

KIC 009244756

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})
009244756-01	OBS	1969.01	16.343564	145.041481	831.0	5.577	27.1	30.0	1.06	5730	3.37	67.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009244756-01	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.

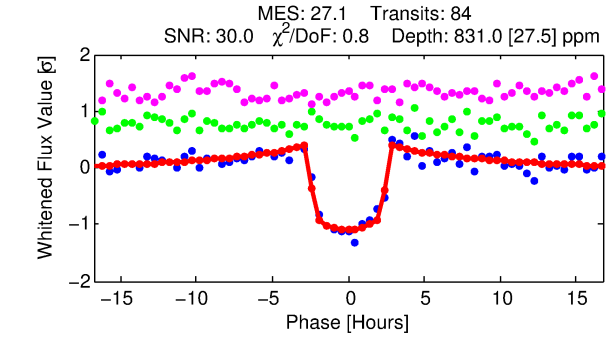
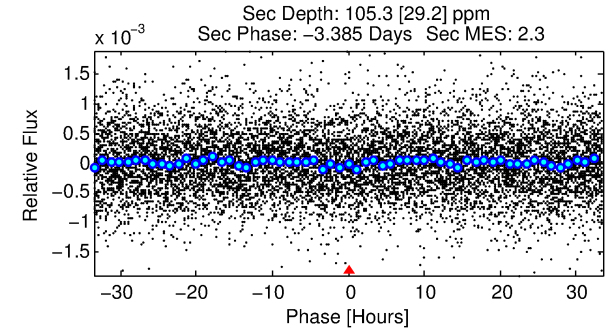
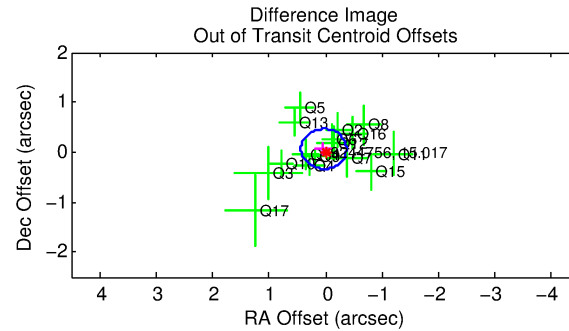
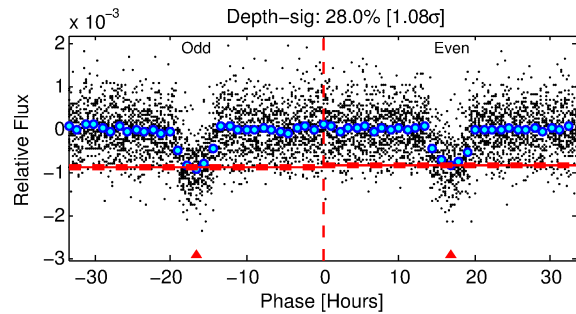
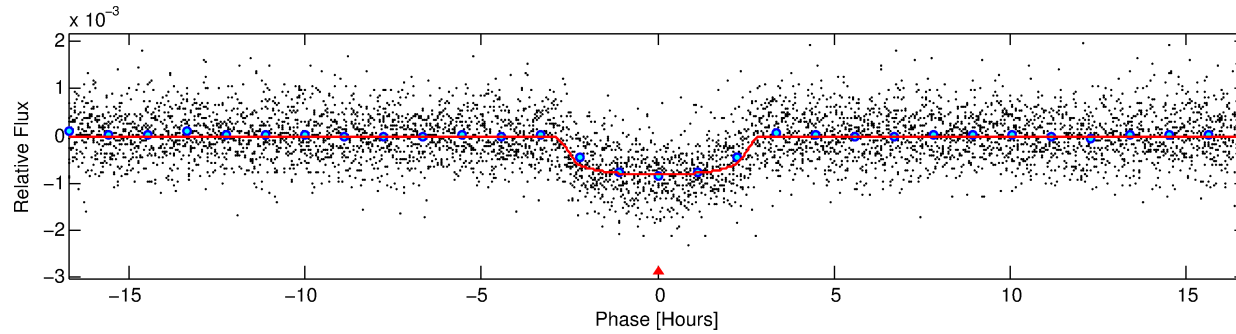
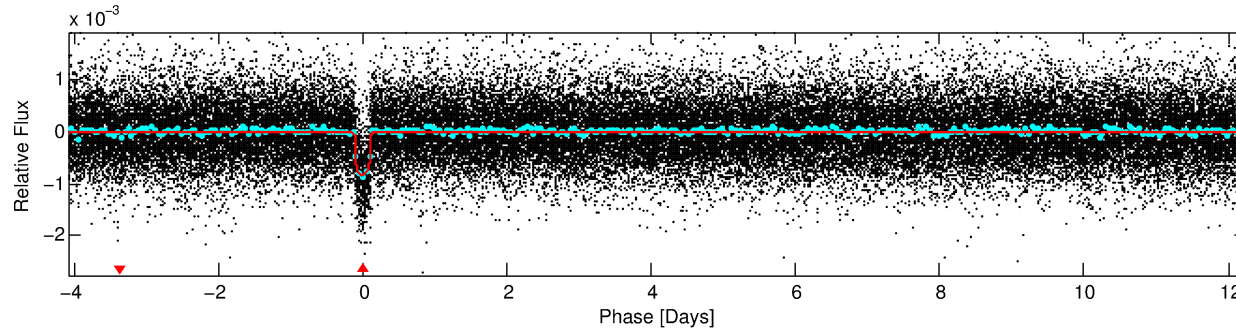
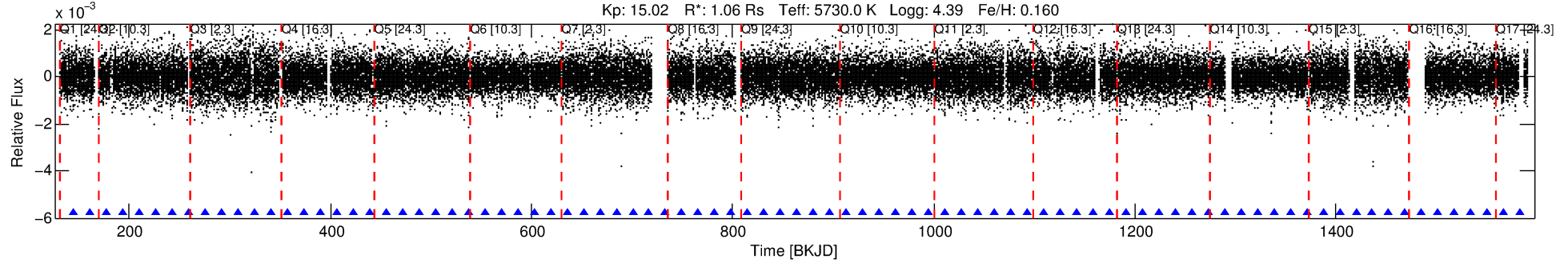
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009244756-01

No Significant Match Found

DV One-Page Summary

KIC: 9244756 Candidate: 1 of 1 Period: 16.344 d
KOI: K01969.01 Corr: 0.976



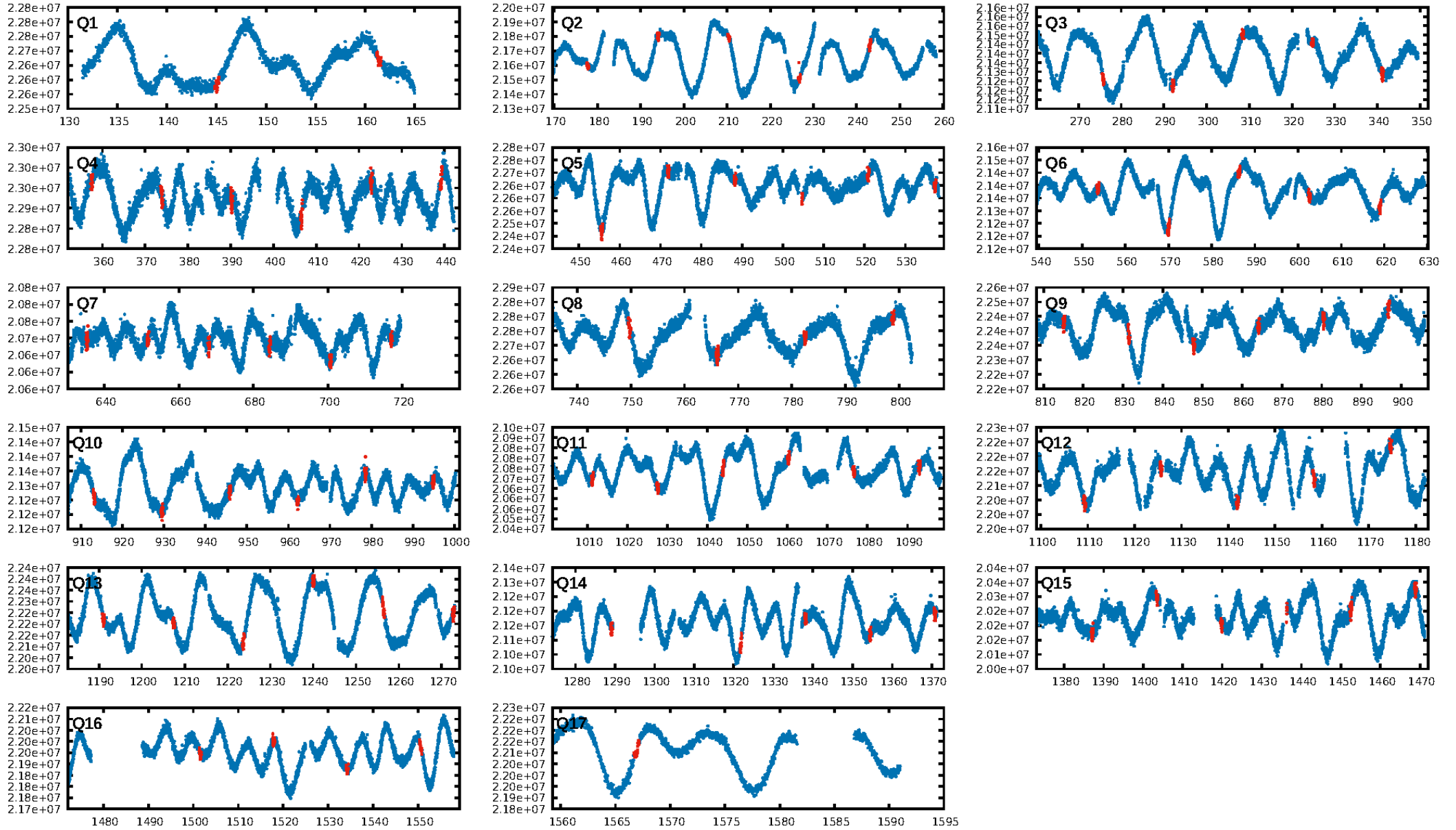
DV Fit Results:

Period = 16.34356 [0.00006] d
Epoch = 145.0415 [0.0029] BKJD
Rp/R* = 0.0293 [0.0029]
a/R* = 14.68 [6.13]
b = 0.79 [0.20]
Seff = 67.43 [14.75]
Teq = 731 [40] K
Rp = 3.37 [0.62] Re
a = 0.1264 [0.0173] AU
Ag = 81.31 [32.66] [2.46 σ]
Teffp = 3392 [295] K [8.95 σ]

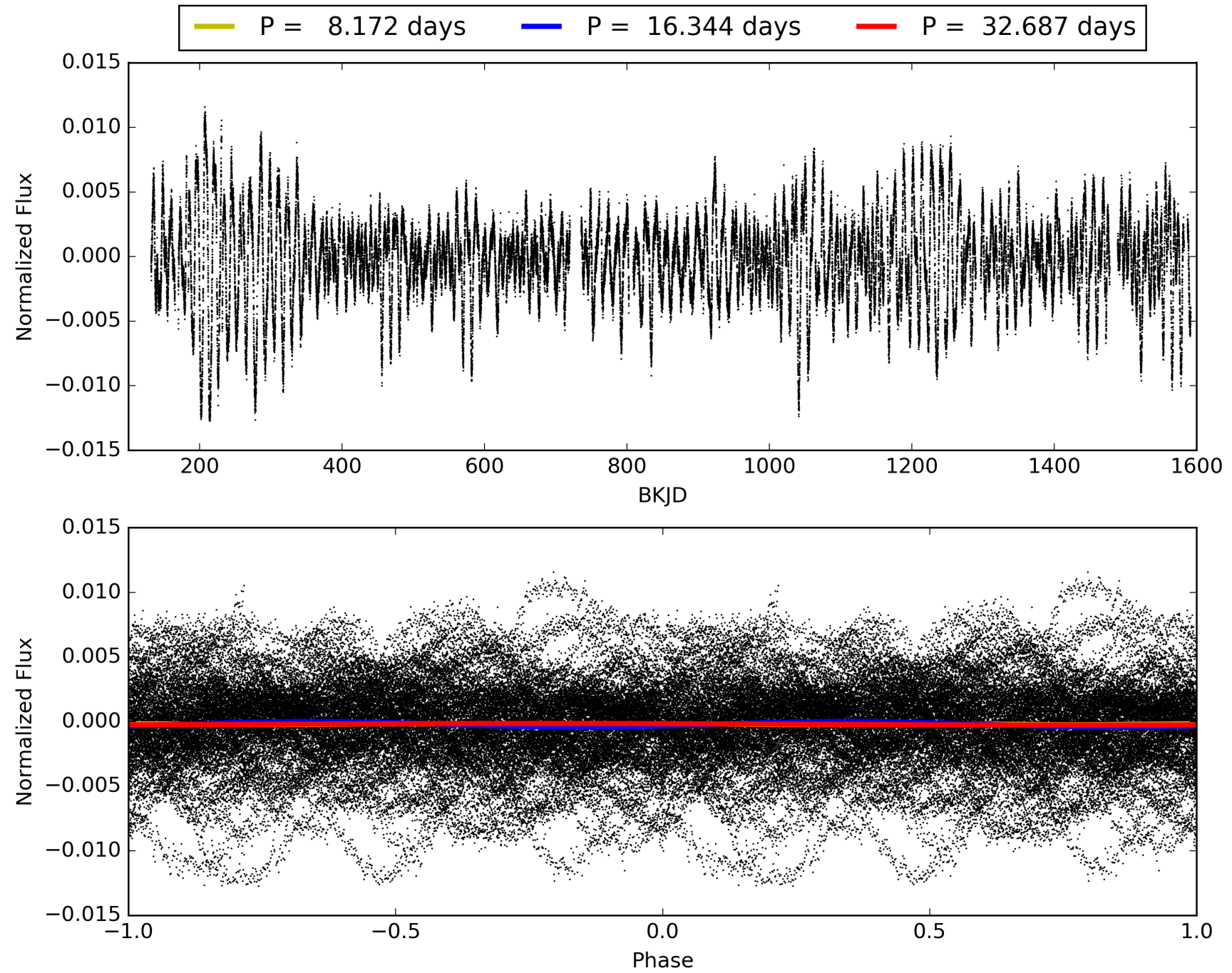
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.89e-160
RollingBand-fgt: 1.00 [81/81]
GhostDiagnostic-chr: 2.728
Centroid-sig: 47.3%
Centroid-so: 0.985 arcsec [3.13 σ]
OotOffset-rm: 0.074 arcsec [0.55 σ]
KicOffset-rm: 0.015 arcsec [0.09 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009244756-01, PDC Light Curves

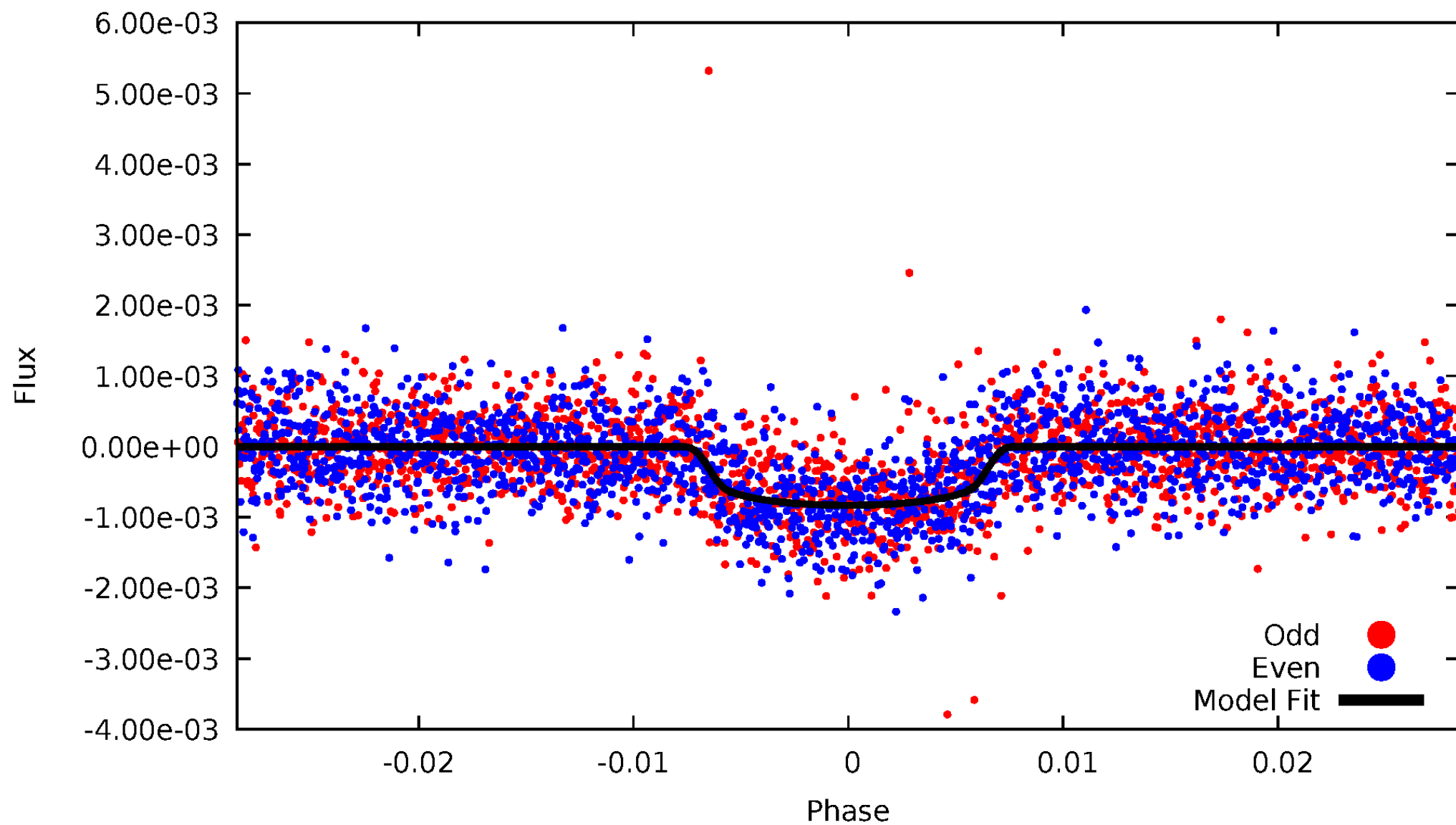


TCE 009244756-01



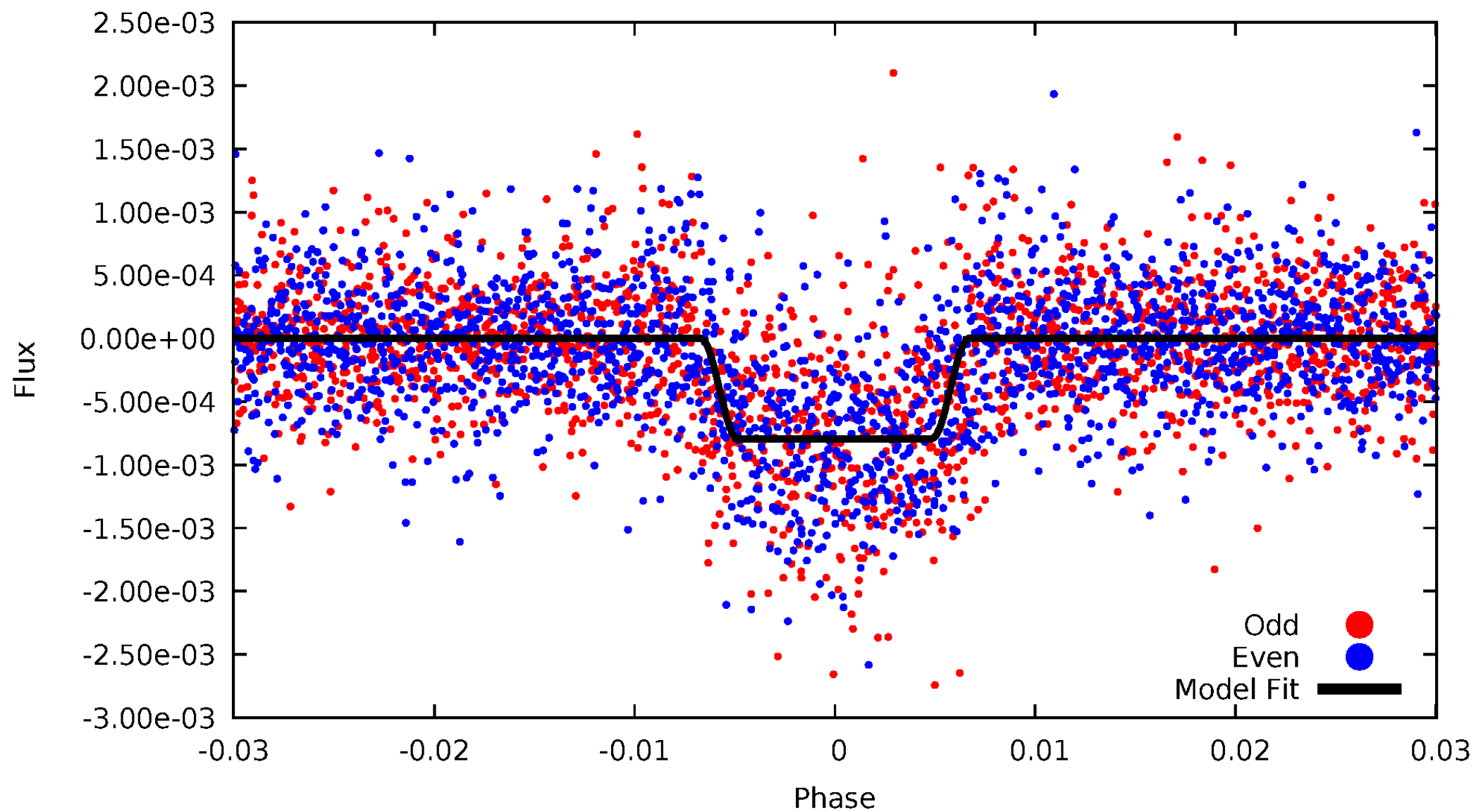
DV Odd/Even

TCE 009244756-01

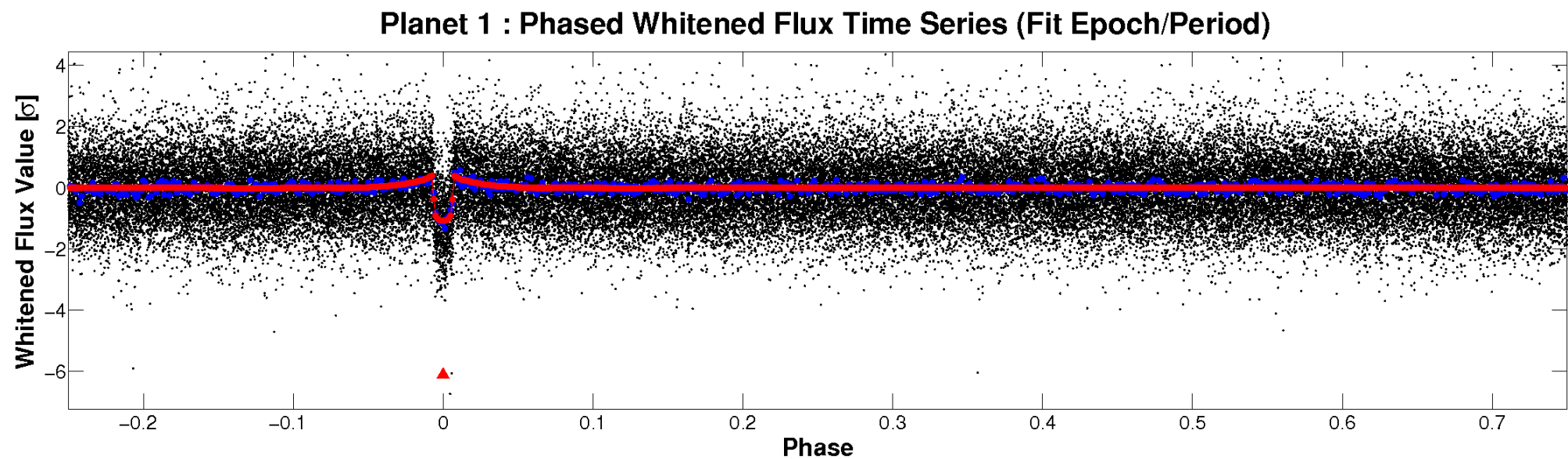
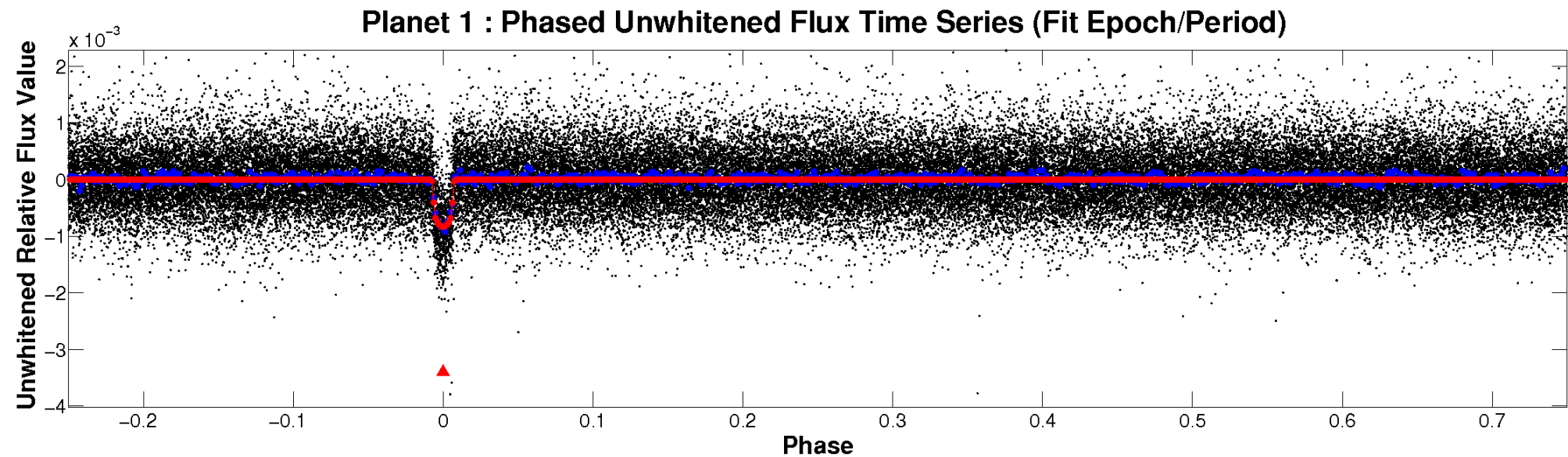


ALT Odd/Even

TCE 009244756-01

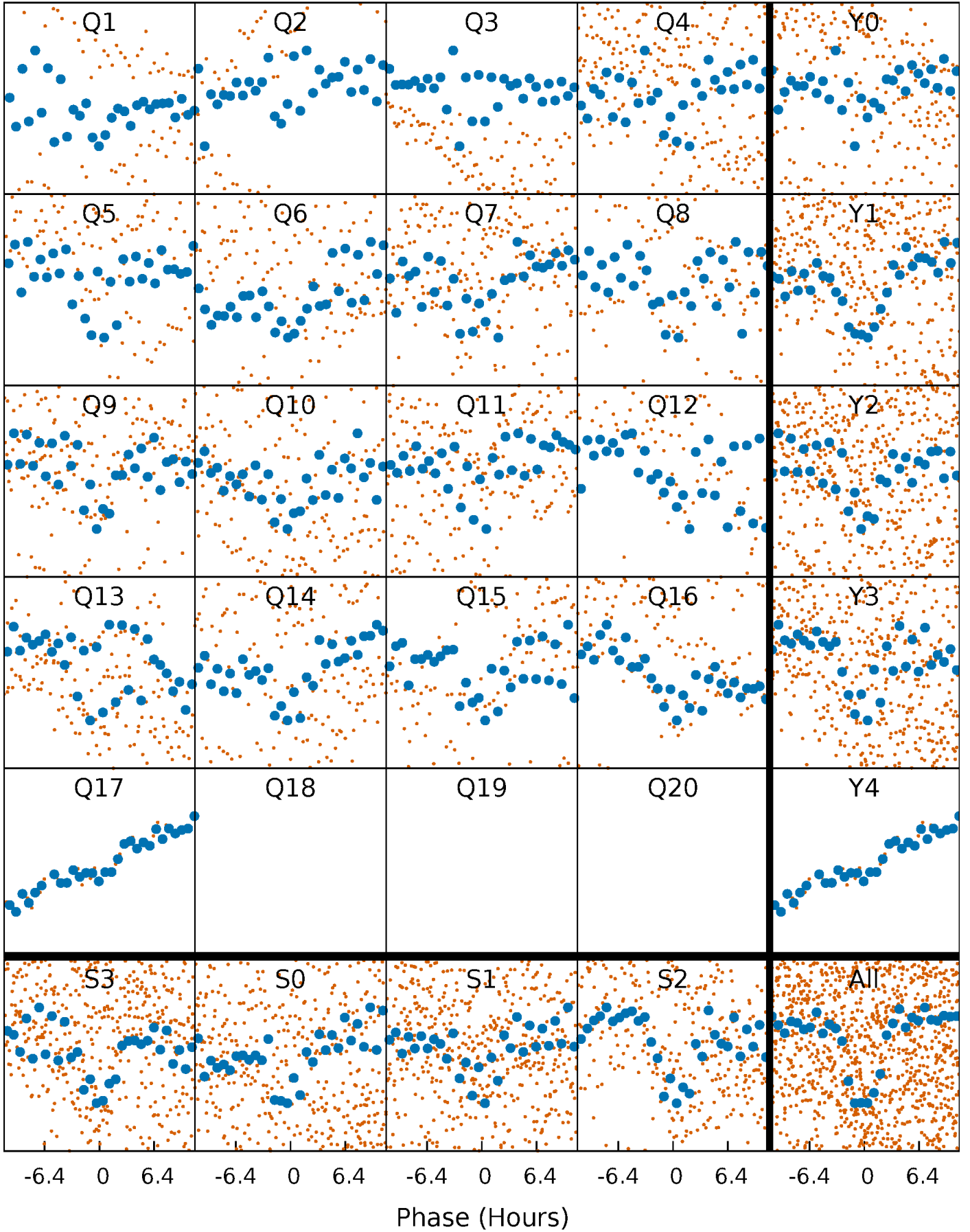


Non-Whitened Vs. Whitened Light Curve



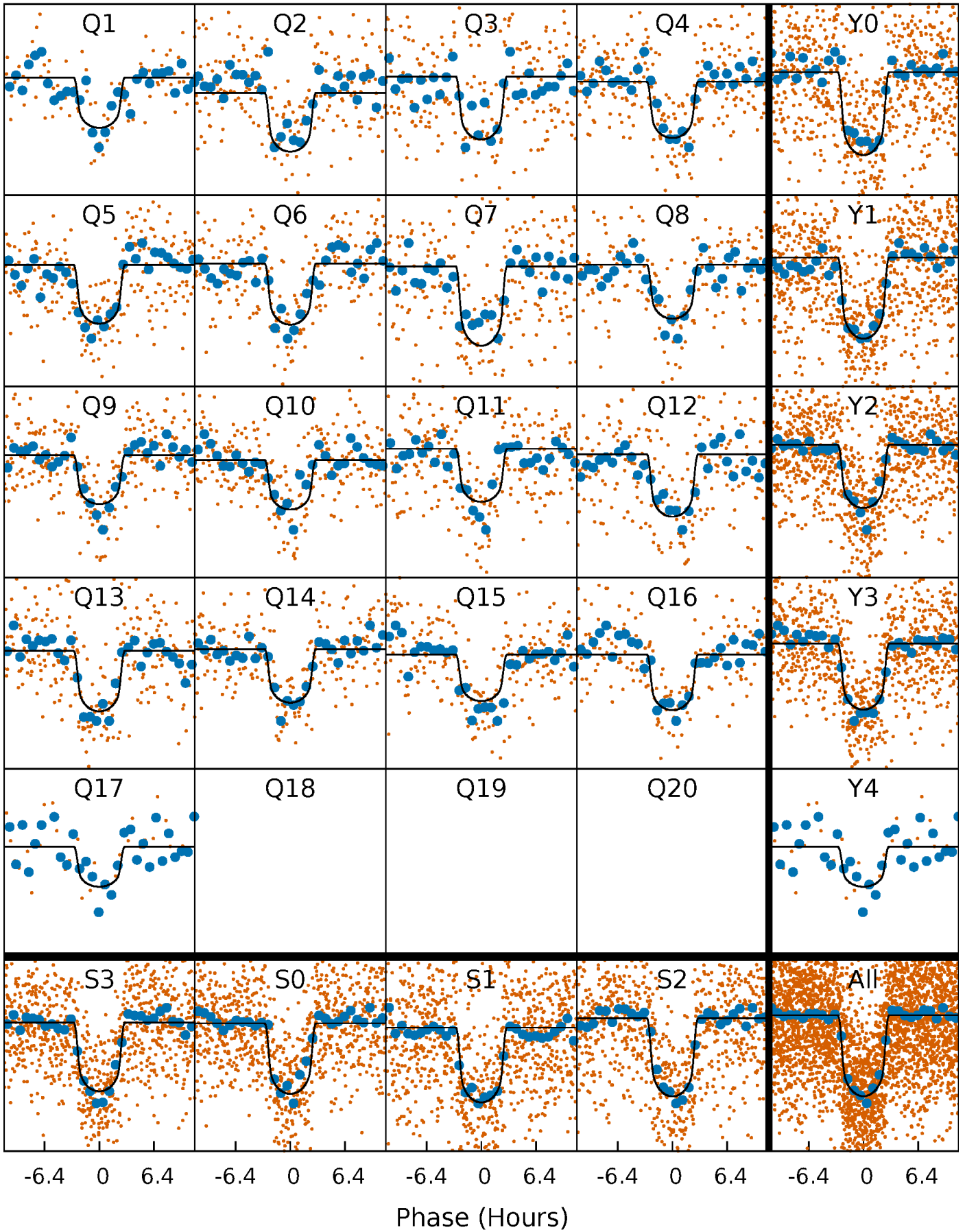
PDC Quarter-Phased Transit Curves

TCE 009244756-01 P= 16.343564 Days $T_0=145.041481$ (BKJD)



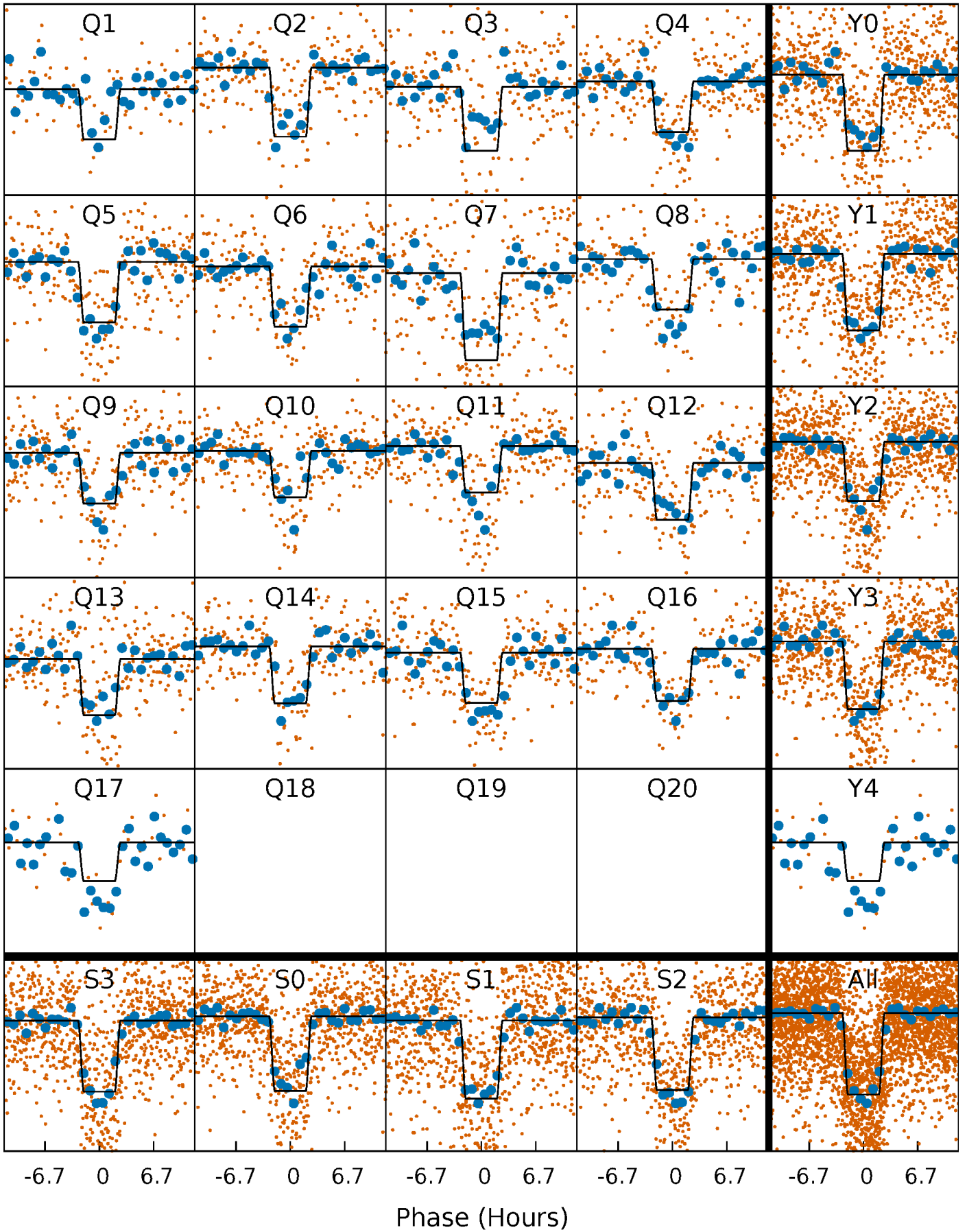
DV Quarter-Phased Transit Curves

TCE 009244756-01 P= 16.343564 Days $T_0=145.041481$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

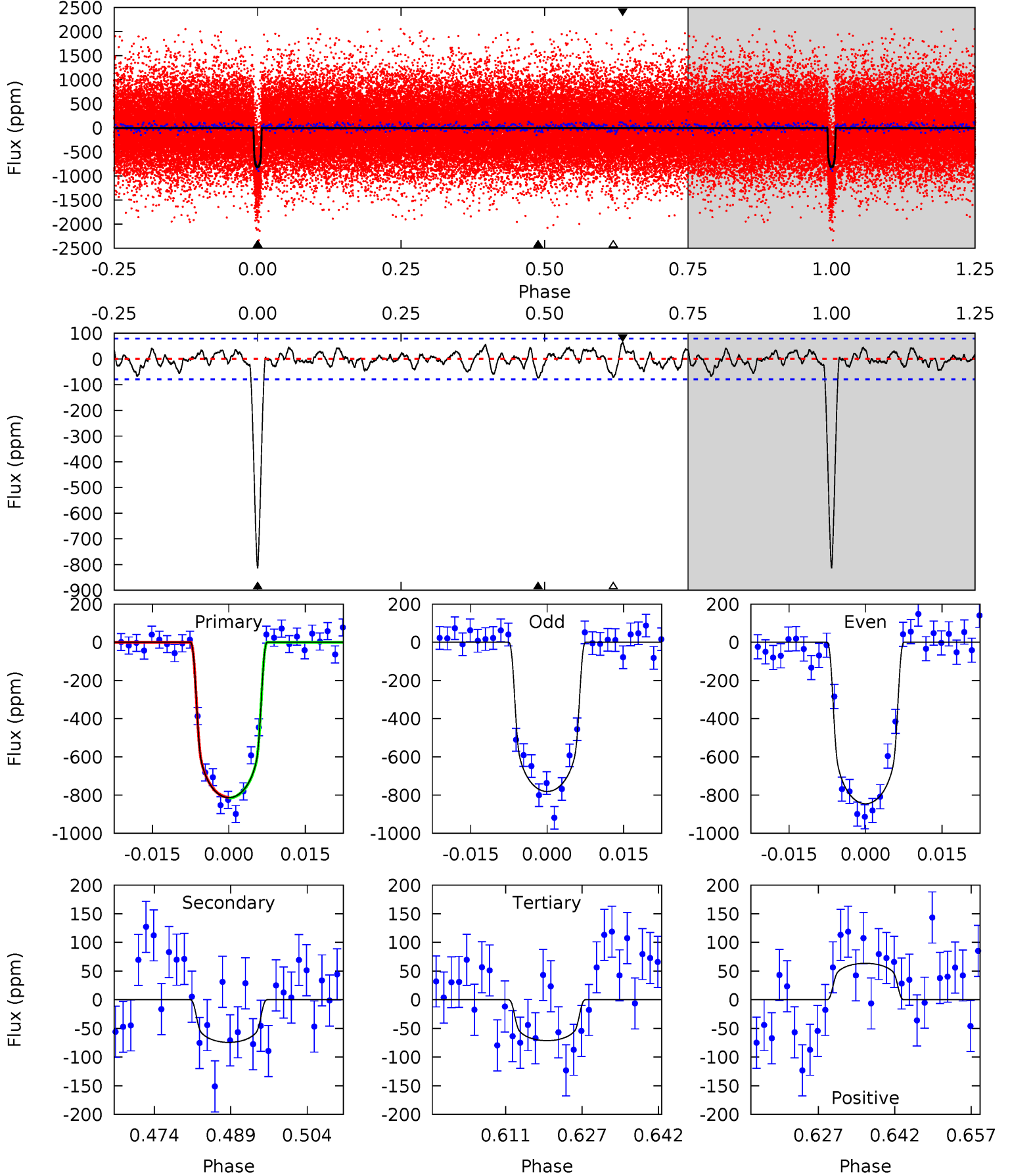
TCE 009244756-01 P= 16.343394 Days $T_0=145.048714$ (BKJD)



DV Model-Shift Uniqueness Test

009244756-01, P = 16.343564 Days, E = 128.697917 Days

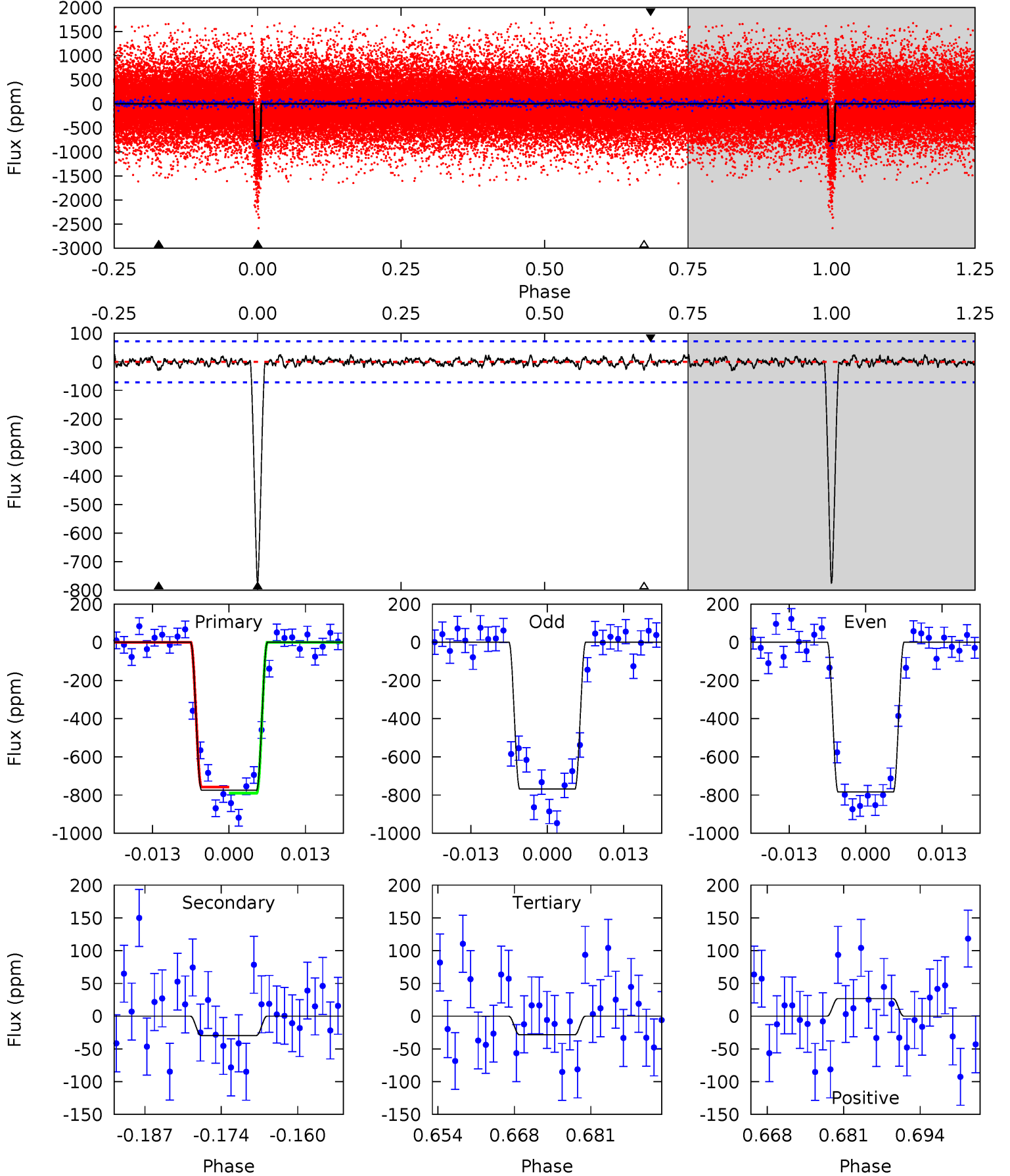
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.6	4.62	4.44	3.95	4.94	2.43	1.48	46.1	46.6	0.19	0.67	2.00	1.07	0.07	0.13



Alt Model-Shift Uniqueness Test

009244756-01, $P = 16.343394$ Days, $E = 128.705320$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.5	2.04	1.96	1.85	4.97	2.47	0.61	51.5	51.6	0.07	0.19	0.54	1.07	0.03	1.10



Stellar Parameters For KIC 009244756

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5730^{+77}_{-86}	$4.394^{+0.080}_{-0.120}$	$0.160^{+0.150}_{-0.150}$	$1.056^{+0.161}_{-0.094}$	$1.008^{+0.061}_{-0.061}$	$1.204^{+0.390}_{-0.415}$
	+1%/-2%	+2%/-3%	+94%/-94%	+15%/-9%	+6%/-6%	+32%/-35%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009244756-01 / KOI 1969.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-74 ± 16	$3.41^{+0.46}_{-0.41}$	1023^{+44}_{-33}	3557^{+187}_{-169}	55^{+22}_{-15}
Alt.	-30 ± 14	$3.29^{+0.41}_{-0.42}$	1023^{+44}_{-33}	3108^{+229}_{-294}	23^{+15}_{-12}

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

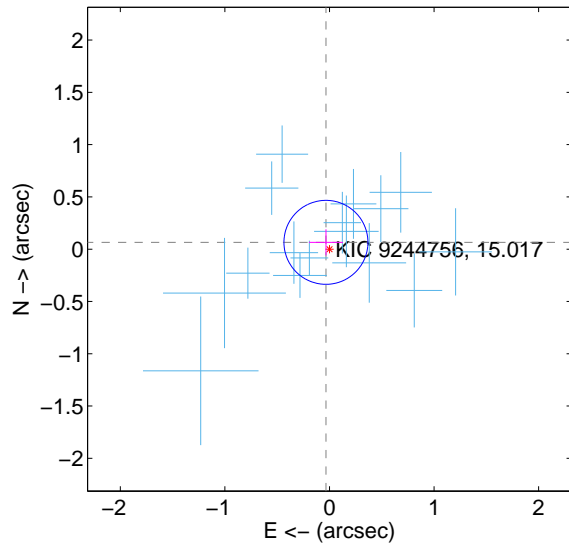
Supplemental centroid analysis for 009244756-01. Kepler magnitude: 15.02. Transit SNR 29.99

There are 16 quarters with good PRF difference image offsets

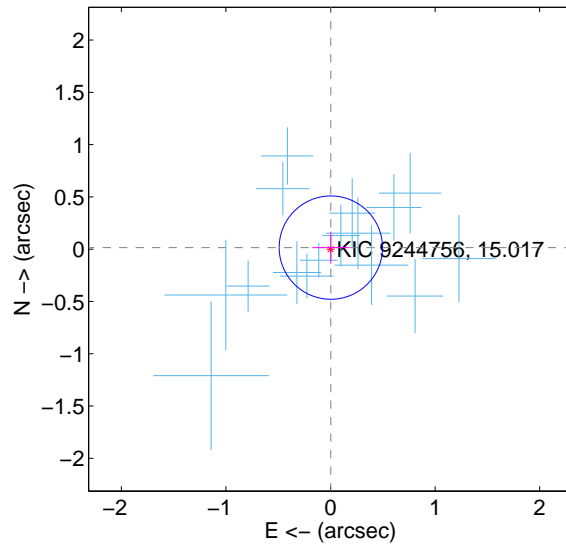
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.074 ± 0.134	0.55	0.034 ± 0.163	0.065 ± 0.125
PRF-fit source offset from KIC position	0.015 ± 0.165	0.09	-0.003 ± 0.178	0.015 ± 0.152
photometric centroid source offset	0.99 ± 0.31	3.13	0.98 ± 0.31	0.12 ± 0.37

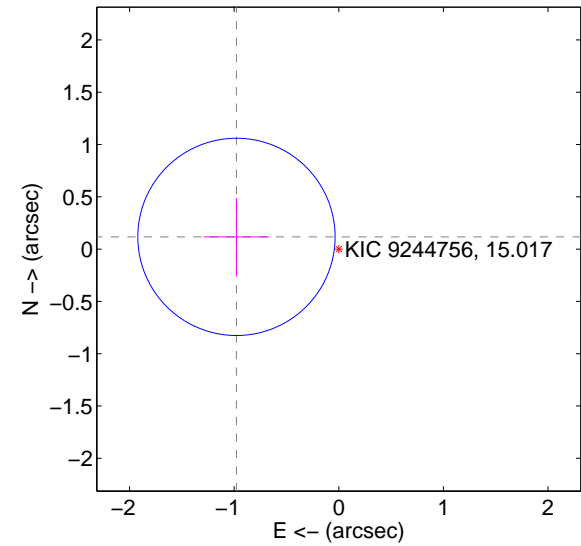
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

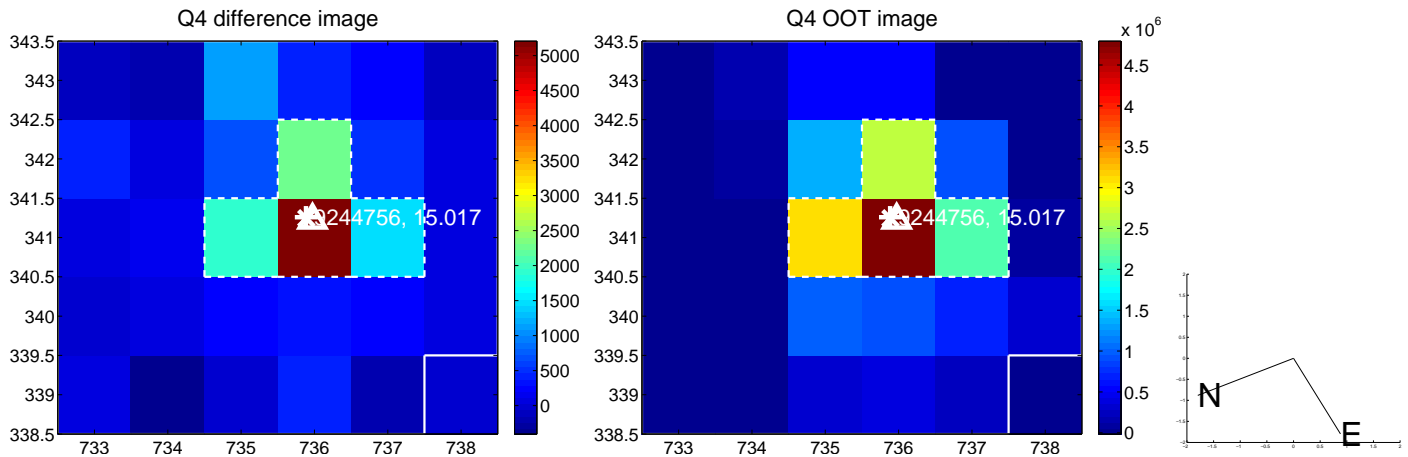
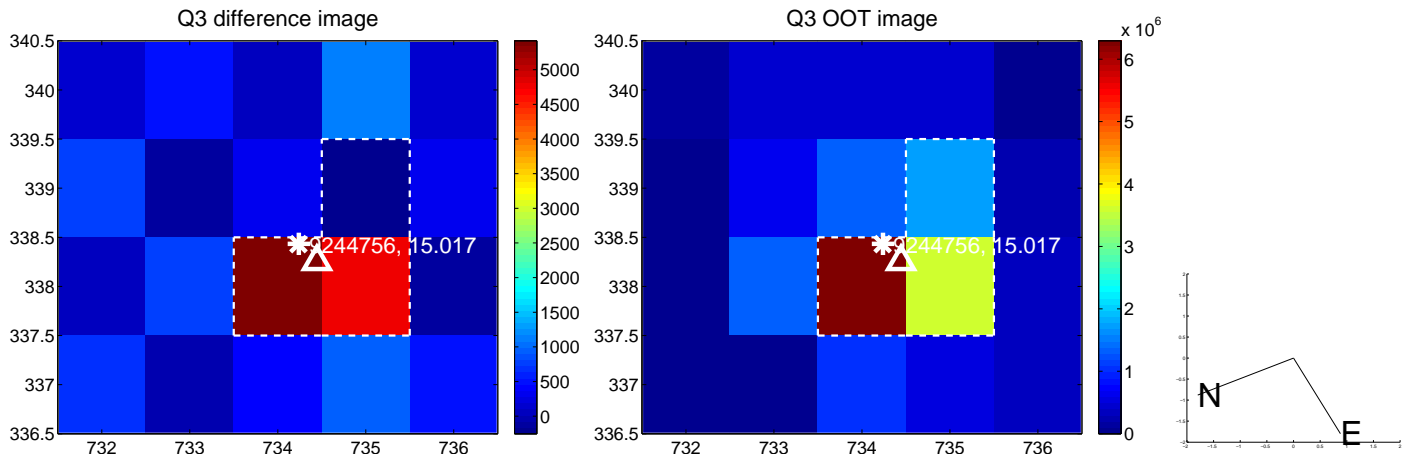
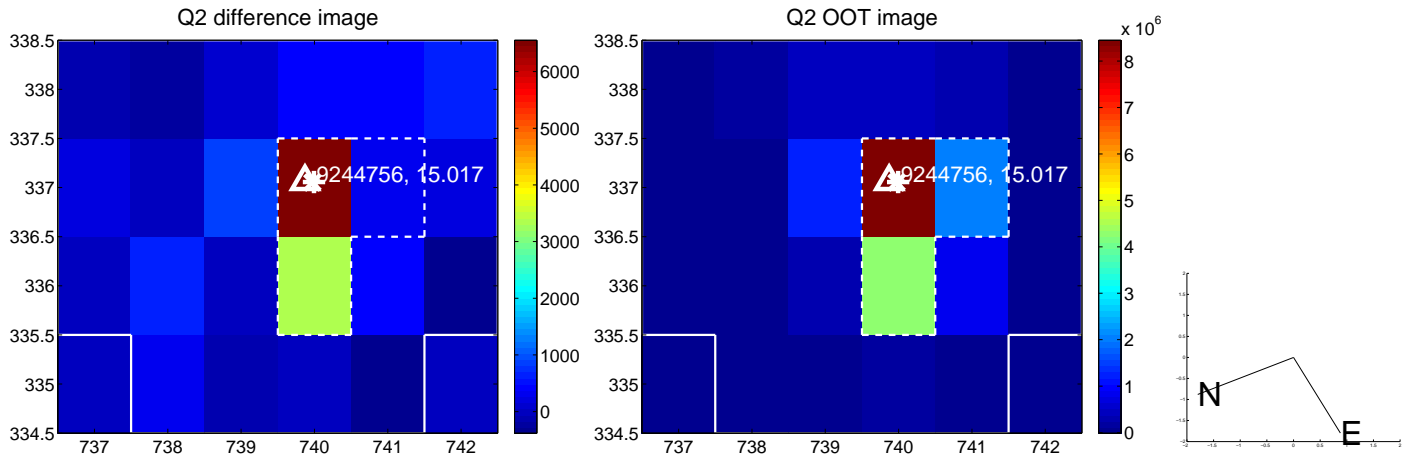
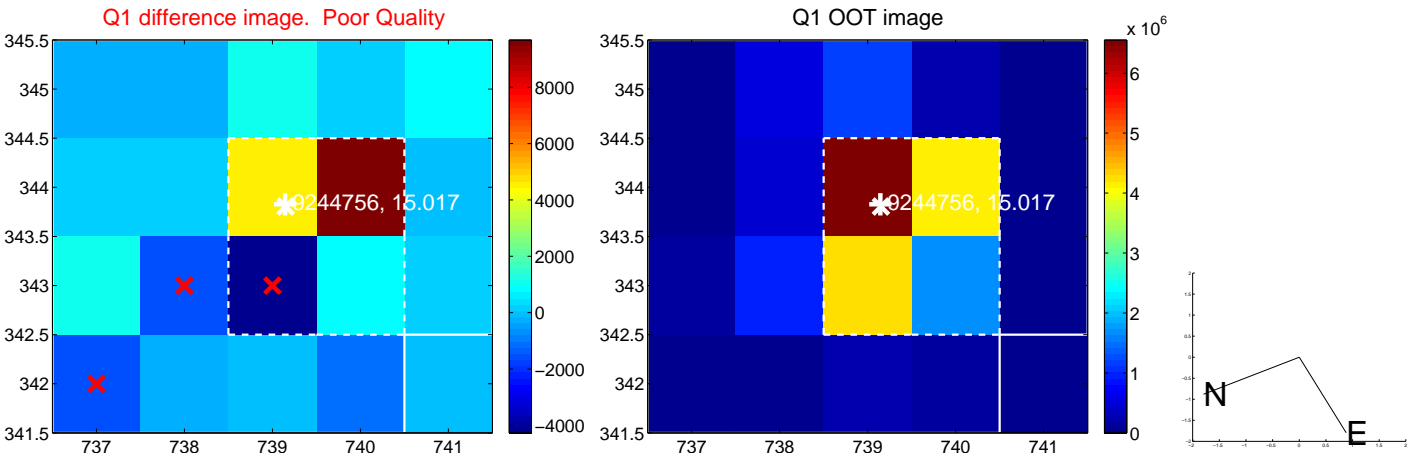


offset from photometric centroids

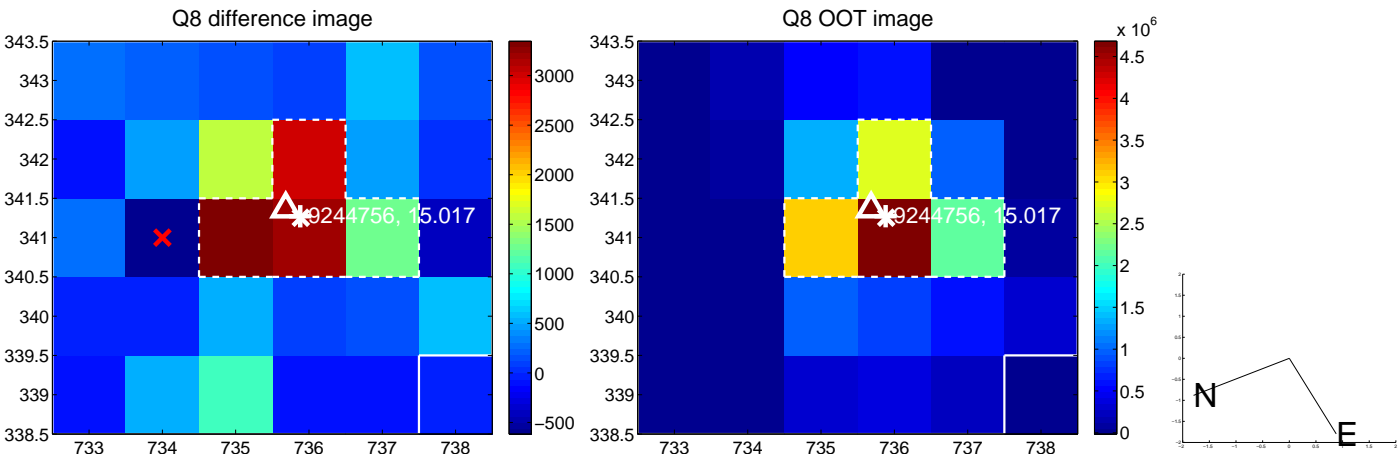
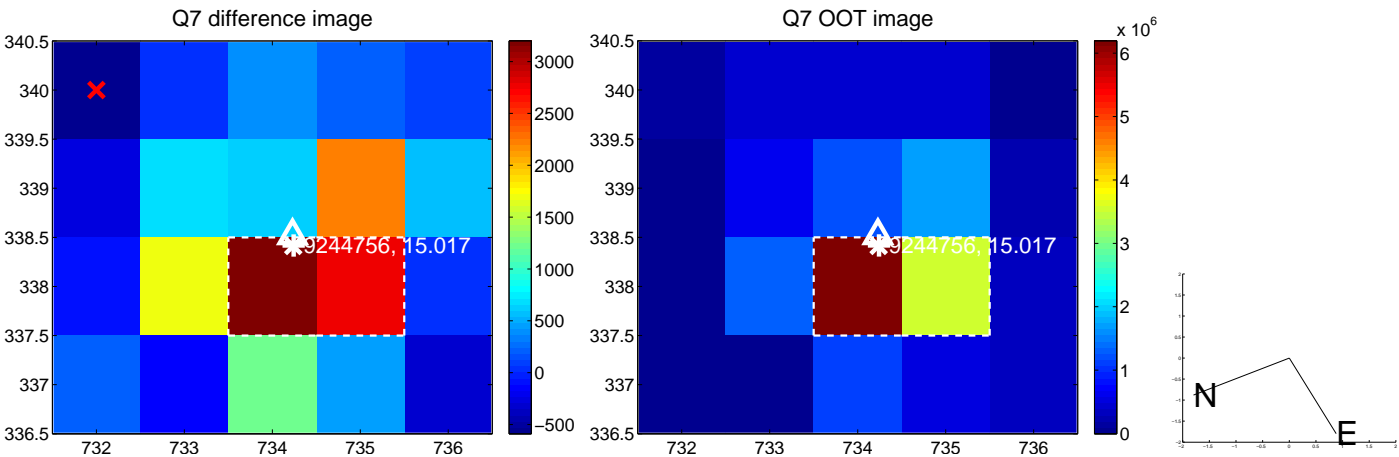
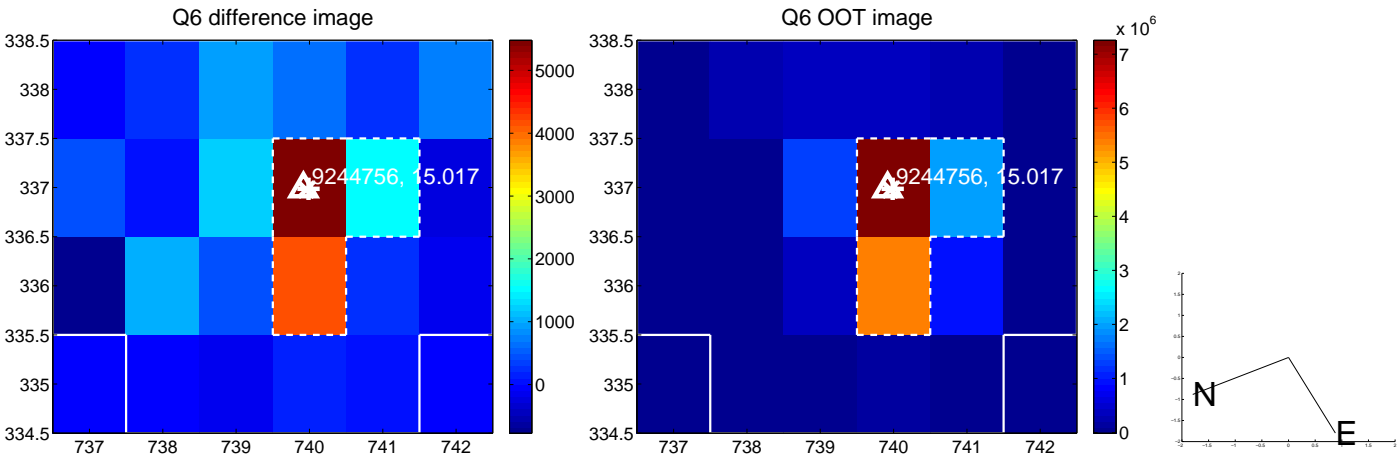
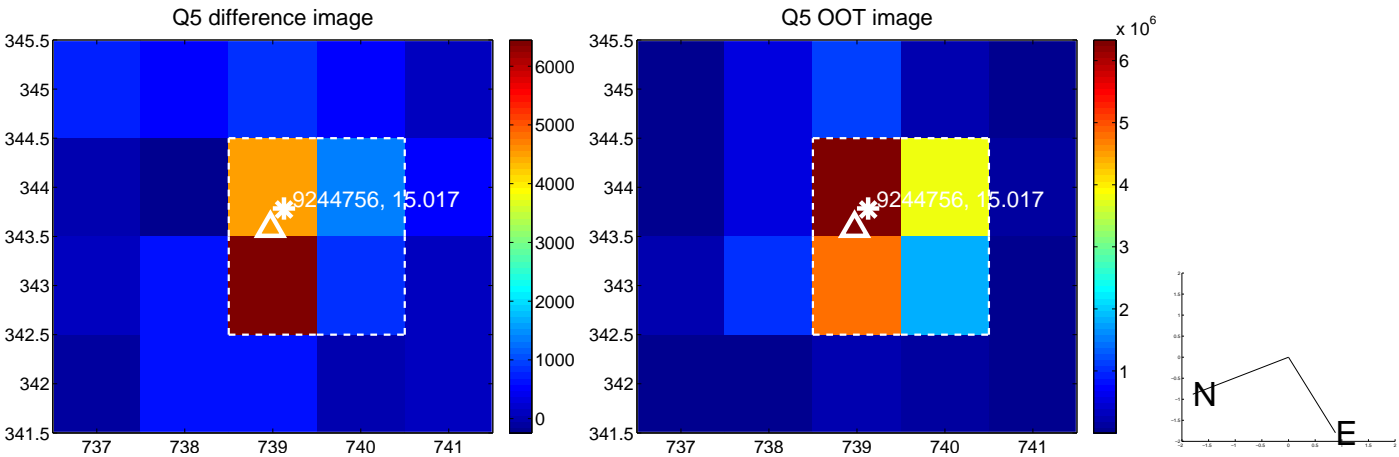


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

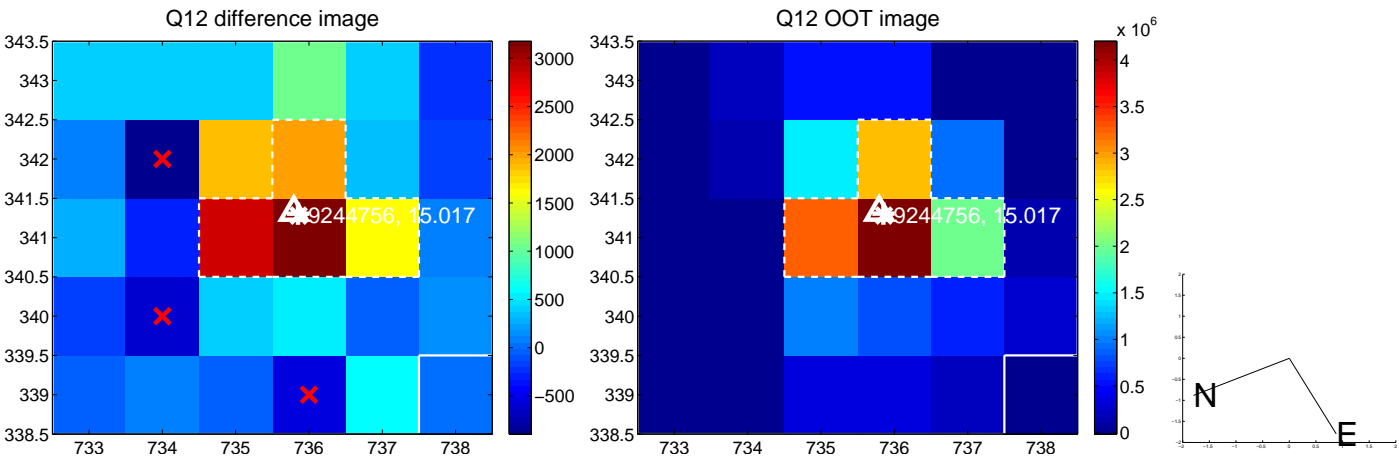
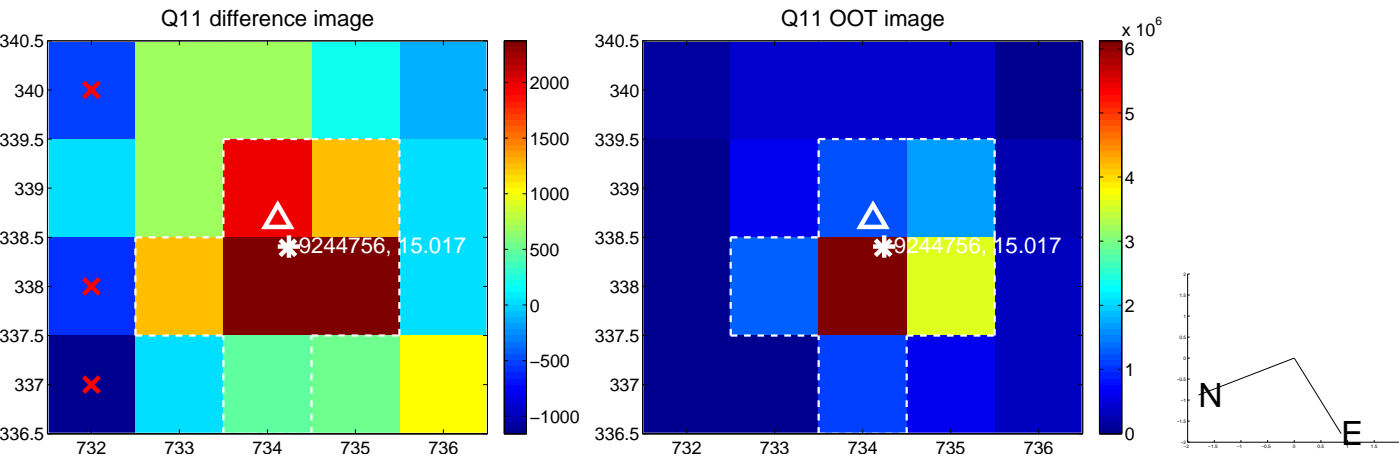
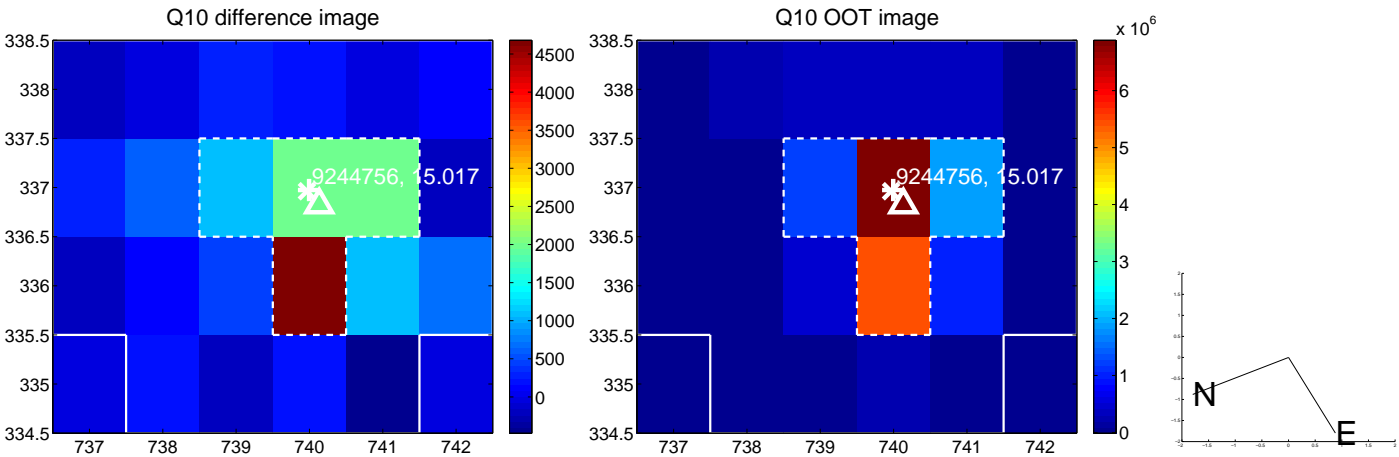
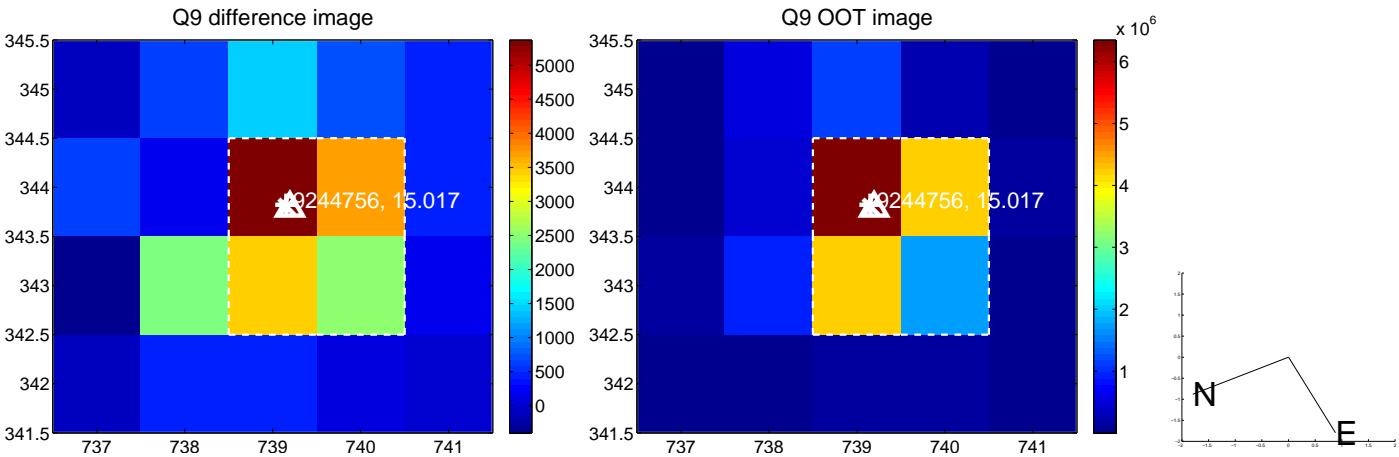
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



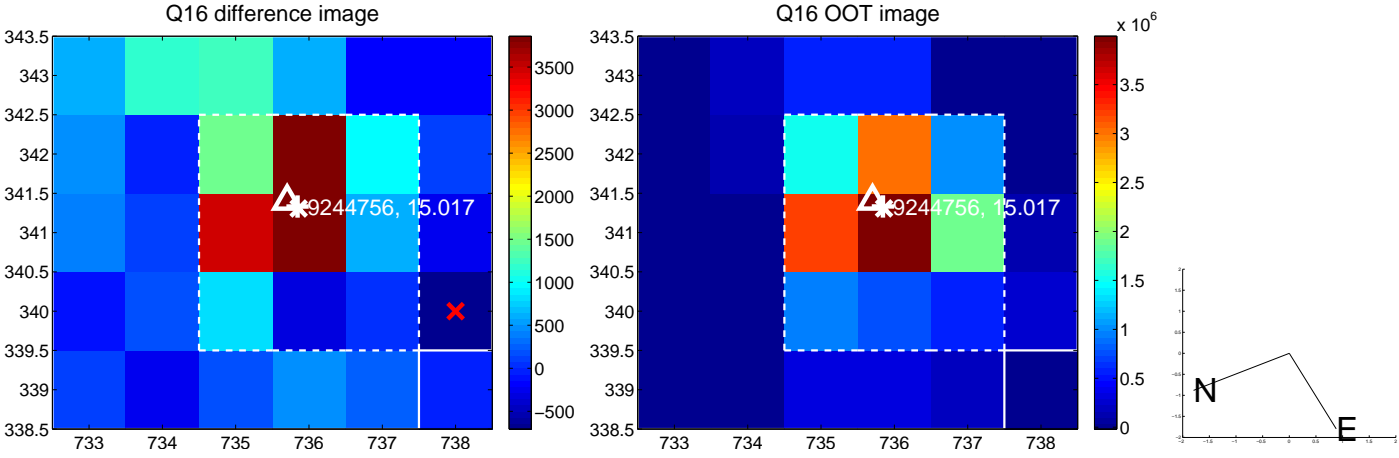
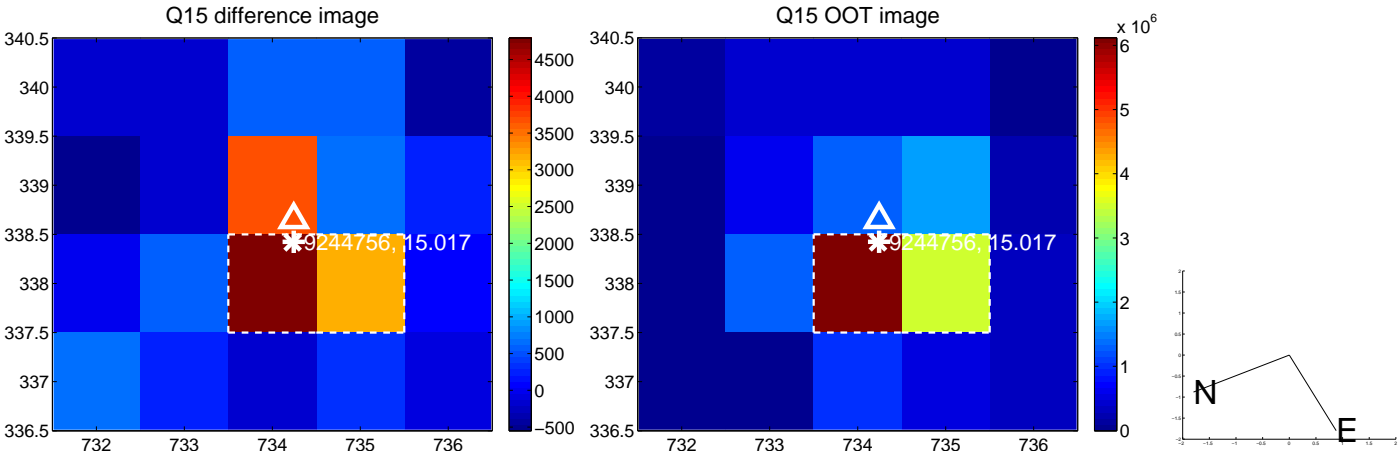
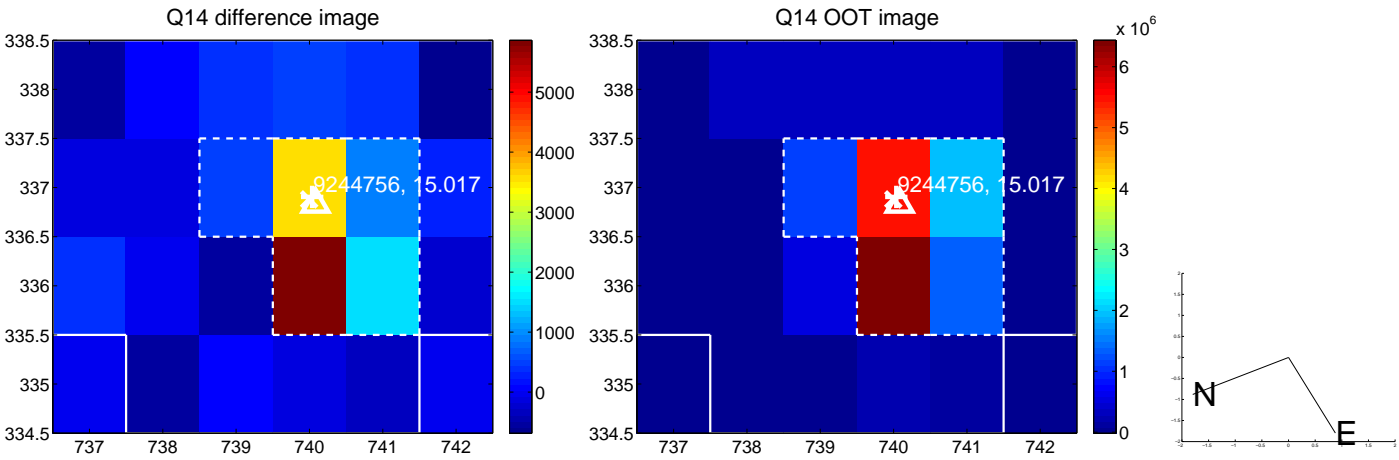
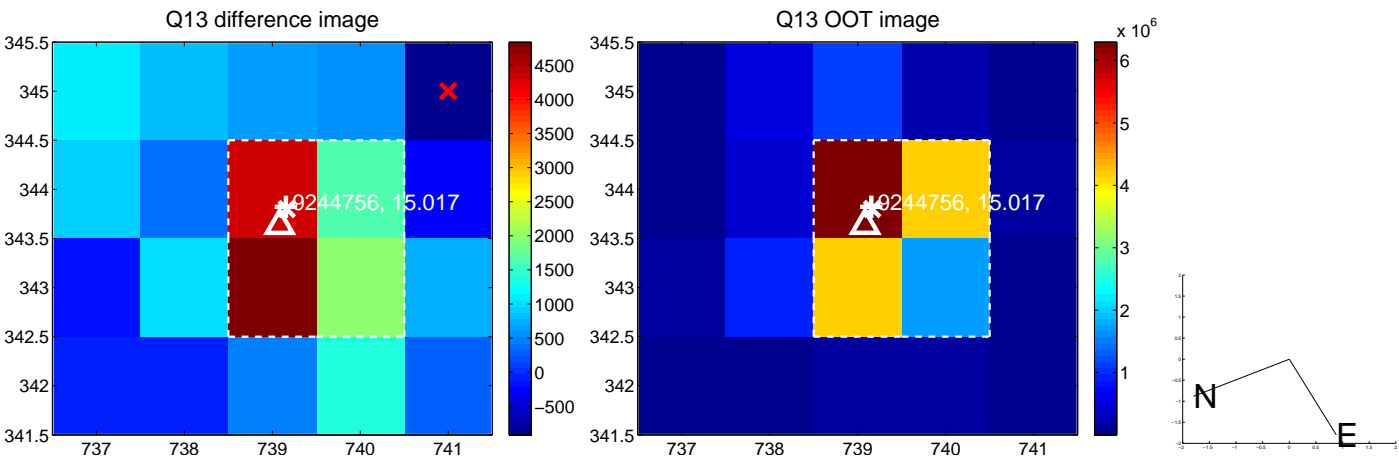
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



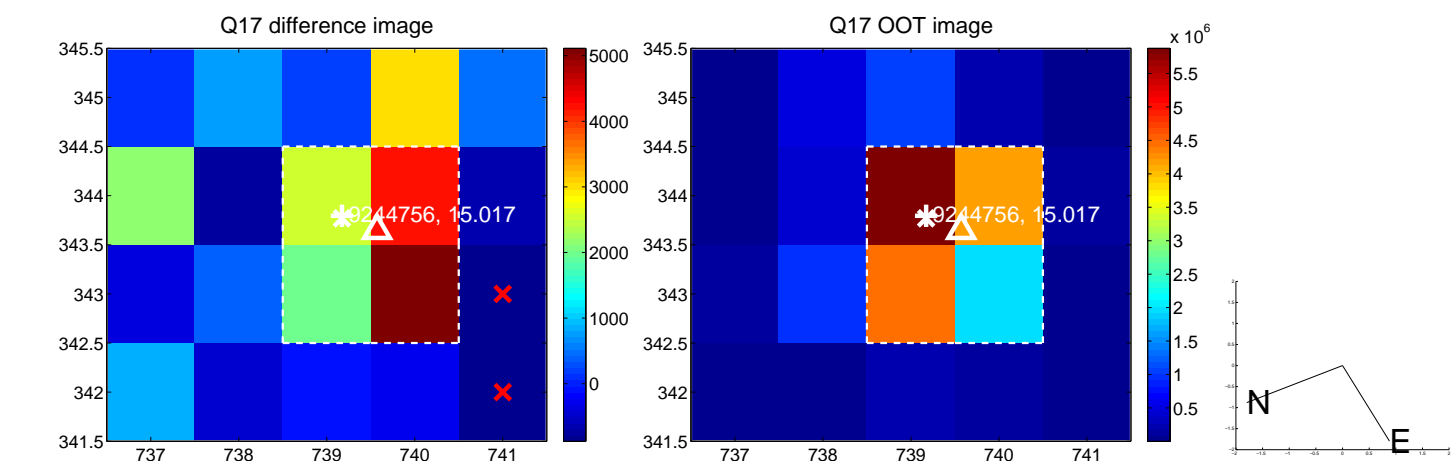
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



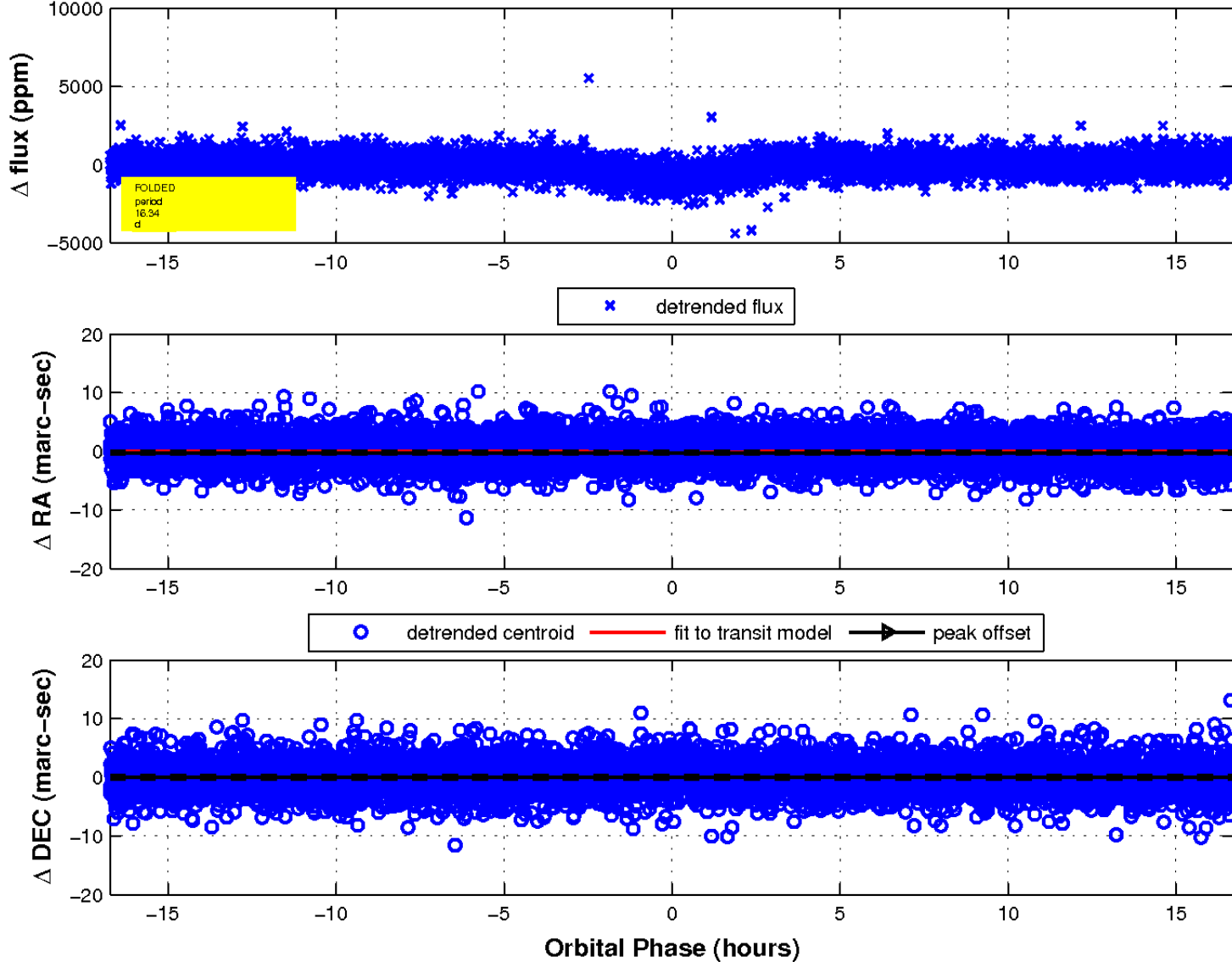
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

