

KIC 010921238

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})
010921238-01	OBS	No	16.321376	140.501303	161.7	42.458	9.3	16.3	0.64	5291	0.89	24.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010921238-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

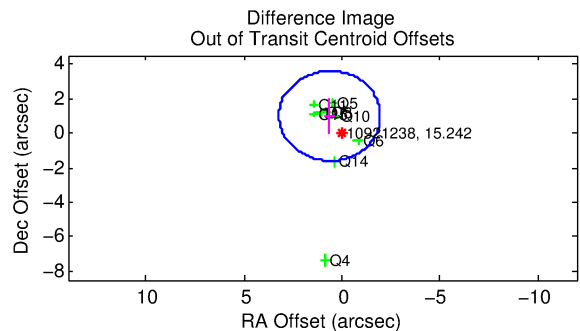
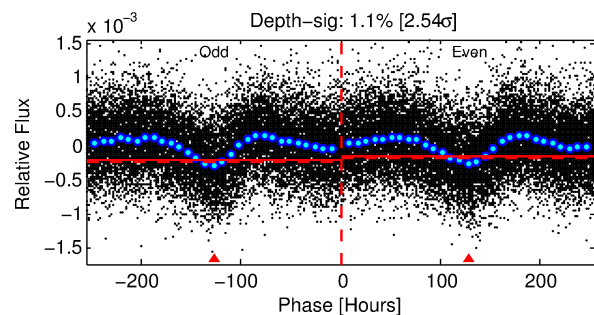
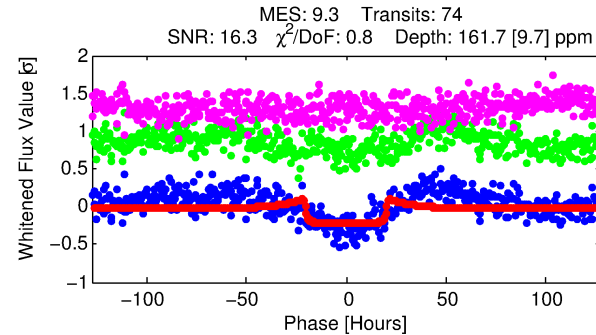
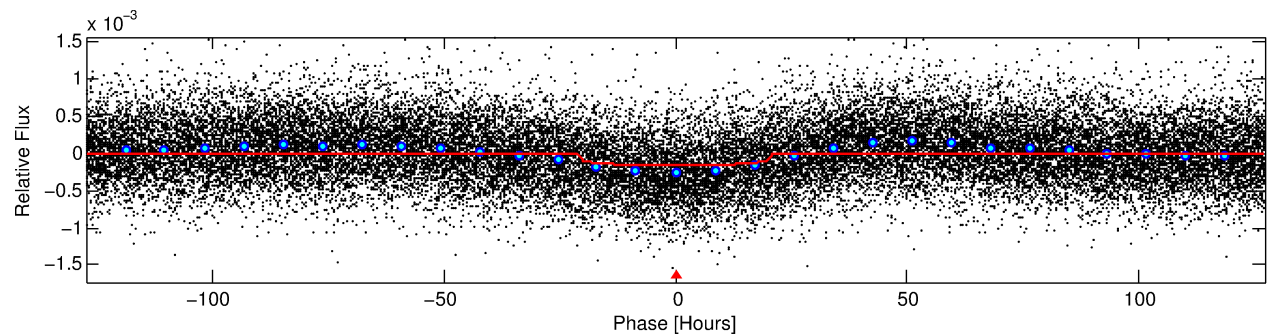
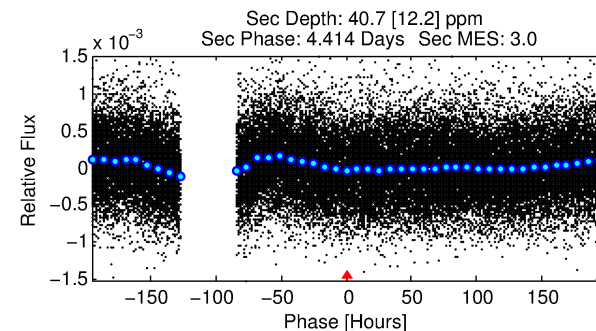
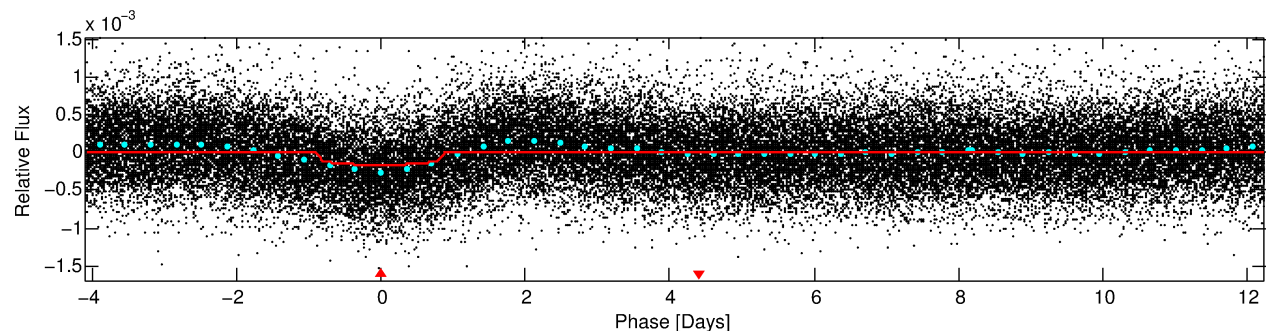
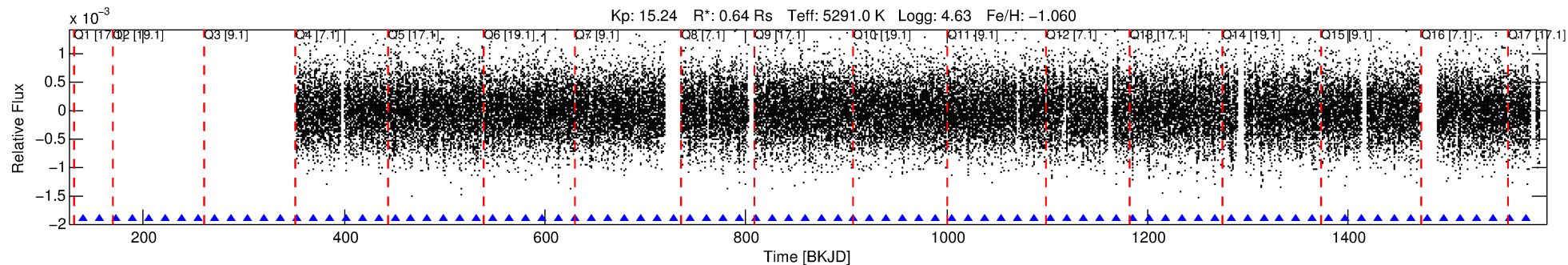
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010921238-01

No Significant Match Found

DV One-Page Summary

KIC: 10921238 Candidate: 1 of 1 Period: 16.321 d



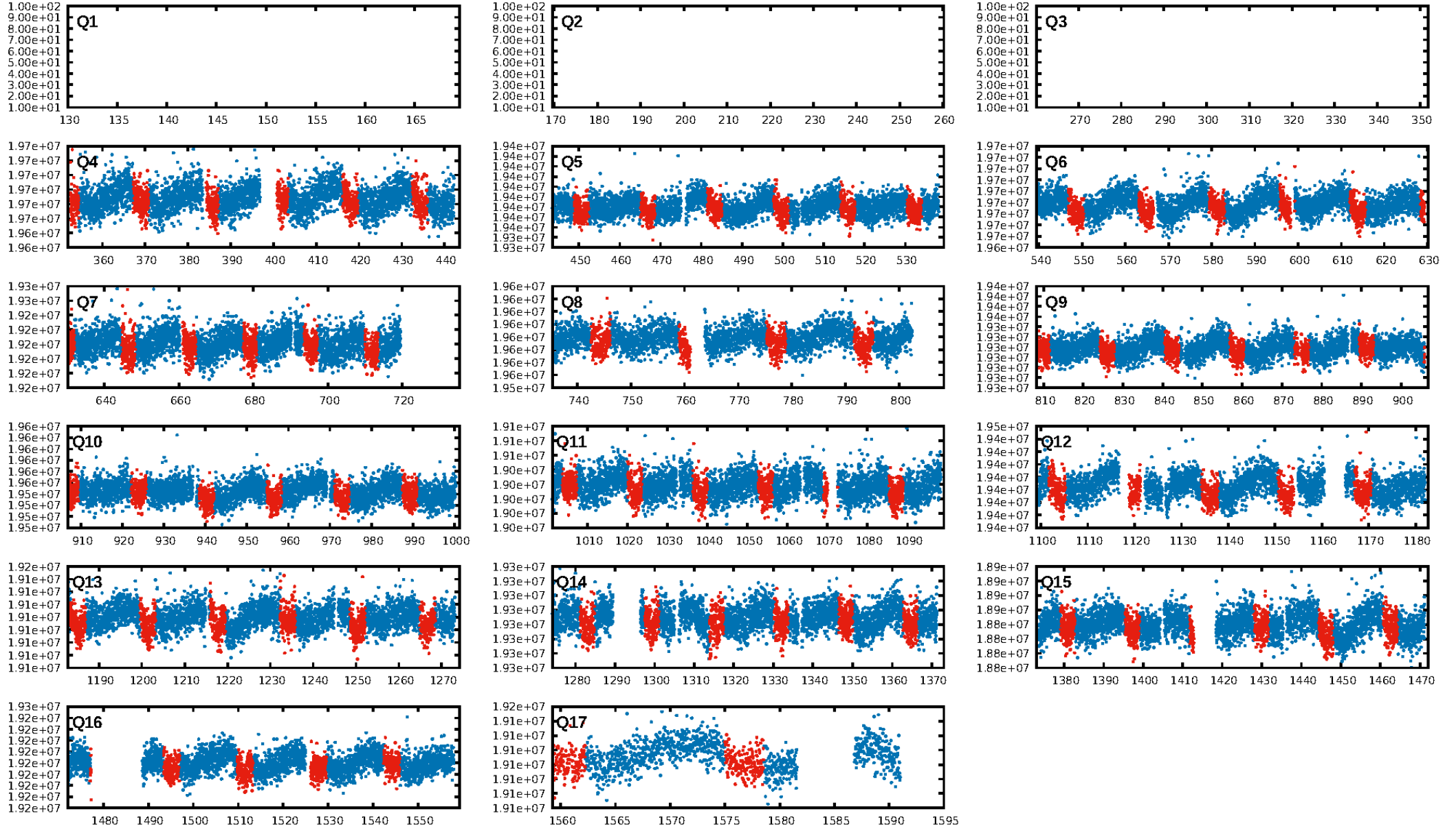
DV Fit Results:

Period = 16.32138 [0.00053] d
Epoch = 140.5013 [0.0295] BKJD
Rp/R* = 0.0128 [0.0011]
a/R* = 2.10 [0.59]
b = 0.78 [0.19]
Seff = 24.43 [4.44]
Teff = 567 [26] K
Rp = 0.88 [0.11] Re
a = 0.1077 [0.0082] AU
Ag = 331.55 [120.54] [2.74σ]
Teffp = 3740 [348] K [9.10σ]

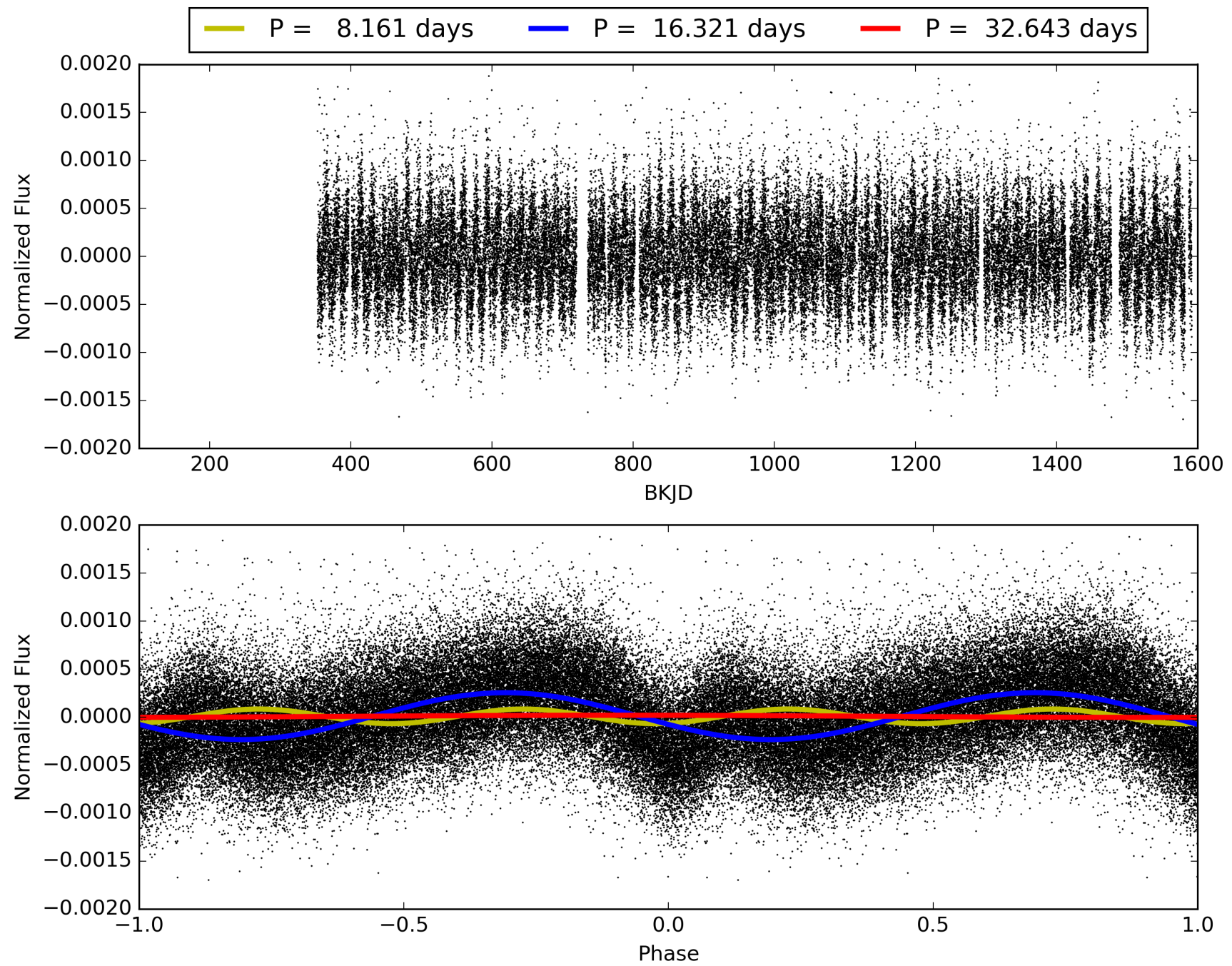
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 60.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.08e-22
RollingBand-fgt: 1.00 [72/72]
GhostDiagnostic-chr: 20.72
Centroid-sig: 4.4%
Centroid-so: 0.618 arcsec [1.18σ]
OotOffset-rm: 1.178 arcsec [1.36σ]
KicOffset-rm: 1.035 arcsec [1.41σ]
OotOffset-st: 3/3/2/1 [9]
KicOffset-st: 3/3/2/1 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 010921238-01, PDC Light Curves

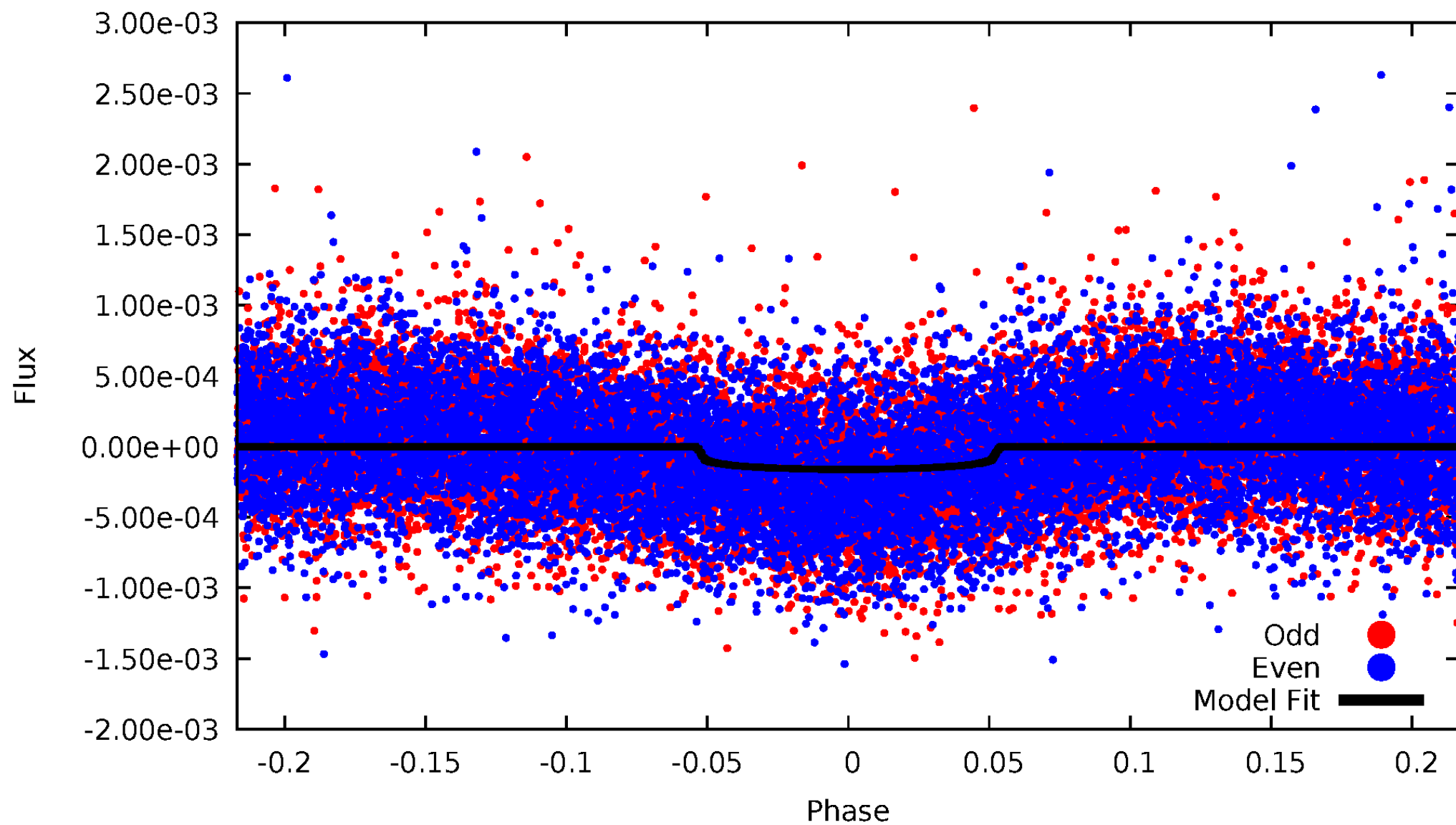


TCE 010921238-01



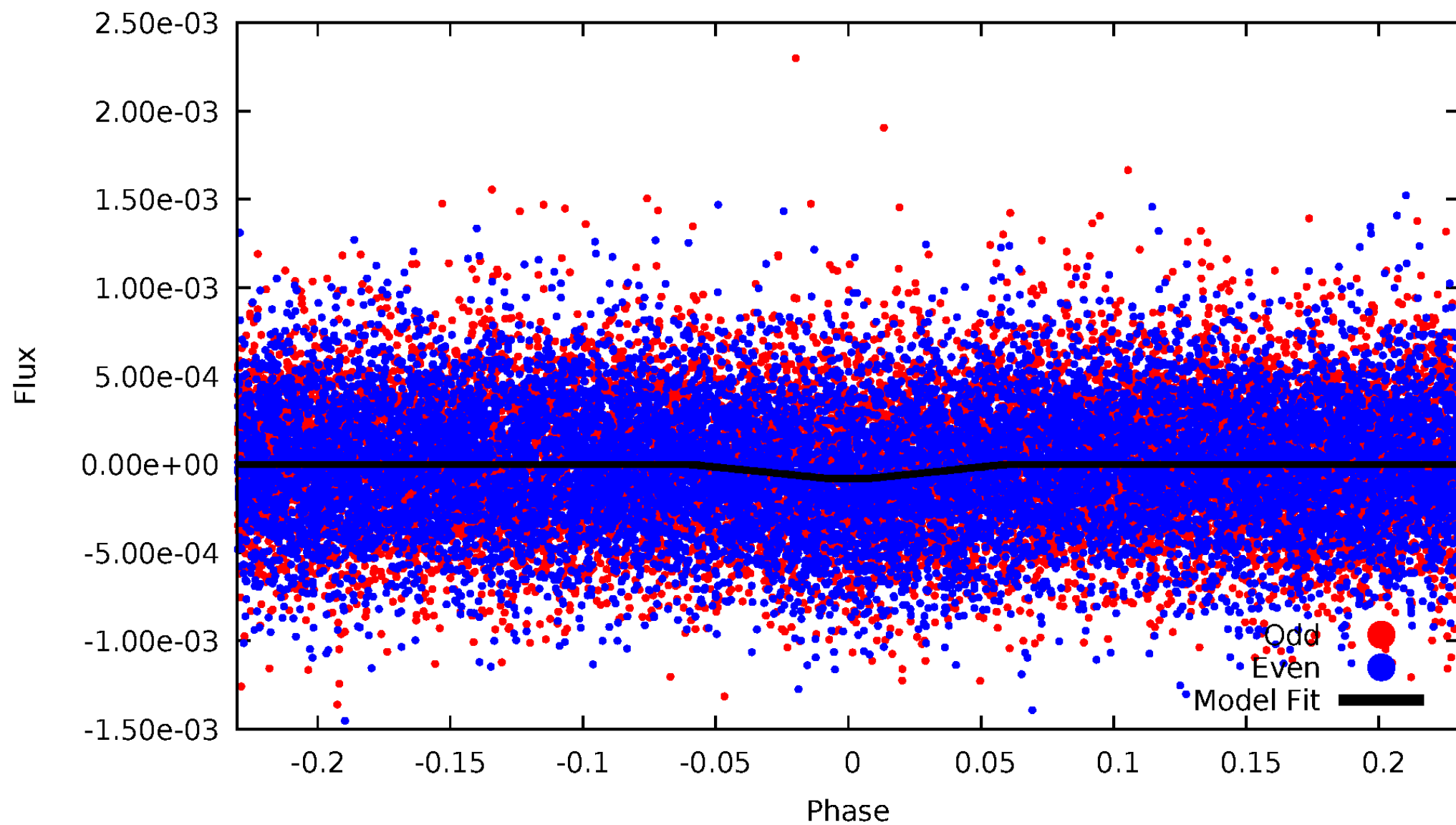
DV Odd/Even

TCE 010921238-01



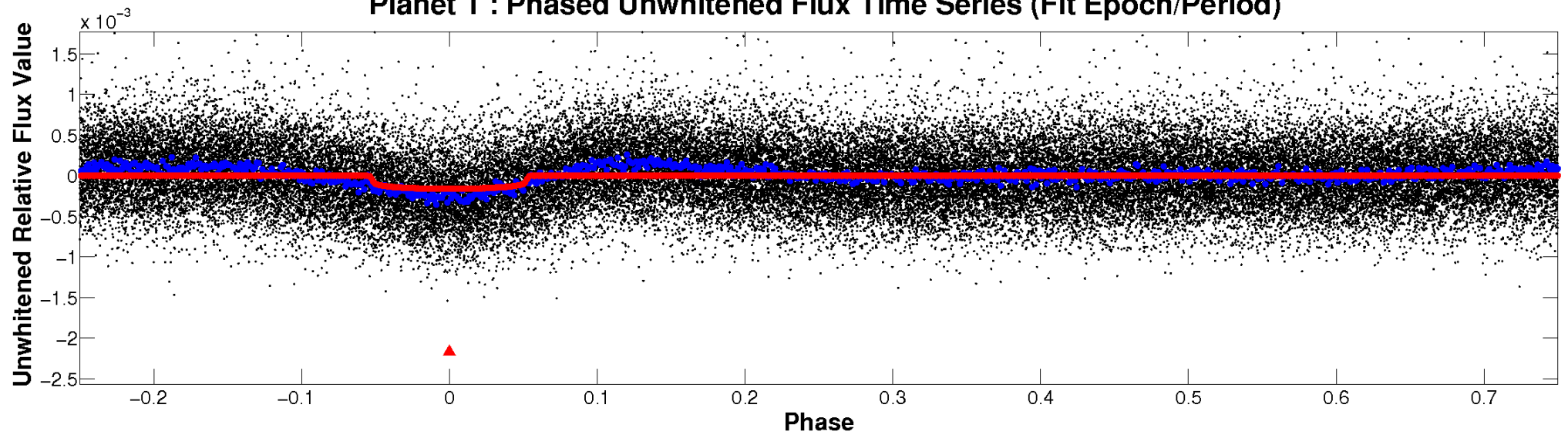
ALT Odd/Even

TCE 010921238-01

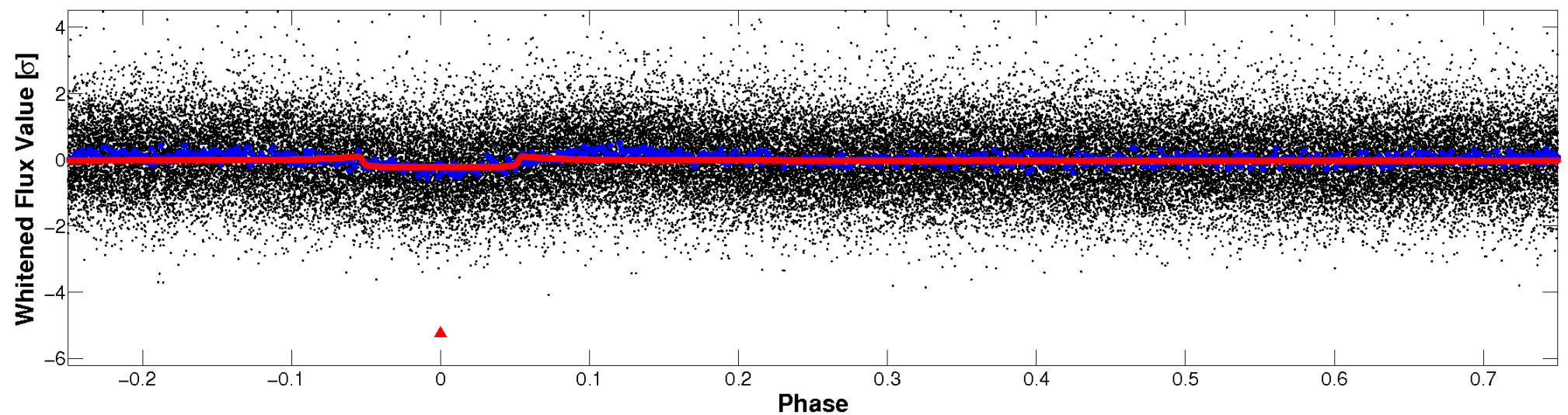


Non-Whitened Vs. Whitened Light Curve

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

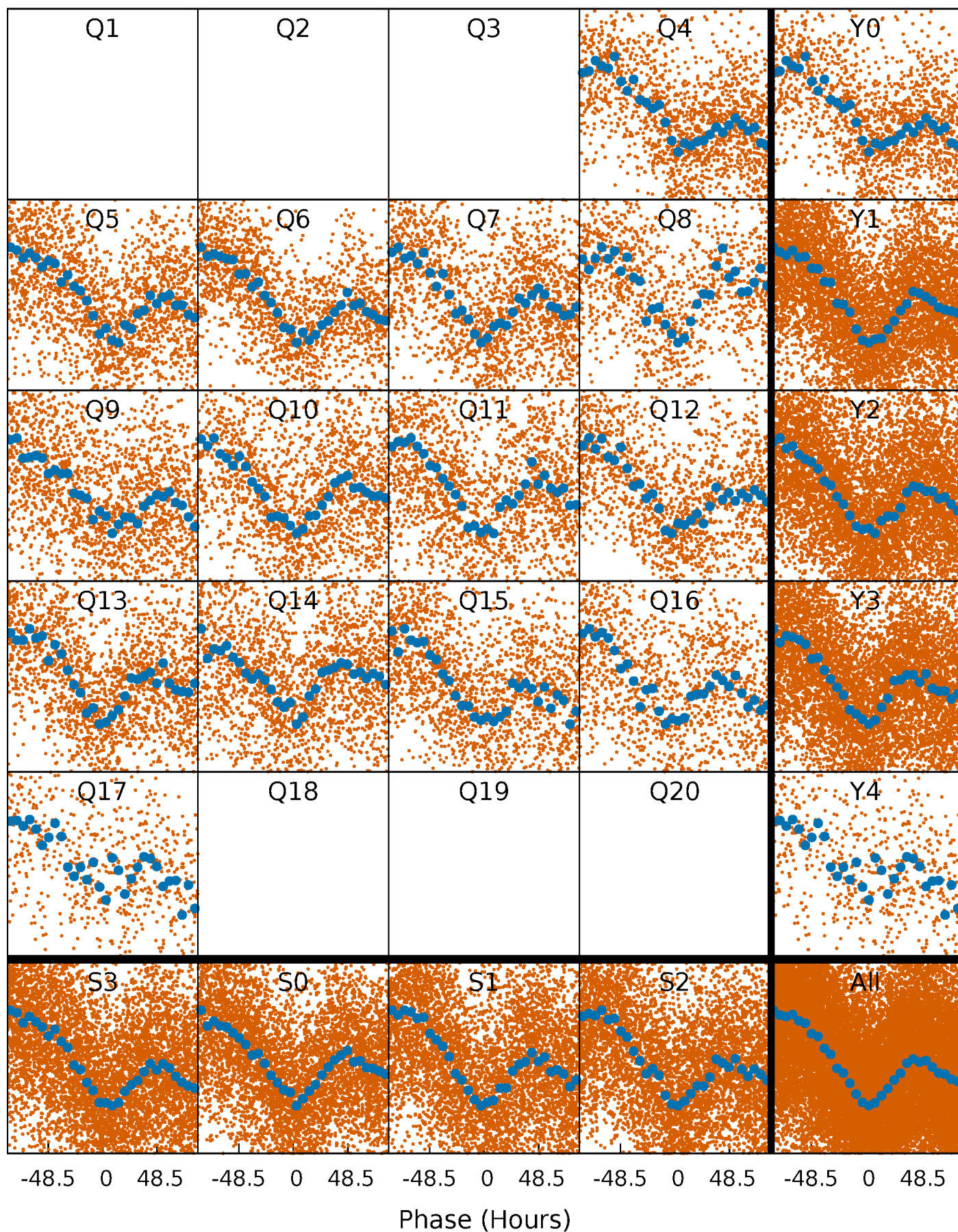


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



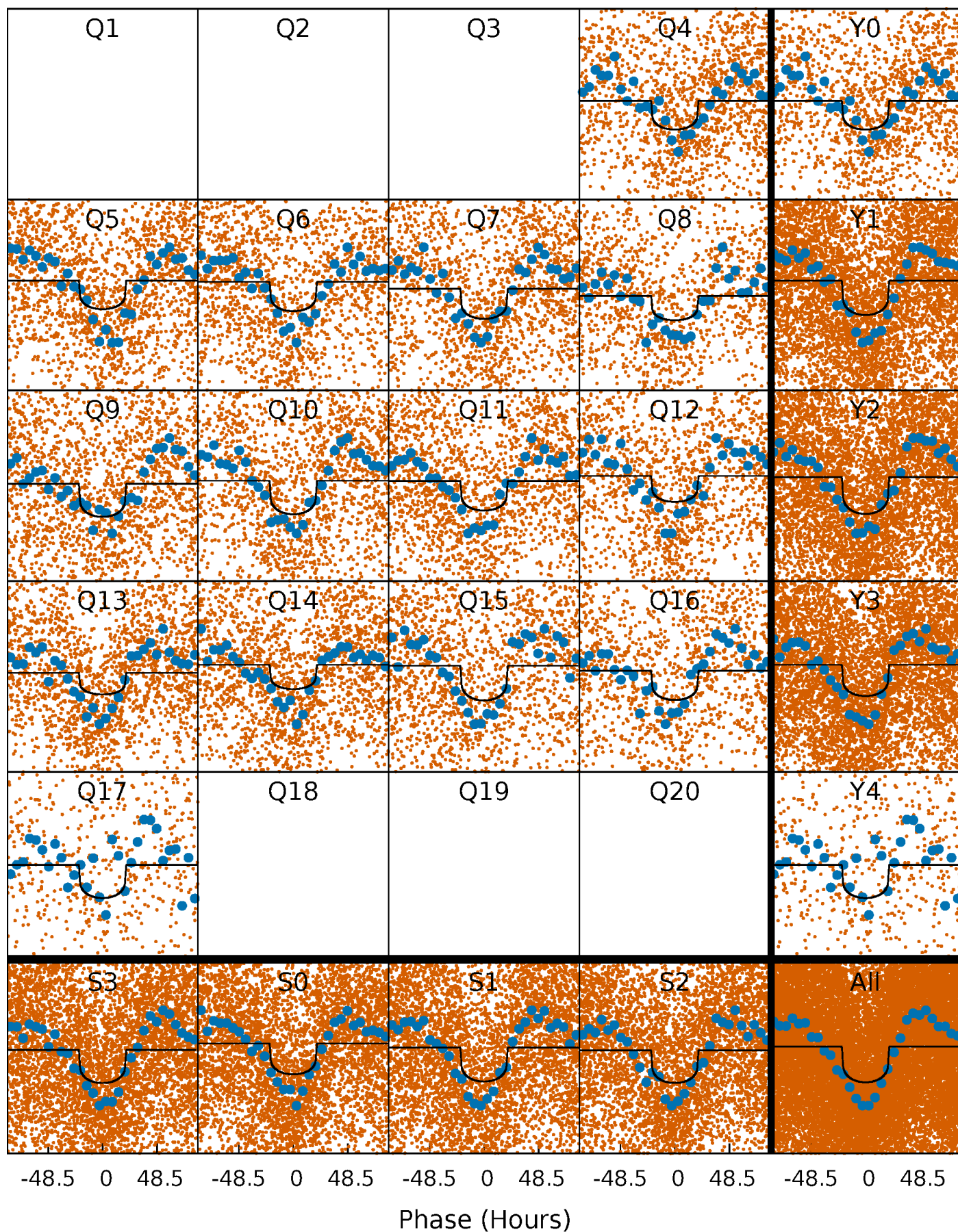
PDC Quarter-Phased Transit Curves

TCE 010921238-01 P= 16.321376 Days $T_0=140.501303$ (BKJD)



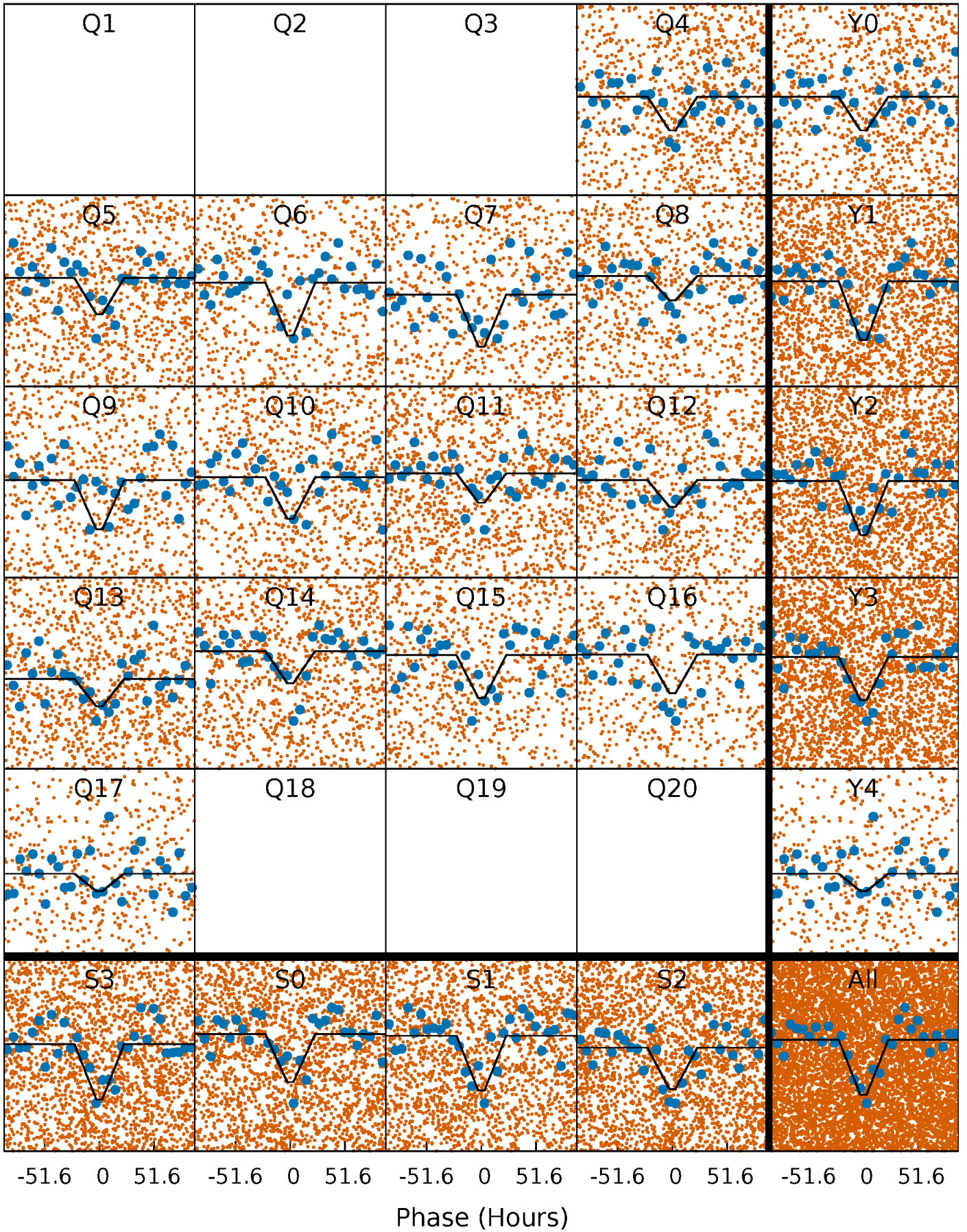
DV Quarter-Phased Transit Curves

TCE 010921238-01 P= 16.321376 Days $T_0=140.501303$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

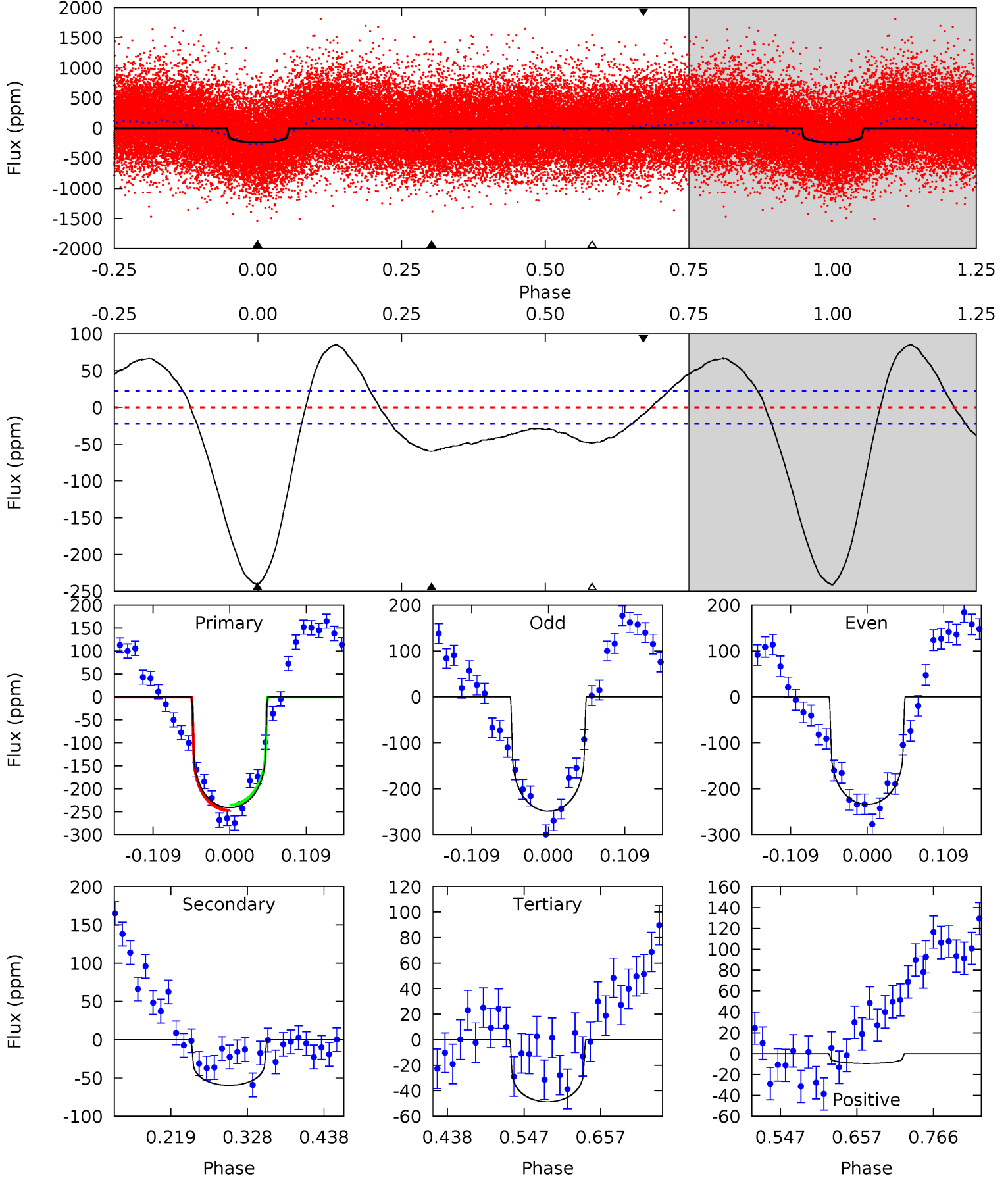
TCE 010921238-01 P= 16.321554 Days $T_0=140.550119$ (BKJD)



DV Model-Shift Uniqueness Test

010921238-01, P = 16.321376 Days, E = 140.501303 Days

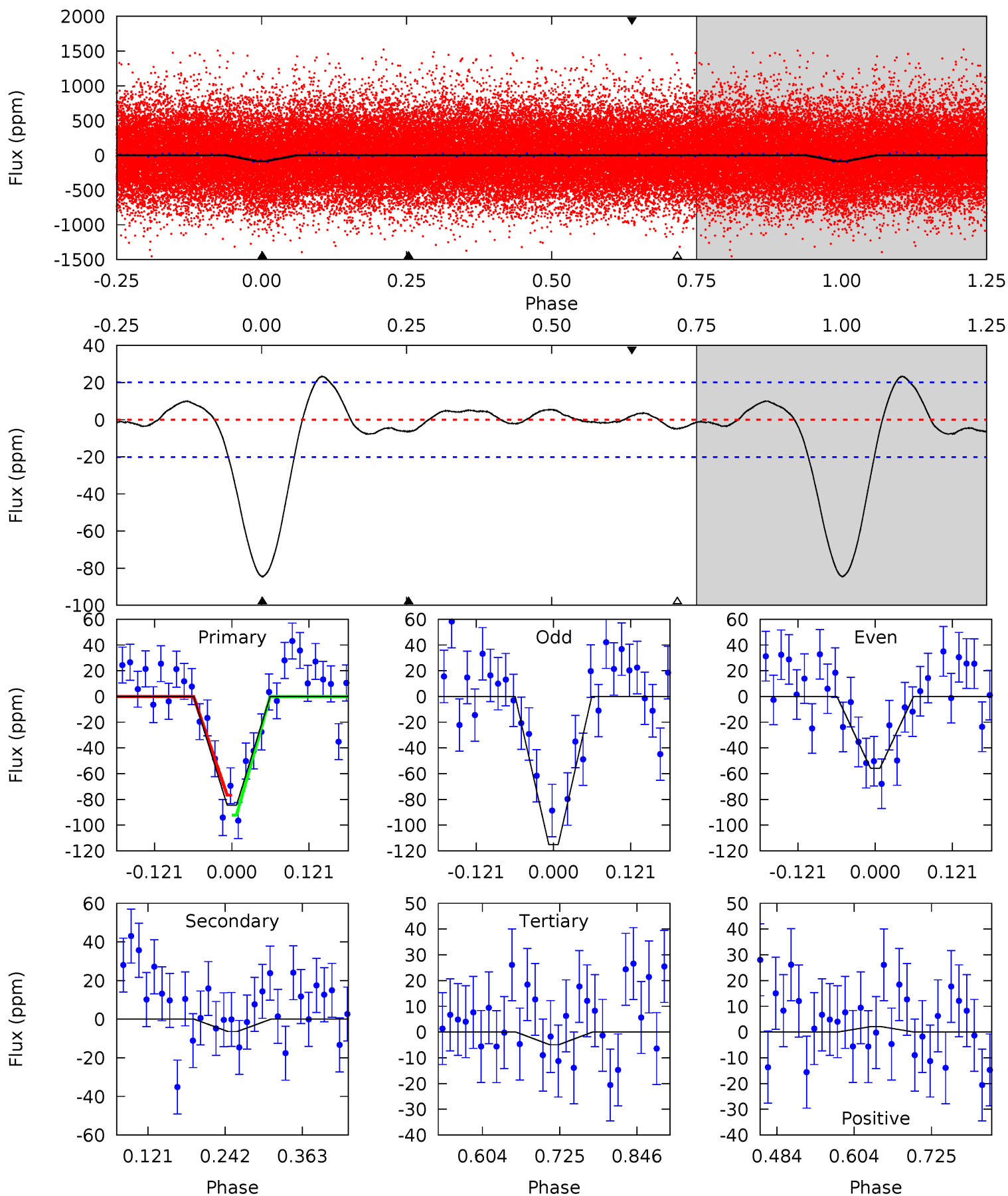
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.1	12.1	9.91	-1.91	4.55	1.60	9.10	39.2	51.0	2.22	14.0	1.52	0.93	0.26	1.16



Alt Model-Shift Uniqueness Test

010921238-01, P = 16.321554 Days, E = 140.550119 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.0	1.44	1.10	0.48	4.52	1.55	0.92	17.9	18.5	0.33	0.96	6.67	1.00	0.22	1.74



Stellar Parameters For KIC 010921238

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5291^{+185}_{-185}	$4.628^{+0.066}_{-0.044}$	$-1.060^{+0.350}_{-0.300}$	$0.635^{+0.054}_{-0.049}$	$0.625^{+0.059}_{-0.027}$	$3.439^{+0.881}_{-0.585}$
	+3%/-3%	+1%/-1%	+33%/-28%	+9%/-8%	+9%/-4%	+26%/-17%
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 010921238-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-60 ± 5	$0.88^{+0.08}_{-0.08}$	788^{+33}_{-31}	4305^{+204}_{-191}	493^{+100}_{-84}
Alt.	-6 ± 4	$0.63^{+0.07}_{-0.07}$	789^{+33}_{-32}	3307^{+341}_{-589}	103^{+80}_{-78}

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 $A_{\text{obs}} \gg 1.0$

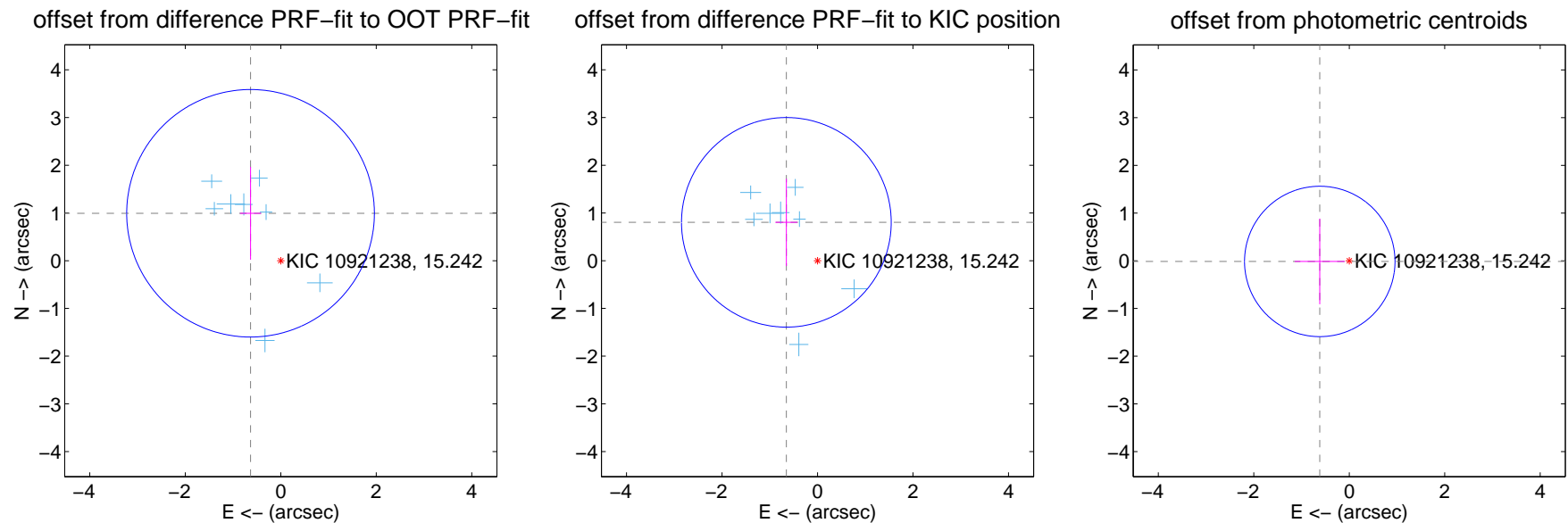
DV Centroid Data

Supplemental centroid analysis for 010921238-01. Kepler magnitude: 15.24. Transit SNR 16.26

There are 9 quarters with good PRF difference image offsets

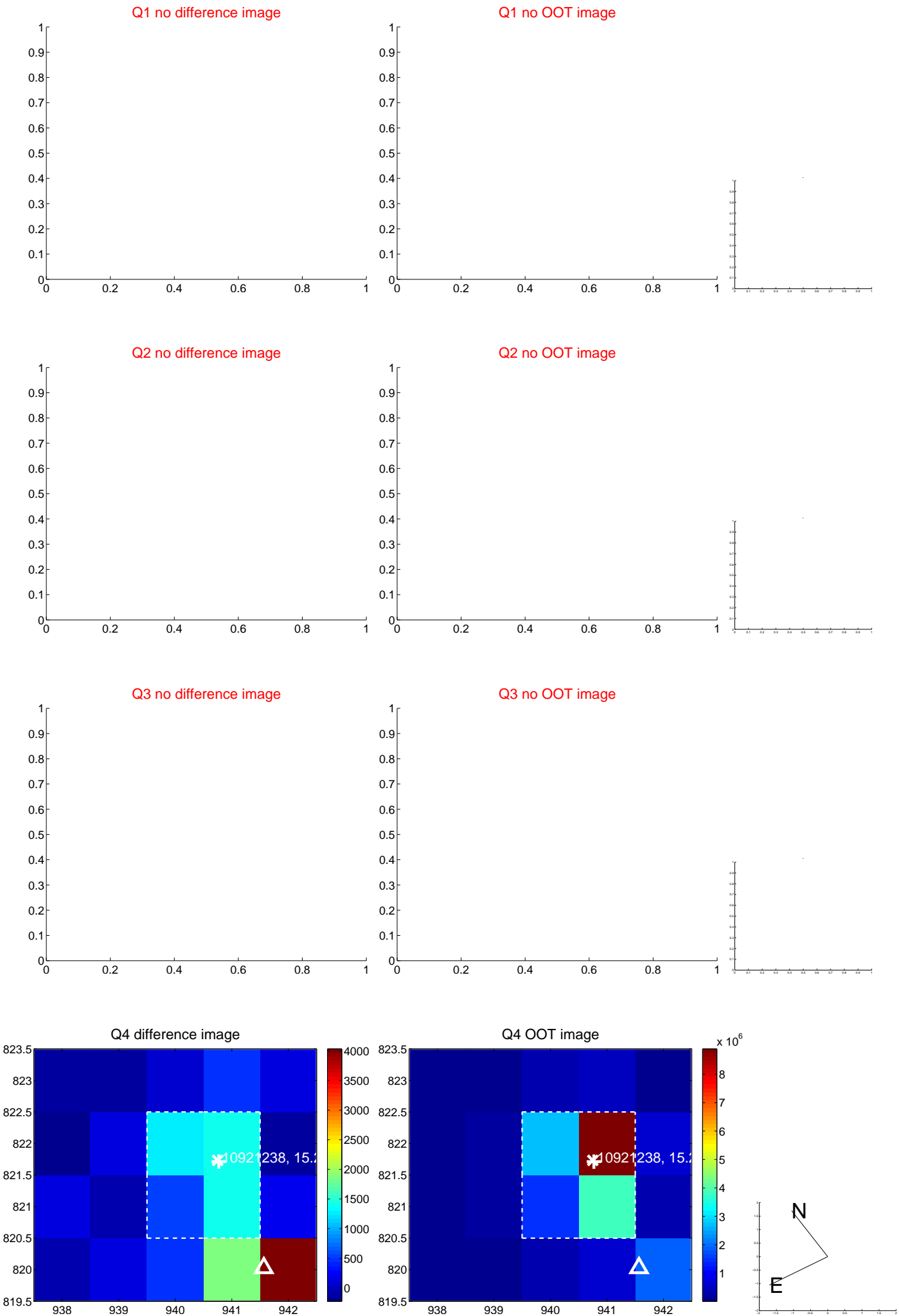
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.178 ± 0.864	1.36	0.633 ± 0.219	0.993 ± 0.973
PRF-fit source offset from KIC position	1.035 ± 0.732	1.41	0.652 ± 0.232	0.804 ± 0.914
photometric centroid source offset	0.62 ± 0.53	1.18	0.62 ± 0.53	-0.01 ± 0.90

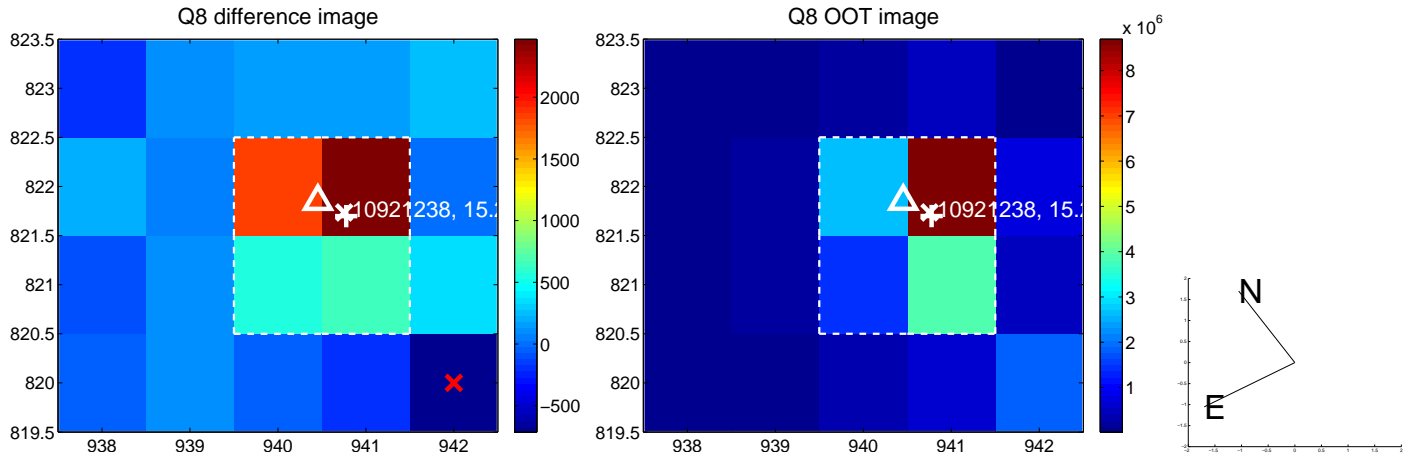
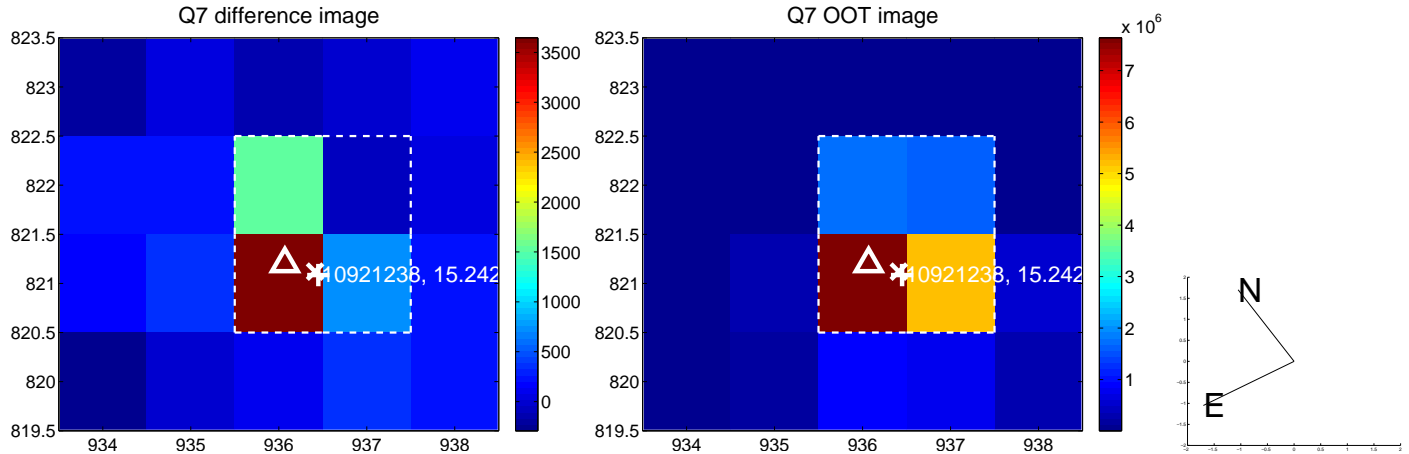
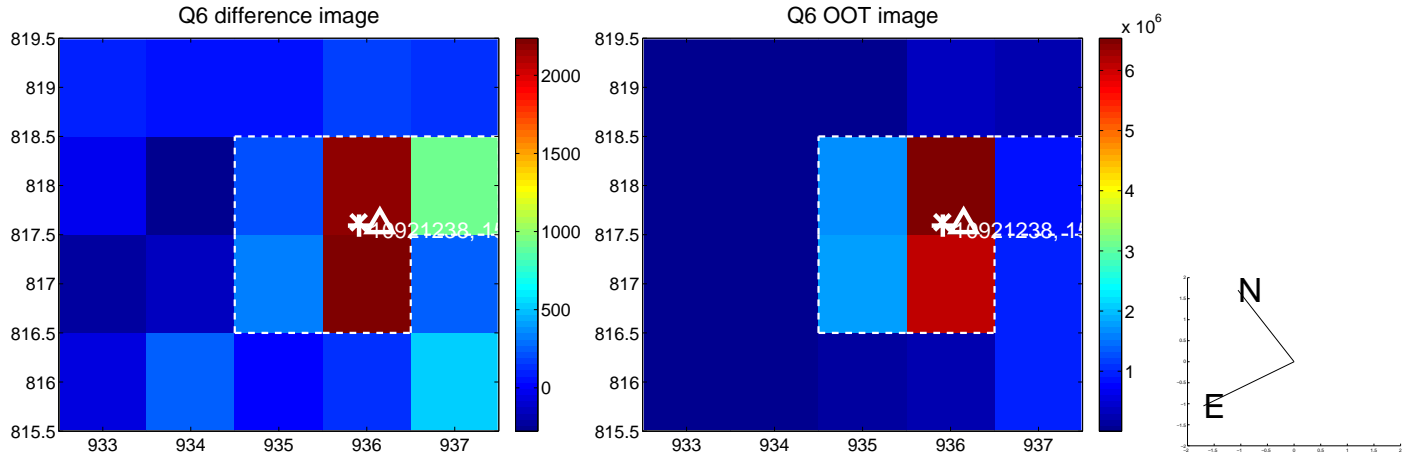
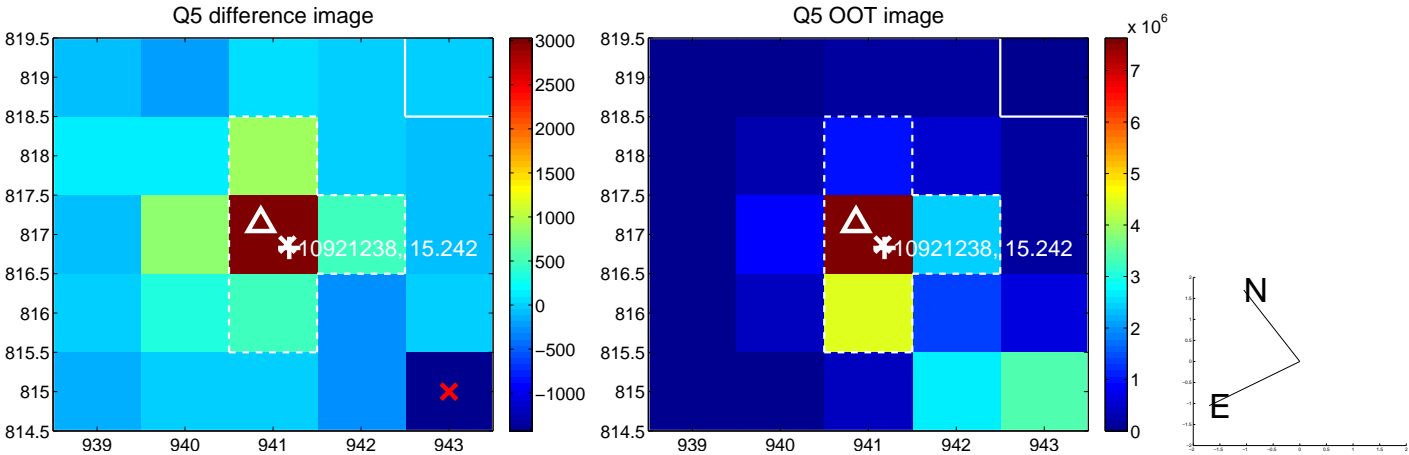


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

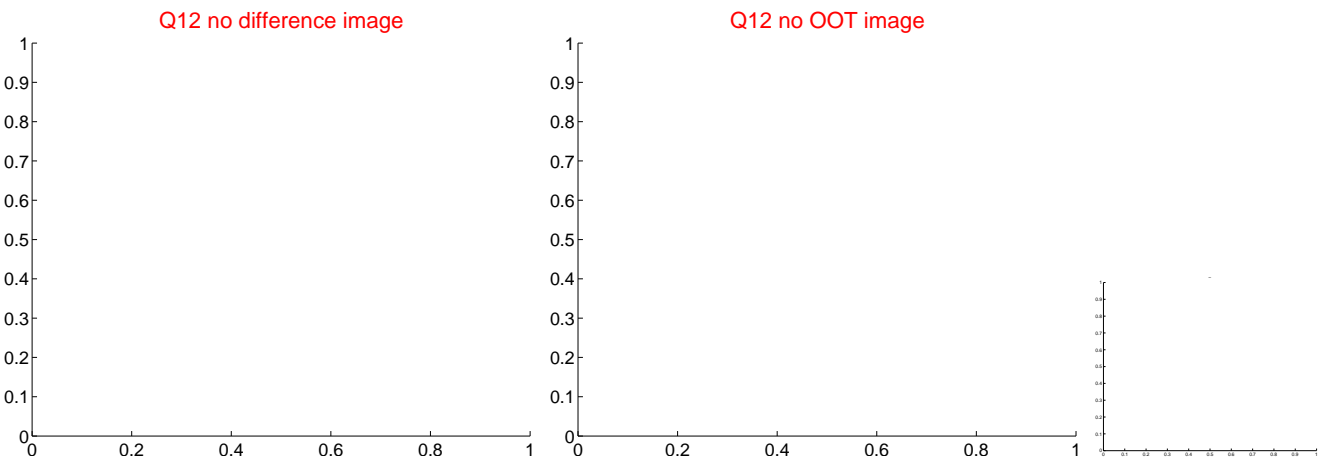
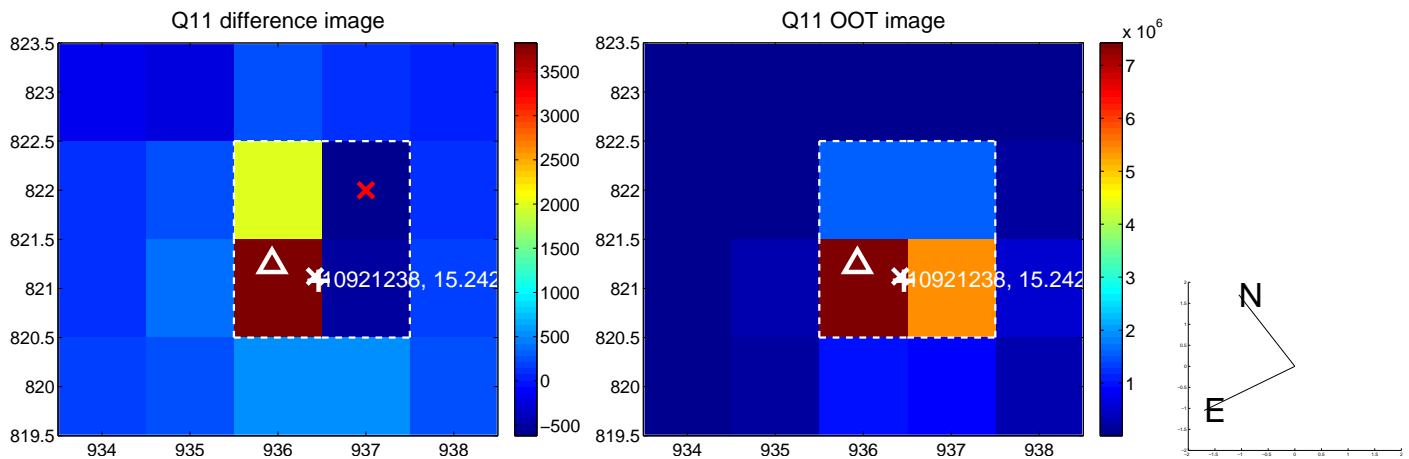
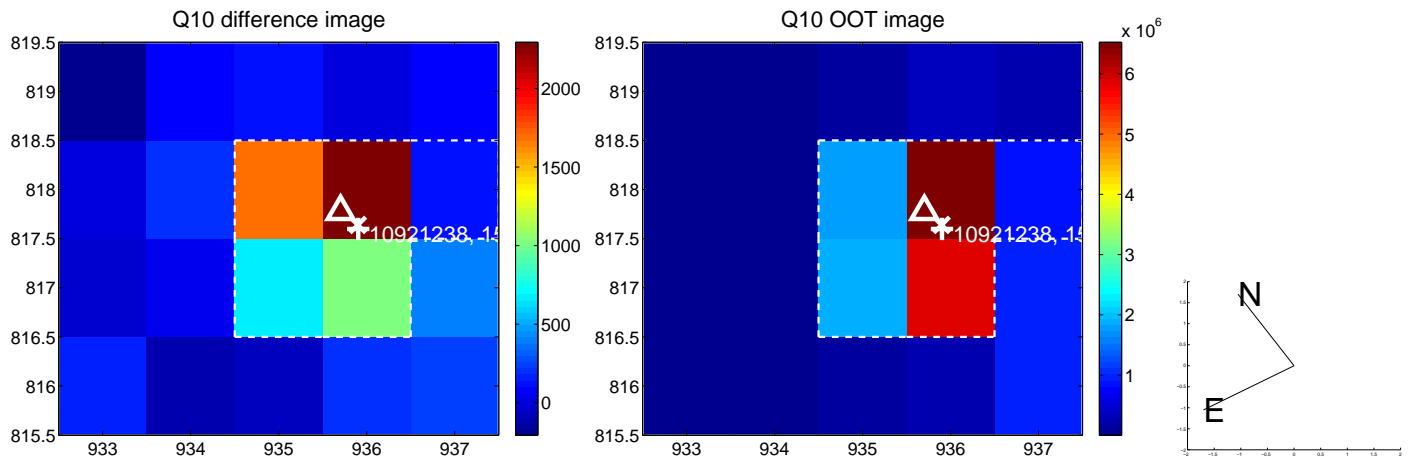
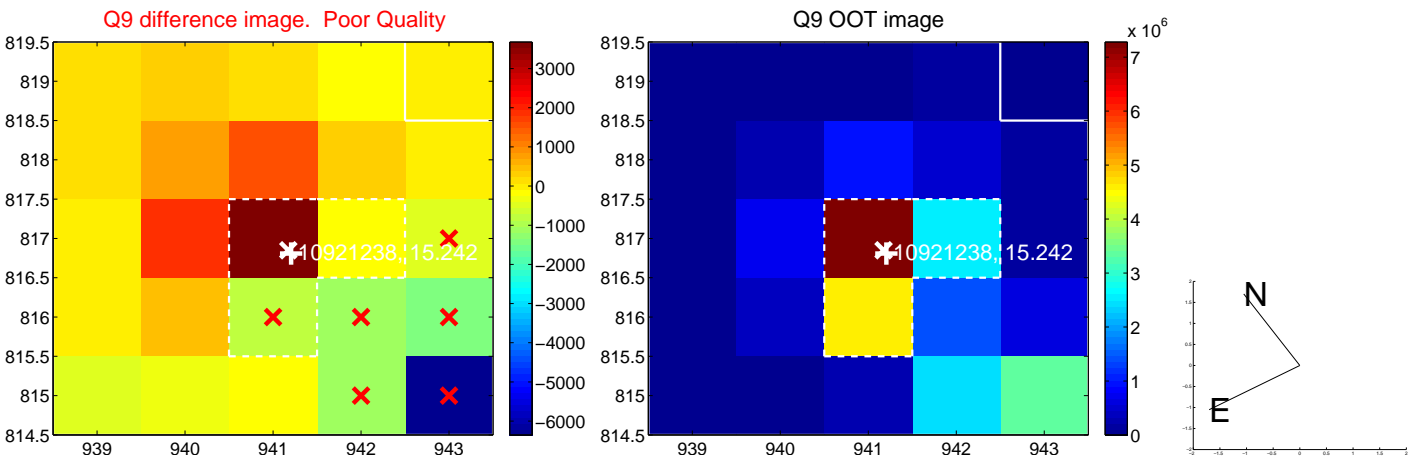
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



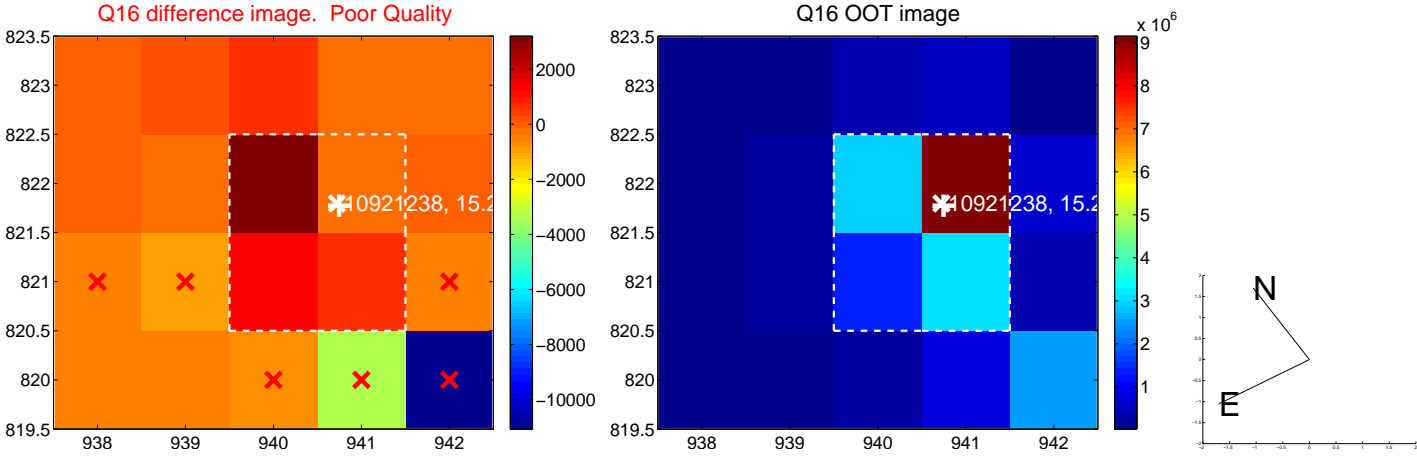
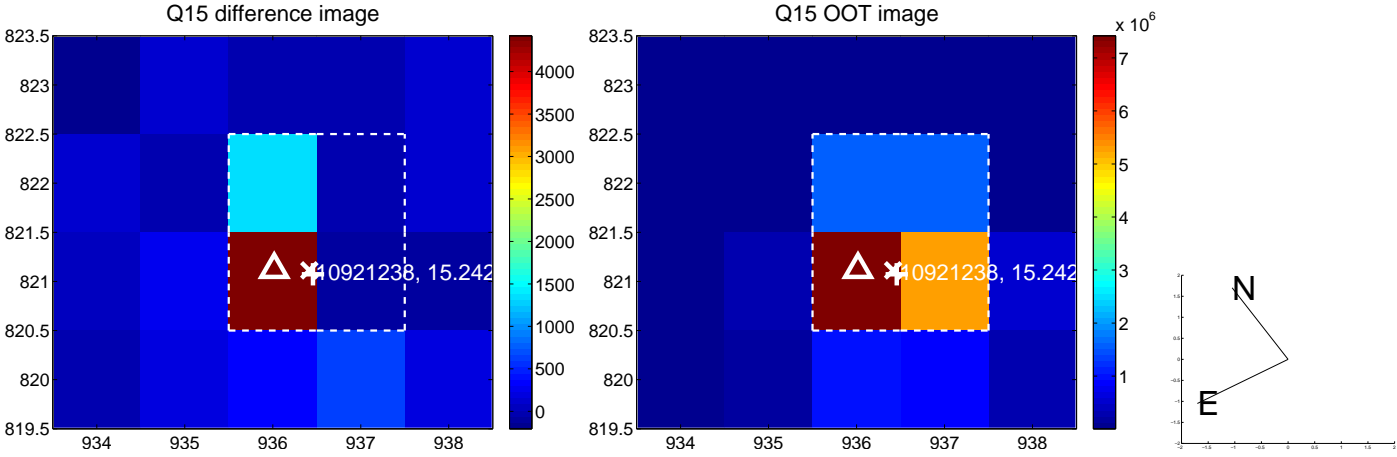
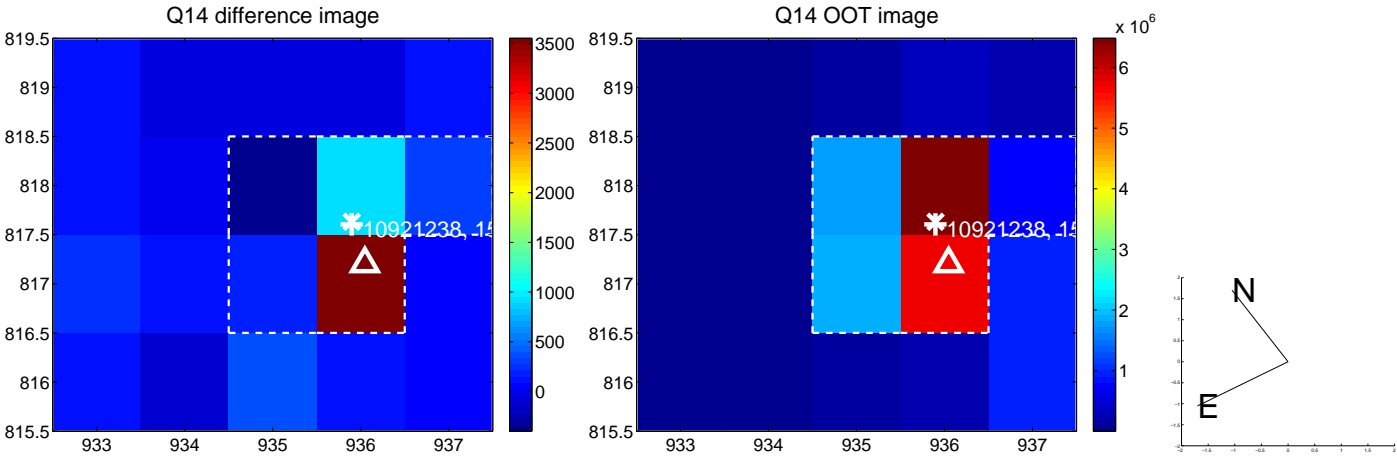
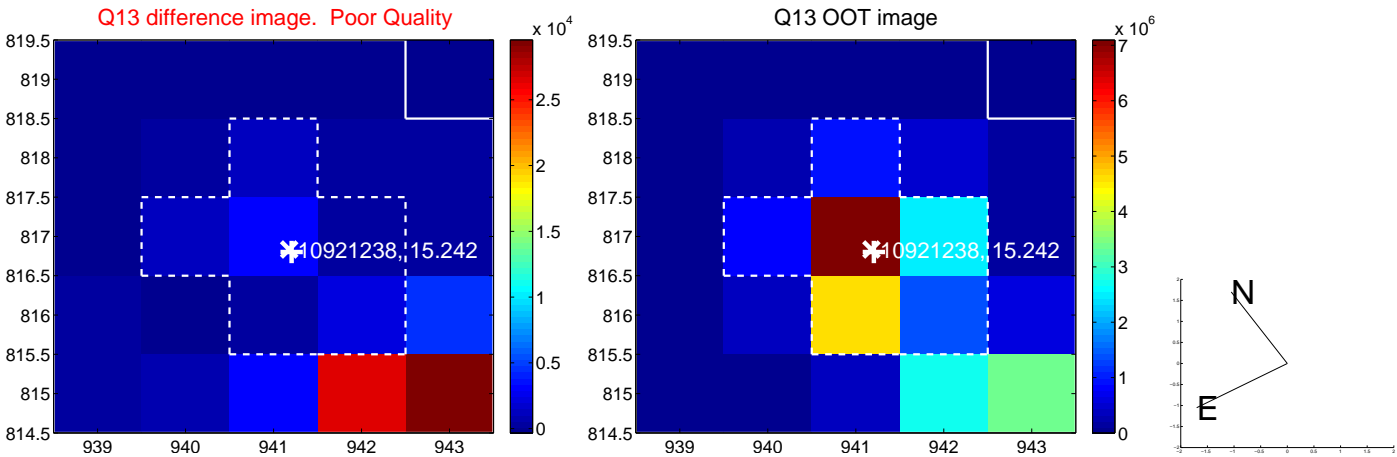
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



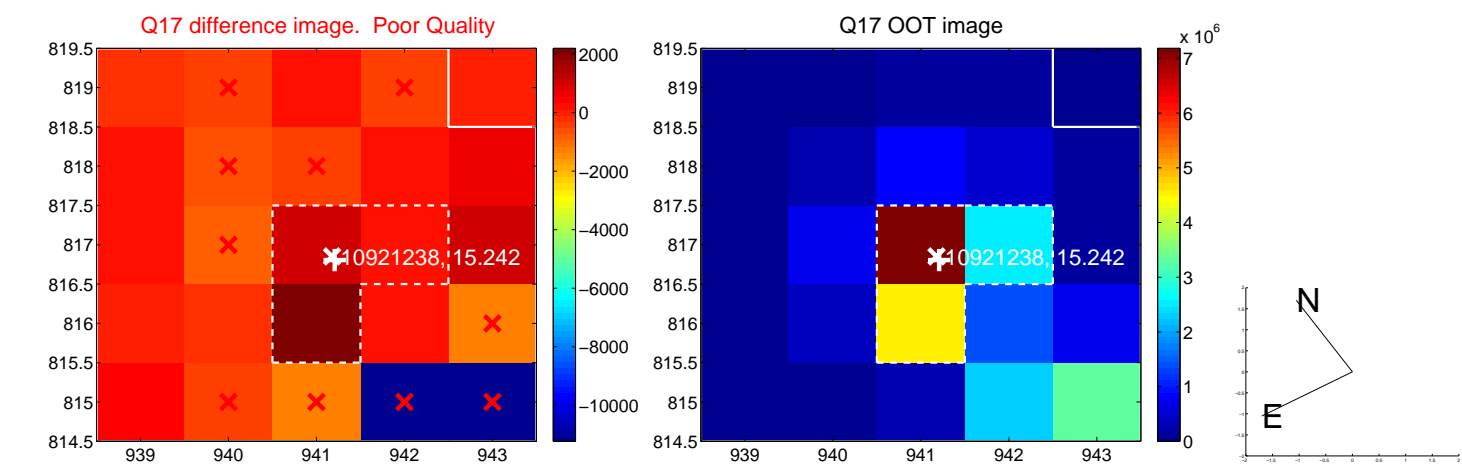
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



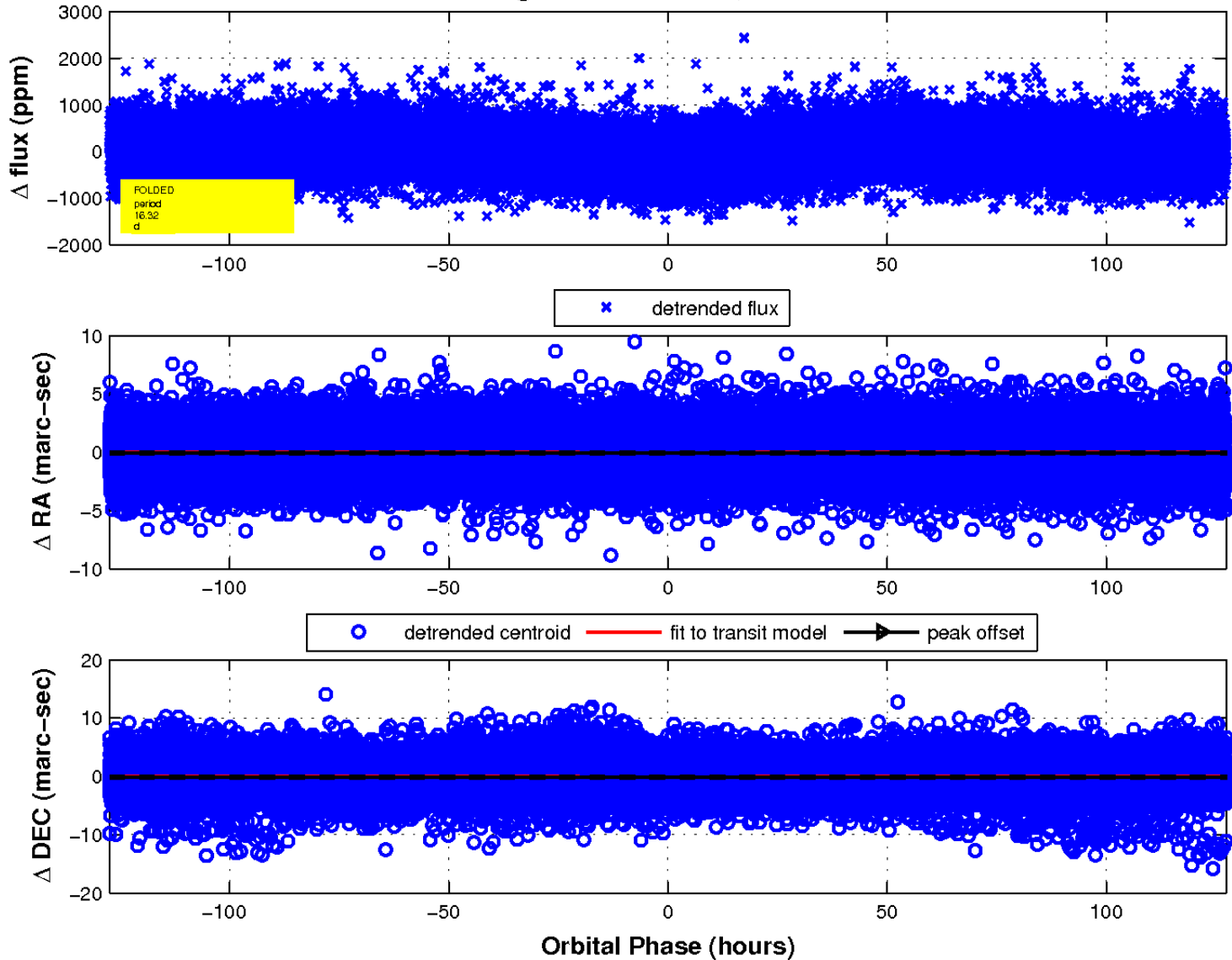
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

