

KIC 004915638

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})
004915638-01	OBS	2617.01	8.630432	139.582033	331.3	3.238	12.9	14.3	0.76	5352	1.60	70.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004915638-01	OBS	PC	1.00	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.

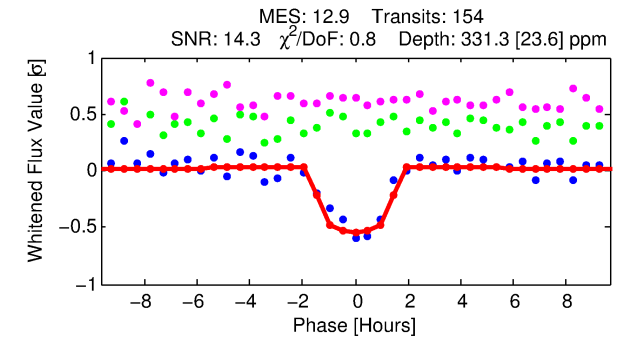
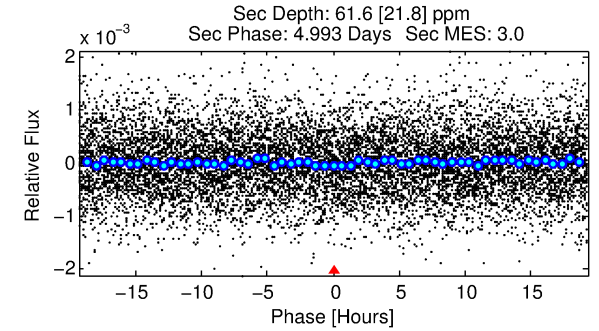
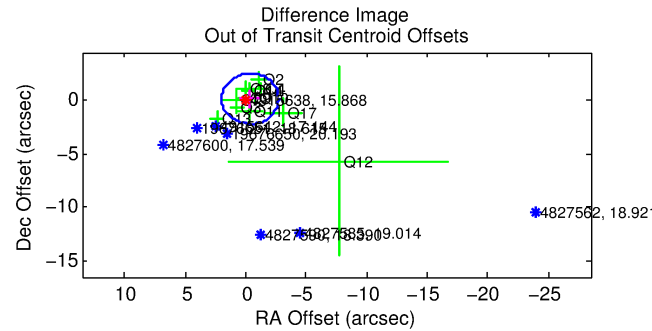
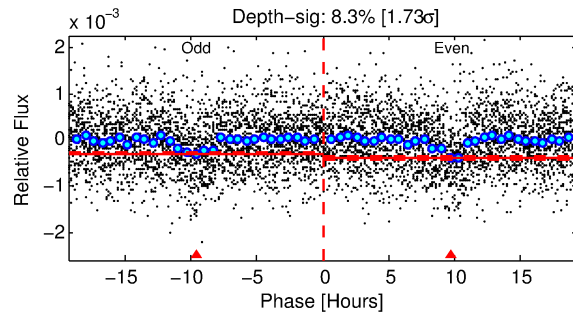
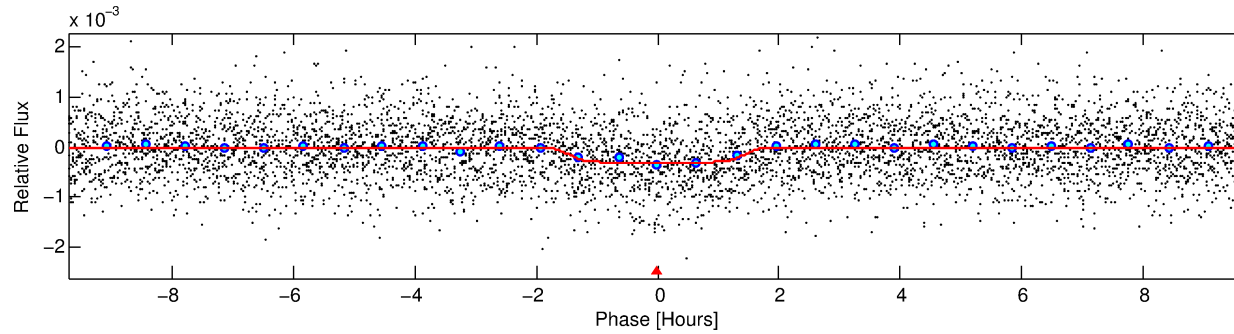
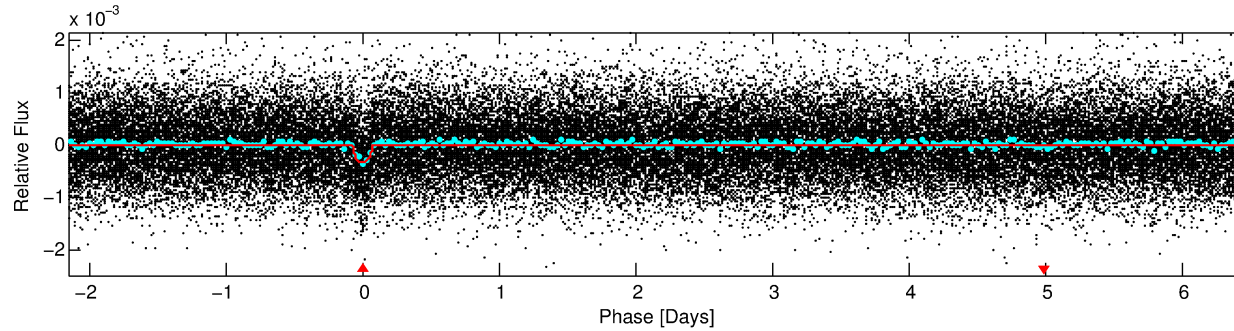
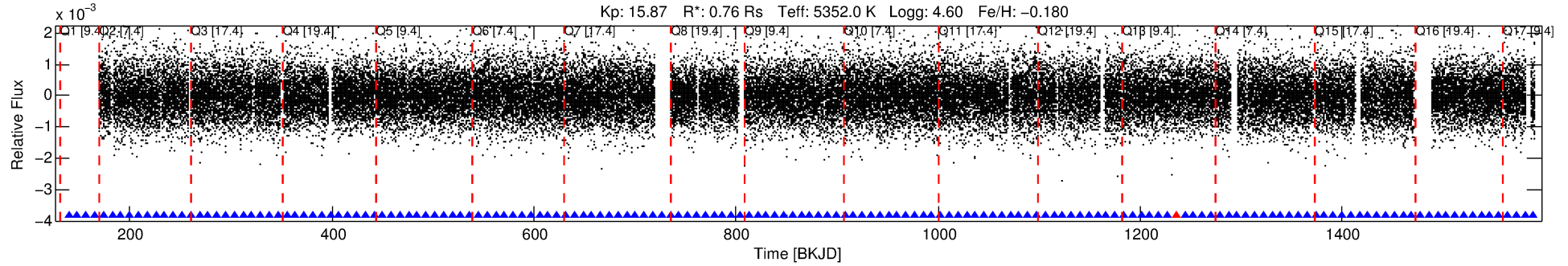
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004915638-01

No Significant Match Found

DV One-Page Summary

KIC: 4915638 Candidate: 1 of 1 Period: 8.630 d
KOI: K02617.01 Corr: 0.983



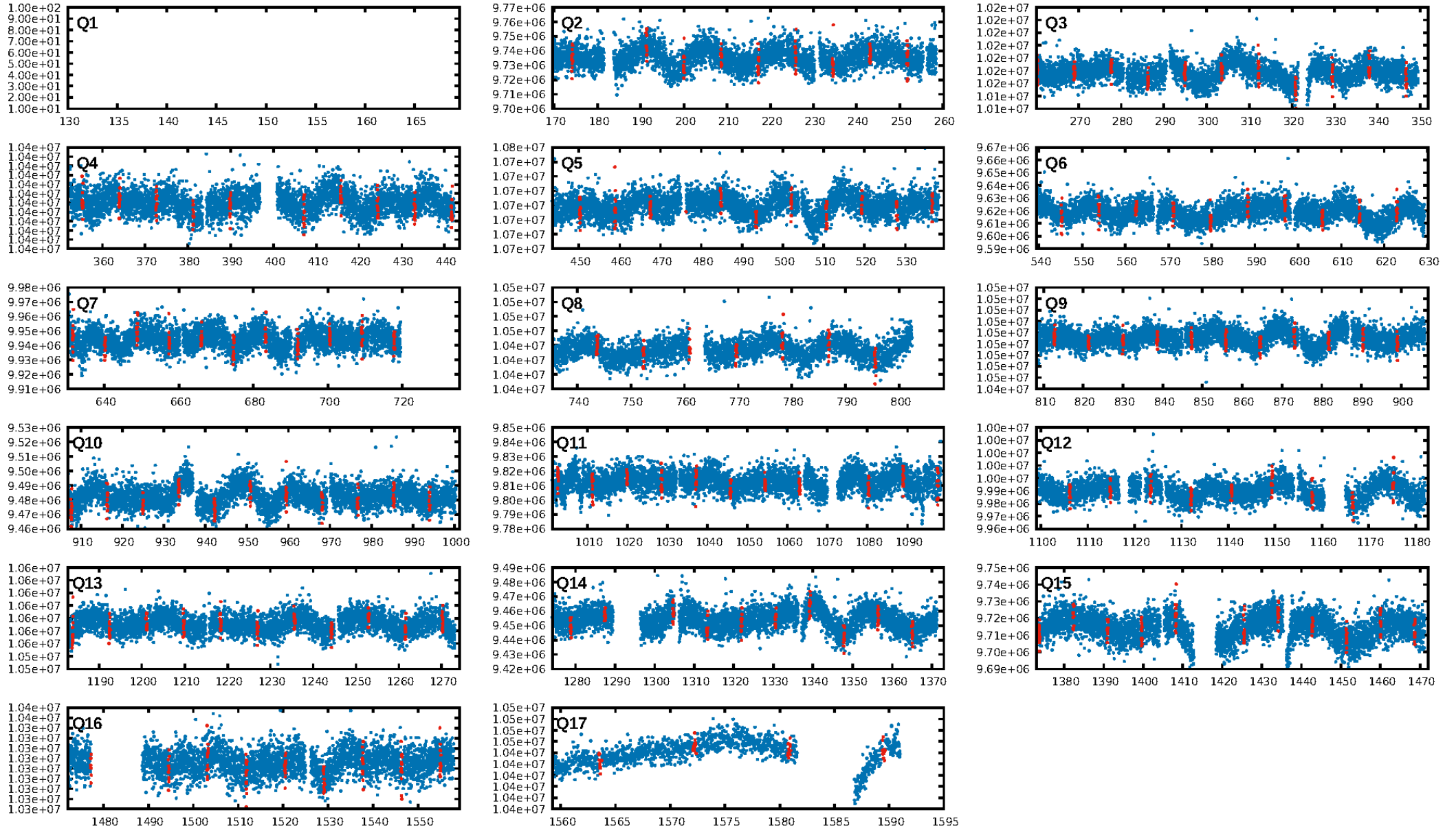
DV Fit Results:

Period = 8.63043 [0.00005] d
Epoch = 139.5820 [0.0048] BKJD
Rp/R* = 0.0192 [0.0110]
a/R* = 11.52 [27.36]
b = 0.85 [0.81]
Seff = 70.74 [16.88]
Teq = 739 [44] K
Rp = 1.60 [0.96] Re
a = 0.0779 [0.0112] AU
Ag = 80.48 [98.27] [0.81 σ]
Teffp = 3424 [1035] K [2.59 σ]

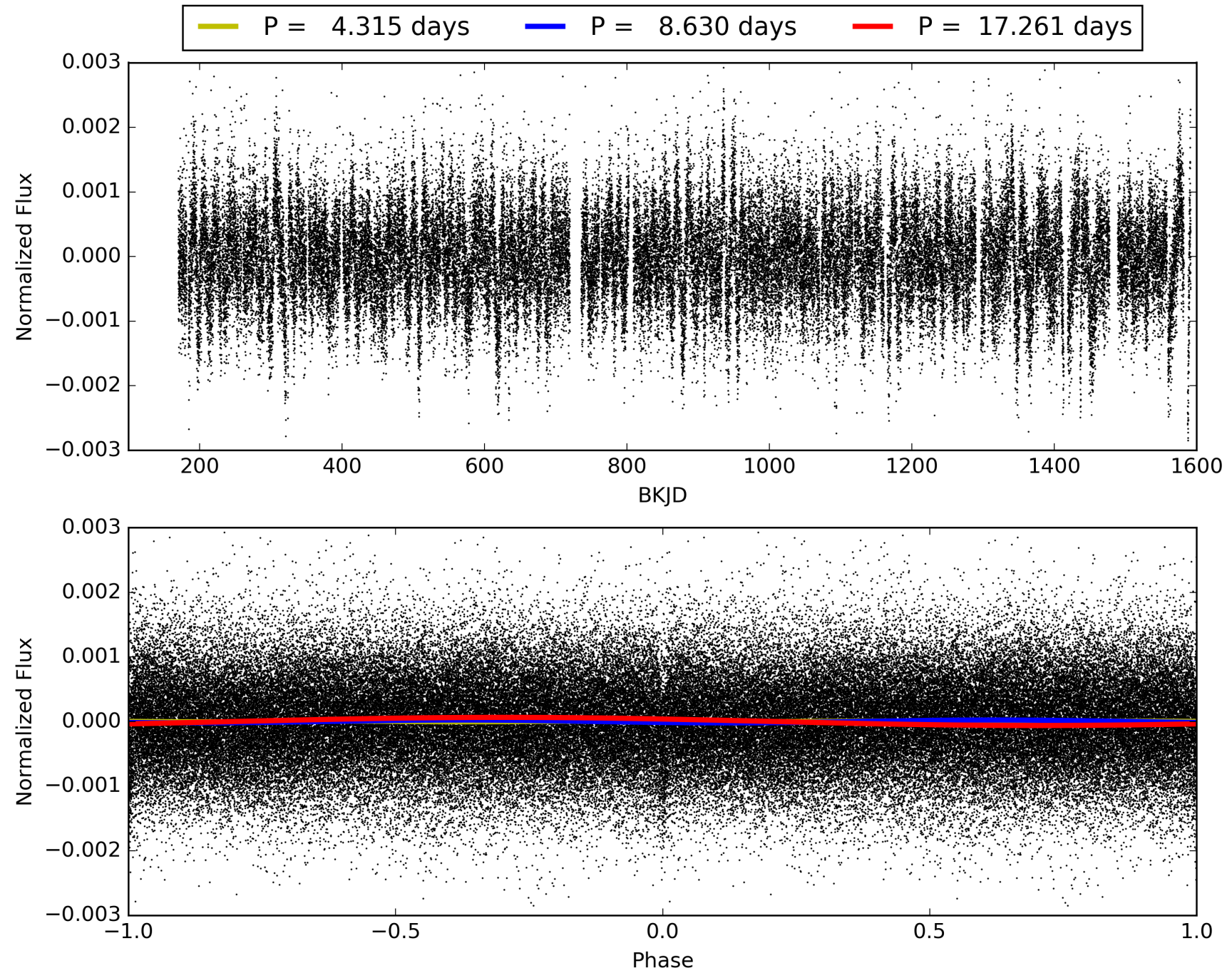
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.68e-37
RollingBand-fgt: 0.99 [149/150]
GhostDiagnostic-chr: -3.014
Centroid-sig: 10.0%
Centroid-so: 0.648 arcsec [0.82 σ]
OotOffset-rm: 0.404 arcsec [0.51 σ]
OotOffset-st: 3/3/3/3 [12]
KicOffset-rm: 0.357 arcsec [0.39 σ]
KicOffset-st: 3/3/3/3 [12]
DiffImageQuality-fgm: 0.75 [9/12]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 004915638-01, PDC Light Curves

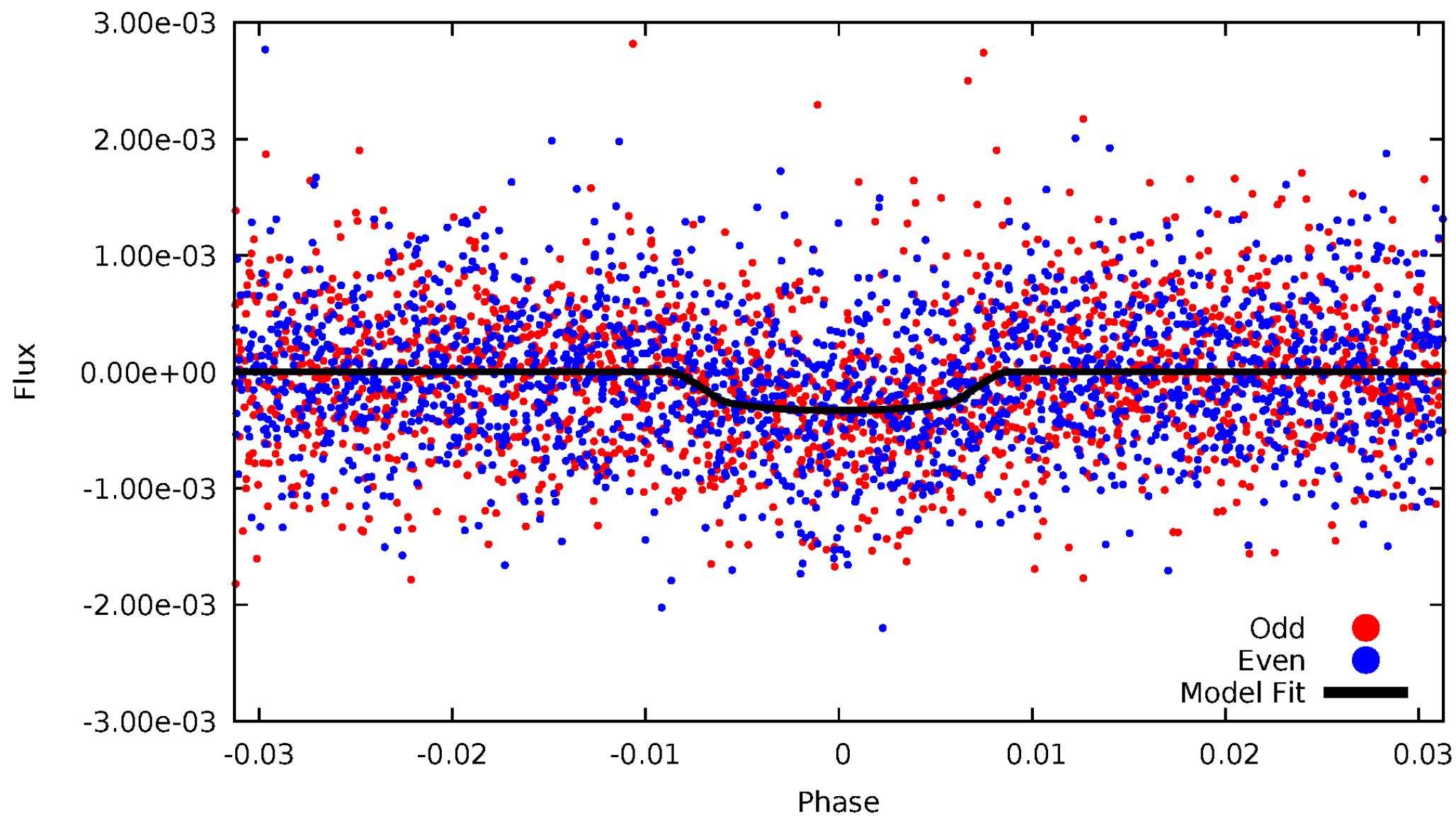


TCE 004915638-01



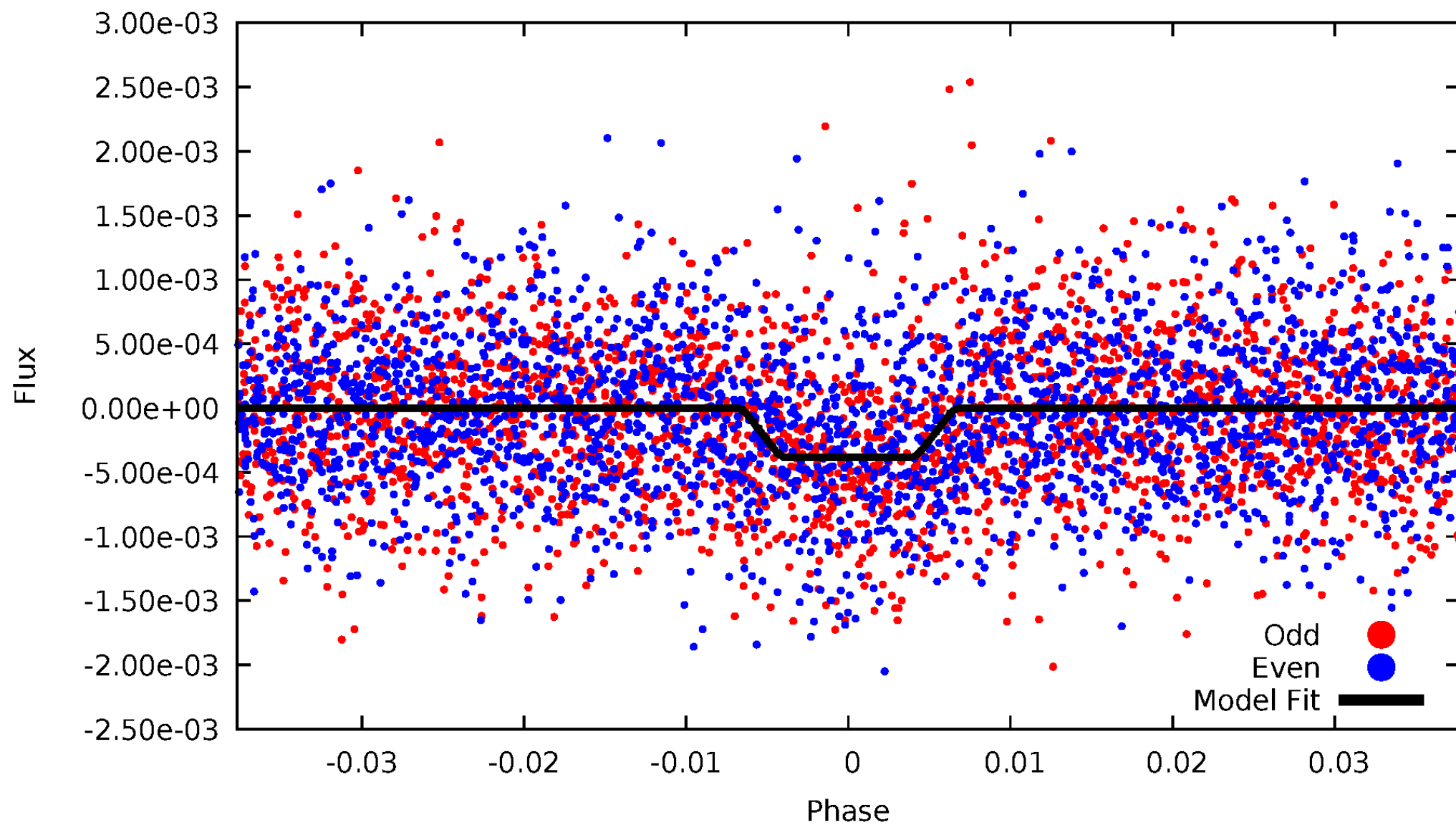
DV Odd/Even

TCE 004915638-01



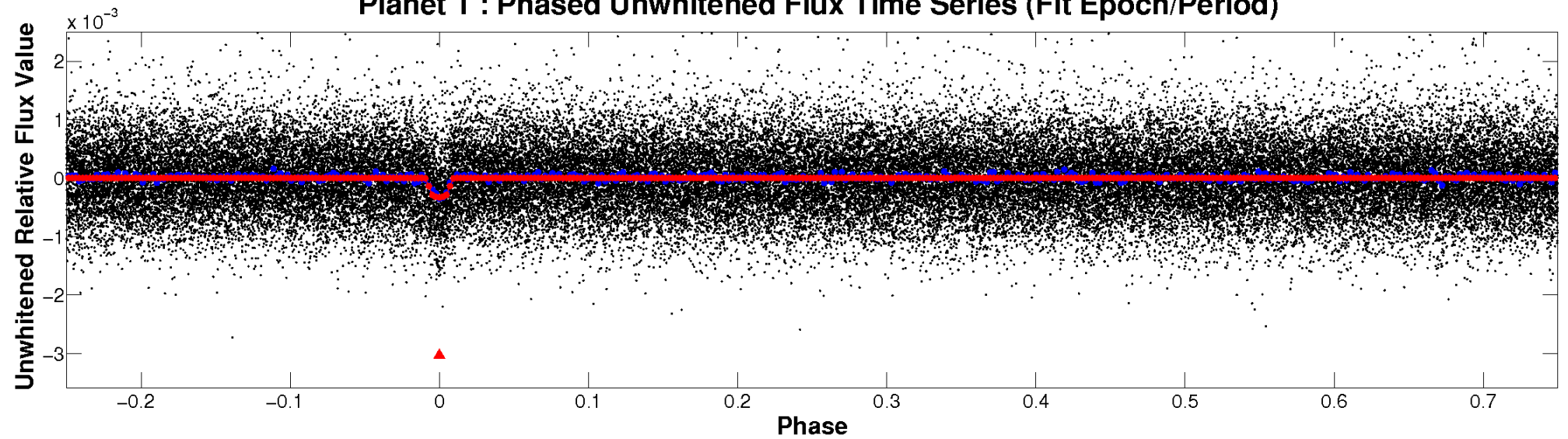
ALT Odd/Even

TCE 004915638-01

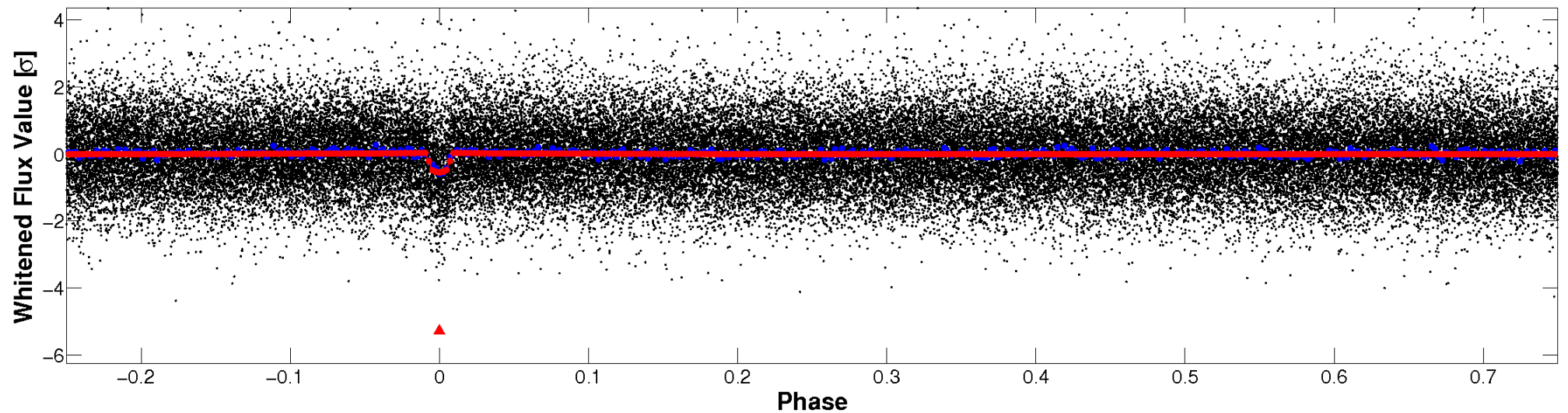


Non-Whitened Vs. Whitened Light Curve

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

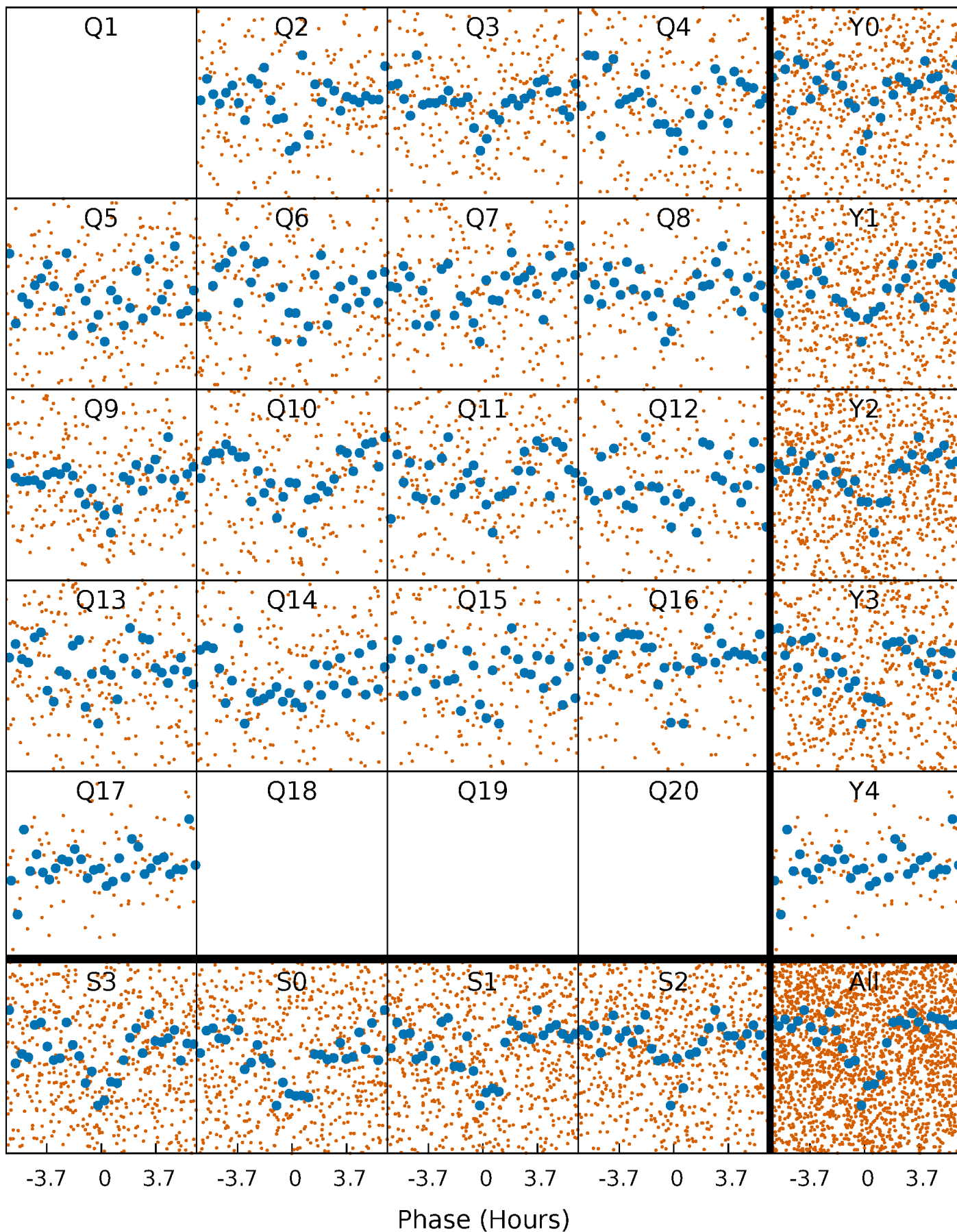


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



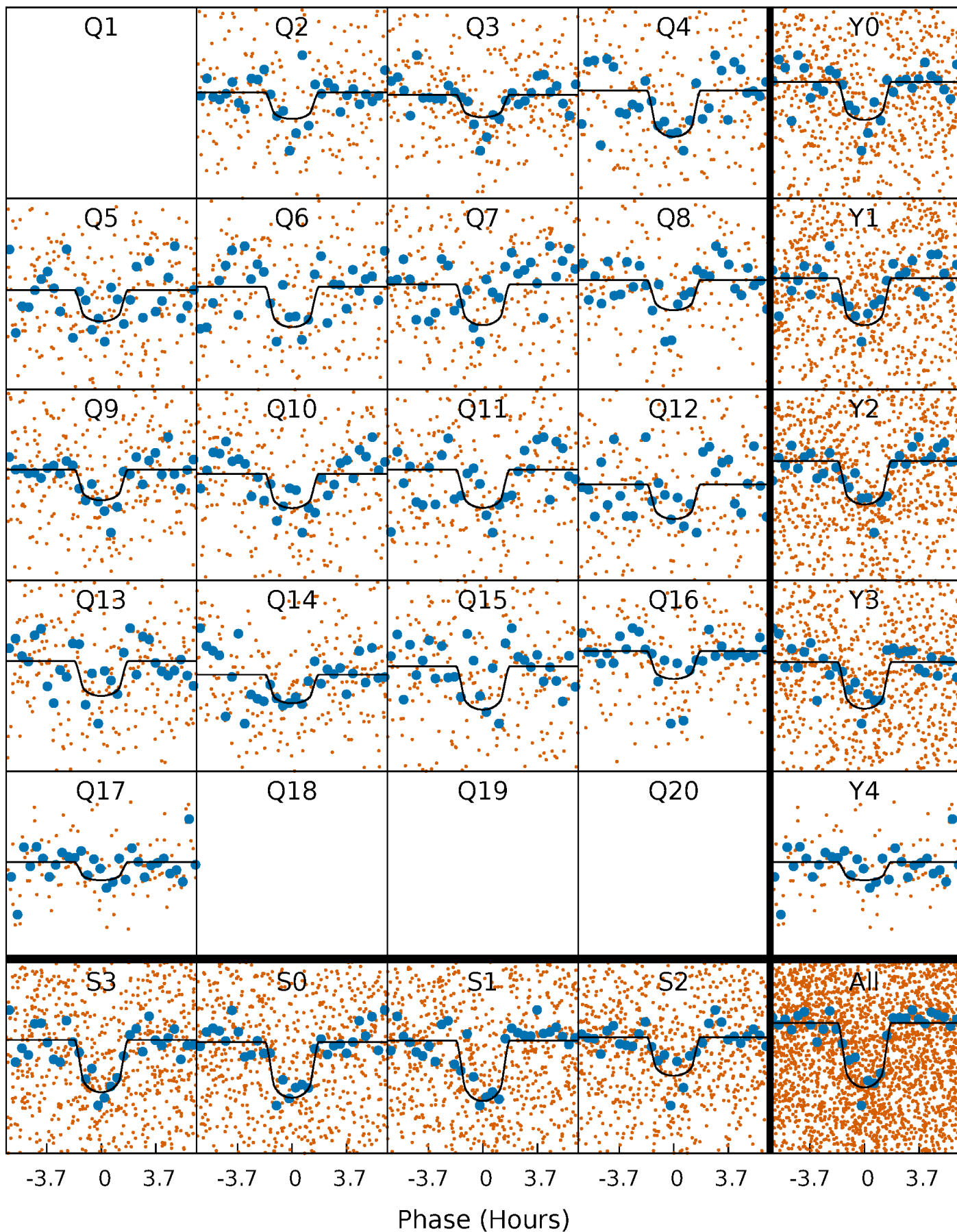
PDC Quarter-Phased Transit Curves

TCE 004915638-01 P= 8.630432 Days $T_0=139.582033$ (BKJD)



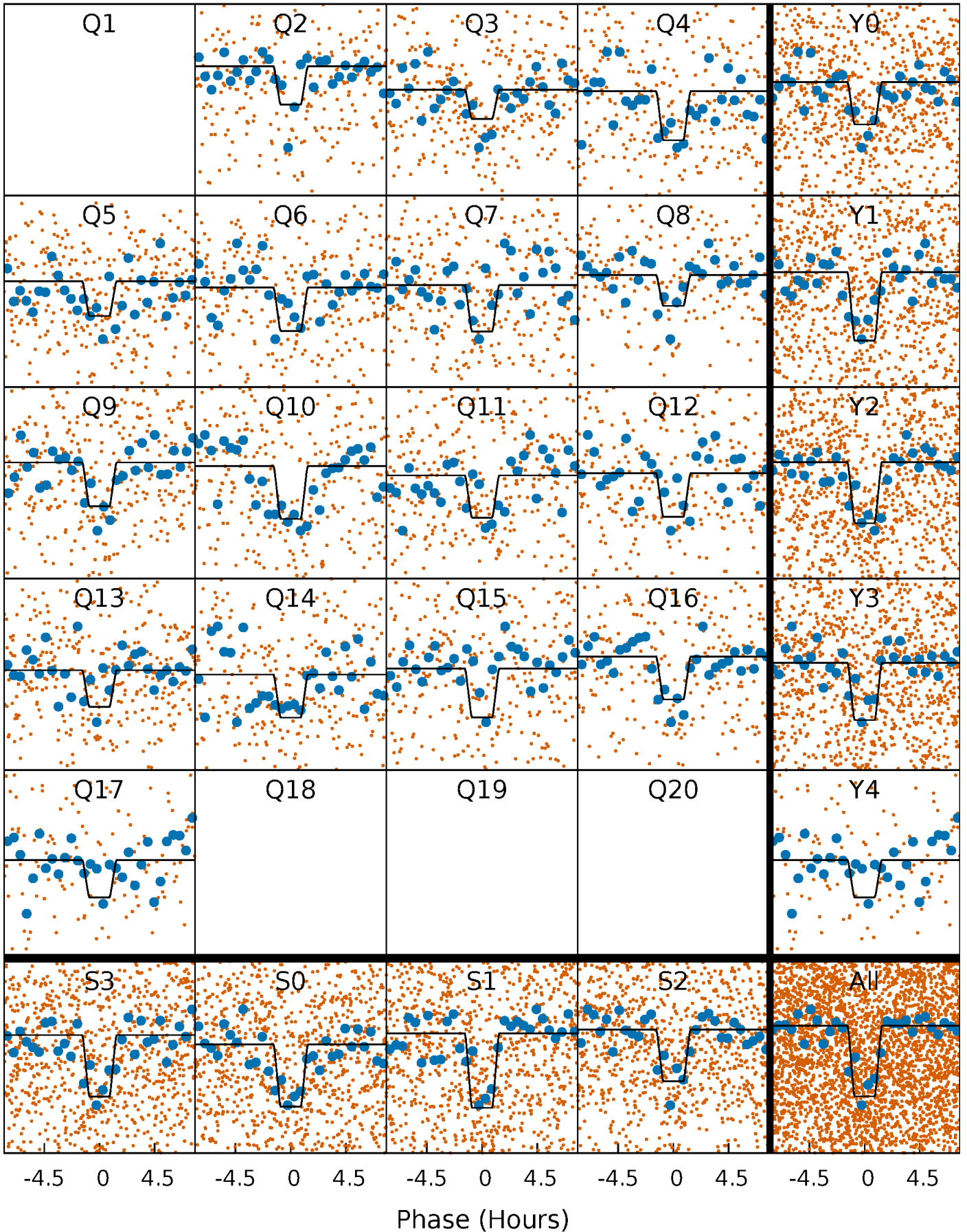
DV Quarter-Phased Transit Curves

TCE 004915638-01 P= 8.630432 Days $T_0=139.582033$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

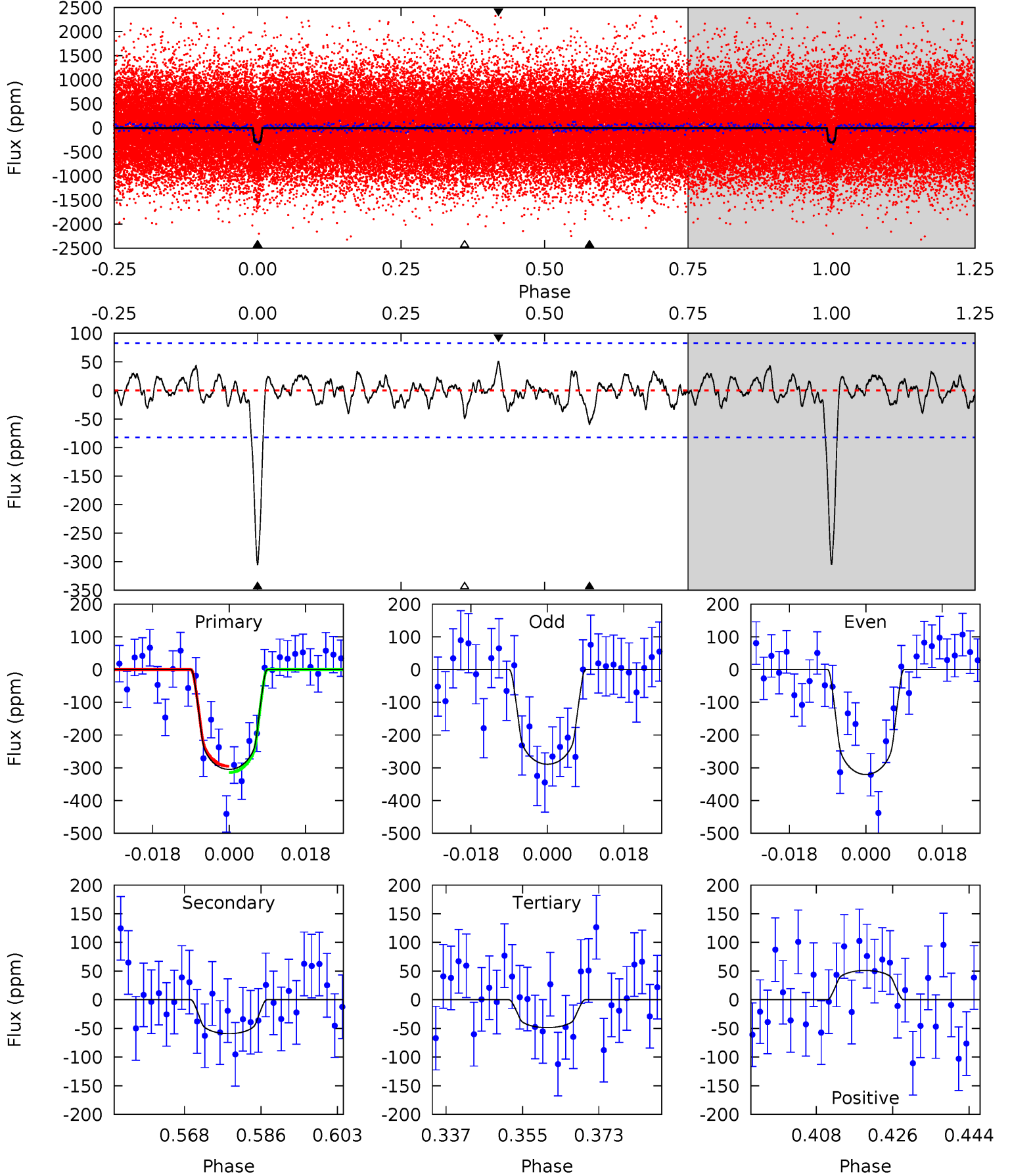
TCE 004915638-01 P= 8.630469 Days $T_0=139.581417$ (BKJD)



DV Model-Shift Uniqueness Test

004915638-01, P = 8.630432 Days, E = 139.582033 Days

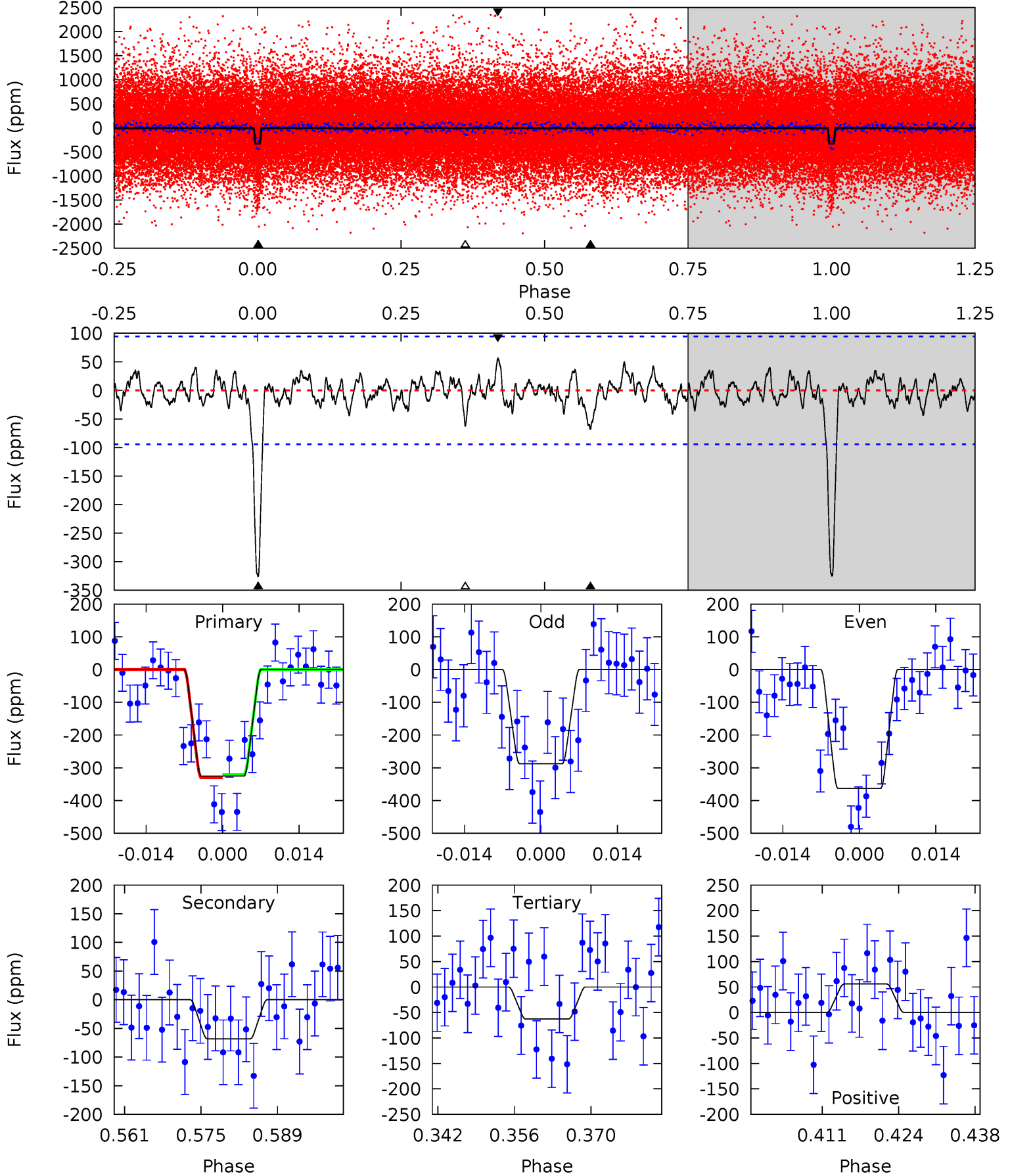
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	3.53	2.90	3.04	4.92	2.37	0.99	15.3	15.1	0.63	0.49	0.94	1.06	0.14	0.57



Alt Model-Shift Uniqueness Test

004915638-01, P = 8.630469 Days, E = 139.581417 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	3.59	3.31	2.94	4.97	2.47	0.96	13.8	14.2	0.28	0.65	1.98	1.09	0.15	0.25



Stellar Parameters For KIC 004915638

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5352^{+159}_{-159}	$4.599^{+0.035}_{-0.112}$	$-0.180^{+0.300}_{-0.300}$	$0.764^{+0.132}_{-0.066}$	$0.857^{+0.078}_{-0.104}$	$2.702^{+0.510}_{-0.948}$
	+3%/-3%	+1%/-2%	+167%/-167%	+17%/-9%	+9%/-12%	+19%/-35%
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 004915638-01 / KOI 2617.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-59 ± 17	$1.74^{+0.91}_{-0.92}$	1050^{+44}_{-44}	3699^{+1146}_{-509}	66^{+221}_{-41}
Alt.	-68 ± 19	$1.70^{+0.97}_{-0.84}$	1050^{+49}_{-42}	3840^{+1101}_{-598}	79^{+234}_{-50}

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

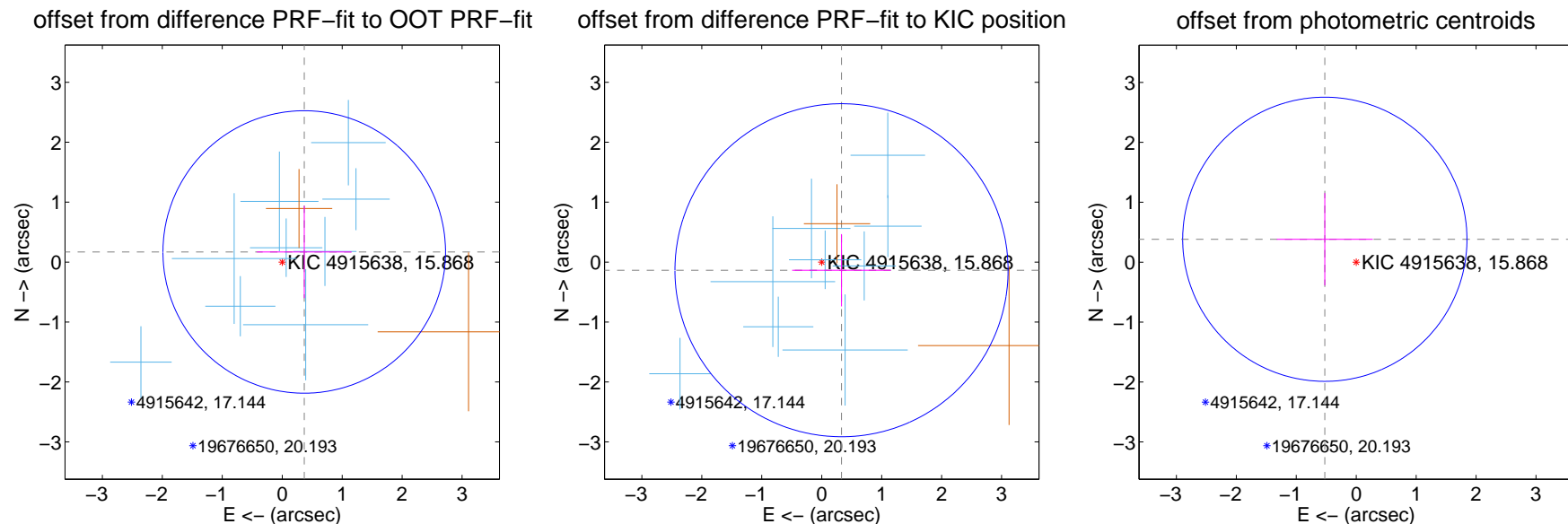
DV Centroid Data

Supplemental centroid analysis for 004915638-01. Kepler magnitude: 15.87. Transit SNR 14.34

There are 9 quarters with good PRF difference image offsets

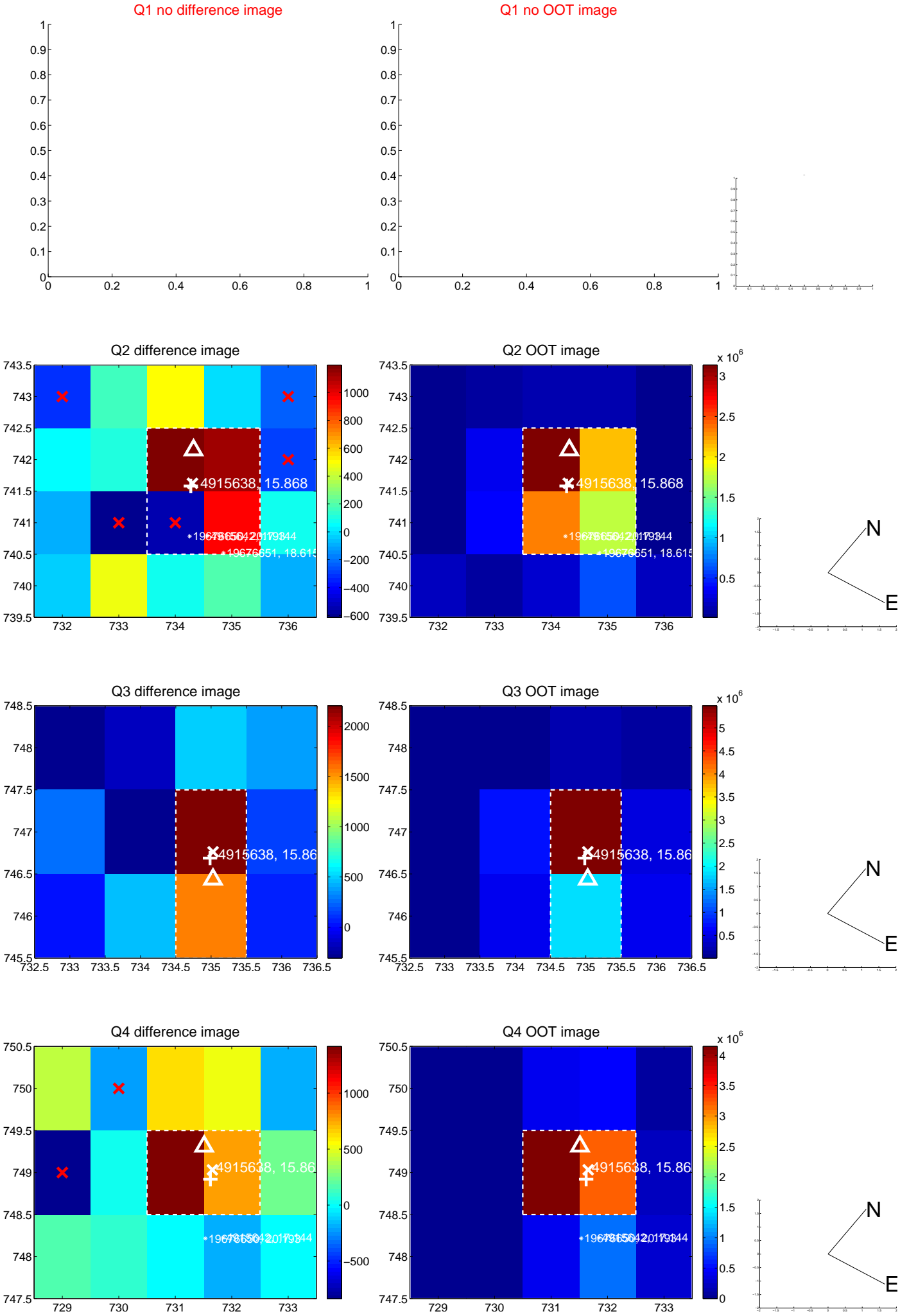
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.404 ± 0.786	0.51	-0.367 ± 0.789	0.169 ± 0.769
PRF-fit source offset from KIC position	0.357 ± 0.926	0.39	-0.330 ± 0.823	-0.136 ± 0.604
photometric centroid source offset	0.65 ± 0.79	0.82	0.52 ± 0.80	0.38 ± 0.77

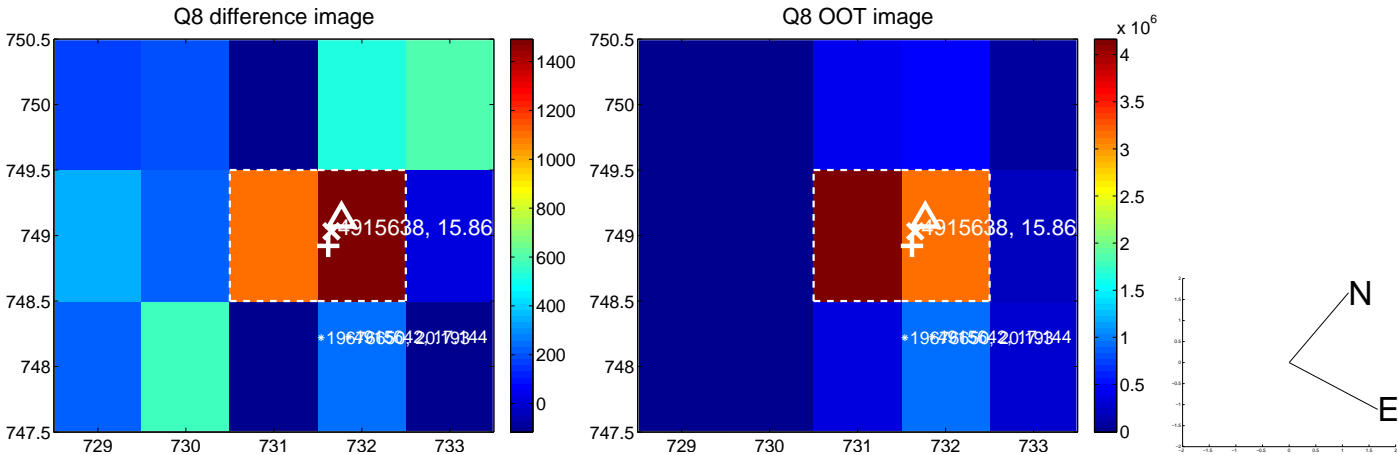
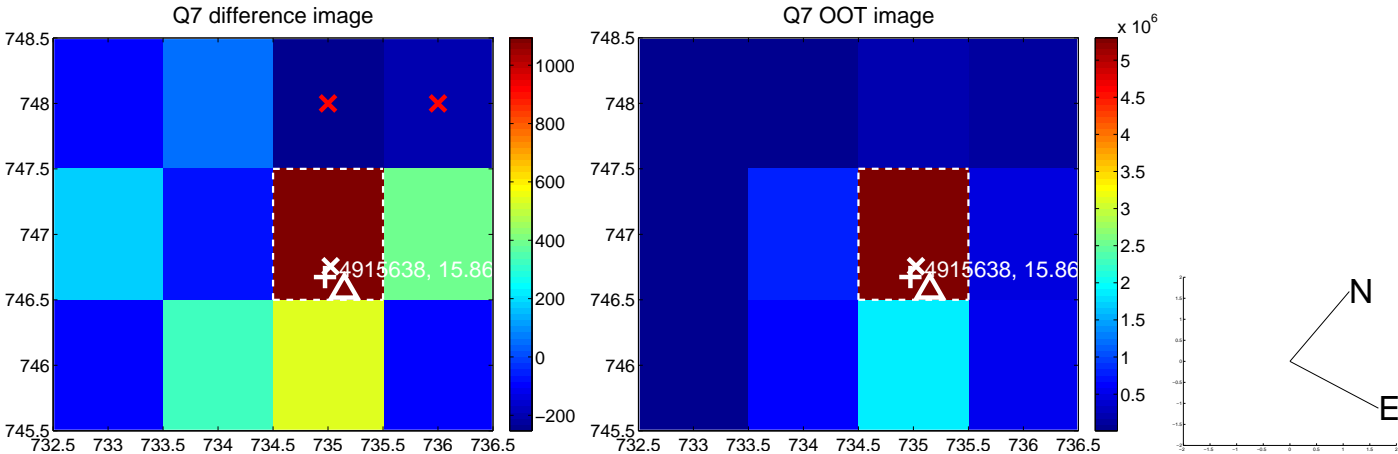
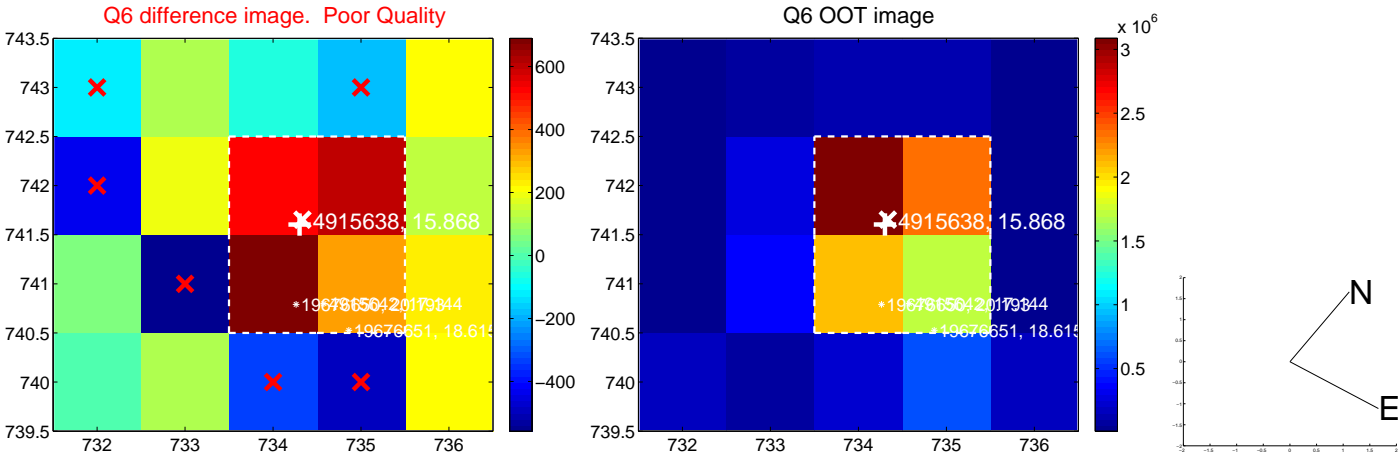
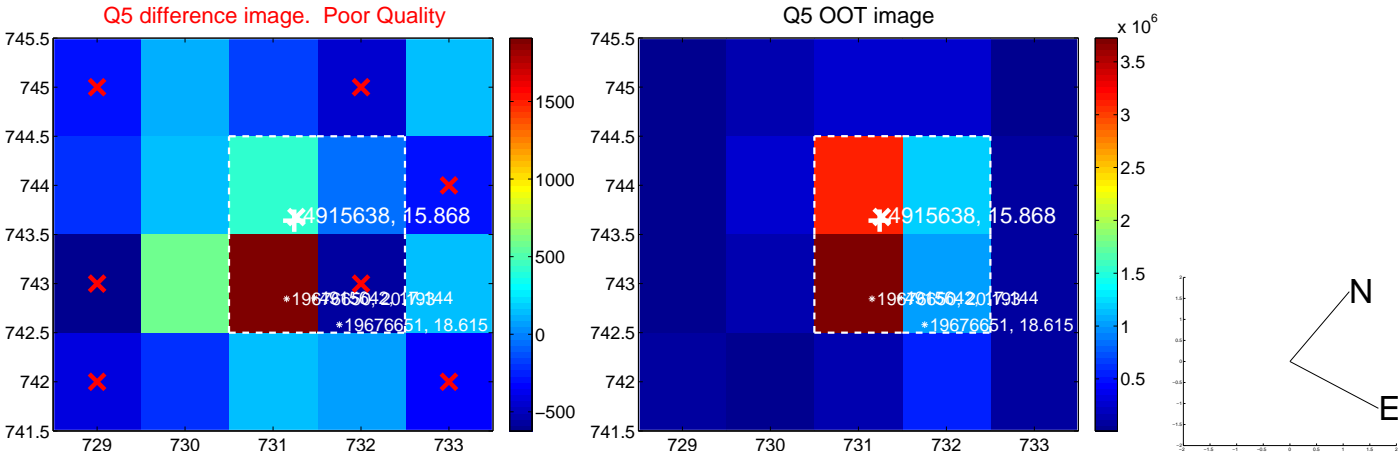


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

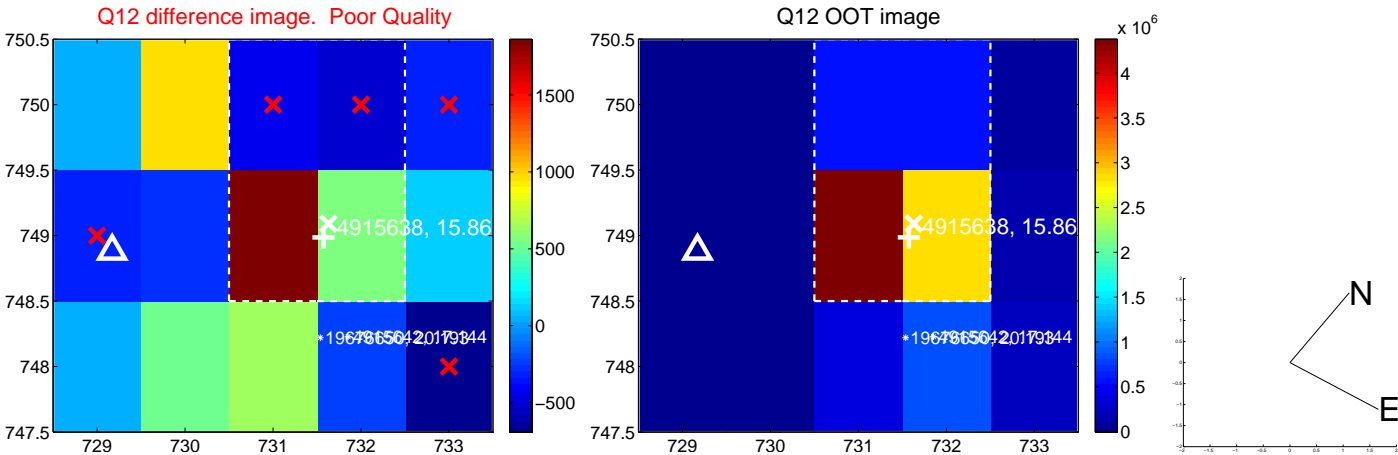
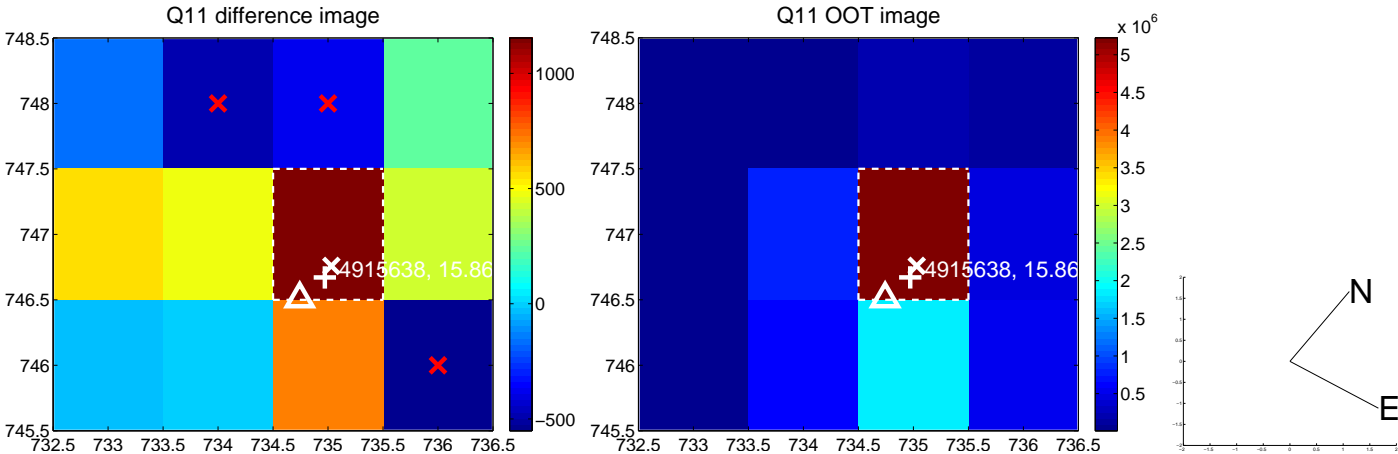
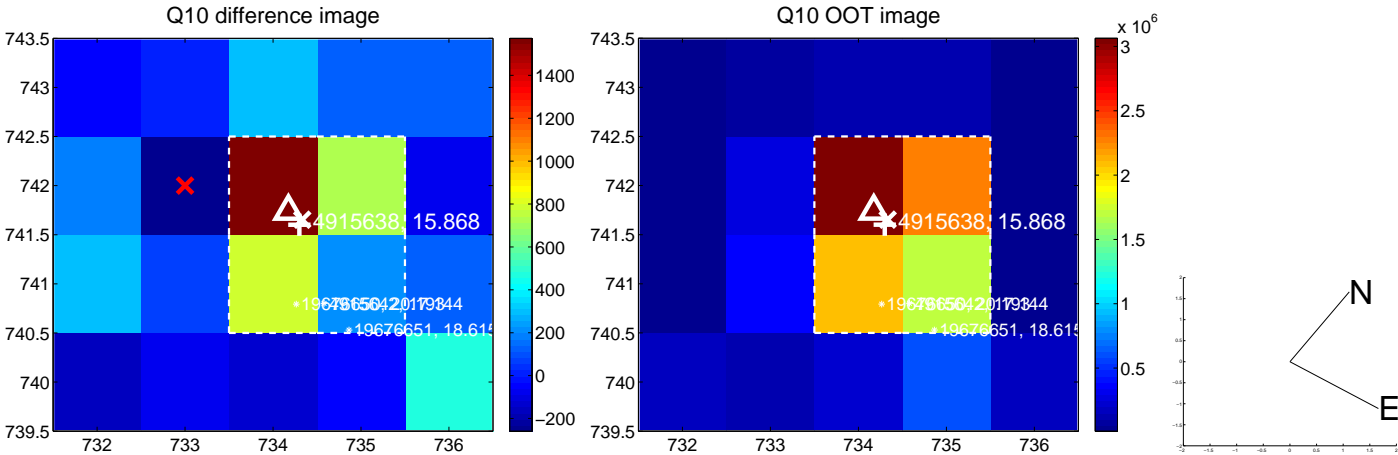
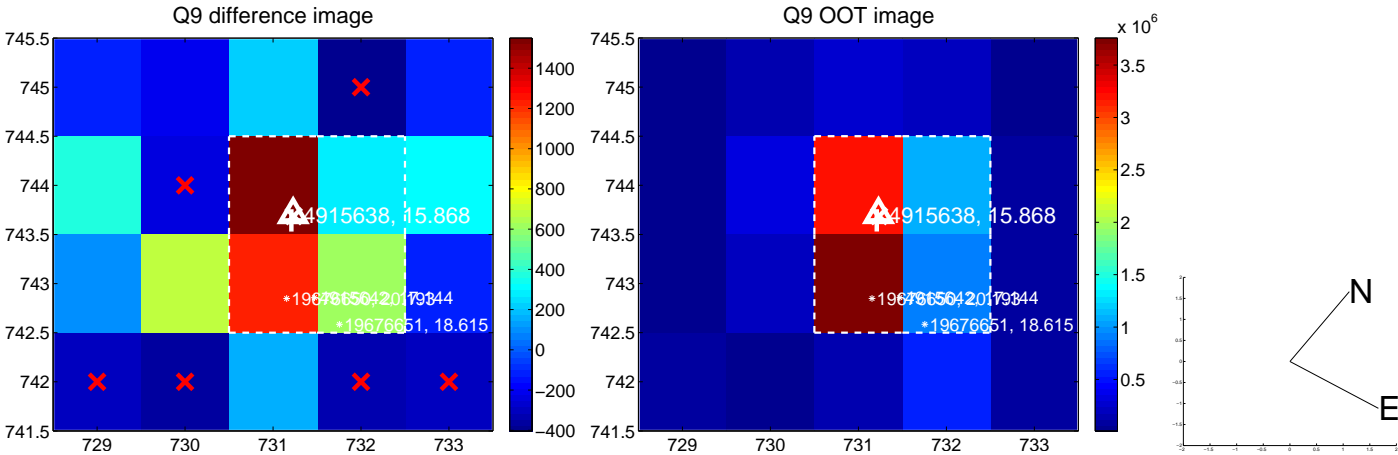
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



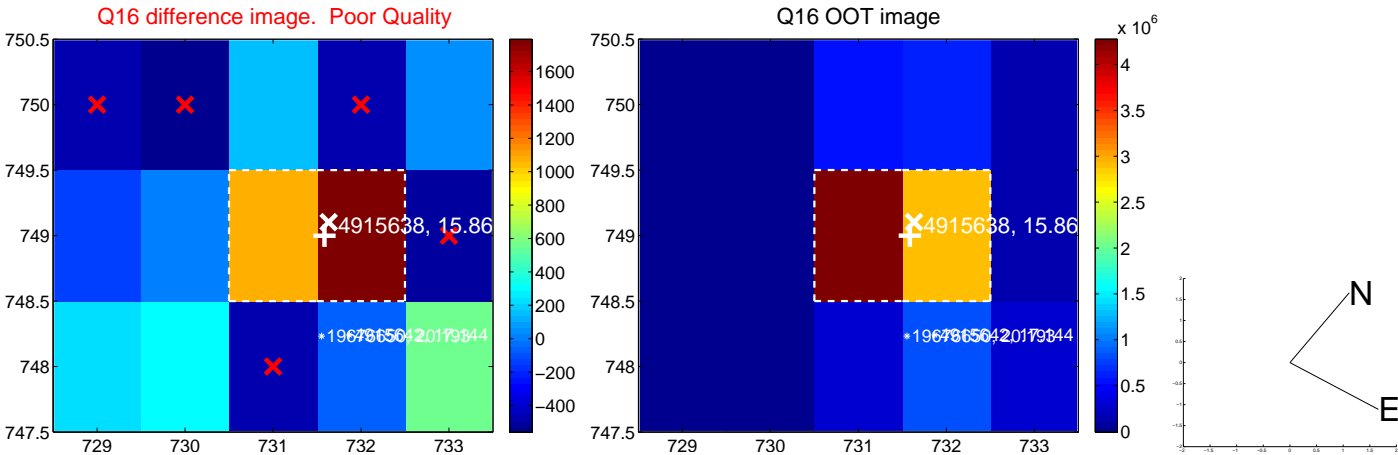
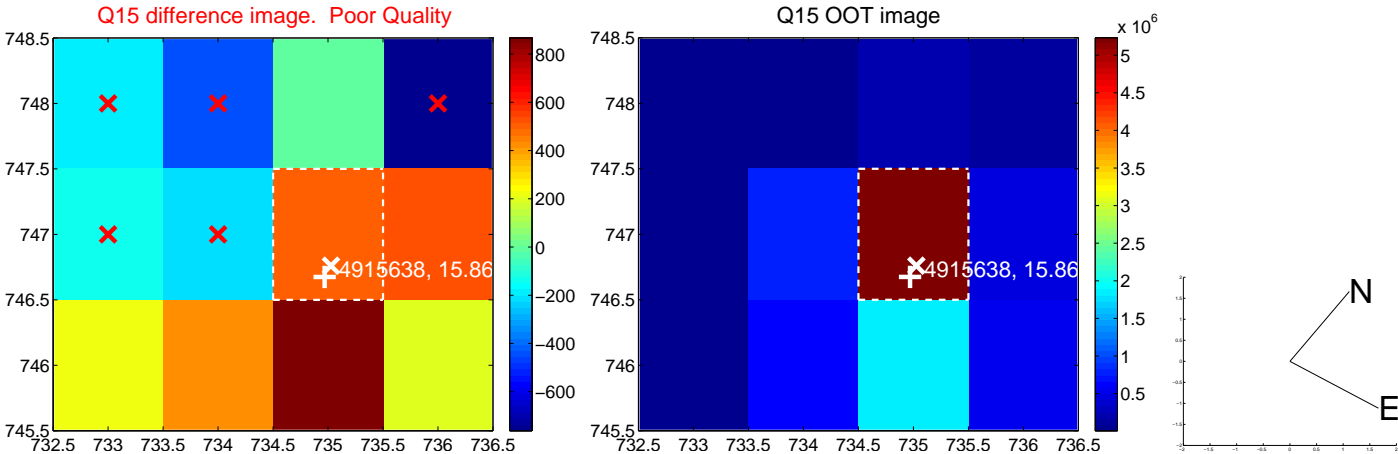
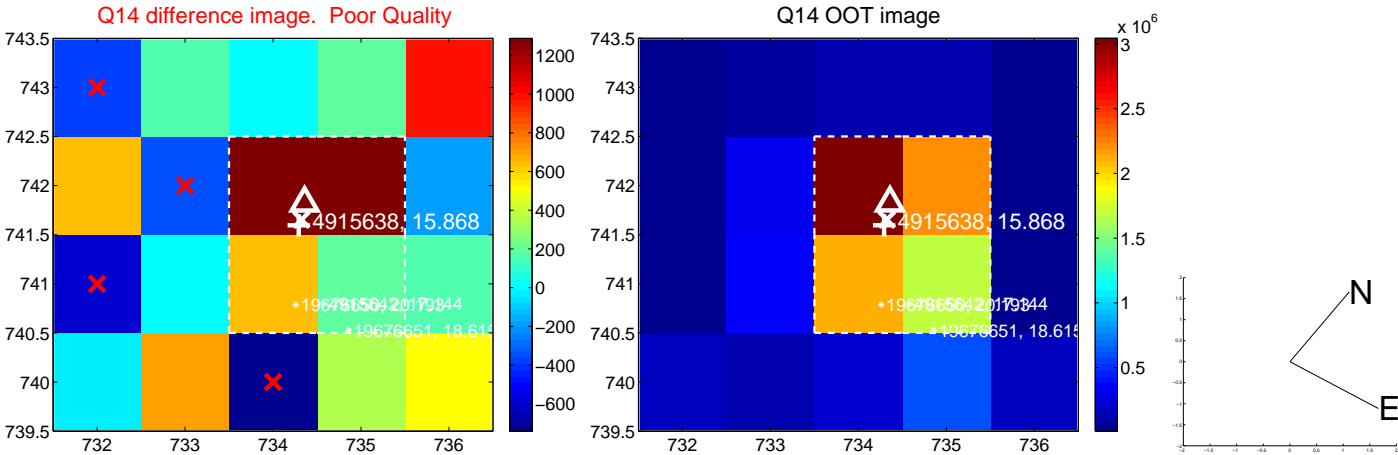
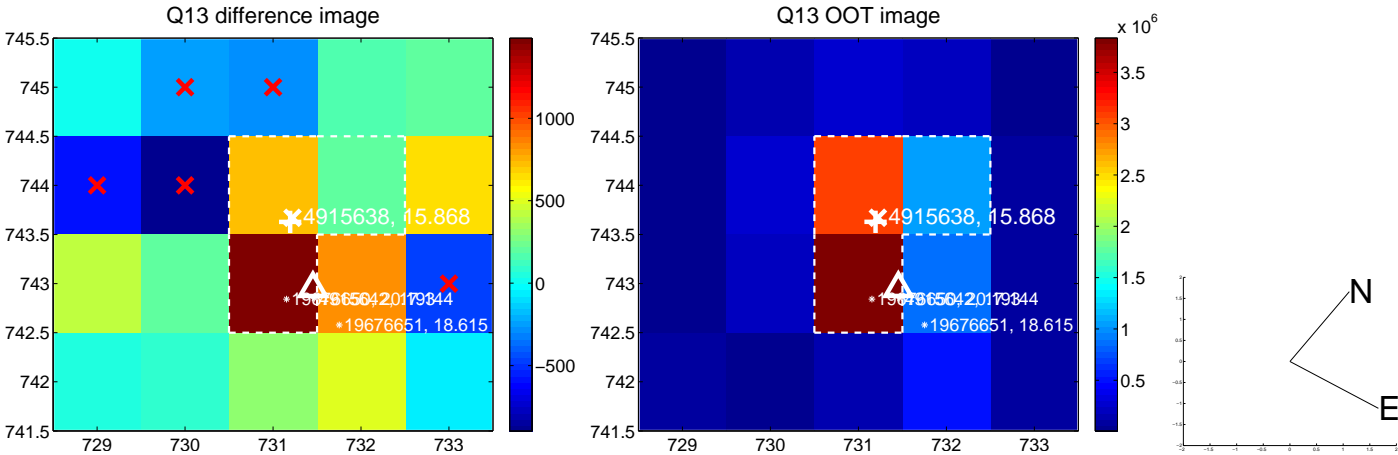
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



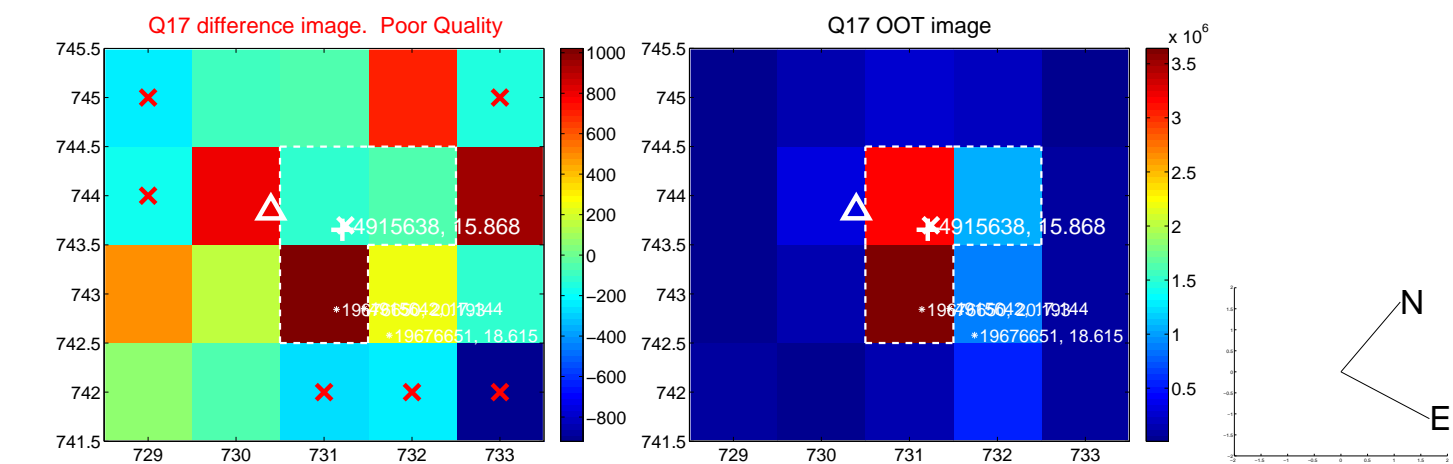
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



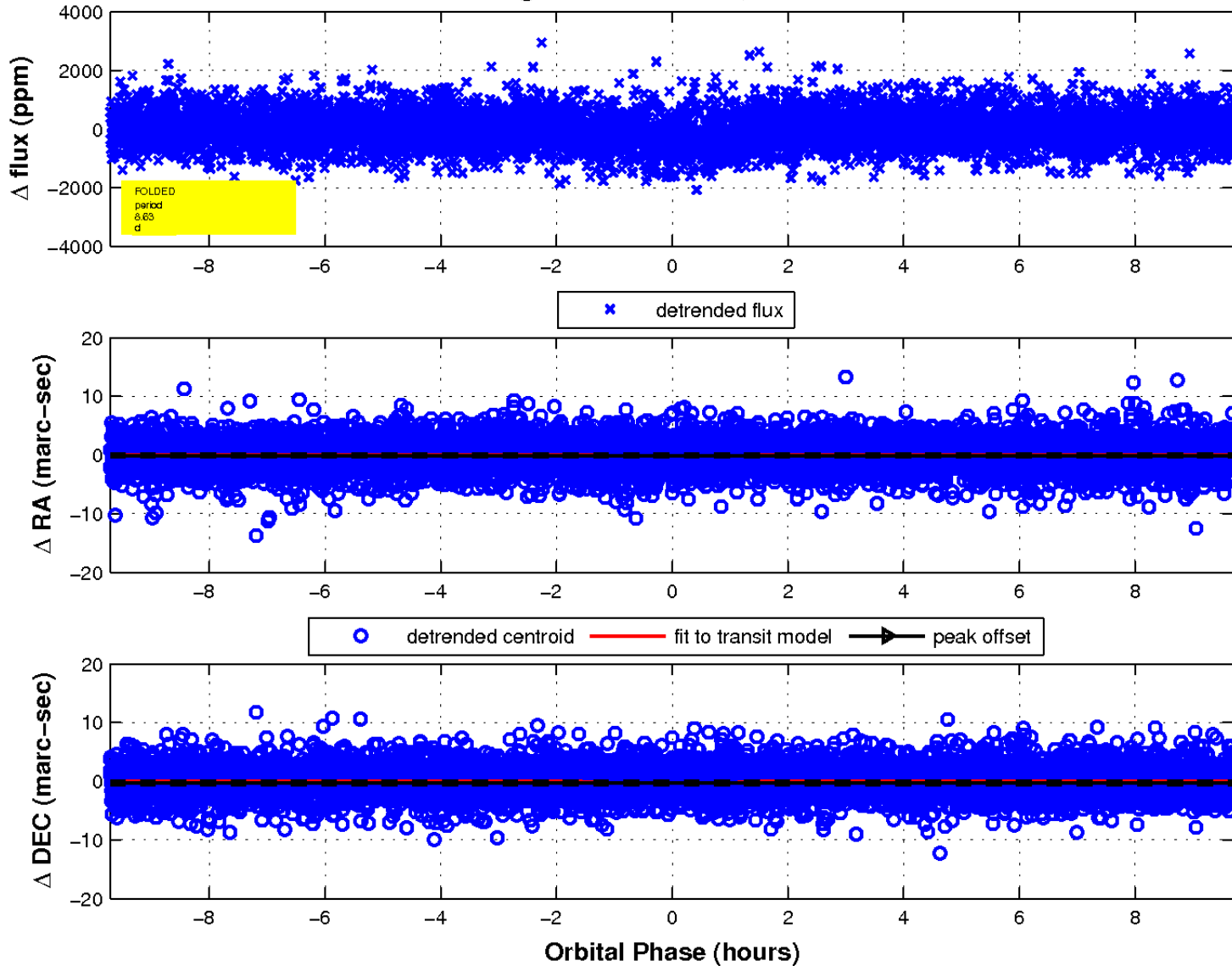
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

