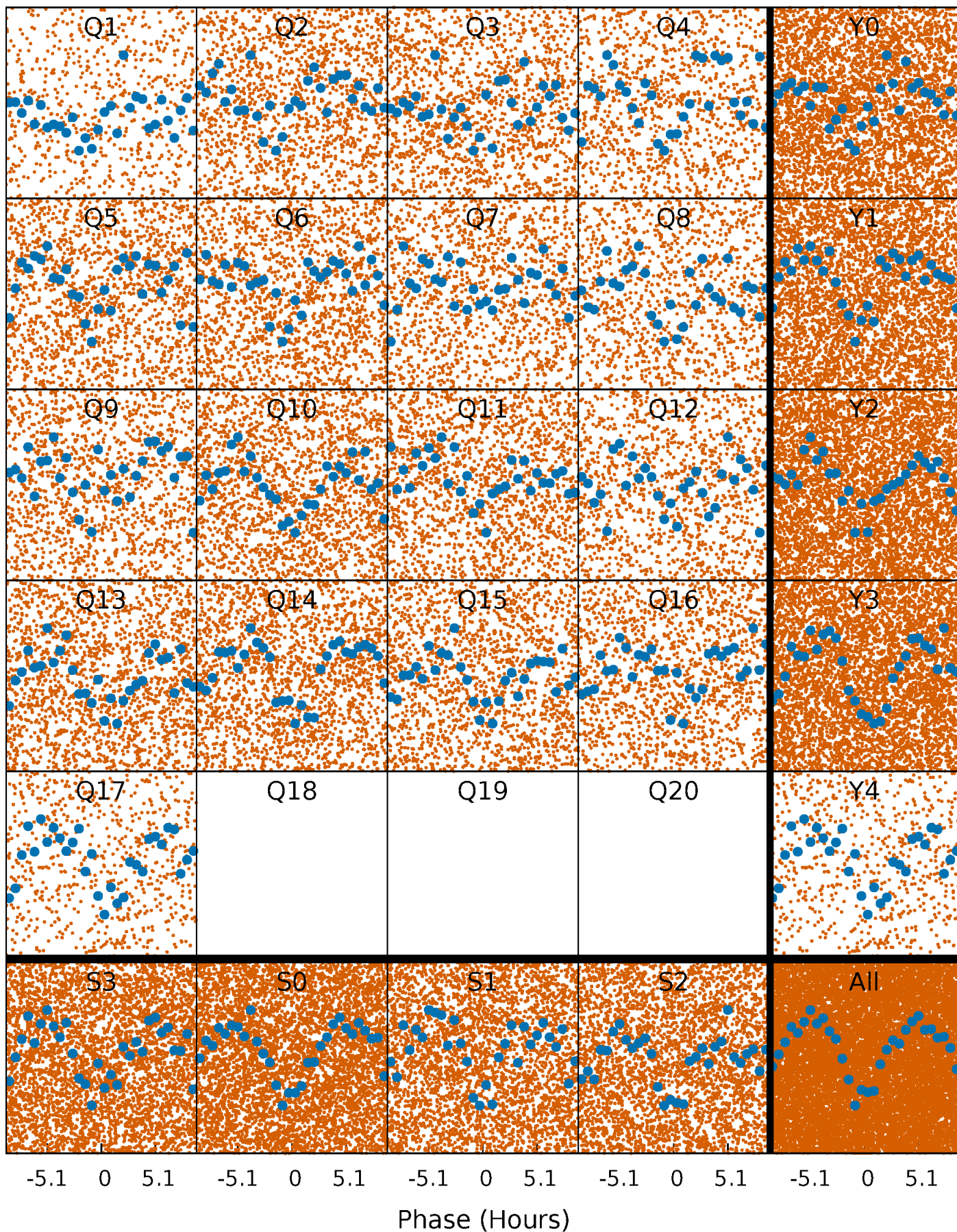


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

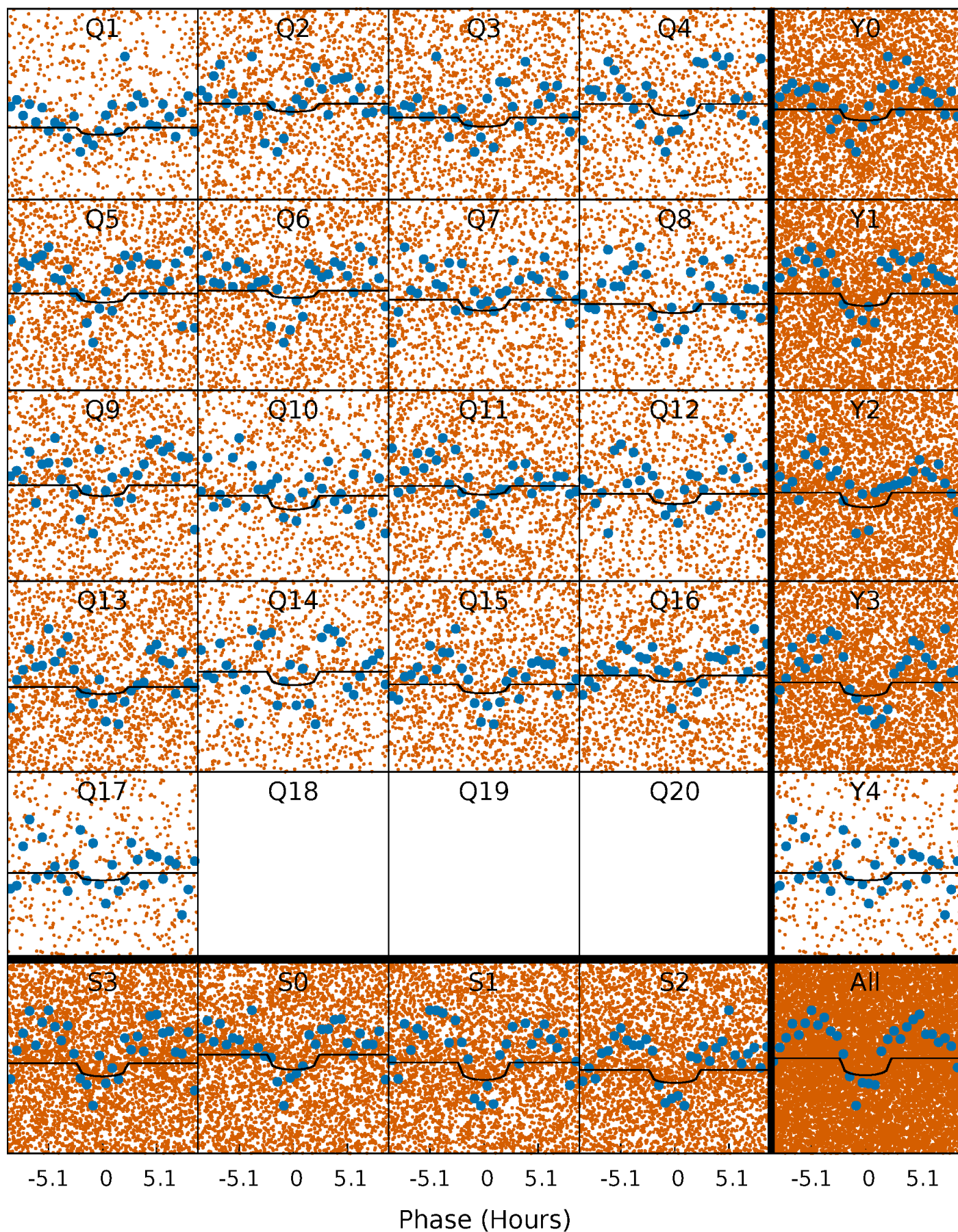
TCE 009392668-01 P= 0.892852 Days  $T_0=132.400158$  (BKJD)





# DV Quarter-Phased Transit Curves

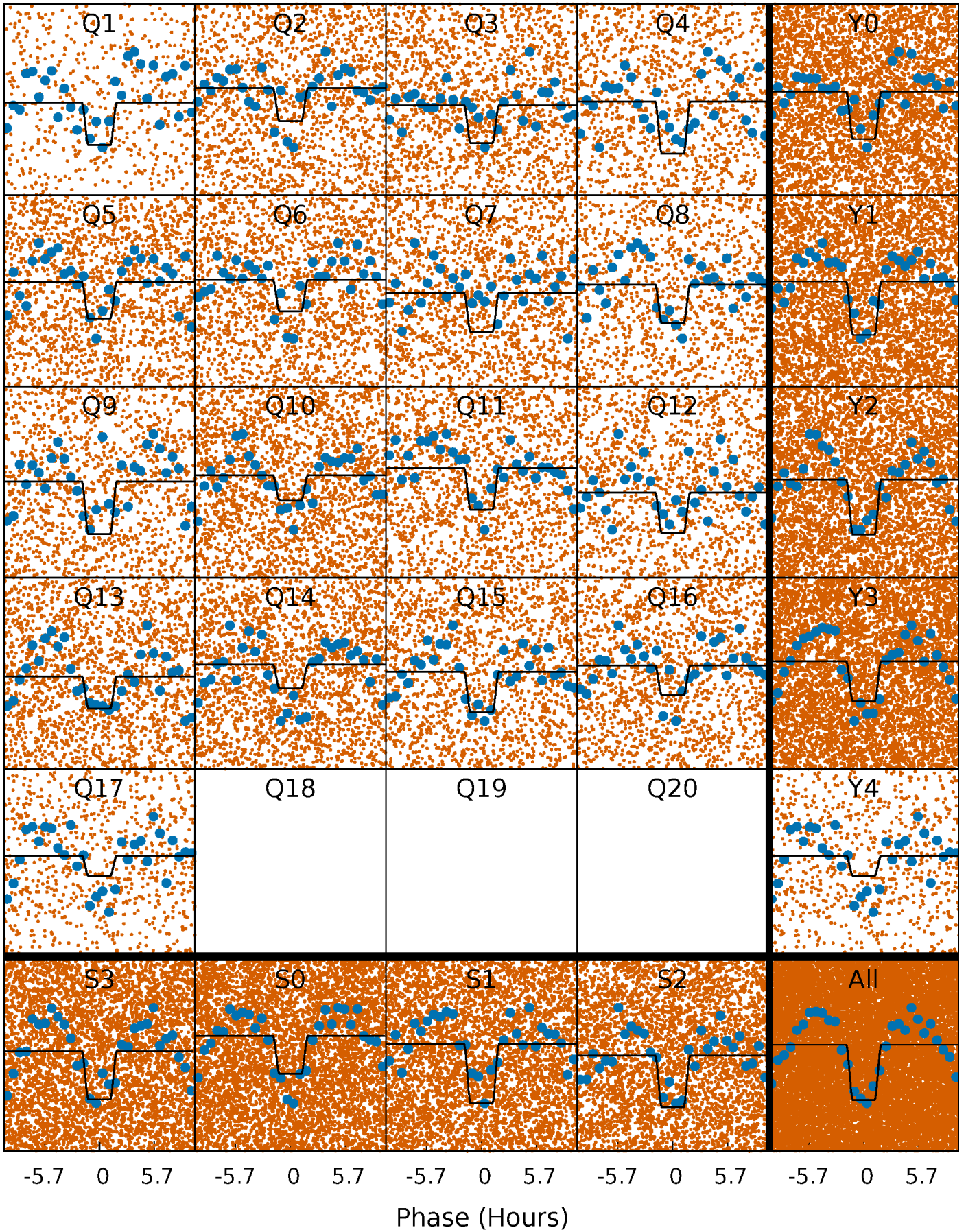
TCE 009392668-01 P= 0.892852 Days  $T_0=132.400158$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

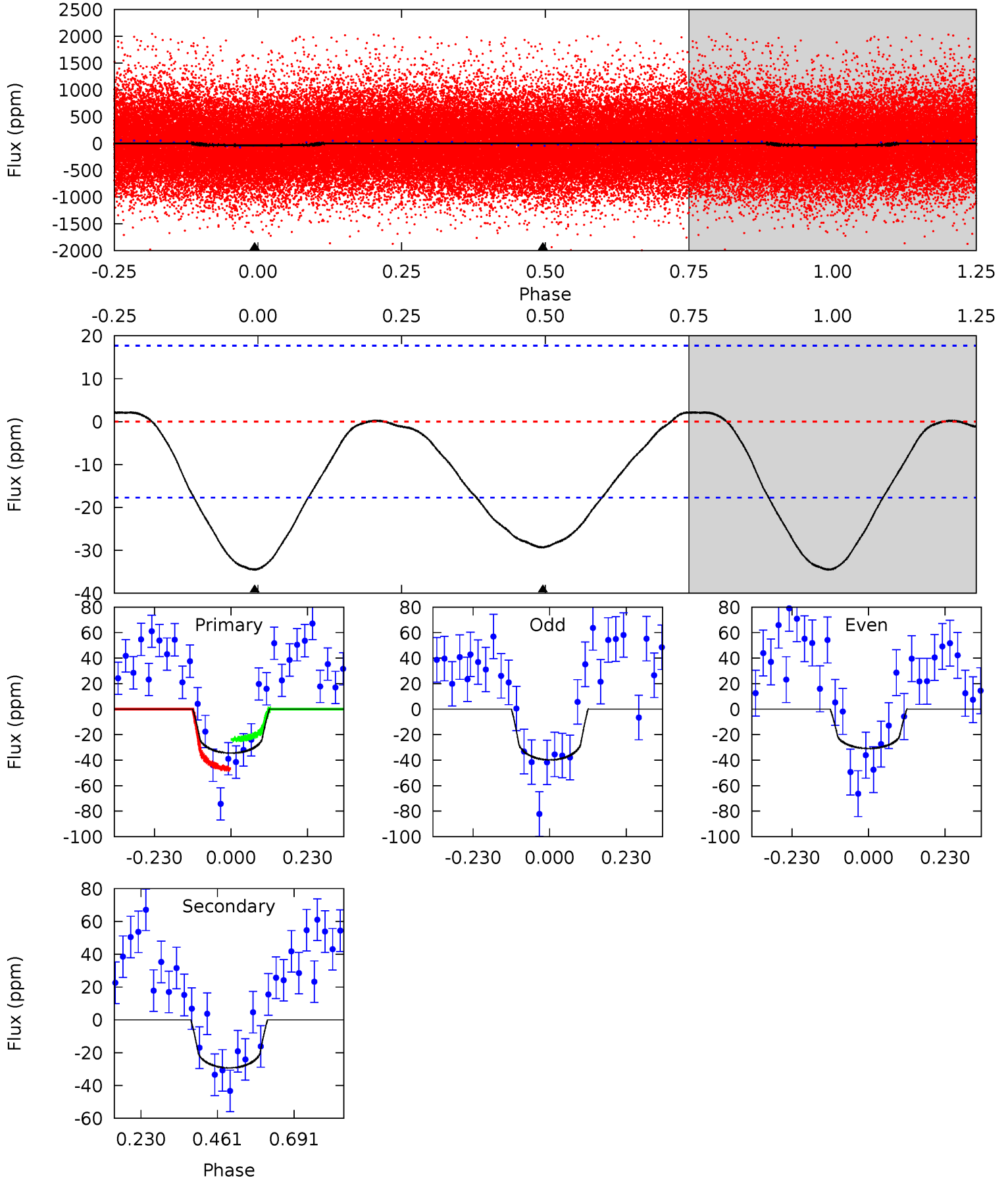
TCE 009392668-01 P= 0.892905 Days  $T_0=132.347020$  (BKJD)



# DV Model-Shift Uniqueness Test

009392668-01, P = 0.892852 Days, E = 131.507306 Days

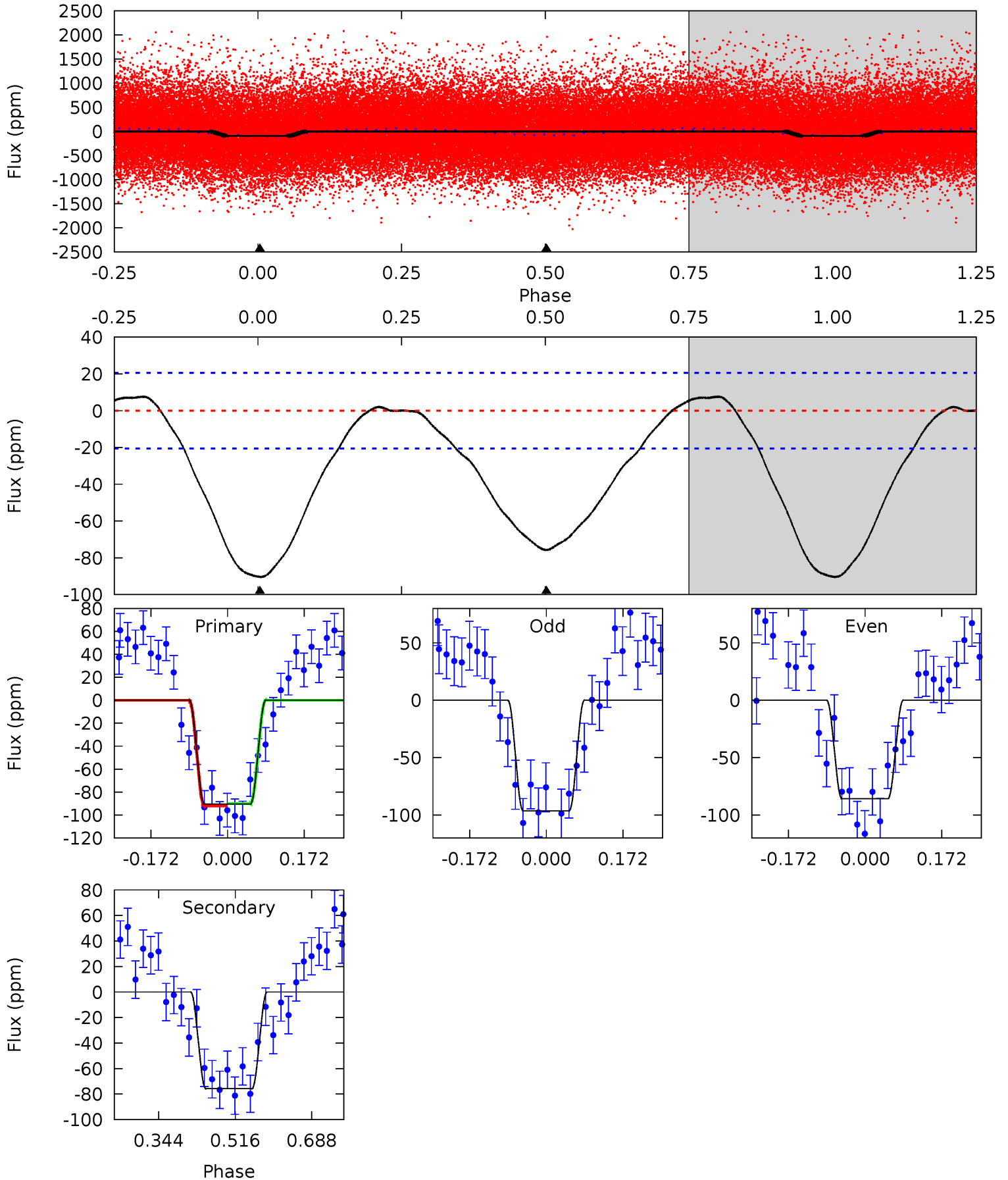
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.53	7.26	0	0	4.39	1.20	0.36	8.53	8.53	7.26	7.26	1.12	1.00	0.06	2.87



# Alt Model-Shift Uniqueness Test

009392668-01, P = 0.892905 Days, E = 131.454115 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
19.6	16.4	0	0	4.45	1.37	1.33	19.6	19.6	16.4	16.4	1.15	1.06	0.08	0.23





### Stellar Parameters For KIC 009392668

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6153^{+171}_{-214}$	$4.471^{+0.050}_{-0.200}$	$-0.140^{+0.300}_{-0.300}$	$0.993^{+0.307}_{-0.102}$	$1.065^{+0.139}_{-0.153}$	$1.531^{+0.419}_{-0.790}$
	+3%/-3%	+1%/-4%	+214%/-214%	+31%/-10%	+13%/-14%	+27%/-52%
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 009392668-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-29 \pm 4$	$0.65^{+0.57}_{-0.42}$	$2832^{+197}_{-139}$	$5866^{+5259}_{-1436}$	$13^{+83}_{-9}$
Alt.	$-76 \pm 5$	$1.09^{+0.61}_{-0.60}$	$2829^{+210}_{-137}$	$5826^{+3464}_{-1106}$	$12^{+45}_{-7}$

$T_{\text{max}}$  = 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

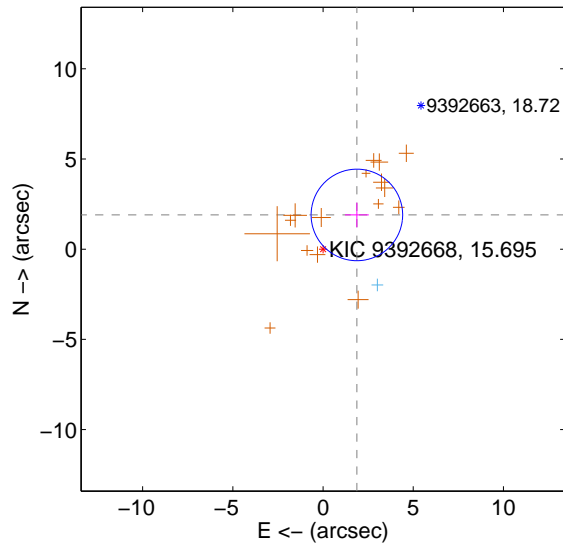
Supplemental centroid analysis for 009392668-01. Kepler magnitude: 15.70. Transit SNR 4.83

There are 1 quarters with good PRF difference image offsets

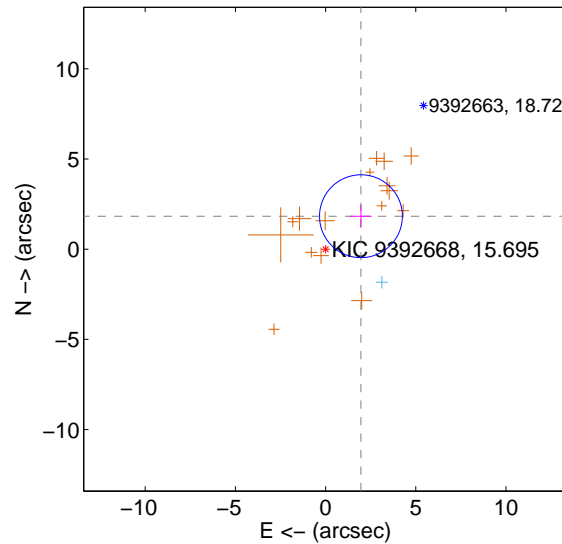
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.668 \pm 0.846$	3.16	$-1.876 \pm 0.663$	$1.898 \pm 0.684$
PRF-fit source offset from KIC position	$2.680 \pm 0.766$	3.50	$-1.961 \pm 0.599$	$1.828 \pm 0.632$
photometric centroid source offset	$1.30 \pm 3.29$	0.39	$-0.29 \pm 2.94$	$1.27 \pm 3.31$

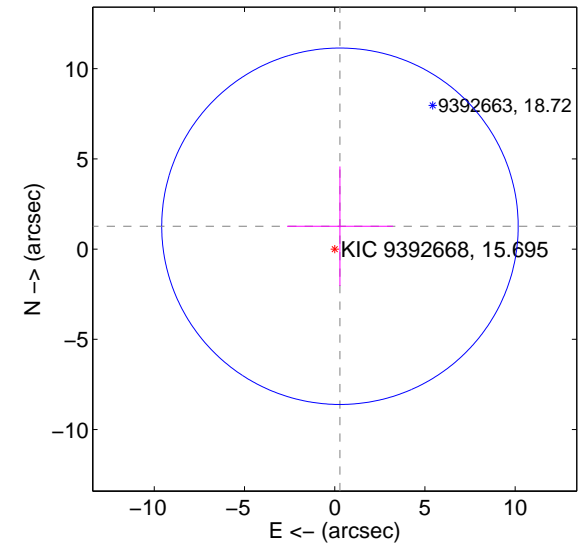
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

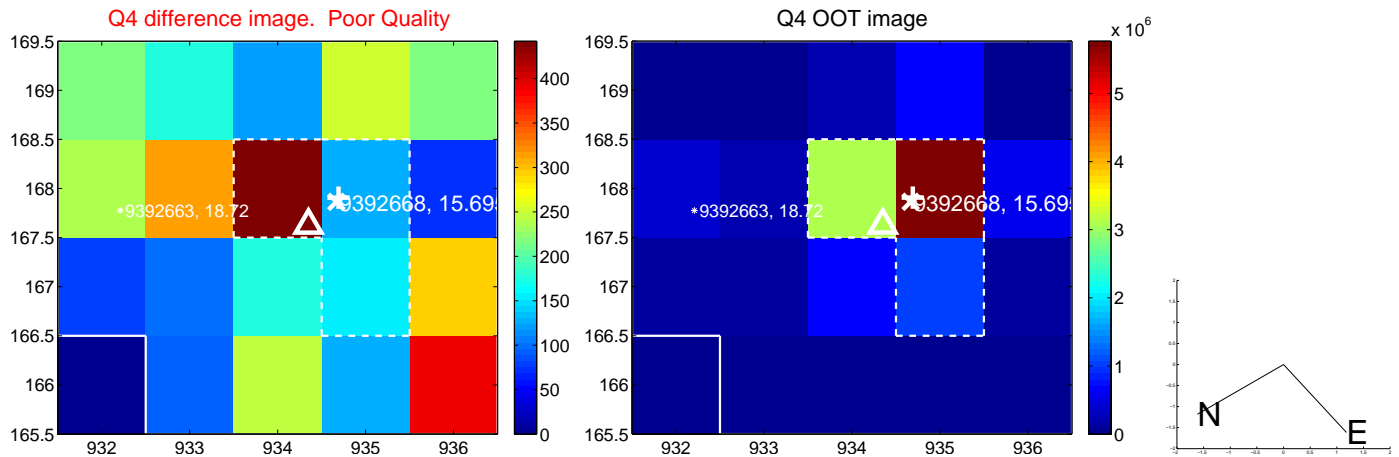
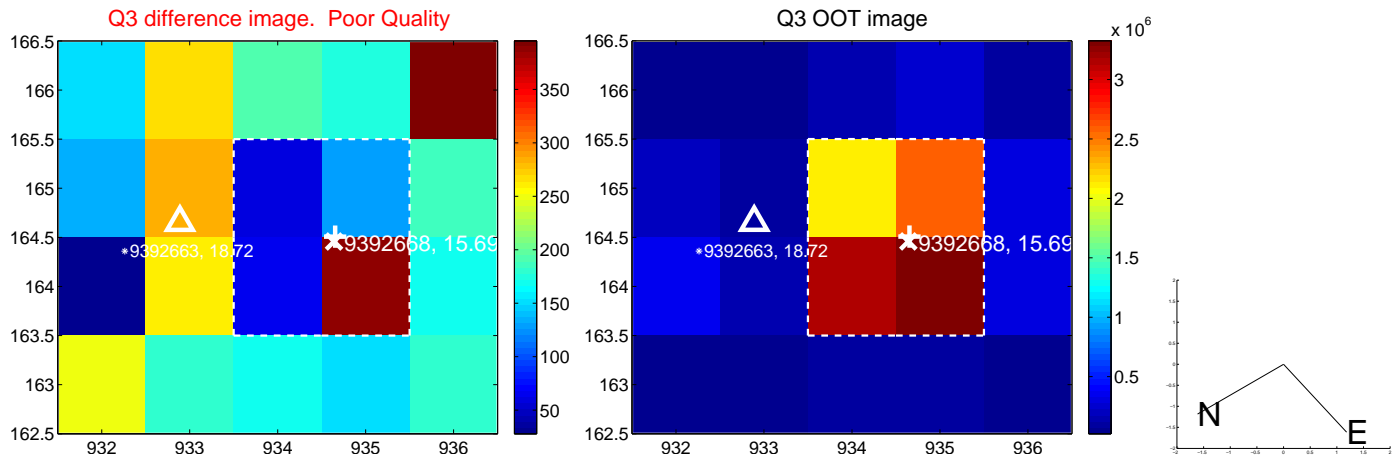
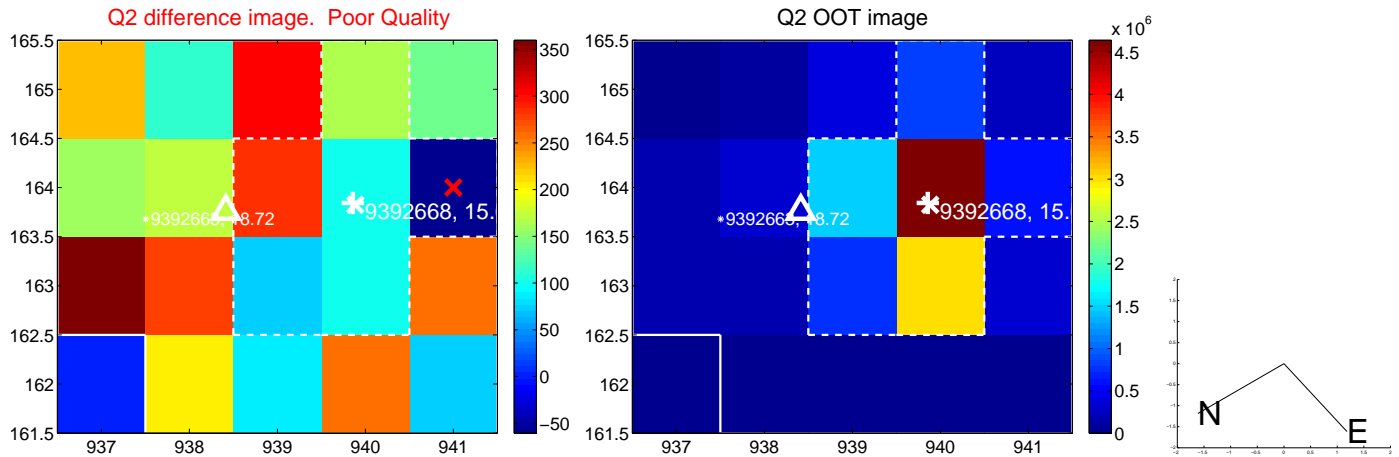
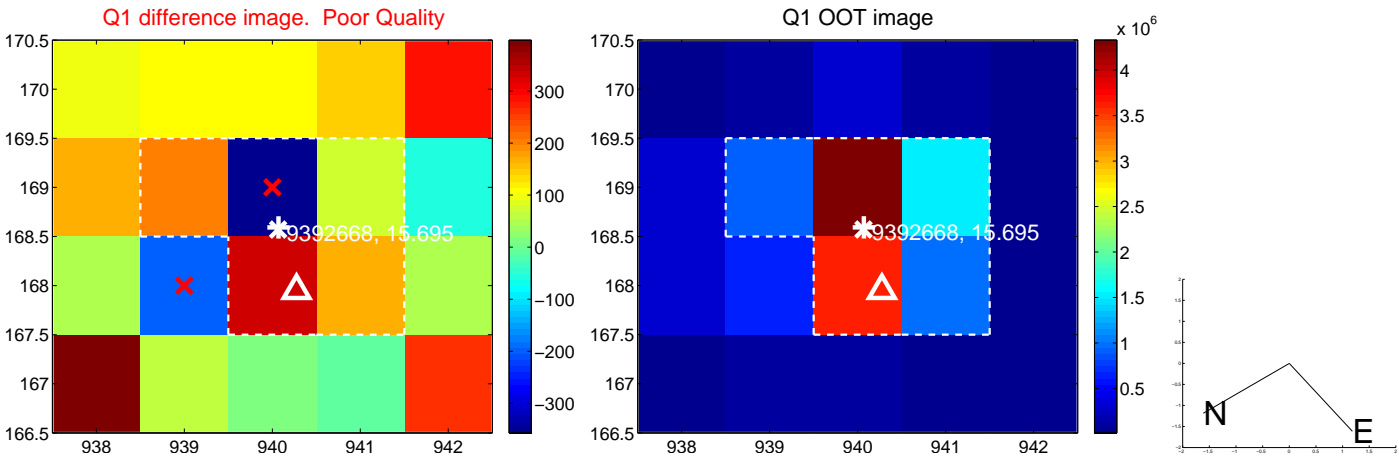


offset from photometric centroids

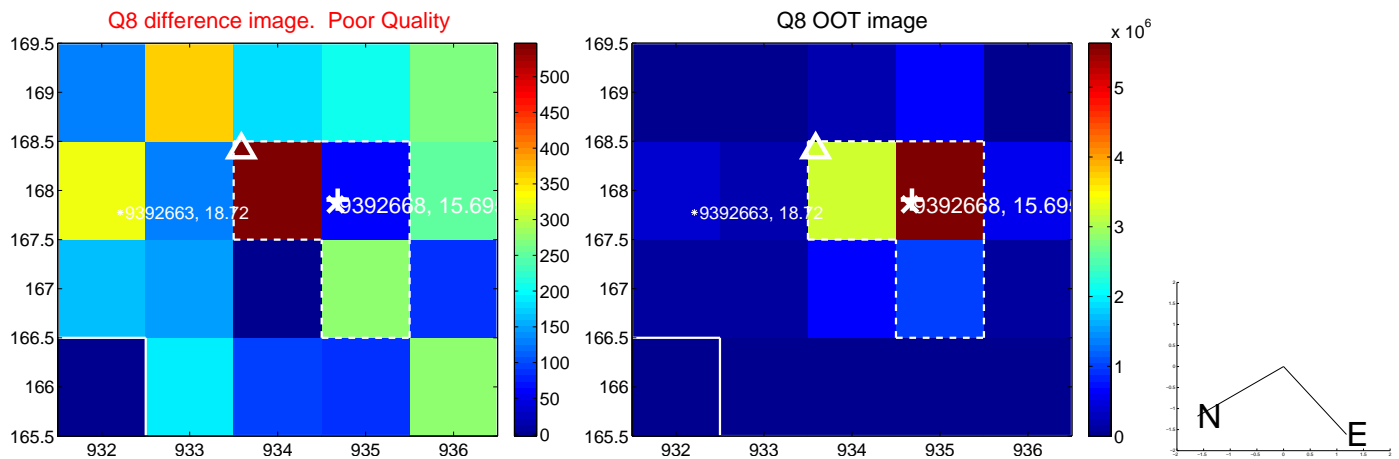
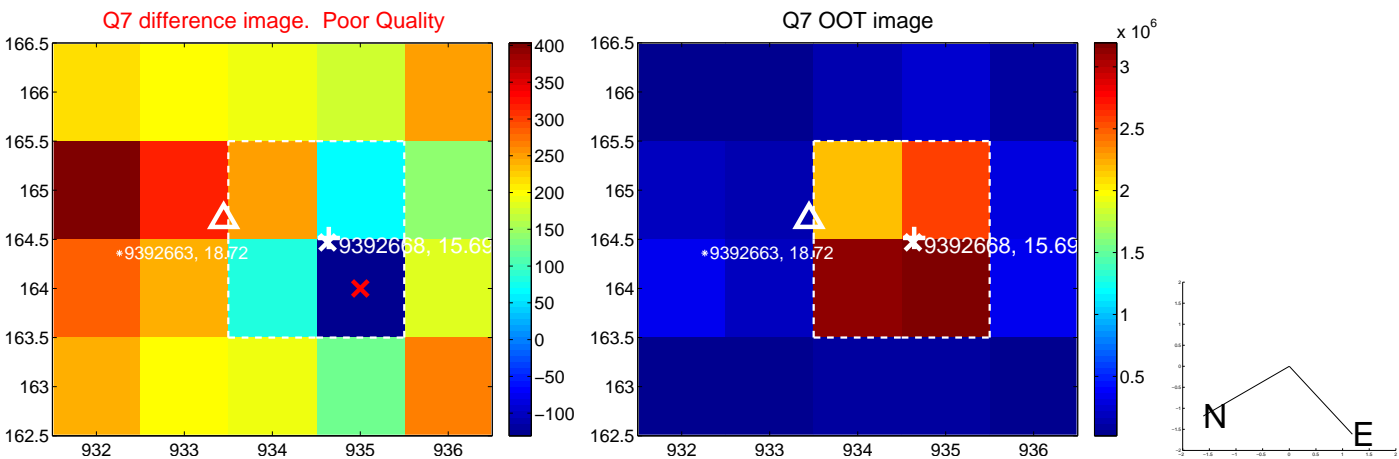
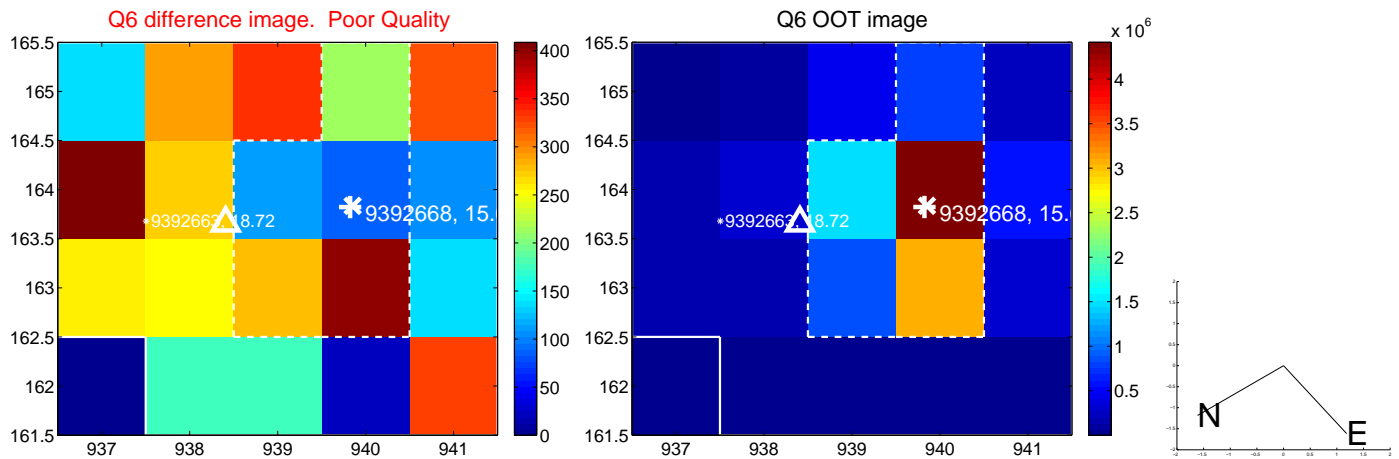
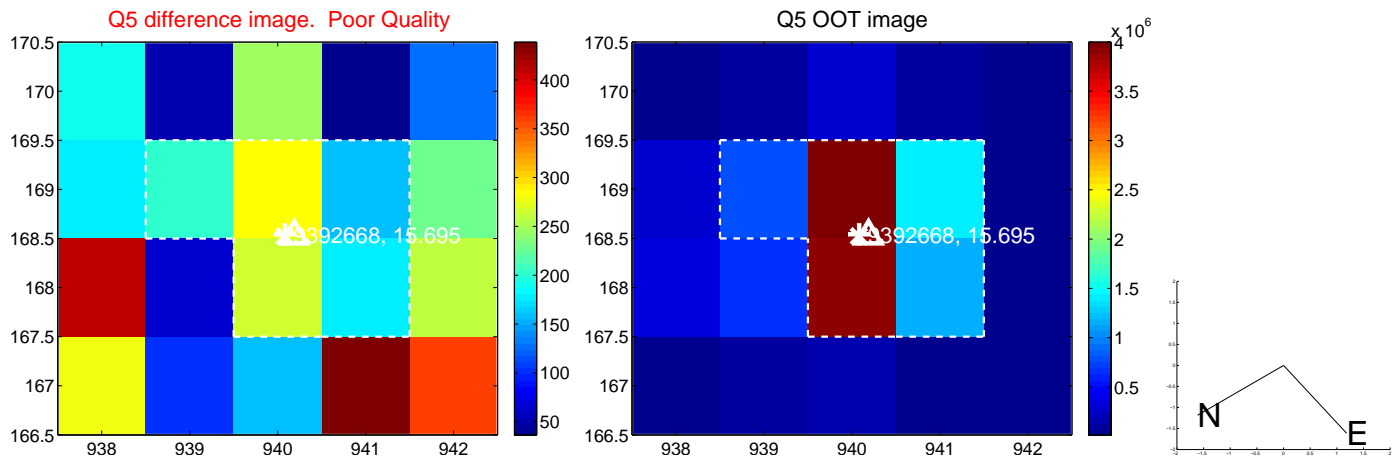


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

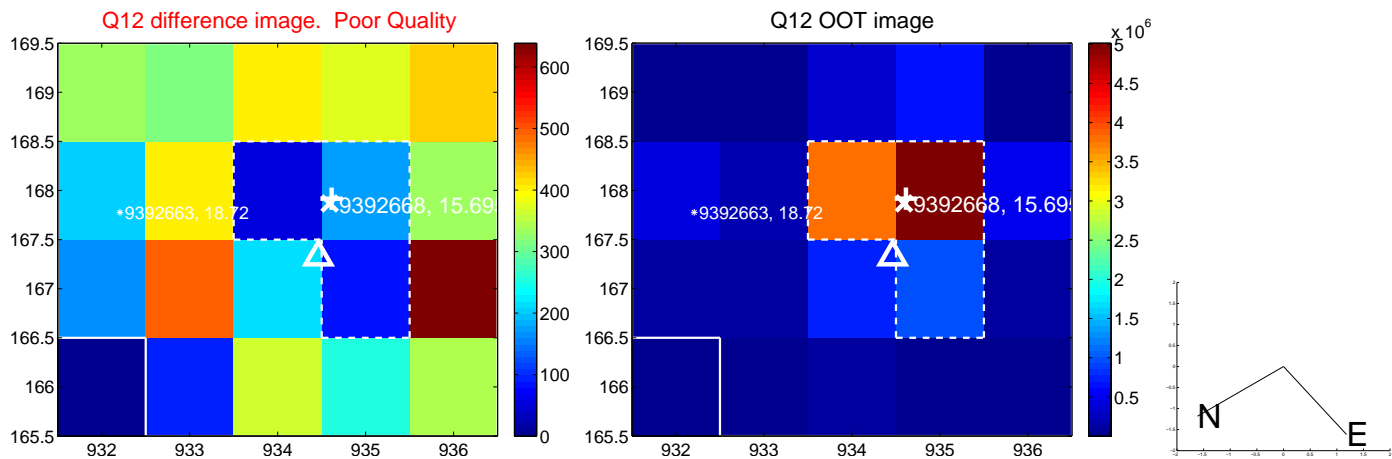
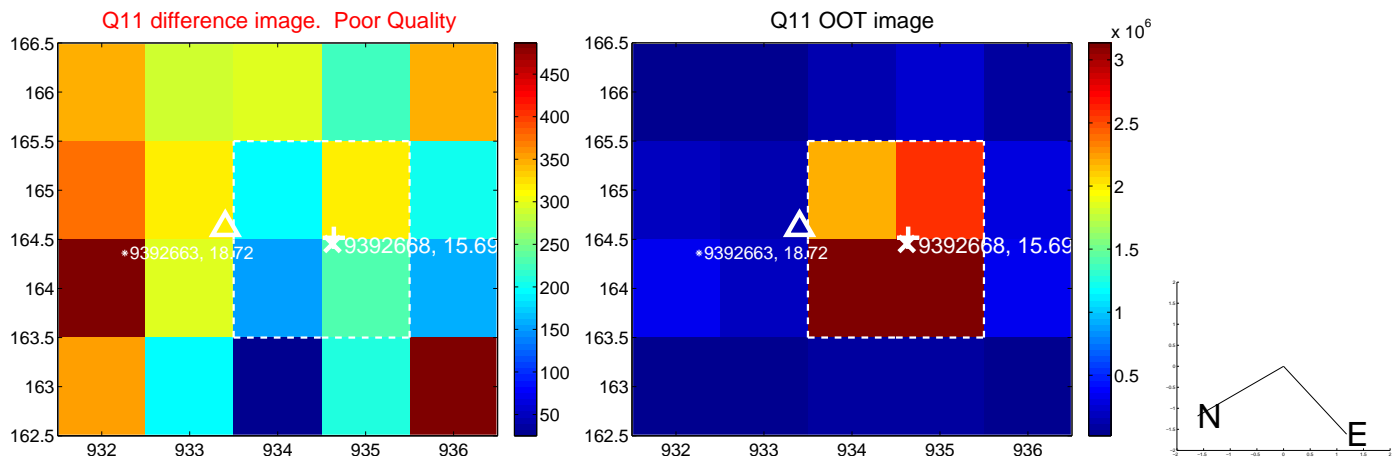
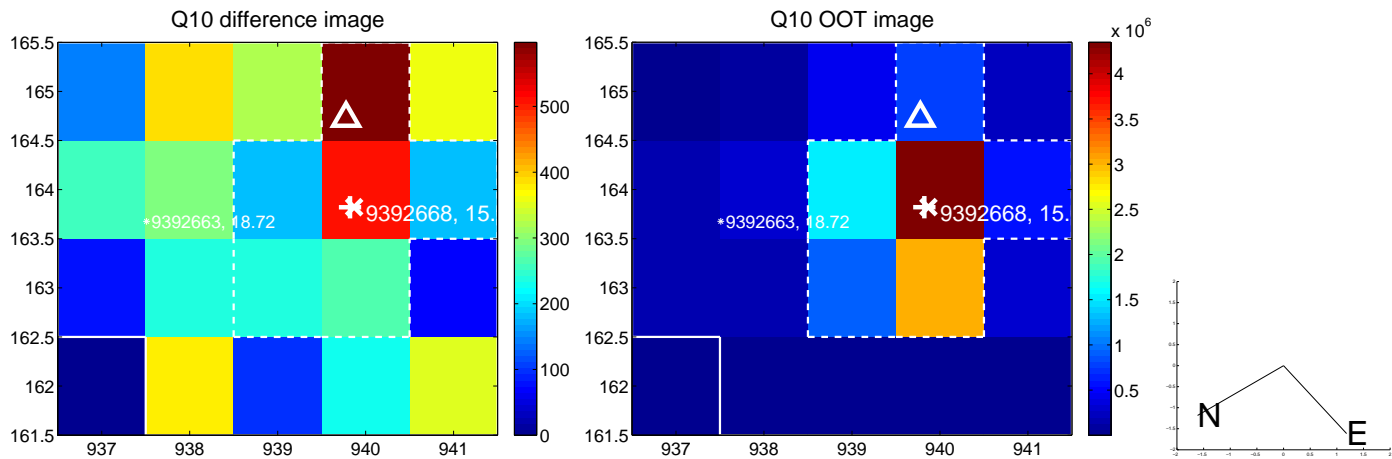
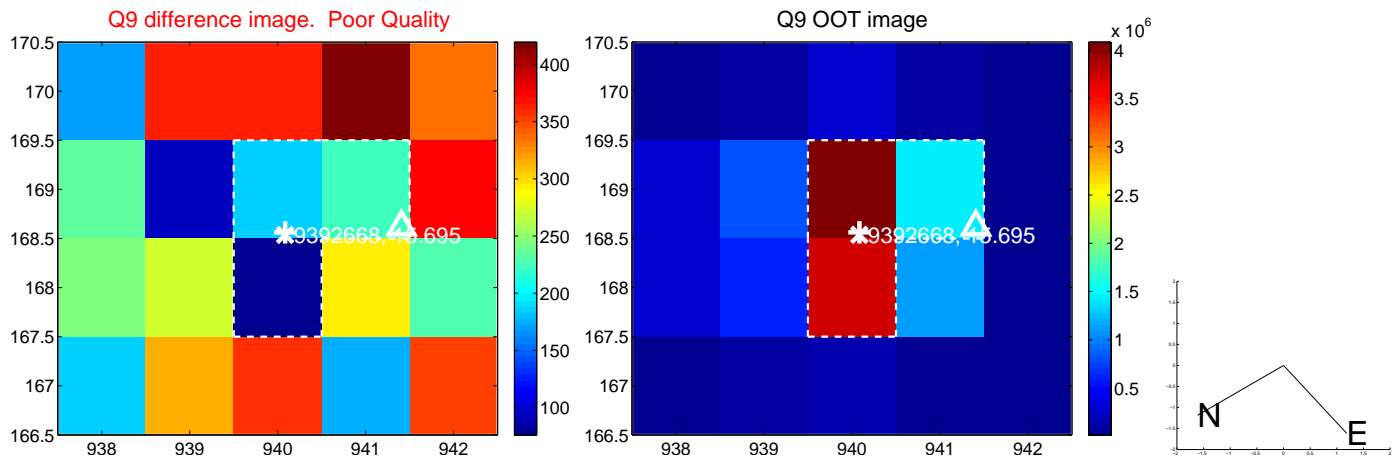


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

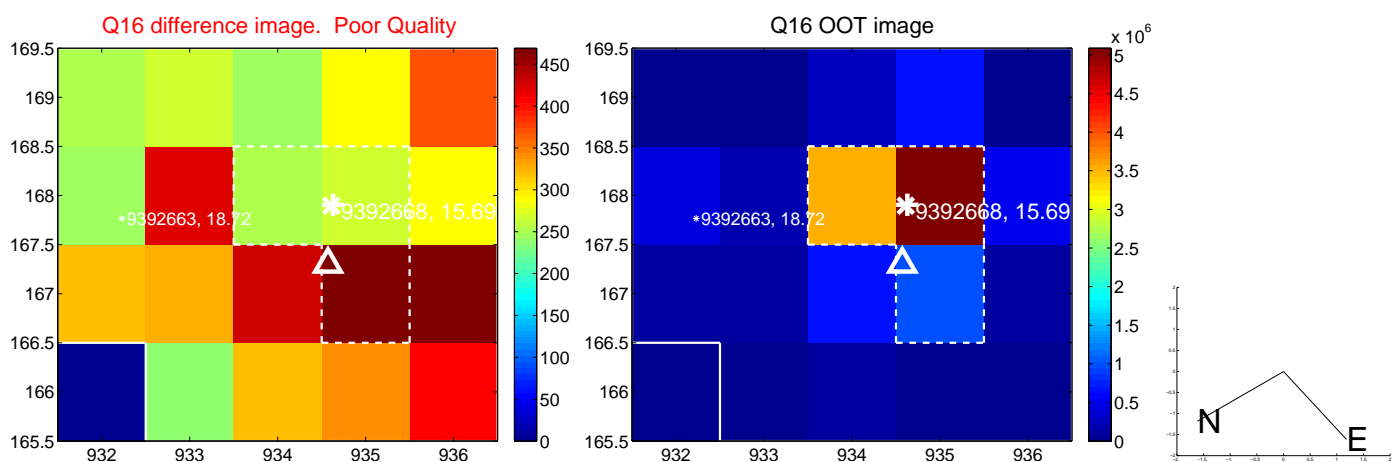
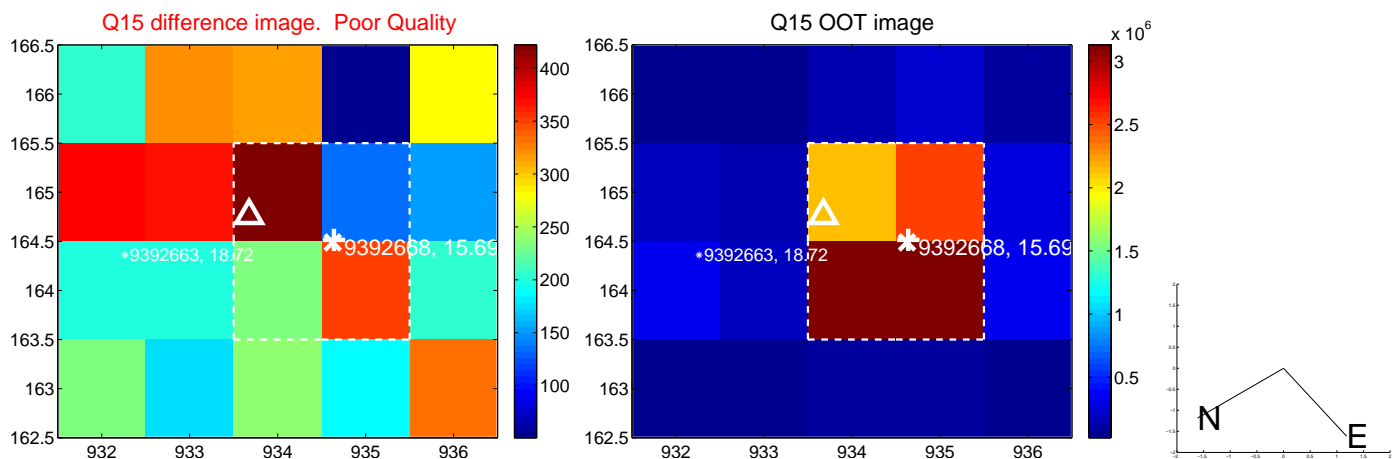
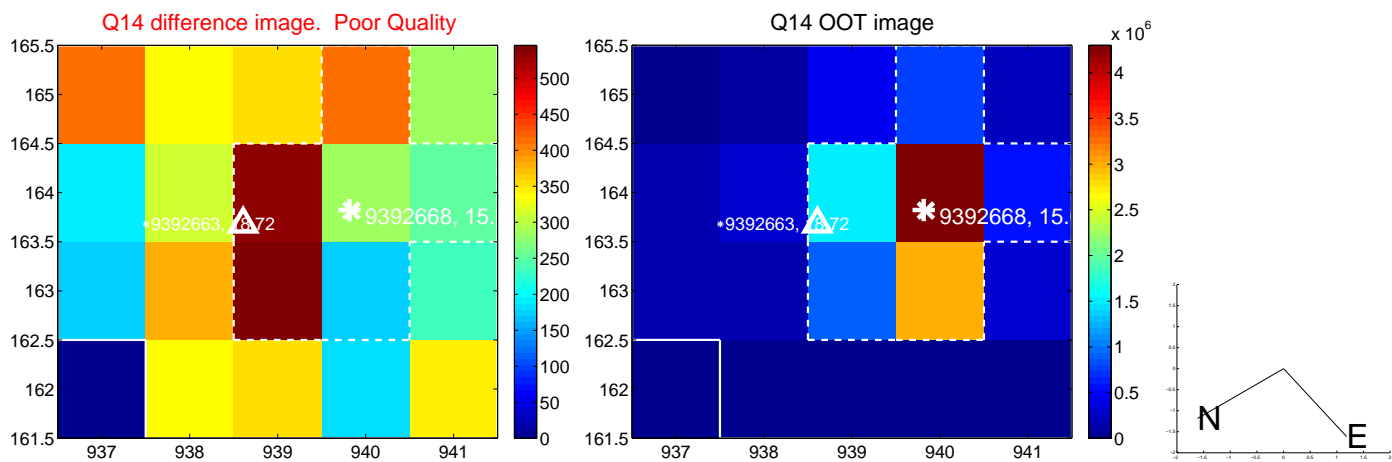
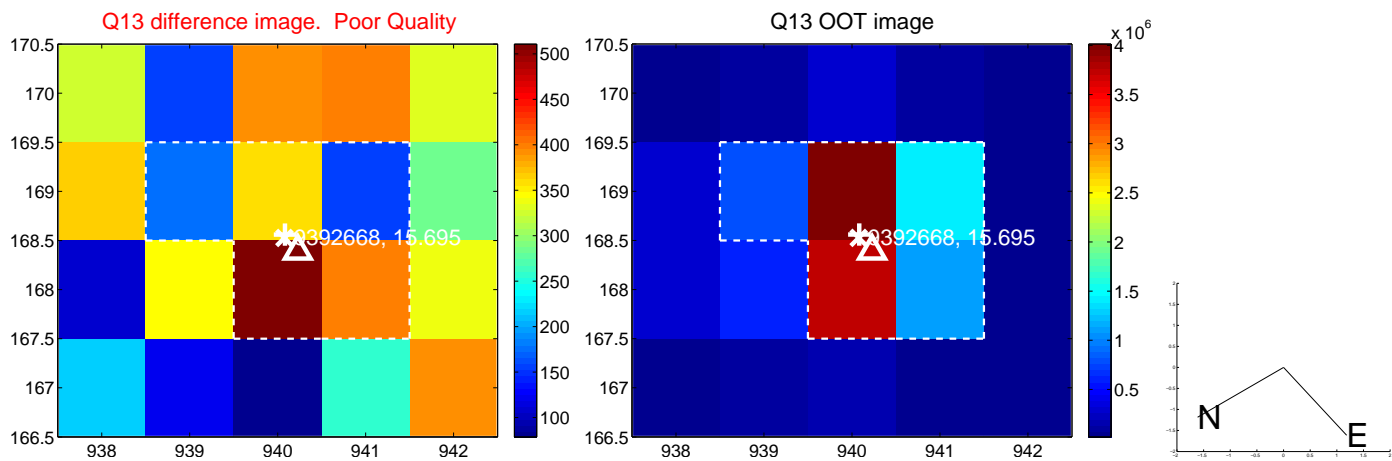




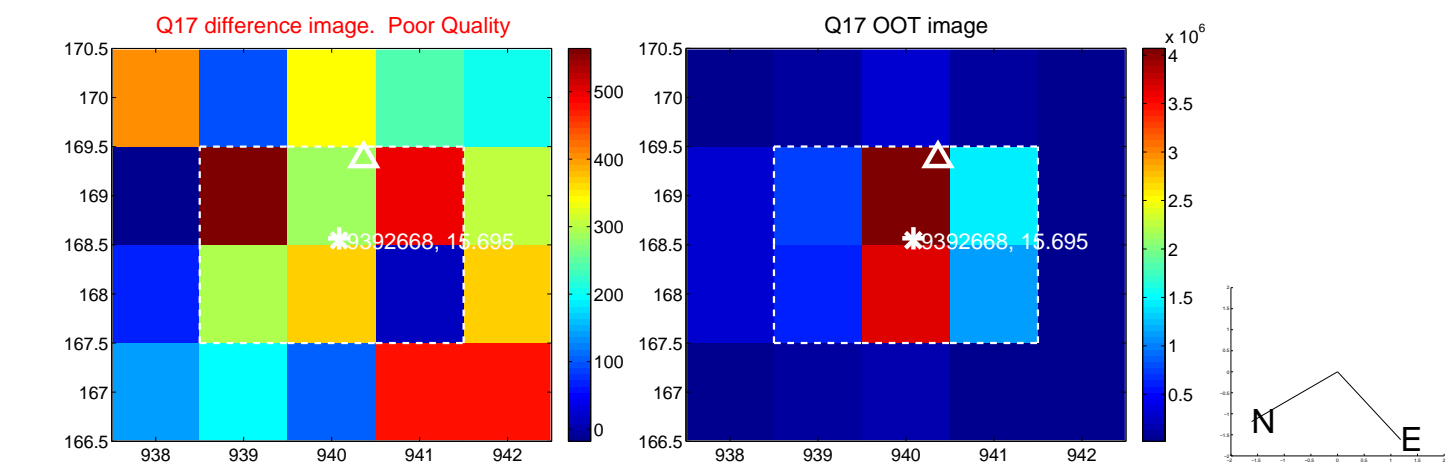
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



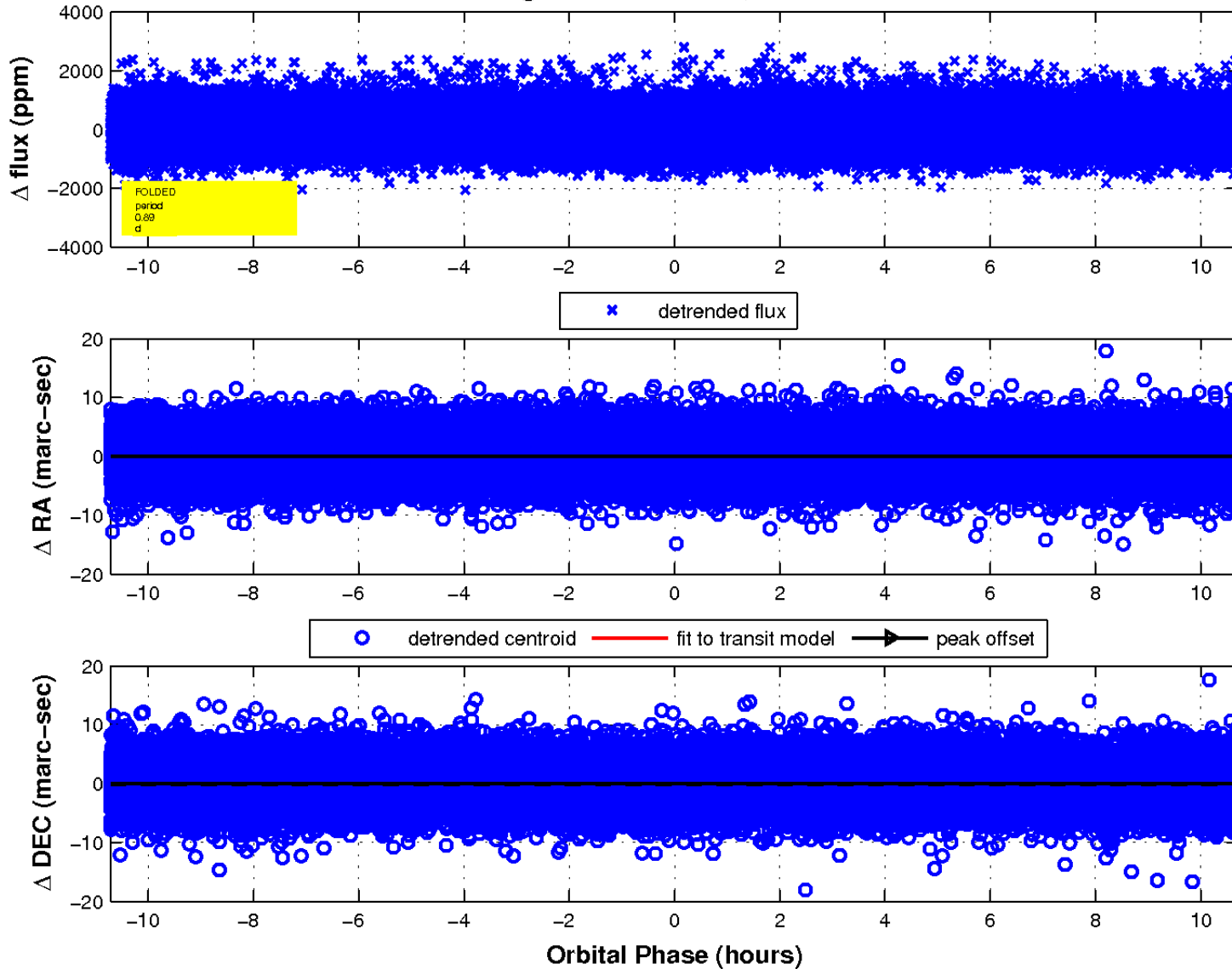
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



# UKIRT Image

Declination

