

KIC 010214873

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})
010214873-01	OBS	8200.01	5.959681	135.268221	112.3	2.663	9.2	9.7	0.88	5717	1.31	182.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010214873-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST

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

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

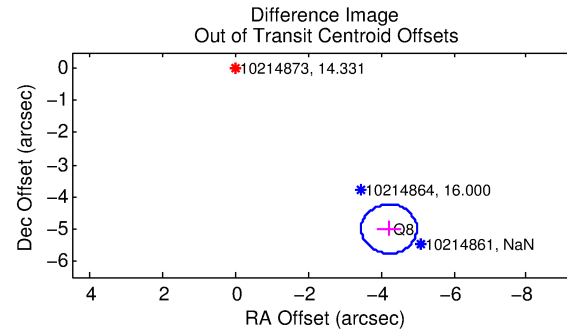
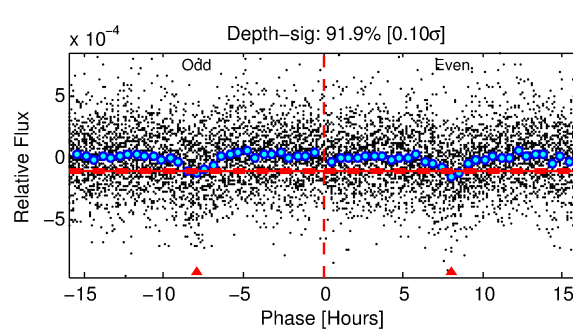
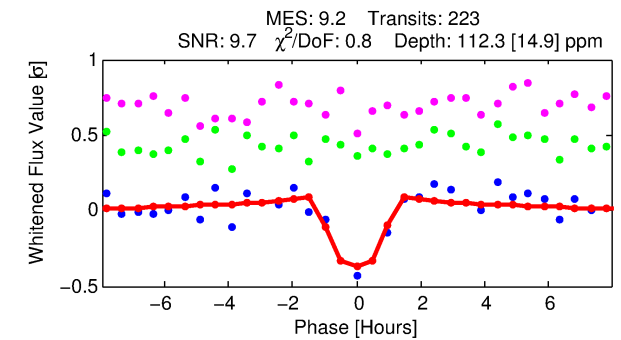
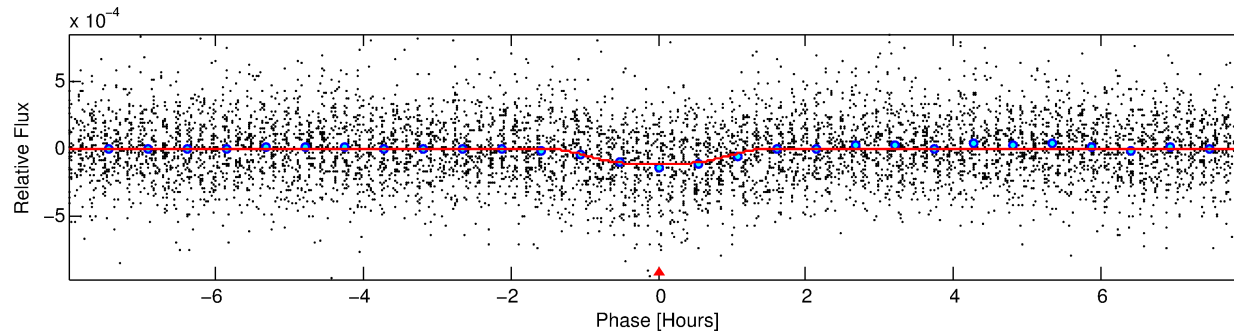
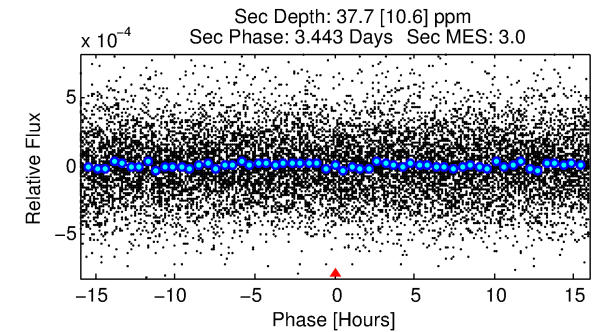
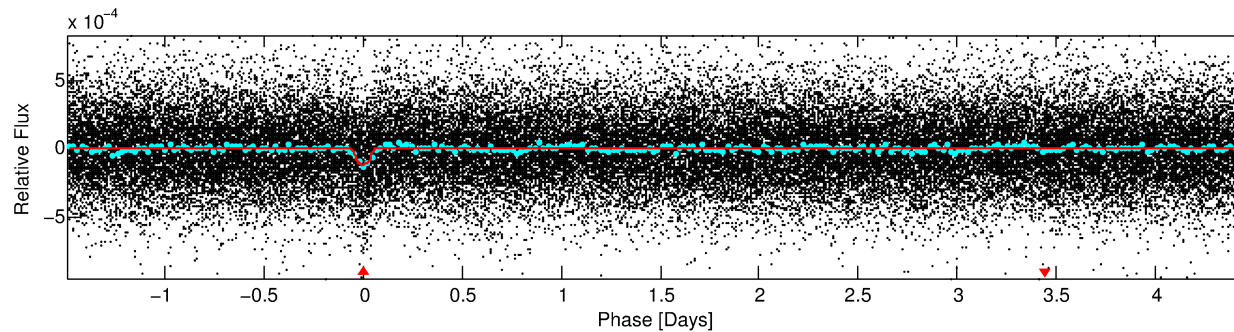
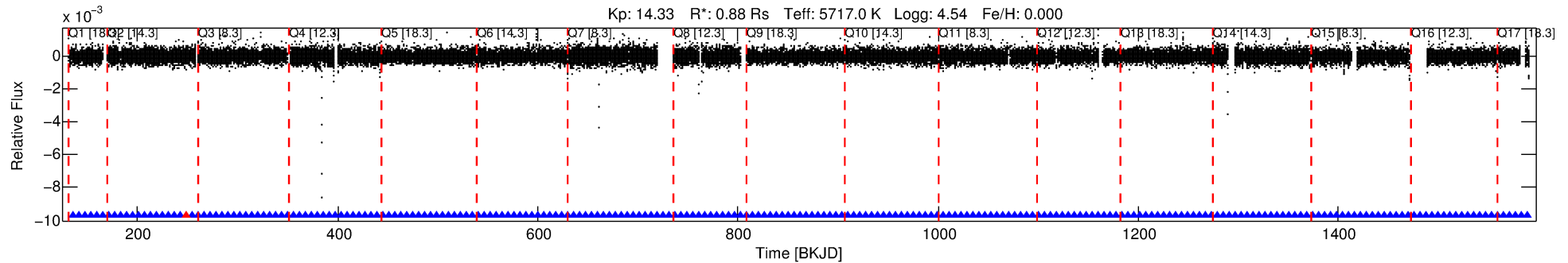
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010214873-01

No Significant Match Found

DV One-Page Summary

KIC: 10214873 Candidate: 1 of 1 Period: 5.960 d



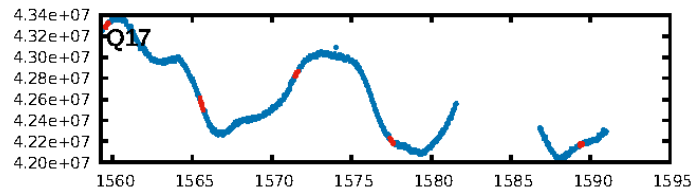
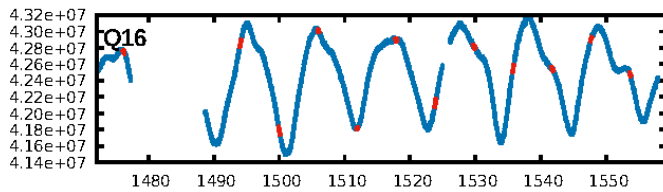
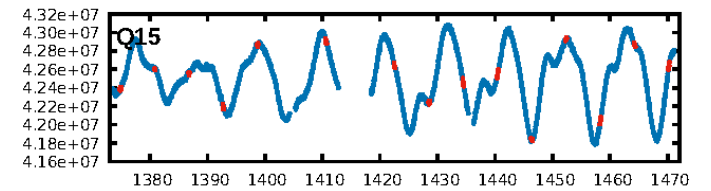
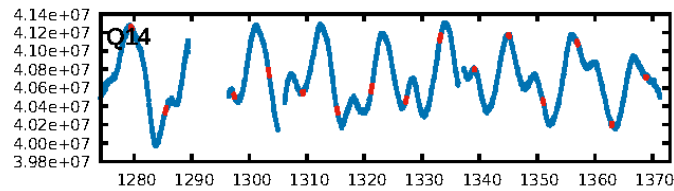
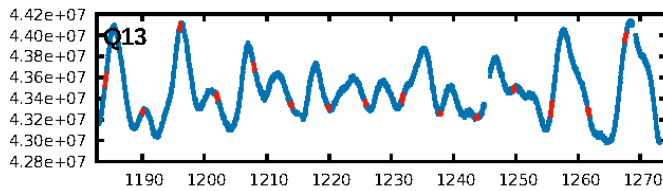
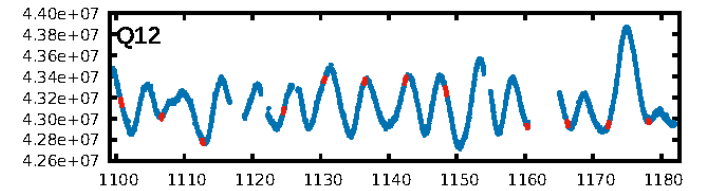
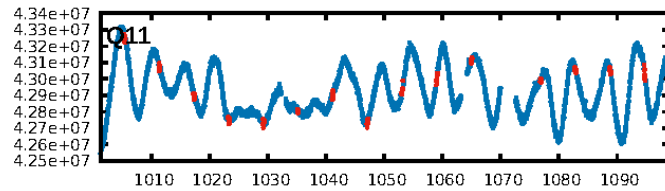
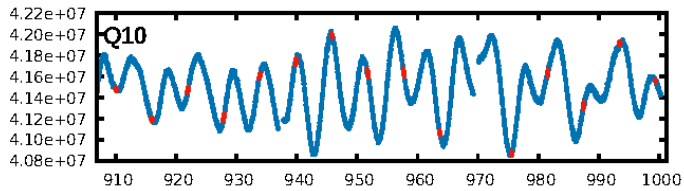
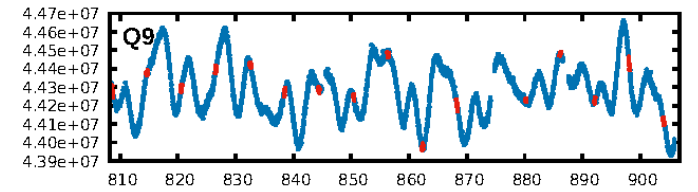
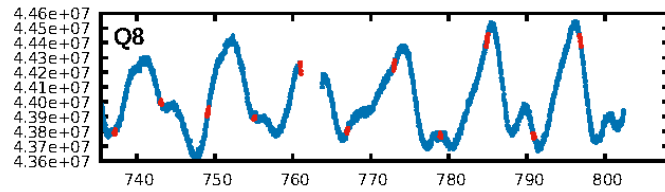
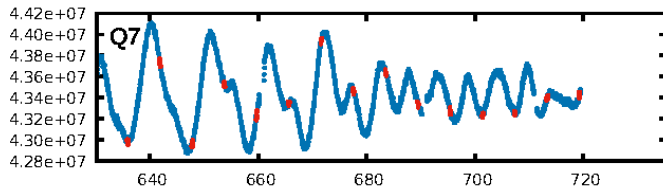
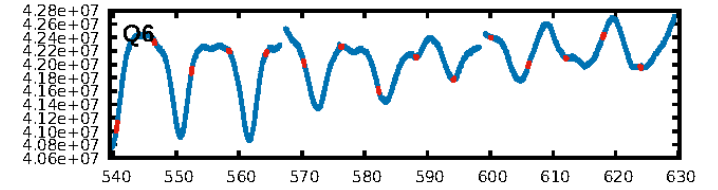
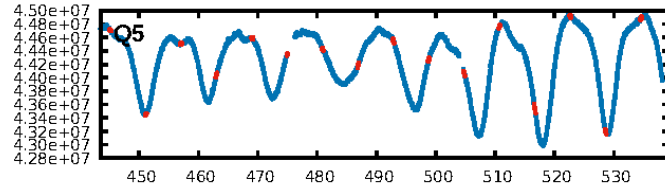
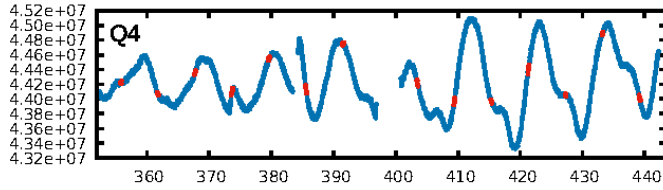
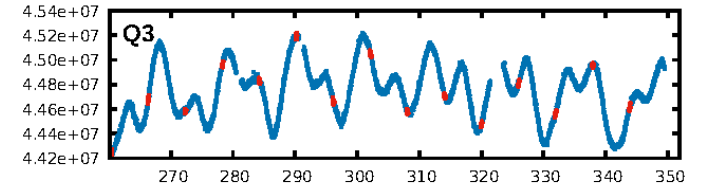
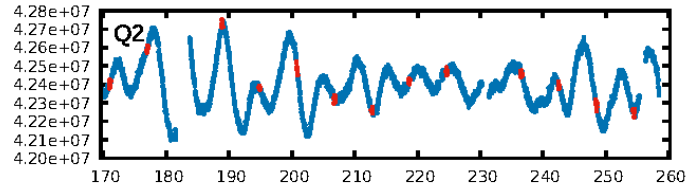
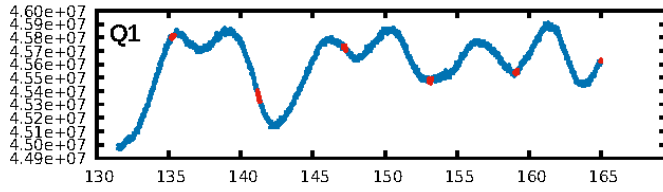
DV Fit Results:

Period = 5.95968 [0.00004] d
Epoch = 135.2682 [0.0050] BKJD
Rp/R* = 0.0136 [0.0013]
a/R* = 4.34 [1.04]
b = 0.98 [0.01]
Seff = 182.63 [67.42]
Teq = 937 [87] K
Rp = 1.31 [0.38] Re
a = 0.0640 [0.0152] AU
Ag = 49.28 [24.13] [2.00σ]
Teffp = 3840 [343] K [8.2σ]

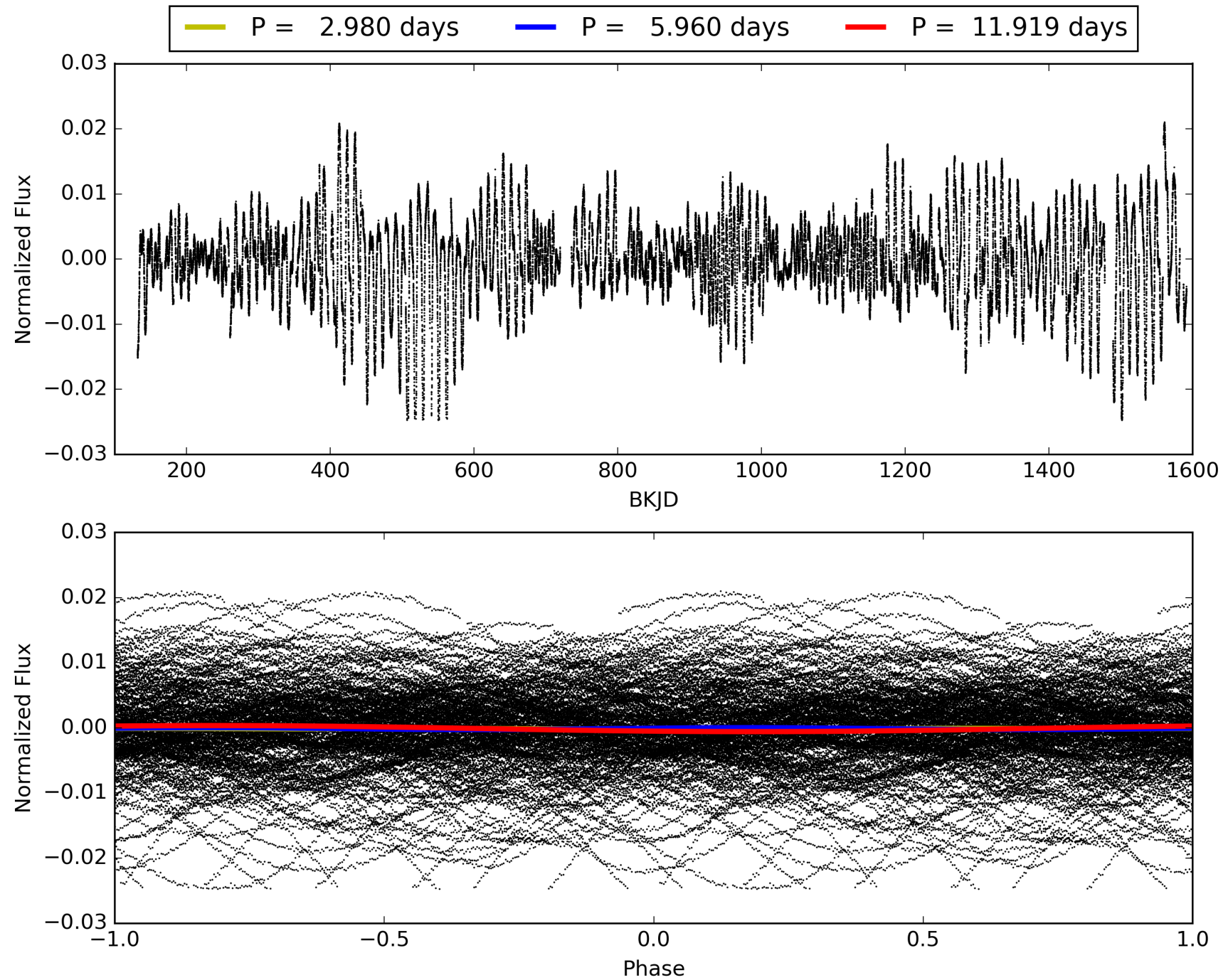
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.27e-19
RollingBand-fgt: 1.00 [212/213]
GhostDiagnostic-chr: -0.05709
Centroid-sig: 0.0%
Centroid-so: 29.262 arcsec [30.22σ]
OotOffset-rm: 6.543 arcsec [25.66σ]
KicOffset-rm: 6.540 arcsec [25.66σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010214873-01, PDC Light Curves

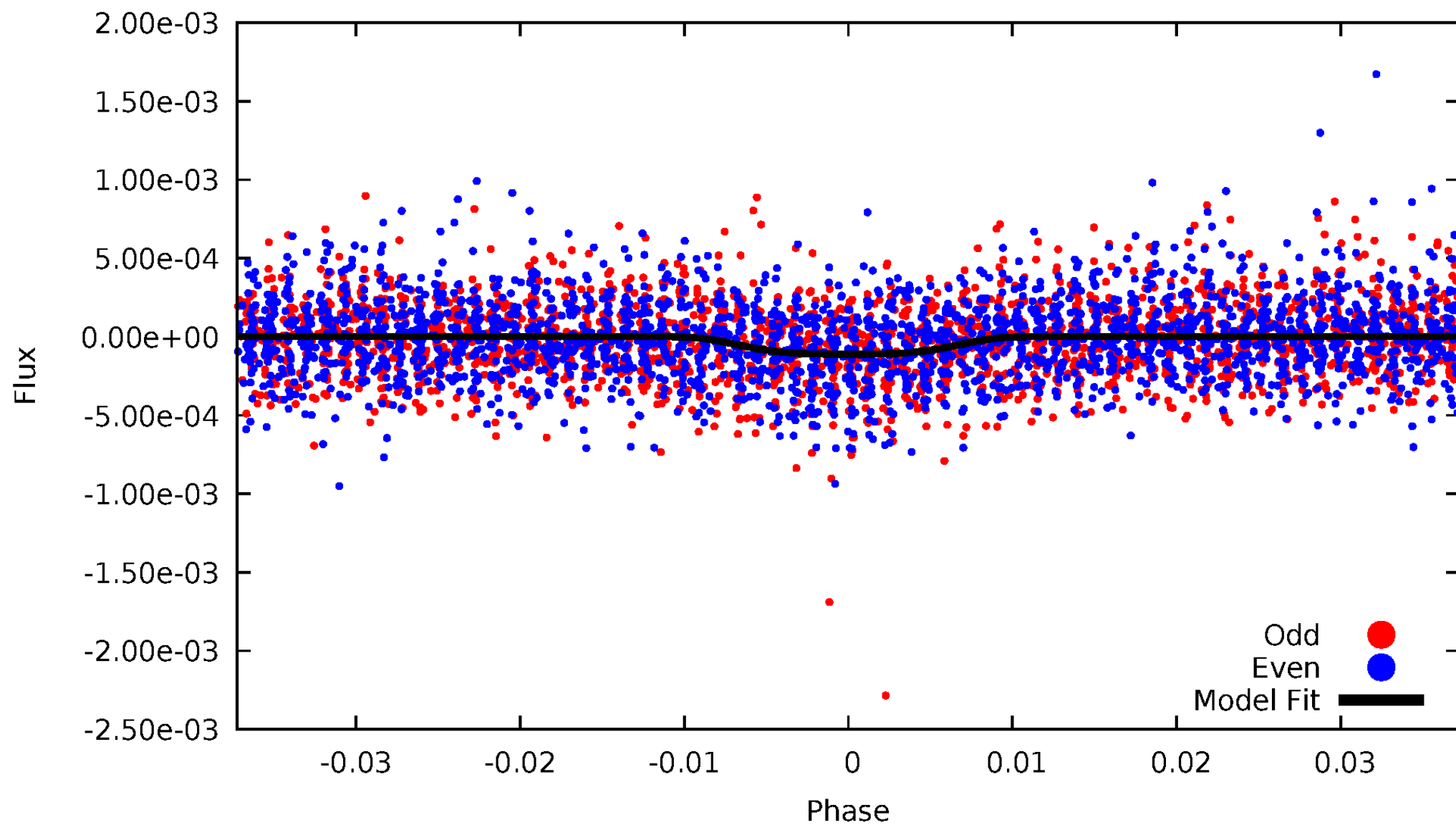


TCE 010214873-01



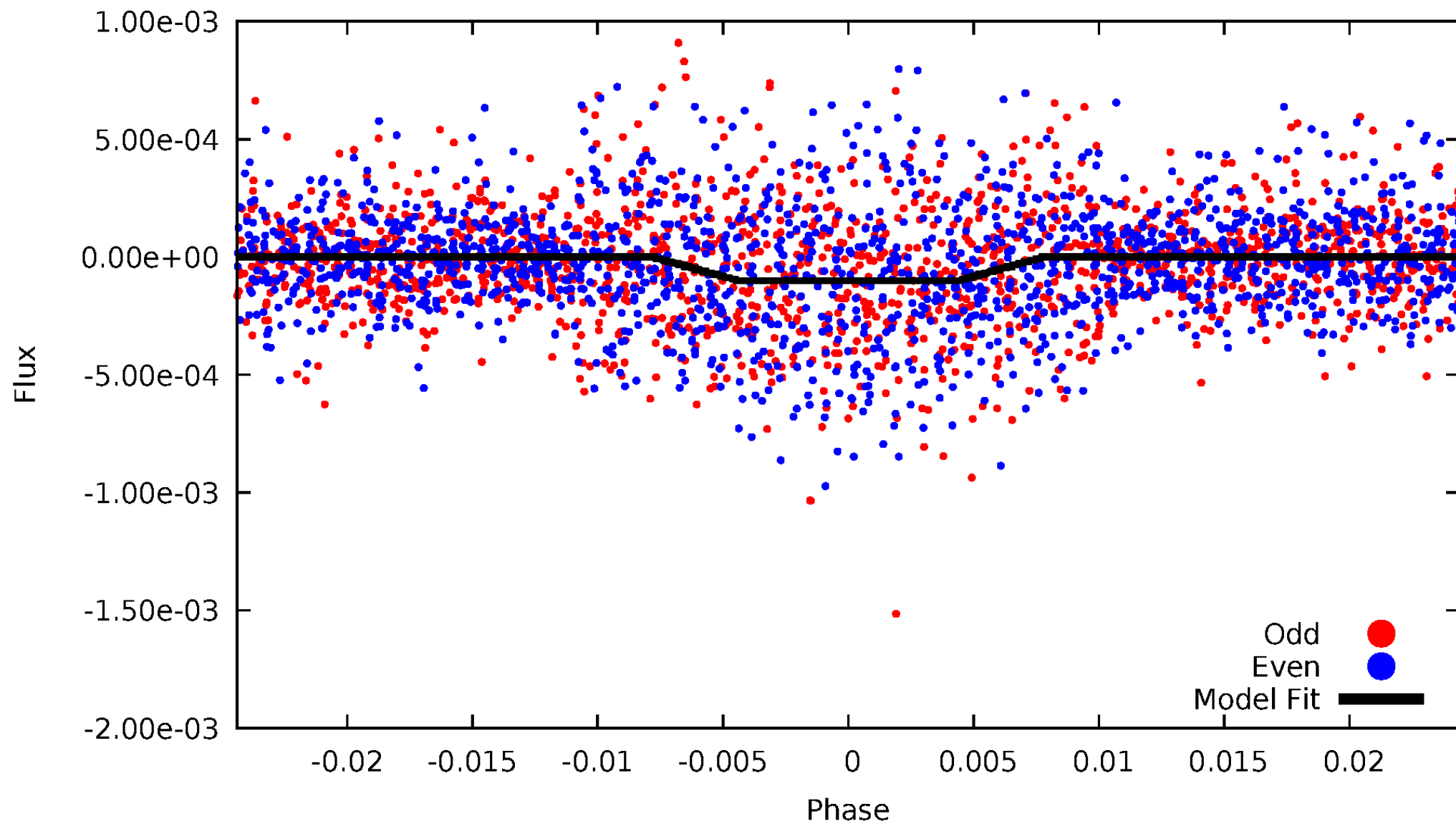
DV Odd/Even

TCE 010214873-01



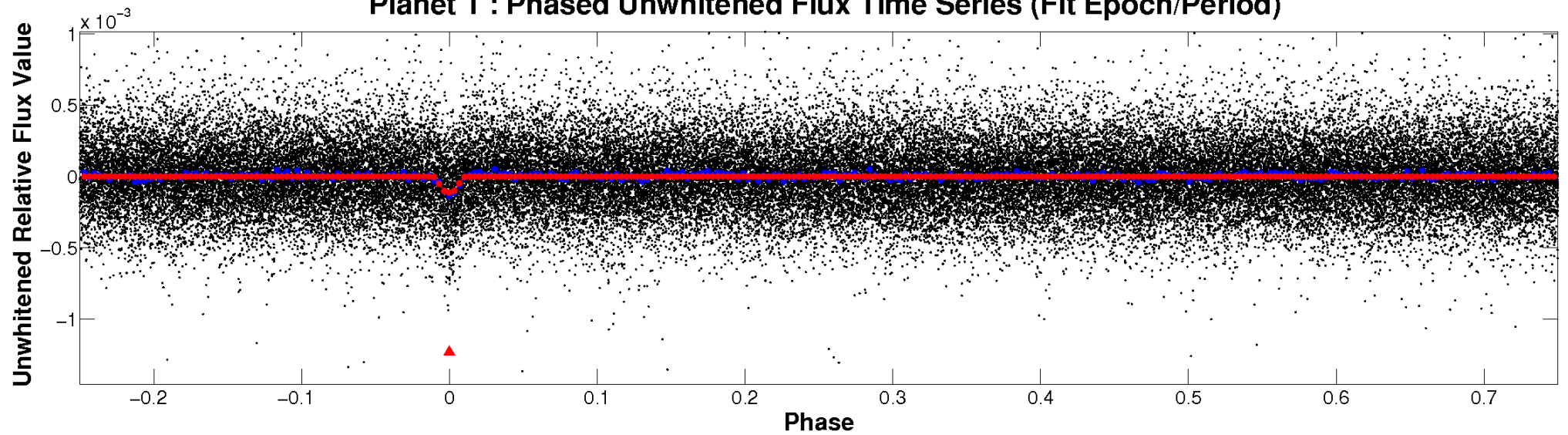
ALT Odd/Even

TCE 010214873-01

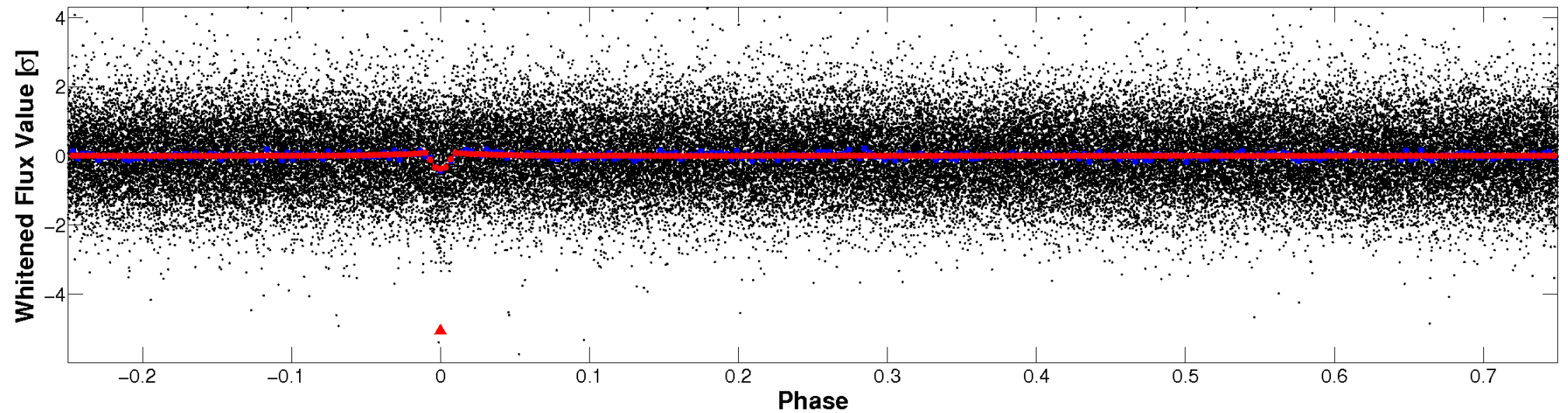


Non-Whitened Vs. Whitened Light Curve

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

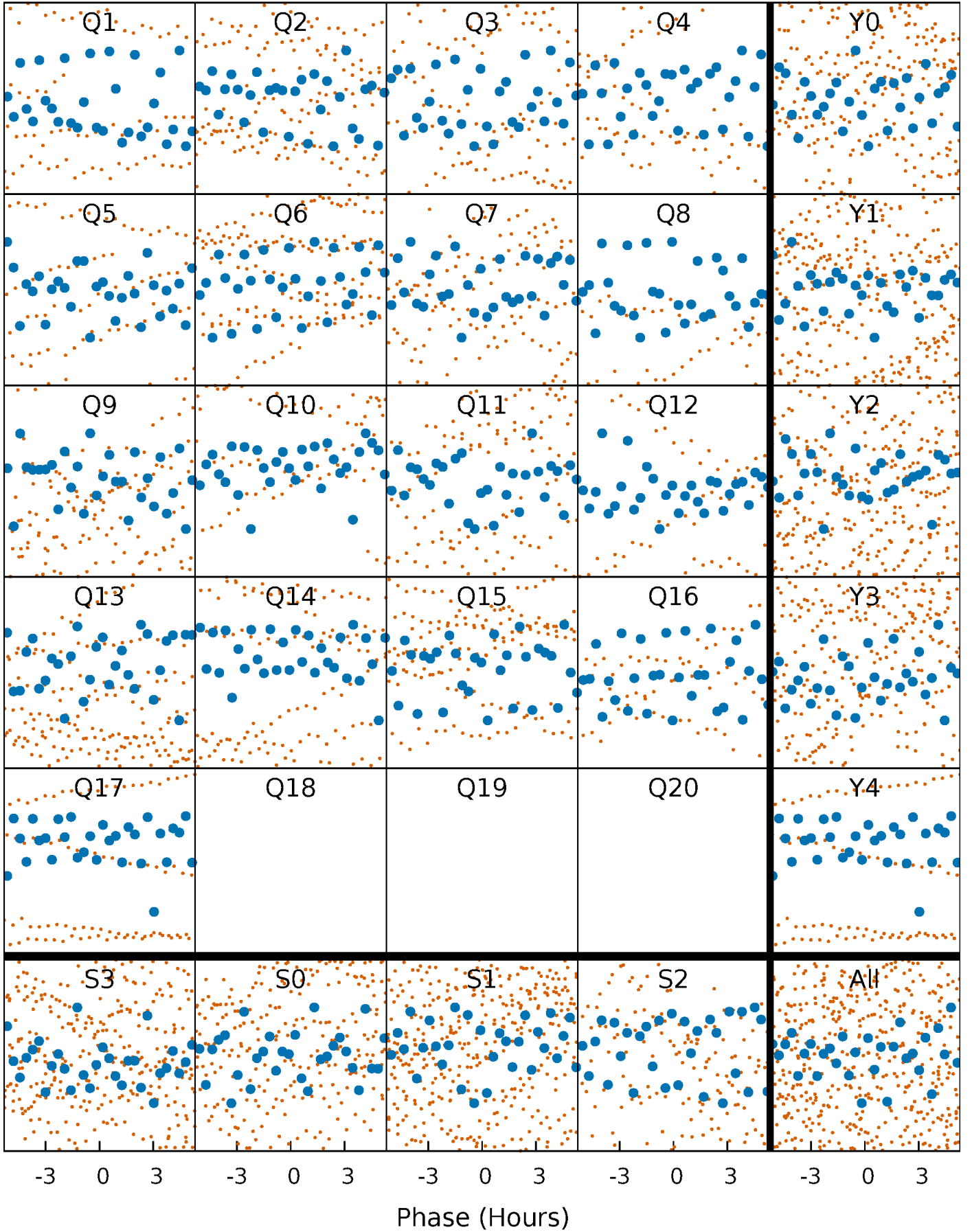


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



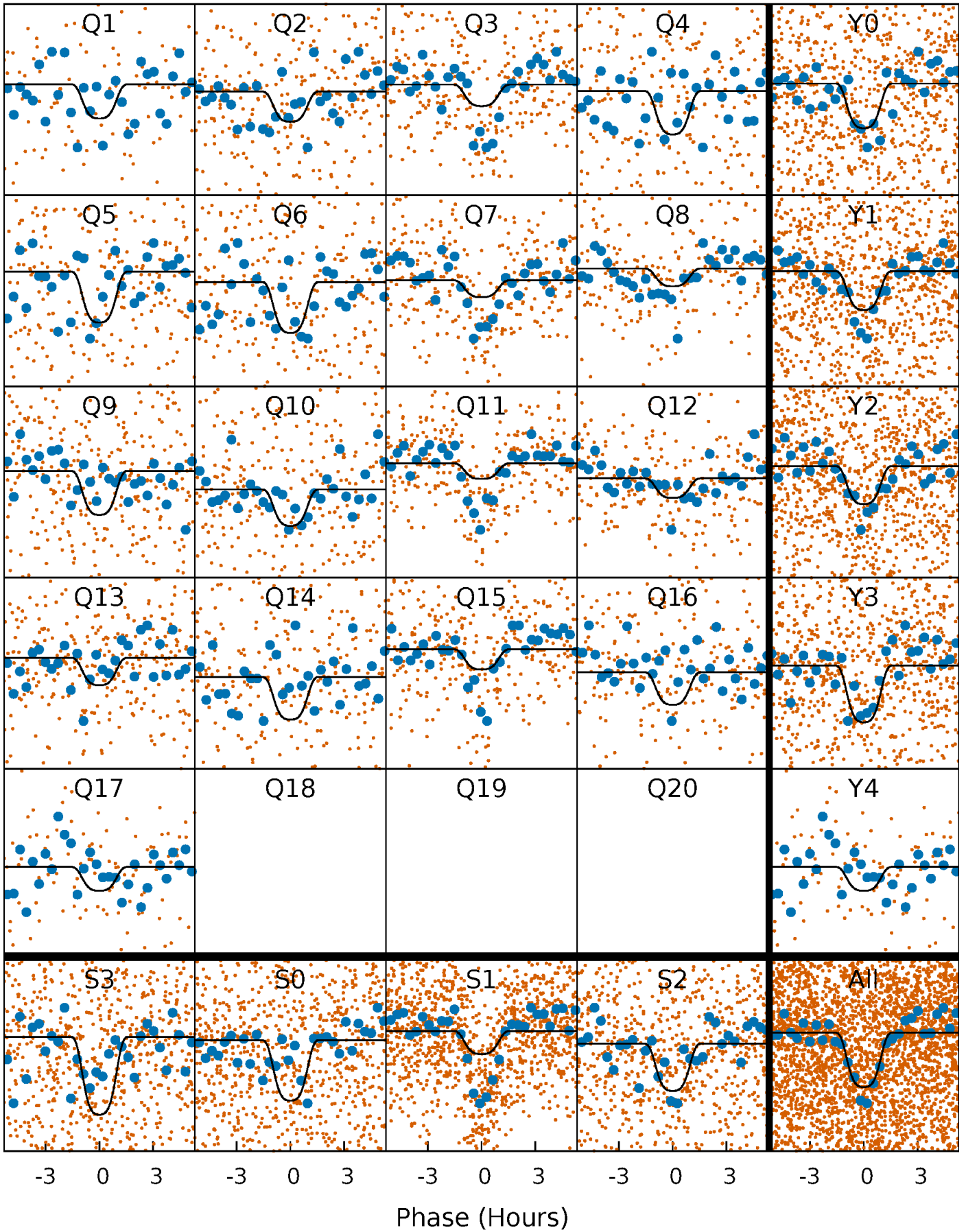
PDC Quarter-Phased Transit Curves

TCE 010214873-01 P= 5.959681 Days $T_0=135.268221$ (BKJD)



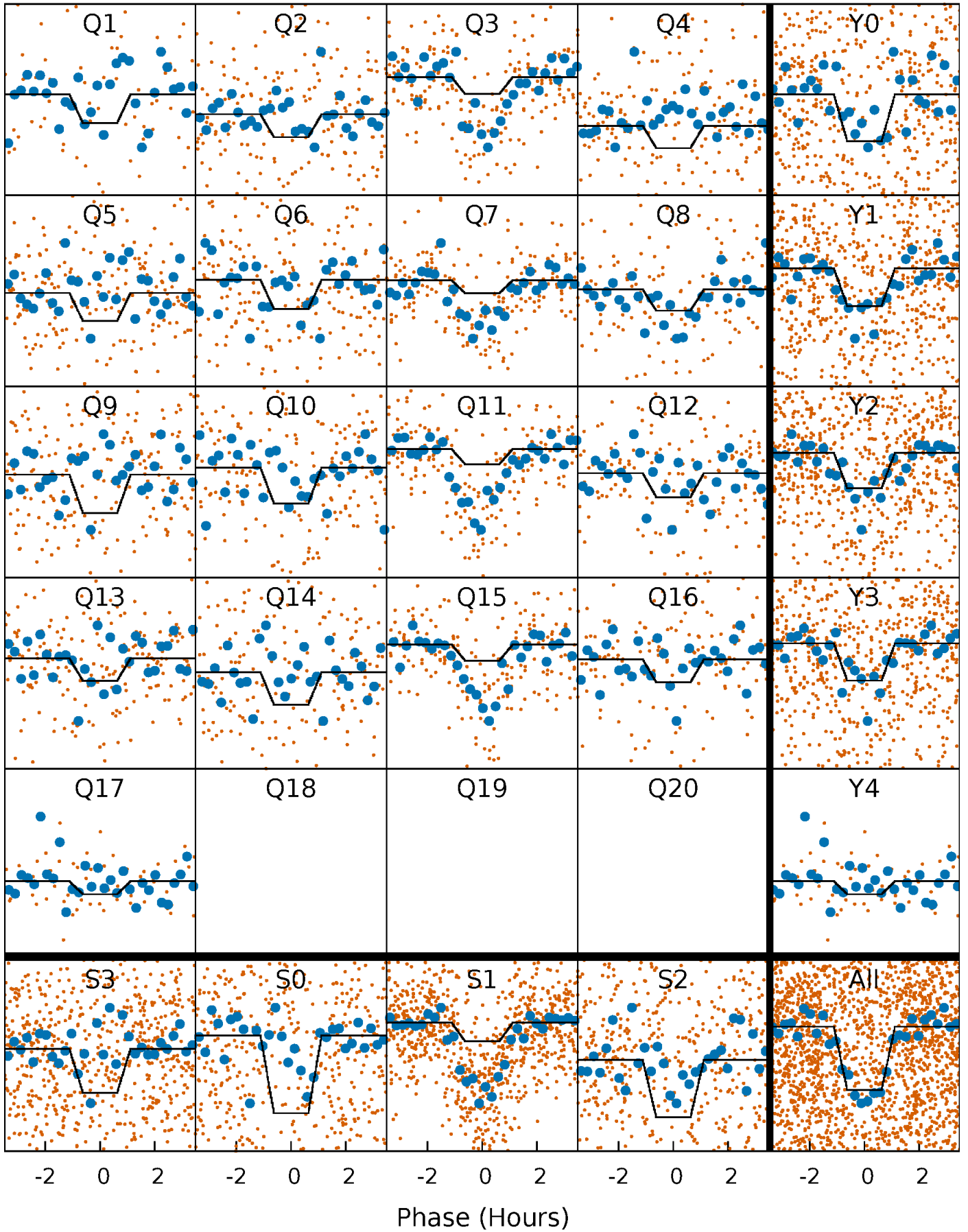
DV Quarter-Phased Transit Curves

TCE 010214873-01 P= 5.959681 Days $T_0=135.268221$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

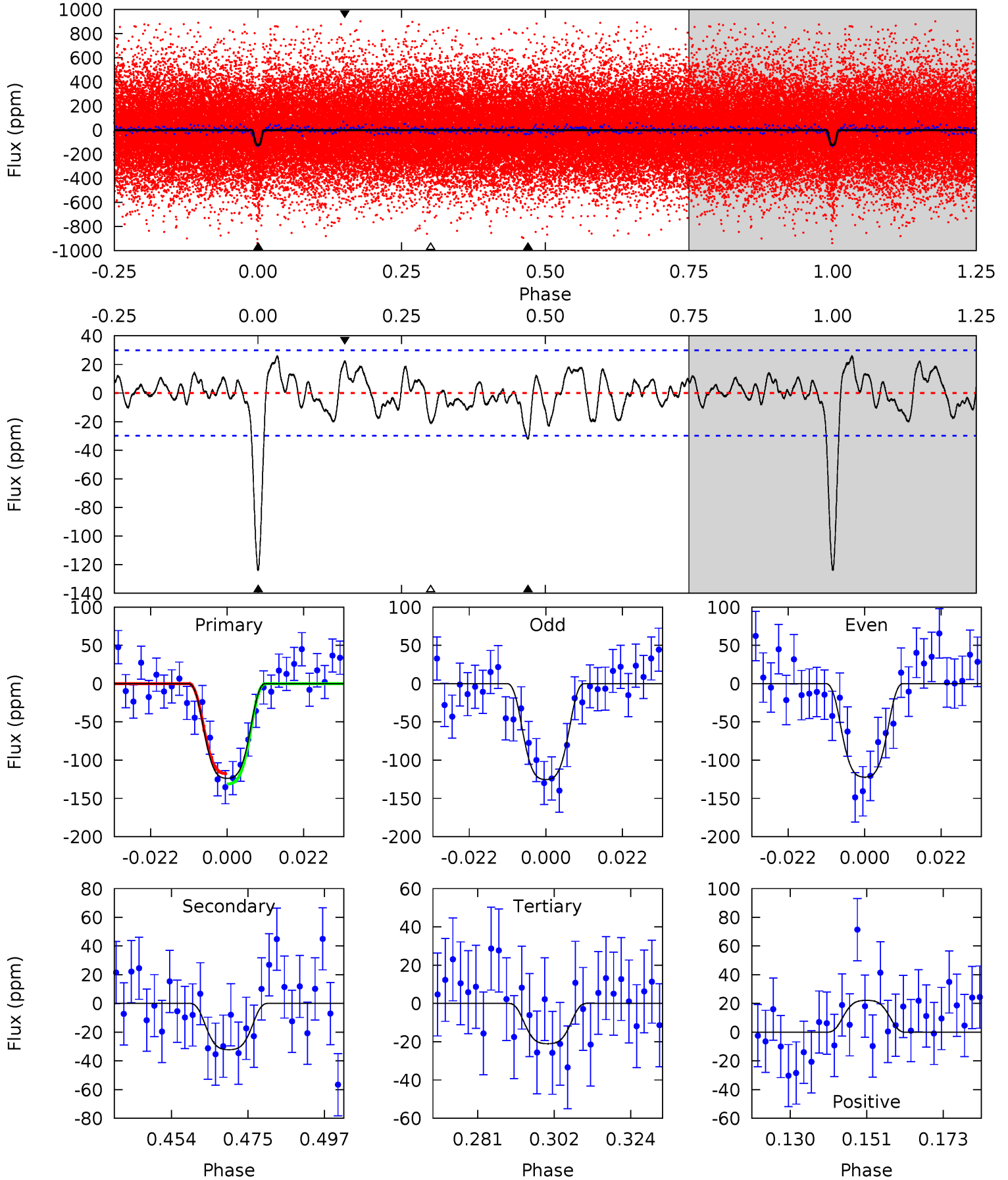
TCE 010214873-01 P= 5.959642 Days $T_0=135.274503$ (BKJD)



DV Model-Shift Uniqueness Test

010214873-01, P = 5.959681 Days, E = 129.308540 Days

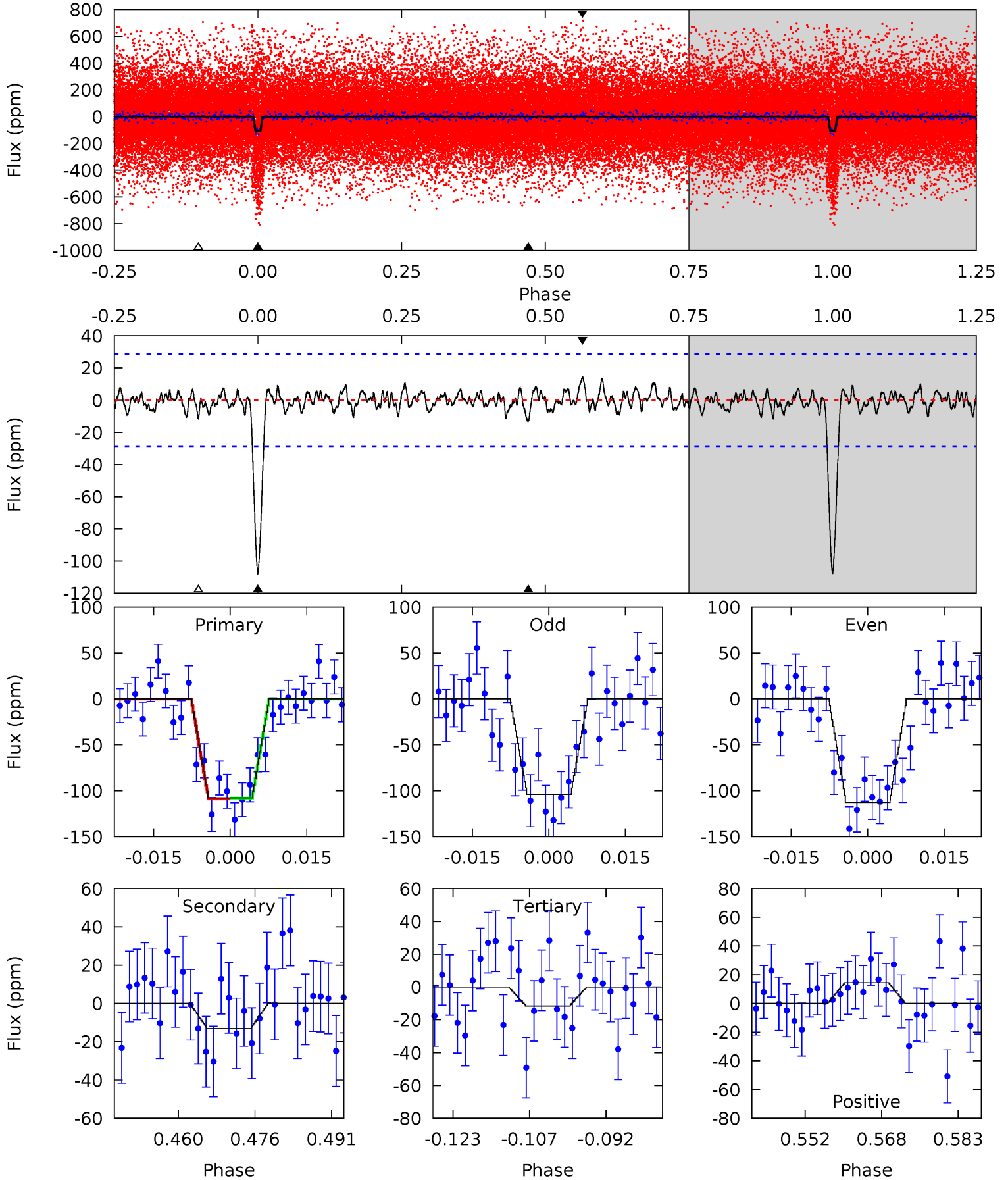
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.2	5.26	3.43	3.62	4.88	2.30	1.56	16.8	16.6	1.83	1.64	0.26	1.32	0.17	1.11



Alt Model-Shift Uniqueness Test

010214873-01, P = 5.959642 Days, E = 129.314861 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	2.26	1.99	2.51	4.94	2.42	0.75	16.7	16.1	0.27	-0.25	0.77	0.98	0.12	0.06



Stellar Parameters For KIC 010214873

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5717^{+156}_{-156}	$4.538^{+0.035}_{-0.196}$	$0.000^{+0.250}_{-0.300}$	$0.884^{+0.244}_{-0.081}$	$0.984^{+0.102}_{-0.114}$	$2.006^{+0.383}_{-1.008}$
	+3%/-3%	+1%/-4%	+inf%/-inf%	+28%/-9%	+10%/-12%	+19%/-50%
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 010214873-01 / KOI 8200.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-32 ± 6	$1.38^{+0.24}_{-0.18}$	1346^{+91}_{-62}	3995^{+207}_{-205}	37^{+14}_{-11}
Alt.	-13 ± 6	$1.03^{+0.19}_{-0.15}$	1343^{+91}_{-57}	3765^{+308}_{-371}	26^{+17}_{-13}

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

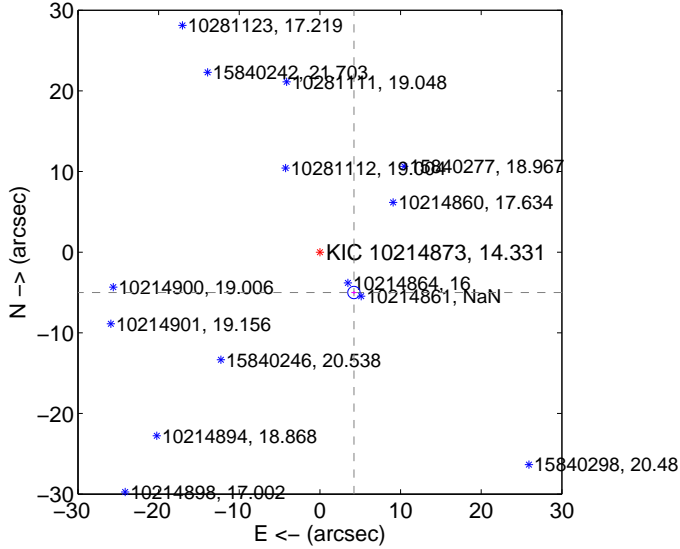
Supplemental centroid analysis for 010214873-01. Kepler magnitude: 14.33. Transit SNR 9.72

There are 1 quarters with good PRF difference image offsets

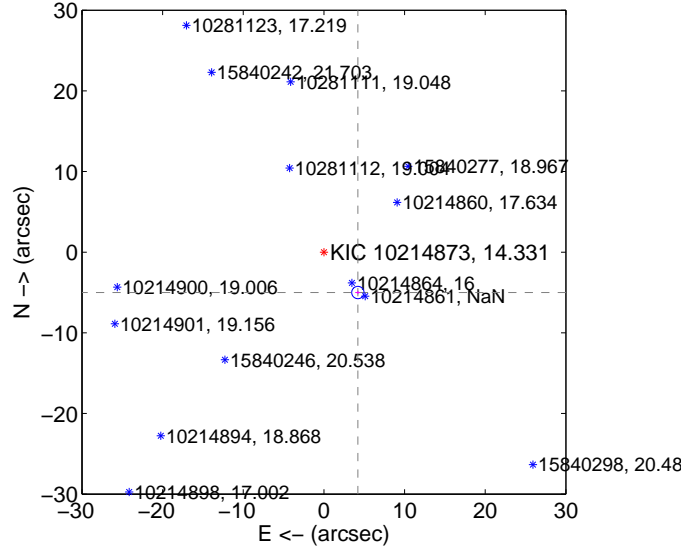
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.543 ± 0.255	25.66	-4.218 ± 0.307	-5.002 ± 0.210
PRF-fit source offset from KIC position	6.540 ± 0.255	25.66	-4.210 ± 0.307	-5.004 ± 0.210
photometric centroid source offset	29.26 ± 0.97	30.22	-17.10 ± 0.90	-23.75 ± 1.00

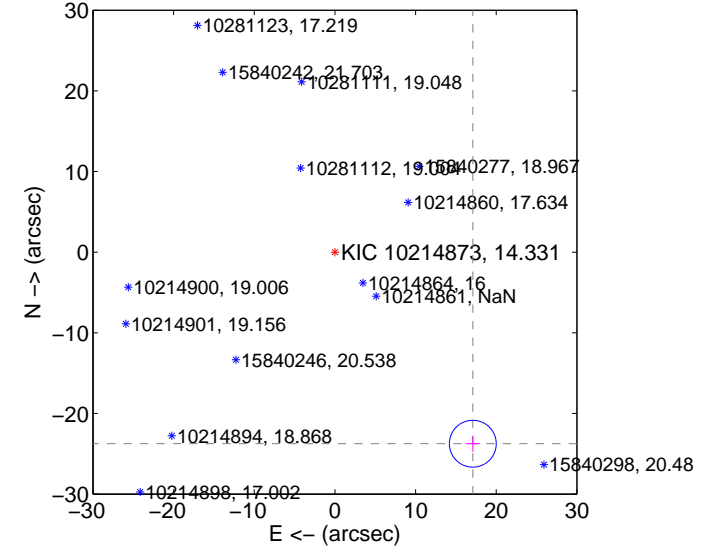
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

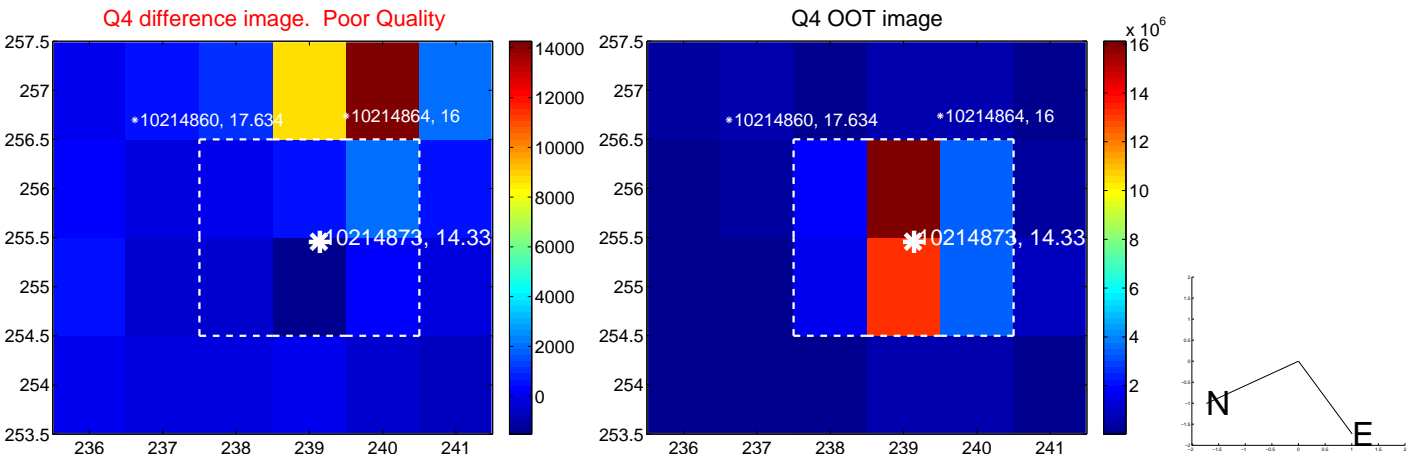
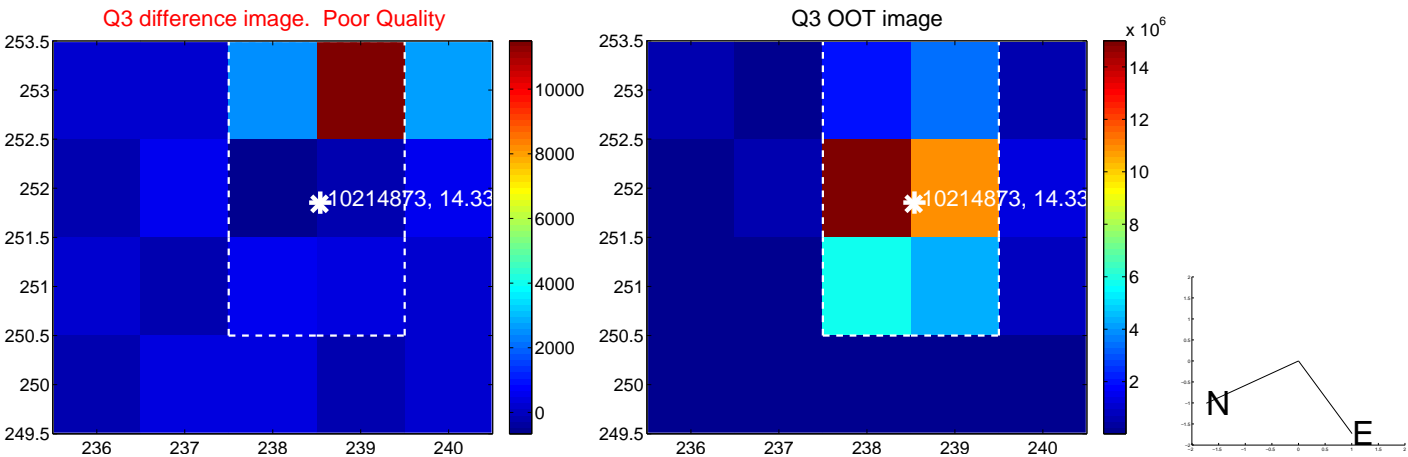
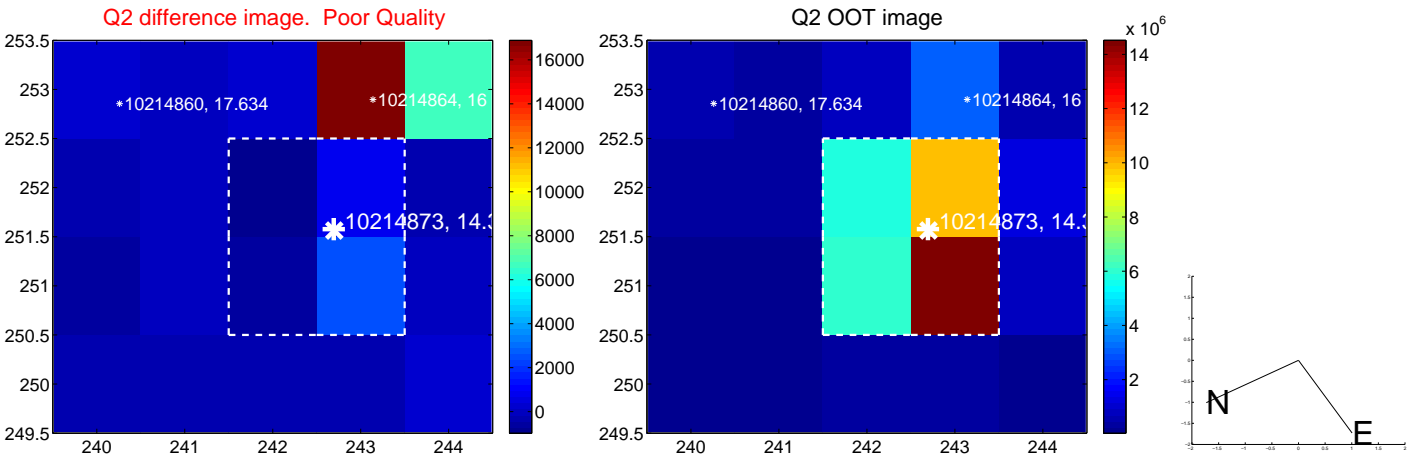
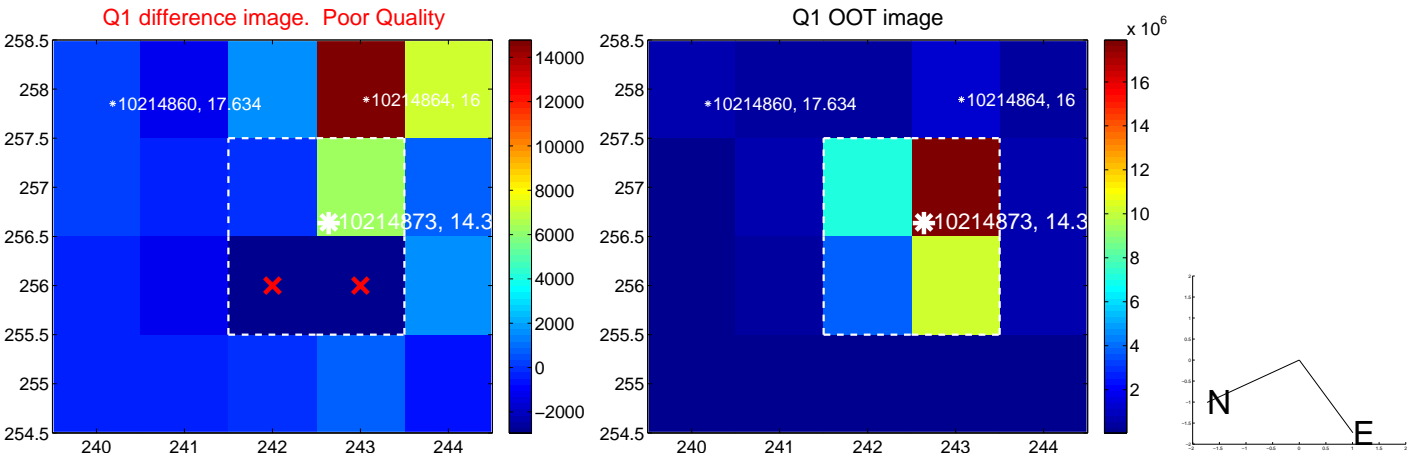


offset from photometric centroids

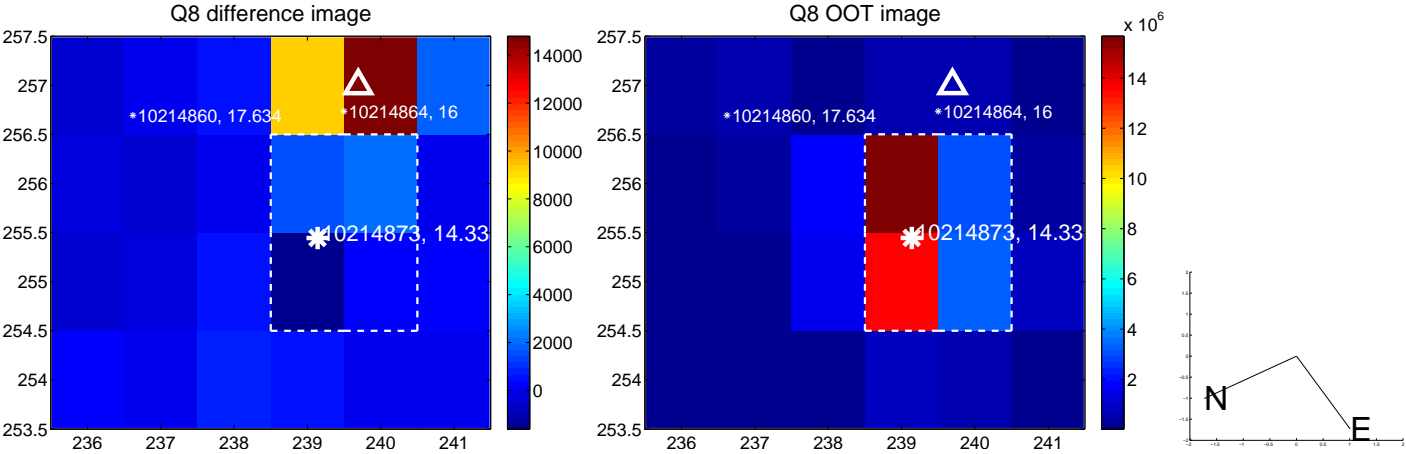
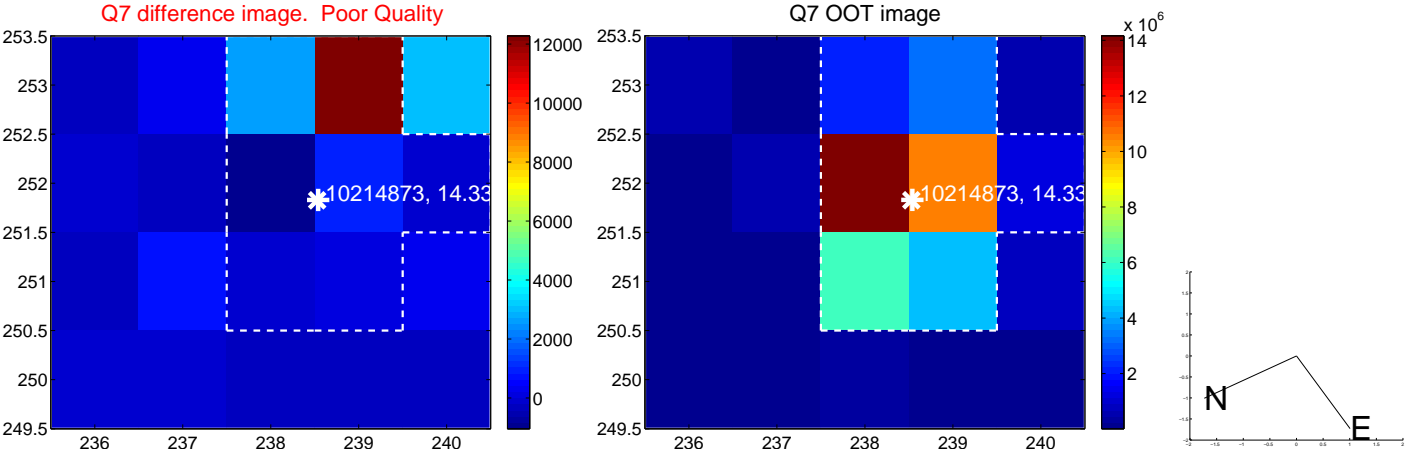
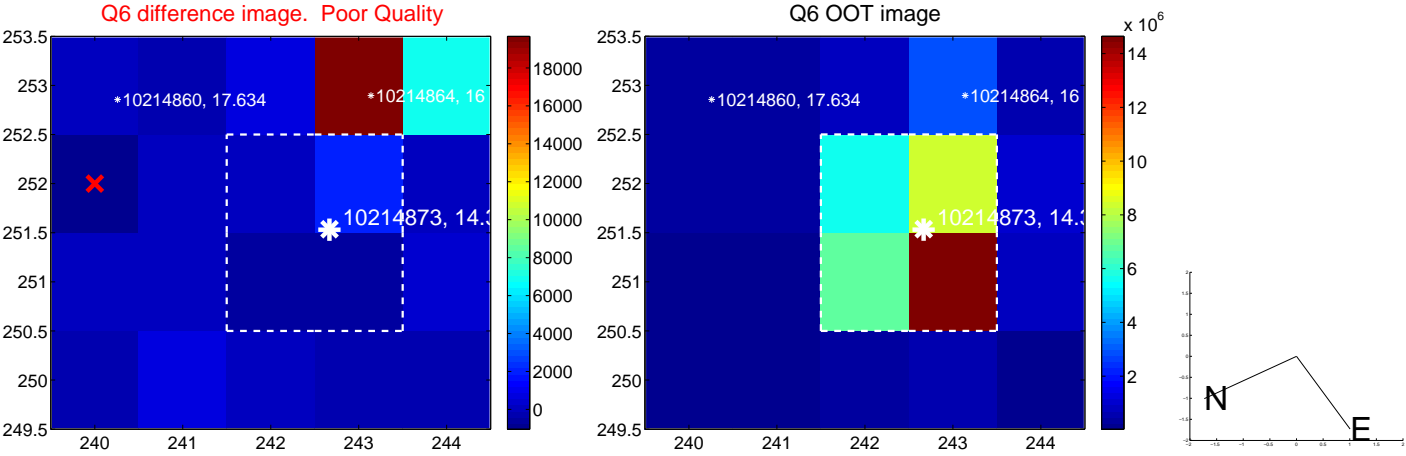
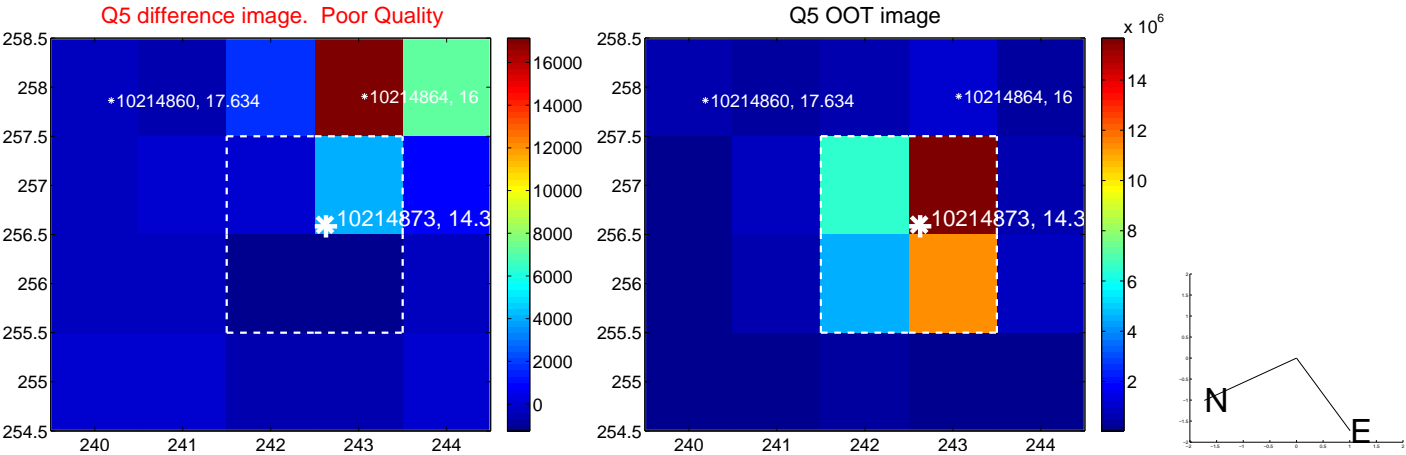


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

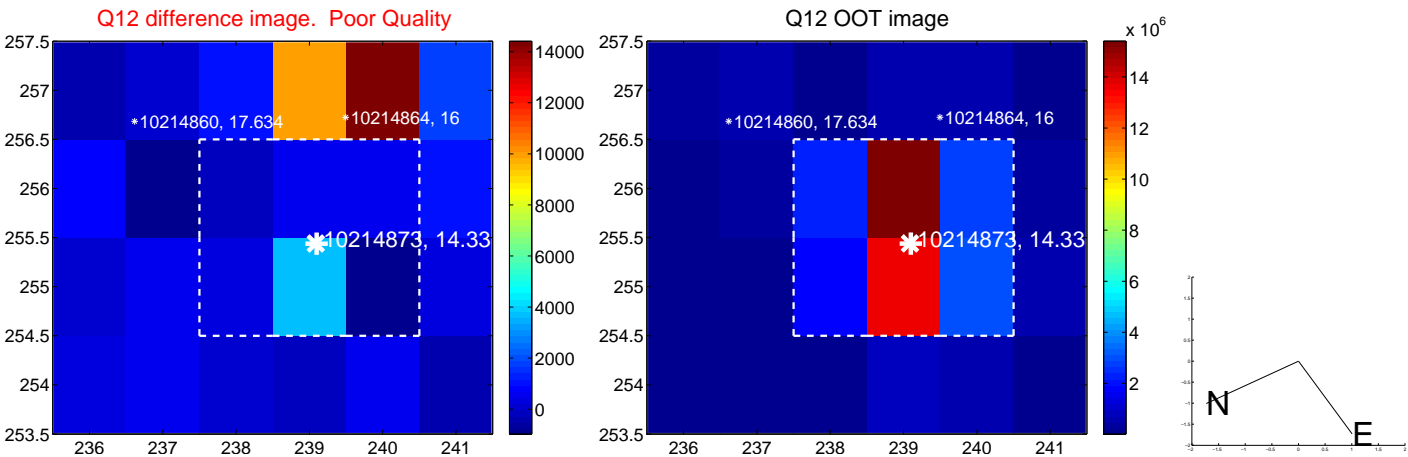
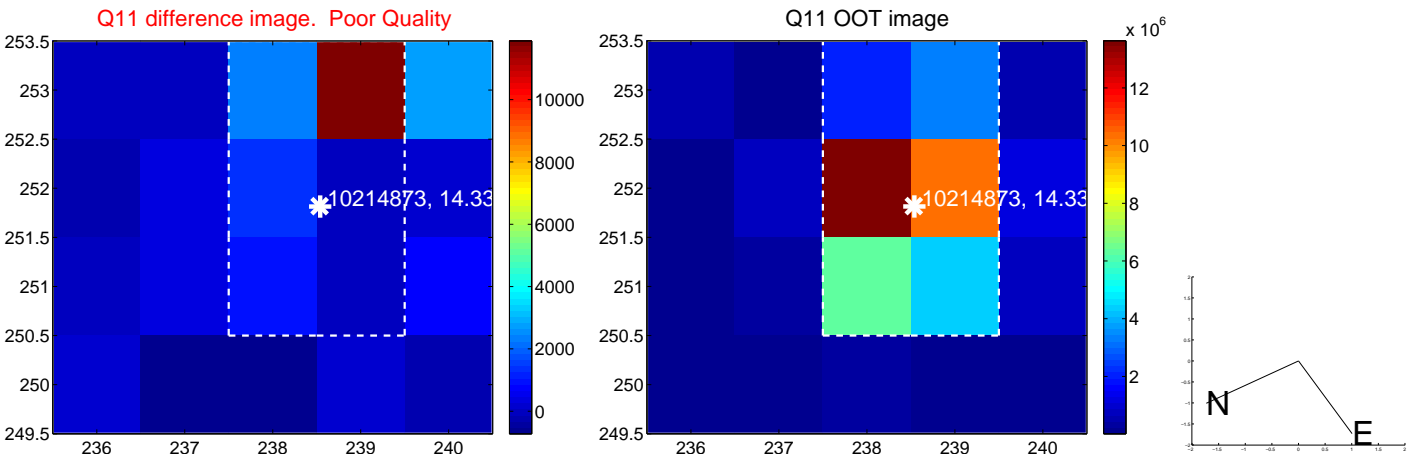
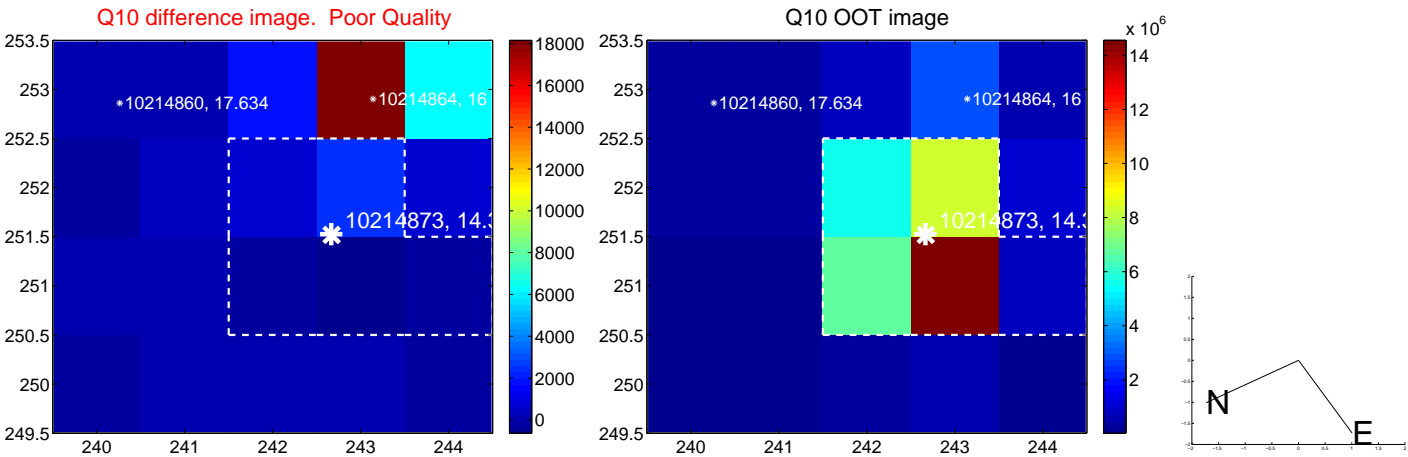
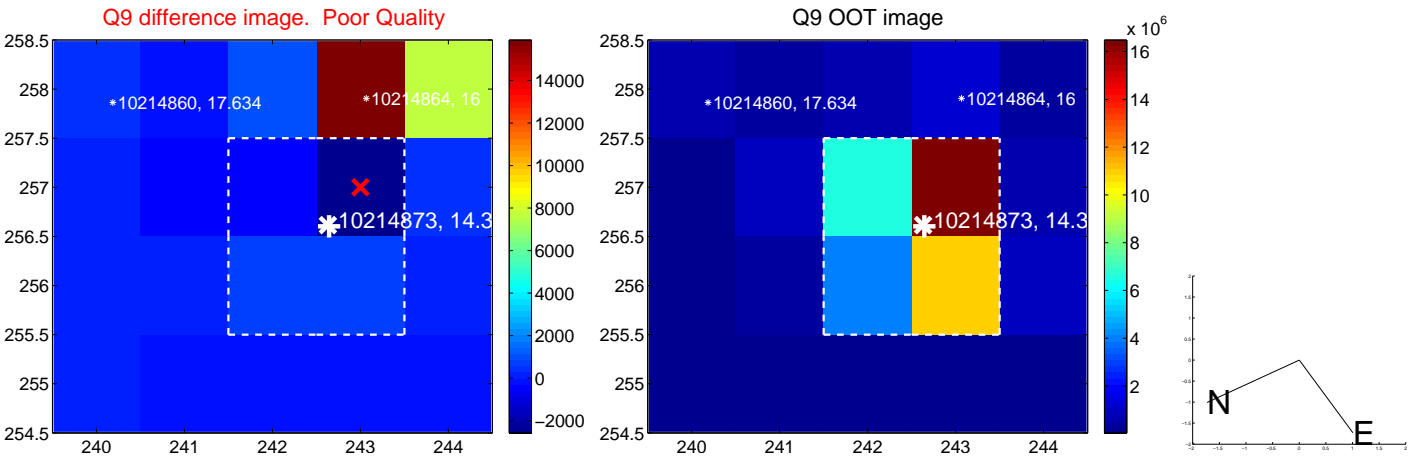
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



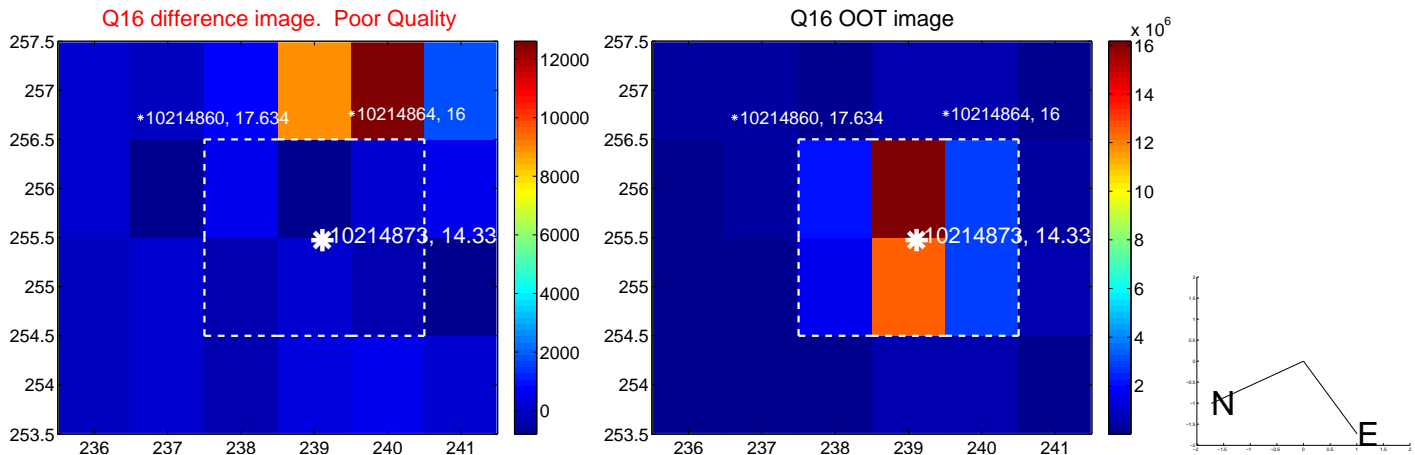
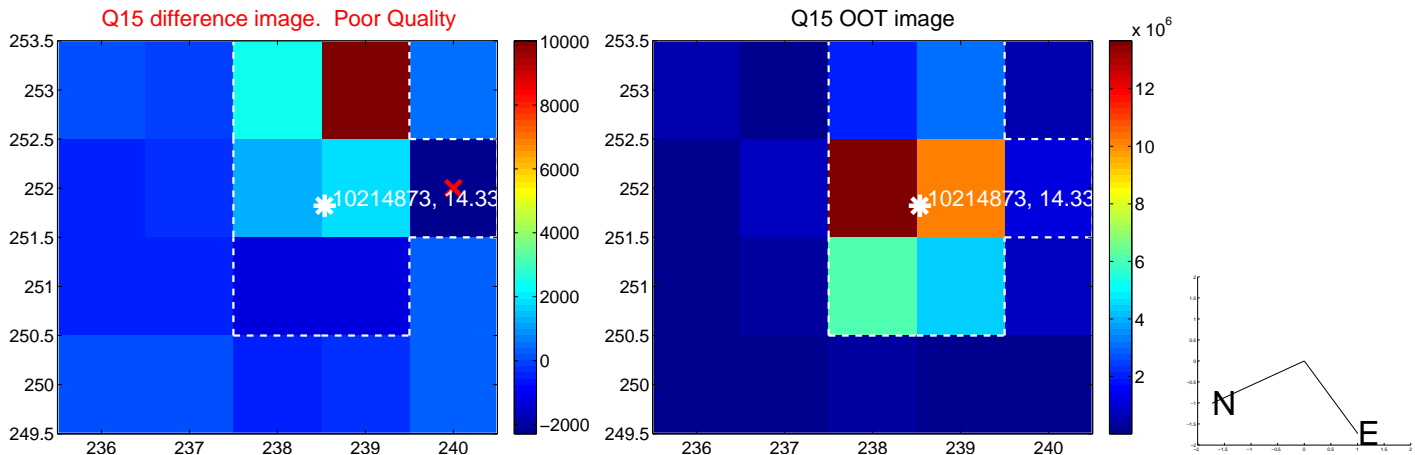
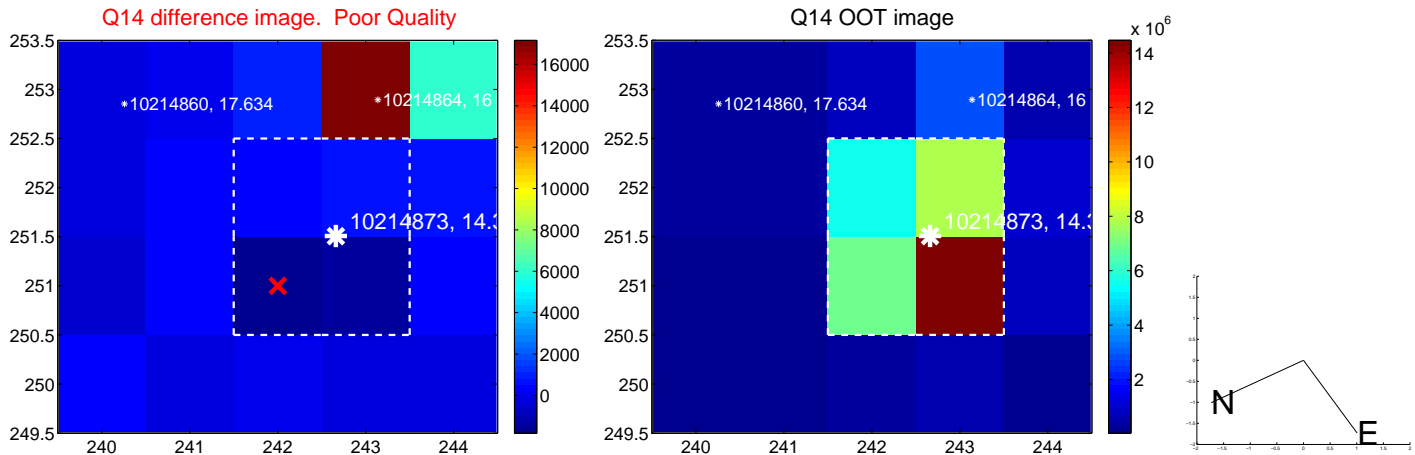
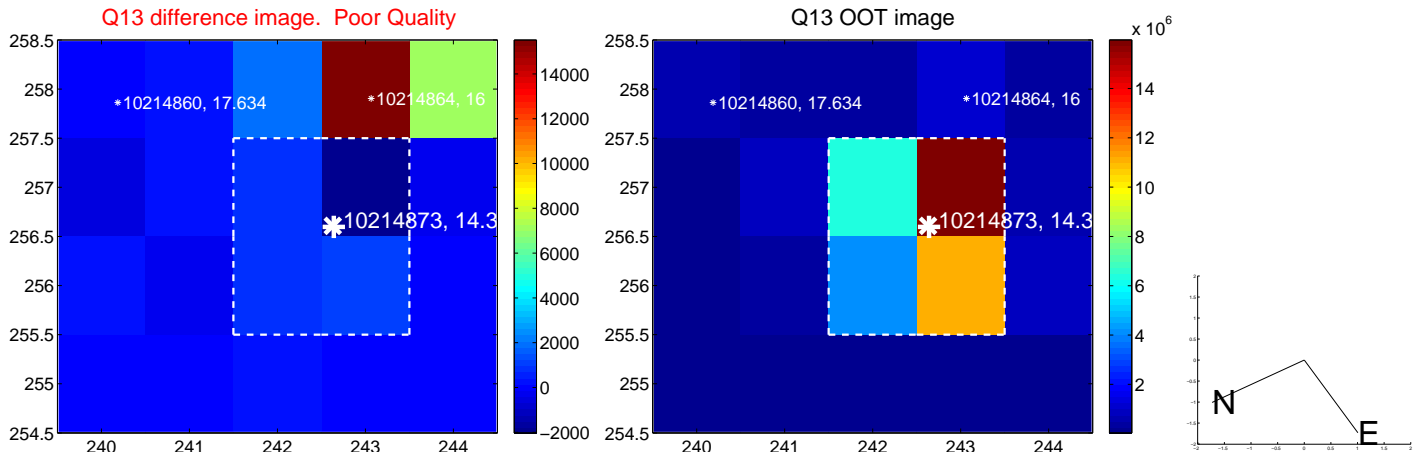
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



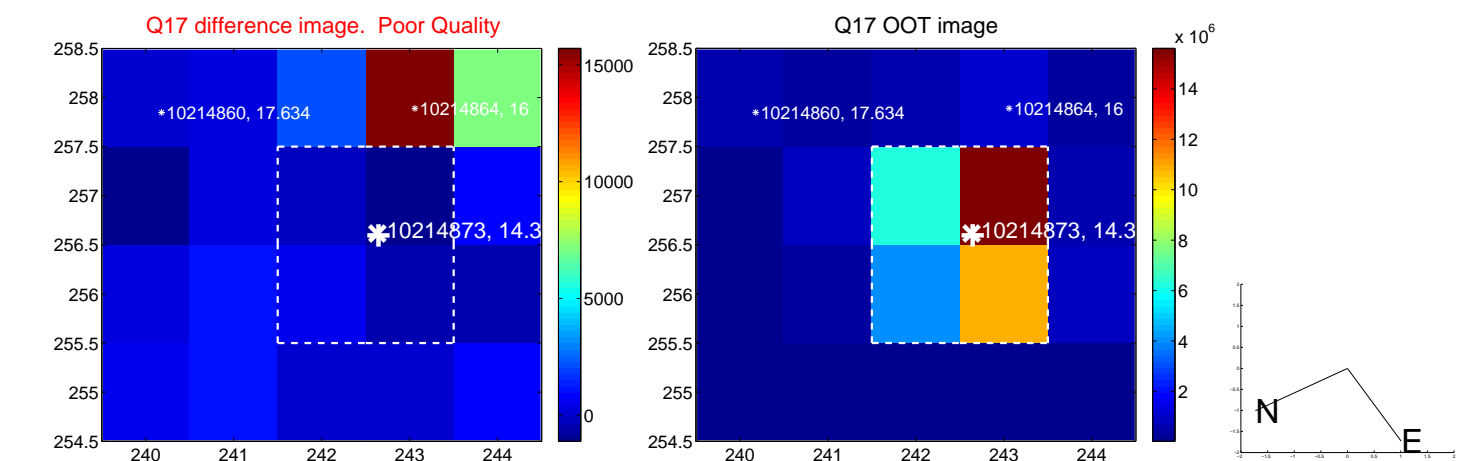
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



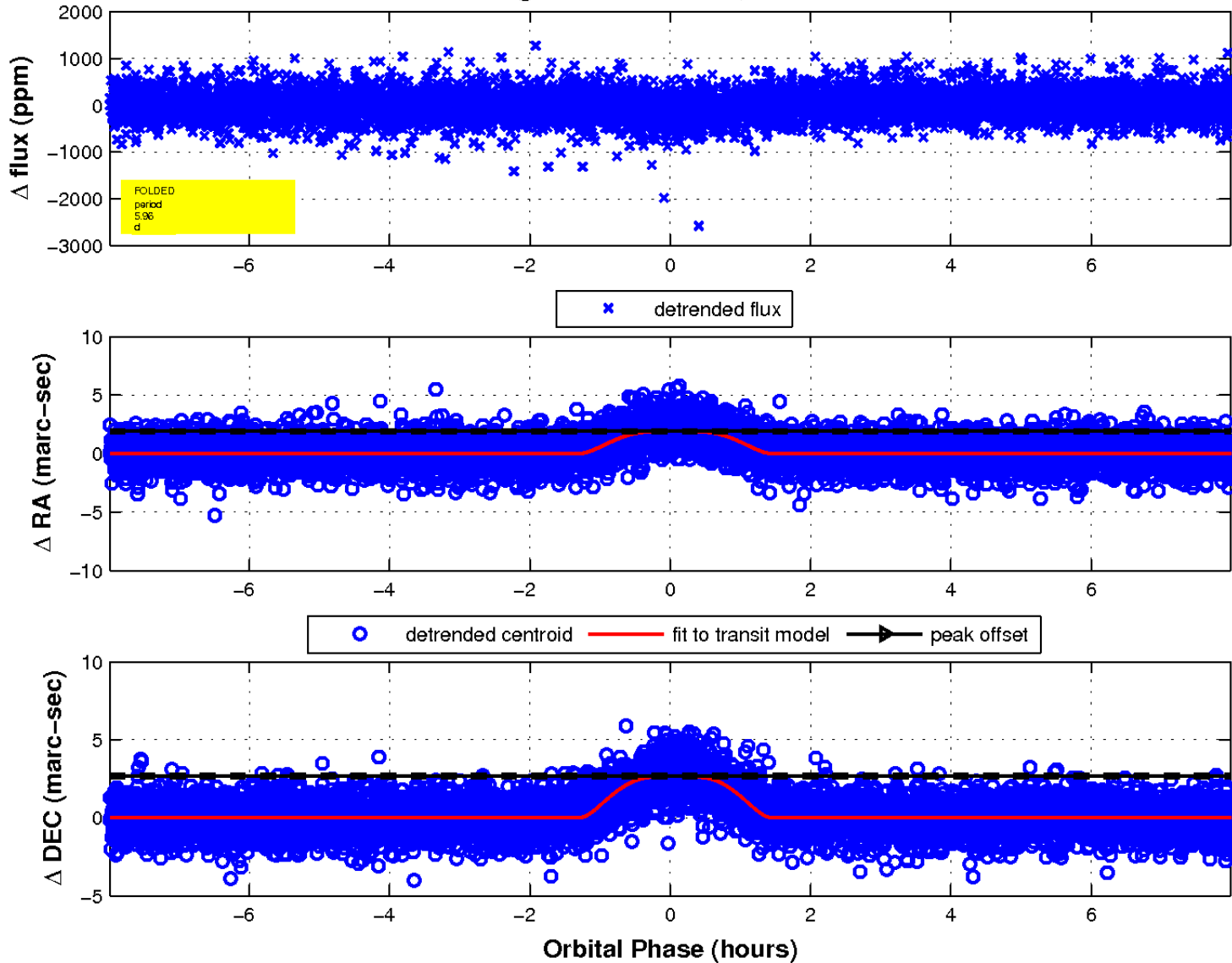
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

