

KIC 004861364

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})
004861364-01	OBS	No	0.623261	131.992711	24.0	1.022	7.5	8.3	0.87	5975	0.44	4742.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004861364-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—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.

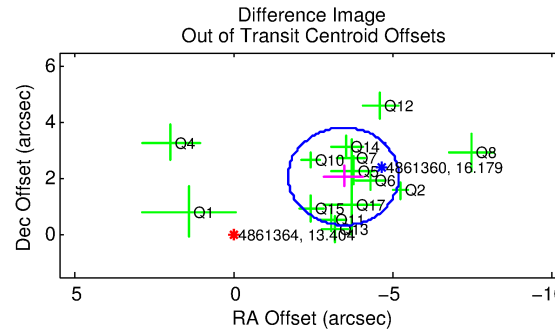
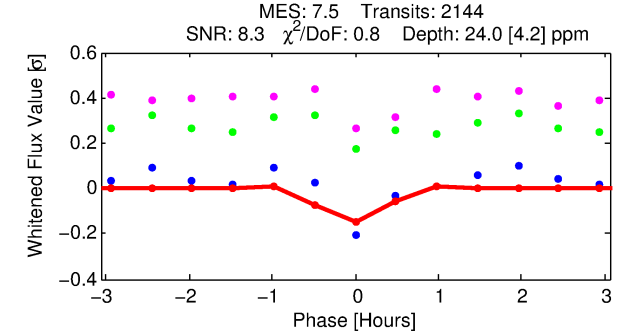
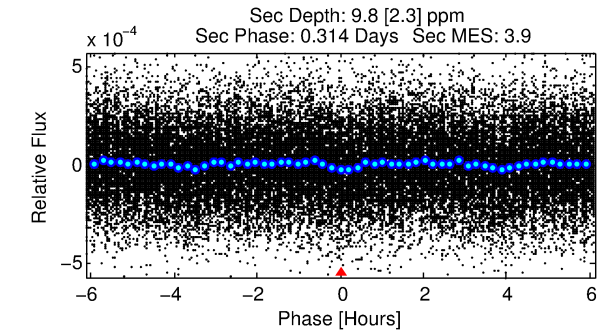
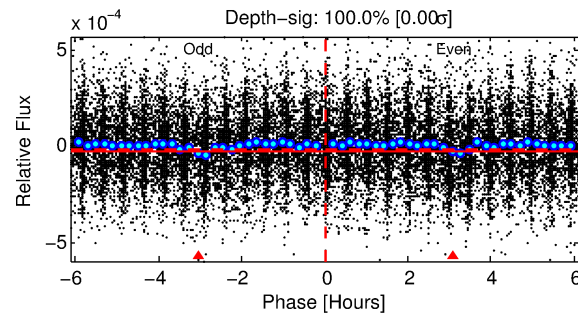
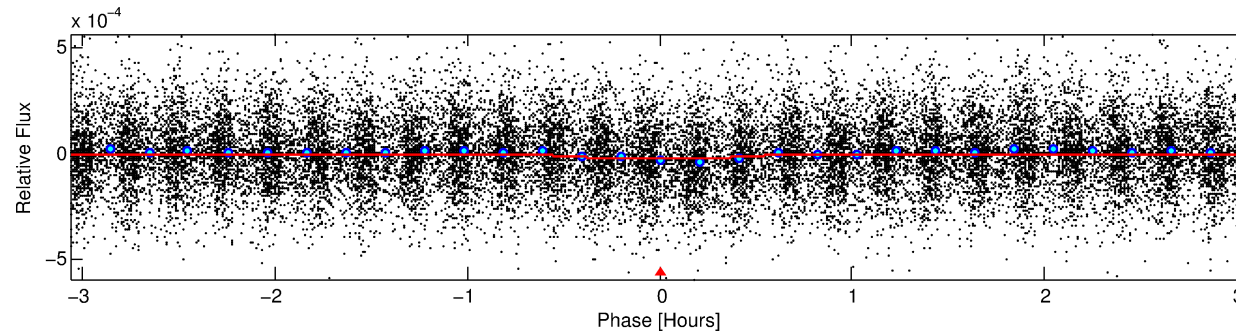
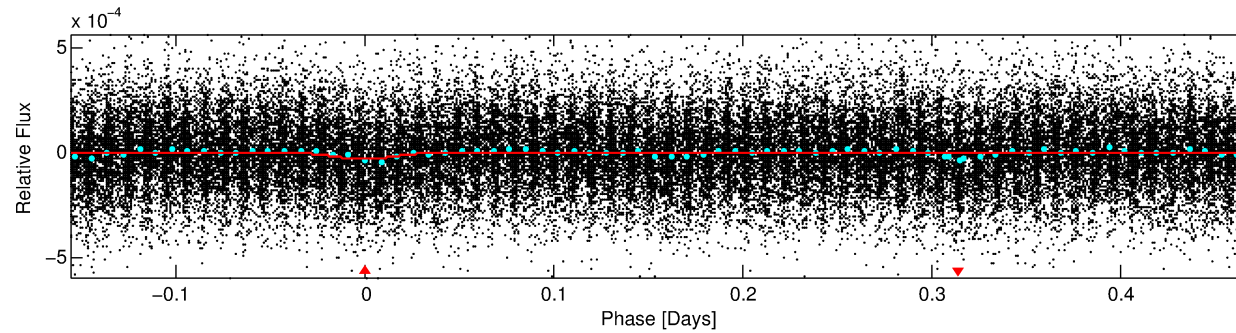
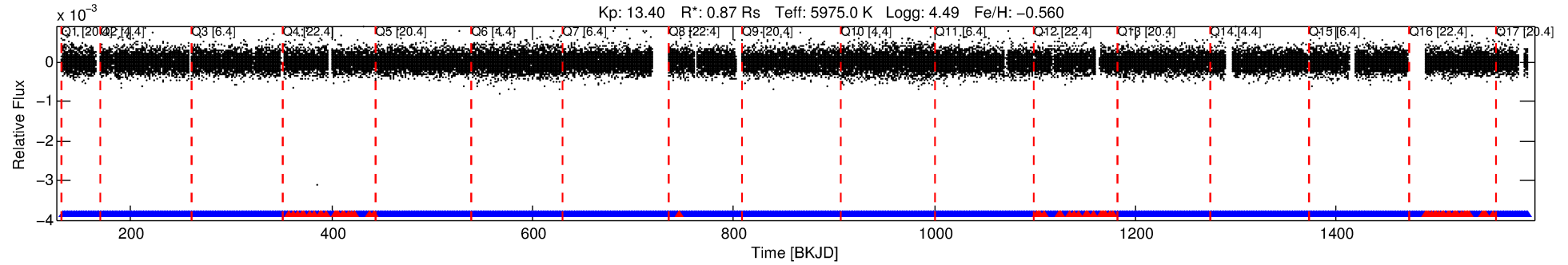
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004861364-01

No Significant Match Found

DV One-Page Summary

KIC: 4861364 Candidate: 1 of 1 Period: 0.623 d



DV Fit Results:

Period = 0.62326 [0.00001] d
Epoch = 131.9927 [0.0021] BKJD
Rp/R* = 0.0047 [0.0018]
a/R* = 4.12 [7.44]
b = 0.50 [2.89]
Seff = 4742.74 [1624.93]
Teq = 2116 [181] K
Rp = 0.44 [0.20] Re
a = 0.0135 [0.0029] AU
Ag = 5.02 [4.37] [0.92 σ]
Teffp = 4896 [998] K [2.74 σ]

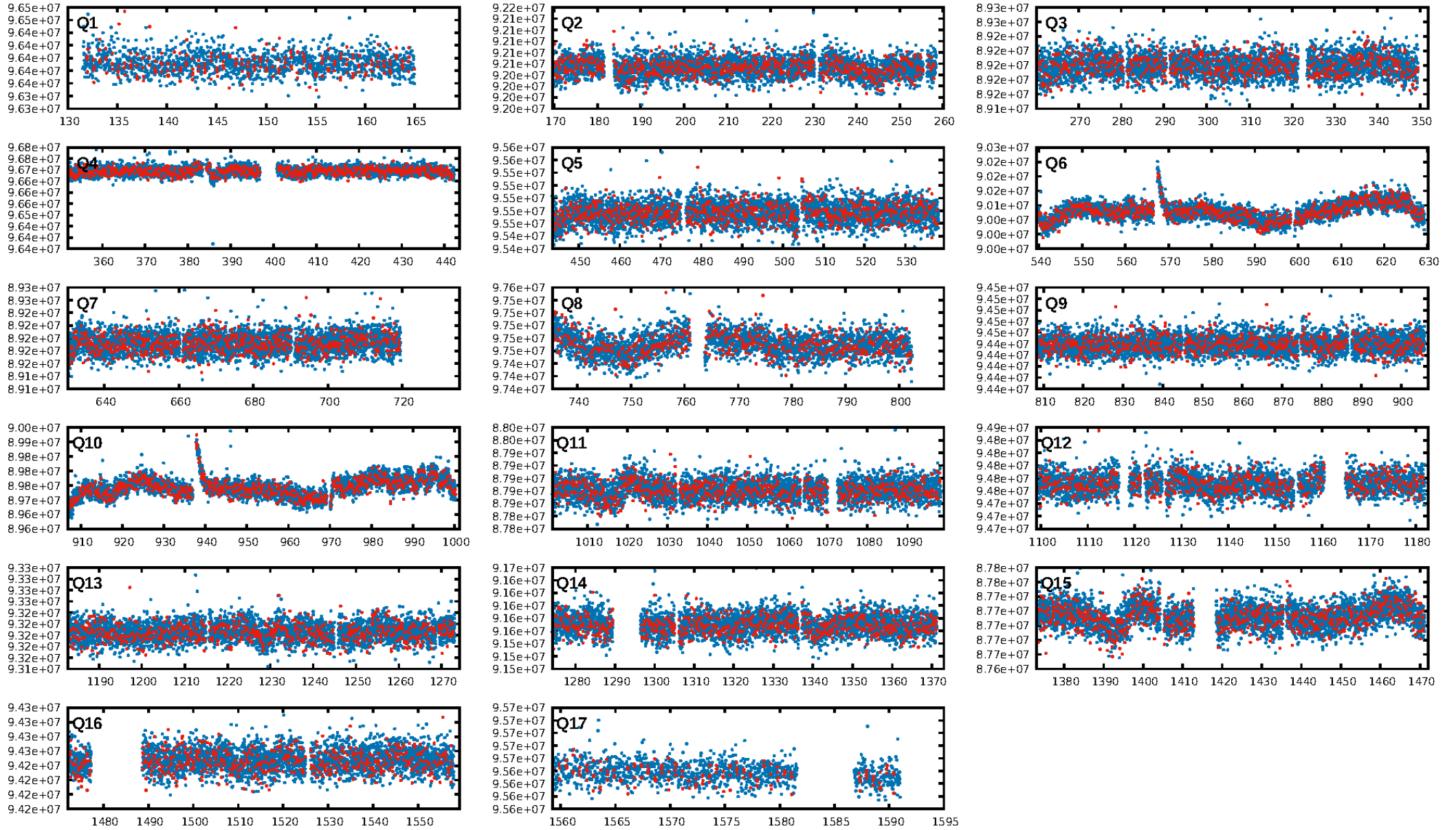
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.36e-12
RollingBand-fgt: 0.96 [1974/2049]
GhostDiagnostic-chr: 0.6396
Centroid-sig: N/A
Centroid-so: 9.663 arcsec [6.48 σ]
OotOffset-rm: 4.022 arcsec [6.96 σ]
KicOffset-rm: 4.255 arcsec [8.24 σ]
OotOffset-st: 4/3/3/4 [14]
KicOffset-st: 4/3/3/4 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 1.00 [17/17]

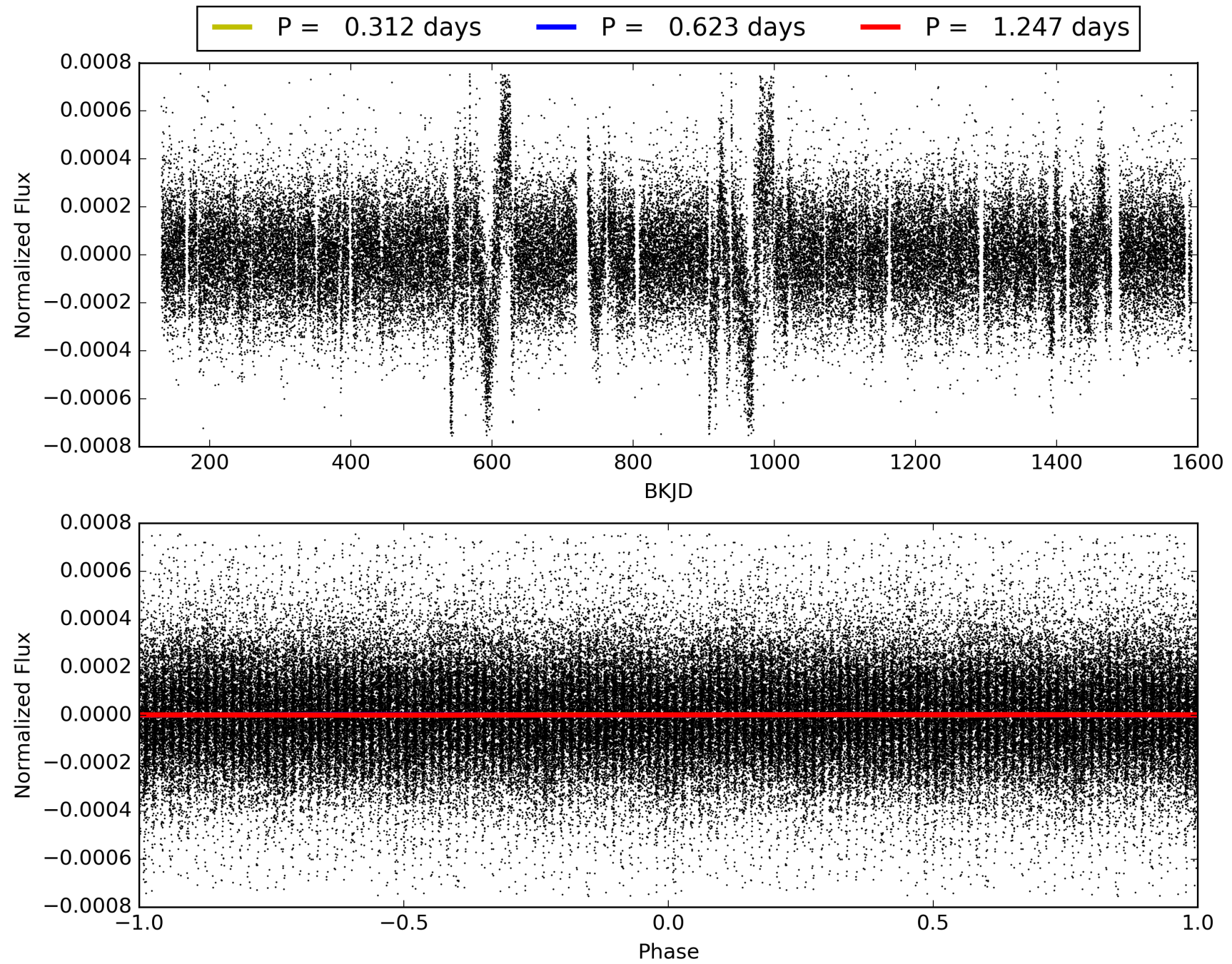
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:01:14 Z

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

TCE 004861364-01, PDC Light Curves

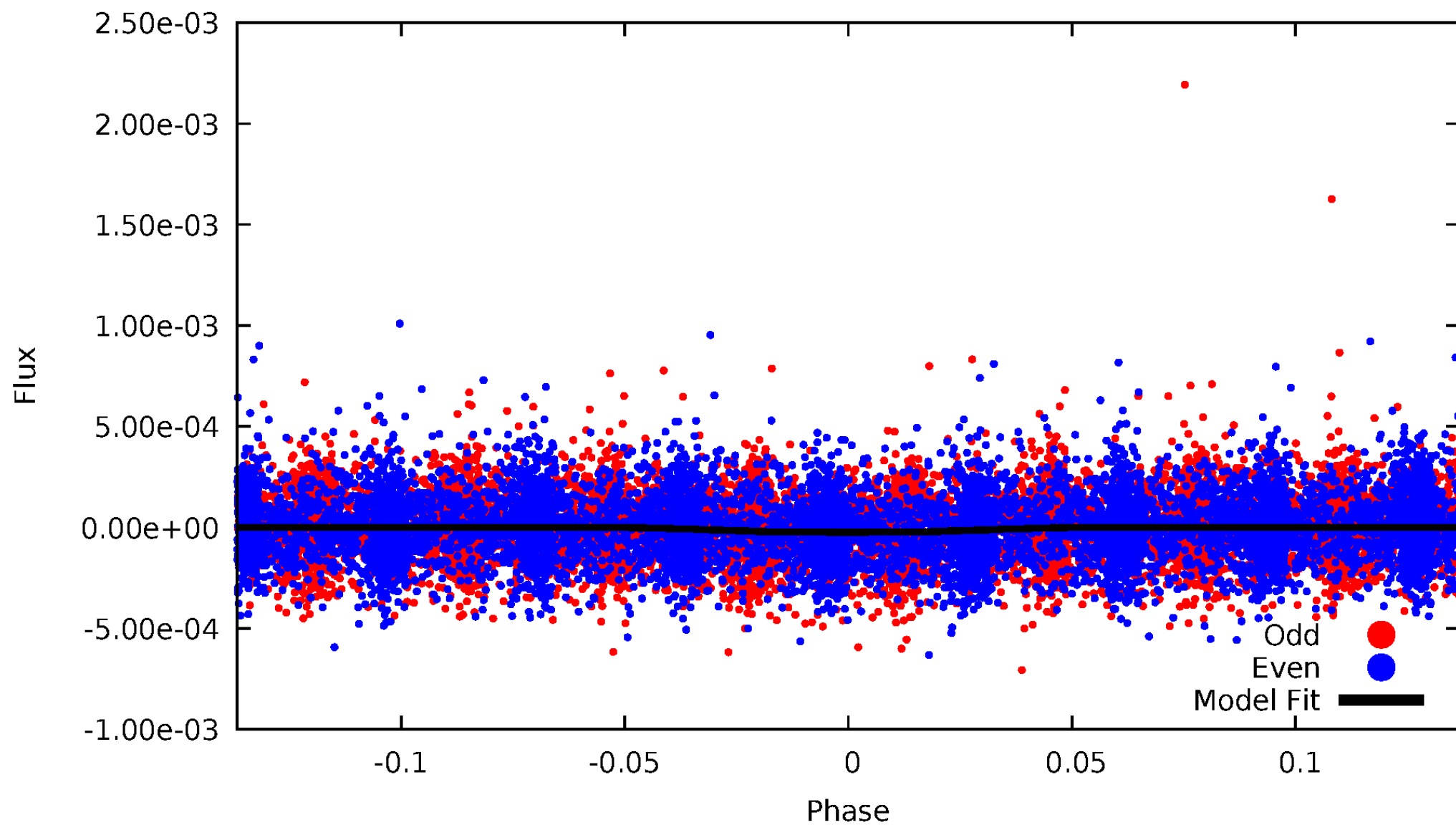


TCE 004861364-01



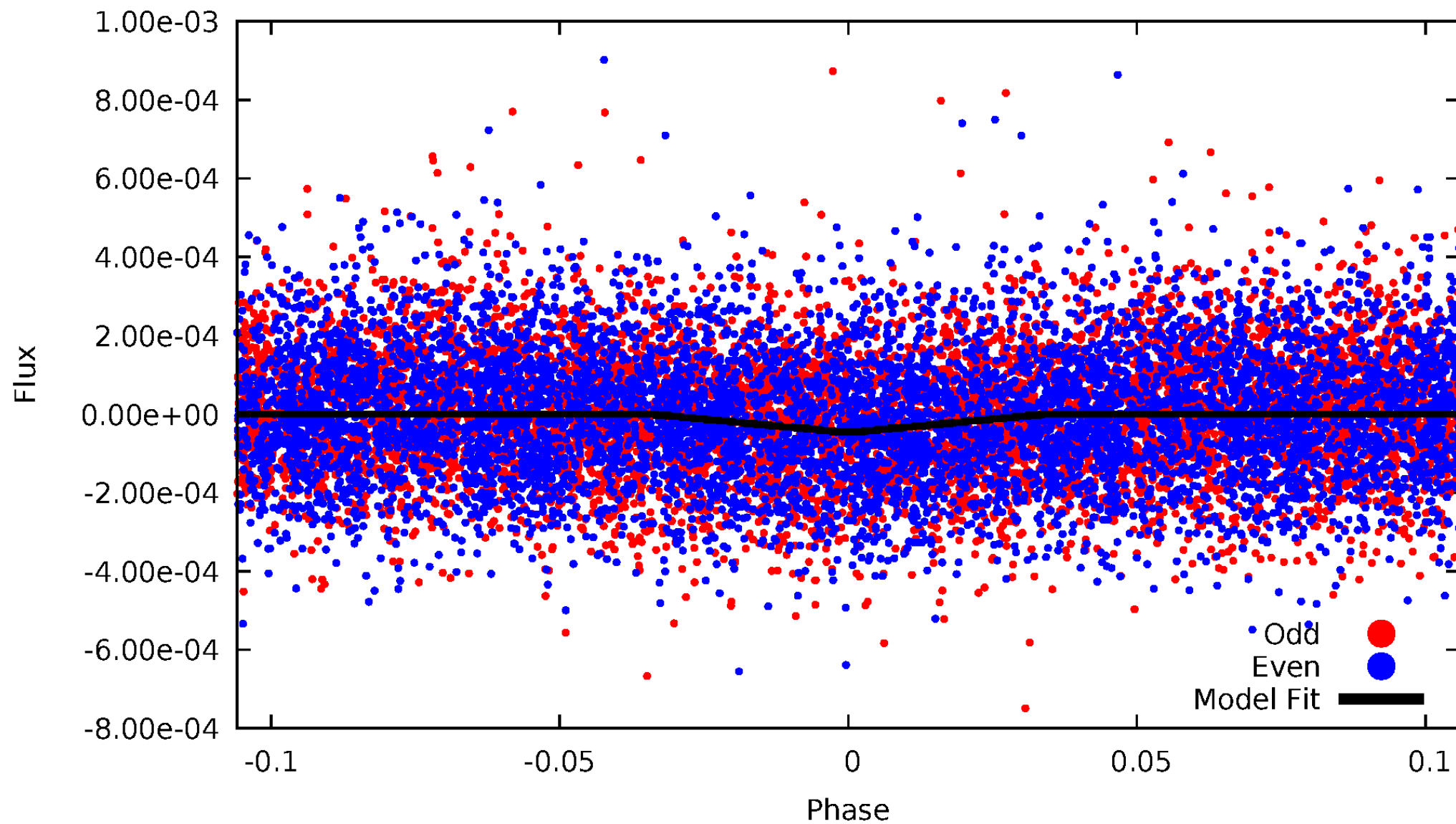
DV Odd/Even

TCE 004861364-01



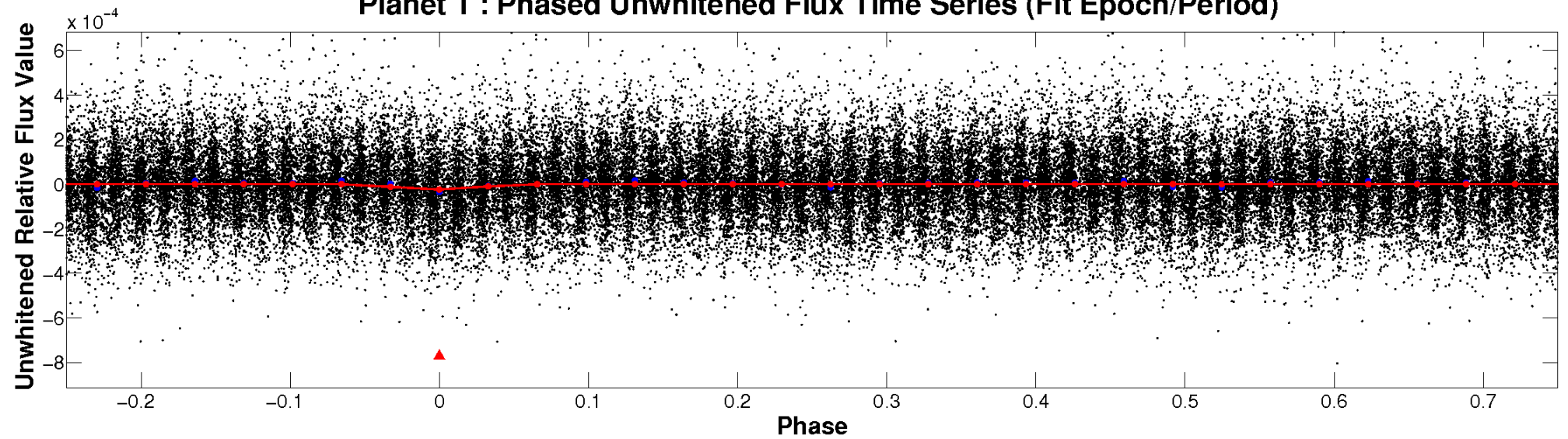
ALT Odd/Even

TCE 004861364-01

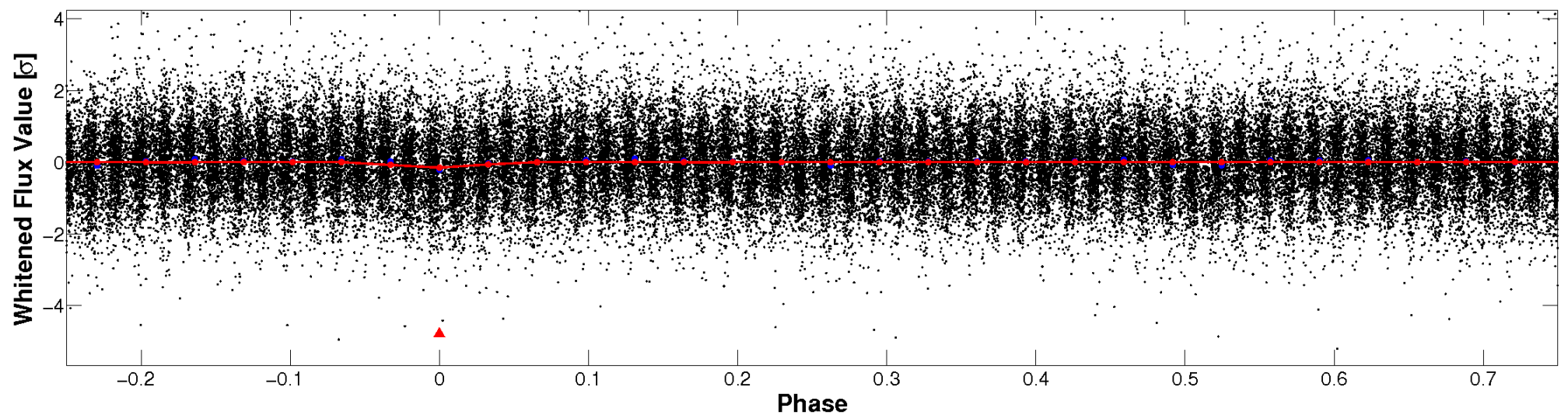


Non-Whitened Vs. Whitened Light Curve

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

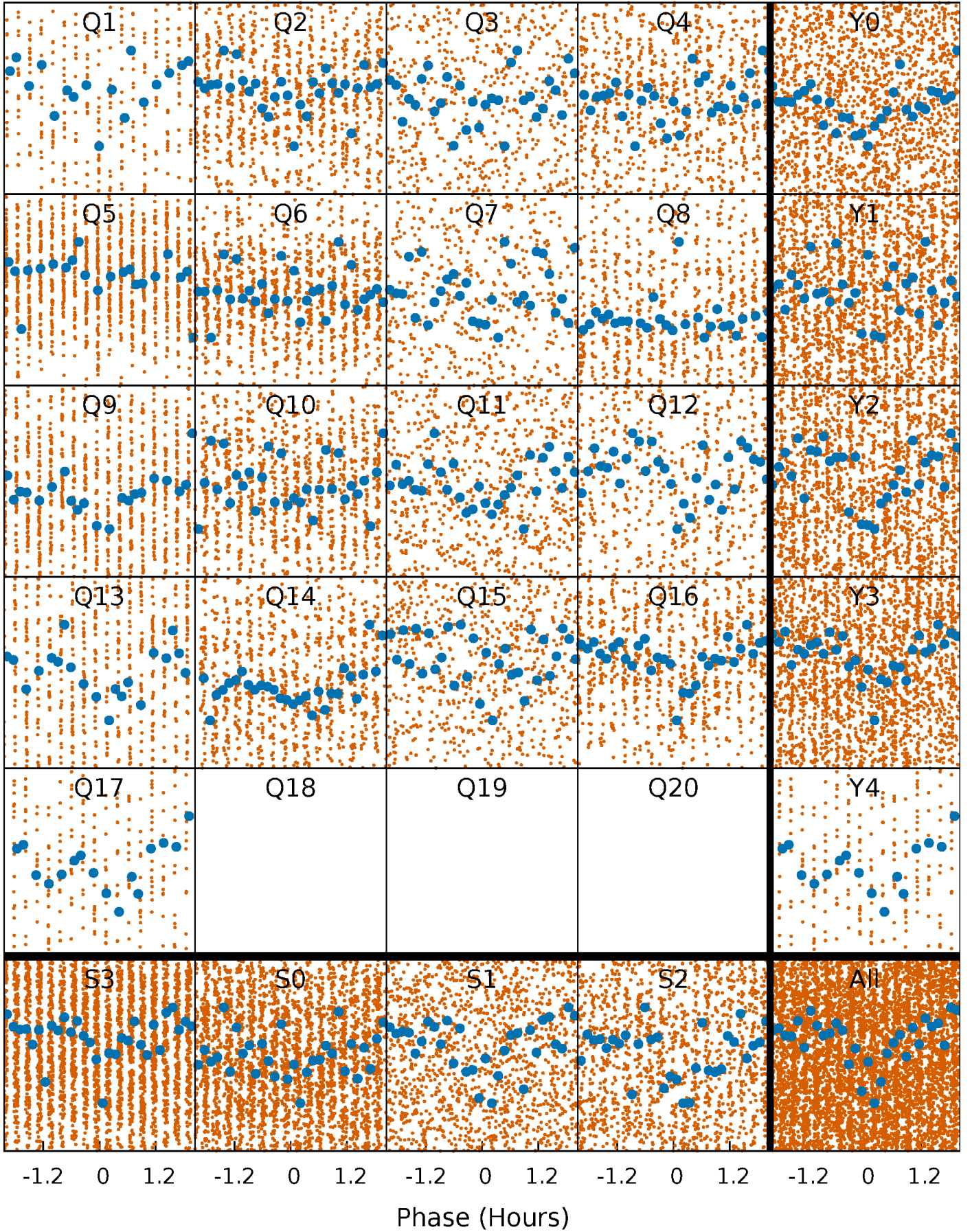


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



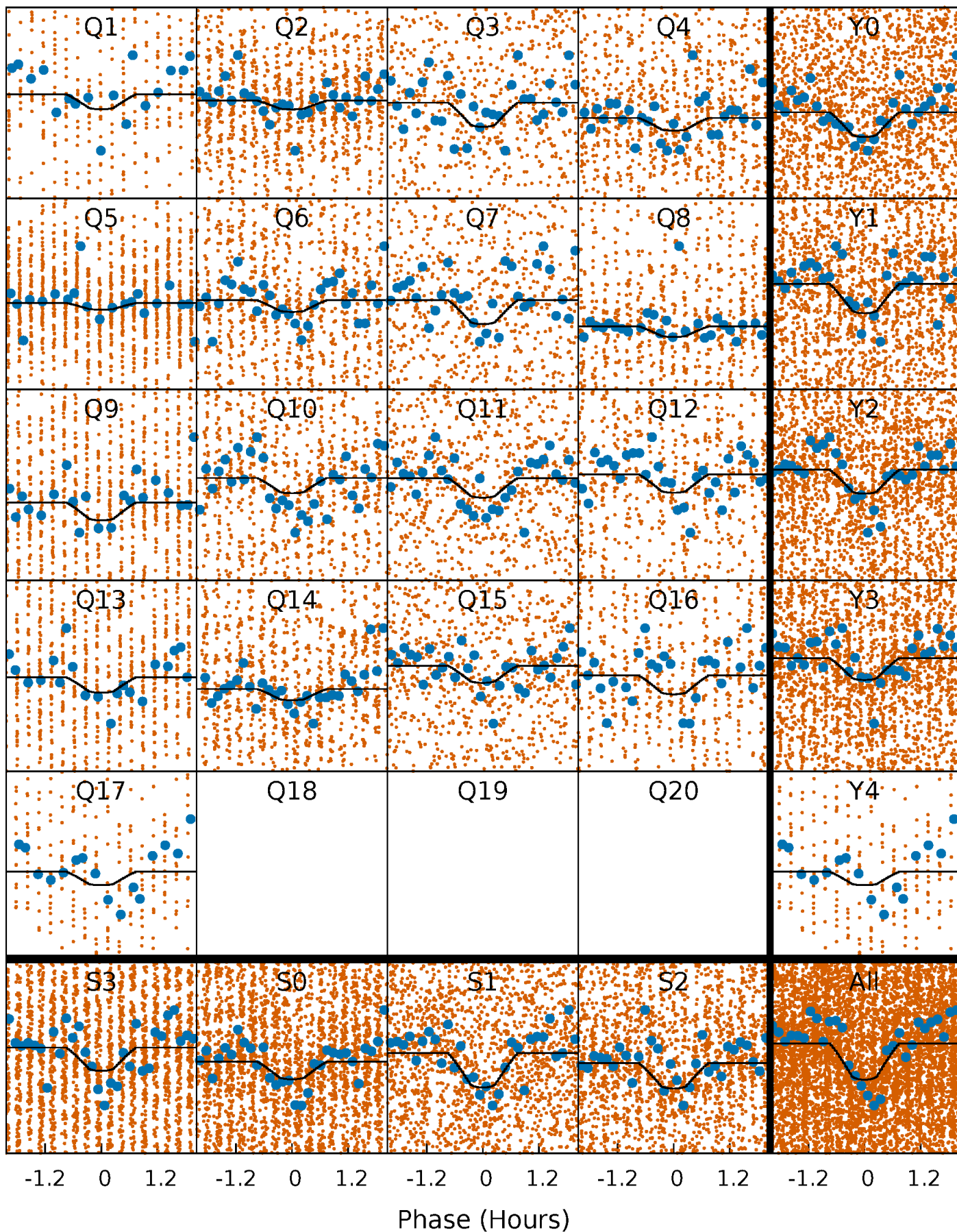
PDC Quarter-Phased Transit Curves

TCE 004861364-01 P= 0.623261 Days $T_0=131.992711$ (BKJD)



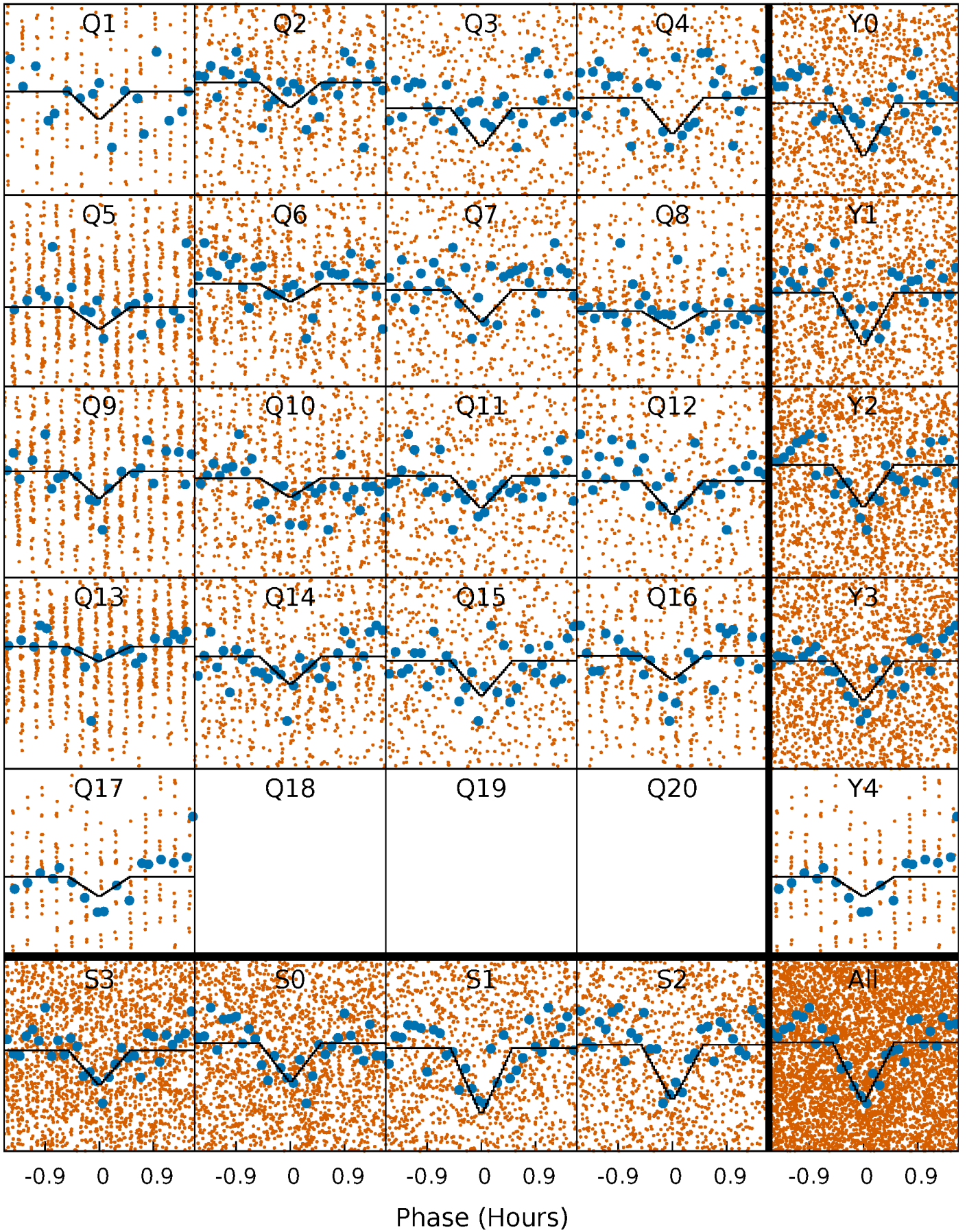
DV Quarter-Phased Transit Curves

TCE 004861364-01 P= 0.623261 Days $T_0=131.992711$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

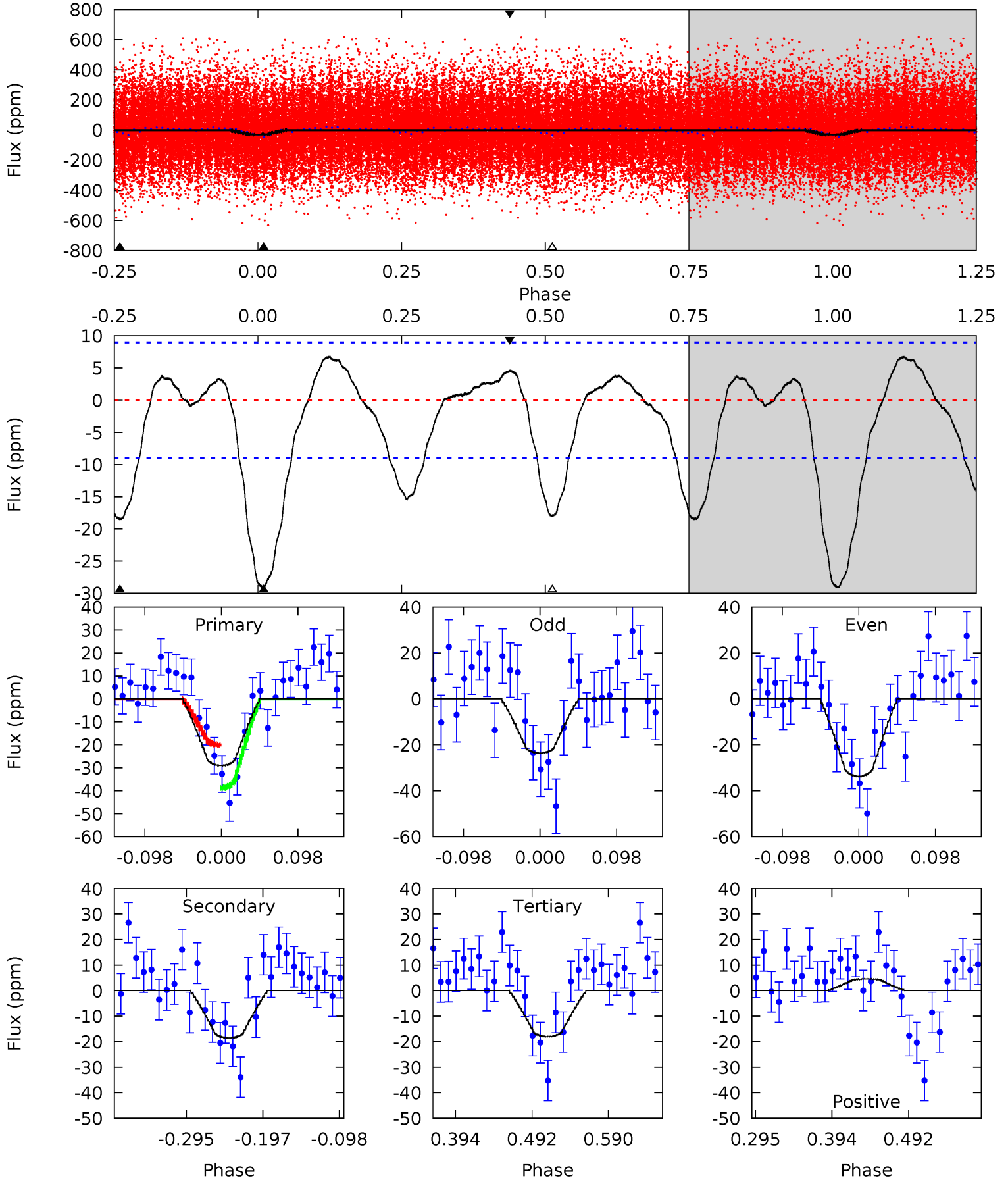
TCE 004861364-01 P= 0.623271 Days $T_0=131.983656$ (BKJD)



DV Model-Shift Uniqueness Test

004861364-01, P = 0.623261 Days, E = 131.369450 Days

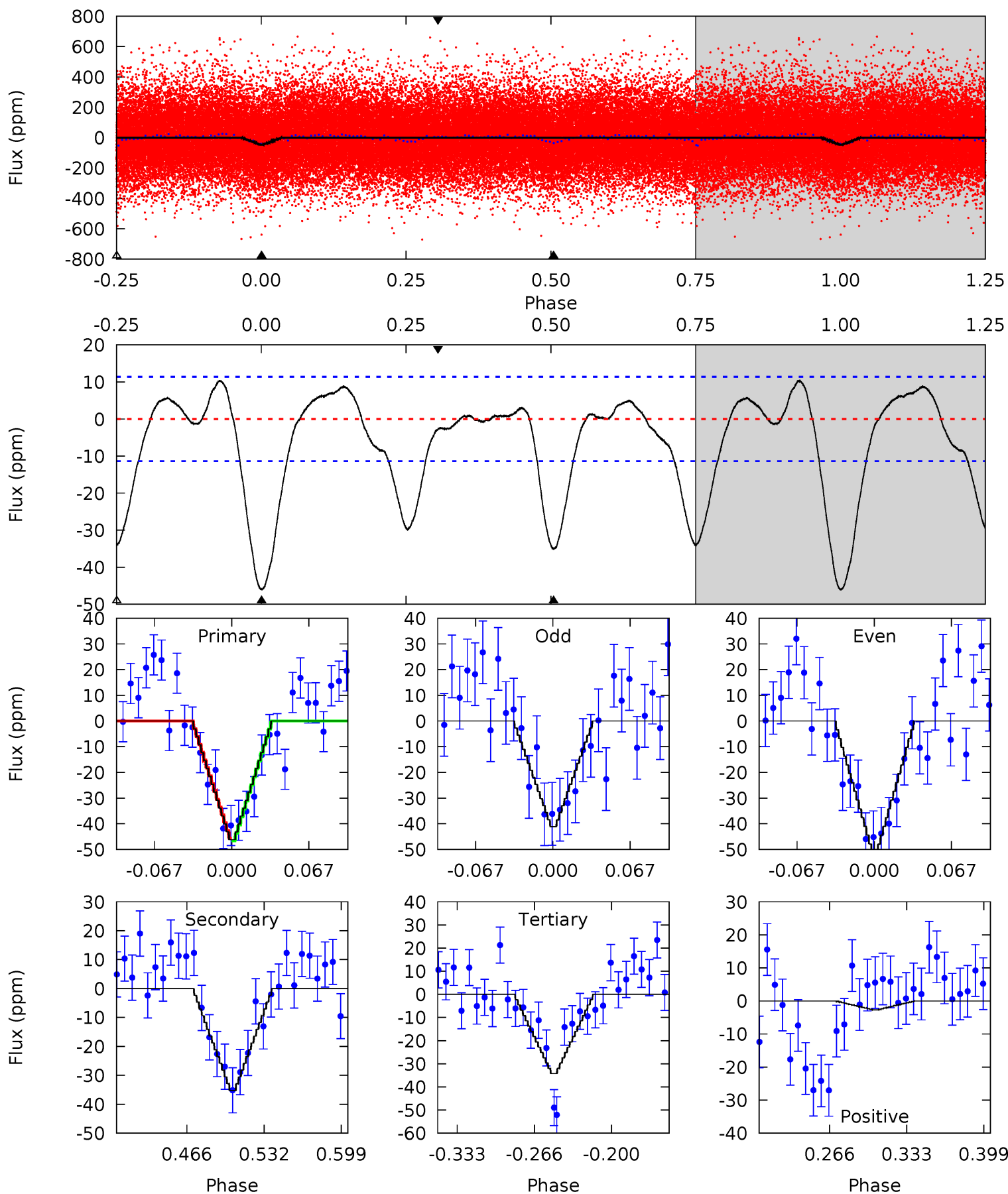
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	9.41	9.15	2.35	4.57	1.65	3.35	5.65	12.5	0.26	7.06	2.59	0.95	0.19	4.78



Alt Model-Shift Uniqueness Test

004861364-01, P = 0.623271 Days, E = 131.360385 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	14.4	14.0	-1.10	4.65	1.83	4.37	4.87	20.0	0.40	15.5	2.06	0.96	0.19	0.21



Stellar Parameters For KIC 004861364

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5975^{+161}_{-161}	$4.487^{+0.078}_{-0.182}$	$-0.560^{+0.300}_{-0.300}$	$0.873^{+0.218}_{-0.109}$	$0.852^{+0.097}_{-0.073}$	$1.804^{+0.691}_{-0.863}$
	+3%/-3%	+2%/-4%	+54%/-54%	+25%/-12%	+11%/-9%	+38%/-48%
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 004861364-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-18 ± 2	$0.46^{+0.18}_{-0.17}$	2999^{+195}_{-149}	5685^{+1590}_{-792}	$8.676^{+13.891}_{-4.309}$
Alt.	-35 ± 2	$0.67^{+0.19}_{-0.19}$	3000^{+185}_{-140}	5563^{+973}_{-582}	$8.011^{+6.977}_{-3.220}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

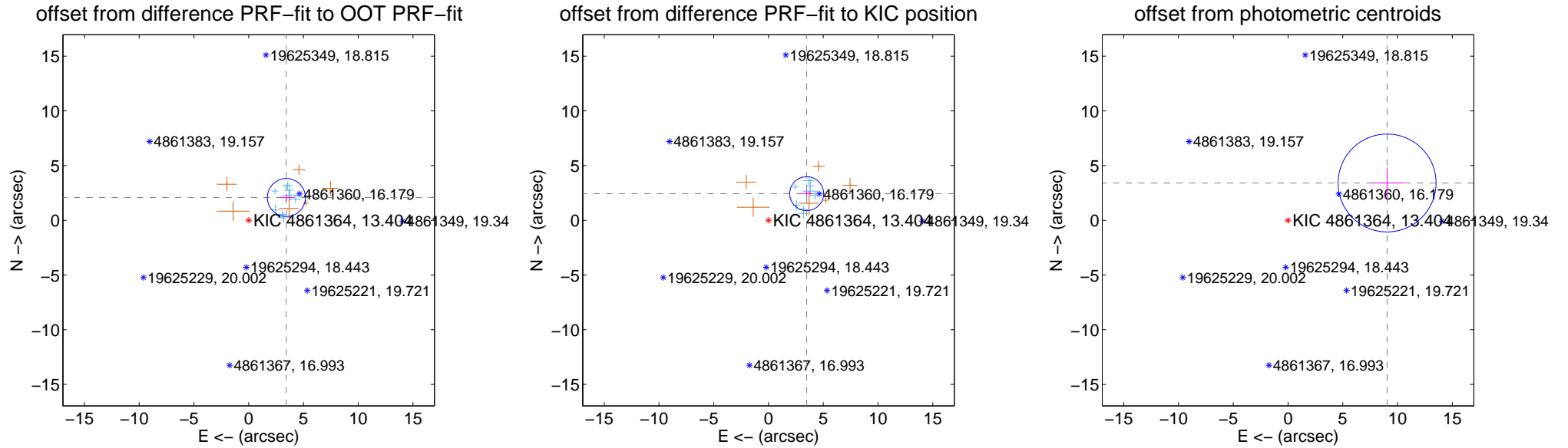
DV Centroid Data

Supplemental centroid analysis for 004861364-01. Kepler magnitude: 13.40. Transit SNR 8.31

There are 8 quarters with good PRF difference image offsets

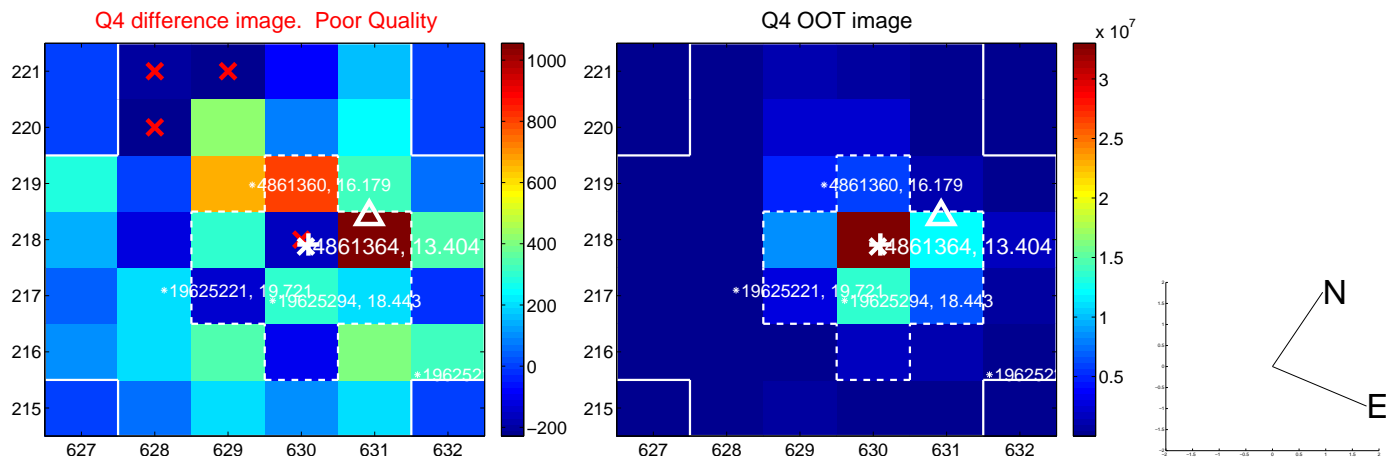
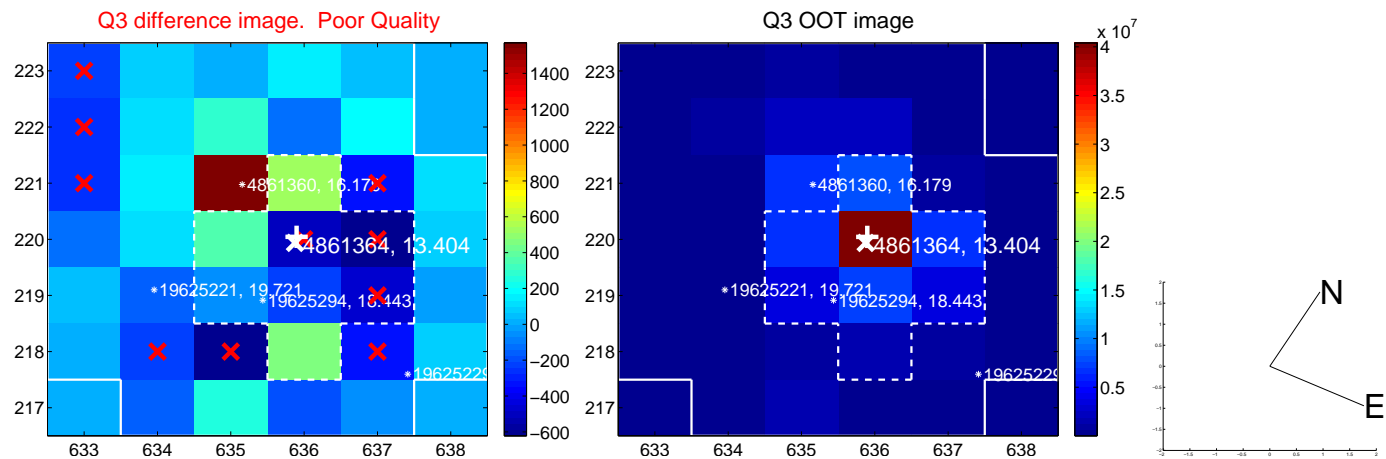
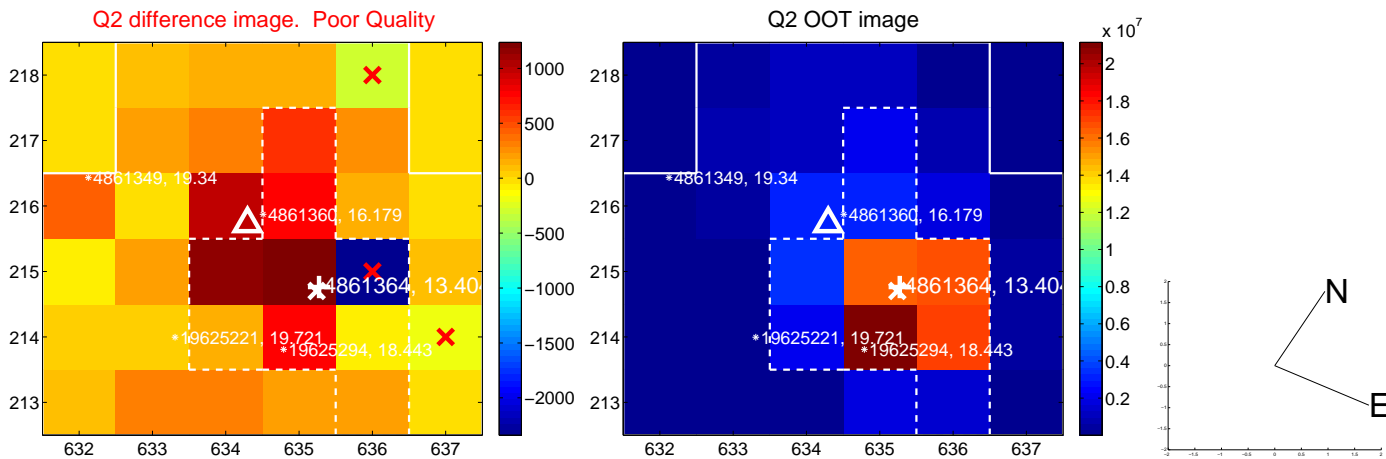
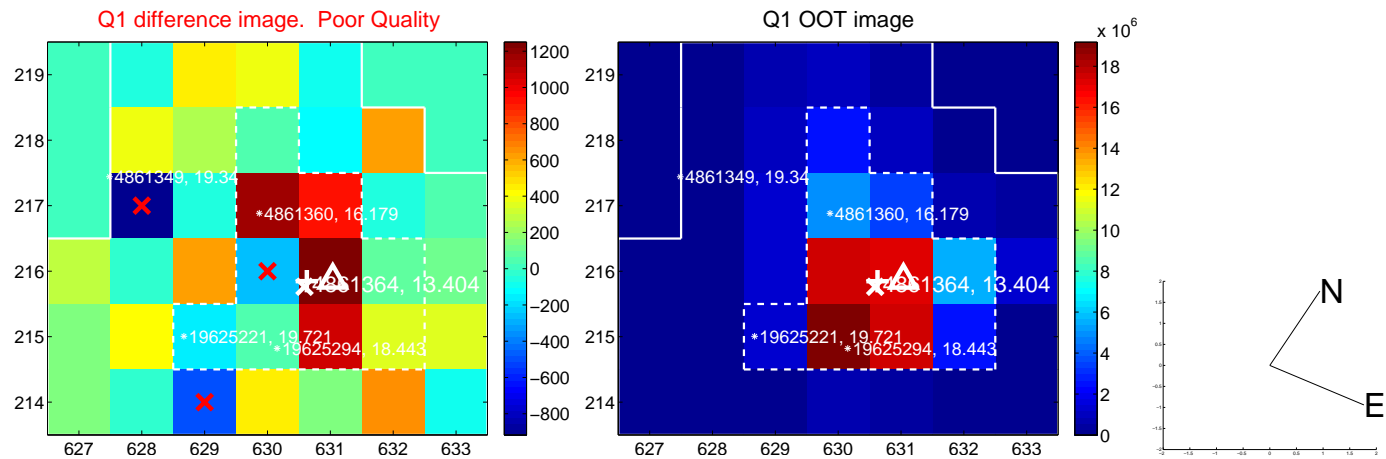
The direct PRF centroid is offset from the target star catalog position by about 0.48 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.022 ± 0.578	6.96	-3.442 ± 0.615	2.082 ± 0.363
PRF-fit source offset from KIC position	4.255 ± 0.516	8.24	-3.487 ± 0.555	2.438 ± 0.305
photometric centroid source offset	9.66 ± 1.49	6.48	-9.04 ± 1.50	3.41 ± 1.42

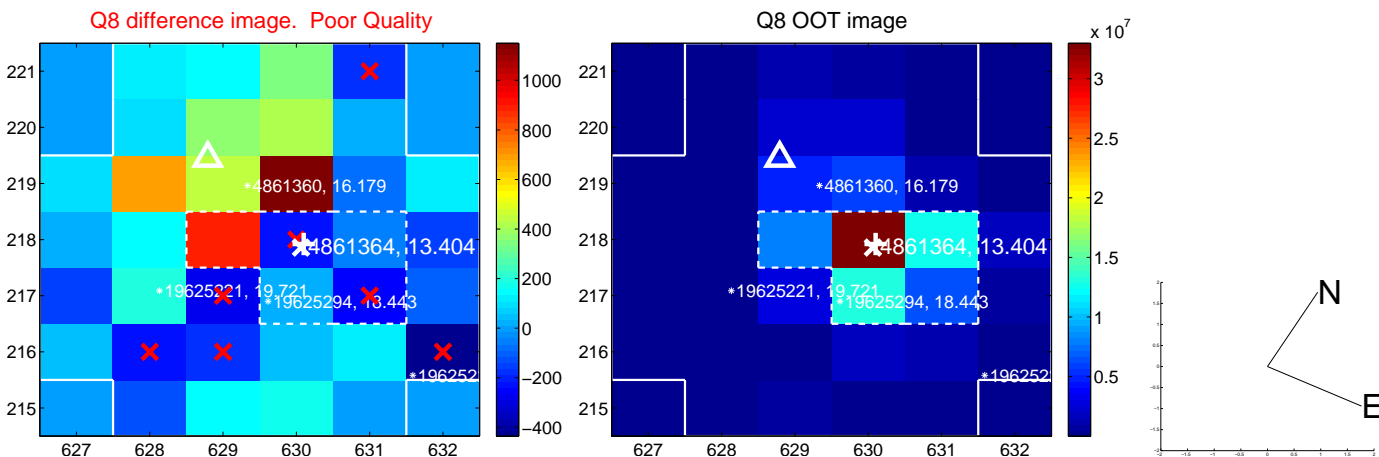
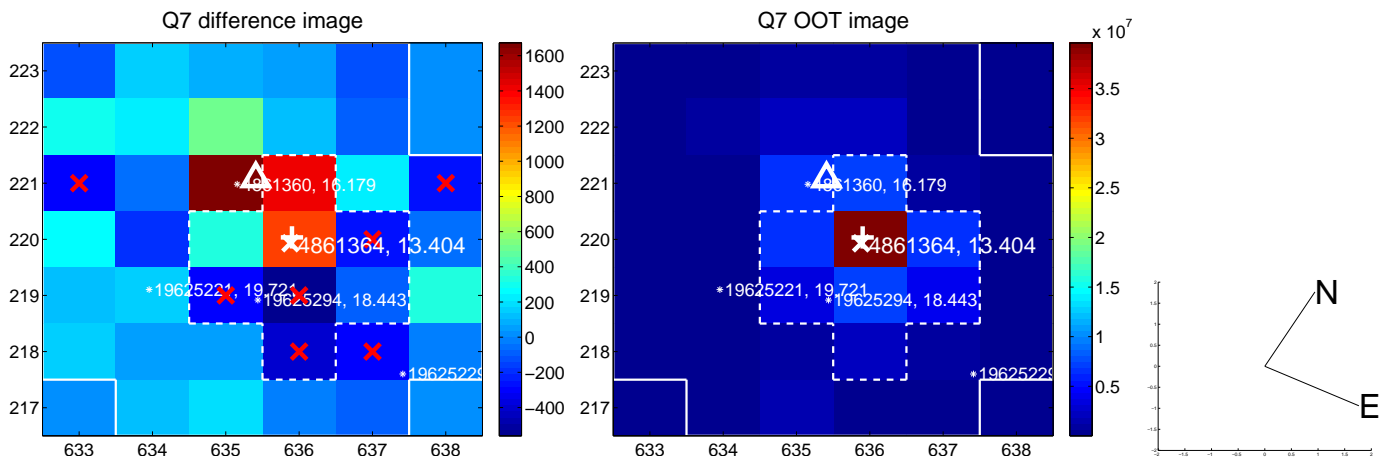
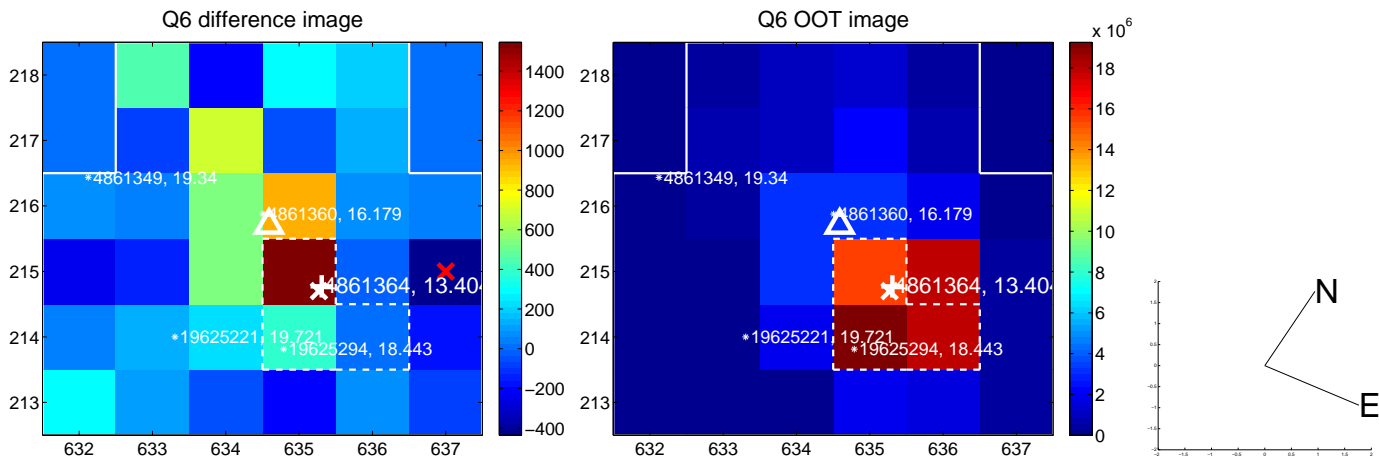
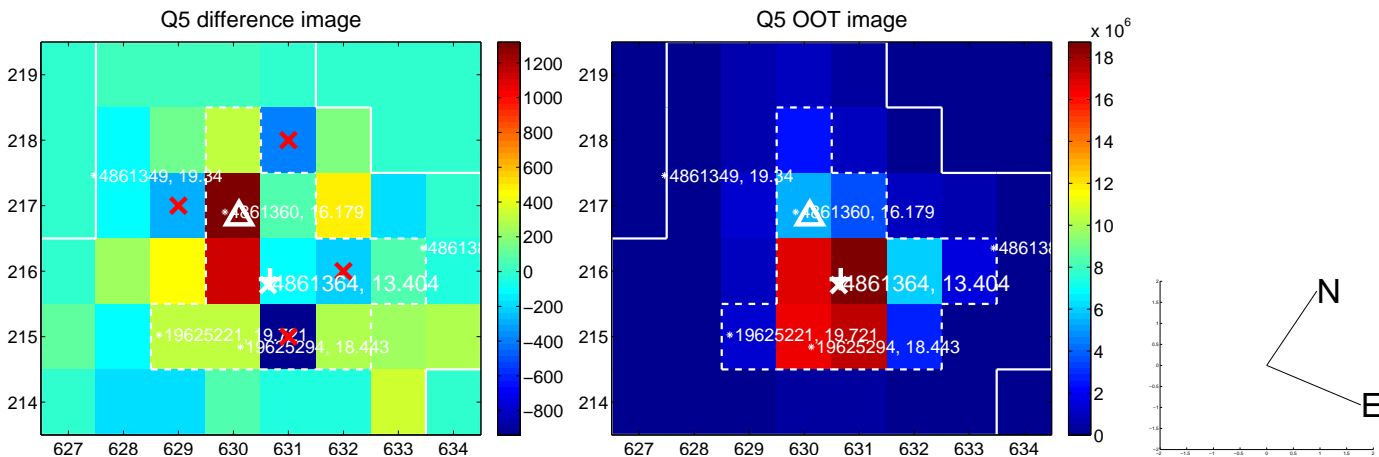


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

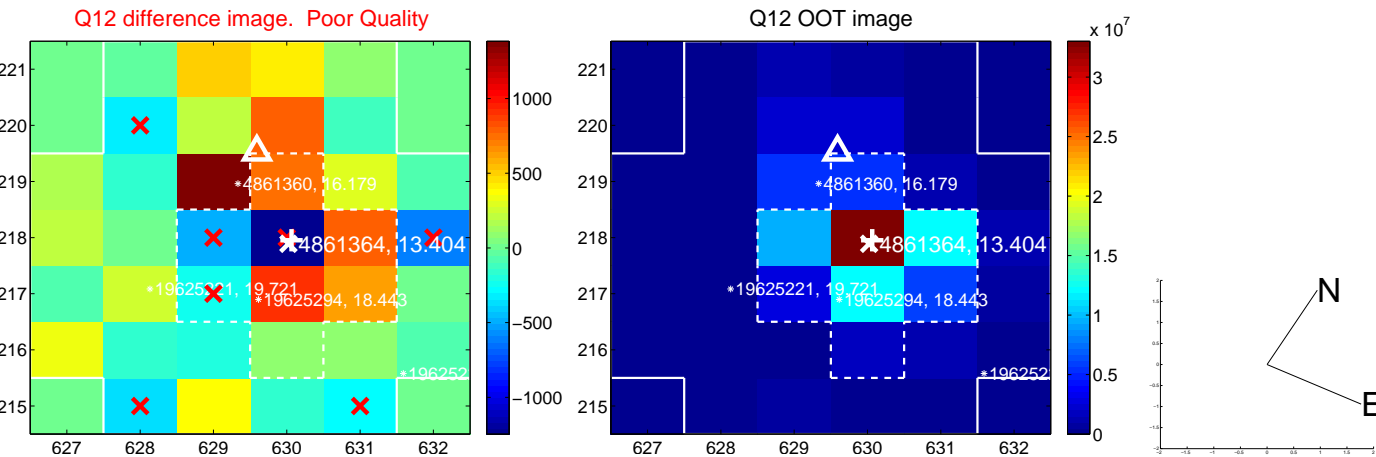
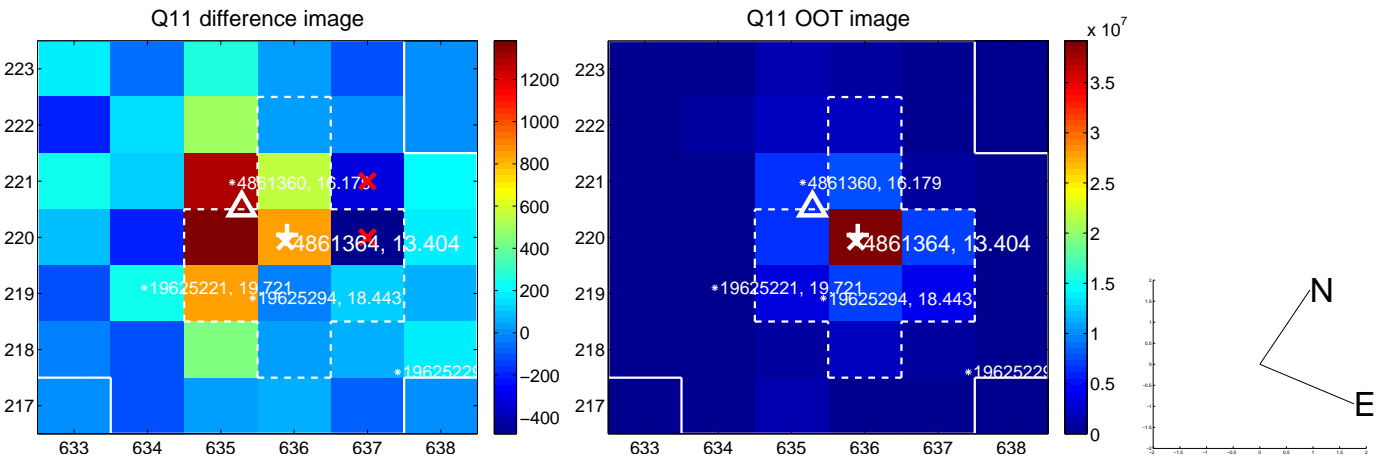
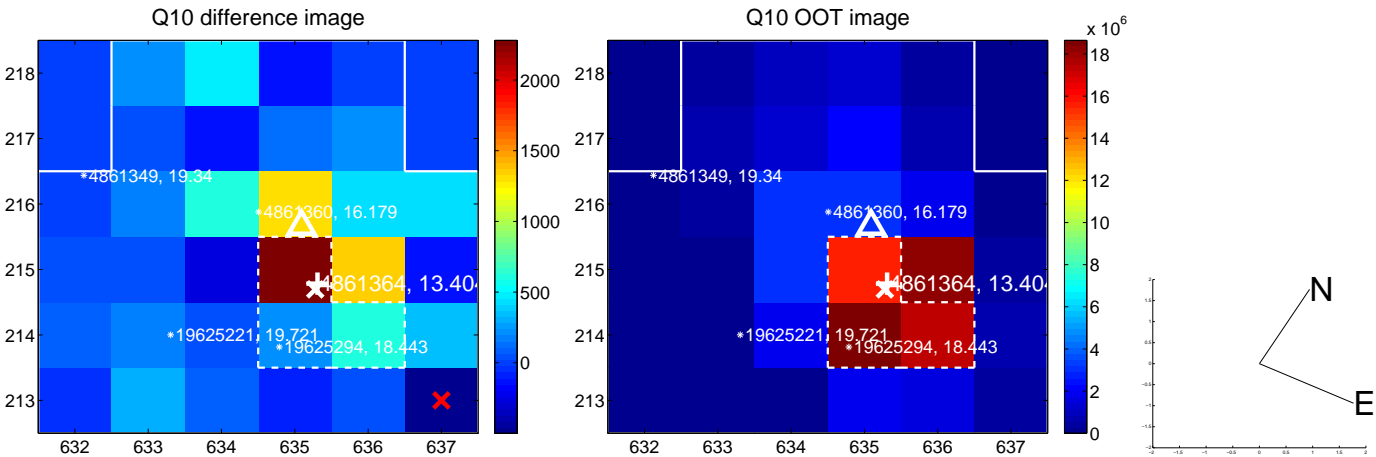
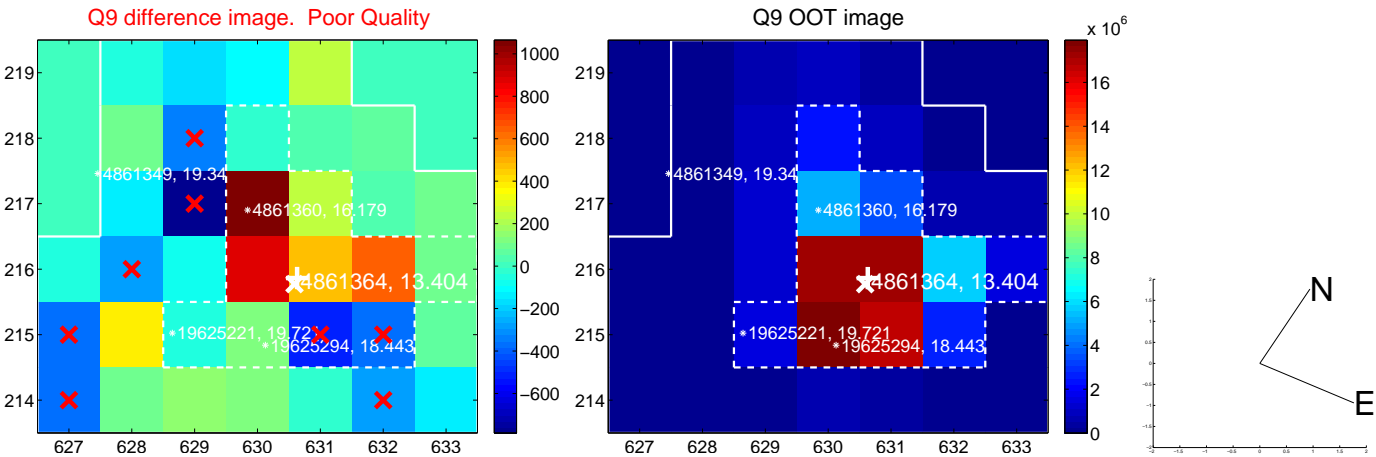
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



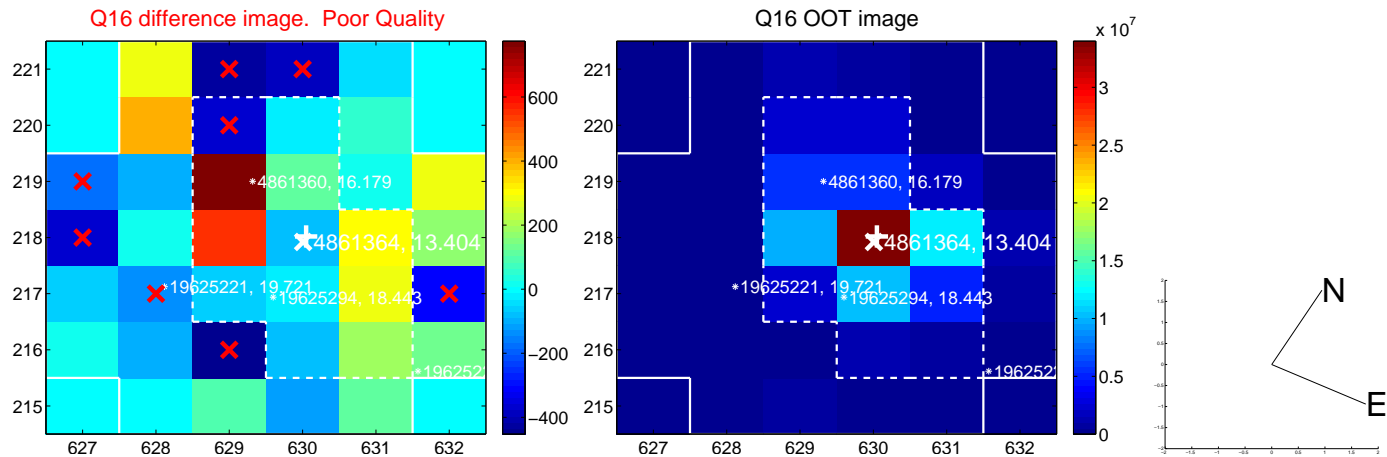
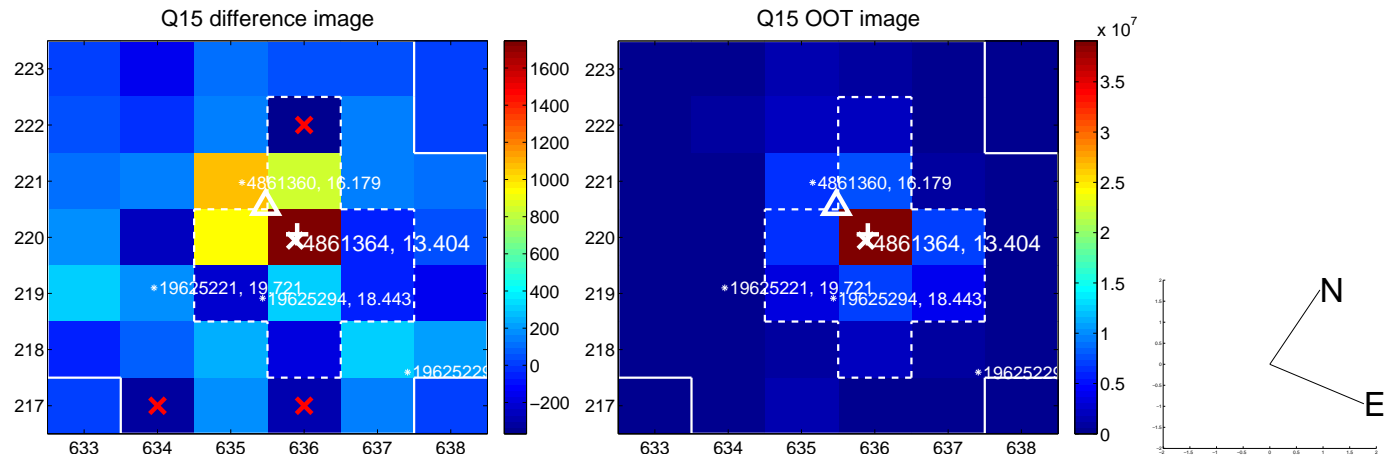
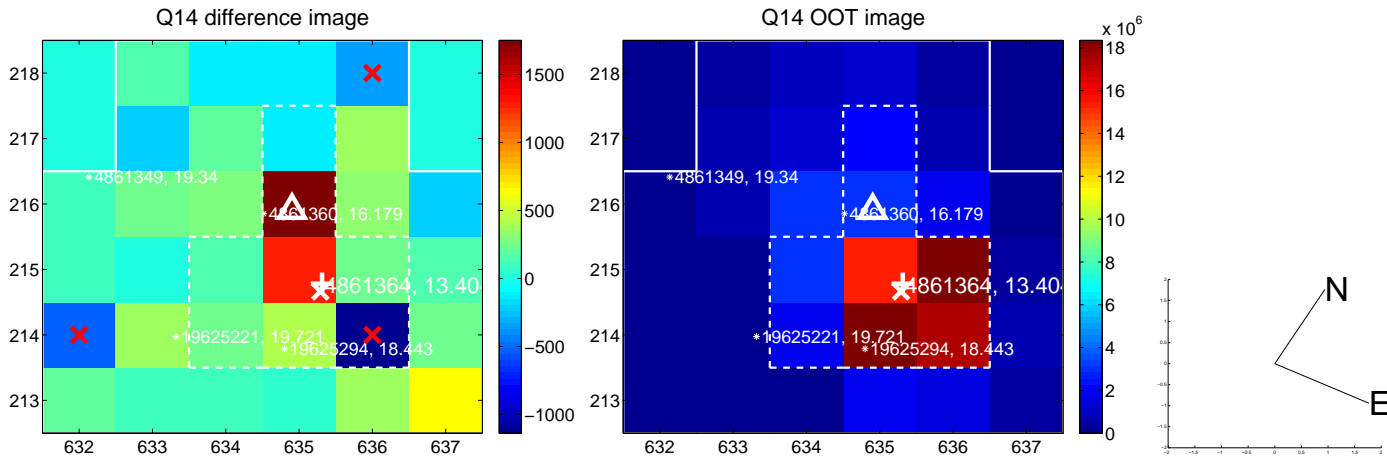
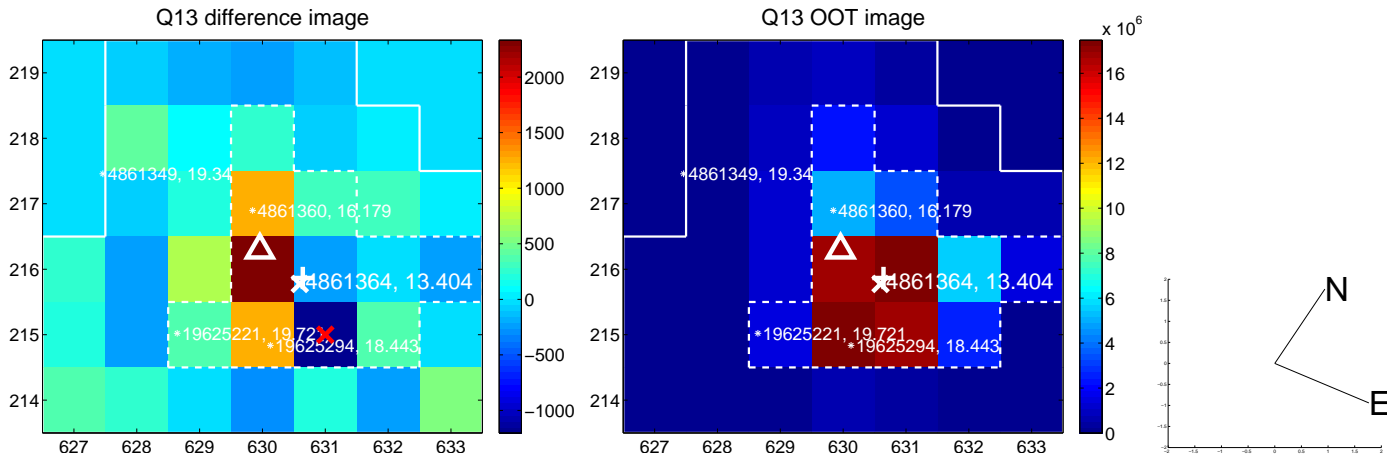
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

