

KIC 009100484

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})
009100484-01	OBS	1399.01	8.750555	139.480314	909.5	3.158	23.7	26.6	0.78	4942	2.92	51.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009100484-01	OBS	PC	1.00	0	0	0	0	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.

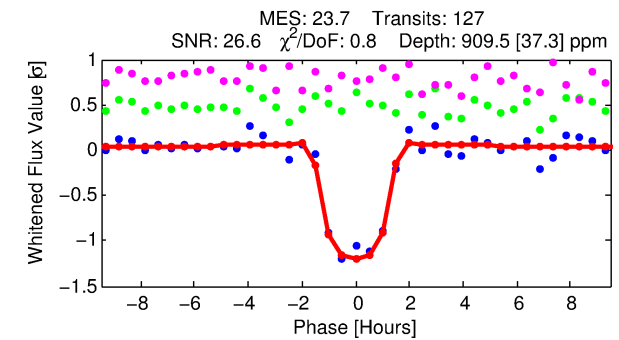
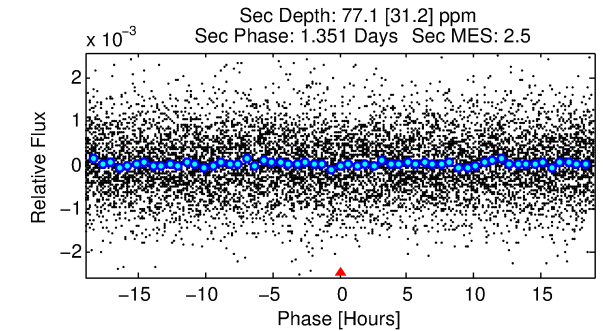
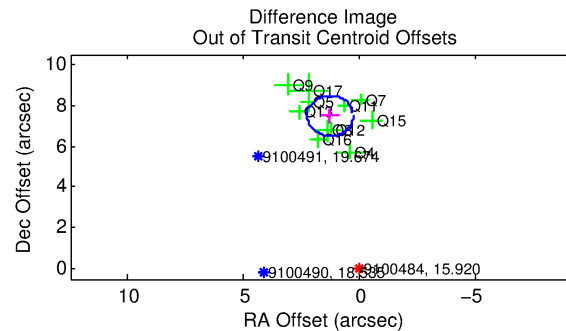
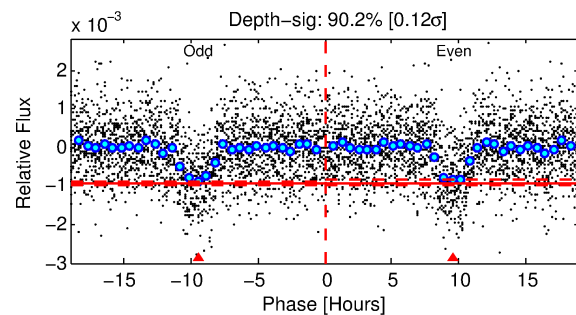
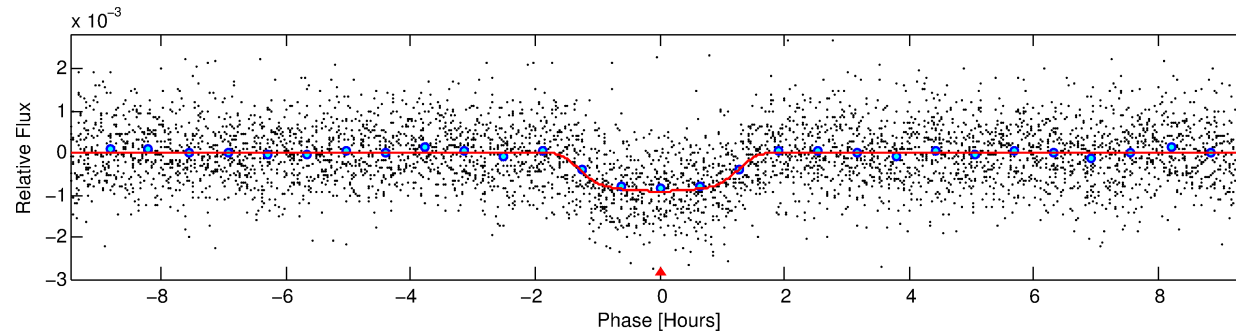
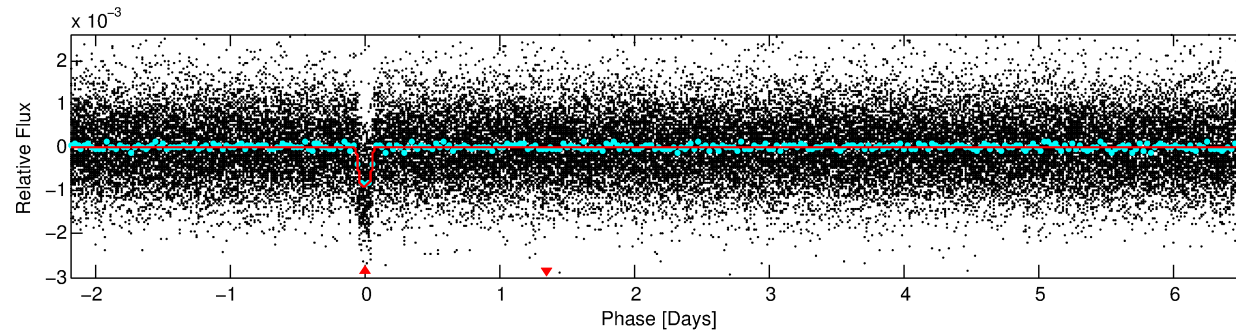
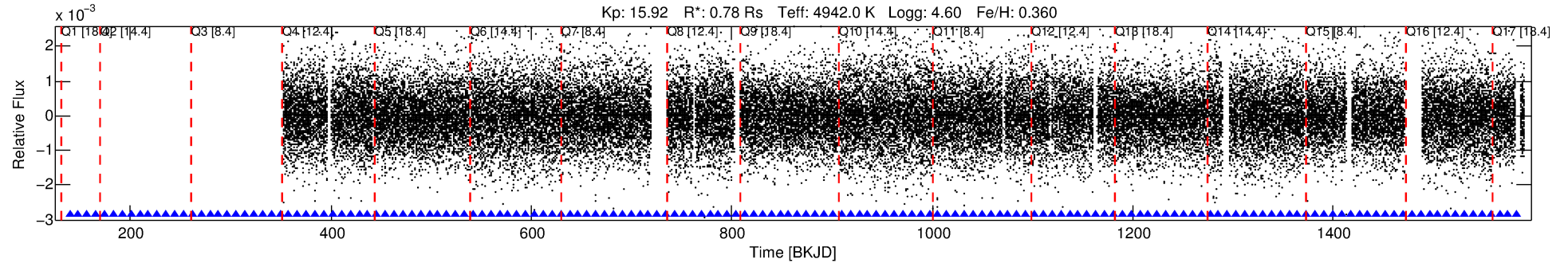
Ephemeris Match Information For 009100484-01

No Significant Match Found

DV One-Page Summary

KIC: 9100484 Candidate: 1 of 1 Period: 8.751 d
KOI: K01399.01 Corr: 0.961

Kp: 15.92 R*: 0.78 Rs Teff: 4942.0 K Logg: 4.60 Fe/H: 0.360



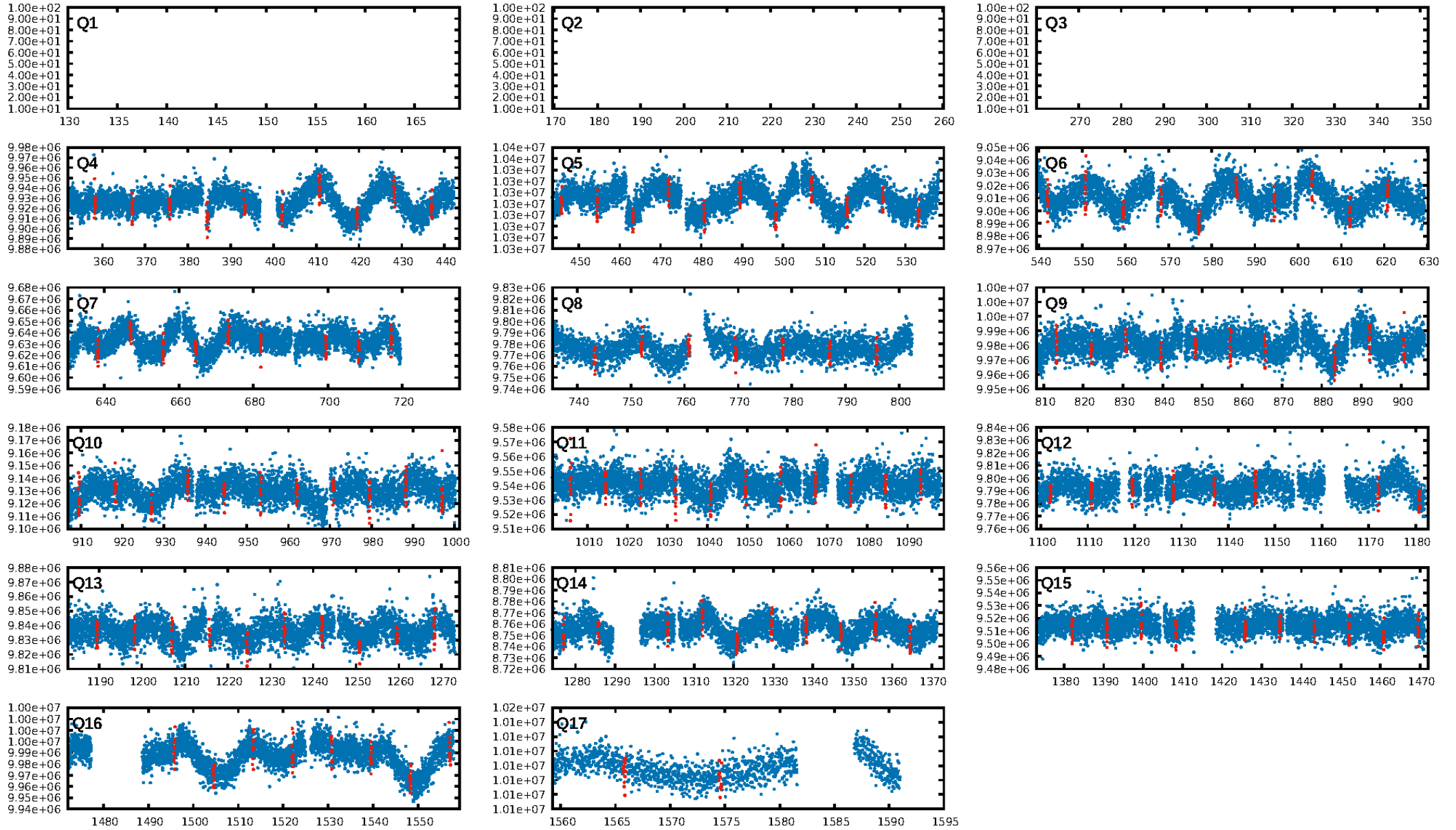
DV Fit Results:

Period = 8.75056 [0.00003] d
Epoch = 139.4803 [0.0031] BKJD
Rp/R* = 0.0344 [0.0028]
a/R* = 10.42 [2.95]
b = 0.91 [0.06]
Seff = 51.15 [10.00]
Teff = 682 [33] K
Rp = 2.92 [0.38] Re
a = 0.0796 [0.0070] AU
Ag = 31.49 [14.38] [2.12σ]
Teffp = 2498 [287] K [6.28σ]

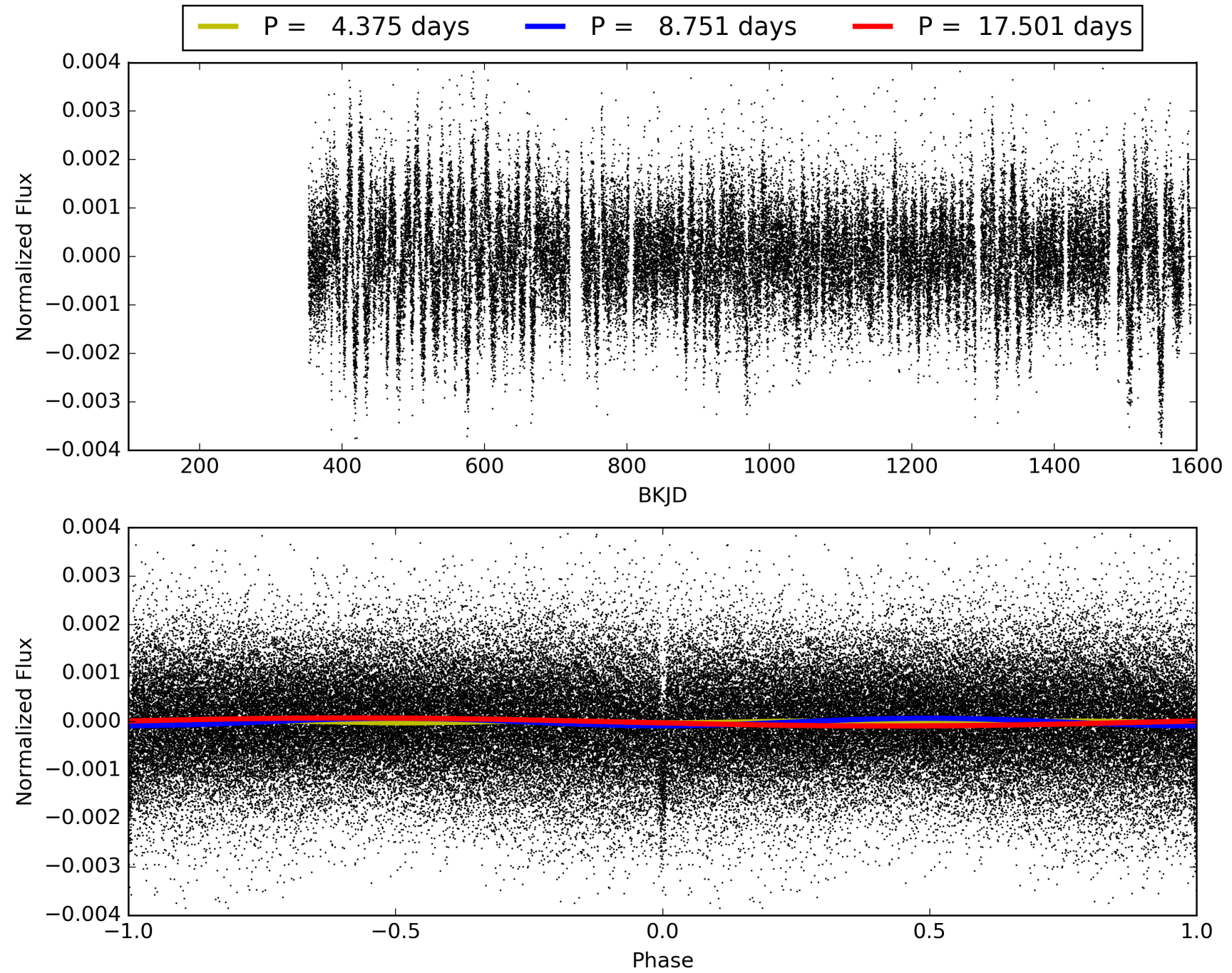
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.79e-119
RollingBand-fgt: 1.00 [125/125]
GhostDiagnostic-chr: 5.634
Centroid-sig: 0.0%
Centroid-so: 1.783 arcsec [6.13σ]
OotOffset-rm: 7.597 arcsec [22.94σ]
KicOffset-rm: 0.299 arcsec [1.45σ]
OotOffset-st: 0/3/4/4 [11]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 009100484-01, PDC Light Curves

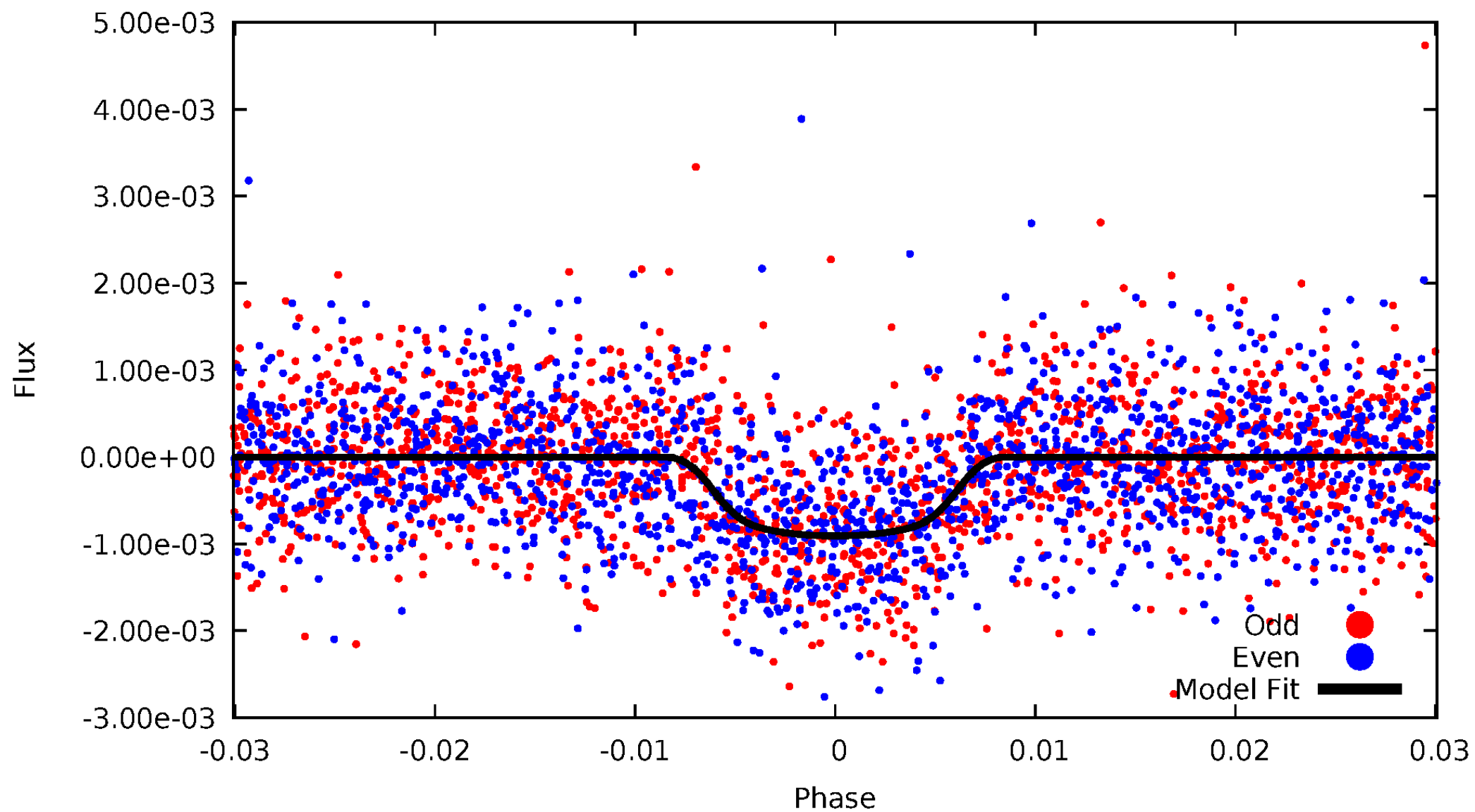


TCE 009100484-01



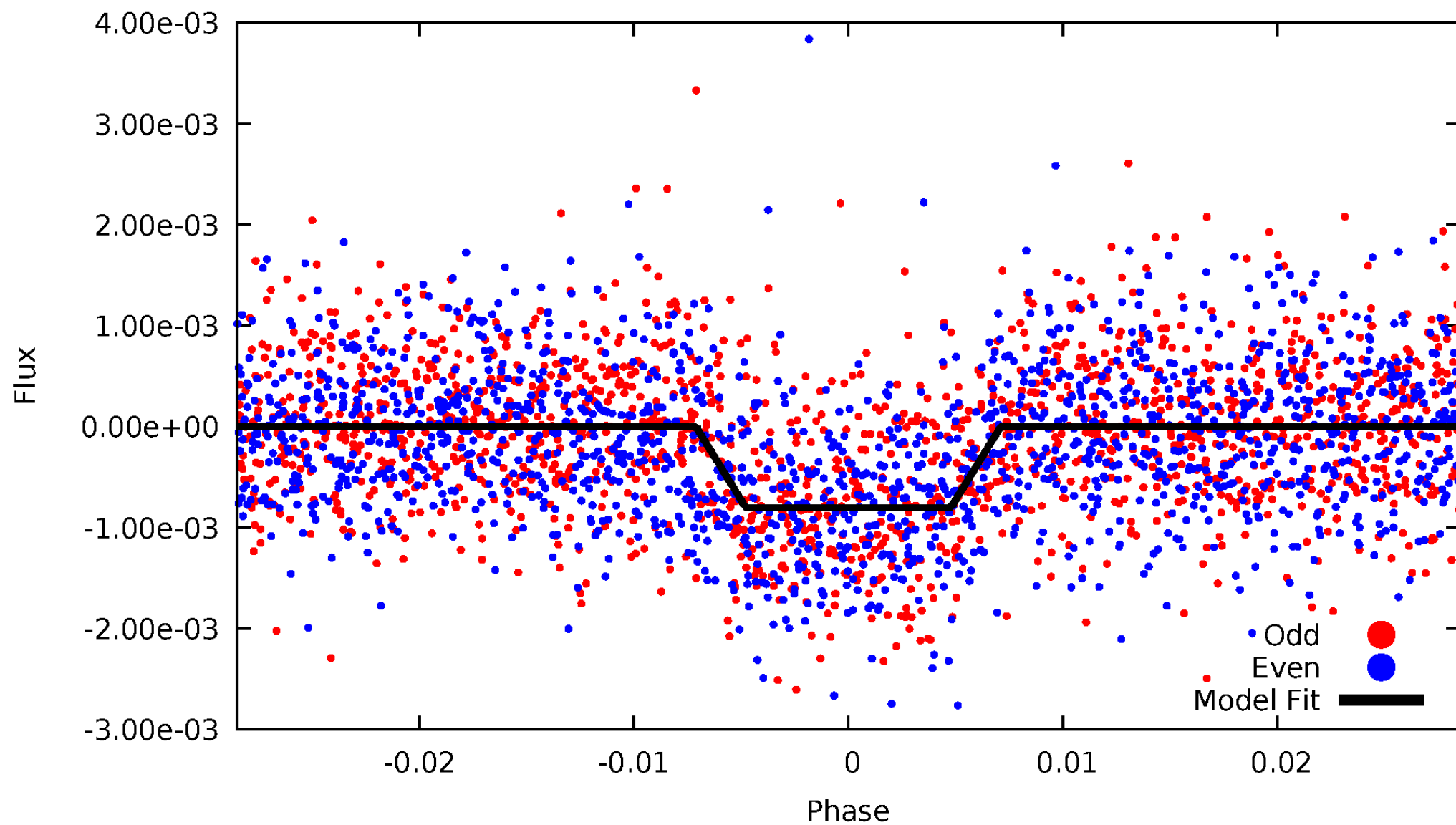
DV Odd/Even

TCE 009100484-01



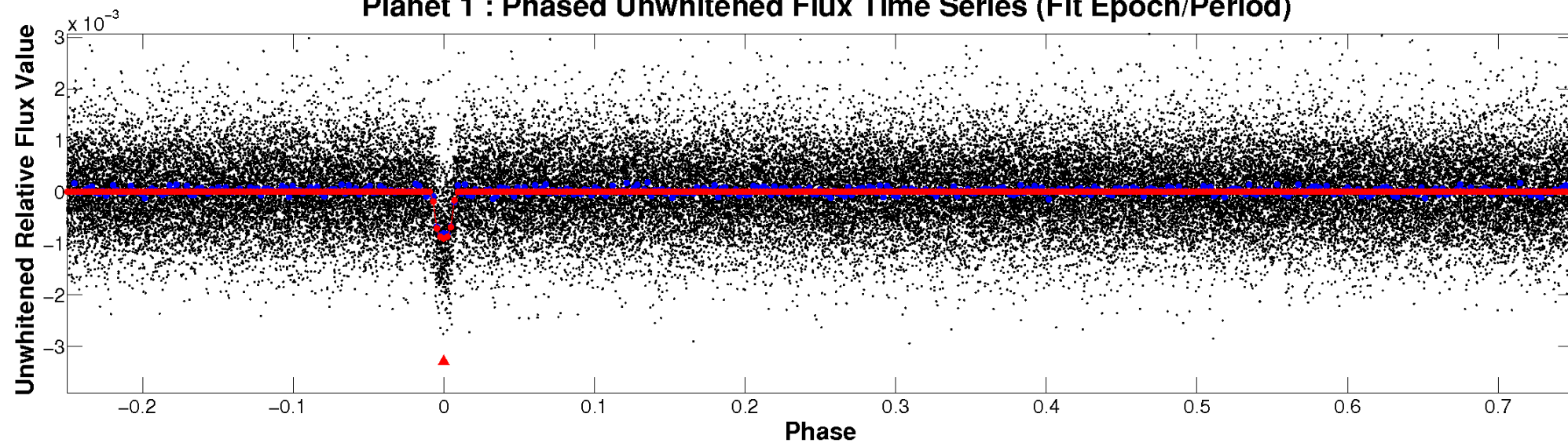
ALT Odd/Even

TCE 009100484-01

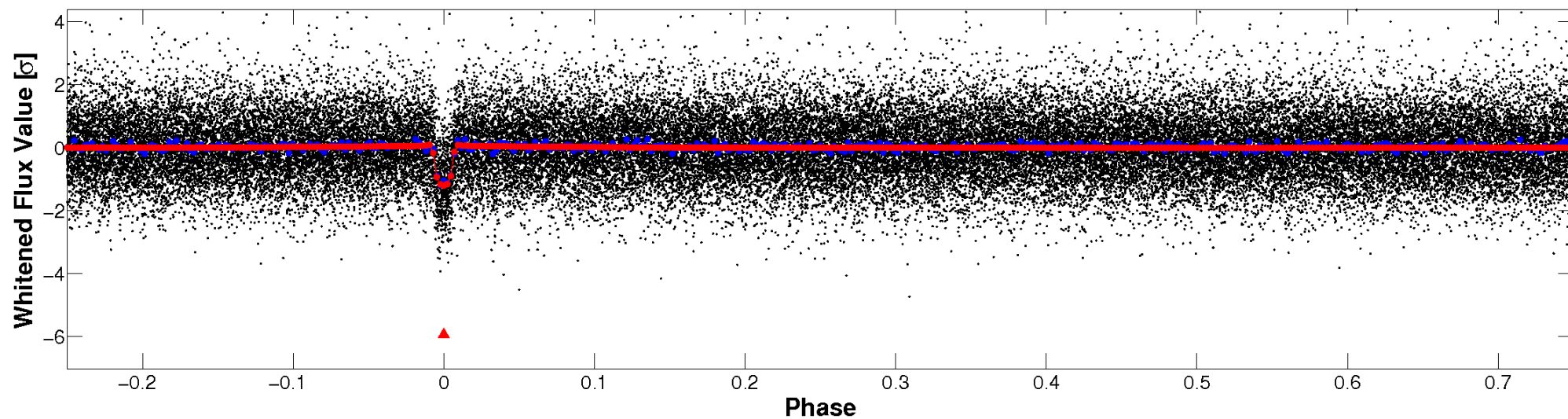


Non-Whitened Vs. Whitened Light Curve

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

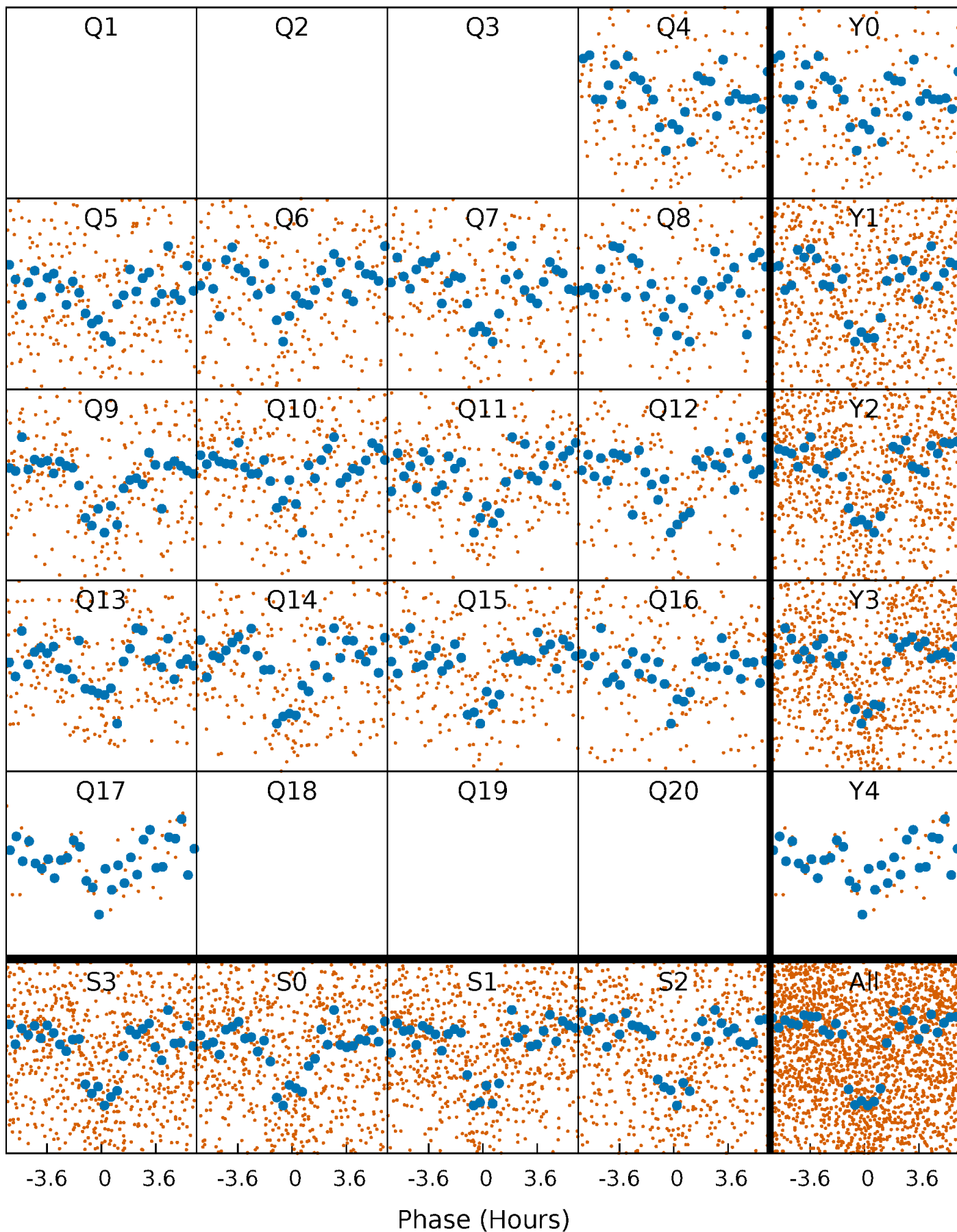


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



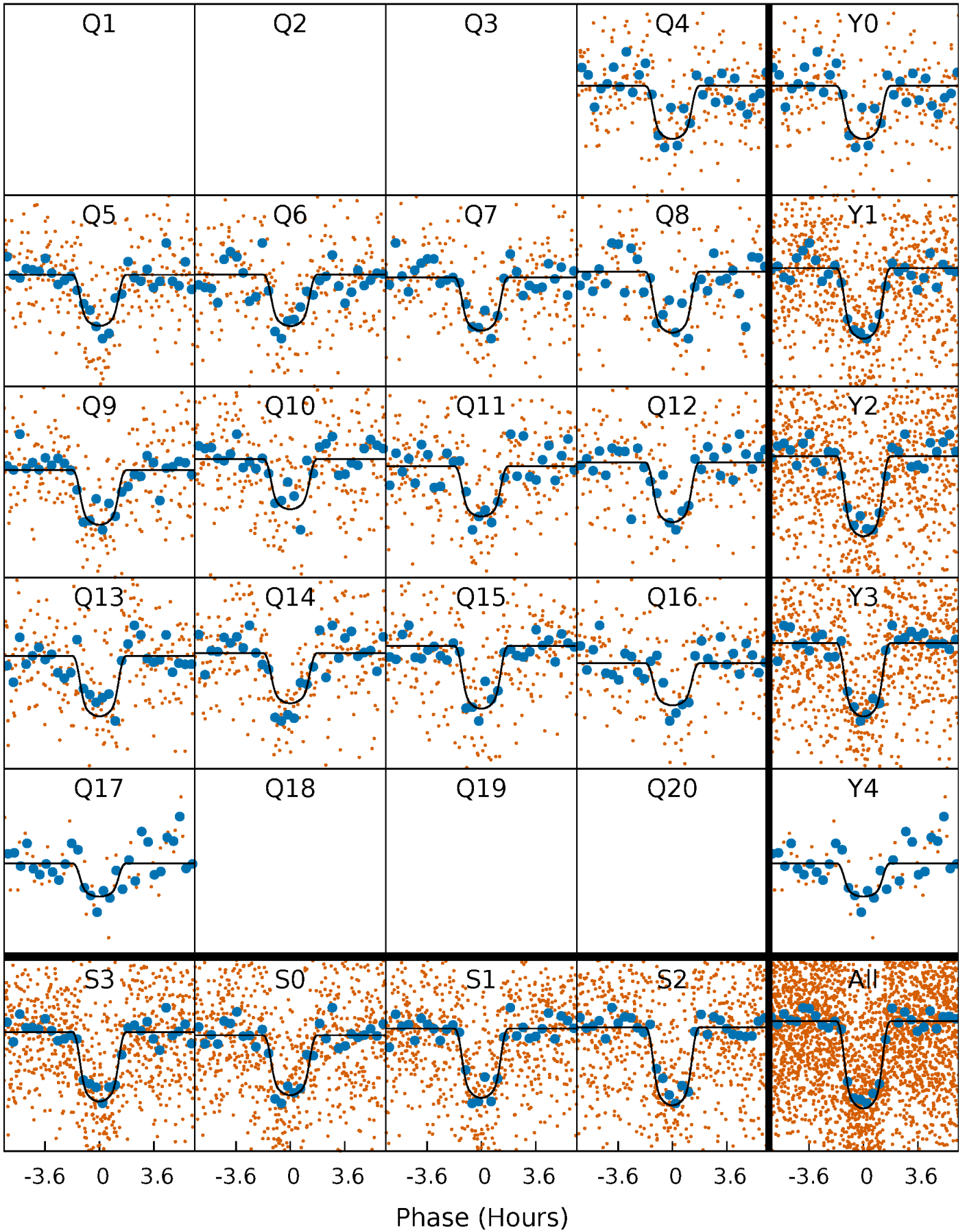
PDC Quarter-Phased Transit Curves

TCE 009100484-01 P= 8.750555 Days $T_0=139.480314$ (BKJD)



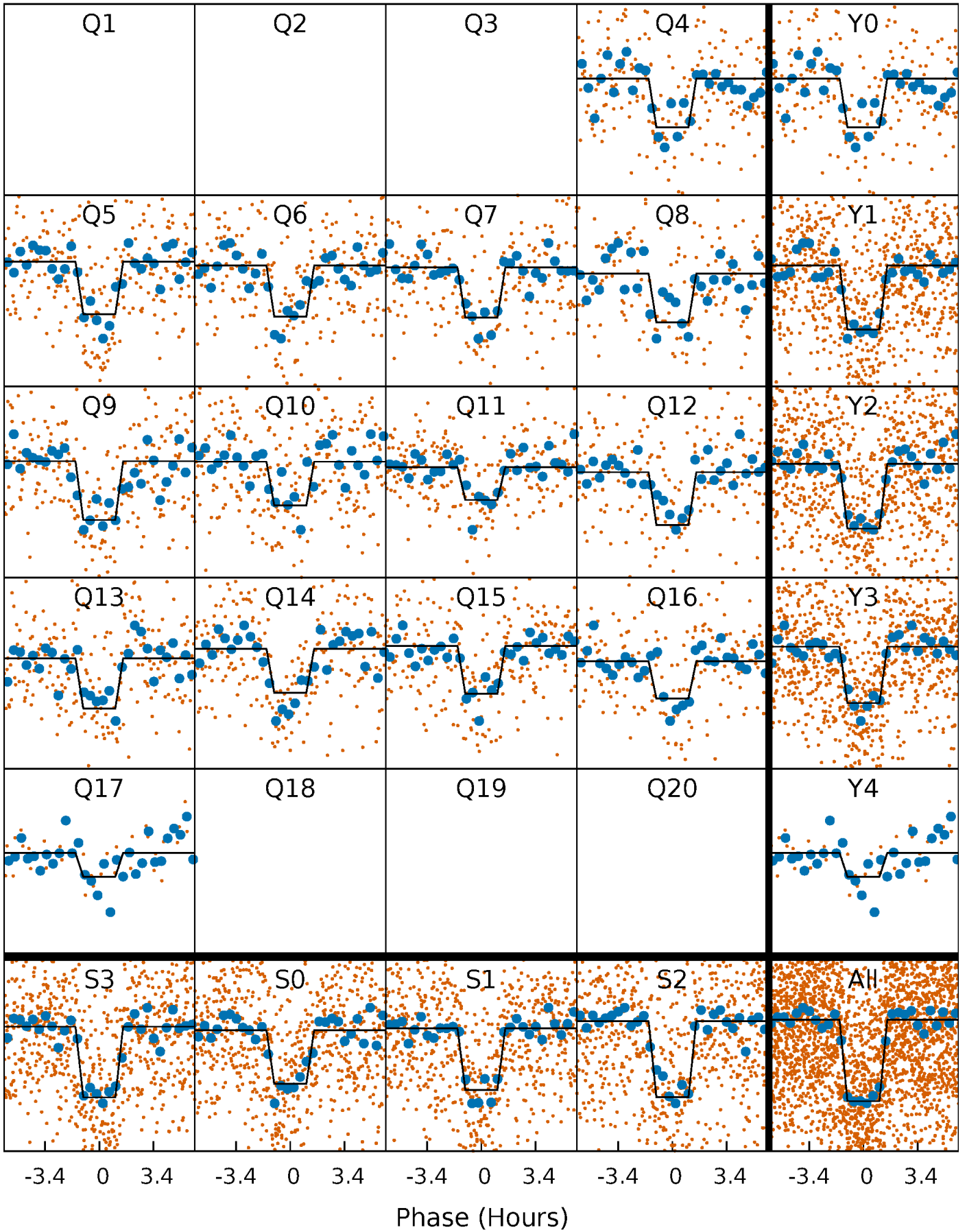
DV Quarter-Phased Transit Curves

TCE 009100484-01 P= 8.750555 Days $T_0=139.480314$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

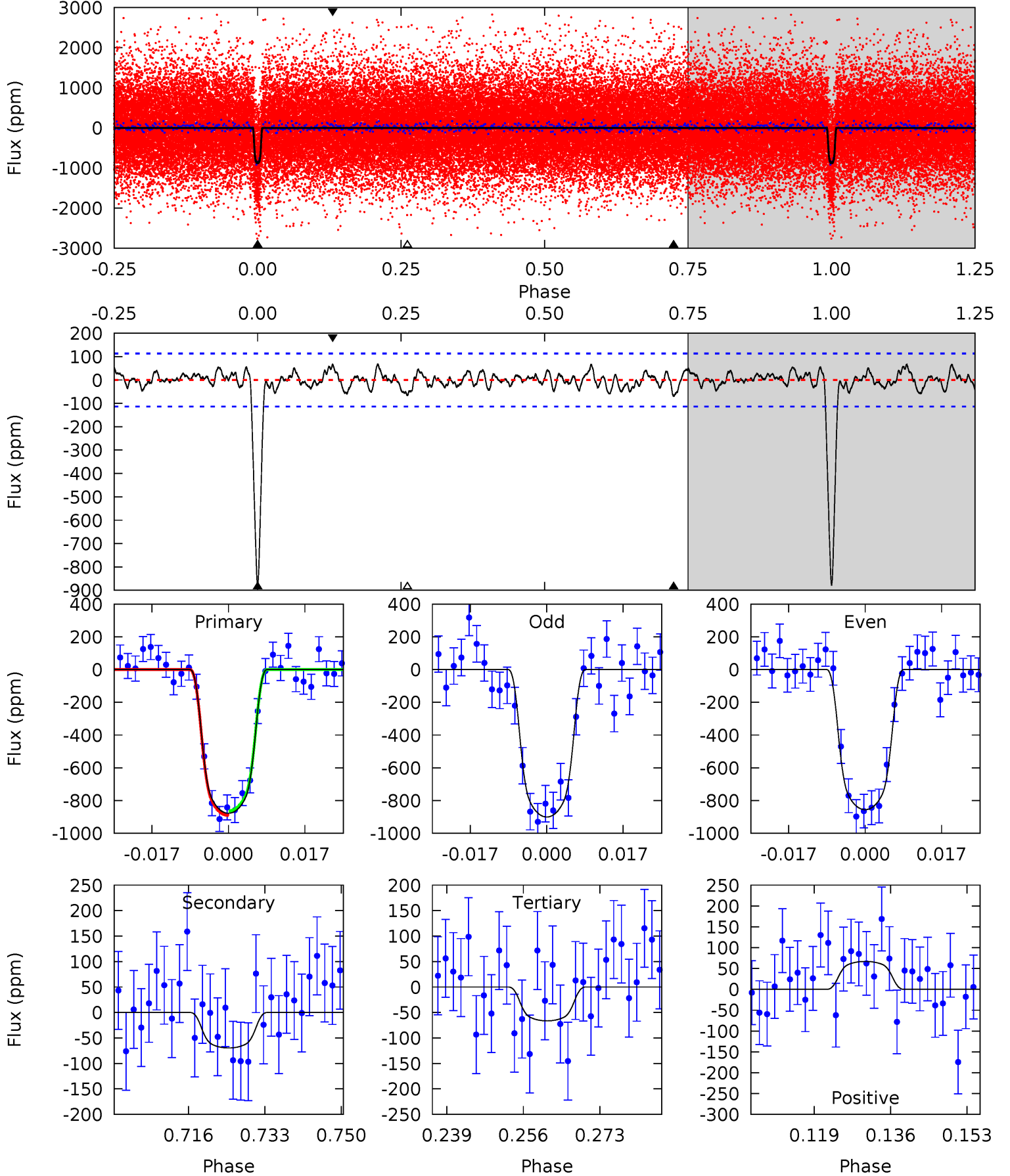
TCE 009100484-01 P= 8.750546 Days $T_0=139.482451$ (BKJD)



DV Model-Shift Uniqueness Test

009100484-01, P = 8.750555 Days, E = 139.480314 Days

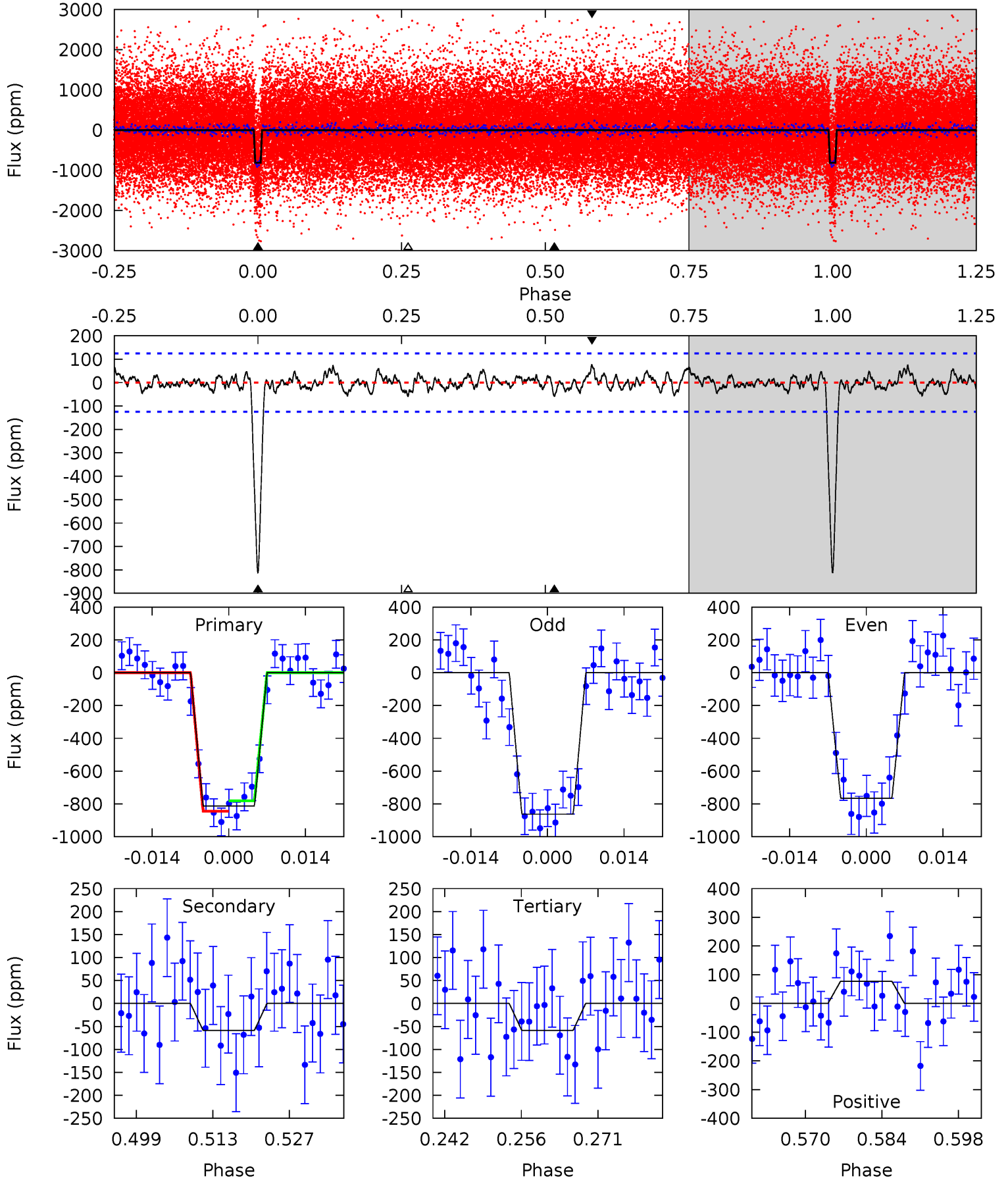
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.0	3.02	2.88	2.90	4.92	2.39	1.12	35.2	35.1	0.14	0.12	0.97	0.96	0.07	0.60



Alt Model-Shift Uniqueness Test

009100484-01, P = 8.750546 Days, E = 139.482451 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.4	2.34	2.34	3.08	4.96	2.45	0.97	30.1	29.3	0.00	-0.74	1.96	0.97	0.09	1.29



Stellar Parameters For KIC 009100484

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4942^{+177}_{-177}	$4.599^{+0.020}_{-0.075}$	$0.360^{+0.100}_{-0.300}$	$0.779^{+0.078}_{-0.046}$	$0.884^{+0.037}_{-0.085}$	$2.629^{+0.325}_{-0.585}$
	+4%/-4%	+0%/-2%	+28%/-83%	+10%/-6%	+4%/-10%	+12%/-22%
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 009100484-01 / KOI 1399.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-70 ± 23	$2.97^{+0.28}_{-0.27}$	965^{+40}_{-37}	3025^{+193}_{-192}	27^{+11}_{-10}
Alt.	-59 ± 25	$2.45^{+0.28}_{-0.26}$	965^{+40}_{-38}	3139^{+211}_{-262}	33^{+18}_{-15}

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 $A_{obs} \gg 1.0$

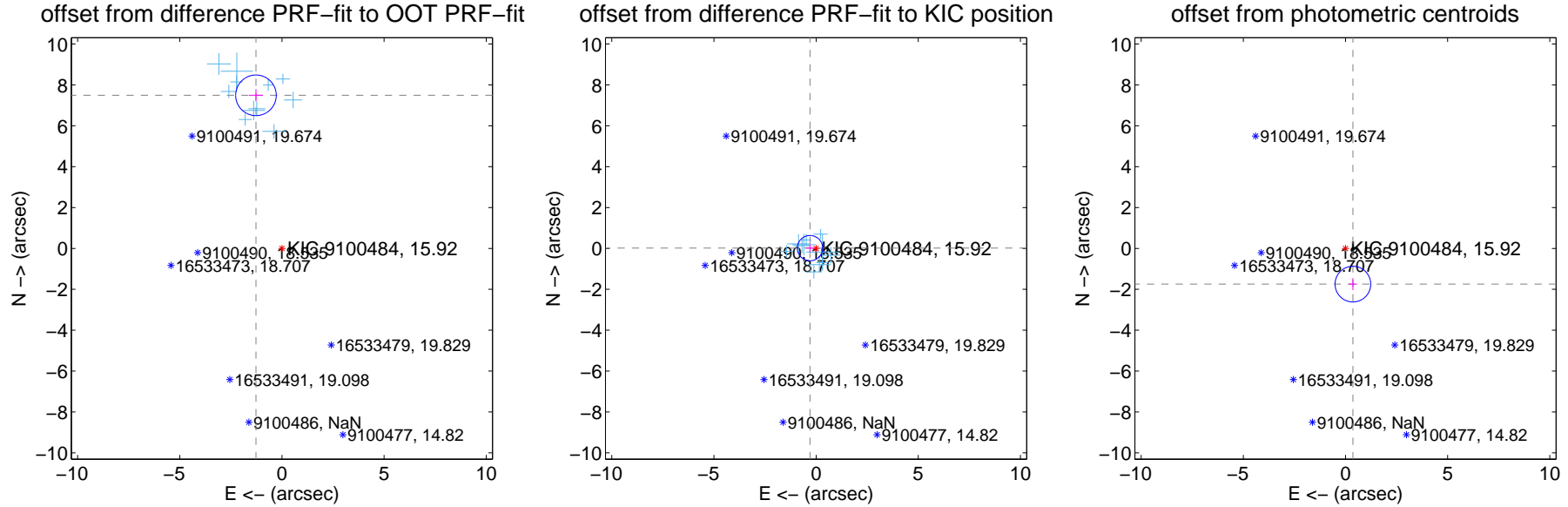
DV Centroid Data

Supplemental centroid analysis for 009100484-01. Kepler magnitude: 15.92. Transit SNR 26.60

There are 14 quarters with good PRF difference image offsets

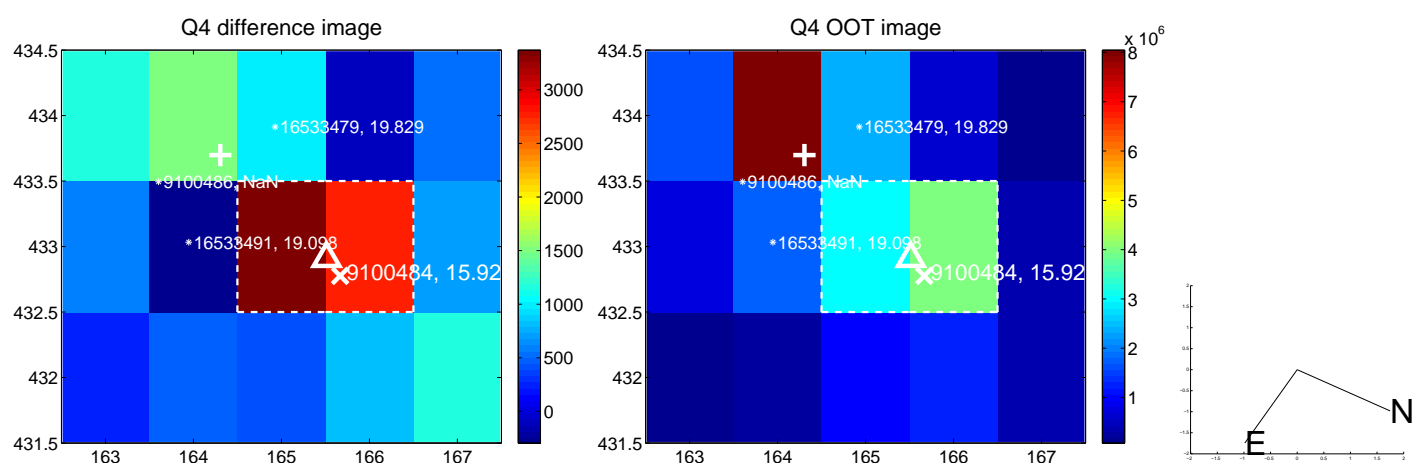
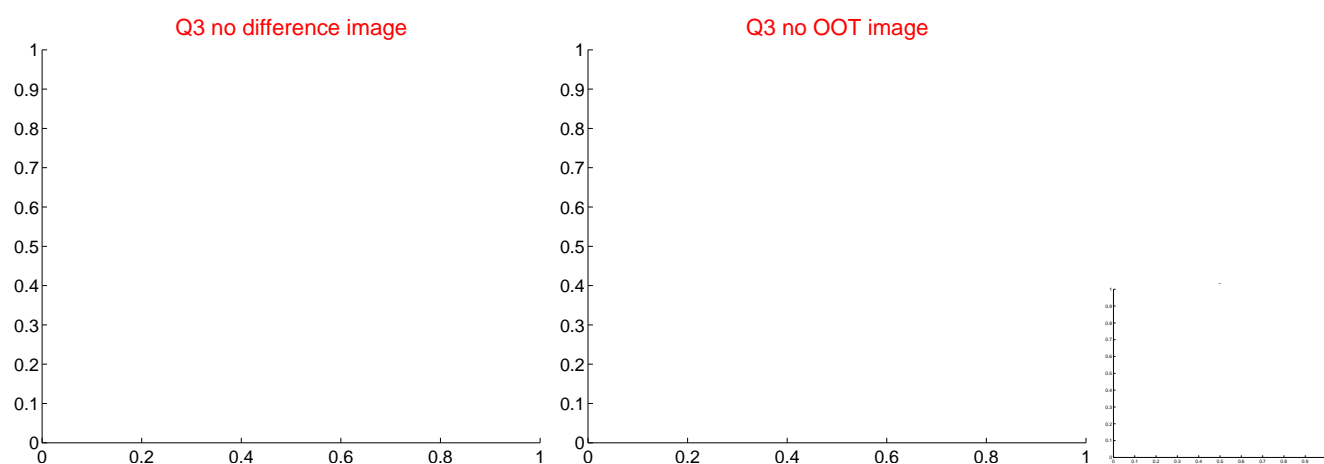
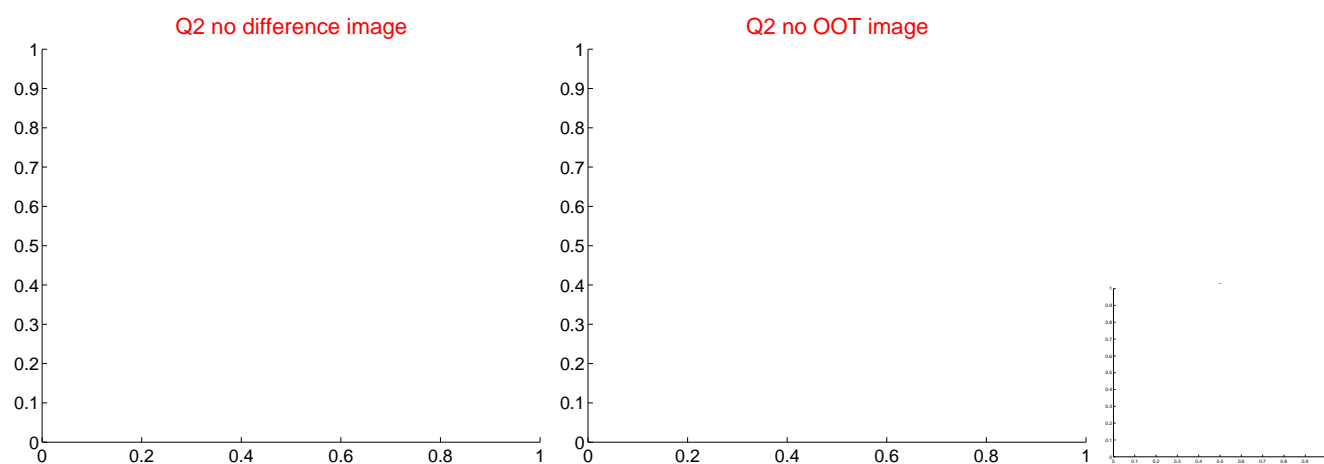
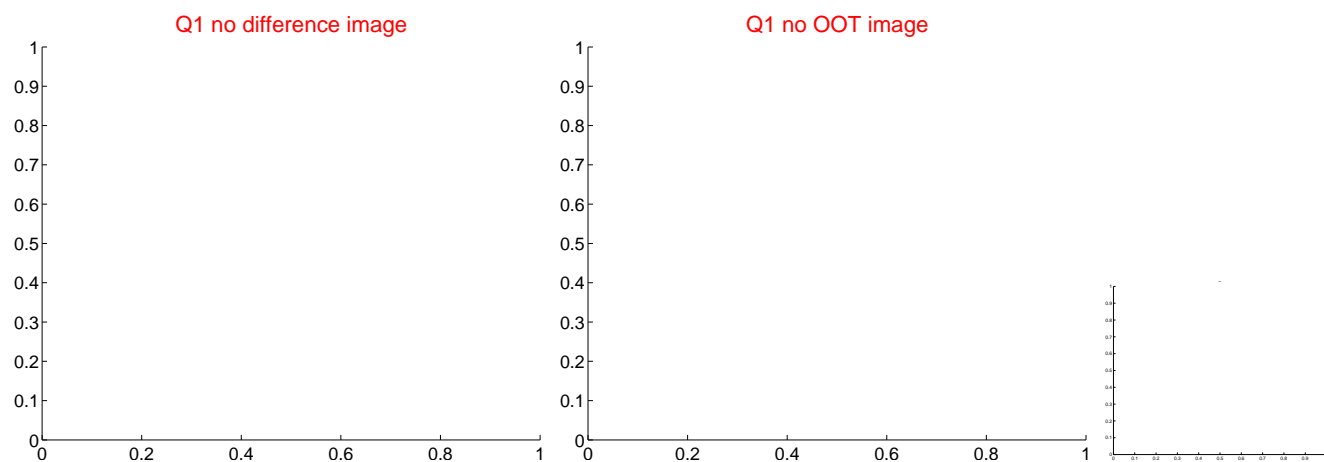
The OOT PRF centroid is offset from the target star catalog position by about 9.20 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.597 \pm 0.331	22.94	1.271 \pm 0.339	7.489 \pm 0.306
PRF-fit source offset from KIC position	0.299 \pm 0.206	1.45	0.299 \pm 0.206	0.015 \pm 0.184
photometric centroid source offset	1.78 \pm 0.29	6.13	-0.36 \pm 0.21	-1.75 \pm 0.29

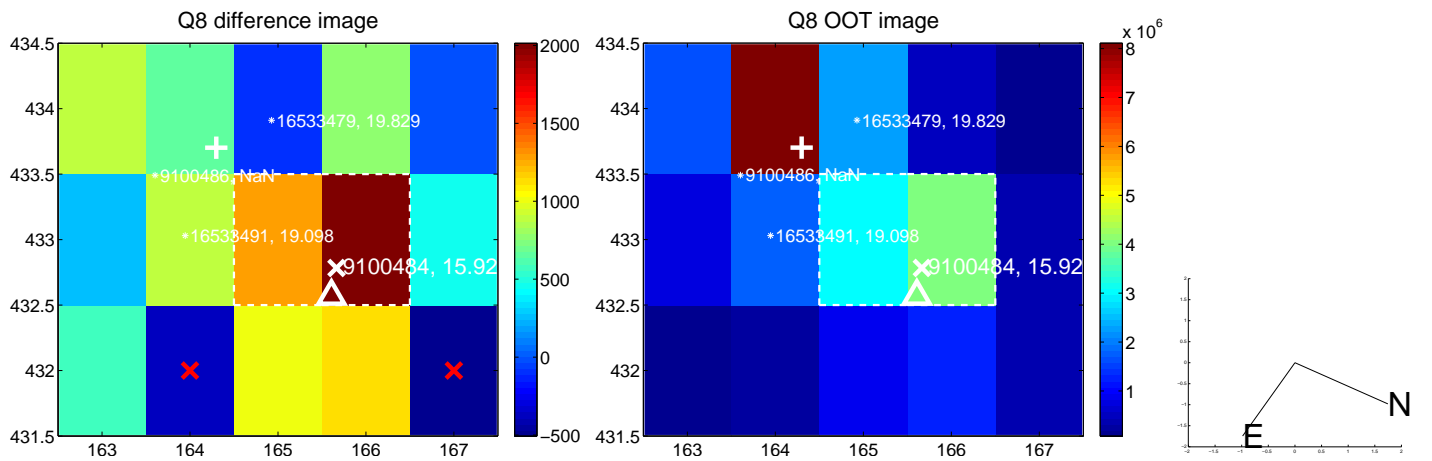
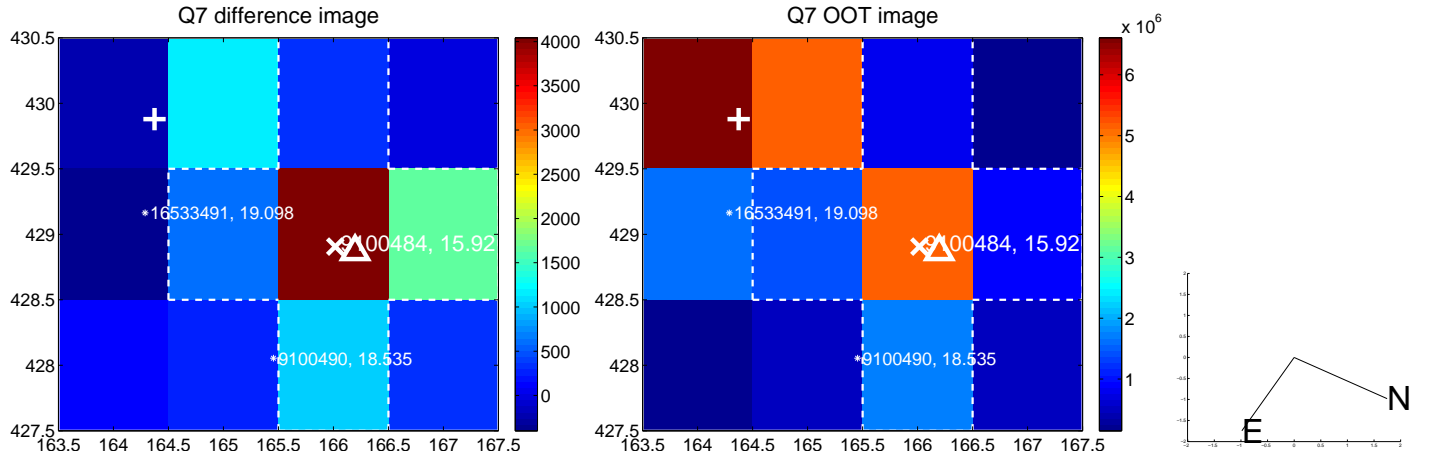
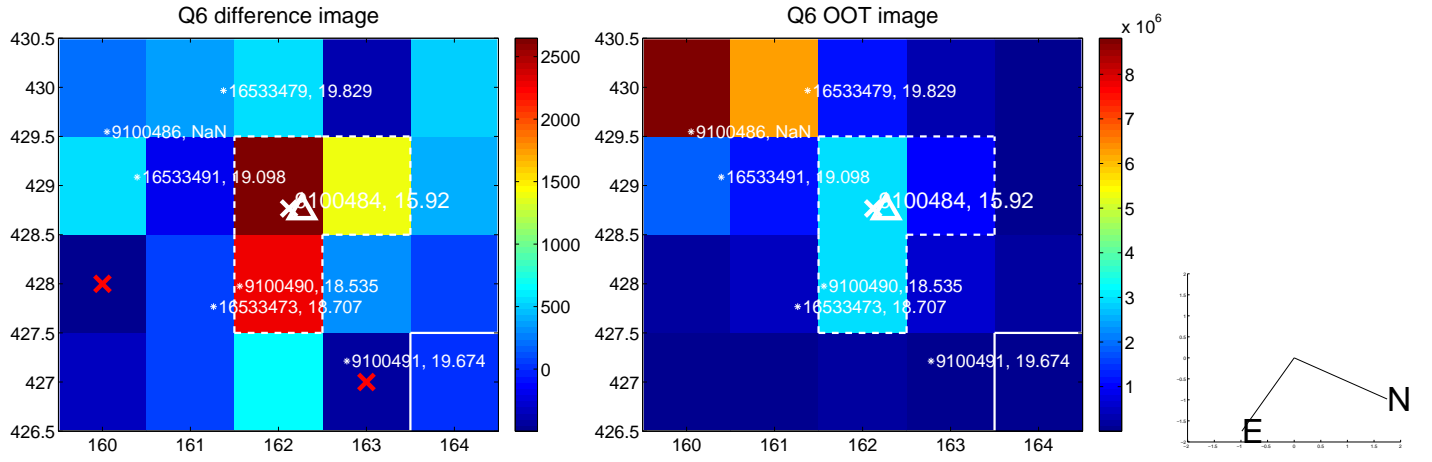
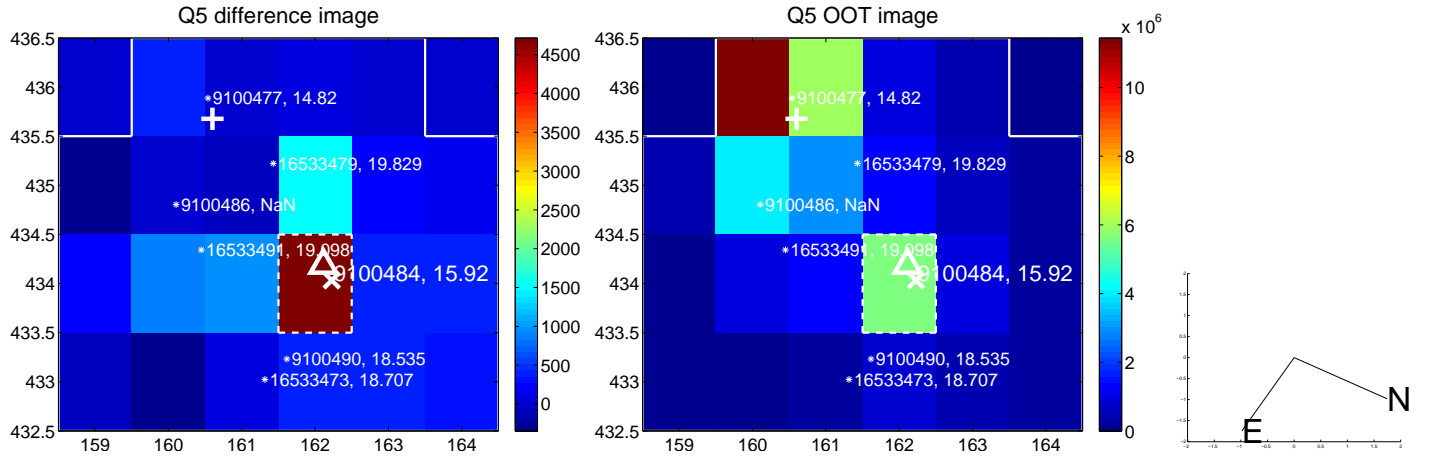


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

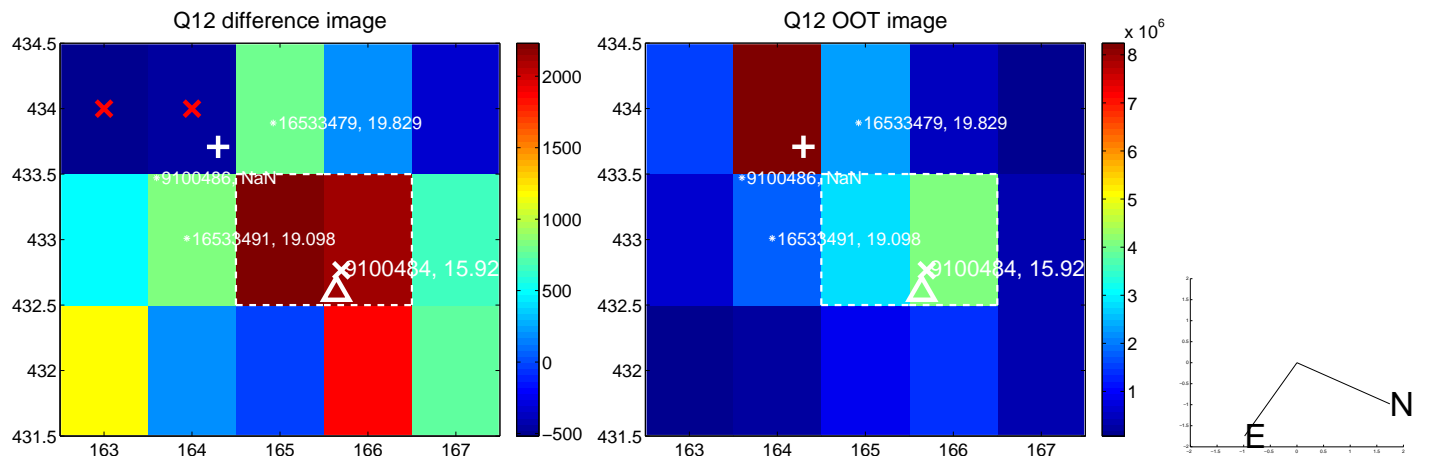
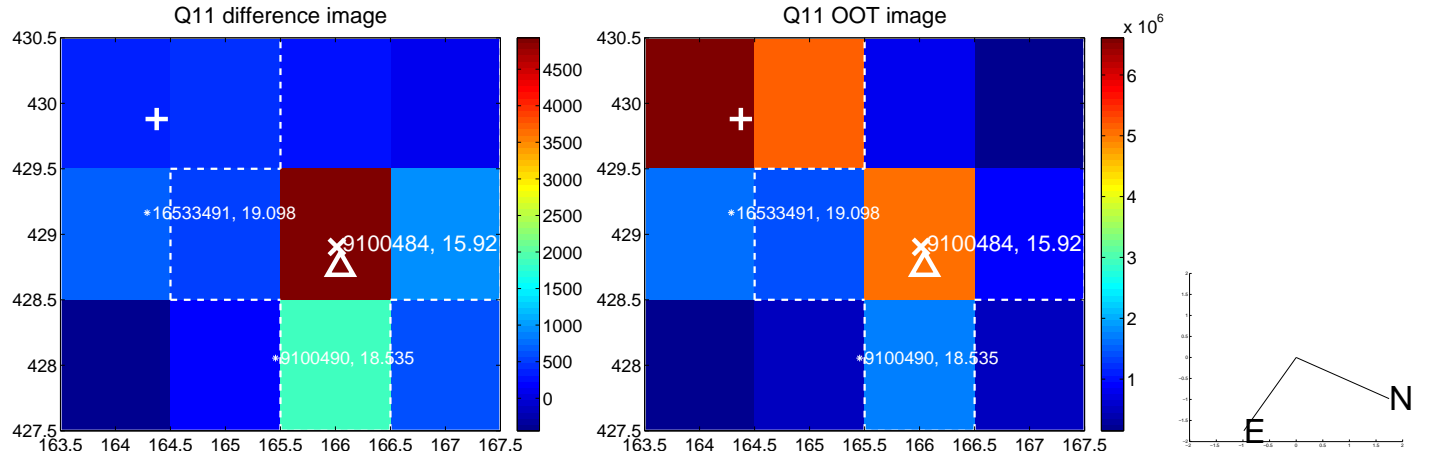
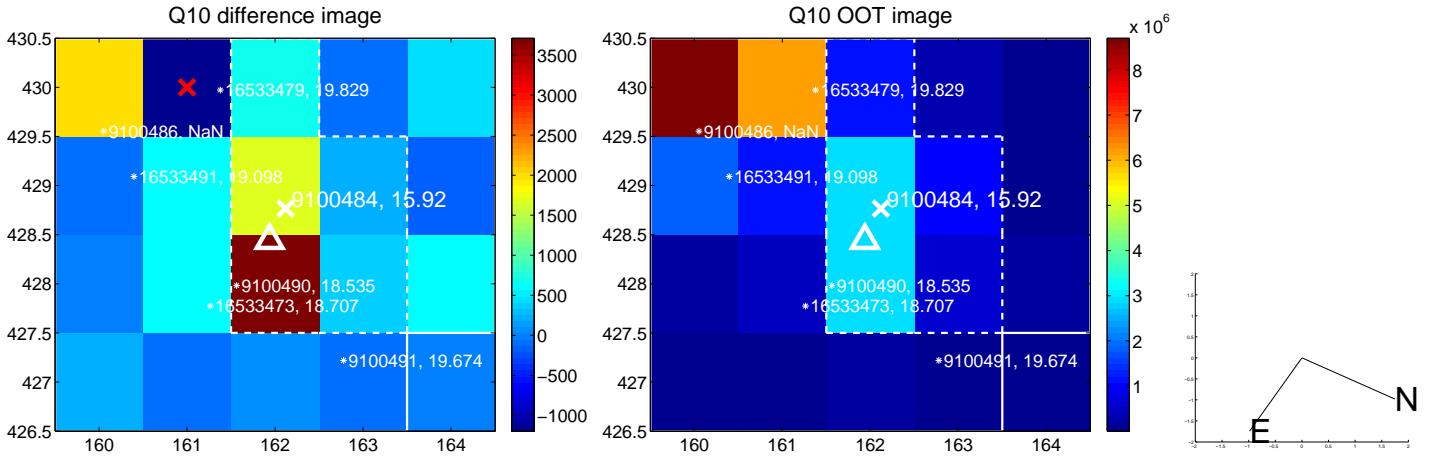
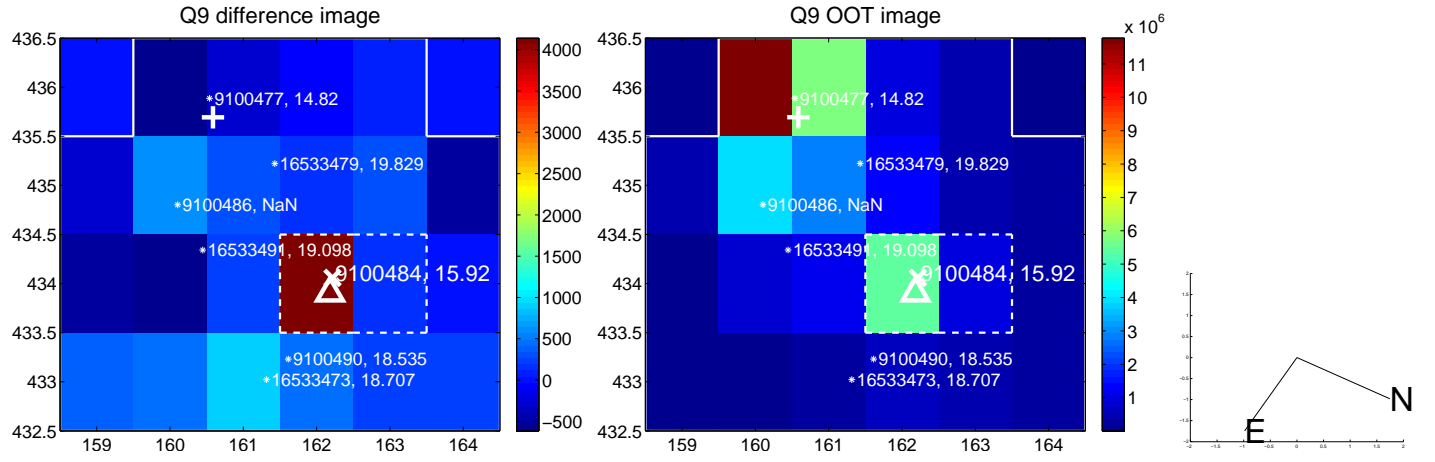
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



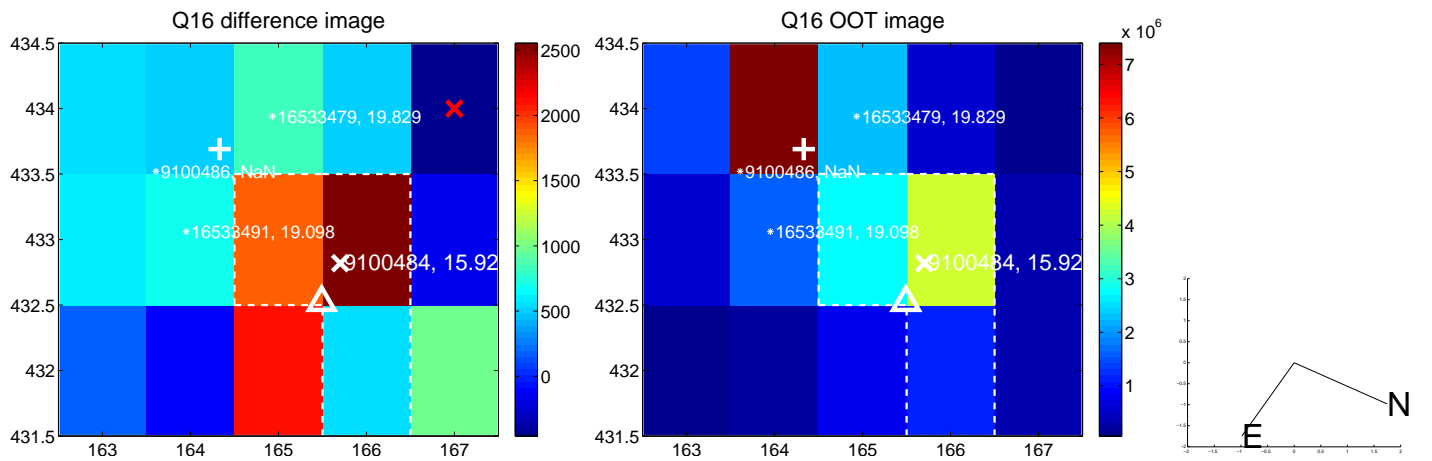
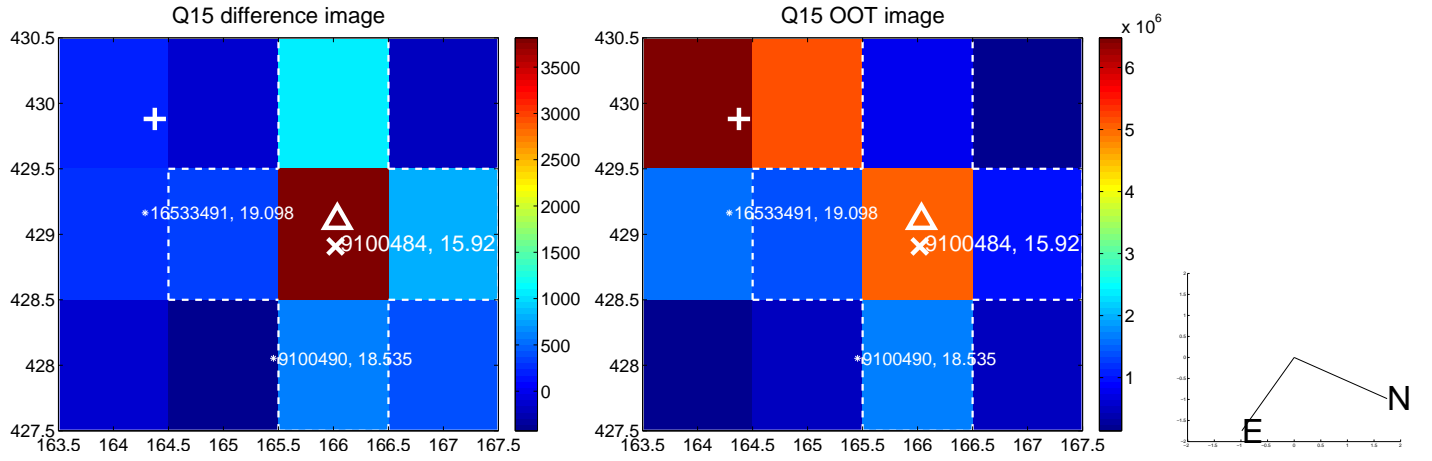
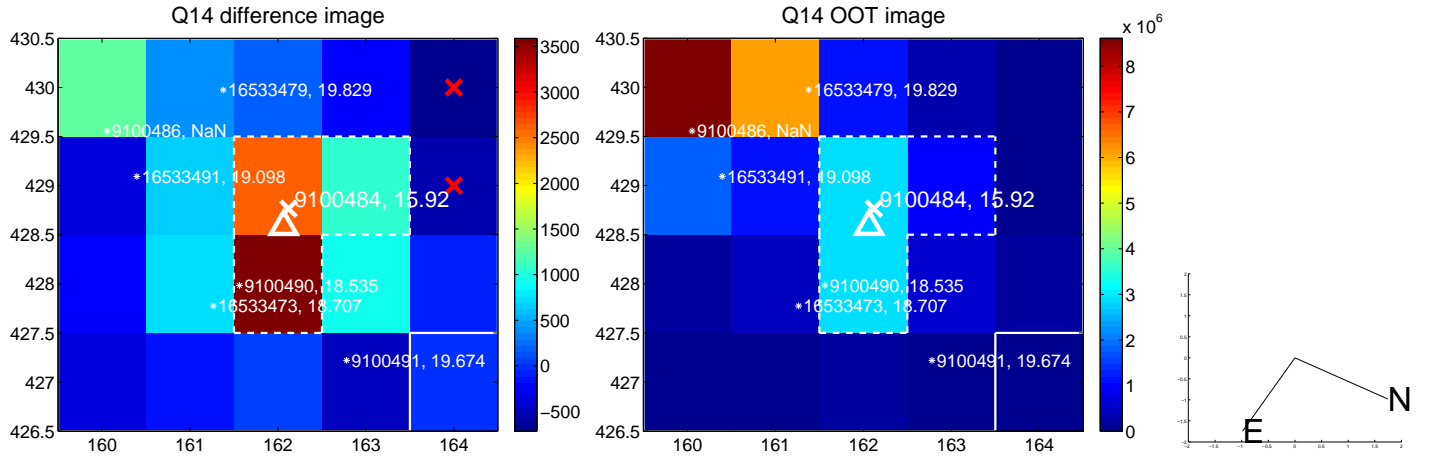
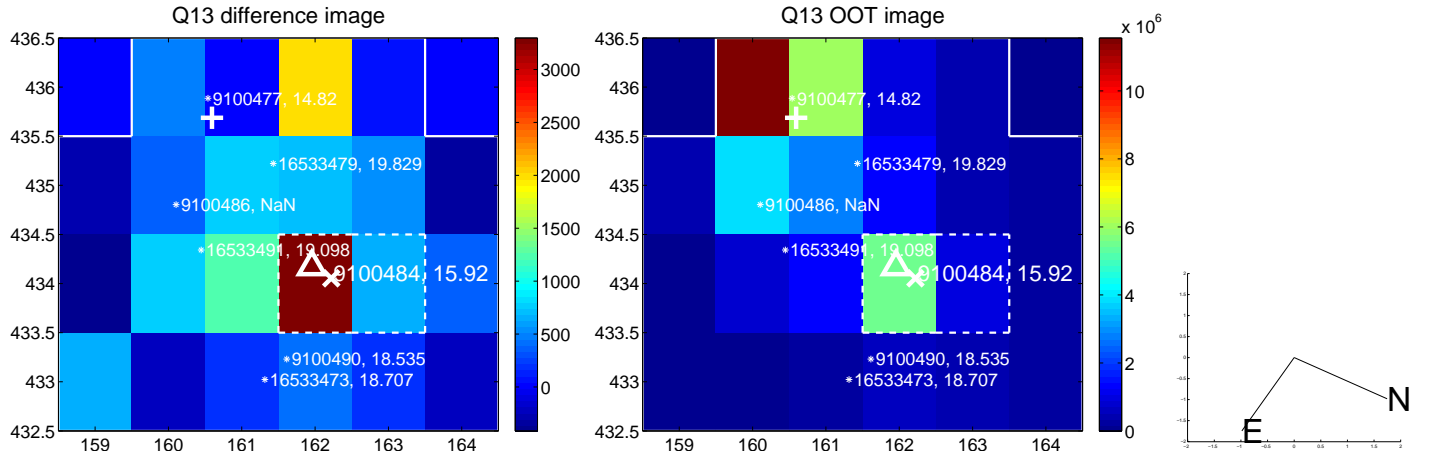
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

