

KIC 007918217

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})
007918217-01	OBS	1770.01	63.933905	162.859913	1077.6	12.306	92.8	76.6	97.41	3626	699.39	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007918217-01	OBS	FP	0.00	0	1	1	1	PLANET_IN_STAR—DEEP_V_SHAPED—CENT_SATURATED—HALO_GHOST—EPHEM_MATCH

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 007918217-01

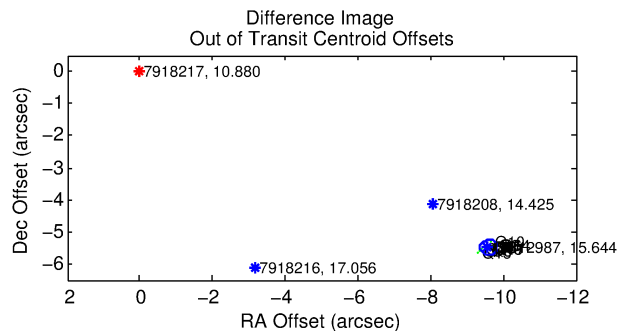
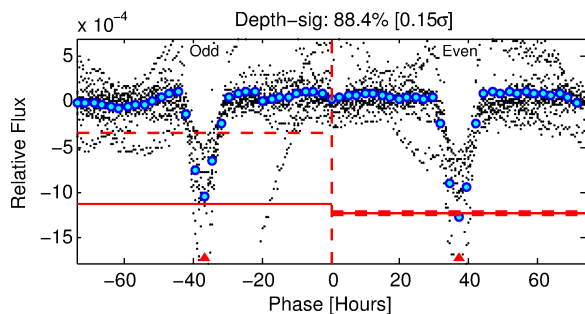
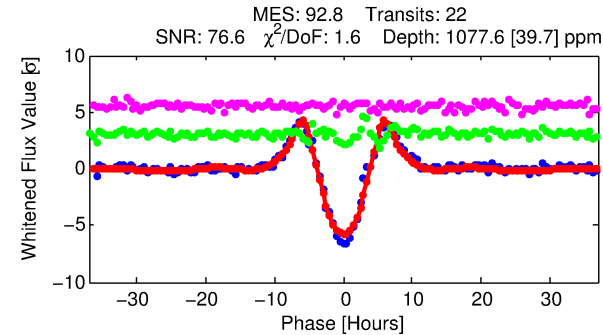
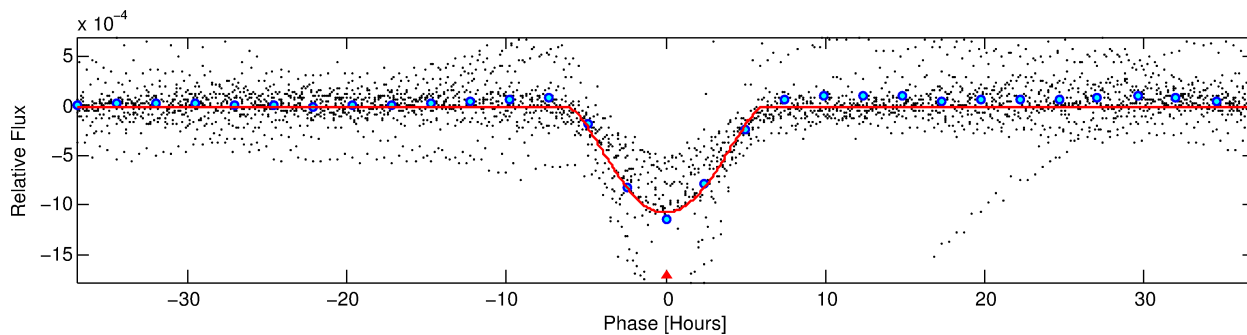
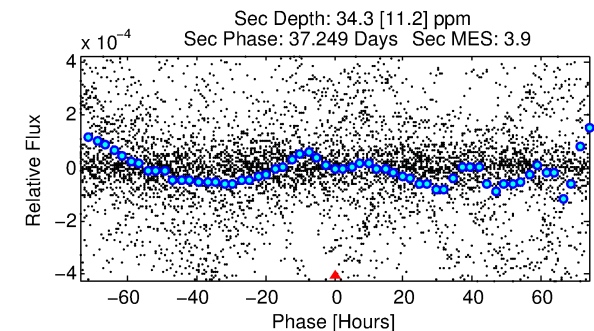
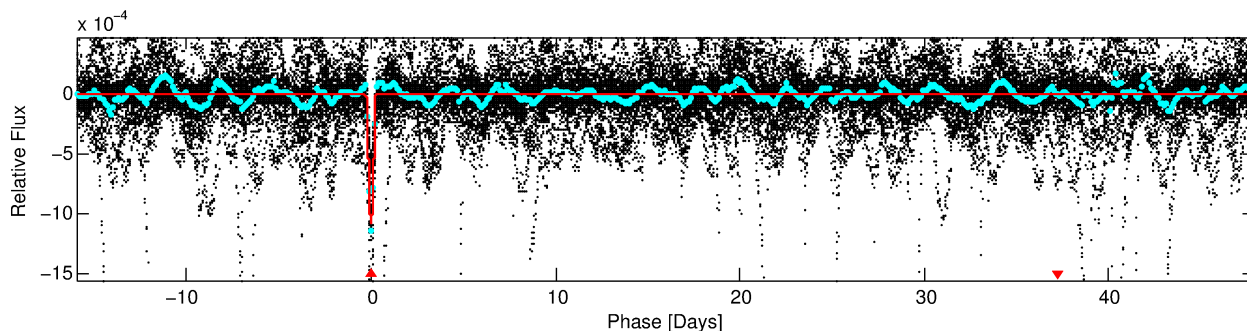
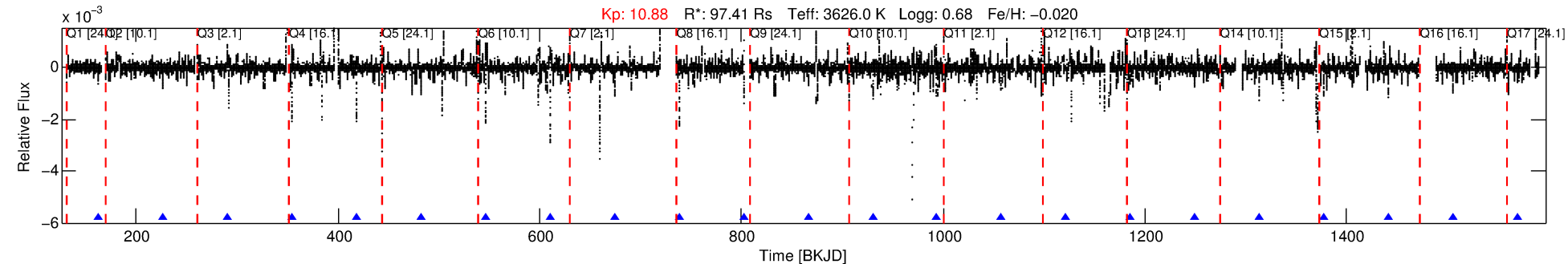
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007918217-01	7918217	007918172-sec	7918172	1:3	25.6	7	-1	14.34	10.88	1.39	Direct-PRF	1	1.48	0.19

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7918217 Candidate: 1 of 1 Period: 63.934 d
KOI: K01770.01 Corr: 0.944

Kp: 10.88 R*: 97.41 Rs Teff: 3626.0 K Logg: 0.68 Fe/H: -0.020



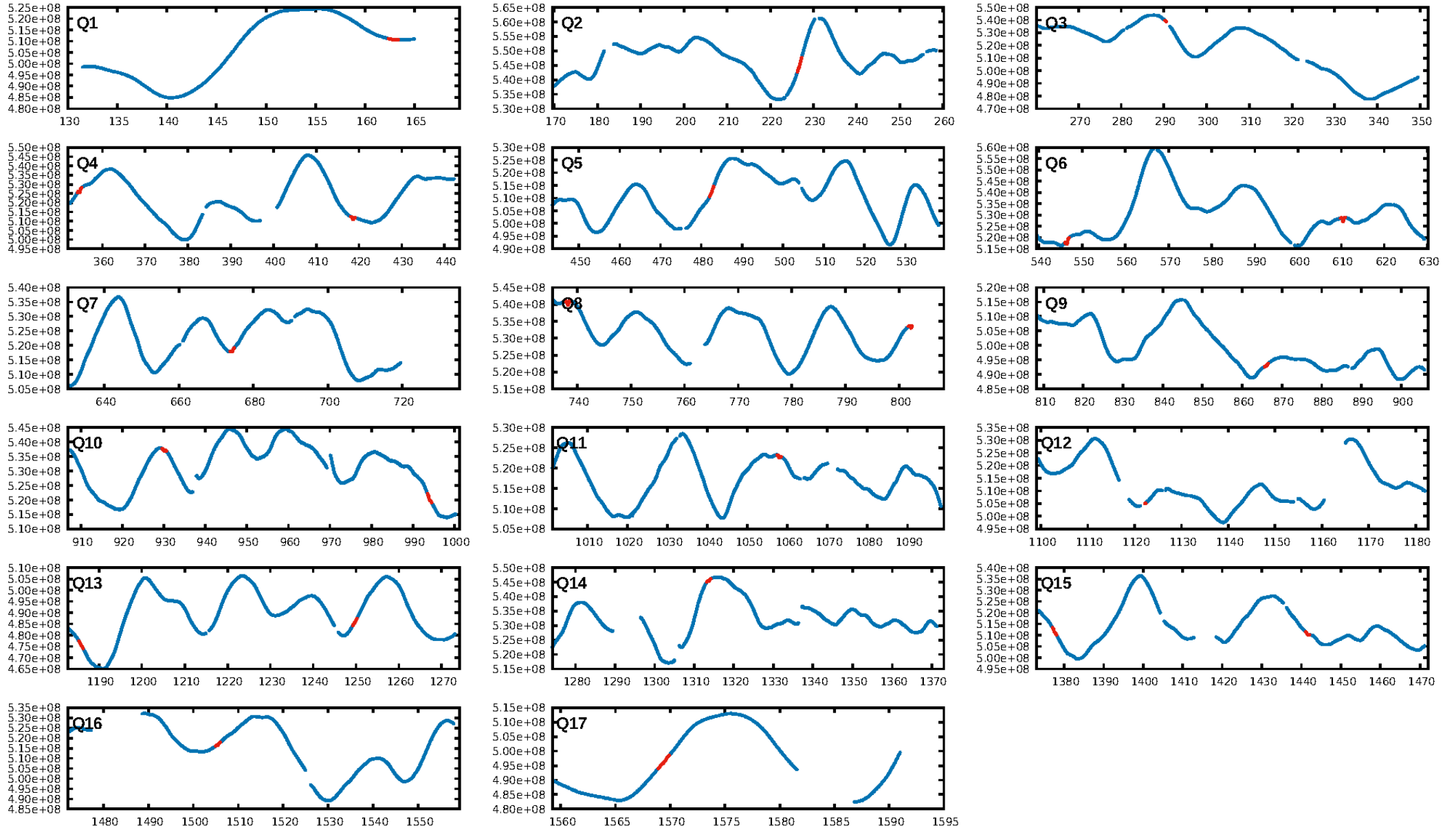
DV Fit Results:

Period = 63.93391 [0.00019] d
Epoch = 162.8599 [0.0024] BKJD
Rp/R* = 0.0658 [0.0187]
a/R* = 14.67 [0.88]
b = 1.00 [0.02]
Seff = N/A
Teq = N/A
Rp = 699.39 [295.49] Re
a = N/A
Ag = N/A
Teff = N/A

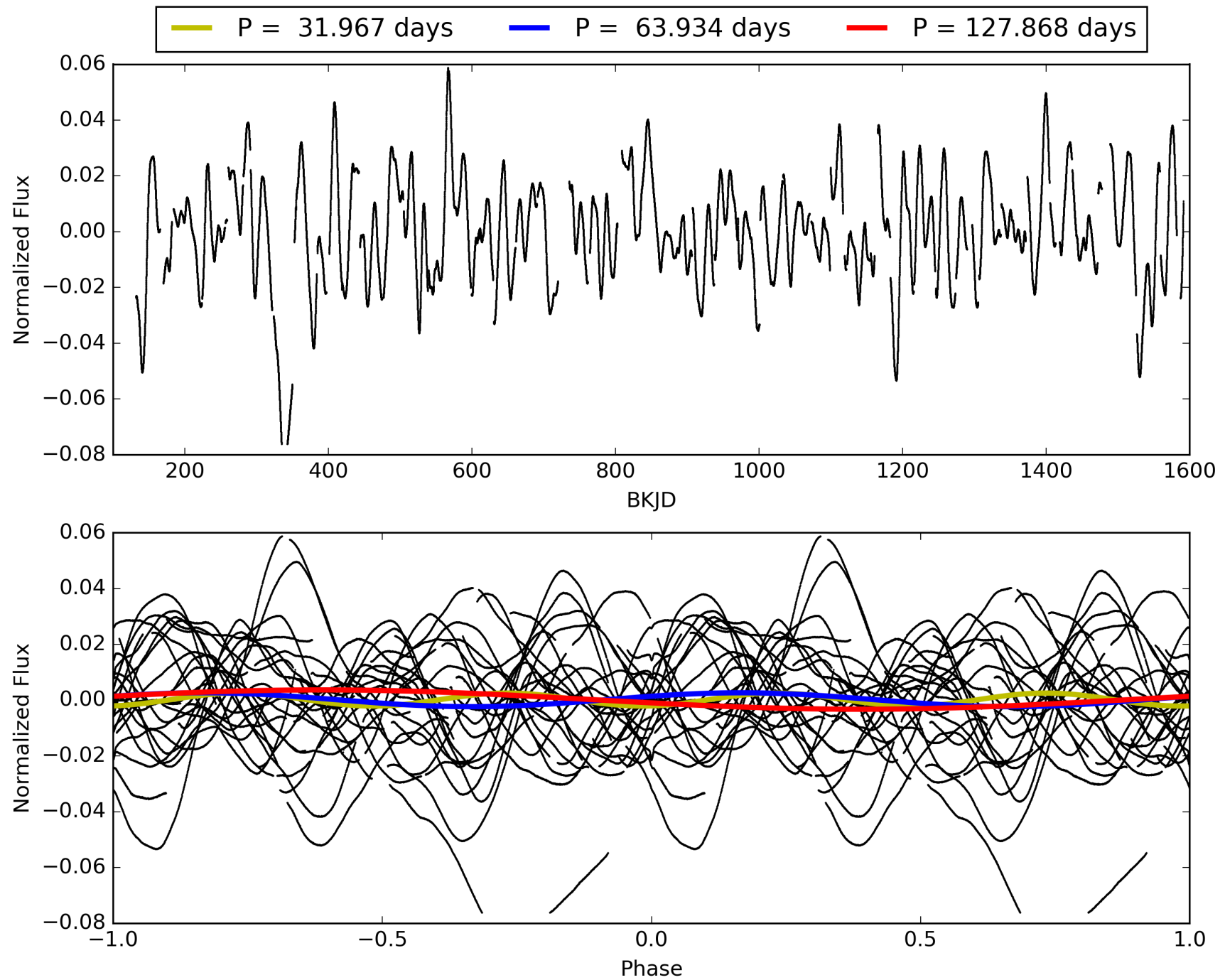
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 53.3%
Bootstrap-pfa: 3.36e-129
RollingBand-fgt: 1.00 [20/20]
GhostDiagnostic-chr: -0.08273
Centroid-sig: 0.0%
Centroid-so: 27.892 arcsec [215.33 sigma]
OotOffset-rm: 11.045 arcsec [142.47 sigma]
KicOffset-rm: 11.074 arcsec [157.52 sigma]
OotOffset-st: 4/3/2/5 [14]
KicOffset-st: 4/3/2/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 007918217-01, PDC Light Curves

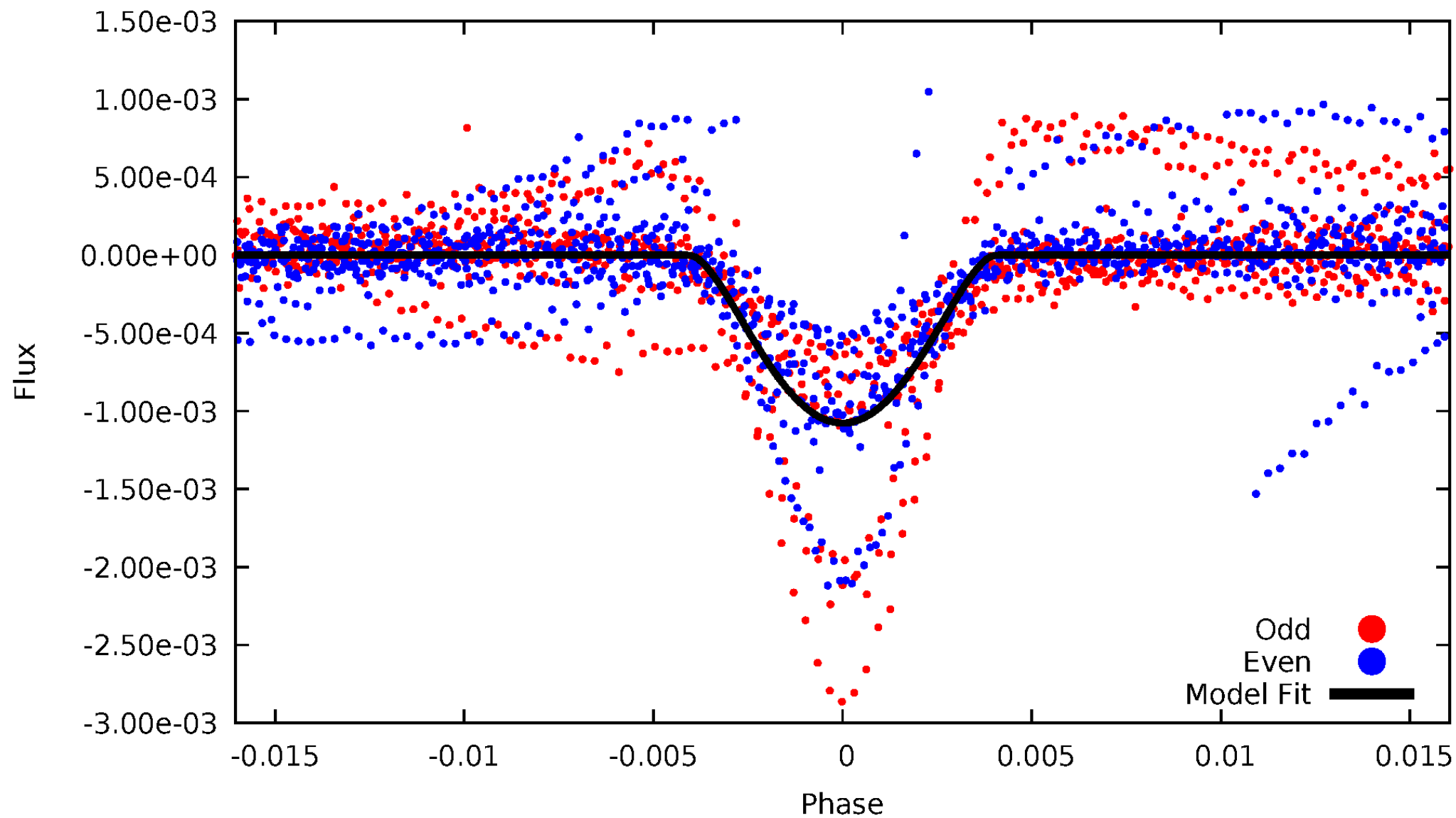


TCE 007918217-01



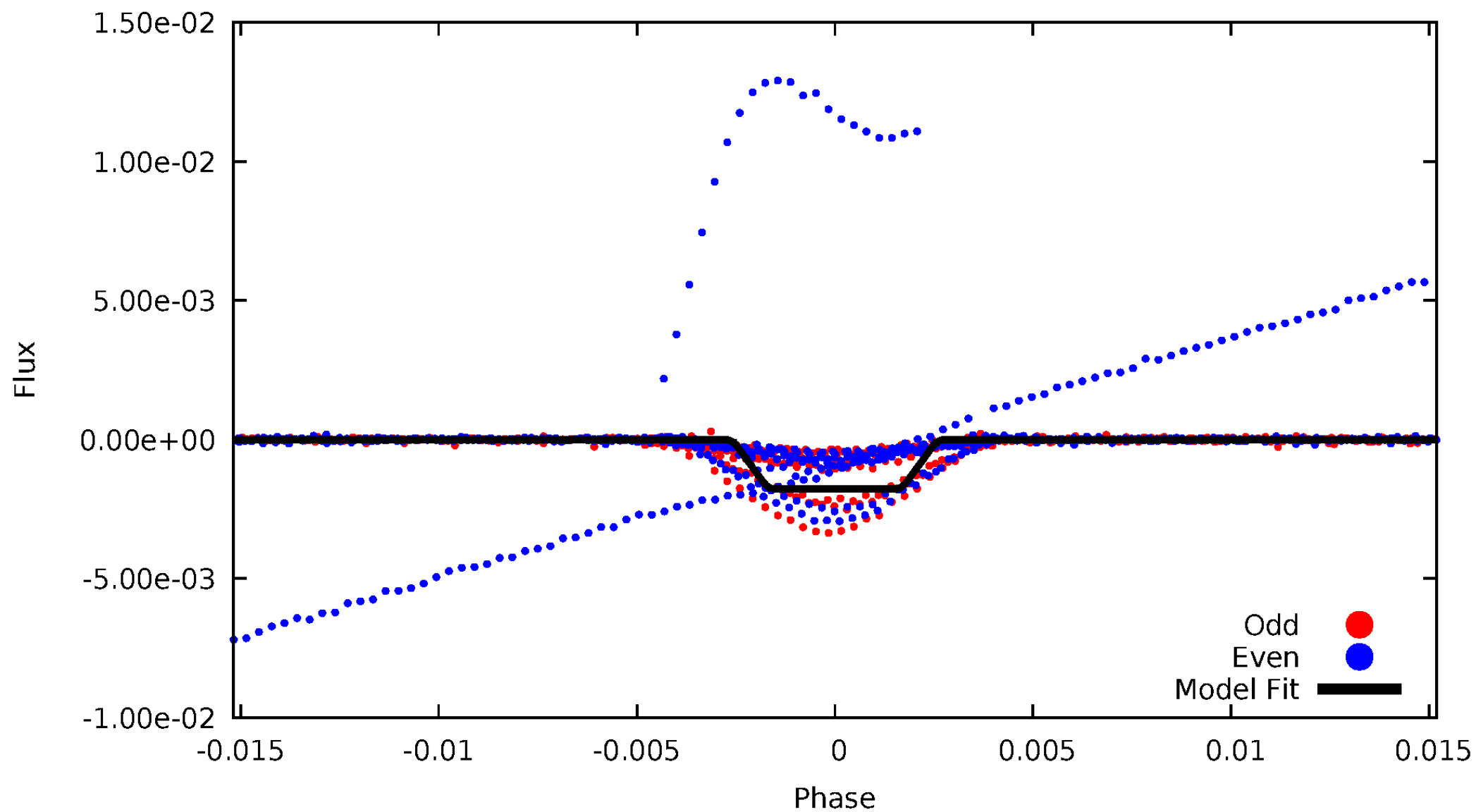
DV Odd/Even

TCE 007918217-01



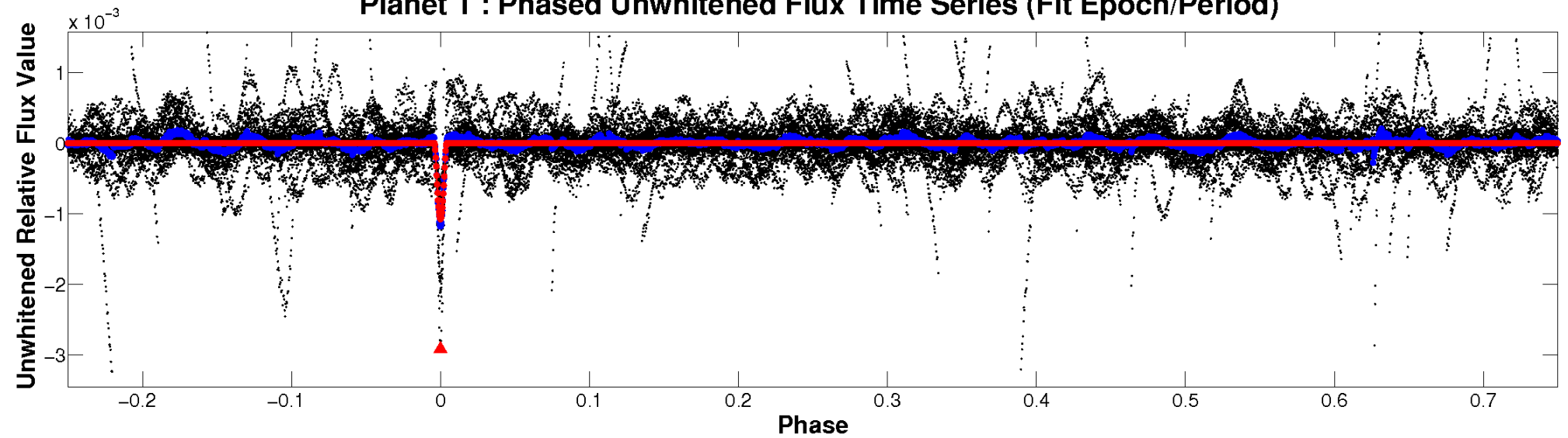
ALT Odd/Even

TCE 007918217-01

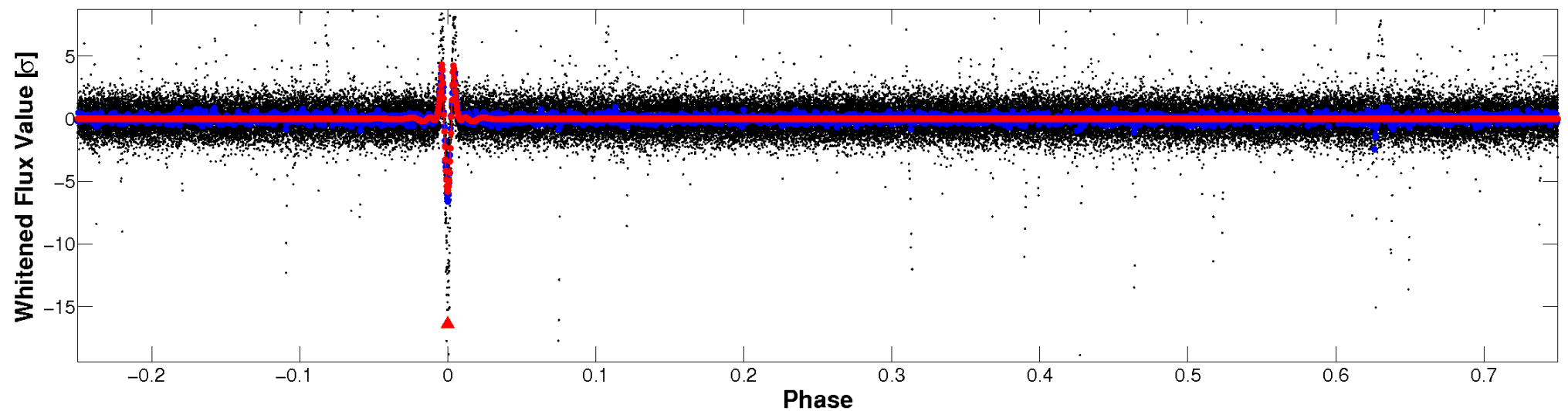


Non-Whitened Vs. Whitened Light Curve

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

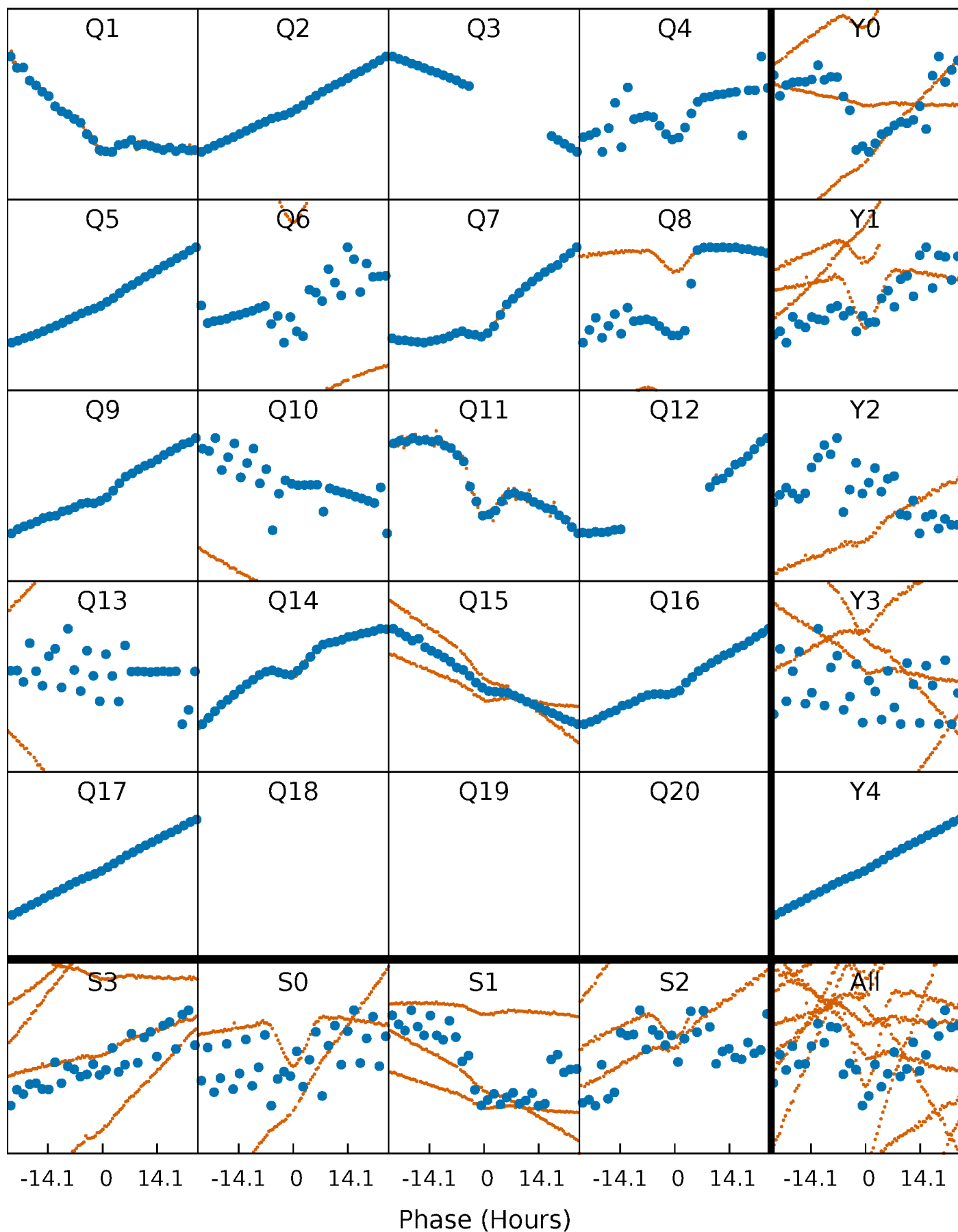


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



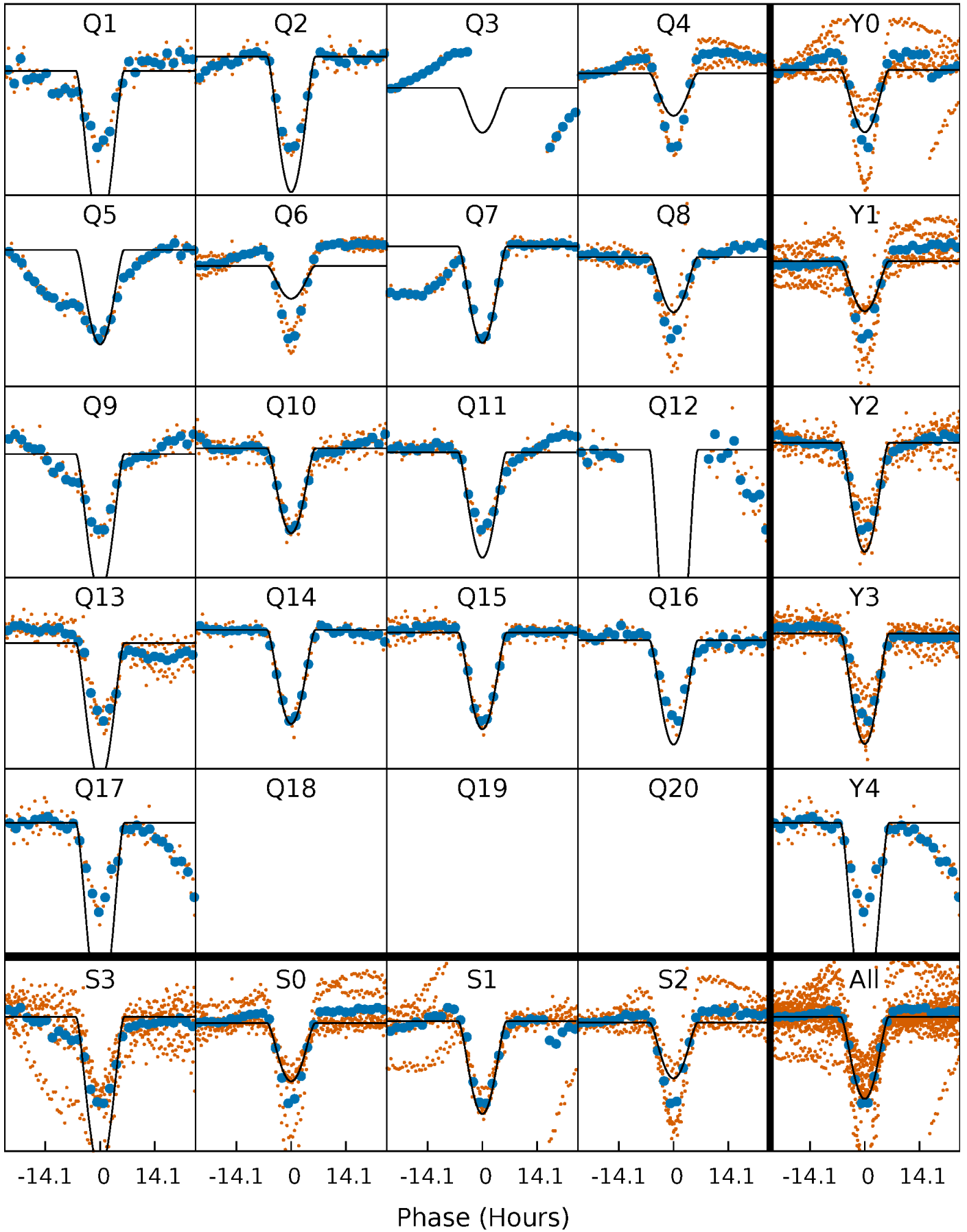
PDC Quarter-Phased Transit Curves

TCE 007918217-01 P= 63.933905 Days $T_0=162.859913$ (BKJD)



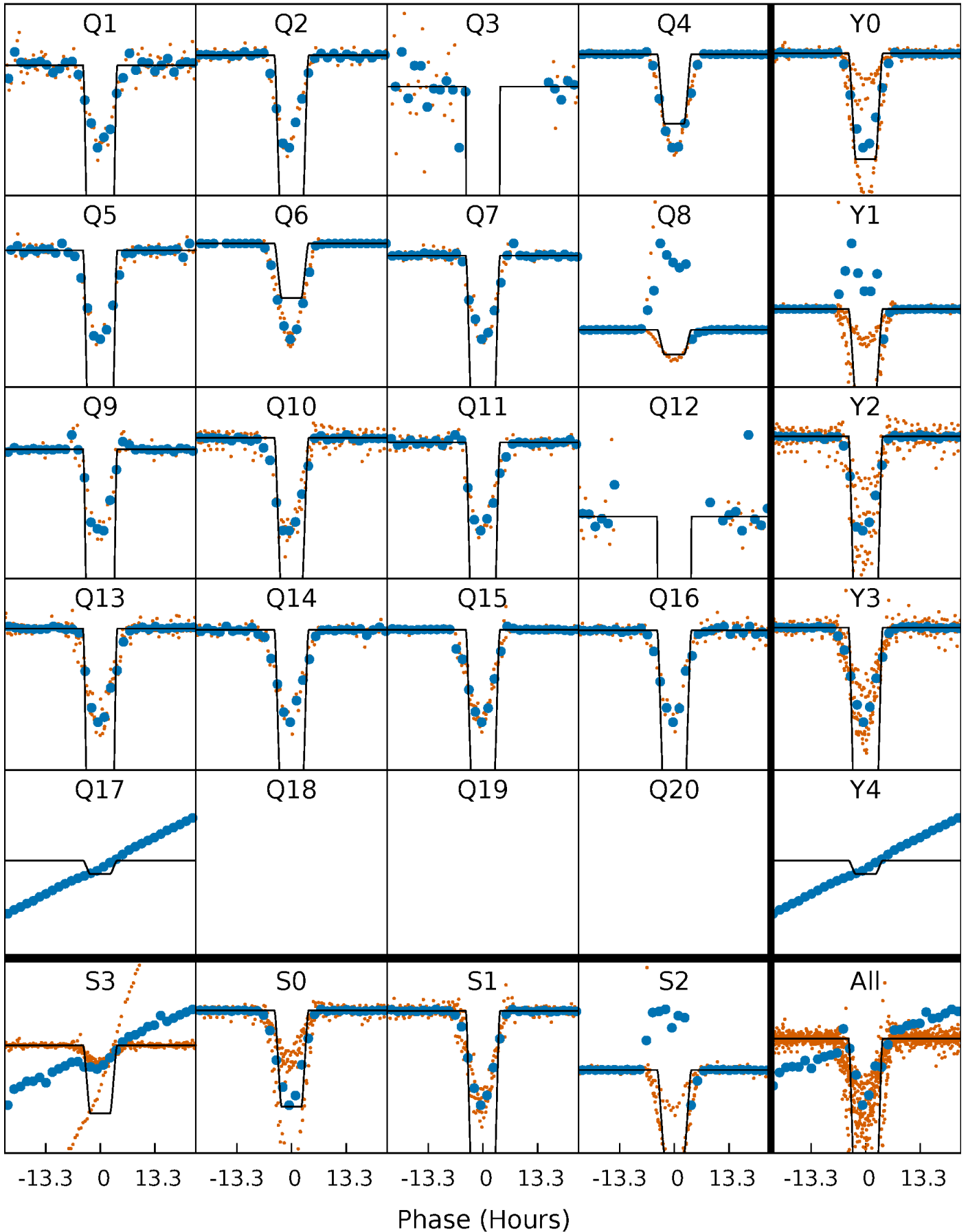
DV Quarter-Phased Transit Curves

TCE 007918217-01 P= 63.933905 Days $T_0=162.859913$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

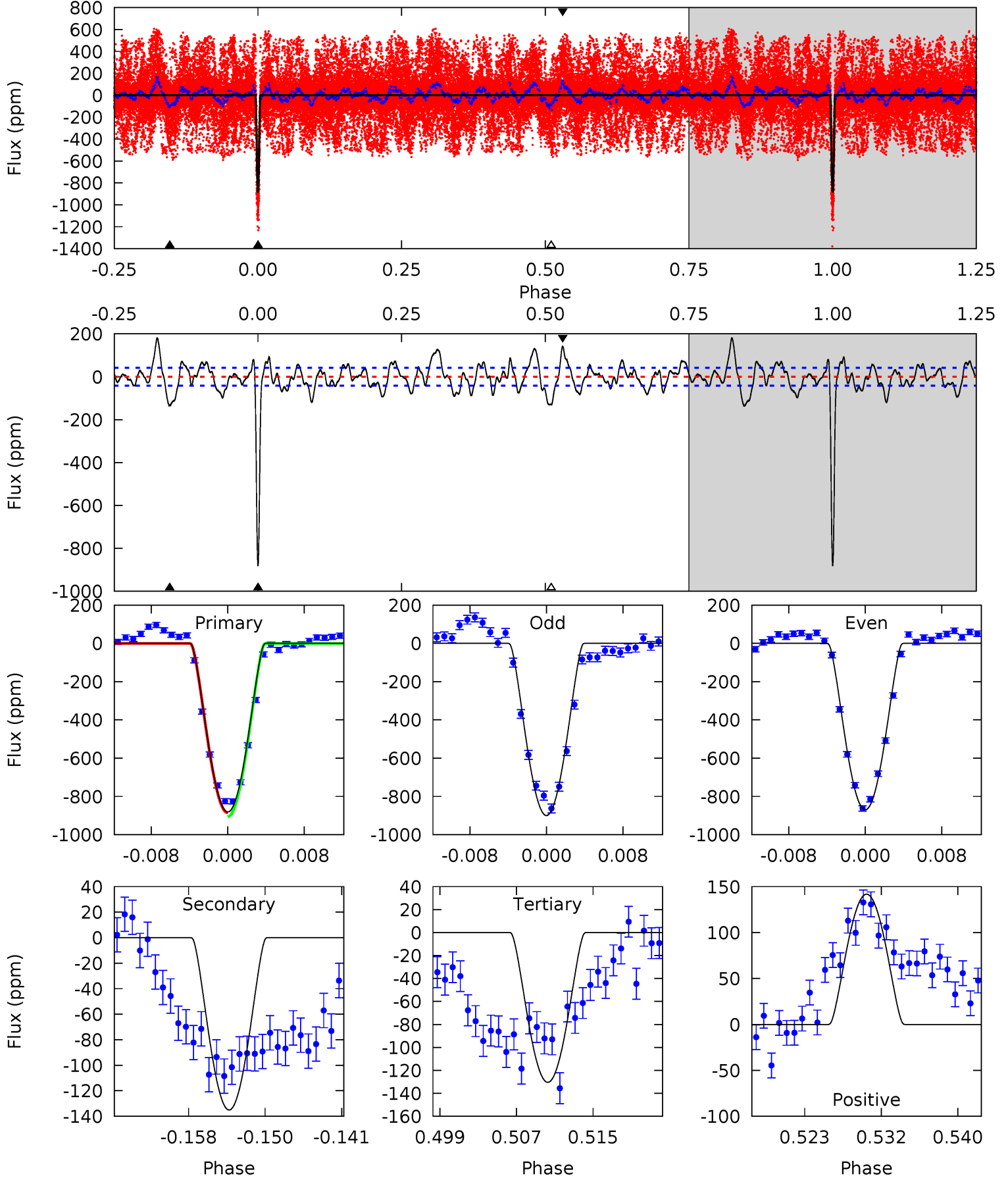
TCE 007918217-01 P= 63.934999 Days $T_0=162.861660$ (BKJD)



DV Model-Shift Uniqueness Test

007918217-01, P = 63.933905 Days, E = 98.926008 Days

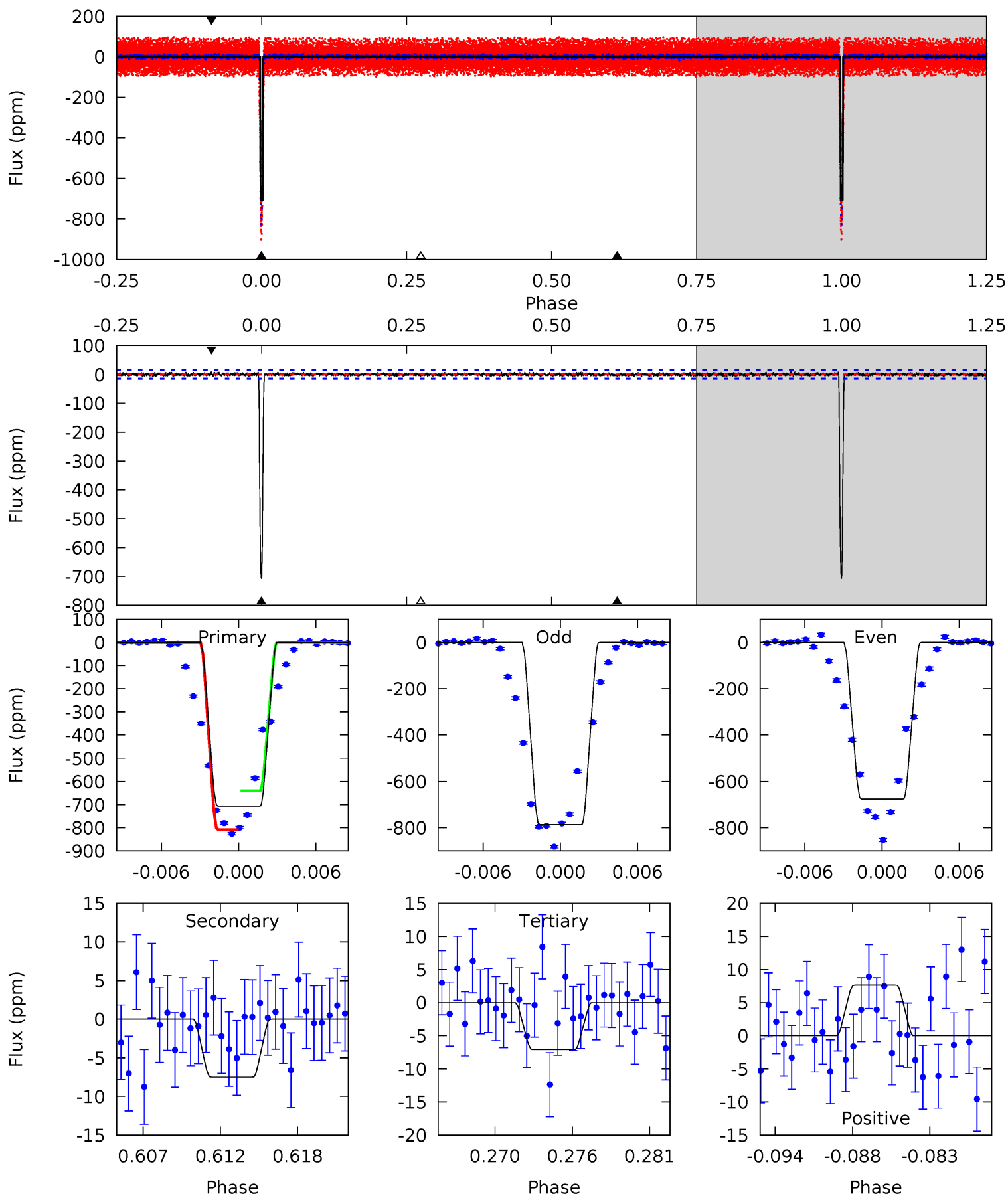
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
106.7	16.4	15.8	17.2	5.06	2.64	6.17	90.9	89.6	0.56	-0.81	1.81	0.91	0.17	0



Alt Model-Shift Uniqueness Test

007918217-01, P = 63.934999 Days, E = 98.926661 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
252.4	2.68	2.53	2.72	5.14	2.78	0.73	249.9	249.7	0.15	-0.05	19.7	0.61	0.01	0



Stellar Parameters For KIC 007918217

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3626^{+79}_{-79}	$0.684^{+0.276}_{-0.184}$	$-0.020^{+0.250}_{-0.250}$	$97.410^{+20.320}_{-30.479}$	$1.673^{+0.097}_{-0.550}$	$0.000^{+0.000}_{-0.000}$
	+2%/-2%	+40%/-27%	+1250%/-1250%	+21%/-31%	+6%/-33%	+182%/-46%
Source	SPE14	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007918217-01 / KOI 1770.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-135 ± 8	$676.48^{+226.17}_{-224.28}$	3604^{+247}_{-319}	-3140^{+187}_{-156}	$0.021^{+0.024}_{-0.009}$
Alt.	-8 ± 3	$434.56^{+218.57}_{-184.69}$	3605^{+294}_{-311}	-3179^{+172}_{-170}	$0.003^{+0.006}_{-0.002}$

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 $A_{obs} \gg 1.0$

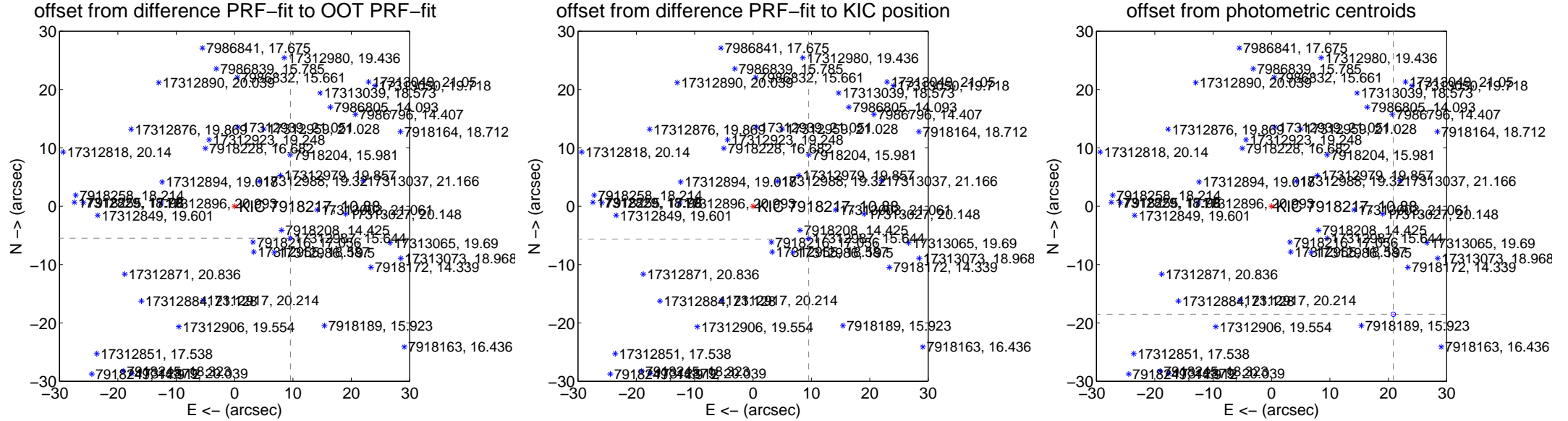
DV Centroid Data

Supplemental centroid analysis for 007918217-01. **Kepler magnitude: 10.88.** Transit SNR 76.57

There are 14 quarters with good PRF difference image offsets

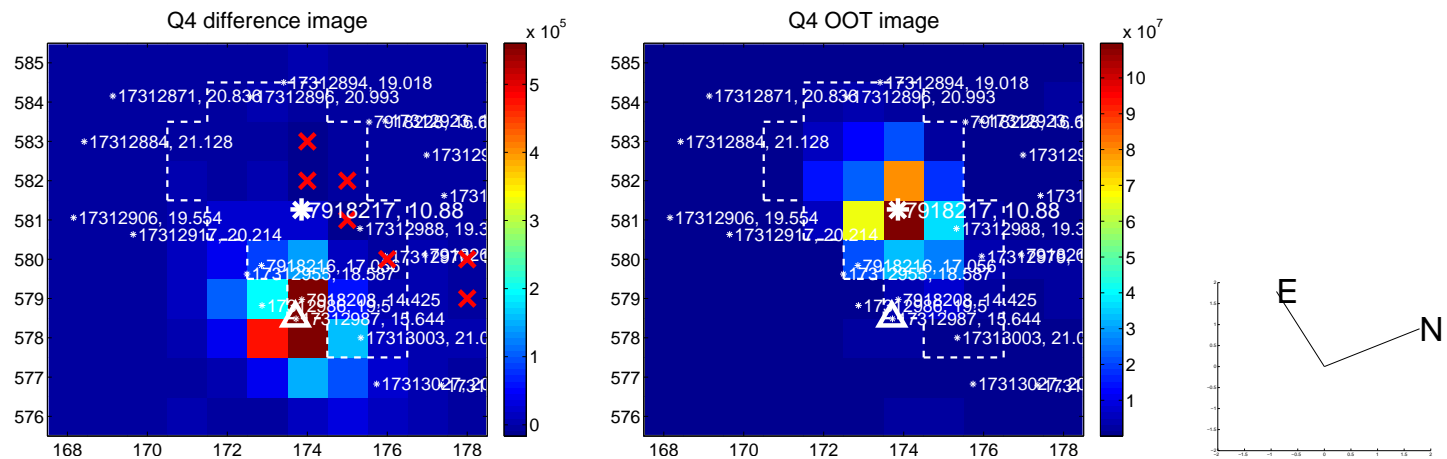
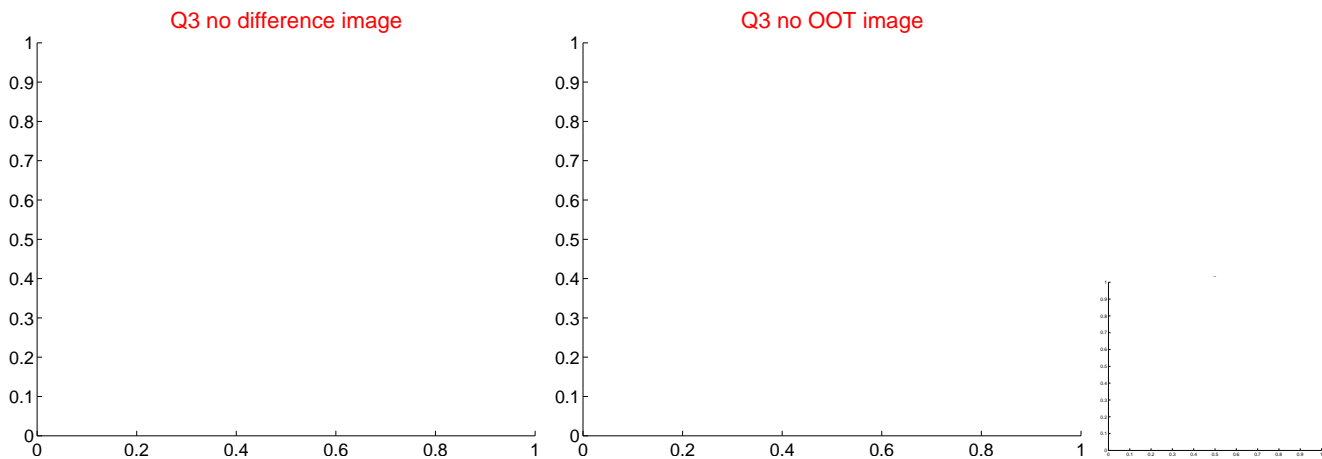
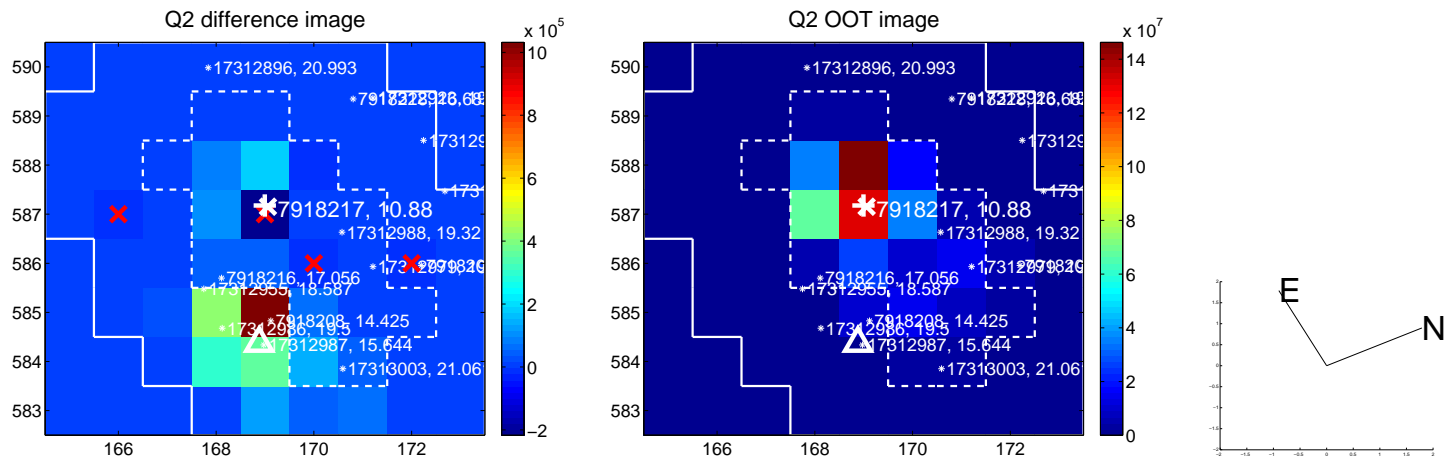
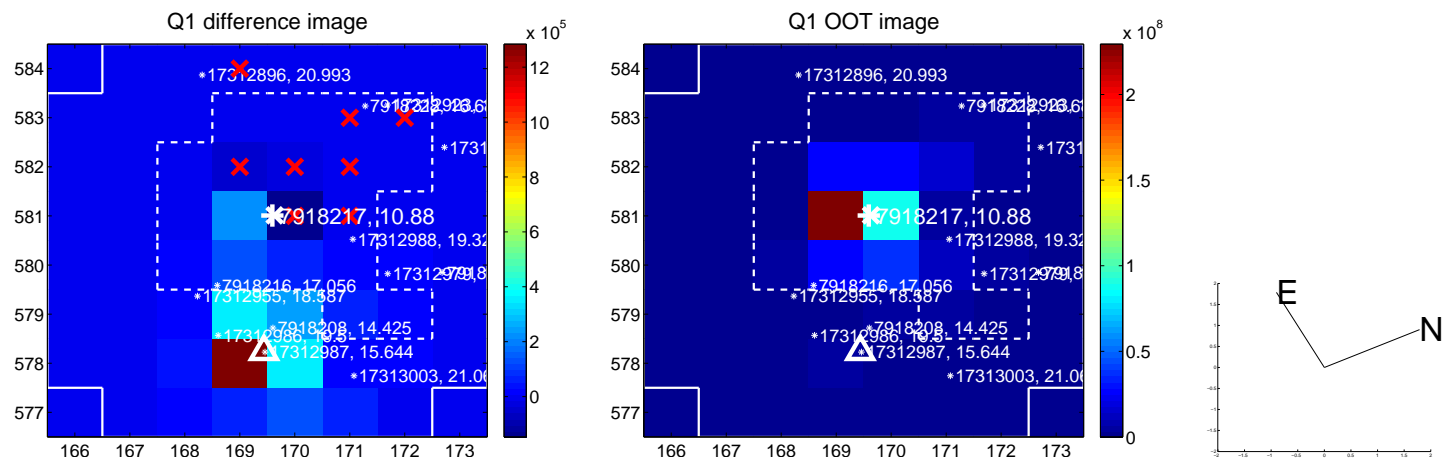
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	11.045 \pm 0.078	142.47	-9.590 \pm 0.080	-5.480 \pm 0.071
PRF-fit source offset from KIC position	11.074 \pm 0.070	157.52	-9.540 \pm 0.071	-5.624 \pm 0.068
photometric centroid source offset	27.89 \pm 0.13	215.32	-20.87 \pm 0.16	-18.51 \pm 0.08

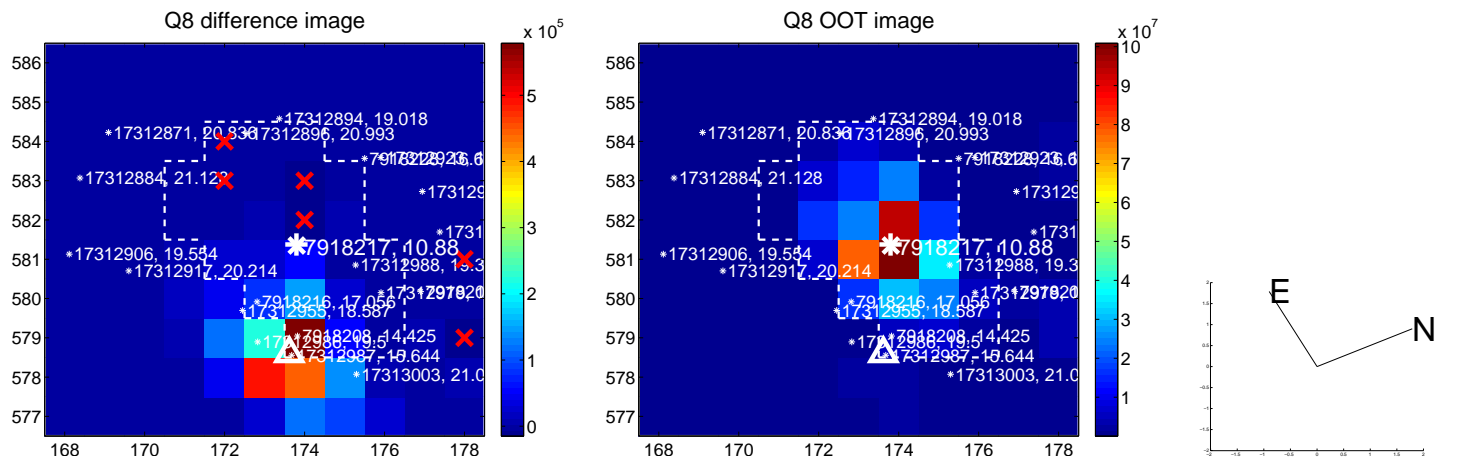
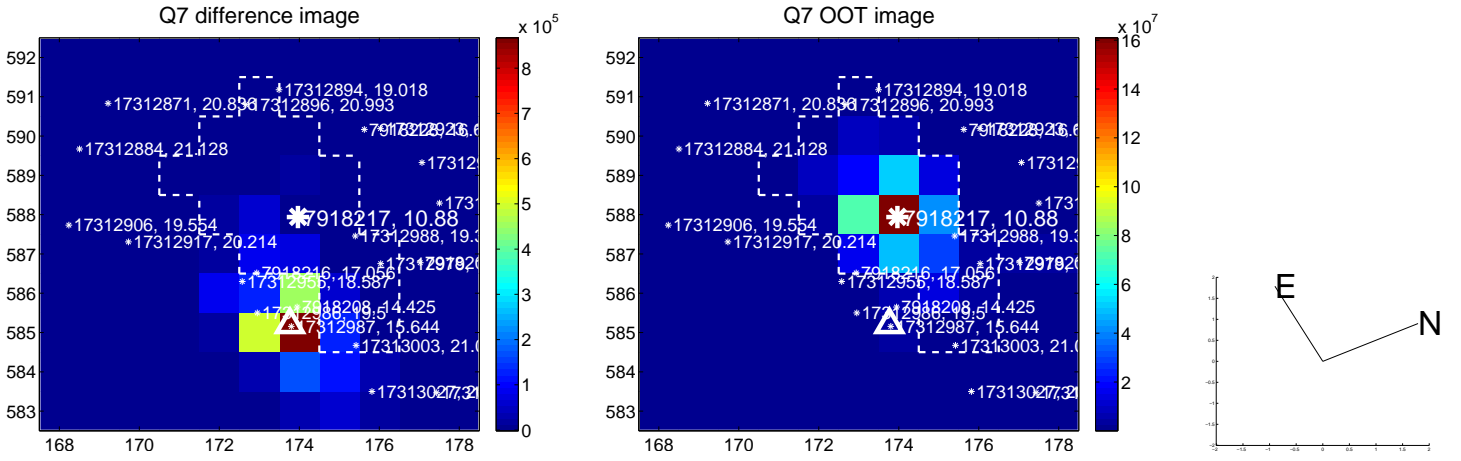
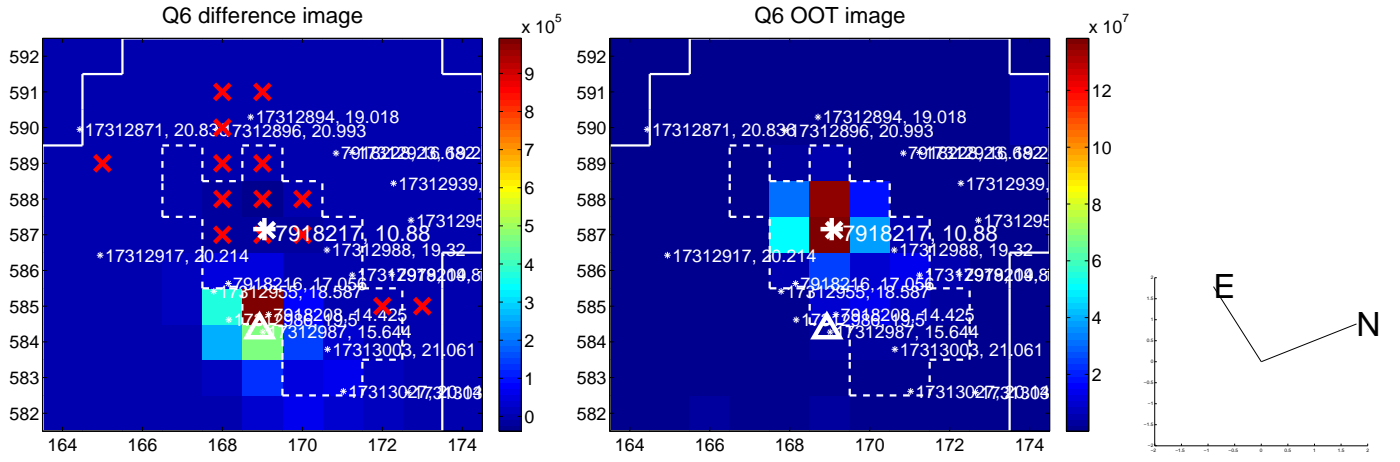
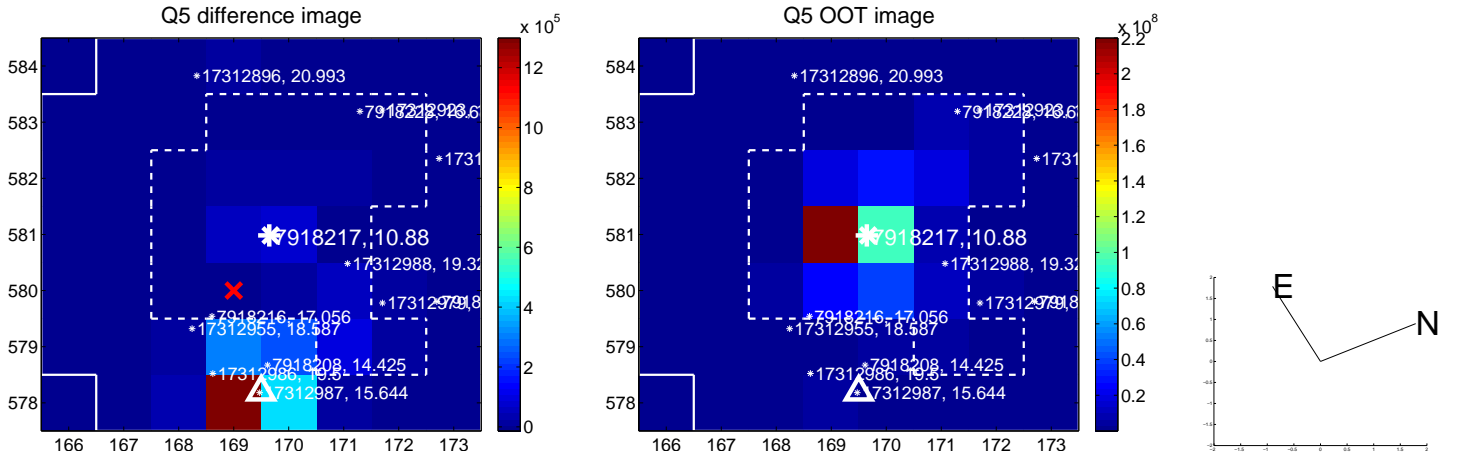


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

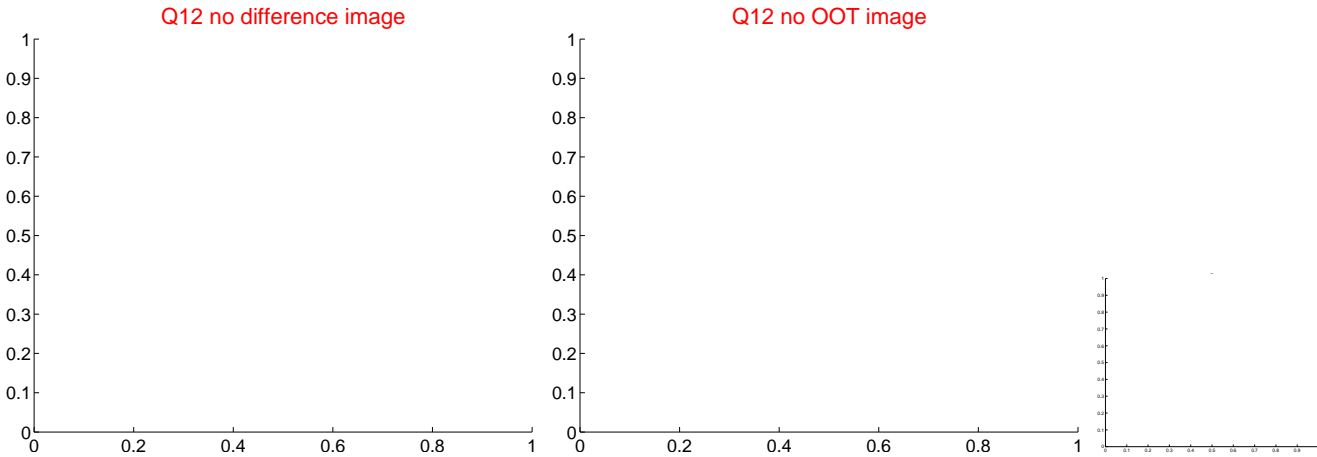
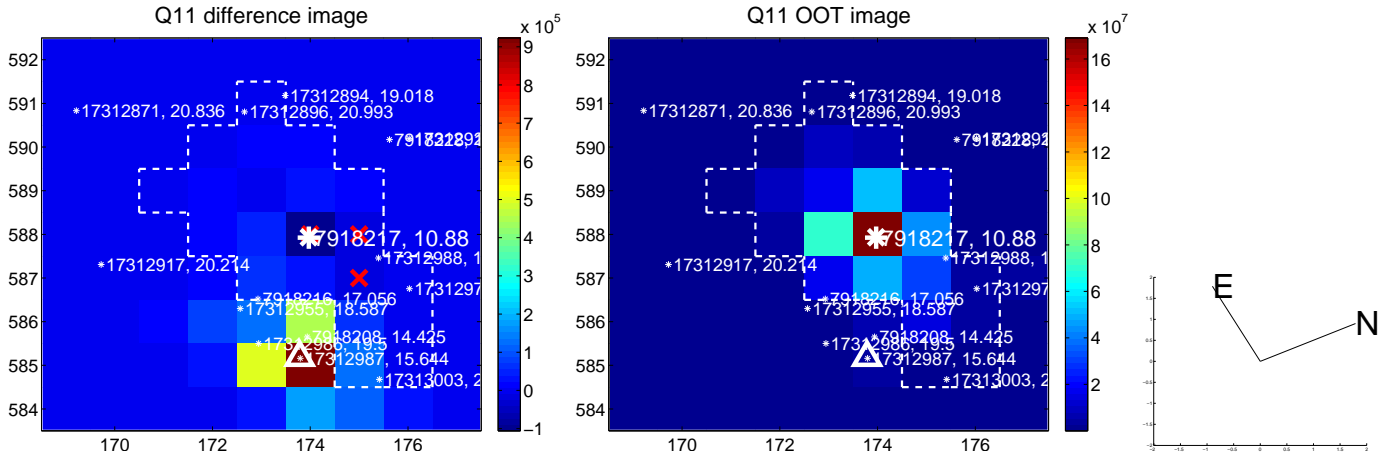
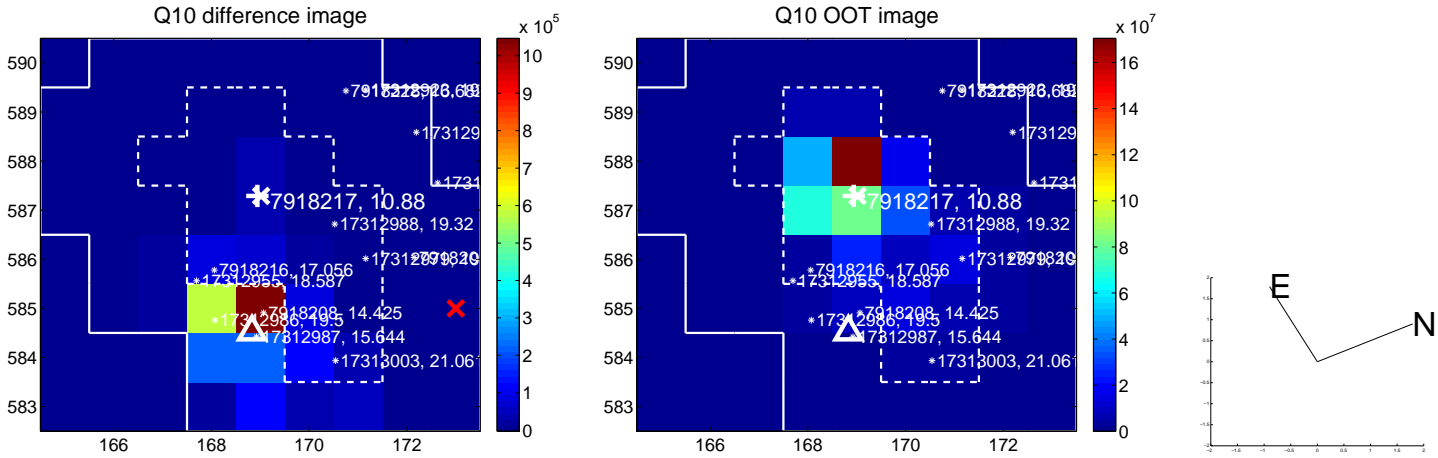
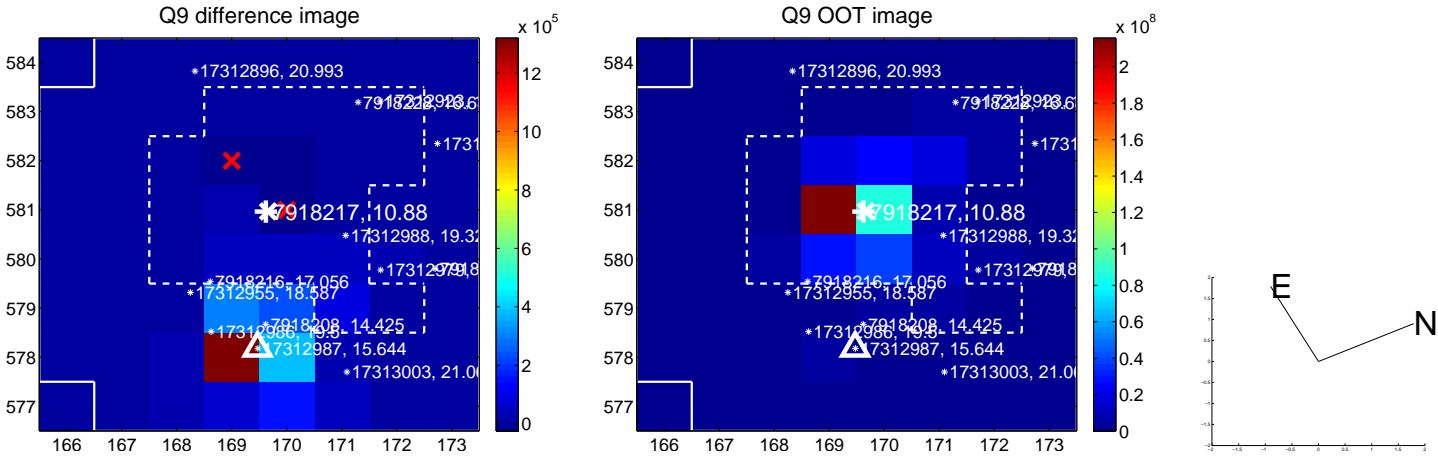
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



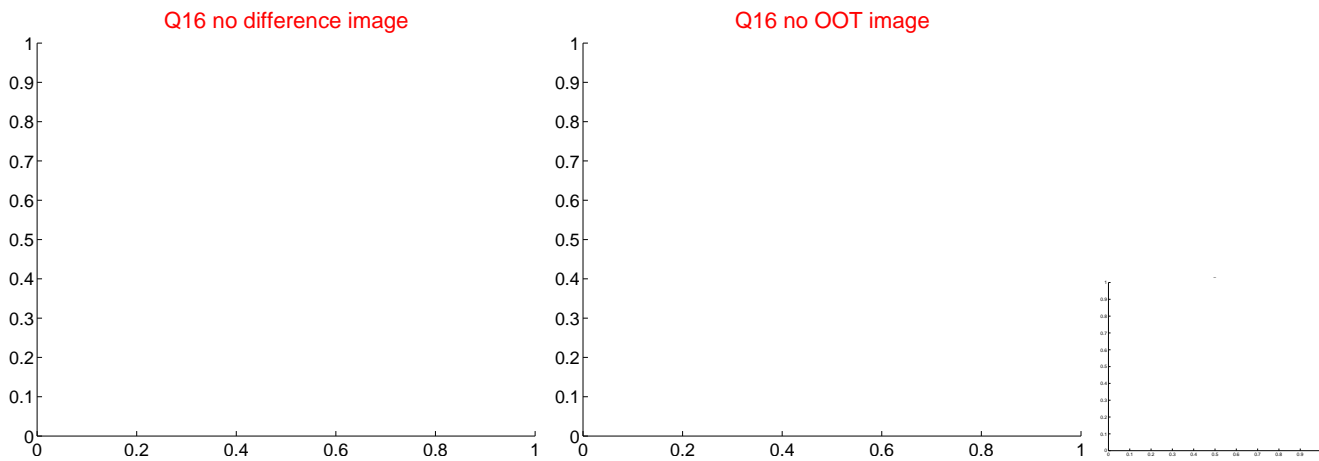
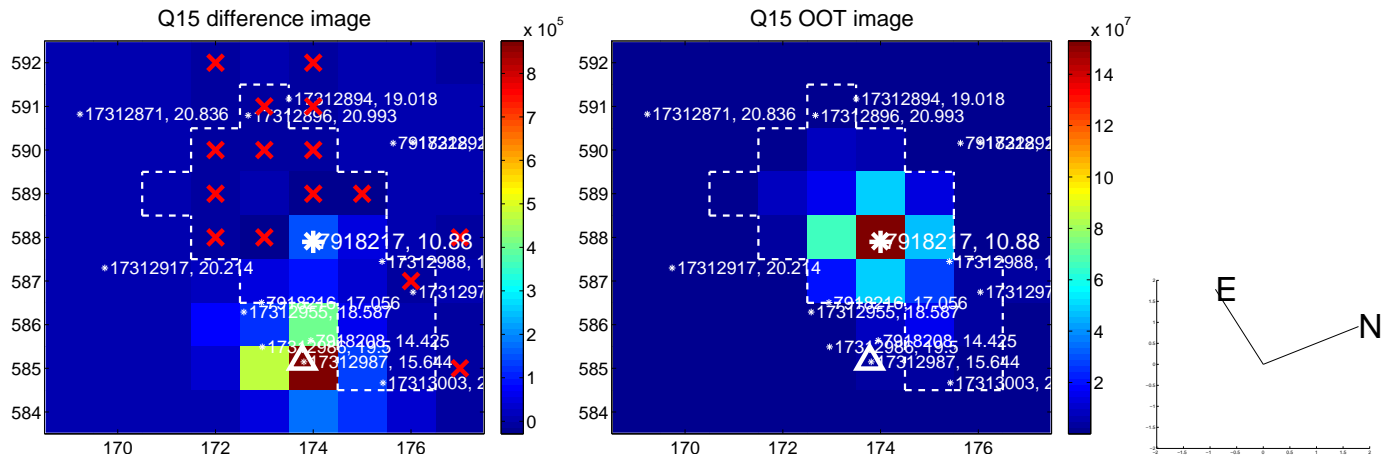
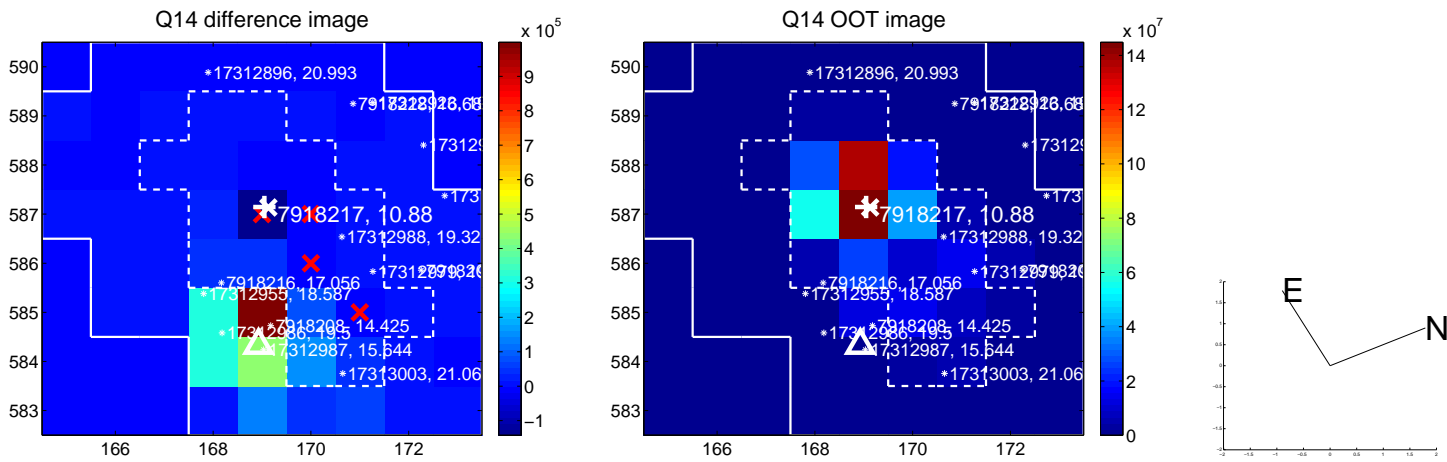
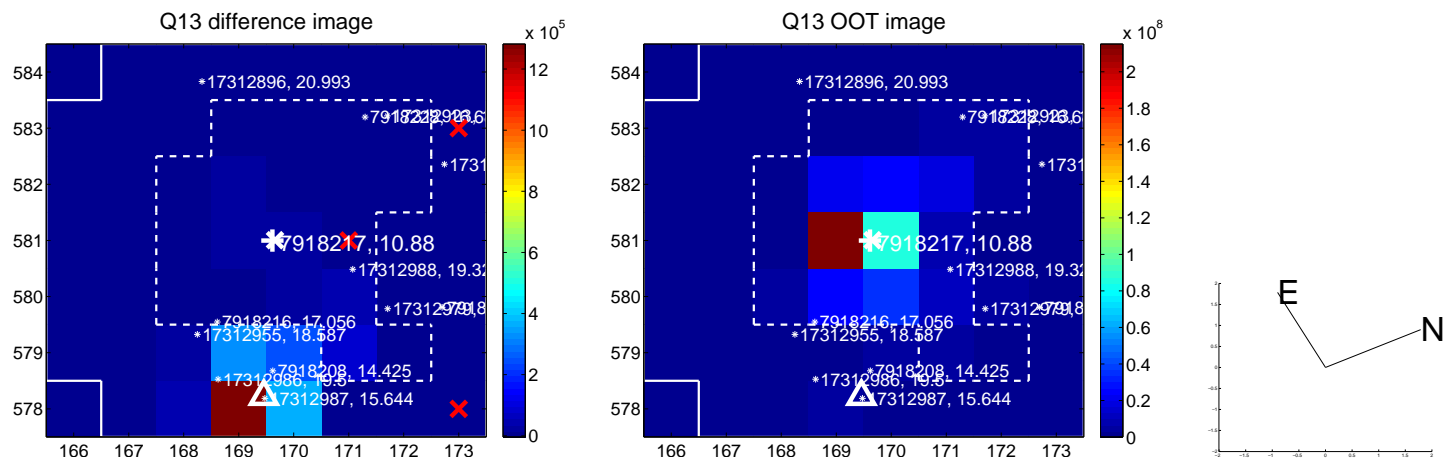
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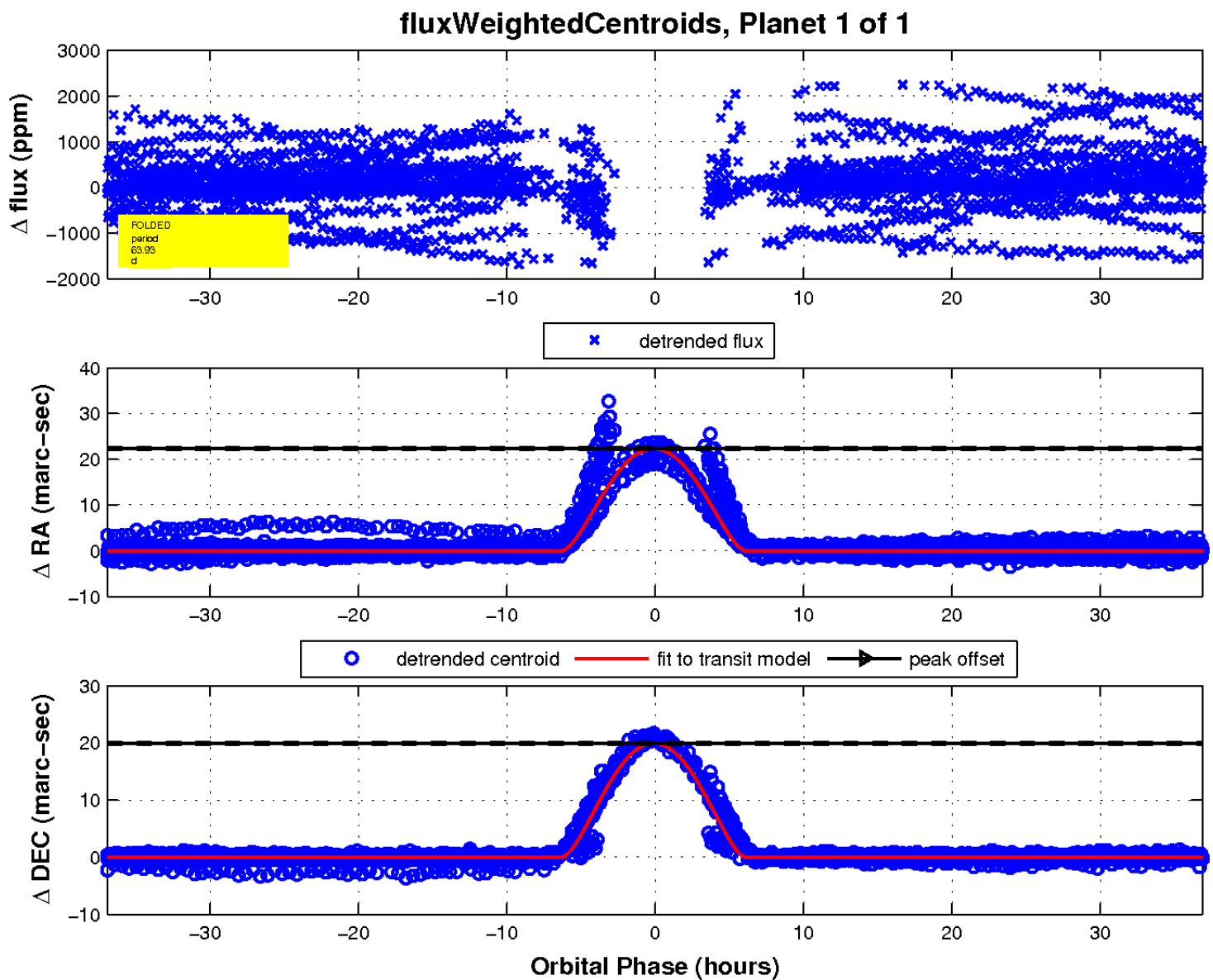
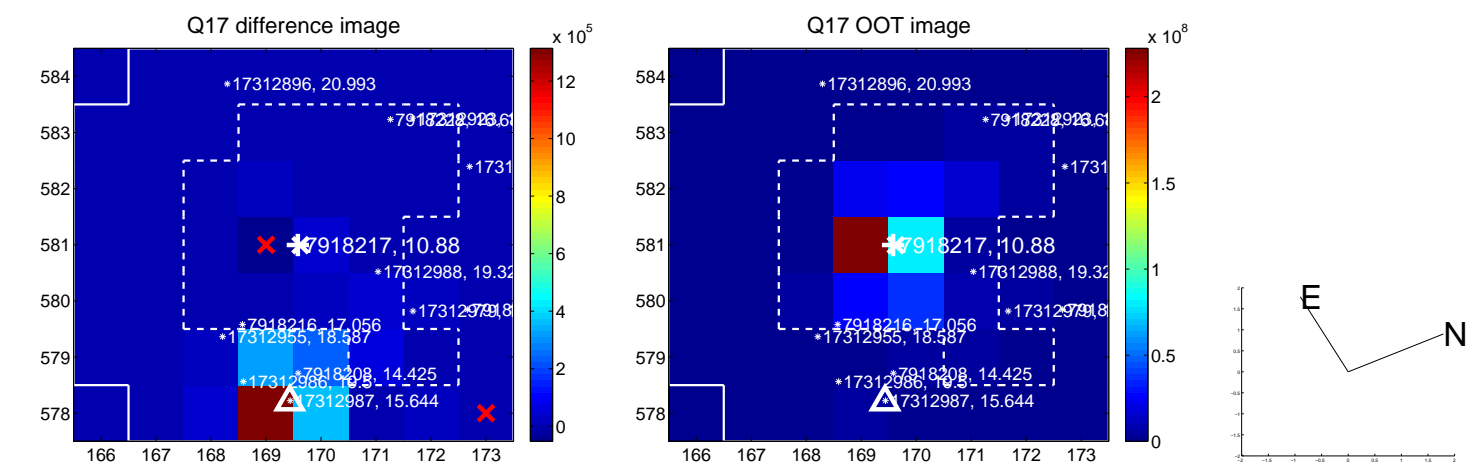
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

