

# KIC 009604563

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009604563-01	OBS	7949.01	1.001933	132.461354	67.9	1.697	8.0	9.1	0.73	5521	0.72	1347.86

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009604563-01	OBS	PC	0.91	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.

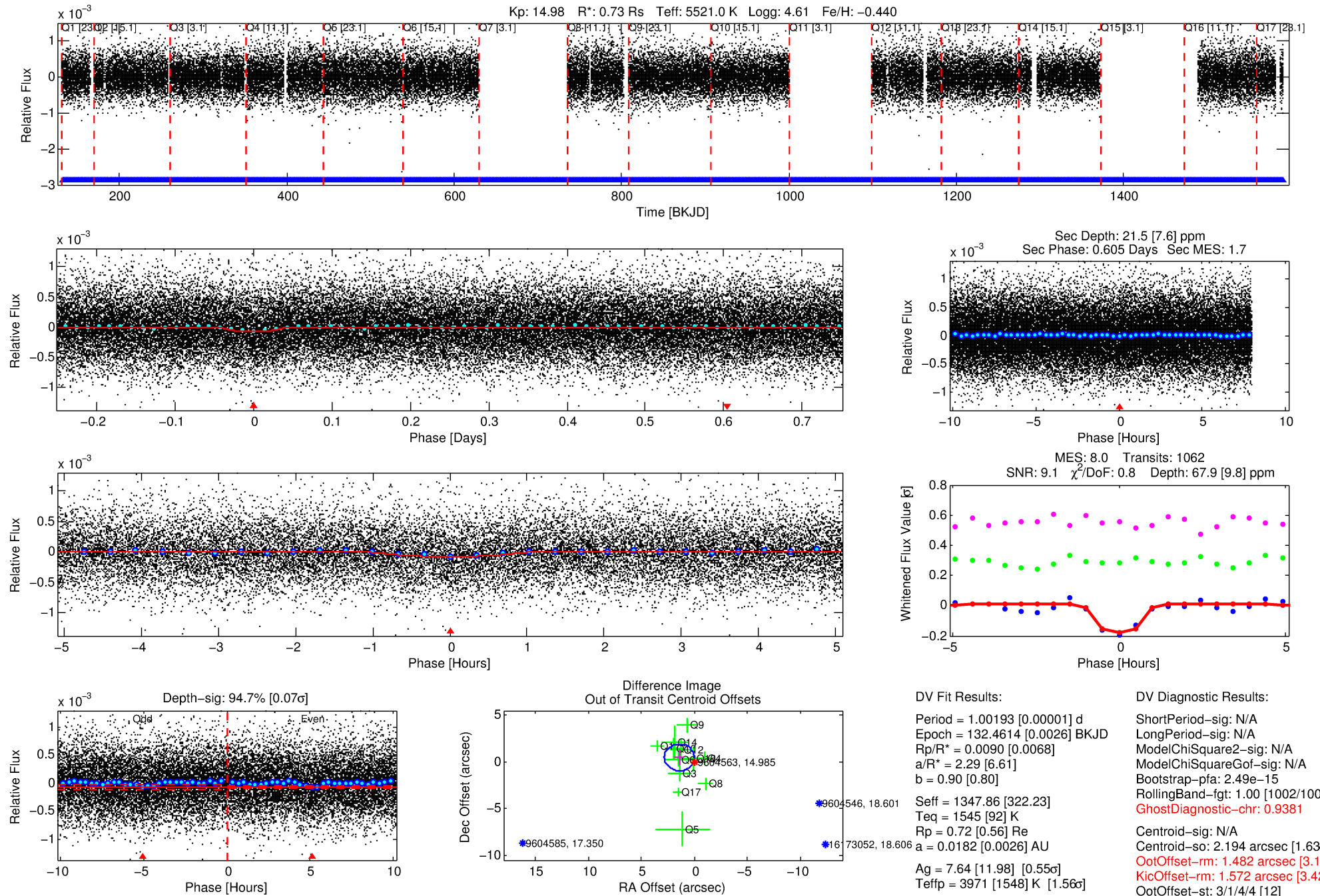
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009604563-01

No Significant Match Found

# DV One-Page Summary

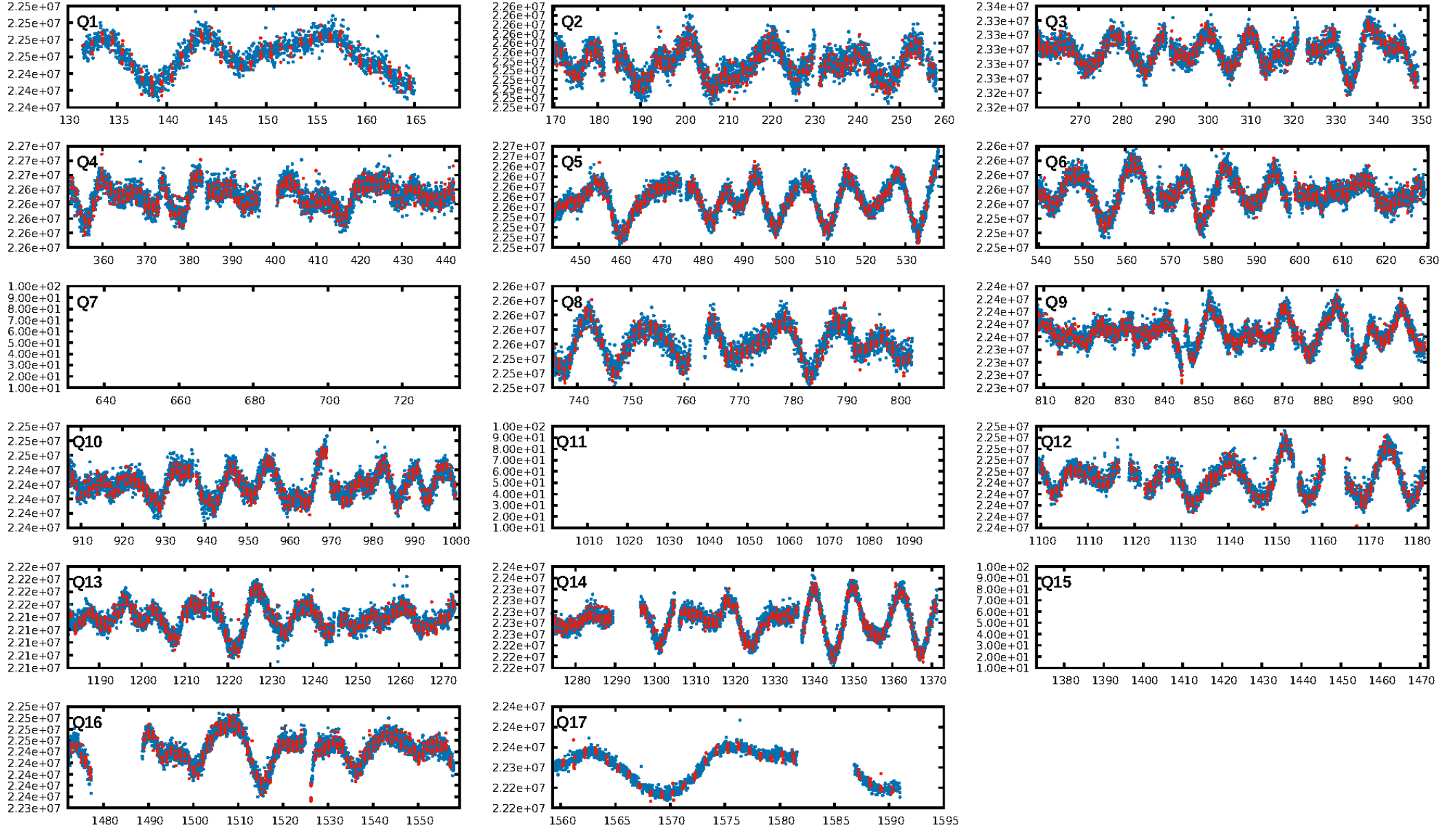
KIC: 9604563 Candidate: 1 of 1 Period: 1.002 d



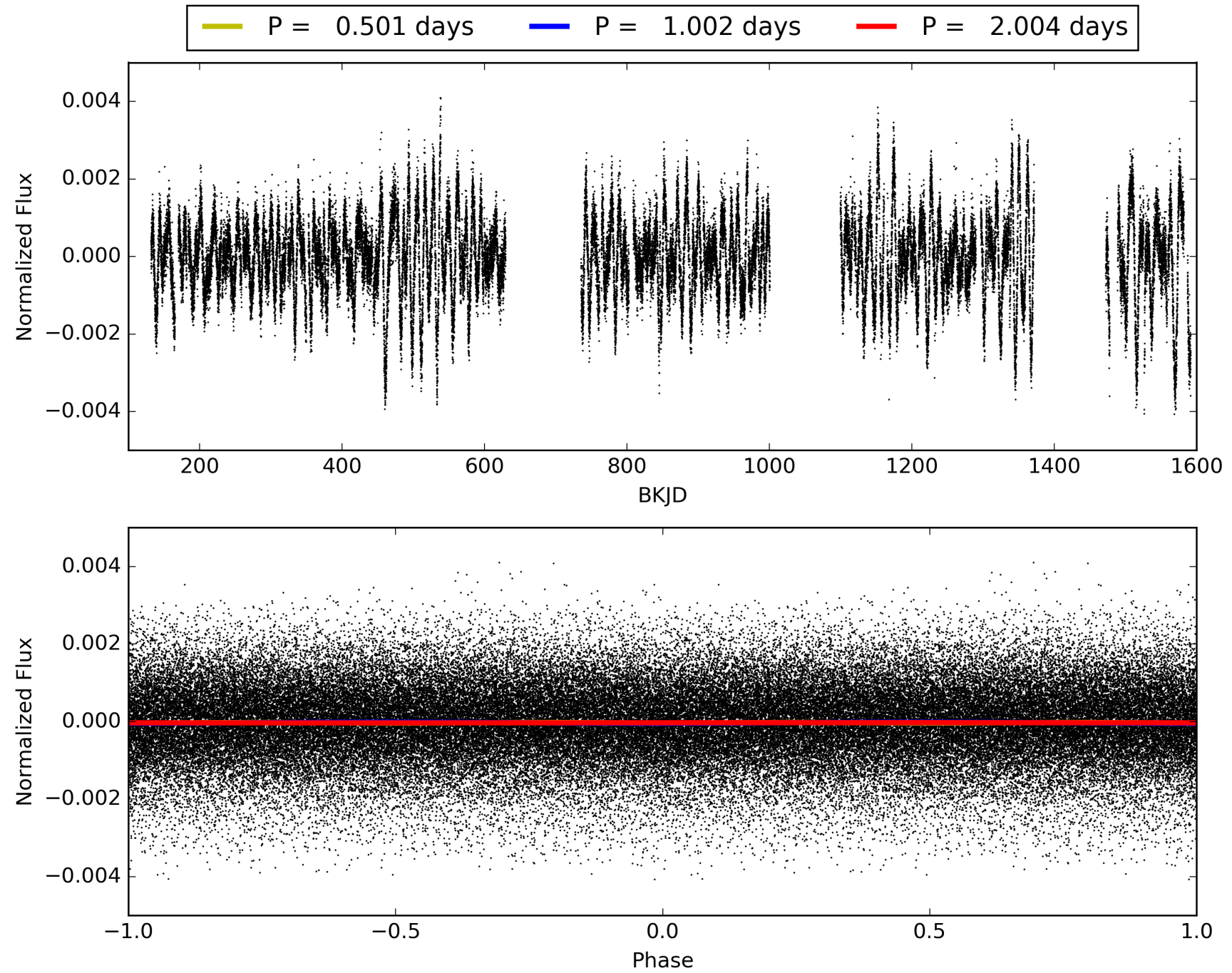
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:51:32 Z

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

# TCE 009604563-01, PDC Light Curves

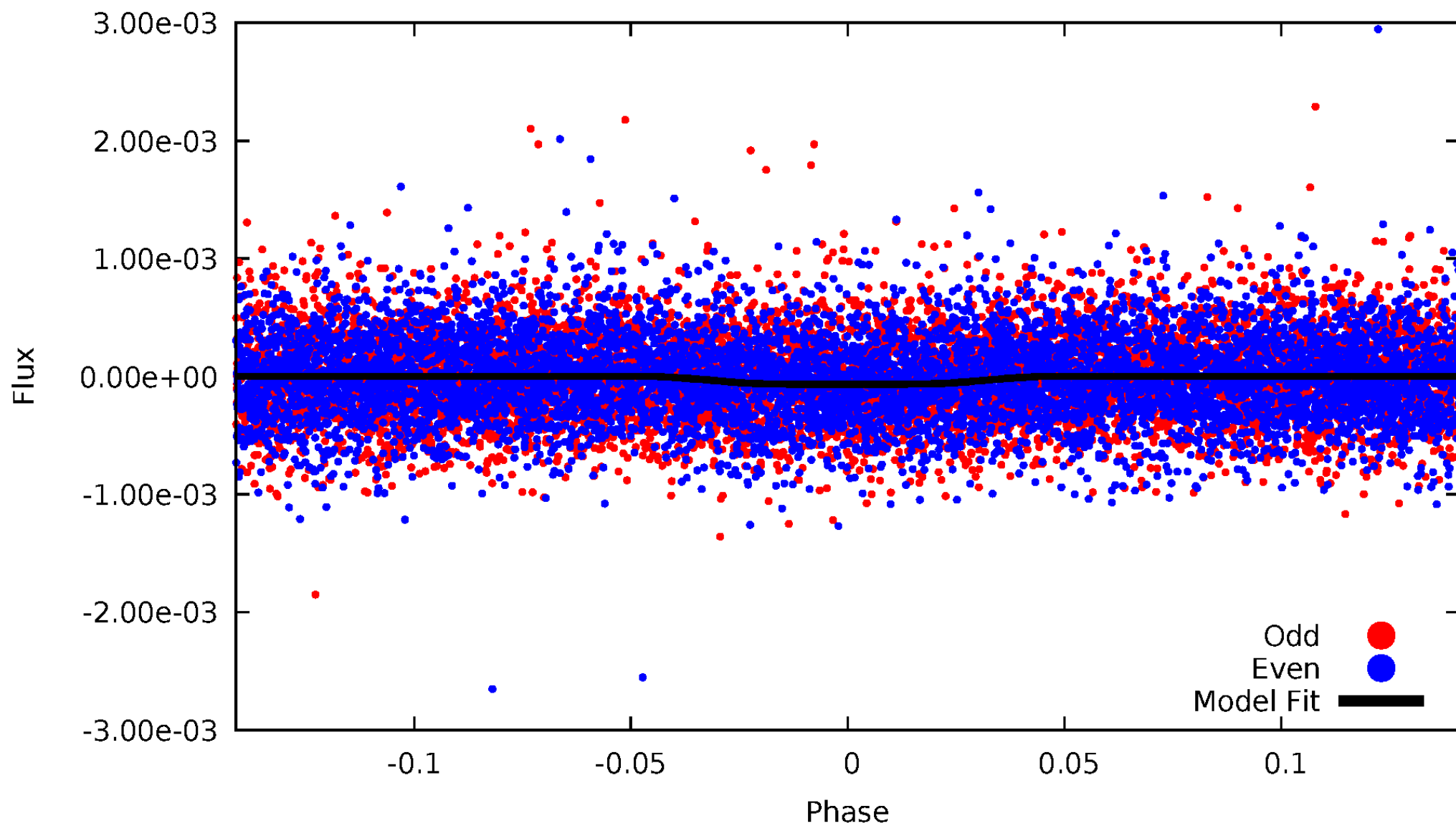


TCE 009604563-01



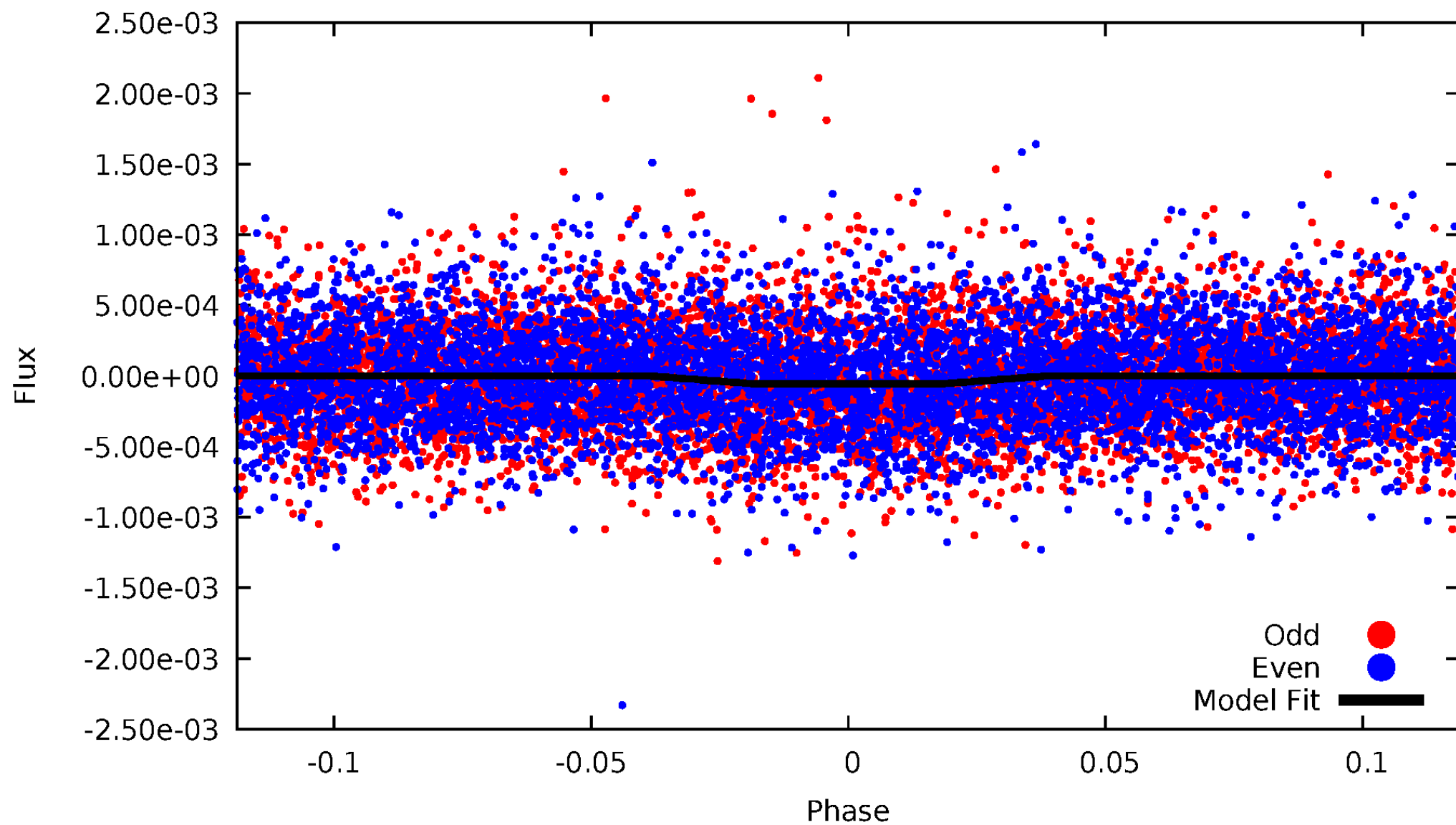
# DV Odd/Even

TCE 009604563-01

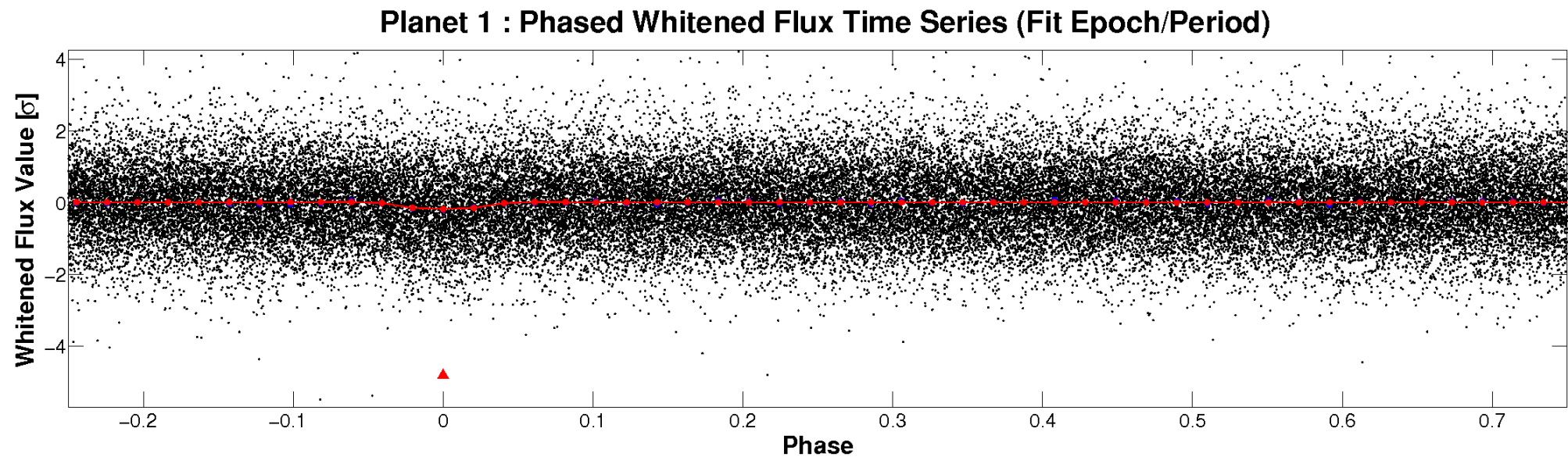
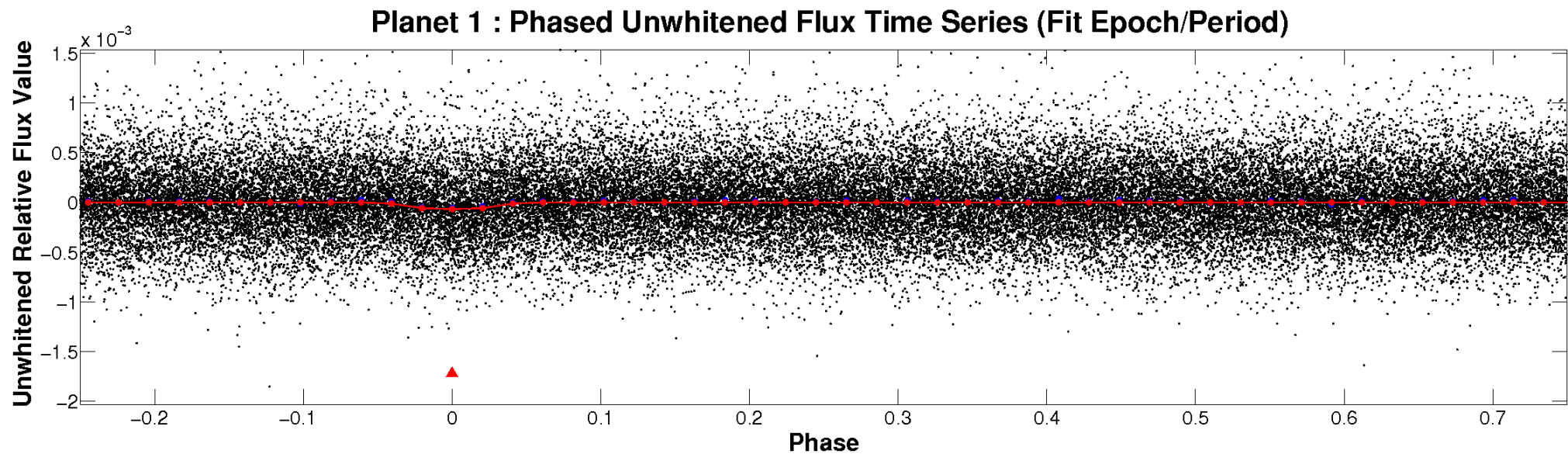


# ALT Odd/Even

TCE 009604563-01

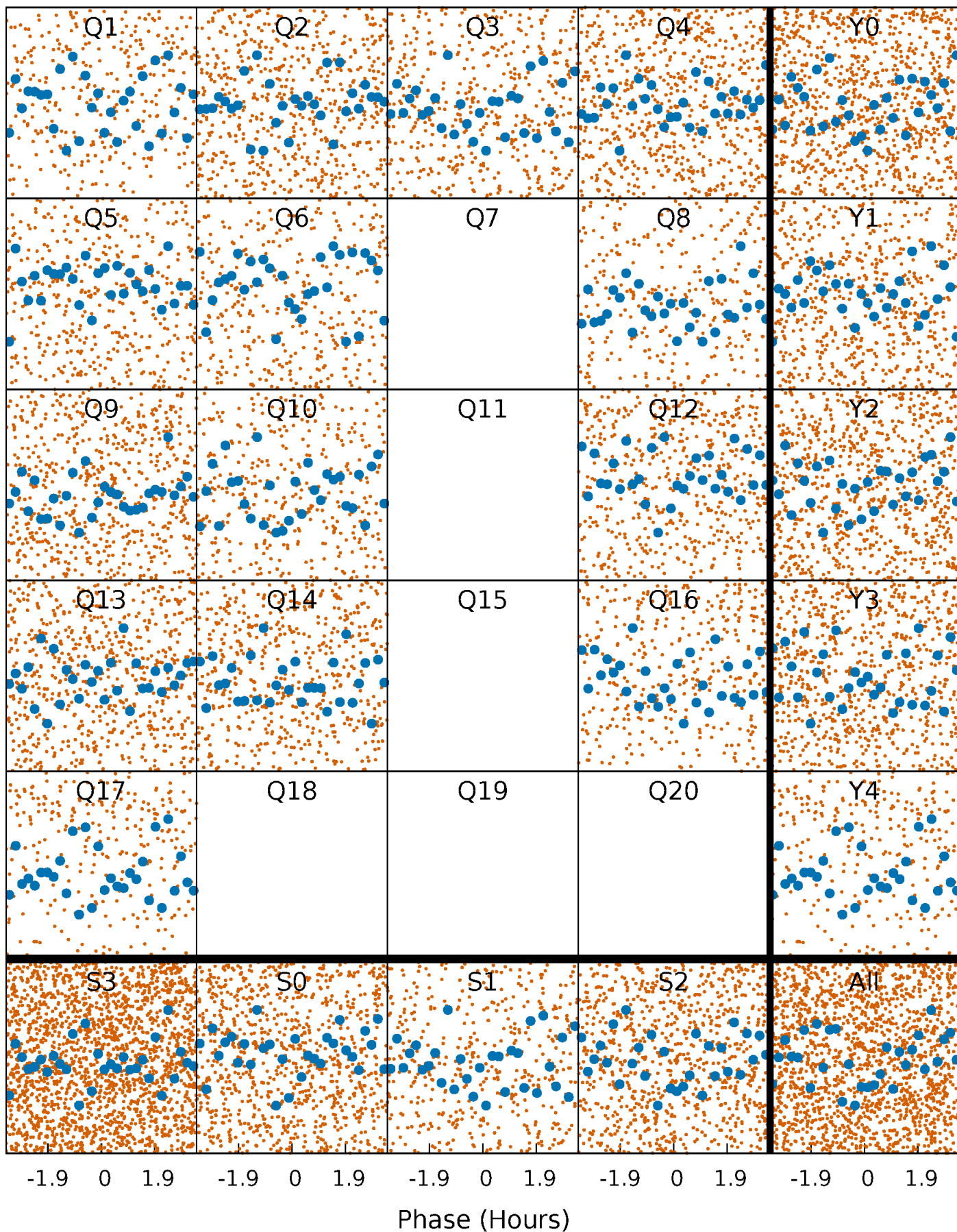


# Non-Whitened Vs. Whitened Light Curve



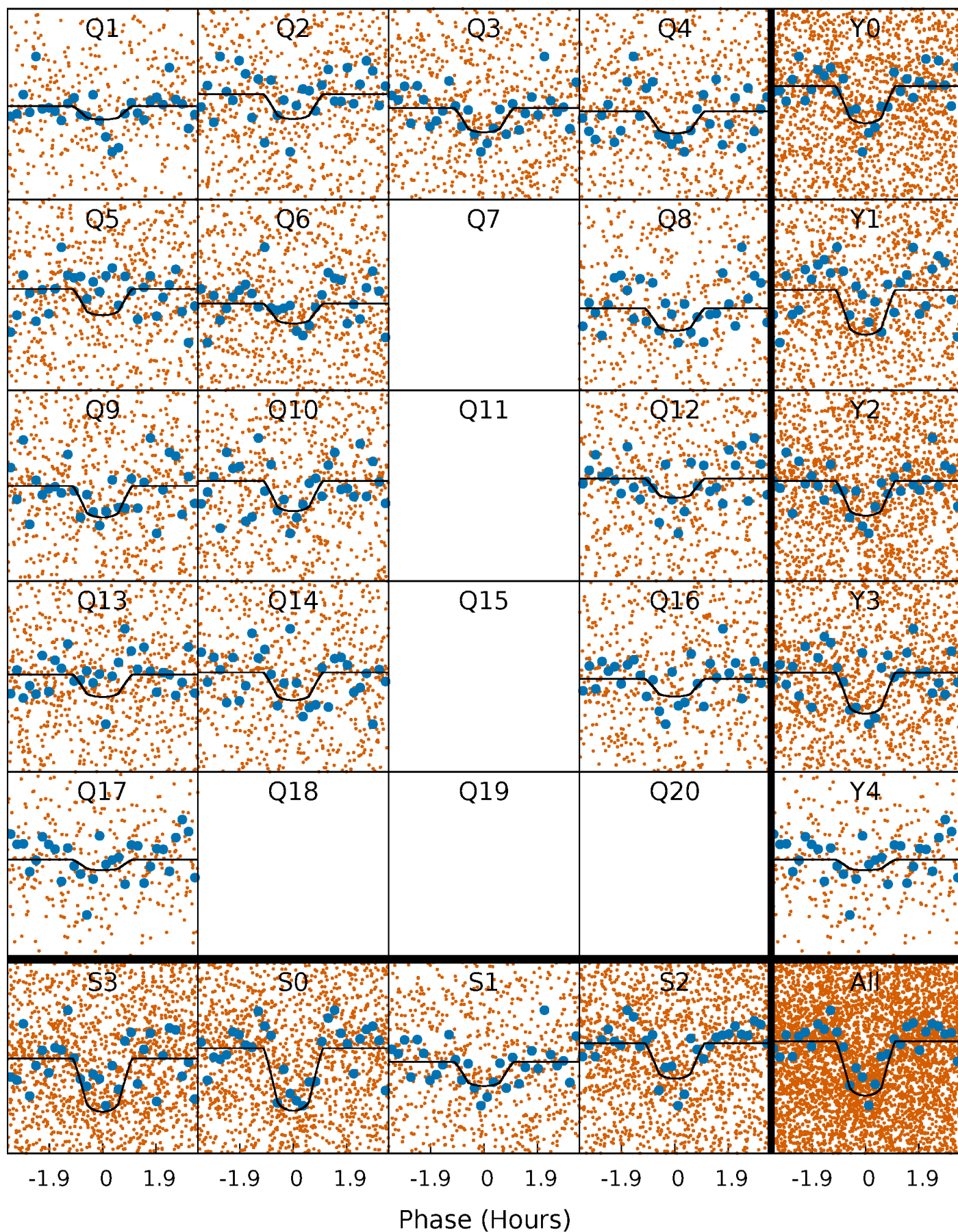
# PDC Quarter-Phased Transit Curves

TCE 009604563-01 P= 1.001933 Days  $T_0=132.461354$  (BKJD)



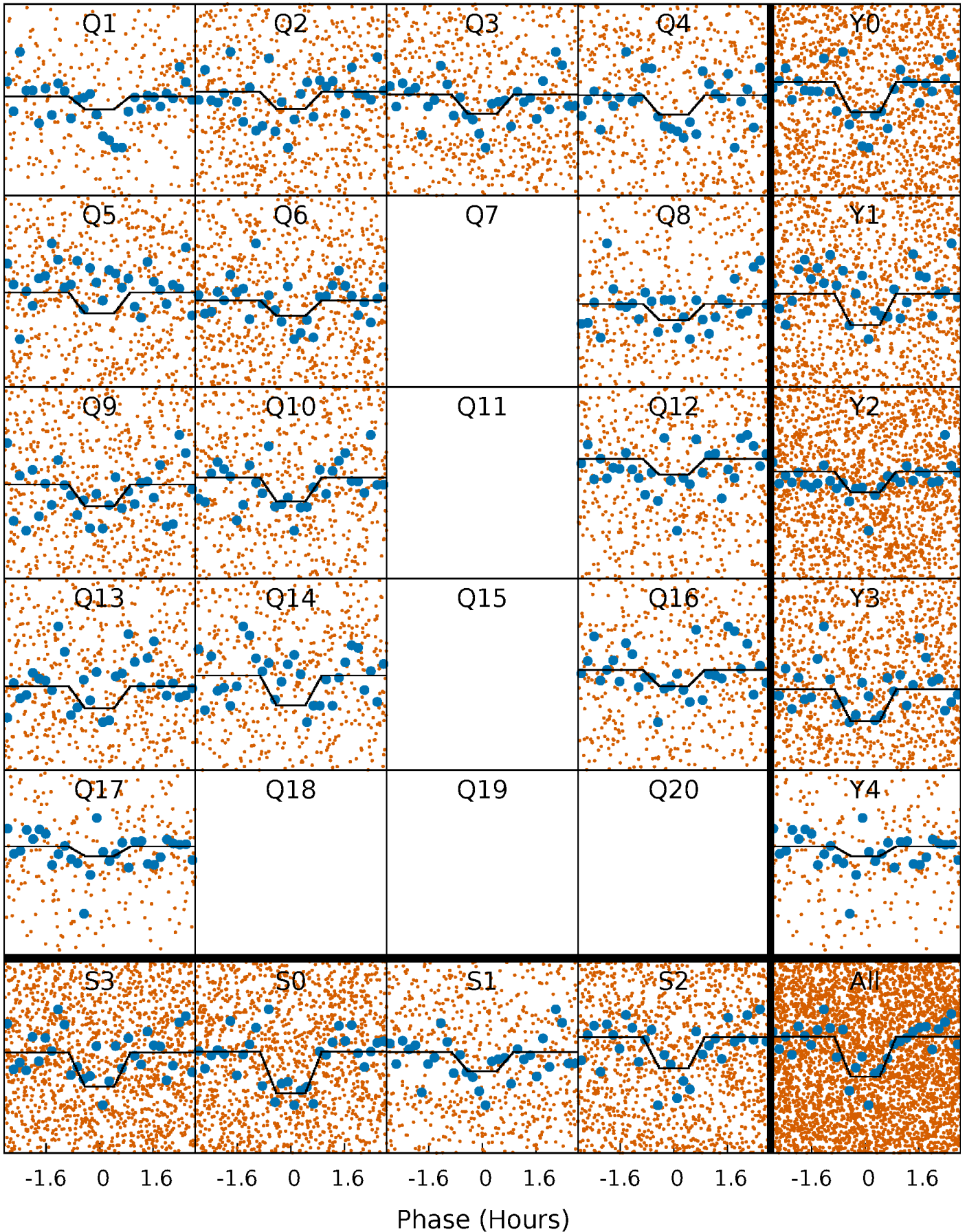
# DV Quarter-Phased Transit Curves

TCE 009604563-01 P= 1.001933 Days  $T_0=132.461354$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

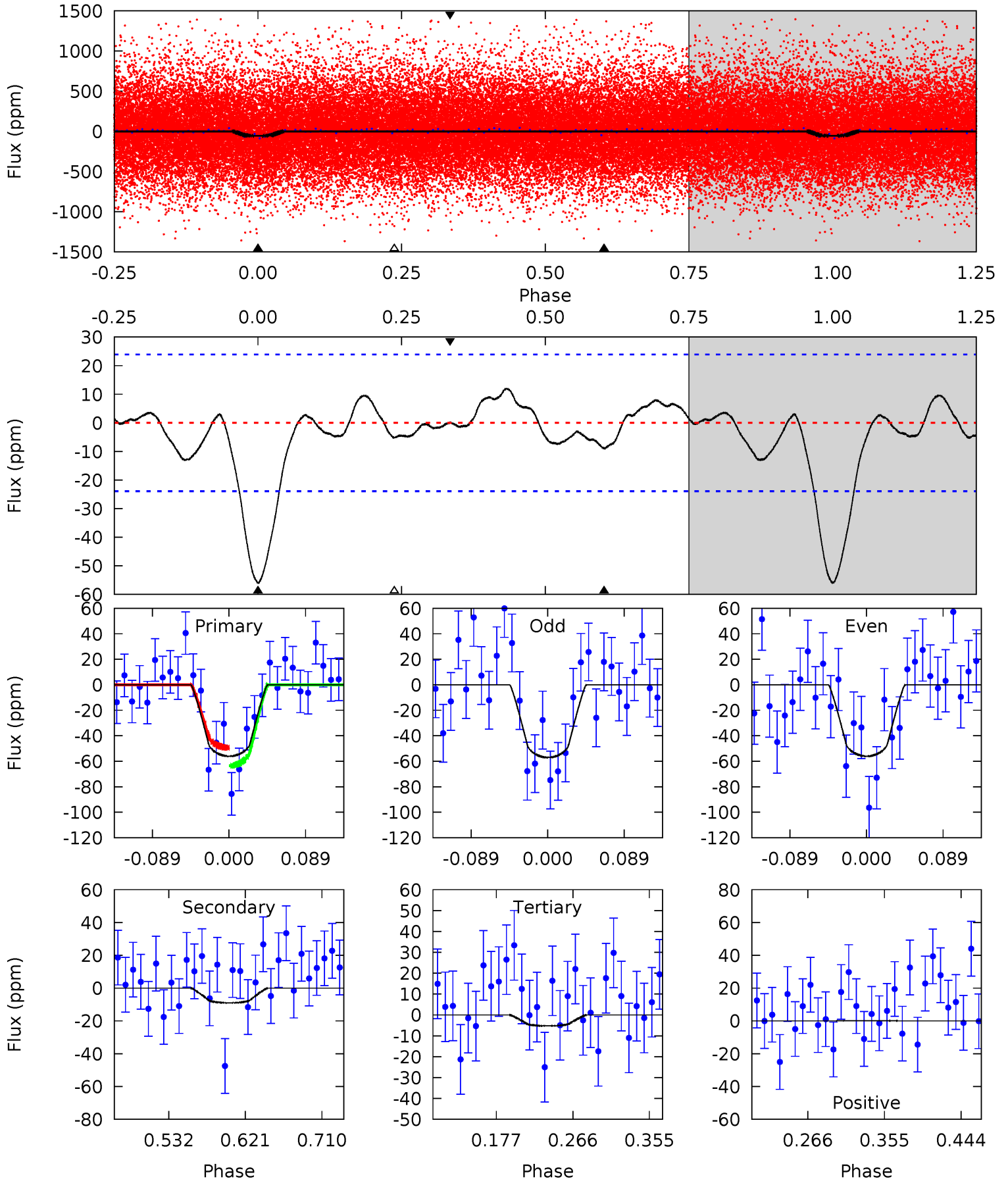
TCE 009604563-01 P= 1.001931 Days  $T_0=132.460032$  (BKJD)



# DV Model-Shift Uniqueness Test

009604563-01, P = 1.001933 Days, E = 131.459421 Days

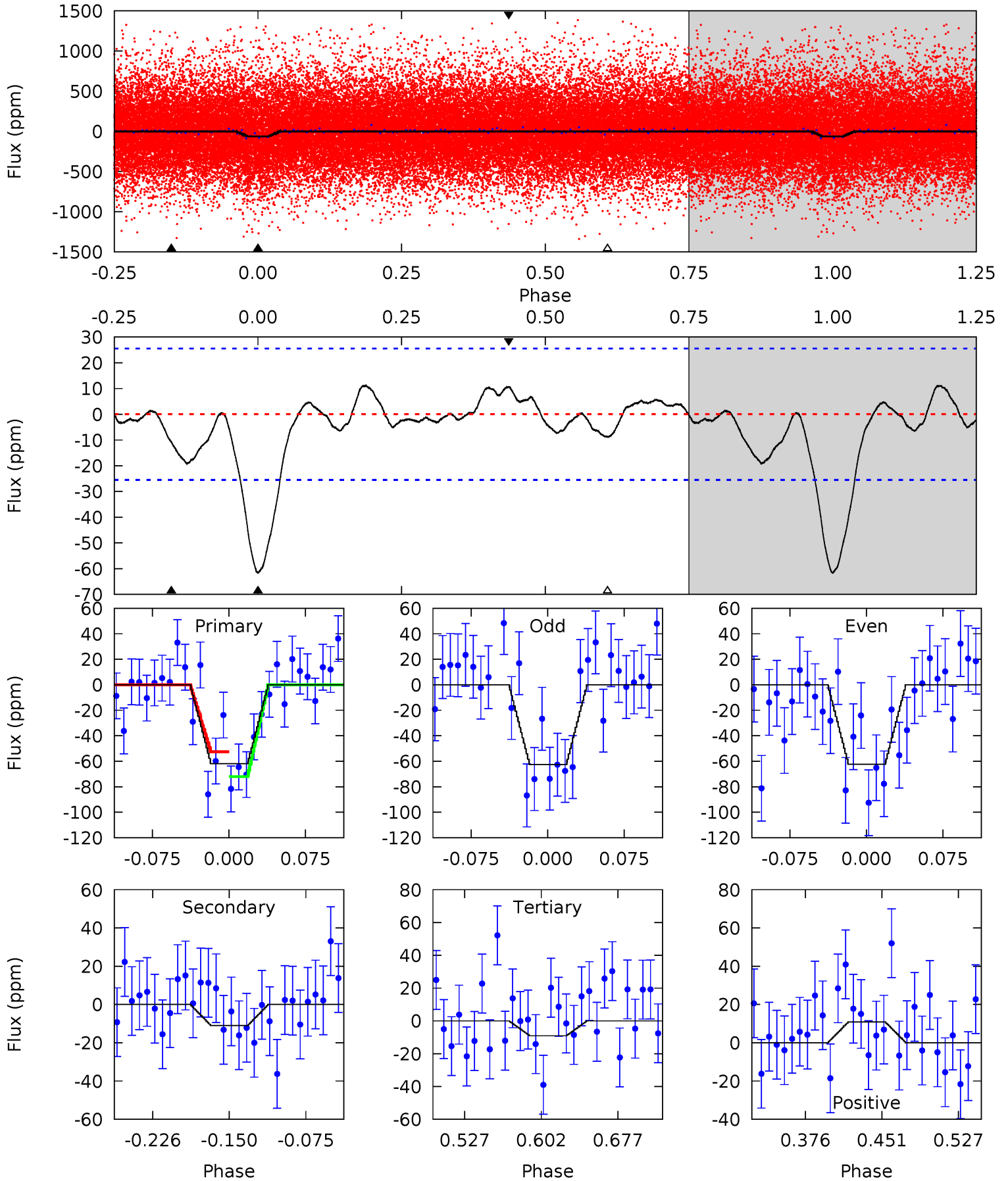
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	1.73	1.01	0.03	4.59	1.70	1.09	9.75	10.7	0.72	1.70	0.10	0.90	0.18	1.35



# Alt Model-Shift Uniqueness Test

009604563-01, P = 1.001931 Days, E = 131.458101 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
11.2	2.00	1.64	1.98	4.62	1.78	0.91	9.57	9.23	0.35	0.01	0.02	0.79	0.15	1.77



### Stellar Parameters For KIC 009604563

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5521^{+165}_{-148}$	$4.613^{+0.037}_{-0.112}$	$-0.440^{+0.300}_{-0.300}$	$0.734^{+0.127}_{-0.058}$	$0.821^{+0.078}_{-0.094}$	$2.925^{+0.469}_{-0.993}$
	+3%/-3%	+1%/-2%	+68%/-68%	+17%/-8%	+10%/-11%	+16%/-34%
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 009604563-01 / KOI 7949.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-9 \pm 5$	$0.80^{+0.56}_{-0.47}$	$2190^{+92}_{-80}$	$3398^{+1366}_{-822}$	$2.342^{+11.696}_{-1.764}$
Alt.	$-11 \pm 6$	$0.72^{+0.47}_{-0.42}$	$2190^{+111}_{-81}$	$3675^{+1707}_{-684}$	$3.595^{+20.347}_{-2.488}$

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

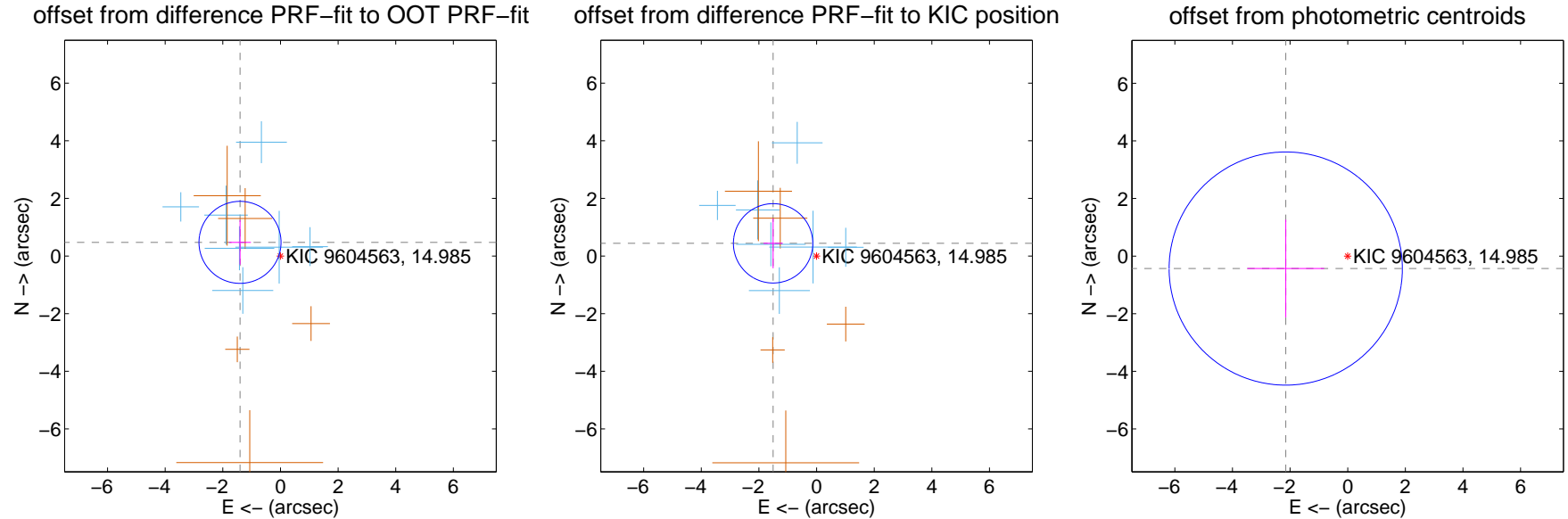
## DV Centroid Data

Supplemental centroid analysis for 009604563-01. Kepler magnitude: 14.98. Transit SNR 9.06

There are 7 quarters with good PRF difference image offsets

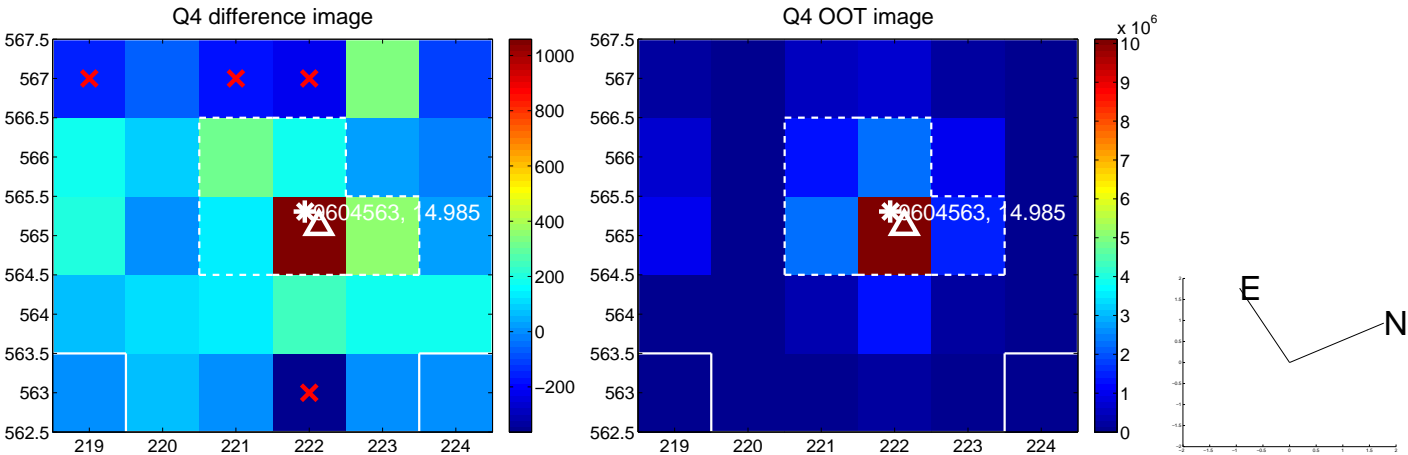
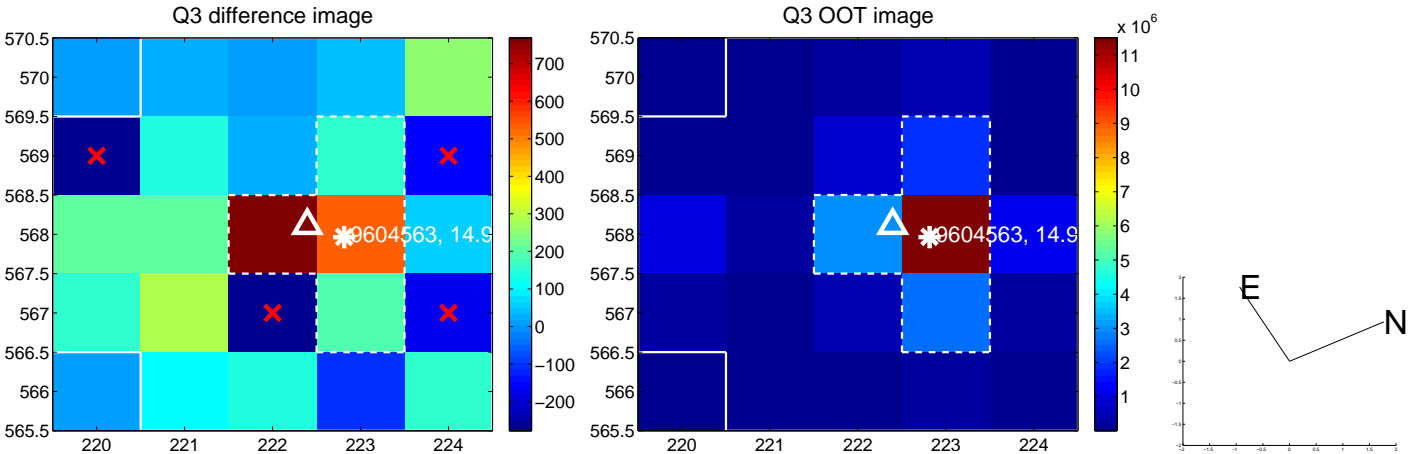
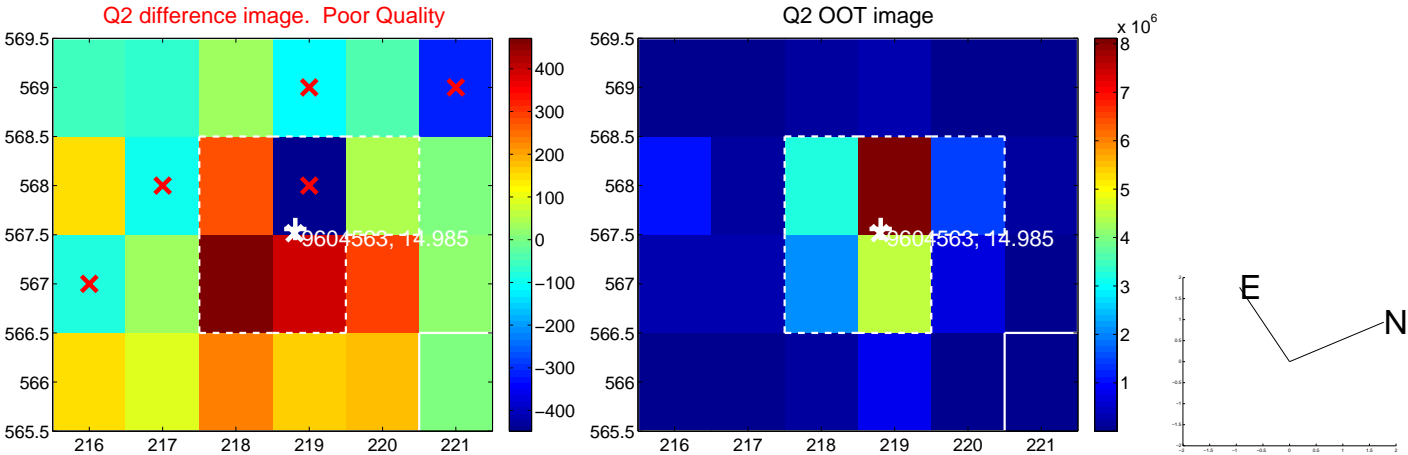
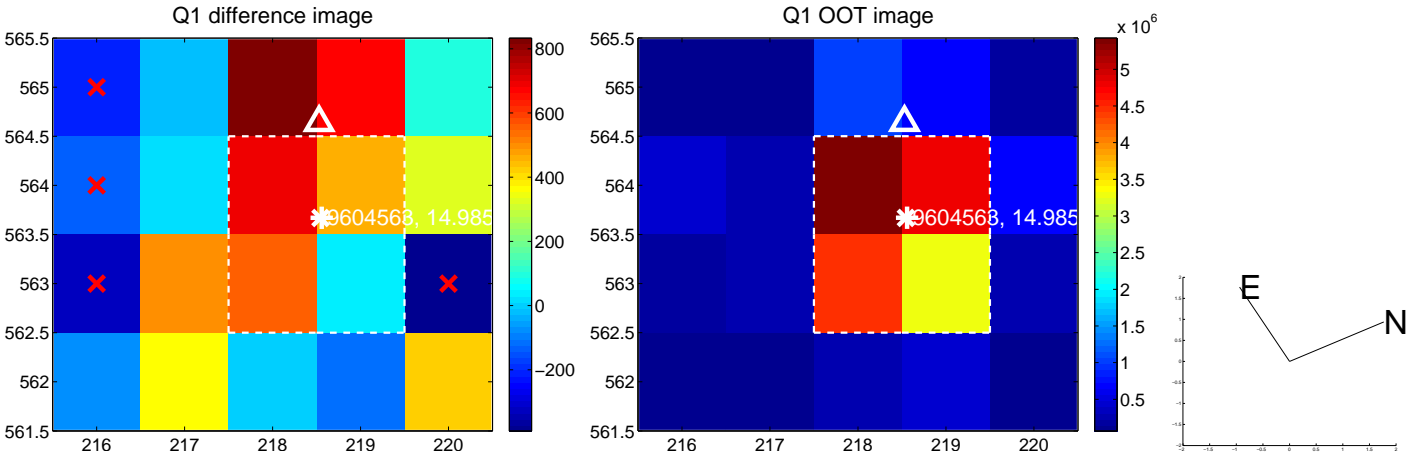
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>1.482 <math>\pm</math> 0.474</b>	<b>3.12</b>	1.404 $\pm$ 0.379	0.475 $\pm$ 0.776
PRF-fit source offset from KIC position	<b>1.572 <math>\pm</math> 0.459</b>	<b>3.42</b>	1.509 $\pm$ 0.332	0.441 $\pm$ 0.864
photometric centroid source offset	2.19 $\pm$ 1.35	1.63	2.15 $\pm$ 1.33	-0.43 $\pm$ 1.70

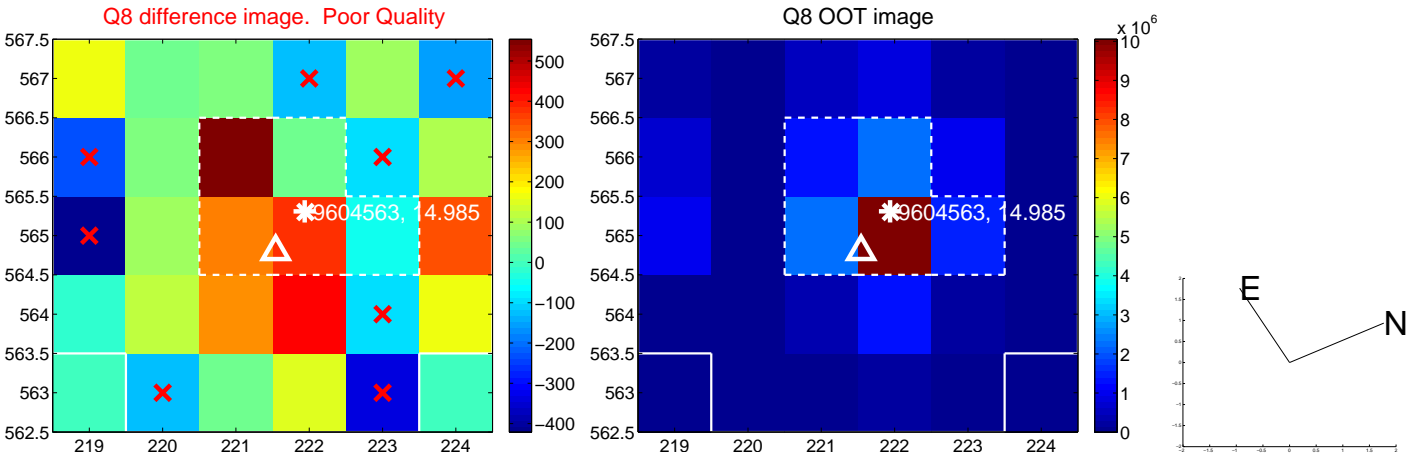
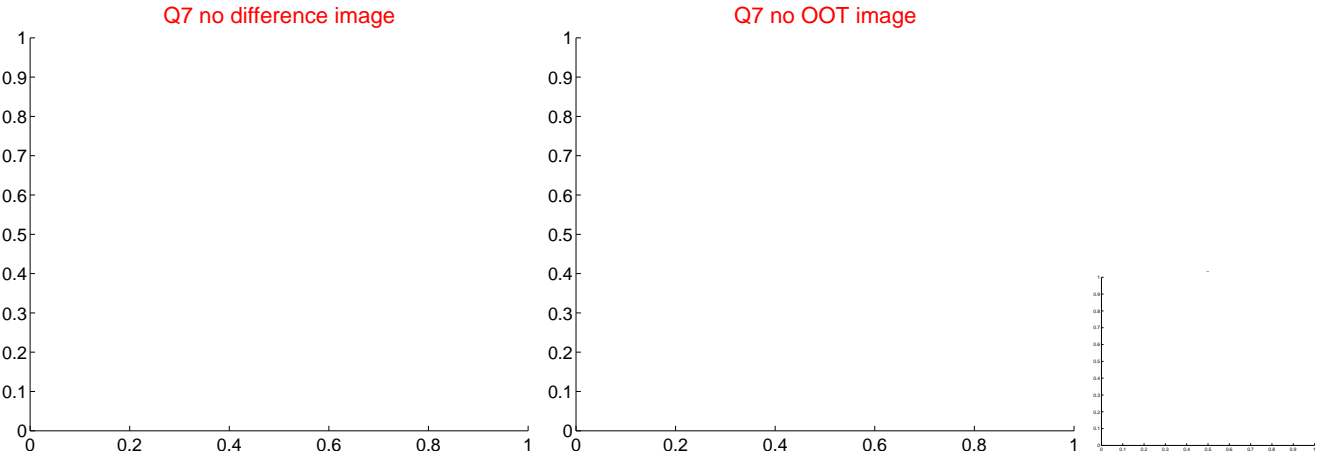
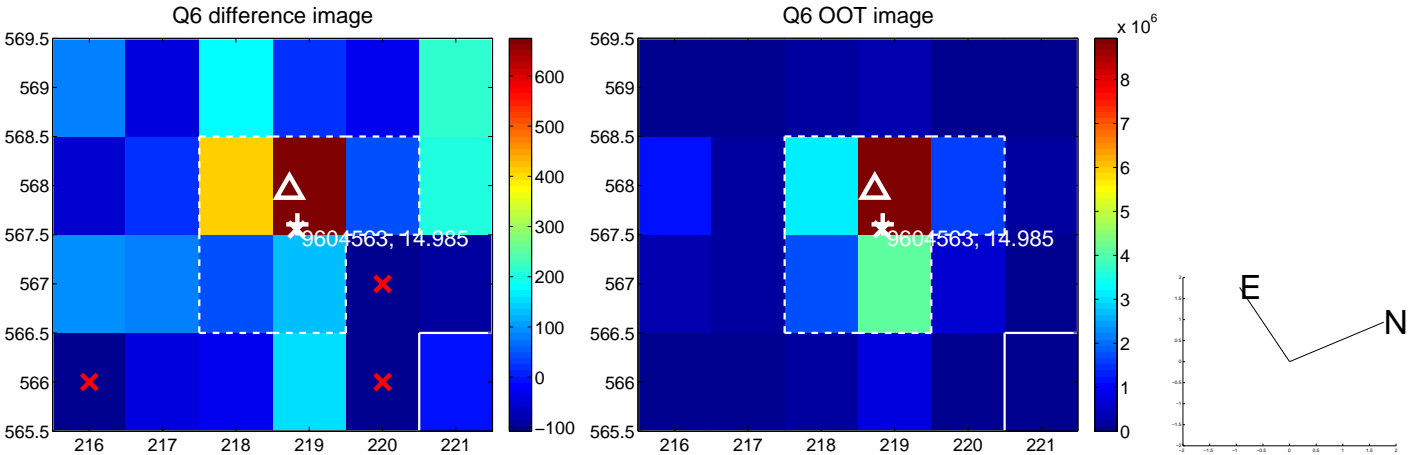
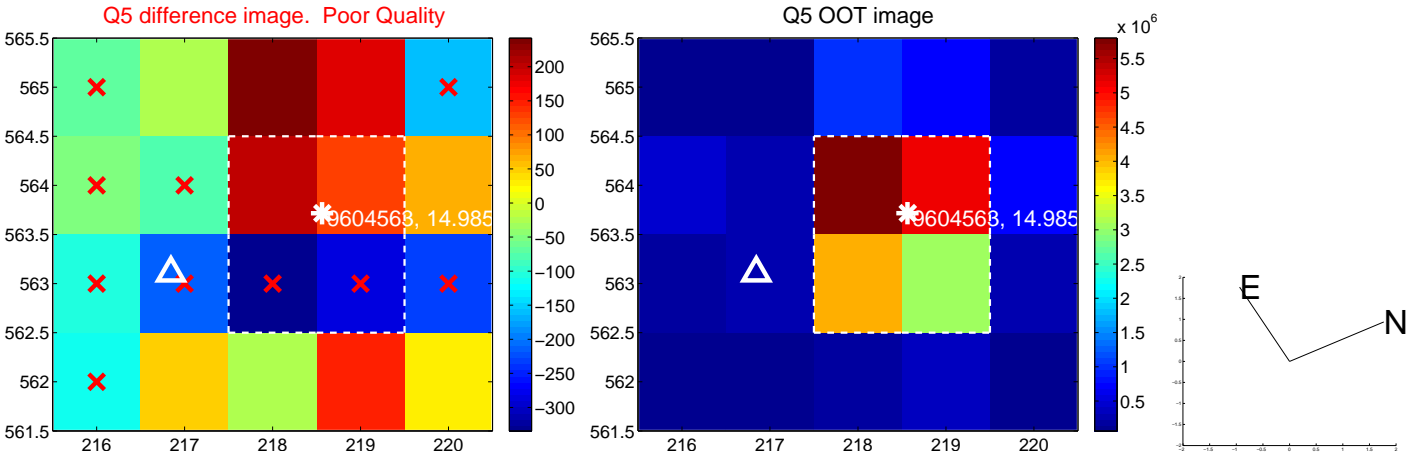


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

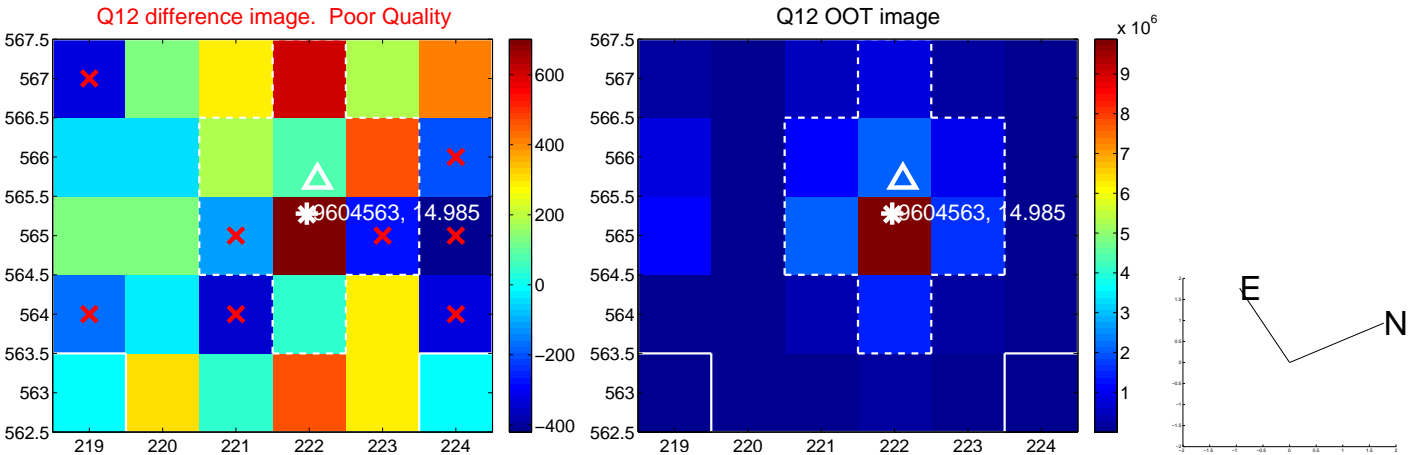
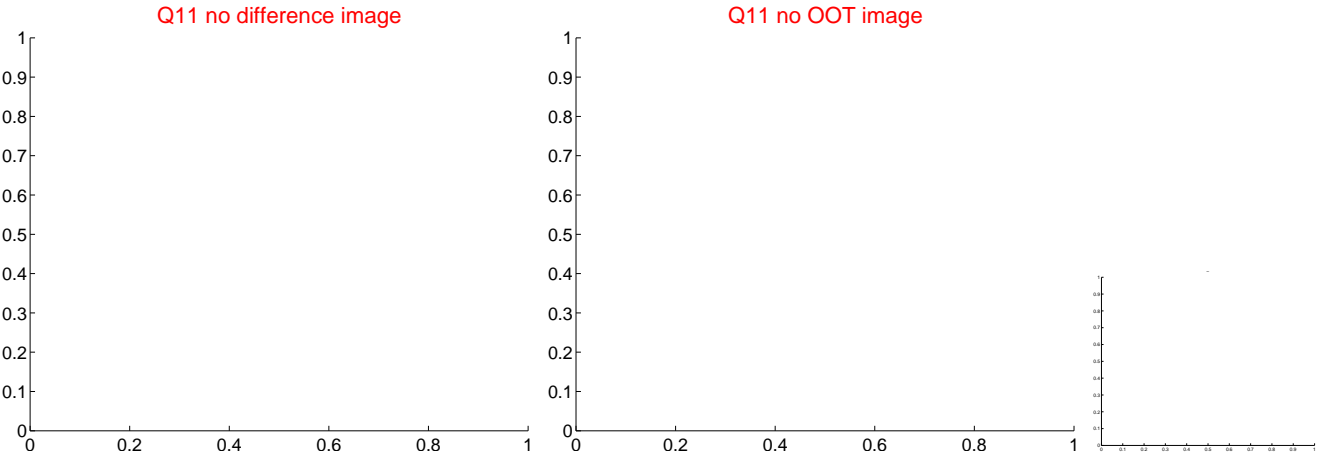
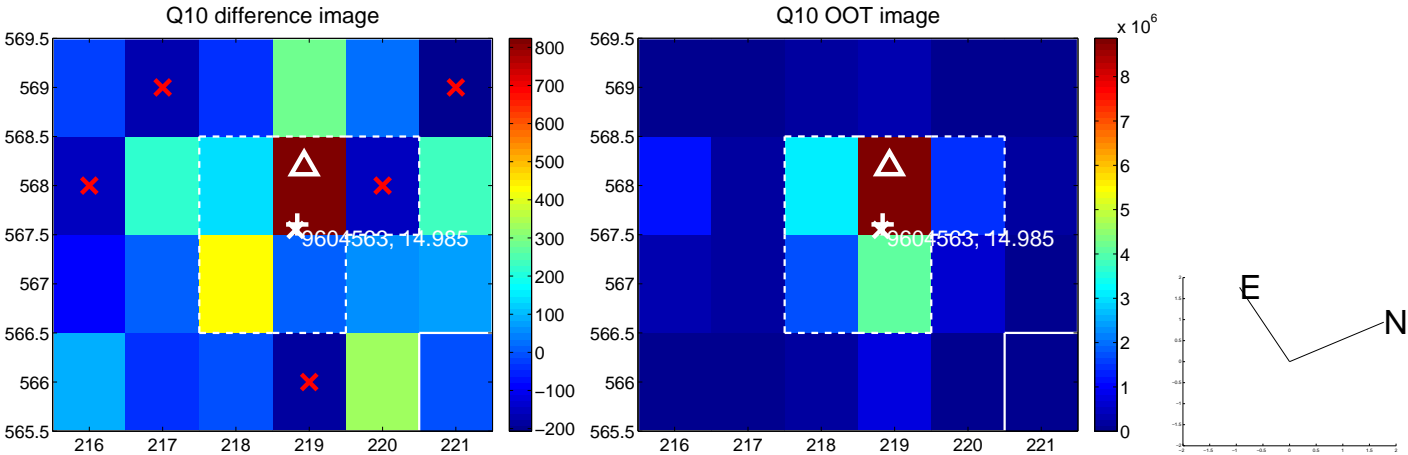
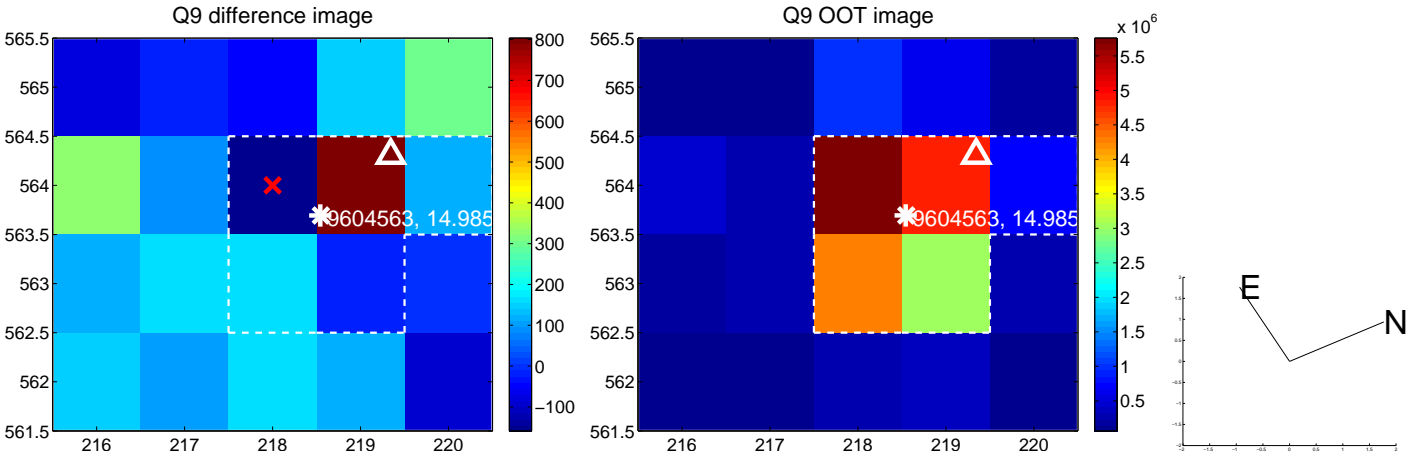
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



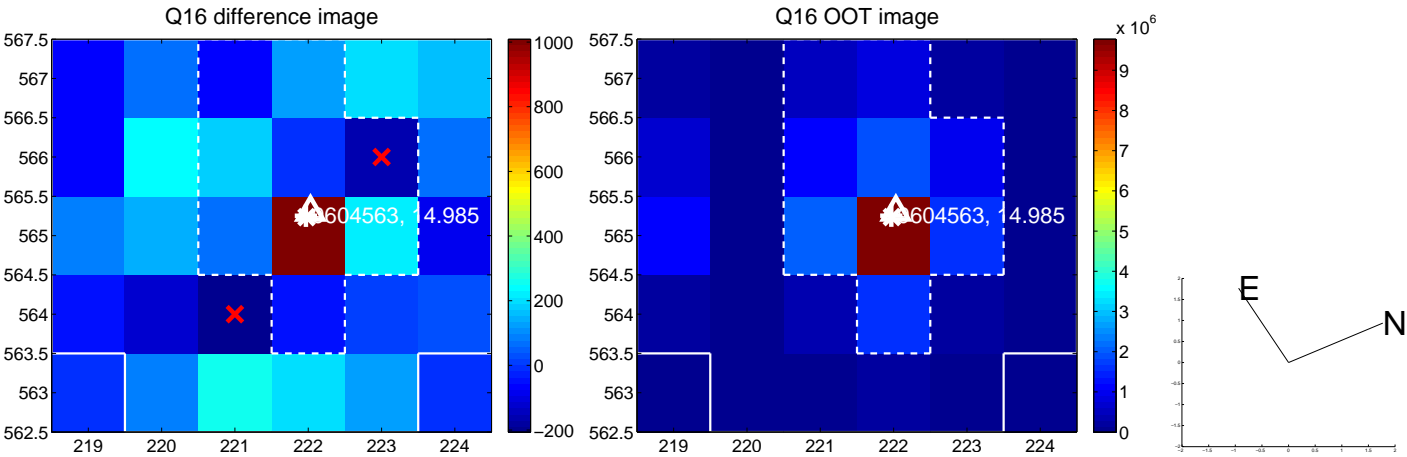
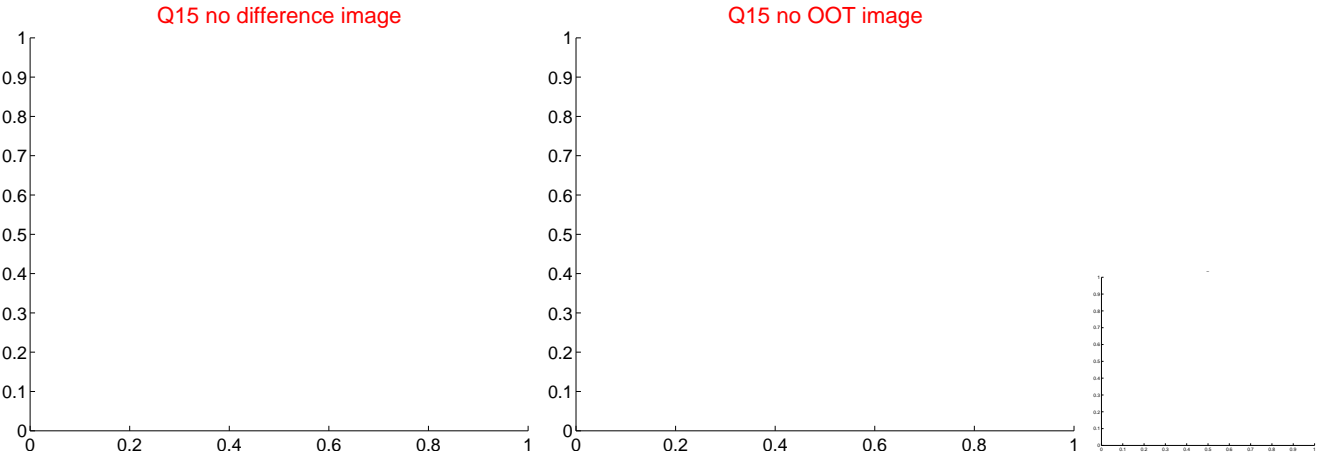
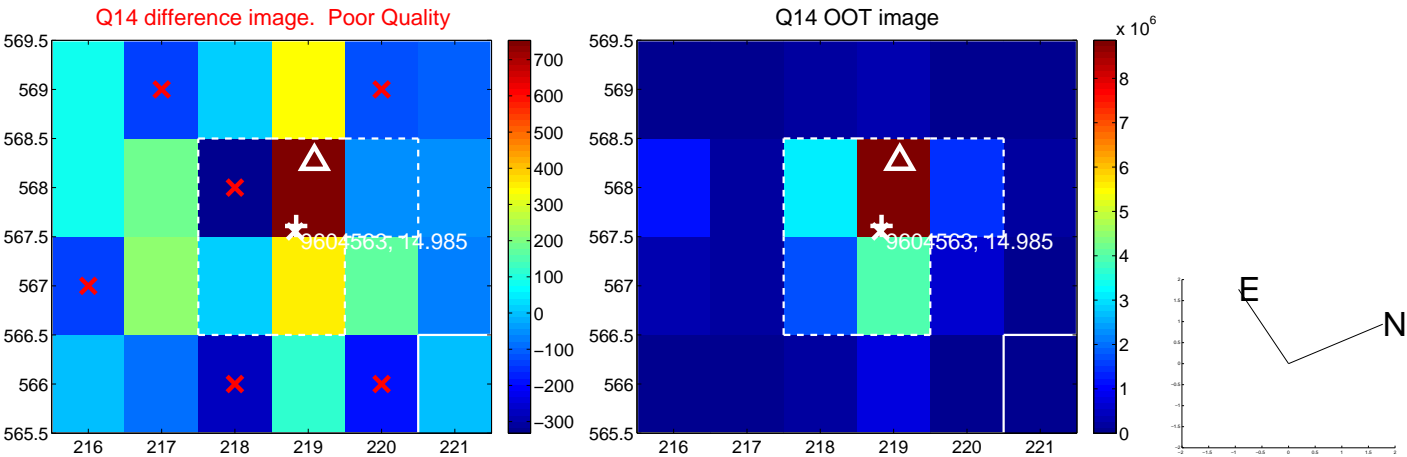
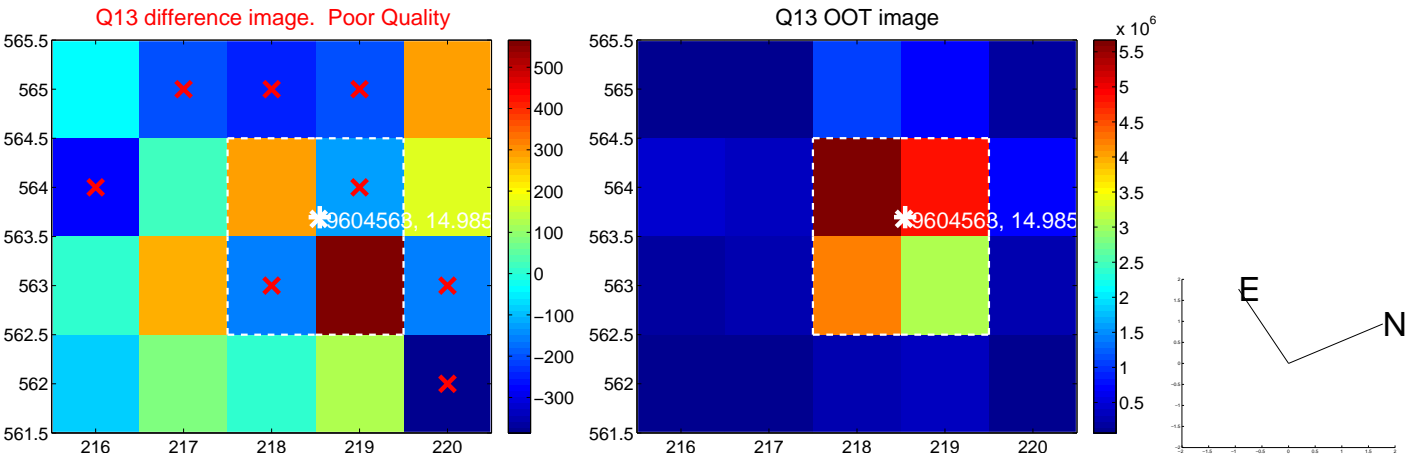
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



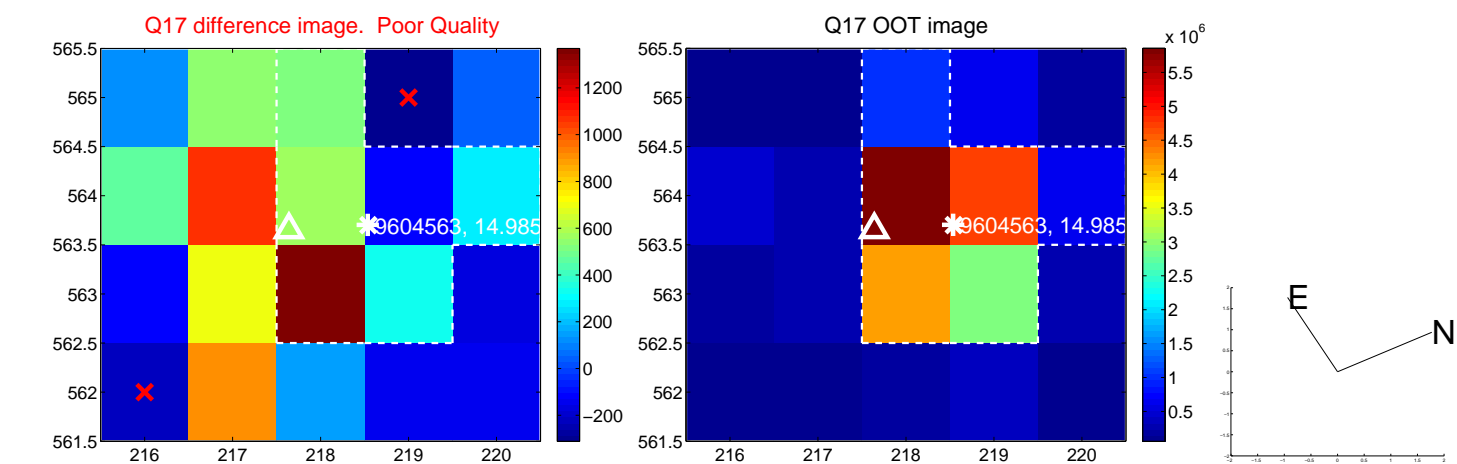
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



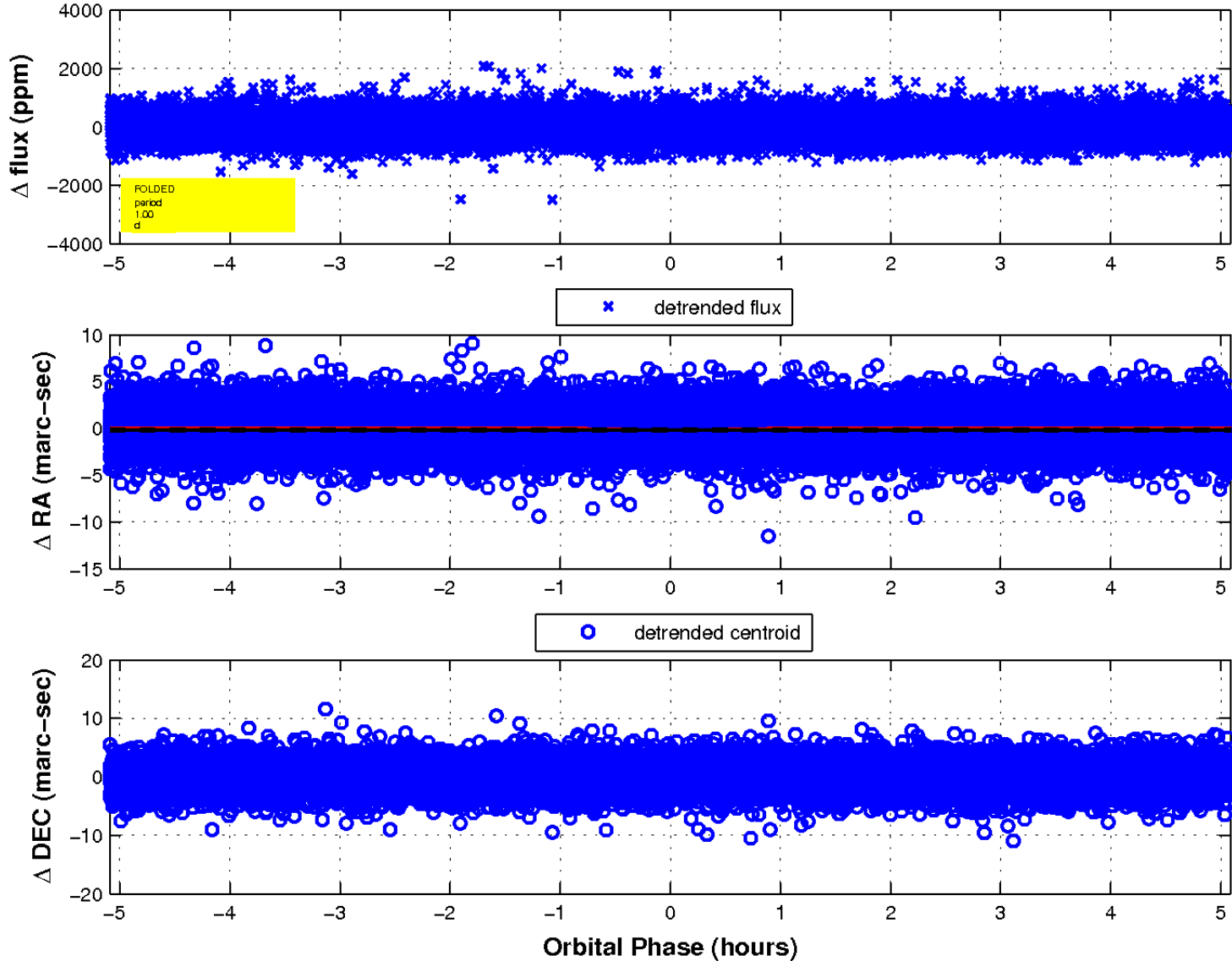
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

