

KIC 007800087

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})
007800087-01	OBS	No	0.940695	132.412519	0.0	3.749	15.1	0.0	0.44	3638	0.00	143.46
007800087-02	OBS	No	0.942799	132.376246	460.7	4.599	52.0	7.5	0.44	3638	1.25	143.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007800087-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_KIC_POS
007800087-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_KIC_POS

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

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

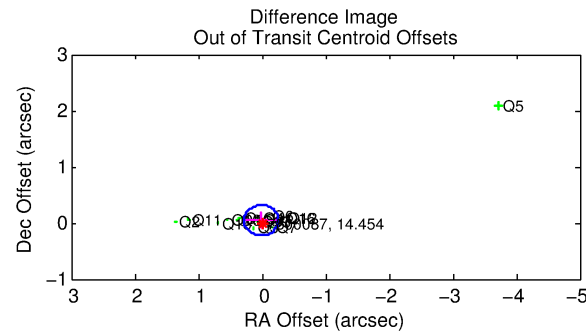
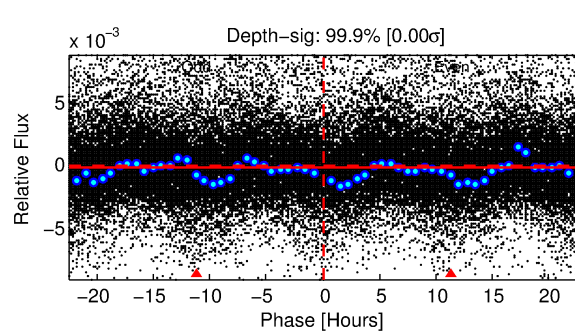
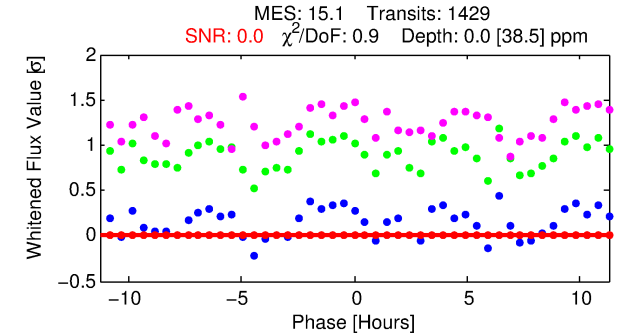
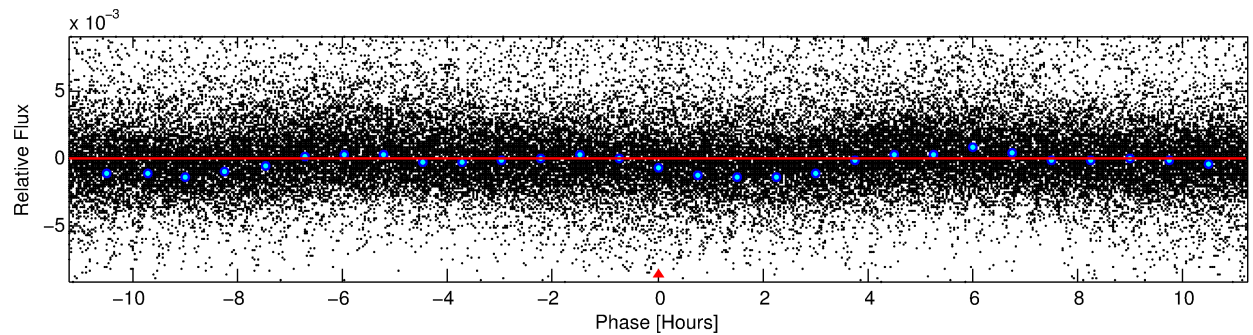
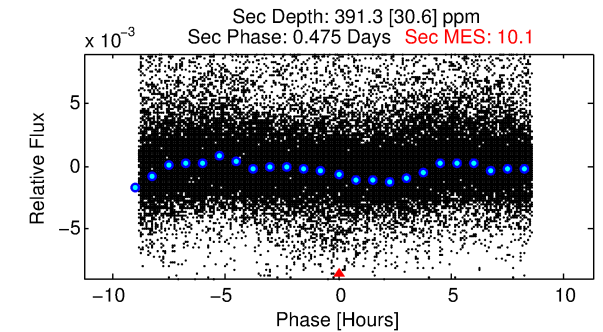
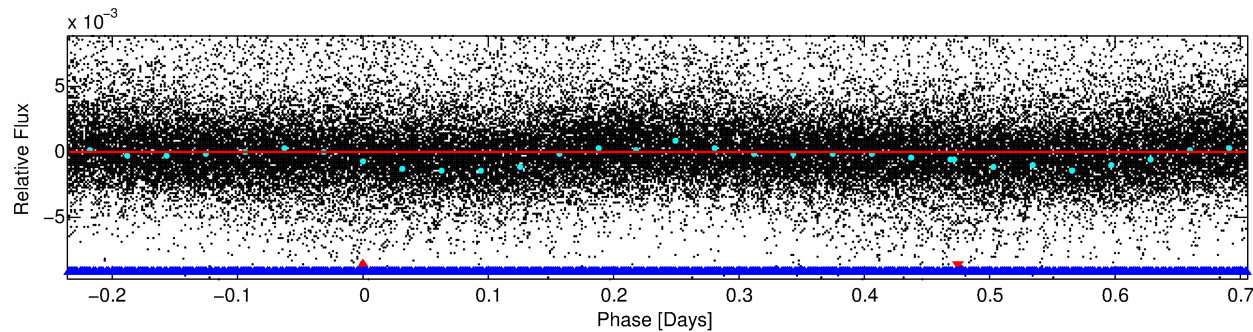
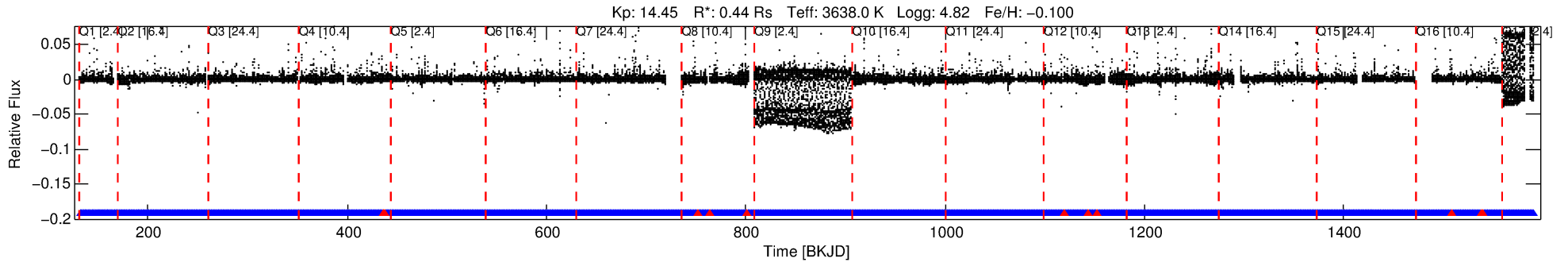
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007800087-01

No Significant Match Found

DV One-Page Summary

KIC: 7800087 Candidate: 1 of 2 Period: 0.941 d



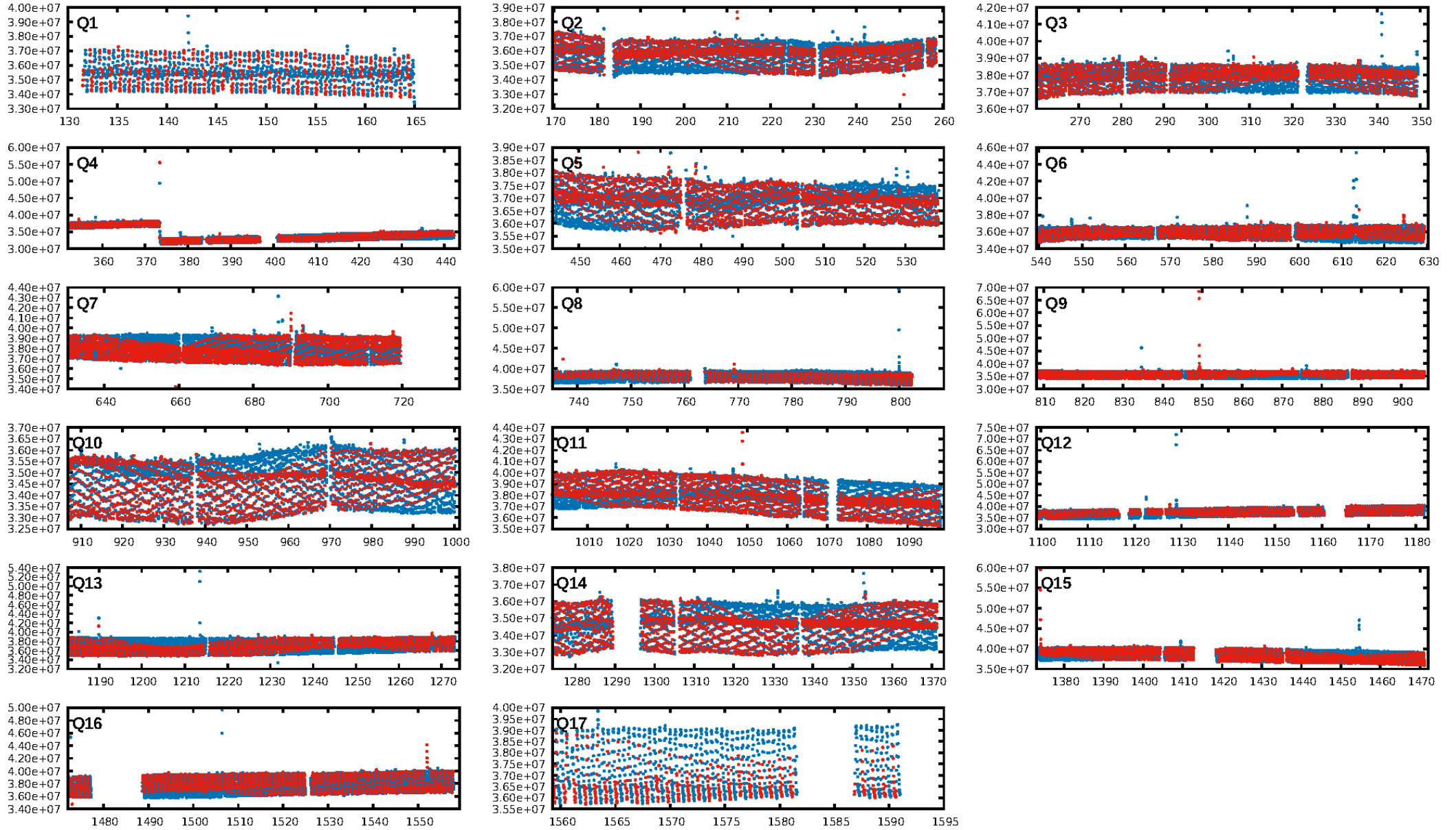
DV Fit Results:

Period = 0.94070 [3.42496] d
Epoch = 132.4125 [603.6532] BKJD
Rp/R* = 0.0000 [0.6257]
a/R* = 1.49 [2288.48]
b = 0.77 [1902.76]
Seff = 143.45 [696.67]
Teq = 882 [1071] K
Rp = 0.00 [30.04] Re
a = 0.0146 [0.0353] AU
Ag = 20408789.25 [820318139891.75] [10.00σ]
Teffp = 91706 [921585838] K [0.00σ]

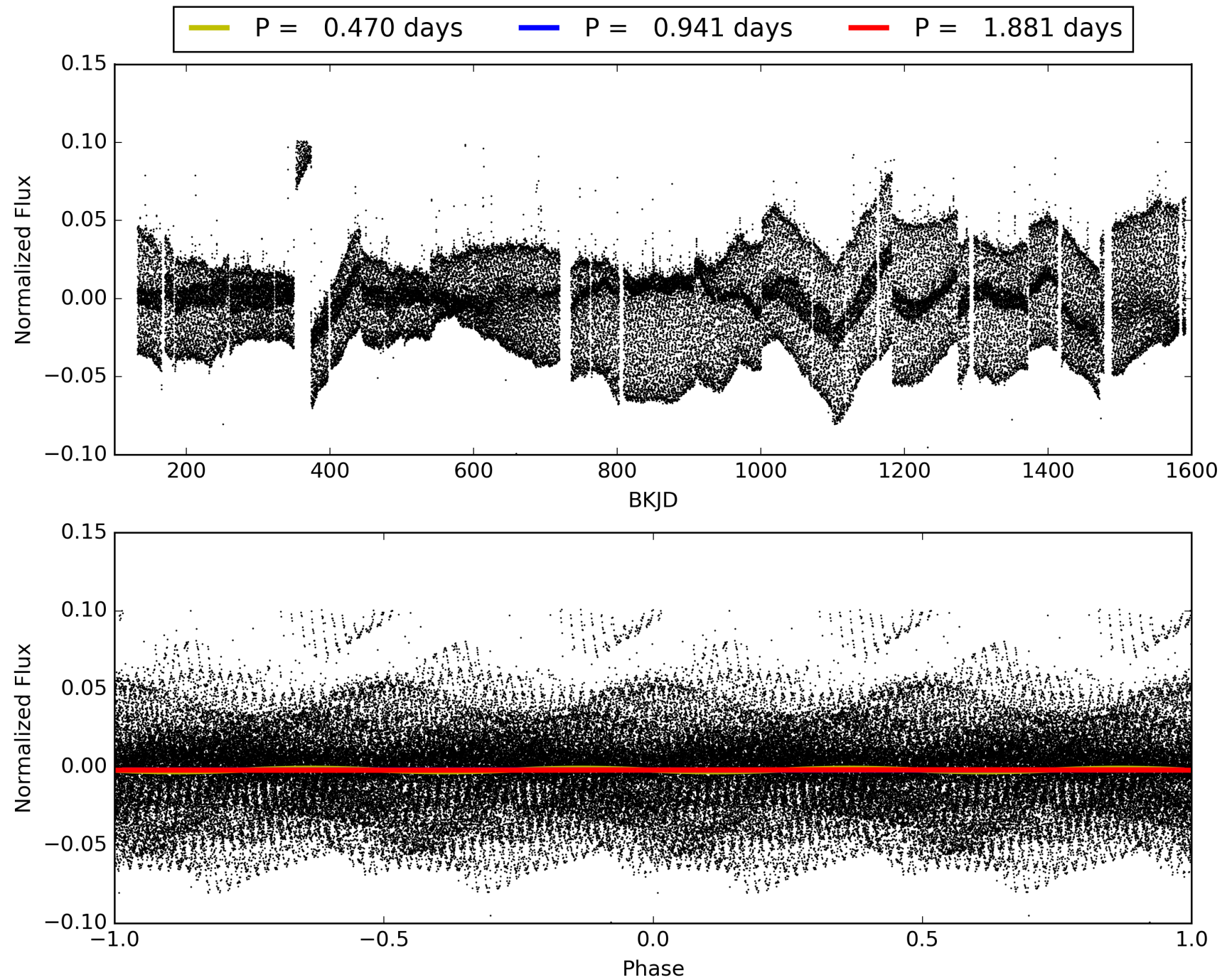
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.7% [0.01σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [1354/1365]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.047 arcsec [0.52σ]
KicOffset-rm: 0.392 arcsec [1.72σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 0.18 [3/17]

TCE 007800087-01, PDC Light Curves

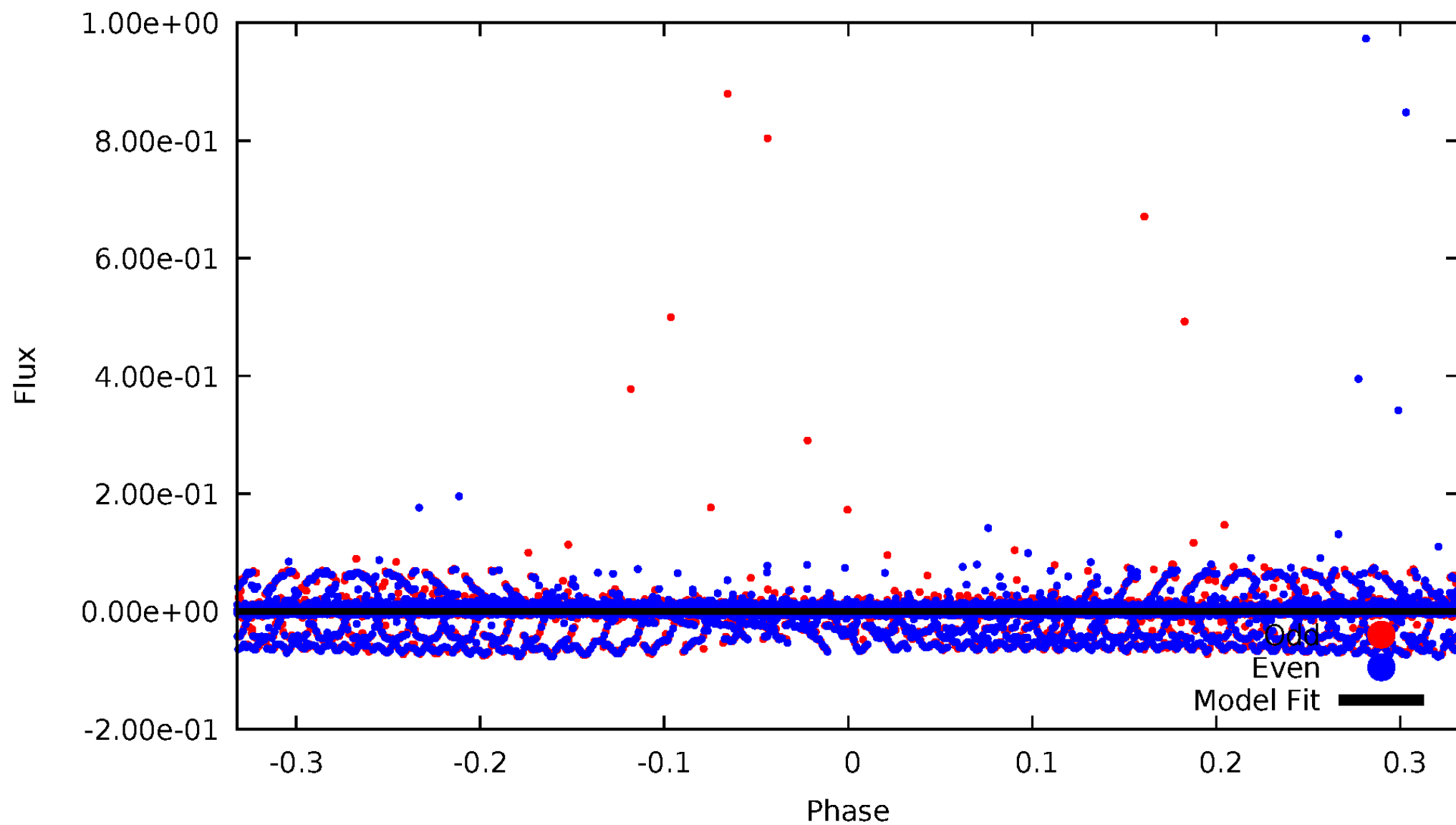


TCE 007800087-01



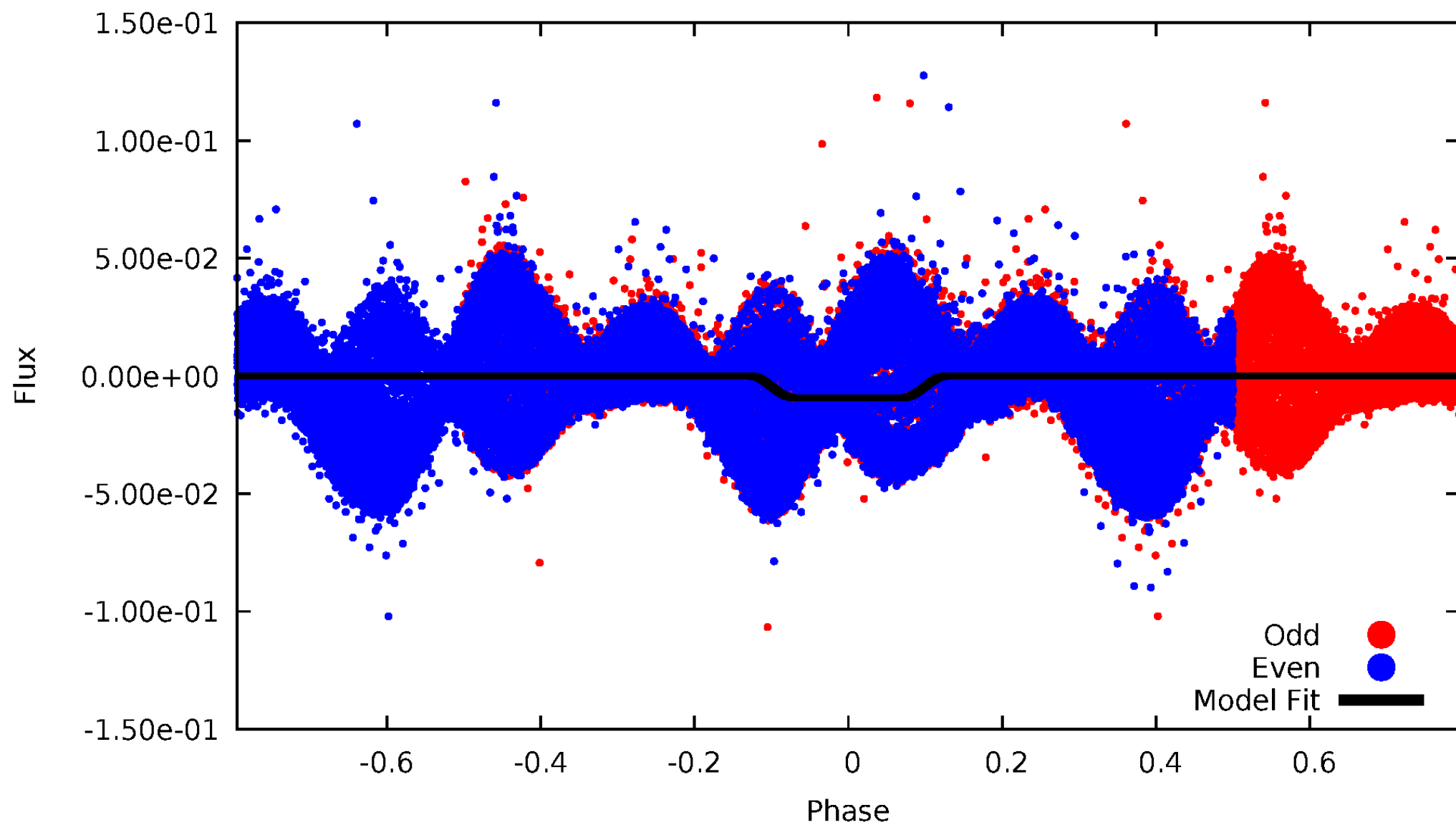
DV Odd/Even

TCE 007800087-01



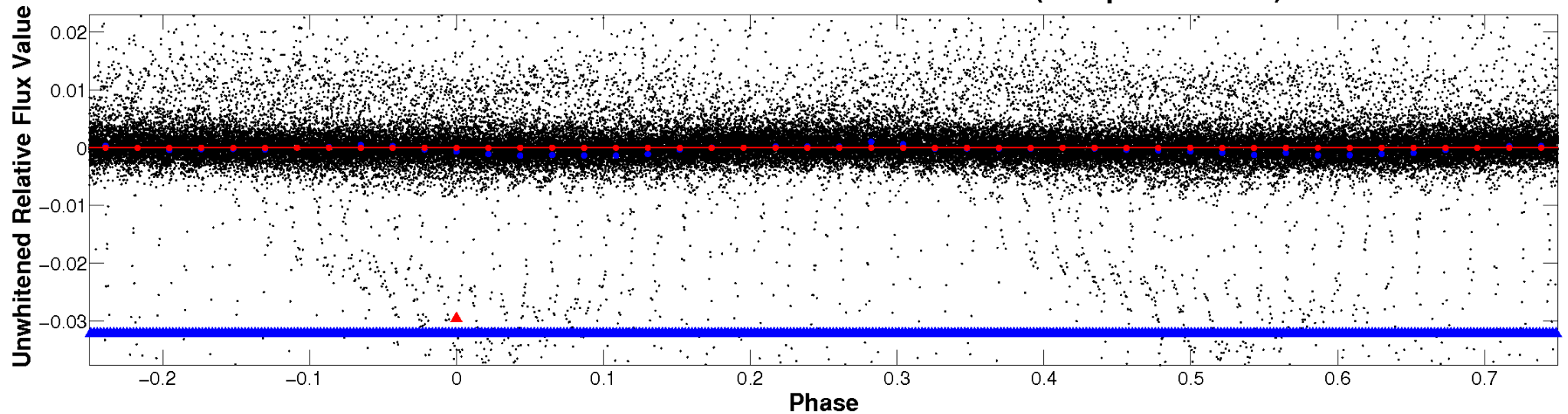
ALT Odd/Even

TCE 007800087-01

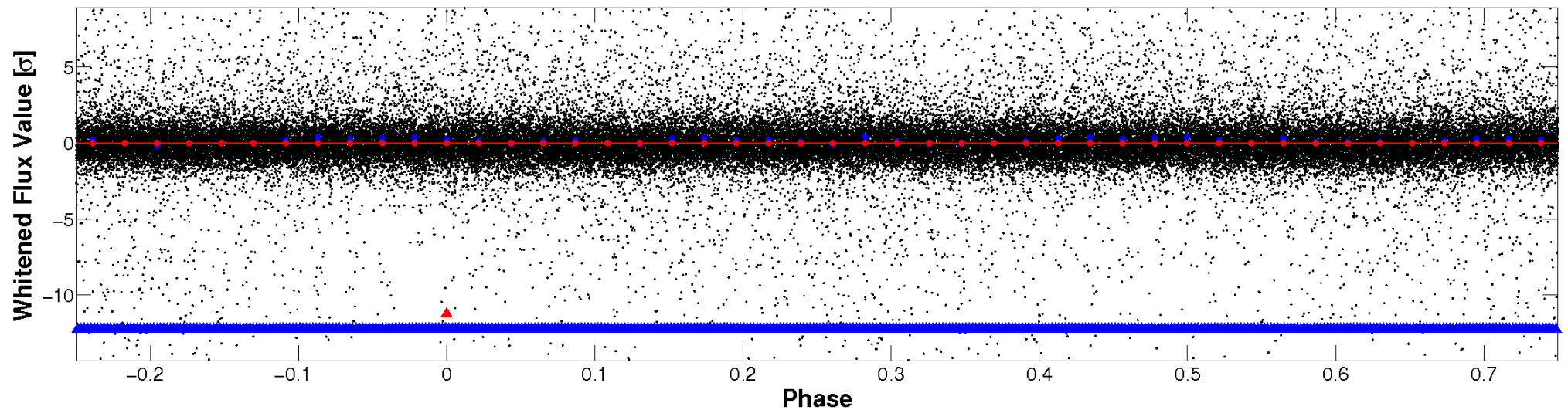


Non-Whitened Vs. Whitened Light Curve

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

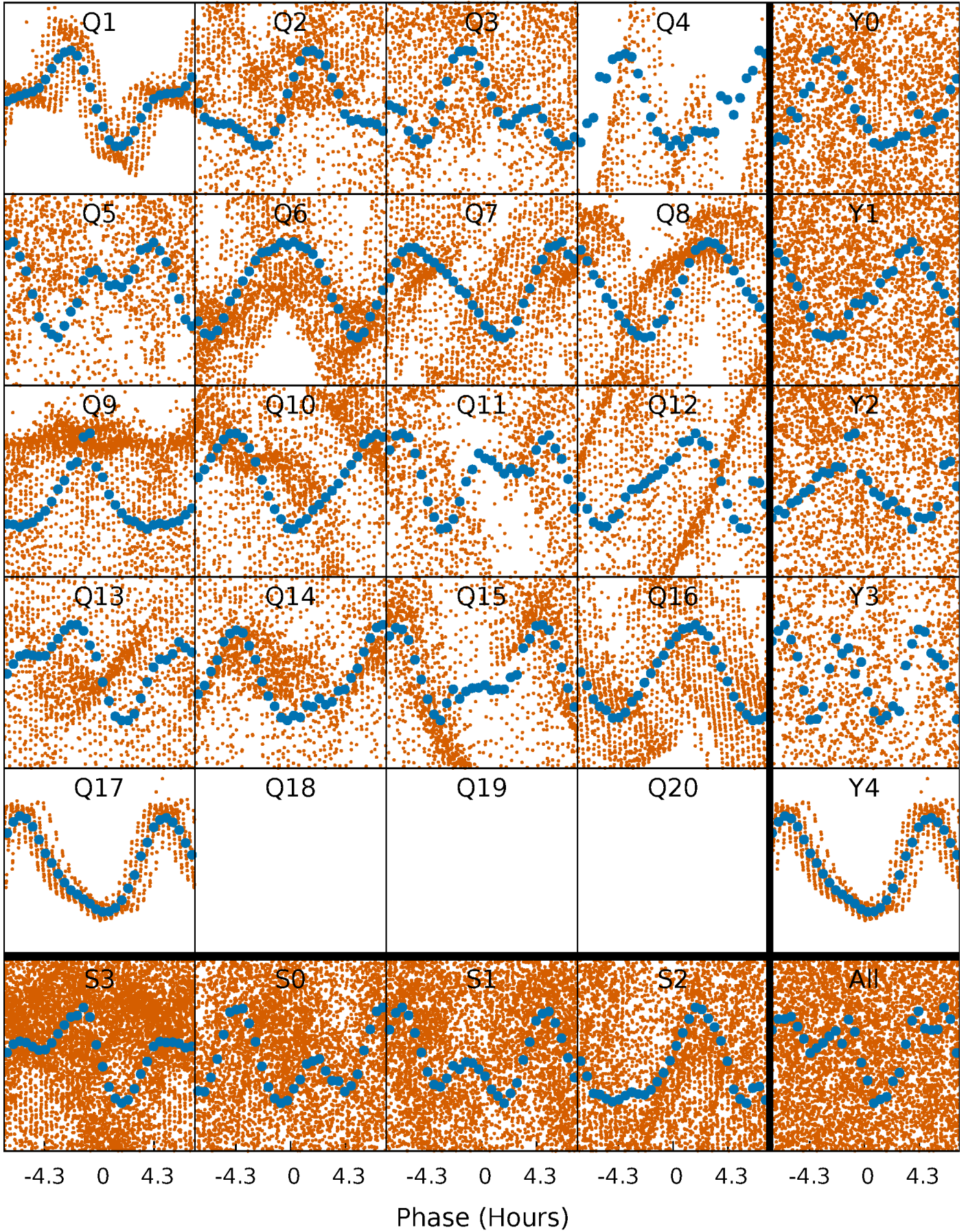


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



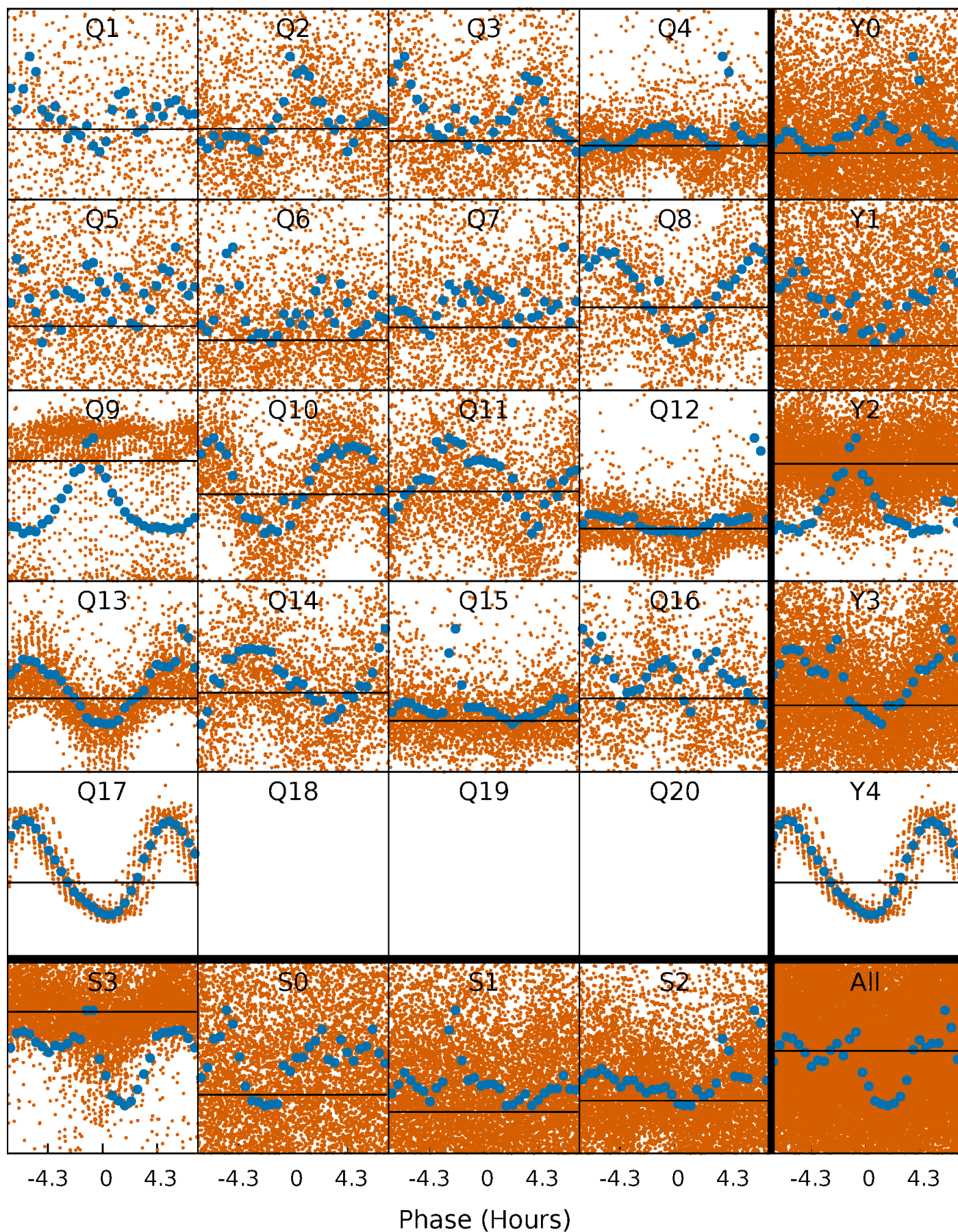
PDC Quarter-Phased Transit Curves

TCE 007800087-01 P= 0.940695 Days $T_0=132.412519$ (BKJD)



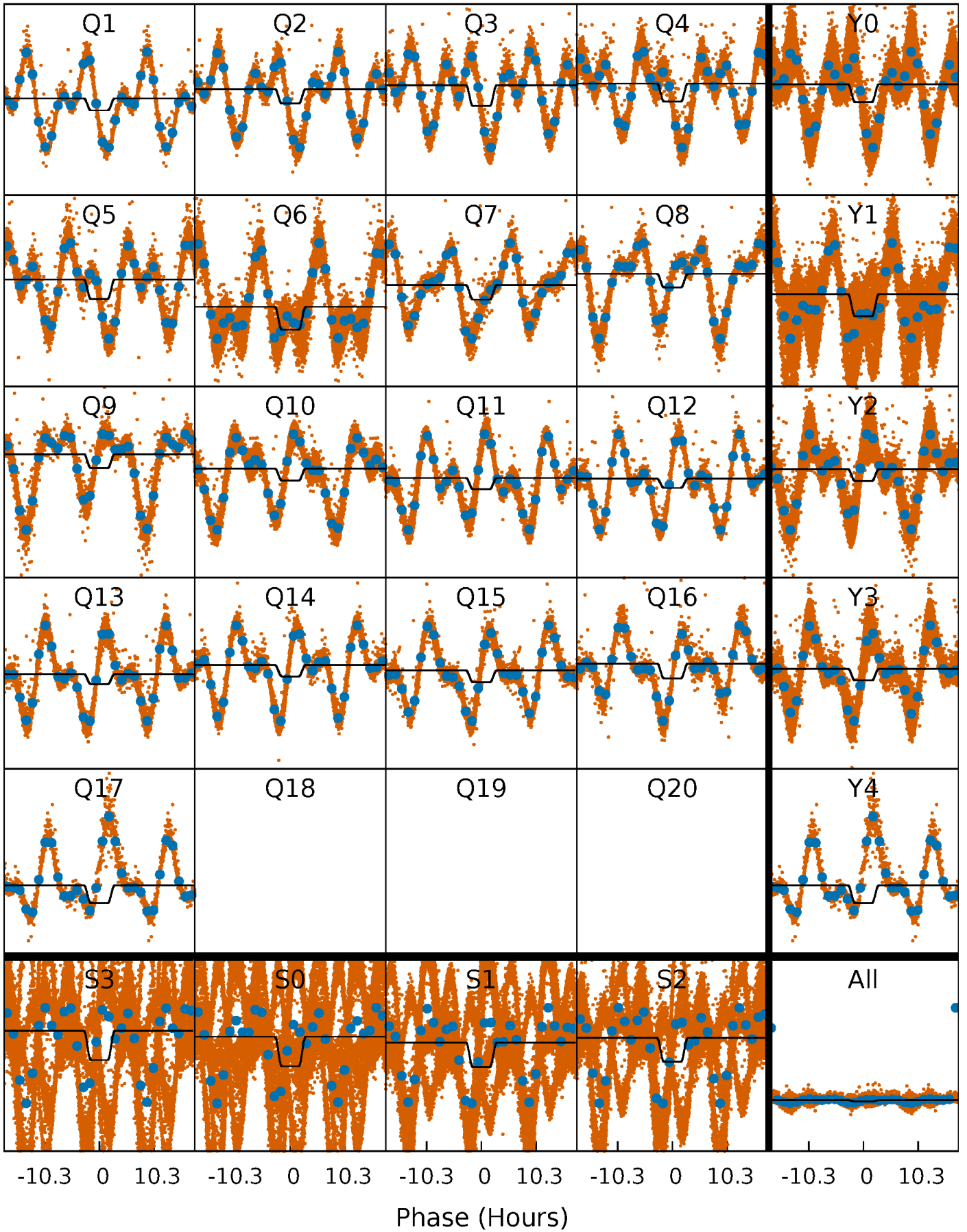
DV Quarter-Phased Transit Curves

TCE 007800087-01 P= 0.940695 Days $T_0=132.412519$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

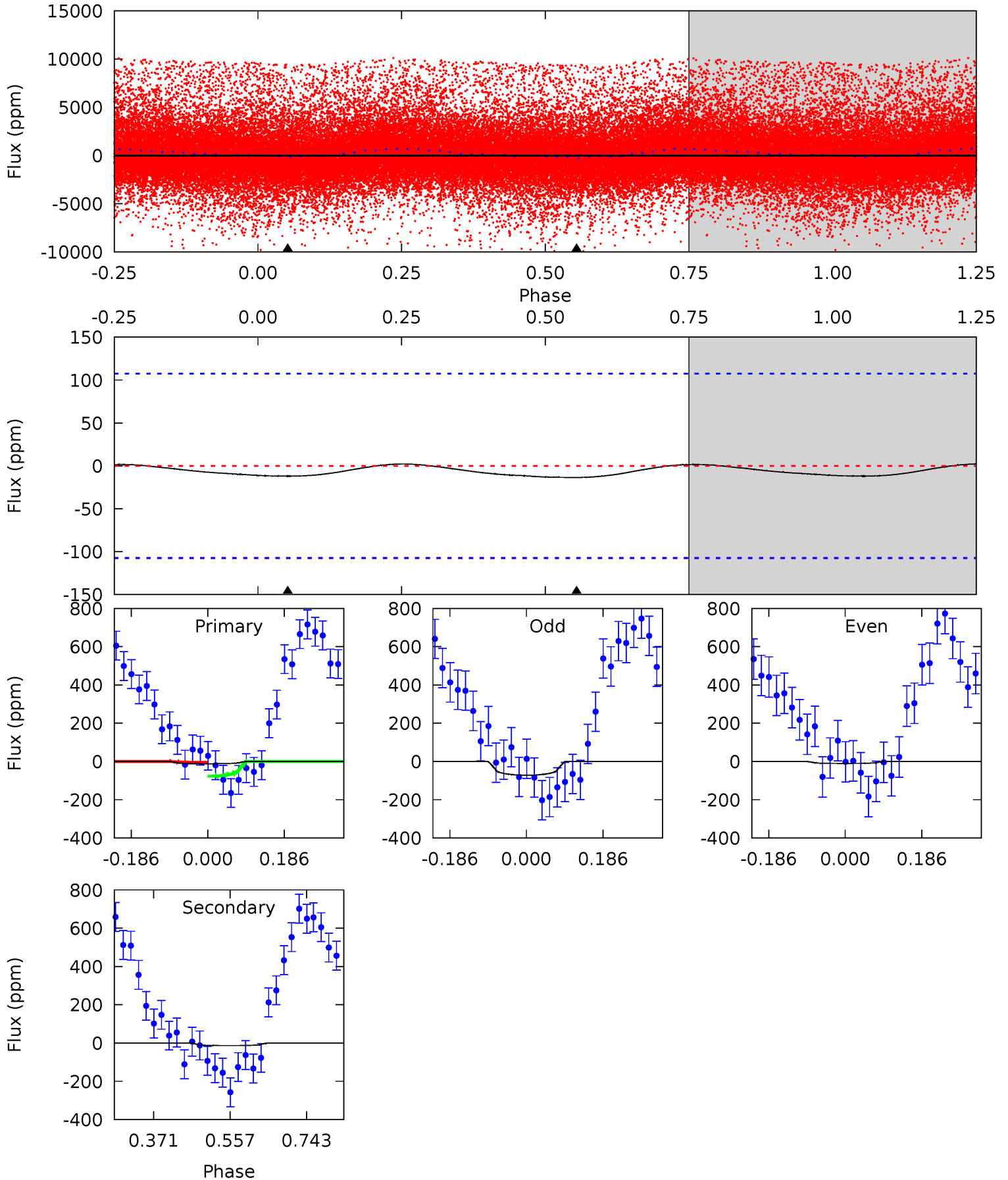
TCE 007800087-01 $P = 0.944214$ Days $T_0 = 132.355668$ (BKJD)



DV Model-Shift Uniqueness Test

007800087-01, P = 0.940695 Days, E = 131.471824 Days

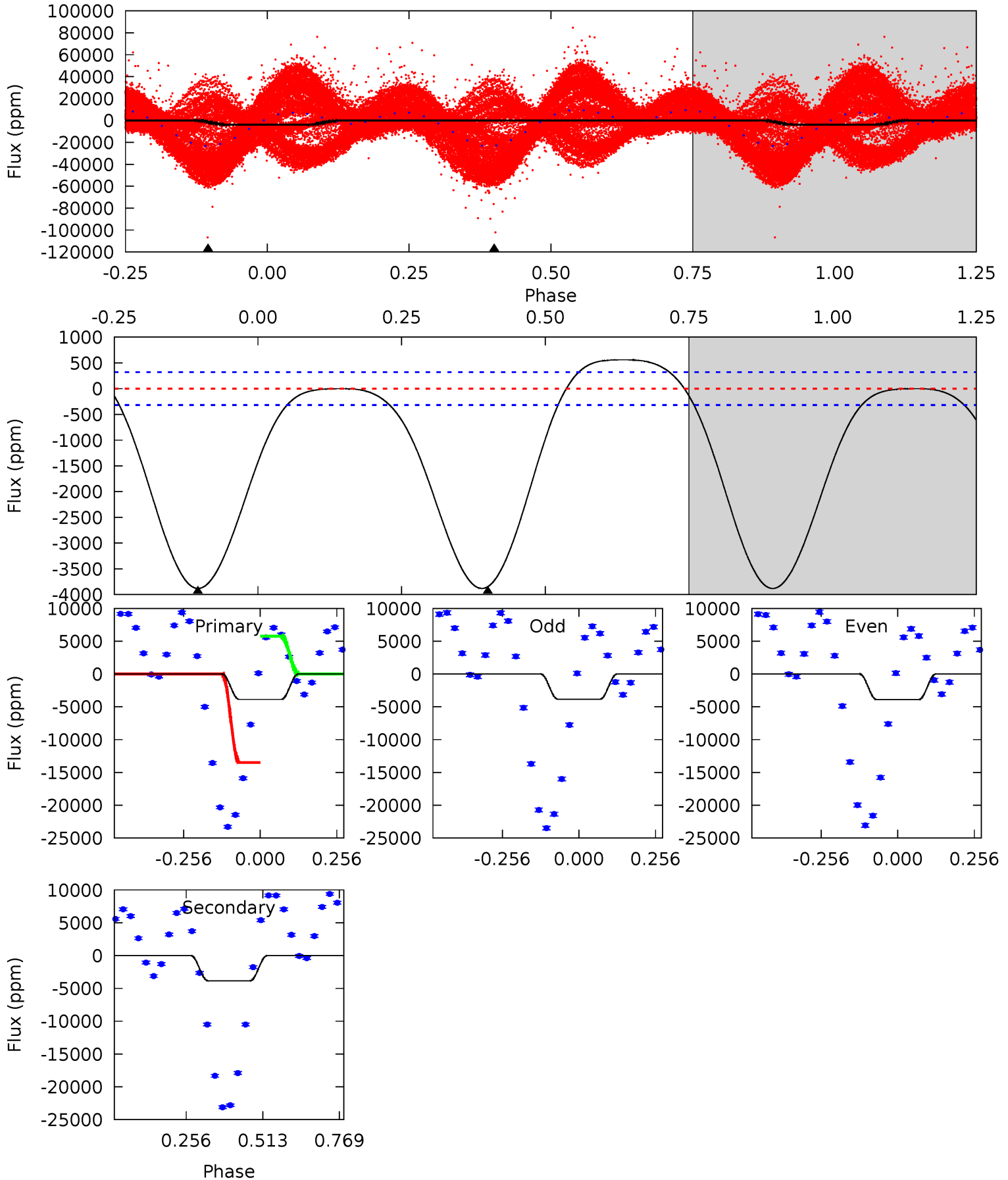
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.49	0.56	0	0	4.43	1.32	0.10	0.49	0.49	0.56	0.56	1.28	13.8	0.14	1.49



Alt Model-Shift Uniqueness Test

007800087-01, P = 0.944214 Days, E = 131.411454 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.0	52.5	0	0	4.36	1.13	3.81	53.0	53.0	52.5	52.5	0.29	0.69	0.13	29.9



Stellar Parameters For KIC 007800087

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3638^{+72}_{-79}	$4.818^{+0.045}_{-0.040}$	$-0.100^{+0.100}_{-0.100}$	$0.440^{+0.034}_{-0.051}$	$0.462^{+0.031}_{-0.054}$	$7.650^{+2.021}_{-1.106}$
	+2%/-2%	+1%/-1%	+100%/-100%	+8%/-12%	+7%/-12%	+26%/-14%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 007800087-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-14 ± 24	$20.02^{+21.42}_{-13.78}$	852^{+406}_{-171}	-1659^{+202}_{-300}	$0.005^{+0.155}_{-0.017}$
Alt.	-3845 ± 73	$21.71^{+21.79}_{-15.27}$	872^{+408}_{-177}	2091^{+809}_{-438}	$3.501^{+30.949}_{-3.031}$

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

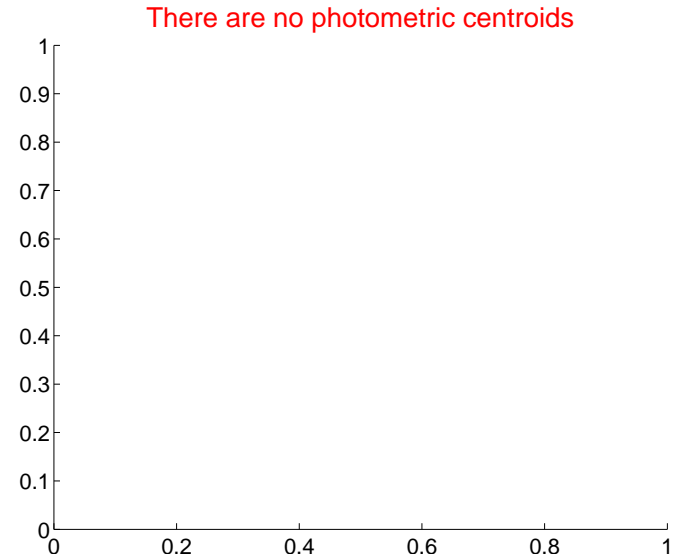
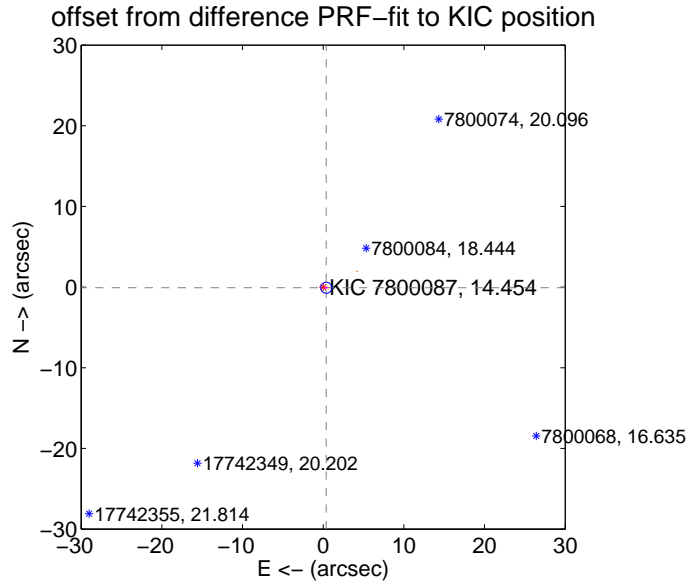
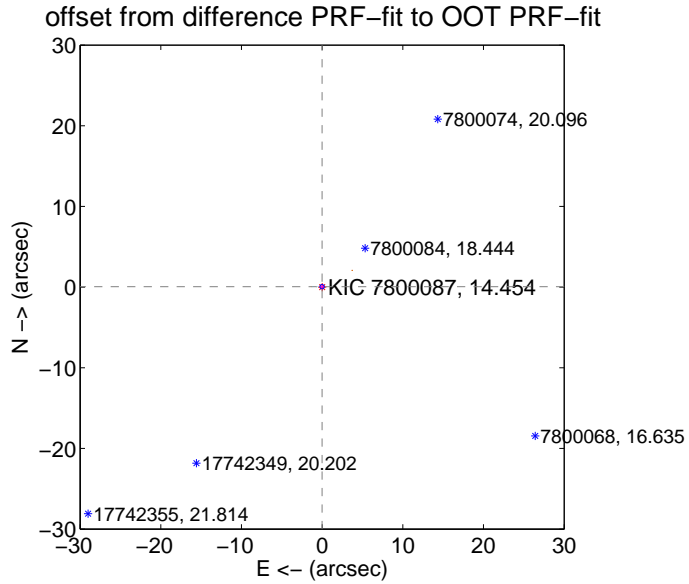
DV Centroid Data

Supplemental centroid analysis for 007800087-01. Kepler magnitude: 14.45. Transit SNR 0.00

There are 10 quarters with good PRF difference image offsets

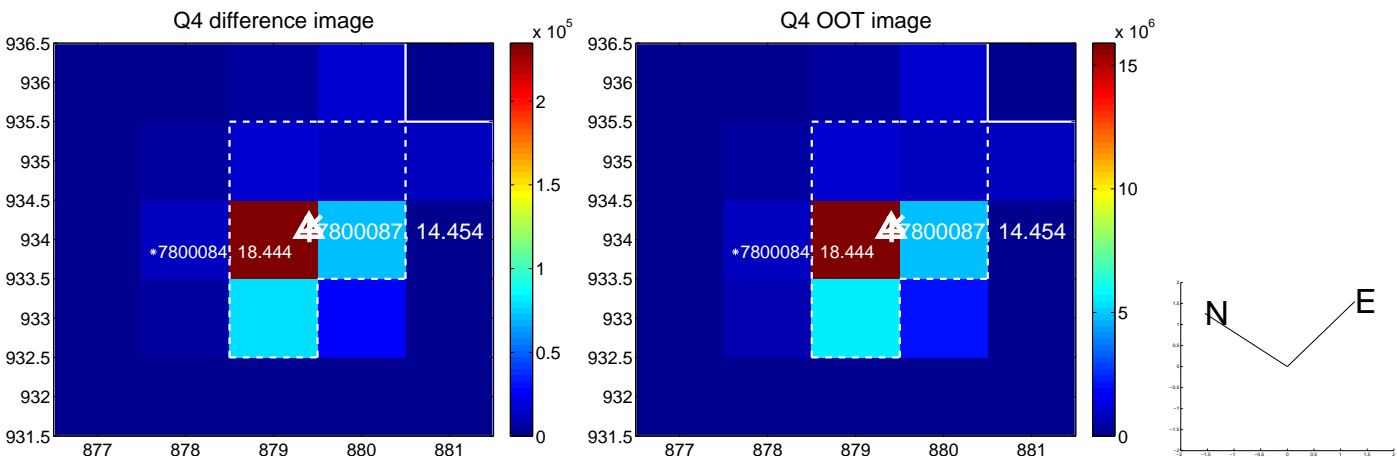
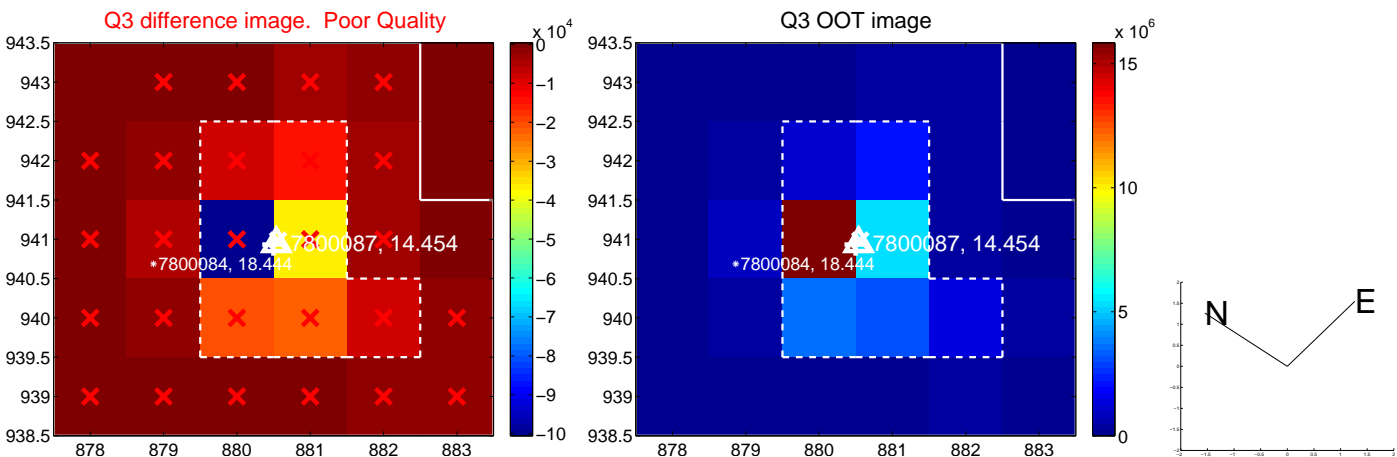
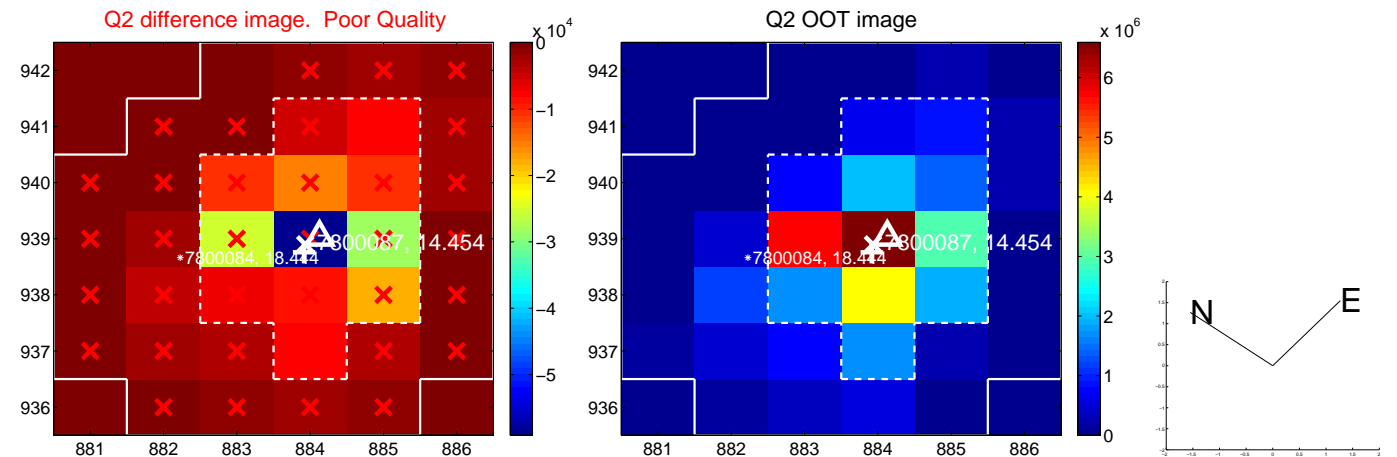
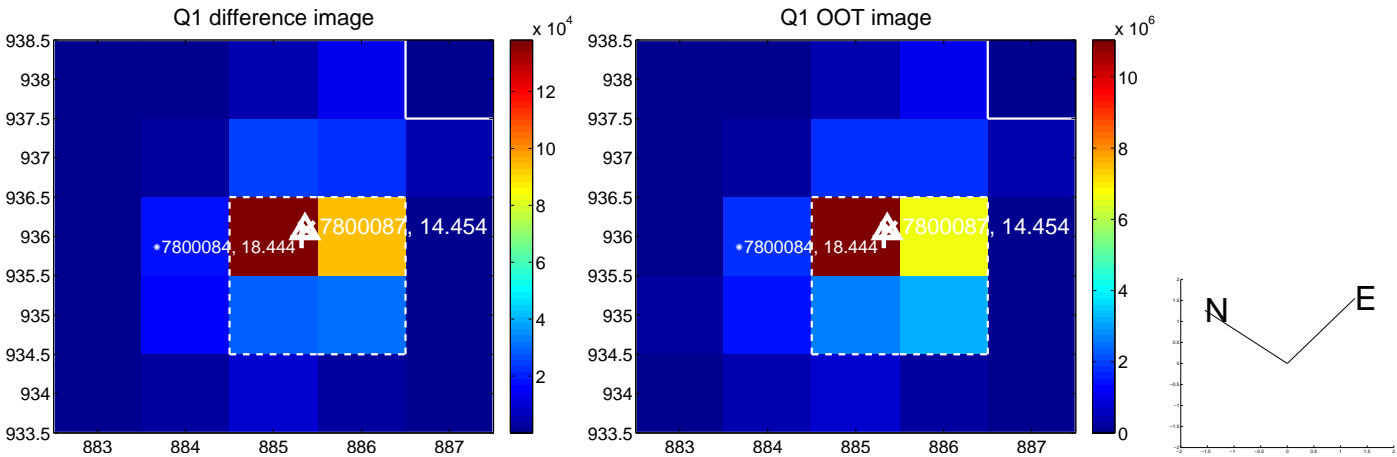
The direct PRF centroid is offset from the target star catalog position by about 0.49 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.047 ± 0.090	0.52	0.011 ± 0.251	0.046 ± 0.129
PRF-fit source offset from KIC position	0.392 ± 0.229	1.72	-0.383 ± 0.254	-0.083 ± 0.135
photometric centroid source offset	—	—	—	—

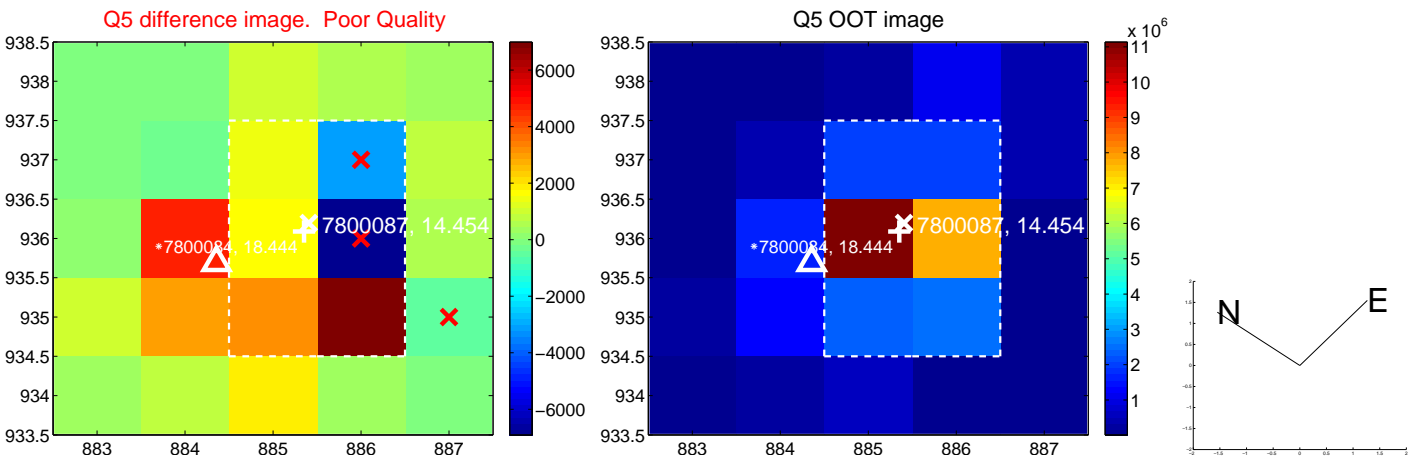


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

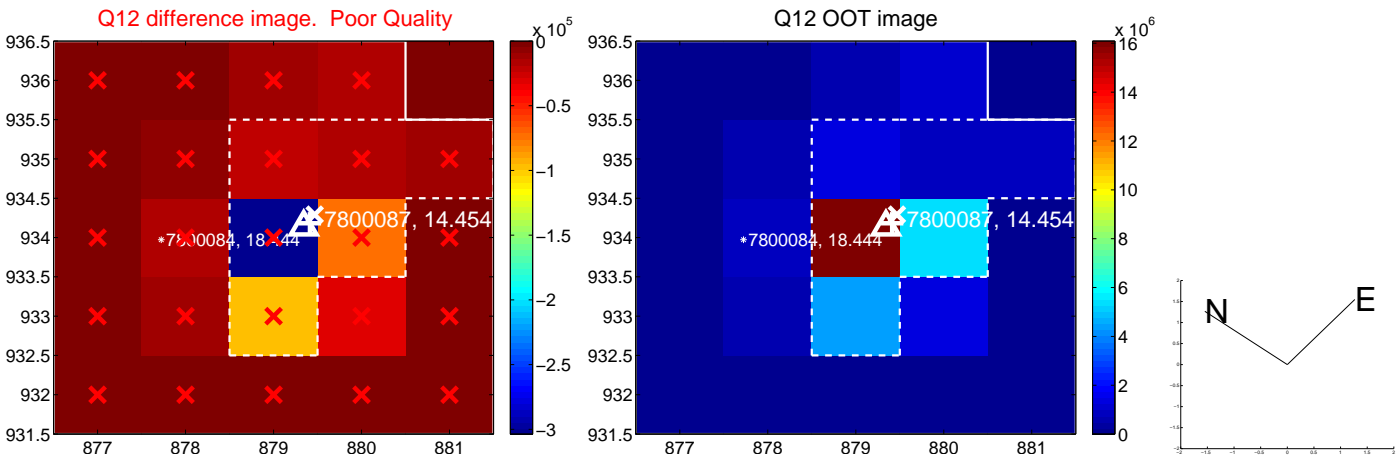
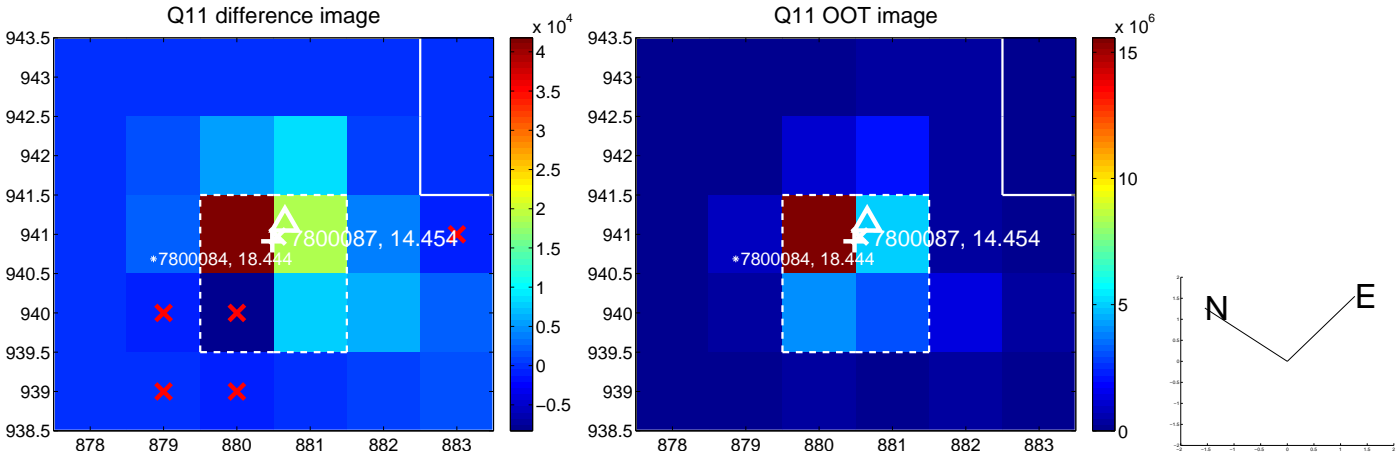
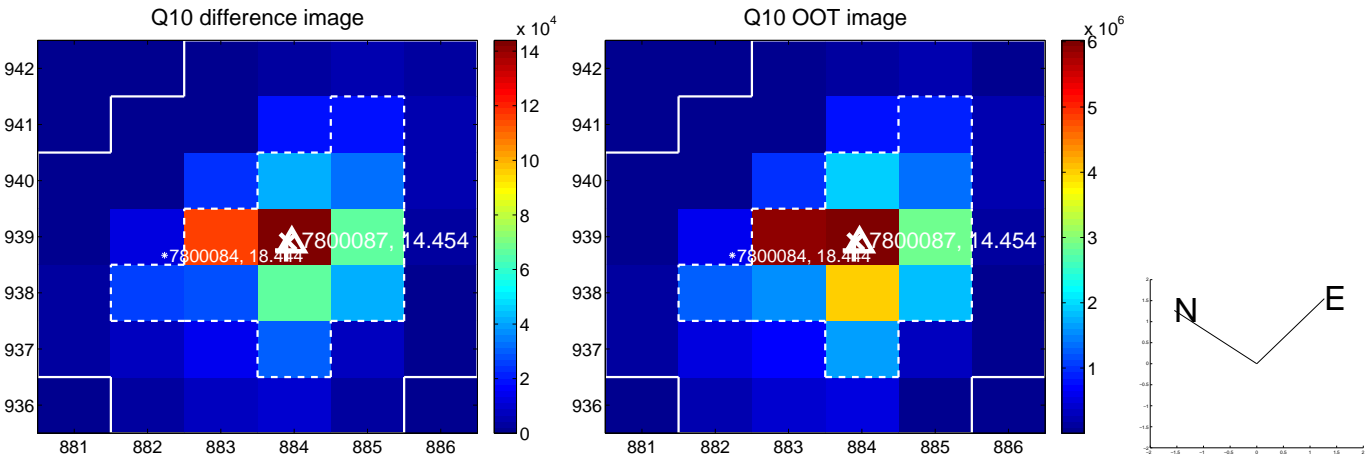
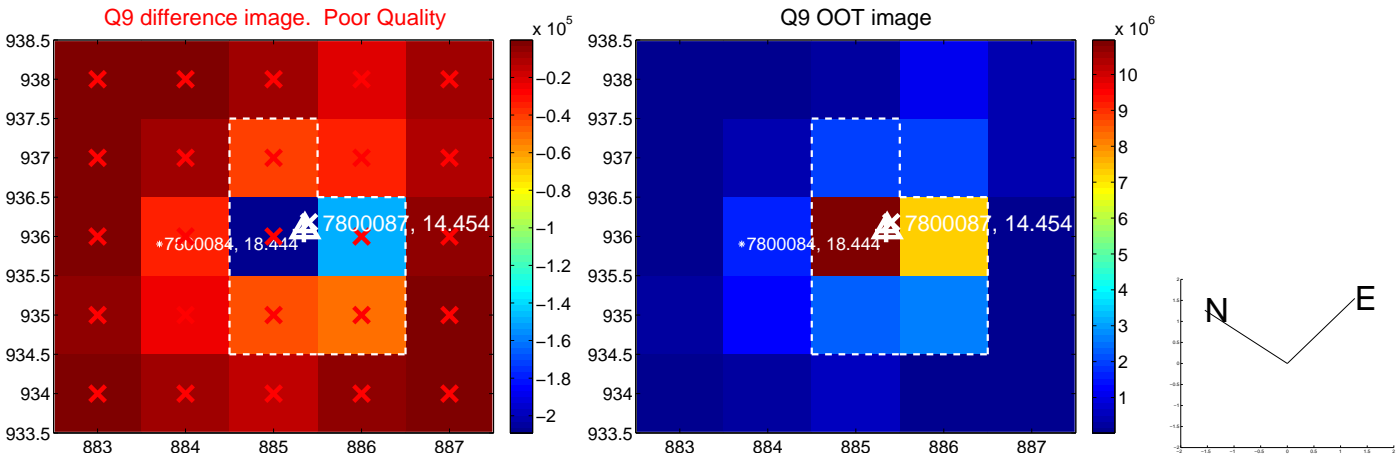
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



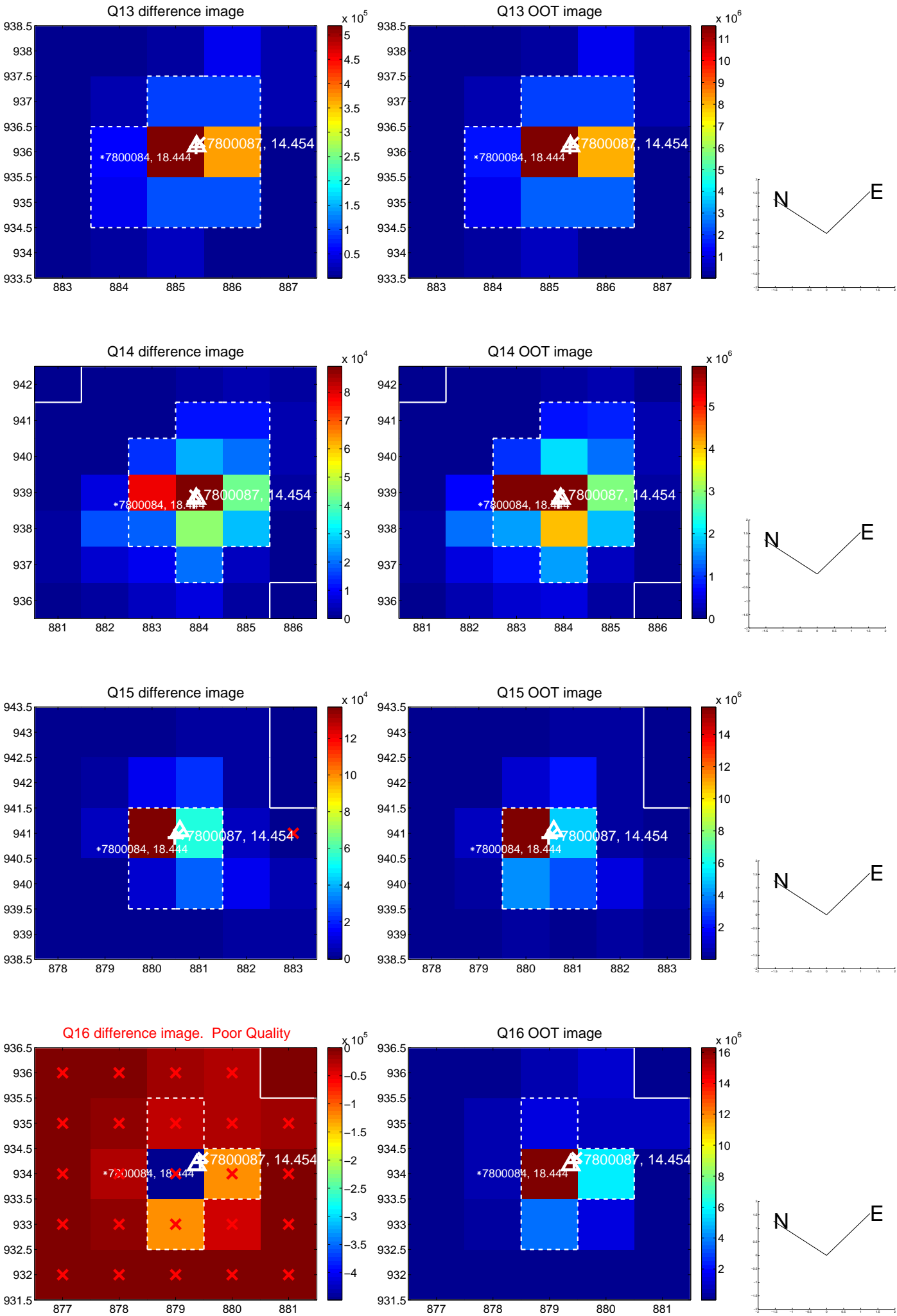
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



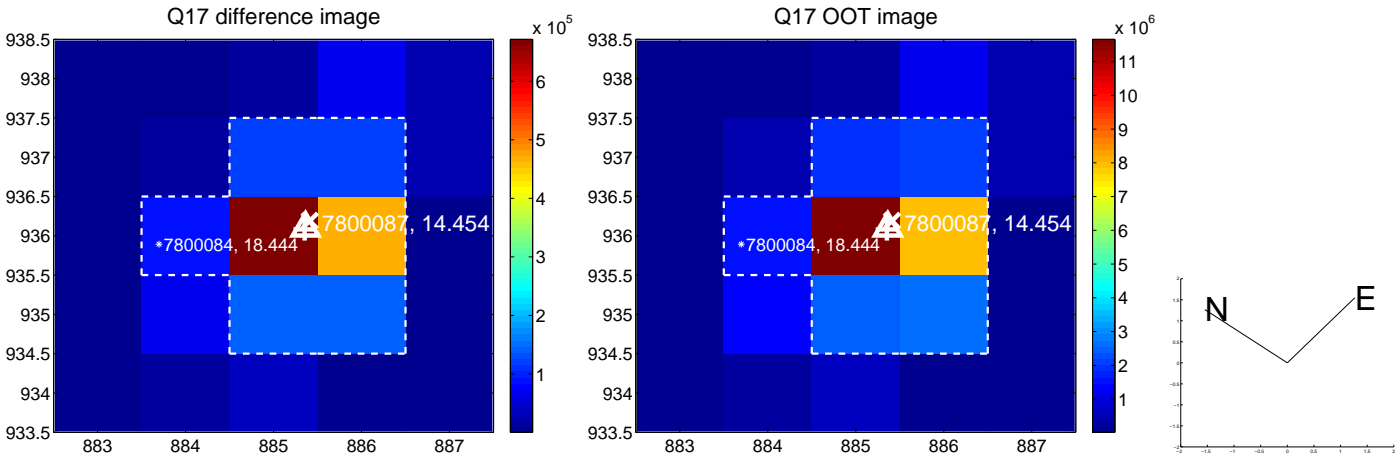
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



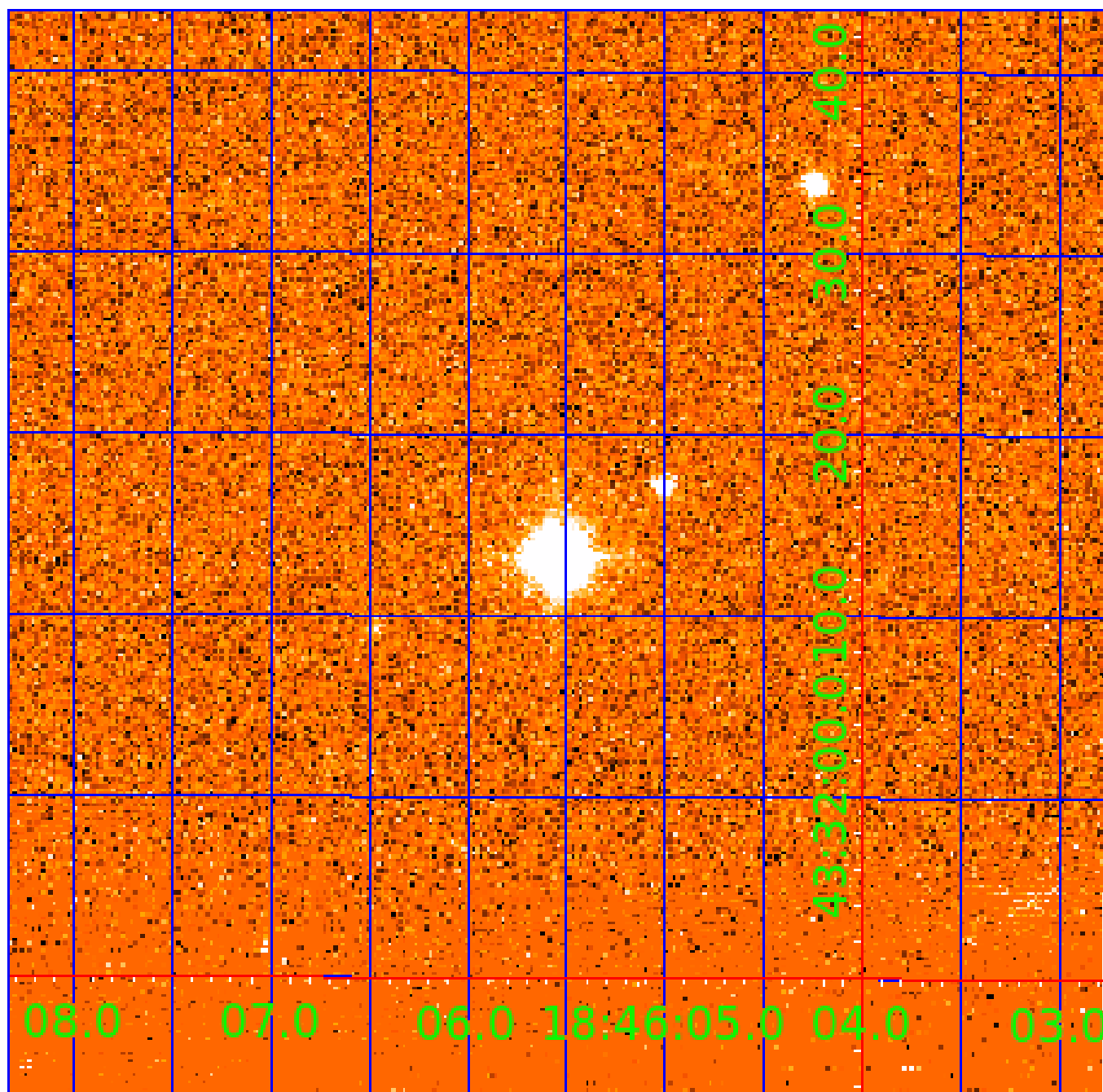
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 007800087

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})
007800087-01	OBS	No	0.940695	132.412519	0.0	3.749	15.1	0.0	0.44	3638	0.00	143.46
007800087-02	OBS	No	0.942799	132.376246	460.7	4.599	52.0	7.5	0.44	3638	1.25	143.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007800087-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_KIC_POS
007800087-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_KIC_POS

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

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

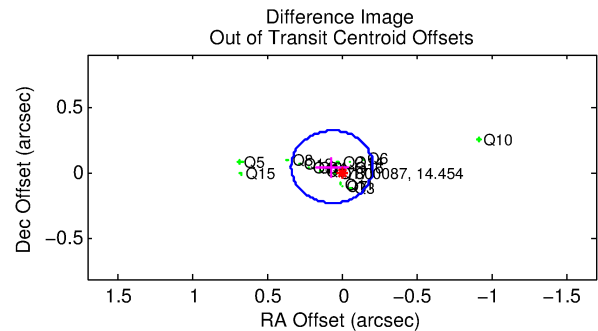
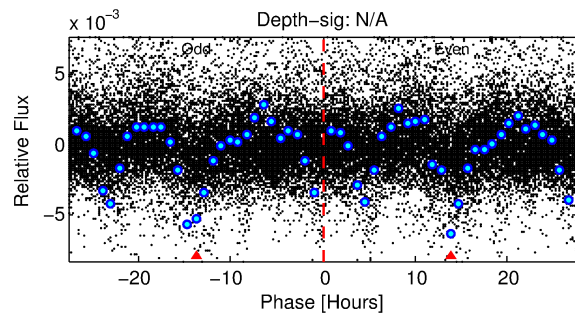
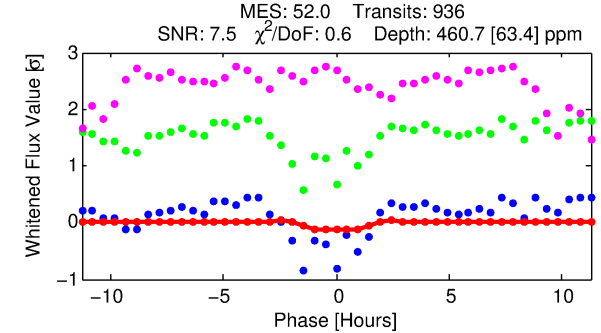
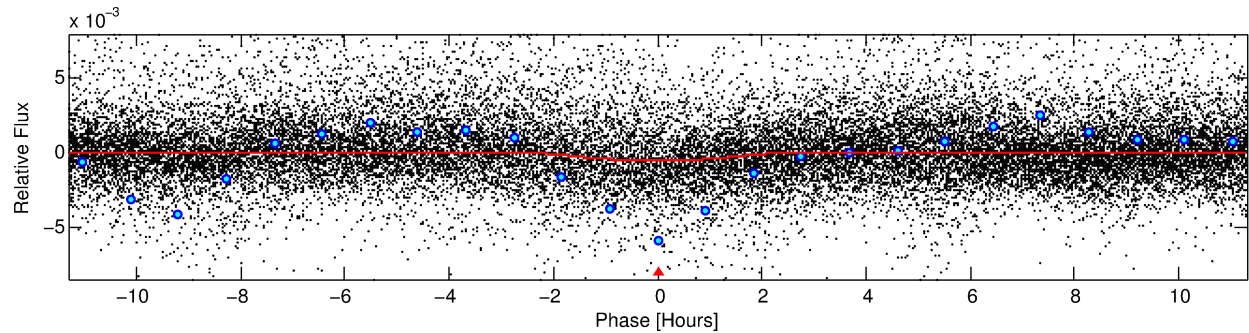
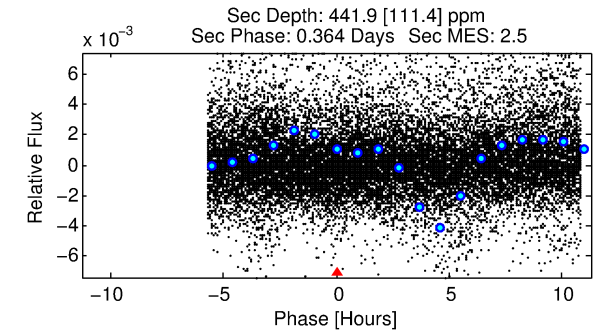
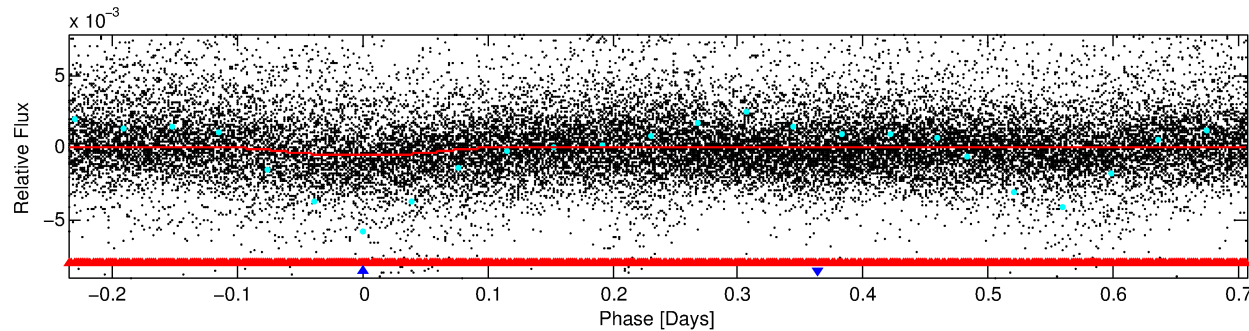
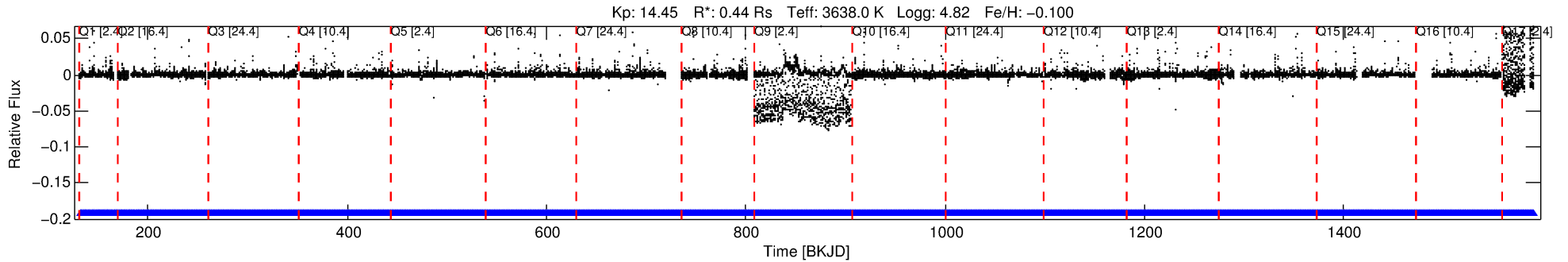
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007800087-02

No Significant Match Found

DV One-Page Summary

KIC: 7800087 Candidate: 2 of 2 Period: 0.943 d



DV Fit Results:

Period = 0.94280 [0.00001] d
Epoch = 132.3762 [0.0049] BKJD
Rp/R* = 0.0261 [0.0022]
a/R* = 1.13 [0.04]
b = 0.96 [0.01]
Seff = 143.03 [19.34]
Teff = 882 [30] K
Rp = 1.25 [0.18] Re
a = 0.0146 [0.0012] AU
Ag = 32.92 [10.62] [3.01σ]
Teffp = 3266 [259] K [9.13σ]

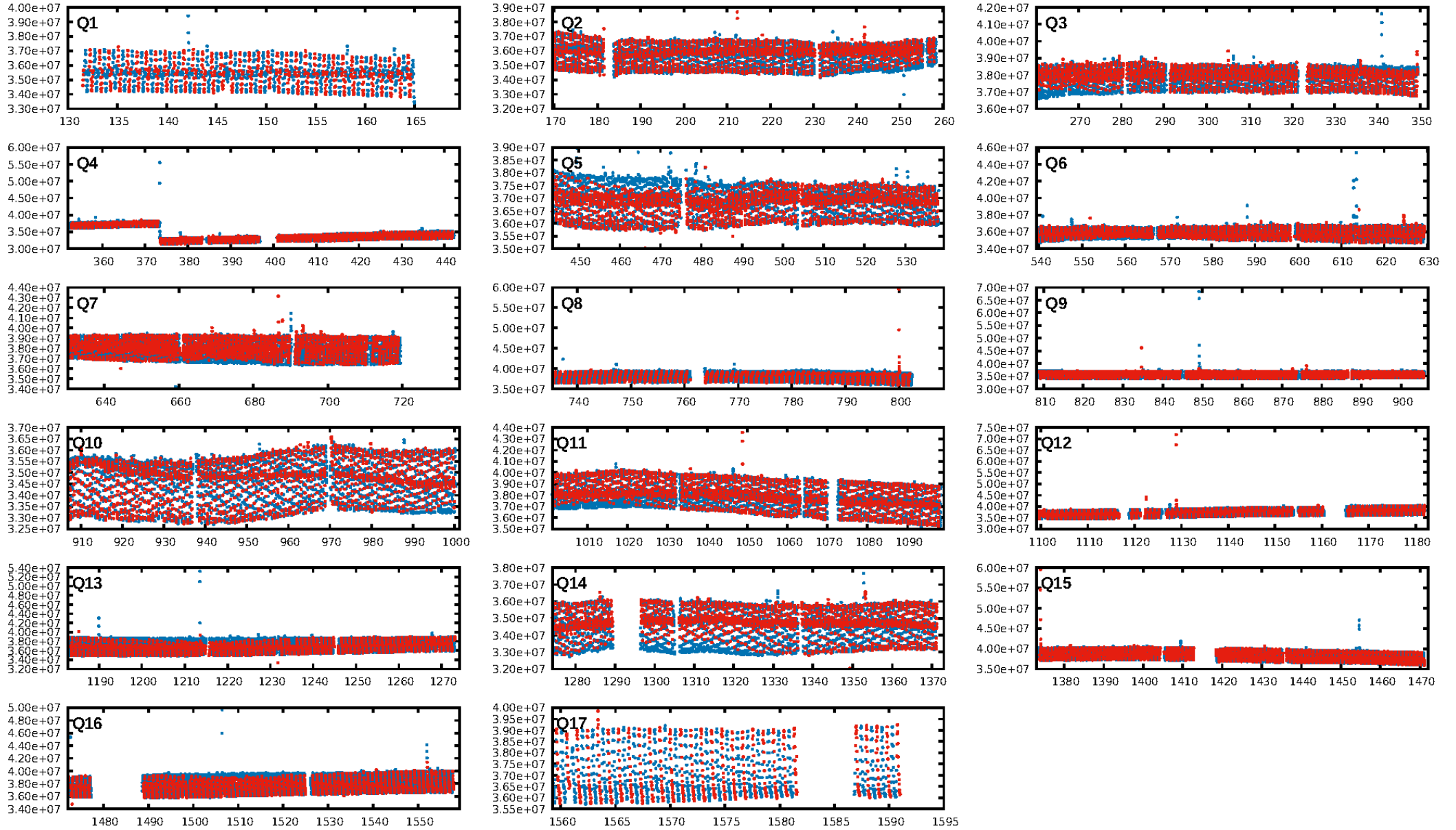
DV Diagnostic Results:

ShortPeriod-sig: 0.7% [0.01σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [907/907]
GhostDiagnostic-chr: -11.54
Centroid-sig: 0.7%
Centroid-so: 0.686 arcsec [5.45σ]
OotOffset-rm: 0.080 arcsec [0.87σ]
KicOffset-rm: 0.365 arcsec [3.26σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 0.00 [0/17]

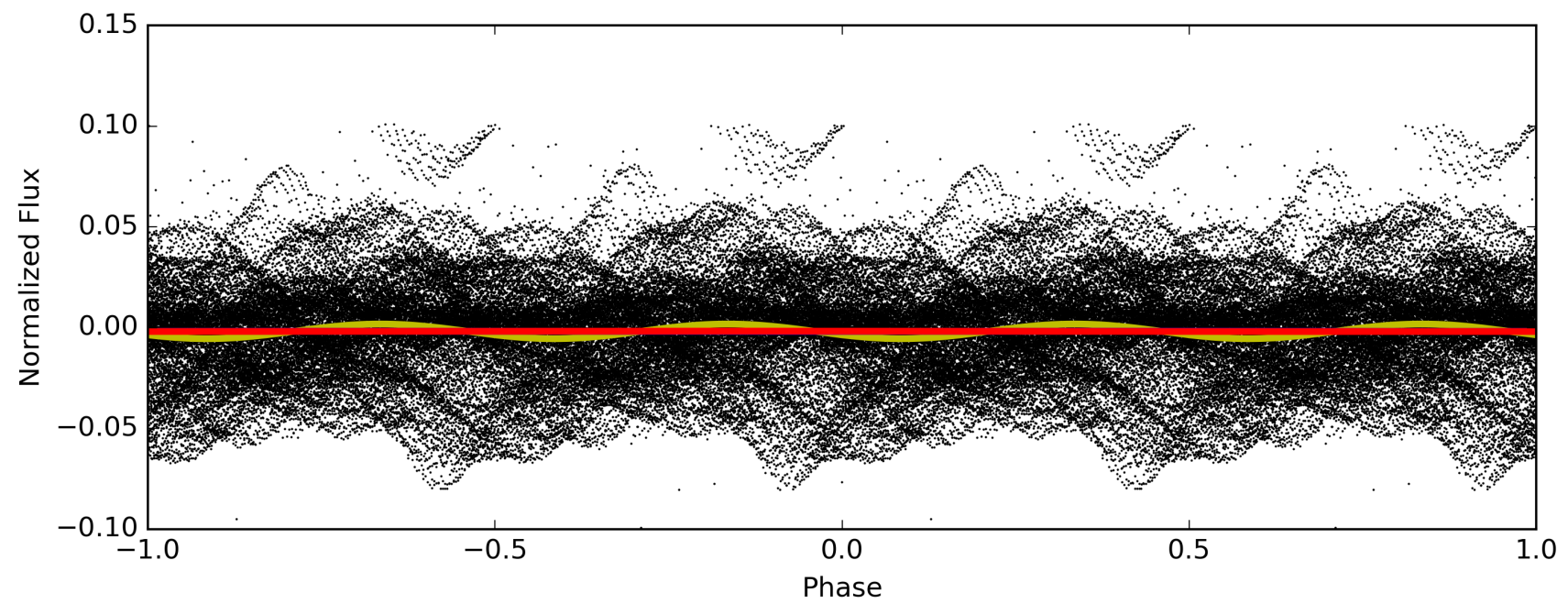
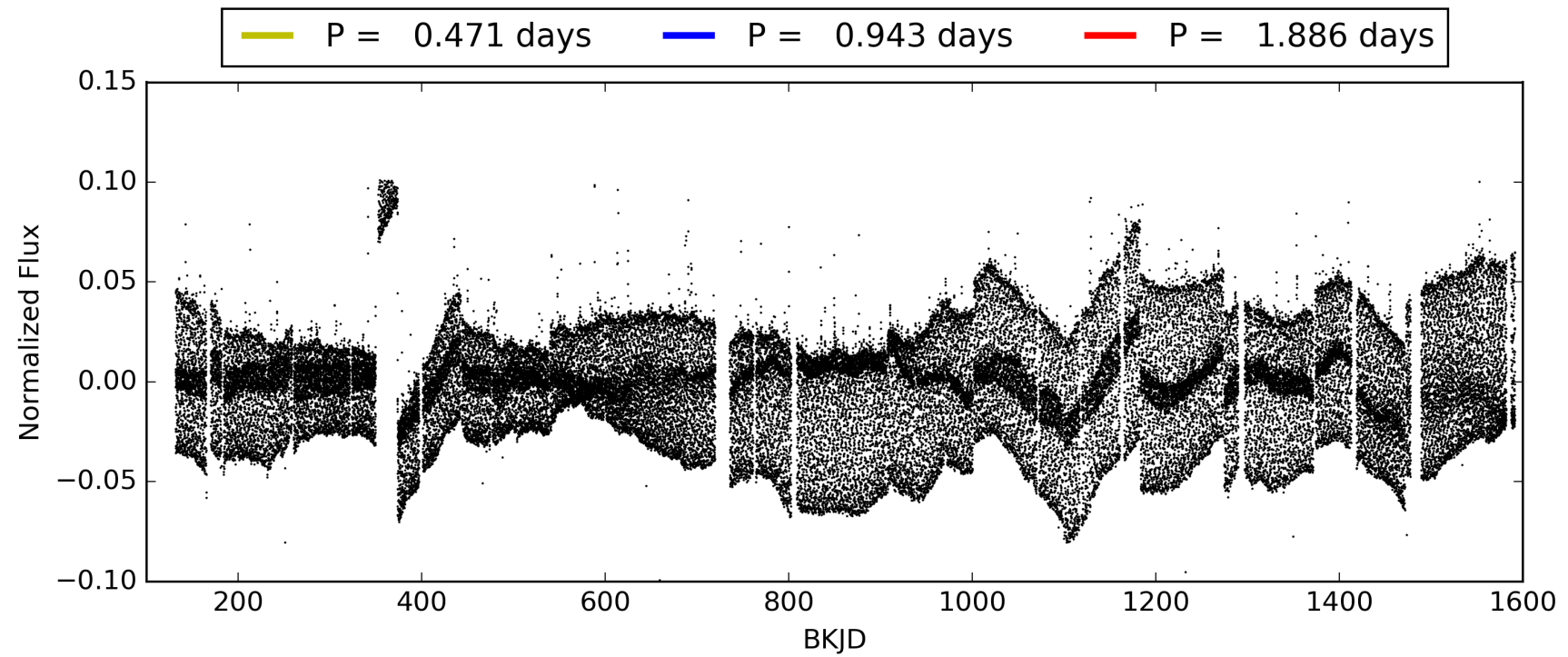
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 15:40:36 Z

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

TCE 007800087-02, PDC Light Curves

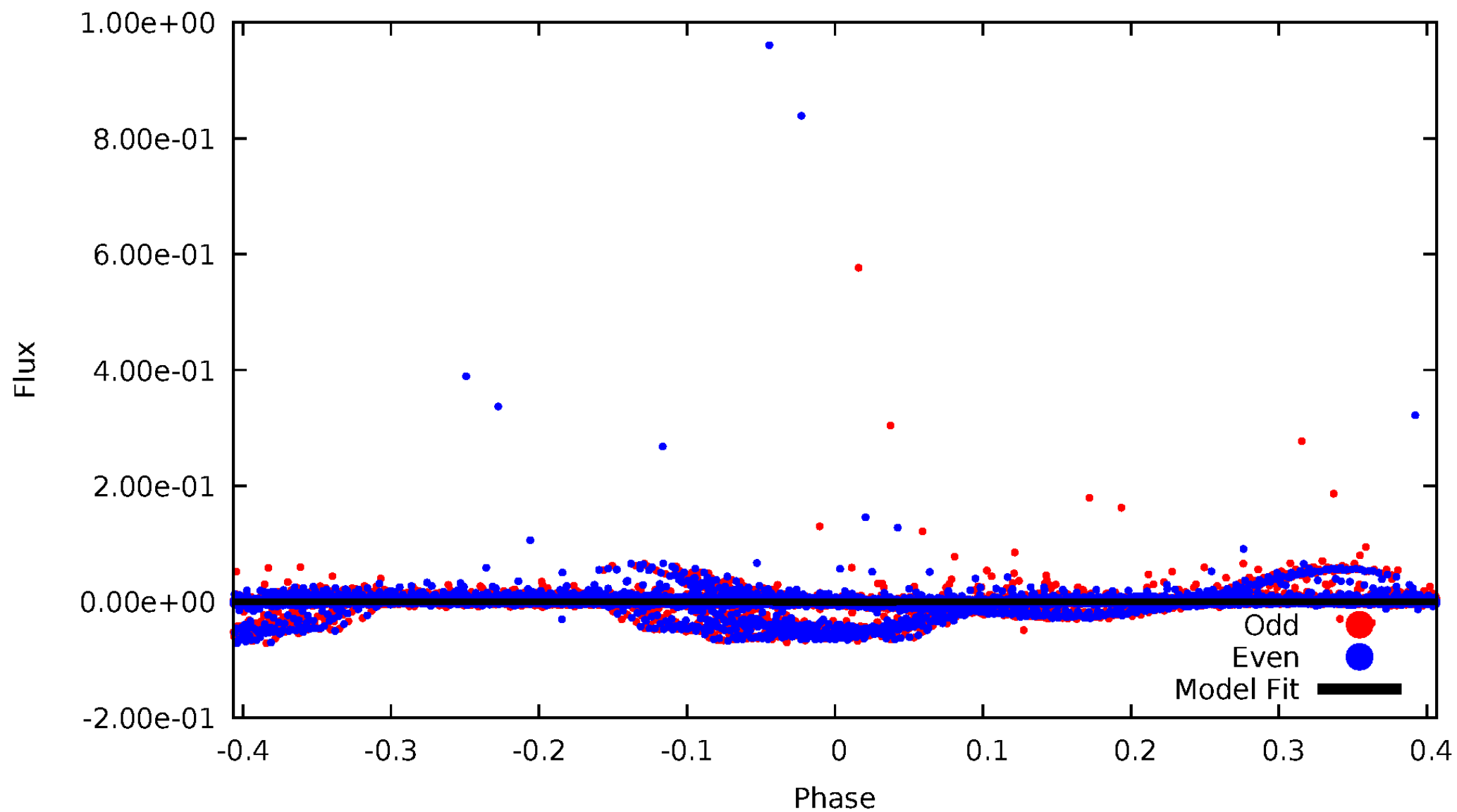


TCE 007800087-02



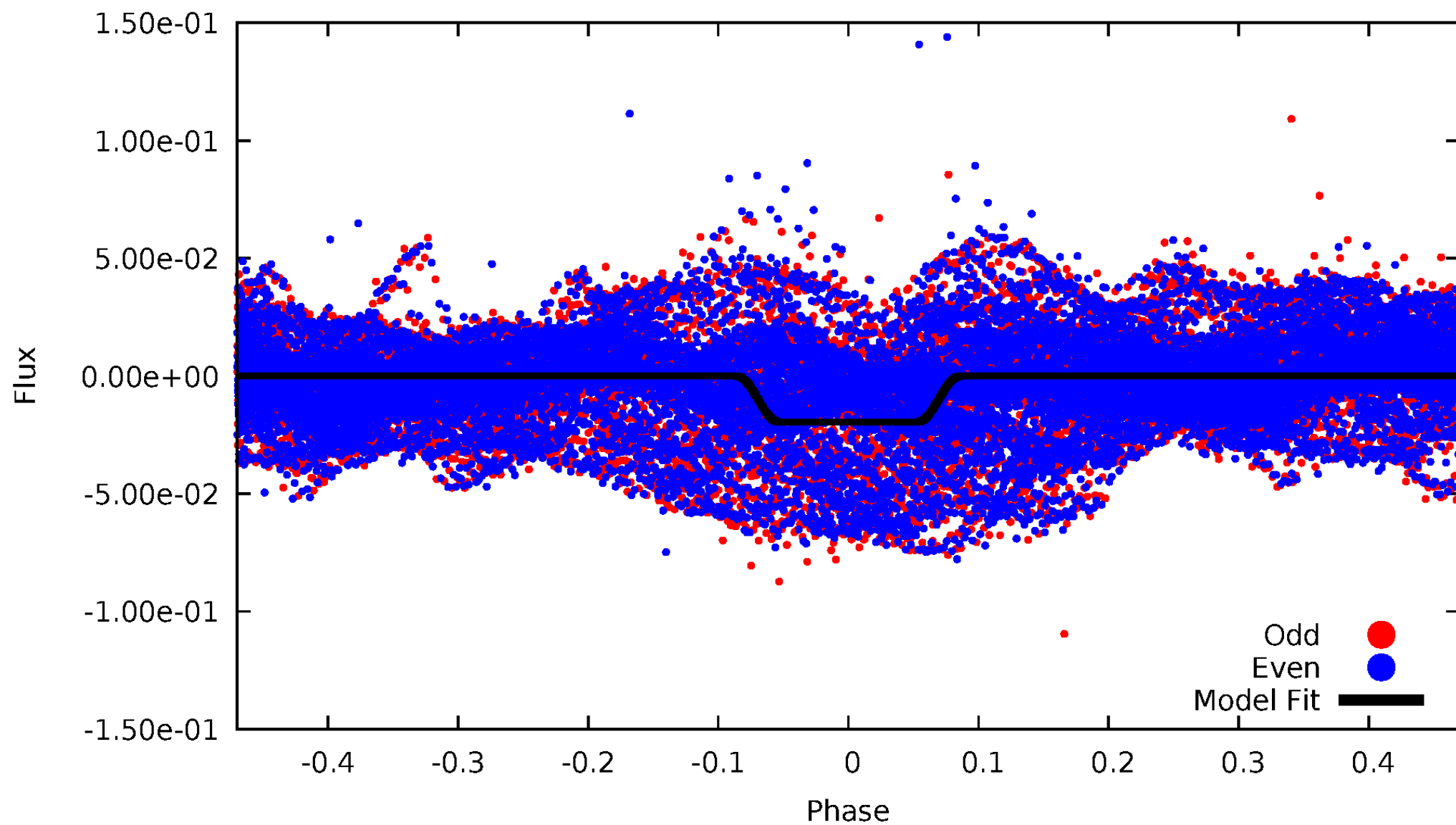
DV Odd/Even

TCE 007800087-02



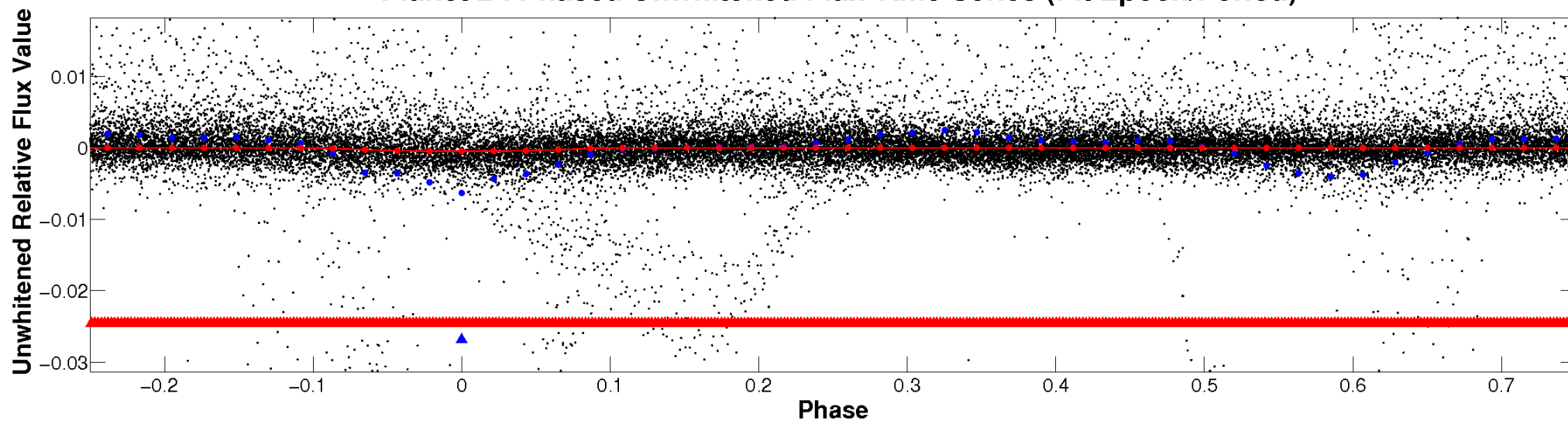
ALT Odd/Even

TCE 007800087-02

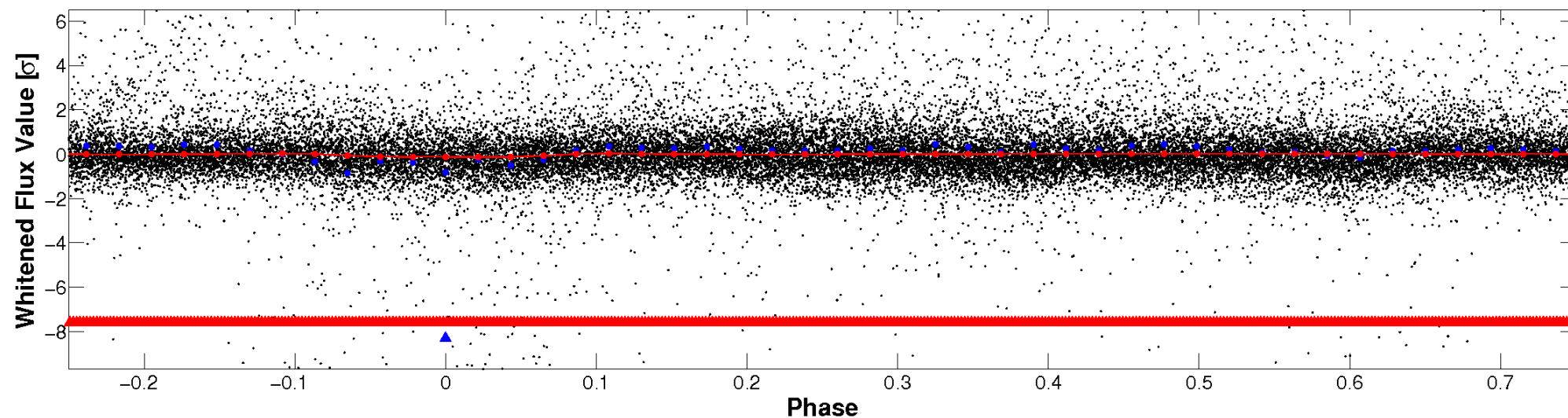


Non-Whitened Vs. Whitened Light Curve

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

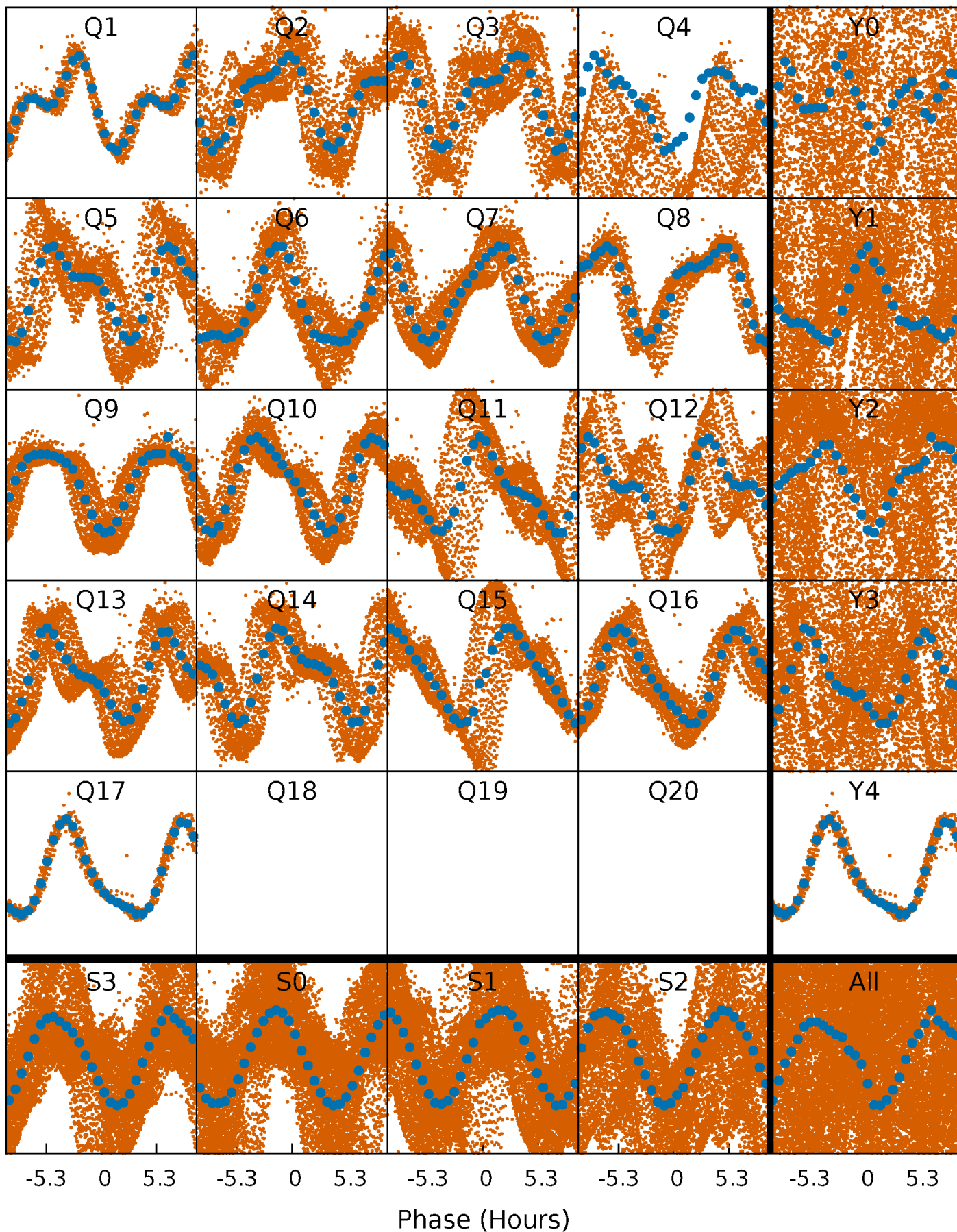


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



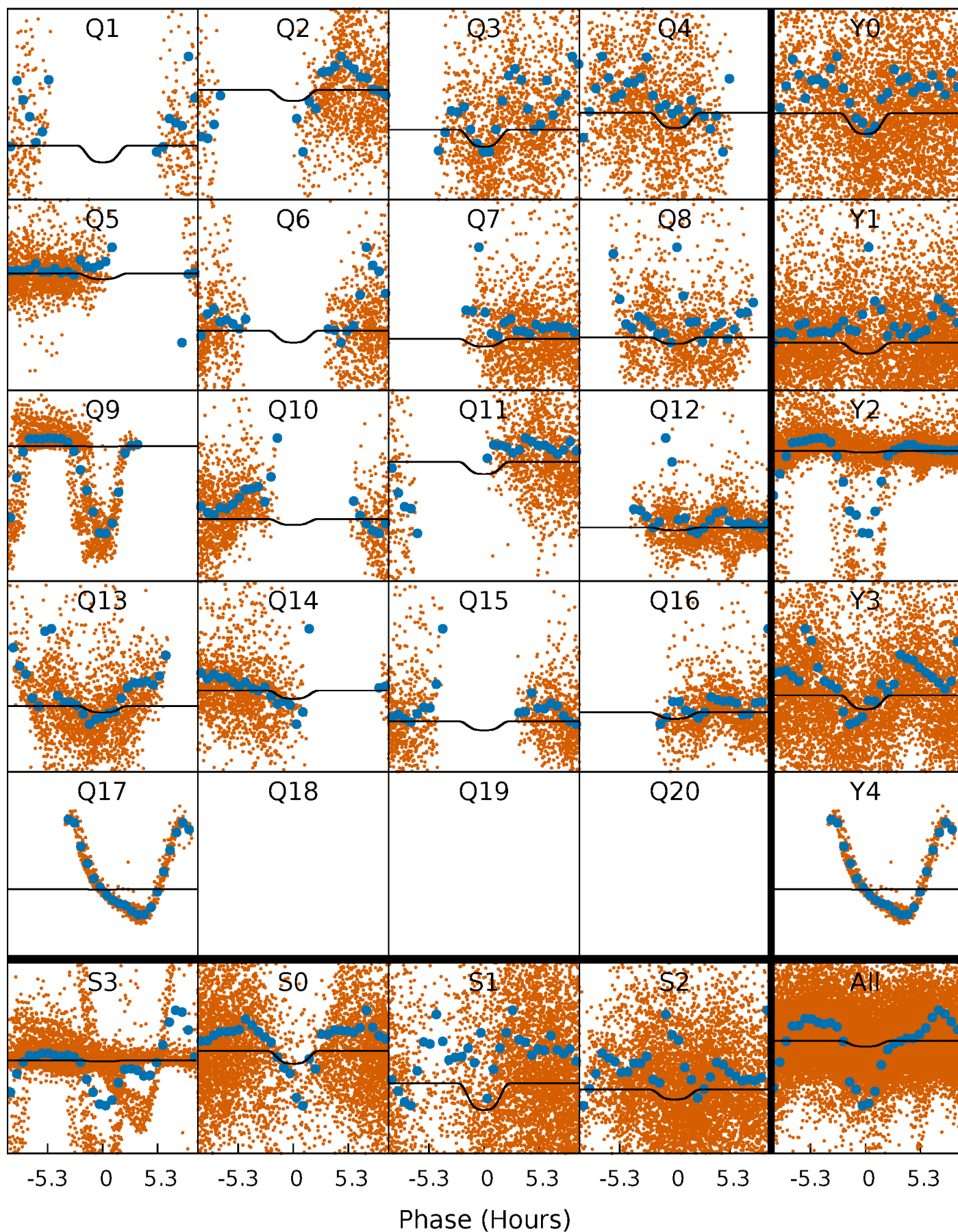
PDC Quarter-Phased Transit Curves

TCE 007800087-02 P= 0.942799 Days $T_0=132.376246$ (BKJD)



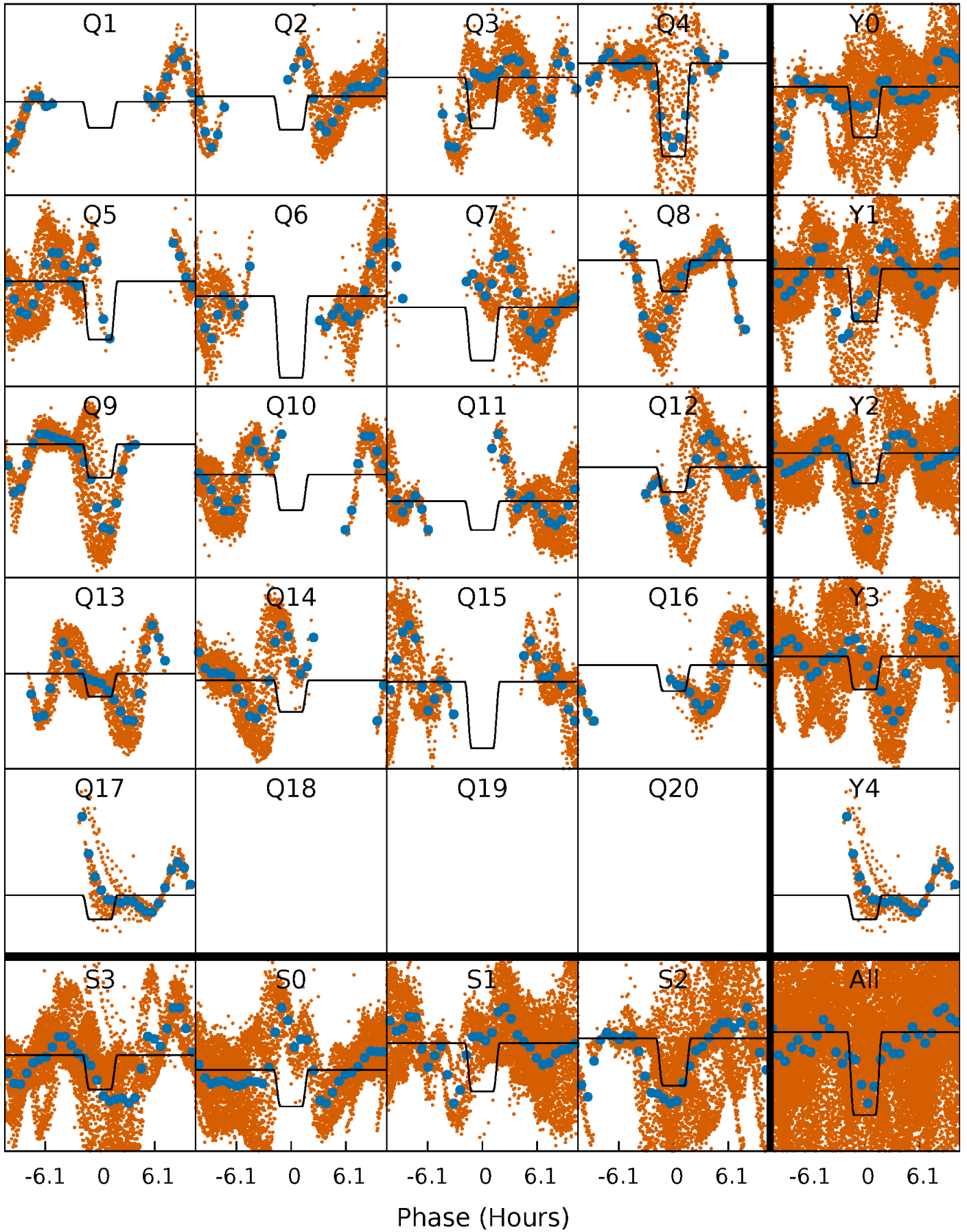
DV Quarter-Phased Transit Curves

TCE 007800087-02 P= 0.942799 Days $T_0=132.376246$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

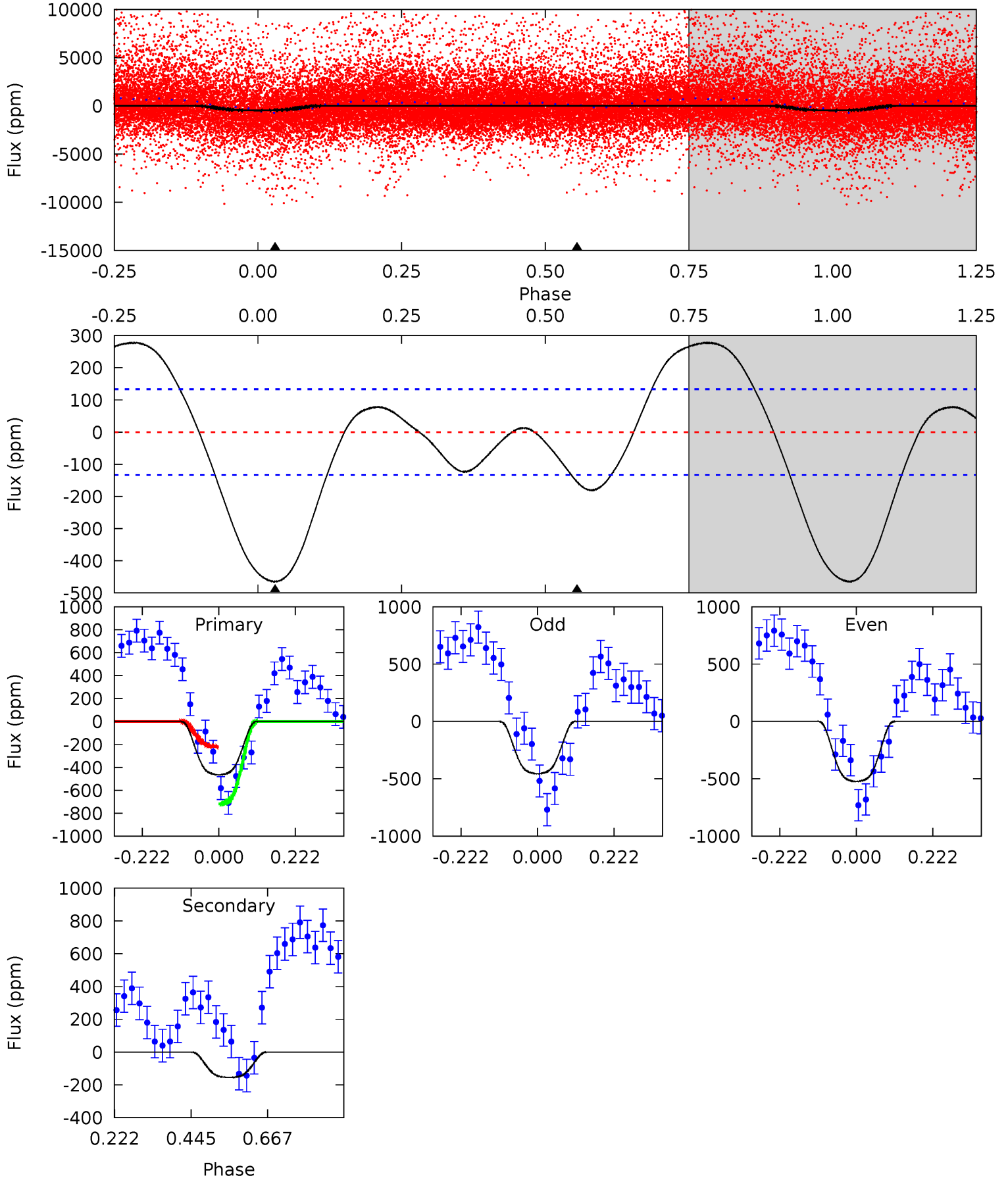
TCE 007800087-02 $P = 0.942756$ Days $T_0 = 132.390191$ (BKJD)



DV Model-Shift Uniqueness Test

007800087-02, P = 0.942799 Days, E = 131.433447 Days

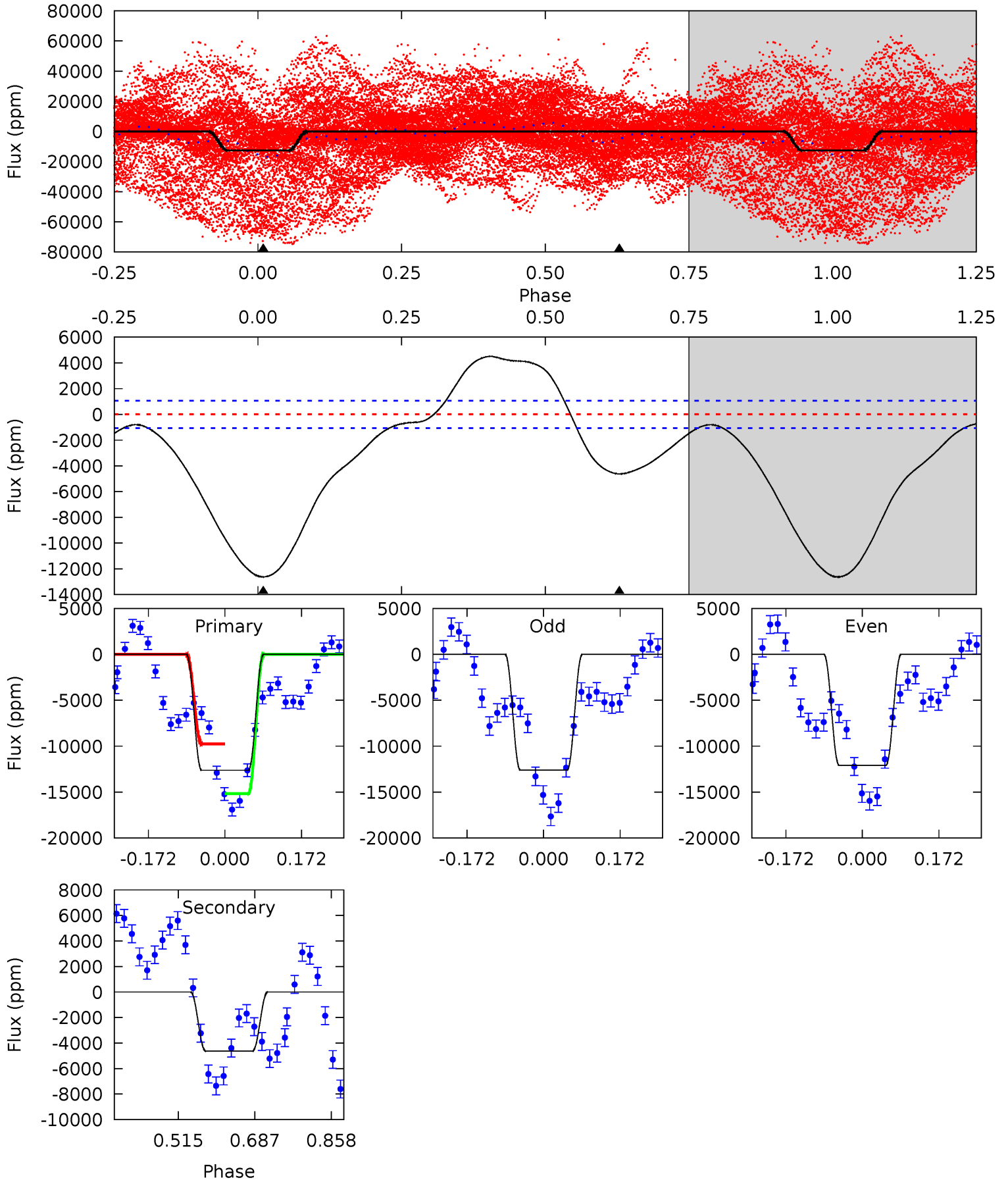
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	5.09	0	0	4.39	1.22	4.27	15.3	15.3	5.09	5.09	1.14	5.78	0.37	7.55



Alt Model-Shift Uniqueness Test

007800087-02, P = 0.942756 Days, E = 131.447435 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.9	19.4	0	0	4.45	1.37	10.3	52.9	52.9	19.4	19.4	1.12	1.75	0.26	11.9



Stellar Parameters For KIC 007800087

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3638^{+72}_{-79}	$4.818^{+0.045}_{-0.040}$	$-0.100^{+0.100}_{-0.100}$	$0.440^{+0.034}_{-0.051}$	$0.462^{+0.031}_{-0.054}$	$7.650^{+2.021}_{-1.106}$
	+2%/-2%	+1%/-1%	+100%/-100%	+8%/-12%	+7%/-12%	+26%/-14%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 007800087-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-155 ± 30	$1.24^{+0.12}_{-0.12}$	1229^{+36}_{-34}	2901^{+117}_{-122}	12^{+3}_{-3}
Alt.	-4632 ± 239	$6.75^{+0.30}_{-0.43}$	1230^{+35}_{-34}	2922^{+54}_{-57}	12^{+1}_{-1}

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

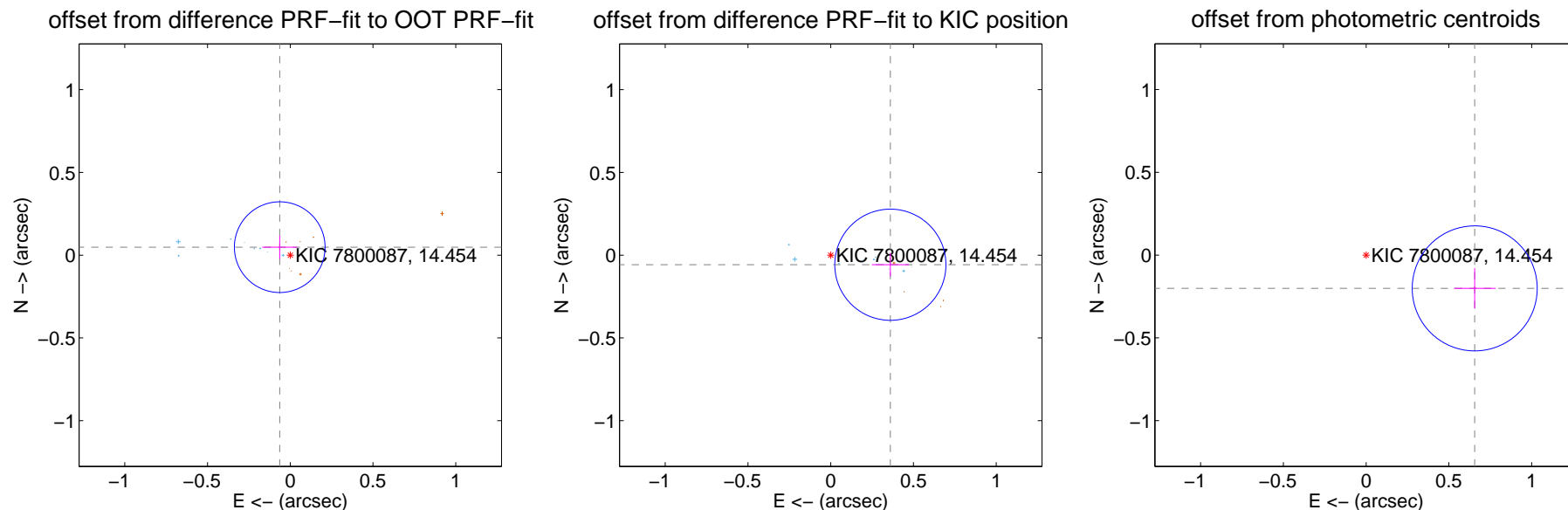
DV Centroid Data

Supplemental centroid analysis for 007800087-02. Kepler magnitude: 14.45. Transit SNR 7.49

There are 10 quarters with good PRF difference image offsets

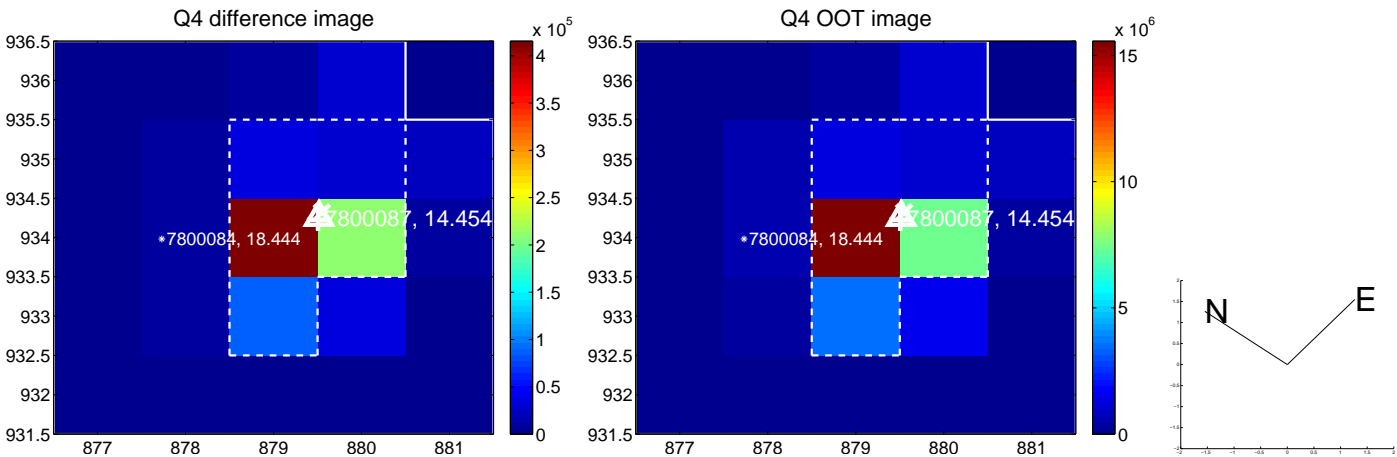
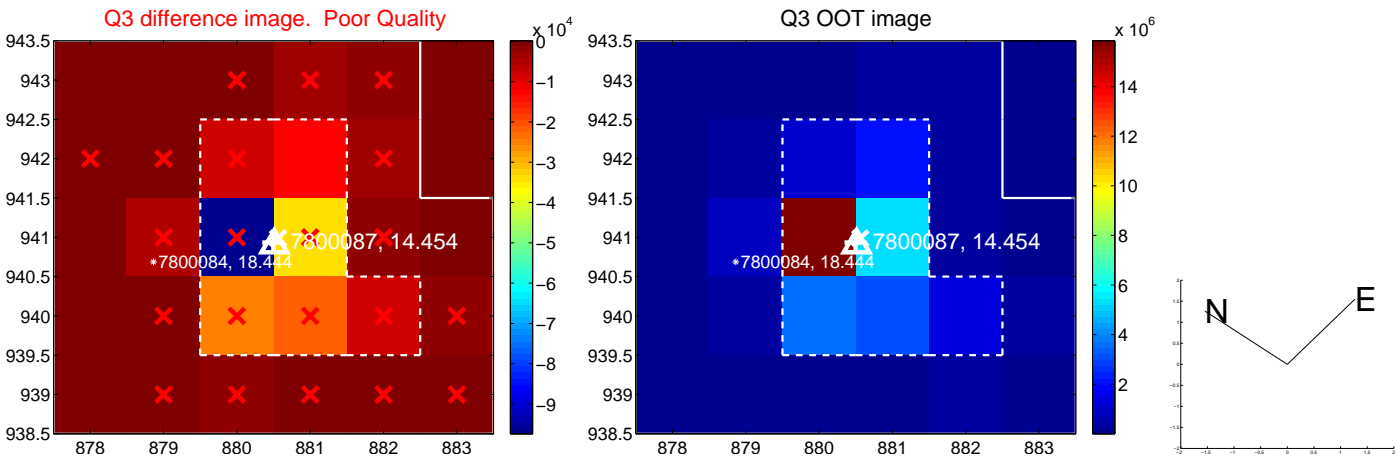
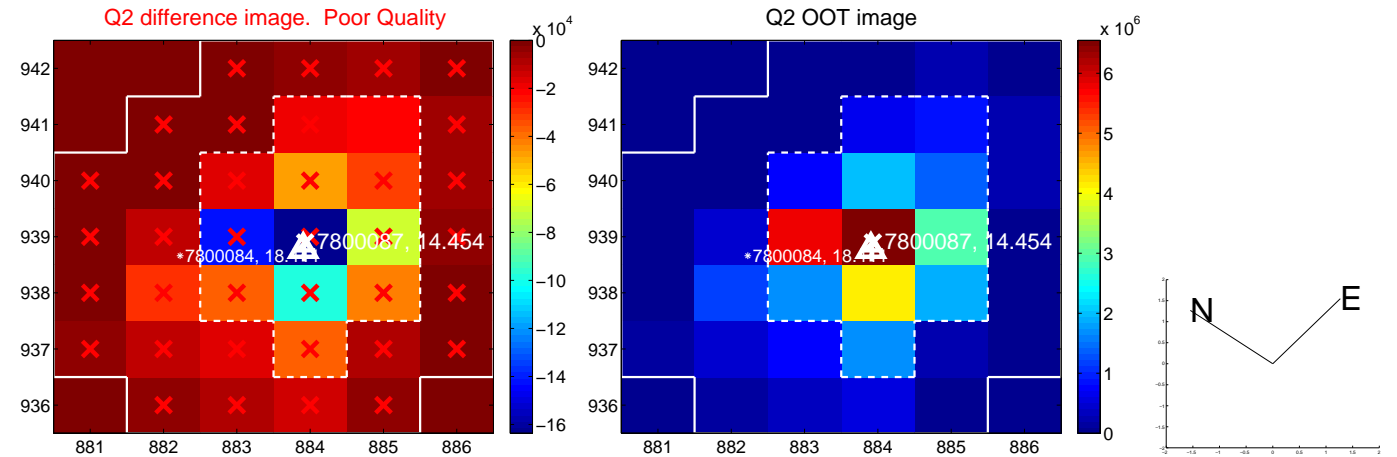
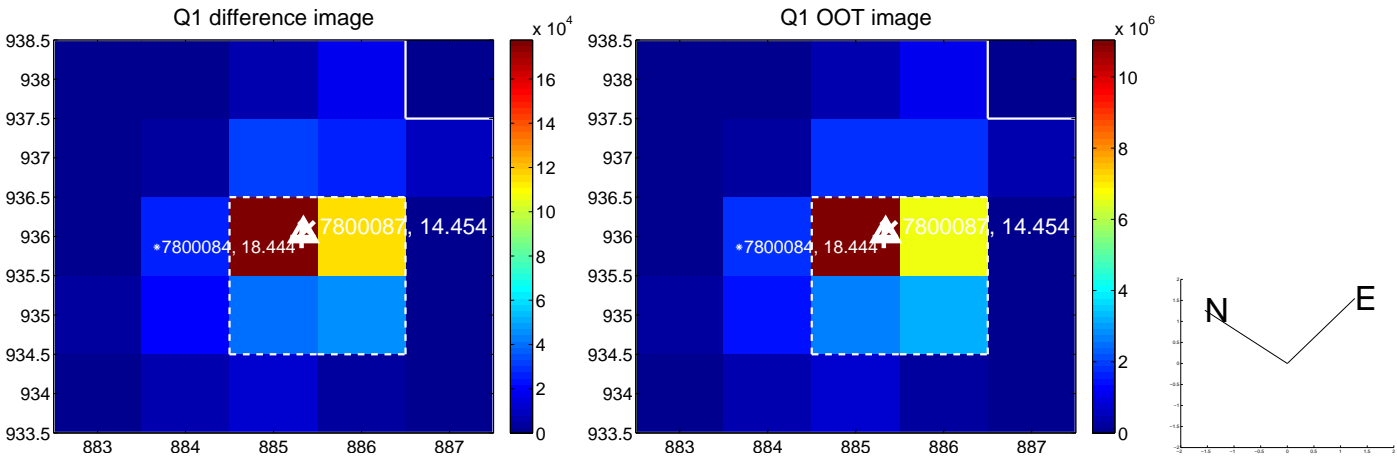
The direct PRF centroid is offset from the target star catalog position by about 0.49 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.080 ± 0.091	0.87	0.064 ± 0.106	0.048 ± 0.070
PRF-fit source offset from KIC position	0.365 ± 0.112	3.26	-0.360 ± 0.112	-0.058 ± 0.071
photometric centroid source offset	0.69 ± 0.13	5.45	-0.66 ± 0.13	-0.20 ± 0.12

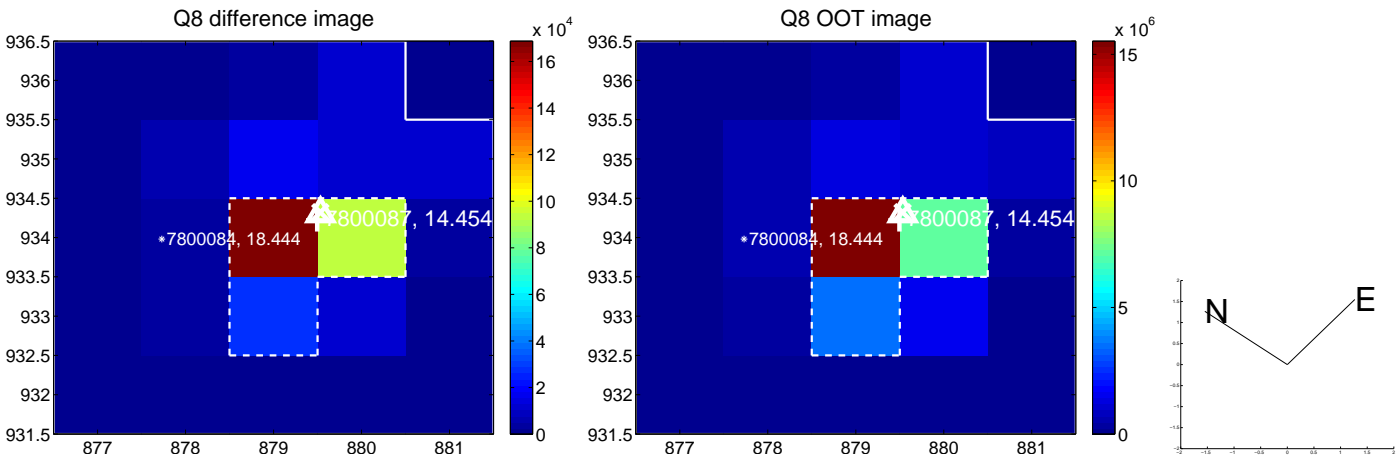
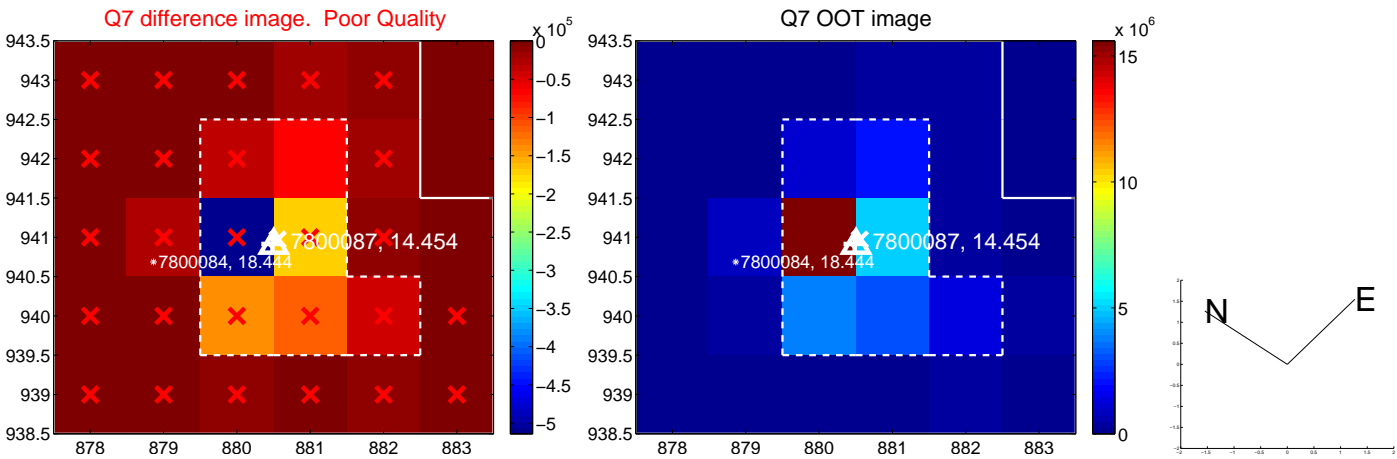
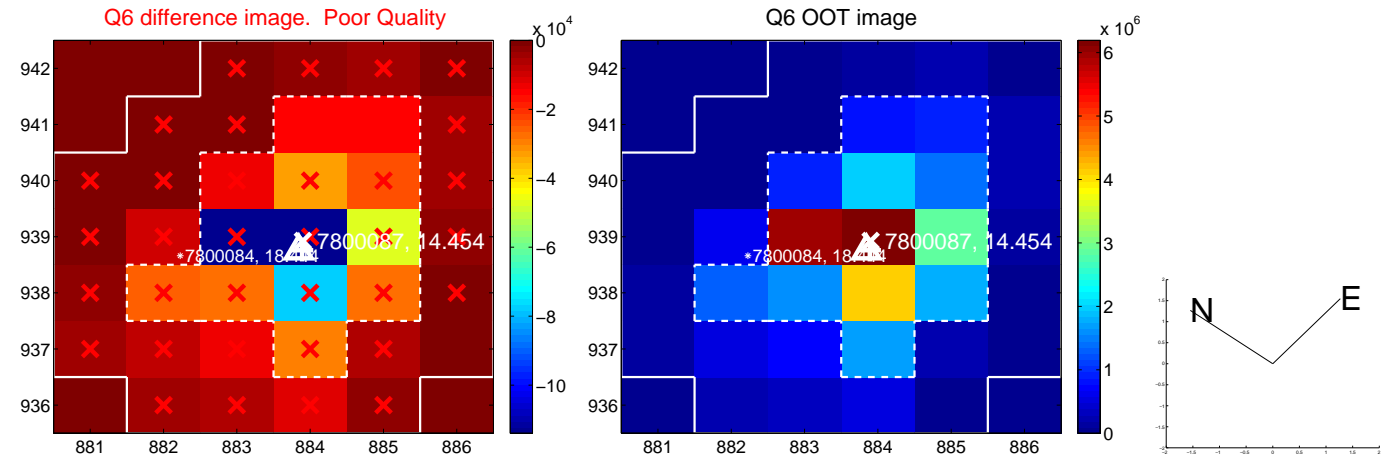
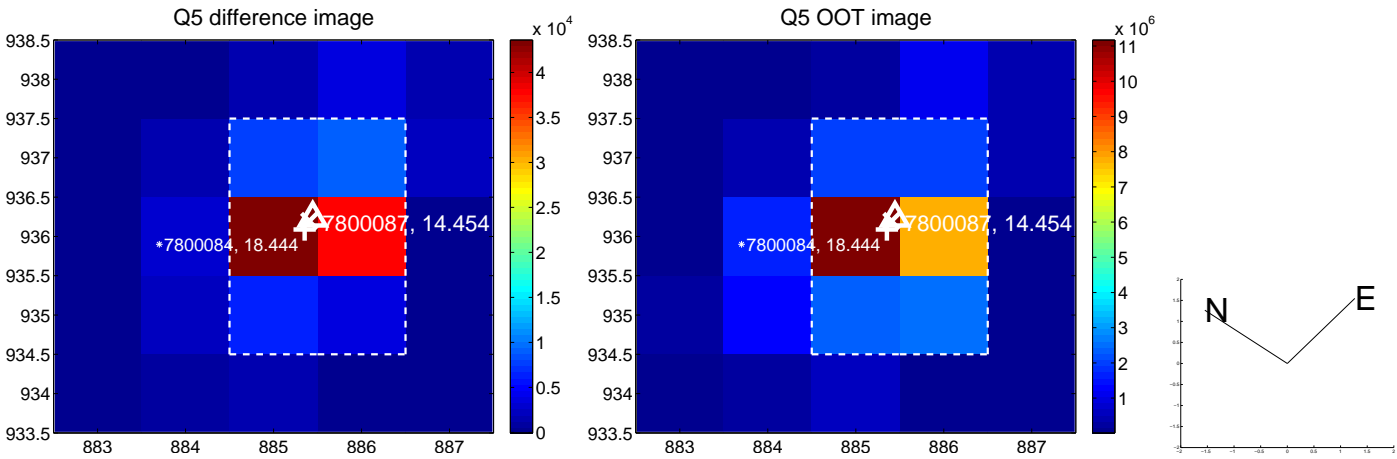


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

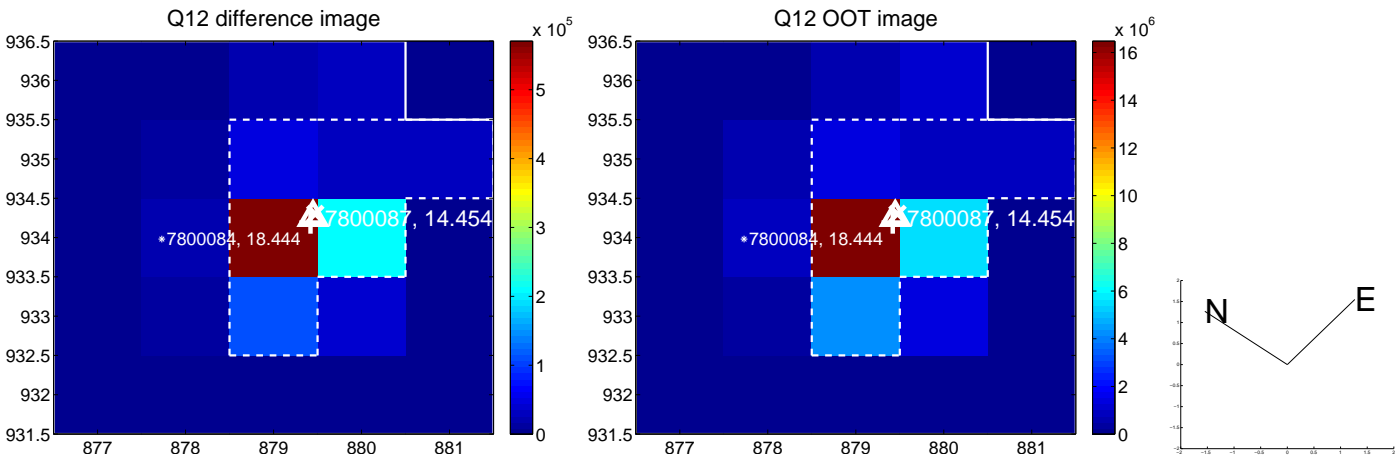
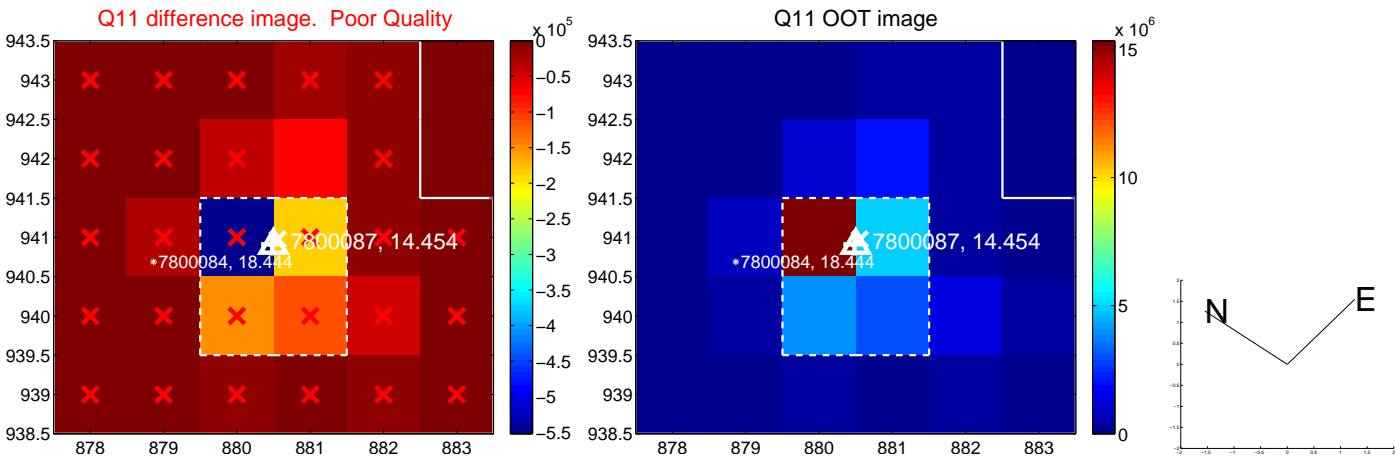
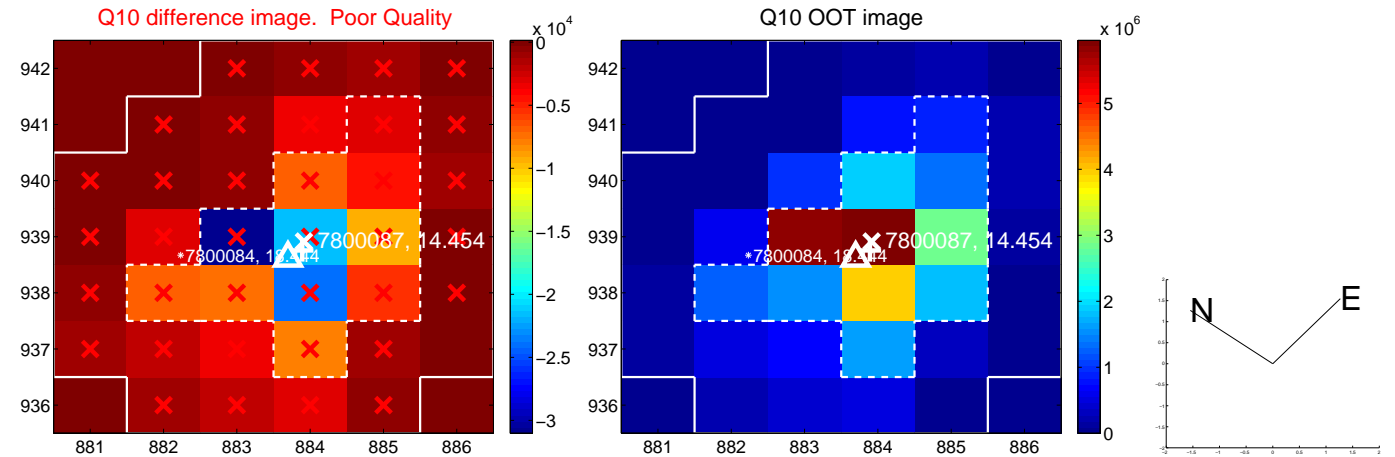
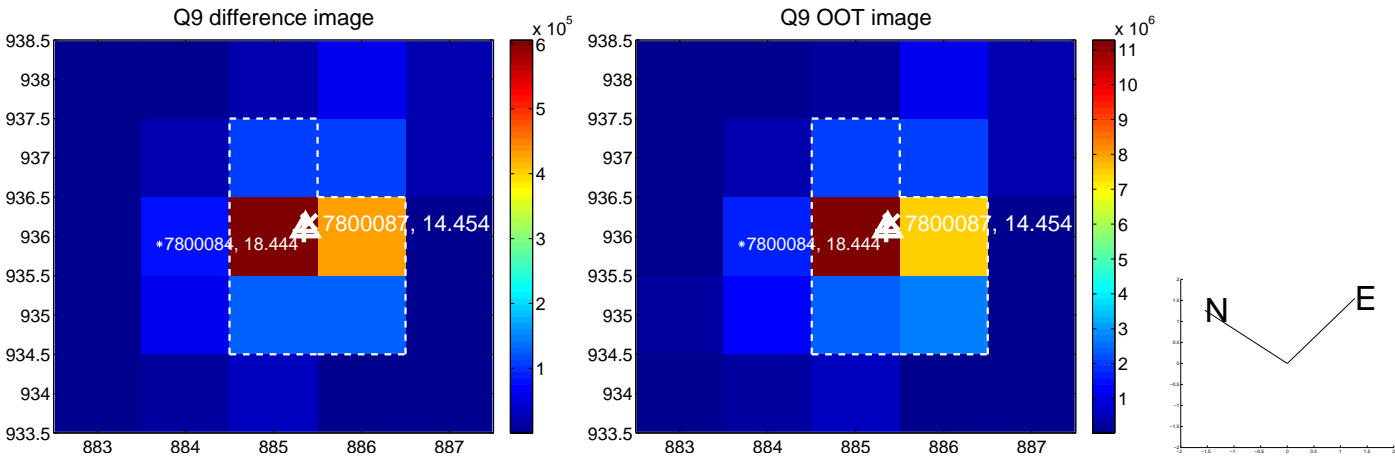
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



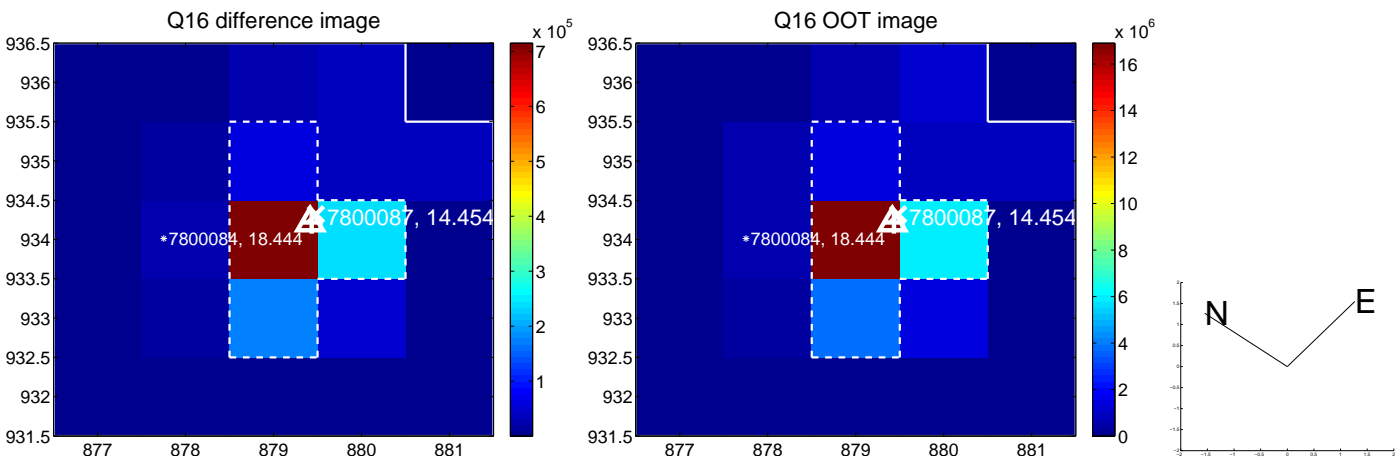
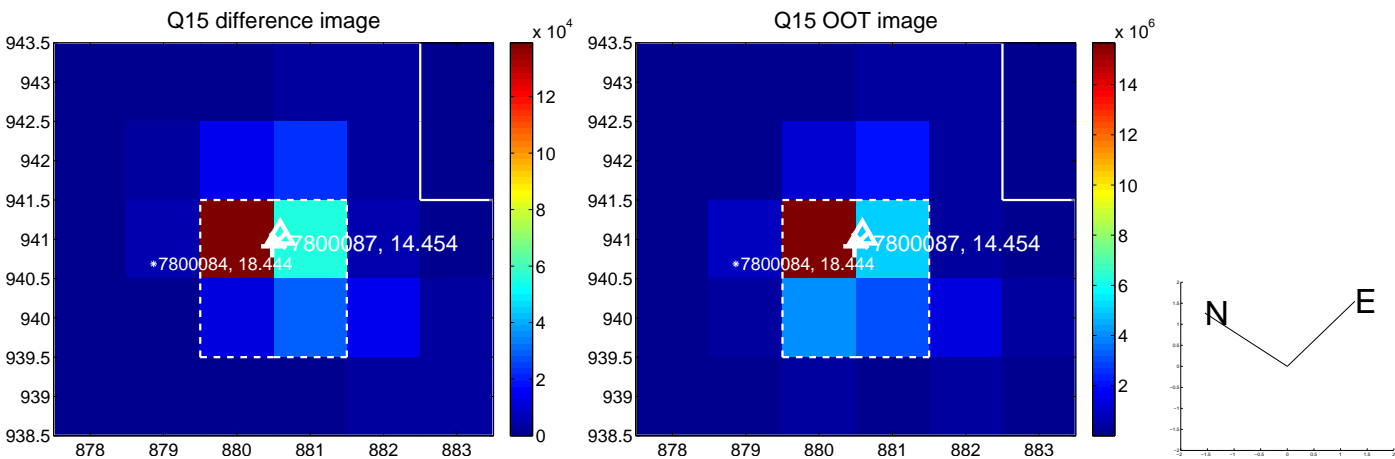
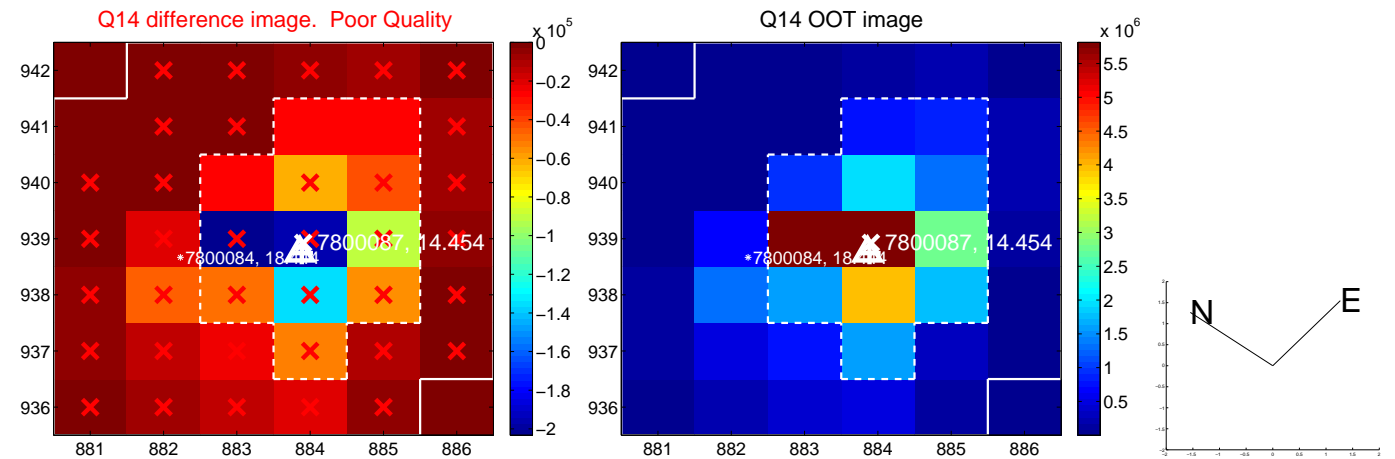
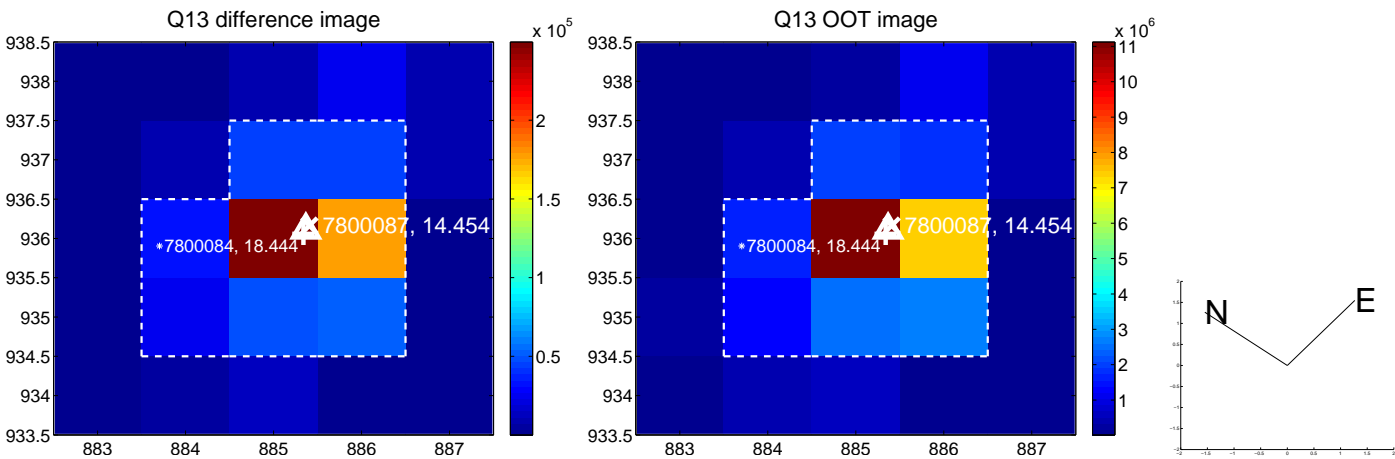
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



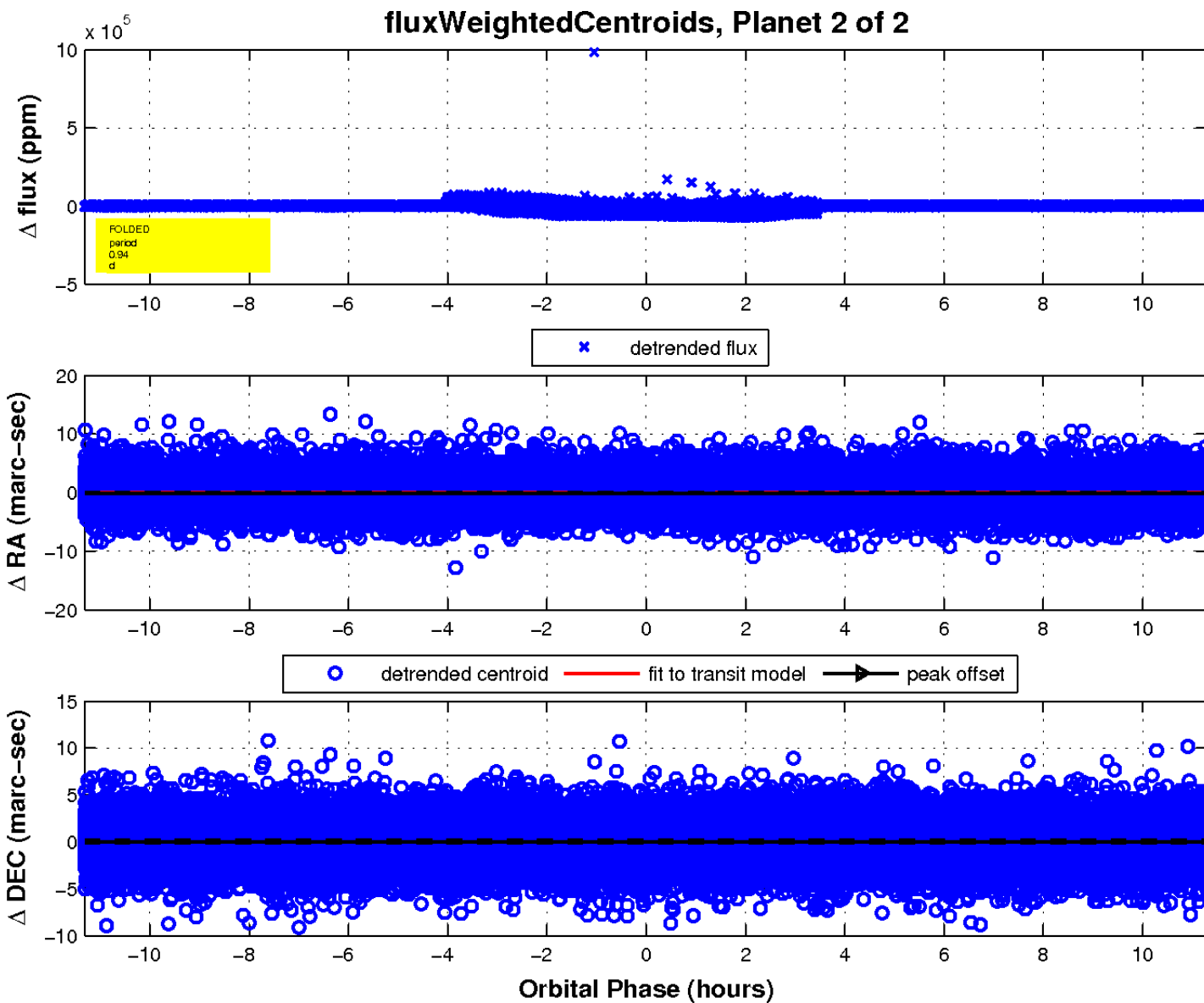
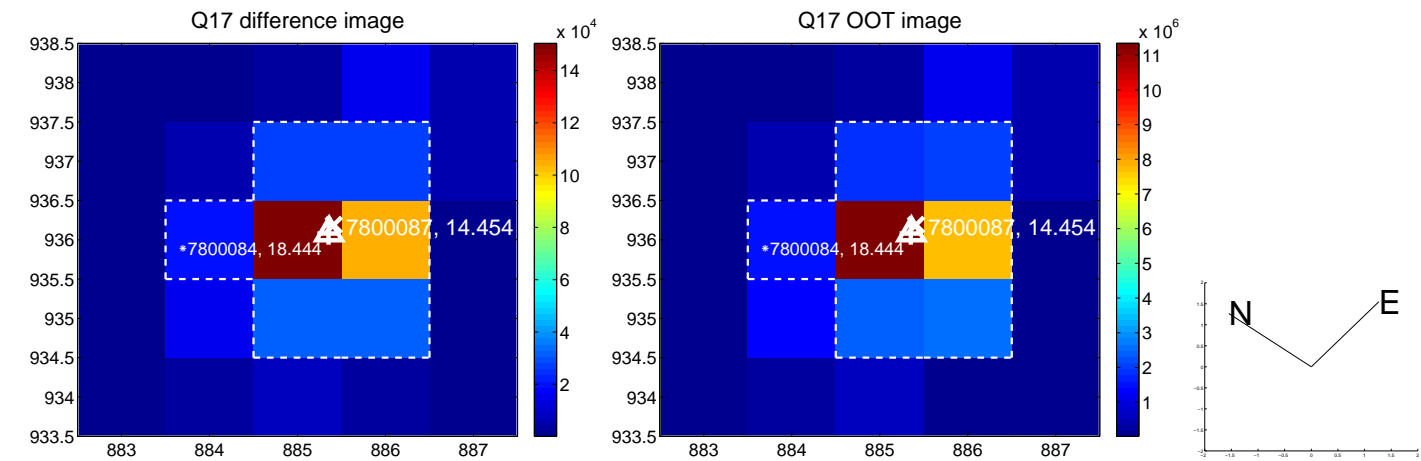
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

