

KIC 011959893

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})
011959893-01	OBS	No	2.908414	133.271886	23.7	7.415	10.1	7.1	2.23	6531	1.22	3780.98
011959893-02	OBS	No	0.581541	131.715211	17.3	4.807	9.1	9.9	2.23	6531	1.09	32337.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011959893-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011959893-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS

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 011959893-01

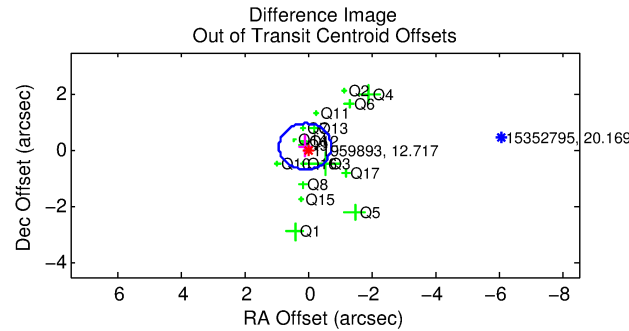
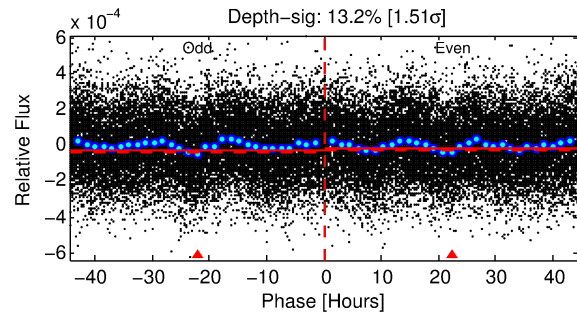
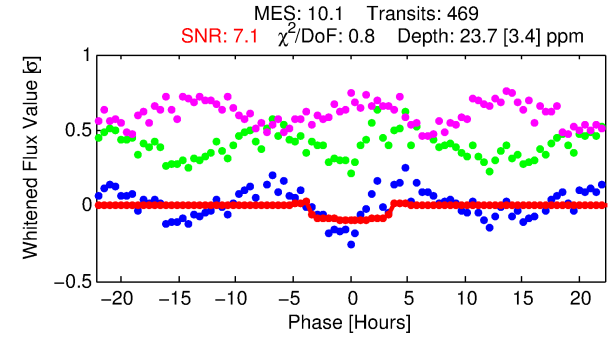
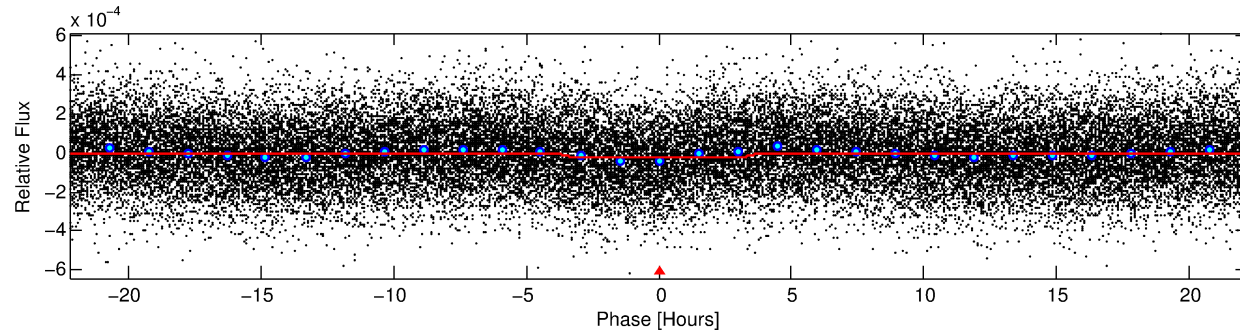
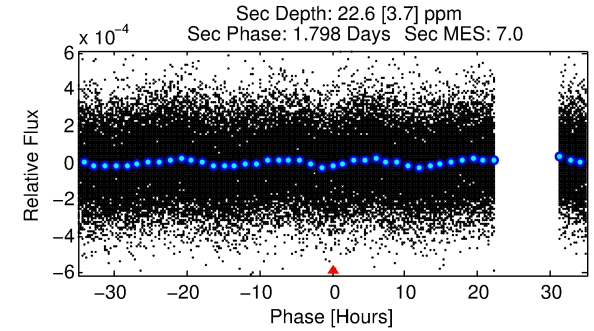
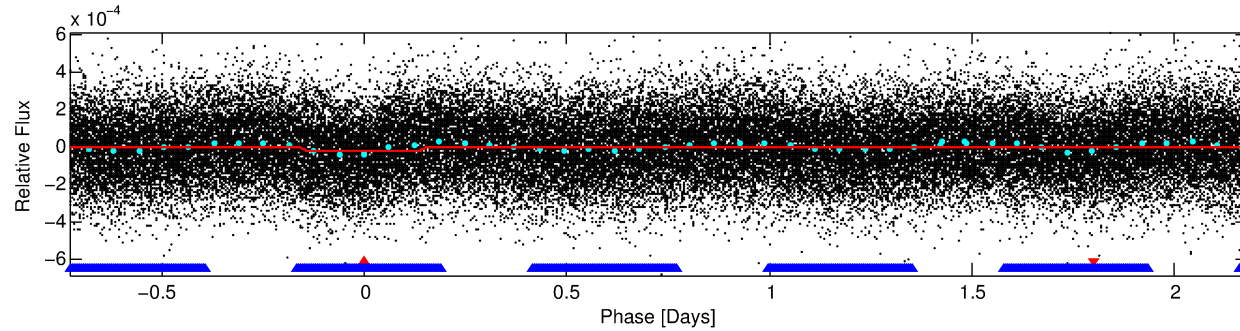
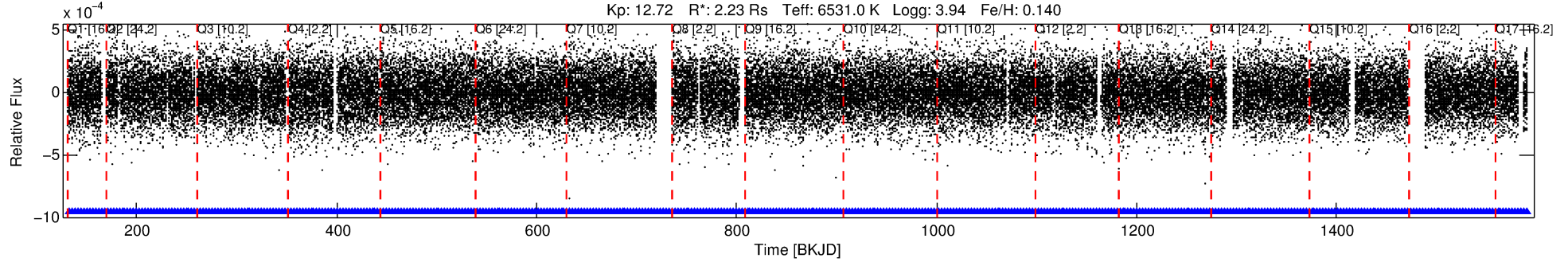
No Significant Match Found

DV One-Page Summary

KIC: 11959893 Candidate: 1 of 2 Period: 2.908 d

KOI: K05945 Corr: No Ephemeris Match

Kp: 12.72 R*: 2.23 Rs Teff: 6531.0 K Logg: 3.94 Fe/H: 0.140



DV Fit Results:

Period = 2.90841 [0.00004] d
Epoch = 133.2719 [0.0074] BKJD
Rp/R* = 0.0050 [0.0014]
a/R* = 1.89 [2.06]
b = 0.84 [0.54]
Seff = 3780.98 [2179.94]
Teq = 2000 [288] K
Rp = 1.22 [0.59] Re
a = 0.0463 [0.0166] AU
Ag = 17.98 [14.44] [1.18σ]
Teffp = 6366 [955] K [4.38σ]

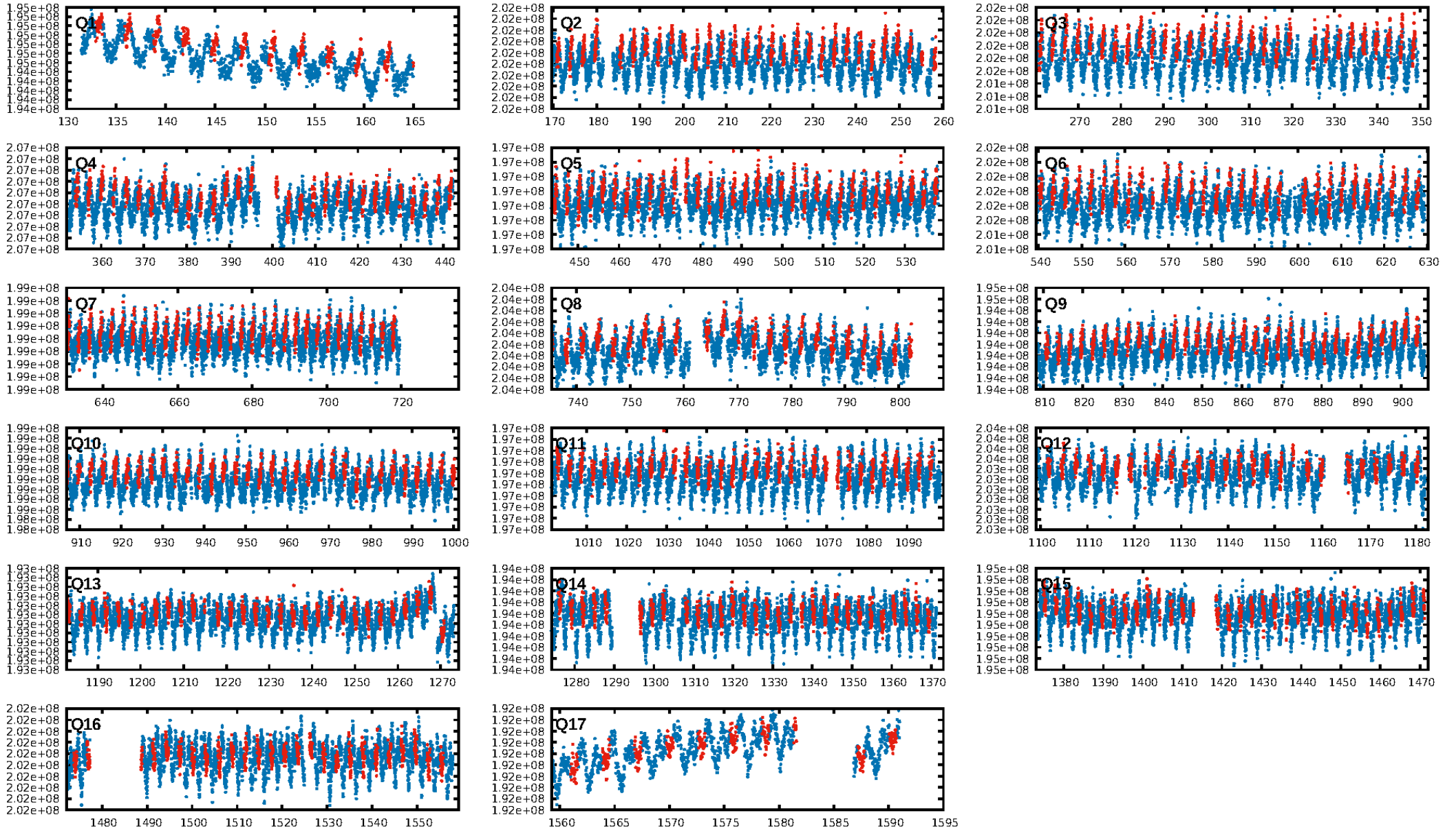
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.32σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [448/448]
GhostDiagnostic-chr: 20.86
Centroid-sig: 64.6%
Centroid-so: 0.730 arcsec [0.81σ]
OotOffset-rm: 0.187 arcsec [0.68σ]
KicOffset-rm: 0.106 arcsec [0.39σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.71 [12/17]
DiffImageOverlap-fno: 0.00 [0/17]

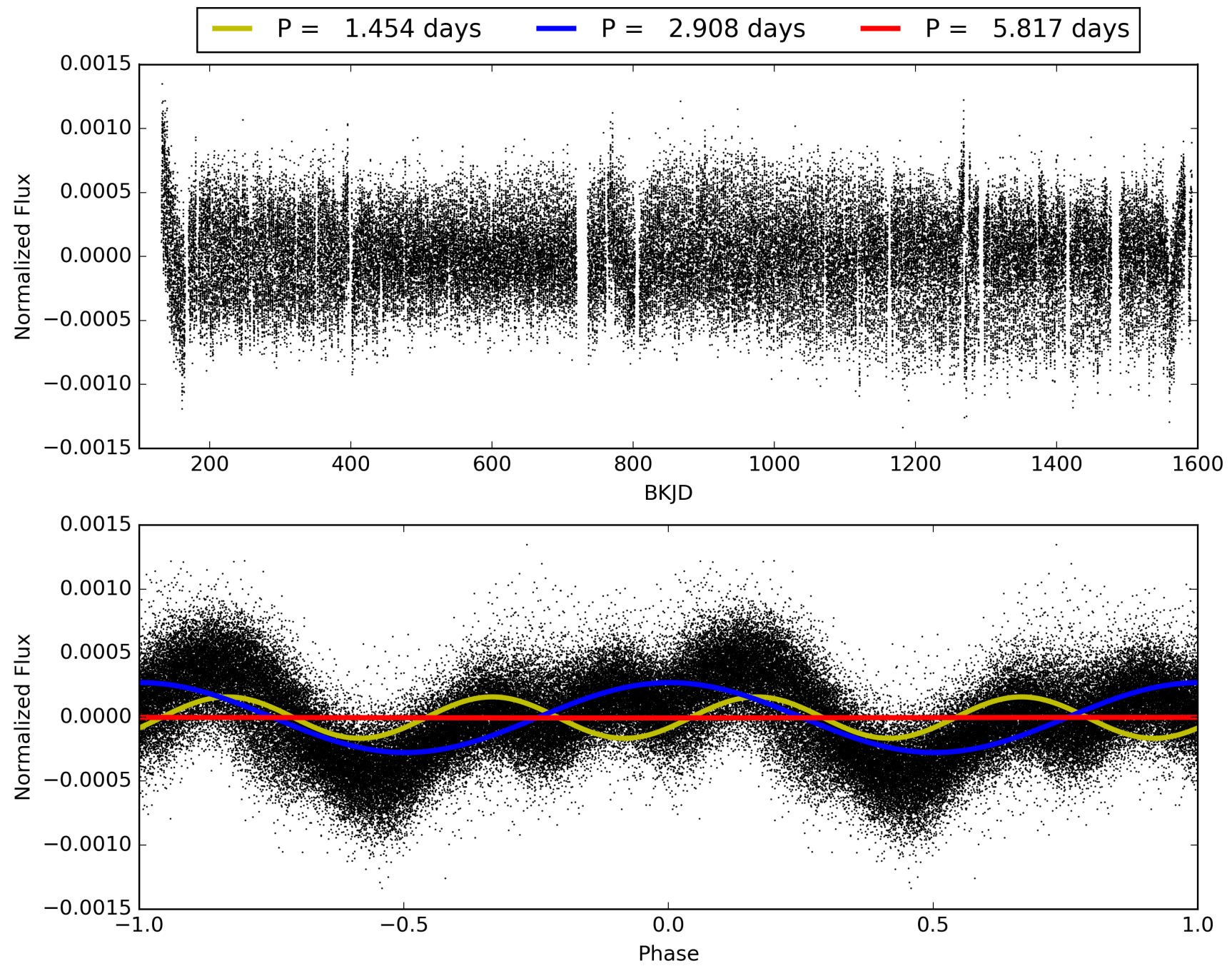
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:24:53 Z

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

TCE 011959893-01, PDC Light Curves

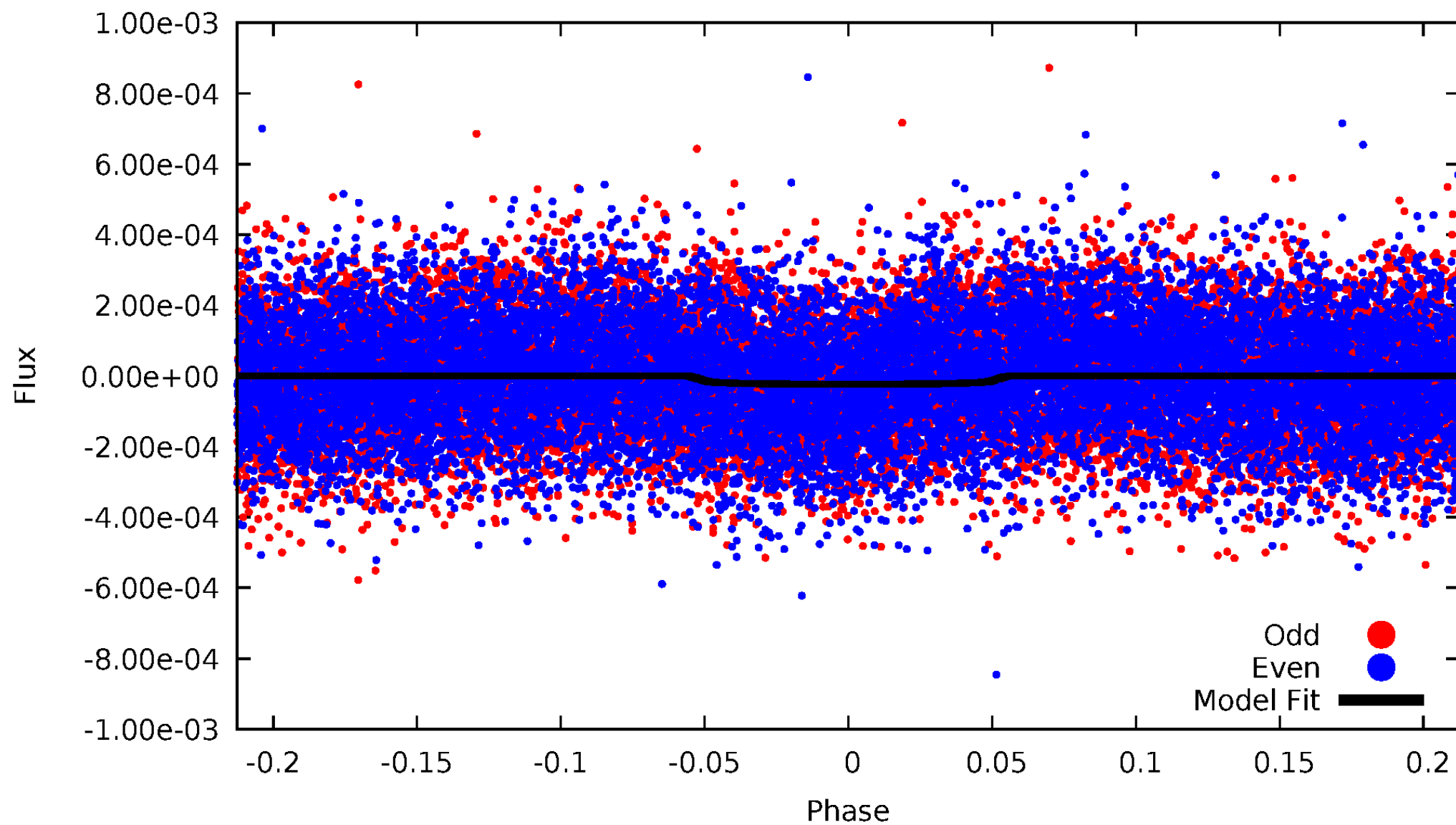


TCE 011959893-01



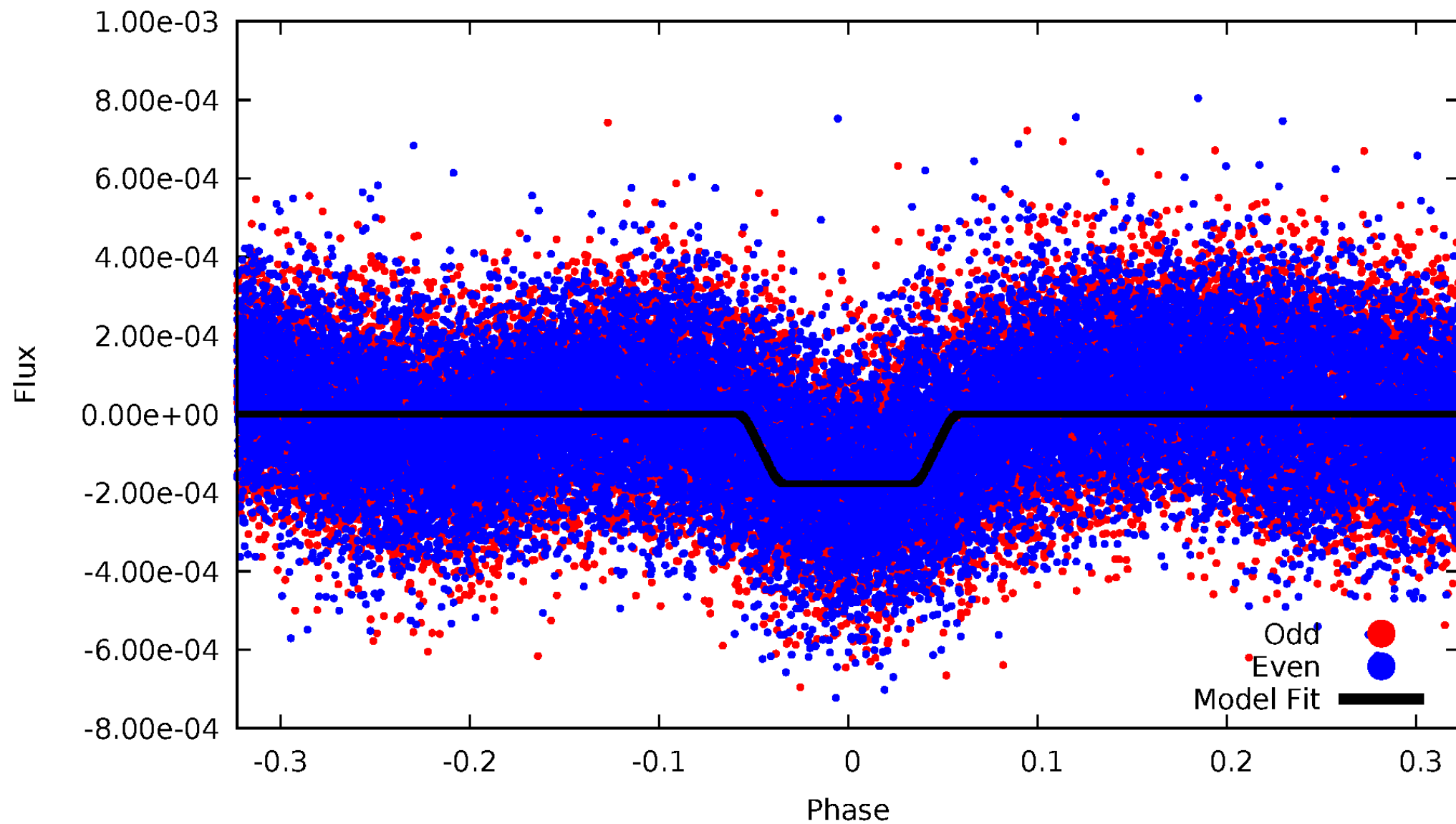
DV Odd/Even

TCE 011959893-01

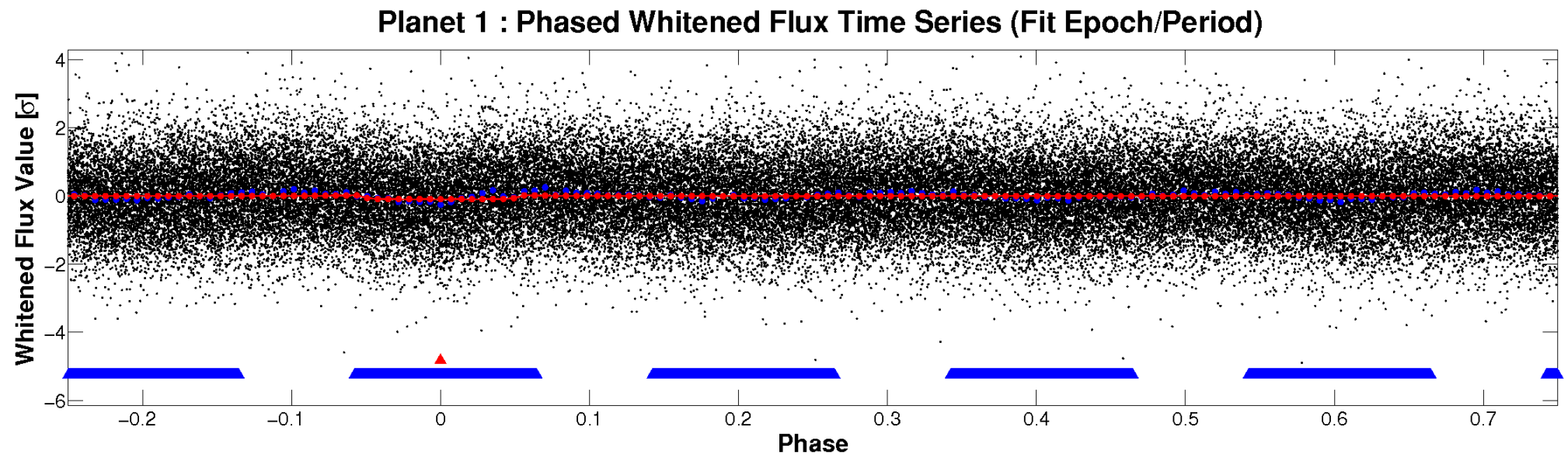
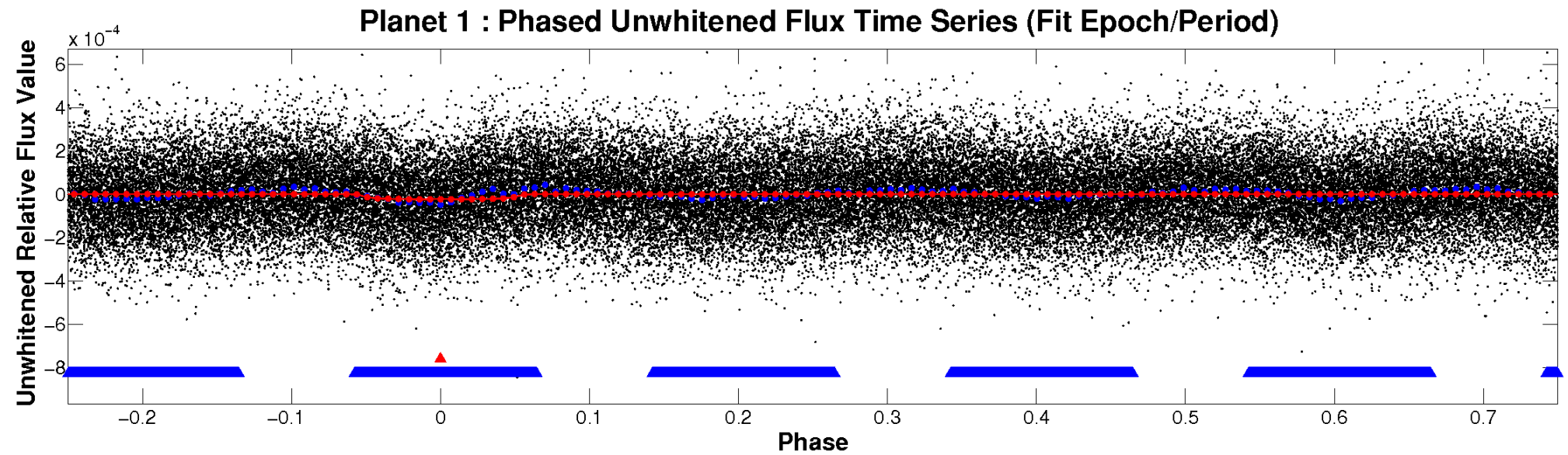


ALT Odd/Even

TCE 011959893-01

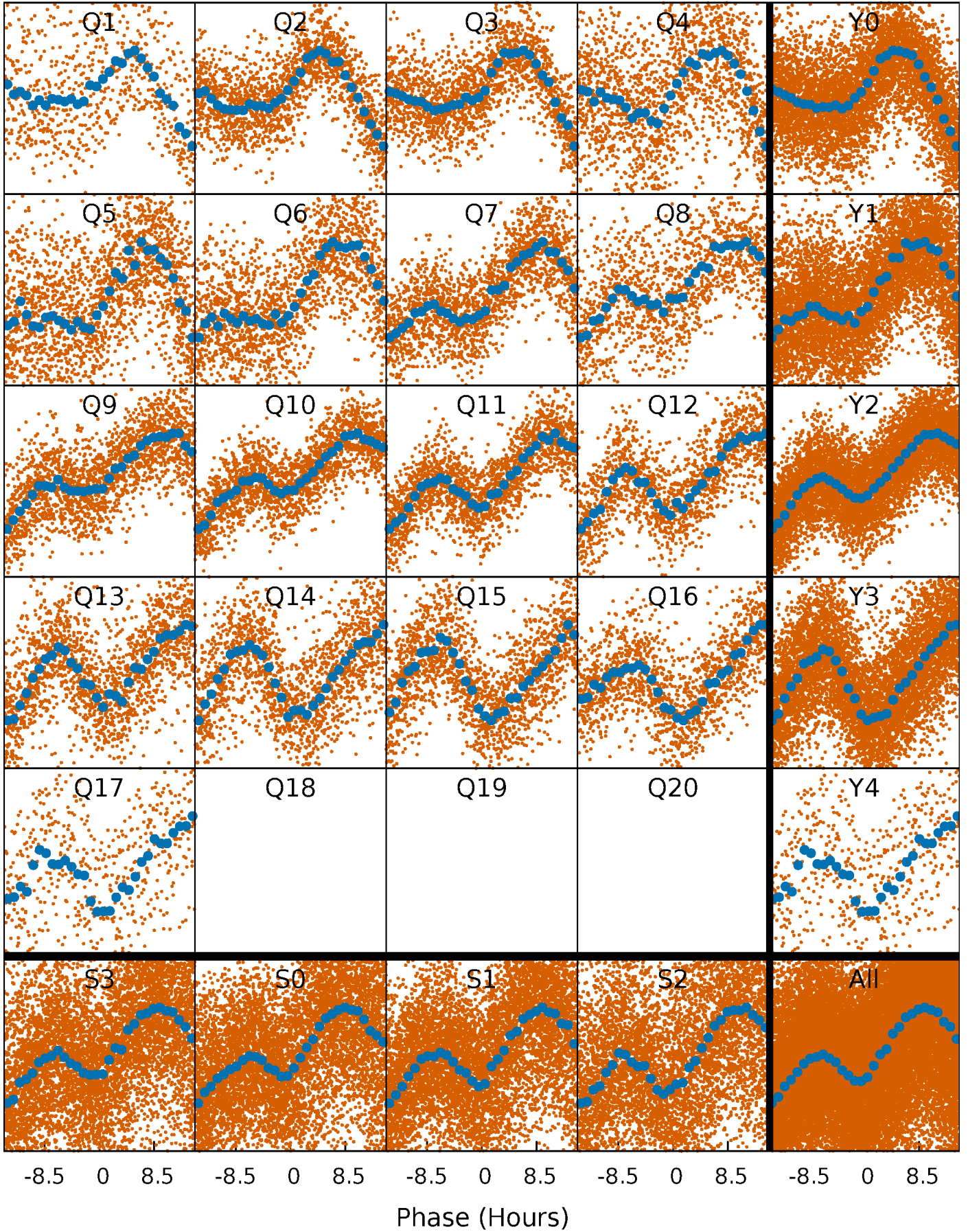


Non-Whitened Vs. Whitened Light Curve



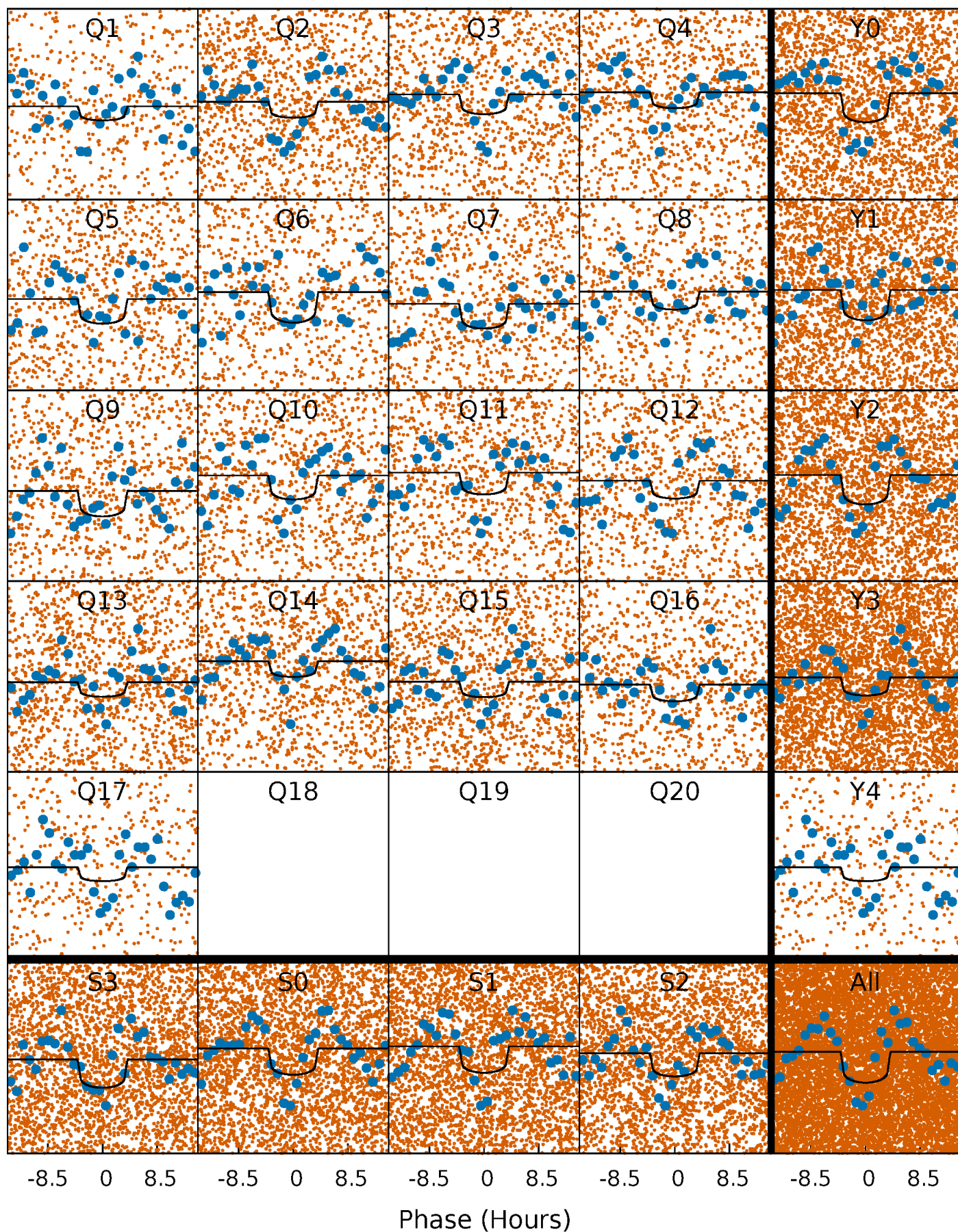
PDC Quarter-Phased Transit Curves

TCE 011959893-01 P= 2.908414 Days $T_0=133.271886$ (BKJD)



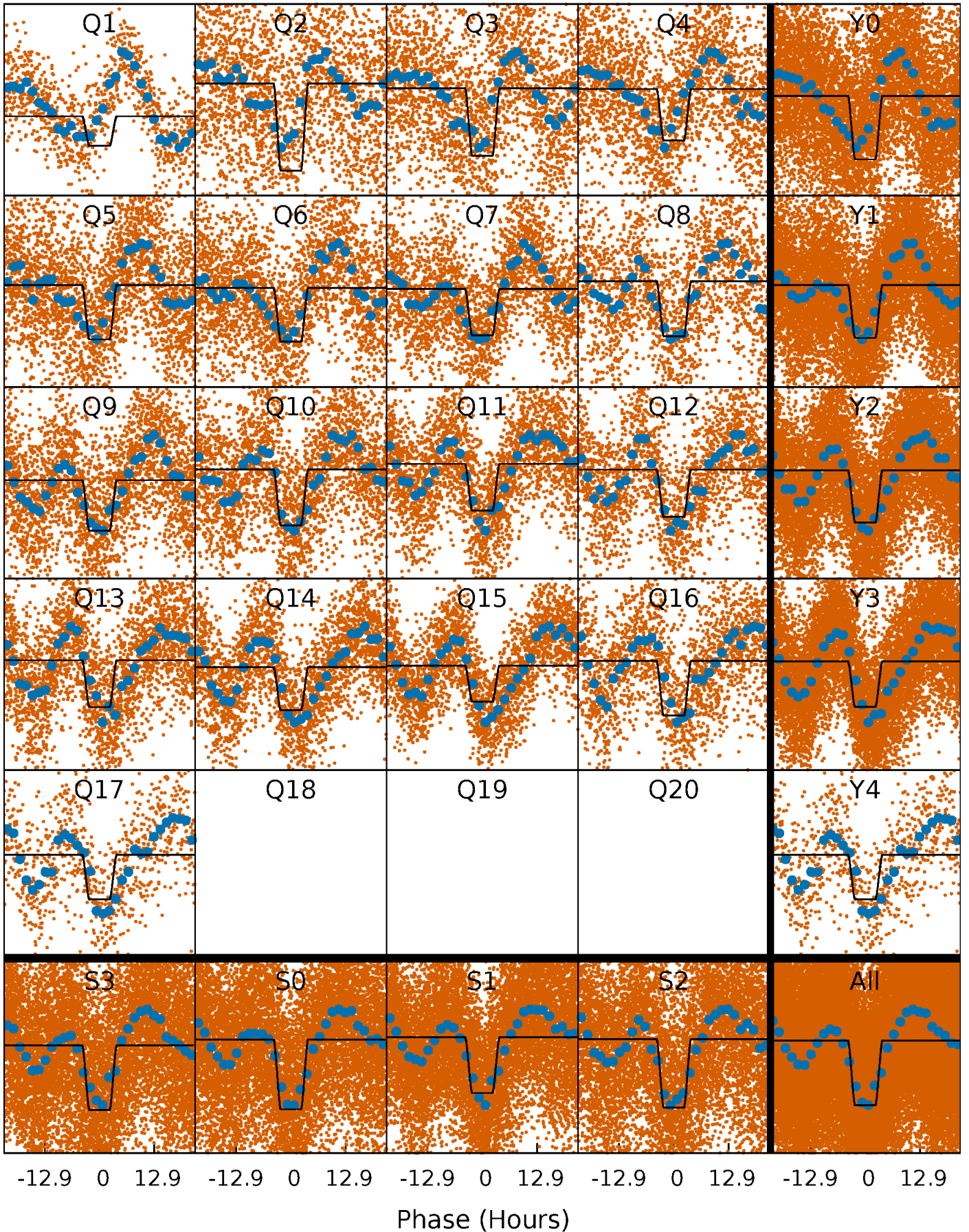
DV Quarter-Phased Transit Curves

TCE 011959893-01 P= 2.908414 Days $T_0=133.271886$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

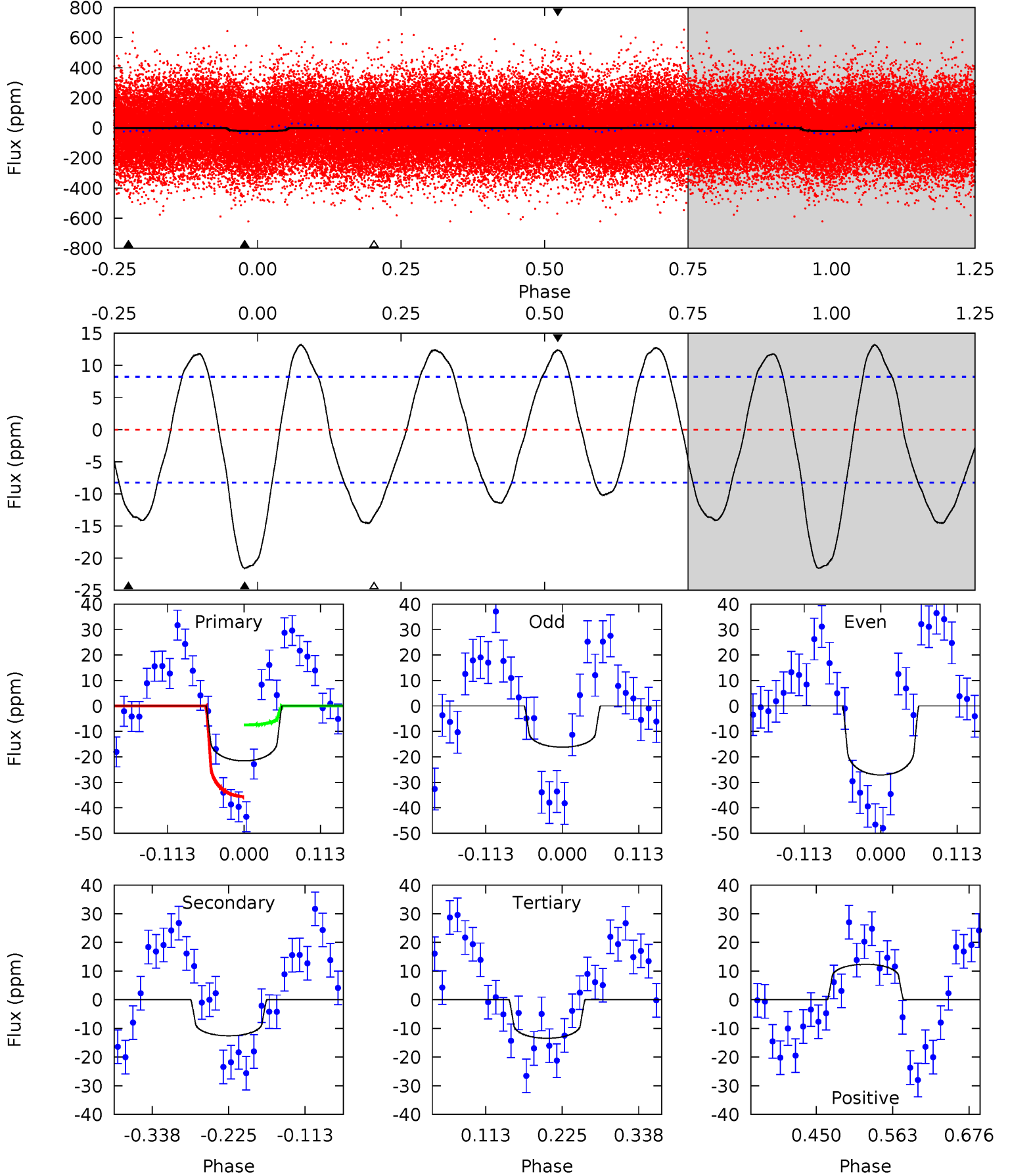
TCE 011959893-01 P= 2.908476 Days $T_0=133.239552$ (BKJD)



DV Model-Shift Uniqueness Test

011959893-01, P = 2.908414 Days, E = 130.363472 Days

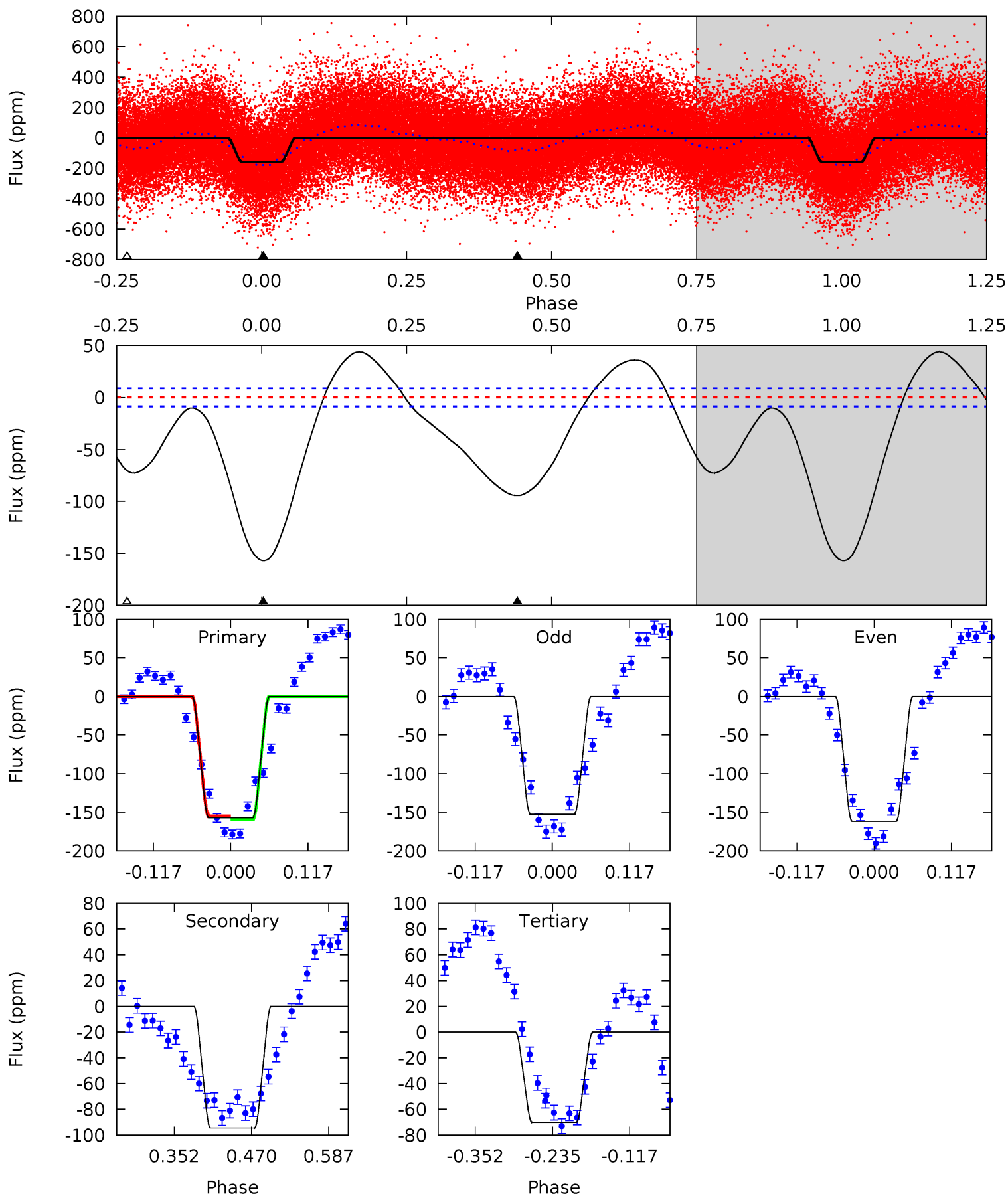
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	6.93	7.40	6.81	4.54	1.59	4.76	4.48	5.07	-0.48	0.11	3.00	0.97	0.38	7.75



Alt Model-Shift Uniqueness Test

011959893-01, P = 2.908476 Days, E = 130.331076 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
81.8	49.3	36.6	0	4.53	1.57	18.7	45.2	81.8	12.6	49.3	2.47	0.98	0.22	1.26



Stellar Parameters For KIC 011959893

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6531^{+182}_{-251}	$3.936^{+0.319}_{-0.172}$	$0.140^{+0.200}_{-0.350}$	$2.231^{+0.586}_{-0.879}$	$1.566^{+0.202}_{-0.376}$	$0.199^{+0.511}_{-0.092}$
	+3%/-4%	+8%/-4%	+143%/-250%	+26%/-39%	+13%/-24%	+257%/-46%
Source	PHO54	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 011959893-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-13 ± 2	$1.17^{+0.43}_{-0.39}$	2768^{+219}_{-256}	5426^{+1023}_{-594}	11^{+13}_{-5}
Alt.	-95 ± 2	$3.16^{+0.66}_{-0.69}$	2762^{+241}_{-276}	5551^{+371}_{-306}	11^{+6}_{-3}

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

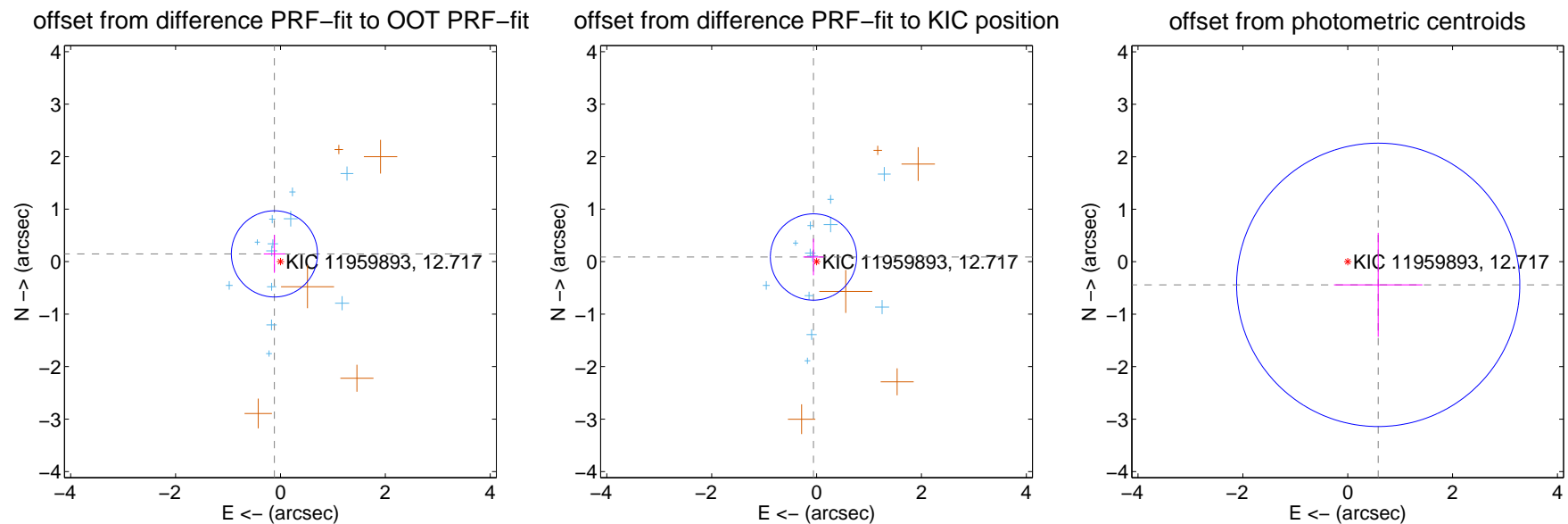
DV Centroid Data

Supplemental centroid analysis for 011959893-01. Kepler magnitude: 12.72. Transit SNR 7.09

There are 12 quarters with good PRF difference image offsets

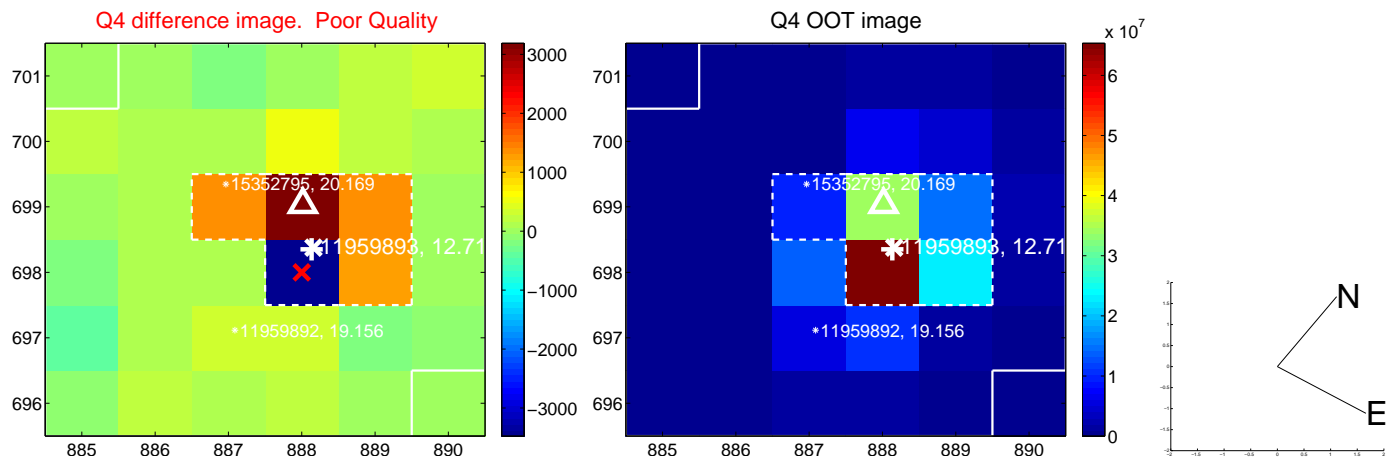
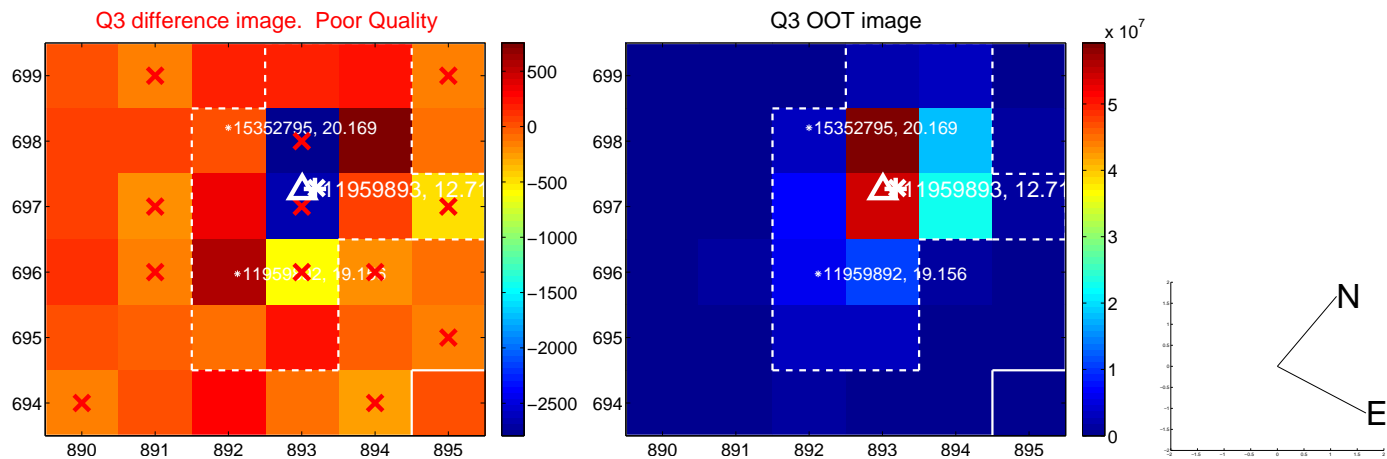
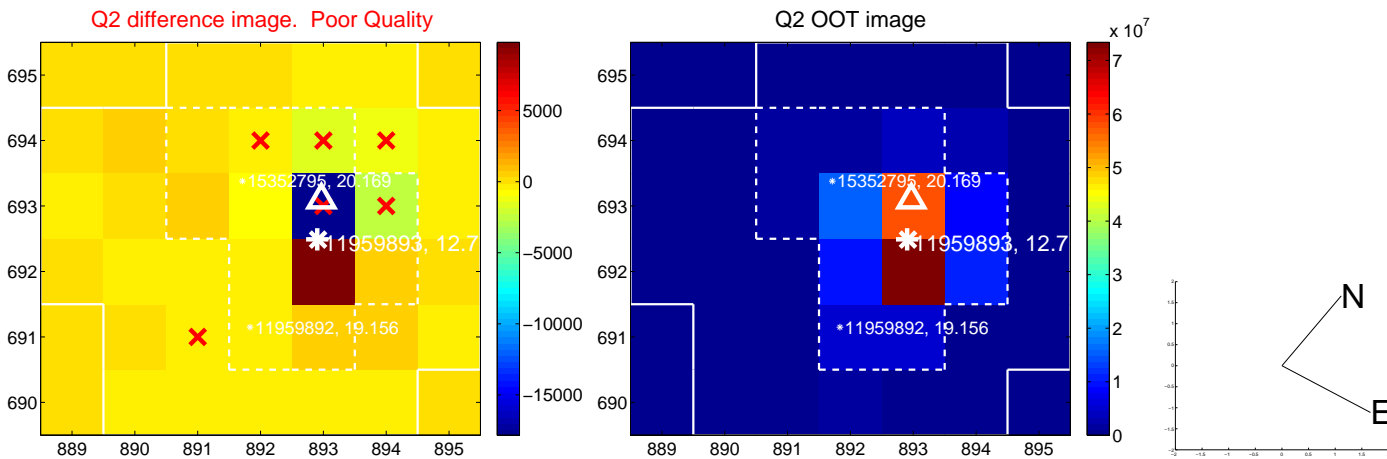
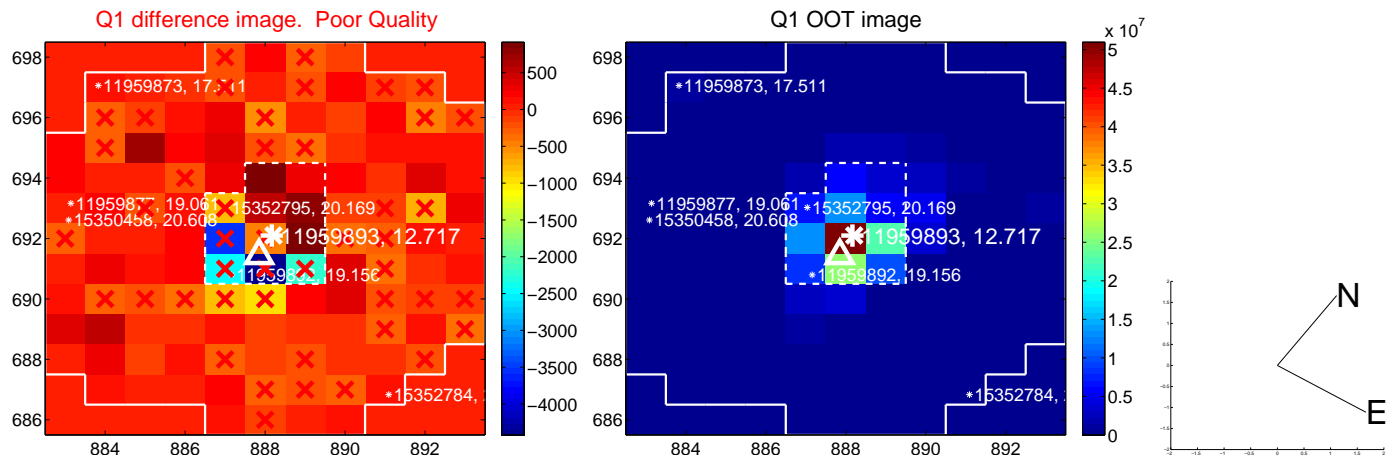
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.187 ± 0.274	0.68	0.115 ± 0.203	0.148 ± 0.361
PRF-fit source offset from KIC position	0.106 ± 0.274	0.39	0.059 ± 0.195	0.088 ± 0.349
photometric centroid source offset	0.73 ± 0.90	0.81	-0.58 ± 0.84	-0.44 ± 0.99

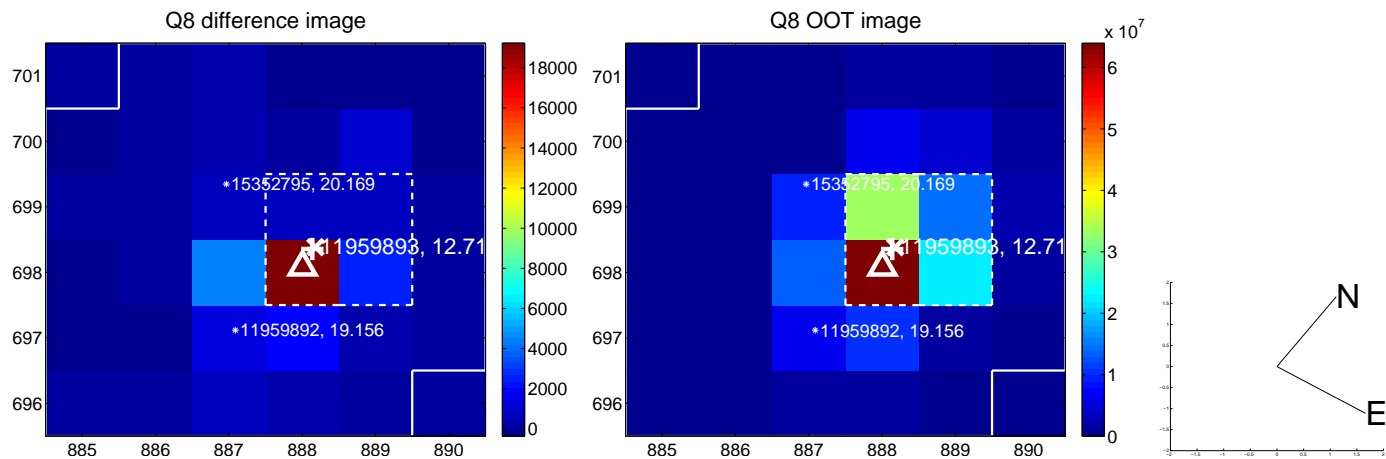
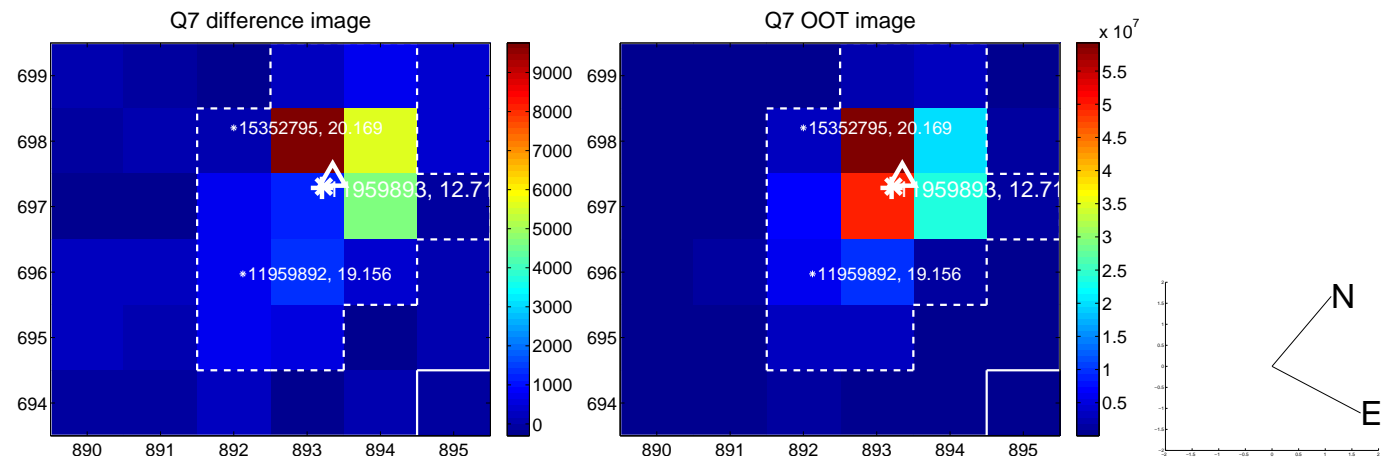
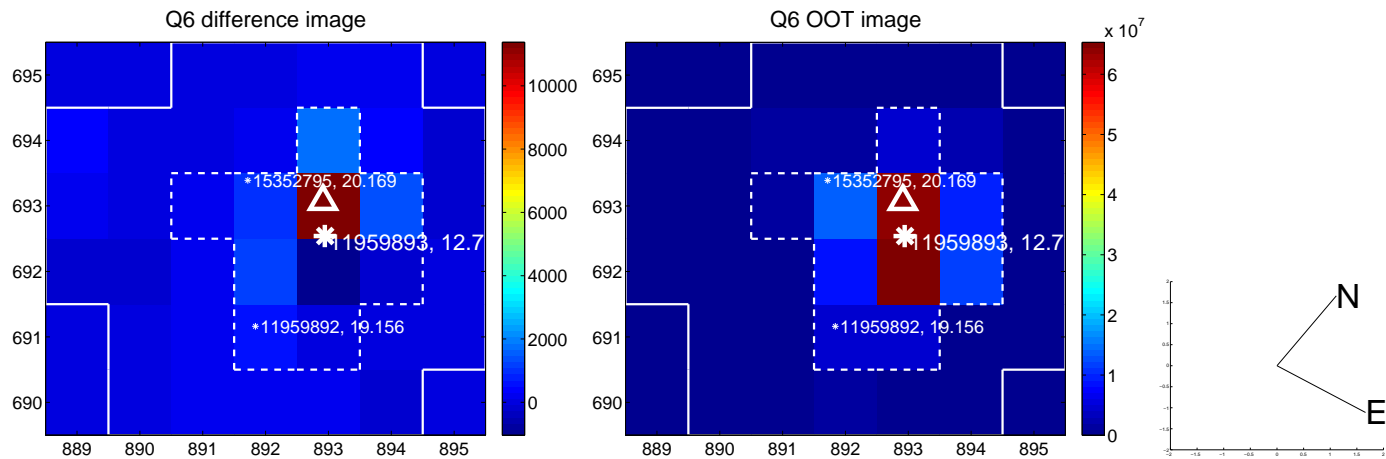
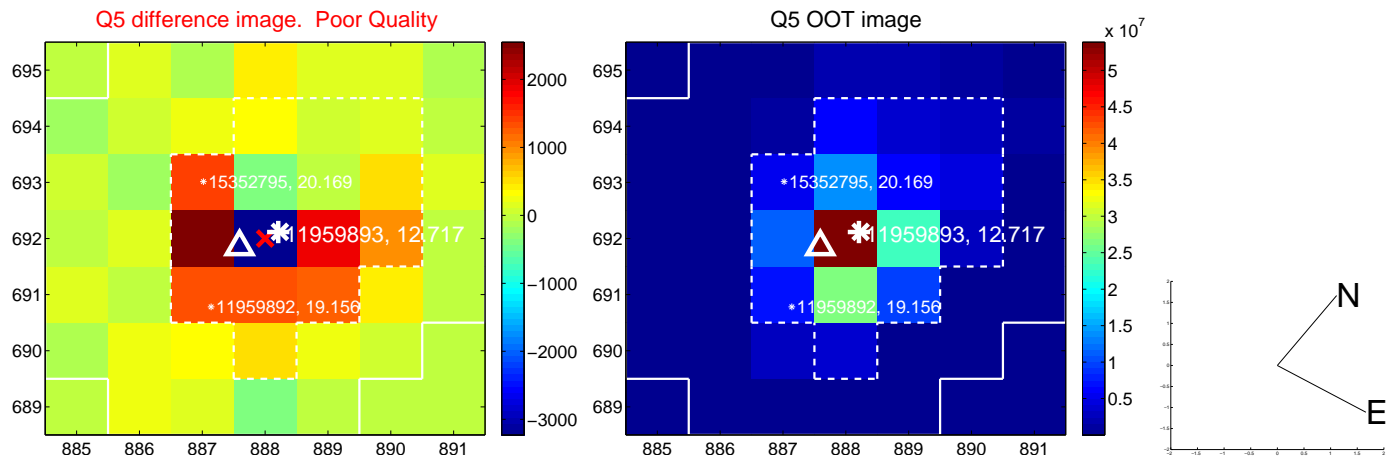


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

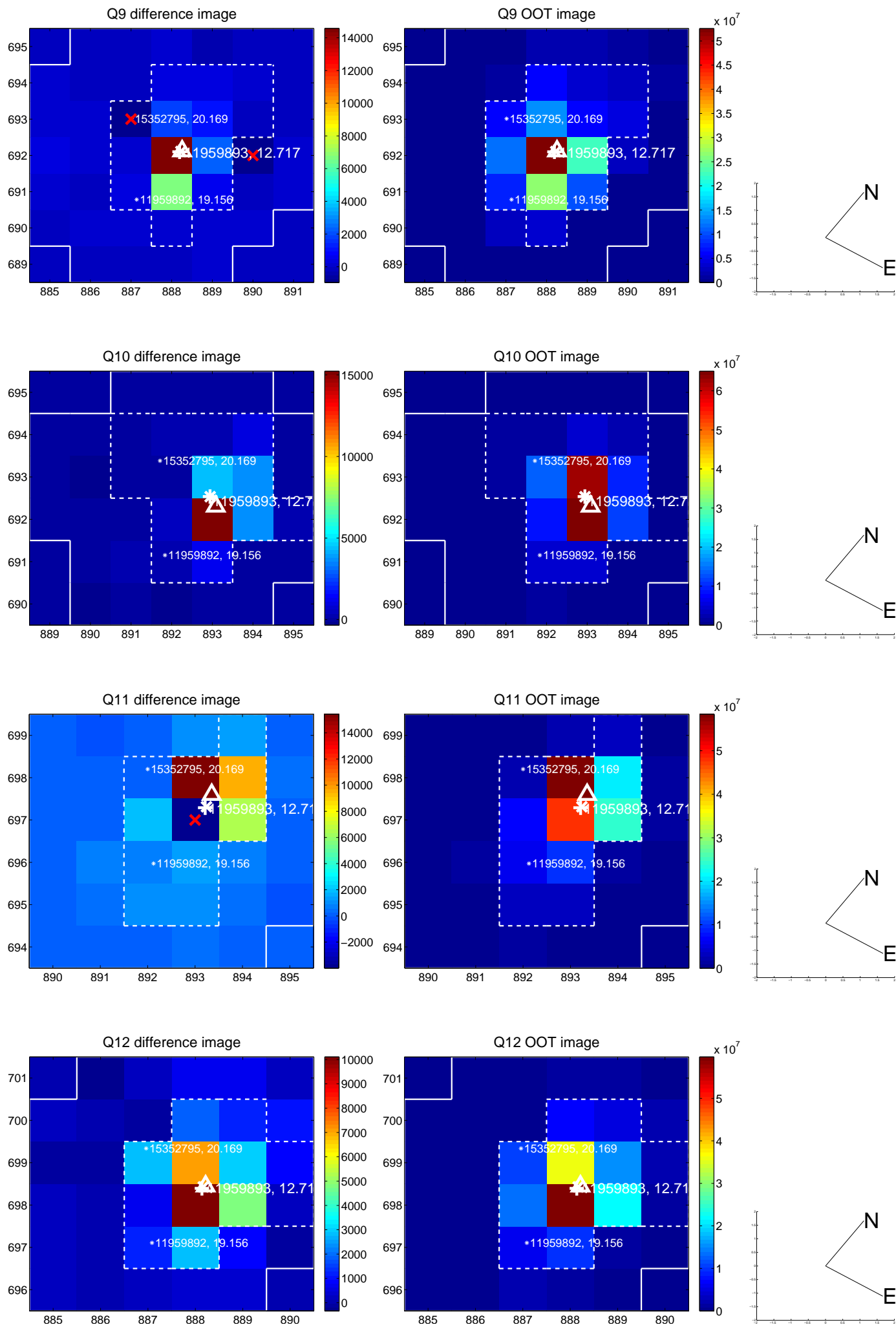
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



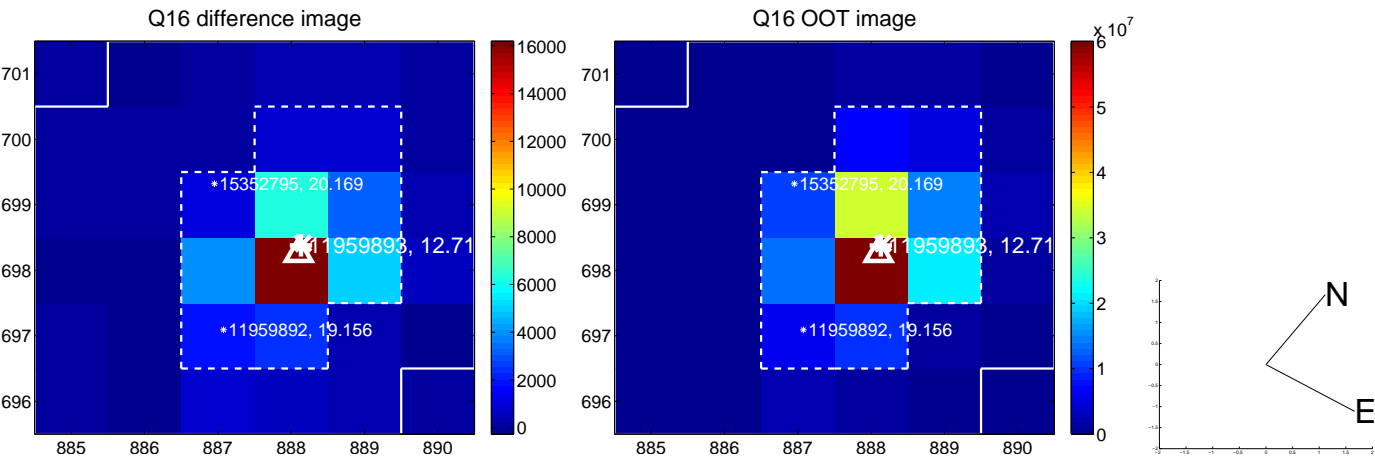
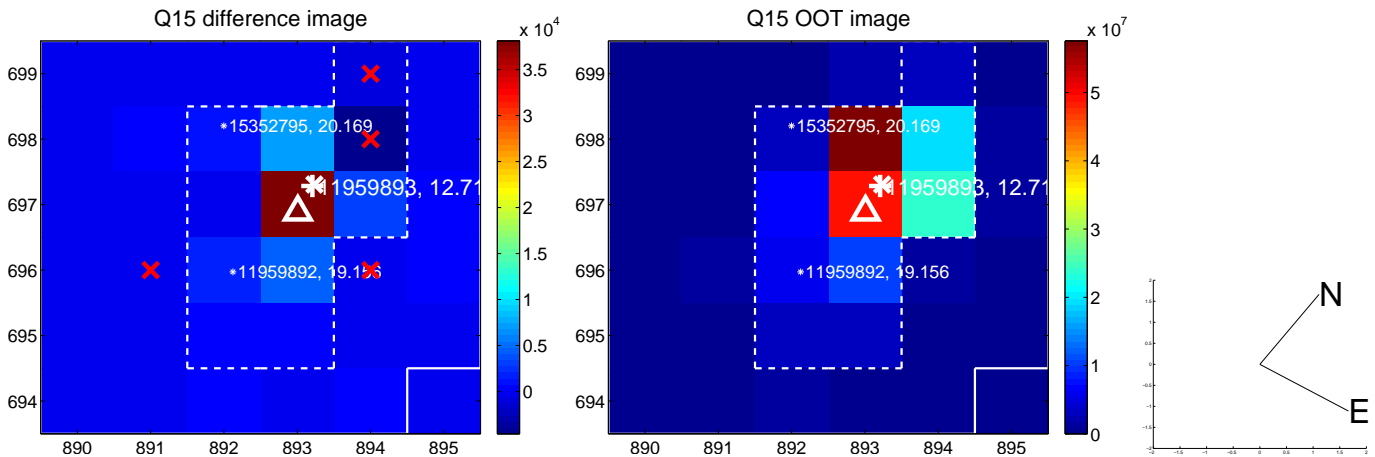
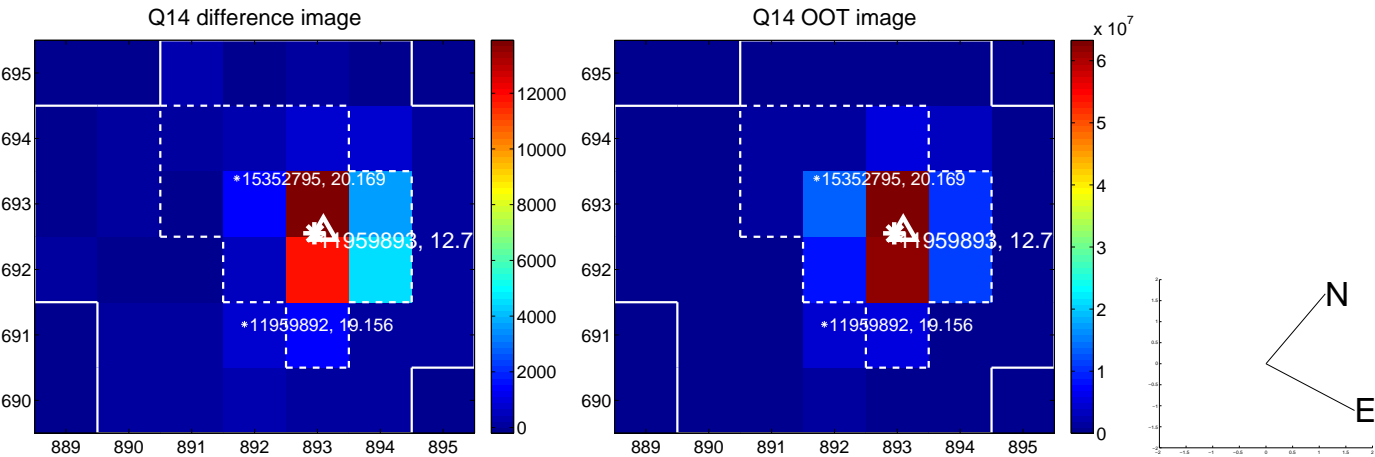
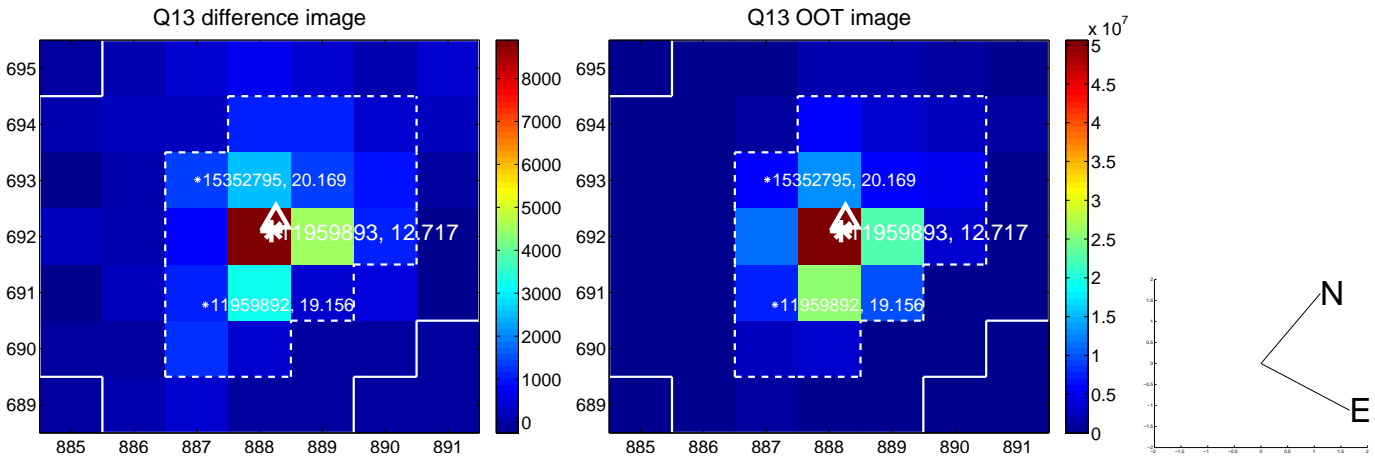
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



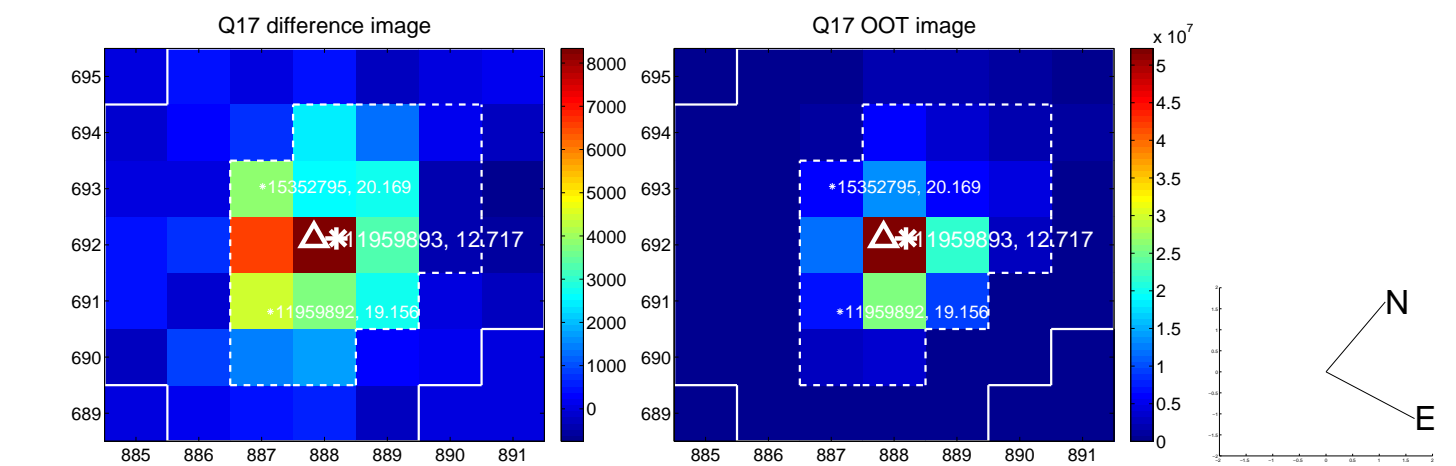
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



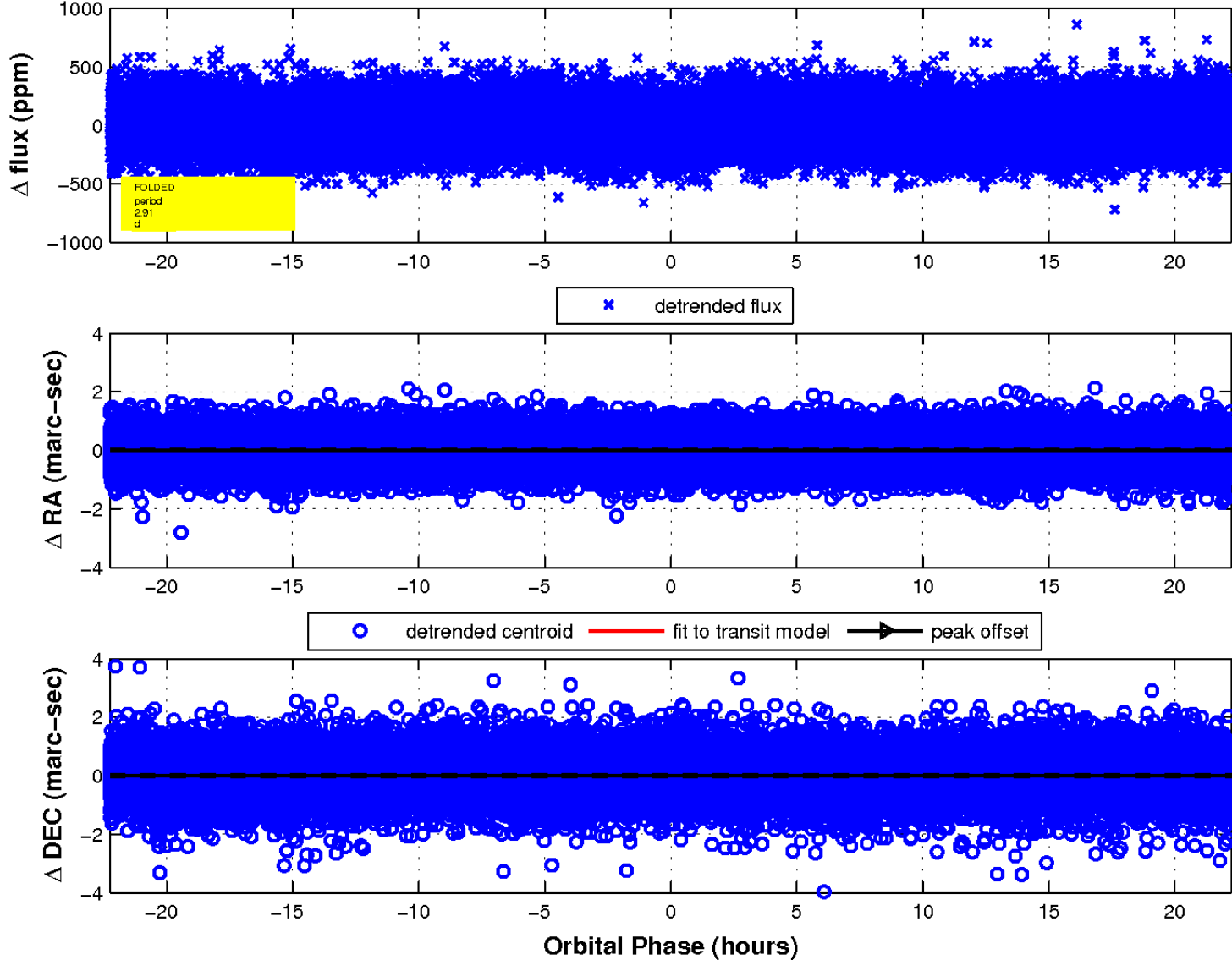
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

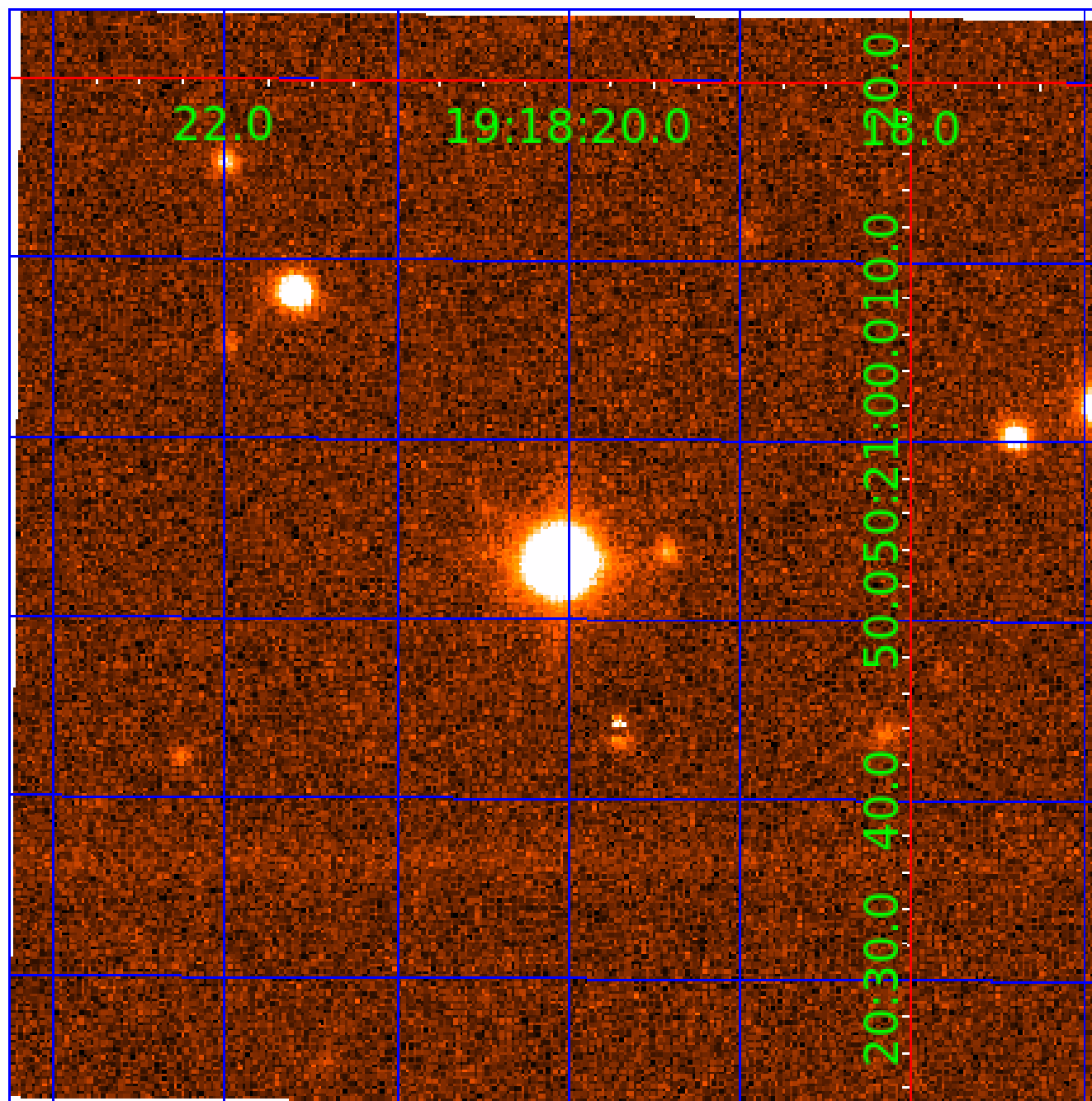


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 011959893

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011959893-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011959893-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS

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.

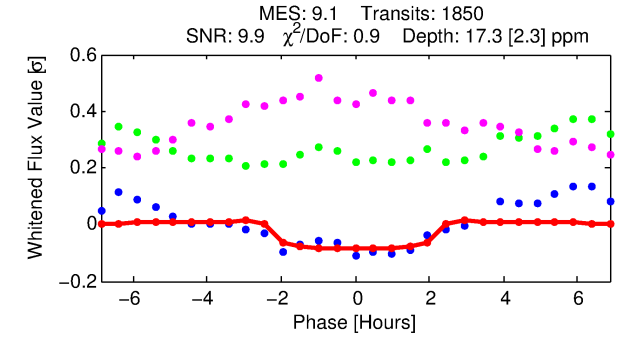
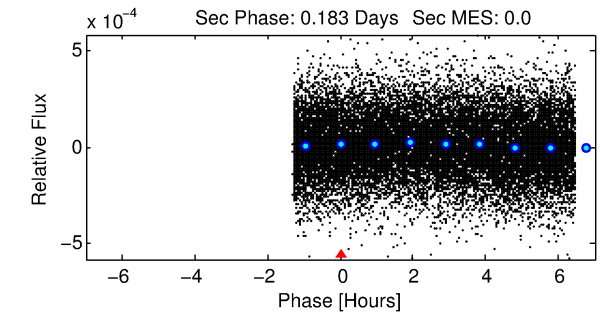
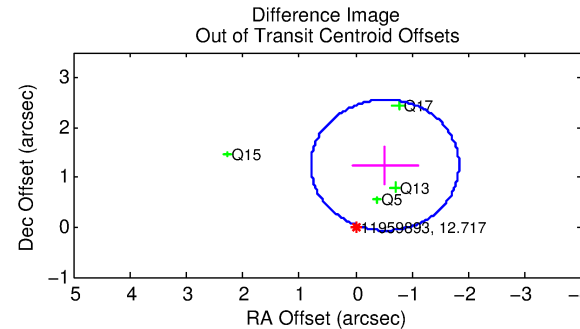
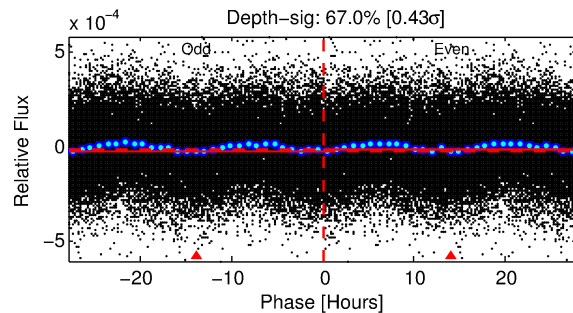
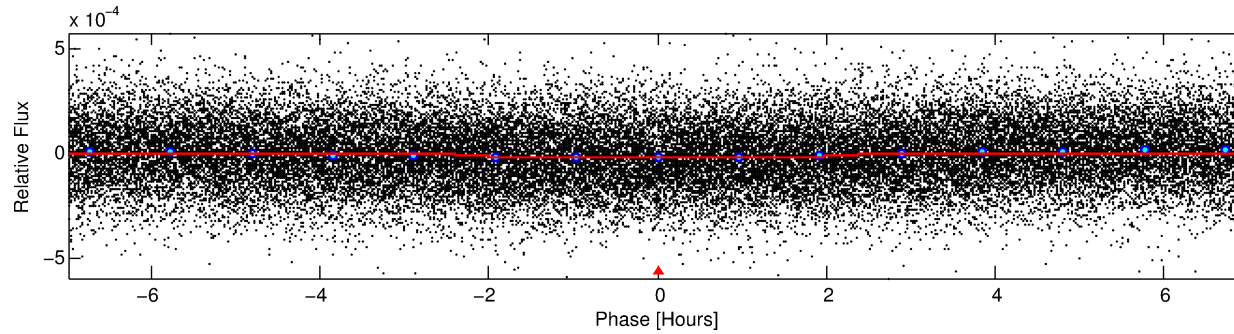
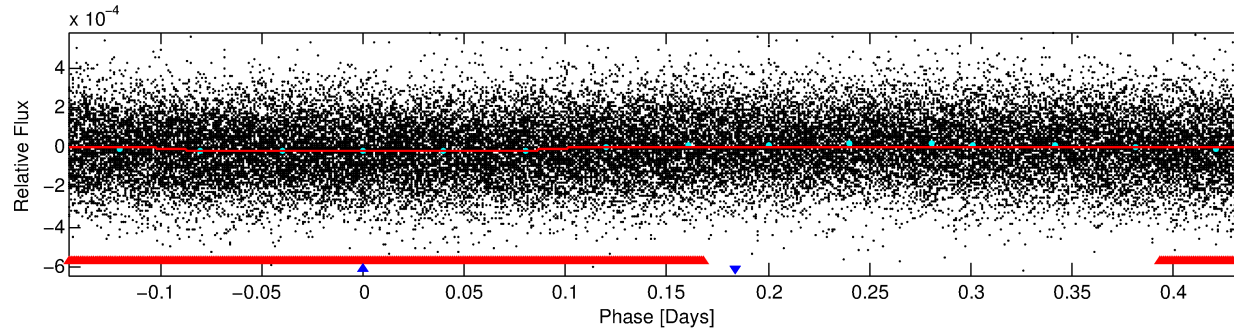
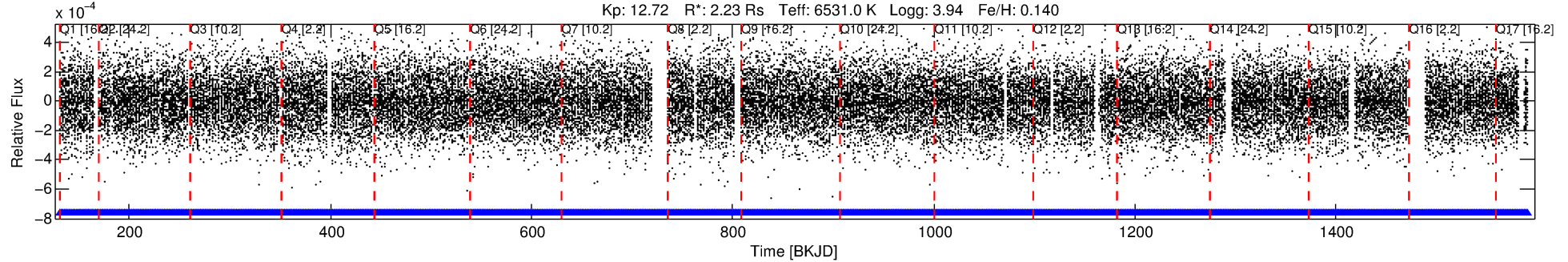
Ephemeris Match Information For 011959893-02

No Significant Match Found

DV One-Page Summary

KIC: 11959893 Candidate: 2 of 2 Period: 0.582 d
KOI: K05945 Corr: No Ephemeris Match

Kp: 12.72 R*: 2.23 Rs Teff: 6531.0 K Logg: 3.94 Fe/H: 0.140



DV Fit Results:

Period = 0.58154 [0.00001] d
Epoch = 131.7152 [0.0043] BKJD
Rp/R* = 0.0045 [0.0029]
a/R* = 1.03 [0.23]
b = 0.90 [0.81]
Seff = 32337.46 [18644.26]
Teq = 3419 [493] K
Rp = 1.09 [0.82] Re
a = 0.0158 [0.0057] AU
Ag = N/A
Teffp = N/A

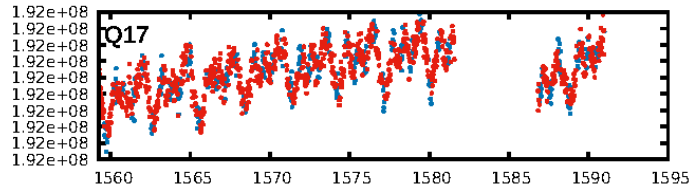
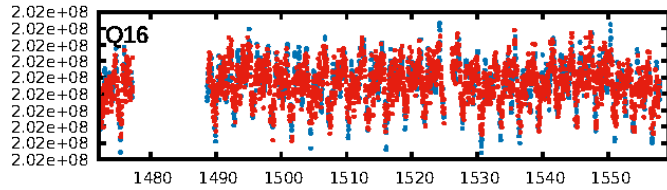
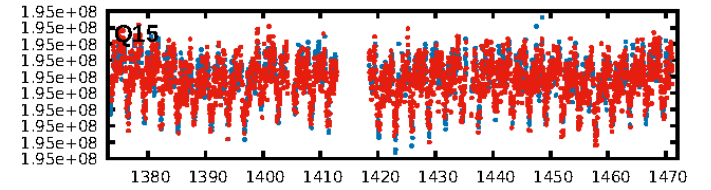
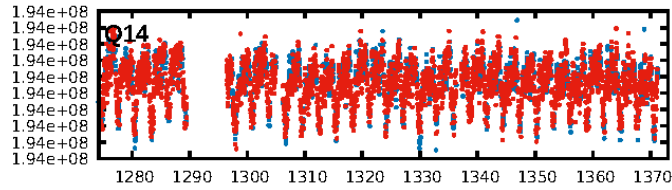
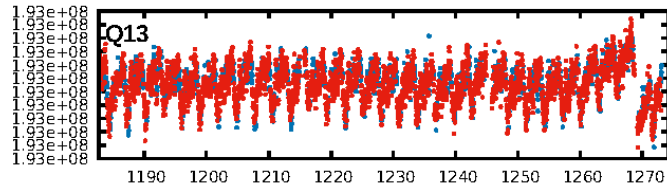
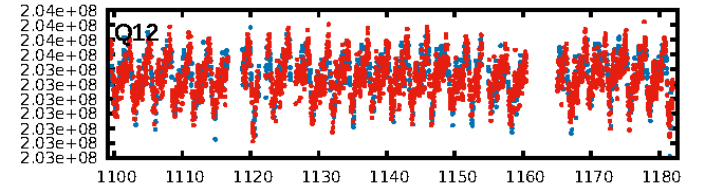
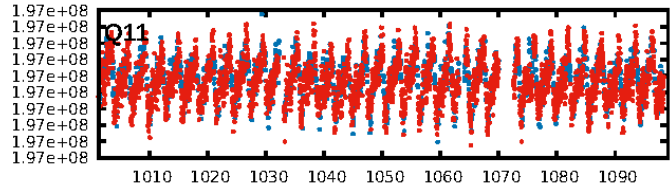
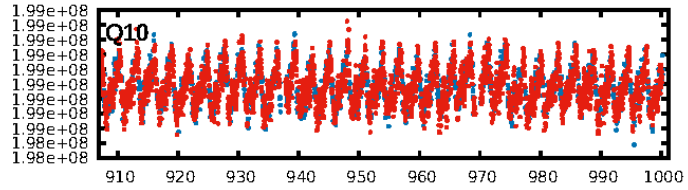
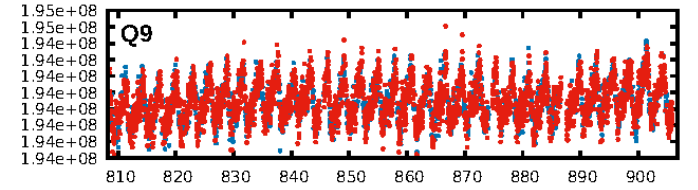
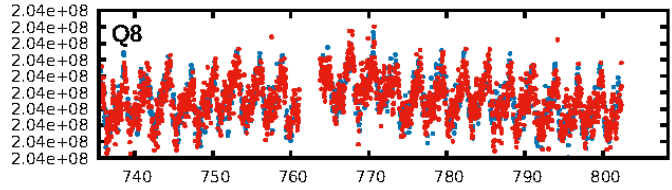
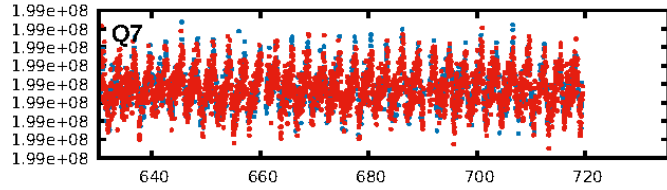
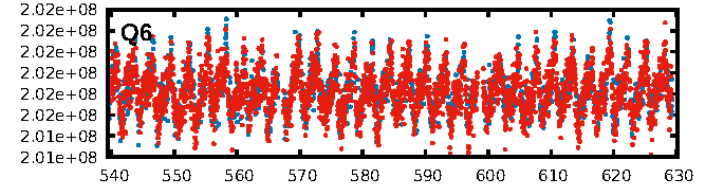
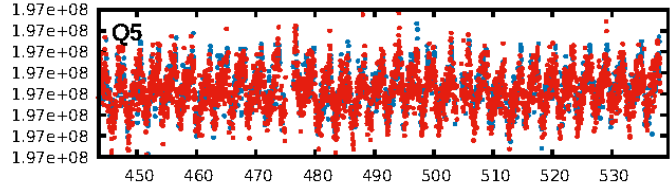
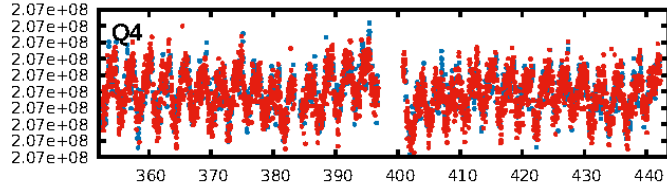
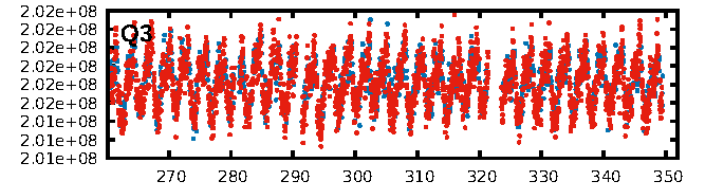
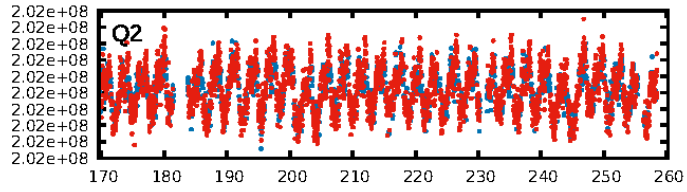
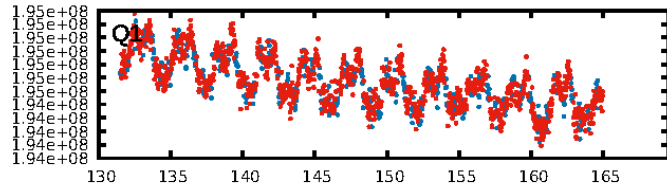
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [6.32σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1766/1766]
GhostDiagnostic-chr: 6.596
Centroid-sig: 12.9%
Centroid-so: 0.558 arcsec [0.82σ]
OotOffset-rm: 1.344 arcsec [3.08σ]
KicOffset-rm: 1.275 arcsec [2.16σ]
OotOffset-st: 0/1/0/3 [4]
KicOffset-st: 0/1/0/3 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [17/17]

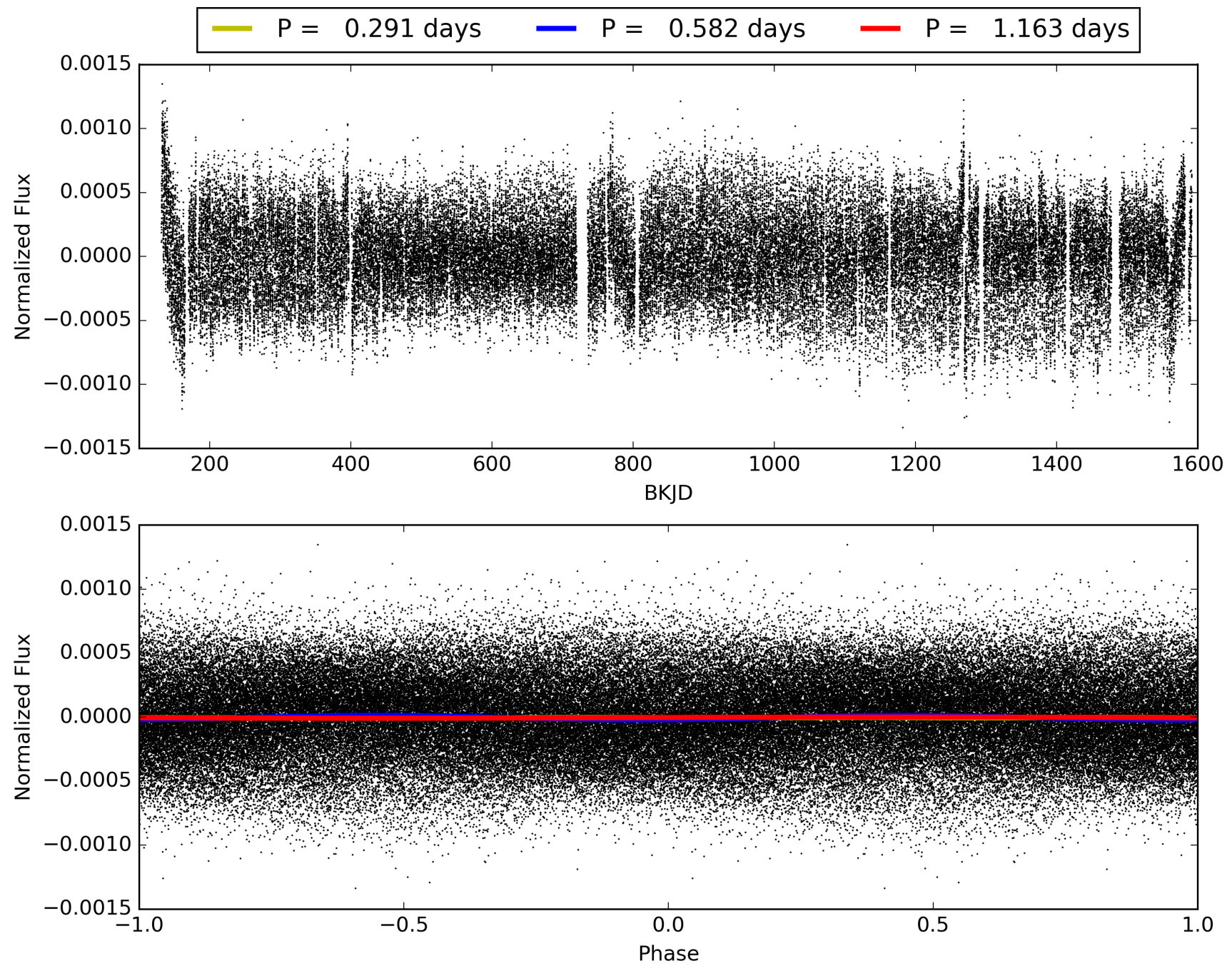
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:25:08 Z

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

TCE 011959893-02, PDC Light Curves

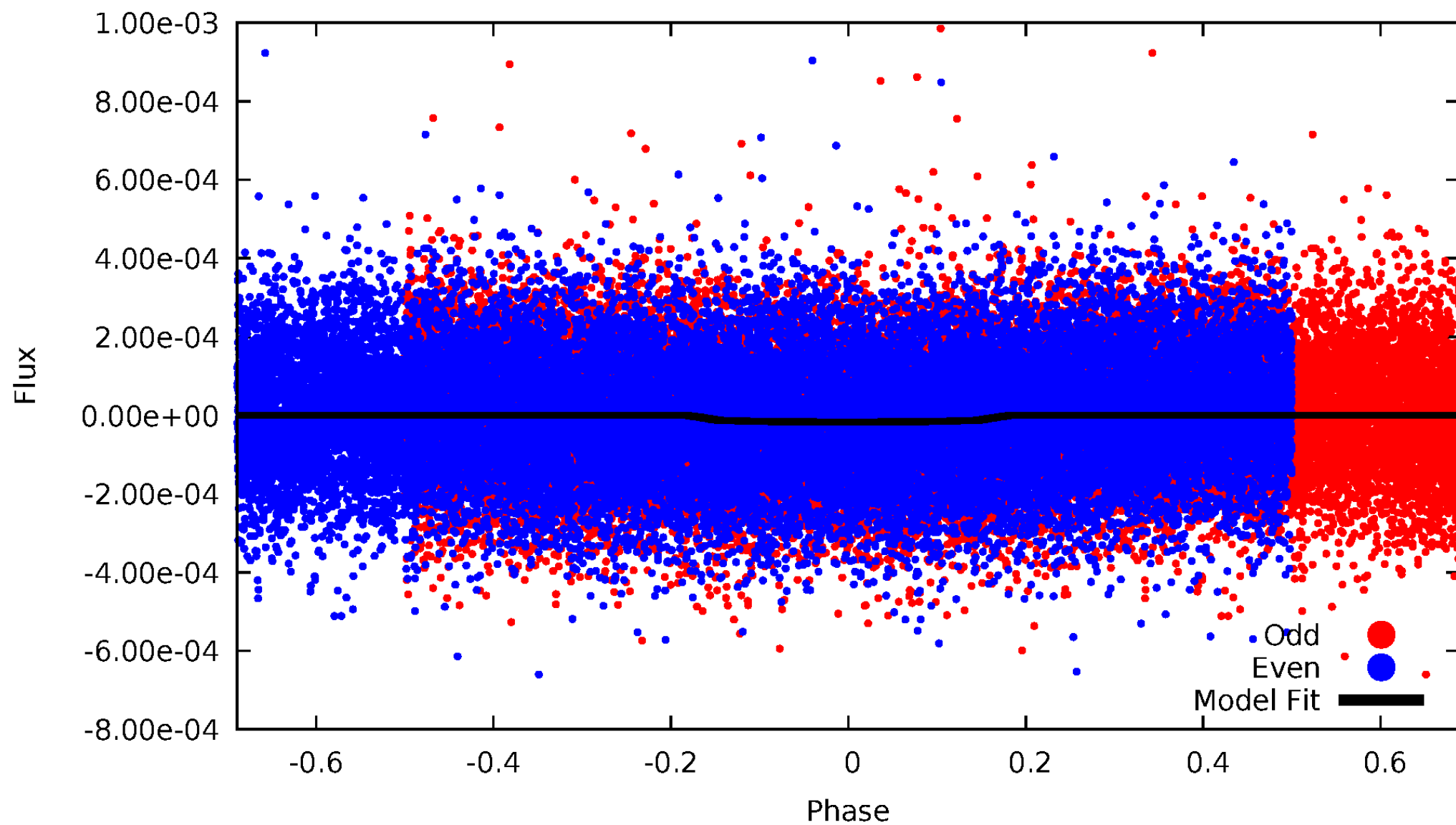


TCE 011959893-02



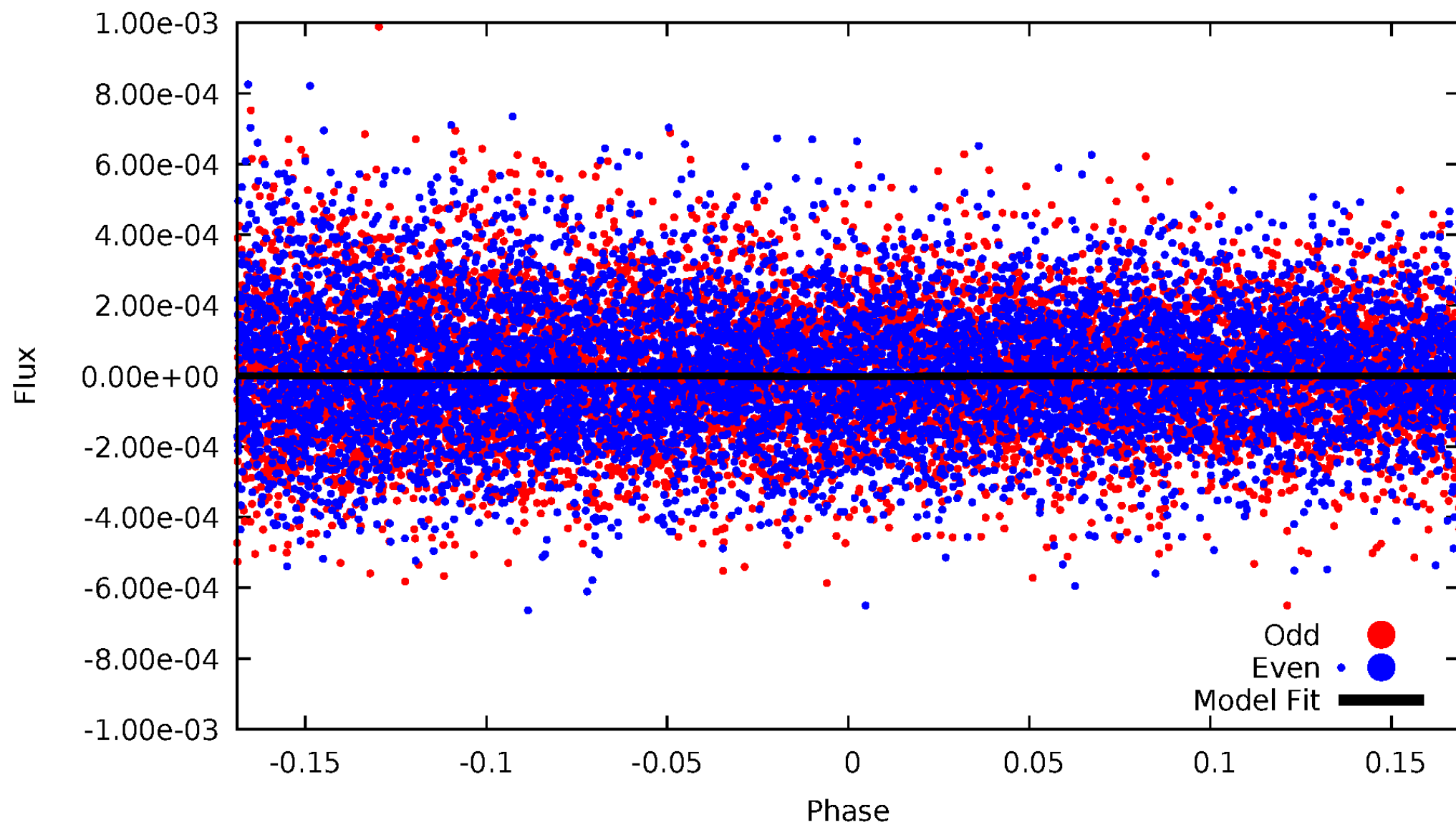
DV Odd/Even

TCE 011959893-02



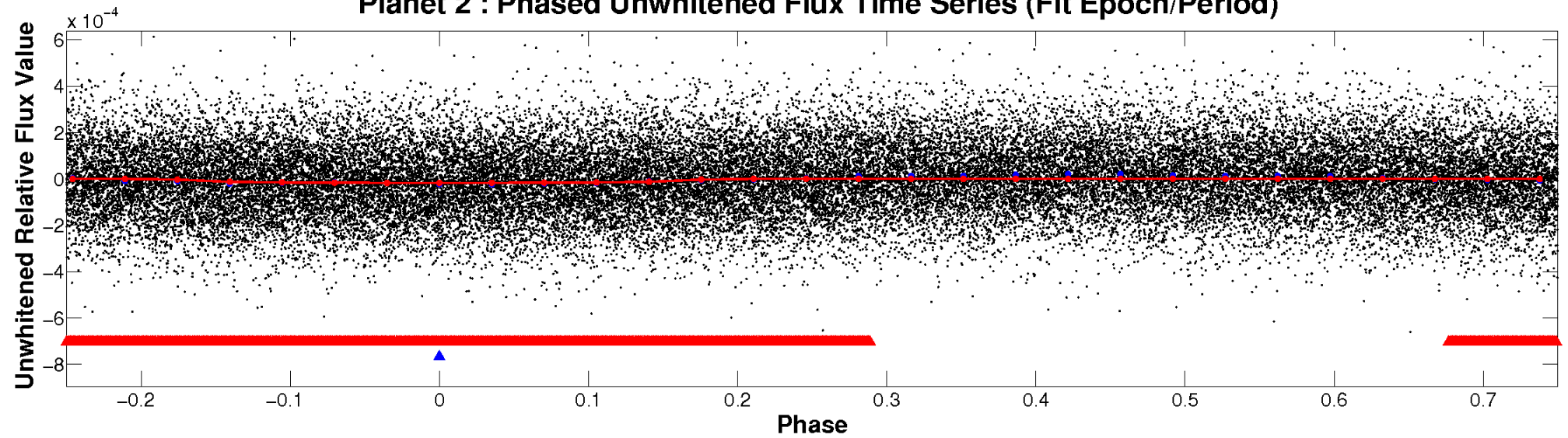
ALT Odd/Even

TCE 011959893-02

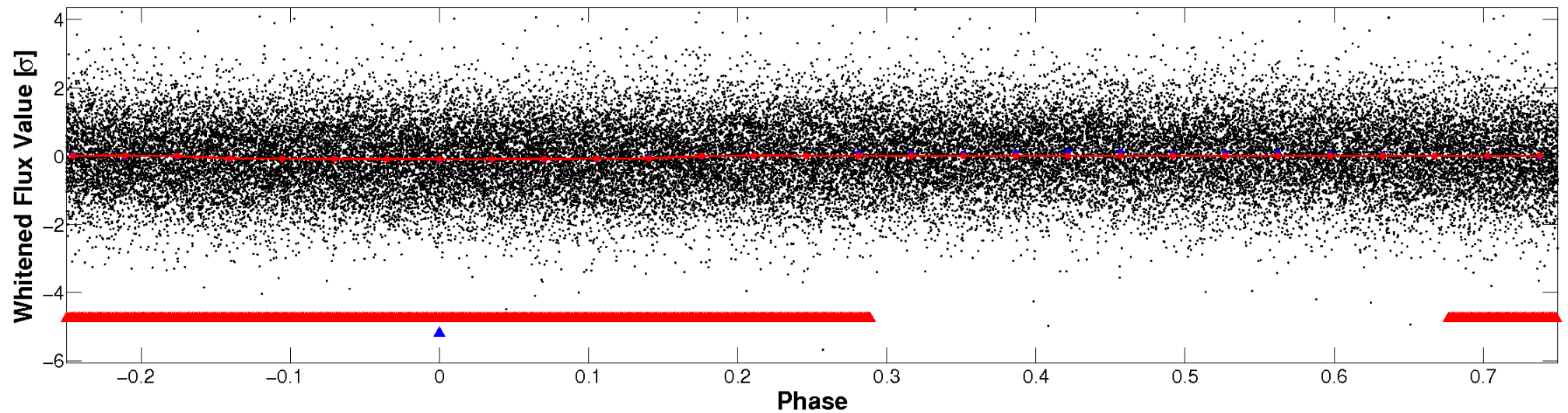


Non-Whitened Vs. Whitened Light Curve

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

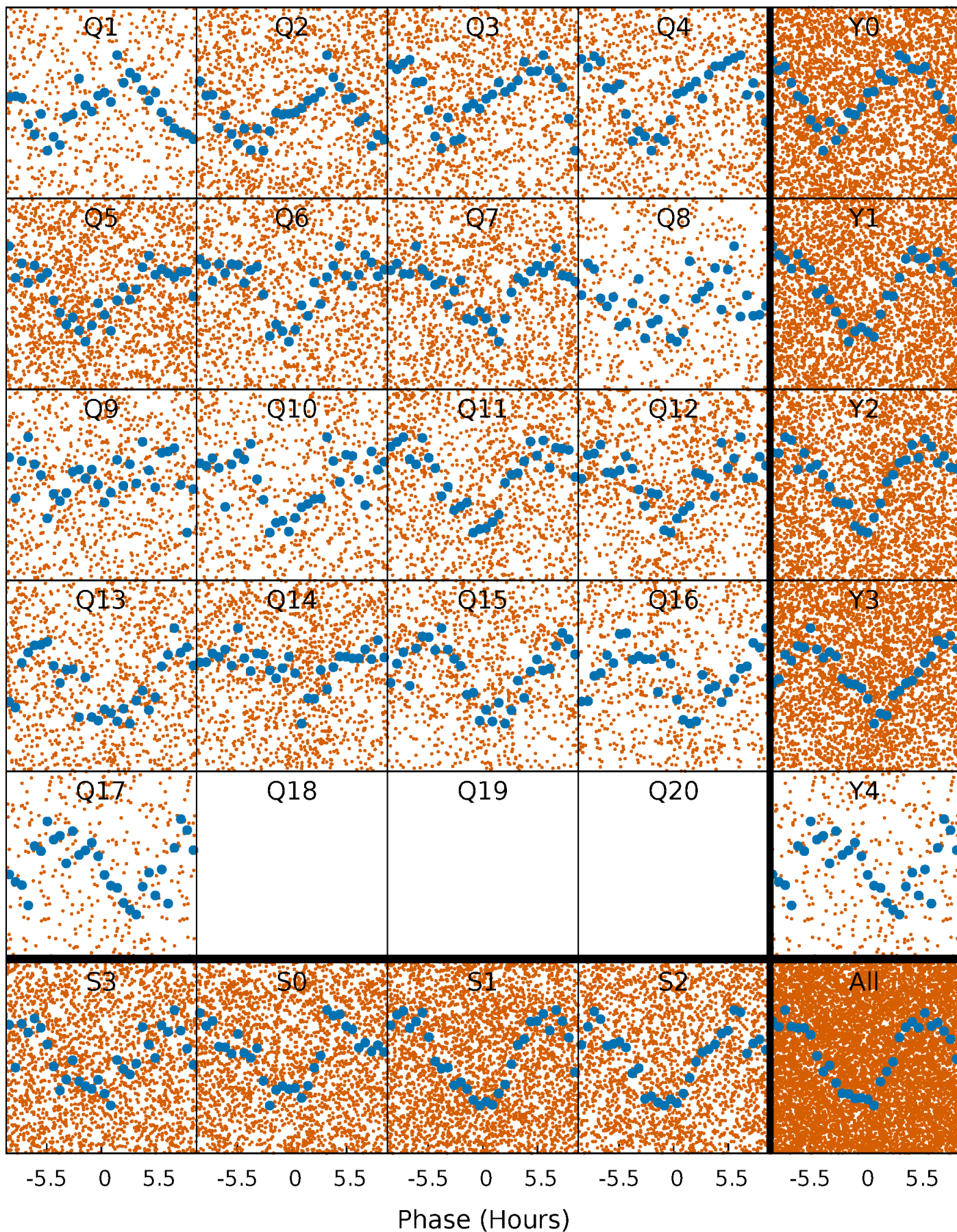


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



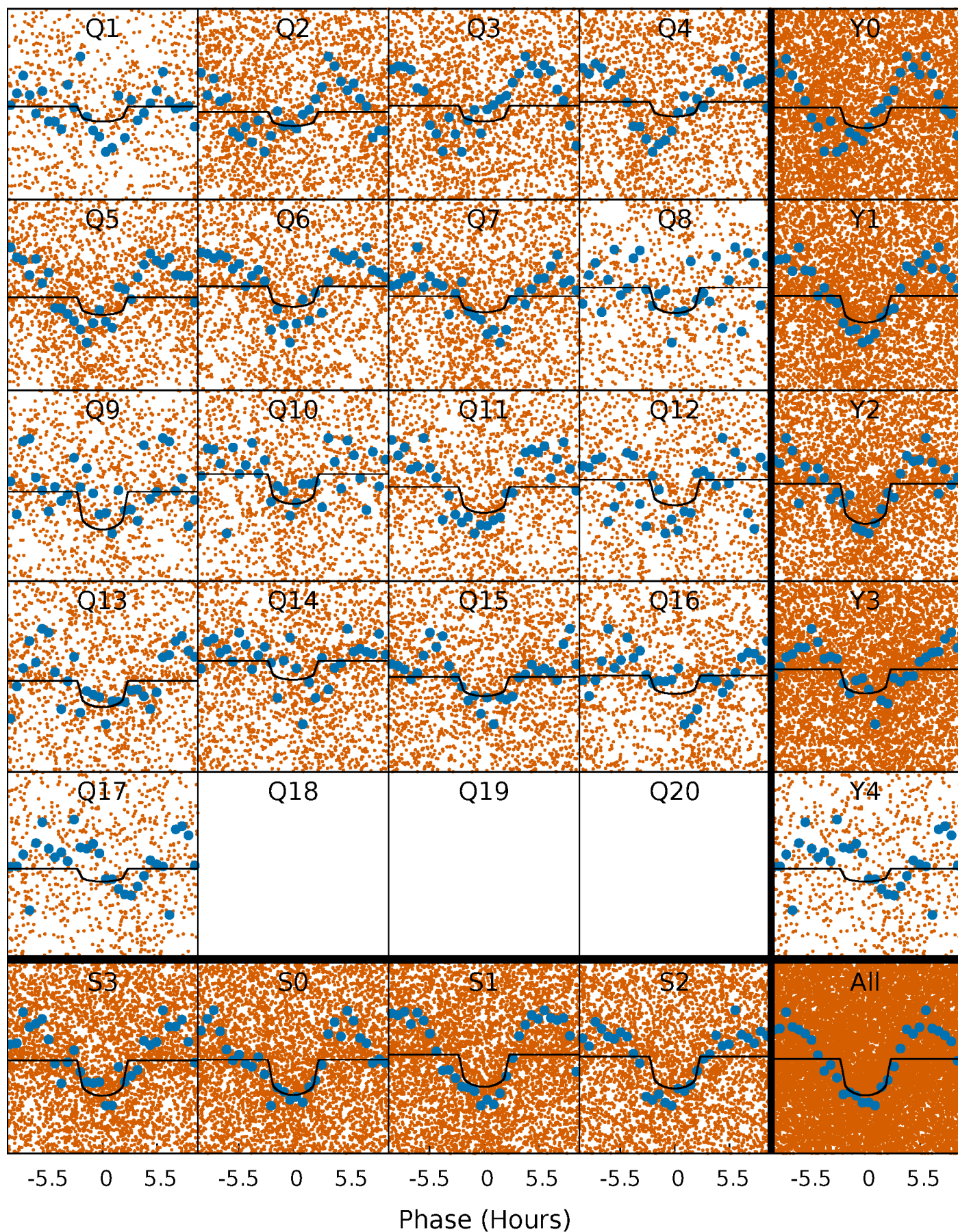
PDC Quarter-Phased Transit Curves

TCE 011959893-02 P= 0.581541 Days $T_0=131.715211$ (BKJD)



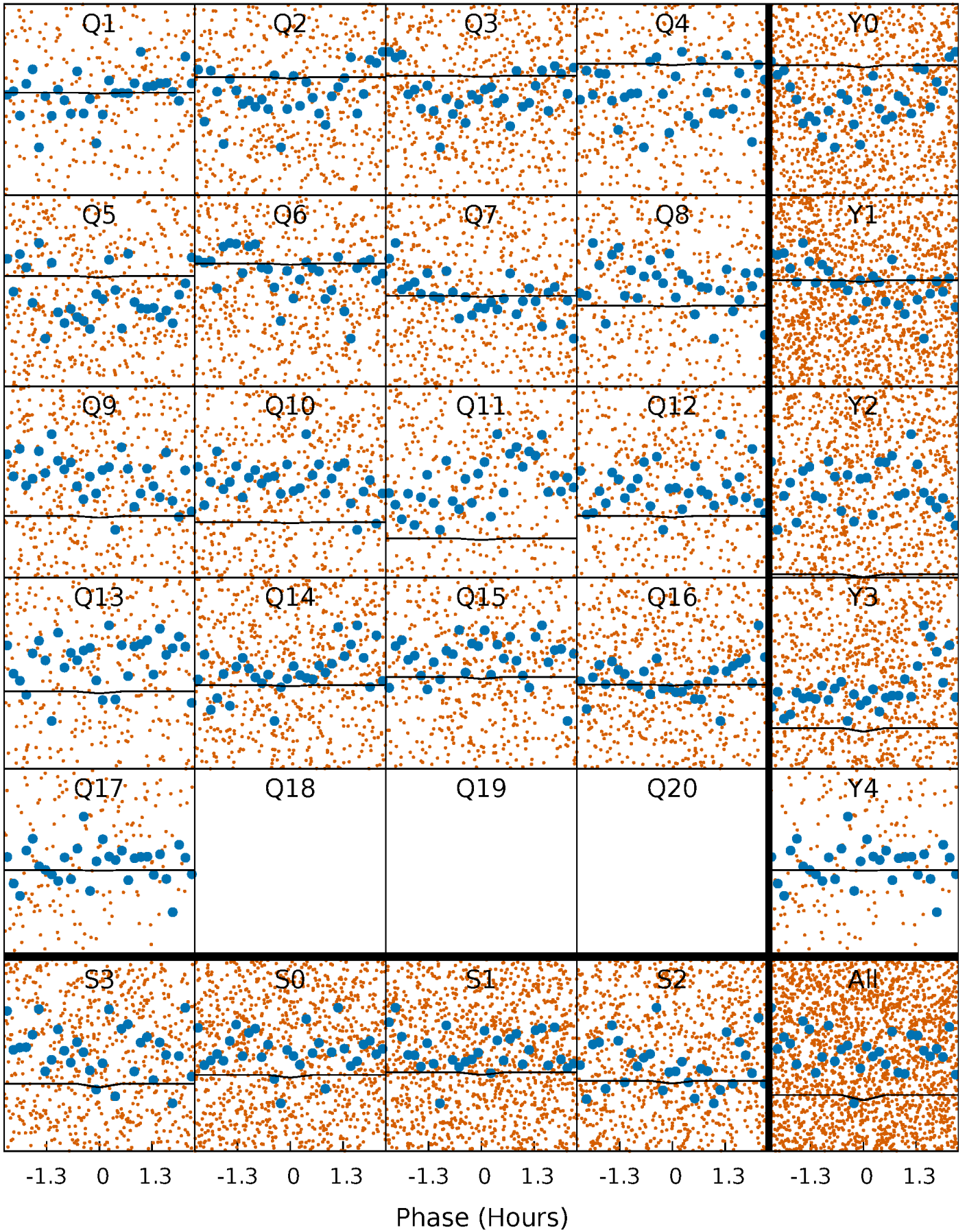
DV Quarter-Phased Transit Curves

TCE 011959893-02 P= 0.581541 Days $T_0=131.715211$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

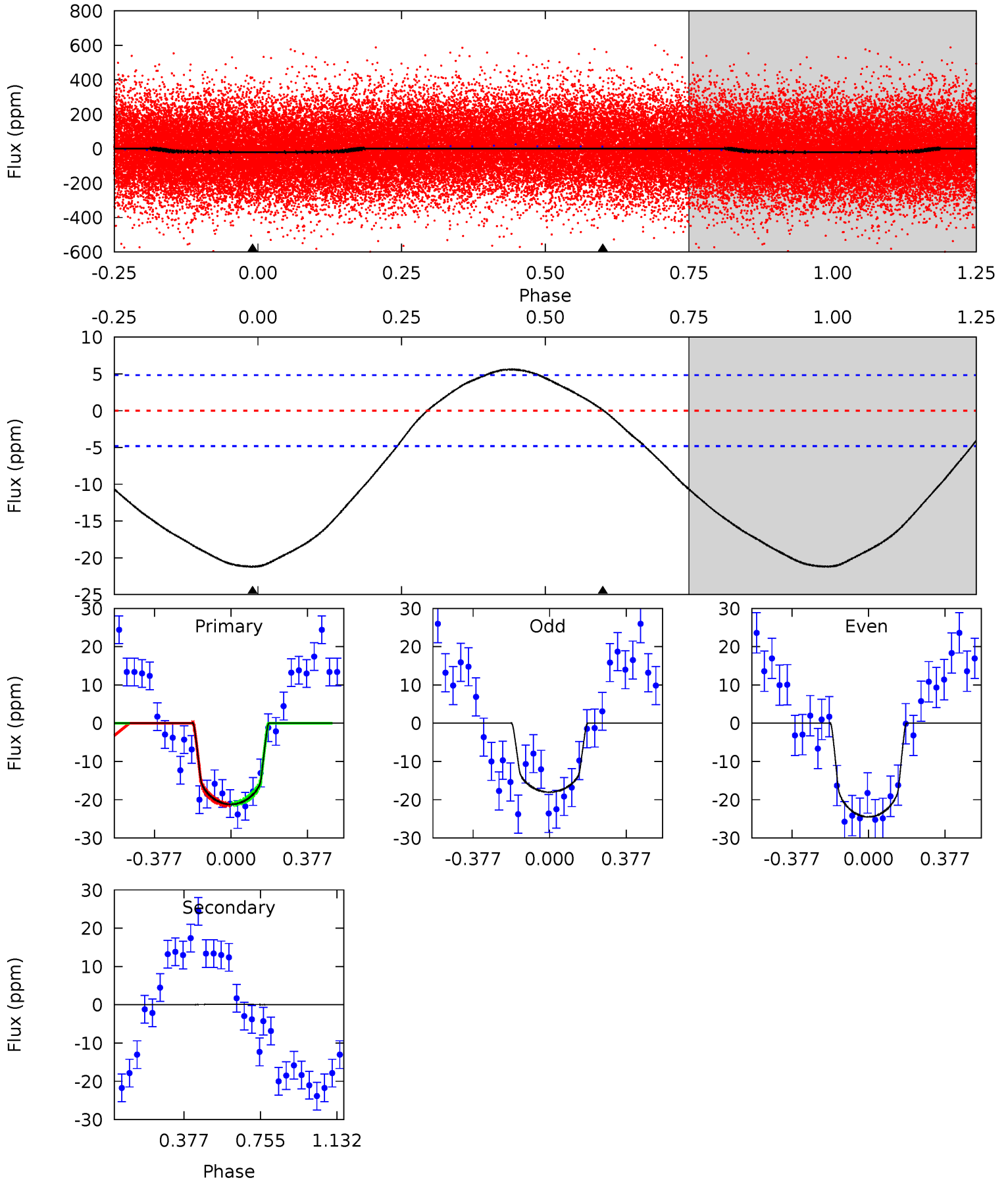
TCE 011959893-02 P= 0.581616 Days $T_0=131.730514$ (BKJD)



DV Model-Shift Uniqueness Test

011959893-02, P = 0.581541 Days, E = 131.133670 Days

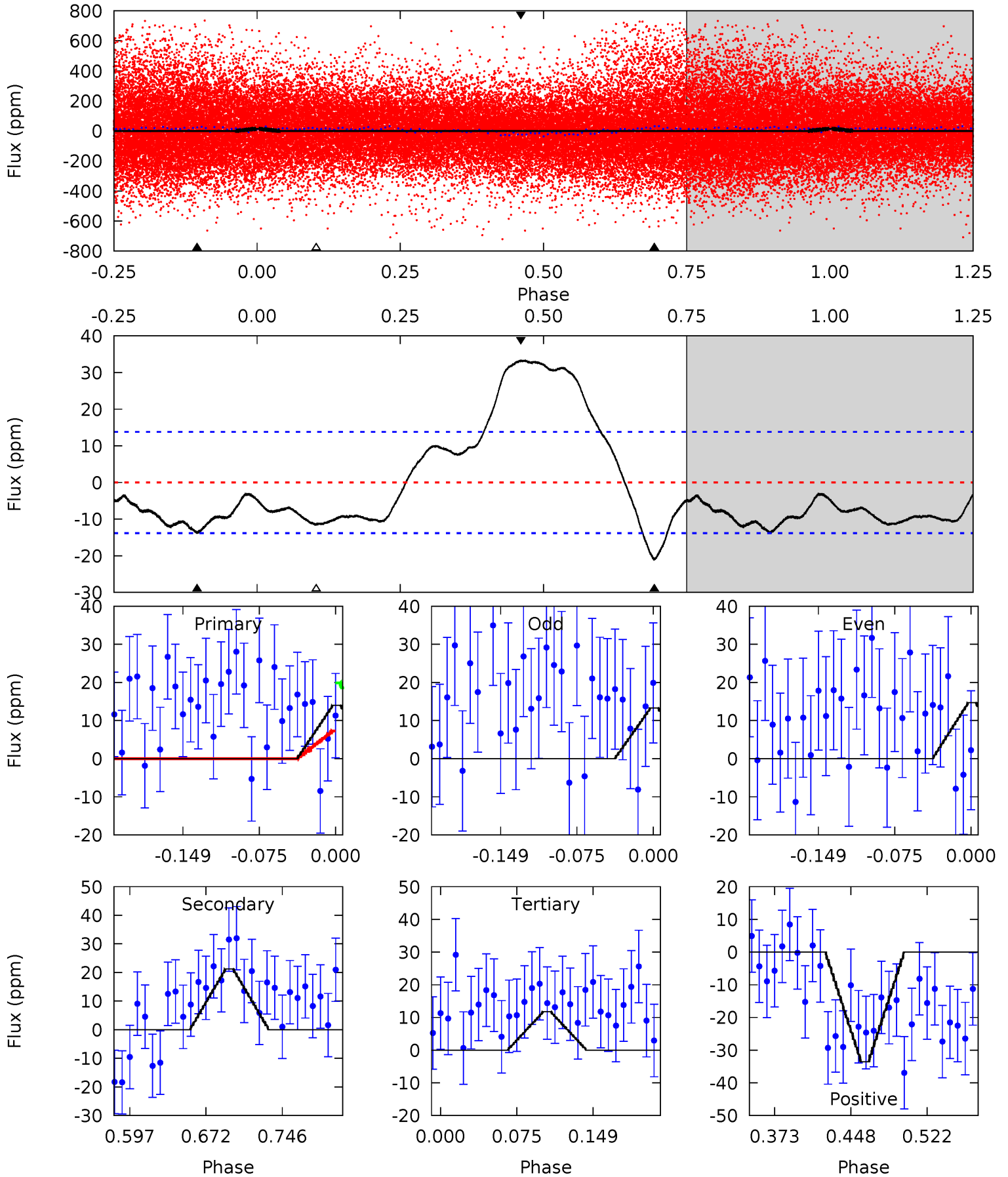
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	-0.08	0	0	4.28	0.88	1.95	18.8	18.8	-0.08	-0.08	2.85	1.08	0.21	0.10



Alt Model-Shift Uniqueness Test

011959893-02, P = 0.581616 Days, E = 131.148898 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.69	7.12	3.93	11.2	4.63	1.78	5.23	0.75	-6.54	3.18	-4.11	0.23	1.13	0.61	2.07



Stellar Parameters For KIC 011959893

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6531^{+182}_{-251}	$3.936^{+0.319}_{-0.172}$	$0.140^{+0.200}_{-0.350}$	$2.231^{+0.586}_{-0.879}$	$1.566^{+0.202}_{-0.376}$	$0.199^{+0.511}_{-0.092}$
	+3%/-4%	+8%/-4%	+143%/-250%	+26%/-39%	+13%/-24%	+257%/-46%
Source	PHO54	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 011959893-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1	$1.09^{+0.72}_{-0.60}$	4721^{+393}_{-481}	-4150^{+655}_{-539}	$-0.005^{+0.162}_{-0.210}$
Alt.	-21 ± 3	$0.58^{+0.64}_{-0.37}$	4780^{+332}_{-488}	9177^{+14901}_{-3246}	$8.488^{+55.352}_{-6.559}$

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 $A_{obs} \gg 1.0$

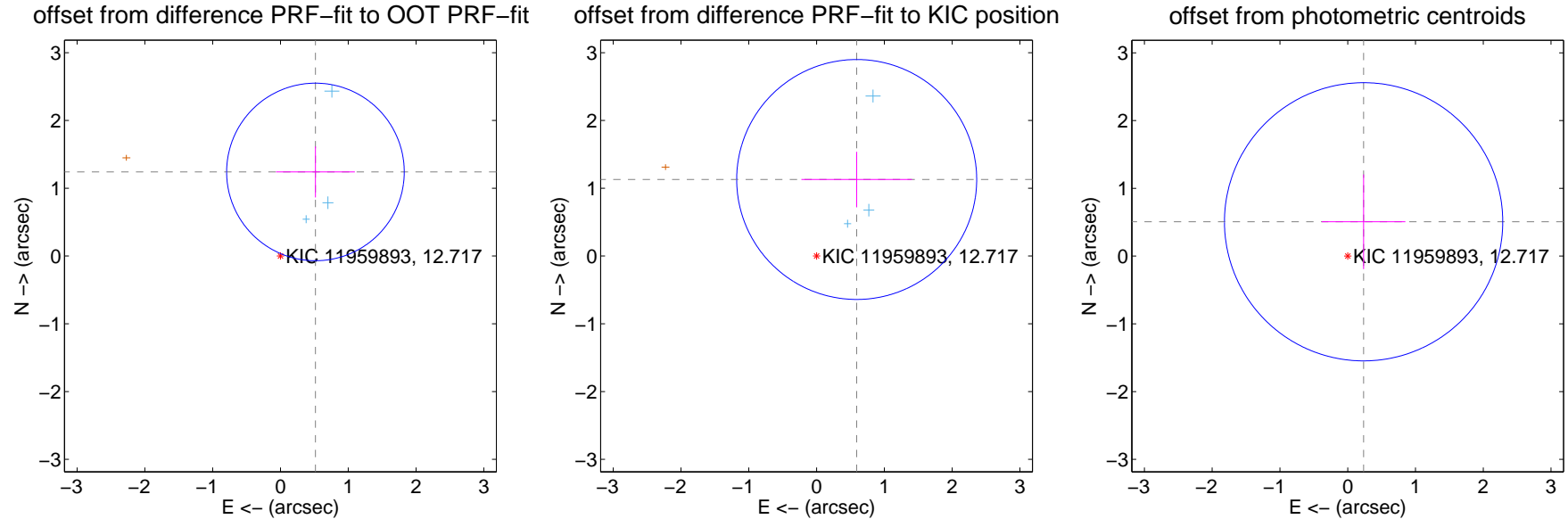
DV Centroid Data

Supplemental centroid analysis for 011959893-02. Kepler magnitude: 12.72. Transit SNR 9.85

There are 3 quarters with good PRF difference image offsets

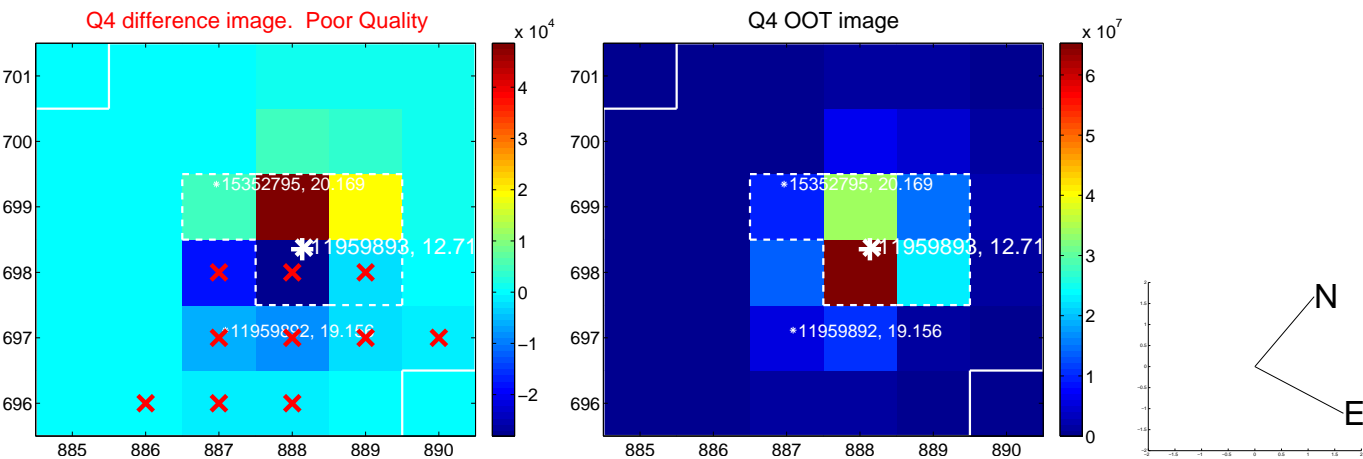
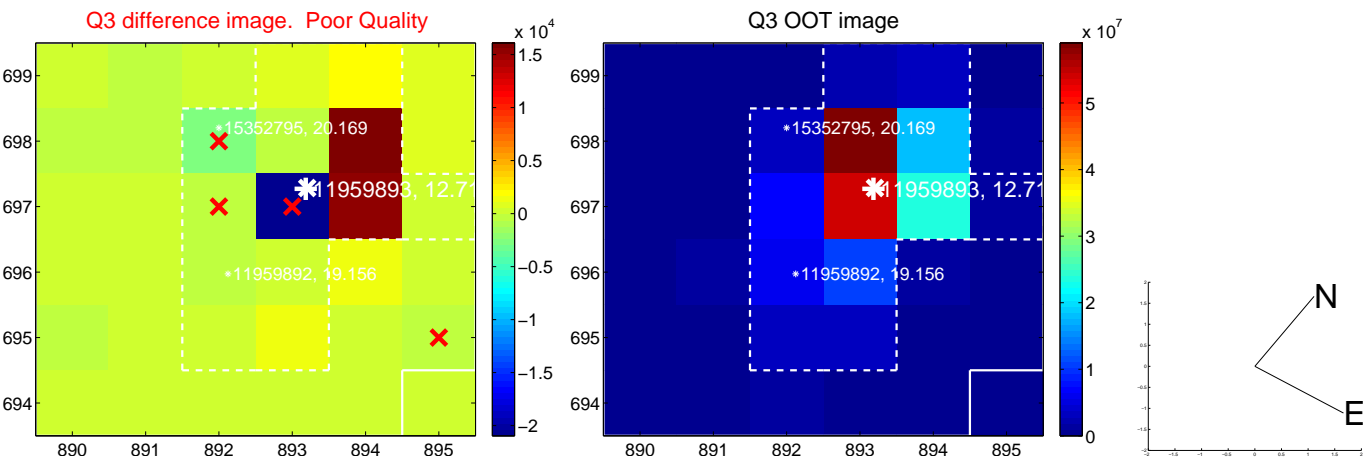
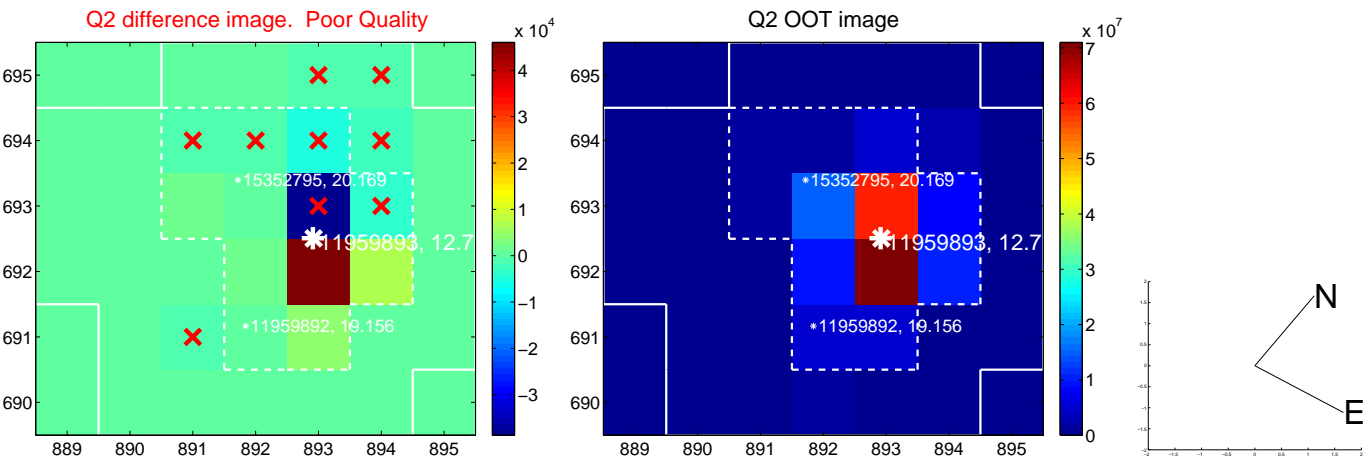
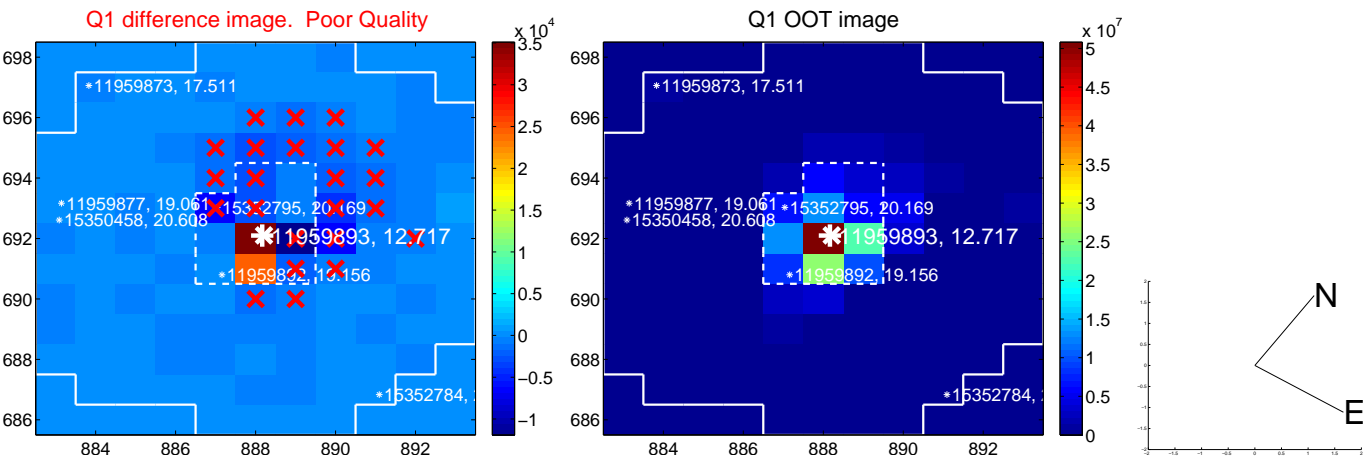
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.344 ± 0.437	3.08	-0.516 ± 0.582	1.241 ± 0.377
PRF-fit source offset from KIC position	1.275 ± 0.590	2.16	-0.592 ± 0.815	1.129 ± 0.409
photometric centroid source offset	0.56 ± 0.68	0.82	-0.23 ± 0.62	0.51 ± 0.70

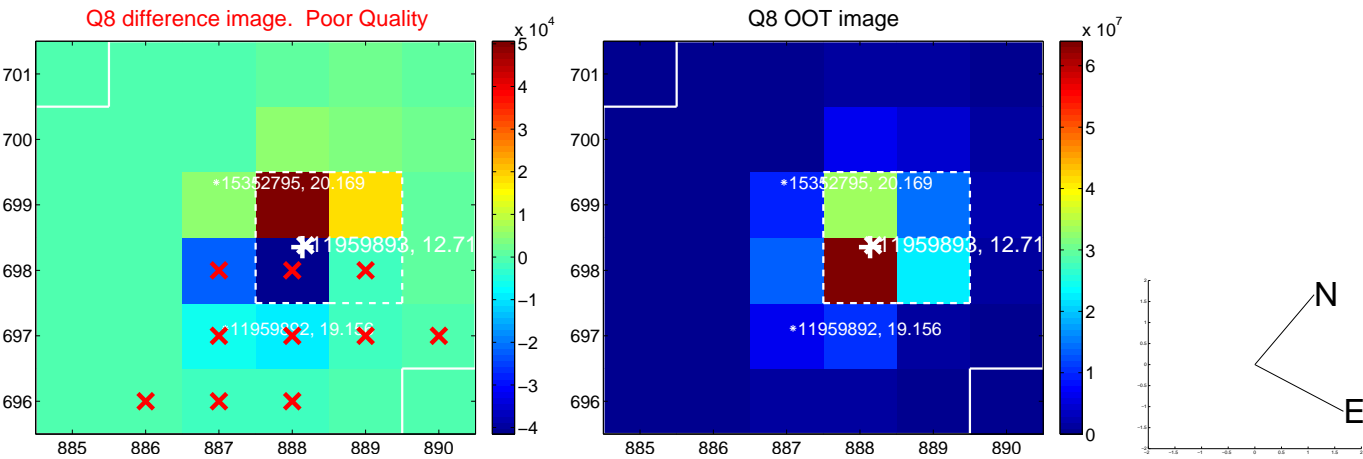
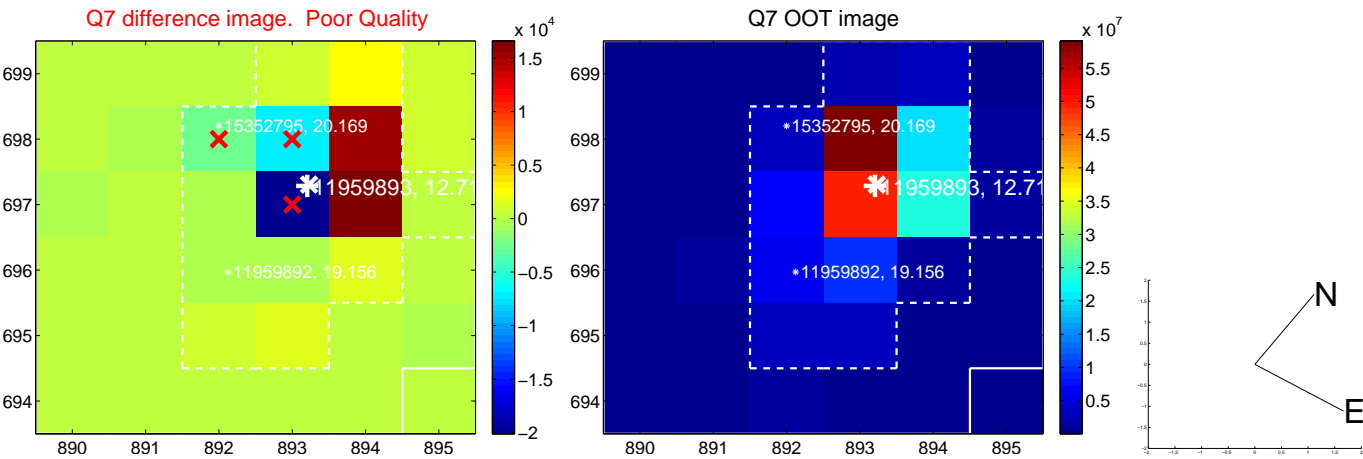
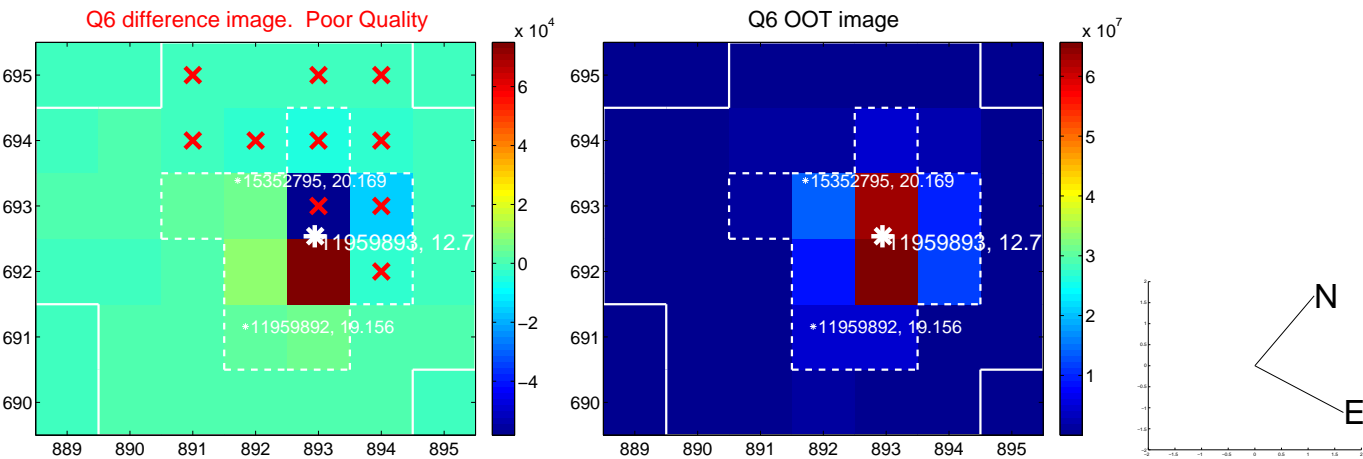
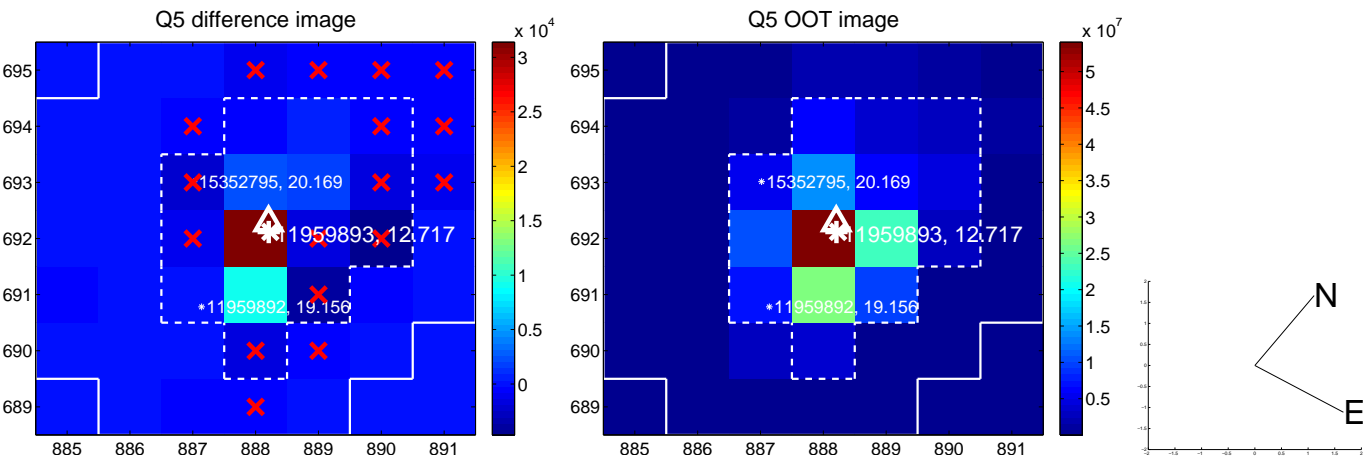


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

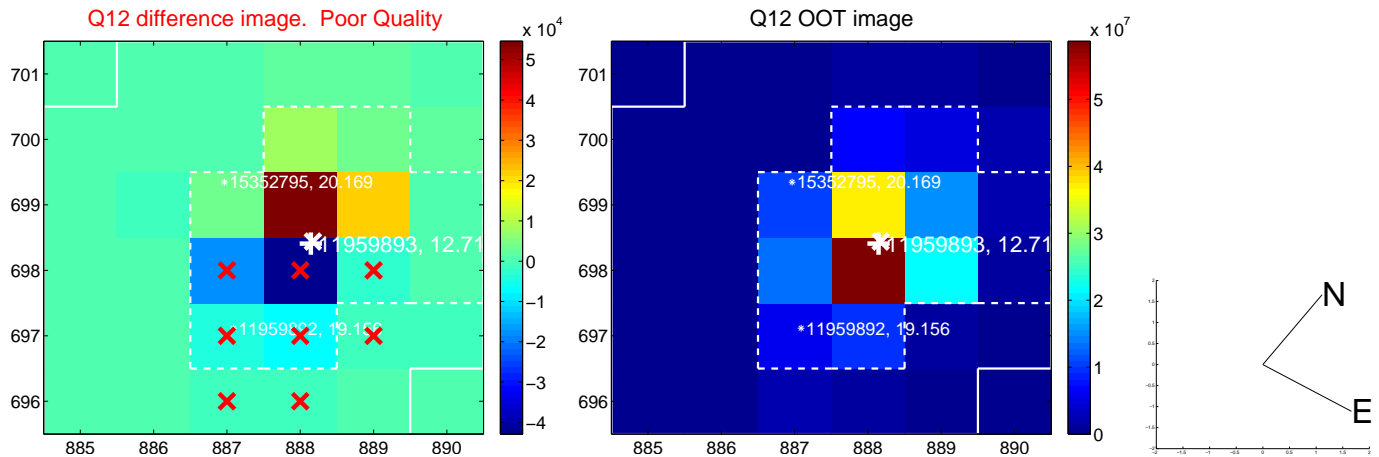
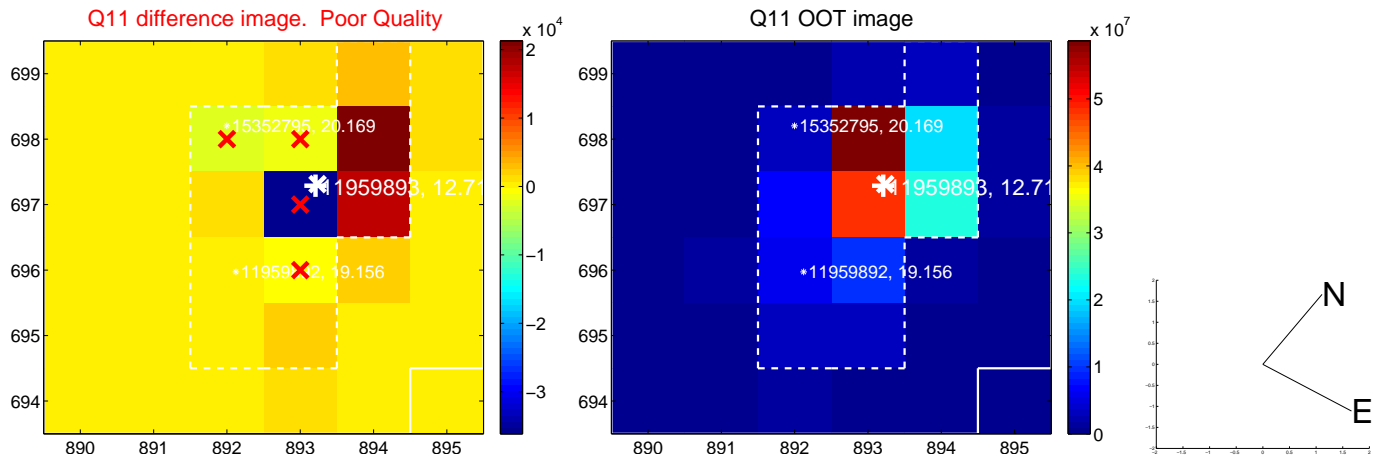
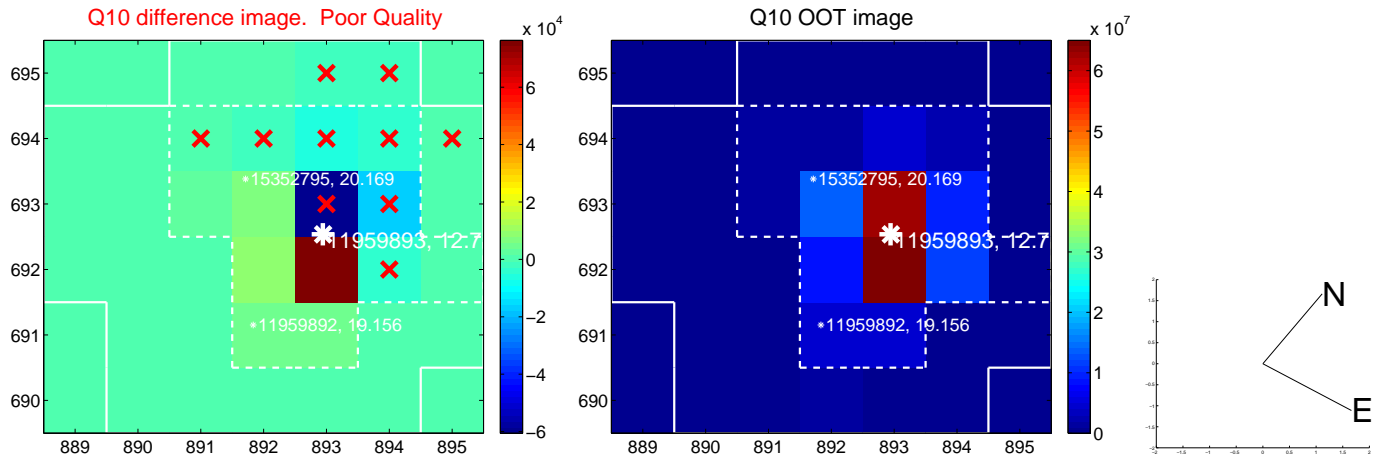
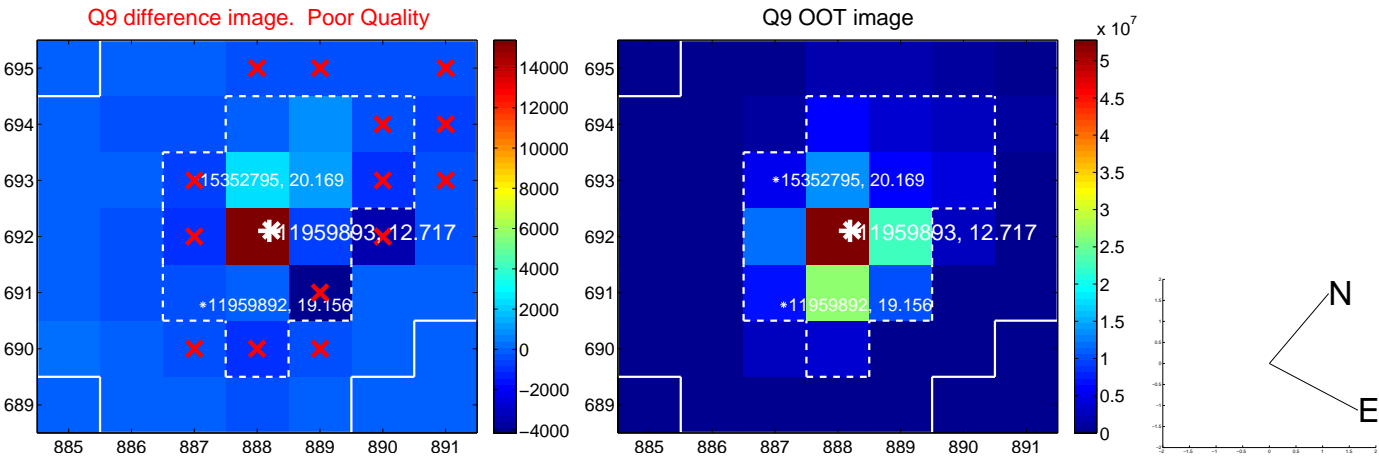
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



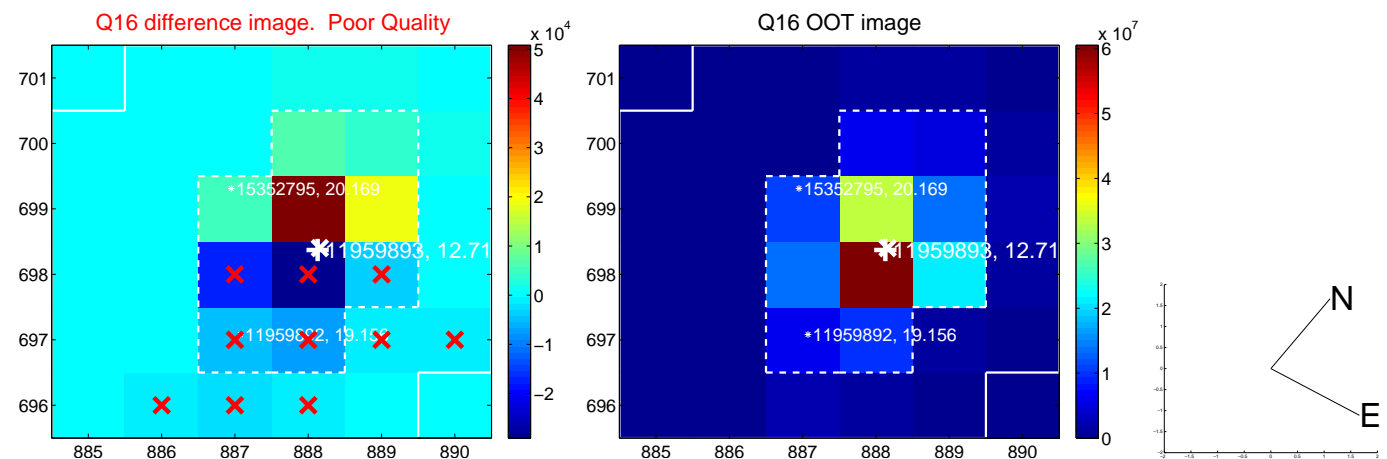
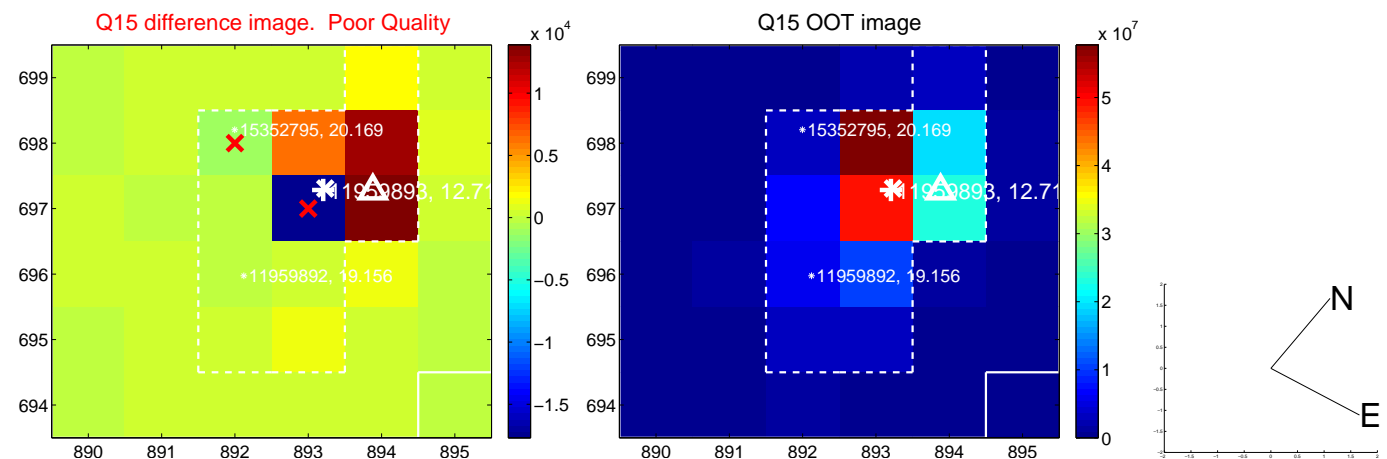
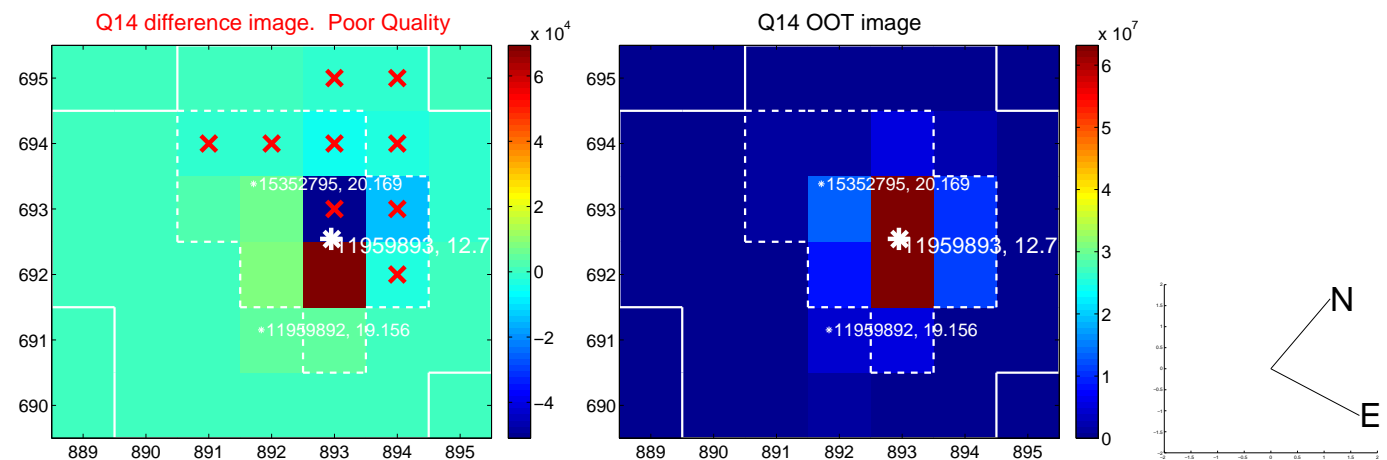
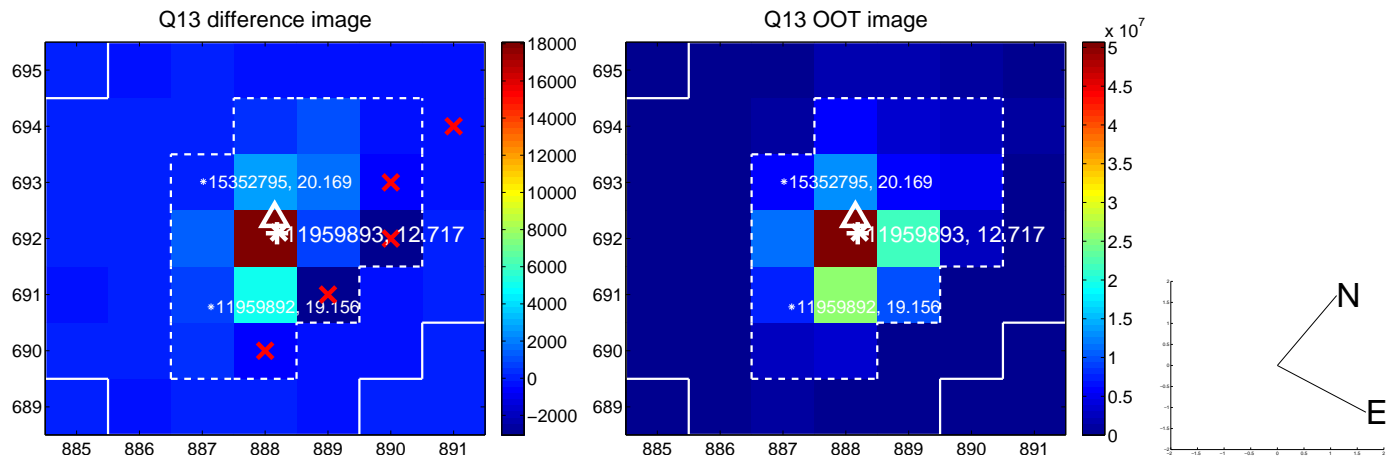
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



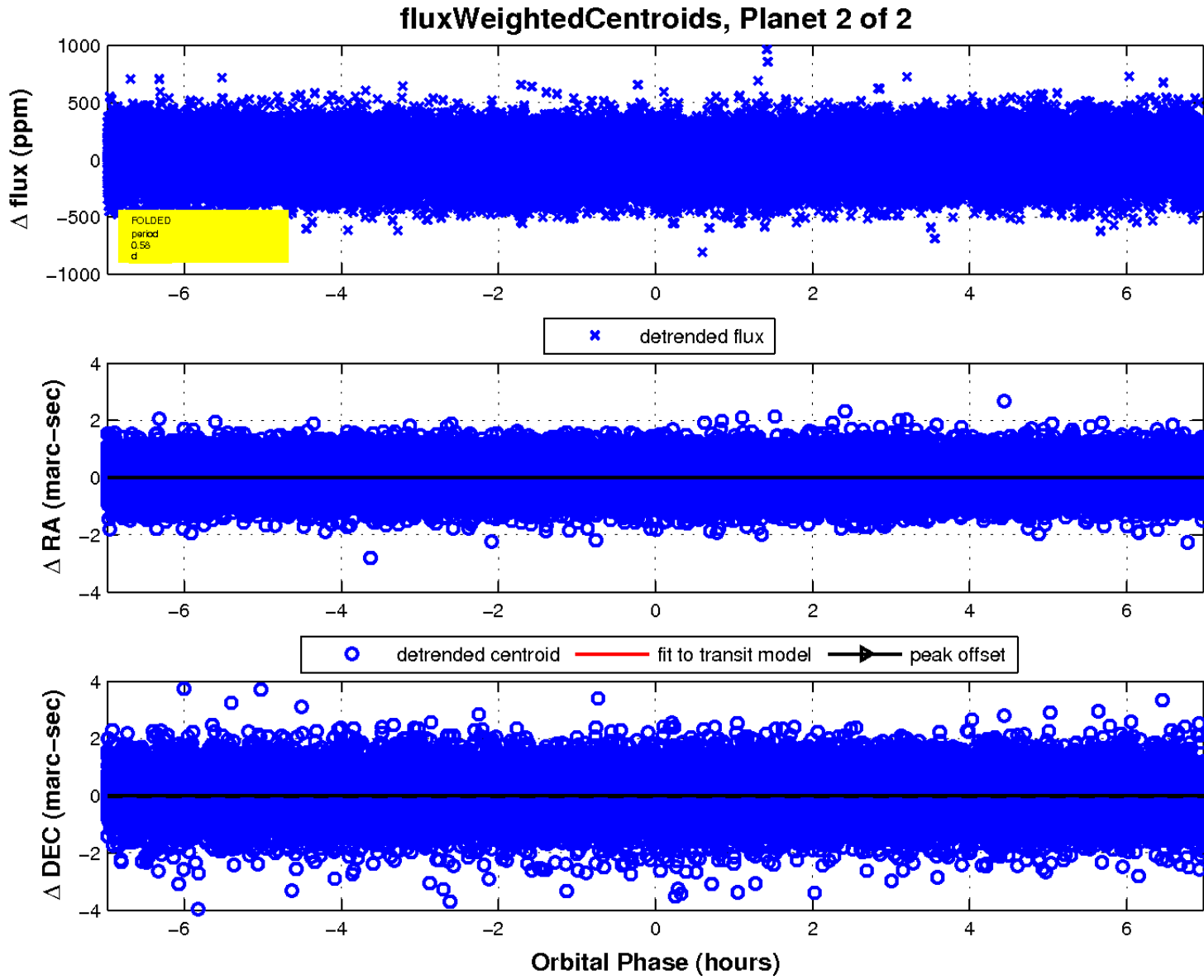
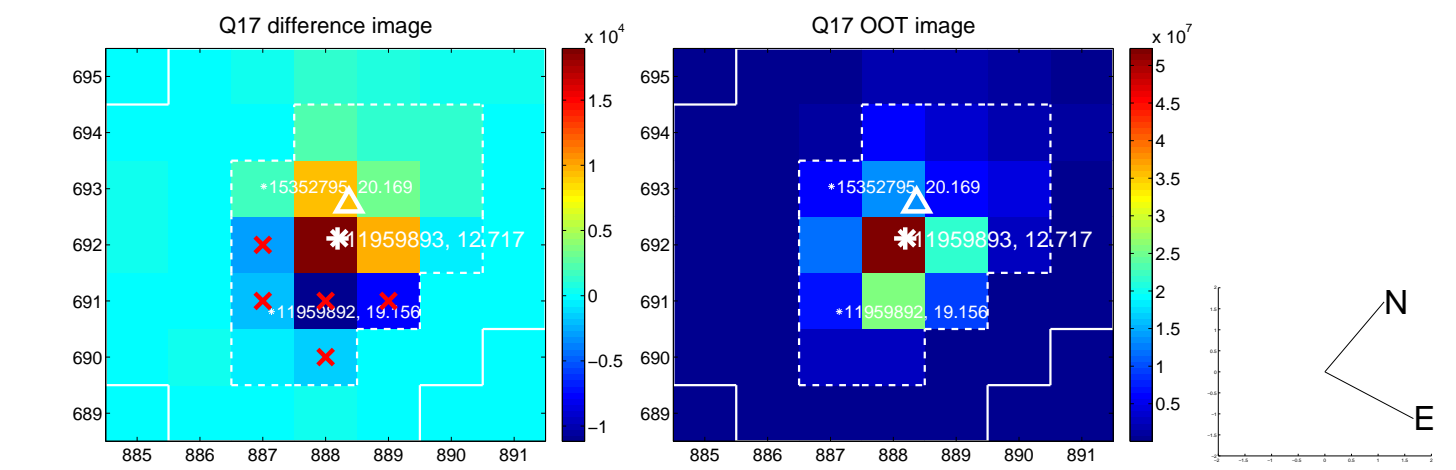
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

