

KIC 007838639

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})
007838639-01	OBS	6922.01	2.113198	132.330886	55223.5	3.462	8218.2	5392.0	1.46	6215	46.39	2627.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007838639-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED

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.

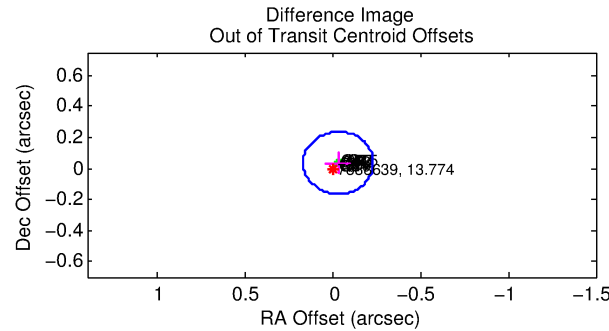
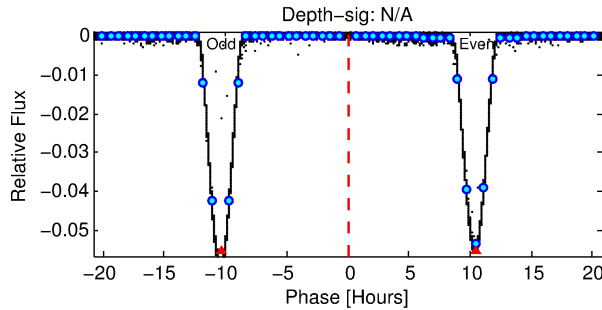
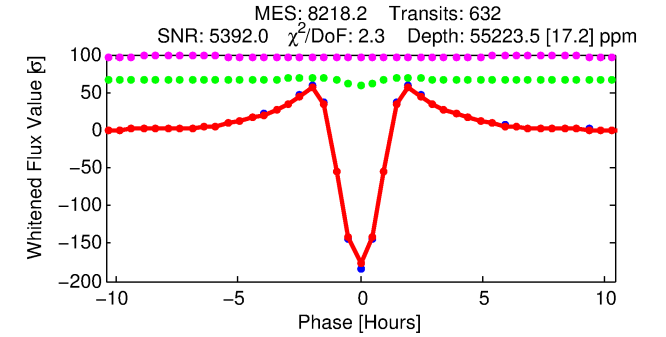
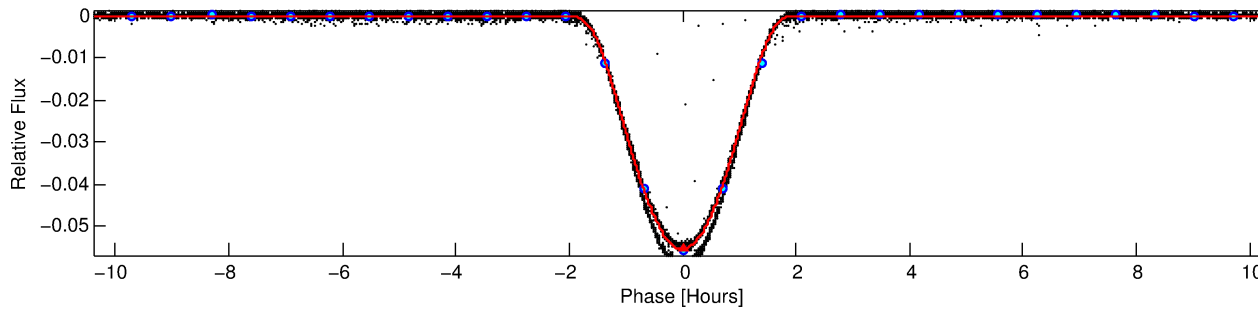
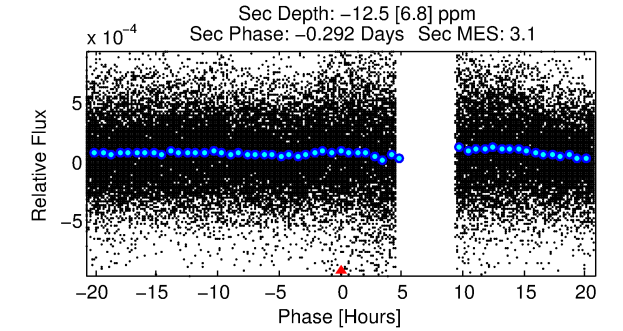
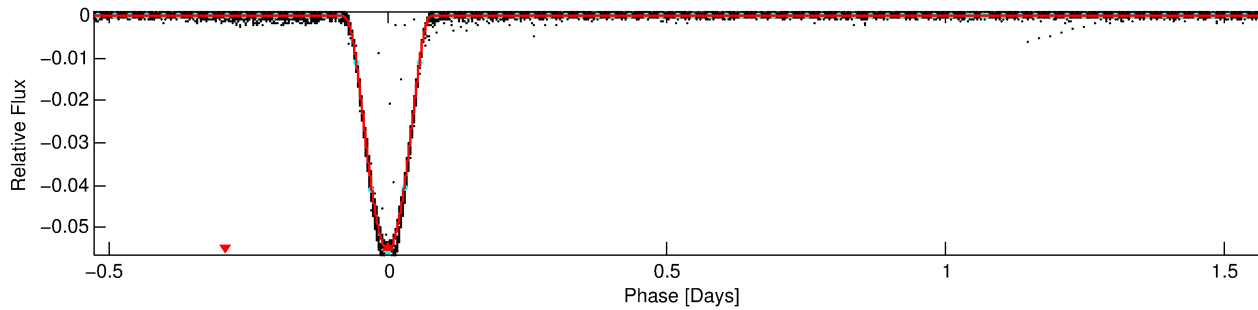
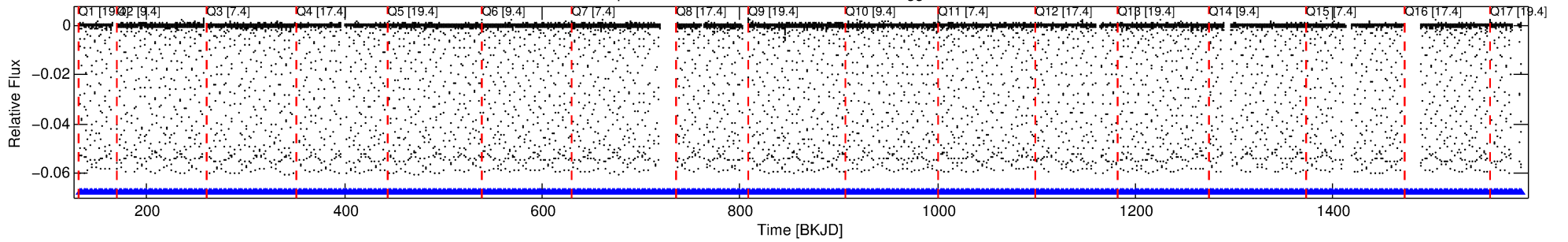
Ephemeris Match Information For 007838639-01

No Significant Match Found

DV One-Page Summary

KIC: 7838639 Candidate: 1 of 1 Period: 2.113 d
KOI: K06922.01 Corr: 0.999

Kp: 13.77 R*: 1.46 Rs Teff: 6215.0 K Logg: 4.14 Fe/H: -0.200



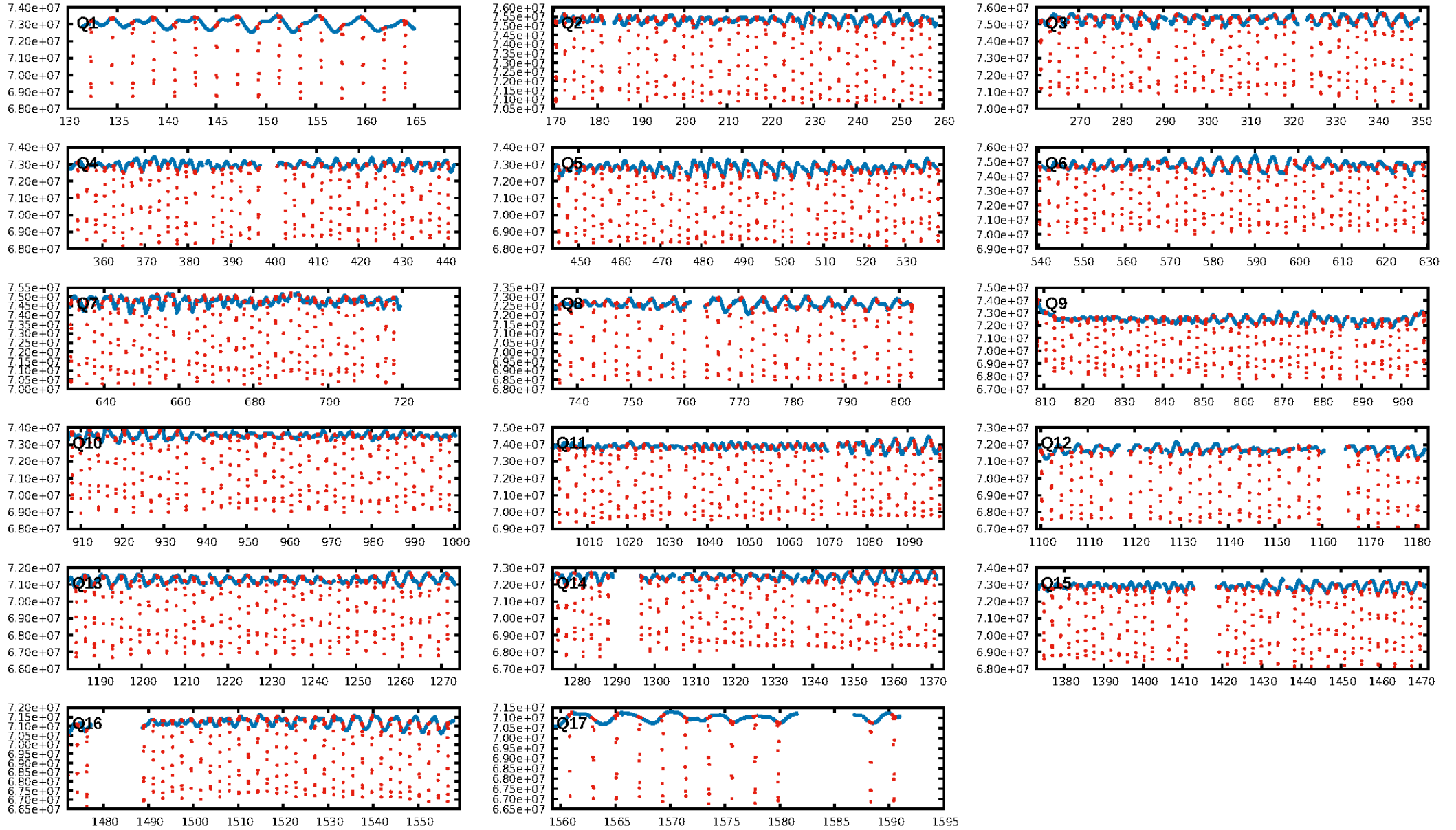
DV Fit Results:

Period = 2.11320 [0.00000] d
Epoch = 132.3309 [0.0000] BKJD
Rp/R* = 0.2906 [0.0015]
a/R* = 4.51 [0.00]
b = 0.88 [0.00]
Seff = 2627.65 [1205.68]
Teq = 1826 [209] K
Rp = 46.39 [13.22] Re
a = 0.0330 [0.0091] AU
Ag = N/A
Teffp = N/A

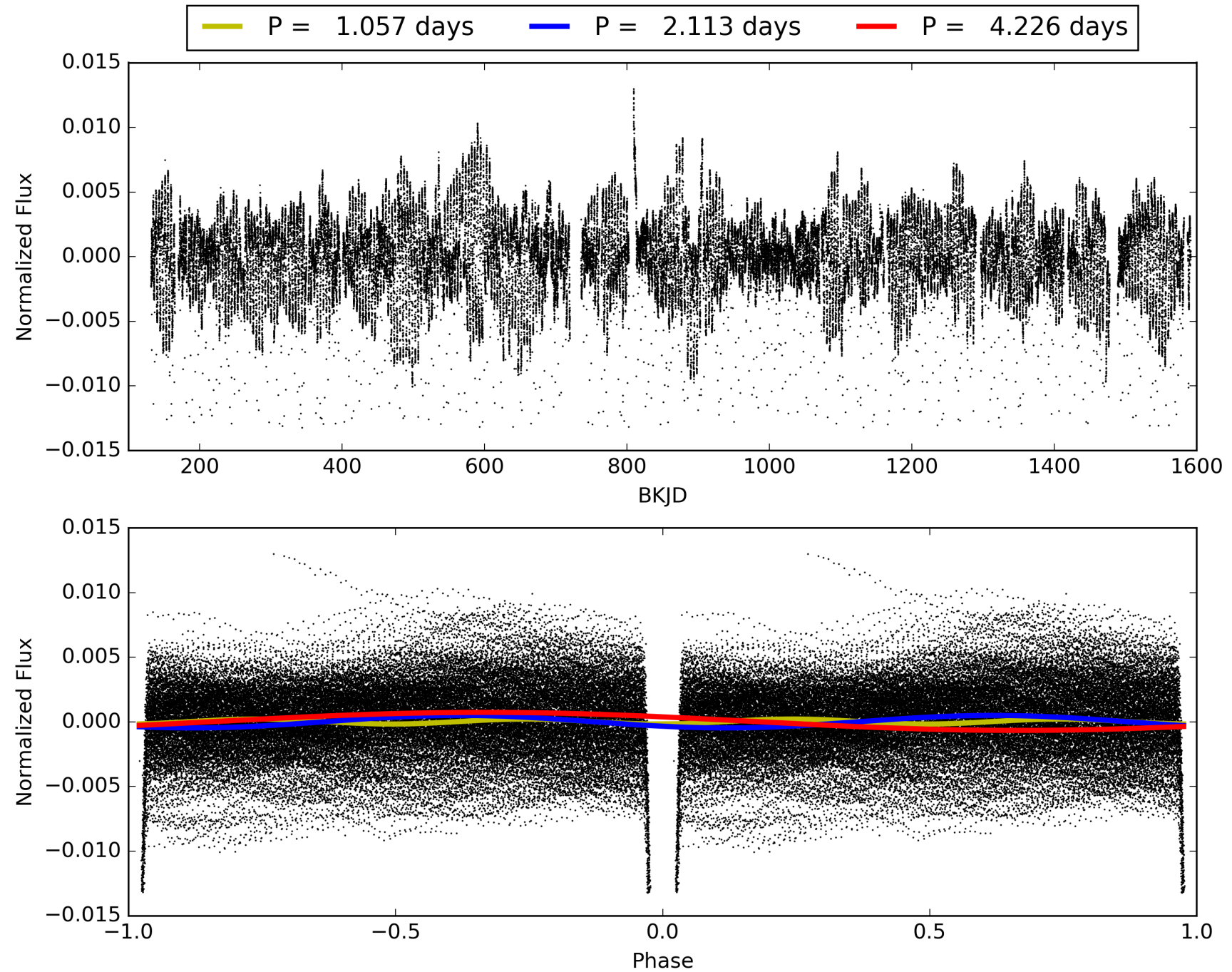
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [604/604]
GhostDiagnostic-chr: 4.87
Centroid-sig: 0.0%
Centroid-so: 0.056 arcsec [54.81σ]
OotOffset-rm: 0.047 arcsec [0.70σ]
KicOffset-rm: 0.100 arcsec [1.49σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007838639-01, PDC Light Curves

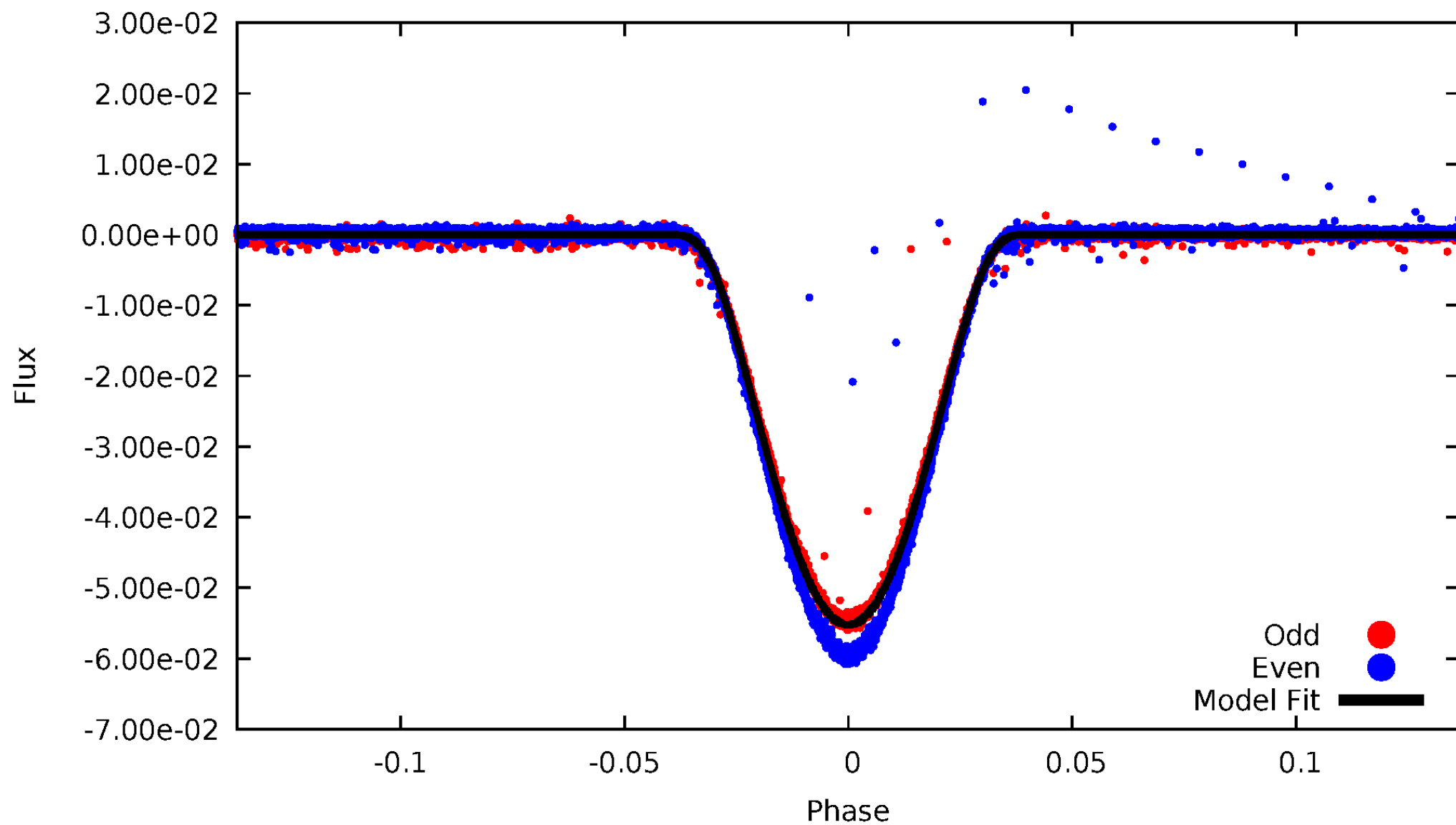


TCE 007838639-01



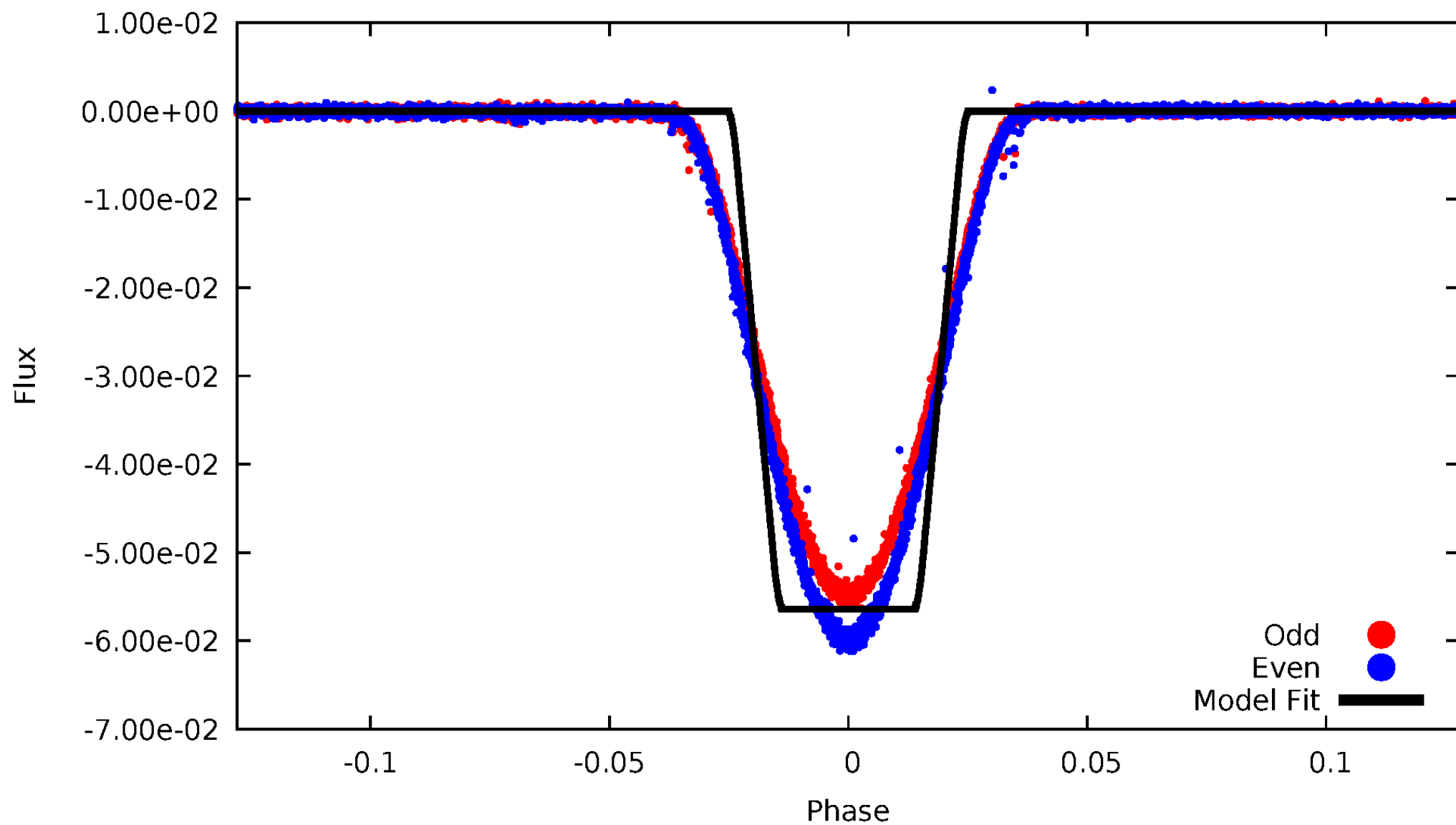
DV Odd/Even

TCE 007838639-01



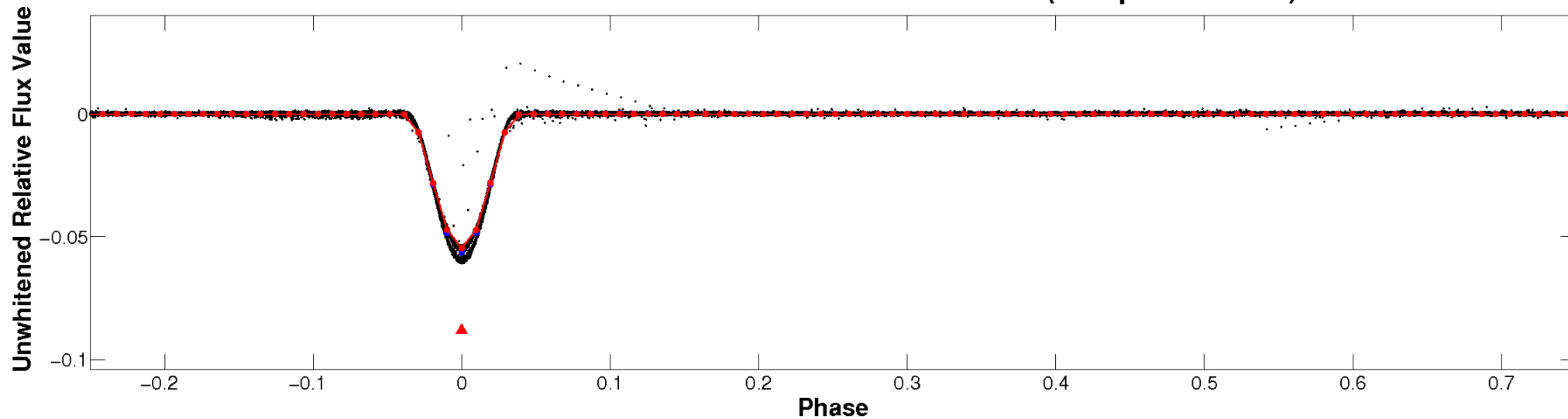
ALT Odd/Even

TCE 007838639-01

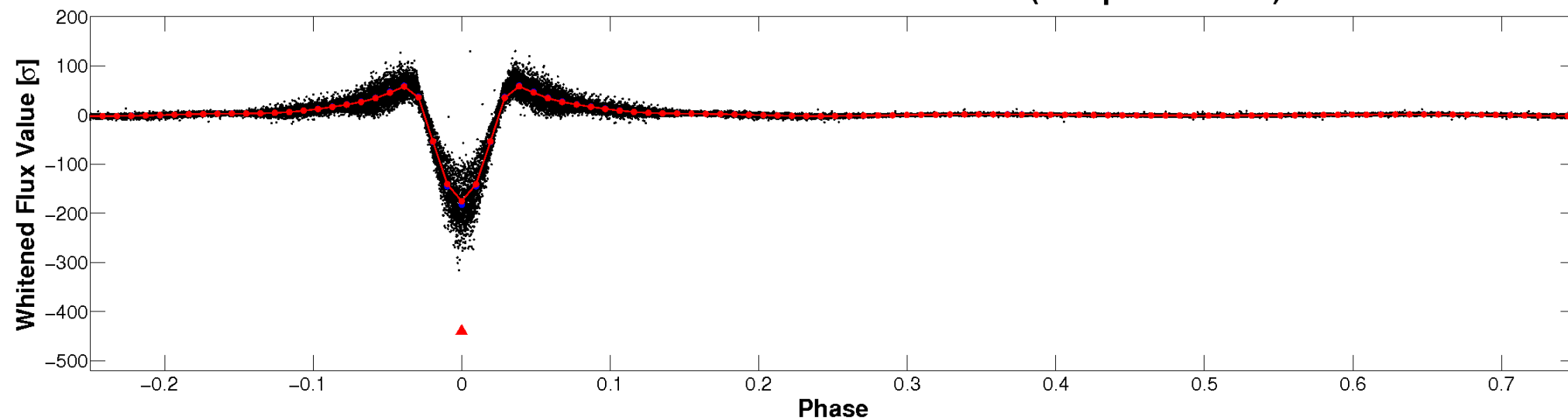


Non-Whitened Vs. Whitened Light Curve

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

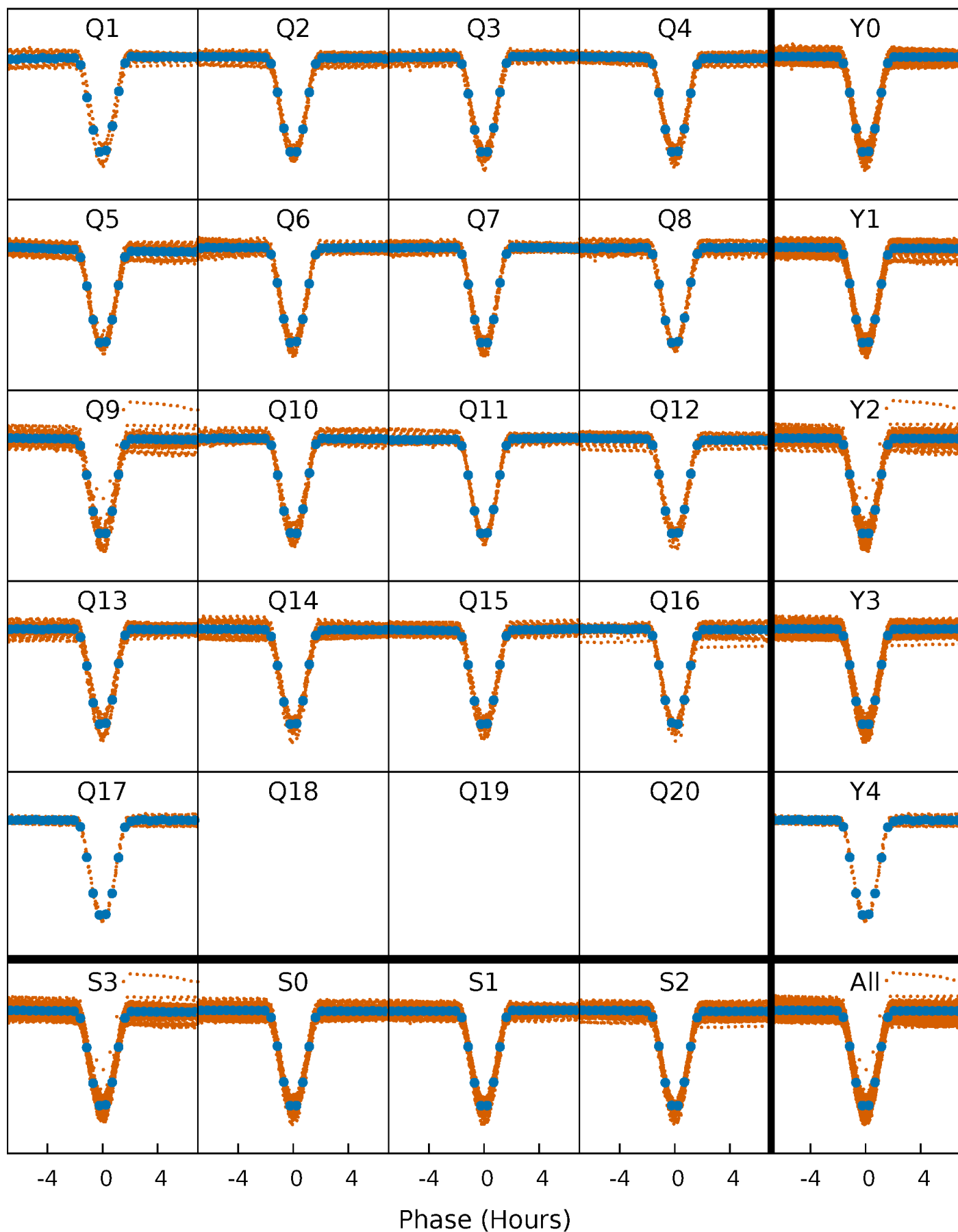


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



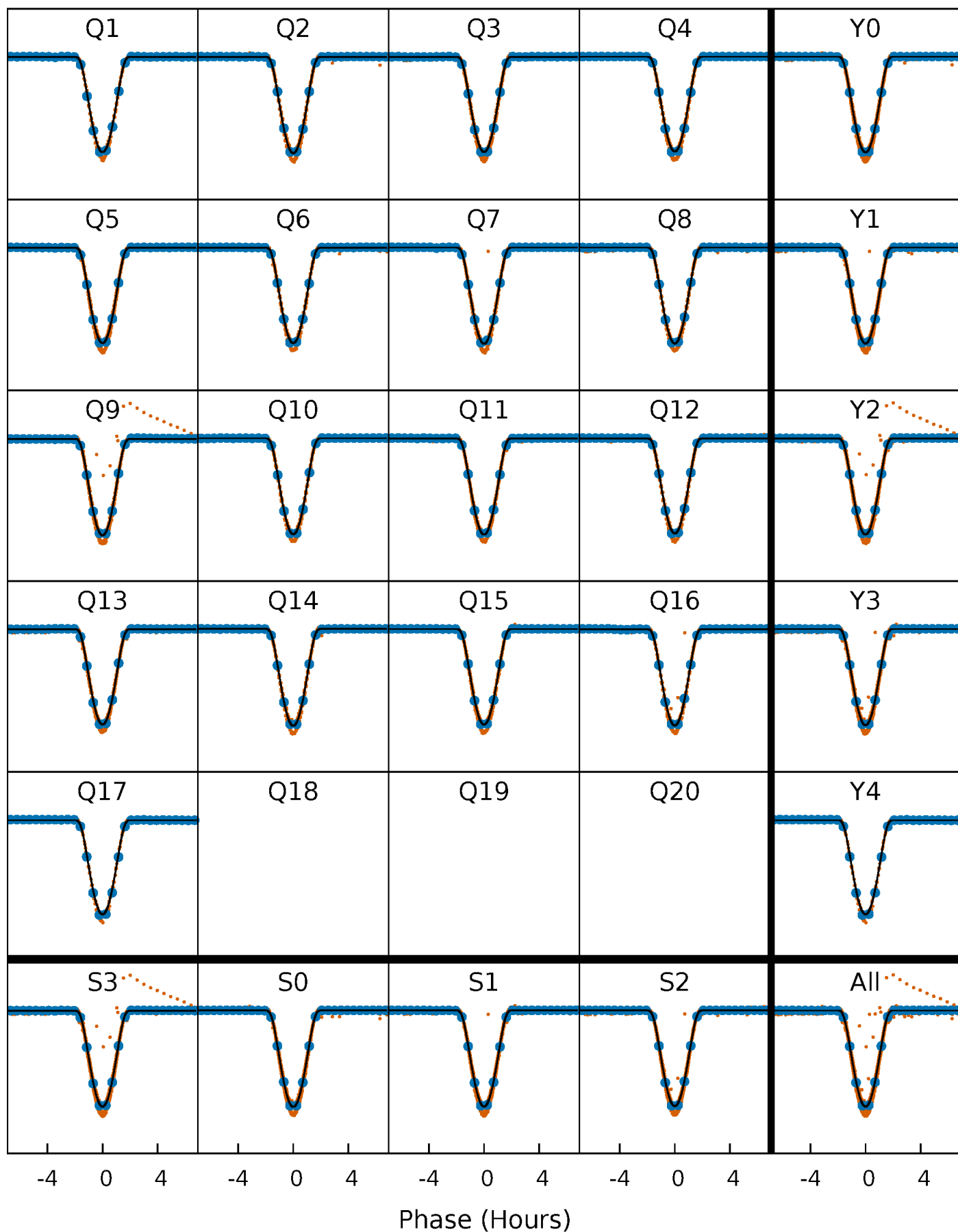
PDC Quarter-Phased Transit Curves

TCE 007838639-01 P= 2.113198 Days $T_0=132.330886$ (BKJD)



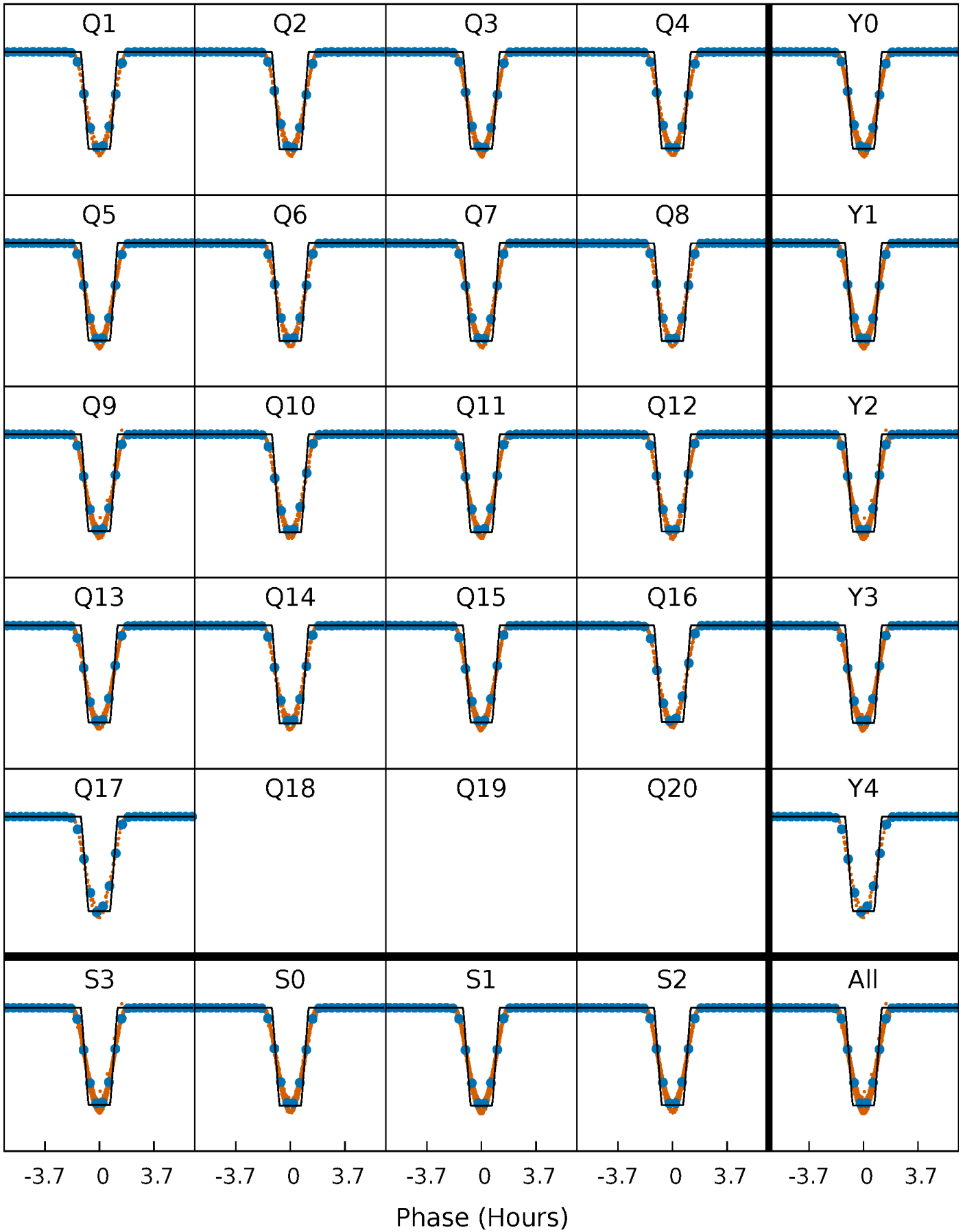
DV Quarter-Phased Transit Curves

TCE 007838639-01 P= 2.113198 Days $T_0=132.330886$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

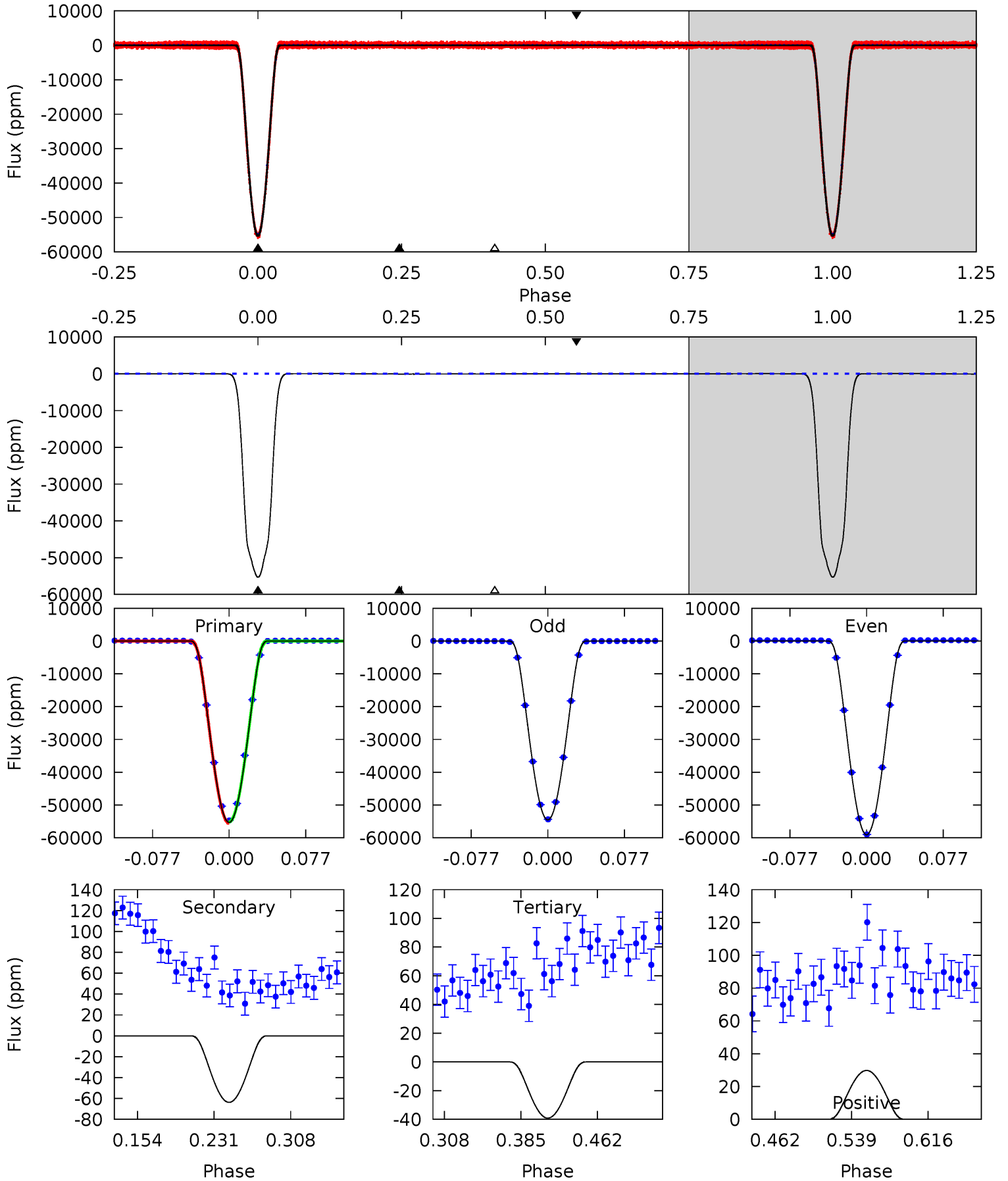
TCE 007838639-01 P= 2.113201 Days $T_0=132.329871$ (BKJD)



DV Model-Shift Uniqueness Test

007838639-01, P = 2.113198 Days, E = 130.217688 Days

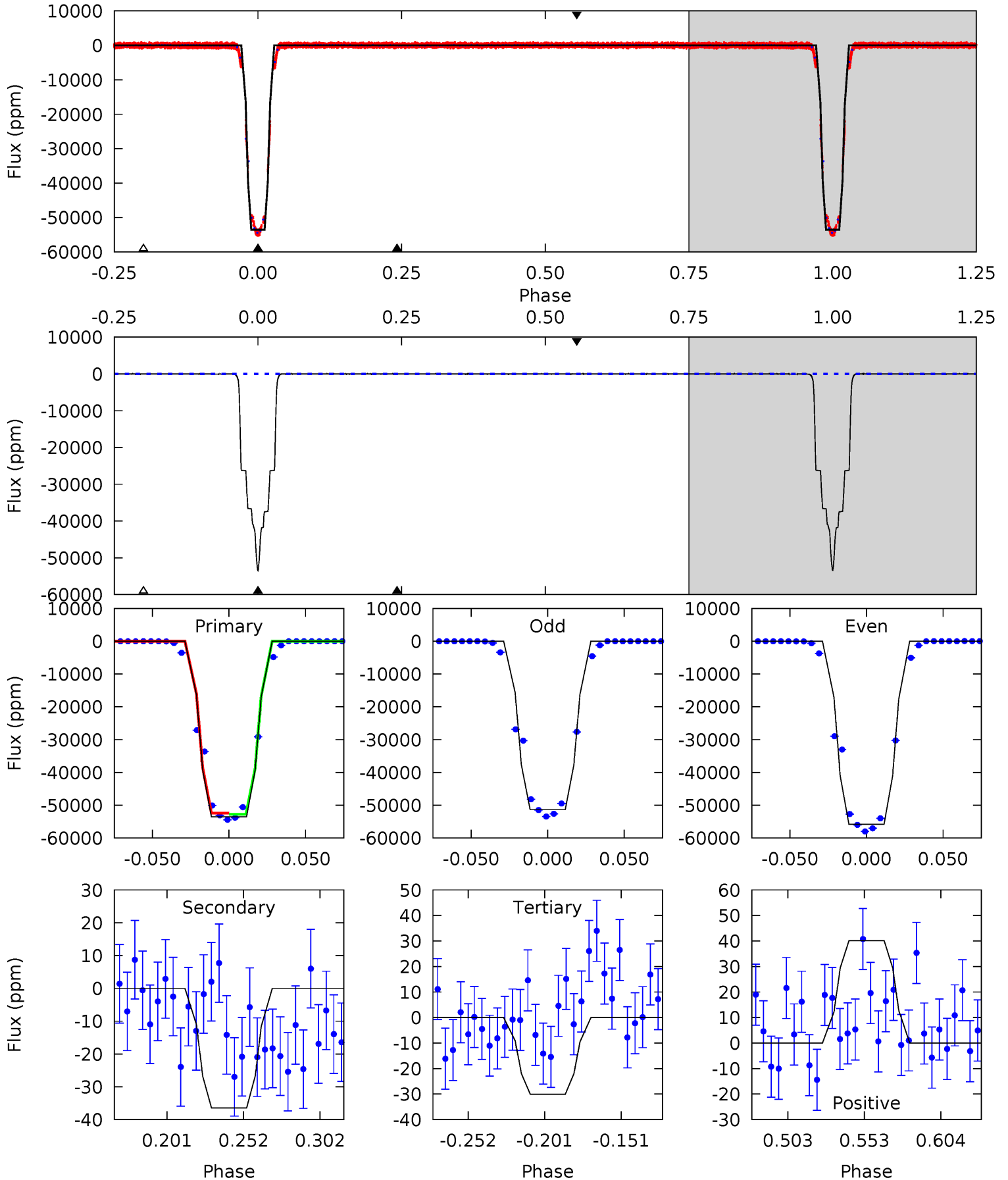
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10537	12.1	7.46	5.67	4.62	1.77	5.95	10529	10531	4.68	6.47	550.7	1.02	0.00	34.4



Alt Model-Shift Uniqueness Test

007838639-01, P = 2.113201 Days, E = 130.216670 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5635	3.84	3.16	4.23	4.71	1.96	1.50	5632	5631	0.68	-0.39	313.5	1.01	0.00	0



Stellar Parameters For KIC 007838639

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6215^{+188}_{-206}	$4.138^{+0.258}_{-0.172}$	$-0.200^{+0.250}_{-0.300}$	$1.463^{+0.417}_{-0.417}$	$1.073^{+0.169}_{-0.154}$	$0.482^{+0.726}_{-0.217}$
	+3%/-3%	+6%/-4%	+125%/-150%	+29%/-29%	+16%/-14%	+151%/-45%
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 007838639-01 / KOI 6922.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-64 ± 5	$45.56^{+7.01}_{-6.49}$	2519^{+204}_{-200}	-2784^{+124}_{-125}	$0.018^{+0.007}_{-0.004}$
Alt.	-36 ± 9	$37.34^{+6.37}_{-6.18}$	2519^{+221}_{-207}	-2788^{+127}_{-137}	$0.015^{+0.008}_{-0.005}$

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

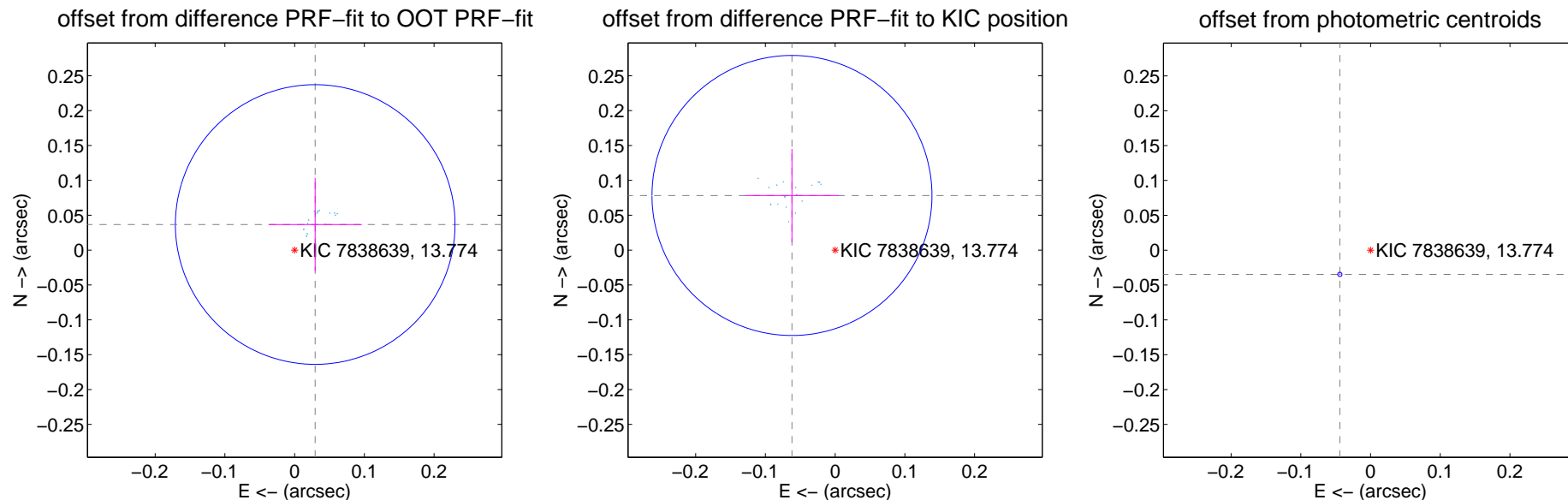
DV Centroid Data

Supplemental centroid analysis for 007838639-01. Kepler magnitude: 13.77. Transit SNR 5392.04

There are 17 quarters with good PRF difference image offsets

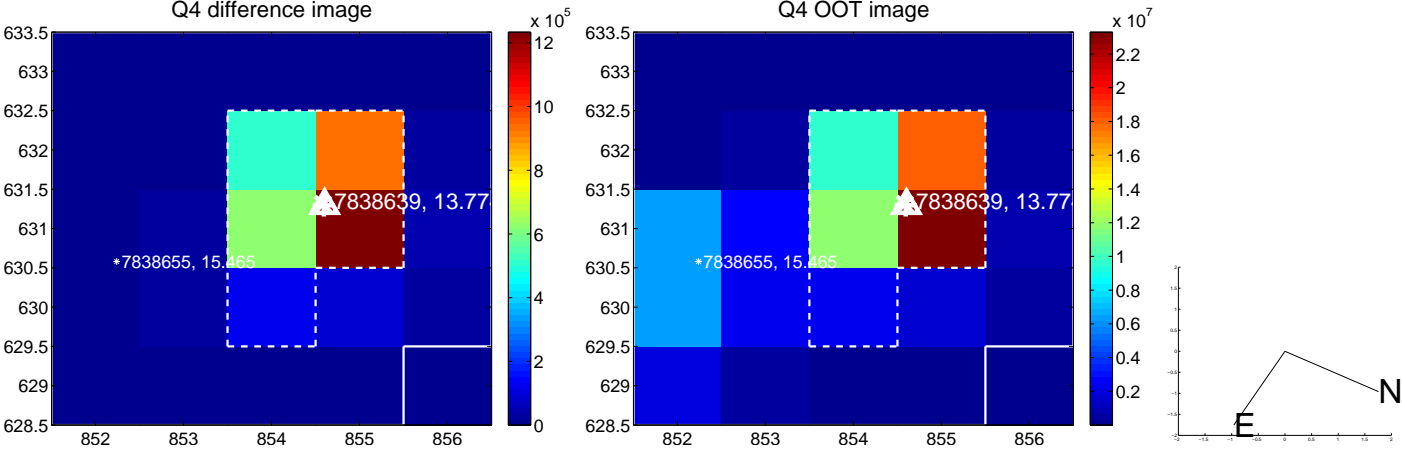
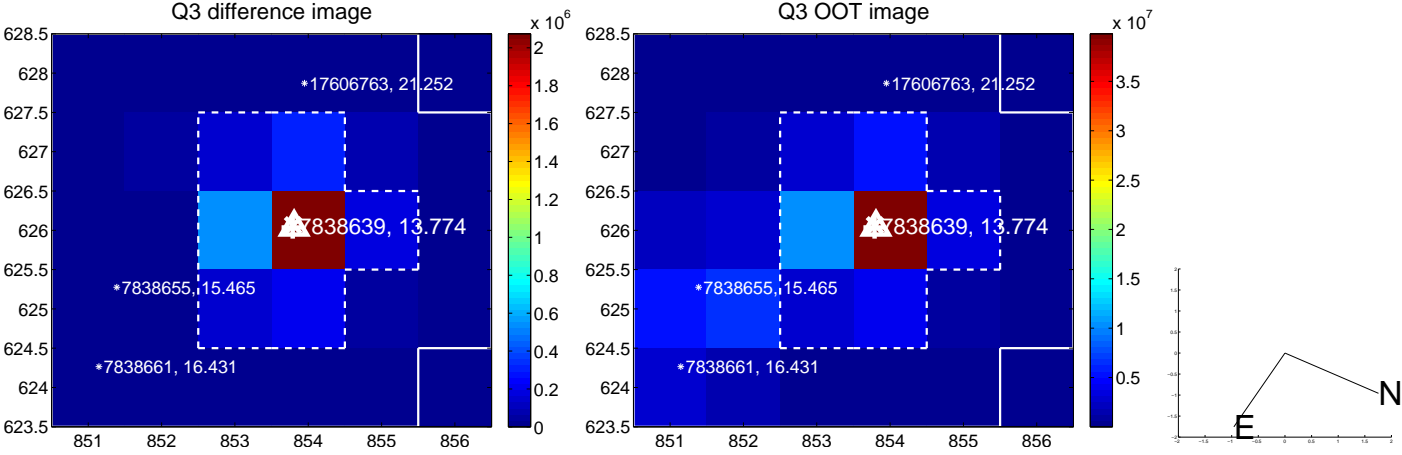
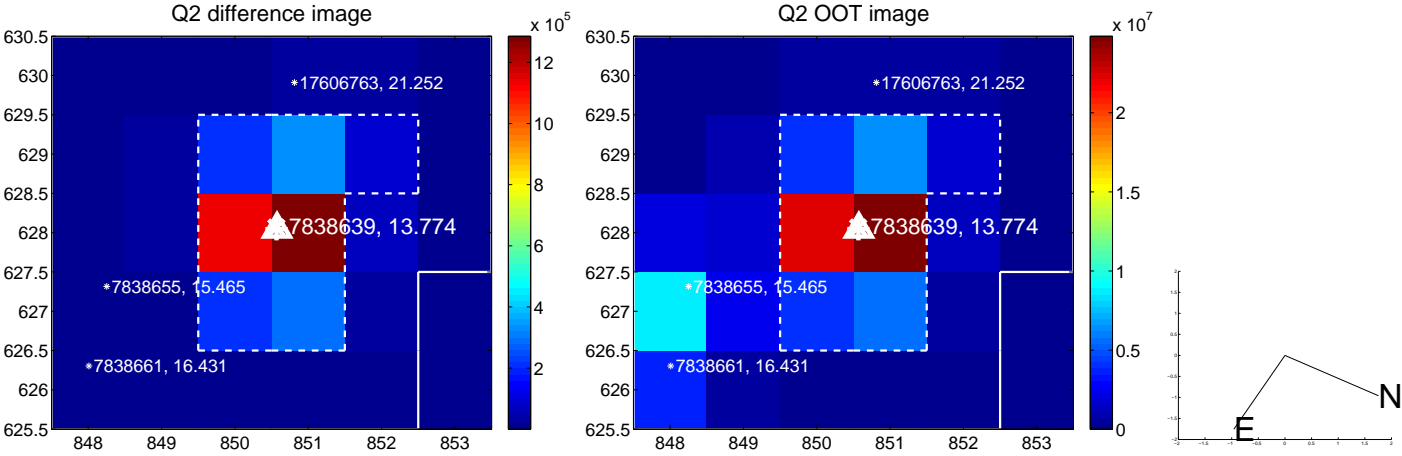
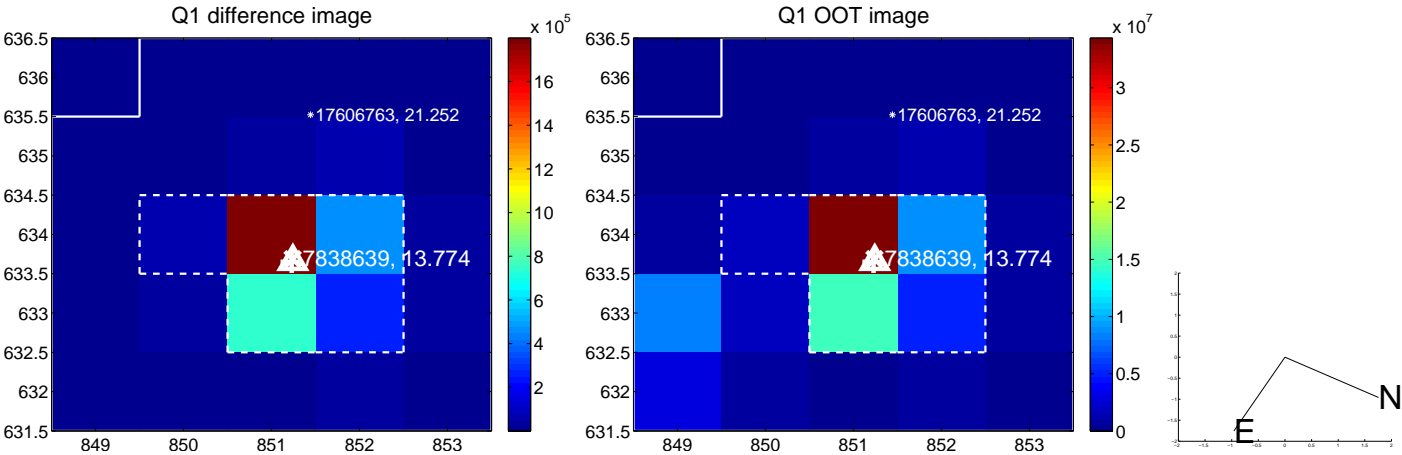
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.047 ± 0.067	0.70	-0.030 ± 0.067	0.037 ± 0.067
PRF-fit source offset from KIC position	0.100 ± 0.067	1.49	0.062 ± 0.067	0.078 ± 0.067
photometric centroid source offset	0.06 ± 0.00	54.81	0.04 ± 0.00	-0.03 ± 0.00

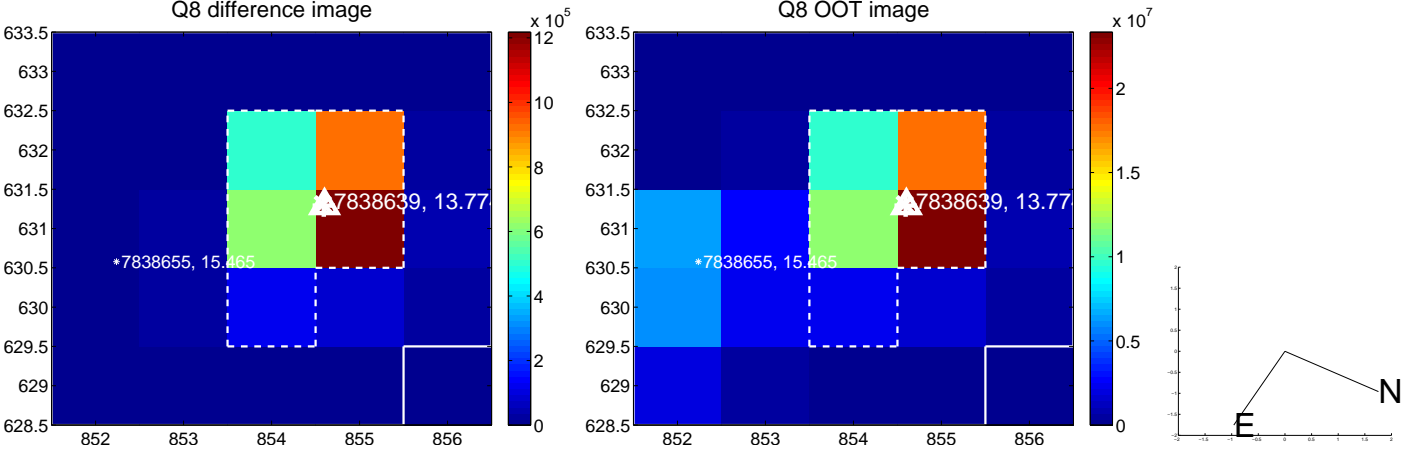
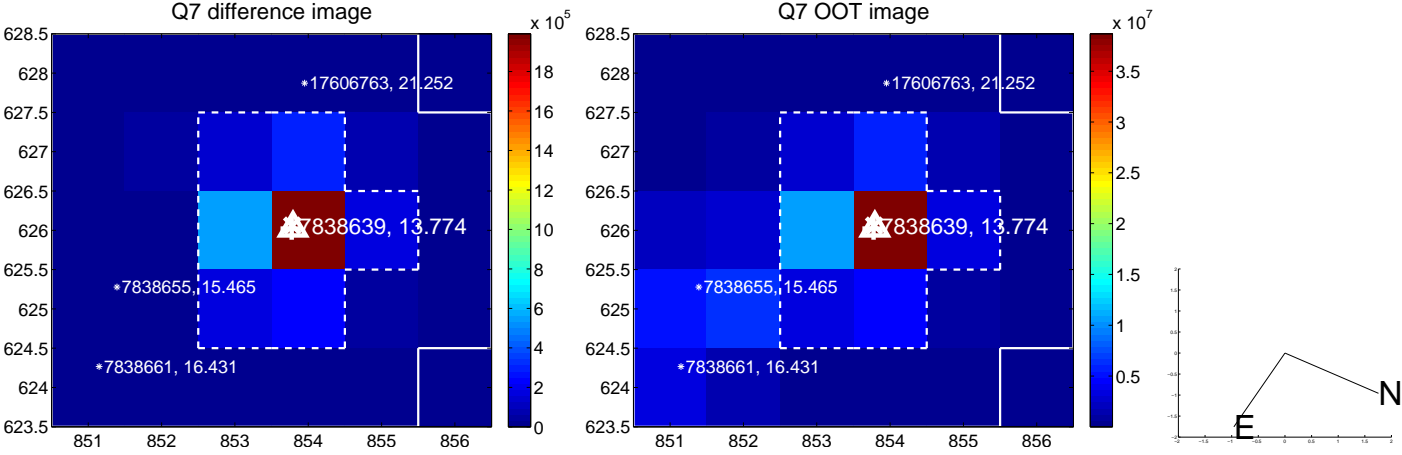
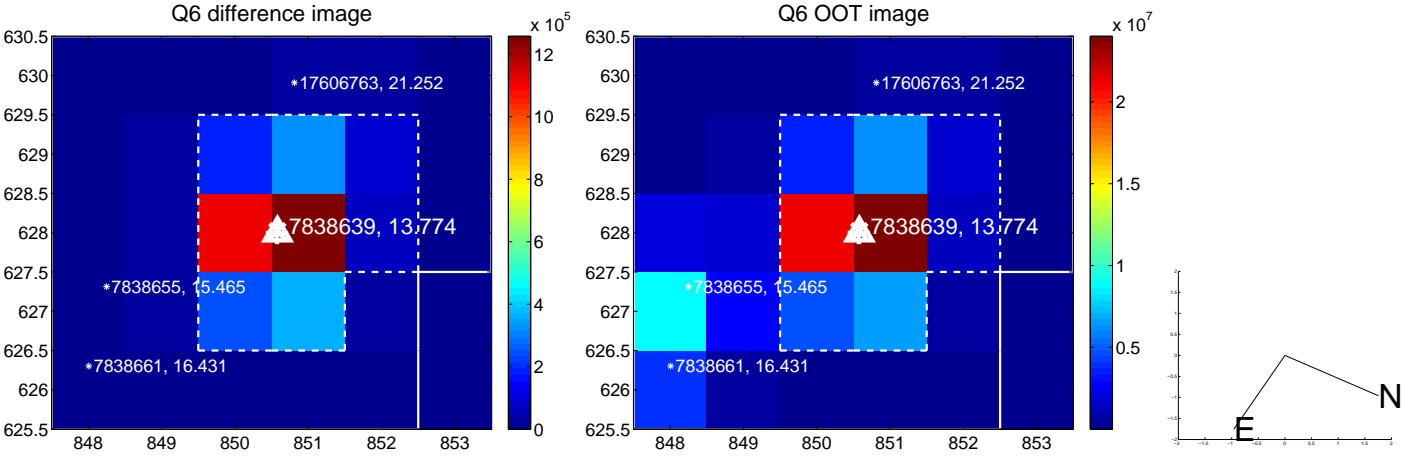
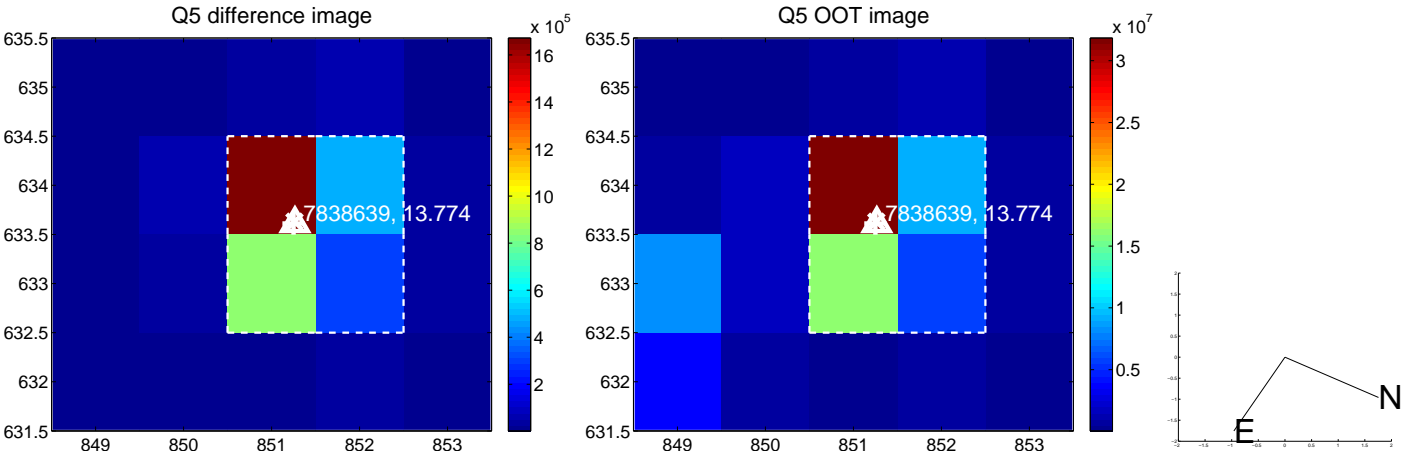


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

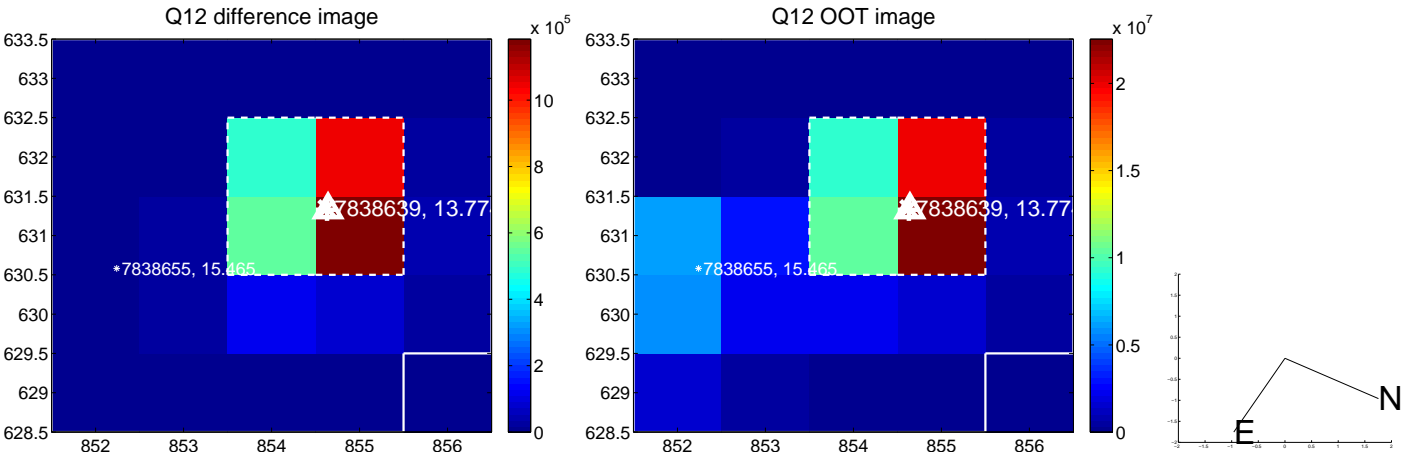
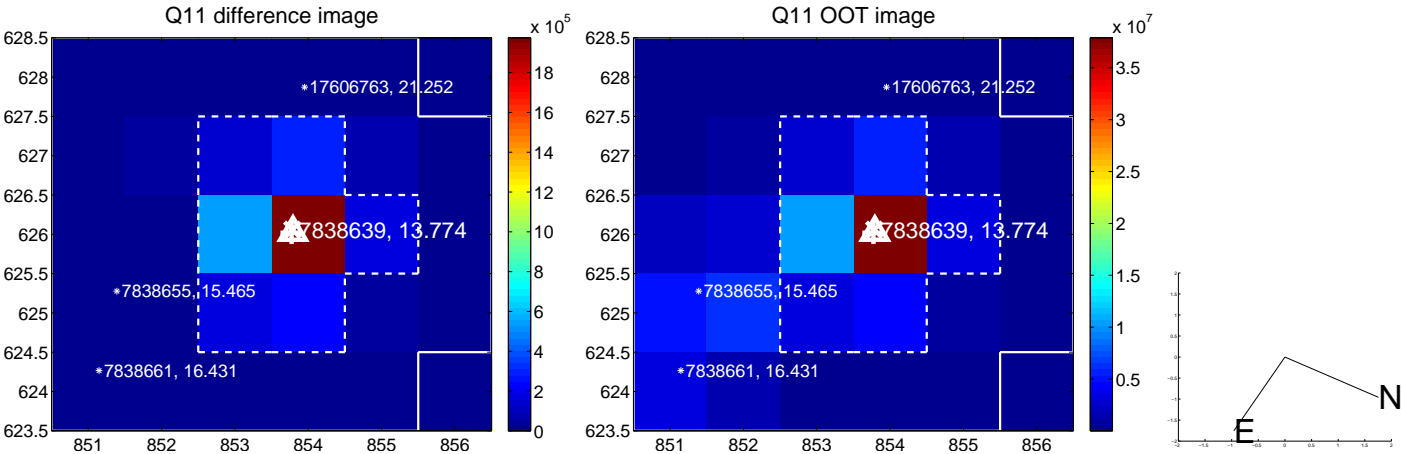
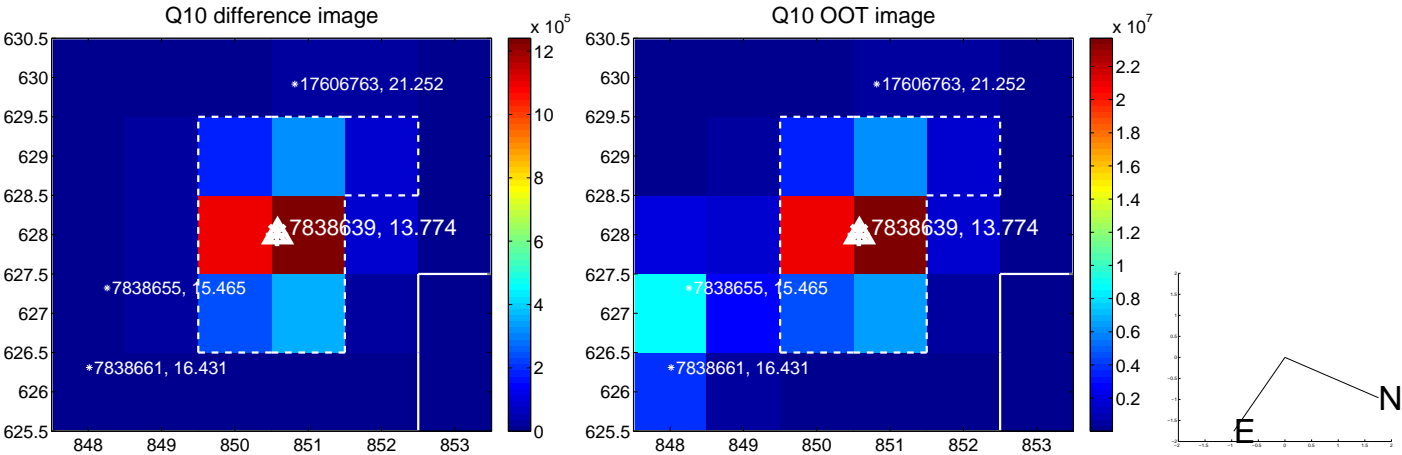
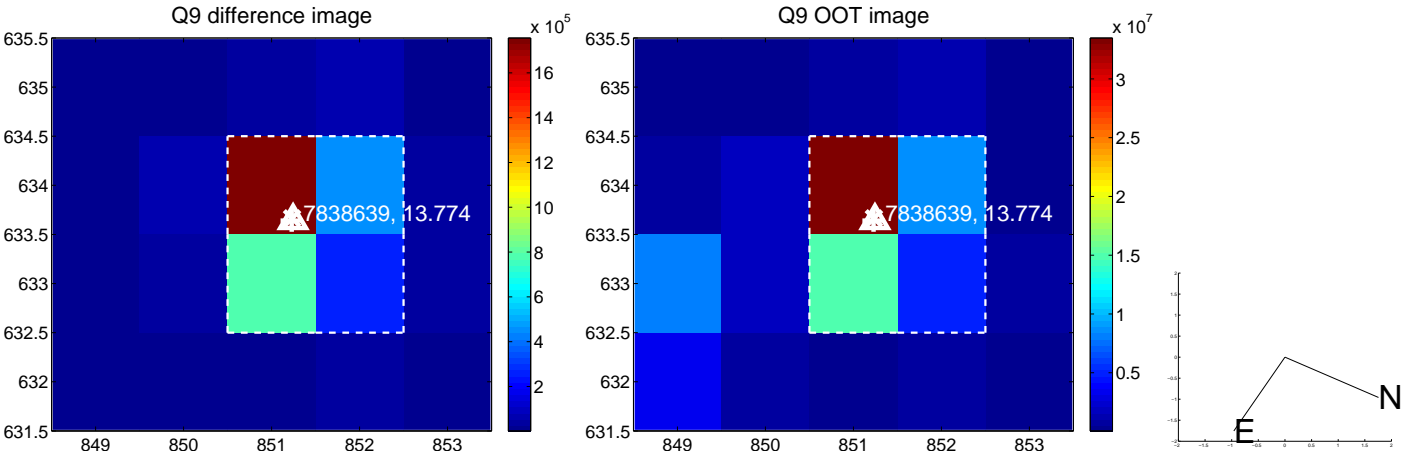
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



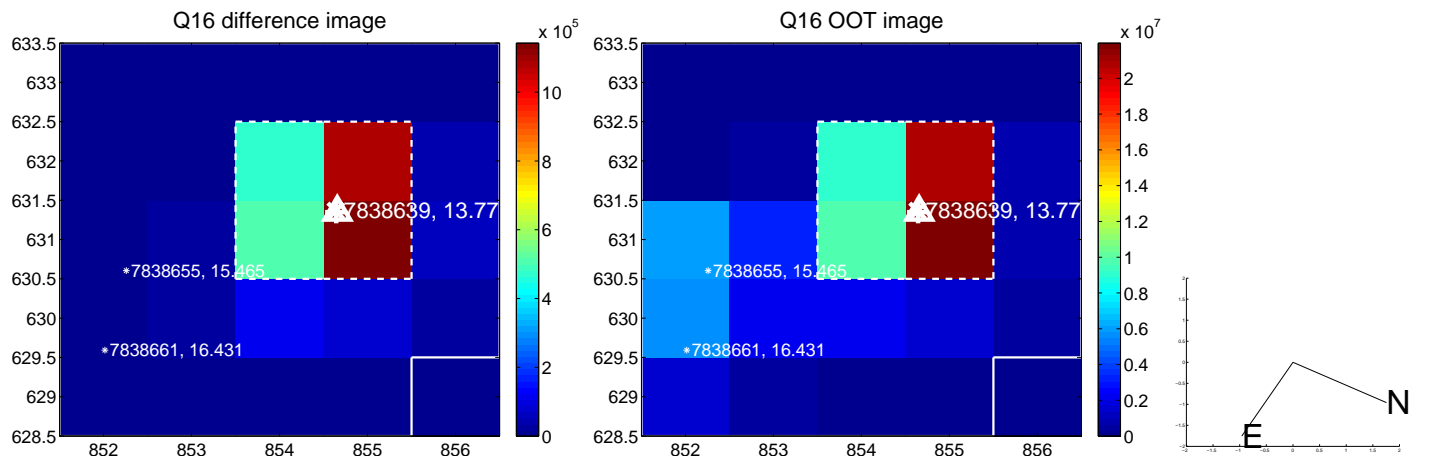
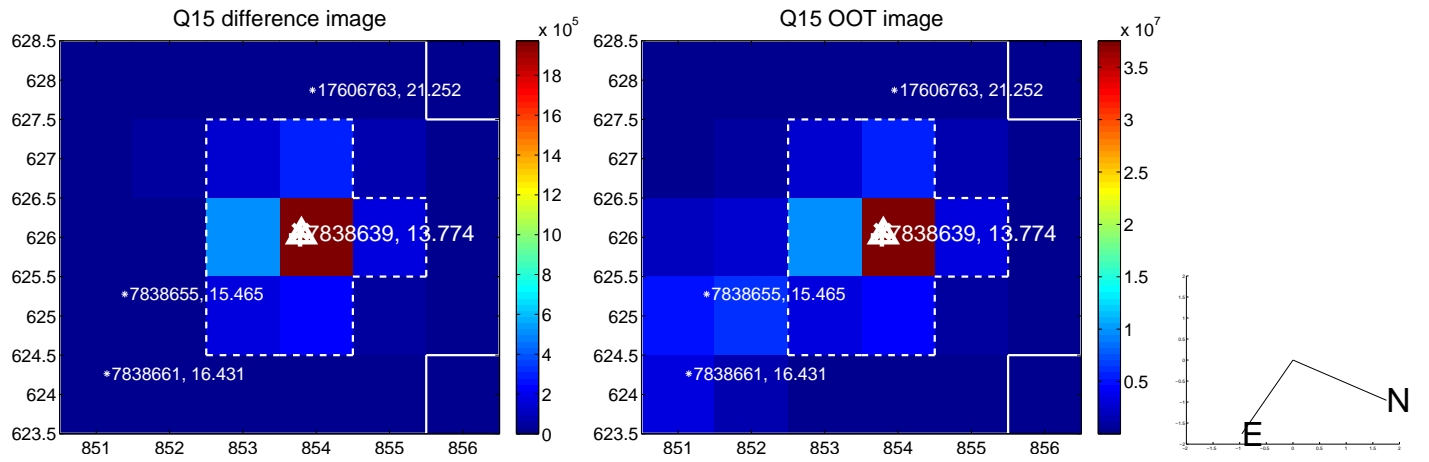
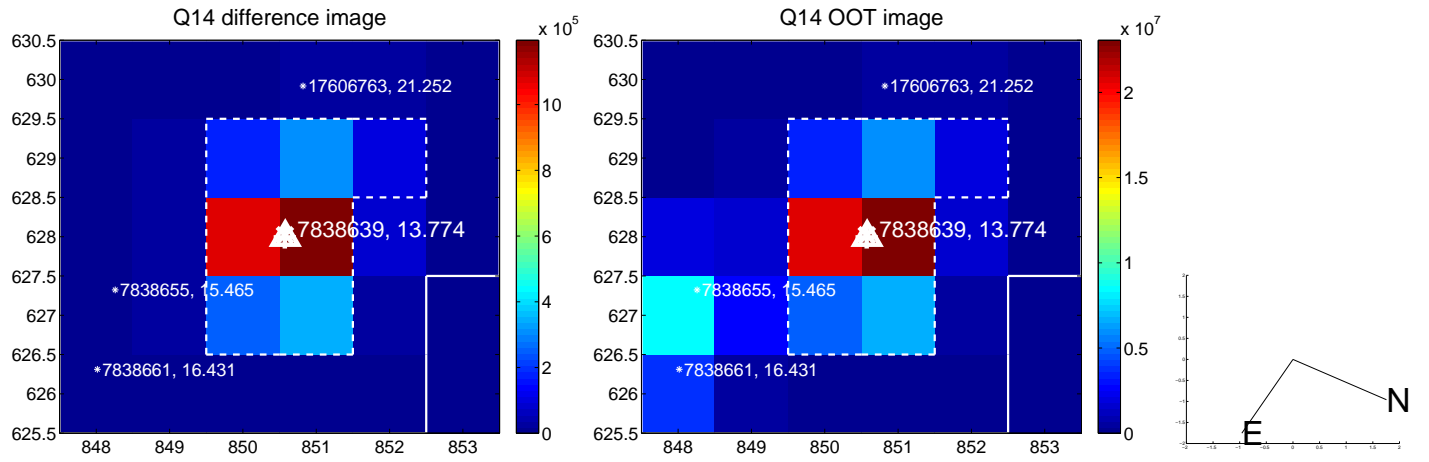
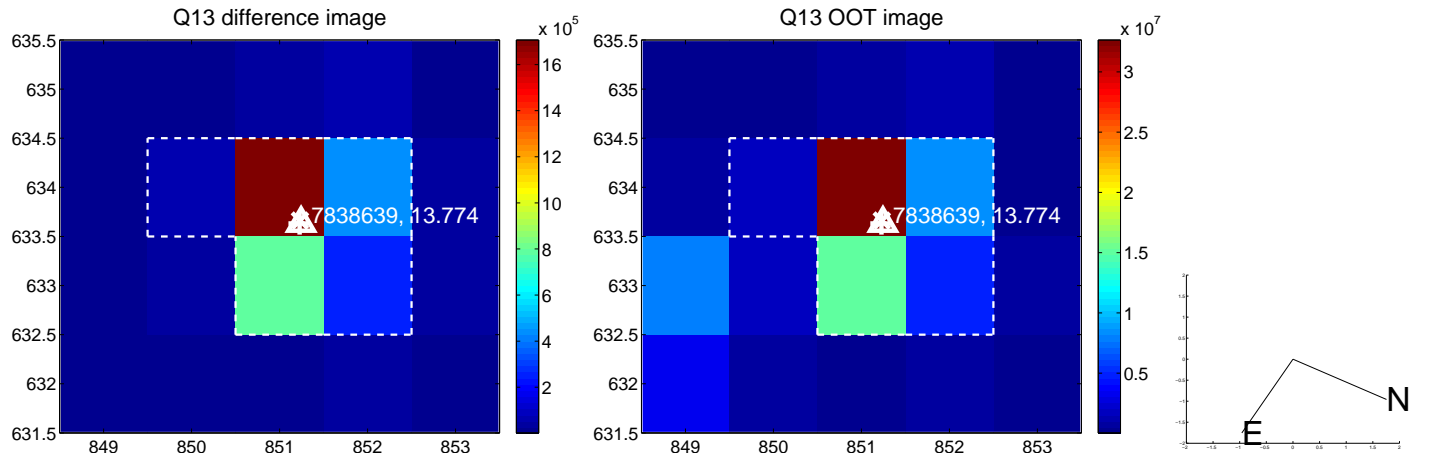
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



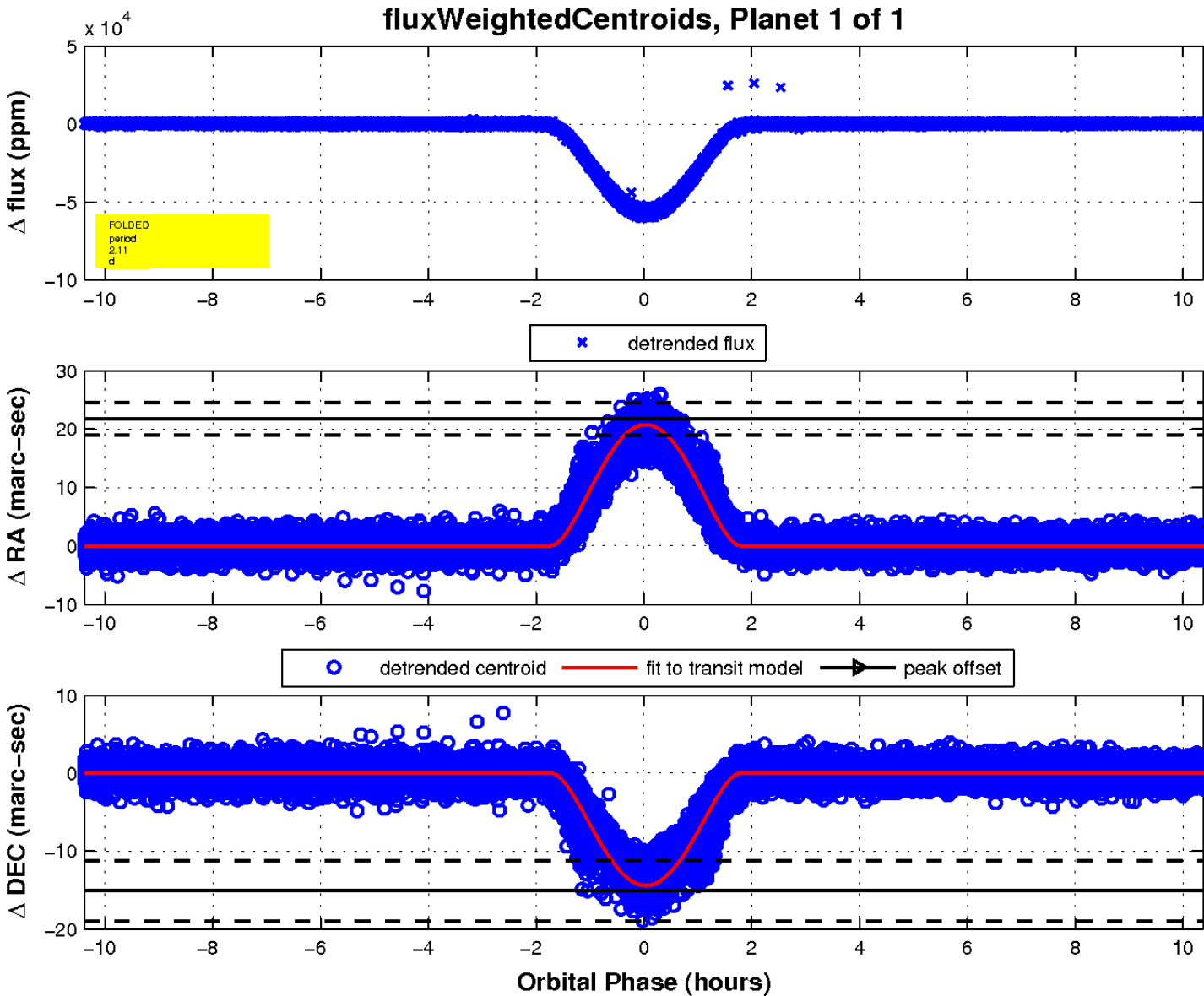
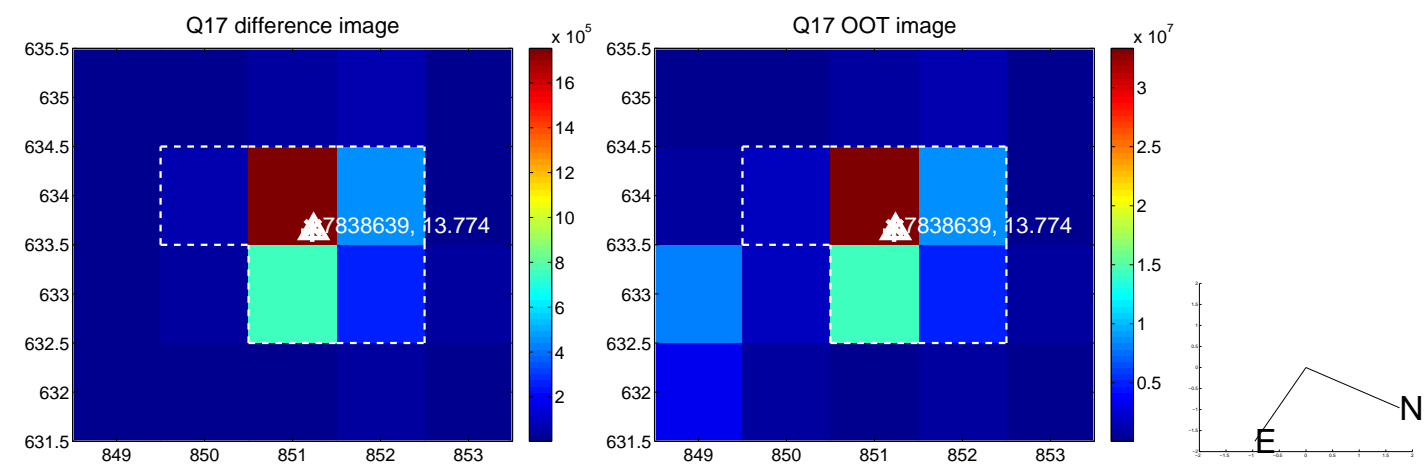
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UKIRT Image

Declination

