

# KIC 008051946

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008051946-01	OBS	3038.01	1.495110	132.672369	45.0	2.742	11.6	11.3	1.45	5635	1.15	2894.34

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008051946-01	OBS	PC	0.99	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.

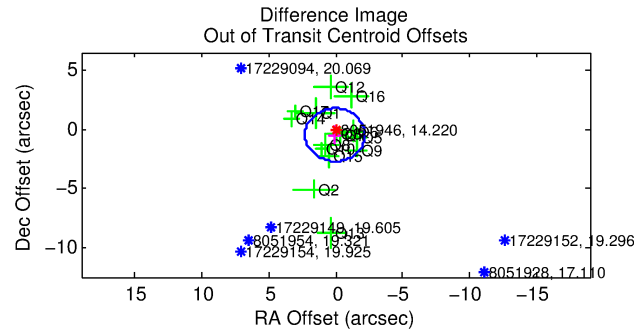
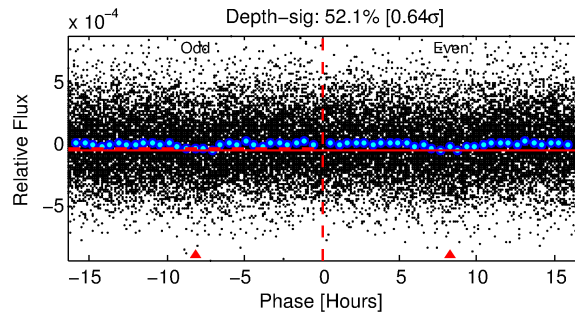
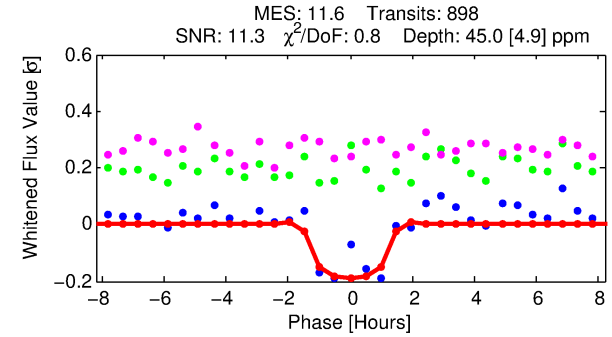
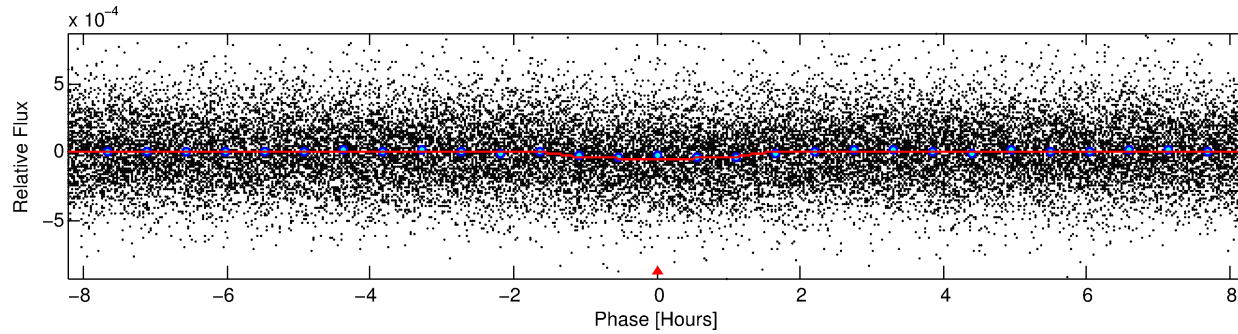
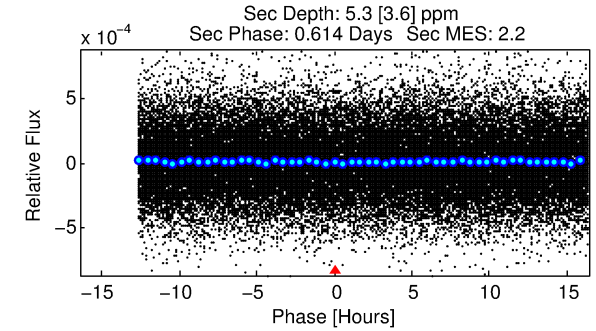
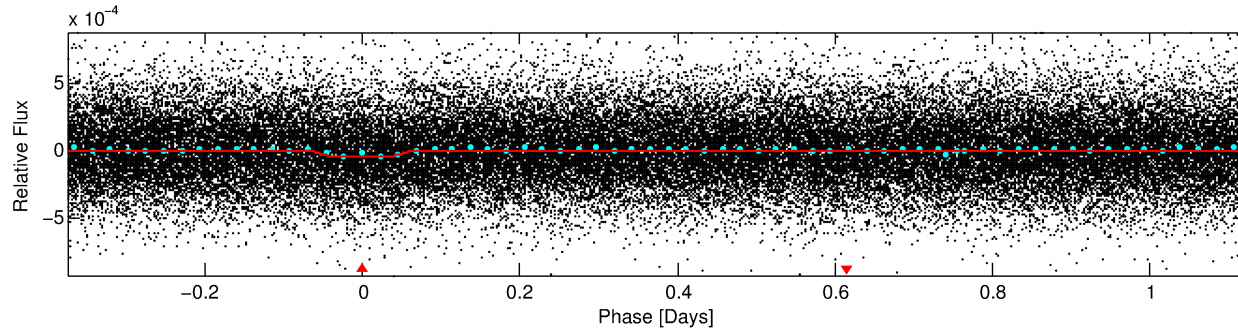
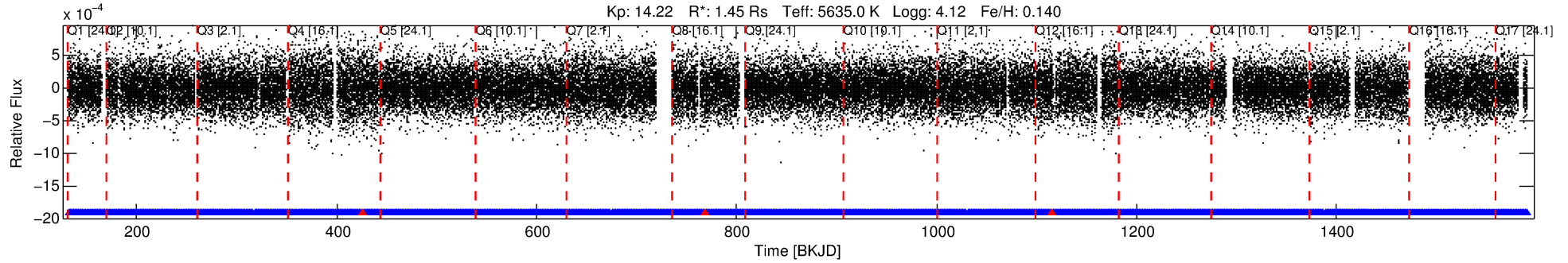
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008051946-01

No Significant Match Found

# DV One-Page Summary

KIC: 8051946 Candidate: 1 of 1 Period: 1.495 d  
KOI: K03038.01 Corr: 0.892



## DV Fit Results:

Period = 1.49511 [0.00001] d  
Epoch = 132.6724 [0.0035] BKJD  
Rp/R\* = 0.0072 [0.0033]  
a/R\* = 2.21 [3.68]  
b = 0.88 [0.53]  
Seff = 2894.35 [1010.10]  
Teff = 1870 [163] K  
Rp = 1.15 [0.58] Re  
a = 0.0257 [0.0055] AU  
Ag = 1.47 [1.76] [0.26σ]  
Teffp = 3181 [914] K [1.41σ]

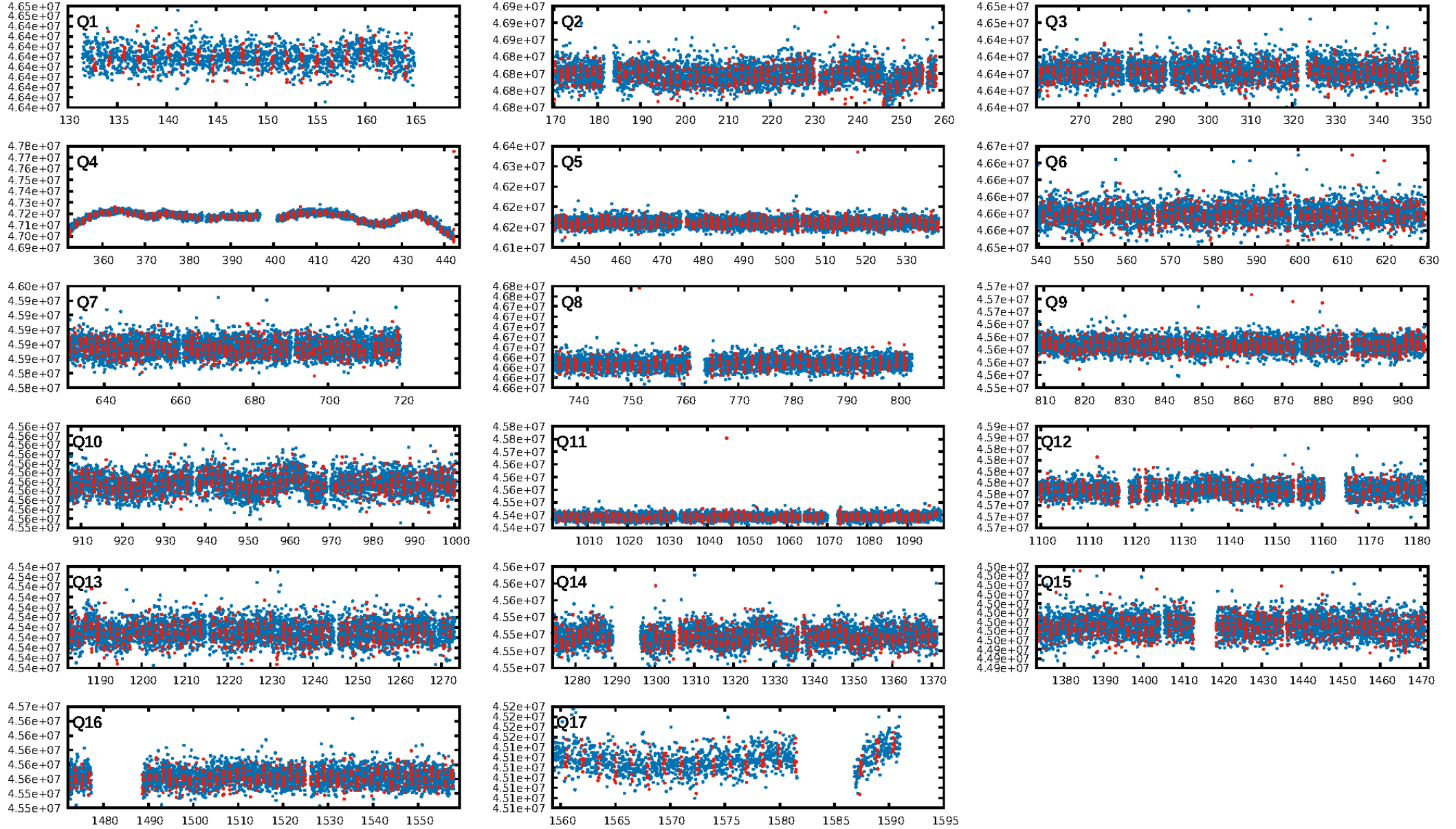
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.55e-31  
RollingBand-fgt: 1.00 [855/858]  
GhostDiagnostic-chr: 3.165  
Centroid-sig: N/A  
Centroid-so: 0.814 arcsec [0.61σ]  
OotOffset-rm: 0.476 arcsec [0.64σ]  
KicOffset-rm: 0.448 arcsec [0.59σ]  
OotOffset-st: 4/3/3/5 [15]  
KicOffset-st: 4/3/3/5 [15]  
DiffImageQuality-fgm: 0.60 [9/15]  
DiffImageOverlap-fno: 1.00 [17/17]

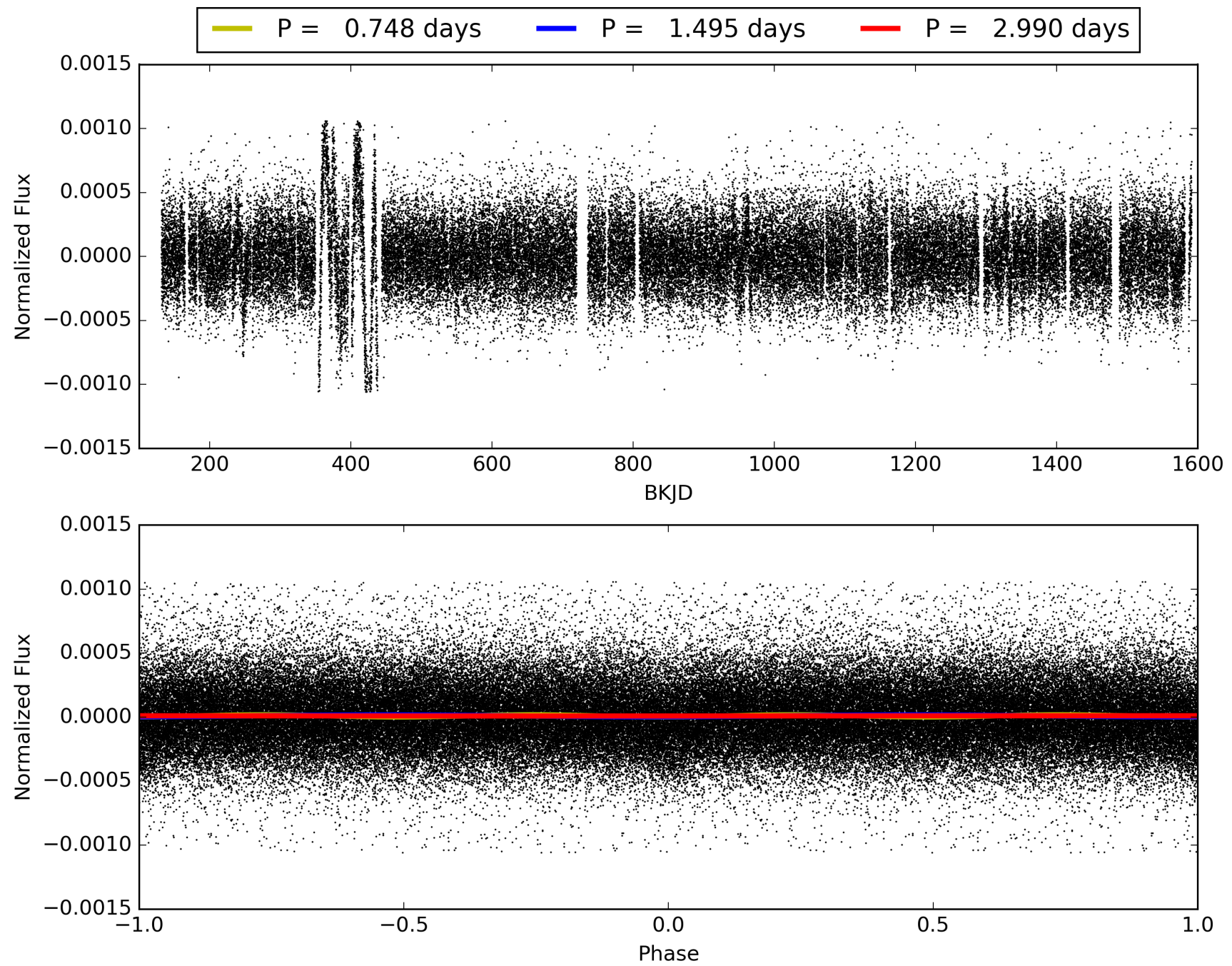
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:36:41 Z

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

# TCE 008051946-01, PDC Light Curves

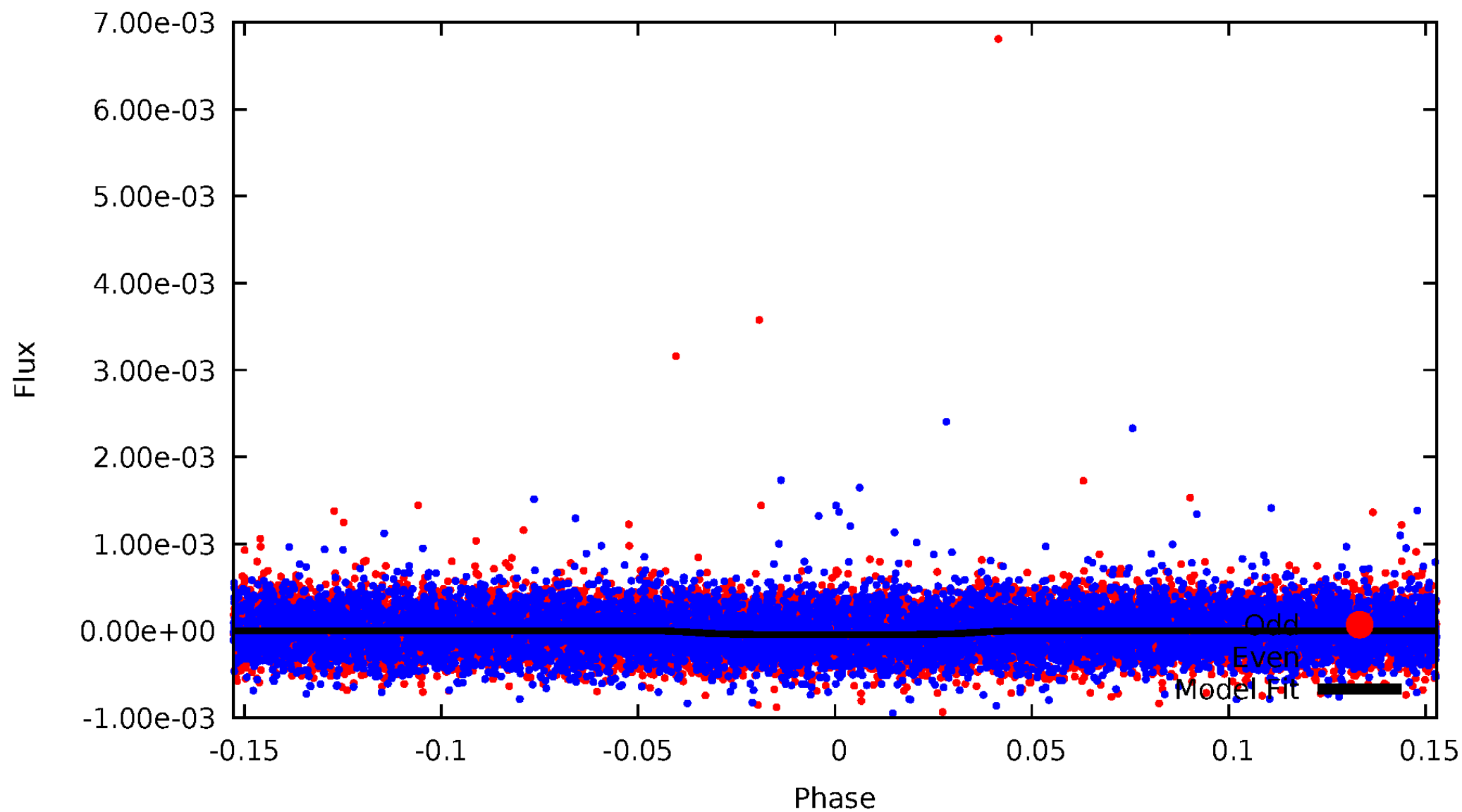


TCE 008051946-01



# DV Odd/Even

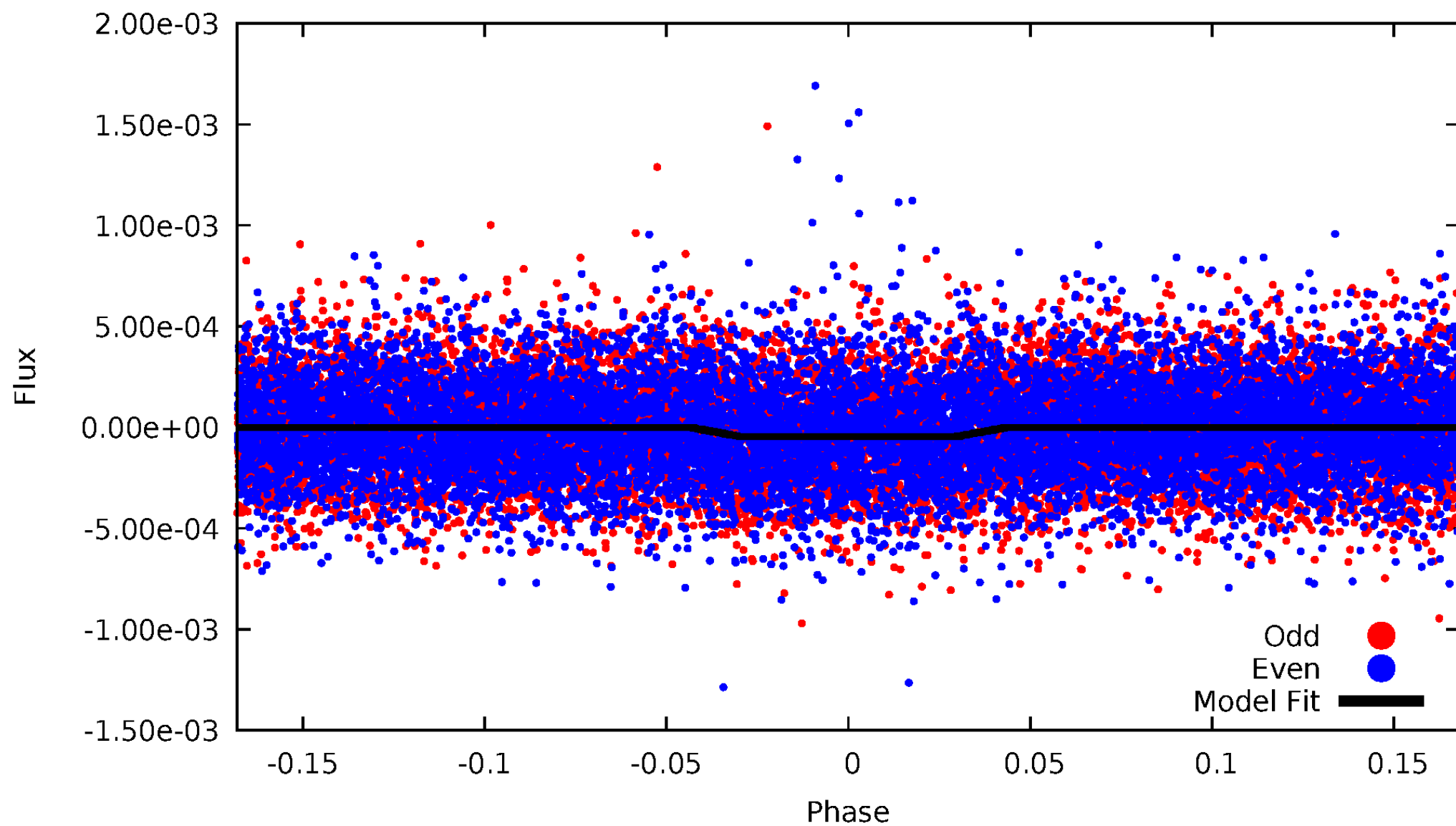
TCE 008051946-01



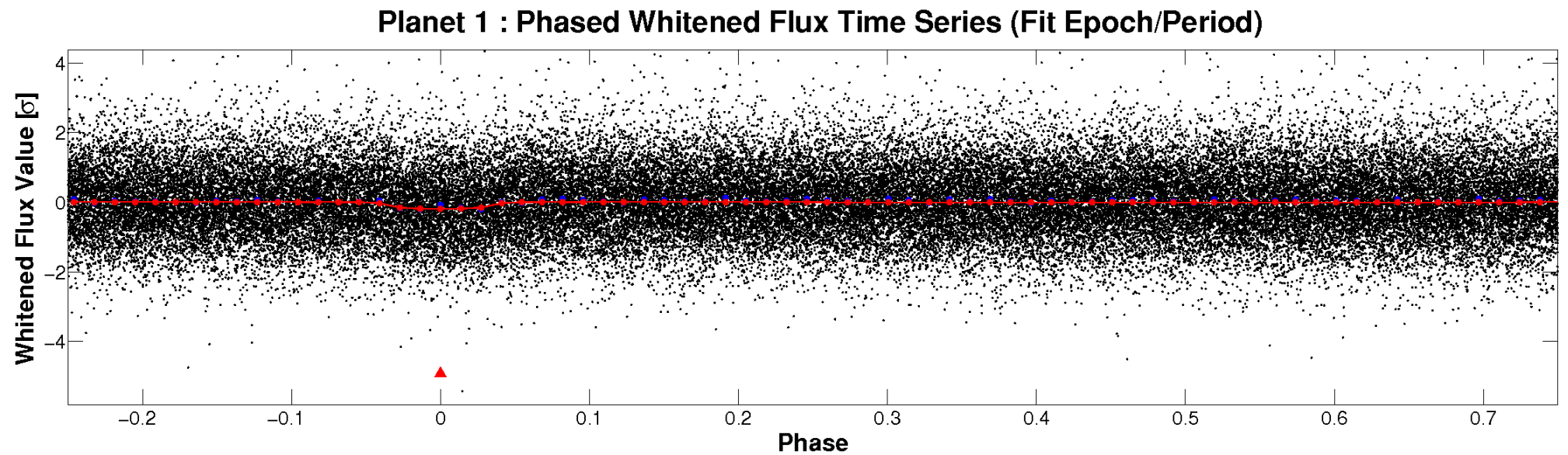
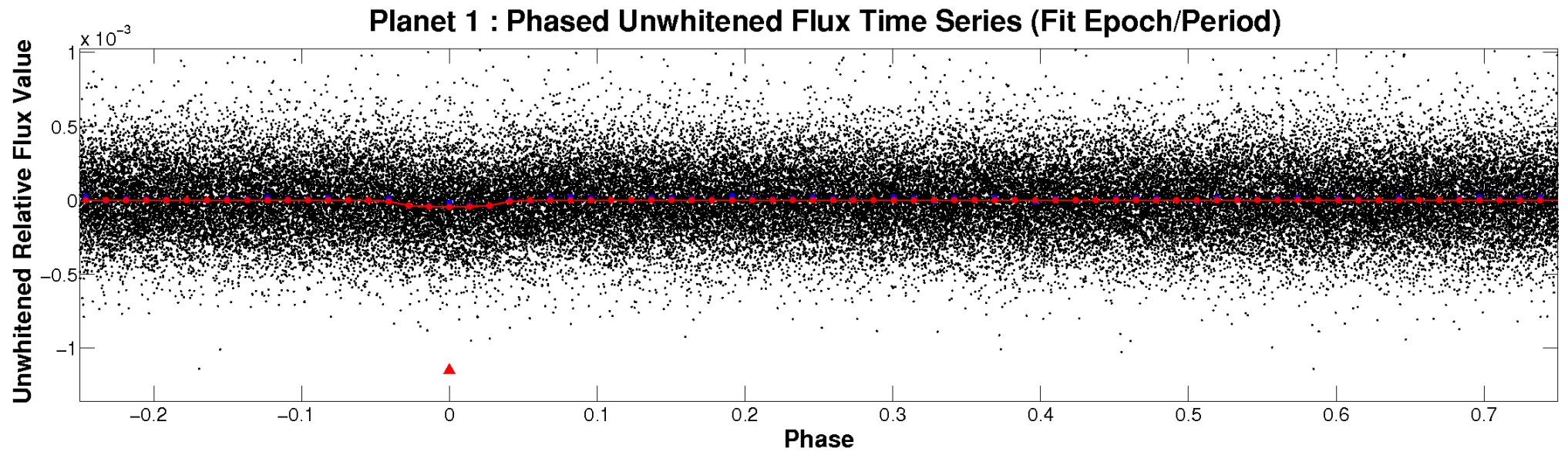


# ALT Odd/Even

TCE 008051946-01

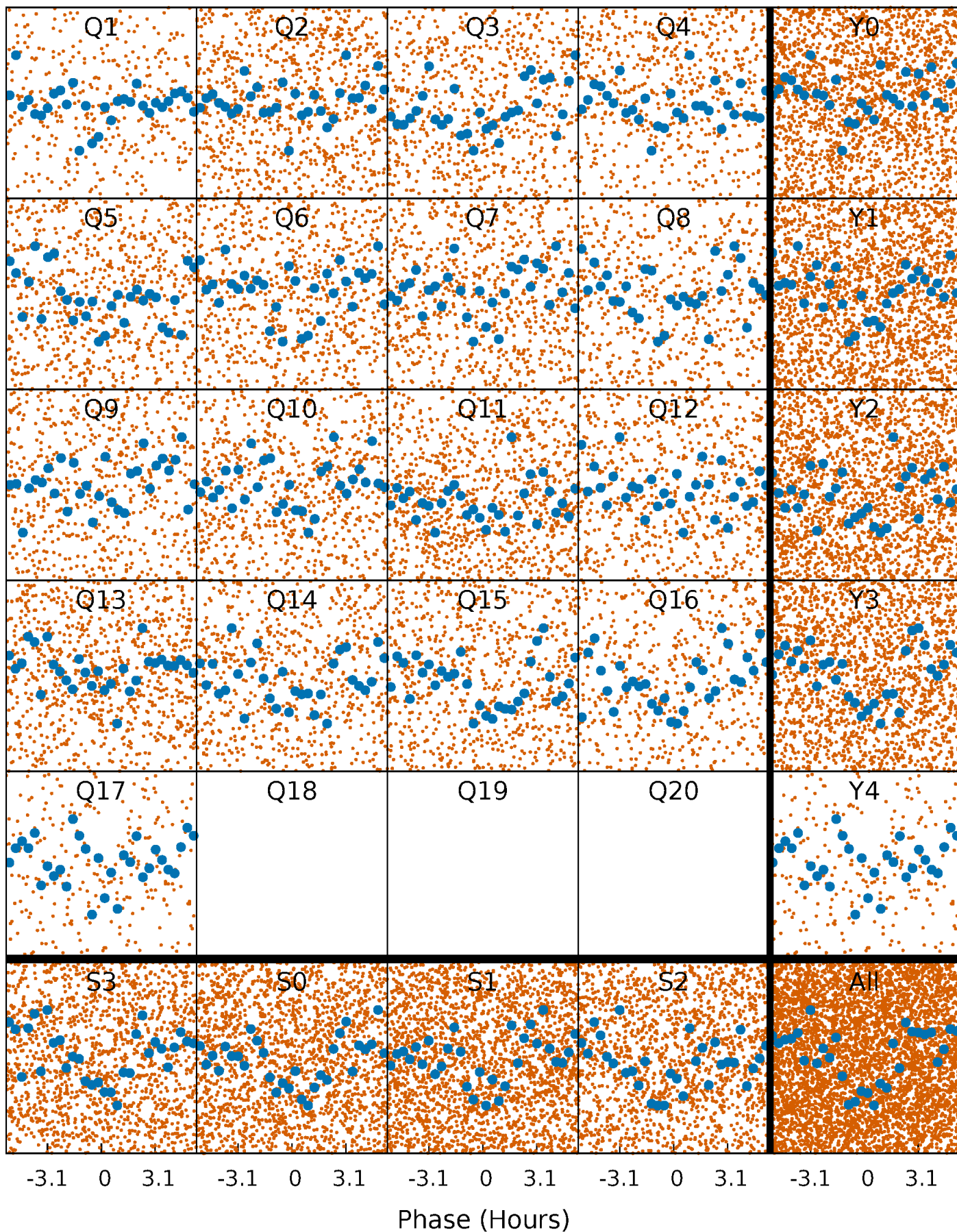


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

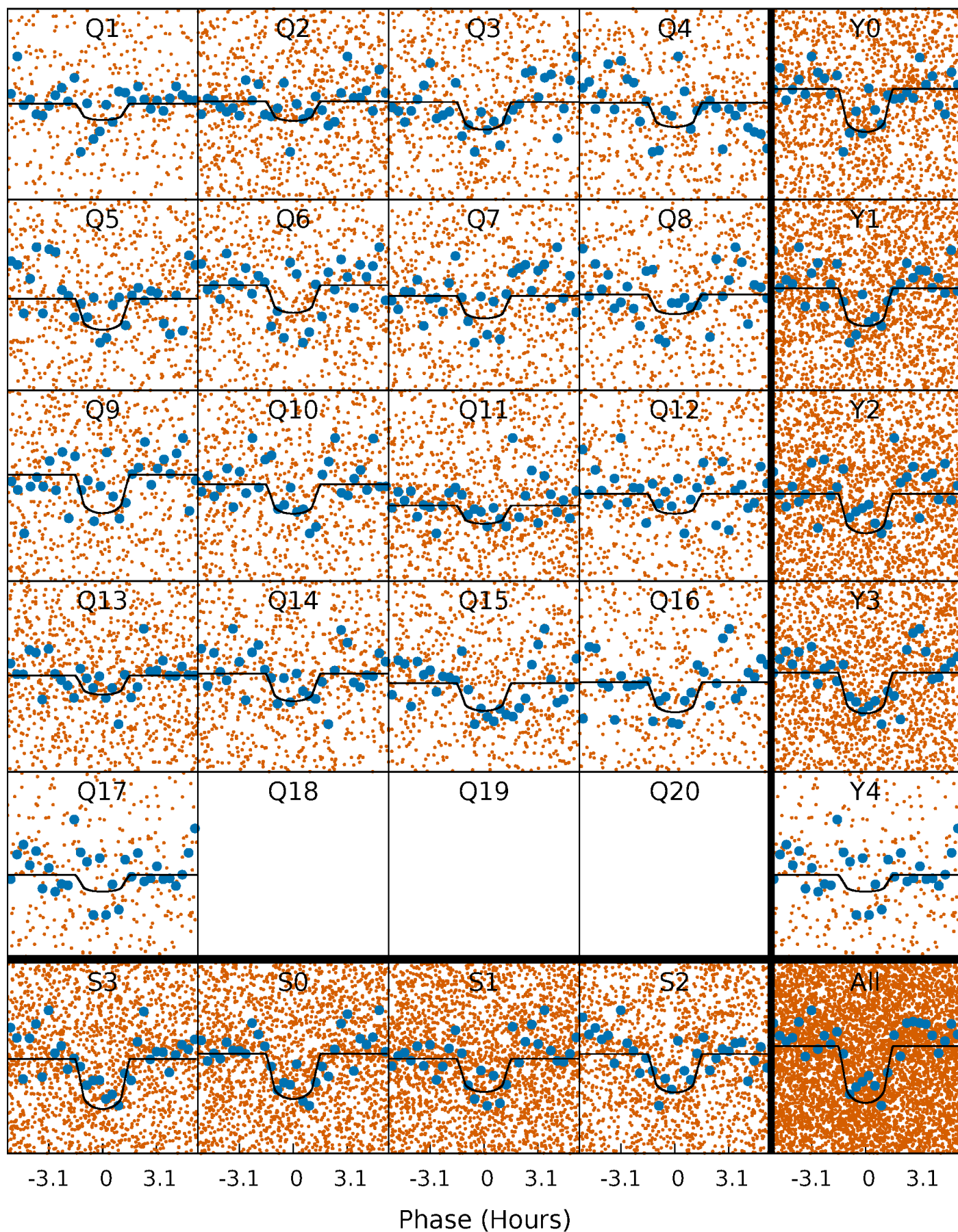
TCE 008051946-01 P= 1.495110 Days  $T_0=132.672369$  (BKJD)





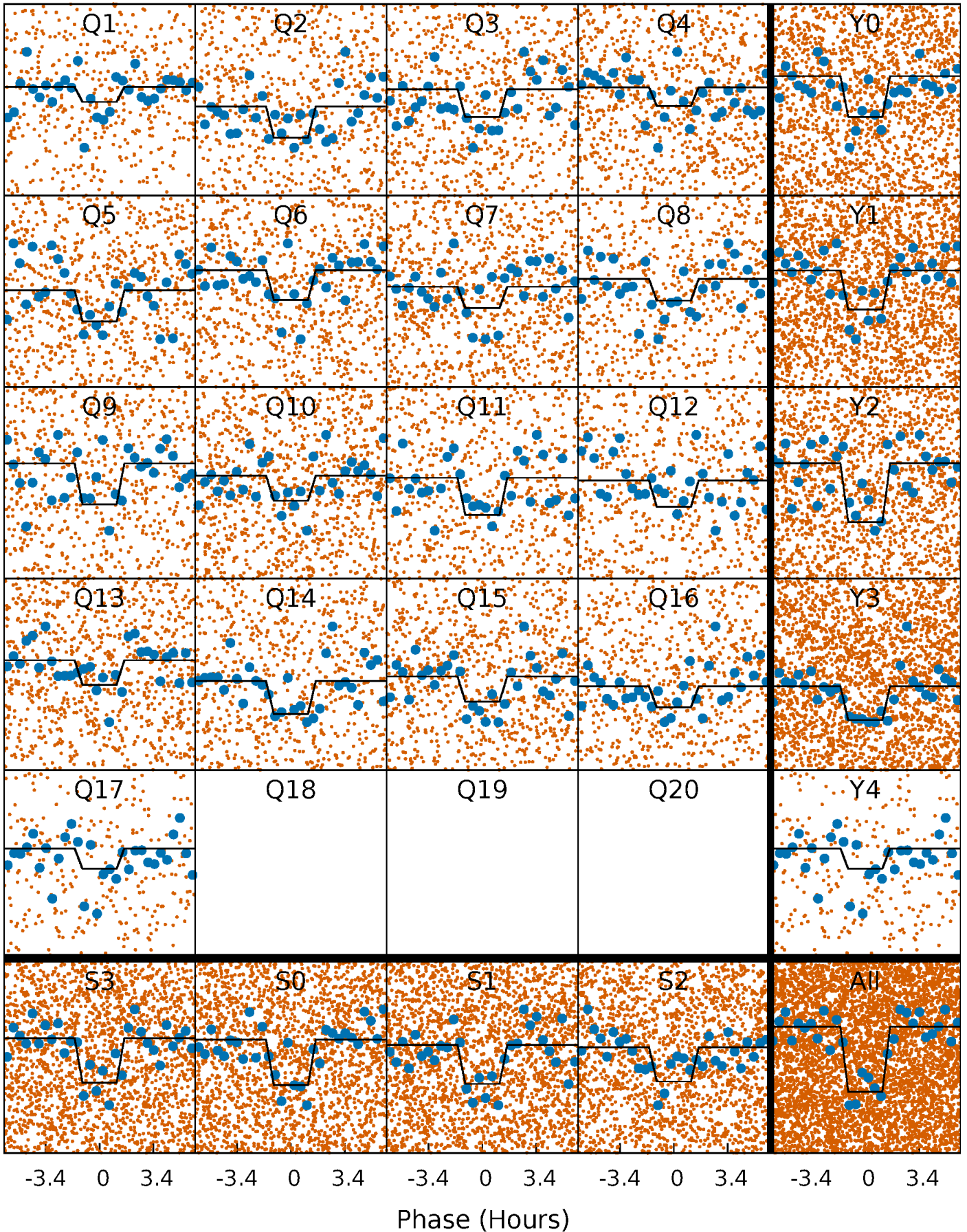
# DV Quarter-Phased Transit Curves

TCE 008051946-01 P= 1.495110 Days  $T_0=132.672369$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

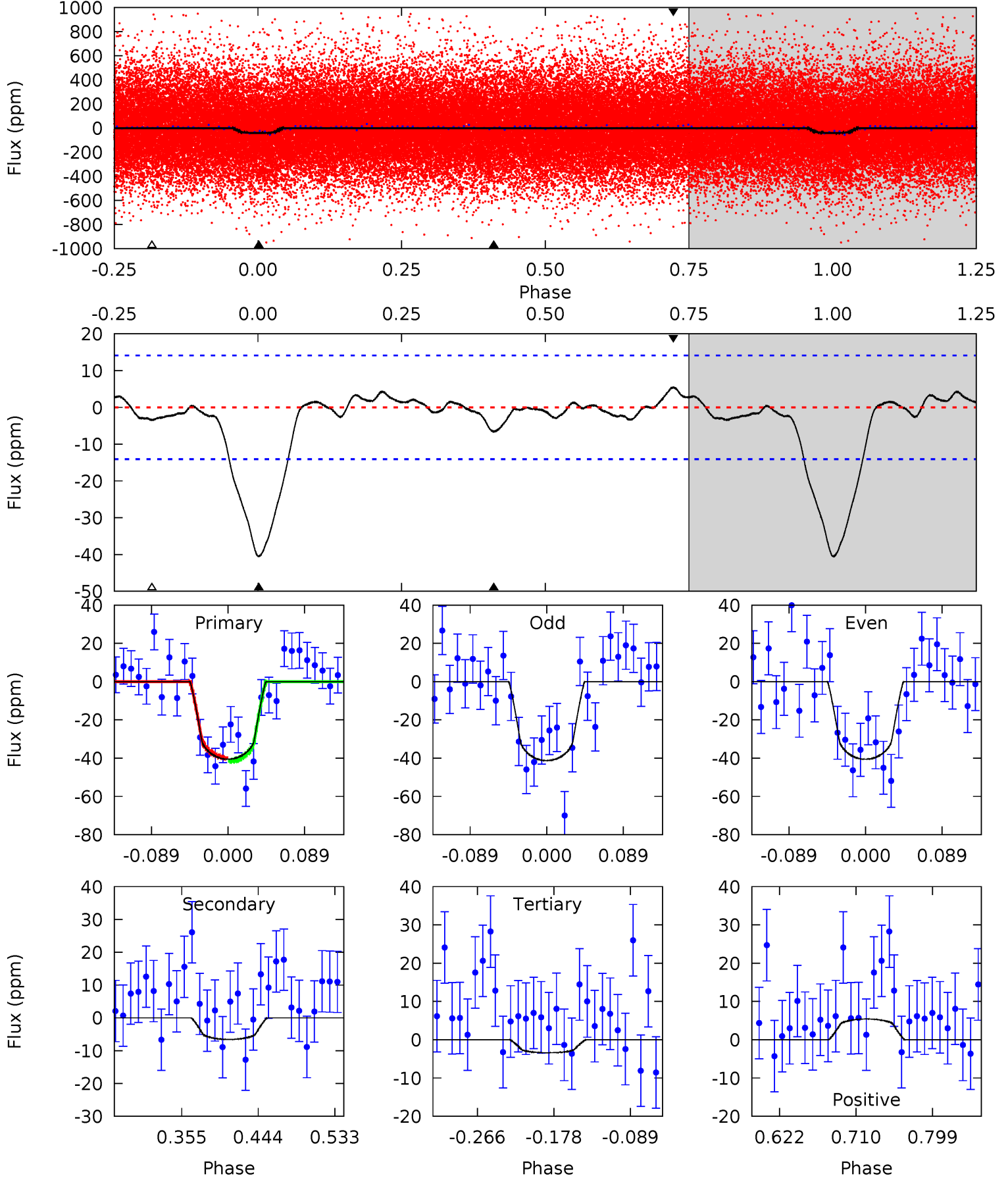
TCE 008051946-01 P= 1.495138 Days  $T_0=132.663595$  (BKJD)



# DV Model-Shift Uniqueness Test

008051946-01, P = 1.495110 Days, E = 131.177259 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
13.2	2.14	1.11	1.76	4.59	1.70	0.71	12.1	11.4	1.03	0.38	0.12	0.88	0.12	0.29

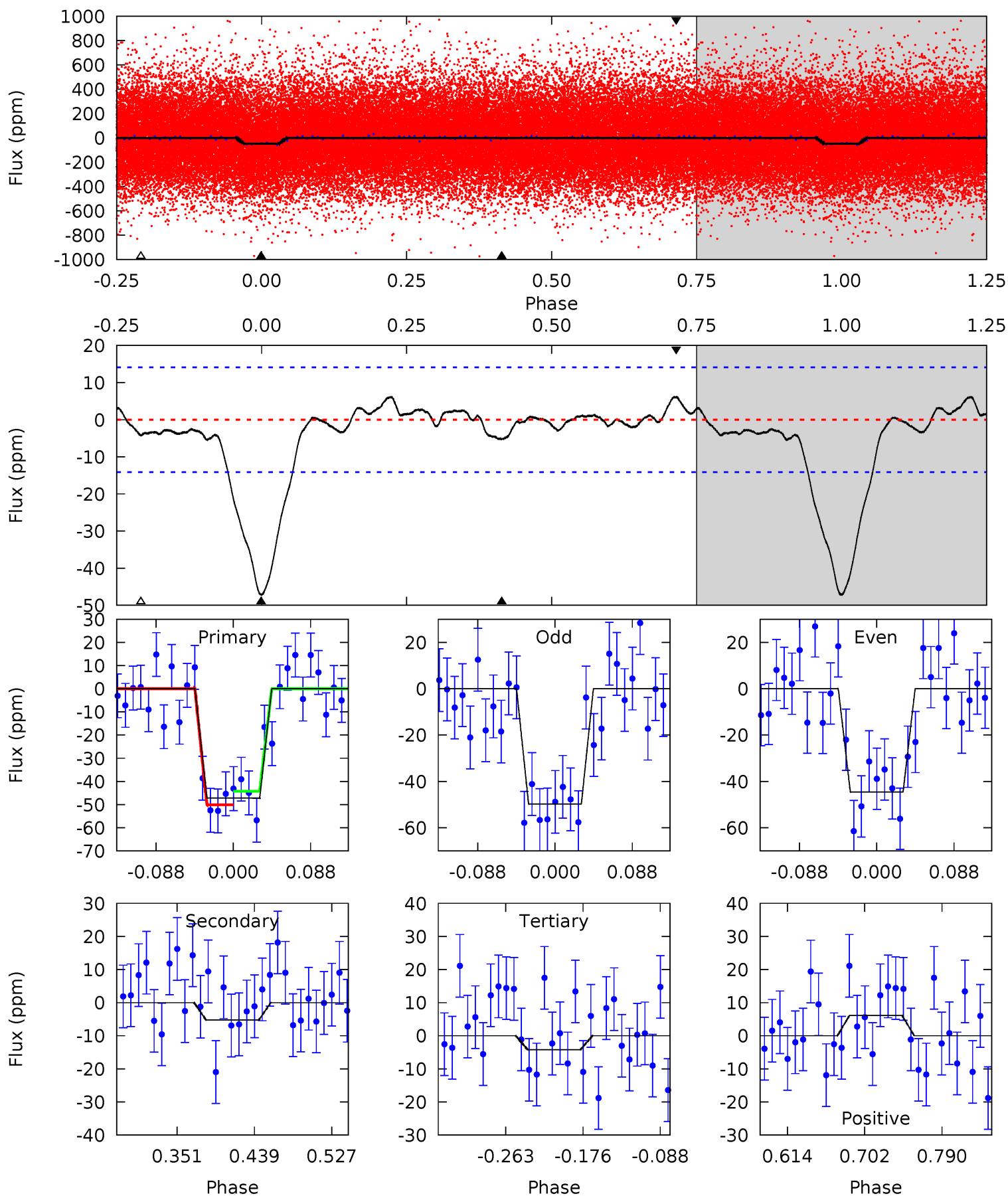




# Alt Model-Shift Uniqueness Test

008051946-01, P = 1.495138 Days, E = 131.168457 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
15.3	1.71	1.37	1.98	4.59	1.71	0.86	14.0	13.3	0.34	-0.28	0.85	0.92	0.11	0.95





### Stellar Parameters For KIC 008051946

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5635^{+85}_{-77}$	$4.117^{+0.203}_{-0.087}$	$0.140^{+0.150}_{-0.150}$	$1.452^{+0.237}_{-0.316}$	$1.008^{+0.084}_{-0.076}$	$0.463^{+0.462}_{-0.143}$
	+2%/-1%	+5%/-2%	+107%/-107%	+16%/-22%	+8%/-8%	+100%/-31%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 008051946-01 / KOI 3038.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-7 \pm 3$	$1.08^{+0.55}_{-0.51}$	$2586^{+109}_{-151}$	$3594^{+1080}_{-630}$	$1.855^{+5.217}_{-1.132}$
Alt.	$-5 \pm 3$	$1.03^{+0.53}_{-0.45}$	$2592^{+117}_{-148}$	$3525^{+1089}_{-877}$	$1.657^{+4.762}_{-1.179}$

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

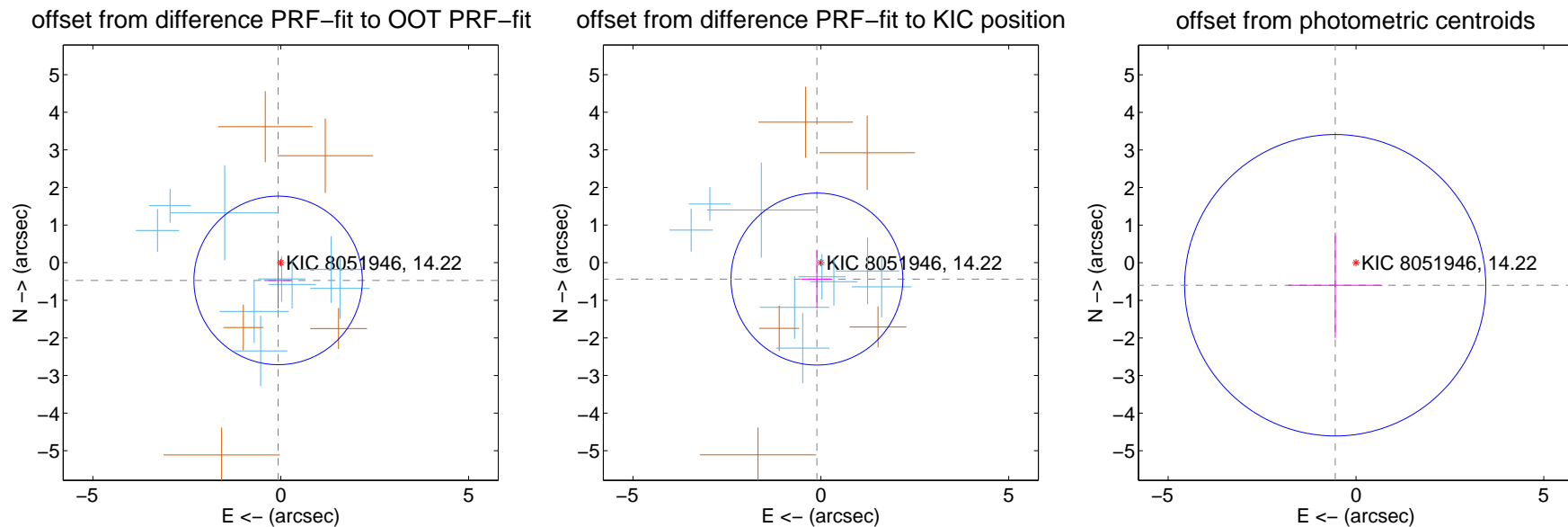
## DV Centroid Data

Supplemental centroid analysis for 008051946-01. Kepler magnitude: 14.22. Transit SNR 11.27

There are 9 quarters with good PRF difference image offsets

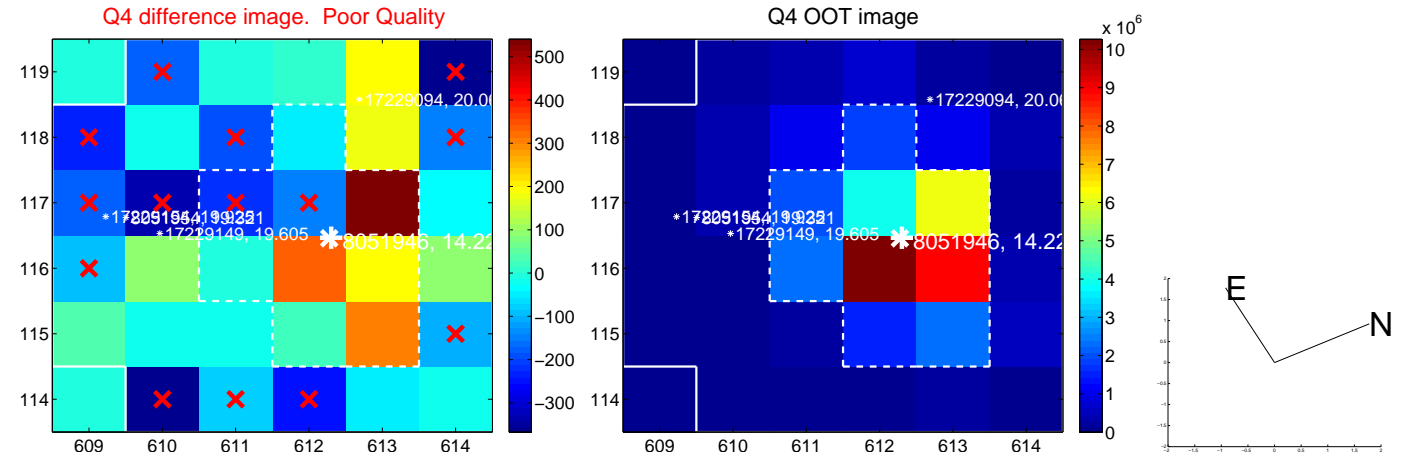
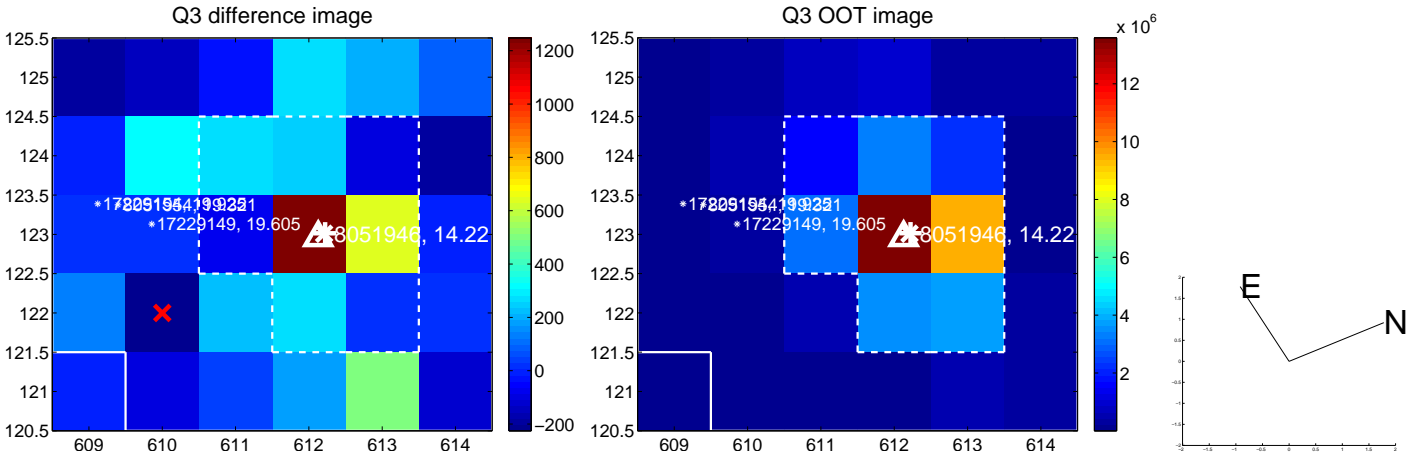
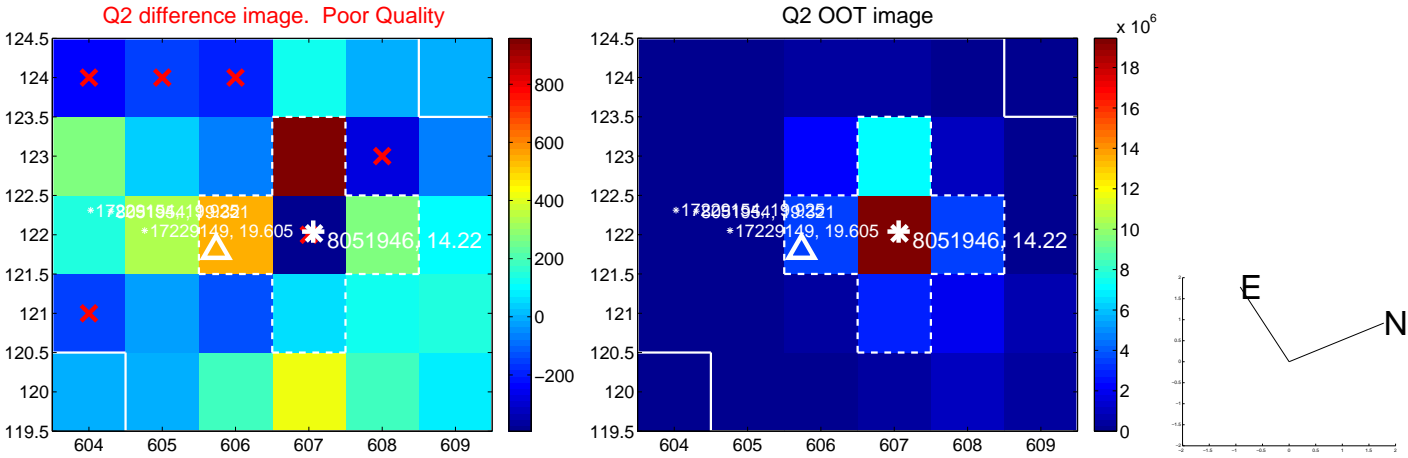
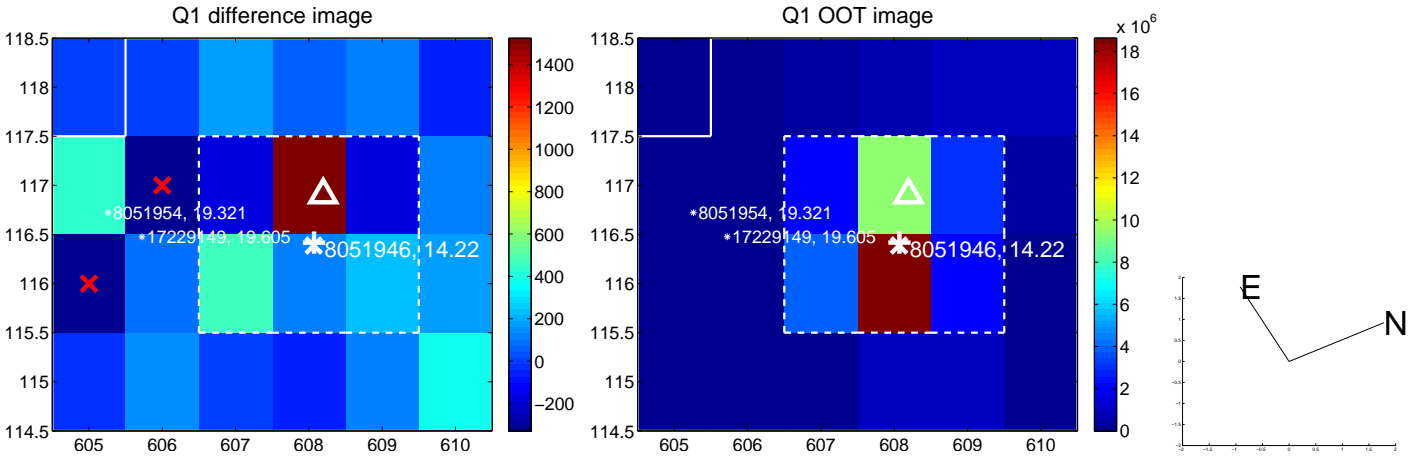
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.476 \pm 0.747$	0.64	$0.070 \pm 0.369$	$-0.471 \pm 0.751$
PRF-fit source offset from KIC position	$0.448 \pm 0.762$	0.59	$0.105 \pm 0.408$	$-0.436 \pm 0.777$
photometric centroid source offset	$0.81 \pm 1.34$	0.61	$0.55 \pm 1.26$	$-0.60 \pm 1.40$

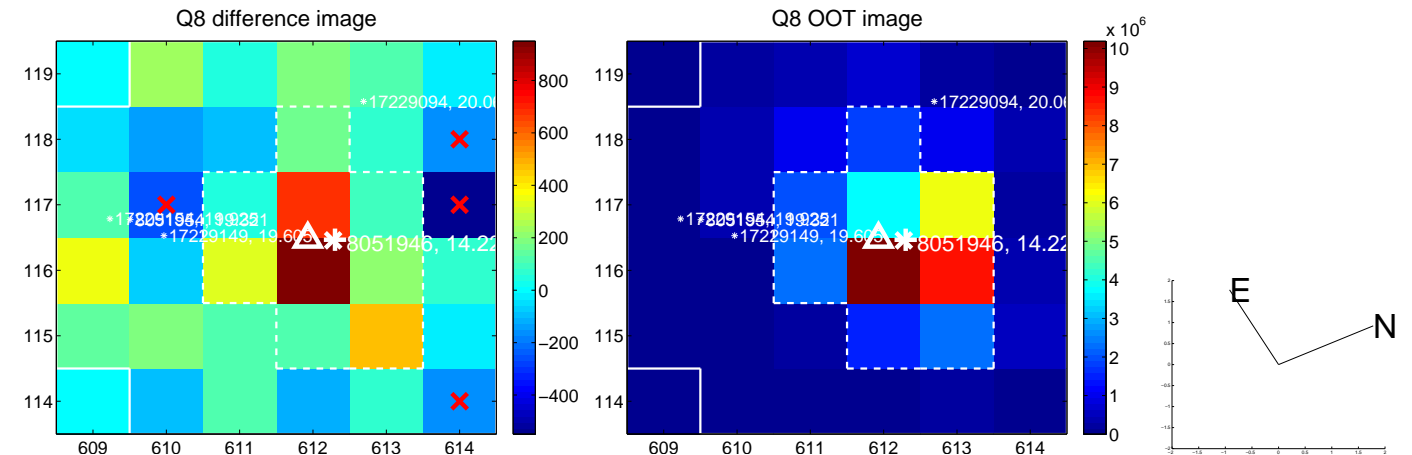
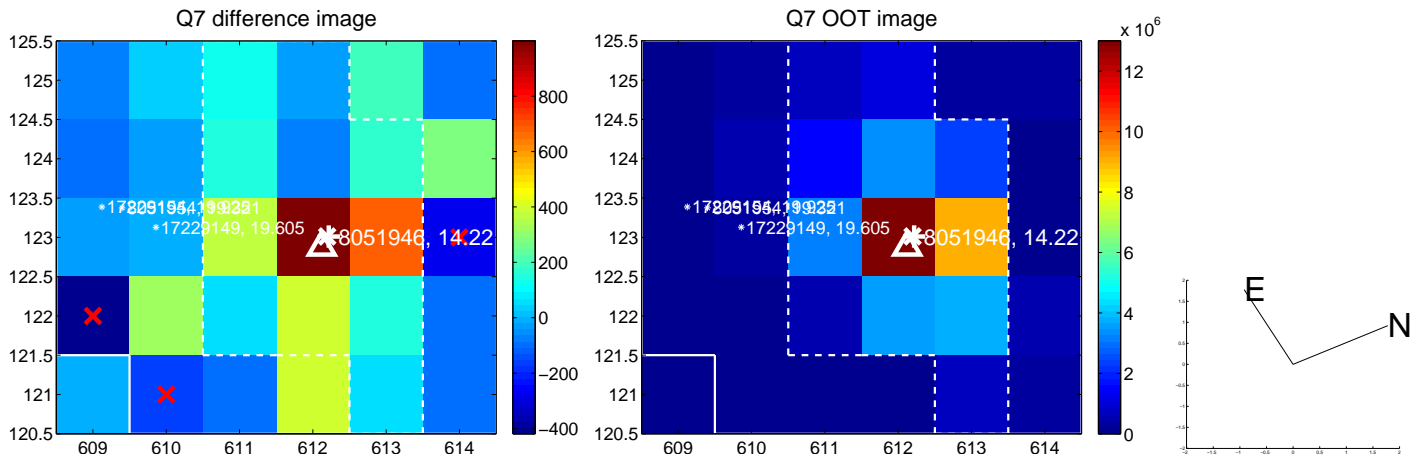
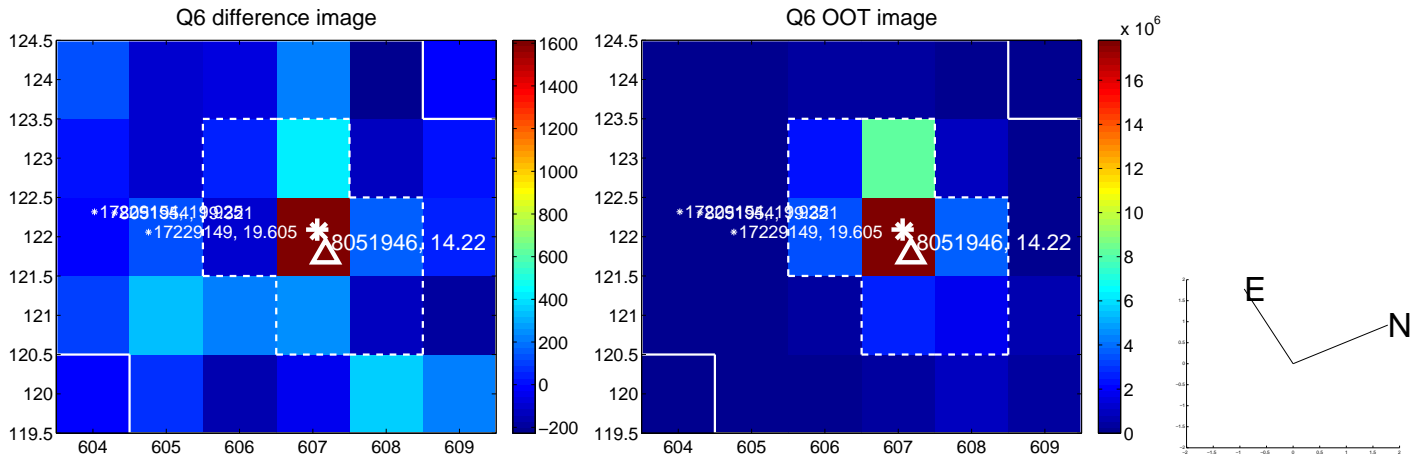
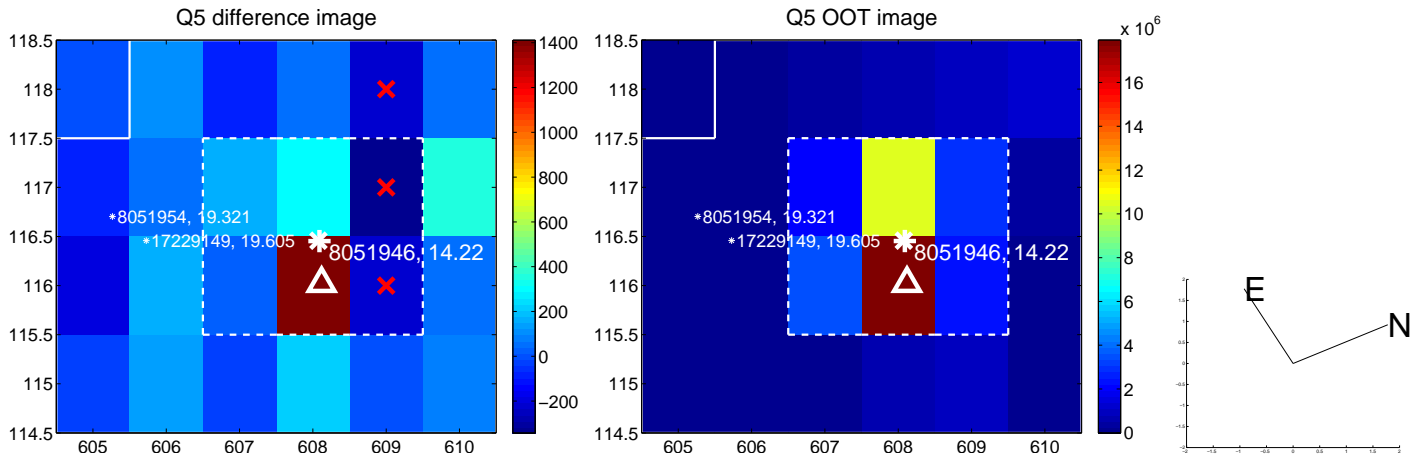


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

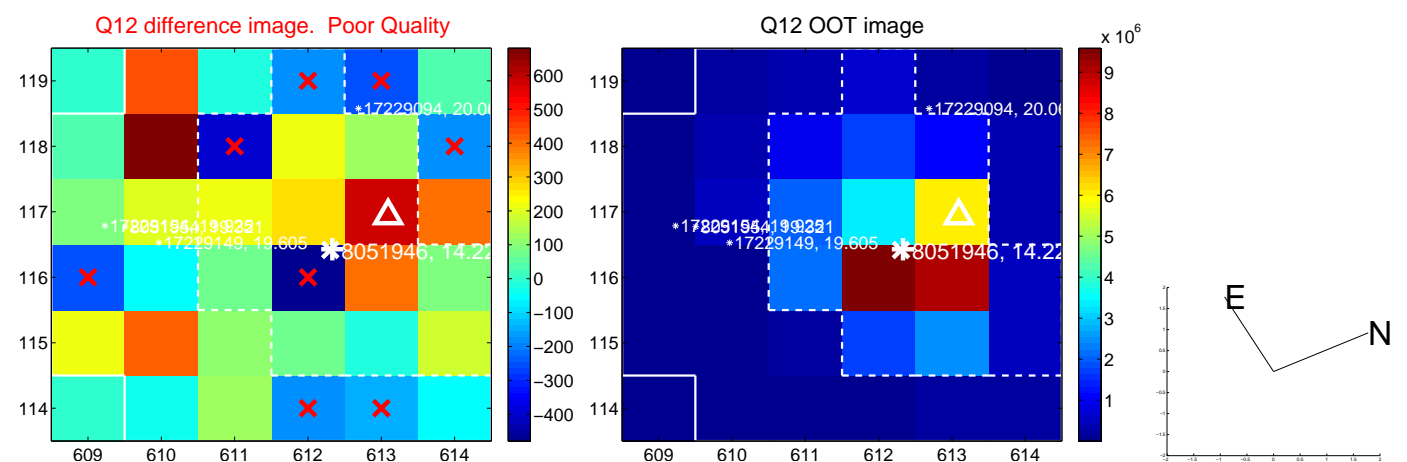
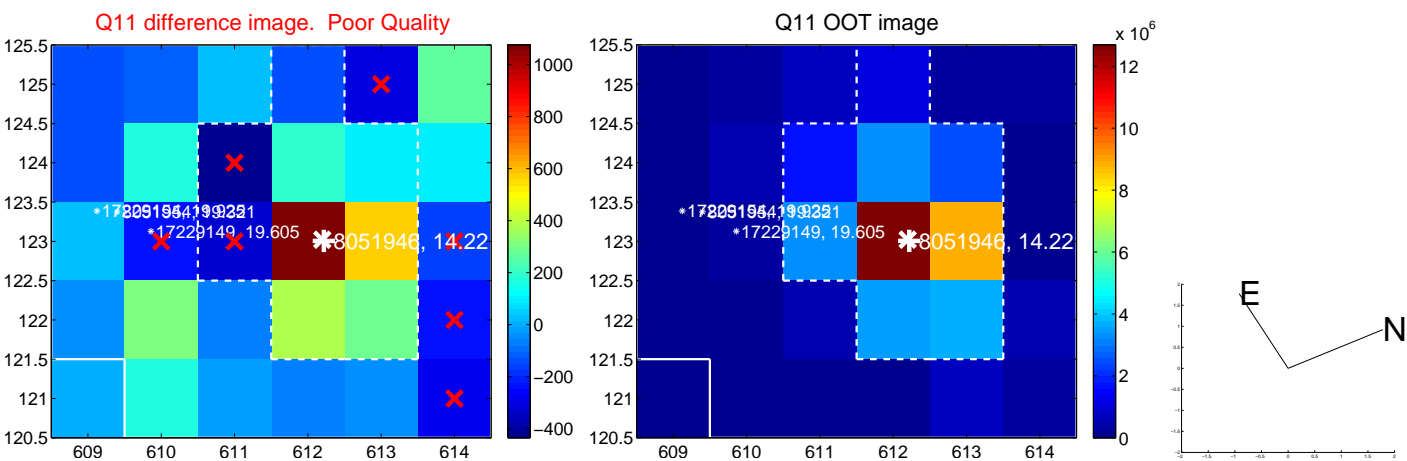
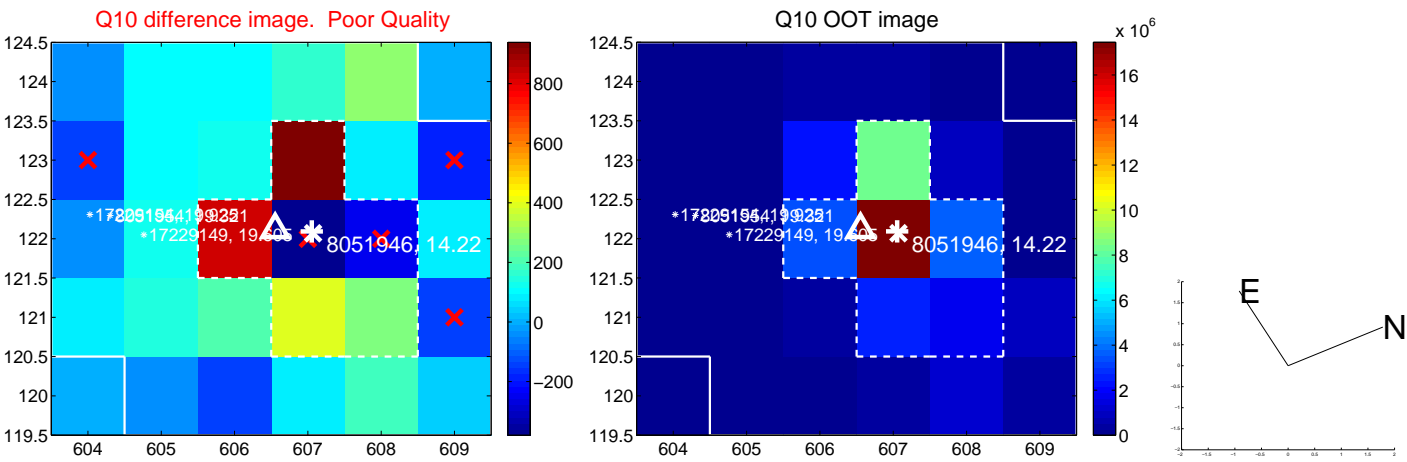
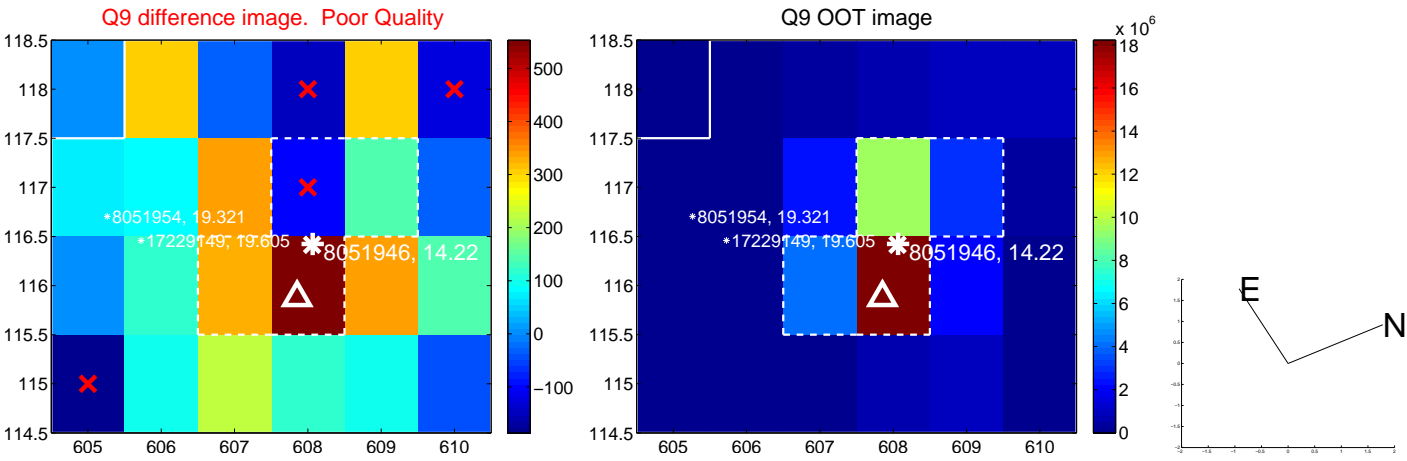


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

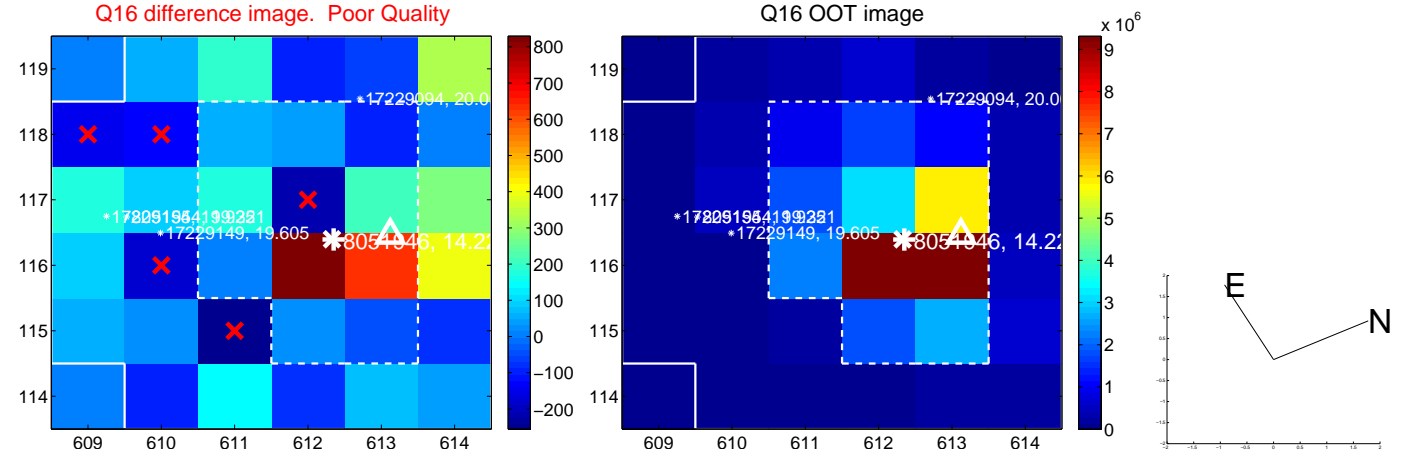
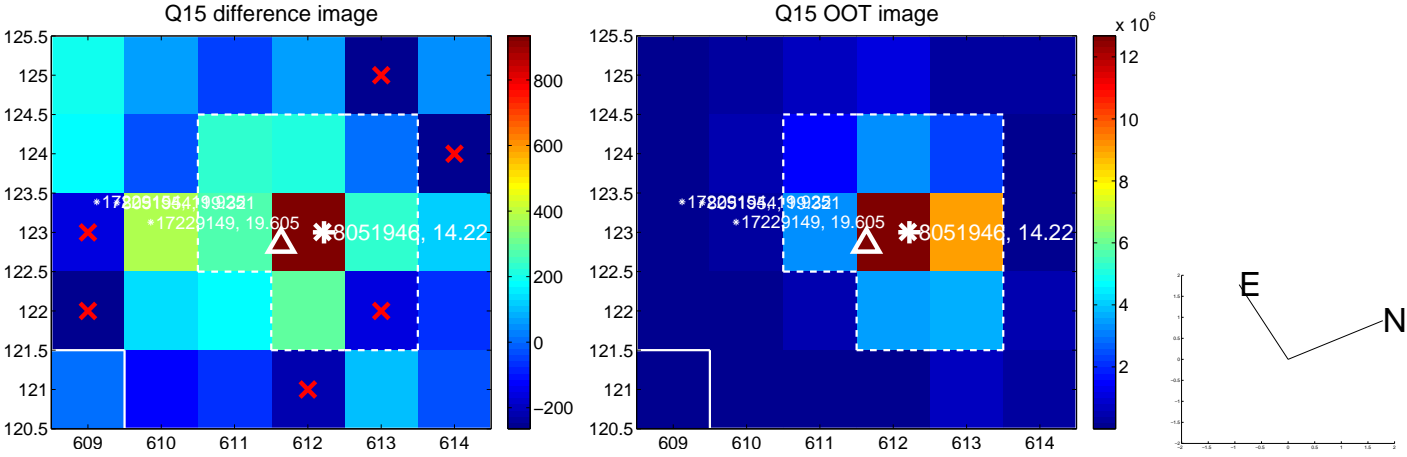
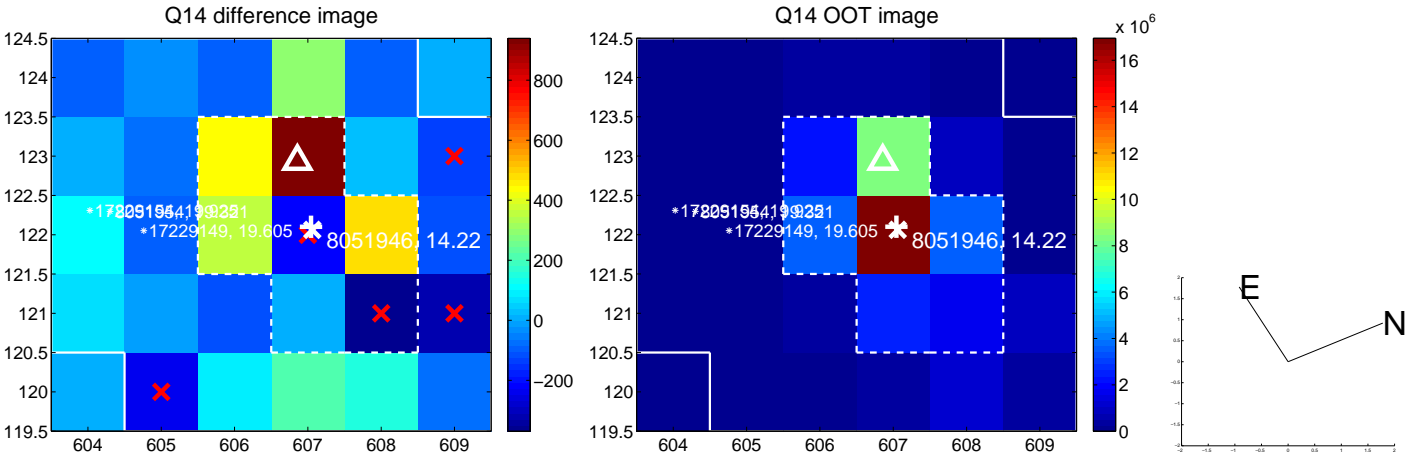
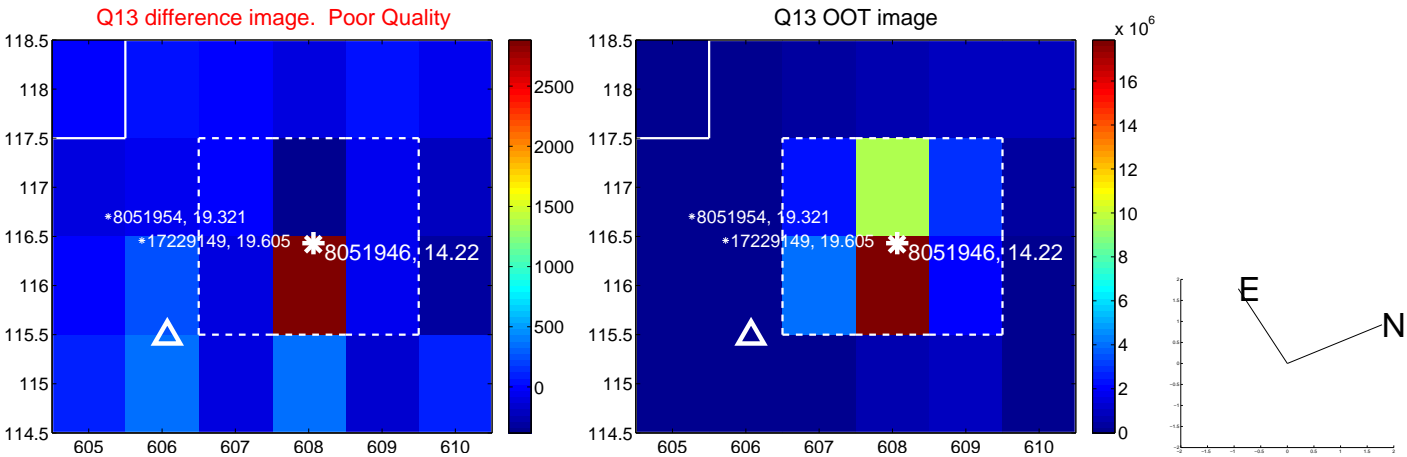




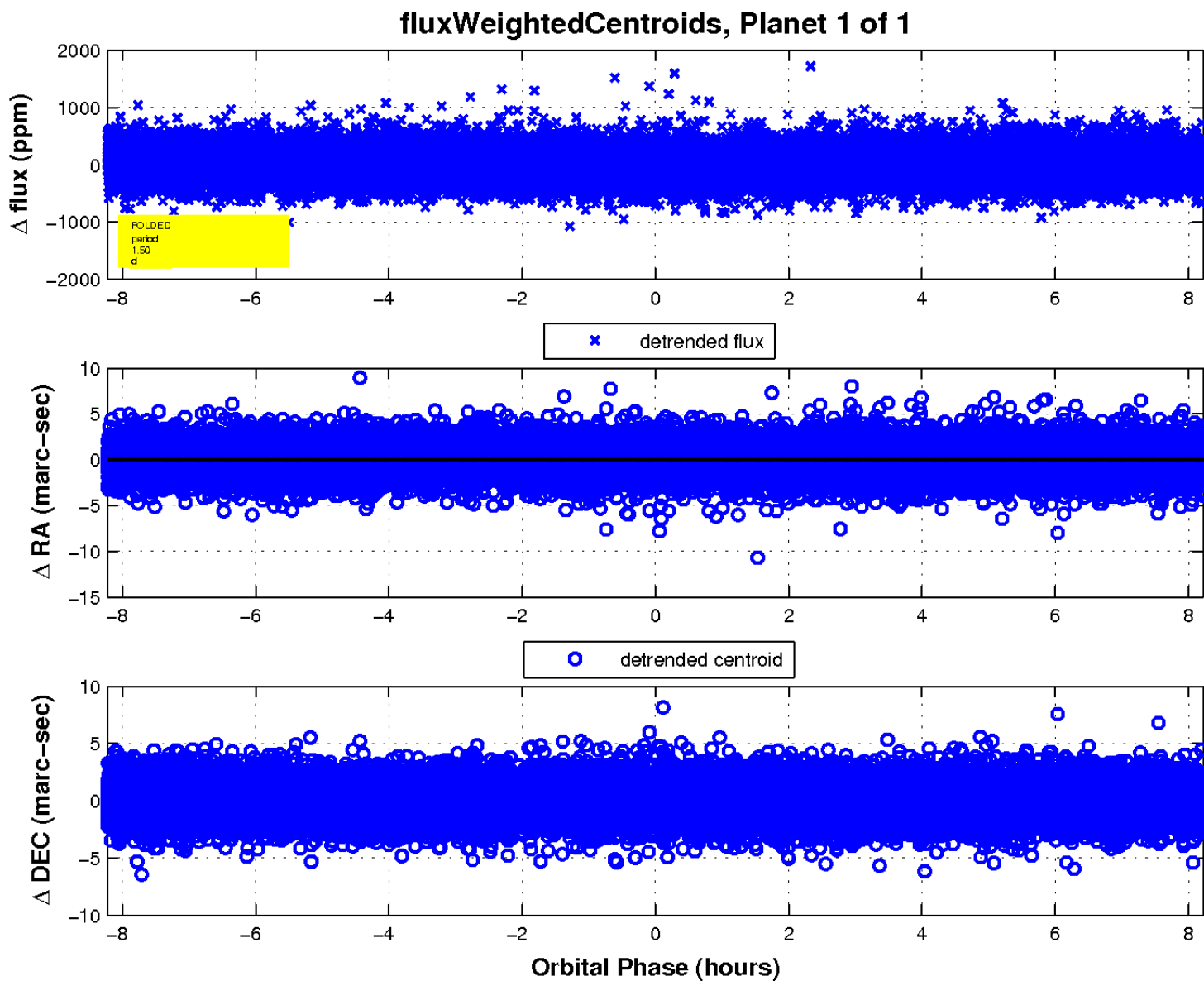
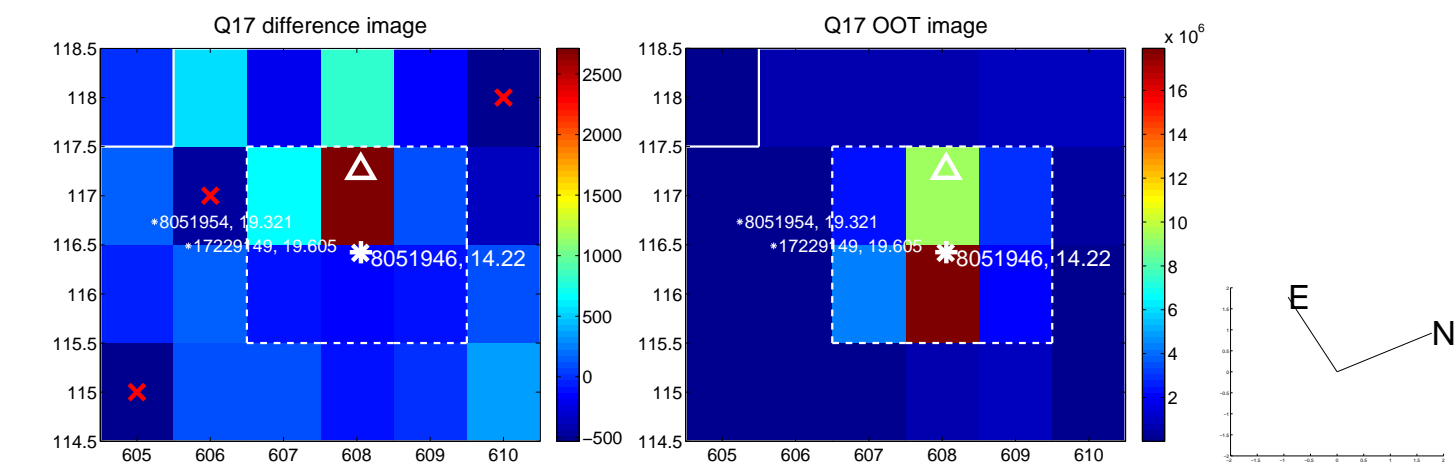
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

