

# KIC 009205044

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009205044-01	OBS	No	0.768217	131.751078	45.9	1.371	8.0	9.3	4.89	4888	4.04	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009205044-01	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.

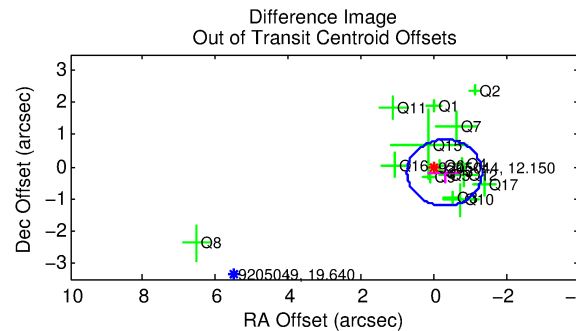
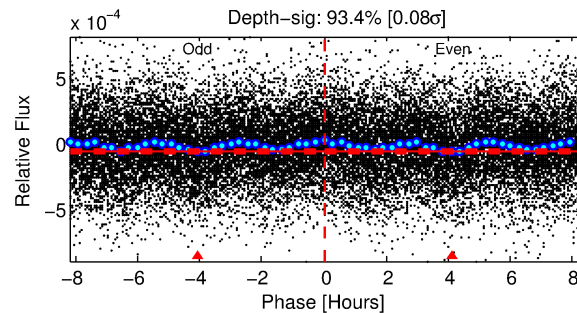
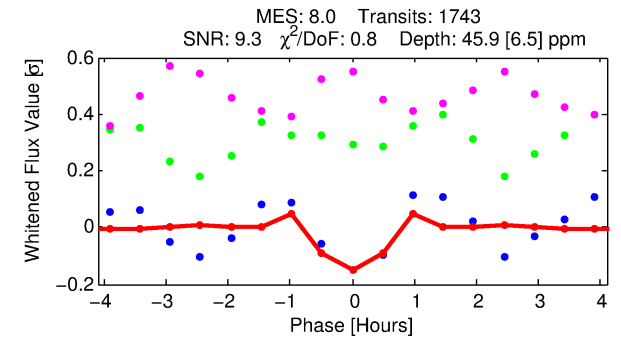
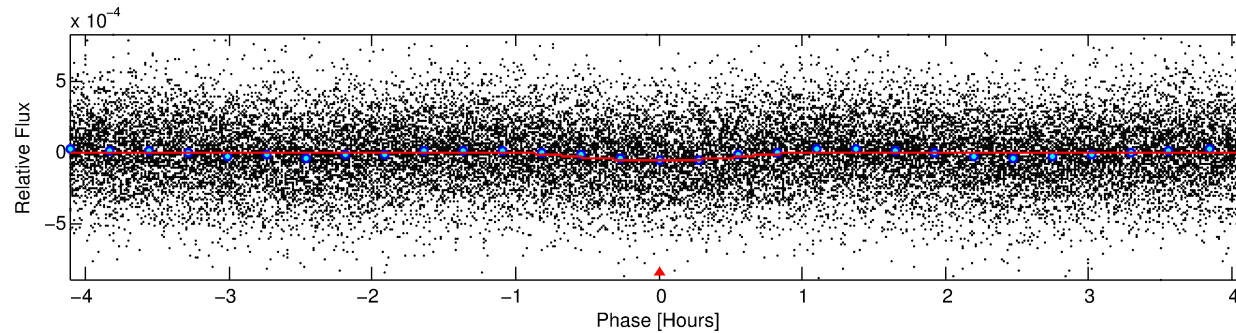
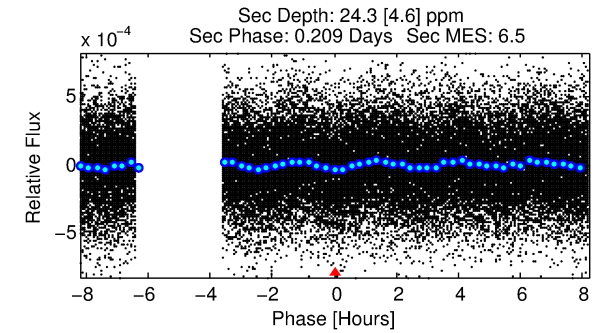
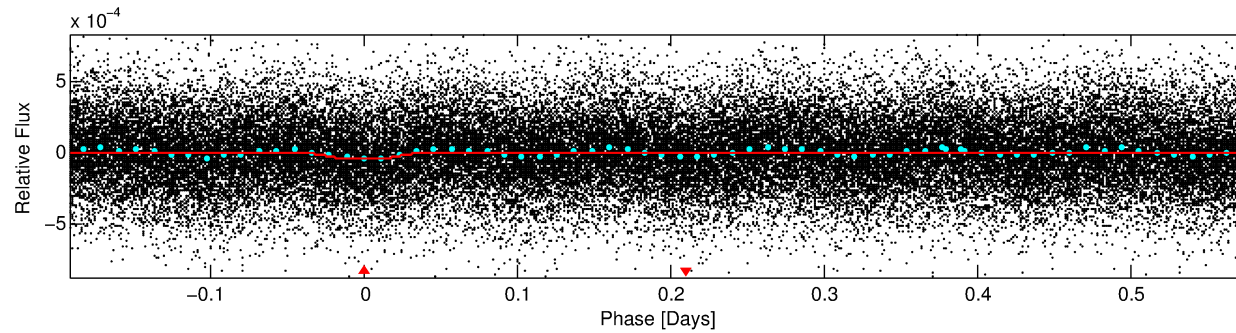
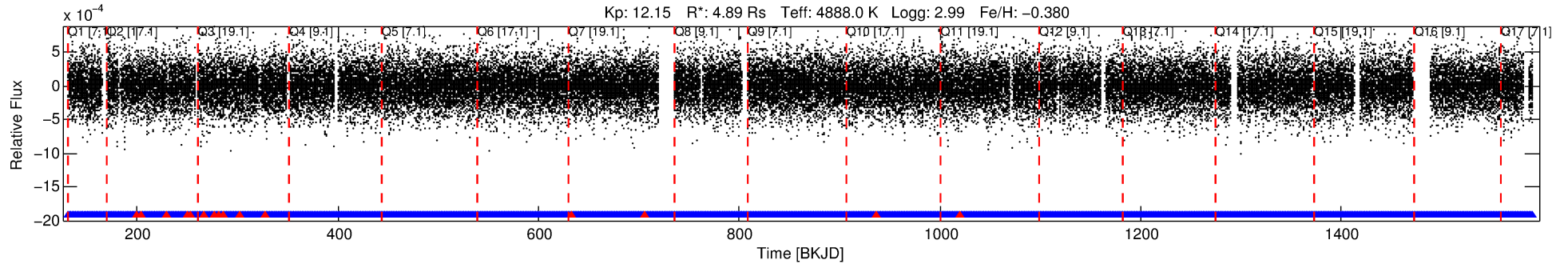
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009205044-01

No Significant Match Found

# DV One-Page Summary

KIC: 9205044 Candidate: 1 of 1 Period: 0.768 d



## DV Fit Results:

Period = 0.76822 [0.00001] d  
Epoch = 131.7511 [0.0014] BKJD  
Rp/R\* = 0.0076 [0.0029]  
a/R\* = 2.15 [2.57]  
b = 0.90 [0.33]  
Seff = N/A  
Teq = N/A  
Rp = 4.04 [2.04] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

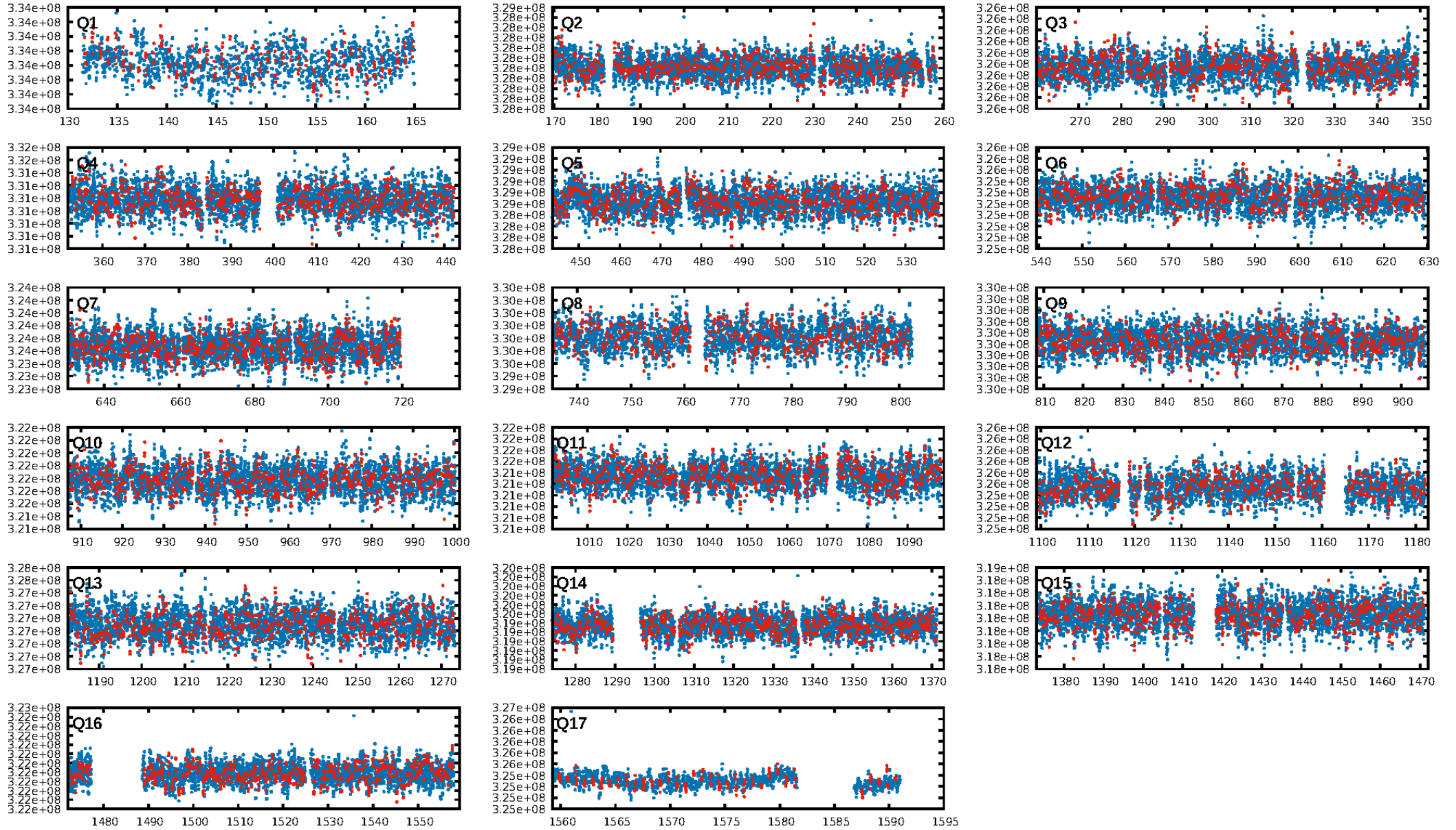
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.26e-14  
RollingBand-fgt: 0.99 [1648/1665]  
GhostDiagnostic-chr: 2.485  
Centroid-sig: 25.6%  
Centroid-so: 0.151 arcsec [0.57σ]  
OotOffset-rm: 0.354 arcsec [1.03σ]  
KicOffset-rm: 0.516 arcsec [1.56σ]  
OotOffset-st: 3/4/4/5 [16]  
KicOffset-st: 3/4/4/5 [16]  
DiffImageQuality-fgm: 0.88 [14/16]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:31:54 Z

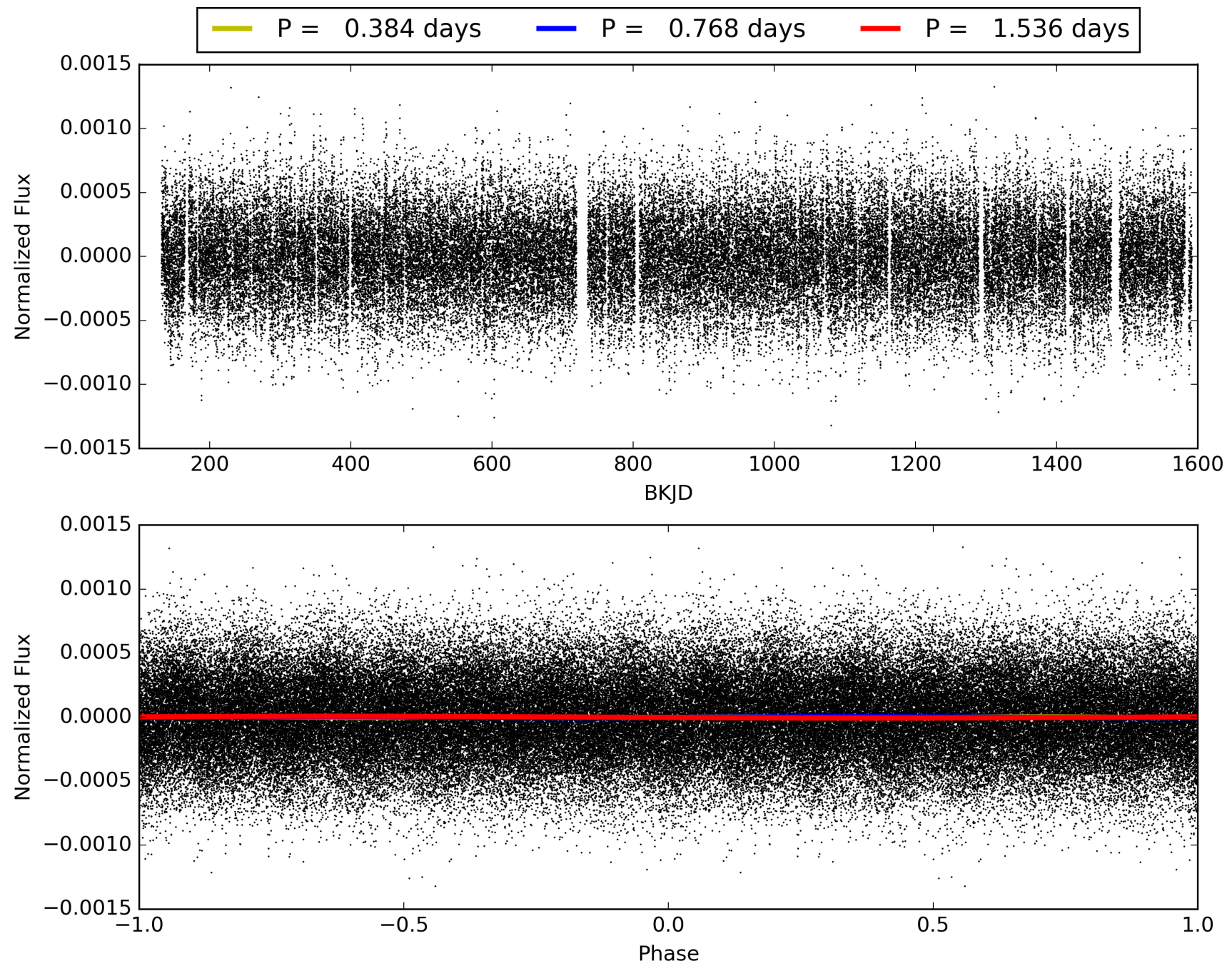
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 009205044-01, PDC Light Curves



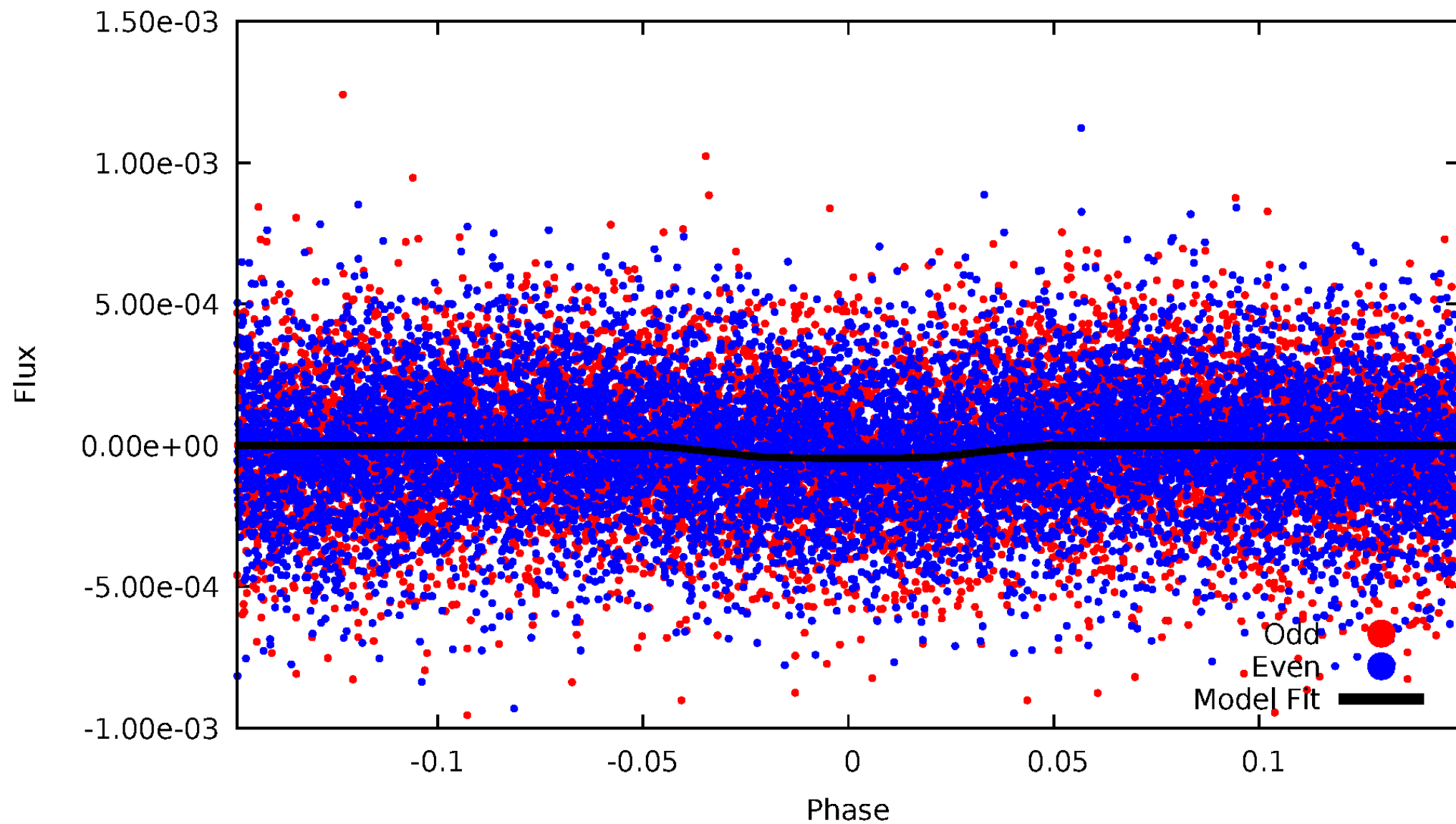


TCE 009205044-01



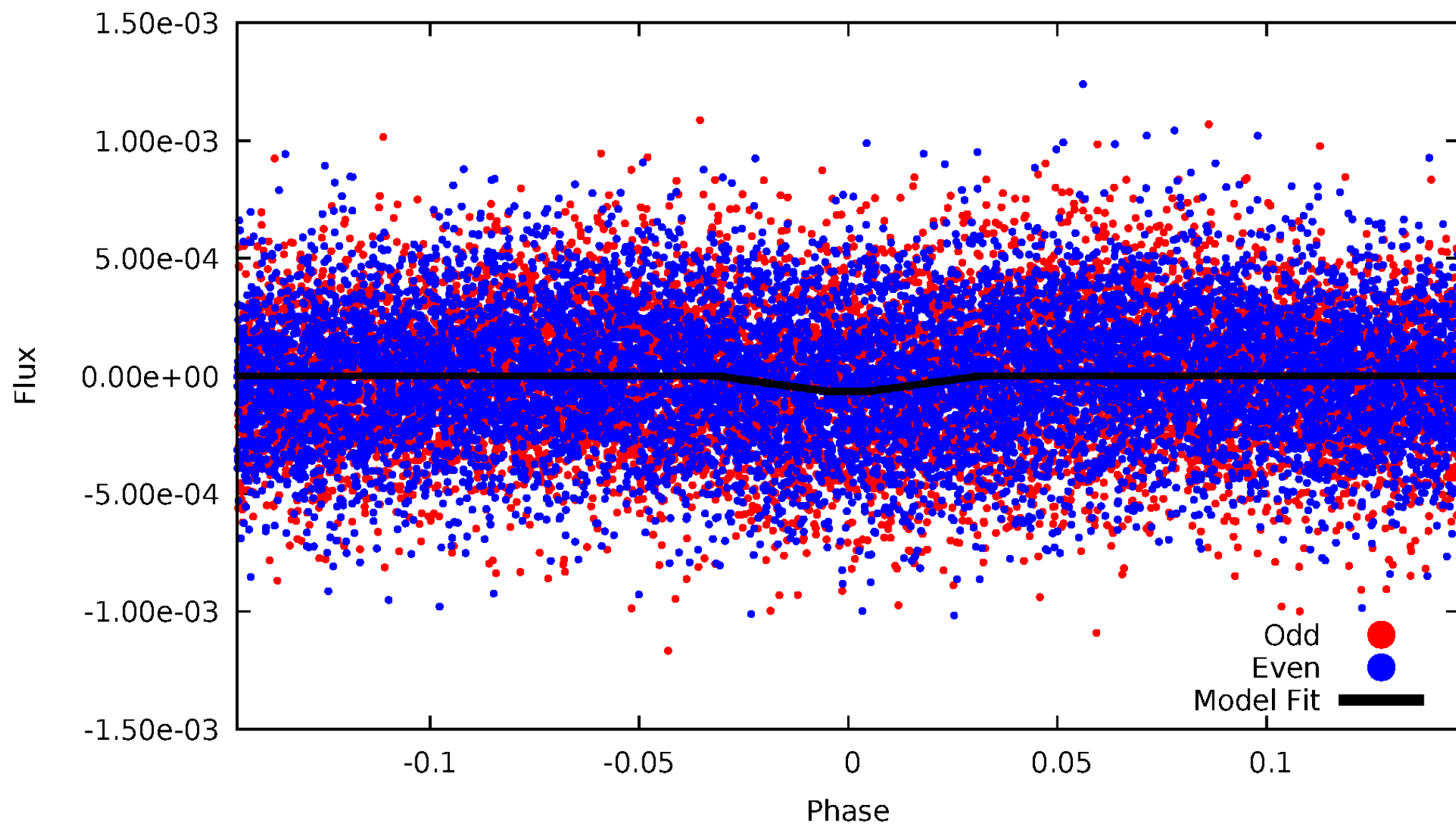
# DV Odd/Even

TCE 009205044-01

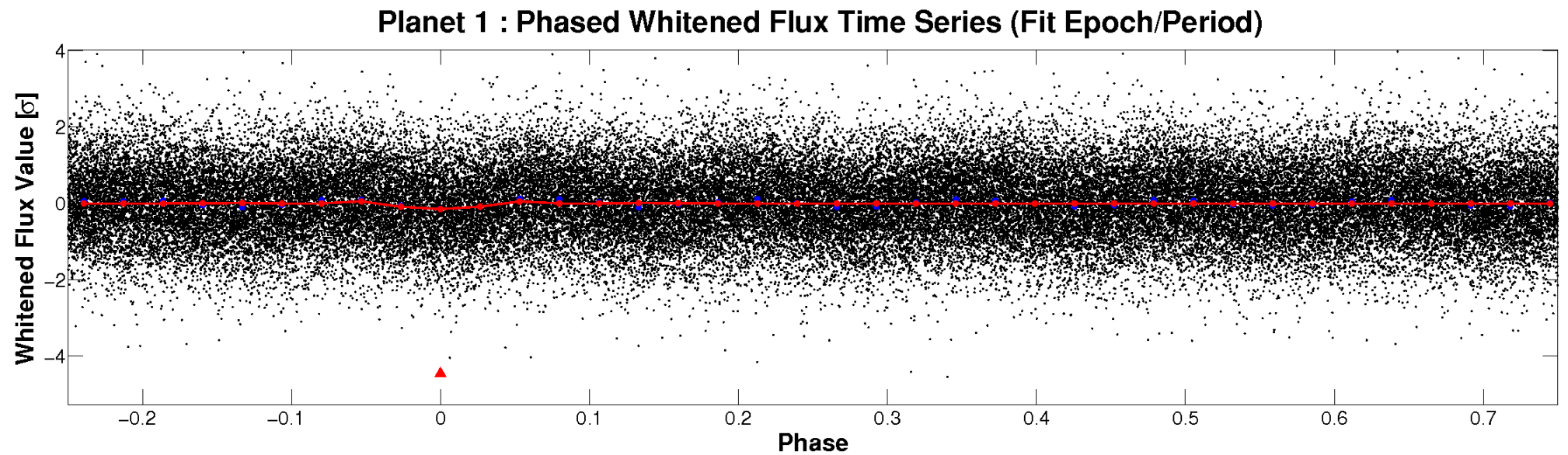
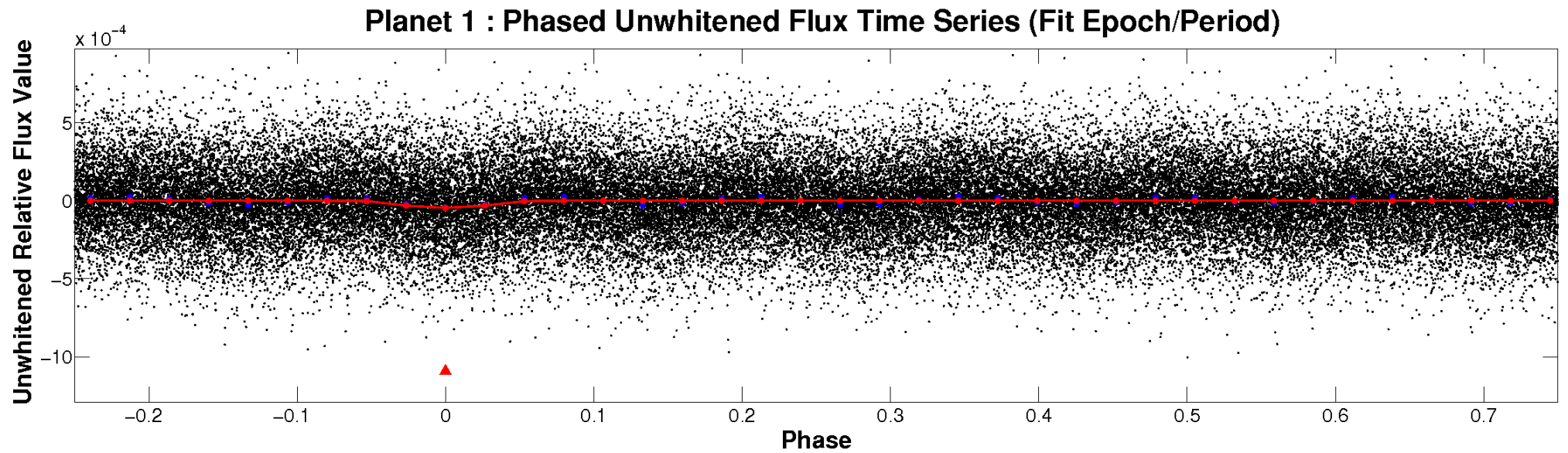


# ALT Odd/Even

TCE 009205044-01



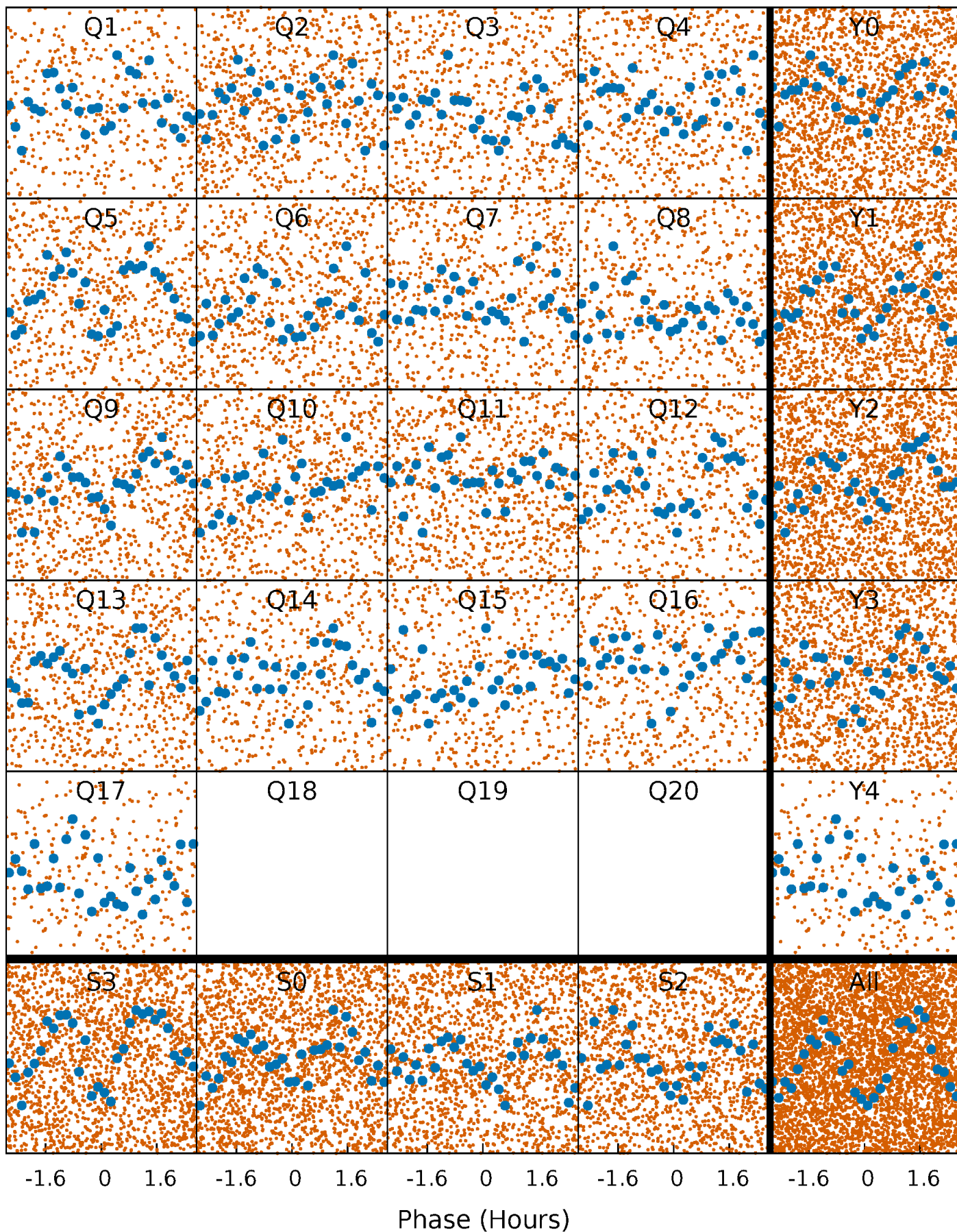
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

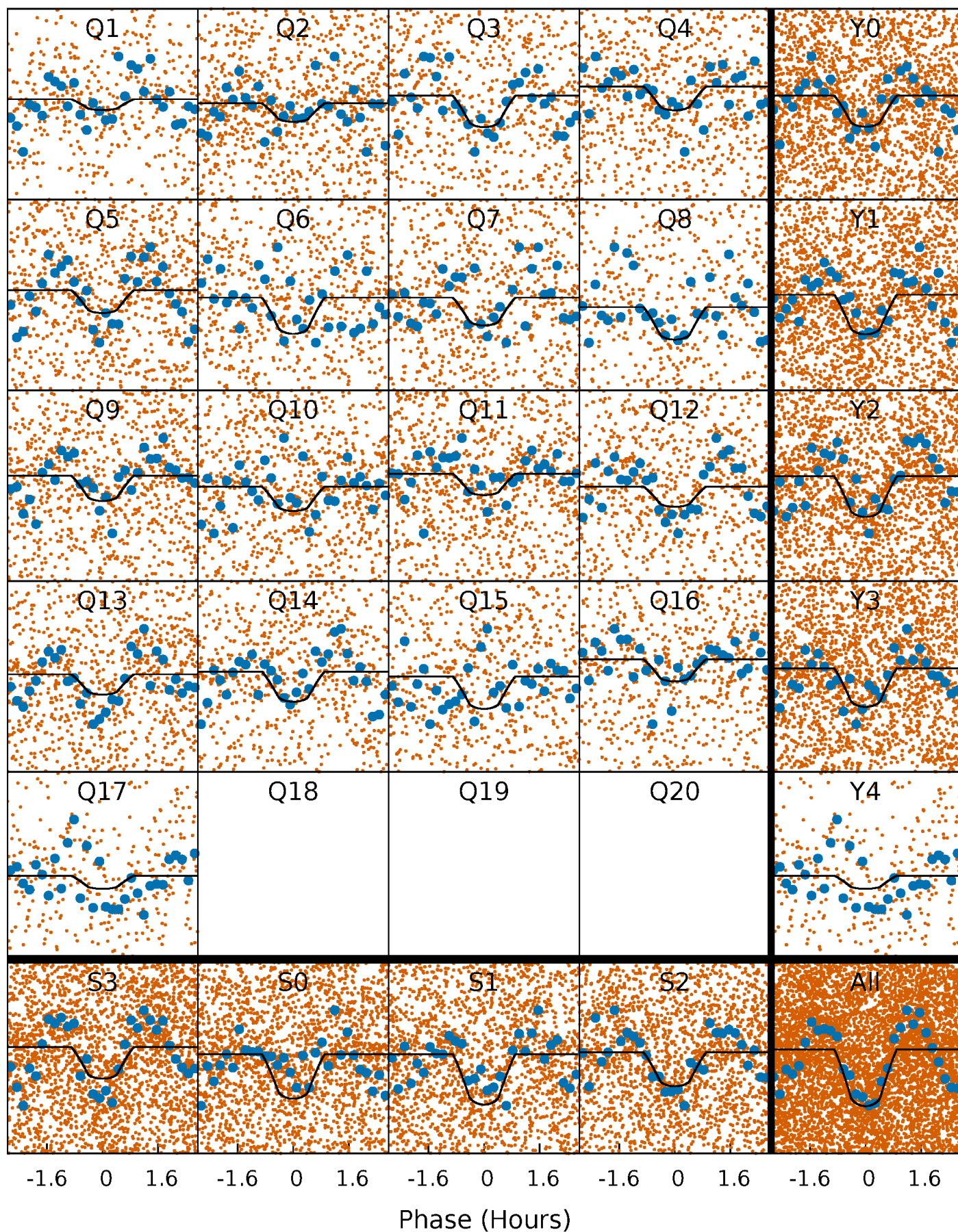
TCE 009205044-01 P= 0.768217 Days  $T_0=131.751078$  (BKJD)





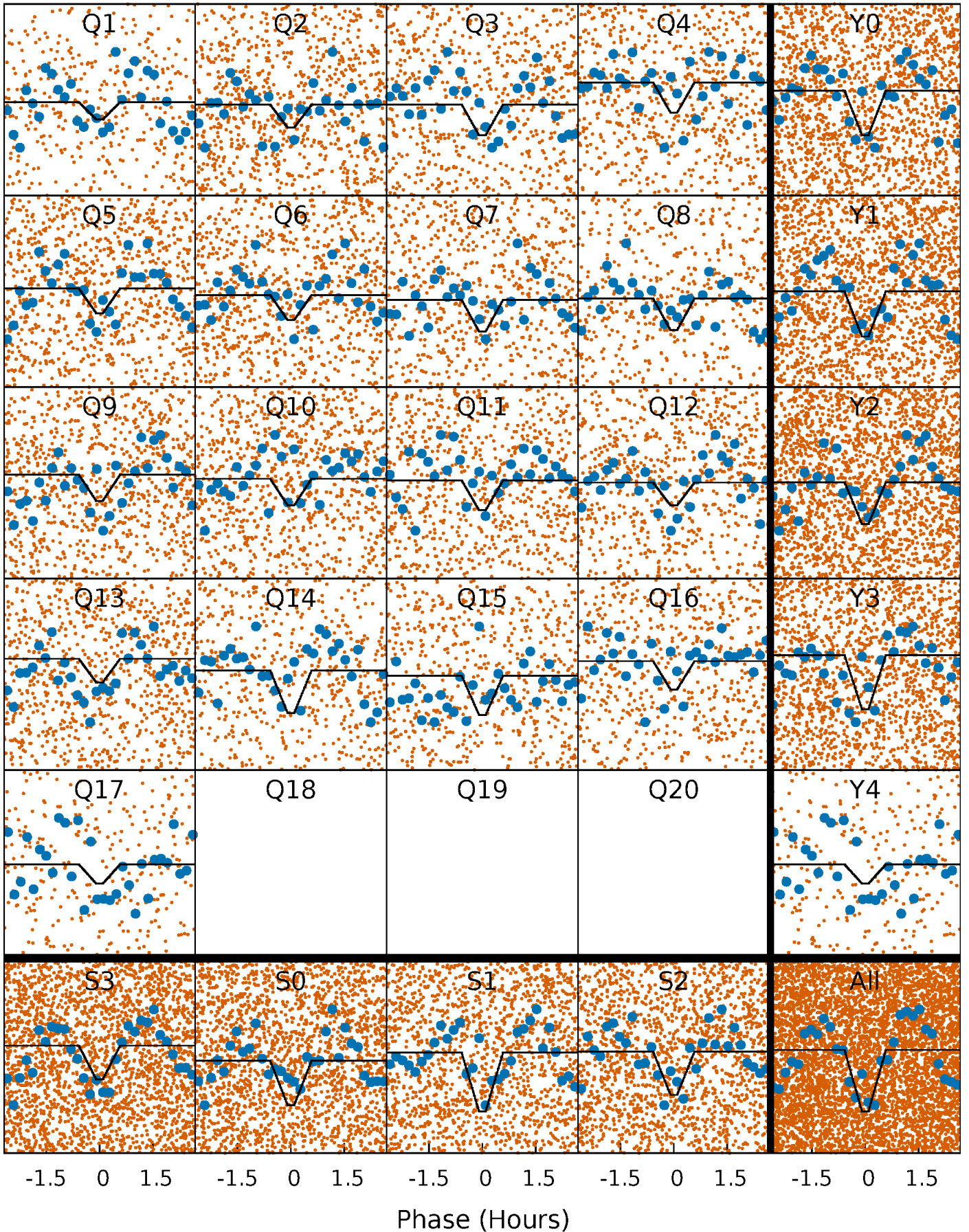
# DV Quarter-Phased Transit Curves

TCE 009205044-01 P= 0.768217 Days  $T_0=131.751078$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

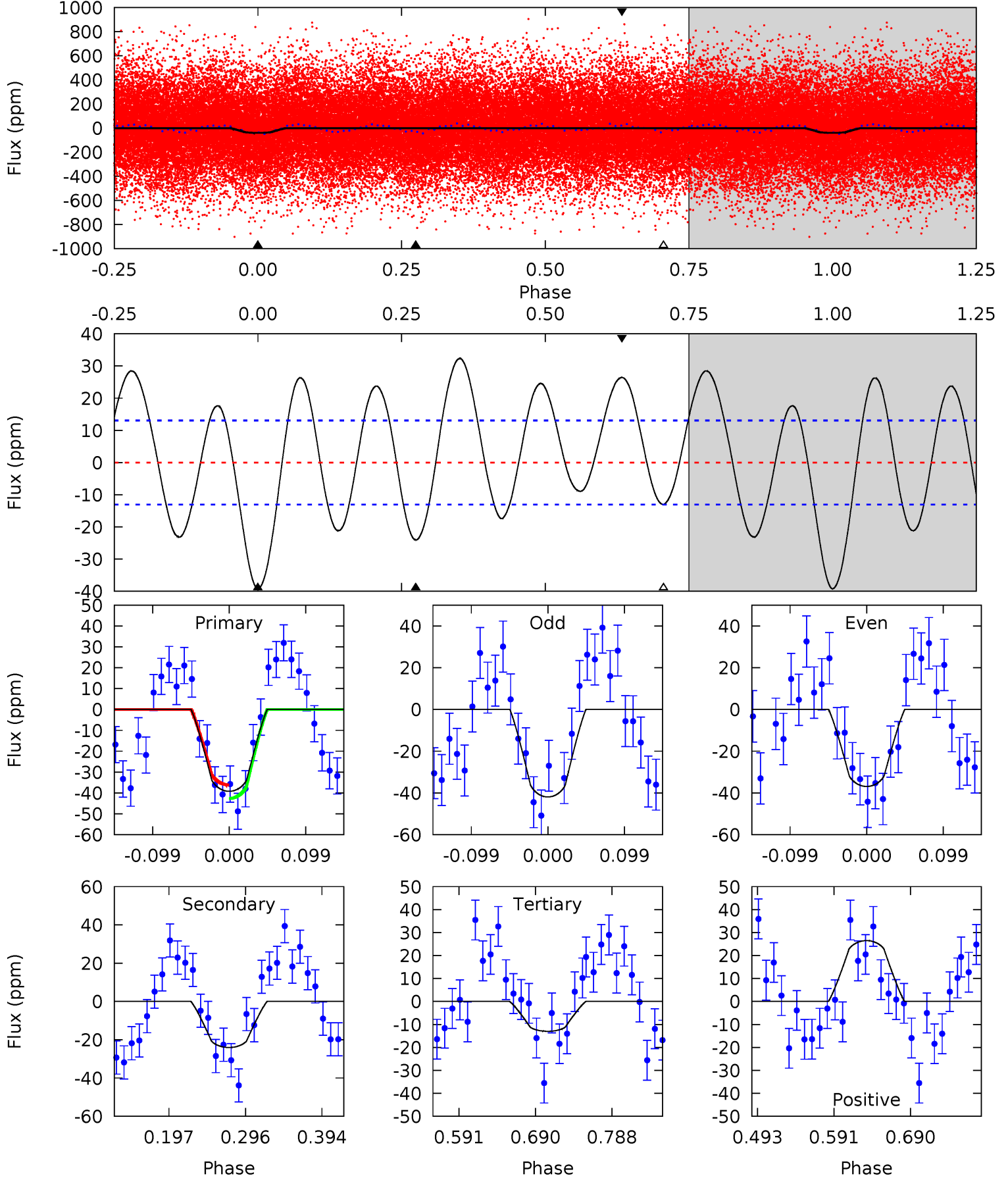
TCE 009205044-01 P= 0.768221 Days  $T_0=131.750987$  (BKJD)



# DV Model-Shift Uniqueness Test

009205044-01, P = 0.768217 Days, E = 130.982861 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
13.7	8.42	4.55	9.27	4.57	1.65	5.36	9.17	4.45	3.87	-0.85	0.88	0.93	0.45	1.13

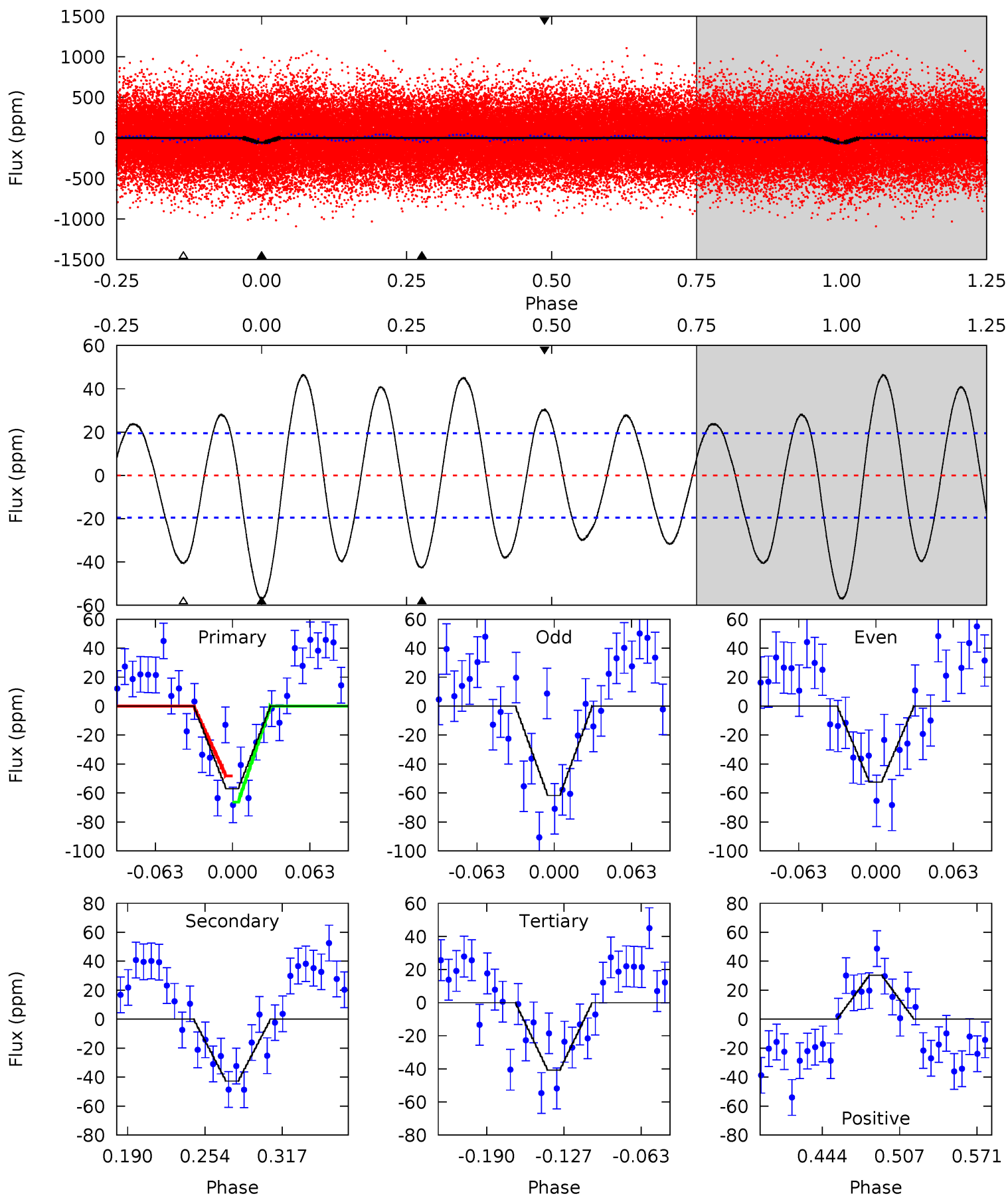




# Alt Model-Shift Uniqueness Test

009205044-01, P = 0.768221 Days, E = 130.982766 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
13.6	10.2	9.75	7.28	4.66	1.86	6.06	3.89	6.37	0.47	2.95	1.11	1.07	0.45	2.17





### Stellar Parameters For KIC 009205044

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$4888^{+88}_{-44}$	$2.994^{+0.130}_{-0.159}$	$-0.380^{+0.150}_{-0.100}$	$4.888^{+1.621}_{-0.695}$	$0.859^{+0.331}_{-0.018}$	$0.010^{+0.006}_{-0.005}$
	+2%/-1%	+4%/-5%	+39%/-26%	+33%/-14%	+39%/-2%	+54%/-48%
Source	SPE74	SPE74	SPE74	DSEP		

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

### Secondary Eclipse Parameters for KIC 009205044-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-24 \pm 3$	$4.18^{+1.75}_{-1.62}$	$5352^{+363}_{-257}$	$-3695^{+7861}_{-553}$	$0.193^{+0.315}_{-0.095}$
Alt.	$-43 \pm 4$	$4.47^{+1.98}_{-1.71}$	$5350^{+383}_{-273}$	$-1836^{+6772}_{-2156}$	$0.300^{+0.506}_{-0.150}$

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

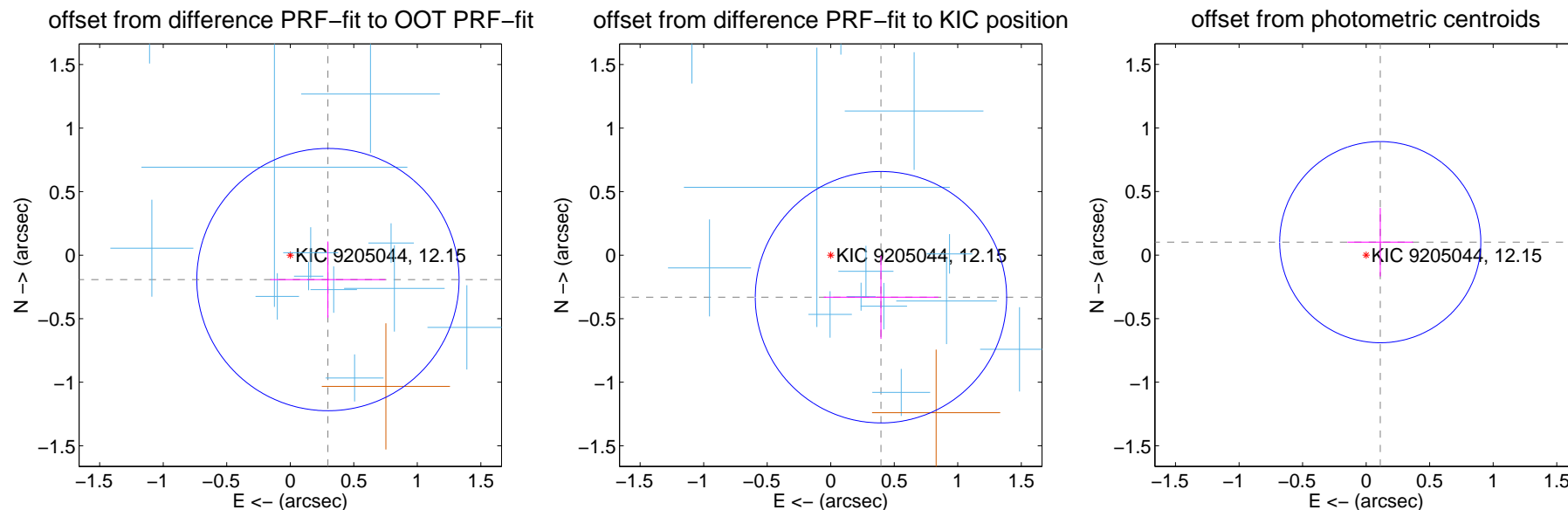
## DV Centroid Data

Supplemental centroid analysis for 009205044-01. Kepler magnitude: 12.15. Transit SNR 9.33

There are 14 quarters with good PRF difference image offsets

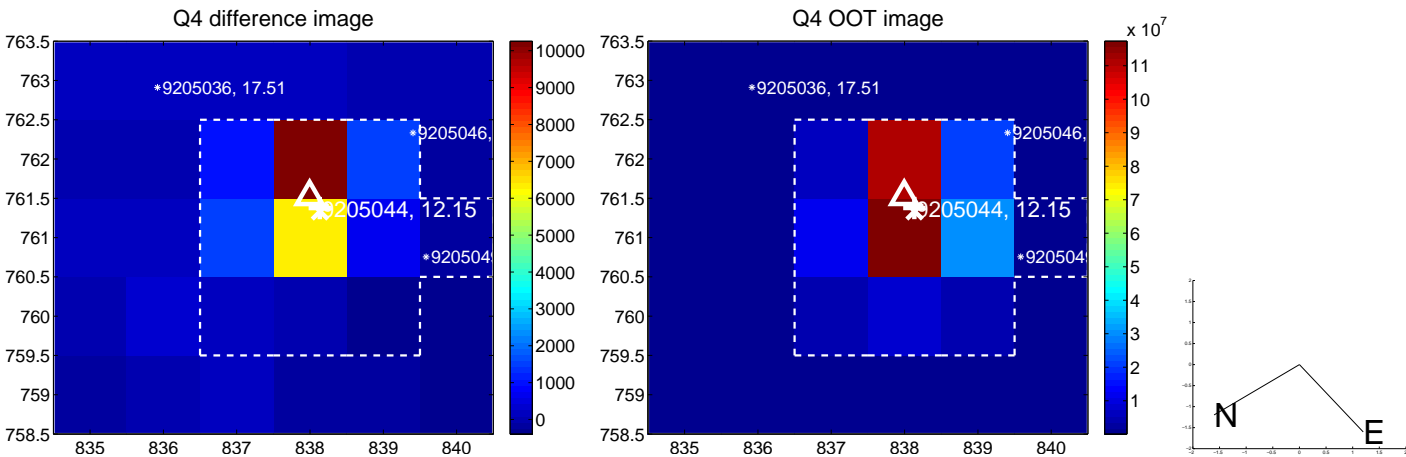
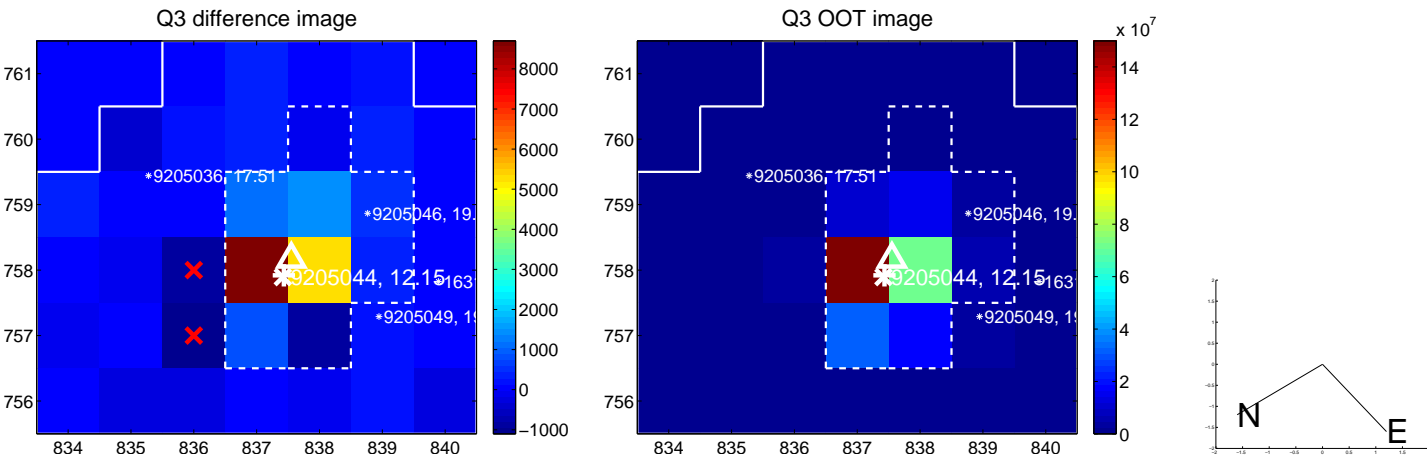
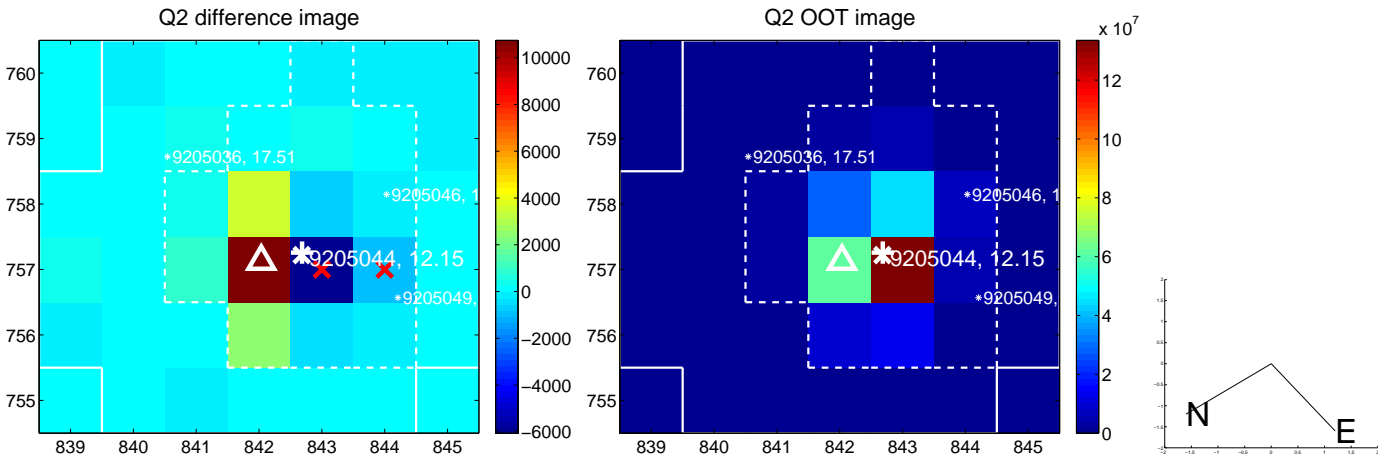
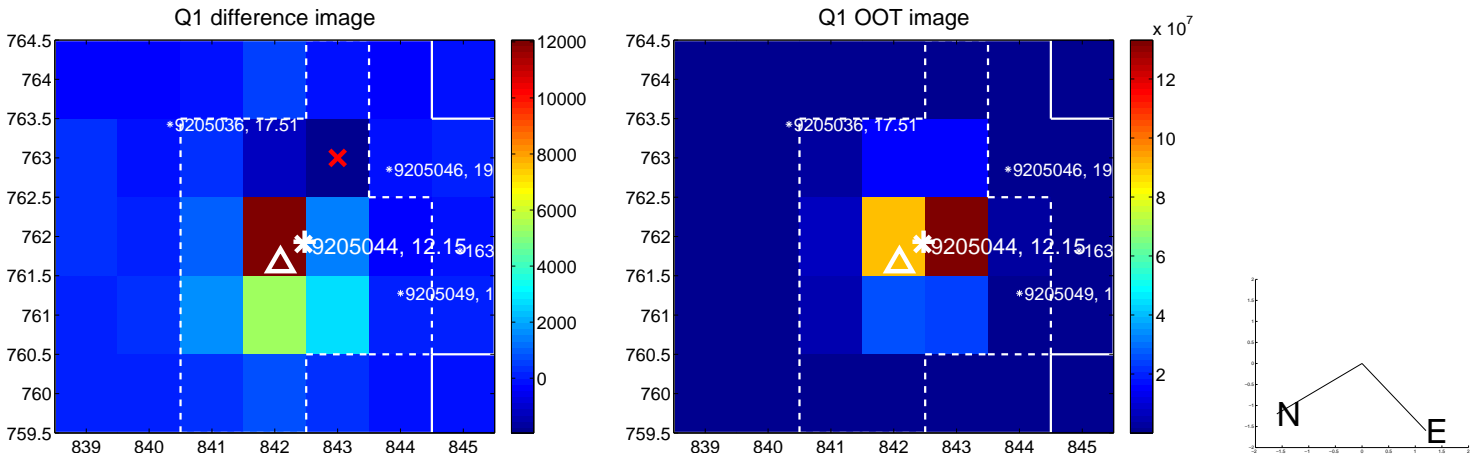
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.354 \pm 0.344$	1.03	$-0.297 \pm 0.453$	$-0.192 \pm 0.300$
PRF-fit source offset from KIC position	$0.516 \pm 0.330$	1.56	$-0.395 \pm 0.451$	$-0.331 \pm 0.327$
photometric centroid source offset	$0.15 \pm 0.26$	0.57	$-0.11 \pm 0.26$	$0.10 \pm 0.27$

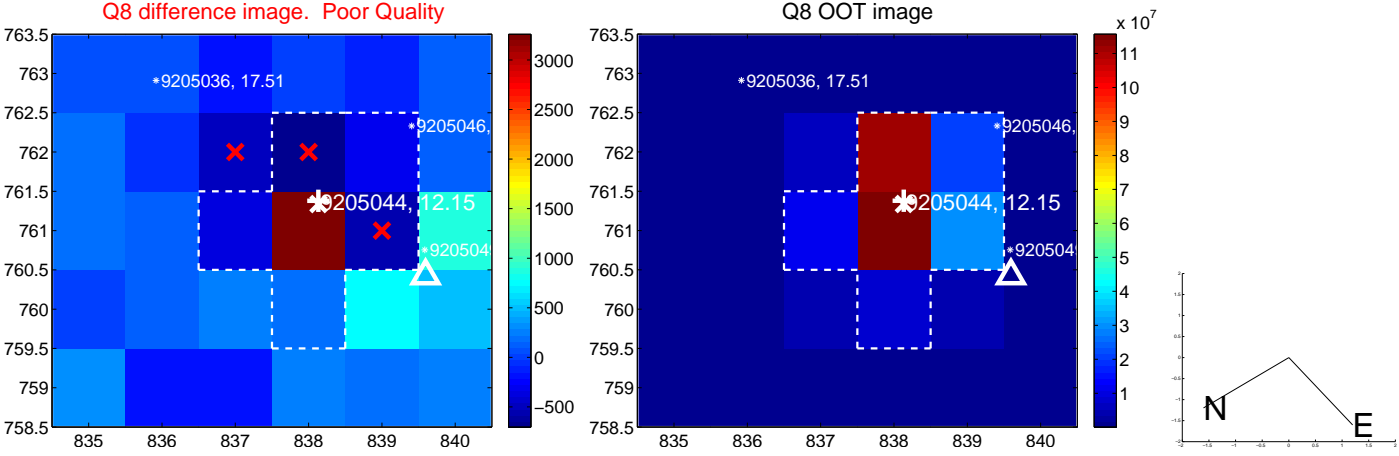
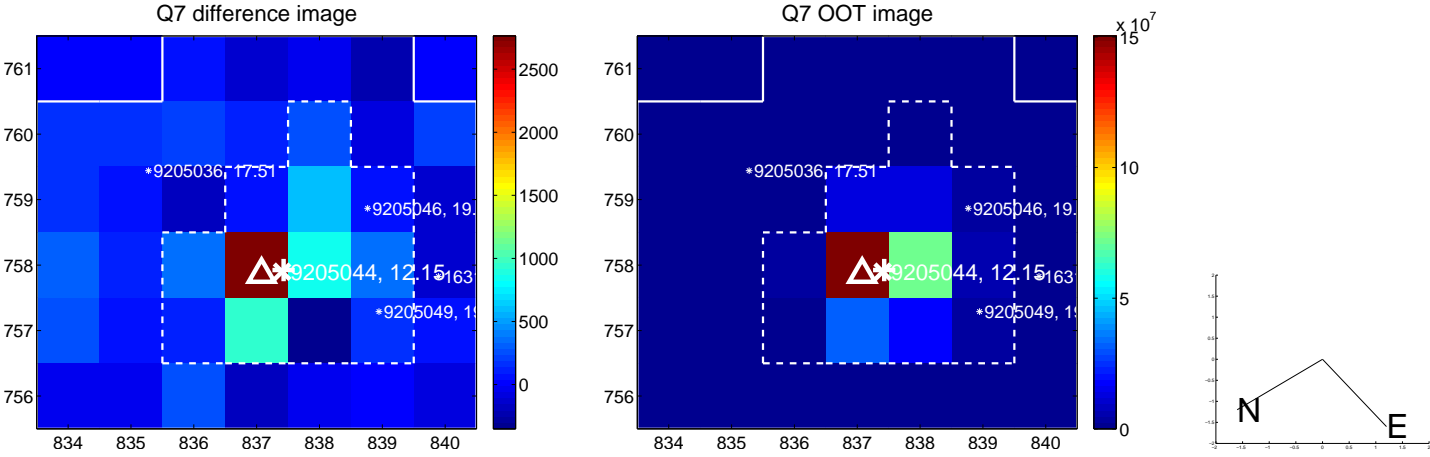
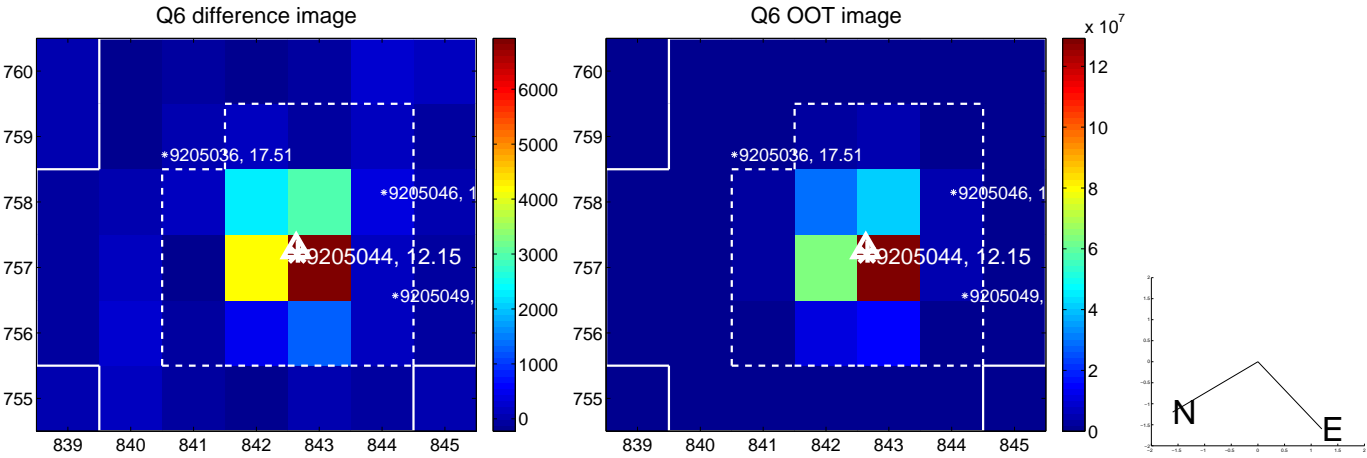
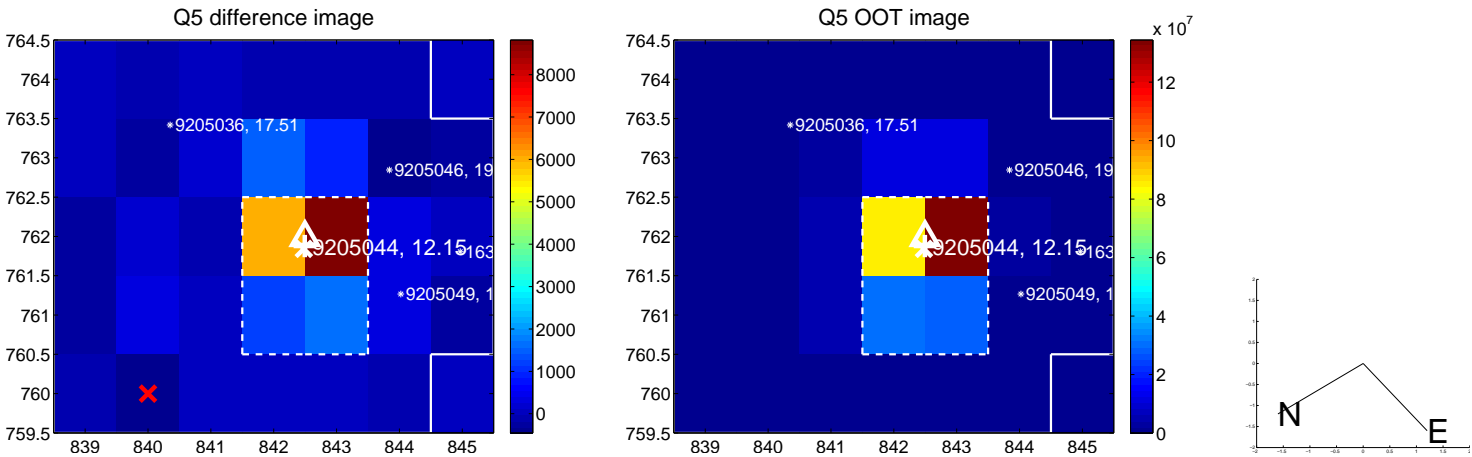


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

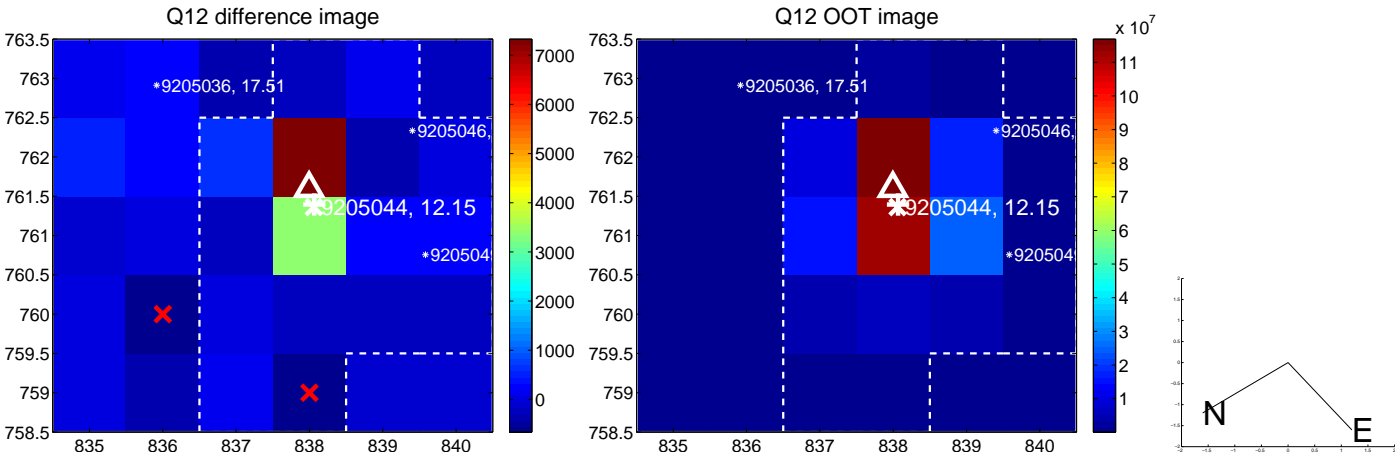
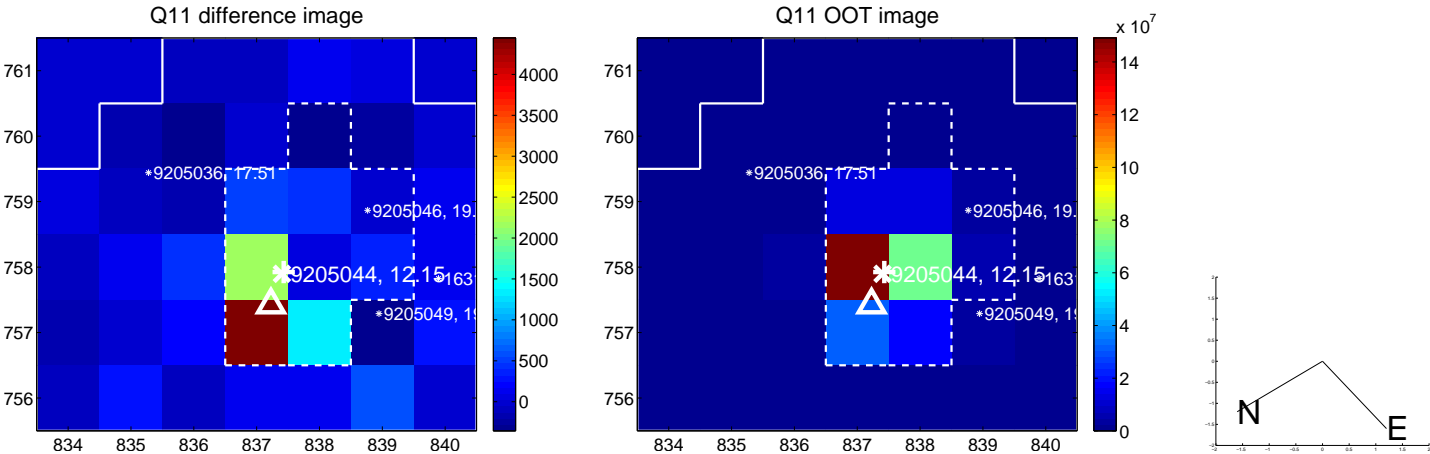
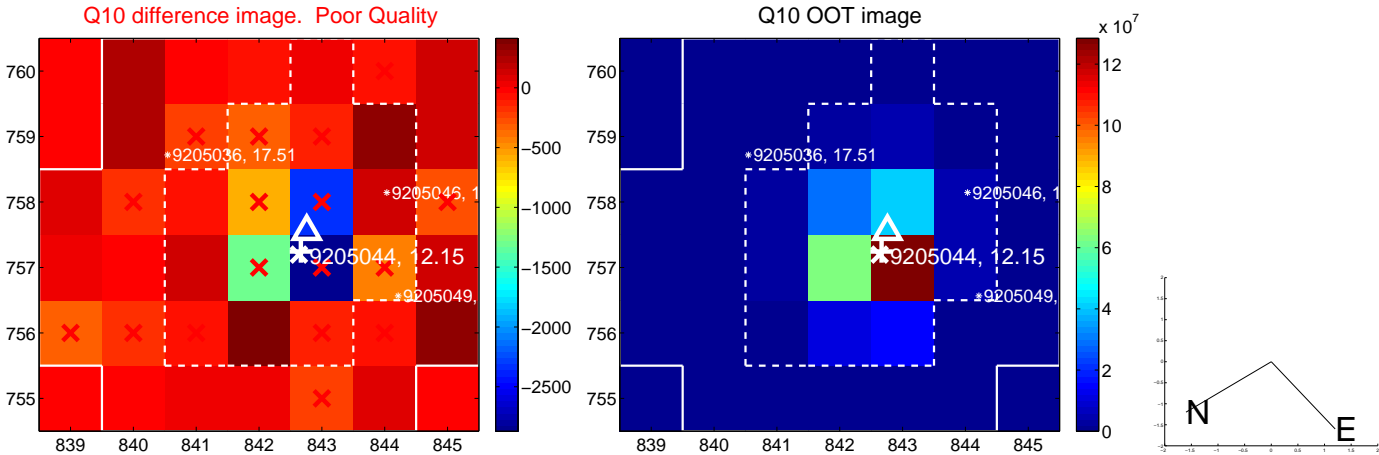
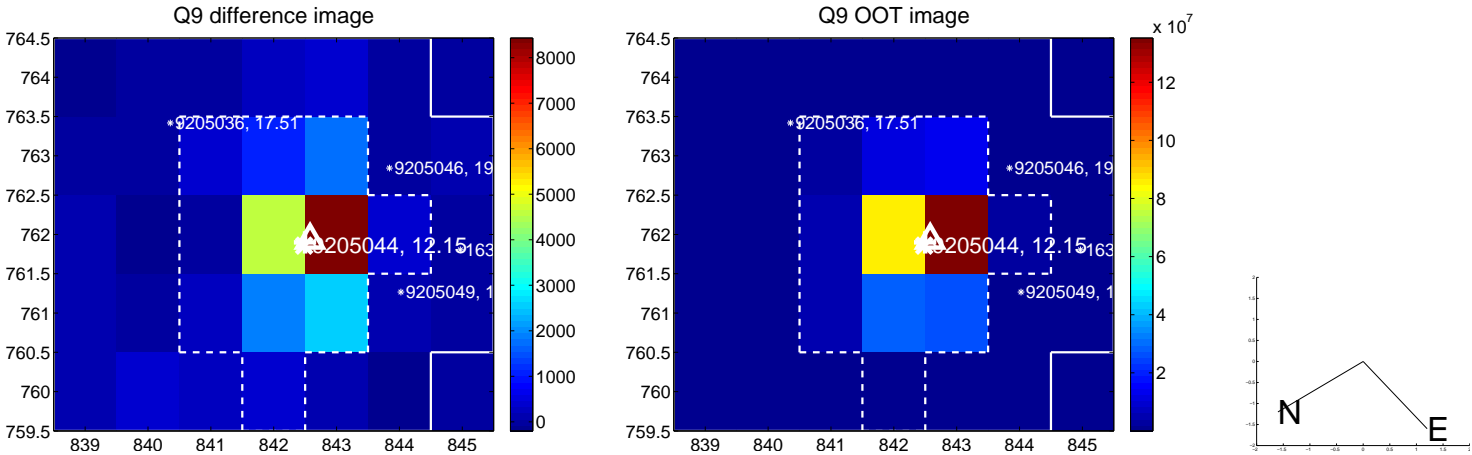


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

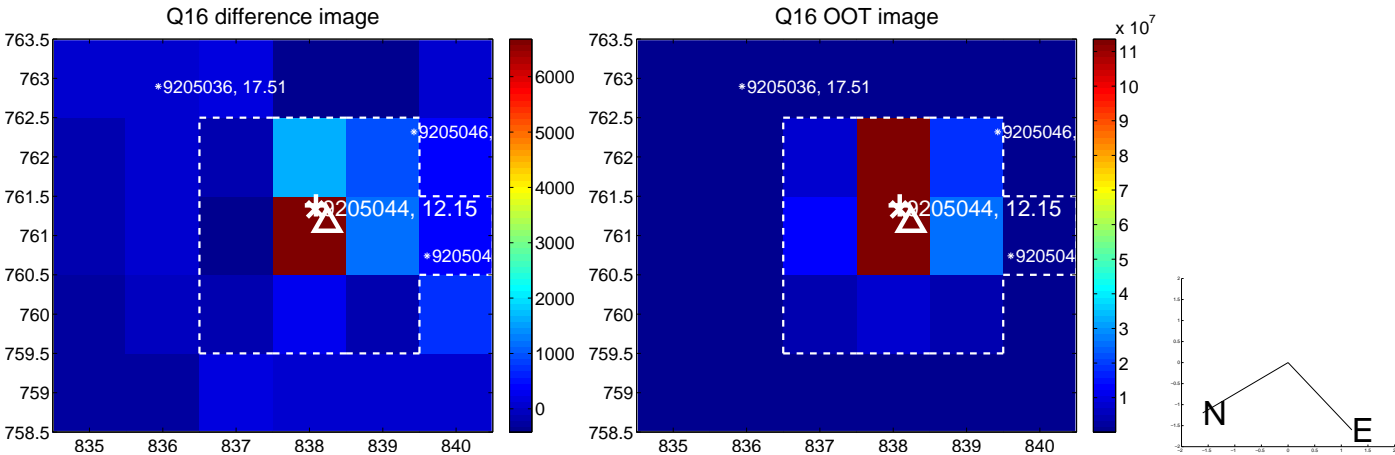
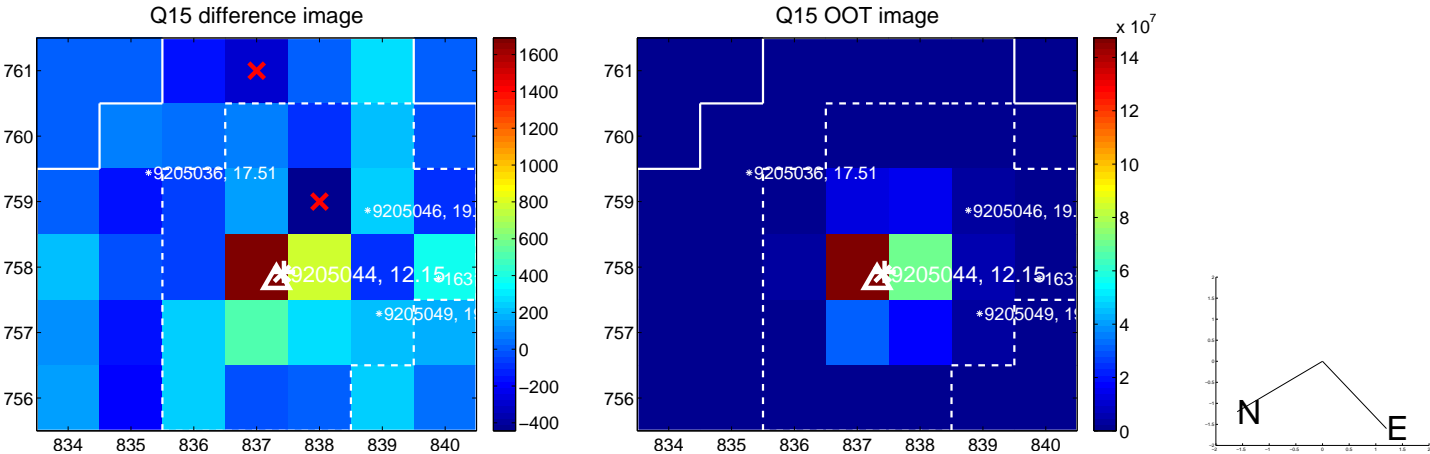
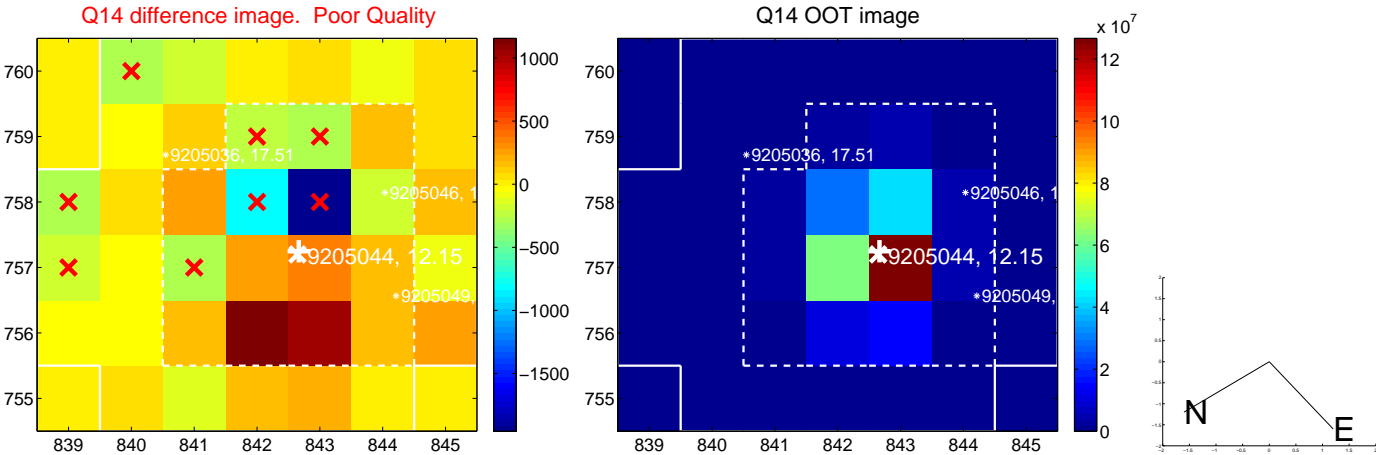
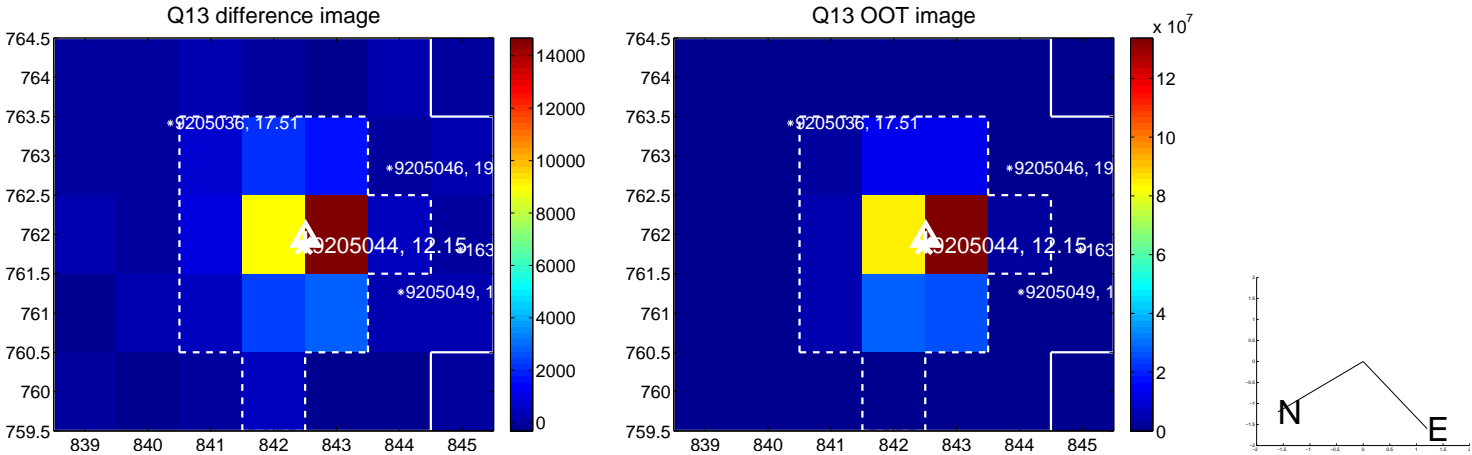




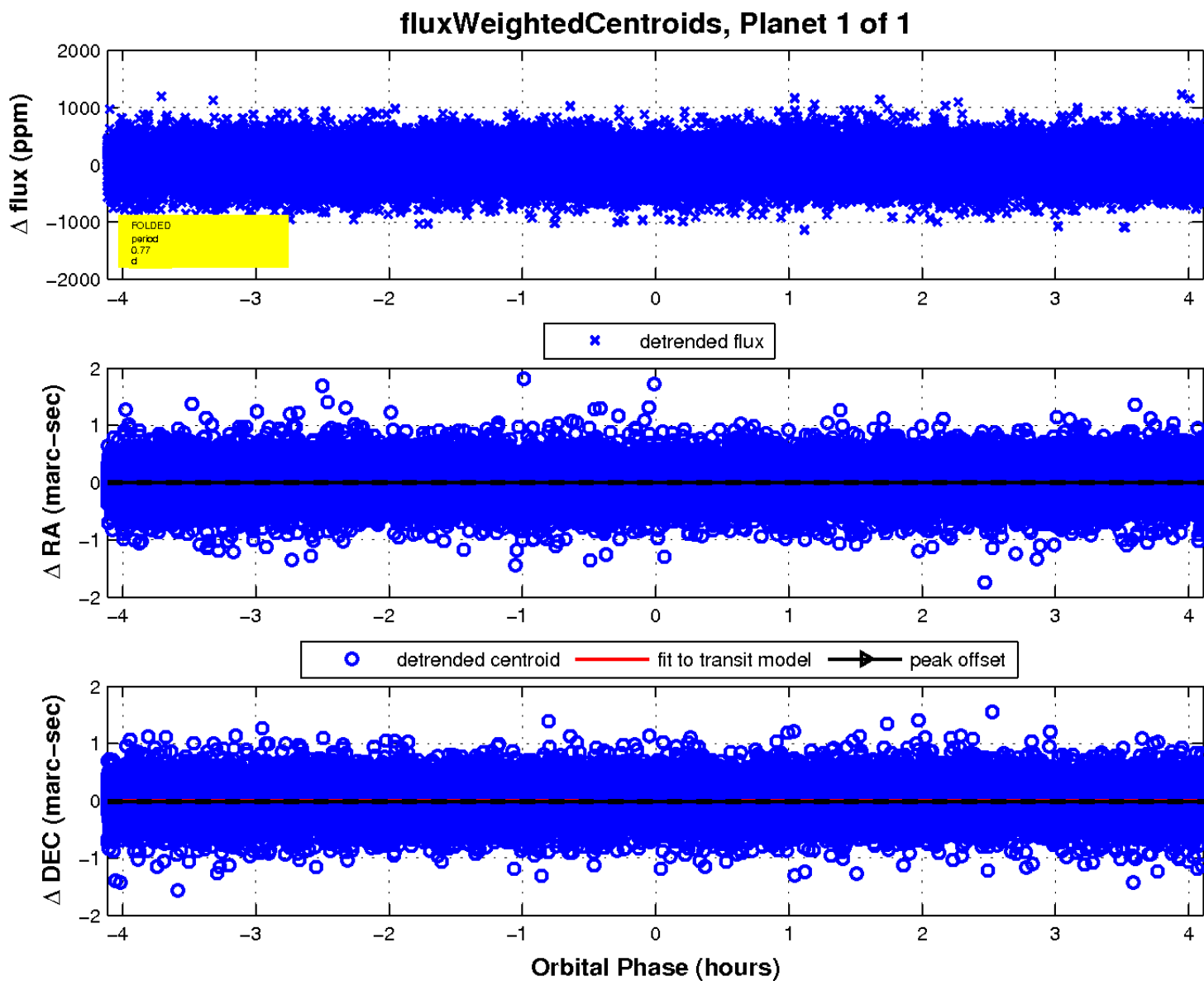
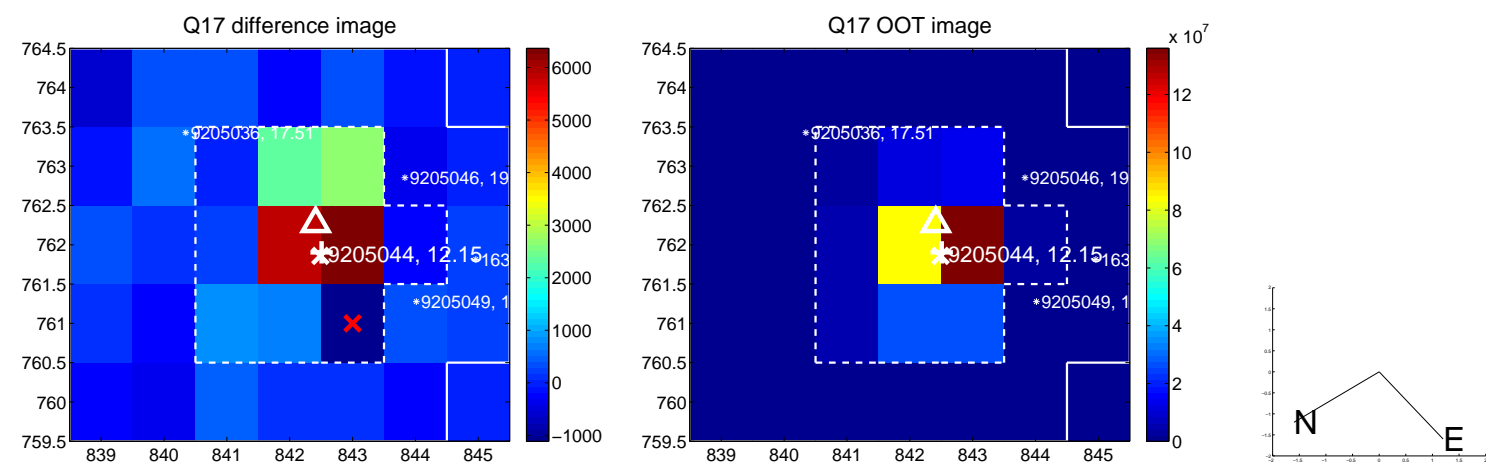
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

