

KIC 005040223

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})
005040223-01	OBS	4354.01	0.995990	132.187773	48.2	3.062	11.5	10.4	1.08	6110	0.89	3722.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005040223-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET

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.

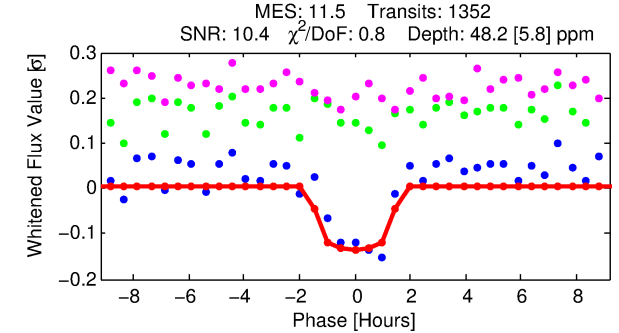
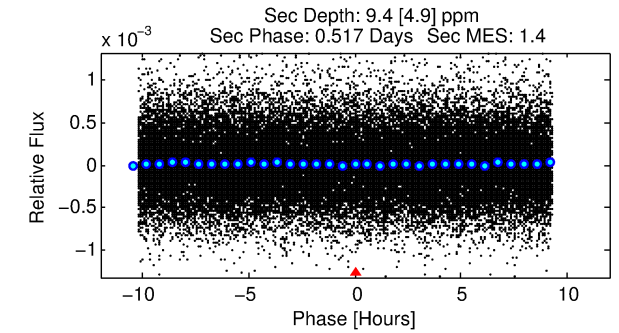
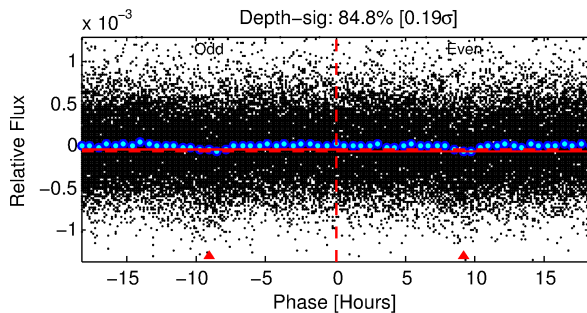
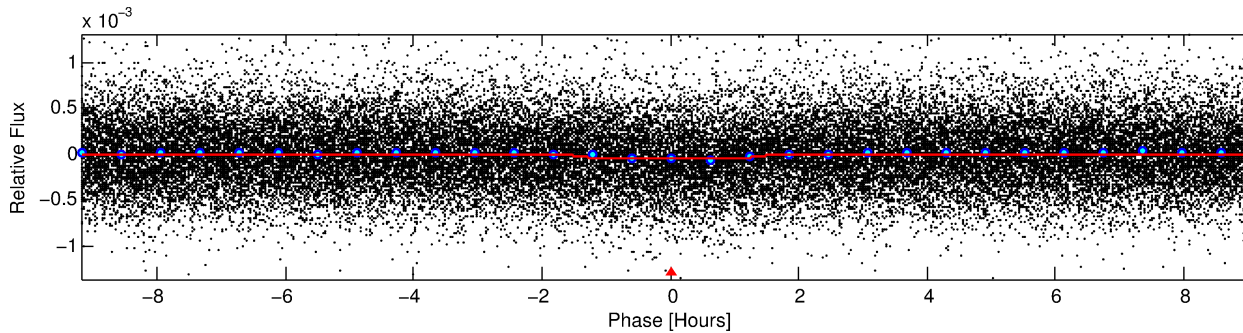
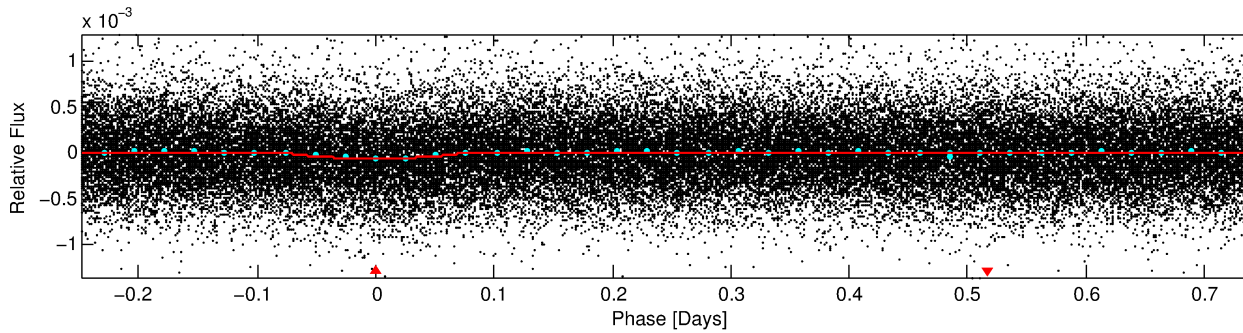
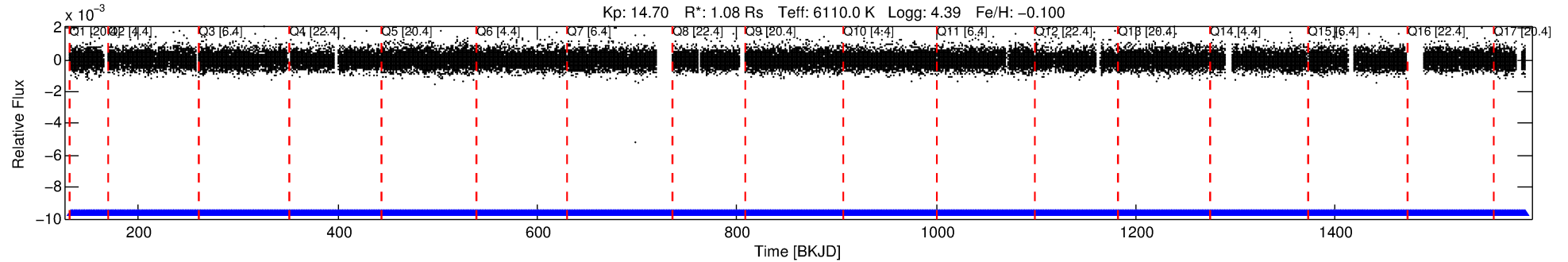
Ephemeris Match Information For 005040223-01

No Significant Match Found

DV One-Page Summary

KIC: 5040223 Candidate: 1 of 1 Period: 0.996 d

KOI: K04354.01 Corr: 0.770



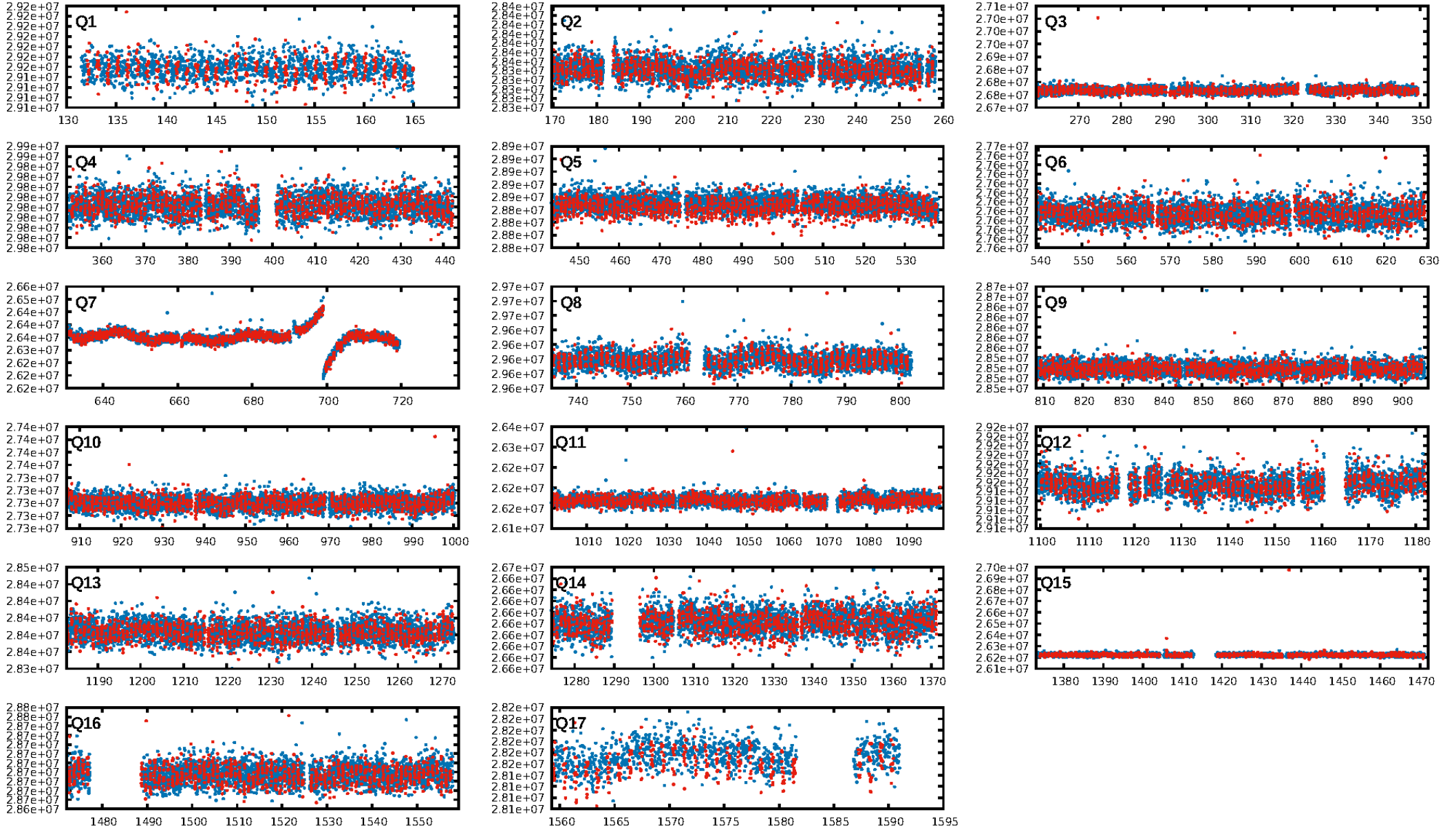
DV Fit Results:

Period = 0.99599 [0.00001] d
Epoch = 132.1878 [0.0037] BKJD
Rp/R* = 0.0075 [0.0041]
a/R* = 1.45 [2.20]
b = 0.91 [0.59]
Seff = 3722.74 [1537.10]
Teq = 1992 [206] K
Rp = 0.88 [0.56] Re
a = 0.0197 [0.0053] AU
Ag = 2.56 [3.24] [0.48 σ]
Teffp = 3895 [1181] K [1.59 σ]

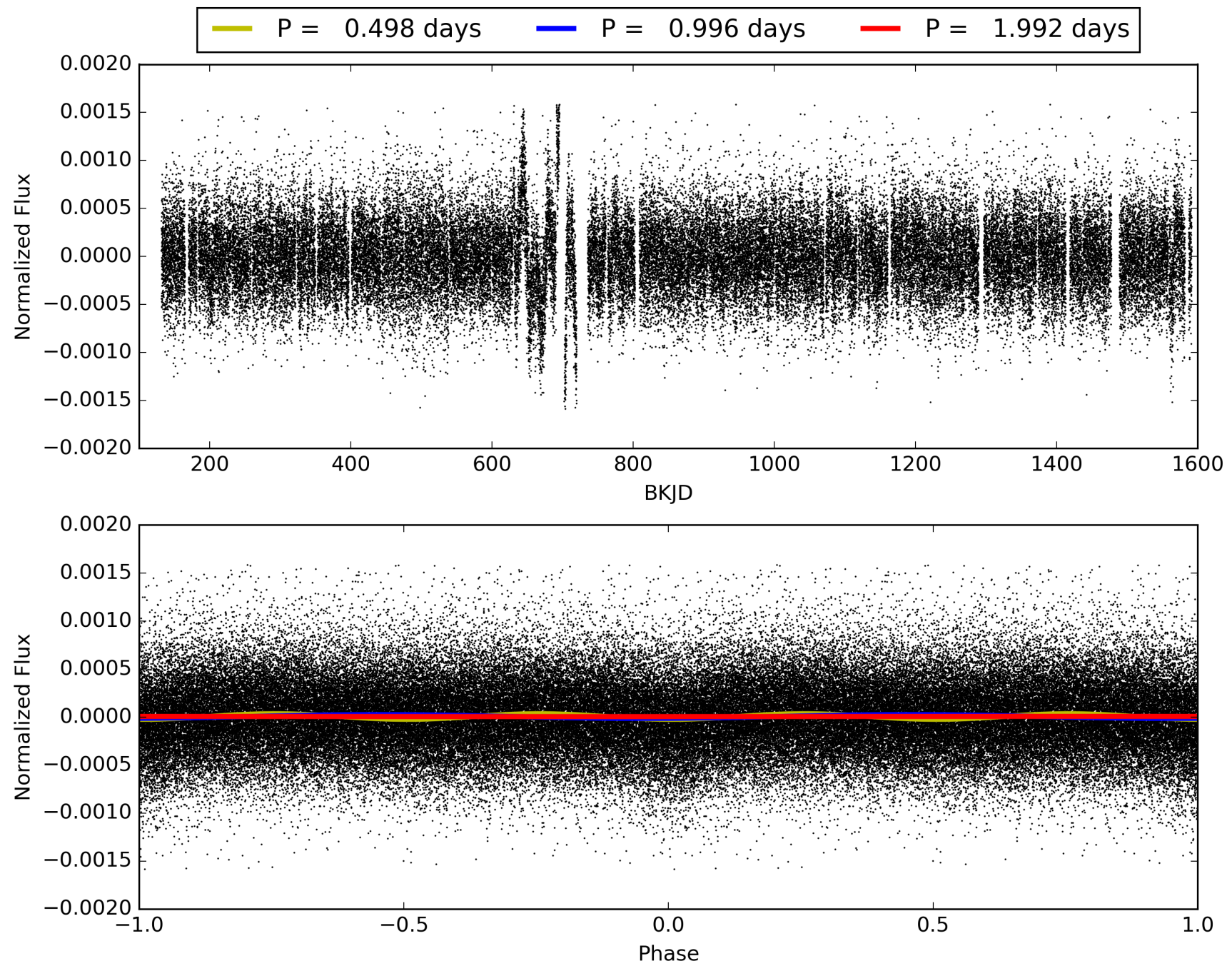
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.71e-32
RollingBand-fgt: 1.00 [1291/1291]
GhostDiagnostic-chr: -0.7993
Centroid-sig: 0.0%
Centroid-so: 25.557 arcsec [19.14 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005040223-01, PDC Light Curves

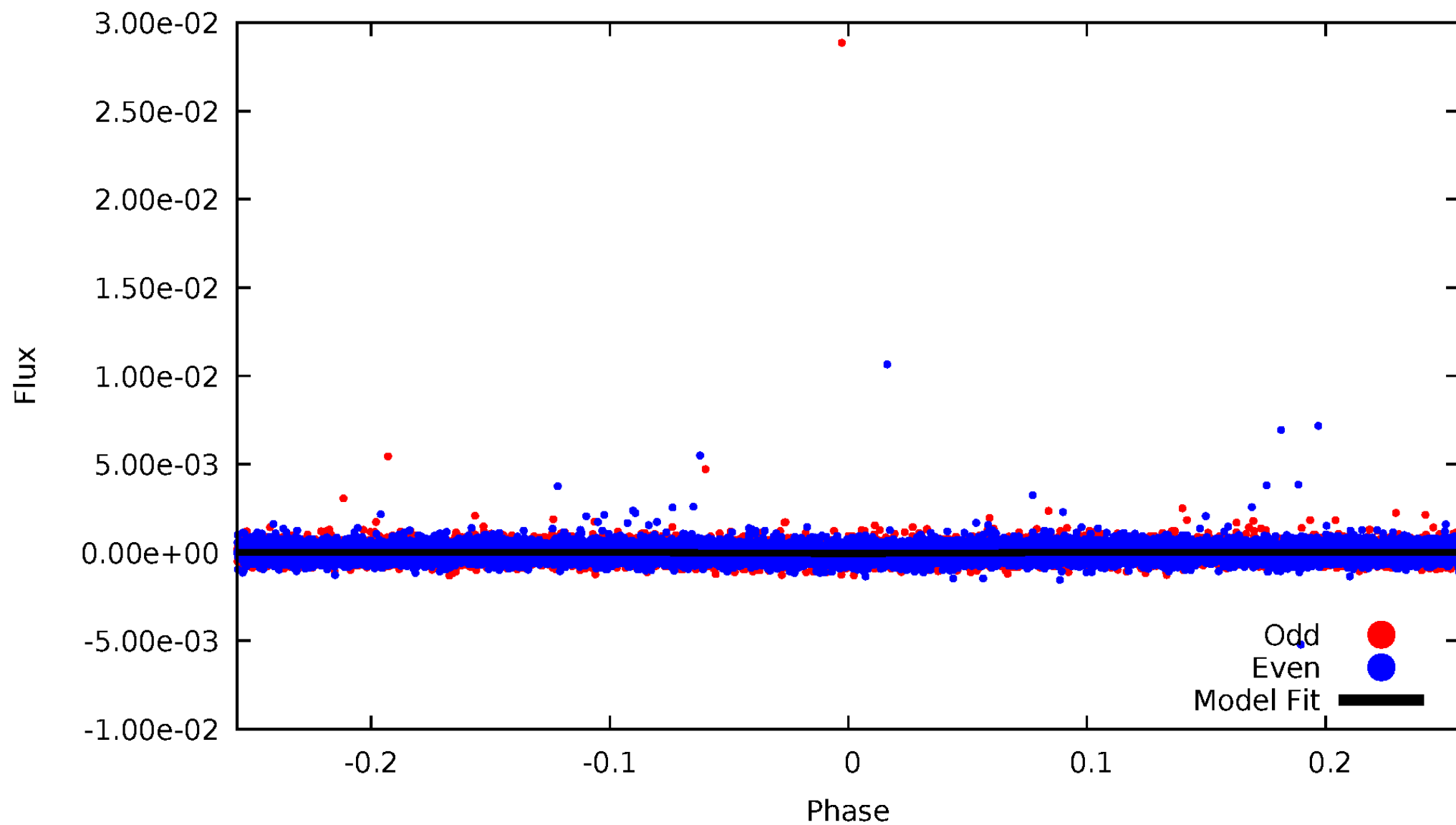


TCE 005040223-01



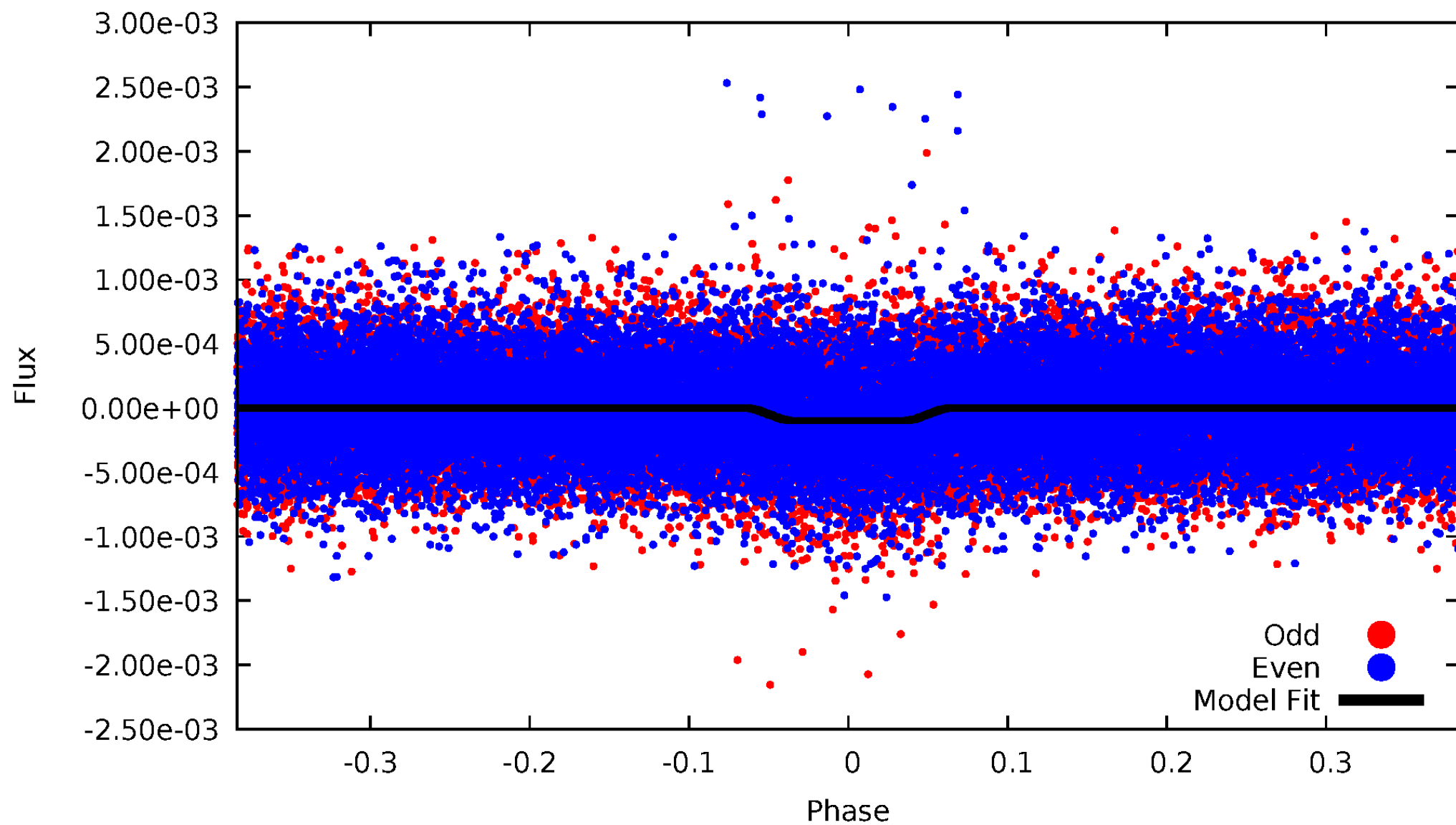
DV Odd/Even

TCE 005040223-01



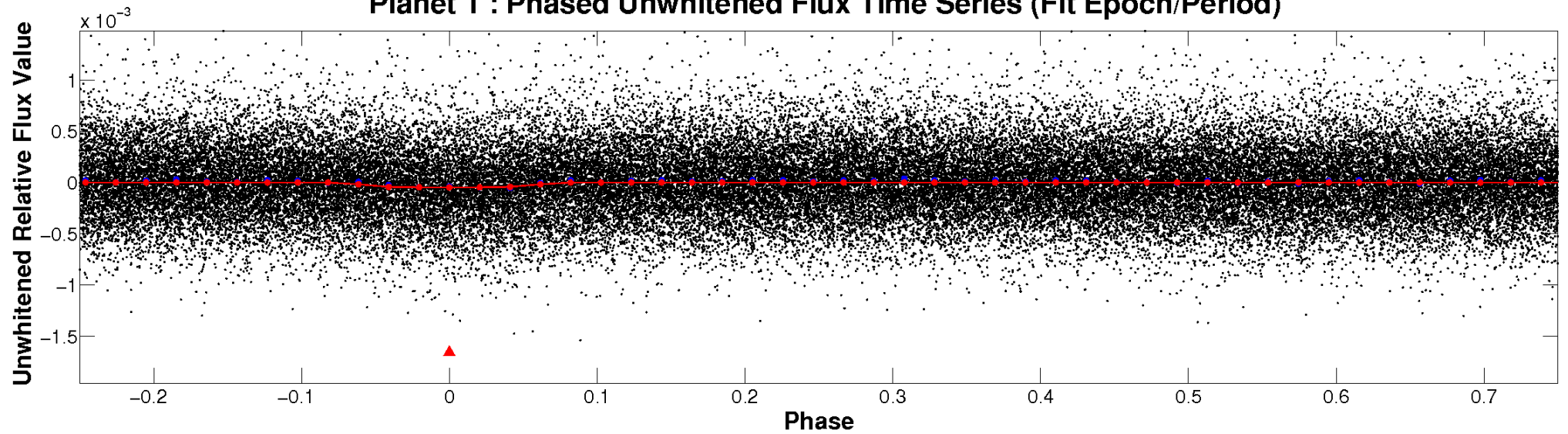
ALT Odd/Even

TCE 005040223-01

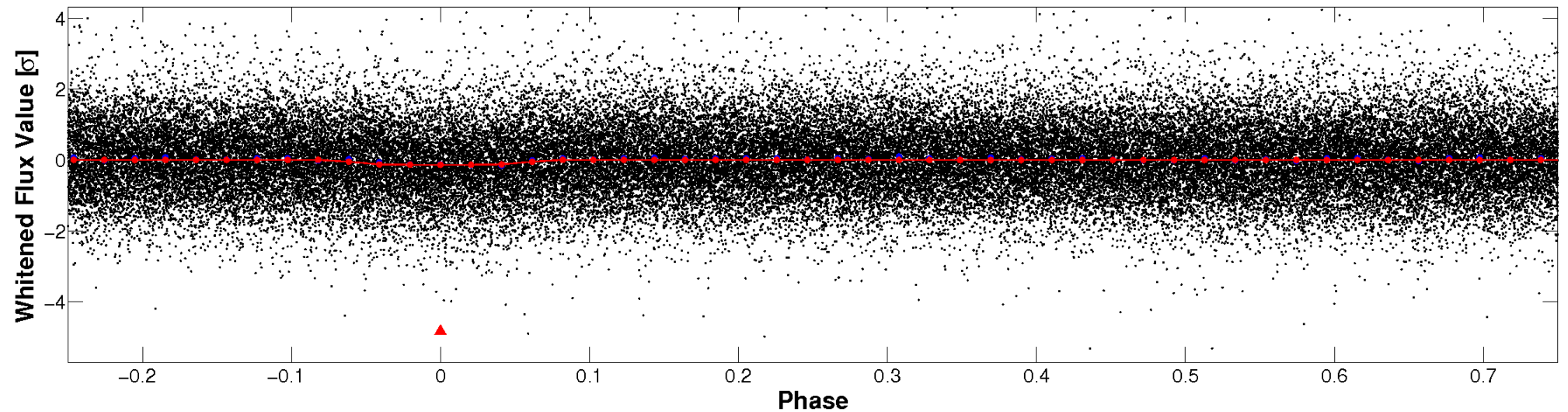


Non-Whitened Vs. Whitened Light Curve

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

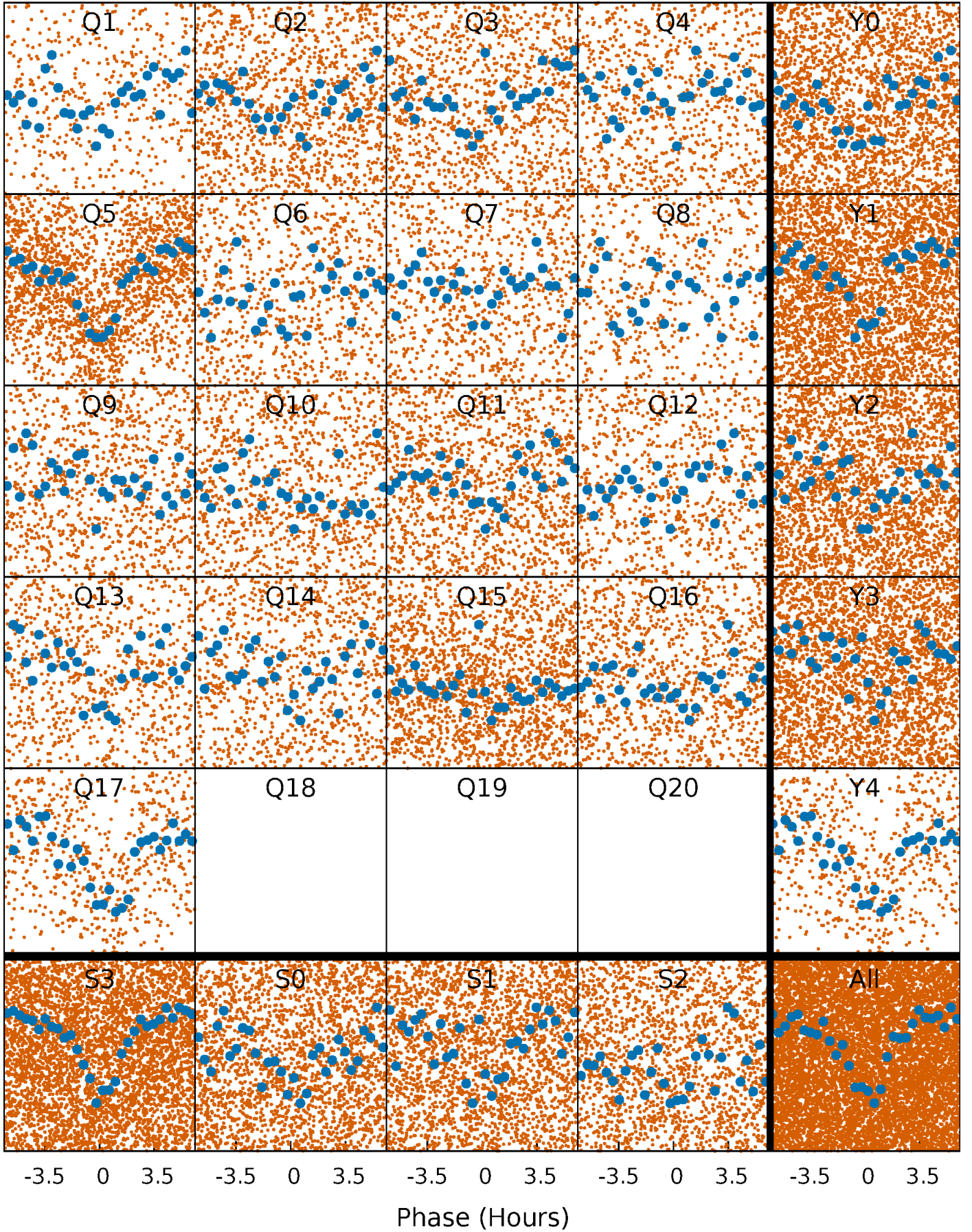


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



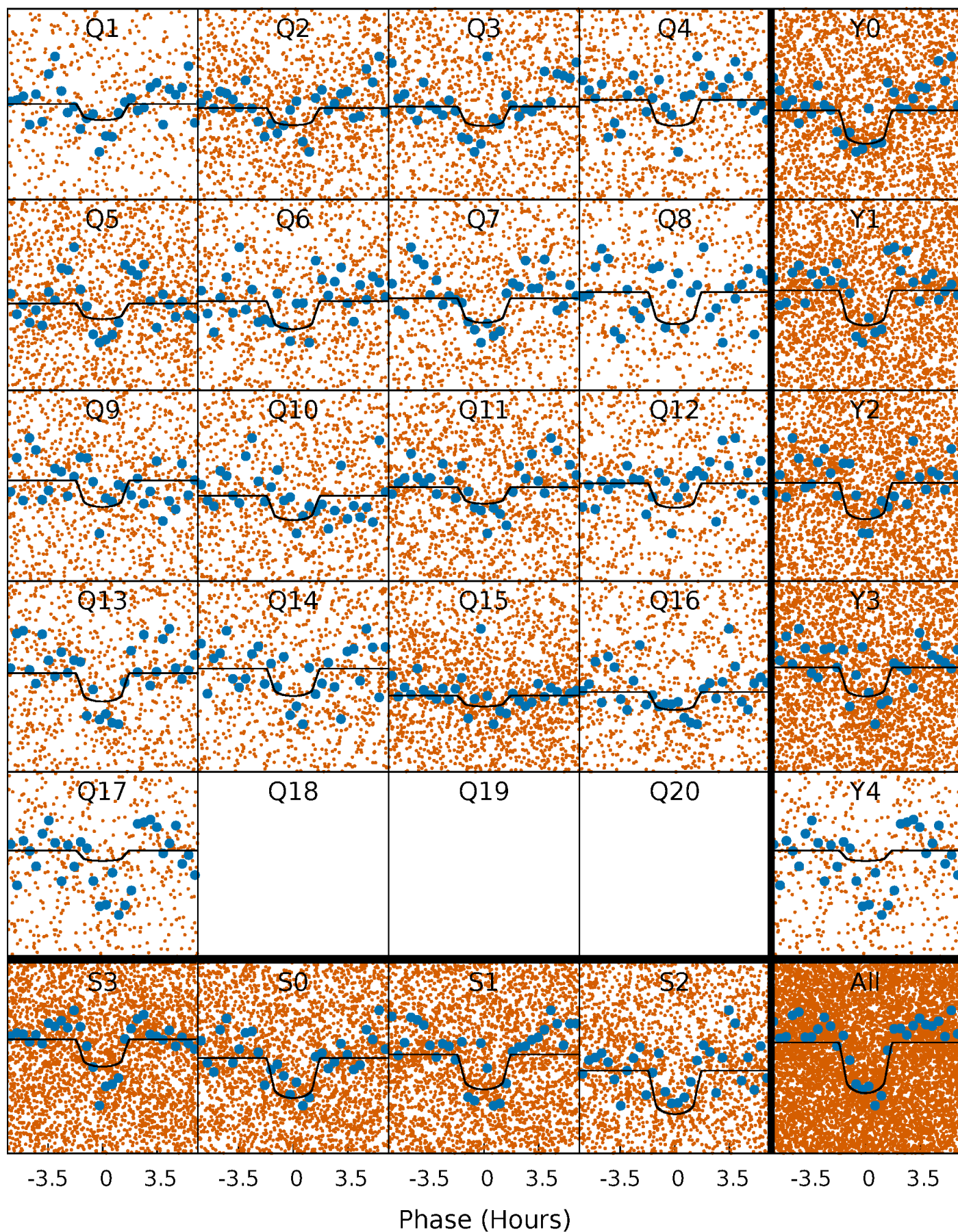
PDC Quarter-Phased Transit Curves

TCE 005040223-01 P= 0.995990 Days $T_0=132.187773$ (BKJD)



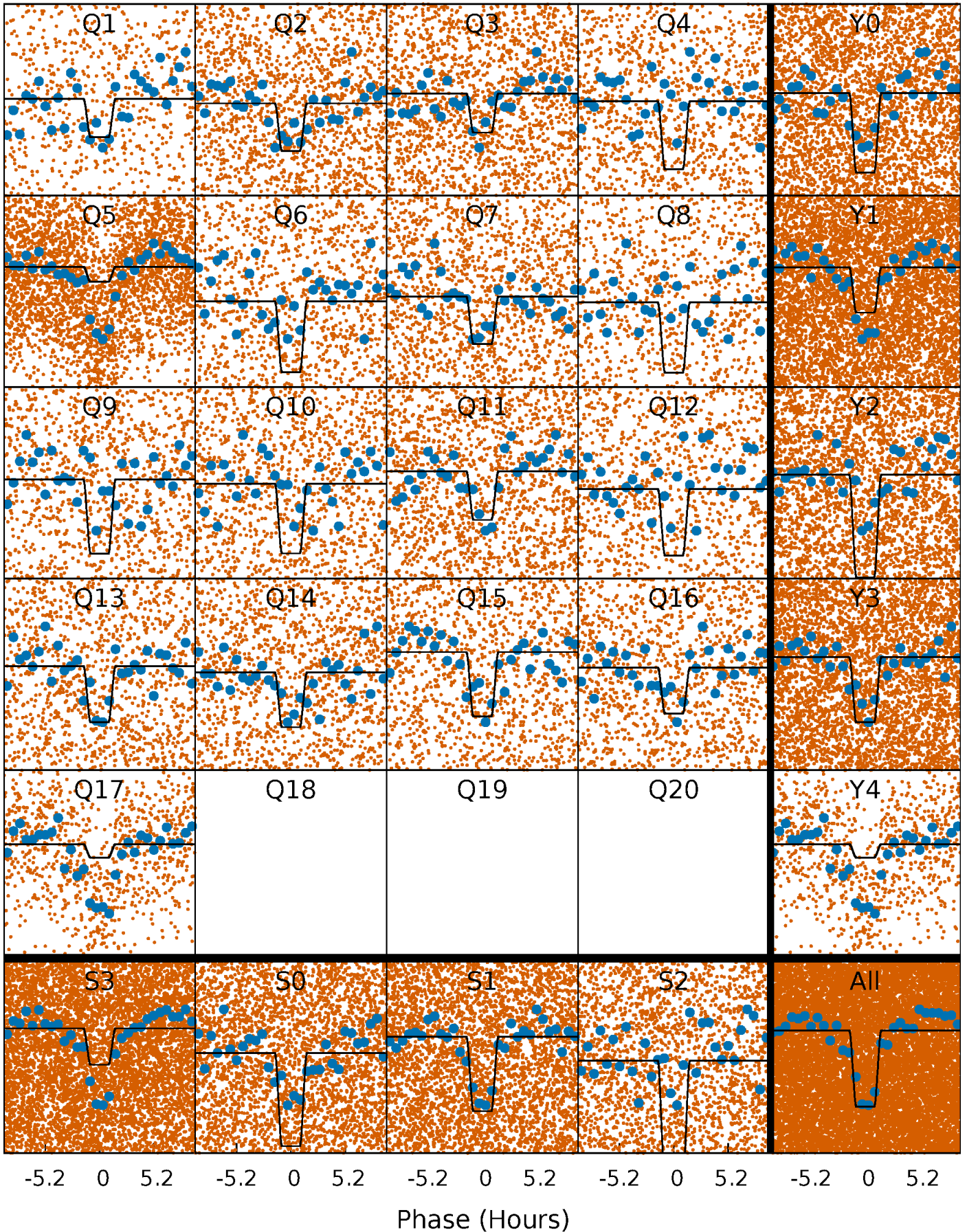
DV Quarter-Phased Transit Curves

TCE 005040223-01 P= 0.995990 Days $T_0=132.187773$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

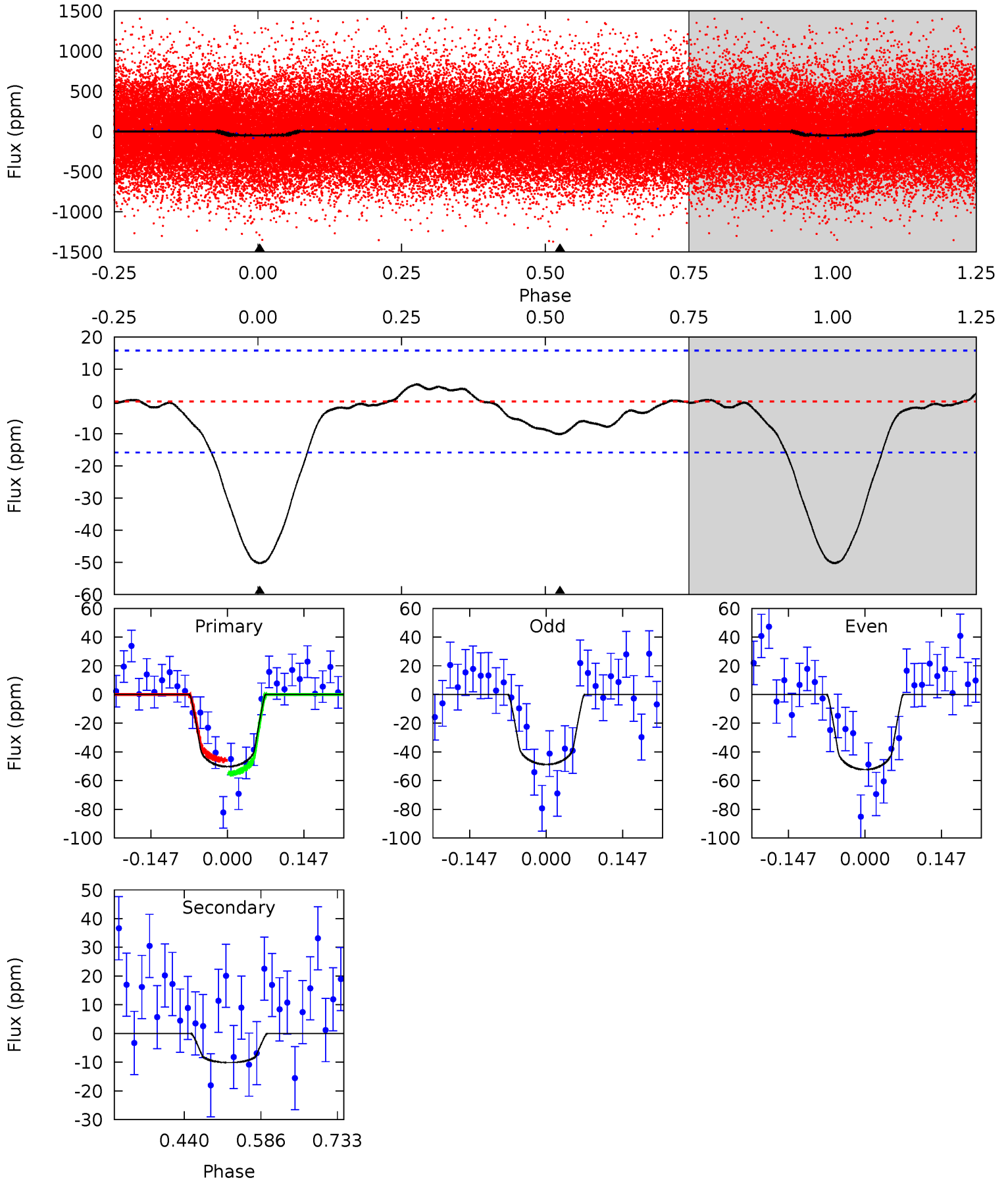
TCE 005040223-01 P= 0.996020 Days $T_0=132.168819$ (BKJD)



DV Model-Shift Uniqueness Test

005040223-01, P = 0.995990 Days, E = 131.191783 Days

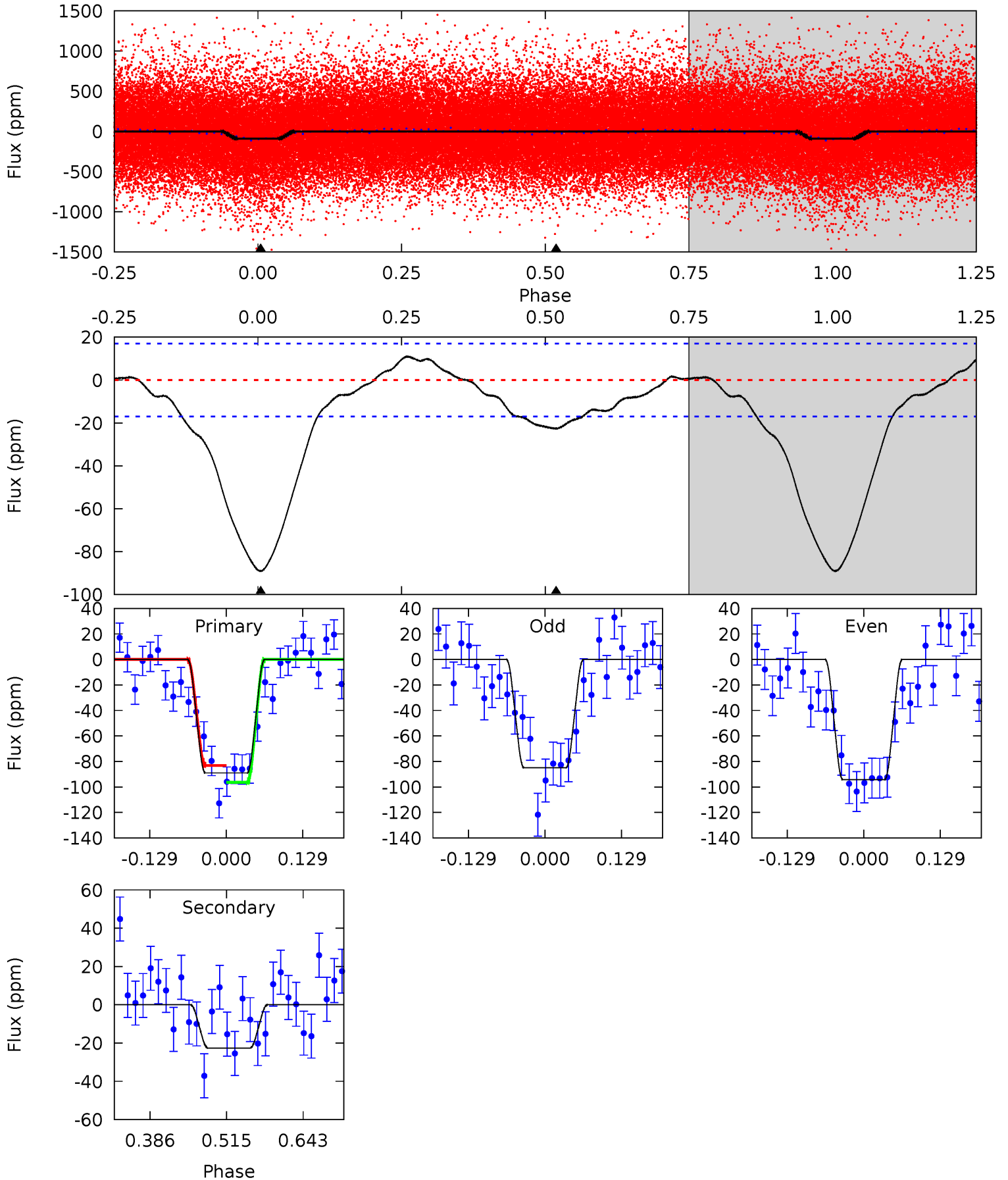
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	2.87	0	0	4.48	1.45	0.66	14.2	14.2	2.87	2.87	0.51	0.93	0.10	1.31



Alt Model-Shift Uniqueness Test

005040223-01, P = 0.996020 Days, E = 131.172799 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.6	6.00	0	0	4.51	1.52	1.71	23.6	23.6	6.00	6.00	1.24	1.29	0.11	1.76



Stellar Parameters For KIC 005040223

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6110^{+193}_{-214}	$4.387^{+0.090}_{-0.210}$	$-0.100^{+0.250}_{-0.300}$	$1.077^{+0.350}_{-0.150}$	$1.029^{+0.167}_{-0.125}$	$1.160^{+0.551}_{-0.597}$
	+3%/-4%	+2%/-5%	+250%/-300%	+32%/-14%	+16%/-12%	+47%/-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 005040223-01 / KOI 4354.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10 ± 4	$0.93^{+0.50}_{-0.44}$	2824^{+228}_{-166}	4085^{+1318}_{-797}	$2.459^{+6.508}_{-1.584}$
Alt.	-23 ± 4	$1.19^{+0.55}_{-0.48}$	2839^{+219}_{-168}	4353^{+1065}_{-605}	$3.279^{+5.744}_{-1.745}$

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 $A_{obs} \gg 1.0$

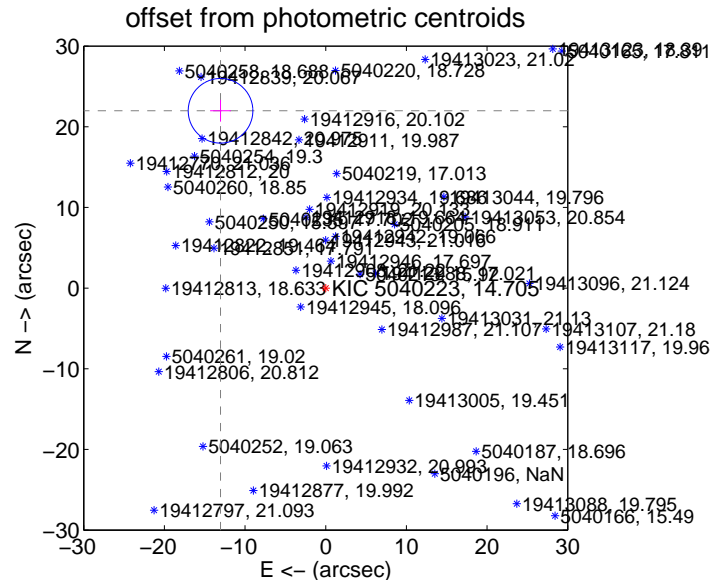
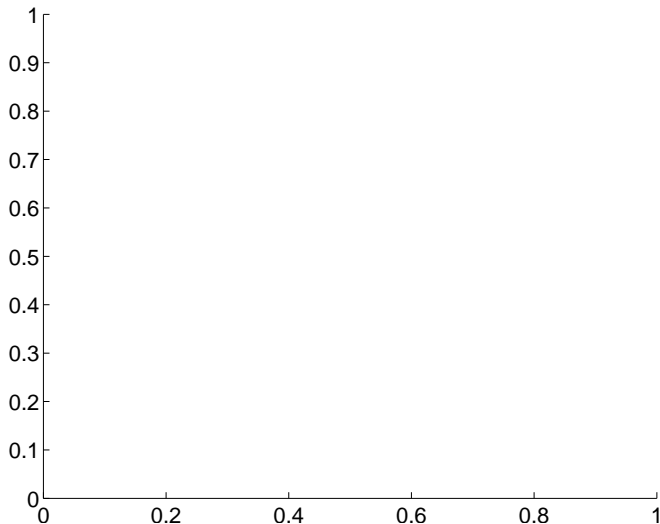
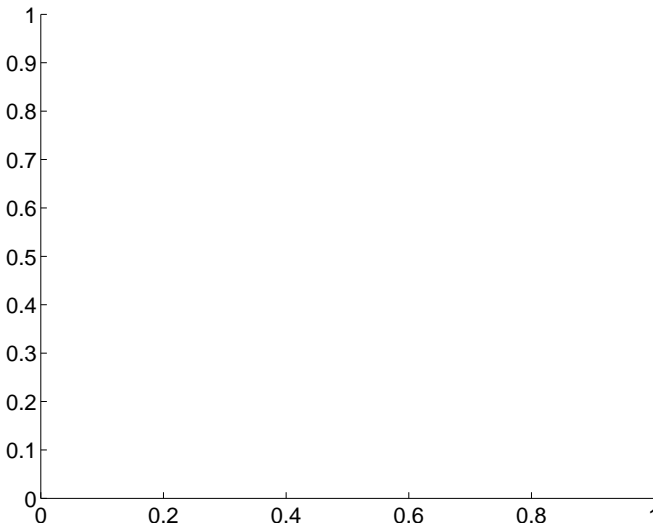
DV Centroid Data

Supplemental centroid analysis for 005040223-01. Kepler magnitude: 14.71. Transit SNR 10.41

There are 0 quarters with good PRF difference image offsets

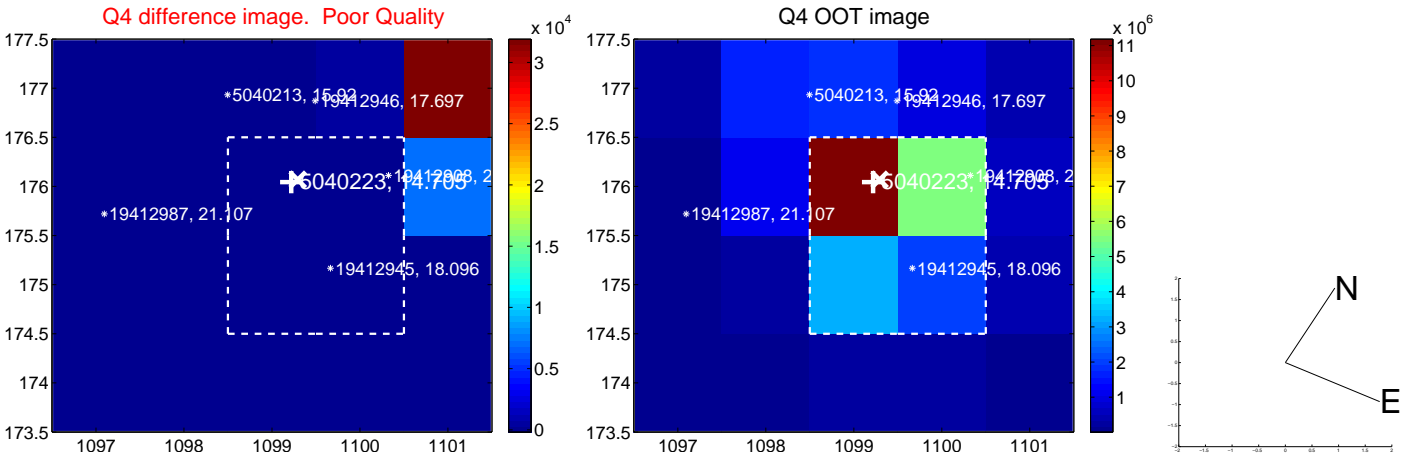
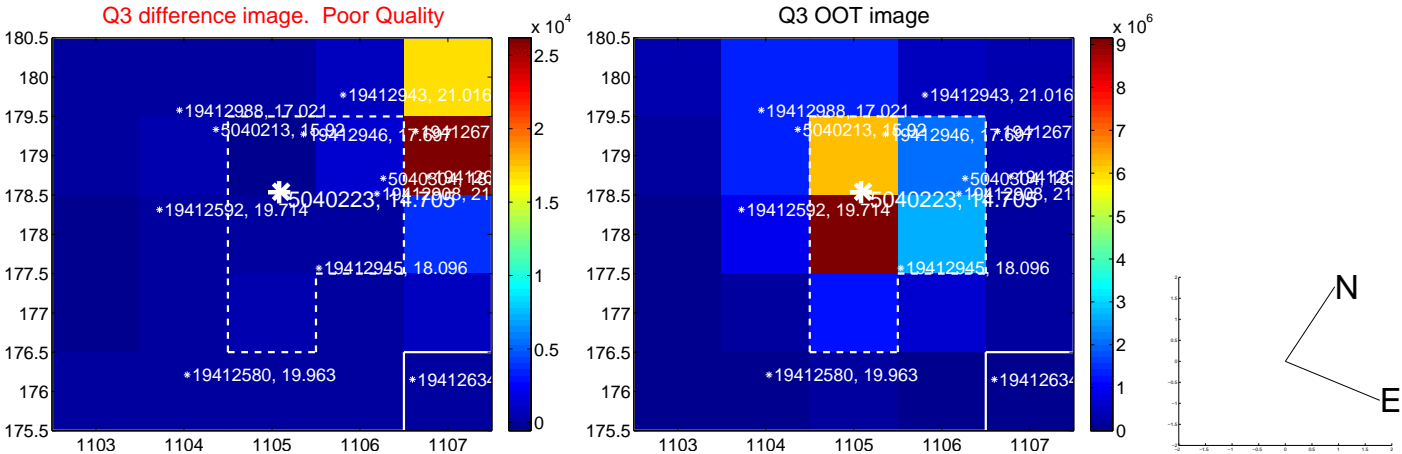
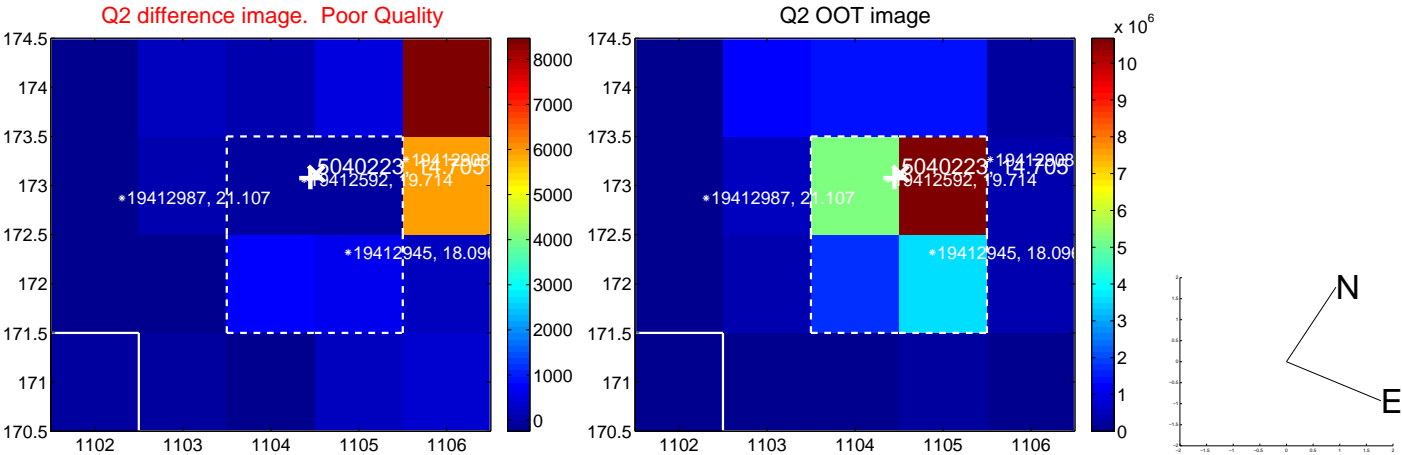
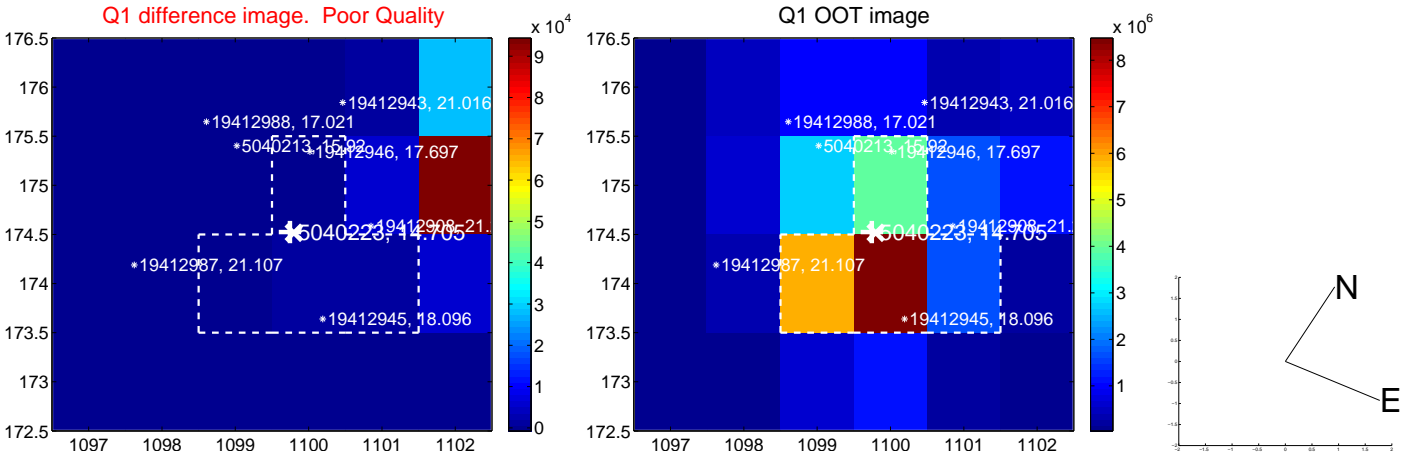
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	25.56 \pm 1.34	19.14	13.04 \pm 1.30	21.98 \pm 1.35

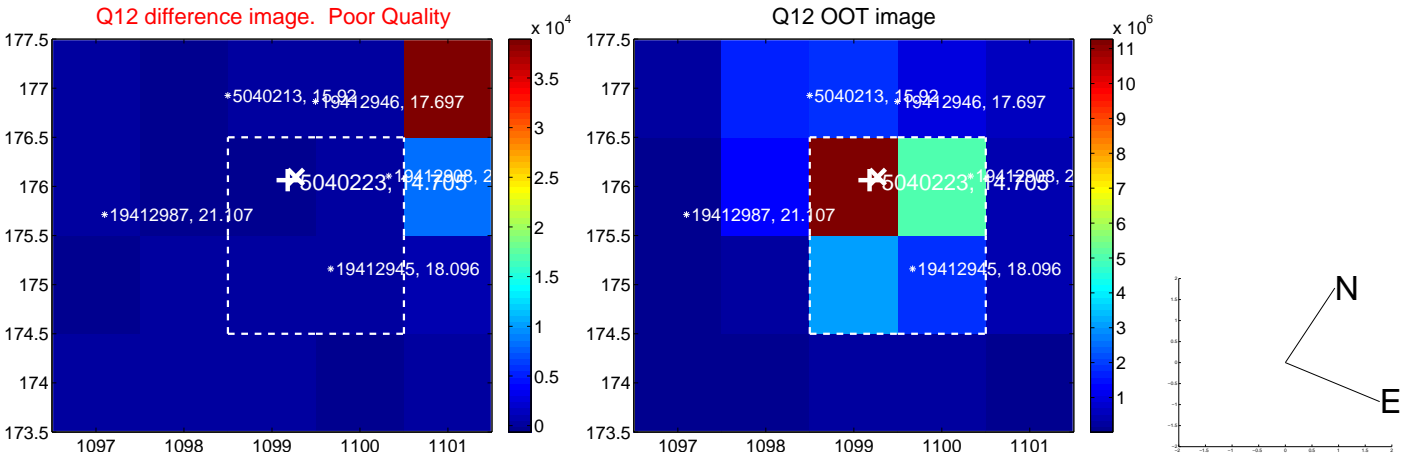
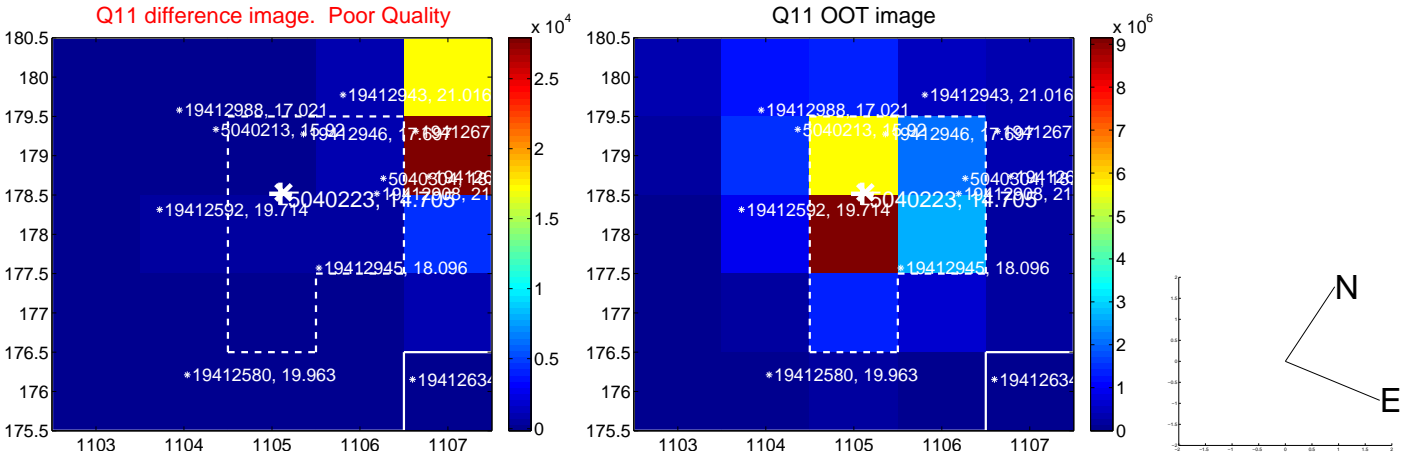
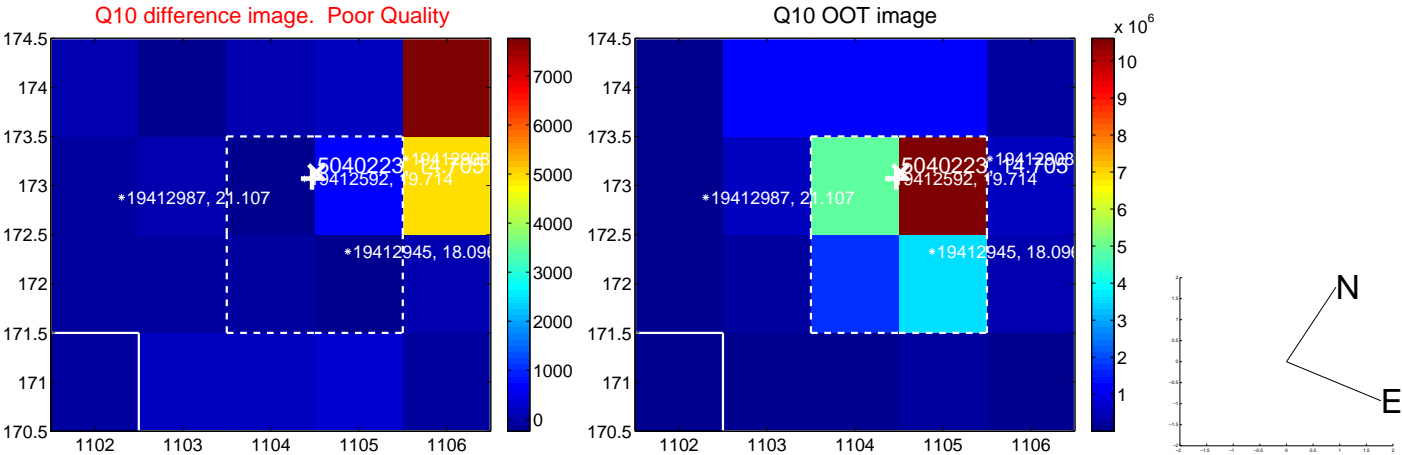
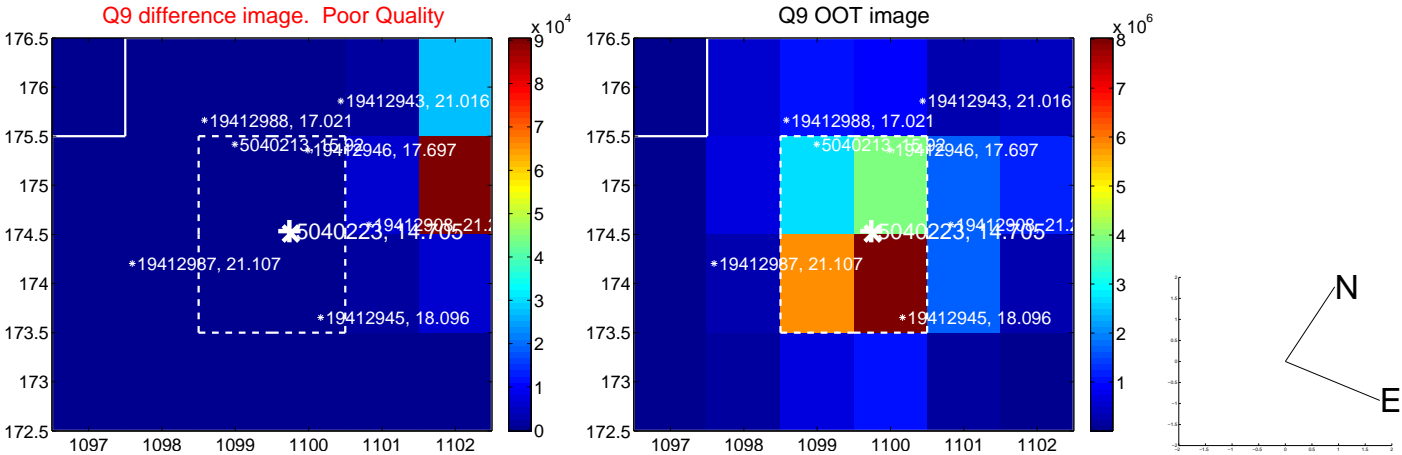


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

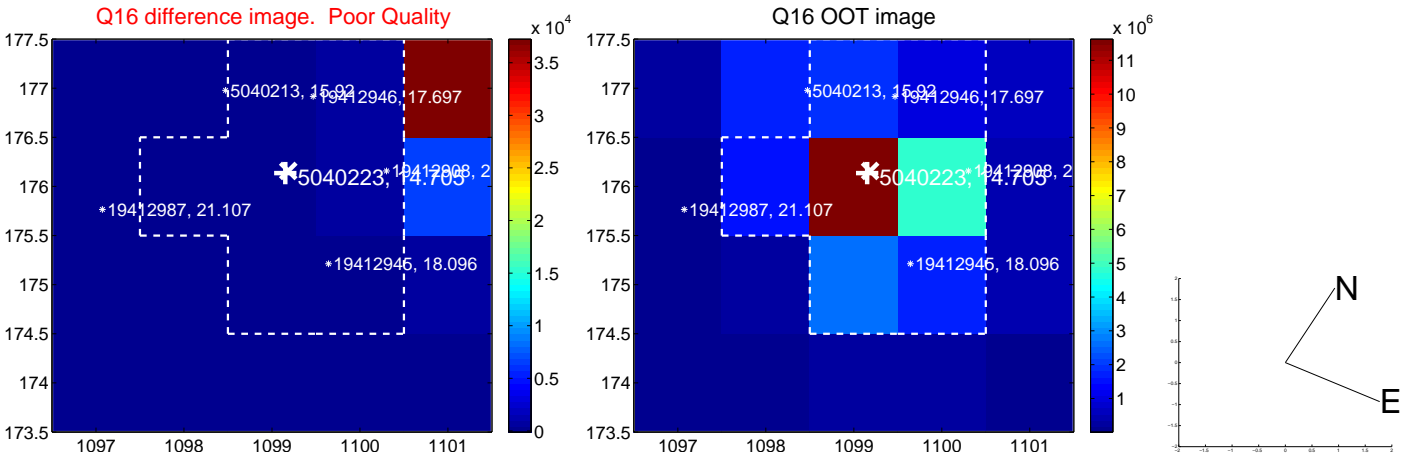
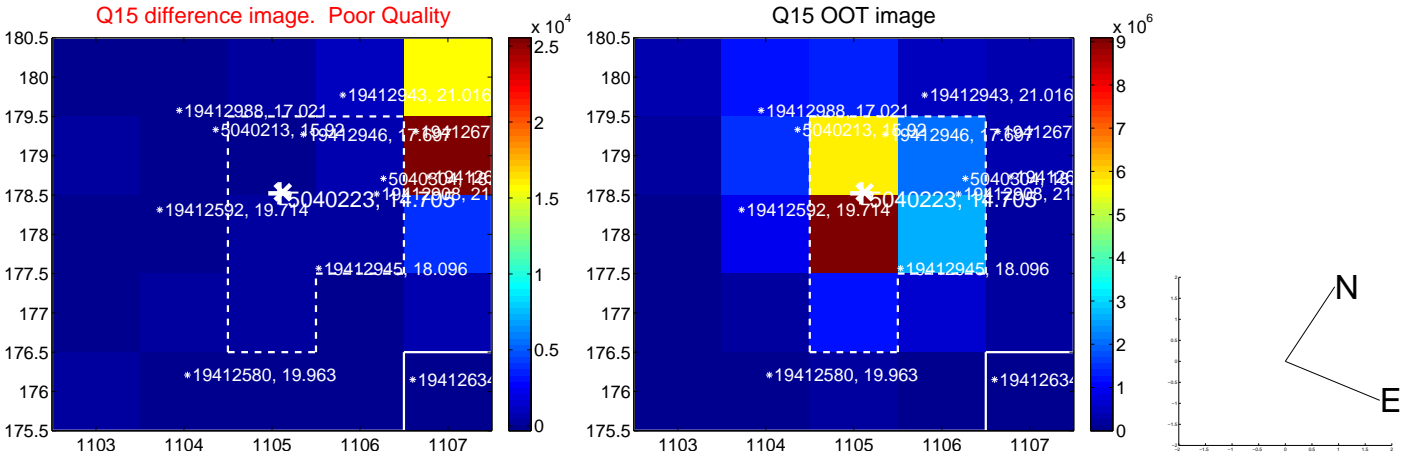
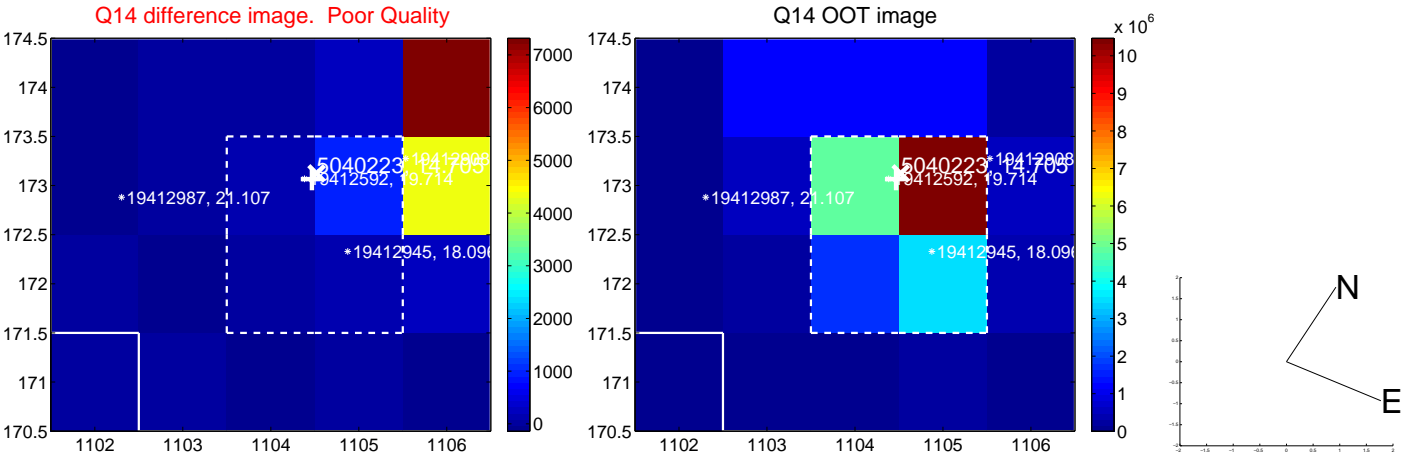
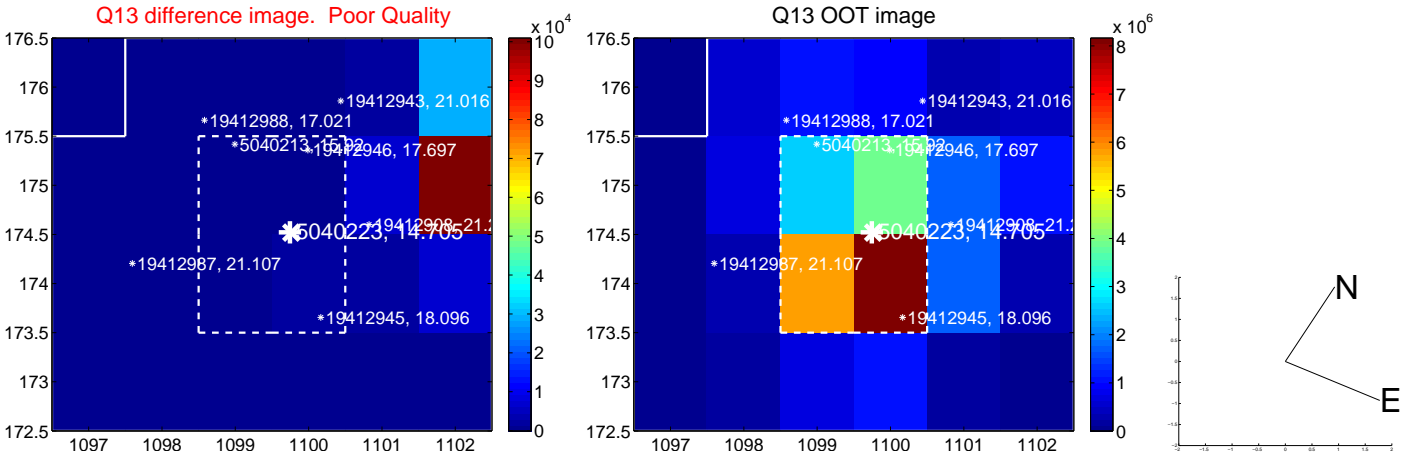
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



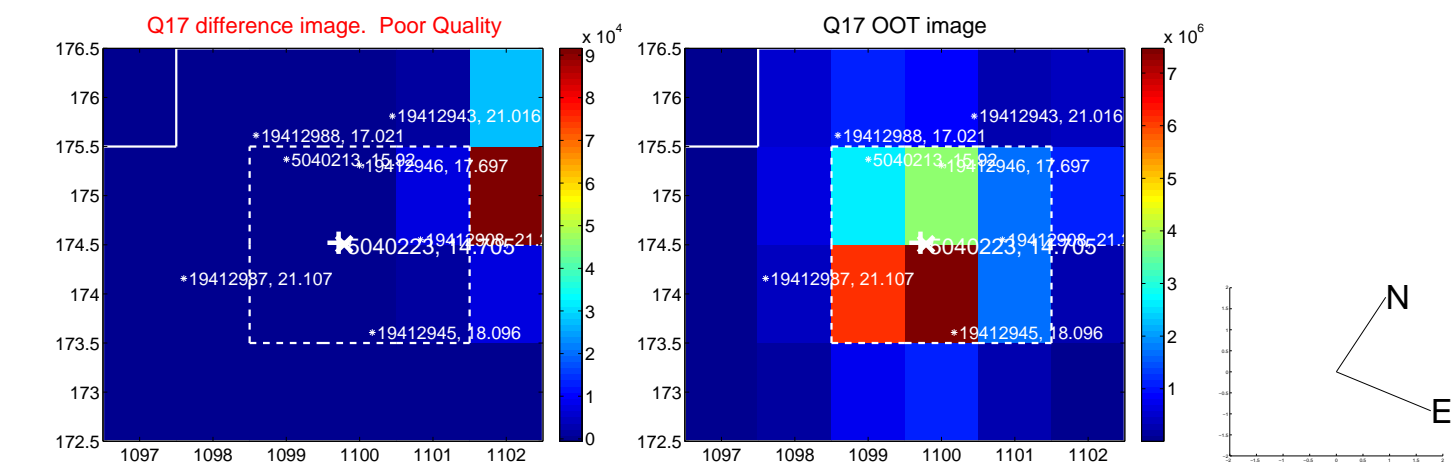
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



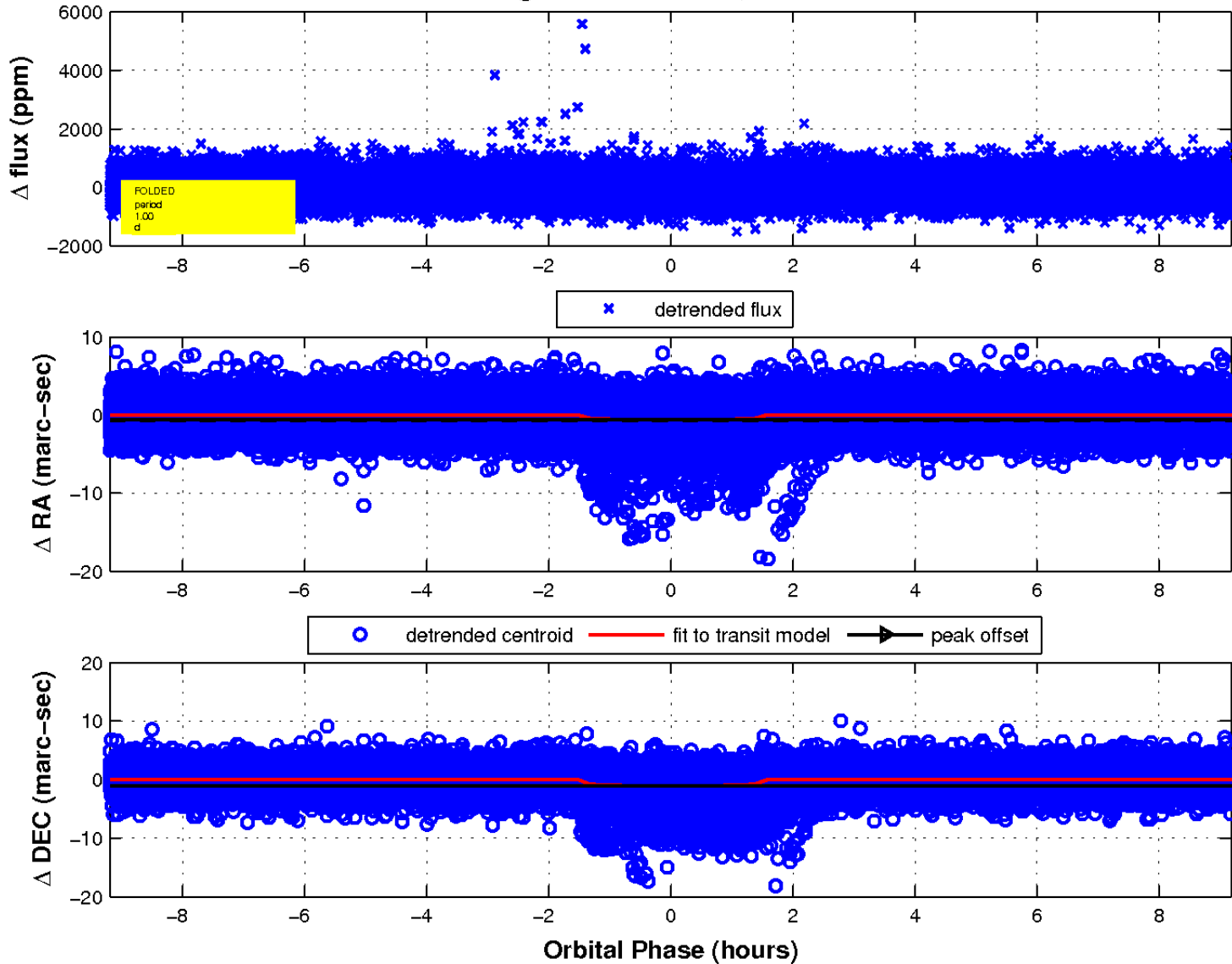
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

