

# KIC 009655114

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009655114-01	OBS	No	3.590305	134.820973	87.1	10.240	8.3	9.7	2.38	7385	2.50	4921.33

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009655114-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

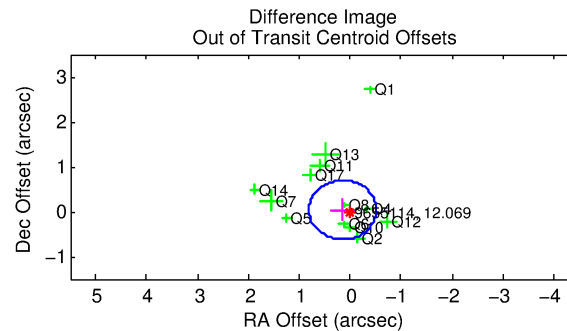
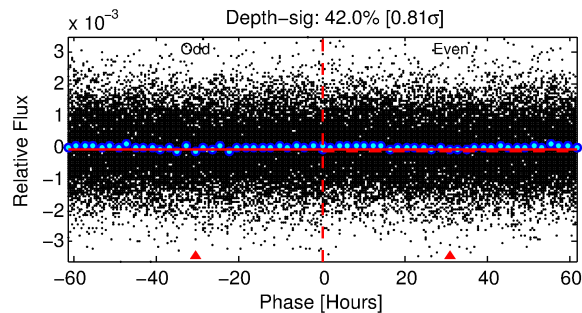
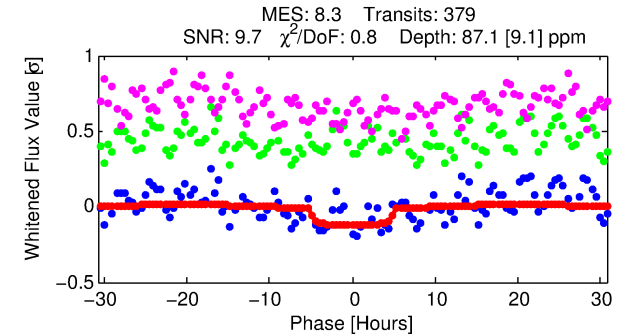
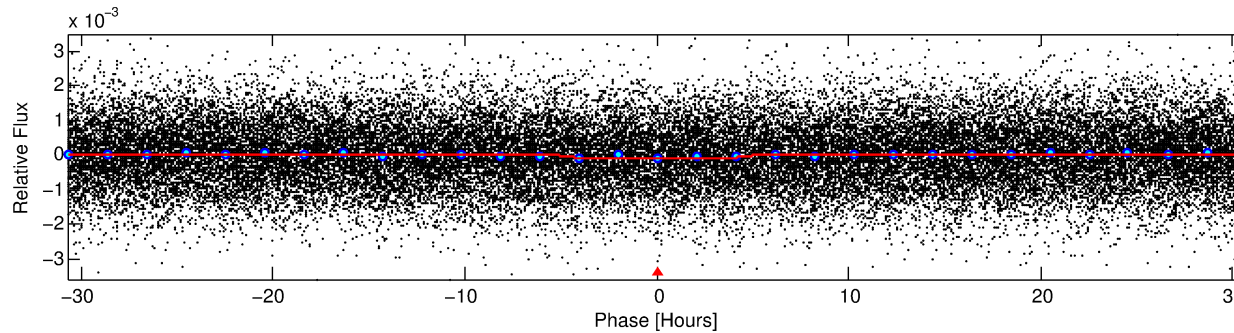
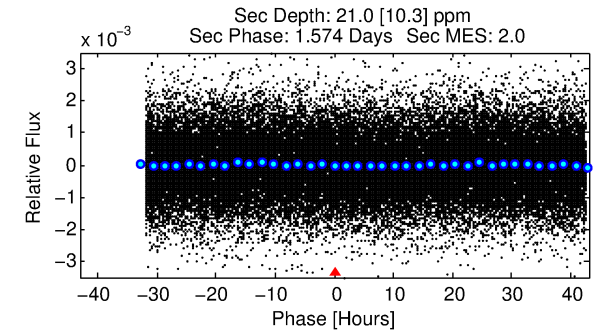
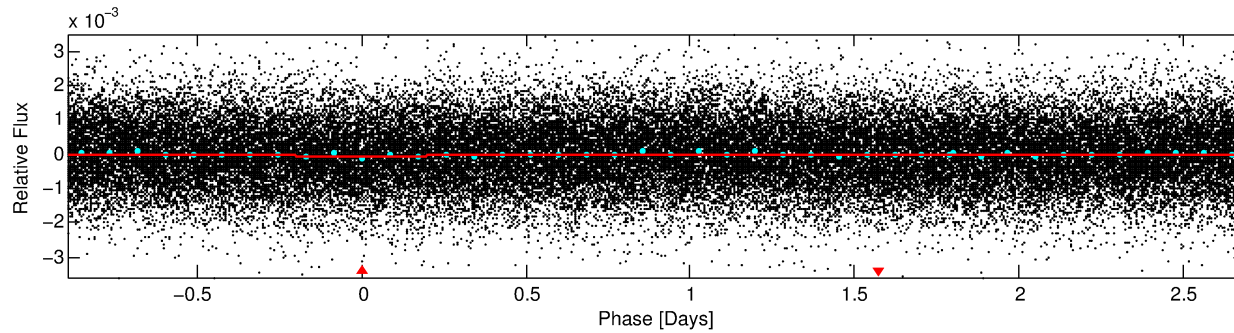
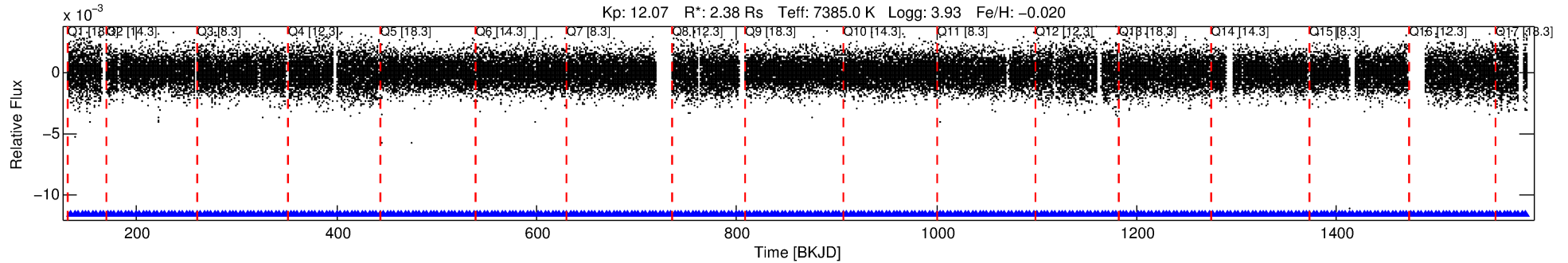
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 009655114-01

No Significant Match Found

# DV One-Page Summary

KIC: 9655114 Candidate: 1 of 1 Period: 3.590 d



## DV Fit Results:

Period = 3.59030 [0.00007] d  
Epoch = 134.8210 [0.0144] BKJD  
Rp/R\* = 0.0096 [0.0037]  
a/R\* = 1.72 [2.84]  
b = 0.85 [0.82]  
Seff = 4921.33 [1398.61]  
Teq = 2136 [152] K  
Rp = 2.50 [1.08] Re  
a = 0.0554 [0.0096] AU  
Ag = 5.69 [5.44] [0.86σ]  
Teffp = 5100 [1175] K [2.50σ]

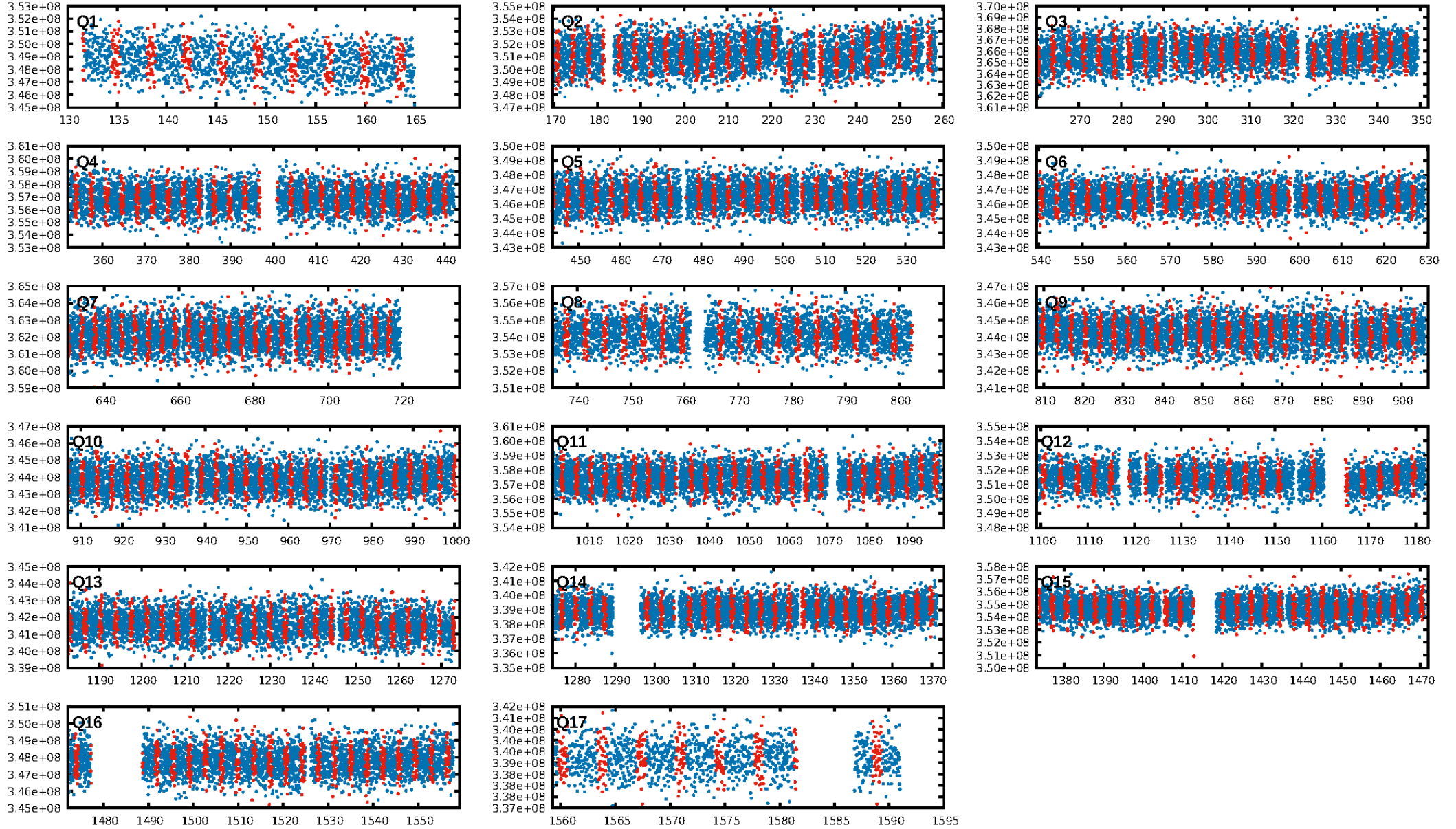
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.64e-20  
RollingBand-fgt: 1.00 [362/362]  
GhostDiagnostic-chr: -4.364  
Centroid-sig: 42.4%  
Centroid-so: 0.145 arcsec [1.04σ]  
OotOffset-rm: 0.154 arcsec [0.70σ]  
KicOffset-rm: 0.106 arcsec [0.46σ]  
OotOffset-st: 4/2/3/4 [13]  
KicOffset-st: 4/2/3/4 [13]  
DiffImageQuality-fgm: 0.92 [12/13]  
DiffImageOverlap-fno: 1.00 [17/17]

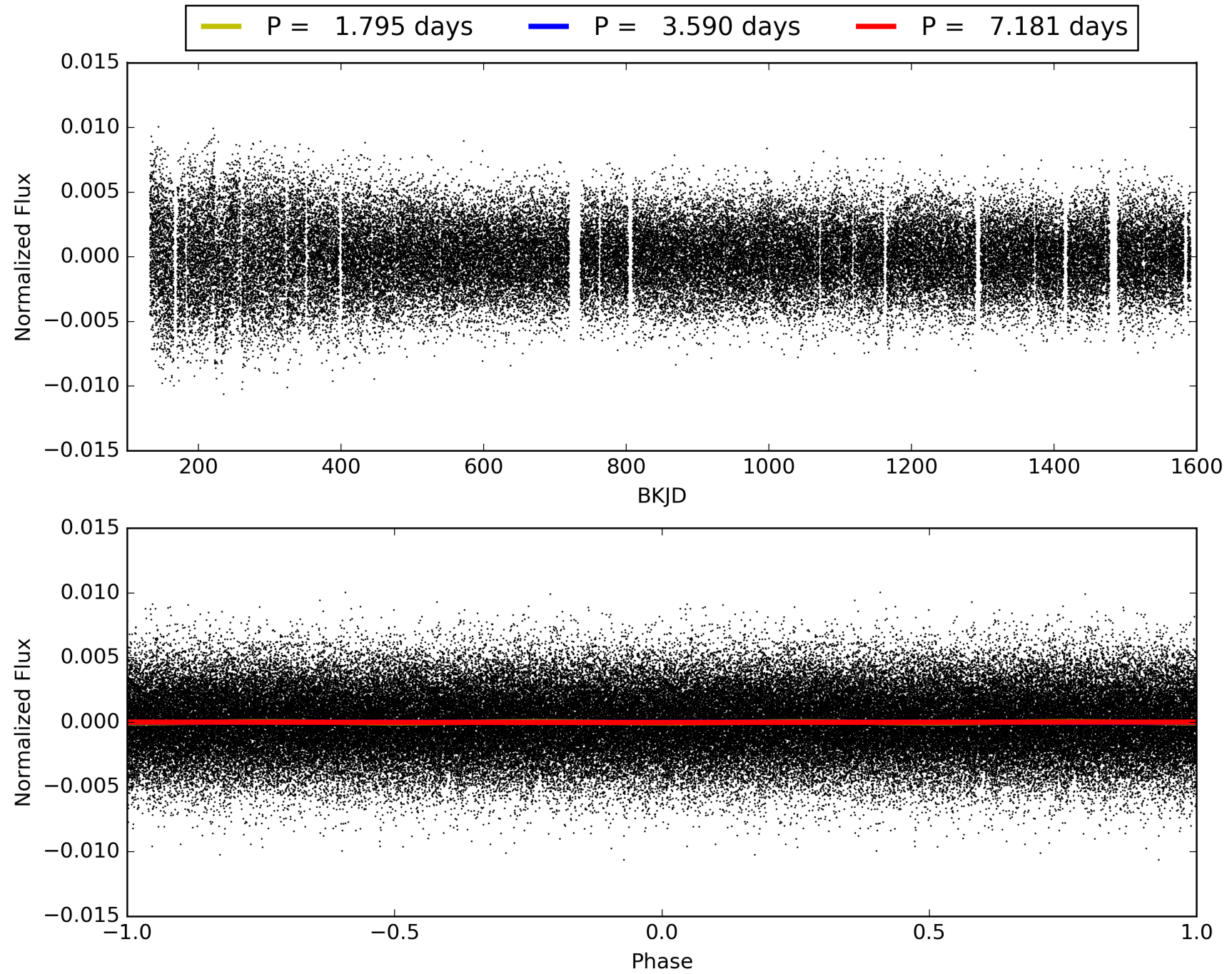
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:45:48 Z

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

# TCE 009655114-01, PDC Light Curves



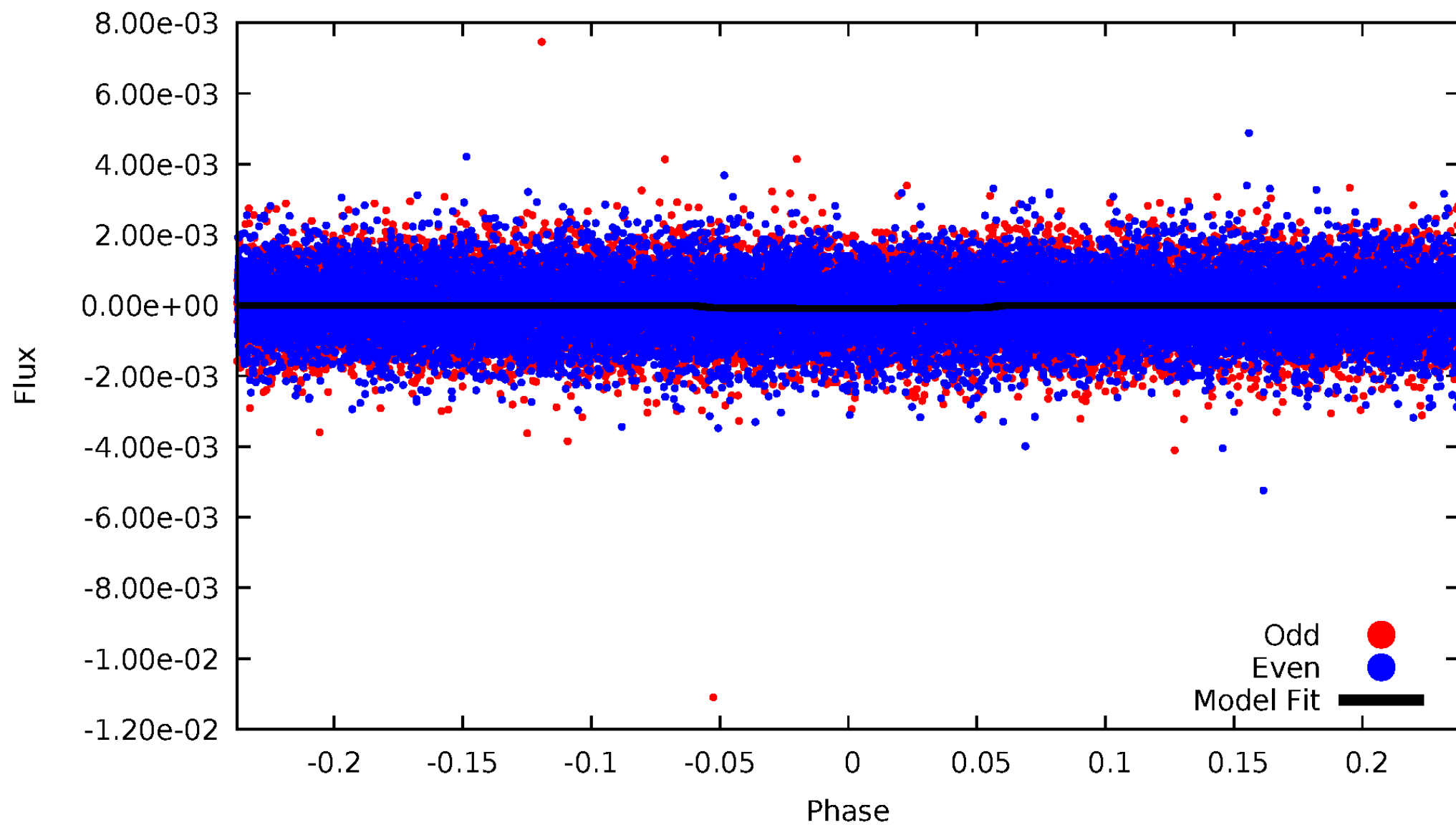
TCE 009655114-01





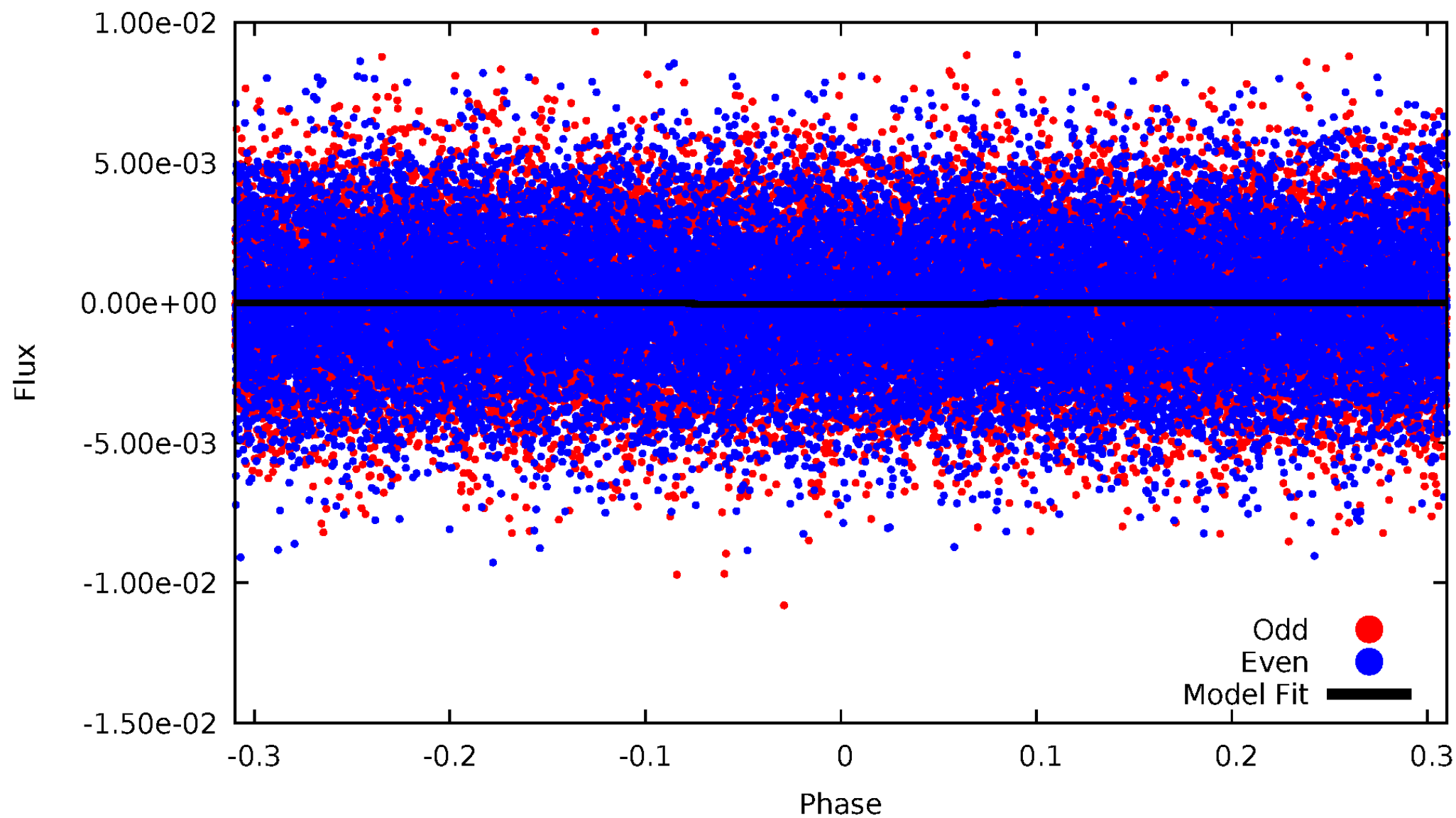
# DV Odd/Even

TCE 009655114-01

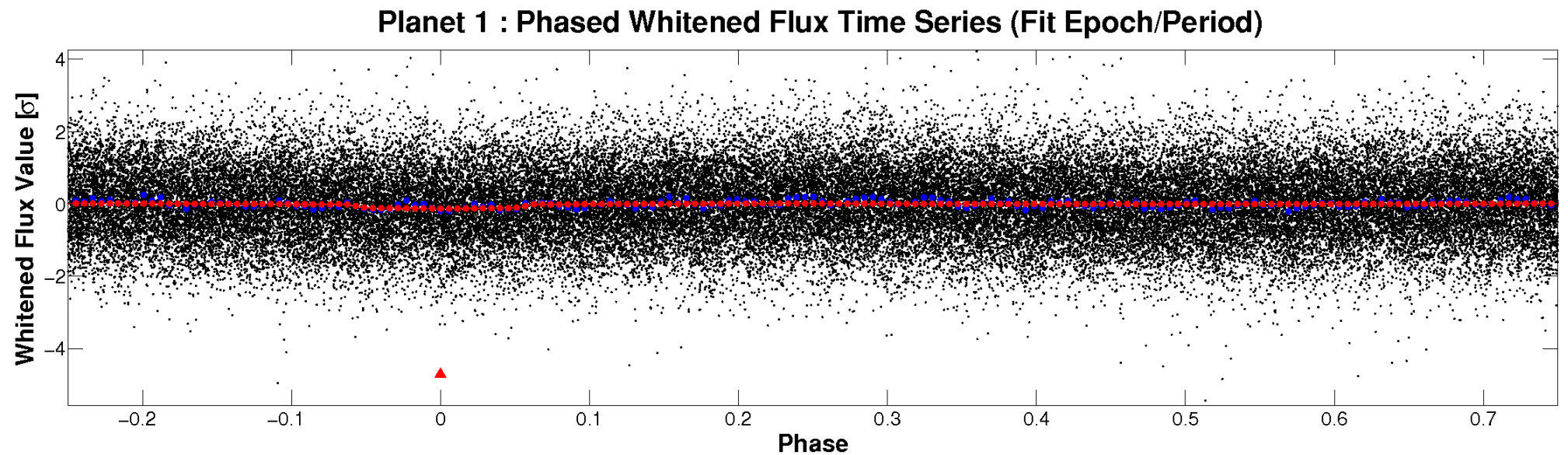
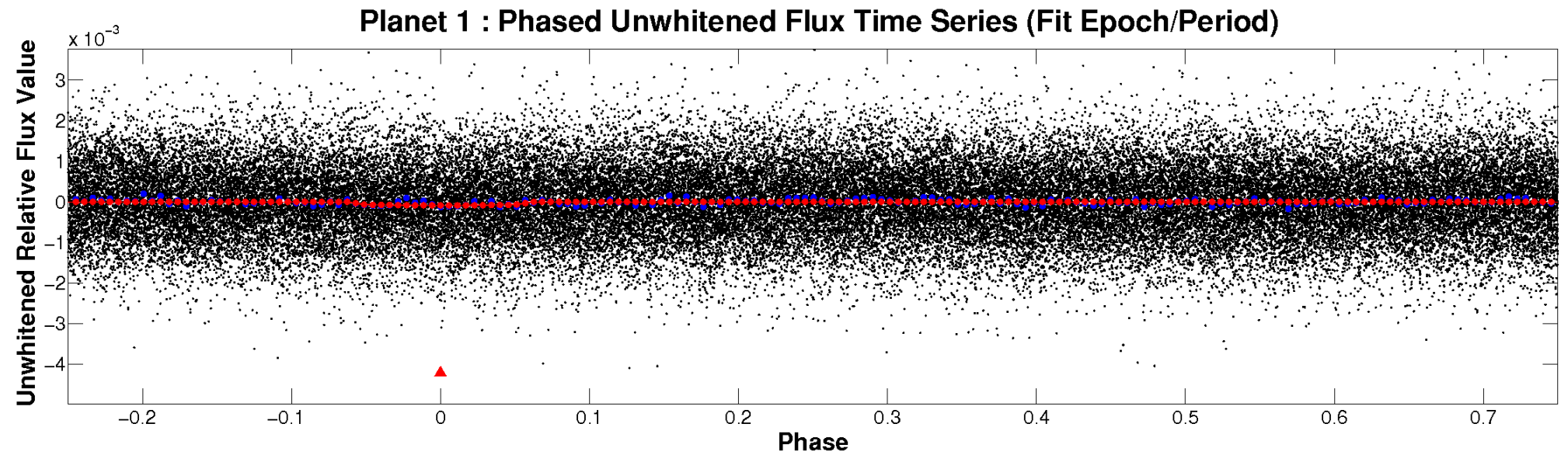


# ALT Odd/Even

TCE 009655114-01

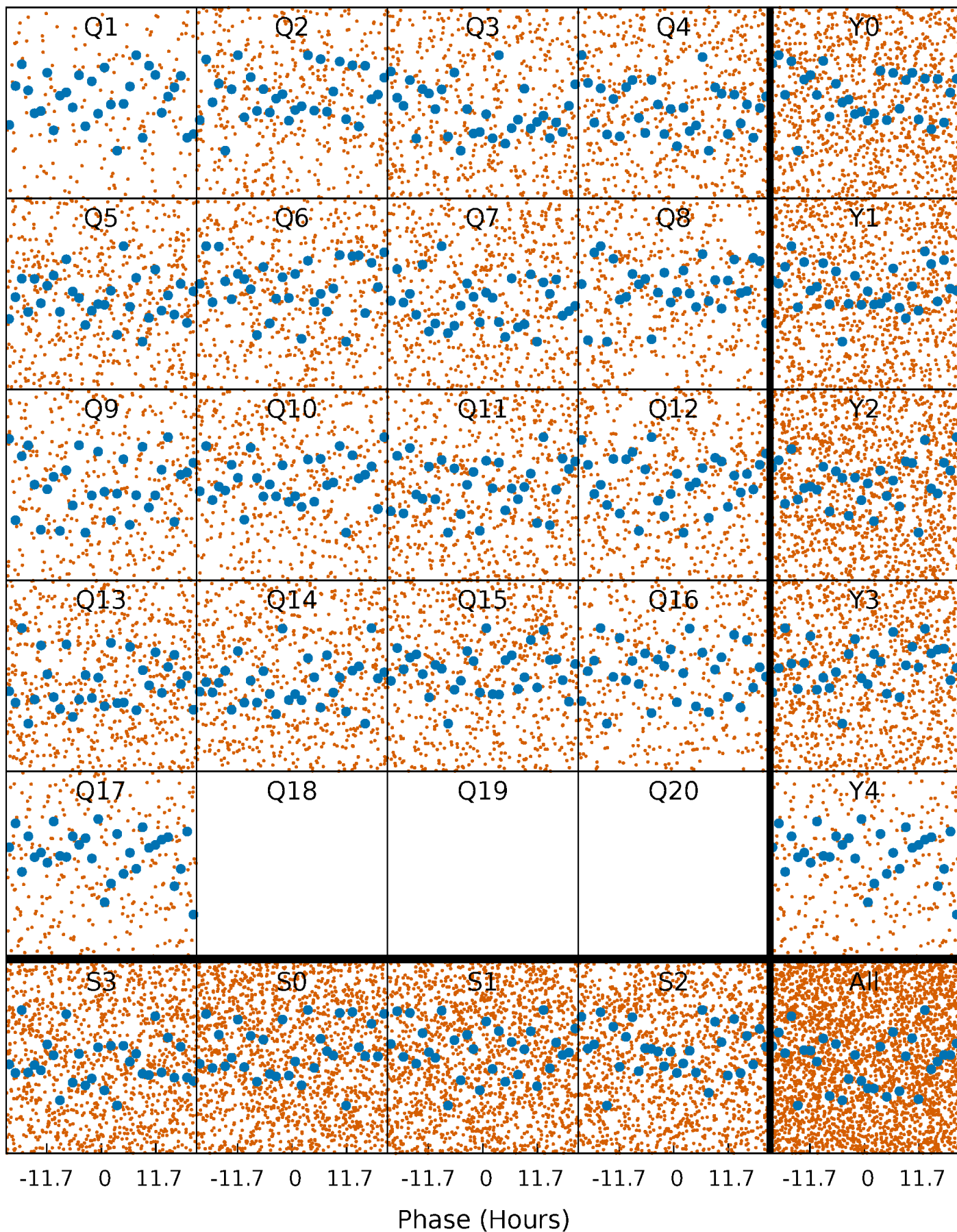


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

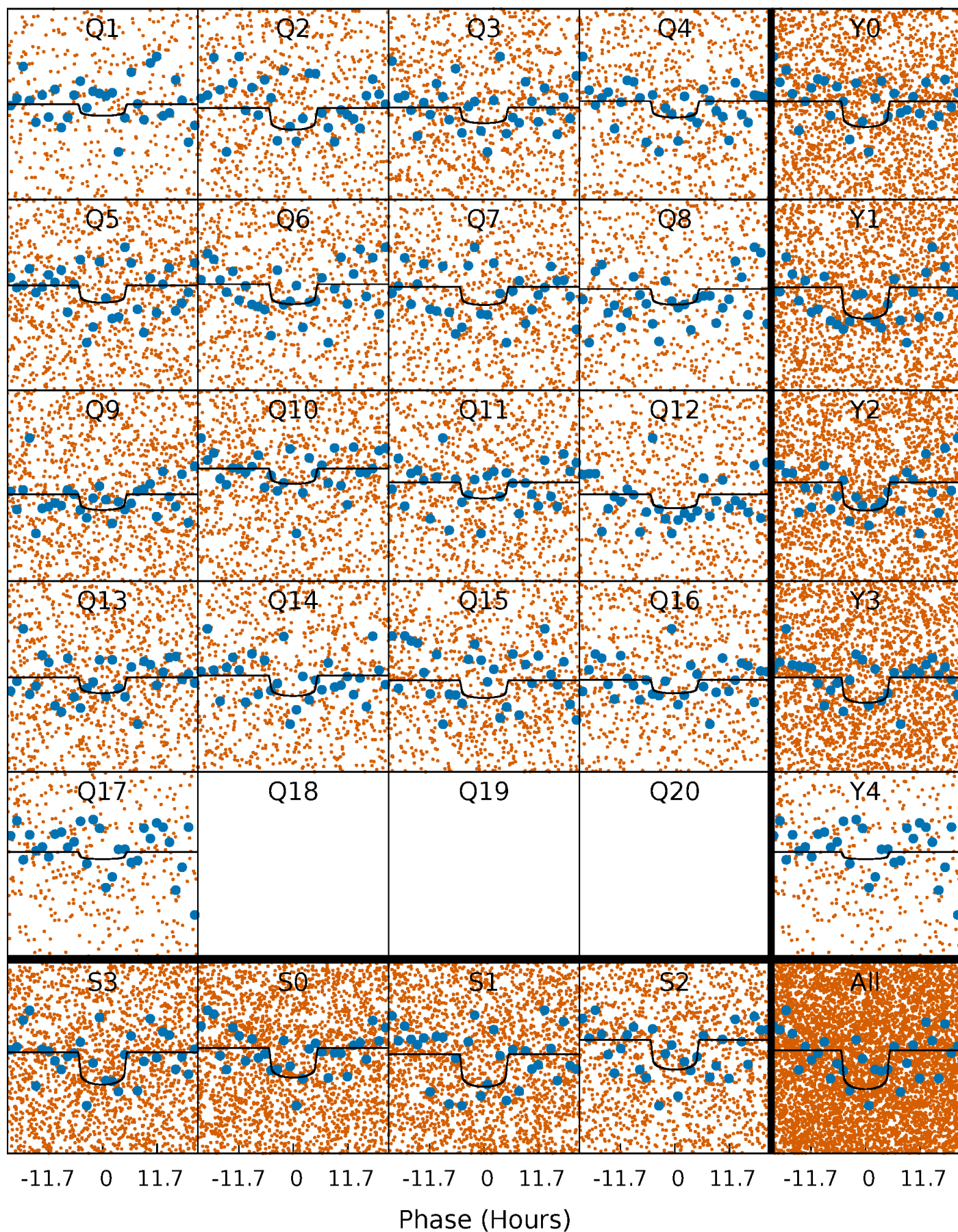
TCE 009655114-01 P= 3.590305 Days  $T_0=134.820973$  (BKJD)





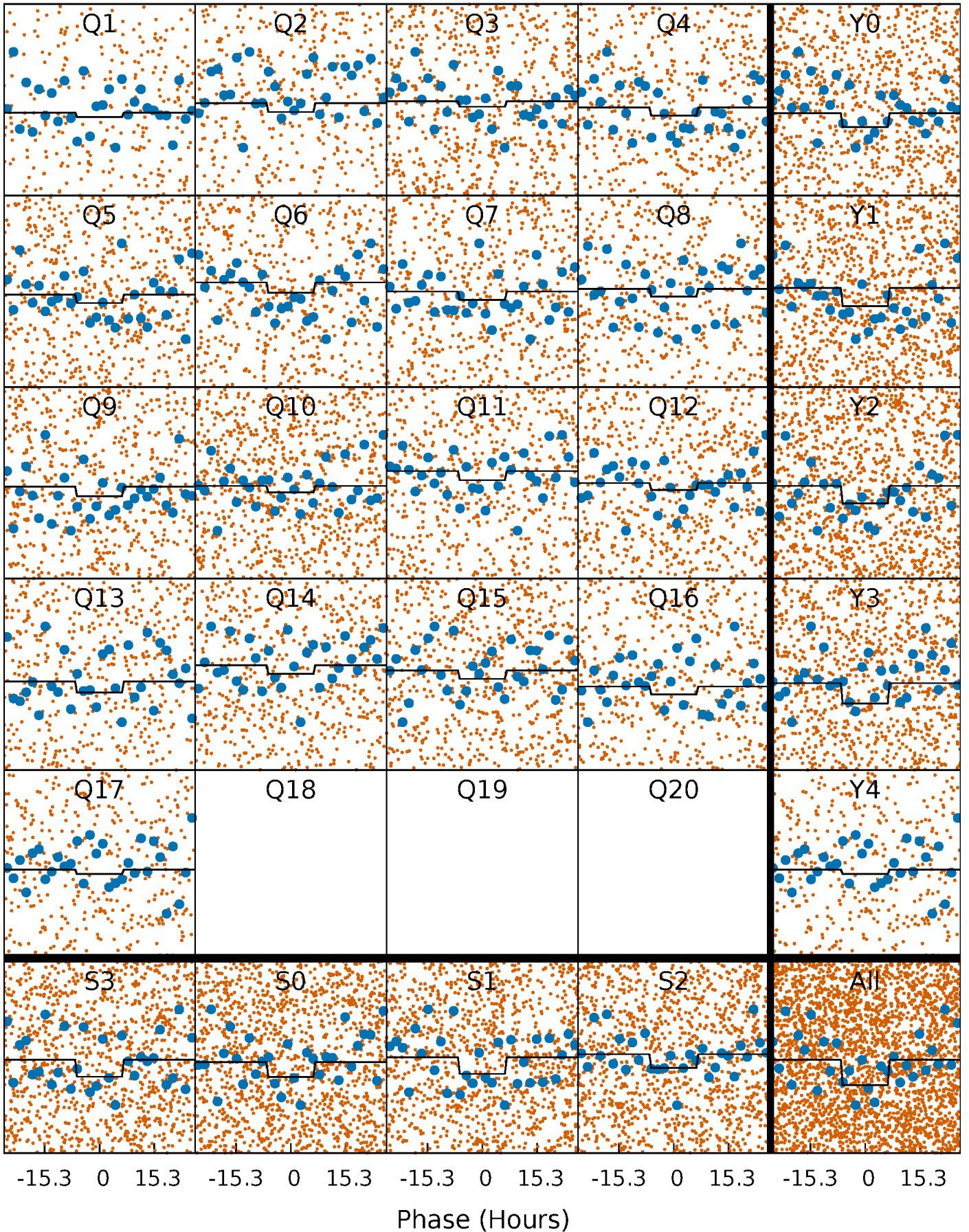
# DV Quarter-Phased Transit Curves

TCE 009655114-01 P= 3.590305 Days  $T_0=134.820973$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

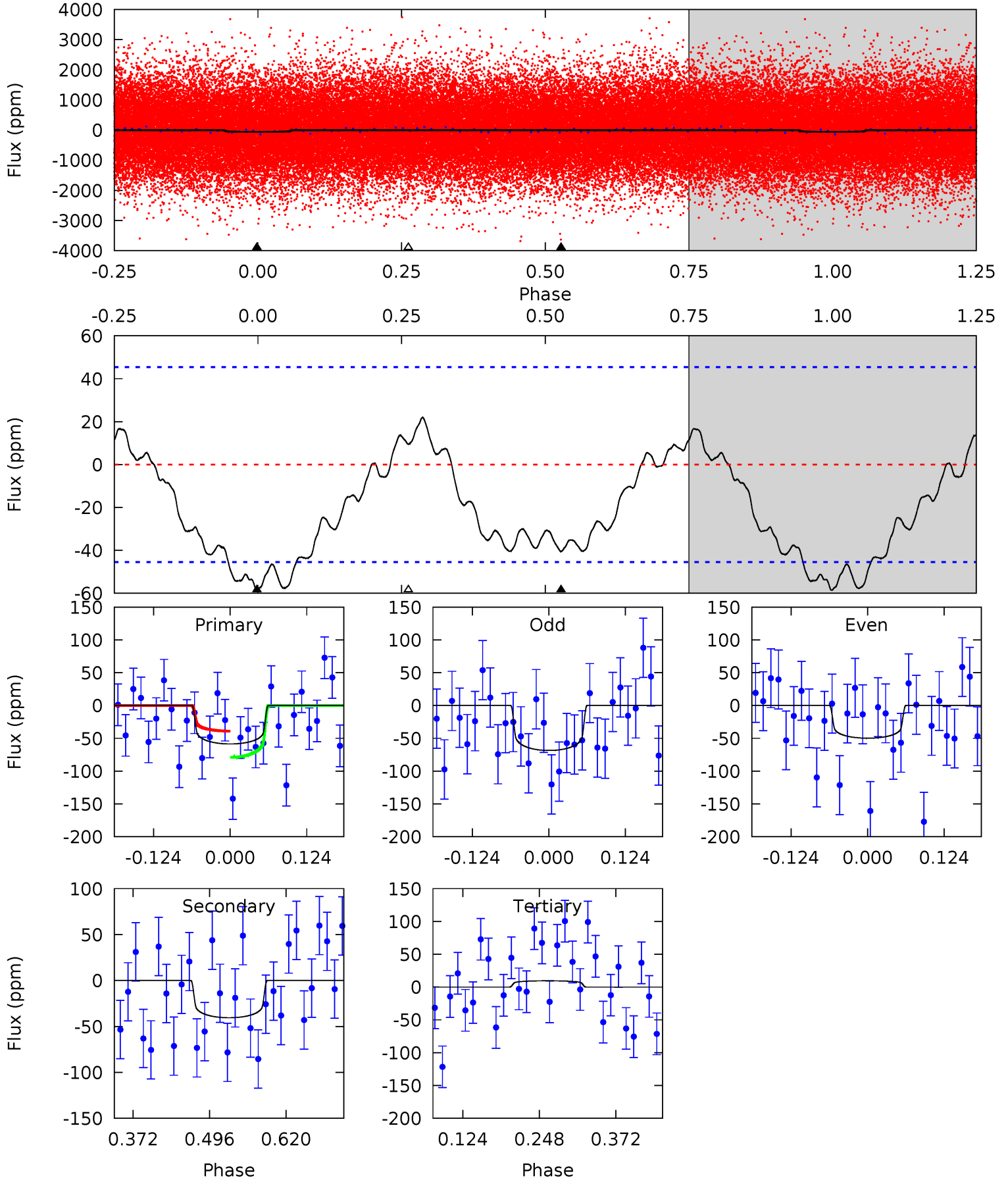
TCE 009655114-01 P= 3.590181 Days  $T_0=134.780781$  (BKJD)



# DV Model-Shift Uniqueness Test

009655114-01, P = 3.590305 Days, E = 131.230668 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
5.83	4.03	-0.94	0	4.52	1.54	1.40	6.78	5.83	4.98	4.03	0.93	1.46	0.27	2.00

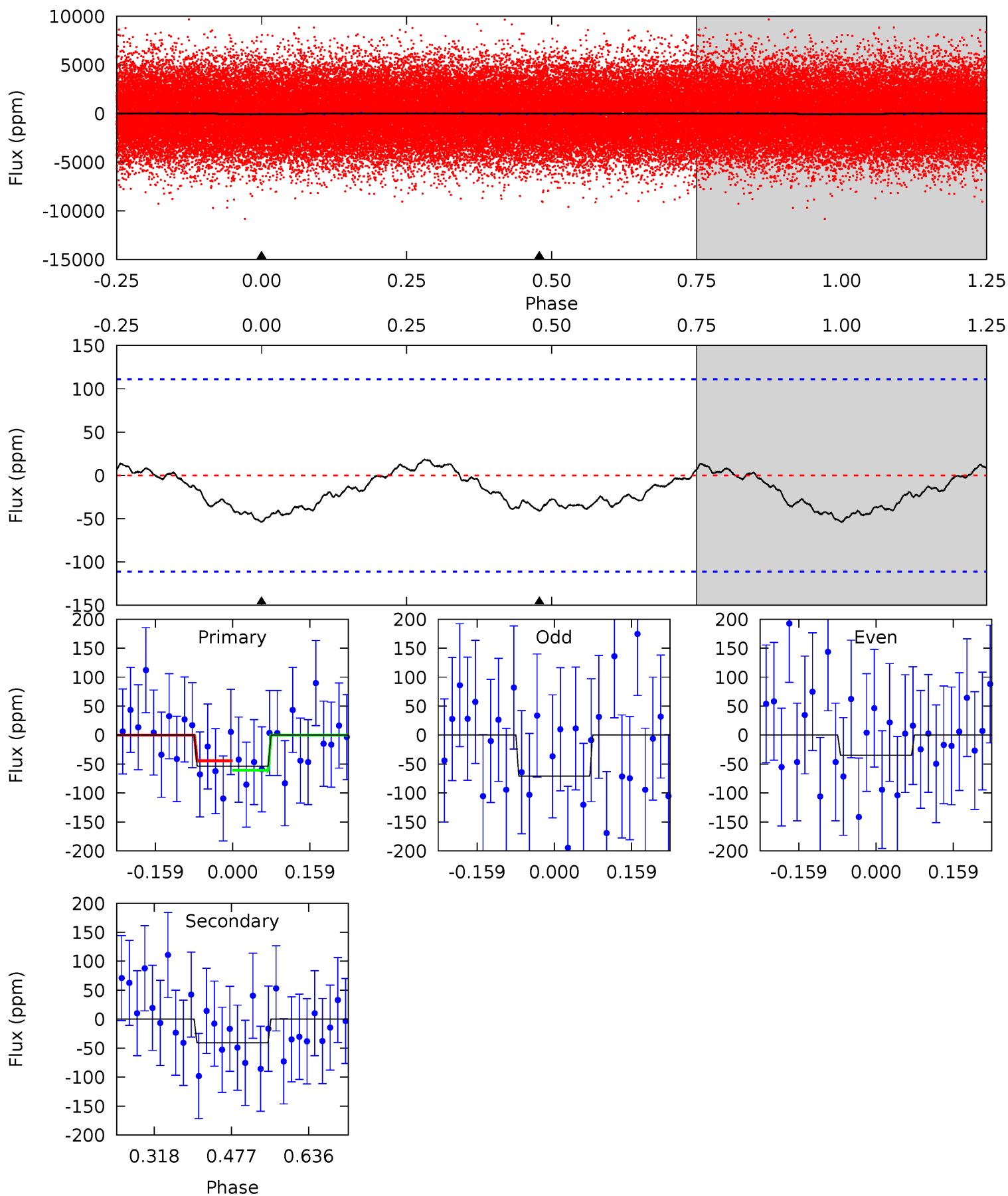




# Alt Model-Shift Uniqueness Test

009655114-01, P = 3.590181 Days, E = 131.190600 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
2.16	1.63	0	0	4.47	1.41	0.47	2.16	2.16	1.63	1.63	0.72	1.00	0.25	0.33





### Stellar Parameters For KIC 009655114

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7385^{+147}_{-162}$	$3.930^{+0.156}_{-0.117}$	$-0.020^{+0.150}_{-0.150}$	$2.382^{+0.448}_{-0.448}$	$1.761^{+0.193}_{-0.176}$	$0.183^{+0.147}_{-0.059}$
	+2%/-2%	+4%/-3%	+750%/-750%	+19%/-19%	+11%/-10%	+80%/-32%
Source	SPE4	SPE4	SPE4	DSEP		

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

### Secondary Eclipse Parameters for KIC 009655114-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-41 \pm 10$	$2.50^{+1.03}_{-0.99}$	$2975^{+158}_{-161}$	$5868^{+1822}_{-921}$	$11^{+19}_{-6}$
Alt.	$-41 \pm 25$	$2.07^{+0.94}_{-0.96}$	$2969^{+157}_{-153}$	$6351^{+3297}_{-1658}$	$15^{+43}_{-11}$

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

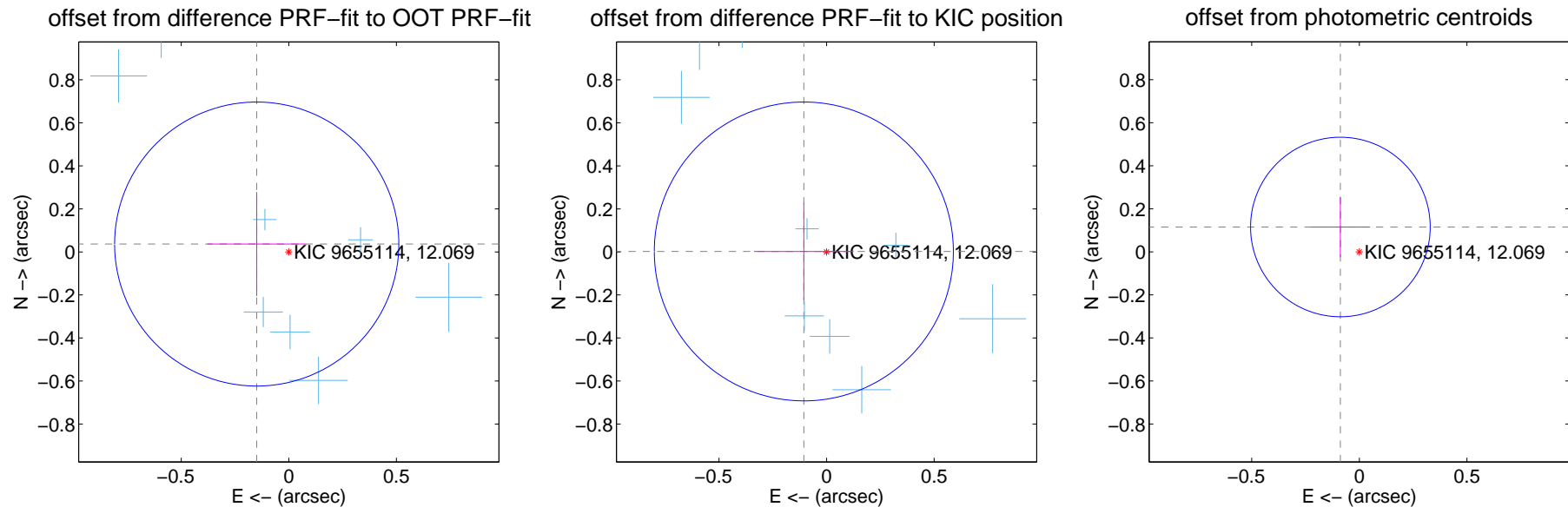
## DV Centroid Data

Supplemental centroid analysis for 009655114-01. Kepler magnitude: 12.07. Transit SNR 9.70

There are 12 quarters with good PRF difference image offsets

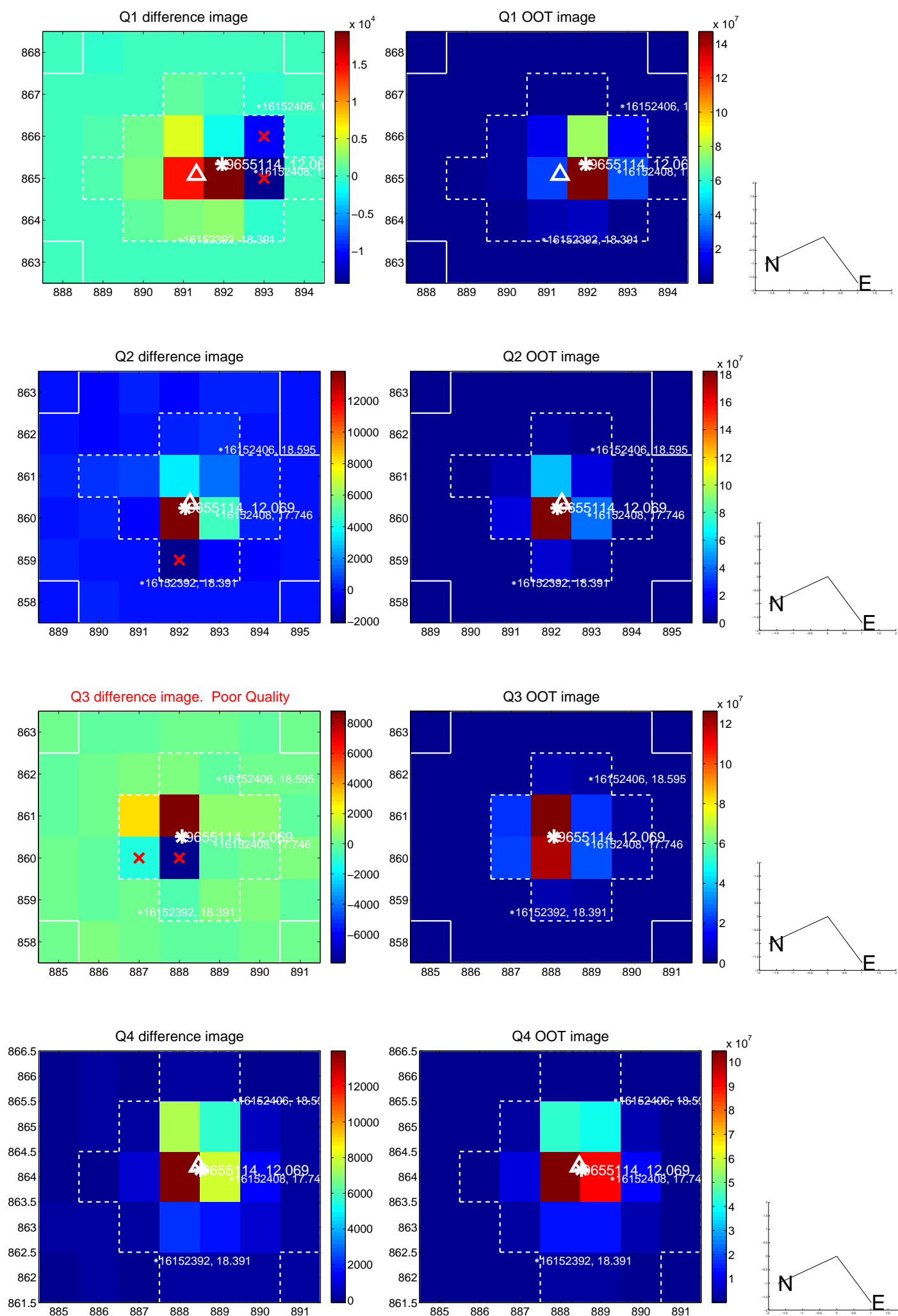
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.154 \pm 0.220$	0.70	$0.149 \pm 0.229$	$0.037 \pm 0.242$
PRF-fit source offset from KIC position	$0.106 \pm 0.232$	0.46	$0.106 \pm 0.231$	$0.002 \pm 0.226$
photometric centroid source offset	$0.15 \pm 0.14$	1.04	$0.09 \pm 0.14$	$0.12 \pm 0.14$

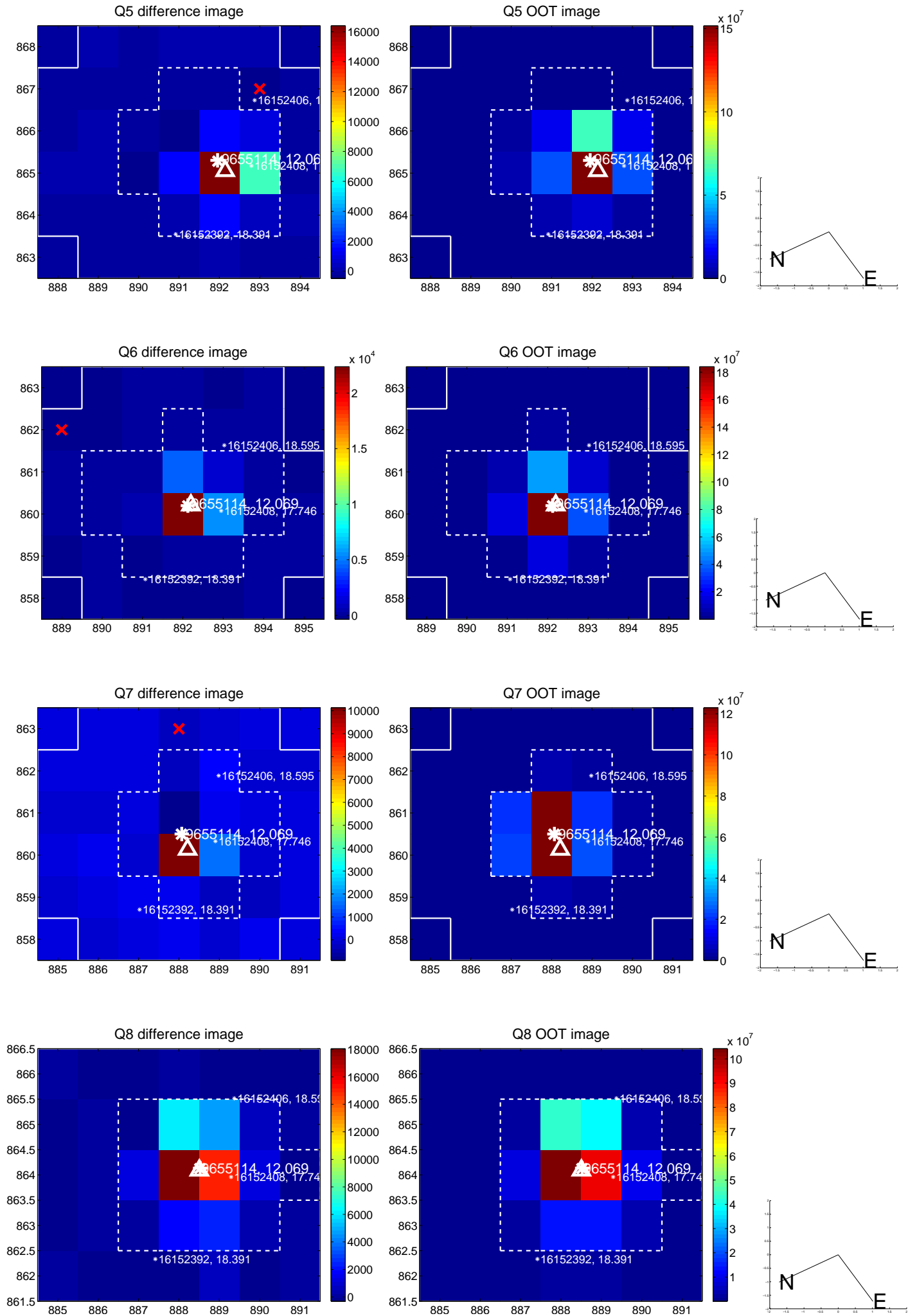


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

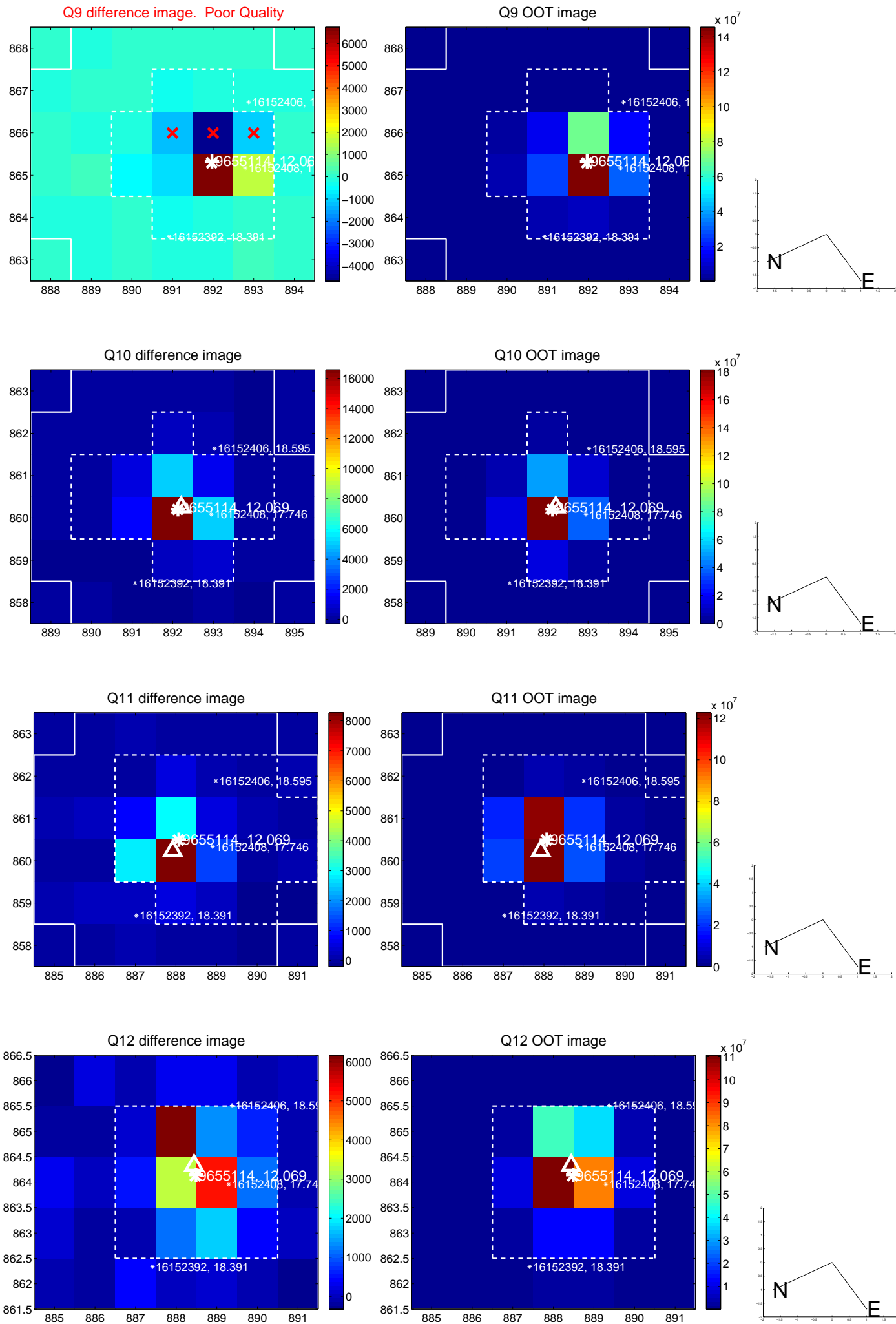


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

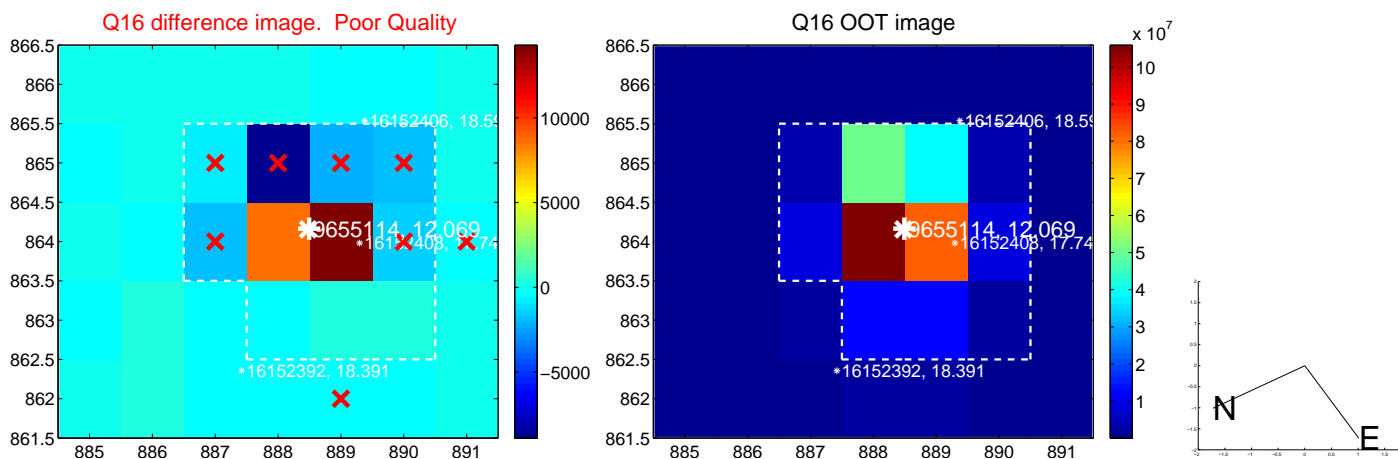
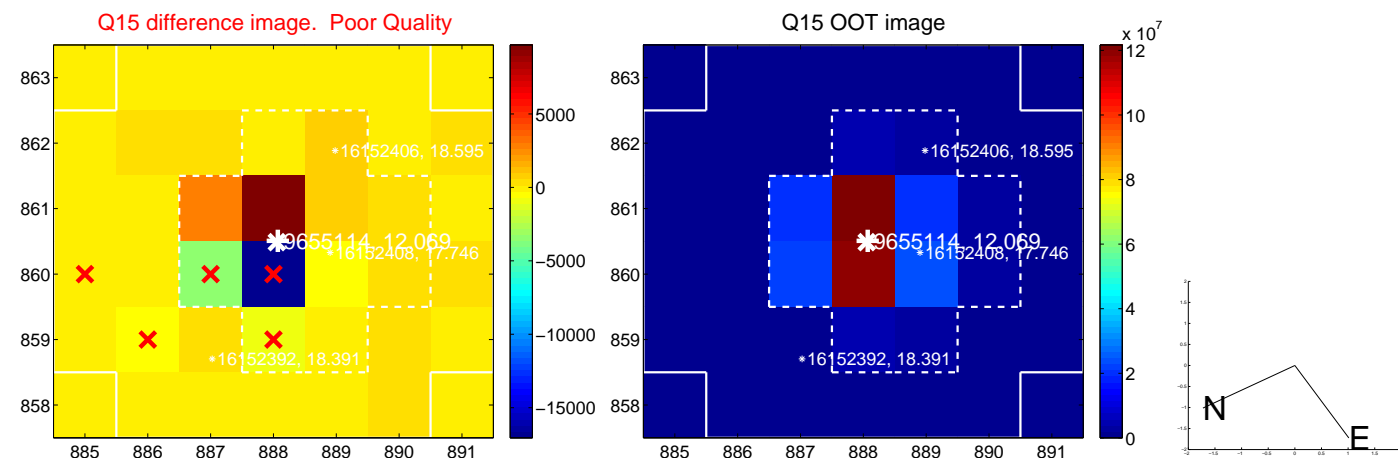
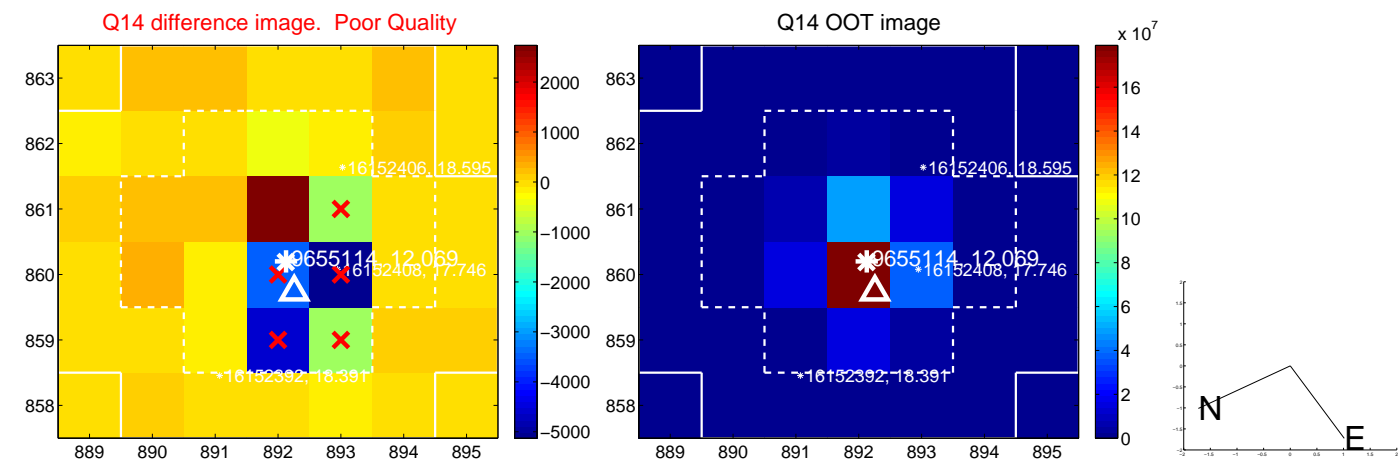
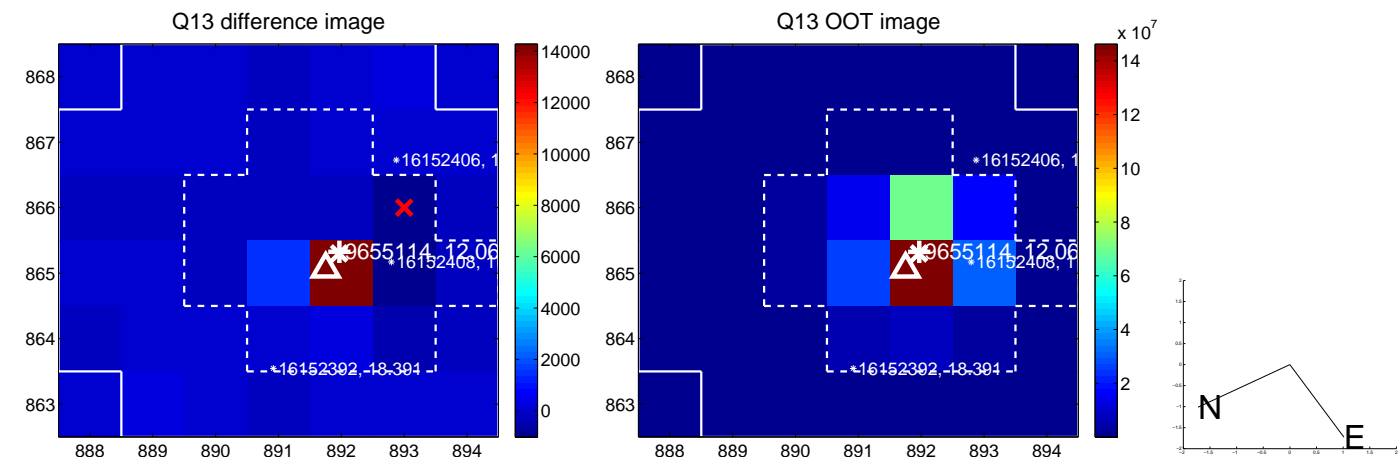




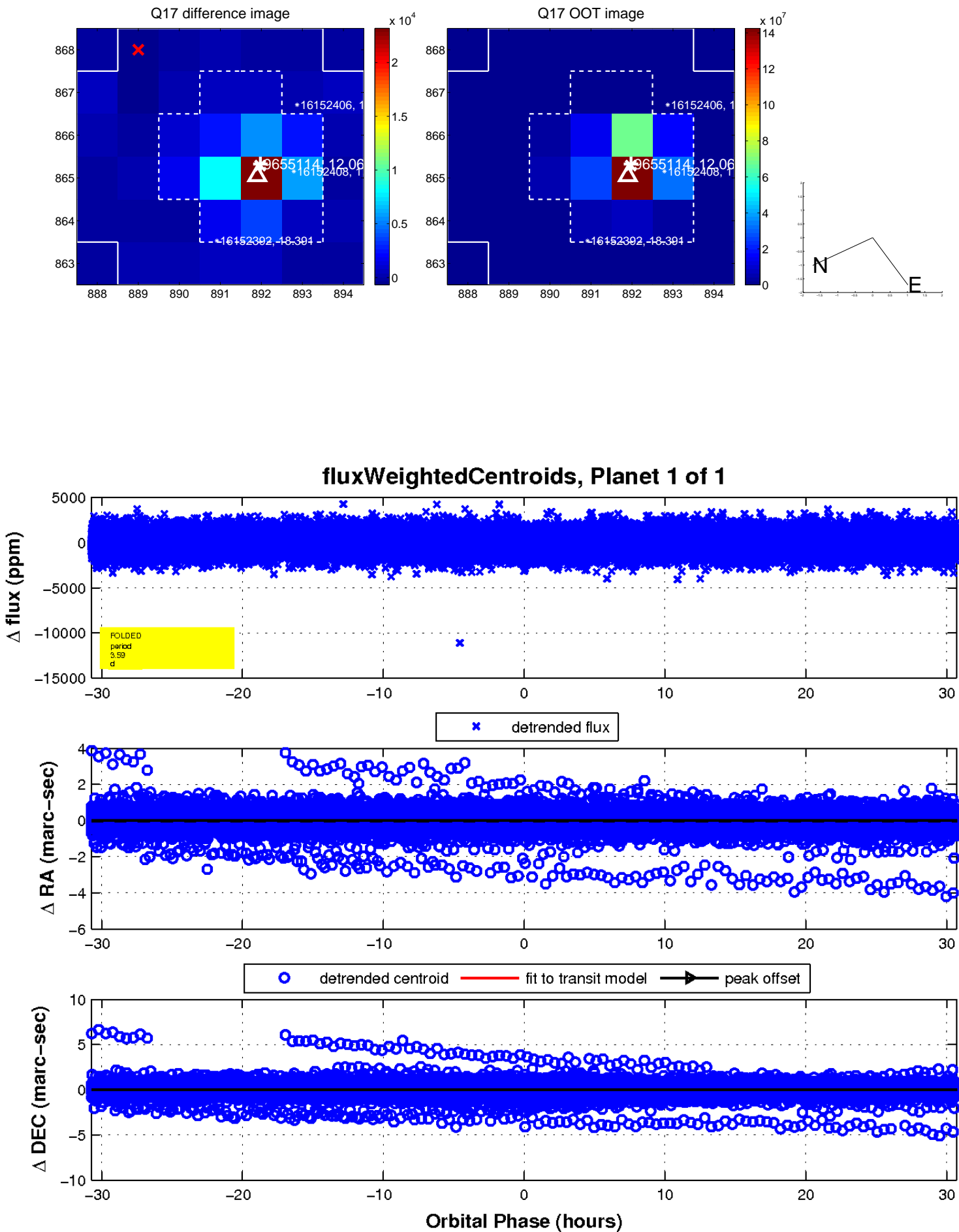
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

Declination

