

KIC 012072637

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})
012072637-01	OBS	No	0.901974	132.039891	103.2	3.191	7.6	7.9	0.32	3407	0.36	81.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012072637-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_KIC_POS

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

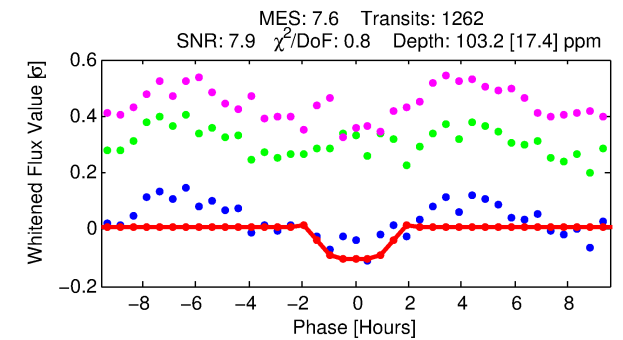
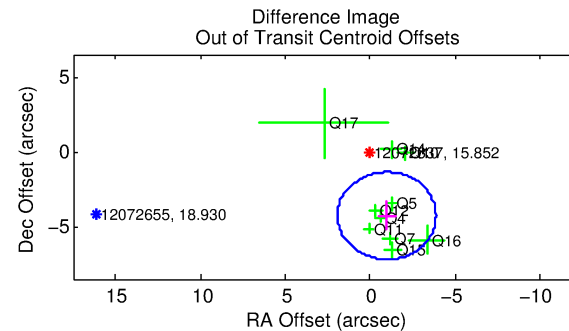
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

Ephemeris Match Information For 012072637-01

No Significant Match Found

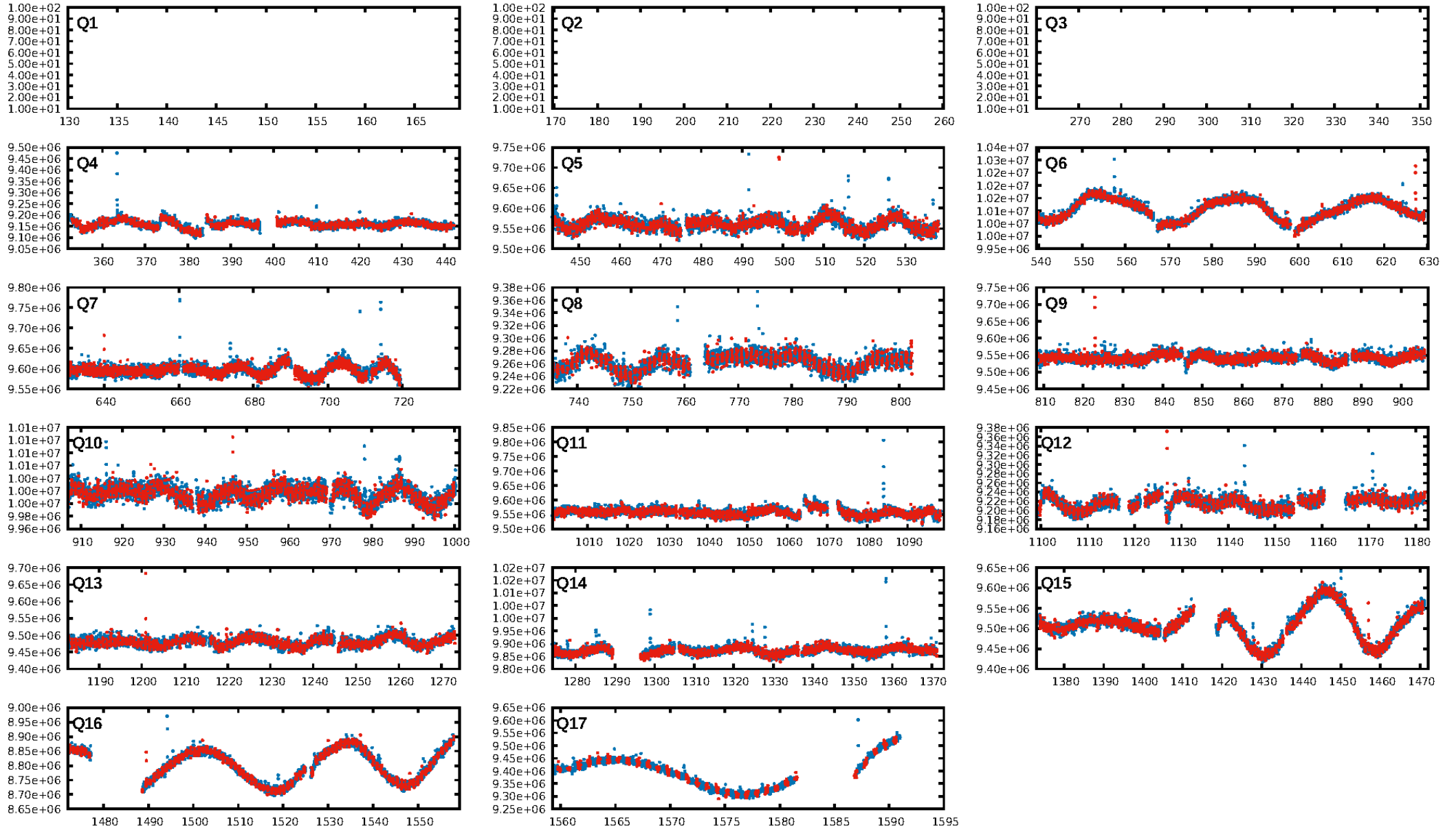
KIC: 12072637 Candidate: 1 of 1 Period: 0.902 d



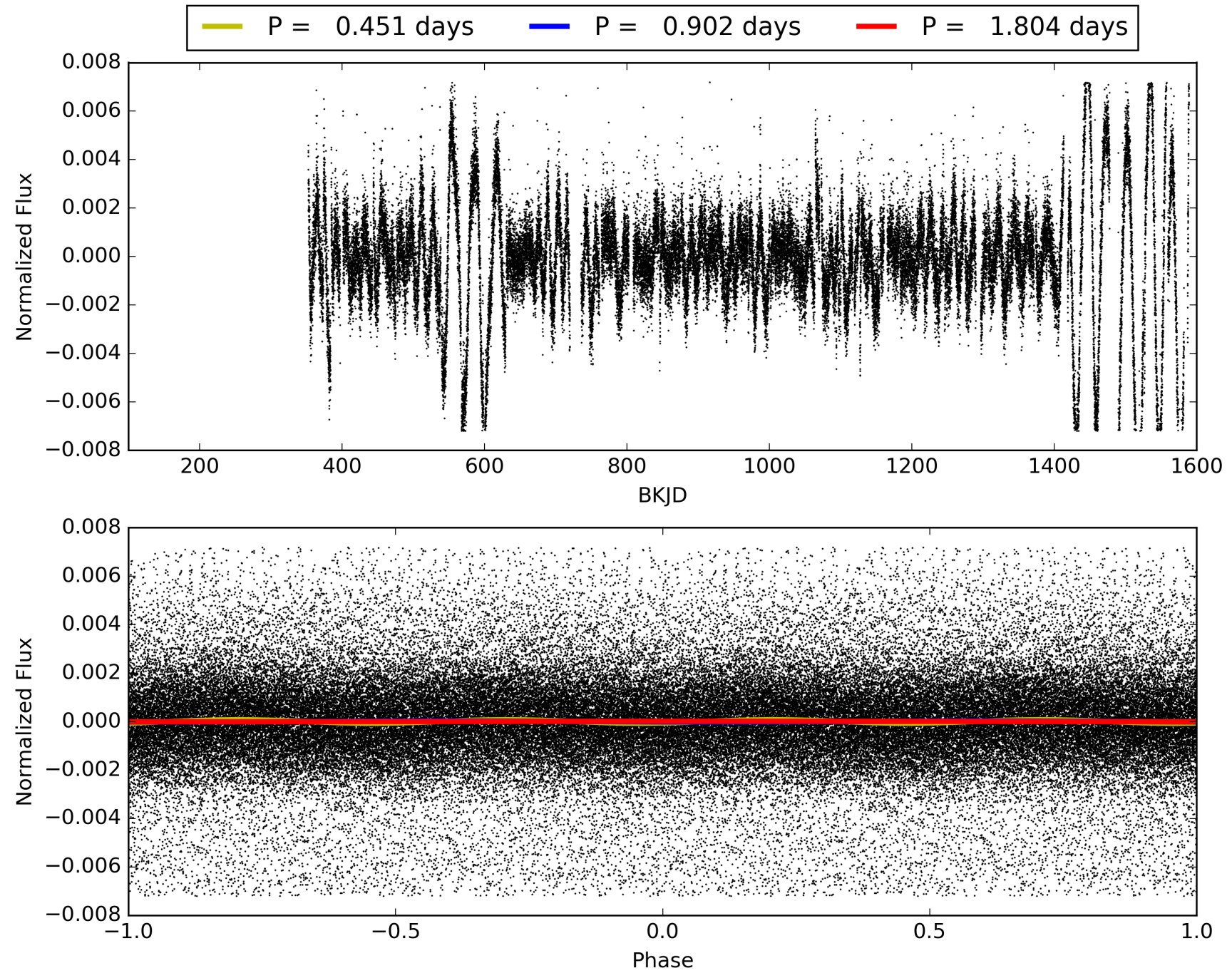
ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.63e-12
RollingBand-fgt: 1.00 [1232/1232]
GhostDiagnostic-chr: 2.695

Centroid-sig: N/A
Centroid-so: 2.018 arcsec [1.74σ]
OotOffset-rm: 4.393 arcsec [4.52σ]
KicOffset-rm: 0.978 arcsec [2.41σ]
OotOffset-st: 2/3/3/2 [10]
KicOffset-st: 2/3/3/2 [10]
DiffImageQuality-fgm: 0.80 [8/10]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 012072637-01, PDC Light Curves

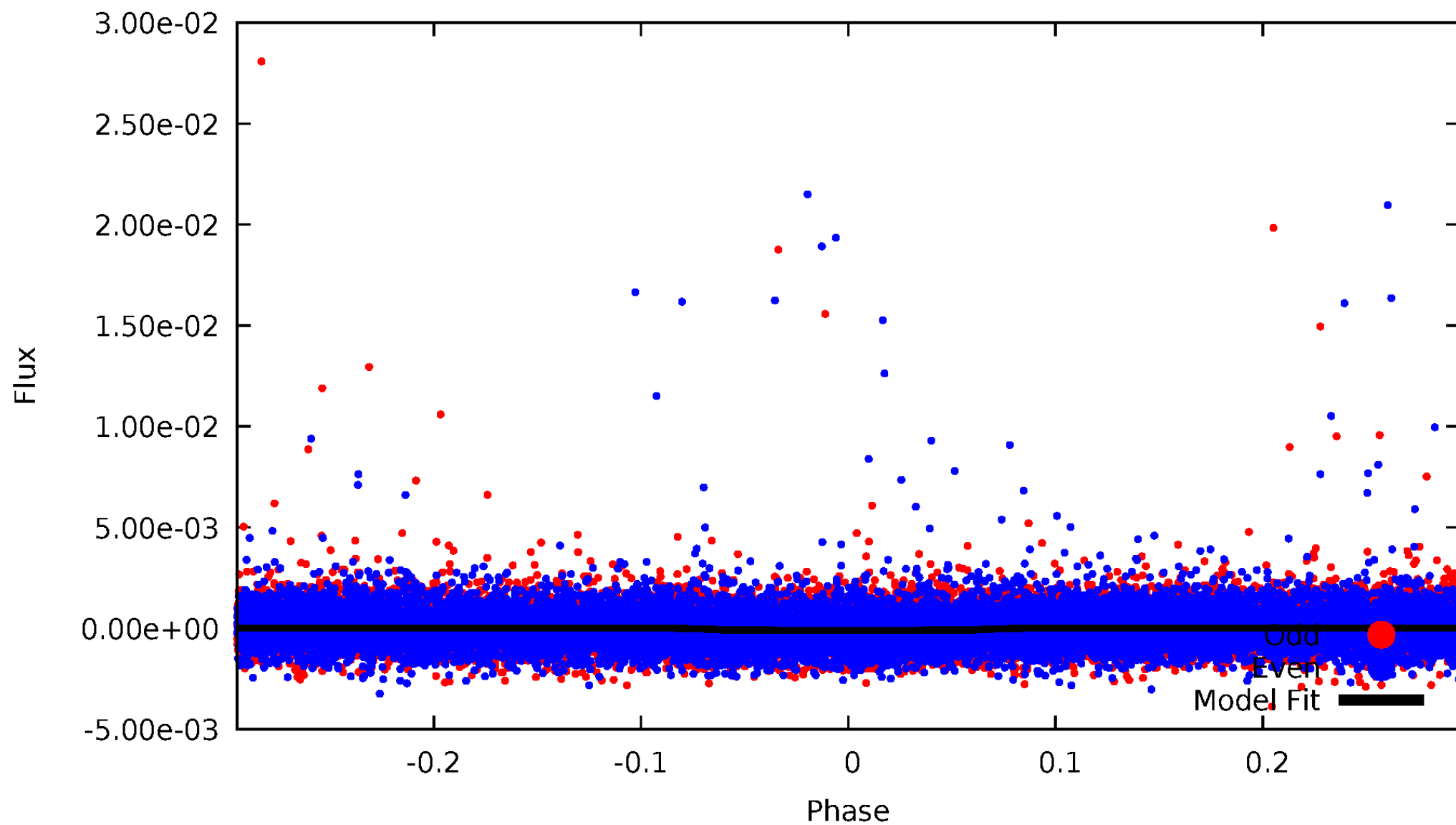


TCE 012072637-01



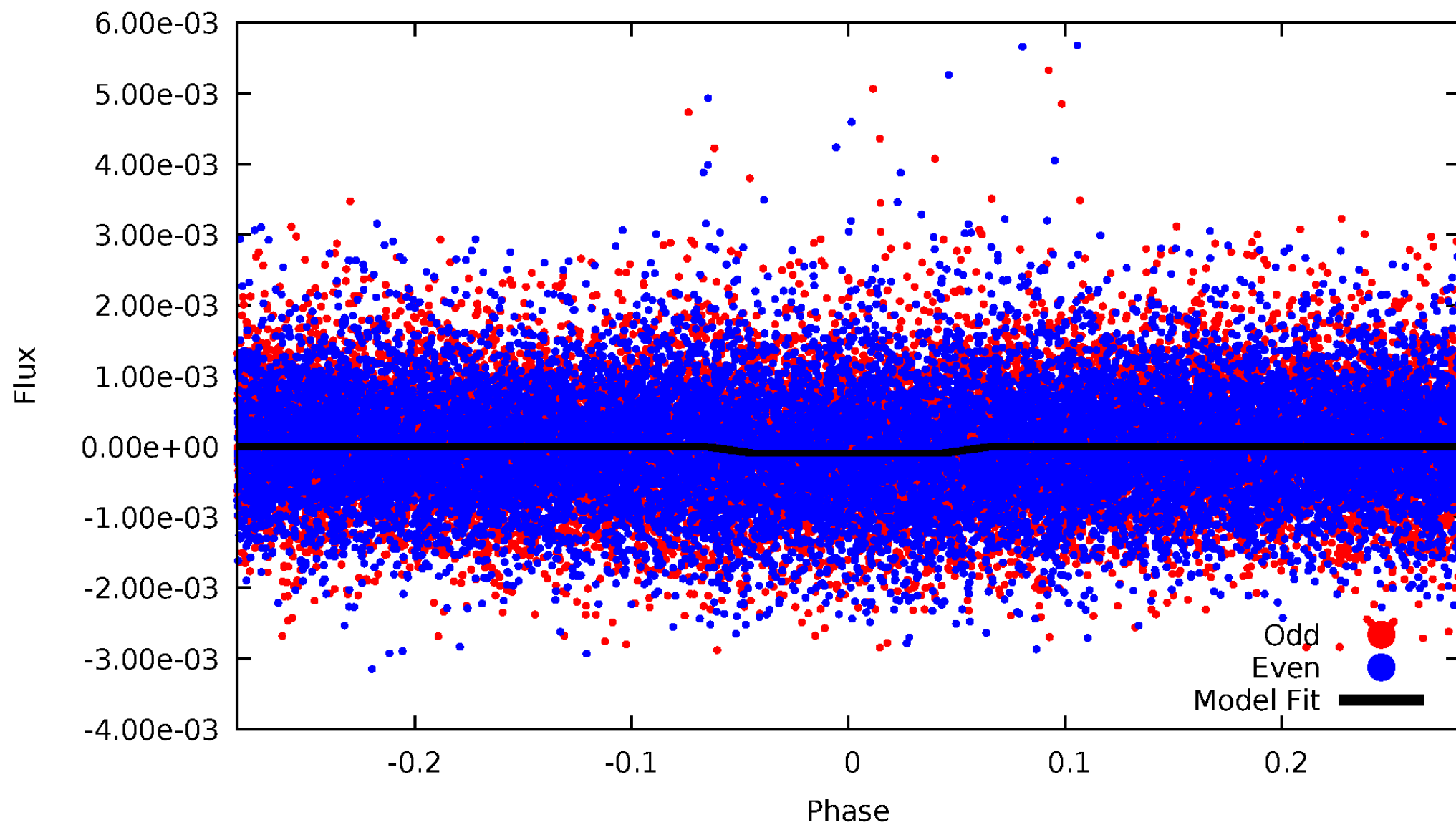
DV Odd/Even

TCE 012072637-01



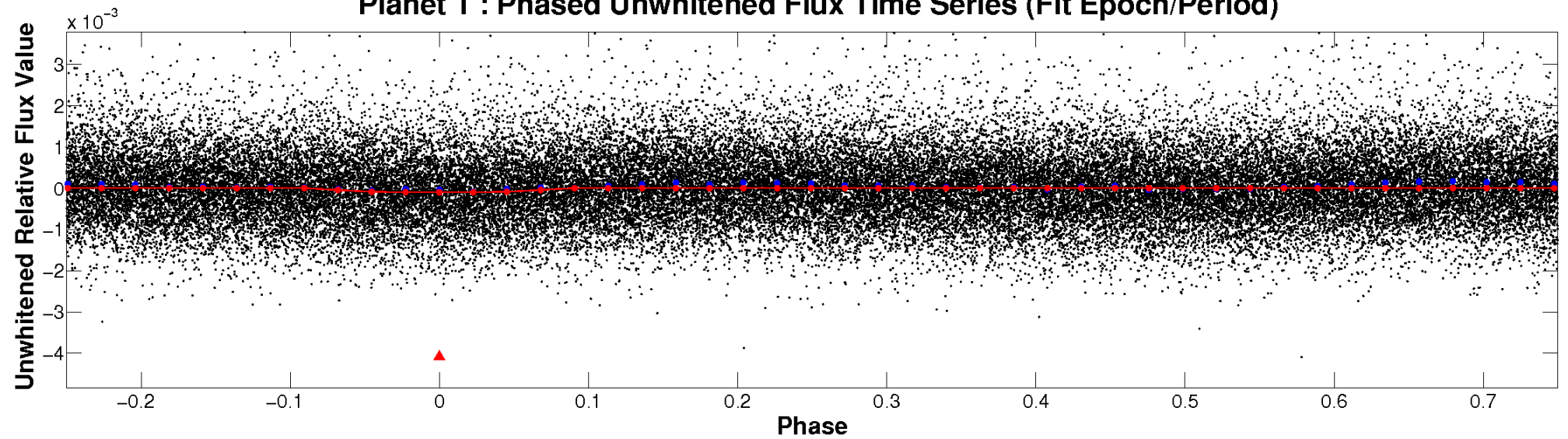
ALT Odd/Even

TCE 012072637-01

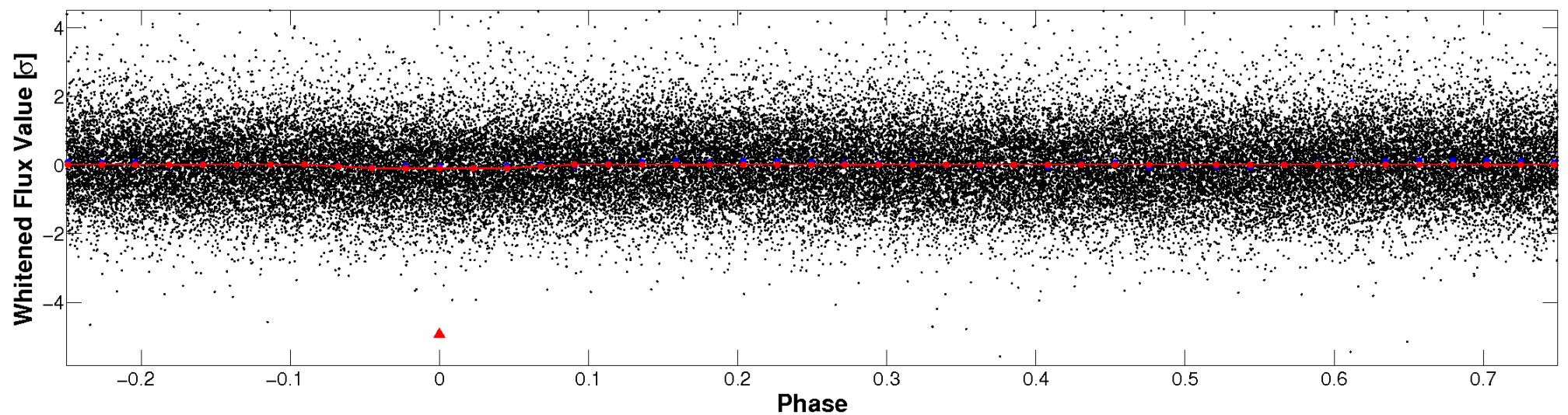


Non-Whitened Vs. Whitened Light Curve

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

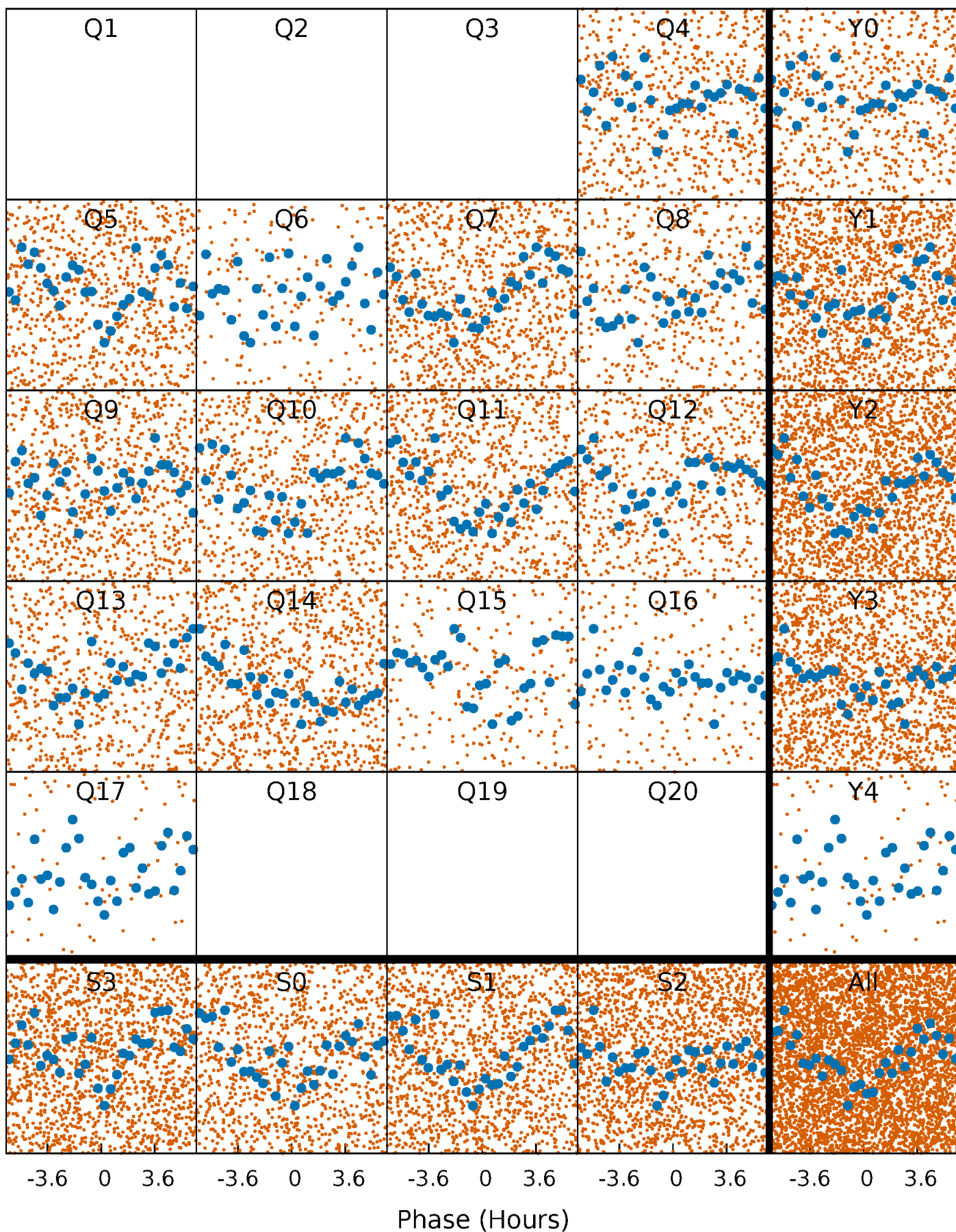


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



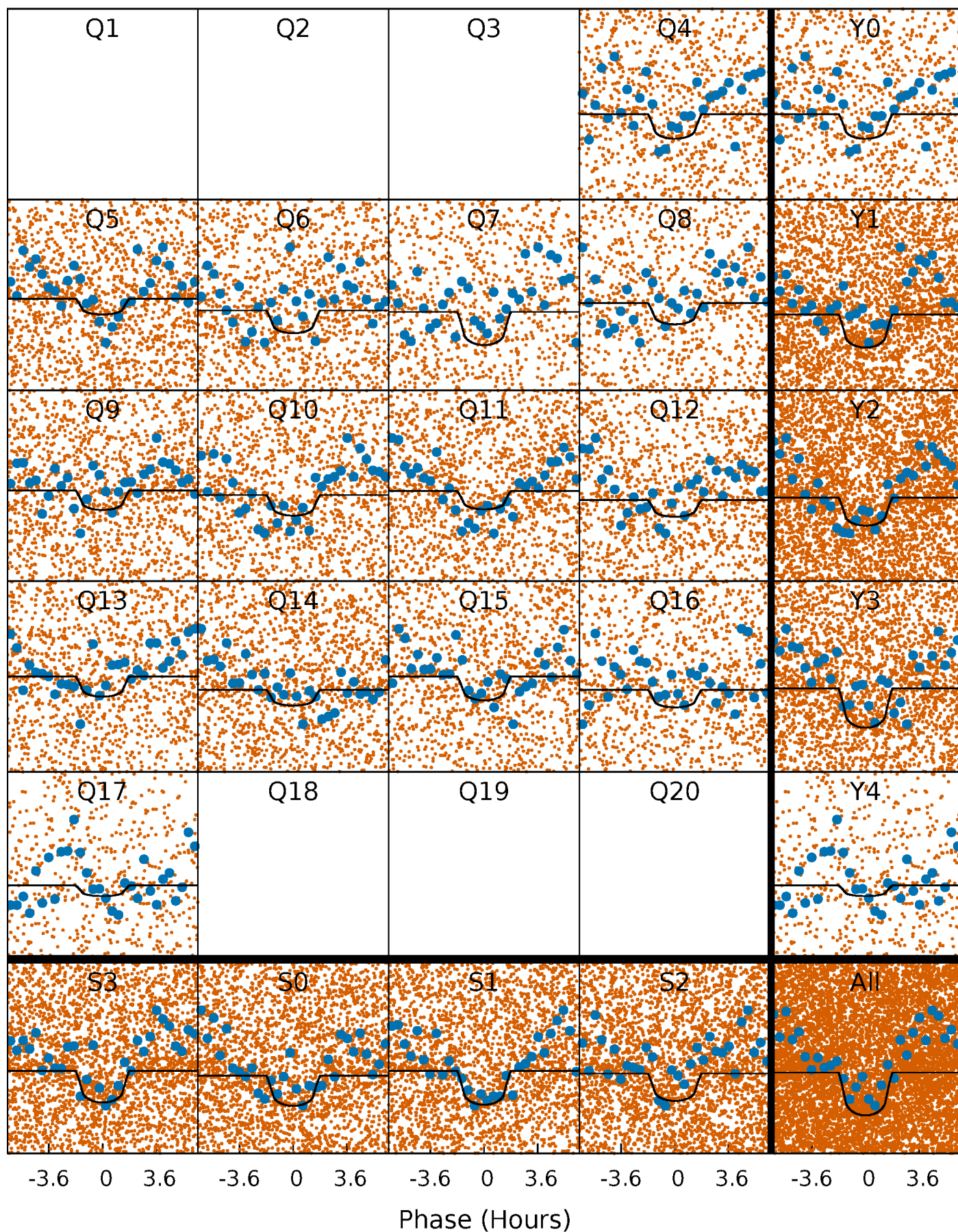
PDC Quarter-Phased Transit Curves

TCE 012072637-01 P= 0.901974 Days $T_0=132.039892$ (BKJD)



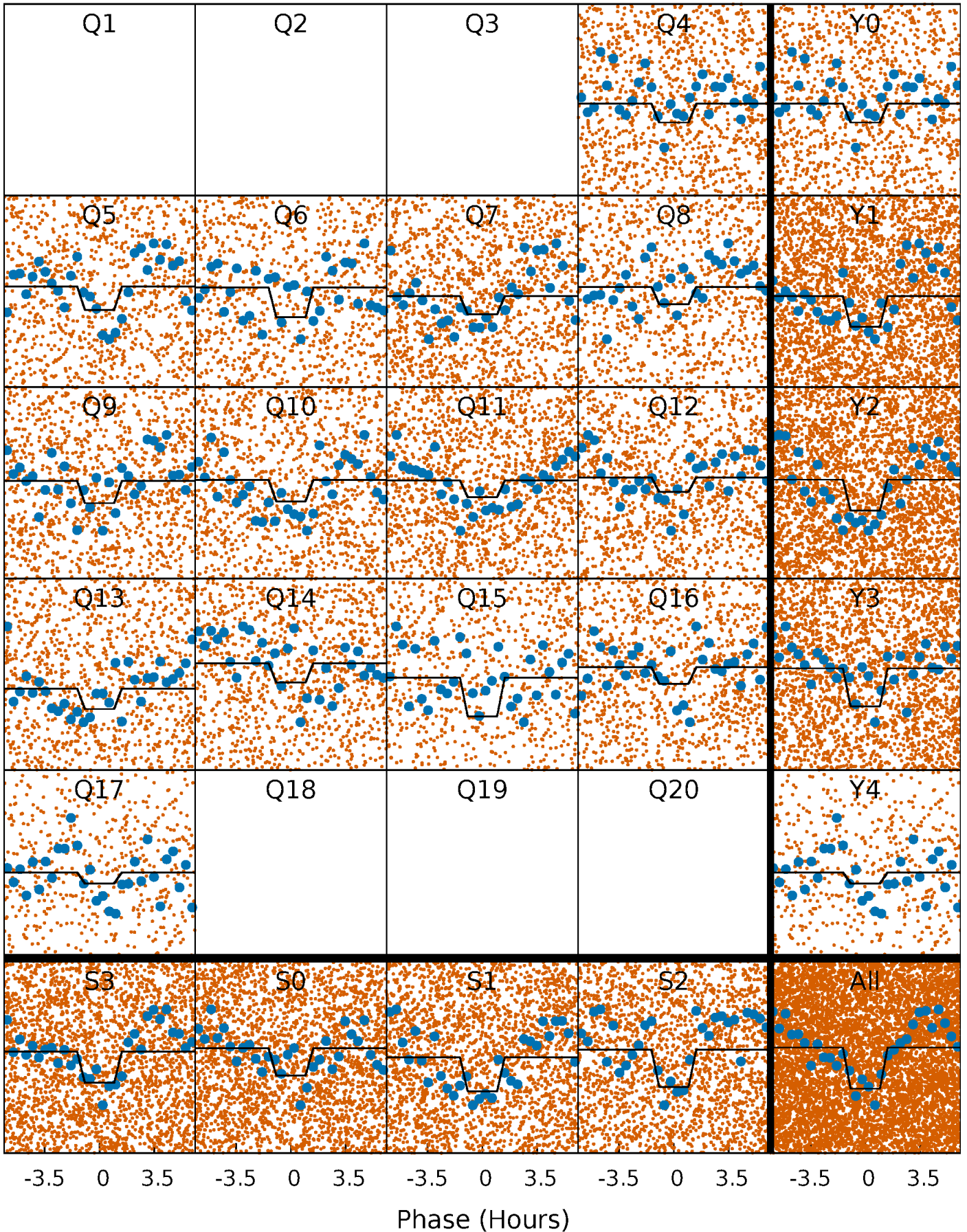
DV Quarter-Phased Transit Curves

TCE 012072637-01 P= 0.901974 Days $T_0=132.039892$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

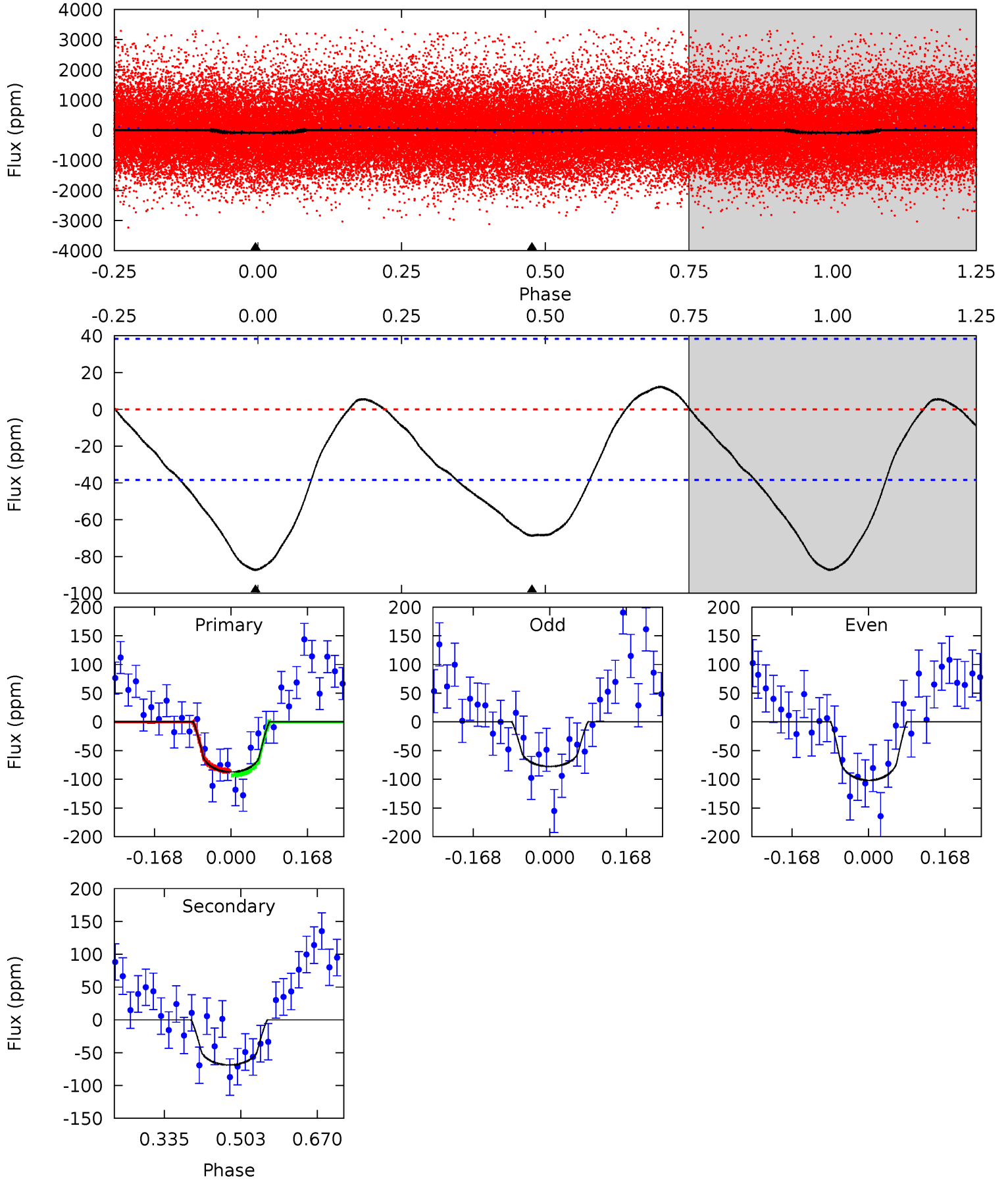
TCE 012072637-01 P= 0.901971 Days $T_0=132.037074$ (BKJD)



DV Model-Shift Uniqueness Test

012072637-01, P = 0.901974 Days, E = 132.039892 Days

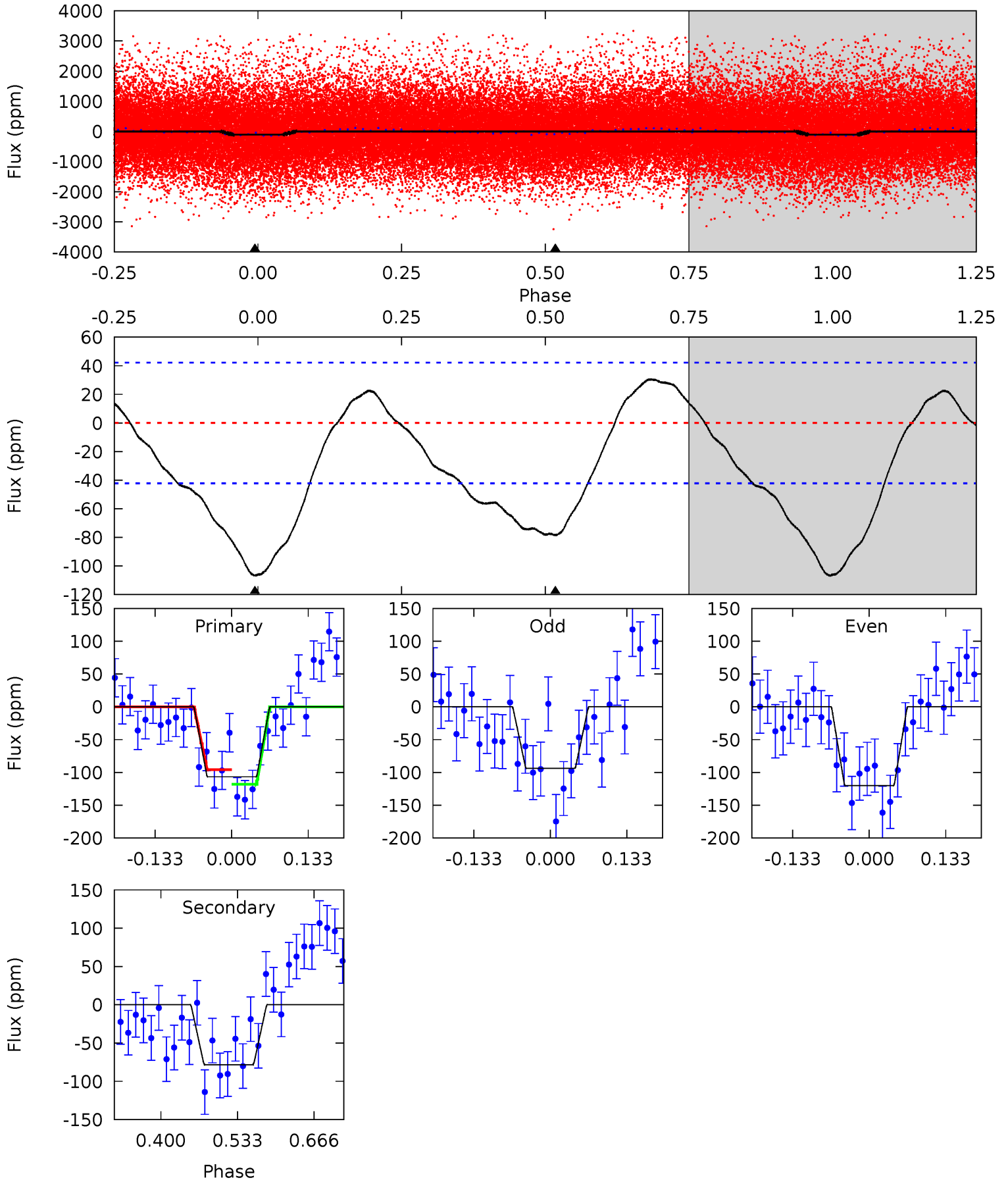
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	7.97	0	0	4.46	1.38	1.39	10.1	10.1	7.97	7.97	1.40	0.59	0.12	0.36



Alt Model-Shift Uniqueness Test

012072637-01, P = 0.901971 Days, E = 132.037074 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	8.36	0	0	4.50	1.50	2.67	11.4	11.4	8.36	8.36	1.41	1.00	0.22	1.18



Stellar Parameters For KIC 012072637

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3407^{+45}_{-45}	$4.923^{+0.052}_{-0.032}$	$0.000^{+0.100}_{-0.100}$	$0.324^{+0.034}_{-0.038}$	$0.320^{+0.043}_{-0.043}$	$13.280^{+3.787}_{-2.049}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+10%/-12%	+13%/-13%	+29%/-15%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 012072637-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-69 ± 9	$0.51^{+0.43}_{-0.34}$	1065^{+25}_{-26}	2888^{+1219}_{-429}	22^{+186}_{-16}
Alt.	-78 ± 9	$0.50^{+0.43}_{-0.34}$	1064^{+25}_{-25}	2966^{+1247}_{-459}	27^{+210}_{-19}

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

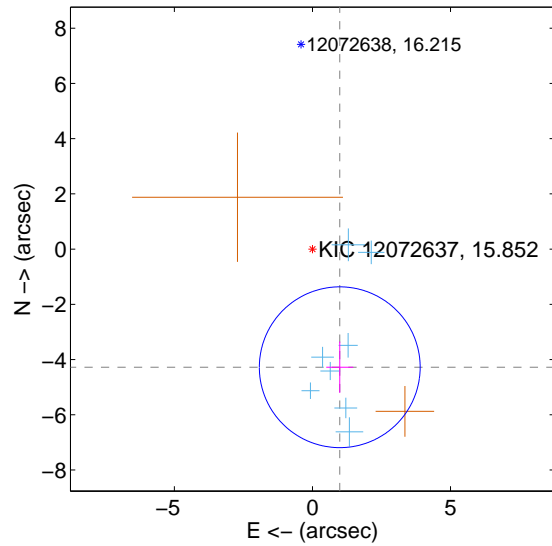
Supplemental centroid analysis for 012072637-01. Kepler magnitude: 15.85. Transit SNR 7.92

There are 8 quarters with good PRF difference image offsets

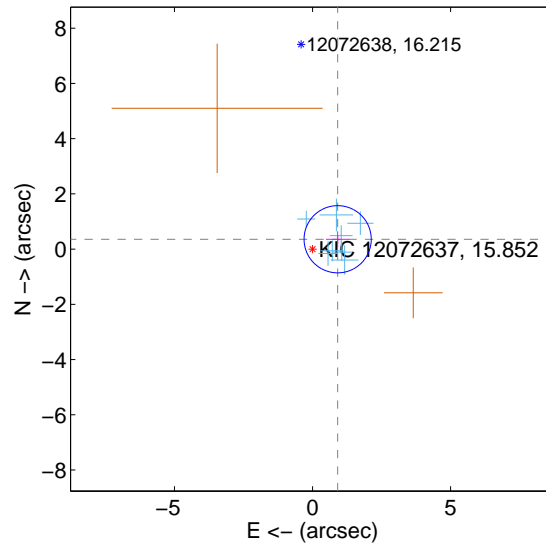
The OOT PRF centroid is offset from the target star catalog position by about 3.31 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.393 ± 0.971	4.52	-0.989 ± 0.489	-4.280 ± 0.929
PRF-fit source offset from KIC position	0.978 ± 0.406	2.41	-0.910 ± 0.421	0.357 ± 0.287
photometric centroid source offset	2.02 ± 1.16	1.74	0.57 ± 0.88	-1.94 ± 1.18

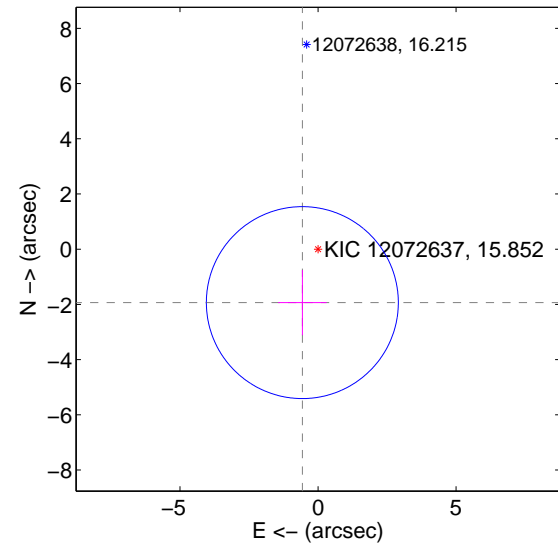
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

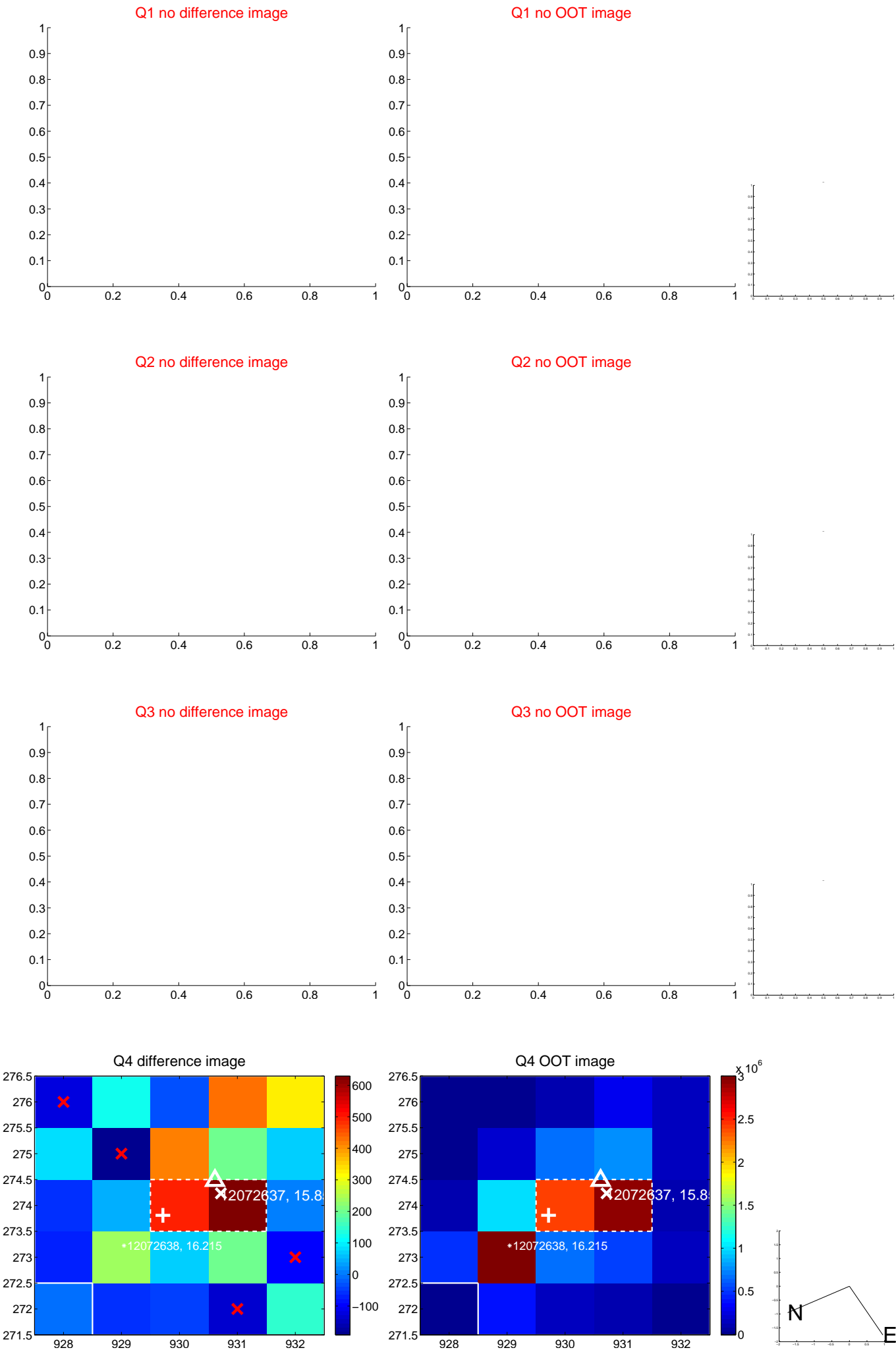


offset from photometric centroids

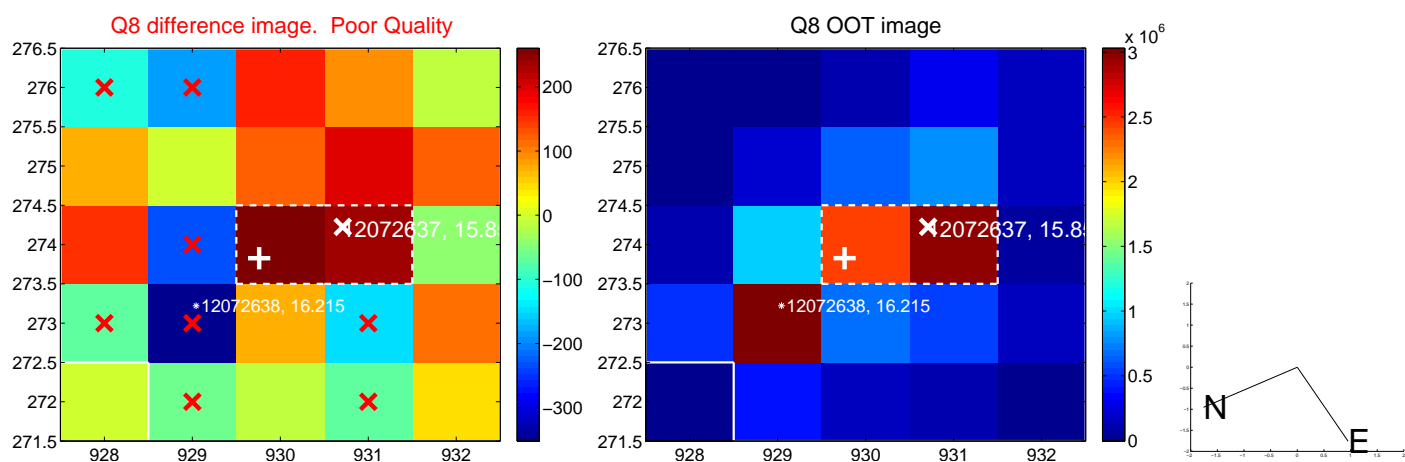
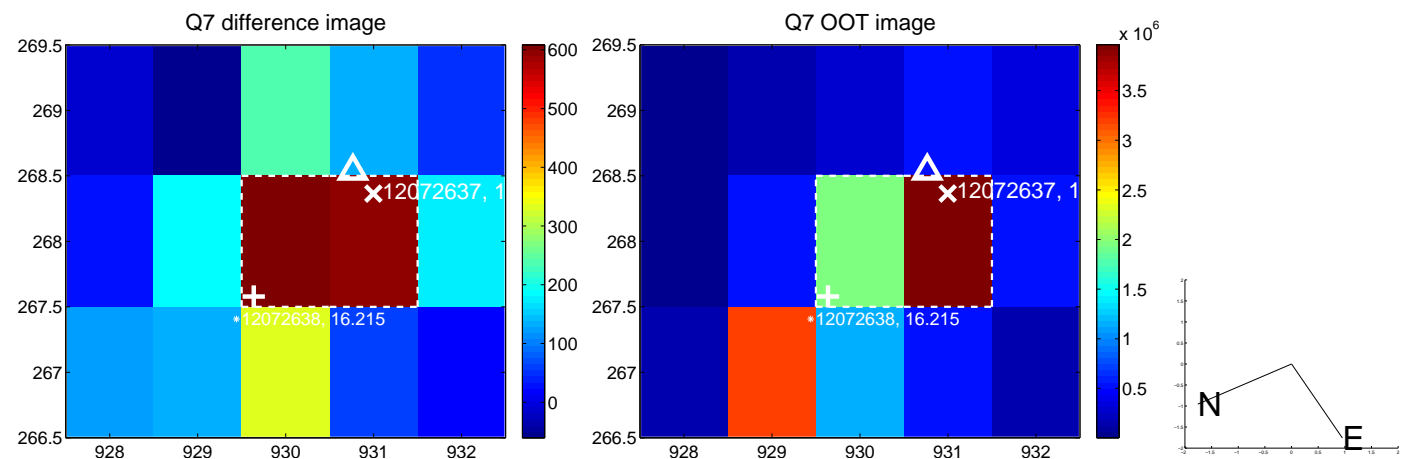
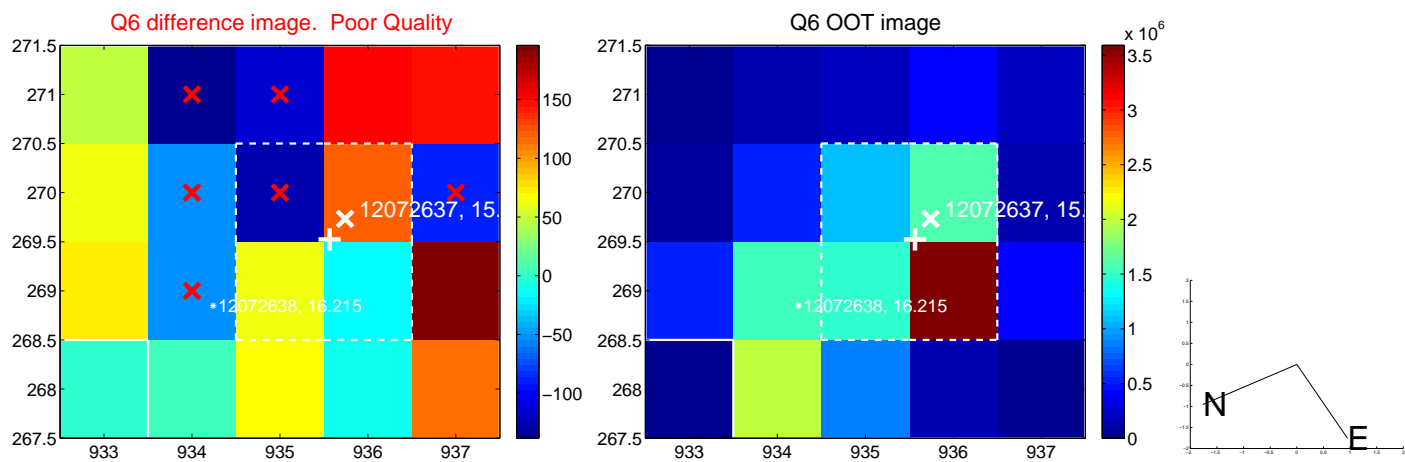
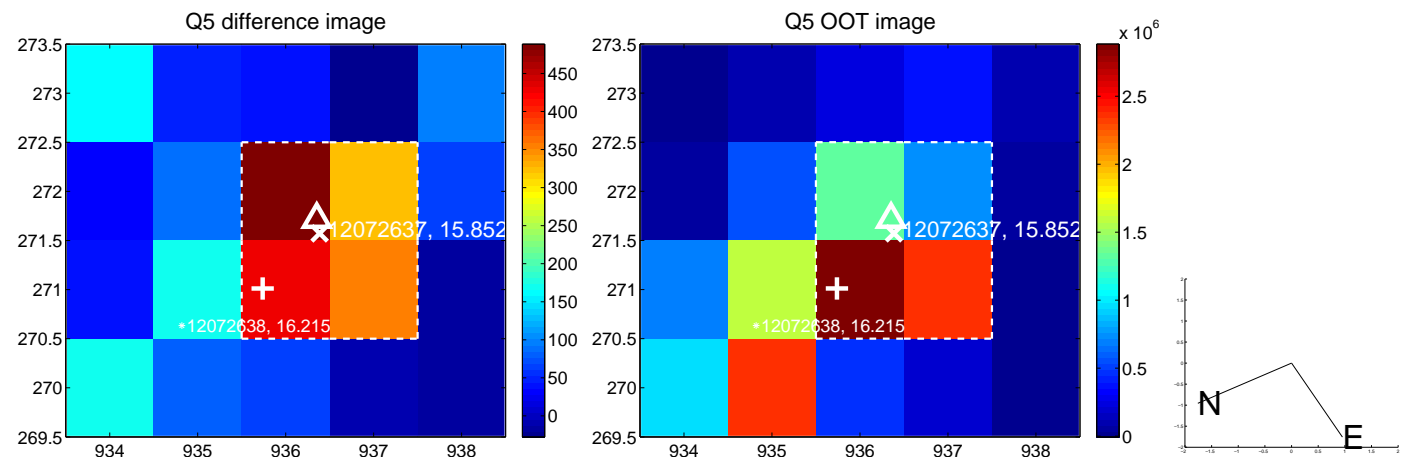


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

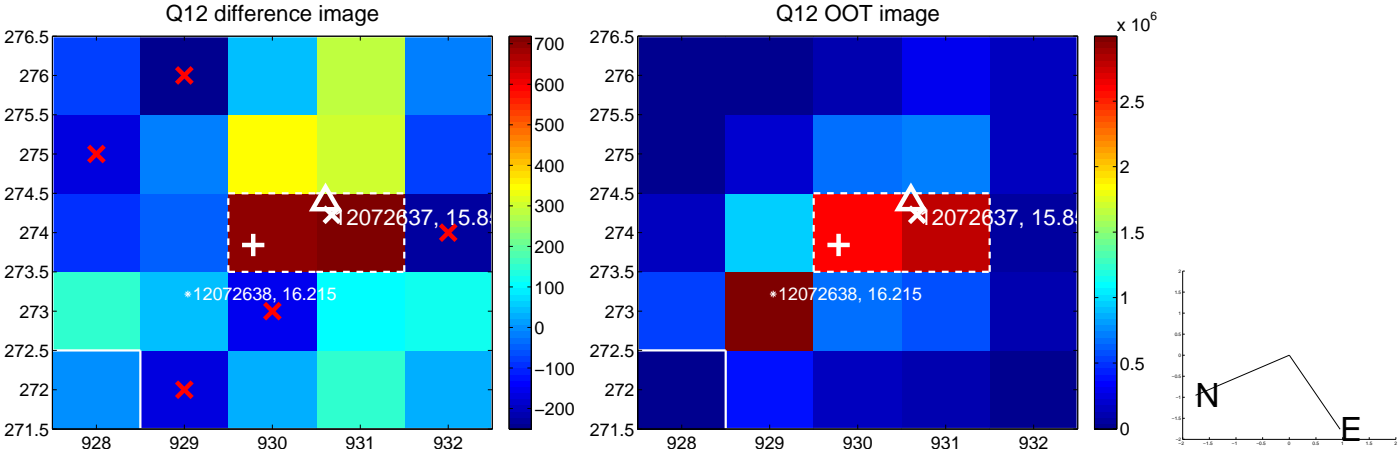
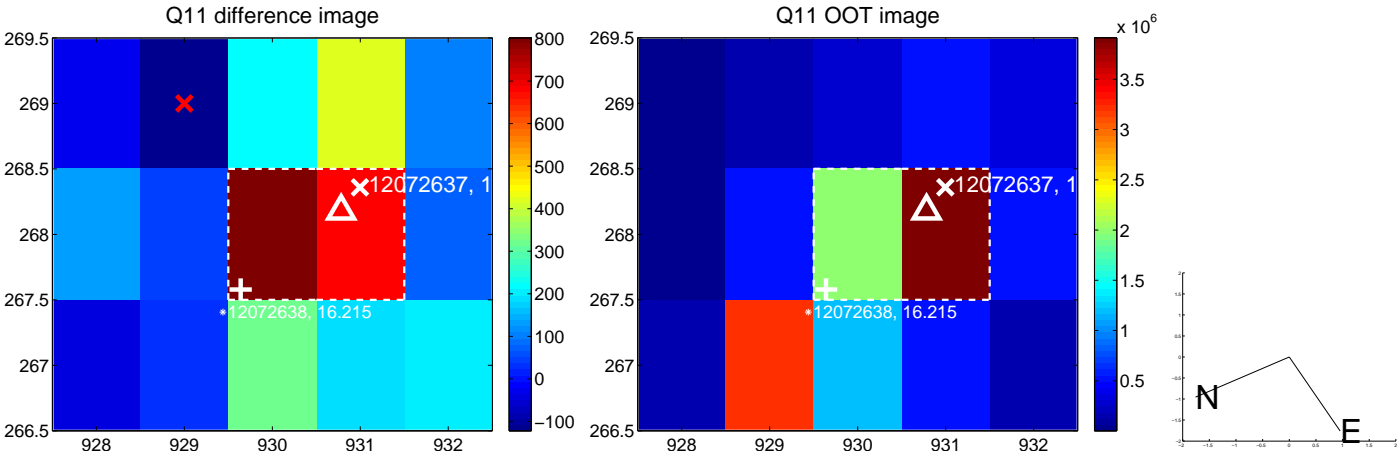
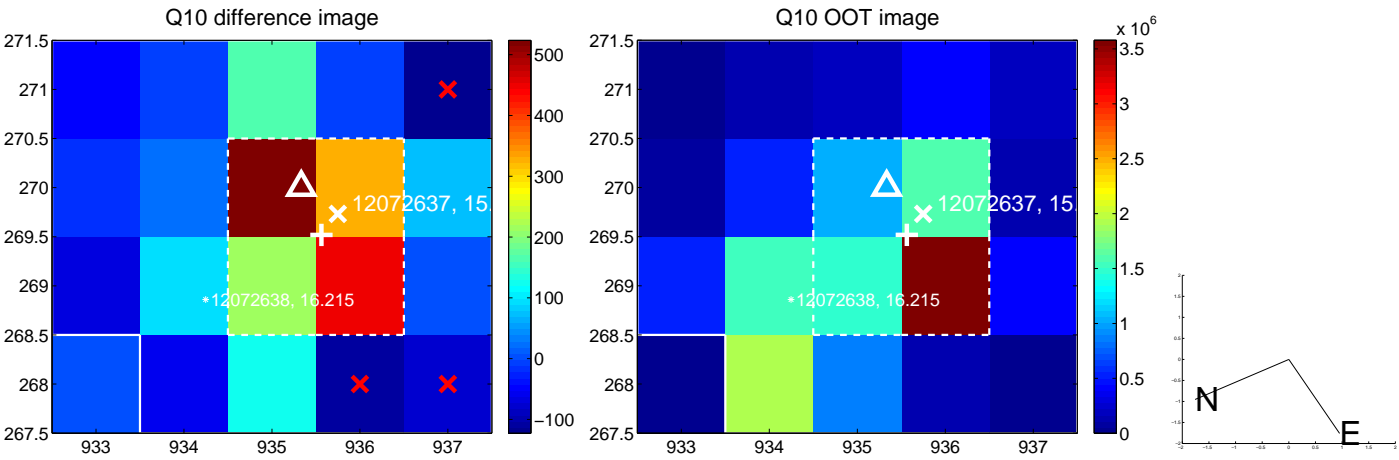
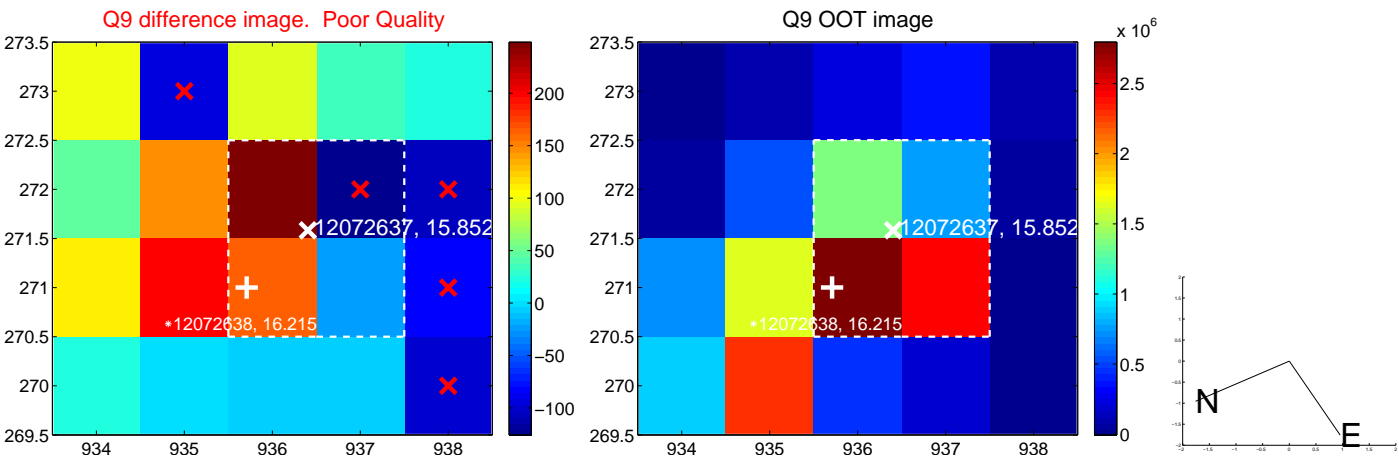
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



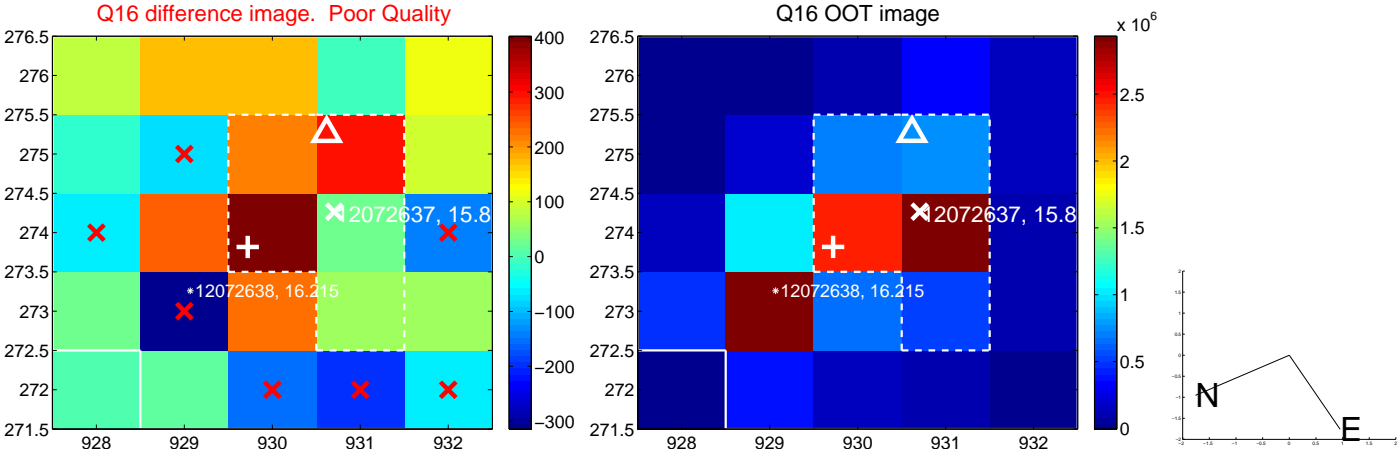
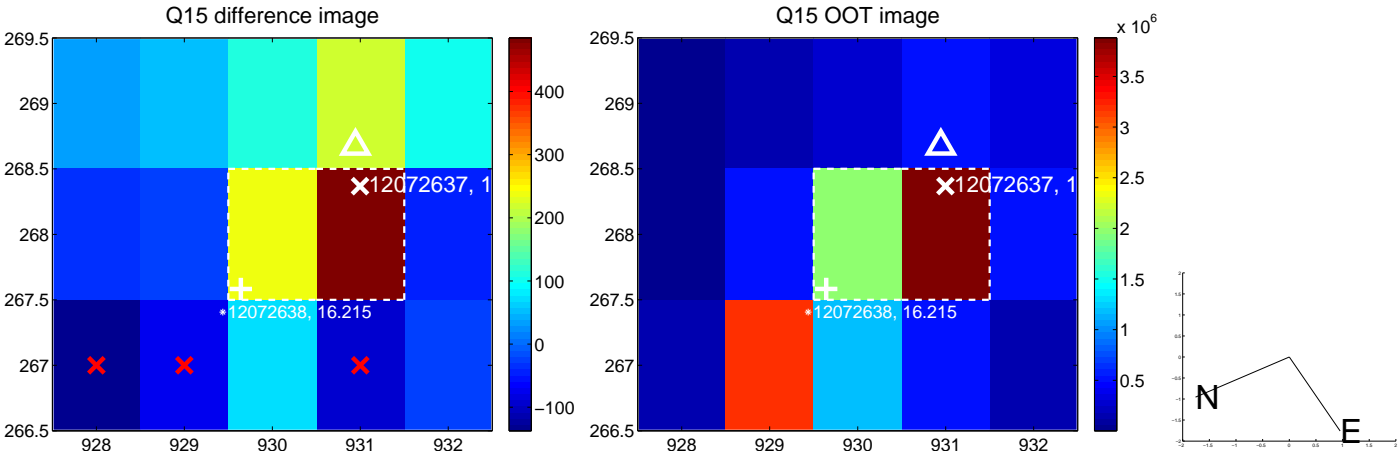
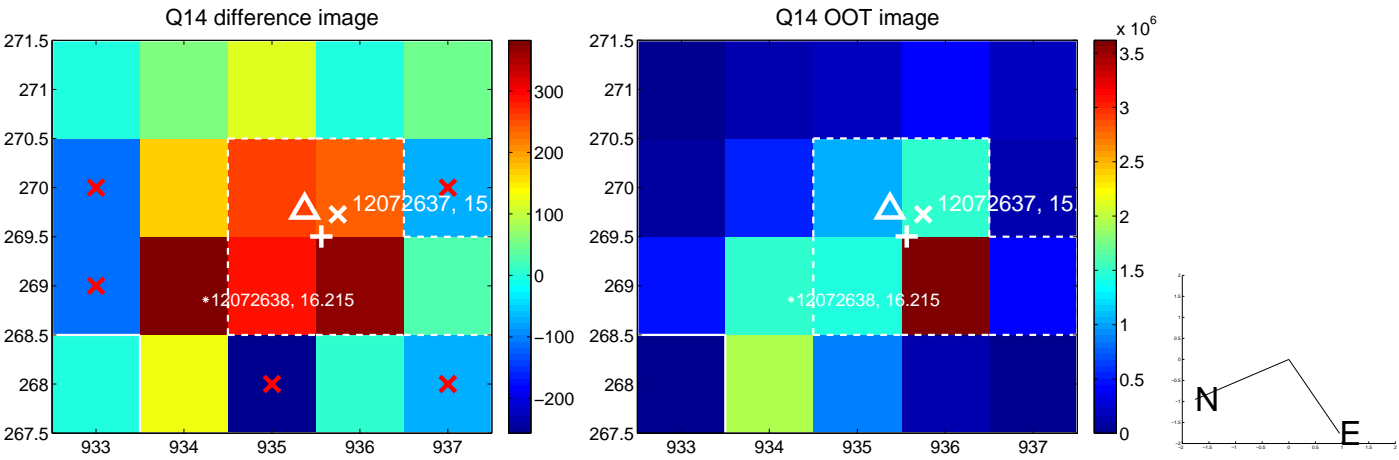
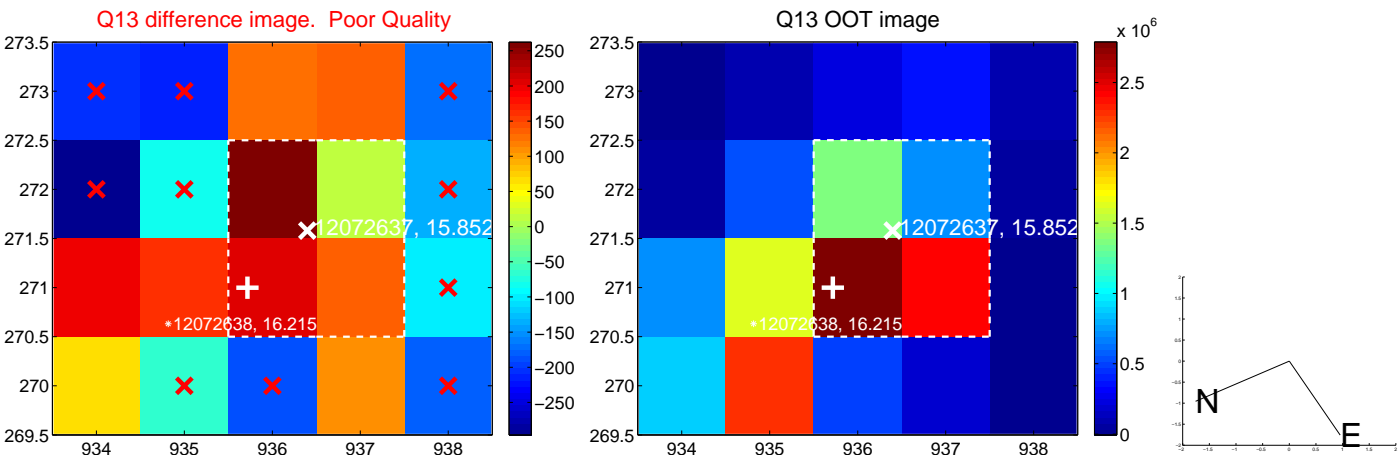
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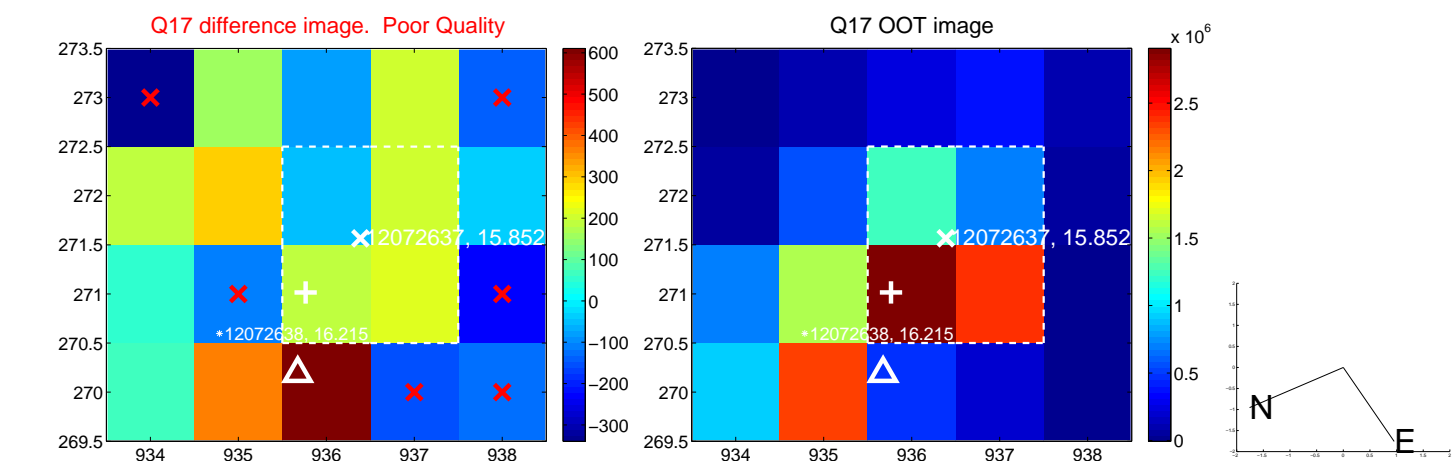
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



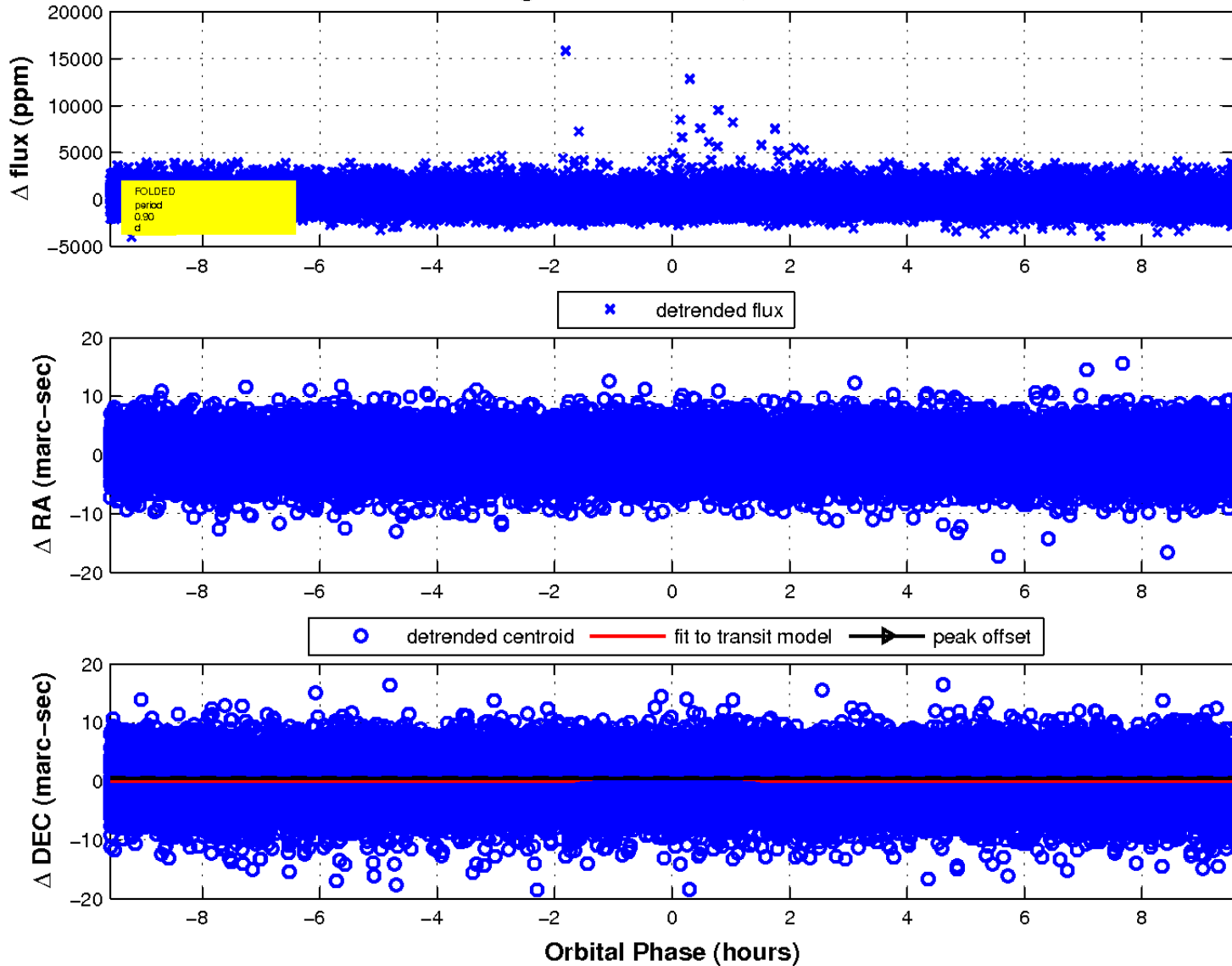
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

