

KIC 008815923

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})
008815923-01	OBS	No	5.025959	133.161657	12.9	11.834	9.4	8.9	2.87	7279	1.14	3848.36
008815923-02	OBS	No	217.183283	294.487412	164.5	3.114	9.9	7.0	2.87	7279	4.17	25.38
008815923-03	OBS	No	5.027123	134.535481	11.5	18.665	8.6	9.7	2.87	7279	1.06	3847.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008815923-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008815923-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
008815923-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

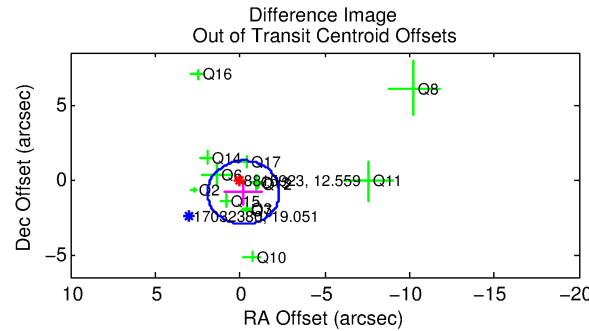
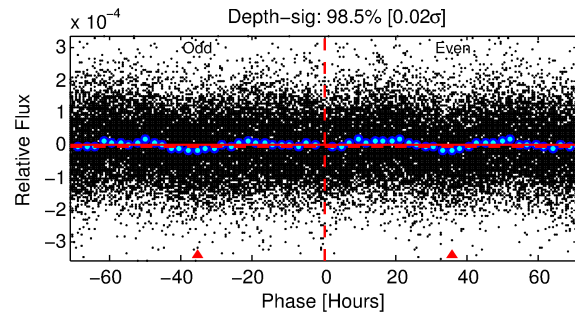
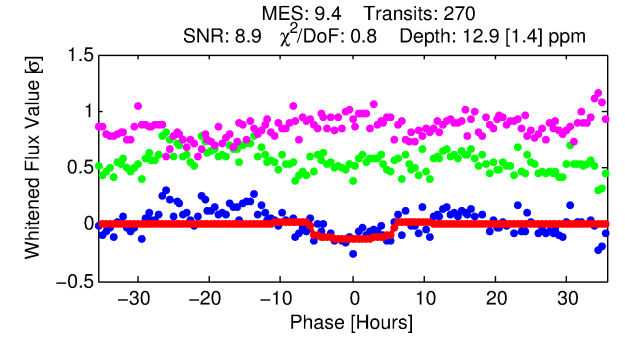
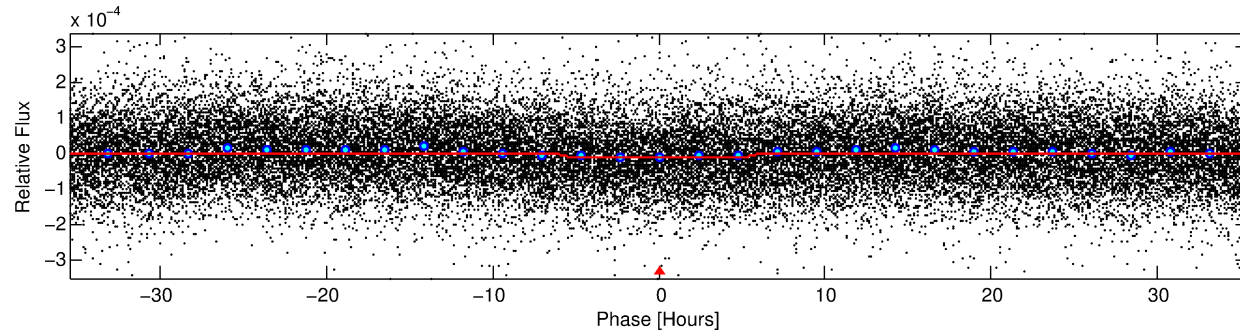
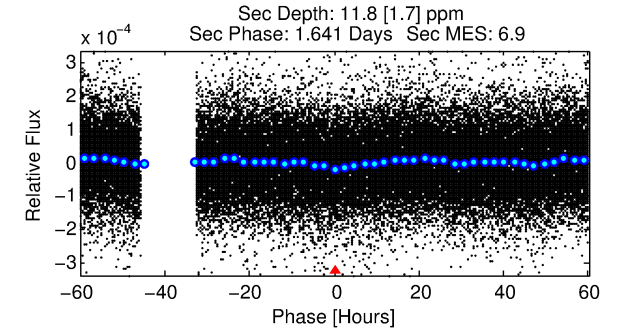
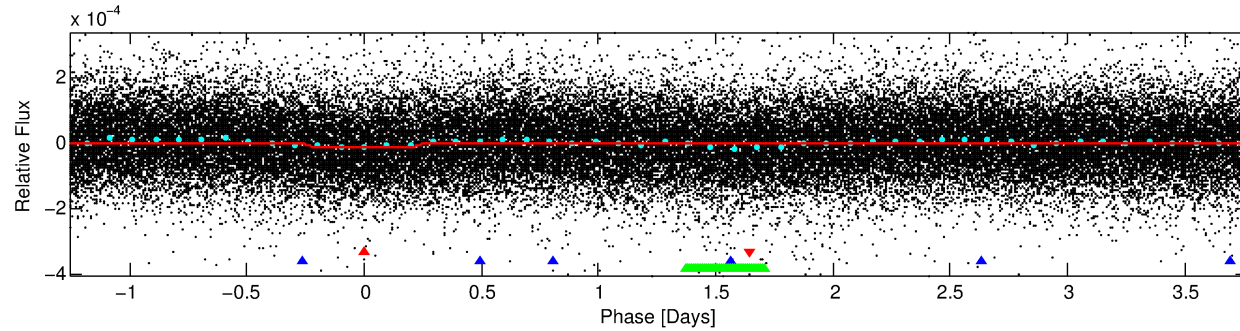
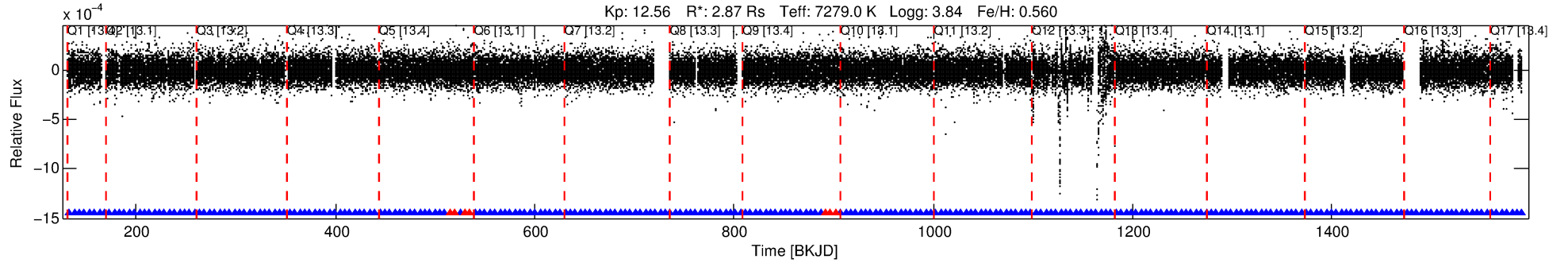
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008815923-01

No Significant Match Found

DV One-Page Summary

KIC: 8815923 Candidate: 1 of 3 Period: 5.026 d



DV Fit Results:

Period = 5.02596 [0.00009] d
Epoch = 133.1617 [0.0130] BKJD
Rp/R* = 0.0036 [0.0007]
a/R* = 2.16 [1.94]
b = 0.80 [0.52]
Seff = 3848.36 [1030.49]
Teq = 2008 [134] K
Rp = 1.14 [0.32] Re
a = 0.0733 [0.0128] AU
Ag = 27.03 [13.42] [1.94σ]
Teffp = 7080 [750] K [6.66σ]

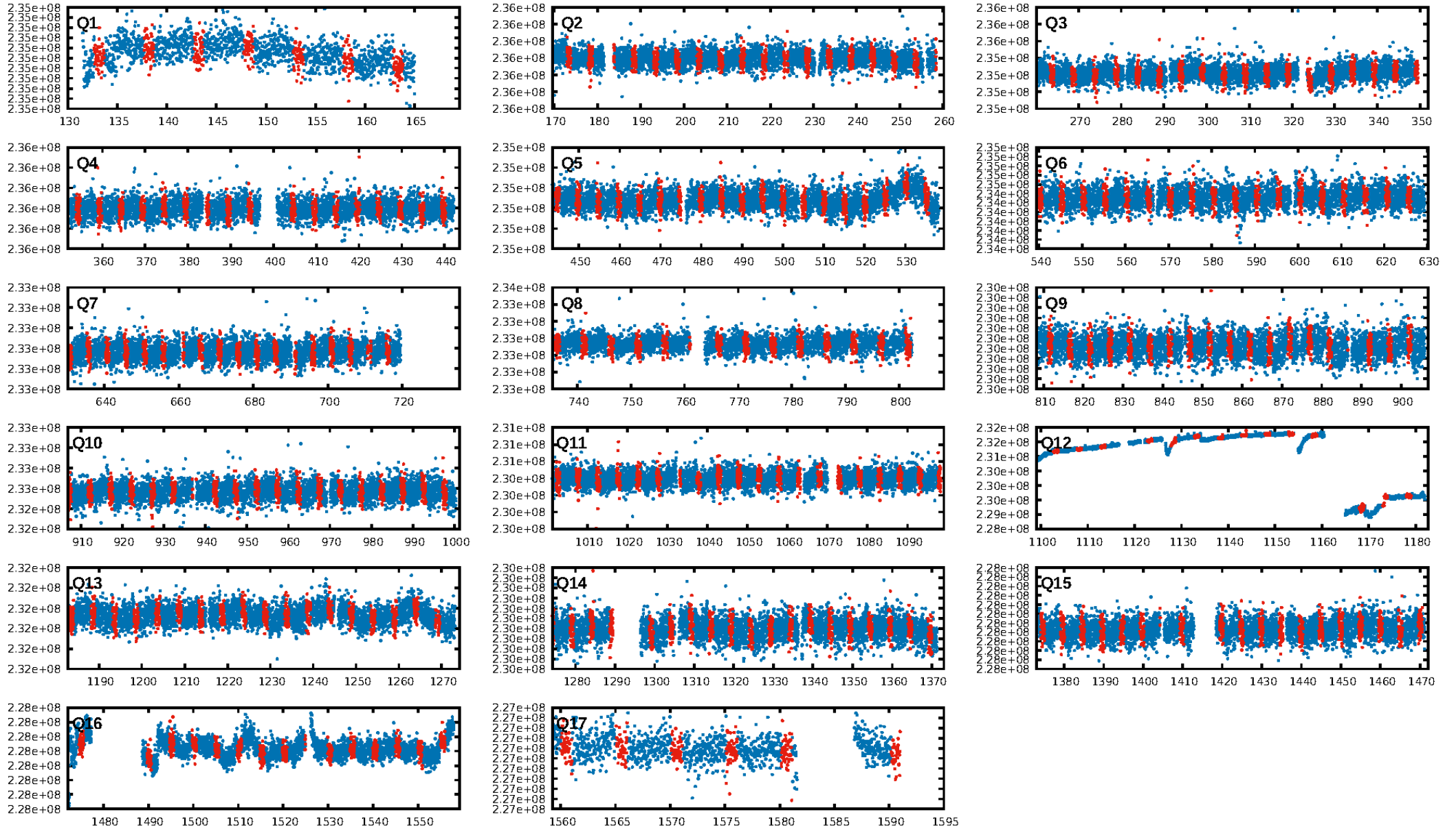
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.19e-24
RollingBand-fgt: 0.97 [250/257]
GhostDiagnostic-chr: -3.505
Centroid-sig: 17.6%
Centroid-so: 2.173 arcsec [1.34σ]
OotOffset-rm: 0.892 arcsec [1.26σ]
KicOffset-rm: 0.944 arcsec [1.18σ]
OotOffset-st: 4/4/3/2 [13]
KicOffset-st: 4/4/3/2 [13]
DiffImageQuality-fgm: 0.46 [6/13]
DiffImageOverlap-fno: 1.00 [17/17]

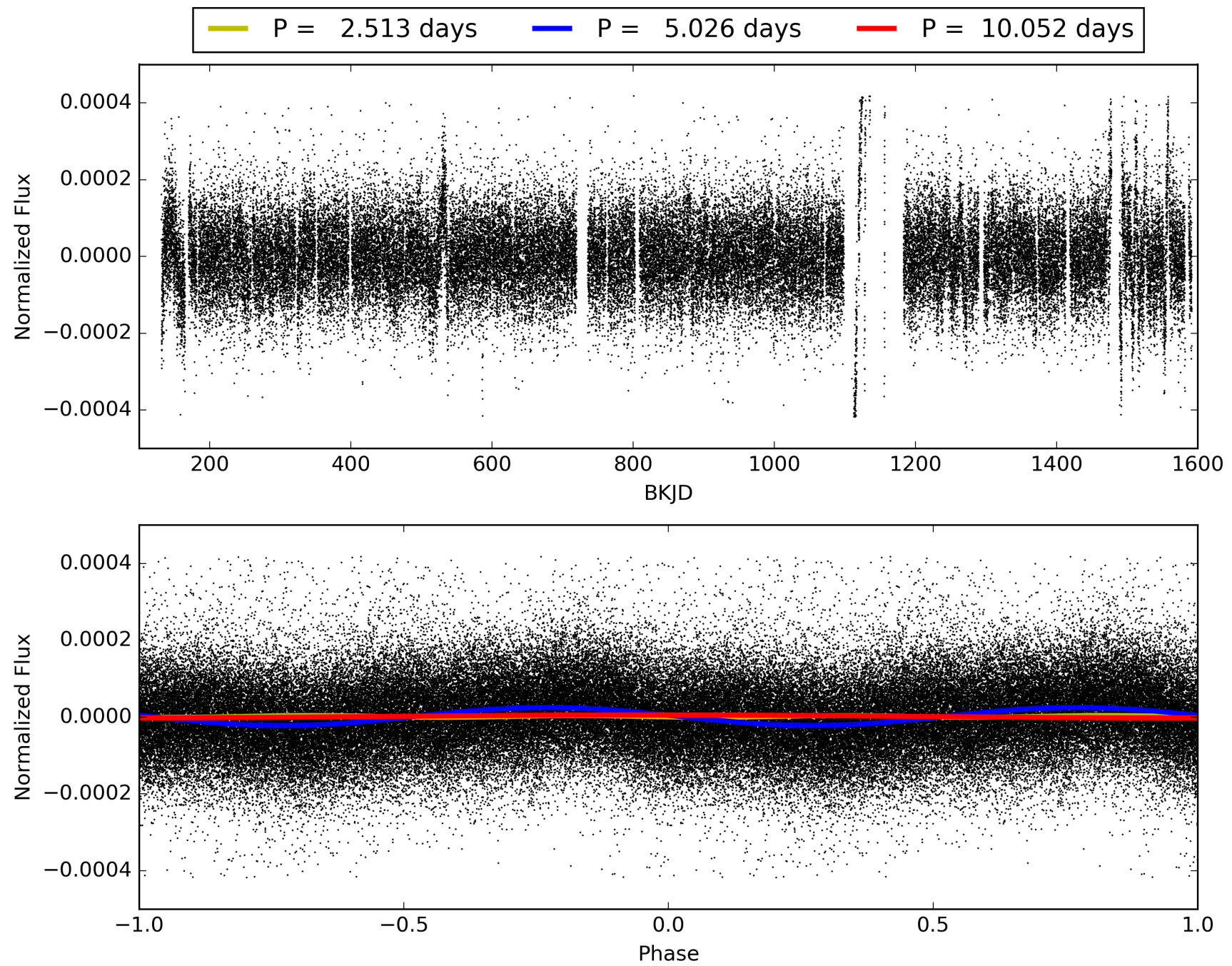
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 22:09:38 Z

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

TCE 008815923-01, PDC Light Curves

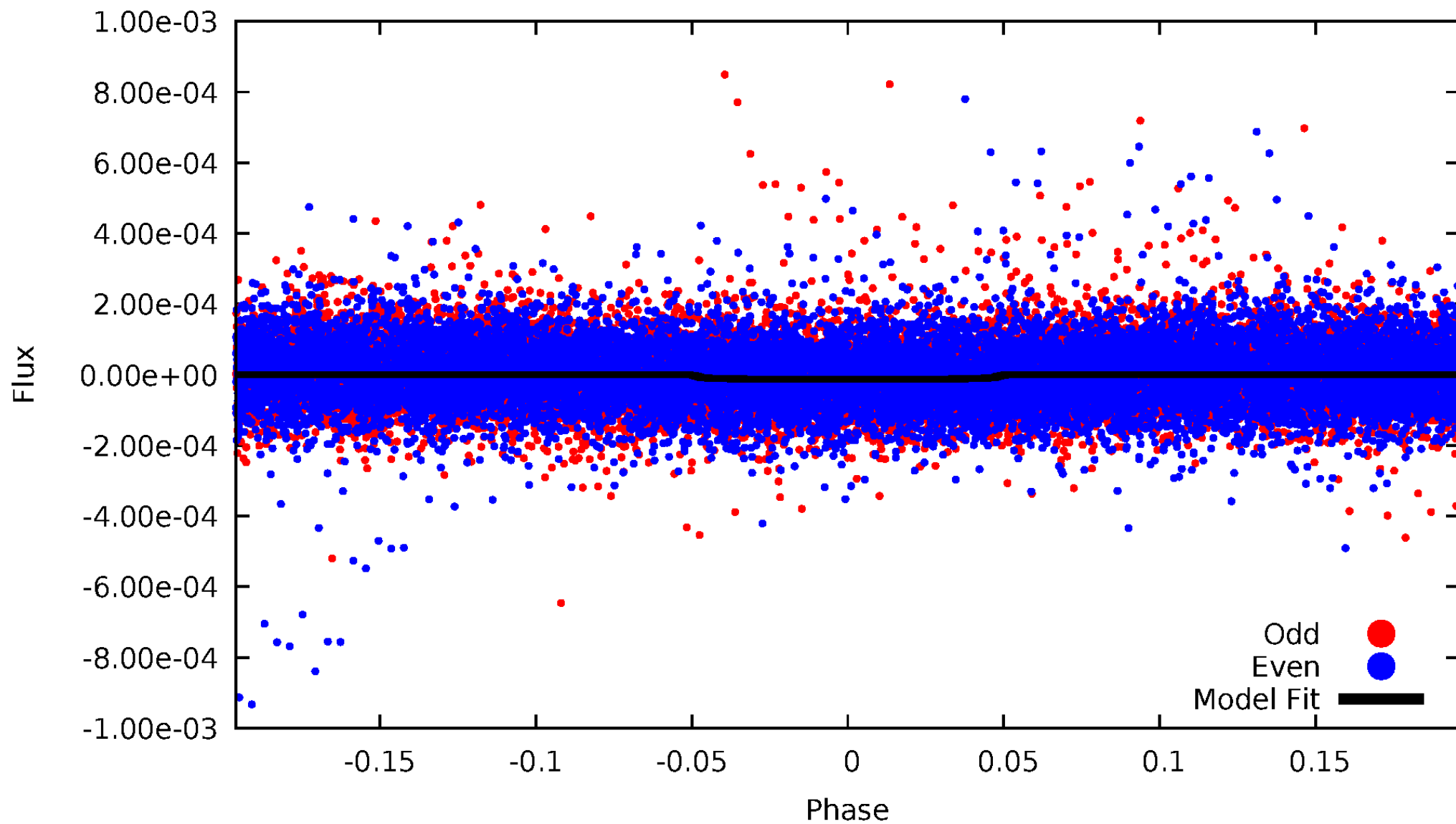


TCE 008815923-01



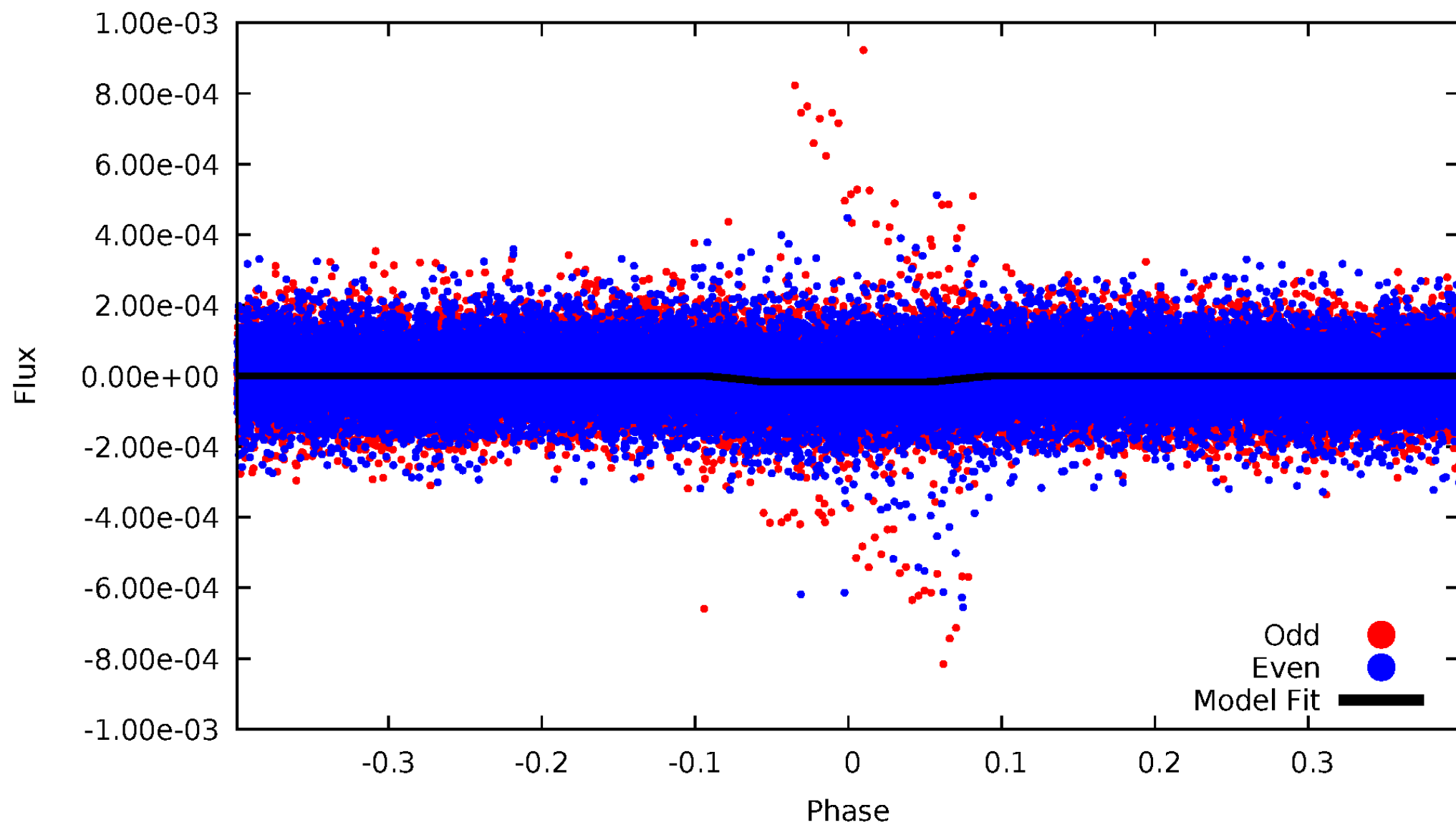
DV Odd/Even

TCE 008815923-01

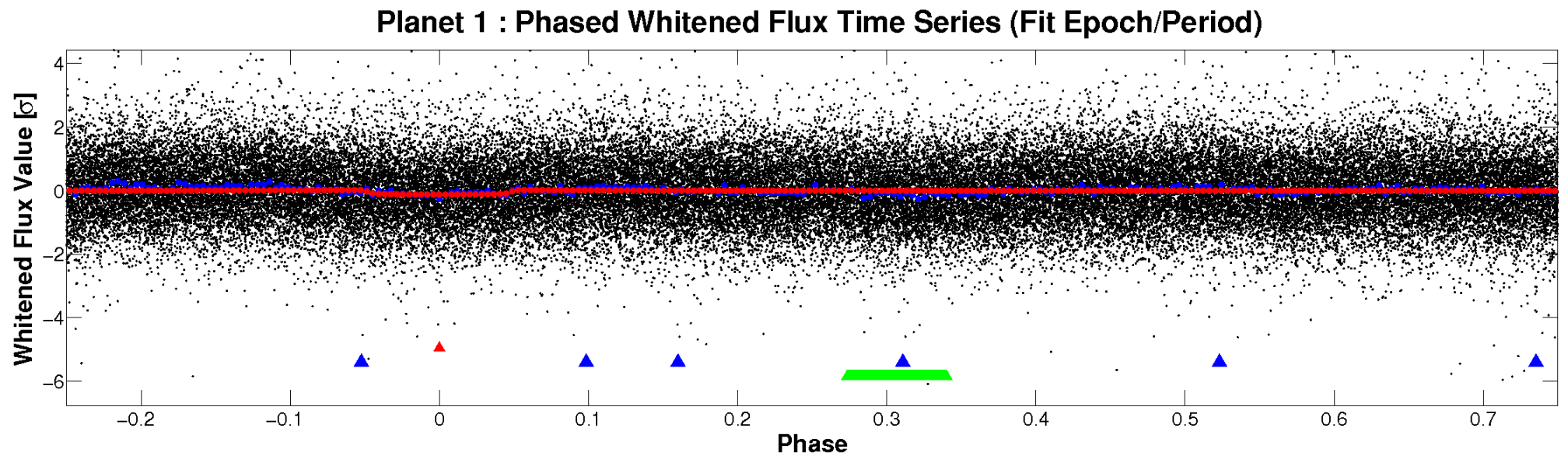
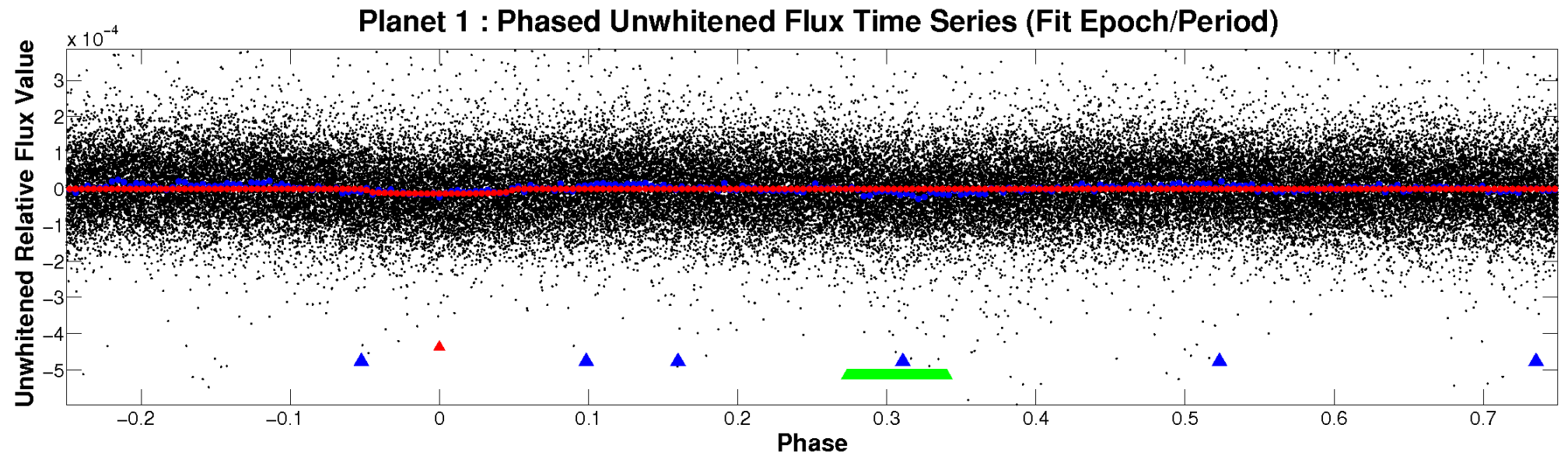


ALT Odd/Even

TCE 008815923-01

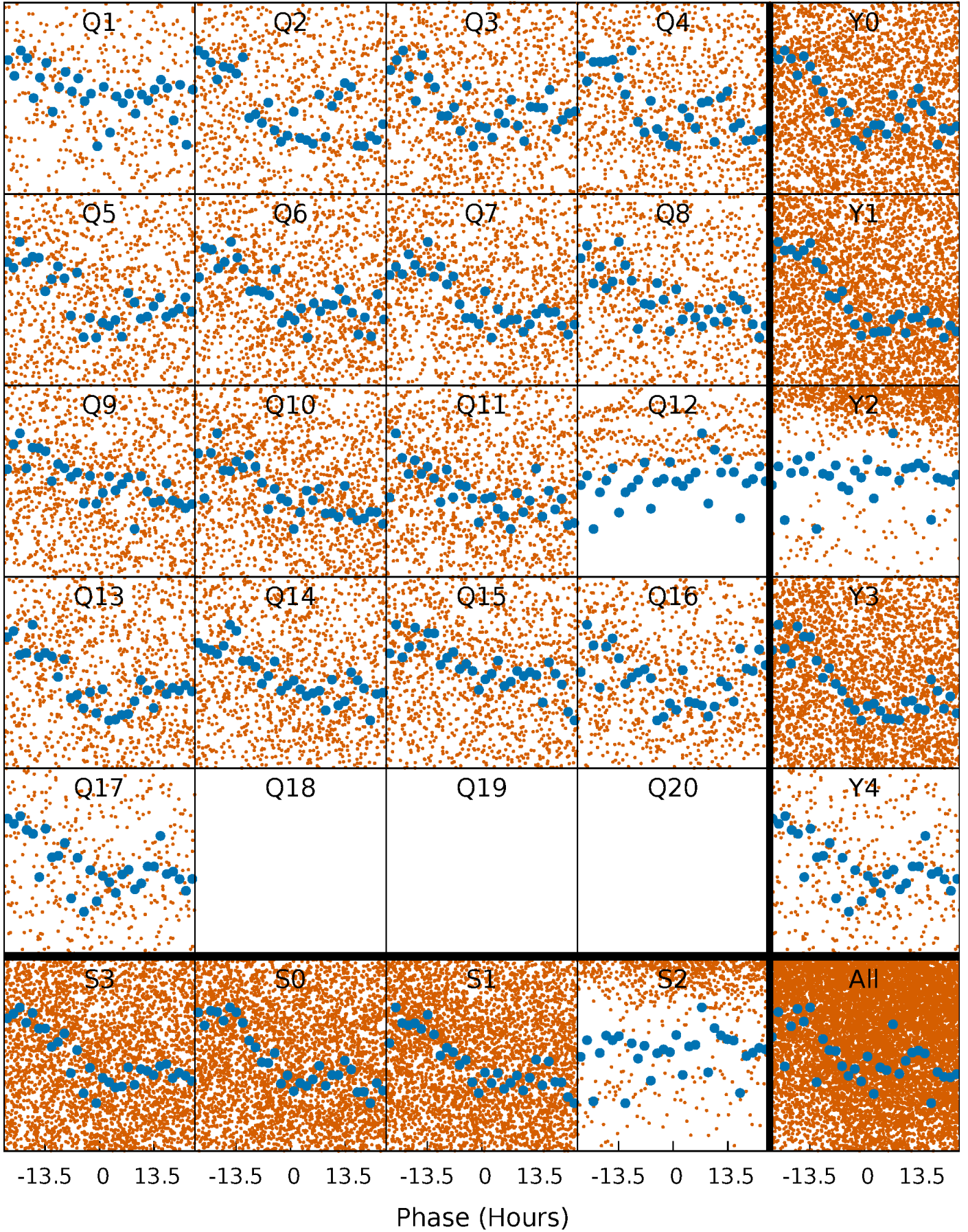


Non-Whitened Vs. Whitened Light Curve



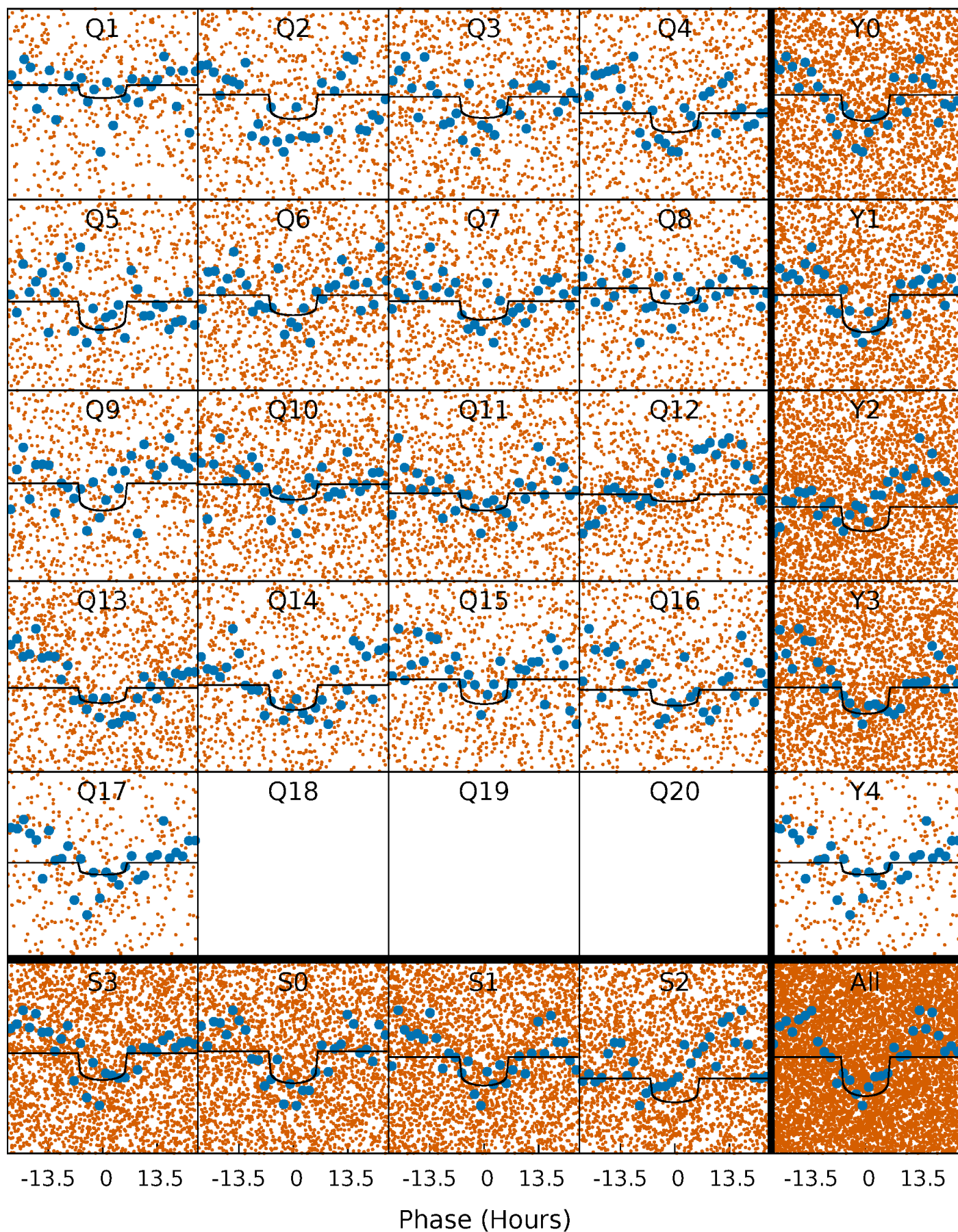
PDC Quarter-Phased Transit Curves

TCE 008815923-01 P= 5.025959 Days $T_0=133.161657$ (BKJD)



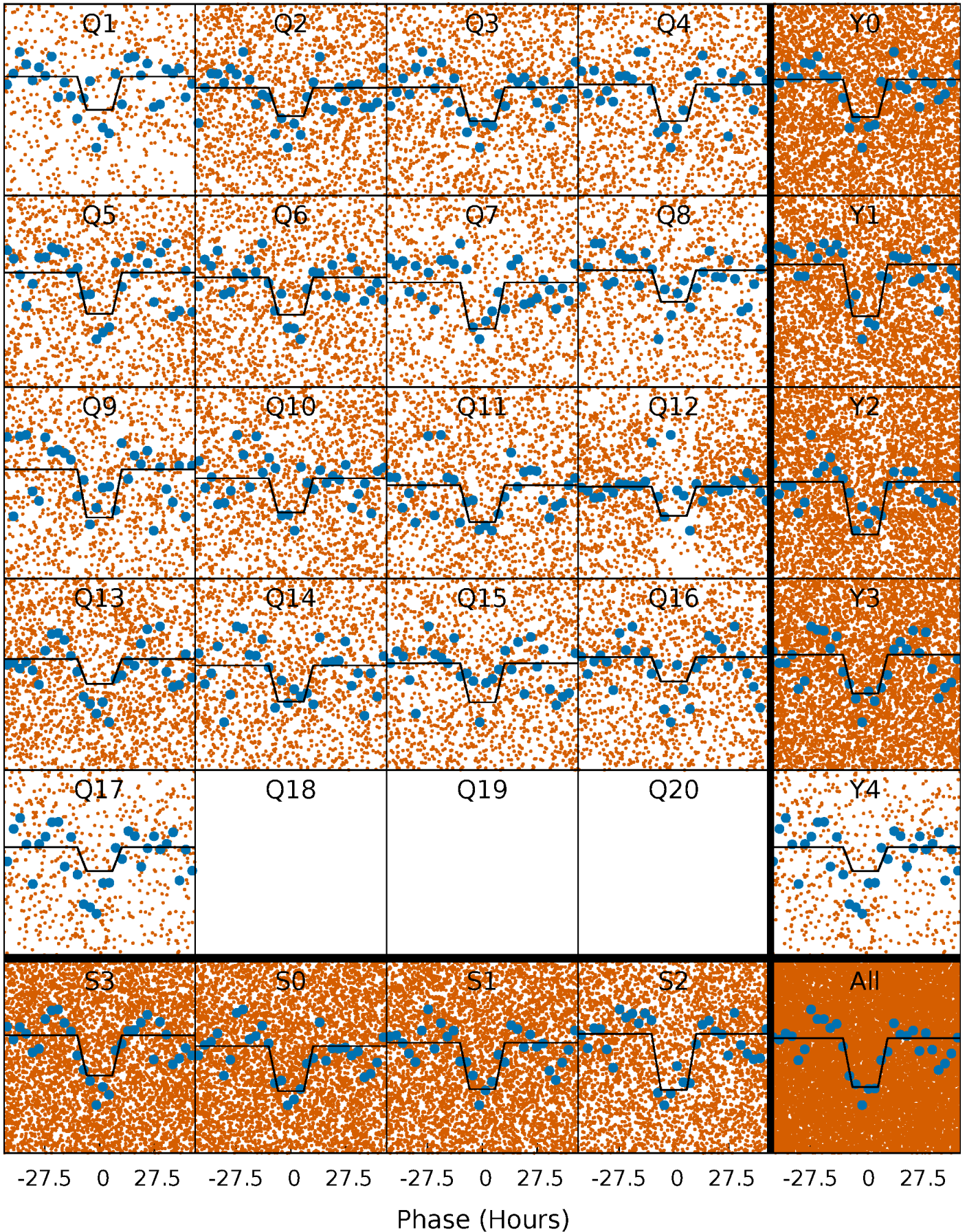
DV Quarter-Phased Transit Curves

TCE 008815923-01 P= 5.025959 Days $T_0=133.161657$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

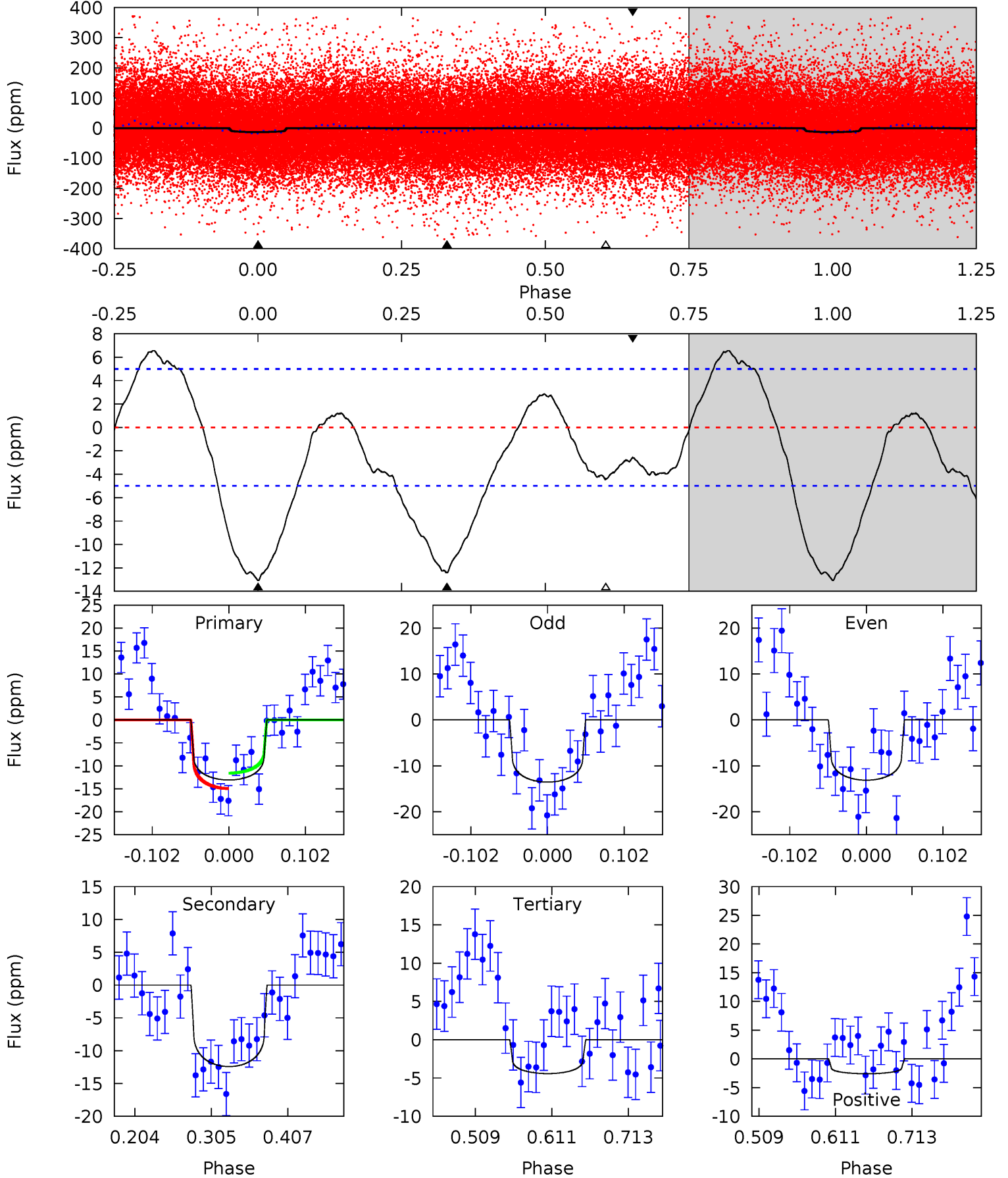
TCE 008815923-01 P= 5.026204 Days $T_0=133.129247$ (BKJD)



DV Model-Shift Uniqueness Test

008815923-01, P = 5.025959 Days, E = 128.135698 Days

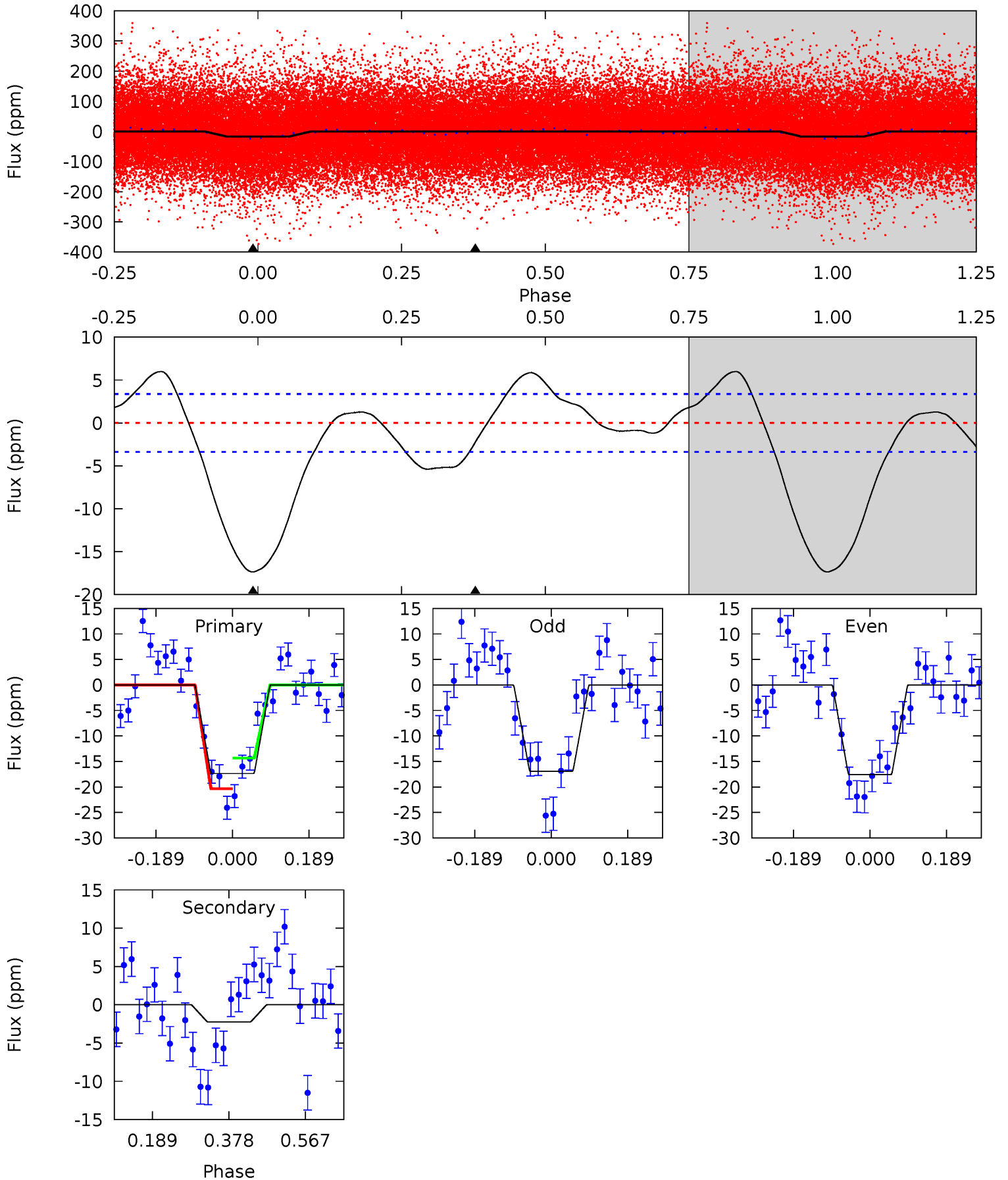
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	11.3	4.04	-2.35	4.56	1.64	3.00	7.91	14.3	7.30	13.7	0.19	0.86	0.33	1.53



Alt Model-Shift Uniqueness Test

008815923-01, P = 5.026204 Days, E = 128.103043 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.8	2.95	0	0	4.43	1.31	2.12	22.8	22.8	2.95	2.95	0.43	1.05	0.26	3.93



Stellar Parameters For KIC 008815923

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7279^{+87}_{-87}	$3.841^{+0.148}_{-0.121}$	$0.560^{+0.050}_{-0.200}$	$2.868^{+0.574}_{-0.574}$	$2.078^{+0.168}_{-0.187}$	$0.124^{+0.094}_{-0.046}$
	+1%/-1%	+4%/-3%	+9%/-36%	+20%/-20%	+8%/-9%	+76%/-37%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 008815923-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-12 ± 1	$1.12^{+0.28}_{-0.23}$	2805^{+135}_{-133}	7134^{+1033}_{-686}	29^{+18}_{-10}
Alt.	-2 ± 1	$1.25^{+0.24}_{-0.24}$	2796^{+130}_{-133}	4471^{+464}_{-448}	$4.171^{+2.822}_{-1.833}$

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

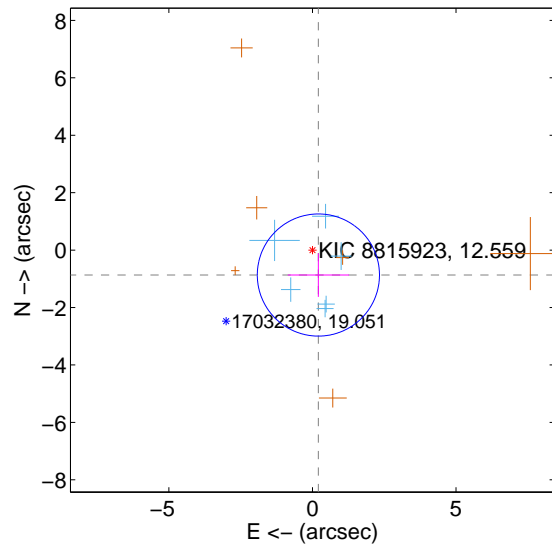
Supplemental centroid analysis for 008815923-01. Kepler magnitude: 12.56. Transit SNR 8.88

There are 6 quarters with good PRF difference image offsets

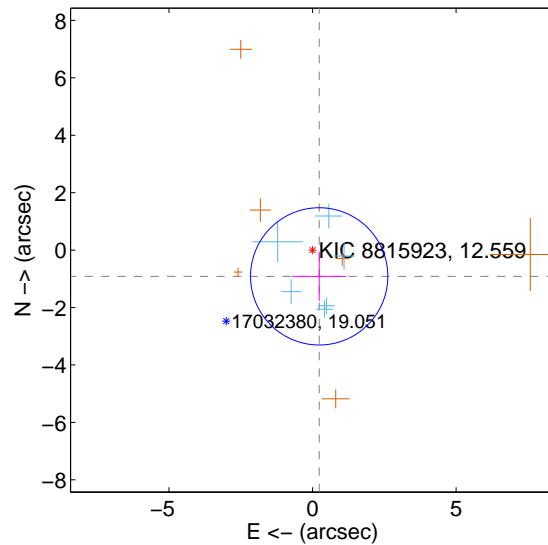
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.892 ± 0.709	1.26	-0.207 ± 1.068	-0.868 ± 0.760
PRF-fit source offset from KIC position	0.944 ± 0.797	1.18	-0.232 ± 0.949	-0.915 ± 0.855
photometric centroid source offset	2.17 ± 1.62	1.34	1.97 ± 1.60	-0.92 ± 1.68

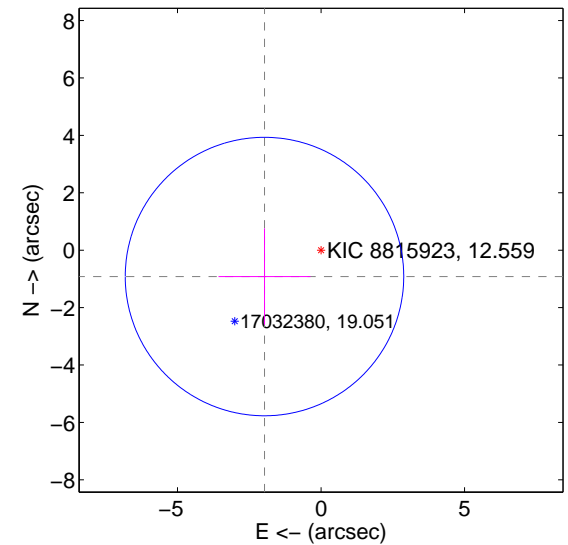
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

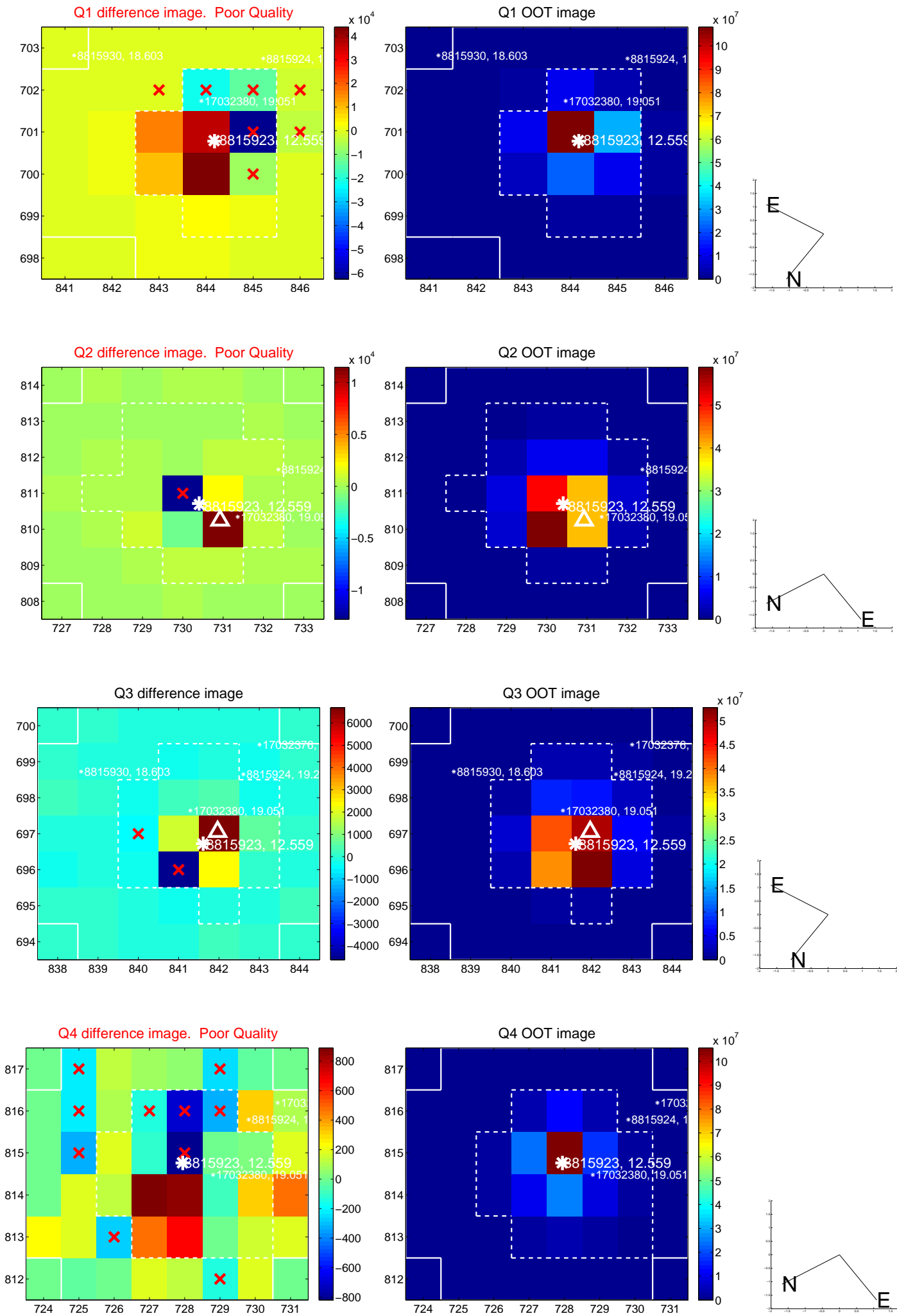


offset from photometric centroids

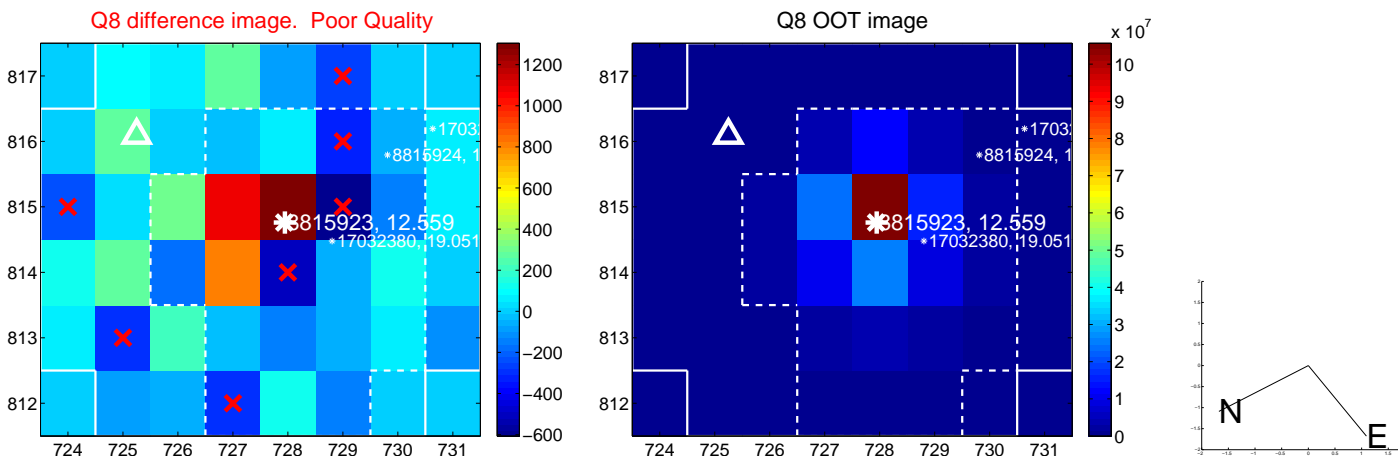
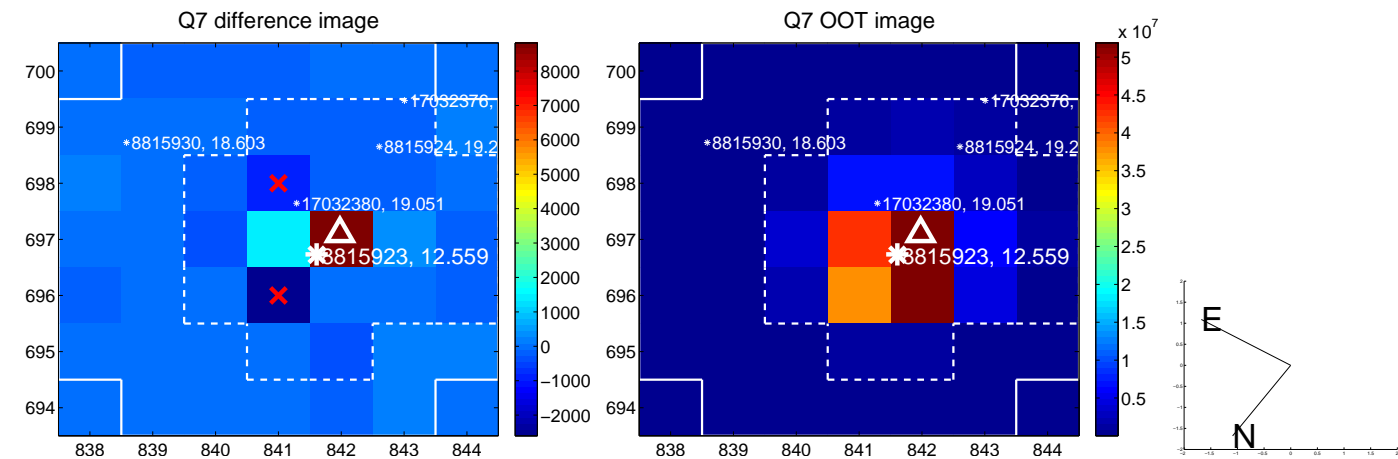
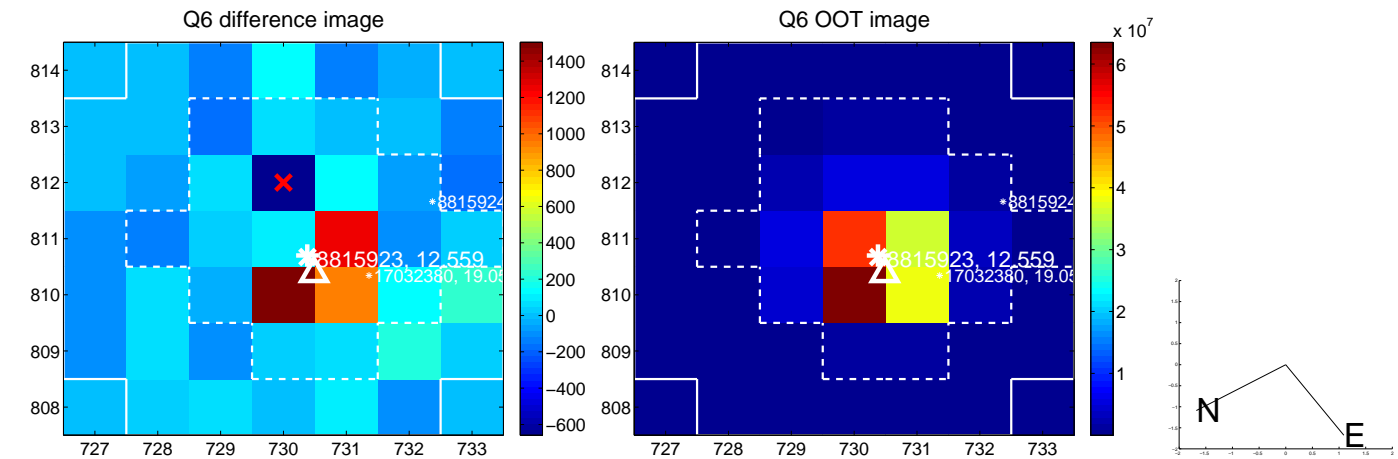
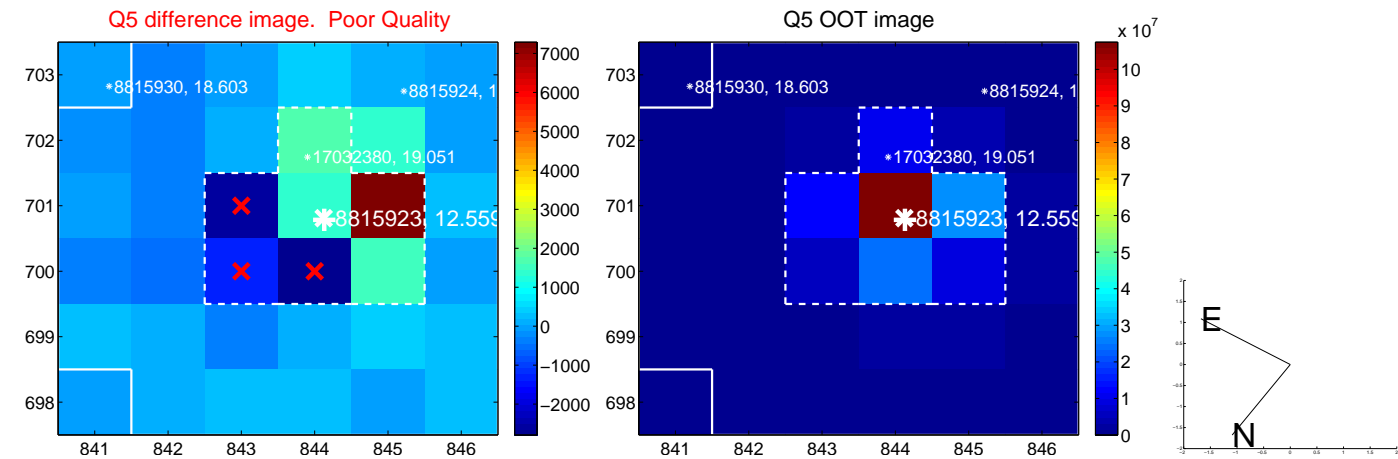


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

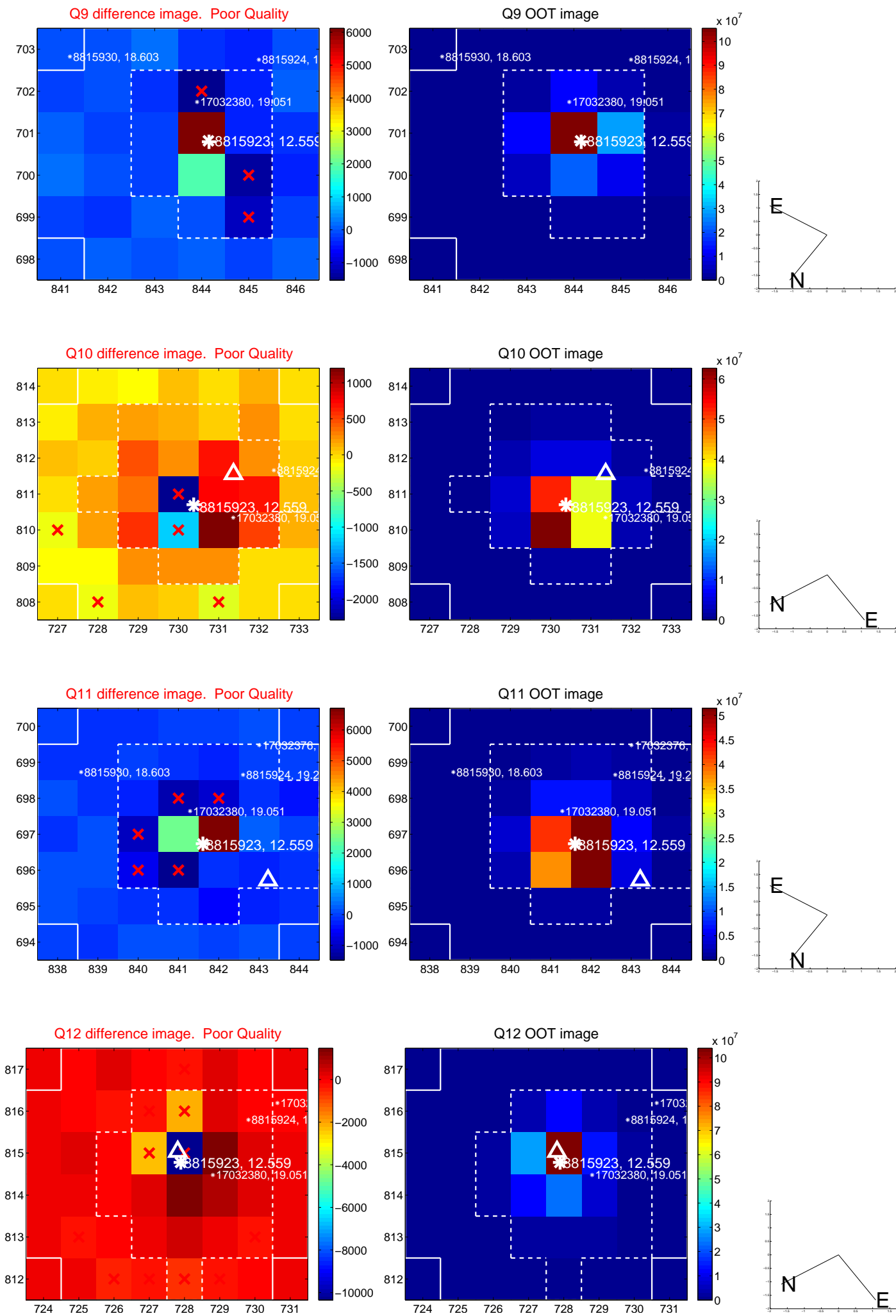
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



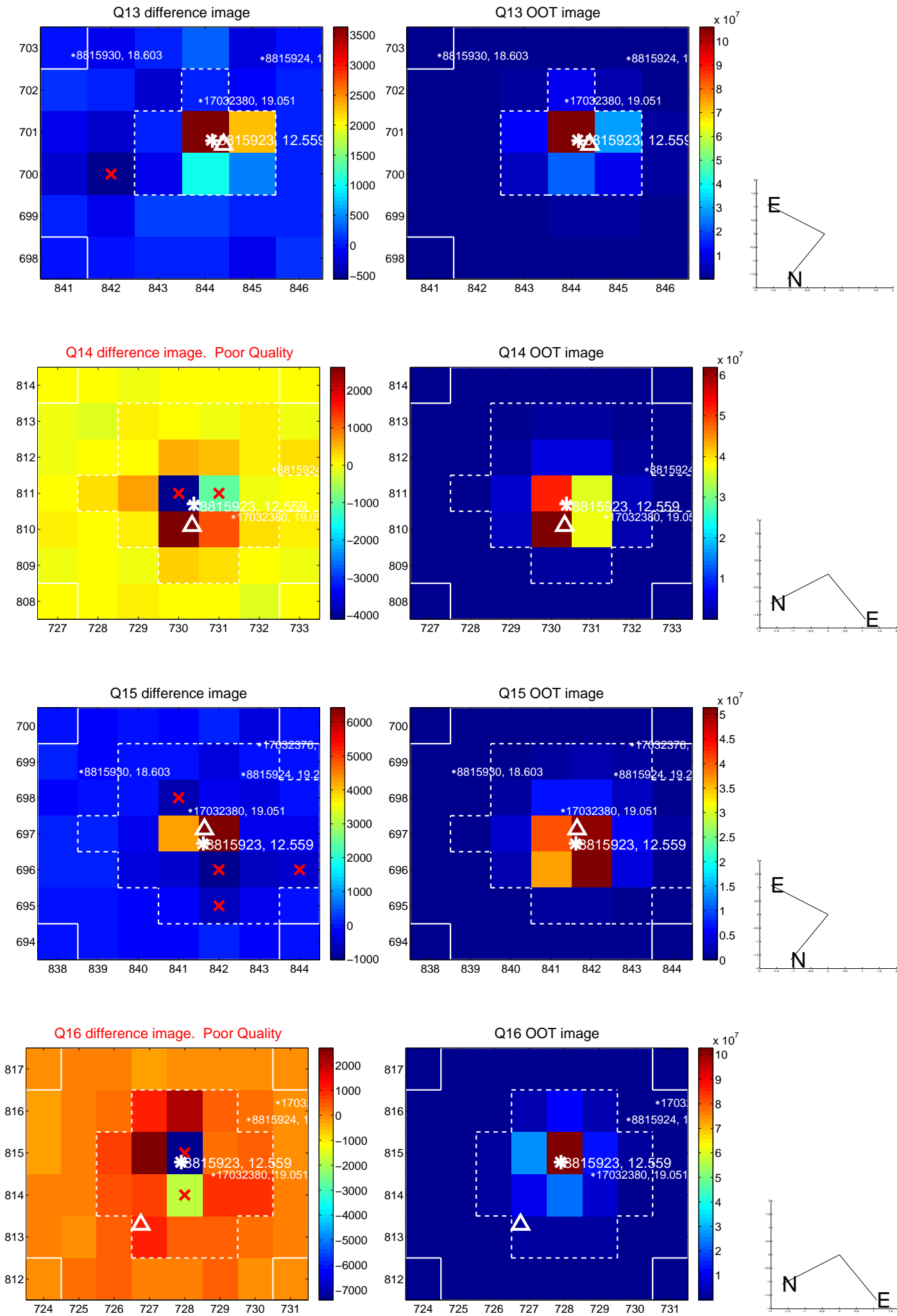
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



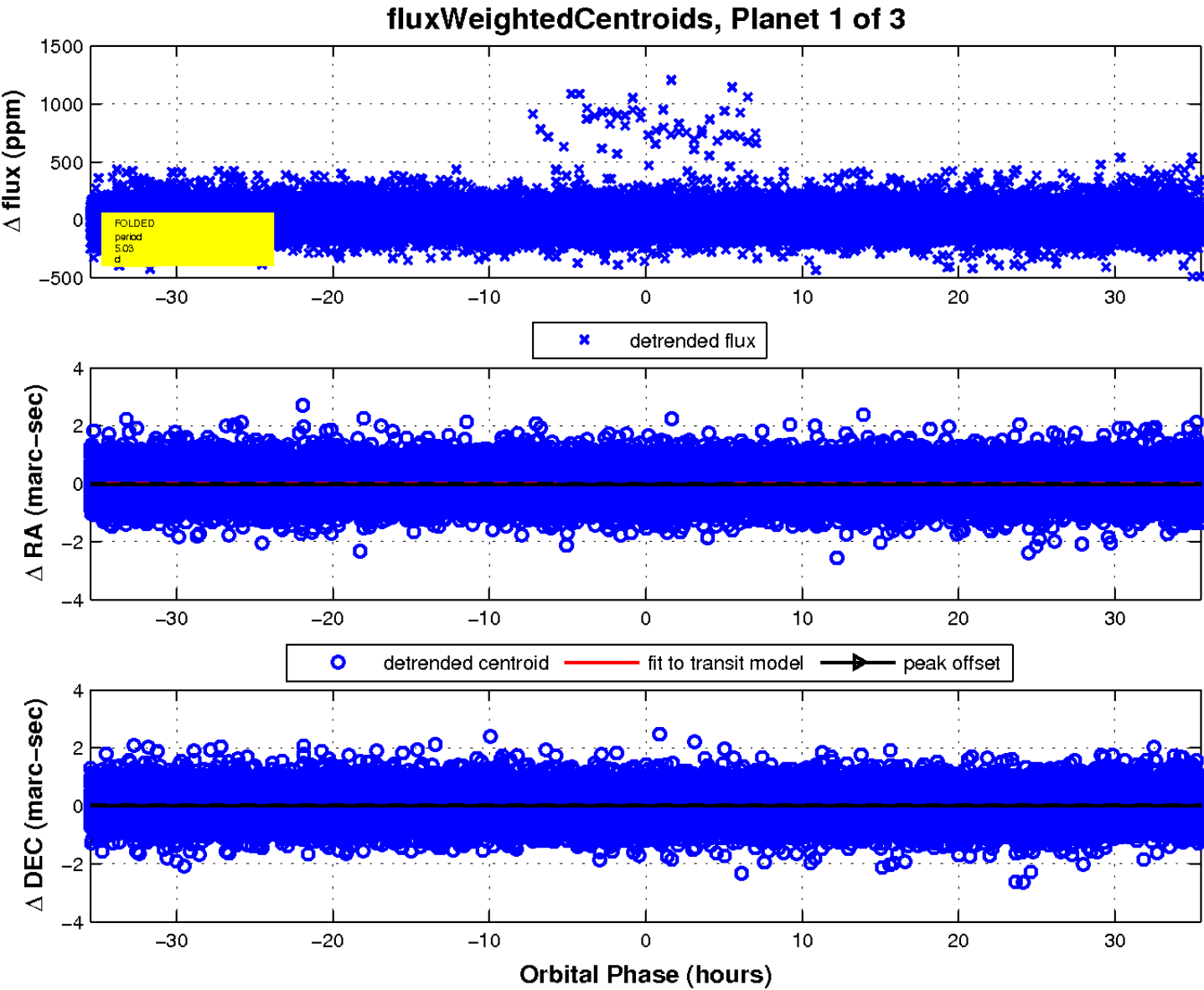
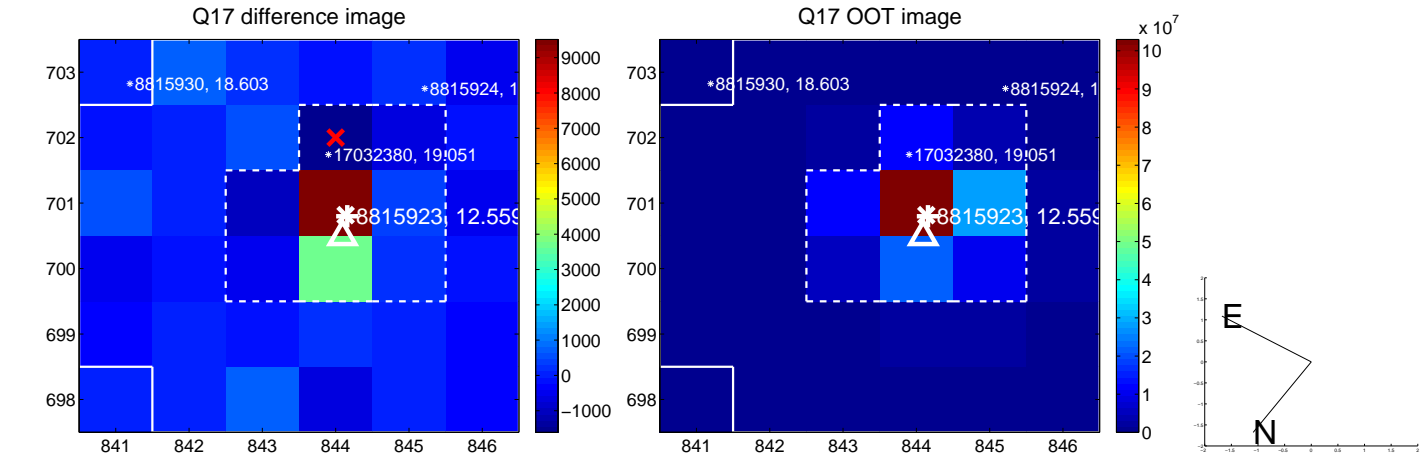
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

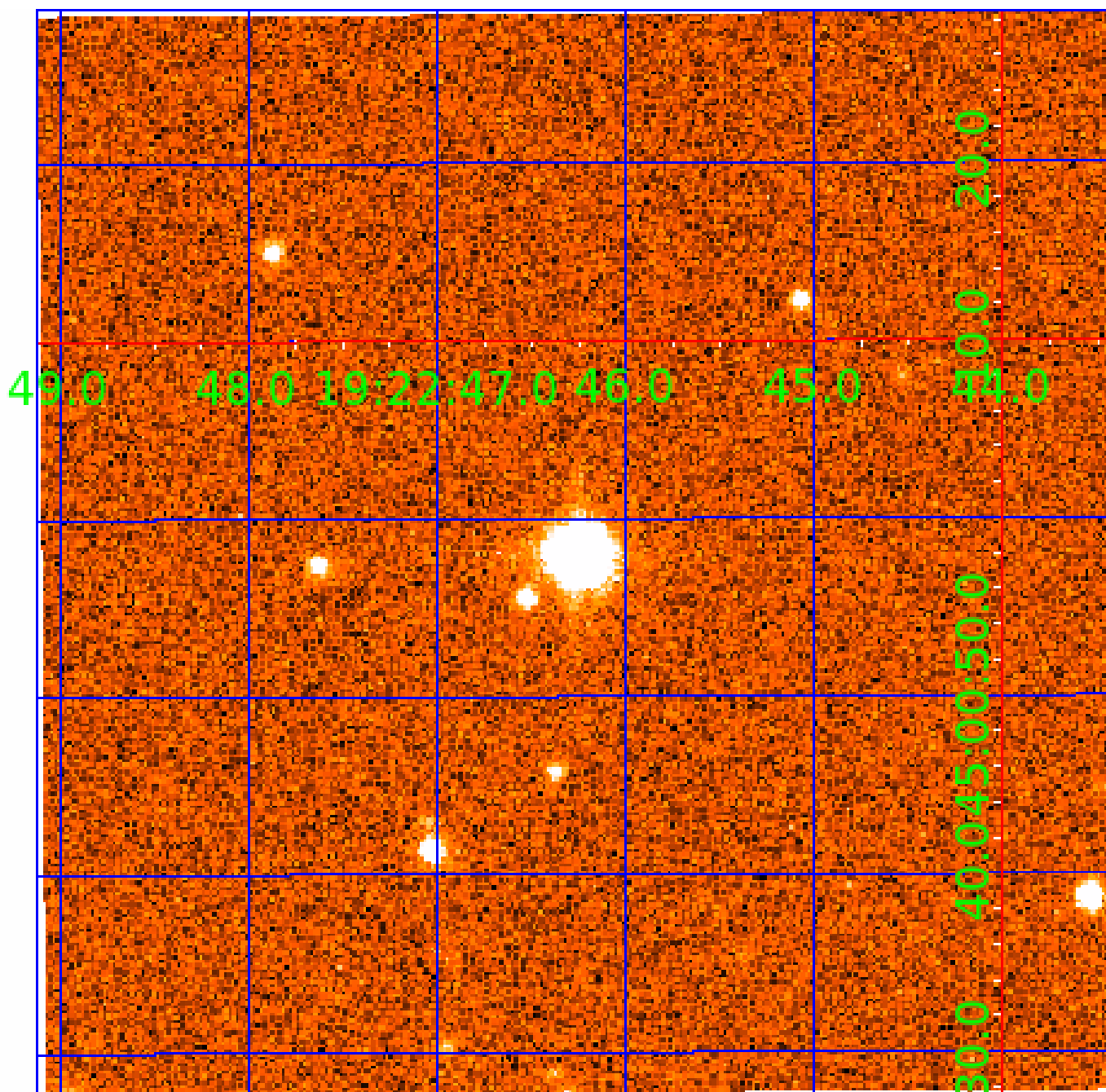


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008815923

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})
008815923-01	OBS	No	5.025959	133.161657	12.9	11.834	9.4	8.9	2.87	7279	1.14	3848.36
008815923-02	OBS	No	217.183283	294.487412	164.5	3.114	9.9	7.0	2.87	7279	4.17	25.38
008815923-03	OBS	No	5.027123	134.535481	11.5	18.665	8.6	9.7	2.87	7279	1.06	3847.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008815923-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008815923-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
008815923-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

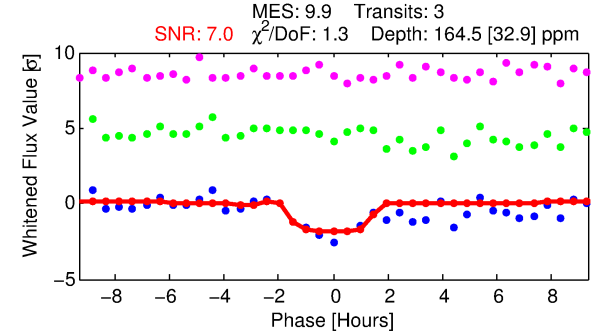
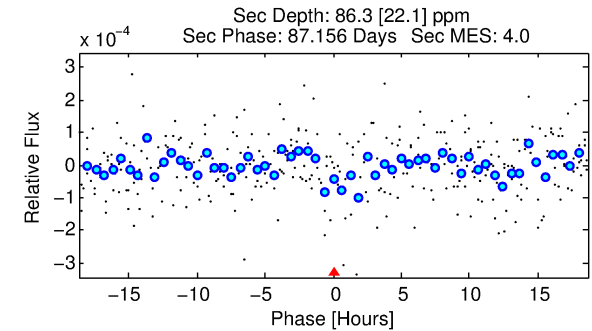
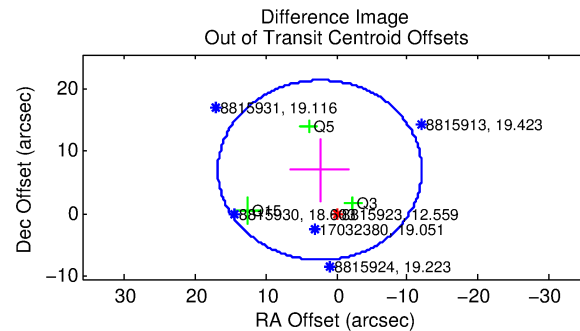
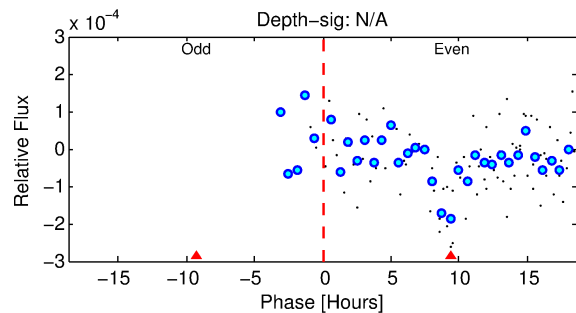
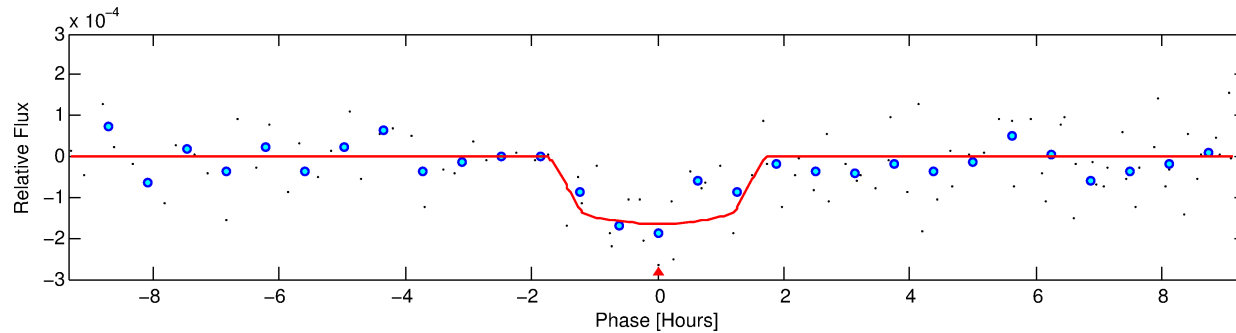
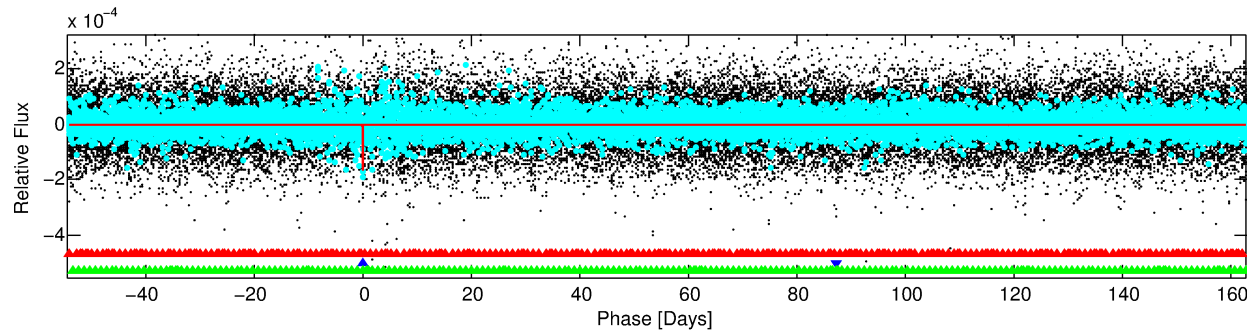
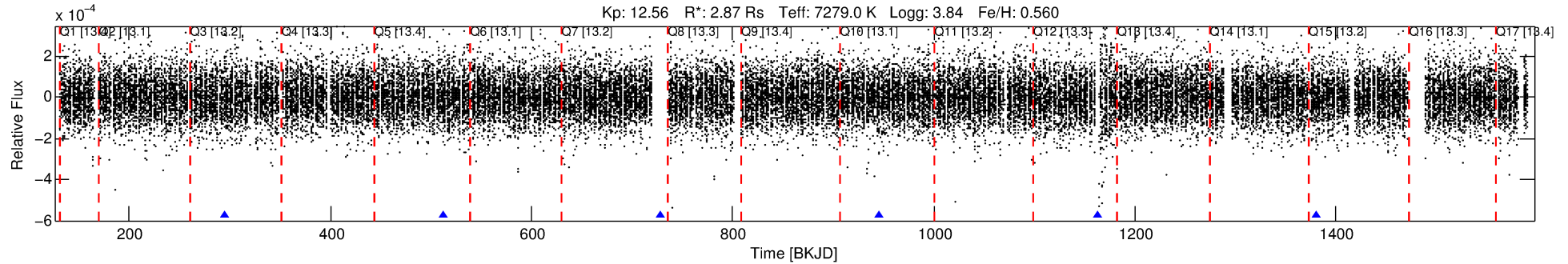
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008815923-02

No Significant Match Found

DV One-Page Summary

KIC: 8815923 Candidate: 2 of 3 Period: 217.183 d



DV Fit Results:

Period = 217.18328 [0.00561] d
Epoch = 294.4874 [0.0187] BKJD
Rp/R* = 0.0133 [0.0138]
a/R* = 284.02 [1768.03]
b = 0.86 [1.87]
Seff = 25.38 [6.80]
Teq = 572 [38] K
Rp = 4.17 [4.38] Re
a = 0.9029 [0.1582] AU
Ag = 2222.62 [4658.52] [0.48σ]
Teffp = 6076 [3159] K [1.74σ]

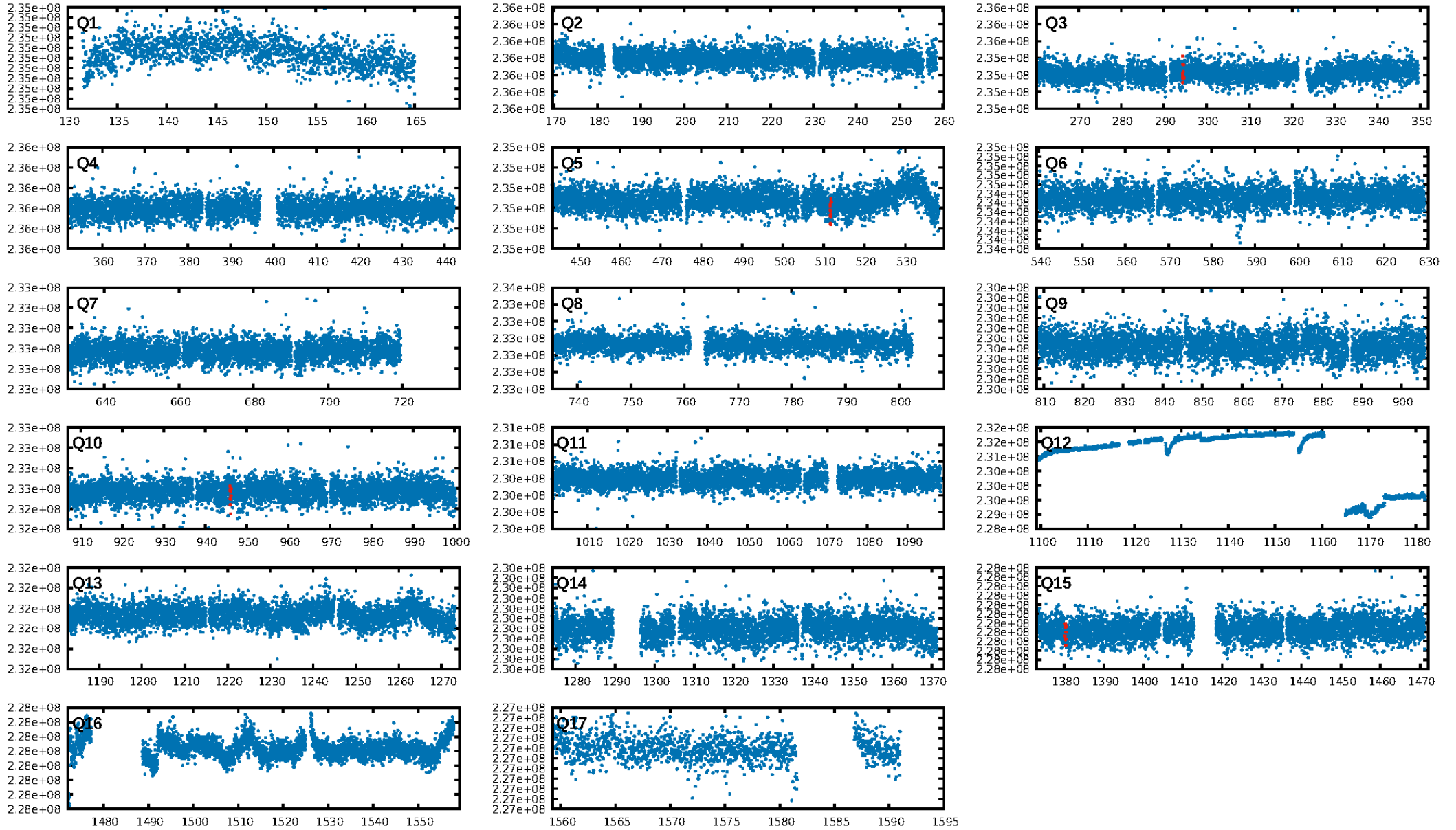
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [269.08σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.9%
ModelChiSquareGof-sig: 52.2%
Bootstrap-pfa: 2.02e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -7.173
Centroid-sig: 6.7%
Centroid-so: 2.930 arcsec [1.57σ]
OotOffset-rm: 7.321 arcsec [1.52σ]
KicOffset-rm: 7.304 arcsec [1.50σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.50 [2/4]

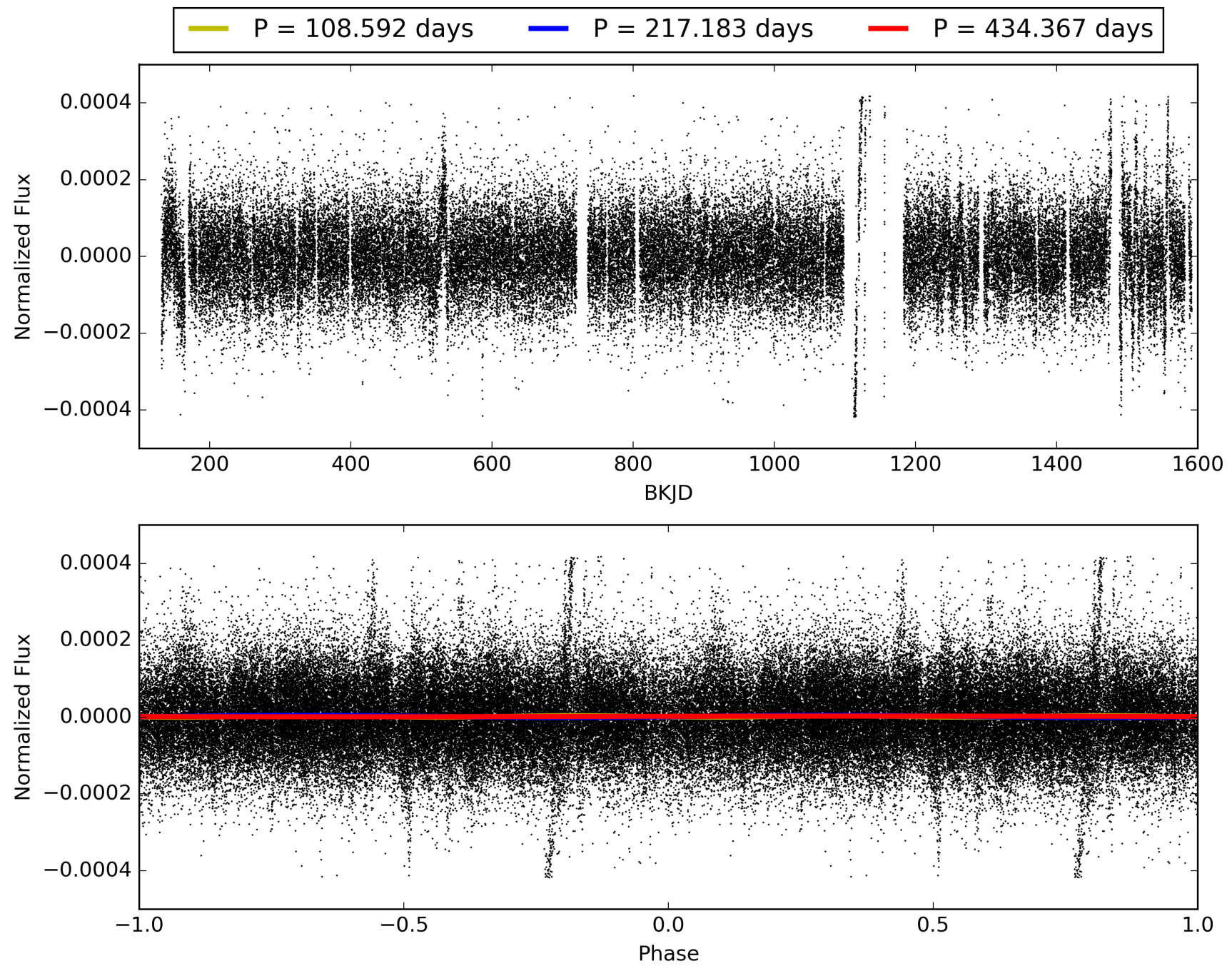
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 22:09:52 Z

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

TCE 008815923-02, PDC Light Curves

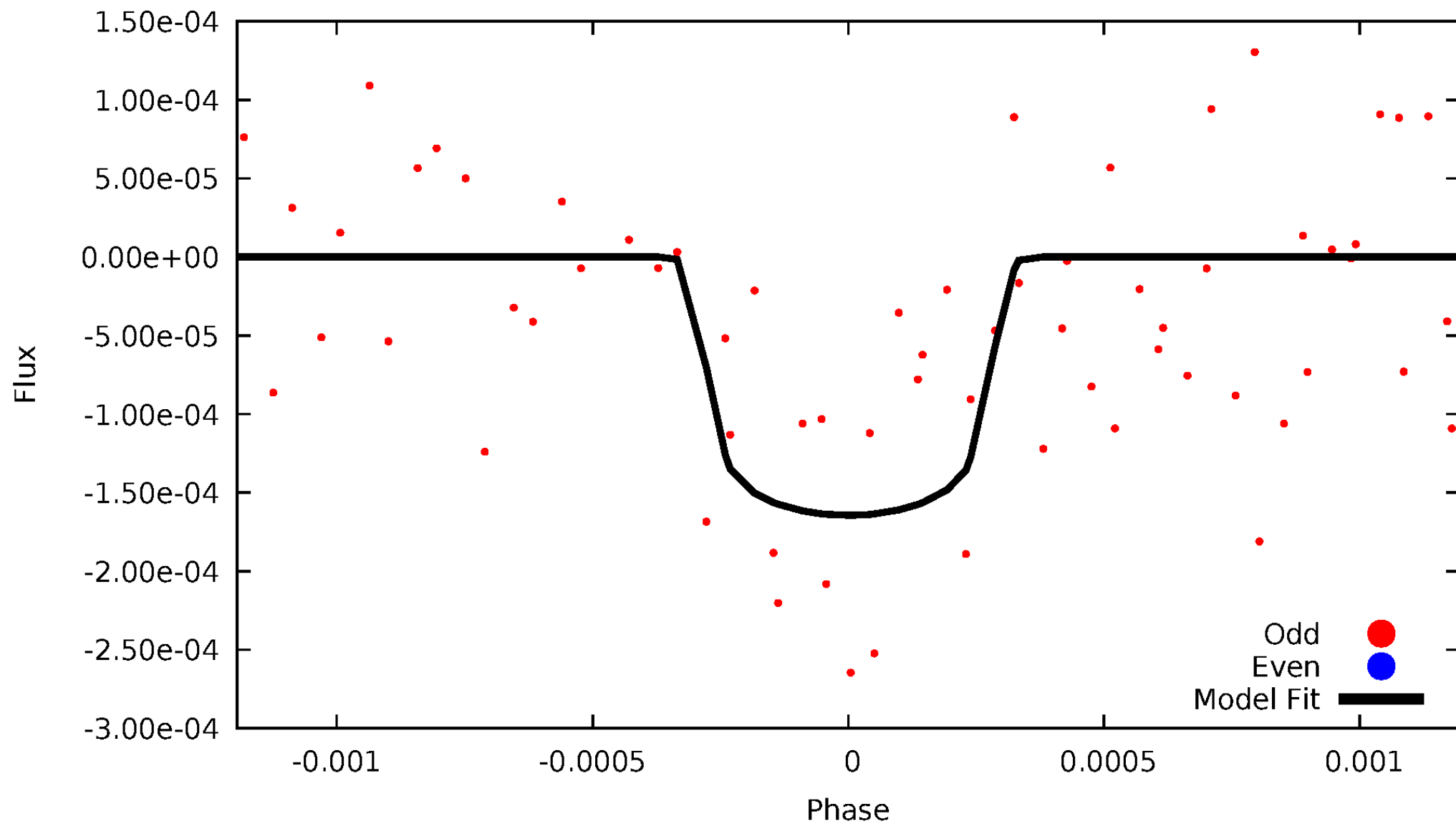


TCE 008815923-02



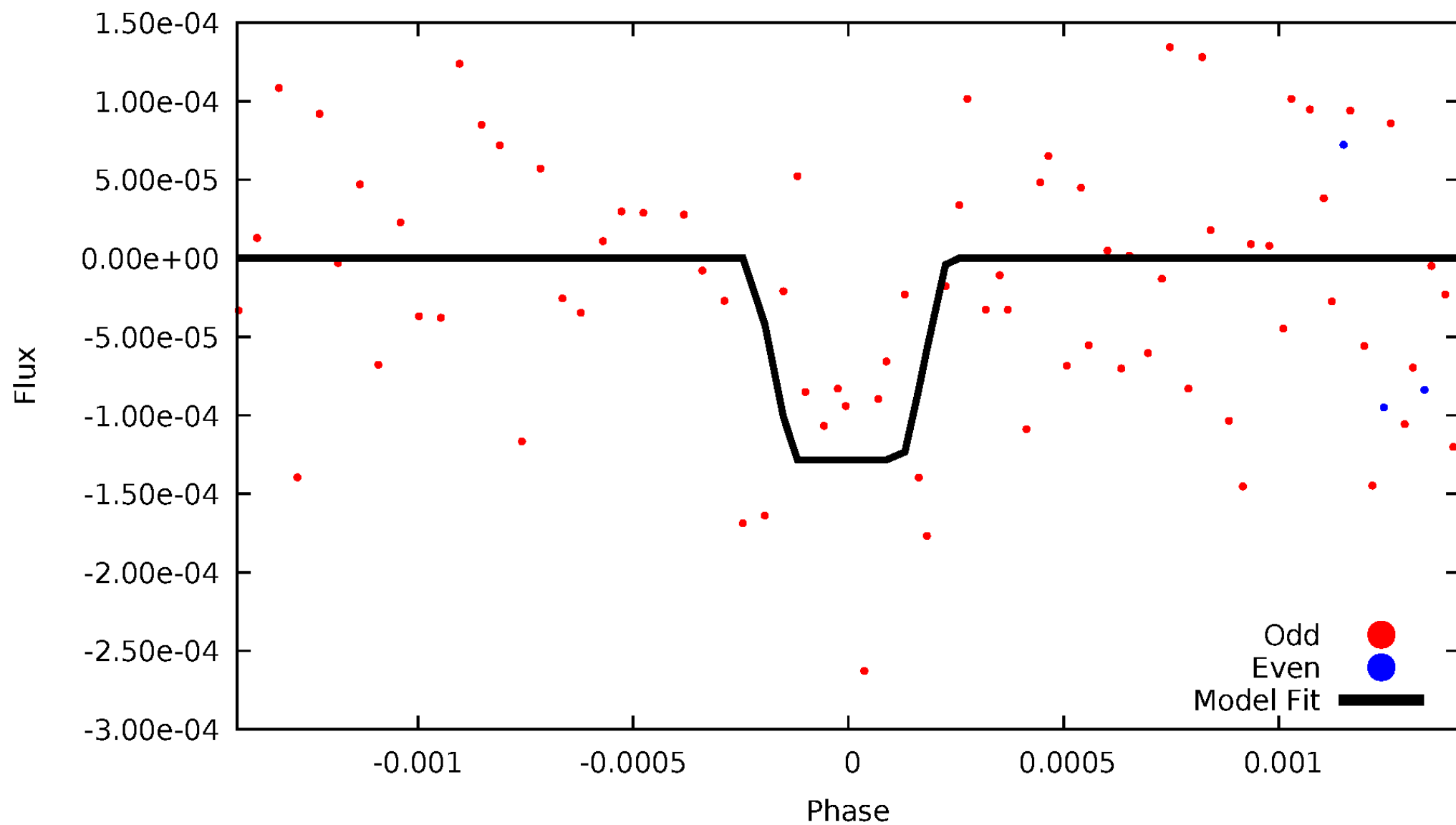
DV Odd/Even

TCE 008815923-02



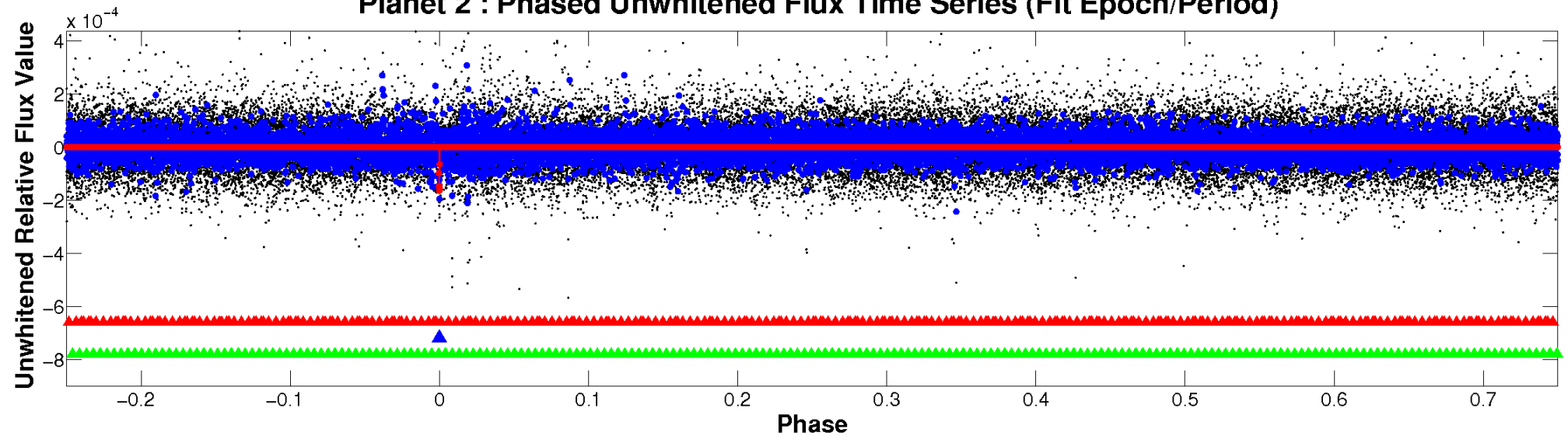
ALT Odd/Even

TCE 008815923-02

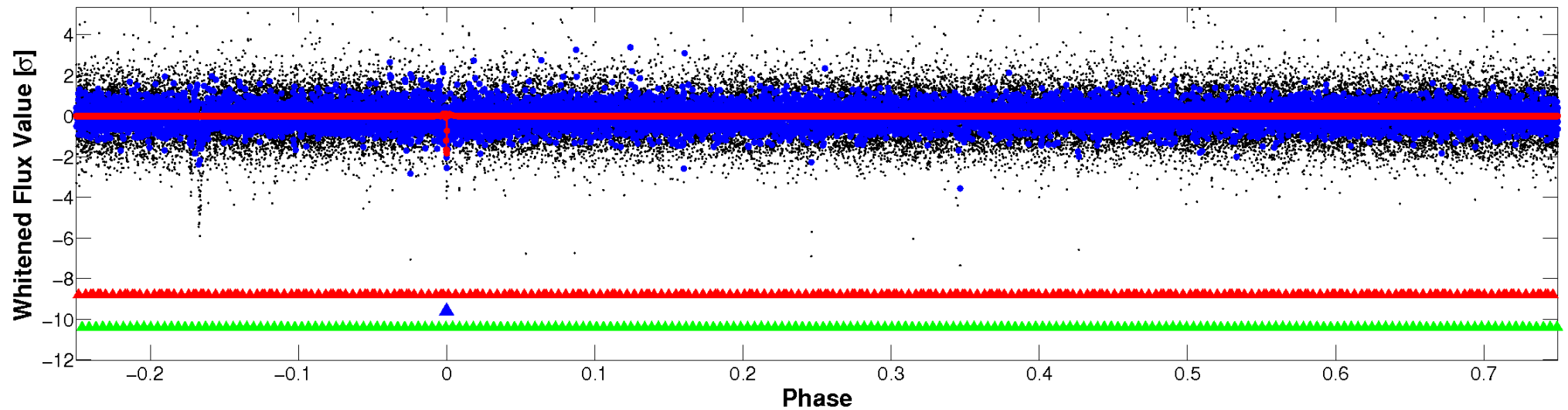


Non-Whitened Vs. Whitened Light Curve

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

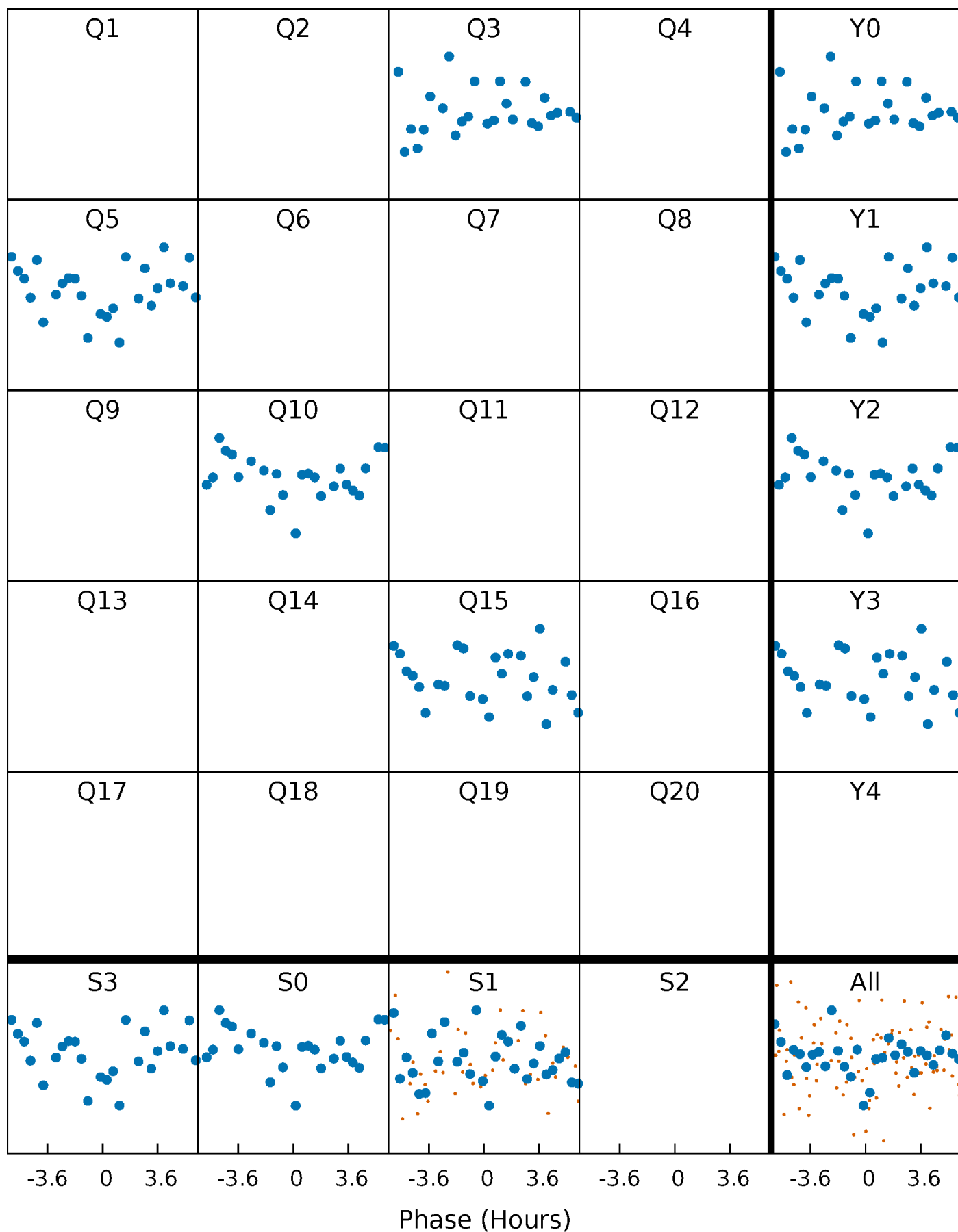


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008815923-02 P=217.183283 Days $T_0=294.487412$ (BKJD)



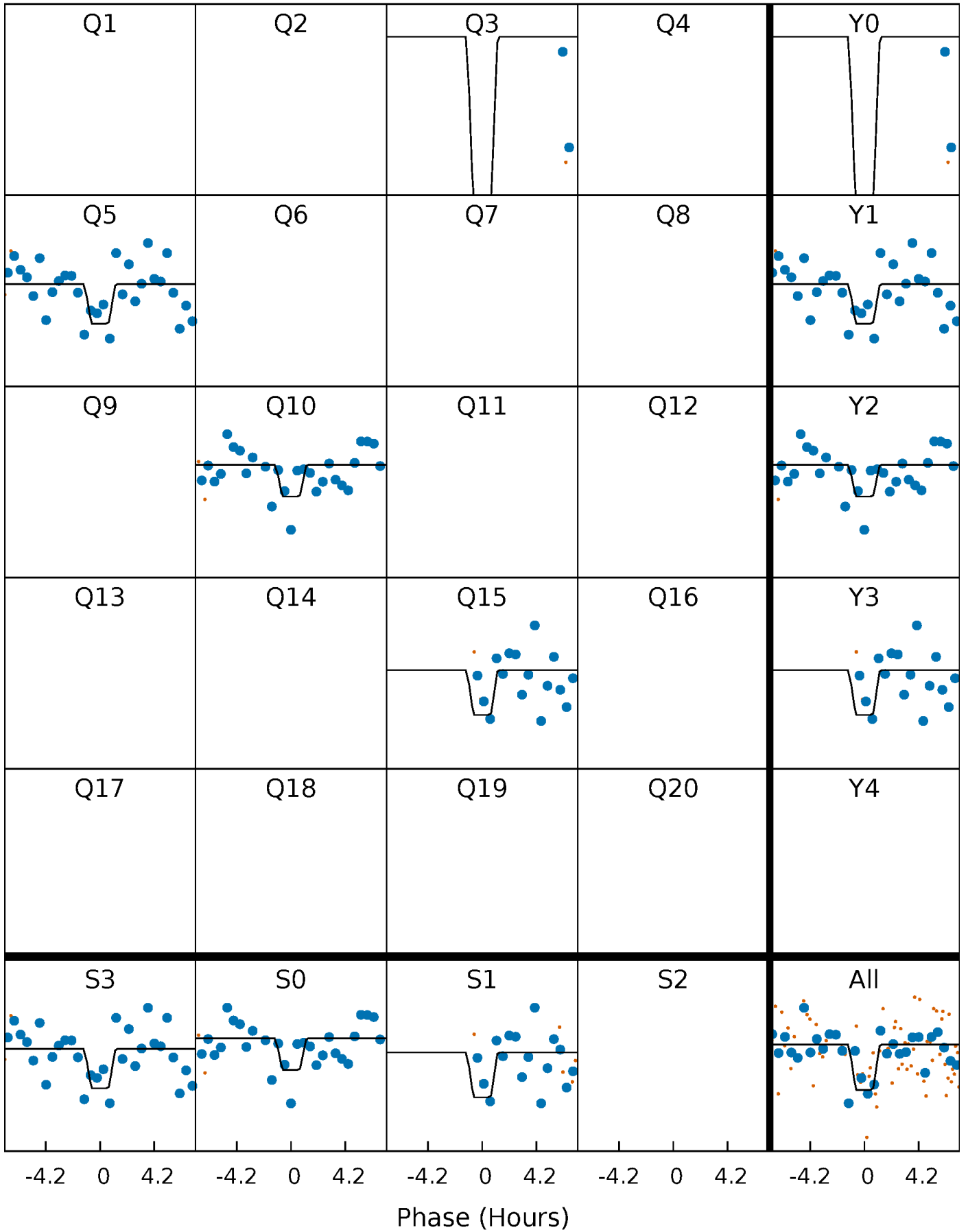
DV Quarter-Phased Transit Curves

TCE 008815923-02 $P=217.183283$ Days $T_0=294.487412$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

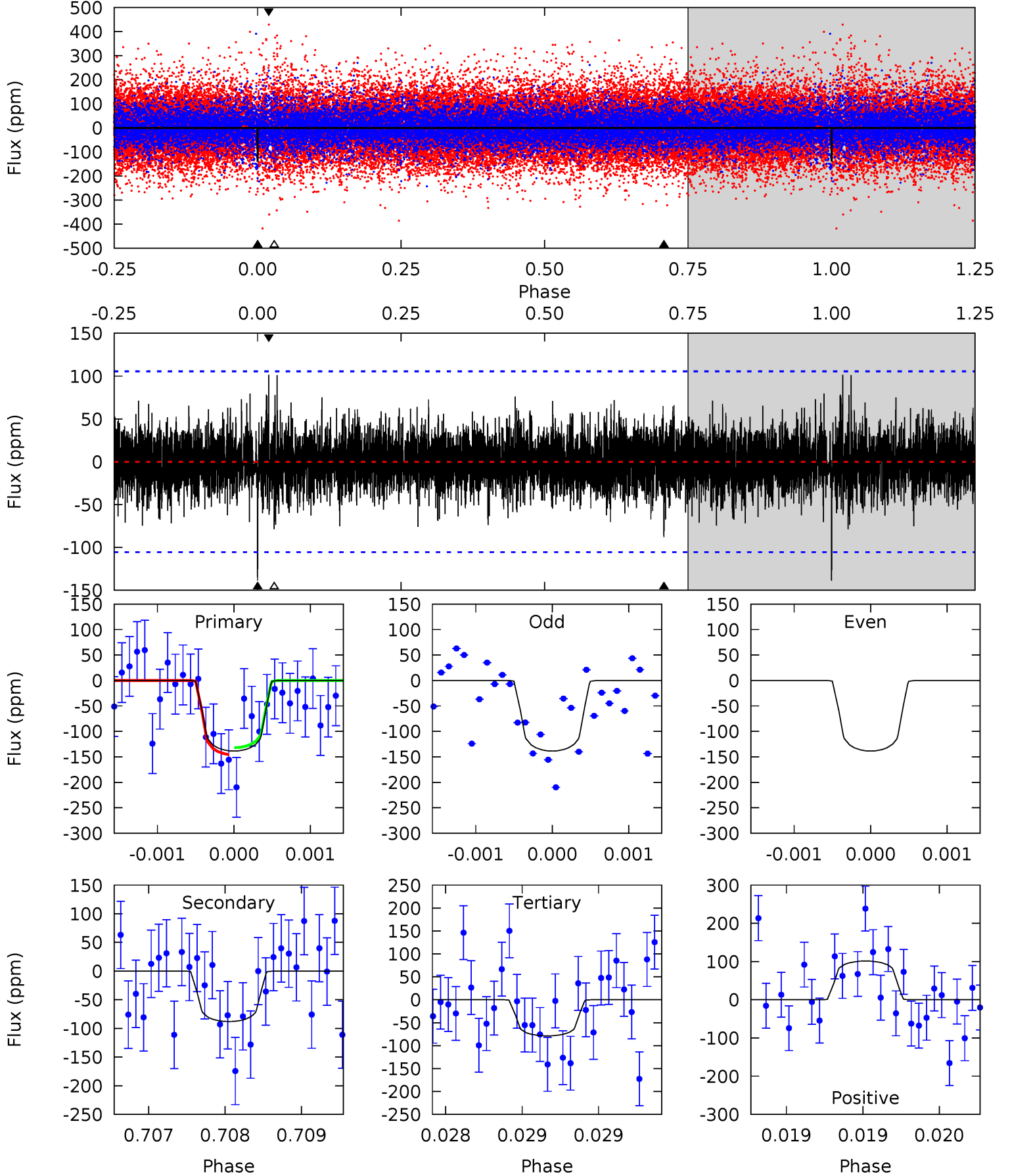
TCE 008815923-02 P=217.174580 Days $T_0=294.506433$ (BKJD)



DV Model-Shift Uniqueness Test

008815923-02, P = 217.183283 Days, E = 77.304129 Days

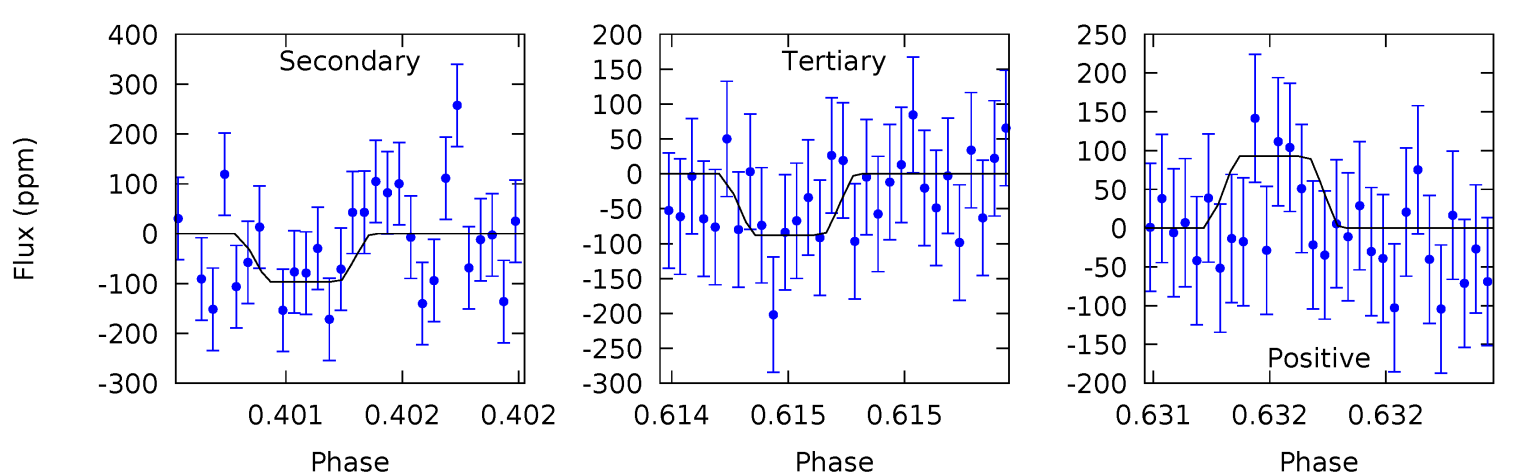
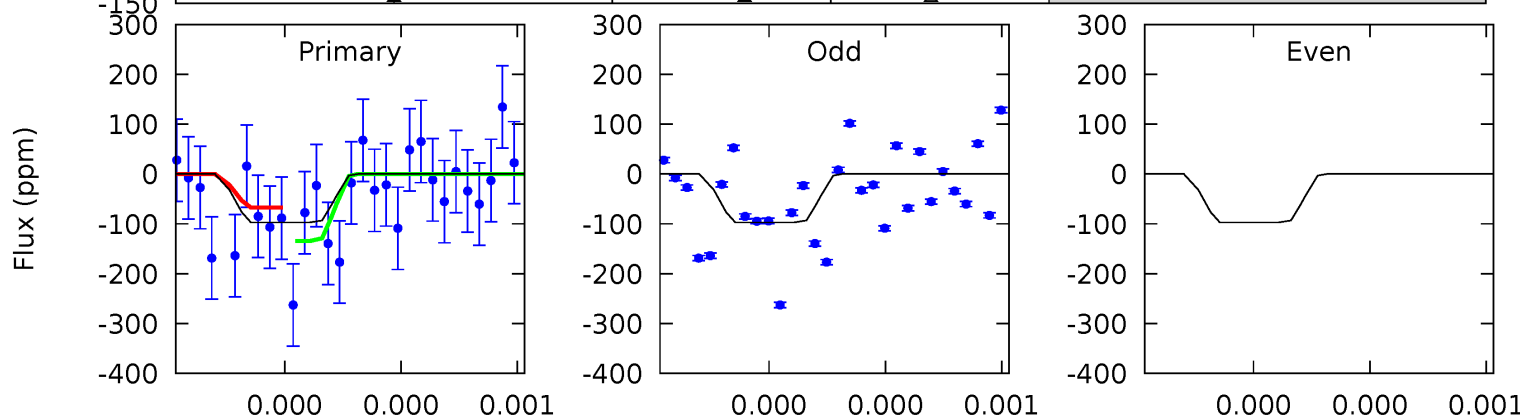
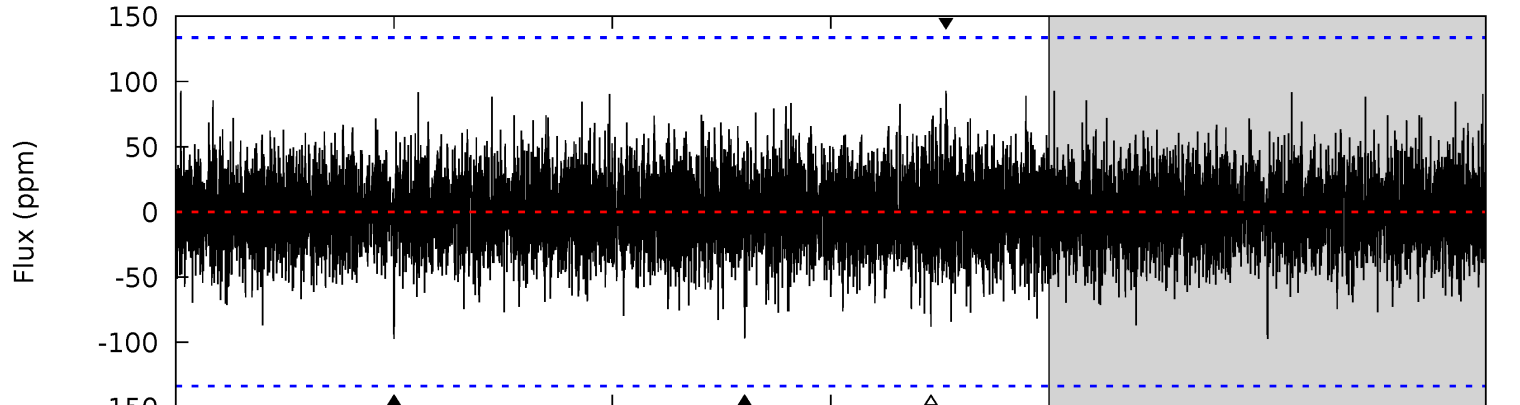
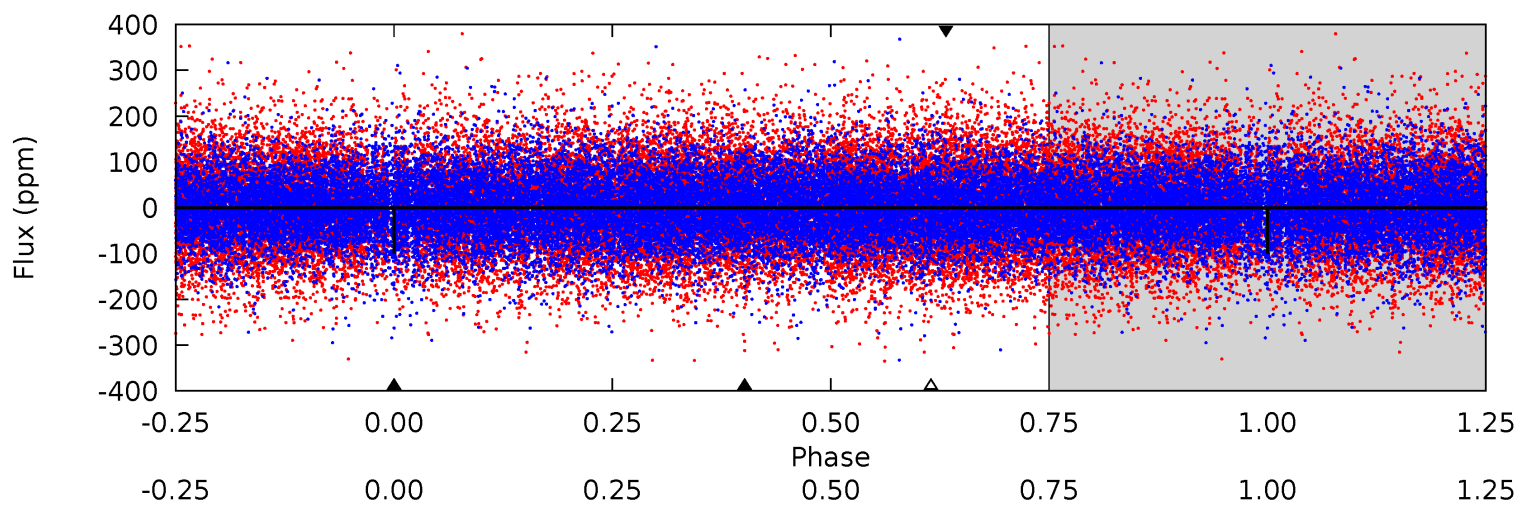
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.25	4.61	4.12	5.31	5.52	3.40	1.15	3.13	1.95	0.49	-0.70	0	1.06	0.42	0.35



Alt Model-Shift Uniqueness Test

008815923-02, P = 217.174580 Days, E = 77.331853 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.08	4.06	3.69	3.89	5.61	3.53	0.99	0.39	0.18	0.38	0.17	0	0.85	0.49	1.39



Stellar Parameters For KIC 008815923

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7279^{+87}_{-87}	$3.841^{+0.148}_{-0.121}$	$0.560^{+0.050}_{-0.200}$	$2.868^{+0.574}_{-0.574}$	$2.078^{+0.168}_{-0.187}$	$0.124^{+0.094}_{-0.046}$
	+1%/-1%	+4%/-3%	+9%/-36%	+20%/-20%	+8%/-9%	+76%/-37%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 008815923-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-88 ± 19	$4.89^{+3.81}_{-3.17}$	796^{+39}_{-40}	5525^{+4714}_{-1203}	1569^{+11936}_{-1077}
Alt.	-97 ± 24	$4.52^{+3.85}_{-2.96}$	799^{+36}_{-39}	5824^{+5784}_{-1310}	2025^{+16517}_{-1411}

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

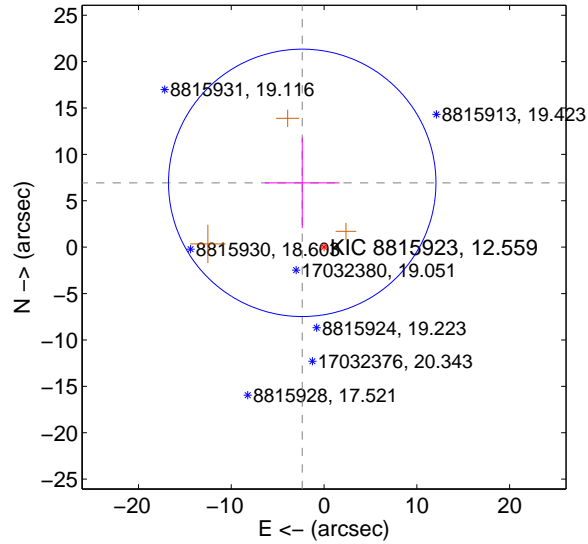
Supplemental centroid analysis for 008815923-02. Kepler magnitude: 12.56. Transit SNR 6.99

There are 0 quarters with good PRF difference image offsets

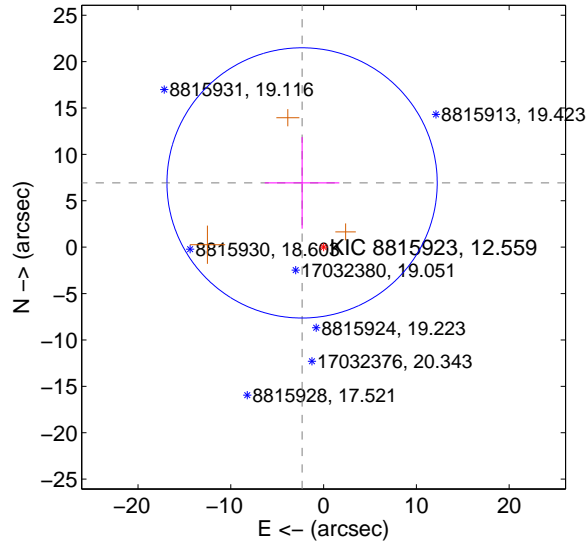
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.321 ± 4.803	1.52	2.351 ± 4.027	6.933 ± 4.884
PRF-fit source offset from KIC position	7.304 ± 4.854	1.50	2.318 ± 4.020	6.927 ± 4.939
photometric centroid source offset	2.93 ± 1.86	1.57	-1.95 ± 1.86	-2.19 ± 1.86

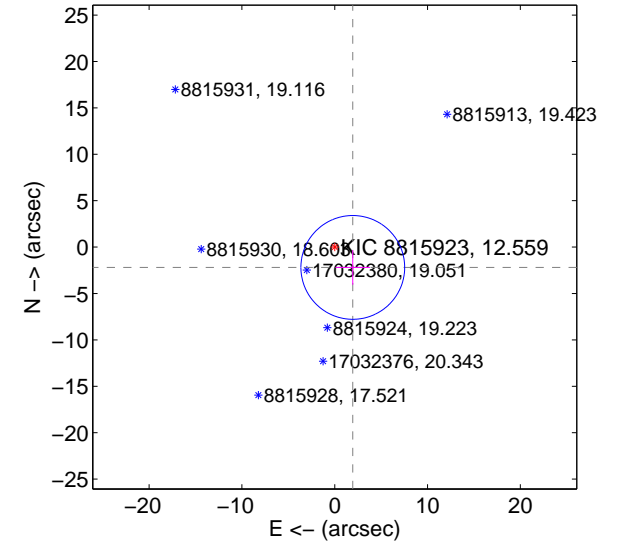
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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.

Q1 no difference image



Q1 no OOT image



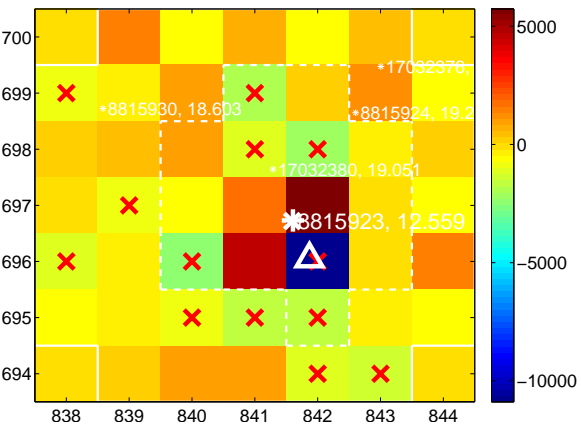
Q2 no difference image



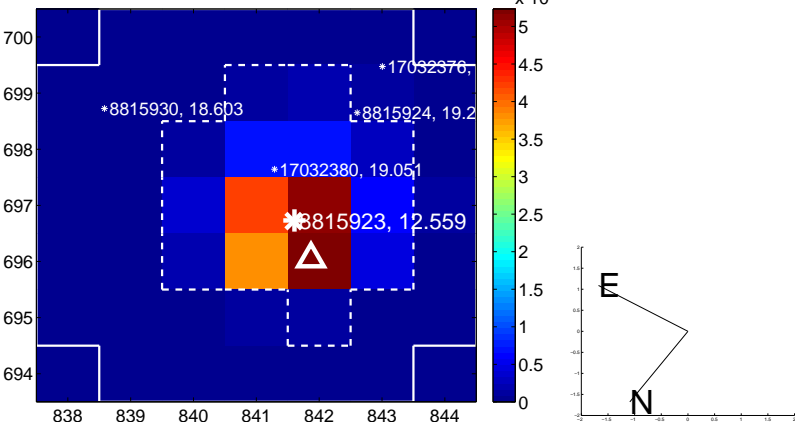
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



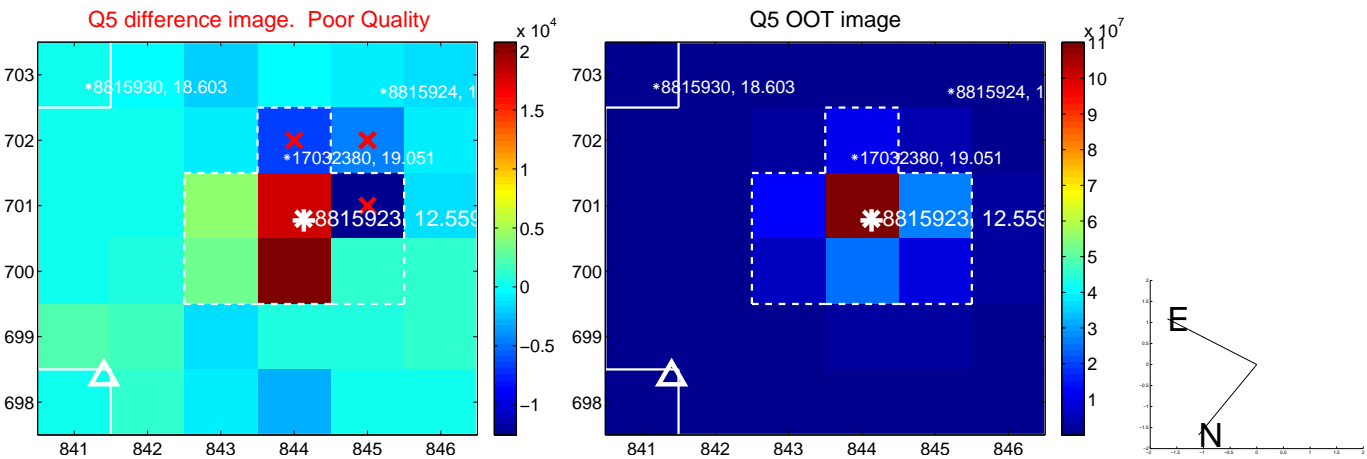
Q4 no difference image



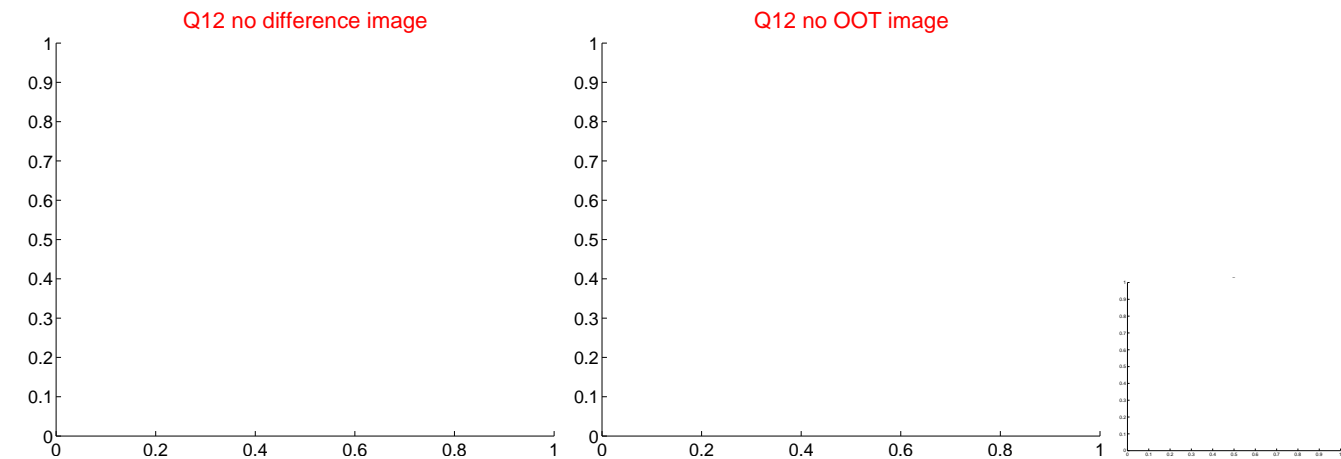
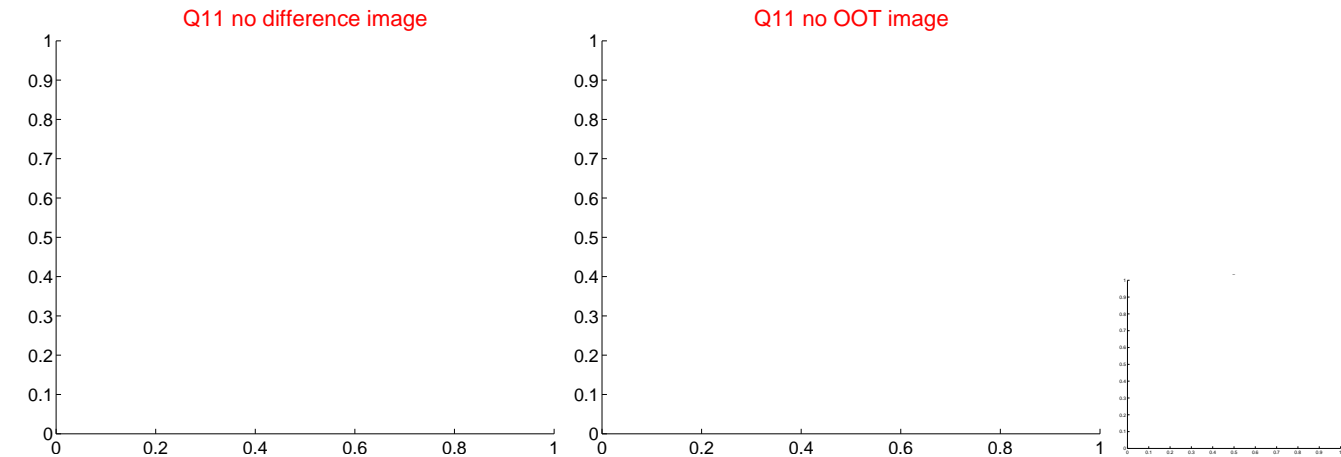
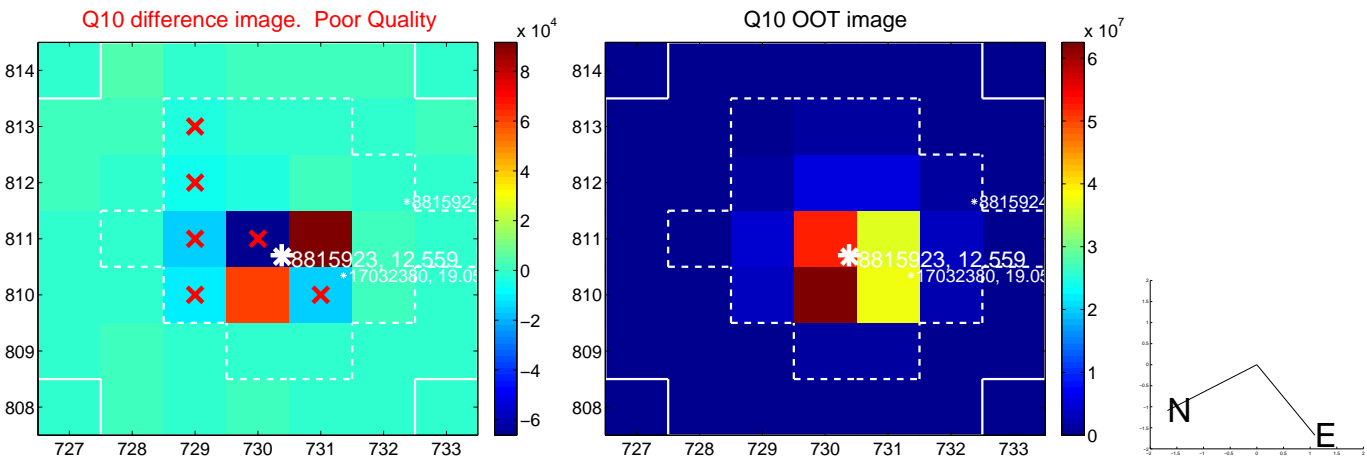
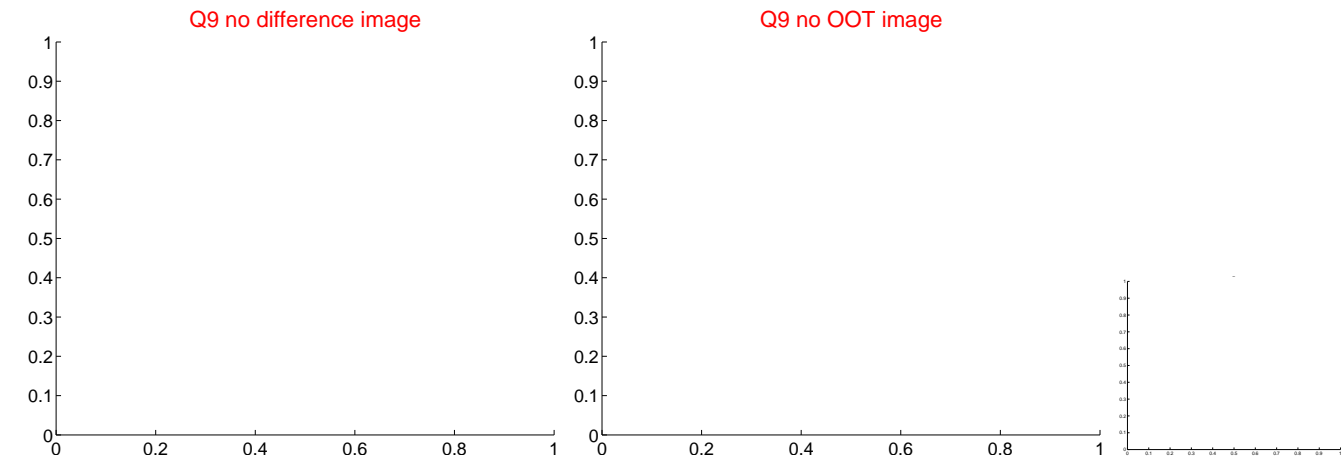
Q4 no OOT image



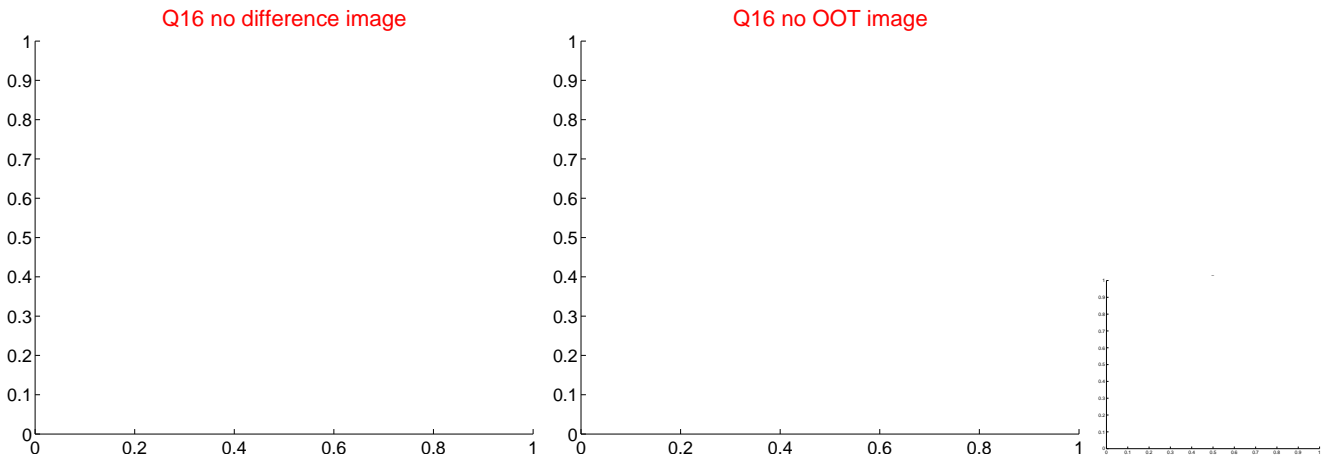
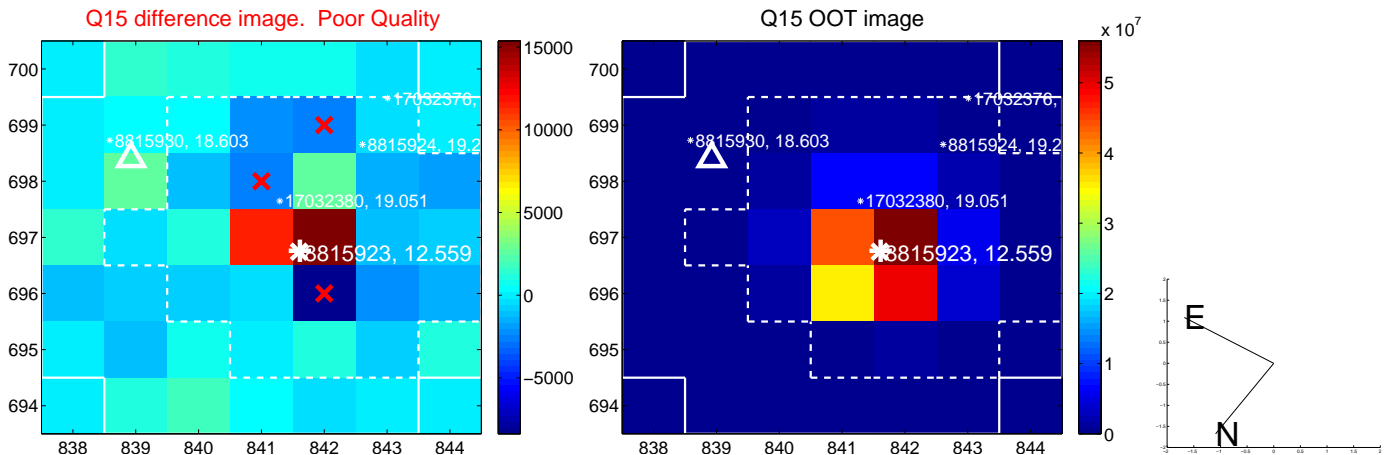
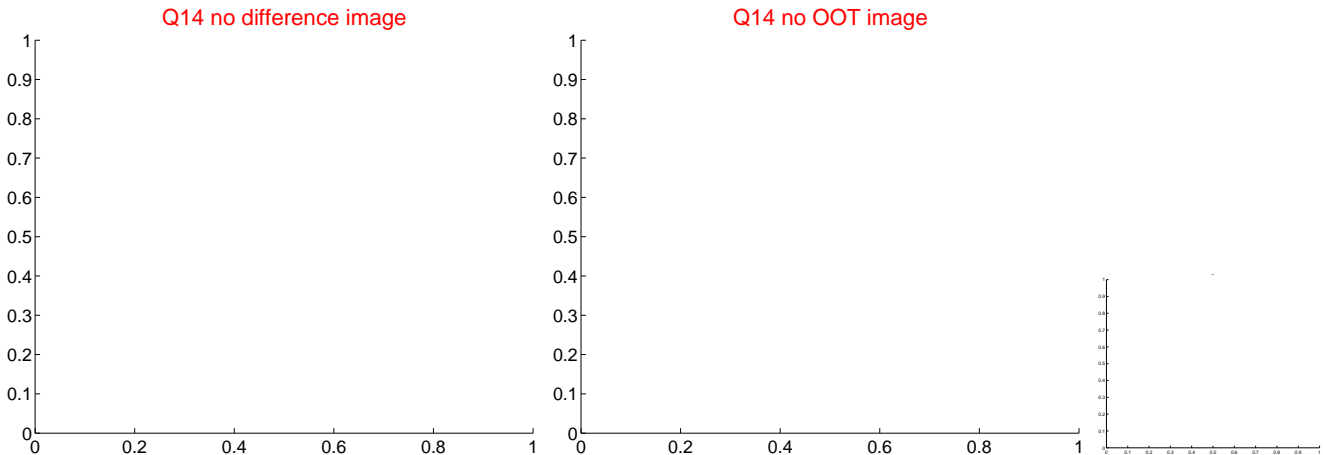
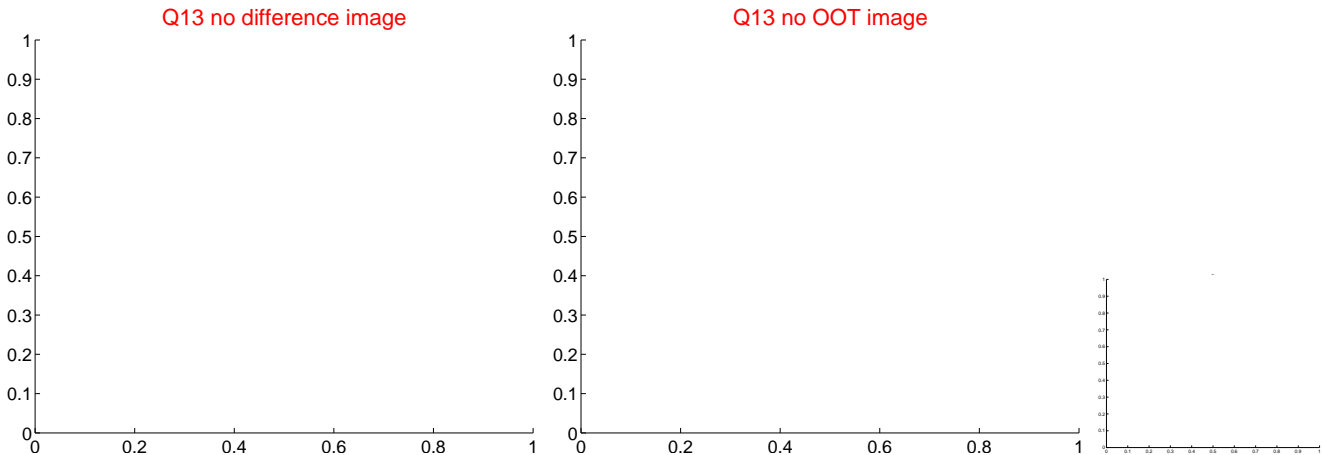
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



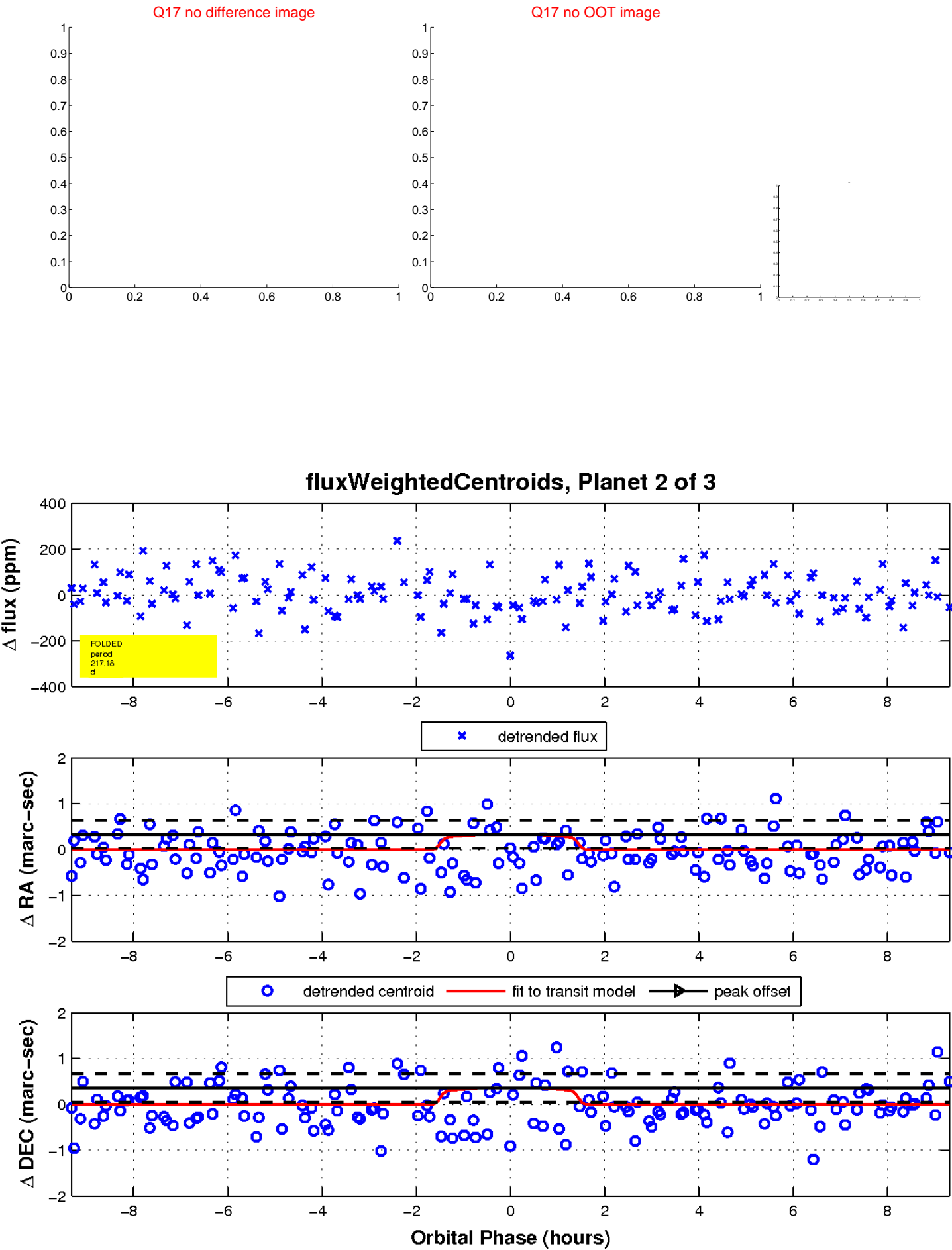
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

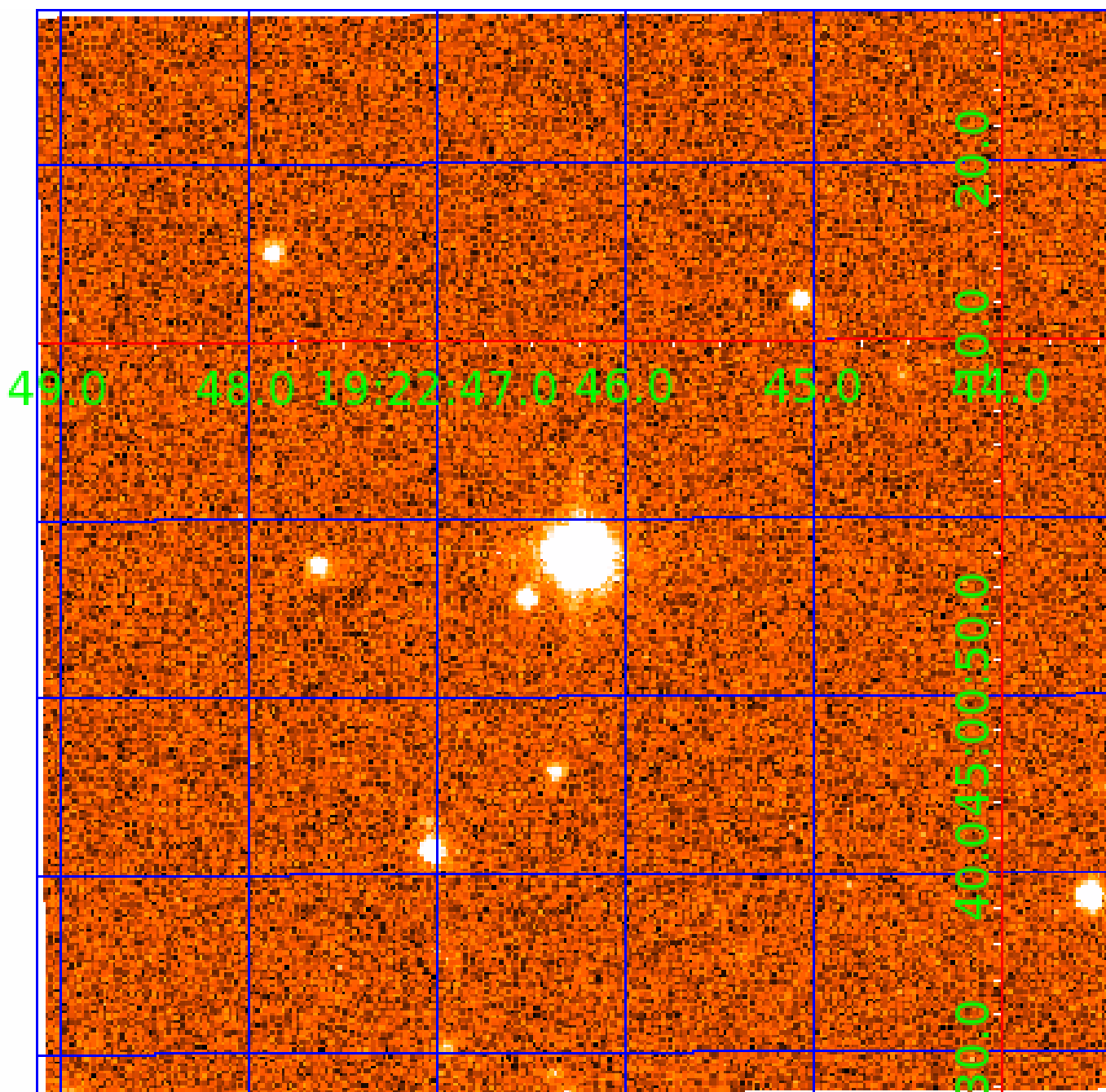


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008815923

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})
008815923-01	OBS	No	5.025959	133.161657	12.9	11.834	9.4	8.9	2.87	7279	1.14	3848.36
008815923-02	OBS	No	217.183283	294.487412	164.5	3.114	9.9	7.0	2.87	7279	4.17	25.38
008815923-03	OBS	No	5.027123	134.535481	11.5	18.665	8.6	9.7	2.87	7279	1.06	3847.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008815923-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008815923-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
008815923-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

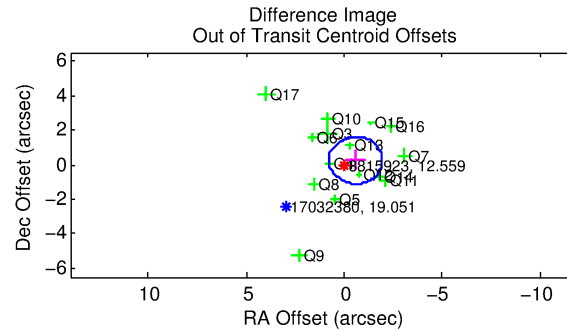
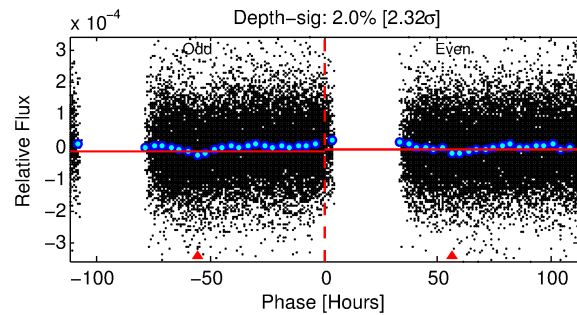
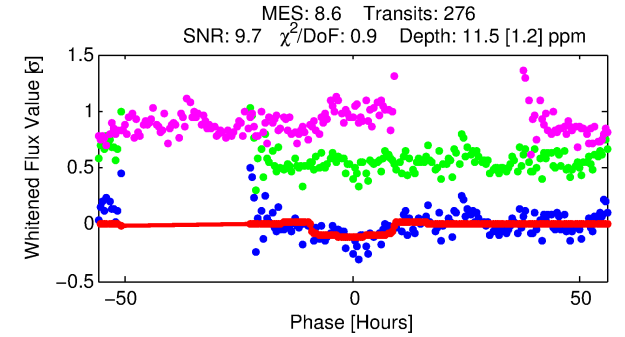
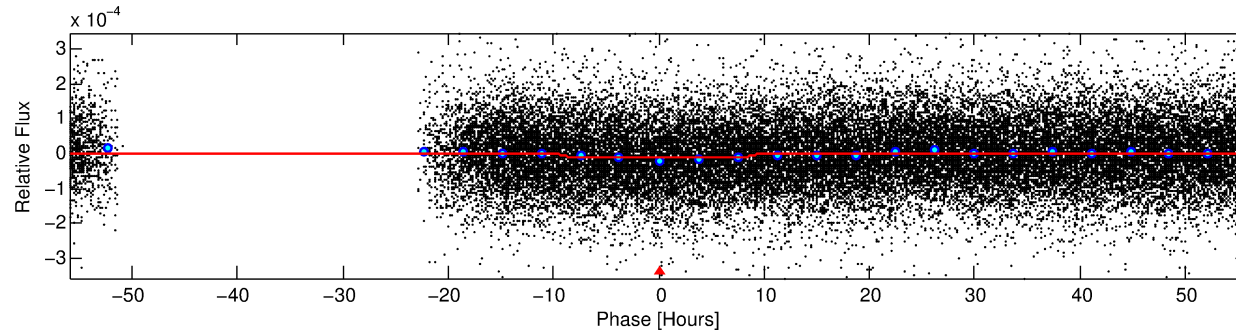
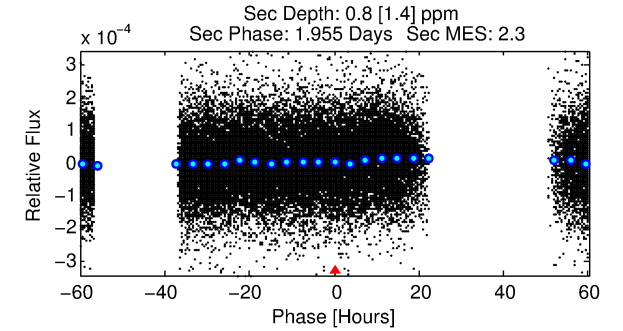
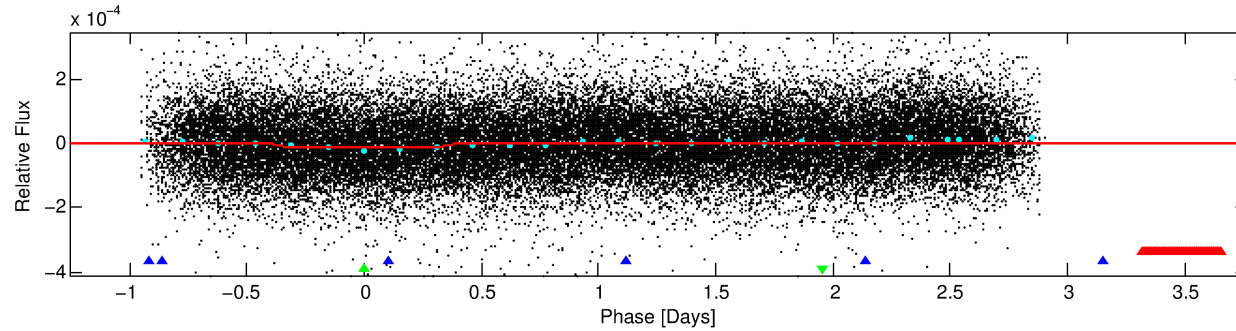
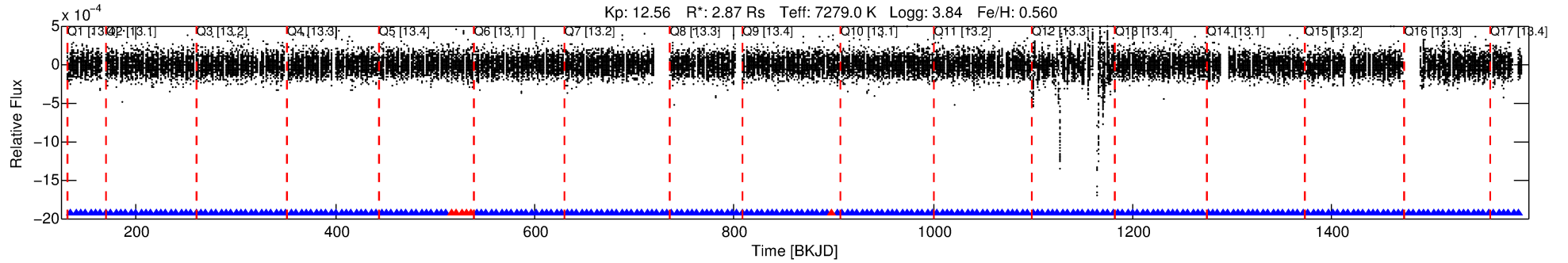
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008815923-03

No Significant Match Found

DV One-Page Summary

KIC: 8815923 Candidate: 3 of 3 Period: 5.027 d



DV Fit Results:

Period = 5.02712 [0.00011] d
Epoch = 134.5355 [0.0160] BKJD
Rp/R* = 0.0034 [0.0007]
a/R* = 1.57 [1.07]
b = 0.78 [0.59]
Seff = 3847.17 [1030.17]
Teff = 2008 [134] K
Rp = 1.06 [0.30] Re
a = 0.0733 [0.0129] AU
Ag = 2.15 [3.81] [0.30σ]
Teffp = 3758 [1651] K [1.06σ]

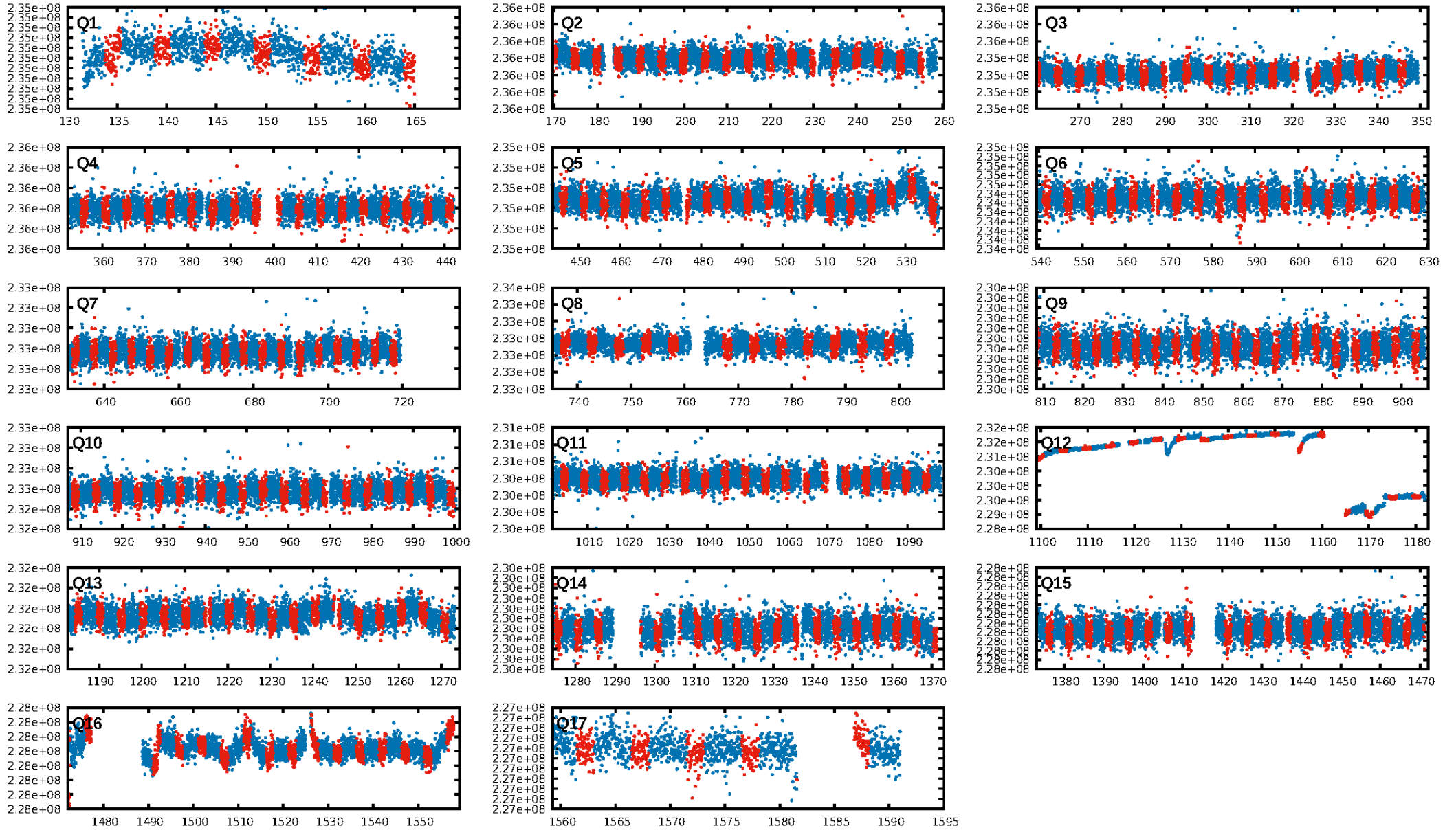
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: 100.0% [269.08σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.64e-21
RollingBand-fgt: 0.98 [258/264]
GhostDiagnostic-chr: 7.009
Centroid-sig: 0.3%
Centroid-so: 2.909 arcsec [1.88σ]
OotOffset-rm: 0.639 arcsec [1.41σ]
KicOffset-rm: 0.685 arcsec [1.41σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.47 [7/15]
DiffImageOverlap-fno: 0.53 [9/17]

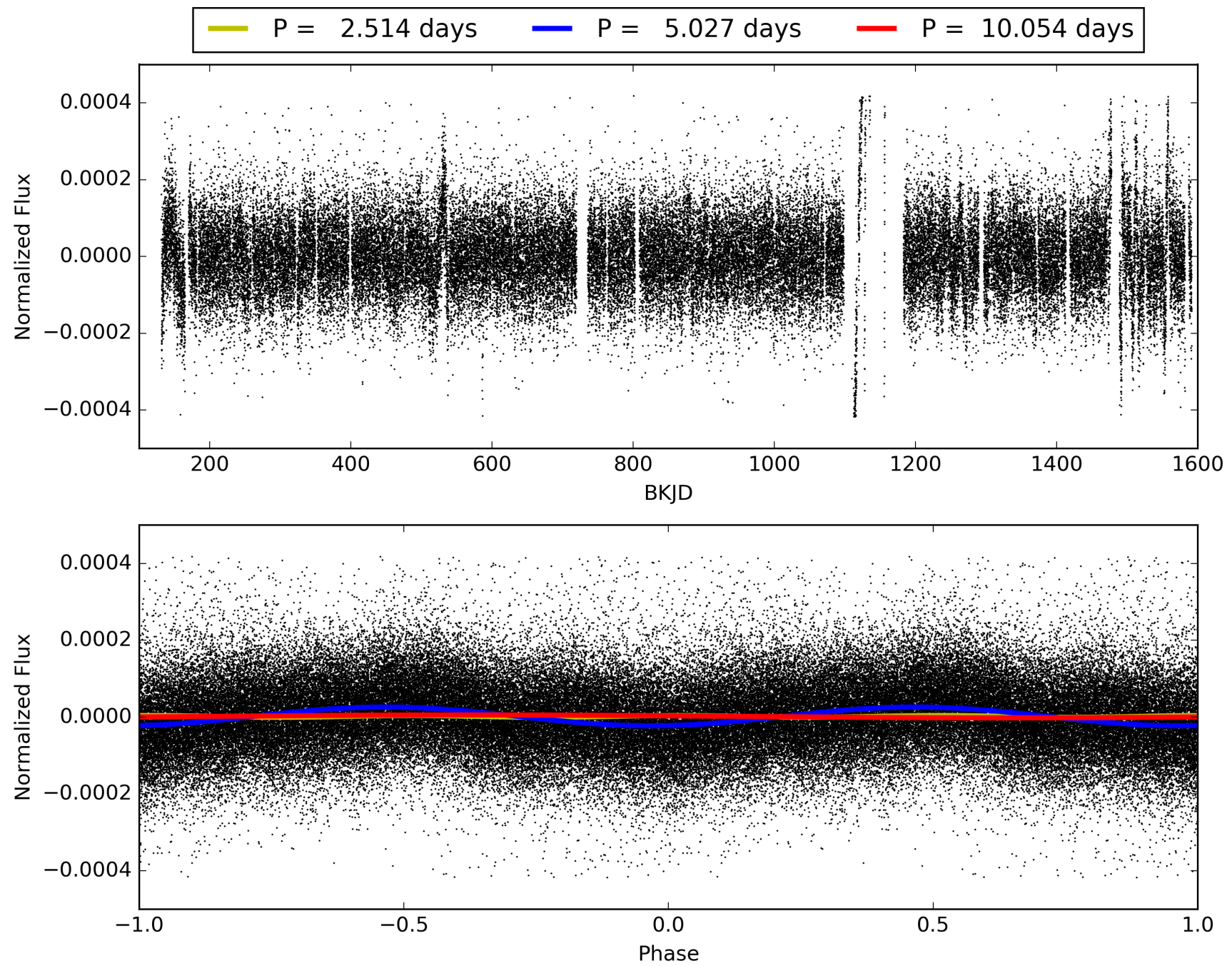
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 22:10:00 Z

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

TCE 008815923-03, PDC Light Curves

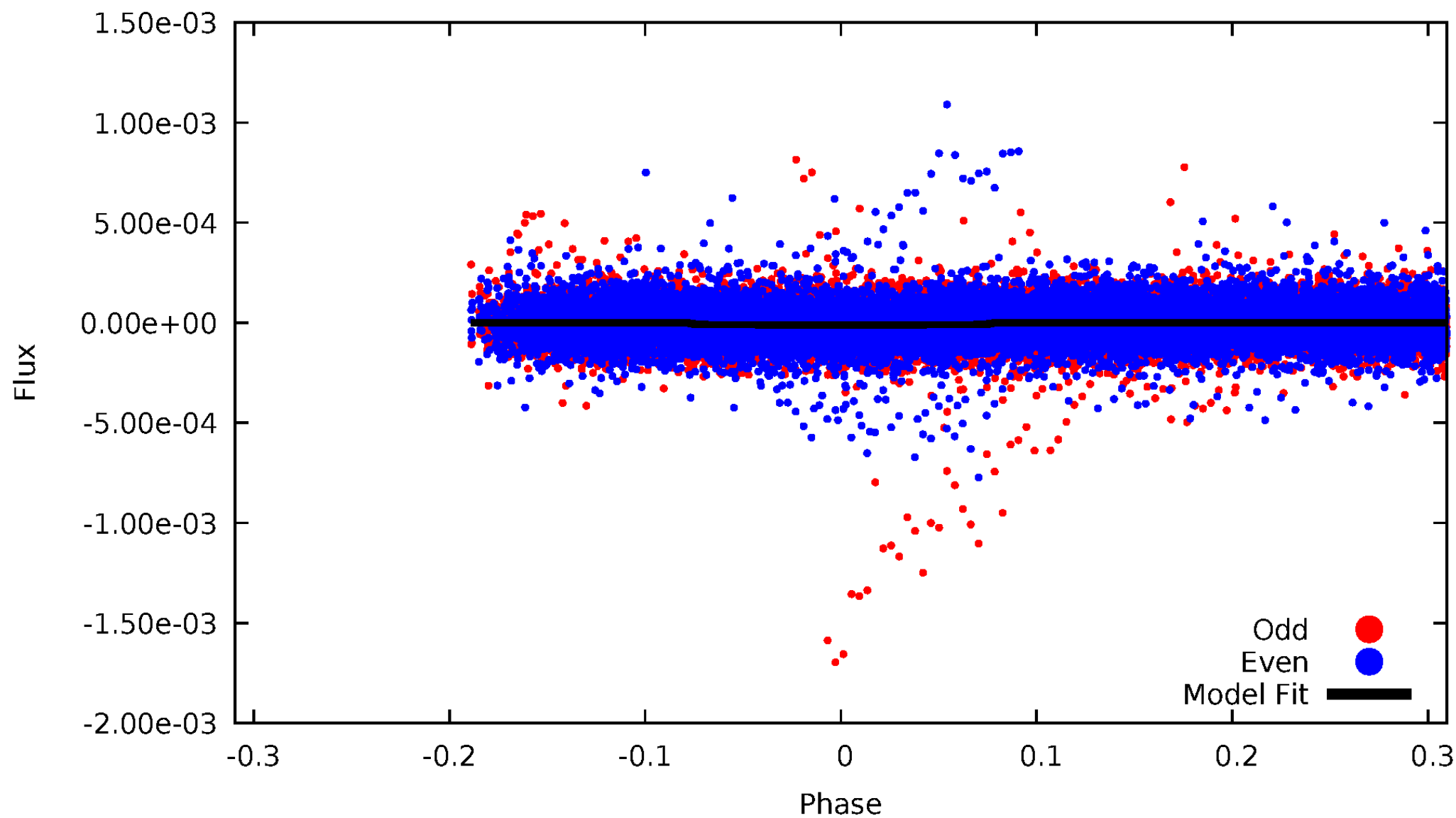


TCE 008815923-03



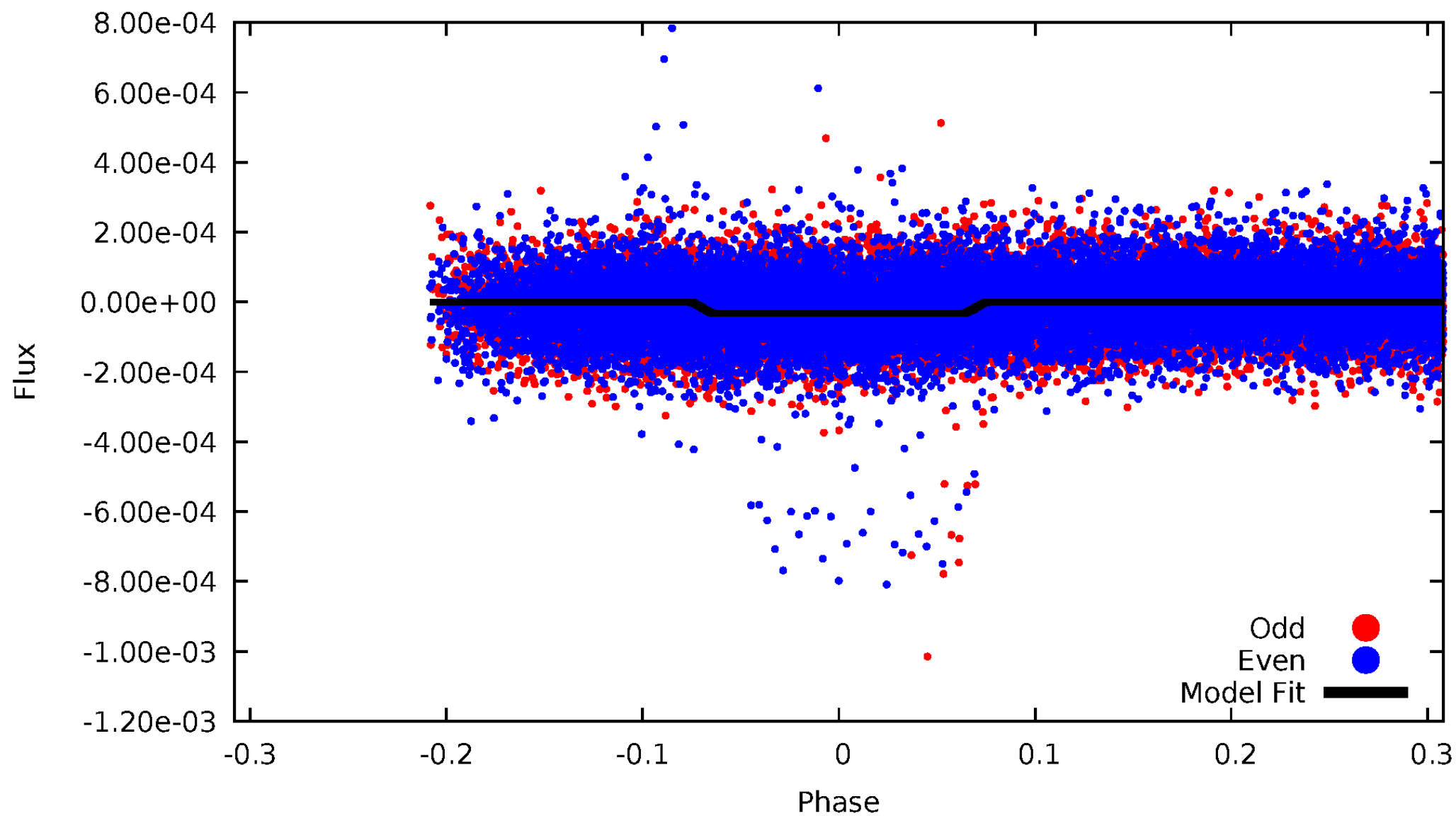
DV Odd/Even

TCE 008815923-03

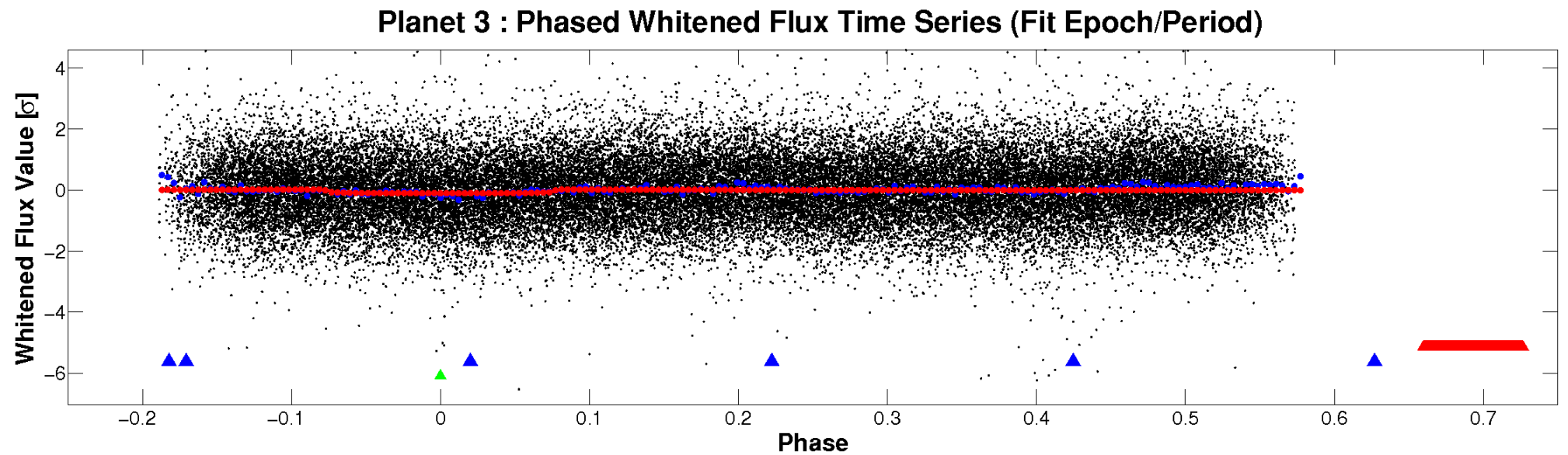
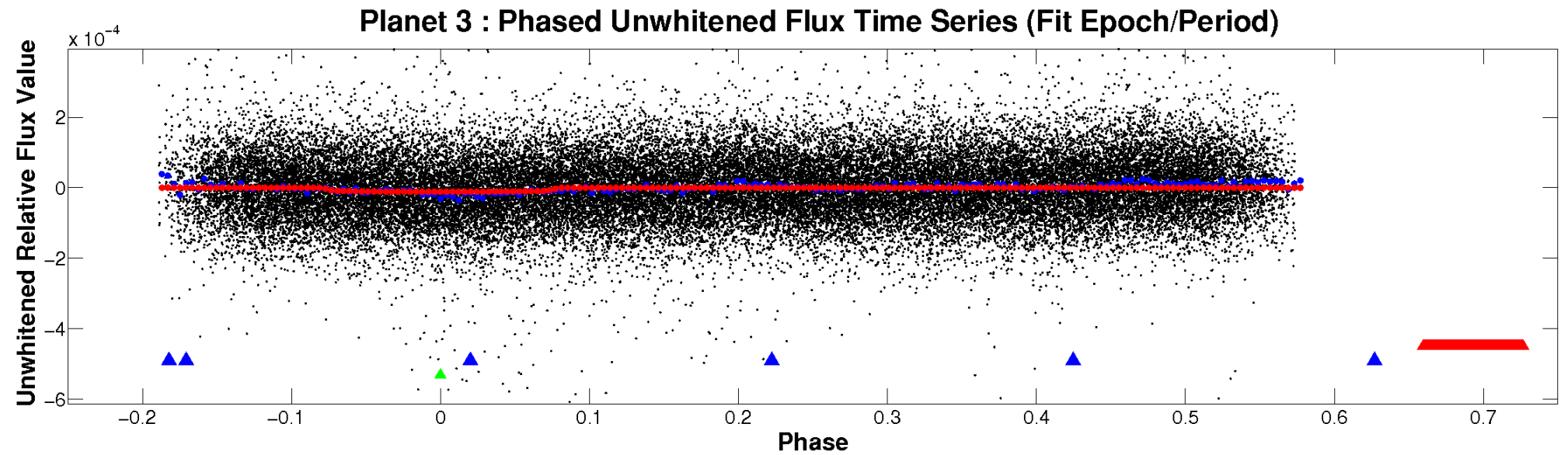


ALT Odd/Even

TCE 008815923-03

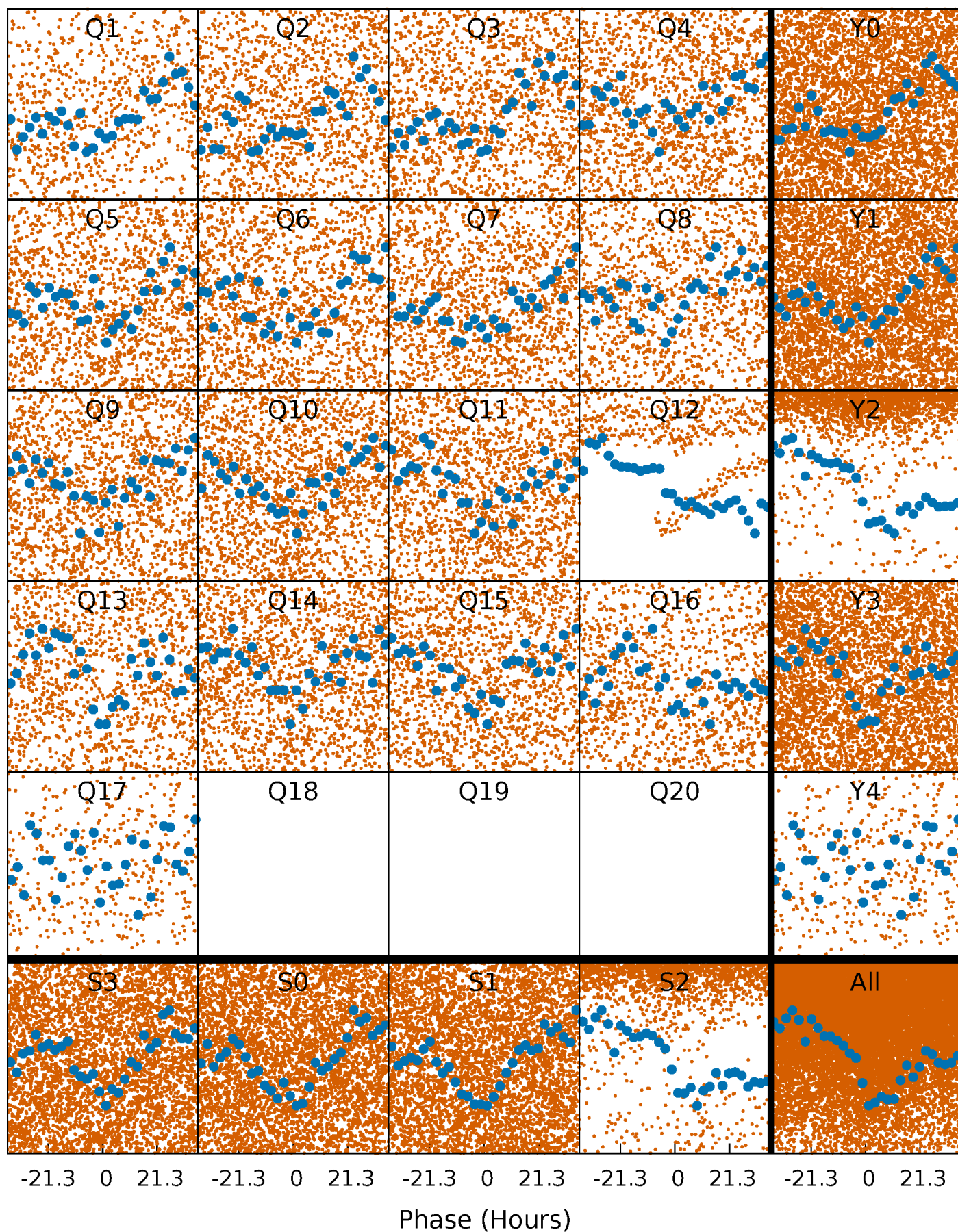


Non-Whitened Vs. Whitened Light Curve



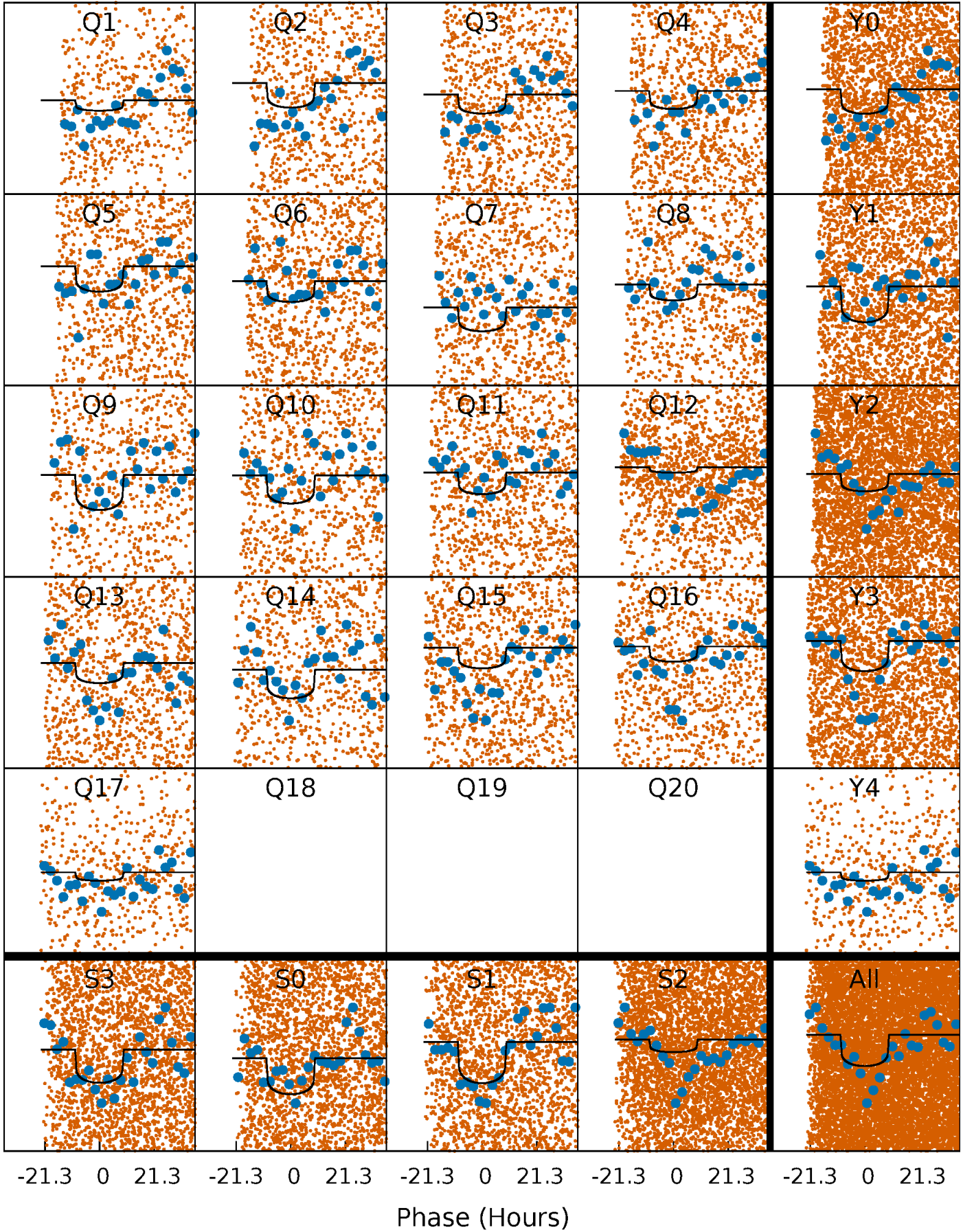
PDC Quarter-Phased Transit Curves

TCE 008815923-03 P= 5.027123 Days $T_0=134.535481$ (BKJD)



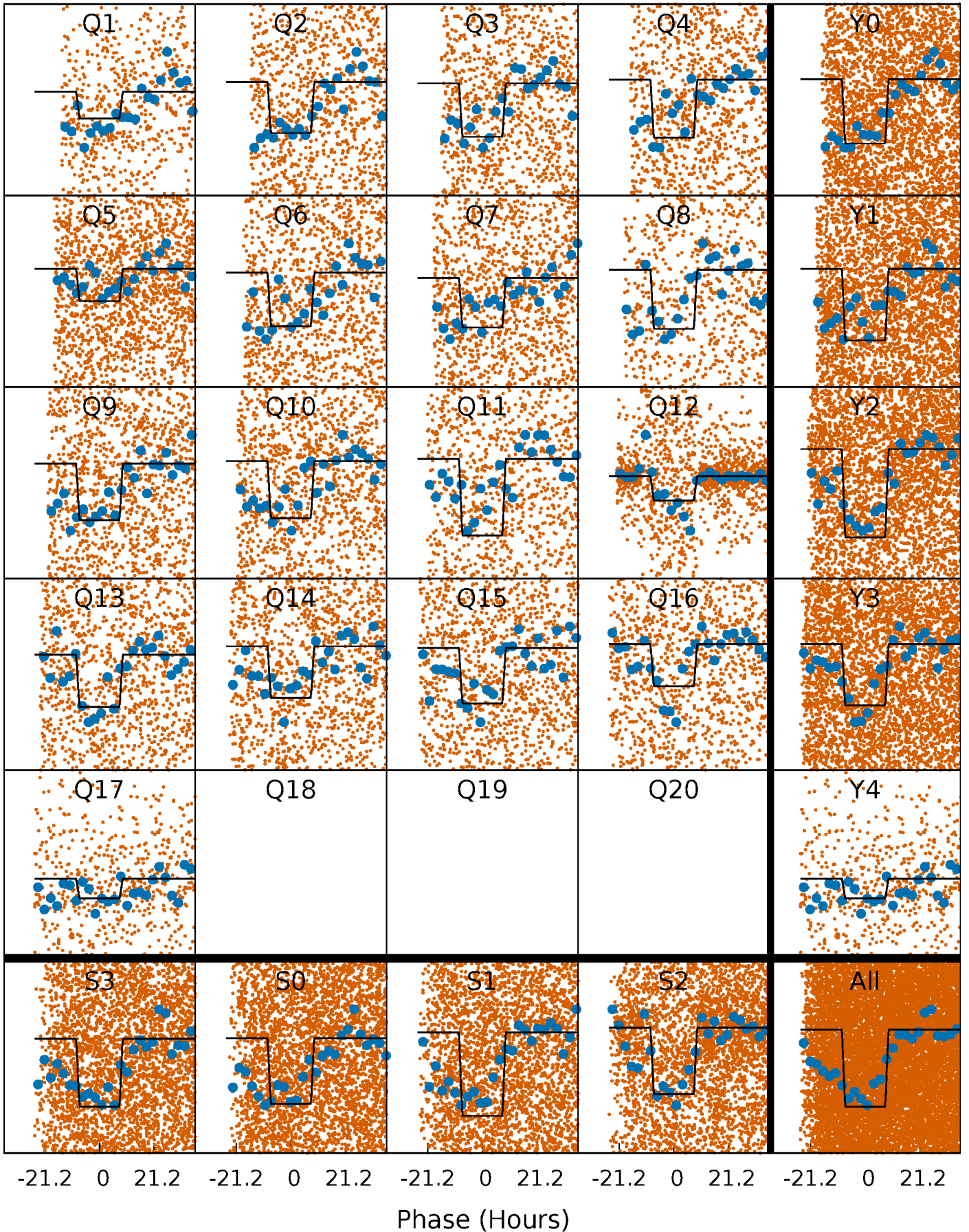
DV Quarter-Phased Transit Curves

TCE 008815923-03 P= 5.027123 Days $T_0=134.535481$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

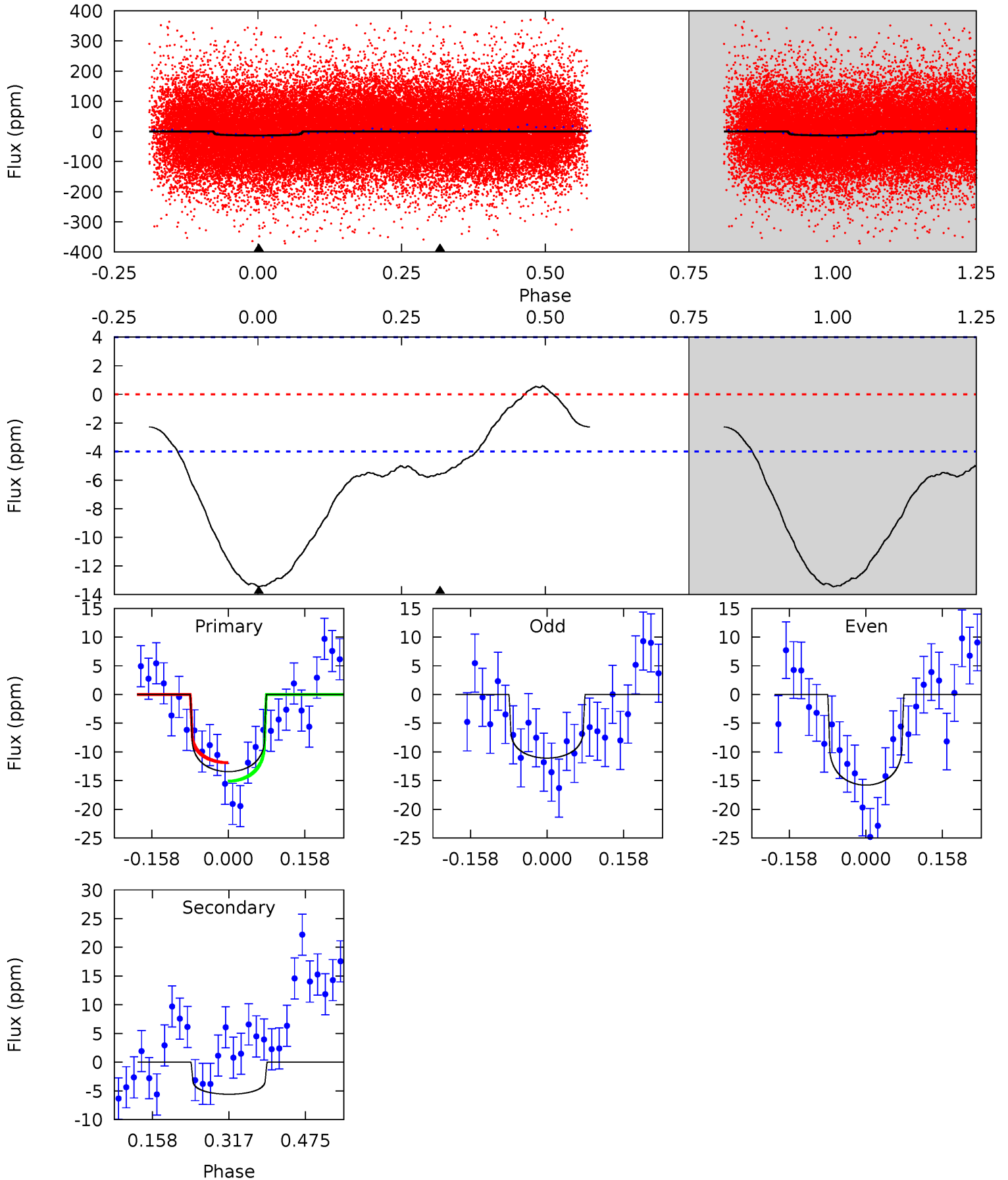
TCE 008815923-03 P= 5.027493 Days $T_0=134.526815$ (BKJD)



DV Model-Shift Uniqueness Test

008815923-03, P = 5.027123 Days, E = 129.508358 Days

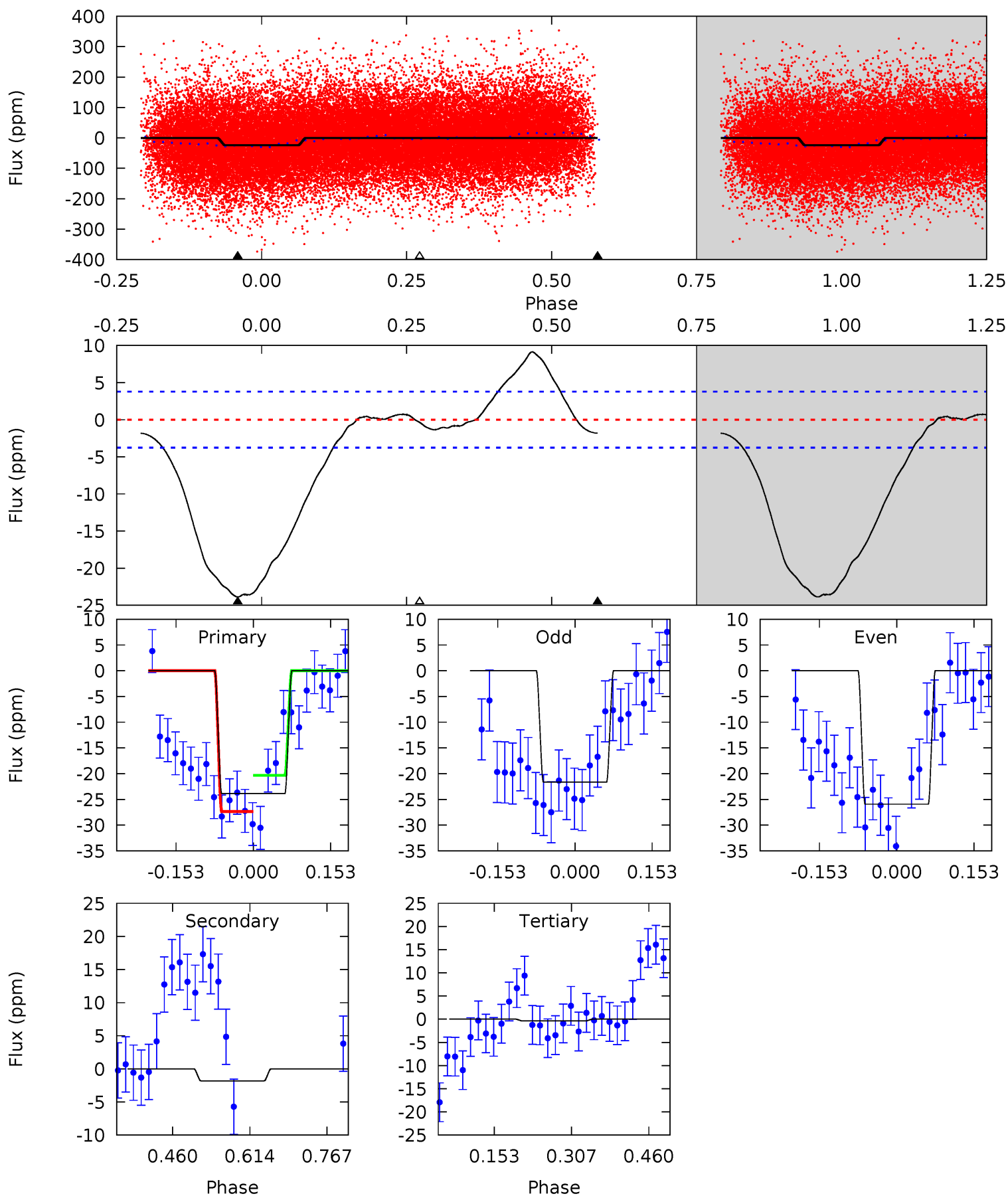
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.0	6.24	0	0	4.47	1.41	1.22	15.0	15.0	6.24	6.24	2.66	1.35	0.04	1.79



Alt Model-Shift Uniqueness Test

008815923-03, P = 5.027493 Days, E = 129.499322 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.3	2.15	0.42	0	4.47	1.43	2.20	27.9	28.3	1.72	2.15	2.54	1.25	0.28	4.13



Stellar Parameters For KIC 008815923

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7279^{+87}_{-87}	$3.841^{+0.148}_{-0.121}$	$0.560^{+0.050}_{-0.200}$	$2.868^{+0.574}_{-0.574}$	$2.078^{+0.168}_{-0.187}$	$0.124^{+0.094}_{-0.046}$
	+1%/-1%	+4%/-3%	+9%/-36%	+20%/-20%	+8%/-9%	+76%/-37%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 008815923-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 1	$1.05^{+0.24}_{-0.22}$	2804^{+161}_{-153}	5981^{+762}_{-553}	15^{+10}_{-5}
Alt.	-2 ± 1	$1.75^{+0.30}_{-0.26}$	2797^{+147}_{-144}	3717^{+374}_{-520}	$1.654^{+1.147}_{-0.838}$

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

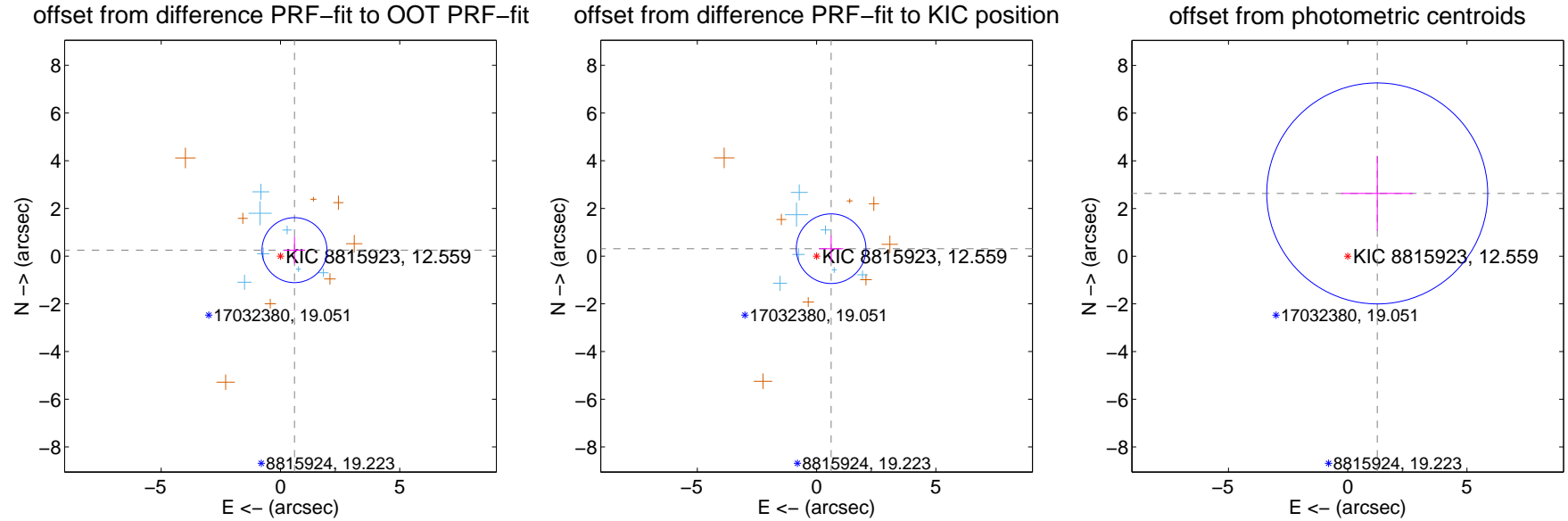
DV Centroid Data

Supplemental centroid analysis for 008815923-03. Kepler magnitude: 12.56. Transit SNR 9.67

There are 7 quarters with good PRF difference image offsets

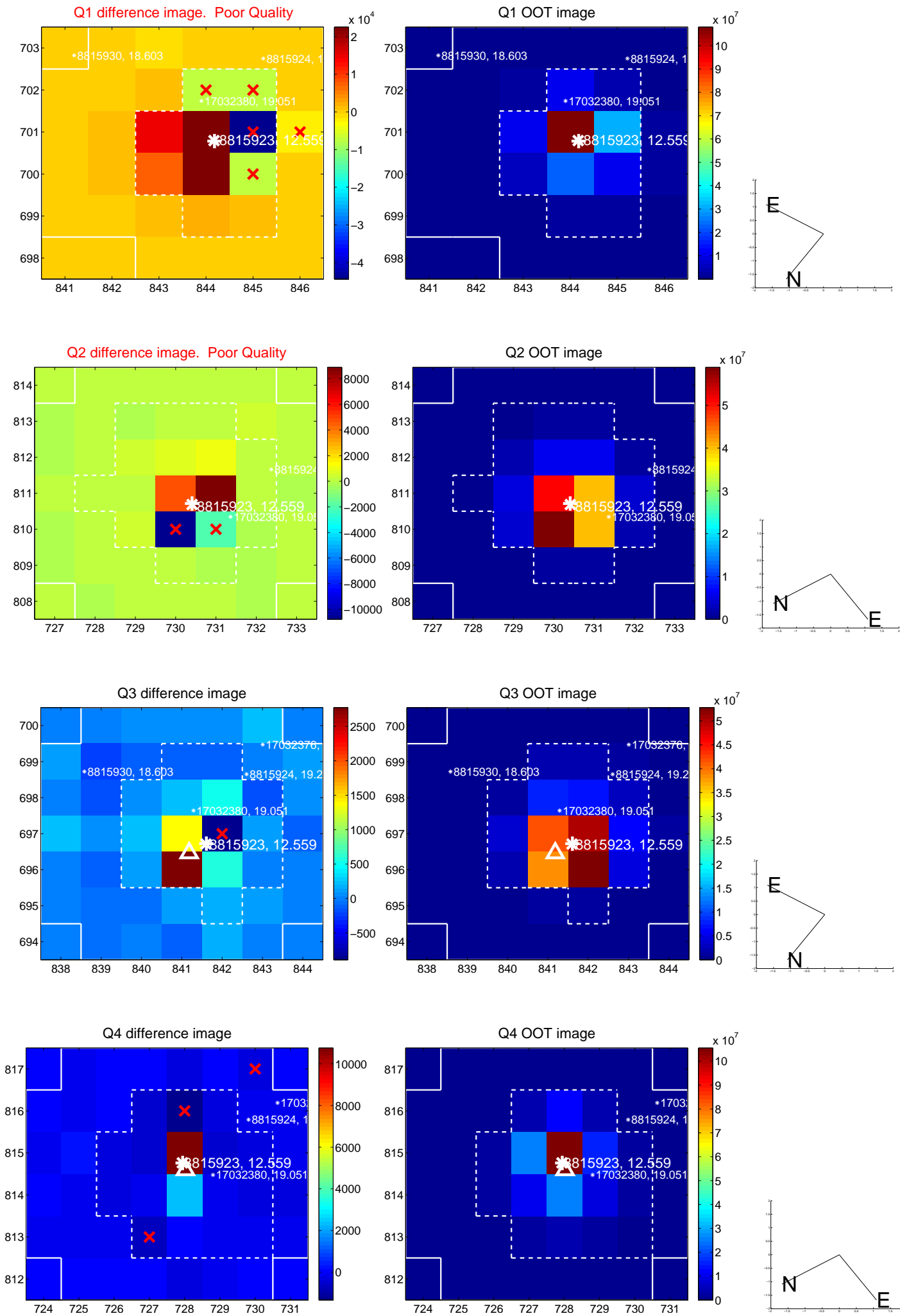
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.639 ± 0.454	1.41	-0.587 ± 0.451	0.251 ± 0.561
PRF-fit source offset from KIC position	0.685 ± 0.487	1.41	-0.610 ± 0.512	0.312 ± 0.533
photometric centroid source offset	2.91 ± 1.54	1.88	-1.24 ± 1.50	2.63 ± 1.55

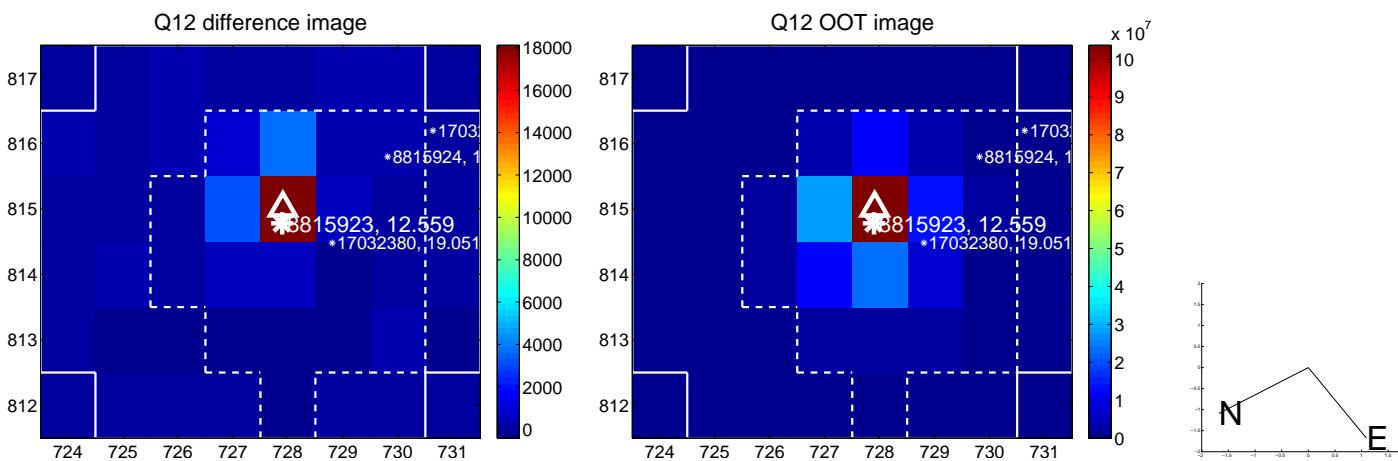
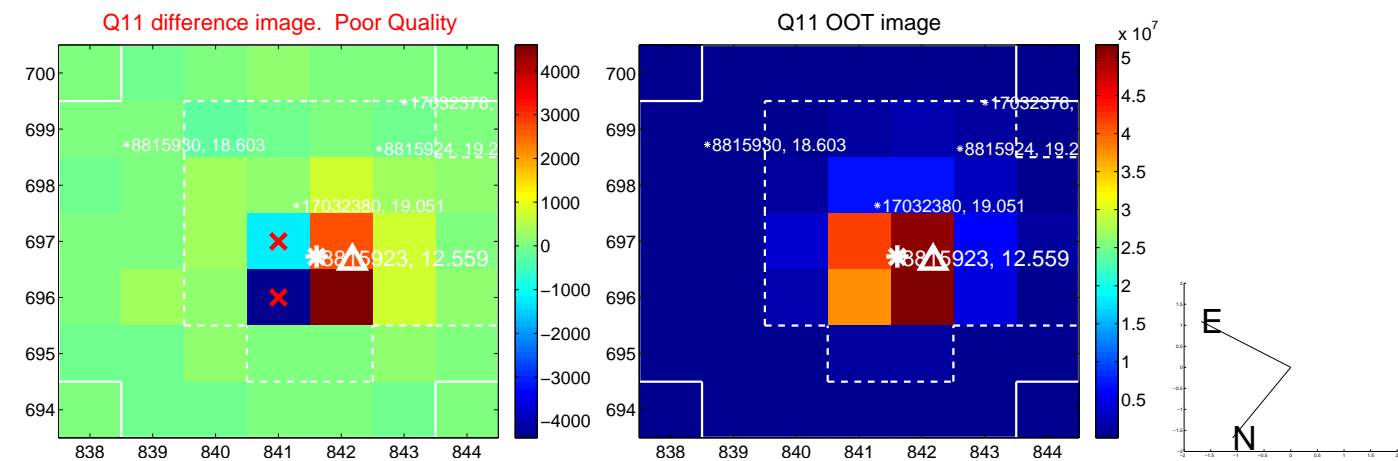
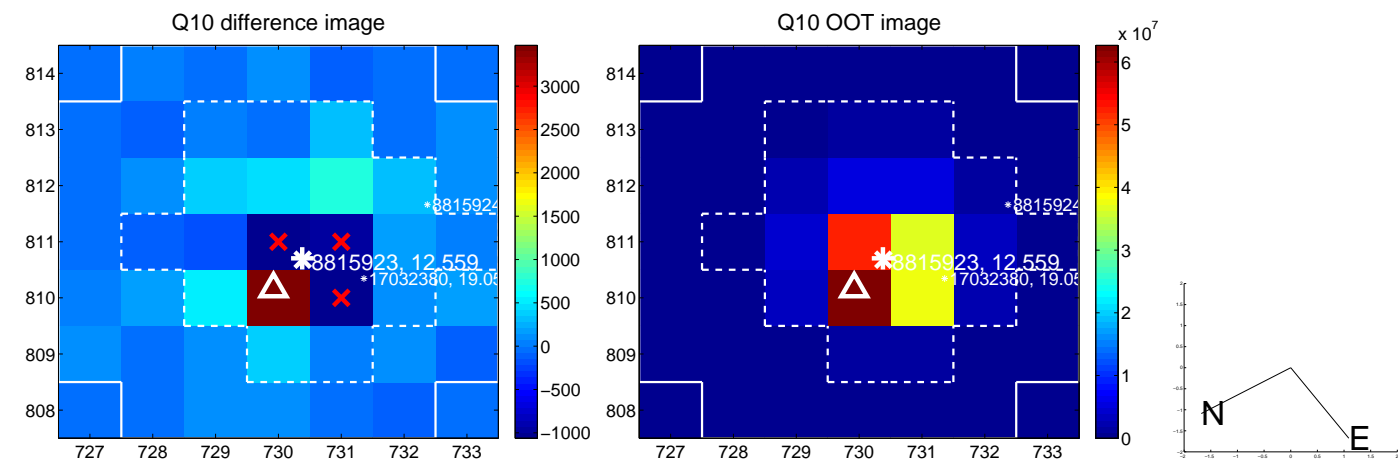
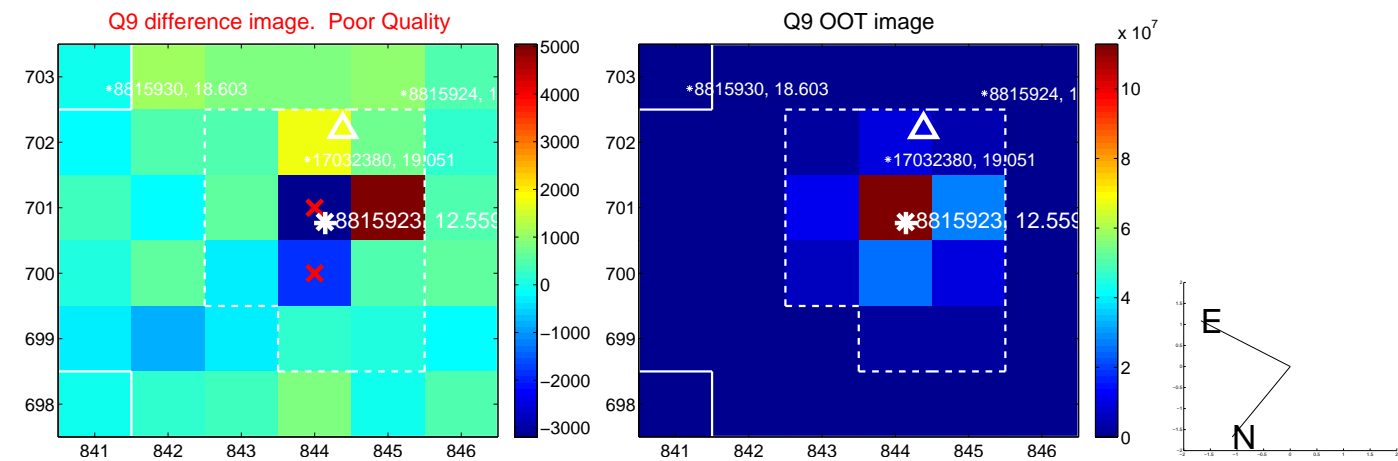


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

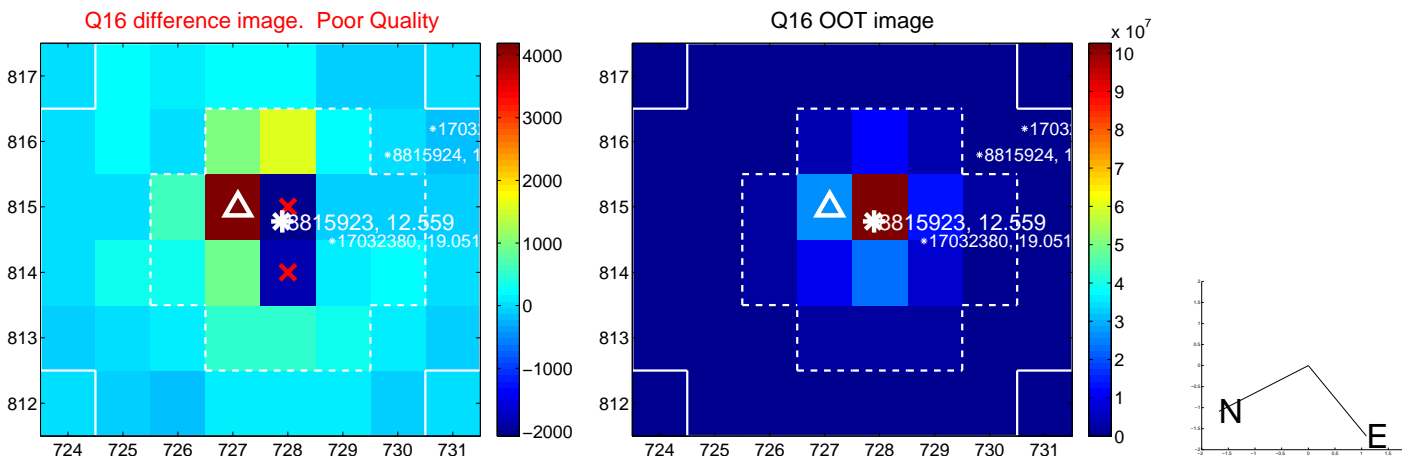
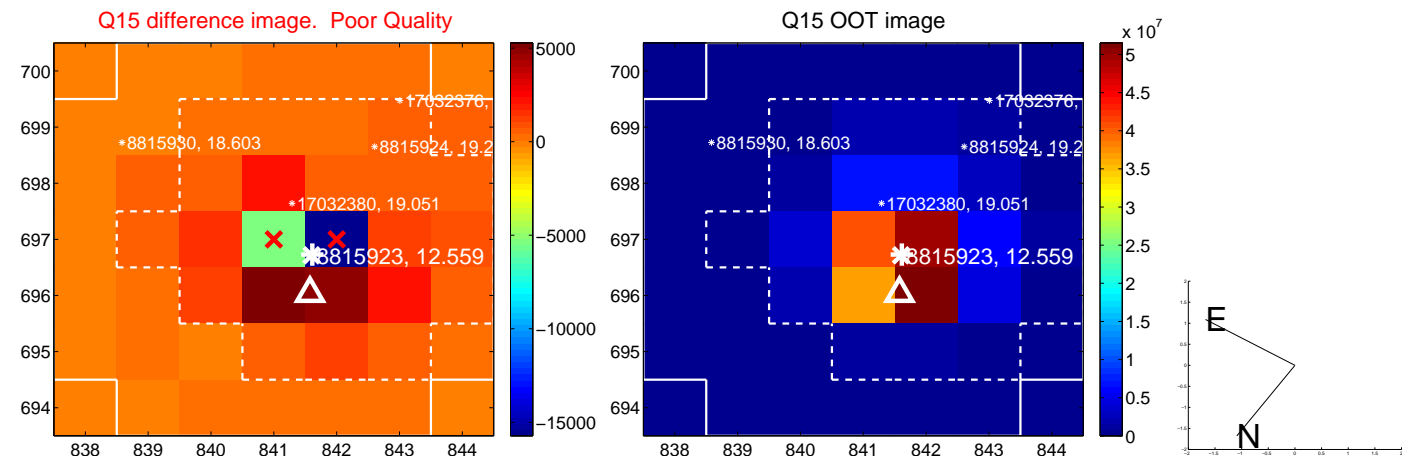
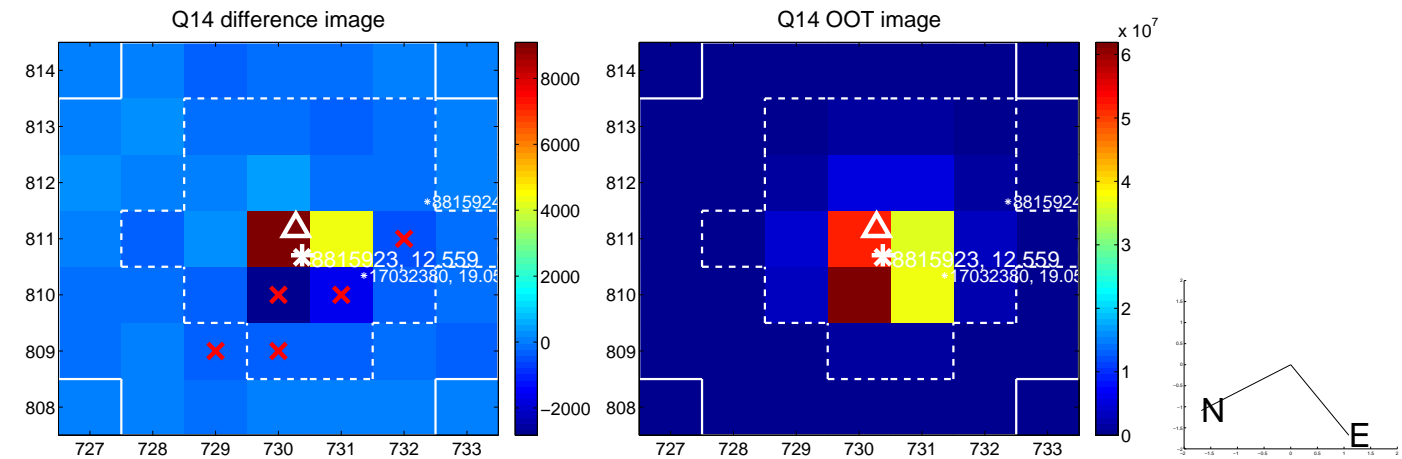
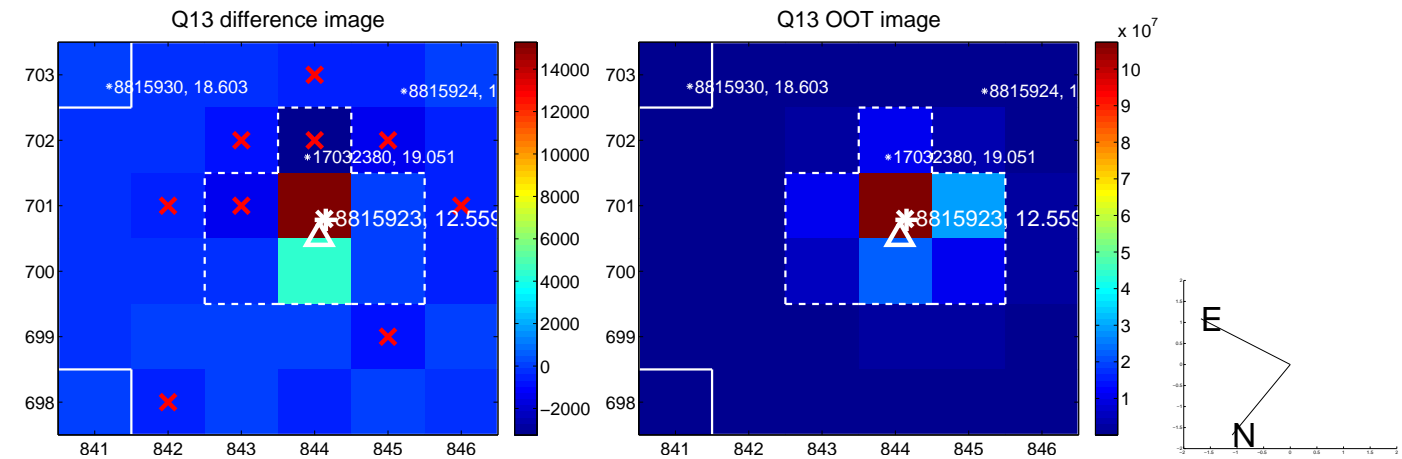
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



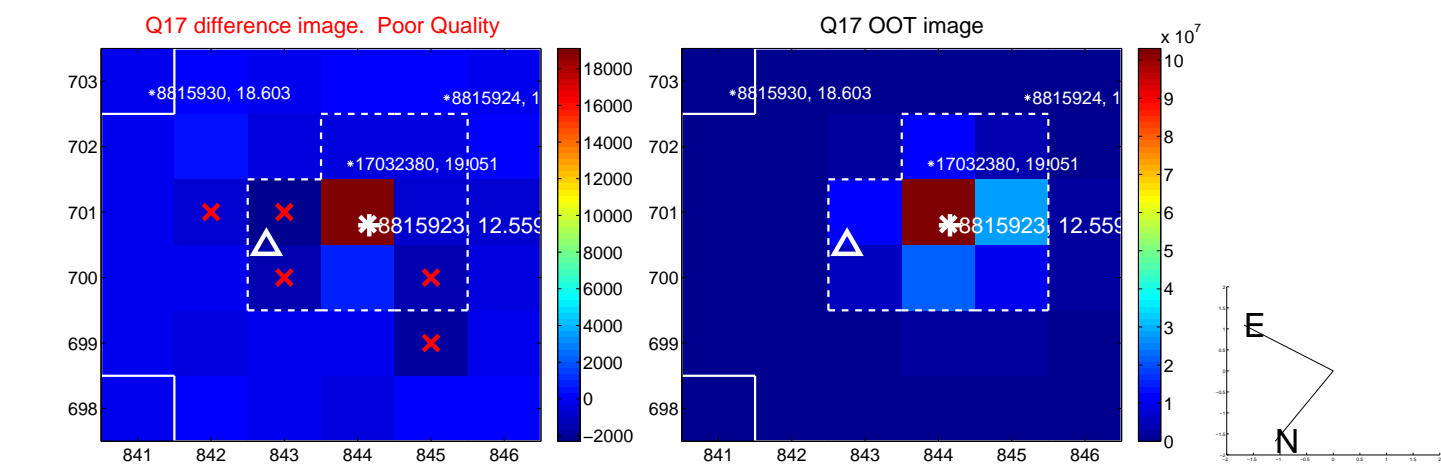
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



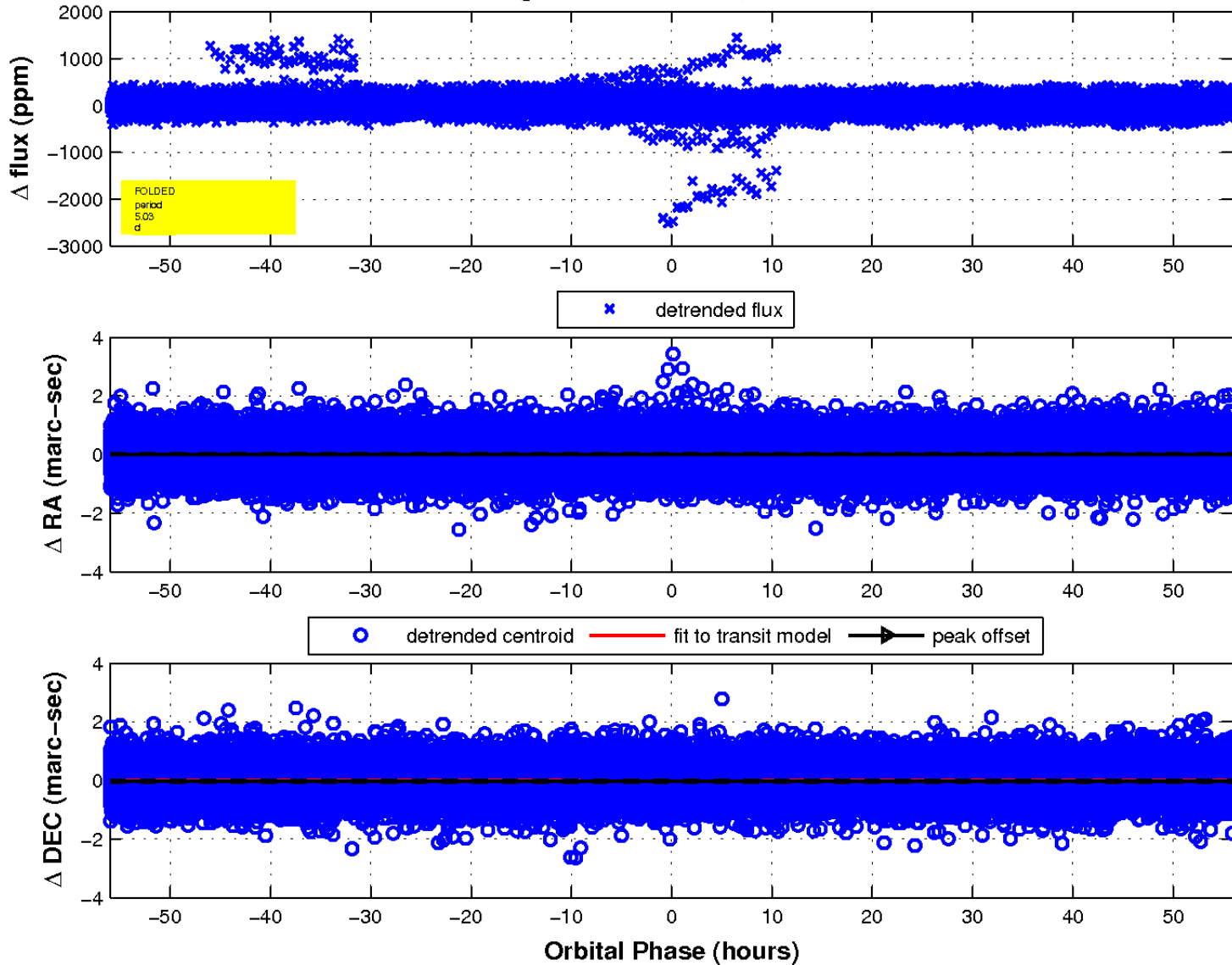
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

