

KIC 006863998

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})
006863998-01	OBS	0867.01	16.085185	132.027478	1474.6	4.011	56.9	61.0	0.83	5239	3.77	33.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006863998-01	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 006863998-01

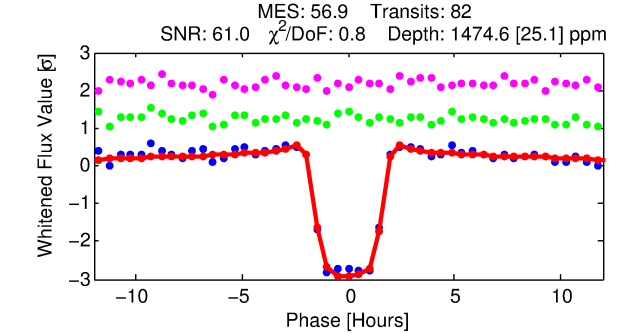
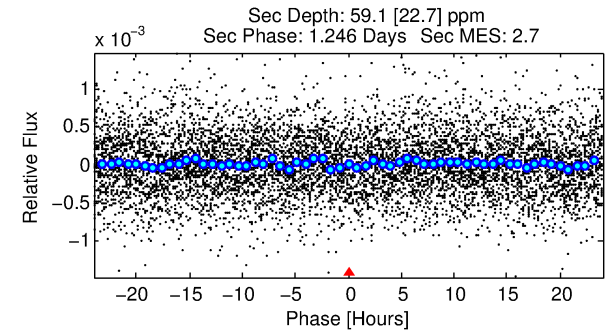
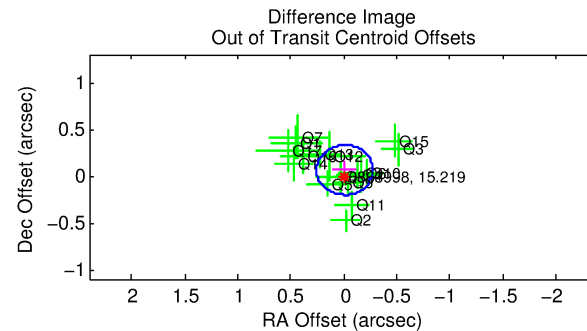
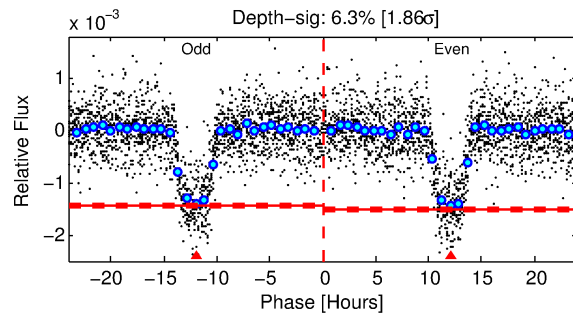
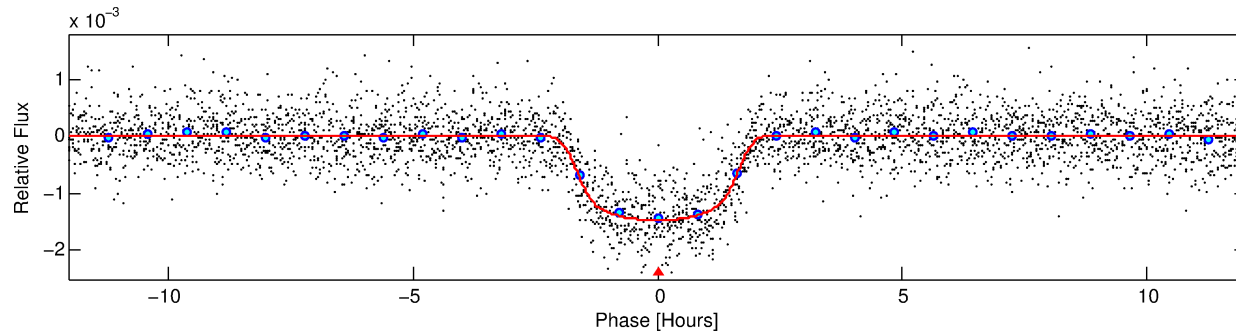
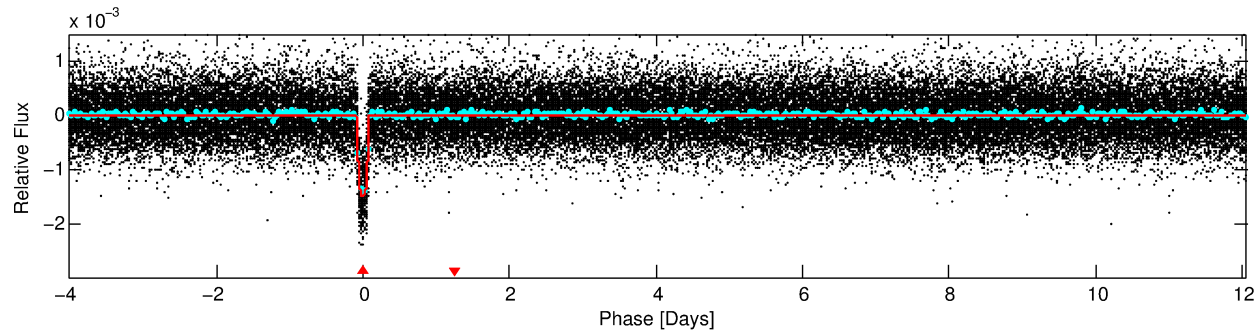
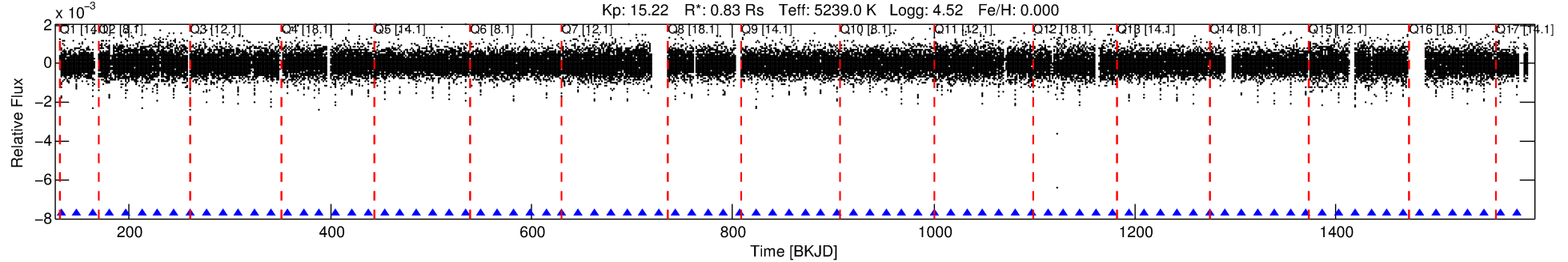
No Significant Match Found

DV One-Page Summary

KIC: 6863998 Candidate: 1 of 1 Period: 16.085 d

KOI: K00867.01 Corr: 0.943

Kp: 15.22 R*: 0.83 Rs Teff: 5239.0 K Logg: 4.52 Fe/H: 0.000



DV Fit Results:

Period = 16.08518 [0.00002] d
Epoch = 132.0275 [0.0012] BKJD
Rp/R* = 0.0418 [0.0011]
a/R* = 16.98 [1.53]
b = 0.88 [0.02]
Seff = 33.52 [7.22]
Teq = 614 [33] K
Rp = 3.77 [0.57] Re
a = 0.1172 [0.0141] AU
Ag = 31.39 [13.29] [2.29σ]
Teffp = 2245 [230] K [7.02σ]

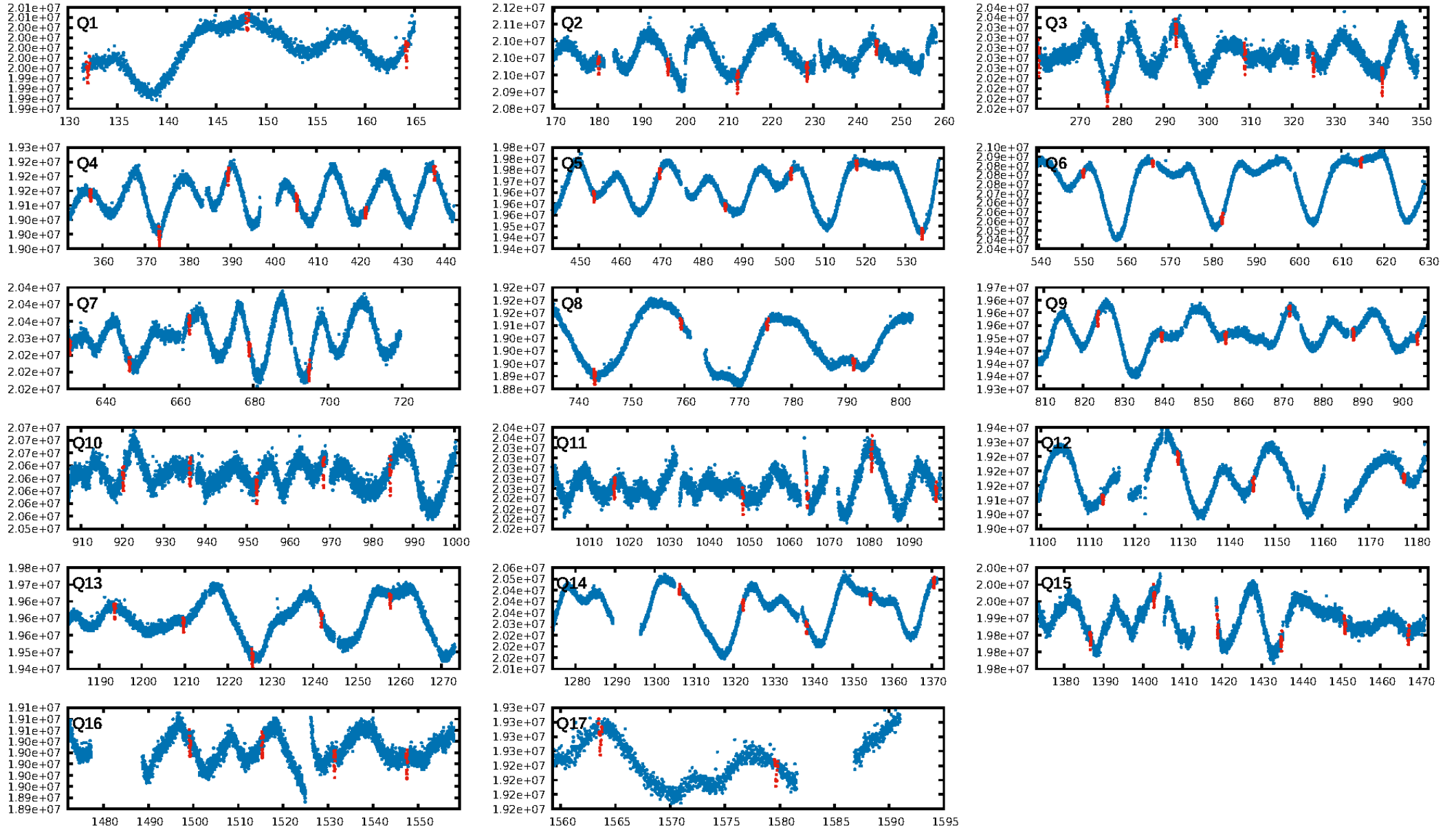
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 84.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [77/77]
GhostDiagnostic-chr: 5.601
Centroid-sig: 34.8%
Centroid-so: 0.216 arcsec [1.28σ]
OotOffset-rm: 0.064 arcsec [0.73σ]
KicOffset-rm: 0.061 arcsec [0.58σ]
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]

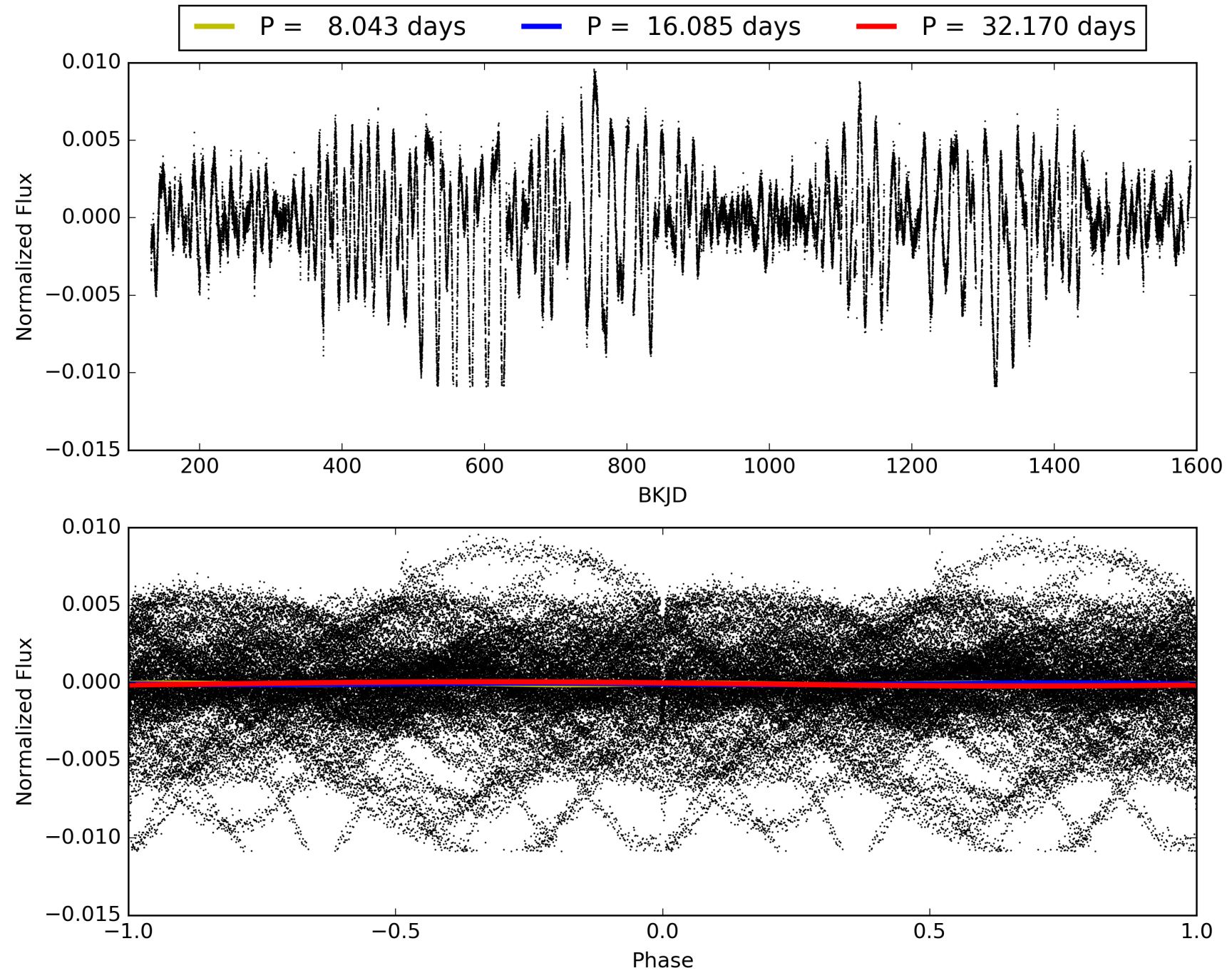
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:09:13 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006863998-01, PDC Light Curves

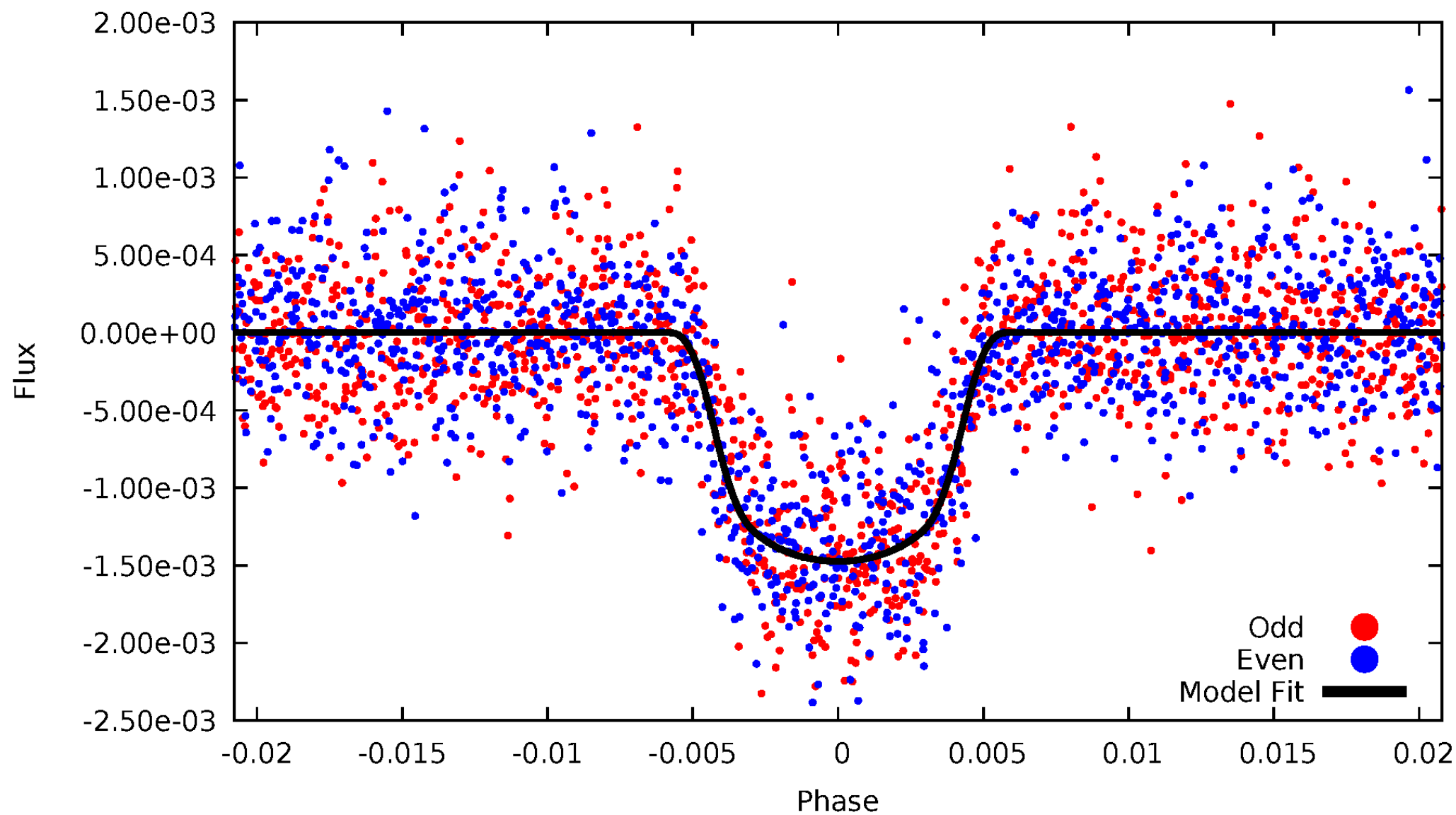


TCE 006863998-01



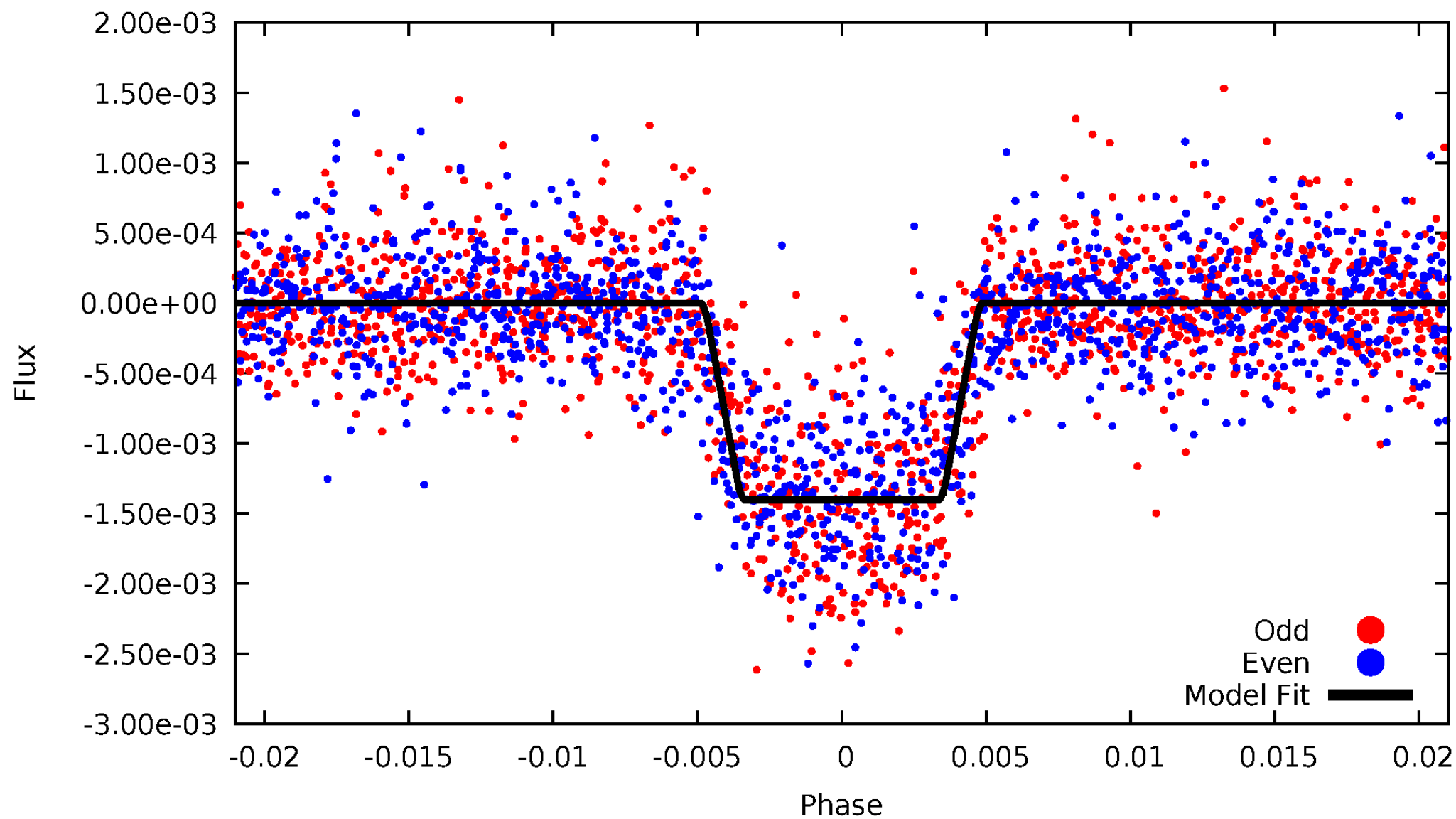
DV Odd/Even

TCE 006863998-01



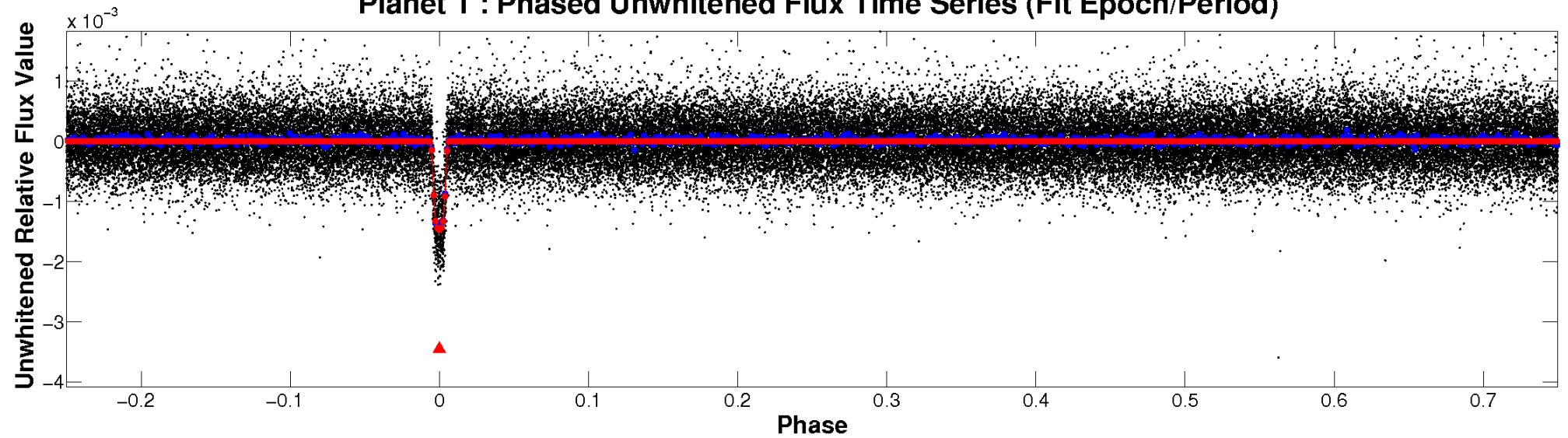
ALT Odd/Even

TCE 006863998-01

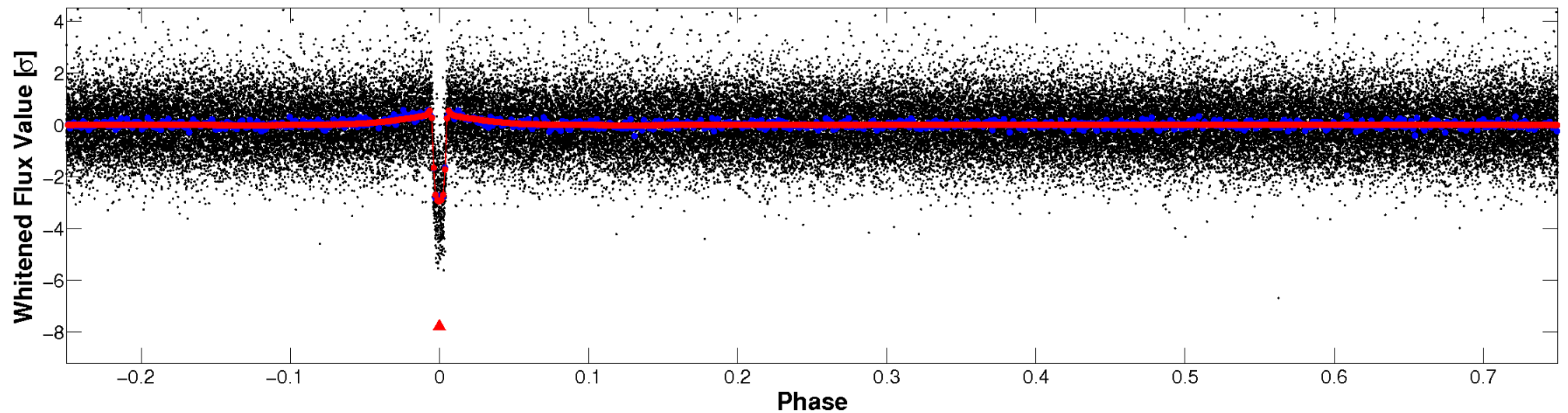


Non-Whitened Vs. Whitened Light Curve

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

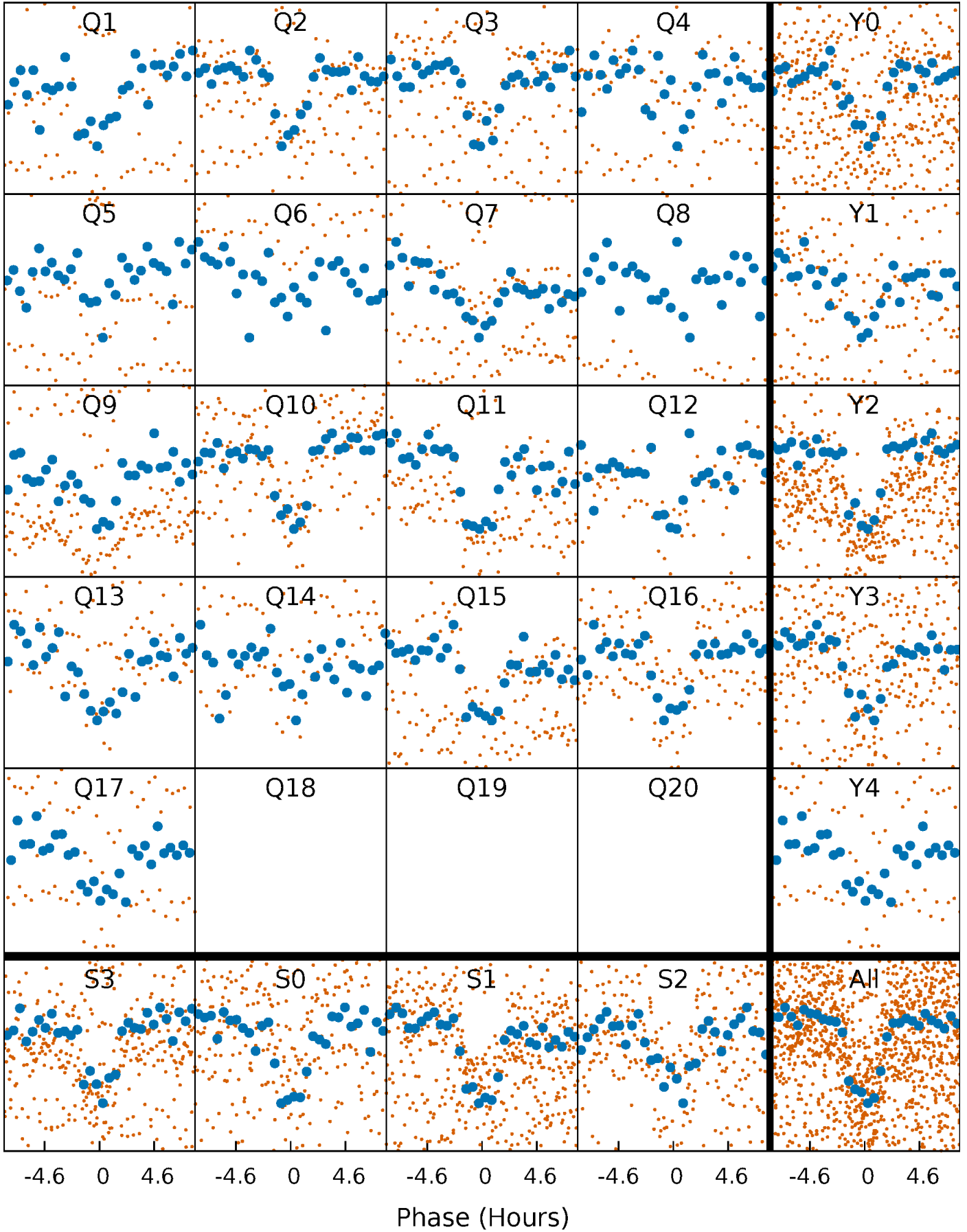


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



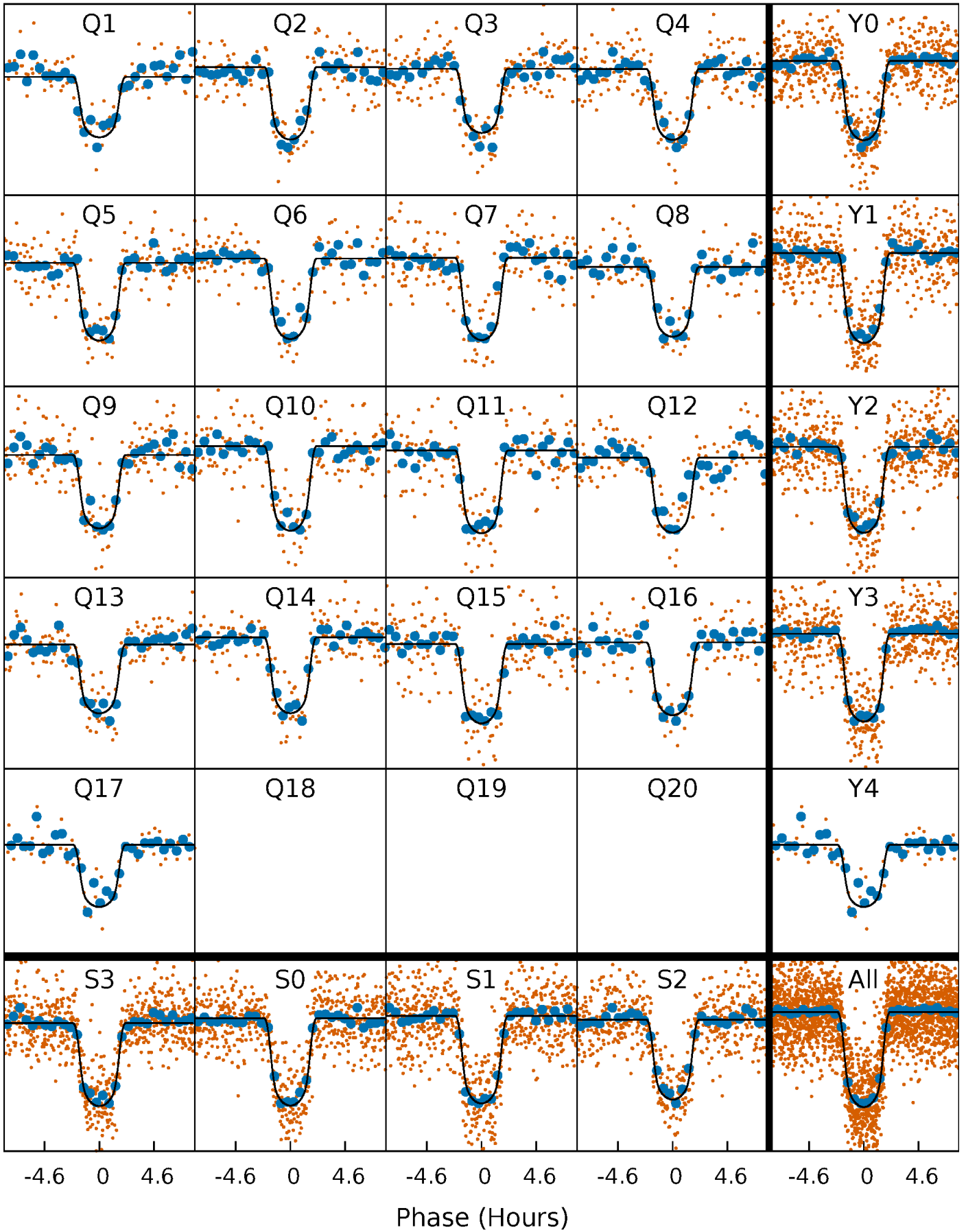
PDC Quarter-Phased Transit Curves

TCE 006863998-01 P= 16.085185 Days $T_0=132.027478$ (BKJD)



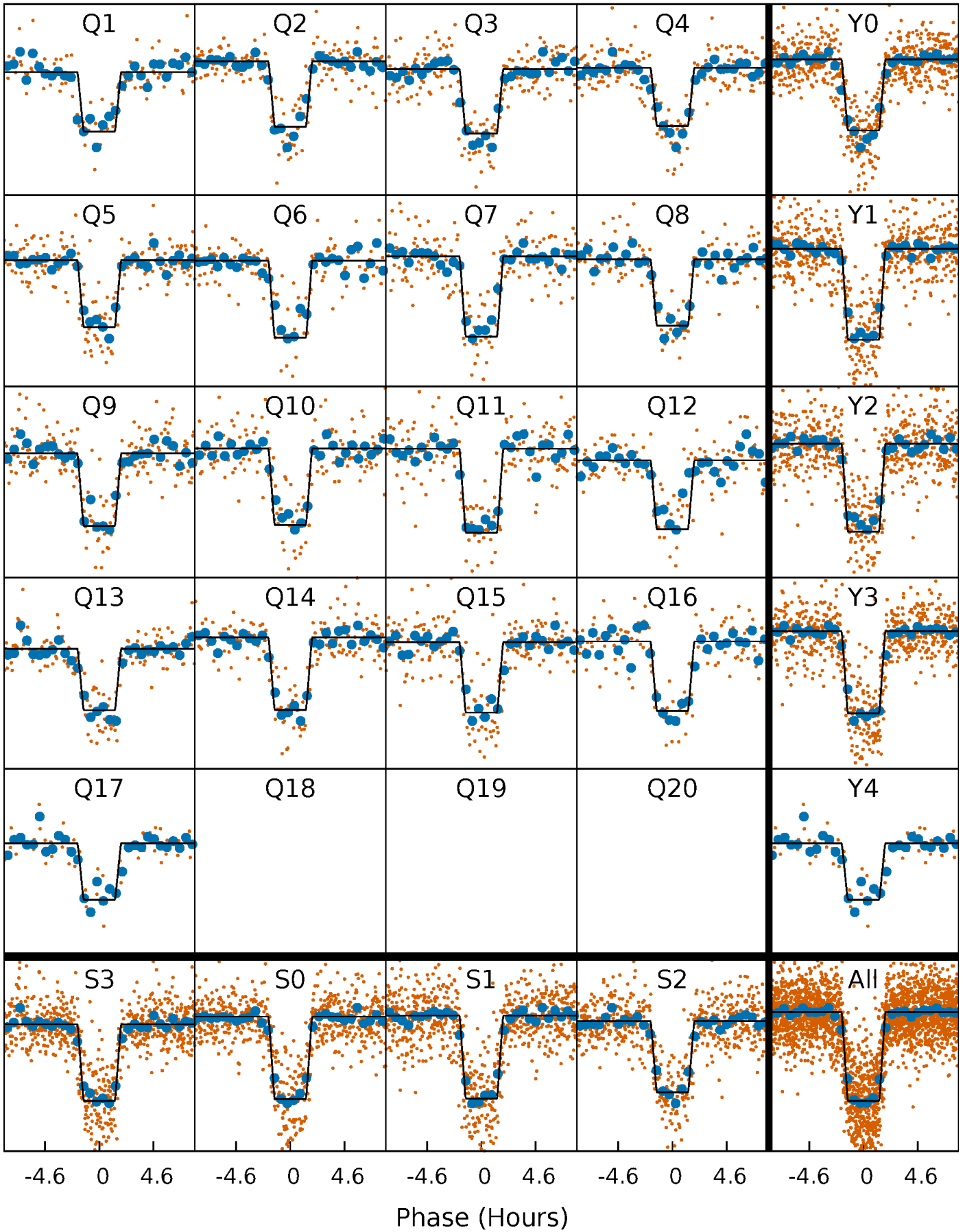
DV Quarter-Phased Transit Curves

TCE 006863998-01 P= 16.085185 Days $T_0=132.027478$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

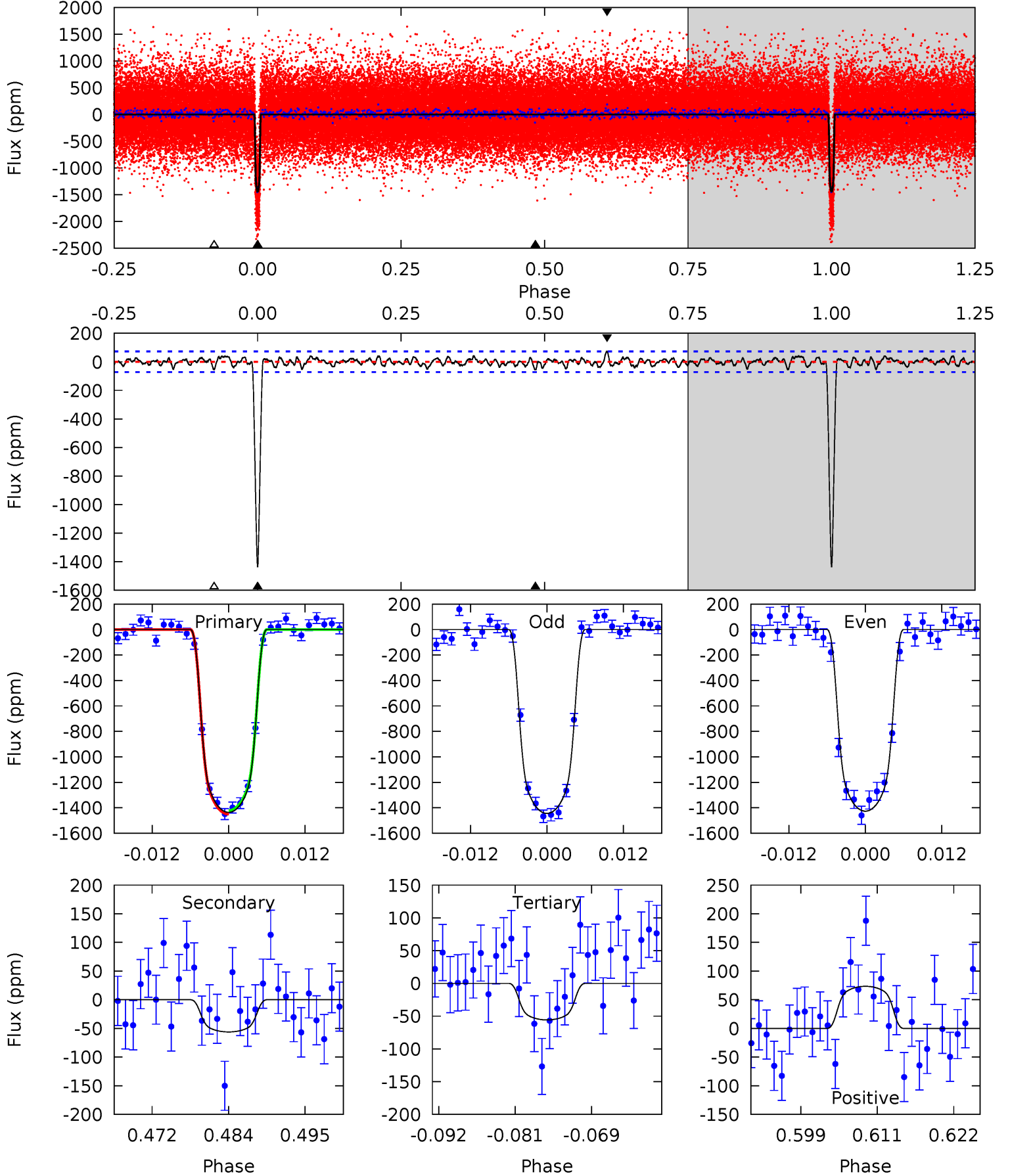
TCE 006863998-01 P= 16.085064 Days $T_0=132.033038$ (BKJD)



DV Model-Shift Uniqueness Test

006863998-01, $P = 16.085185$ Days, $E = 115.942293$ Days

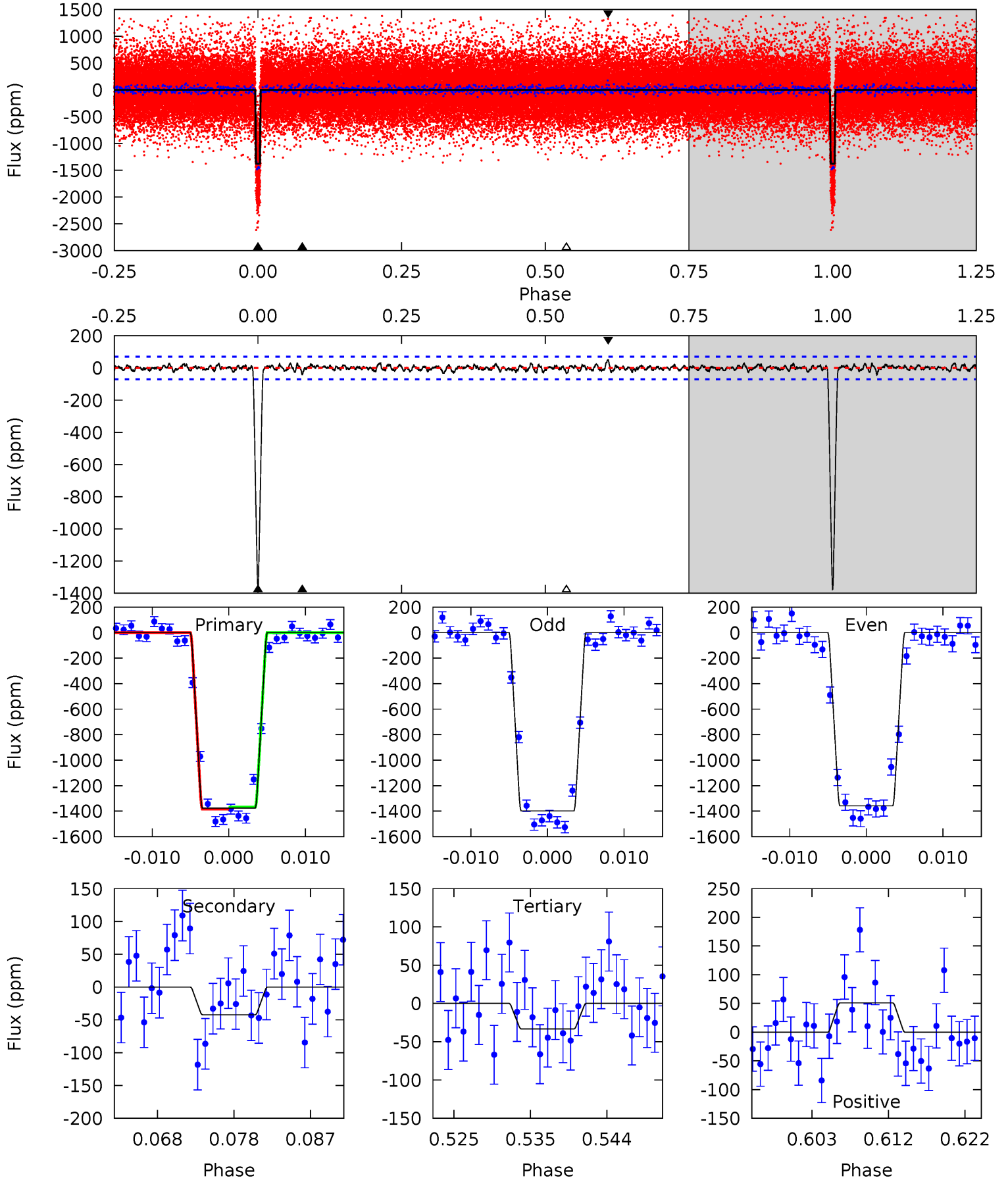
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
99.5	3.89	3.87	5.09	5.00	2.53	1.36	95.6	94.4	0.03	-1.20	0.61	0.98	0.05	0.91



Alt Model-Shift Uniqueness Test

006863998-01, P = 16.085064 Days, E = 115.947974 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
98.5	3.03	2.38	3.65	5.03	2.59	0.85	96.2	94.9	0.65	-0.62	1.42	0.96	0.04	0.58



Stellar Parameters For KIC 006863998

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5239^{+174}_{-158}	$4.523^{+0.060}_{-0.090}$	$0.000^{+0.250}_{-0.300}$	$0.826^{+0.122}_{-0.081}$	$0.830^{+0.085}_{-0.070}$	$2.076^{+0.559}_{-0.580}$
	+3%/-3%	+1%/-2%	+inf%/-inf%	+15%/-10%	+10%/-8%	+27%/-28%
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 006863998-01 / KOI 0867.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-56 ± 14	$3.82^{+0.27}_{-0.27}$	863^{+37}_{-35}	2904^{+106}_{-127}	29^{+8}_{-7}
Alt.	-42 ± 14	$3.41^{+0.27}_{-0.24}$	860^{+41}_{-35}	2866^{+133}_{-161}	27^{+10}_{-9}

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

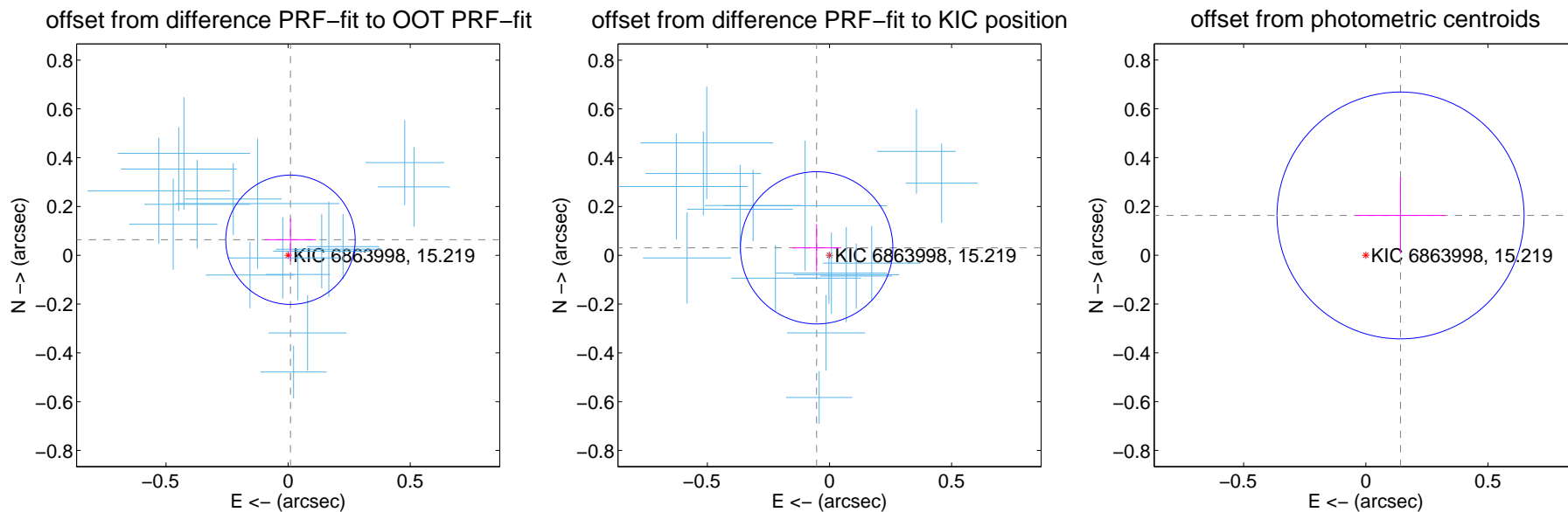
DV Centroid Data

Supplemental centroid analysis for 006863998-01. Kepler magnitude: 15.22. Transit SNR 61.03

There are 17 quarters with good PRF difference image offsets

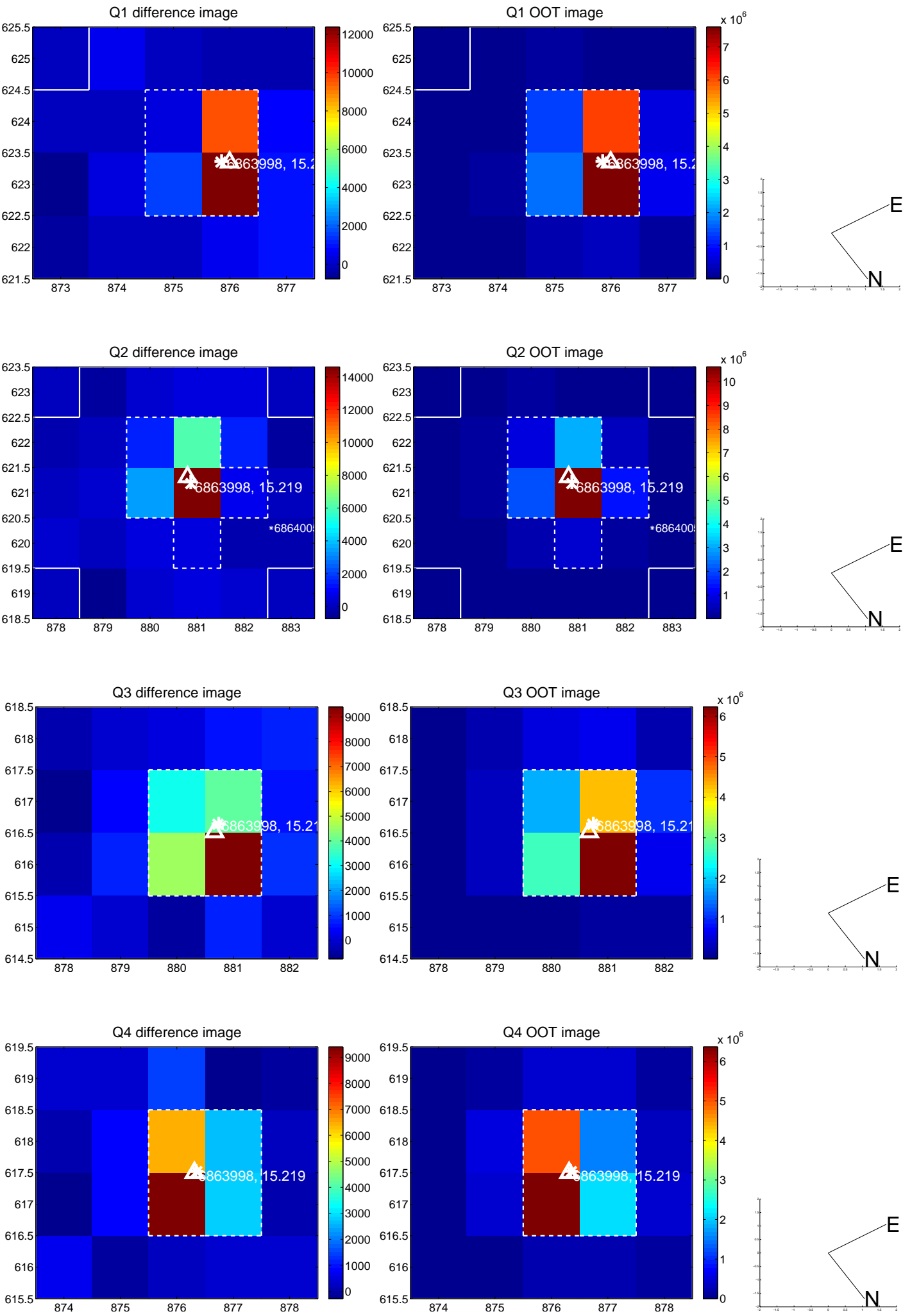
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.064 ± 0.088	0.73	-0.010 ± 0.104	0.064 ± 0.088
PRF-fit source offset from KIC position	0.061 ± 0.104	0.58	0.053 ± 0.100	0.031 ± 0.097
photometric centroid source offset	0.22 ± 0.17	1.28	-0.14 ± 0.18	0.16 ± 0.16

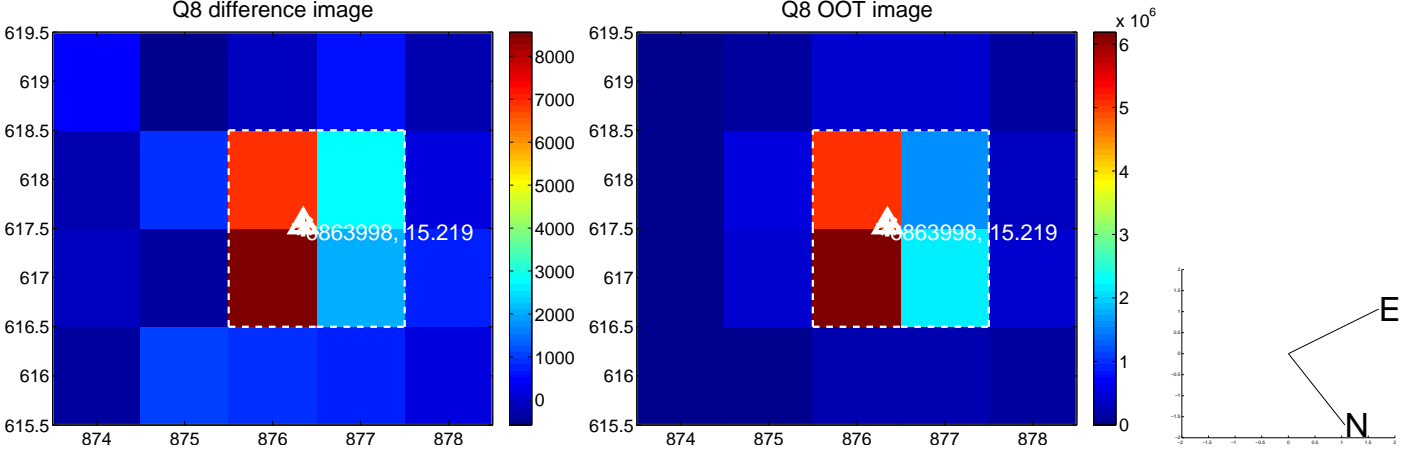
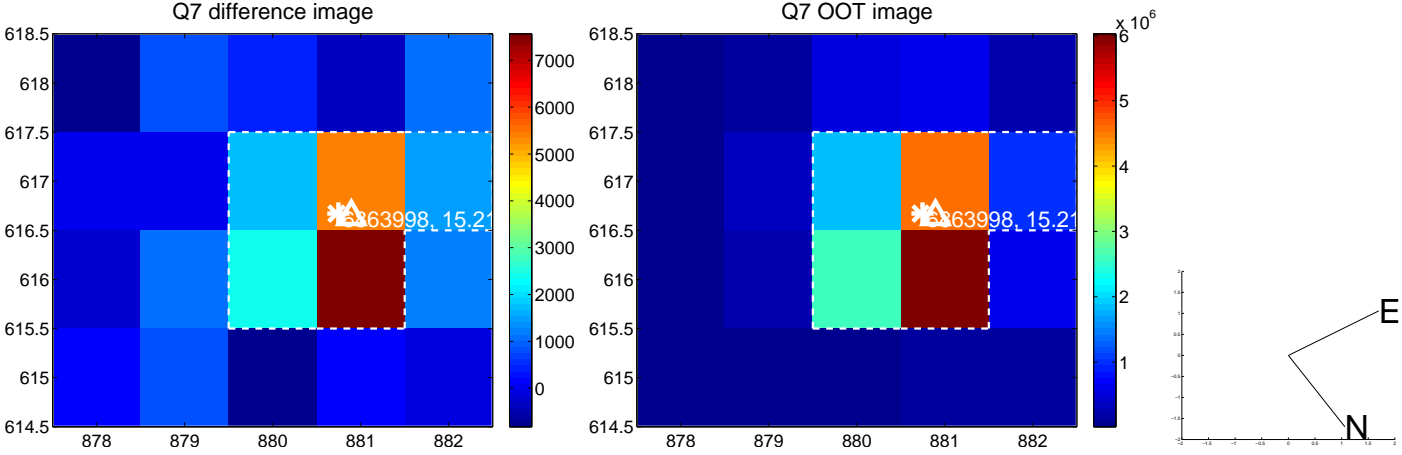
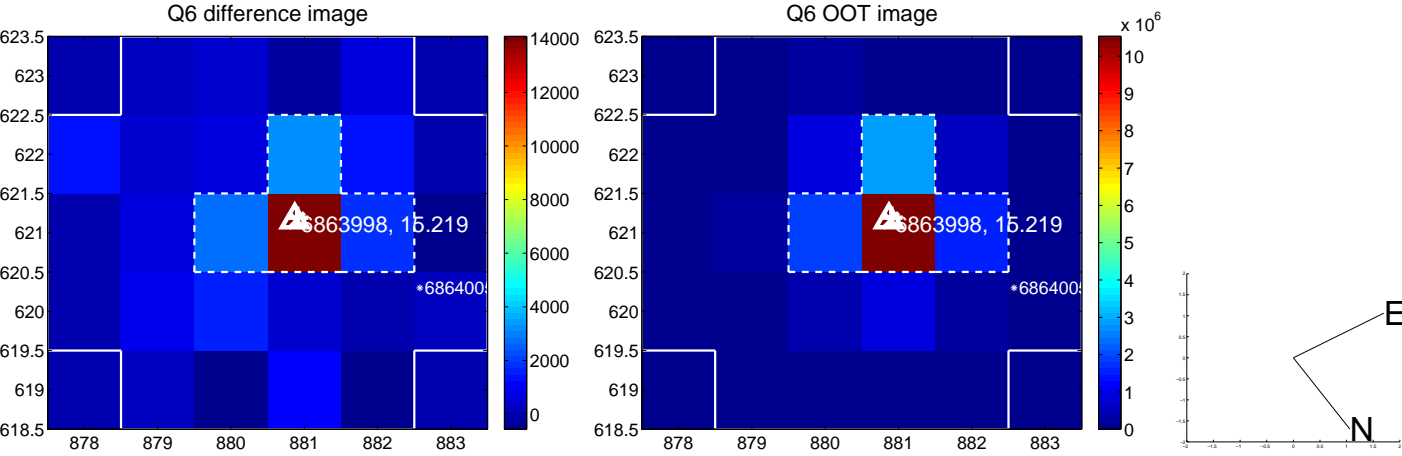
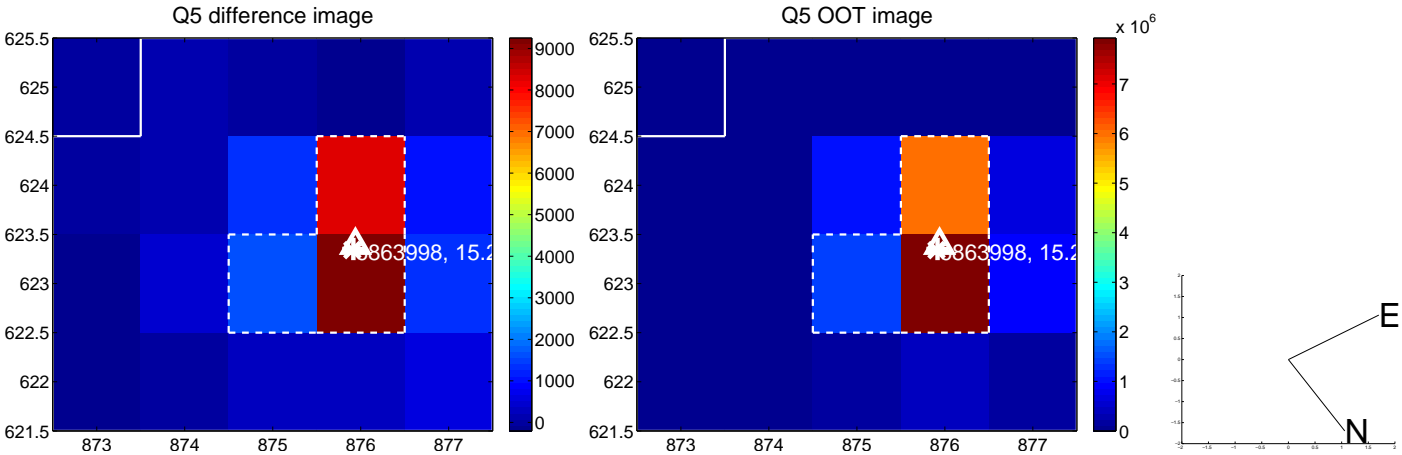


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

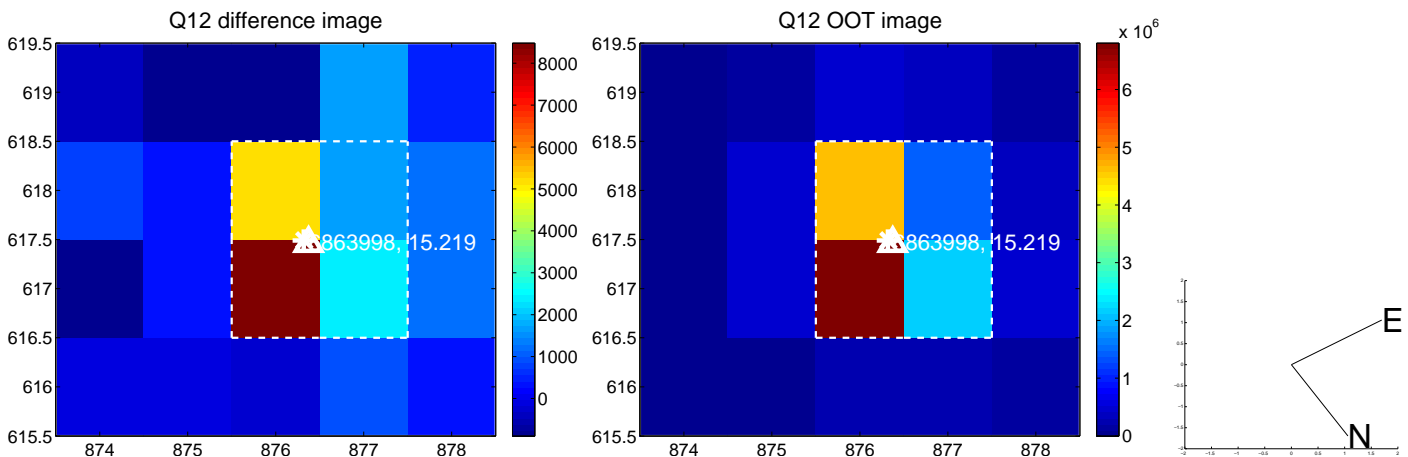
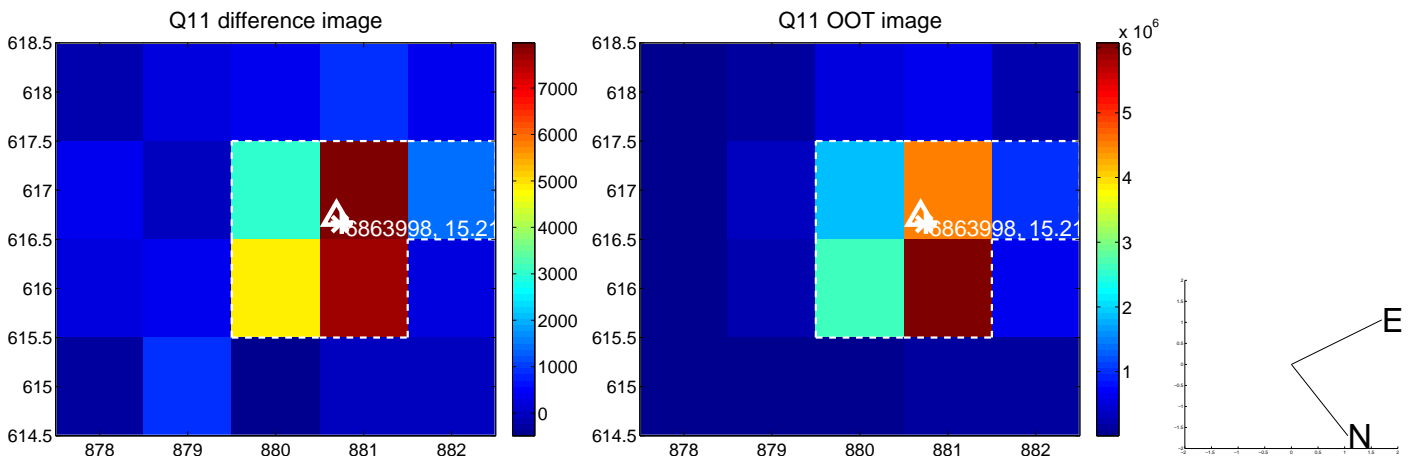
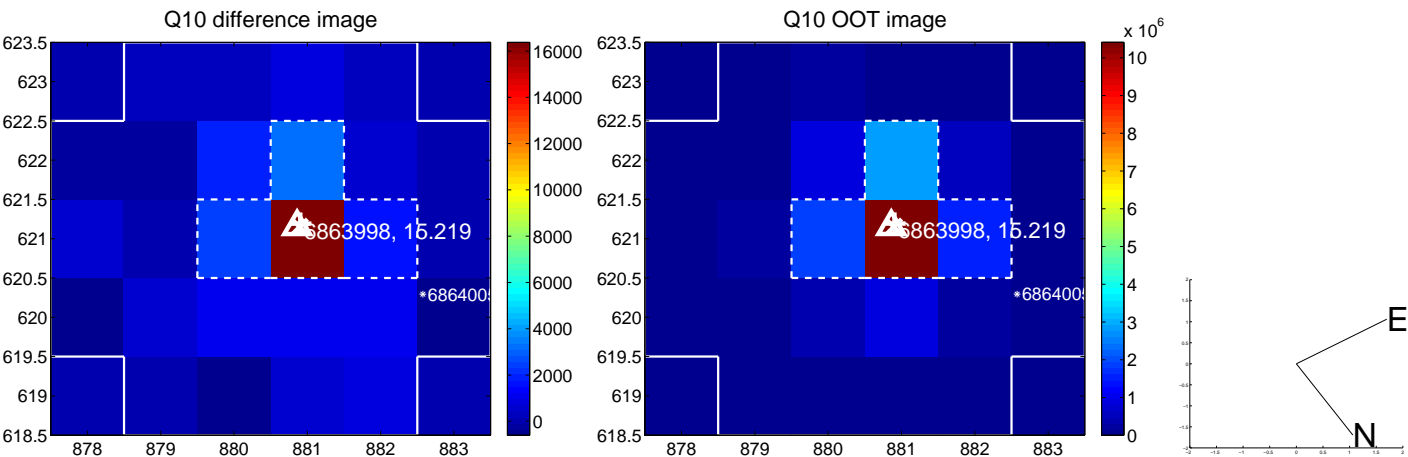
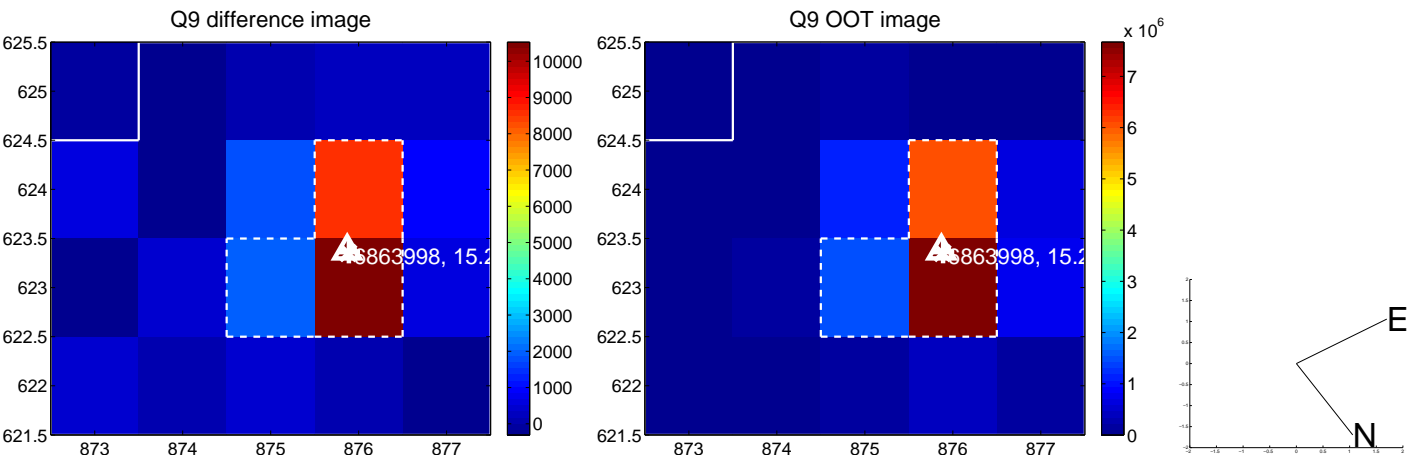
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



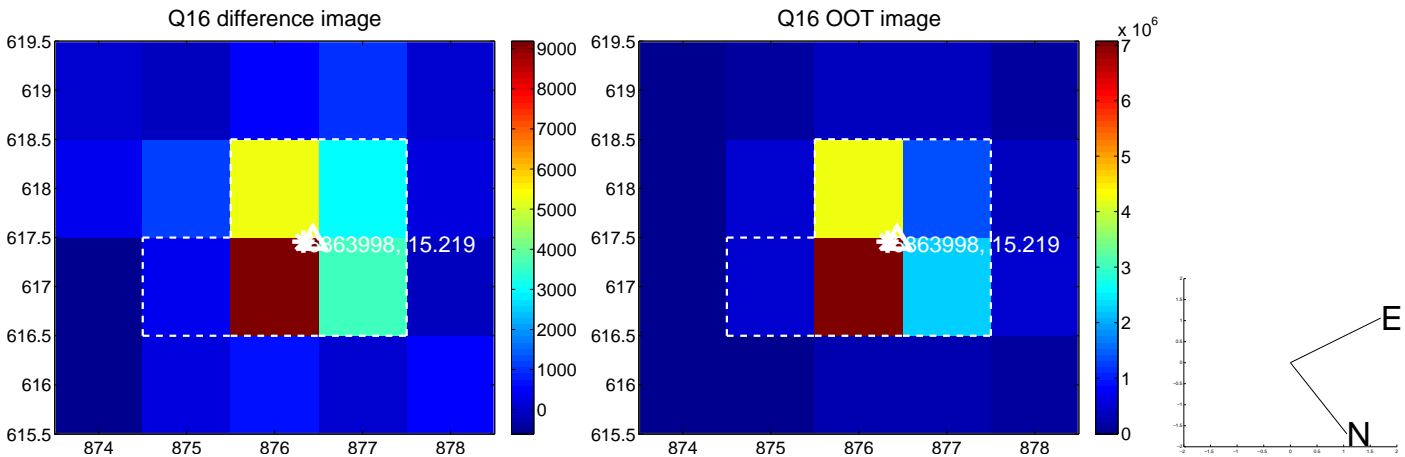
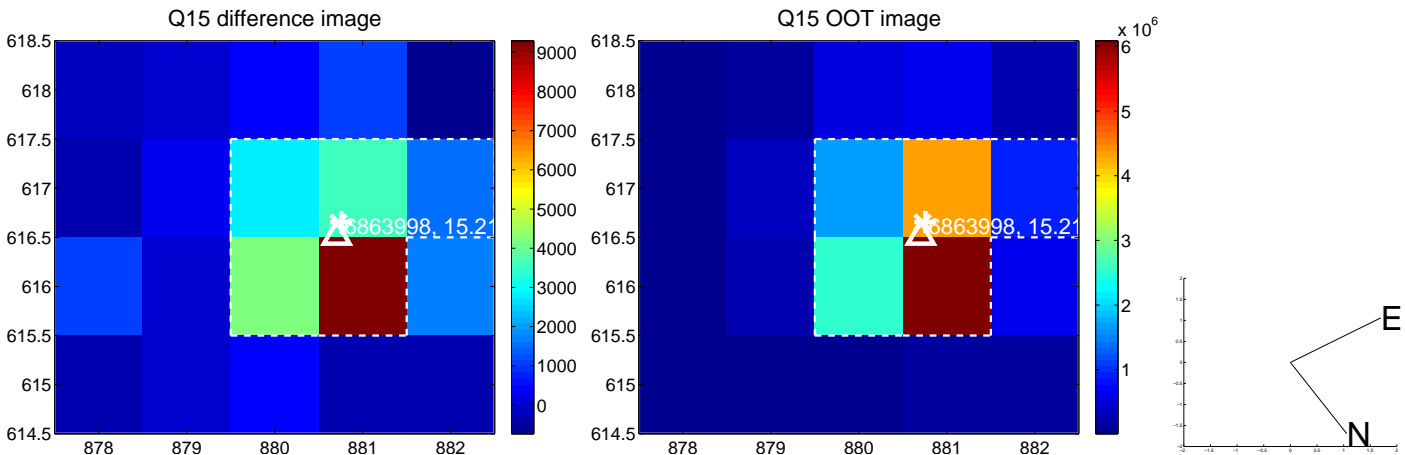
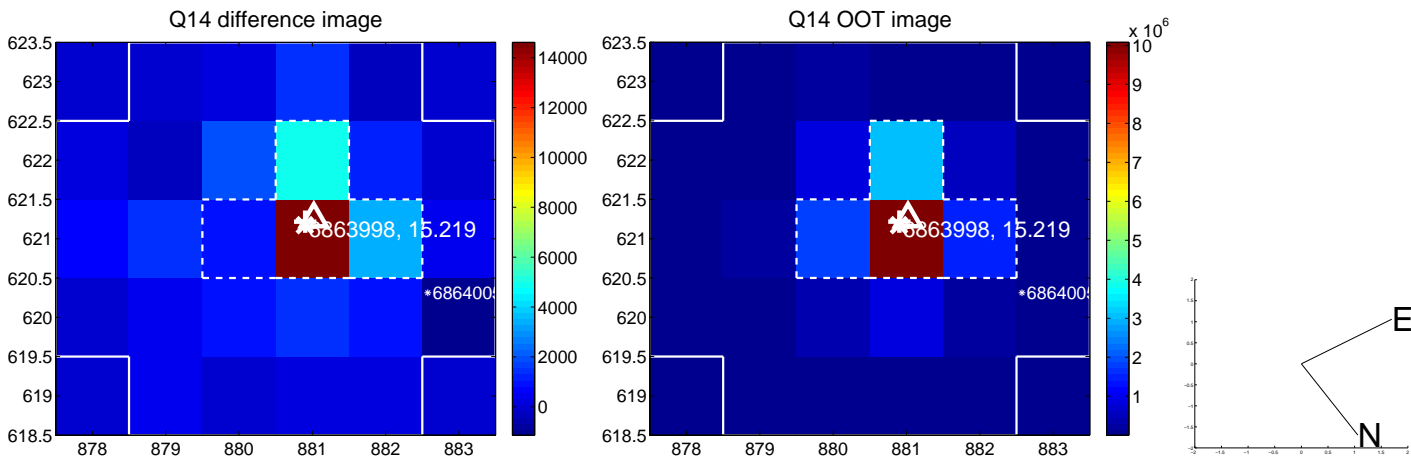
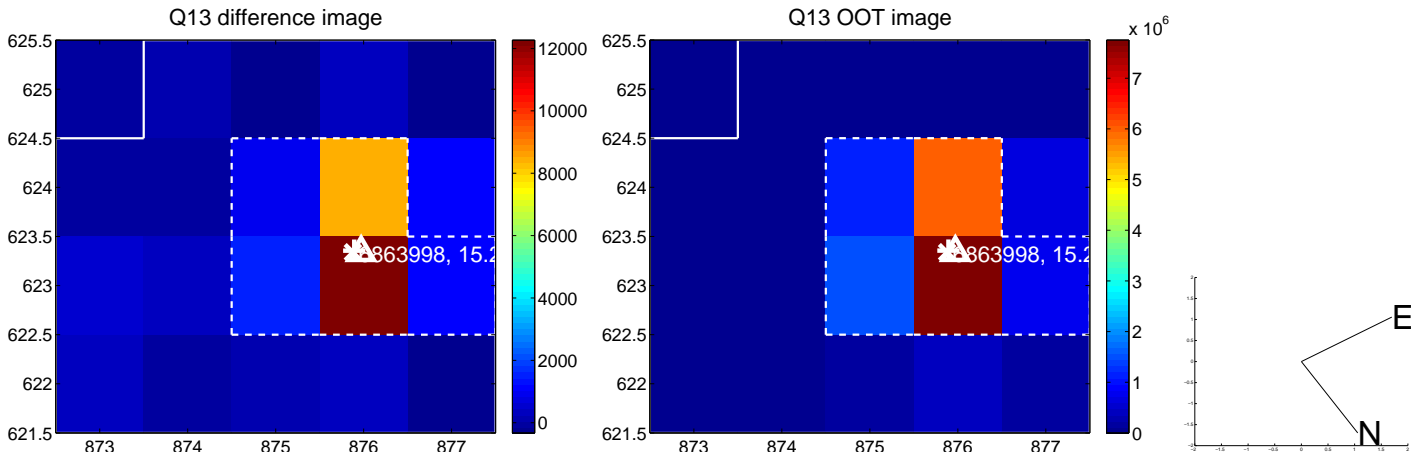
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



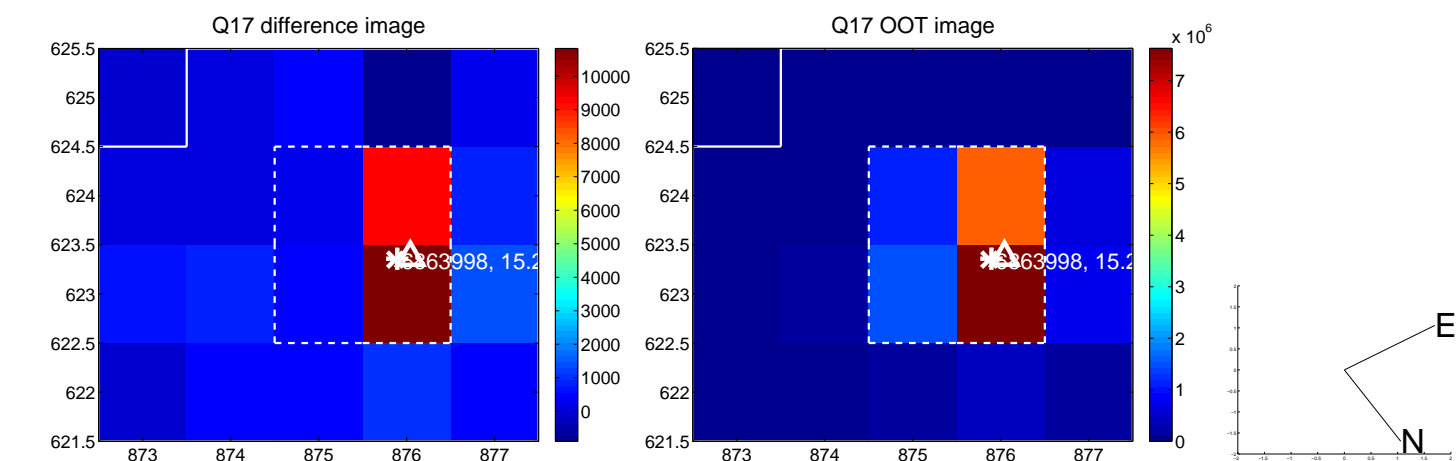
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



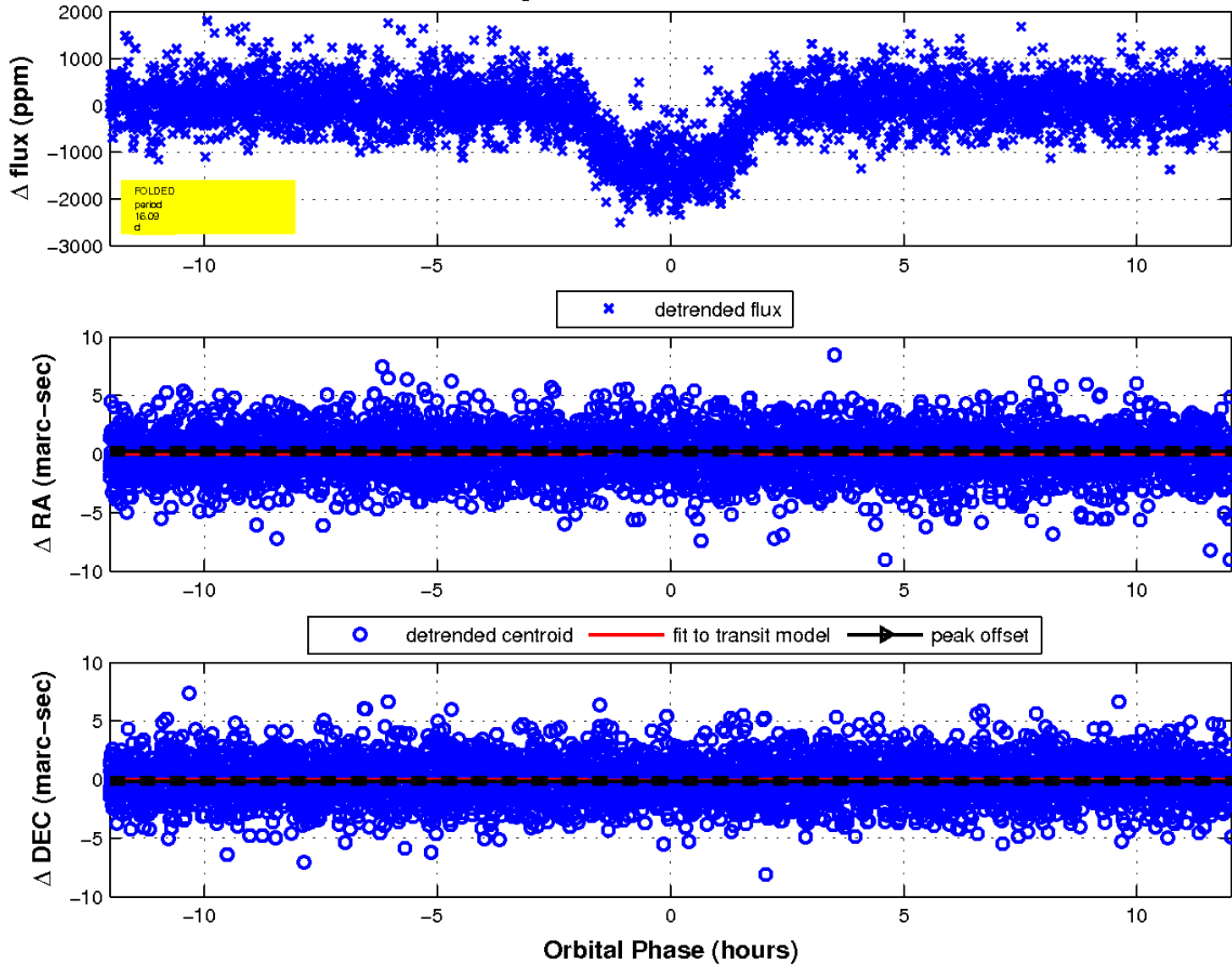
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

