

KIC 001872821

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})
001872821-01	OBS	2351.01	10.273776	134.658777	364.7	3.679	17.8	18.5	0.90	5806	2.16	96.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001872821-01	OBS	PC	1.00	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 for comment definitions.

Ephemeris Match Information For 001872821-01

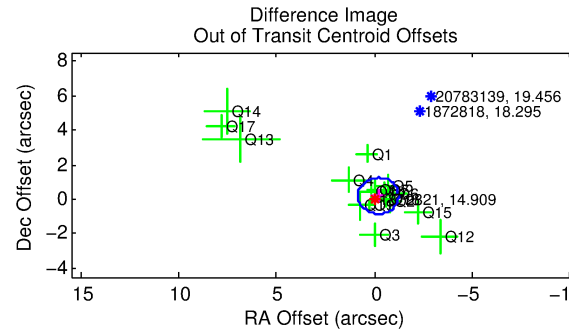
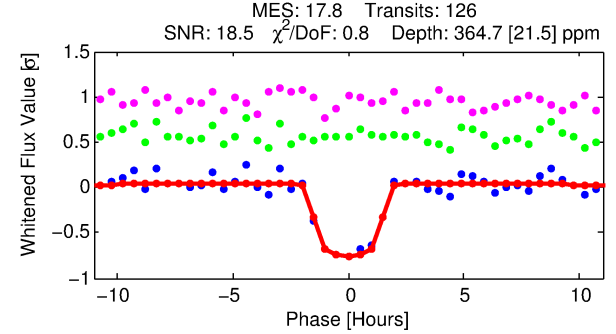
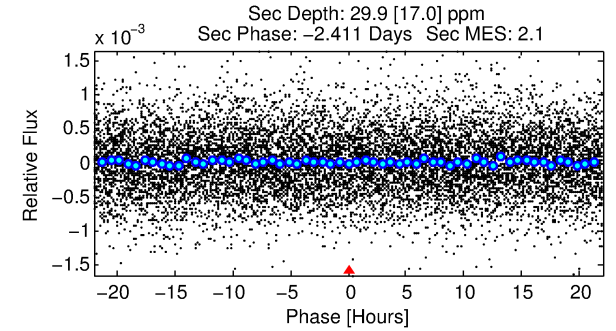
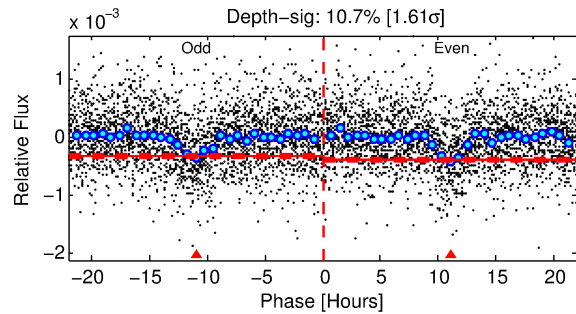
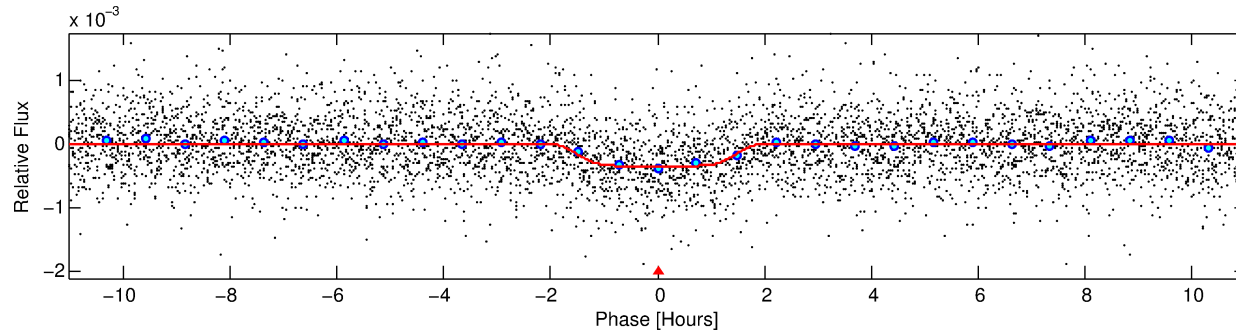
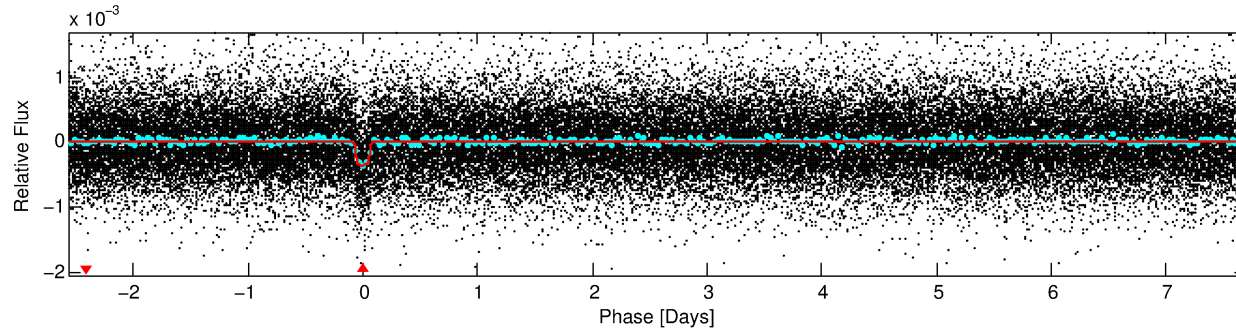
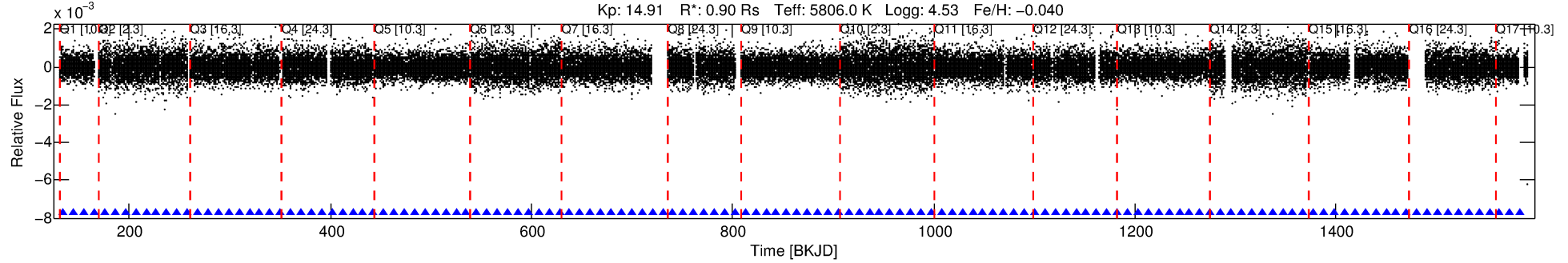
No Significant Match Found

DV One-Page Summary

KIC: 1872821 Candidate: 1 of 1 Period: 10.274 d

KOI: K02351.01 Corr: 0.937

Kp: 14.91 R*: 0.90 Rs Teff: 5806.0 K Logg: 4.53 Fe/H: -0.040



DV Fit Results:

Period = 10.27378 [0.00006] d
Epoch = 134.6588 [0.0043] BKJD
Rp/R* = 0.0221 [0.0016]
a/R* = 8.31 [2.58]
b = 0.95 [0.04]
Seff = 96.52 [13.08]
Teq = 799 [27] K
Rp = 2.16 [0.26] Re
a = 0.0923 [0.0075] AU
Ag = 29.96 [17.97] [1.61σ]
Teffp = 2891 [427] K [4.89σ]

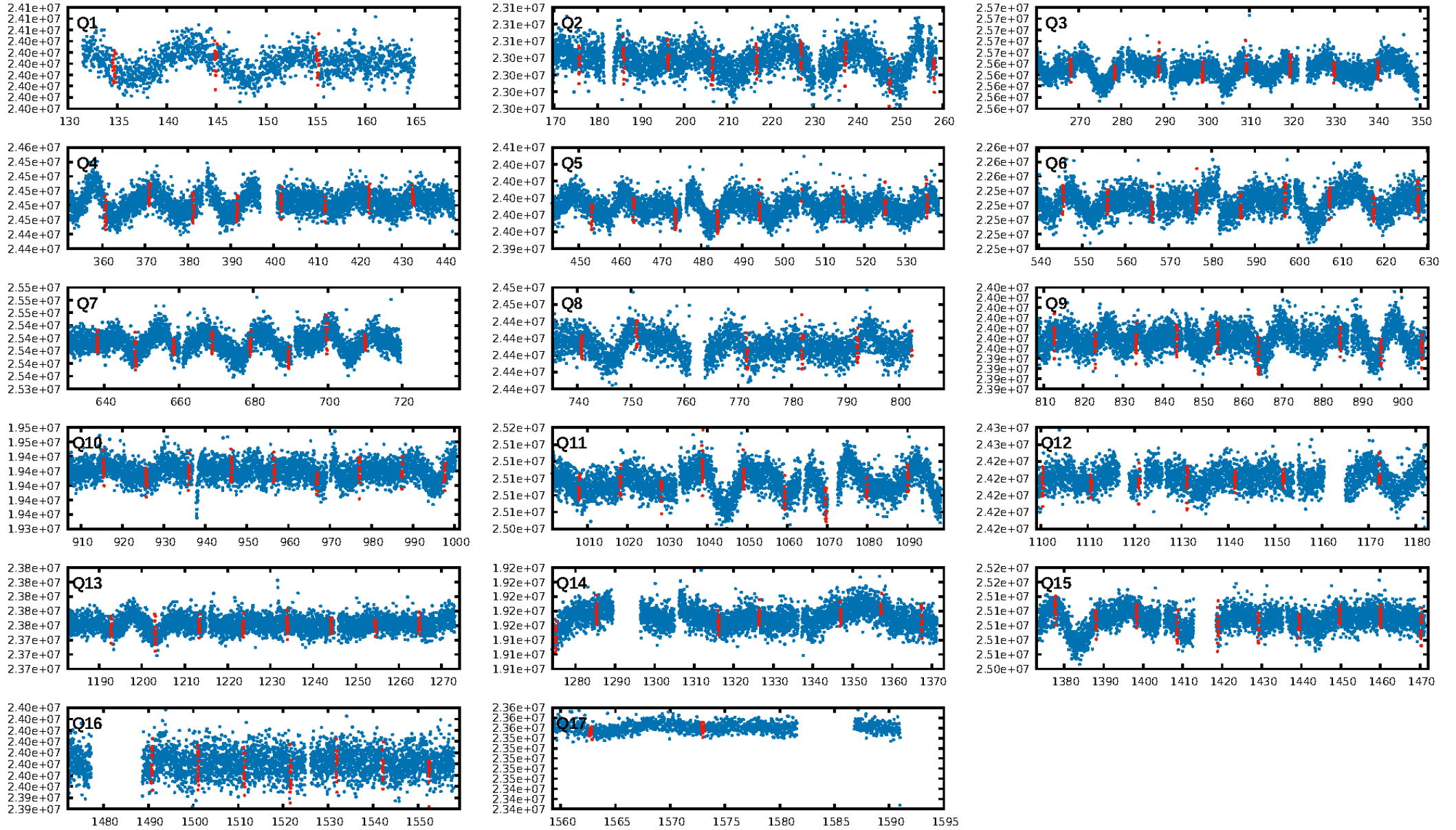
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.18e-69
RollingBand-fgt: 1.00 [121/121]
GhostDiagnostic-chr: 2.559
Centroid-sig: 4.9%
Centroid-so: 1.530 arcsec [2.04σ]
OotOffset-rm: 0.276 arcsec [0.79σ]
KicOffset-rm: 0.218 arcsec [0.40σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.65 [11/17]
DiffImageOverlap-fno: 1.00 [17/17]

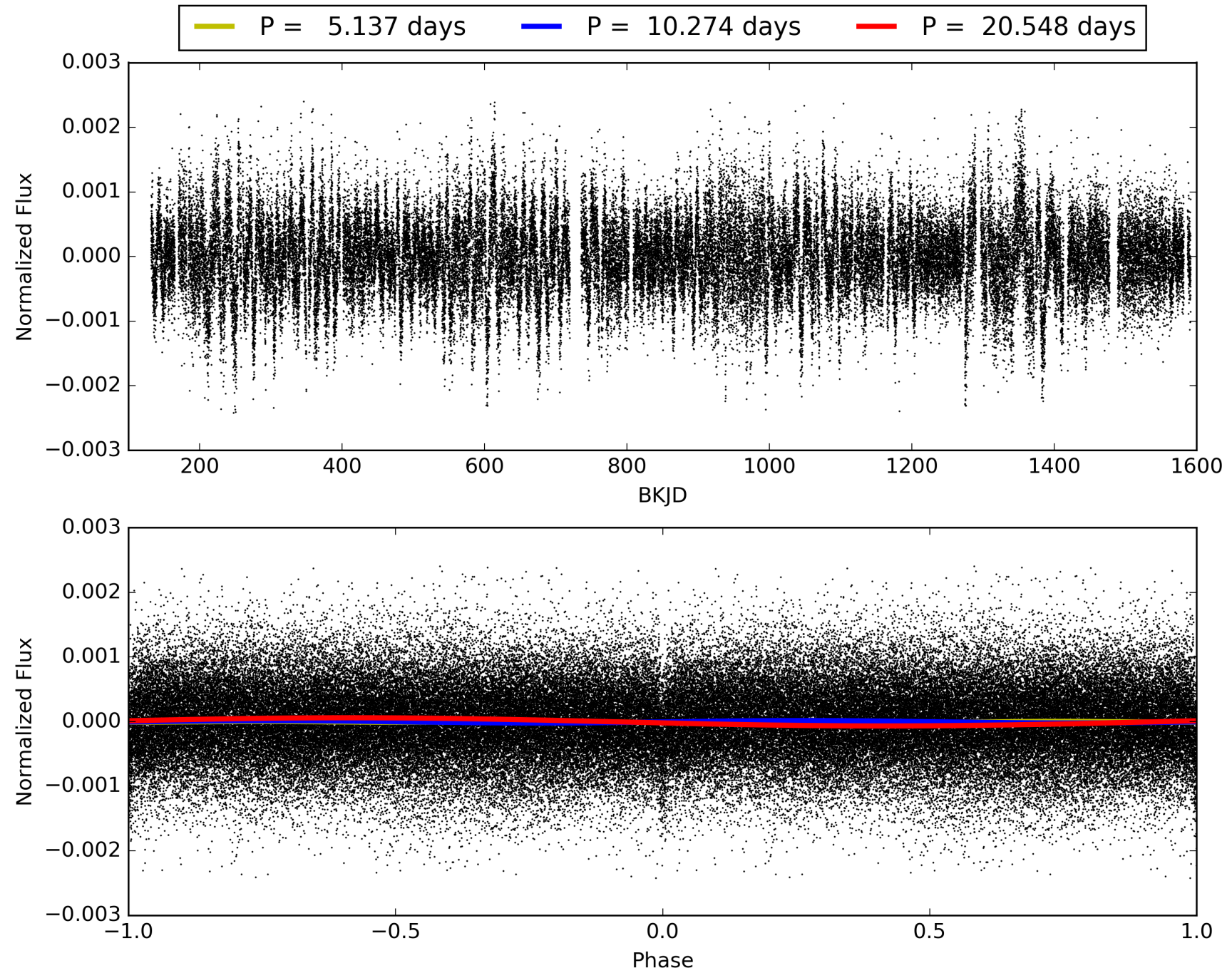
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:21:29 Z

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

TCE 001872821-01, PDC Light Curves

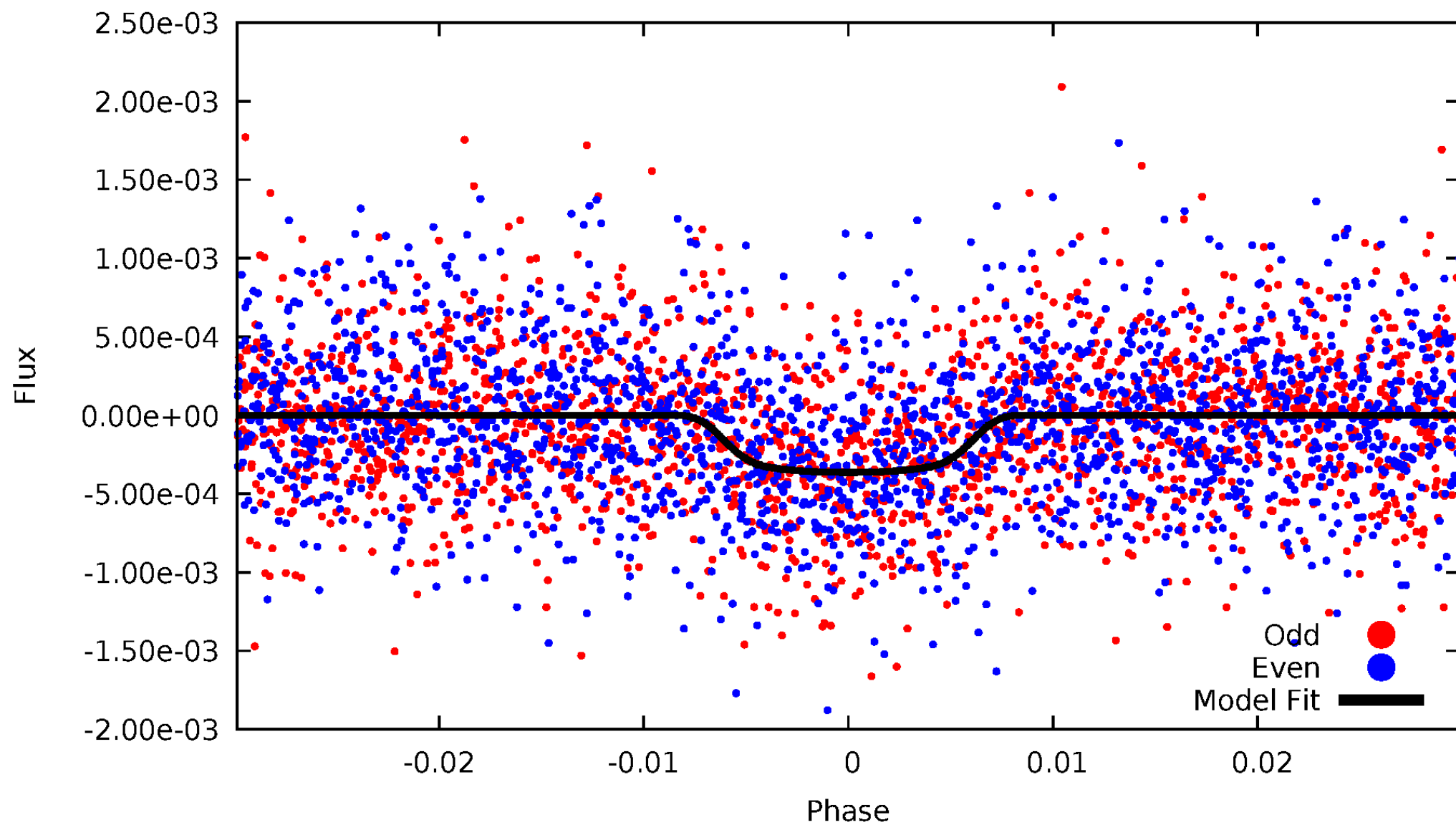


TCE 001872821-01



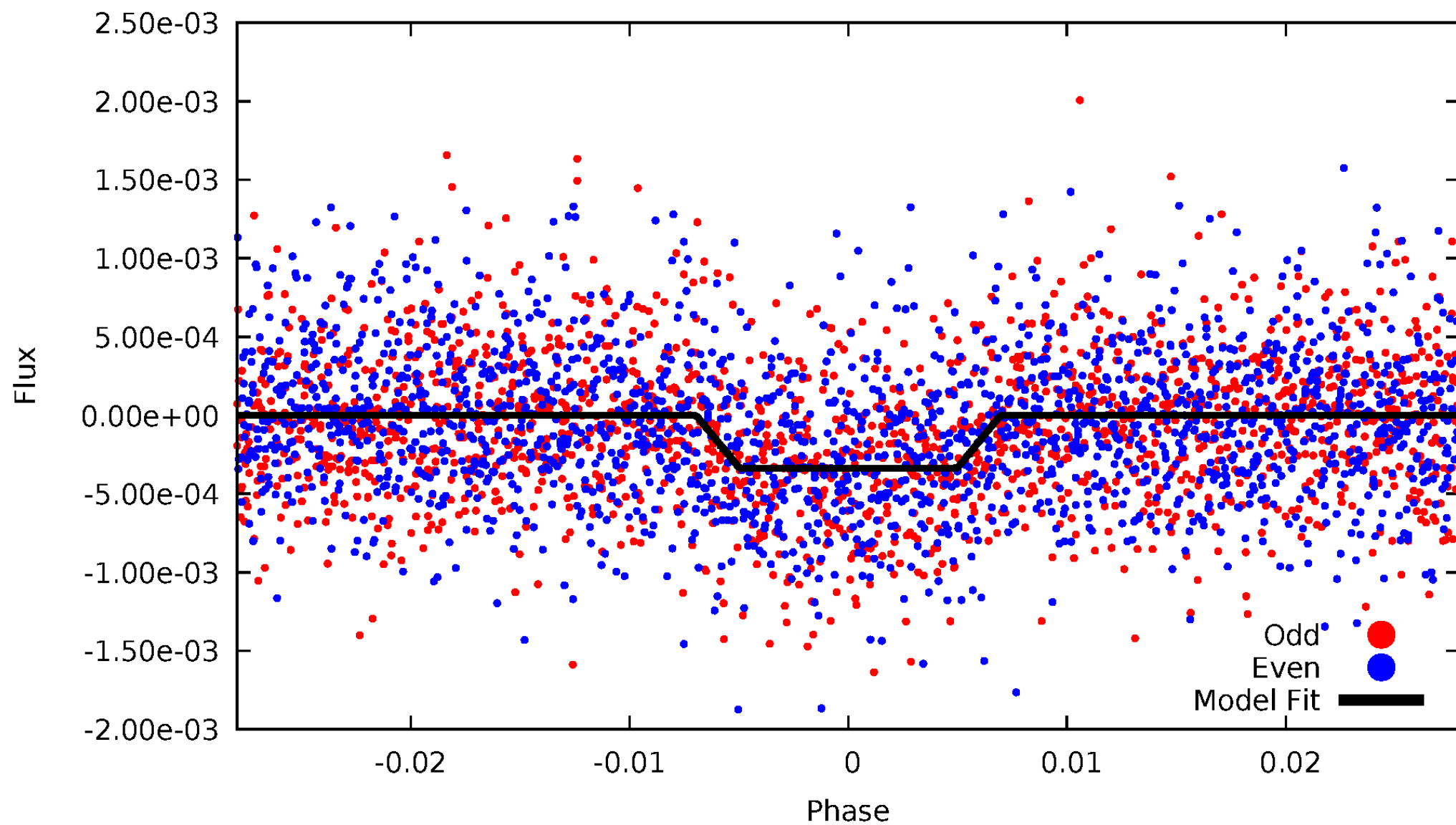
DV Odd/Even

TCE 001872821-01



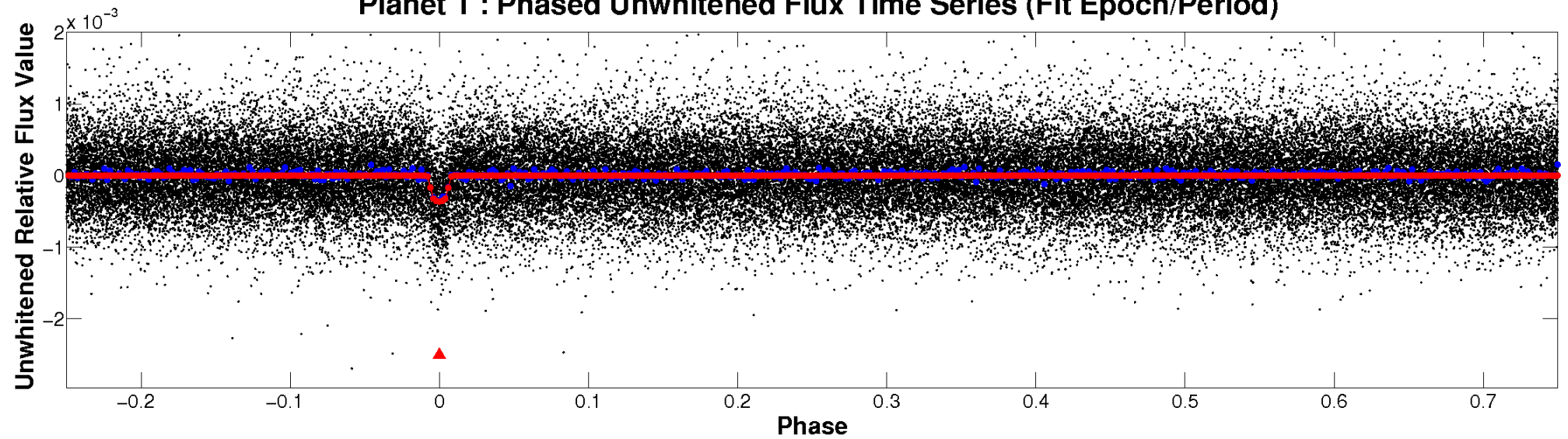
ALT Odd/Even

TCE 001872821-01

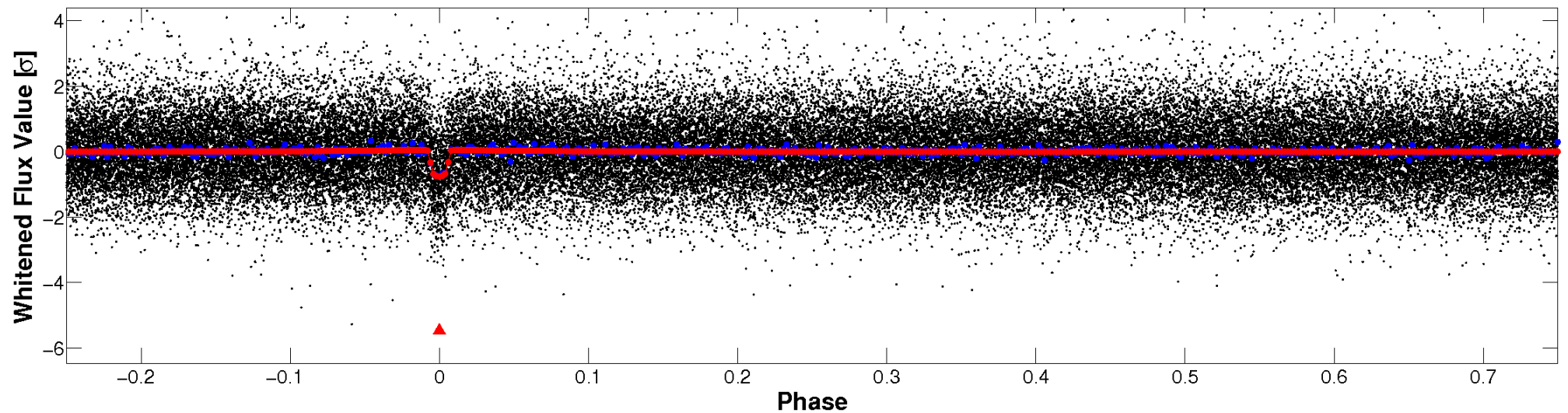


Non-Whitened Vs. Whitened Light Curve

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

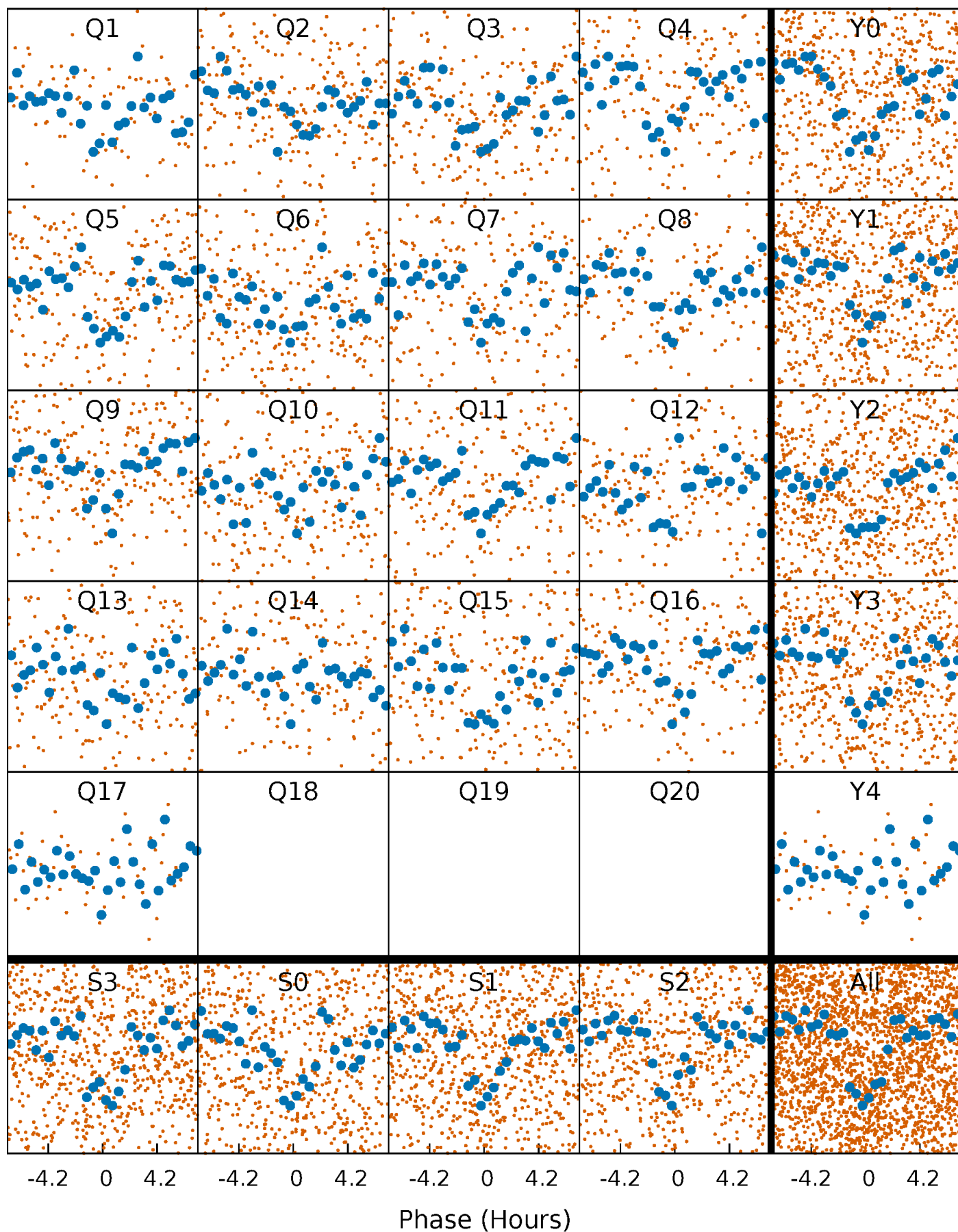


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



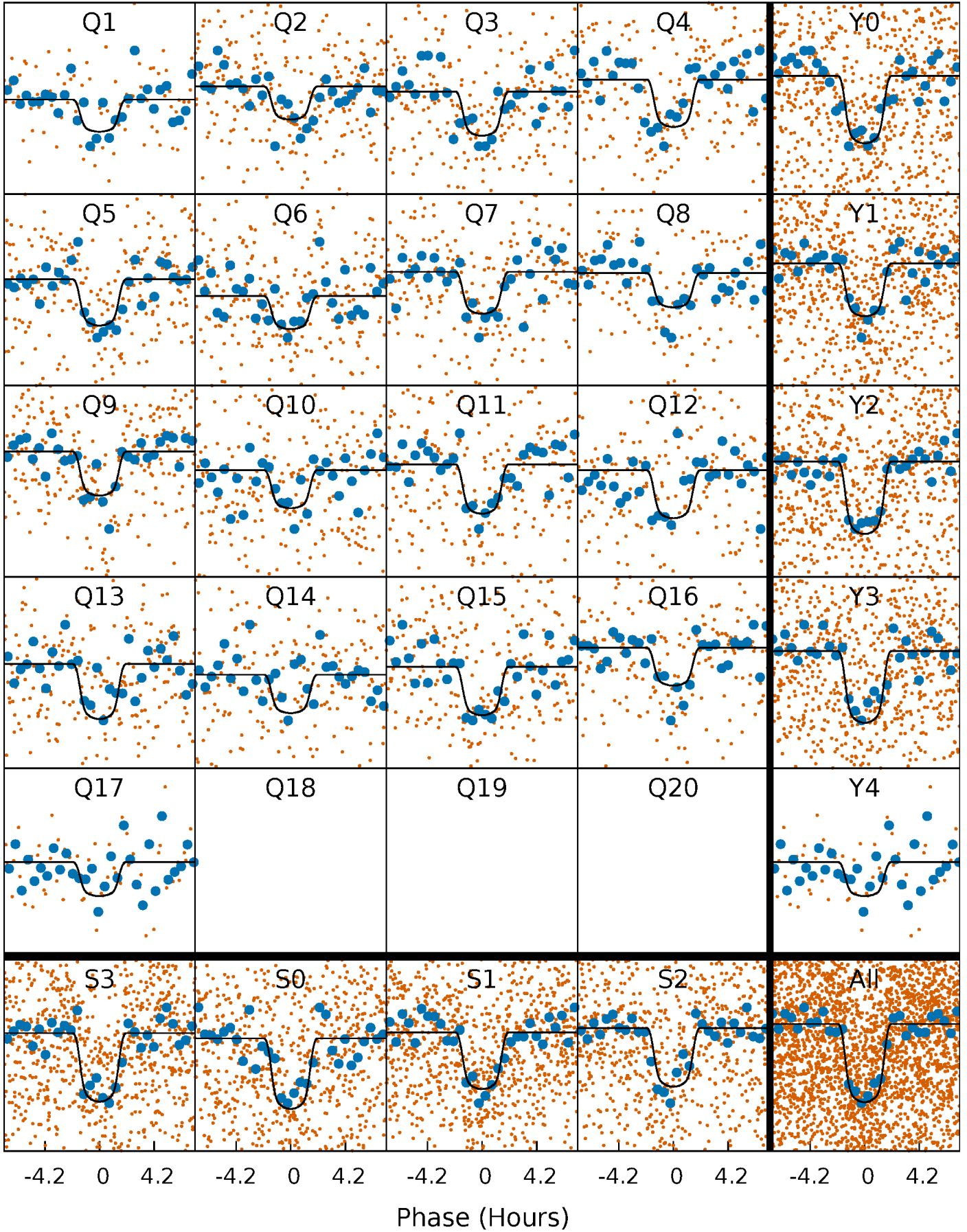
PDC Quarter-Phased Transit Curves

TCE 001872821-01 P= 10.273776 Days $T_0=134.658777$ (BKJD)



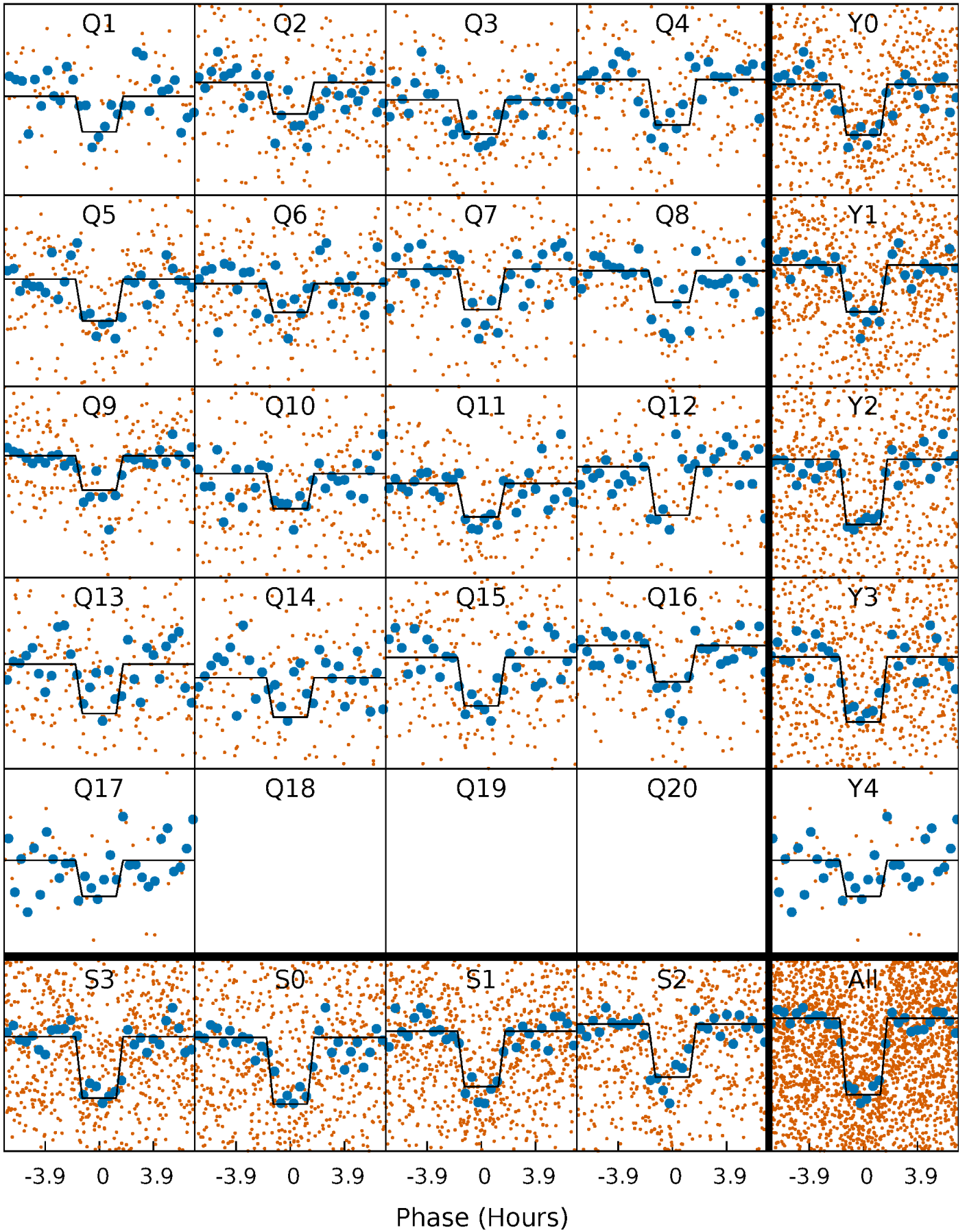
DV Quarter-Phased Transit Curves

TCE 001872821-01 P= 10.273776 Days $T_0=134.658777$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

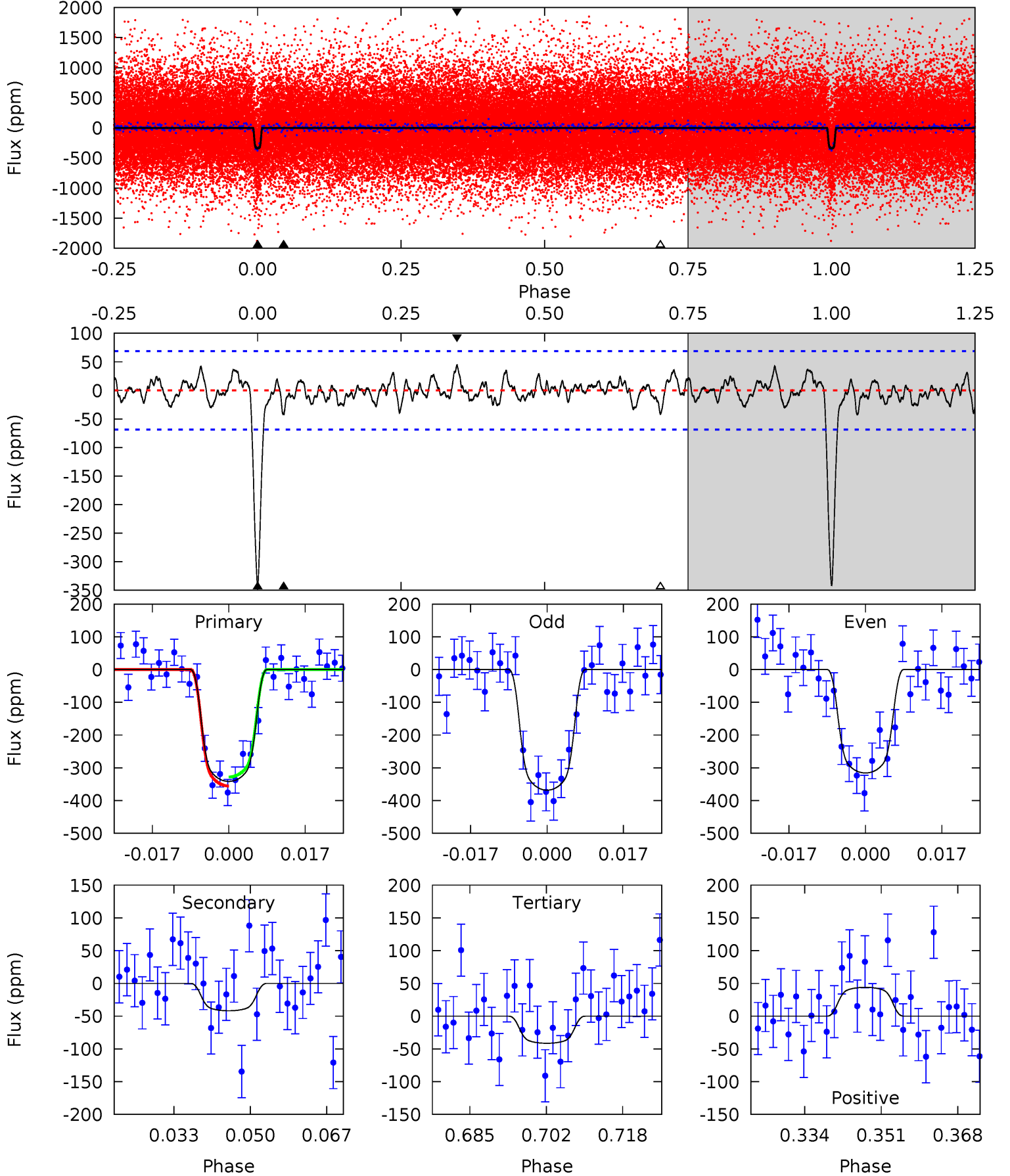
TCE 001872821-01 P= 10.273870 Days $T_0=134.653130$ (BKJD)



DV Model-Shift Uniqueness Test

001872821-01, $P = 10.273776$ Days, $E = 124.385001$ Days

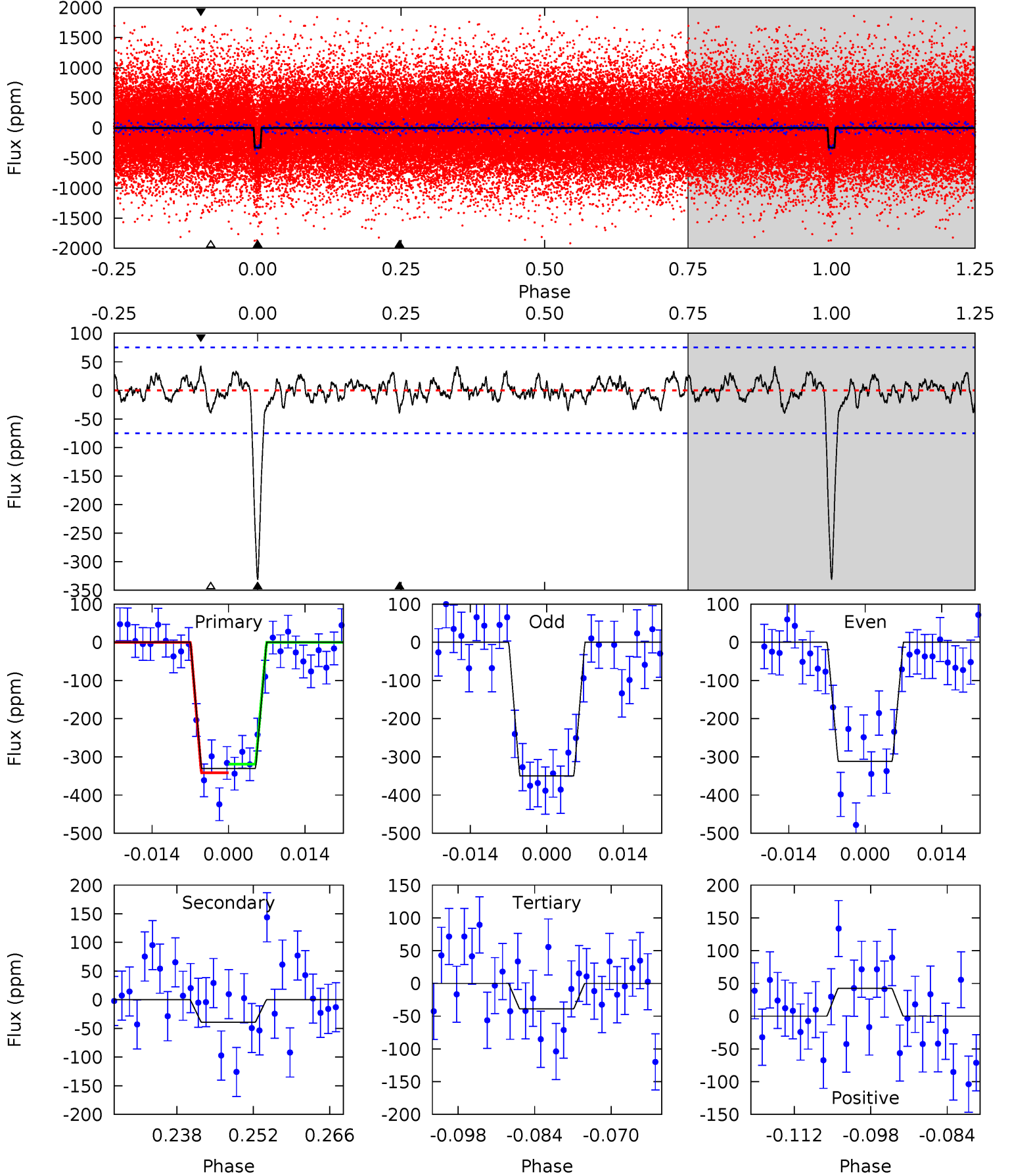
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.5	3.01	2.98	3.16	4.93	2.39	1.08	21.6	21.4	0.03	-0.15	1.89	1.00	0.11	0.99



Alt Model-Shift Uniqueness Test

001872821-01, $P = 10.273870$ Days, $E = 124.379260$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.8	2.59	2.57	2.79	4.96	2.46	0.95	19.3	19.0	0.02	-0.20	1.26	1.05	0.11	0.75



Stellar Parameters For KIC 001872821

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5806^{+69}_{-87}	$4.528^{+0.023}_{-0.068}$	$-0.040^{+0.150}_{-0.150}$	$0.899^{+0.084}_{-0.045}$	$0.996^{+0.046}_{-0.066}$	$1.928^{+0.194}_{-0.387}$
	+1%/-1%	+1%/-2%	+375%/-375%	+9%/-5%	+5%/-7%	+10%/-20%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 001872821-01 / KOI 2351.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-42 ± 14	$2.19^{+0.20}_{-0.19}$	1124^{+27}_{-23}	3569^{+211}_{-230}	39^{+17}_{-13}
Alt.	-39 ± 15	$1.84^{+0.19}_{-0.17}$	1124^{+26}_{-20}	3759^{+262}_{-327}	53^{+26}_{-23}

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 $A_{obs} \gg 1.0$

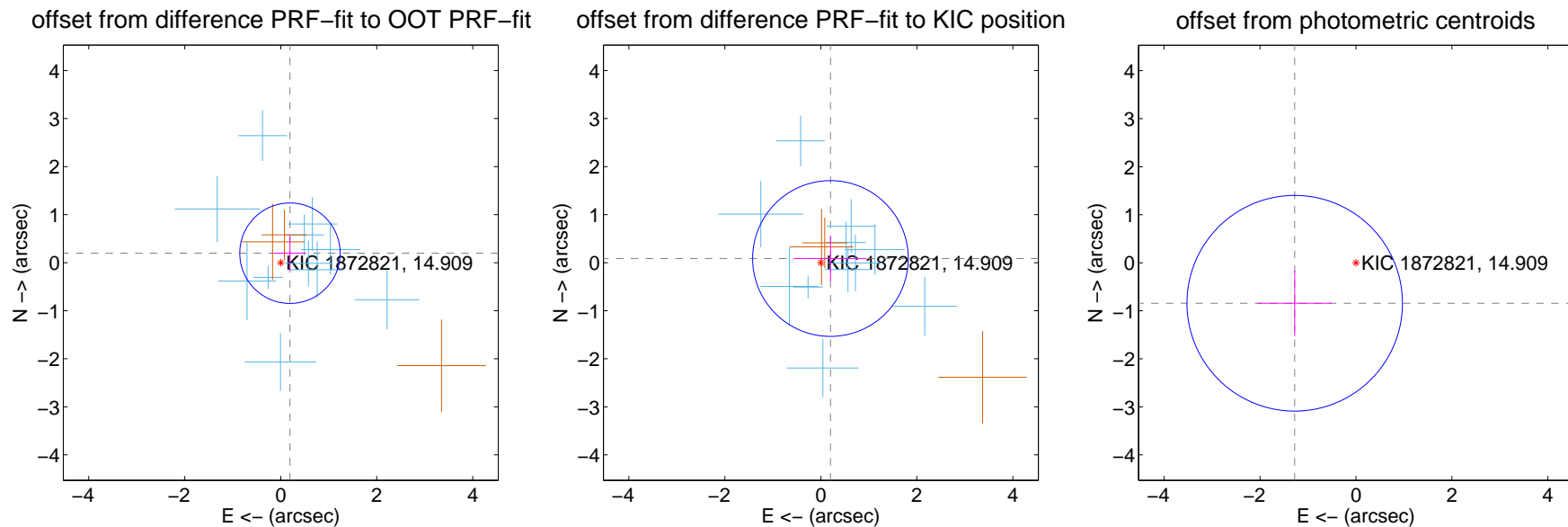
DV Centroid Data

Supplemental centroid analysis for 001872821-01. Kepler magnitude: 14.91. Transit SNR 18.50

There are 11 quarters with good PRF difference image offsets

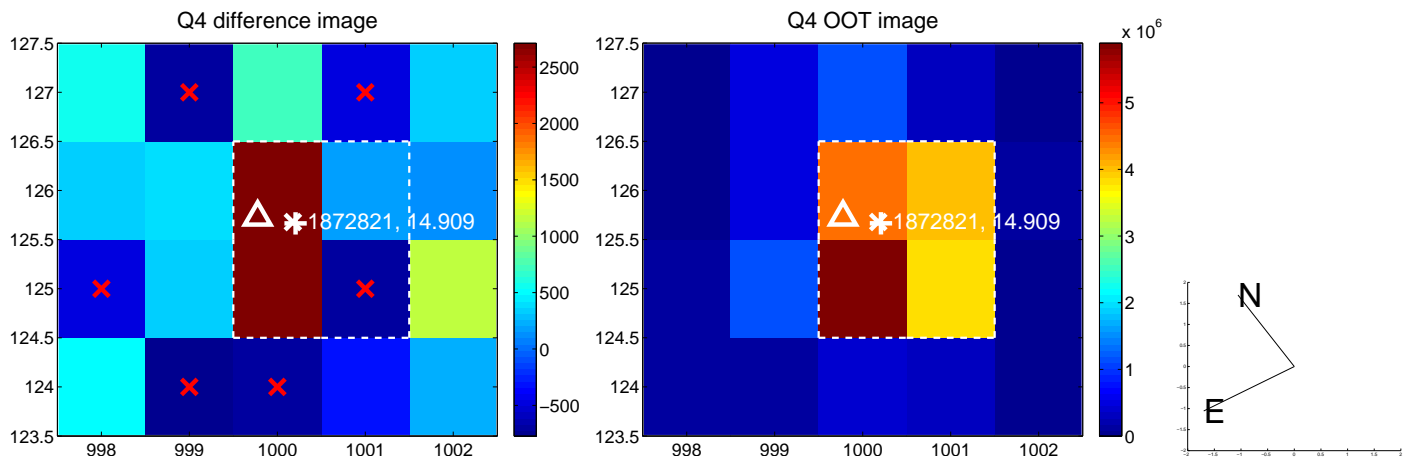
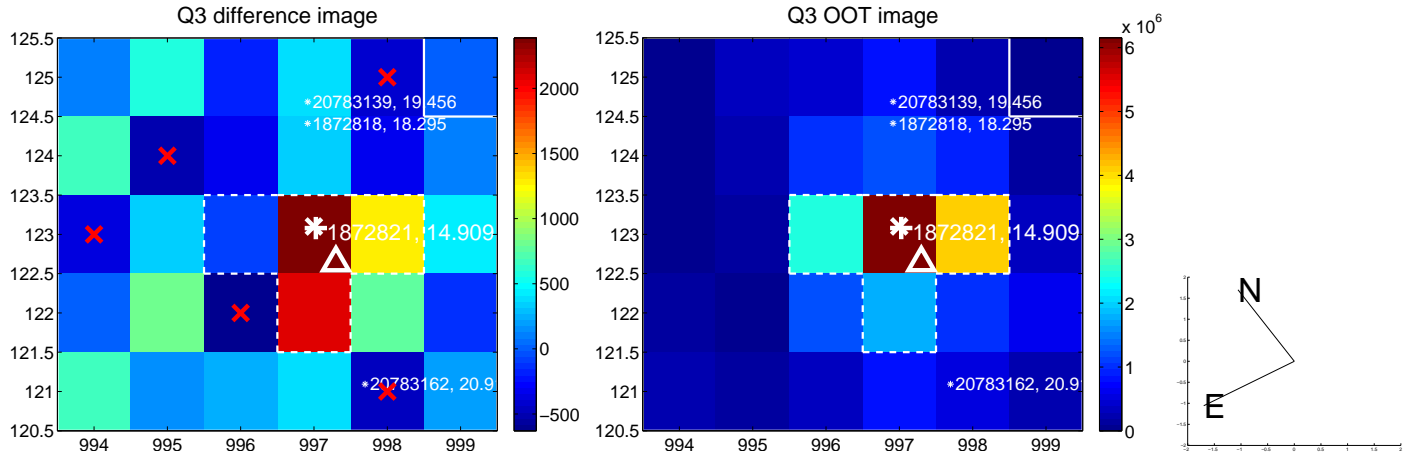
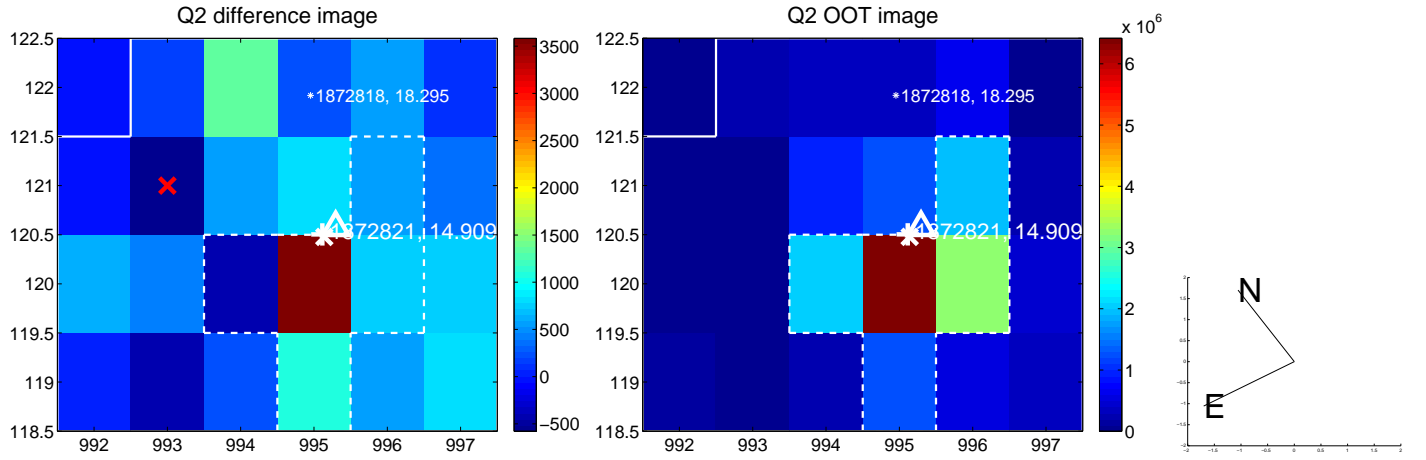
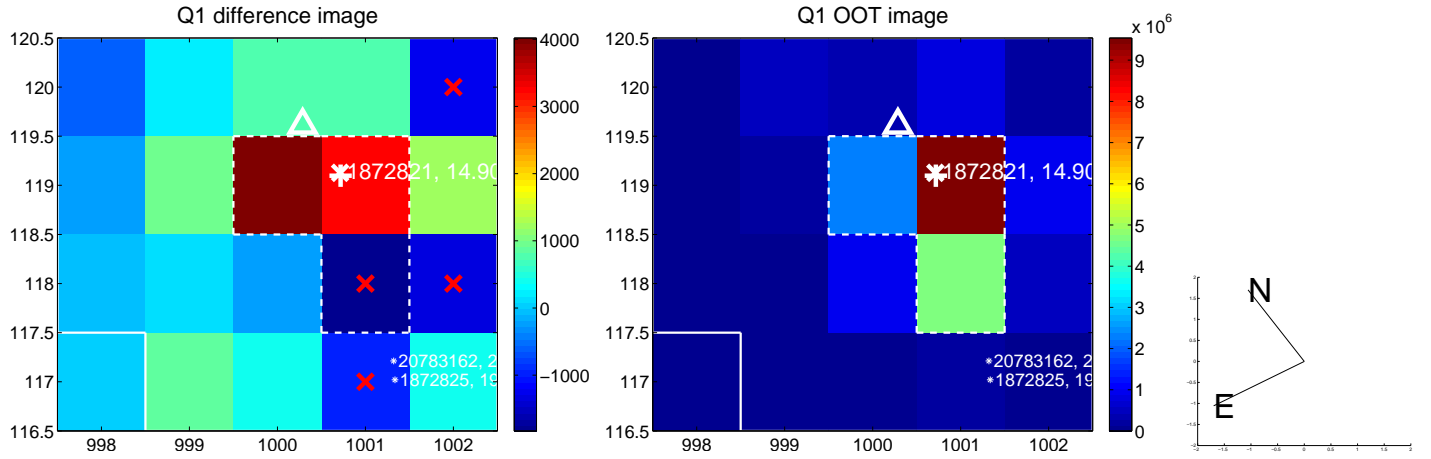
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.276 ± 0.349	0.79	-0.192 ± 0.336	0.197 ± 0.360
PRF-fit source offset from KIC position	0.218 ± 0.540	0.40	-0.200 ± 0.753	0.087 ± 0.467
photometric centroid source offset	1.53 ± 0.75	2.04	1.28 ± 0.77	-0.84 ± 0.69

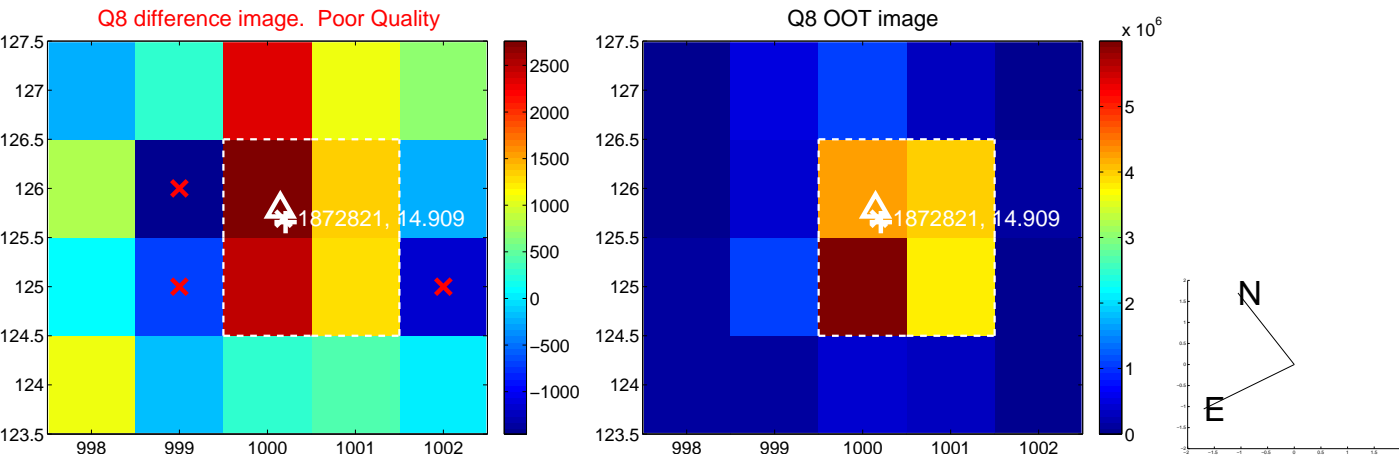
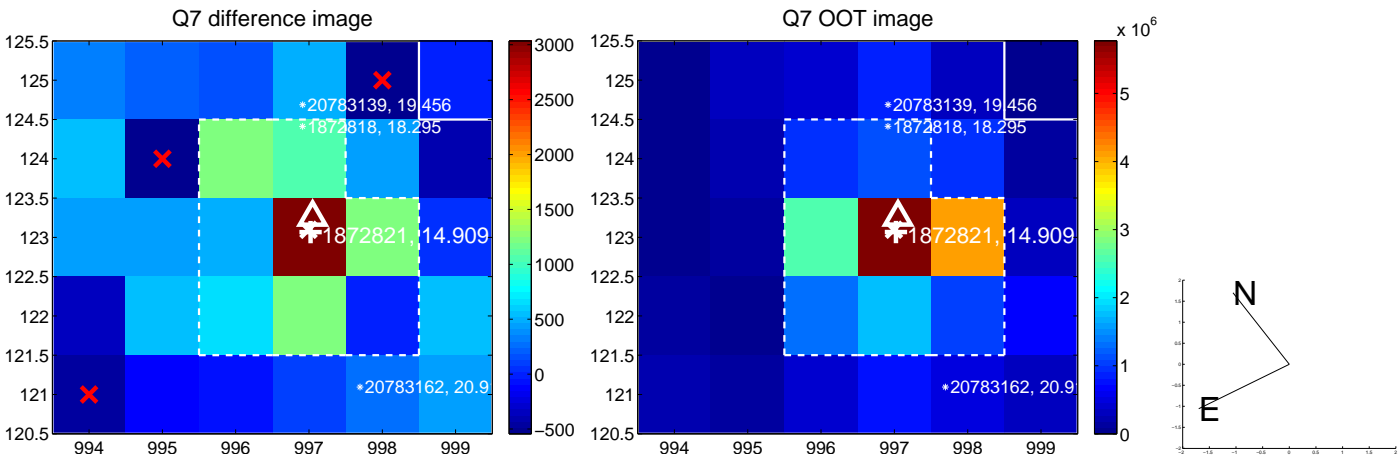
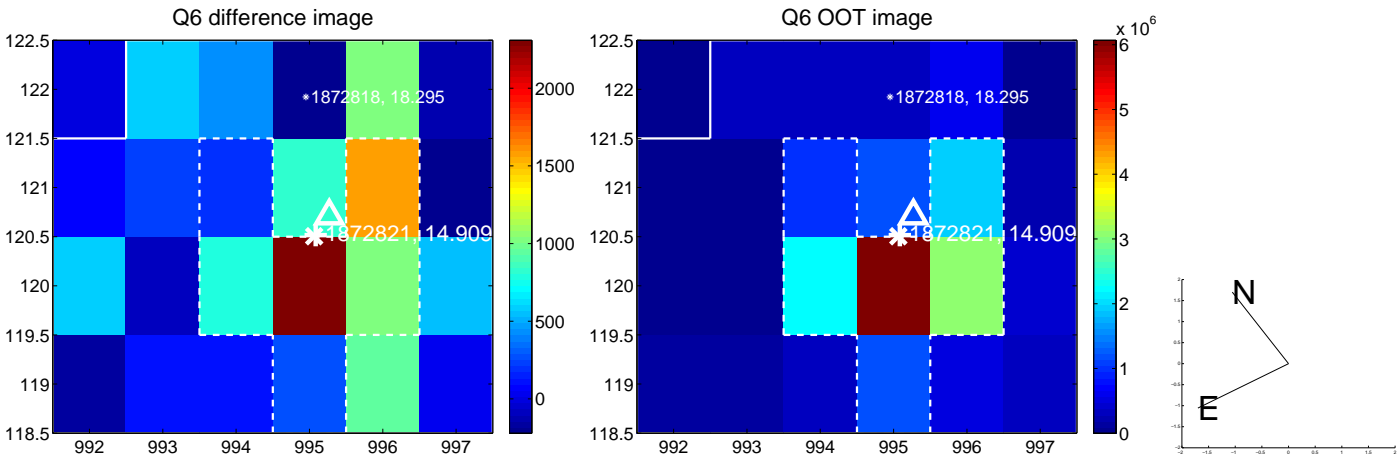
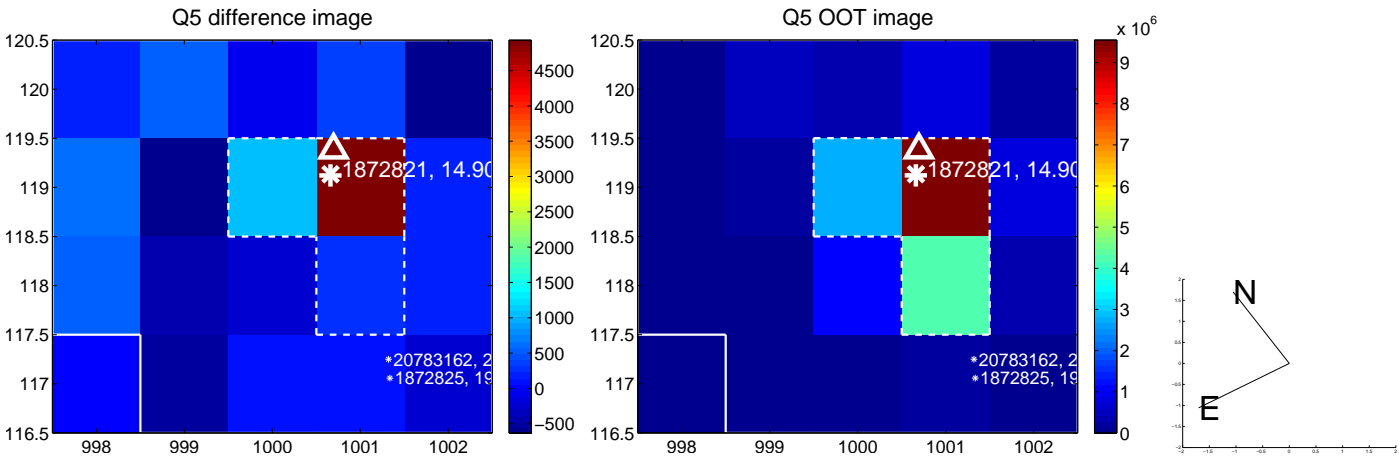


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

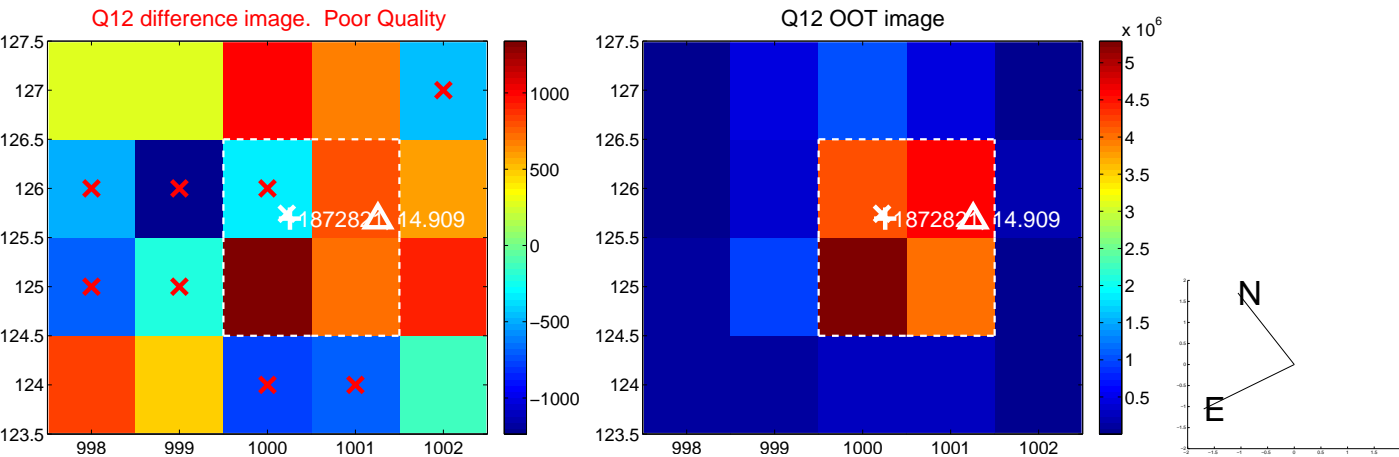
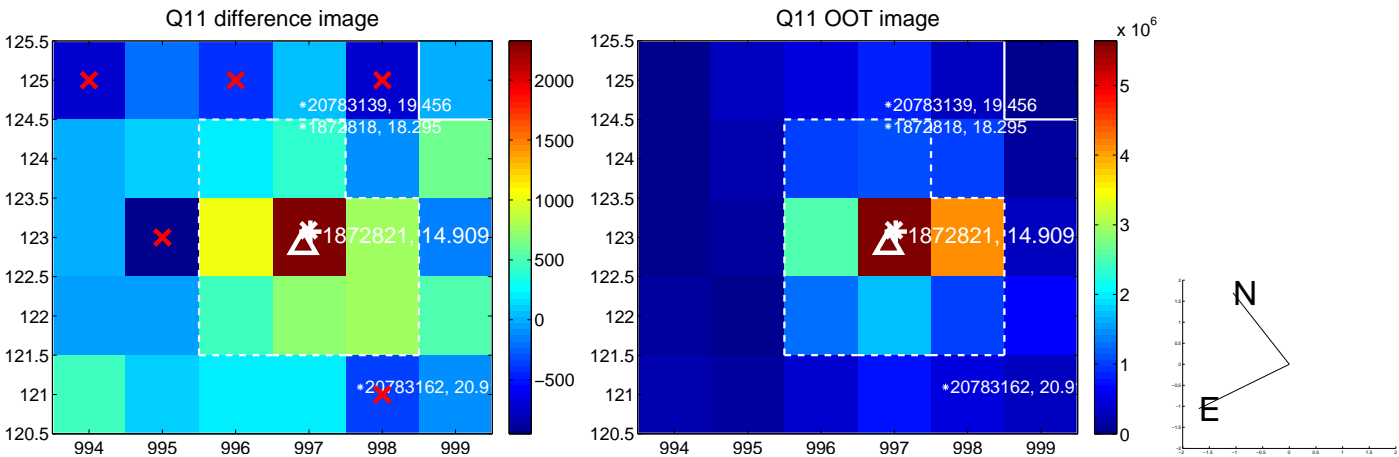
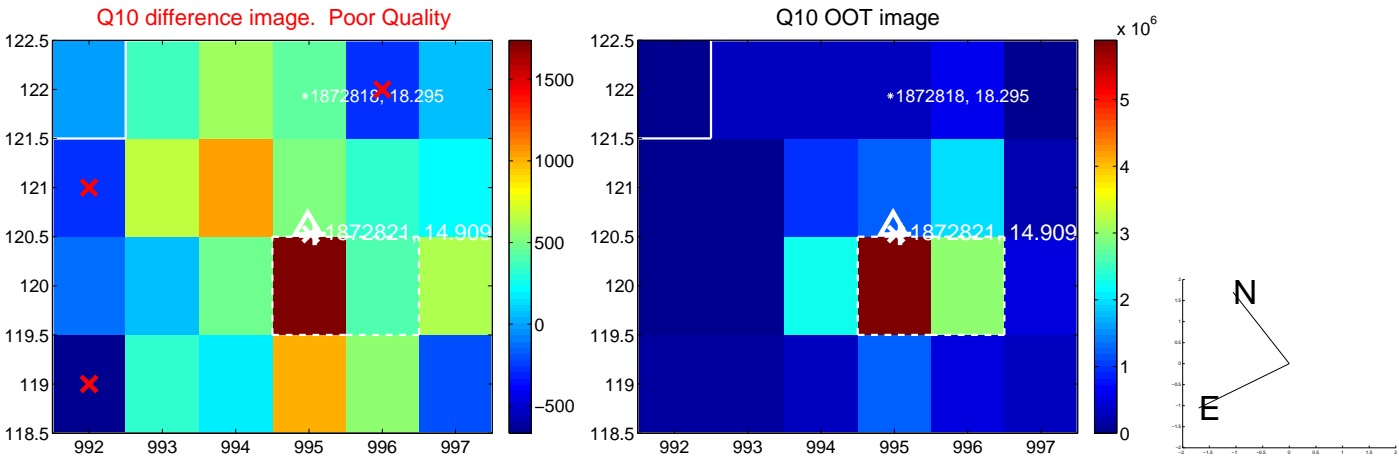
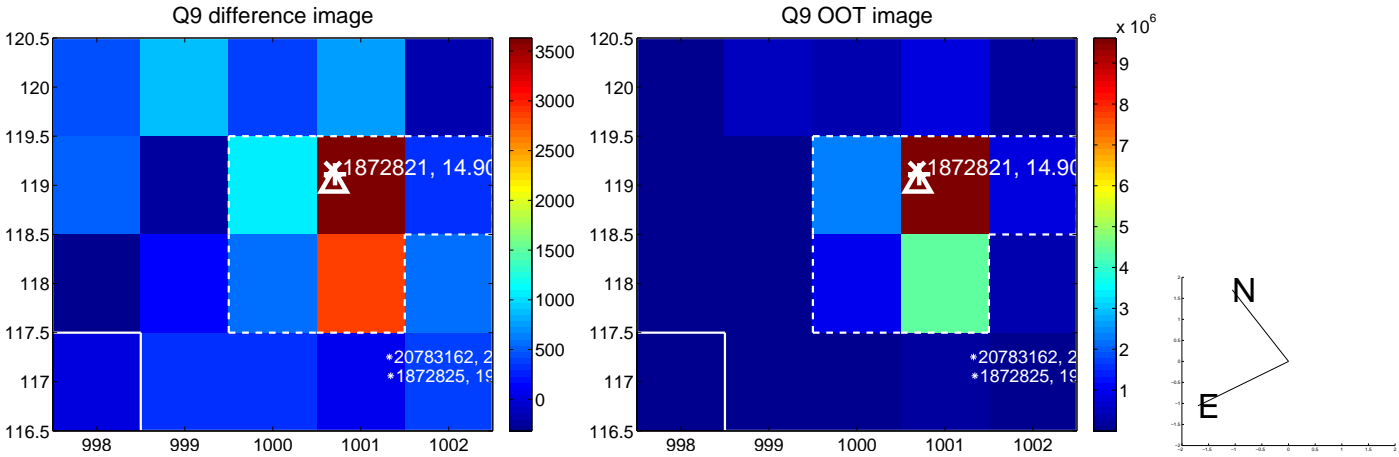
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



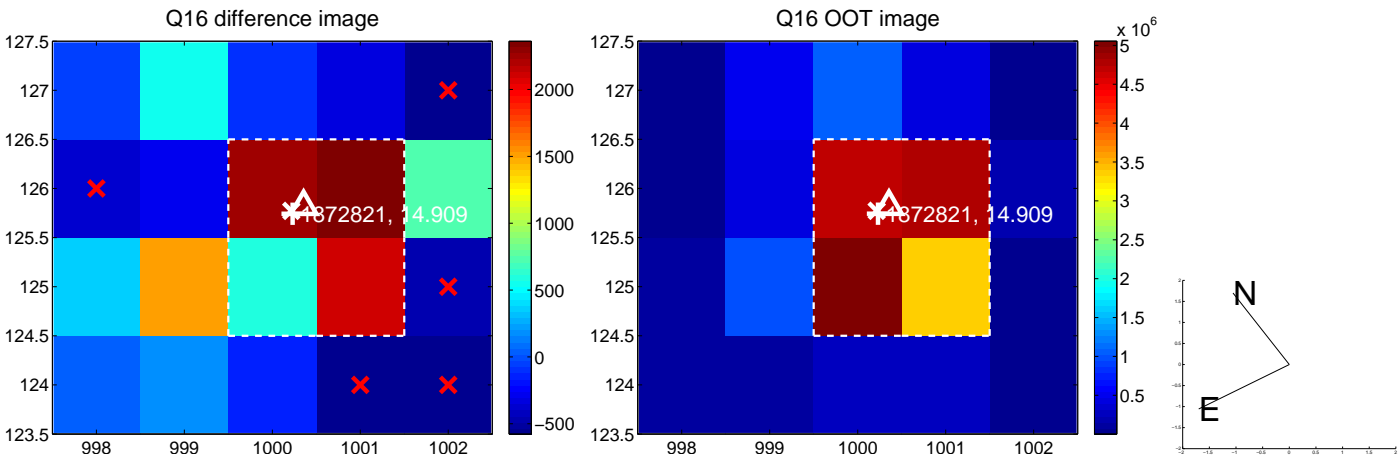
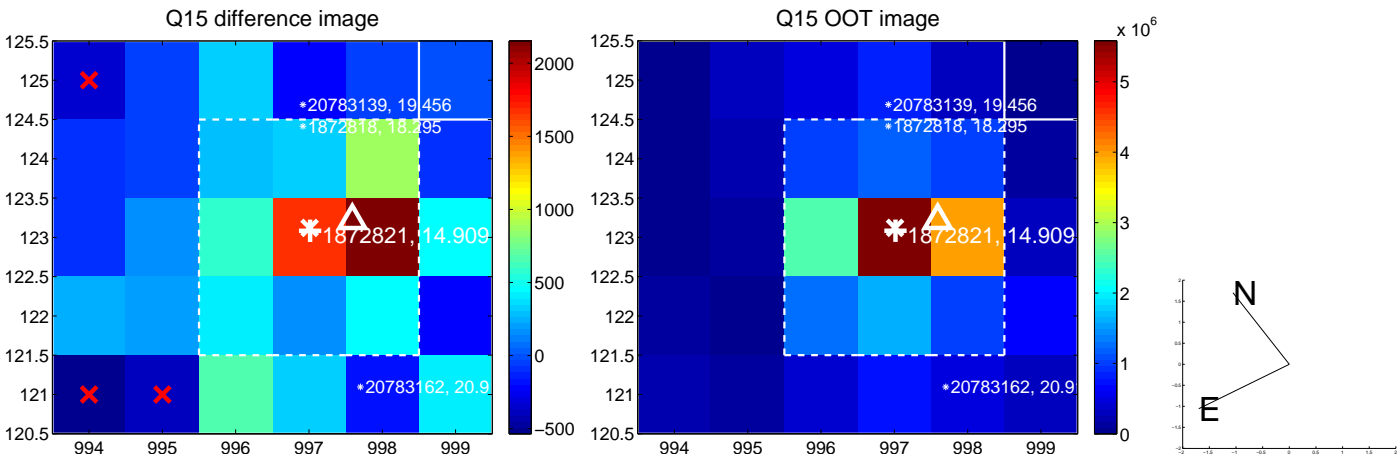
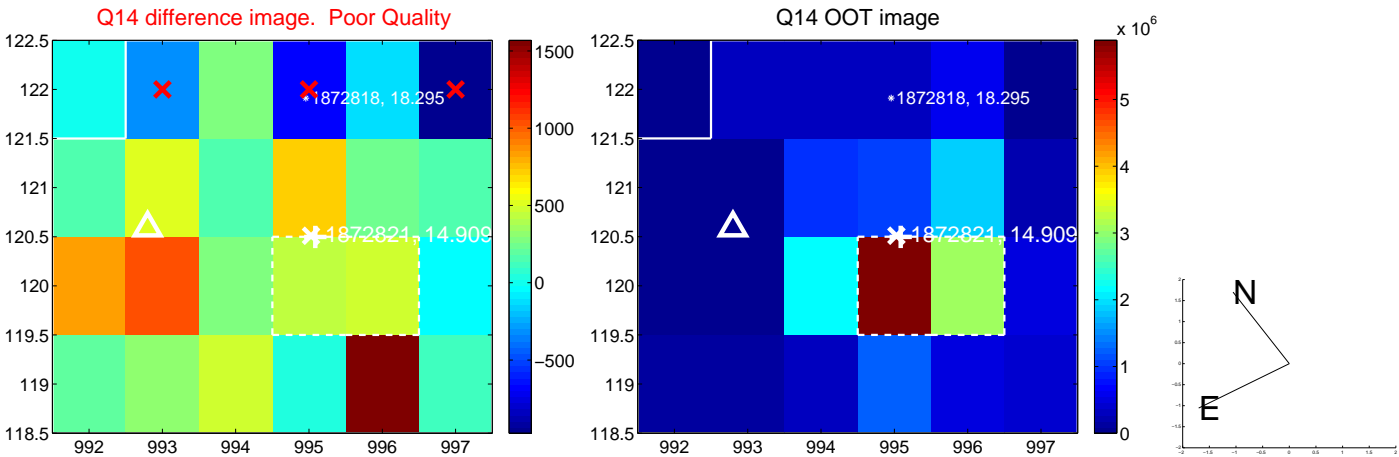
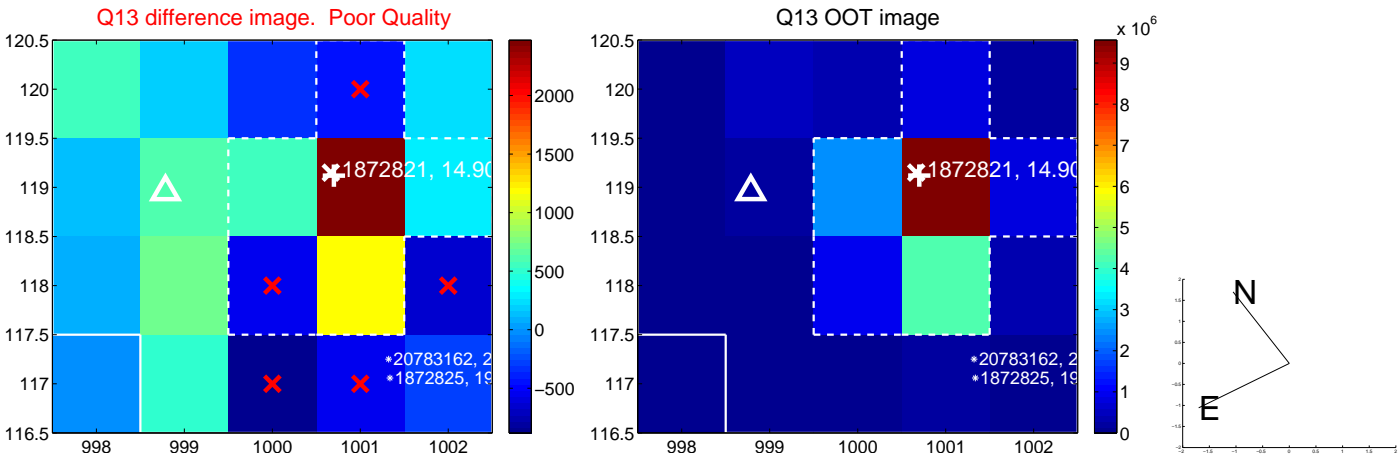
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



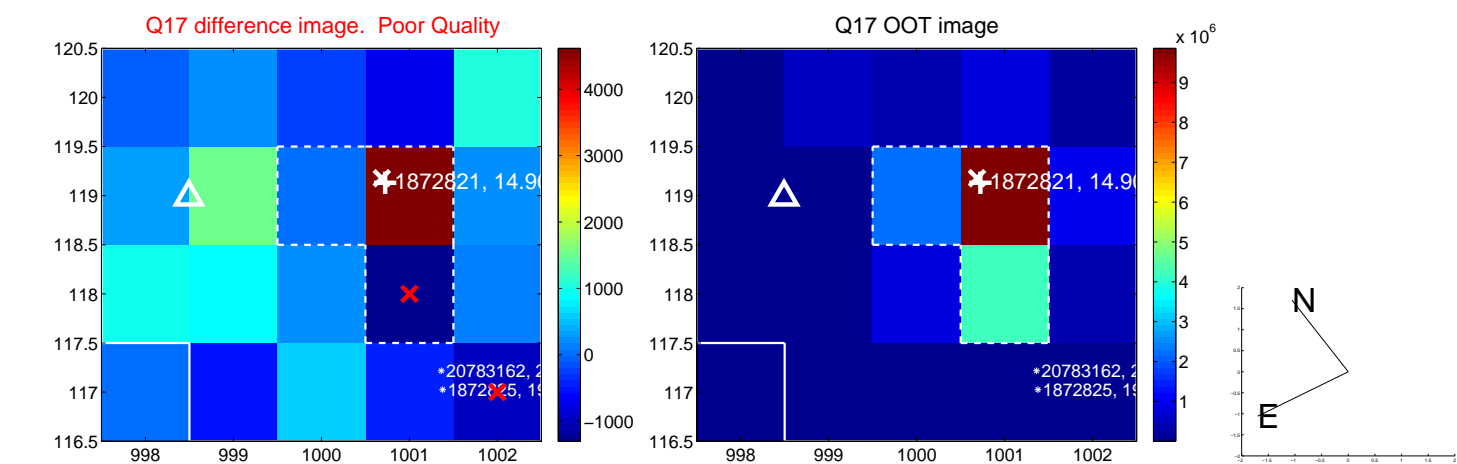
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



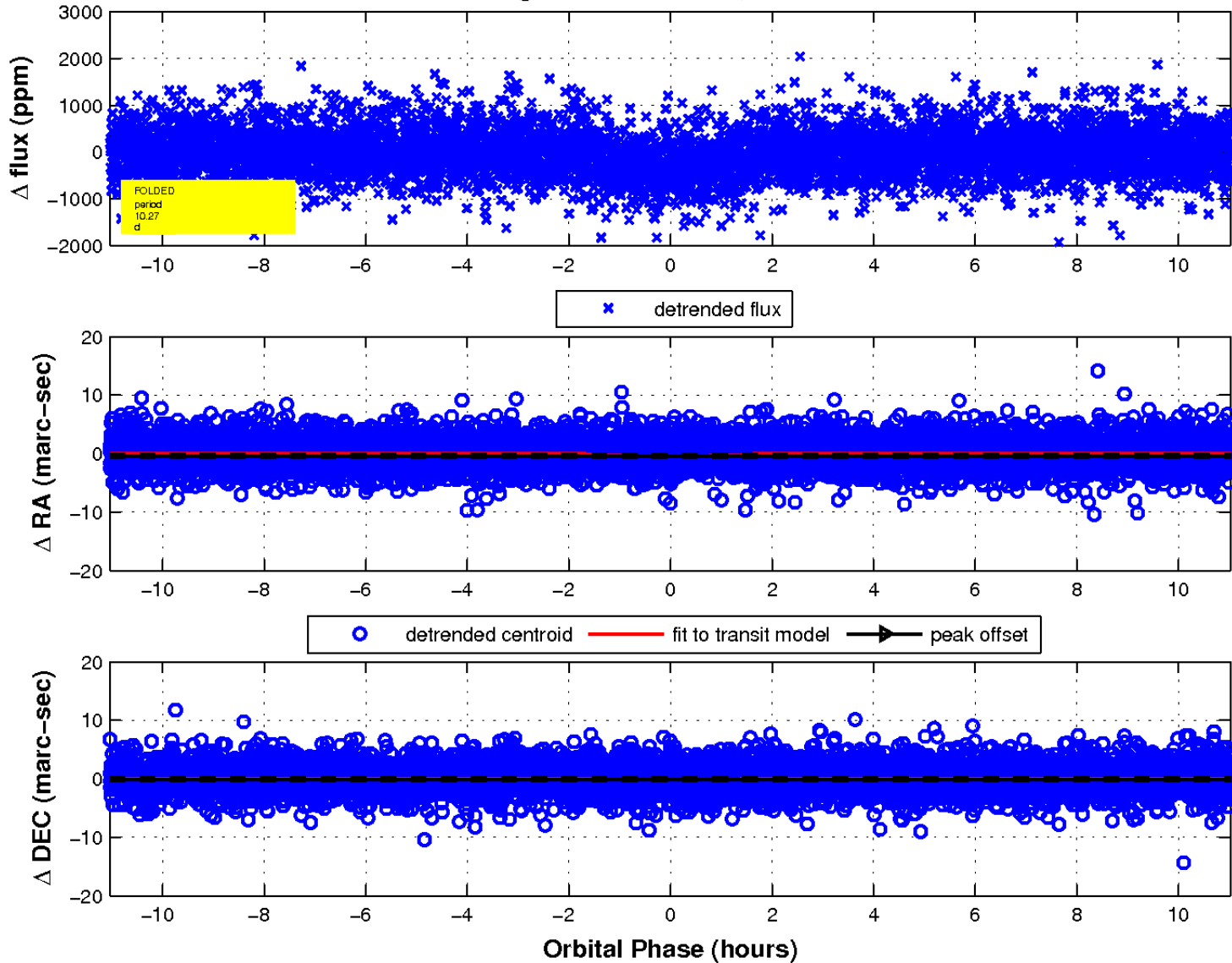
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

