

KIC 003847708

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})
003847708-01	OBS	0389.01	3.741216	134.297942	426.3	3.330	62.3	63.7	0.77	5206	2.71	193.83
003847708-02	OBS	No	3.741248	132.429974	59.5	2.292	9.5	10.0	0.77	5206	0.71	193.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003847708-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
003847708-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST

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 003847708-01

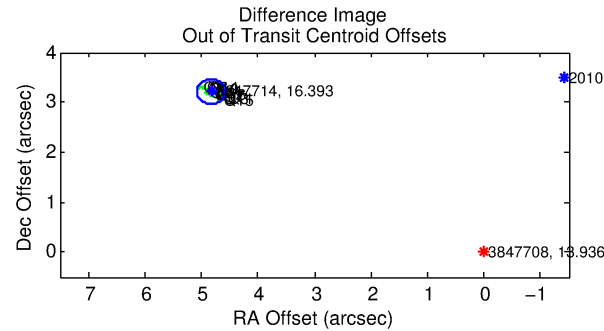
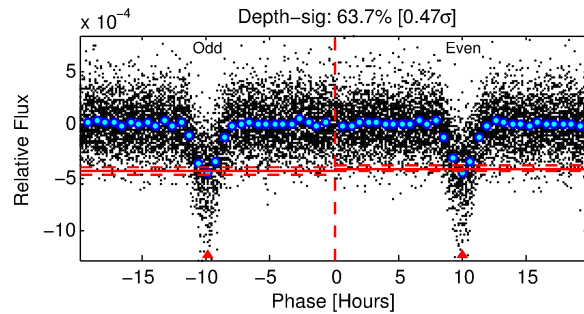
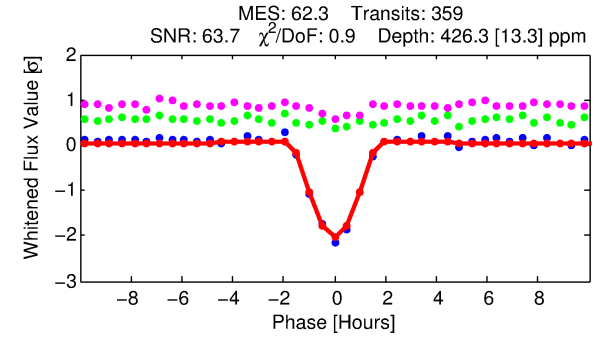
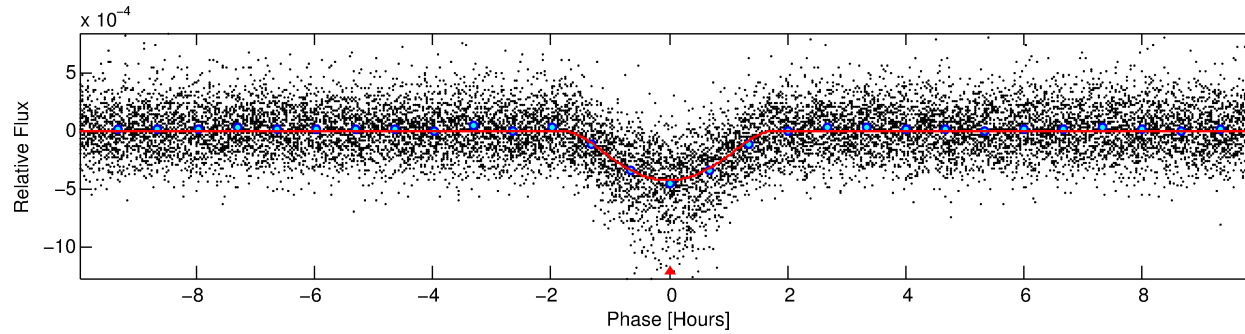
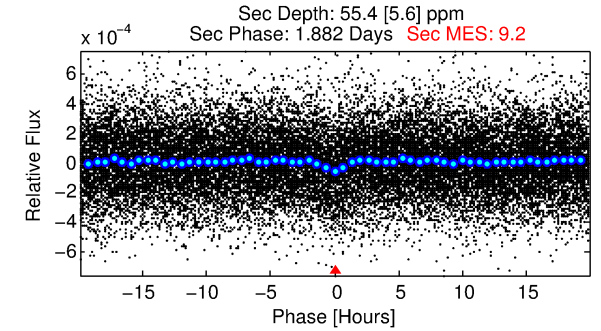
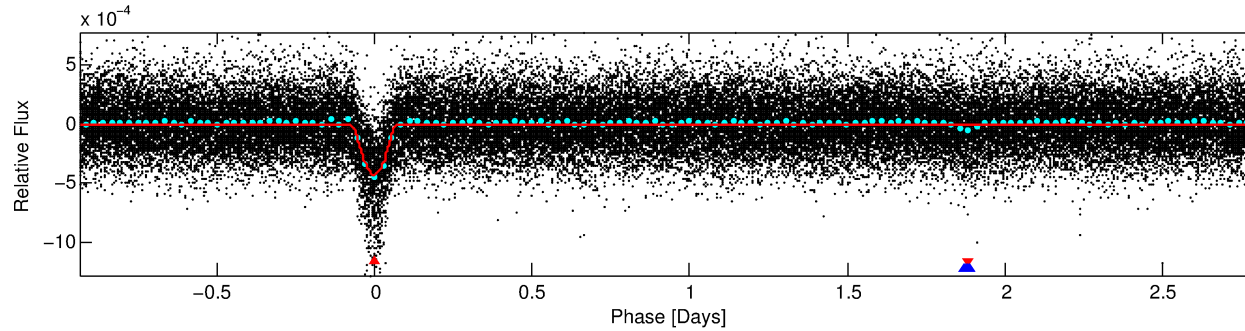
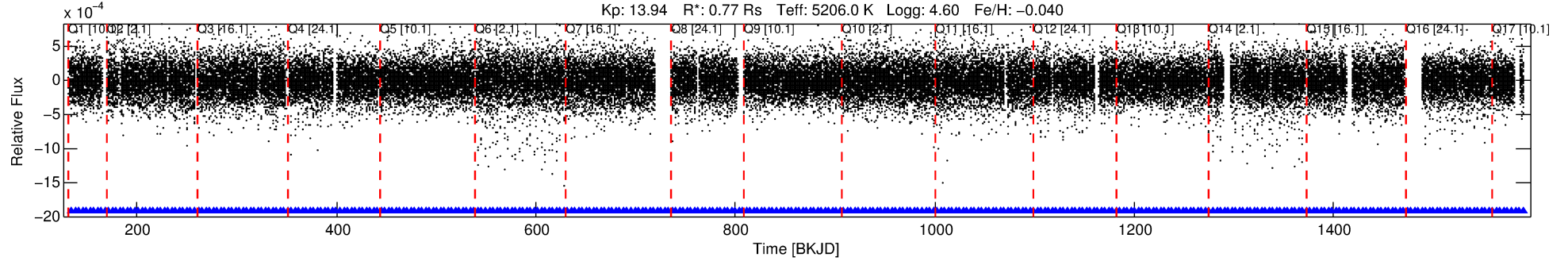
No Significant Match Found

DV One-Page Summary

KIC: 3847708 Candidate: 1 of 2 Period: 3.741 d

KOI: K00389.01 Corr: 0.987

Kp: 13.94 R*: 0.77 Rs Teff: 5206.0 K Logg: 4.60 Fe/H: -0.040



DV Fit Results:

Period = 3.74122 [0.00001] d
Epoch = 134.2979 [0.0011] BKJD
Rp/R* = 0.0323 [0.0102]
a/R* = 2.74 [0.27]
b = 0.99 [0.02]
Seff = 193.83 [39.20]
Teq = 951 [48] K
Rp = 2.71 [0.94] Re
a = 0.0447 [0.0054] AU
Ag = 8.32 [5.48] [1.34σ]
Teffp = 2498 [403] K [3.81σ]

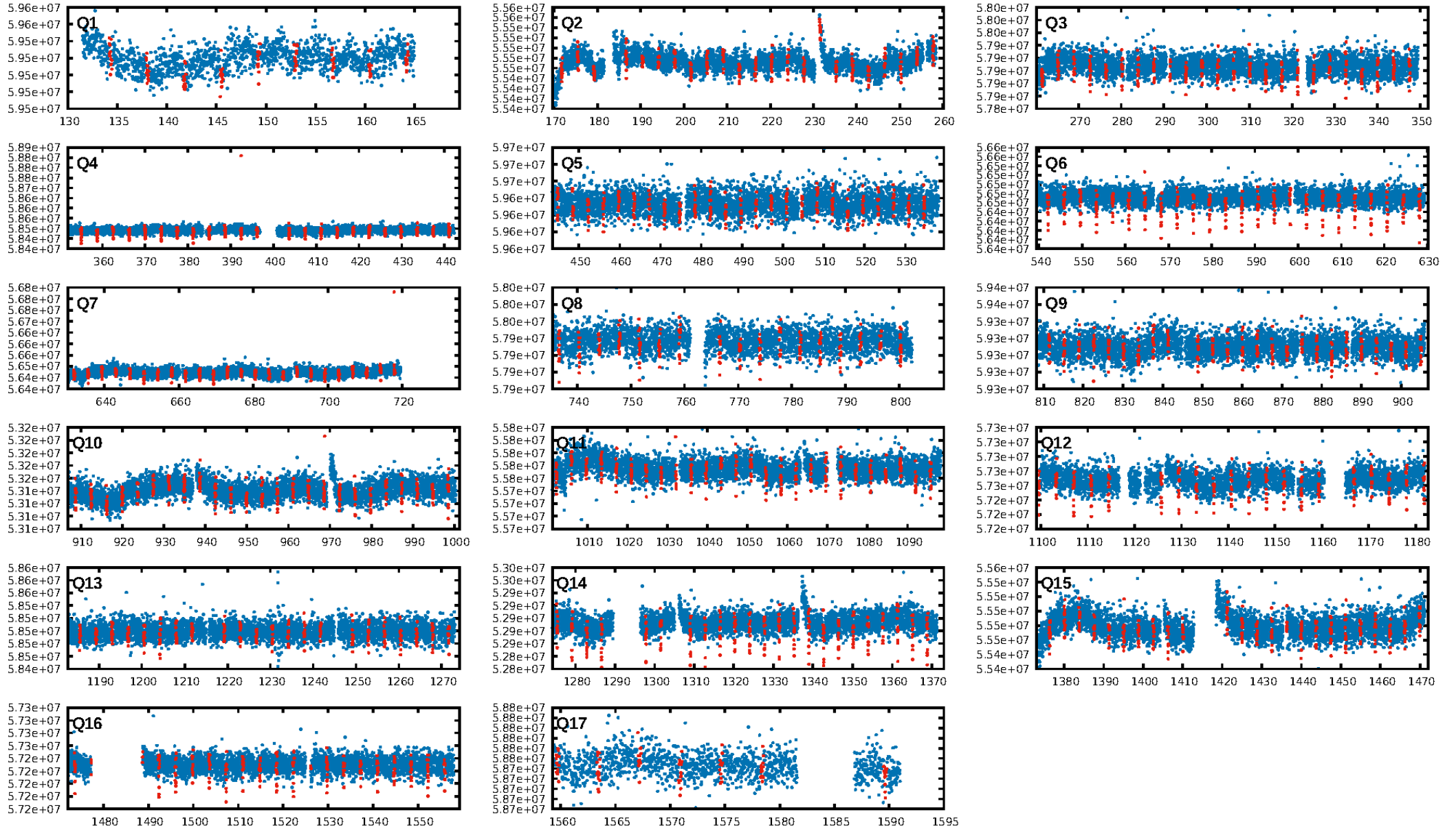
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [343/343]
GhostDiagnostic-chr: -0.08451
Centroid-sig: 0.0%
Centroid-so: 14.986 arcsec [74.03σ]
OotOffset-rm: 5.807 arcsec [70.74σ]
KicOffset-rm: 5.977 arcsec [84.79σ]
OotOffset-st: 4/4/4/0 [12]
KicOffset-st: 4/4/4/0 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [17/17]

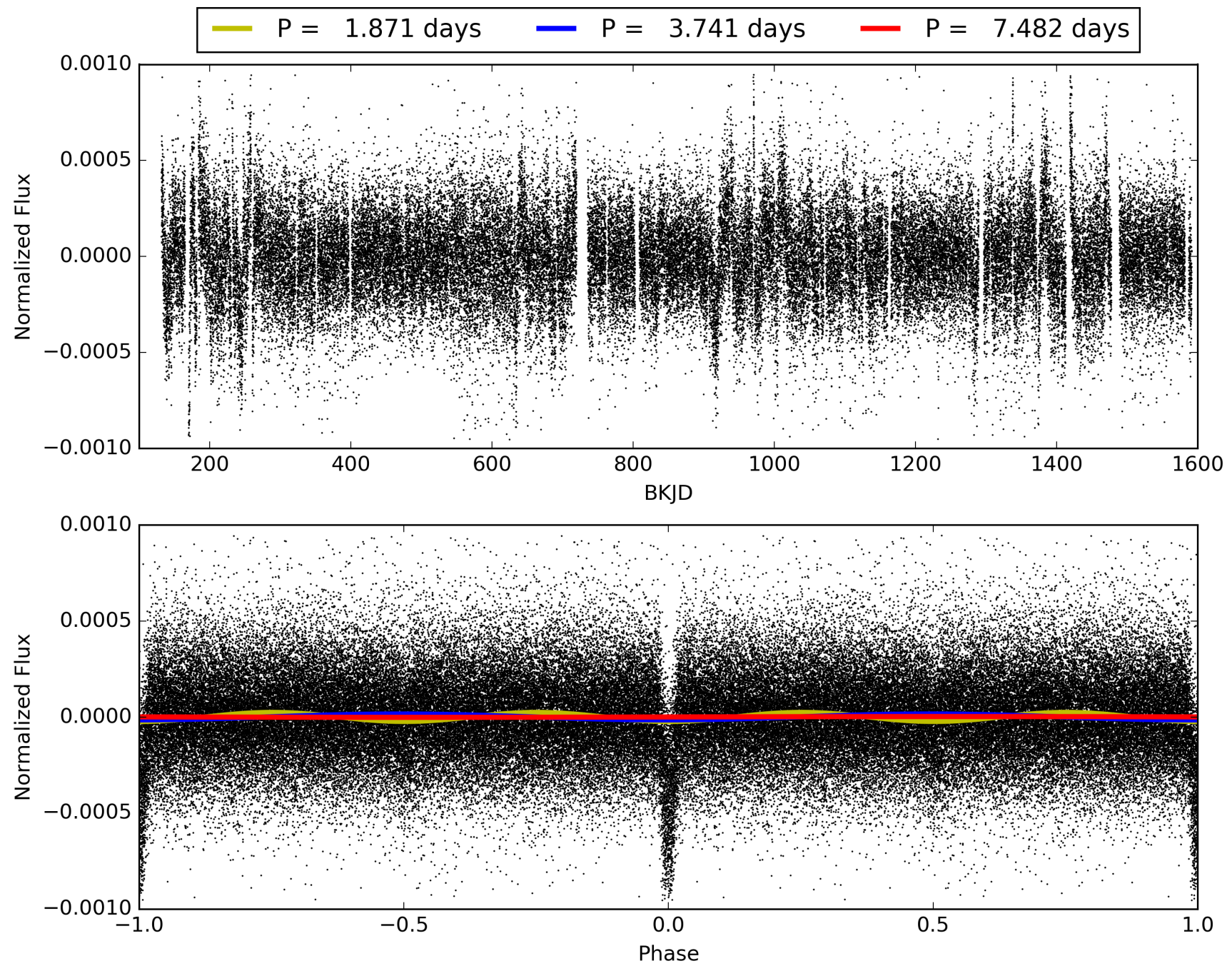
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003847708-01, PDC Light Curves

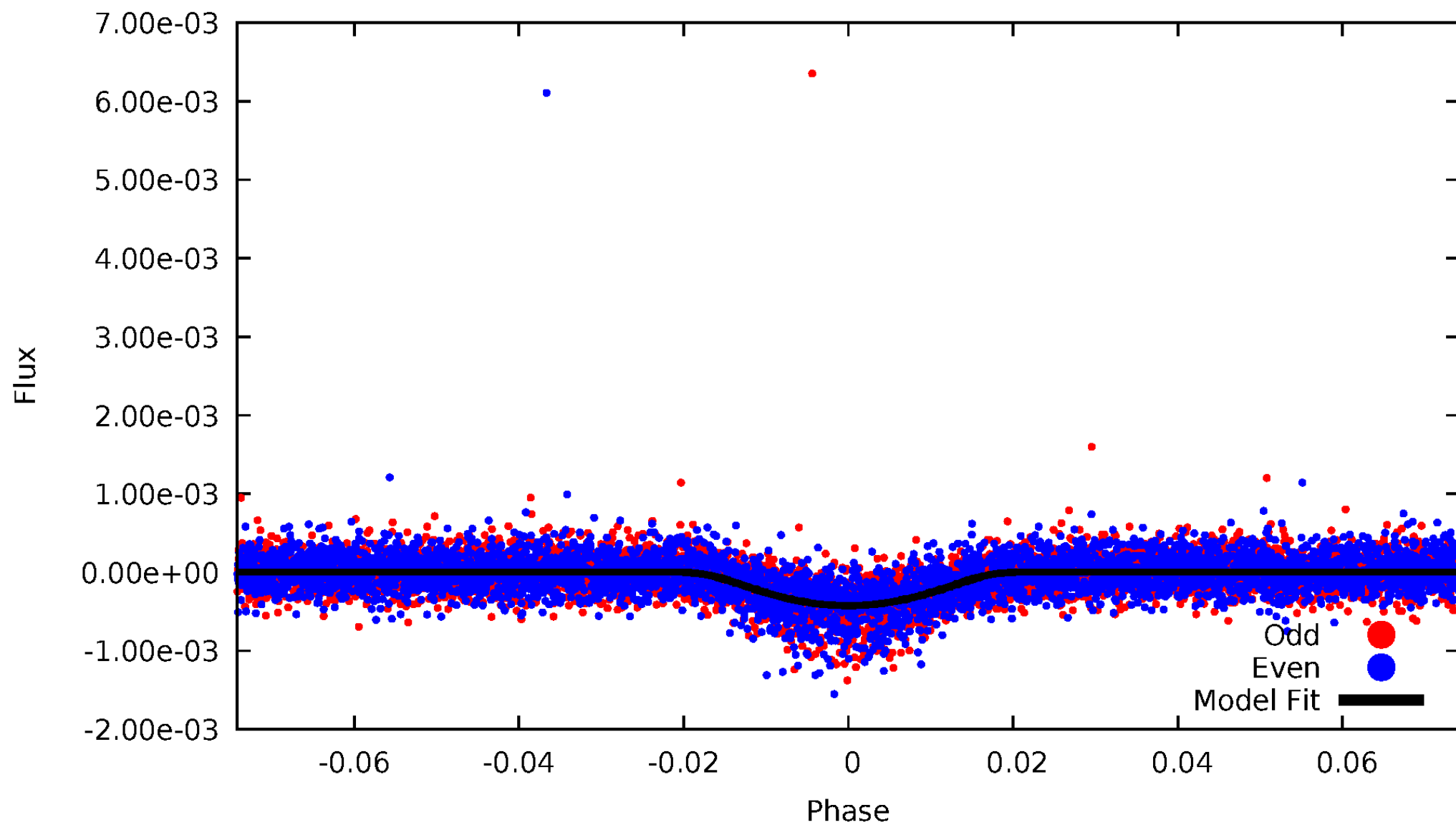


TCE 003847708-01



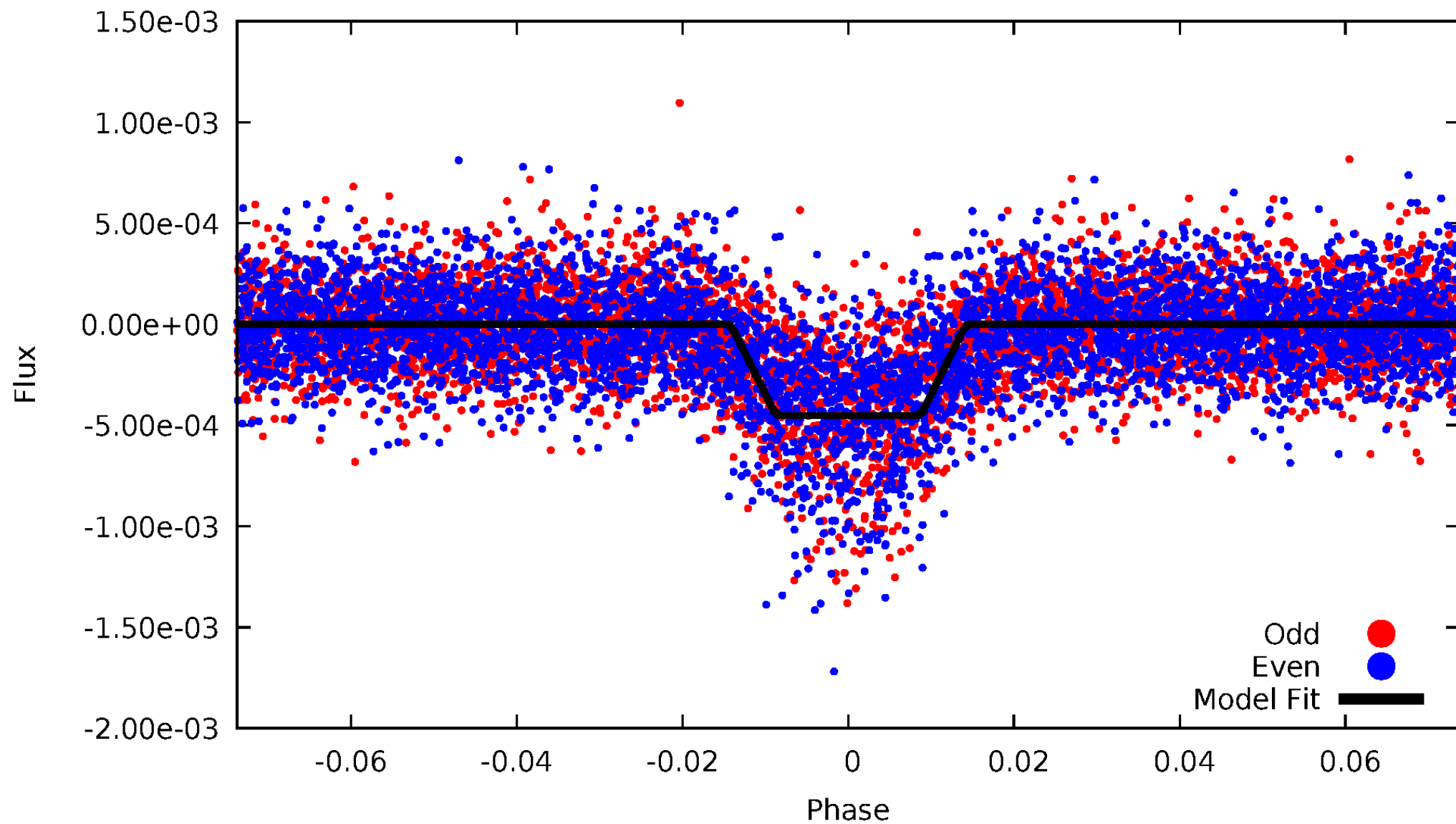
DV Odd/Even

TCE 003847708-01



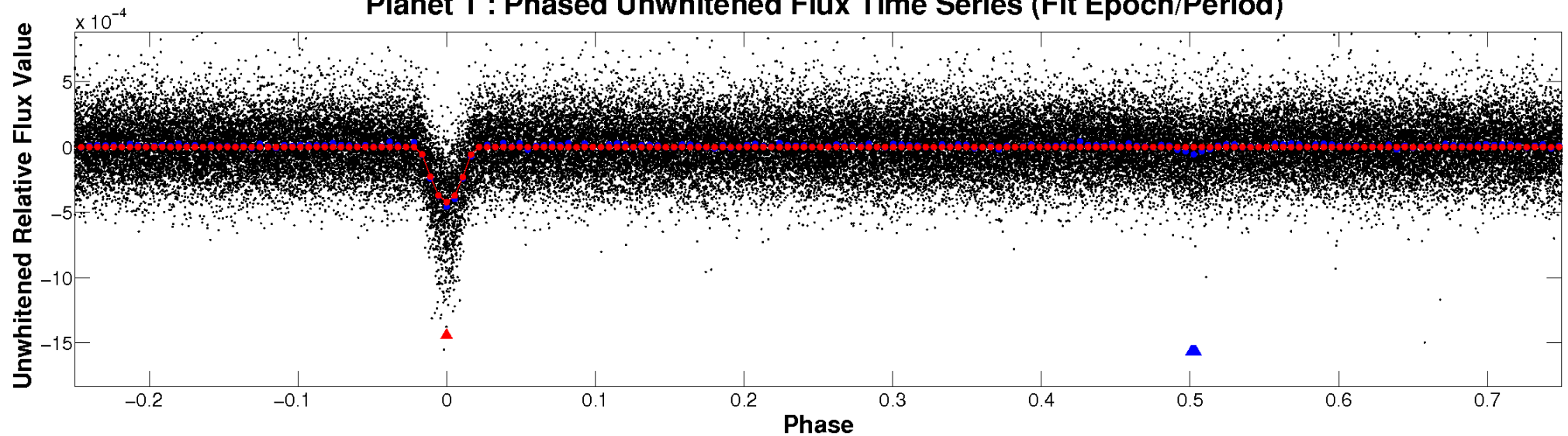
ALT Odd/Even

TCE 003847708-01

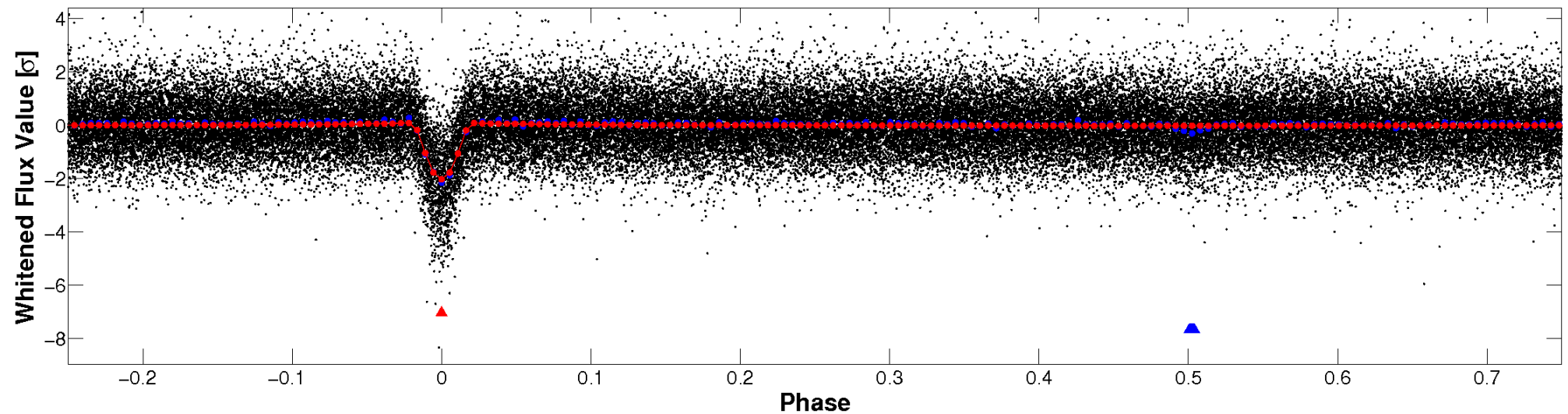


Non-Whitened Vs. Whitened Light Curve

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

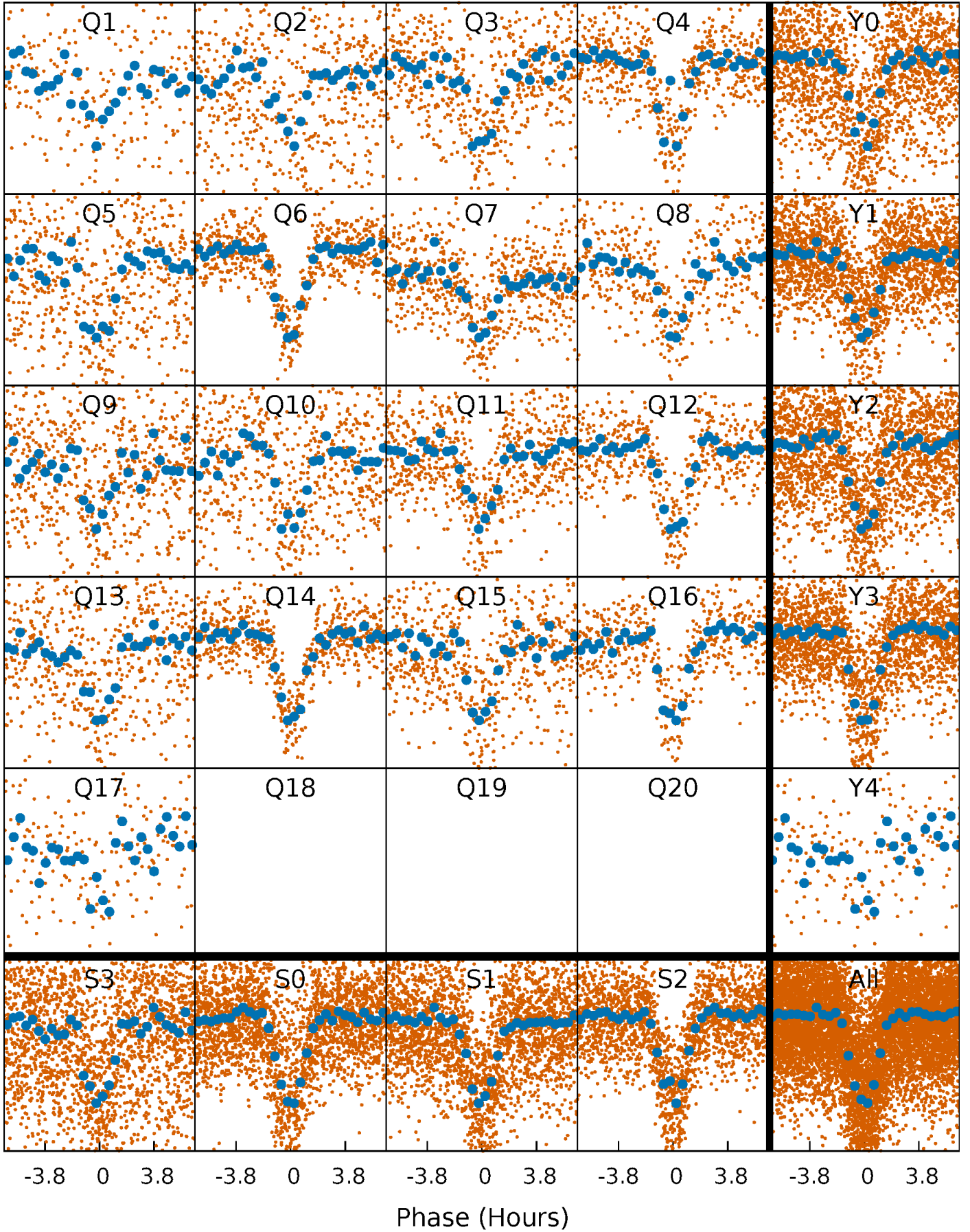


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



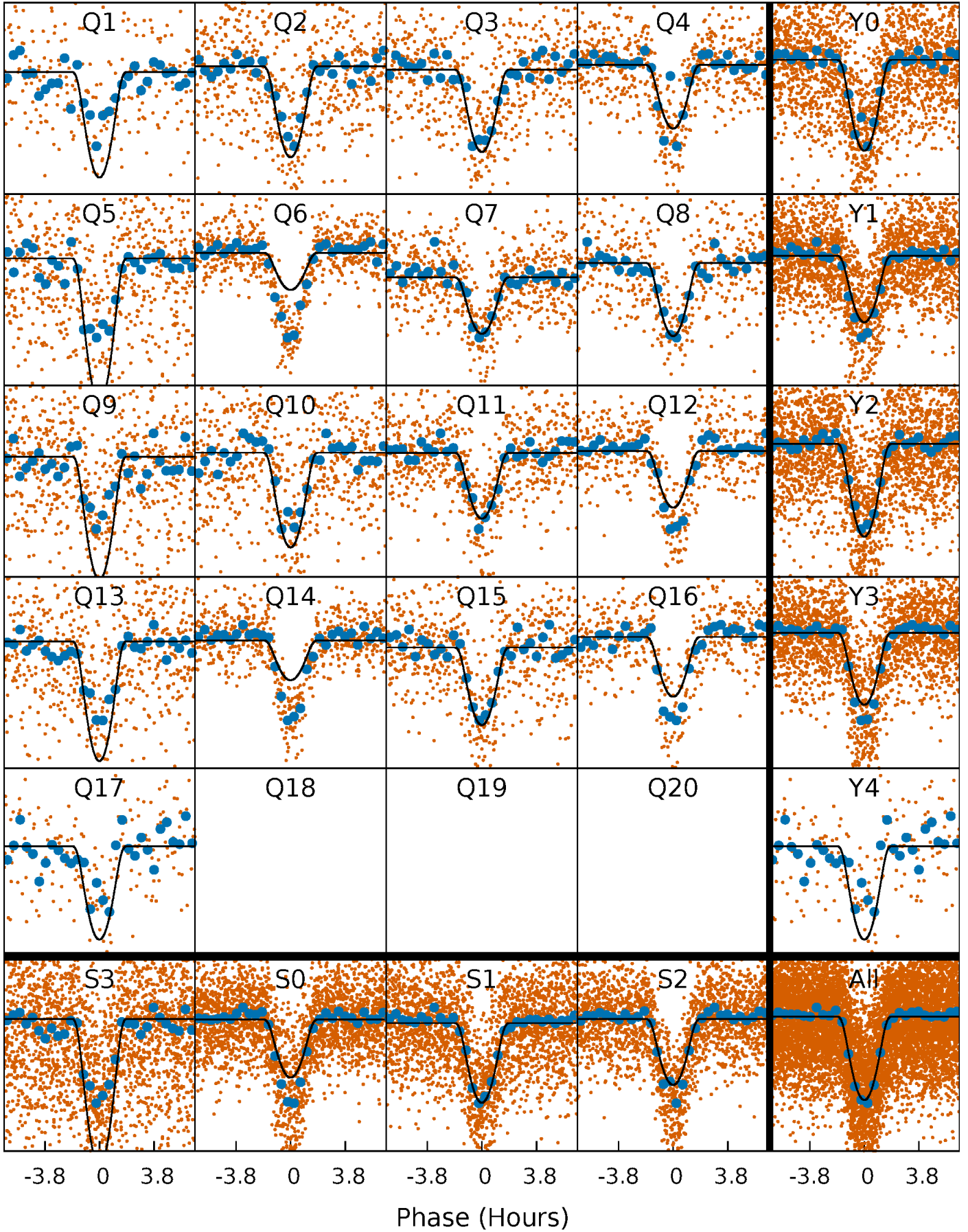
PDC Quarter-Phased Transit Curves

TCE 003847708-01 P= 3.741216 Days $T_0=134.297943$ (BKJD)



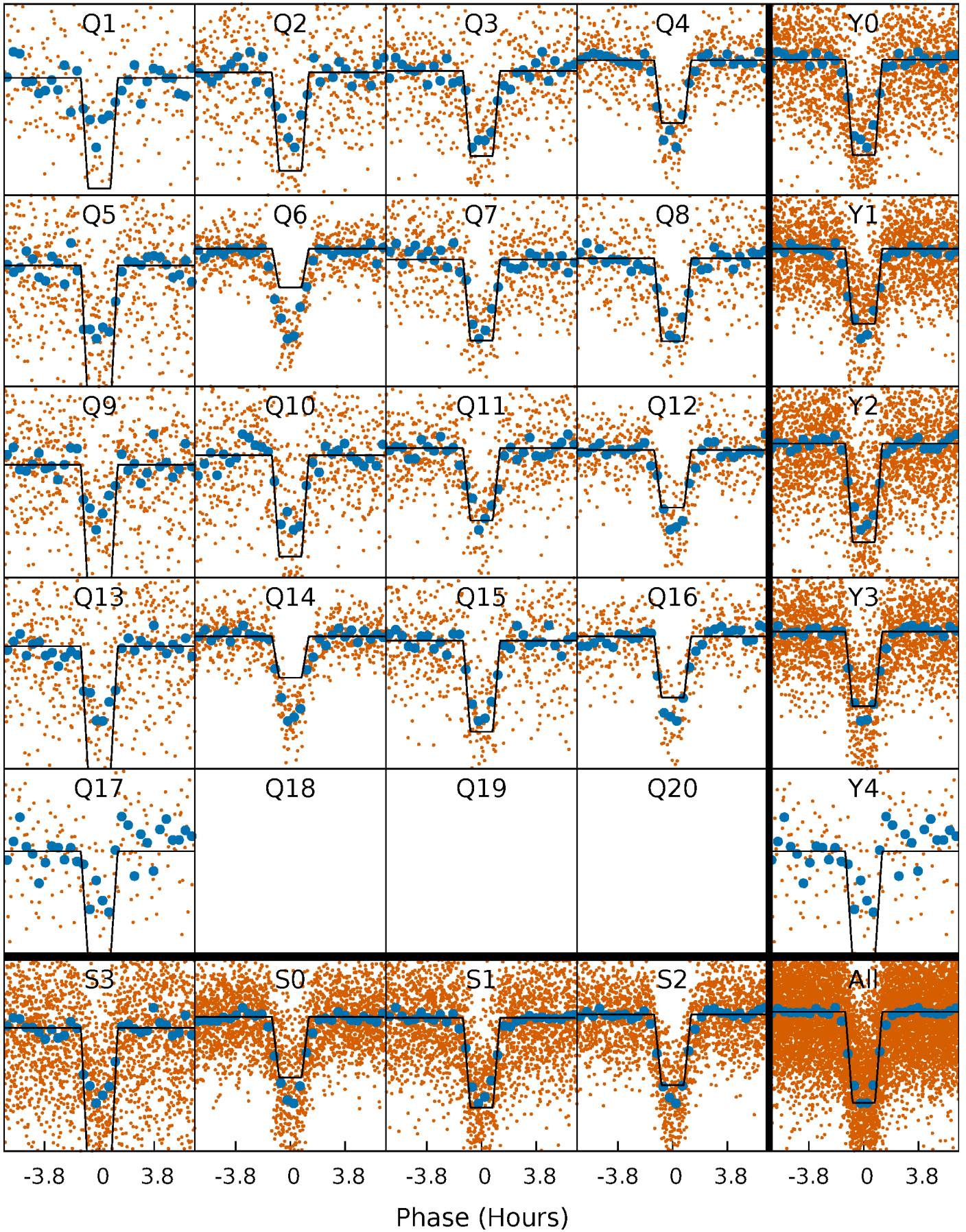
DV Quarter-Phased Transit Curves

TCE 003847708-01 P= 3.741216 Days $T_0=134.297943$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

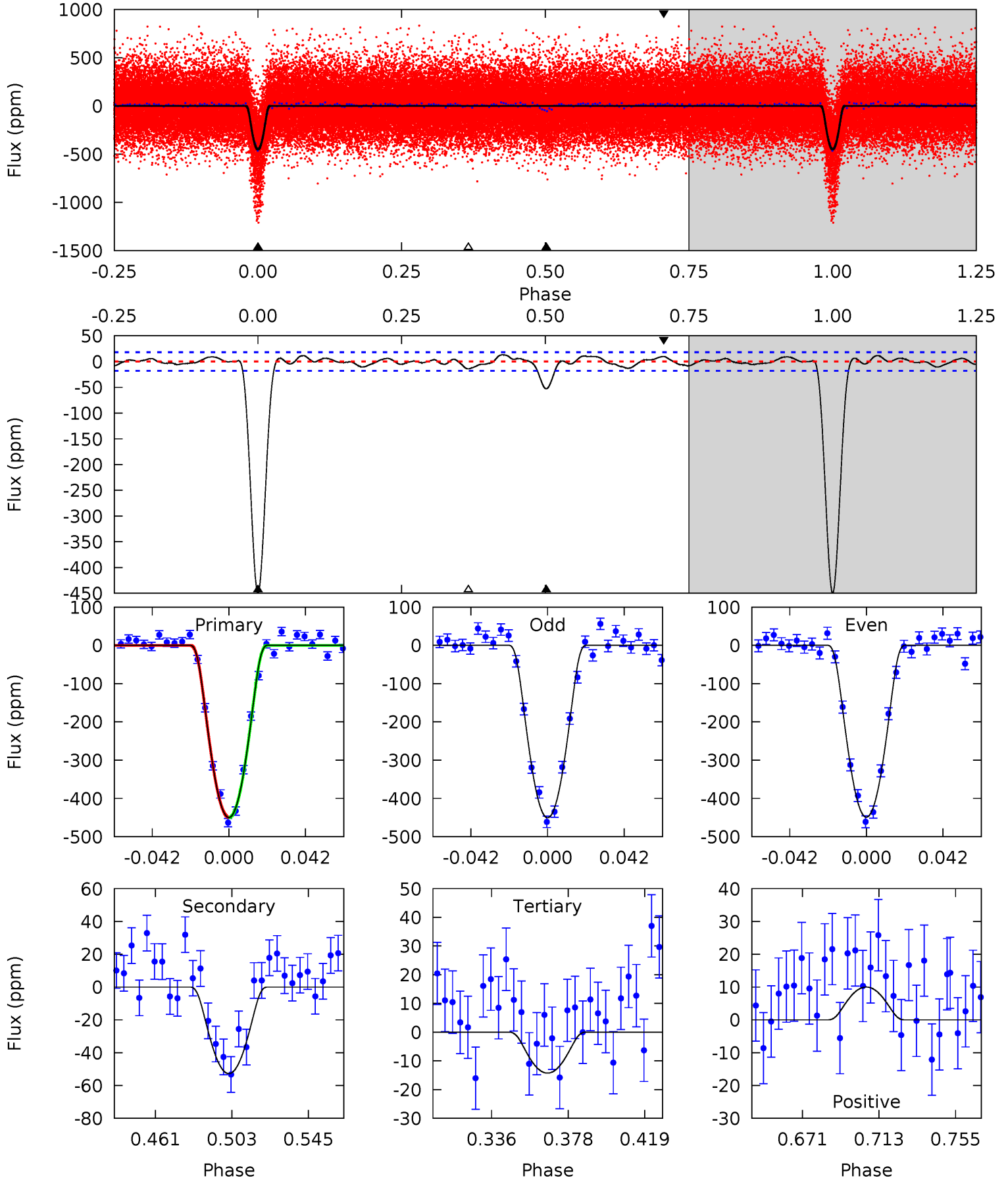
TCE 003847708-01 P= 3.741213 Days $T_0=134.298335$ (BKJD)



DV Model-Shift Uniqueness Test

003847708-01, P = 3.741216 Days, E = 130.556727 Days

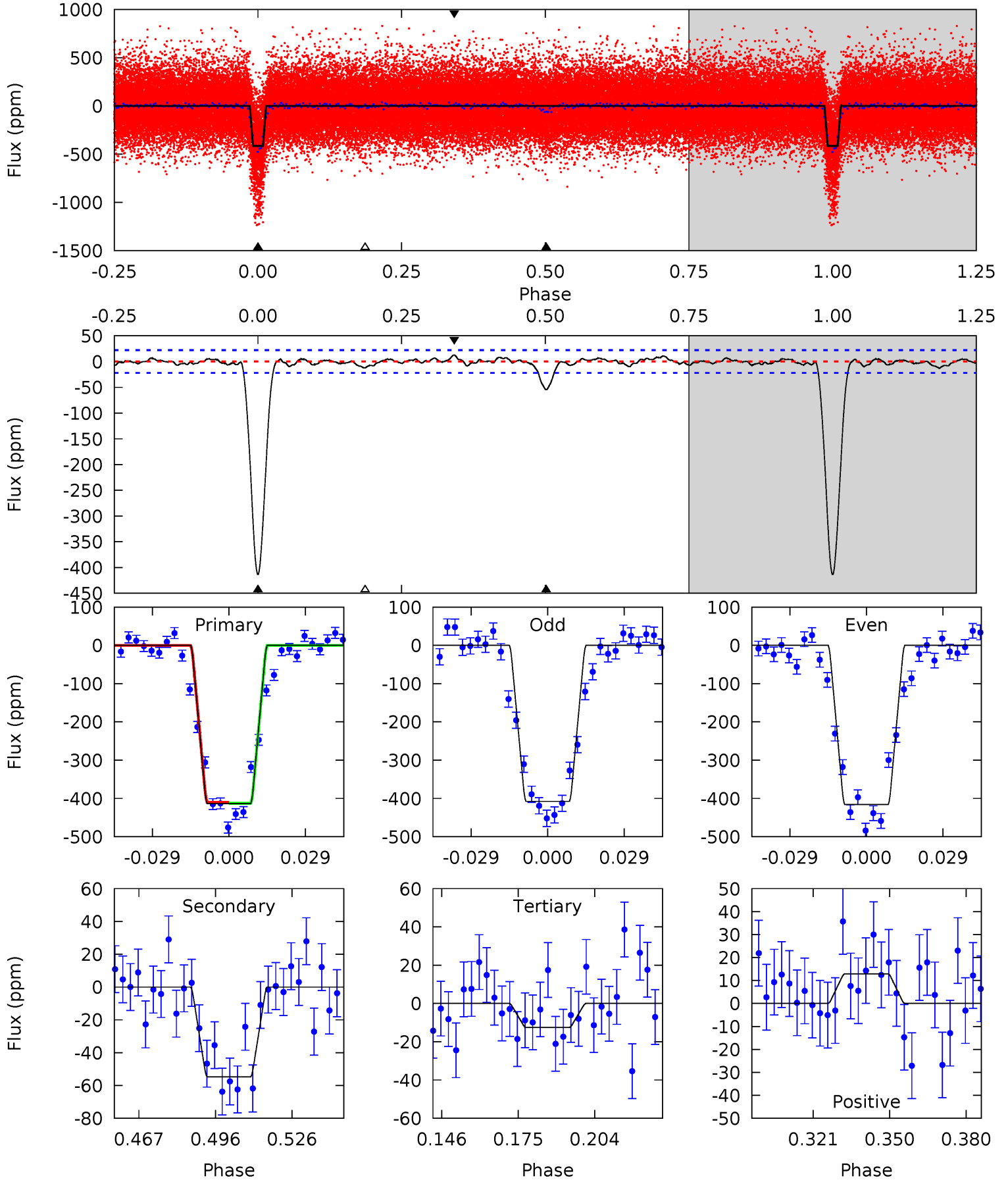
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
117.6	13.8	3.73	2.62	4.74	2.03	1.55	113.9	115.0	10.1	11.2	0.20	1.10	0.03	0.14



Alt Model-Shift Uniqueness Test

003847708-01, P = 3.741213 Days, E = 130.557122 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
90.0	11.9	2.72	2.80	4.82	2.18	0.96	87.2	87.2	9.19	9.11	0.92	1.16	0.03	0.28



Stellar Parameters For KIC 003847708

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5206^{+142}_{-142}	$4.598^{+0.032}_{-0.091}$	$-0.040^{+0.300}_{-0.300}$	$0.767^{+0.112}_{-0.060}$	$0.861^{+0.062}_{-0.093}$	$2.685^{+0.422}_{-0.823}$
	+3%/-3%	+1%/-2%	+750%/-750%	+15%/-8%	+7%/-11%	+16%/-31%
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 003847708-01 / KOI 0389.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-53 ± 4	$2.73^{+1.01}_{-0.88}$	1345^{+48}_{-47}	3068^{+388}_{-271}	$7.583^{+9.077}_{-3.555}$
Alt.	-55 ± 5	$1.77^{+0.93}_{-0.83}$	1342^{+56}_{-45}	3527^{+912}_{-422}	19^{+49}_{-10}

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

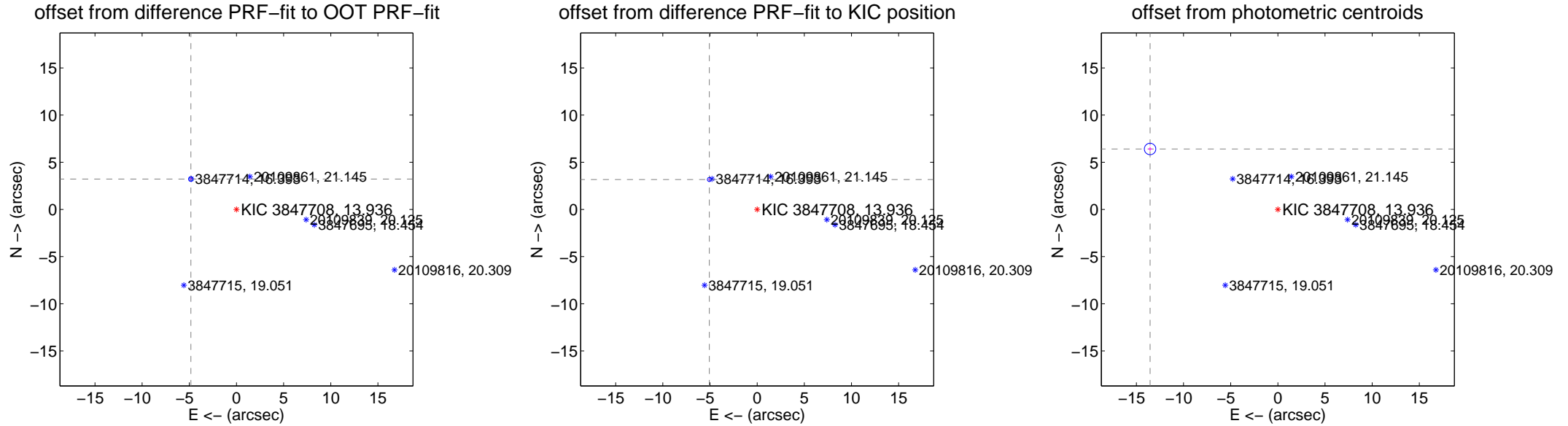
DV Centroid Data

Supplemental centroid analysis for 003847708-01. Kepler magnitude: 13.94. Transit SNR 63.71

There are 12 quarters with good PRF difference image offsets

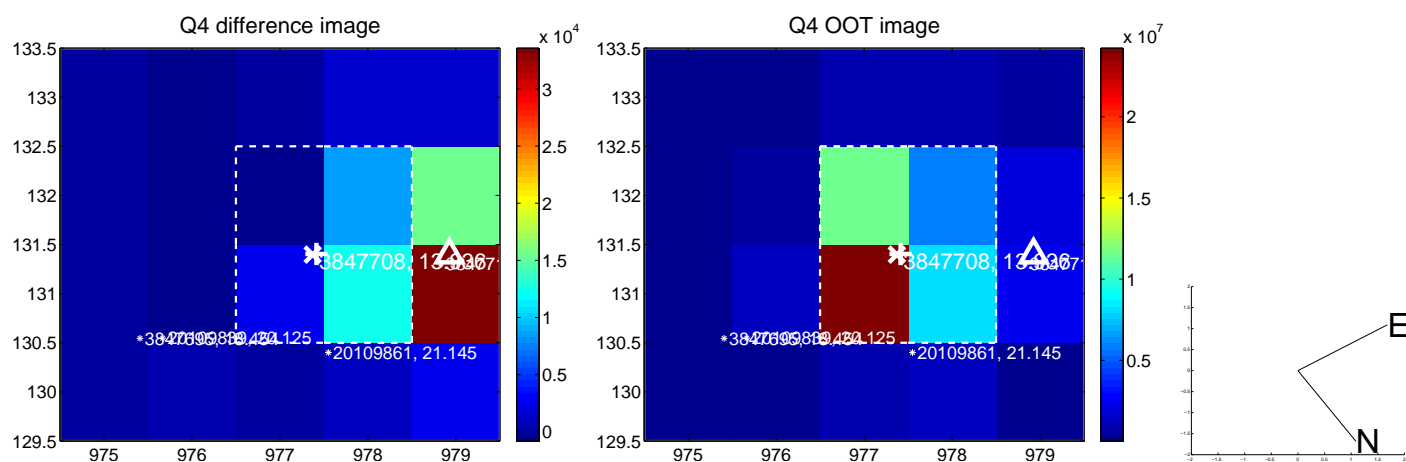
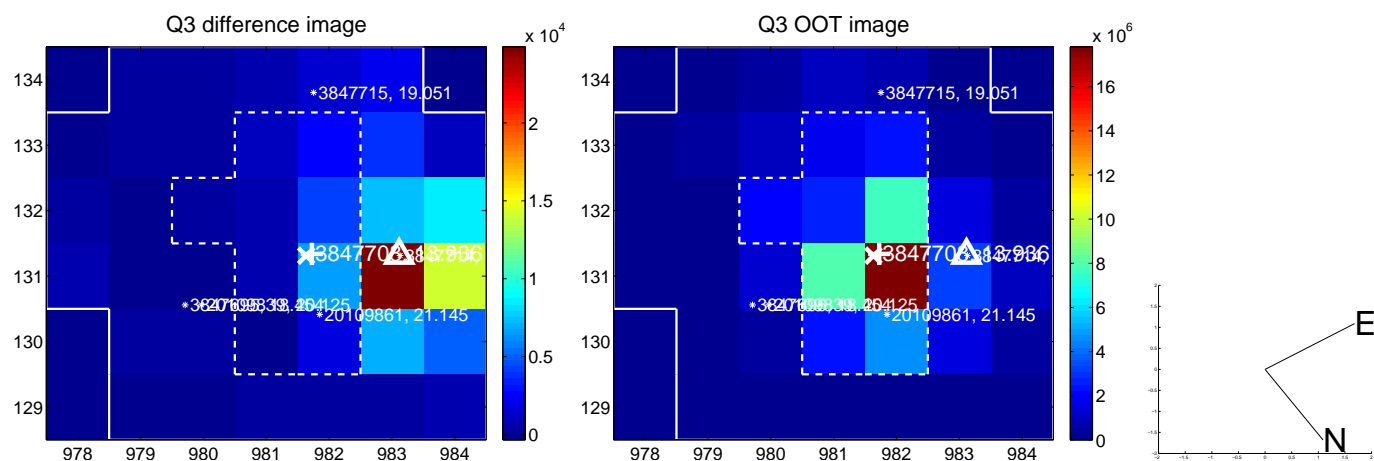
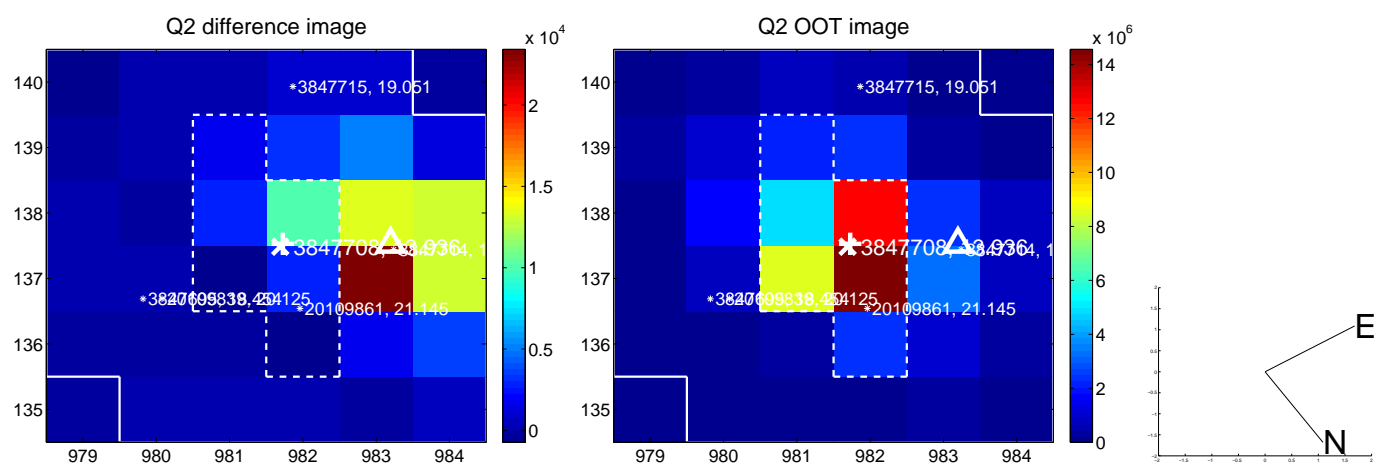
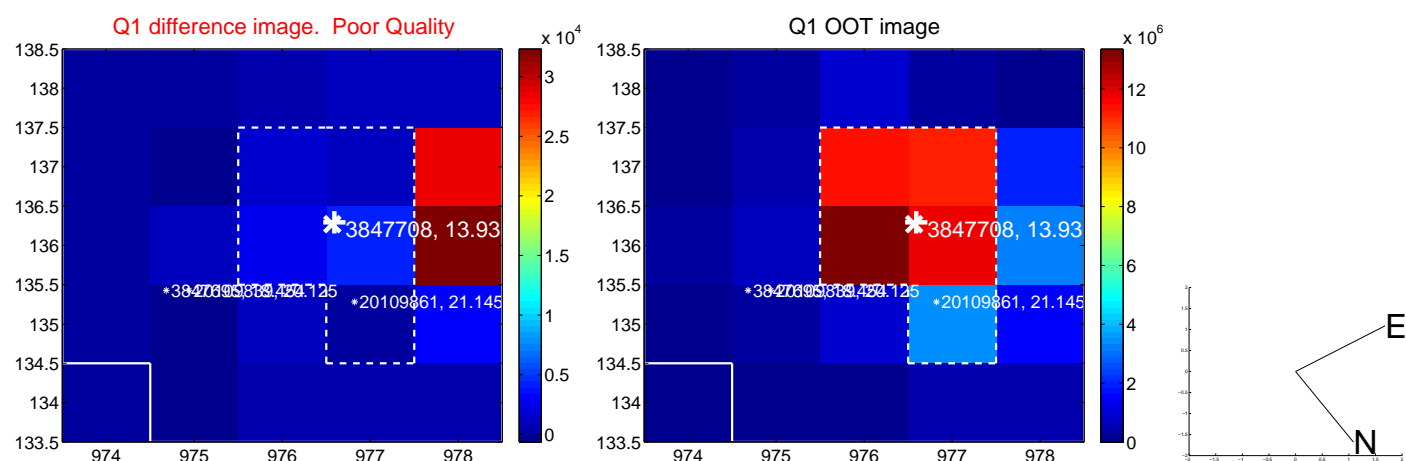
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.807 ± 0.082	70.74	4.834 ± 0.077	3.217 ± 0.072
PRF-fit source offset from KIC position	5.977 ± 0.070	84.79	5.069 ± 0.071	3.166 ± 0.068
photometric centroid source offset	14.99 ± 0.20	74.03	13.55 ± 0.20	6.41 ± 0.22

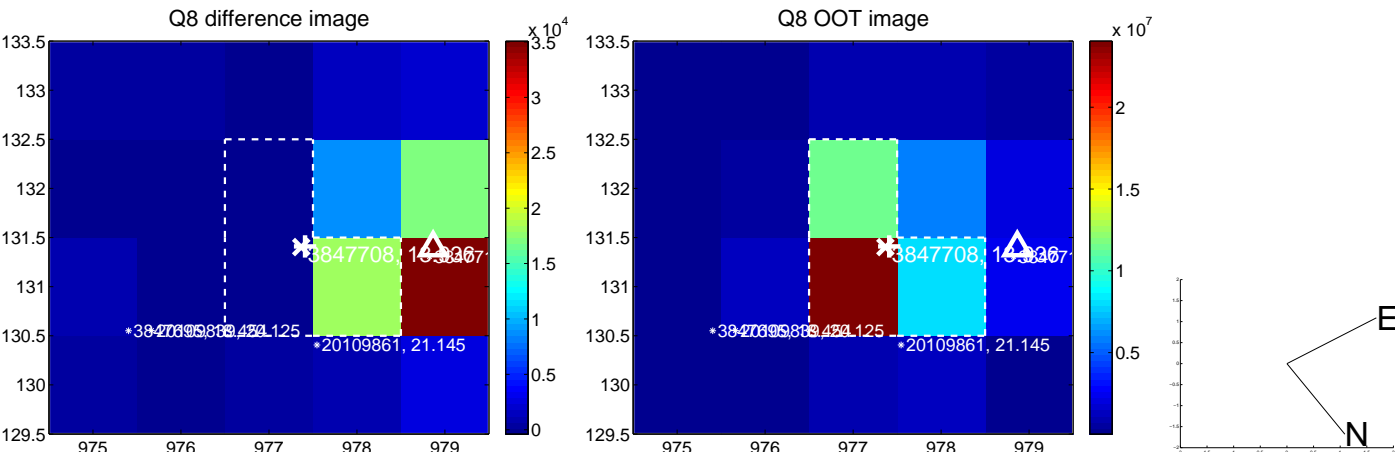
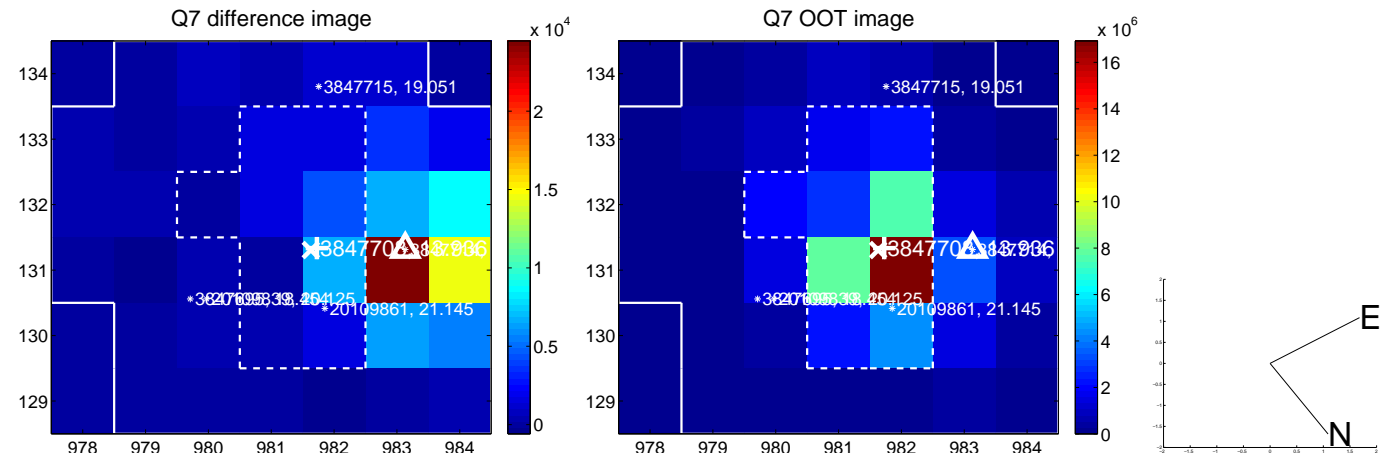
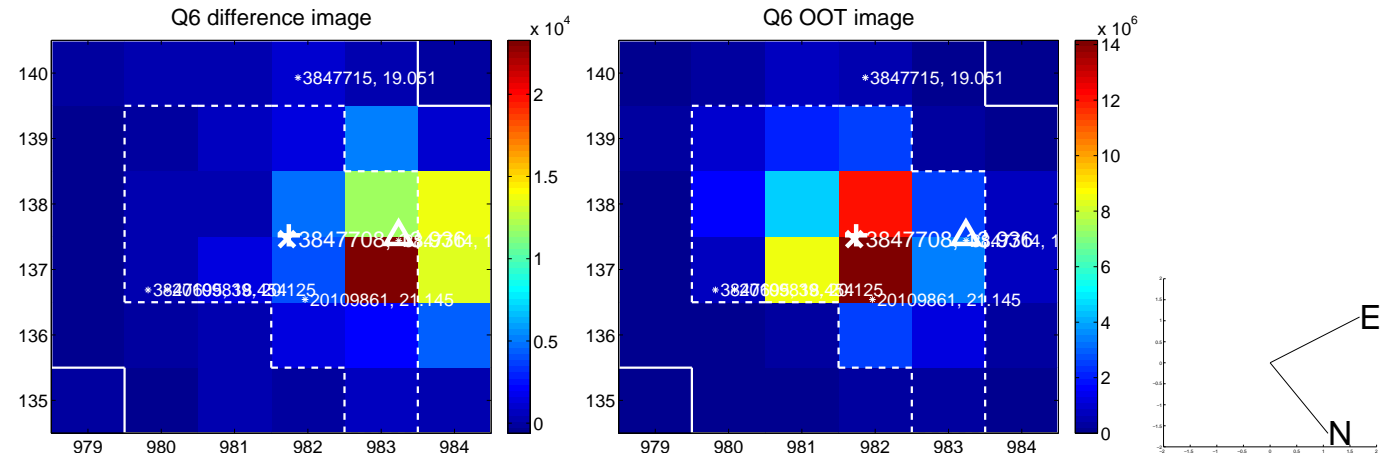
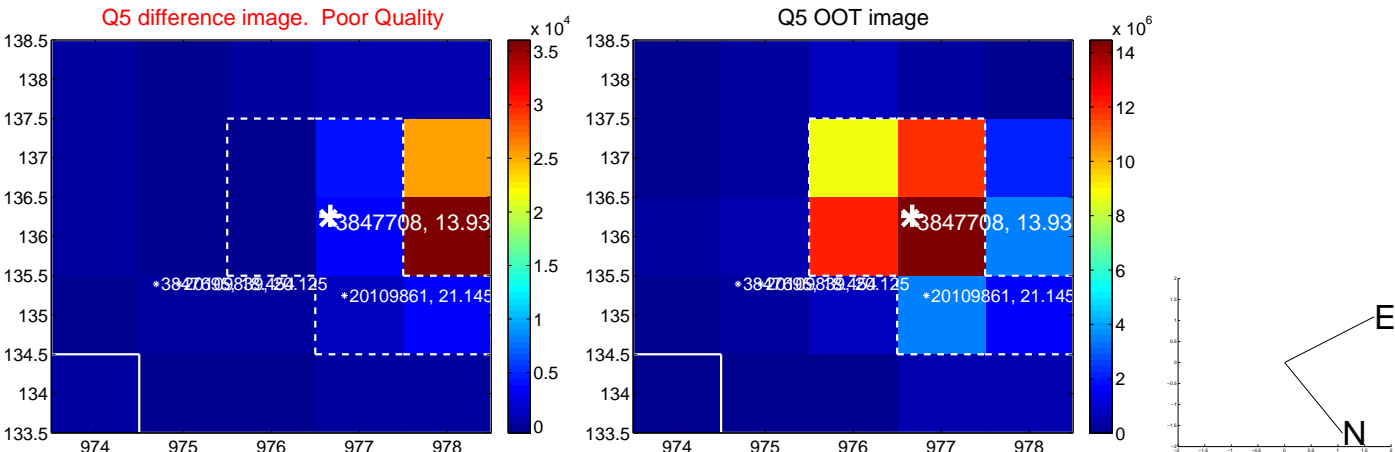


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

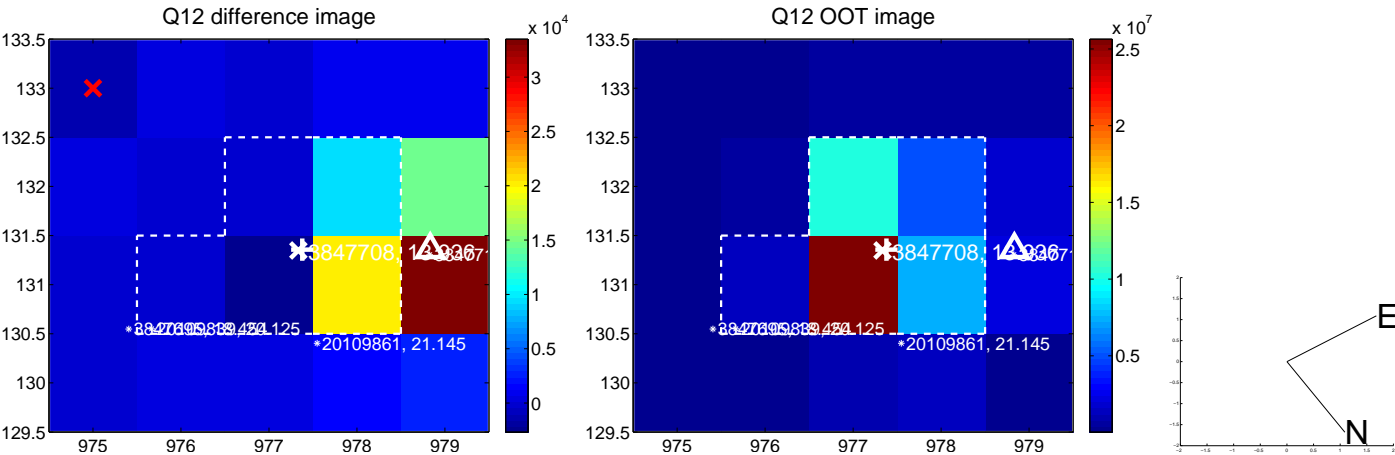
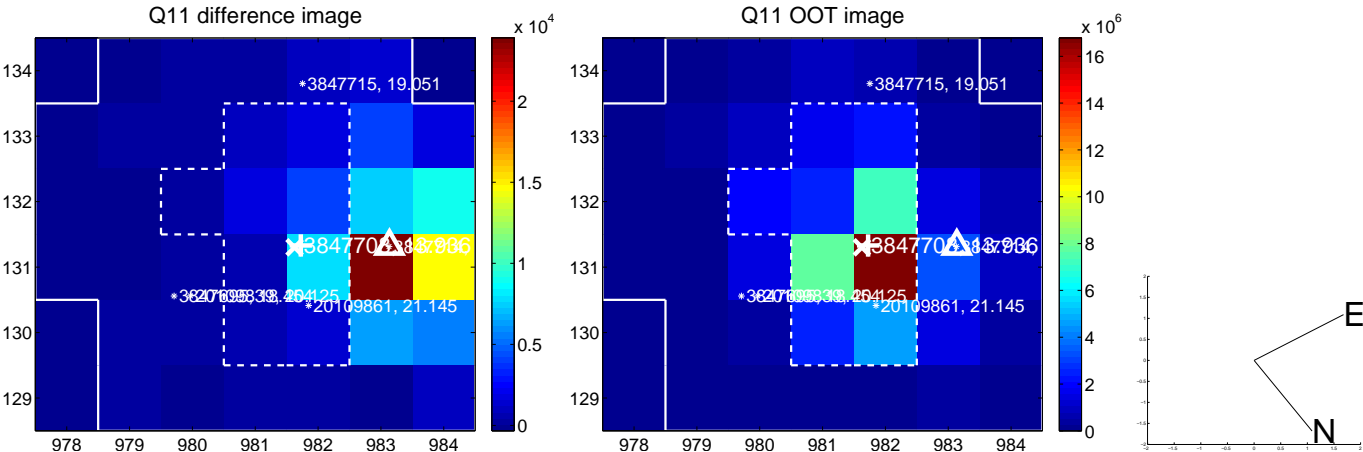
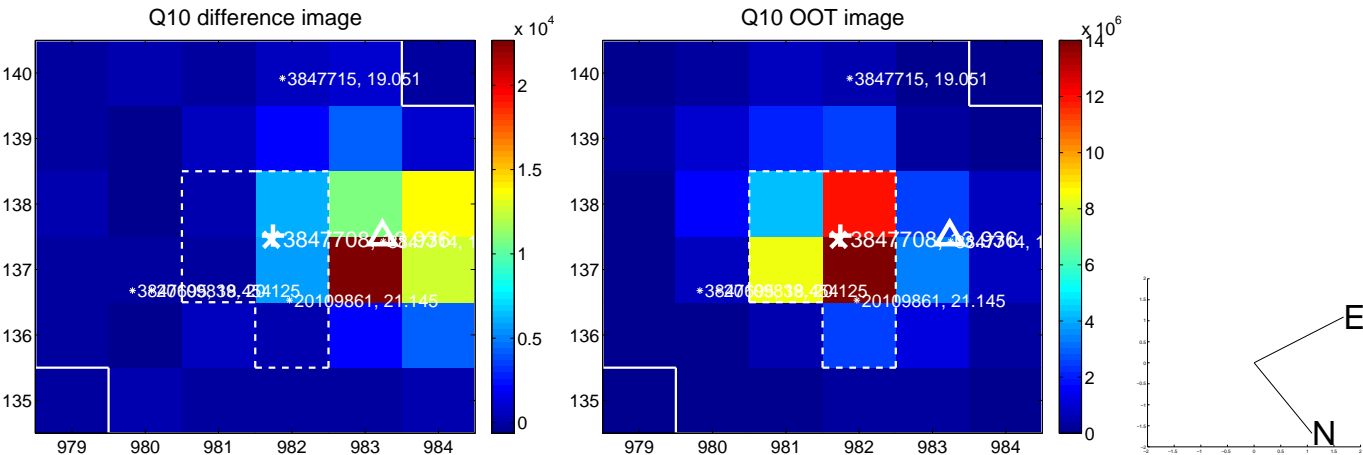
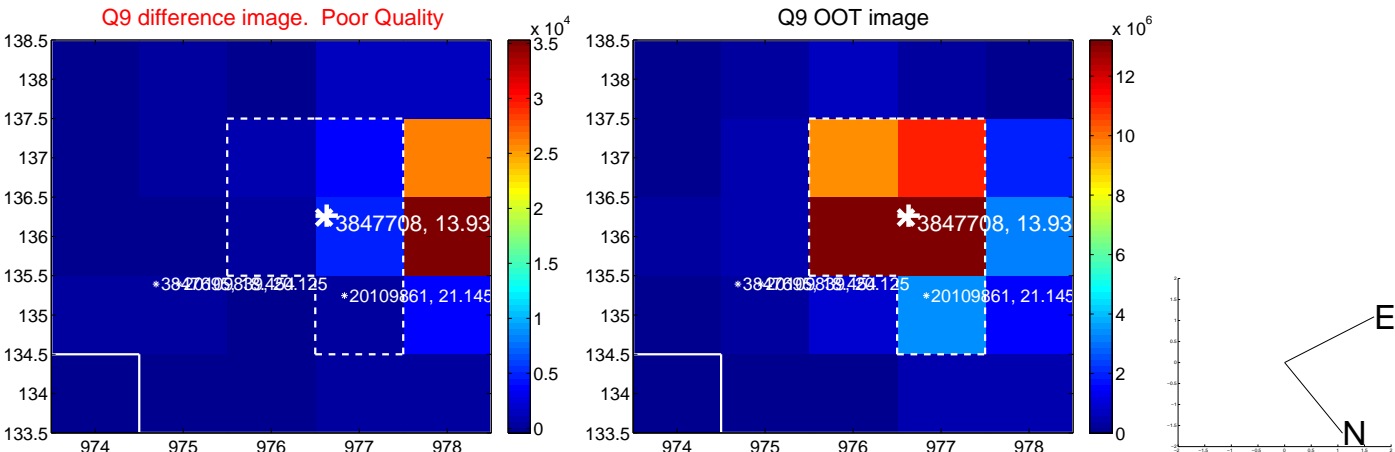
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



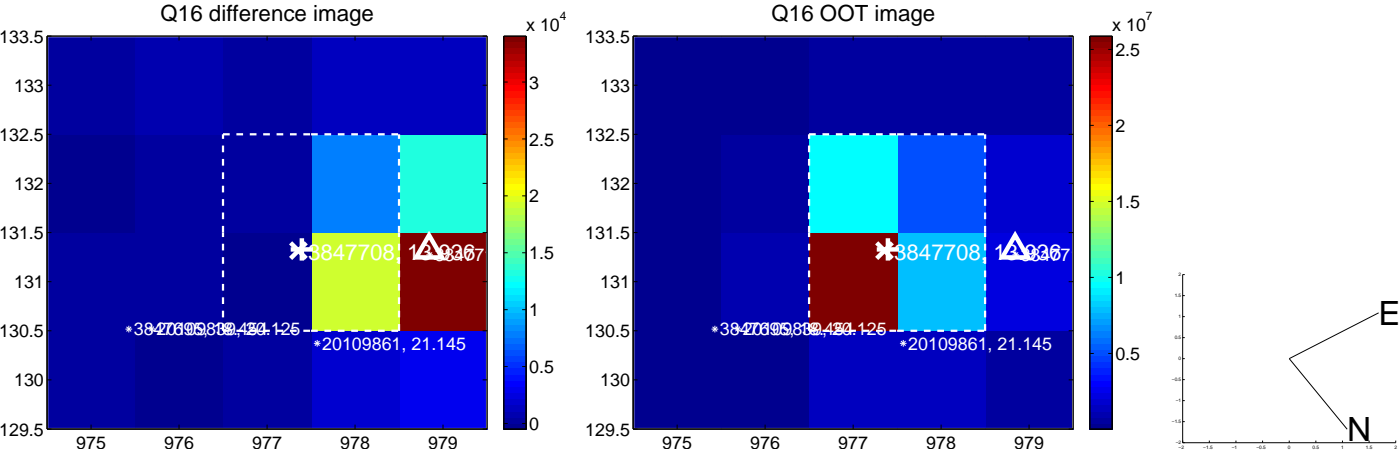
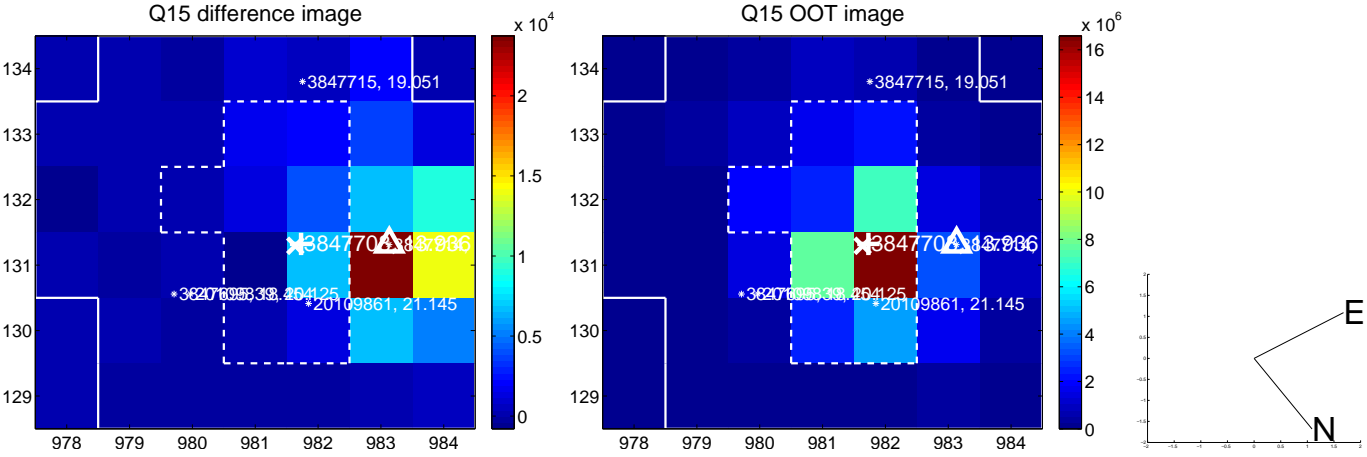
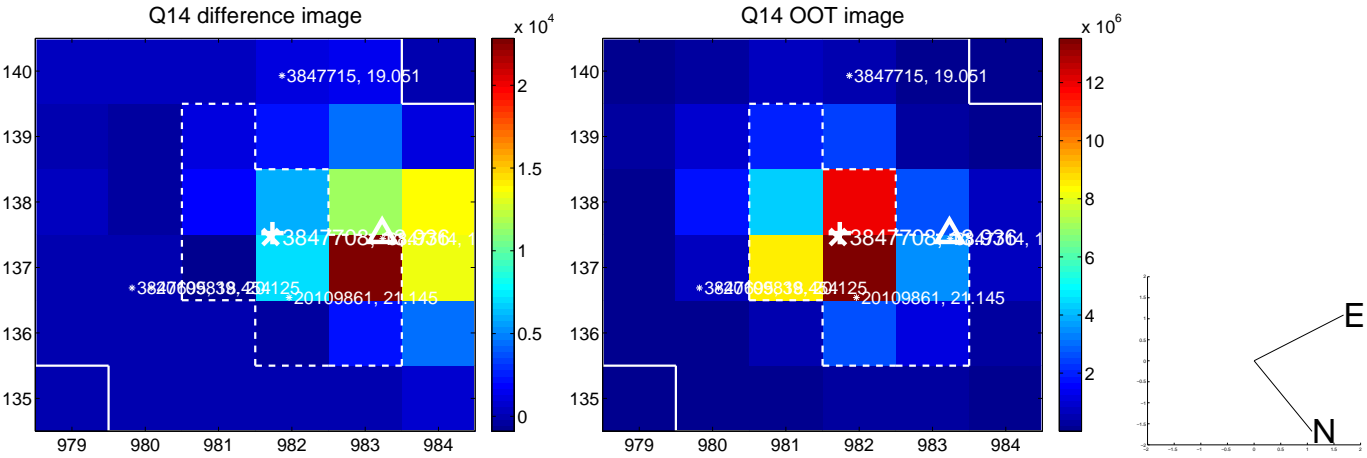
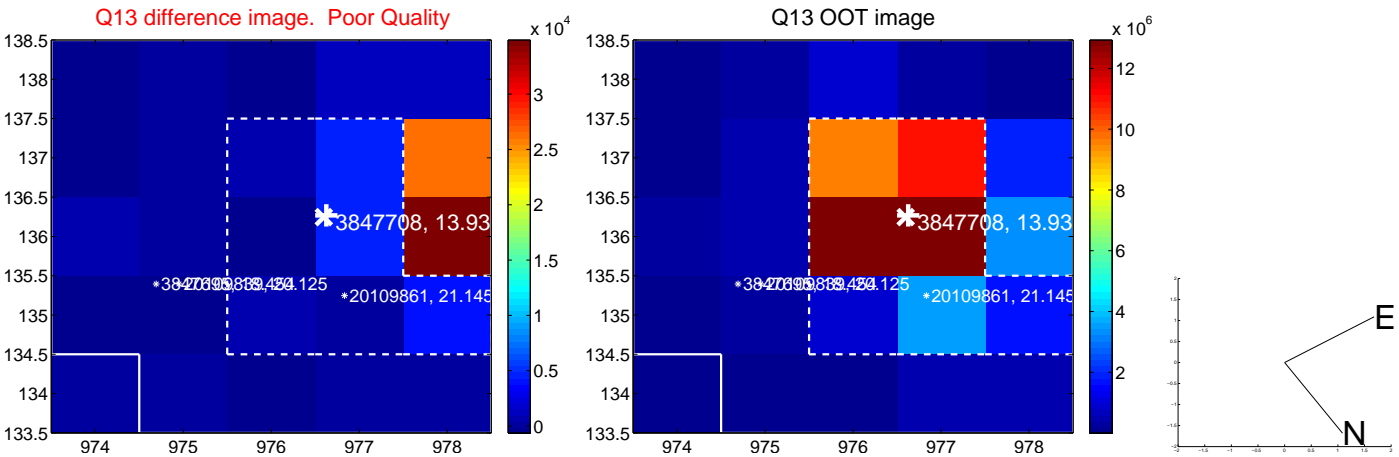
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



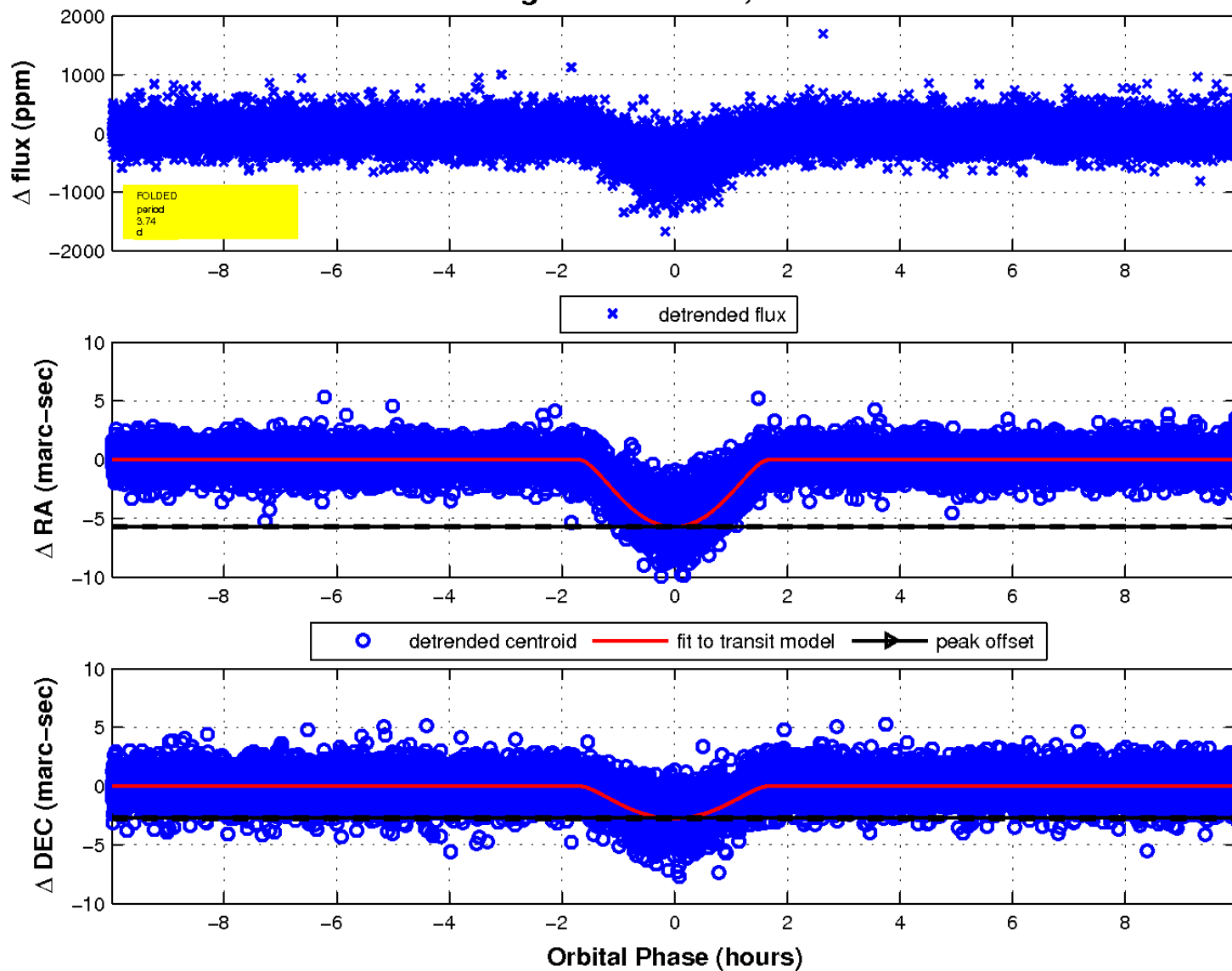
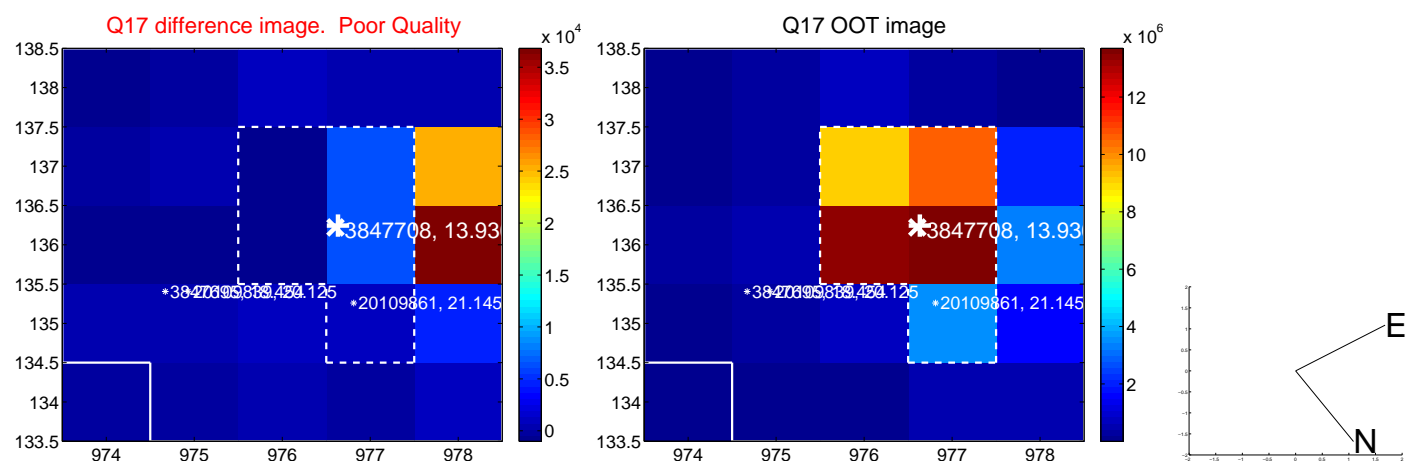
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

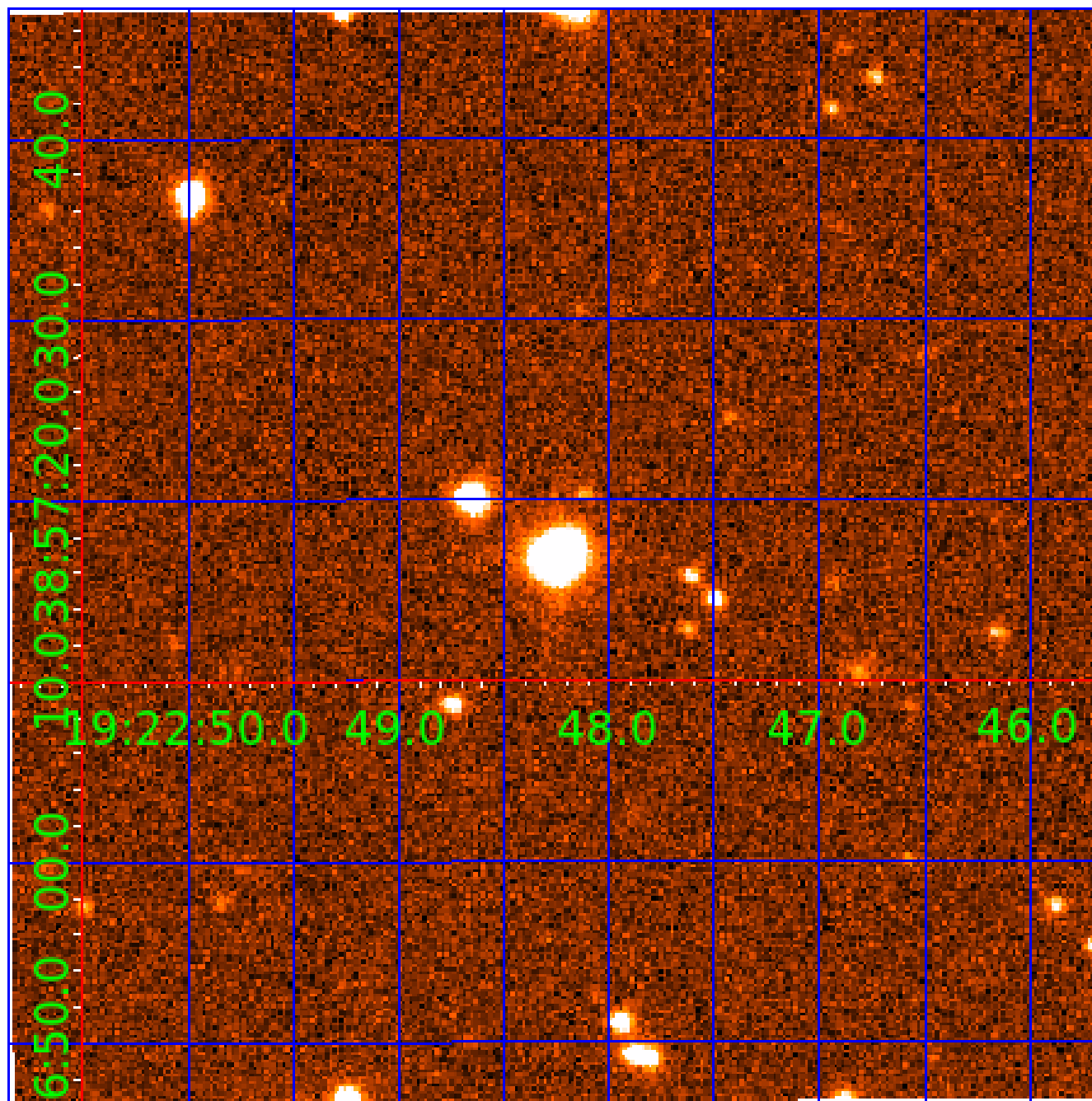


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003847708

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})
003847708-01	OBS	0389.01	3.741216	134.297942	426.3	3.330	62.3	63.7	0.77	5206	2.71	193.83
003847708-02	OBS	No	3.741248	132.429974	59.5	2.292	9.5	10.0	0.77	5206	0.71	193.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003847708-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
003847708-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

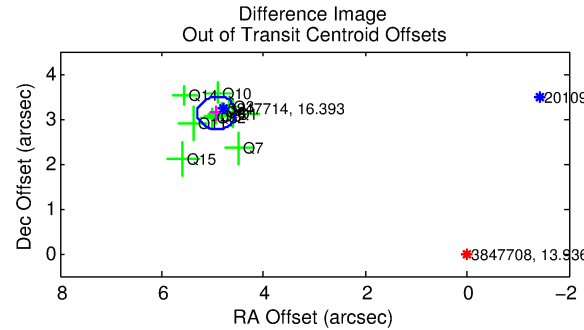
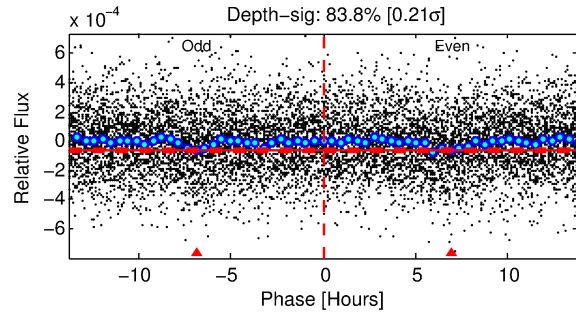
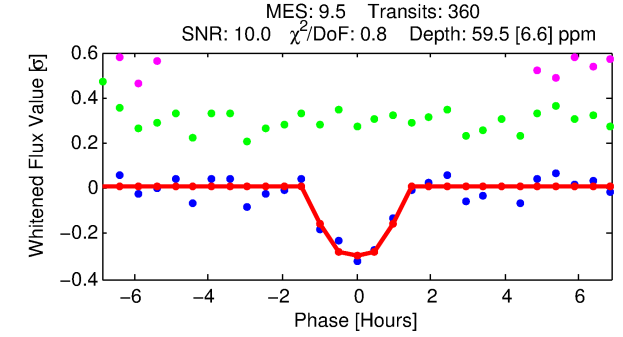
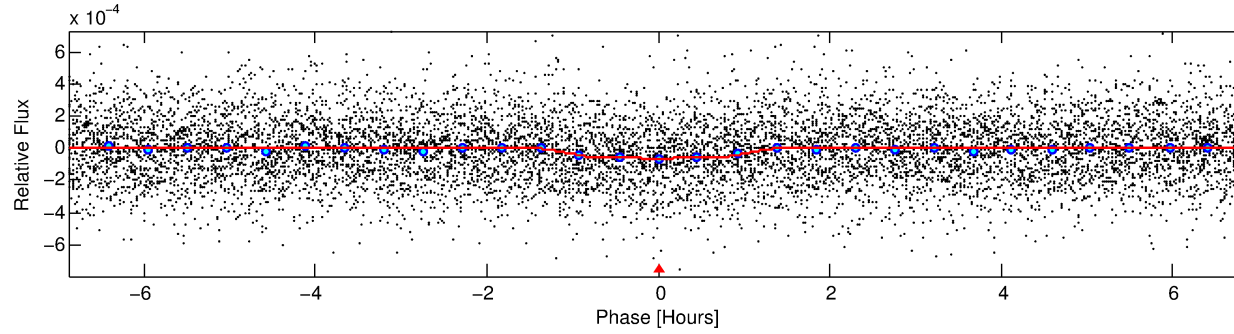
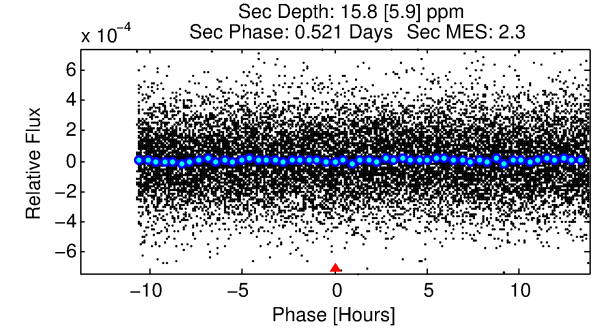
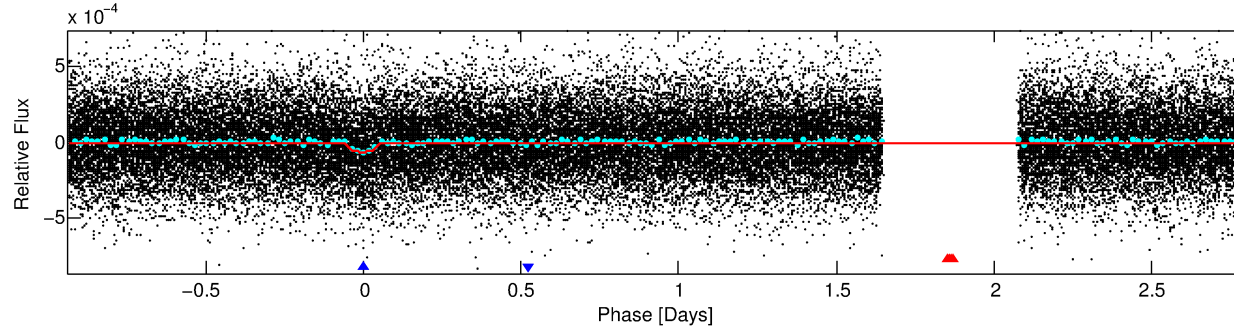
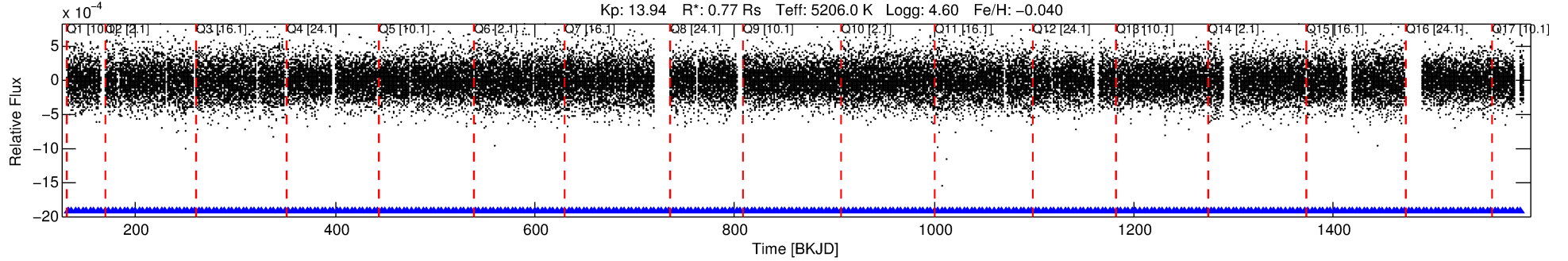
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003847708-02

No Significant Match Found

DV One-Page Summary

KIC: 3847708 Candidate: 2 of 2 Period: 3.741 d
KOI: K00389 Corr: No Ephemeris Match



DV Fit Results:

Period = 3.74125 [0.00002] d
Epoch = 132.4300 [0.0041] BKJD
Rp/R* = 0.0085 [0.0066]
a/R* = 5.80 [18.34]
b = 0.90 [0.72]
Seff = 193.83 [39.20]
Teq = 951 [48] K
Rp = 0.71 [0.56] Re
a = 0.0447 [0.0054] AU
Ag = 34.03 [54.59] [0.61σ]
Teffp = 3553 [1420] K [1.83σ]

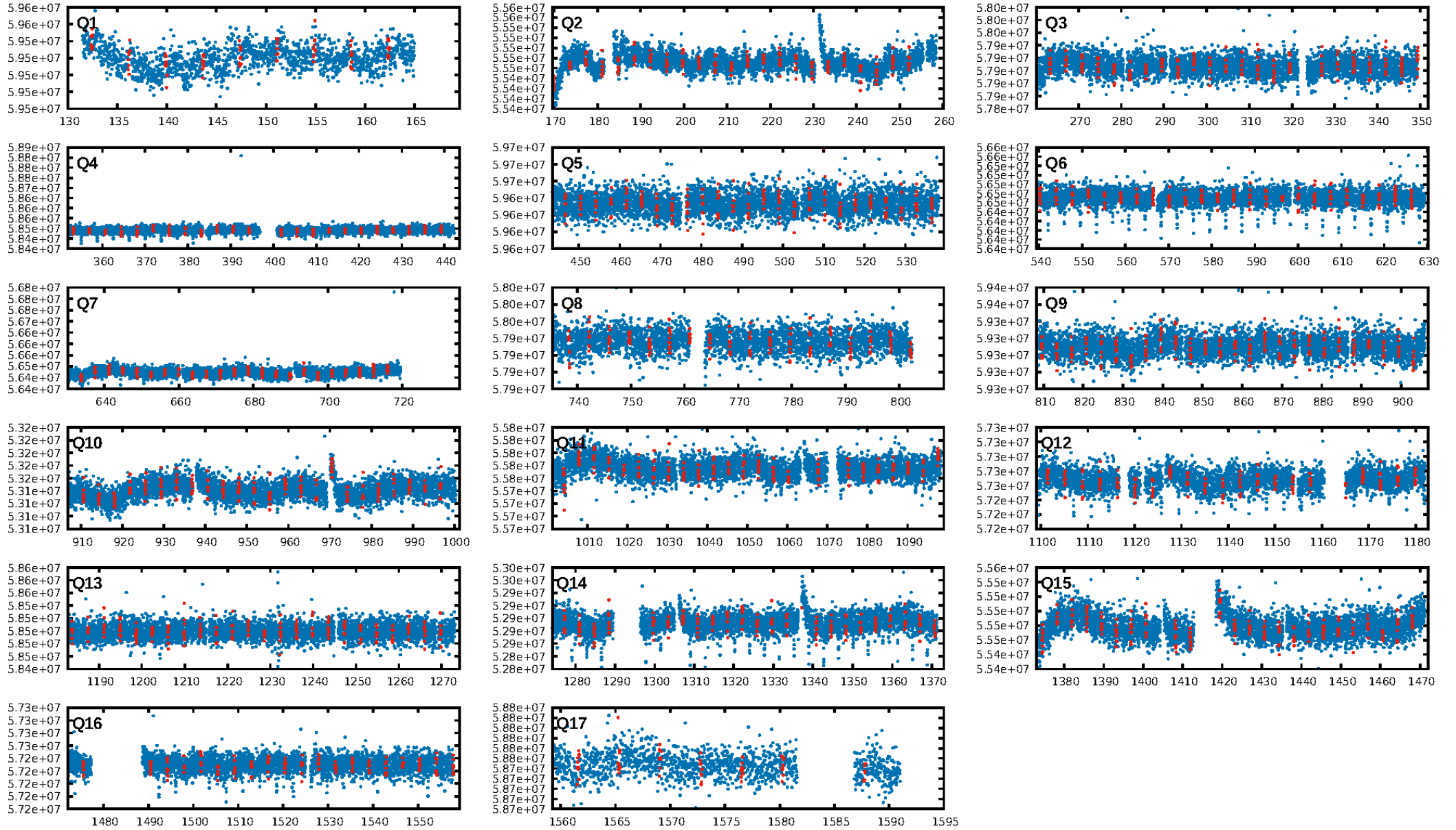
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.58e-22
RollingBand-fgt: 1.00 [344/344]
GhostDiagnostic-chr: -0.1049
Centroid-sig: 0.0%
Centroid-so: 13.817 arcsec [9.96σ]
OotOffset-rm: 5.830 arcsec [47.27σ]
KicOffset-rm: 6.012 arcsec [53.57σ]
OotOffset-st: 4/4/3/1 [12]
KicOffset-st: 4/4/3/1 [12]
DiffImageQuality-fgm: 1.00 [12/12]
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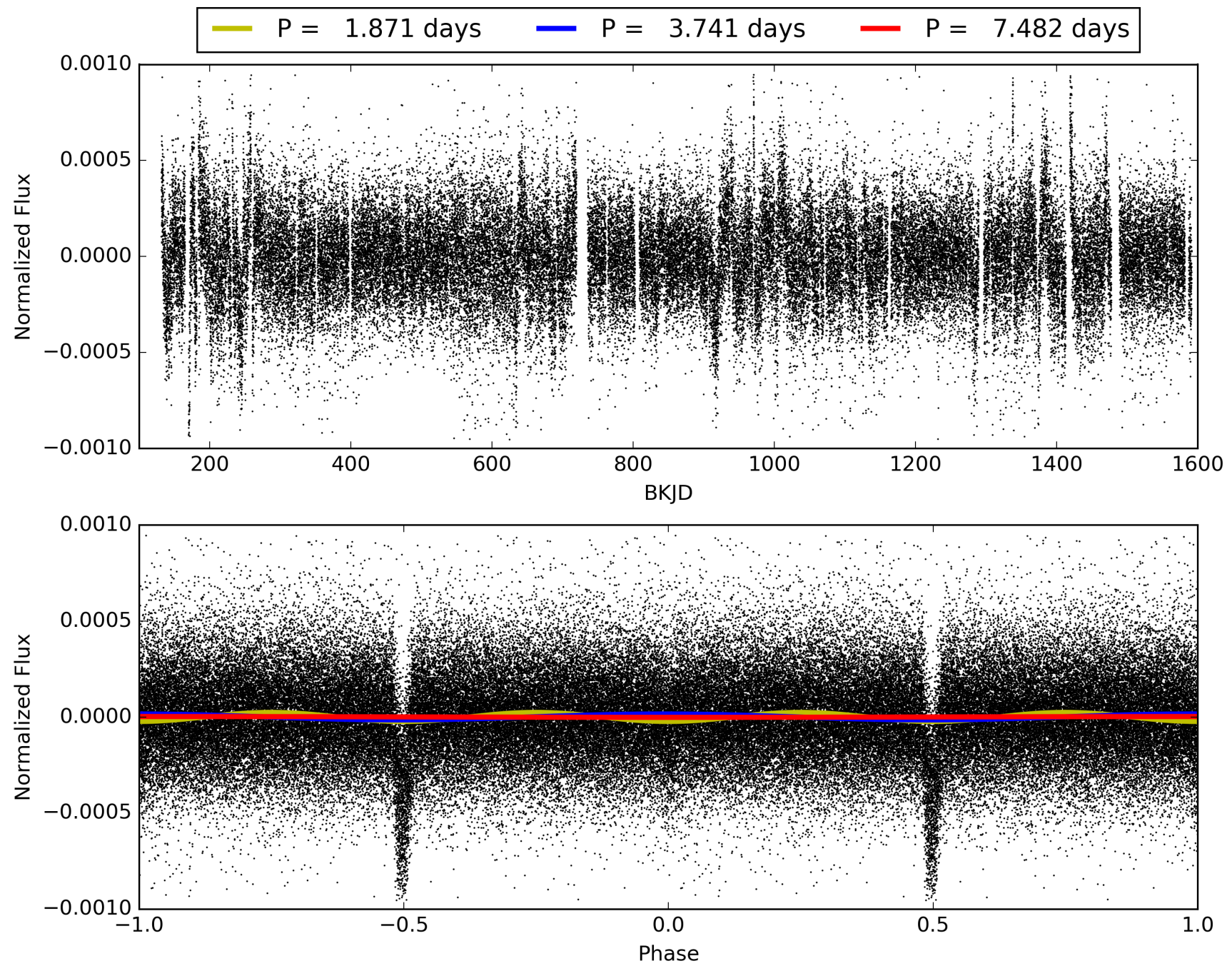
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:37:26 Z

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

TCE 003847708-02, PDC Light Curves

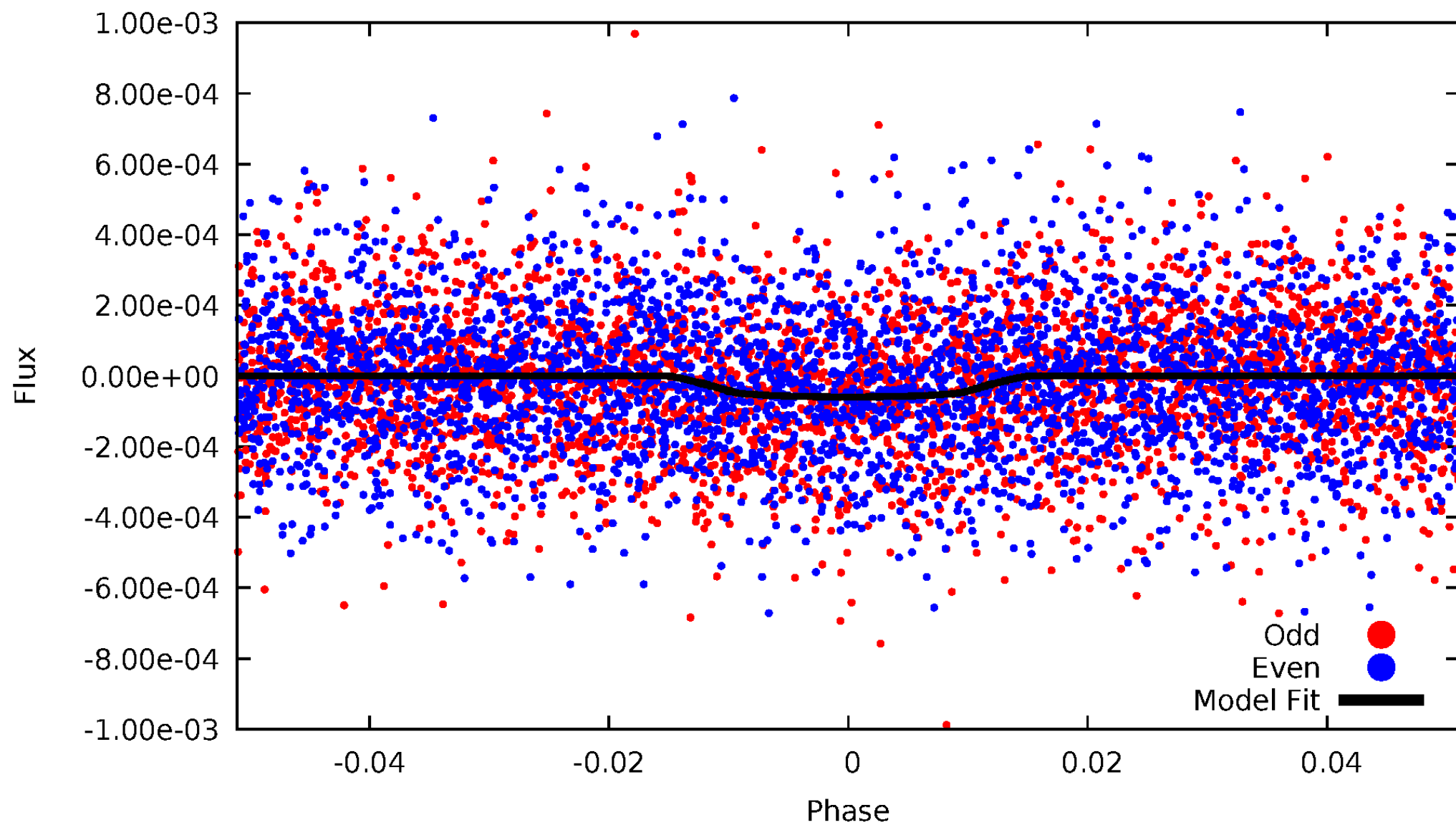


TCE 003847708-02



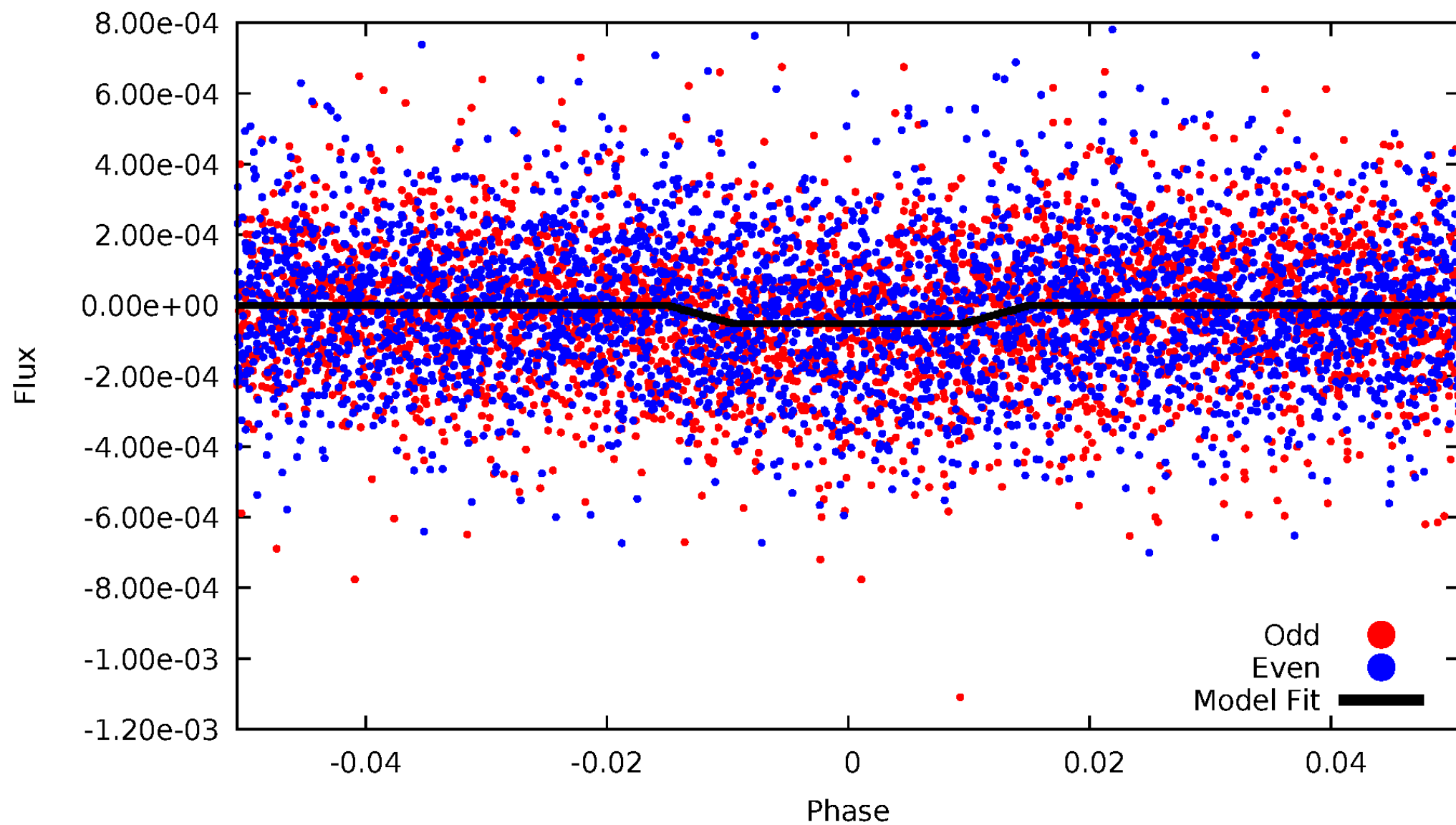
DV Odd/Even

TCE 003847708-02



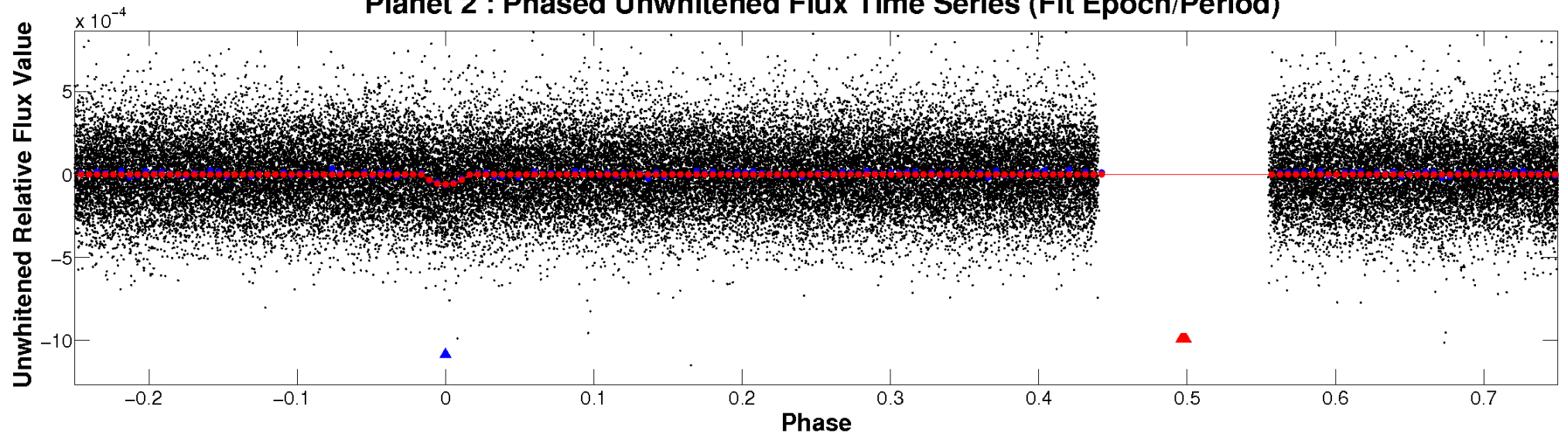
ALT Odd/Even

TCE 003847708-02

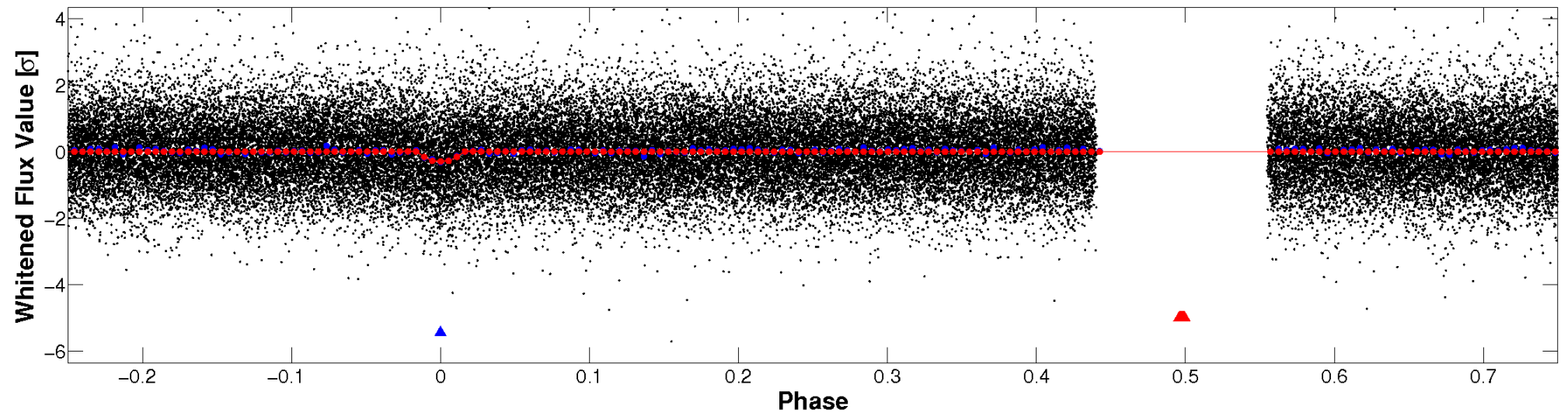


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

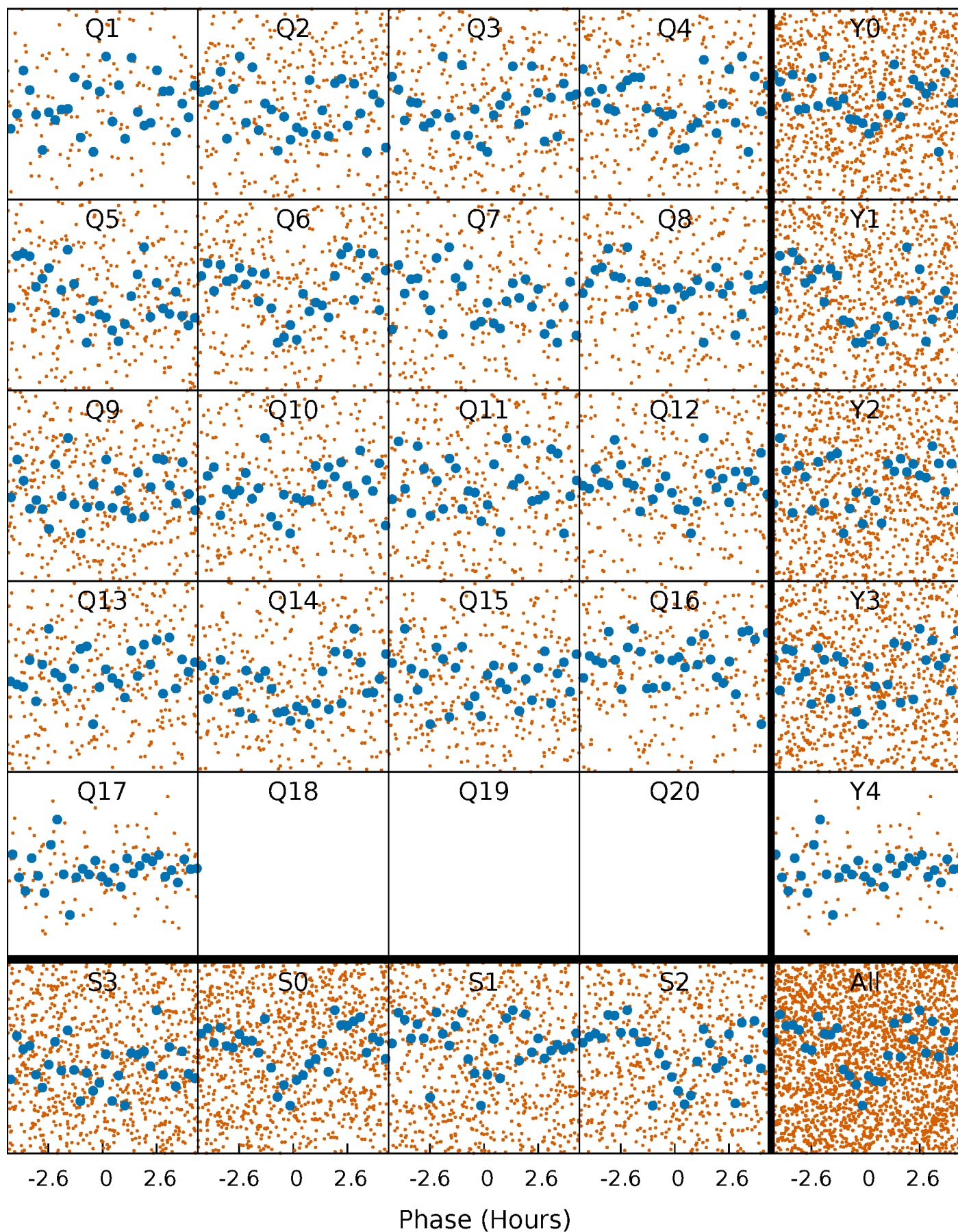


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



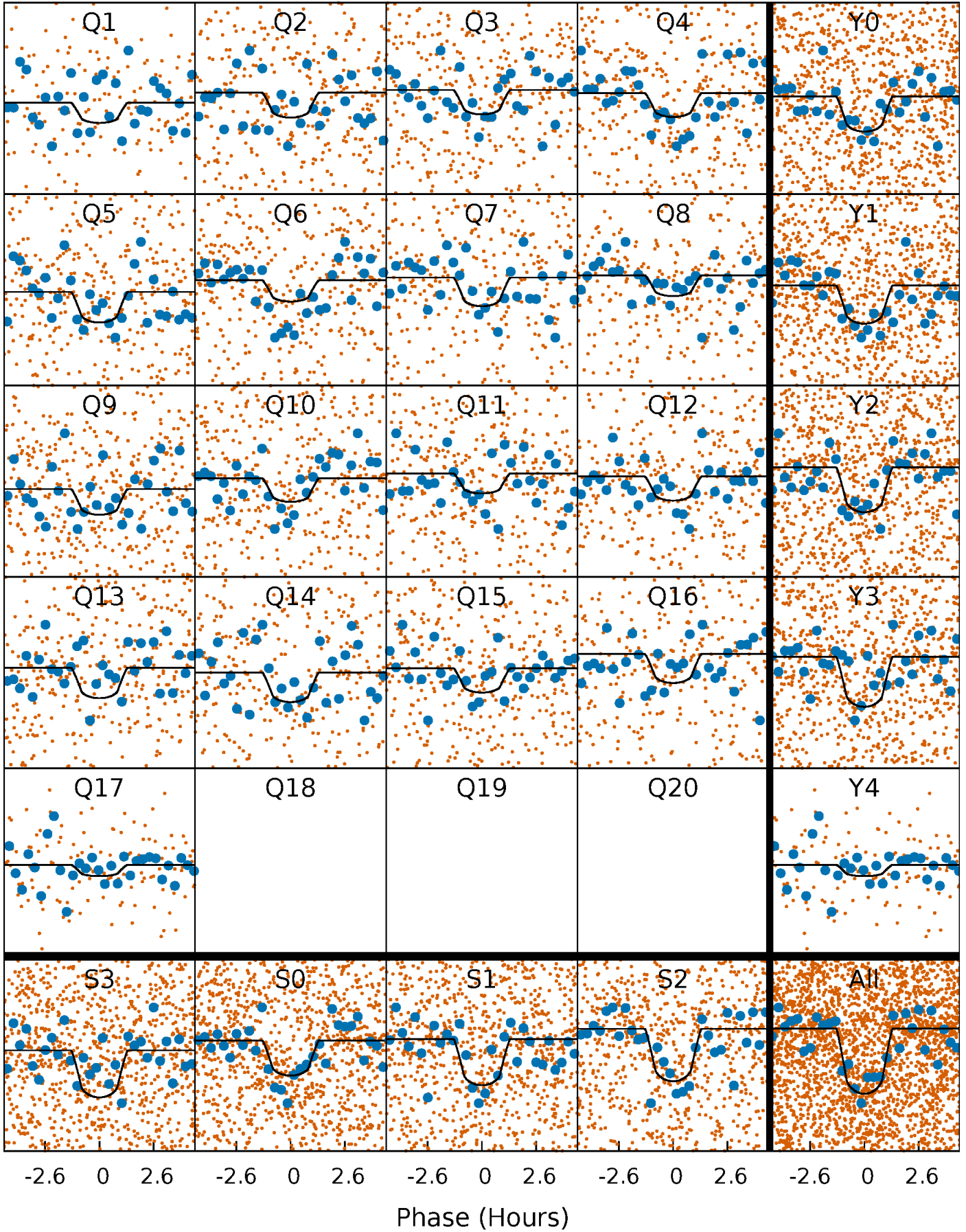
PDC Quarter-Phased Transit Curves

TCE 003847708-02 P= 3.741248 Days $T_0=132.429974$ (BKJD)



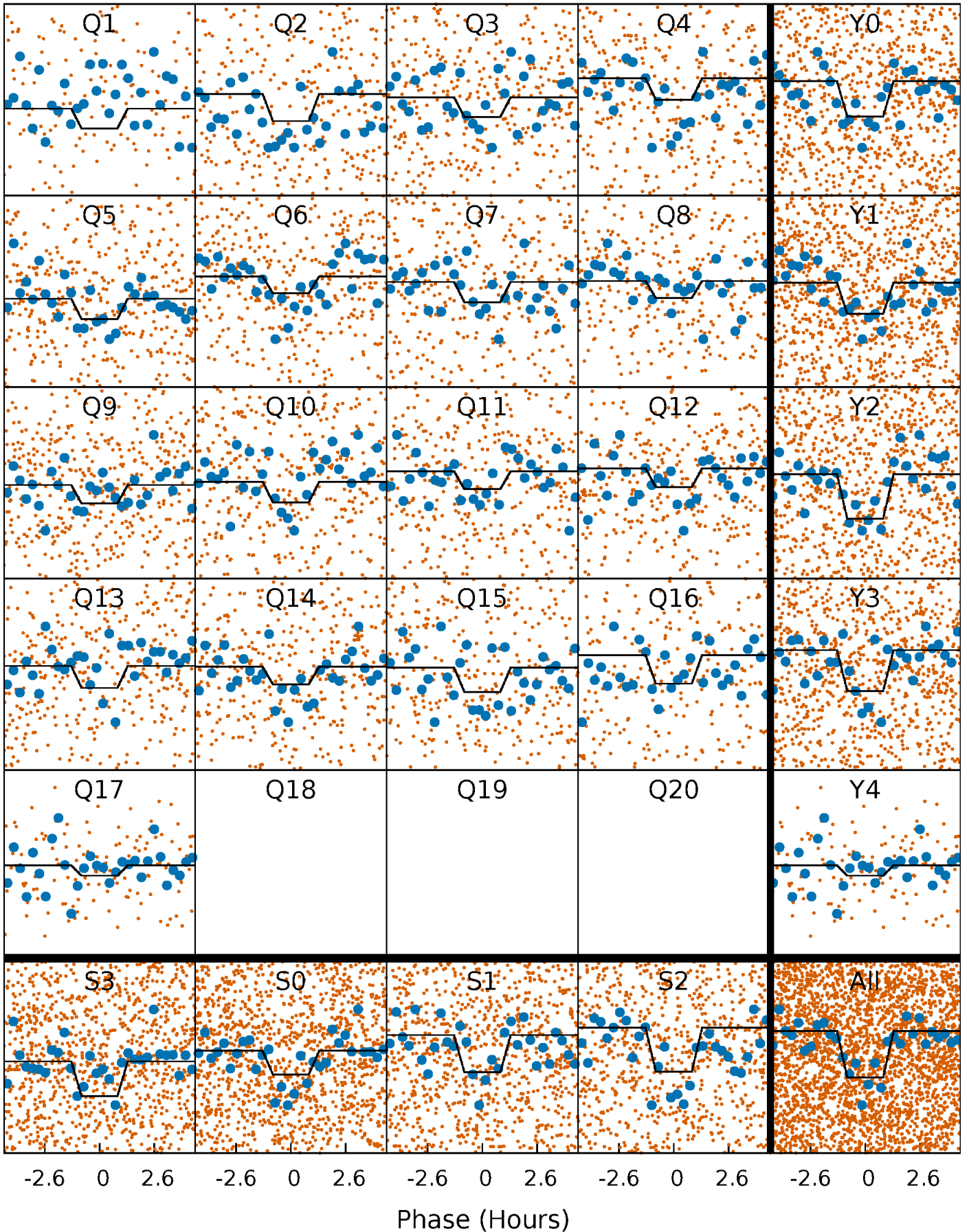
DV Quarter-Phased Transit Curves

TCE 003847708-02 P= 3.741248 Days $T_0=132.429974$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

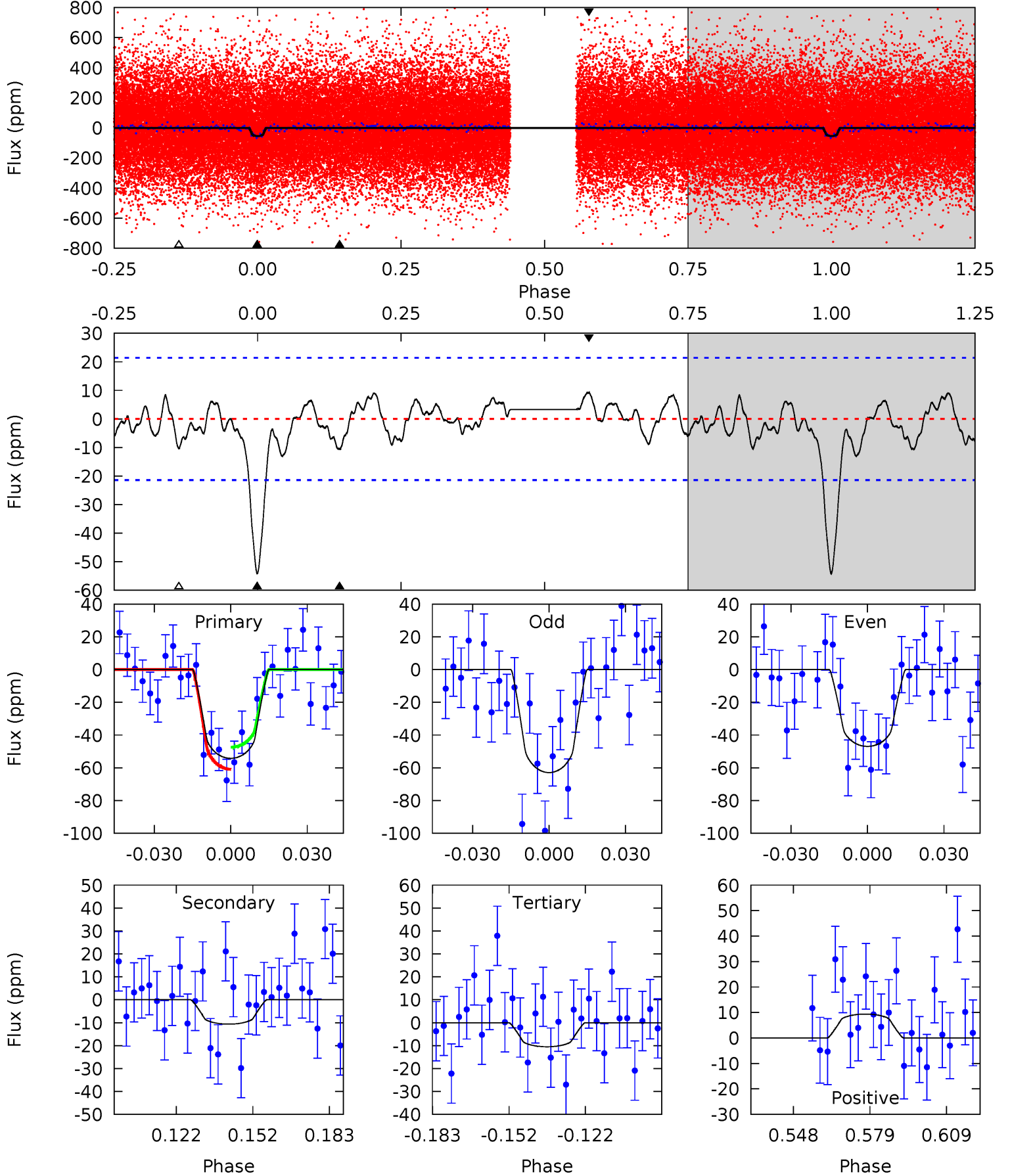
TCE 003847708-02 P= 3.741199 Days $T_0=132.437428$ (BKJD)



DV Model-Shift Uniqueness Test

003847708-02, P = 3.741248 Days, E = 128.688726 Days

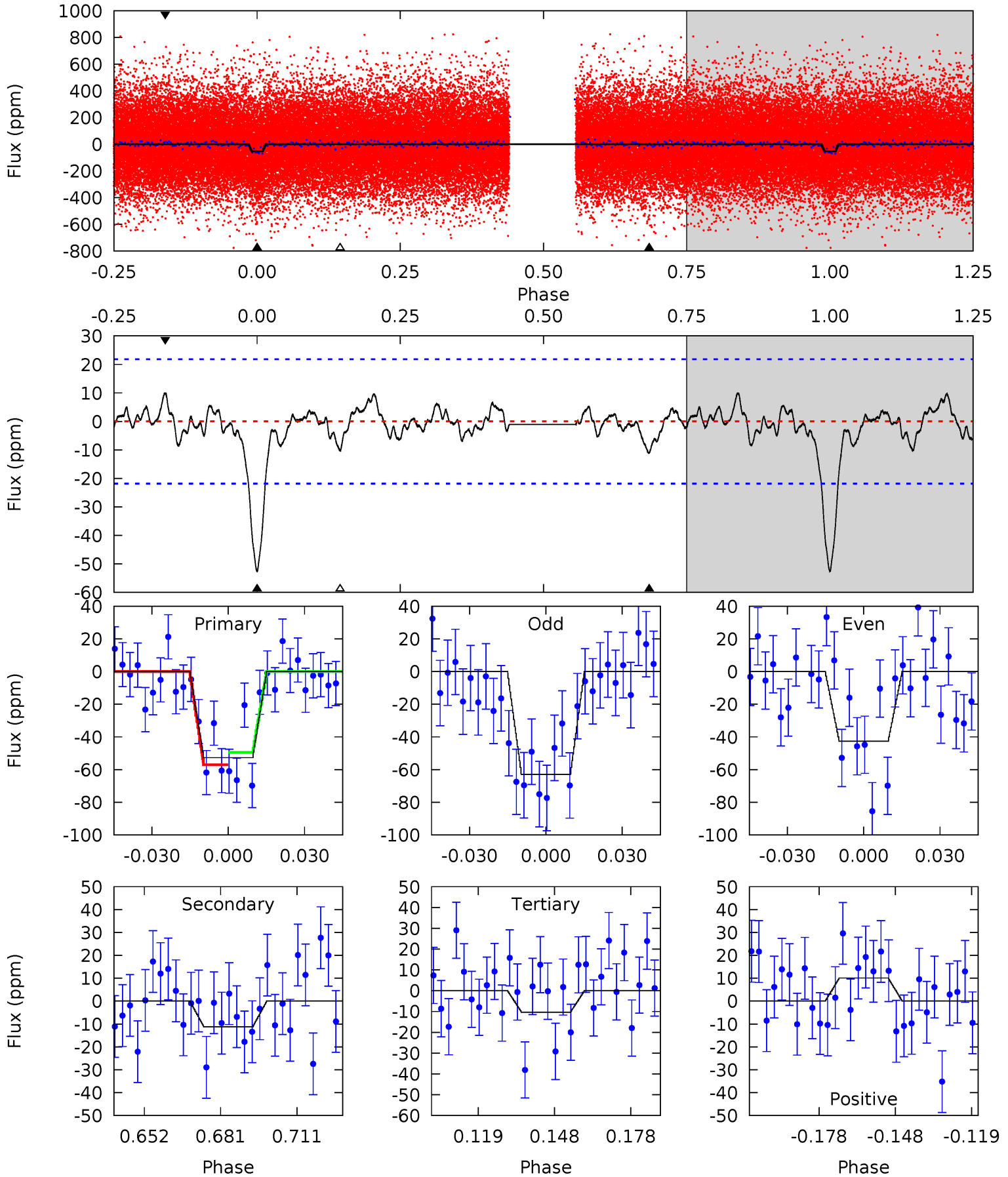
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	2.39	2.36	2.11	4.81	2.16	1.08	9.82	10.1	0.03	0.28	1.80	1.05	0.15	1.51



Alt Model-Shift Uniqueness Test

003847708-02, P = 3.741199 Days, E = 128.696229 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	2.47	2.28	2.23	4.81	2.18	0.82	9.35	9.40	0.19	0.25	2.23	1.07	0.16	0.85



Stellar Parameters For KIC 003847708

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5206^{+142}_{-142}	$4.598^{+0.032}_{-0.091}$	$-0.040^{+0.300}_{-0.300}$	$0.767^{+0.112}_{-0.060}$	$0.861^{+0.062}_{-0.093}$	$2.685^{+0.422}_{-0.823}$
	+3%/-3%	+1%/-2%	+750%/-750%	+15%/-8%	+7%/-11%	+16%/-31%
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 003847708-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-11 ± 4	$0.82^{+0.58}_{-0.48}$	1345^{+49}_{-47}	3471^{+1295}_{-592}	16^{+83}_{-11}
Alt.	-11 ± 5	$0.74^{+0.49}_{-0.48}$	1347^{+51}_{-48}	3610^{+1651}_{-610}	21^{+146}_{-15}

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

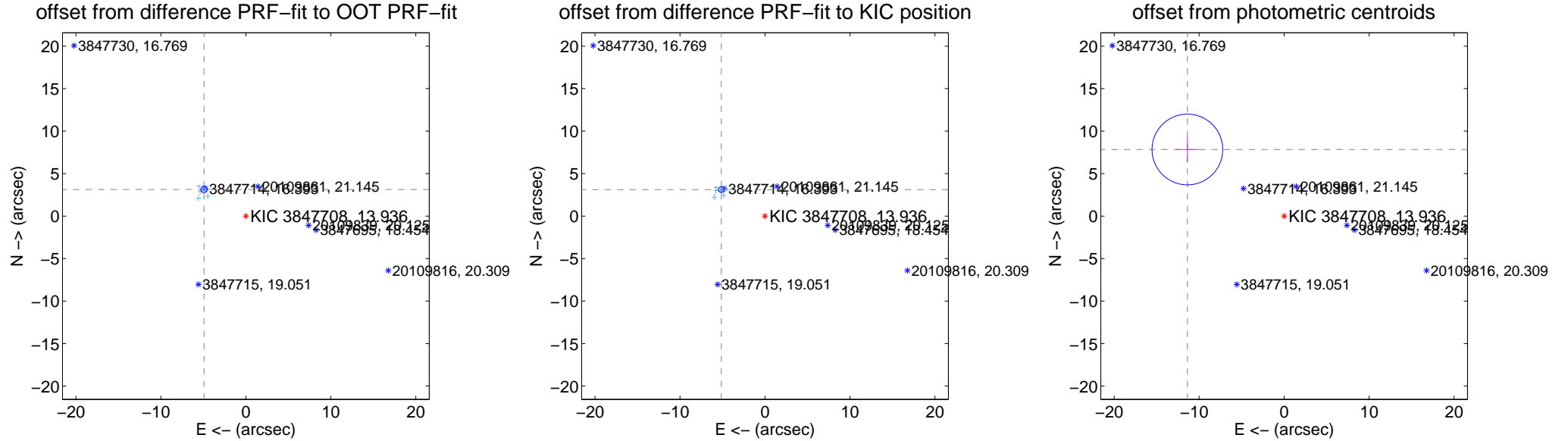
DV Centroid Data

Supplemental centroid analysis for 003847708-02. Kepler magnitude: 13.94. Transit SNR 10.02

There are 12 quarters with good PRF difference image offsets

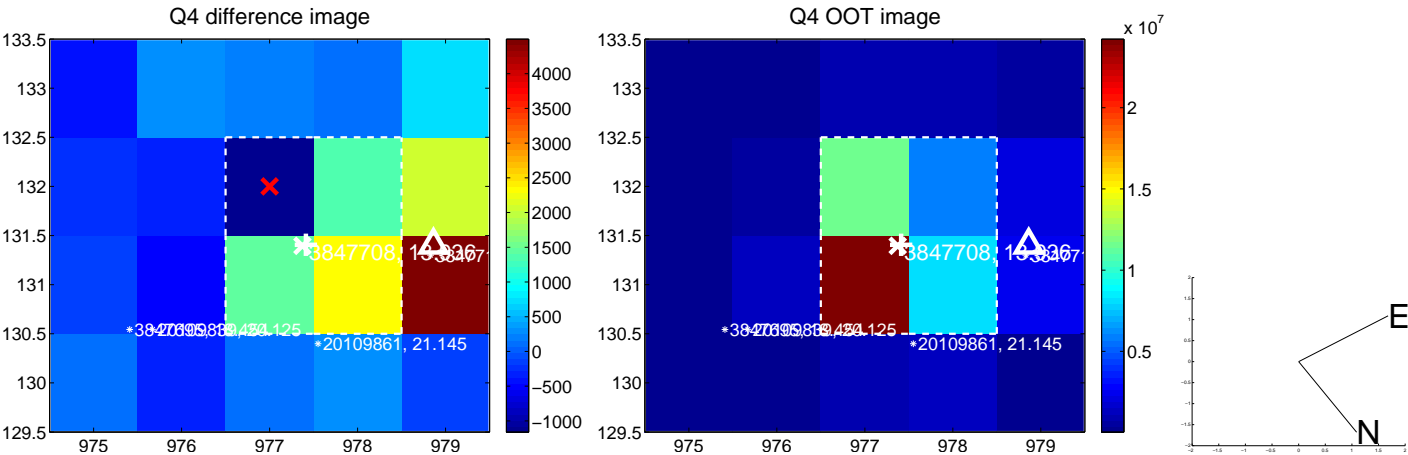
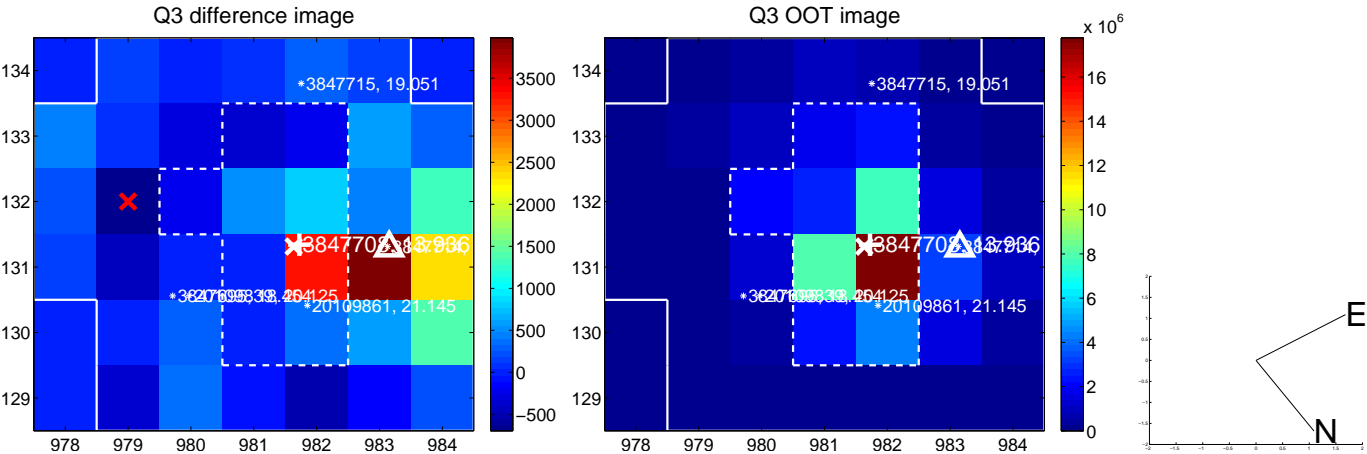
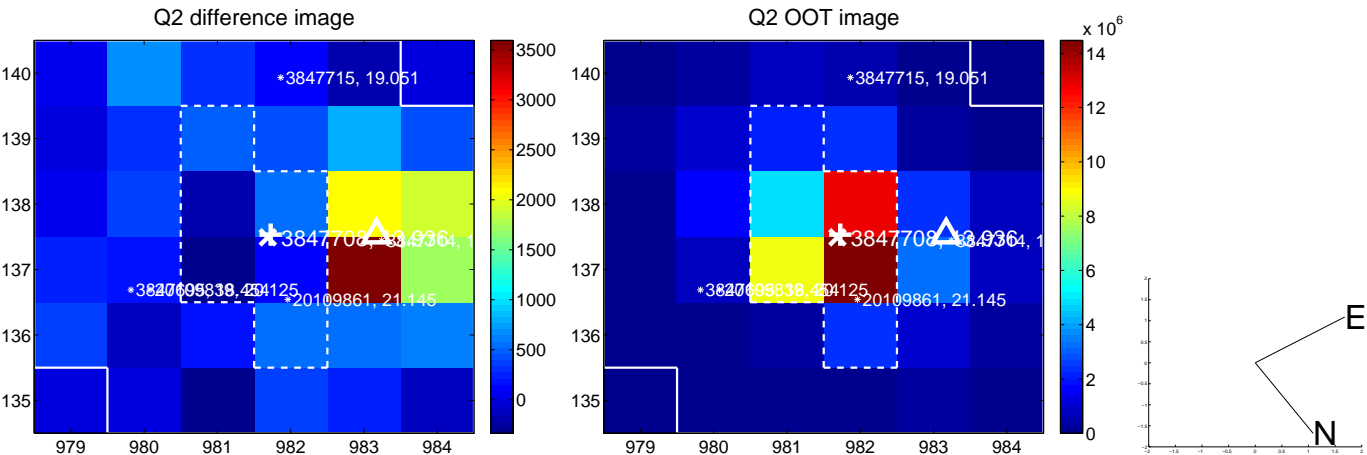
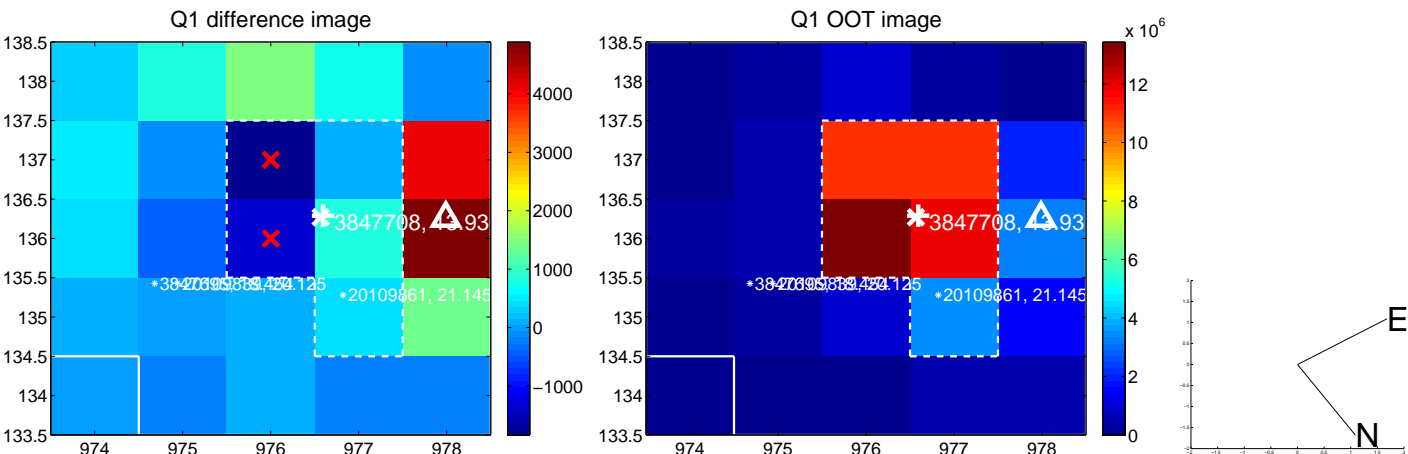
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.830 \pm 0.123	47.27	4.921 \pm 0.121	3.128 \pm 0.132
PRF-fit source offset from KIC position	6.012 \pm 0.112	53.57	5.144 \pm 0.115	3.111 \pm 0.104
photometric centroid source offset	13.82 \pm 1.39	9.96	11.38 \pm 1.33	7.84 \pm 1.50

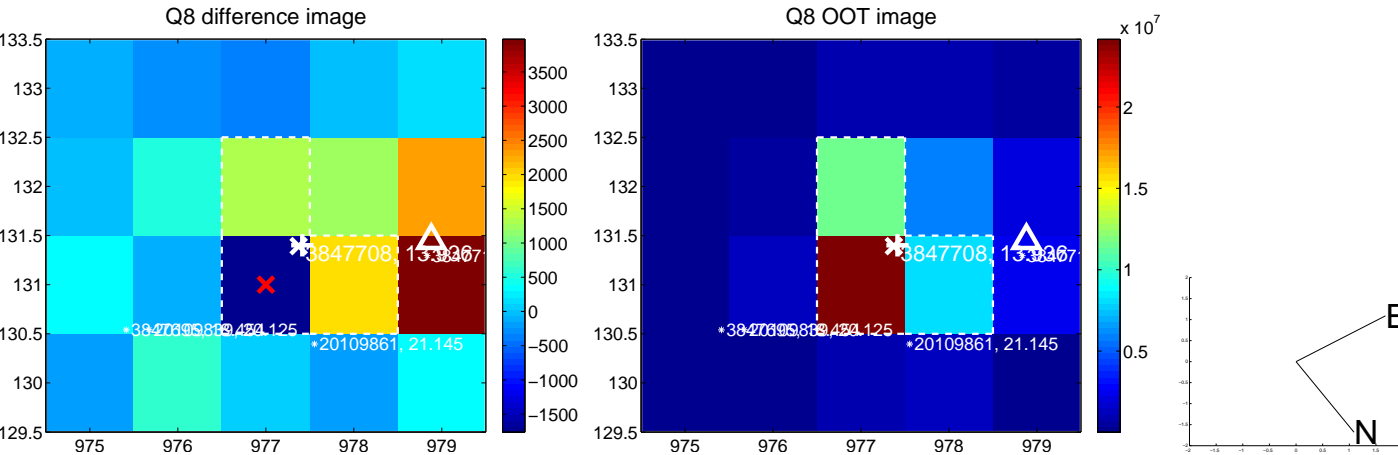
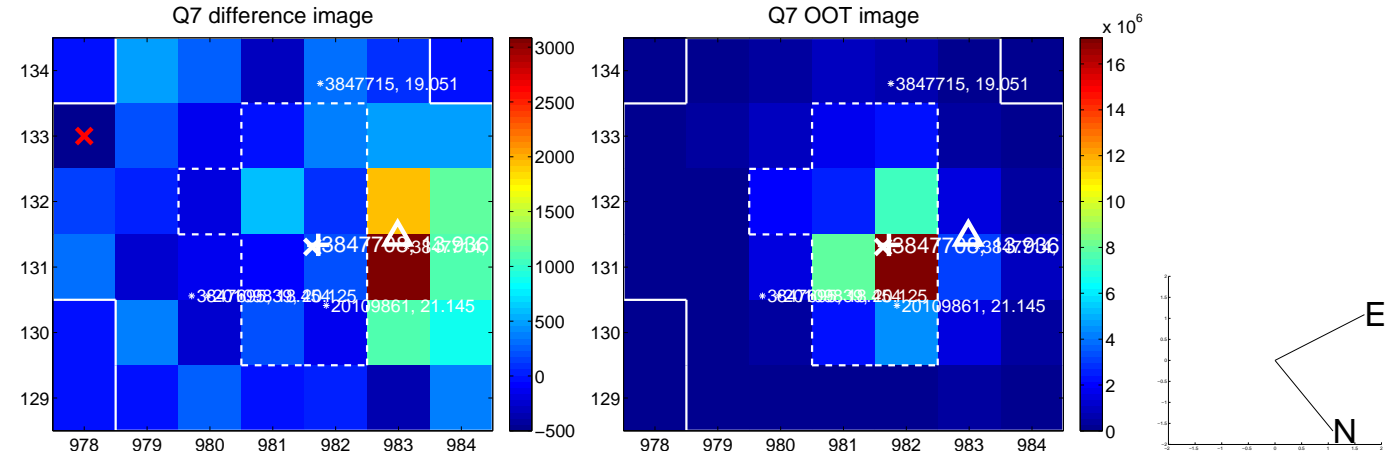
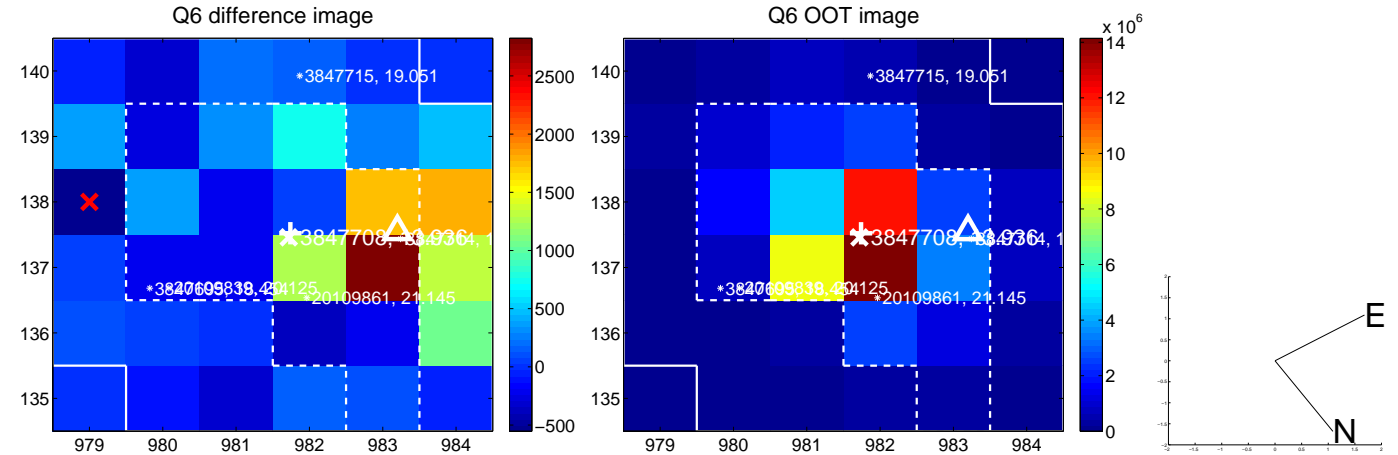
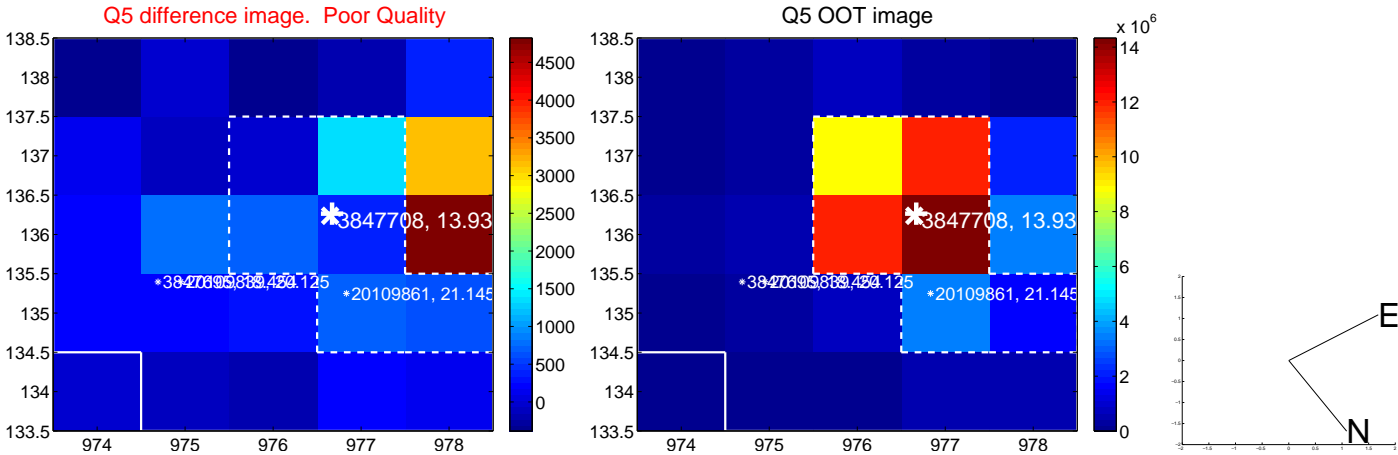


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

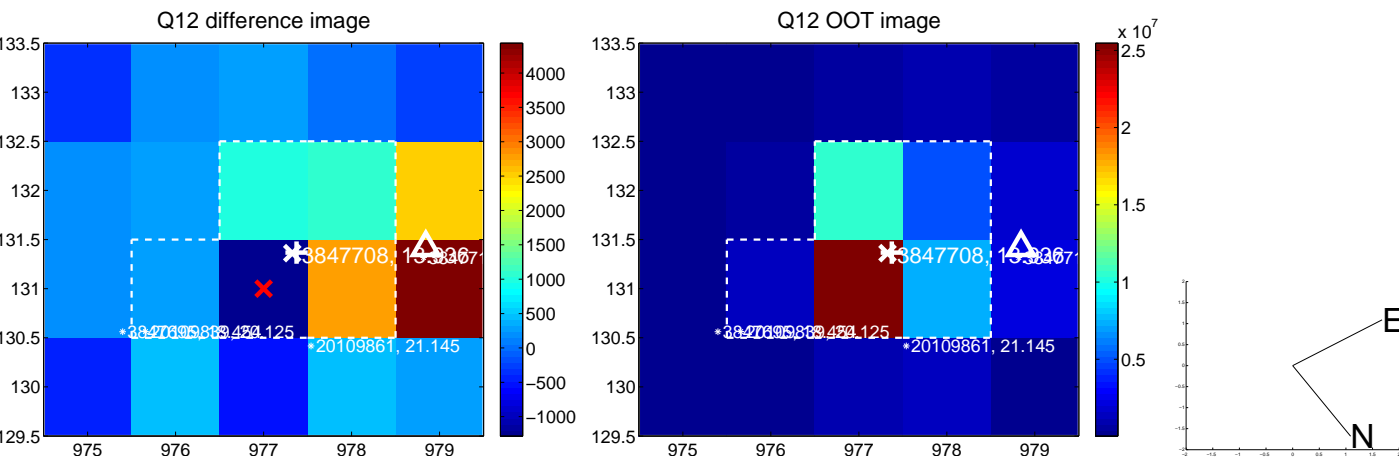
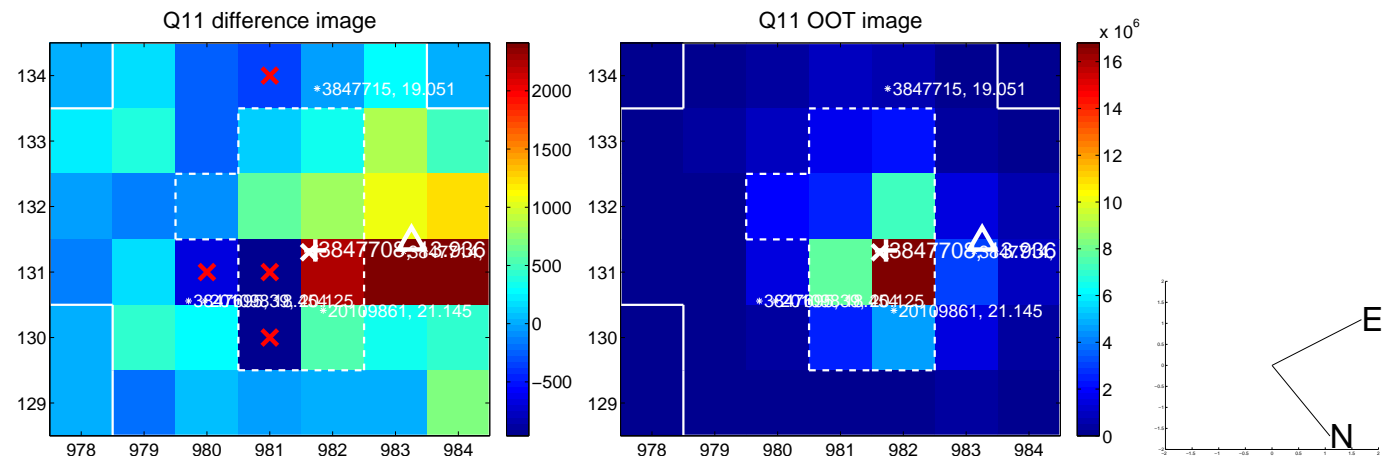
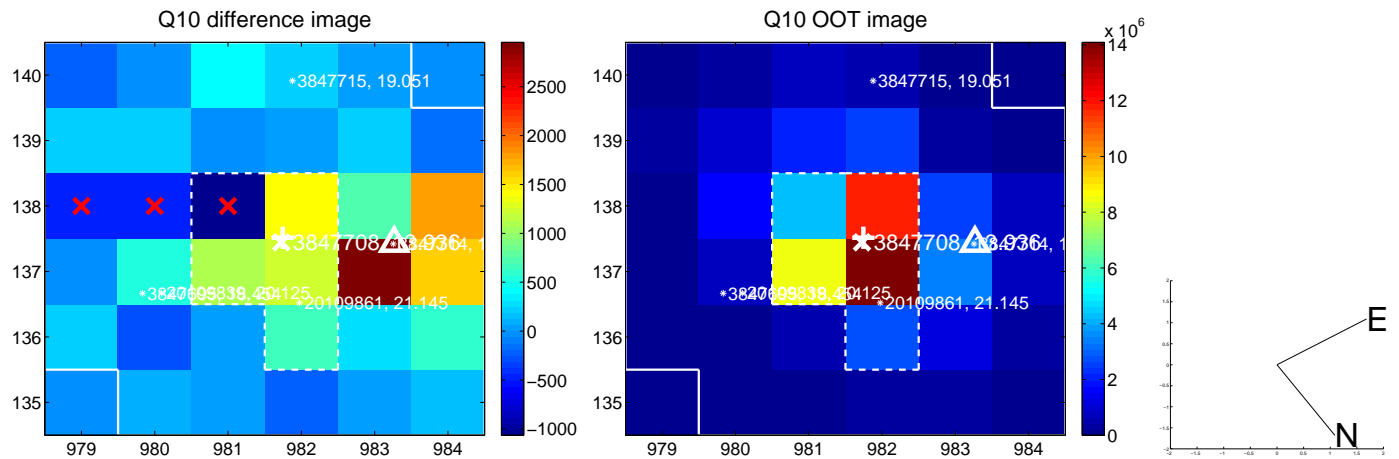
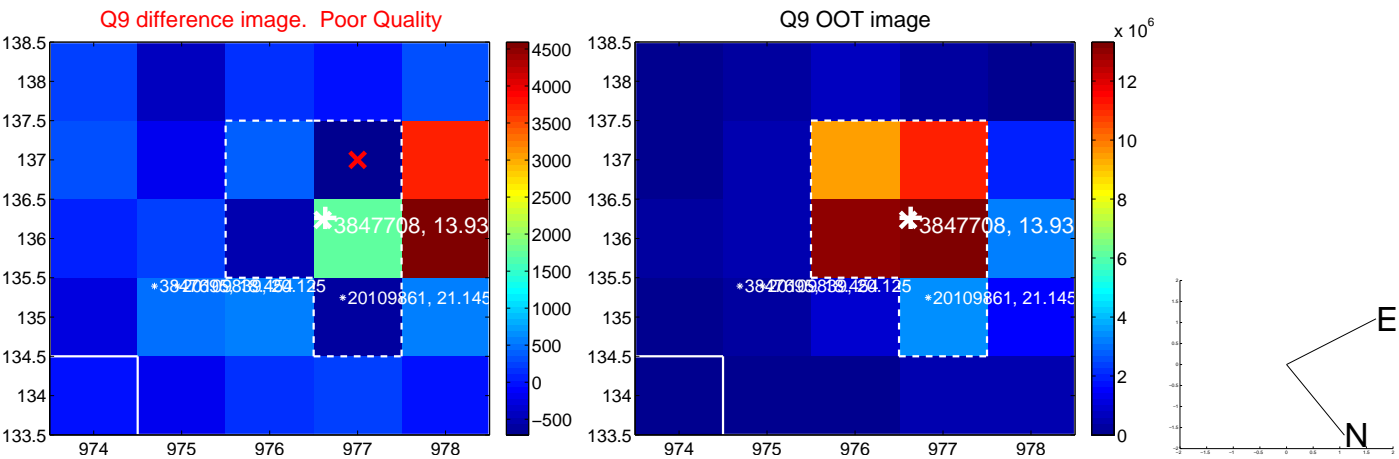
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



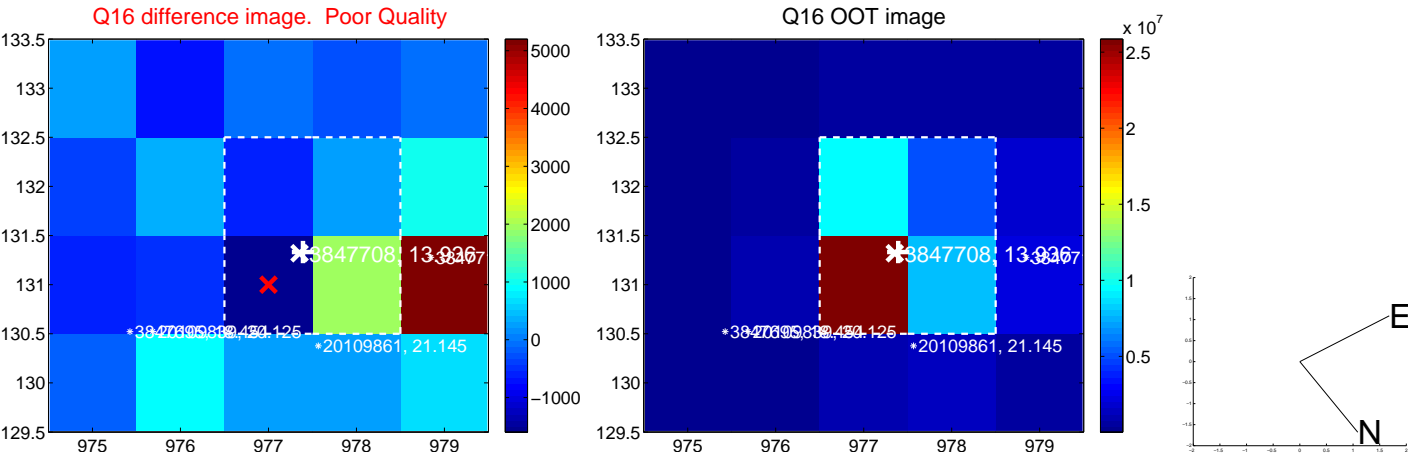
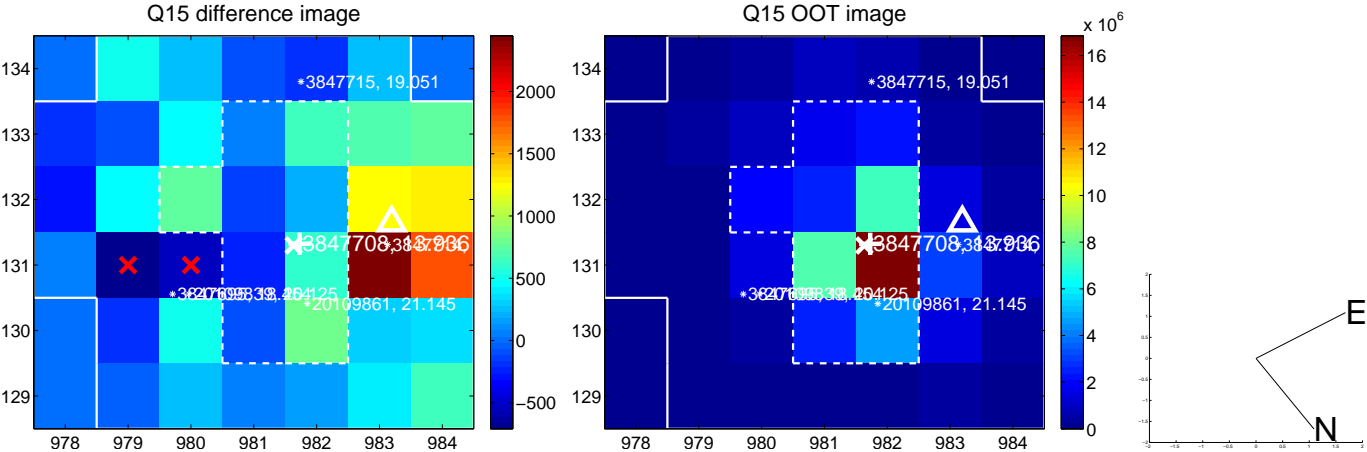
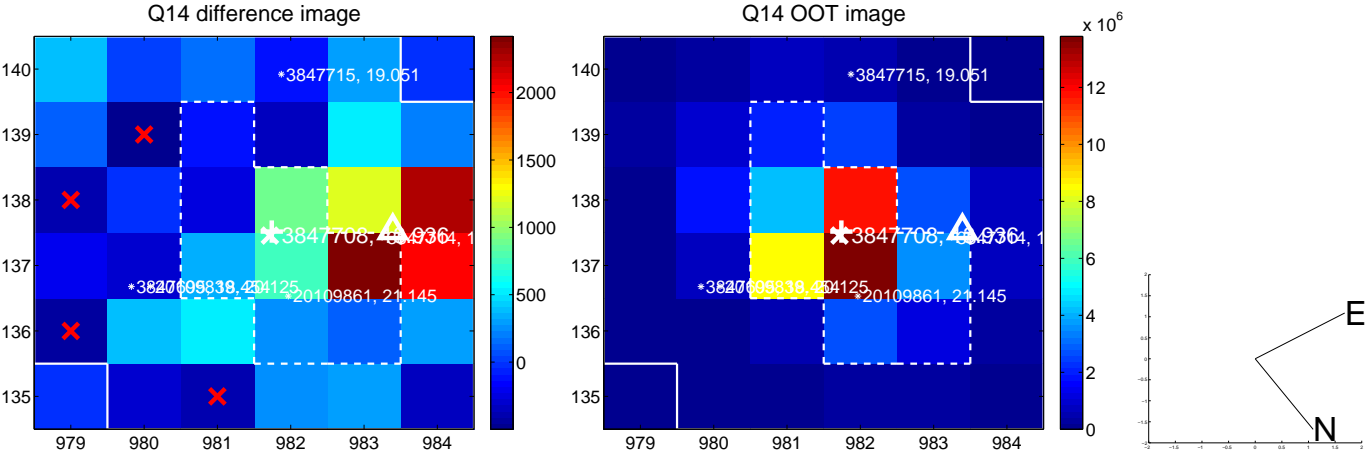
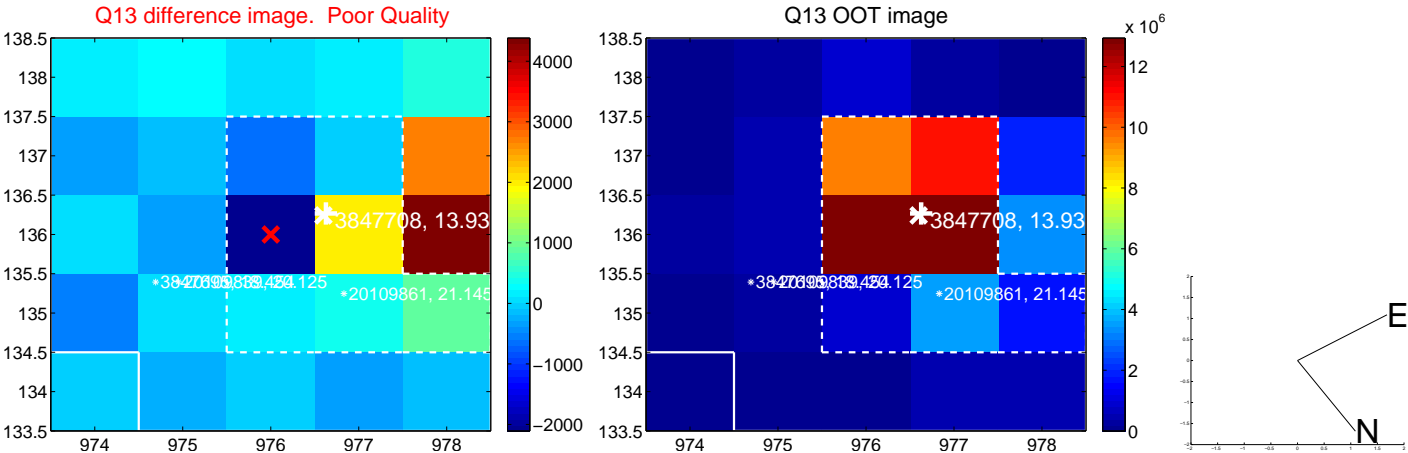
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



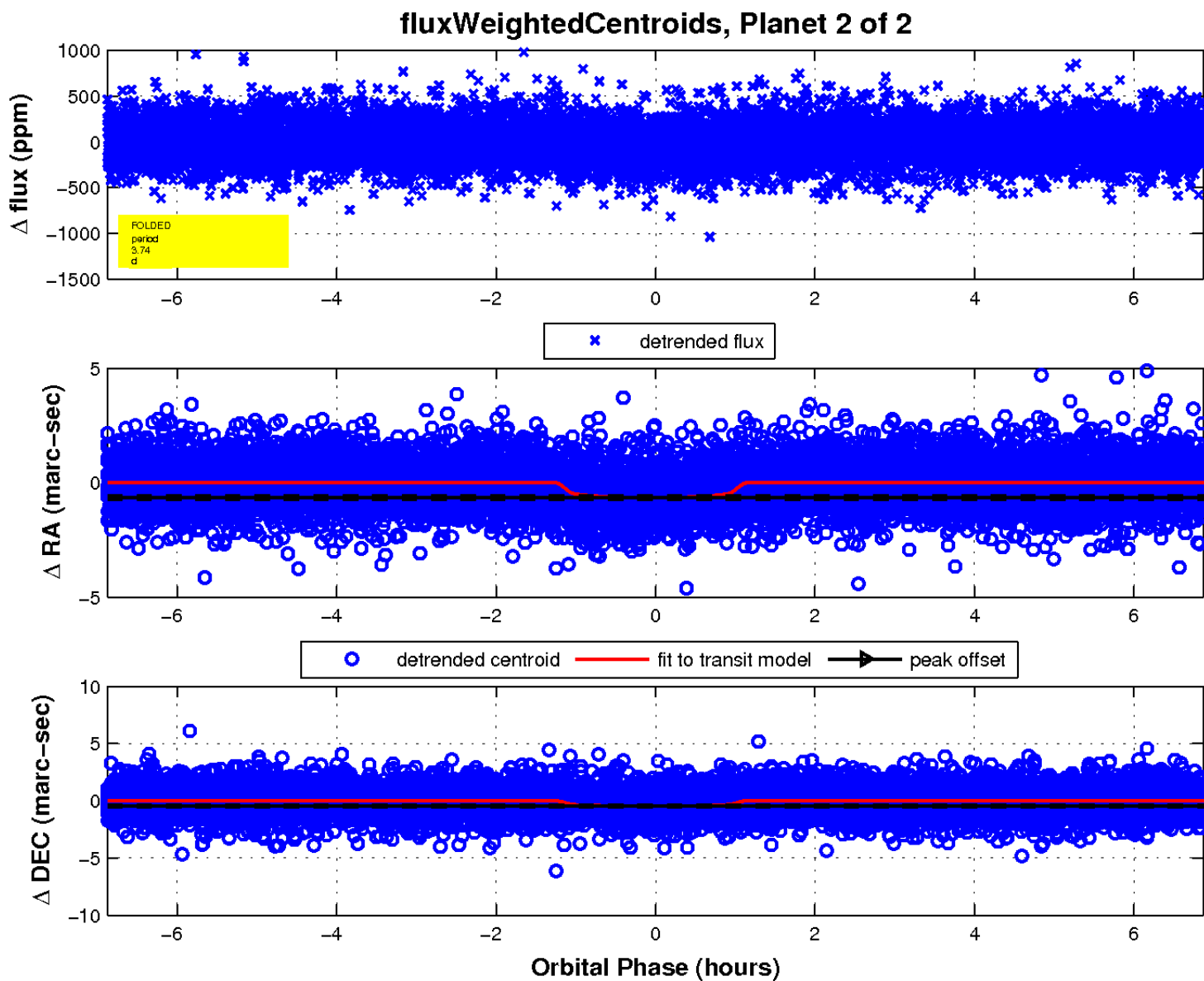
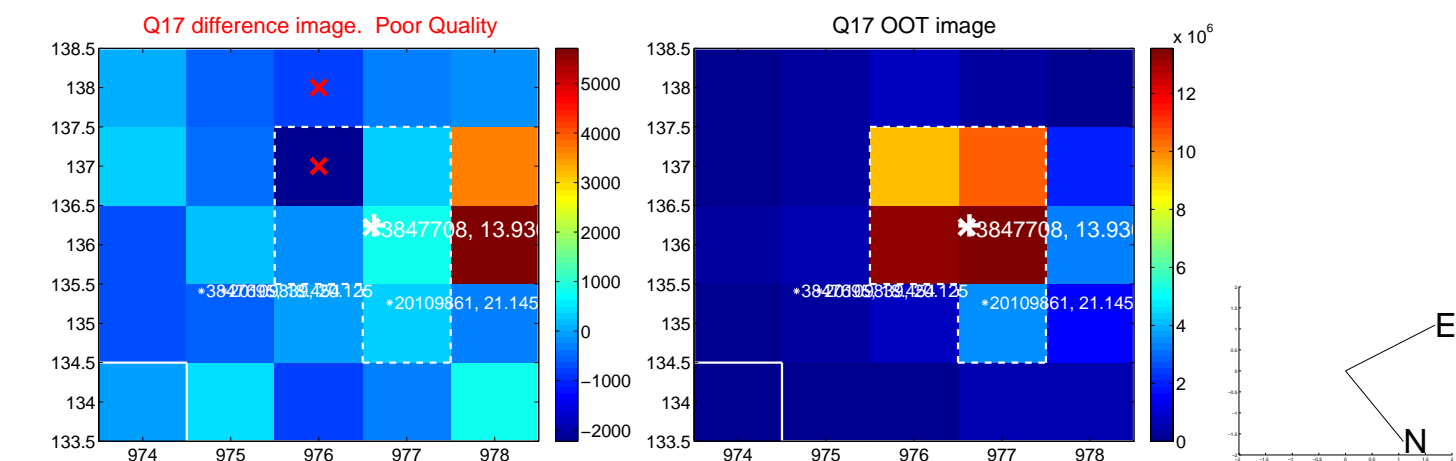
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

