

KIC 003103851

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})
003103851-01	OBS	No	0.846742	132.306562	18.9	3.517	9.1	7.4	1.46	5552	0.76	6558.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003103851-01	OBS	FP	0.00	1	0	0	0	LPP_DV

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

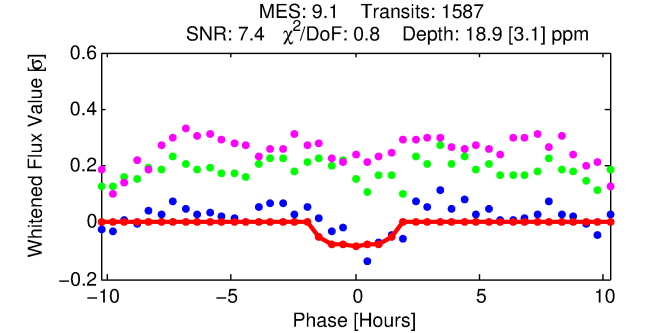
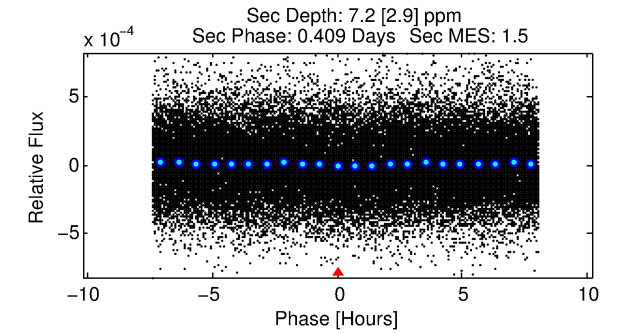
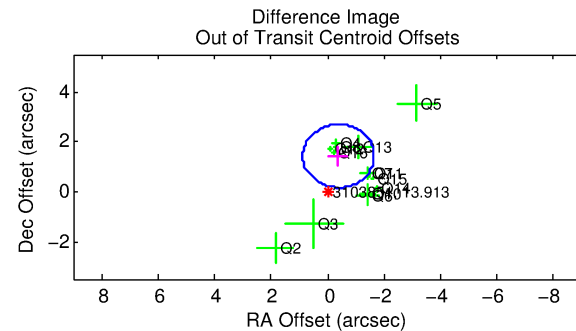
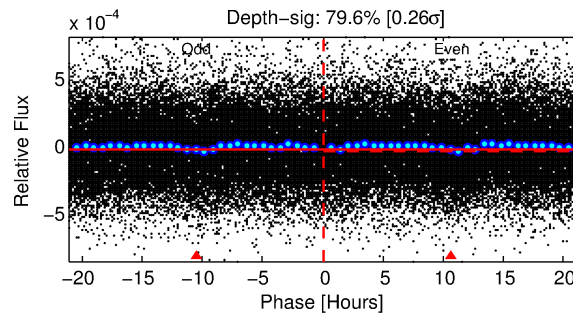
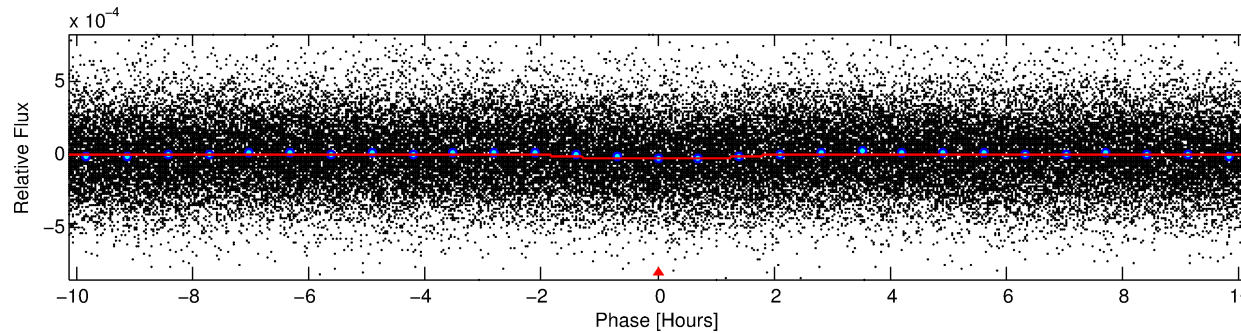
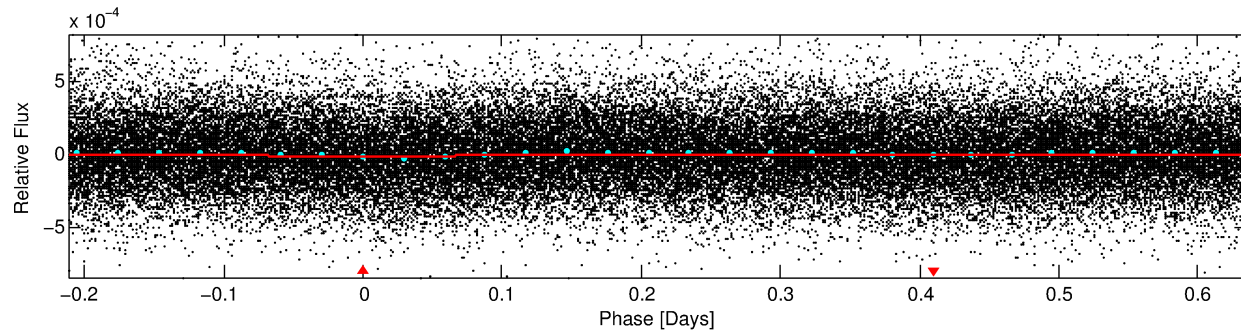
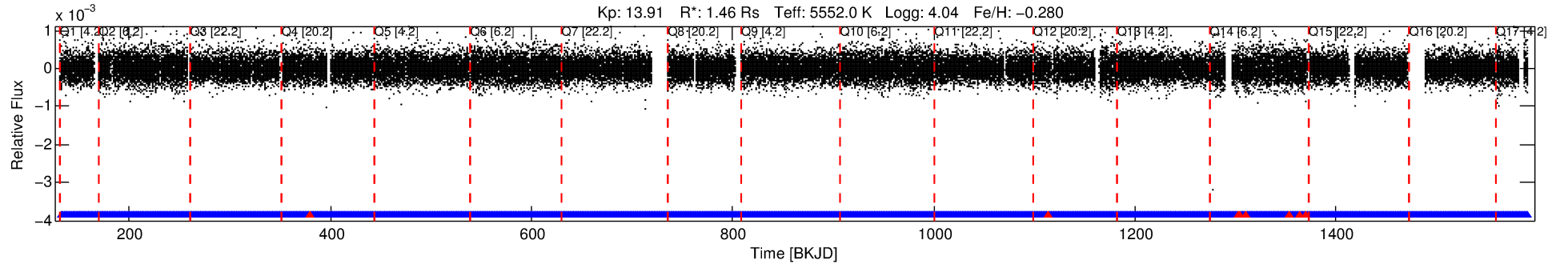
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003103851-01

No Significant Match Found

DV One-Page Summary

KIC: 3103851 Candidate: 1 of 1 Period: 0.847 d



DV Fit Results:

Period = 0.84674 [0.00002] d
Epoch = 132.3066 [0.0057] BKJD
Rp/R* = 0.0048 [0.0039]
a/R* = 1.24 [1.67]
b = 0.91 [0.79]
Seff = 6558.29 [5396.54]
Teff = 2295 [472] K
Rp = 0.76 [0.71] Re
a = 0.0166 [0.0081] AU
Ag = 1.89 [3.50] [0.25 σ]
Teffp = 4159 [1737] K [1.04 σ]

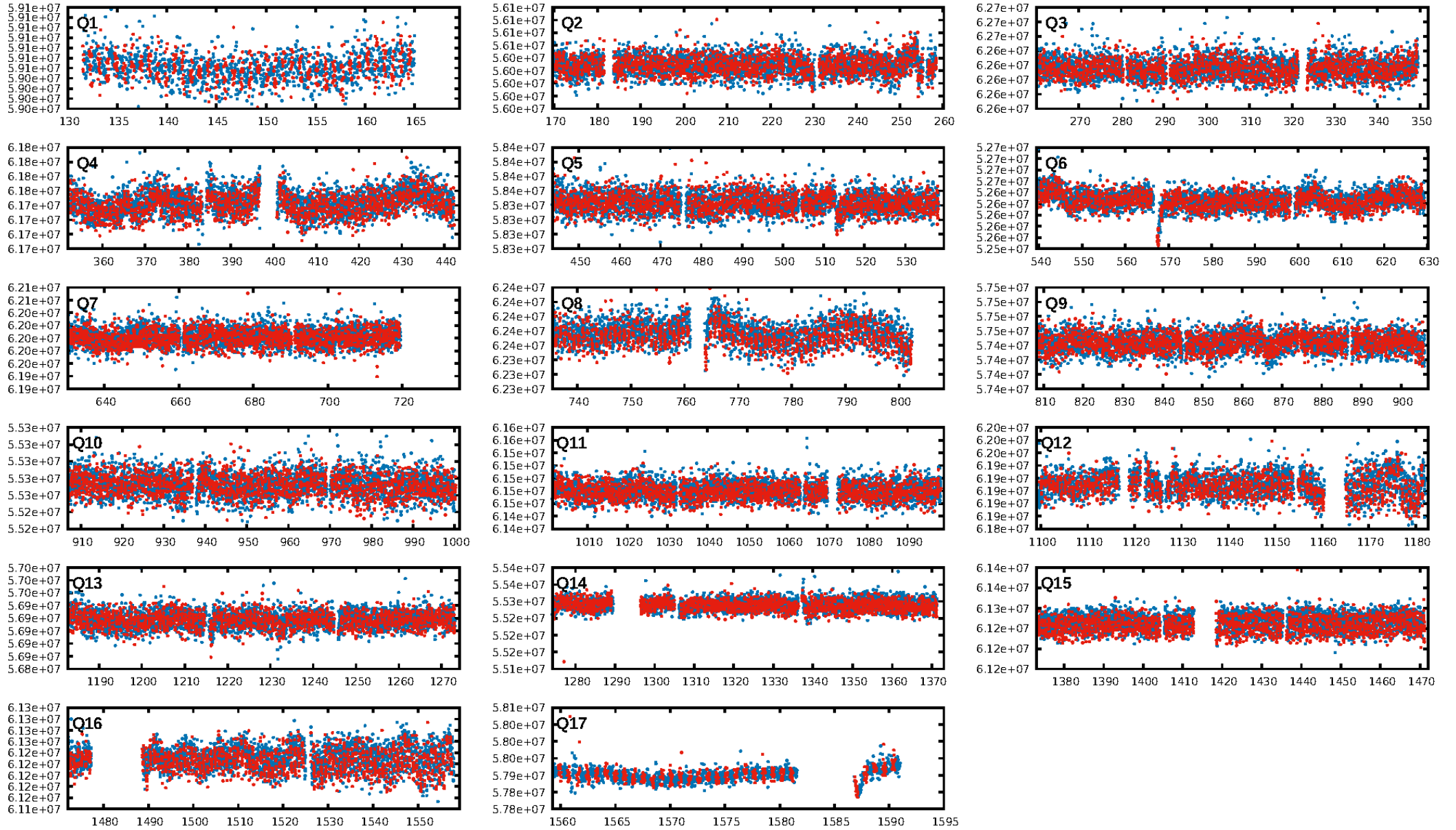
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.27e-18
RollingBand-fgt: 0.99 [1508/1516]
GhostDiagnostic-chr: 0.8769
Centroid-sig: 0.3%
Centroid-so: 2.892 arcsec [1.71 σ]
OotOffset-rm: 1.477 arcsec [3.50 σ]
KicOffset-rm: 1.207 arcsec [2.99 σ]
OotOffset-st: 4/4/4/2 [14]
KicOffset-st: 4/4/4/2 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 1.00 [17/17]

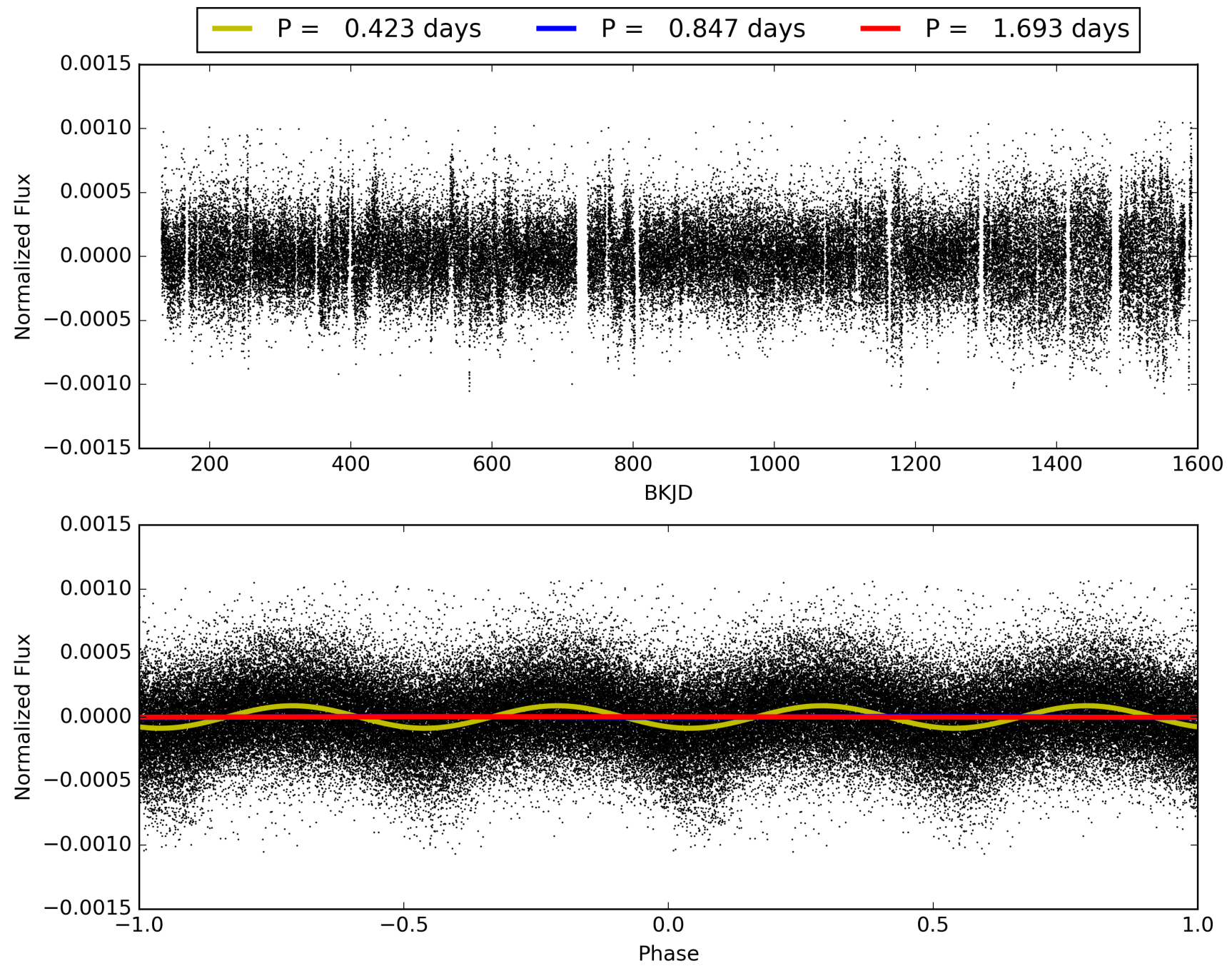
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 19:11:19 Z

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

TCE 003103851-01, PDC Light Curves

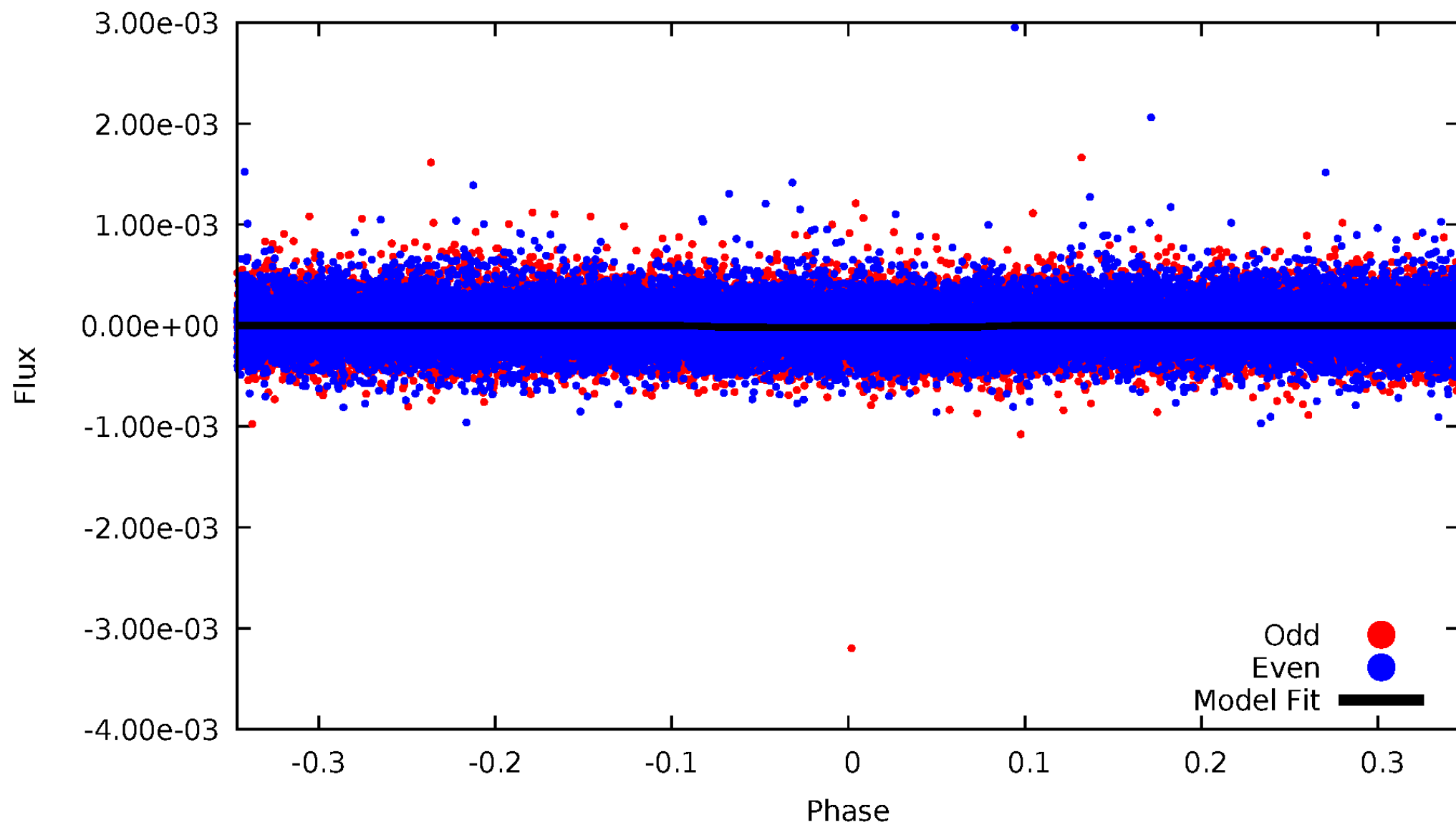


TCE 003103851-01



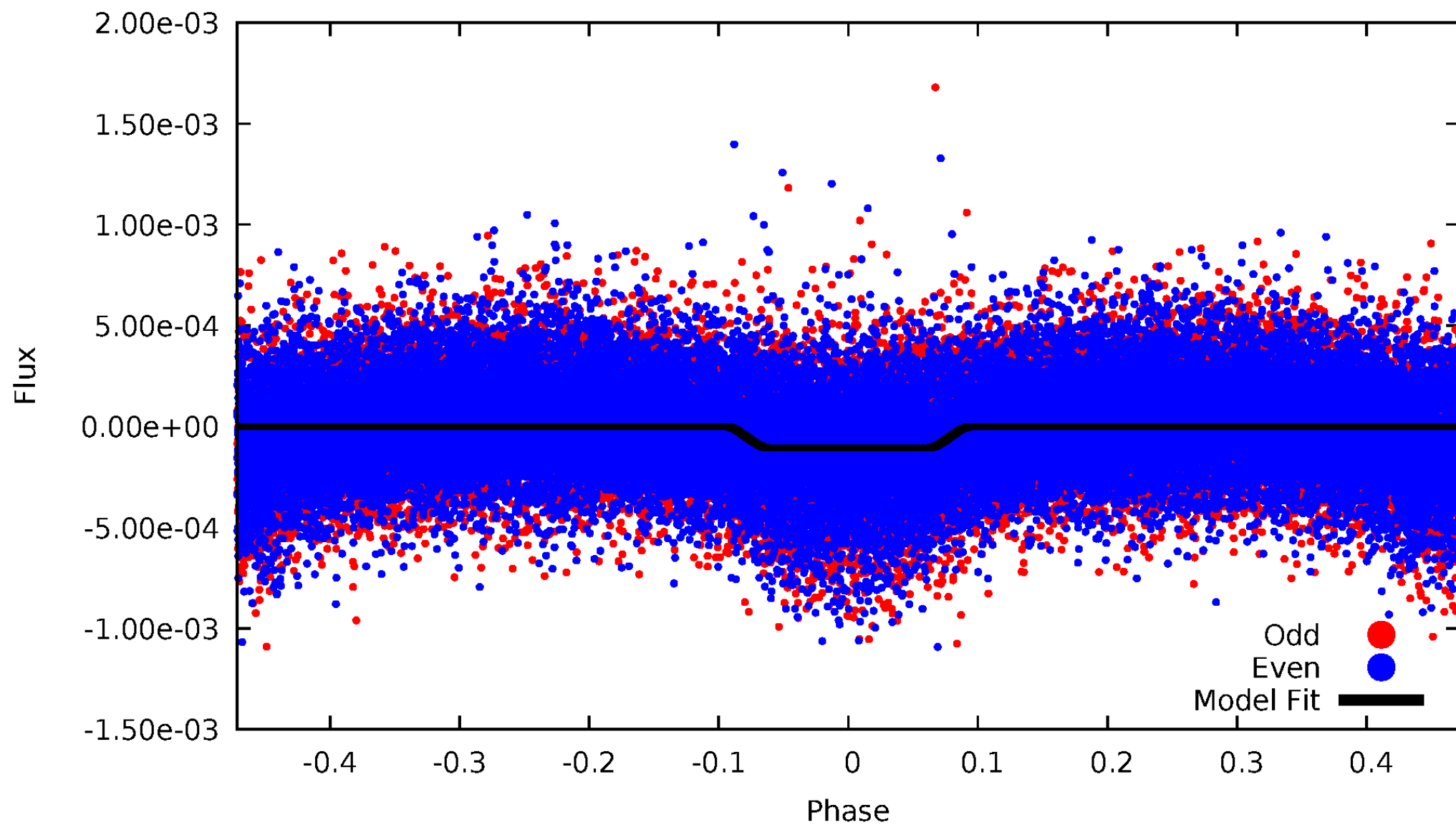
DV Odd/Even

TCE 003103851-01



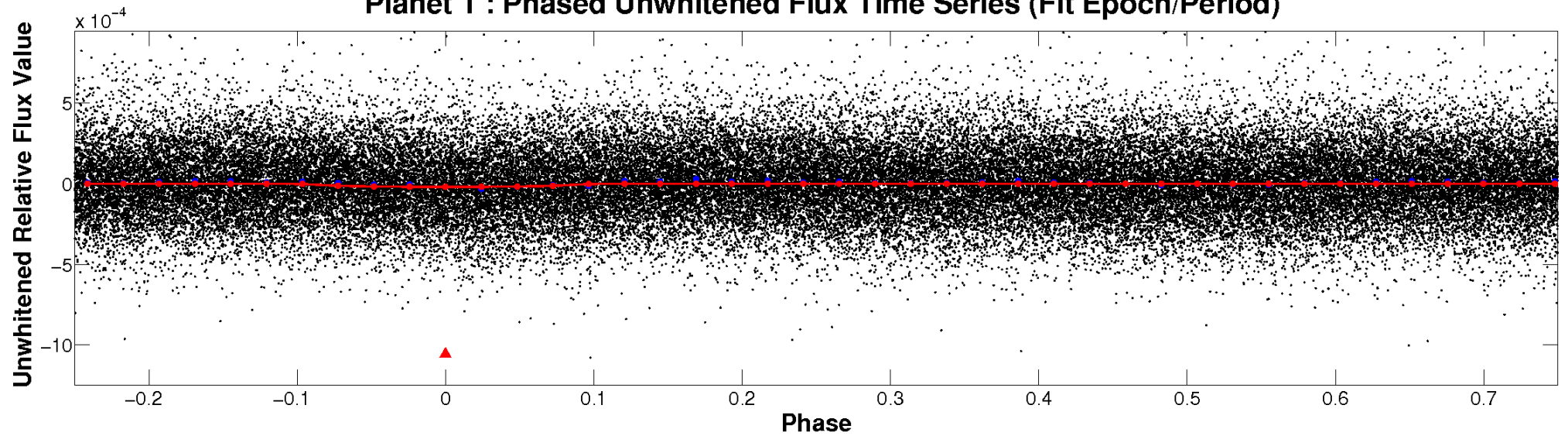
ALT Odd/Even

TCE 003103851-01

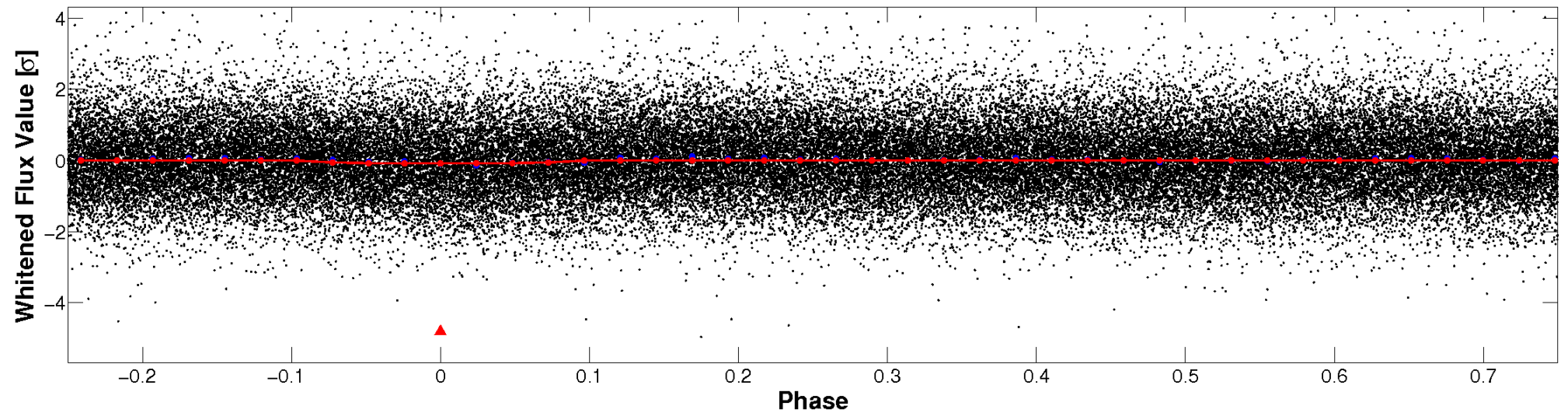


Non-Whitened Vs. Whitened Light Curve

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

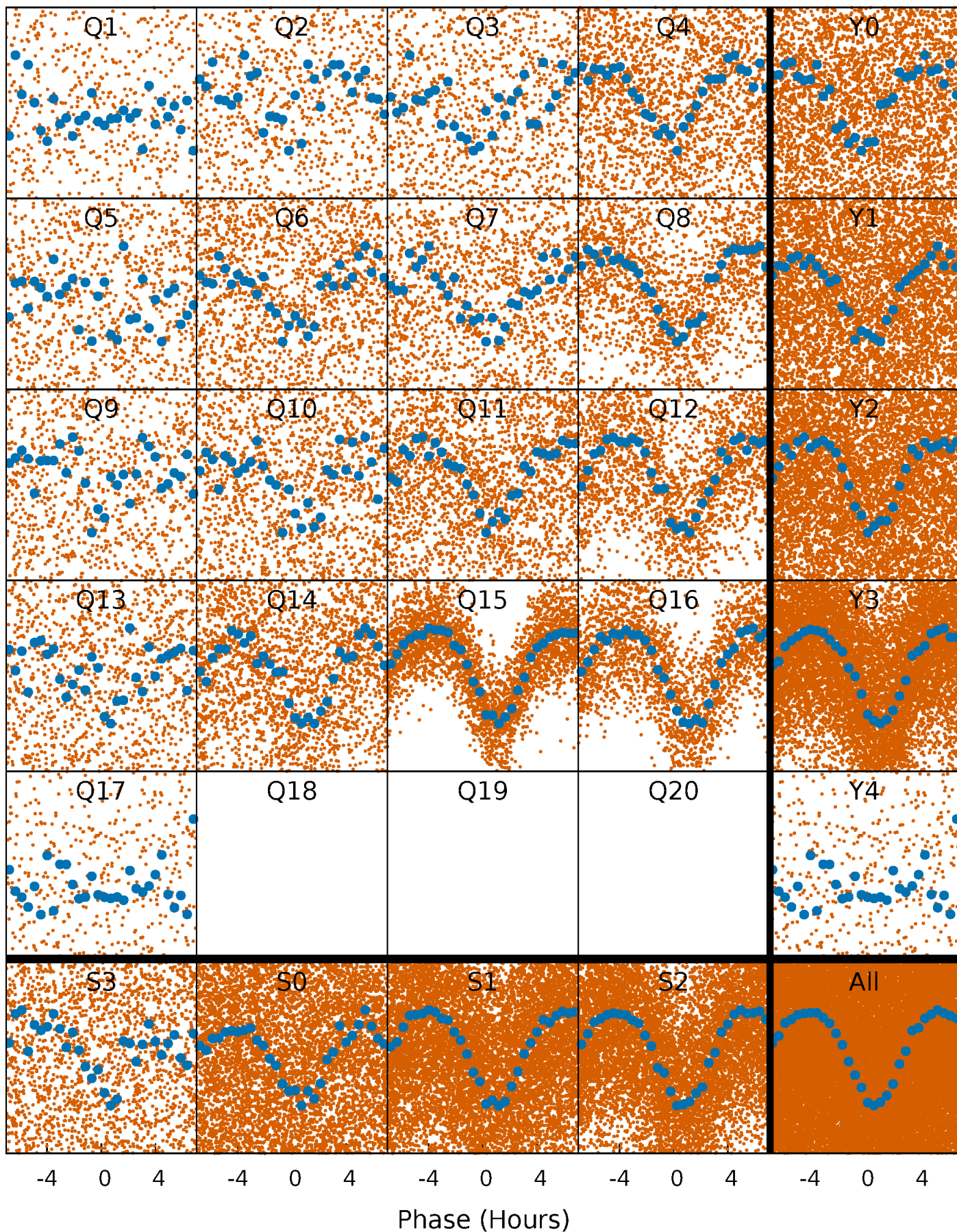


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



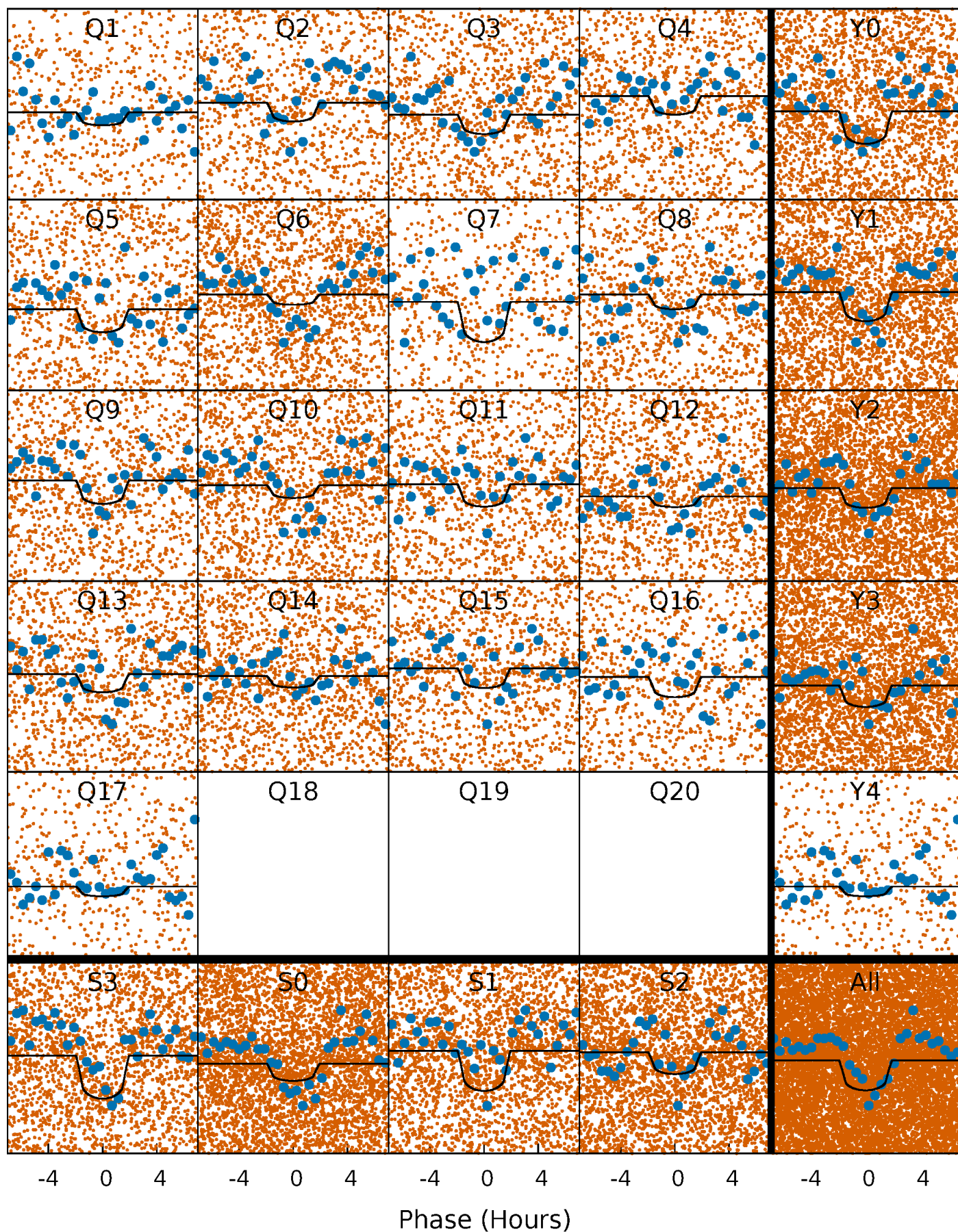
PDC Quarter-Phased Transit Curves

TCE 003103851-01 P= 0.846742 Days $T_0=132.306562$ (BKJD)



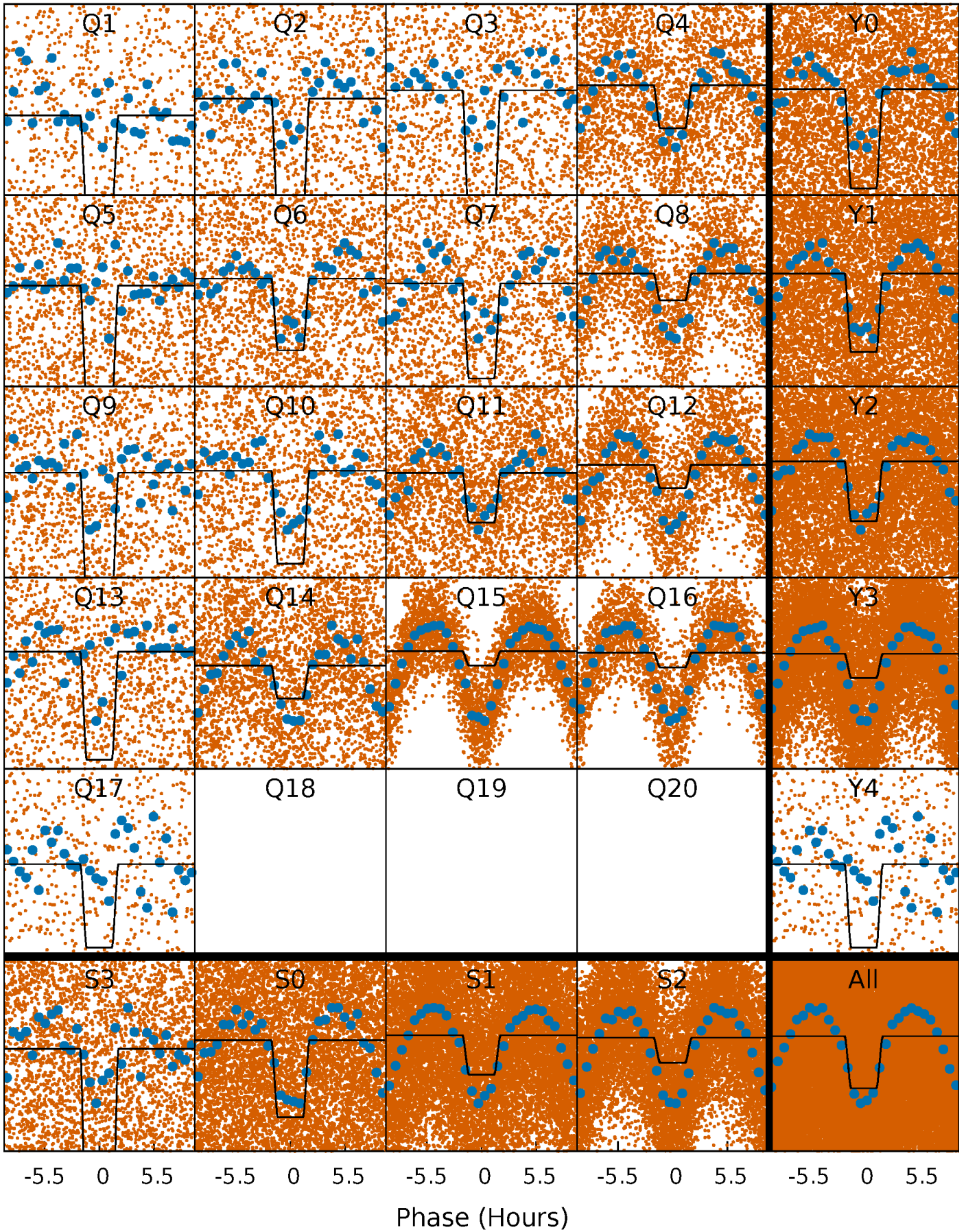
DV Quarter-Phased Transit Curves

TCE 003103851-01 P= 0.846742 Days $T_0=132.306562$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

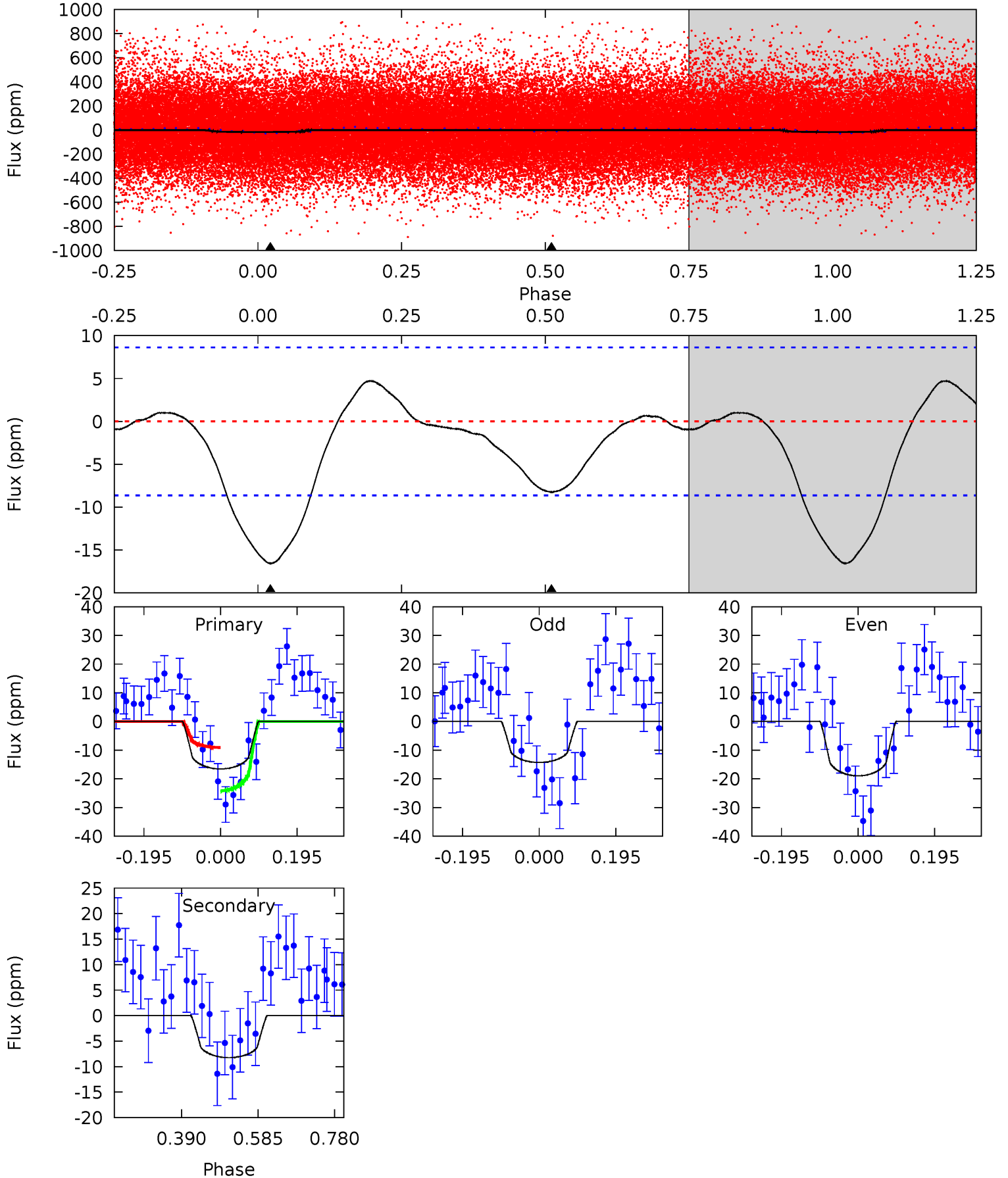
TCE 003103851-01 P= 0.846785 Days $T_0=132.288542$ (BKJD)



DV Model-Shift Uniqueness Test

003103851-01, P = 0.846742 Days, E = 131.459820 Days

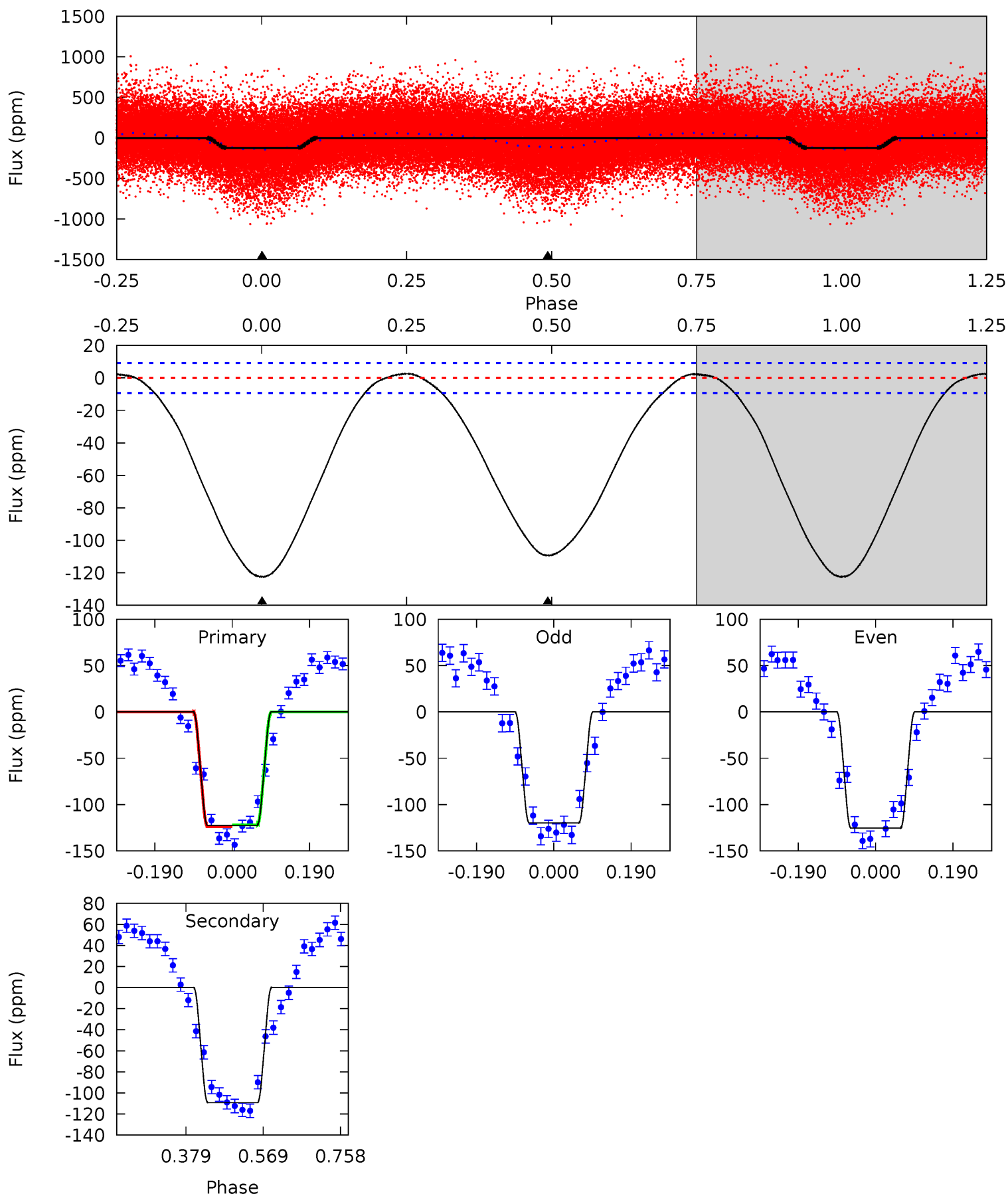
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.49	4.23	0	0	4.42	1.30	0.68	8.49	8.49	4.23	4.23	1.20	1.43	0.22	3.86



Alt Model-Shift Uniqueness Test

003103851-01, P = 0.846785 Days, E = 131.441757 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.6	52.3	0	0	4.43	1.31	1.67	58.6	58.6	52.3	52.3	1.33	1.42	0.02	0.45



Stellar Parameters For KIC 003103851

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5552^{+167}_{-150}	$4.042^{+0.490}_{-0.210}$	$-0.280^{+0.300}_{-0.250}$	$1.461^{+0.512}_{-0.682}$	$0.858^{+0.110}_{-0.090}$	$0.388^{+1.792}_{-0.203}$
	+3%/-3%	+12%/-5%	+107%/-89%	+35%/-47%	+13%/-10%	+462%/-52%
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 003103851-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-8 ± 2	$0.75^{+0.66}_{-0.45}$	3174^{+302}_{-414}	4242^{+2226}_{-1041}	$2.141^{+12.958}_{-1.532}$
Alt.	-109 ± 2	$1.52^{+0.79}_{-0.60}$	3164^{+307}_{-420}	5565^{+1412}_{-794}	$7.442^{+11.757}_{-4.288}$

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

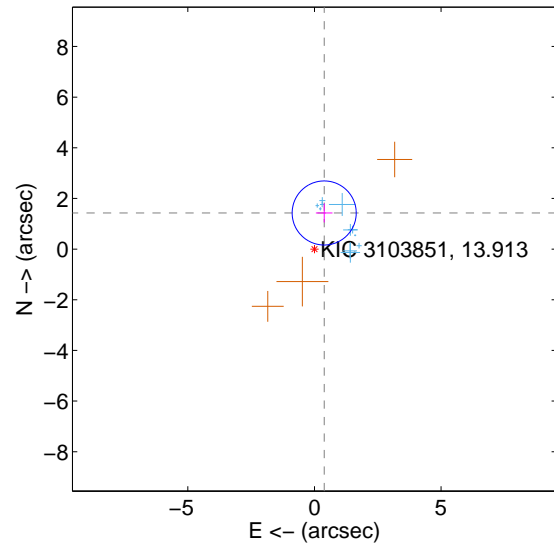
Supplemental centroid analysis for 003103851-01. Kepler magnitude: 13.91. Transit SNR 7.39

There are 11 quarters with good PRF difference image offsets

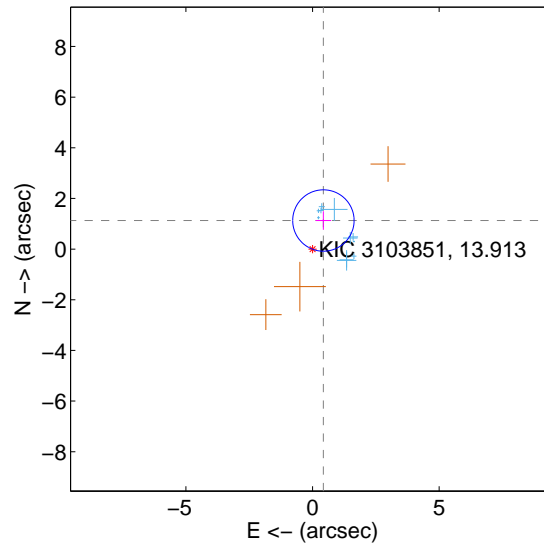
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.477 ± 0.422	3.50	-0.385 ± 0.329	1.426 ± 0.377
PRF-fit source offset from KIC position	1.207 ± 0.404	2.99	-0.429 ± 0.305	1.129 ± 0.367
photometric centroid source offset	2.89 ± 1.69	1.71	1.55 ± 1.56	2.44 ± 1.74

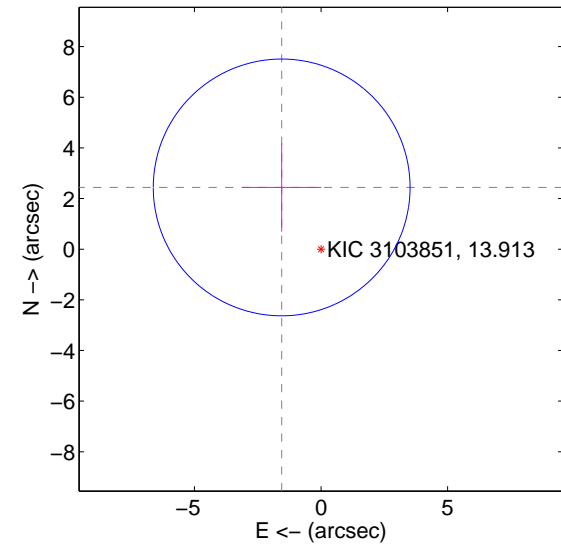
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

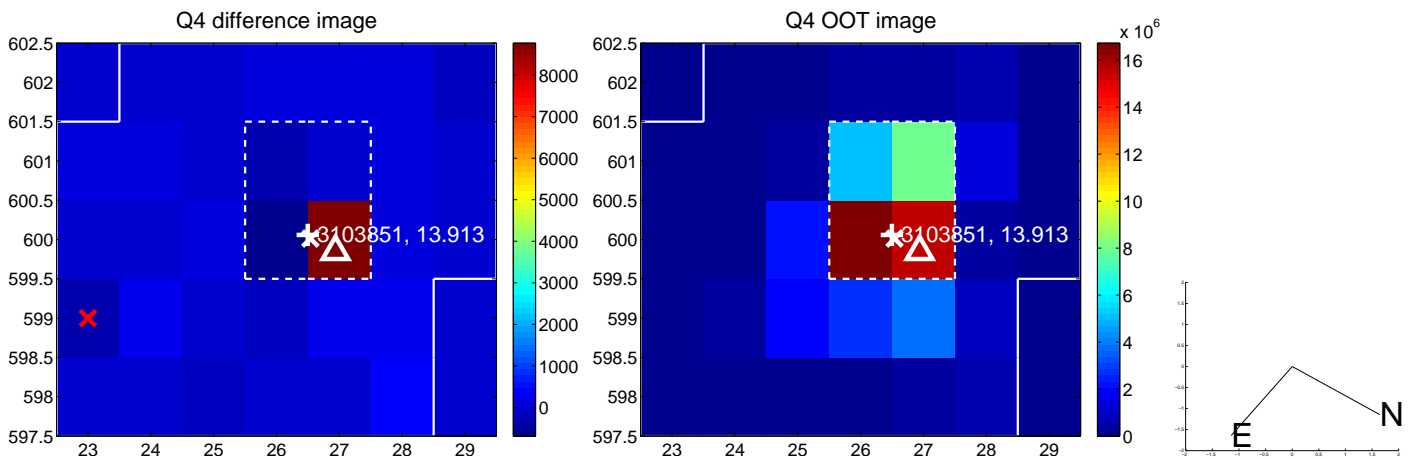
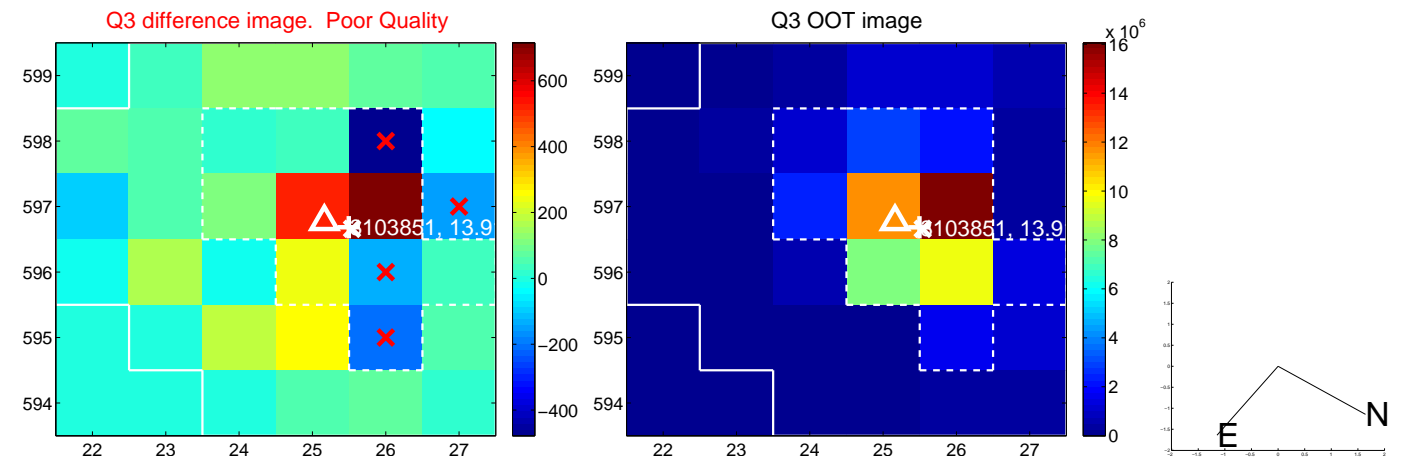
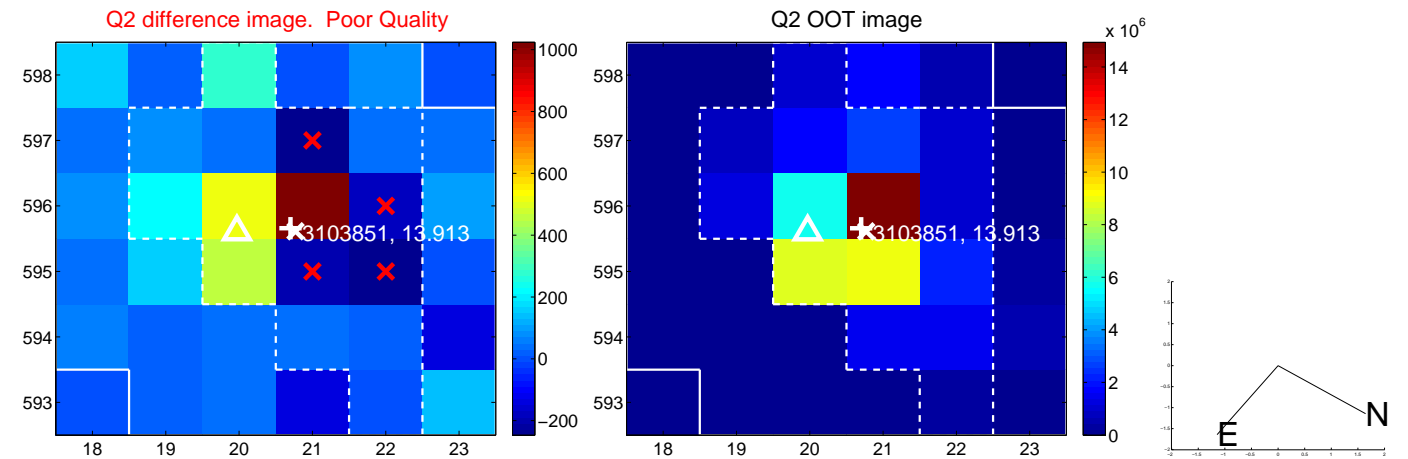
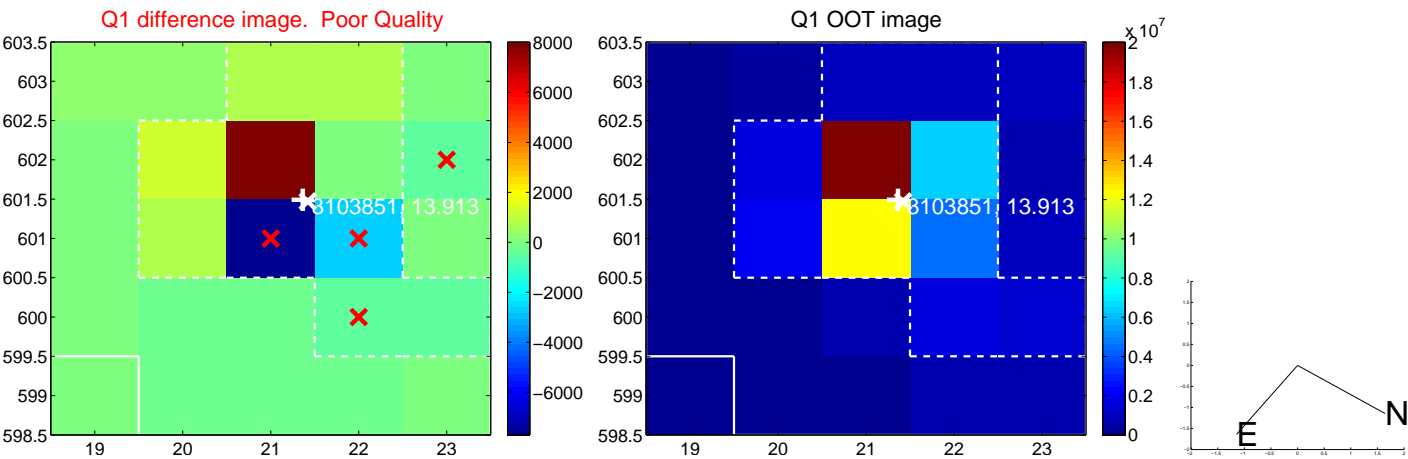


offset from photometric centroids

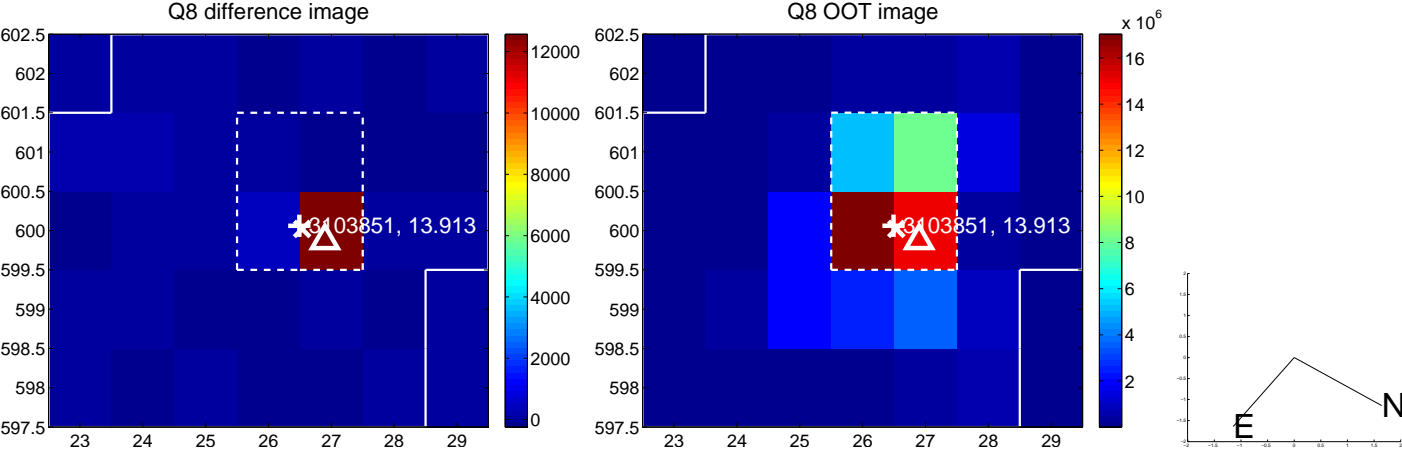
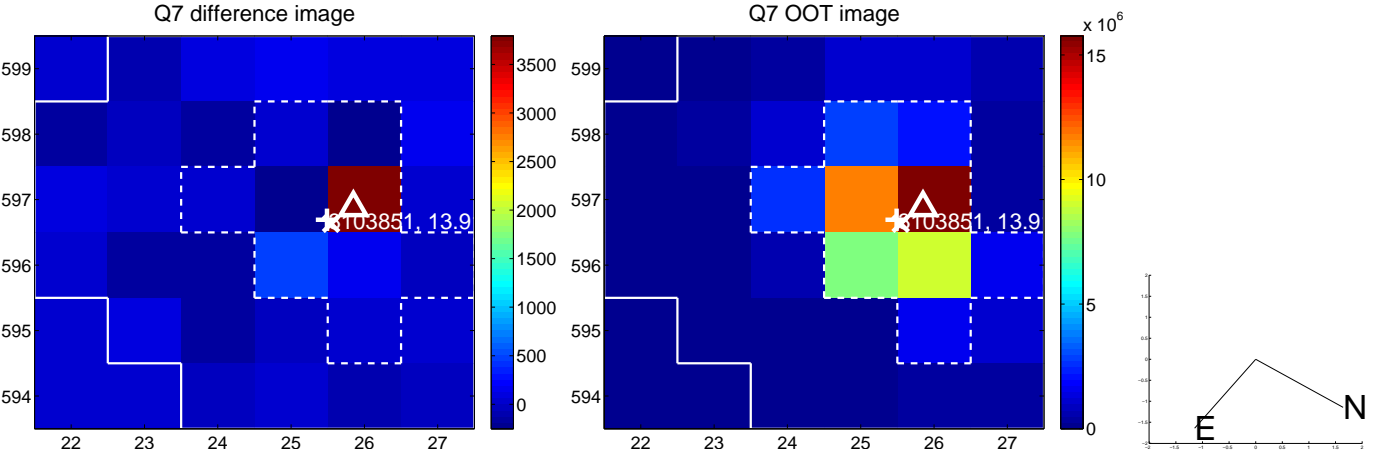
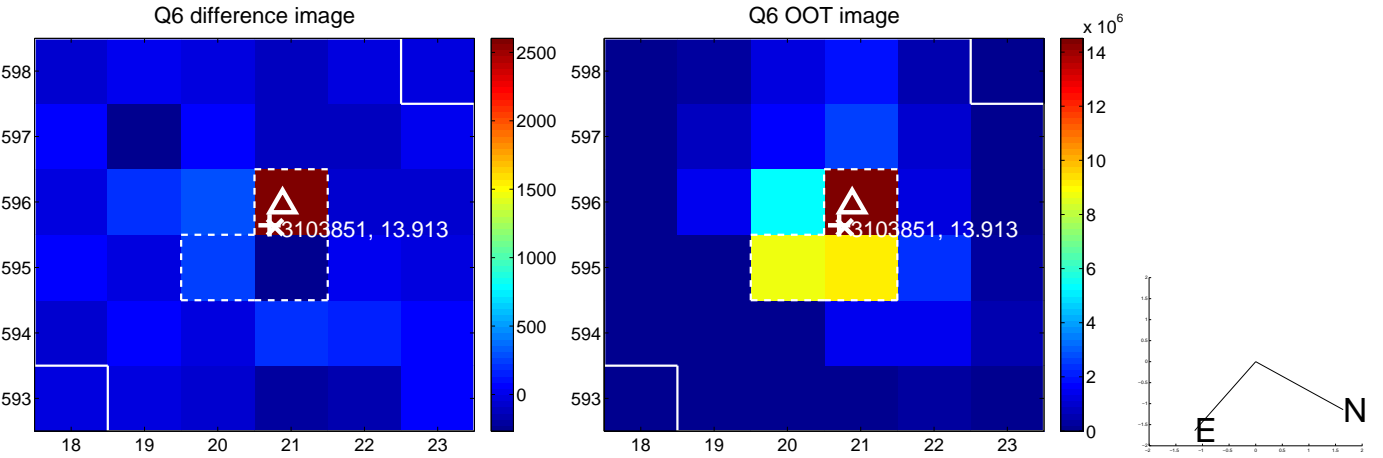
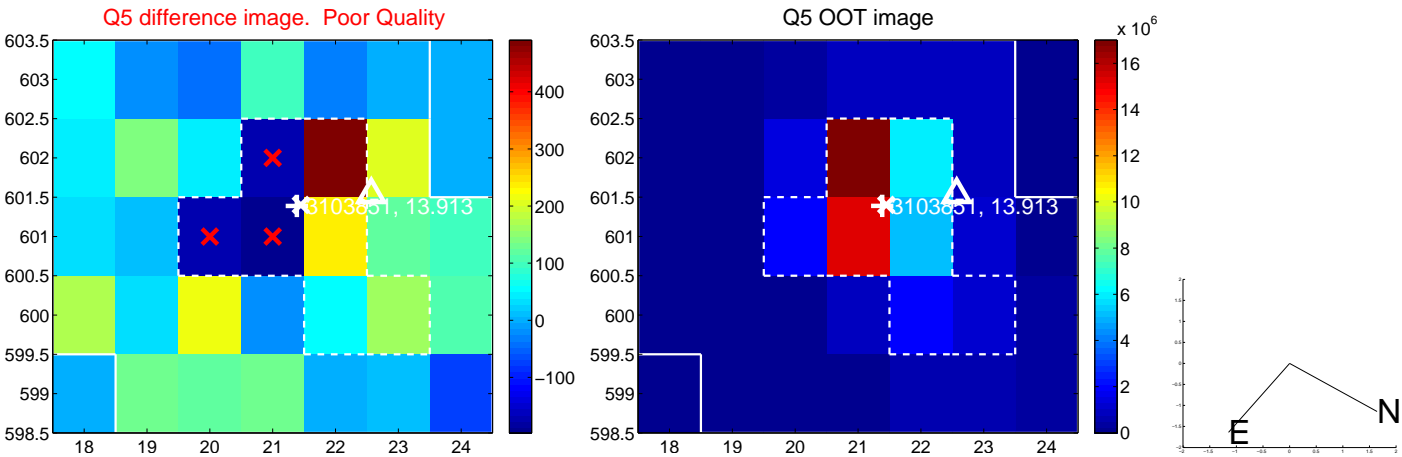


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

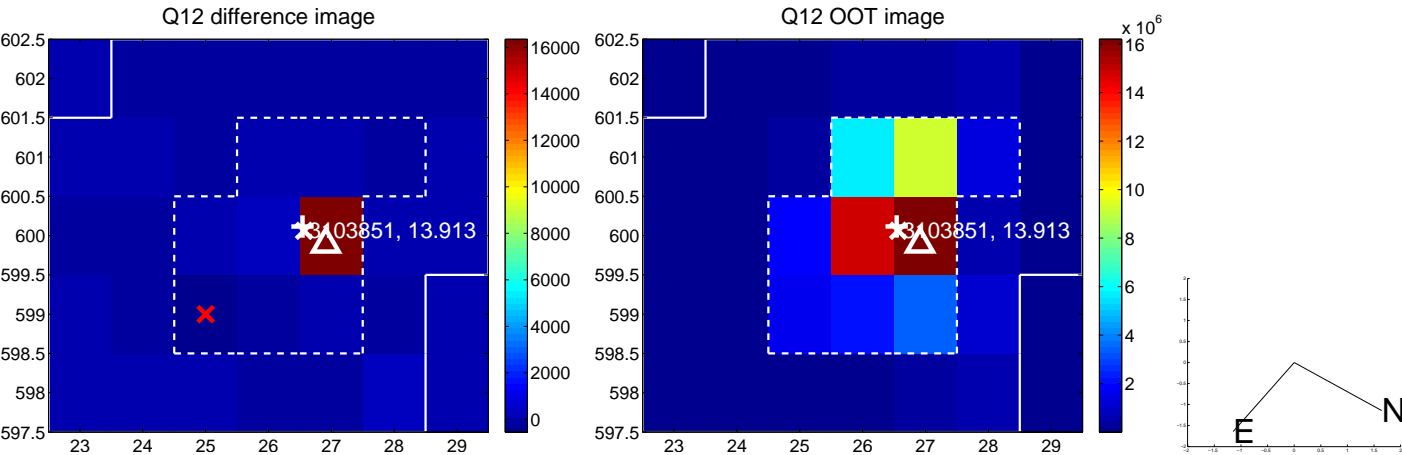
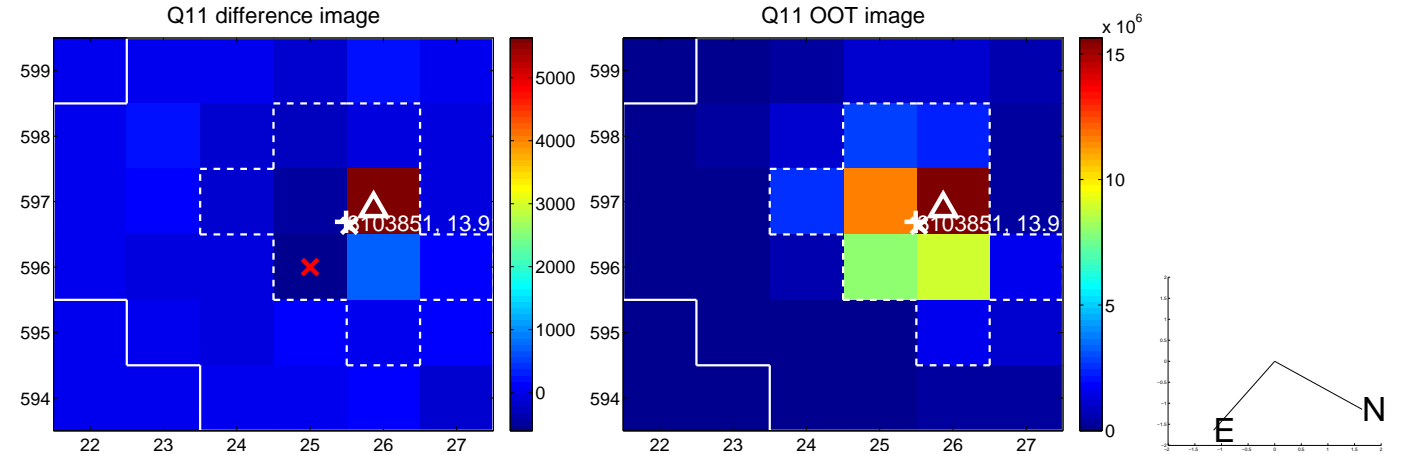
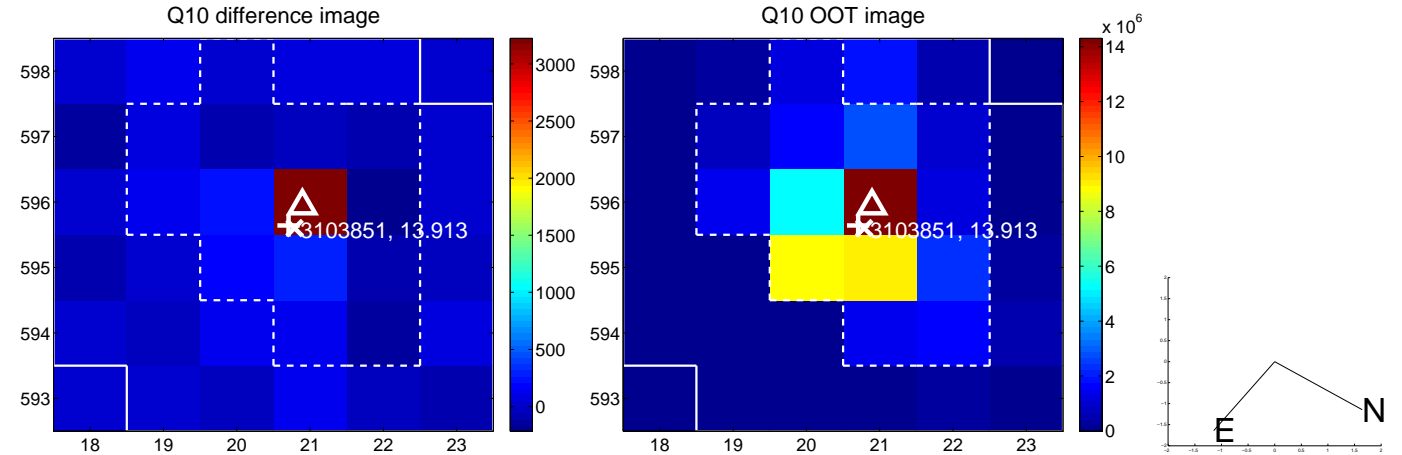
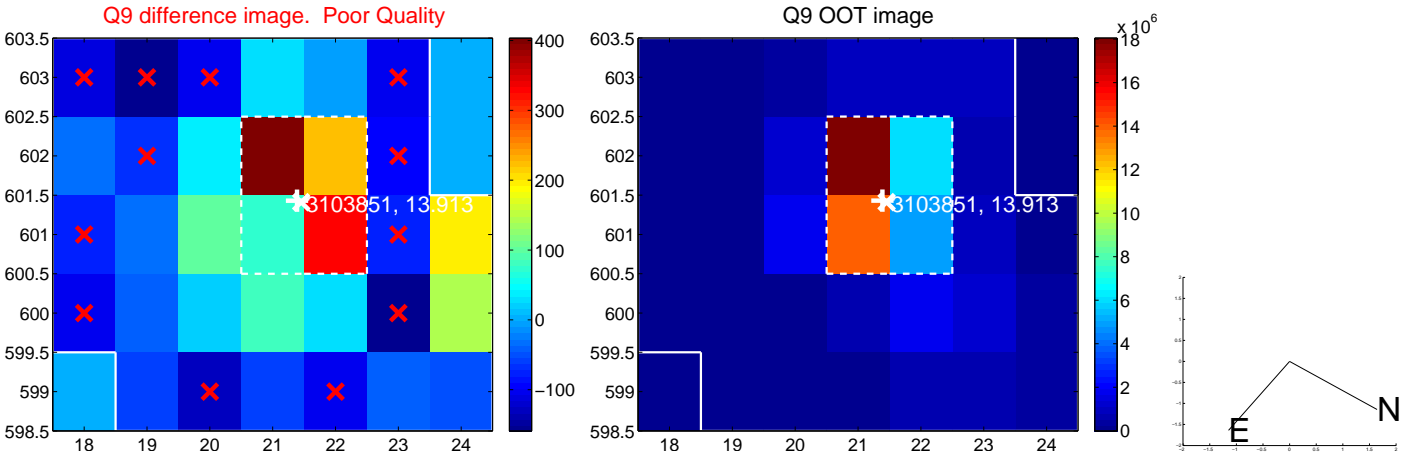
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



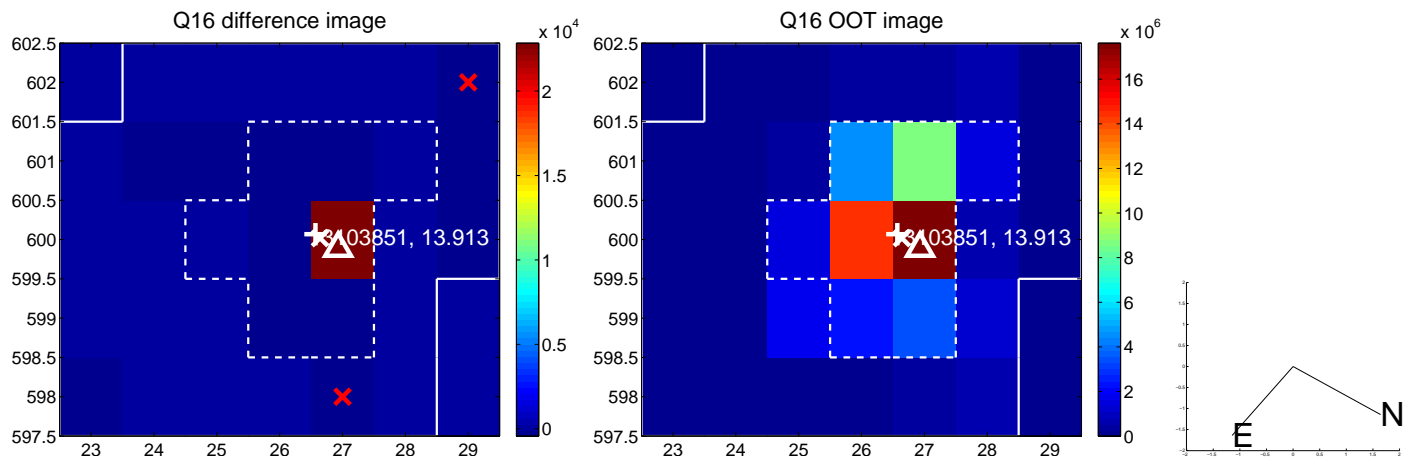
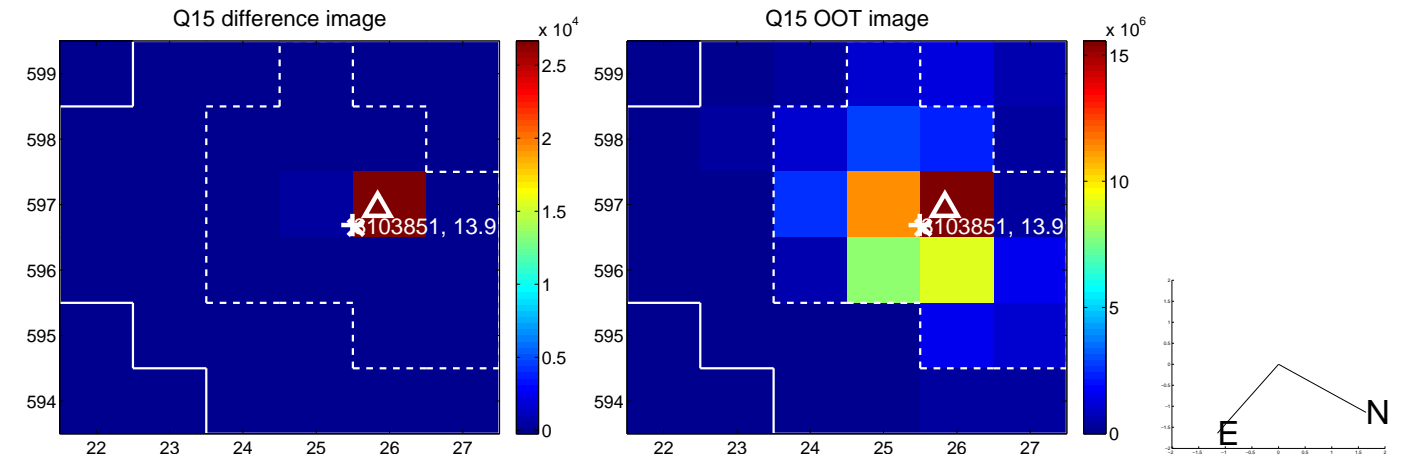
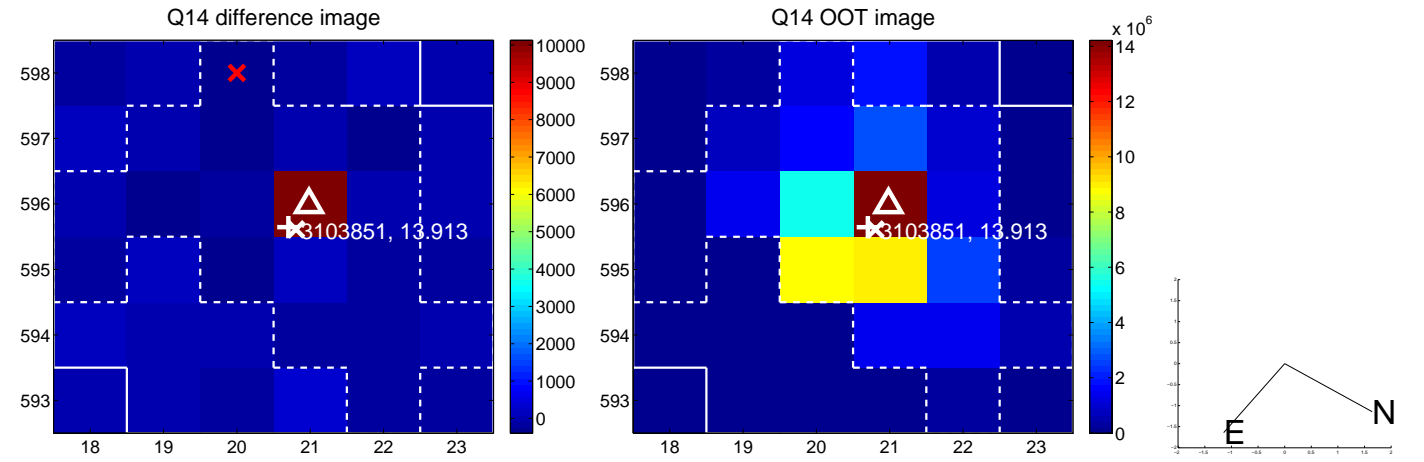
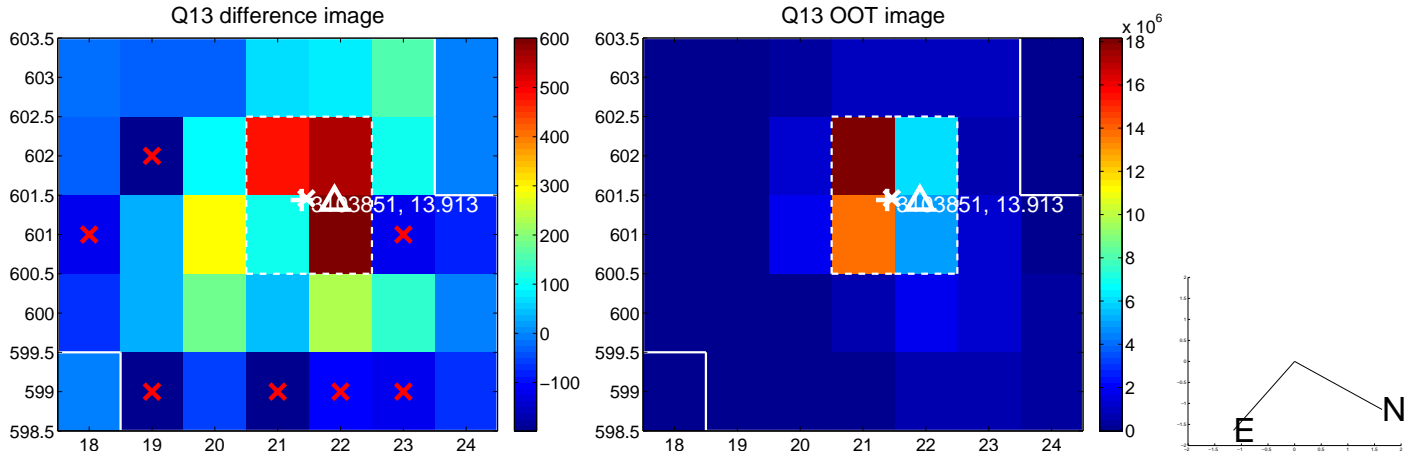
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

