

# KIC 007694615

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007694615-01	OBS	4489.01	0.631106	131.899020	34.7	0.882	10.8	11.8	0.90	5400	0.64	3392.48

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007694615-01	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.

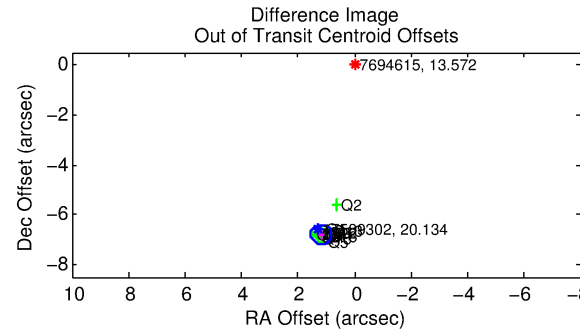
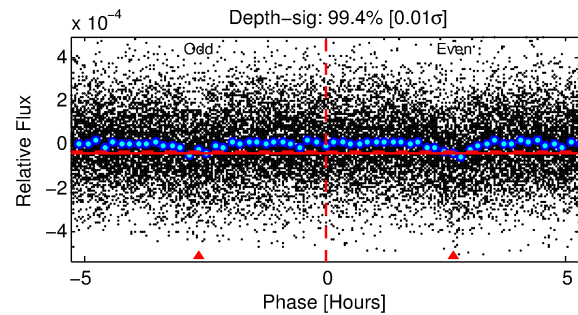
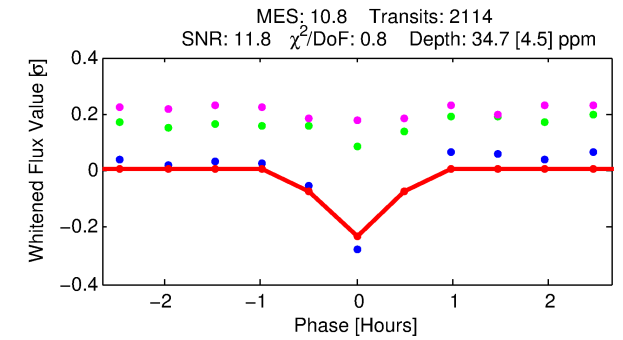
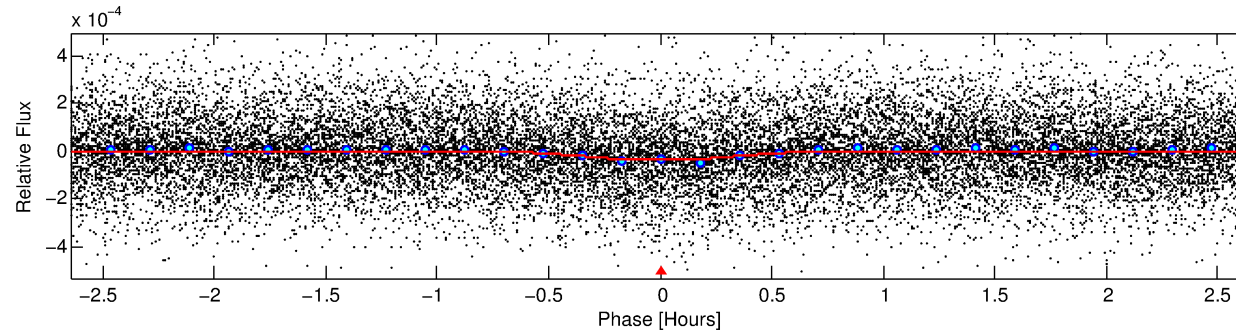
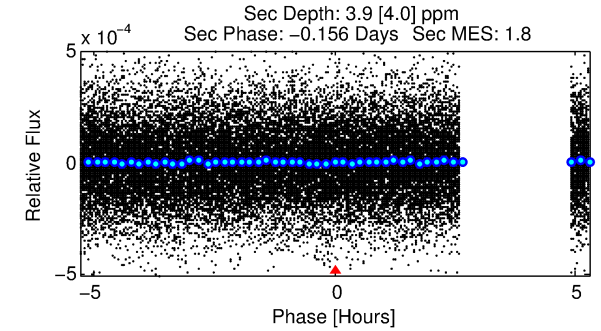
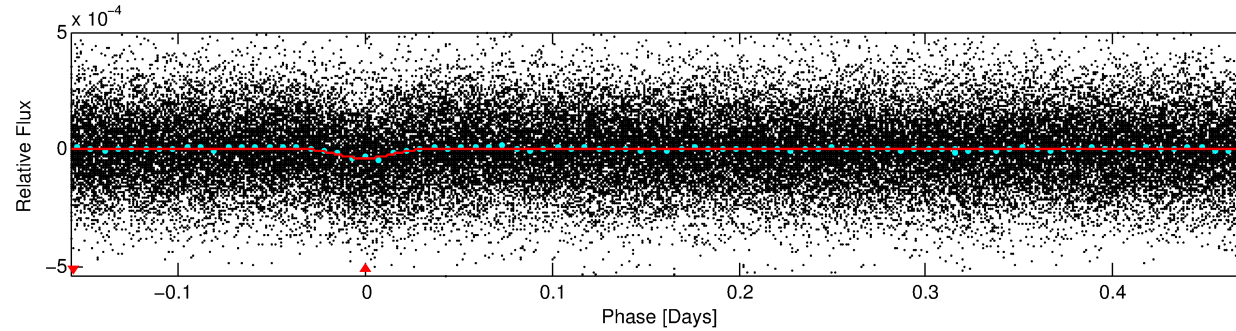
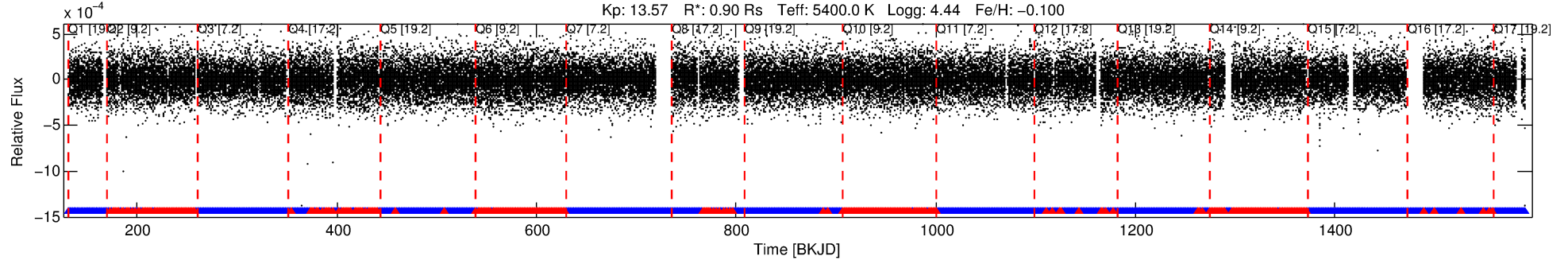
## Ephemeris Match Information For 007694615-01

No Significant Match Found

# DV One-Page Summary

KIC: 7694615 Candidate: 1 of 1 Period: 0.631 d  
KOI: K04489.01 Corr: 0.986

Kp: 13.57 R\*: 0.90 Rs Teff: 5400.0 K Logg: 4.44 Fe/H: -0.100



## DV Fit Results:

Period = 0.63111 [0.00001] d  
Epoch = 131.8990 [0.0013] BKJD  
Rp/R\* = 0.0066 [0.0019]  
a/R\* = 2.64 [2.82]  
b = 0.90 [0.27]  
Seff = 3392.48 [1011.90]  
Teq = 1946 [145] K  
Rp = 0.64 [0.23] Re  
a = 0.0135 [0.0024] AU  
Ag = 0.94 [1.12] [-0.06σ]  
Teffp = 2959 [869] K [1.15σ]

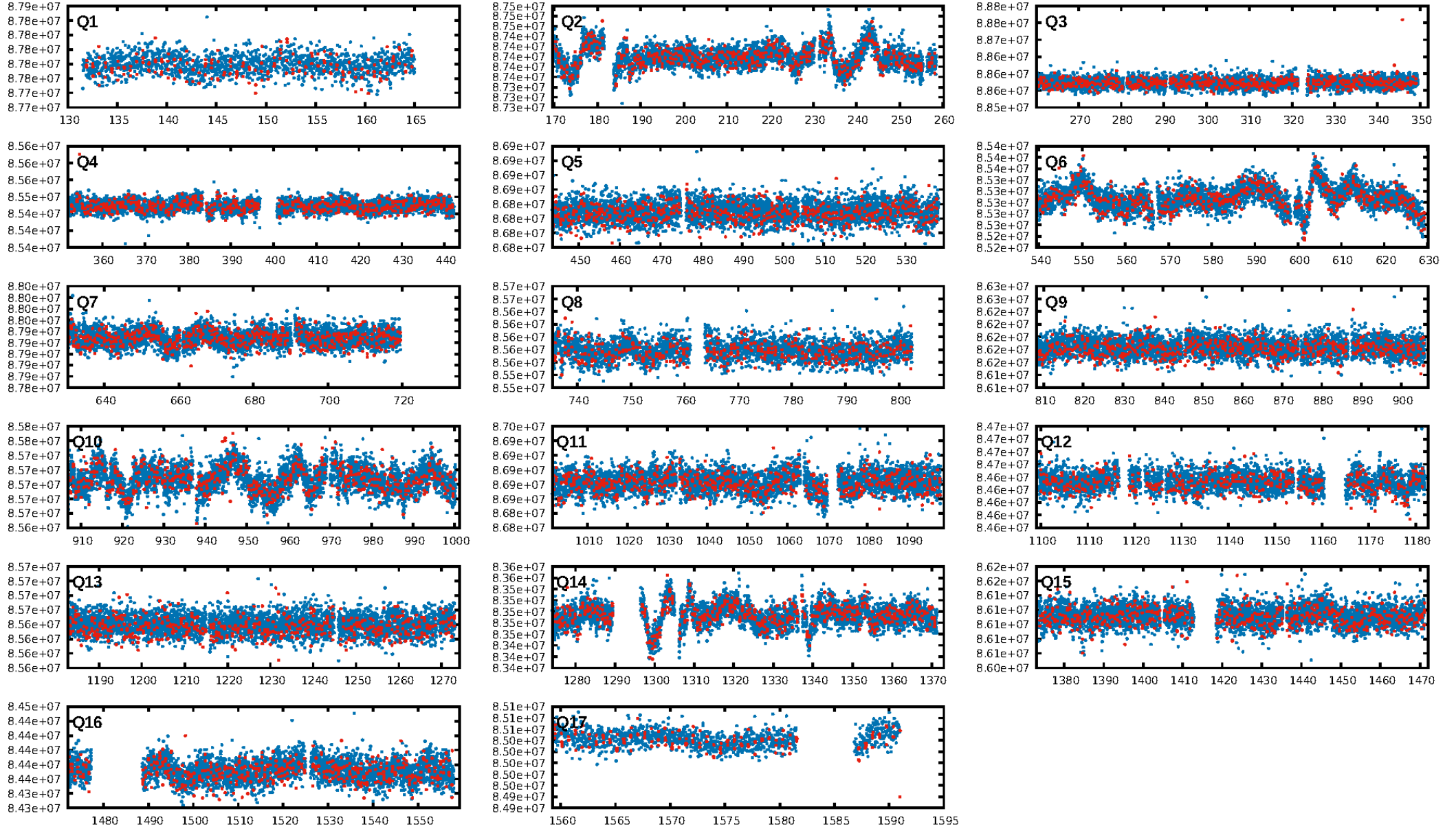
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.82e-23  
RollingBand-fgt: 0.72 [1455/2018]  
GhostDiagnostic-chr: 0.01949  
Centroid-sig: 0.0%  
Centroid-so: 17.191 arcsec [14.93σ]  
OotOffset-rm: 6.908 arcsec [55.13σ]  
KicOffset-rm: 6.939 arcsec [55.66σ]  
OotOffset-st: 1/4/4/4 [13]  
KicOffset-st: 1/4/4/4 [13]  
DiffImageQuality-fgm: 1.00 [13/13]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:54:15 Z

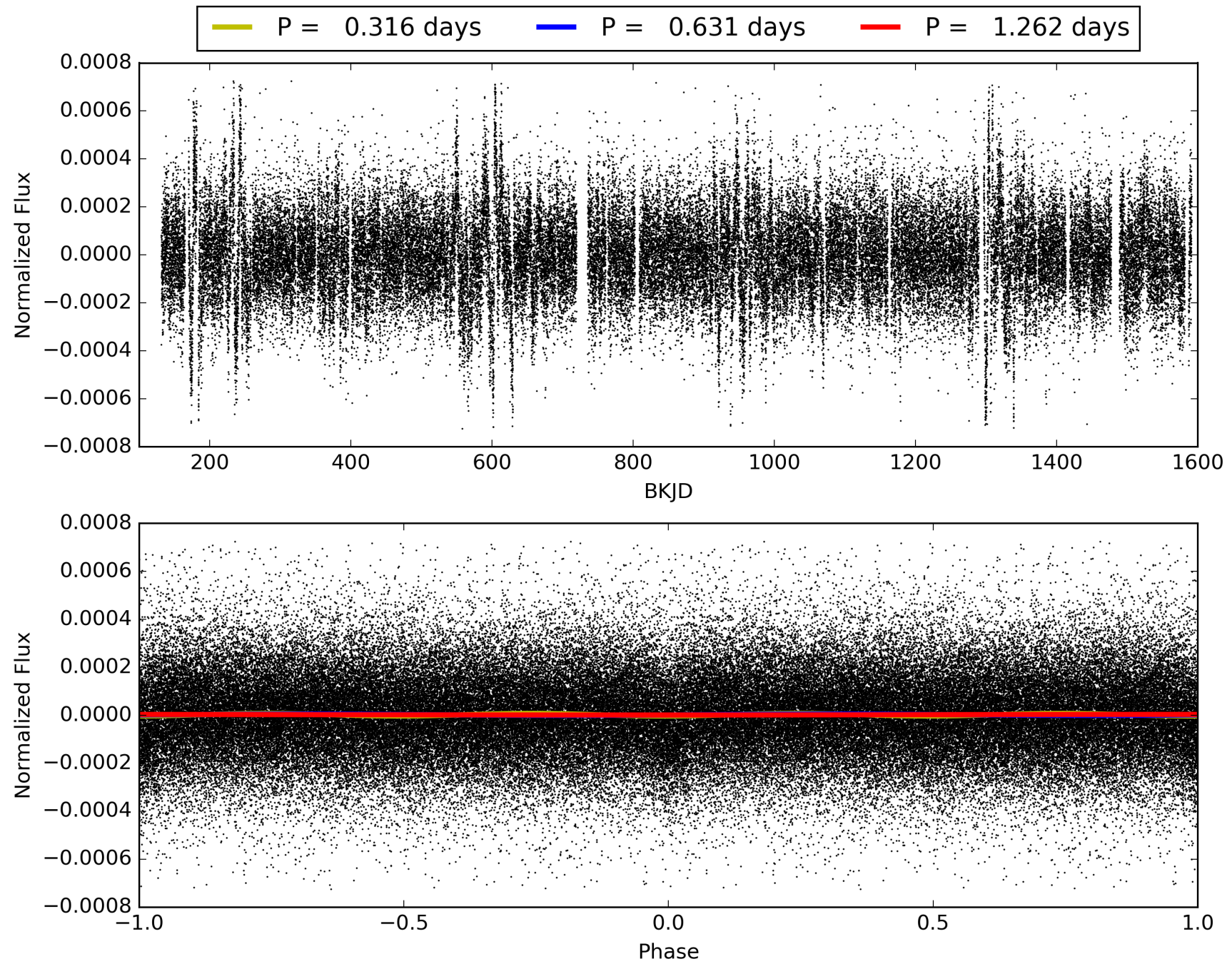
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007694615-01, PDC Light Curves



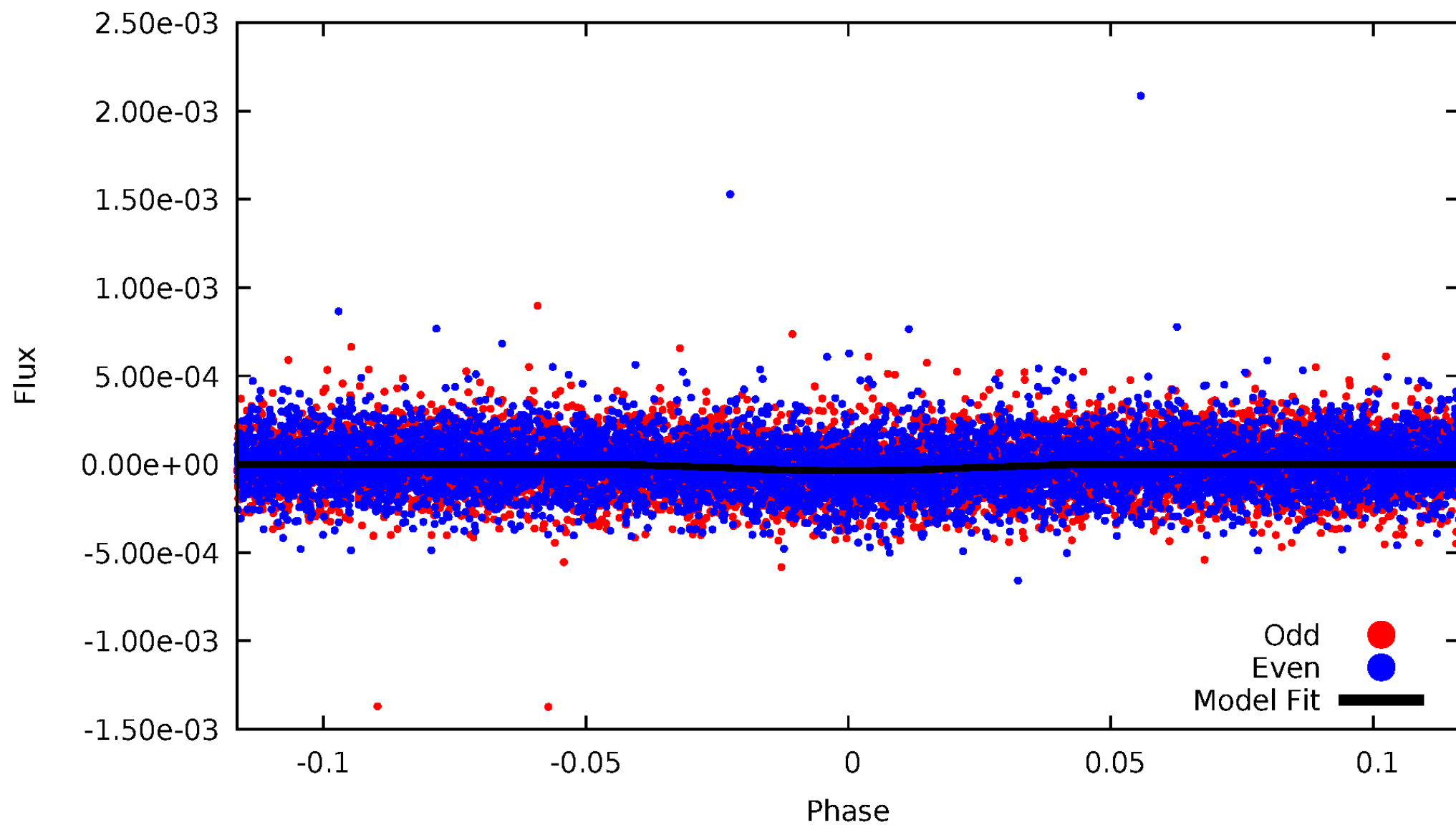


TCE 007694615-01



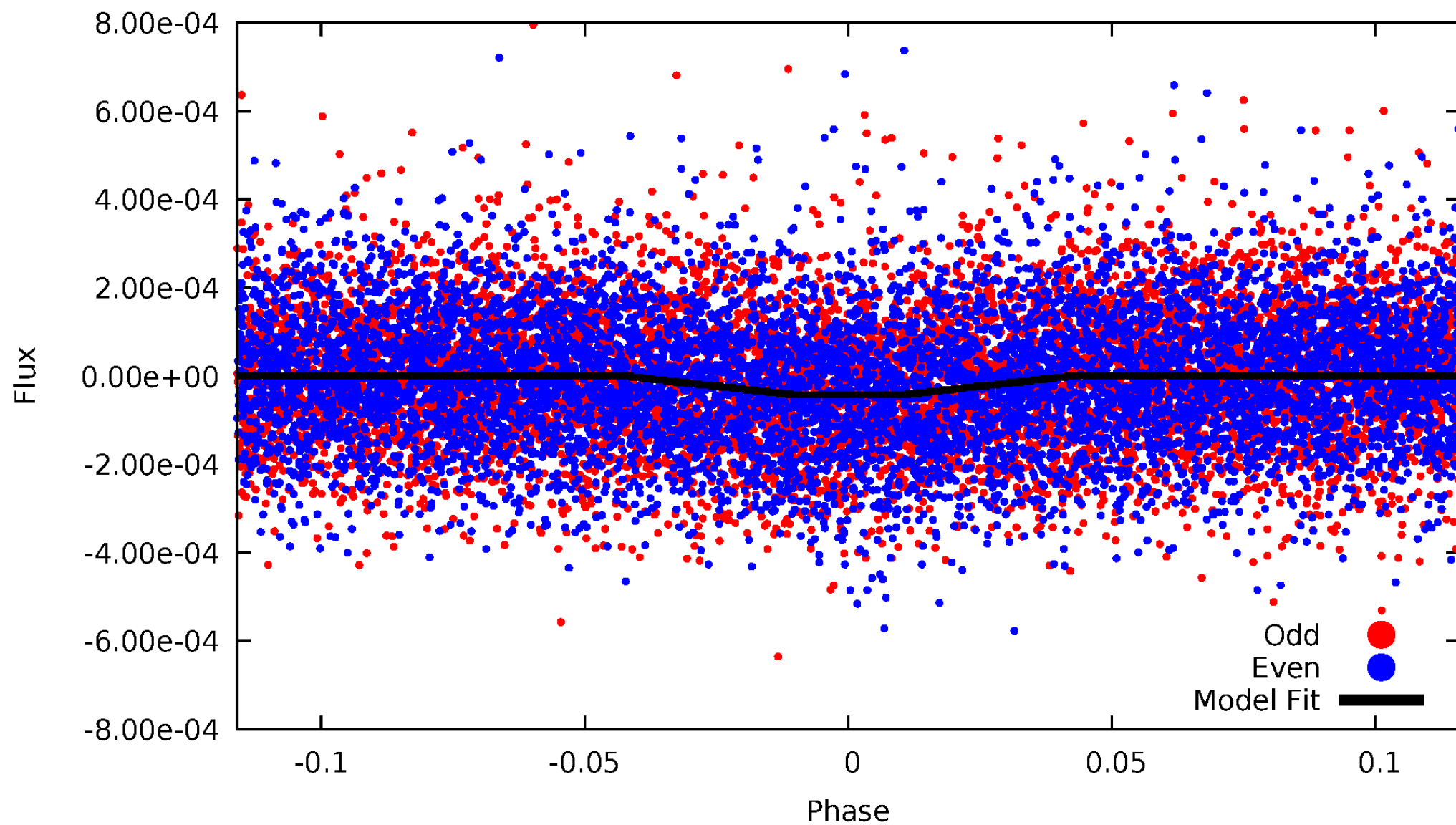
# DV Odd/Even

TCE 007694615-01



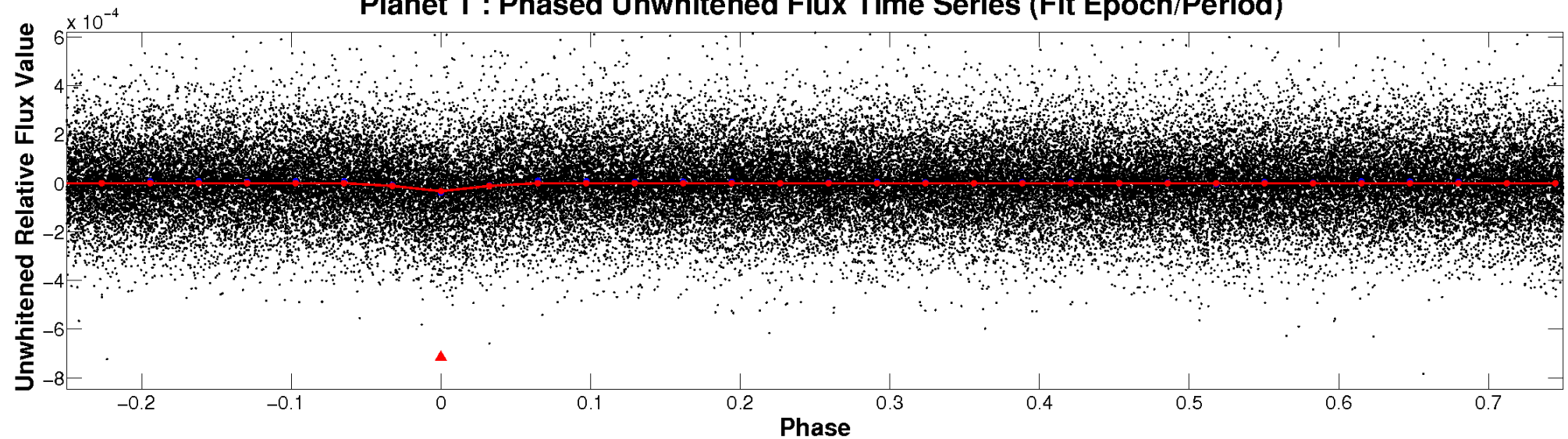
# ALT Odd/Even

TCE 007694615-01

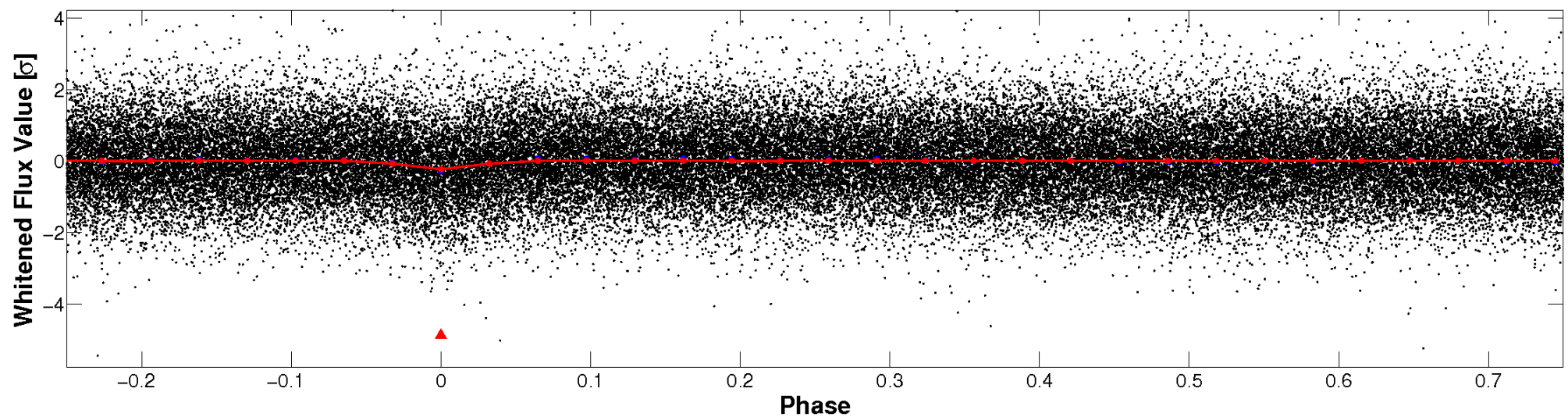


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**



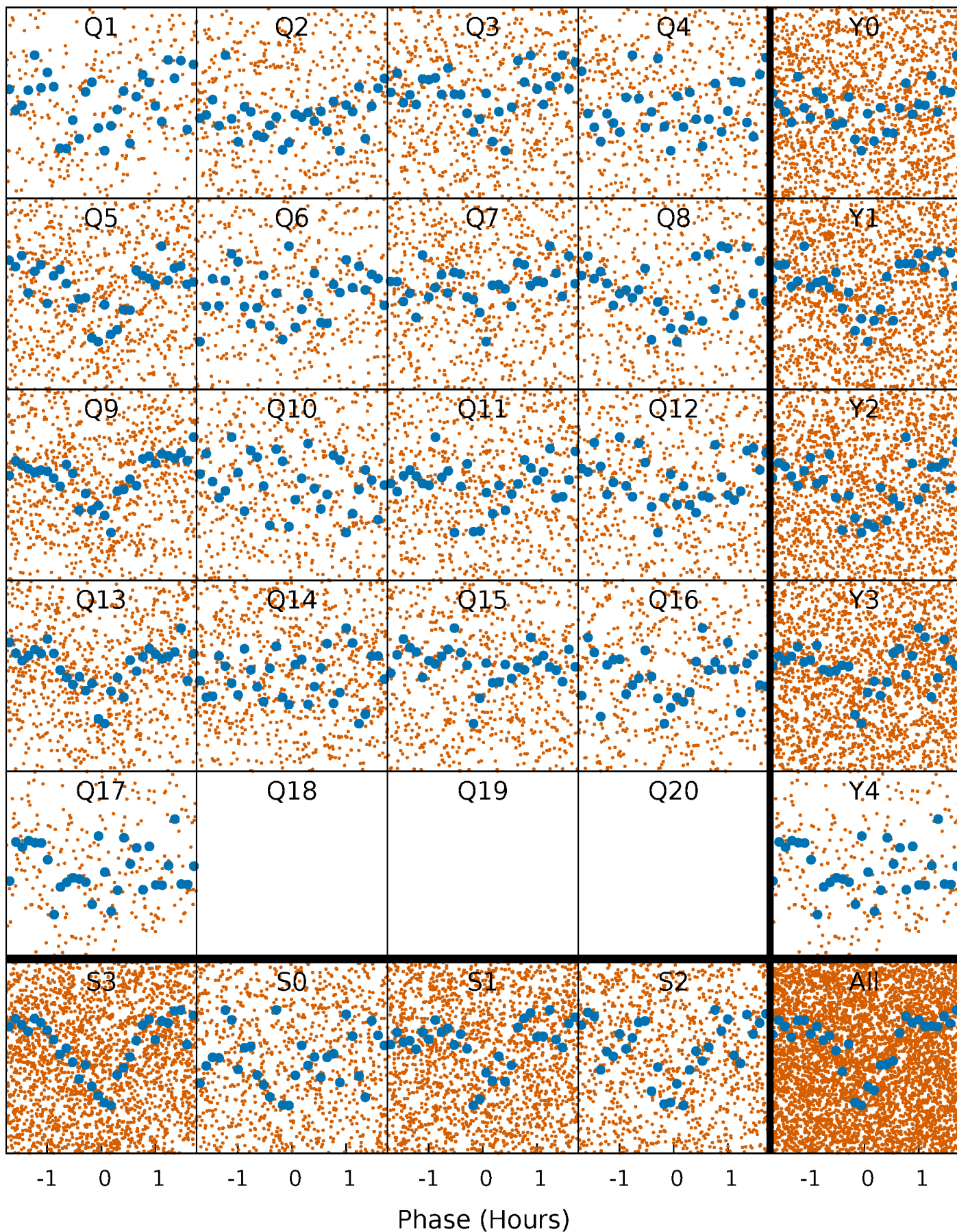
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

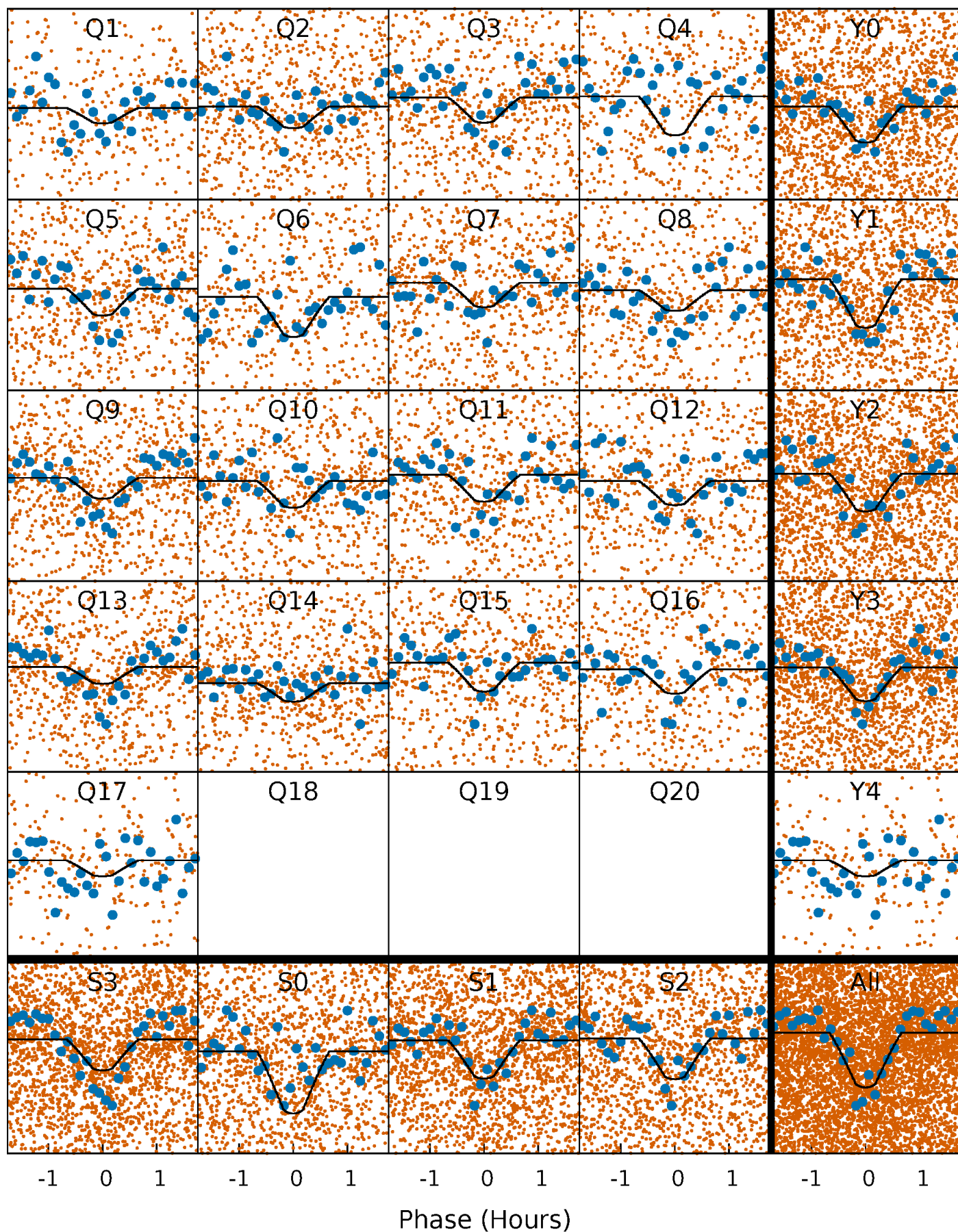
TCE 007694615-01 P= 0.631106 Days  $T_0=131.899020$  (BKJD)





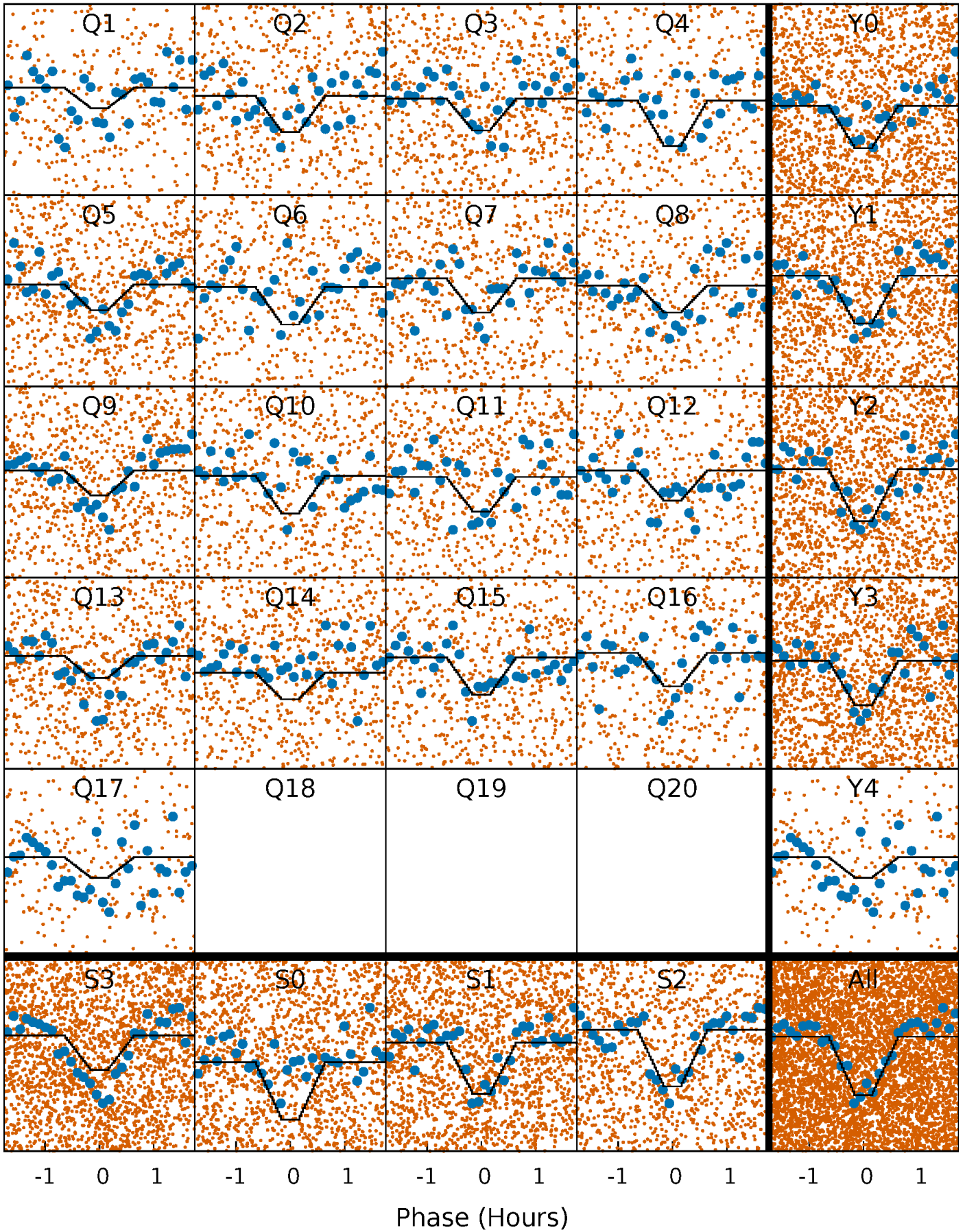
# DV Quarter-Phased Transit Curves

TCE 007694615-01 P= 0.631106 Days  $T_0=131.899020$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

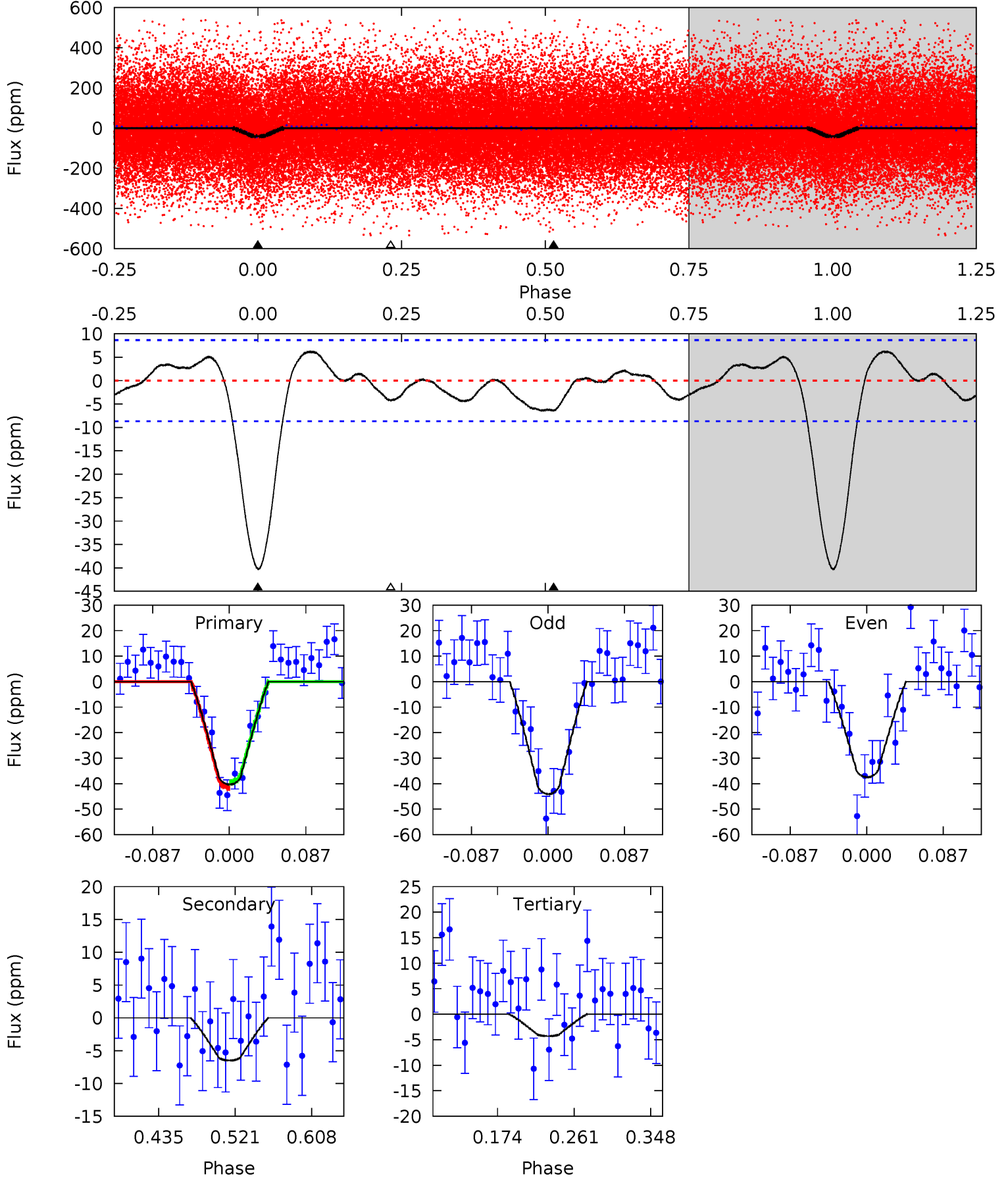
TCE 007694615-01 P= 0.631107 Days  $T_0=131.899006$  (BKJD)



# DV Model-Shift Uniqueness Test

007694615-01, P = 0.631106 Days, E = 131.267914 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
21.4	3.45	2.27	0	4.59	1.71	1.40	19.1	21.4	1.17	3.45	1.76	0.90	0.13	0.55

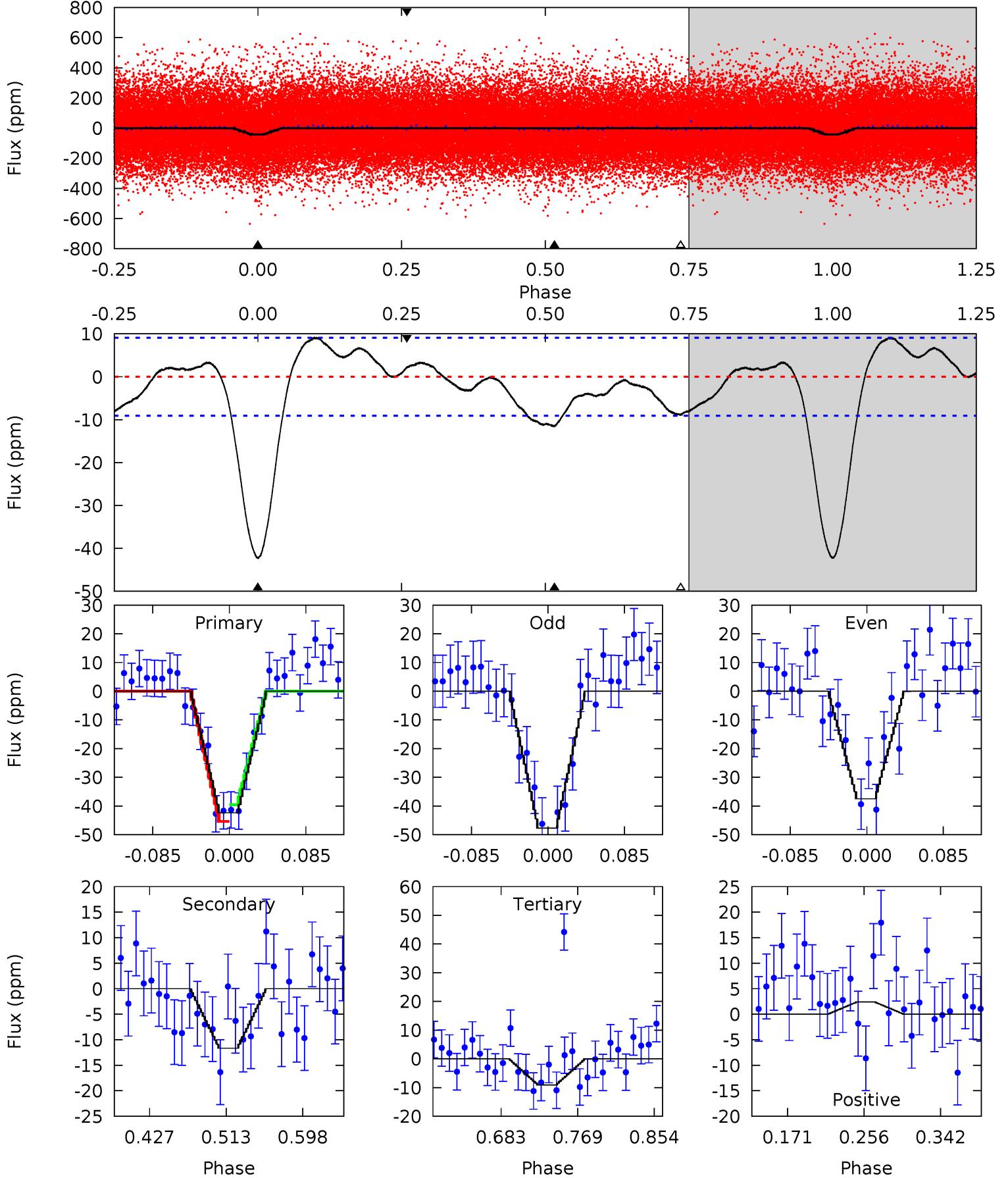




# Alt Model-Shift Uniqueness Test

007694615-01, P = 0.631107 Days, E = 131.267899 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
21.4	5.90	4.59	1.21	4.60	1.72	2.19	16.8	20.2	1.30	4.69	2.57	0.94	0.18	1.47





### Stellar Parameters For KIC 007694615

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5400^{+161}_{-145}$	$4.443^{+0.112}_{-0.154}$	$-0.100^{+0.300}_{-0.300}$	$0.898^{+0.185}_{-0.123}$	$0.816^{+0.116}_{-0.063}$	$1.589^{+0.830}_{-0.678}$
	+3%/-3%	+3%/-3%	+300%/-300%	+21%/-14%	+14%/-8%	+52%/-43%
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 007694615-01 / KOI 4489.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-7 \pm 2$	$0.65^{+0.20}_{-0.19}$	$2741^{+161}_{-132}$	$3619^{+599}_{-464}$	$1.544^{+1.707}_{-0.747}$
Alt.	$-12 \pm 2$	$0.65^{+0.21}_{-0.20}$	$2740^{+169}_{-135}$	$4088^{+633}_{-450}$	$2.789^{+2.911}_{-1.277}$

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

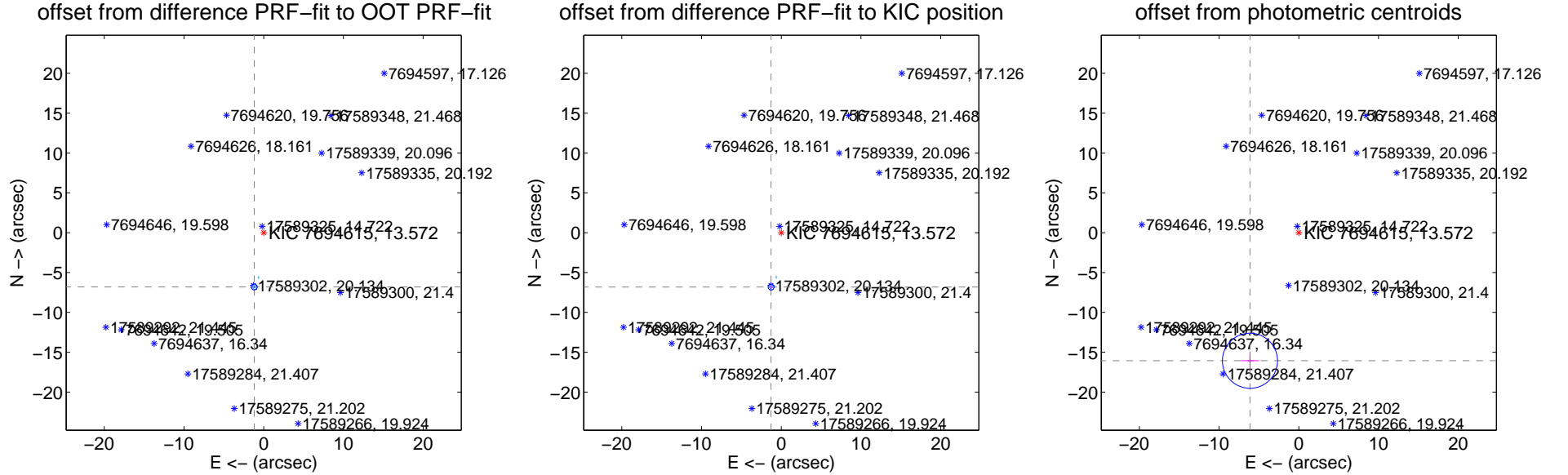
## DV Centroid Data

Supplemental centroid analysis for 007694615-01. Kepler magnitude: 13.57. Transit SNR 11.83

There are 13 quarters with good PRF difference image offsets

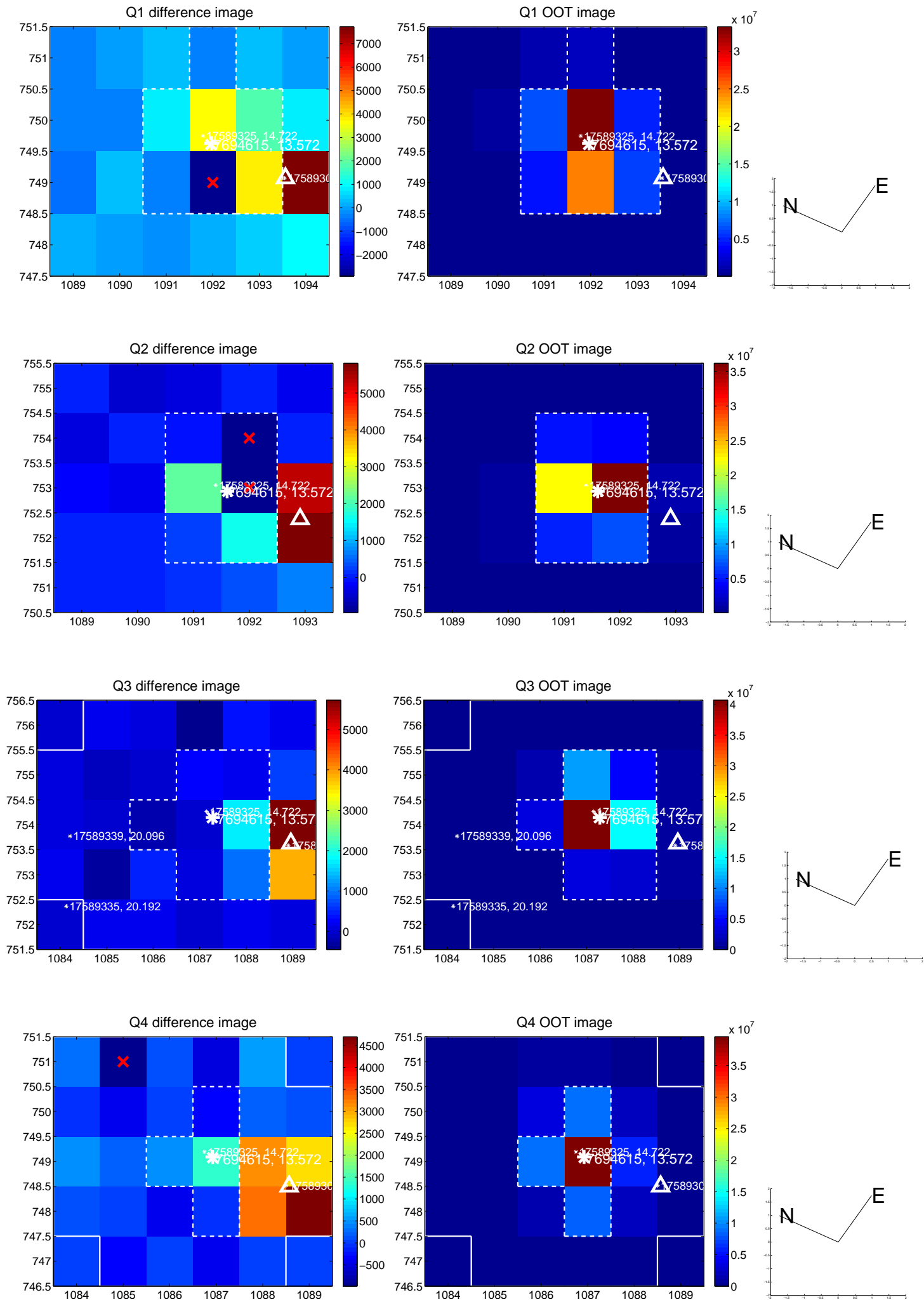
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$6.908 \pm 0.125$	<b>55.13</b>	$1.190 \pm 0.087$	$-6.805 \pm 0.120$
PRF-fit source offset from KIC position	$6.939 \pm 0.125$	<b>55.66</b>	$1.278 \pm 0.089$	$-6.820 \pm 0.119$
photometric centroid source offset	$17.19 \pm 1.15$	<b>14.93</b>	$6.13 \pm 1.13$	$-16.06 \pm 1.15$

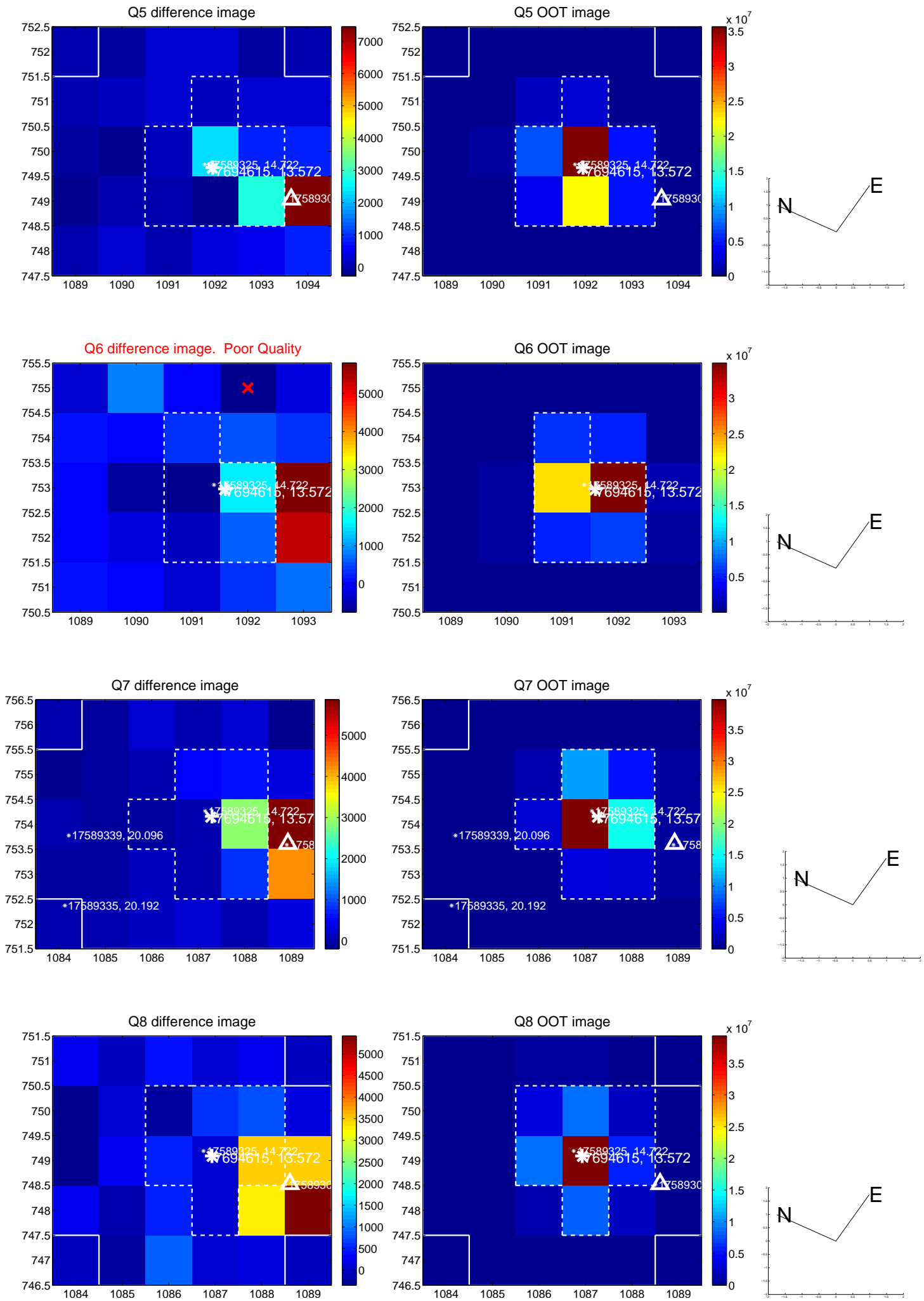


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

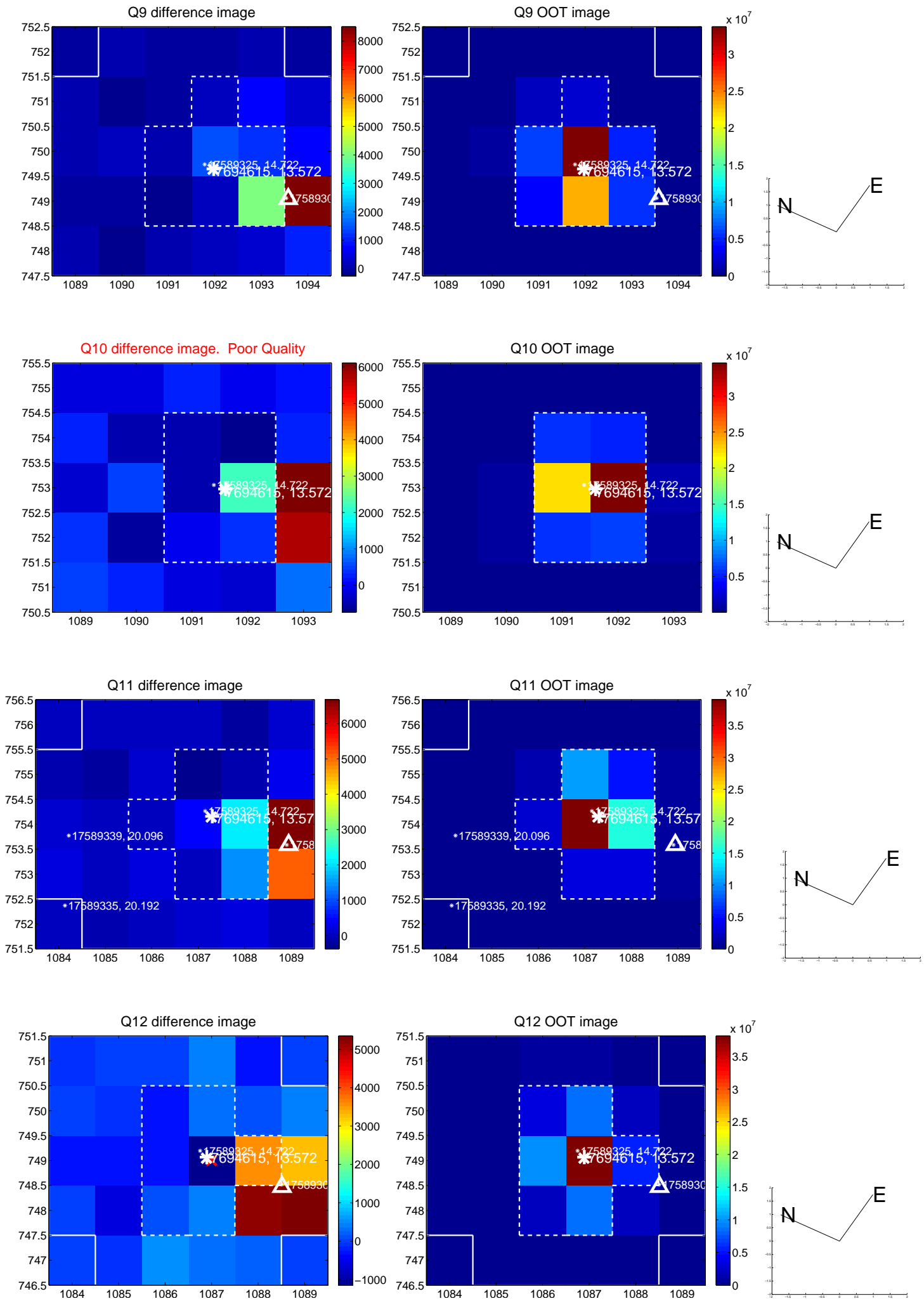


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

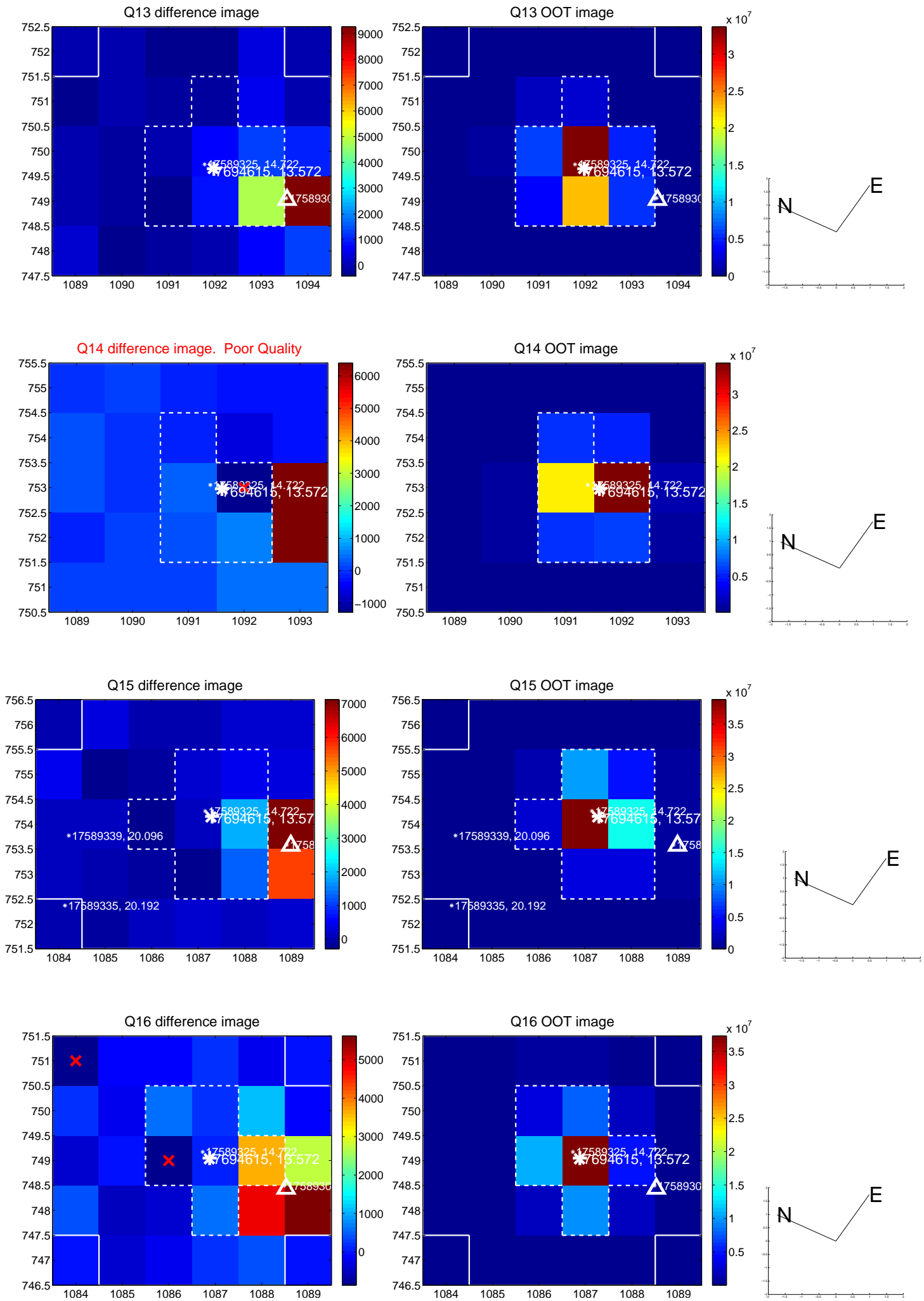




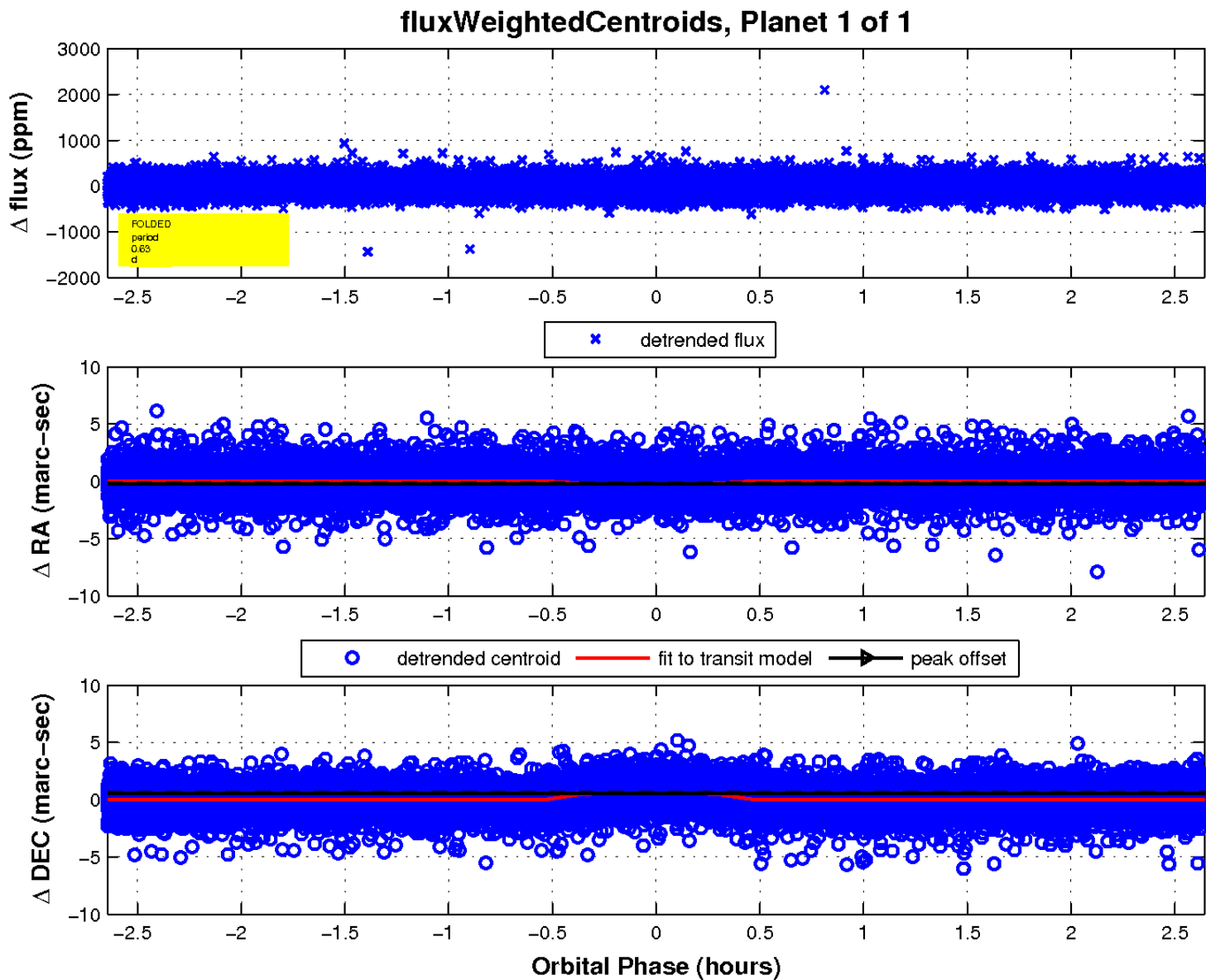
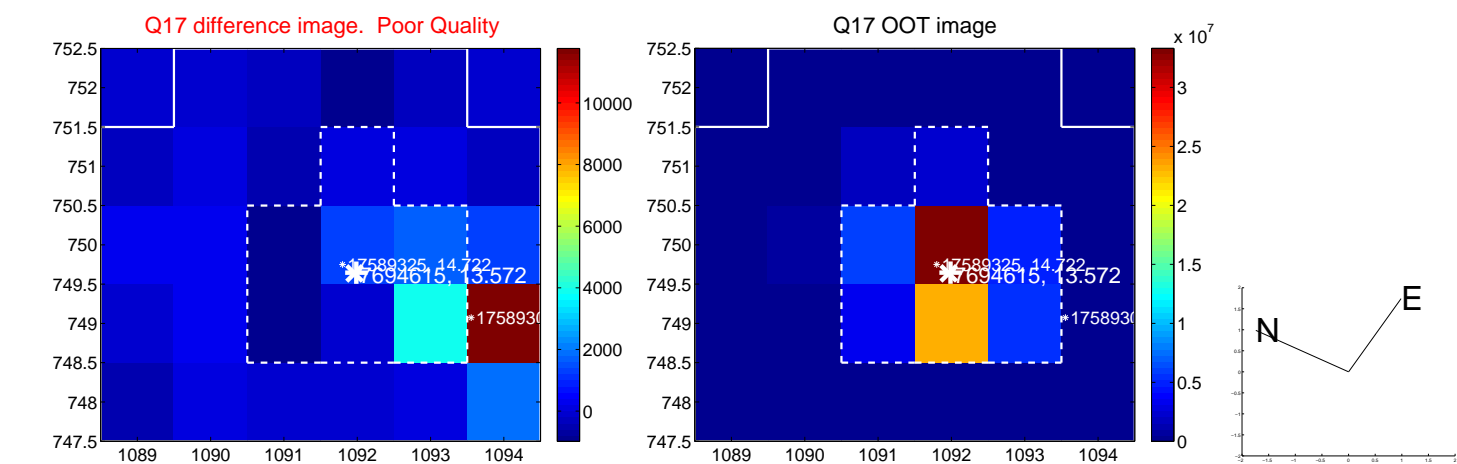
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

