

KIC 006223324

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})
006223324-01	OBS	4274.01	1.975051	132.365529	128.2	2.535	13.7	13.9	0.95	6065	1.27	1128.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006223324-01	OBS	PC	0.97	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.

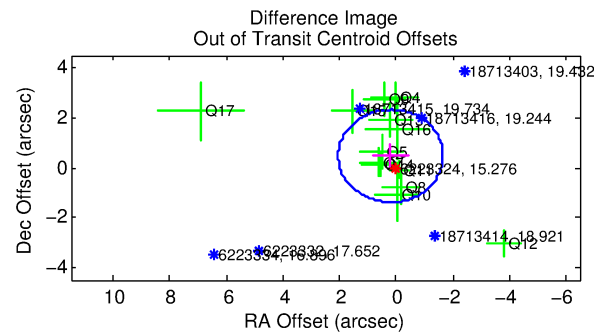
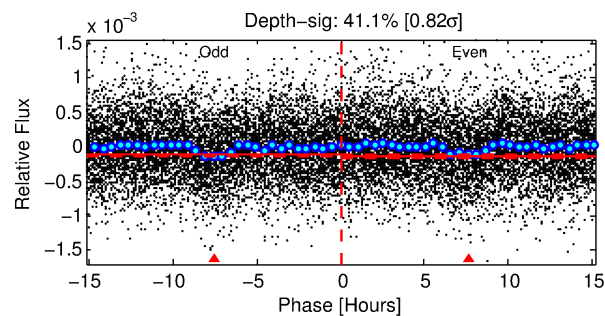
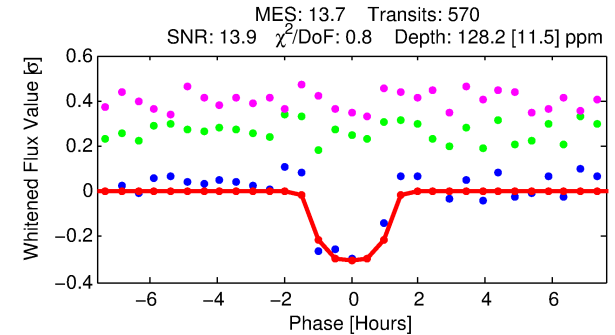
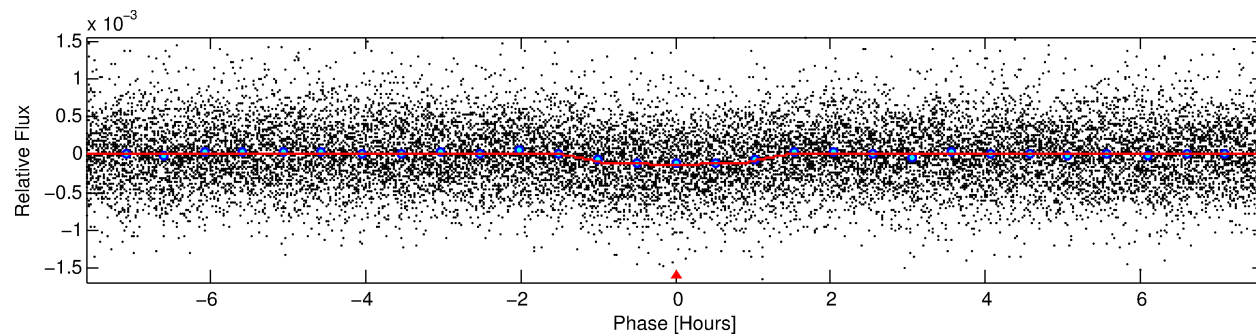
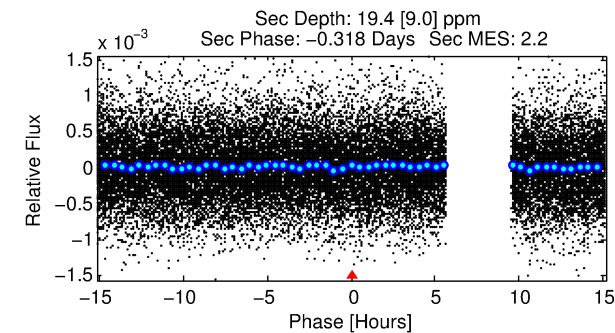
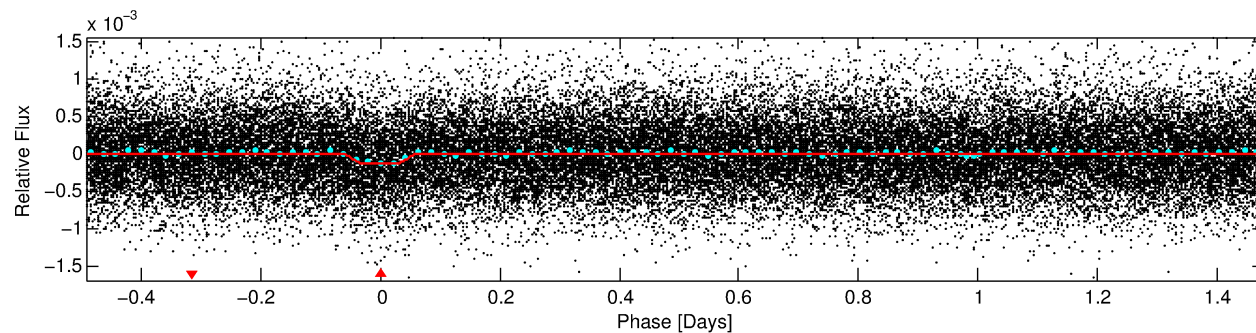
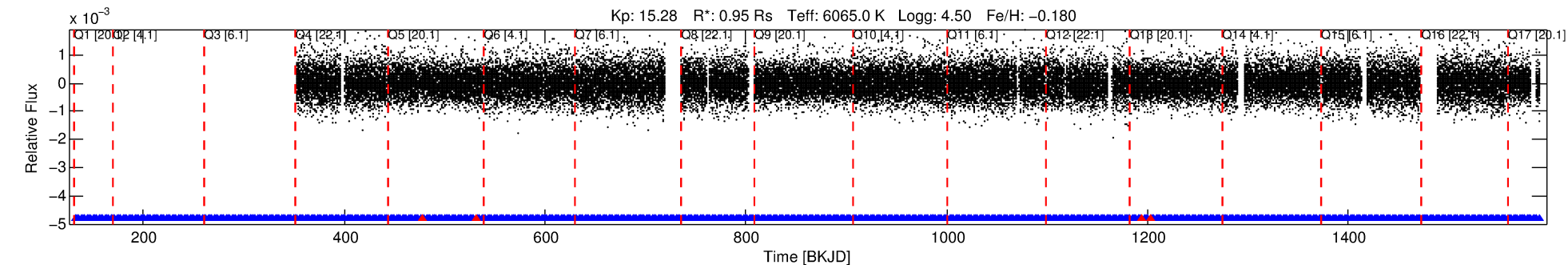
Ephemeris Match Information For 006223324-01

No Significant Match Found

DV One-Page Summary

KIC: 6223324 Candidate: 1 of 1 Period: 1.975 d

KOI: K04274.01 Corr: 0.943



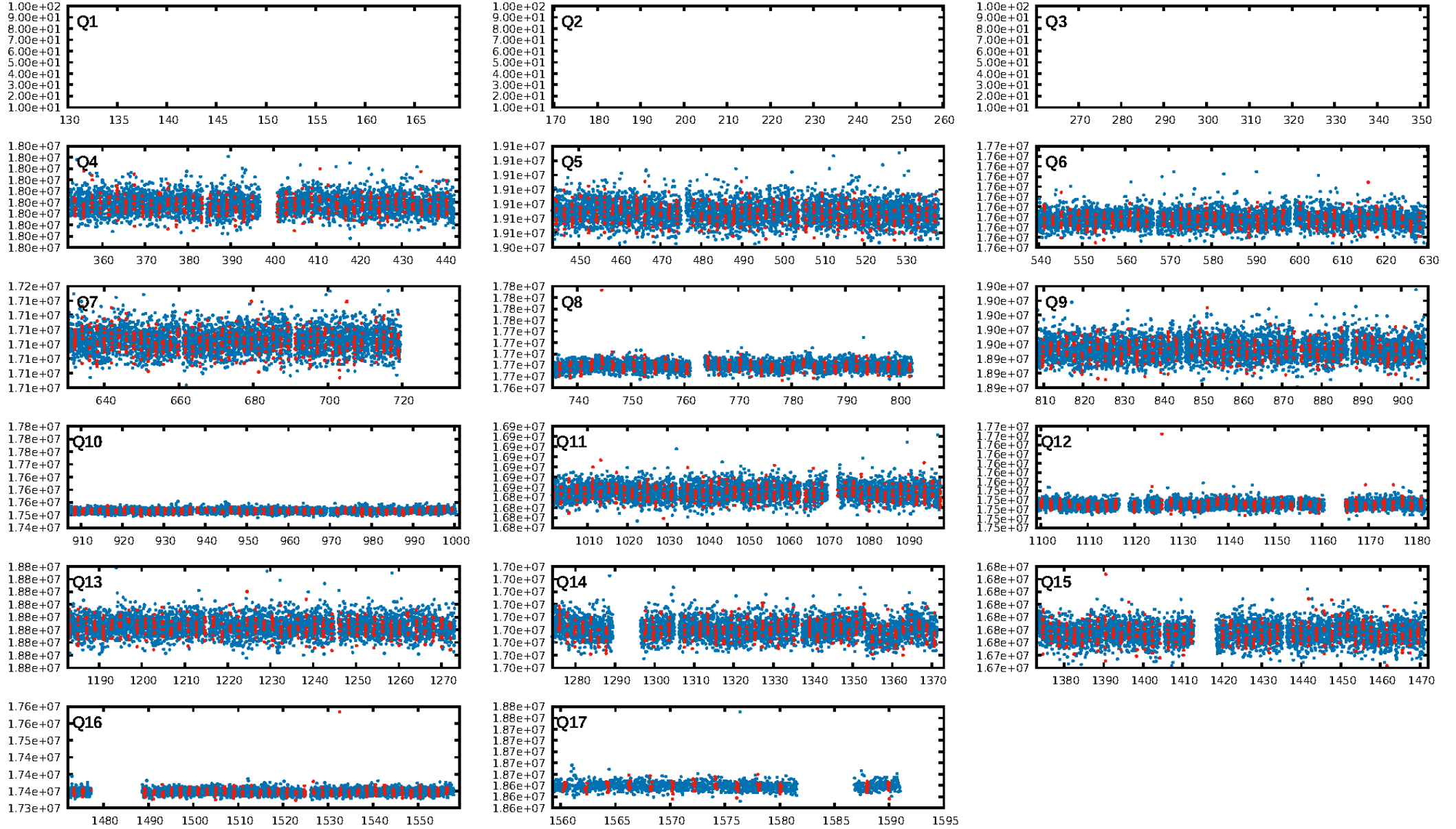
DV Fit Results:

Period = 1.97505 [0.00001] d
Epoch = 132.3655 [0.0028] BKJD
Rp/R* = 0.0123 [0.0055]
a/R* = 2.86 [5.93]
b = 0.91 [0.48]
Seff = 1128.10 [466.71]
Teff = 1478 [153] K
Rp = 1.27 [0.70] Re
a = 0.0310 [0.0083] AU
Ag = 6.39 [6.88] [0.78σ]
Teffp = 3632 [925] K [2.30σ]

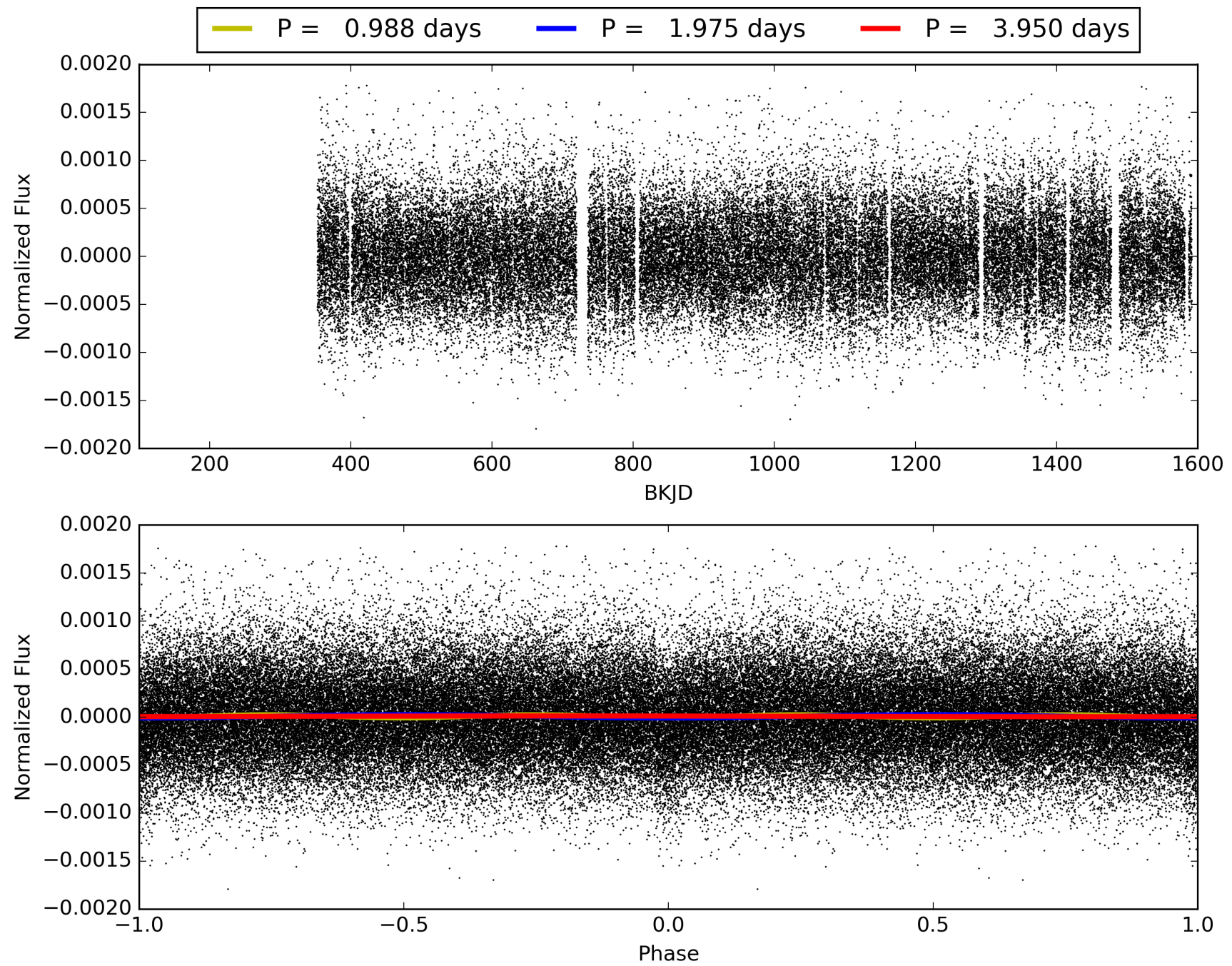
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.06e-43
RollingBand-fgt: 0.99 [553/557]
GhostDiagnostic-chr: 3.799
Centroid-sig: 0.9%
Centroid-so: 2.321 arcsec [2.70σ]
OotOffset-rm: 0.509 arcsec [0.82σ]
KicOffset-rm: 0.383 arcsec [0.57σ]
OotOffset-st: 2/3/4/4 [13]
KicOffset-st: 2/3/4/4 [13]
DiffImageQuality-fgm: 0.54 [7/13]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 006223324-01, PDC Light Curves

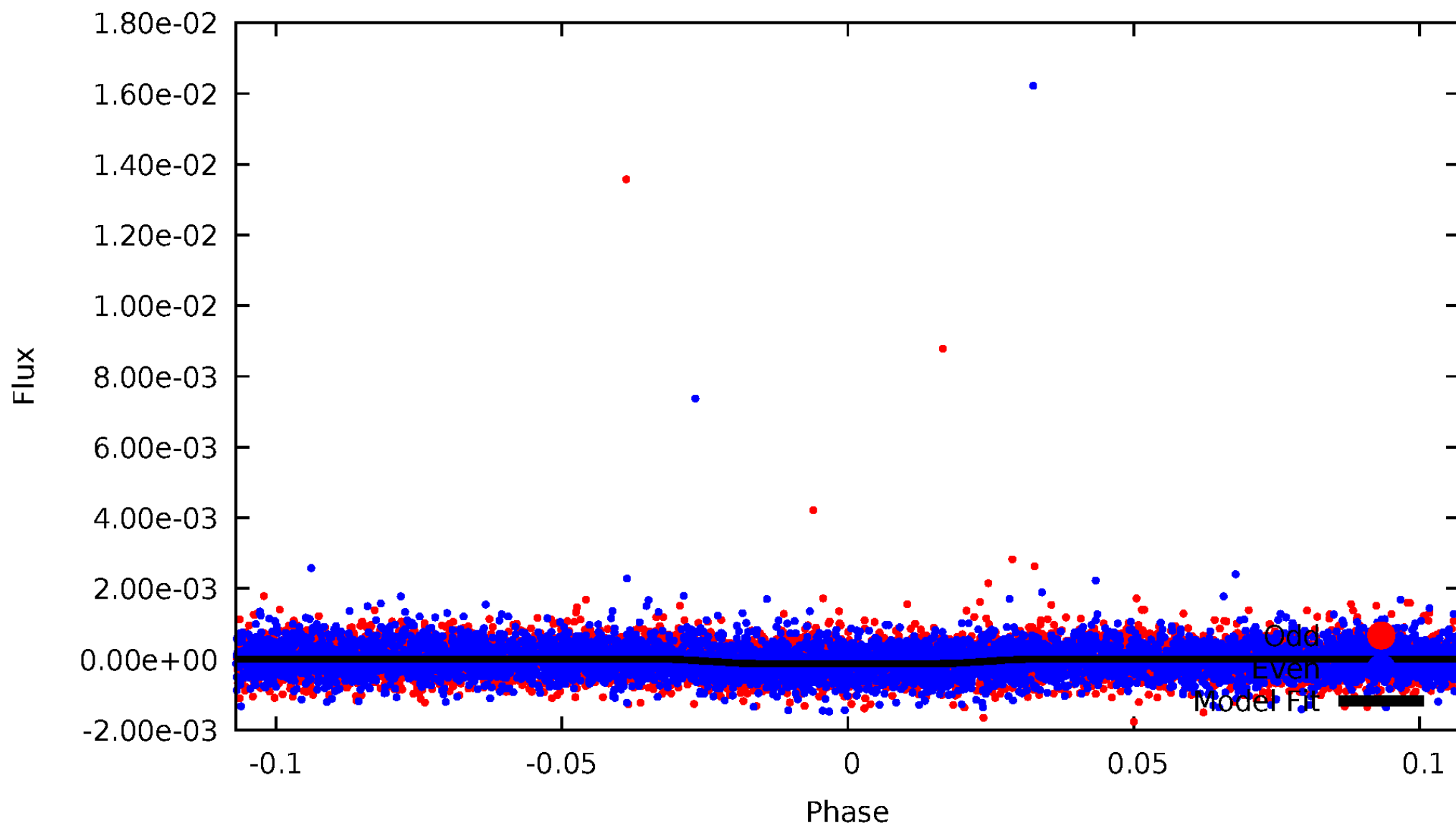


TCE 006223324-01



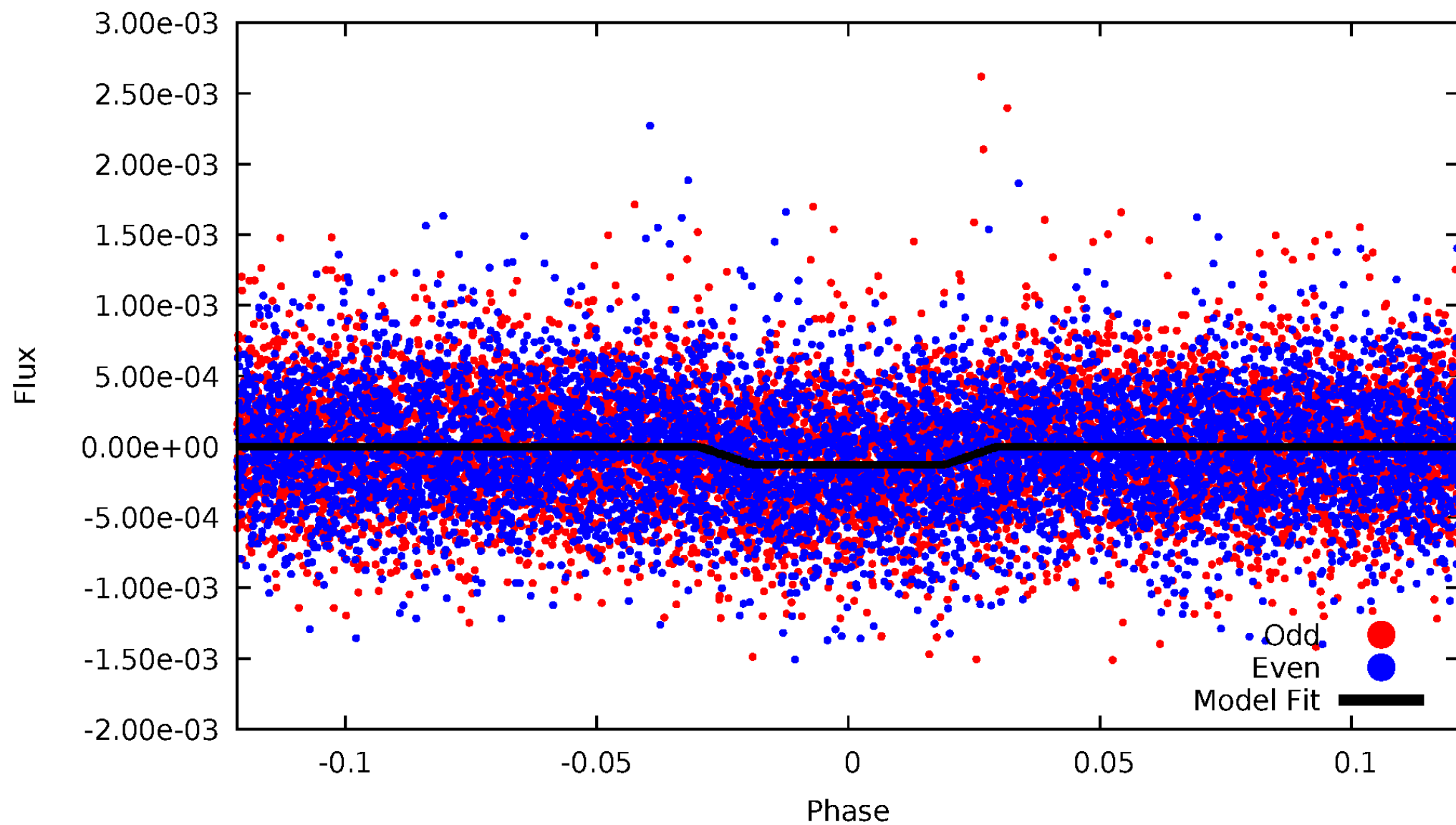
DV Odd/Even

TCE 006223324-01

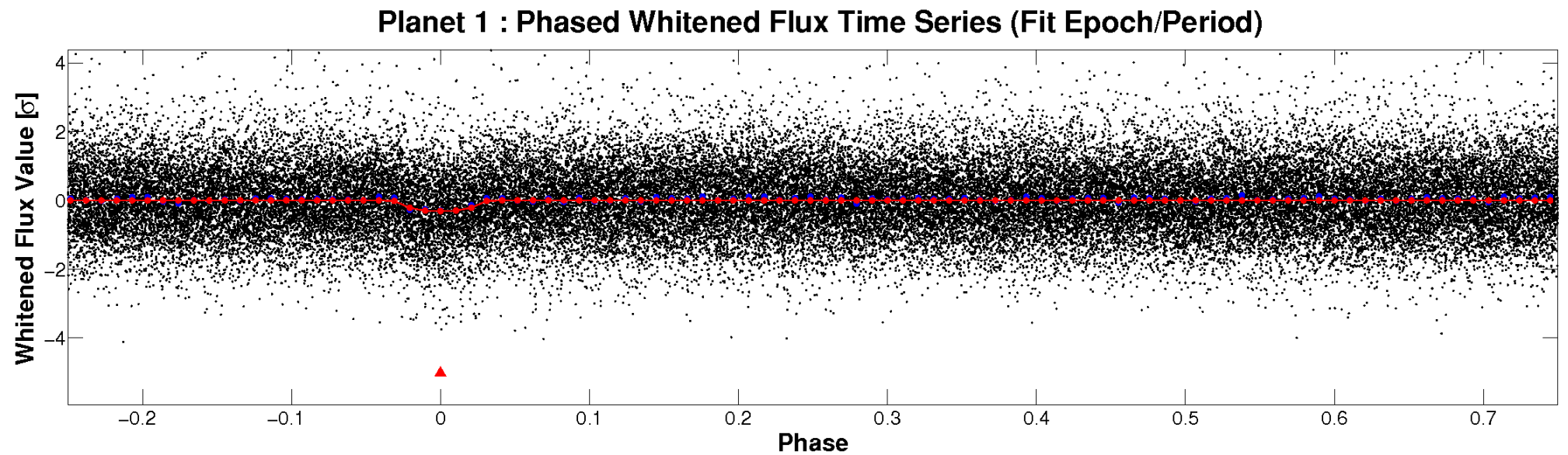
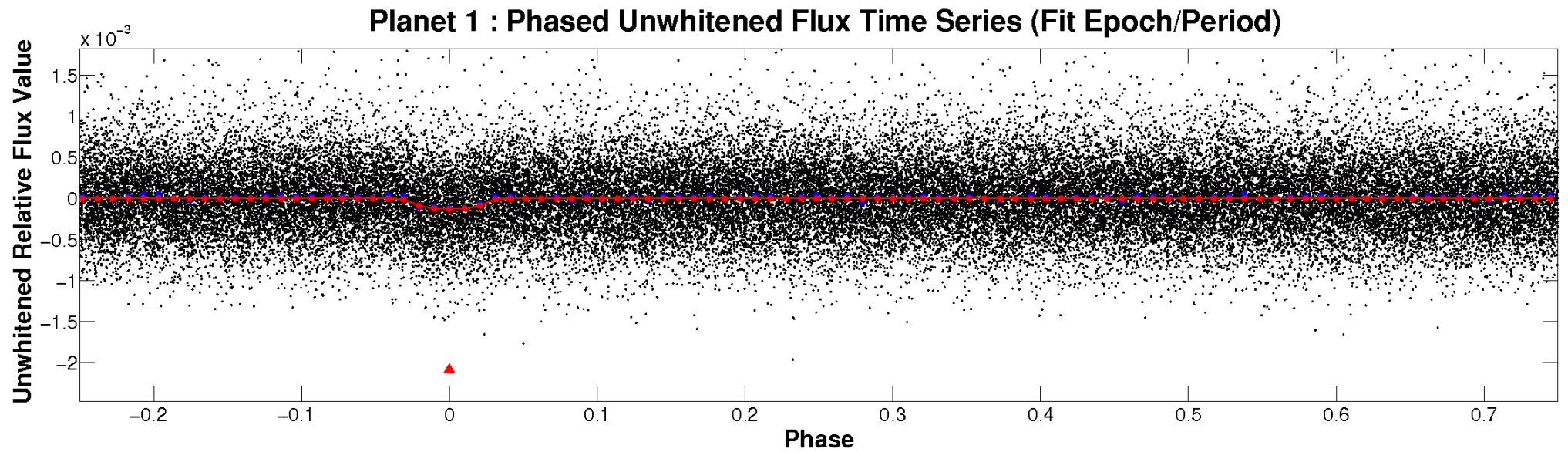


ALT Odd/Even

TCE 006223324-01

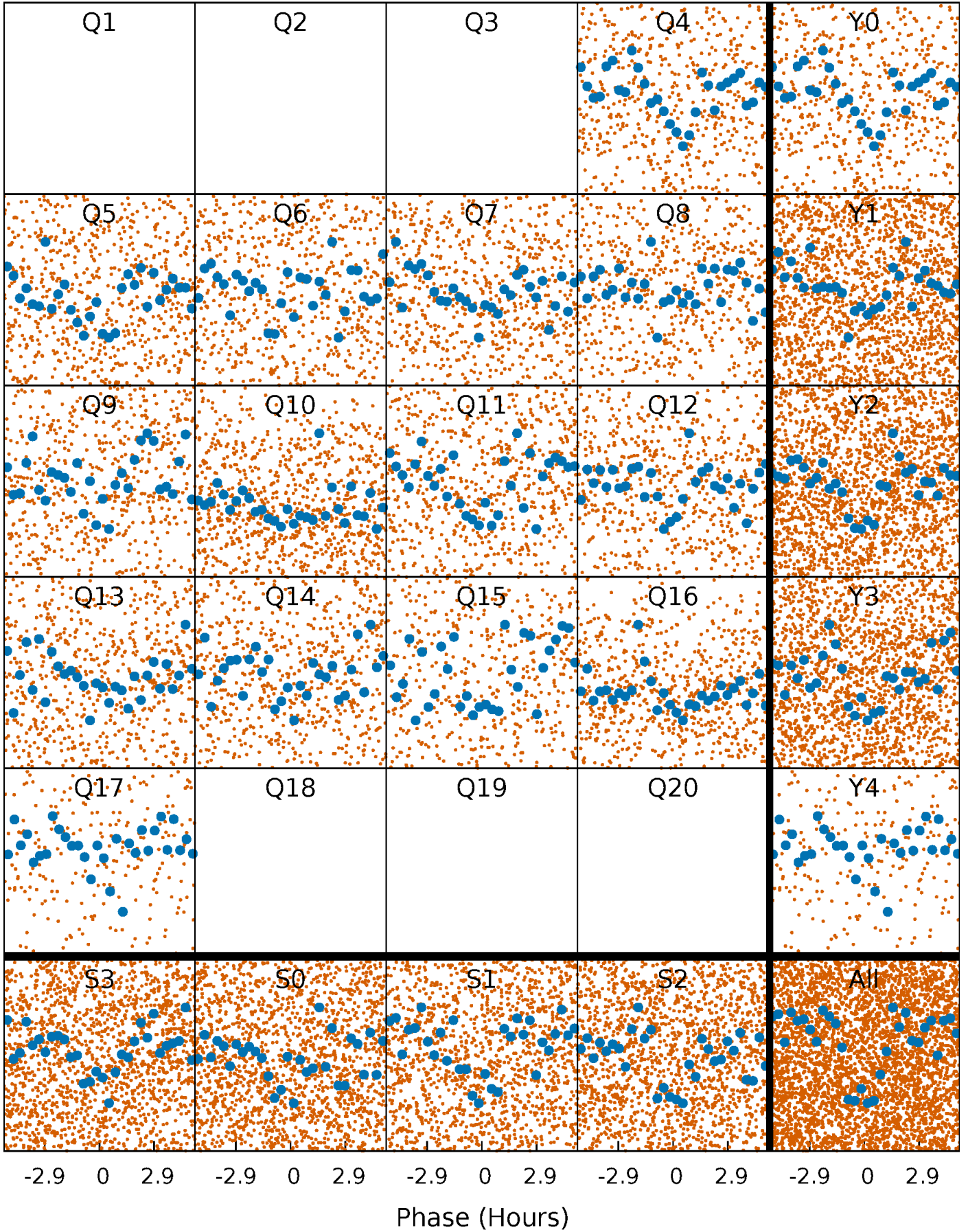


Non-Whitened Vs. Whitened Light Curve



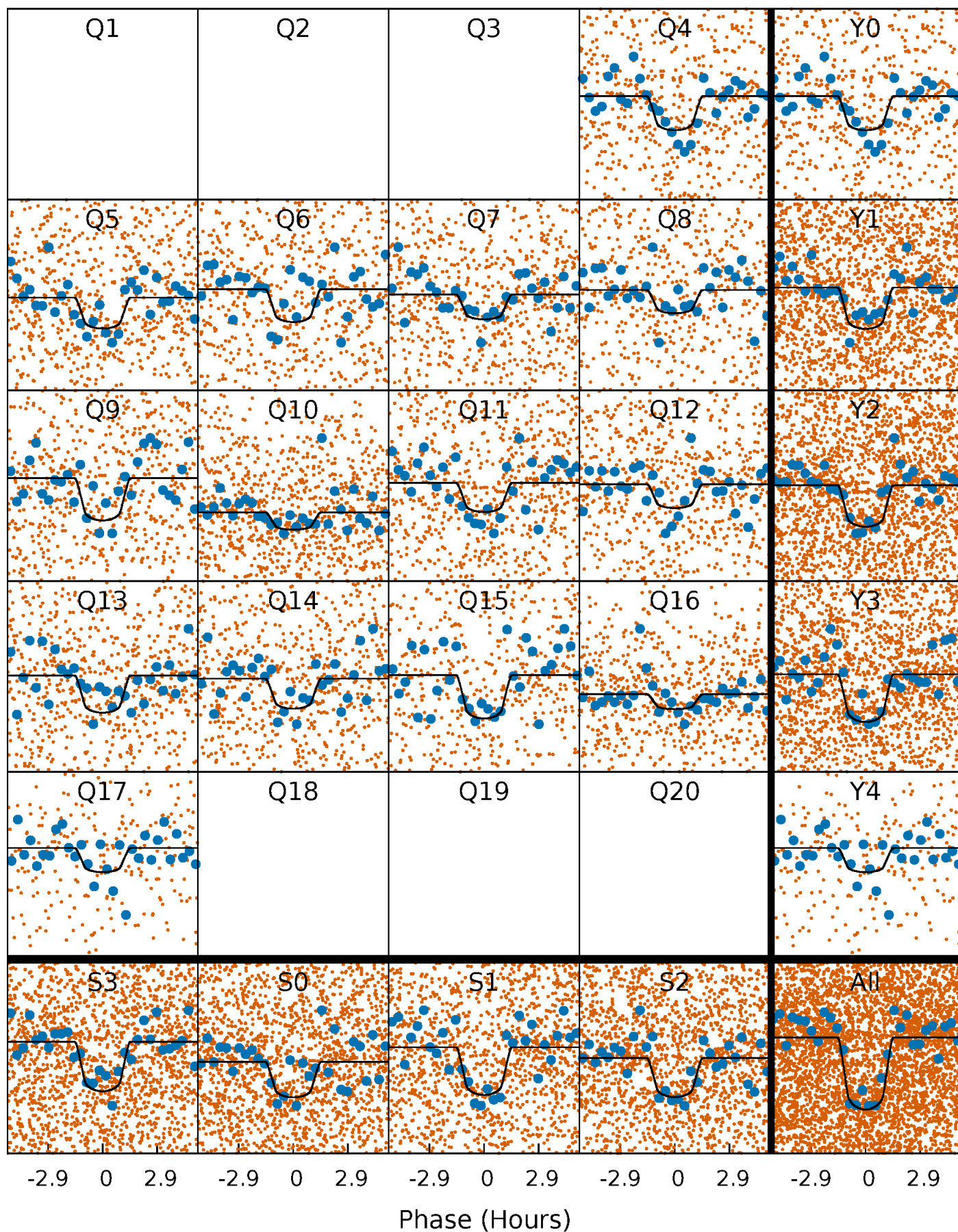
PDC Quarter-Phased Transit Curves

TCE 006223324-01 P= 1.975051 Days $T_0=132.365529$ (BKJD)



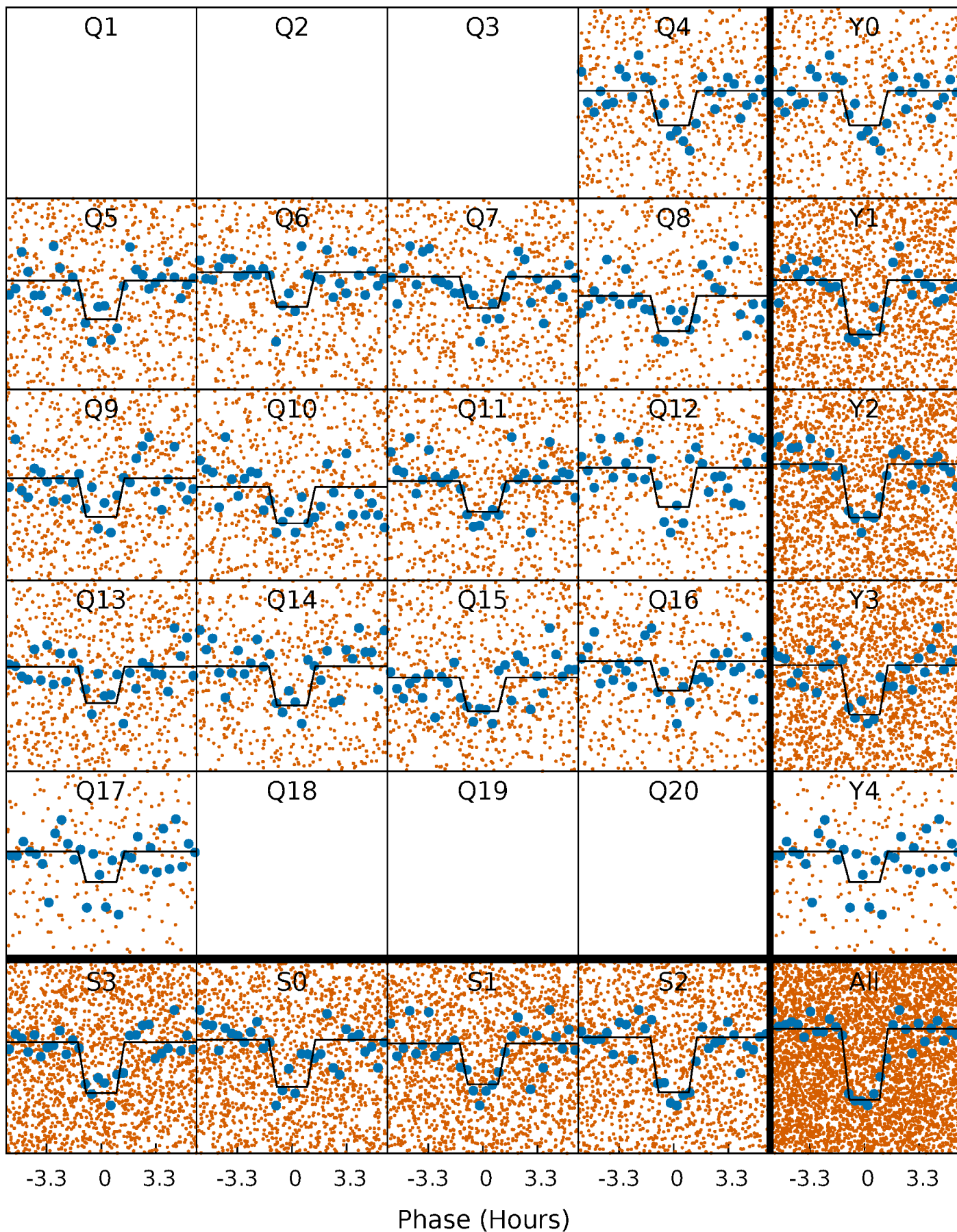
DV Quarter-Phased Transit Curves

TCE 006223324-01 P= 1.975051 Days $T_0=132.365529$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

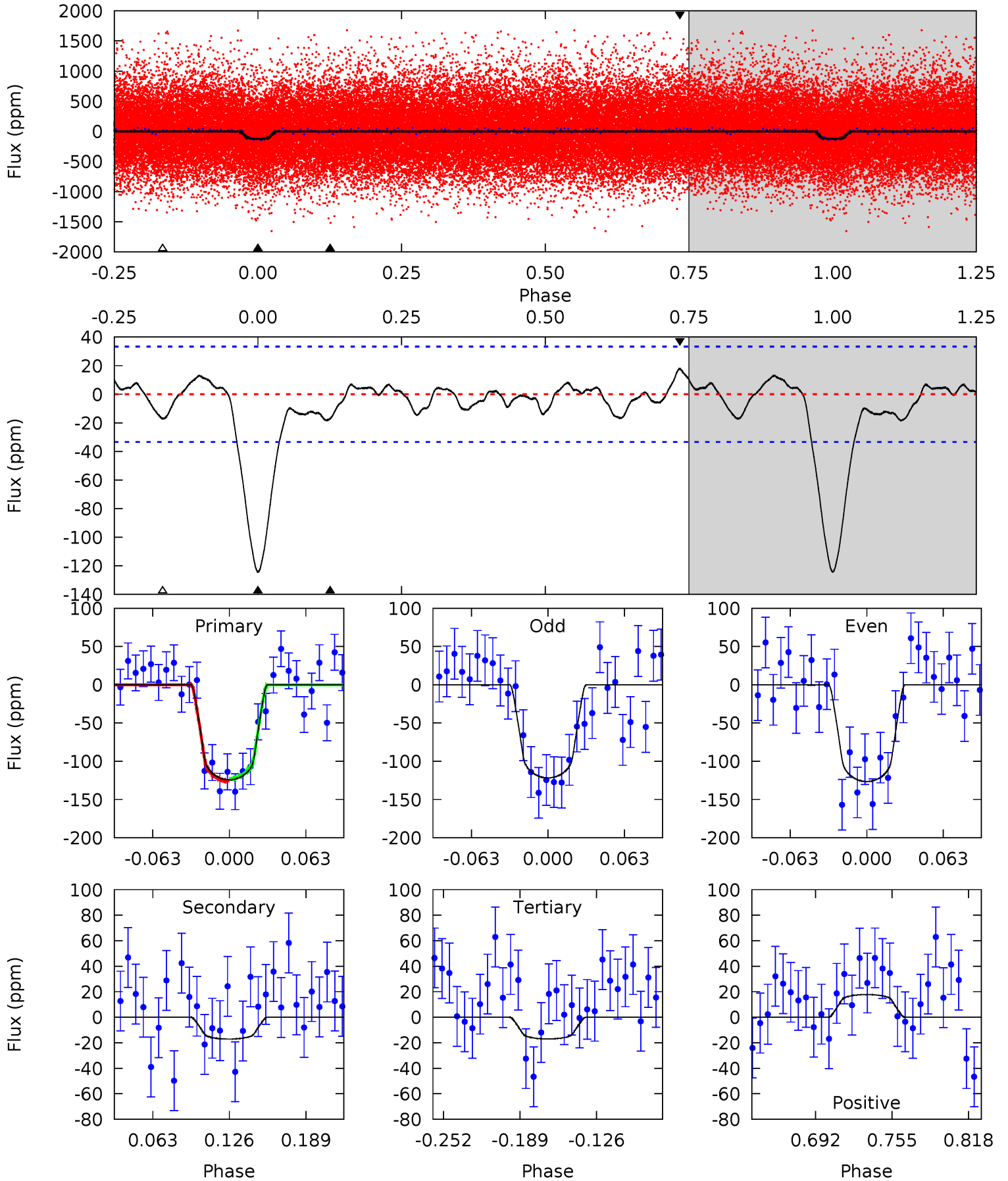
TCE 006223324-01 P= 1.975074 Days $T_0=132.355451$ (BKJD)



DV Model-Shift Uniqueness Test

006223324-01, P = 1.975051 Days, E = 132.365529 Days

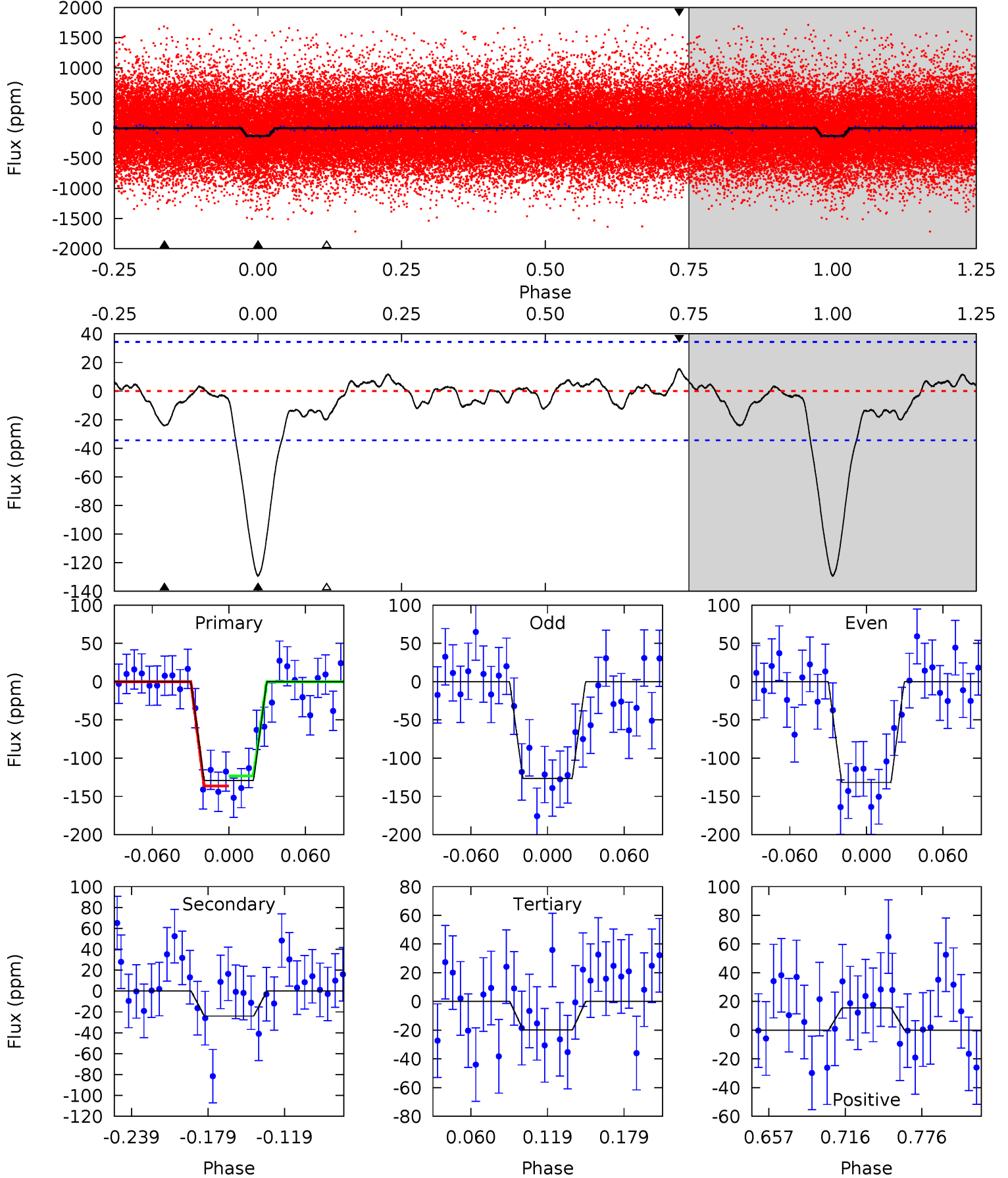
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	2.39	2.37	2.49	4.66	1.86	1.04	15.0	14.9	0.01	-0.10	0.33	0.88	0.13	0.22



Alt Model-Shift Uniqueness Test

006223324-01, P = 1.975074 Days, E = 132.355451 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	3.27	2.70	2.10	4.67	1.88	0.99	14.9	15.5	0.57	1.17	0.36	0.99	0.11	0.90



Stellar Parameters For KIC 006223324

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6065^{+190}_{-232}	$4.495^{+0.052}_{-0.208}$	$-0.180^{+0.250}_{-0.300}$	$0.947^{+0.304}_{-0.101}$	$1.022^{+0.140}_{-0.140}$	$1.695^{+0.483}_{-0.941}$
	+3%/-4%	+1%/-5%	+139%/-167%	+32%/-11%	+14%/-14%	+29%/-56%
Source	KIC0	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 006223324-01 / KOI 4274.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-17 ± 7	$1.36^{+0.65}_{-0.61}$	2115^{+145}_{-113}	3773^{+1051}_{-598}	$4.698^{+12.247}_{-3.042}$
Alt.	-24 ± 7	$1.21^{+0.64}_{-0.56}$	2103^{+152}_{-104}	4202^{+1185}_{-640}	$8.502^{+19.409}_{-5.291}$

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

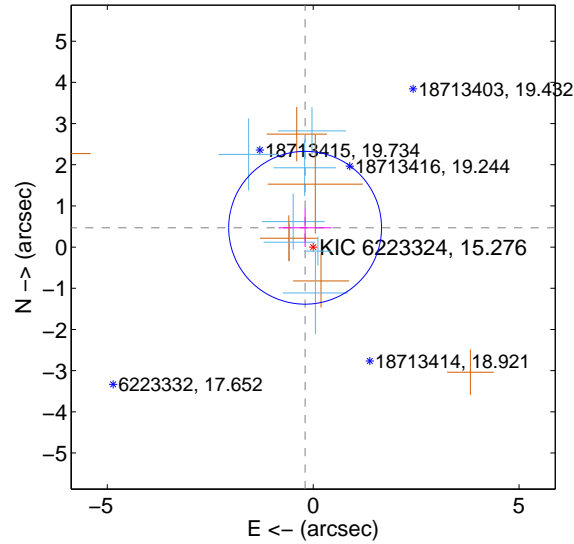
Supplemental centroid analysis for 006223324-01. Kepler magnitude: 15.28. Transit SNR 13.94

There are 7 quarters with good PRF difference image offsets

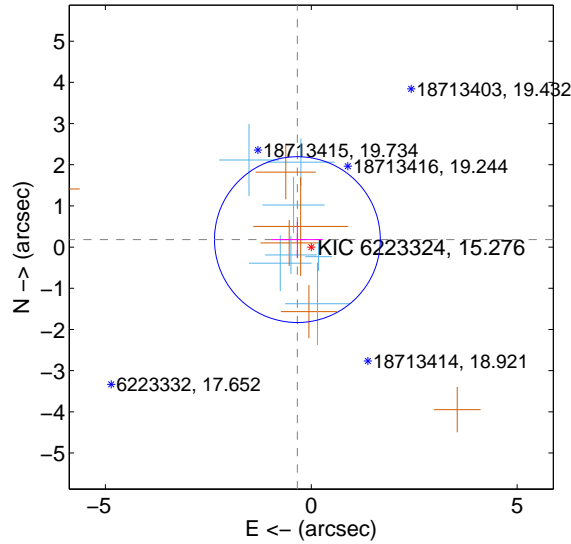
The direct PRF centroid is offset from the target star catalog position by about 0.89 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.509 ± 0.618	0.82	0.196 ± 0.645	0.470 ± 0.468
PRF-fit source offset from KIC position	0.383 ± 0.671	0.57	0.337 ± 0.619	0.182 ± 0.432
photometric centroid source offset	2.32 ± 0.86	2.70	-1.21 ± 0.89	-1.98 ± 0.85

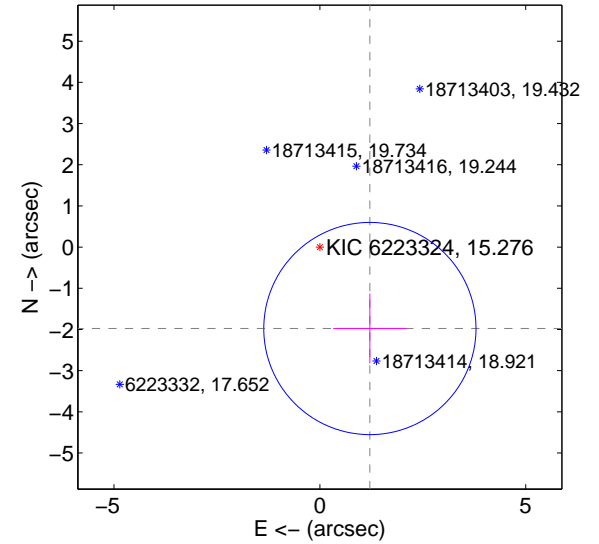
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

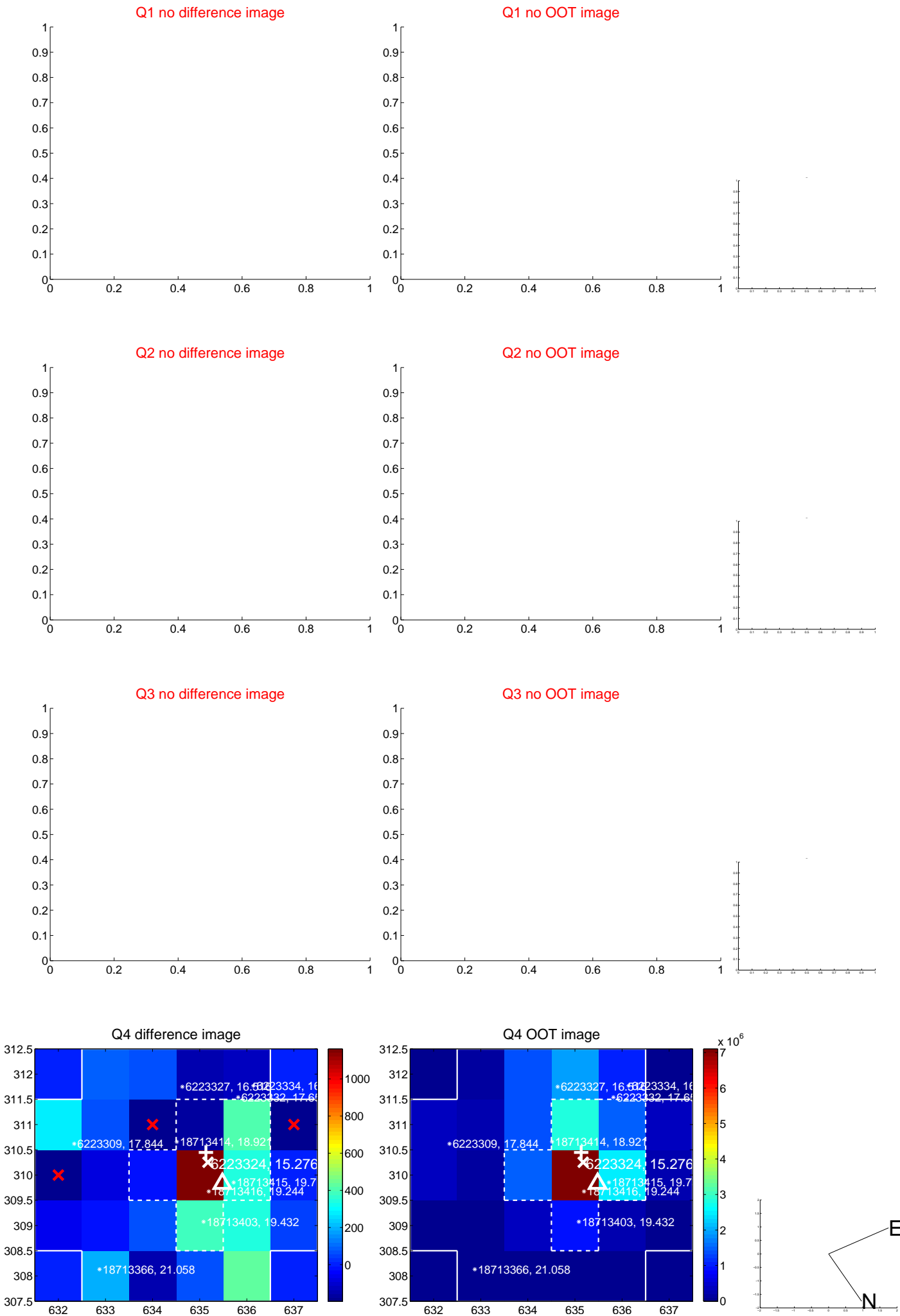


offset from photometric centroids

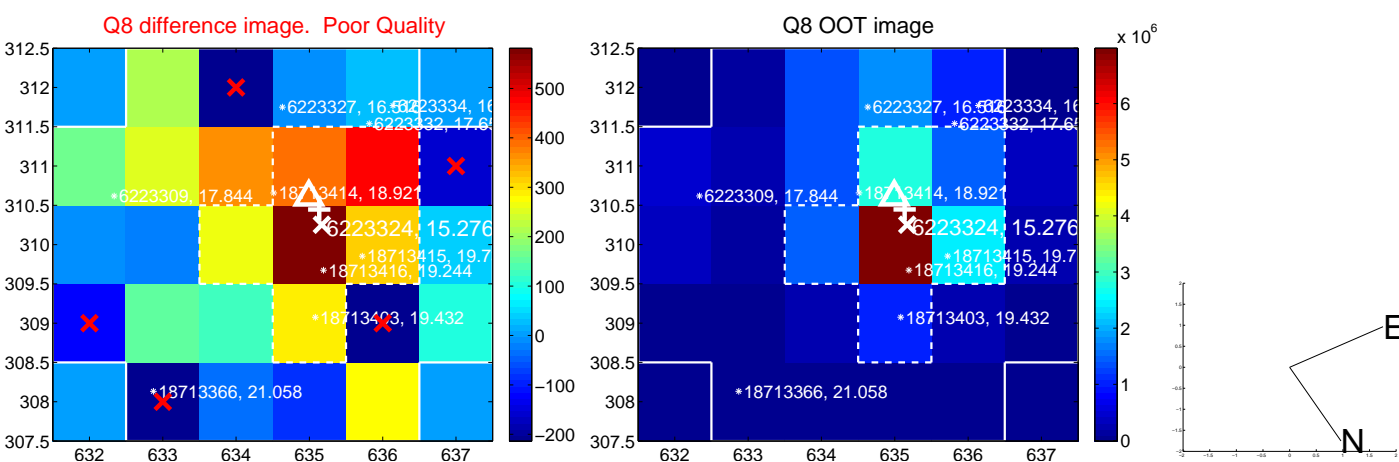
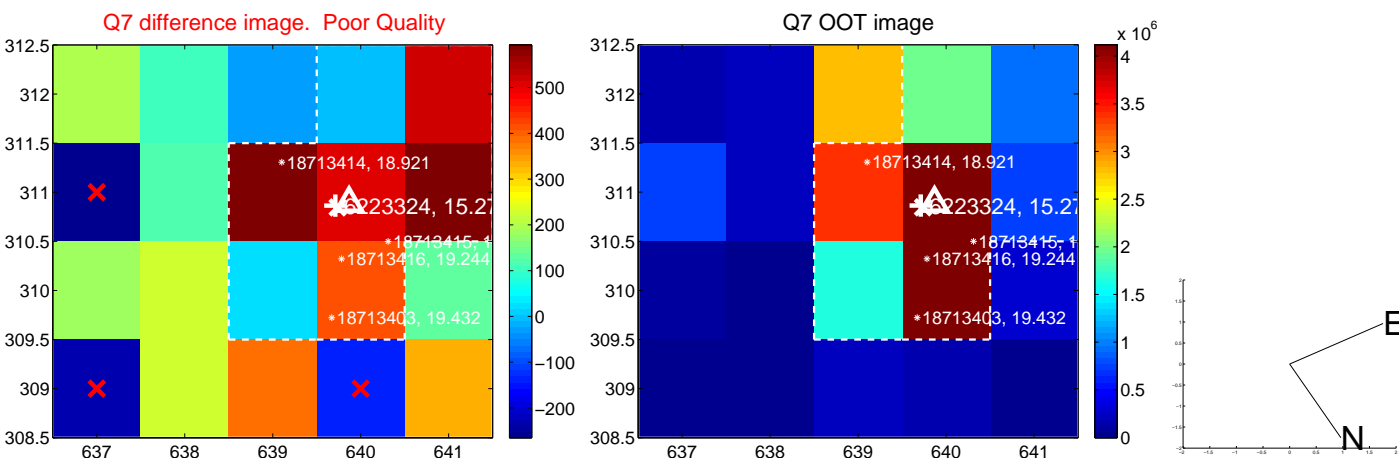
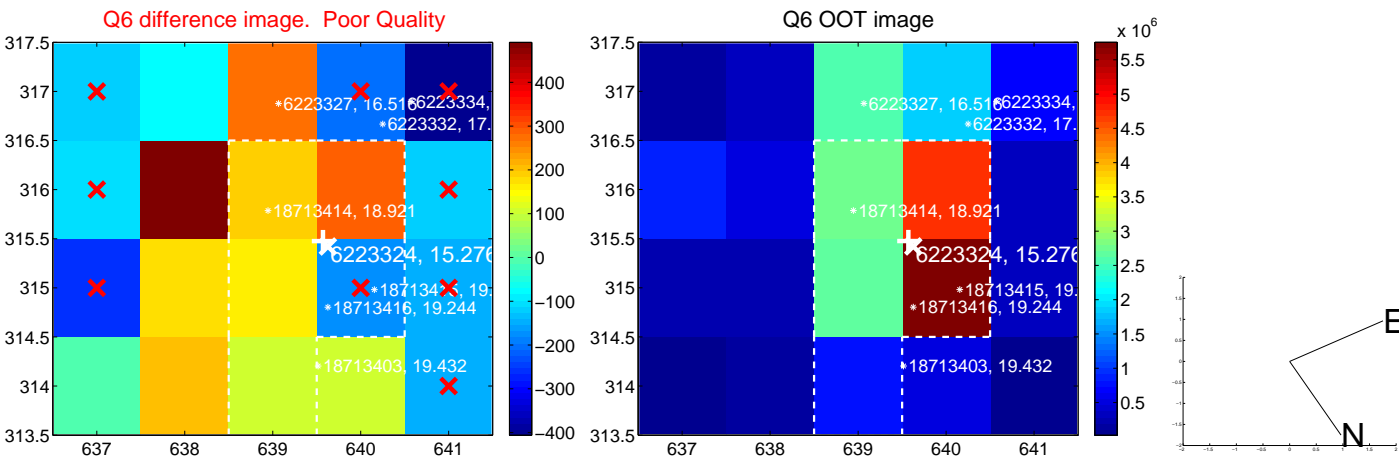
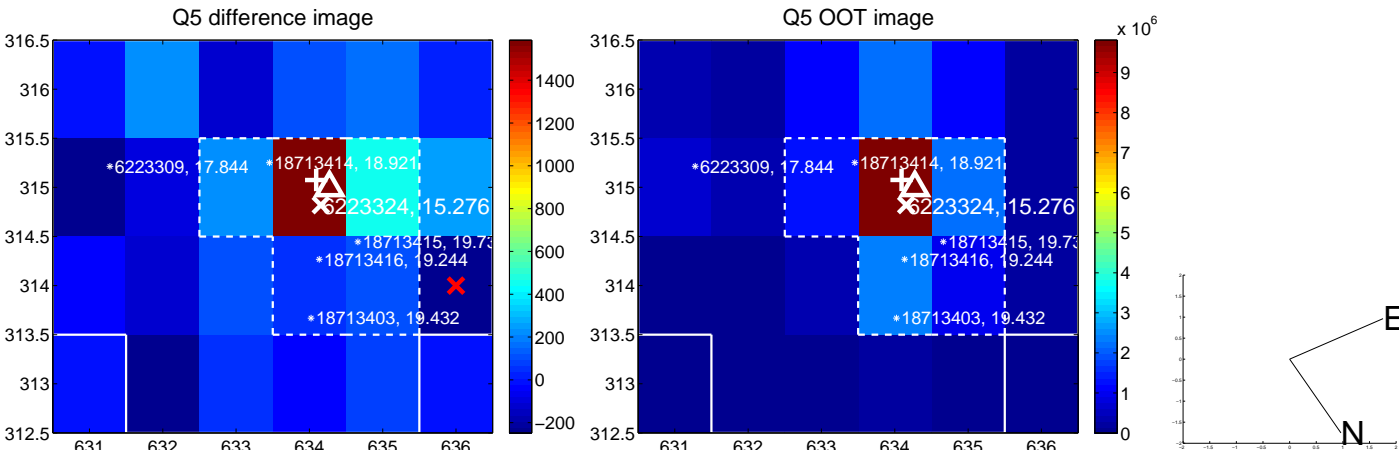


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

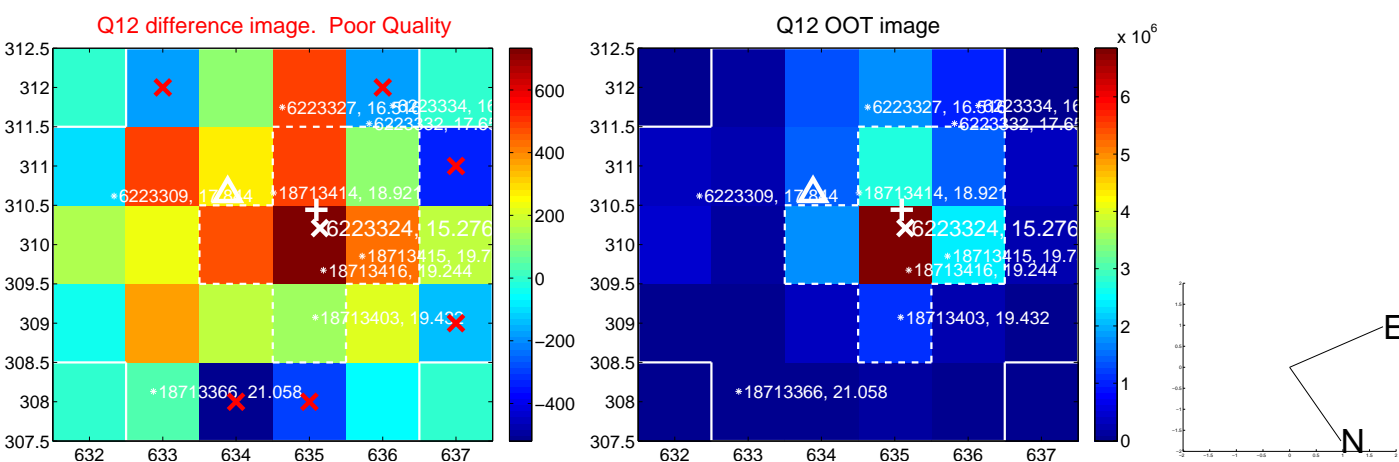
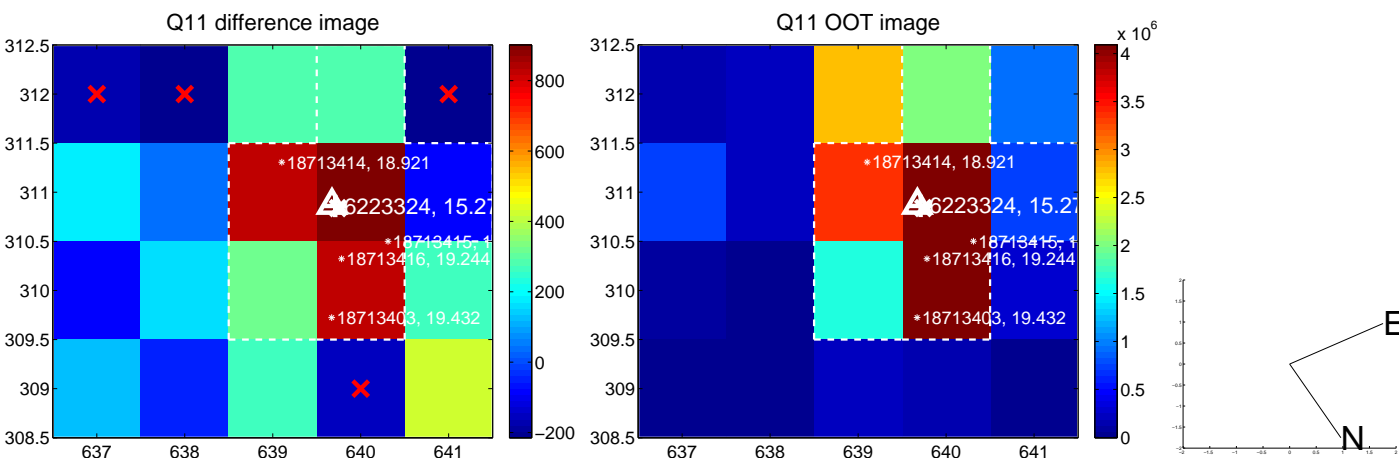
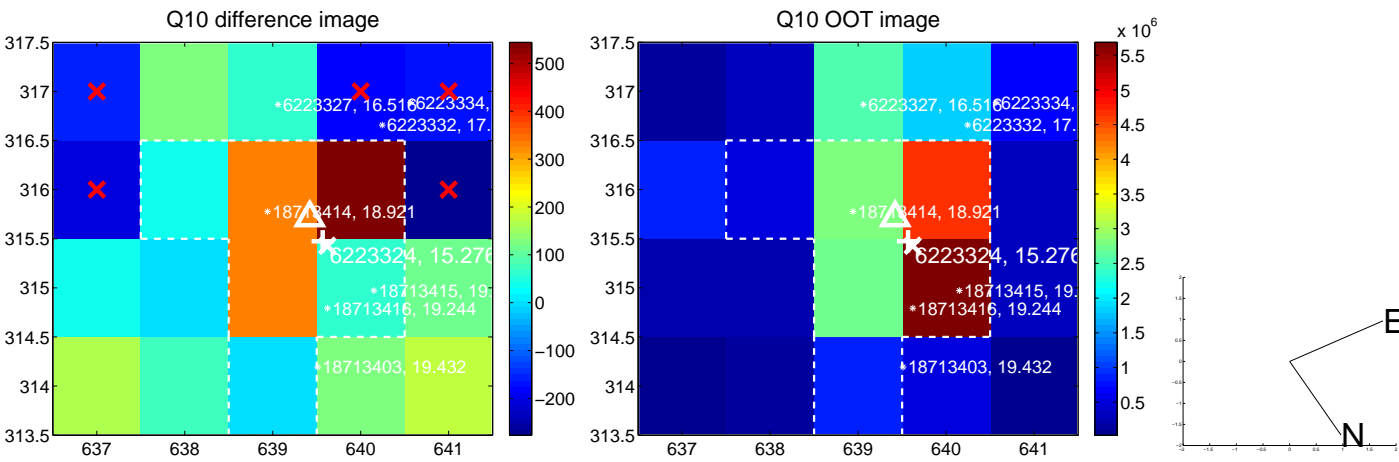
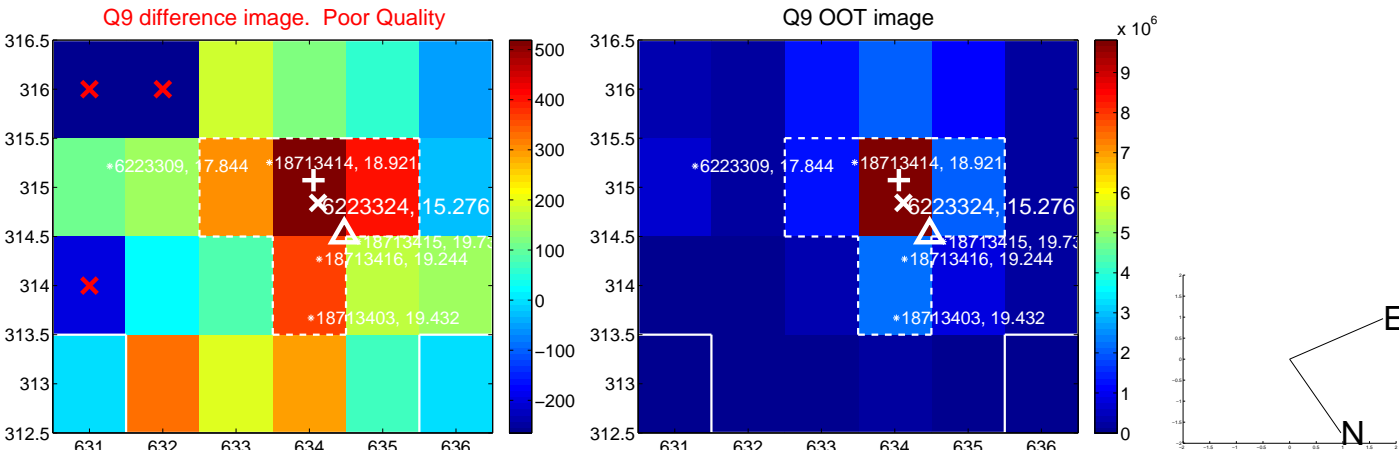
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



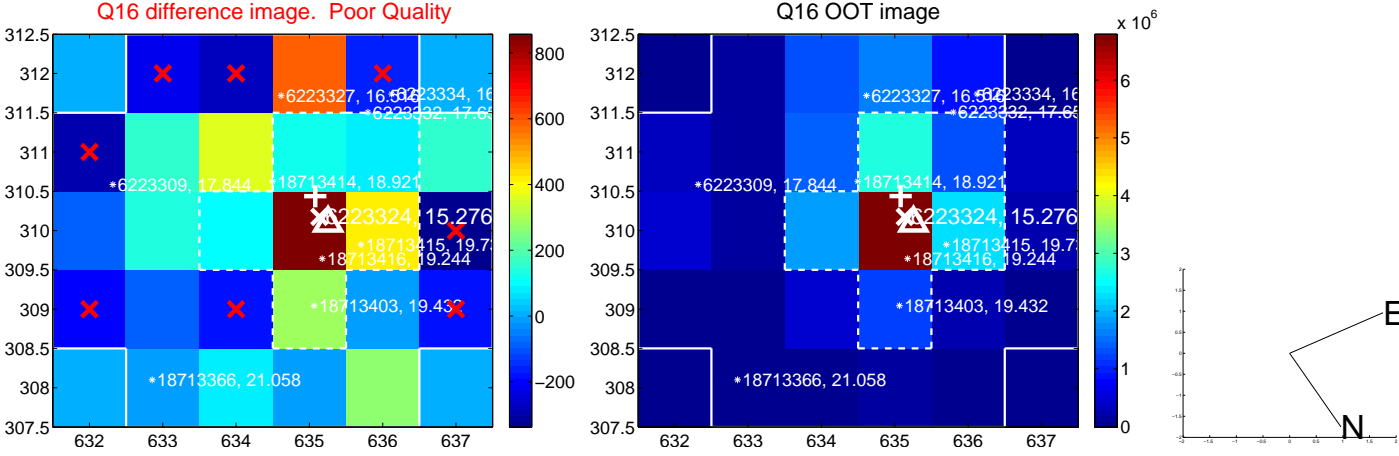
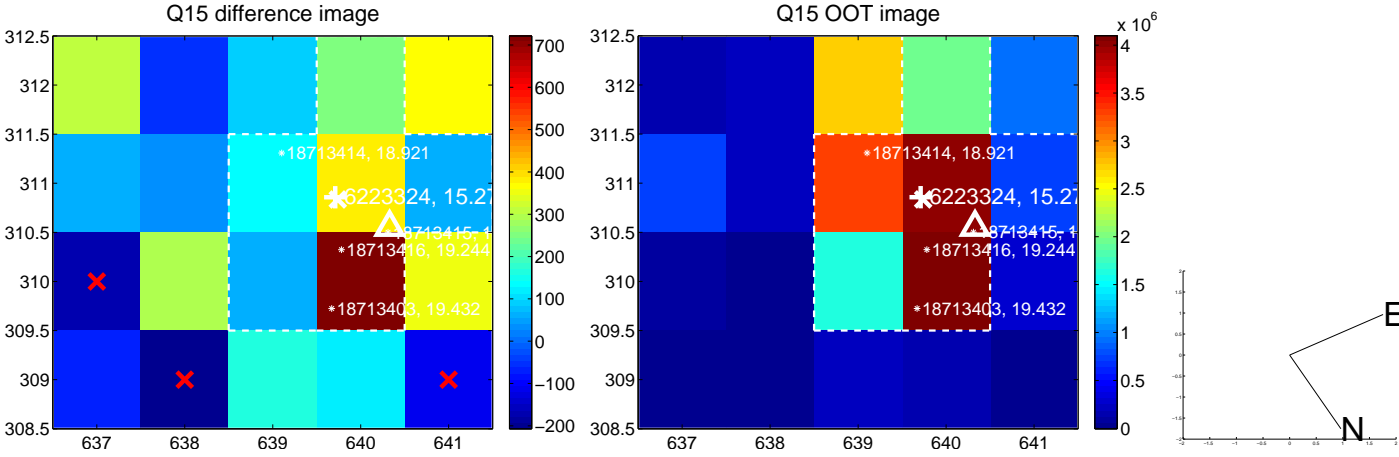
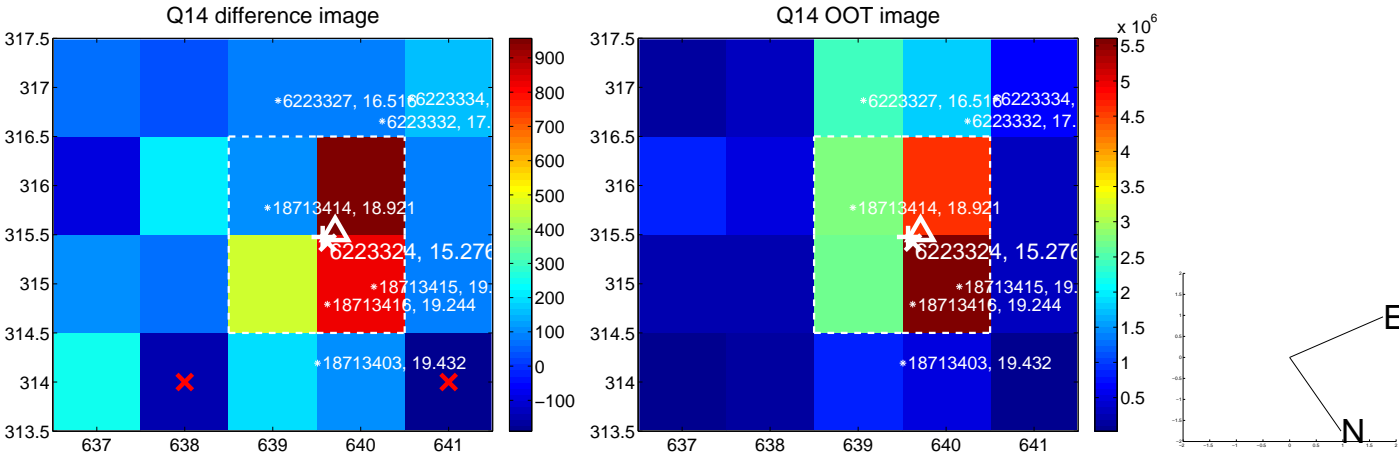
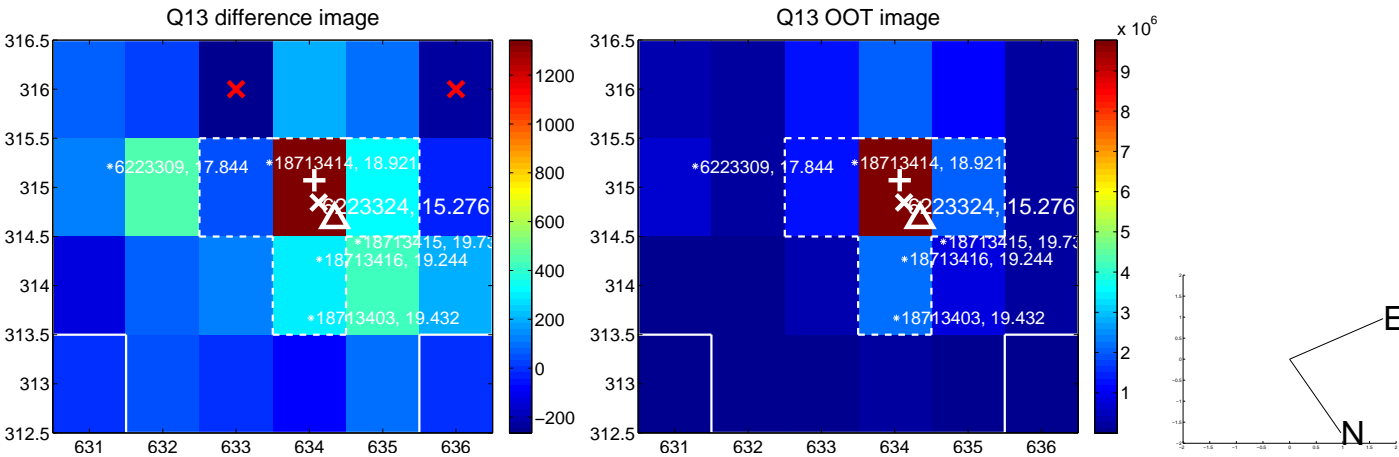
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



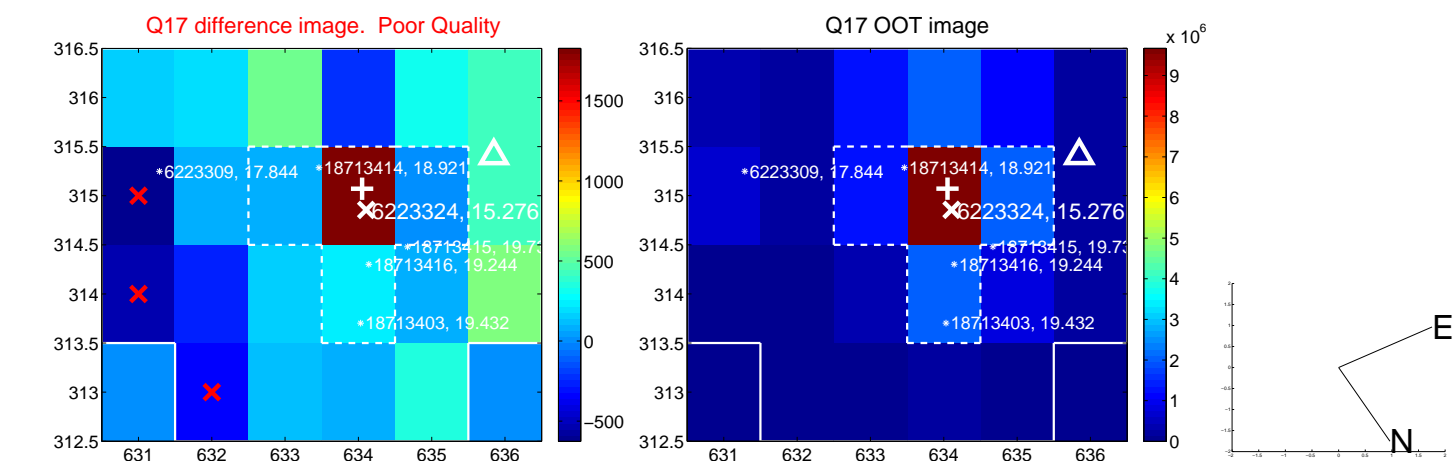
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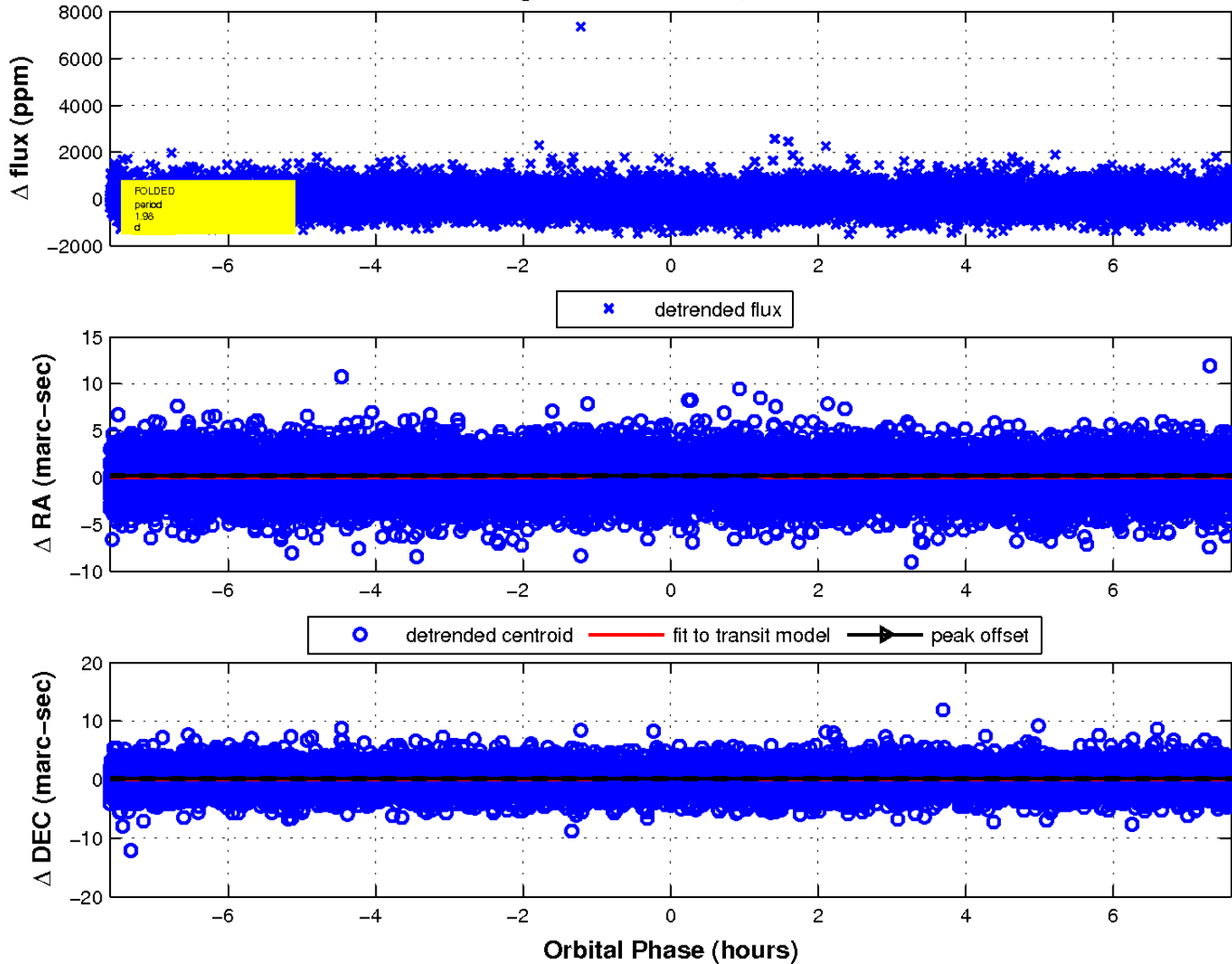
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

