

KIC 009717958

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})
009717958-01	OBS	No	67.714750	147.530062	161.1	31.792	11.3	16.3	0.85	6309	1.33	10.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009717958-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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 009717958-01

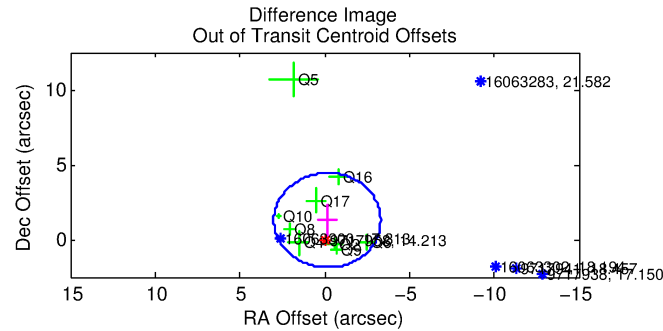
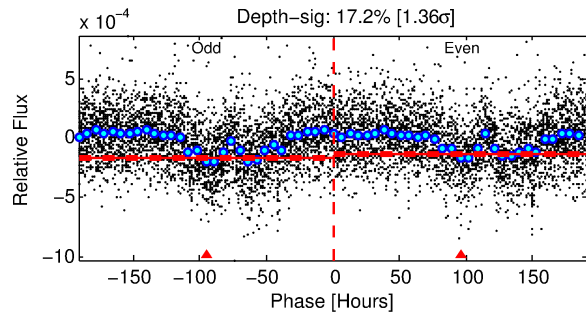
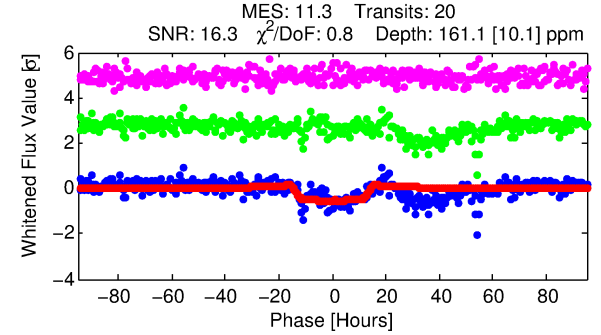
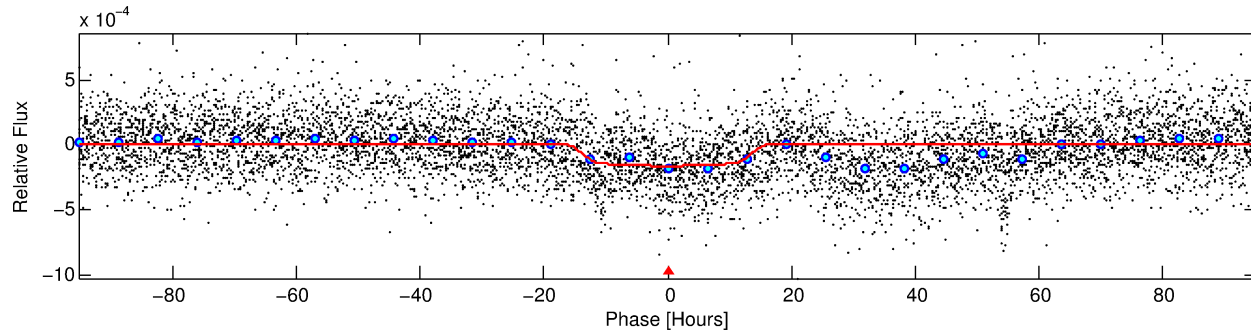
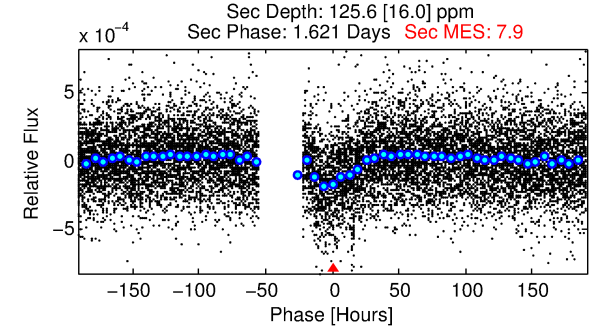
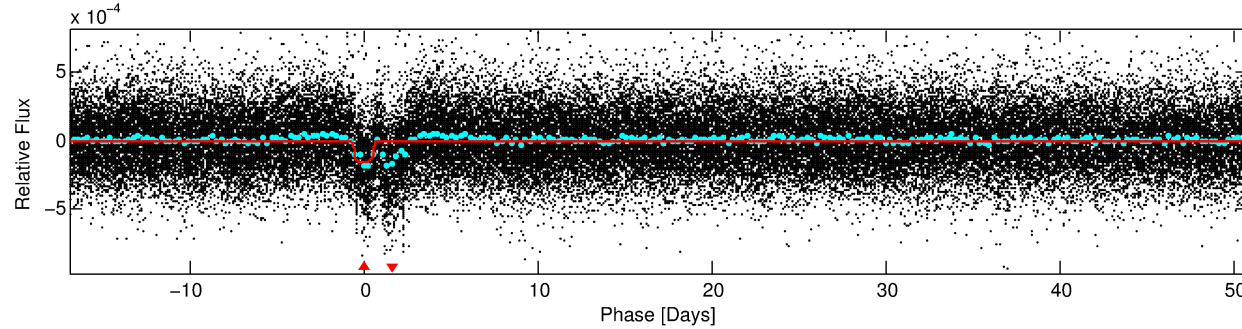
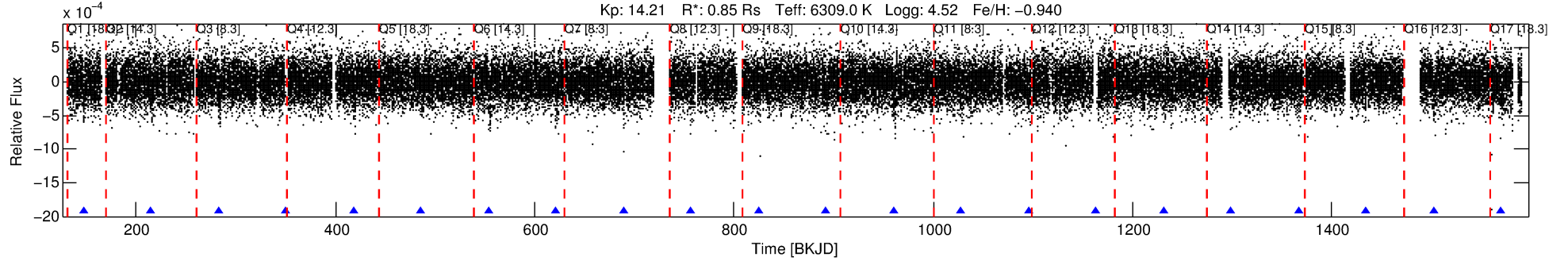
No Significant Match Found

DV One-Page Summary

KIC: 9717958 Candidate: 1 of 1 Period: 67.715 d

KOI: K04313 Corr: No Ephemeris Match

Kp: 14.21 R*: 0.85 Rs Teff: 6309.0 K Logg: 4.52 Fe/H: -0.940



DV Fit Results:

Period = 67.71475 [0.00251] d
Epoch = 147.5301 [0.0318] BKJD
Rp/R* = 0.0144 [0.0007]
a/R* = 5.72 [1.05]
b = 0.95 [0.02]
Seff = 10.64 [3.65]
Teq = 461 [40] K
Rp = 1.33 [0.33] Re
a = 0.3093 [0.0664] AU
Ag = 3726.96 [1336.29] [2.79σ]
Teffp = 5564 [277] K [18.24σ]

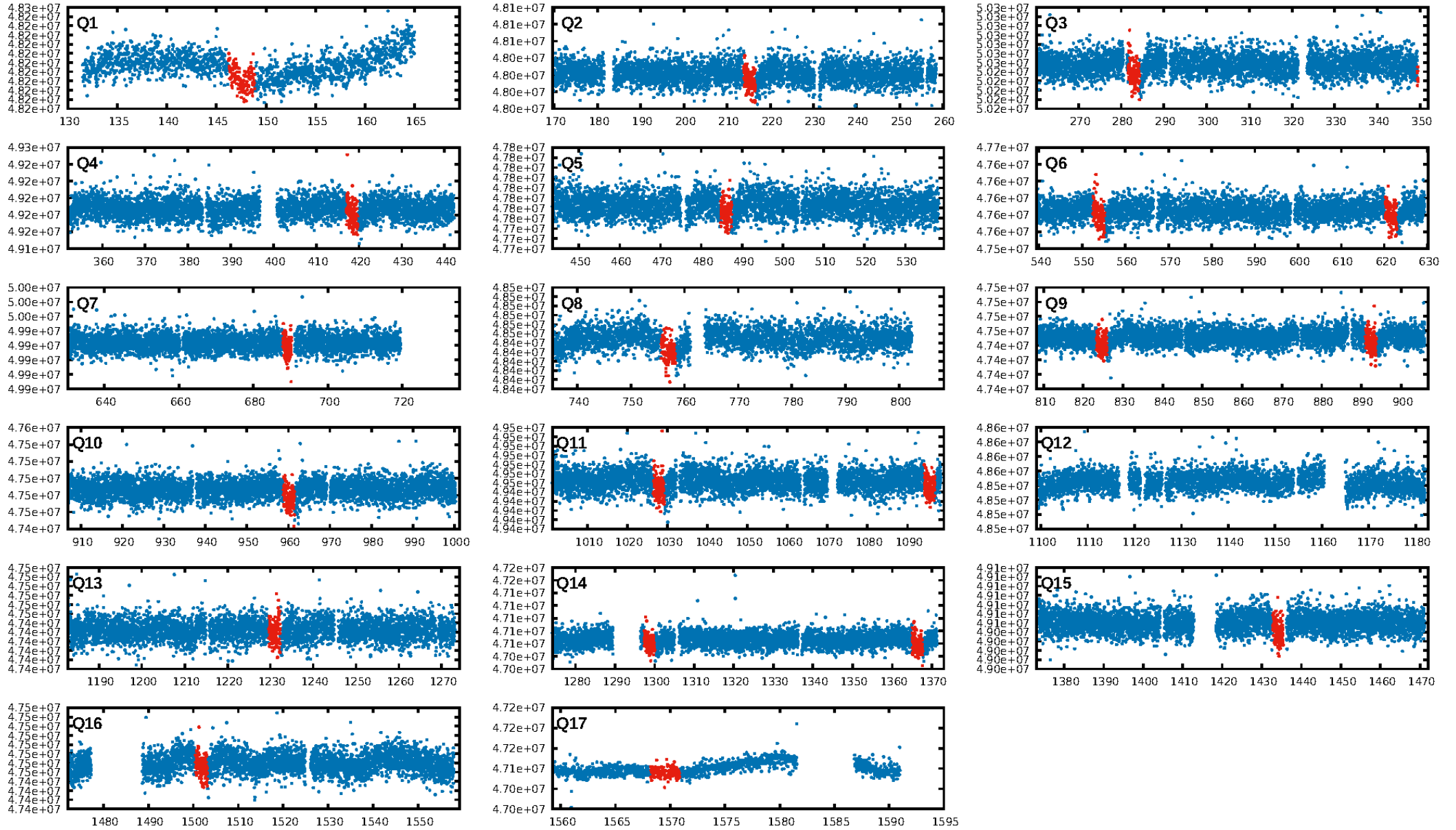
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.92e-29
RollingBand-fgt: 1.00 [18/18]
GhostDiagnostic-chr: 58.4
Centroid-sig: 71.5%
Centroid-so: 0.359 arcsec [0.50σ]
OotOffset-rm: 1.292 arcsec [1.23σ]
KicOffset-rm: 1.095 arcsec [0.95σ]
OotOffset-st: 3/0/3/3 [9]
KicOffset-st: 3/0/3/3 [9]
DiffImageQuality-fgm: 0.56 [5/9]
DiffImageOverlap-fno: 1.00 [11/11]

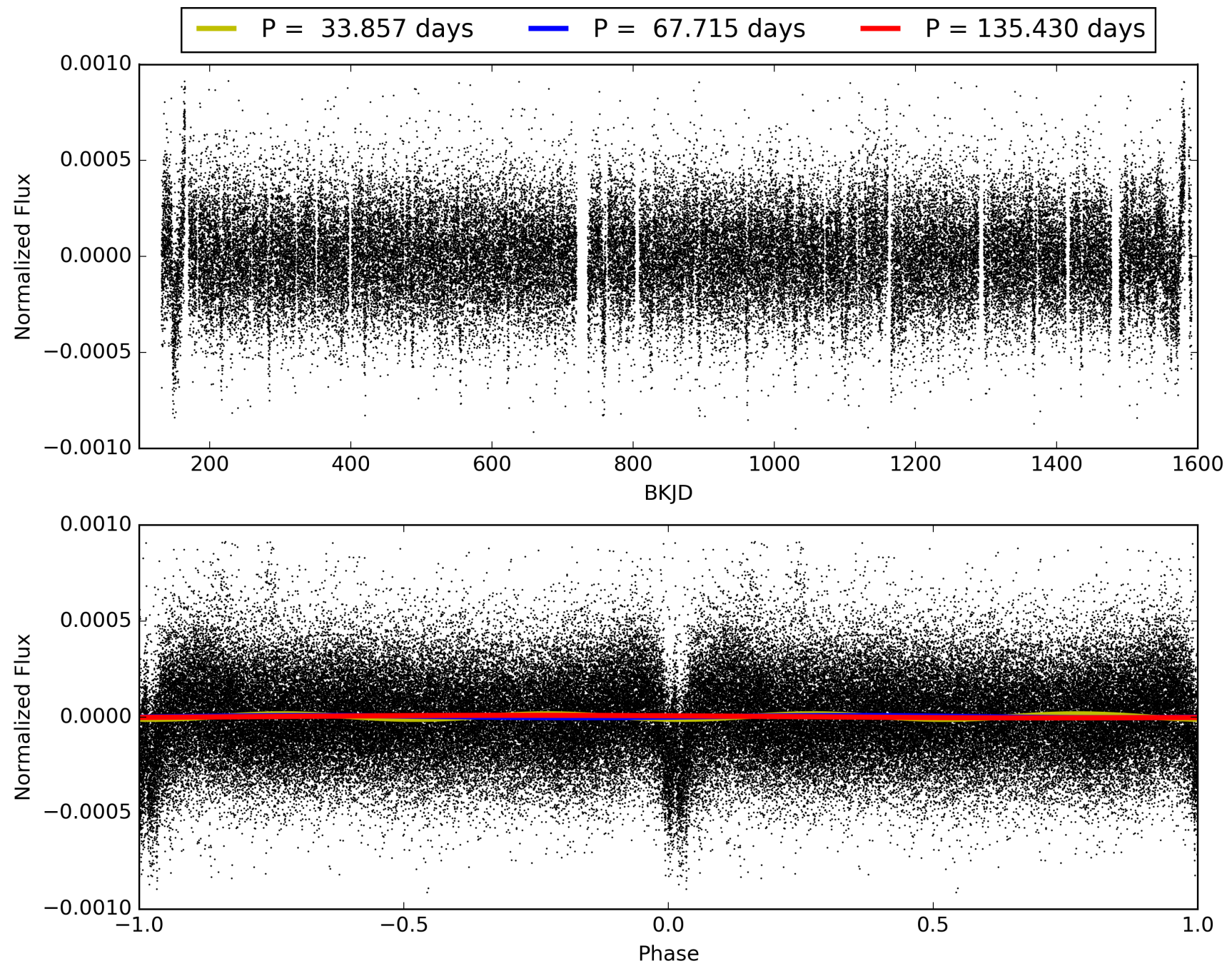
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:52:34 Z

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

TCE 009717958-01, PDC Light Curves

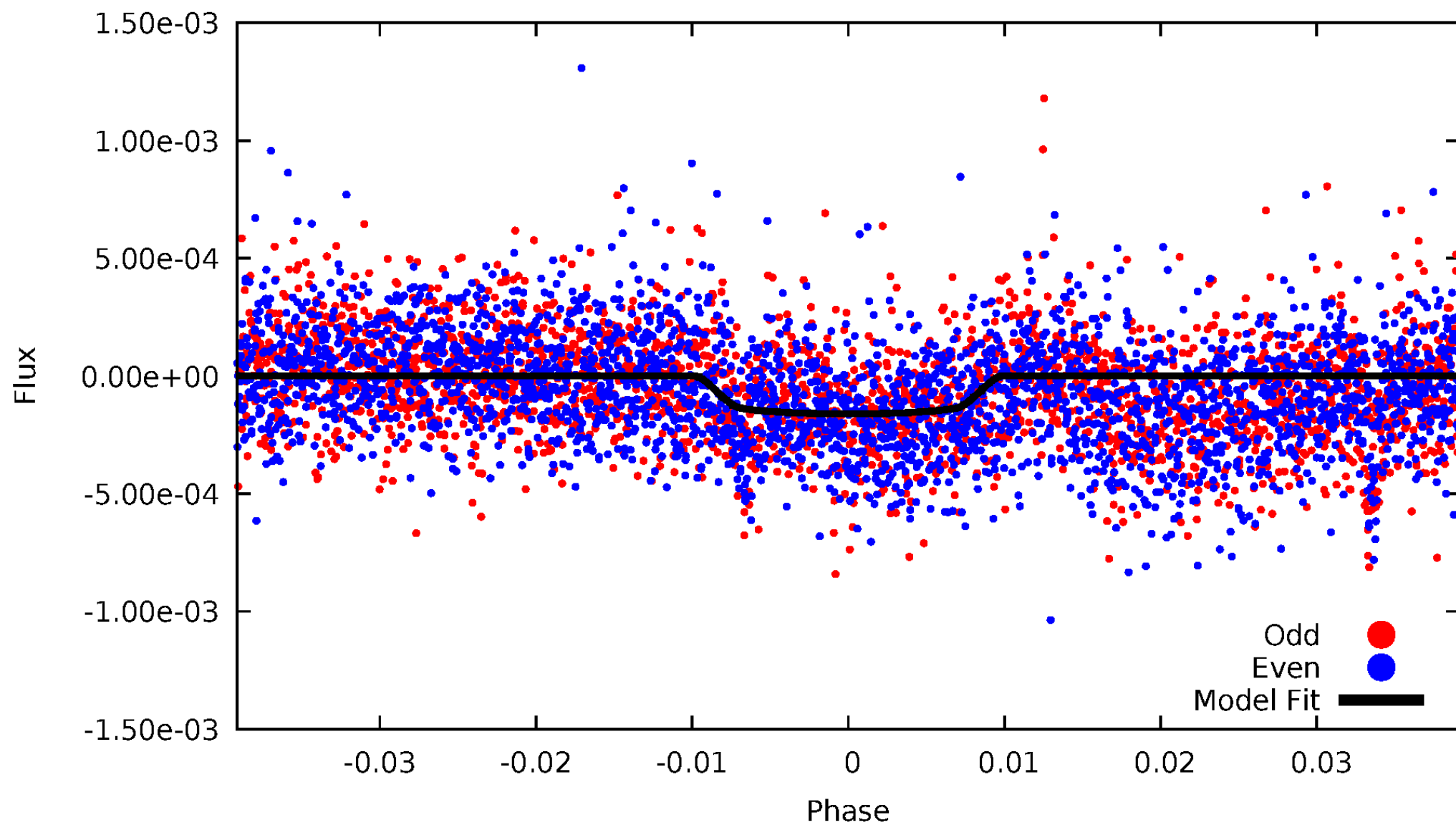


TCE 009717958-01



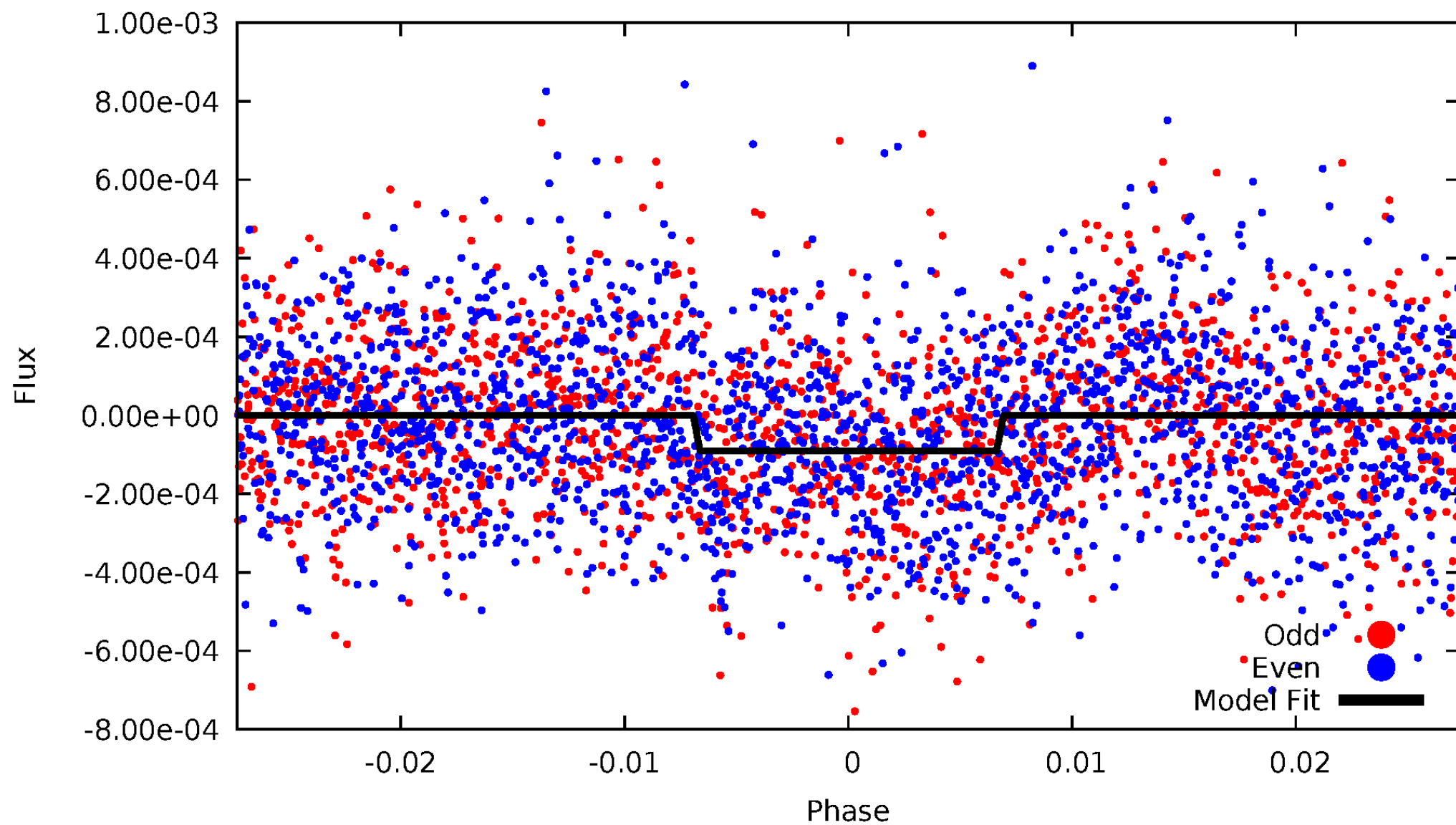
DV Odd/Even

TCE 009717958-01



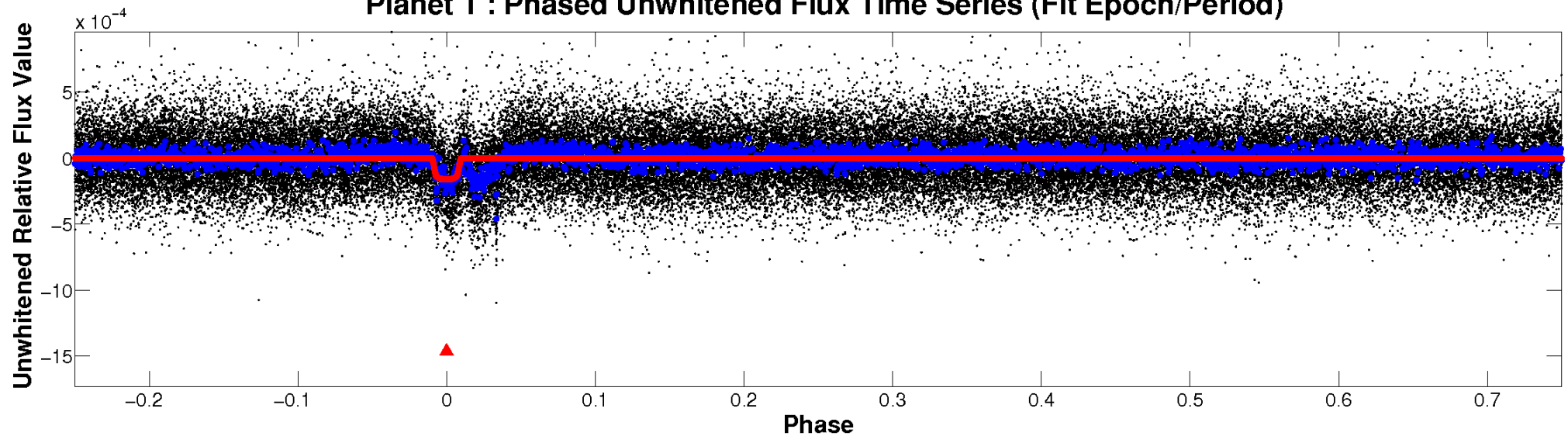
ALT Odd/Even

TCE 009717958-01

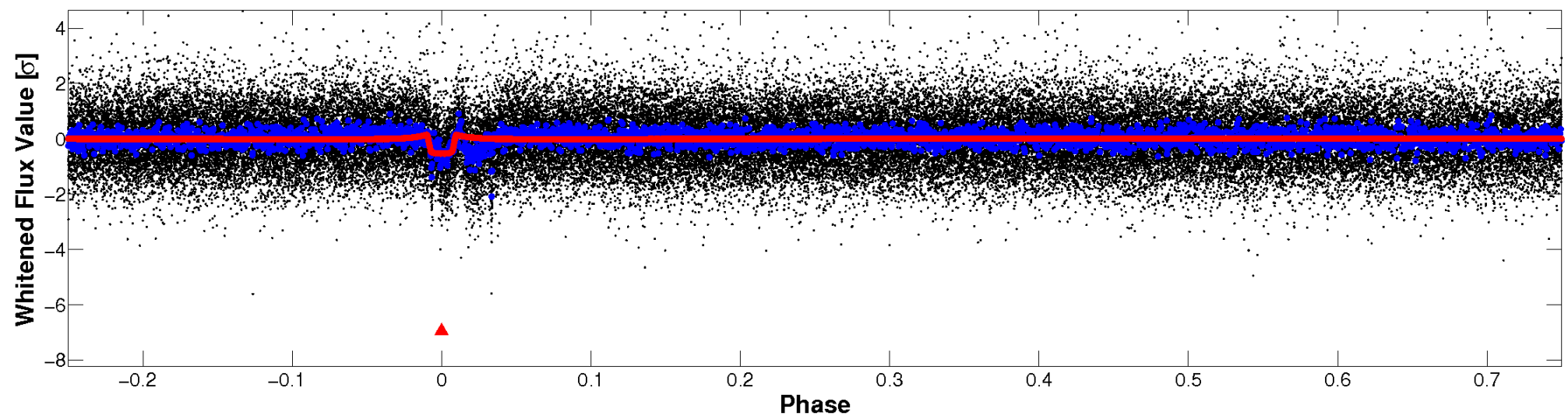


Non-Whitened Vs. Whitened Light Curve

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

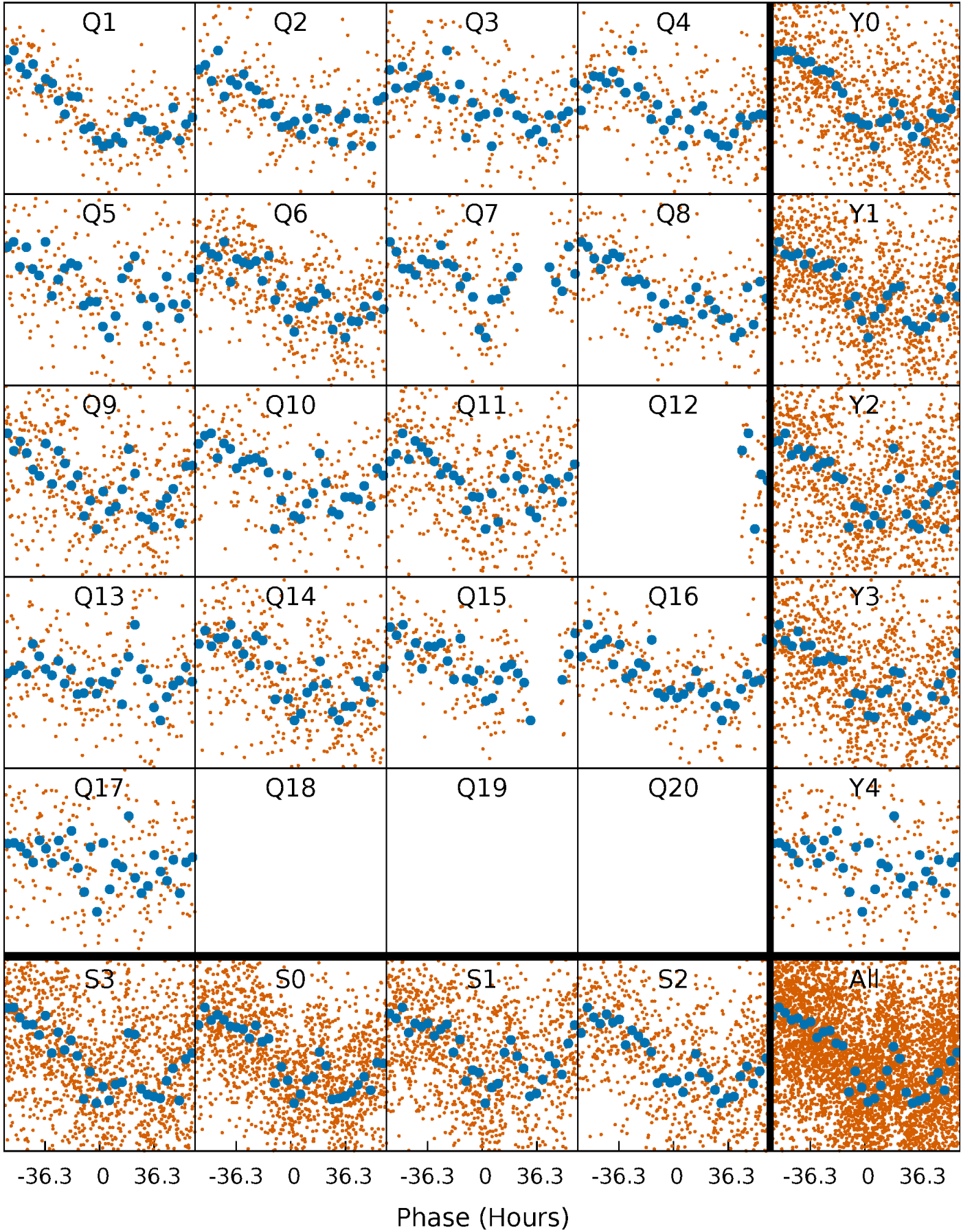


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



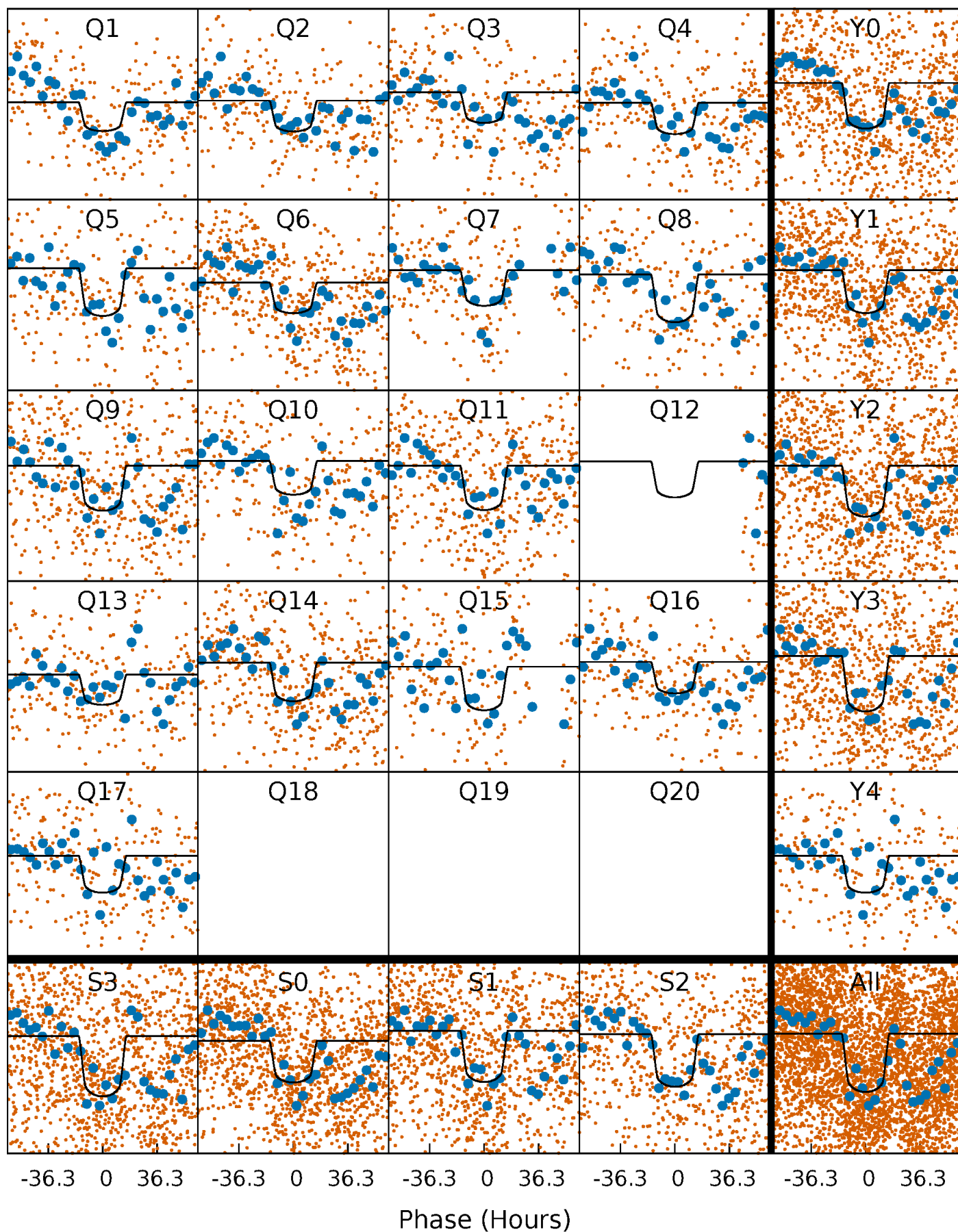
PDC Quarter-Phased Transit Curves

TCE 009717958-01 P= 67.714750 Days $T_0=147.530062$ (BKJD)



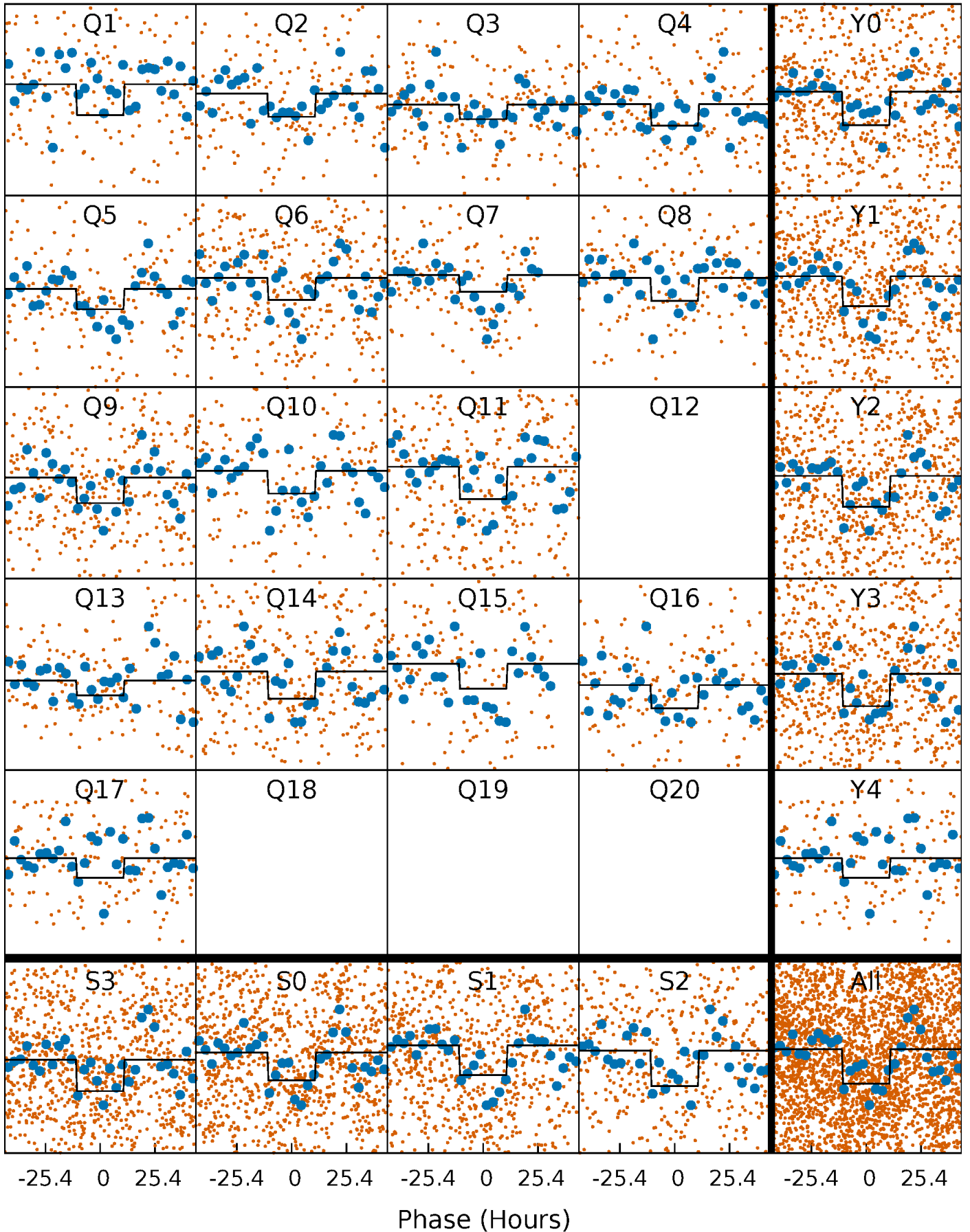
DV Quarter-Phased Transit Curves

TCE 009717958-01 P= 67.714750 Days $T_0=147.530062$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

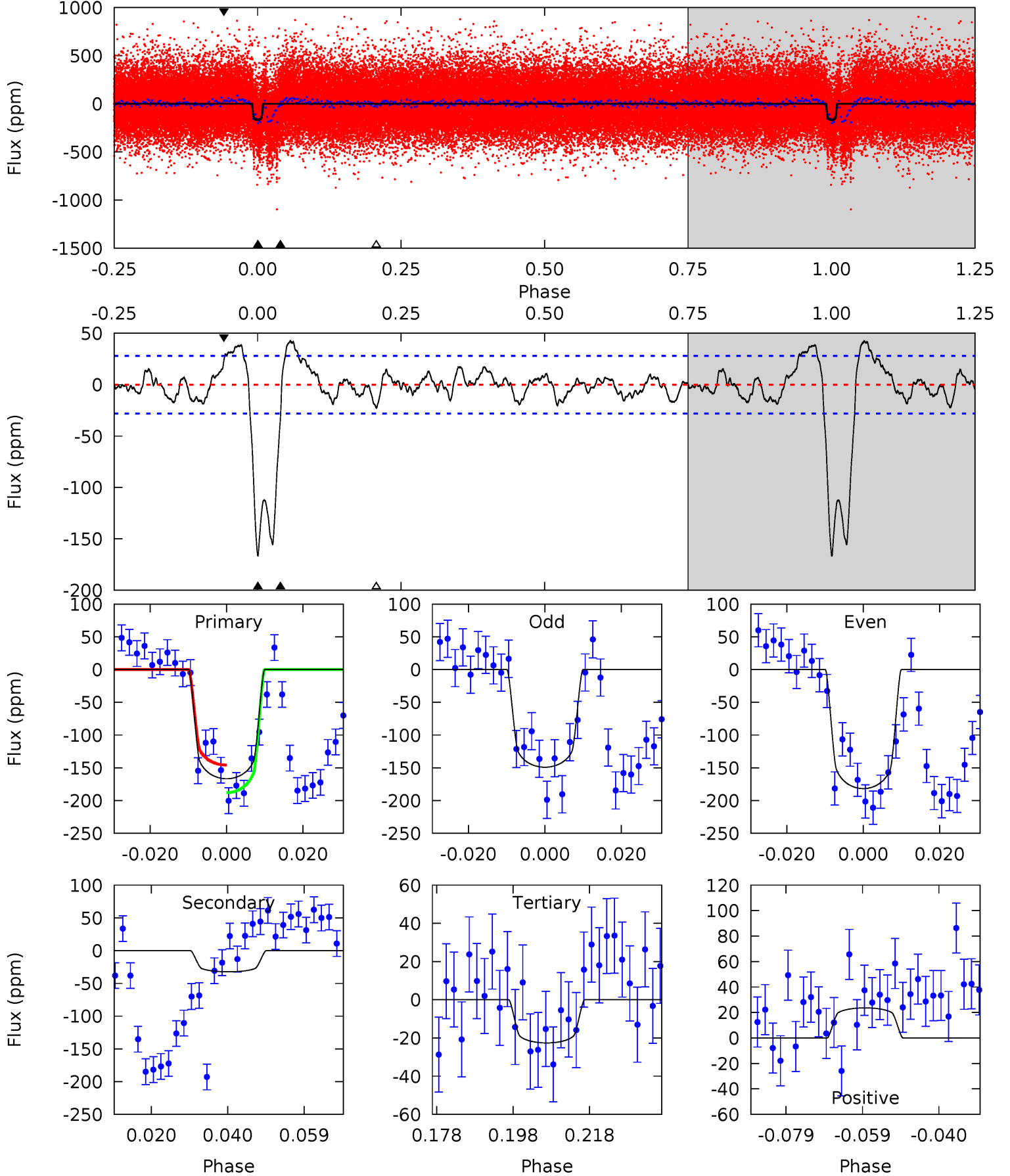
TCE 009717958-01 P= 67.713886 Days $T_0=147.472726$ (BKJD)



DV Model-Shift Uniqueness Test

009717958-01, P = 67.714750 Days, E = 79.815312 Days

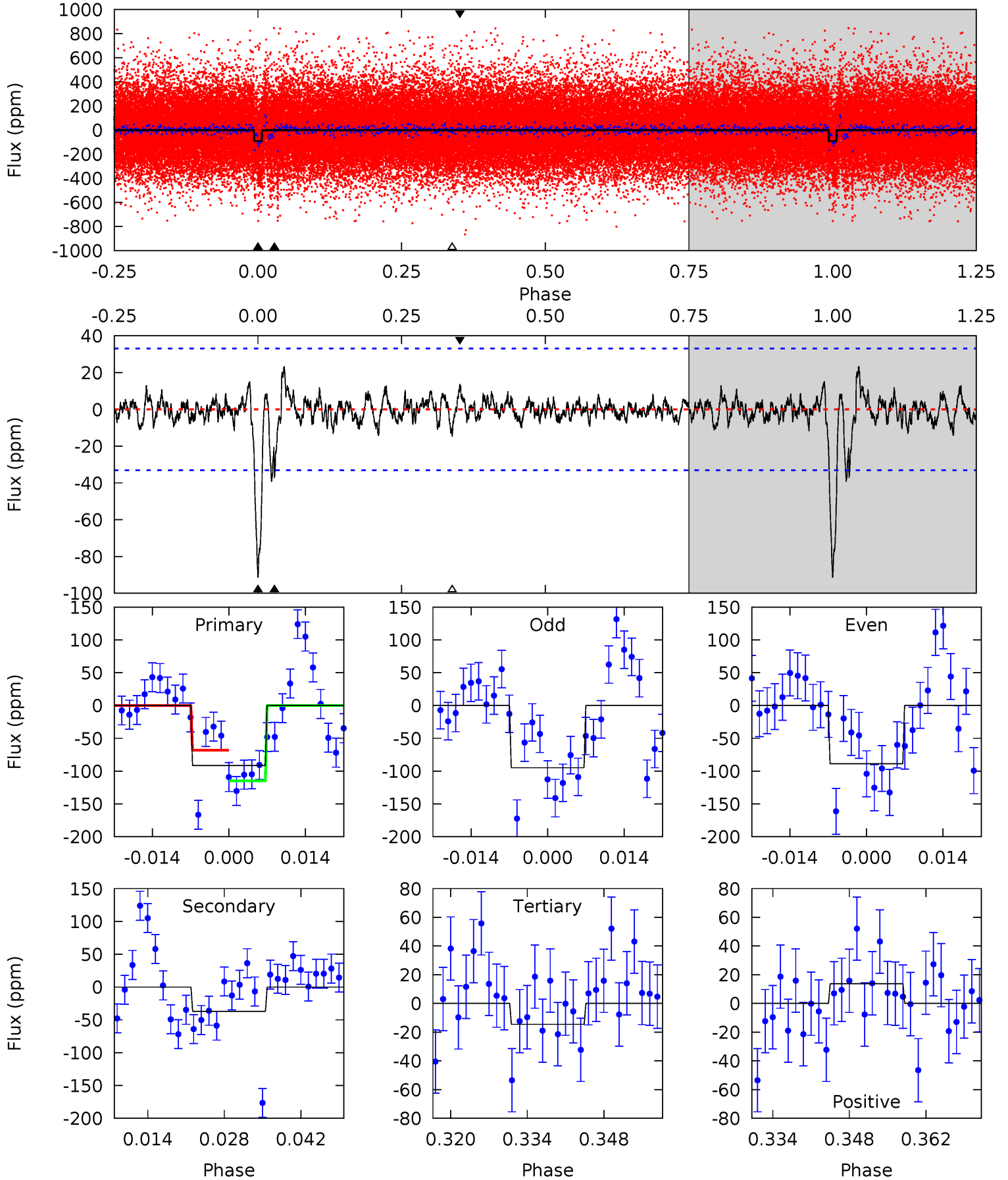
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.1	5.64	3.94	4.12	4.89	2.33	2.11	25.2	25.0	1.69	1.52	2.82	0.97	0.20	3.68



Alt Model-Shift Uniqueness Test

009717958-01, P = 67.713886 Days, E = 79.758840 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	5.53	2.18	2.05	4.96	2.46	0.73	11.5	11.7	3.36	3.48	0.46	1.04	0.20	3.50



Stellar Parameters For KIC 009717958

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6309^{+171}_{-190}	$4.517^{+0.060}_{-0.180}$	$-0.940^{+0.250}_{-0.300}$	$0.847^{+0.209}_{-0.070}$	$0.860^{+0.081}_{-0.073}$	$1.992^{+0.487}_{-0.912}$
	+3%/-3%	+1%/-4%	+27%/-32%	+25%/-8%	+9%/-8%	+24%/-46%
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 009717958-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-32 ± 6	$1.36^{+0.18}_{-0.11}$	651^{+43}_{-31}	4205^{+188}_{-175}	894^{+237}_{-235}
Alt.	-37 ± 7	$0.90^{+0.14}_{-0.08}$	650^{+42}_{-28}	5093^{+282}_{-295}	2298^{+742}_{-621}

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

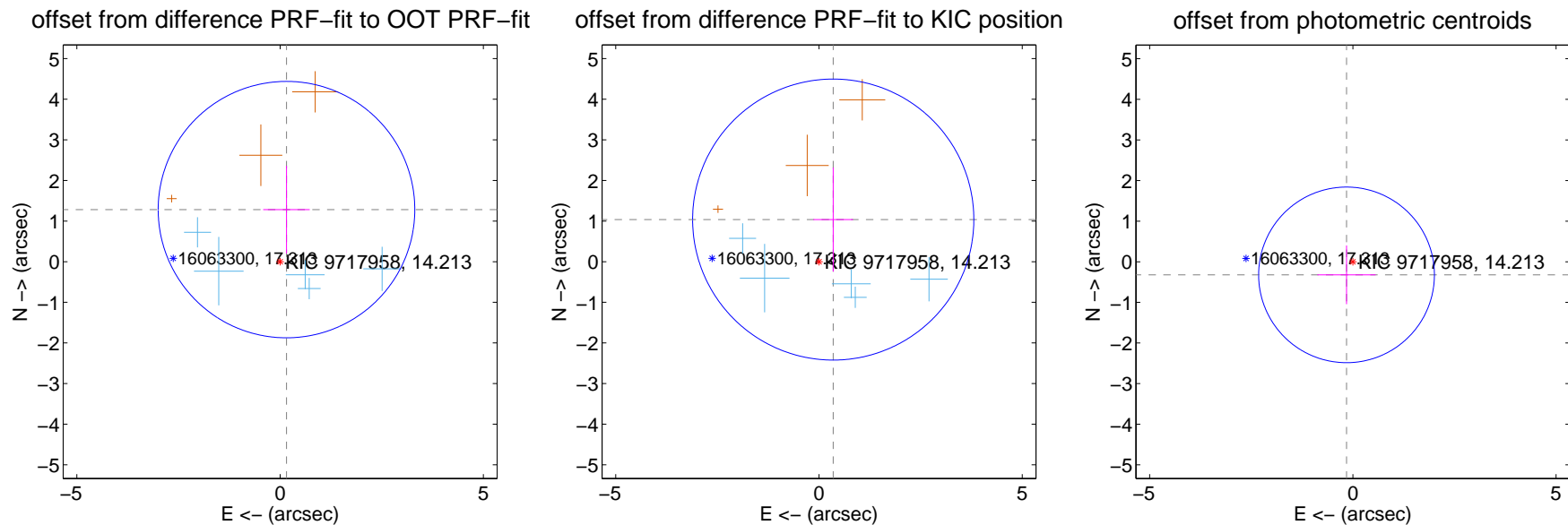
DV Centroid Data

Supplemental centroid analysis for 009717958-01. Kepler magnitude: 14.21. Transit SNR 16.28

There are 5 quarters with good PRF difference image offsets

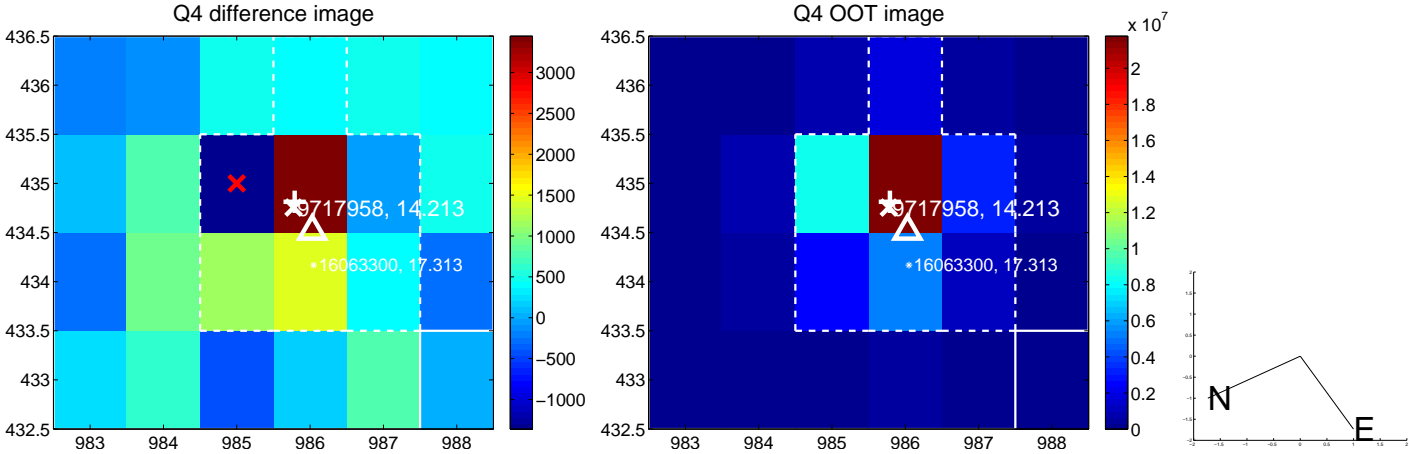
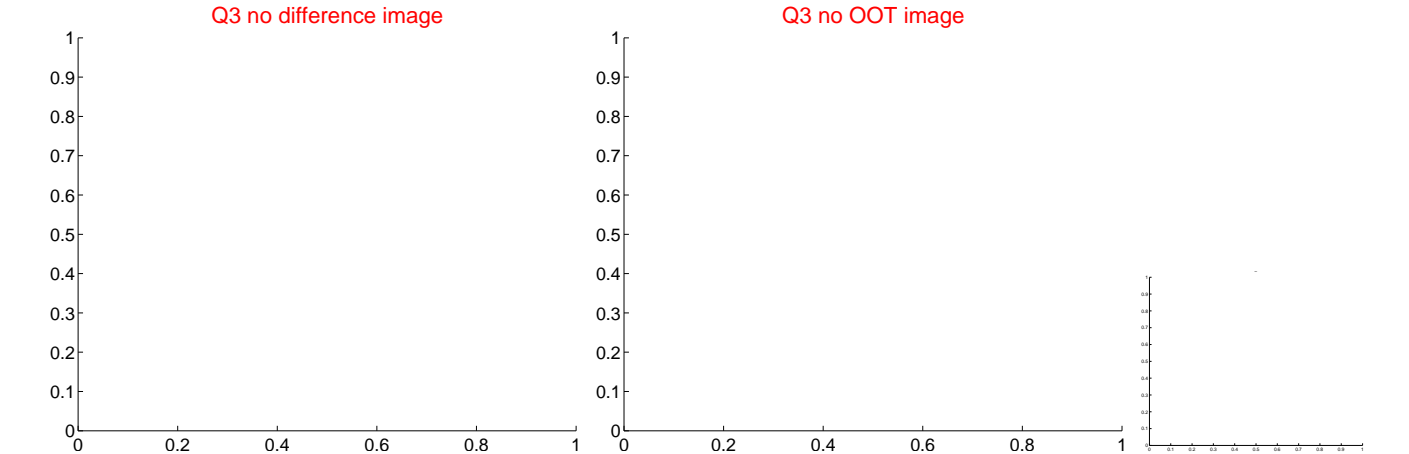
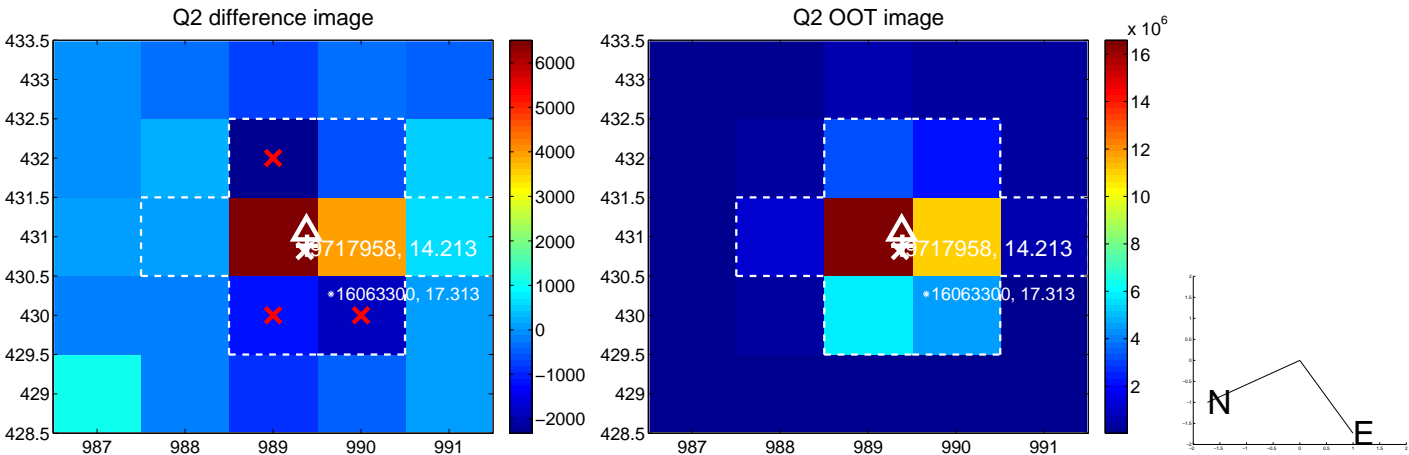
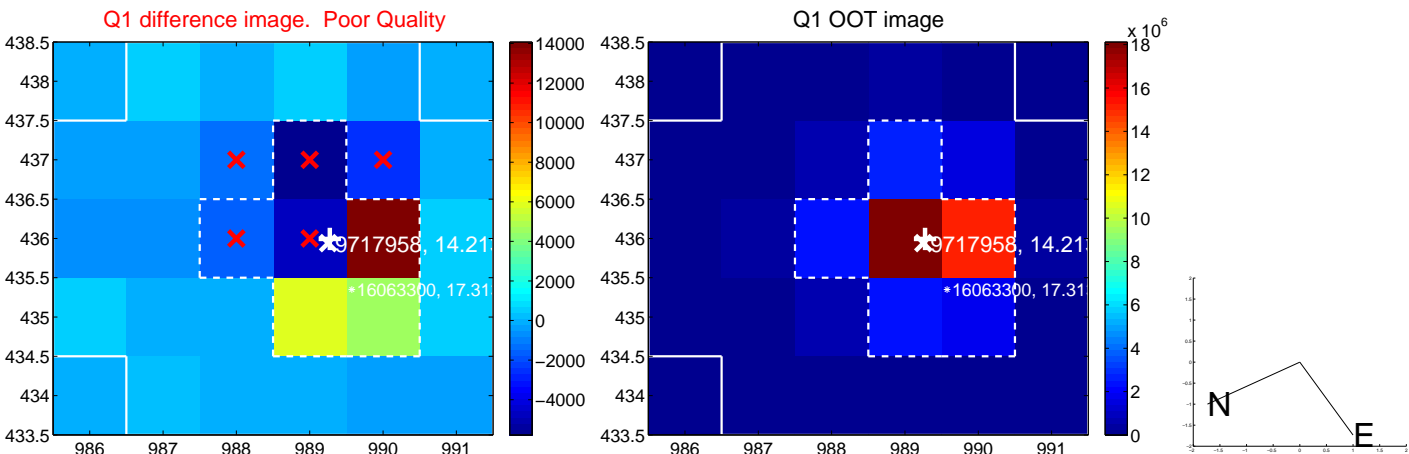
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.292 ± 1.052	1.23	-0.157 ± 0.572	1.282 ± 1.078
PRF-fit source offset from KIC position	1.095 ± 1.153	0.95	-0.350 ± 0.487	1.037 ± 1.280
photometric centroid source offset	0.36 ± 0.72	0.50	0.16 ± 0.72	-0.32 ± 0.72

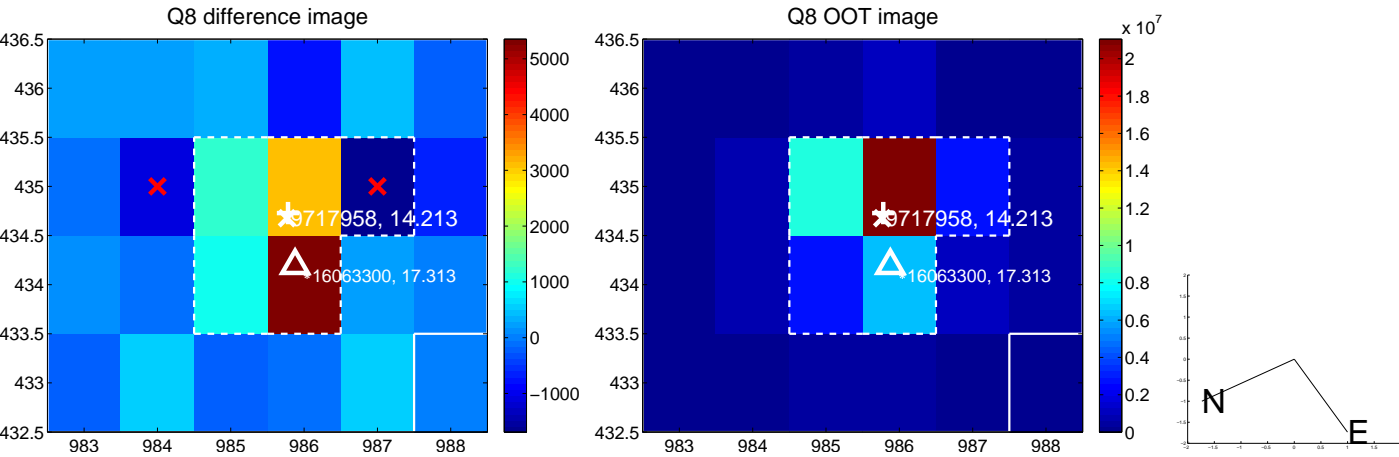
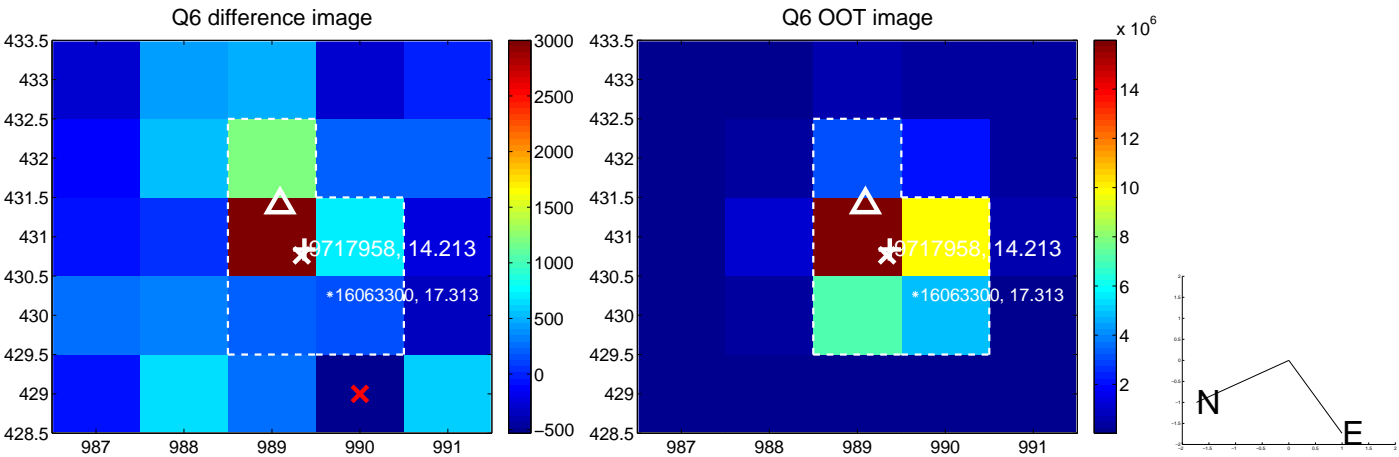
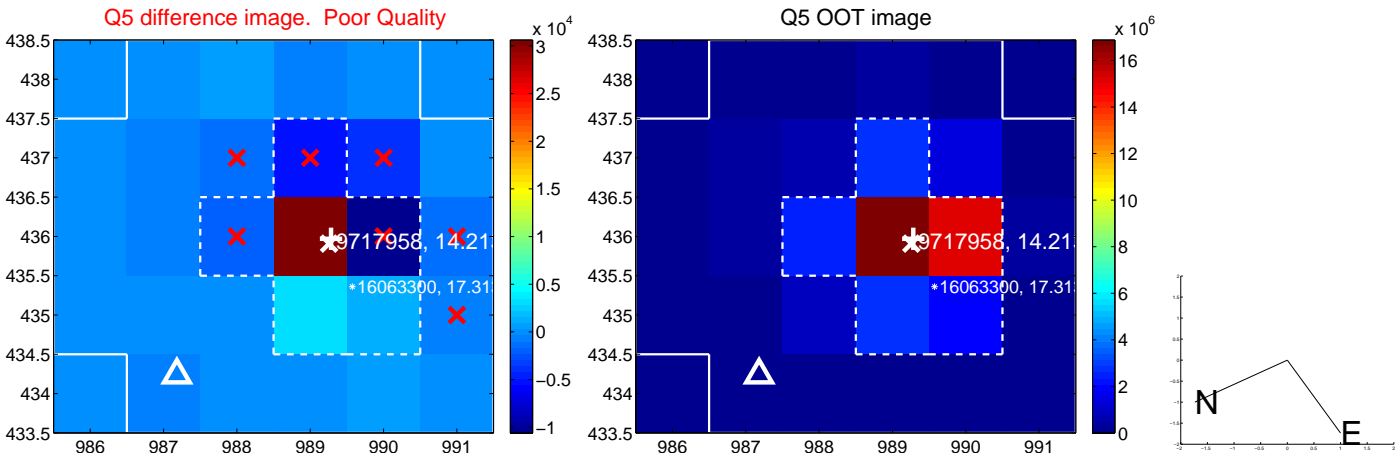


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

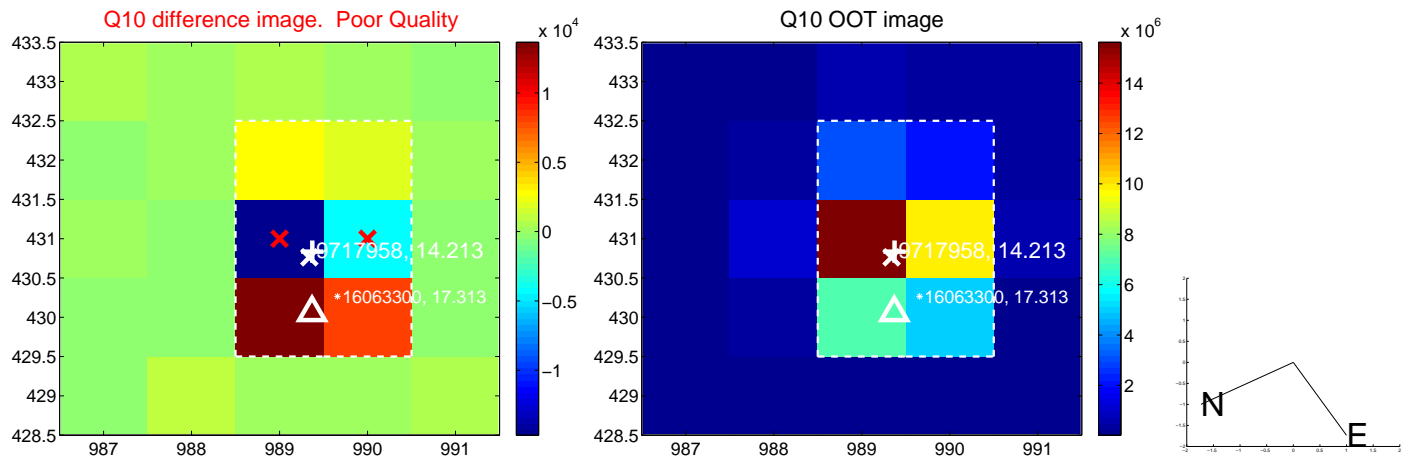
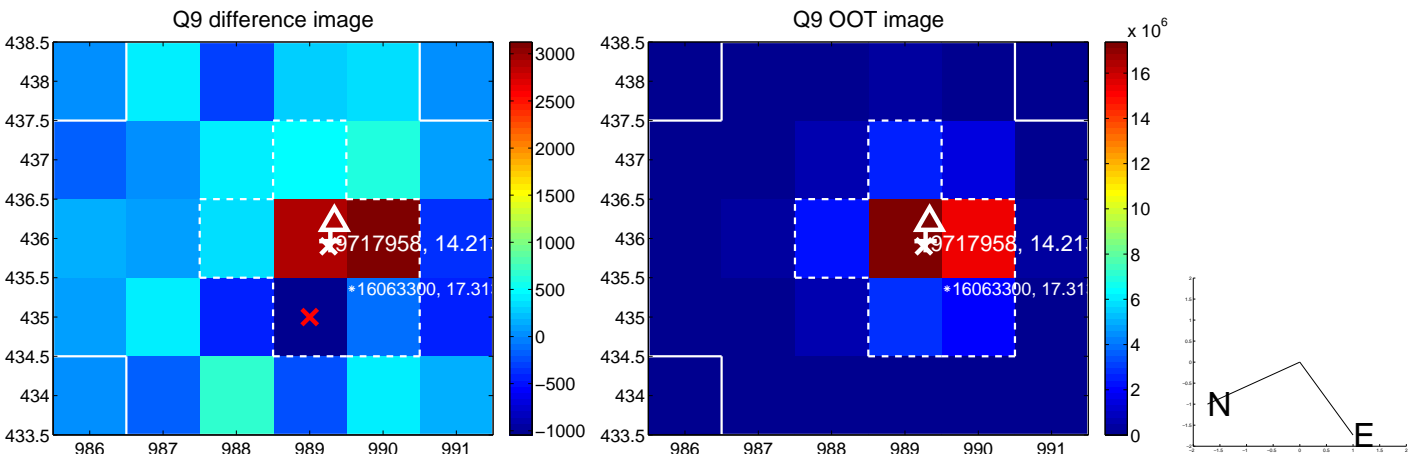
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



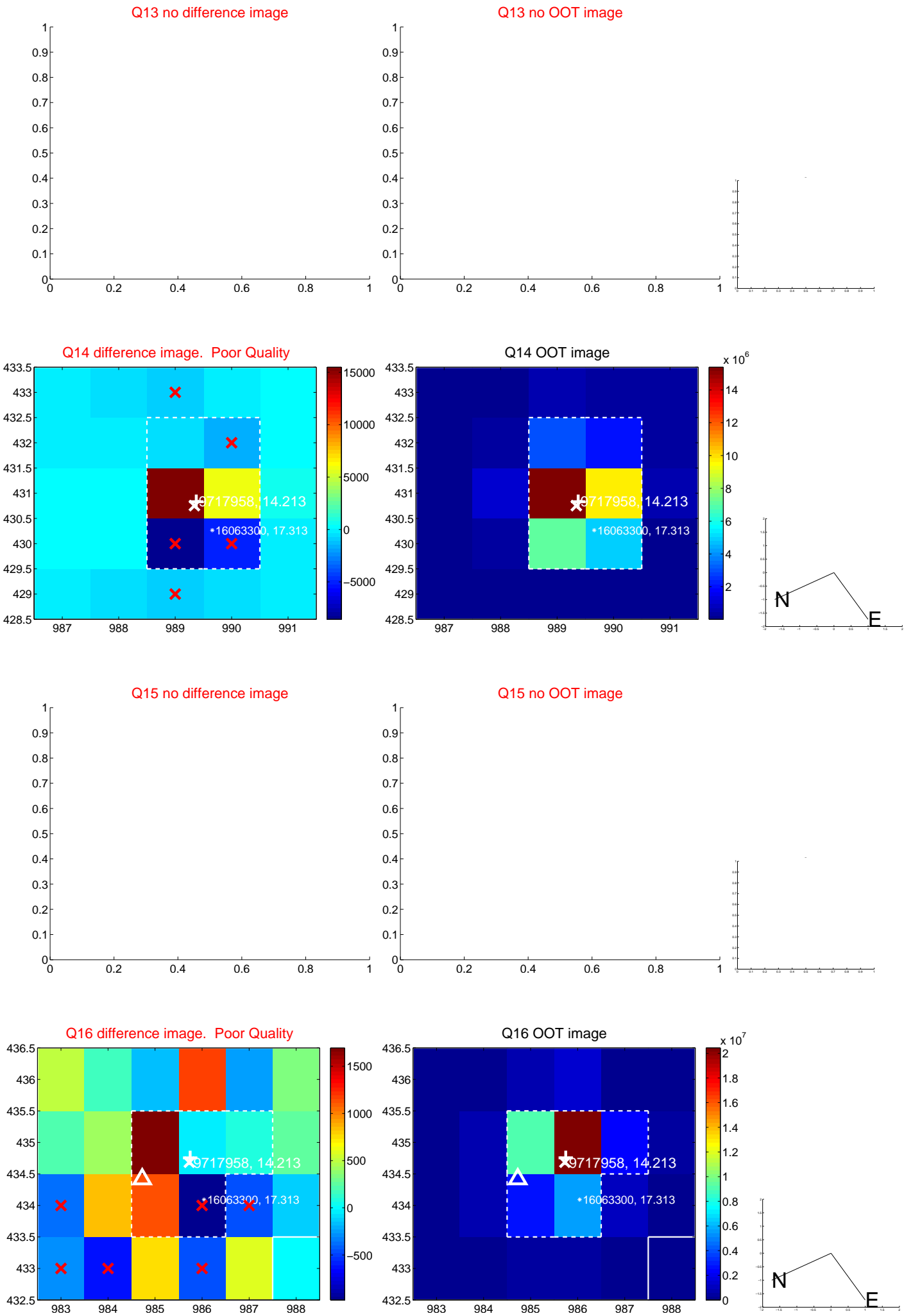
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



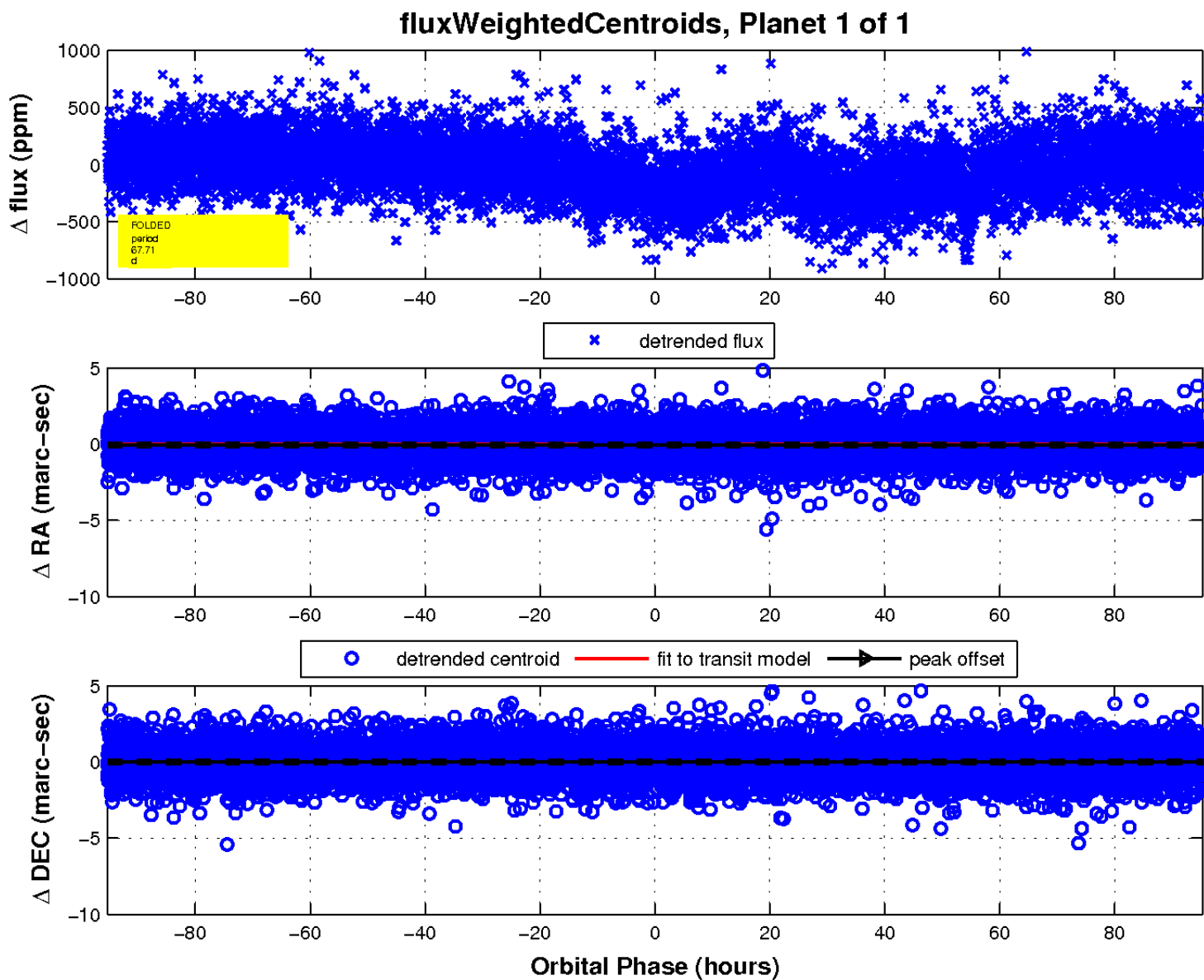
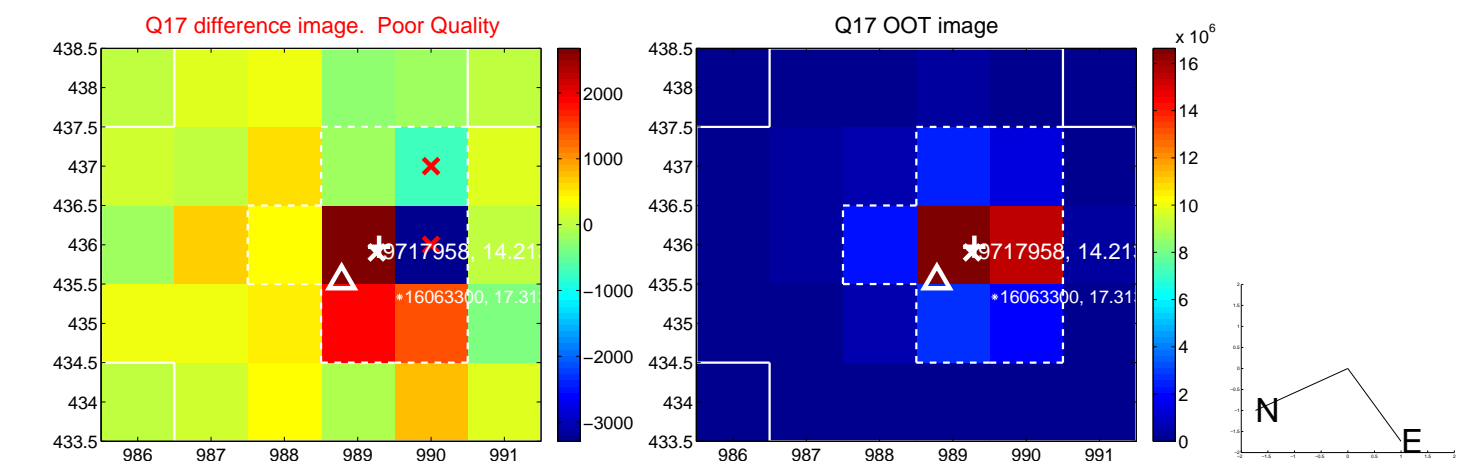
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

