

# KIC 008106592

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008106592-01	OBS	No	2.982207	133.439004	28.4	15.802	12.8	9.6	1.17	6518	0.62	1193.11

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008106592-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV

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

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

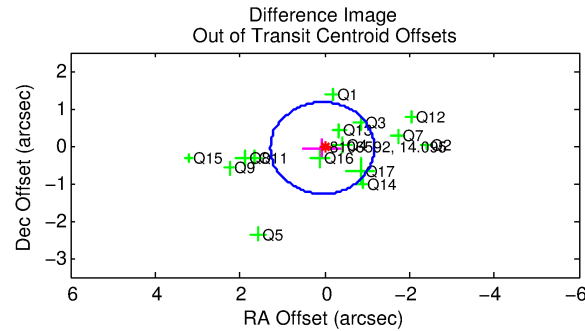
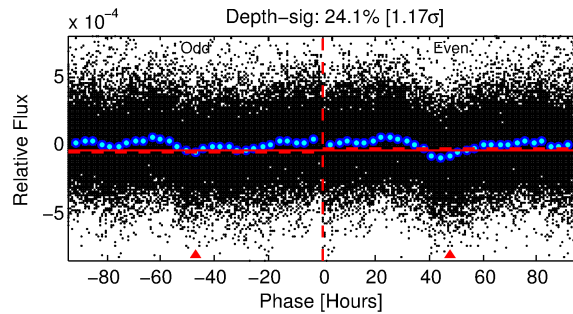
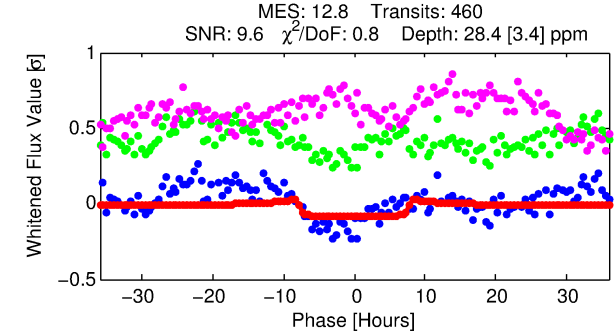
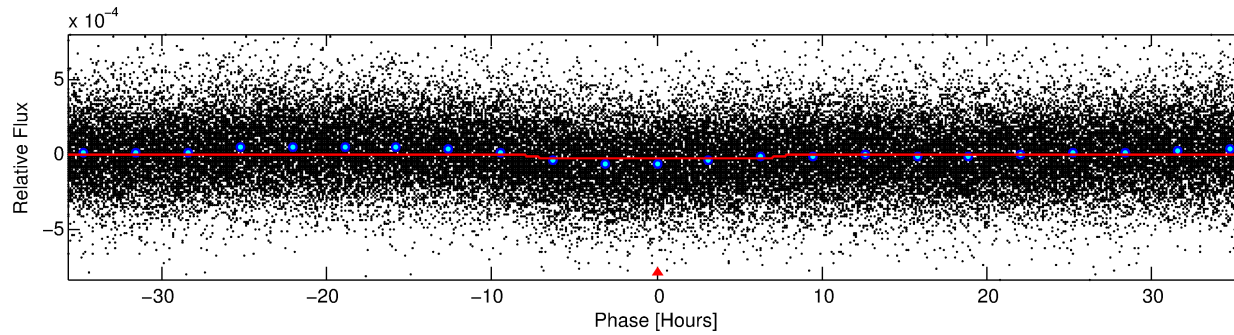
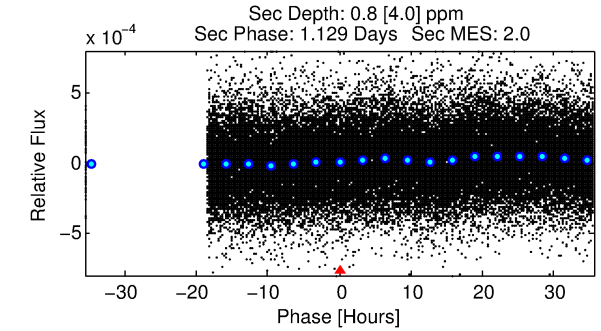
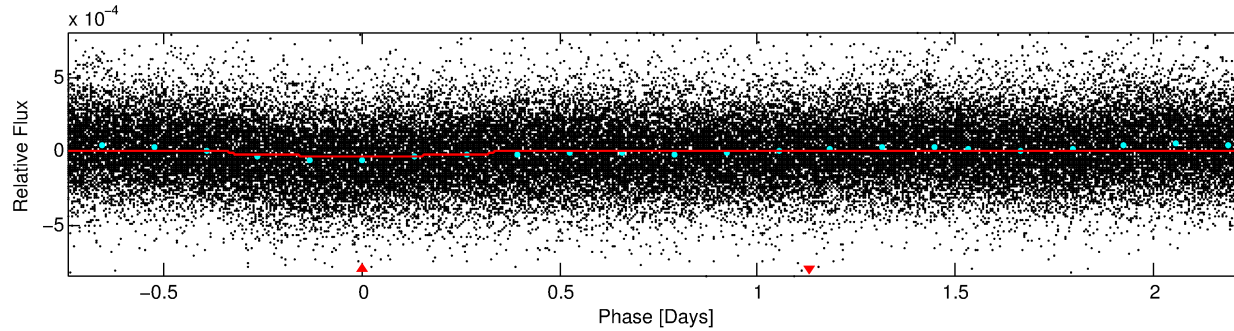
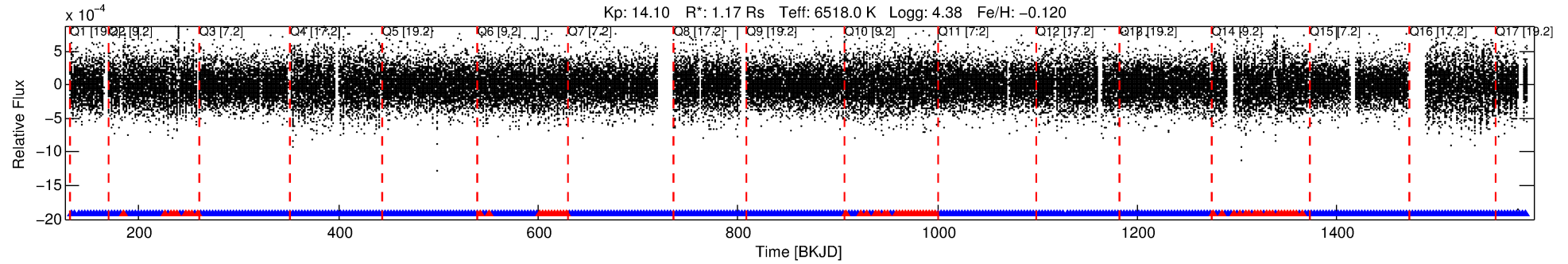
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008106592-01

No Significant Match Found

# DV One-Page Summary

KIC: 8106592 Candidate: 1 of 1 Period: 2.982 d



## DV Fit Results:

Period = 2.98221 [0.00005] d  
Epoch = 133.4390 [0.0102] BKJD  
Rp/R\* = 0.0049 [0.0049]  
a/R\* = 1.57 [5.01]  
b = 0.04 [151.47]  
Seff = 1193.11 [460.15]  
Teq = 1499 [144] K  
Rp = 0.63 [0.66] Re  
a = 0.0430 [0.0109] AU  
Ag = 2.03 [11.12] [0.09σ]  
Teffp = 2765 [3783] K [0.33σ]

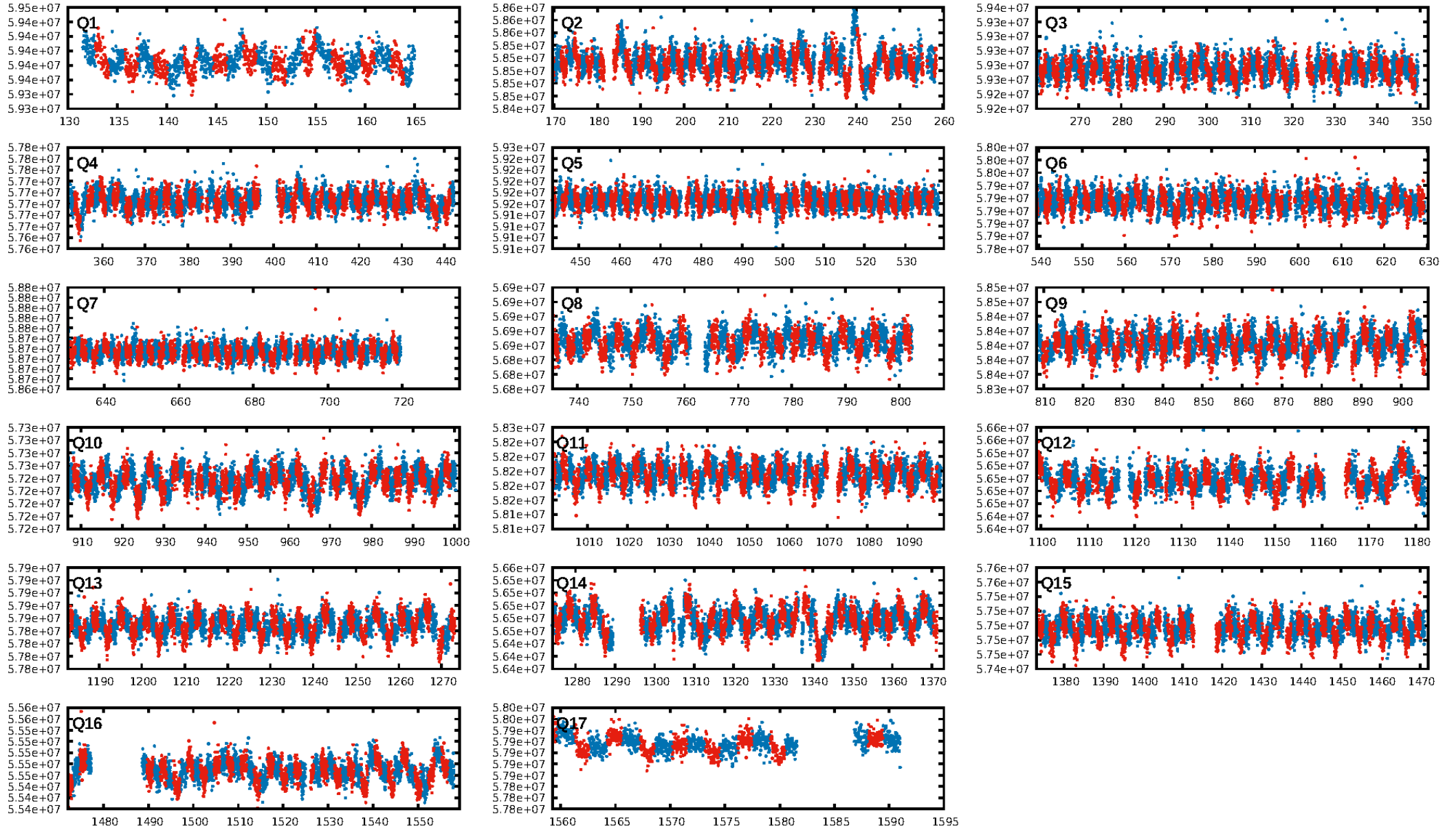
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.02e-23  
RollingBand-fgt: 0.86 [378/440]  
GhostDiagnostic-chr: 3.357  
Centroid-sig: 0.2%  
Centroid-so: 2.313 arcsec [1.87σ]  
OotOffset-rm: 0.079 arcsec [0.19σ]  
KicOffset-rm: 0.010 arcsec [0.05σ]  
OotOffset-st: 2/4/4/5 [15]  
KicOffset-st: 2/4/4/5 [15]  
DiffImageQuality-fgm: 0.87 [13/15]  
DiffImageOverlap-fno: 1.00 [17/17]

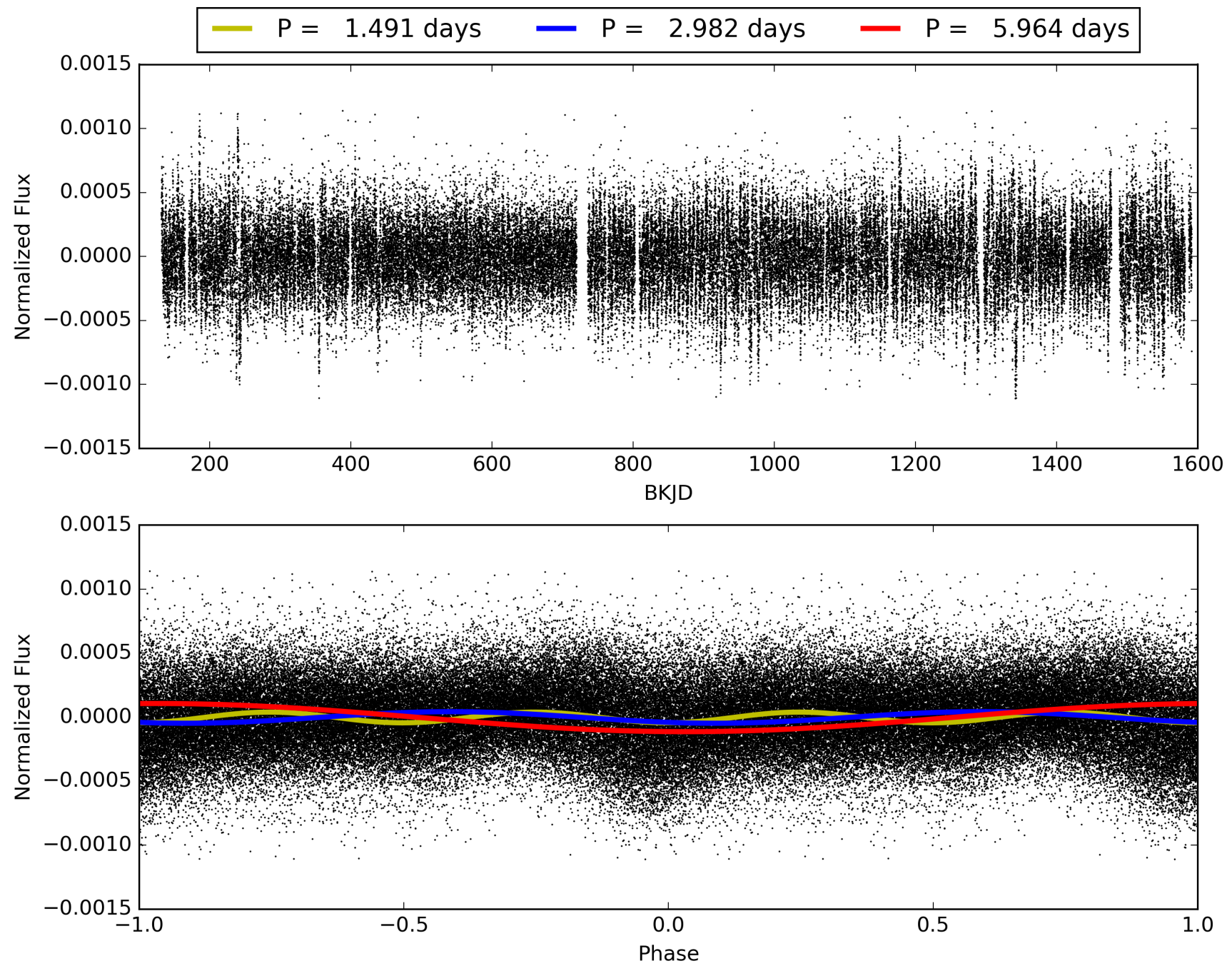
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:39:03 Z

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

# TCE 008106592-01, PDC Light Curves

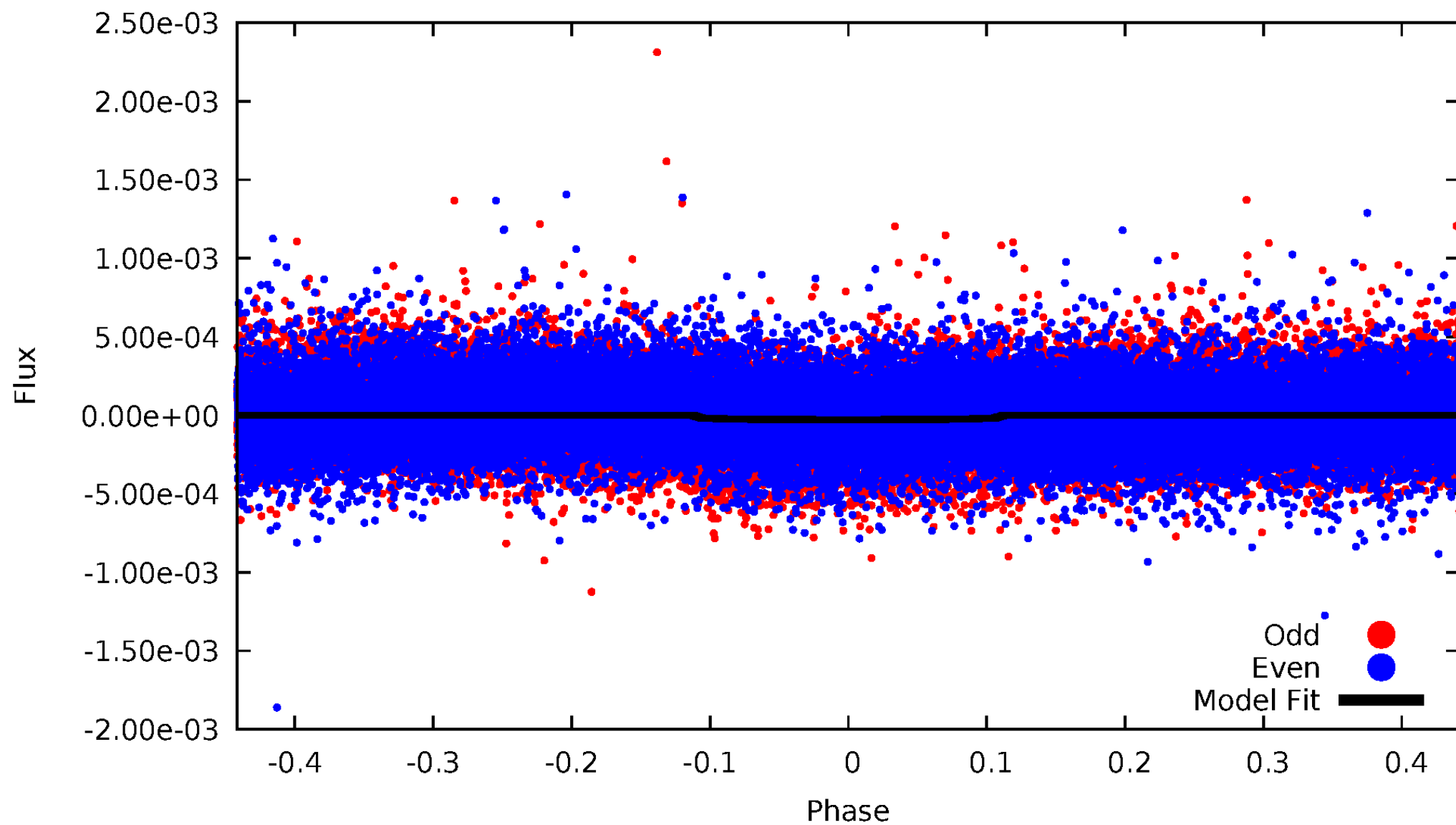


TCE 008106592-01



# DV Odd/Even

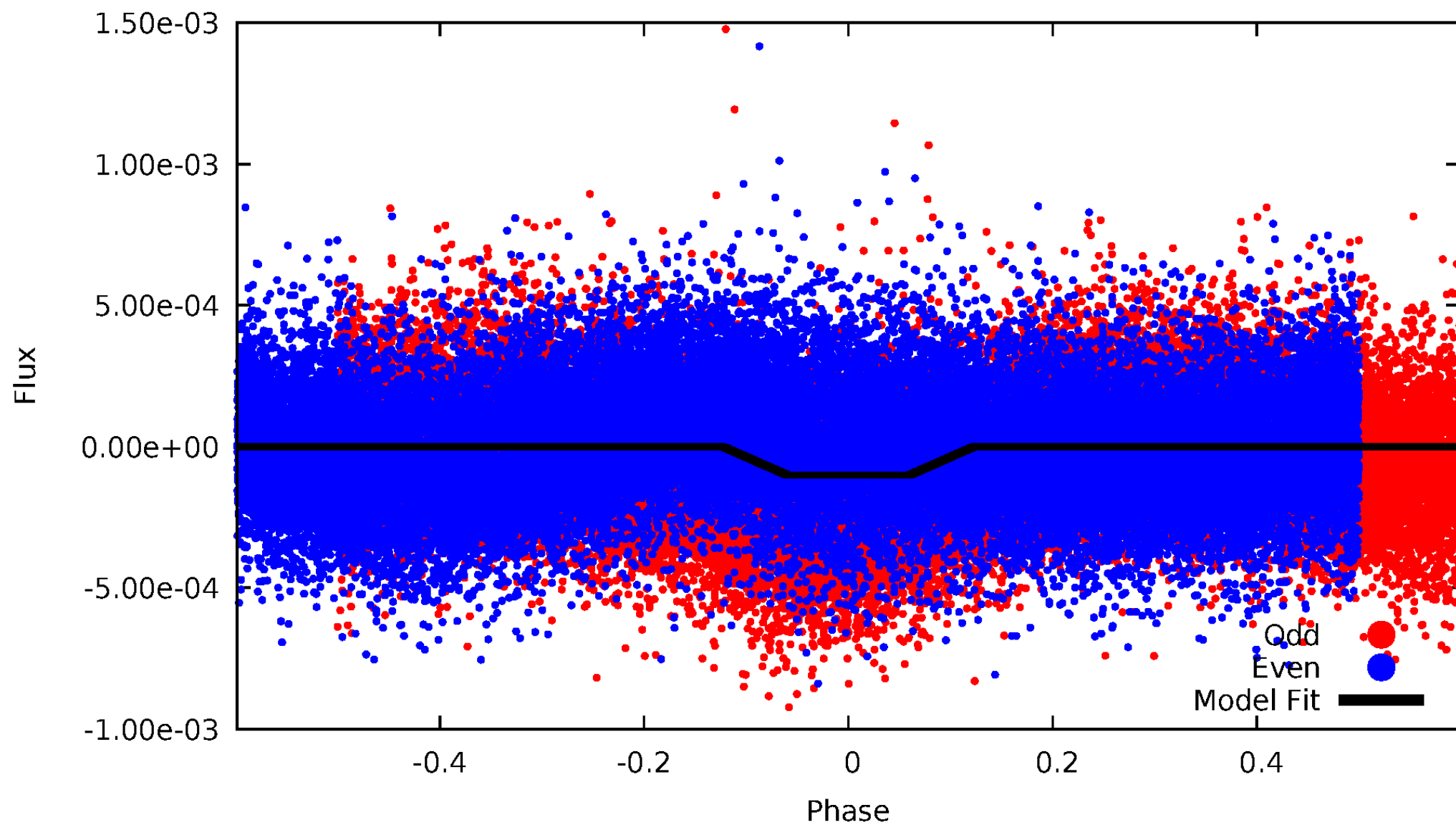
TCE 008106592-01



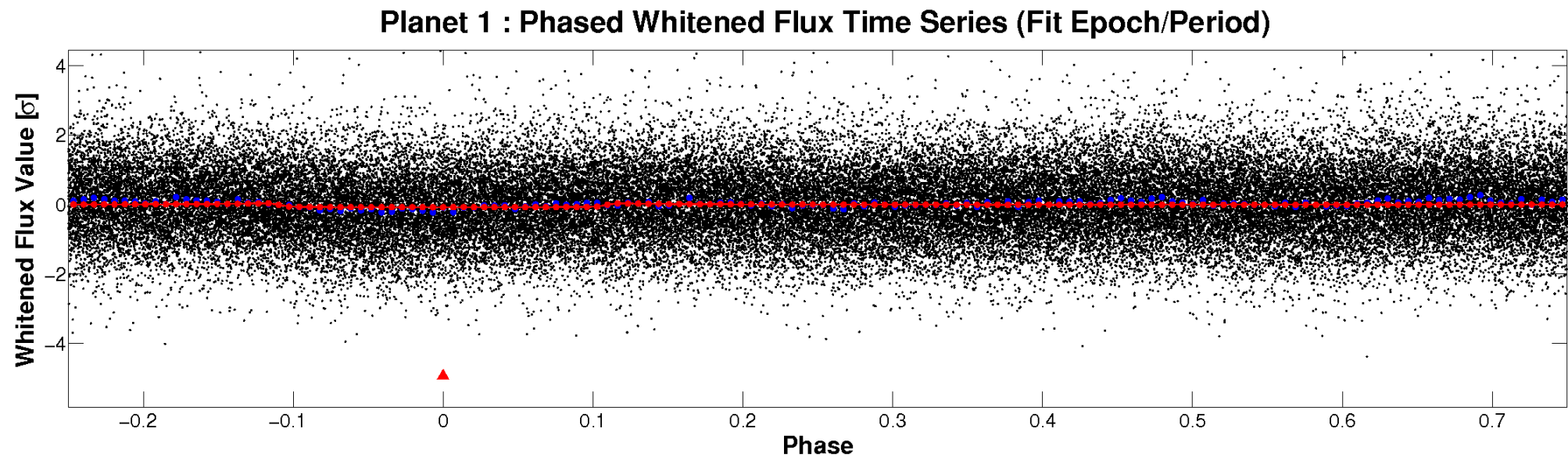
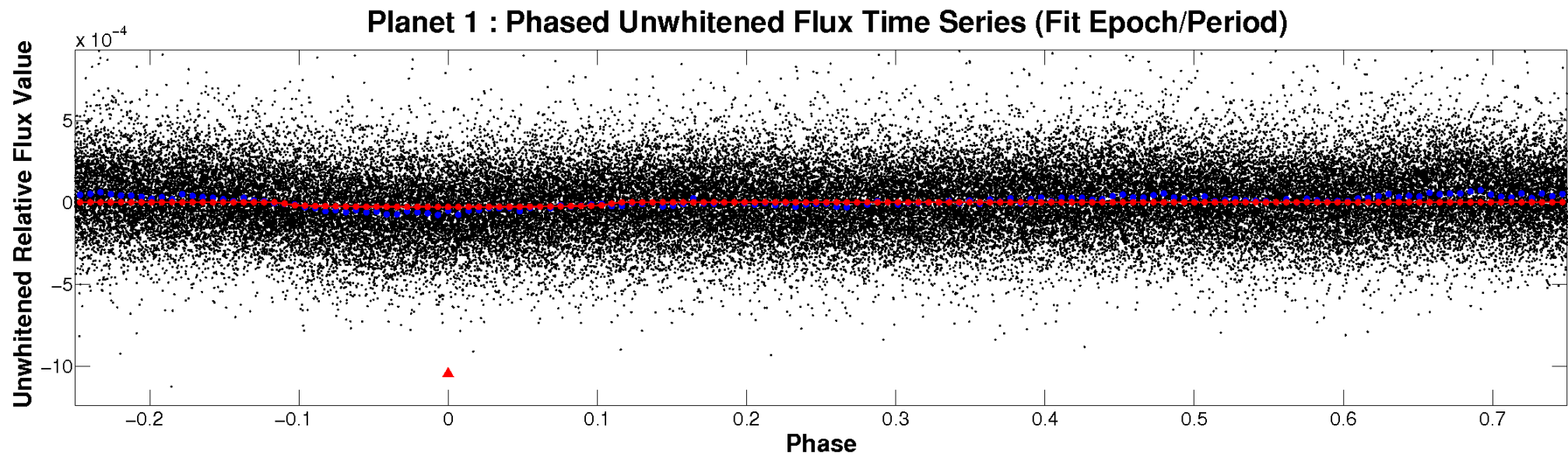


# ALT Odd/Even

TCE 008106592-01

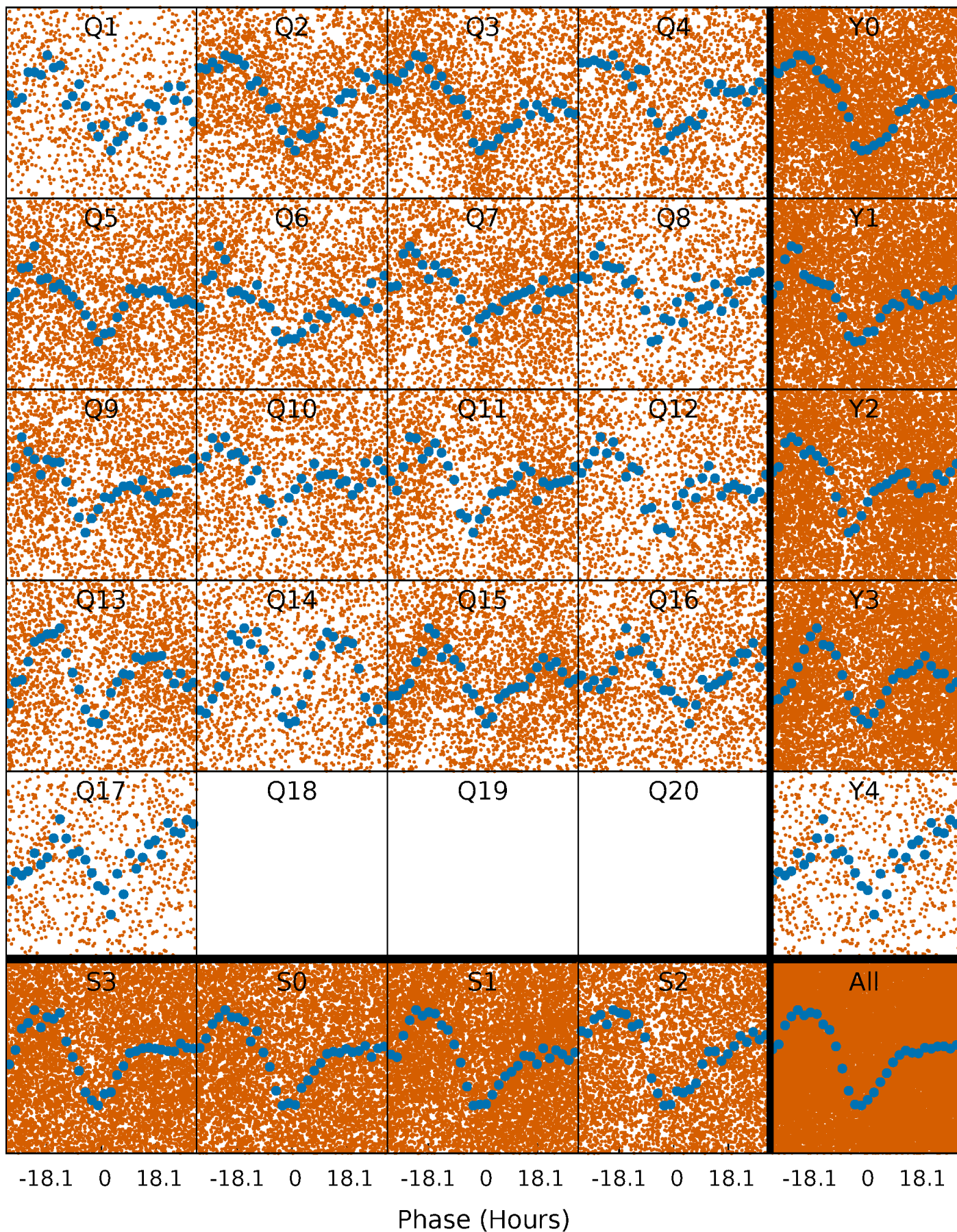


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

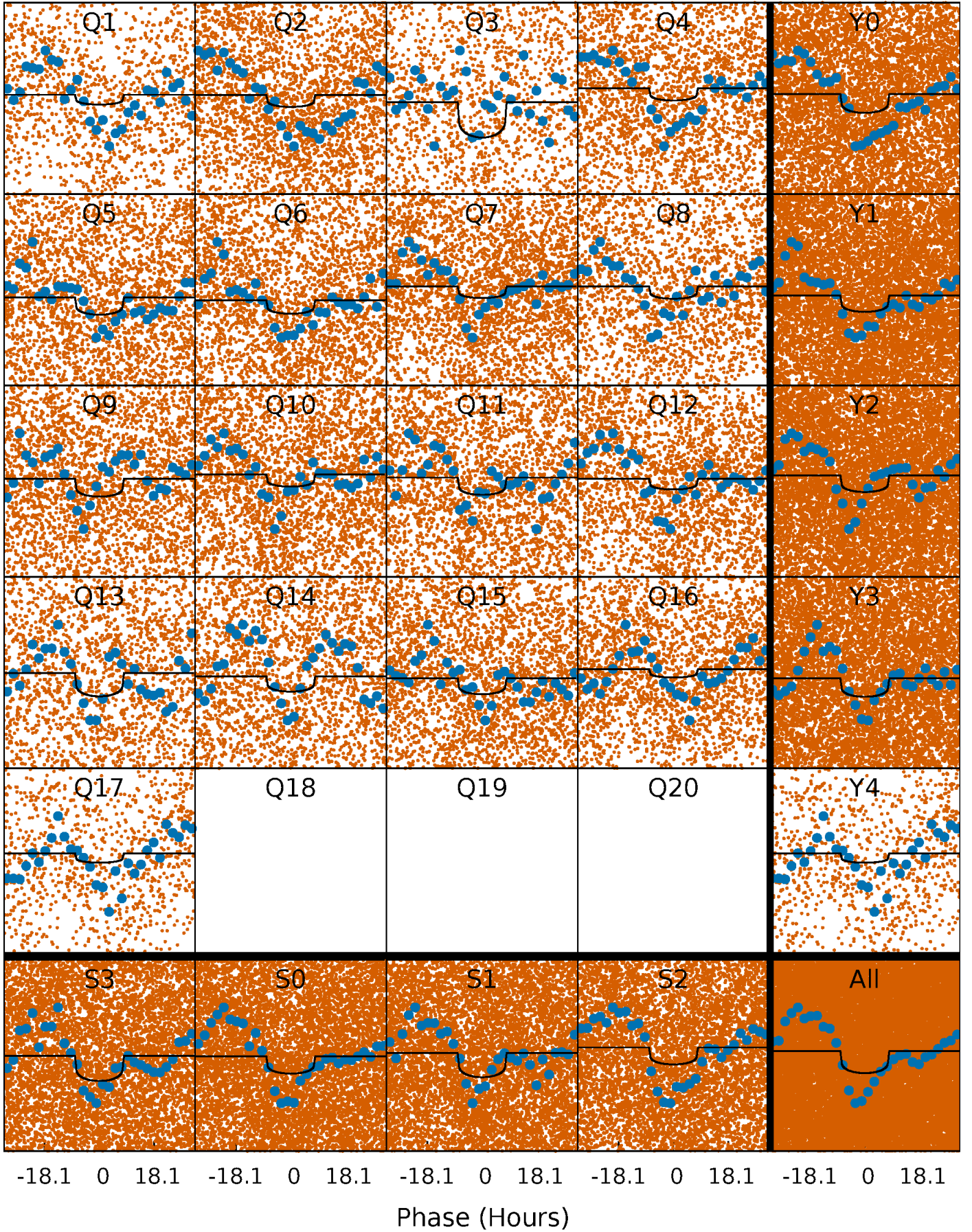
TCE 008106592-01 P= 2.982207 Days  $T_0=133.439004$  (BKJD)





# DV Quarter-Phased Transit Curves

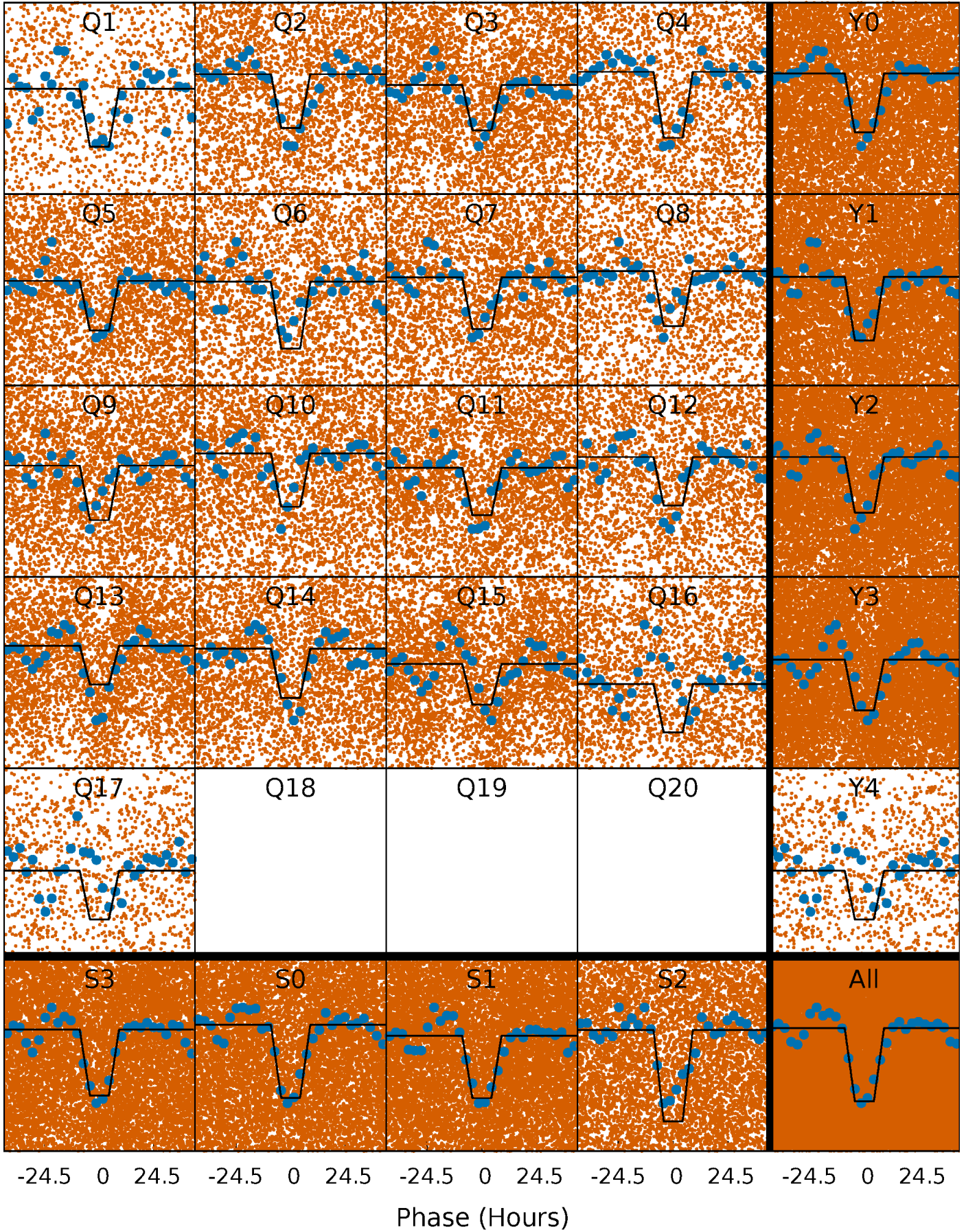
TCE 008106592-01   P= 2.982207 Days    $T_0=133.439004$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

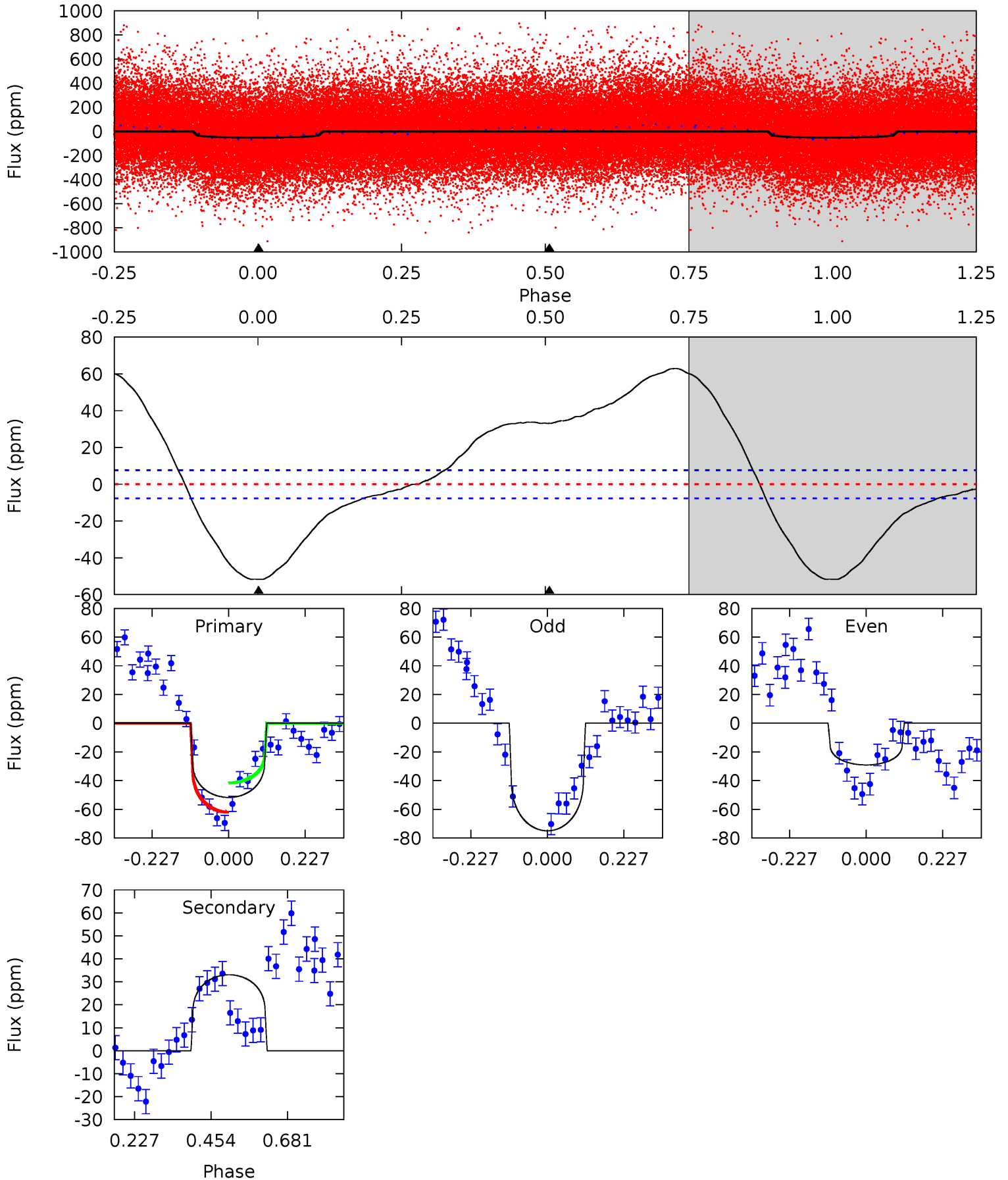
TCE 008106592-01 P= 2.981915 Days  $T_0=133.459855$  (BKJD)



# DV Model-Shift Uniqueness Test

008106592-01, P = 2.982207 Days, E = 130.456797 Days

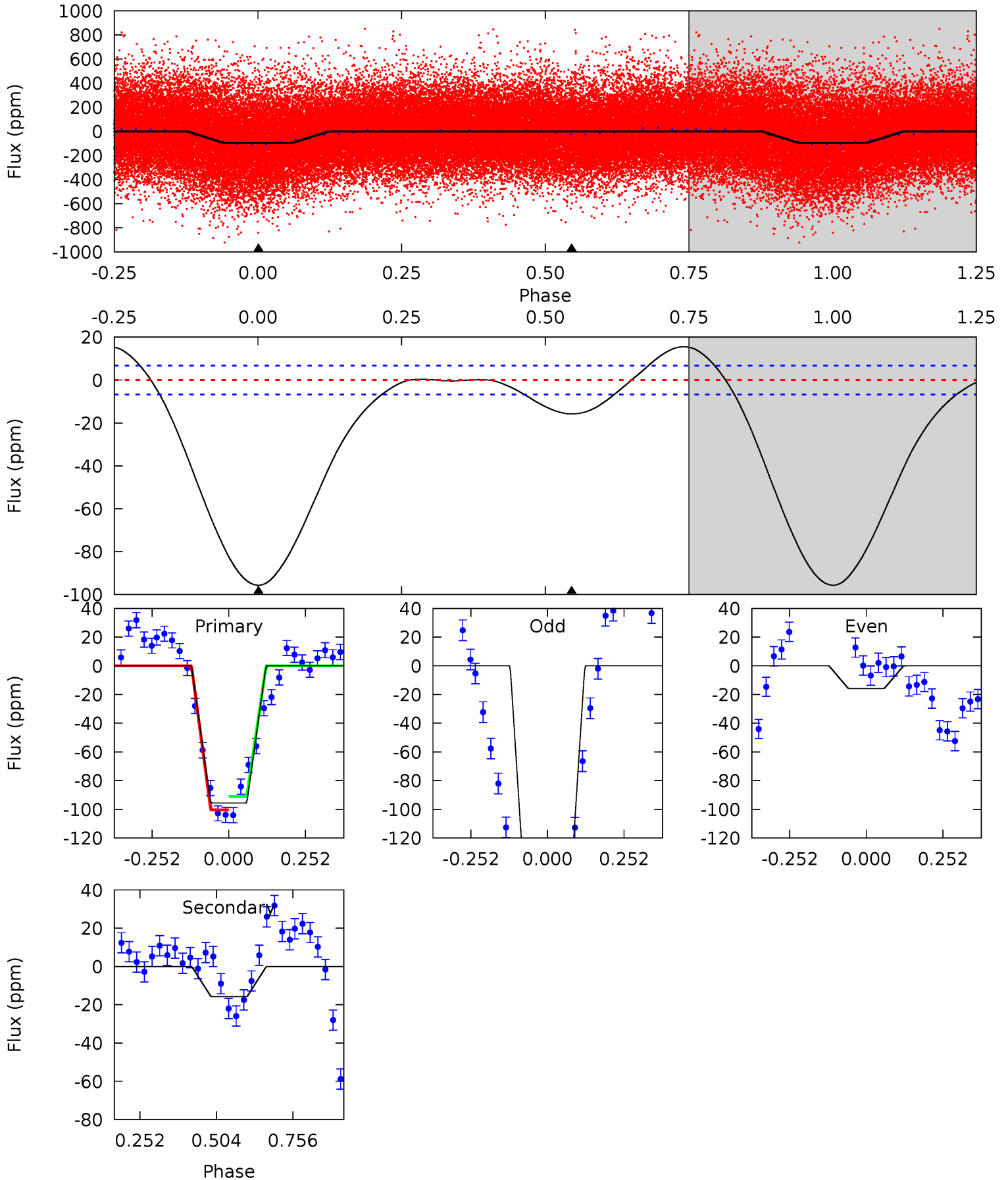
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.6	-18.9	0	0	4.39	1.21	17.3	29.6	29.6	-18.9	-18.9	13.4	1.18	0.55	5.90



# Alt Model-Shift Uniqueness Test

008106592-01, P = 2.981915 Days, E = 130.477940 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
61.9	10.2	0	0	4.37	1.15	2.18	61.9	61.9	10.2	10.2	63.9	1.04	0.14	2.81





### Stellar Parameters For KIC 008106592

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6518^{+145}_{-210}$	$4.379^{+0.065}_{-0.195}$	$-0.120^{+0.250}_{-0.300}$	$1.167^{+0.361}_{-0.155}$	$1.189^{+0.178}_{-0.162}$	$1.053^{+0.300}_{-0.534}$
	+2%/-3%	+1%/-4%	+208%/-250%	+31%/-13%	+15%/-14%	+29%/-51%
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 008106592-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$33 \pm 2$	$0.78^{+0.63}_{-0.50}$	$2127^{+155}_{-102}$	$-6460^{+1532}_{-6118}$	$-53.681^{+36.713}_{-386.027}$
Alt.	$-16 \pm 2$	$1.36^{+0.63}_{-0.63}$	$2130^{+146}_{-105}$	$4260^{+1194}_{-572}$	$8.519^{+18.936}_{-4.572}$

$T_{\text{max}}$  = 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

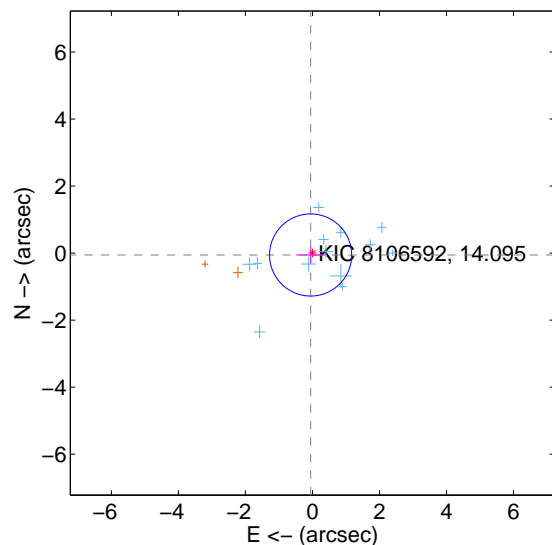
Supplemental centroid analysis for 008106592-01. Kepler magnitude: 14.10. Transit SNR 9.58

There are 13 quarters with good PRF difference image offsets

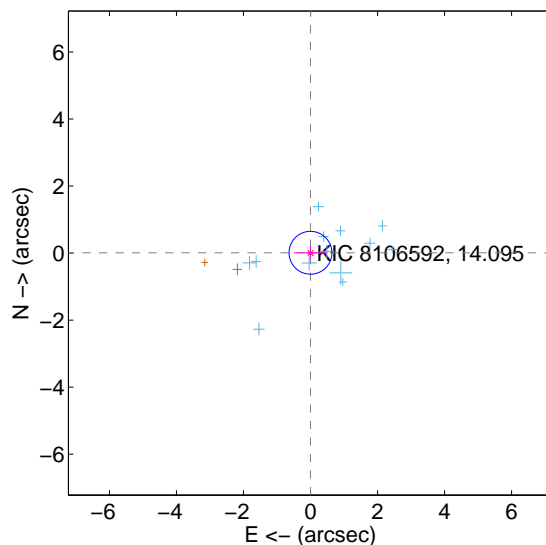
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.079 \pm 0.408$	0.19	$0.055 \pm 0.432$	$-0.057 \pm 0.242$
PRF-fit source offset from KIC position	$0.010 \pm 0.213$	0.05	$0.001 \pm 0.502$	$0.010 \pm 0.204$
photometric centroid source offset	$2.31 \pm 1.24$	1.87	$-0.54 \pm 1.19$	$-2.25 \pm 1.24$

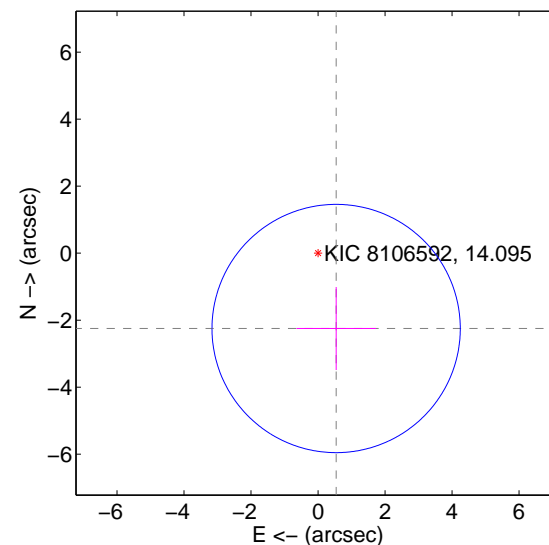
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

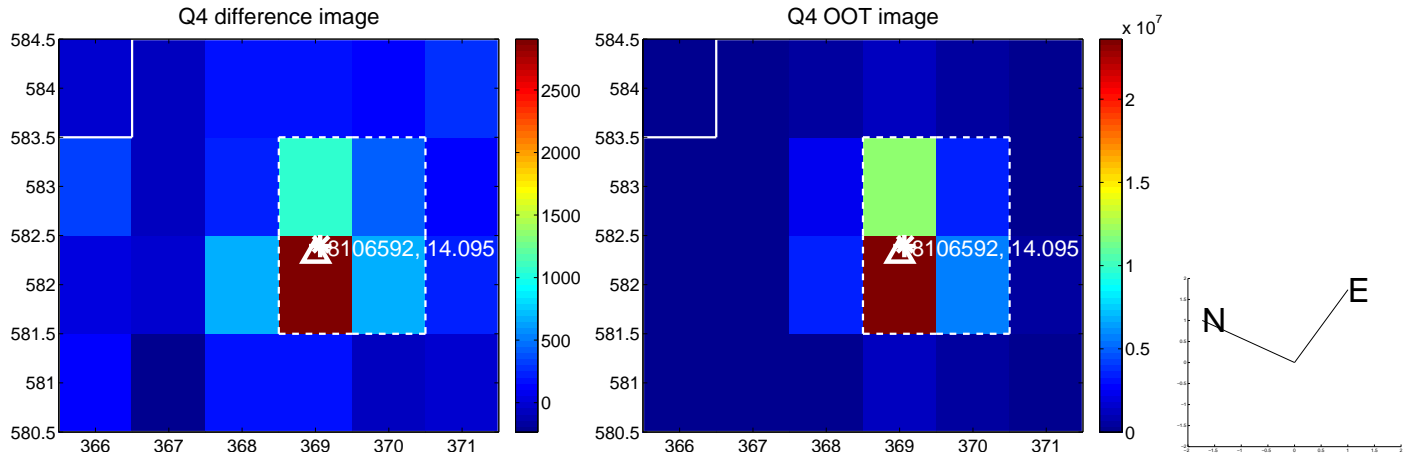
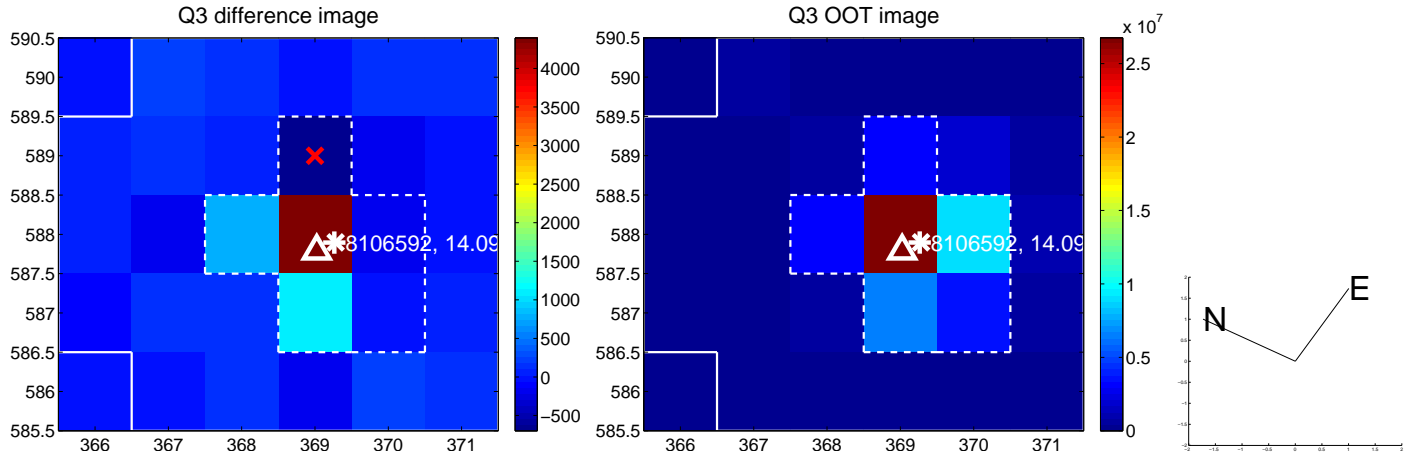
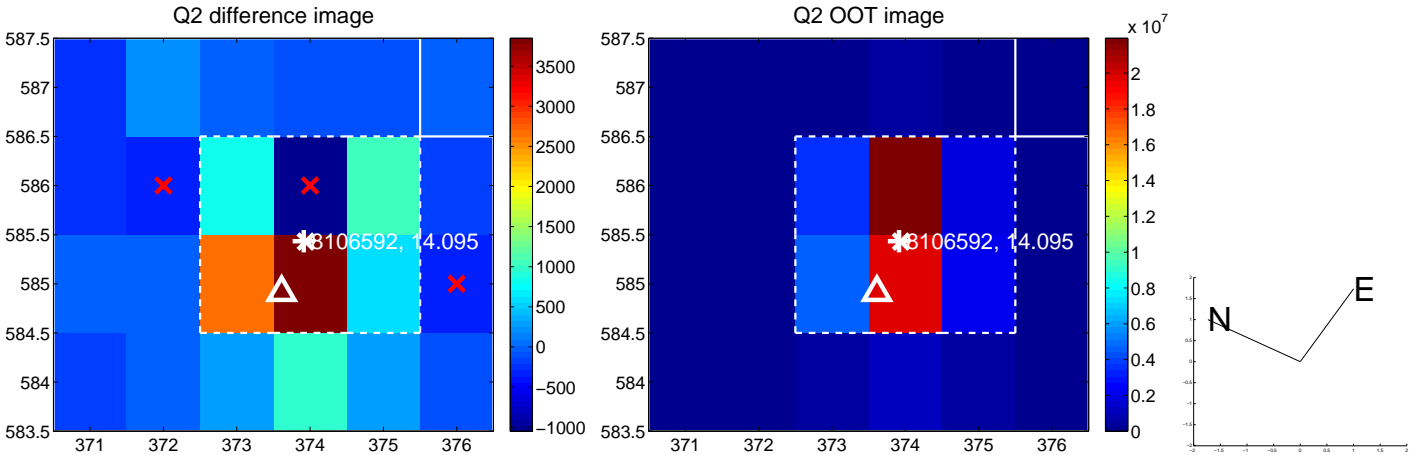
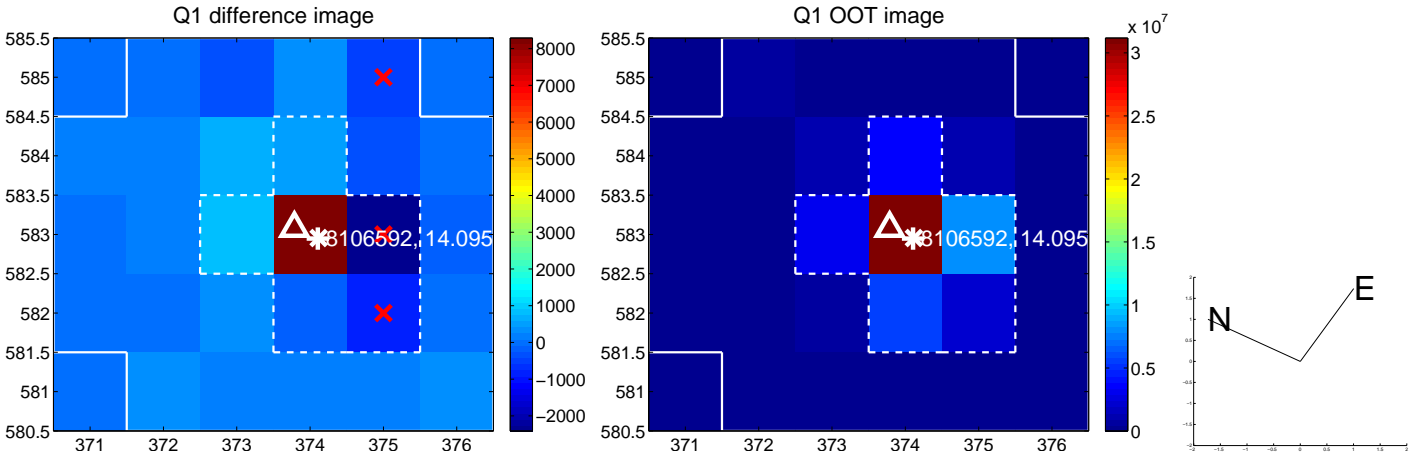


offset from photometric centroids

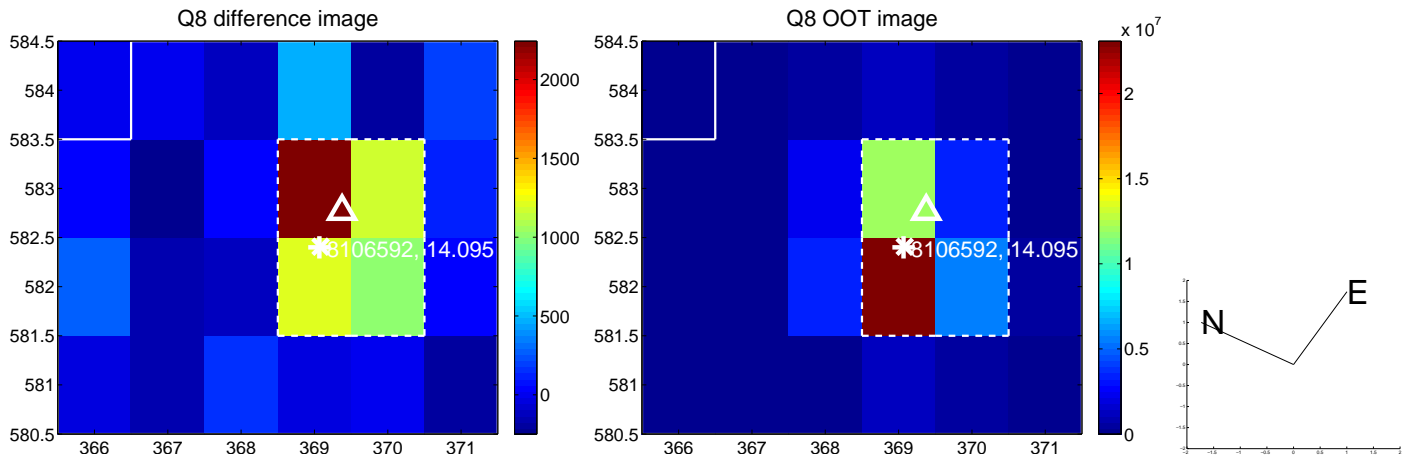
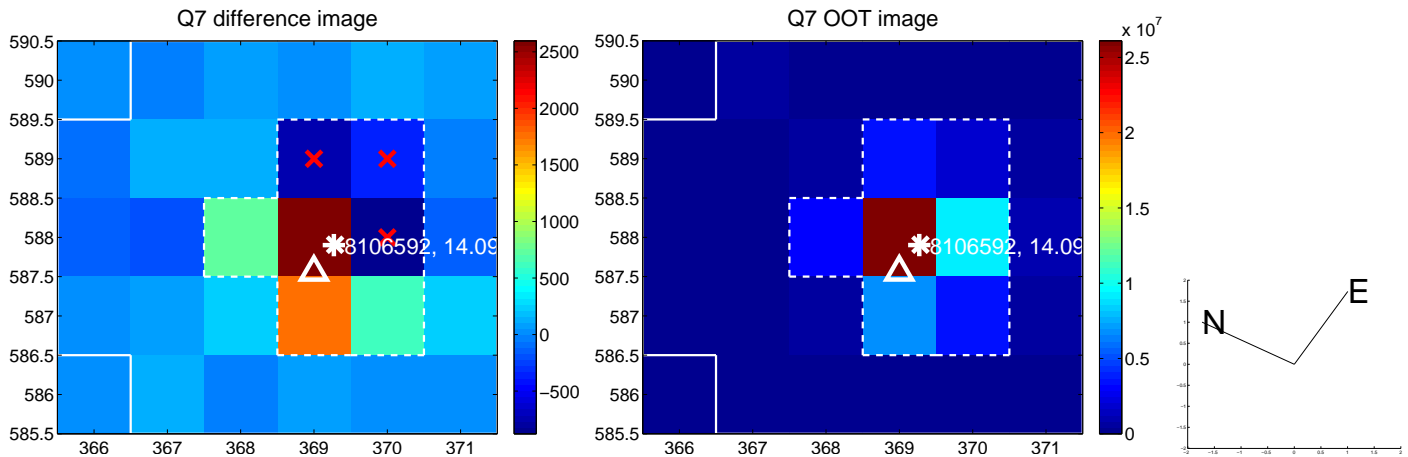
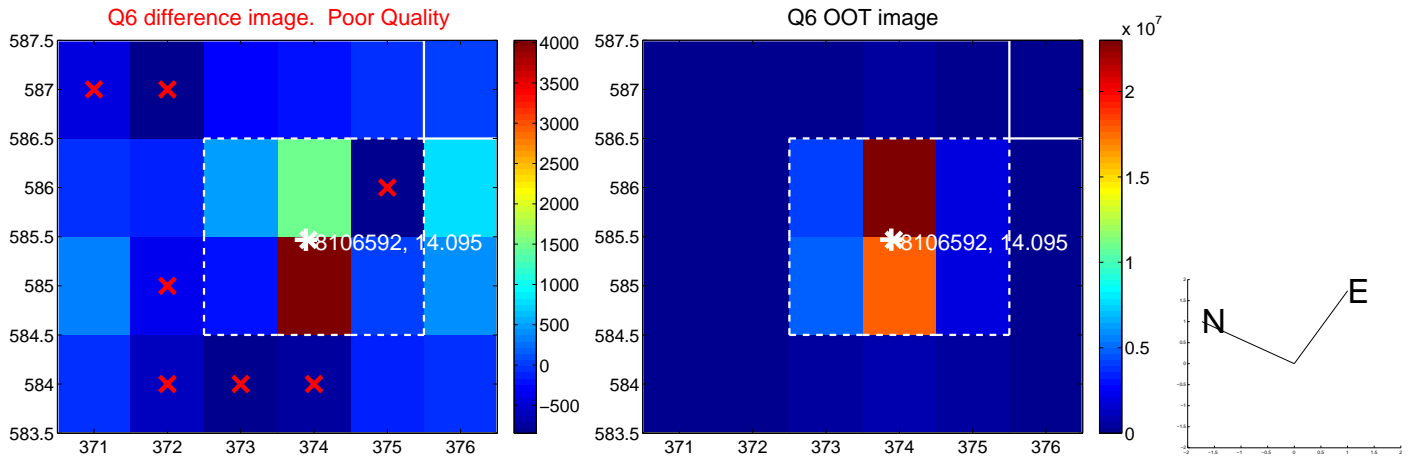
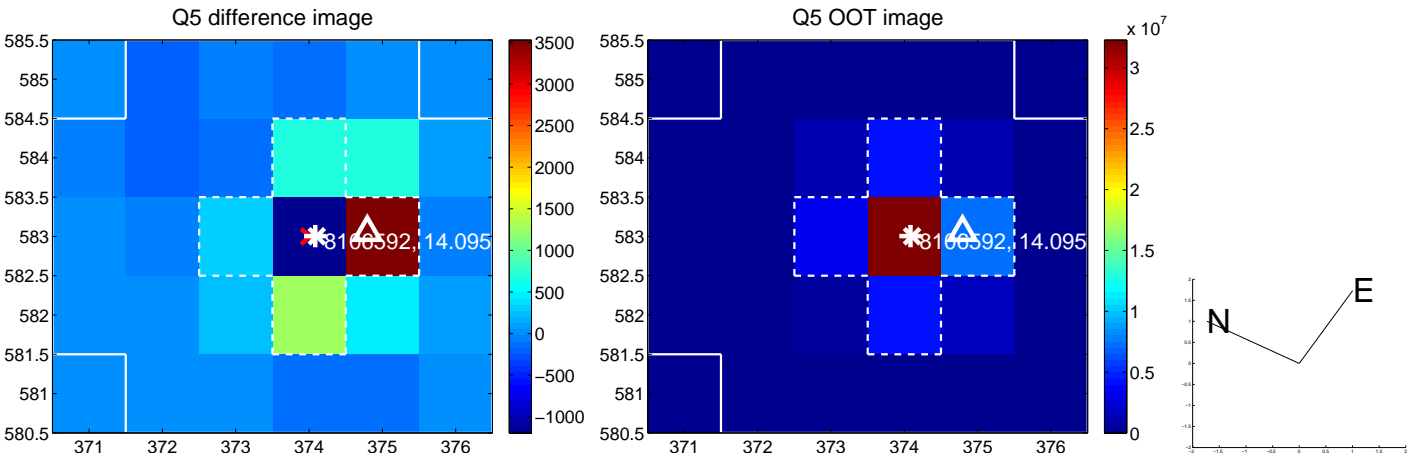


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

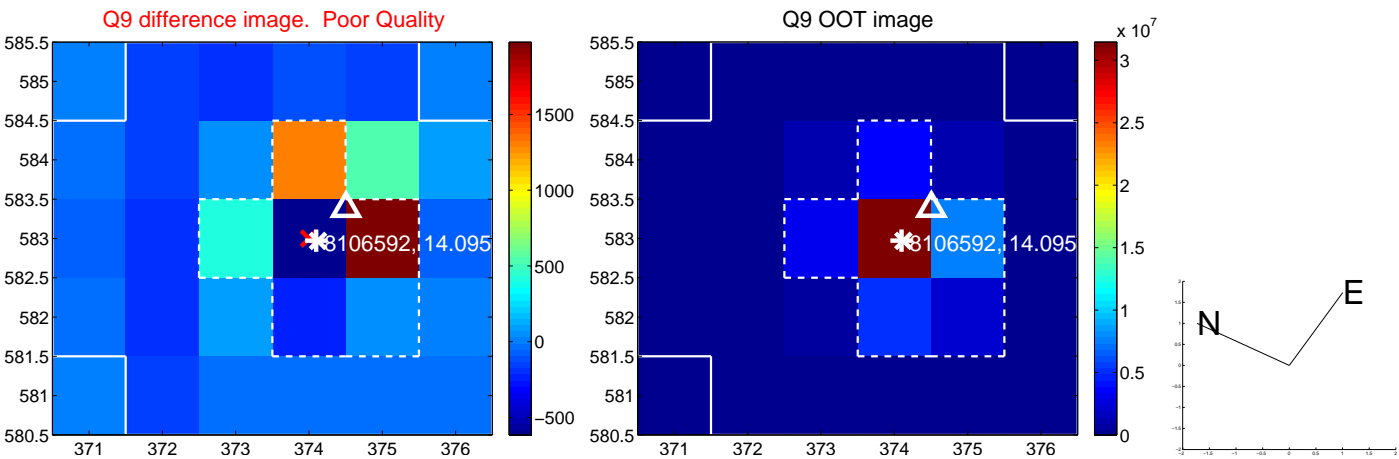


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

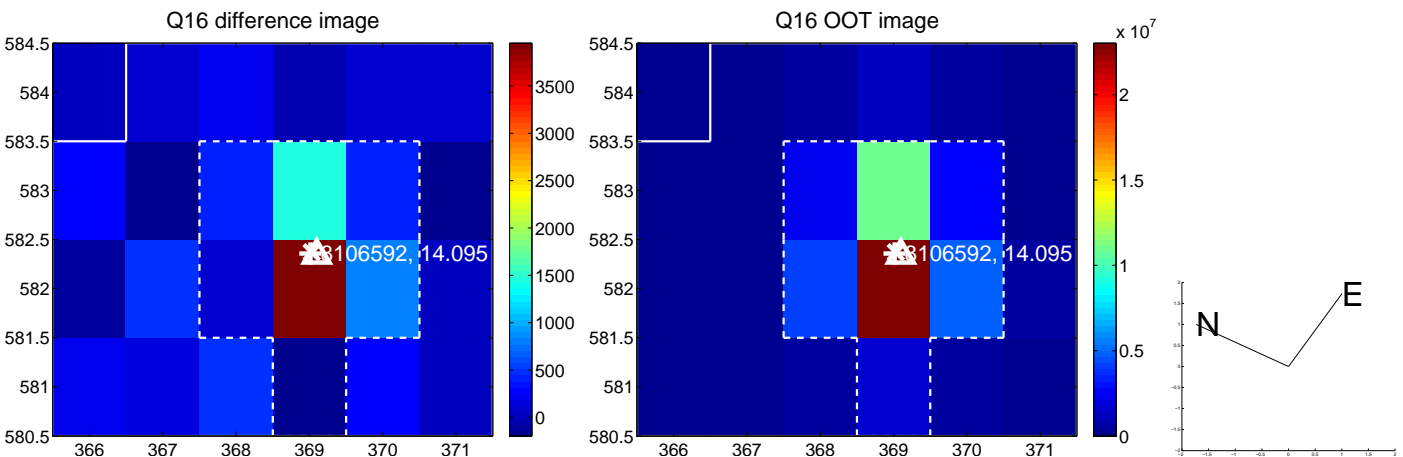
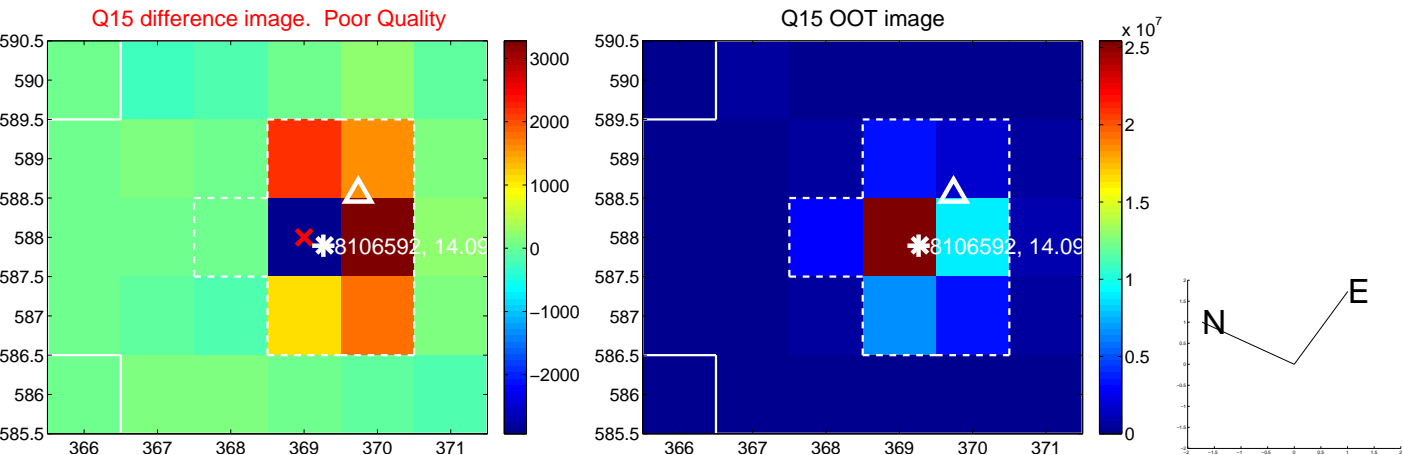
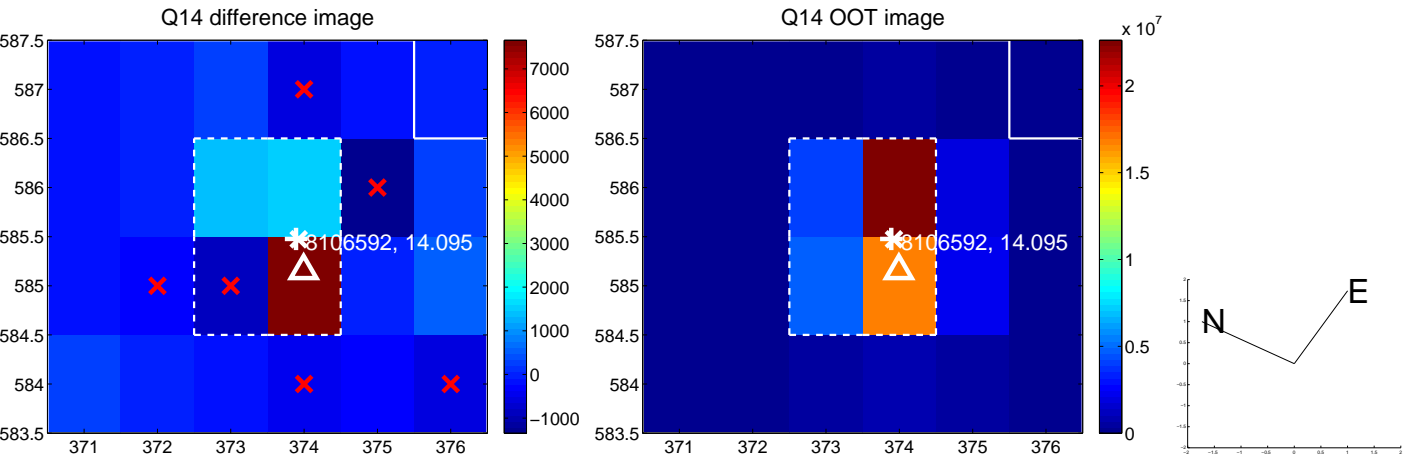
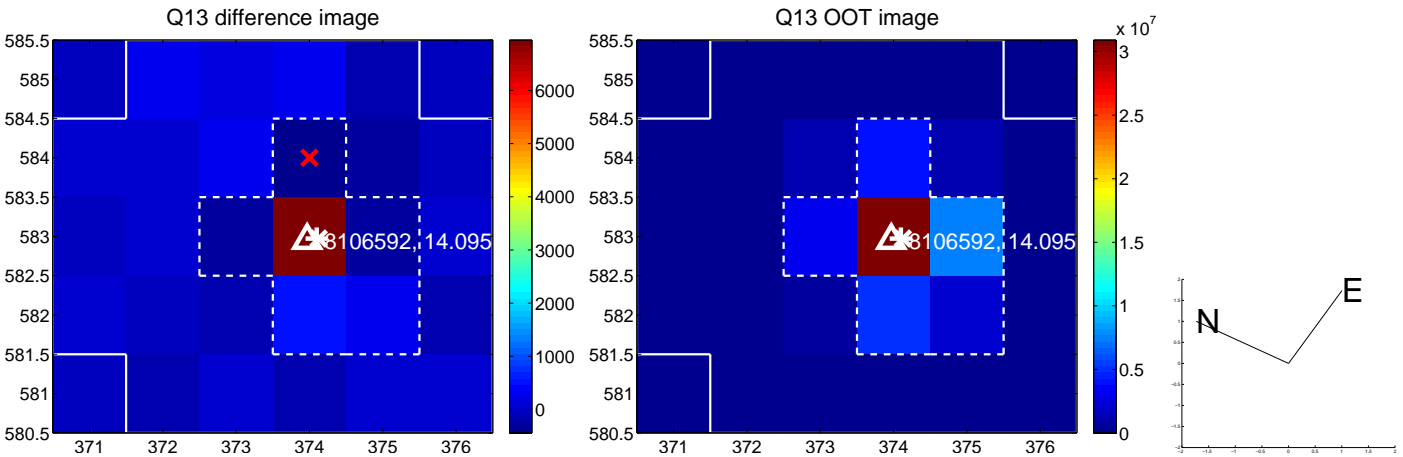




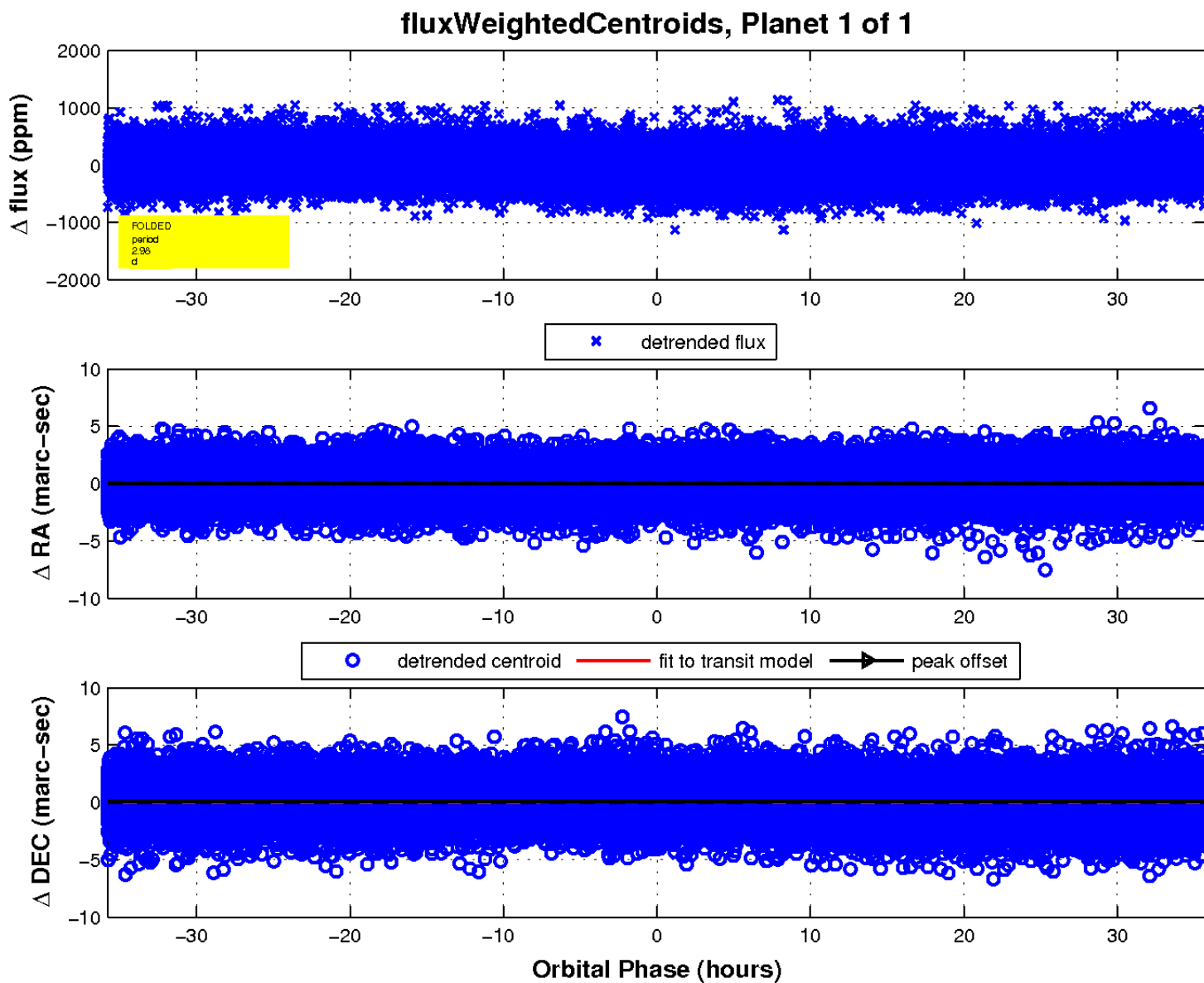
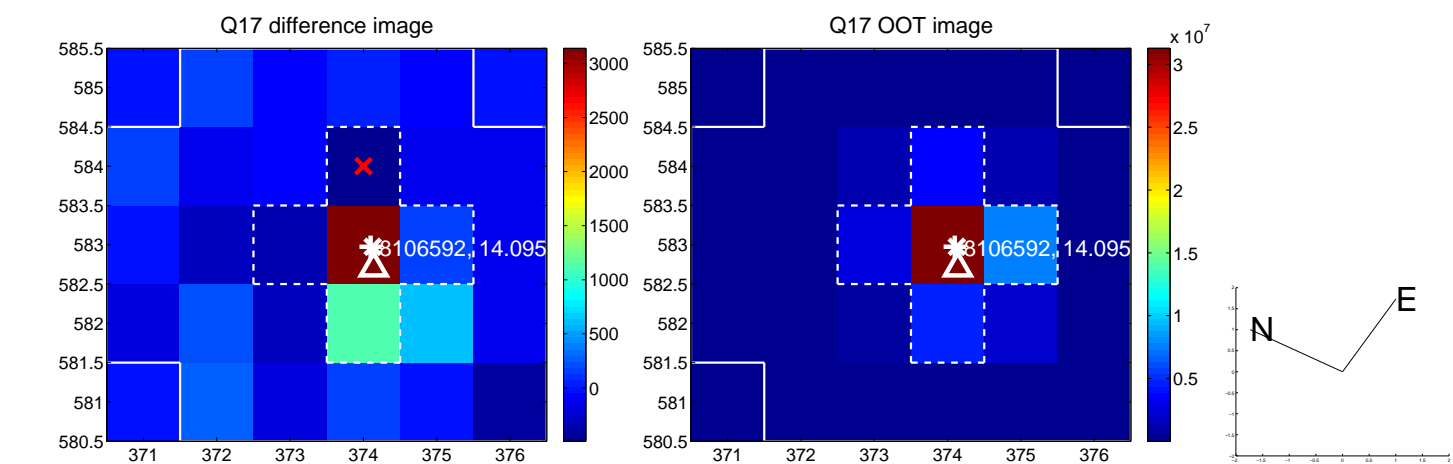
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

