

KIC 010231017

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})
010231017-01	OBS	No	1.324223	132.312377	19.5	4.488	9.1	5.8	13.60	6223	7.04	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010231017-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

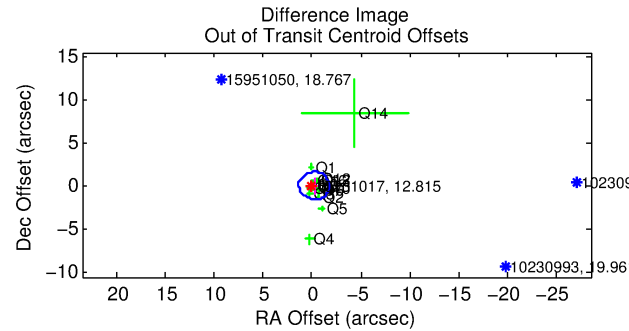
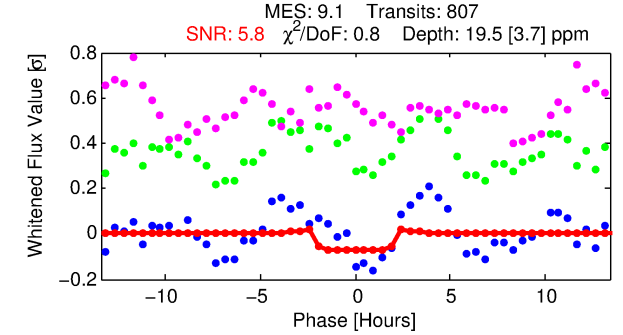
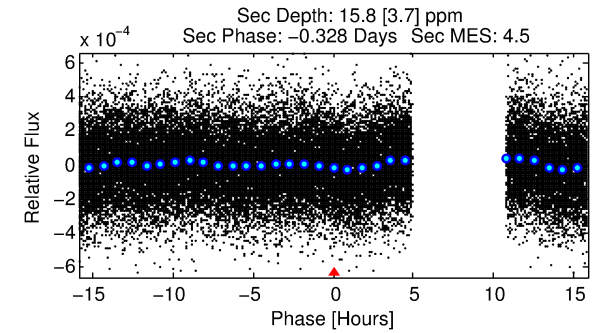
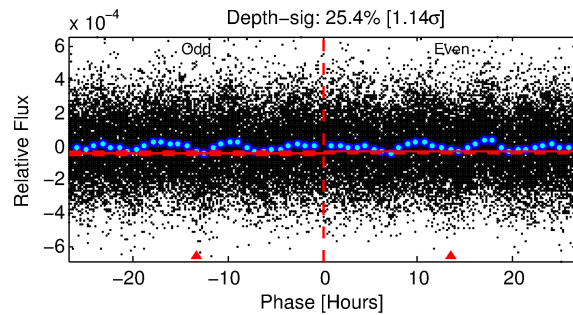
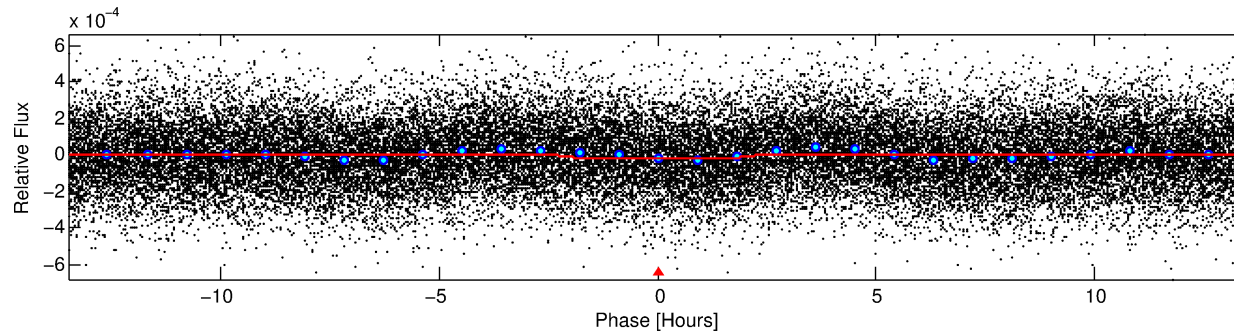
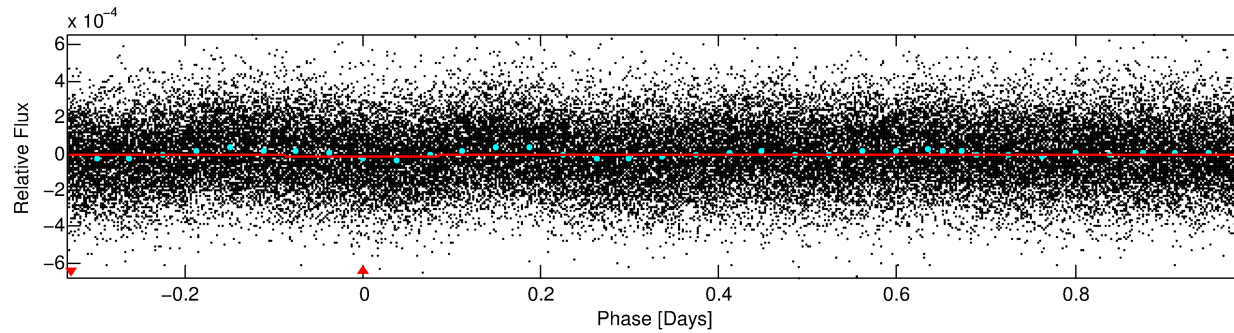
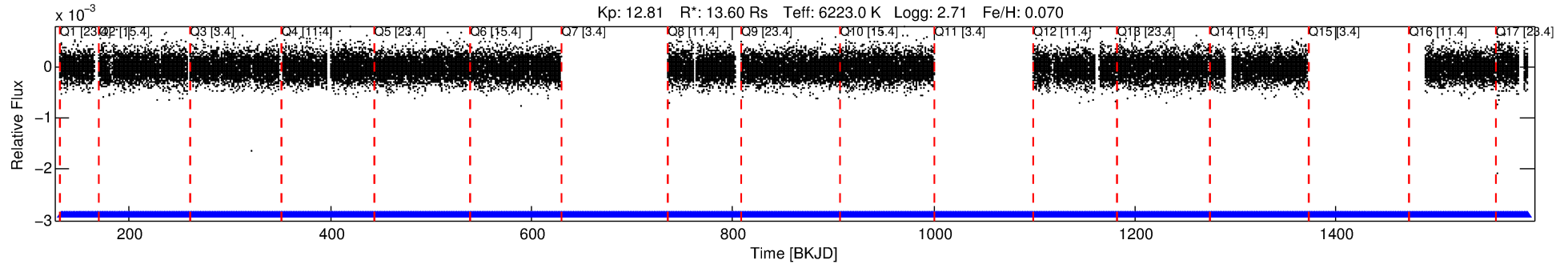
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010231017-01

No Significant Match Found

DV One-Page Summary

KIC: 10231017 Candidate: 1 of 1 Period: 1.324 d



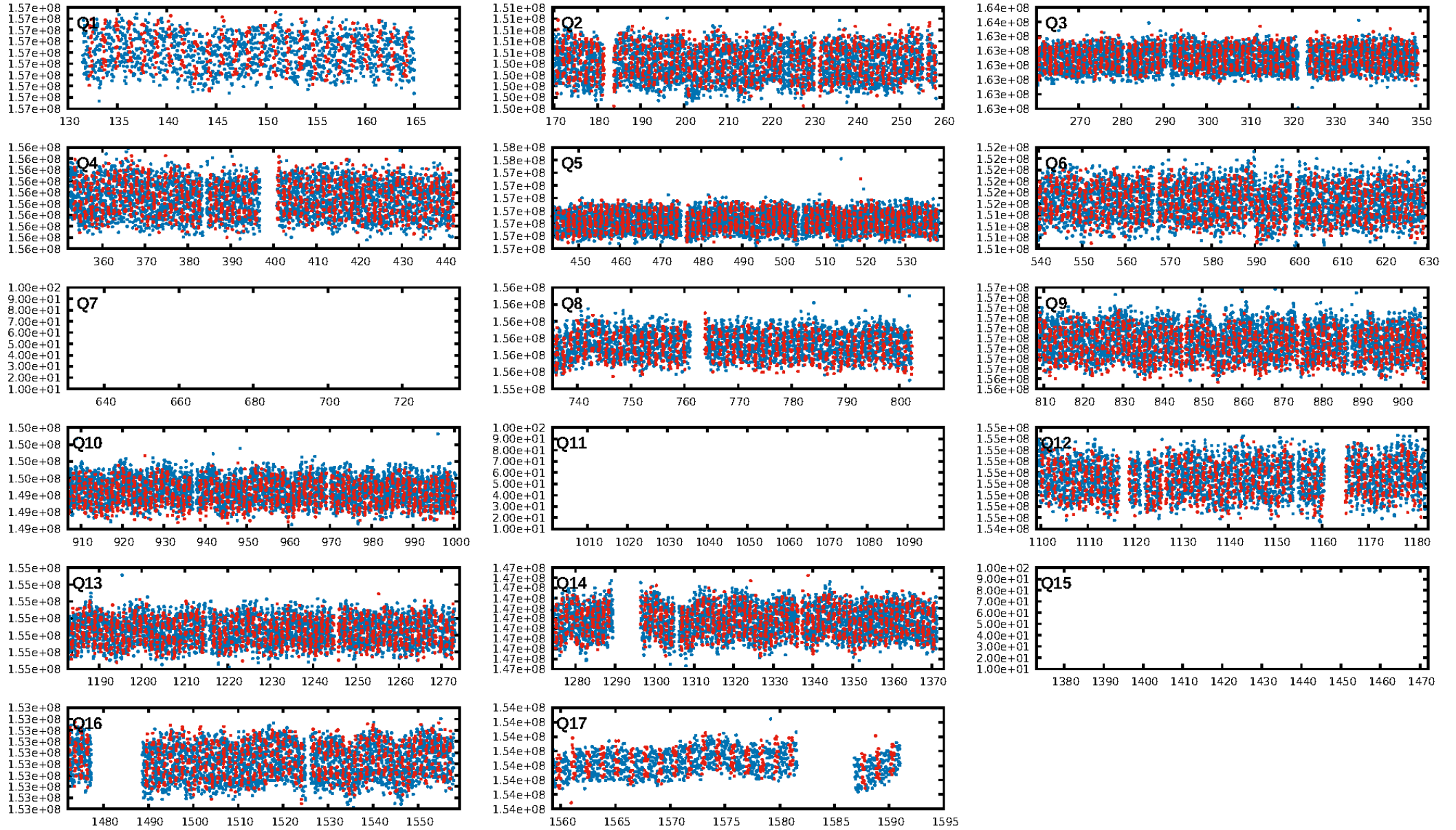
DV Fit Results:

Period = 1.32422 [0.00002] d
Epoch = 132.3124 [0.0059] BKJD
Rp/R* = 0.0047 [0.0022]
a/R* = 1.37 [1.67]
b = 0.90 [0.55]
Seff = N/A
Teq = N/A
Rp = 7.04 [3.99] Re
a = N/A
Ag = N/A
Teffp = N/A

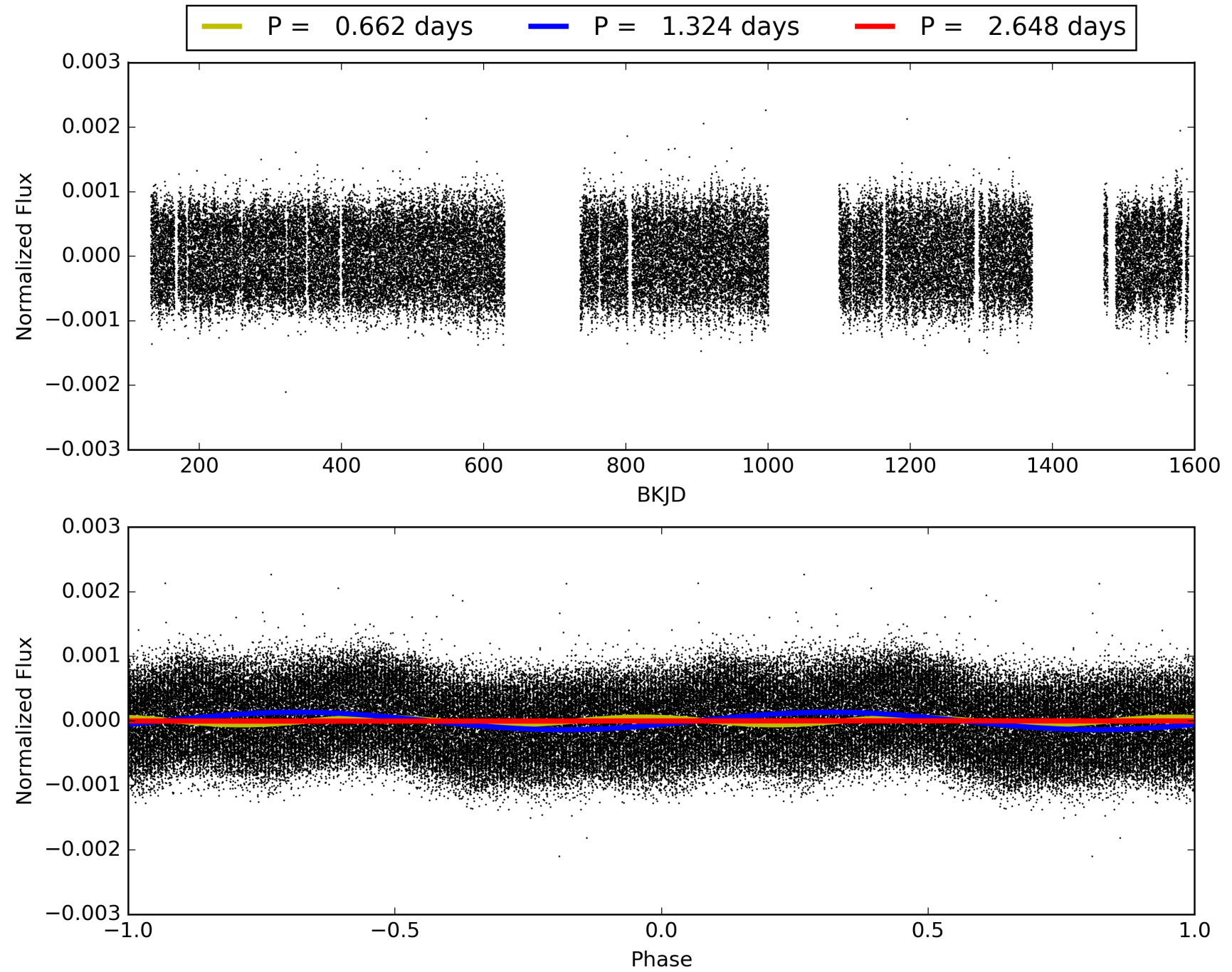
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.17e-16
RollingBand-fgt: 1.00 [762/762]
GhostDiagnostic-chr: -4.807
Centroid-sig: 52.5%
Centroid-so: 1.152 arcsec [0.90 σ]
OotOffset-rm: 0.229 arcsec [0.44 σ]
KicOffset-rm: 0.235 arcsec [0.45 σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.43 [6/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010231017-01, PDC Light Curves

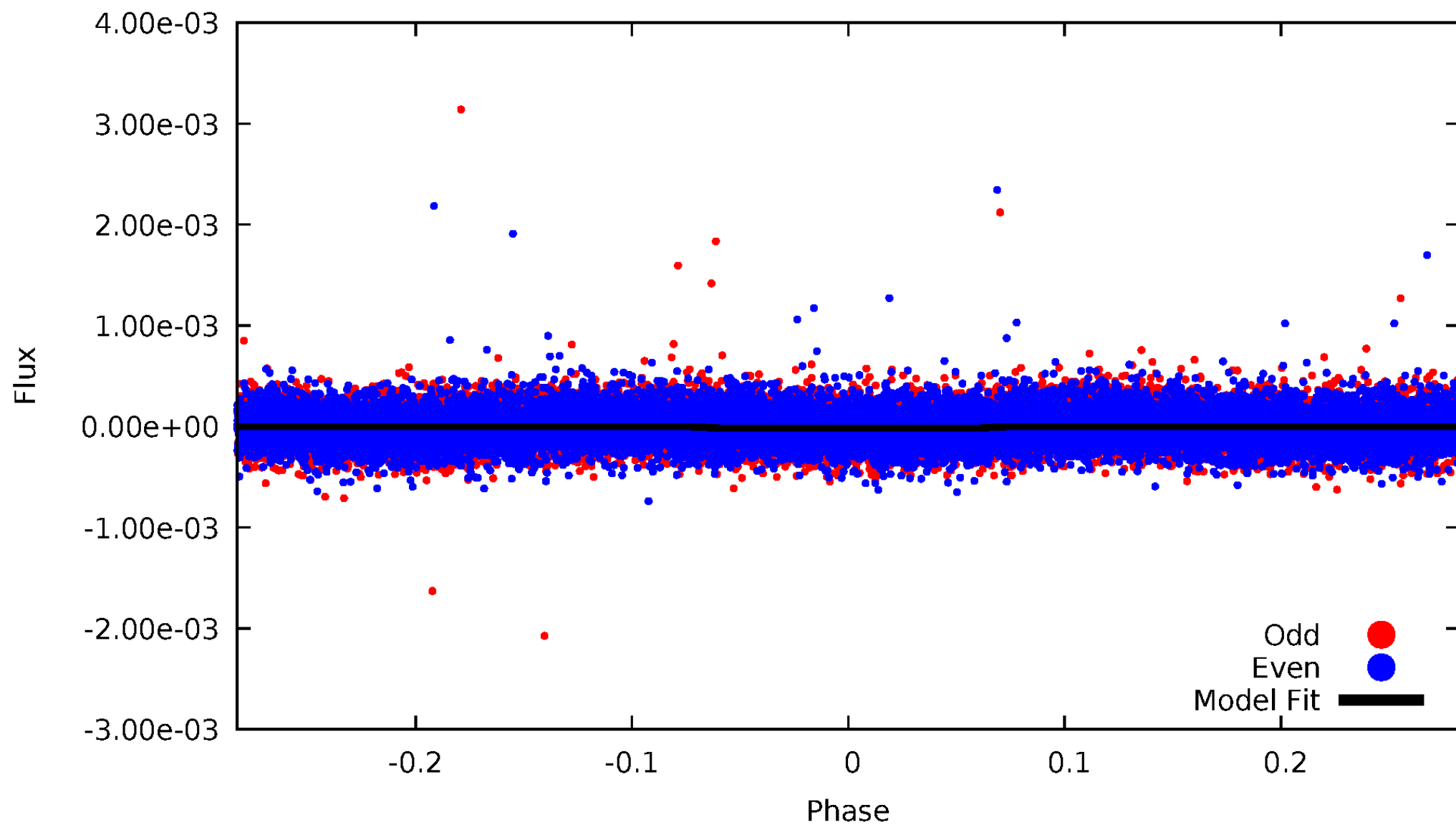


TCE 010231017-01



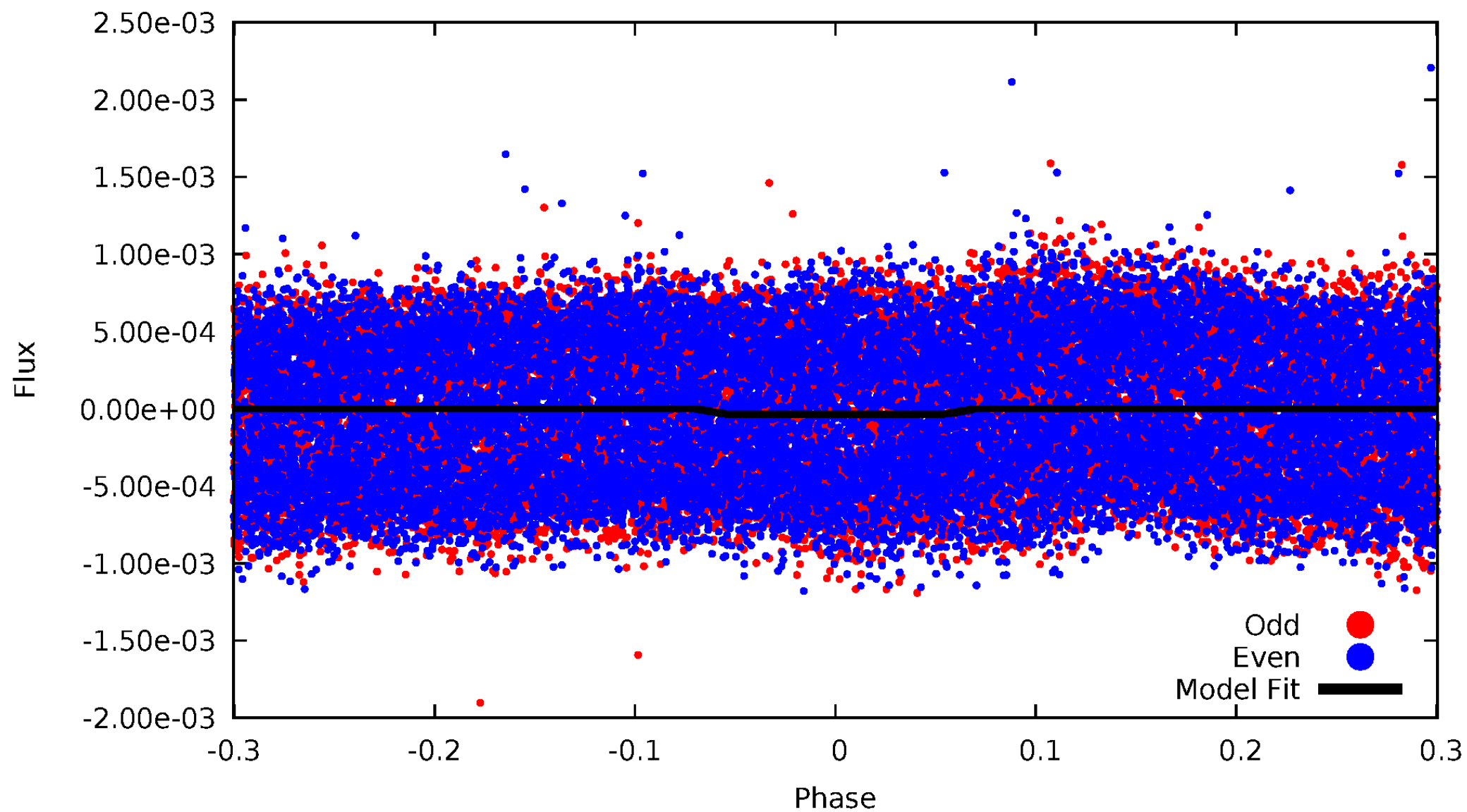
DV Odd/Even

TCE 010231017-01



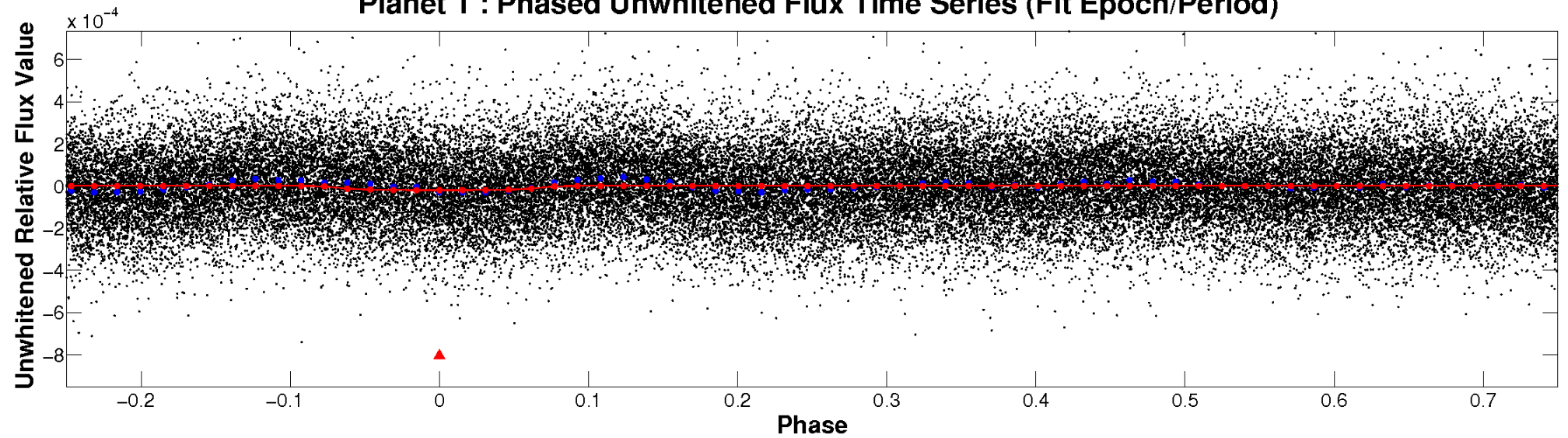
ALT Odd/Even

TCE 010231017-01

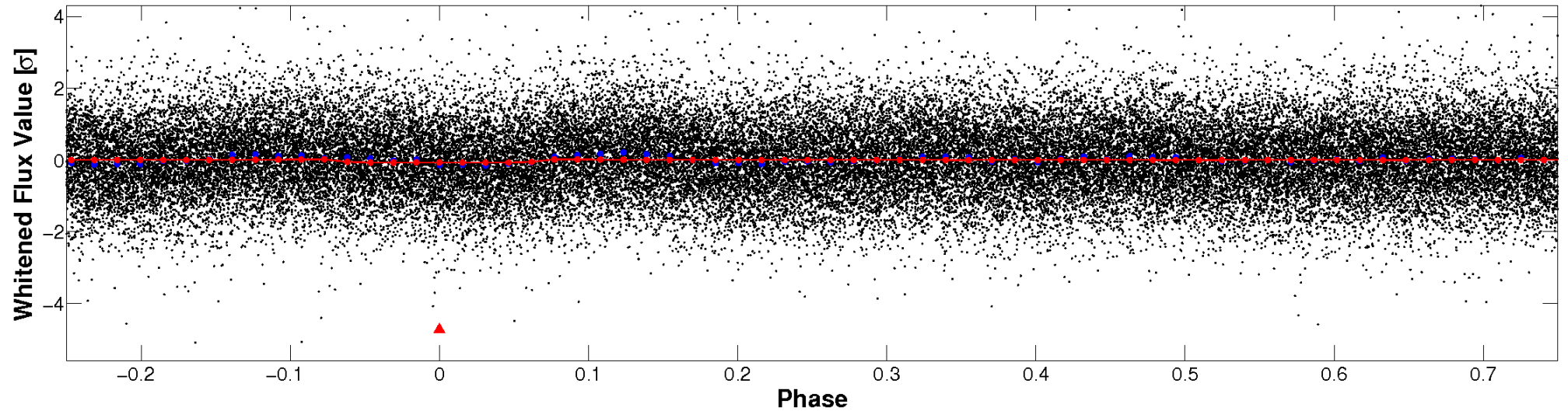


Non-Whitened Vs. Whitened Light Curve

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

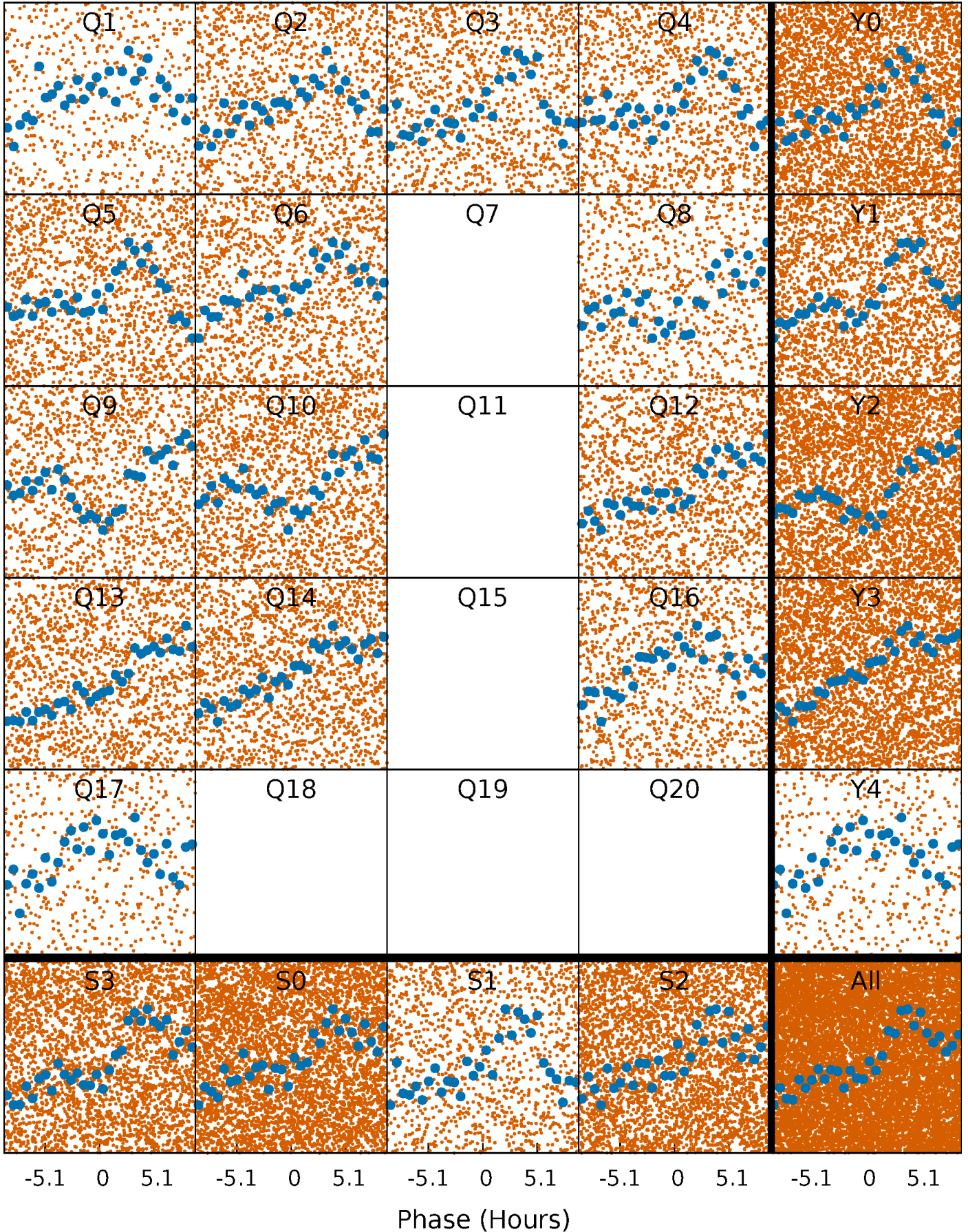


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



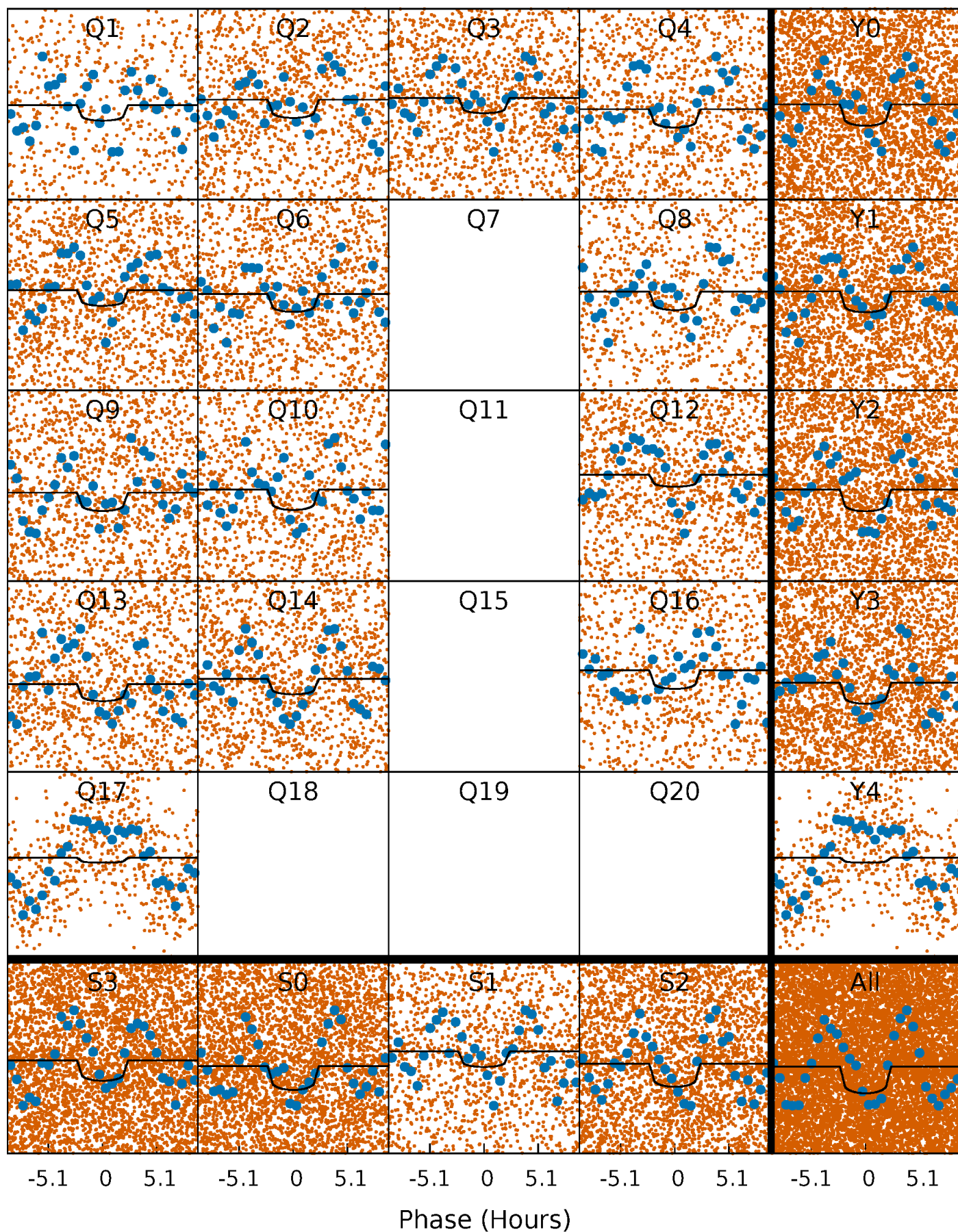
PDC Quarter-Phased Transit Curves

TCE 010231017-01 P= 1.324223 Days $T_0=132.312377$ (BKJD)



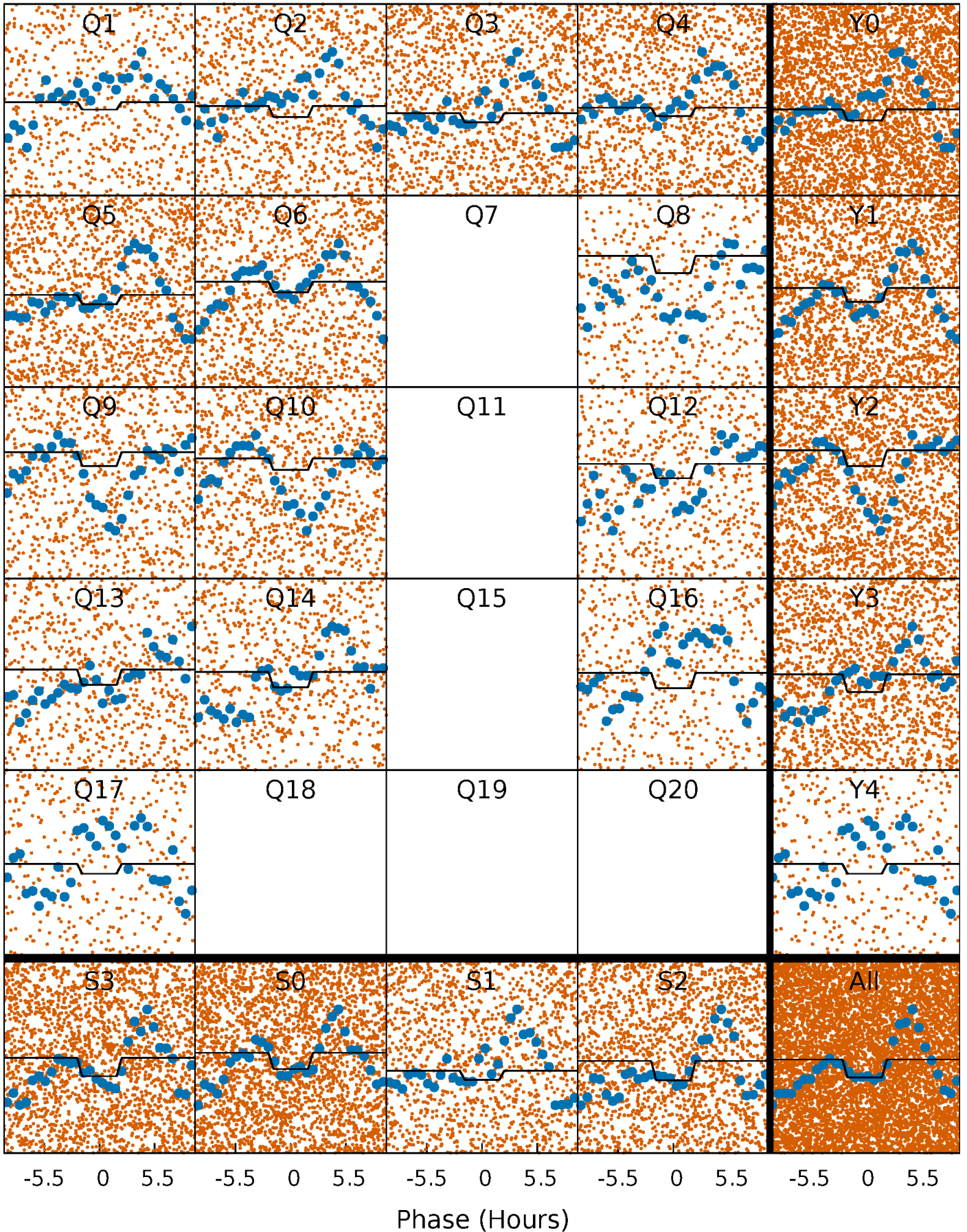
DV Quarter-Phased Transit Curves

TCE 010231017-01 P= 1.324223 Days $T_0=132.312377$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

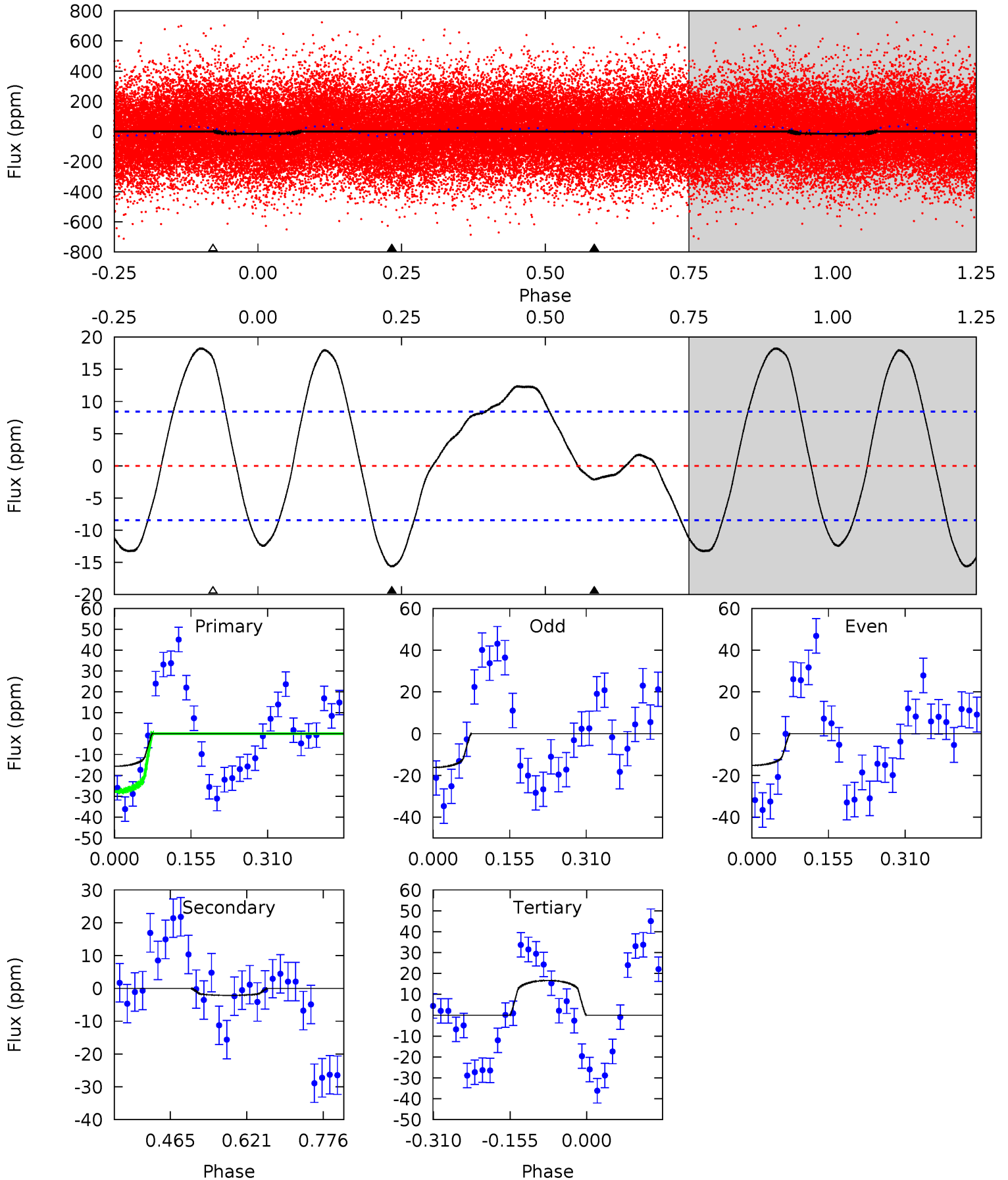
TCE 010231017-01 P= 1.324184 Days $T_0=132.297985$ (BKJD)



DV Model-Shift Uniqueness Test

010231017-01, P = 1.324223 Days, E = 130.988154 Days

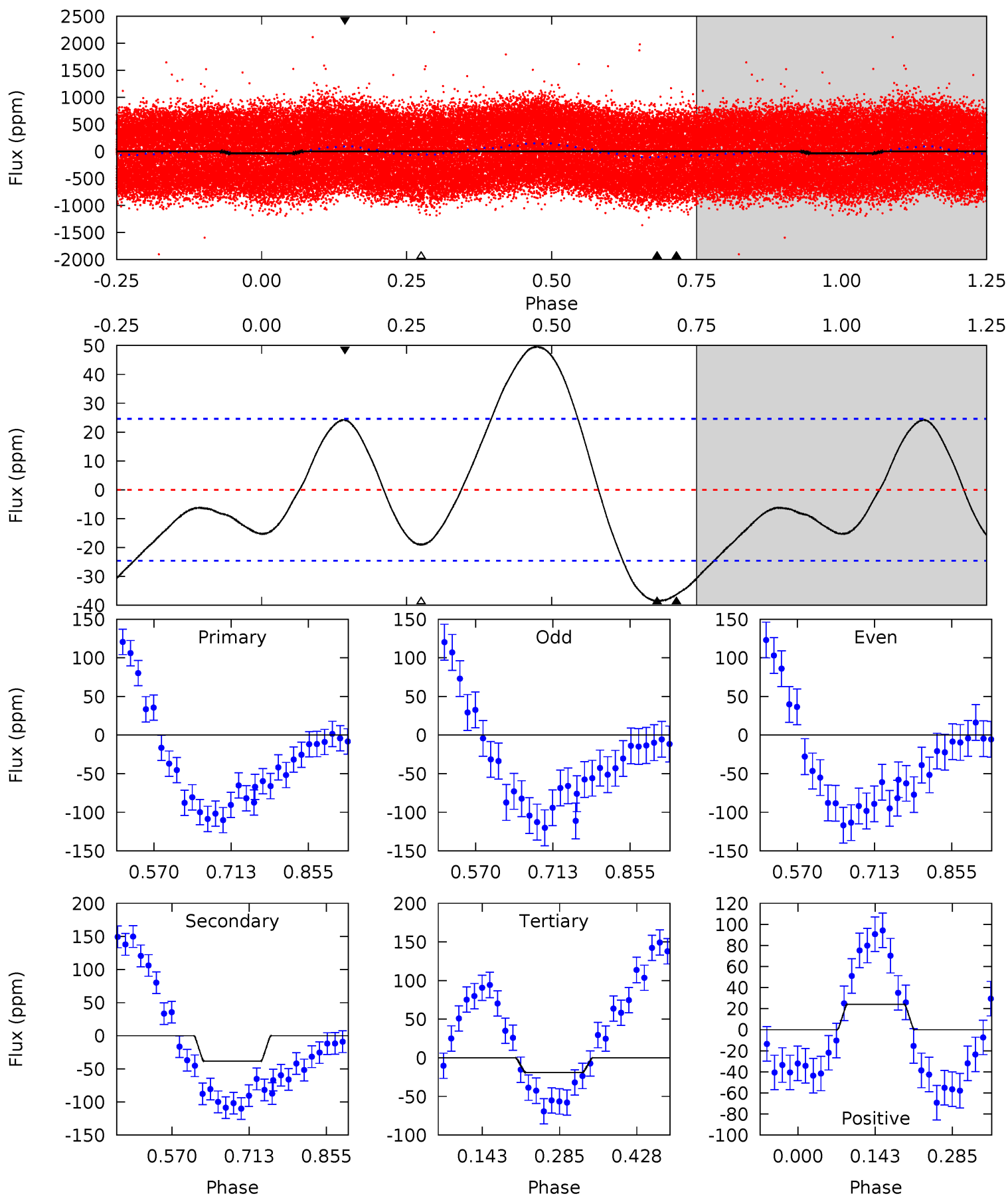
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.28	1.13	-8.83	0	4.47	1.42	5.70	17.1	8.28	9.96	1.13	0.27	0.90	0.54	6.32



Alt Model-Shift Uniqueness Test

010231017-01, P = 1.324184 Days, E = 130.973801 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.62	7.03	3.47	4.42	4.49	1.47	3.90	3.16	2.20	3.57	2.61	0.31	1.08	0.56	0.35



Stellar Parameters For KIC 010231017

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6223^{+201}_{-227}	$2.712^{+0.264}_{-0.154}$	$0.070^{+0.250}_{-0.600}$	$13.602^{+1.480}_{-4.441}$	$3.480^{+0.070}_{-1.024}$	$0.002^{+0.004}_{-0.001}$
	+3%/-4%	+10%/-6%	+357%/-857%	+11%/-33%	+2%/-29%	+190%/-29%
Source	PHO1	FLK73	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 010231017-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2 ± 2	$6.79^{+3.13}_{-3.23}$	7483^{+476}_{-607}	-5873^{+809}_{-496}	$0.028^{+0.092}_{-0.025}$
Alt.	-38 ± 5	$8.47^{+3.25}_{-3.18}$	7458^{+456}_{-584}	4104^{+3048}_{-9042}	$0.349^{+0.567}_{-0.164}$

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 $A_{obs} \gg 1.0$

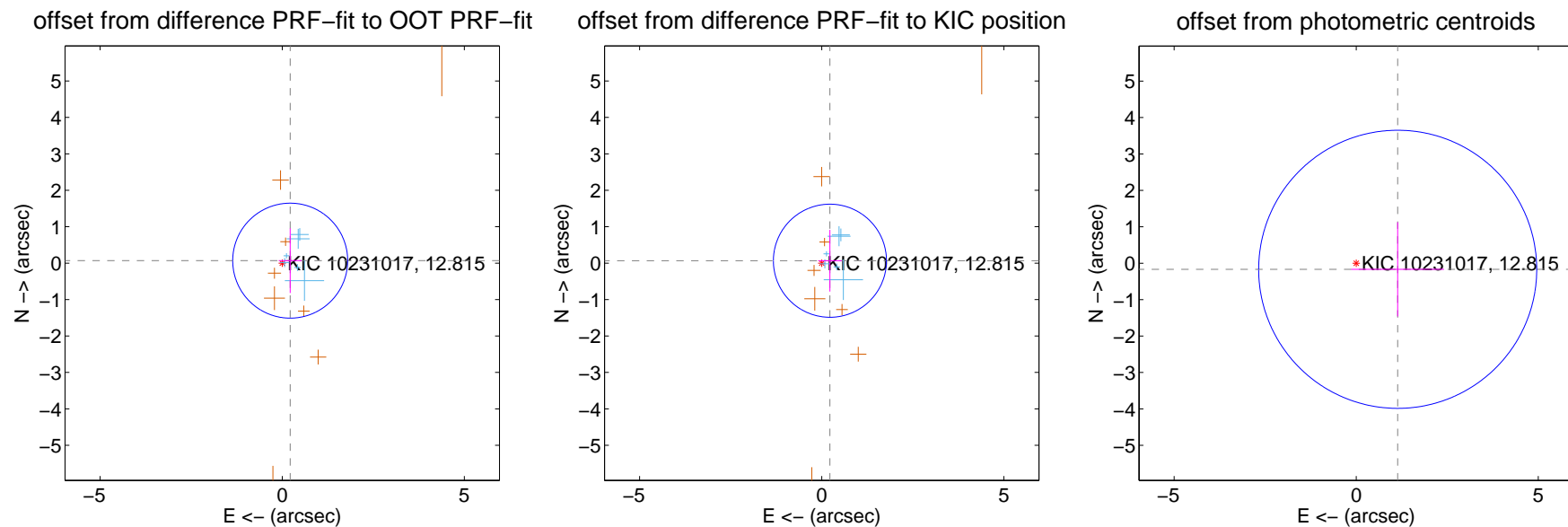
DV Centroid Data

Supplemental centroid analysis for 010231017-01. Kepler magnitude: 12.81. Transit SNR 5.80

There are 6 quarters with good PRF difference image offsets

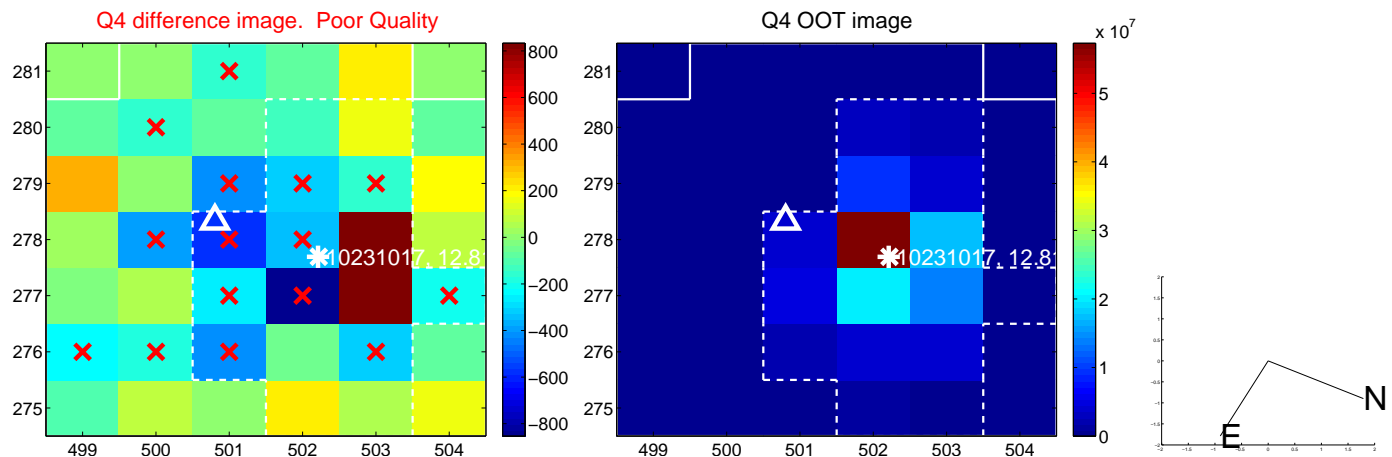
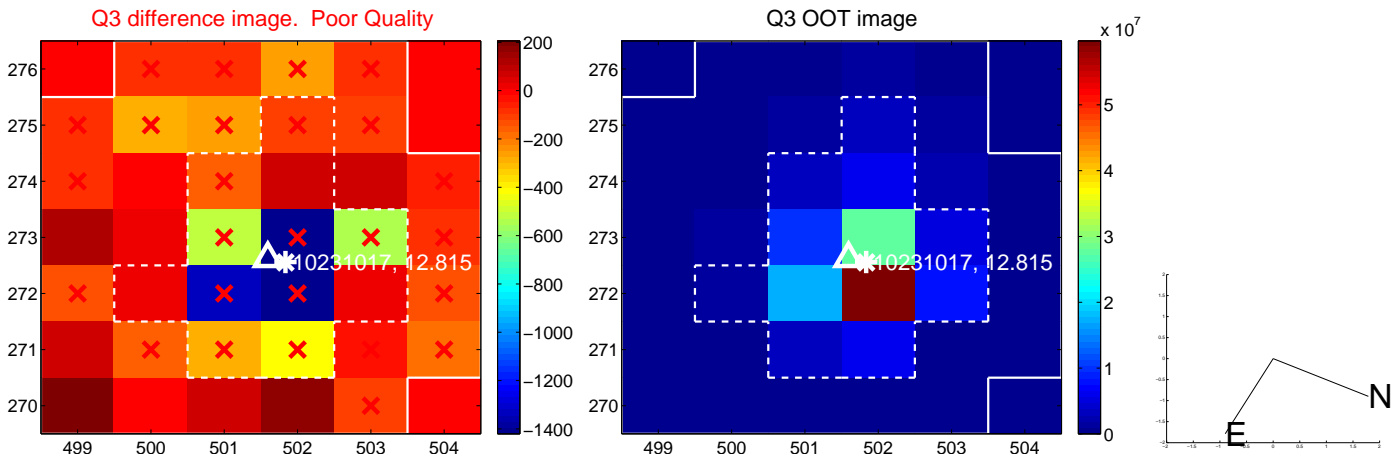
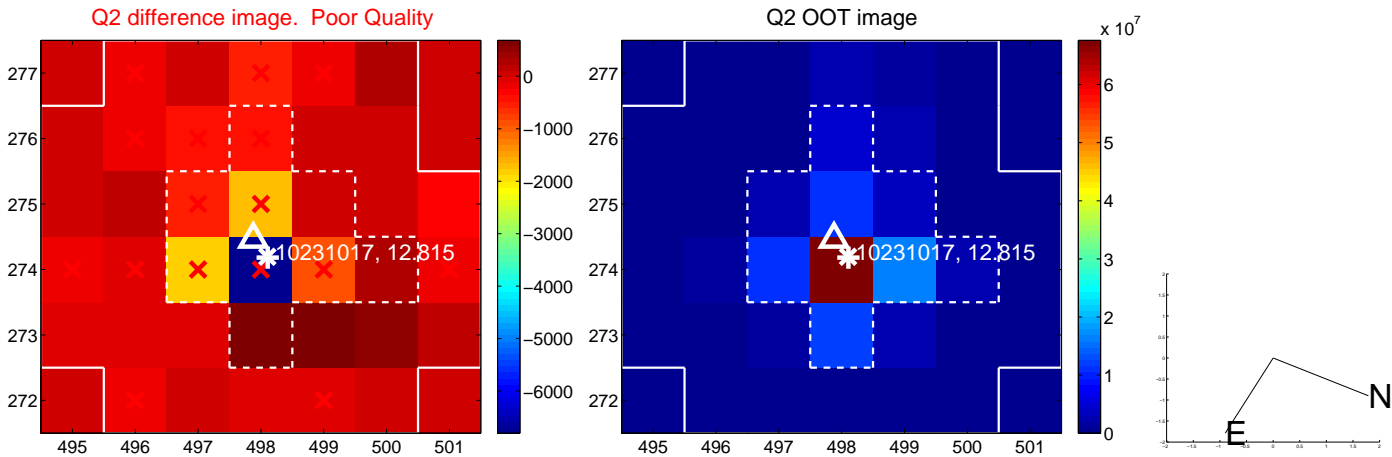
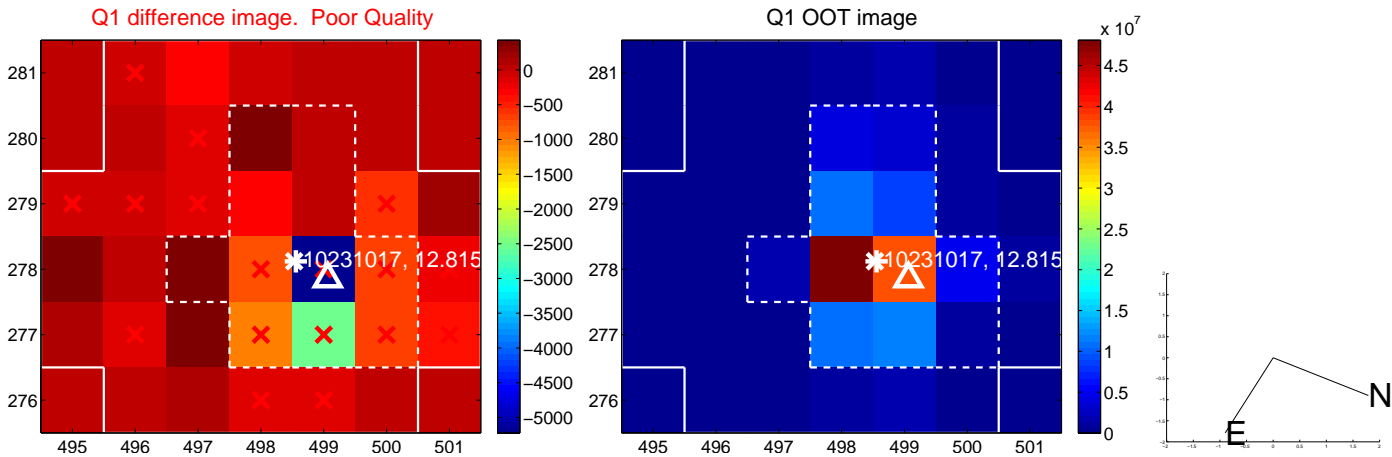
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.229 ± 0.526	0.44	-0.219 ± 0.317	0.068 ± 0.887
PRF-fit source offset from KIC position	0.235 ± 0.517	0.45	-0.226 ± 0.324	0.066 ± 0.846
photometric centroid source offset	1.15 ± 1.27	0.90	-1.14 ± 1.27	-0.17 ± 1.29

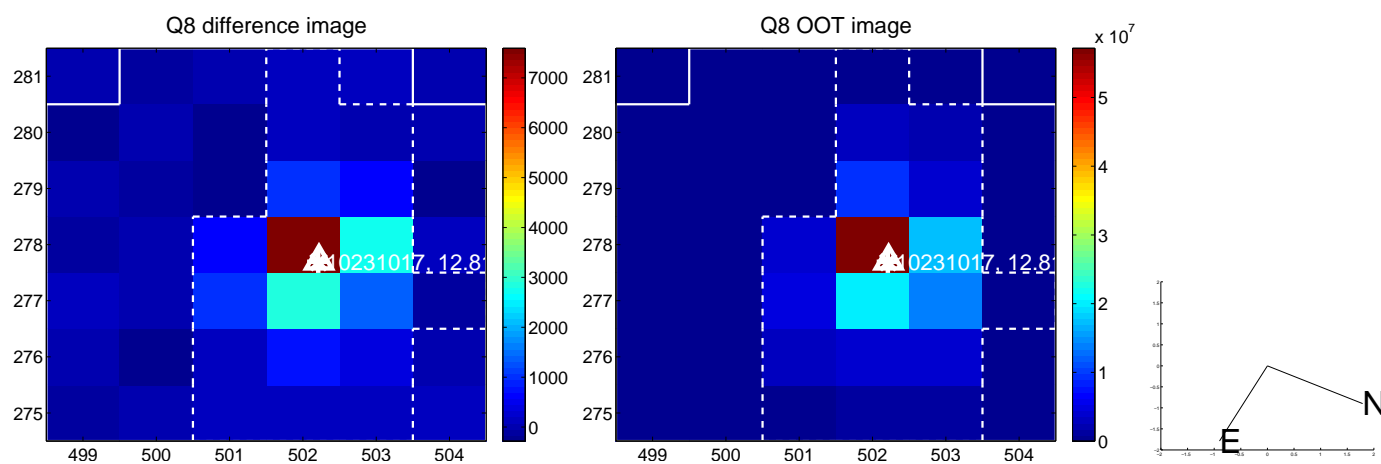
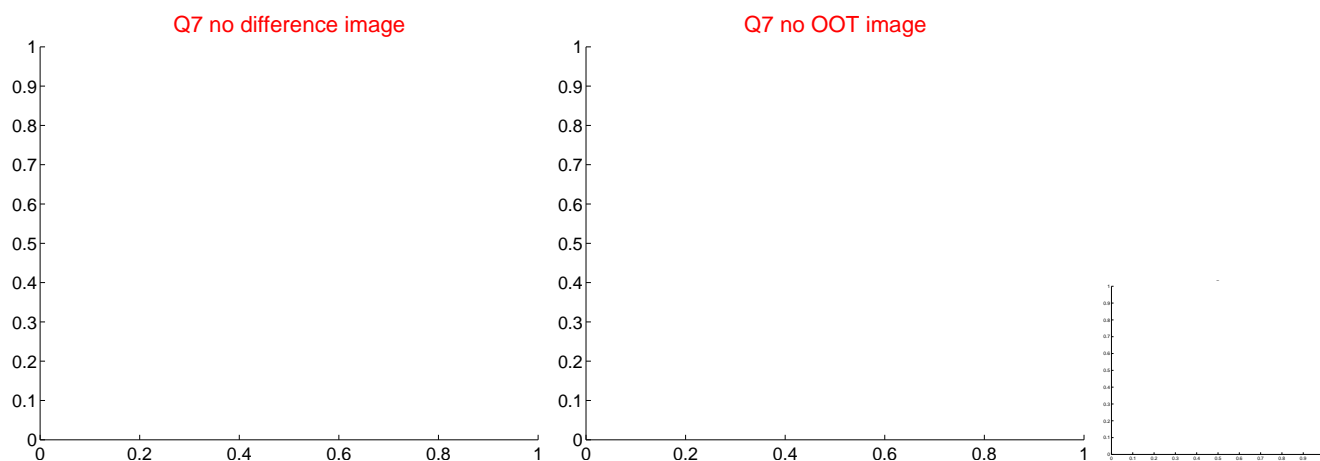
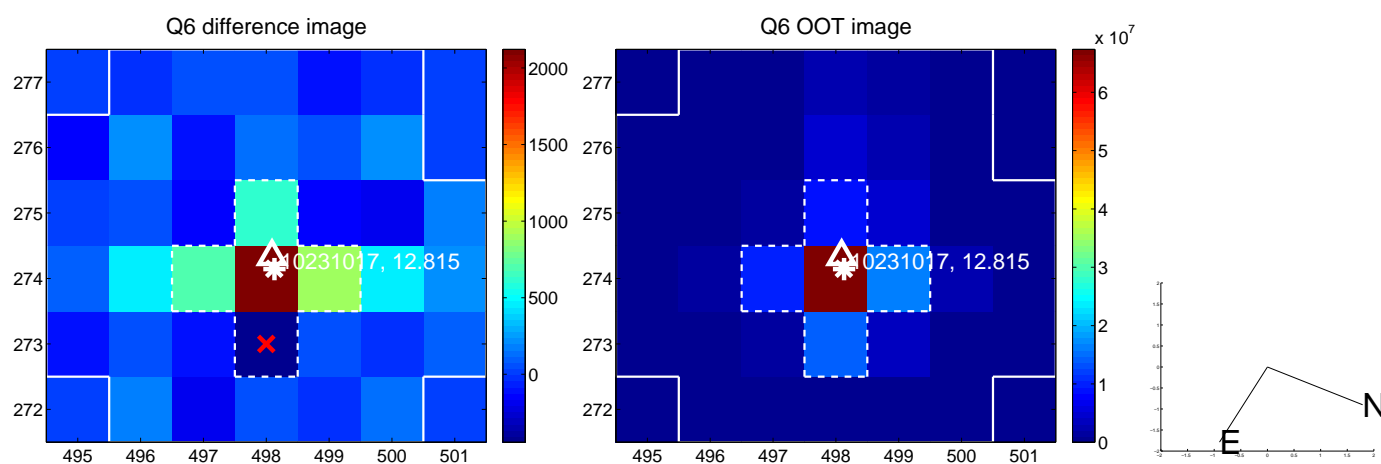
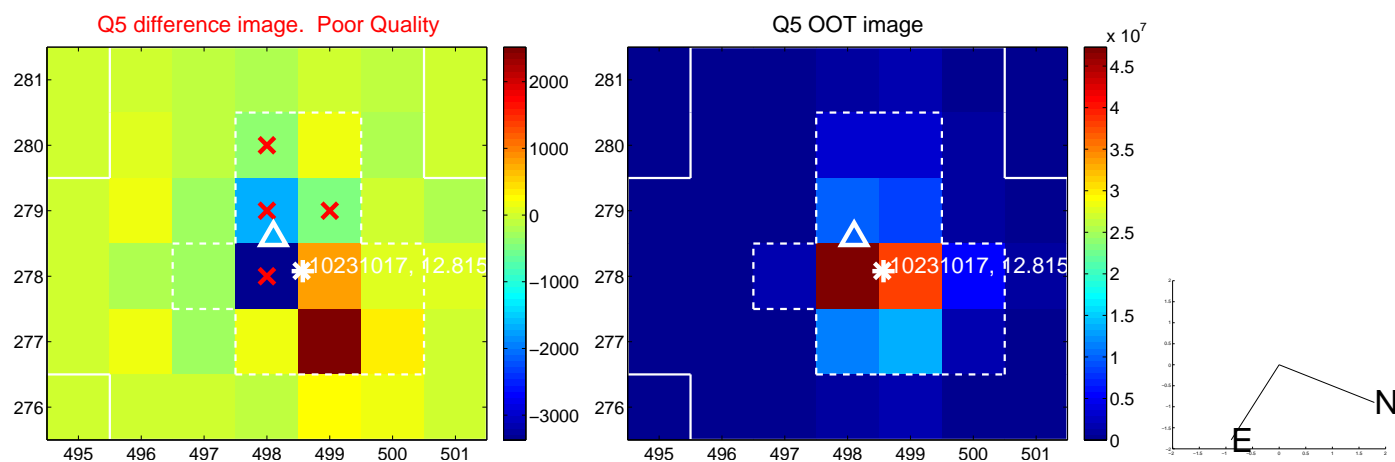


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

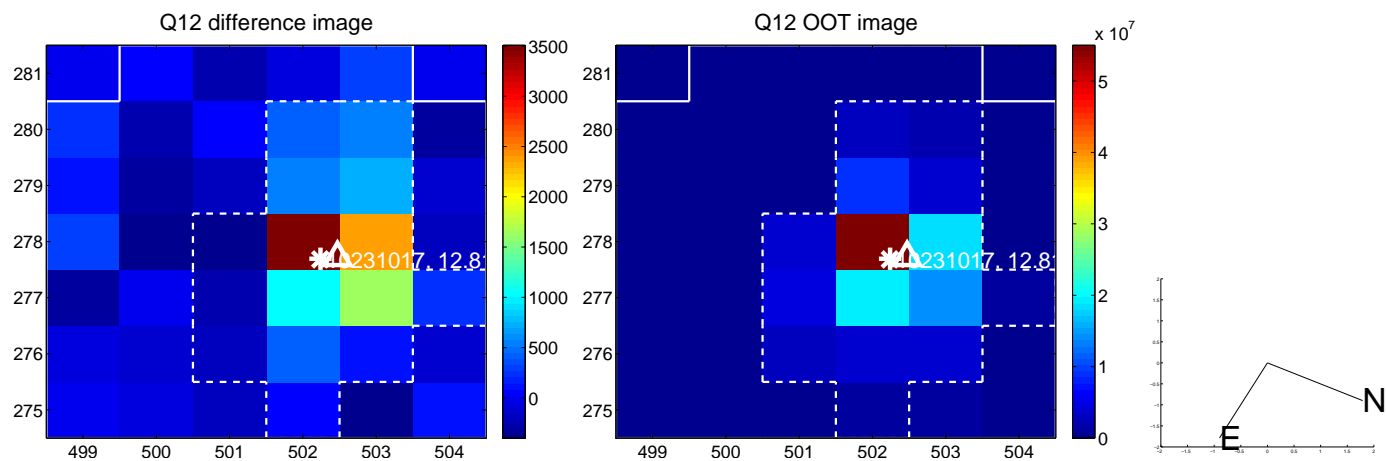
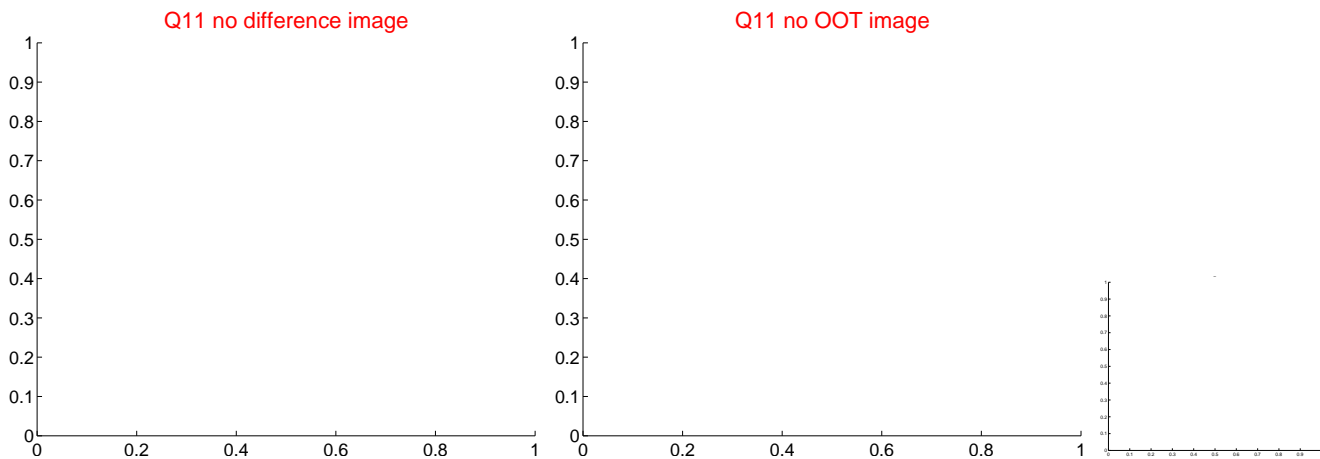
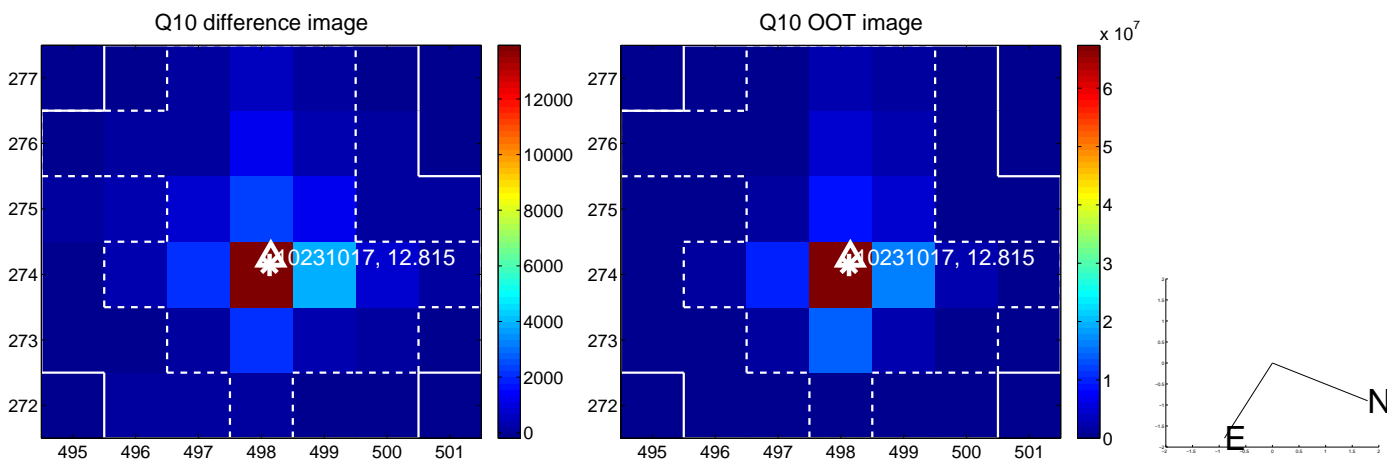
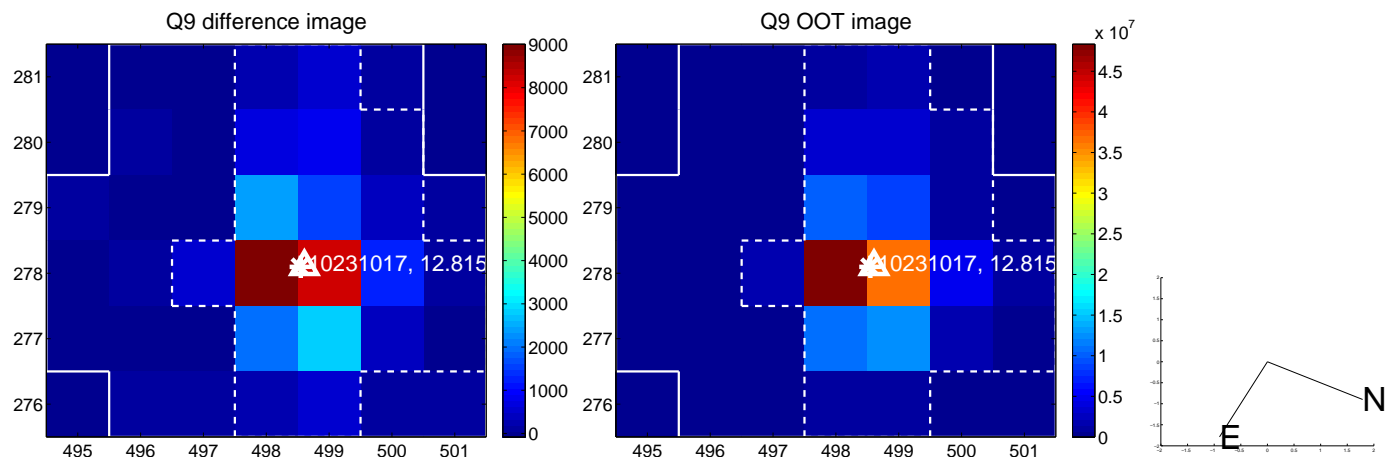
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



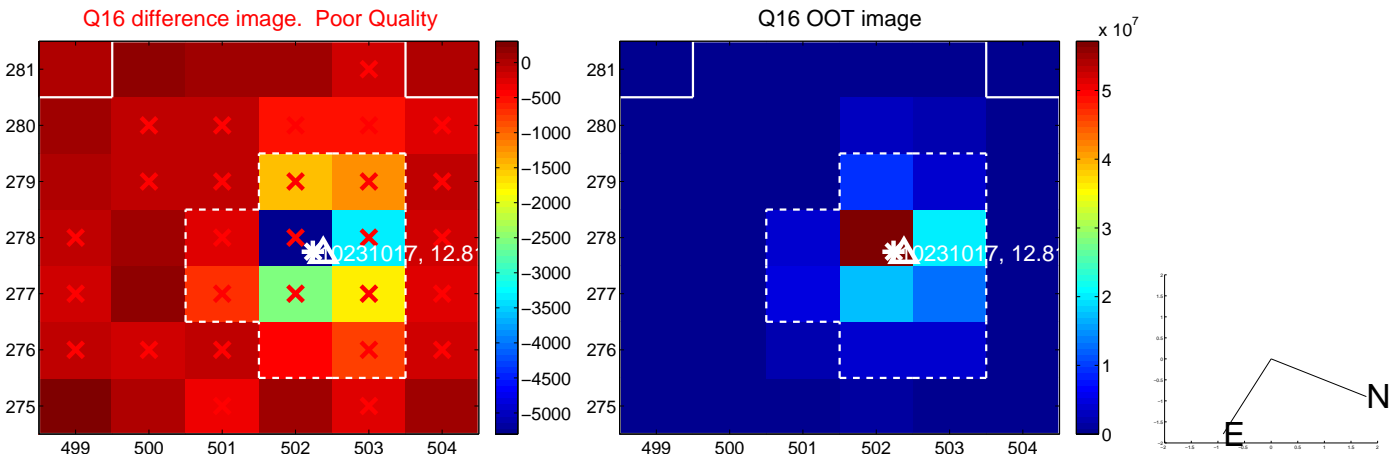
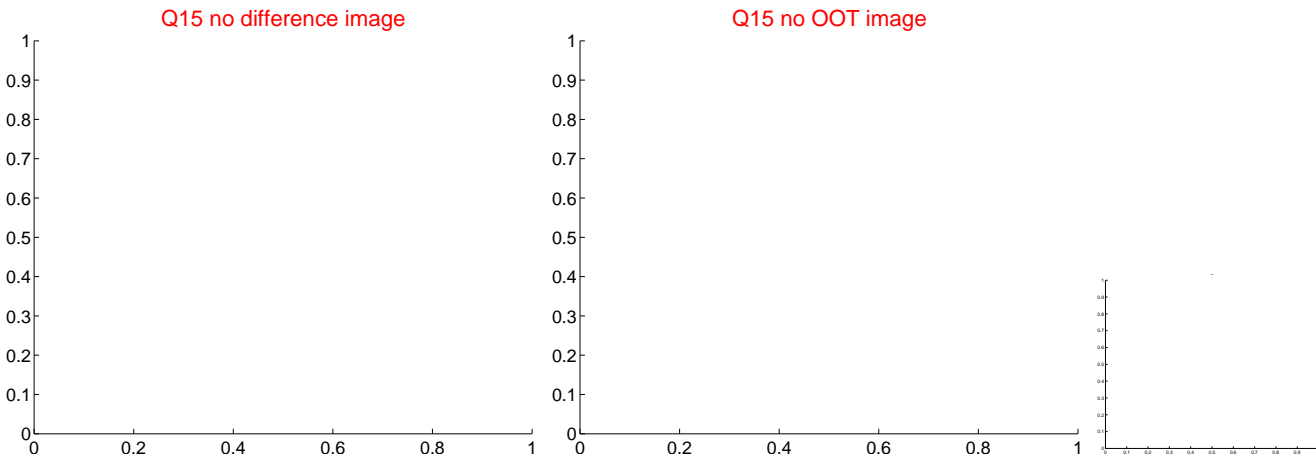
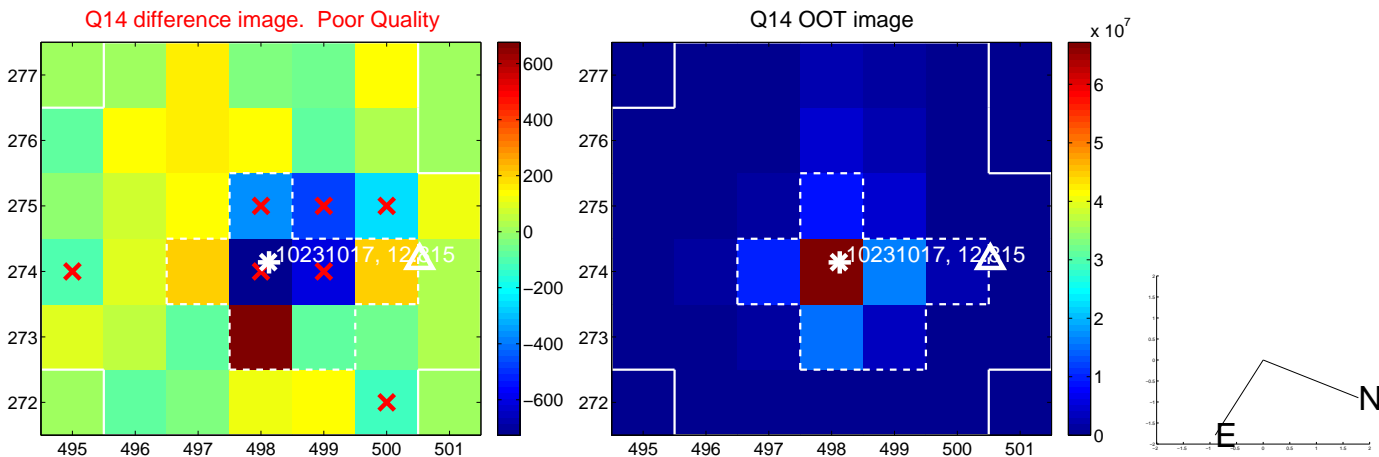
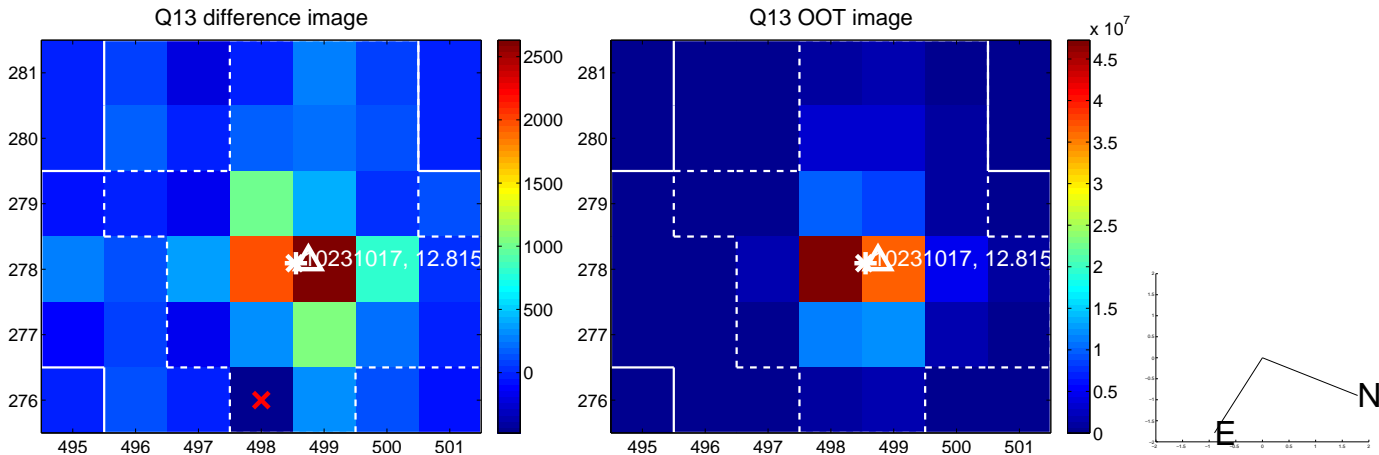
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



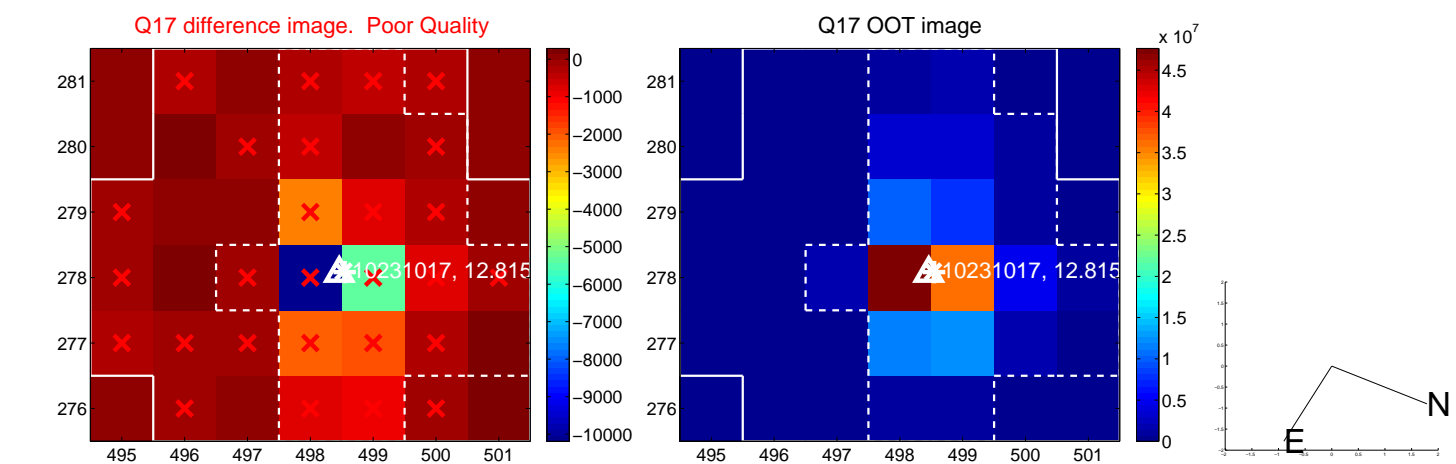
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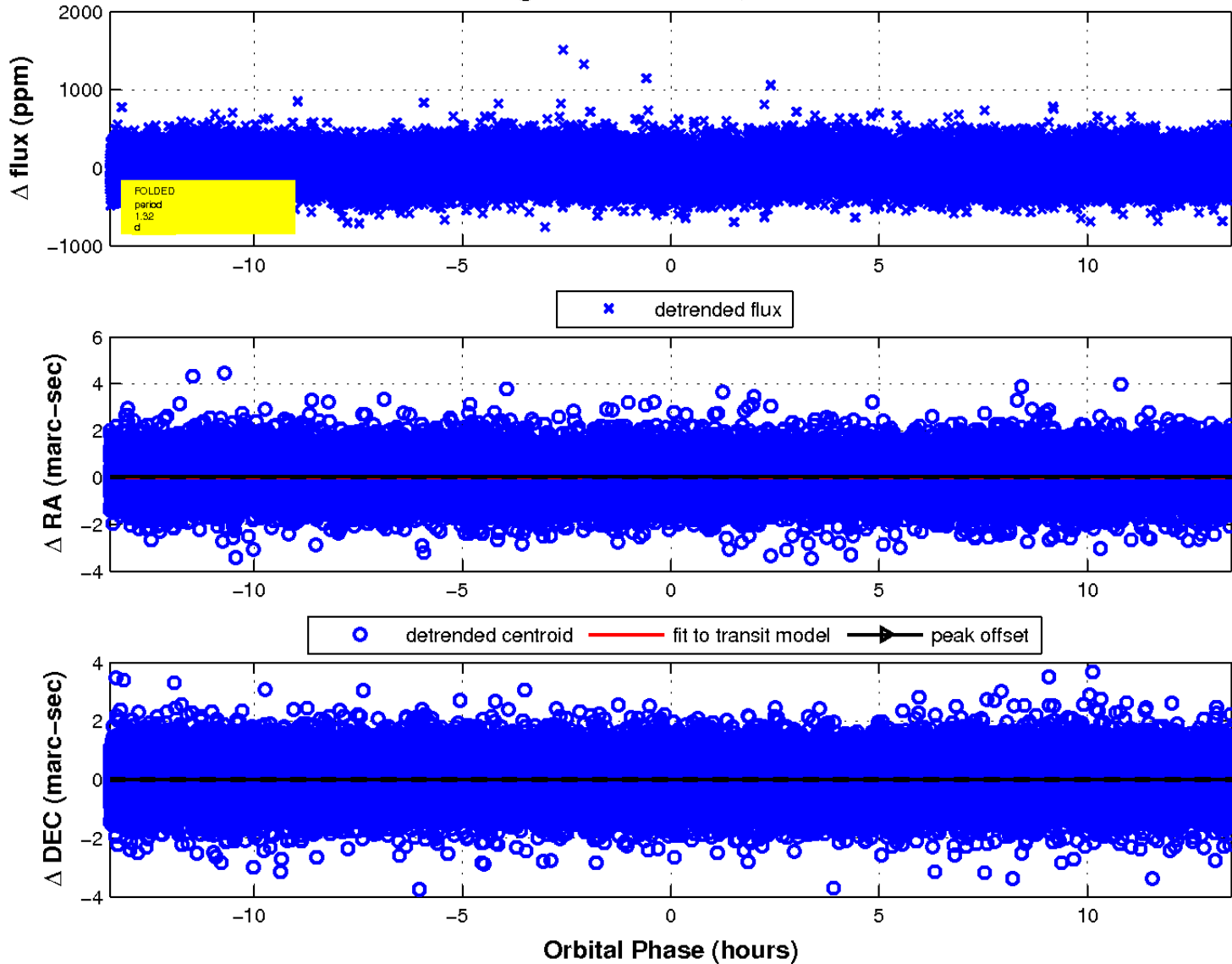
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

