

KIC 010933943

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})
010933943-01	OBS	No	4.748494	135.442987	37.6	11.248	8.4	7.8	1.42	7022	1.10	1119.07
010933943-02	OBS	No	4.746746	133.596972	46.5	13.002	7.7	8.6	1.42	7022	1.96	1119.62
010933943-03	OBS	No	79.808978	160.753172	236.4	8.860	14.0	8.1	1.42	7022	2.39	25.99
010933943-04	OBS	No	98.951079	152.710552	239.0	14.155	8.7	7.7	1.42	7022	2.31	19.52
010933943-05	OBS	No	77.002872	174.166050	220.8	12.000	8.2	-1.0	1.42	7022	2.13	27.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010933943-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
010933943-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
010933943-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010933943-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010933943-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

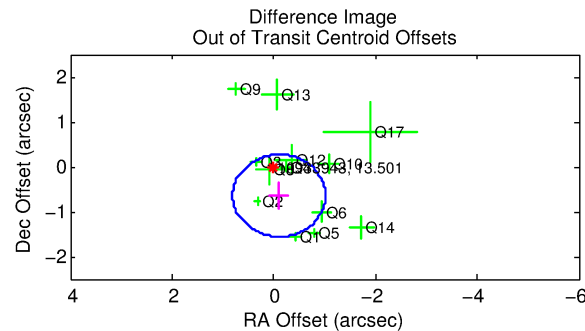
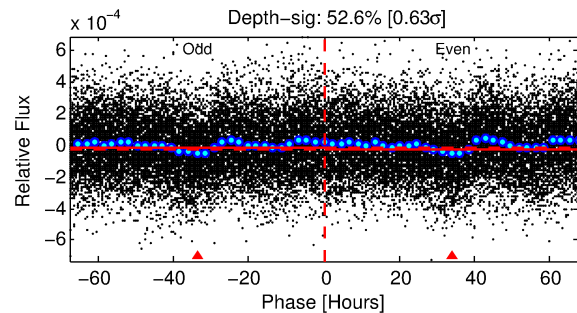
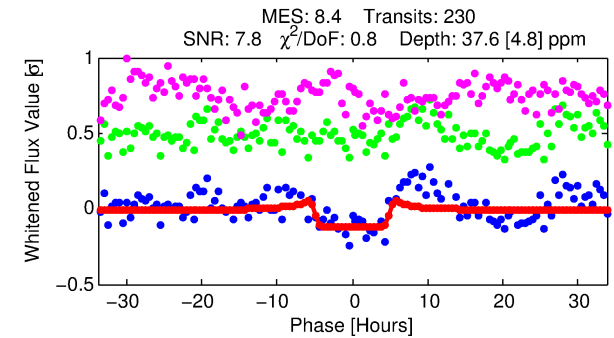
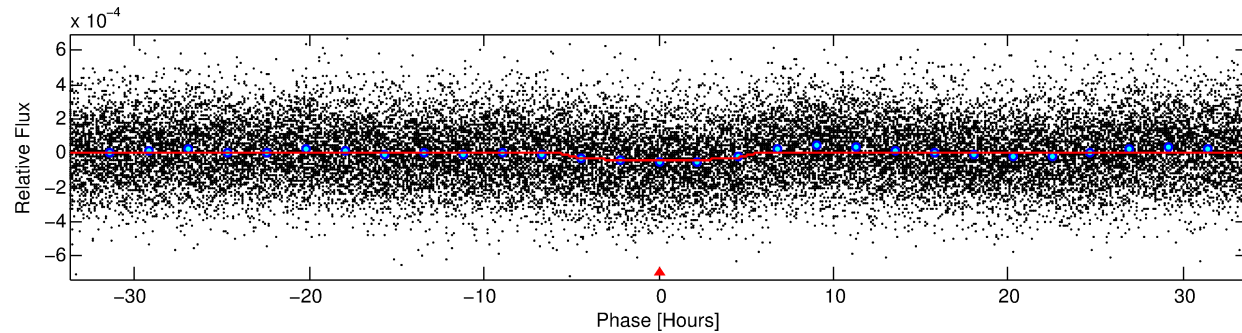
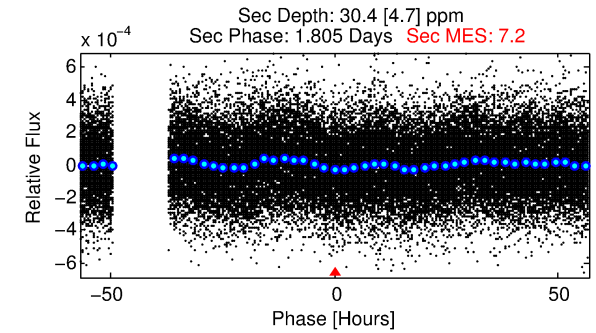
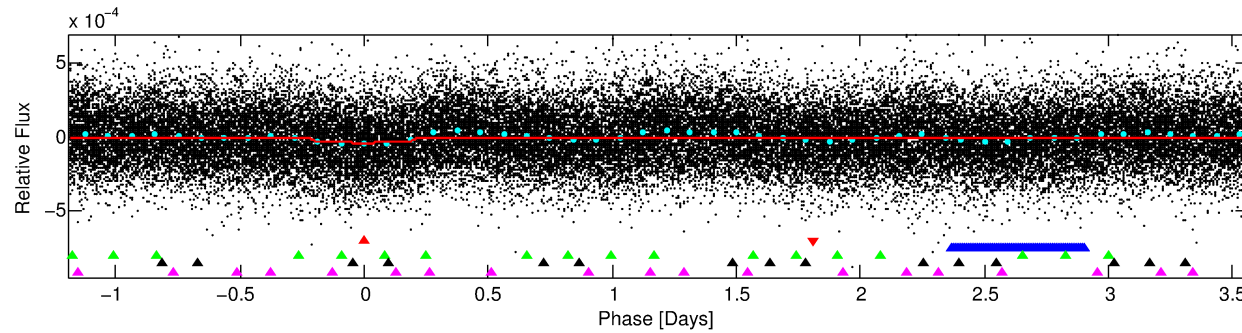
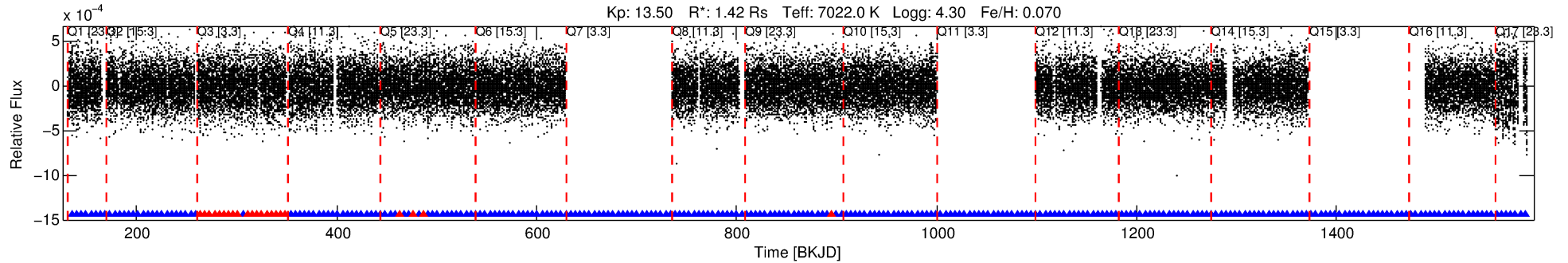
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010933943-01

No Significant Match Found

DV One-Page Summary

KIC: 10933943 Candidate: 1 of 5 Period: 4.748 d



DV Fit Results:

Period = 4.74849 [0.00010] d
Epoch = 135.4430 [0.0149] BKJD
Rp/R* = 0.0071 [0.0007]
a/R* = 1.32 [0.23]
b = 0.97 [0.03]
Seff = 1119.07 [517.11]
Teff = 1475 [170] K
Rp = 1.10 [0.43] Re
a = 0.0627 [0.0193] AU
Ag = 53.87 [26.88] [1.97σ]
Teffp = 6178 [441] K [9.94σ]

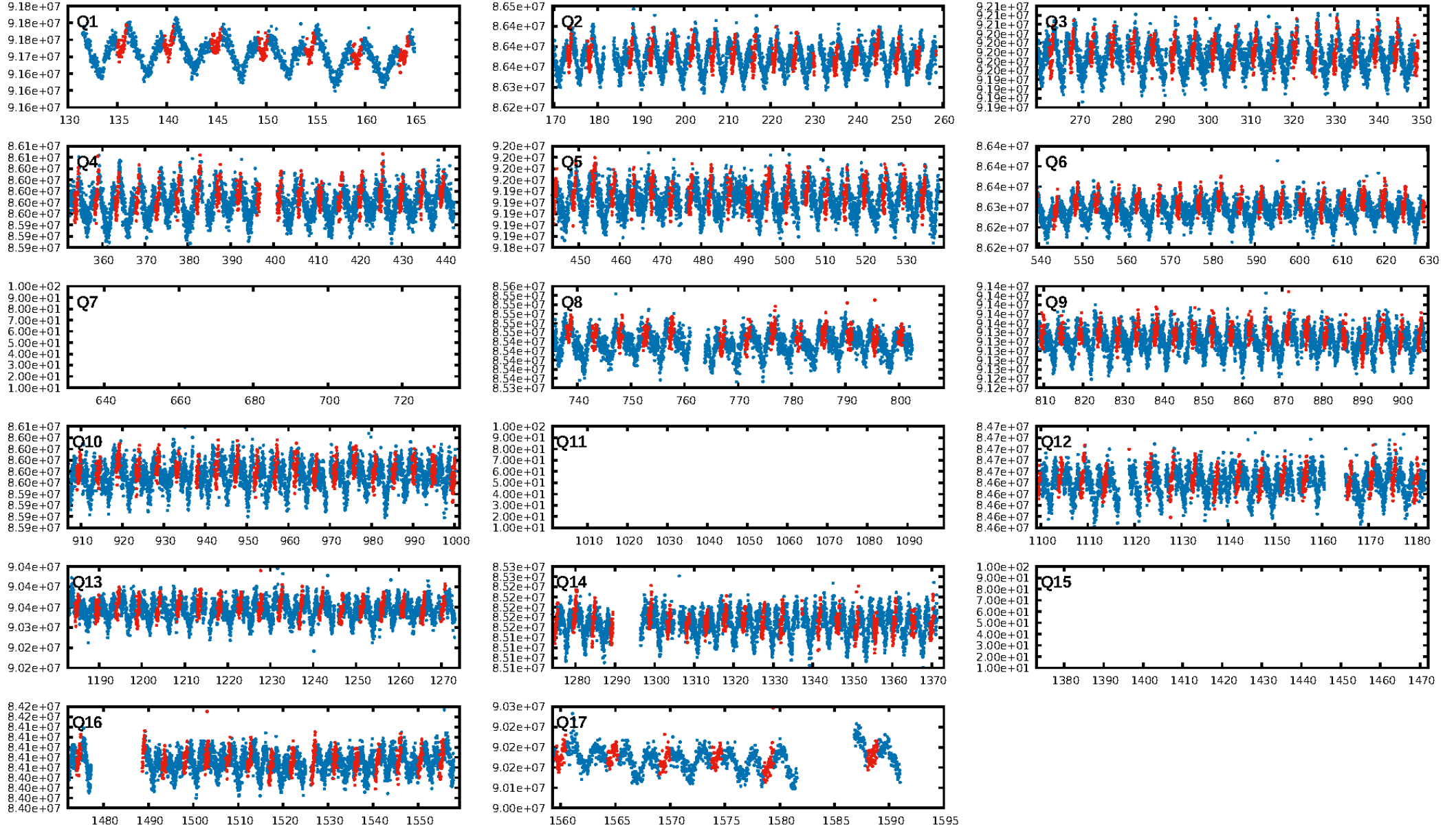
DV Diagnostic Results:

ShortPeriod-sig: 0.2% [0.00σ]
LongPeriod-sig: 100.0% [105.43σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.69e-12
RollingBand-fgt: 0.90 [195/217]
GhostDiagnostic-chr: 0.8087
Centroid-sig: 14.7%
Centroid-so: 1.214 arcsec [1.15σ]
OotOffset-rm: 0.654 arcsec [2.15σ]
KicOffset-rm: 0.770 arcsec [2.30σ]
OotOffset-st: 4/1/3/5 [13]
KicOffset-st: 4/1/3/5 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [14/14]

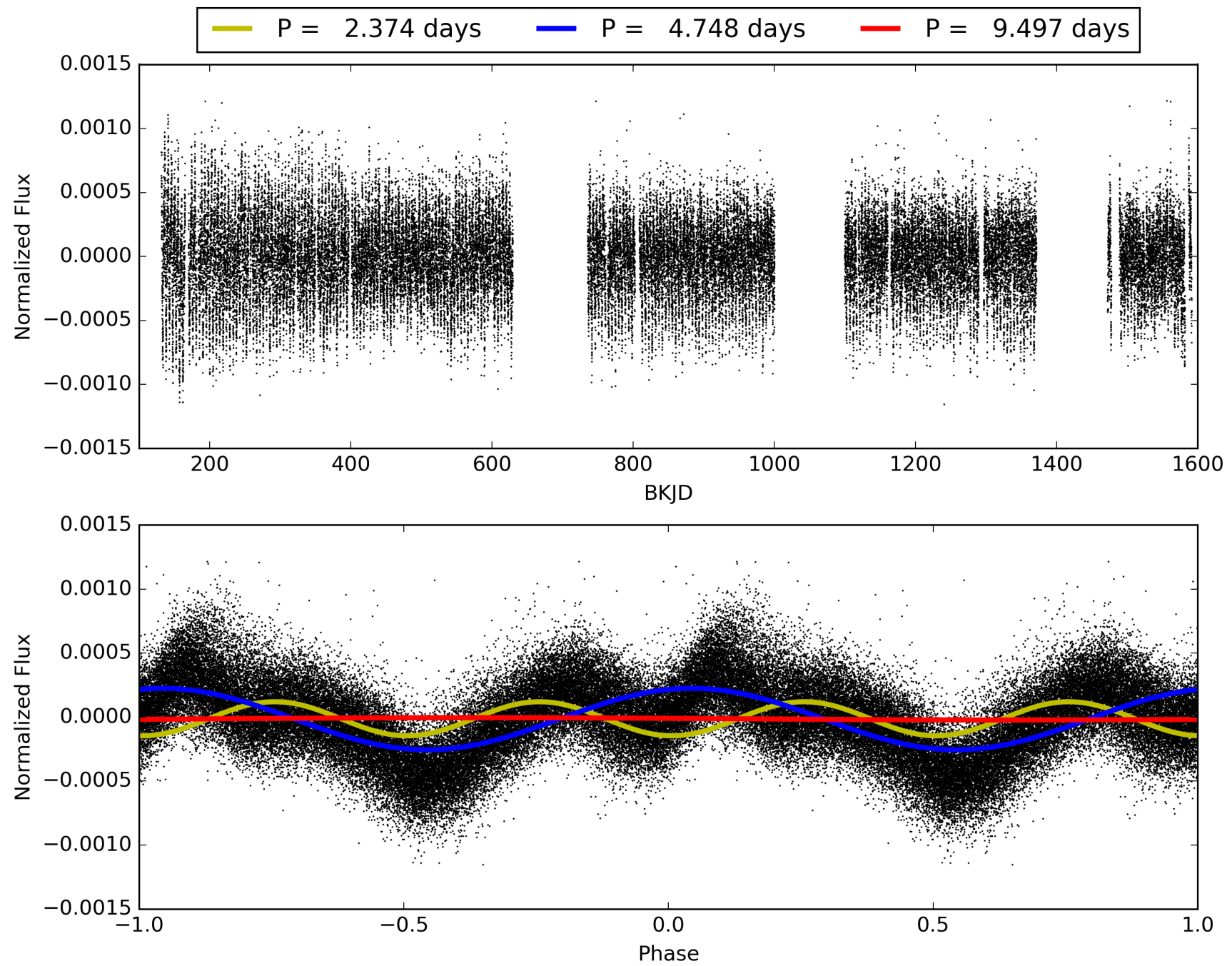
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010933943-01, PDC Light Curves

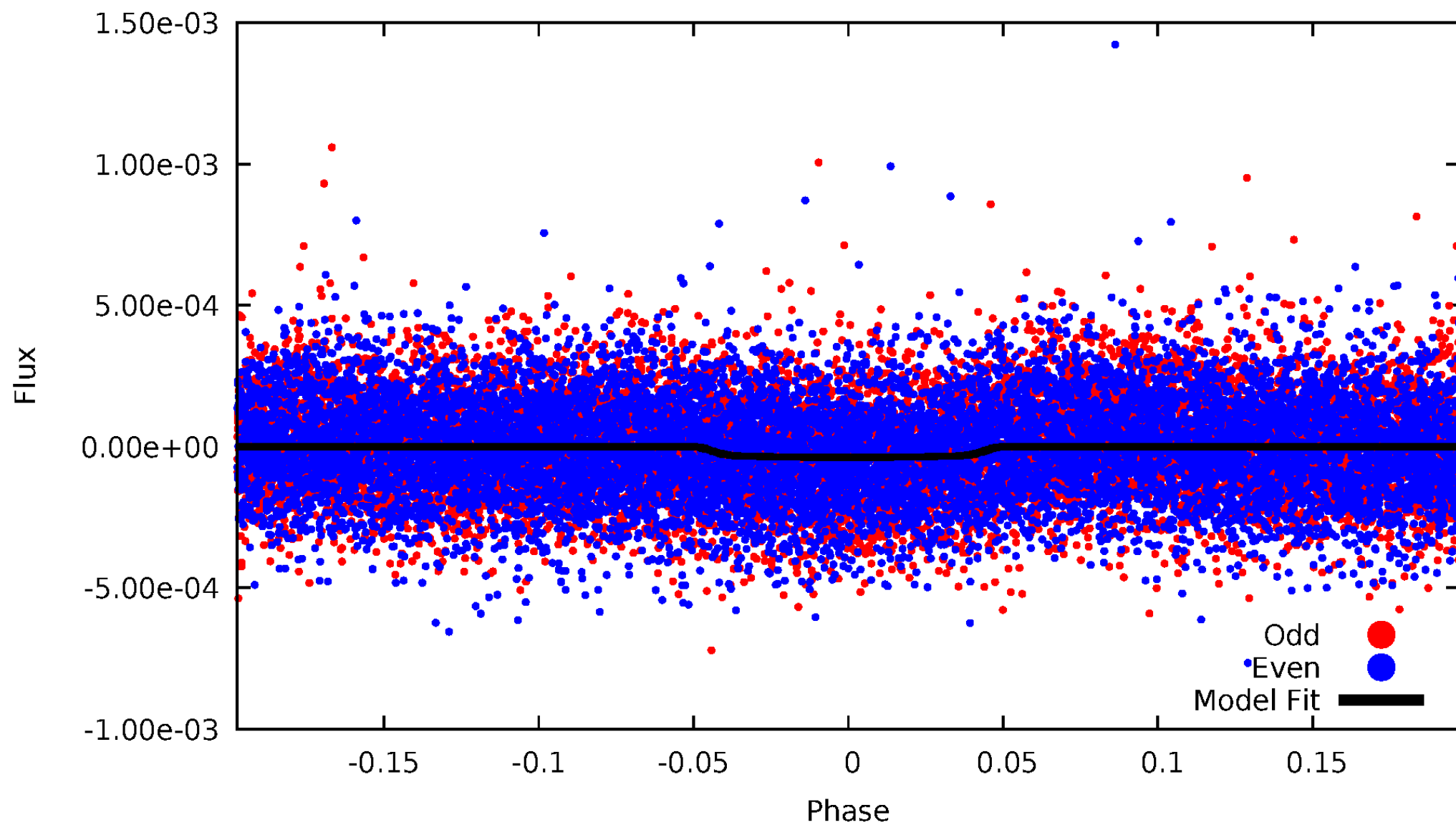


TCE 010933943-01



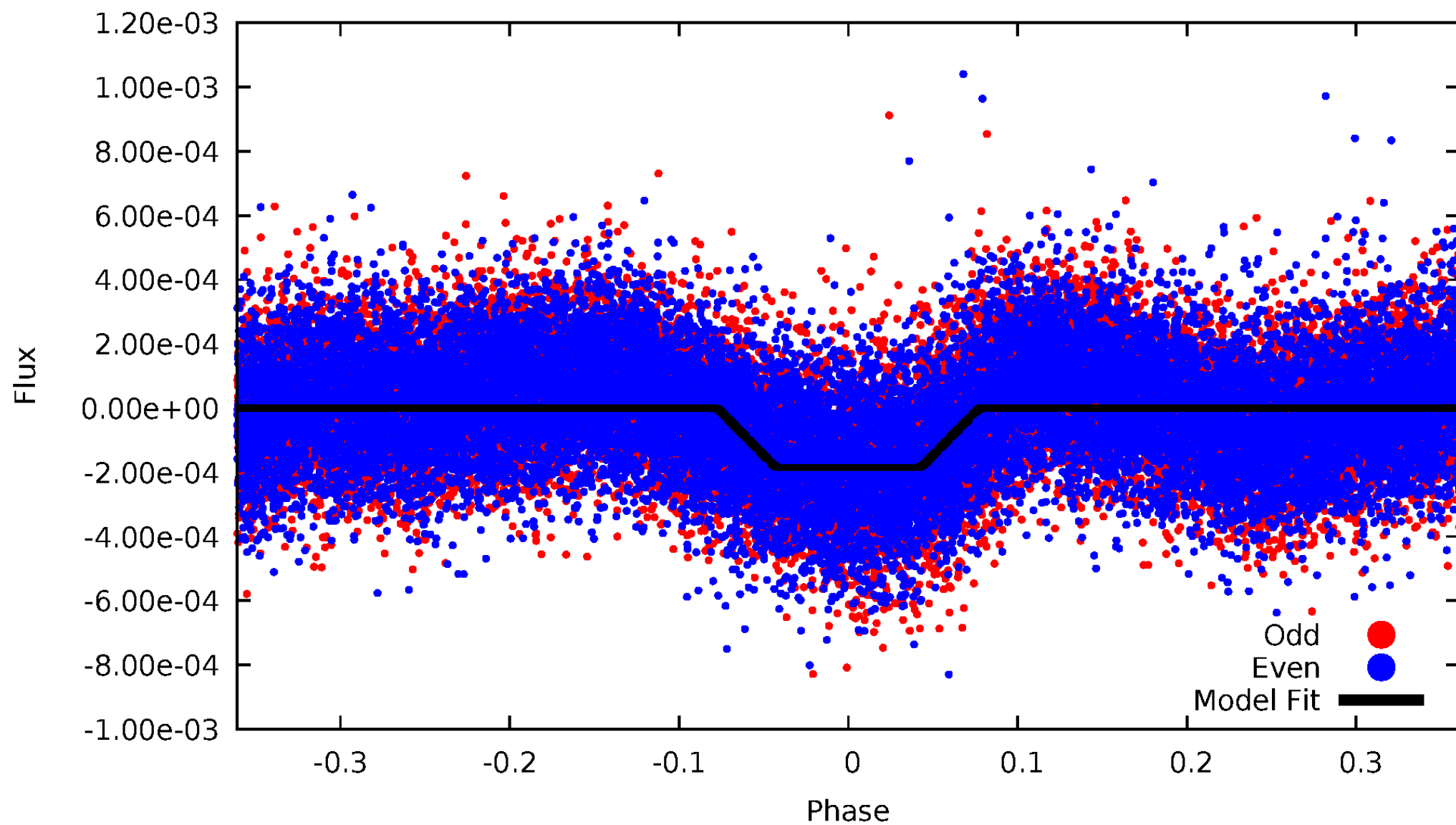
DV Odd/Even

TCE 010933943-01

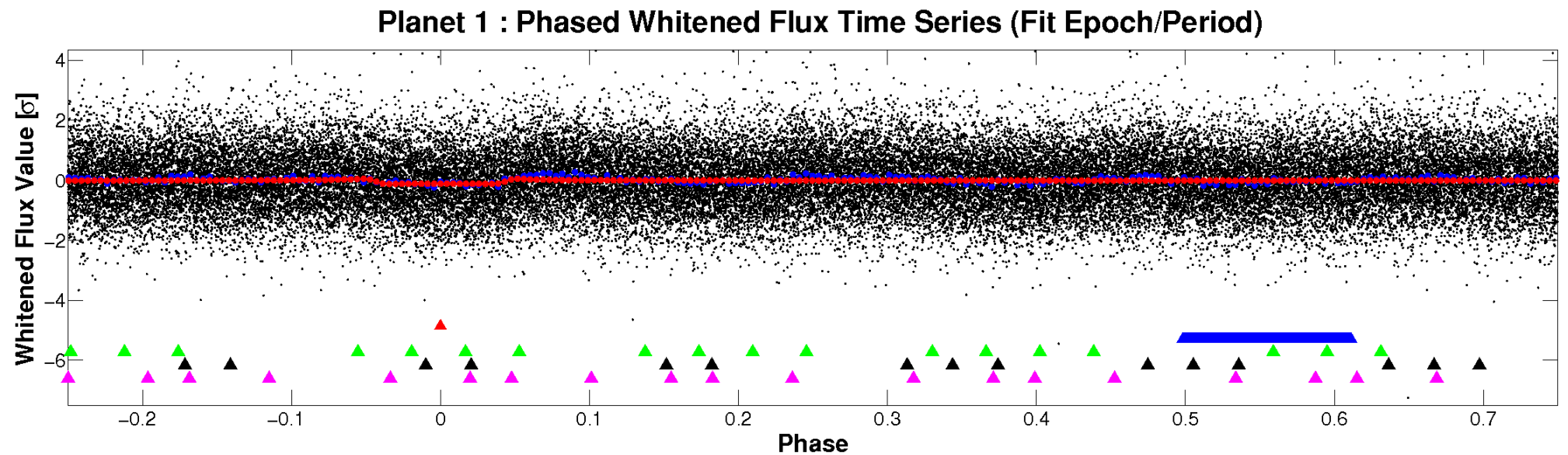
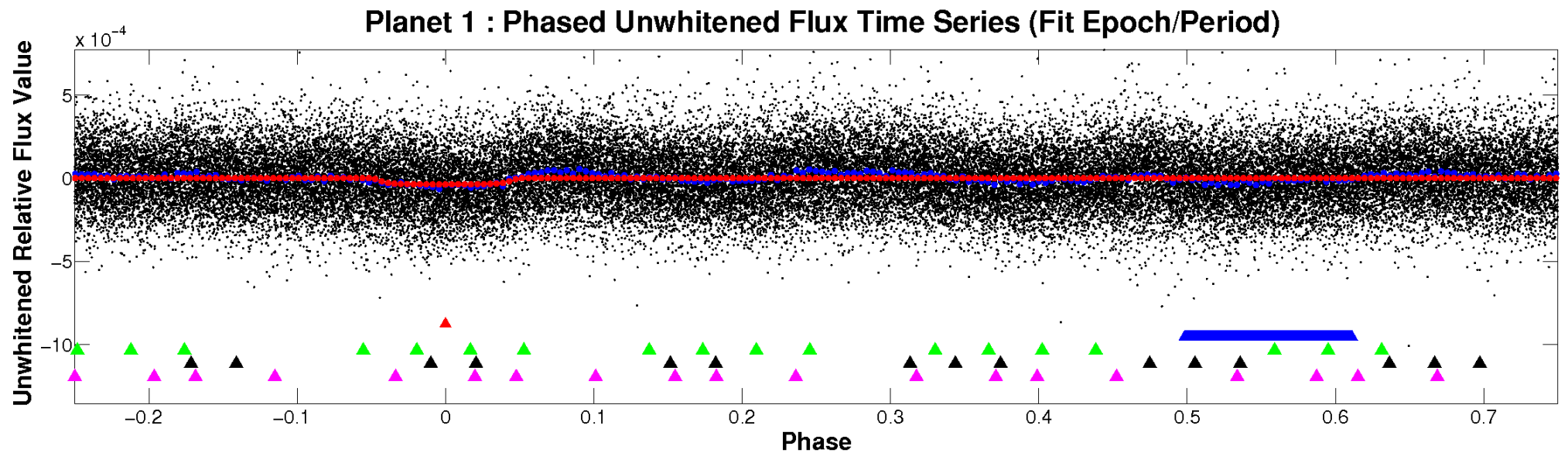


ALT Odd/Even

TCE 010933943-01

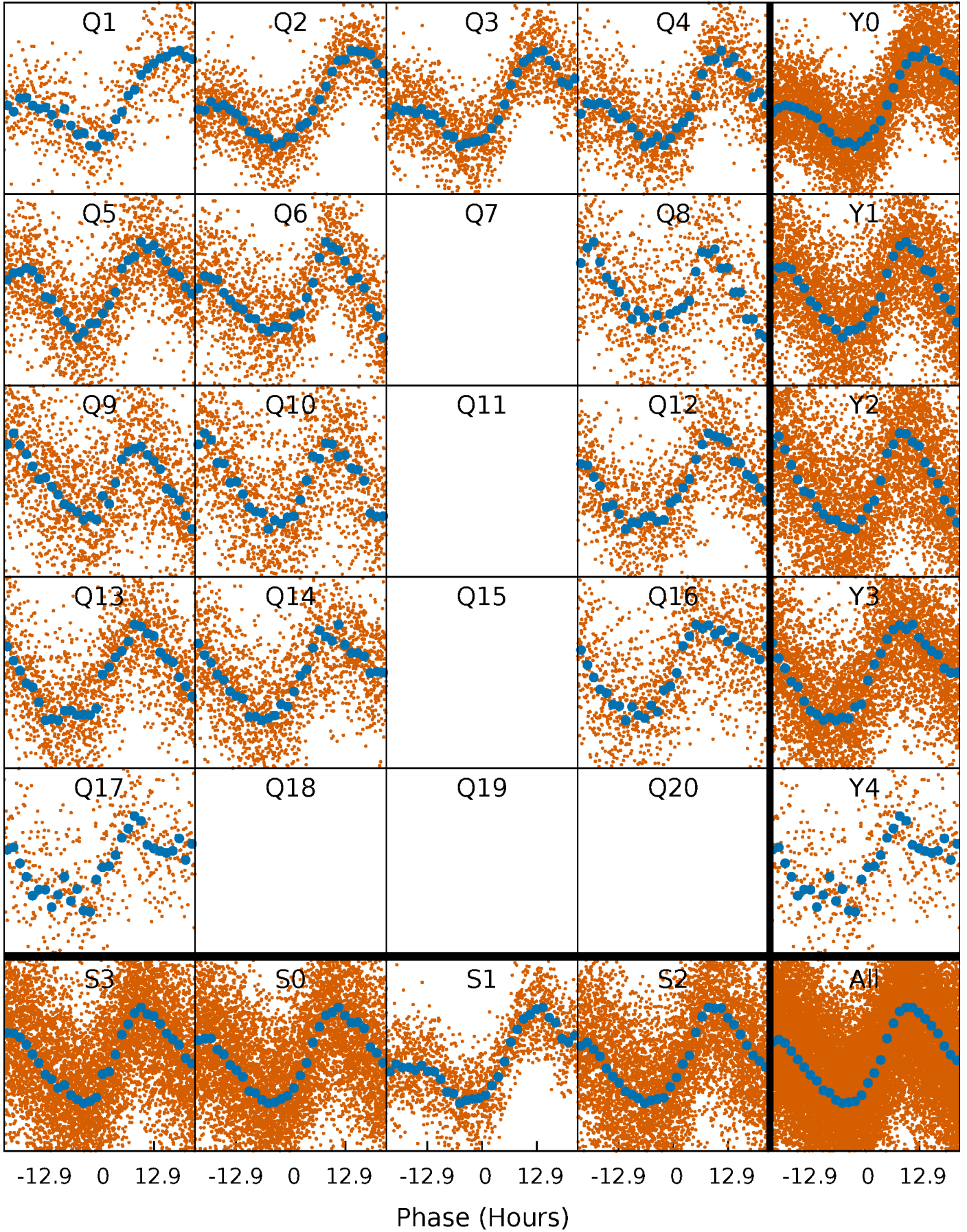


Non-Whitened Vs. Whitened Light Curve



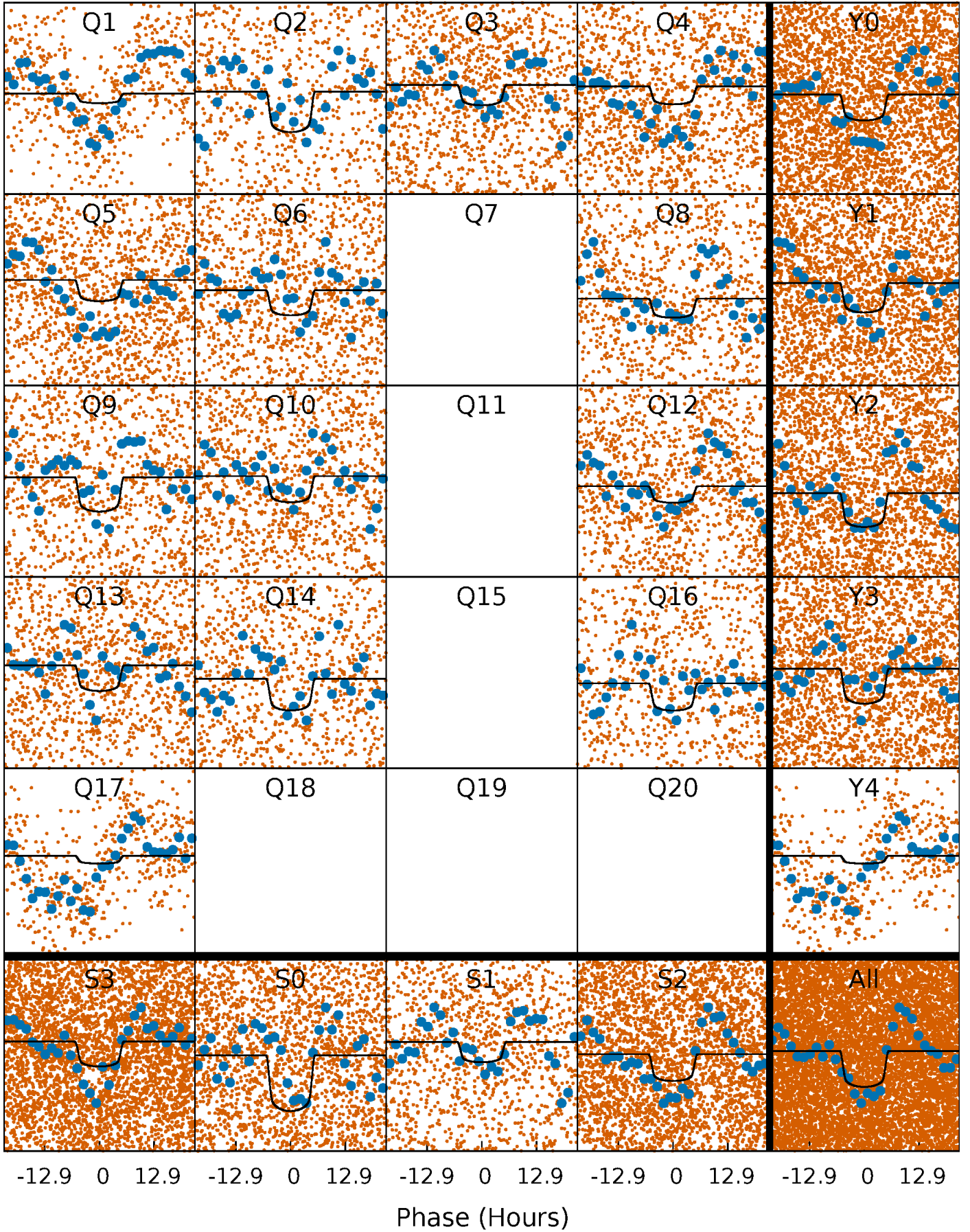
PDC Quarter-Phased Transit Curves

TCE 010933943-01 P= 4.748494 Days $T_0=135.442987$ (BKJD)



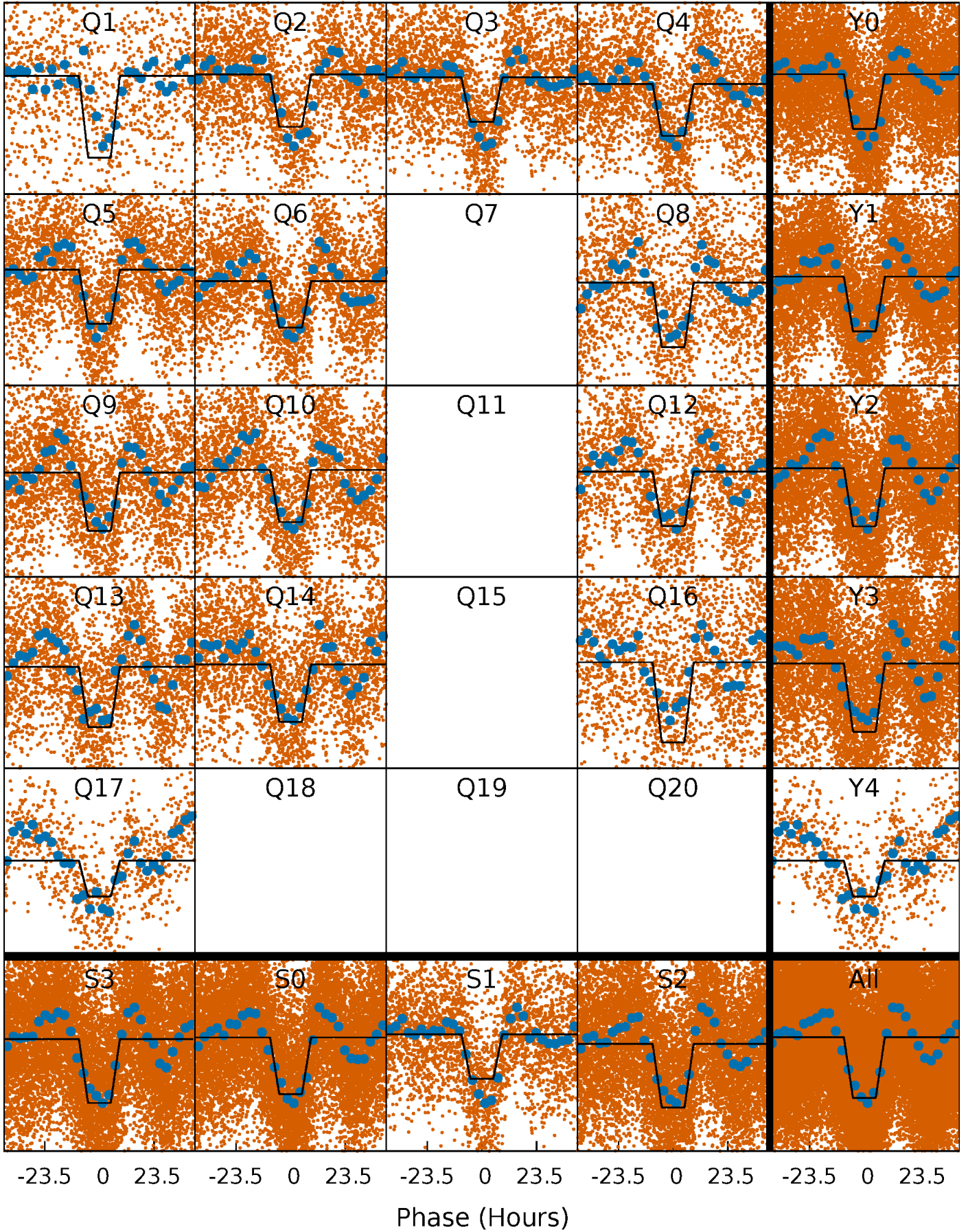
DV Quarter-Phased Transit Curves

TCE 010933943-01 P= 4.748494 Days $T_0=135.442987$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

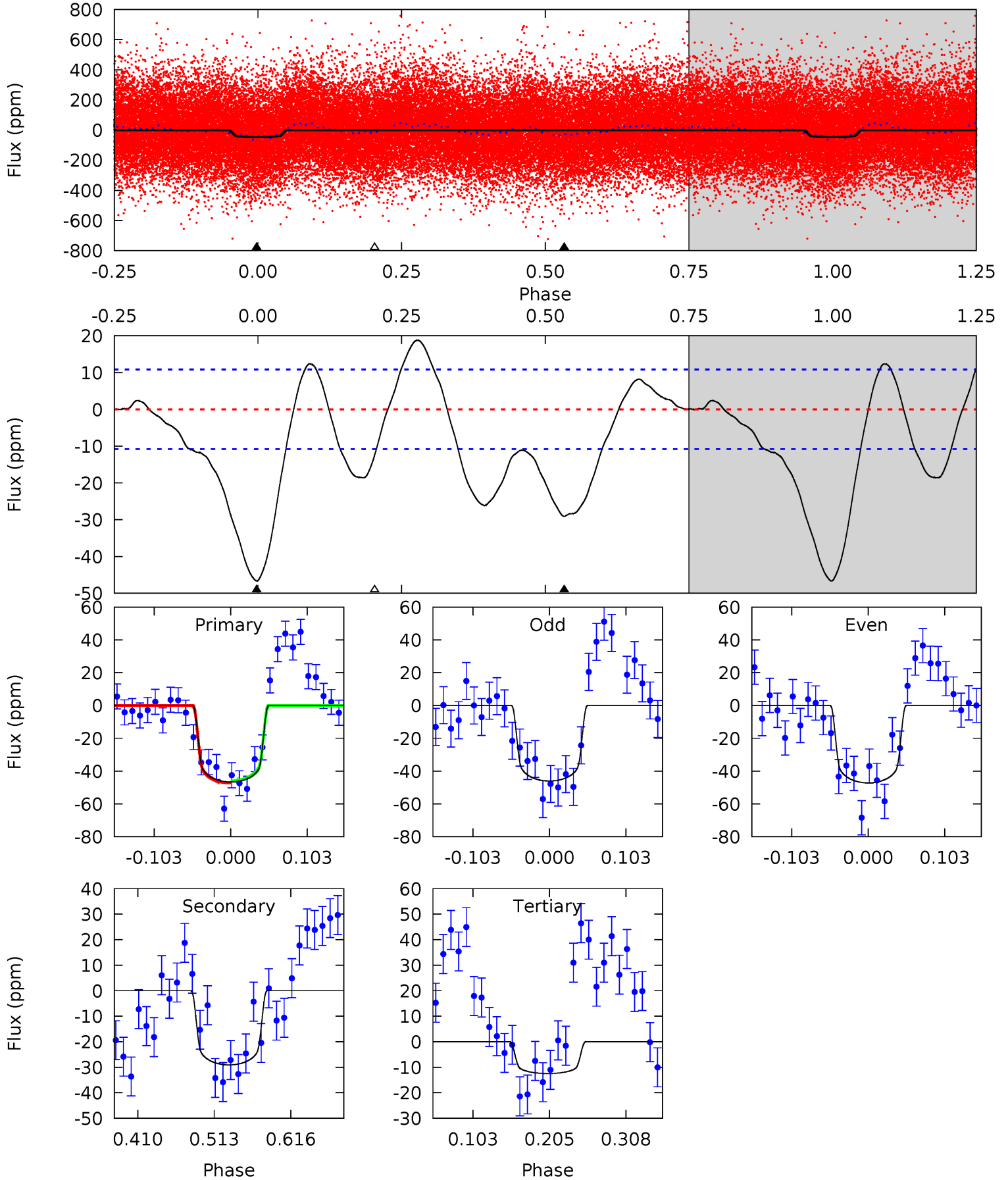
TCE 010933943-01 P= 4.747839 Days $T_0=135.373954$ (BKJD)



DV Model-Shift Uniqueness Test

010933943-01, P = 4.748494 Days, E = 130.694493 Days

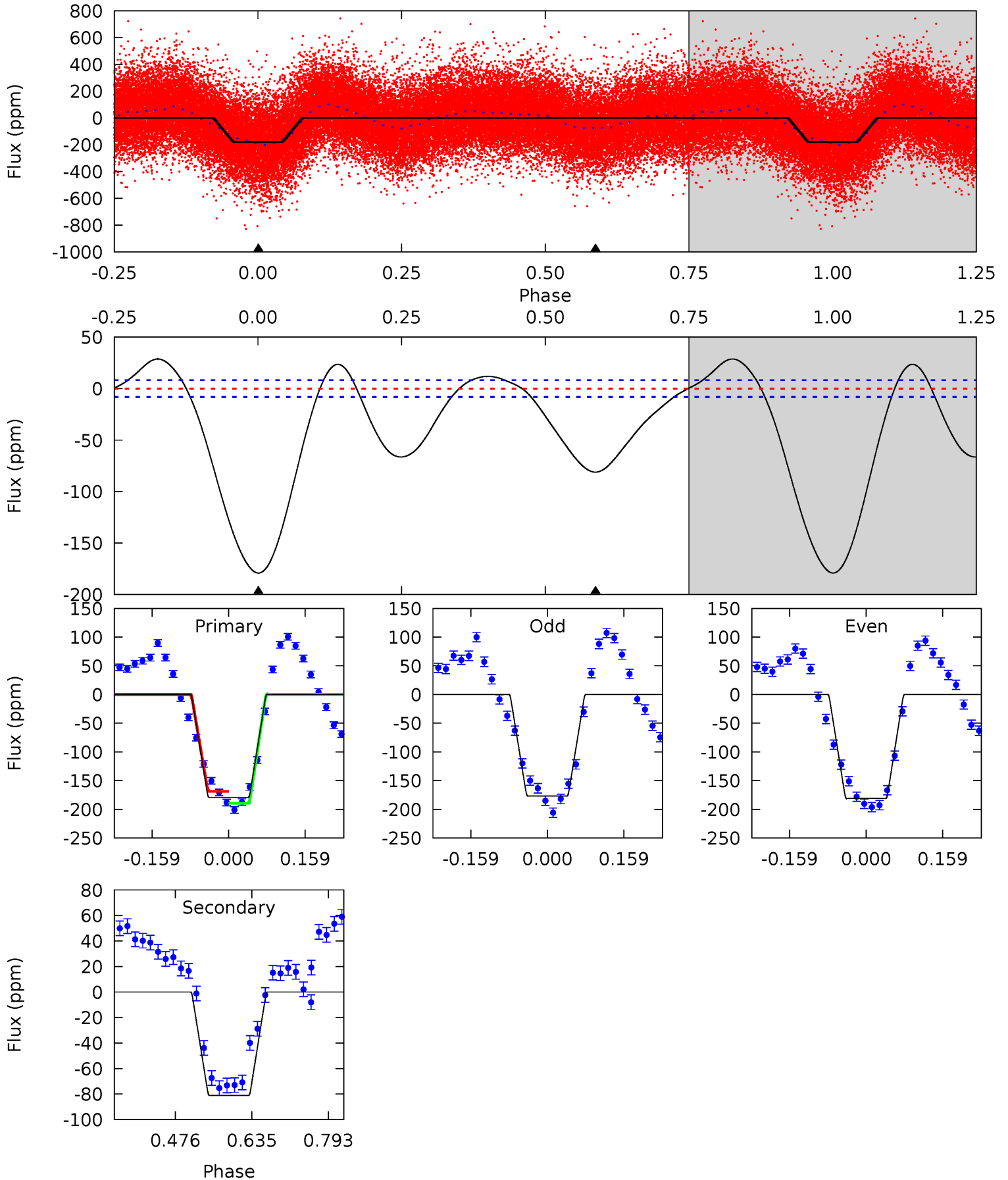
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.6	12.2	5.25	0	4.56	1.63	4.85	14.4	19.6	7.00	12.2	0.24	1.19	0.29	0.25



Alt Model-Shift Uniqueness Test

010933943-01, P = 4.747839 Days, E = 130.626115 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
97.6	44.2	0	0	4.47	1.41	16.9	97.6	97.6	44.2	44.2	1.17	1.05	0.14	5.66



Stellar Parameters For KIC 010933943

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7022^{+194}_{-267}	$4.296^{+0.058}_{-0.232}$	$0.070^{+0.200}_{-0.350}$	$1.420^{+0.537}_{-0.179}$	$1.451^{+0.202}_{-0.202}$	$0.714^{+0.236}_{-0.414}$
	+3%/-4%	+1%/-5%	+286%/-500%	+38%/-13%	+14%/-14%	+33%/-58%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010933943-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-29±2	$1.15^{+0.22}_{-0.15}$	2103^{+165}_{-119}	6021^{+382}_{-331}	46^{+15}_{-12}
Alt.	-81±2	$2.18^{+0.42}_{-0.23}$	2109^{+171}_{-120}	5660^{+188}_{-209}	36^{+8}_{-10}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

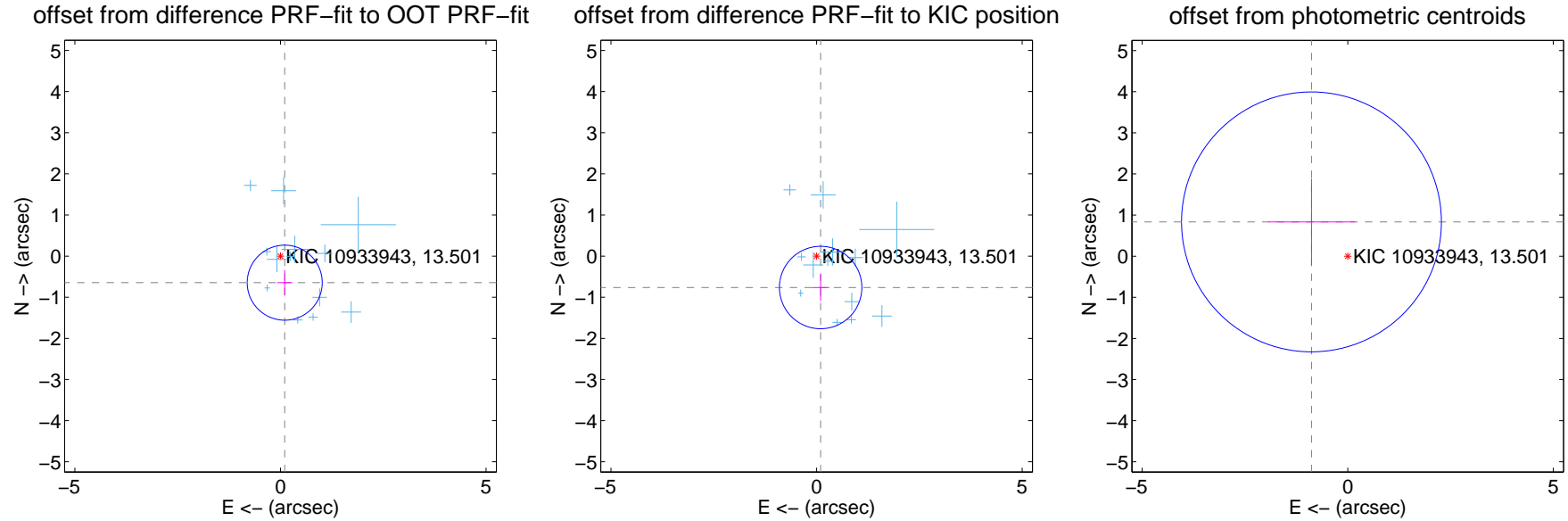
DV Centroid Data

Supplemental centroid analysis for 010933943-01. Kepler magnitude: 13.50. Transit SNR 7.85

There are 13 quarters with good PRF difference image offsets

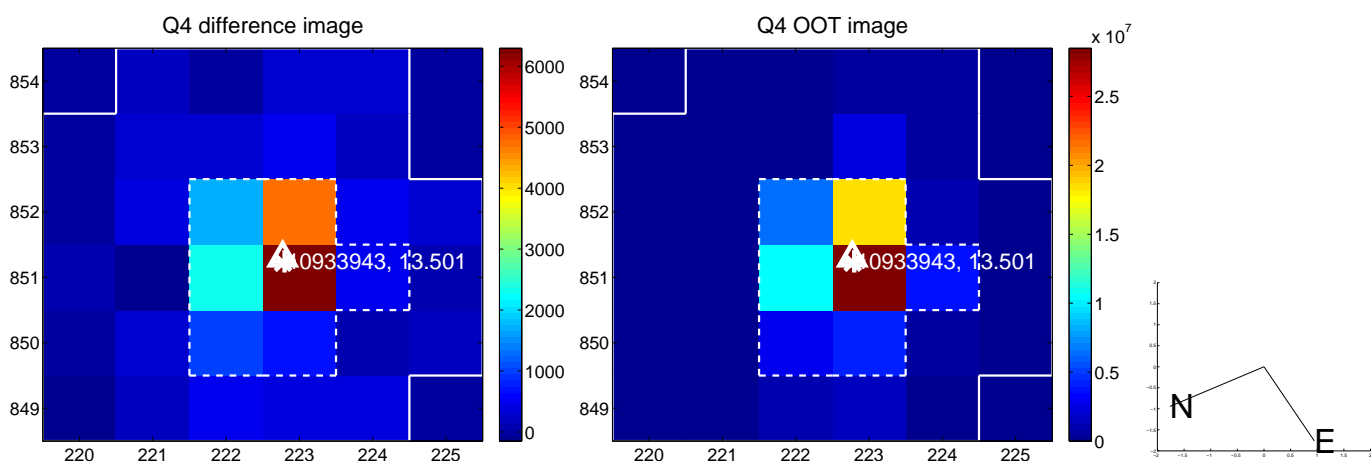
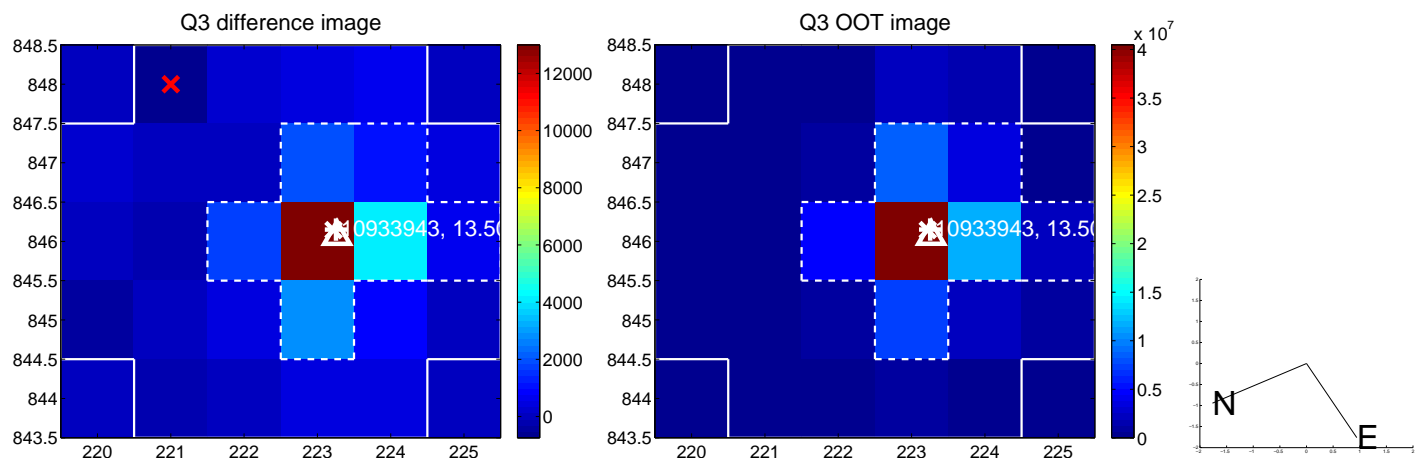
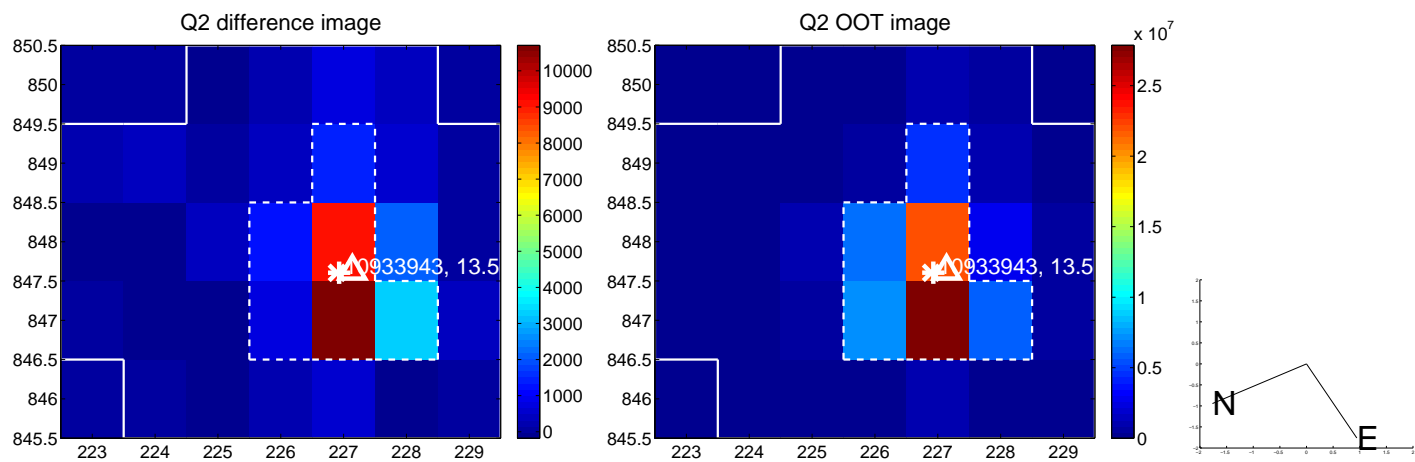
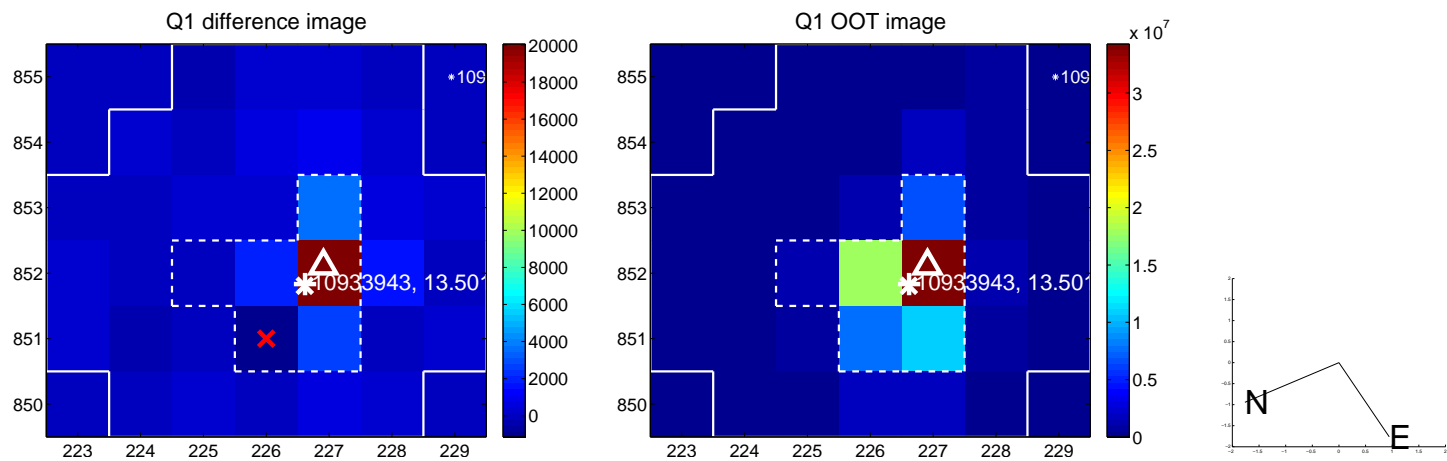
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.654 ± 0.304	2.15	-0.104 ± 0.186	-0.646 ± 0.307
PRF-fit source offset from KIC position	0.770 ± 0.334	2.30	-0.099 ± 0.211	-0.763 ± 0.324
photometric centroid source offset	1.21 ± 1.05	1.15	0.88 ± 1.06	0.83 ± 1.05

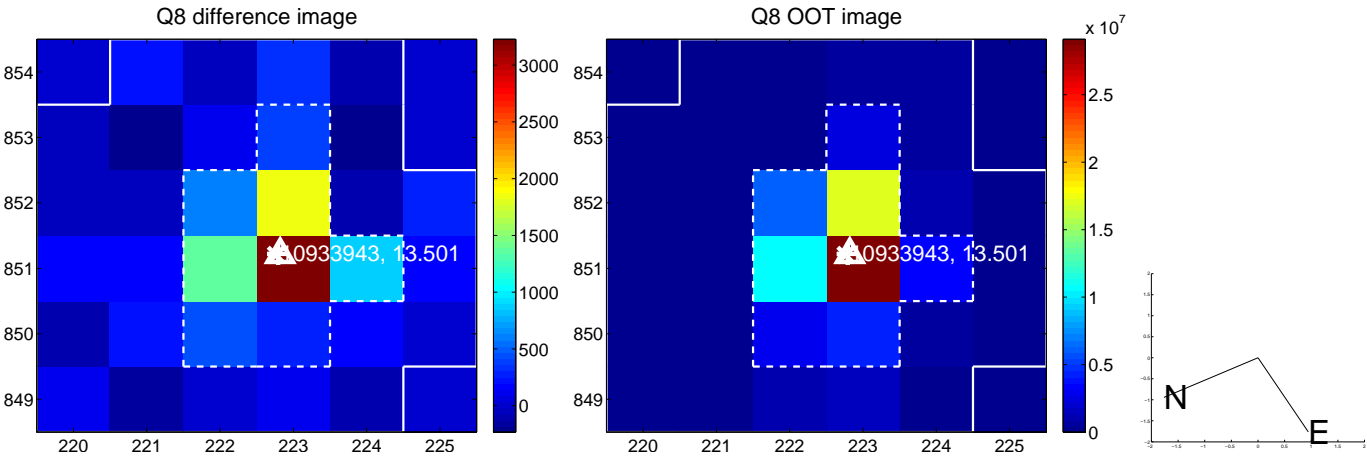
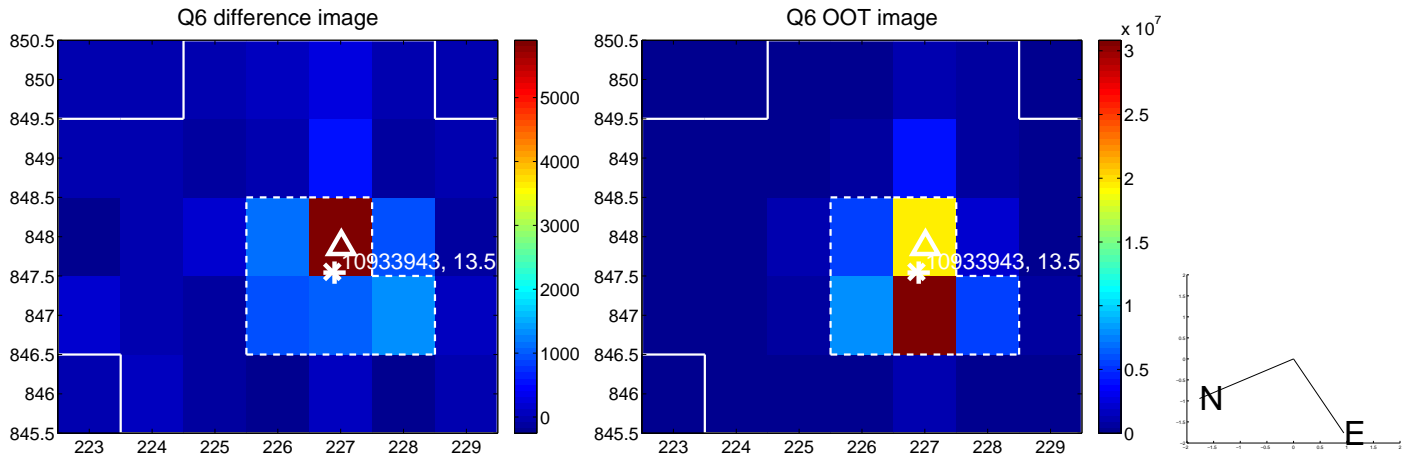
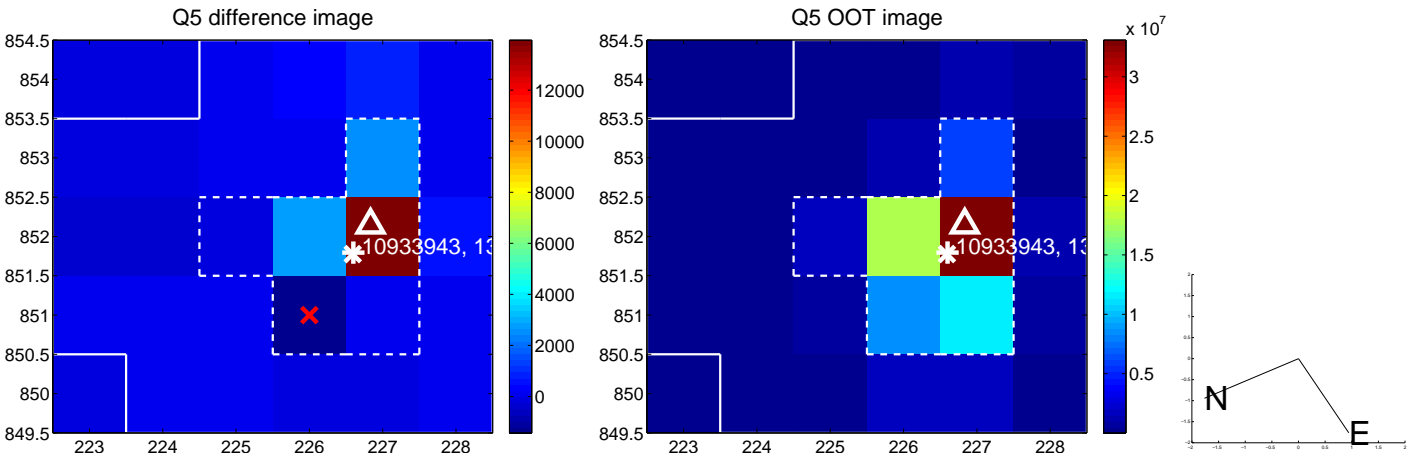


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

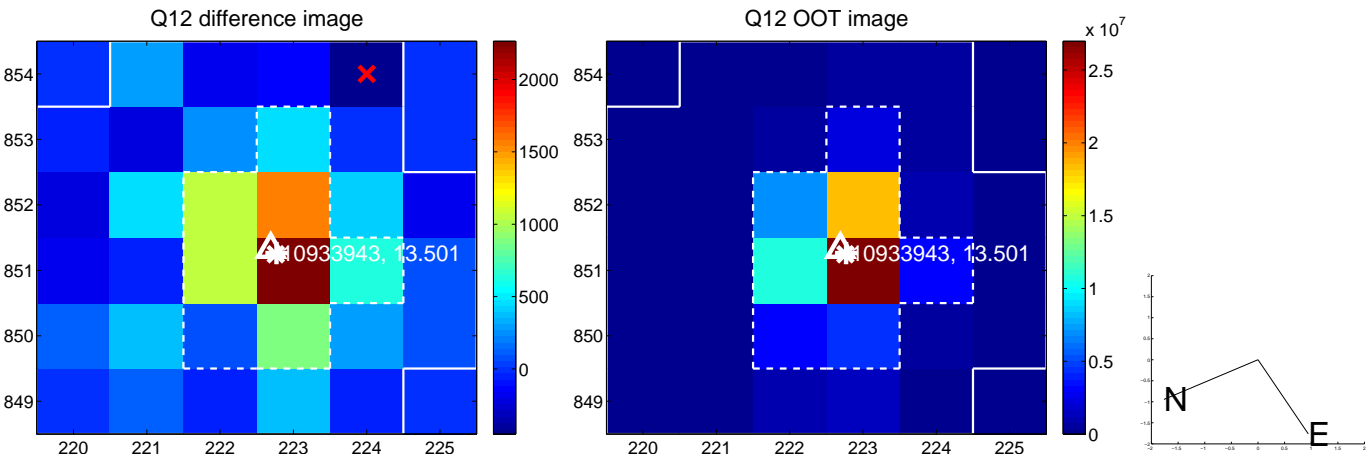
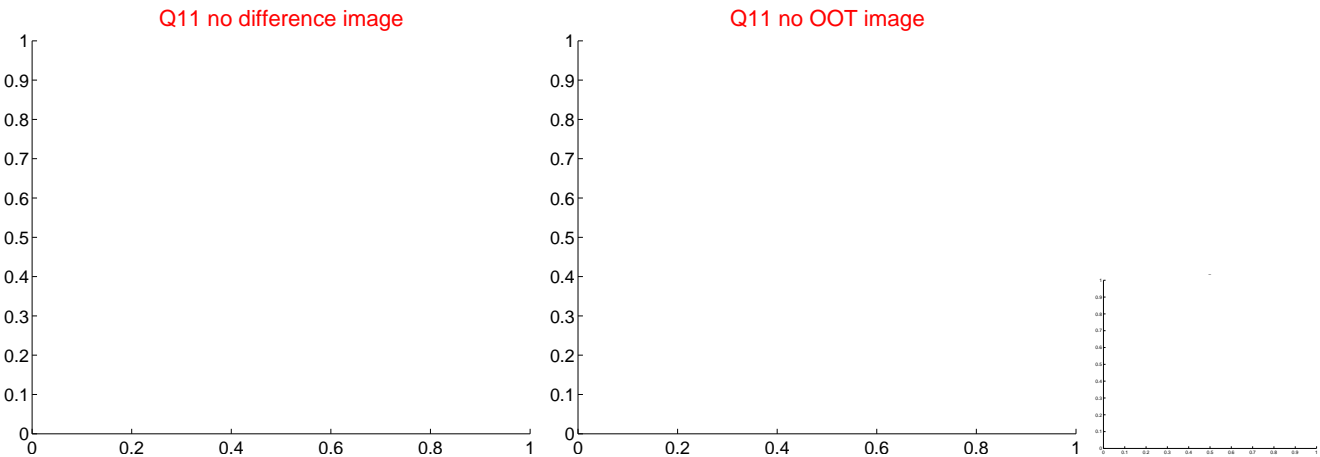
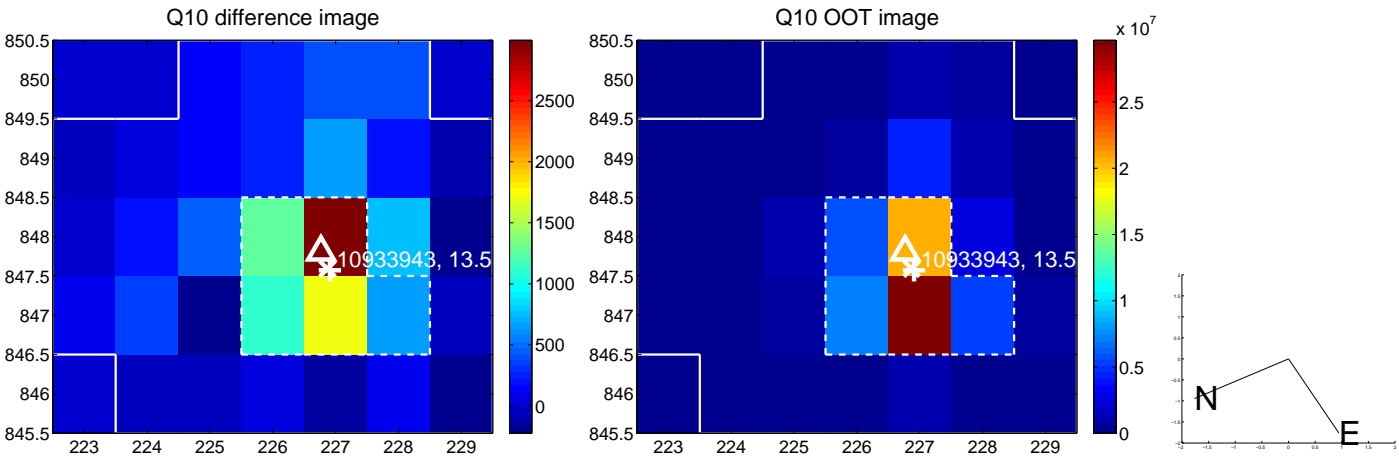
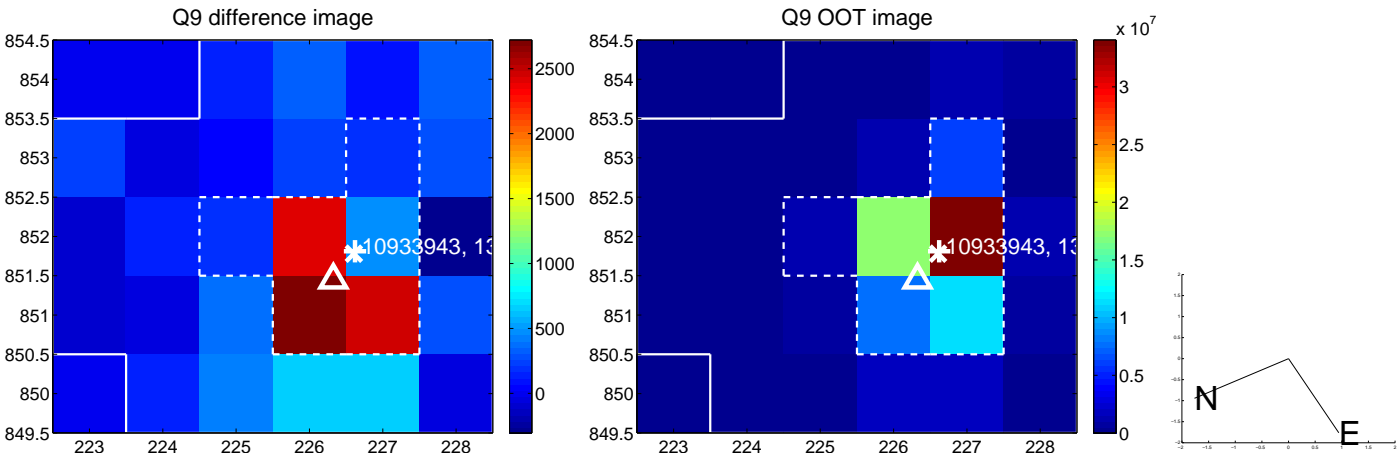
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



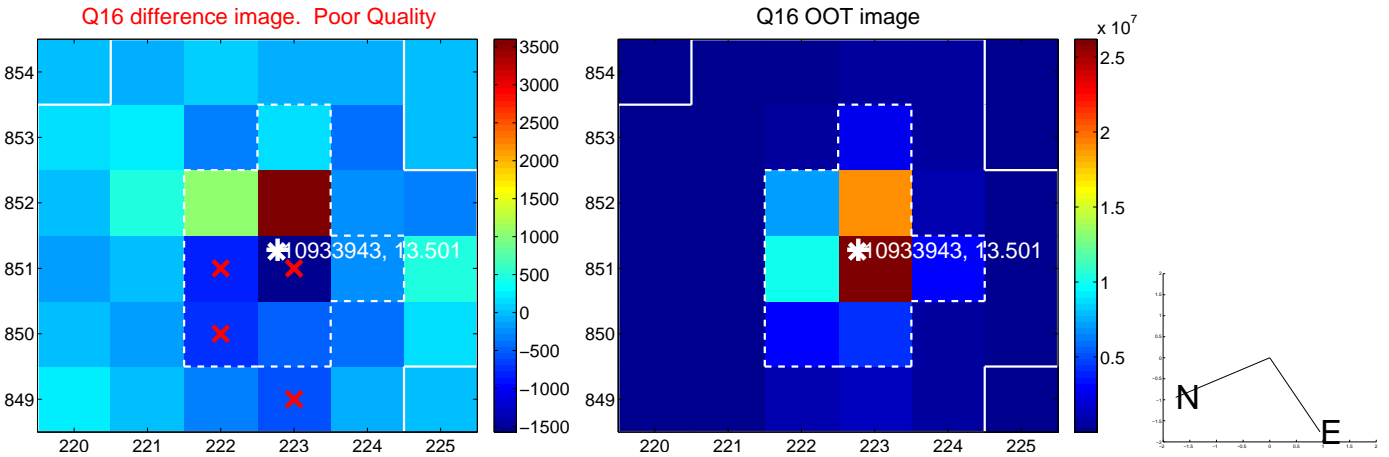
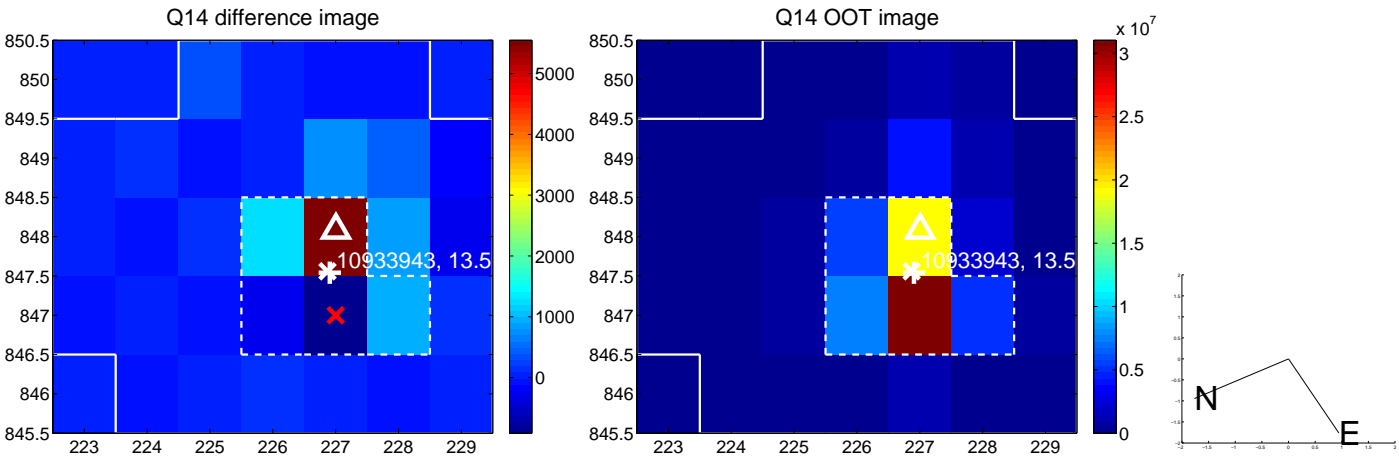
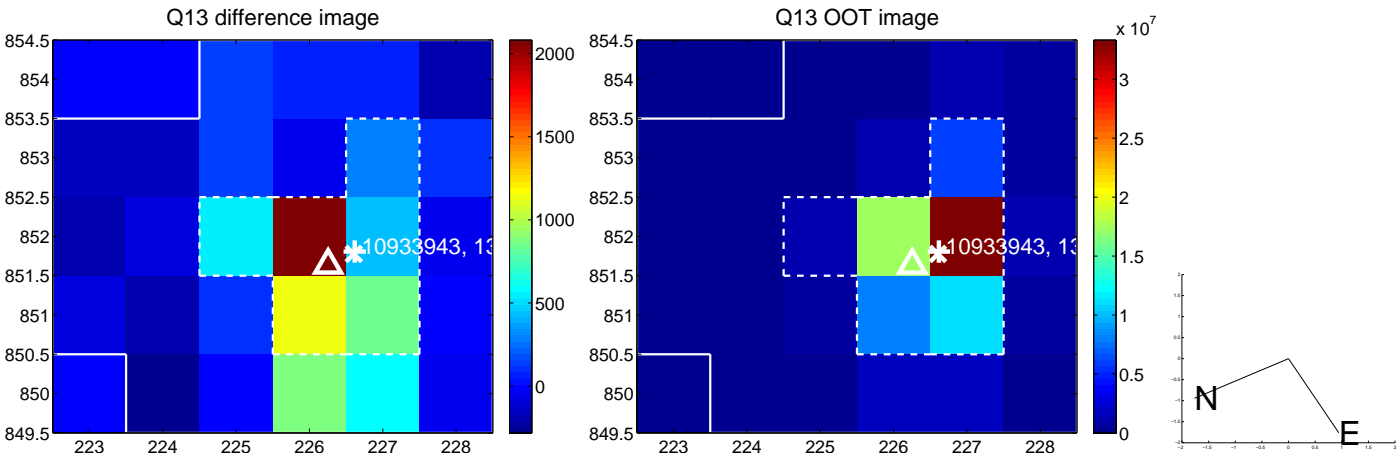
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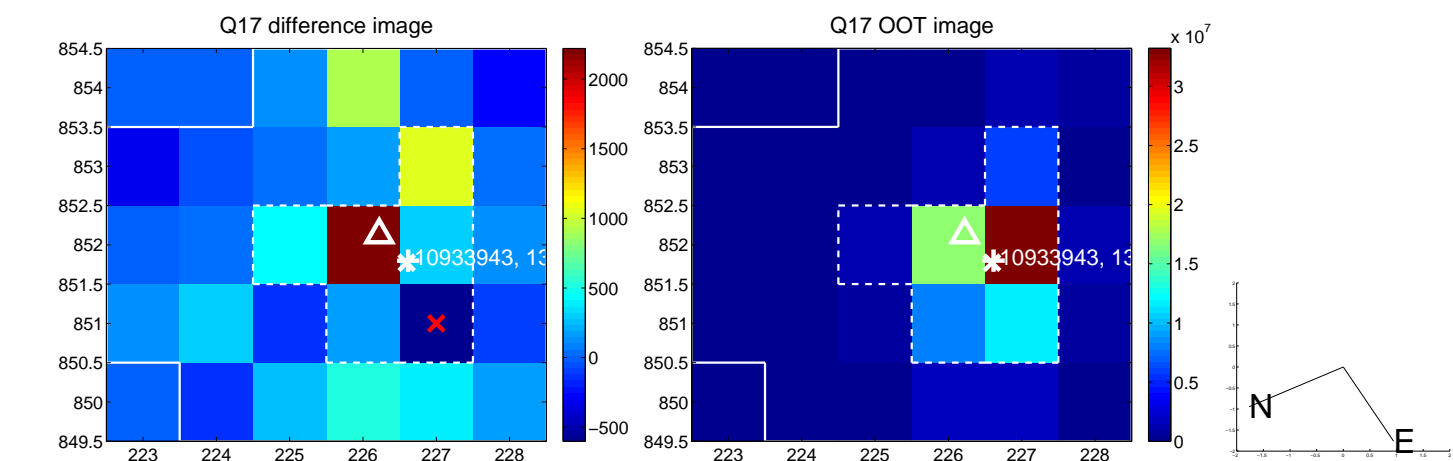
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



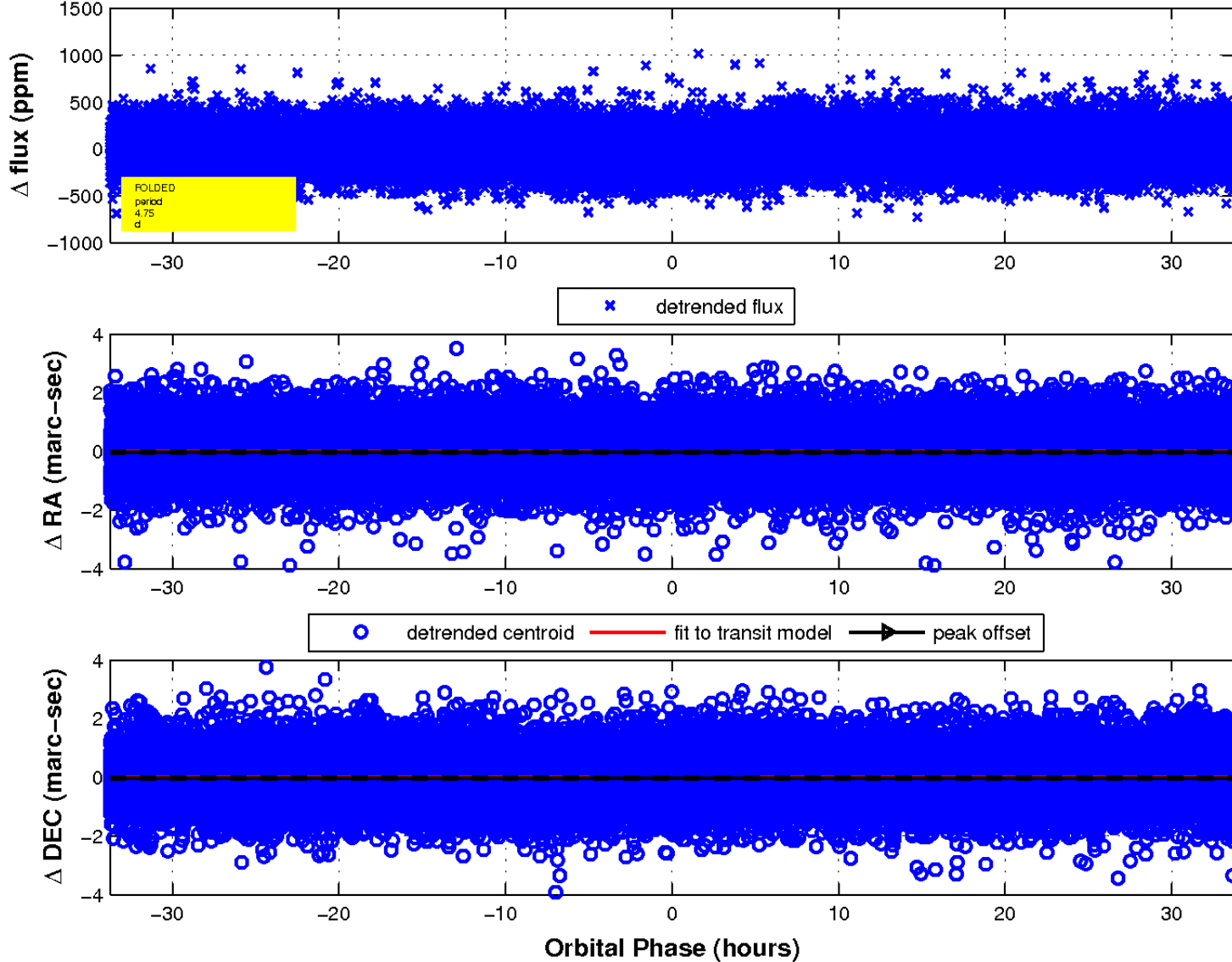
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

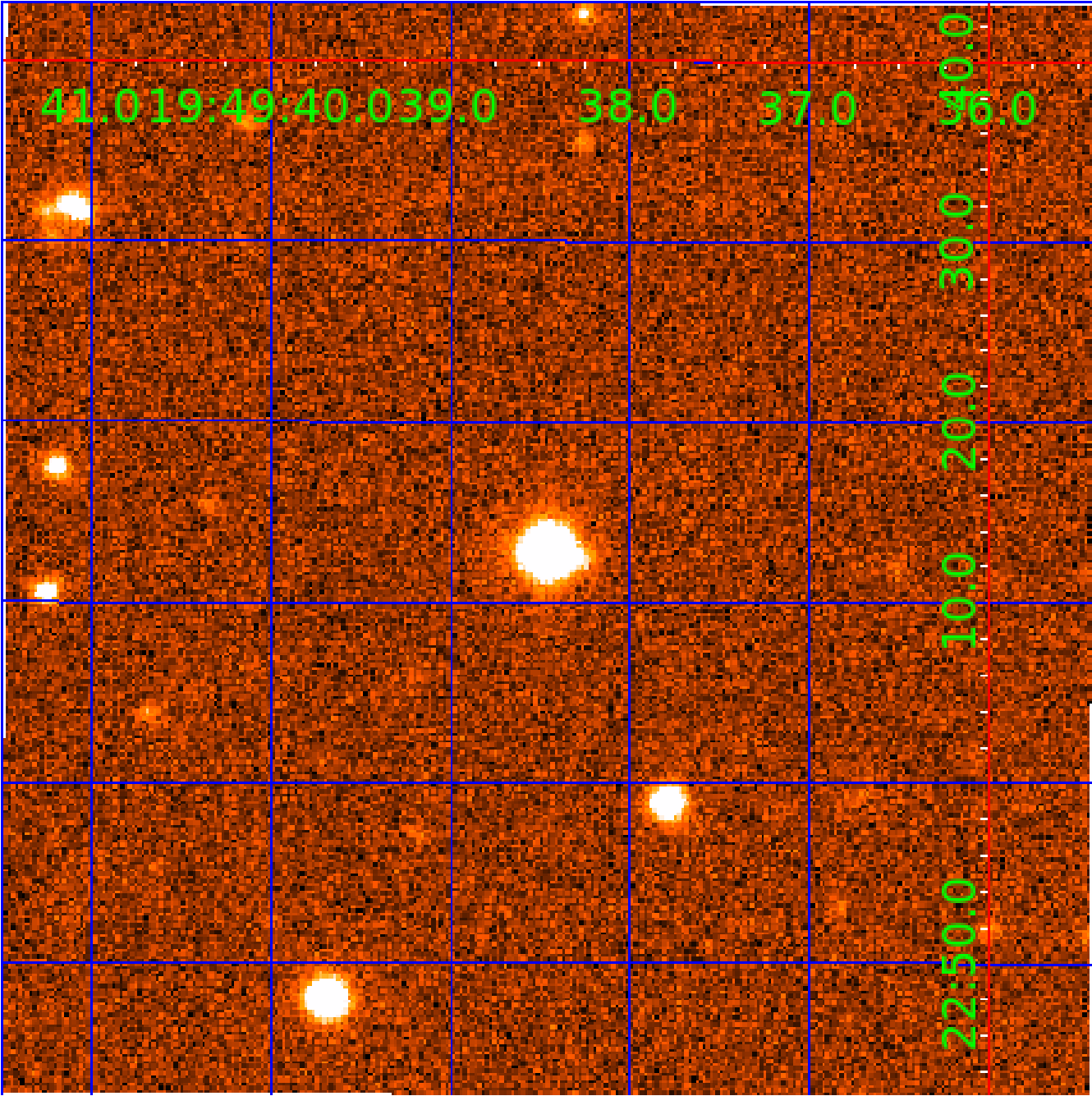


fluxWeightedCentroids, Planet 1 of 5



UKIRT Image

Declination



KIC 010933943

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})
010933943-01	OBS	No	4.748494	135.442987	37.6	11.248	8.4	7.8	1.42	7022	1.10	1119.07
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Robovetter Results

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010933943-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
010933943-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
010933943-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010933943-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010933943-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

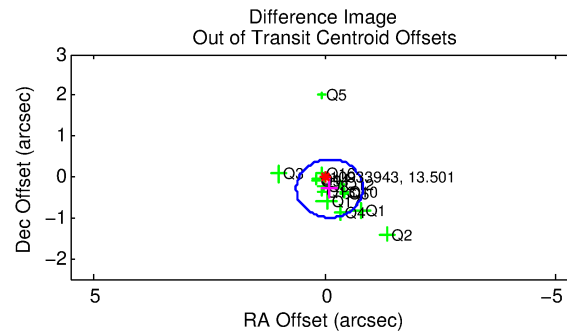
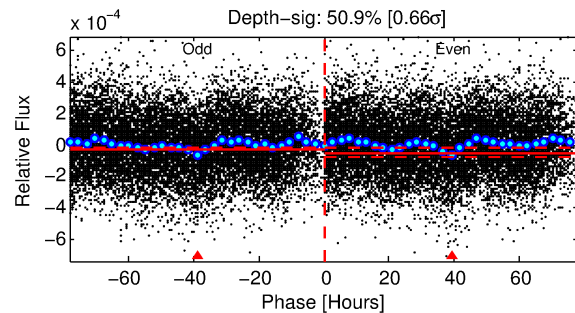
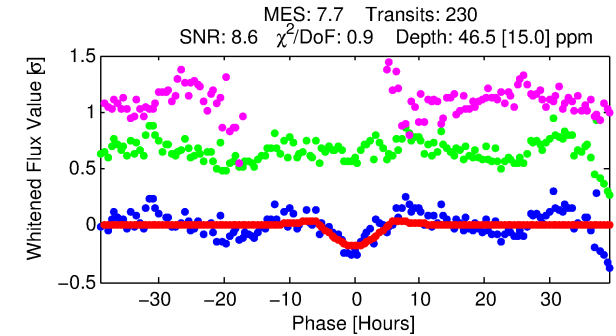
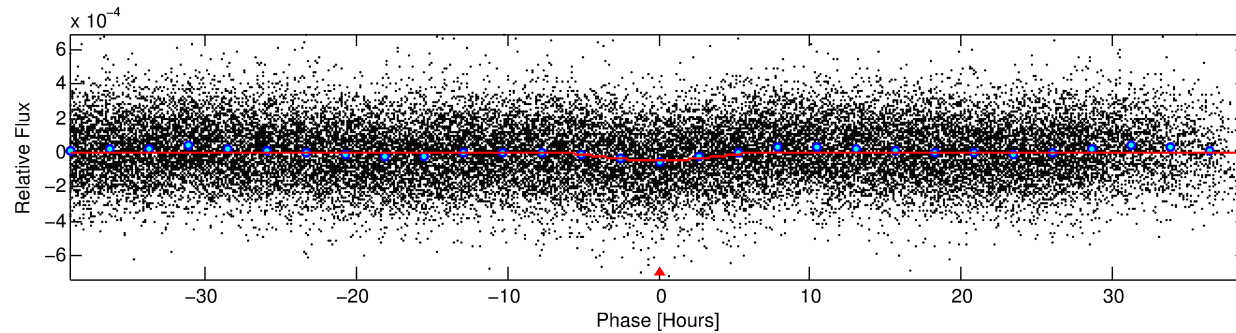
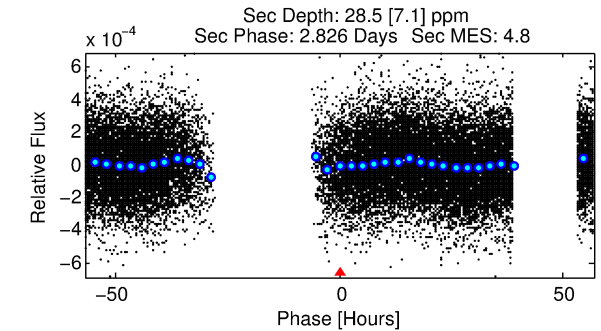
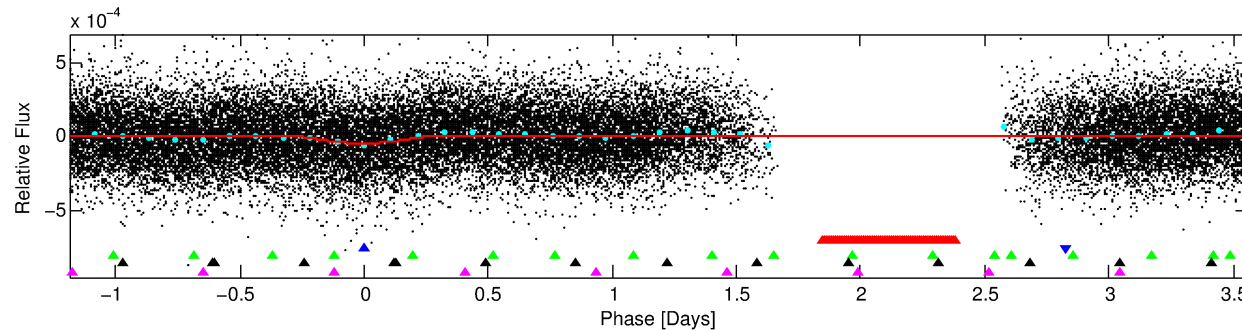
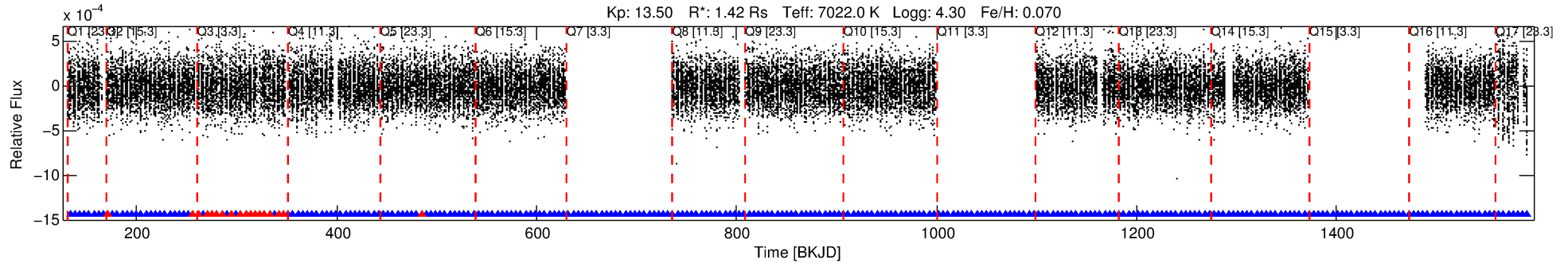
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010933943-02

No Significant Match Found

DV One-Page Summary

KIC: 10933943 Candidate: 2 of 5 Period: 4.747 d



DV Fit Results:

Period = 4.74675 [0.00016] d
Epoch = 133.5970 [0.0276] BKJD
Rp/R* = 0.0127 [0.0322]
a/R* = 1.10 [0.09]
b = 1.00 [0.05]
Seff = 1119.61 [517.36]
Teq = 1475 [170] K
Rp = 1.96 [5.04] Re
a = 0.0626 [0.0193] AU
Ag = 15.99 [81.71] [0.18σ]
Teffp = 4560 [5807] K [0.53σ]

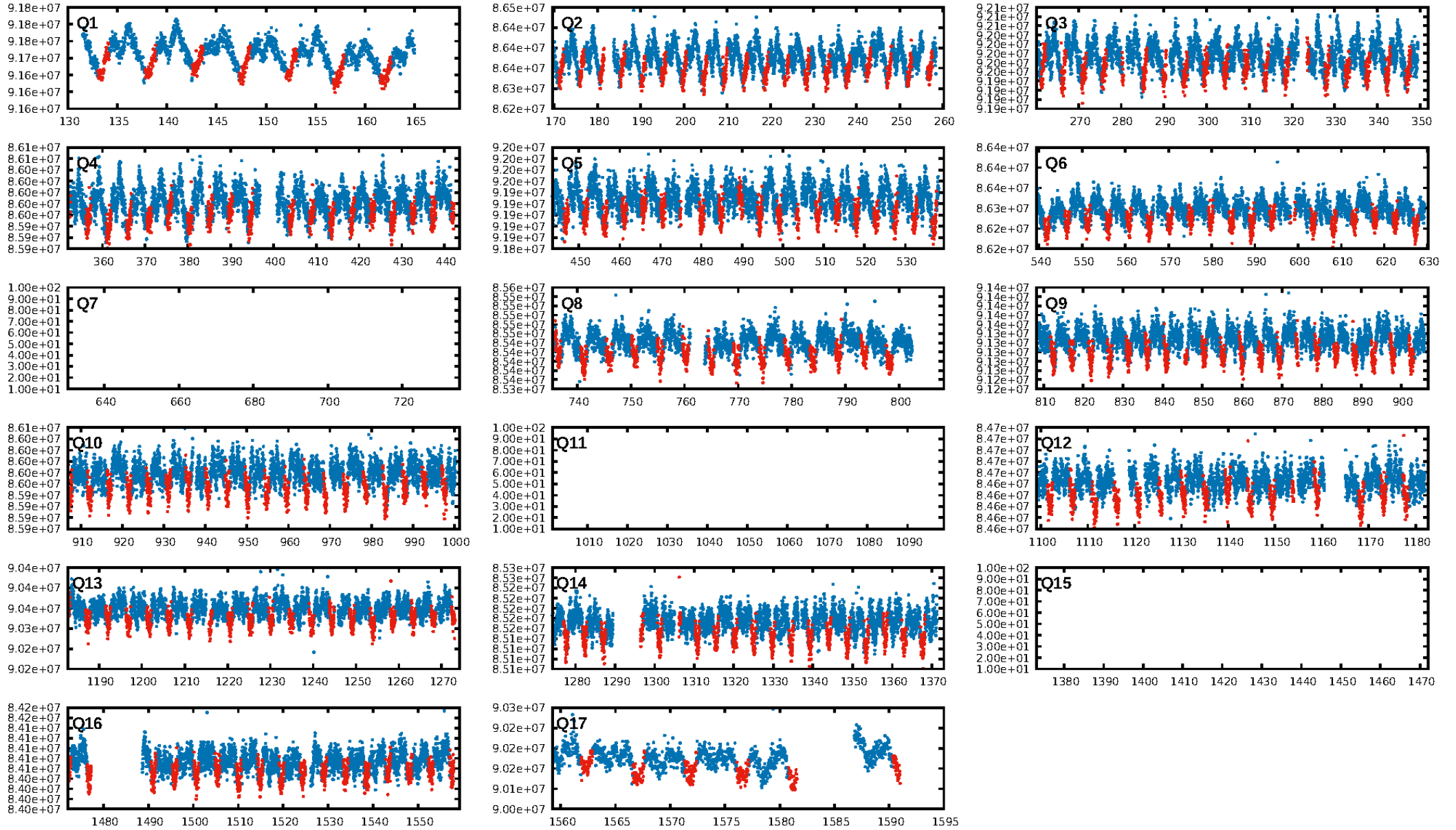
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.2% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 6.67e-11
RollingBand-fgt: 0.92 [199/217]
GhostDiagnostic-chr: 1.372
Centroid-sig: 54.6%
Centroid-so: 0.892 arcsec [0.86σ]
OotOffset-rm: 0.303 arcsec [1.27σ]
KicOffset-rm: 0.398 arcsec [1.74σ]
OotOffset-st: 4/1/4/5 [14]
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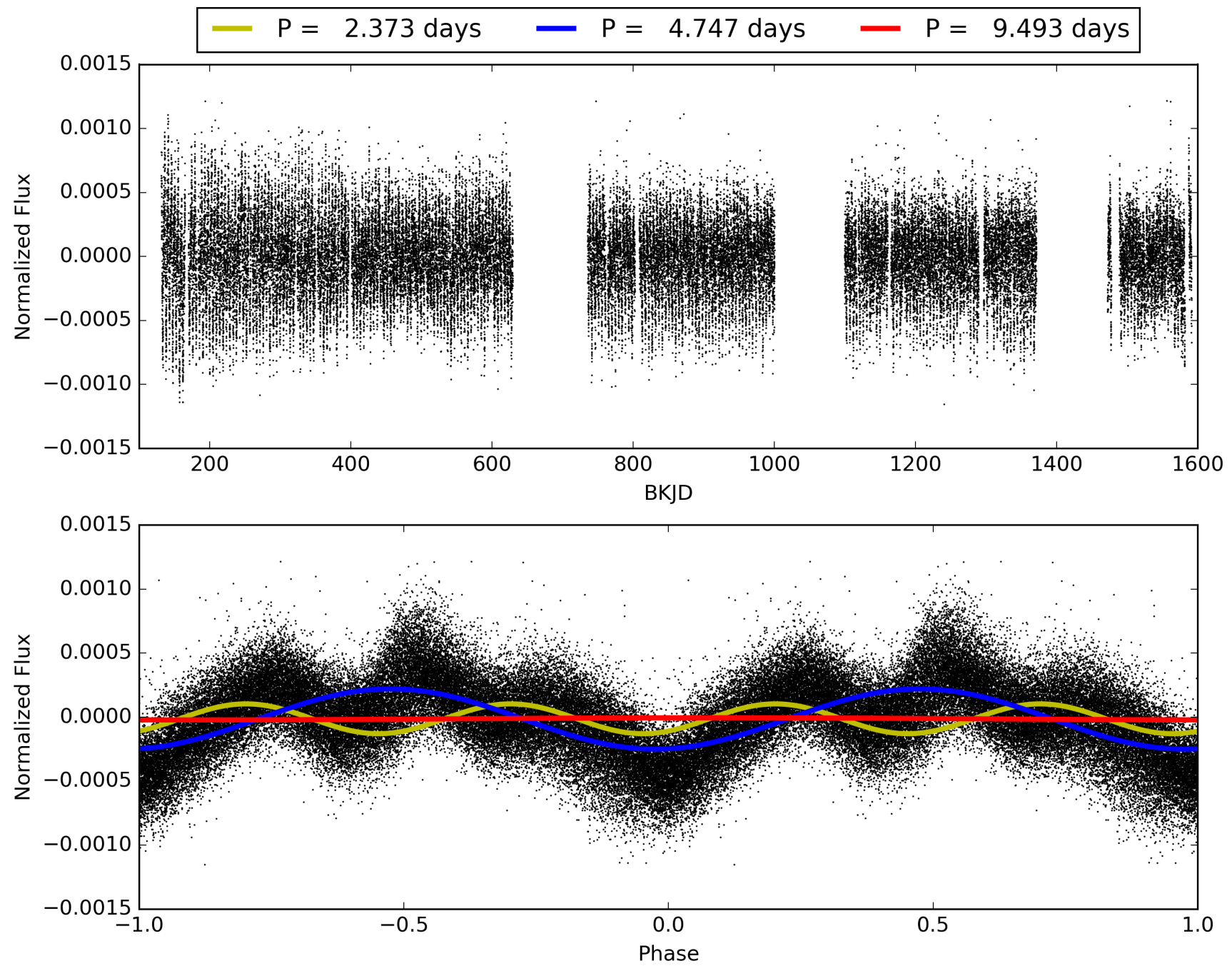
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:58:20 Z

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

TCE 010933943-02, PDC Light Curves

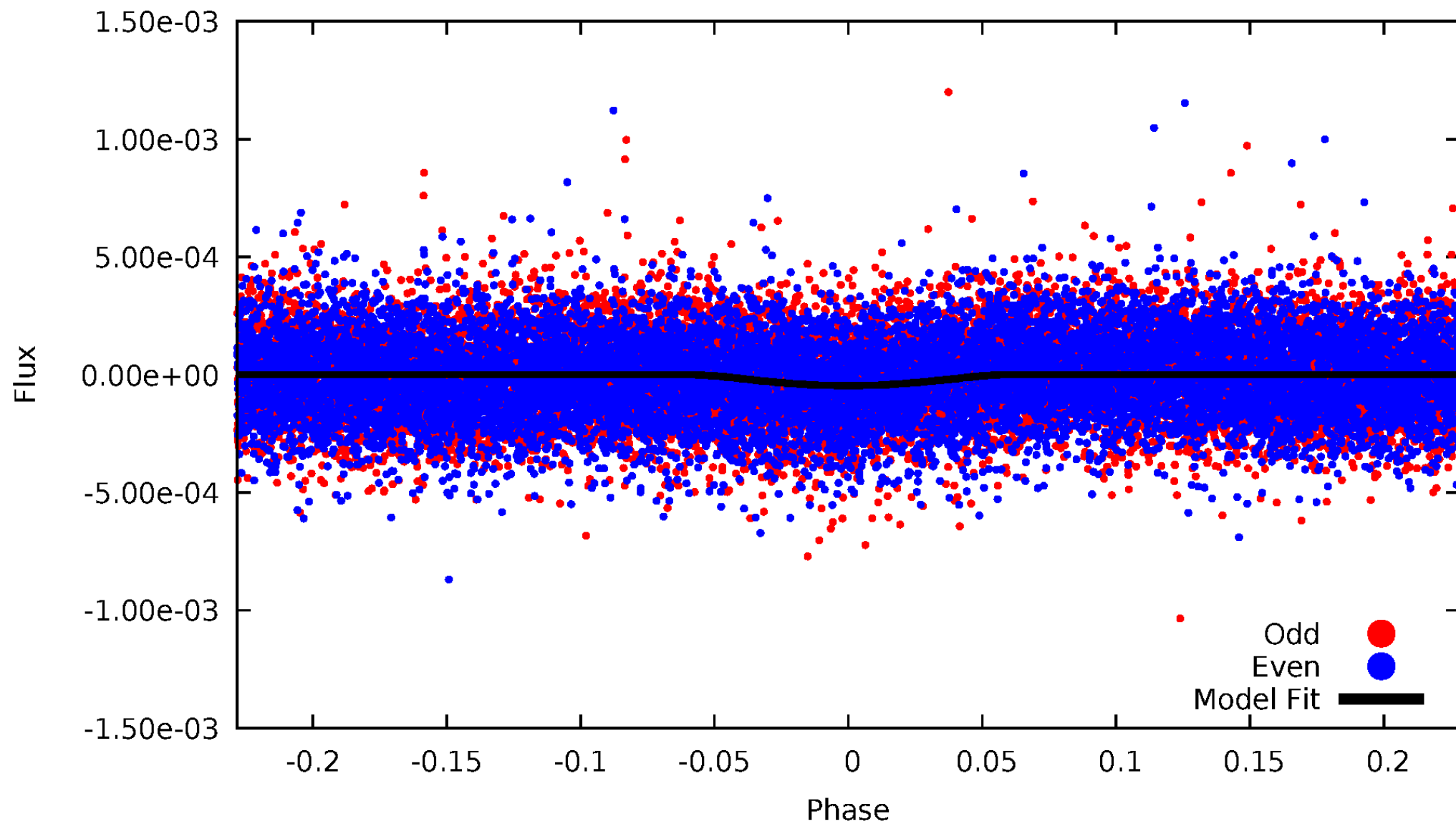


TCE 010933943-02



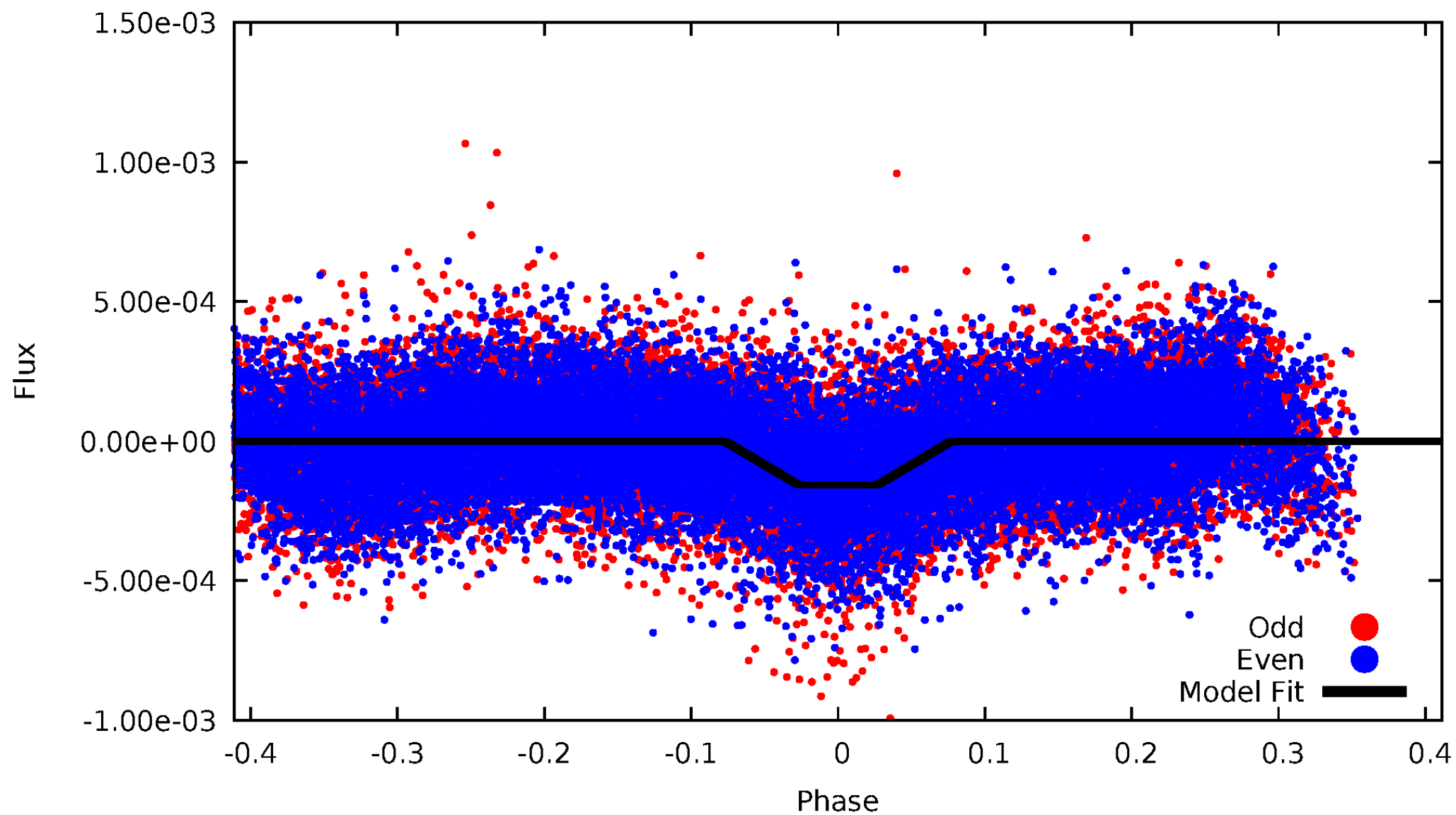
DV Odd/Even

TCE 010933943-02



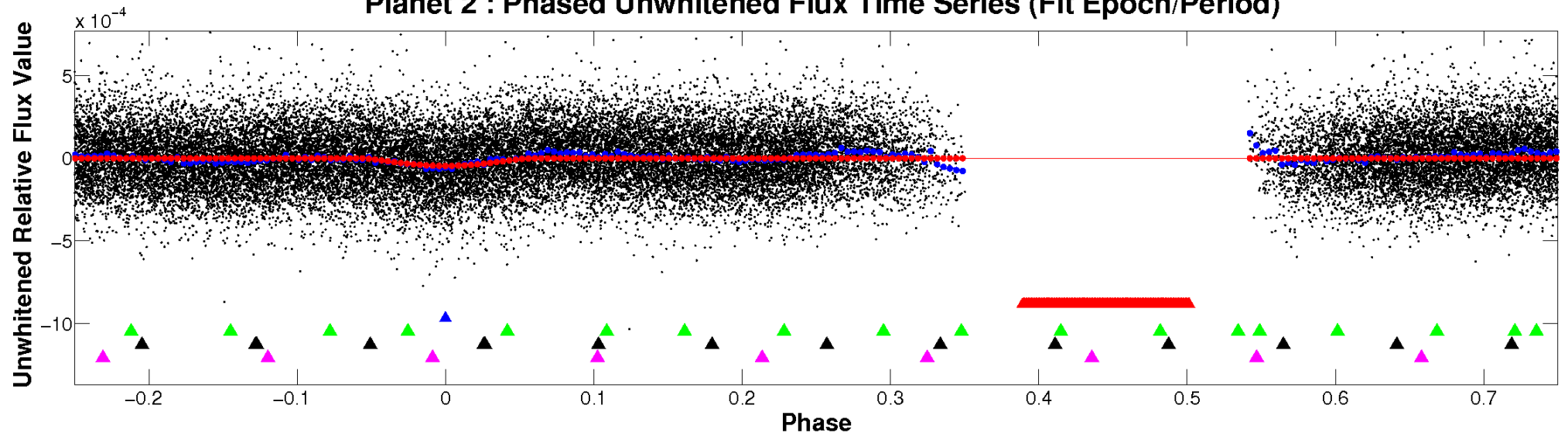
ALT Odd/Even

TCE 010933943-02

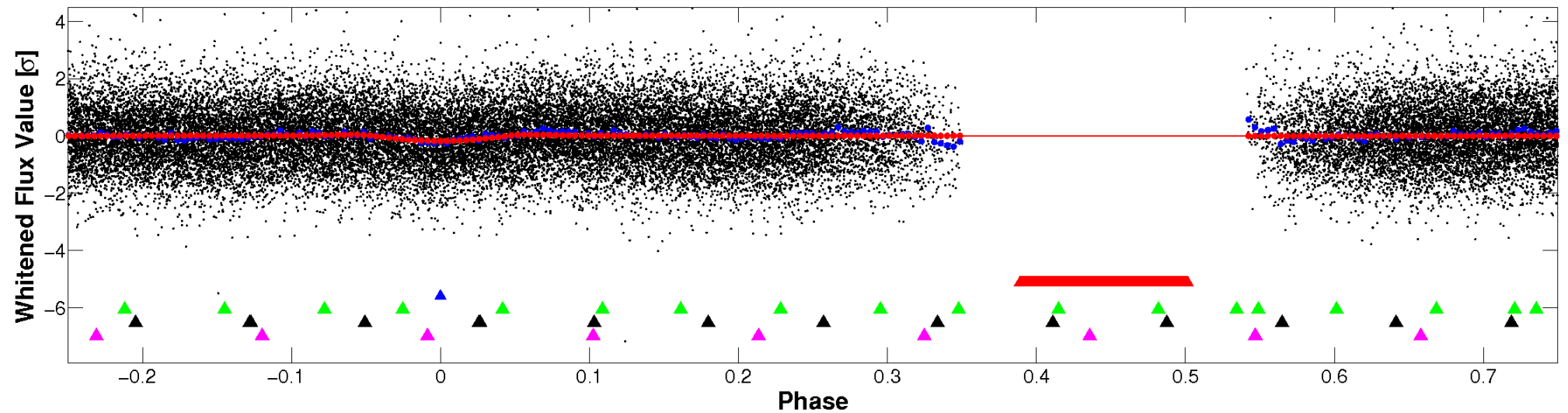


Non-Whitened Vs. Whitened Light Curve

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

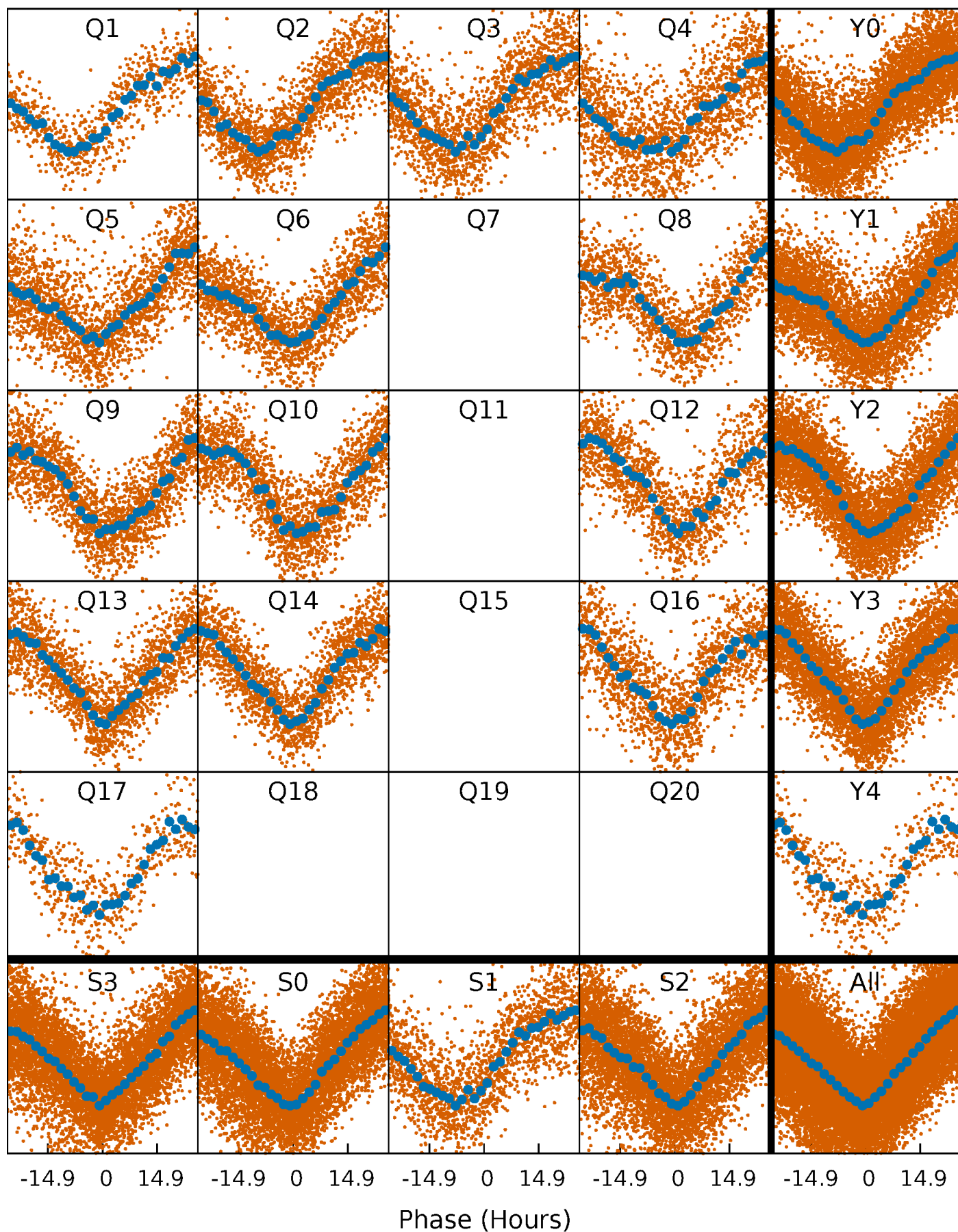


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



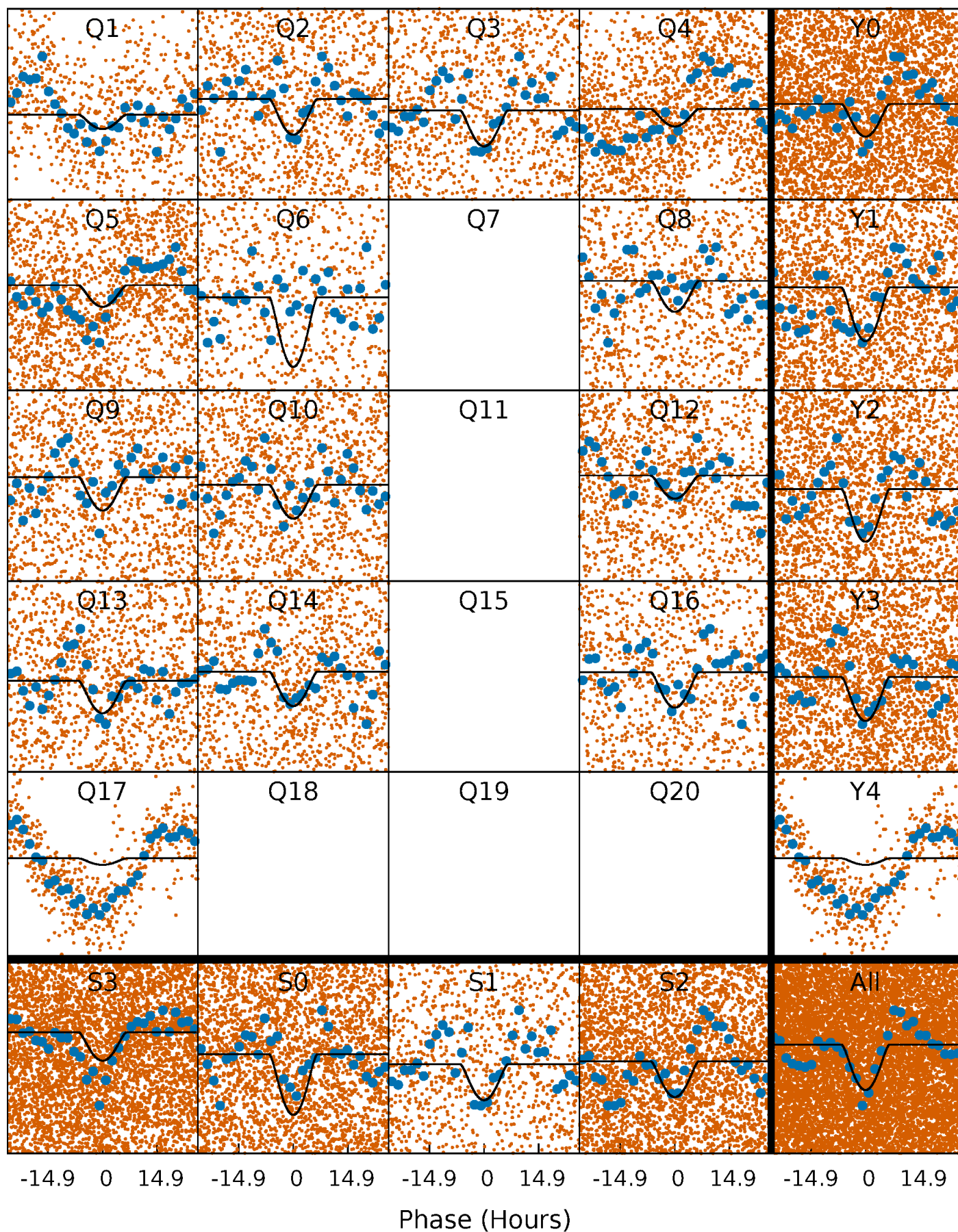
PDC Quarter-Phased Transit Curves

TCE 010933943-02 P= 4.746746 Days $T_0=133.596972$ (BKJD)



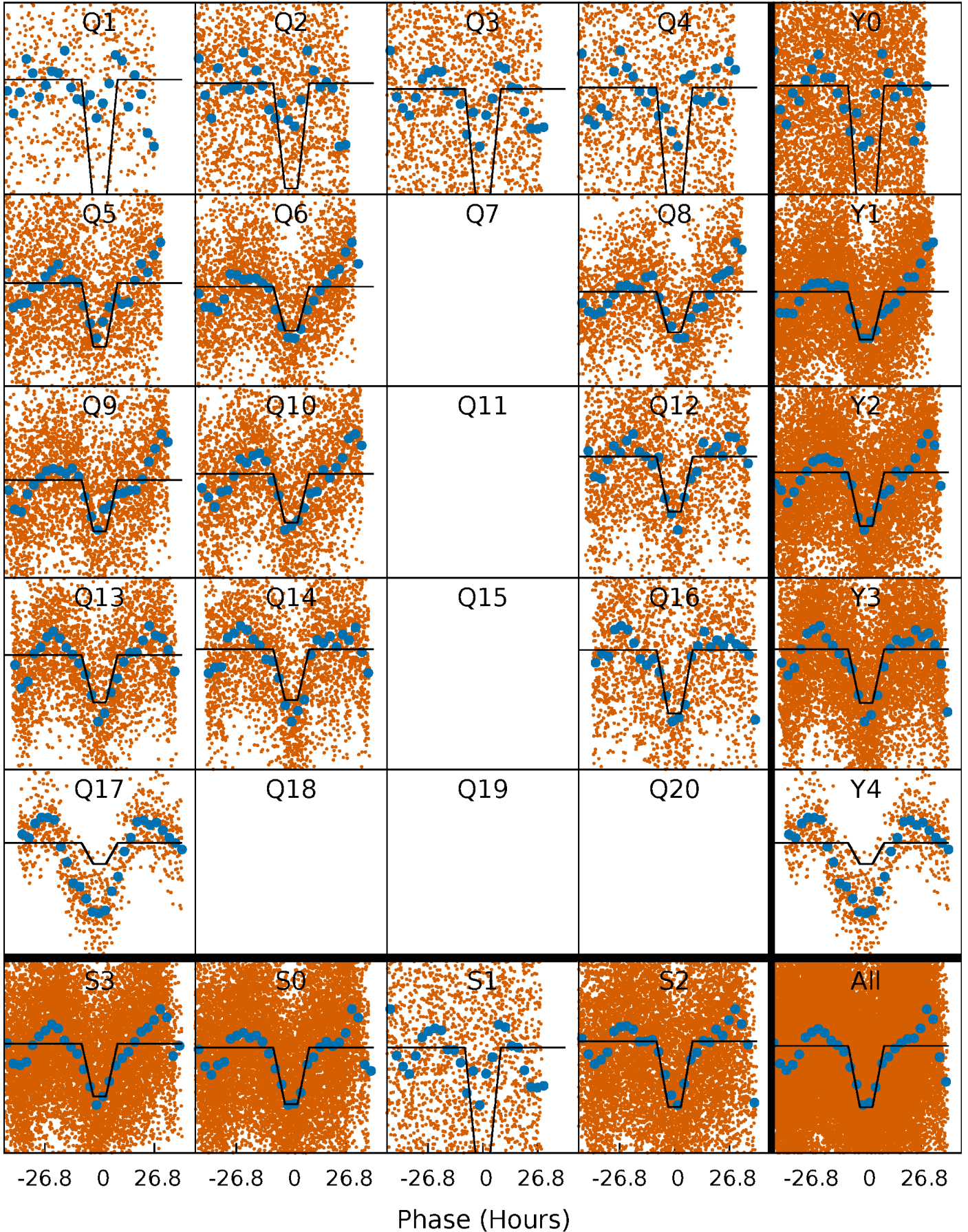
DV Quarter-Phased Transit Curves

TCE 010933943-02 P= 4.746746 Days $T_0=133.596972$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

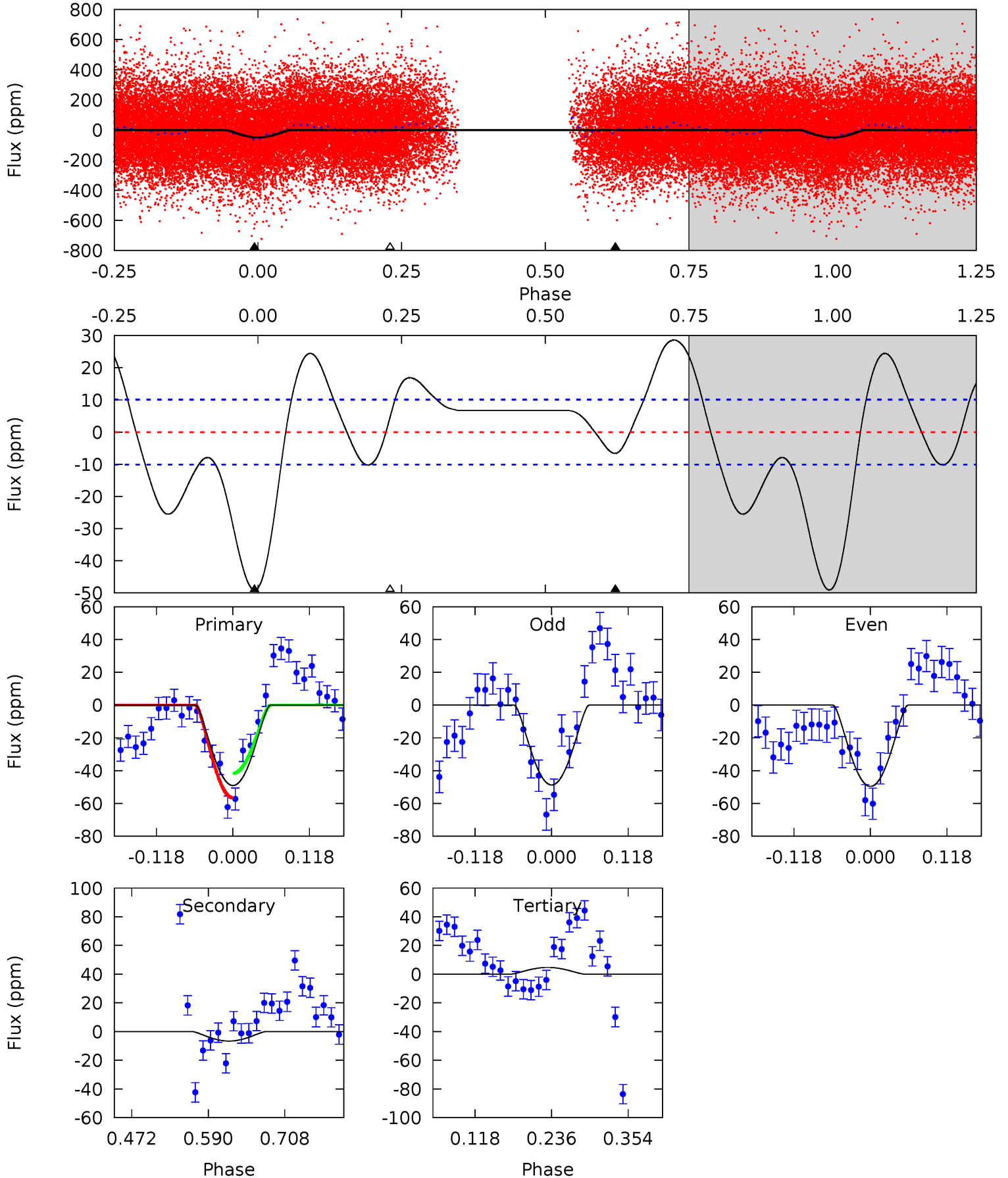
TCE 010933943-02 $P = 4.746673$ Days $T_0 = 133.602880$ (BKJD)



DV Model-Shift Uniqueness Test

010933943-02, P = 4.746746 Days, E = 128.850226 Days

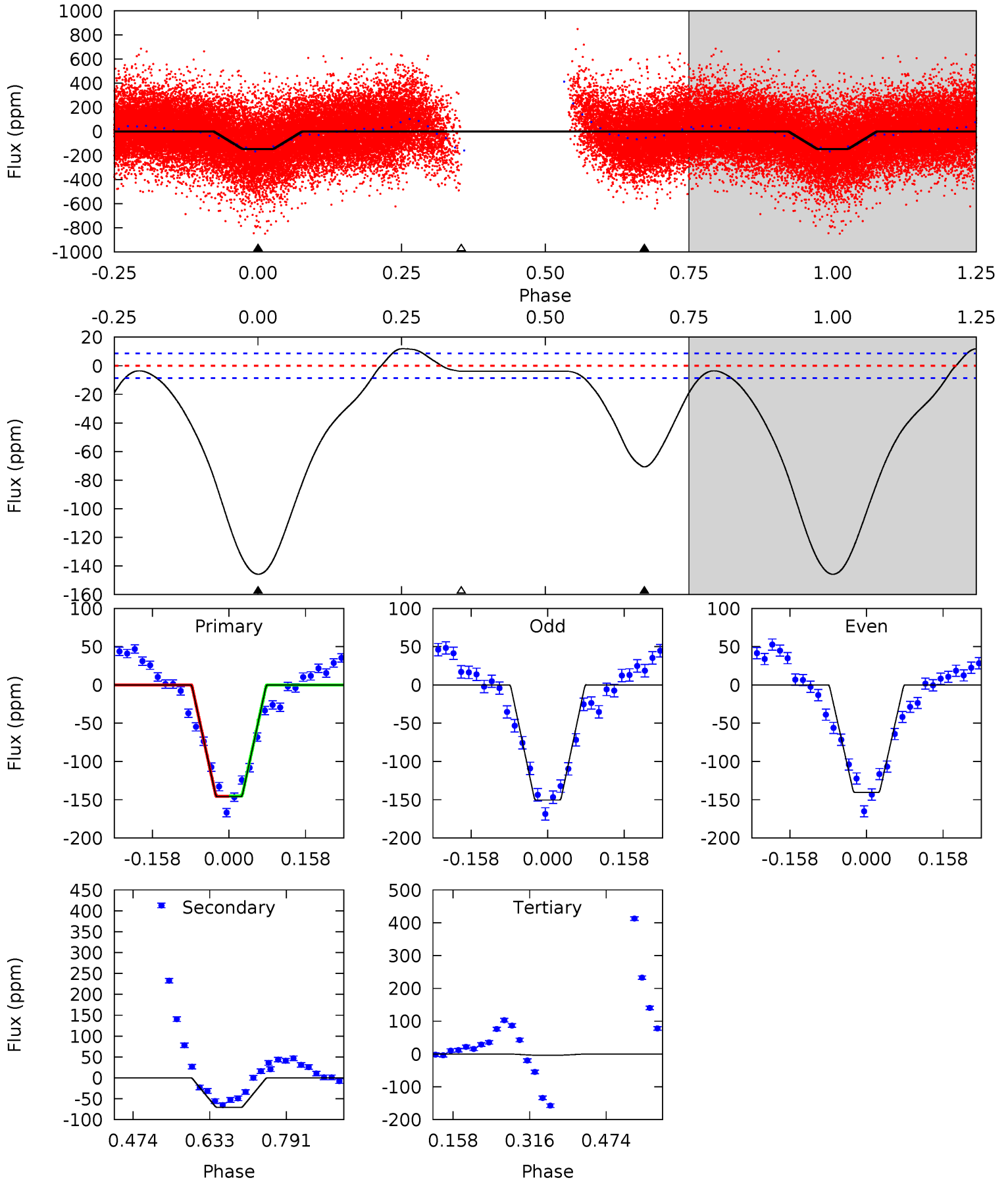
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.0	2.96	-2.10	0	4.53	1.56	6.61	24.1	22.0	5.06	2.96	0.20	1.10	0.37	3.34



Alt Model-Shift Uniqueness Test

010933943-02, P = 4.746673 Days, E = 128.856207 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
75.3	36.5	2.02	0	4.47	1.41	6.51	73.3	75.3	34.5	36.5	2.60	0.97	0.08	0.12



Stellar Parameters For KIC 010933943

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7022^{+194}_{-267}	$4.296^{+0.058}_{-0.232}$	$0.070^{+0.200}_{-0.350}$	$1.420^{+0.537}_{-0.179}$	$1.451^{+0.202}_{-0.202}$	$0.714^{+0.236}_{-0.414}$
	+3%/-4%	+1%/-5%	+286%/-500%	+38%/-13%	+14%/-14%	+33%/-58%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010933943-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-7 ± 2	$4.44^{+4.54}_{-2.89}$	2113^{+172}_{-128}	2634^{+1241}_{-4970}	$0.670^{+4.644}_{-0.516}$
Alt.	-71 ± 2	$4.52^{+4.73}_{-3.04}$	2112^{+180}_{-116}	4066^{+2669}_{-844}	$7.065^{+63.630}_{-5.218}$

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 $A_{obs} \gg 1.0$

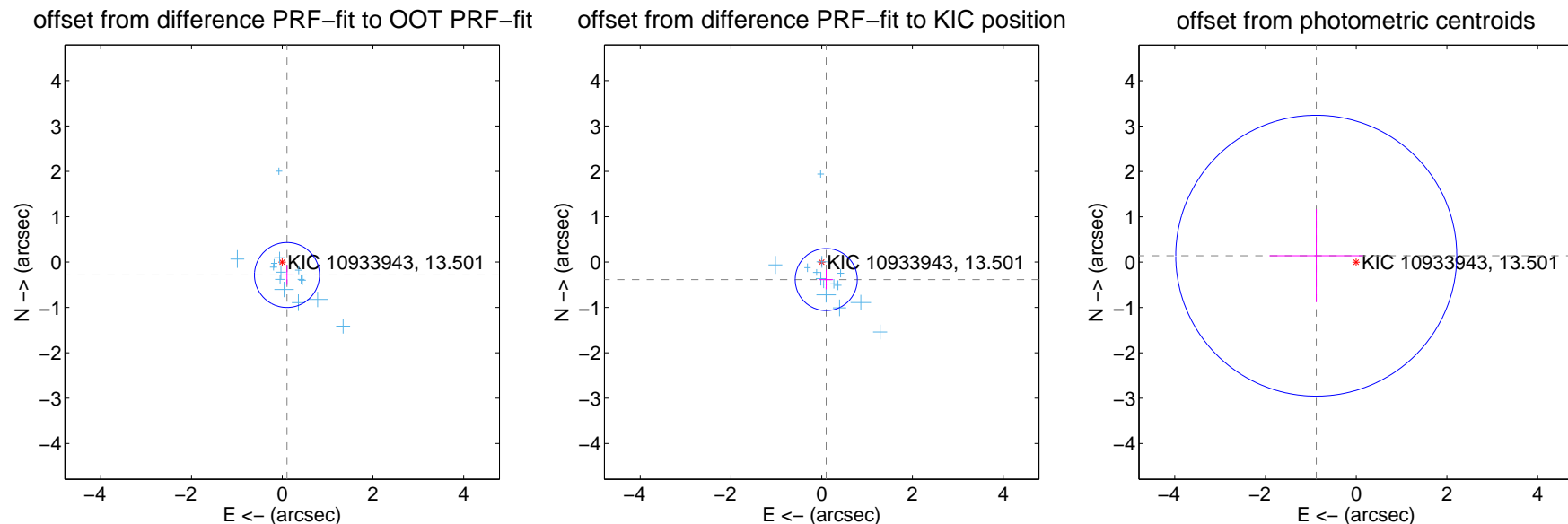
DV Centroid Data

Supplemental centroid analysis for 010933943-02. Kepler magnitude: 13.50. Transit SNR 8.59

There are 14 quarters with good PRF difference image offsets

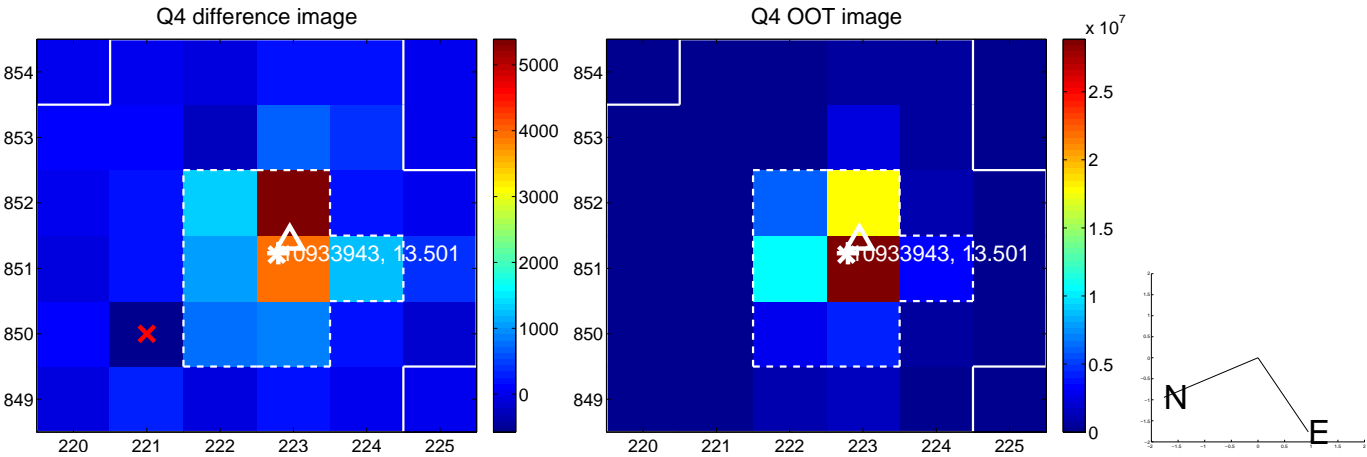
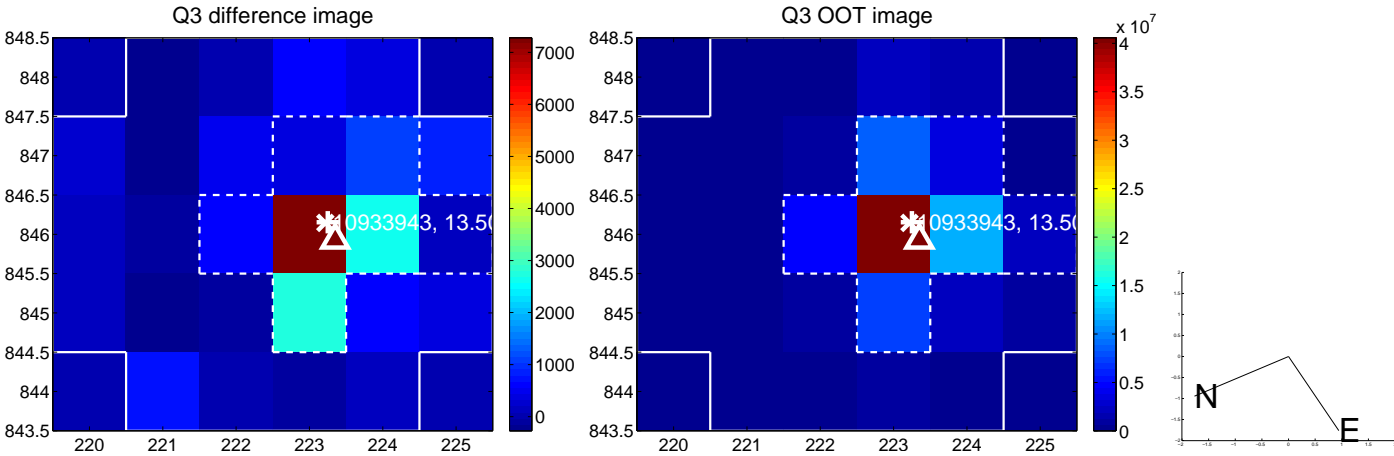
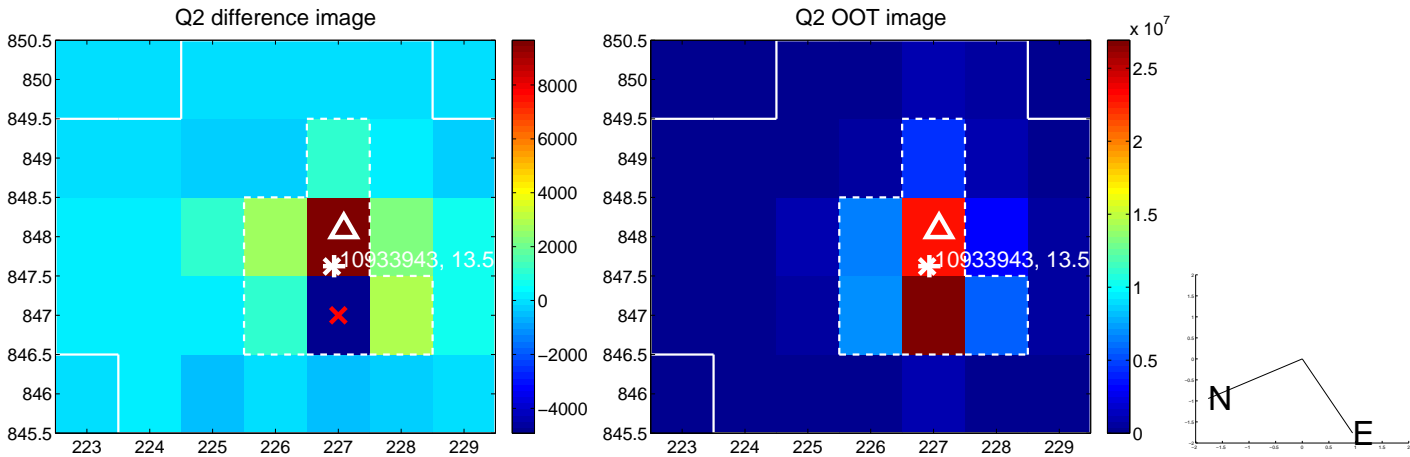
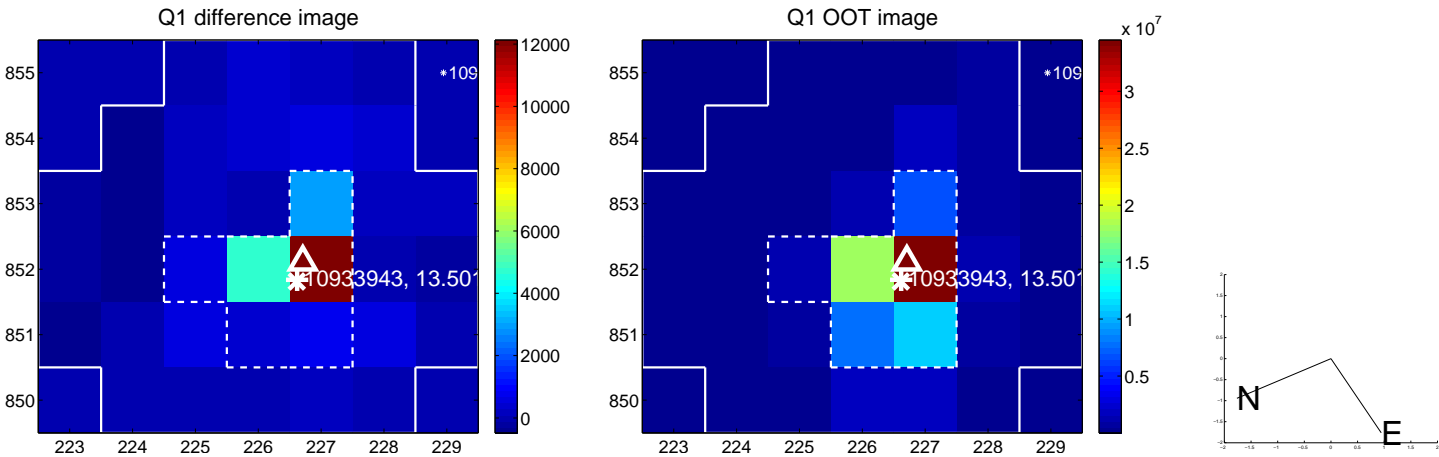
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.303 ± 0.239	1.27	-0.105 ± 0.167	-0.284 ± 0.217
PRF-fit source offset from KIC position	0.398 ± 0.228	1.74	-0.099 ± 0.149	-0.385 ± 0.215
photometric centroid source offset	0.89 ± 1.03	0.86	0.88 ± 1.03	0.14 ± 1.02

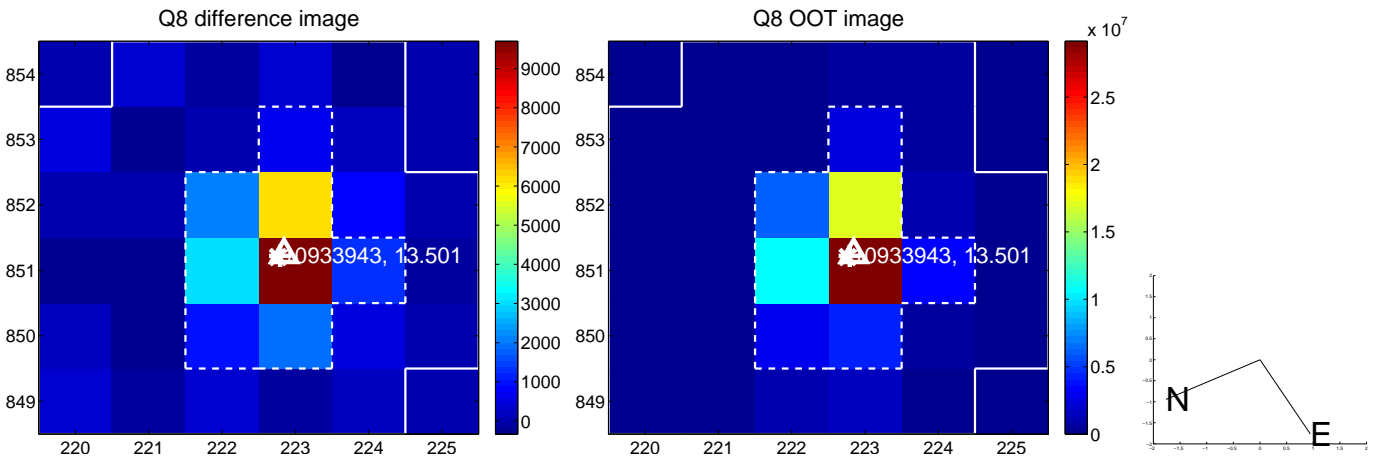
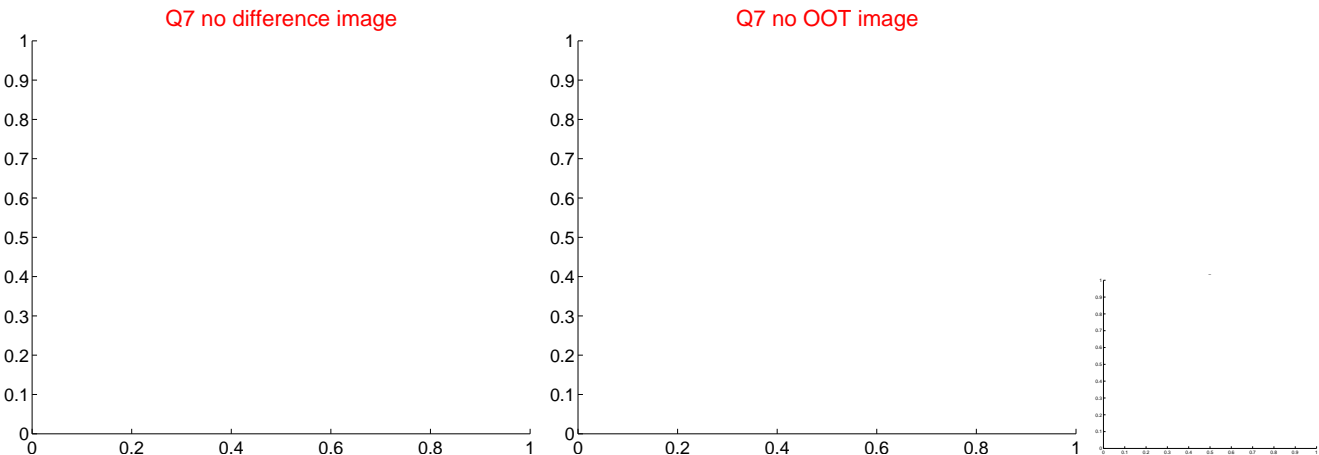
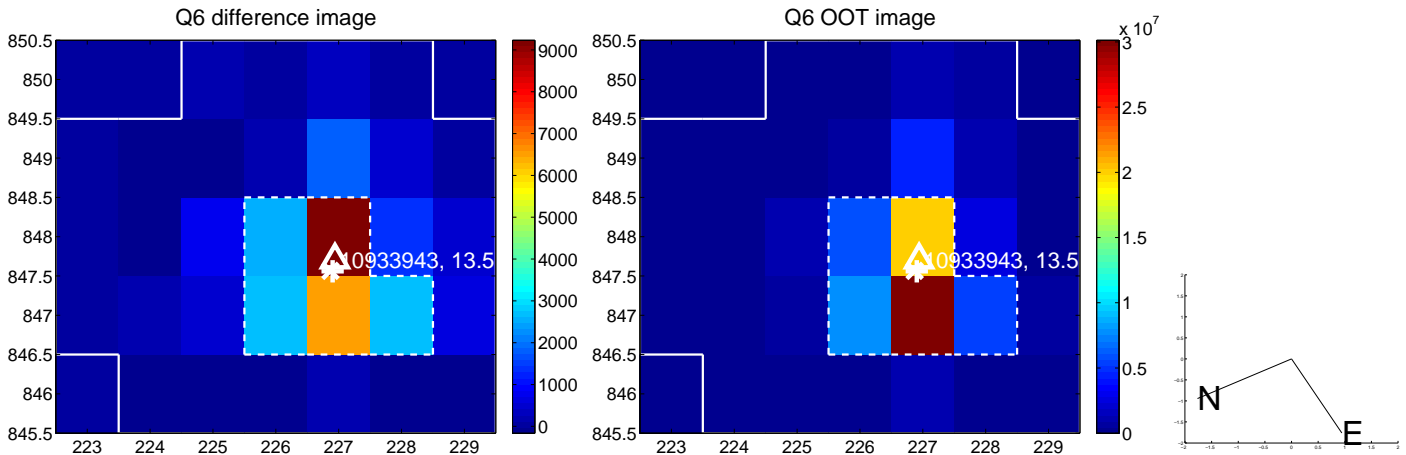
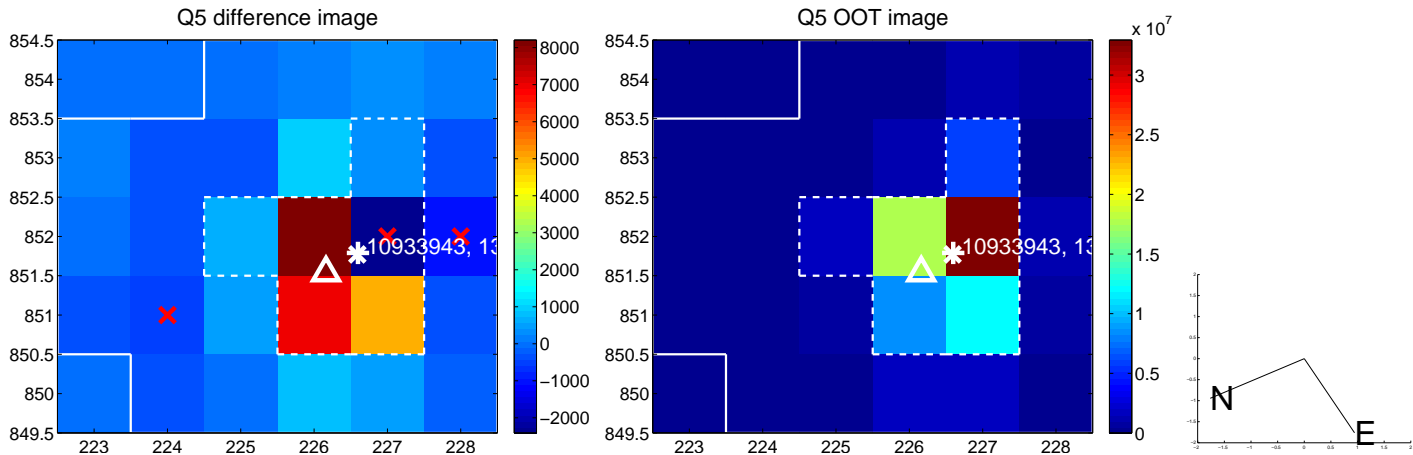


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

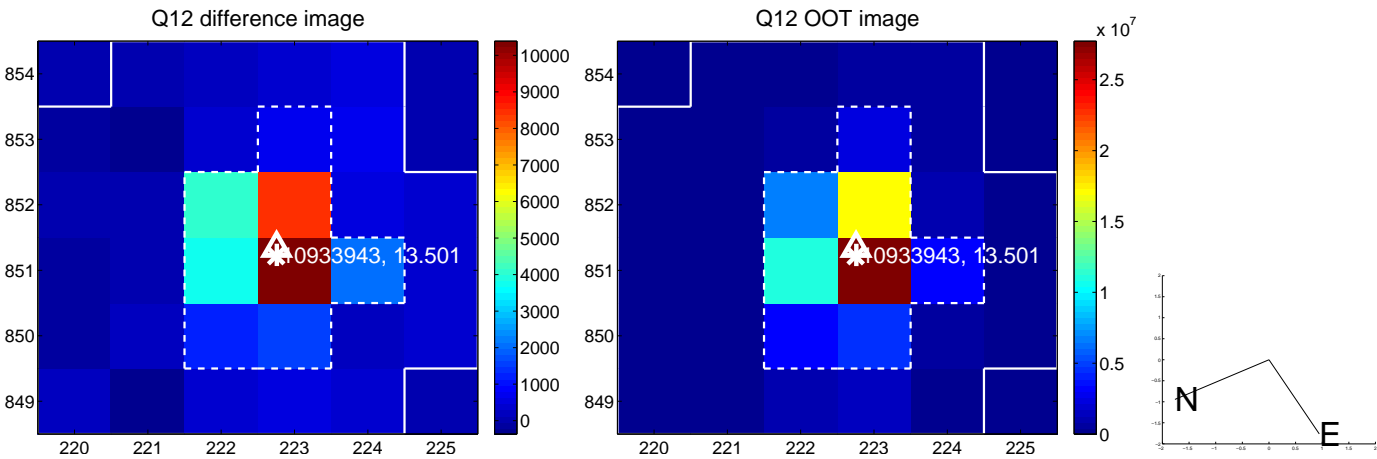
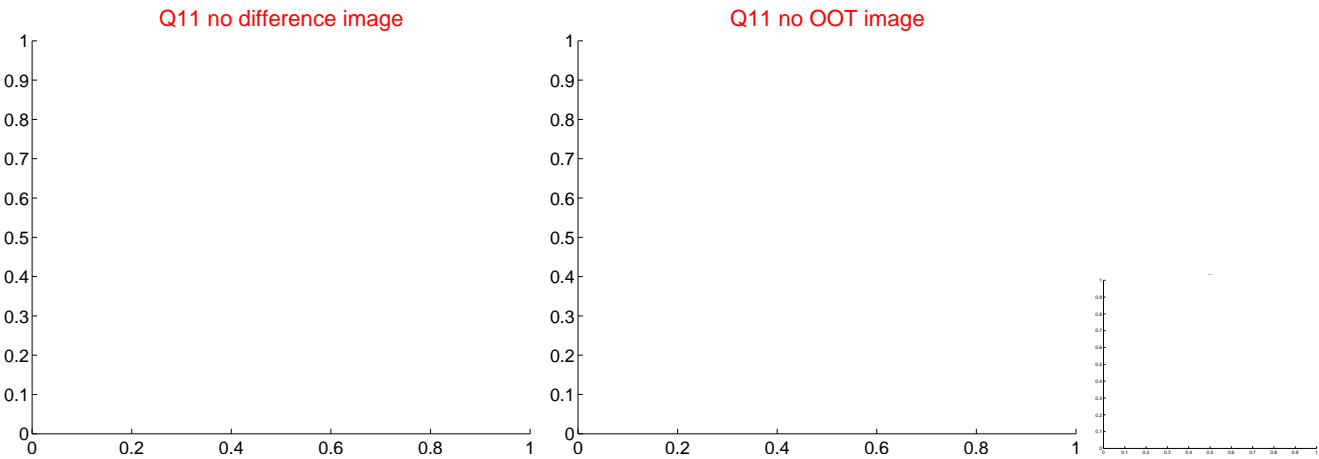
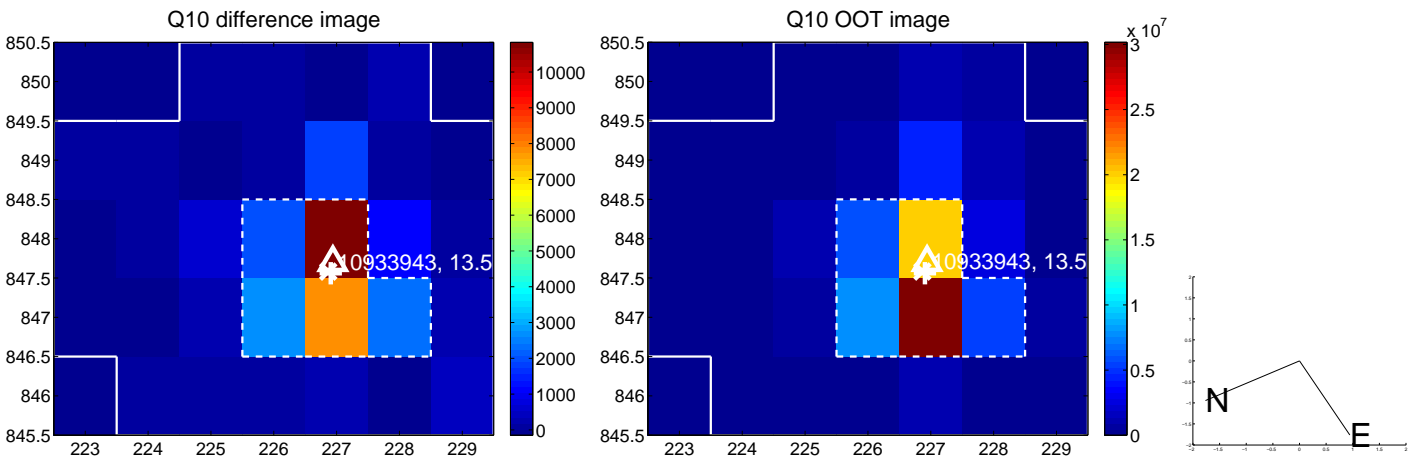
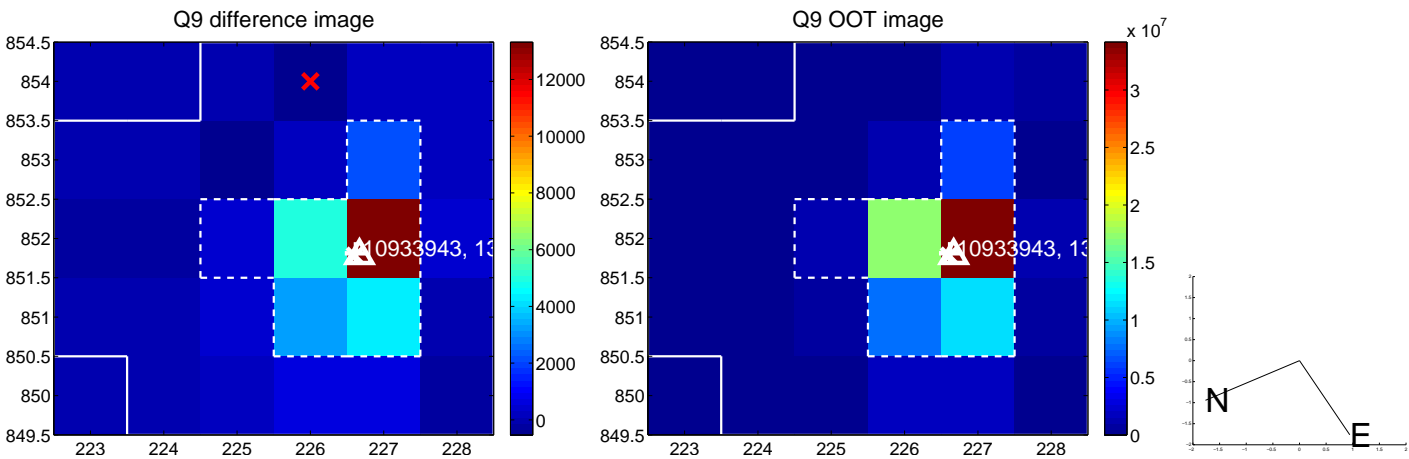
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



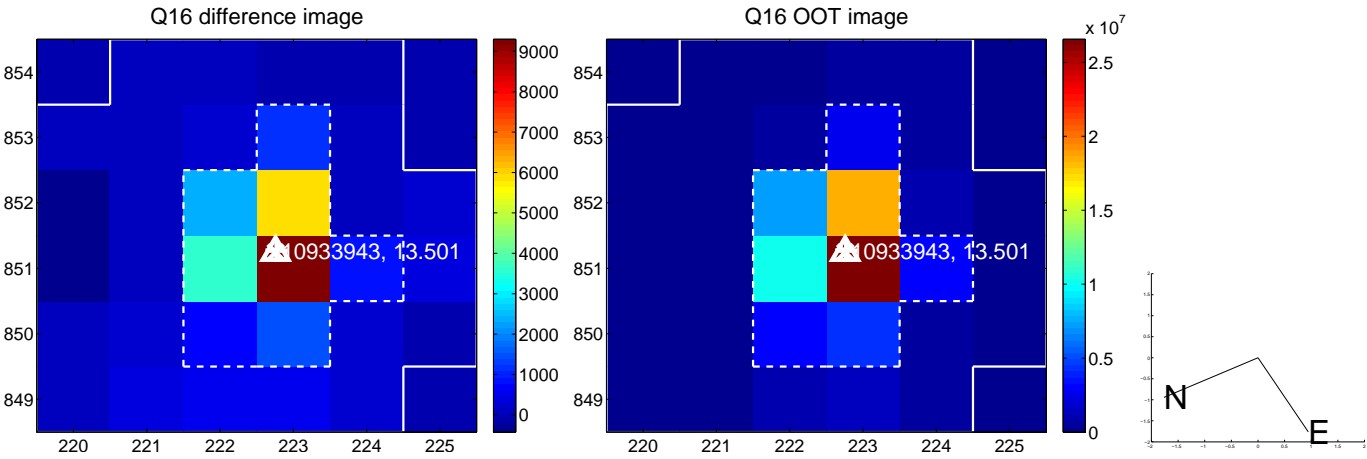
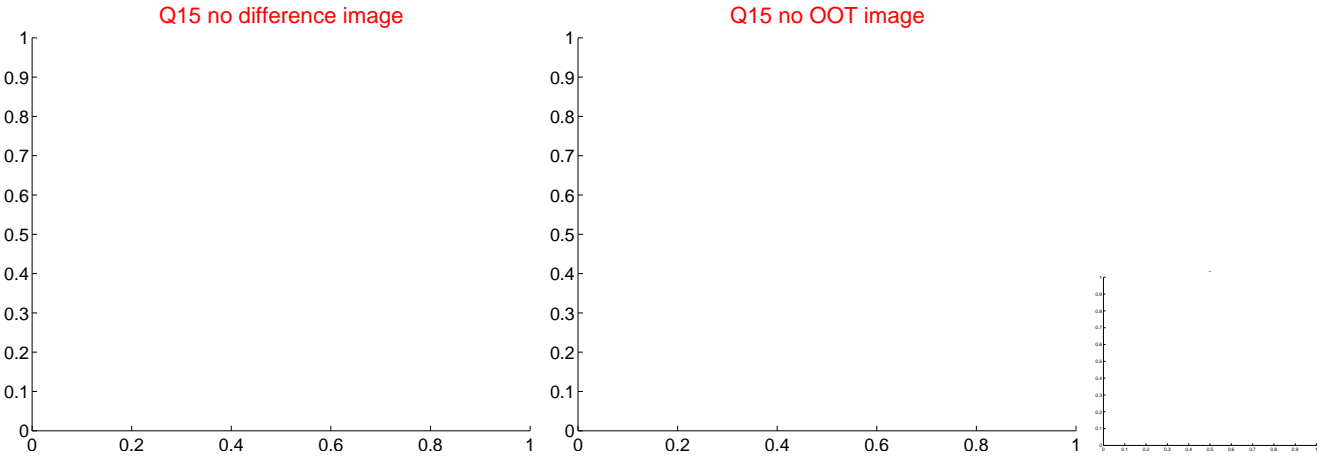
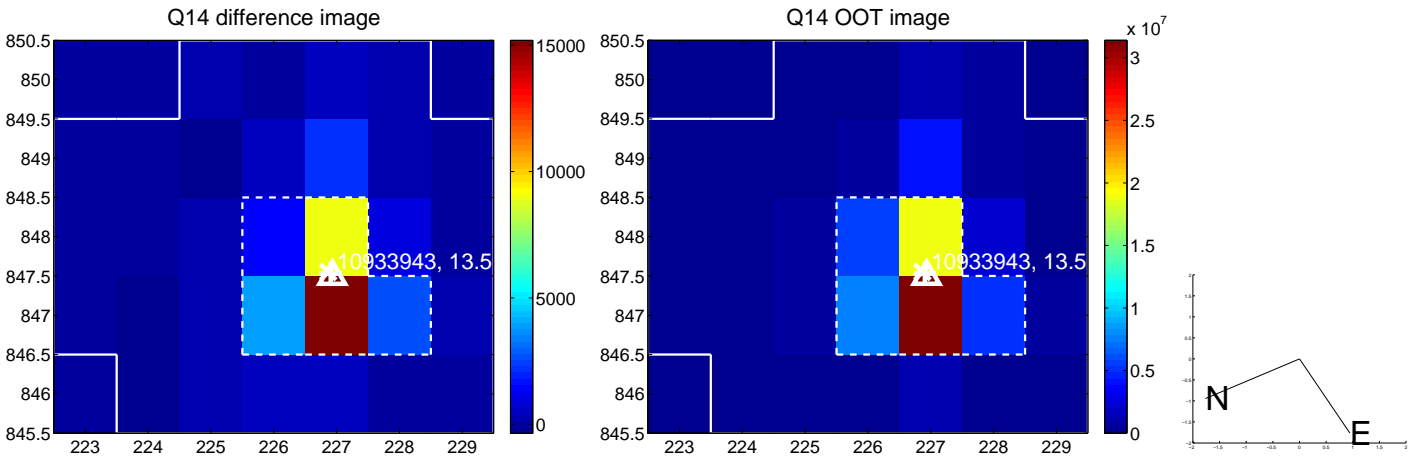
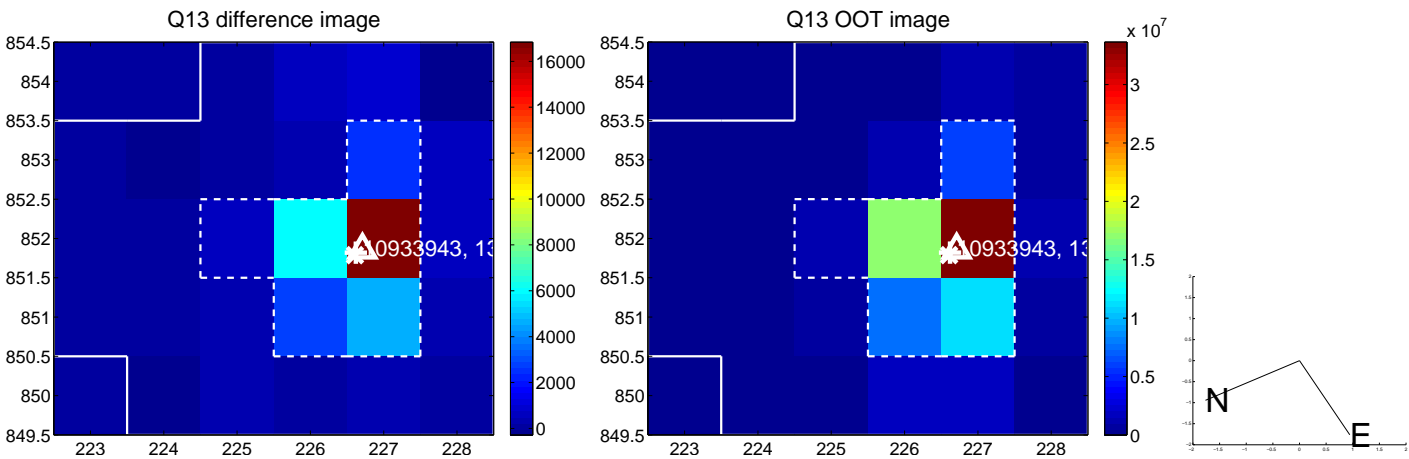
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



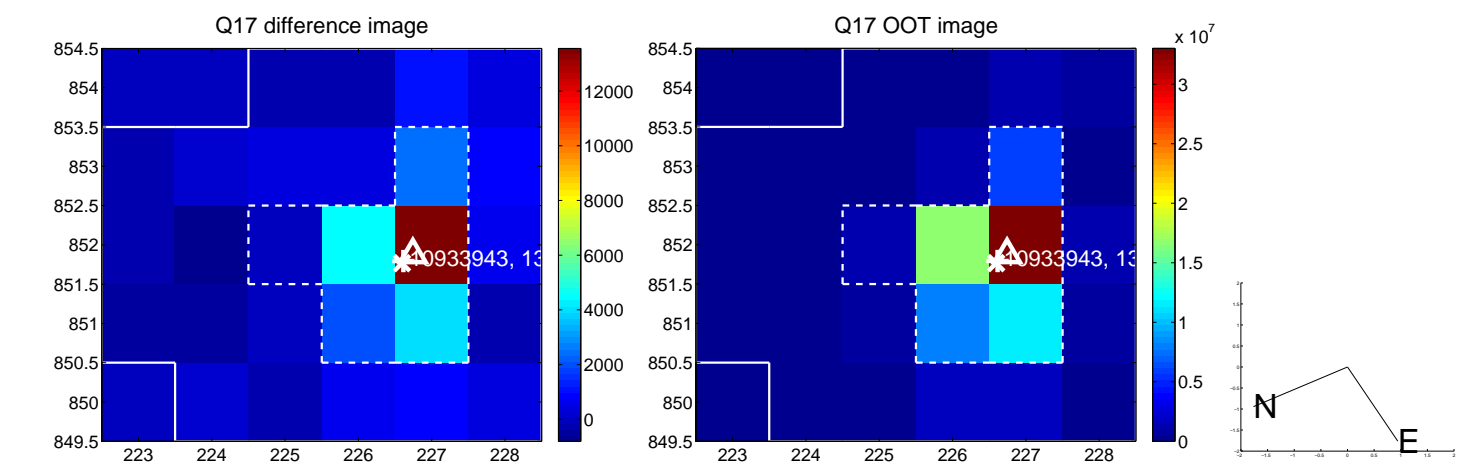
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



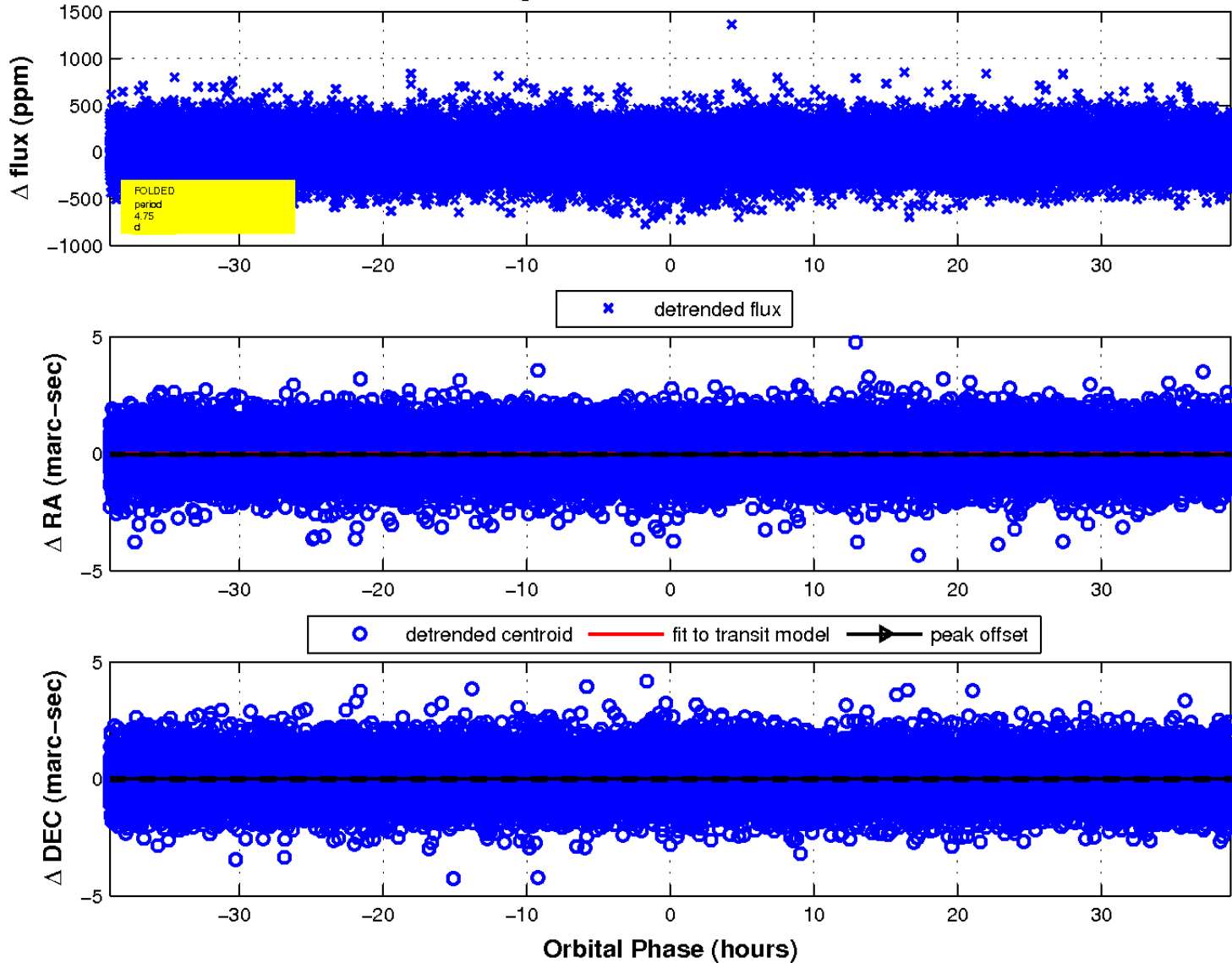
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

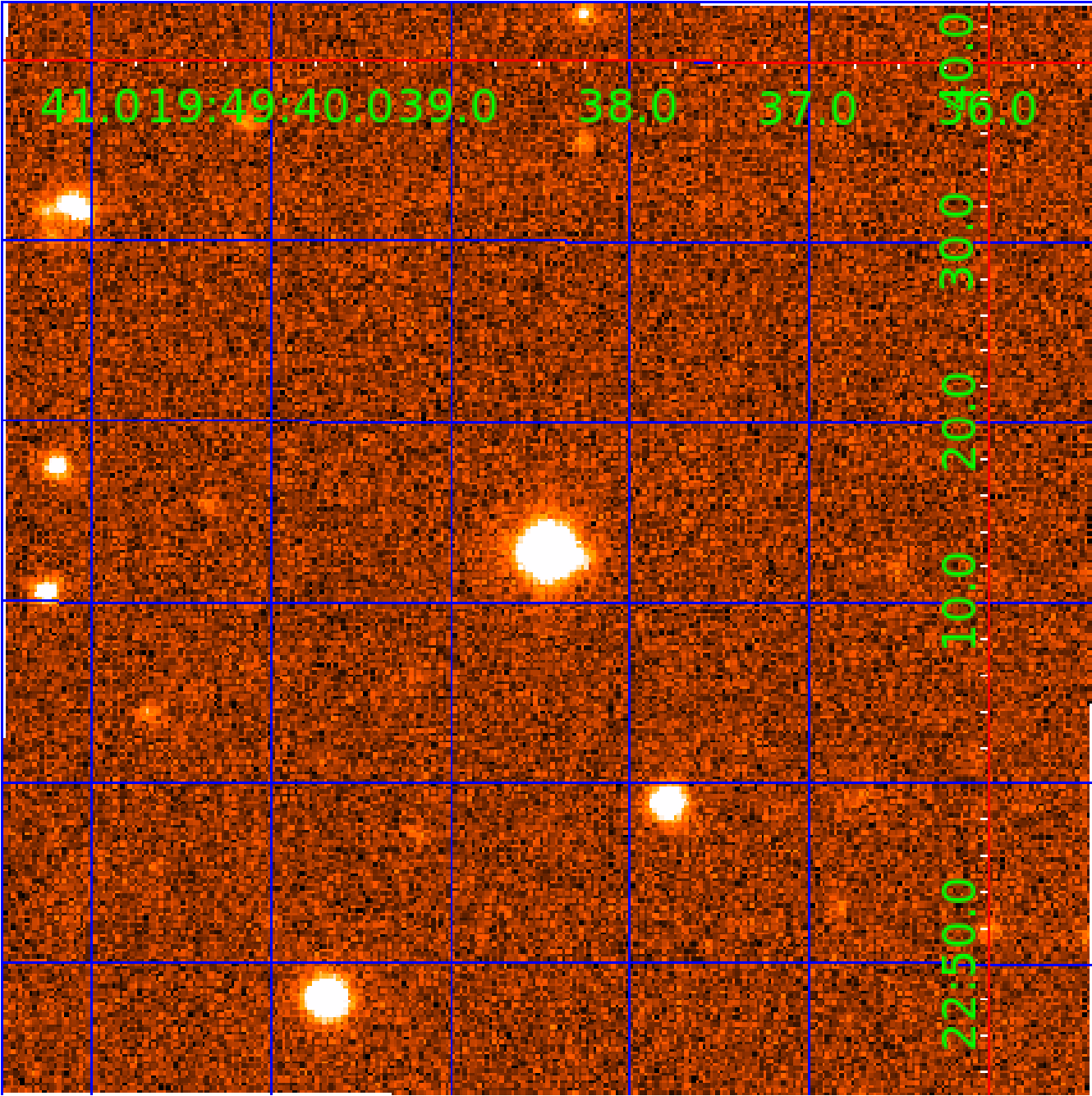


fluxWeightedCentroids, Planet 2 of 5



UKIRT Image

Declination



KIC 010933943

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})
010933943-01	OBS	No	4.748494	135.442987	37.6	11.248	8.4	7.8	1.42	7022	1.10	1119.07
010933943-02	OBS	No	4.746746	133.596972	46.5	13.002	7.7	8.6	1.42	7022	1.96	1119.62
010933943-03	OBS	No	79.808978	160.753172	236.4	8.860	14.0	8.1	1.42	7022	2.39	25.99
010933943-04	OBS	No	98.951079	152.710552	239.0	14.155	8.7	7.7	1.42	7022	2.31	19.52
010933943-05	OBS	No	77.002872	174.166050	220.8	12.000	8.2	-1.0	1.42	7022	2.13	27.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010933943-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
010933943-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
010933943-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010933943-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010933943-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

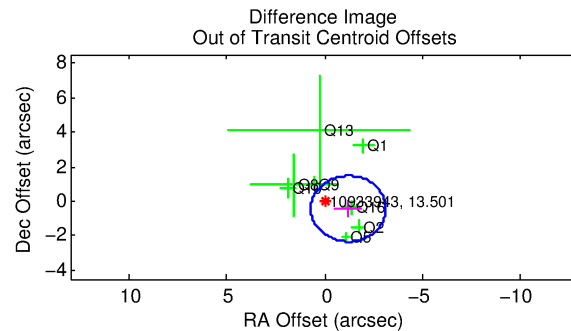
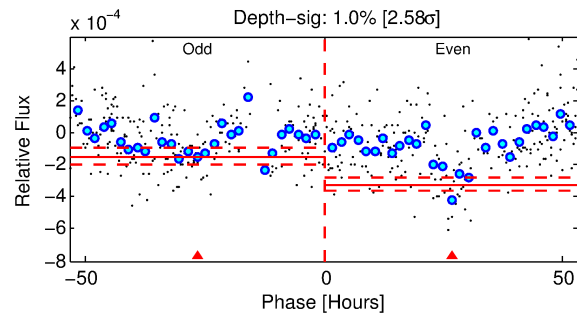
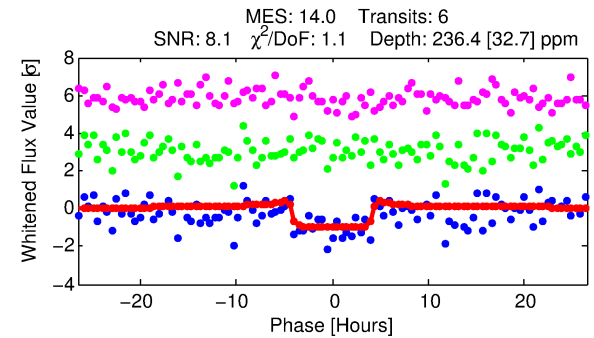
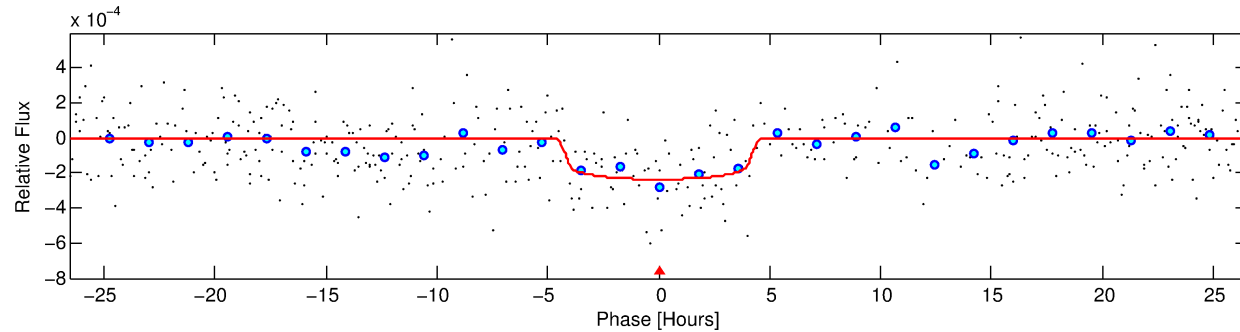
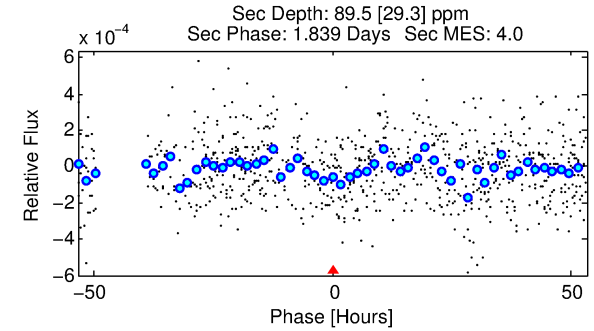
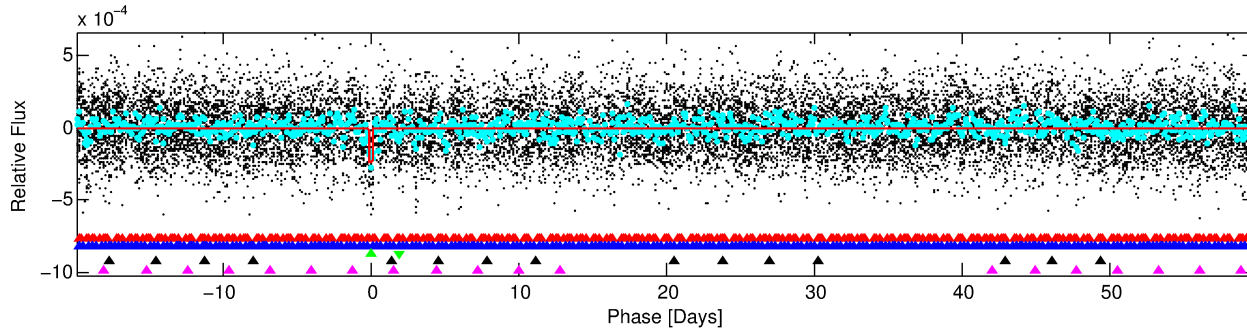
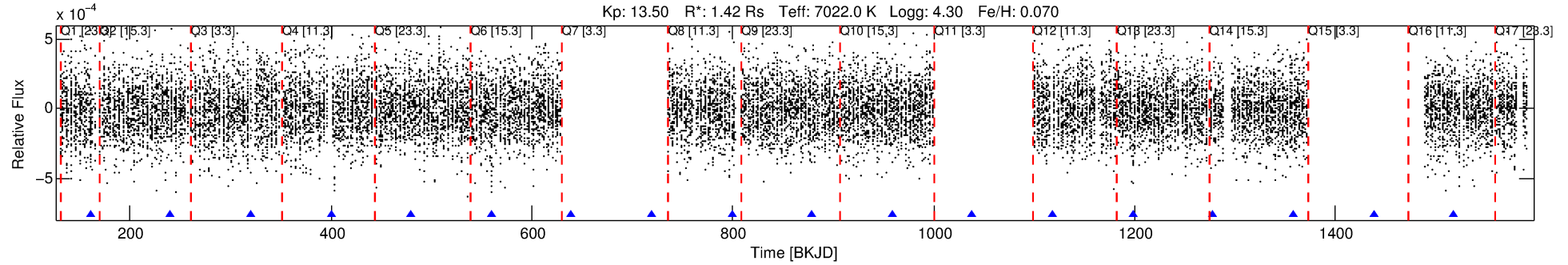
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010933943-03

No Significant Match Found

DV One-Page Summary

KIC: 10933943 Candidate: 3 of 5 Period: 79.809 d



DV Fit Results:

Period = 79.80898 [0.00198] d
Epoch = 160.7532 [0.0140] BKJD
Rp/R* = 0.0154 [0.0050]
a/R* = 44.79 [82.52]
b = 0.78 [0.93]
Seff = 25.99 [12.01]
Teq = 576 [67] K
Rp = 2.39 [1.19] Re
a = 0.4111 [0.1269] AU
Ag = 1455.91 [1233.75] [1.18σ]
Teffp = 5499 [1020] K [4.81σ]

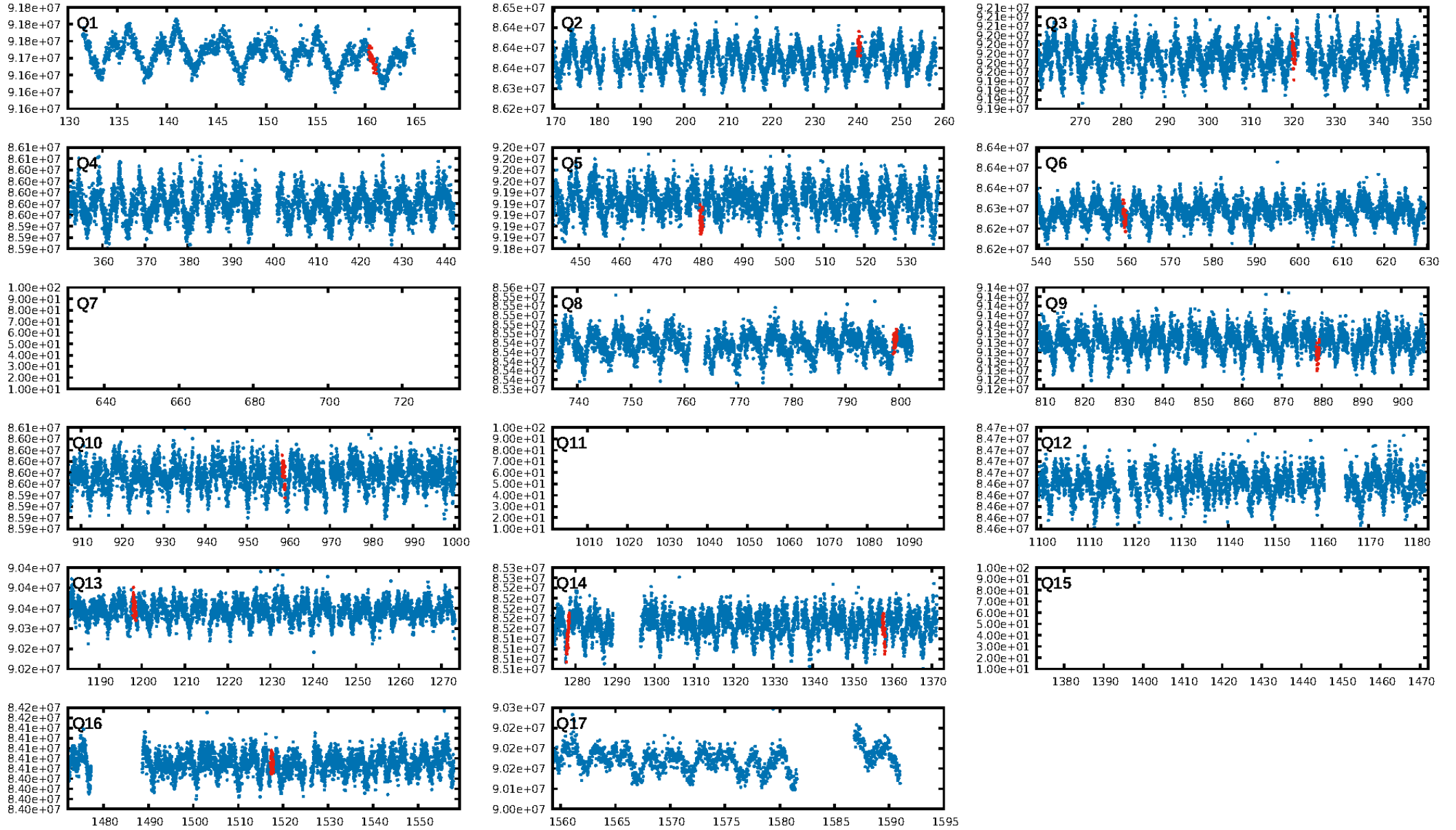
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.51σ]
LongPeriod-sig: 100.0% [27.51σ]
ModelChiSquare2-sig: 1.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.05e-24
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -4.961
Centroid-sig: 29.3%
Centroid-so: 0.799 arcsec [1.04σ]
OotOffset-rm: 1.275 arcsec [2.00σ]
KicOffset-rm: 1.339 arcsec [2.13σ]
OotOffset-st: 2/0/2/4 [8]
KicOffset-st: 2/0/2/4 [8]
DiffImageQuality-fgm: 0.25 [2/8]
DiffImageOverlap-fno: 0.27 [3/11]

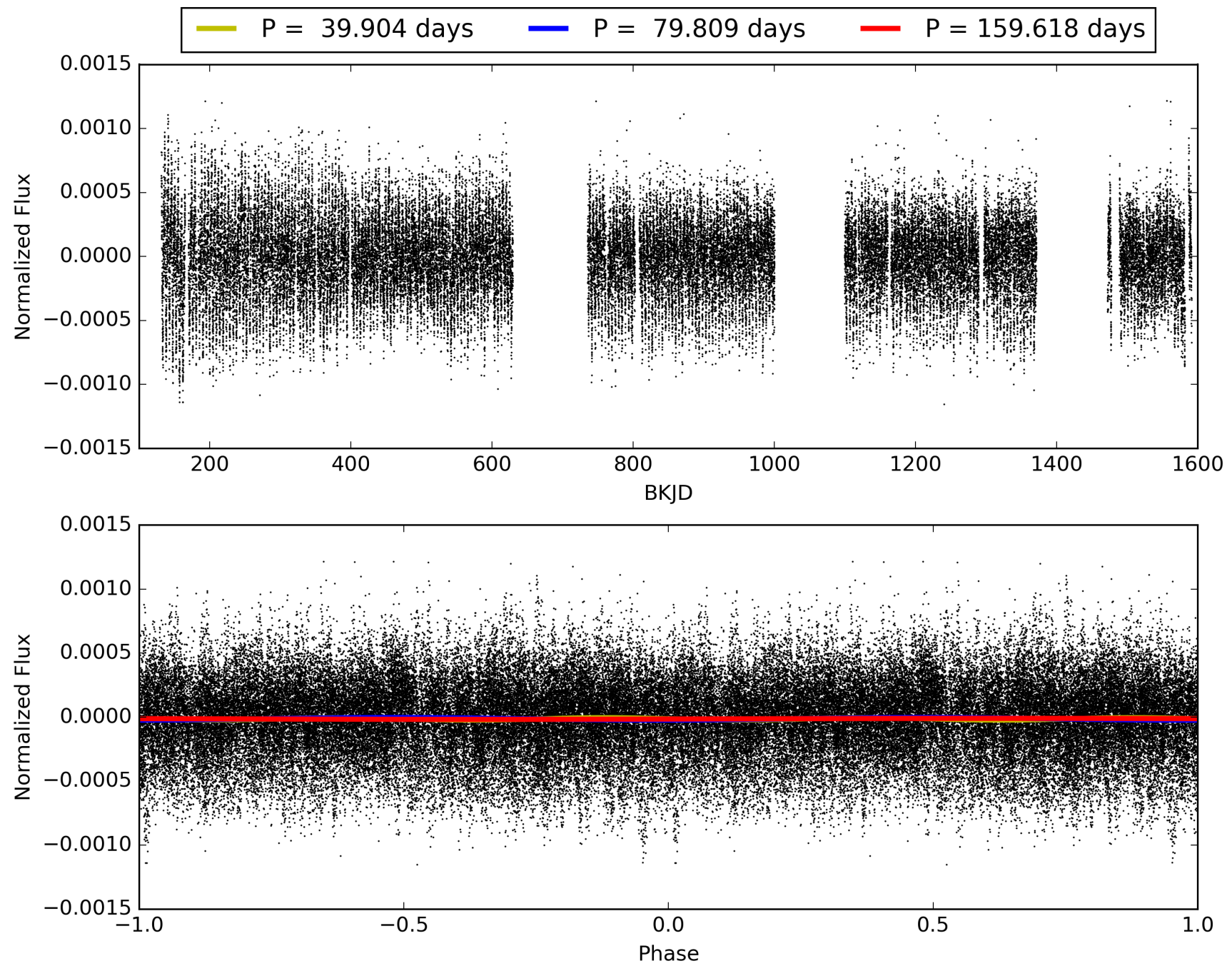
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:58:35 Z

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

TCE 010933943-03, PDC Light Curves

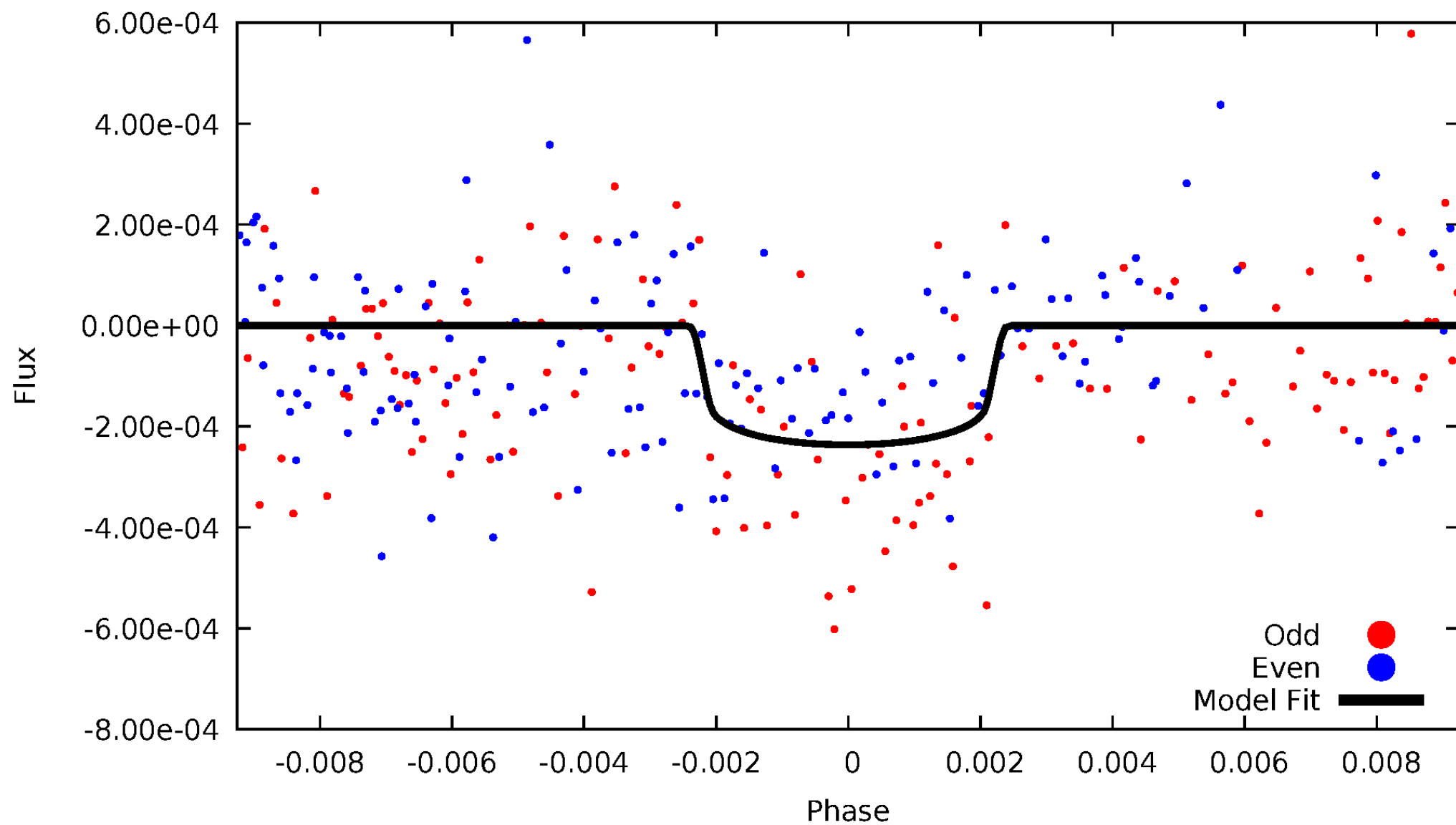


TCE 010933943-03



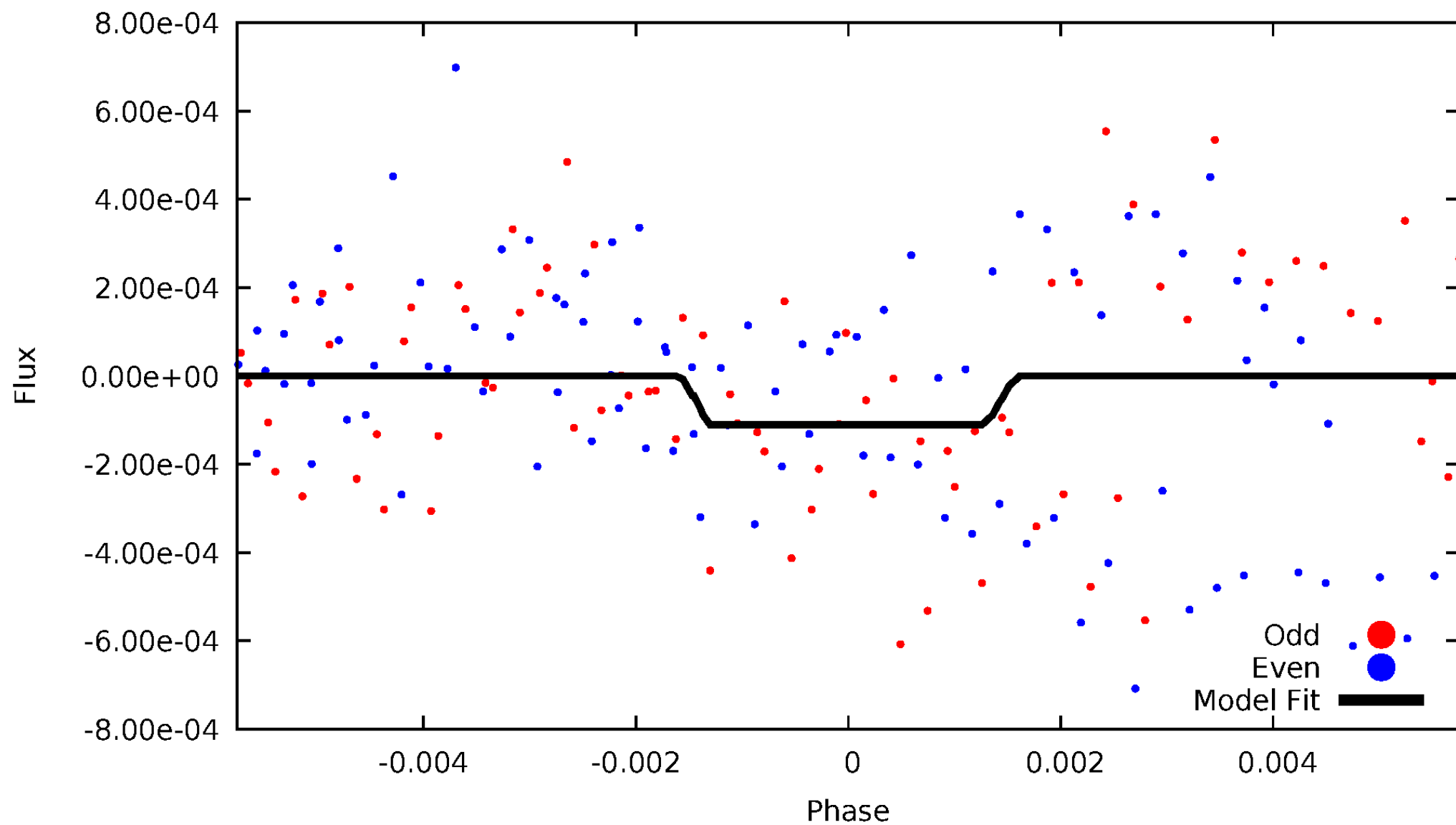
DV Odd/Even

TCE 010933943-03

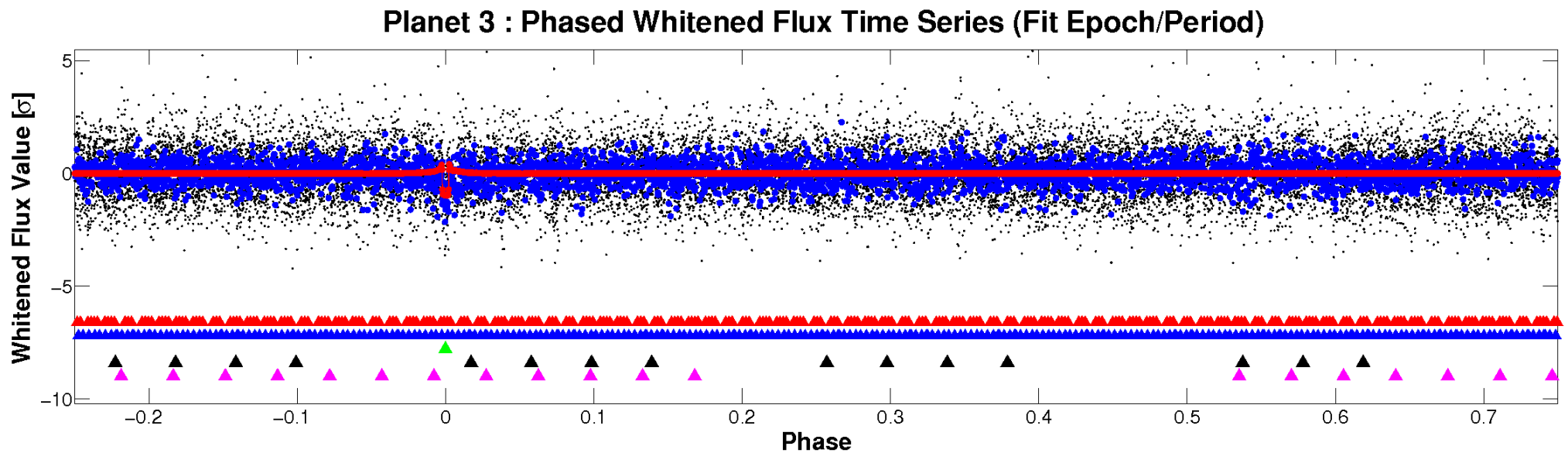
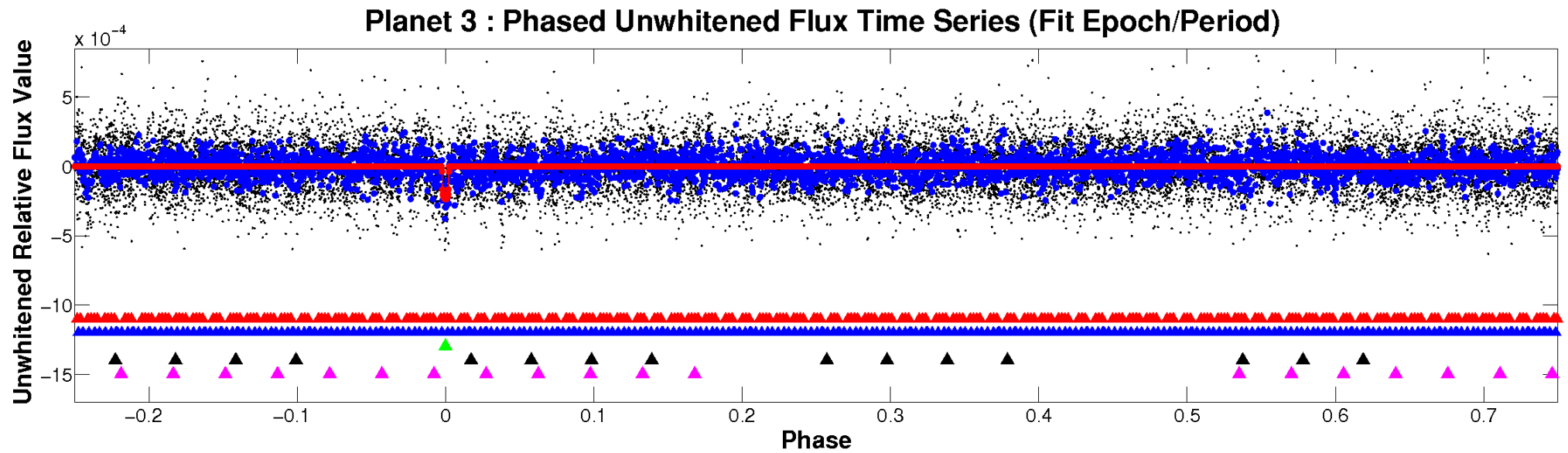


ALT Odd/Even

TCE 010933943-03

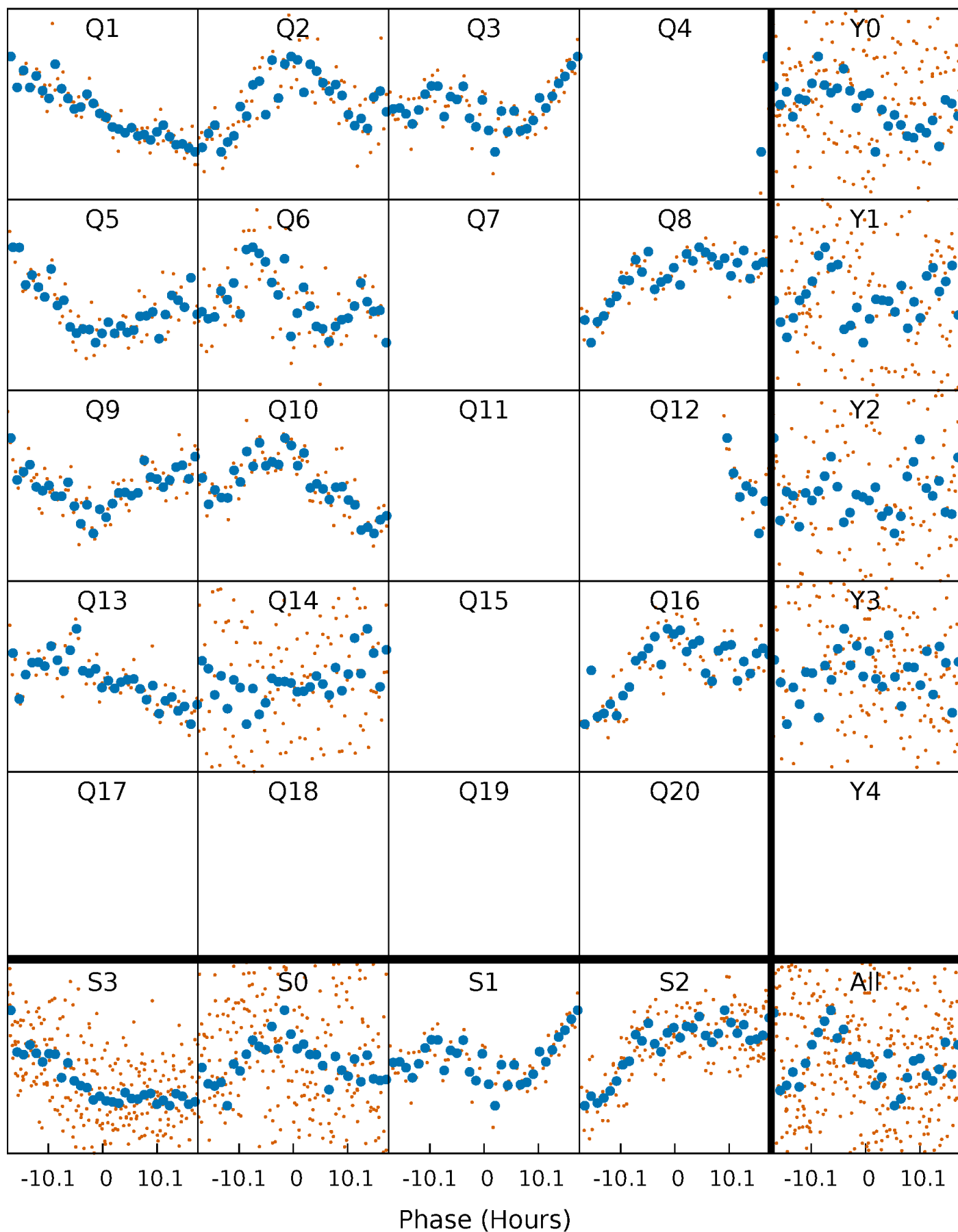


Non-Whitened Vs. Whitened Light Curve



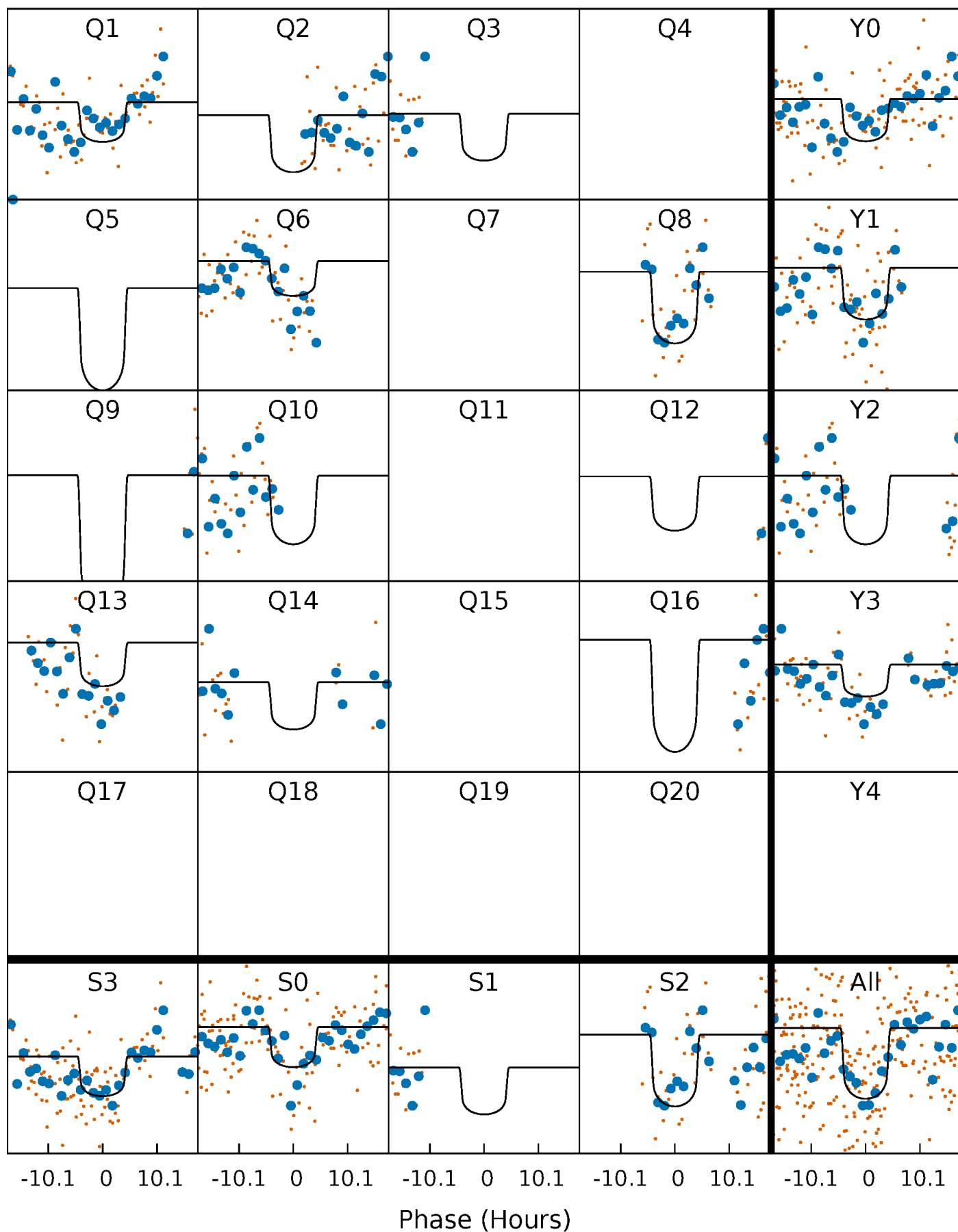
PDC Quarter-Phased Transit Curves

TCE 010933943-03 $P = 79.808978$ Days $T_0 = 160.753172$ (BKJD)



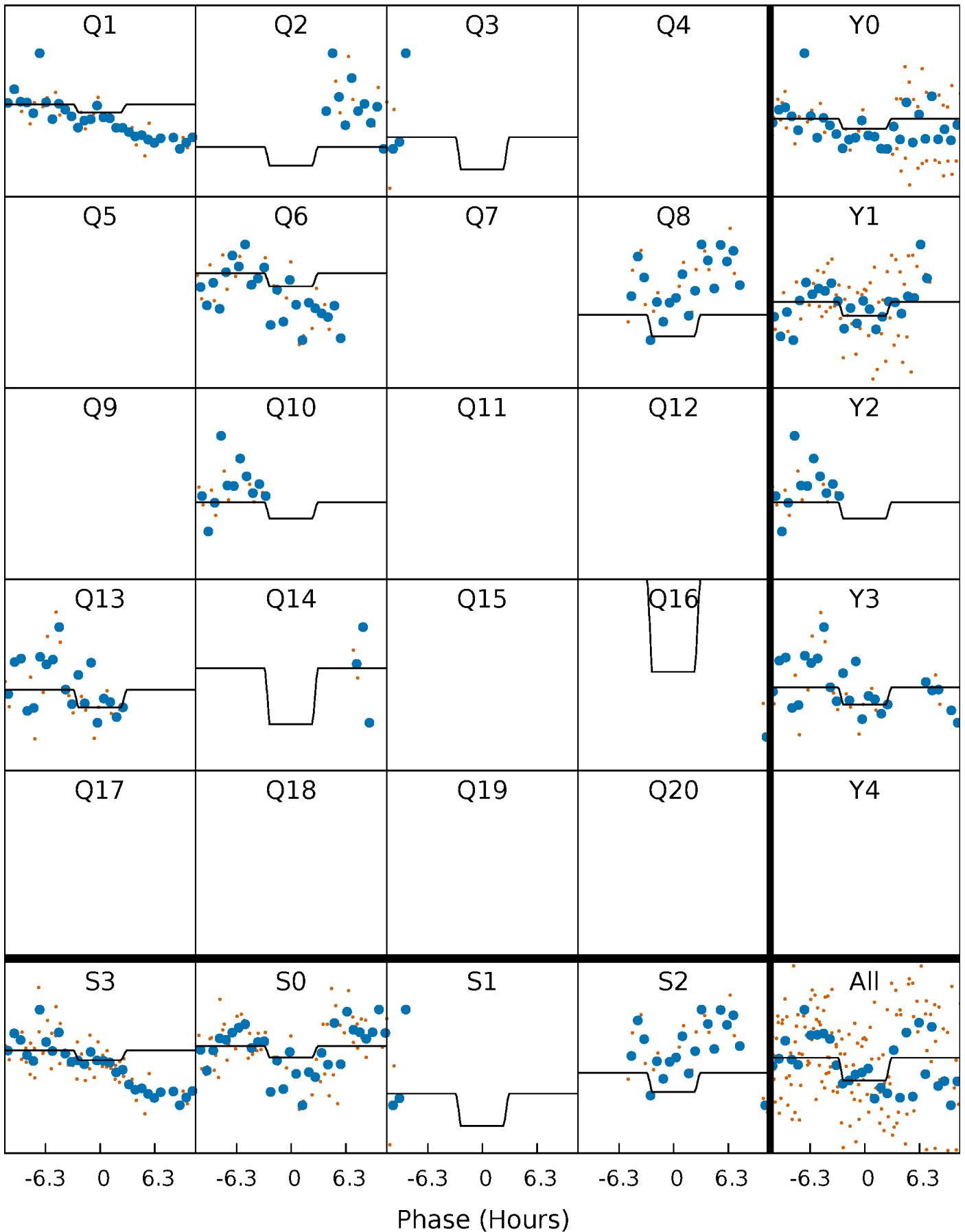
DV Quarter-Phased Transit Curves

TCE 010933943-03 P= 79.808978 Days $T_0=160.753172$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

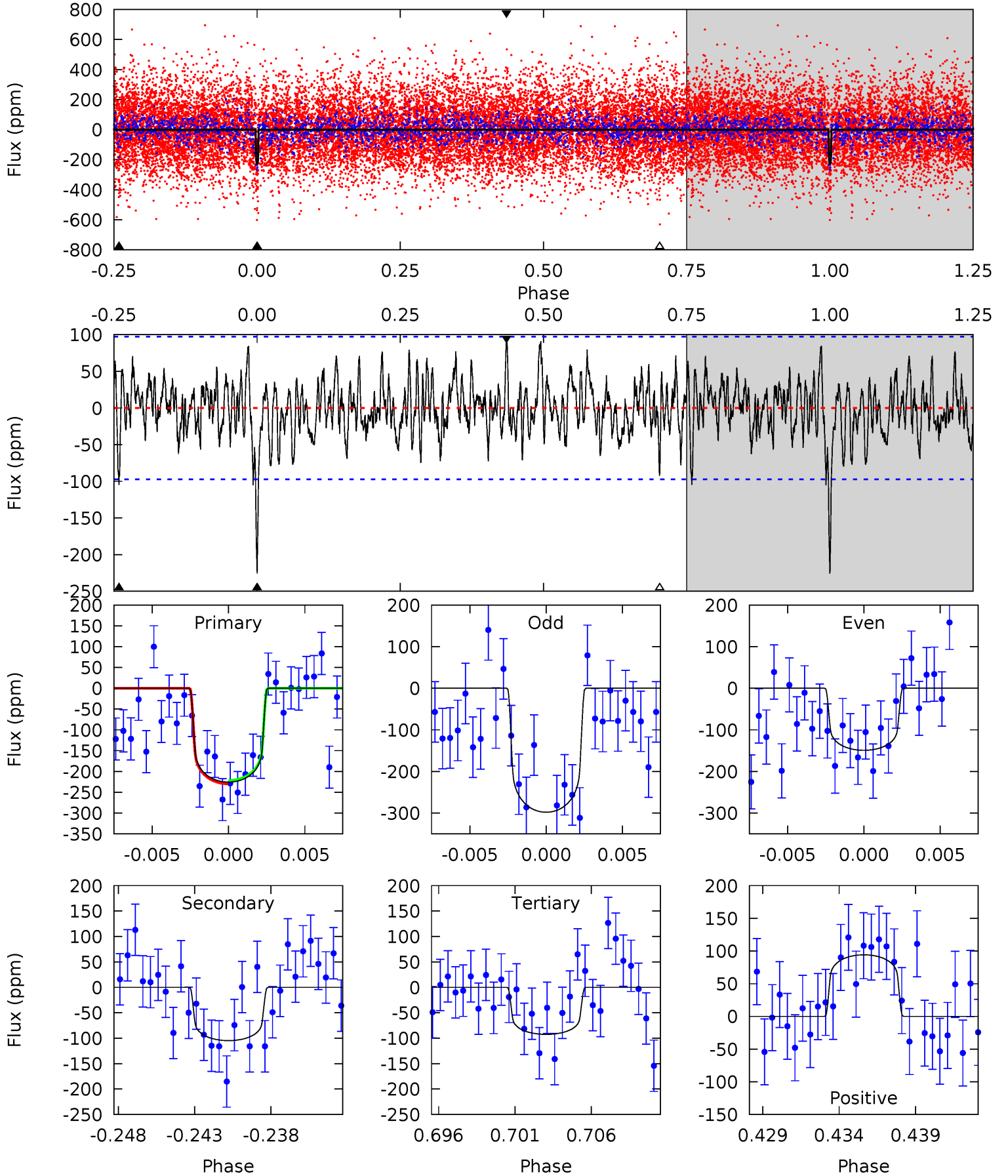
TCE 010933943-03 P= 79.816424 Days $T_0=160.660125$ (BKJD)



DV Model-Shift Uniqueness Test

010933943-03, P = 79.808978 Days, E = 80.944194 Days

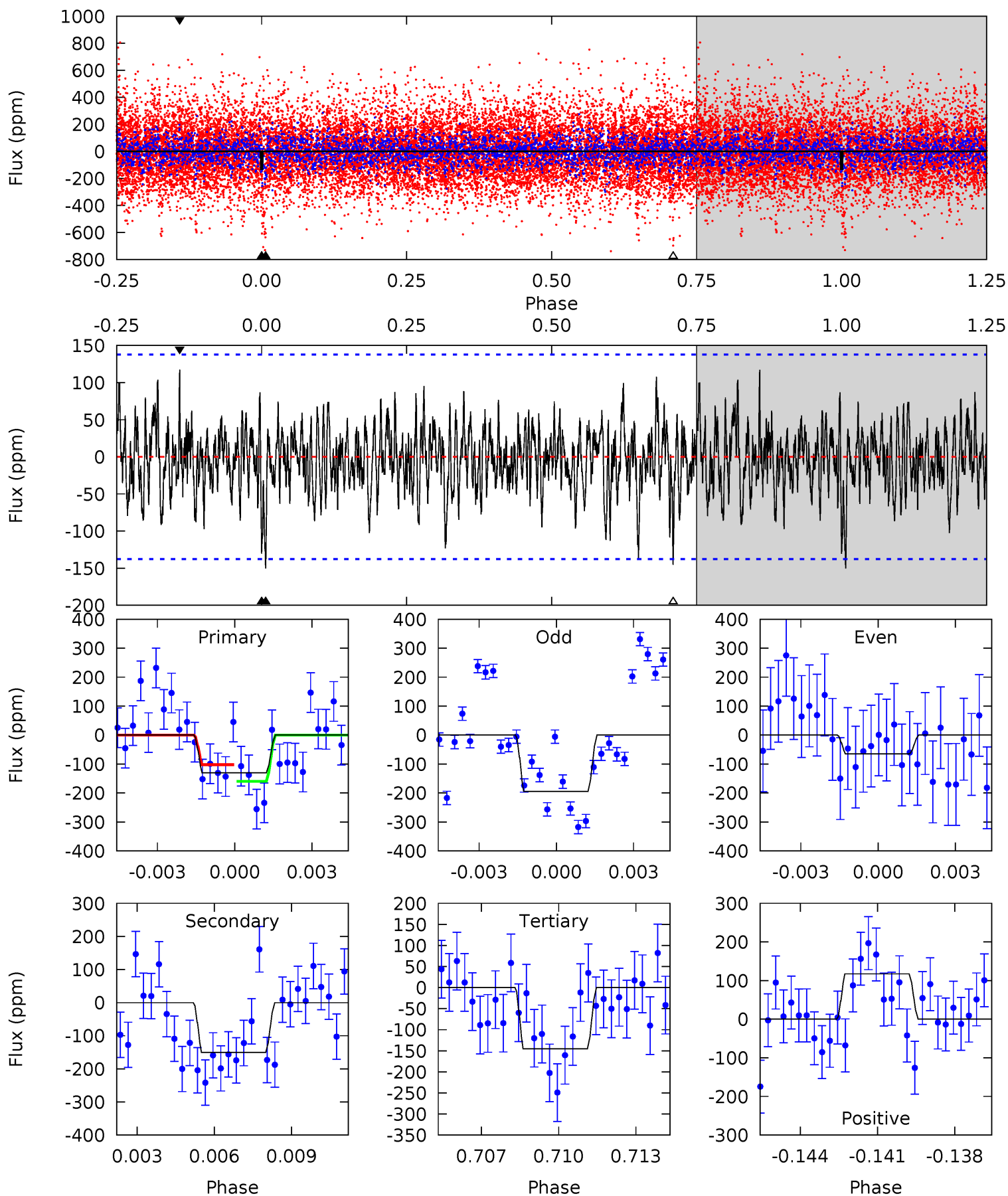
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	5.56	4.91	5.00	5.17	2.82	1.63	7.07	6.98	0.65	0.56	3.94	1.30	0.29	0.21



Alt Model-Shift Uniqueness Test

010933943-03, P = 79.816424 Days, E = 80.843701 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.96	5.71	5.54	4.47	5.25	2.96	1.42	-0.58	0.50	0.17	1.25	2.48	0.88	0.44	1.10



Stellar Parameters For KIC 010933943

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7022^{+194}_{-267}	$4.296^{+0.058}_{-0.232}$	$0.070^{+0.200}_{-0.350}$	$1.420^{+0.537}_{-0.179}$	$1.451^{+0.202}_{-0.202}$	$0.714^{+0.236}_{-0.414}$
	+3%/-4%	+1%/-5%	+286%/-500%	+38%/-13%	+14%/-14%	+33%/-58%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010933943-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-105 ± 19	$2.51^{+0.97}_{-0.82}$	823^{+69}_{-46}	5646^{+1243}_{-686}	1474^{+1894}_{-707}
Alt.	-150 ± 26	$1.71^{+0.90}_{-0.80}$	822^{+69}_{-44}	7687^{+4215}_{-1543}	4761^{+11540}_{-2780}

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

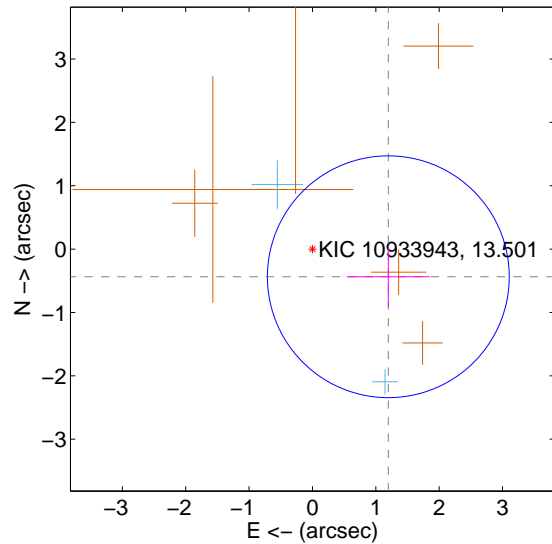
Supplemental centroid analysis for 010933943-03. Kepler magnitude: 13.50. Transit SNR 8.06

There are 2 quarters with good PRF difference image offsets

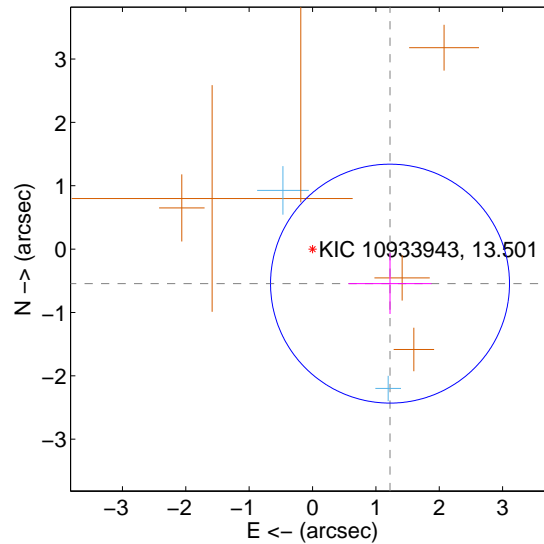
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.275 ± 0.636	2.00	-1.198 ± 0.654	-0.437 ± 0.479
PRF-fit source offset from KIC position	1.339 ± 0.629	2.13	-1.223 ± 0.654	-0.545 ± 0.479
photometric centroid source offset	0.80 ± 0.77	1.04	-0.38 ± 0.76	-0.70 ± 0.77

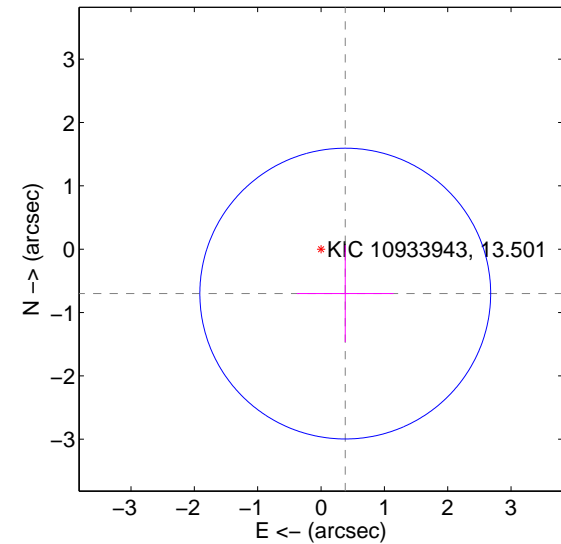
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

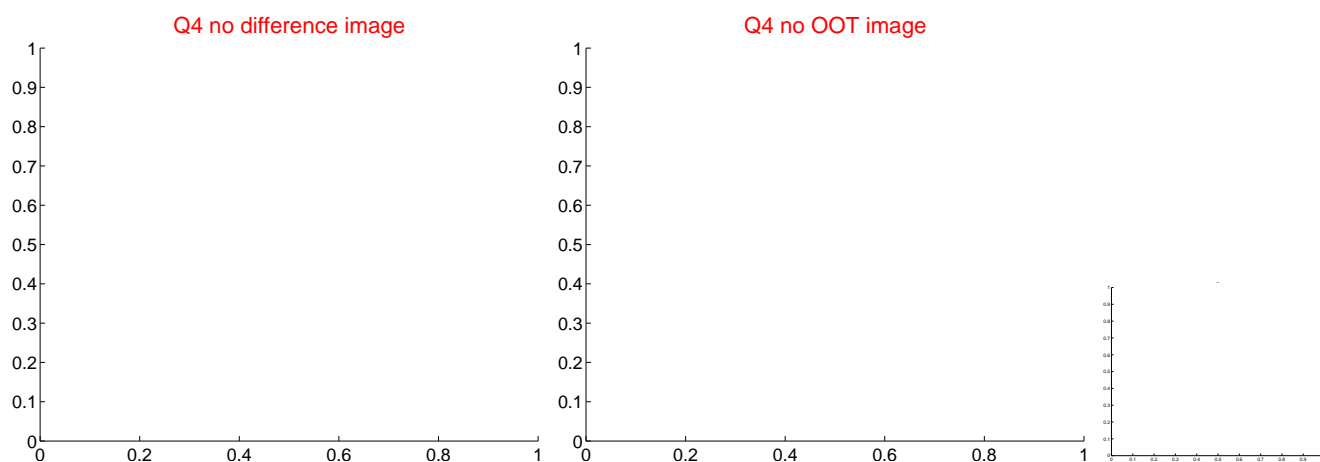
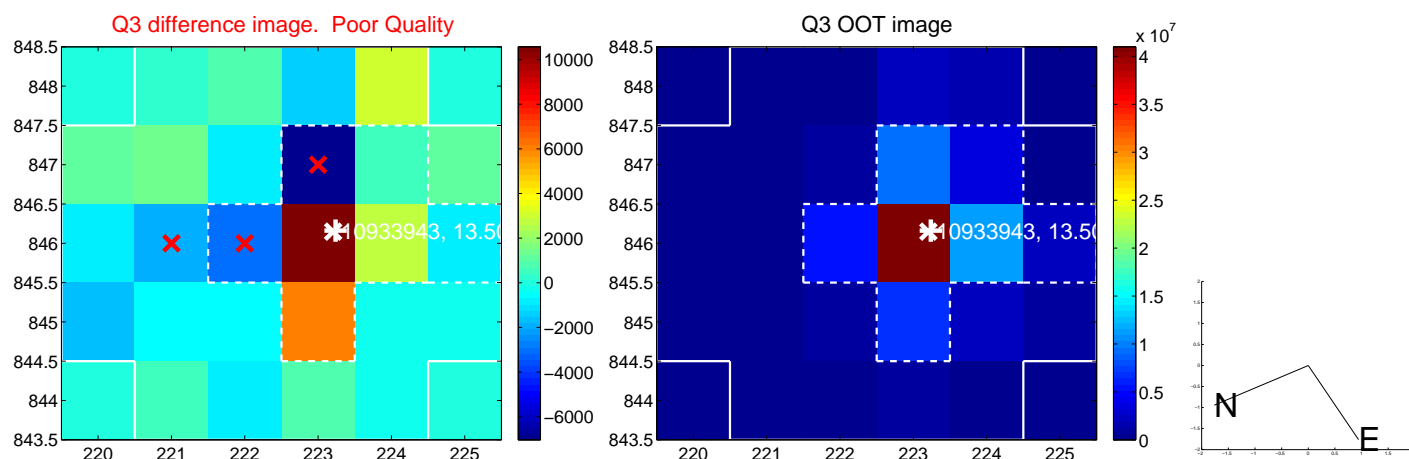
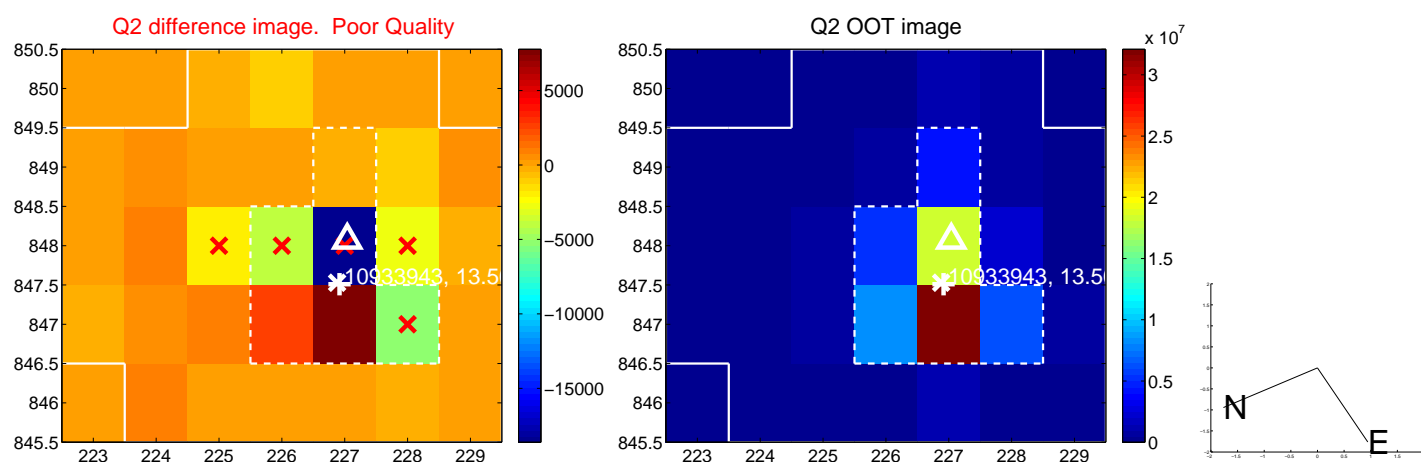
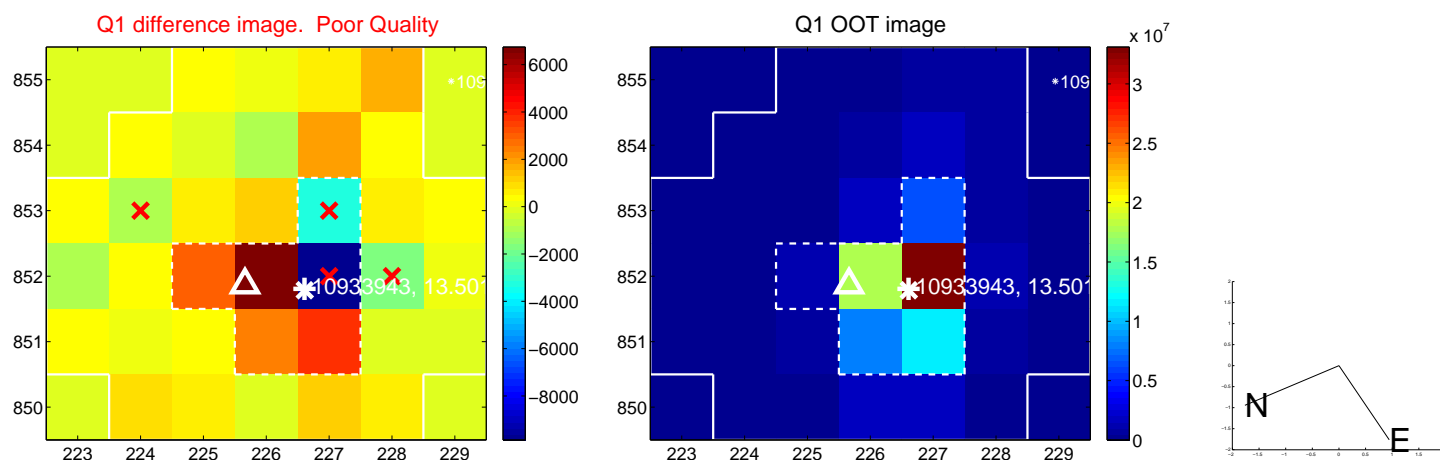


offset from photometric centroids

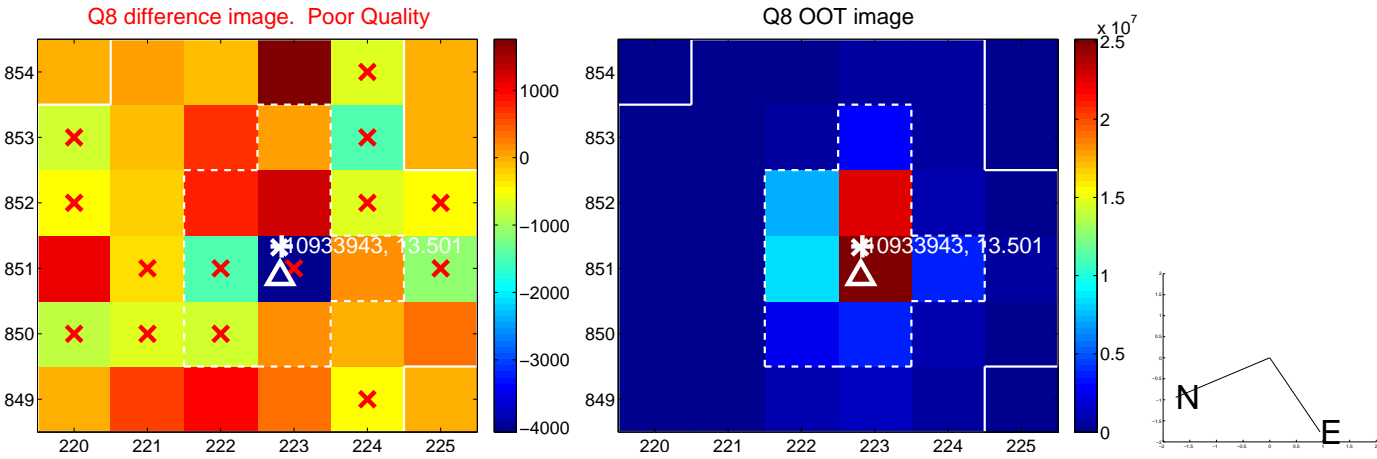
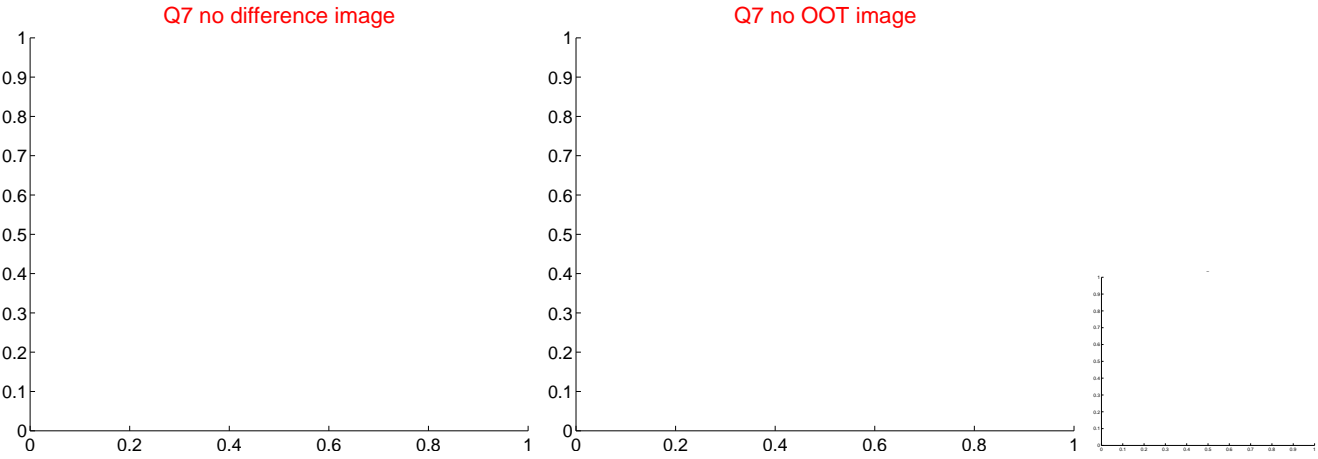
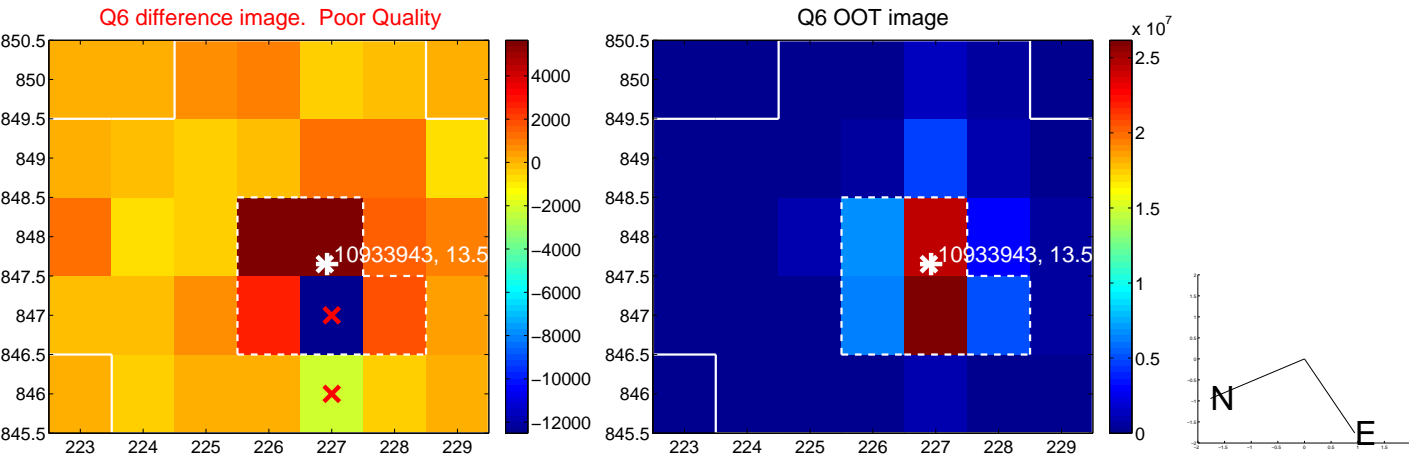
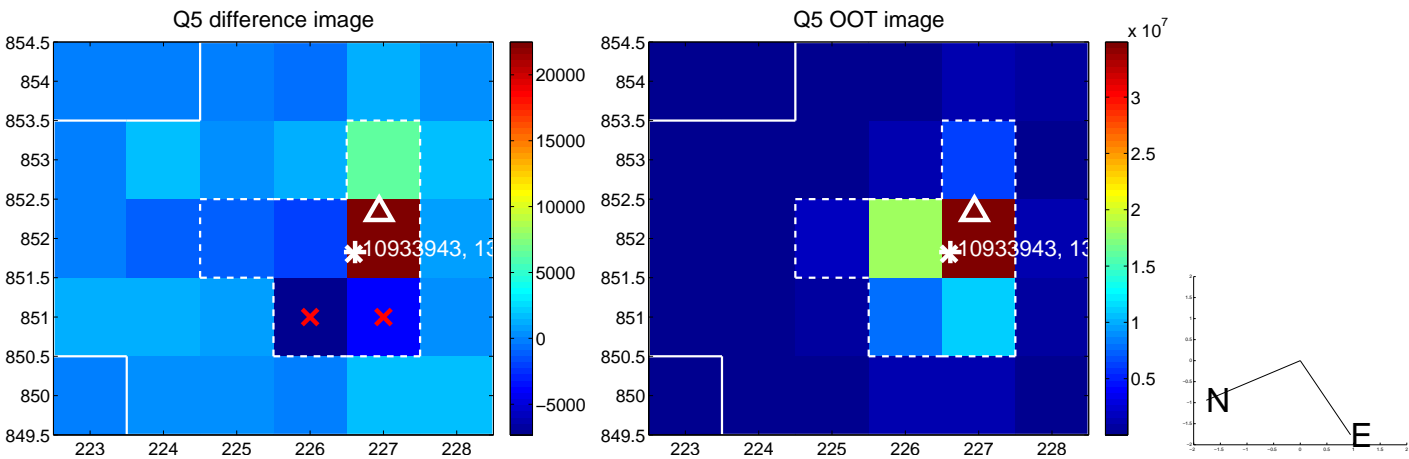


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

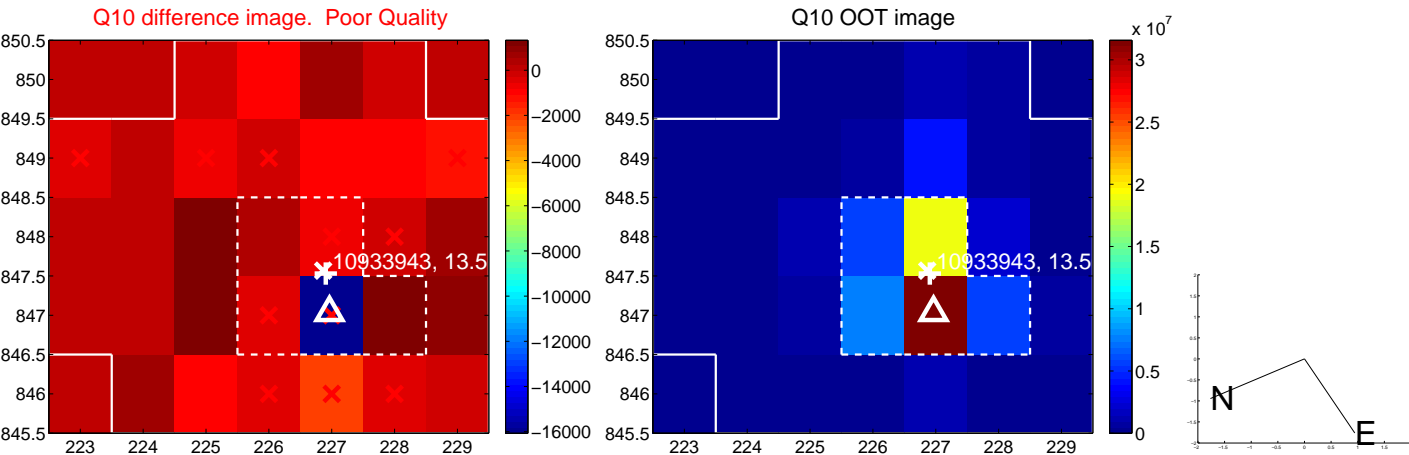
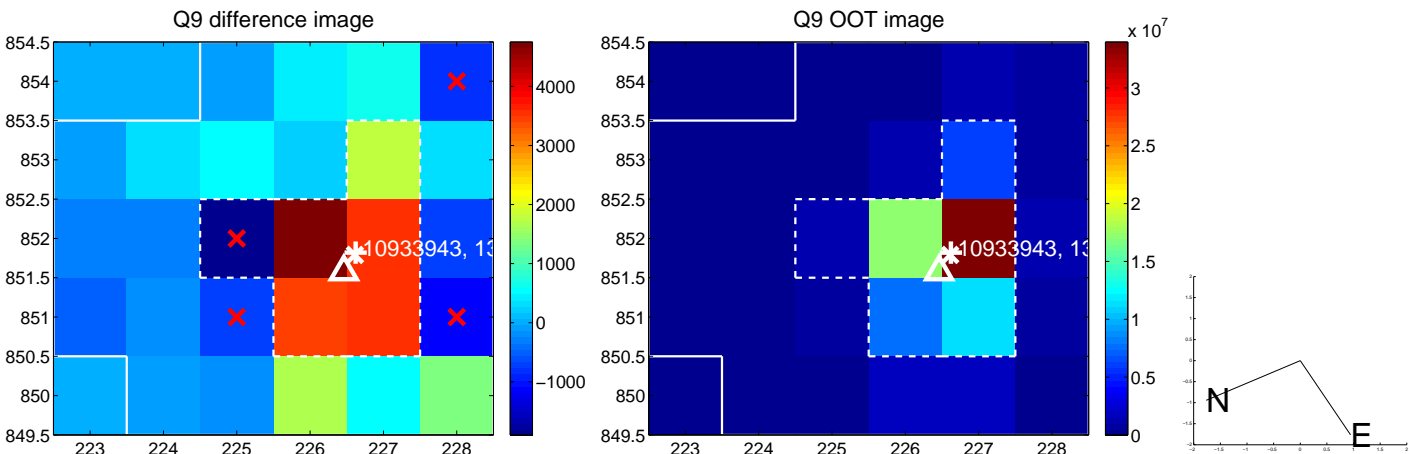
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



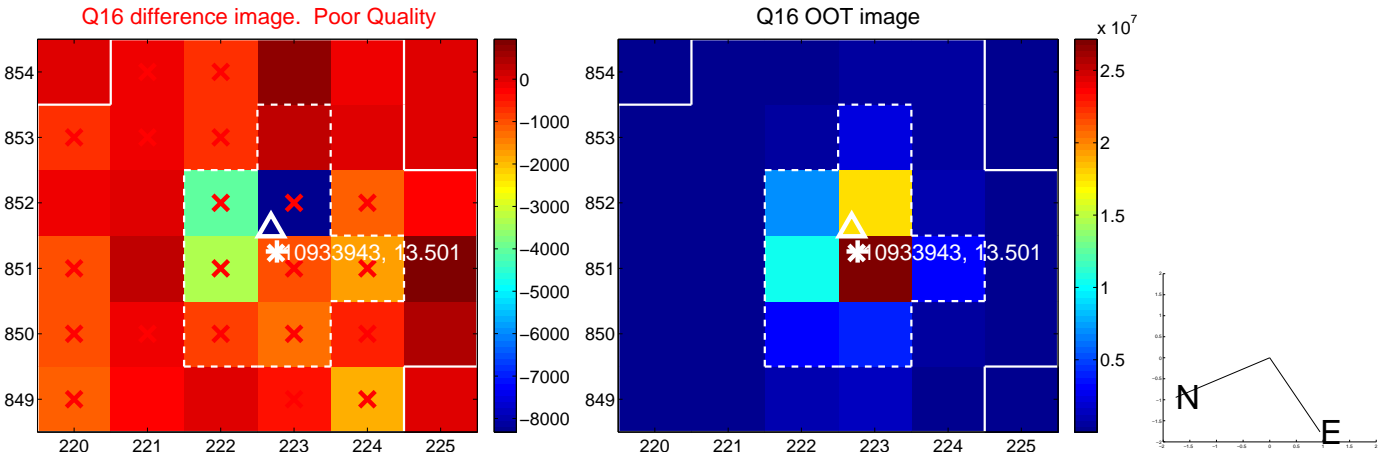
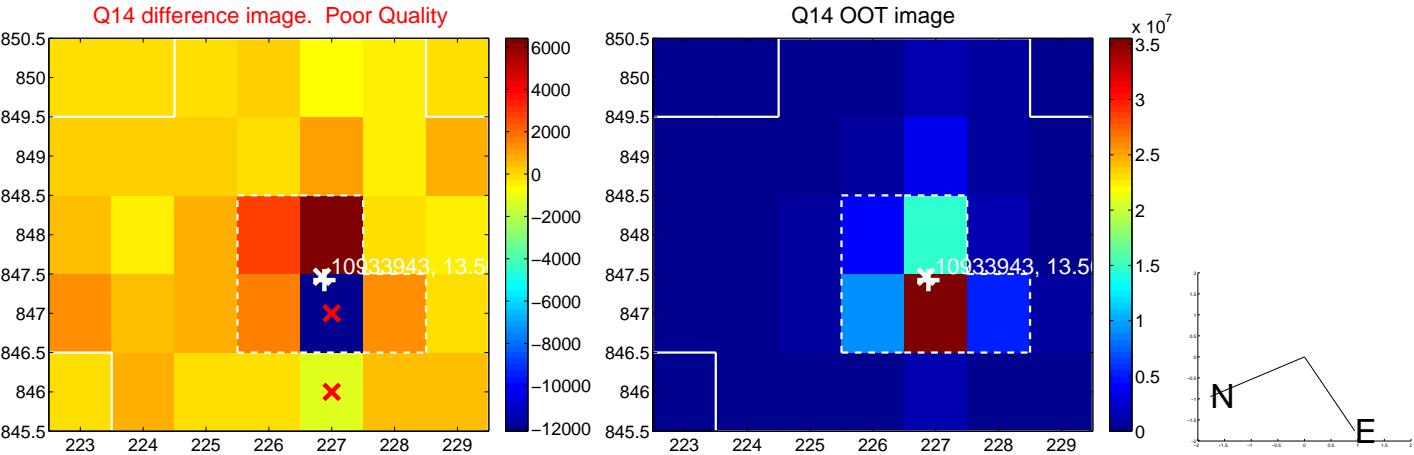
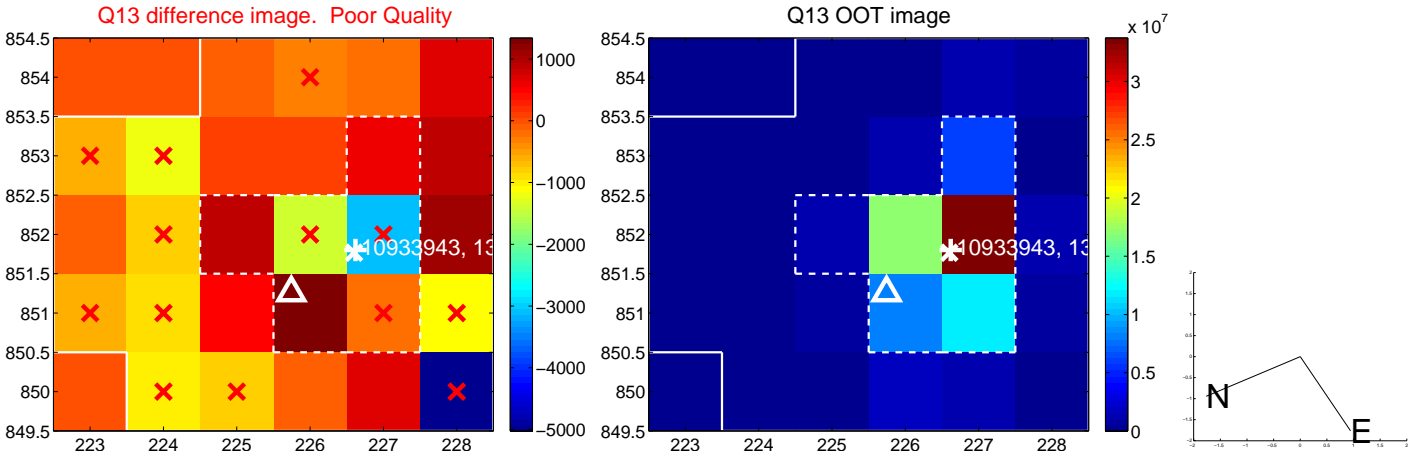
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



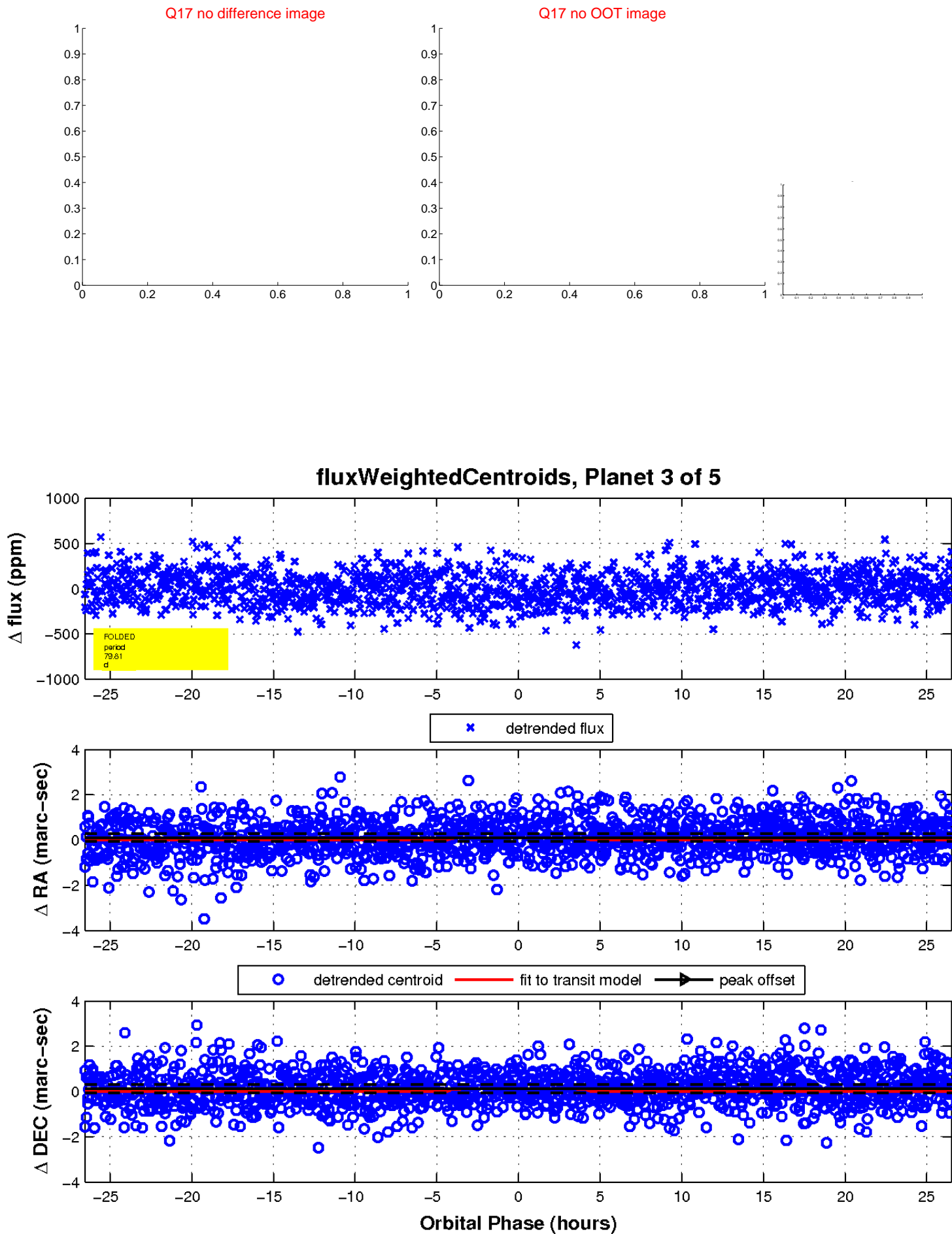
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

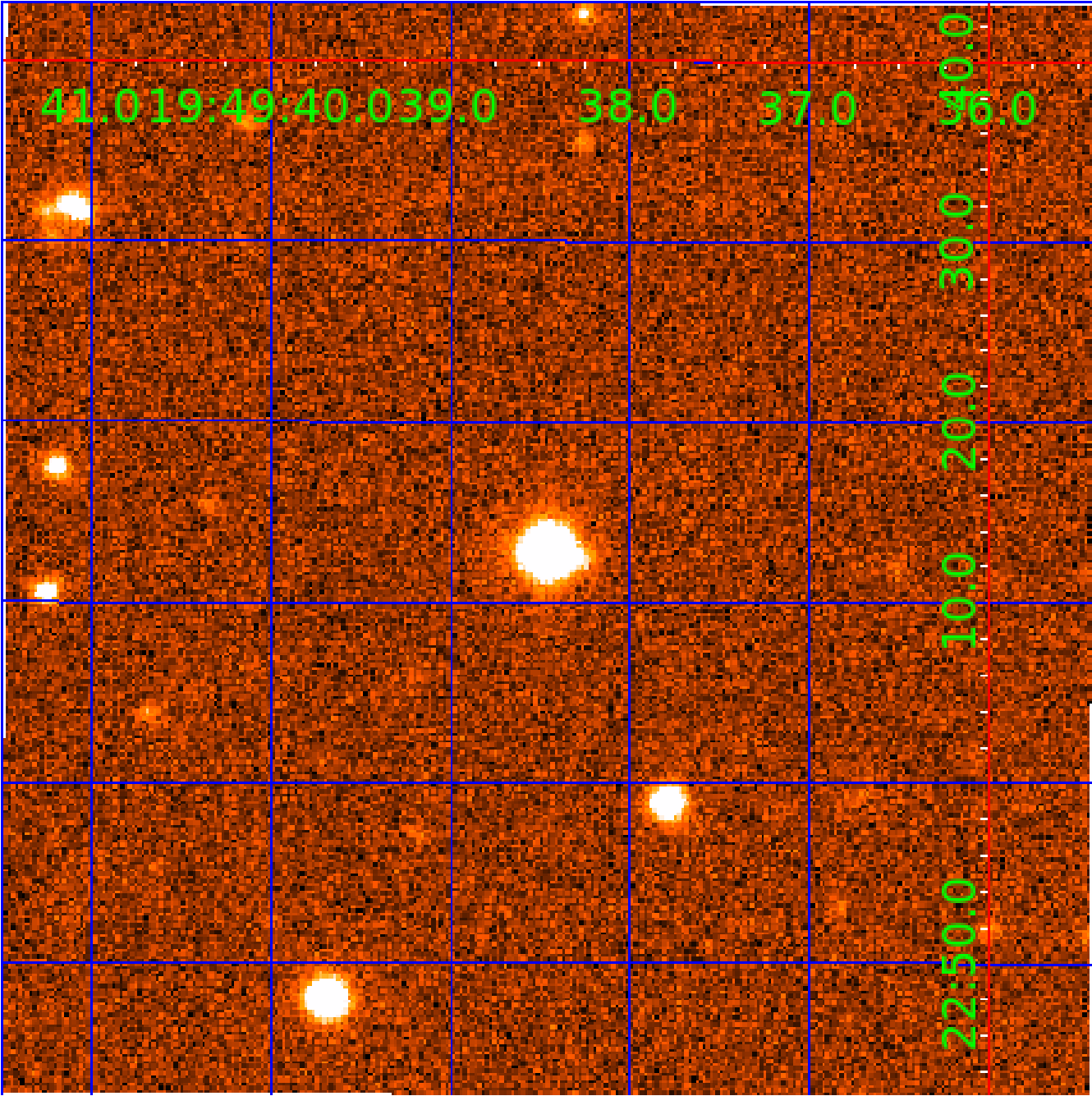


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010933943

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})
010933943-01	OBS	No	4.748494	135.442987	37.6	11.248	8.4	7.8	1.42	7022	1.10	1119.07
010933943-02	OBS	No	4.746746	133.596972	46.5	13.002	7.7	8.6	1.42	7022	1.96	1119.62
010933943-03	OBS	No	79.808978	160.753172	236.4	8.860	14.0	8.1	1.42	7022	2.39	25.99
010933943-04	OBS	No	98.951079	152.710552	239.0	14.155	8.7	7.7	1.42	7022	2.31	19.52
010933943-05	OBS	No	77.002872	174.166050	220.8	12.000	8.2	-1.0	1.42	7022	2.13	27.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010933943-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
010933943-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
010933943-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010933943-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010933943-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

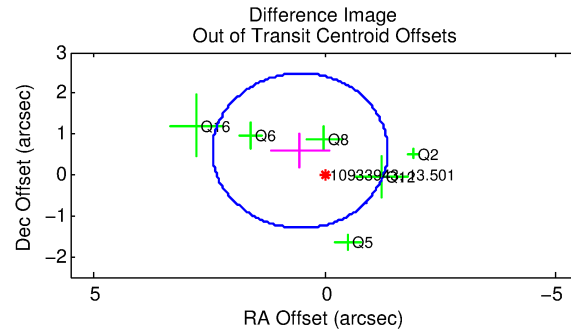
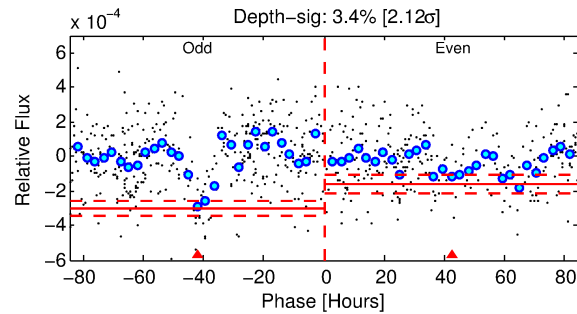
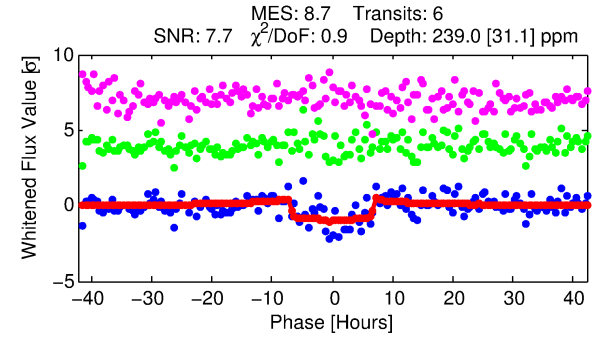
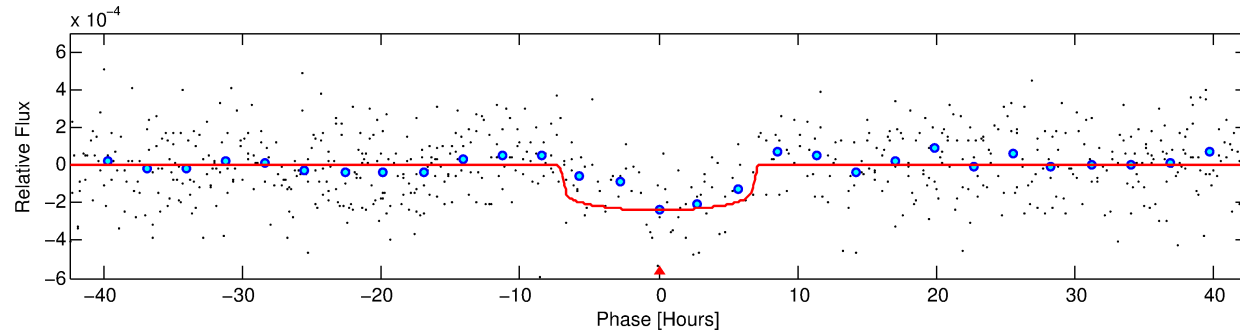
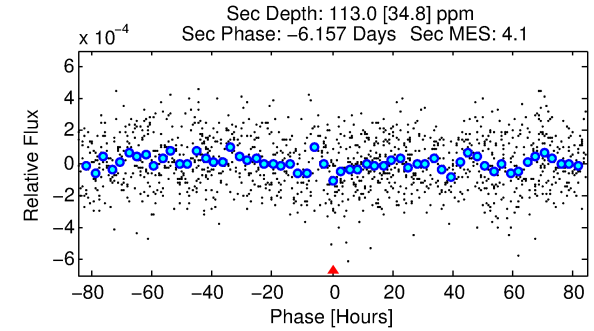
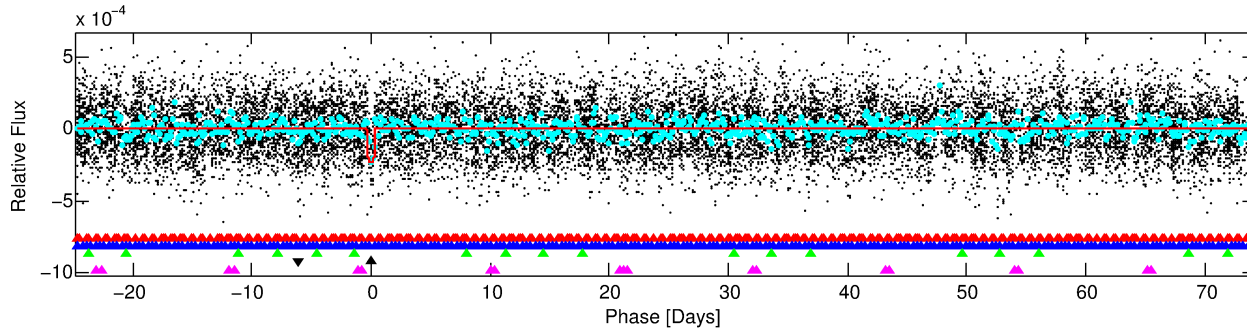
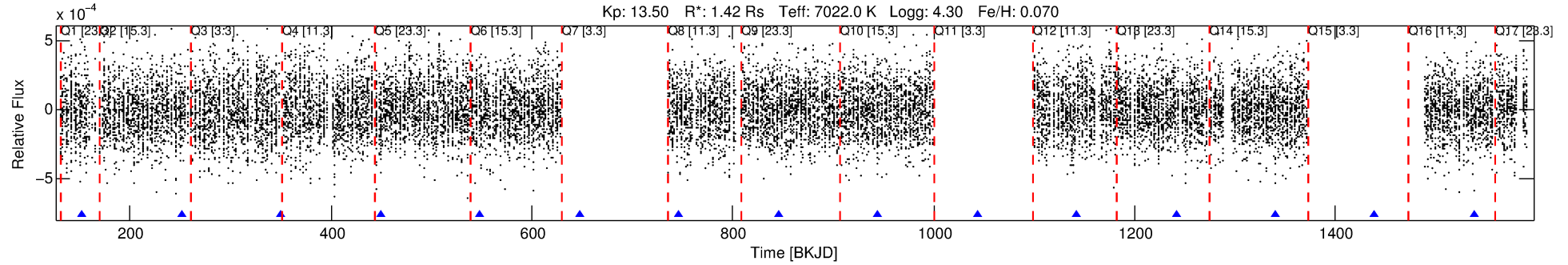
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010933943-04

No Significant Match Found

DV One-Page Summary

KIC: 10933943 Candidate: 4 of 5 Period: 98.951 d



DV Fit Results:

Period = 98.95108 [0.00187] d
Epoch = 152.7106 [0.0180] BKJD
Rp/R* = 0.0149 [0.0046]
a/R* = 43.39 [76.40]
b = 0.61 [1.82]
Seff = 19.52 [9.02]
Teff = 536 [62] K
Rp = 2.31 [1.13] Re
a = 0.4744 [0.1464] AU
Ag = 2625.80 [2152.58] [1.22σ]
Teffp = 5932 [1054] K [5.11σ]

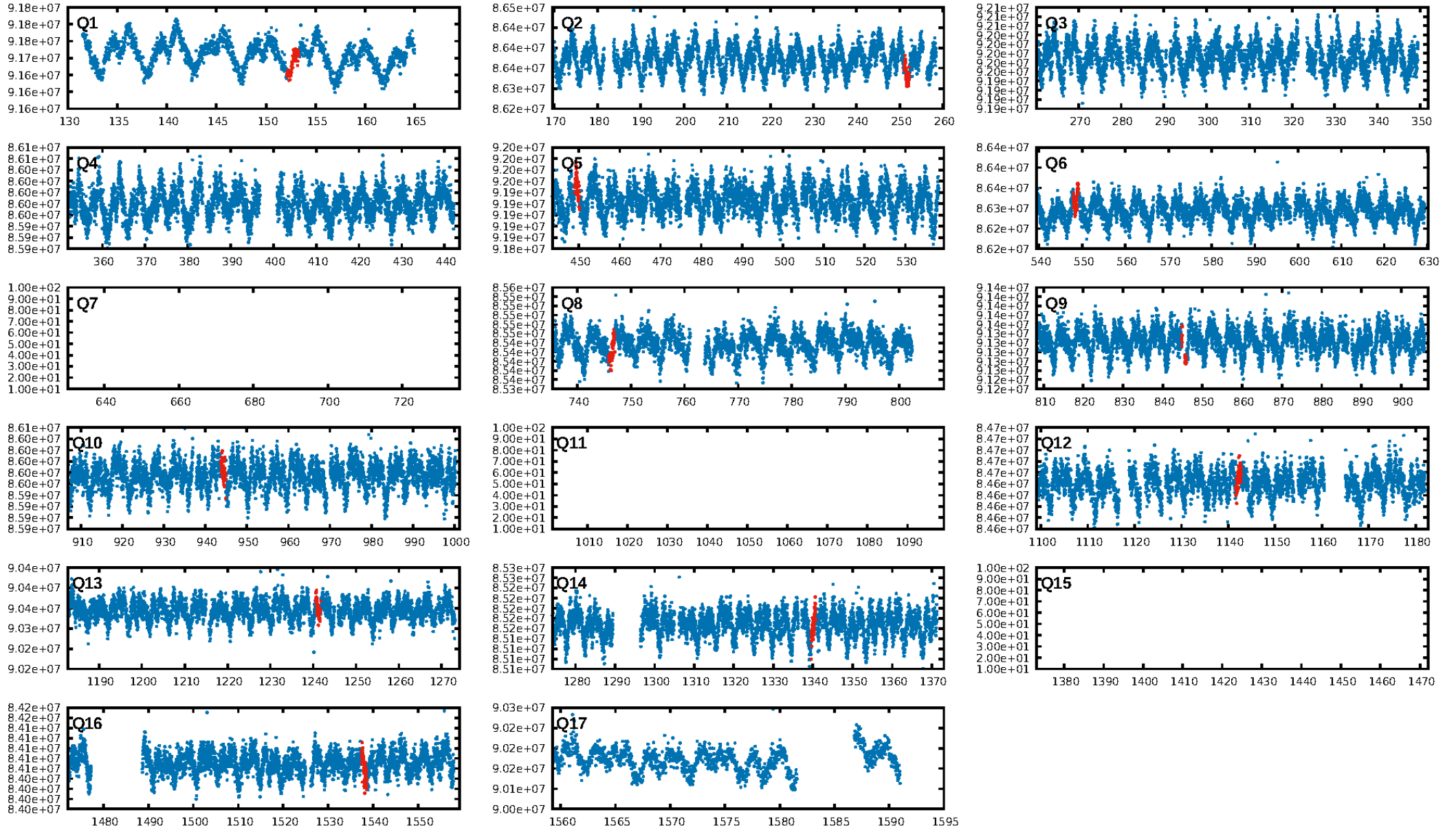
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [27.51σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 55.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.78e-11
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -1.406
Centroid-sig: 3.8%
Centroid-so: 0.961 arcsec [1.31σ]
OotOffset-rm: 0.792 arcsec [1.25σ]
KicOffset-rm: 0.680 arcsec [1.02σ]
OotOffset-st: 2/0/3/1 [6]
KicOffset-st: 2/0/3/1 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 0.00 [0/9]

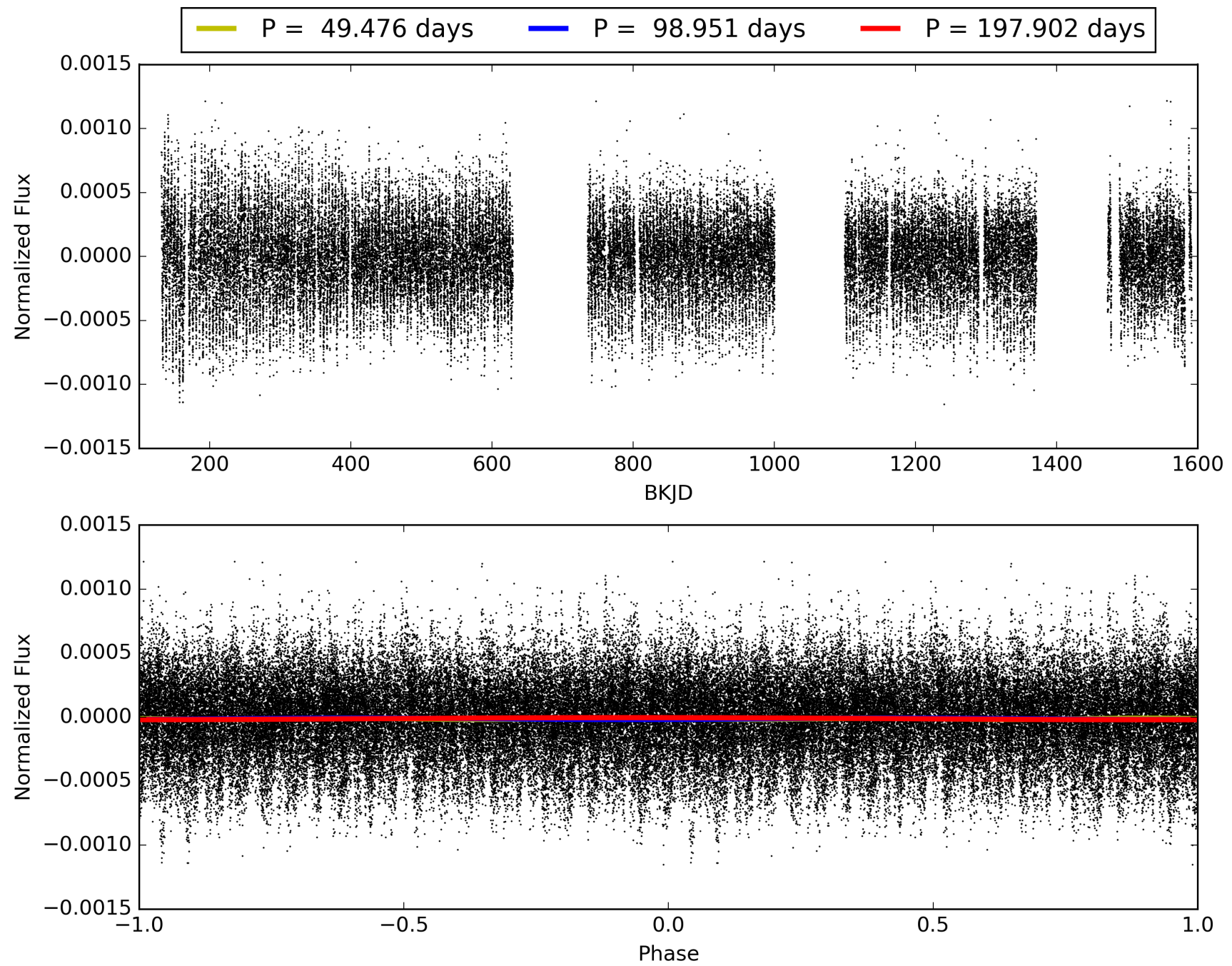
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:58:42 Z

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

TCE 010933943-04, PDC Light Curves

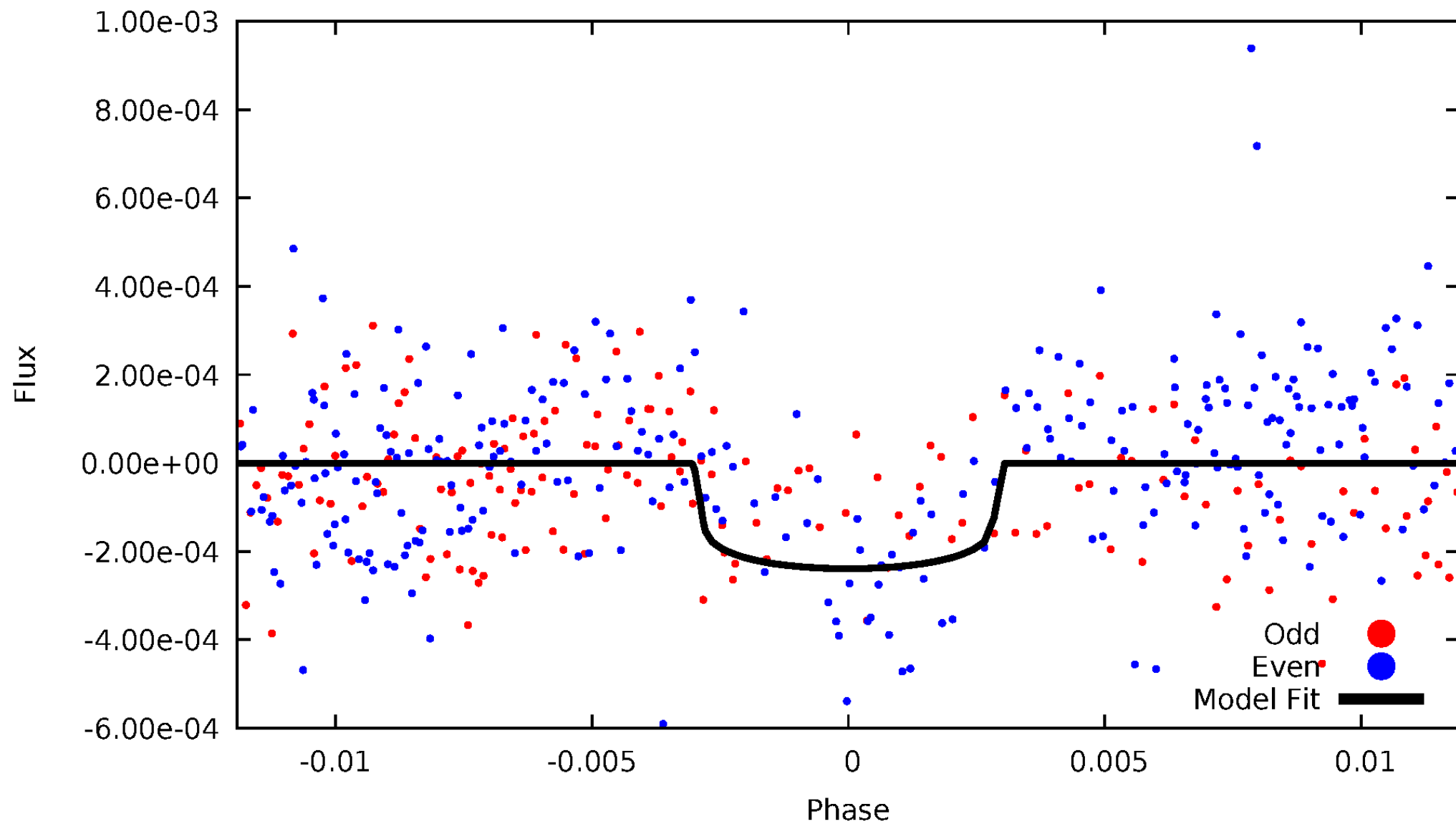


TCE 010933943-04



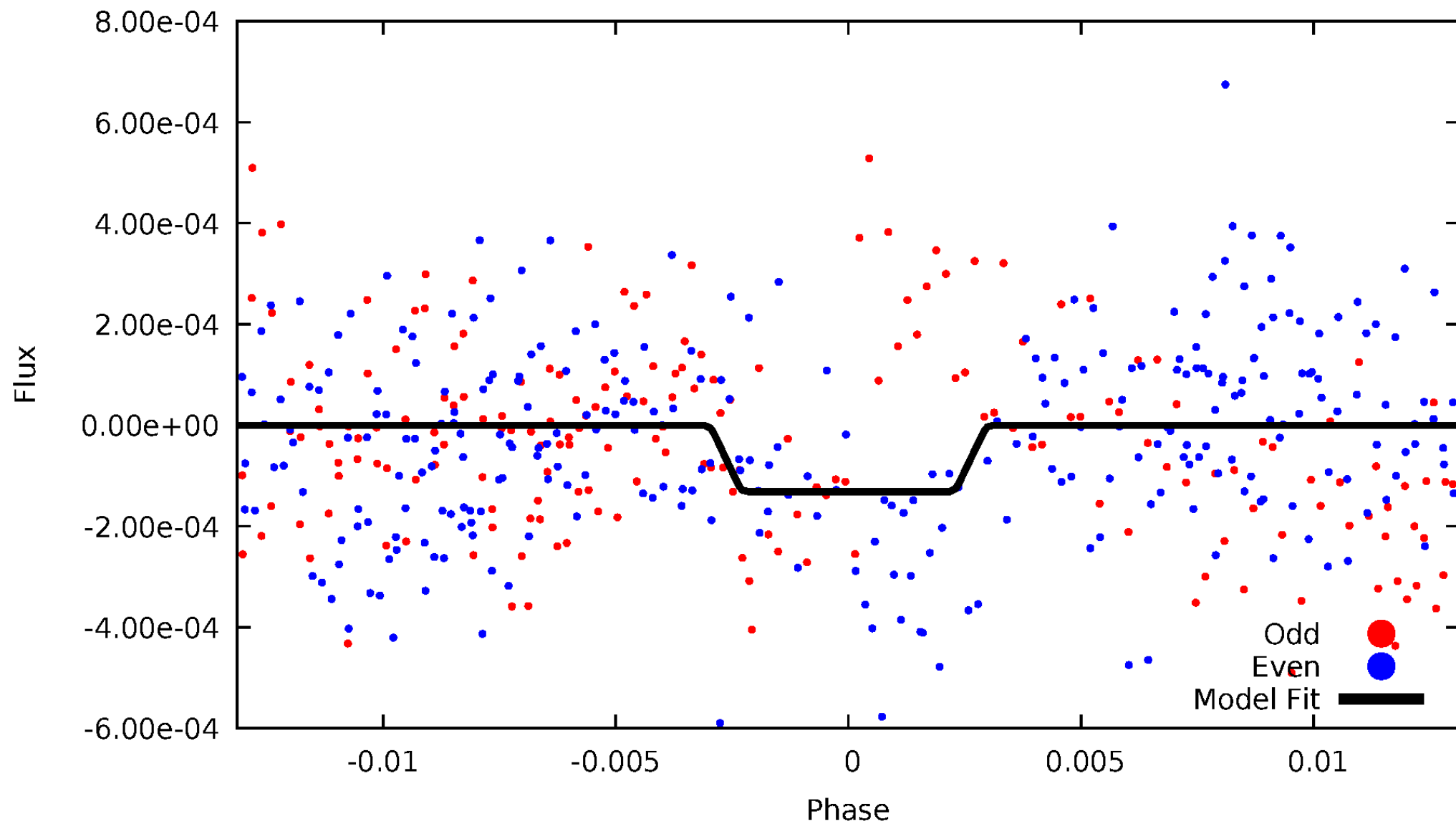
DV Odd/Even

TCE 010933943-04



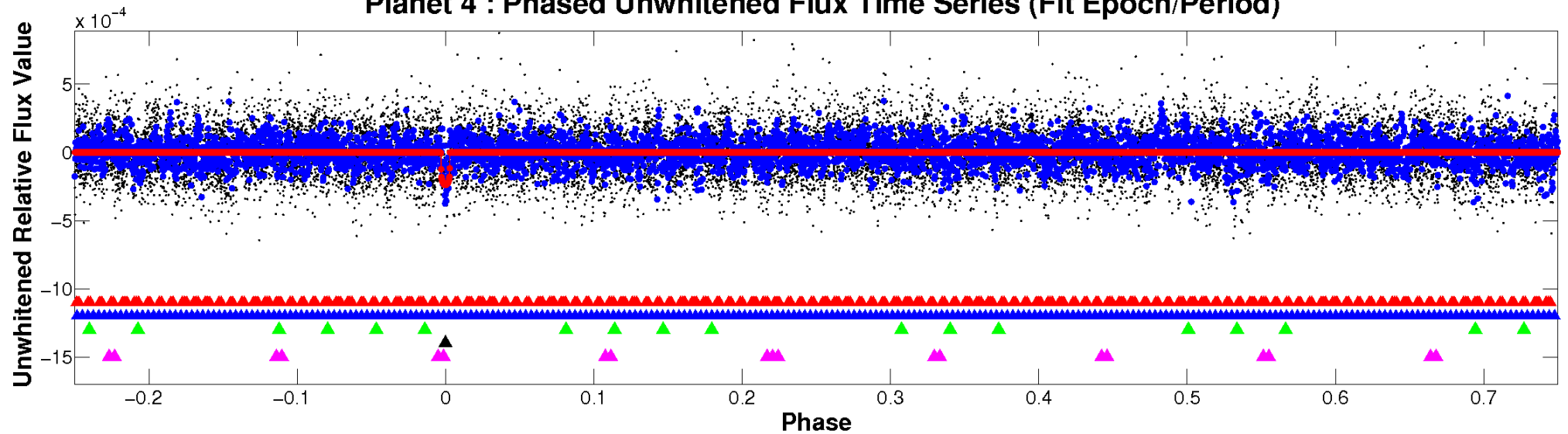
ALT Odd/Even

TCE 010933943-04

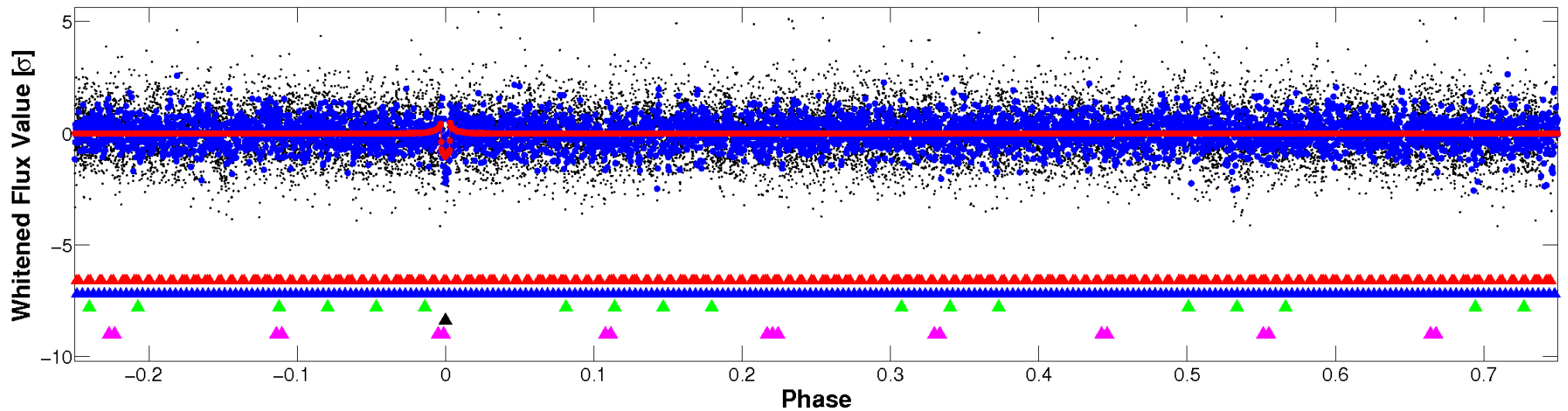


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

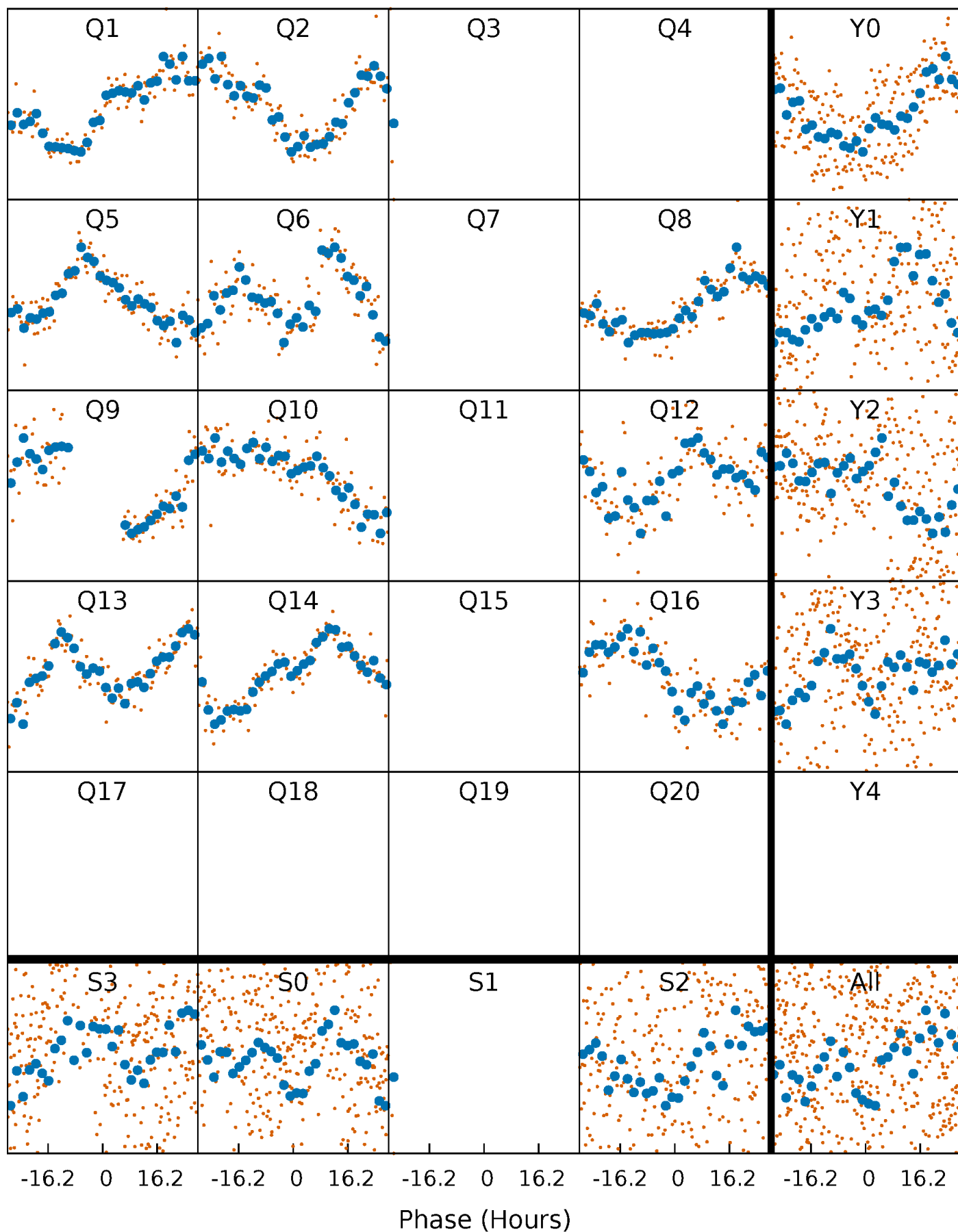


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



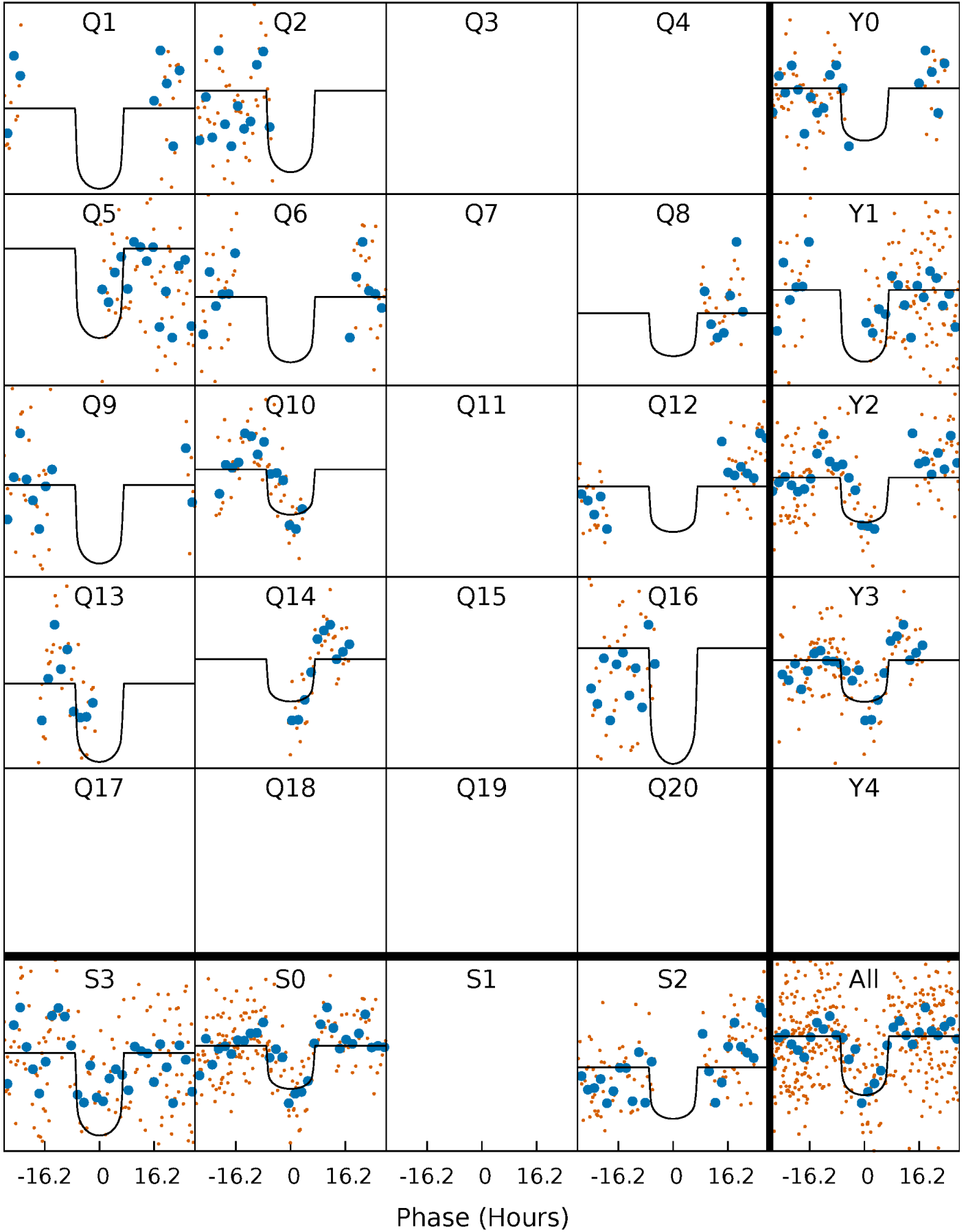
PDC Quarter-Phased Transit Curves

TCE 010933943-04 $P = 98.951079$ Days $T_0 = 152.710552$ (BKJD)



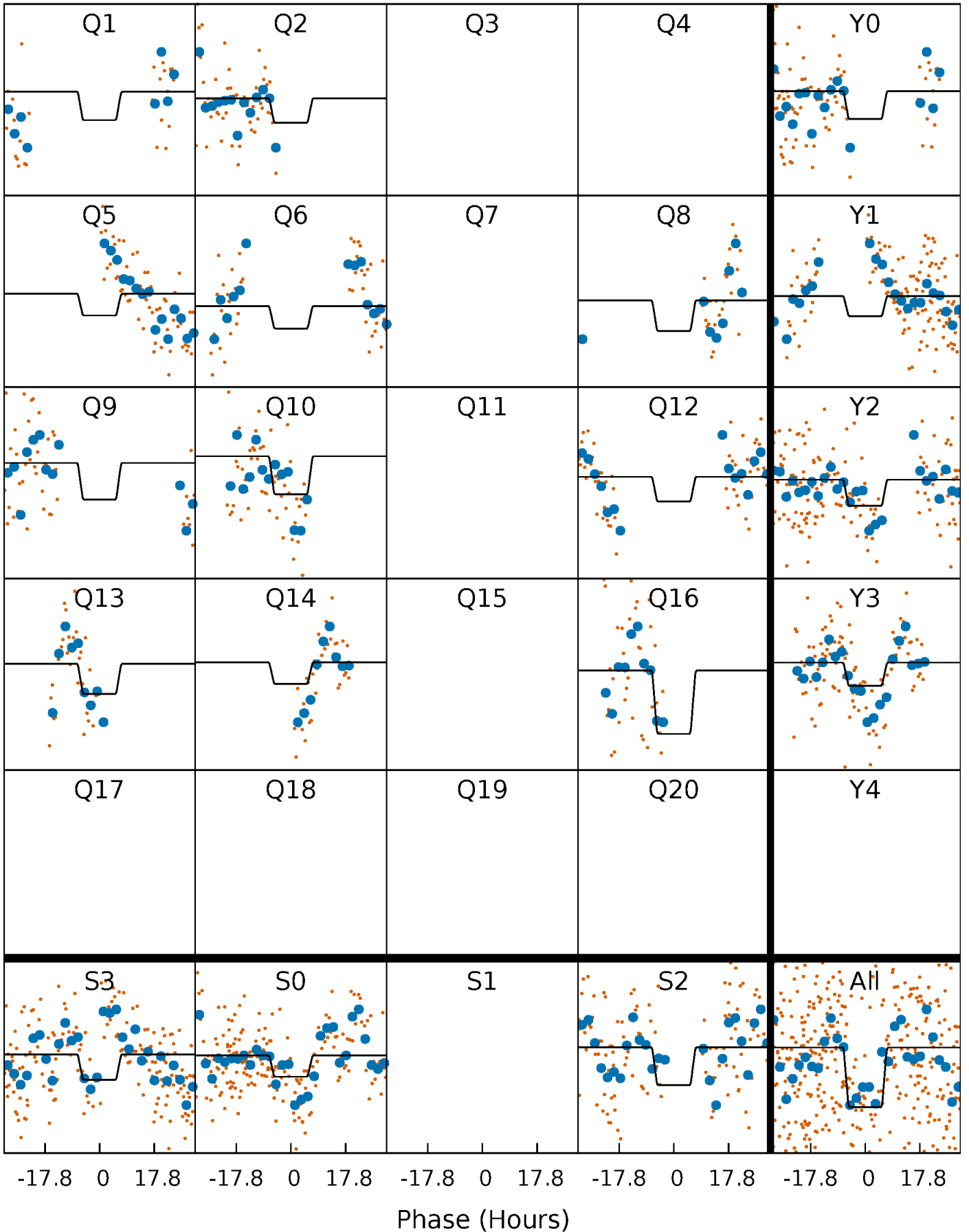
DV Quarter-Phased Transit Curves

TCE 010933943-04 P= 98.951079 Days $T_0=152.710552$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

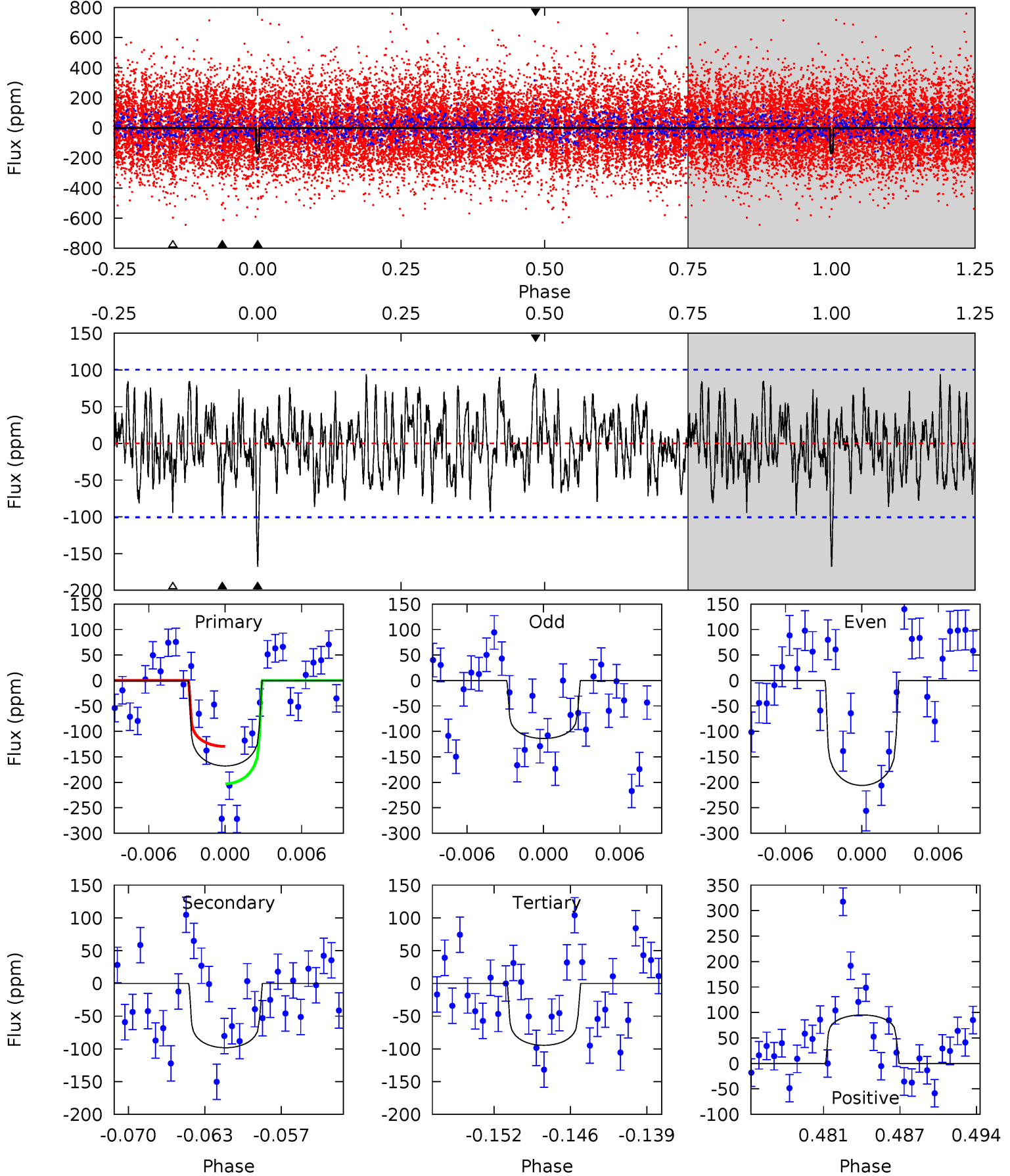
TCE 010933943-04 P= 98.945971 Days $T_0=152.697411$ (BKJD)



DV Model-Shift Uniqueness Test

010933943-04, P = 98.951079 Days, E = 53.759473 Days

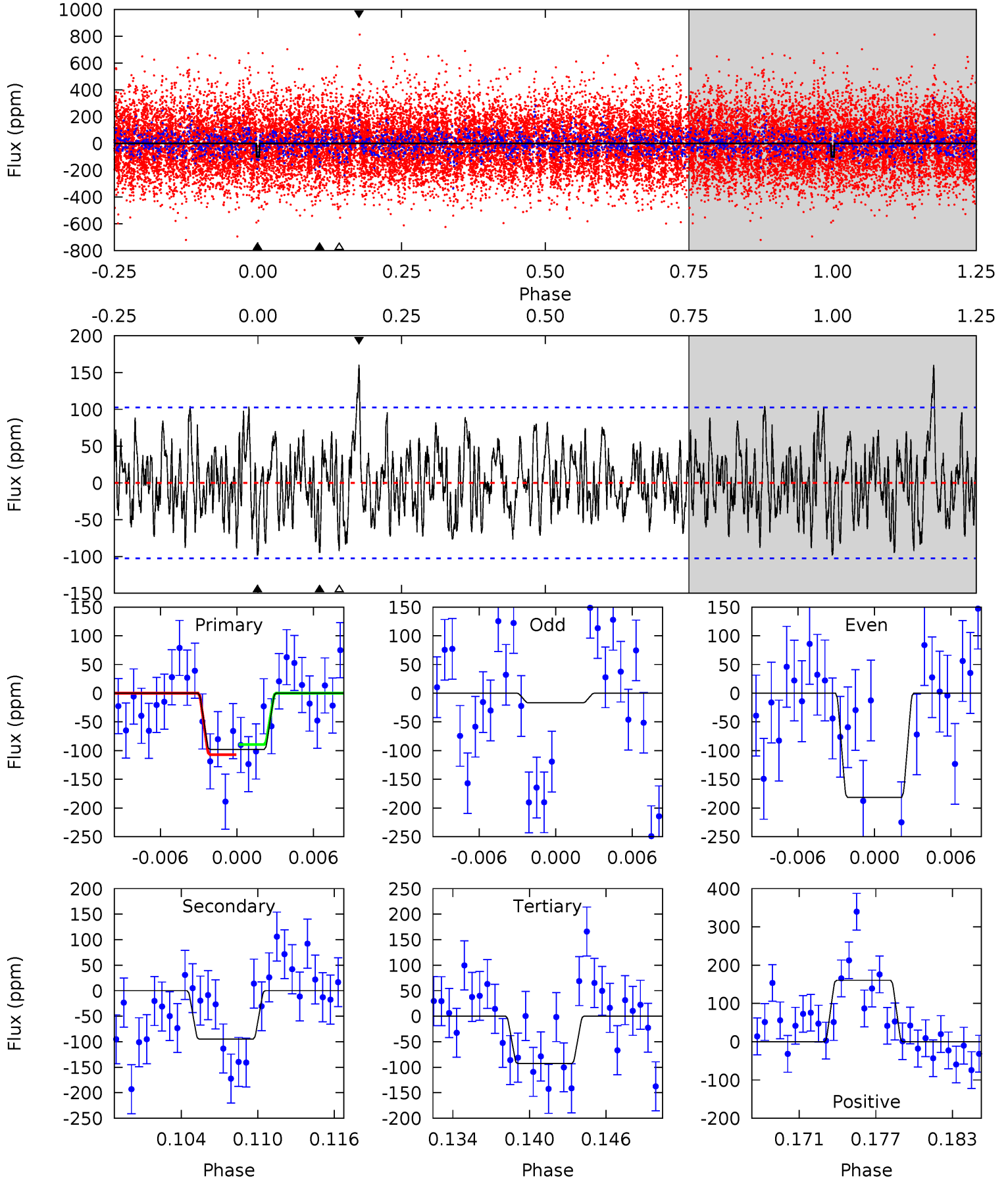
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.55	5.00	4.81	4.84	5.11	2.73	1.77	3.74	3.70	0.19	0.16	2.34	1.06	0.36	1.87



Alt Model-Shift Uniqueness Test

010933943-04, P = 98.945971 Days, E = 53.751440 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.90	4.73	4.64	8.01	5.12	2.74	1.88	0.27	-3.11	0.10	-3.28	4.14	0.84	0.62	0.44



Stellar Parameters For KIC 010933943

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7022^{+194}_{-267}	$4.296^{+0.058}_{-0.232}$	$0.070^{+0.200}_{-0.350}$	$1.420^{+0.537}_{-0.179}$	$1.451^{+0.202}_{-0.202}$	$0.714^{+0.236}_{-0.414}$
	+3%/-4%	+1%/-5%	+286%/-500%	+38%/-13%	+14%/-14%	+33%/-58%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010933943-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-98 ± 20	$2.42^{+0.89}_{-0.78}$	769^{+61}_{-43}	5687^{+1324}_{-701}	2008^{+2512}_{-961}
Alt.	-95 ± 20	$1.85^{+0.84}_{-0.73}$	764^{+63}_{-41}	6419^{+2475}_{-1027}	3350^{+6616}_{-1803}

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 $A_{obs} \gg 1.0$

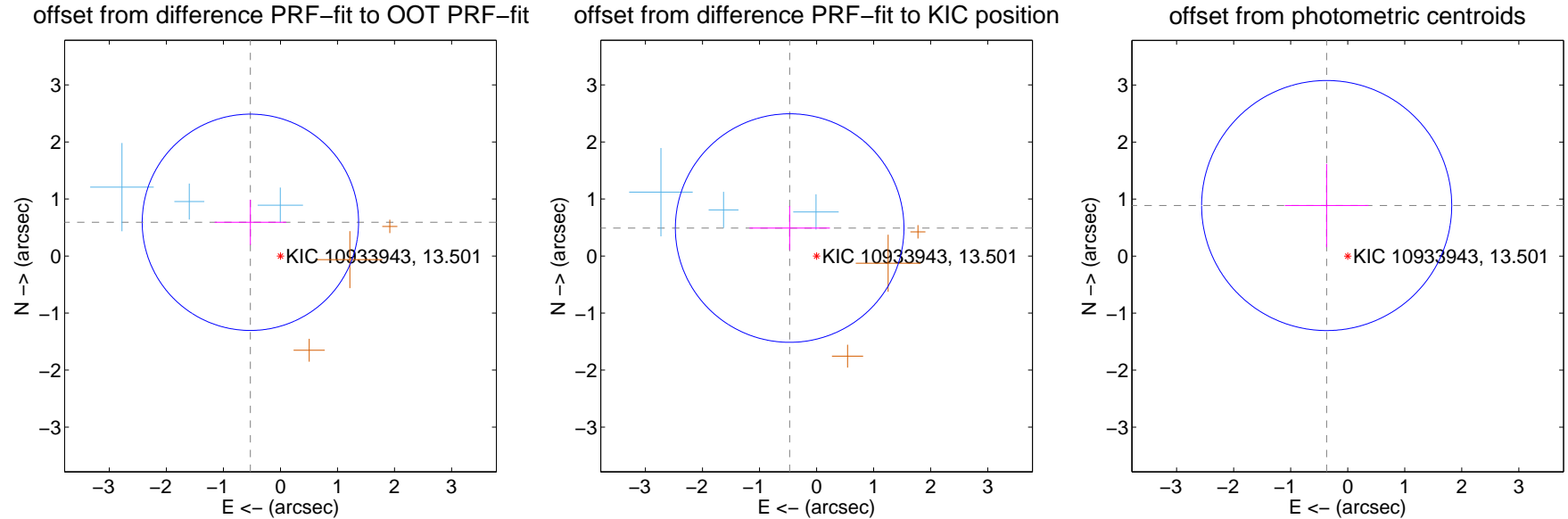
DV Centroid Data

Supplemental centroid analysis for 010933943-04. Kepler magnitude: 13.50. Transit SNR 7.73

There are 3 quarters with good PRF difference image offsets

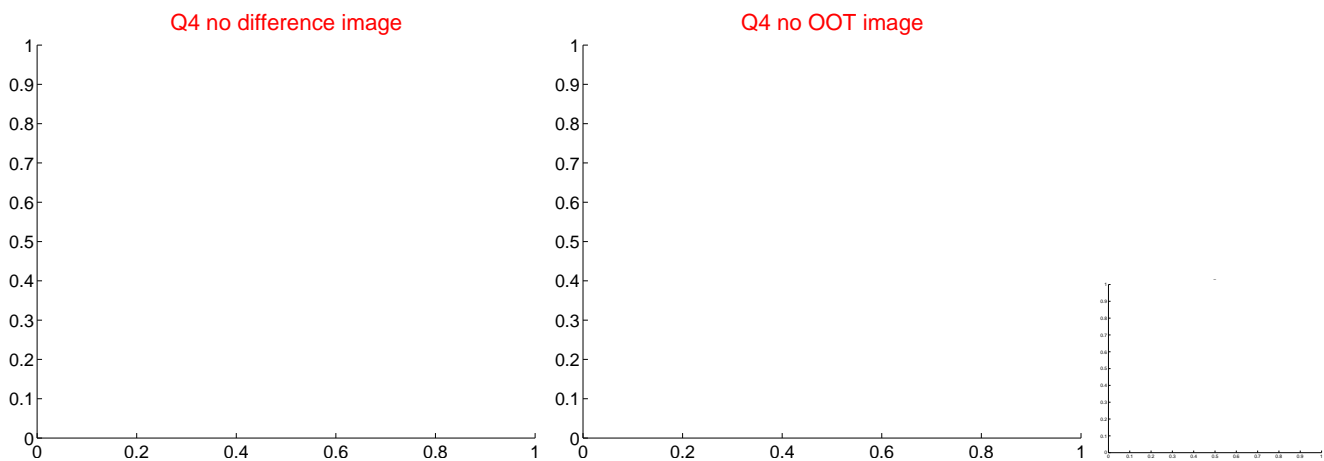
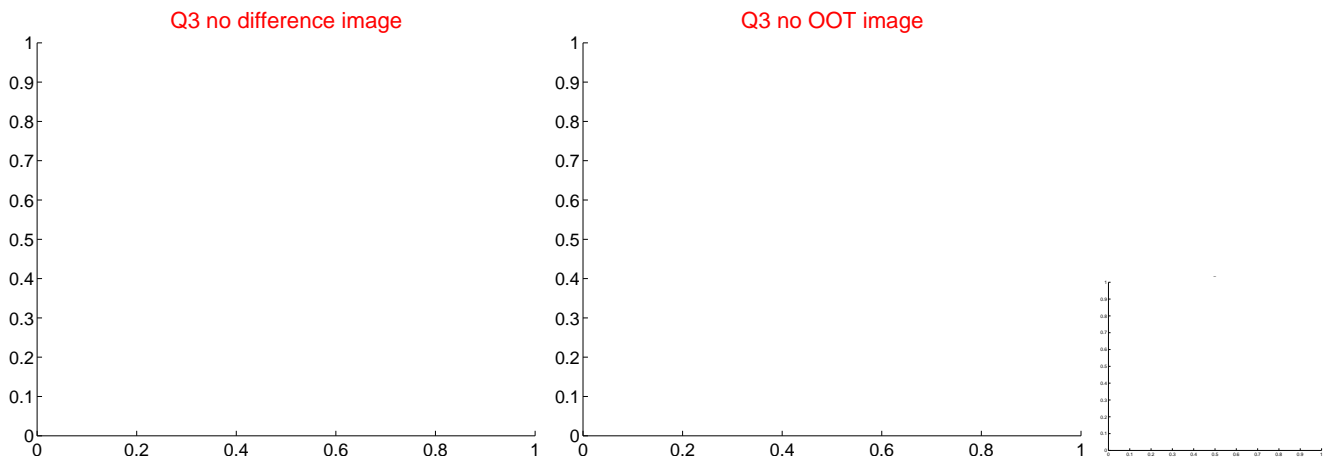
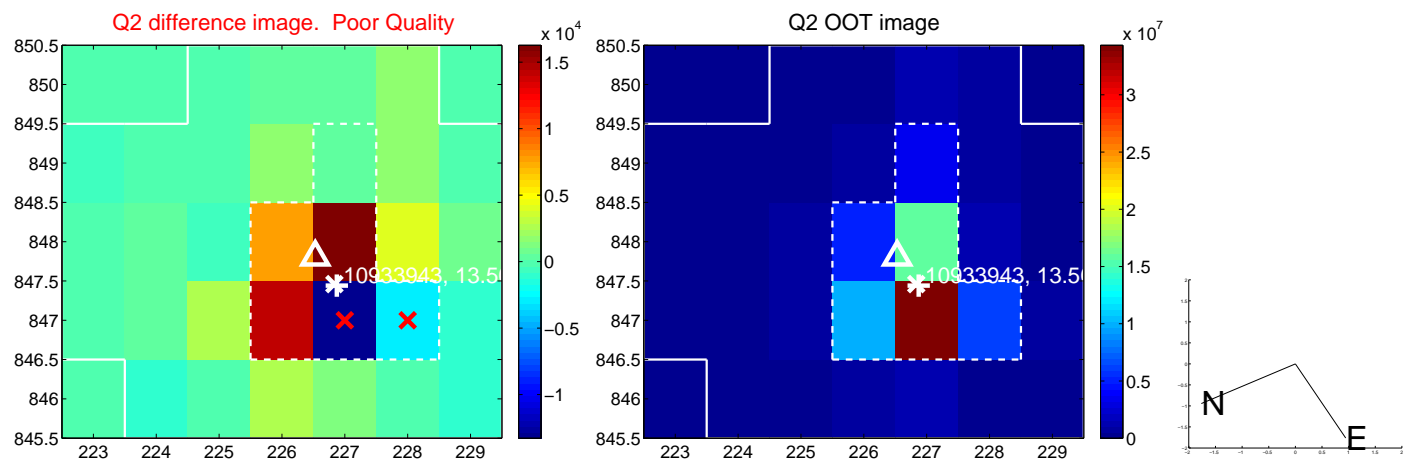
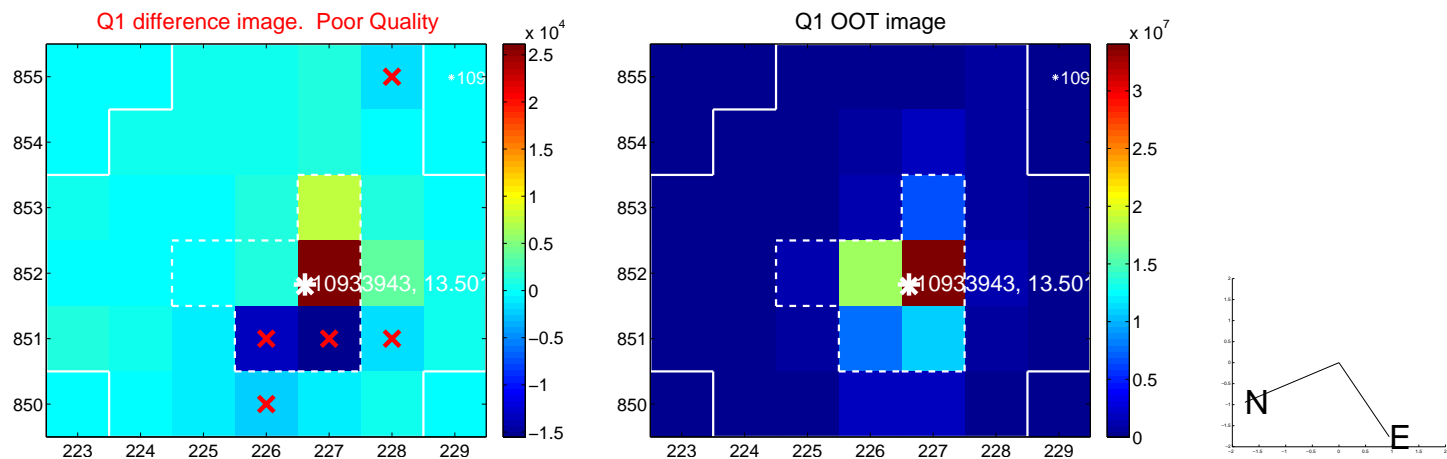
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.792 ± 0.632	1.25	0.527 ± 0.628	0.591 ± 0.396
PRF-fit source offset from KIC position	0.680 ± 0.668	1.02	0.472 ± 0.705	0.490 ± 0.386
photometric centroid source offset	0.96 ± 0.73	1.31	0.37 ± 0.73	0.89 ± 0.73

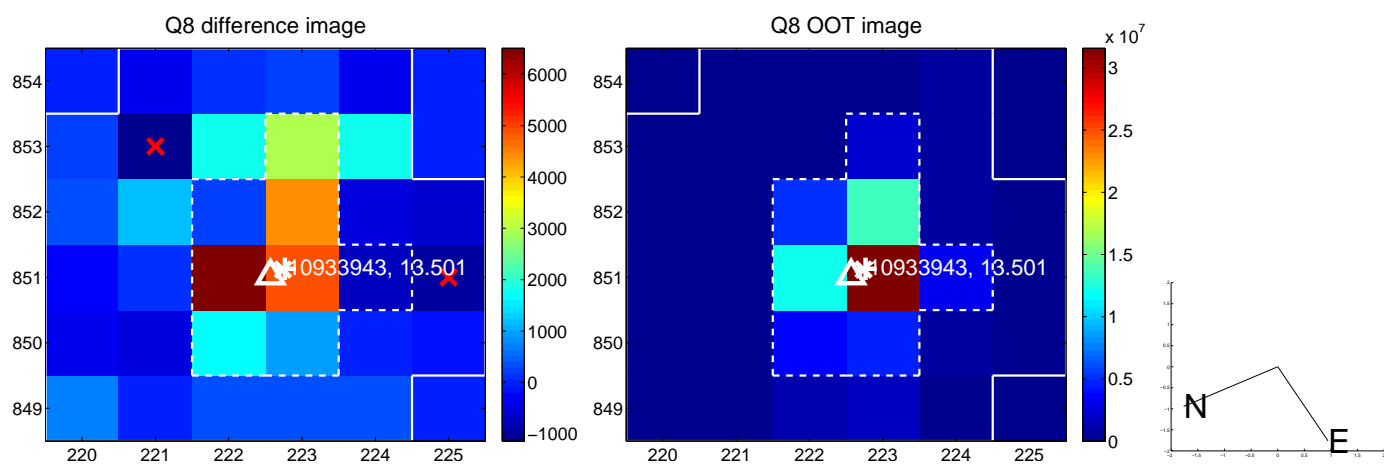
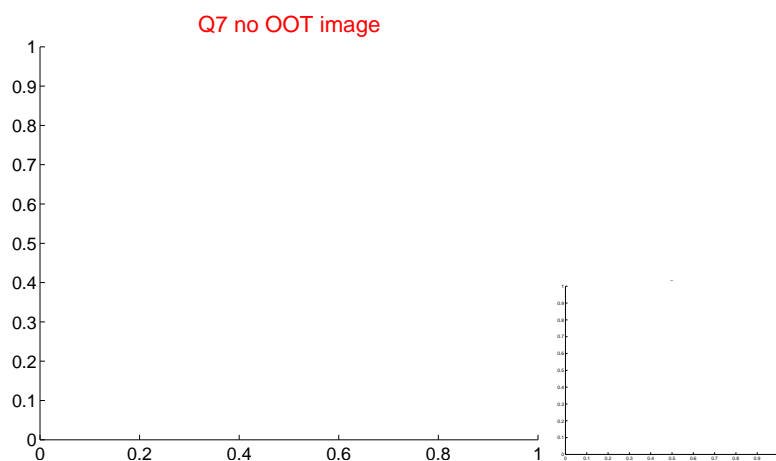
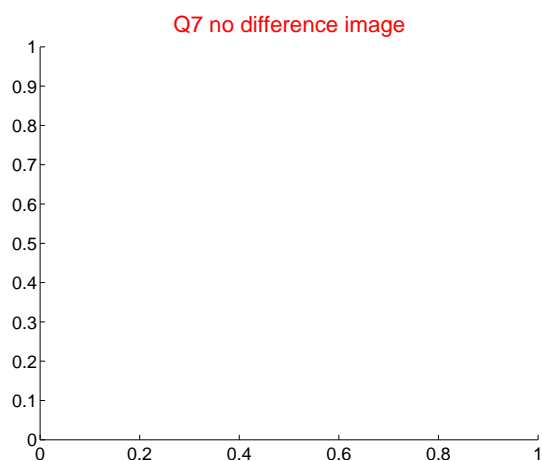
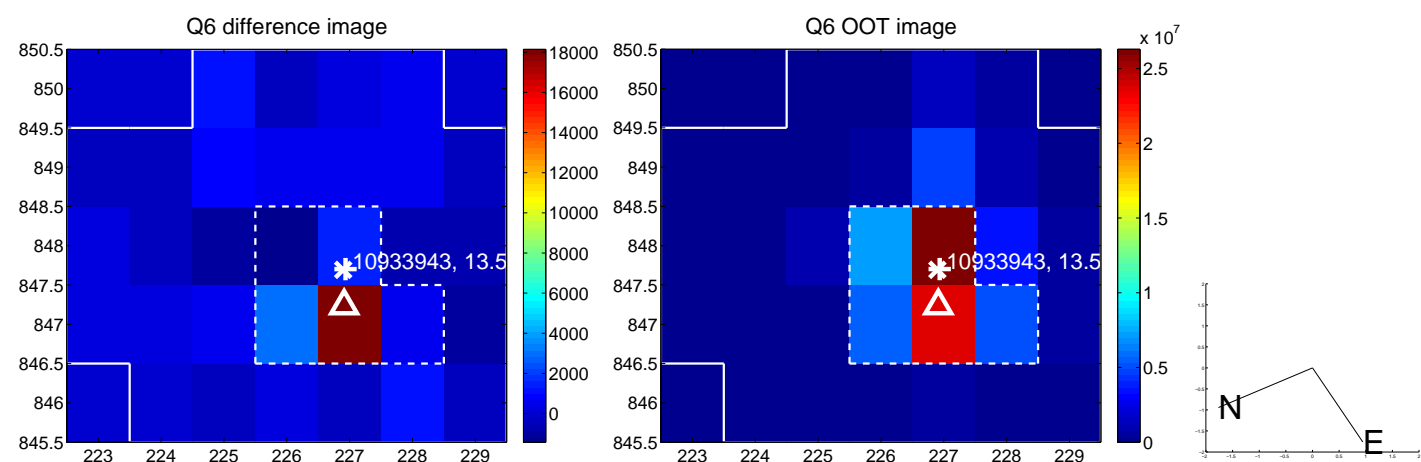
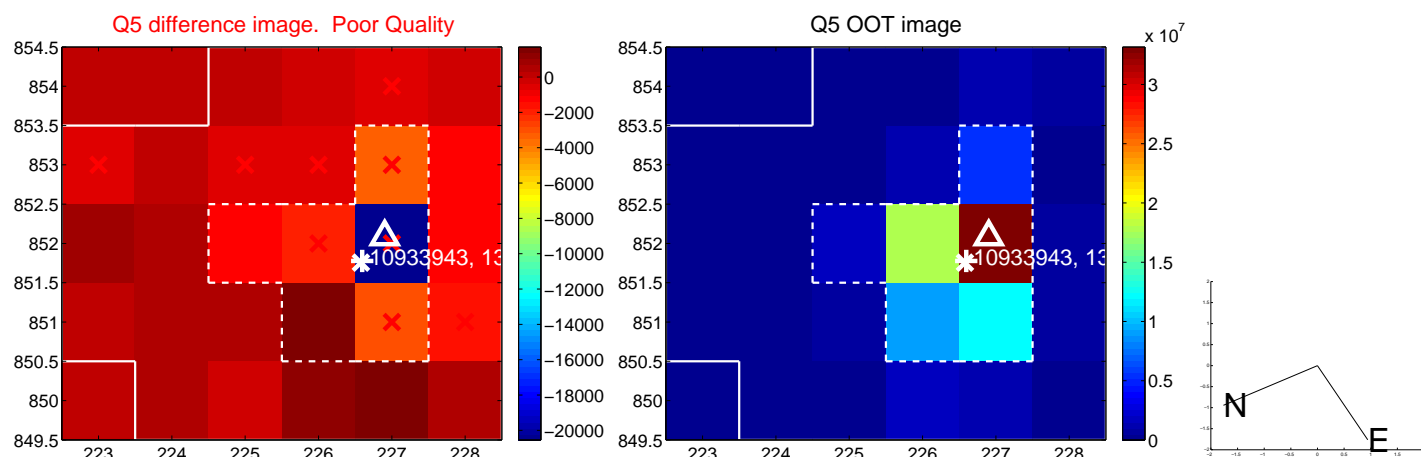


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

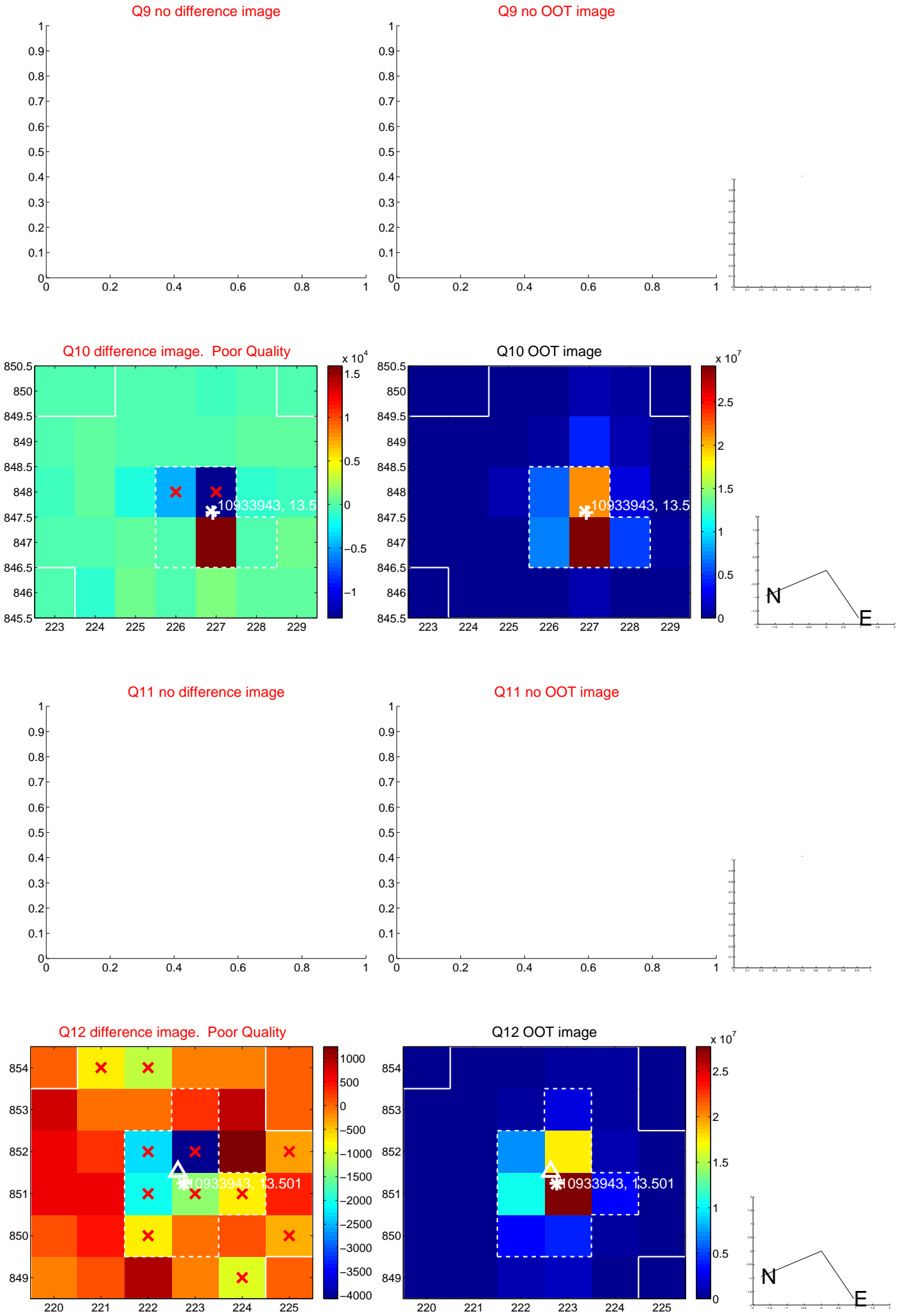
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



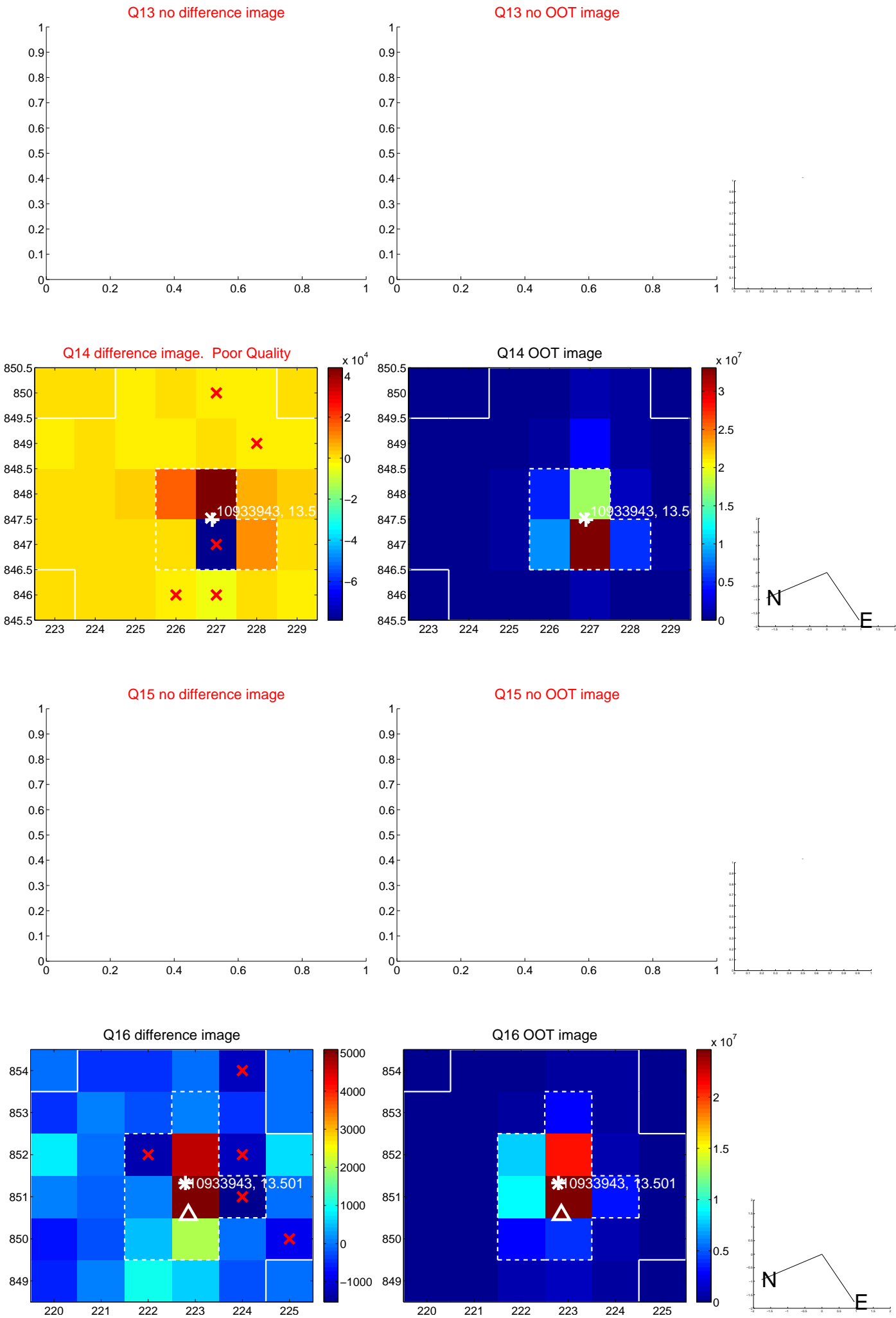
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



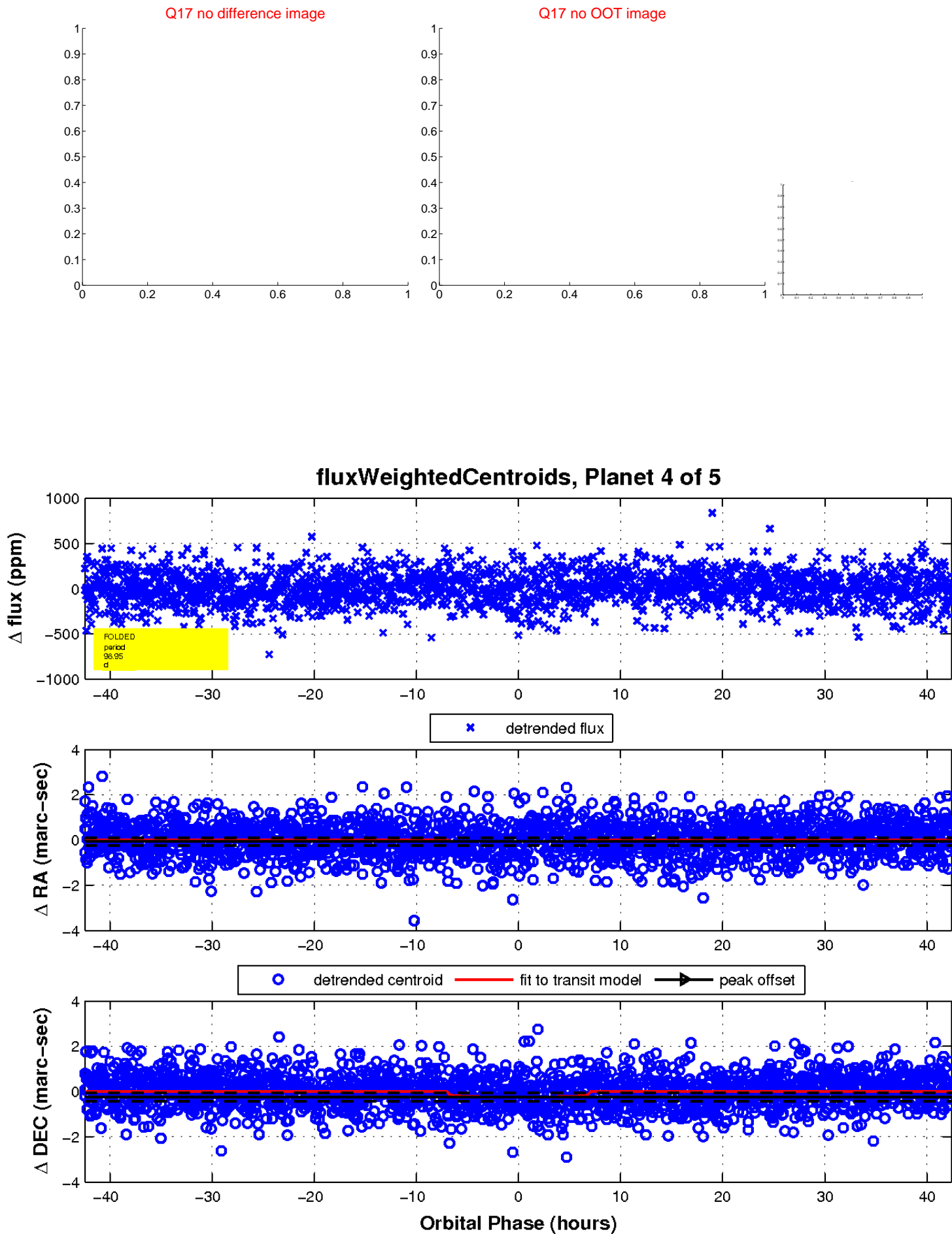
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

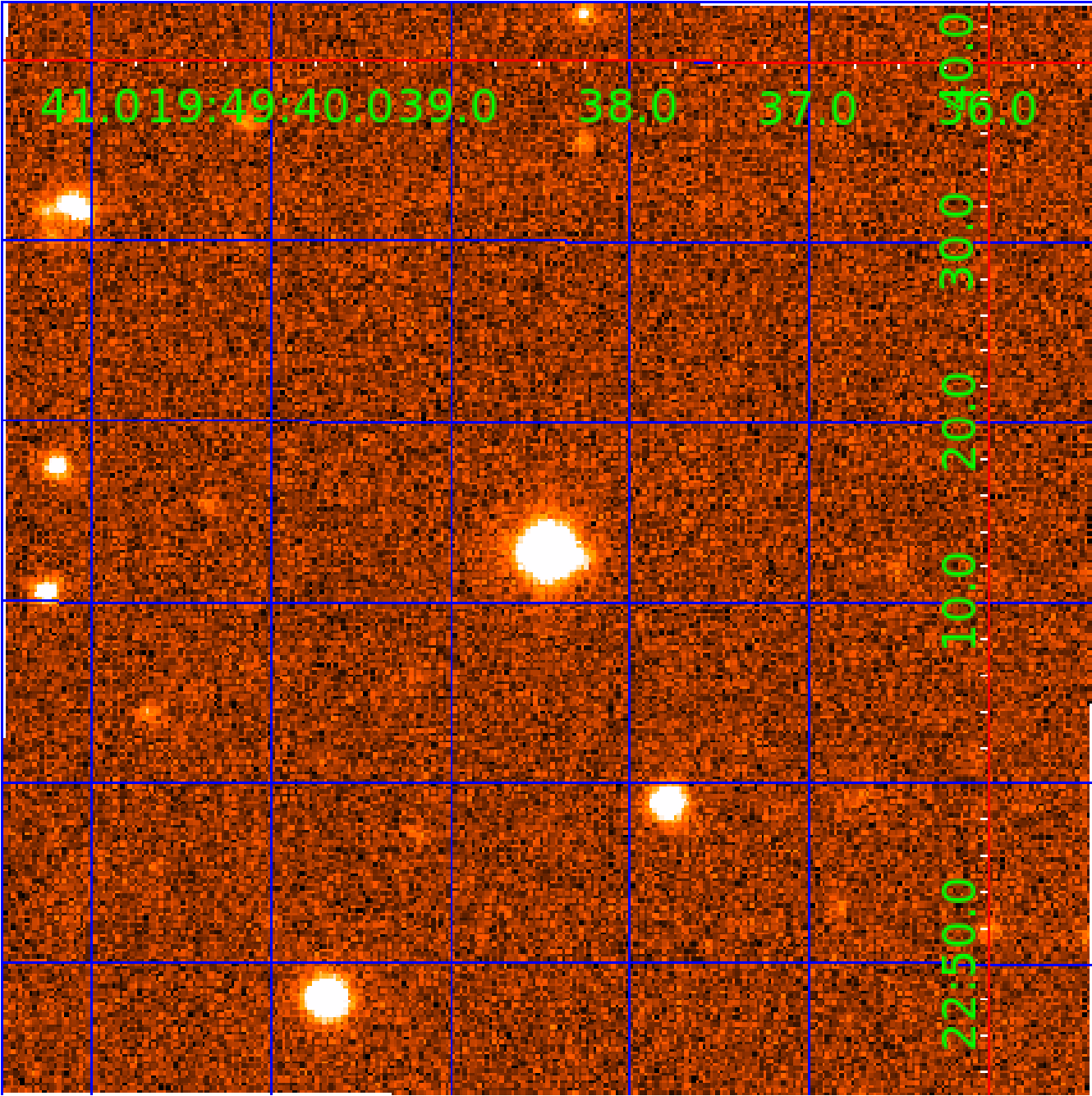


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010933943

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})
010933943-01	OBS	No	4.748494	135.442987	37.6	11.248	8.4	7.8	1.42	7022	1.10	1119.07
010933943-02	OBS	No	4.746746	133.596972	46.5	13.002	7.7	8.6	1.42	7022	1.96	1119.62
010933943-03	OBS	No	79.808978	160.753172	236.4	8.860	14.0	8.1	1.42	7022	2.39	25.99
010933943-04	OBS	No	98.951079	152.710552	239.0	14.155	8.7	7.7	1.42	7022	2.31	19.52
010933943-05	OBS	No	77.002872	174.166050	220.8	12.000	8.2	-1.0	1.42	7022	2.13	27.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010933943-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
010933943-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
010933943-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010933943-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010933943-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

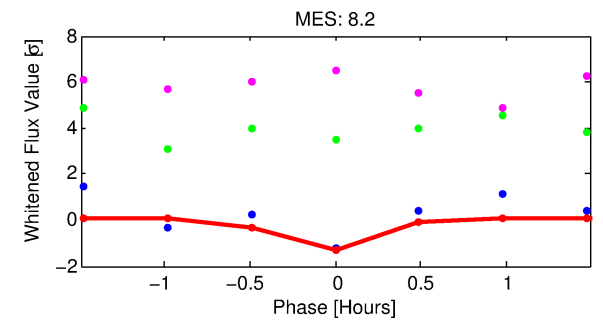
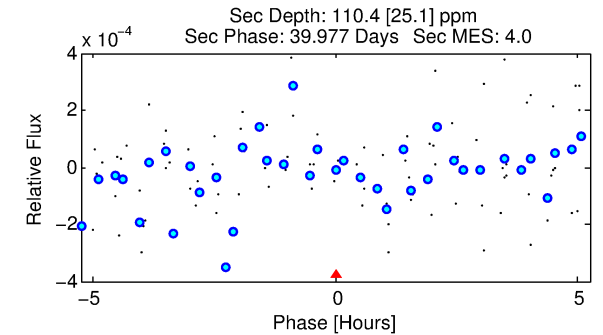
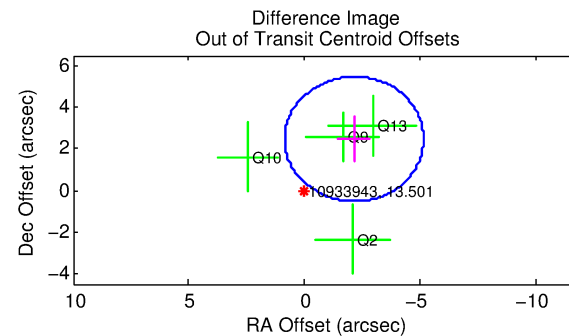
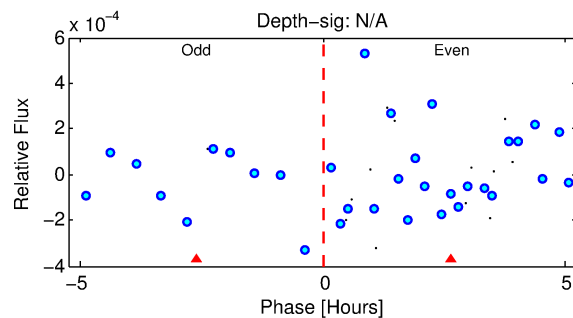
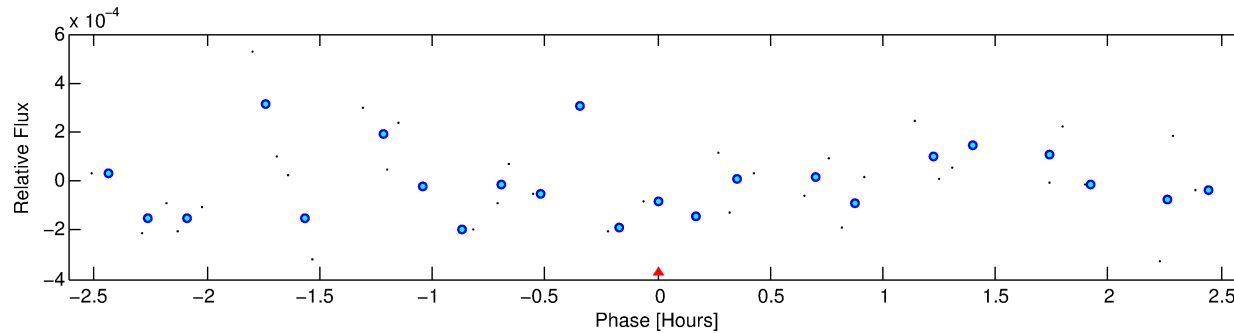
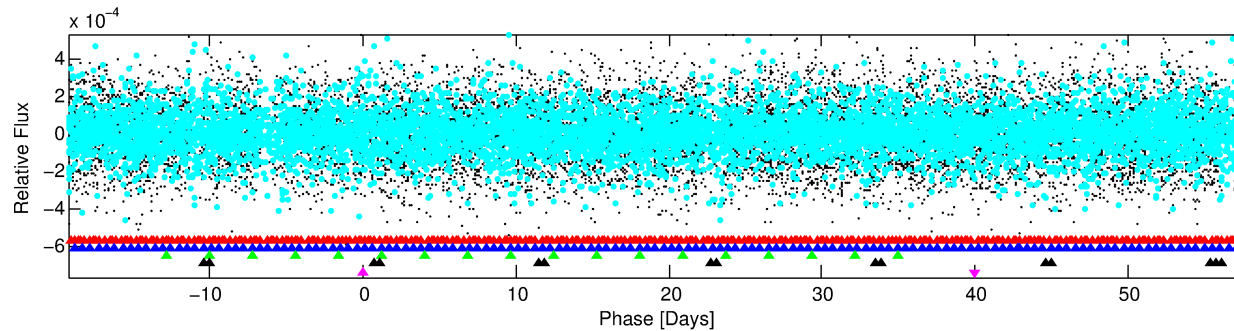
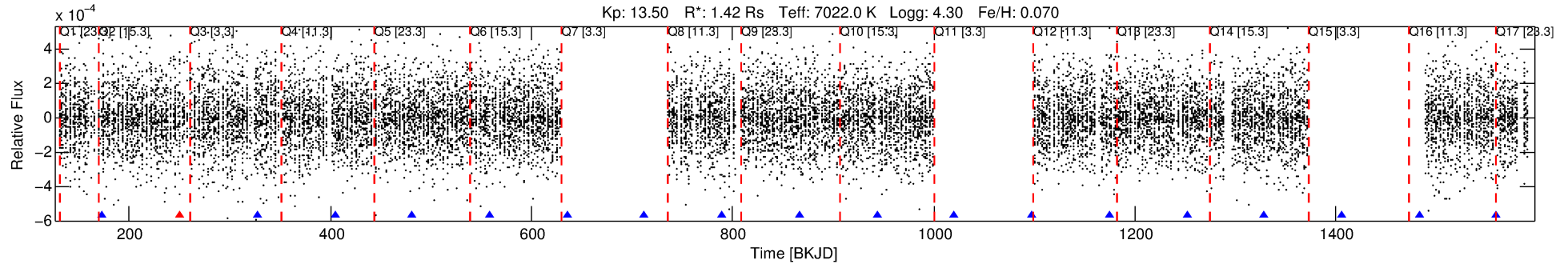
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010933943-05

No Significant Match Found

DV One-Page Summary

KIC: 10933943 Candidate: 5 of 5 Period: 77.003 d



TPS TCE Results:

Period = 77.00287 d
Epoch = 174.1661 BKJD

DV fit results are unavailable

DV Diagnostic Results:

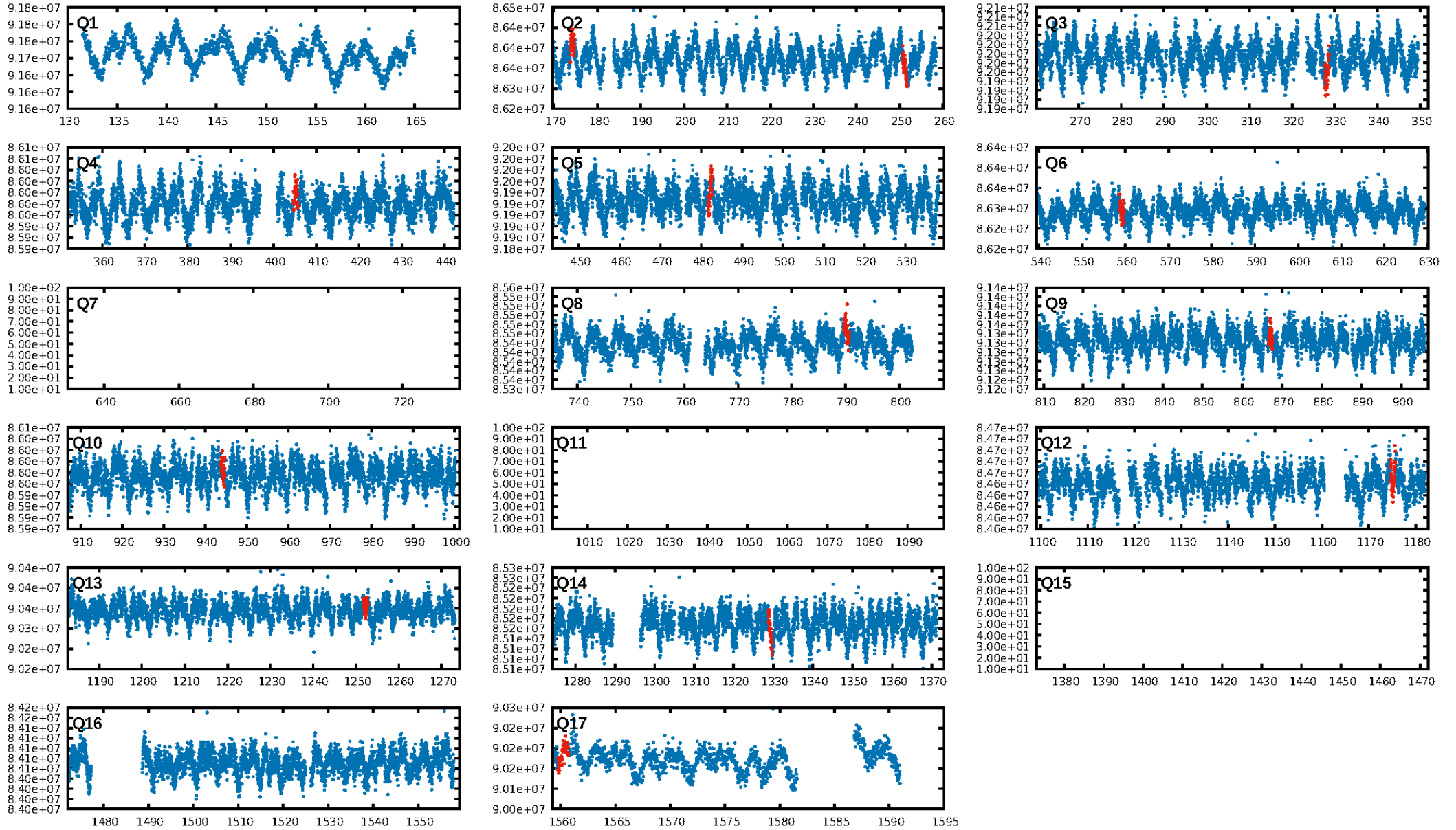
ShortPeriod-sig: 100.0% [105.43σ]
LongPeriod-sig: 100.0% [4.51σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.05e-10
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: -0.3986

Centroid-sig: 21.9%
Centroid-so: 3.318 arcsec [0.88σ]
OotOffset-rm: 3.281 arcsec [3.27σ]
KicOffset-rm: 3.190 arcsec [3.48σ]
OotOffset-st: 2/0/0/2 [4]
KicOffset-st: 2/0/0/2 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 0.60 [3/5]

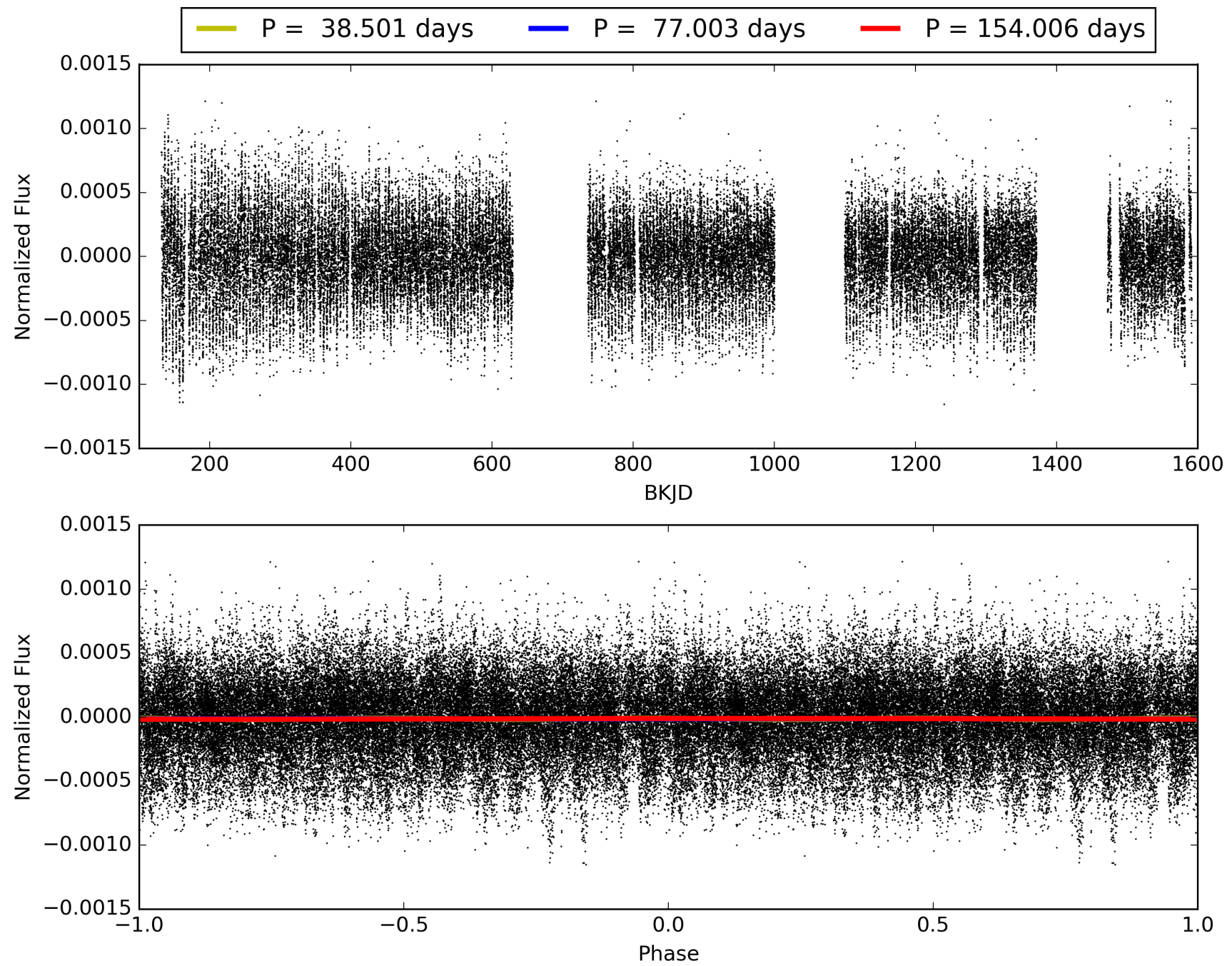
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:58:50 Z

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

TCE 010933943-05, PDC Light Curves

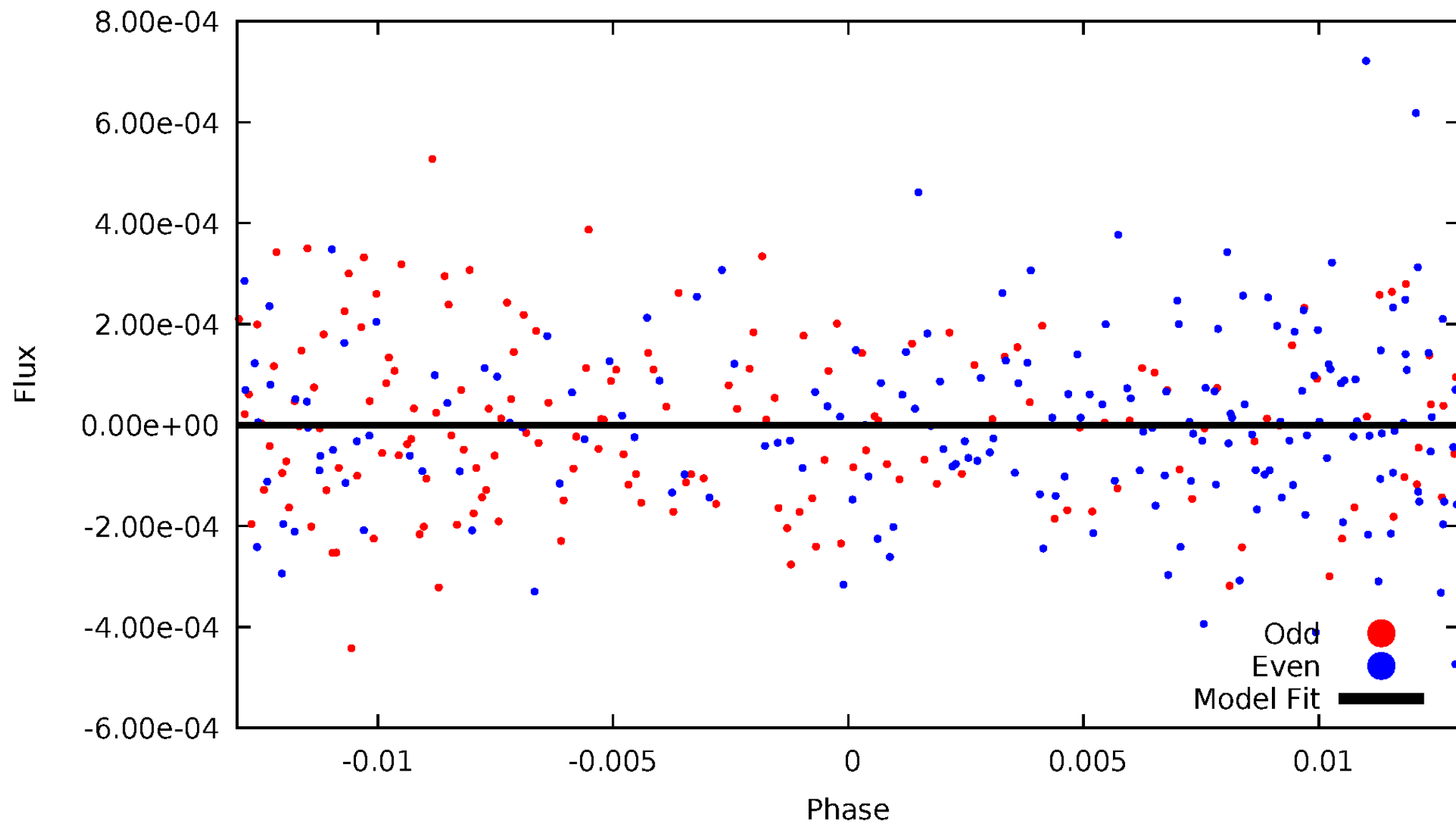


TCE 010933943-05



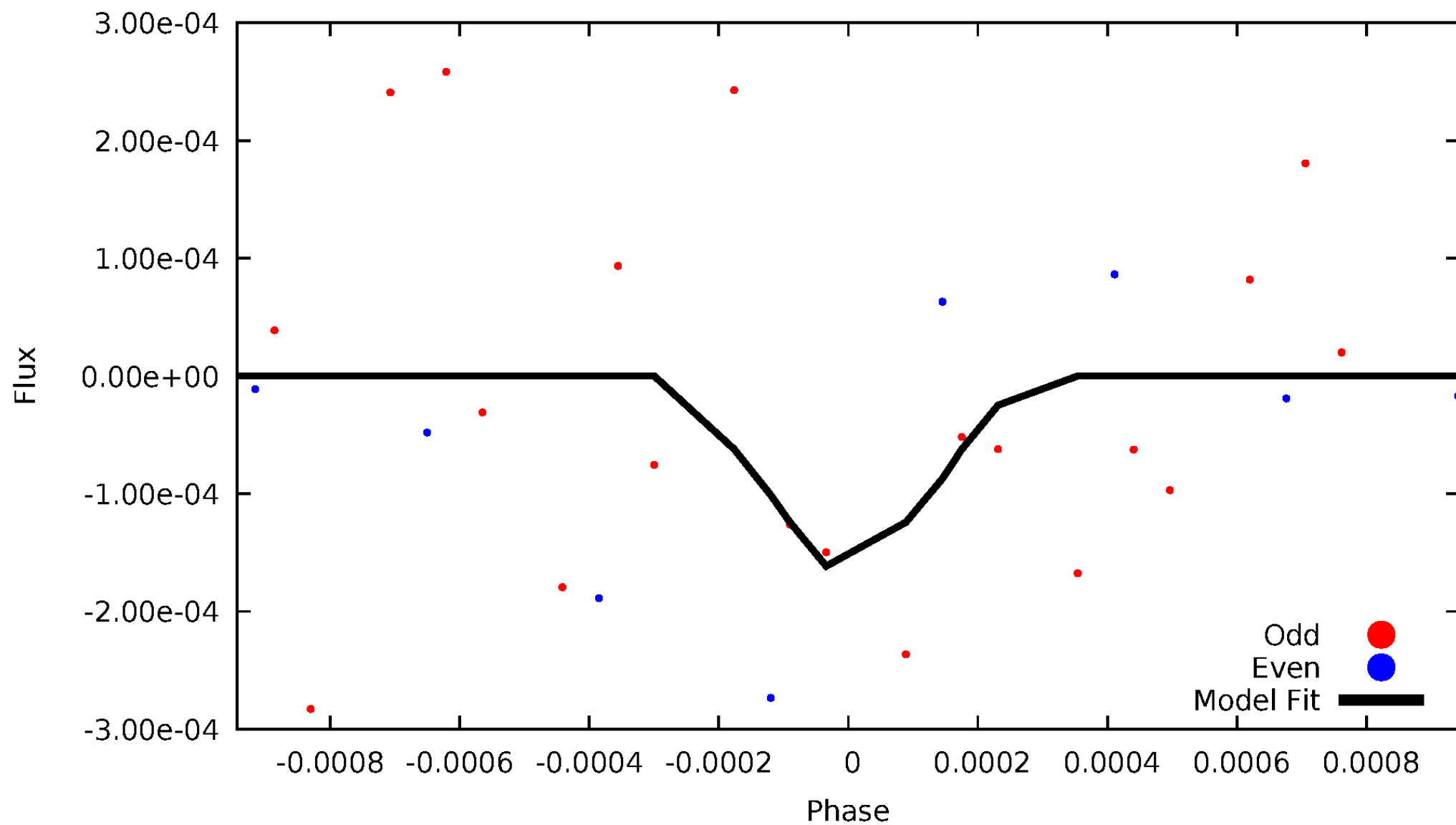
DV Odd/Even

TCE 010933943-05

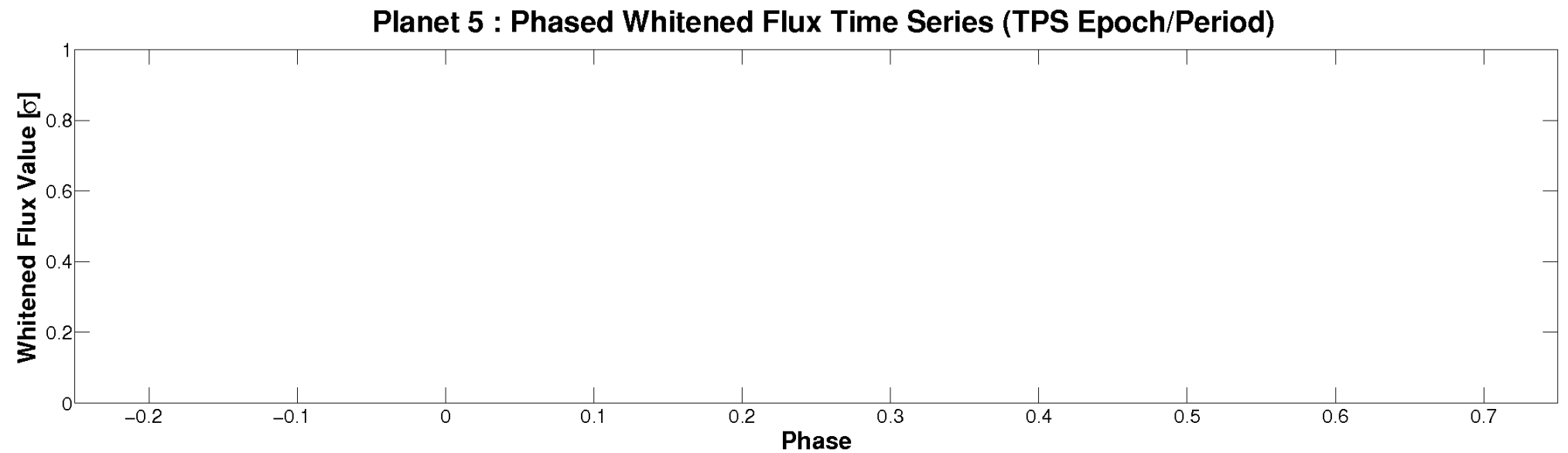
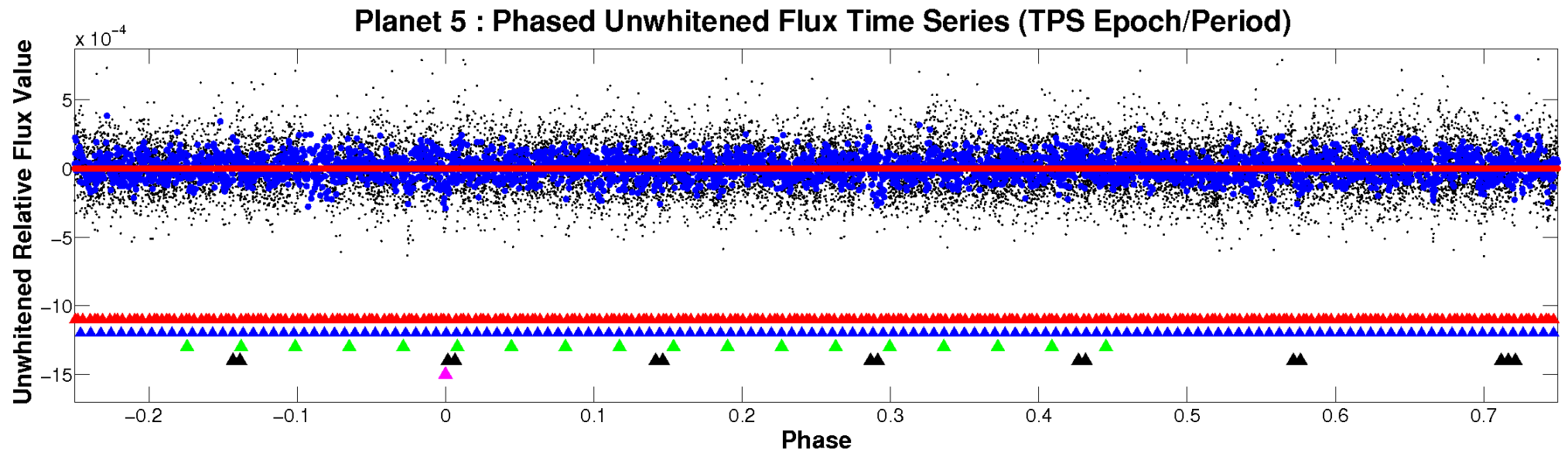


ALT Odd/Even

TCE 010933943-05

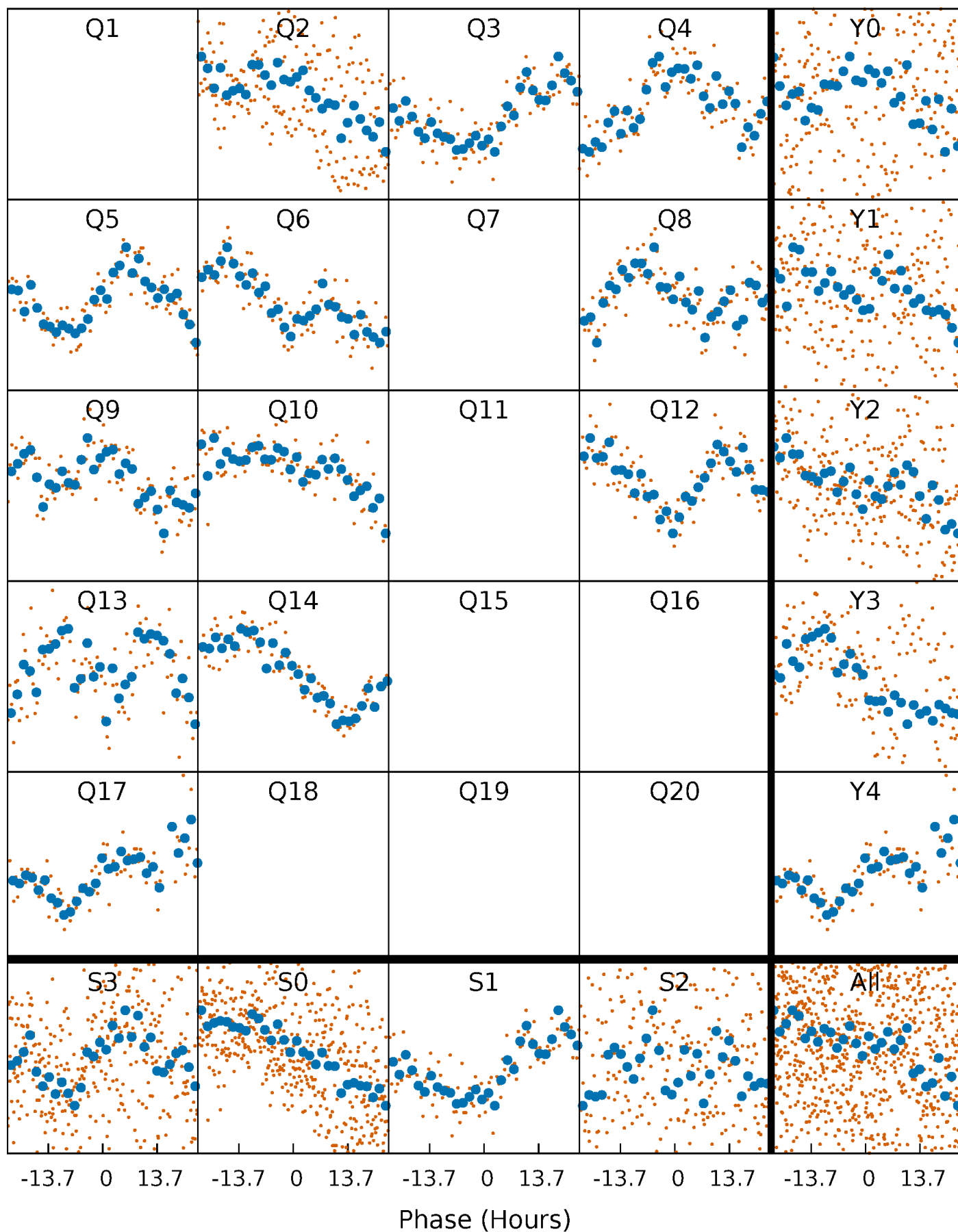


Non-Whitened Vs. Whitened Light Curve



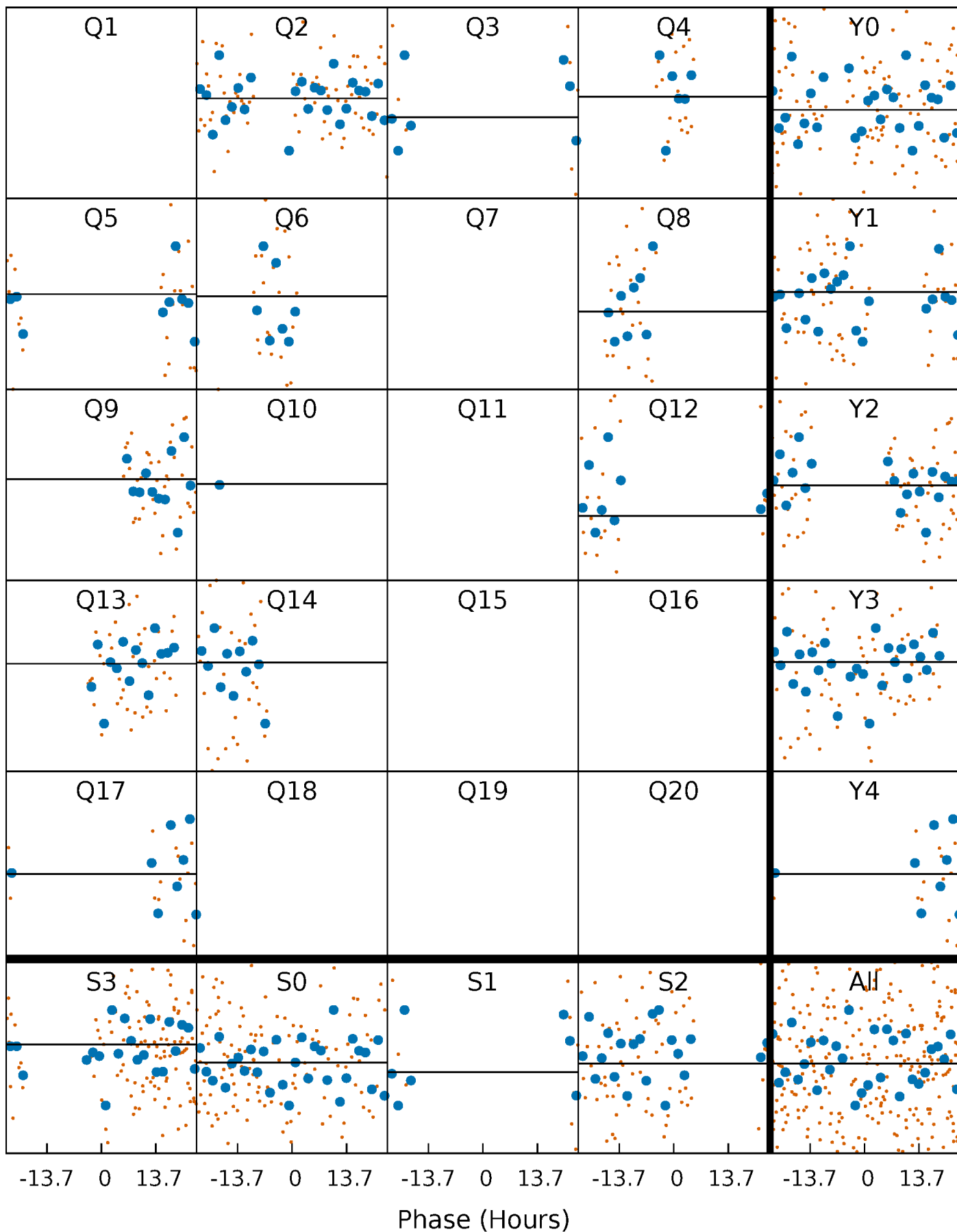
PDC Quarter-Phased Transit Curves

TCE 010933943-05 $P = 77.002872$ Days $T_0 = 174.166050$ (BKJD)



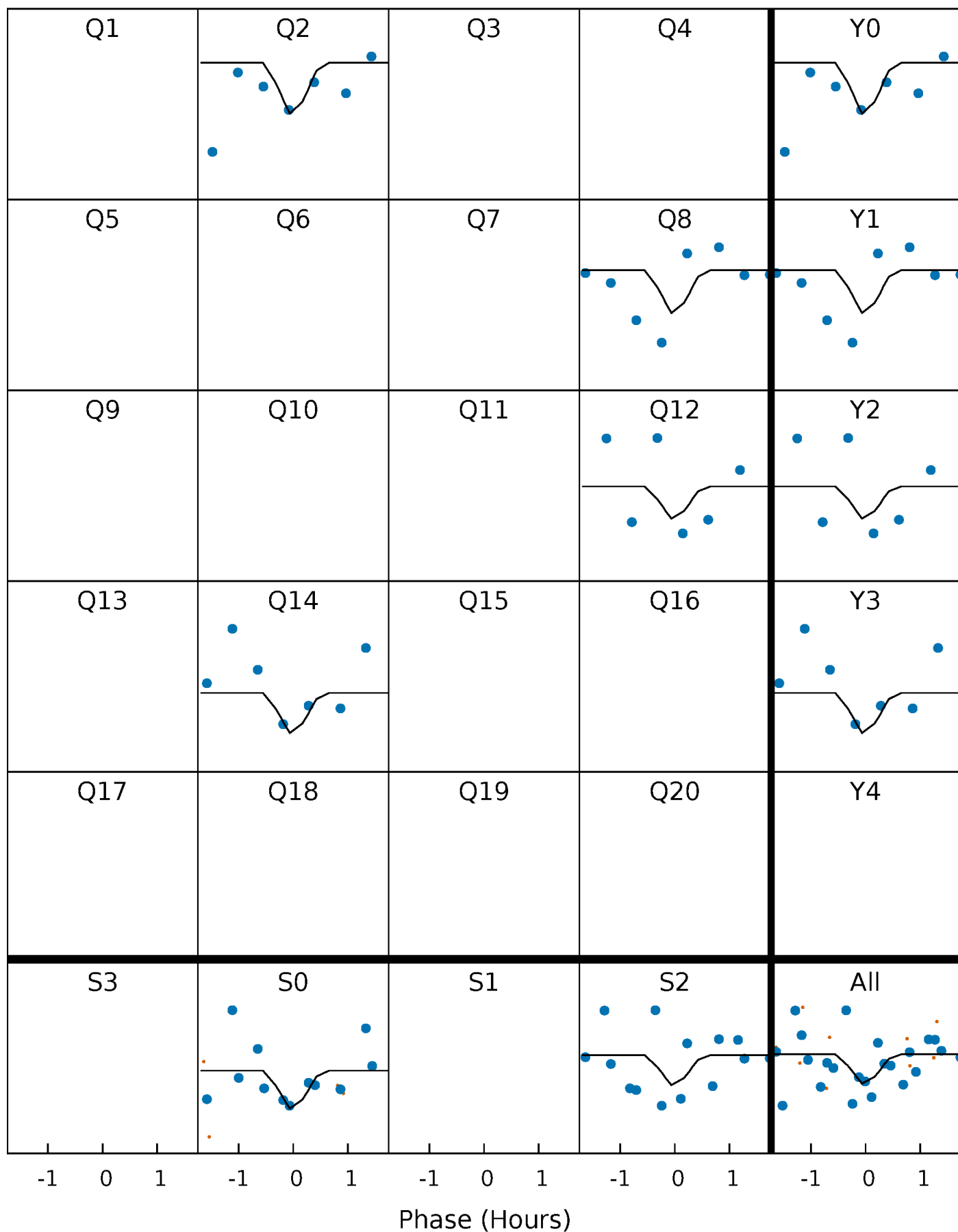
DV Quarter-Phased Transit Curves

TCE 010933943-05 P= 77.002872 Days $T_0=174.166050$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

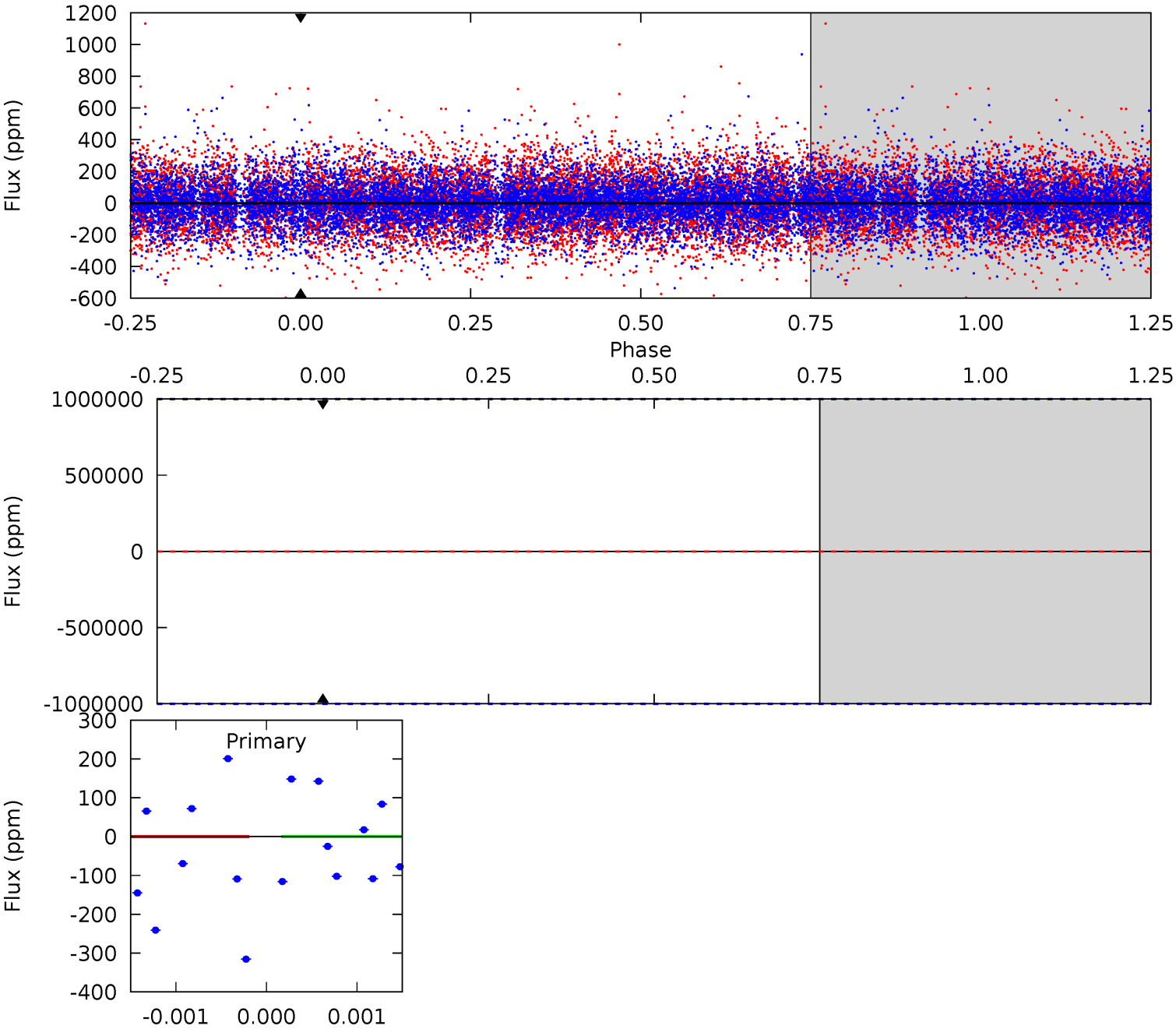
TCE 010933943-05 $P = 77.002872$ Days $T_0 = 173.559791$ (BKJD)



DV Model-Shift Uniqueness Test

010933943-05, P = 77.002872 Days, E = 97.163178 Days

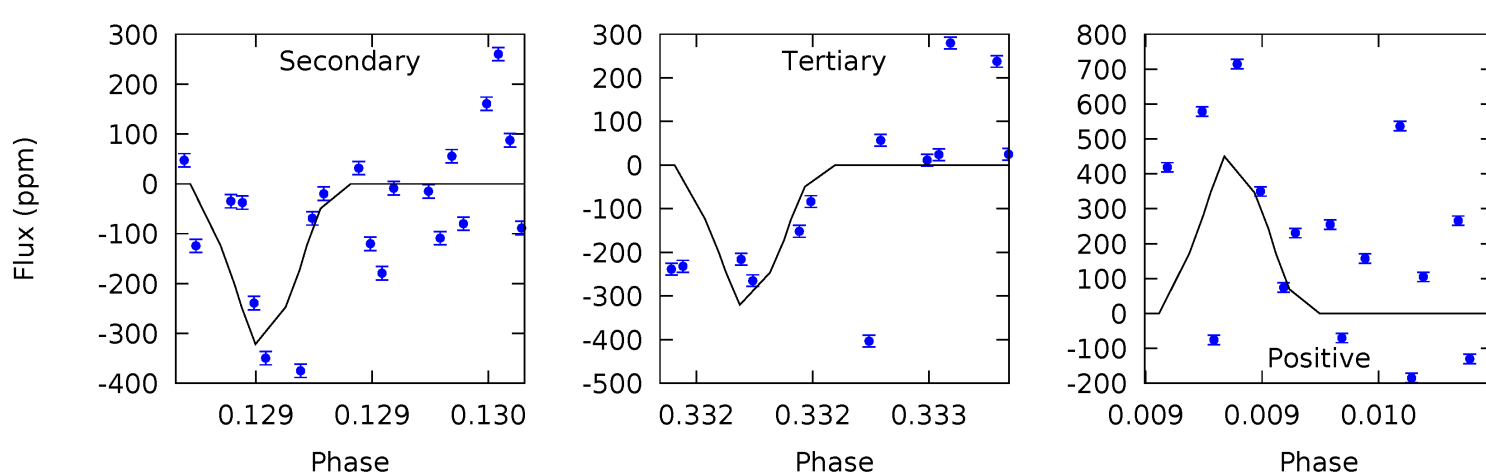
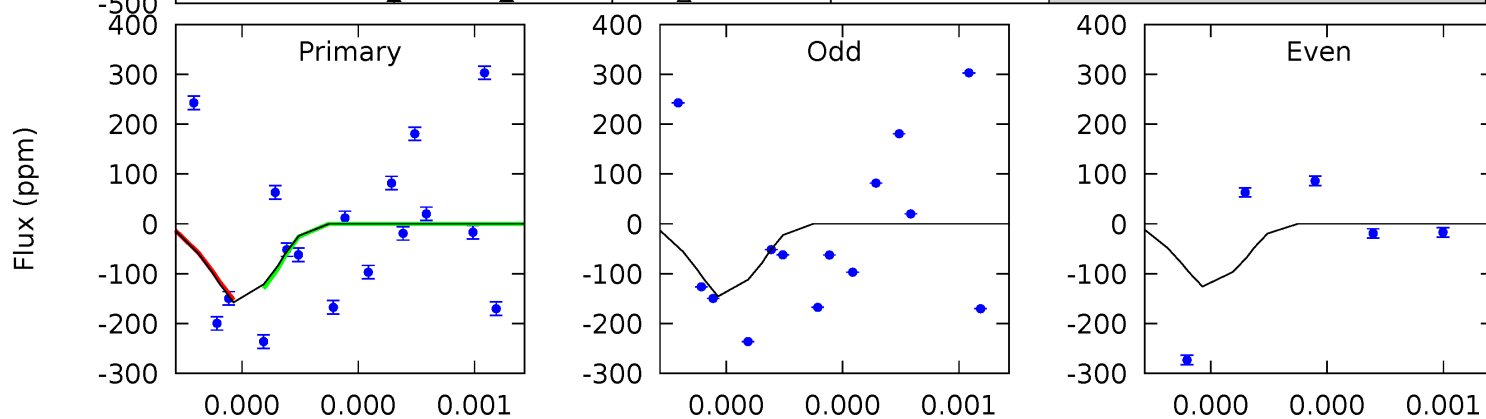
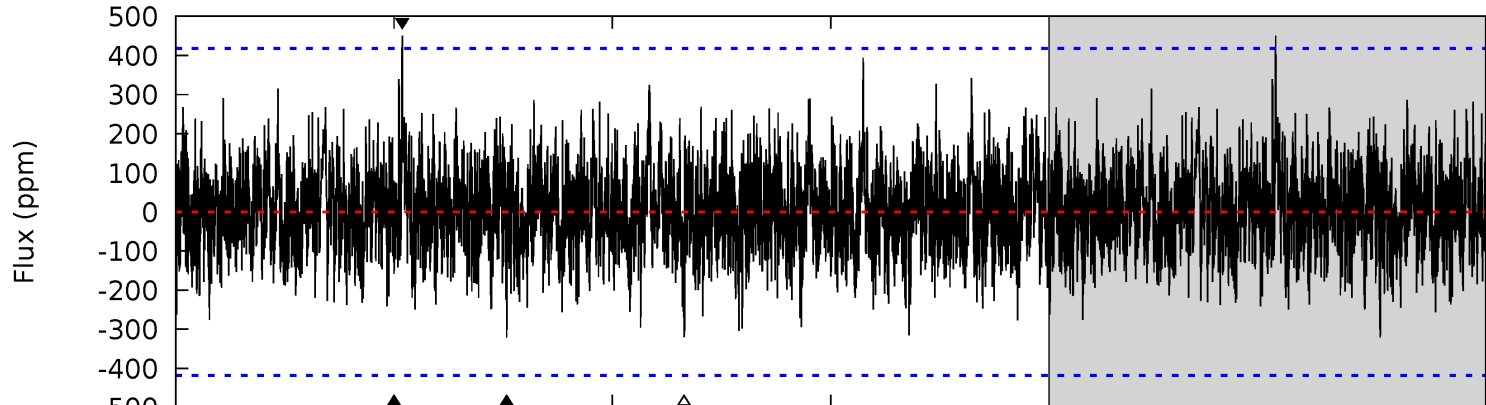
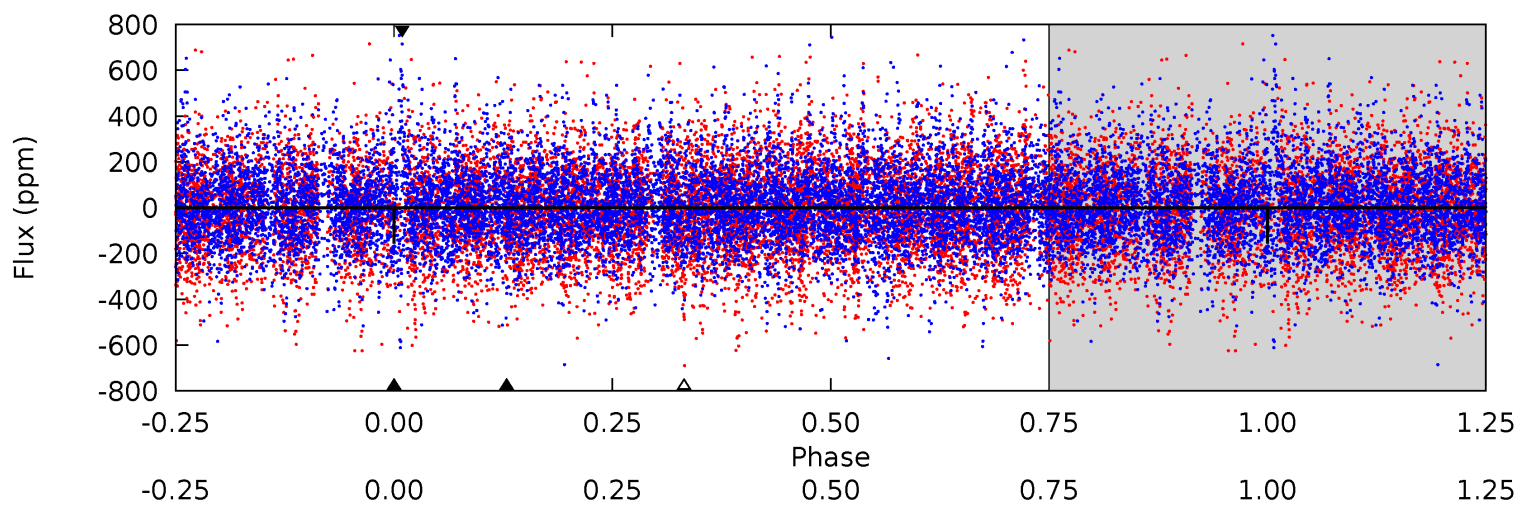
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010933943-05, P = 77.002872 Days, E = 96.556919 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.10	4.29	4.28	6.01	5.58	3.49	1.25	-2.17	-3.91	0.02	-1.72	0.10	1.01	0.58	0.14



Stellar Parameters For KIC 010933943

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7022^{+194}_{-267}	$4.296^{+0.058}_{-0.232}$	$0.070^{+0.200}_{-0.350}$	$1.420^{+0.537}_{-0.179}$	$1.451^{+0.202}_{-0.202}$	$0.714^{+0.236}_{-0.414}$
	+3%/-4%	+1%/-5%	+286%/-500%	+38%/-13%	+14%/-14%	+33%/-58%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010933943-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$12.13^{+11.91}_{-8.17}$	836^{+67}_{-45}	5973^{+35489}_{-36072}	$1631^{+147085}_{-89355}$
Alt.	-322 ± 75	$12.24^{+12.40}_{-8.33}$	830^{+67}_{-42}	3769^{+2147}_{-733}	183^{+1507}_{-140}

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 $A_{obs} \gg 1.0$

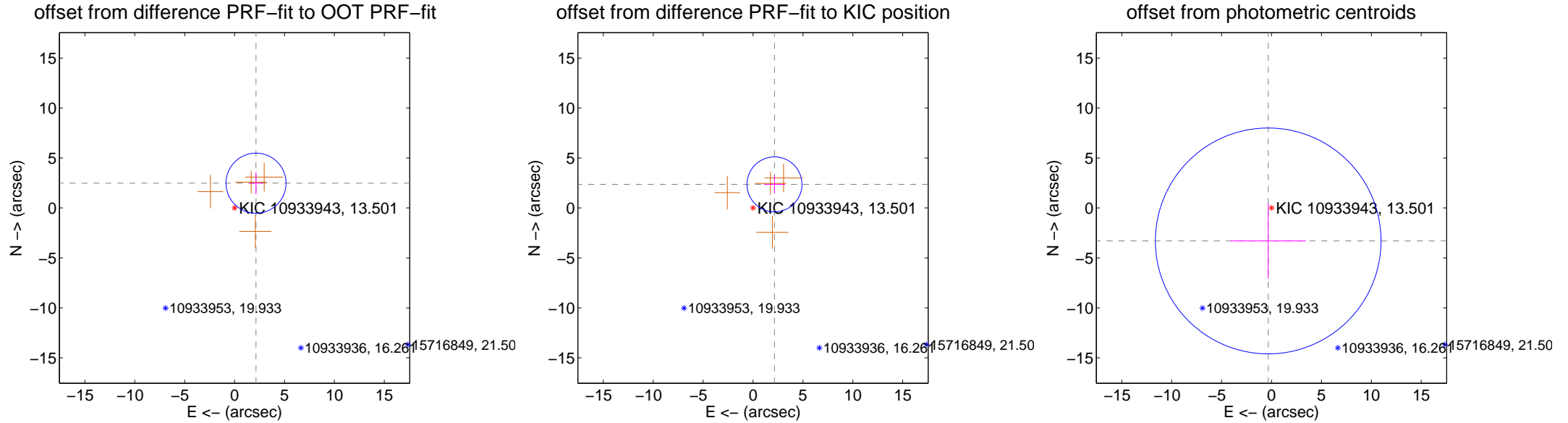
DV Centroid Data

Supplemental centroid analysis for 010933943-05. Kepler magnitude: 13.50. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

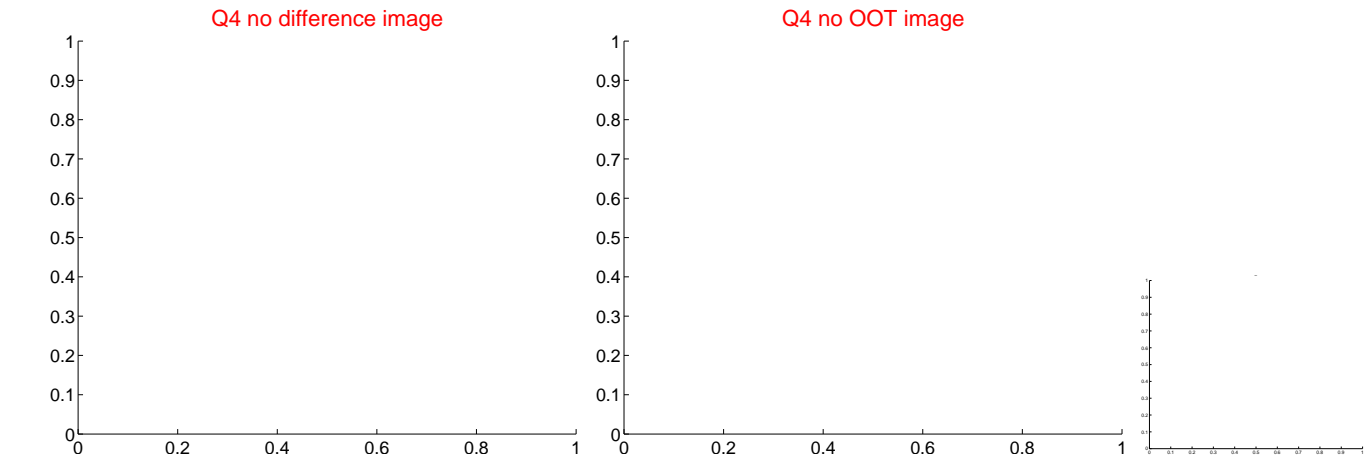
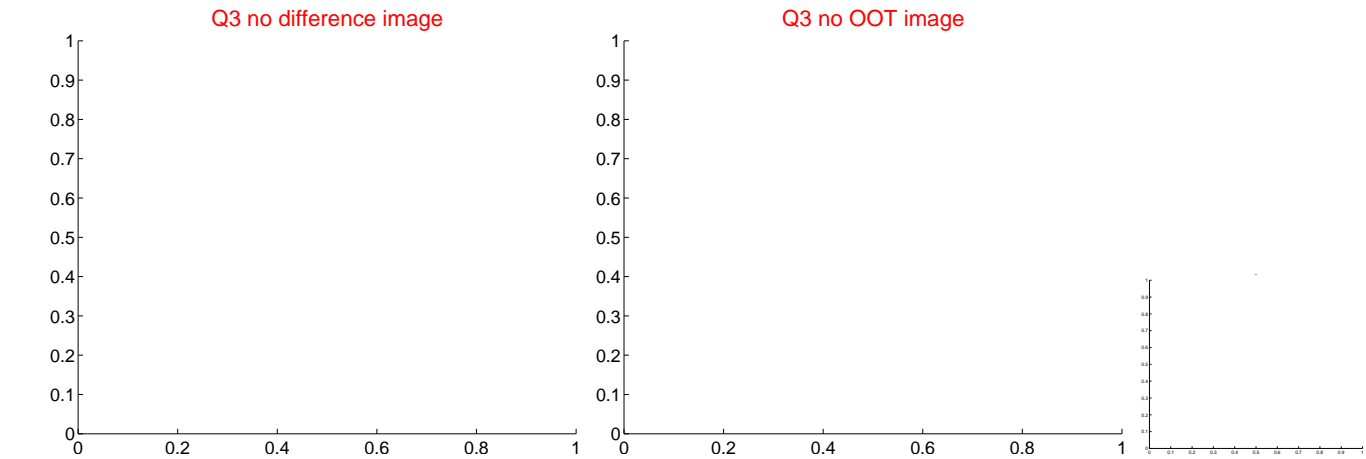
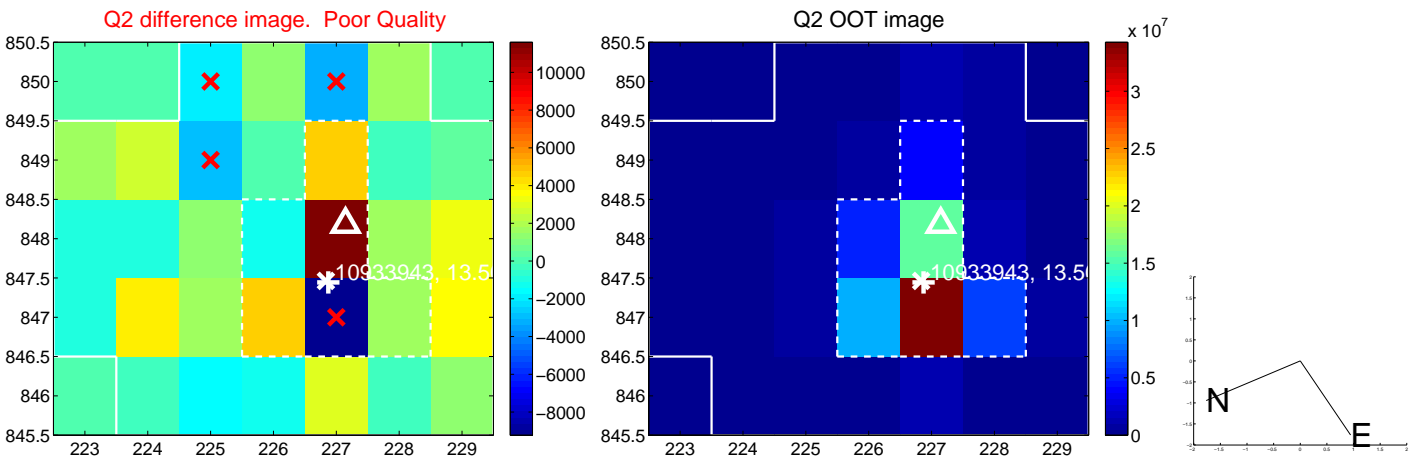
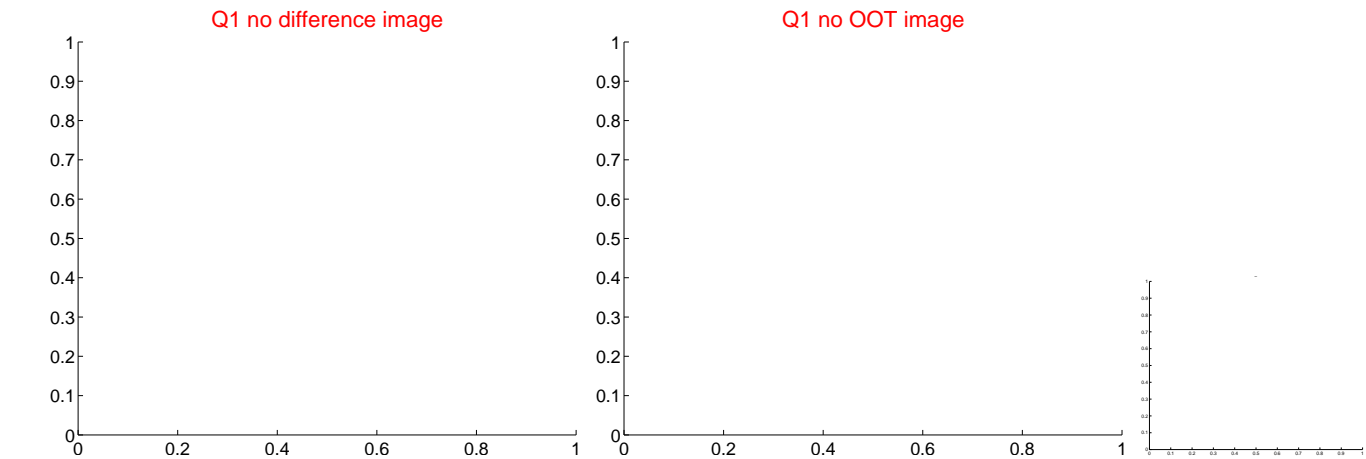
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.281 ± 1.002	3.27	-2.149 ± 0.681	2.479 ± 1.106
PRF-fit source offset from KIC position	3.190 ± 0.917	3.48	-2.147 ± 1.058	2.359 ± 0.921
photometric centroid source offset	3.32 ± 3.77	0.88	0.33 ± 3.76	-3.30 ± 3.77

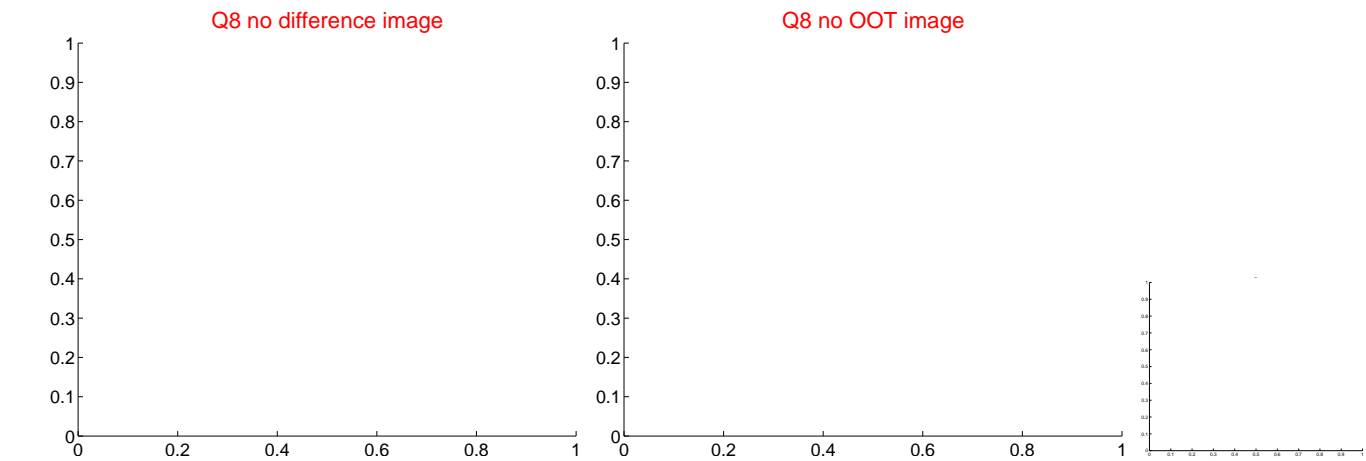
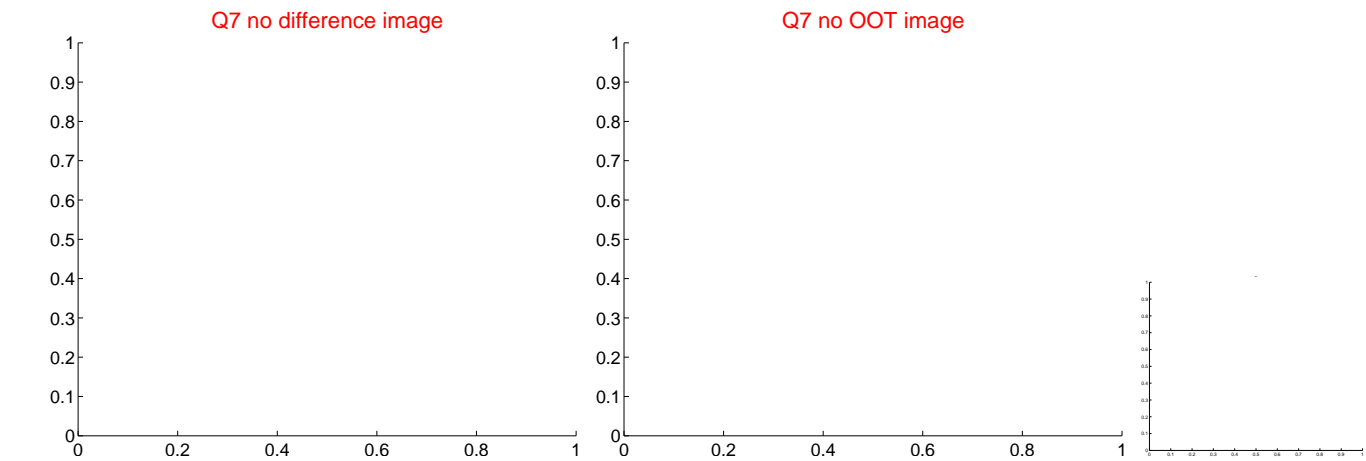
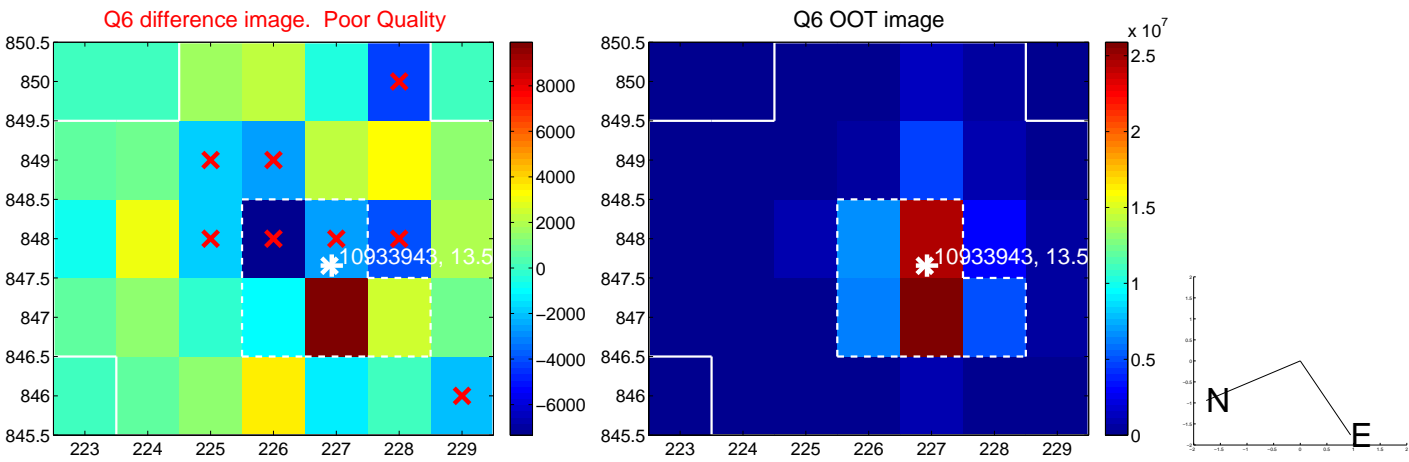
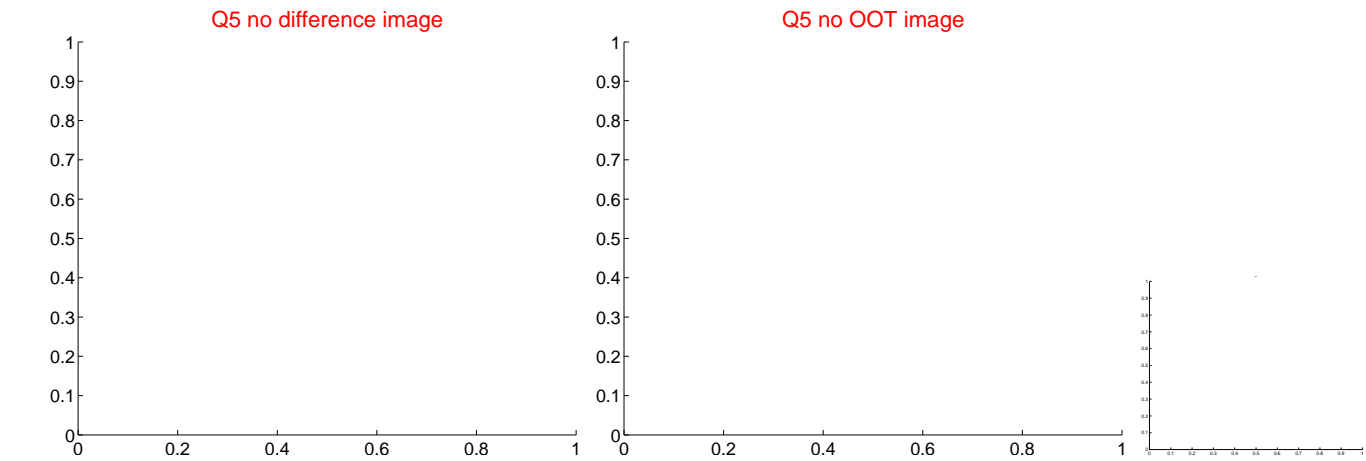


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

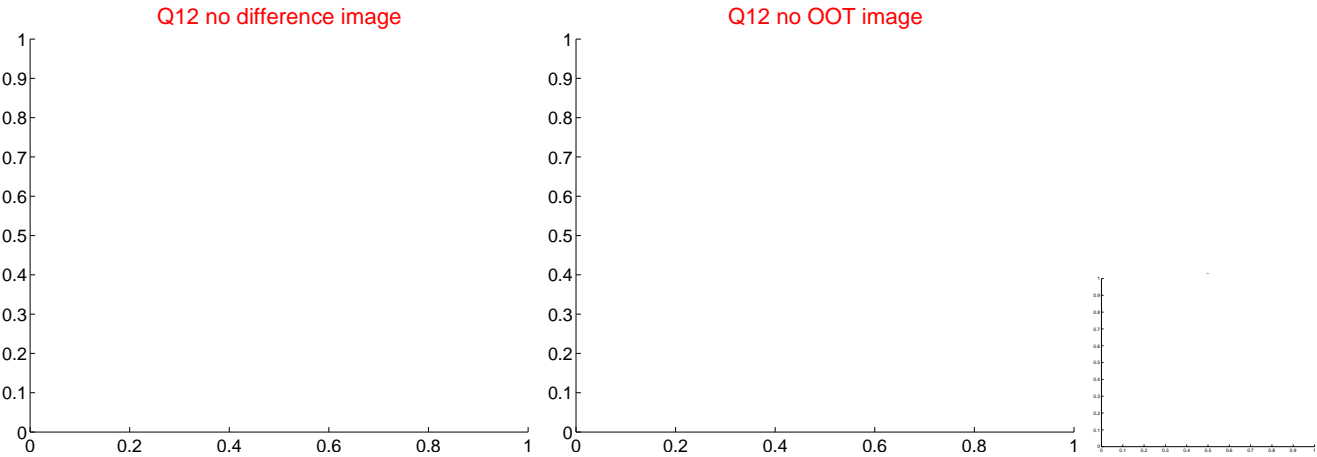
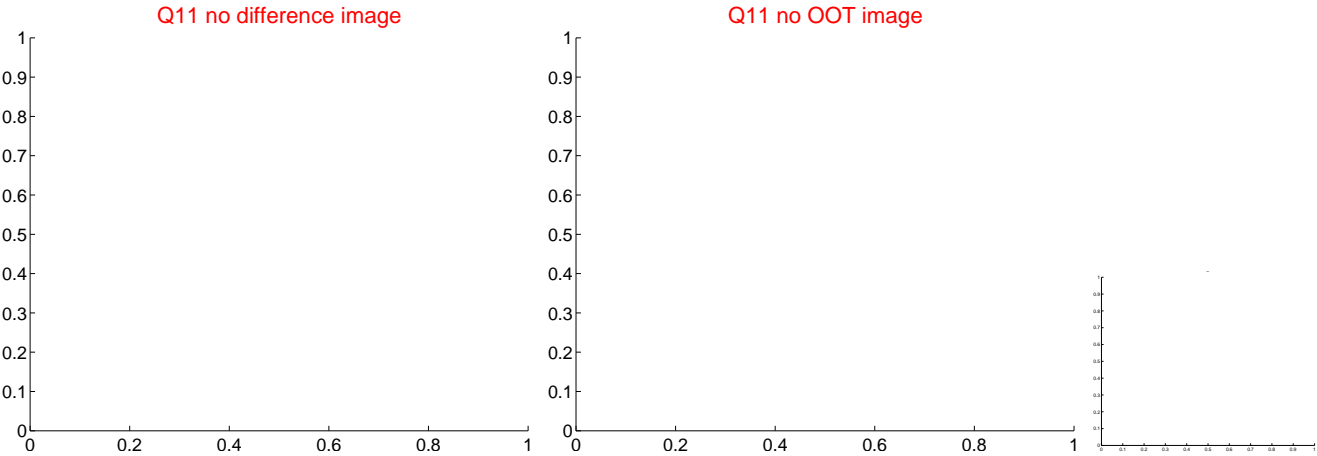
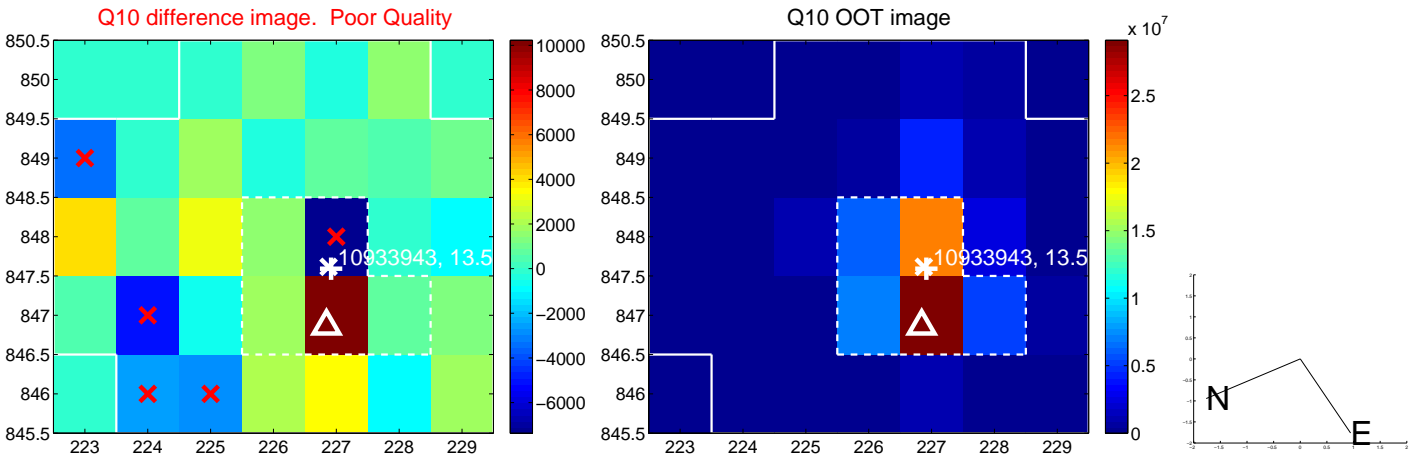
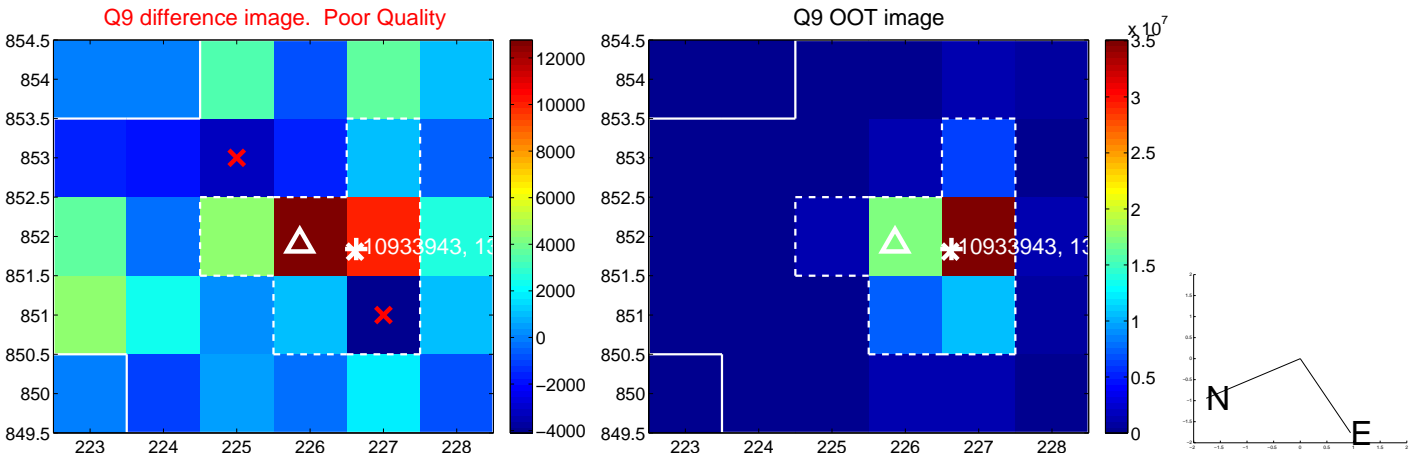
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



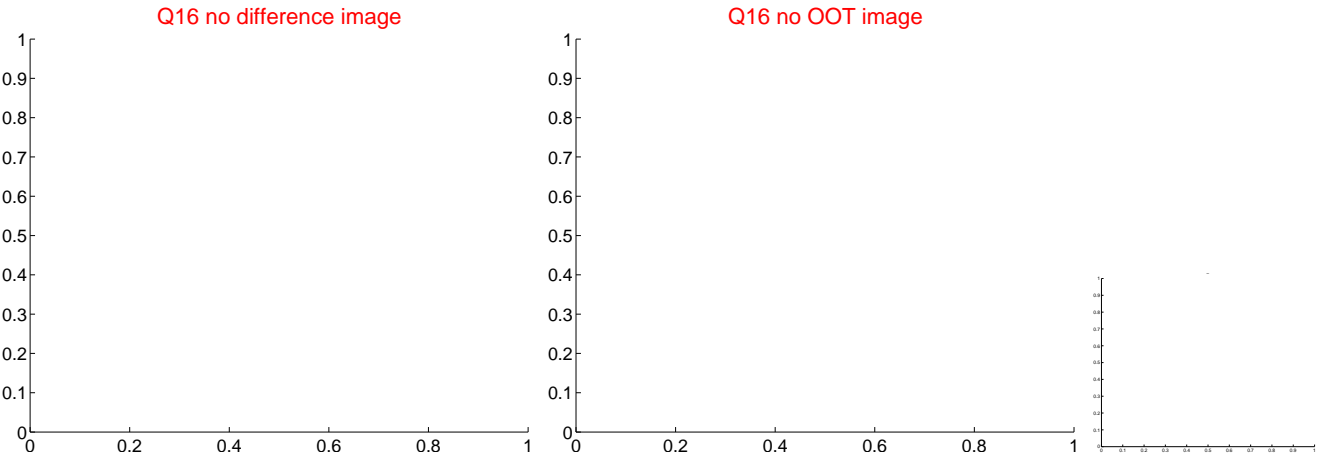
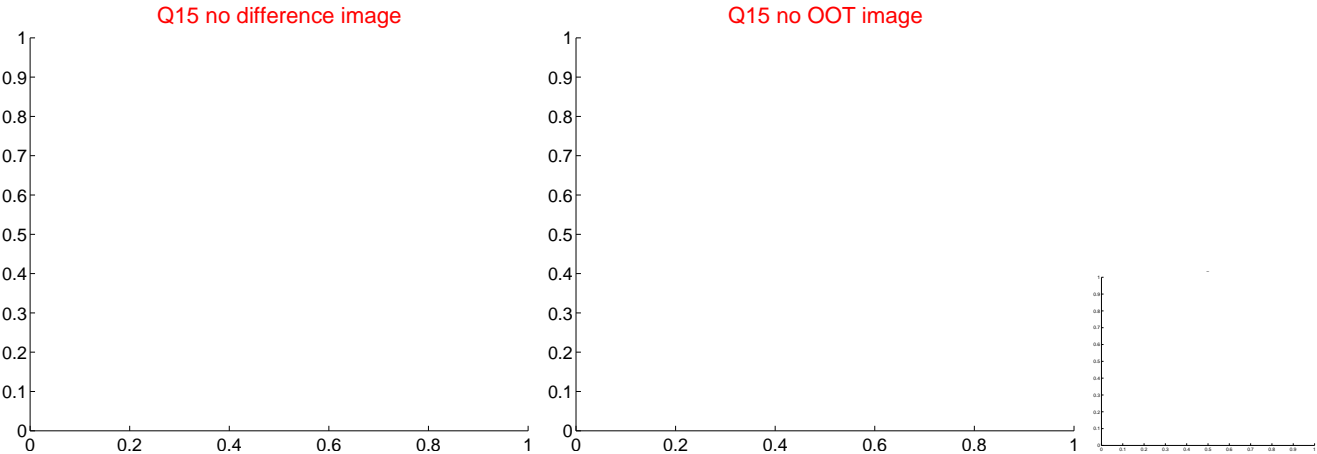
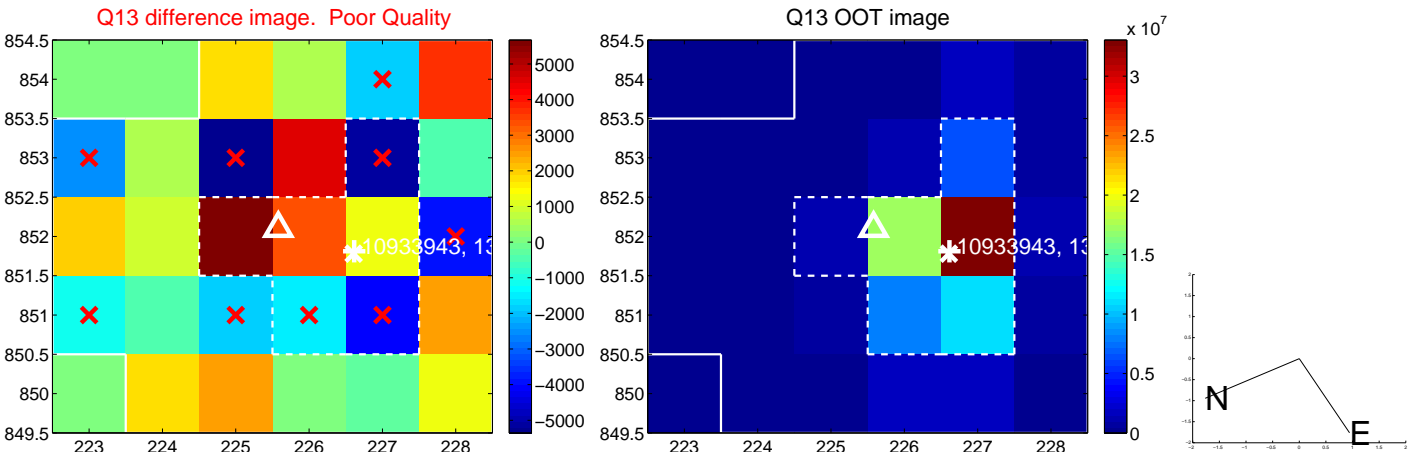
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



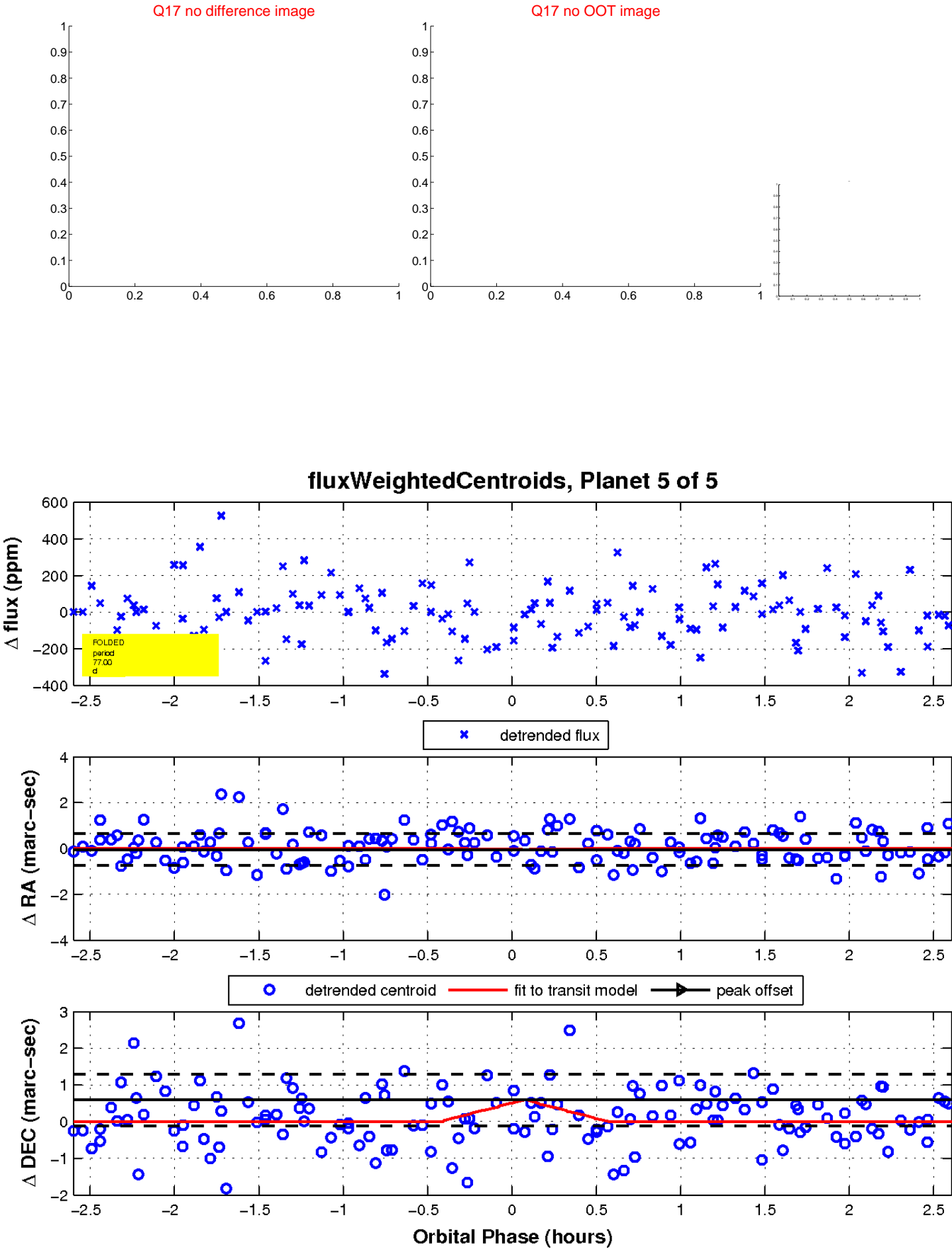
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

