

# KIC 009658192

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009658192-01	OBS	7957.01	1.886007	131.738577	51.7	1.079	7.4	8.6	0.93	5793	0.82	998.19

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009658192-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST

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

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

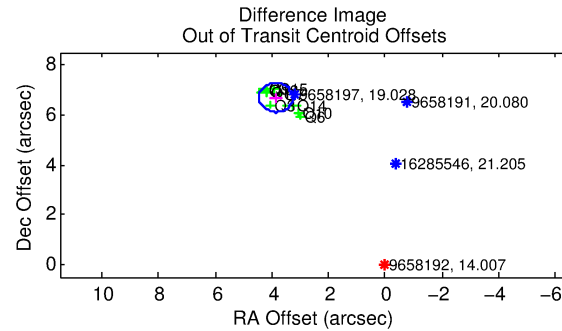
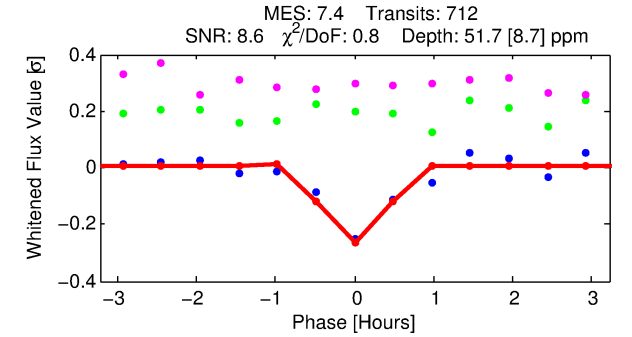
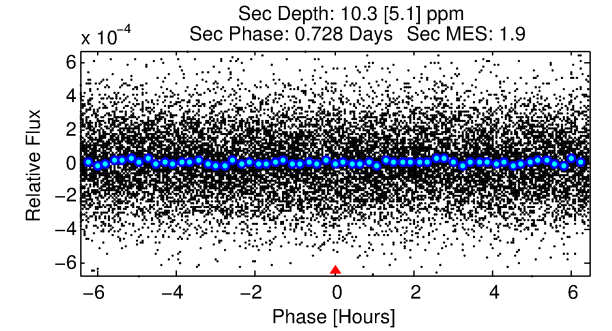
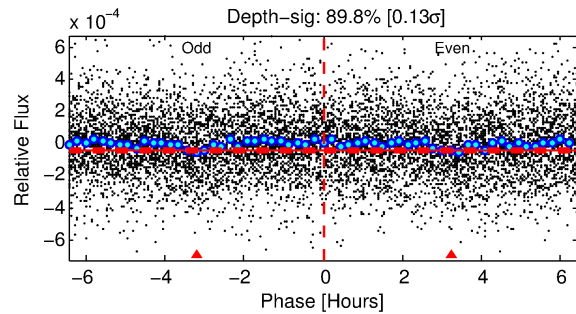
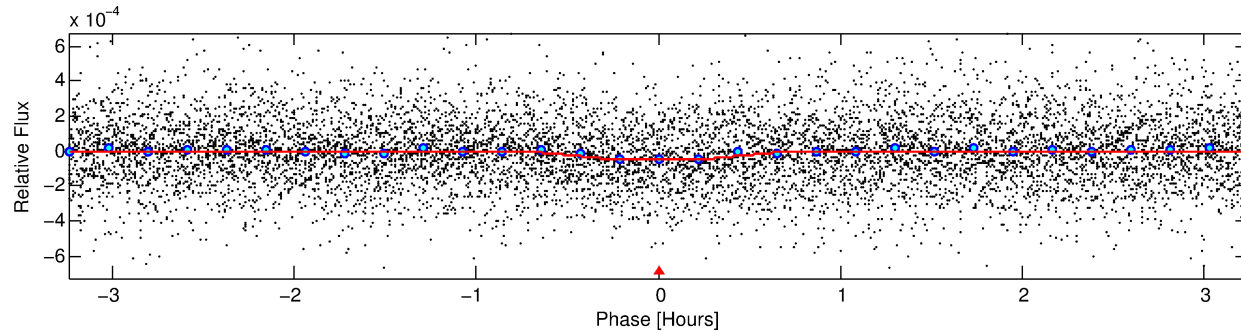
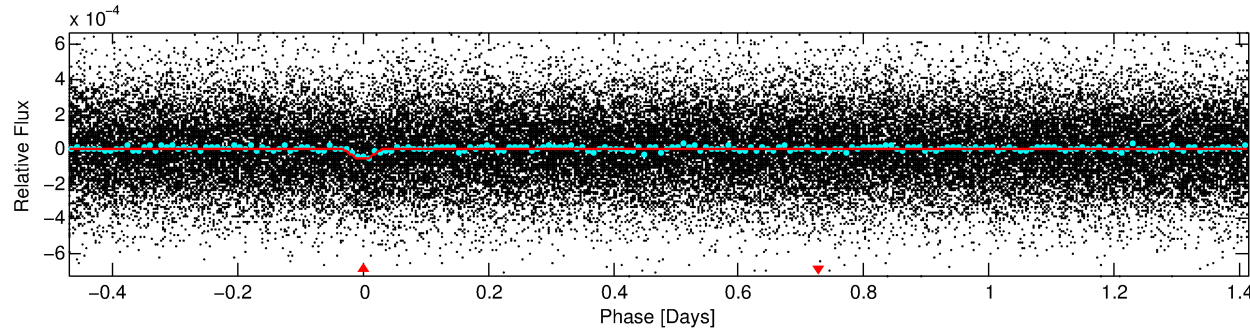
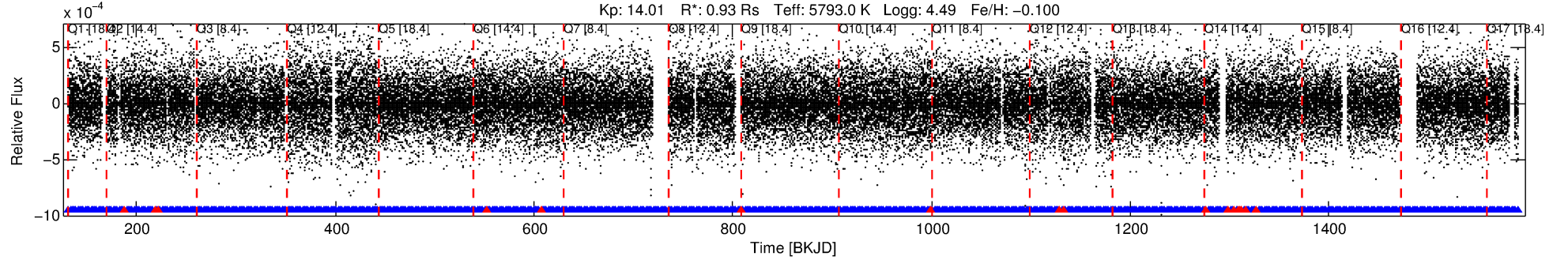
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009658192-01

No Significant Match Found

# DV One-Page Summary

KIC: 9658192 Candidate: 1 of 1 Period: 1.886 d



## DV Fit Results:

Period = 1.88601 [0.00001] d  
Epoch = 131.7386 [0.0021] BKJD  
Rp/R\* = 0.0081 [0.0056]  
a/R\* = 5.36 [18.13]  
b = 0.93 [0.54]  
Seff = 998.19 [376.92]  
Teq = 1433 [135] K  
Rp = 0.82 [0.62] Re  
a = 0.0294 [0.0073] AU  
Ag = 7.32 [11.10] [0.57 $\sigma$ ]  
Teffp = 3645 [1347] K [1.63 $\sigma$ ]

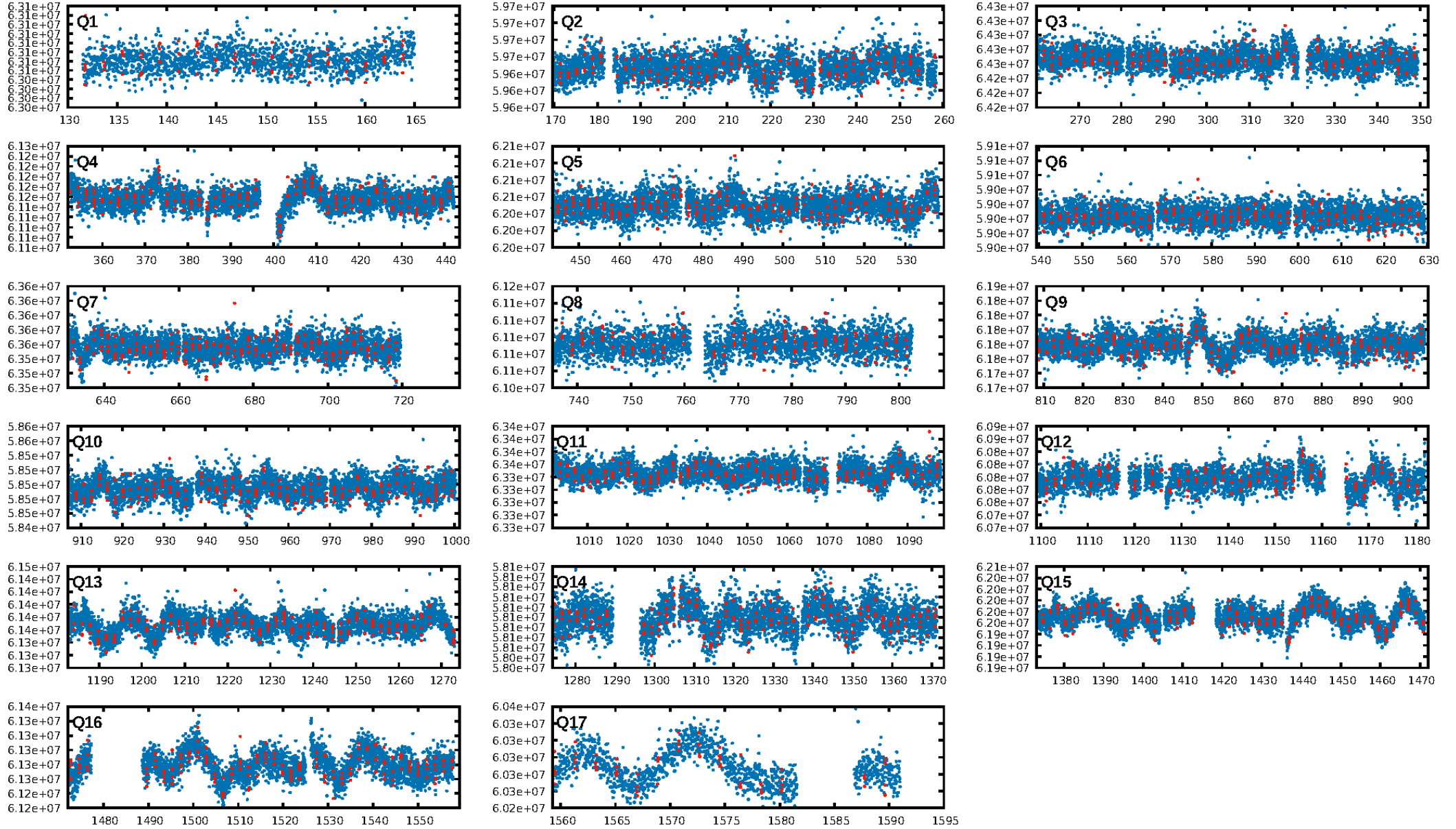
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 6.17e-13  
RollingBand-fgt: 0.97 [663/680]  
GhostDiagnostic-chr: -0.2136  
Centroid-sig: 0.0%  
Centroid-so: 44.374 arcsec [29.66 $\sigma$ ]  
OotOffset-rm: 7.724 arcsec [39.40 $\sigma$ ]  
KicOffset-rm: 7.863 arcsec [39.05 $\sigma$ ]  
OotOffset-st: 3/3/0/3 [9]  
KicOffset-st: 3/3/0/3 [9]  
DiffImageQuality-fgm: 1.00 [9/9]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:22:49 Z

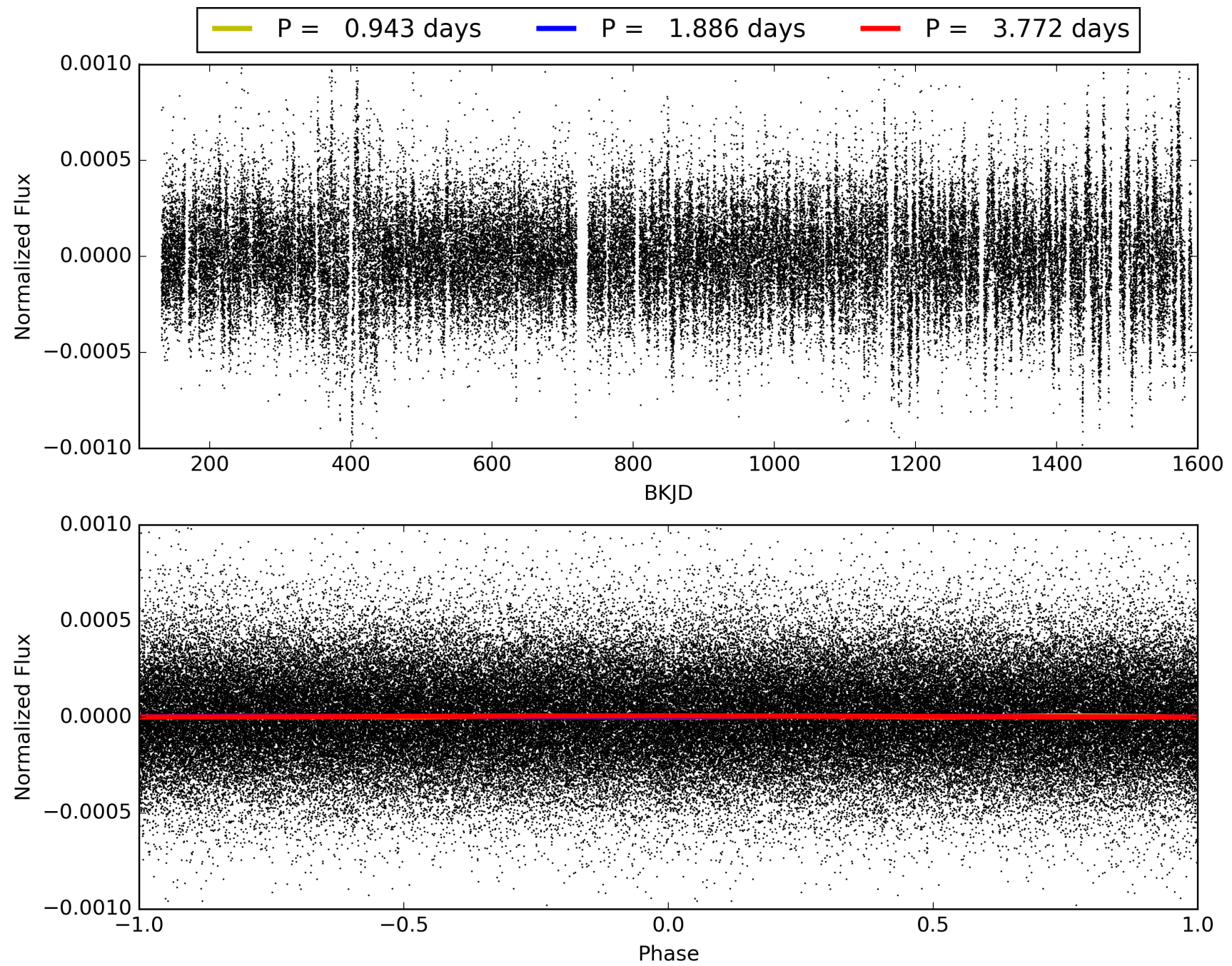
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 009658192-01, PDC Light Curves



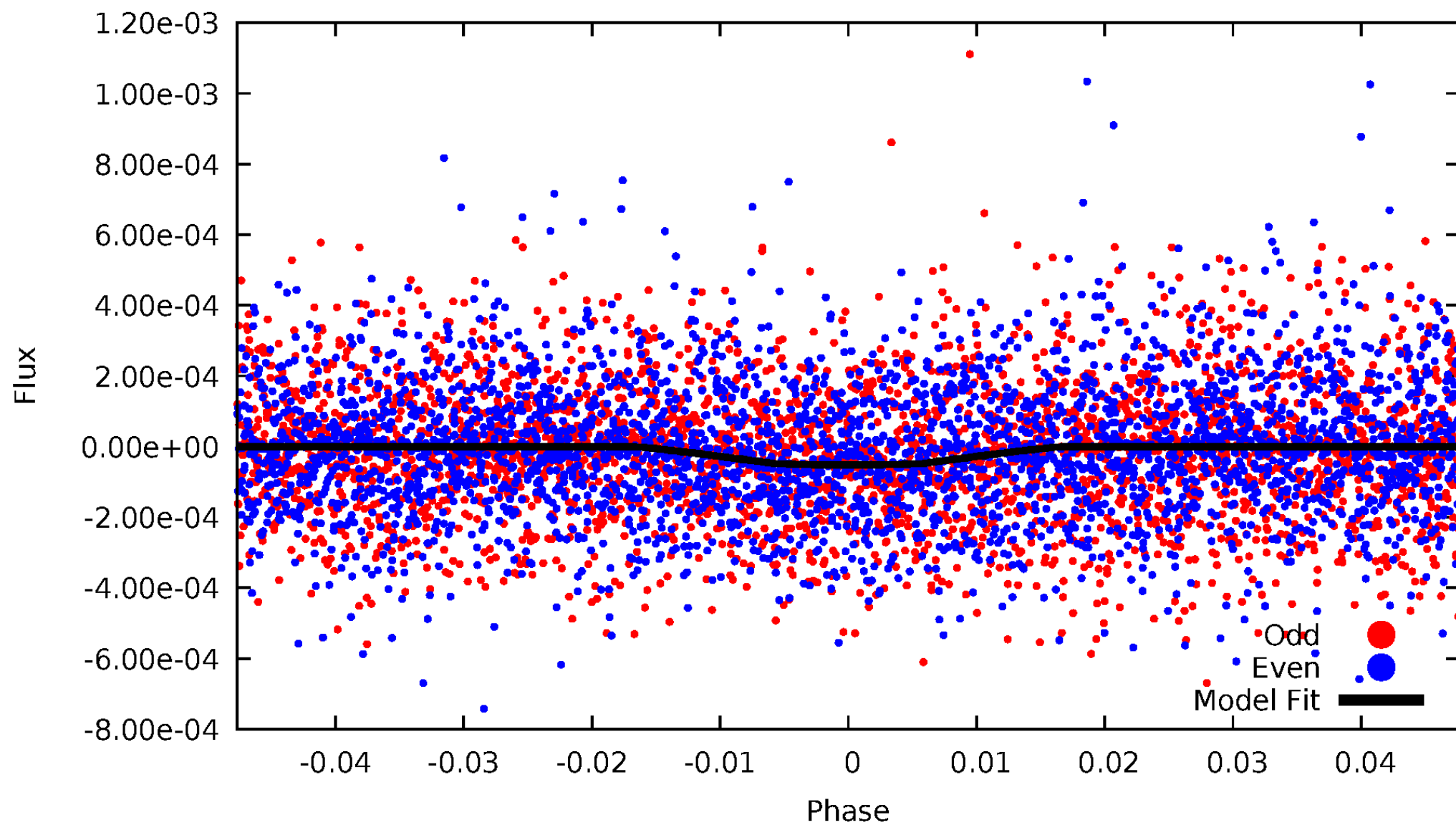


TCE 009658192-01



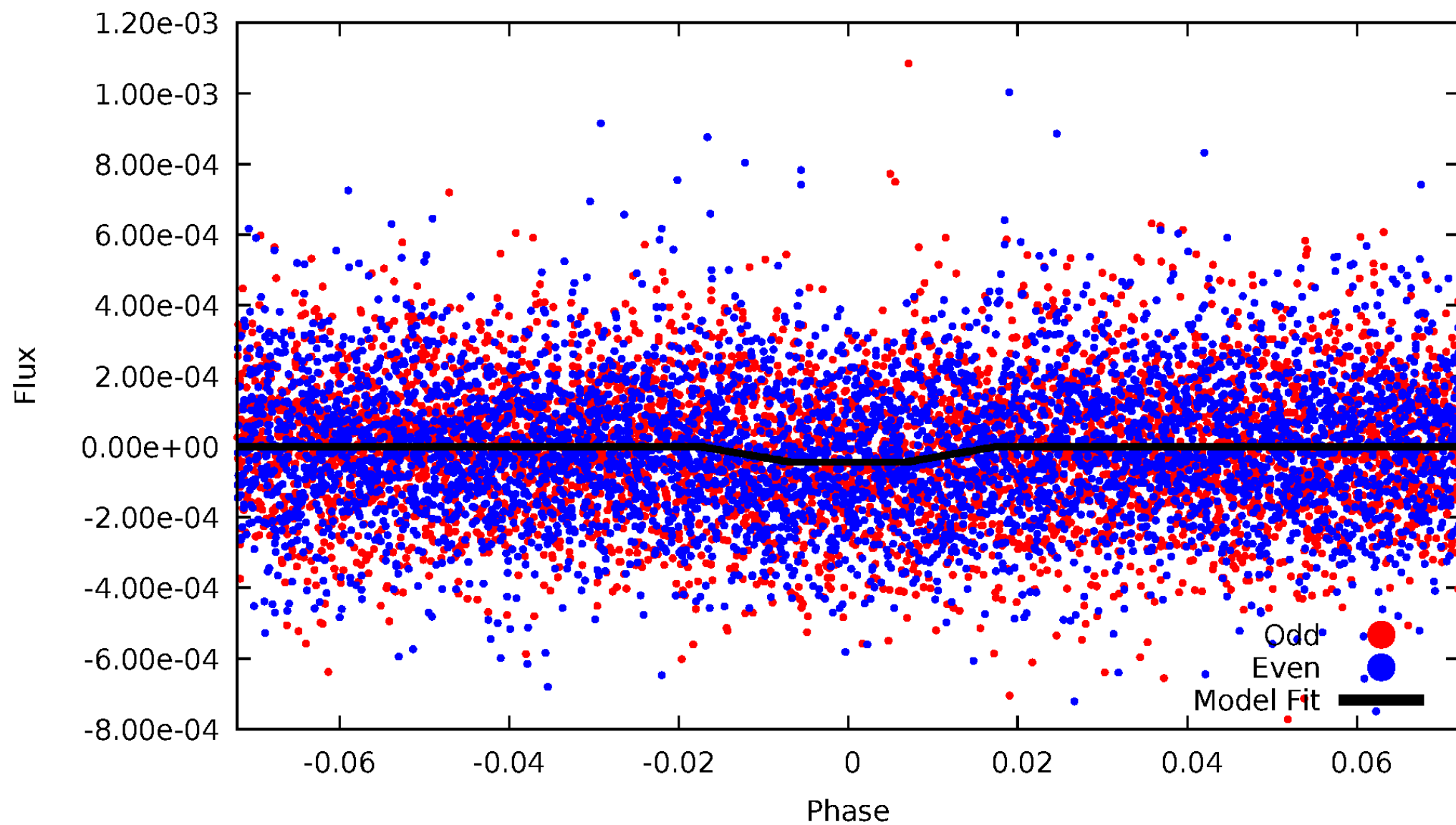
# DV Odd/Even

TCE 009658192-01

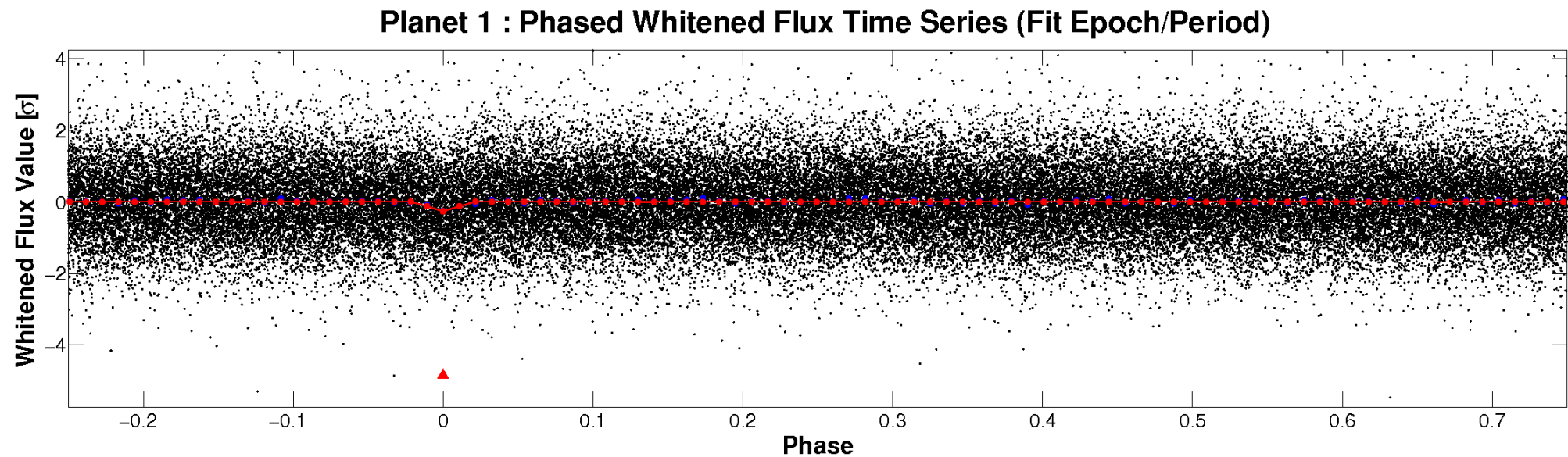
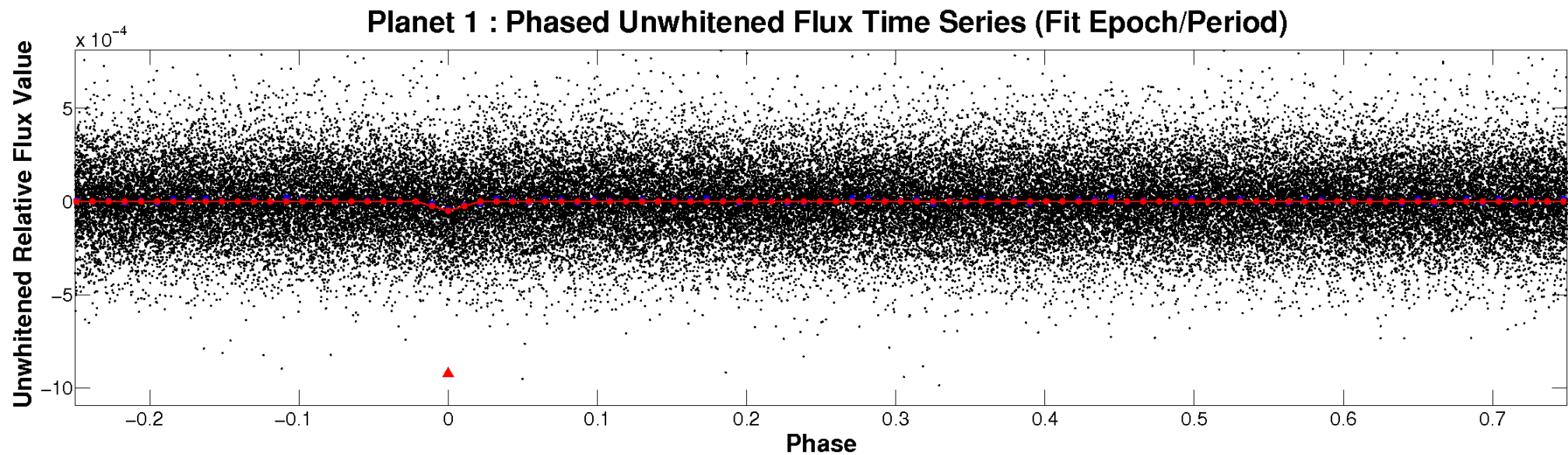


# ALT Odd/Even

TCE 009658192-01



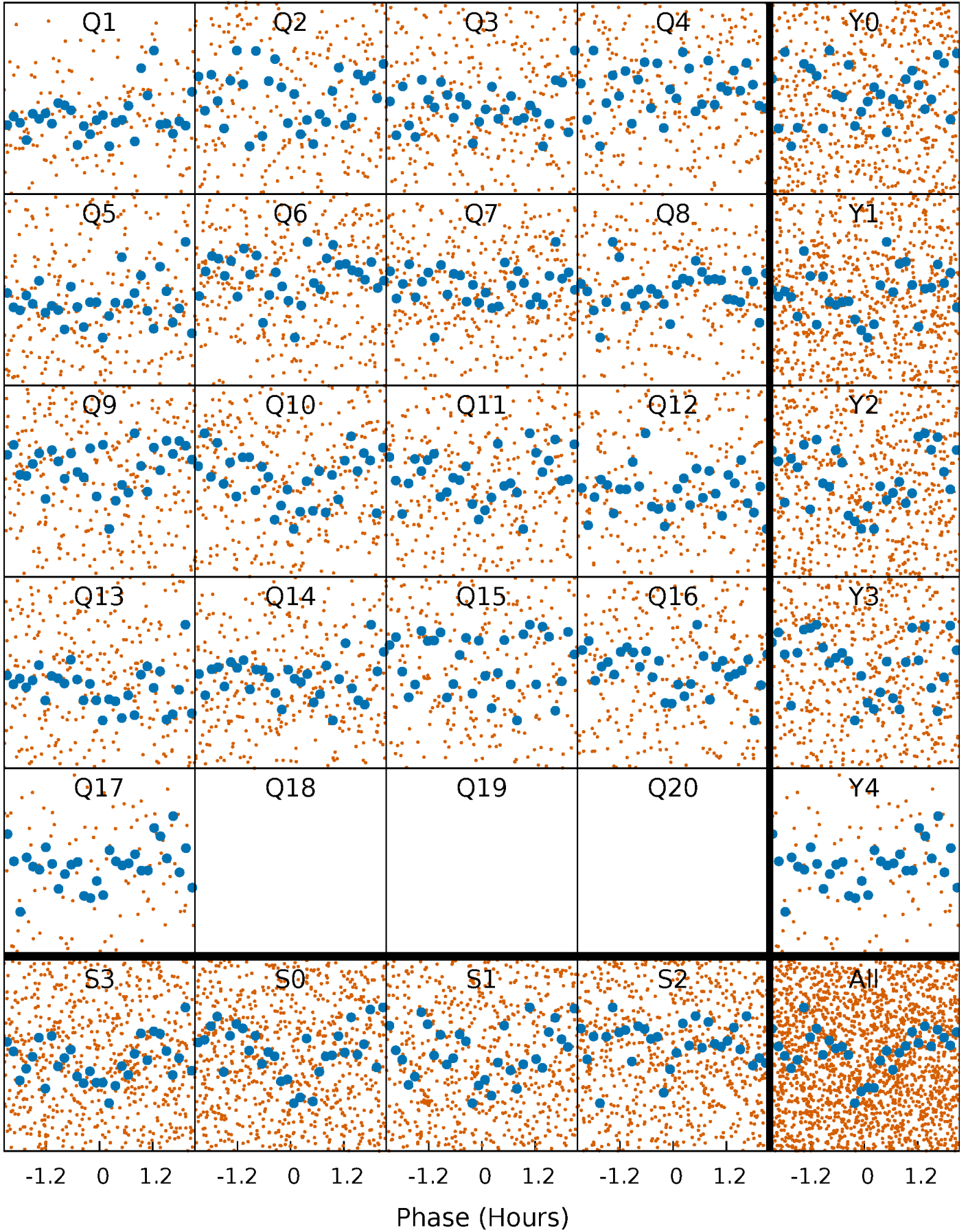
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

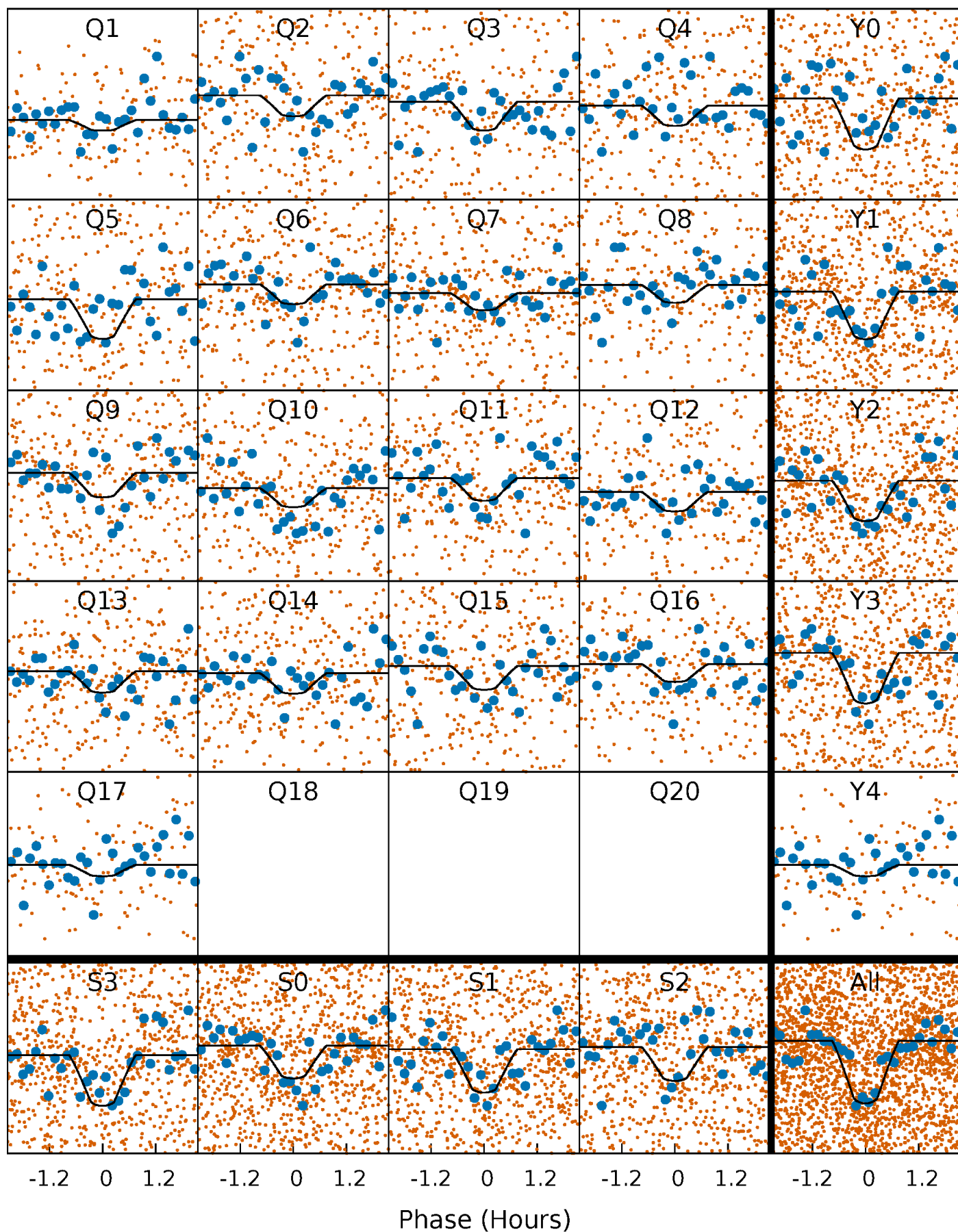
TCE 009658192-01   P= 1.886007 Days    $T_0=131.738577$  (BKJD)





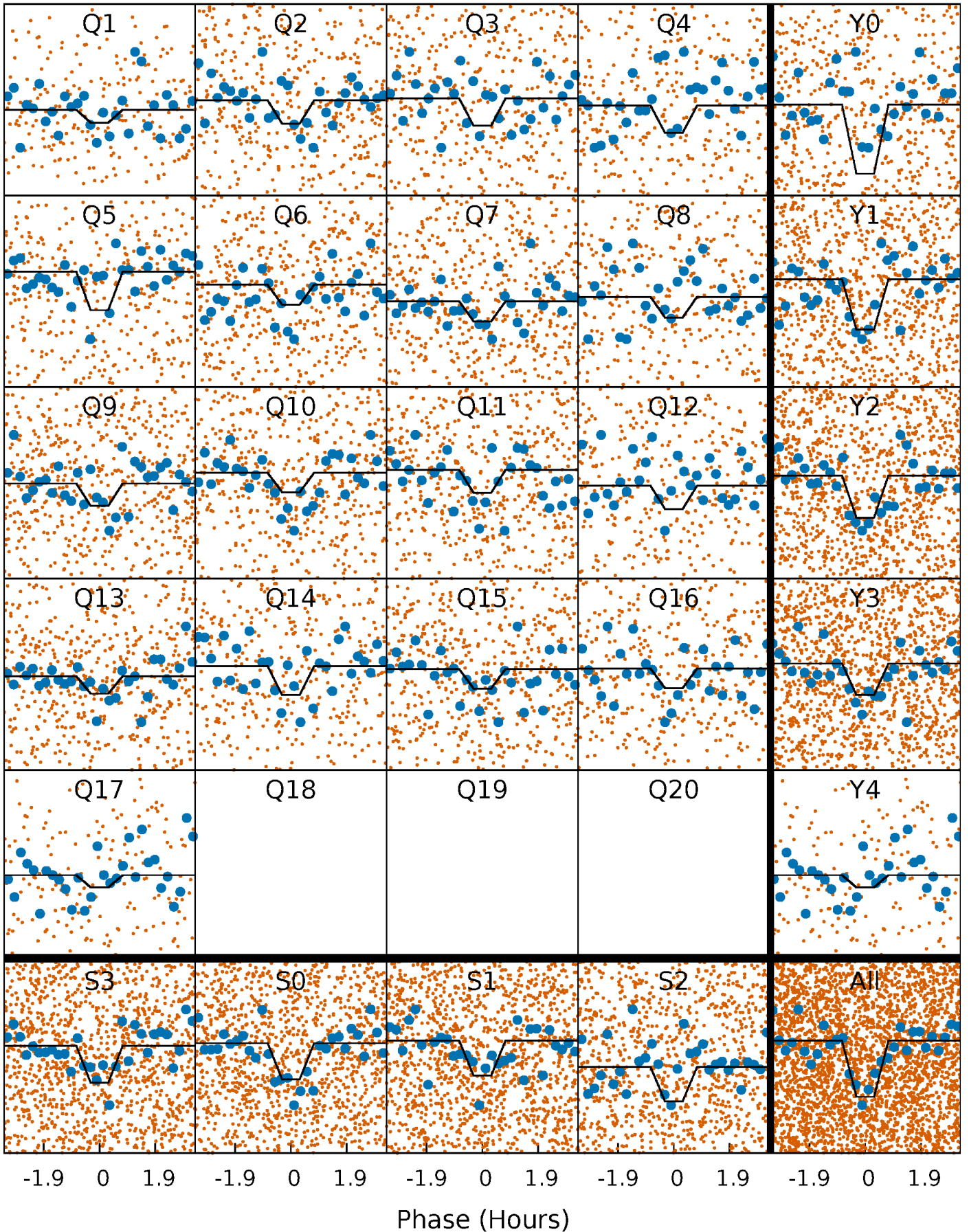
# DV Quarter-Phased Transit Curves

TCE 009658192-01   P= 1.886007 Days    $T_0=131.738577$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

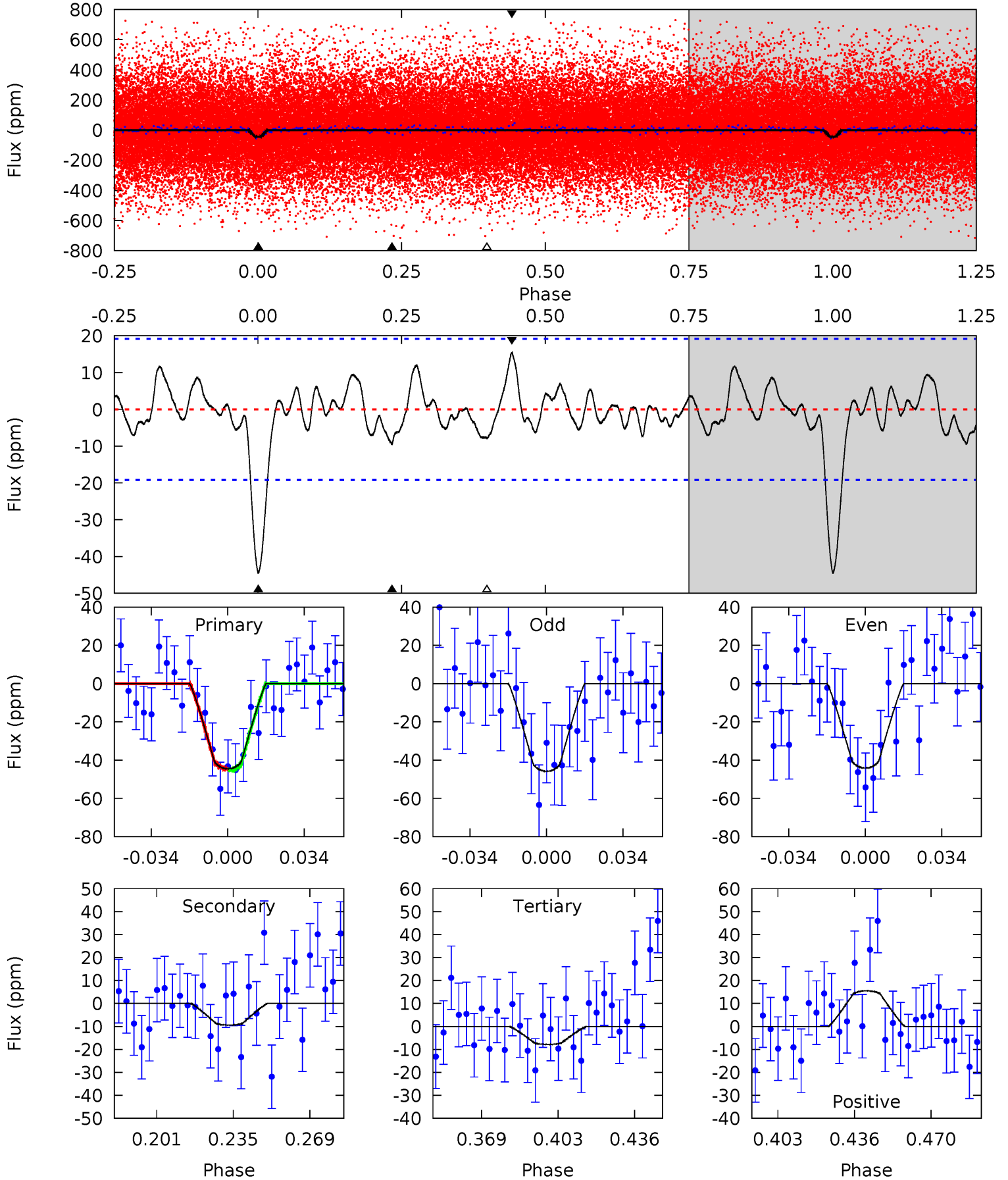
TCE 009658192-01 P= 1.886030 Days  $T_0=131.731238$  (BKJD)



# DV Model-Shift Uniqueness Test

009658192-01, P = 1.886007 Days, E = 129.852570 Days

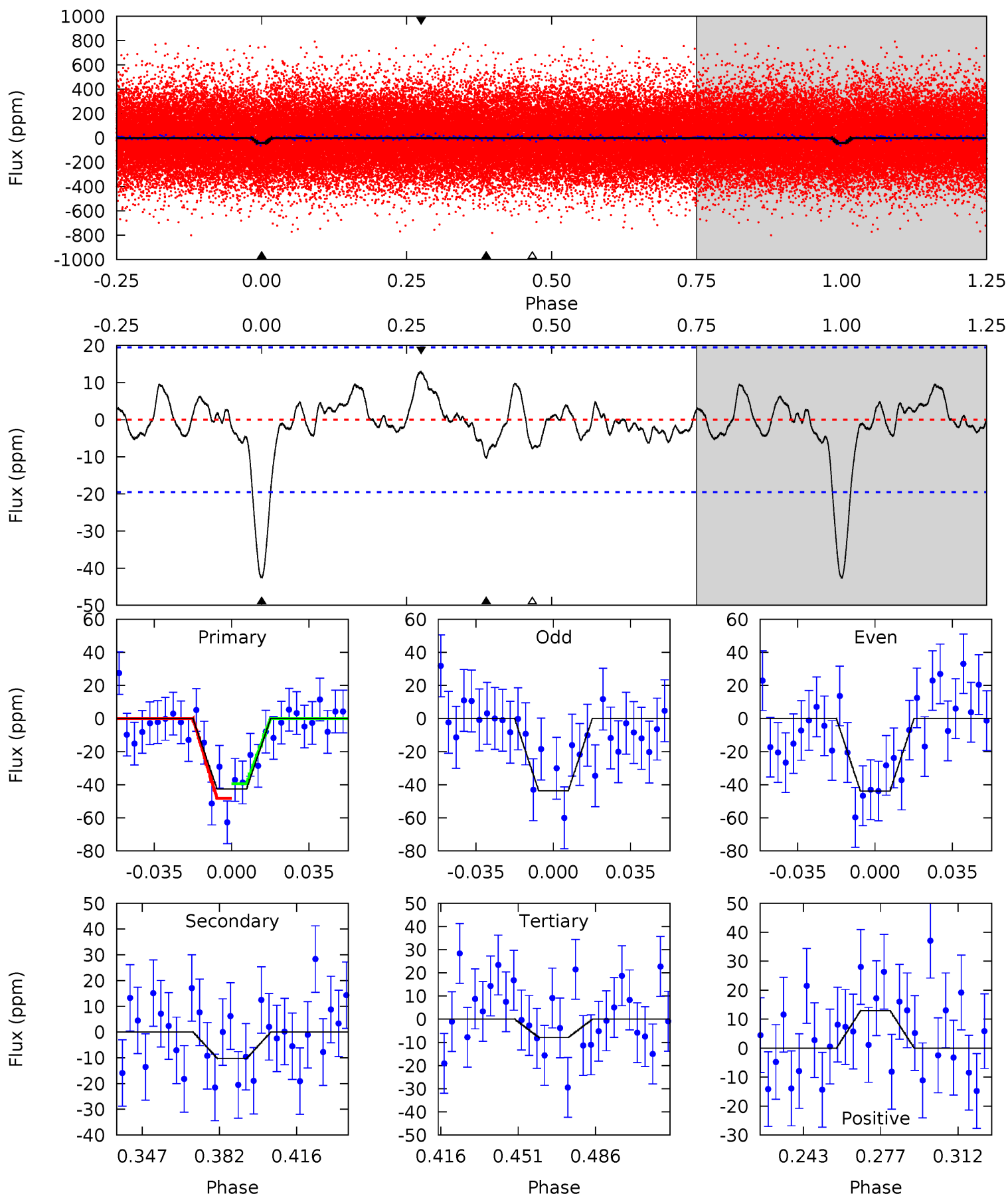
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	2.35	1.96	3.87	4.79	2.13	1.17	9.14	7.23	0.39	-1.51	0.21	1.04	0.26	0.11



# Alt Model-Shift Uniqueness Test

009658192-01, P = 1.886030 Days, E = 129.845208 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
10.4	2.51	1.94	3.18	4.78	2.11	1.04	8.51	7.27	0.57	-0.67	0.03	0.93	0.23	1.08





### Stellar Parameters For KIC 009658192

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5793^{+144}_{-173}$	$4.485^{+0.065}_{-0.195}$	$-0.100^{+0.300}_{-0.300}$	$0.925^{+0.273}_{-0.091}$	$0.954^{+0.114}_{-0.102}$	$1.696^{+0.471}_{-0.888}$
	+2%/-3%	+1%/-4%	+300%/-300%	+30%/-10%	+12%/-11%	+28%/-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 009658192-01 / KOI 7957.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-9 \pm 4$	$0.90^{+0.61}_{-0.53}$	$2028^{+135}_{-90}$	$3709^{+1711}_{-670}$	$4.963^{+27.232}_{-3.469}$
Alt.	$-10 \pm 4$	$0.78^{+0.58}_{-0.47}$	$2027^{+135}_{-90}$	$3994^{+1908}_{-803}$	$7.653^{+38.523}_{-5.670}$

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

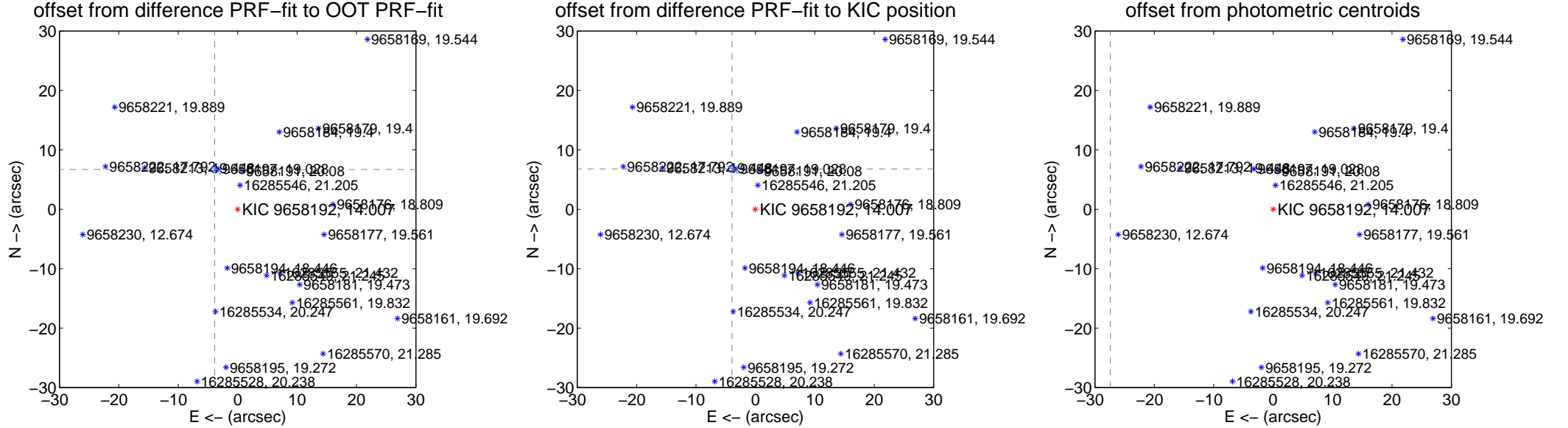
## DV Centroid Data

Supplemental centroid analysis for 009658192-01. Kepler magnitude: 14.01. Transit SNR 8.65

There are 9 quarters with good PRF difference image offsets

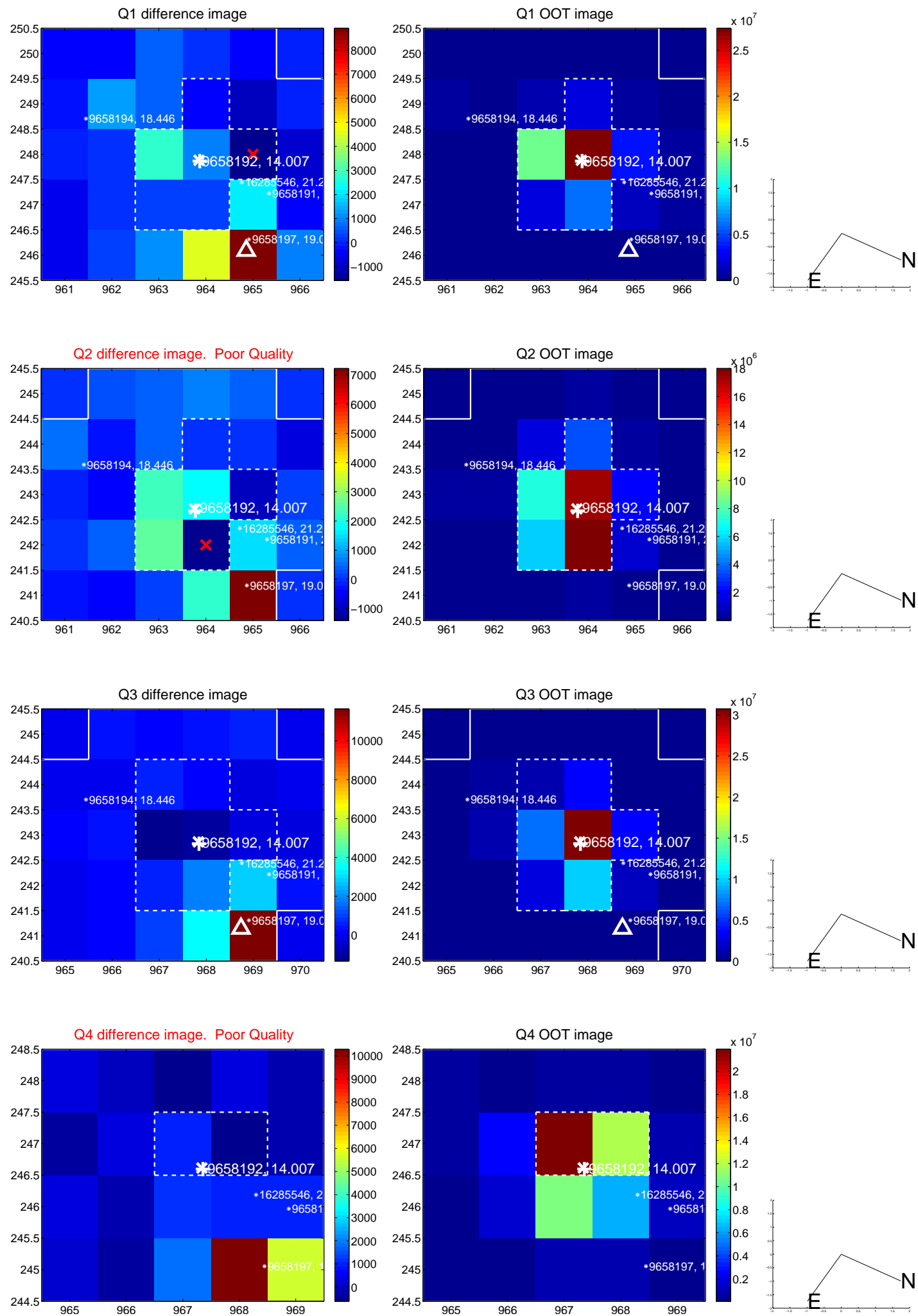
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	7.724 $\pm$ 0.196	39.40	3.864 $\pm$ 0.181	6.687 $\pm$ 0.143
PRF-fit source offset from KIC position	7.863 $\pm$ 0.201	39.05	3.954 $\pm$ 0.177	6.797 $\pm$ 0.147
photometric centroid source offset	44.37 $\pm$ 1.50	29.66	27.41 $\pm$ 1.47	34.89 $\pm$ 1.51

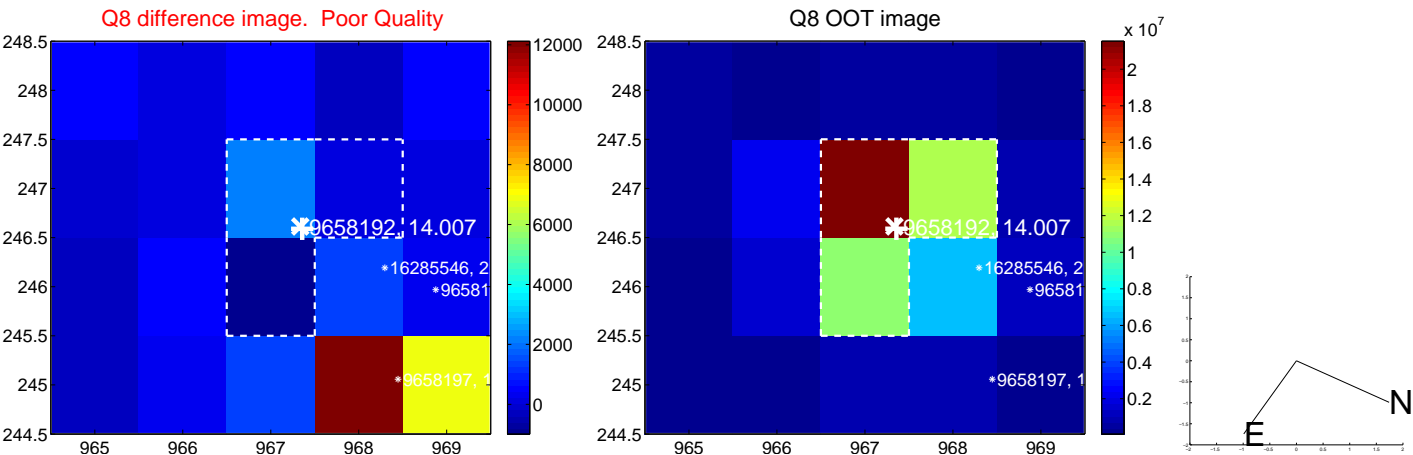
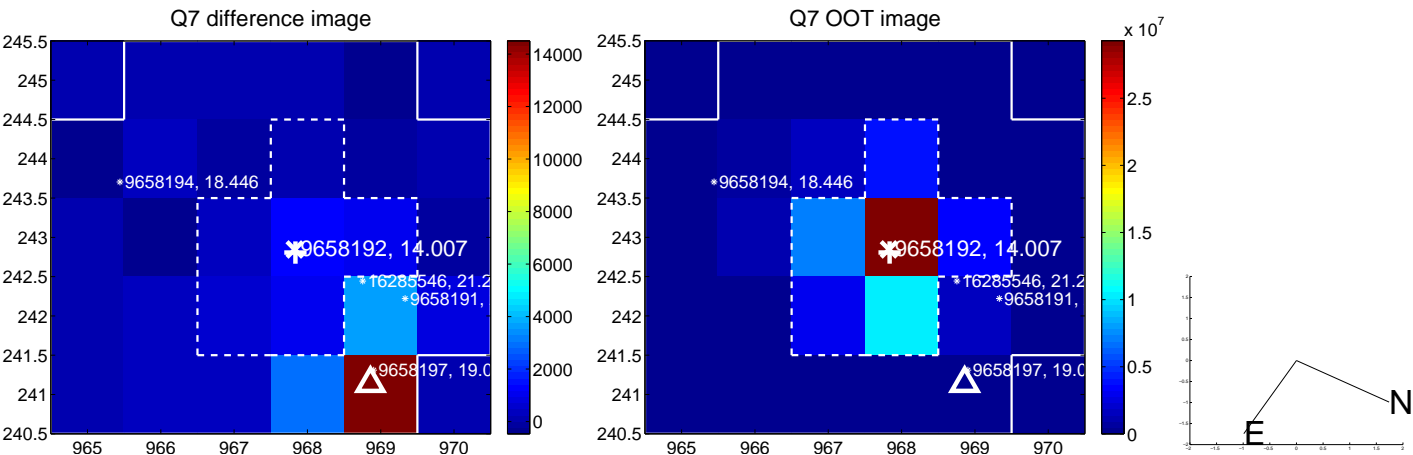
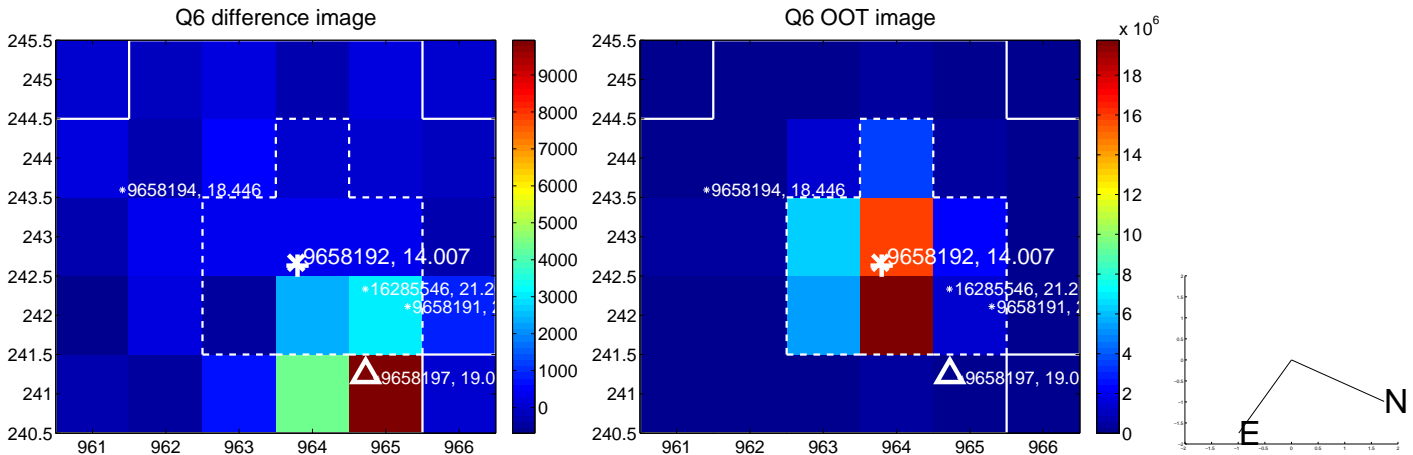
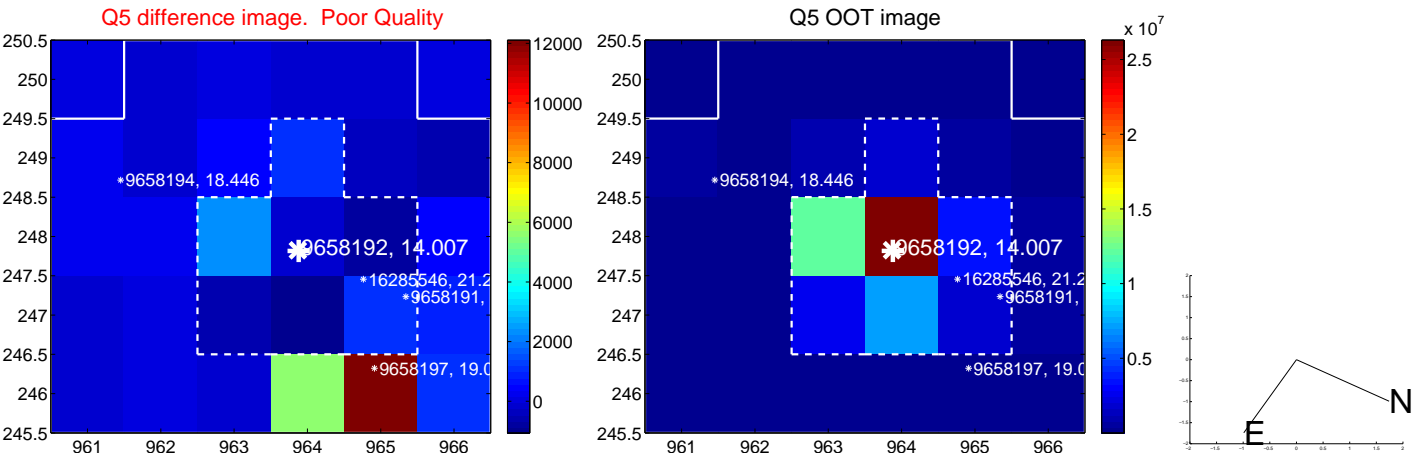


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

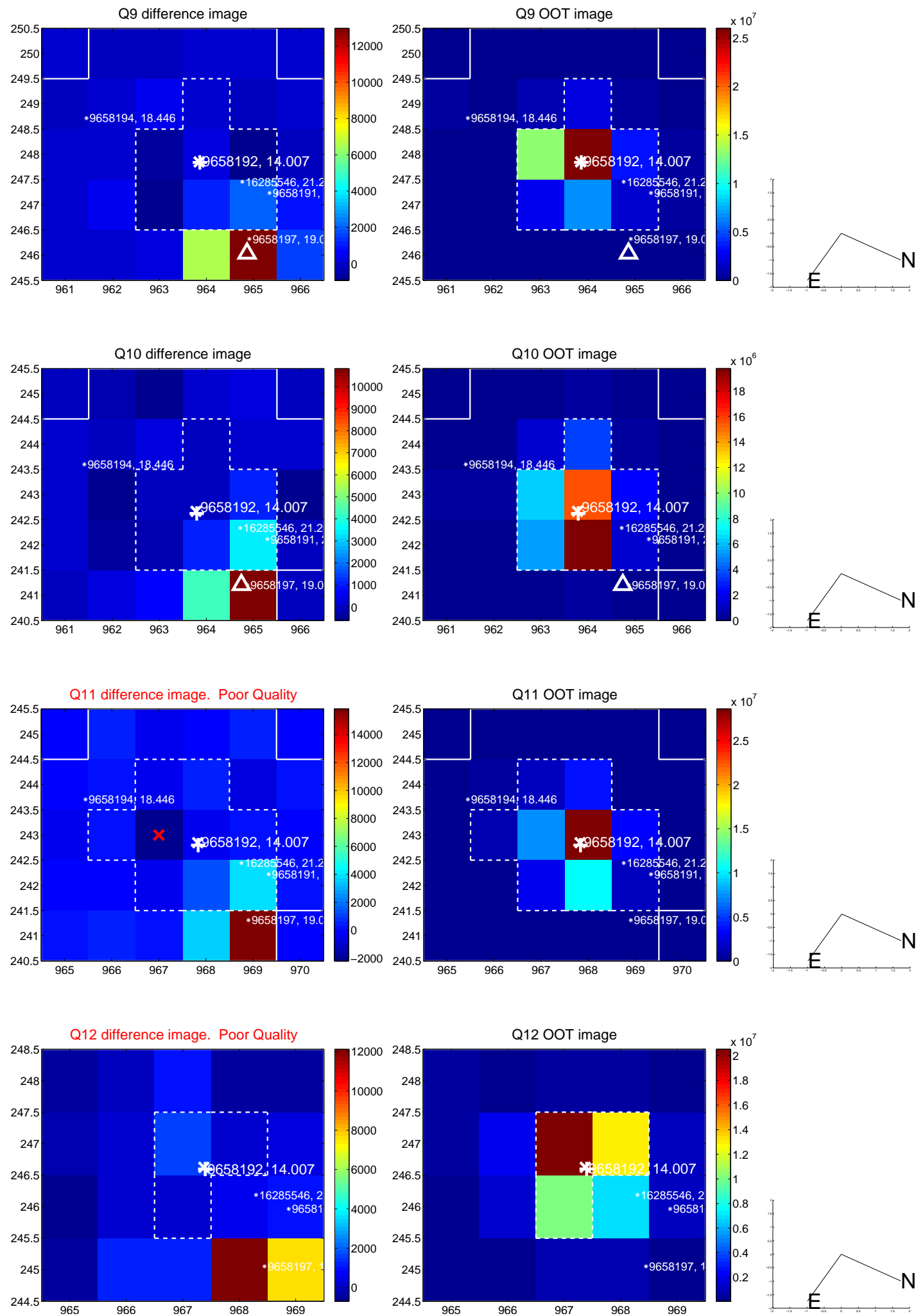


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

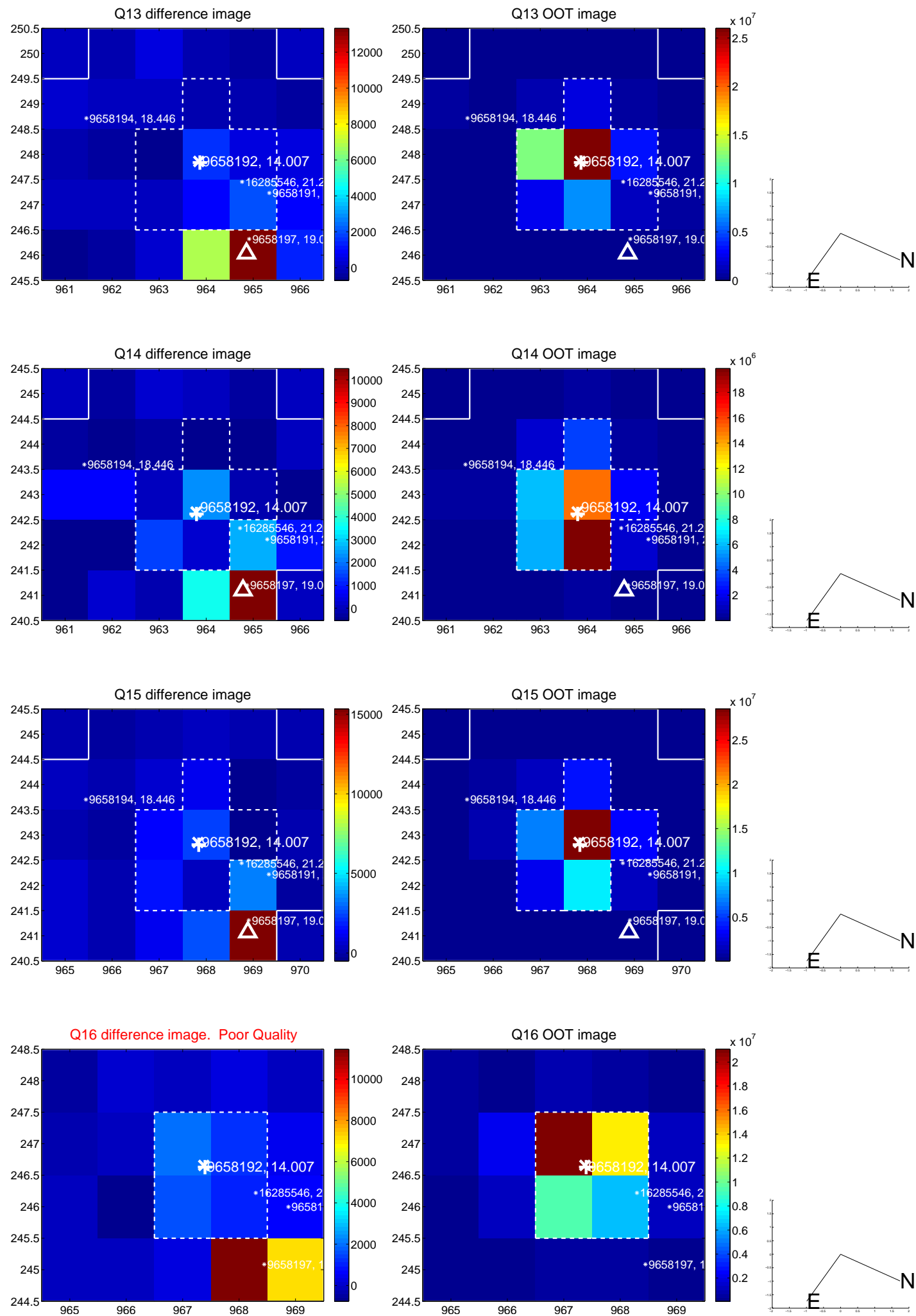




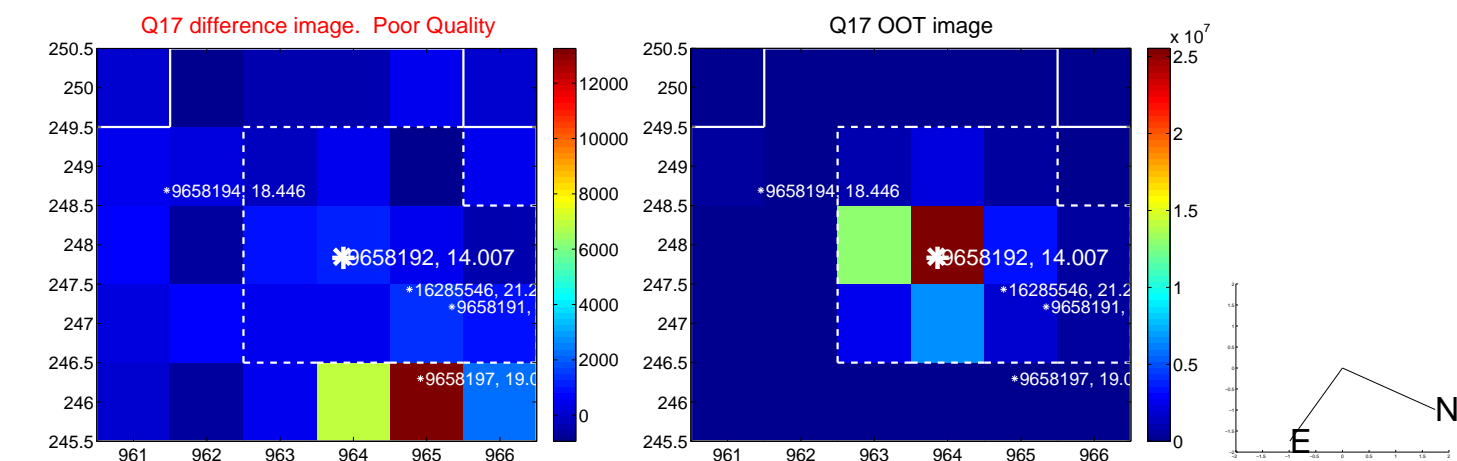
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



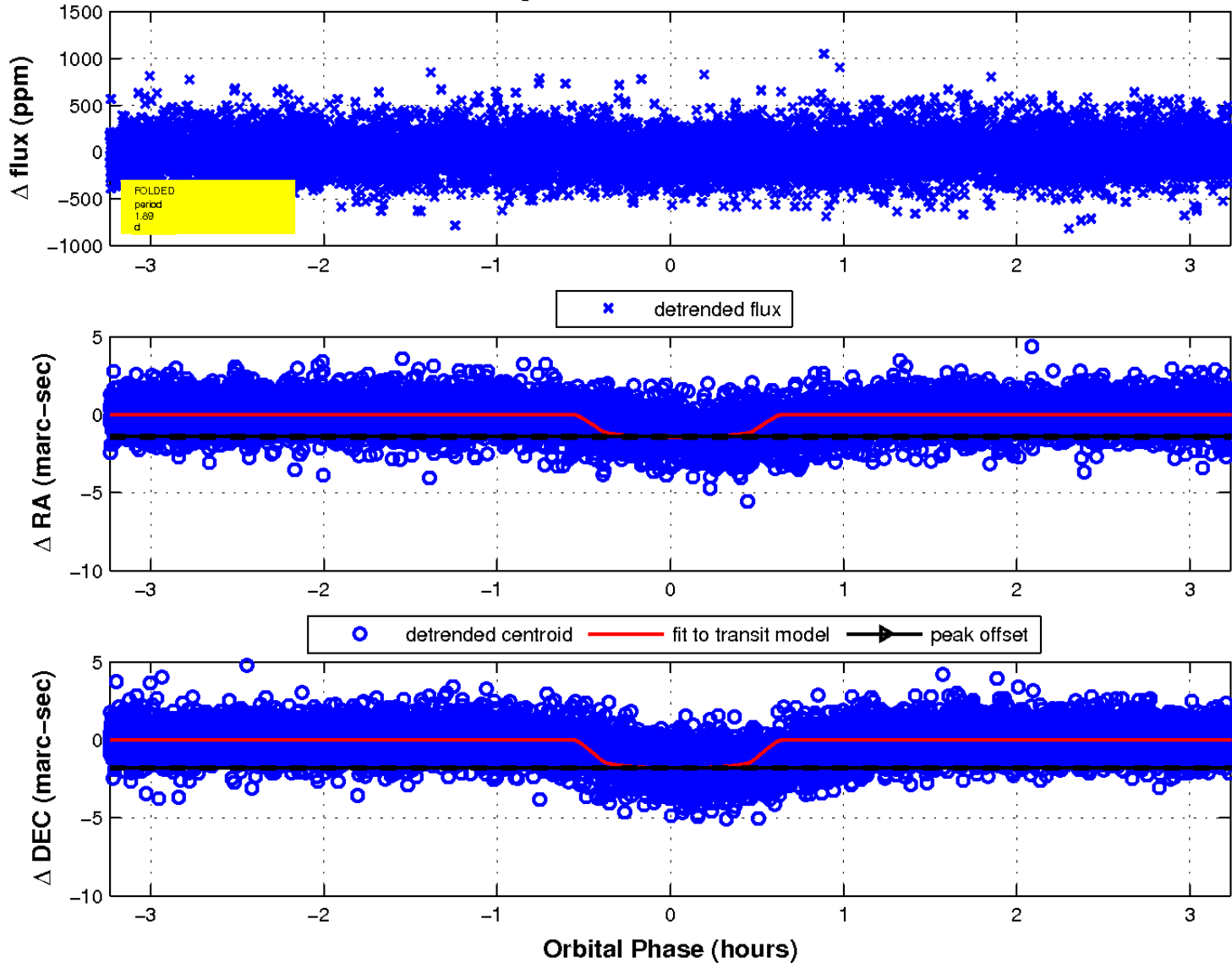
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

