

KIC 003440978

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})
003440978-01	OBS	2288.01	38.103891	161.086242	929.0	3.736	17.2	19.0	0.77	5250	3.67	10.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003440978-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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 for comment definitions.

Ephemeris Match Information For 003440978-01

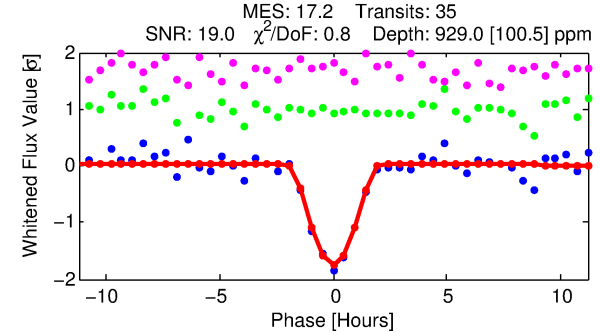
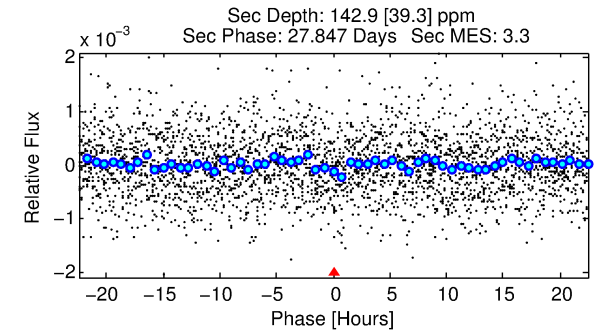
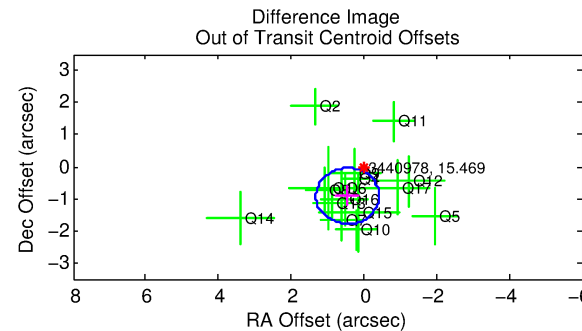
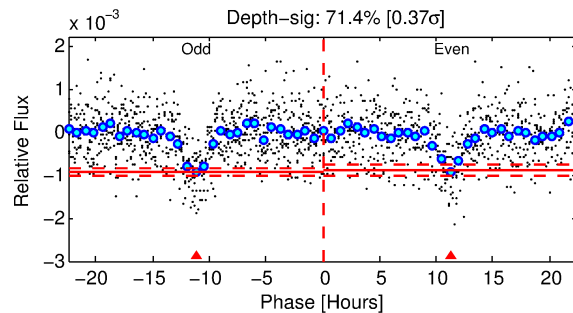
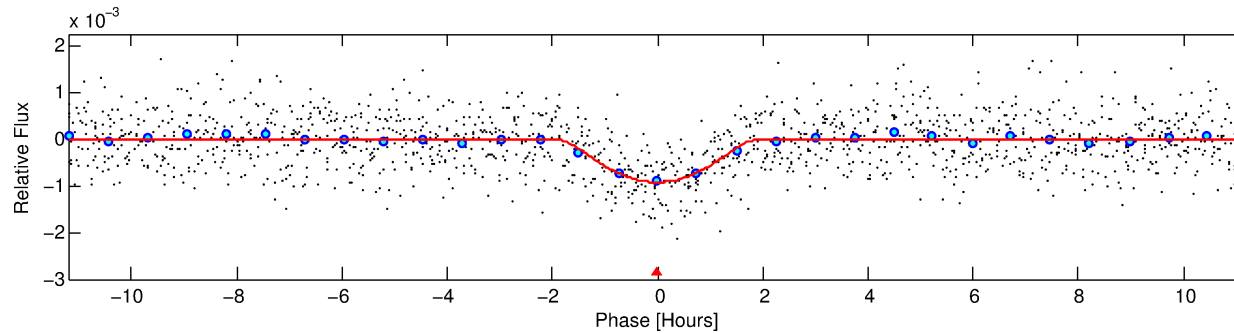
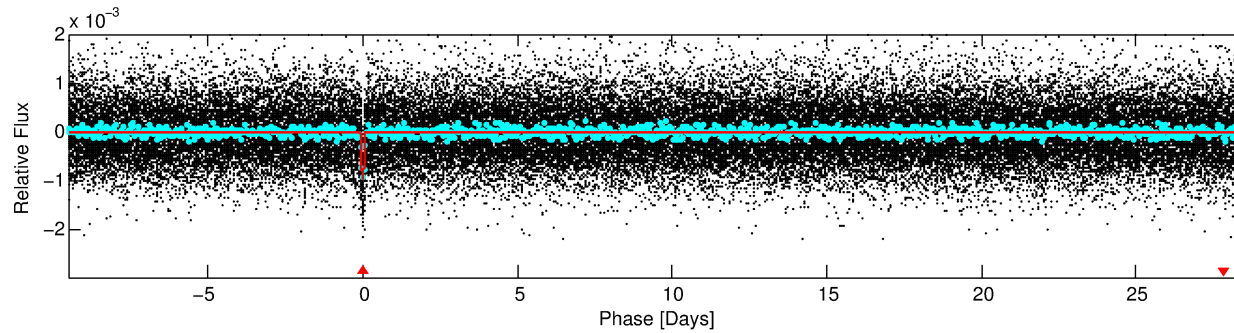
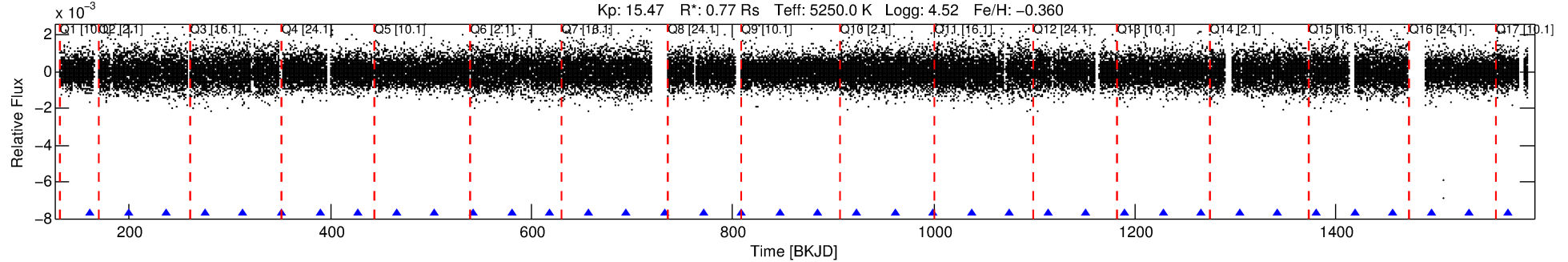
No Significant Match Found

DV One-Page Summary

KIC: 3440978 Candidate: 1 of 1 Period: 38.104 d

KOI: K02288.01 Corr: 0.965

Kp: 15.47 R*: 0.77 Rs Teff: 5250.0 K Logg: 4.52 Fe/H: -0.360



DV Fit Results:

Period = 38.10389 [0.00022] d
Epoch = 161.0862 [0.0052] BKJD
Rp/R* = 0.0437 [0.0375]
a/R* = 28.08 [9.56]
b = 0.98 [0.07]
Seff = 10.24 [2.04]
Teq = 456 [23] K
Rp = 3.68 [3.19] Re
a = 0.1988 [0.0213] AU
Ag = 229.98 [401.98] [0.57σ]
Teffp = 2746 [1198] K [1.91σ]

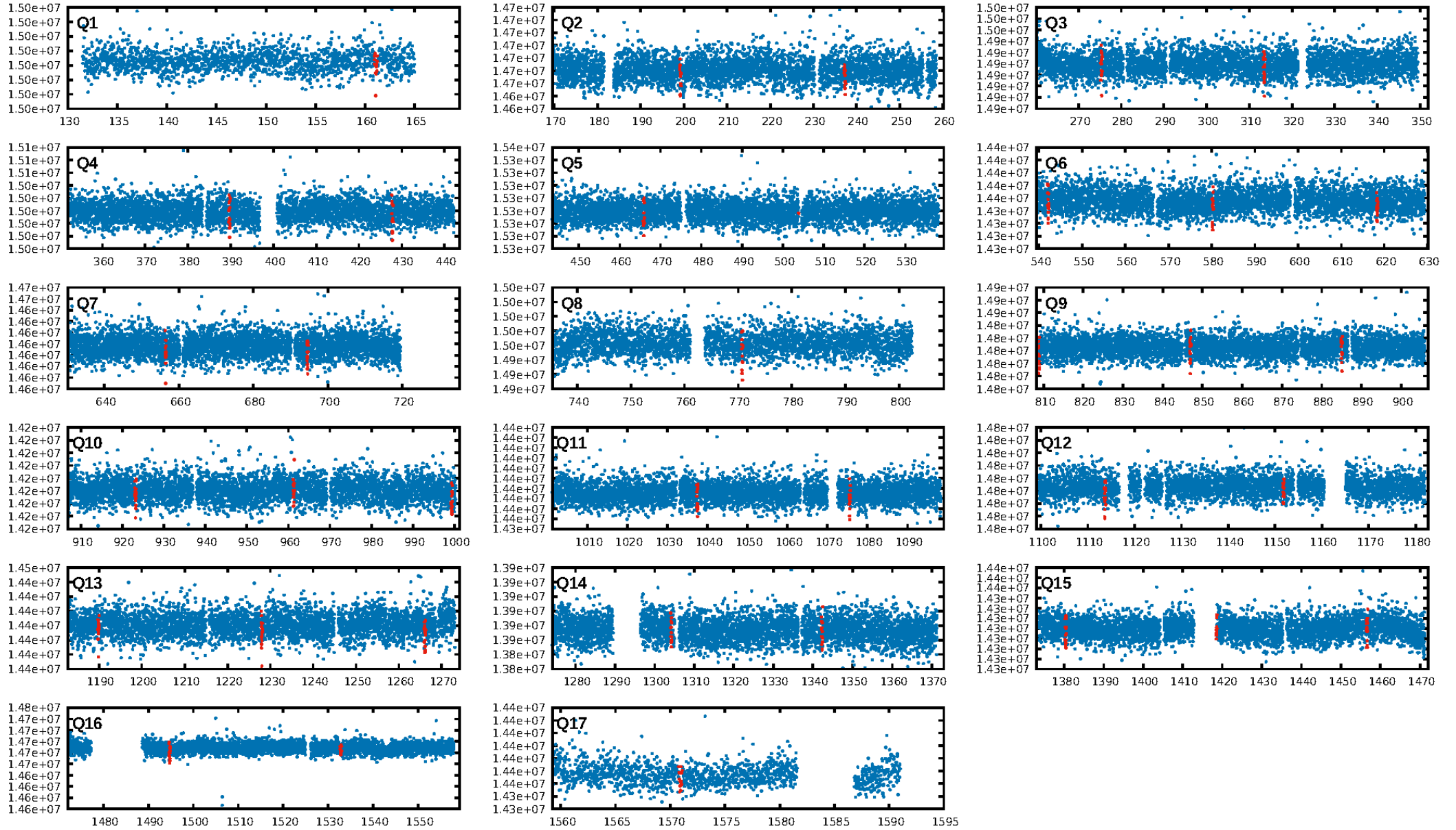
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 85.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.18e-67
RollingBand-fgt: 1.00 [33/33]
GhostDiagnostic-chr: 2.776
Centroid-sig: 34.2%
Centroid-so: 0.547 arcsec [0.88σ]
OotOffset-rm: 1.018 arcsec [3.51σ]
KicOffset-rm: 0.734 arcsec [2.83σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.81 [13/16]
DiffImageOverlap-fno: 1.00 [17/17]

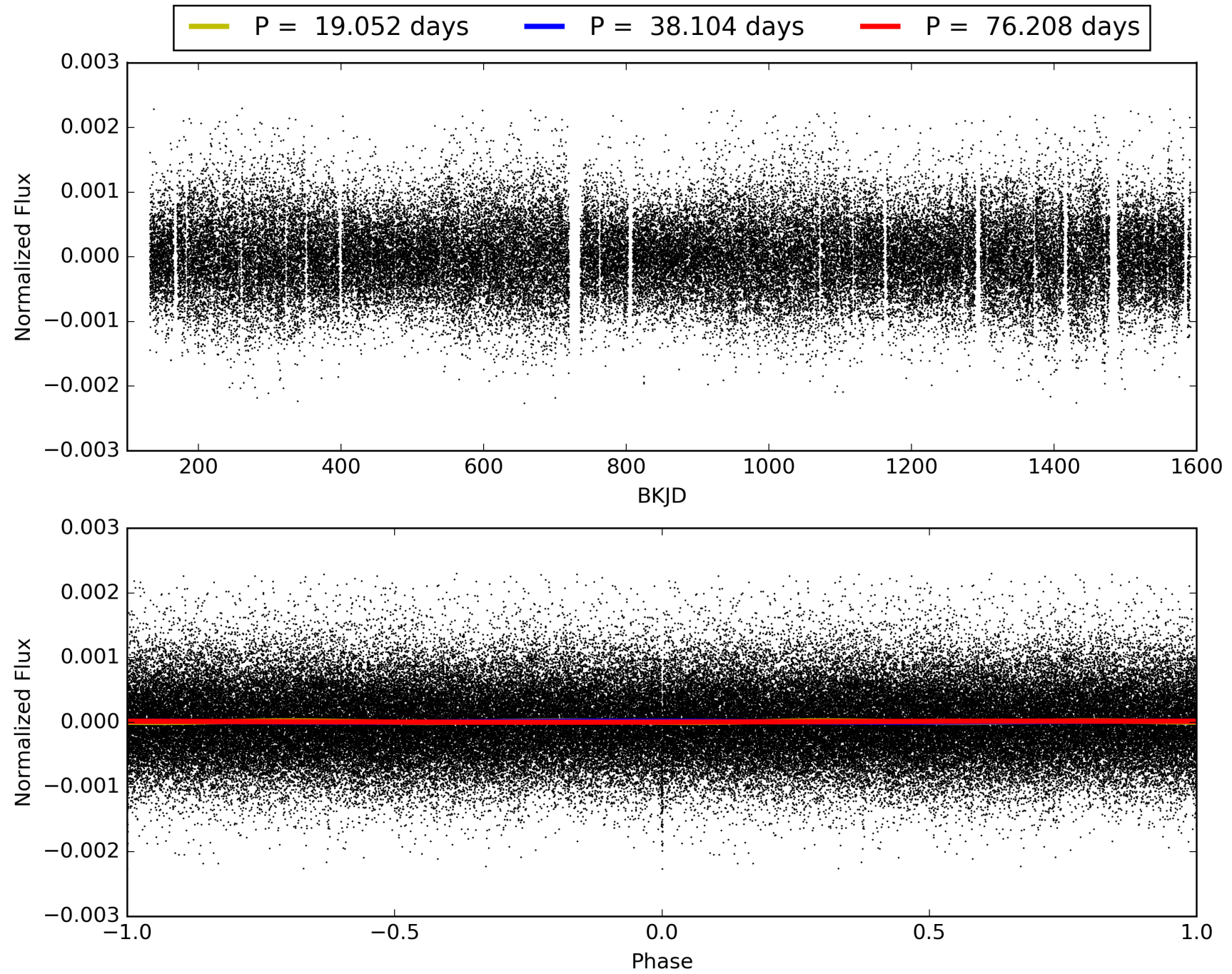
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:02:03 Z

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

TCE 003440978-01, PDC Light Curves

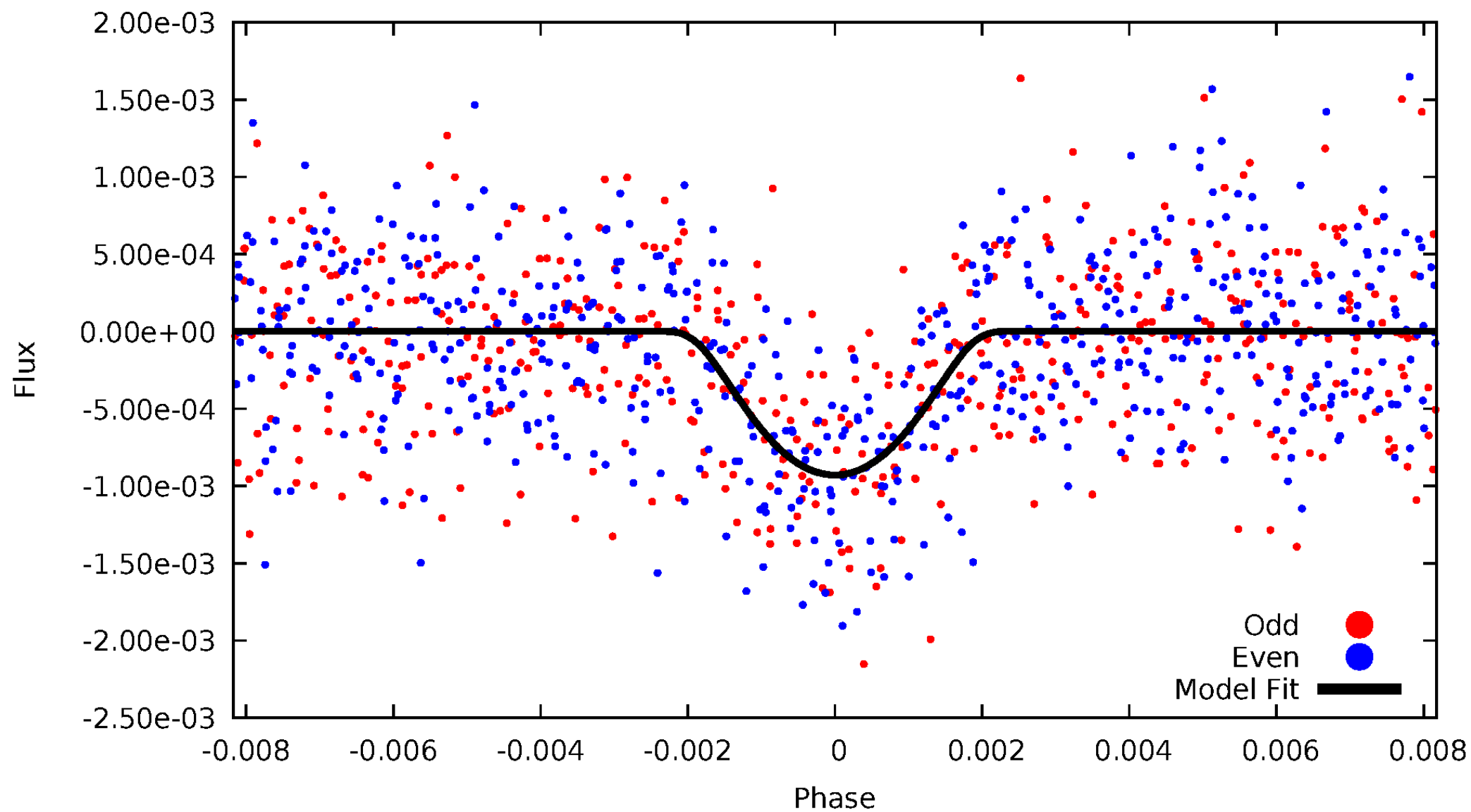


TCE 003440978-01



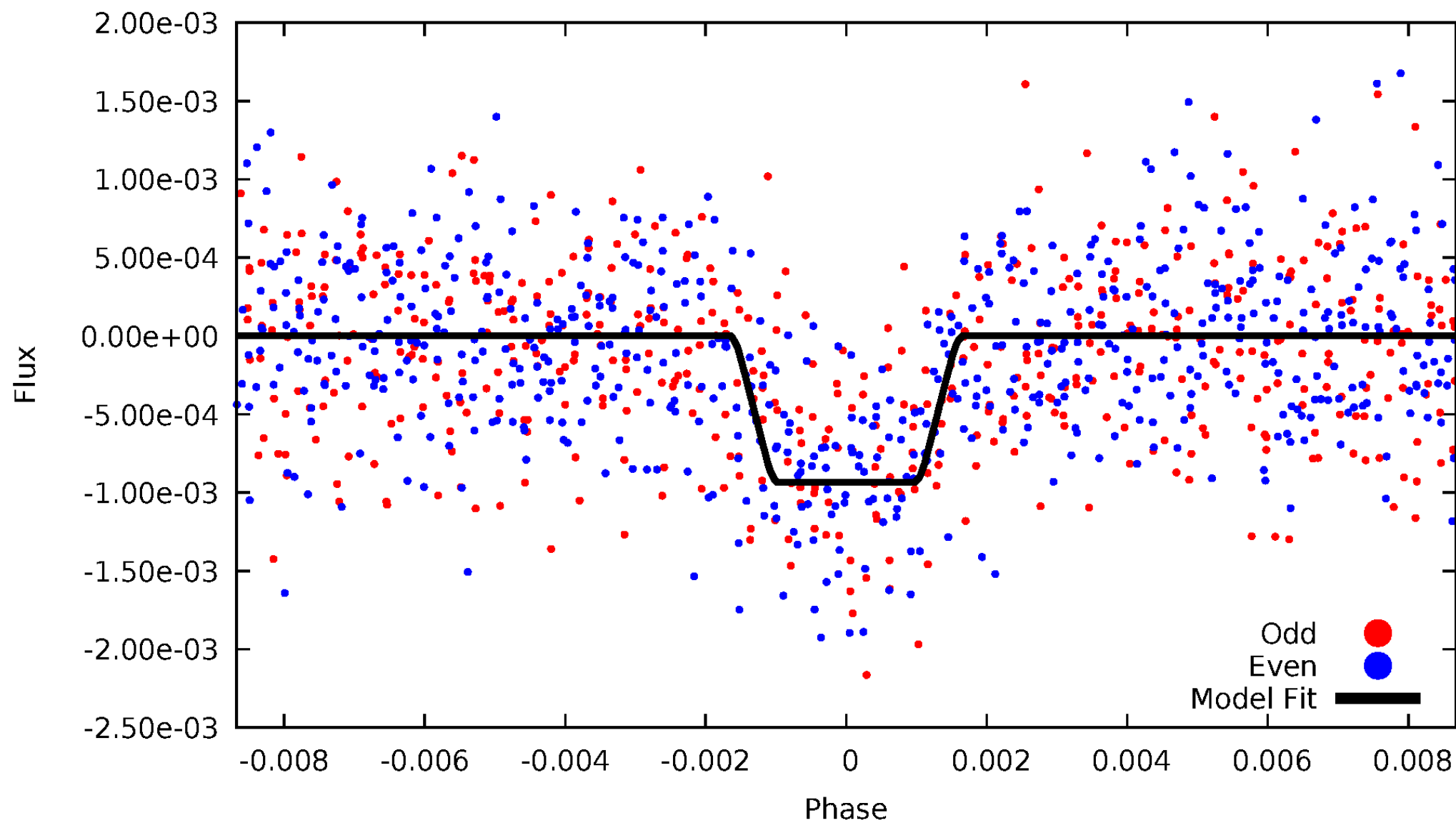
DV Odd/Even

TCE 003440978-01



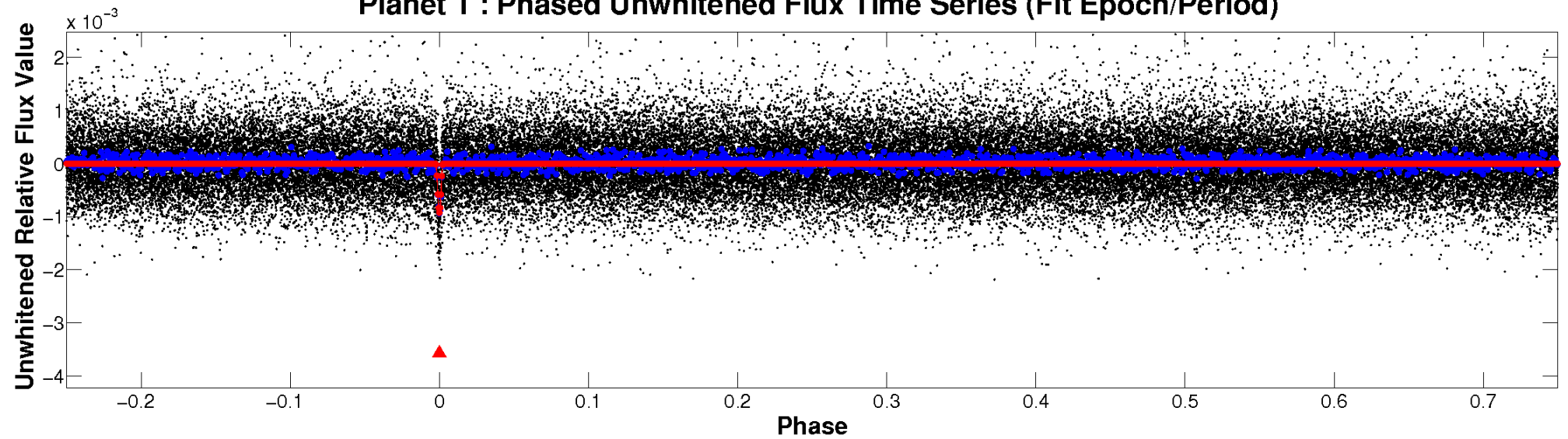
ALT Odd/Even

TCE 003440978-01

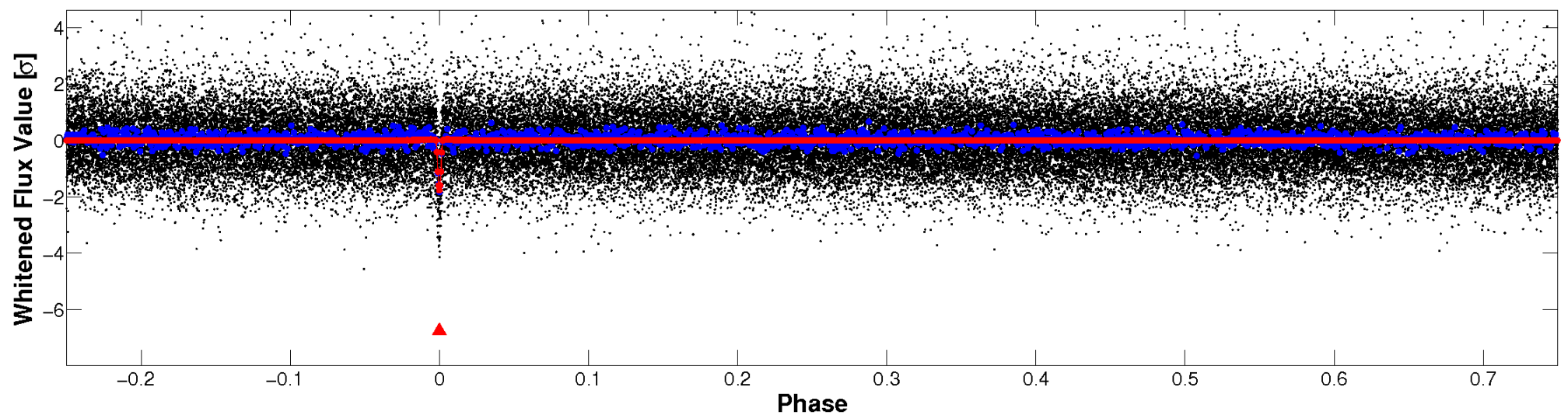


Non-Whitened Vs. Whitened Light Curve

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

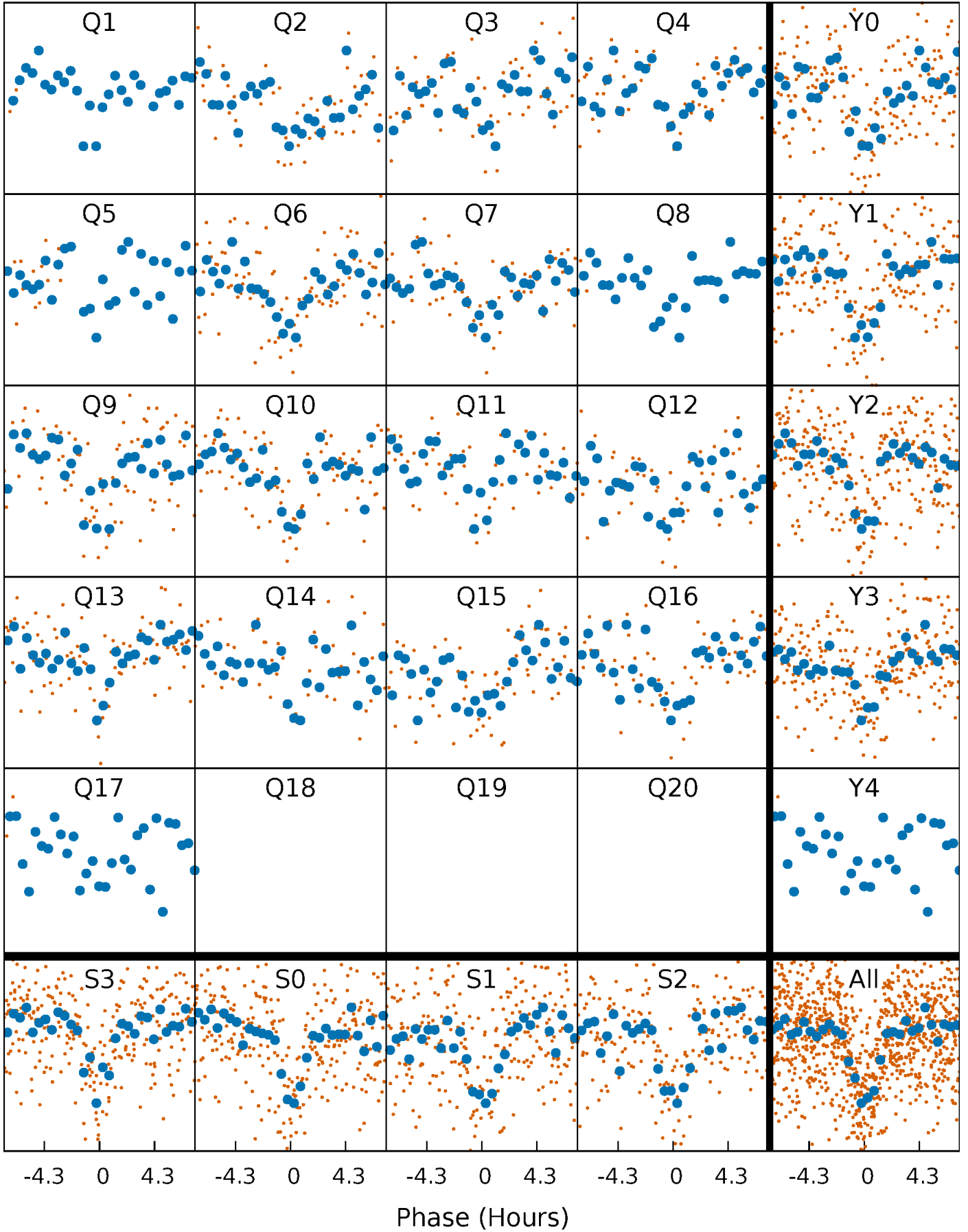


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



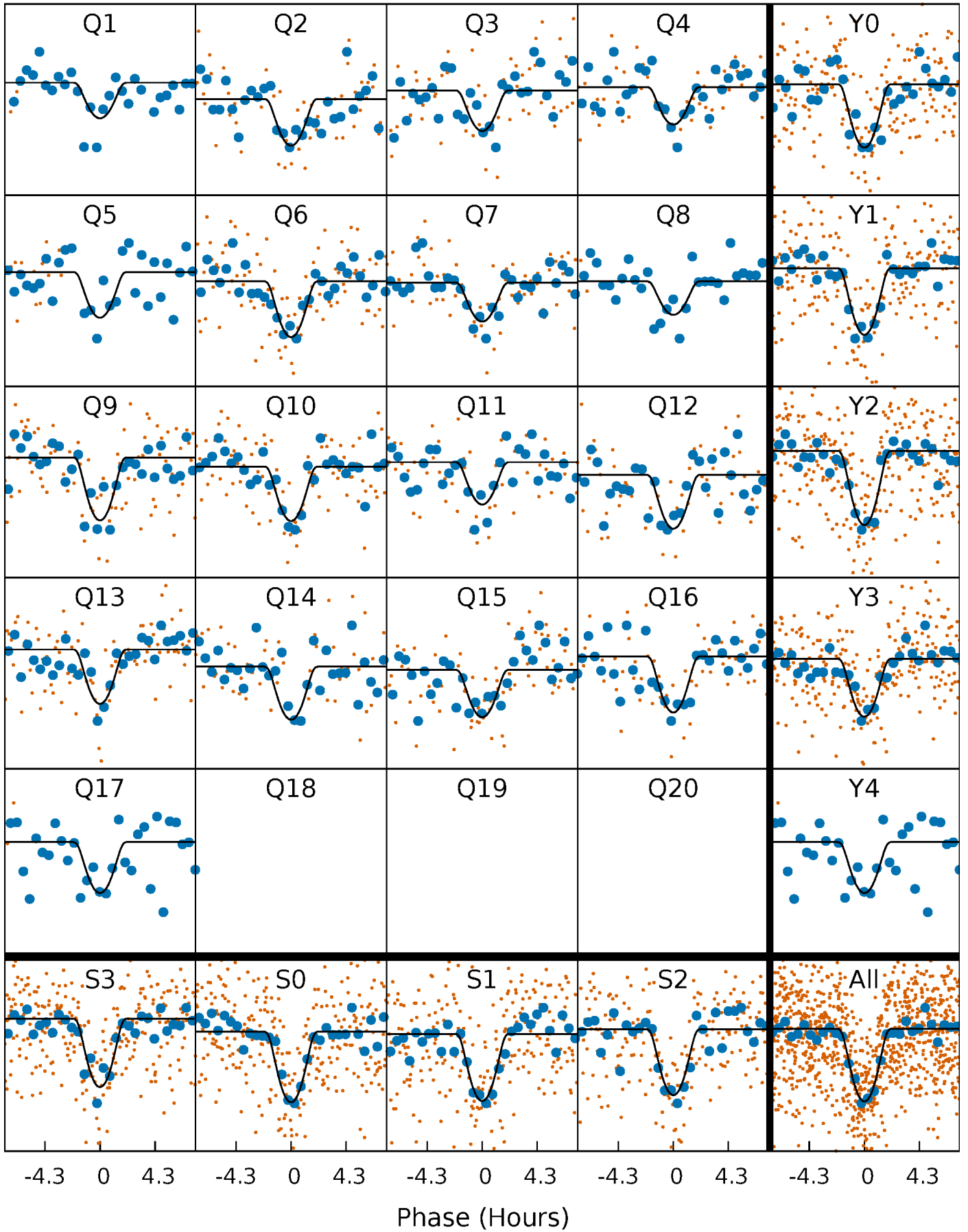
PDC Quarter-Phased Transit Curves

TCE 003440978-01 P= 38.103891 Days $T_0=161.086242$ (BKJD)



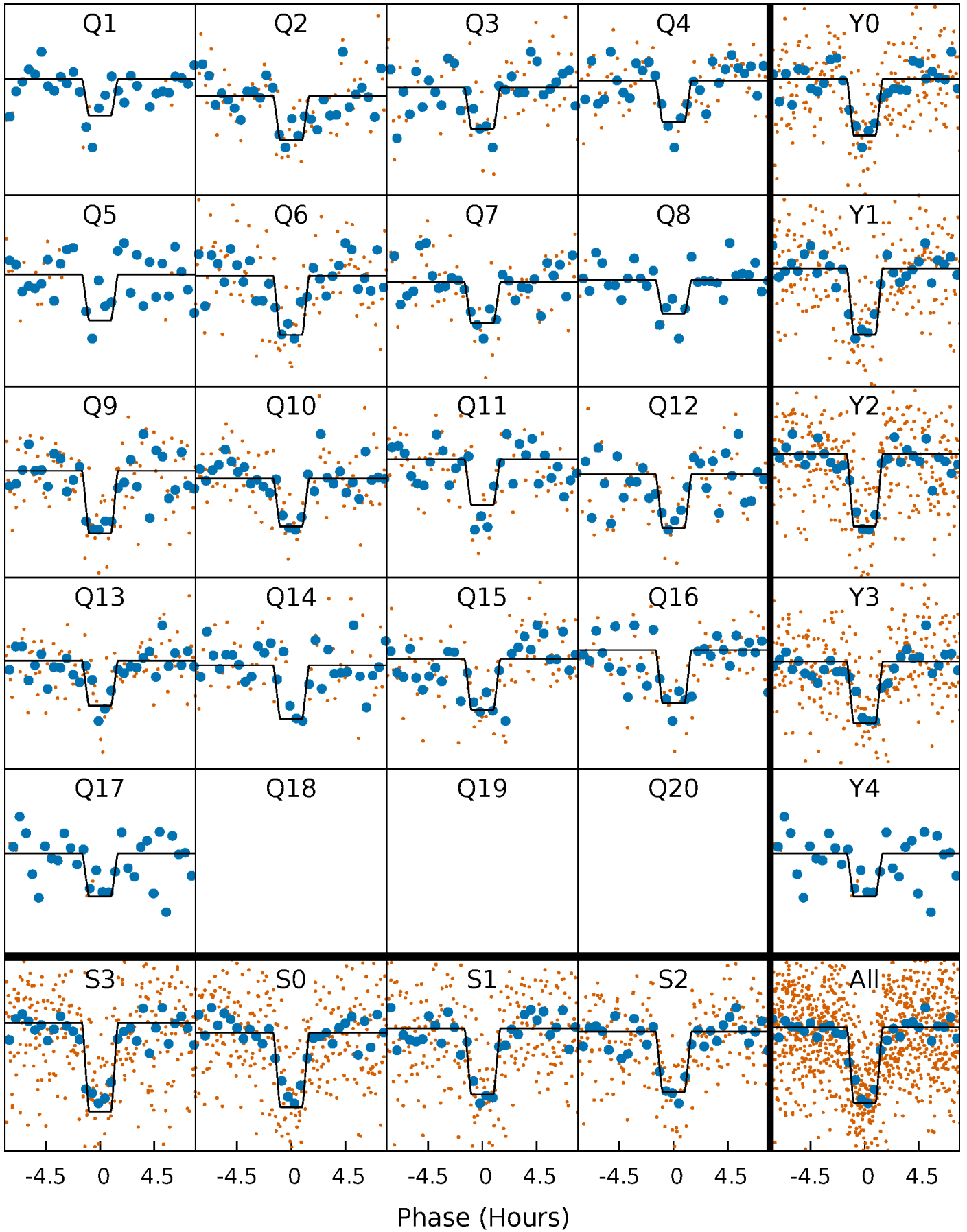
DV Quarter-Phased Transit Curves

TCE 003440978-01 P= 38.103891 Days $T_0=161.086242$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

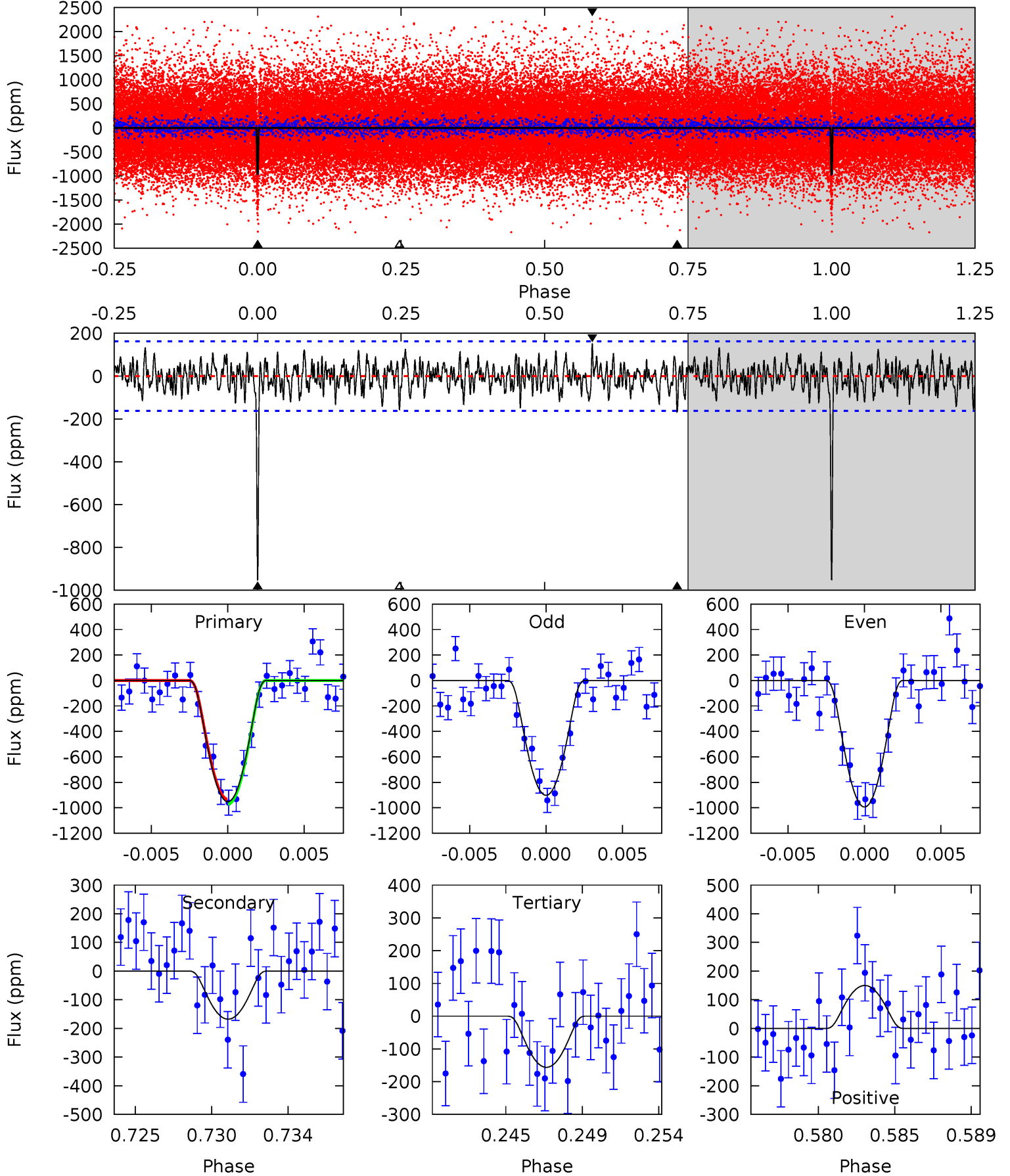
TCE 003440978-01 P= 38.103262 Days $T_0=161.098417$ (BKJD)



DV Model-Shift Uniqueness Test

003440978-01, $P = 38.103891$ Days, $E = 122.982351$ Days

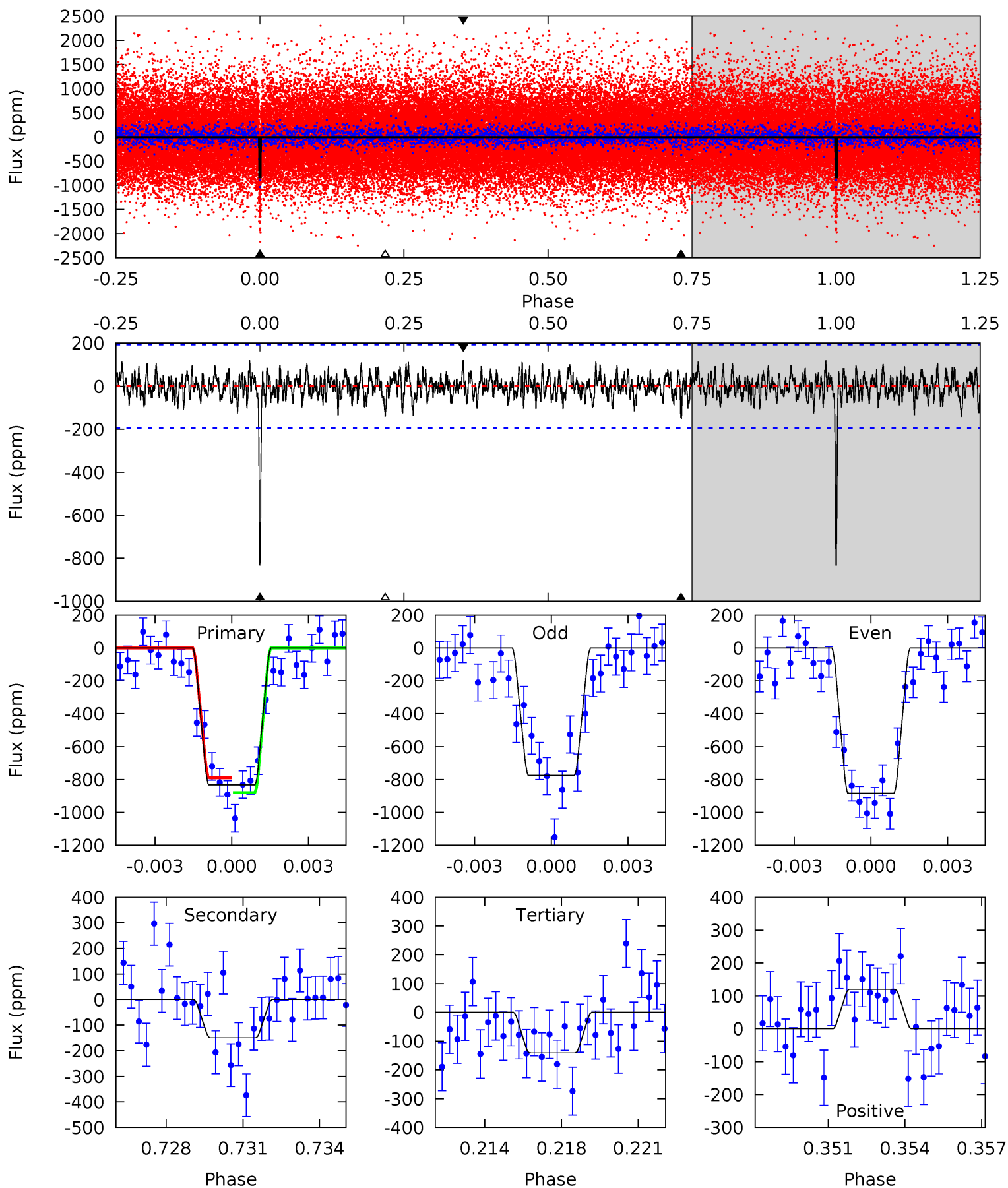
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.3	5.34	4.98	4.78	5.18	2.84	1.61	25.4	25.6	0.36	0.57	1.46	0.96	0.14	0.63



Alt Model-Shift Uniqueness Test

003440978-01, $P = 38.103262$ Days, $E = 122.995155$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.5	4.03	3.81	3.24	5.24	2.94	1.19	18.7	19.3	0.22	0.79	1.46	0.98	0.13	1.21



Stellar Parameters For KIC 003440978

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5250^{+158}_{-158}	$4.522^{+0.088}_{-0.072}$	$-0.360^{+0.350}_{-0.300}$	$0.771^{+0.096}_{-0.096}$	$0.721^{+0.107}_{-0.046}$	$2.217^{+0.872}_{-0.528}$
	+3%/-3%	+2%/-2%	+97%/-83%	+12%/-12%	+15%/-6%	+39%/-24%
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 003440978-01 / KOI 2288.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-168 ± 31	$4.31^{+2.90}_{-2.57}$	637^{+25}_{-29}	3198^{+1192}_{-433}	194^{+1060}_{-122}
Alt.	-149 ± 37	$3.53^{+2.72}_{-2.30}$	637^{+27}_{-26}	3370^{+1496}_{-544}	260^{+1986}_{-180}

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

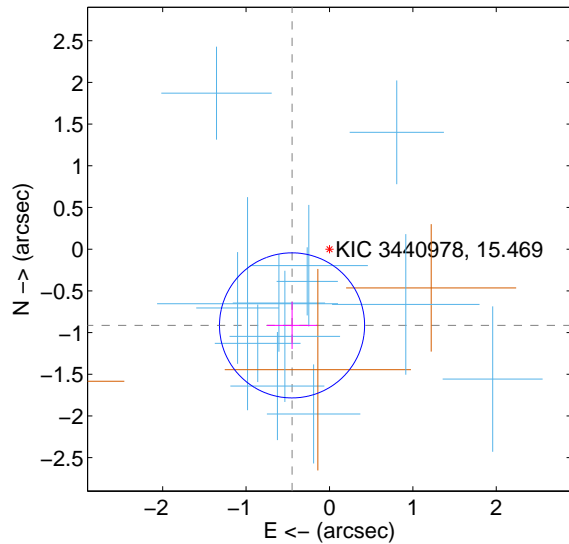
Supplemental centroid analysis for 003440978-01. Kepler magnitude: 15.47. Transit SNR 19.03

There are 13 quarters with good PRF difference image offsets

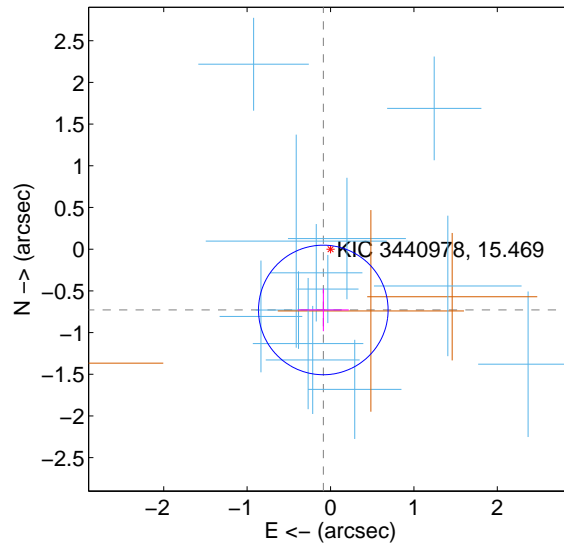
The direct PRF centroid is offset from the target star catalog position by about 0.54 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.018 ± 0.290	3.51	0.449 ± 0.301	-0.914 ± 0.282
PRF-fit source offset from KIC position	0.734 ± 0.259	2.83	0.086 ± 0.306	-0.729 ± 0.256
photometric centroid source offset	0.55 ± 0.62	0.88	-0.51 ± 0.63	-0.19 ± 0.61

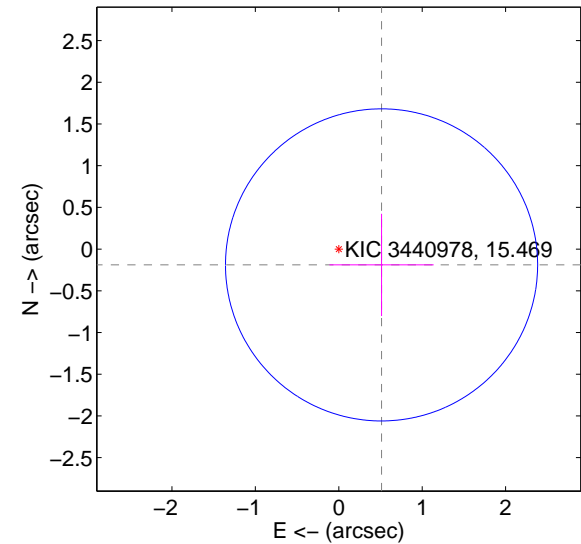
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

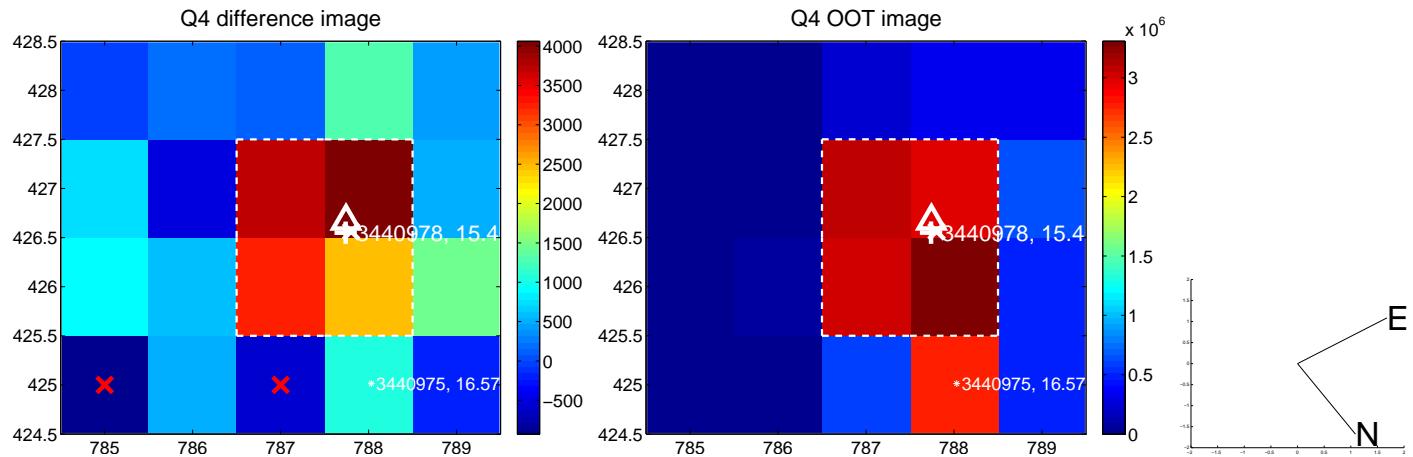
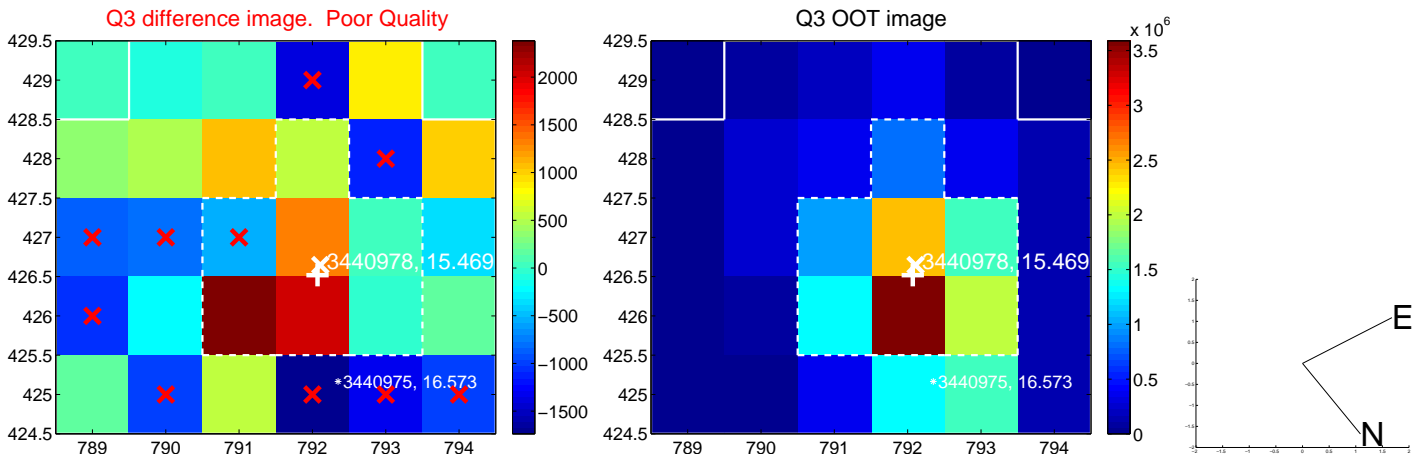
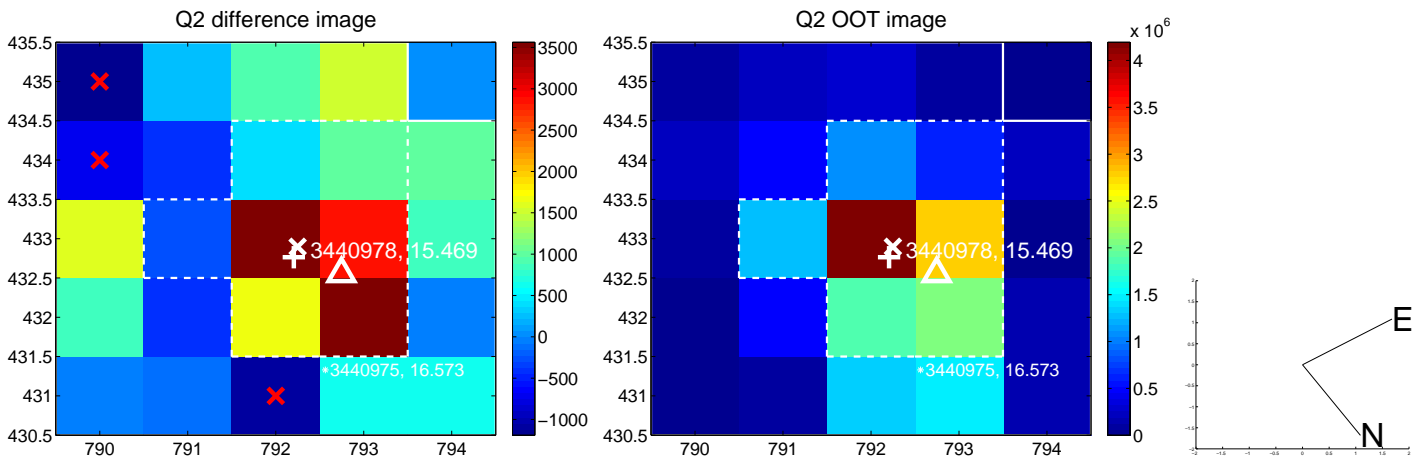
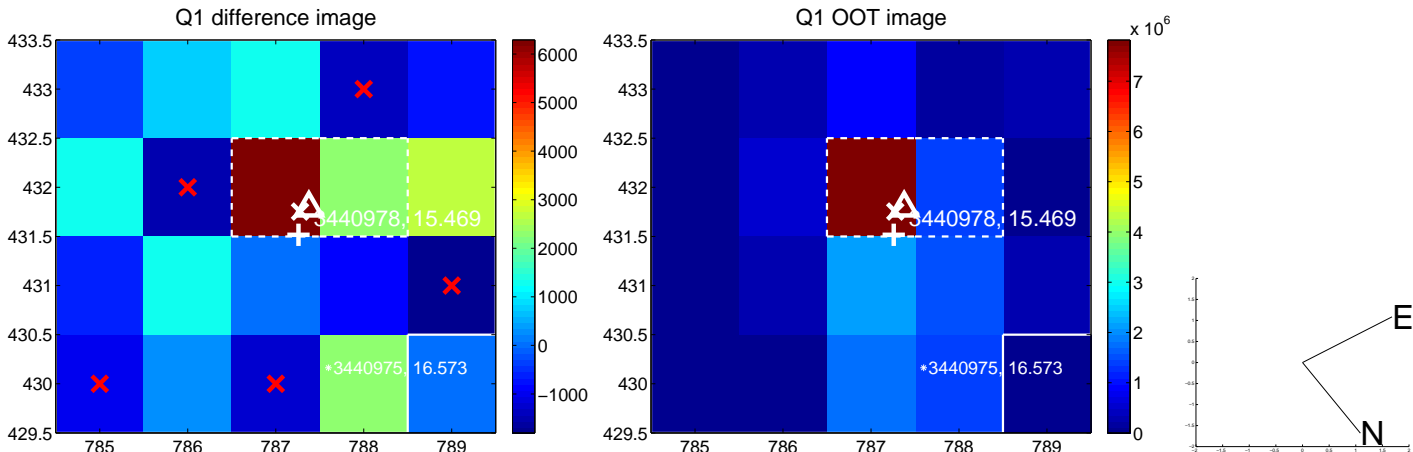


offset from photometric centroids

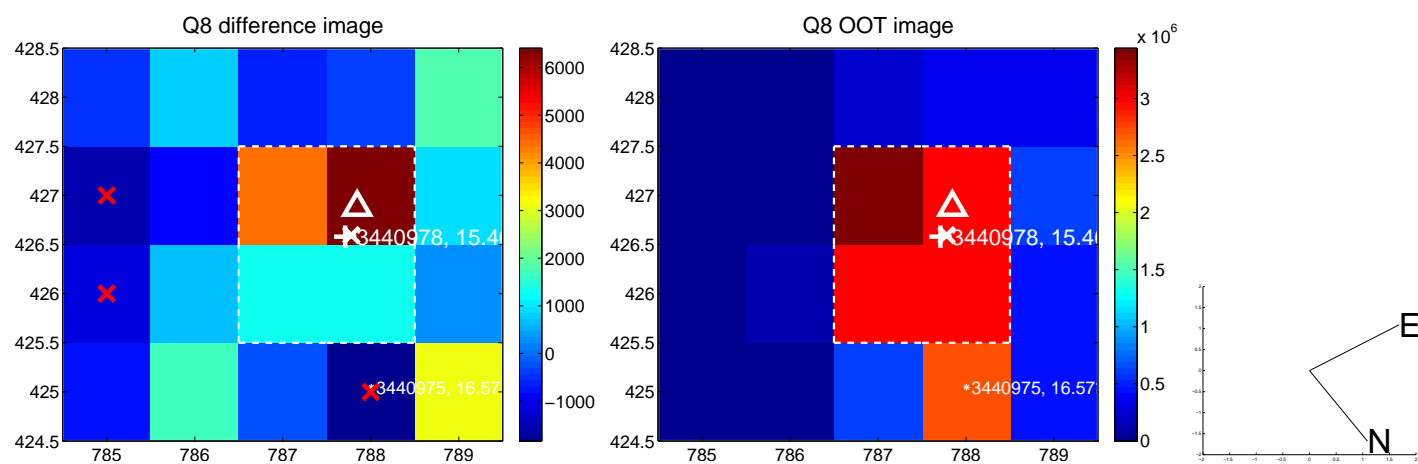
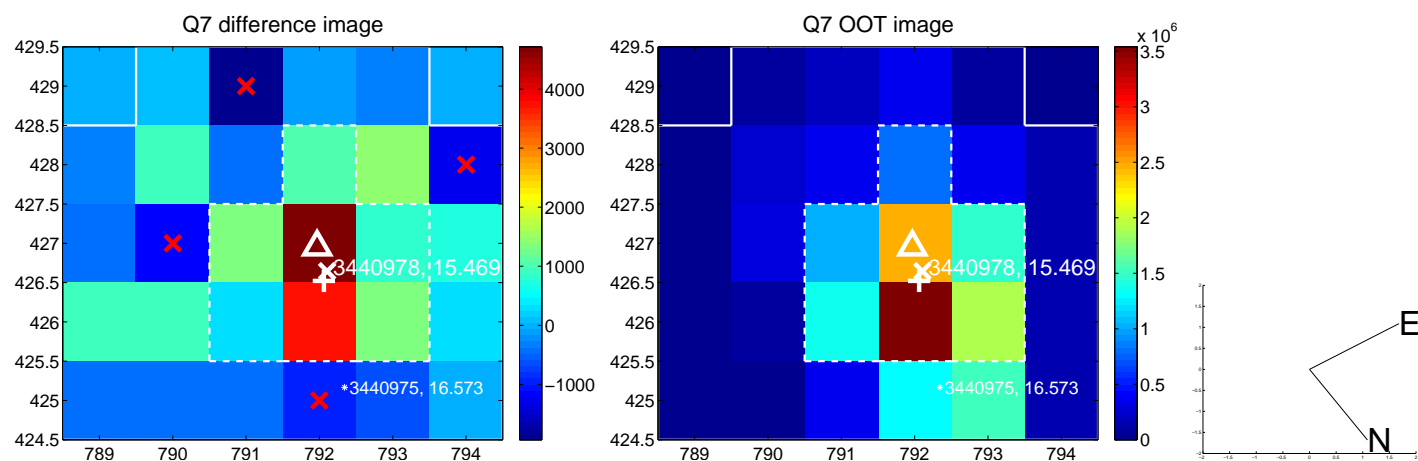
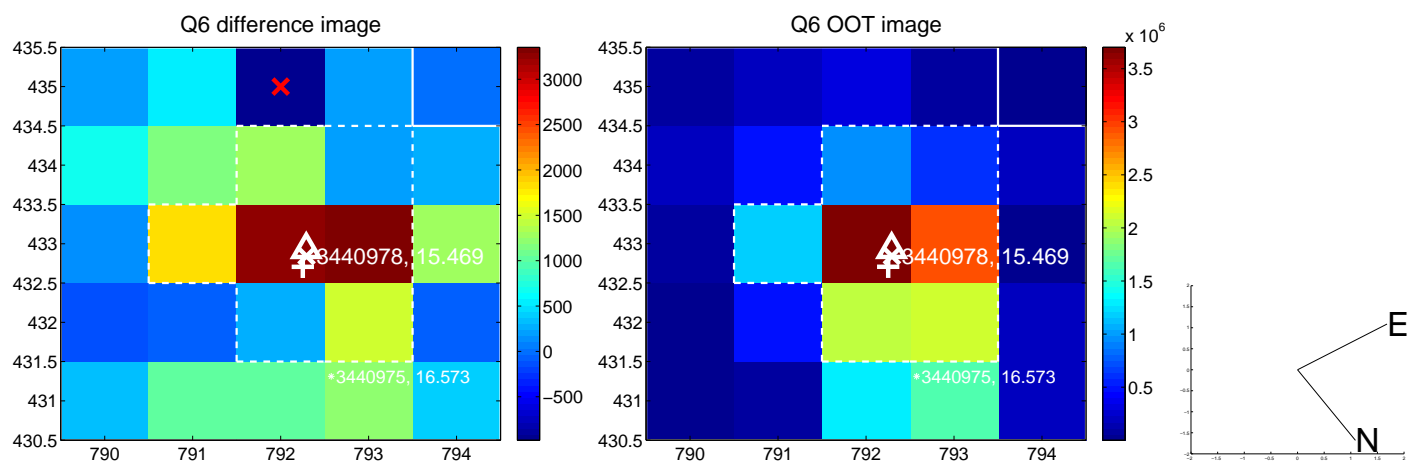
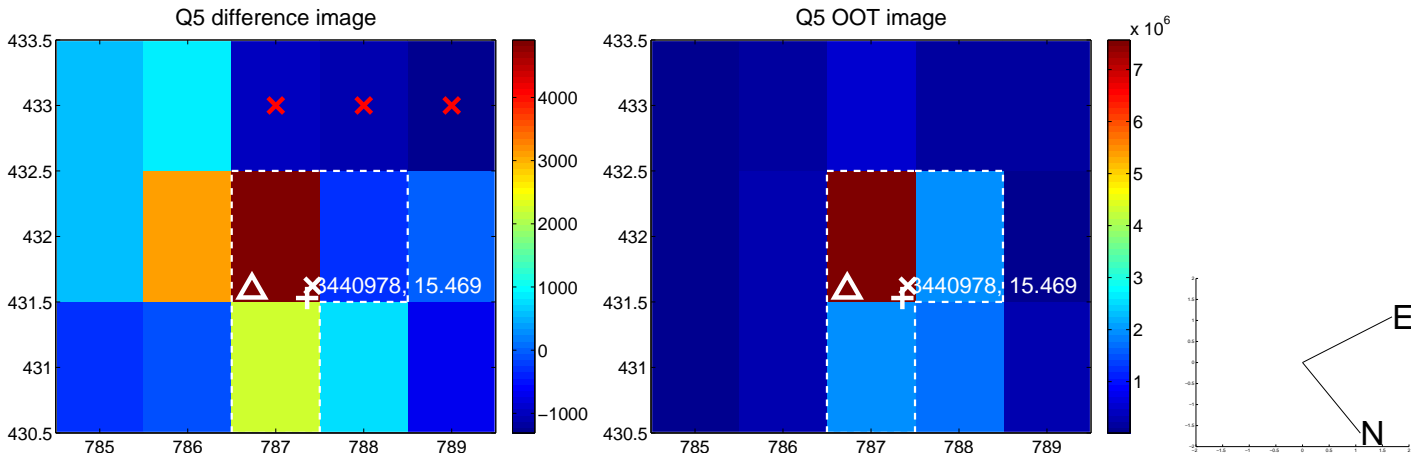


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

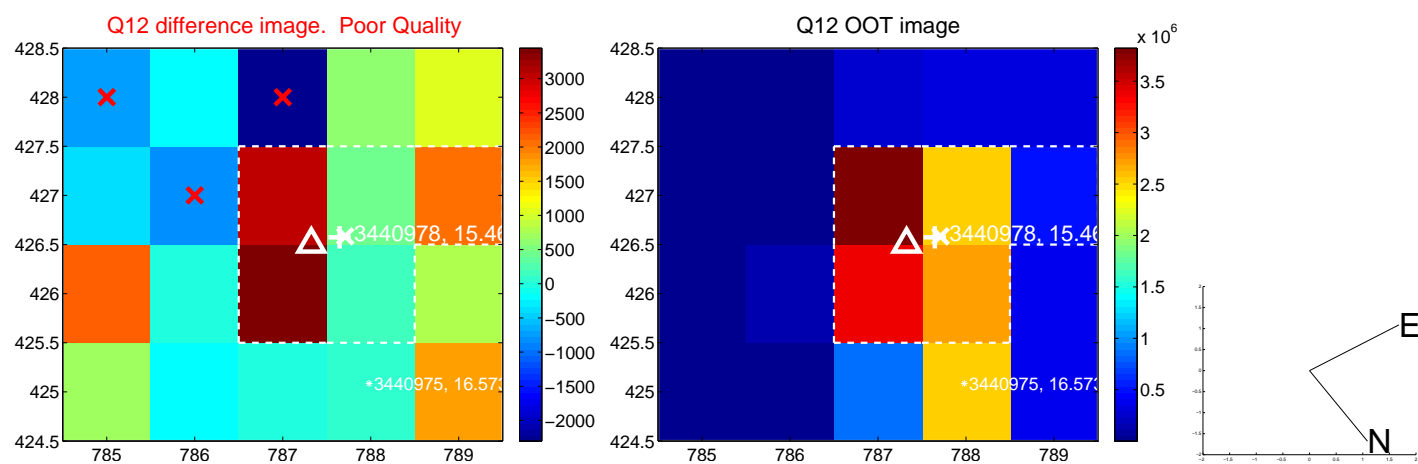
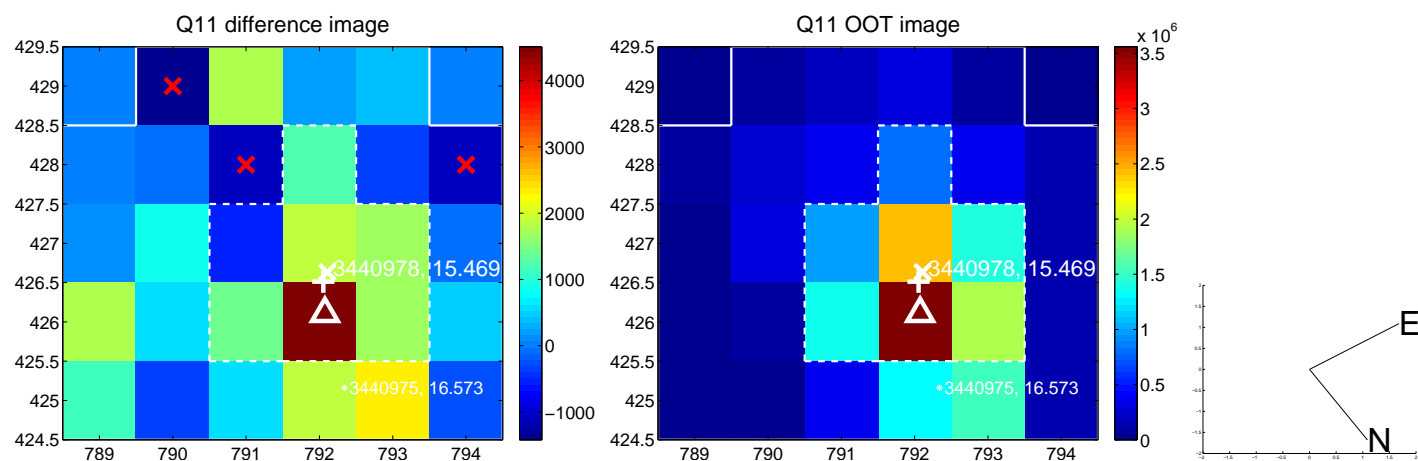
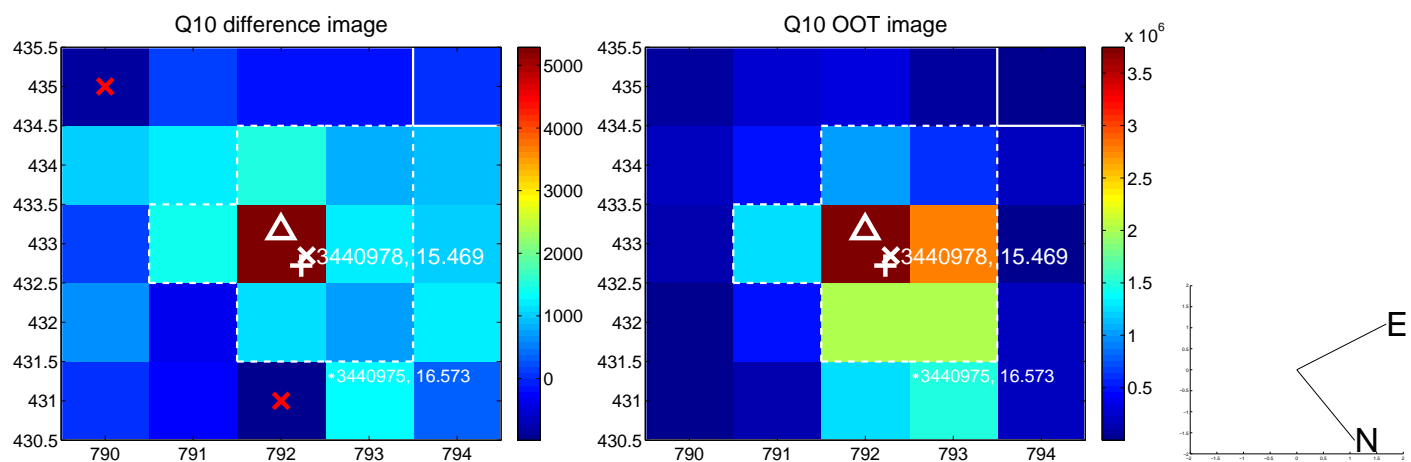
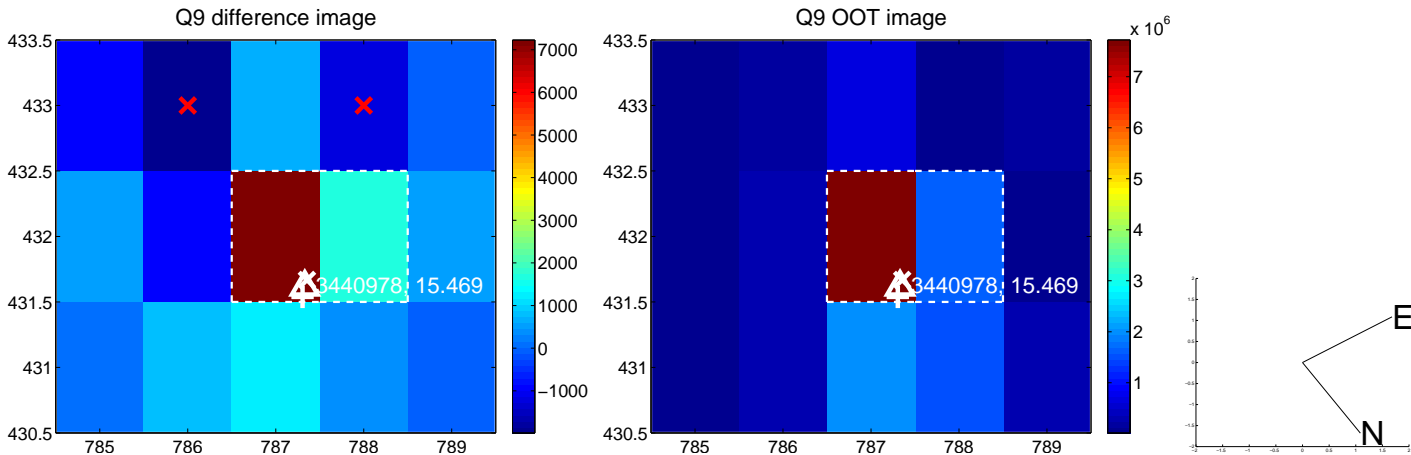
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



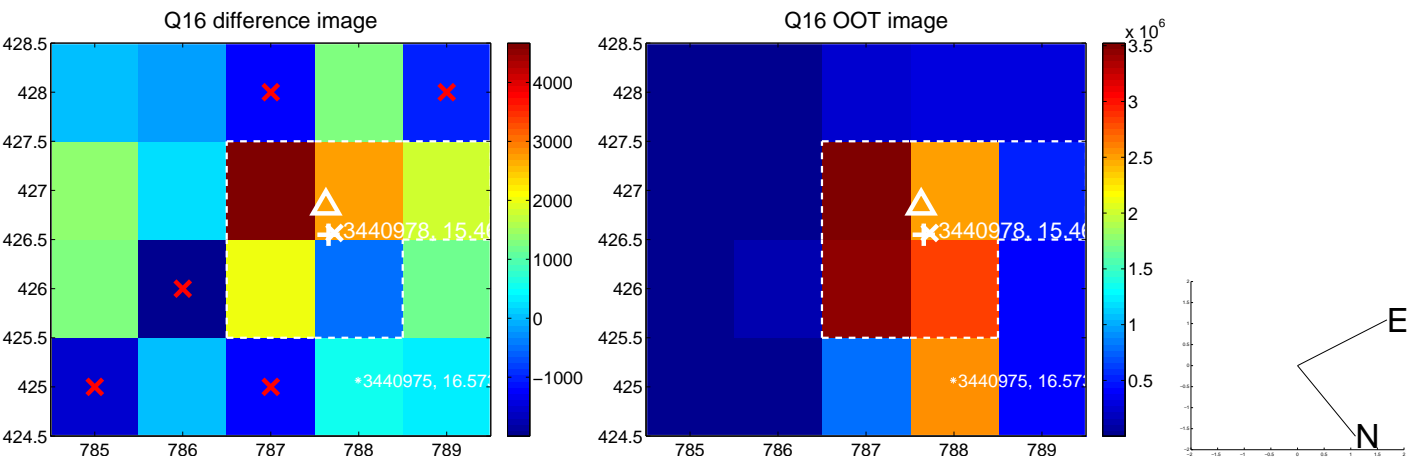
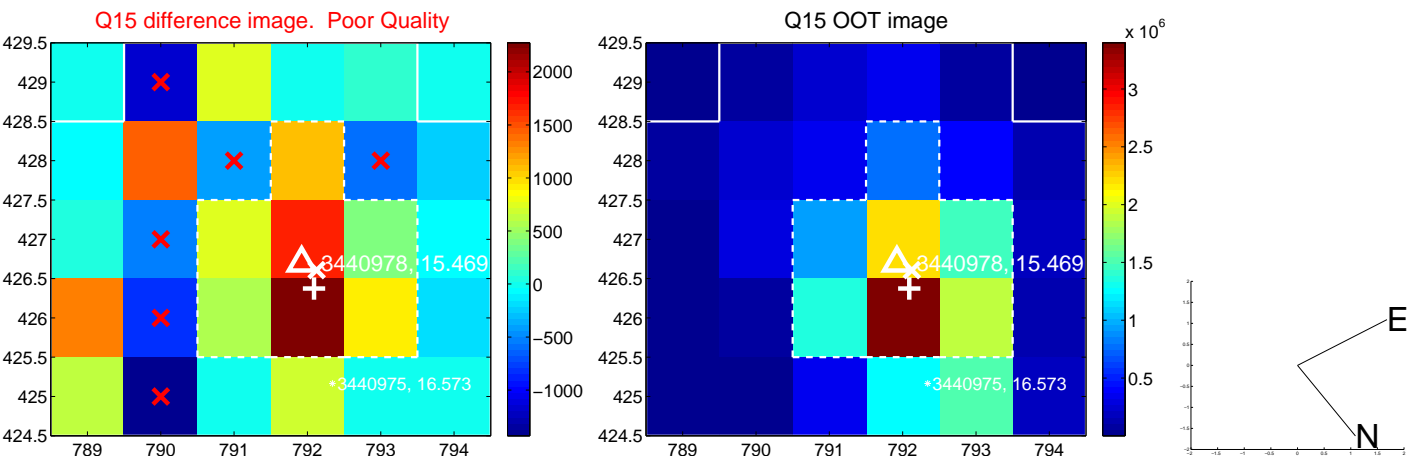
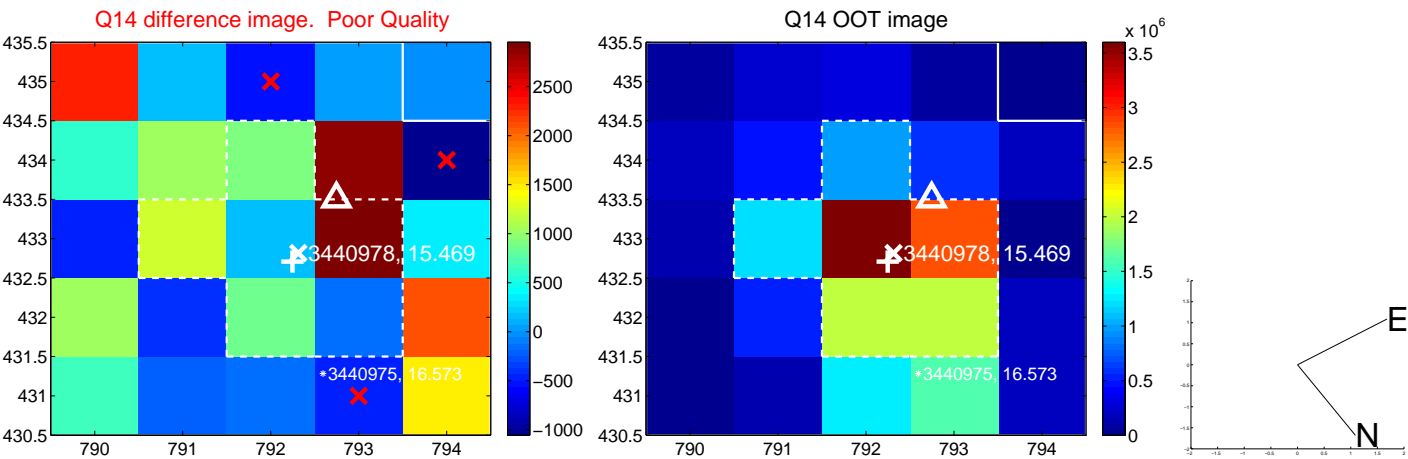
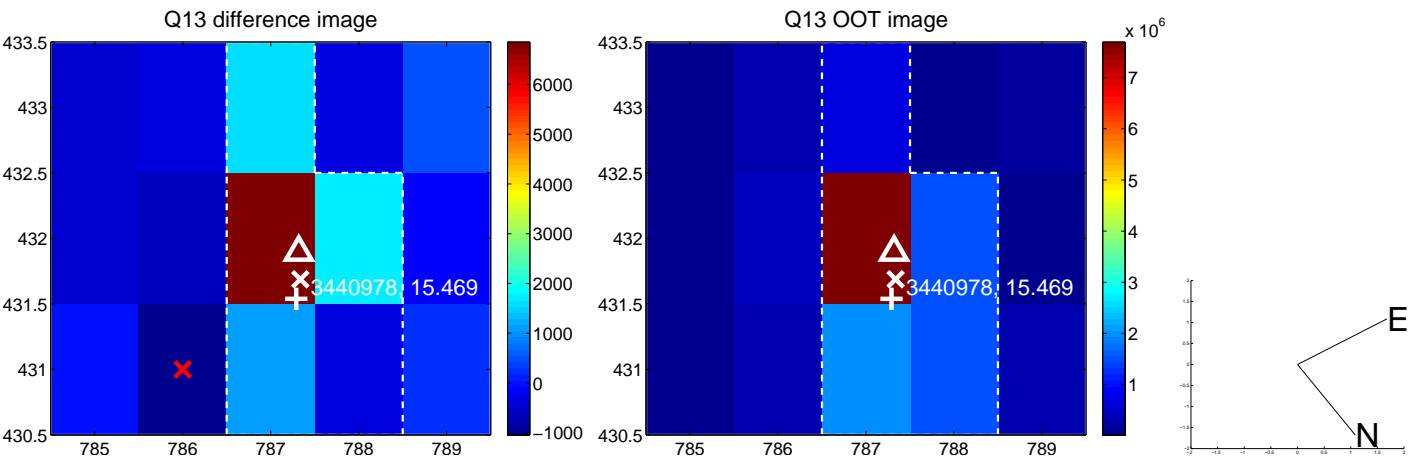
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



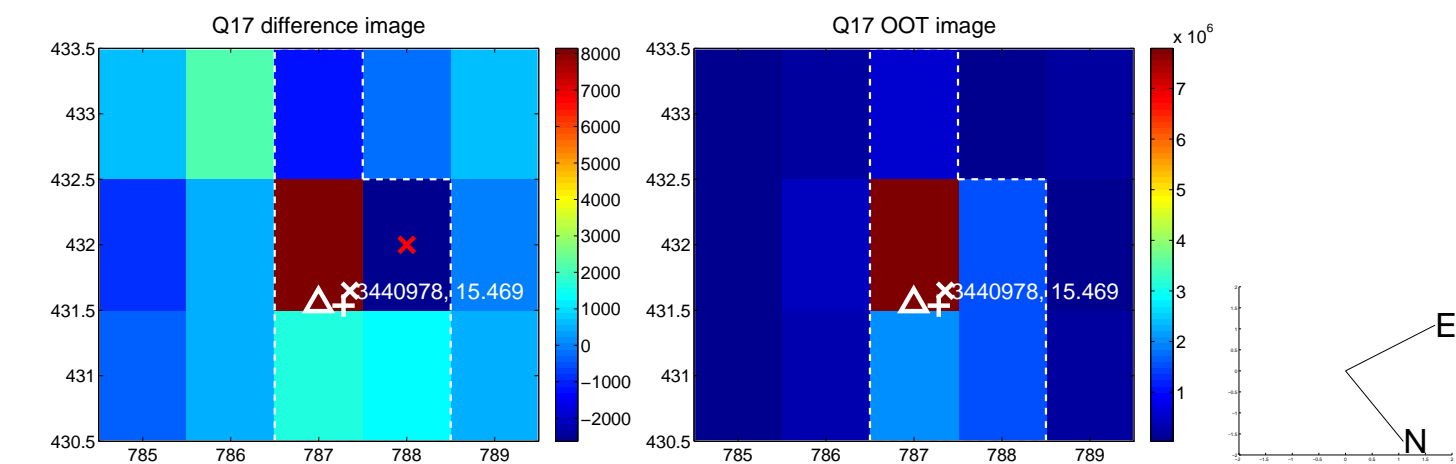
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



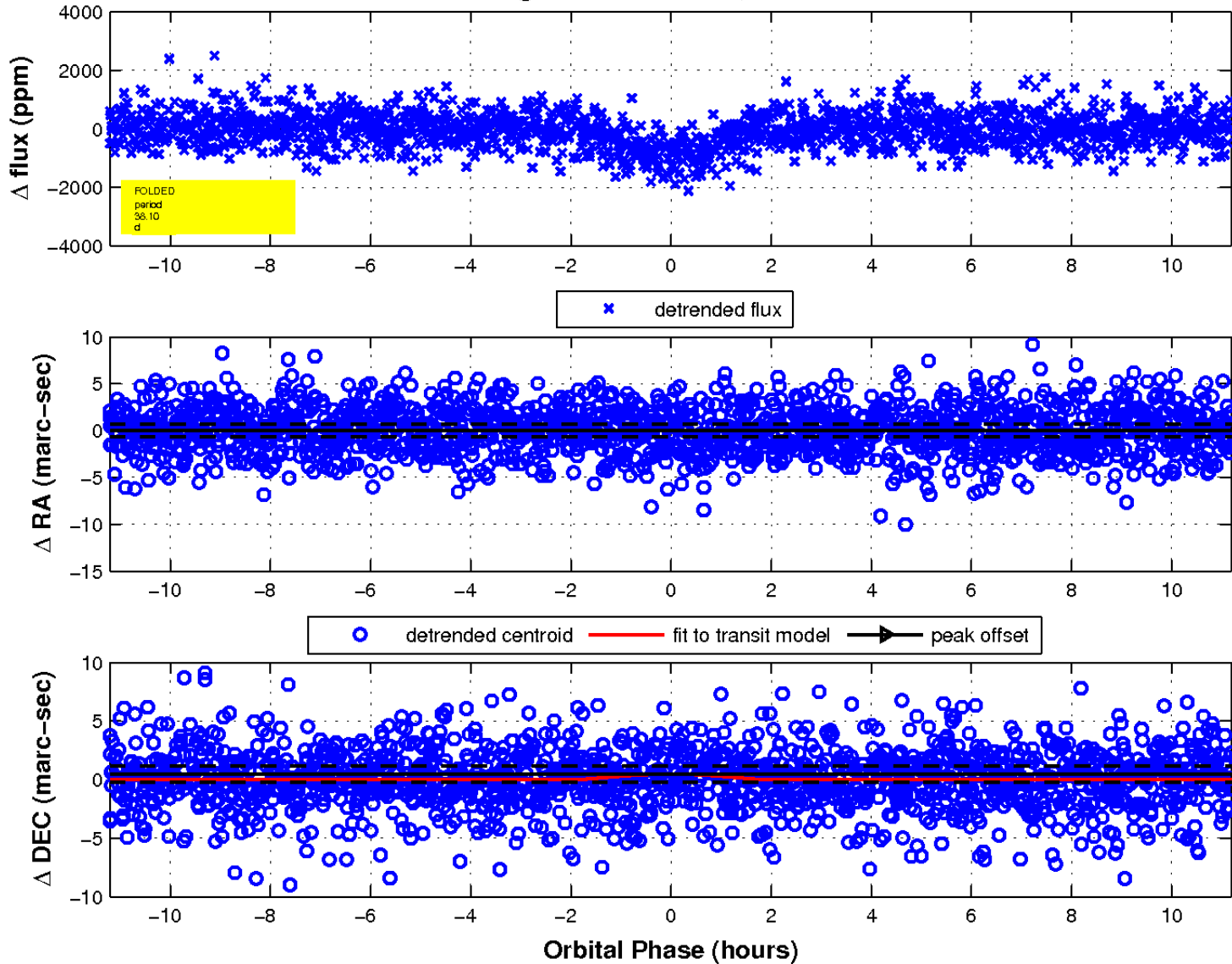
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

