

# KIC 006388994

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006388994-01	OBS	No	1.088576	131.909677	27.5	3.870	8.9	8.7	1.21	6248	0.73	4395.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006388994-01	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.

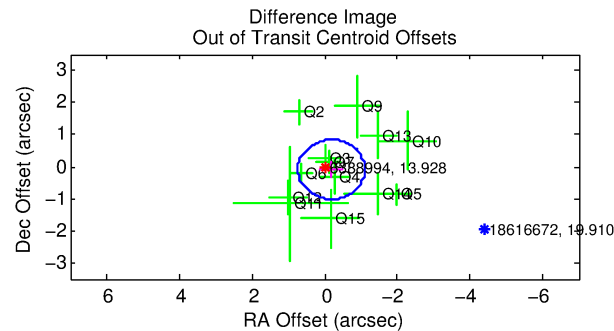
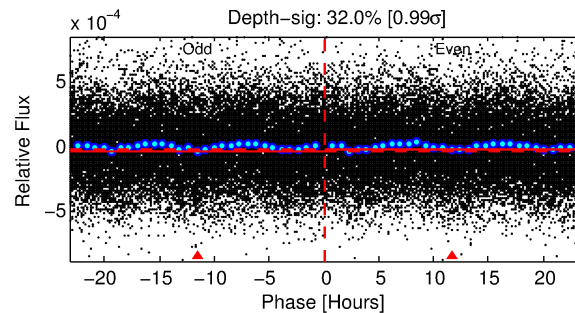
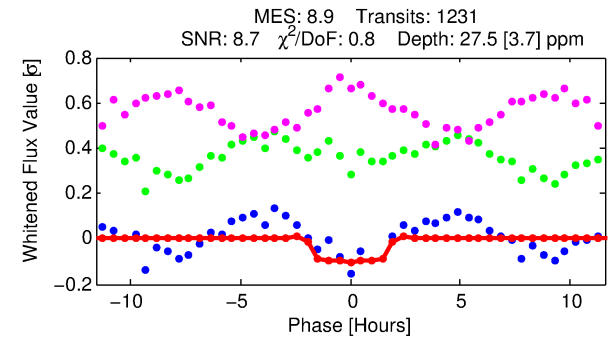
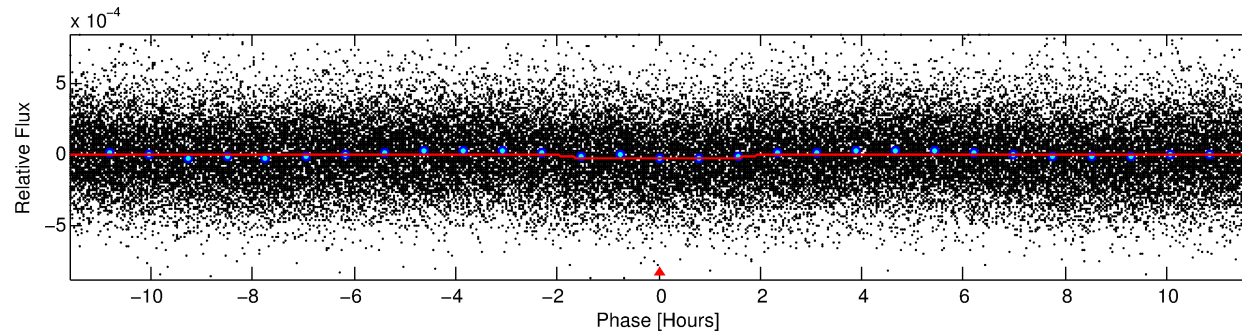
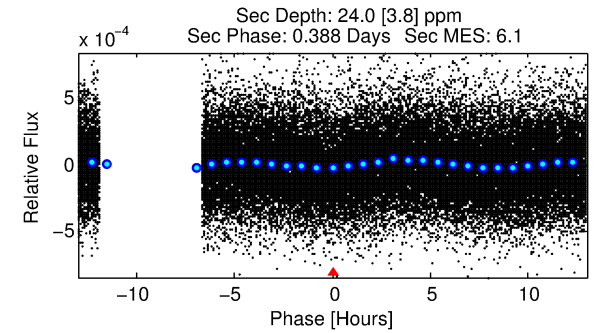
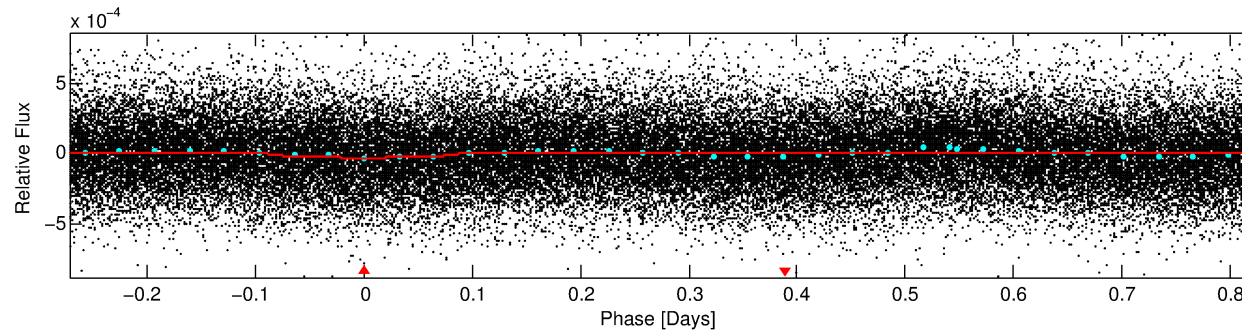
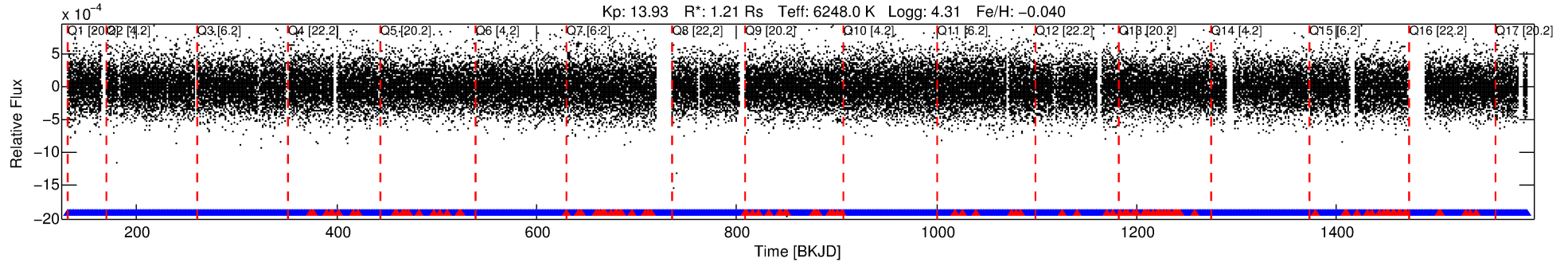
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006388994-01

No Significant Match Found

# DV One-Page Summary

KIC: 6388994 Candidate: 1 of 1 Period: 1.089 d



## DV Fit Results:

Period = 1.08858 [0.00001] d  
Epoch = 131.9097 [0.0047] BKJD  
Rp/R\* = 0.0055 [0.0030]  
a/R\* = 1.40 [2.03]  
b = 0.88 [0.78]  
Seff = 4395.91 [1791.13]  
Teq = 2076 [211] K  
Rp = 0.73 [0.46] Re  
a = 0.0214 [0.0056] AU  
Ag = 11.21 [13.09] [0.78σ]  
Teffp = 5874 [1634] K [2.30σ]

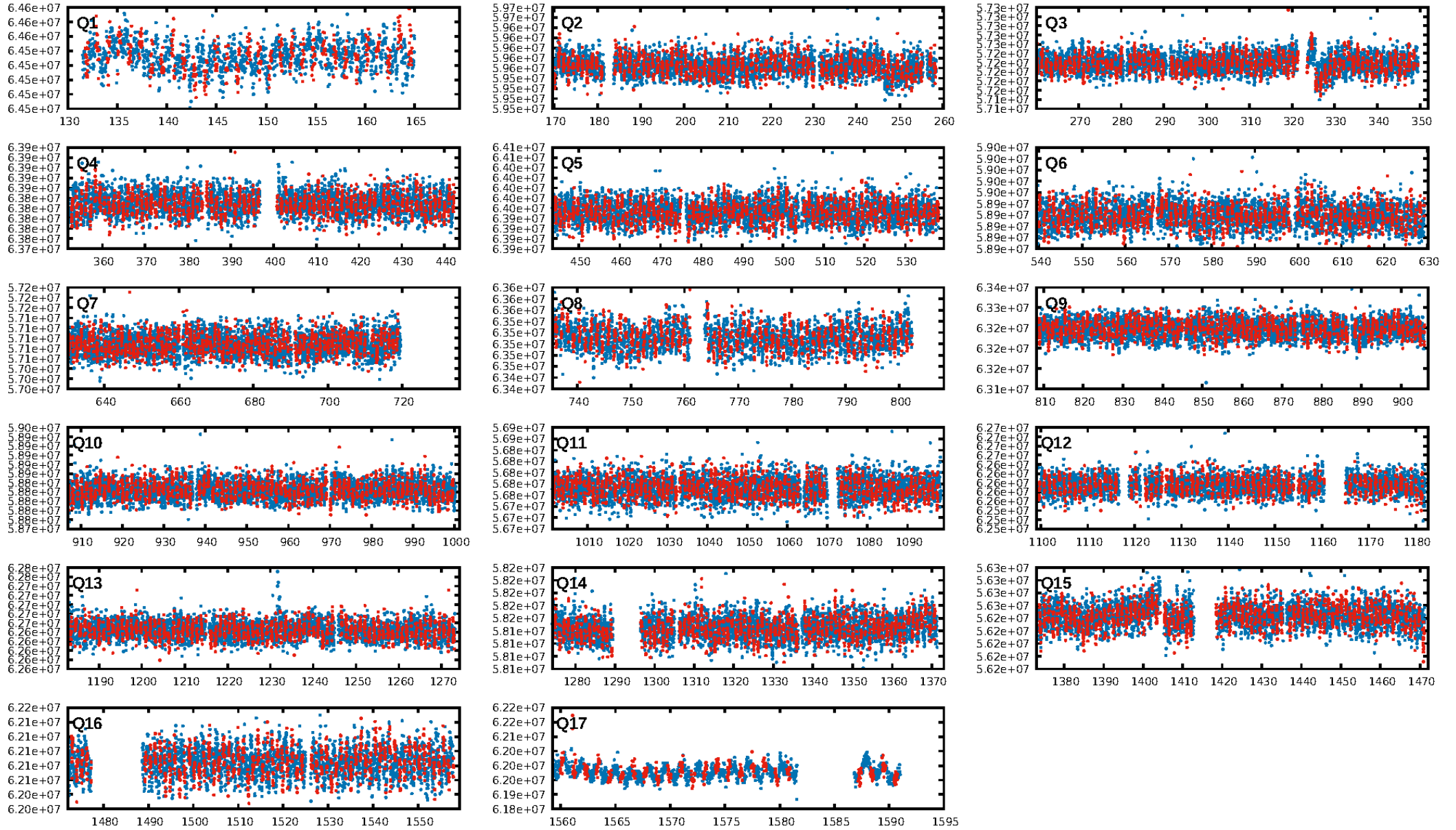
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.48e-16  
RollingBand-fgt: 0.90 [1064/1176]  
GhostDiagnostic-chr: -7.447  
Centroid-sig: 6.3%  
Centroid-so: 1.859 arcsec [1.50σ]  
OotOffset-rm: 0.202 arcsec [0.66σ]  
KicOffset-rm: 0.139 arcsec [0.44σ]  
OotOffset-st: 4/4/2/3 [13]  
KicOffset-st: 4/4/2/3 [13]  
DiffImageQuality-fgm: 0.77 [10/13]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:04:35 Z

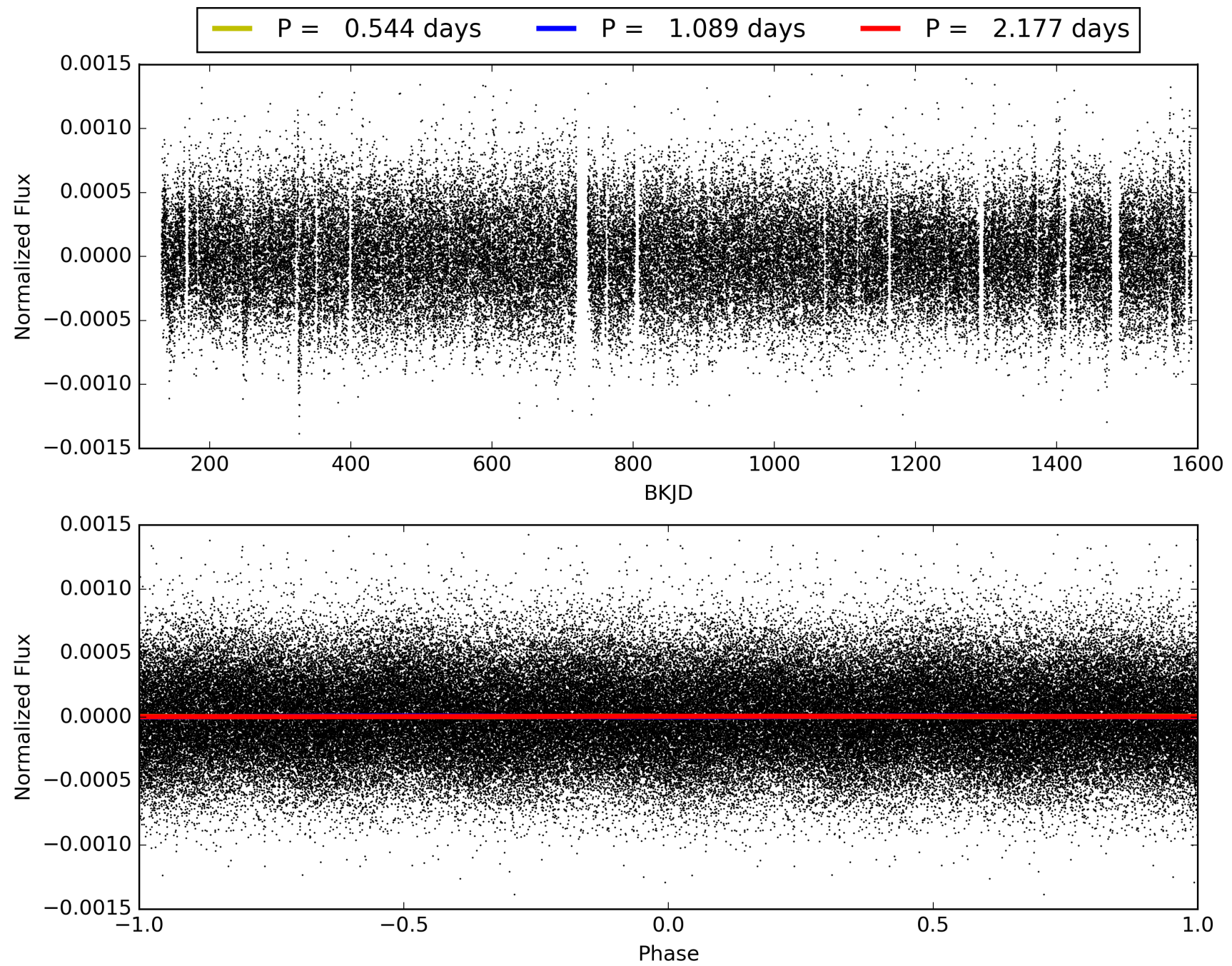
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006388994-01, PDC Light Curves



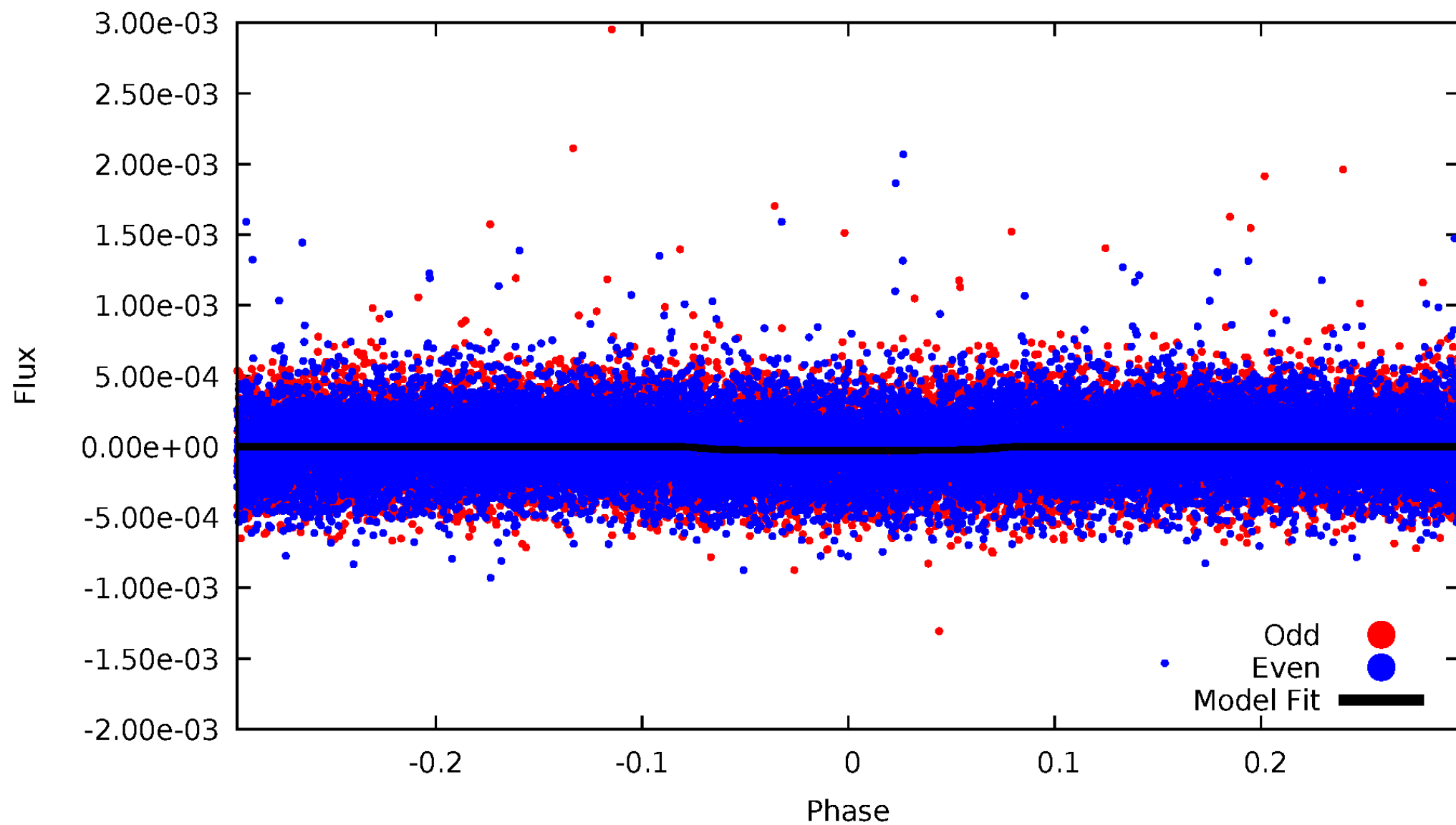


TCE 006388994-01



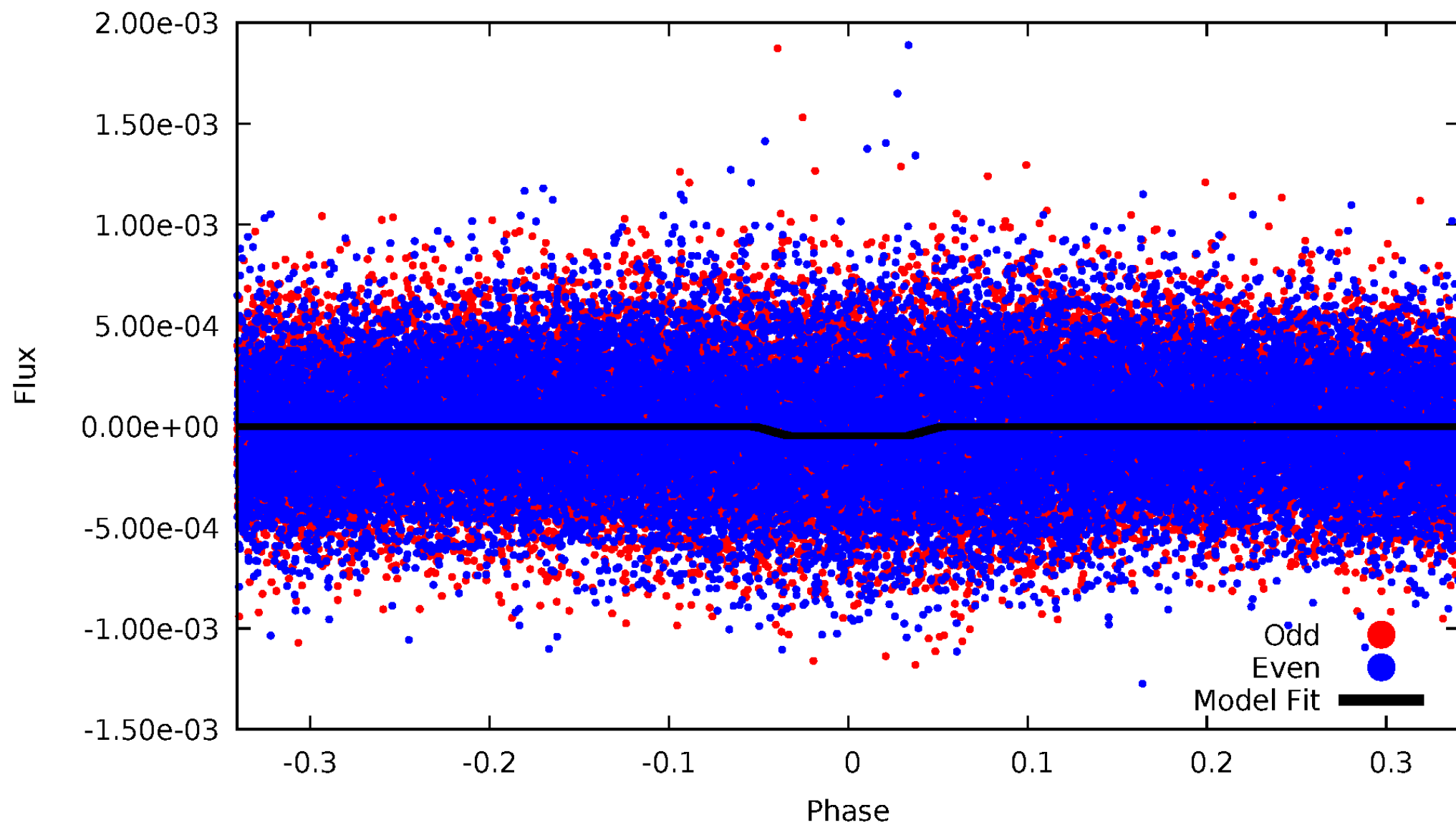
# DV Odd/Even

TCE 006388994-01

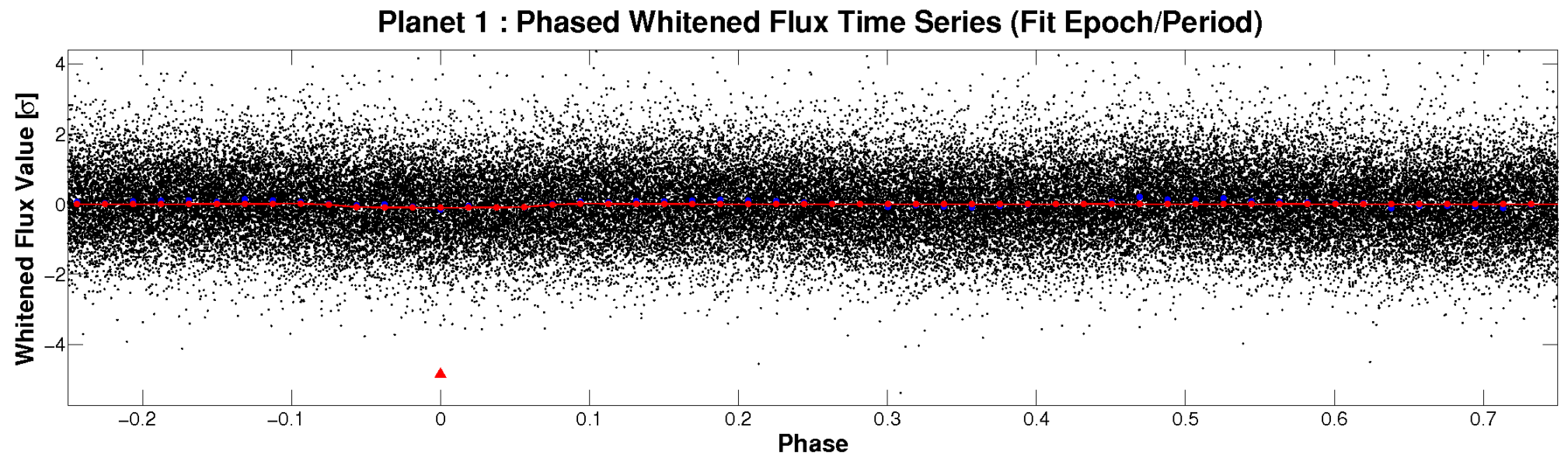
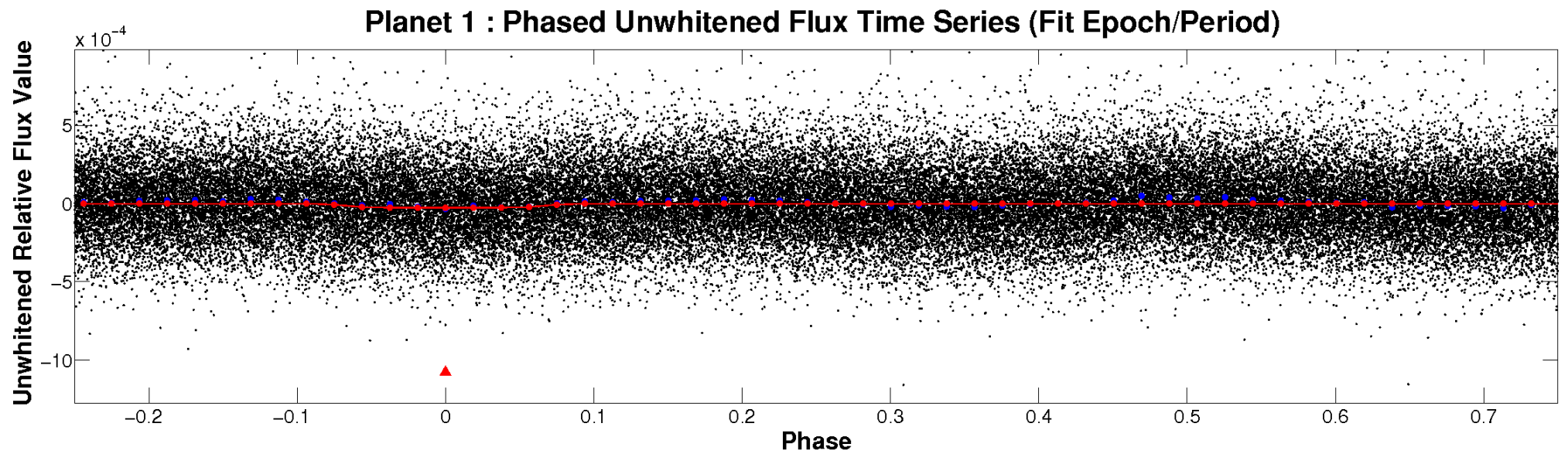


# ALT Odd/Even

TCE 006388994-01



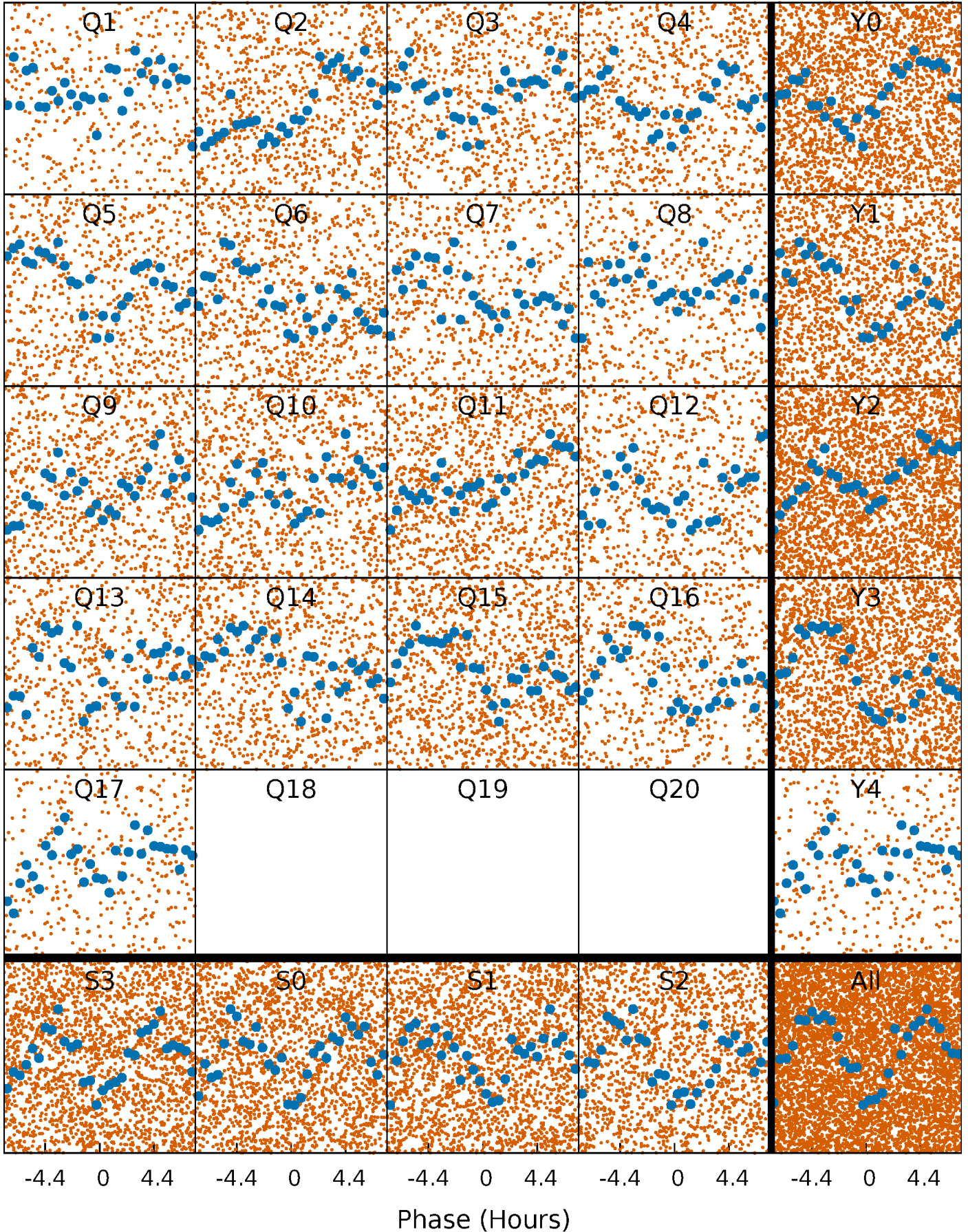
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

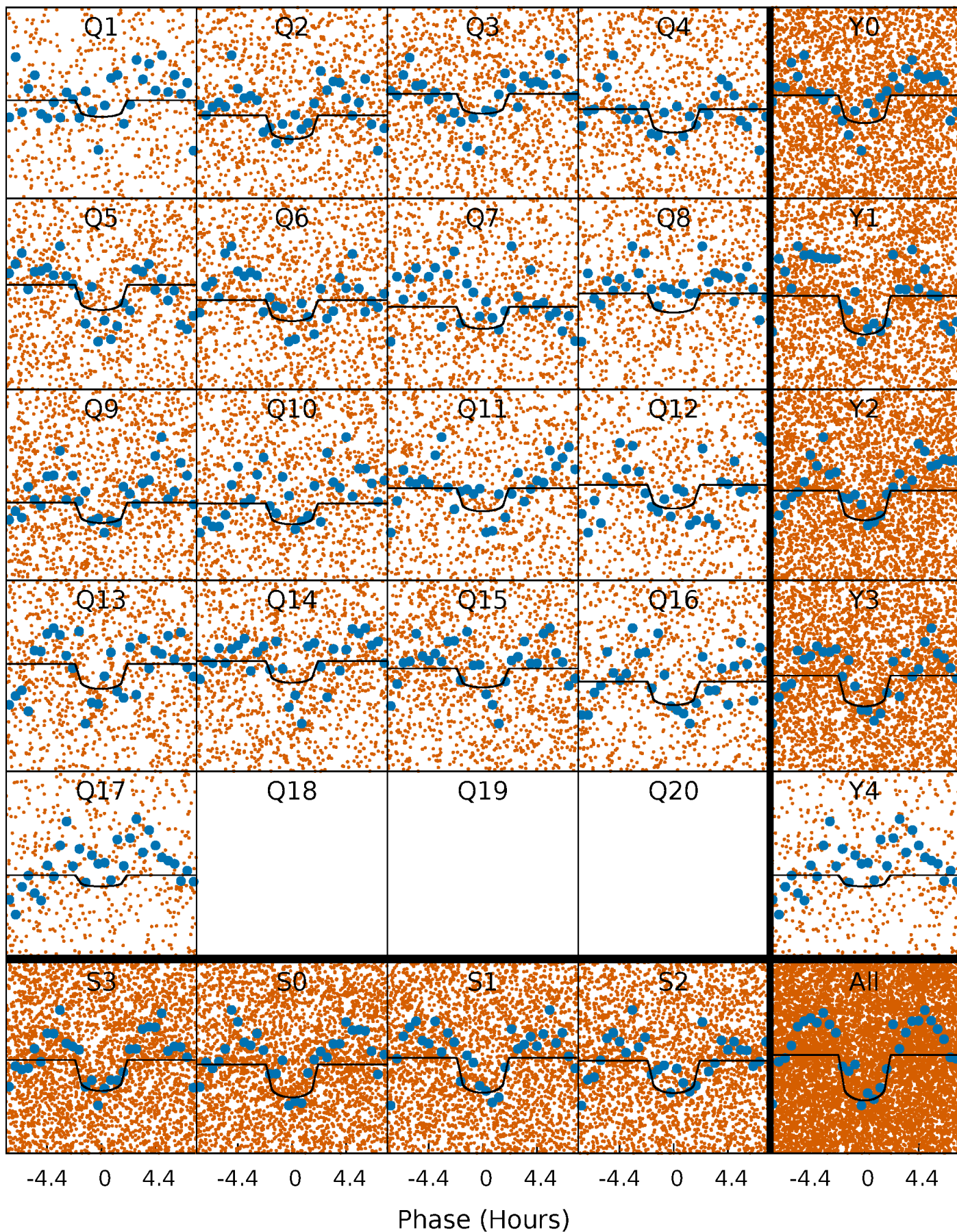
TCE 006388994-01 P= 1.088576 Days  $T_0=131.909677$  (BKJD)





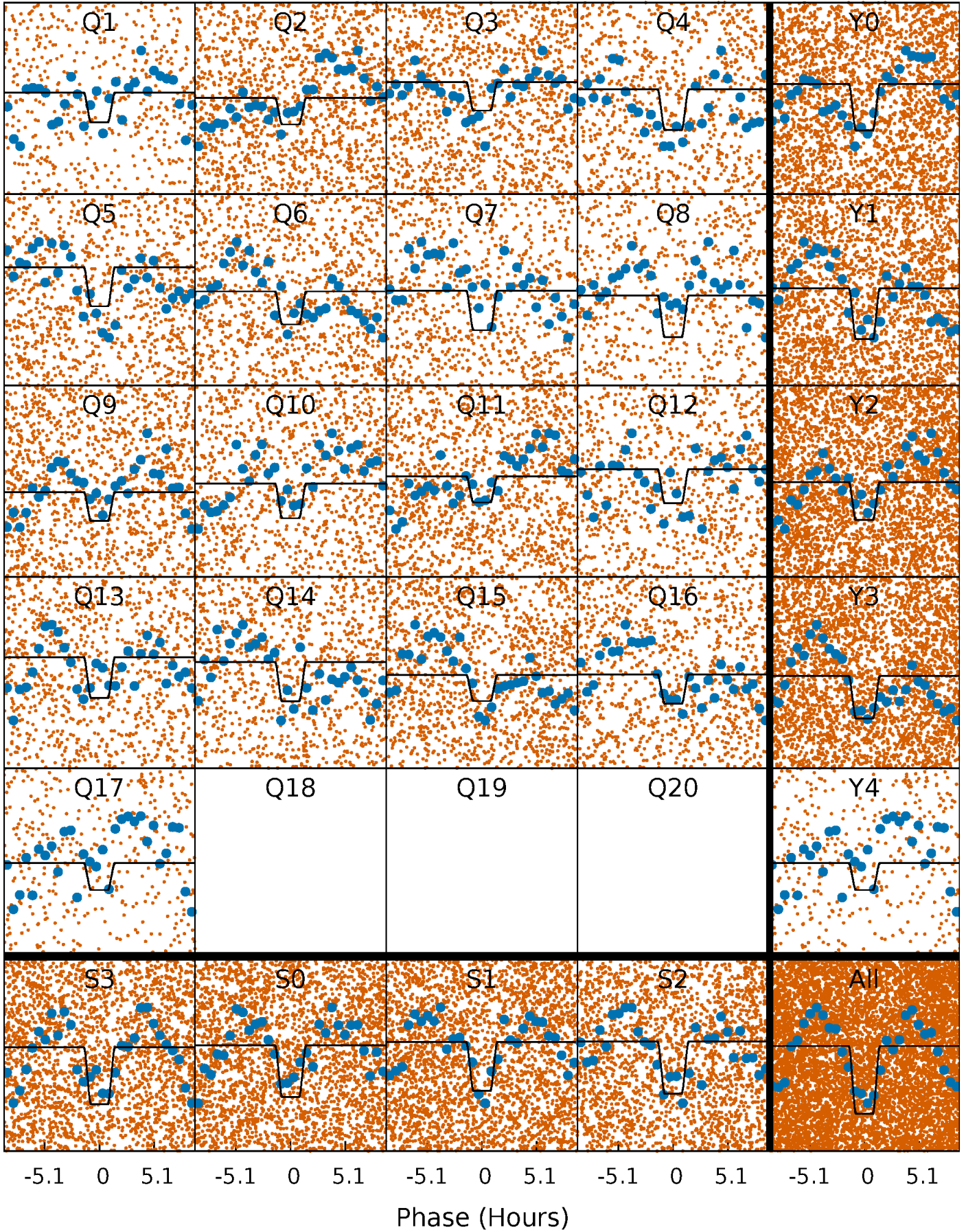
# DV Quarter-Phased Transit Curves

TCE 006388994-01 P= 1.088576 Days  $T_0=131.909677$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 006388994-01 P= 1.088614 Days  $T_0=131.895755$  (BKJD)

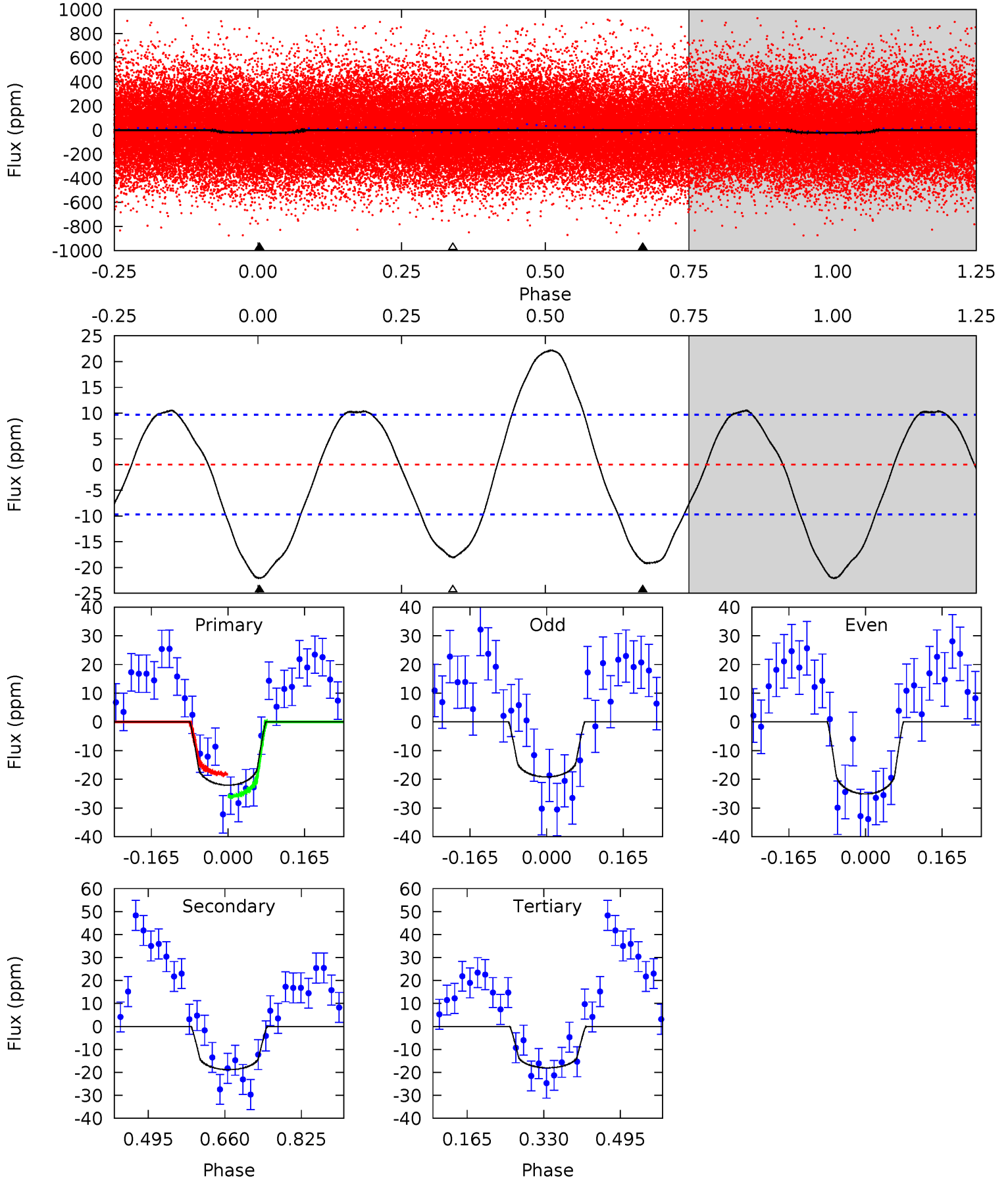




# DV Model-Shift Uniqueness Test

006388994-01, P = 1.088576 Days, E = 130.821101 Days

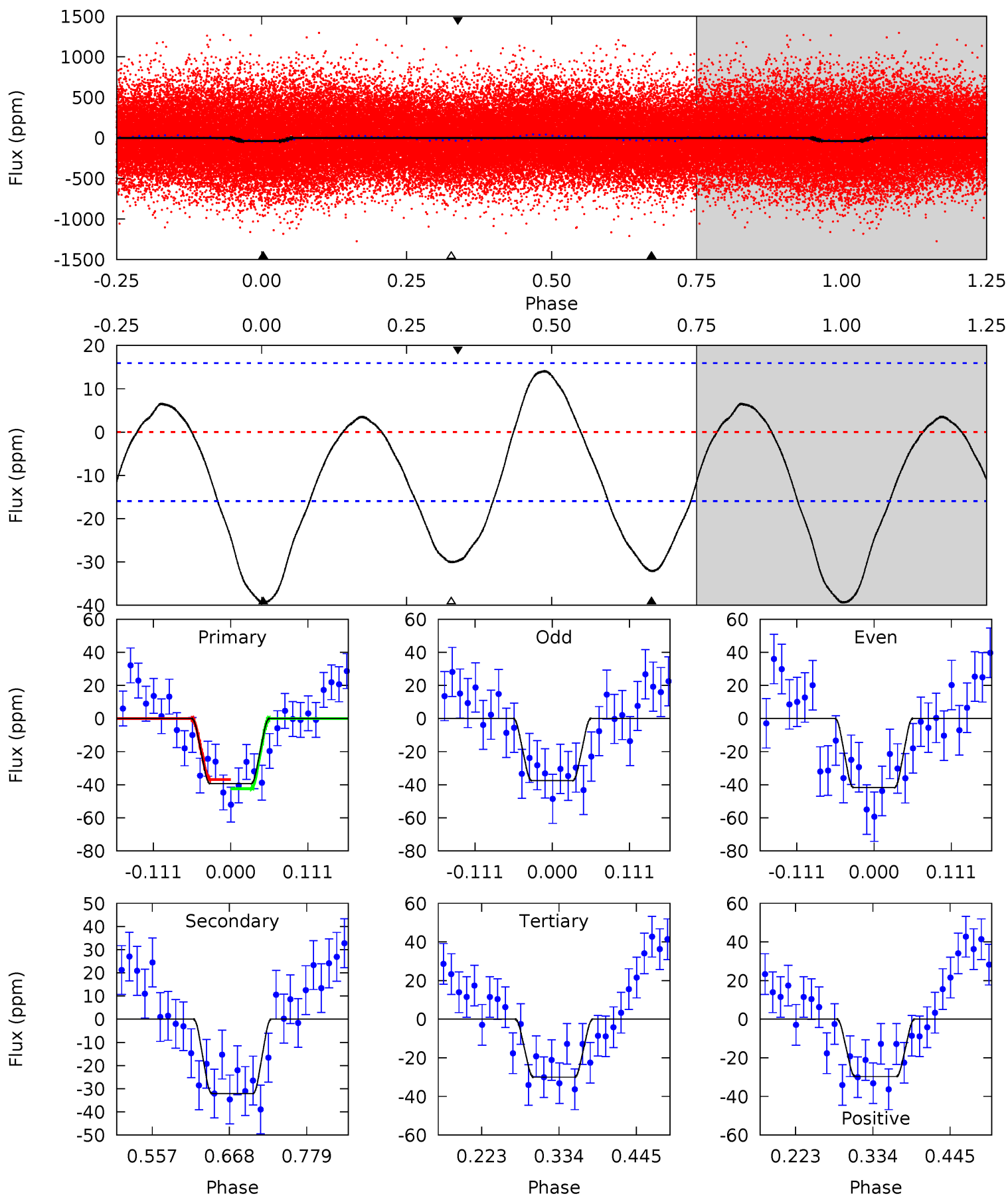
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	8.67	8.30	0	4.46	1.39	5.79	1.85	10.2	0.37	8.67	1.38	0.87	0.50	1.79



# Alt Model-Shift Uniqueness Test

006388994-01, P = 1.088614 Days, E = 130.807141 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	9.15	8.56	-8.47	4.54	1.59	3.74	2.66	19.7	0.59	17.6	0.60	0.79	0.26	0.80





### Stellar Parameters For KIC 006388994

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6248^{+167}_{-223}$	$4.311^{+0.112}_{-0.208}$	$-0.040^{+0.250}_{-0.300}$	$1.212^{+0.380}_{-0.205}$	$1.092^{+0.189}_{-0.126}$	$0.864^{+0.446}_{-0.468}$
	+3%/-4%	+3%/-5%	+625%/-750%	+31%/-17%	+17%/-12%	+52%/-54%
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 006388994-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-19 \pm 2$	$0.79^{+0.41}_{-0.40}$	$2921^{+214}_{-168}$	$5425^{+2481}_{-948}$	$7.720^{+23.176}_{-4.436}$
Alt.	$-32 \pm 4$	$0.94^{+0.45}_{-0.40}$	$2931^{+229}_{-183}$	$5592^{+1822}_{-861}$	$8.871^{+19.139}_{-4.766}$

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

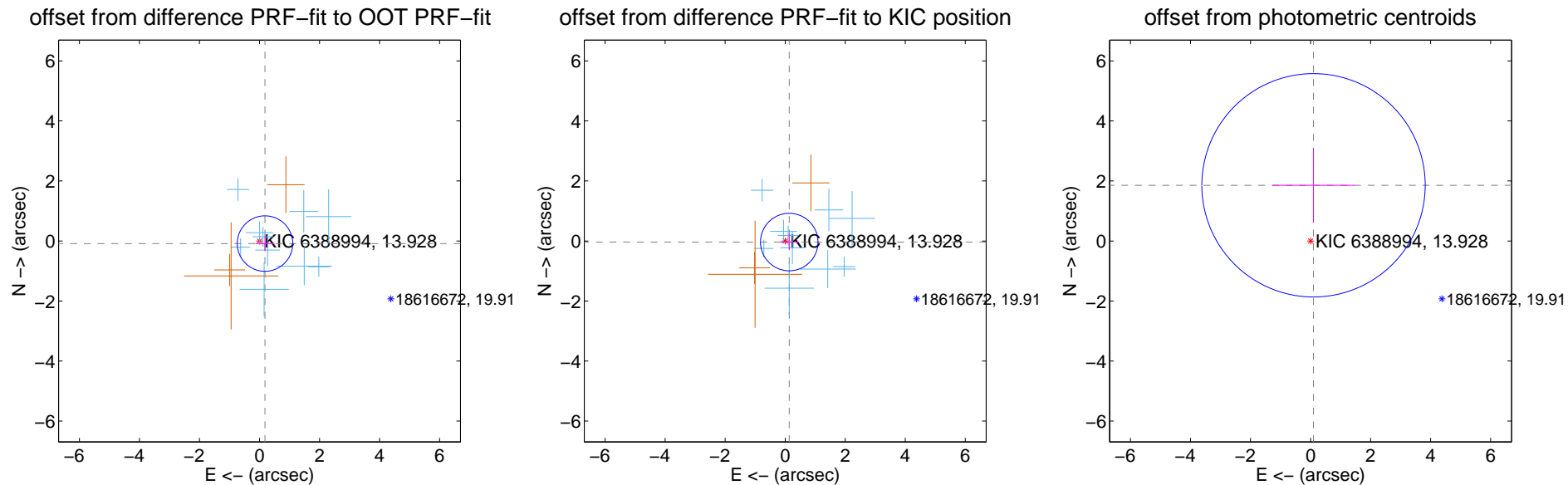
## DV Centroid Data

Supplemental centroid analysis for 006388994-01. Kepler magnitude: 13.93. Transit SNR 8.66

There are 10 quarters with good PRF difference image offsets

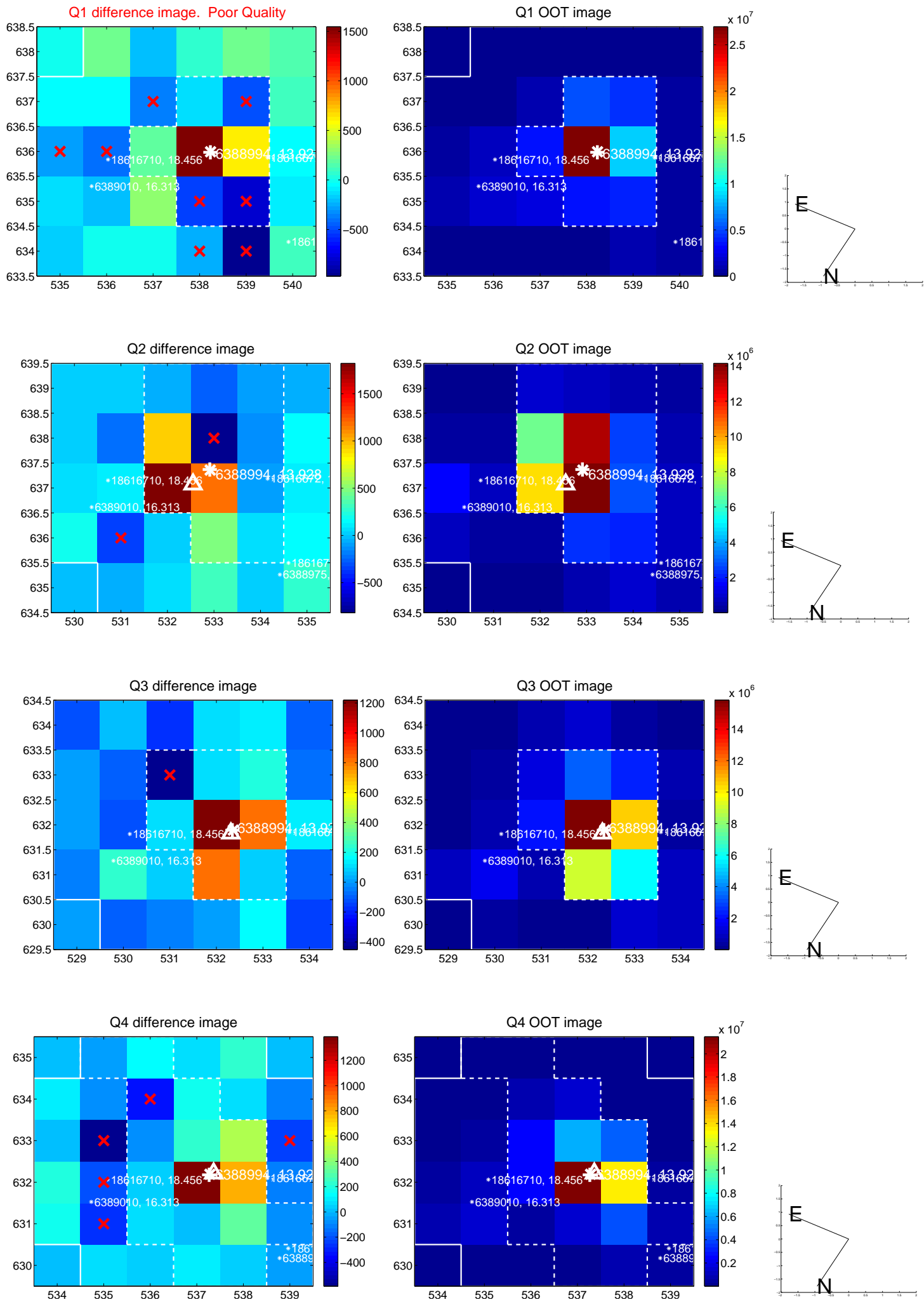
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.202 \pm 0.308$	0.66	$-0.183 \pm 0.319$	$-0.086 \pm 0.254$
PRF-fit source offset from KIC position	$0.139 \pm 0.319$	0.44	$-0.135 \pm 0.323$	$-0.035 \pm 0.258$
photometric centroid source offset	$1.86 \pm 1.24$	1.50	$-0.10 \pm 1.37$	$1.86 \pm 1.24$

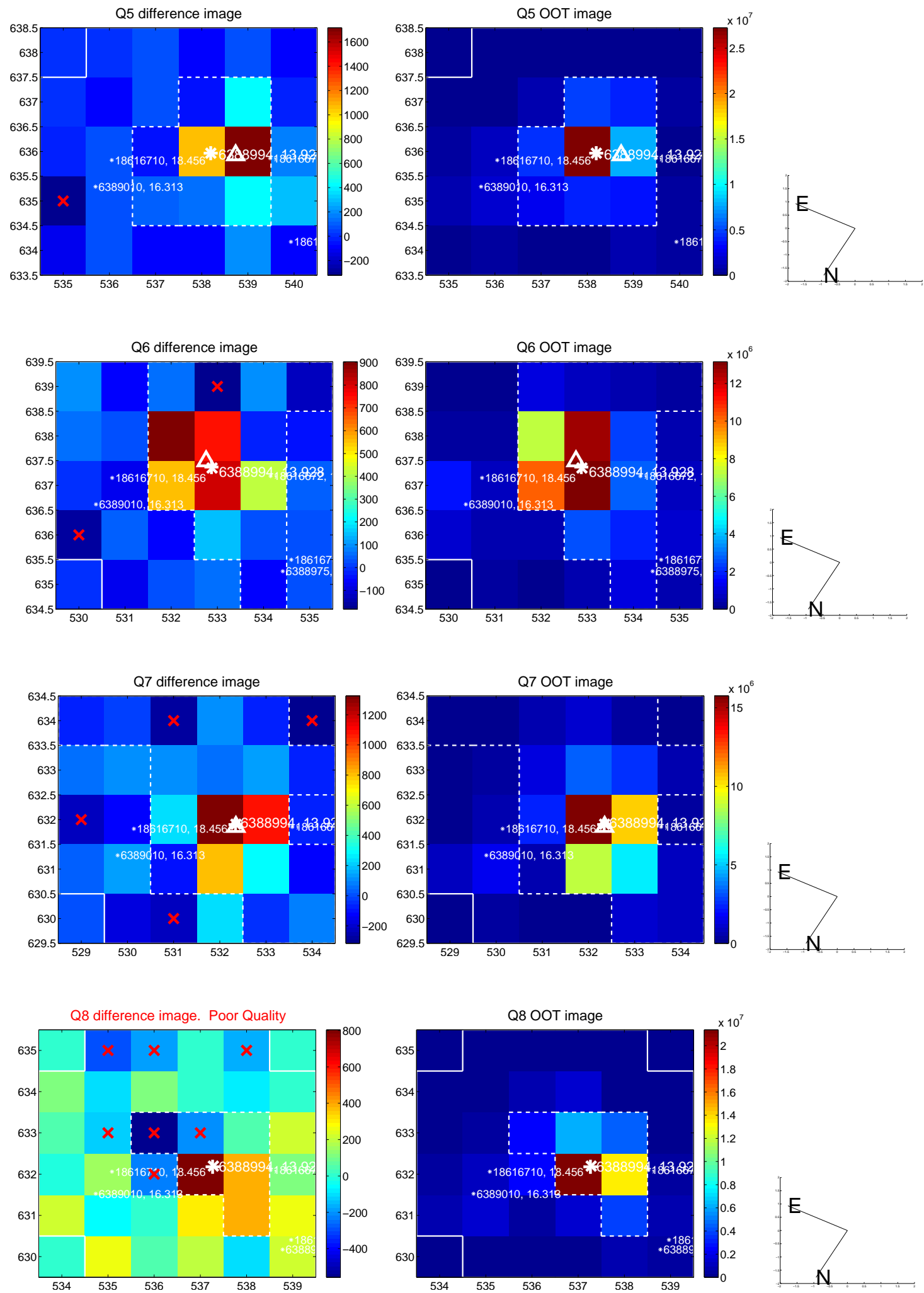


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

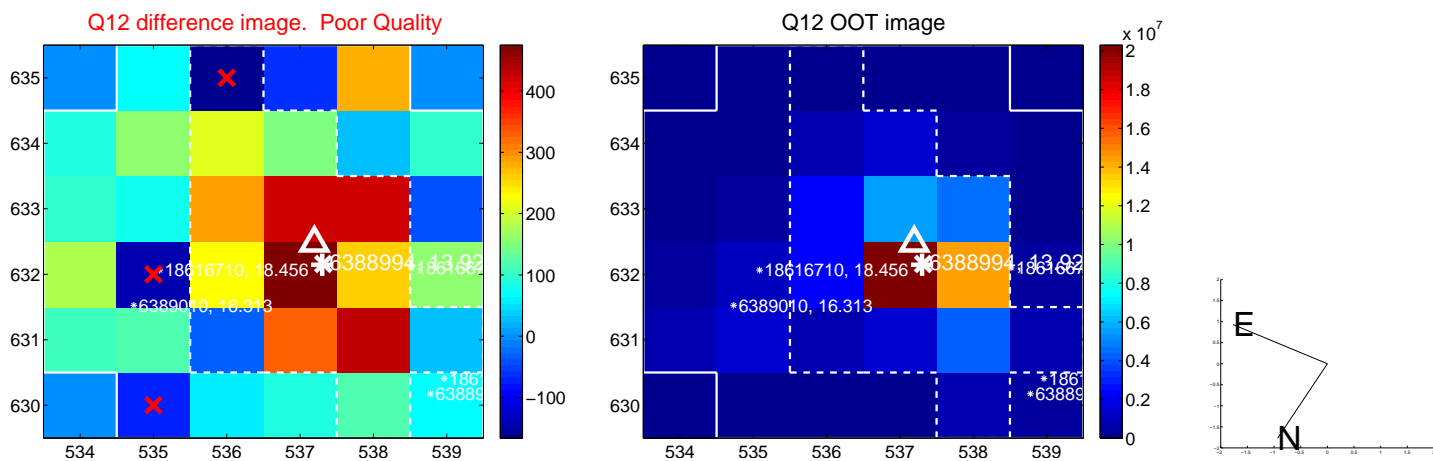
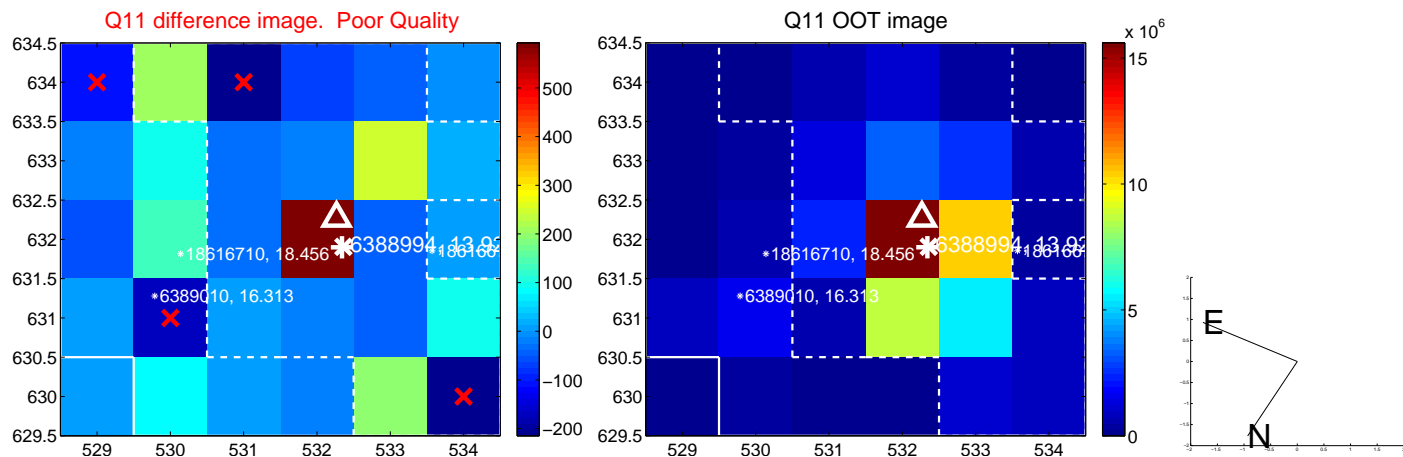
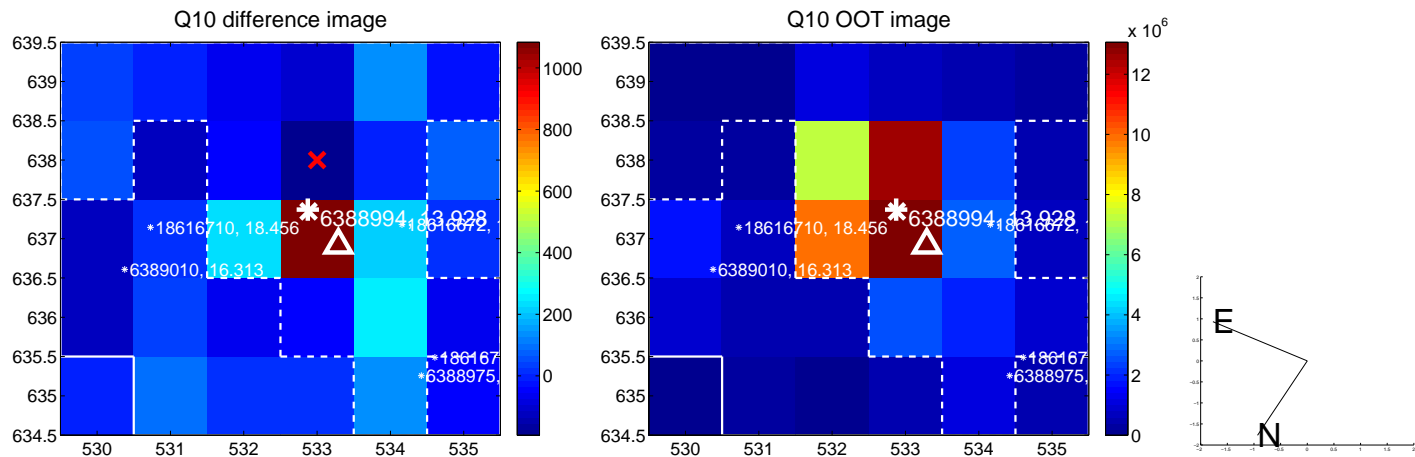
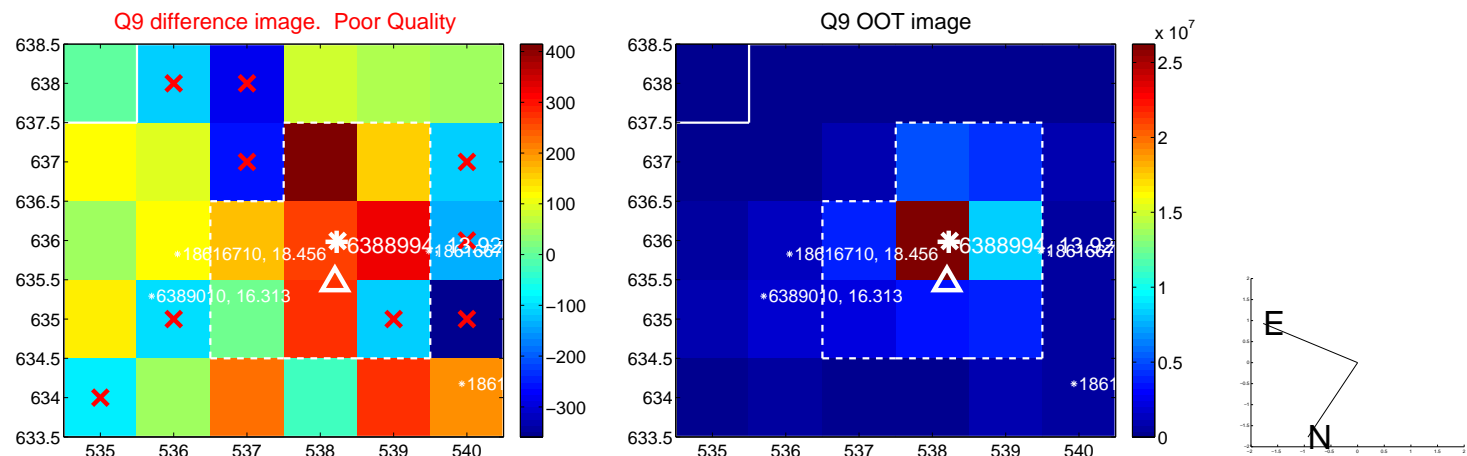


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

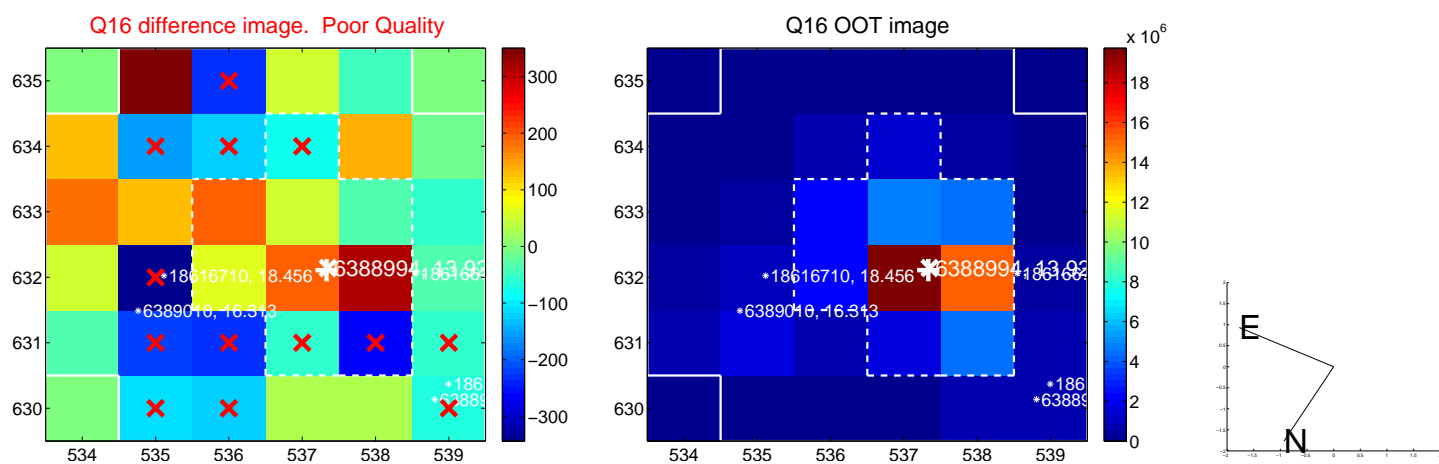
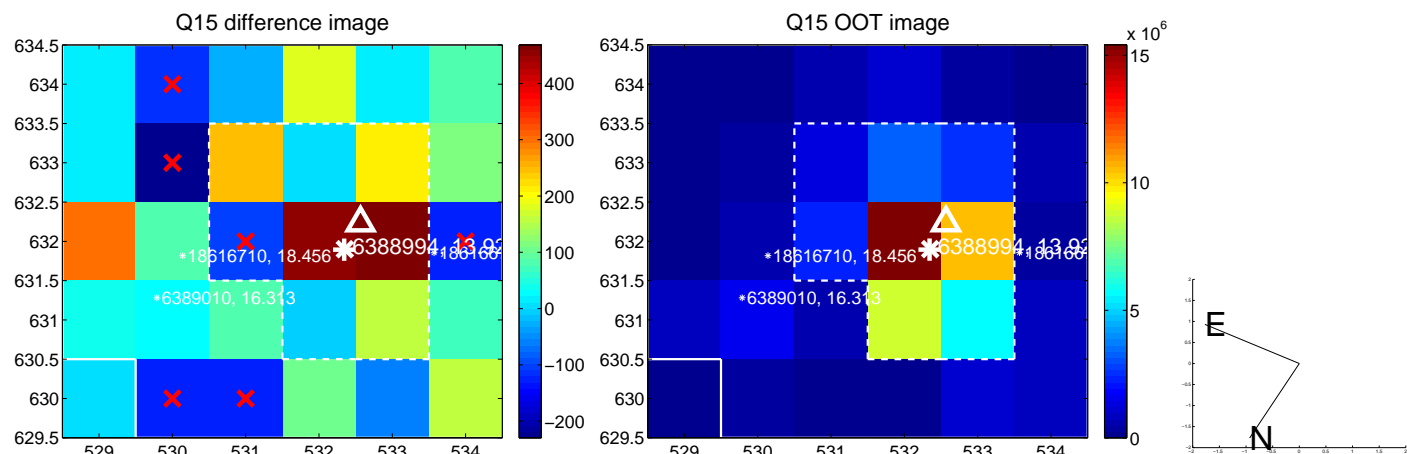
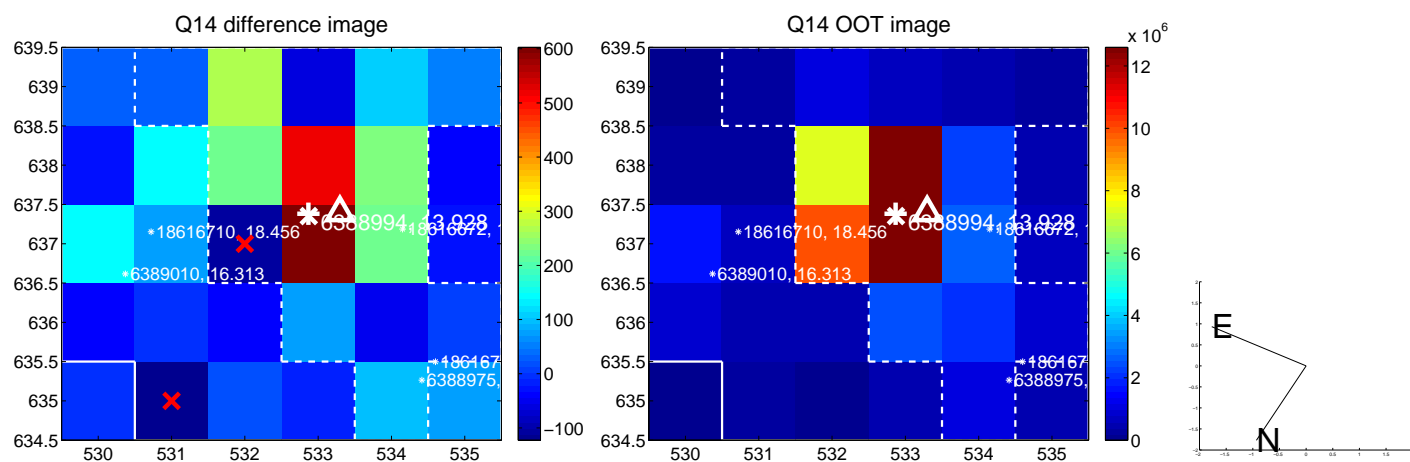
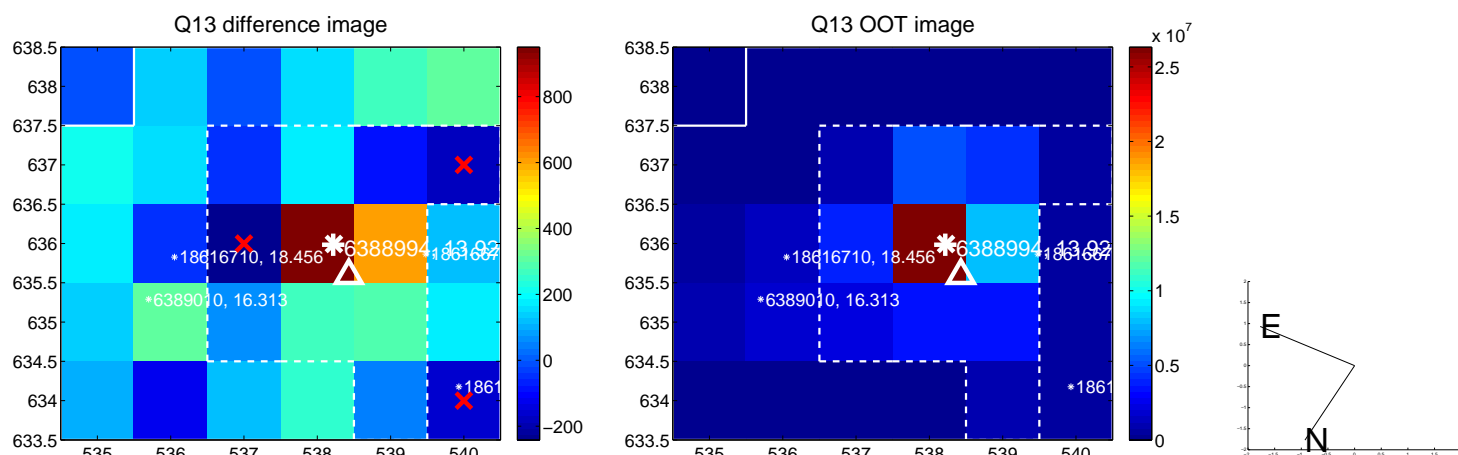




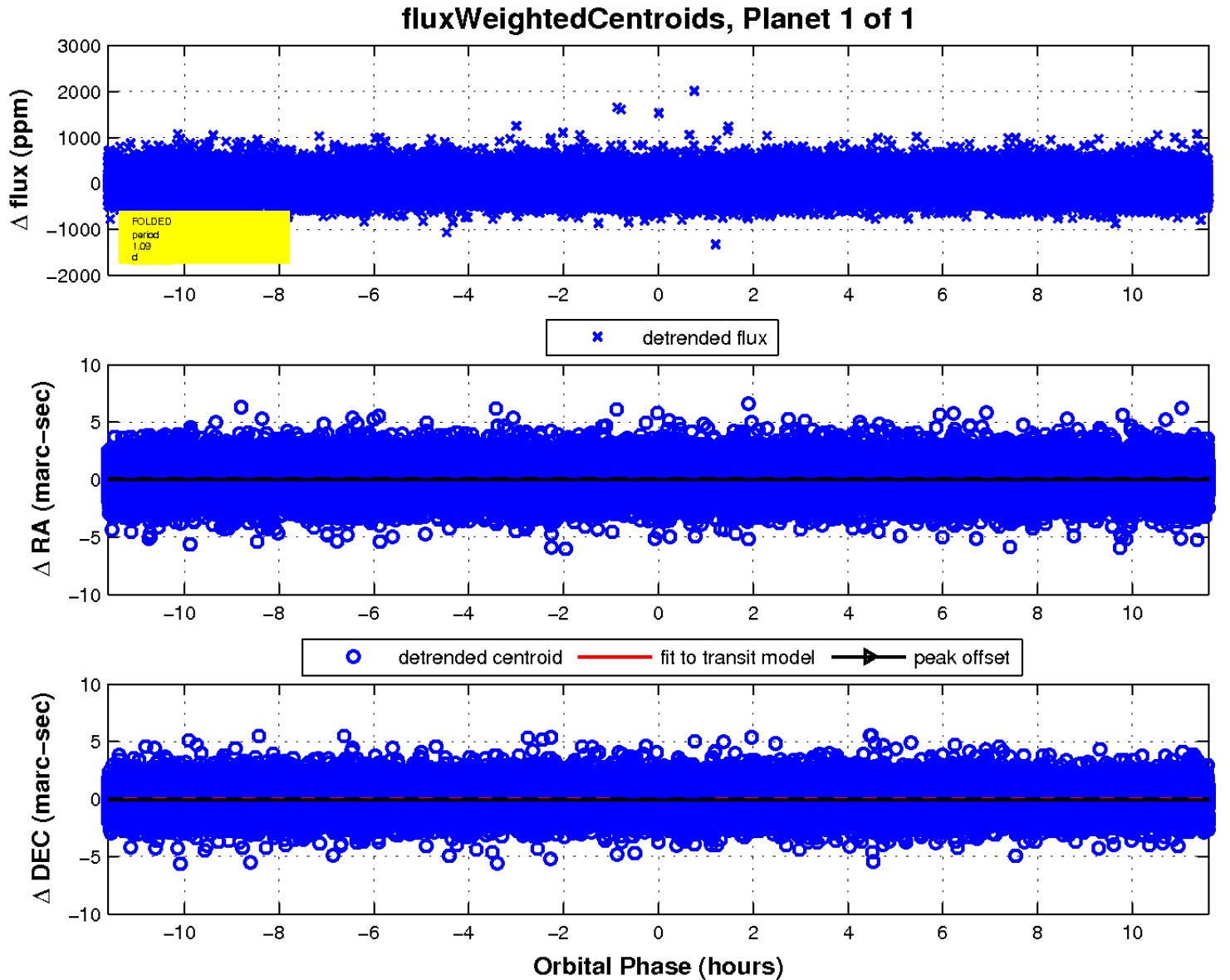
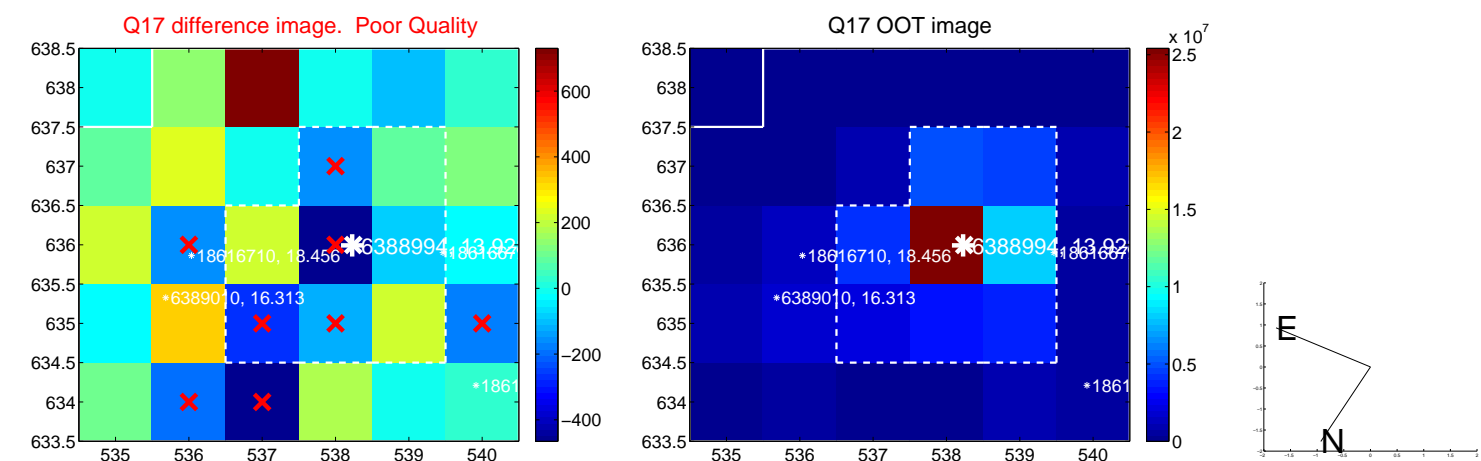
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



UKIRT Image

Declination

