

KIC 009301183

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})
009301183-01	OBS	No	0.910548	131.968942	14.0	2.711	11.6	4.7	5.01	6585	2.20	0.00
009301183-02	OBS	No	3.577482	134.657092	55.8	6.884	11.2	10.6	5.01	6585	4.36	12531.64
009301183-03	OBS	No	3.577140	131.806056	59.5	6.258	11.2	12.3	5.01	6585	4.56	12533.24
009301183-04	OBS	No	3.577459	133.982549	60.7	7.026	9.9	10.5	5.01	6585	7.93	12531.75
009301183-05	OBS	No	112.540098	157.097865	270.9	4.843	7.6	5.2	5.01	6585	9.81	126.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009301183-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—HALO_GHOST
009301183-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
009301183-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
009301183-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD
009301183-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

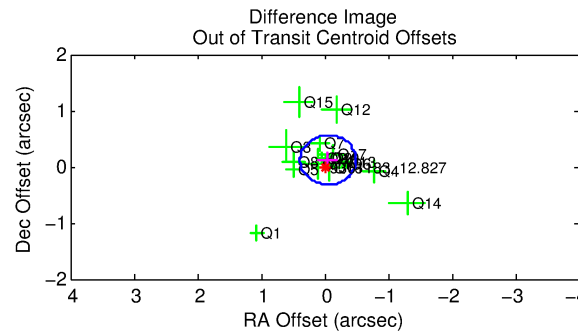
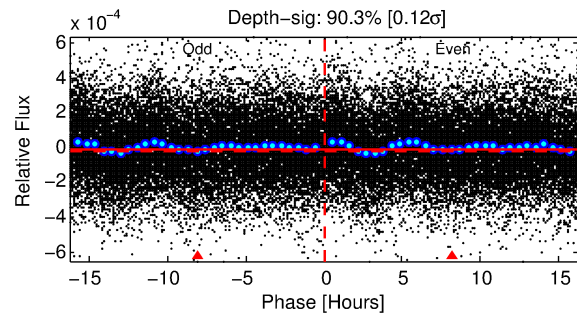
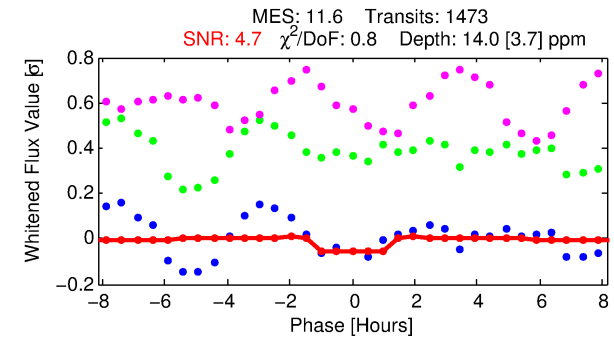
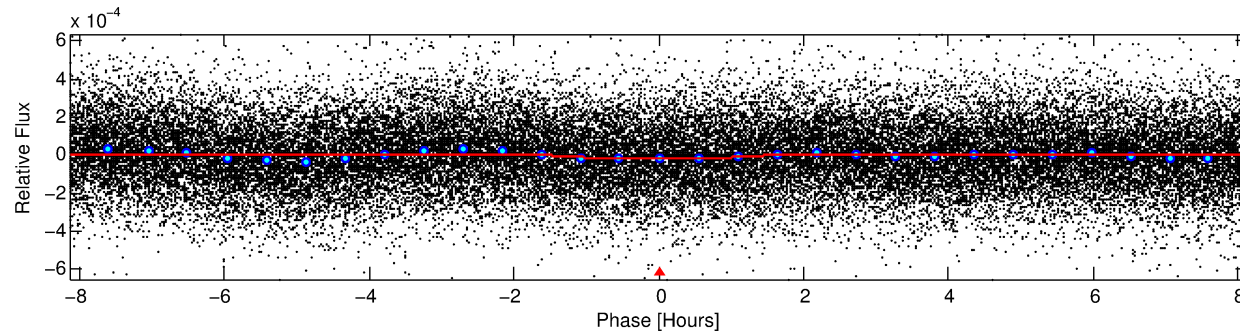
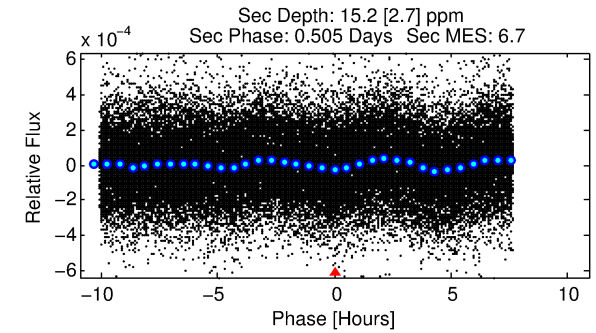
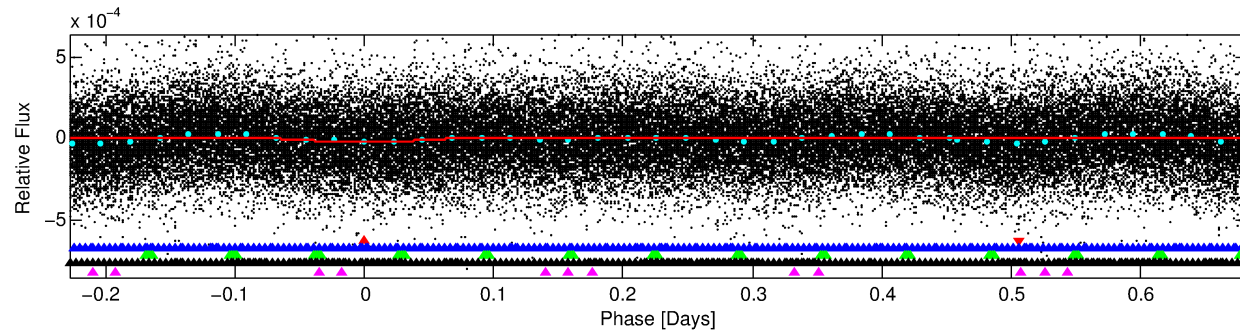
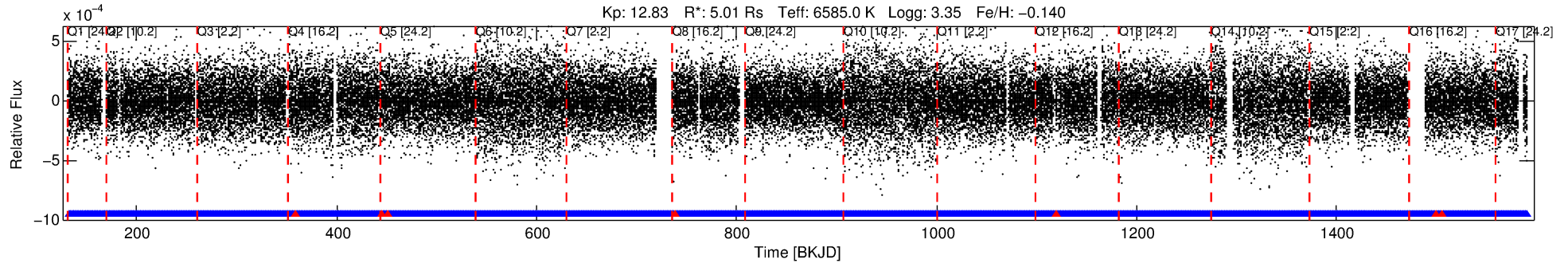
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009301183-01

No Significant Match Found

DV One-Page Summary

KIC: 9301183 Candidate: 1 of 5 Period: 0.911 d



DV Fit Results:

Period = 0.91055 [0.00002] d
Epoch = 131.9689 [0.0050] BKJD
Rp/R* = 0.0040 [0.0019]
a/R* = 1.45 [2.08]
b = 0.91 [0.54]
Seff = N/A
Teq = N/A
Rp = 2.20 [1.42] Re
a = N/A
Ag = N/A
Teffp = N/A

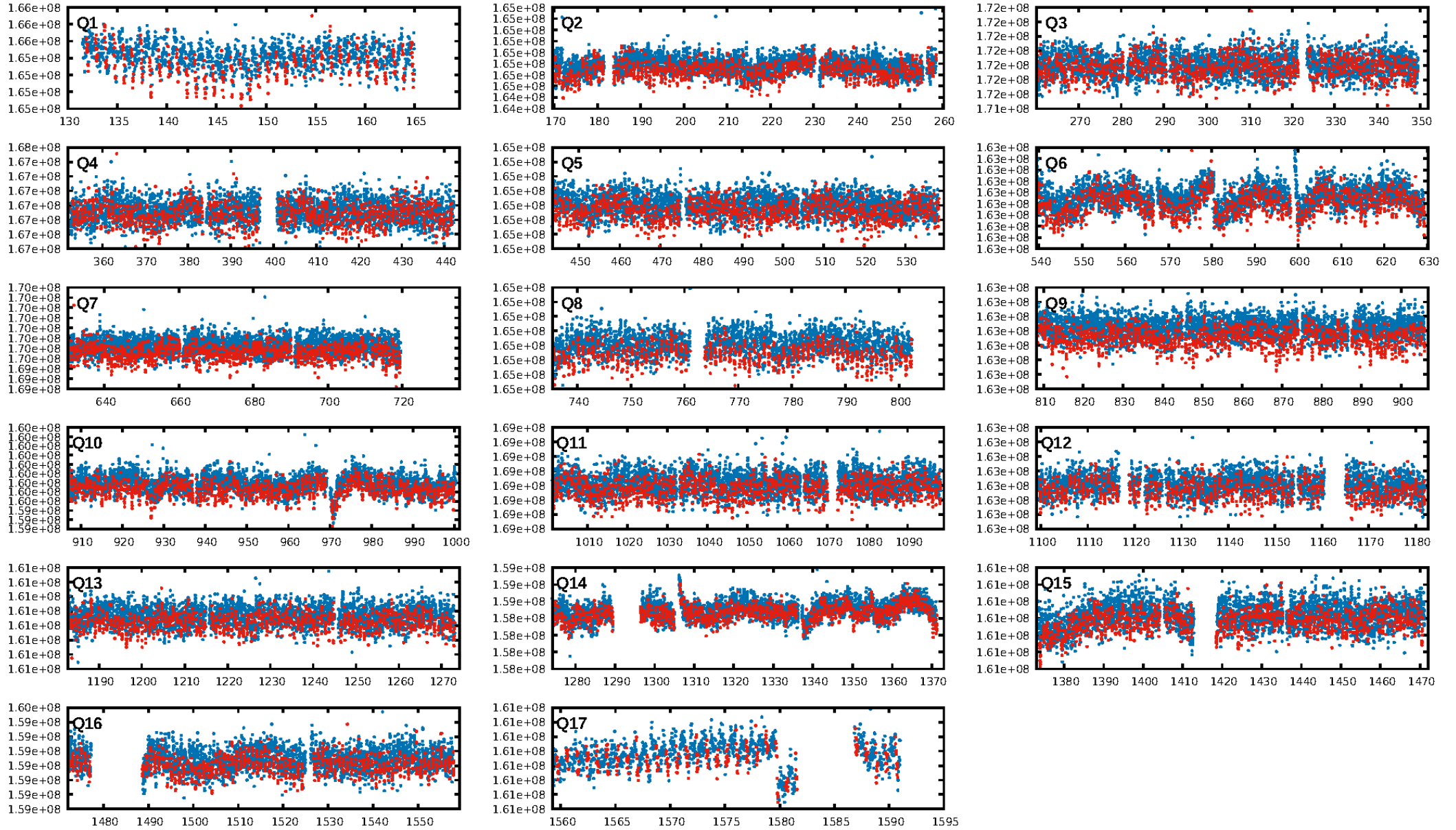
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [9.38σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.18e-20
RollingBand-fgt: 1.00 [1399/1406]
GhostDiagnostic-chr: -0.01099
Centroid-sig: 0.2%
Centroid-so: 2.378 arcsec [1.76σ]
OotOffset-rm: 0.131 arcsec [0.89σ]
KicOffset-rm: 0.106 arcsec [0.74σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

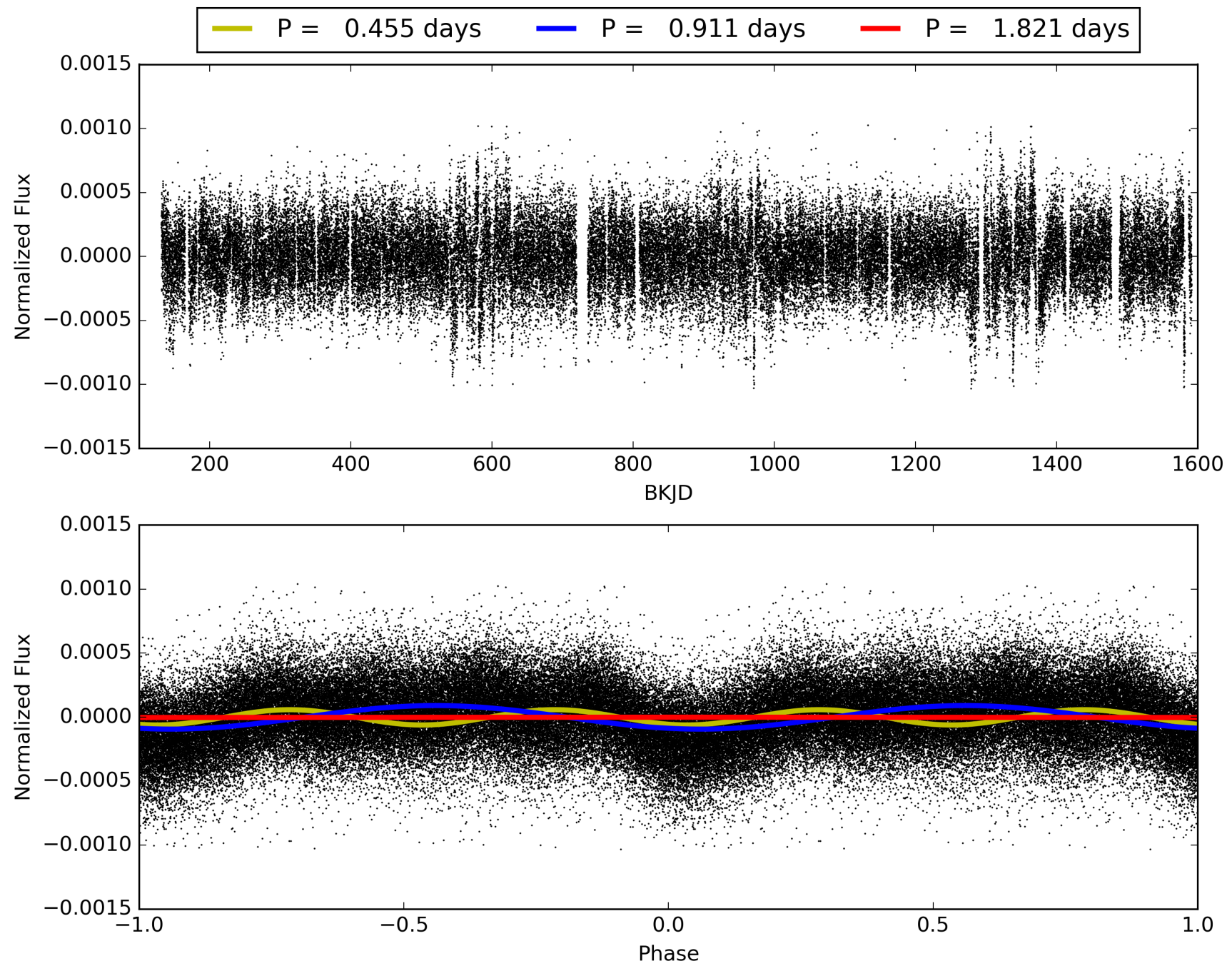
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:30:15 Z

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

TCE 009301183-01, PDC Light Curves

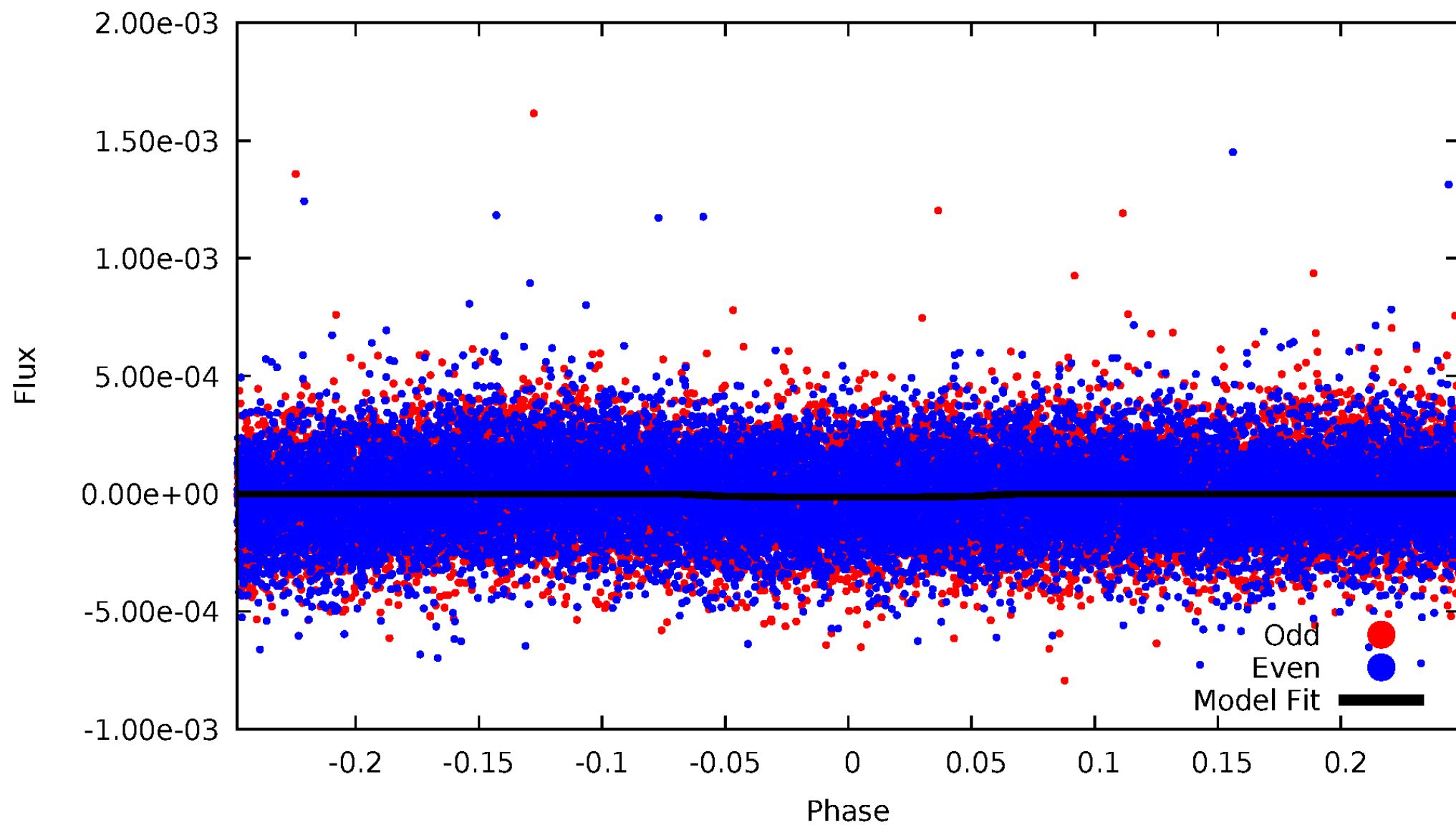


TCE 009301183-01



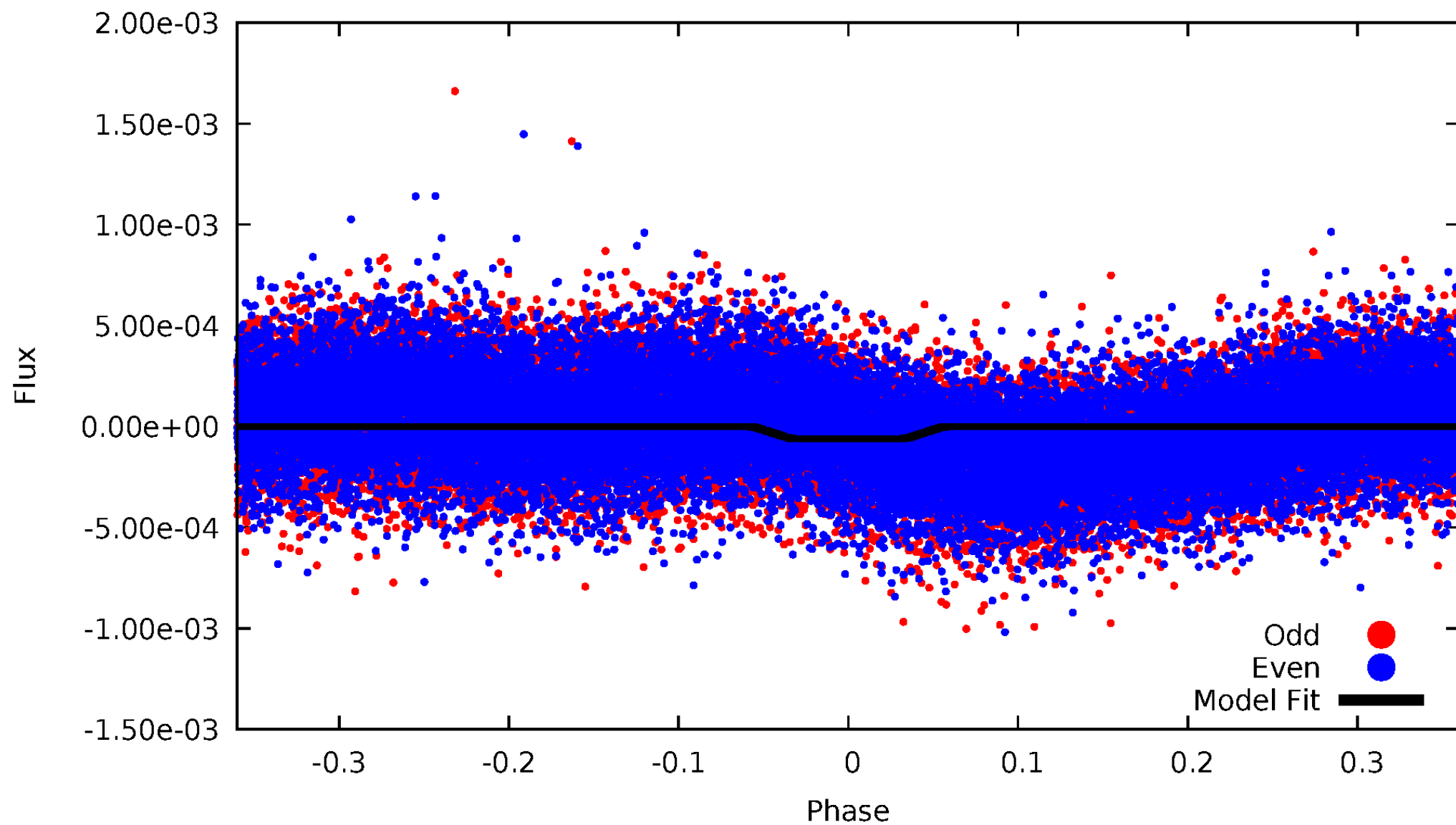
DV Odd/Even

TCE 009301183-01

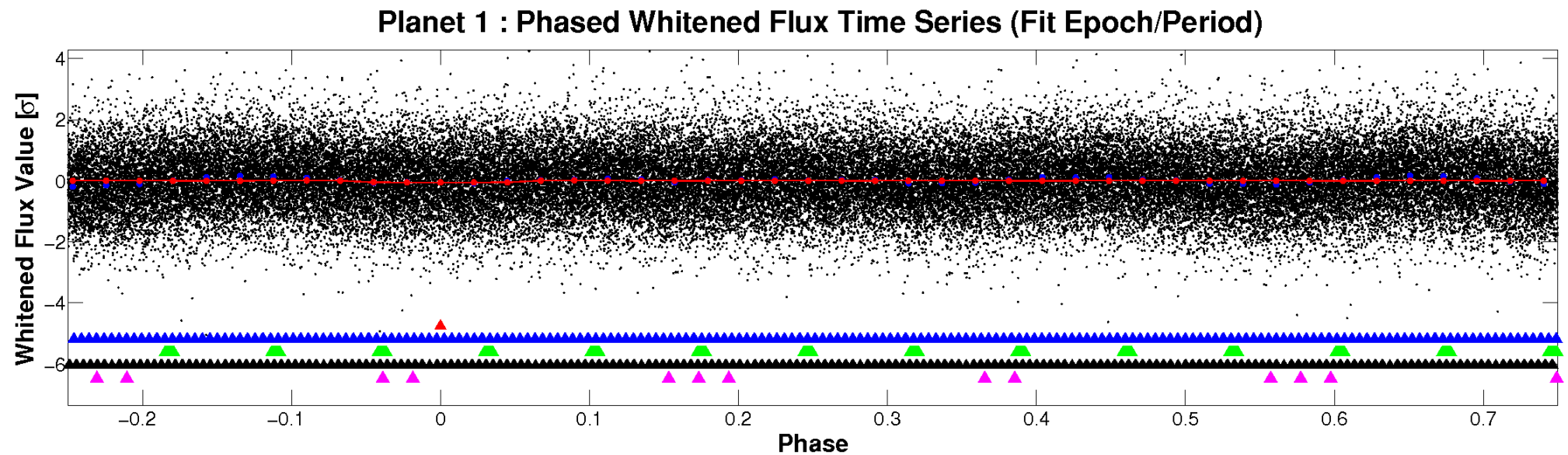
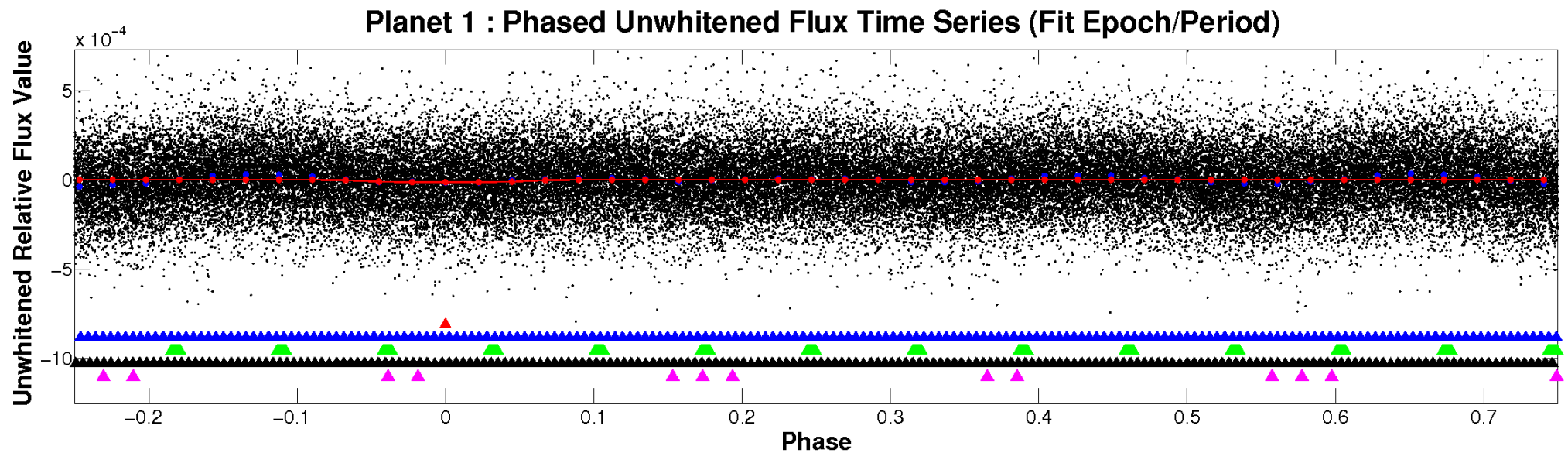


ALT Odd/Even

TCE 009301183-01

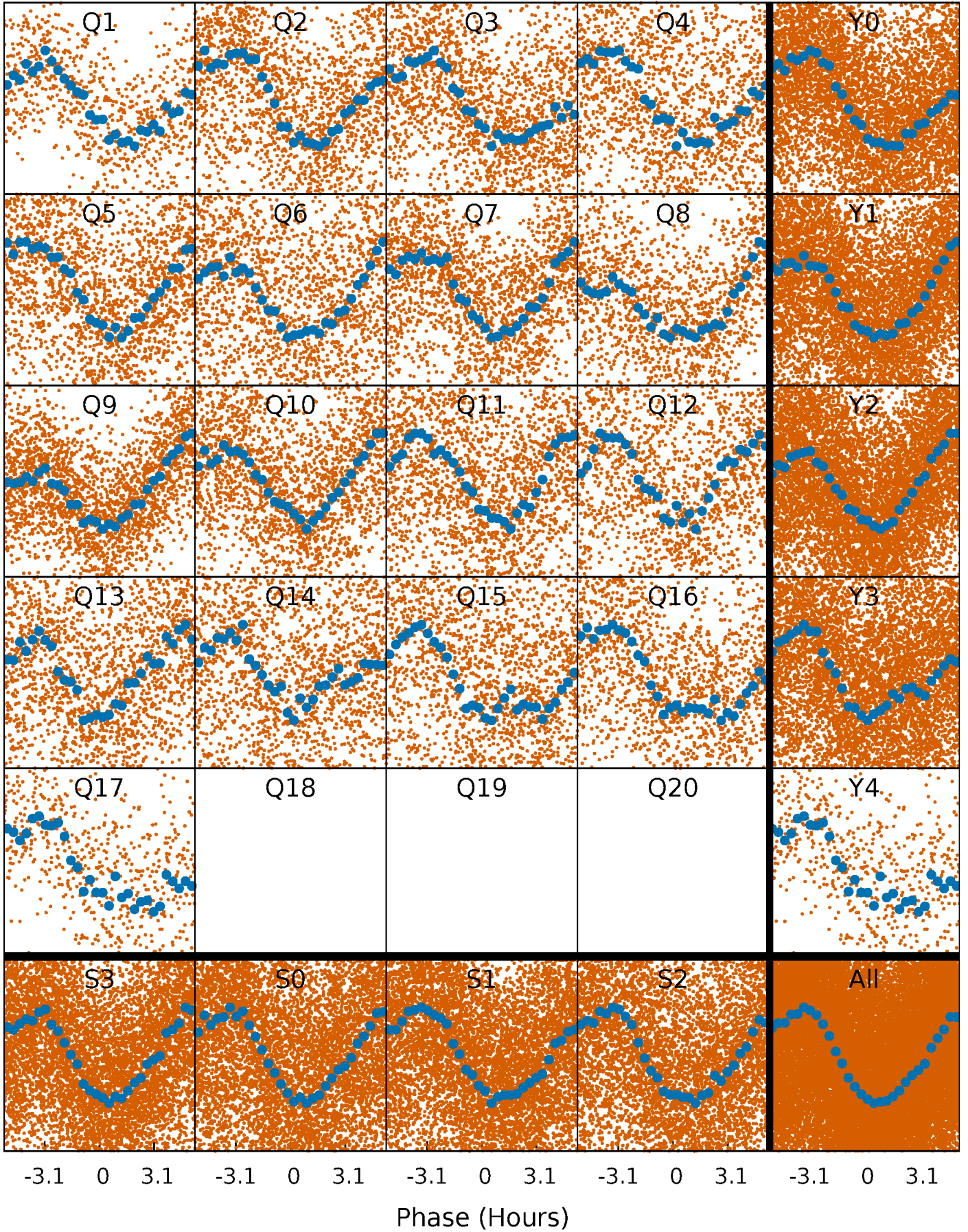


Non-Whitened Vs. Whitened Light Curve



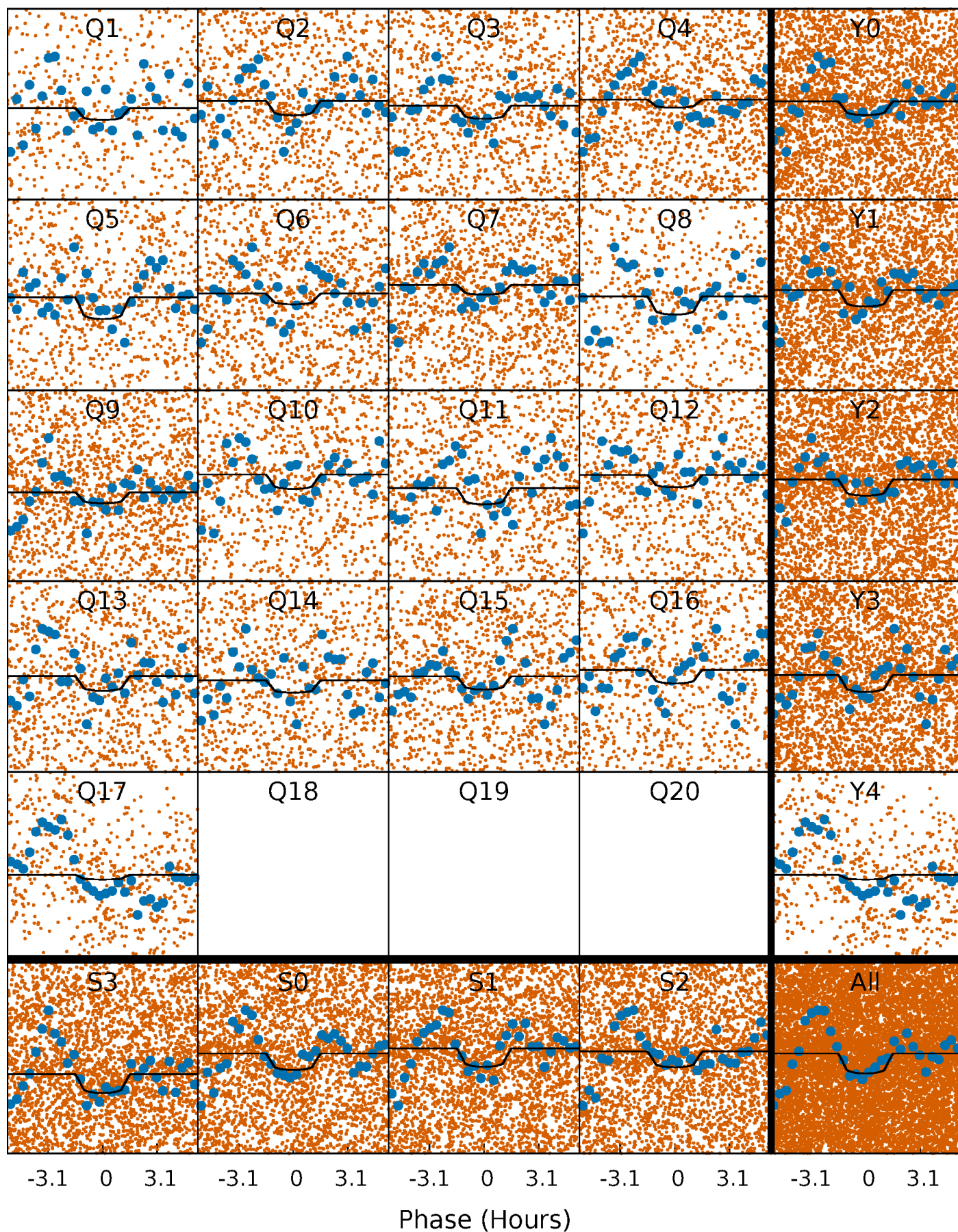
PDC Quarter-Phased Transit Curves

TCE 009301183-01 P= 0.910548 Days $T_0=131.968942$ (BKJD)



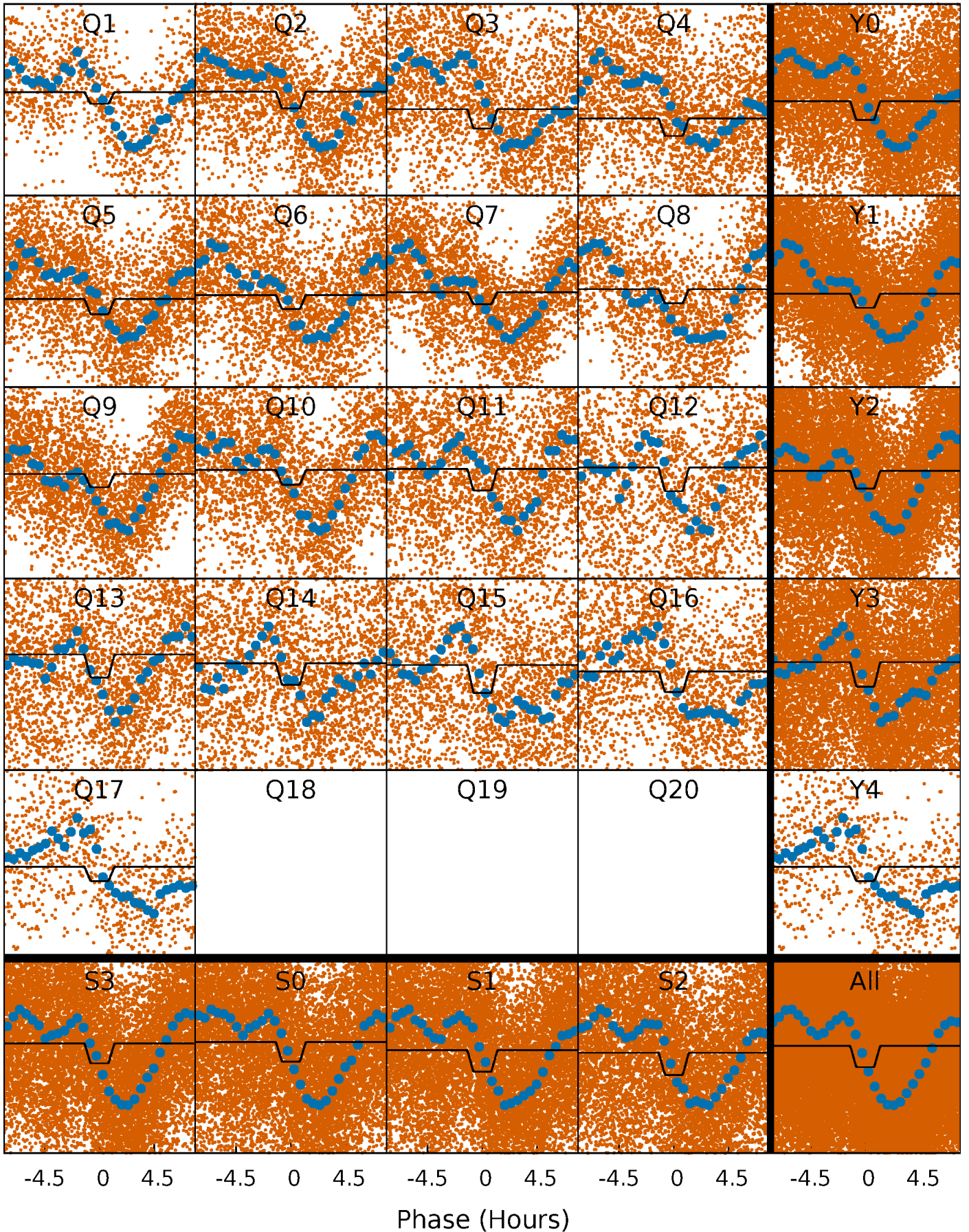
DV Quarter-Phased Transit Curves

TCE 009301183-01 P= 0.910548 Days $T_0=131.968942$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

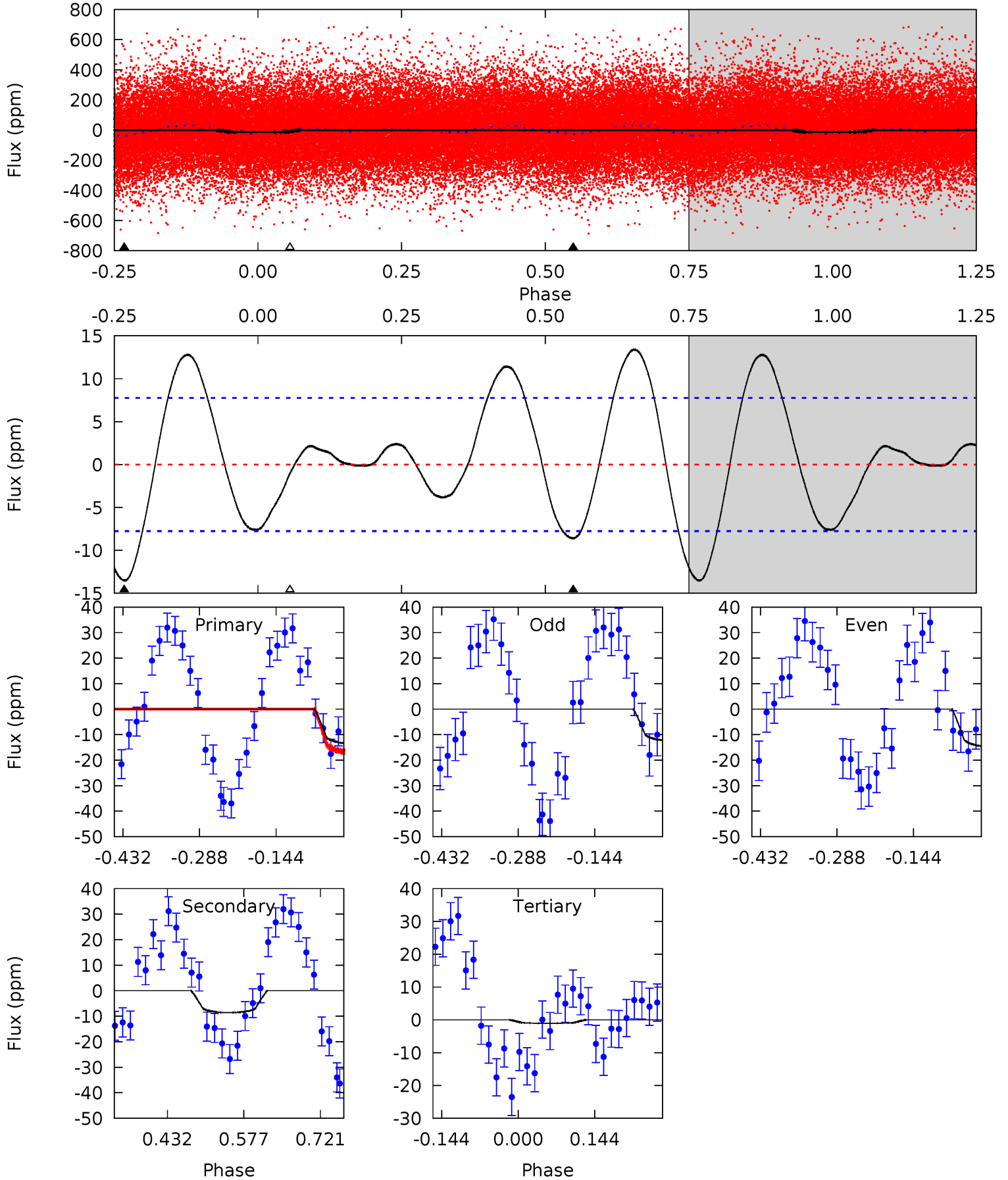
TCE 009301183-01 P= 0.910543 Days $T_0=131.913203$ (BKJD)



DV Model-Shift Uniqueness Test

009301183-01, P = 0.910548 Days, E = 131.058394 Days

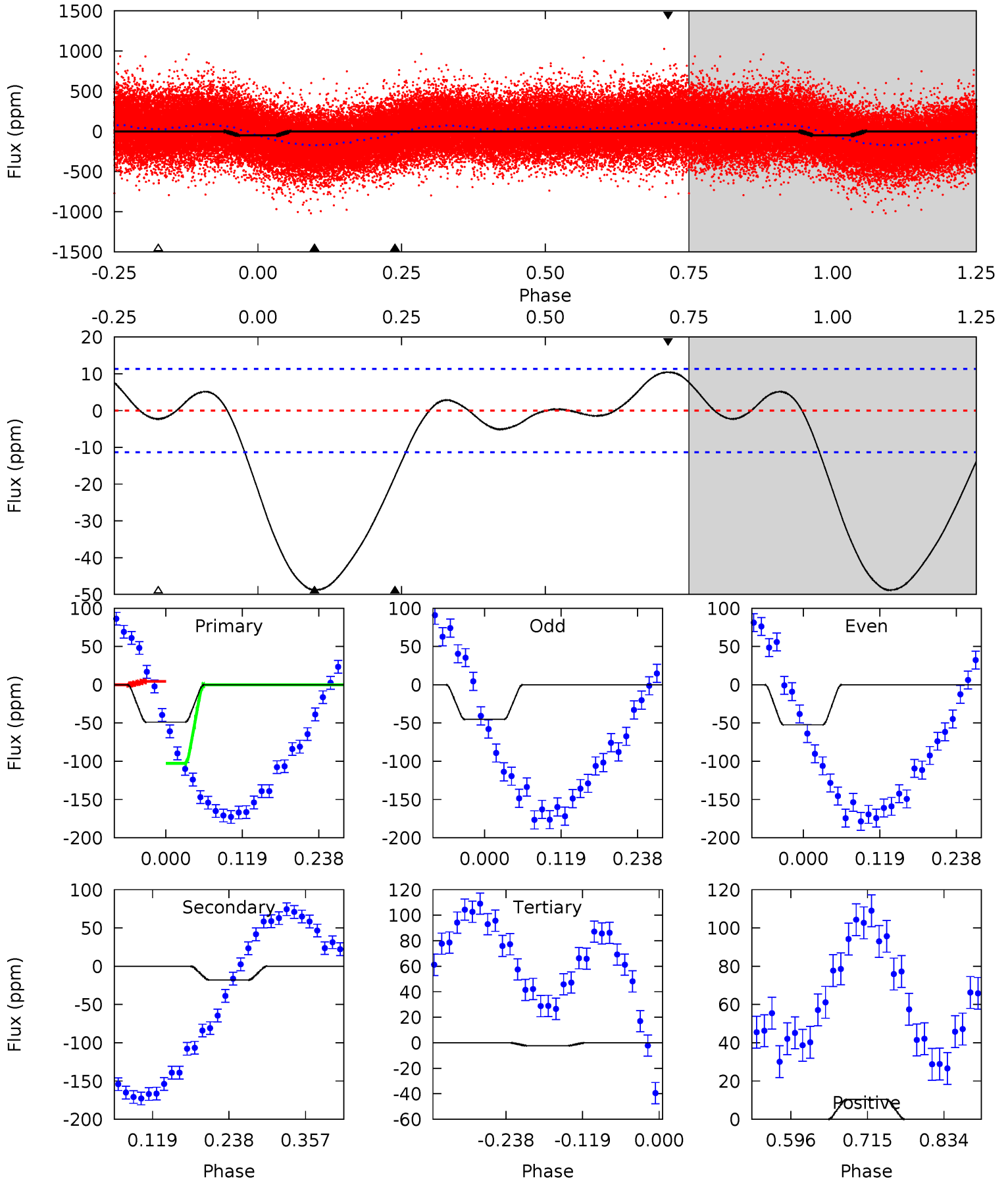
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.81	4.97	0.61	0	4.49	1.46	2.02	7.20	7.81	4.36	4.97	0.68	0.96	0.50	1.97



Alt Model-Shift Uniqueness Test

009301183-01, P = 0.910543 Days, E = 131.002660 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.5	7.15	0.92	4.16	4.53	1.56	1.79	18.6	15.3	6.23	2.99	1.42	1.05	0.18	20.6



Stellar Parameters For KIC 009301183

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6585^{+179}_{-219}	$3.348^{+0.432}_{-0.048}$	$-0.140^{+0.350}_{-0.300}$	$5.006^{+0.389}_{-2.205}$	$2.035^{+0.107}_{-0.455}$	$0.023^{+0.087}_{-0.004}$
	+3%/-3%	+13%/-1%	+250%/-214%	+8%/-44%	+5%/-22%	+382%/-16%
Source	PHO1	FLK73	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 009301183-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9 ± 2	$1.94^{+1.09}_{-0.96}$	5794^{+305}_{-628}	5000^{+2487}_{-8204}	$0.698^{+1.872}_{-0.427}$
Alt.	-18 ± 3	$3.81^{+1.18}_{-1.18}$	5772^{+309}_{-688}	3504^{+1344}_{-7394}	$0.363^{+0.353}_{-0.151}$

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 $A_{obs} \gg 1.0$

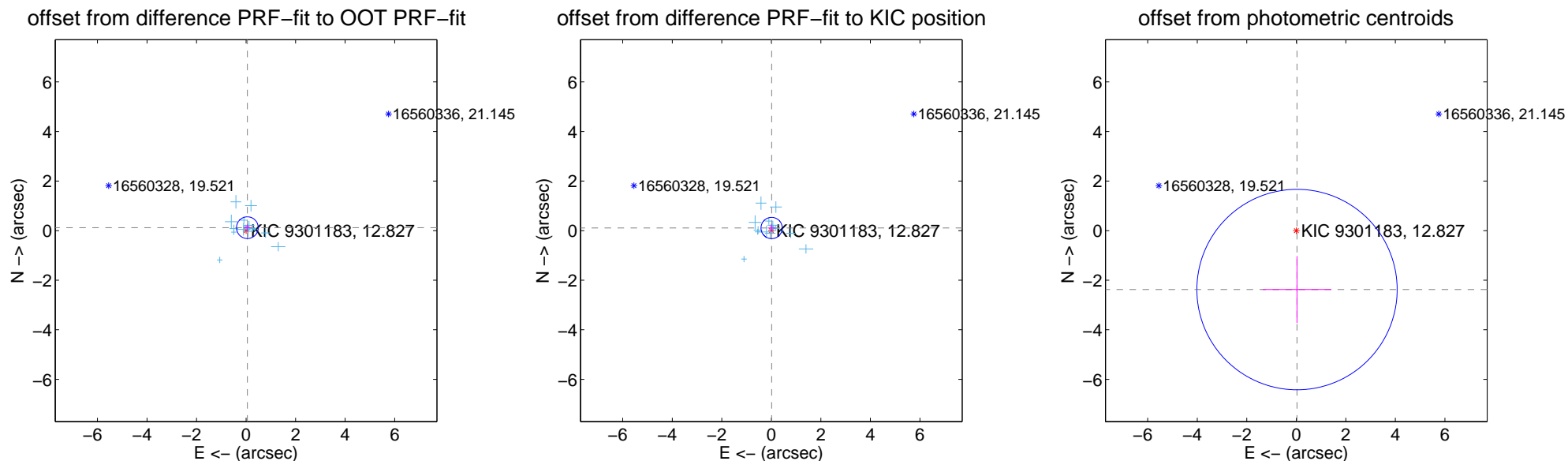
DV Centroid Data

Supplemental centroid analysis for 009301183-01. Kepler magnitude: 12.83. Transit SNR 4.71

There are 17 quarters with good PRF difference image offsets

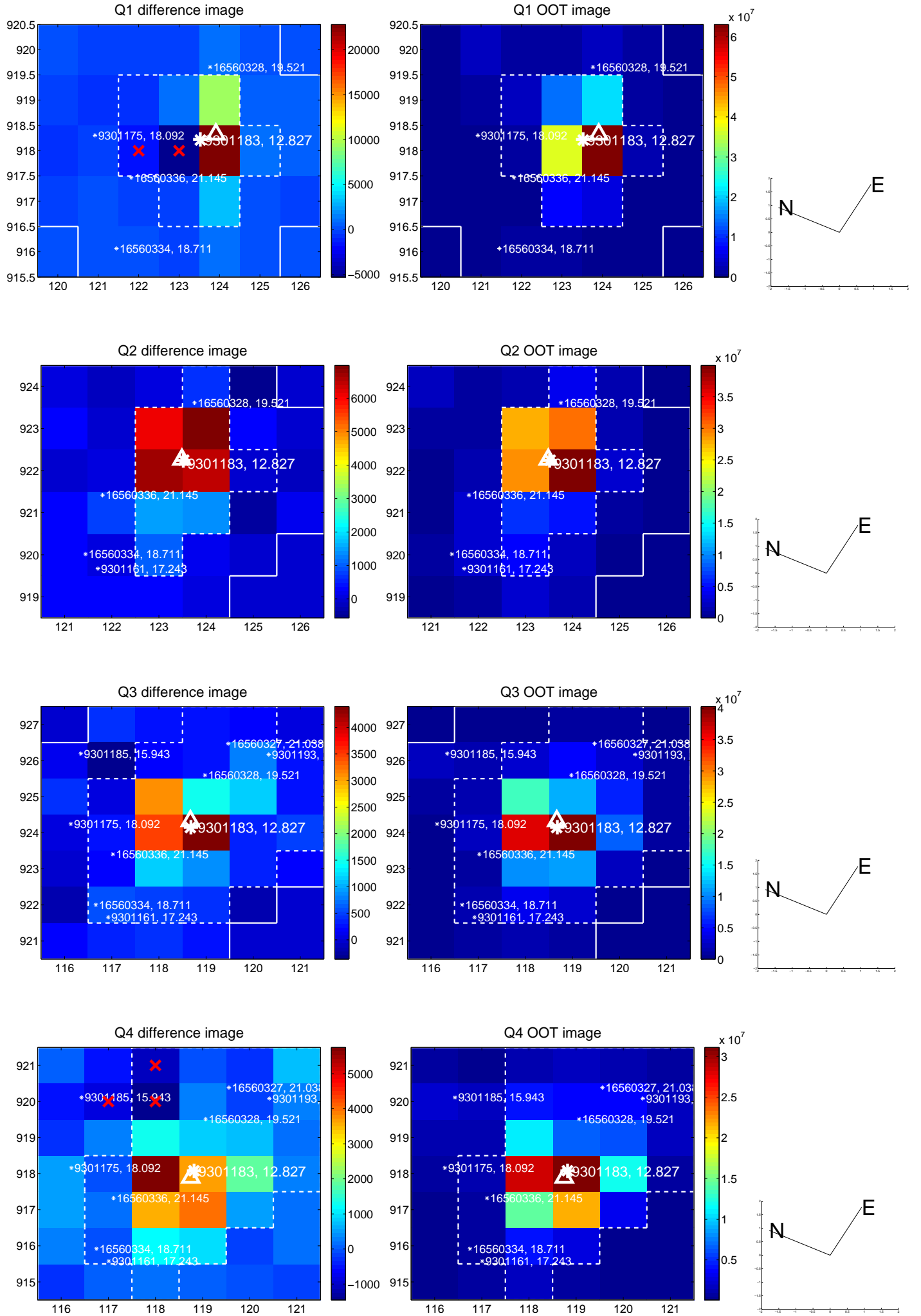
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.131 ± 0.146	0.89	-0.053 ± 0.147	0.119 ± 0.139
PRF-fit source offset from KIC position	0.106 ± 0.143	0.74	-0.011 ± 0.148	0.106 ± 0.142
photometric centroid source offset	2.38 ± 1.35	1.76	-0.03 ± 1.39	-2.38 ± 1.35

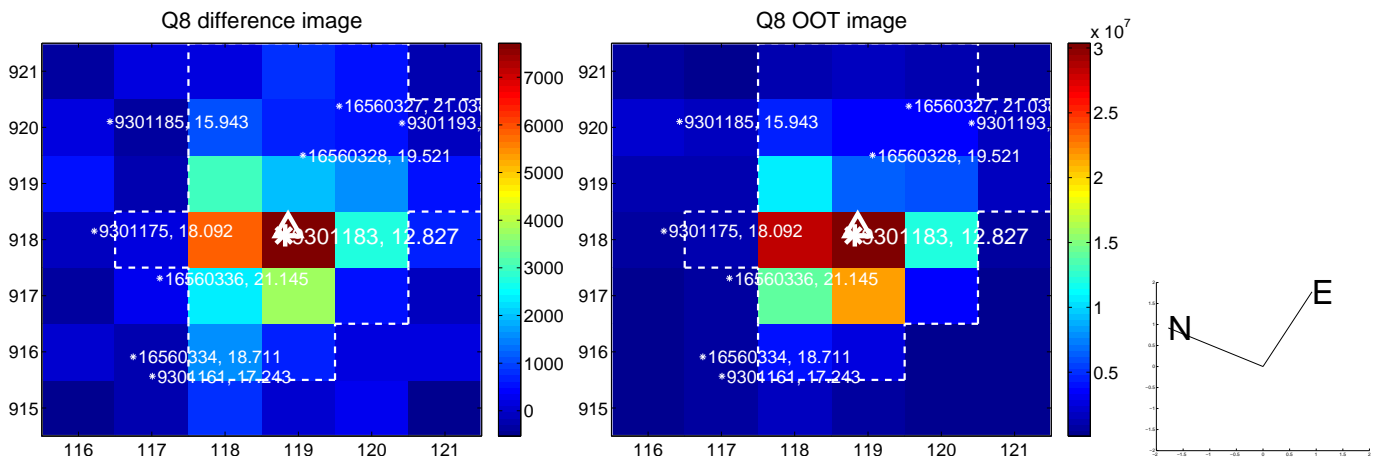
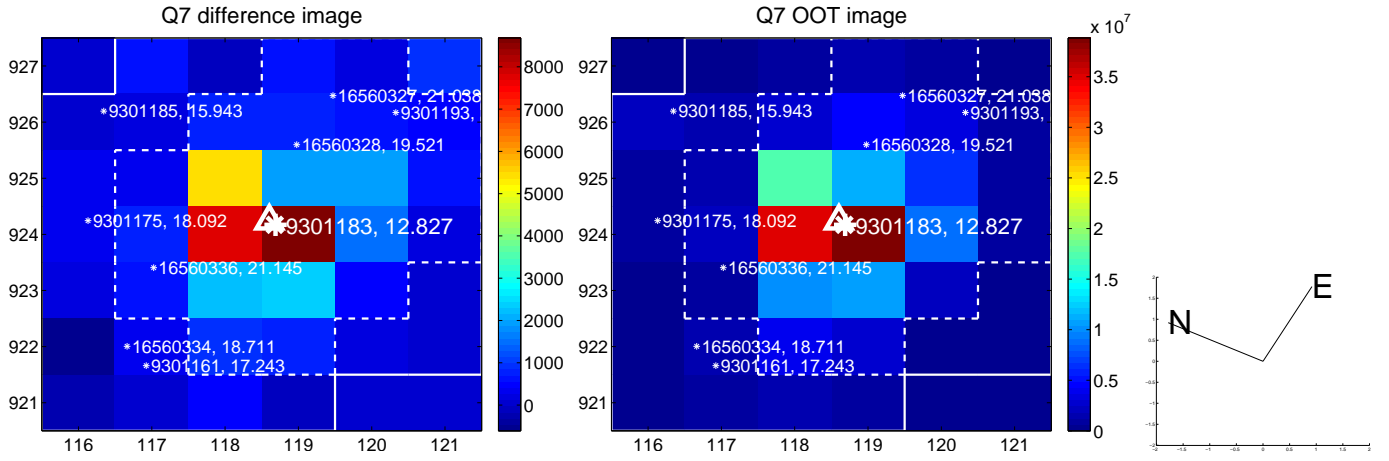
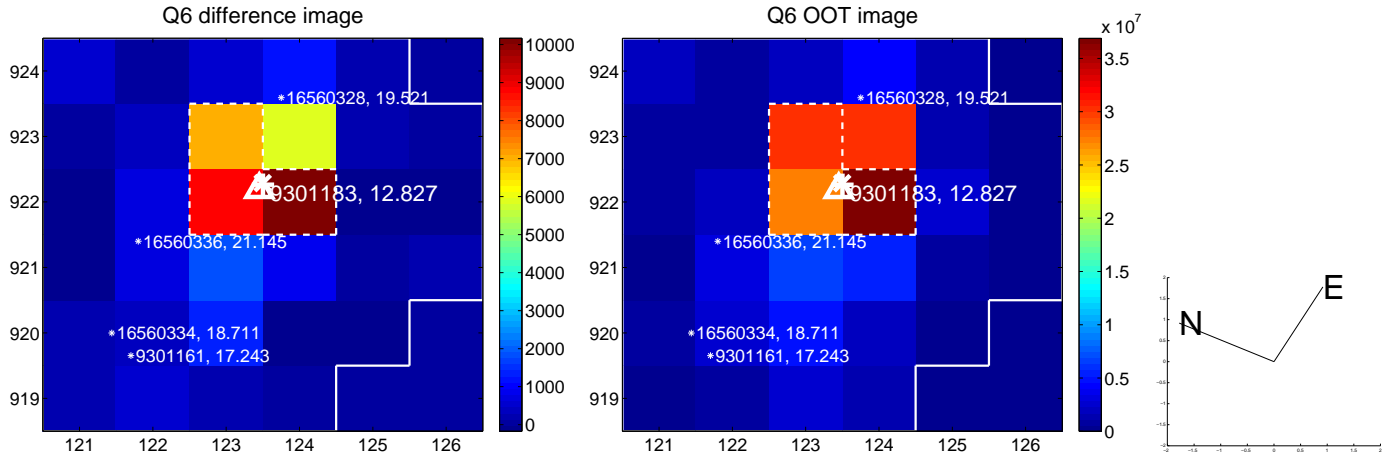
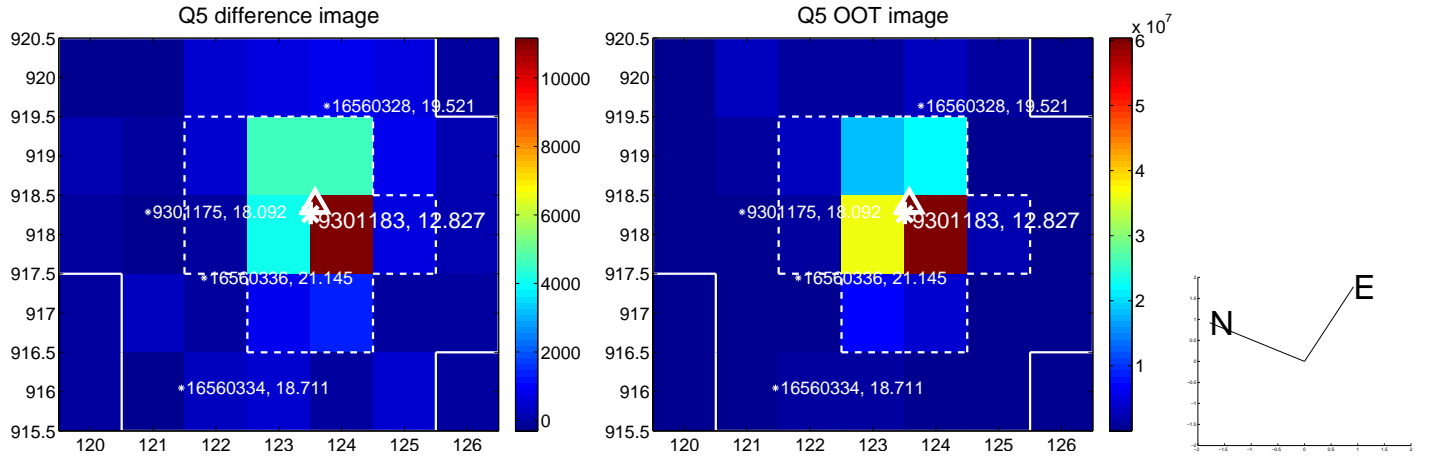


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

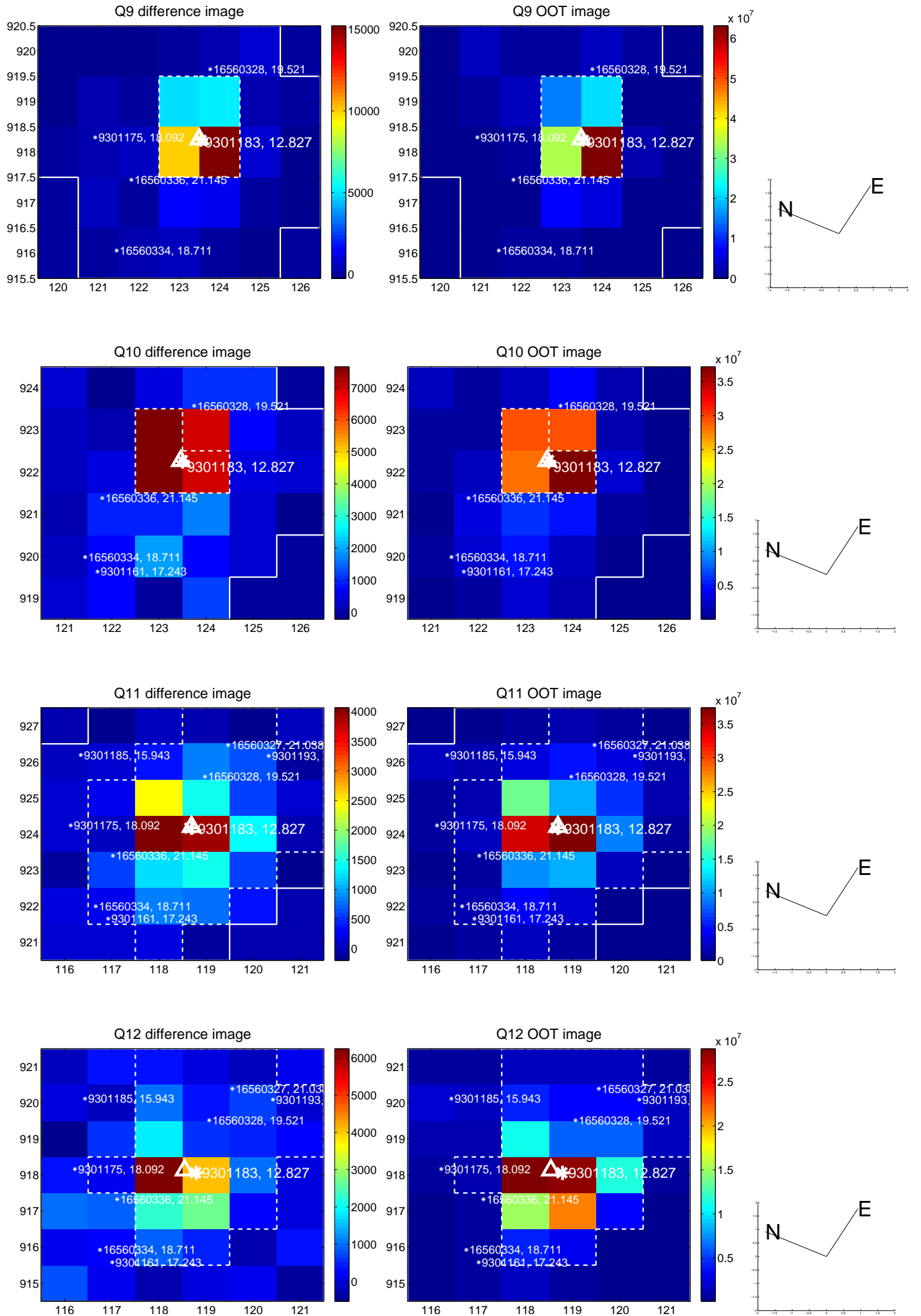
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



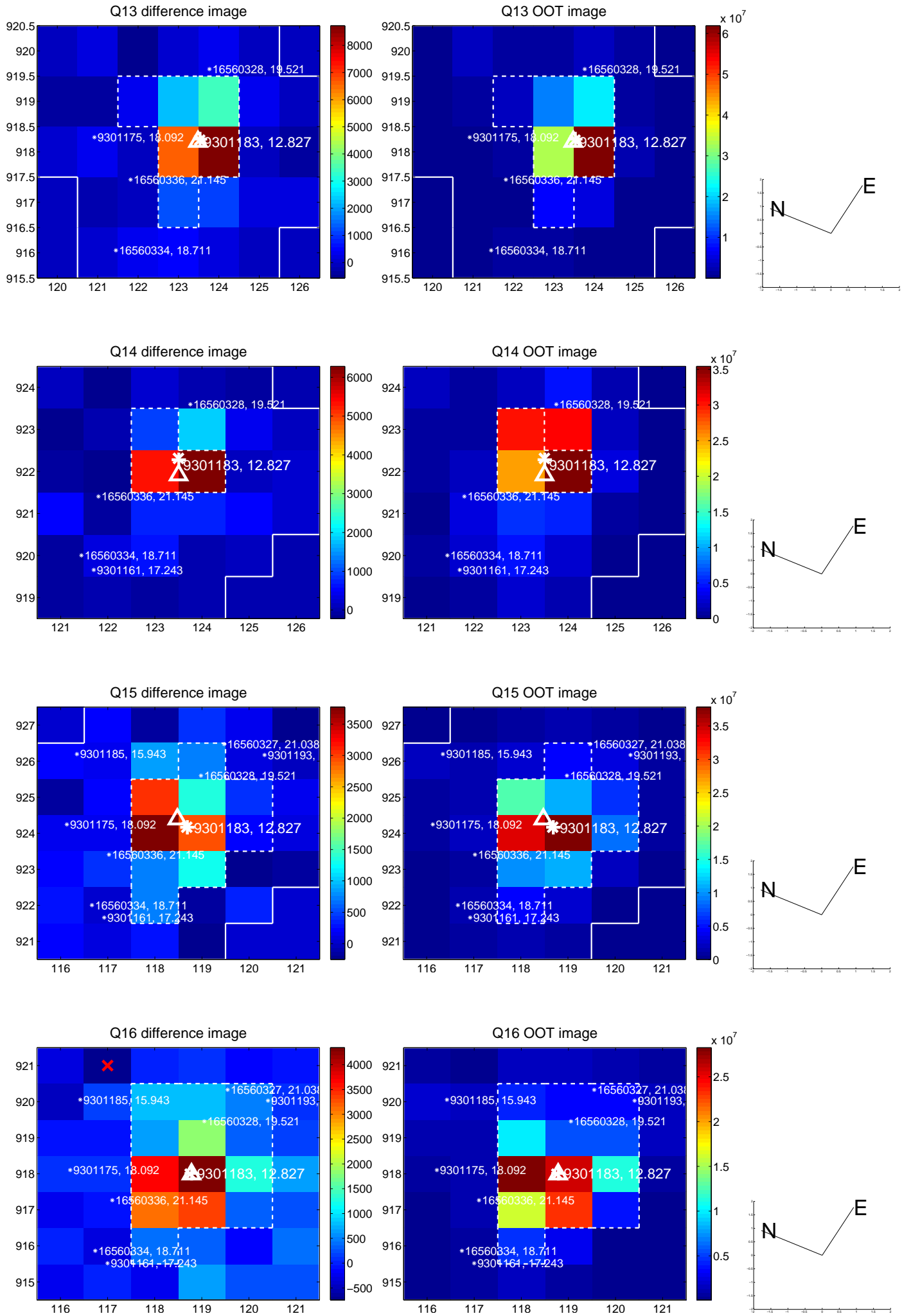
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



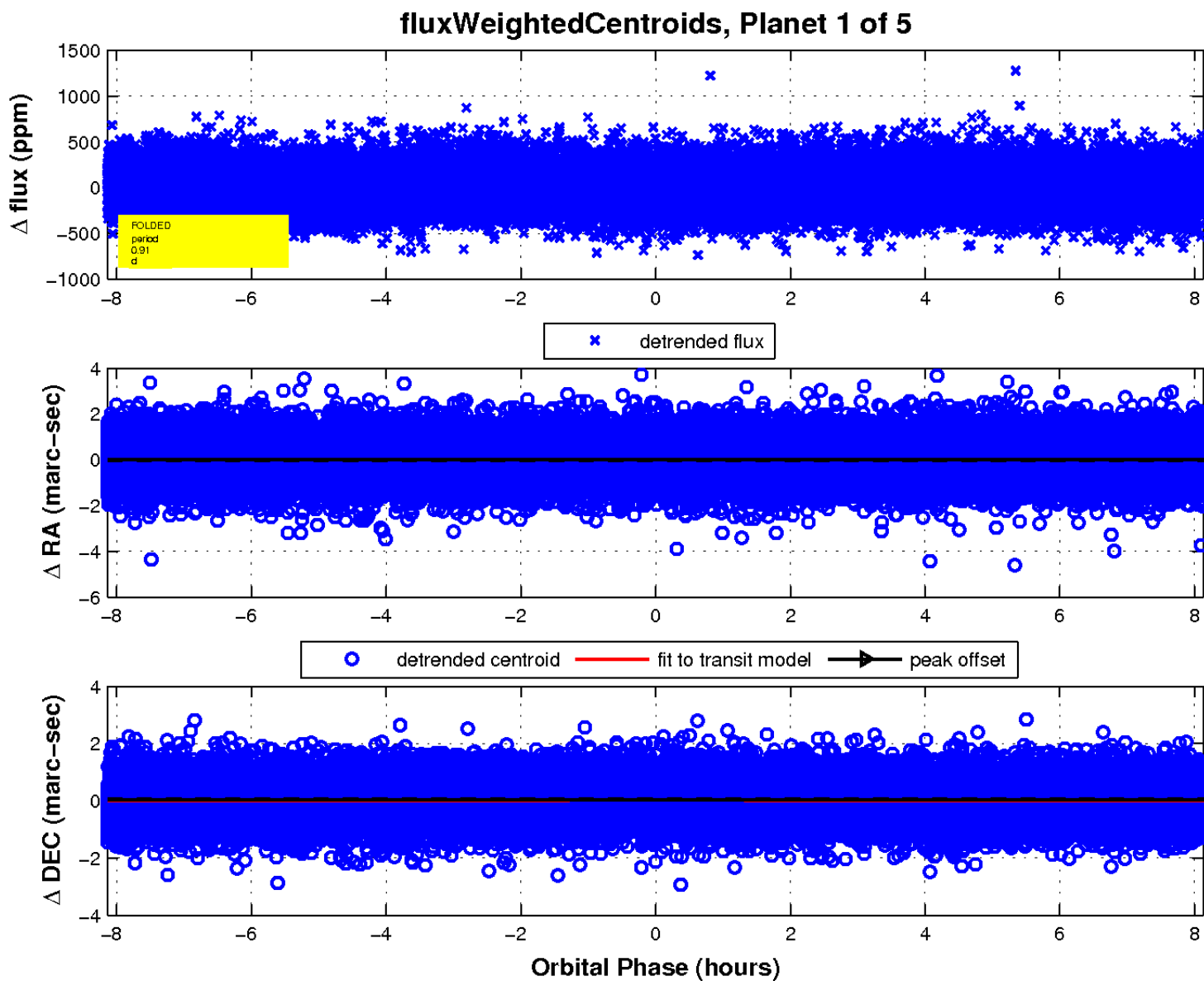
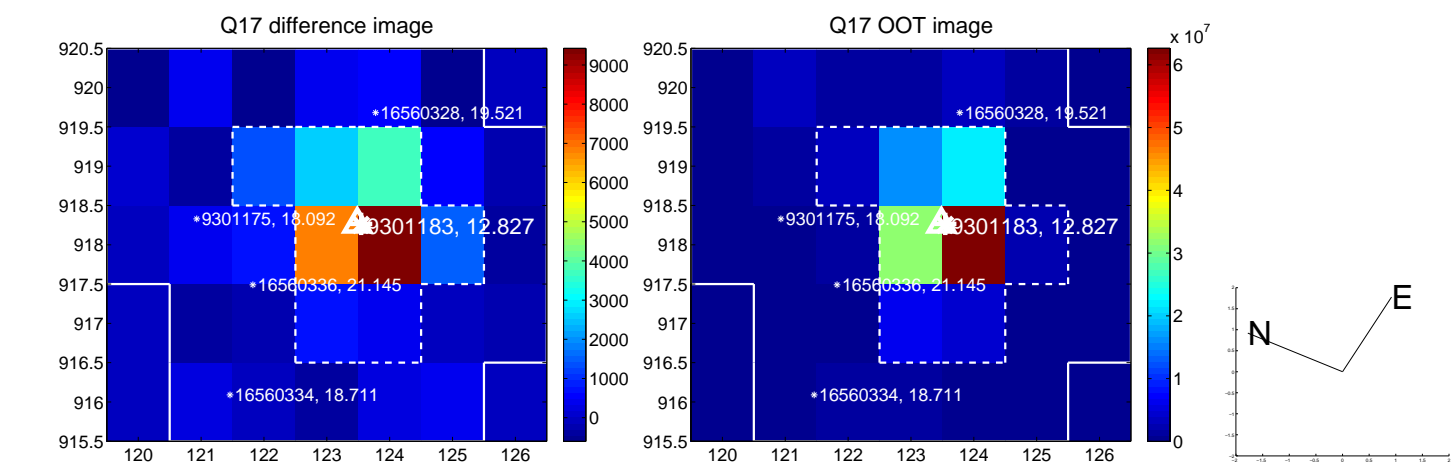
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

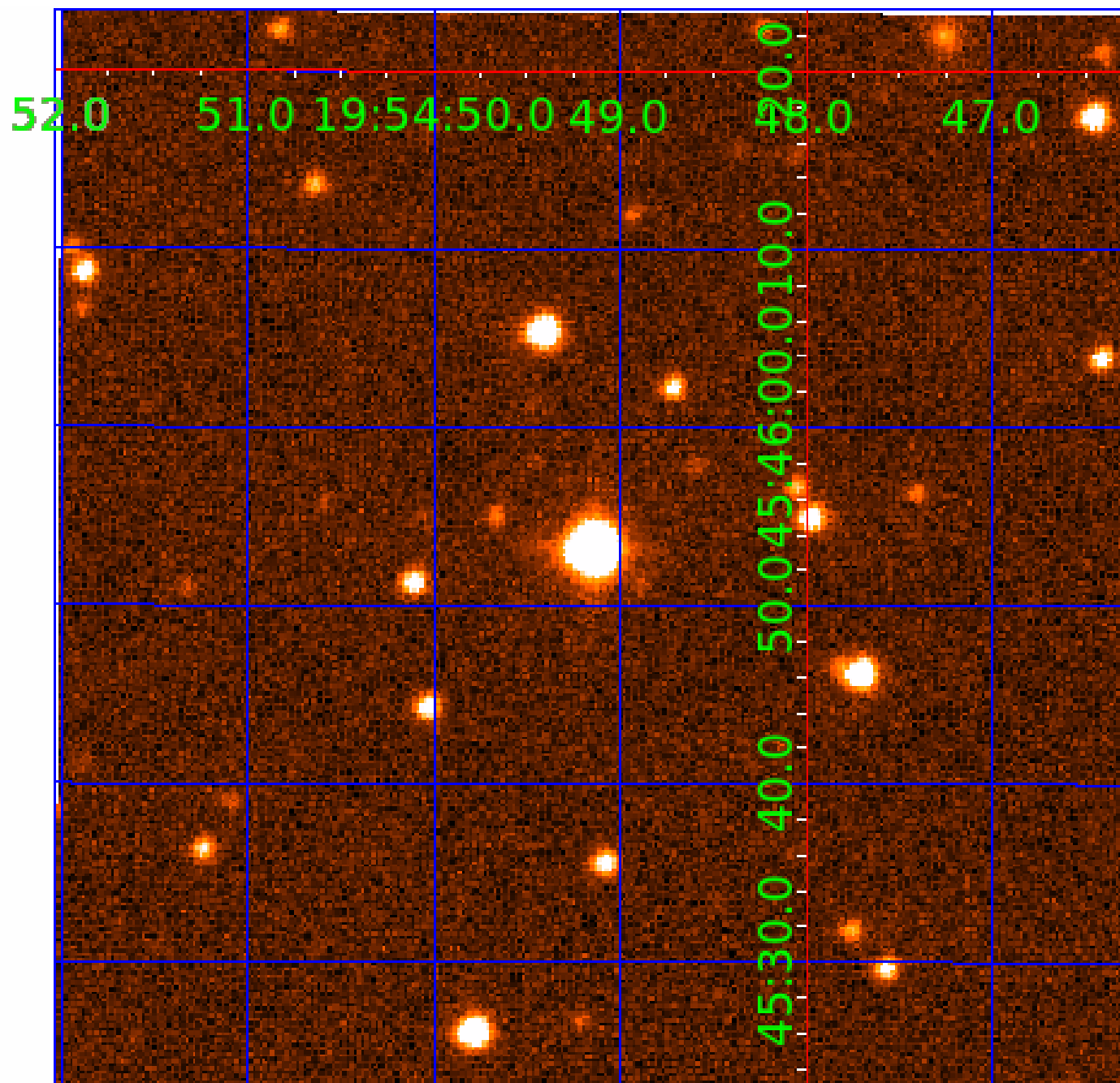


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009301183

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})
009301183-01	OBS	No	0.910548	131.968942	14.0	2.711	11.6	4.7	5.01	6585	2.20	0.00
009301183-02	OBS	No	3.577482	134.657092	55.8	6.884	11.2	10.6	5.01	6585	4.36	12531.64
009301183-03	OBS	No	3.577140	131.806056	59.5	6.258	11.2	12.3	5.01	6585	4.56	12533.24
009301183-04	OBS	No	3.577459	133.982549	60.7	7.026	9.9	10.5	5.01	6585	7.93	12531.75
009301183-05	OBS	No	112.540098	157.097865	270.9	4.843	7.6	5.2	5.01	6585	9.81	126.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009301183-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—HALO_GHOST
009301183-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
009301183-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
009301183-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD
009301183-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

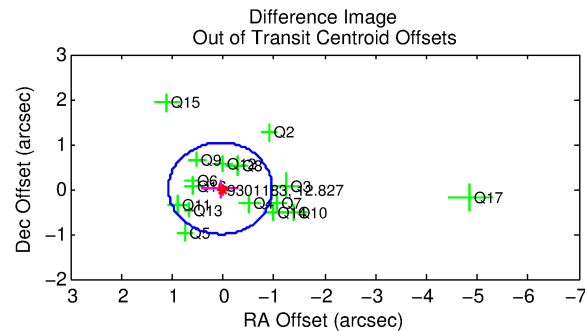
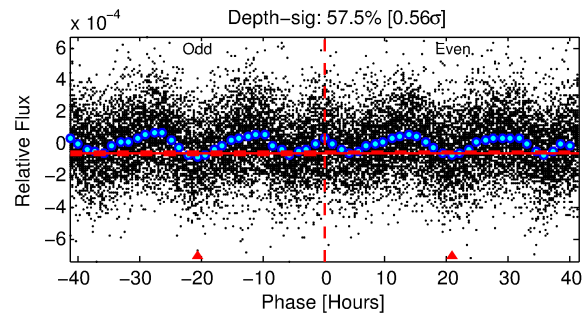
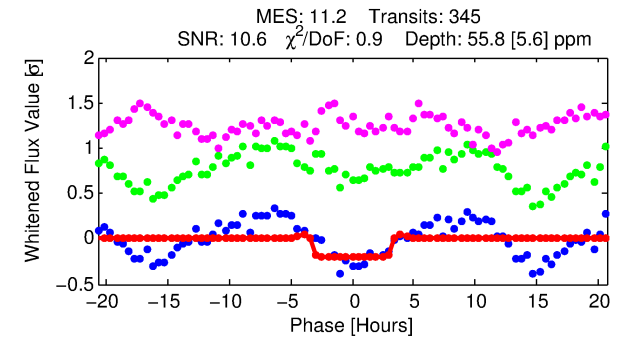
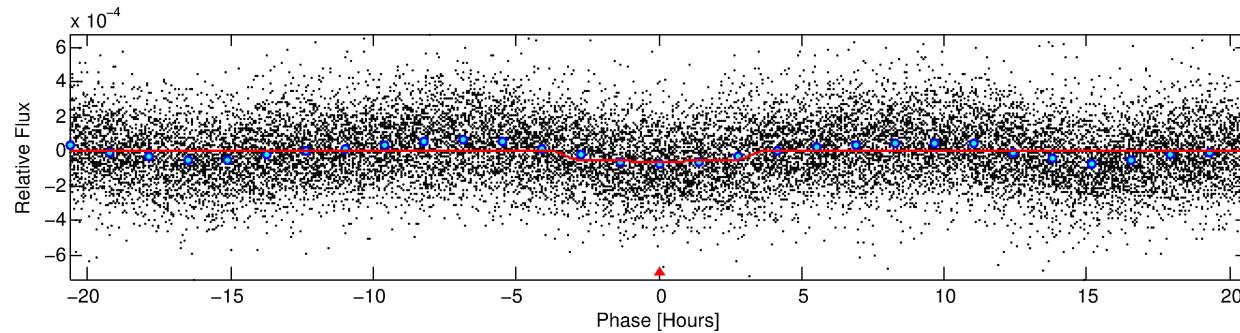
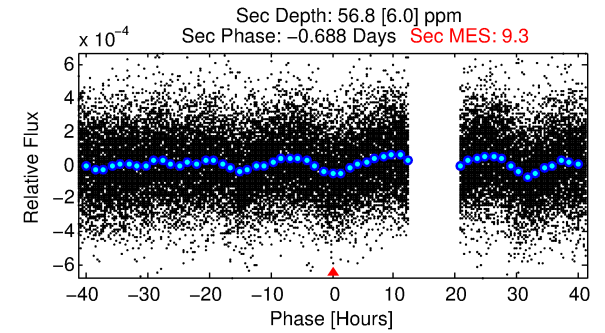
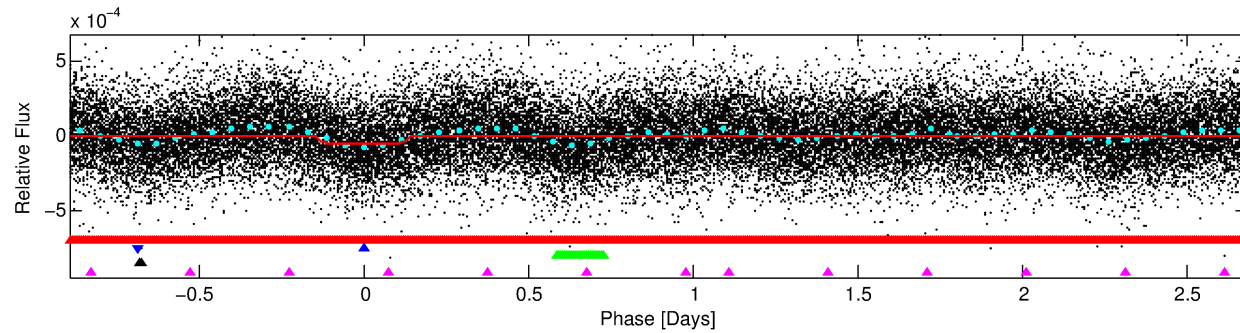
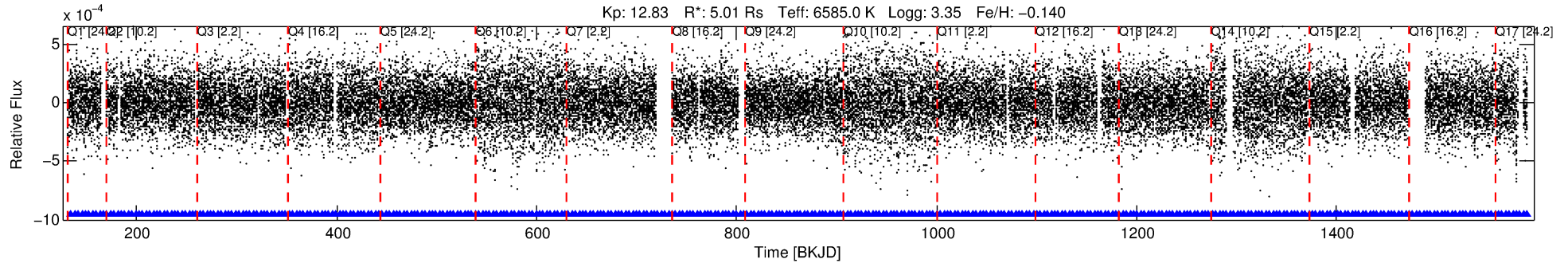
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009301183-02

No Significant Match Found

DV One-Page Summary

KIC: 9301183 Candidate: 2 of 5 Period: 3.577 d



DV Fit Results:

Period = 3.57748 [0.00003] d
Epoch = 134.6571 [0.0050] BKJD
Rp/R* = 0.0080 [0.0015]
a/R* = 2.03 [1.67]
b = 0.90 [0.23]
Seff = 12531.64 [9240.22]
Teq = 2698 [497] K
Rp = 4.36 [2.09] Re
a = 0.0580 [0.0257] AU
Ag = 5.54 [4.58] [0.99σ]
Teffp = 6399 [672] K [4.43σ]

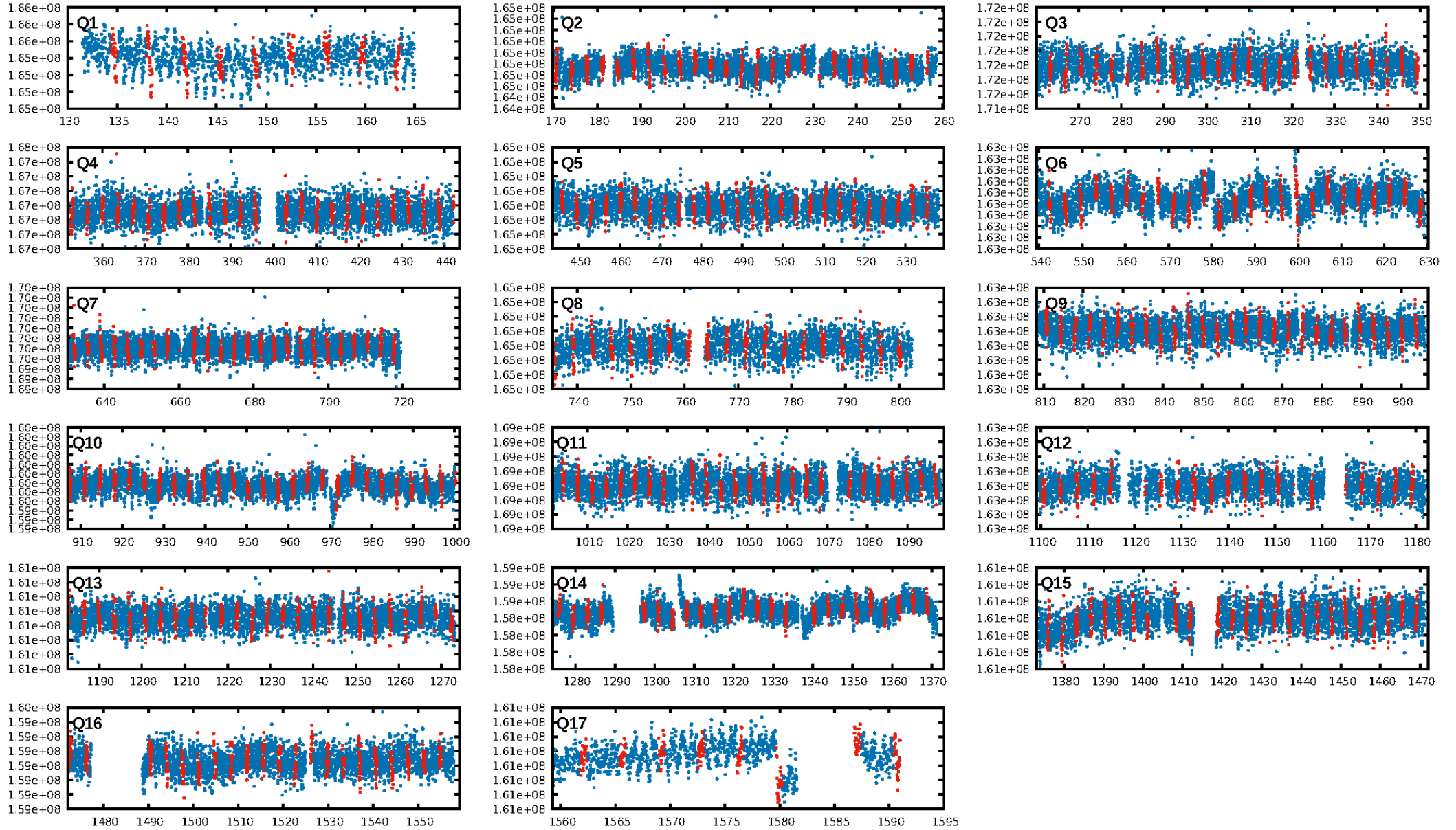
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [310.69σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 4.11e-19
RollingBand-fgt: 1.00 [329/329]
GhostDiagnostic-chr: 1.479
Centroid-sig: 10.4%
Centroid-so: 0.770 arcsec [1.56σ]
OotOffset-rm: 0.056 arcsec [0.16σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 0.082 arcsec [0.24σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 0.00 [0/17]

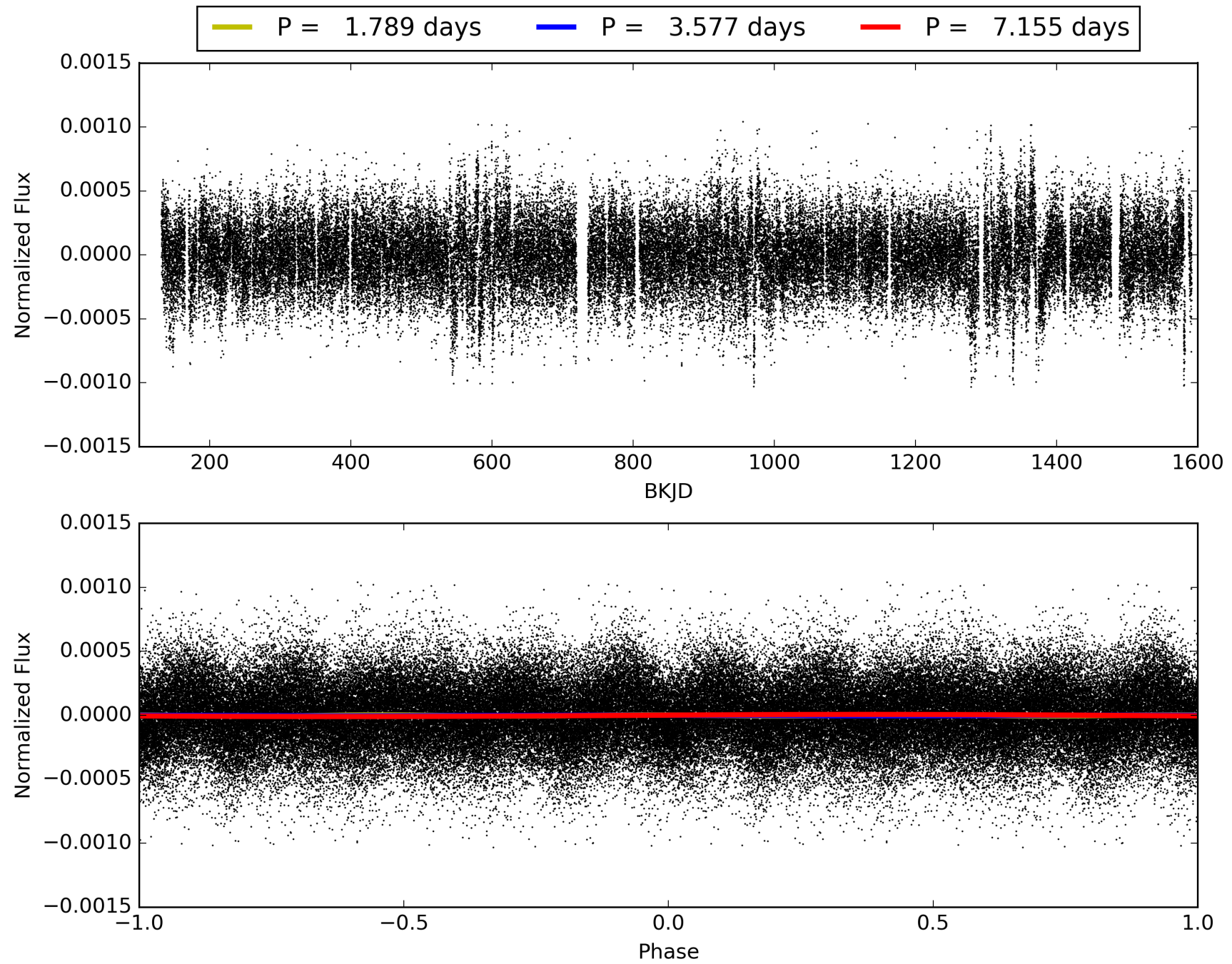
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:30:26 Z

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

TCE 009301183-02, PDC Light Curves

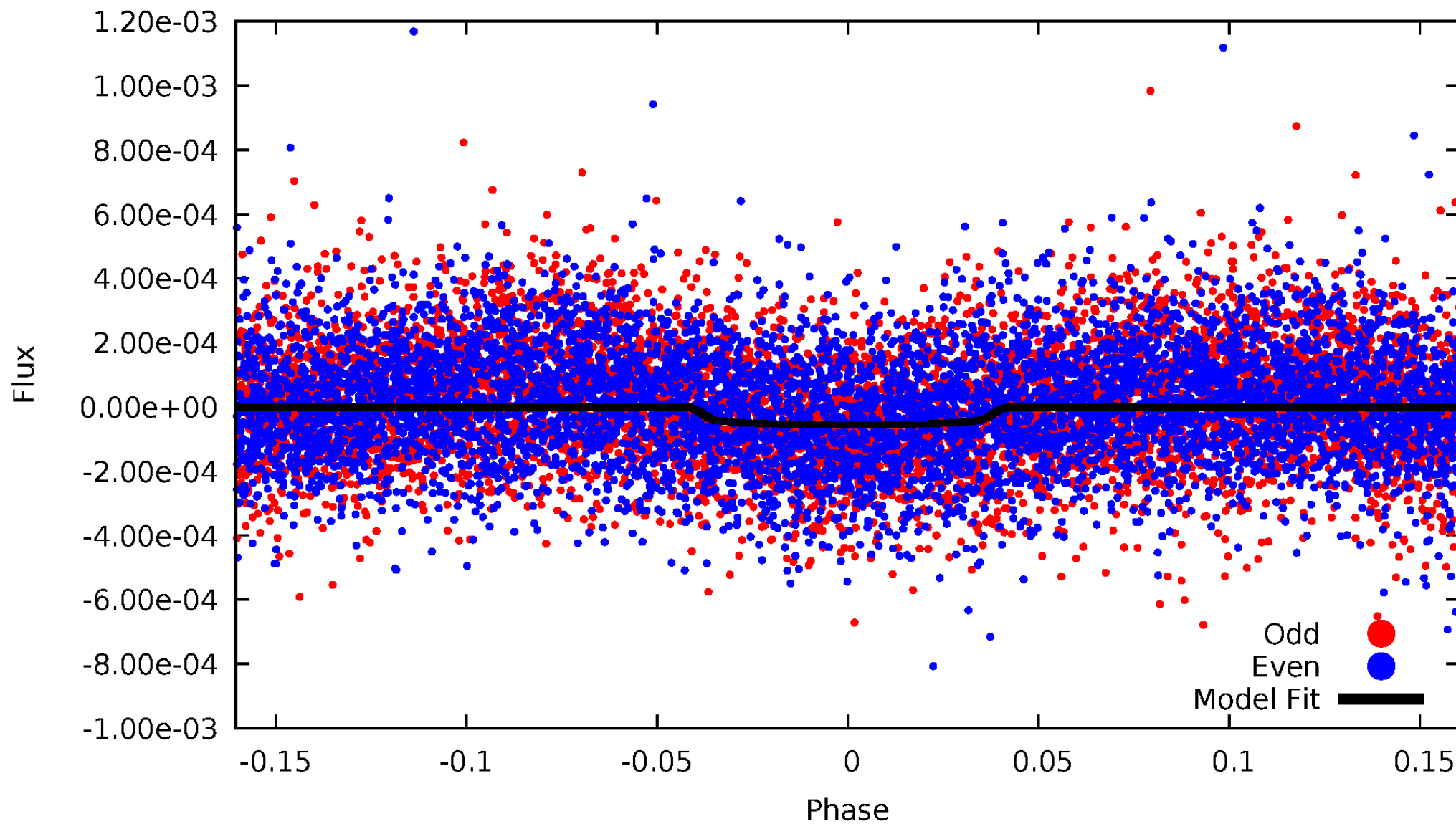


TCE 009301183-02



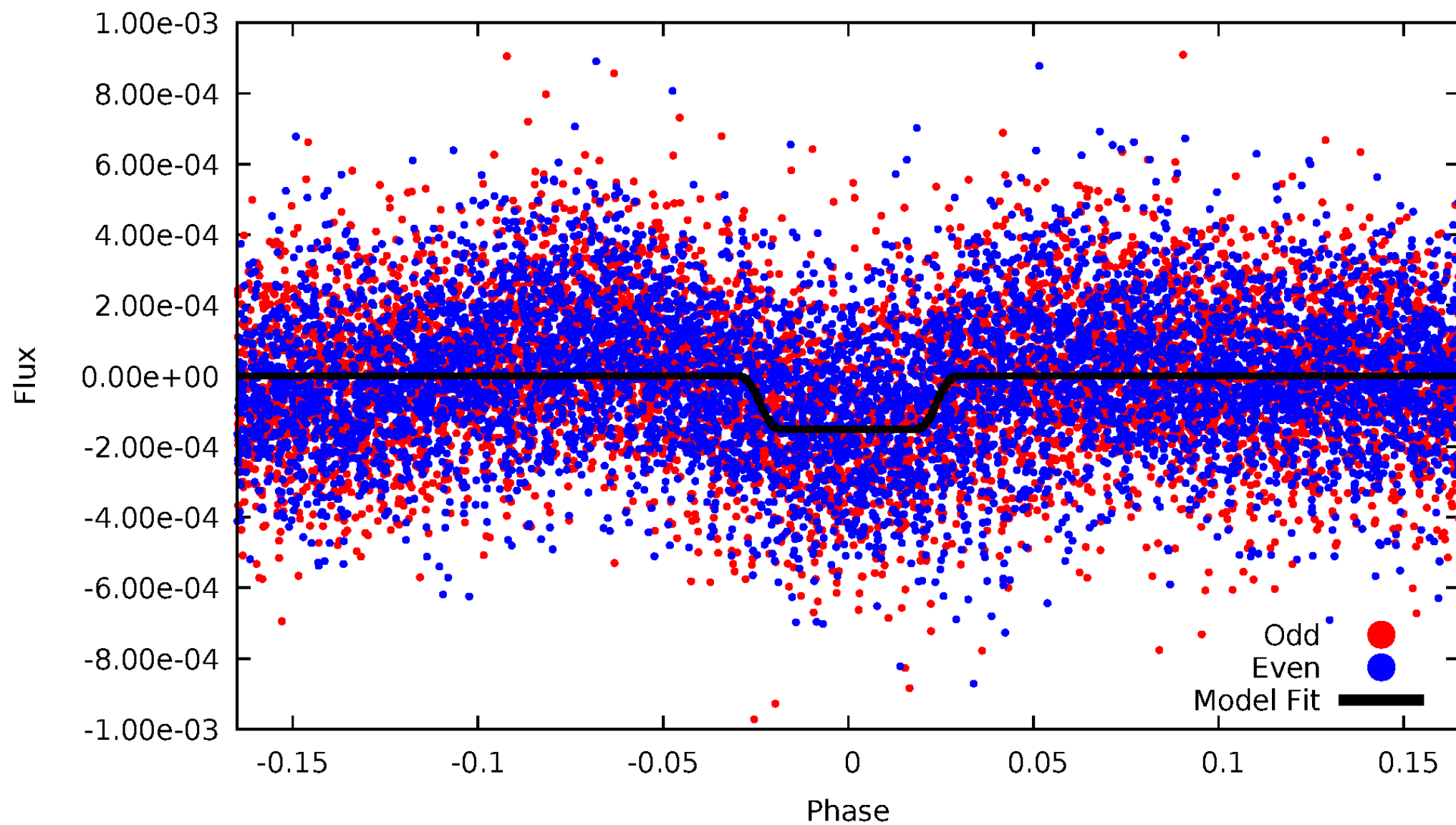
DV Odd/Even

TCE 009301183-02



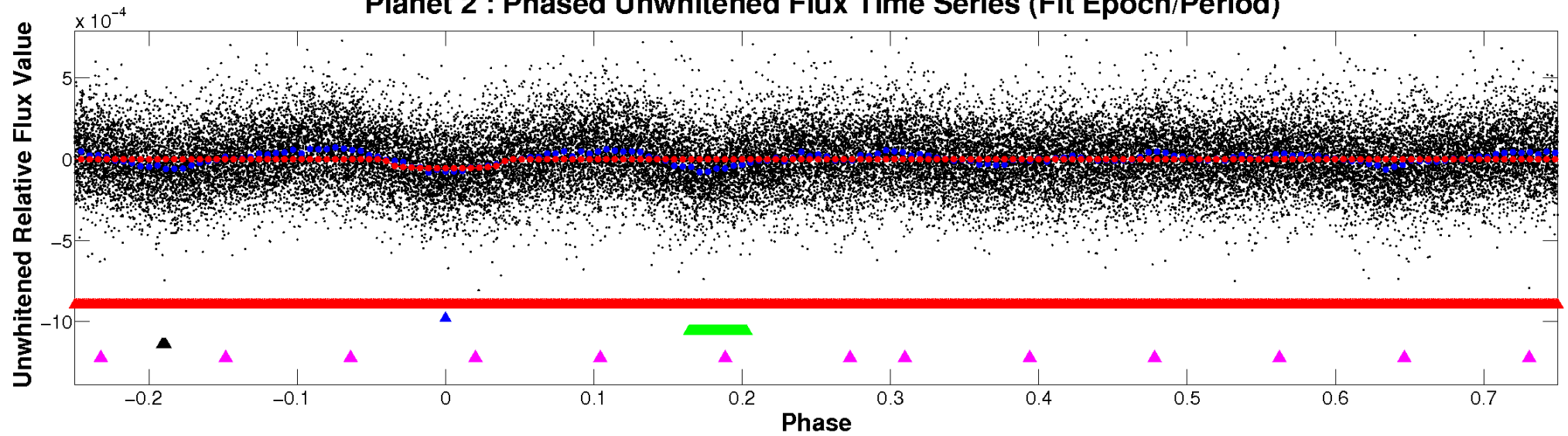
ALT Odd/Even

TCE 009301183-02

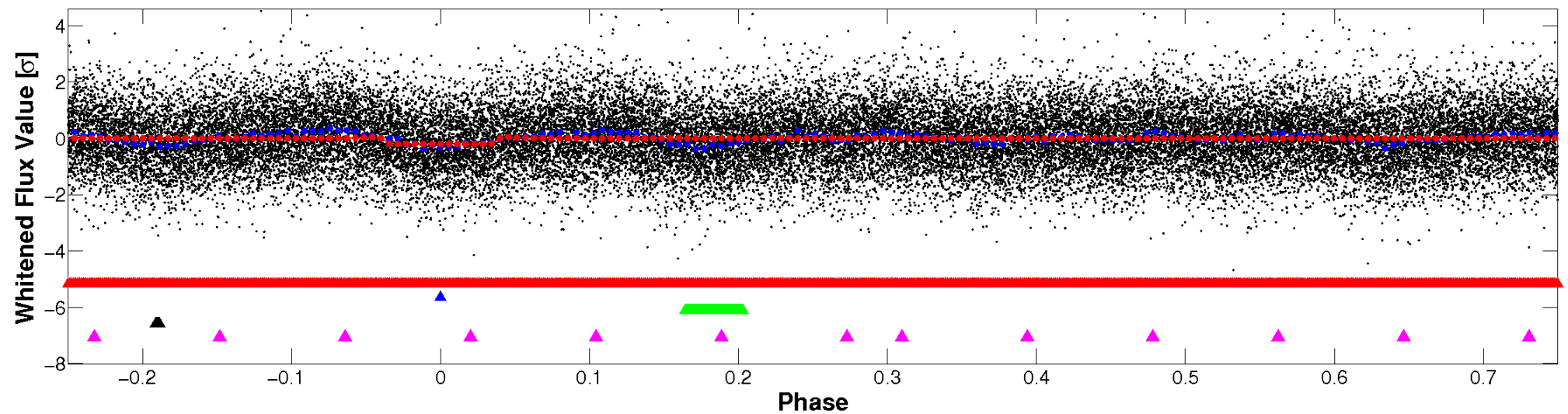


Non-Whitened Vs. Whitened Light Curve

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

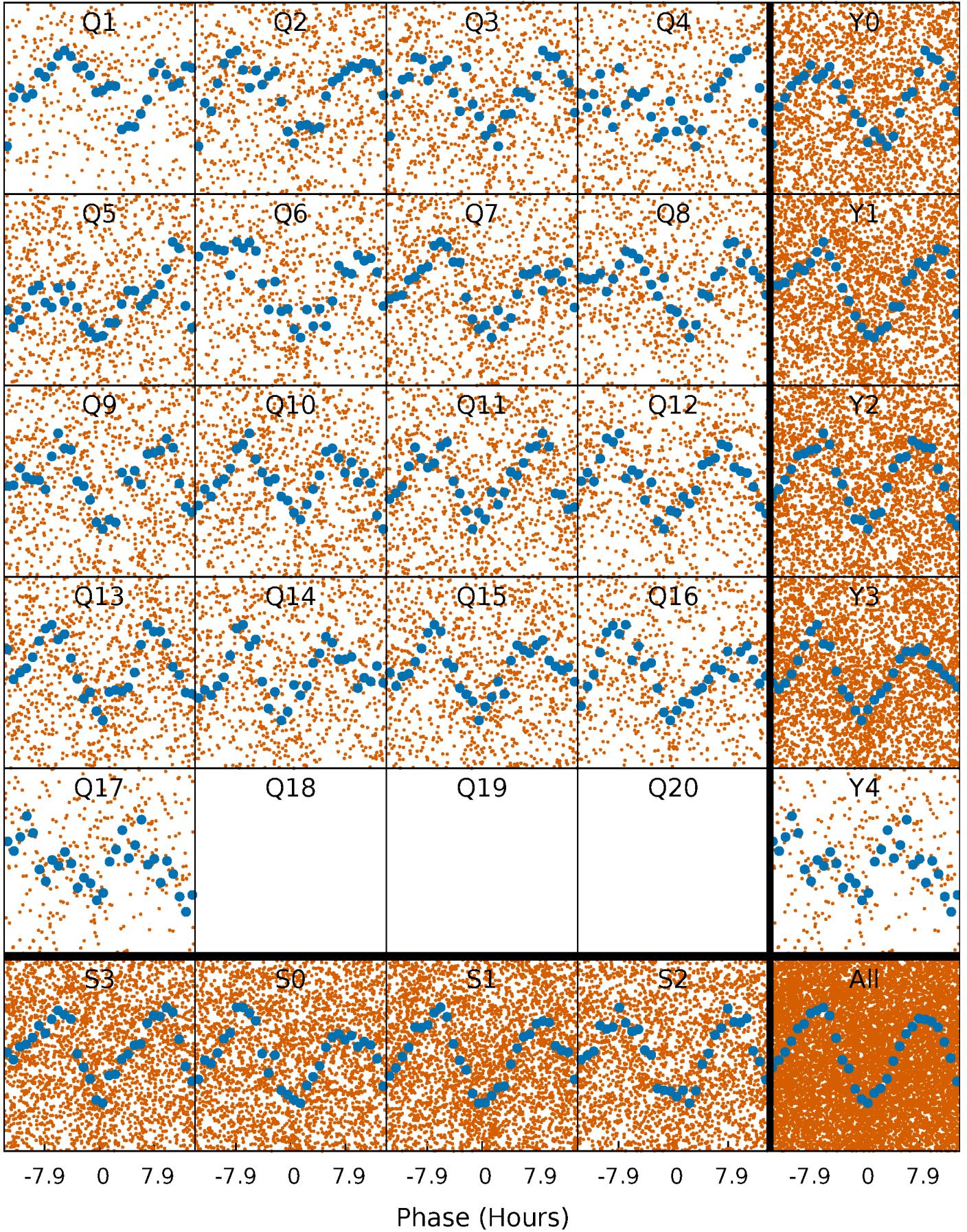


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



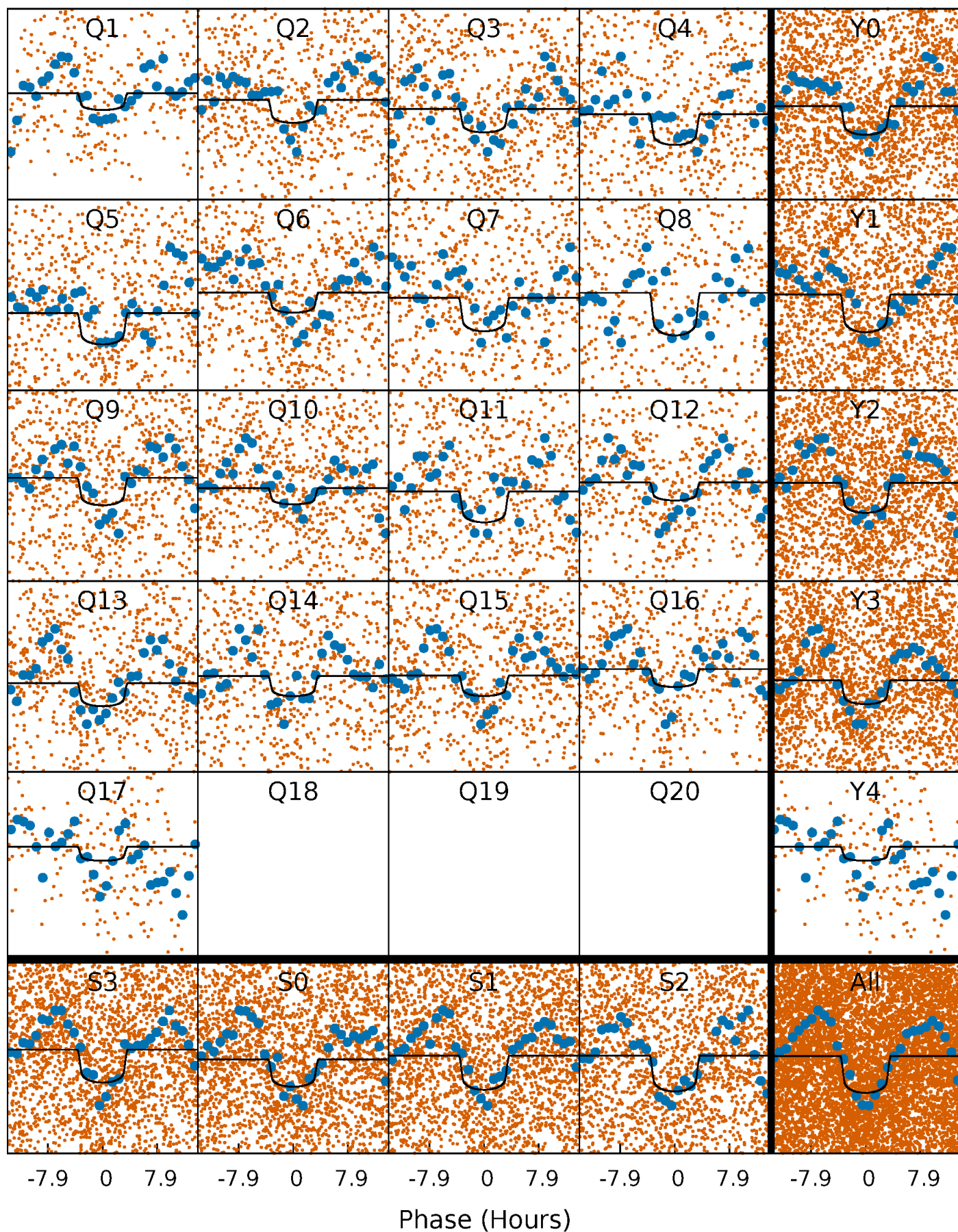
PDC Quarter-Phased Transit Curves

TCE 009301183-02 P= 3.577482 Days $T_0=134.657092$ (BKJD)



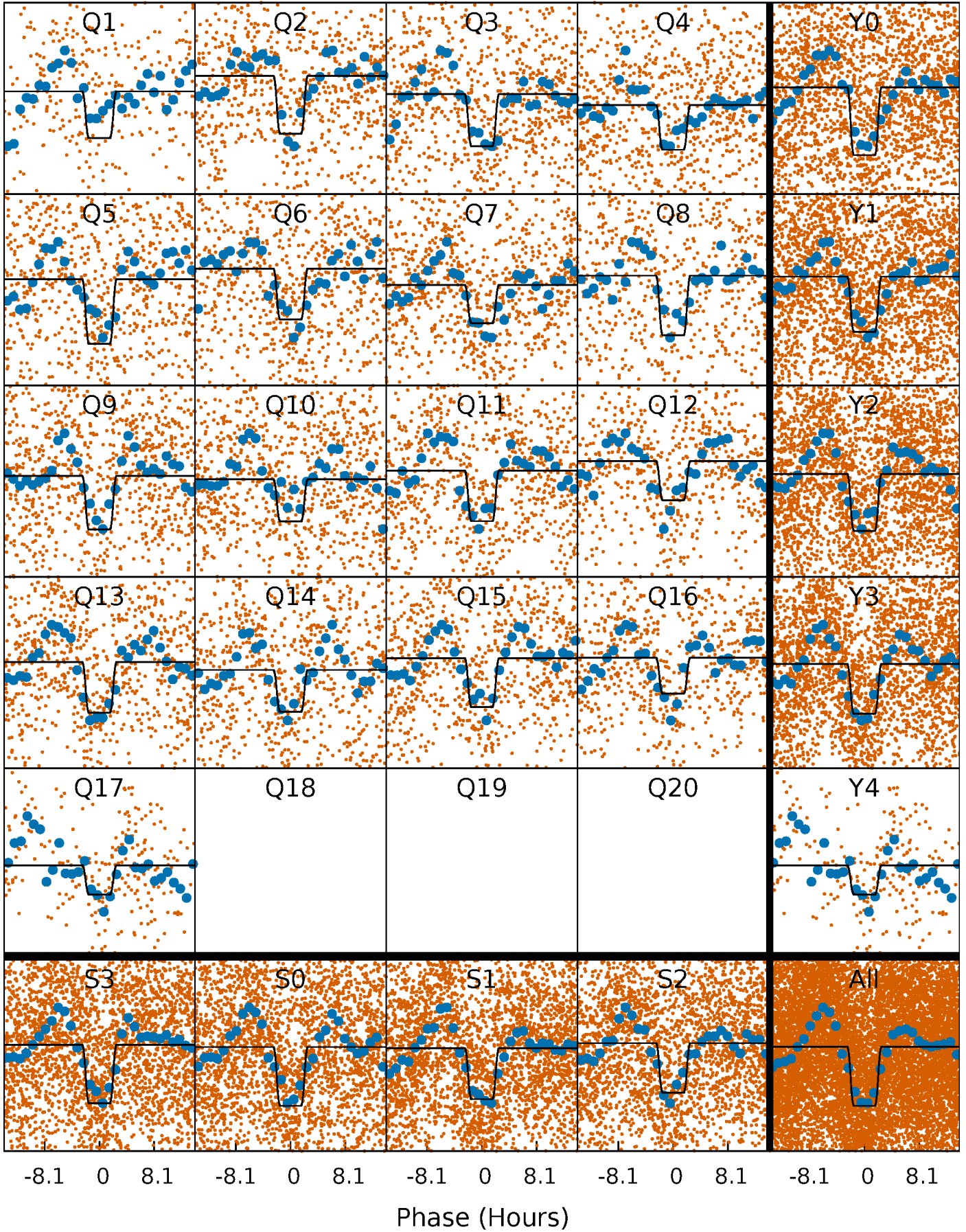
DV Quarter-Phased Transit Curves

TCE 009301183-02 P= 3.577482 Days $T_0=134.657092$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

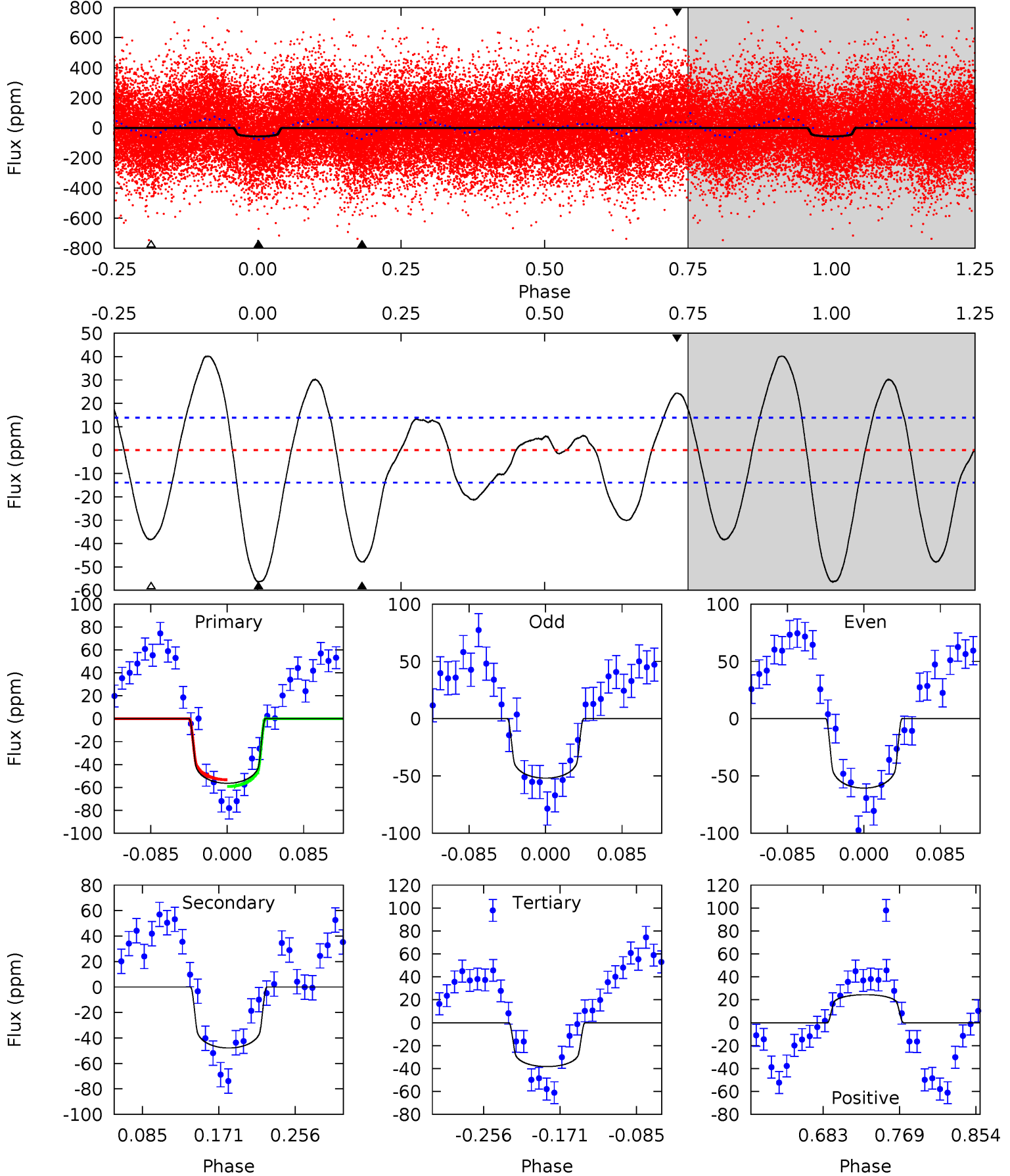
TCE 009301183-02 P= 3.577374 Days $T_0=134.652577$ (BKJD)



DV Model-Shift Uniqueness Test

009301183-02, P = 3.577482 Days, E = 131.079610 Days

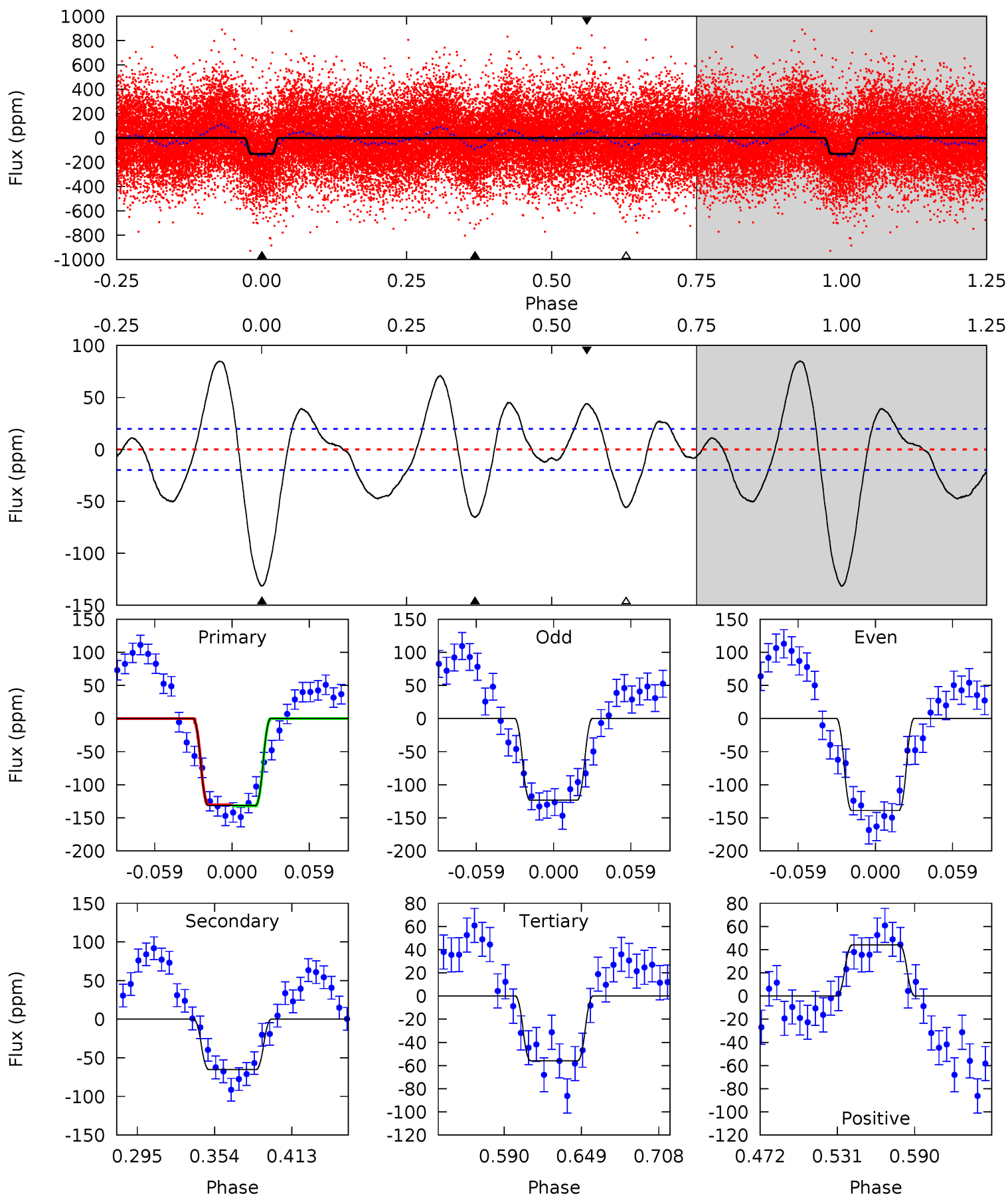
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	15.8	12.7	8.08	4.60	1.72	6.00	5.98	10.6	3.17	7.77	1.44	0.89	0.42	0.97



Alt Model-Shift Uniqueness Test

009301183-02, P = 3.577374 Days, E = 131.075203 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.1	15.4	13.2	10.4	4.67	1.89	7.83	17.9	20.7	2.23	5.00	1.84	0.87	0.39	0.21



Stellar Parameters For KIC 009301183

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6585^{+179}_{-219}	$3.348^{+0.432}_{-0.048}$	$-0.140^{+0.350}_{-0.300}$	$5.006^{+0.389}_{-2.205}$	$2.035^{+0.107}_{-0.455}$	$0.023^{+0.087}_{-0.004}$
	+3%/-3%	+13%/-1%	+250%/-214%	+8%/-44%	+5%/-22%	+382%/-16%
Source	PHO1	FLK73	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 009301183-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-48 ± 3	$3.90^{+1.02}_{-1.07}$	3628^{+224}_{-415}	6036^{+733}_{-540}	$5.687^{+4.839}_{-1.912}$
Alt.	-65 ± 4	$6.06^{+1.25}_{-1.42}$	3639^{+205}_{-421}	5260^{+390}_{-359}	$3.250^{+2.076}_{-1.009}$

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

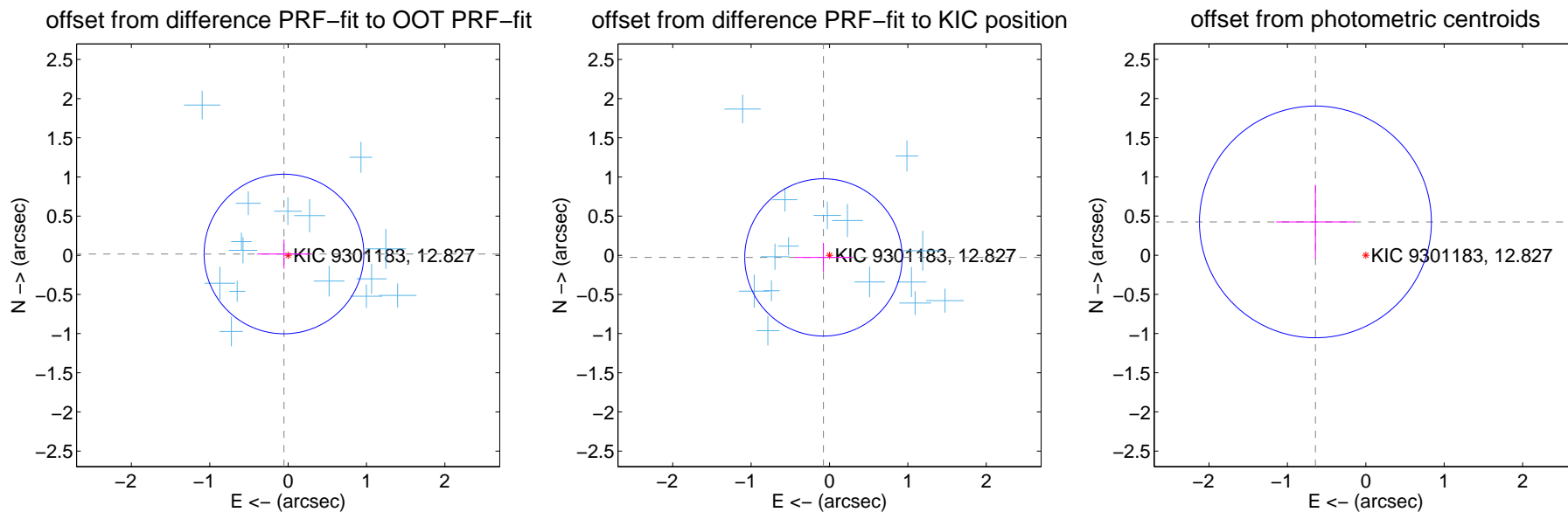
DV Centroid Data

Supplemental centroid analysis for 009301183-02. Kepler magnitude: 12.83. Transit SNR 10.60

There are 16 quarters with good PRF difference image offsets

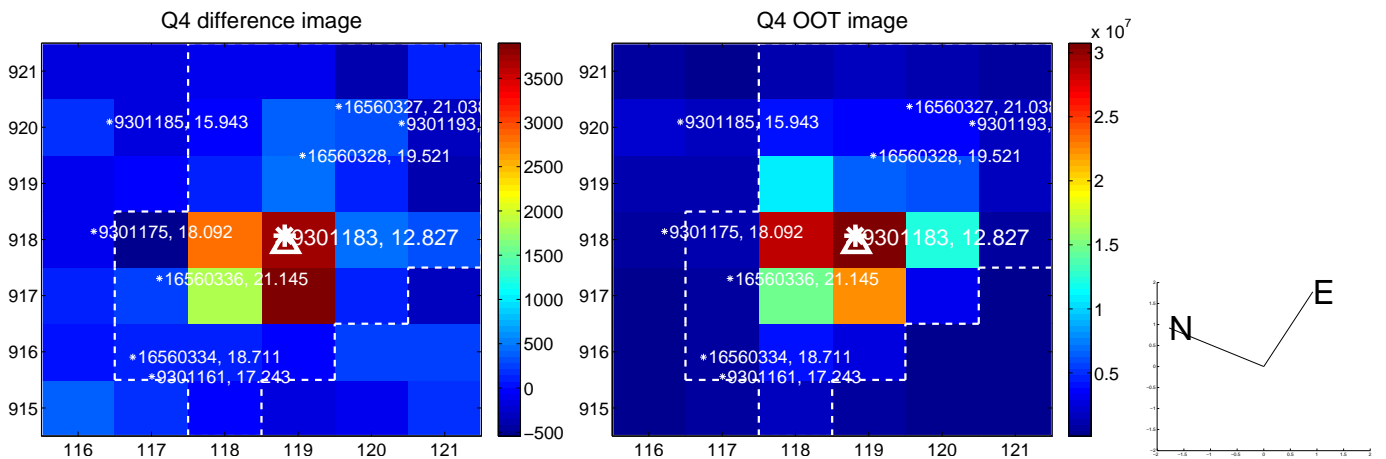
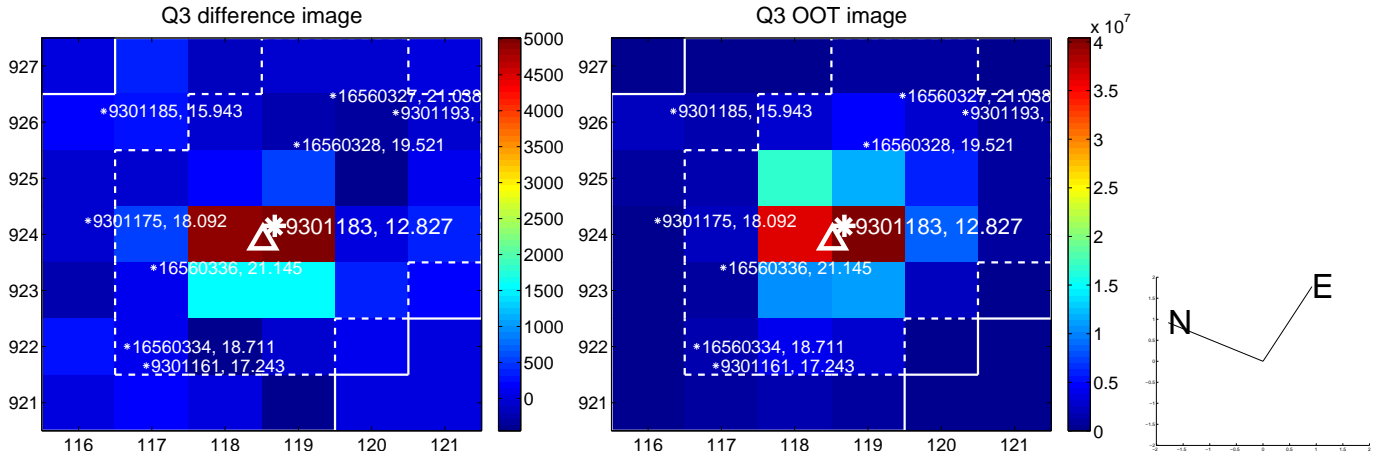
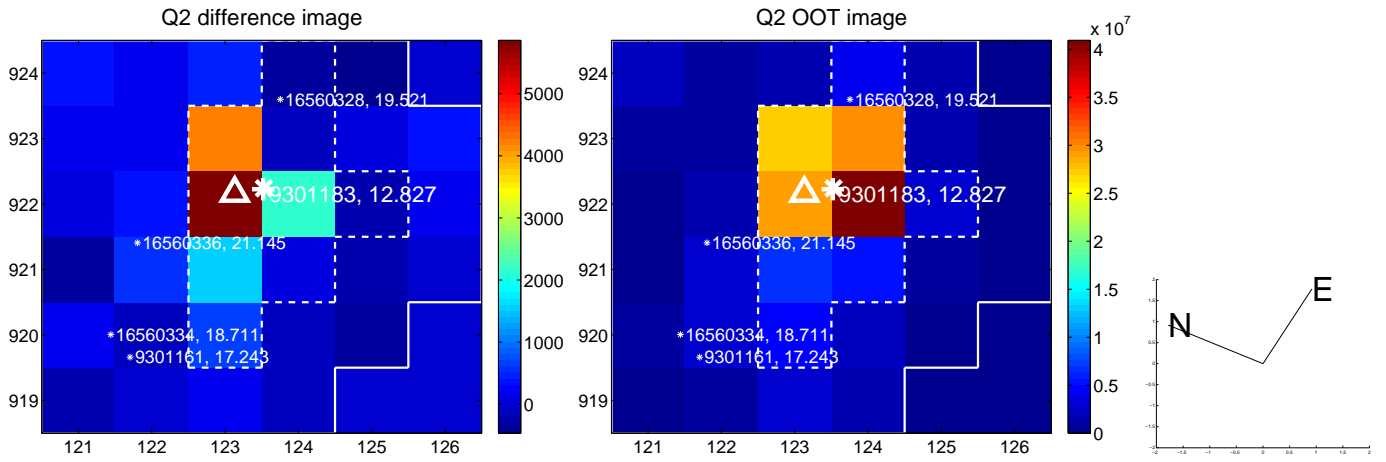
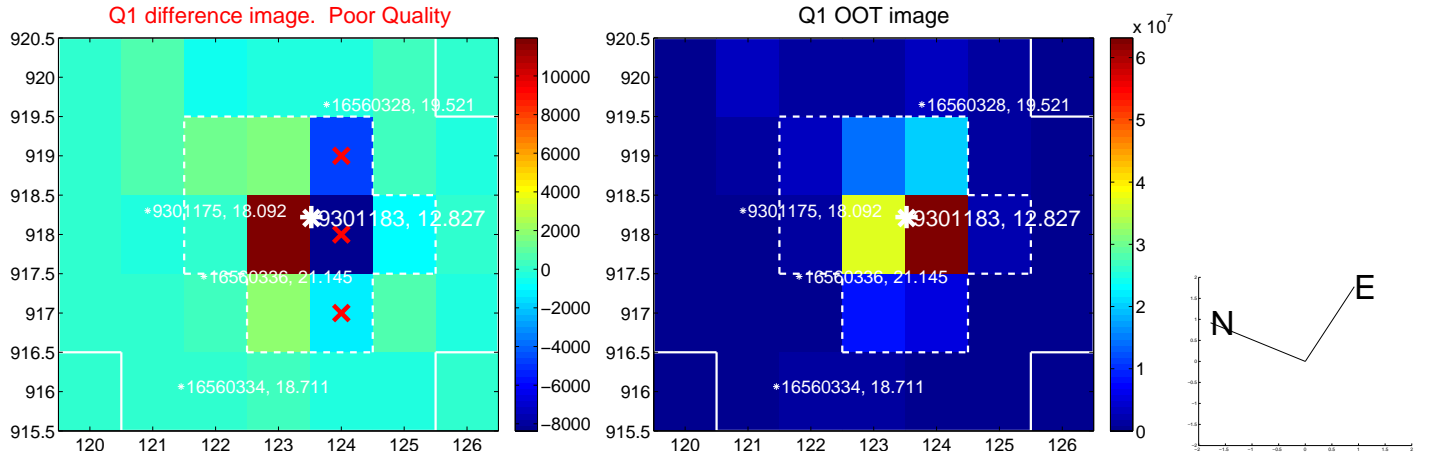
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.056 ± 0.340	0.16	0.053 ± 0.340	0.016 ± 0.186
PRF-fit source offset from KIC position	0.082 ± 0.335	0.24	0.077 ± 0.364	-0.027 ± 0.186
photometric centroid source offset	0.77 ± 0.49	1.56	0.64 ± 0.50	0.43 ± 0.47

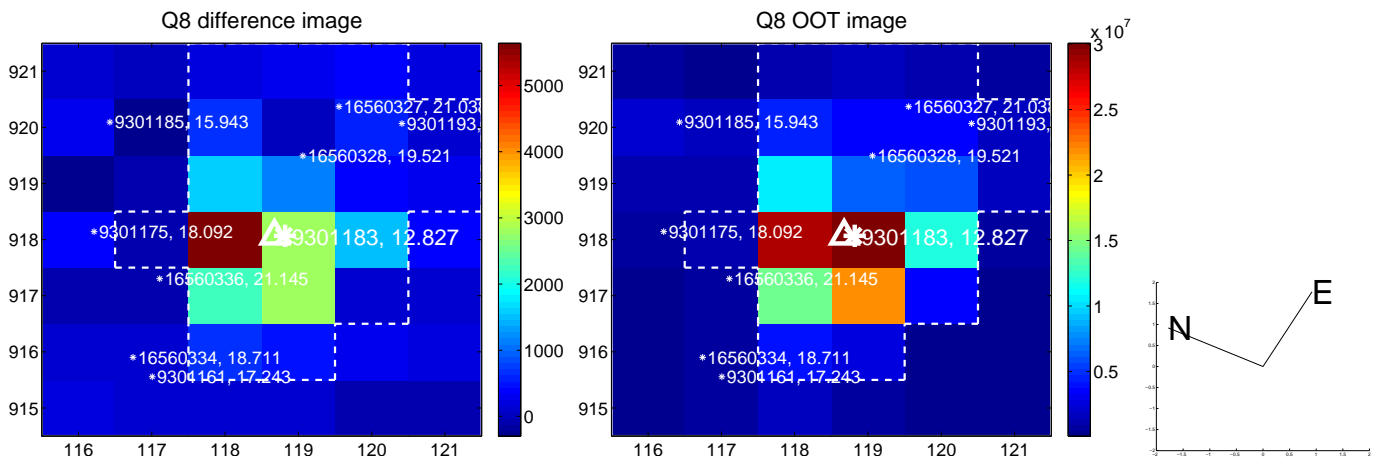
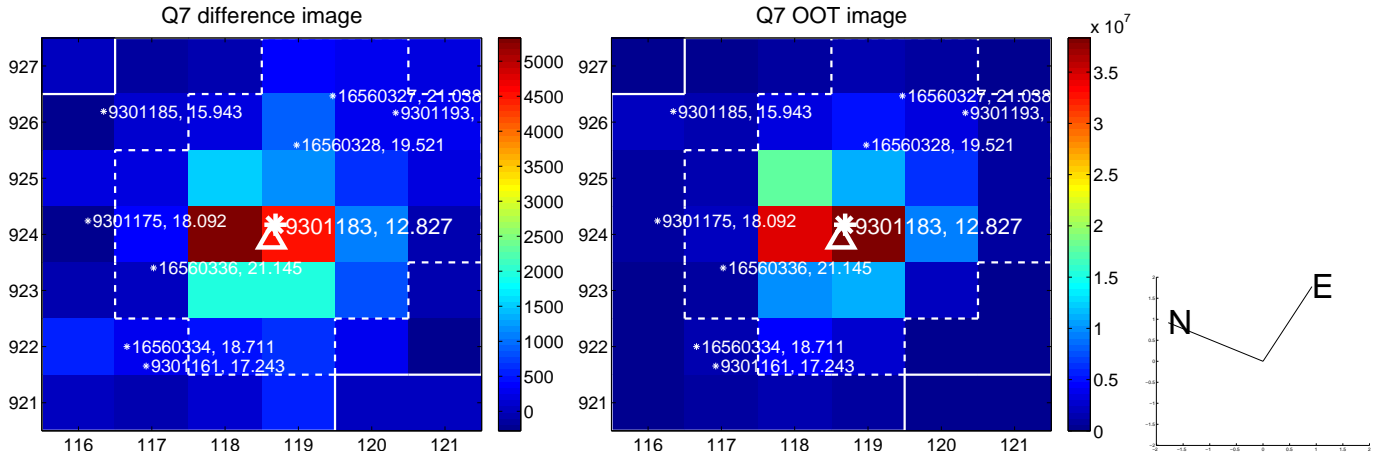
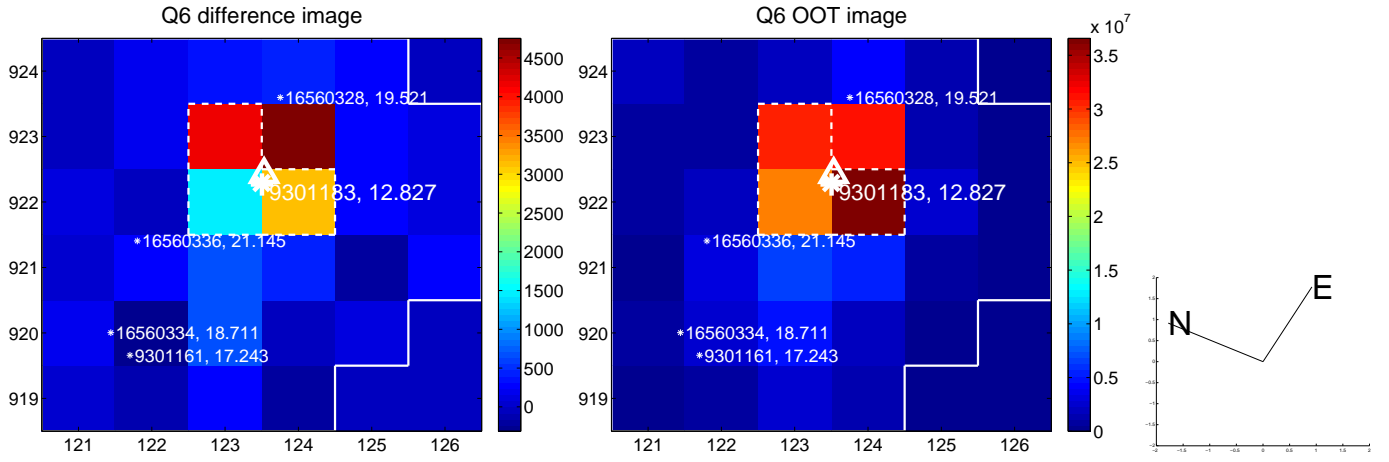
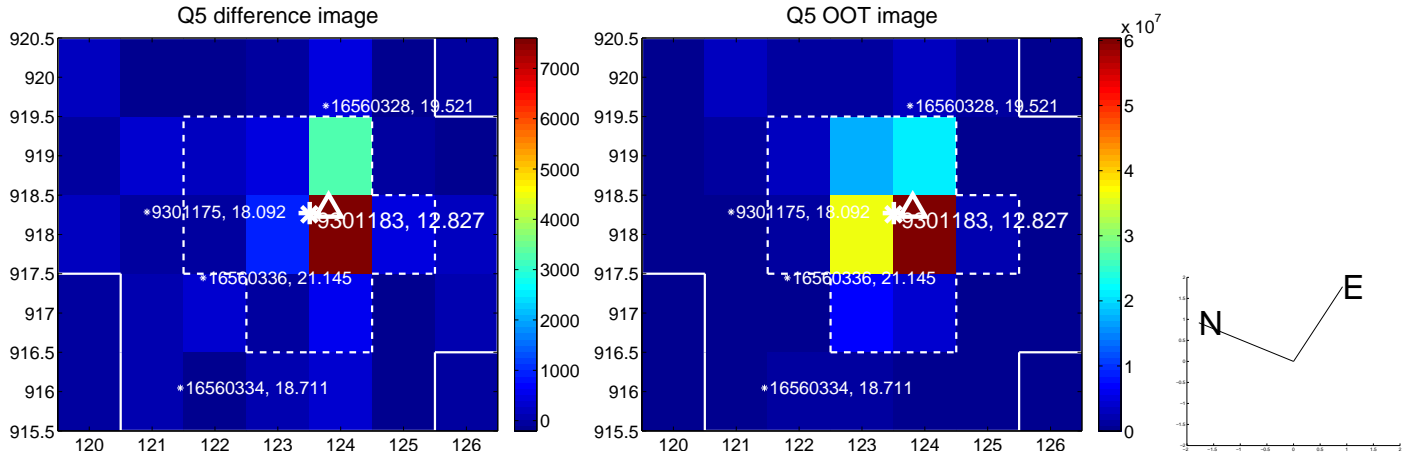


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

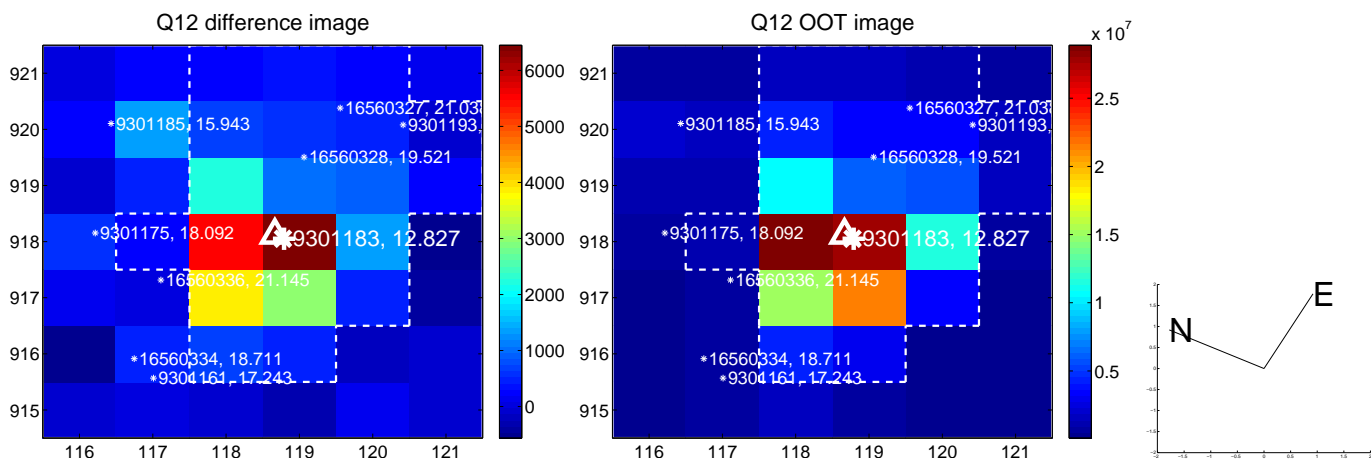
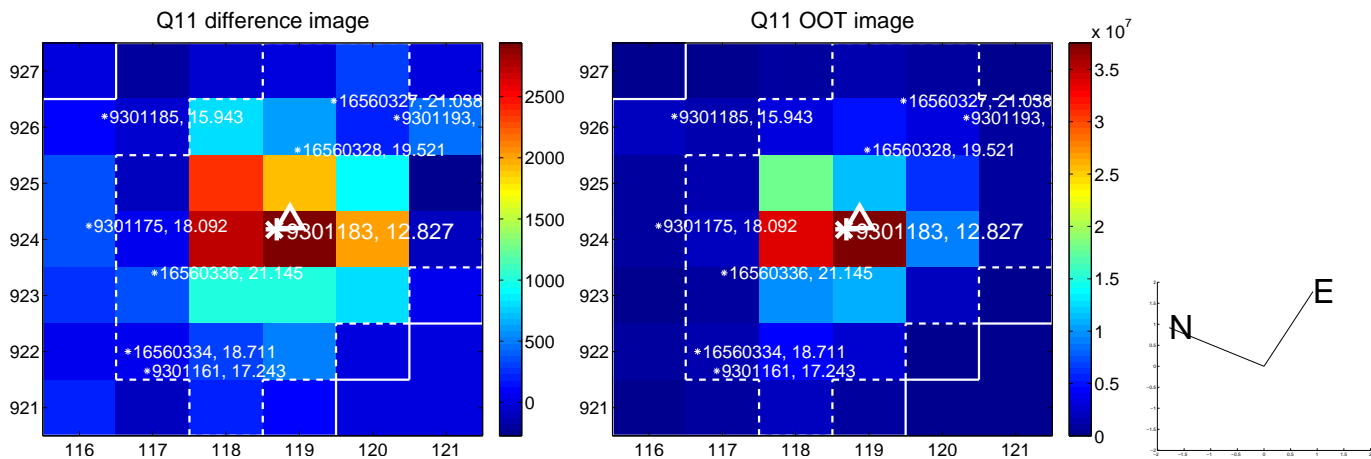
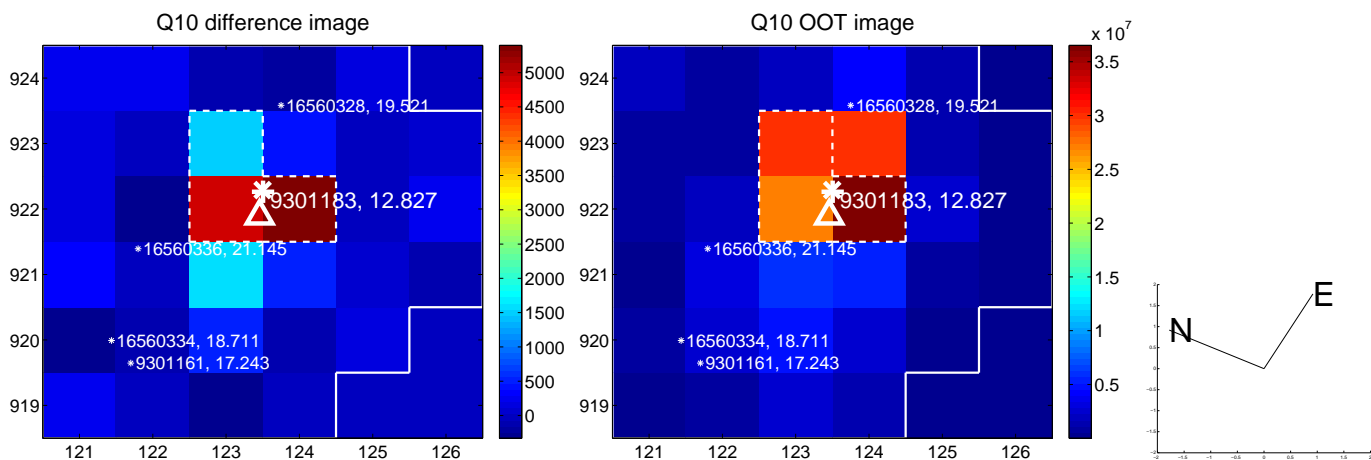
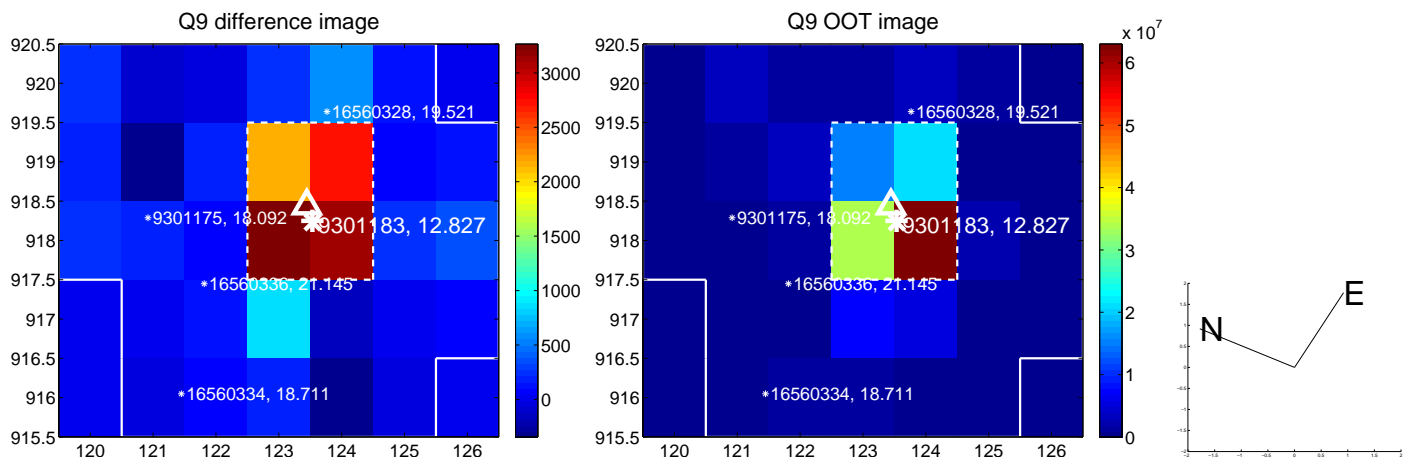
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



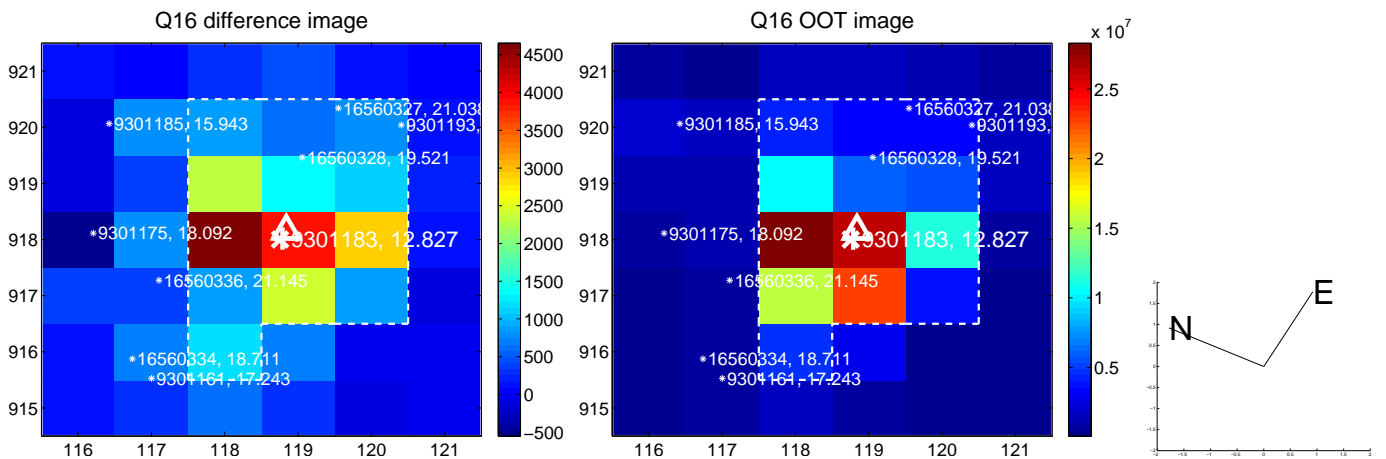
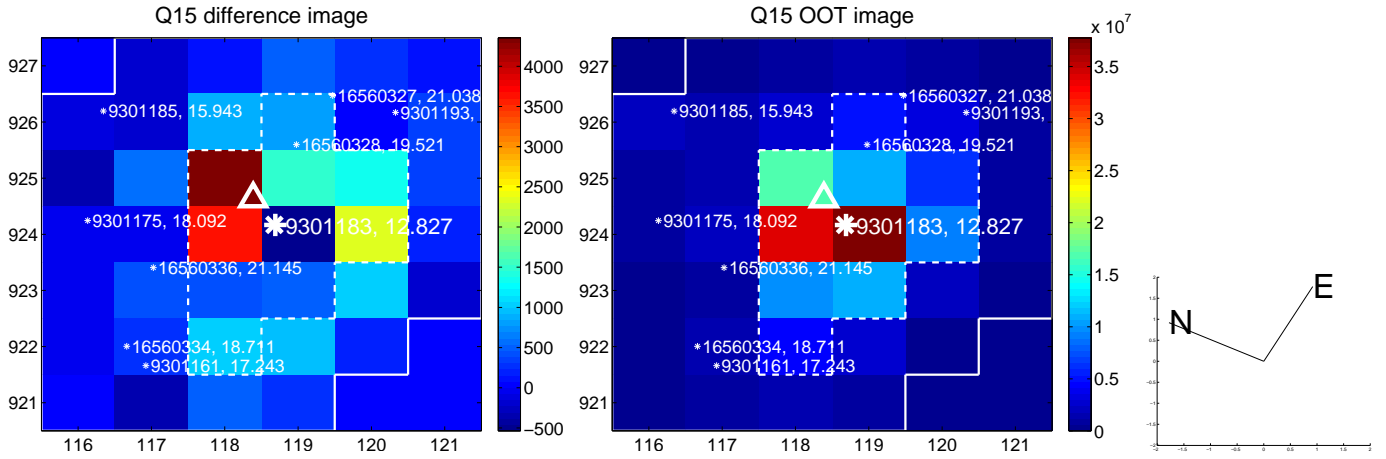
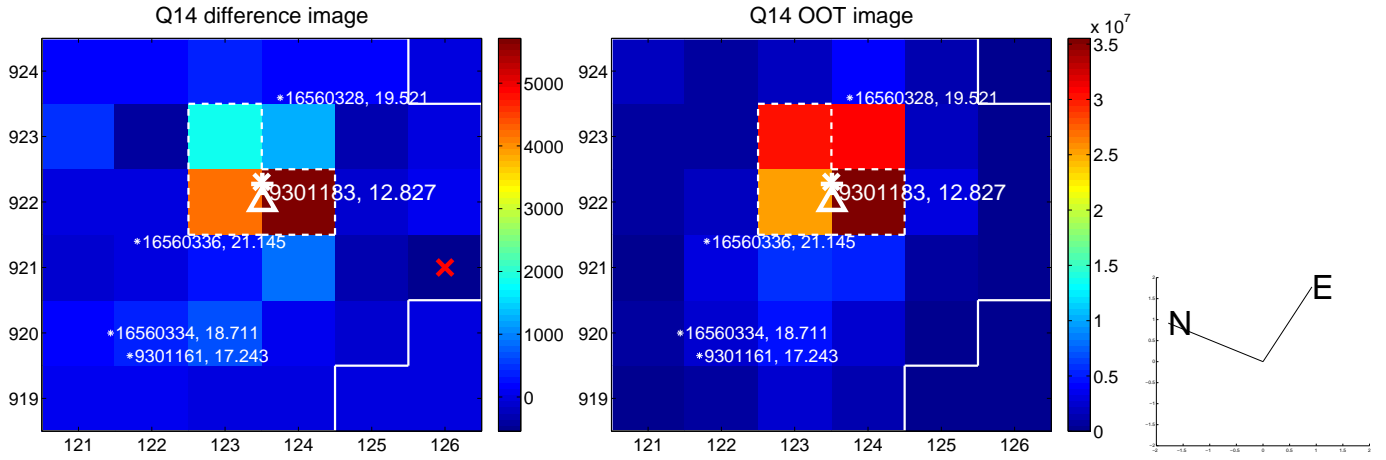
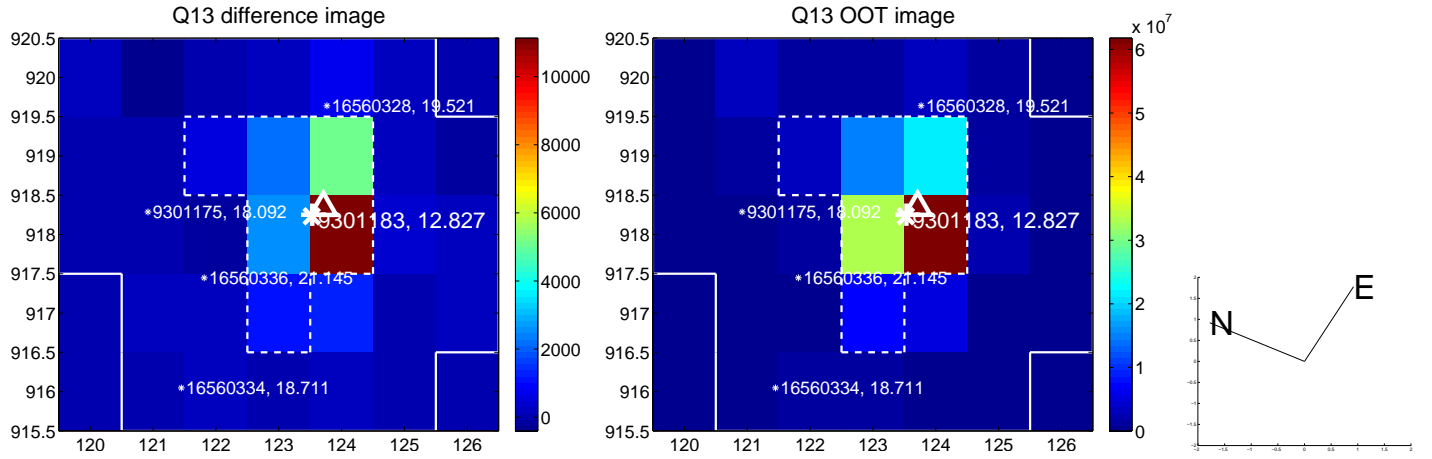
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



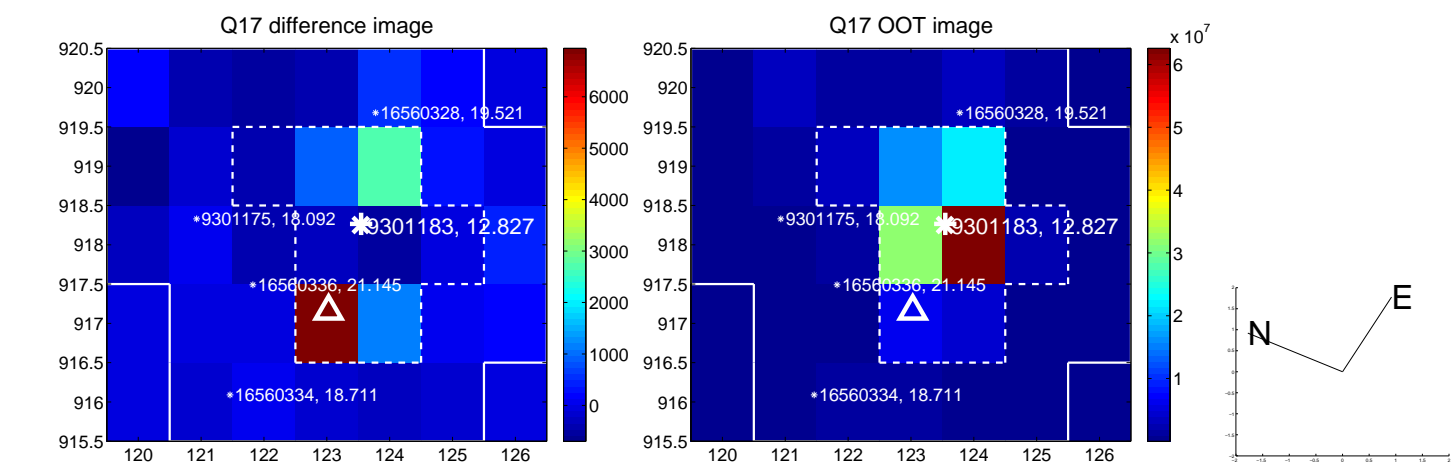
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



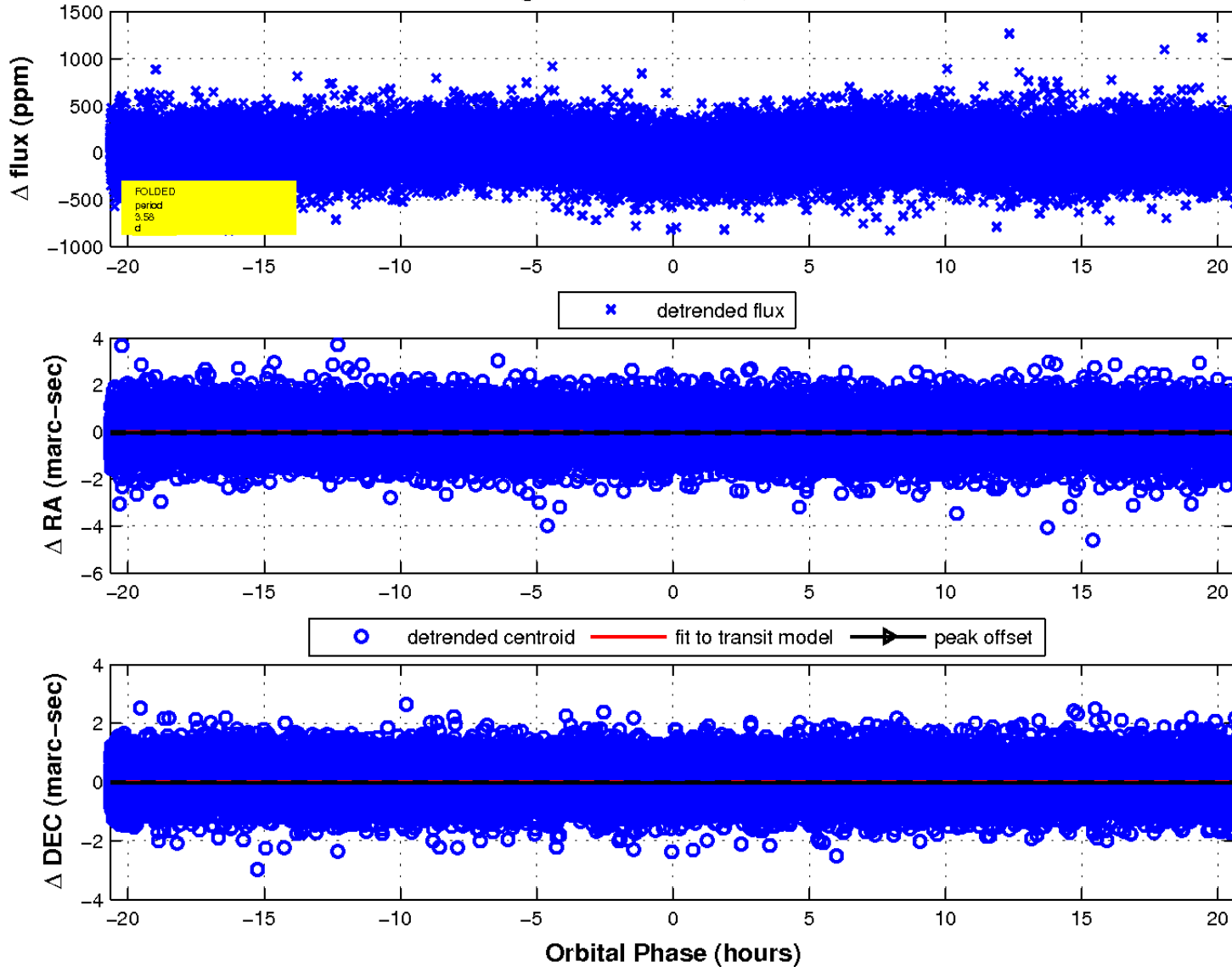
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

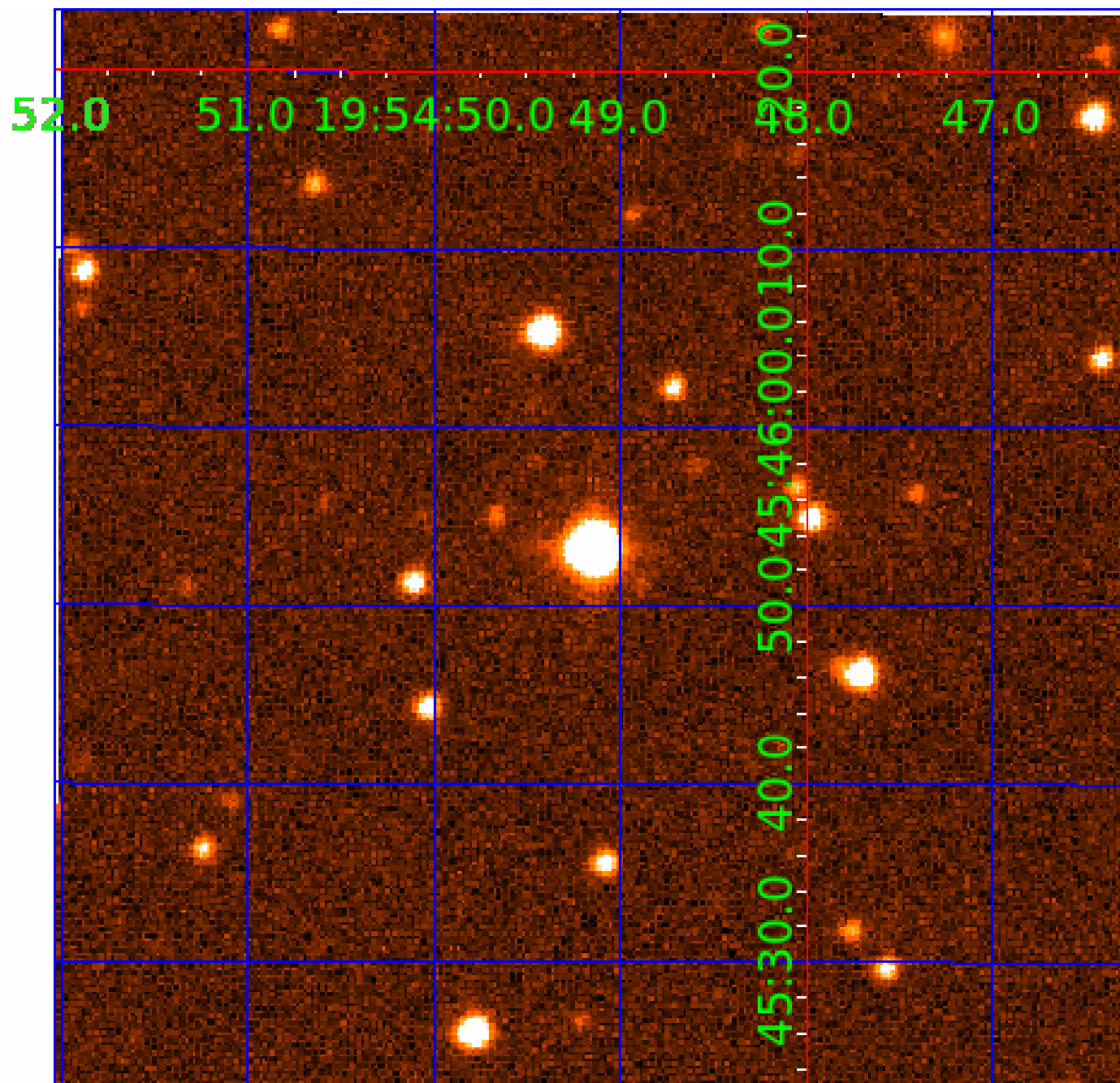


fluxWeightedCentroids, Planet 2 of 5



UKIRT Image

Declination



KIC 009301183

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})
009301183-01	OBS	No	0.910548	131.968942	14.0	2.711	11.6	4.7	5.01	6585	2.20	0.00
009301183-02	OBS	No	3.577482	134.657092	55.8	6.884	11.2	10.6	5.01	6585	4.36	12531.64
009301183-03	OBS	No	3.577140	131.806056	59.5	6.258	11.2	12.3	5.01	6585	4.56	12533.24
009301183-04	OBS	No	3.577459	133.982549	60.7	7.026	9.9	10.5	5.01	6585	7.93	12531.75
009301183-05	OBS	No	112.540098	157.097865	270.9	4.843	7.6	5.2	5.01	6585	9.81	126.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009301183-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—HALO_GHOST
009301183-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
009301183-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
009301183-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD
009301183-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

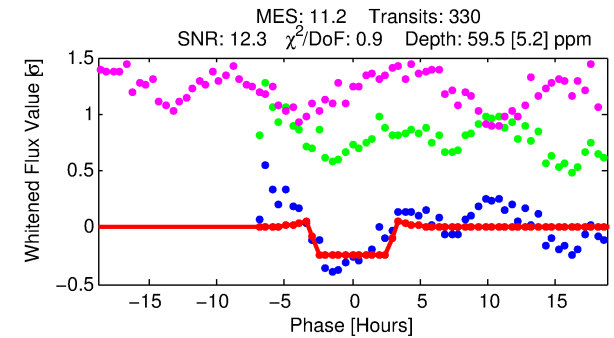
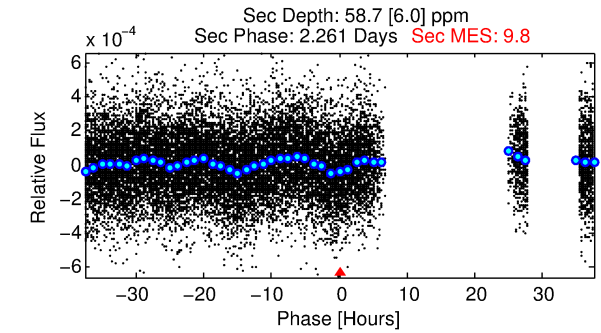
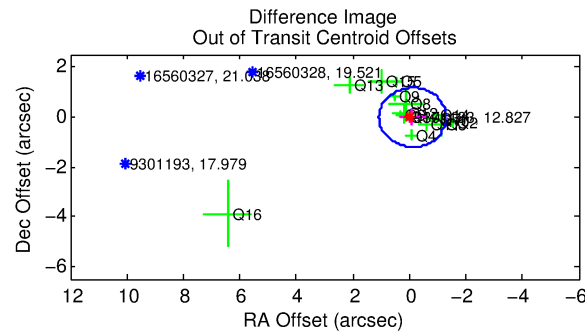
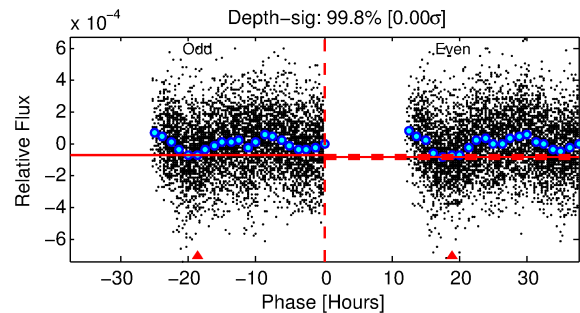
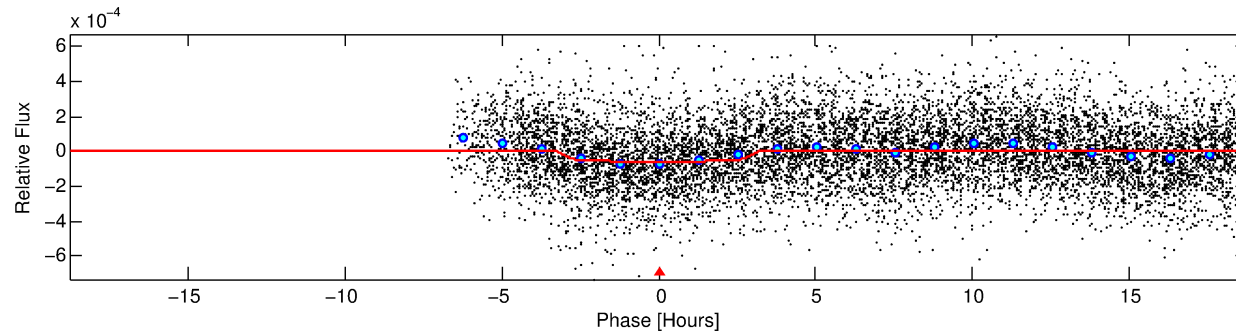
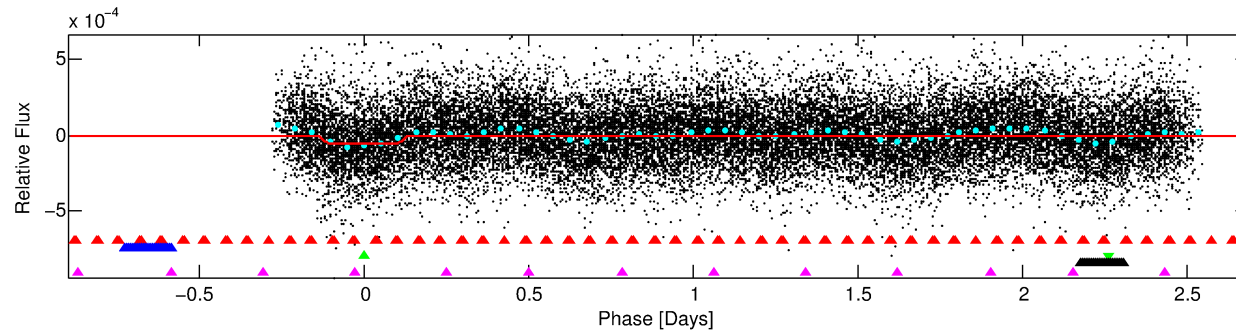
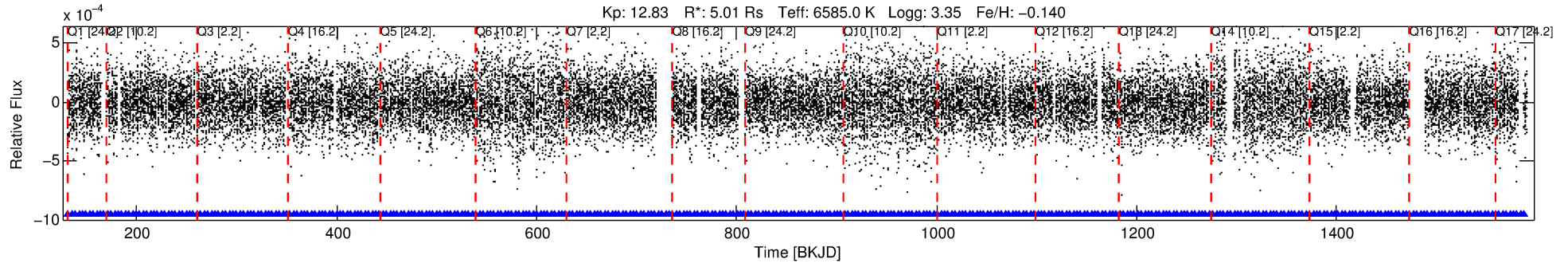
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009301183-03

No Significant Match Found

DV One-Page Summary

KIC: 9301183 Candidate: 3 of 5 Period: 3.577 d



DV Fit Results:

Period = 3.57714 [0.00003] d
Epoch = 131.8061 [0.0048] BKJD
Rp/R* = 0.0083 [0.0014]
a/R* = 2.08 [1.57]
b = 0.91 [0.18]
Seff = 12533.24 [9241.40]
Teq = 2698 [497] K
Rp = 4.56 [2.15] Re
a = 0.0580 [0.0257] AU
Ag = 5.24 [4.23] [1.00 σ]
Teffp = 6310 [599] K [4.64 σ]

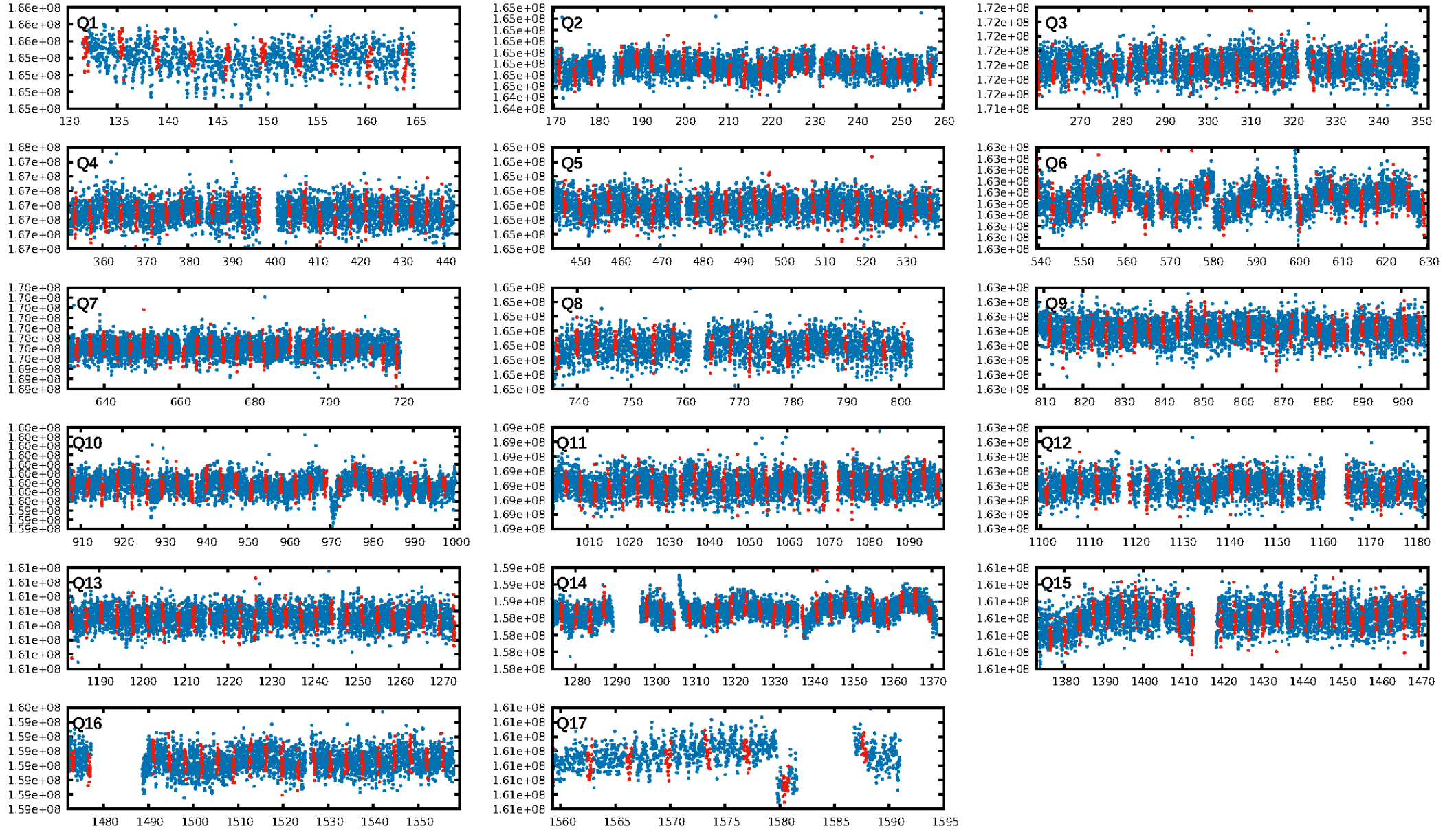
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.38 σ]
LongPeriod-sig: 0.1% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.88e-18
RollingBand-fgt: 1.00 [315/315]
GhostDiagnostic-chr: 3.506
Centroid-sig: 44.8%
Centroid-so: 0.415 arcsec [0.86 σ]
OotOffset-rm: 0.107 arcsec [0.27 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 0.124 arcsec [0.36 σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 0.00 [0/17]

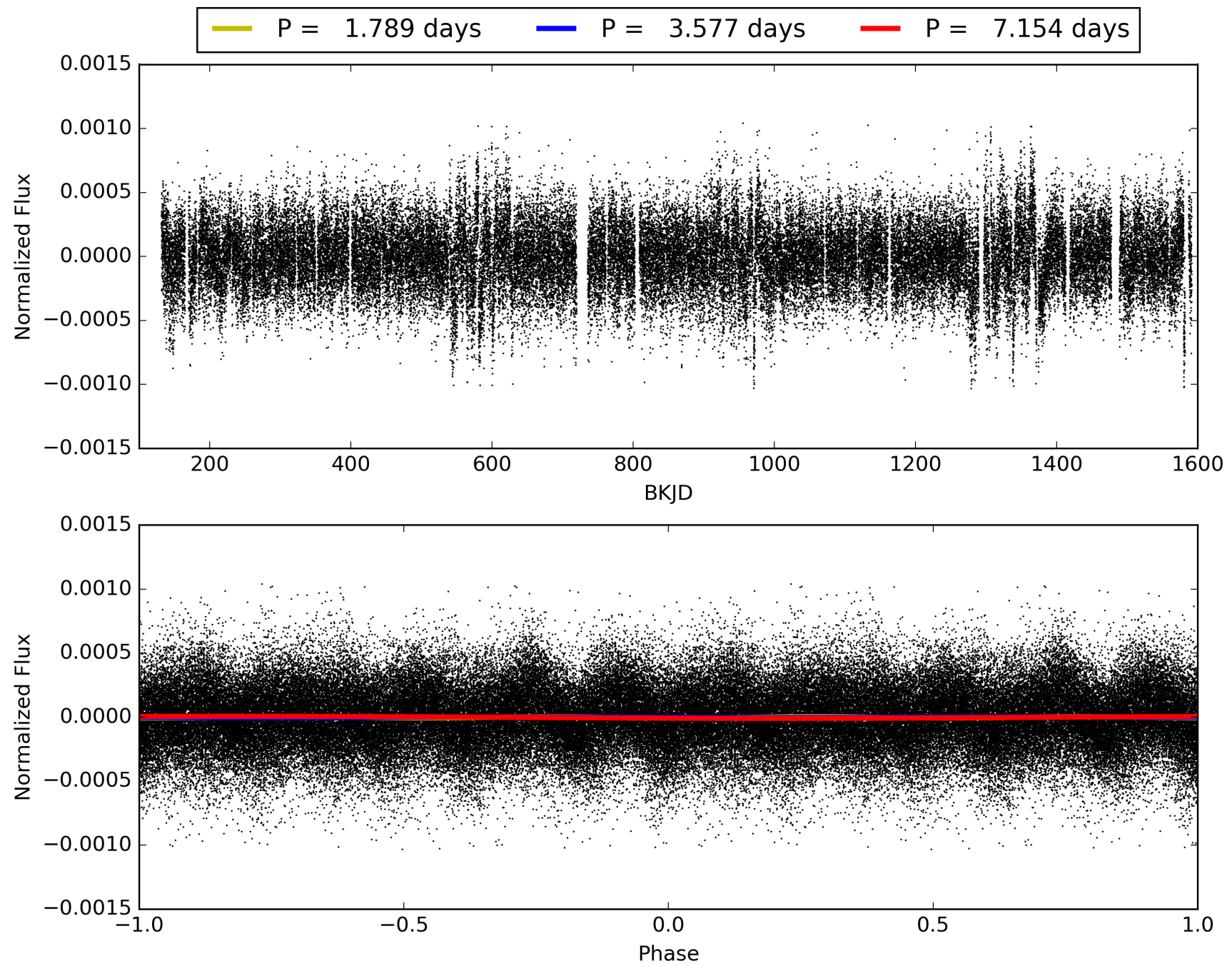
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:30:34 Z

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

TCE 009301183-03, PDC Light Curves

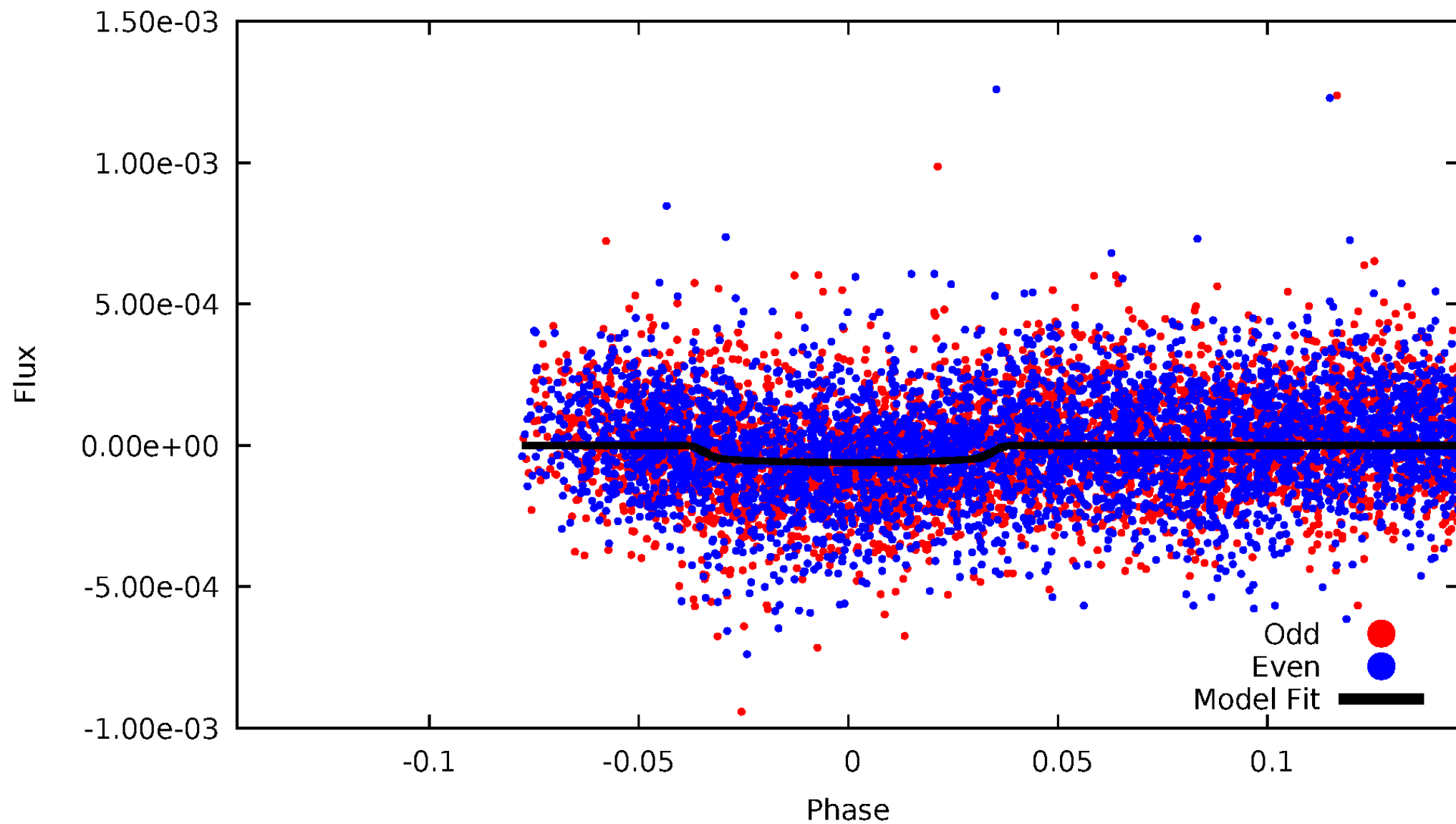


TCE 009301183-03



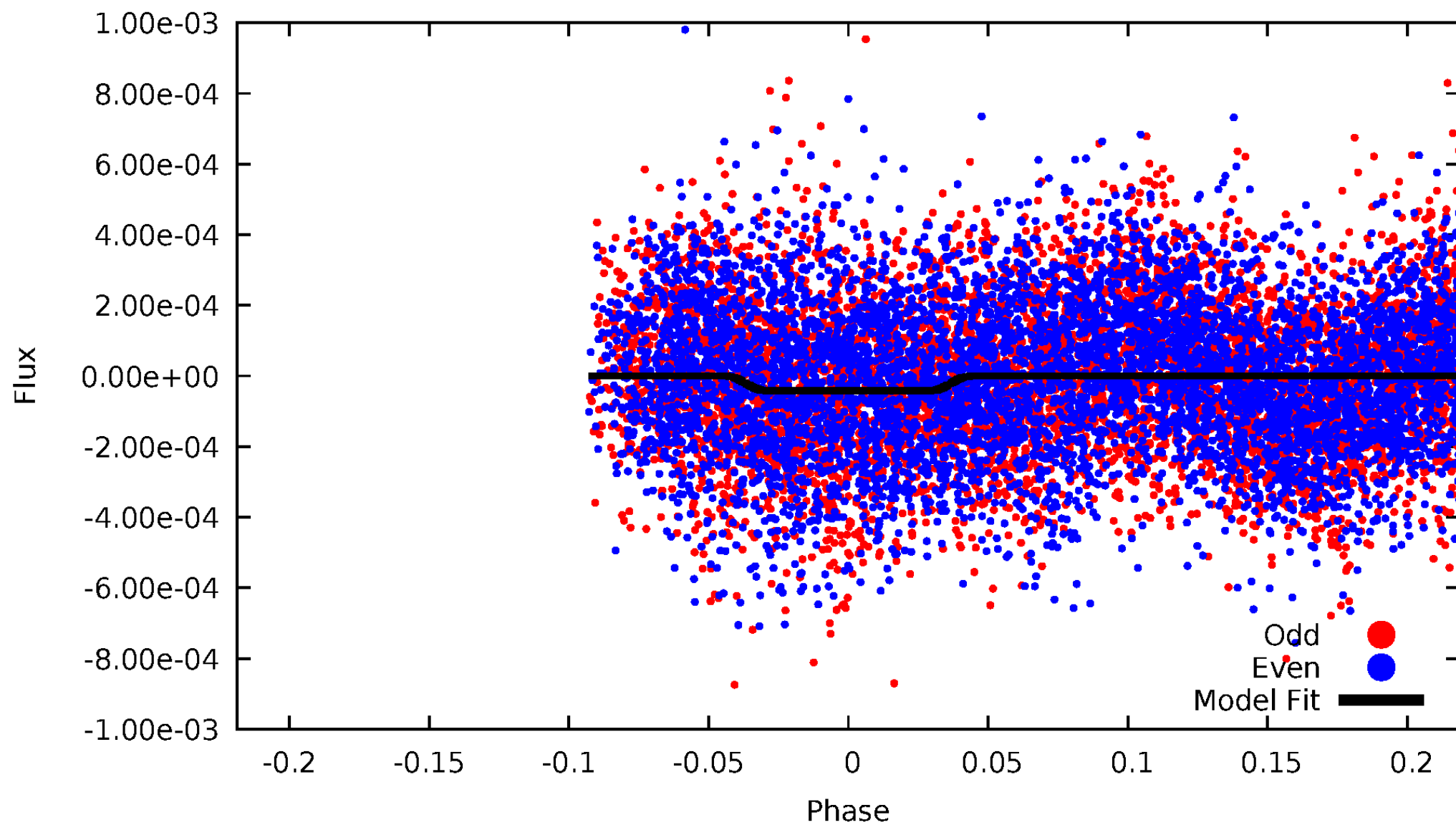
DV Odd/Even

TCE 009301183-03

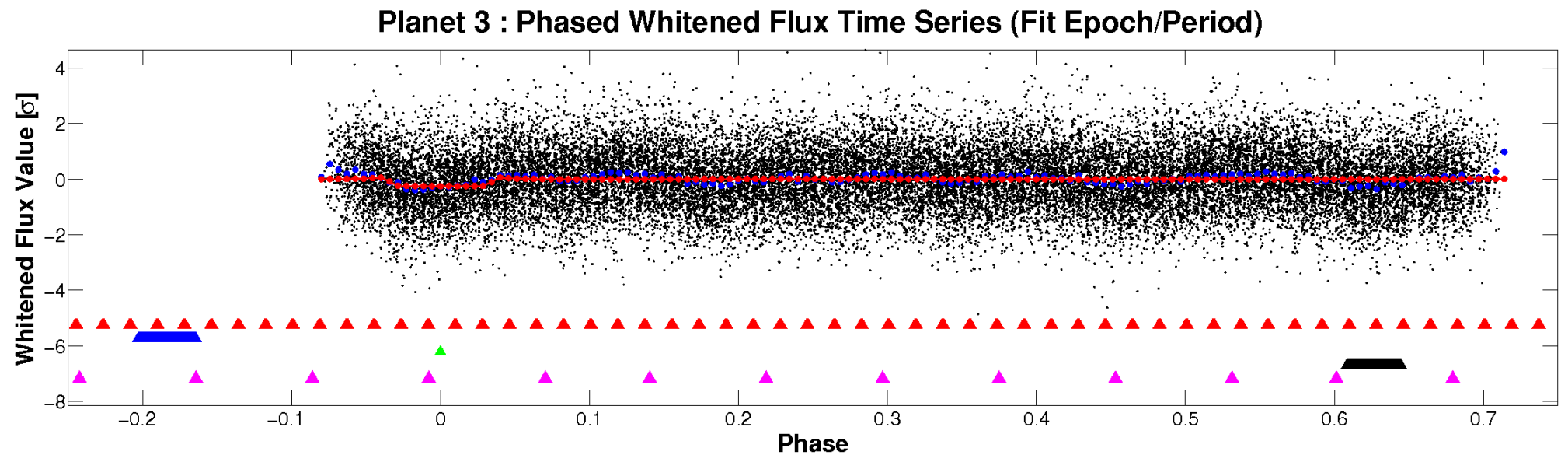
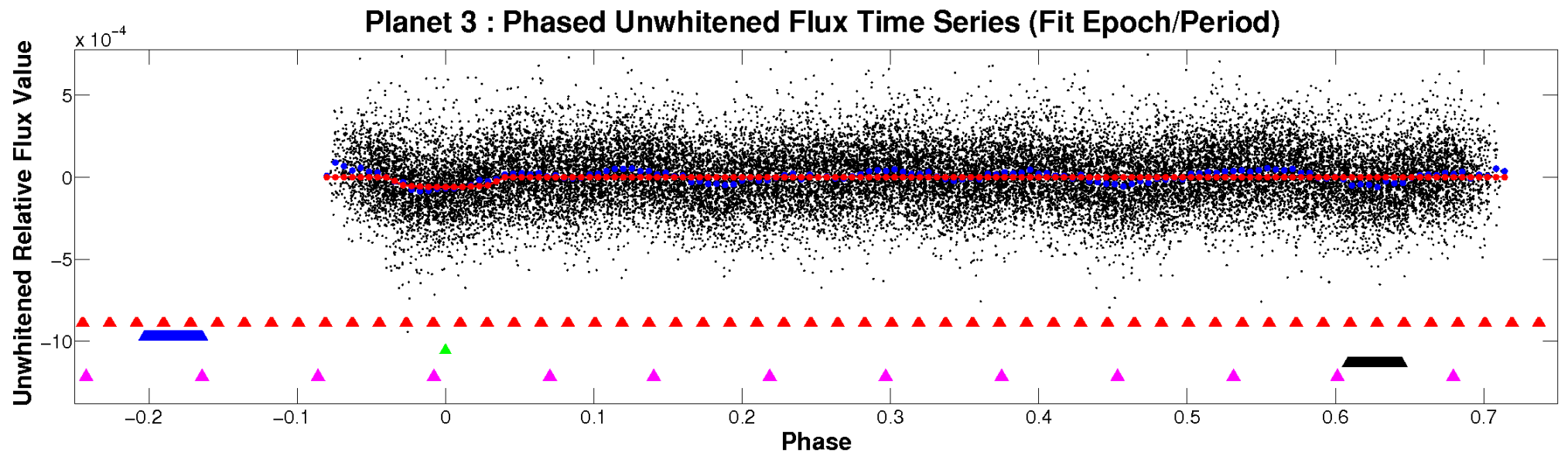


ALT Odd/Even

TCE 009301183-03

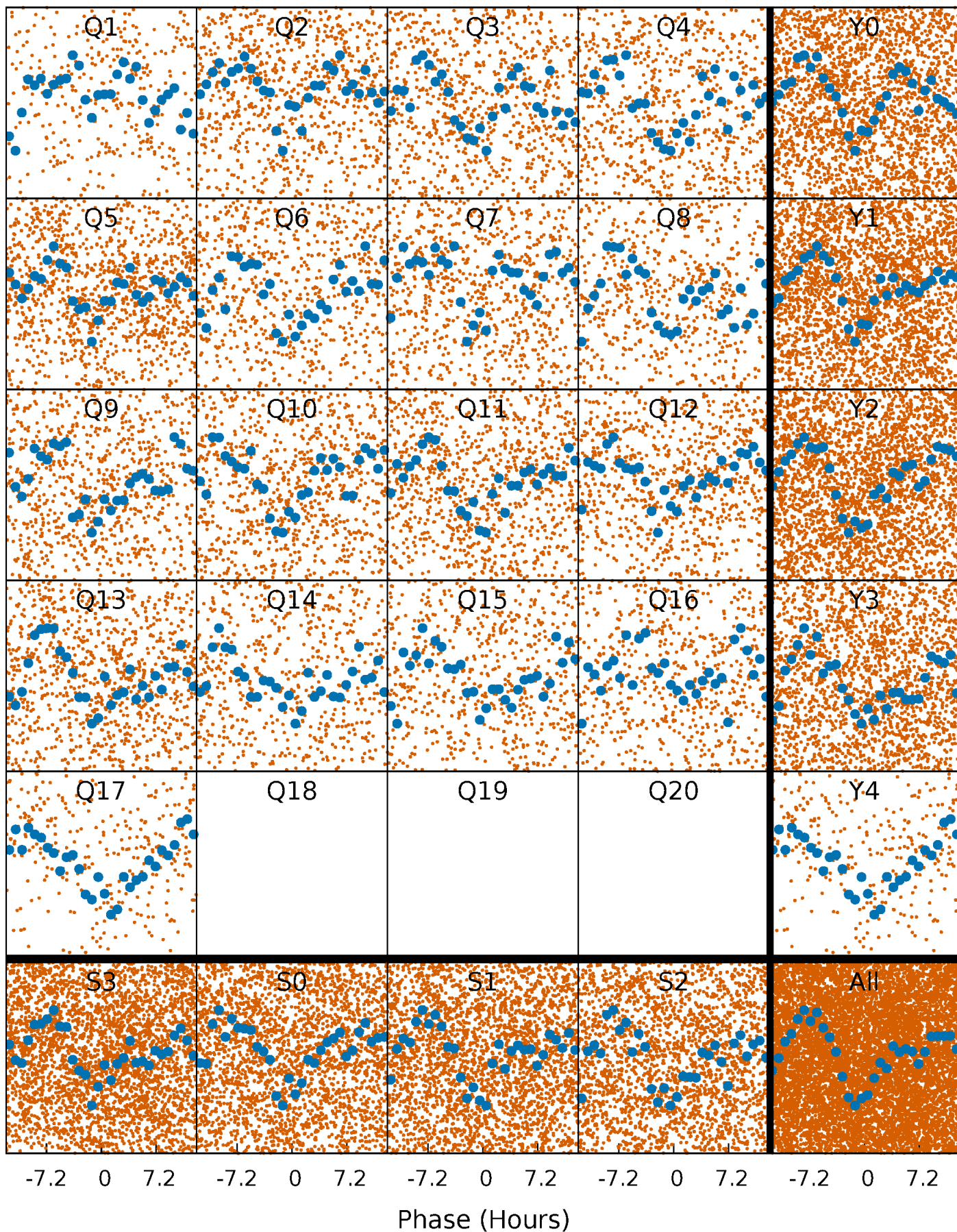


Non-Whitened Vs. Whitened Light Curve



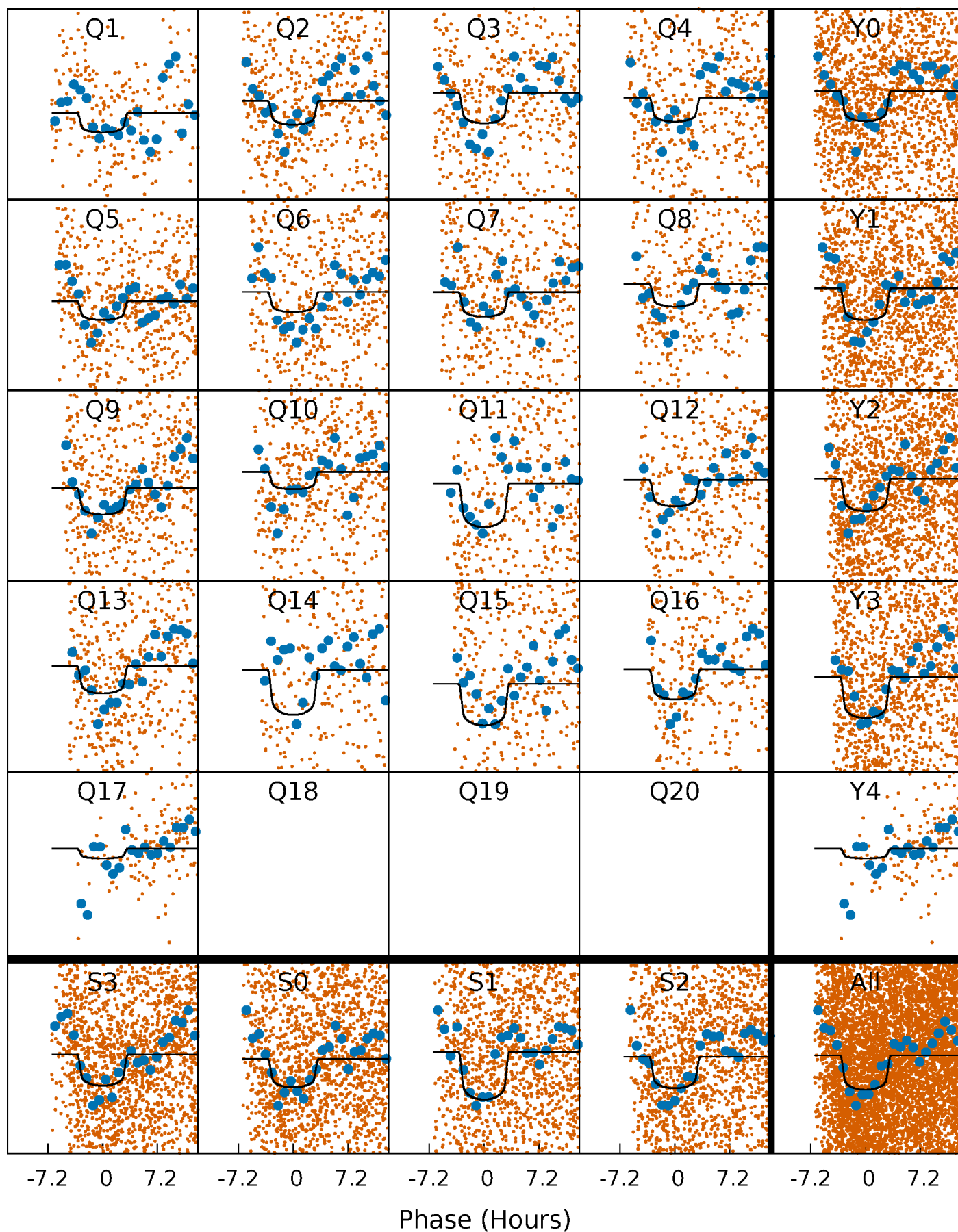
PDC Quarter-Phased Transit Curves

TCE 009301183-03 P= 3.577140 Days $T_0=131.806056$ (BKJD)



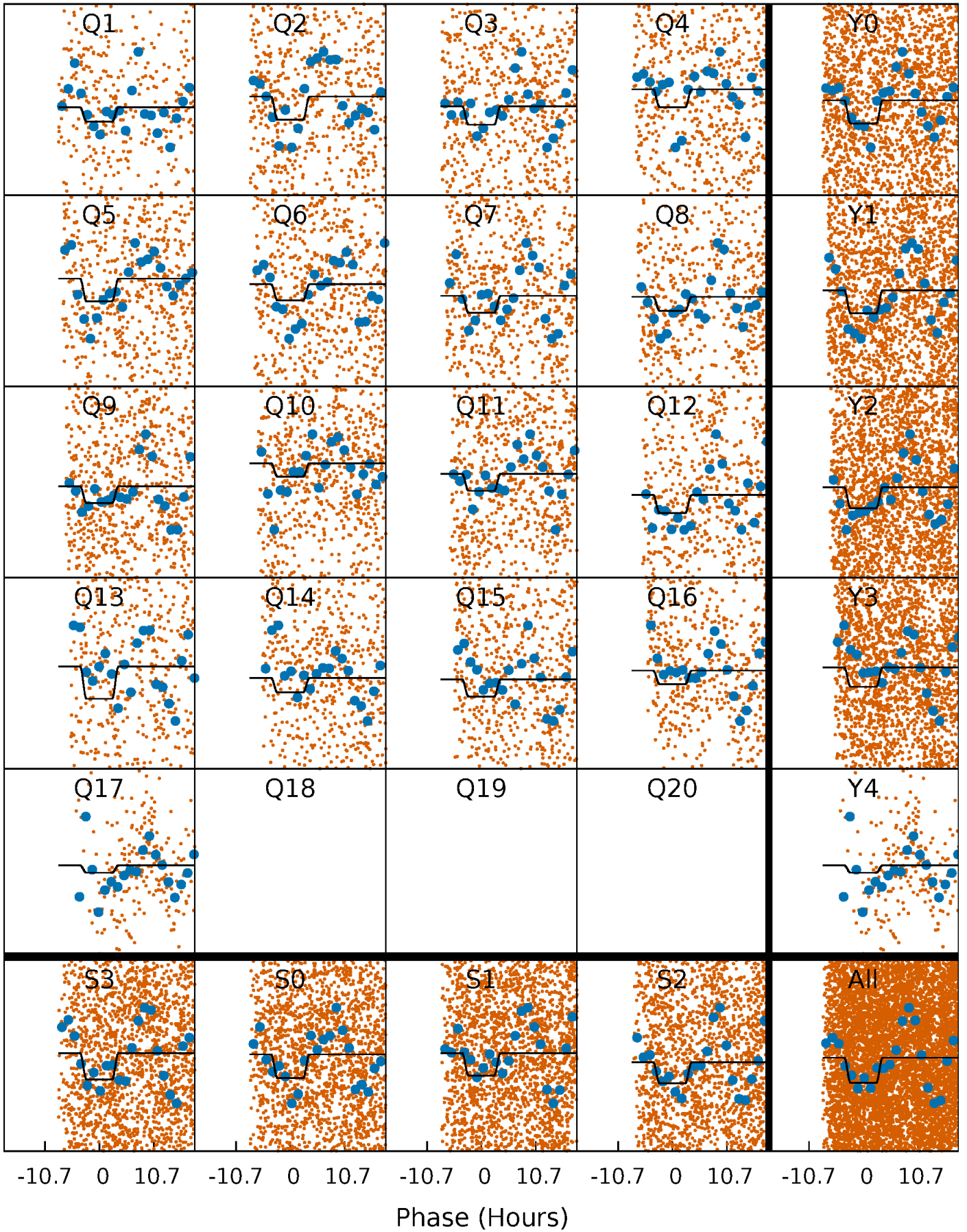
DV Quarter-Phased Transit Curves

TCE 009301183-03 P= 3.577140 Days $T_0=131.806056$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

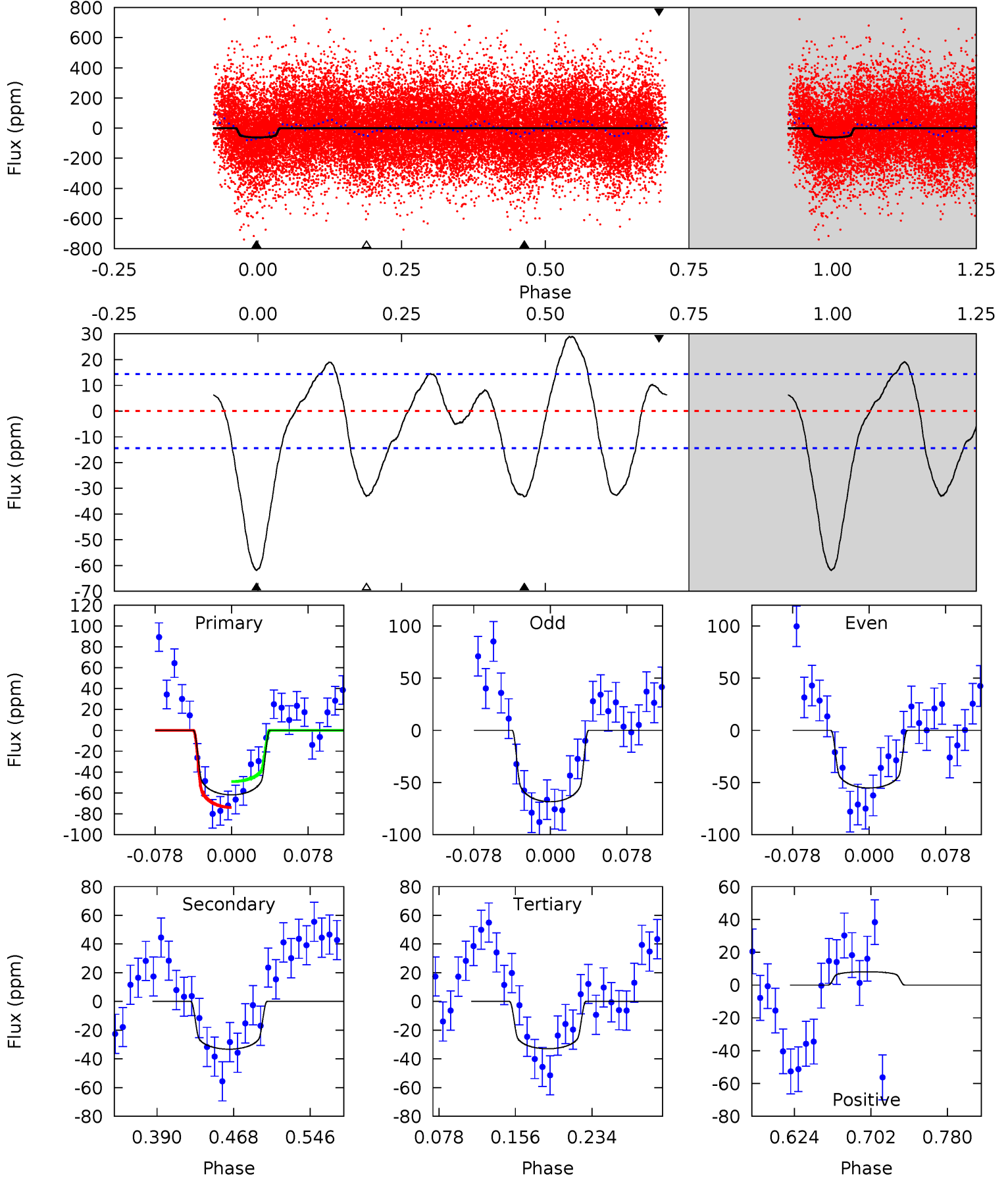
TCE 009301183-03 P= 3.577143 Days $T_0=131.859604$ (BKJD)



DV Model-Shift Uniqueness Test

009301183-03, P = 3.577140 Days, E = 128.228916 Days

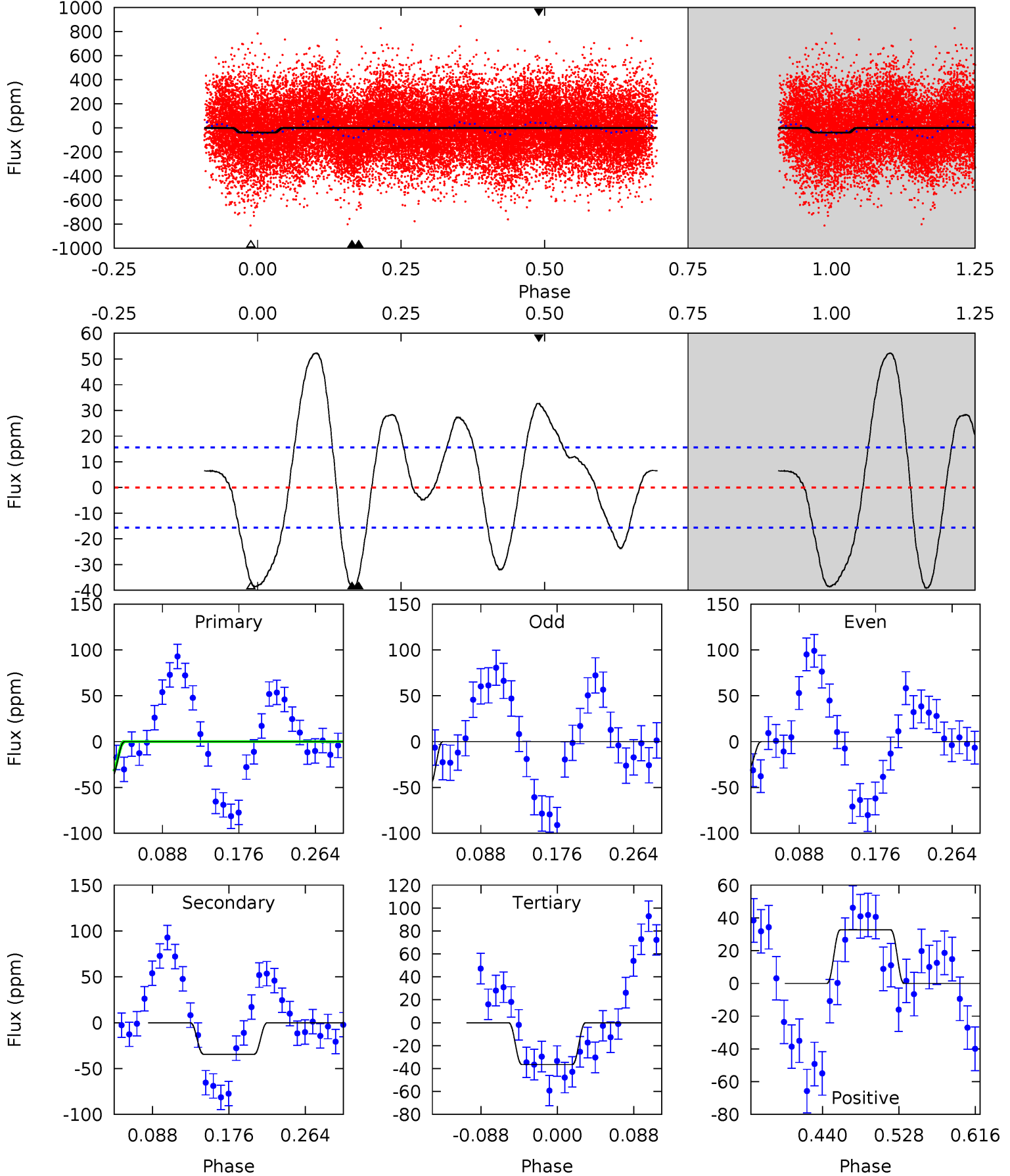
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.8	10.7	10.6	2.61	4.62	1.76	5.39	9.26	17.2	0.09	8.07	2.13	1.10	0.32	4.00



Alt Model-Shift Uniqueness Test

009301183-03, P = 3.577143 Days, E = 128.282461 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	10.1	10.7	9.59	4.59	1.71	5.78	0.77	1.90	-0.59	0.54	2.65	0.88	0.57	0



Stellar Parameters For KIC 009301183

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6585^{+179}_{-219}	$3.348^{+0.432}_{-0.048}$	$-0.140^{+0.350}_{-0.300}$	$5.006^{+0.389}_{-2.205}$	$2.035^{+0.107}_{-0.455}$	$0.023^{+0.087}_{-0.004}$
	+3%/-3%	+13%/-1%	+250%/-214%	+8%/-44%	+5%/-22%	+382%/-16%
Source	PHO1	FLK73	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 009301183-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-33 ± 3	$4.15^{+1.00}_{-1.08}$	3645^{+210}_{-404}	5366^{+592}_{-440}	$3.595^{+2.679}_{-1.297}$
Alt.	-34 ± 3	$3.15^{+0.93}_{-0.95}$	3640^{+216}_{-397}	6177^{+940}_{-622}	$6.305^{+5.969}_{-2.455}$

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 $A_{obs} \gg 1.0$

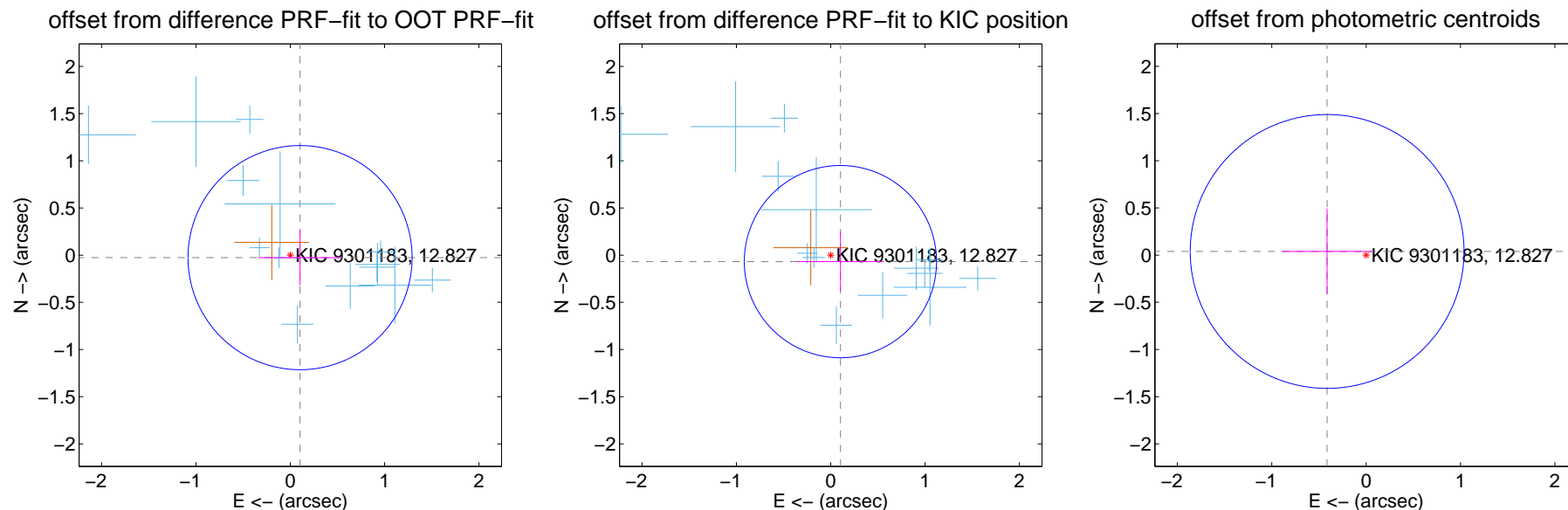
DV Centroid Data

Supplemental centroid analysis for 009301183-03. Kepler magnitude: 12.83. Transit SNR 12.28

There are 14 quarters with good PRF difference image offsets

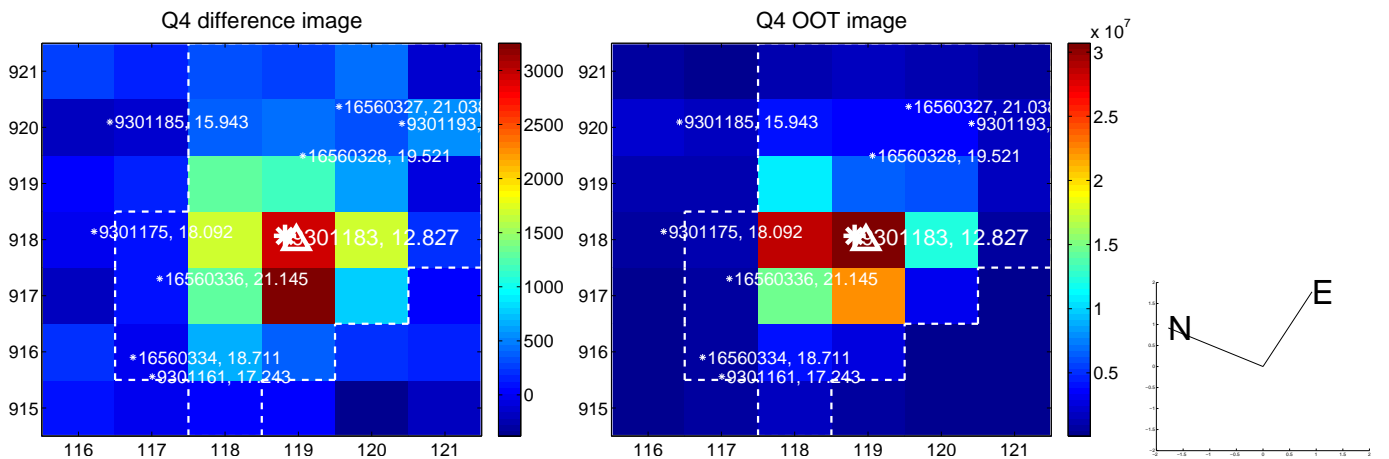
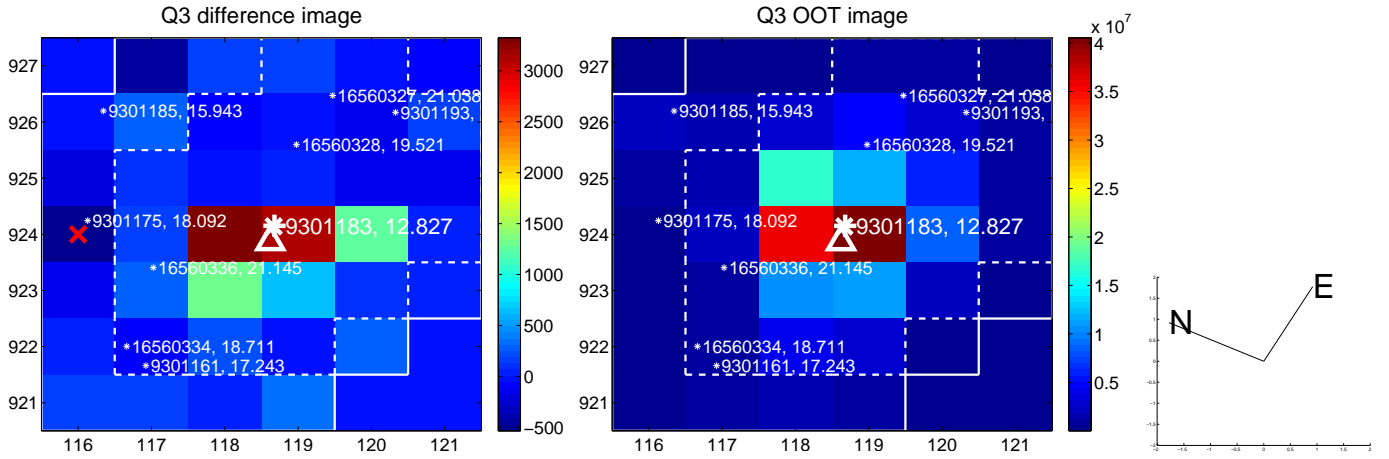
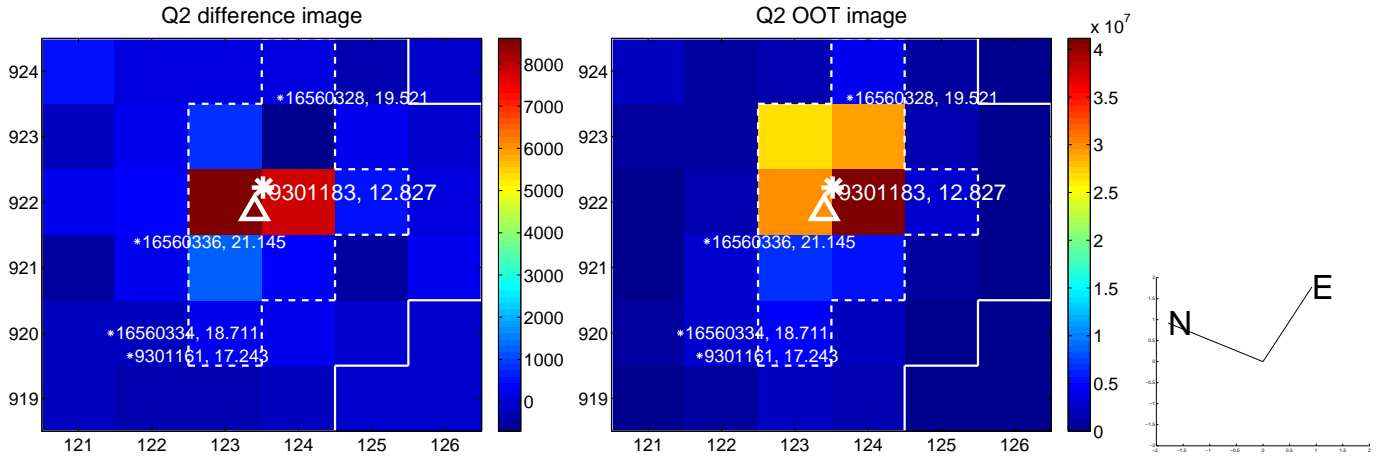
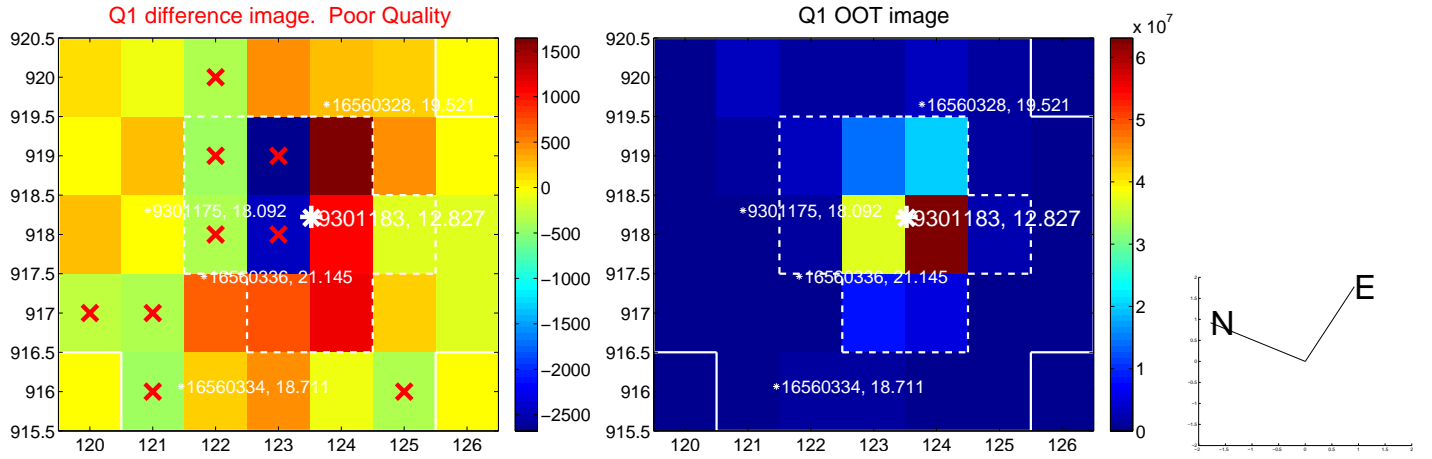
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.107 ± 0.396	0.27	-0.104 ± 0.437	-0.026 ± 0.292
PRF-fit source offset from KIC position	0.124 ± 0.340	0.36	-0.103 ± 0.461	-0.069 ± 0.313
photometric centroid source offset	0.42 ± 0.48	0.86	0.41 ± 0.48	0.04 ± 0.46

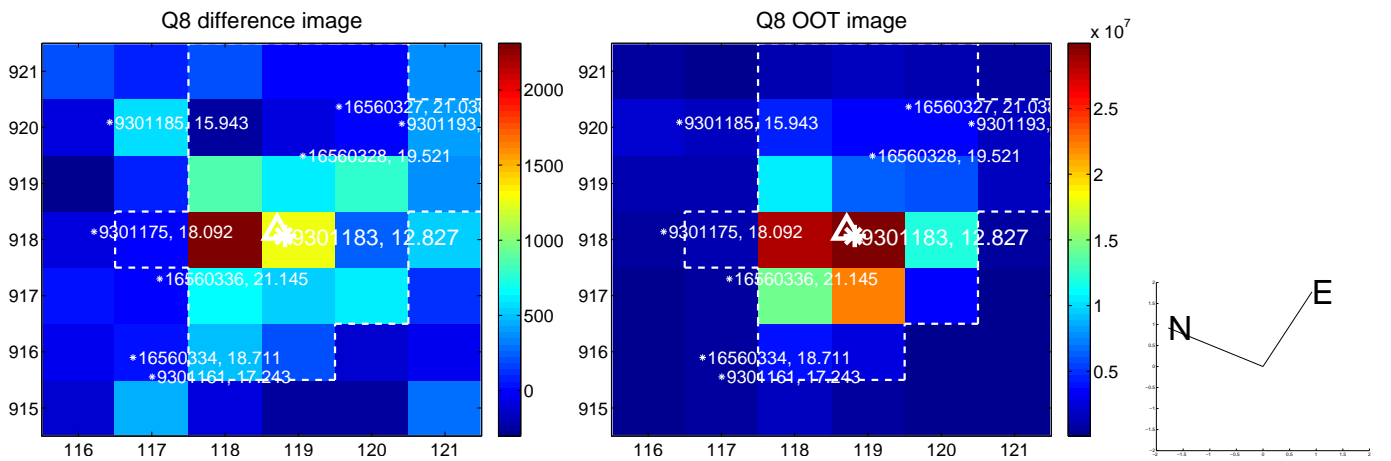
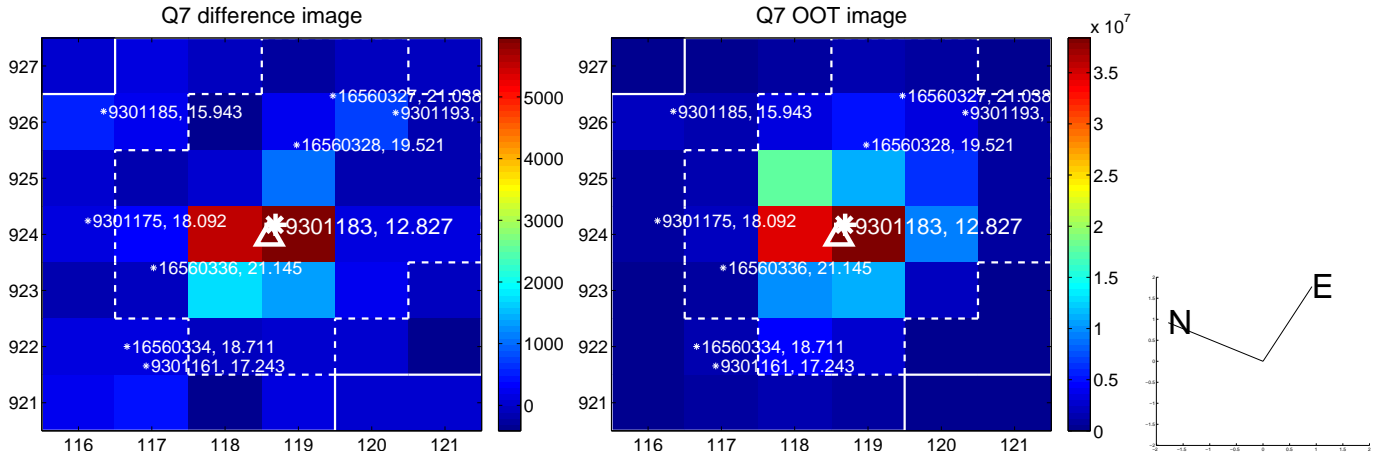
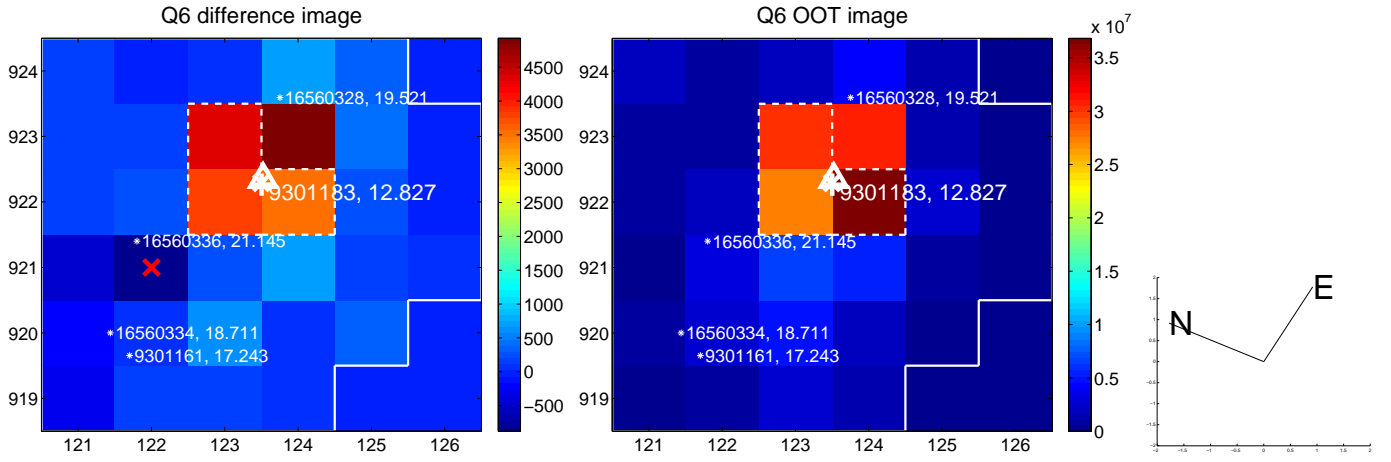
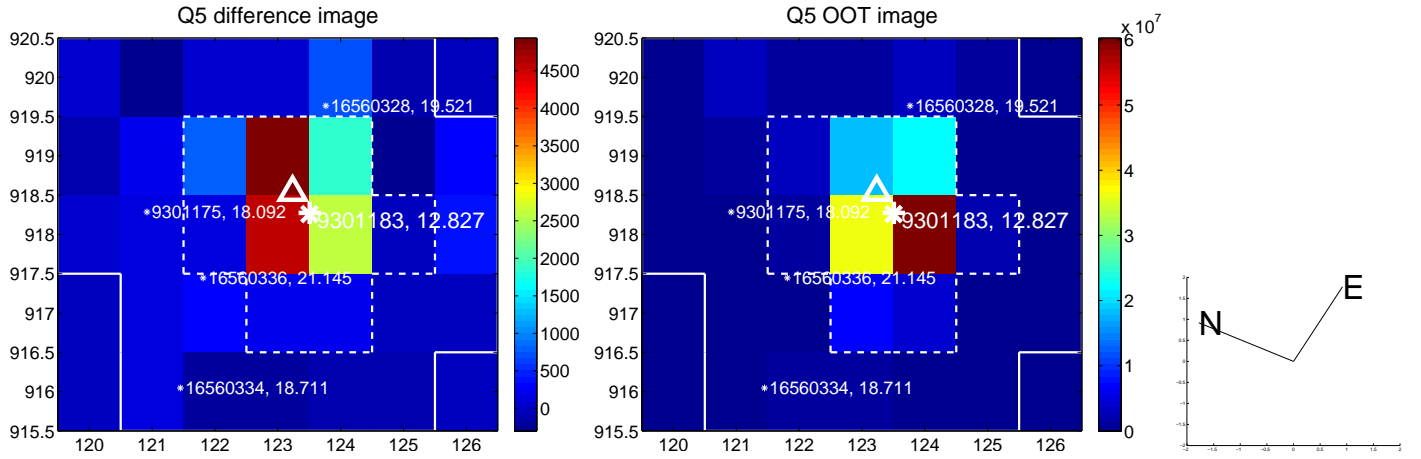


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

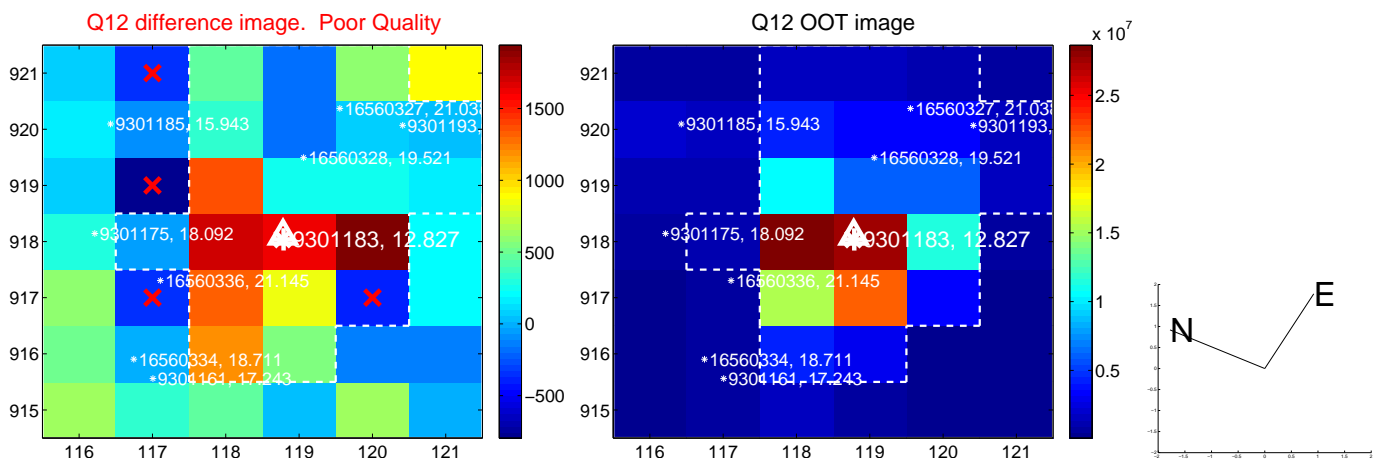
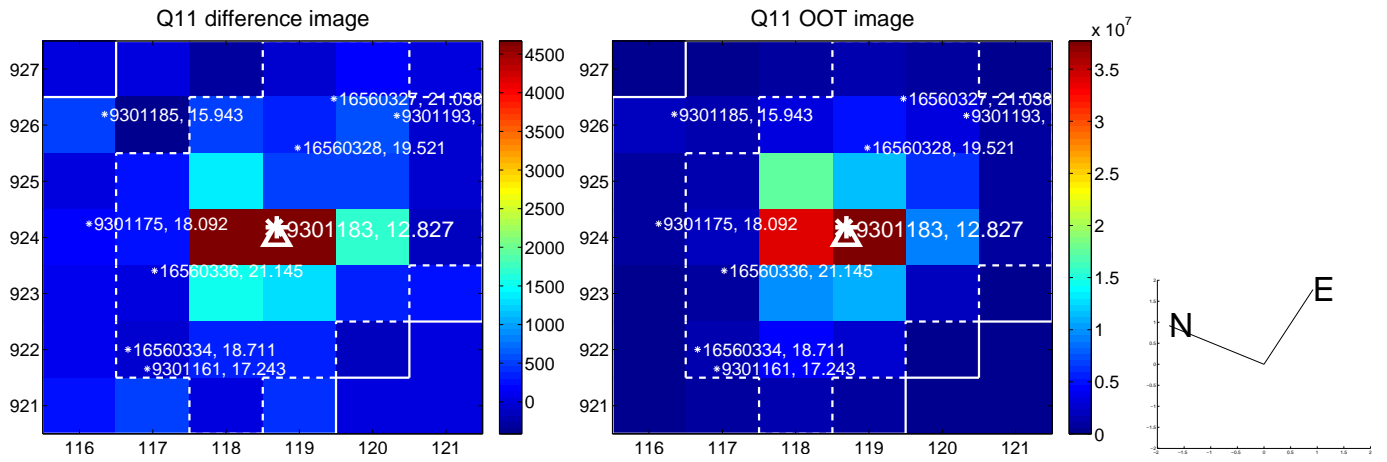
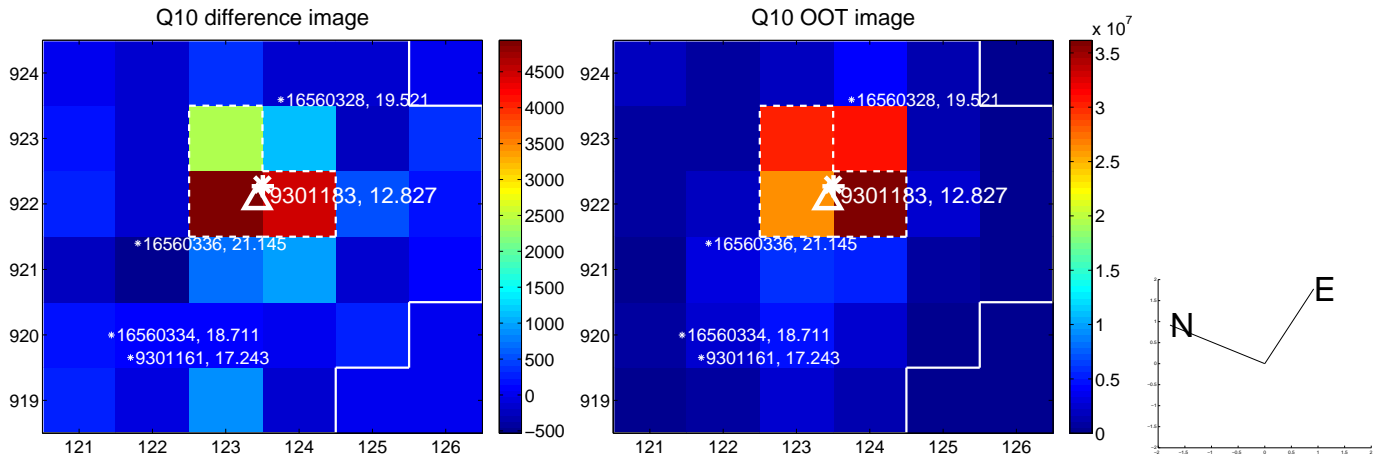
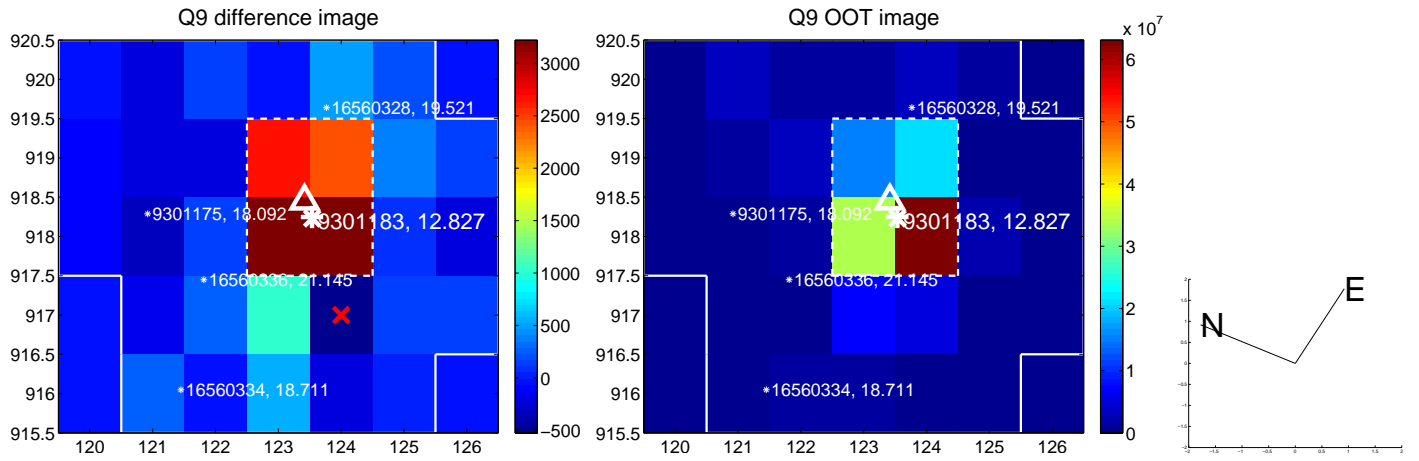
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



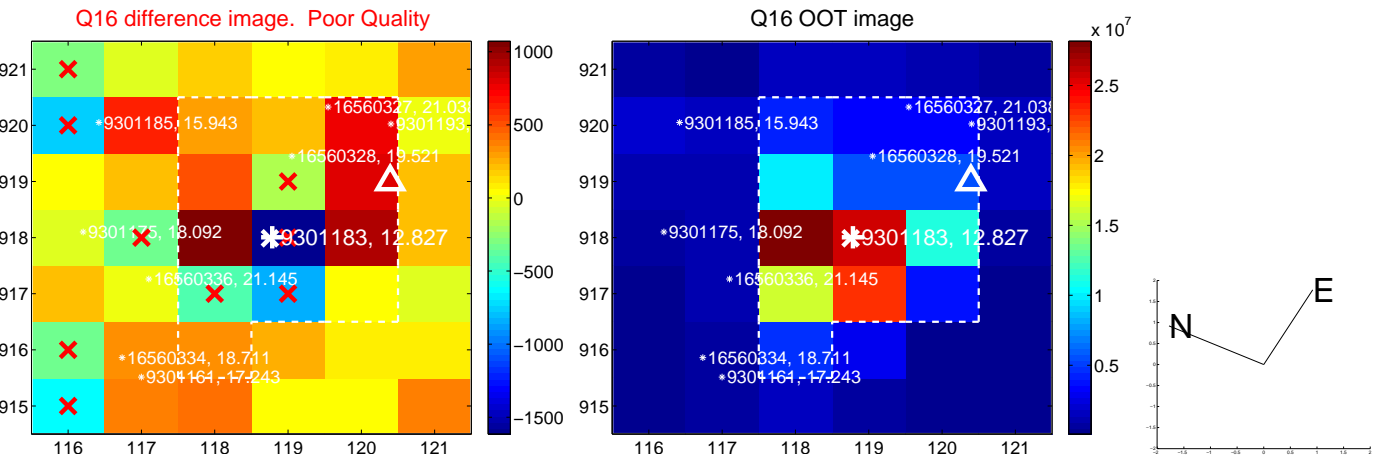
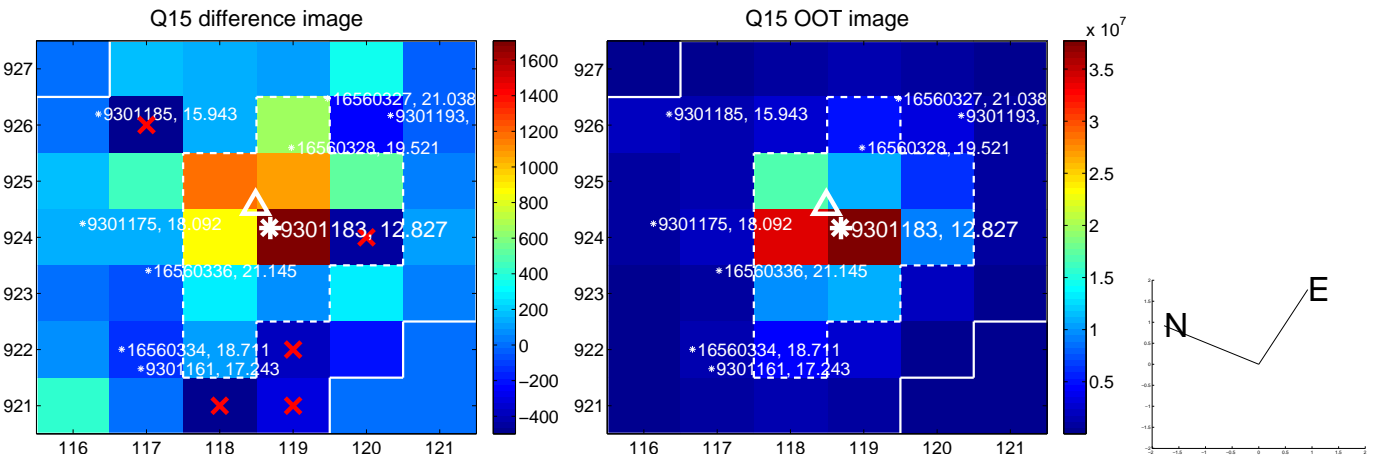
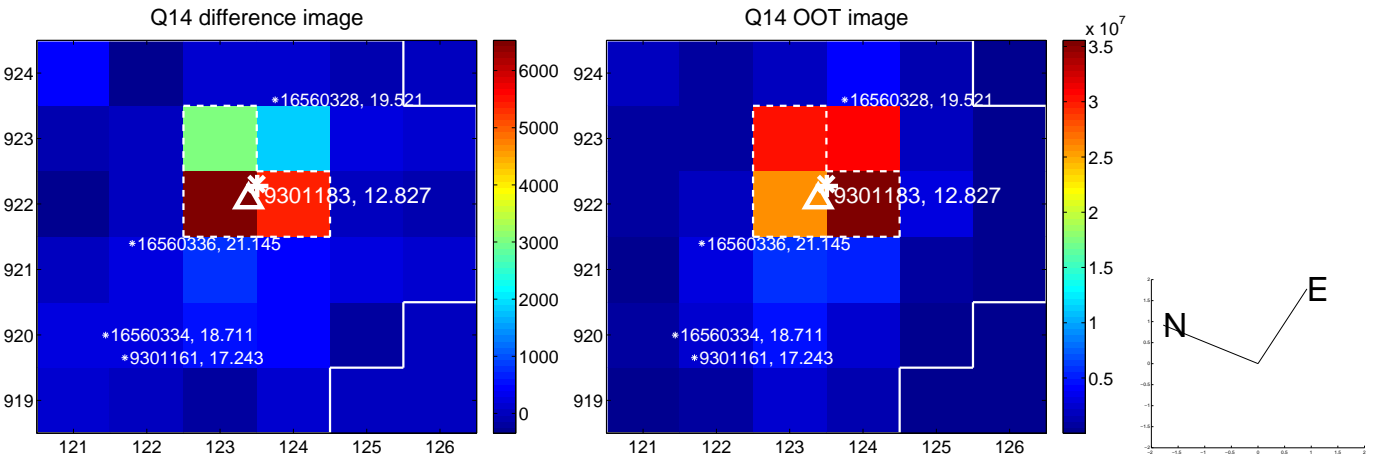
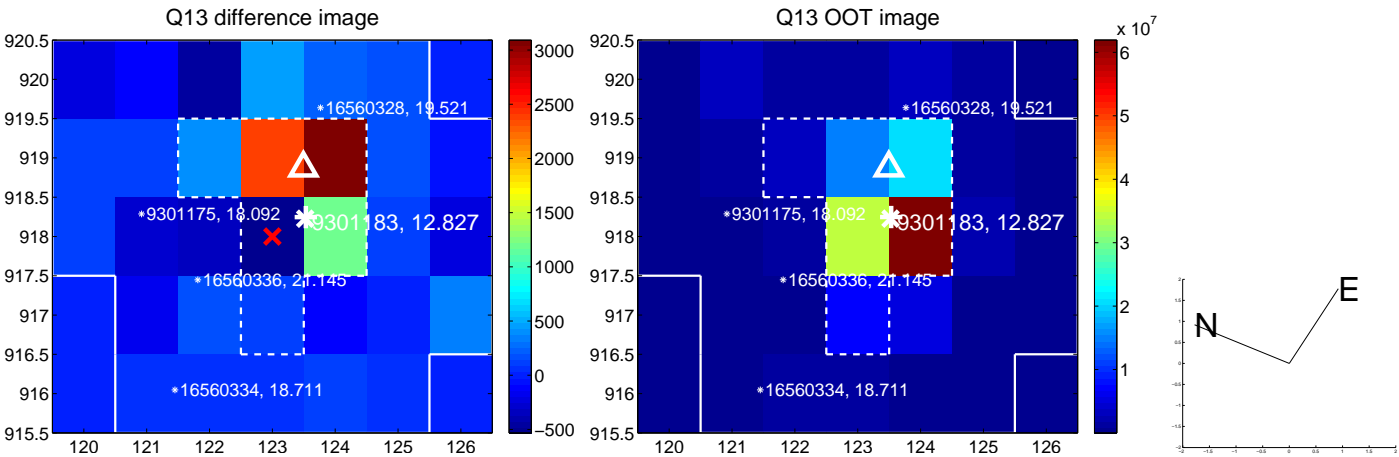
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



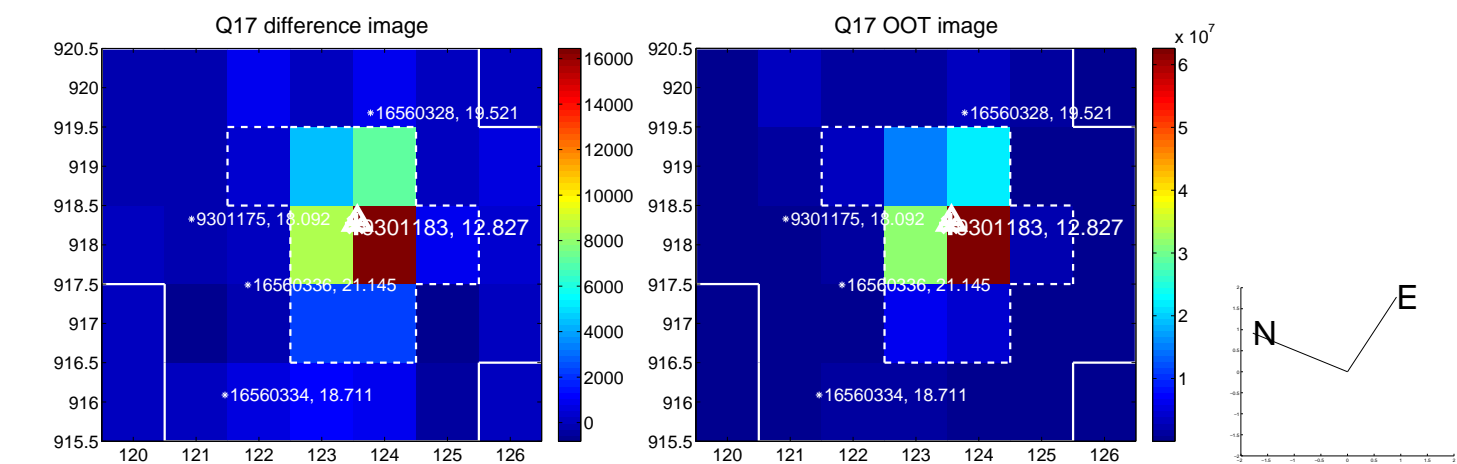
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



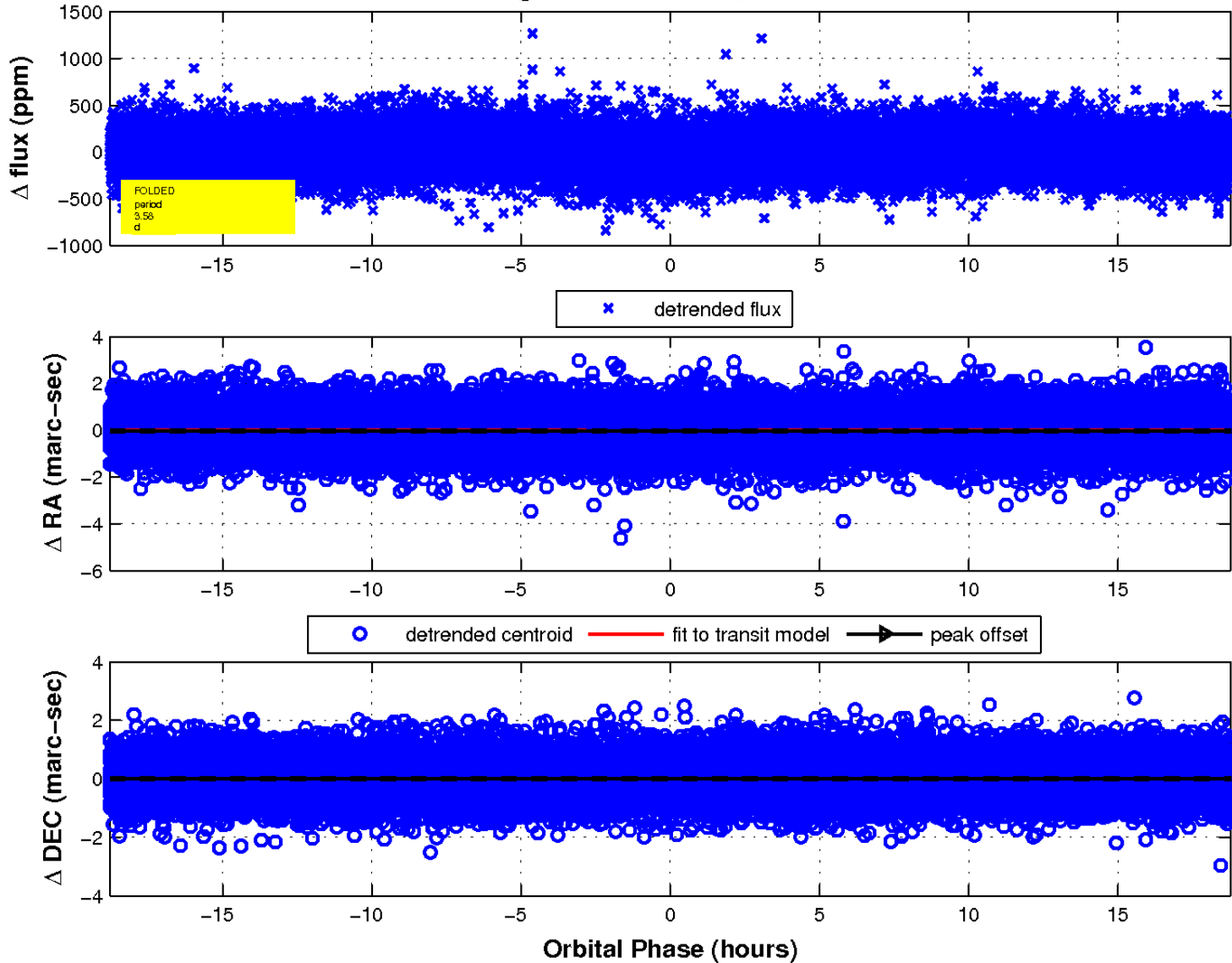
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

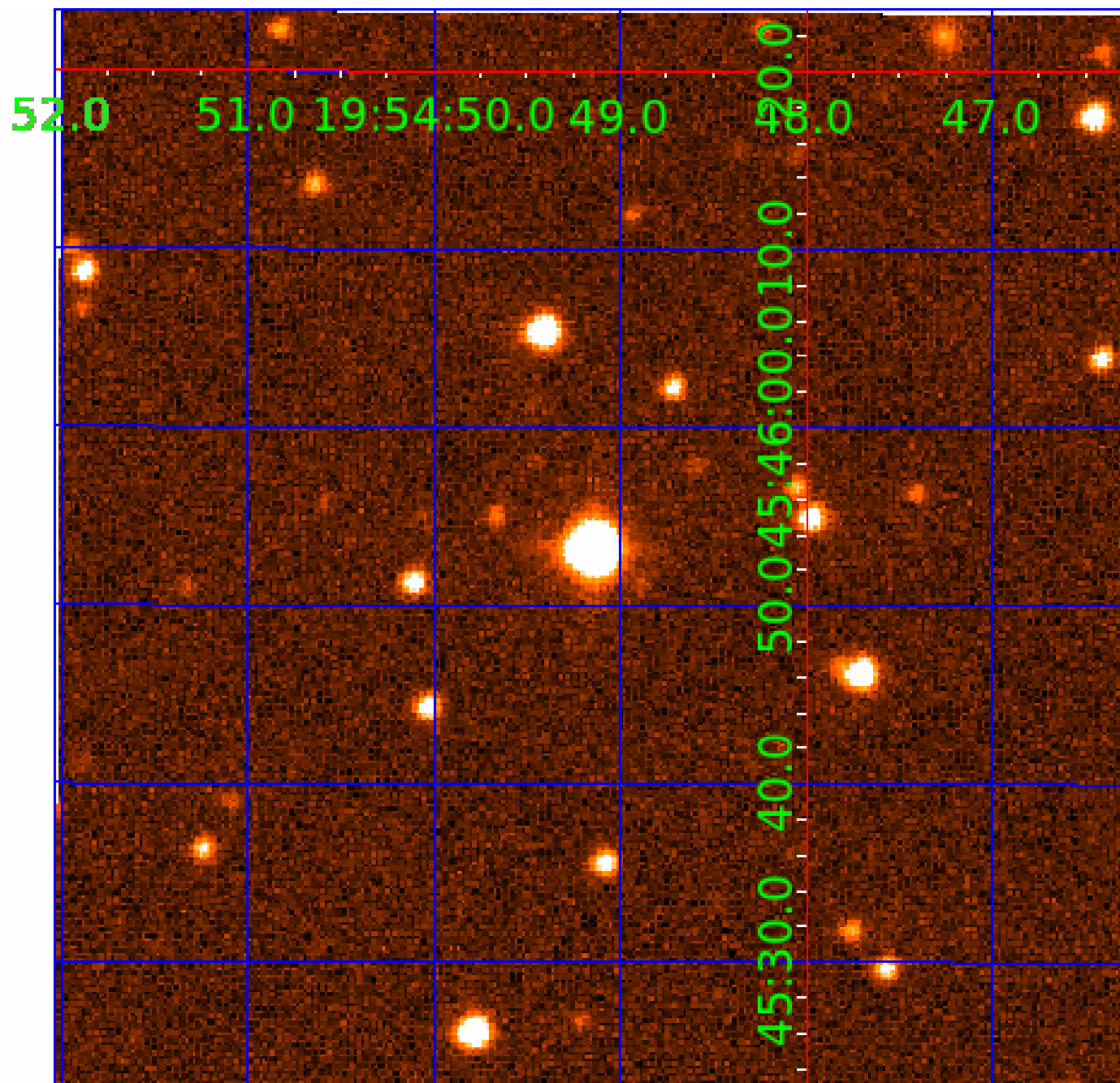


fluxWeightedCentroids, Planet 3 of 5



UKIRT Image

Declination



KIC 009301183

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})
009301183-01	OBS	No	0.910548	131.968942	14.0	2.711	11.6	4.7	5.01	6585	2.20	0.00
009301183-02	OBS	No	3.577482	134.657092	55.8	6.884	11.2	10.6	5.01	6585	4.36	12531.64
009301183-03	OBS	No	3.577140	131.806056	59.5	6.258	11.2	12.3	5.01	6585	4.56	12533.24
009301183-04	OBS	No	3.577459	133.982549	60.7	7.026	9.9	10.5	5.01	6585	7.93	12531.75
009301183-05	OBS	No	112.540098	157.097865	270.9	4.843	7.6	5.2	5.01	6585	9.81	126.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009301183-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—HALO_GHOST
009301183-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
009301183-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
009301183-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD
009301183-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

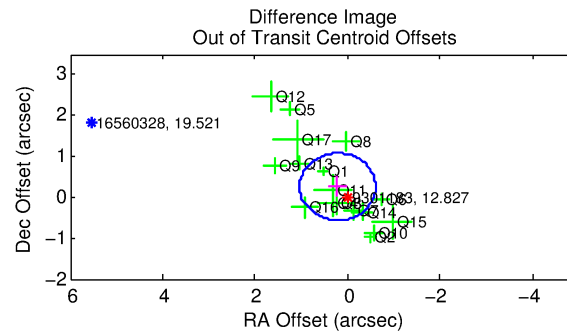
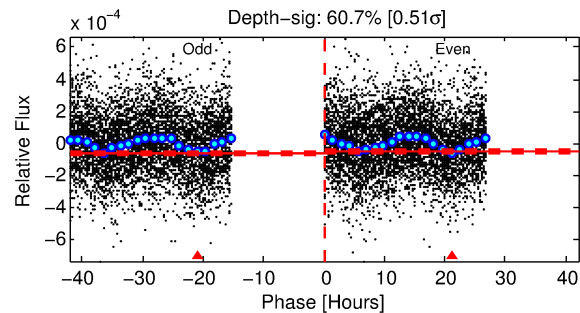
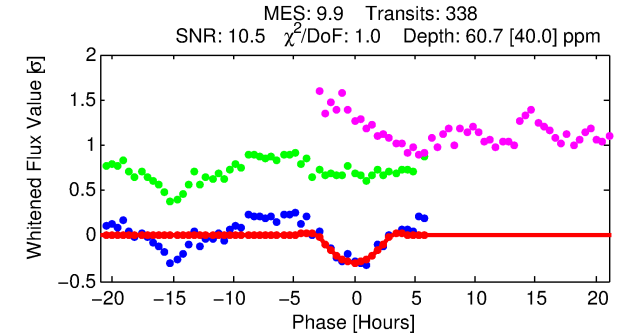
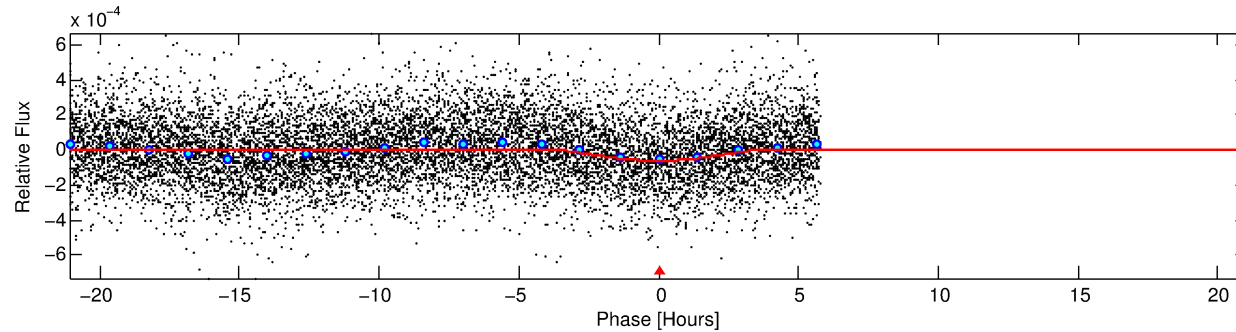
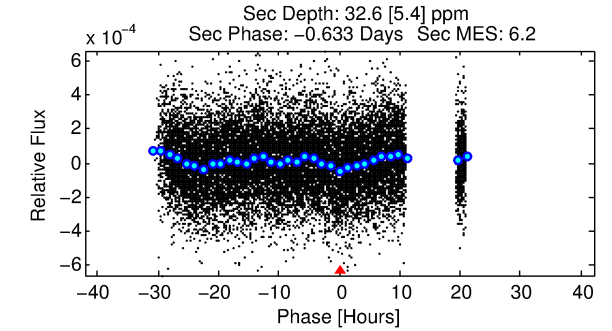
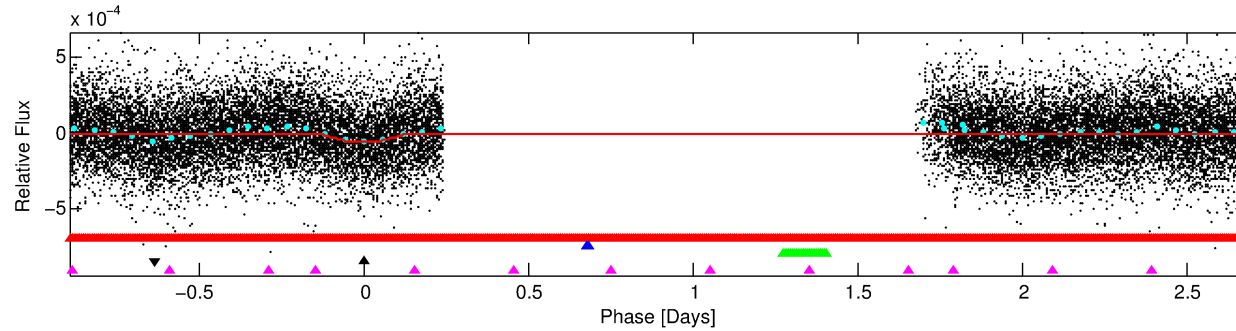
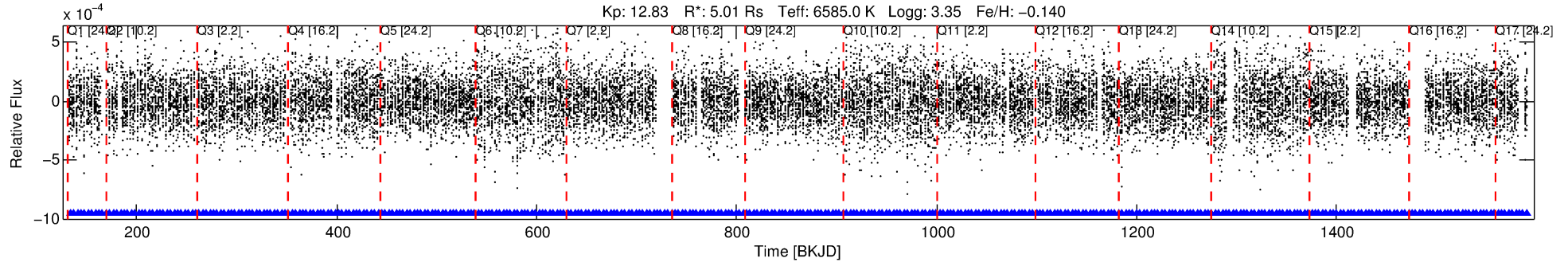
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009301183-04

No Significant Match Found

DV One-Page Summary

KIC: 9301183 Candidate: 4 of 5 Period: 3.577 d



DV Fit Results:

Period = 3.57746 [0.00007] d
Epoch = 133.9825 [0.0147] BKJD
Rp/R* = 0.0145 [0.0418]
a/R* = 1.21 [0.26]
b = 1.00 [0.06]
Seff = 12531.75 [9240.30]
Teq = 2698 [497] K
Rp = 7.93 [23.11] Re
a = 0.0580 [0.0257] AU
Ag = 0.96 [5.59] [-0.01σ]
Teffp = 4131 [5957] K [0.24σ]

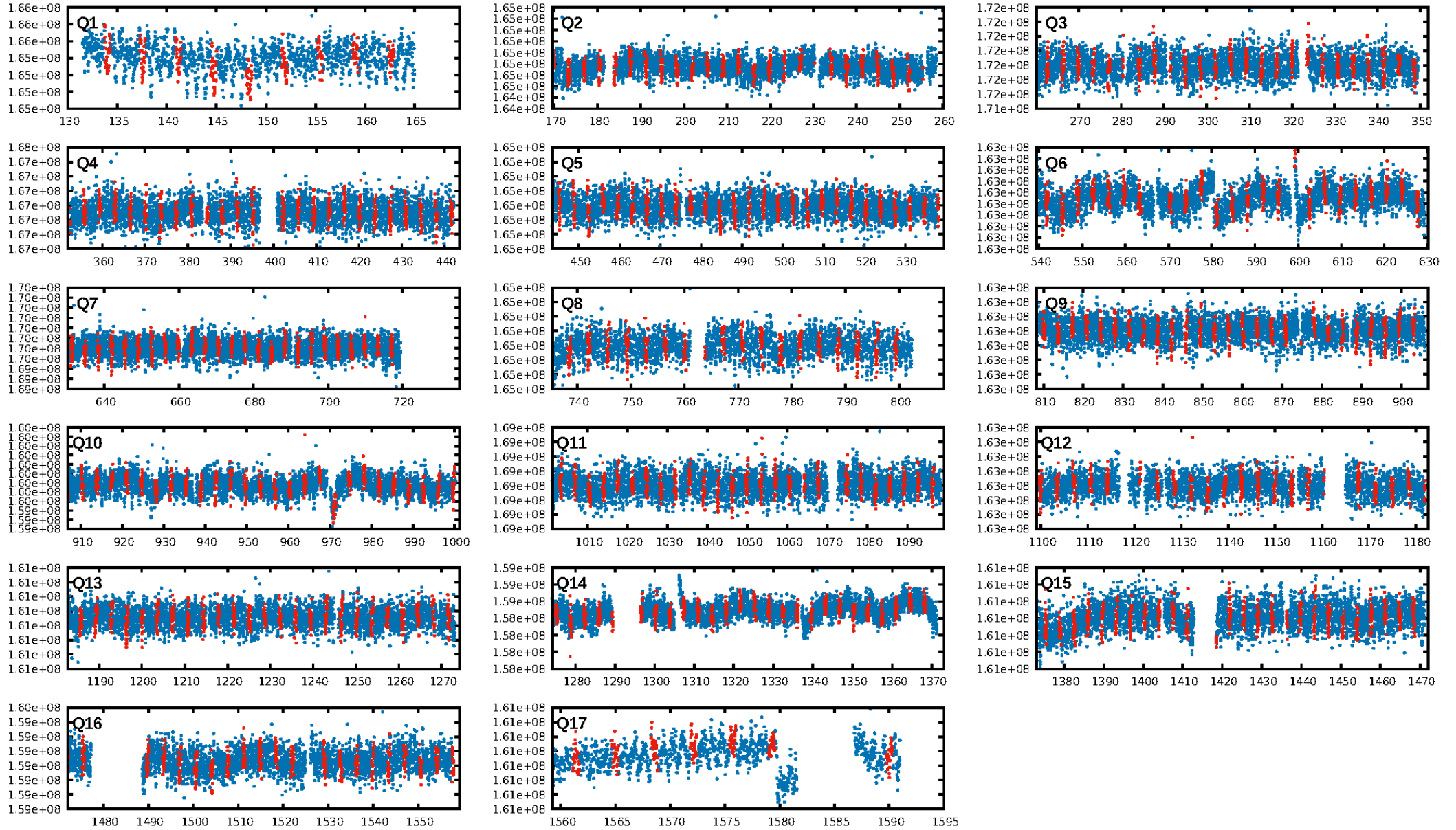
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.65e-15
RollingBand-fgt: 1.00 [323/323]
GhostDiagnostic-chr: 2.116
Centroid-sig: 0.2%
Centroid-so: 1.455 arcsec [2.52σ]
OotOffset-rm: 0.338 arcsec [1.23σ]
KicOffset-rm: 0.327 arcsec [1.06σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 0.00 [0/17]

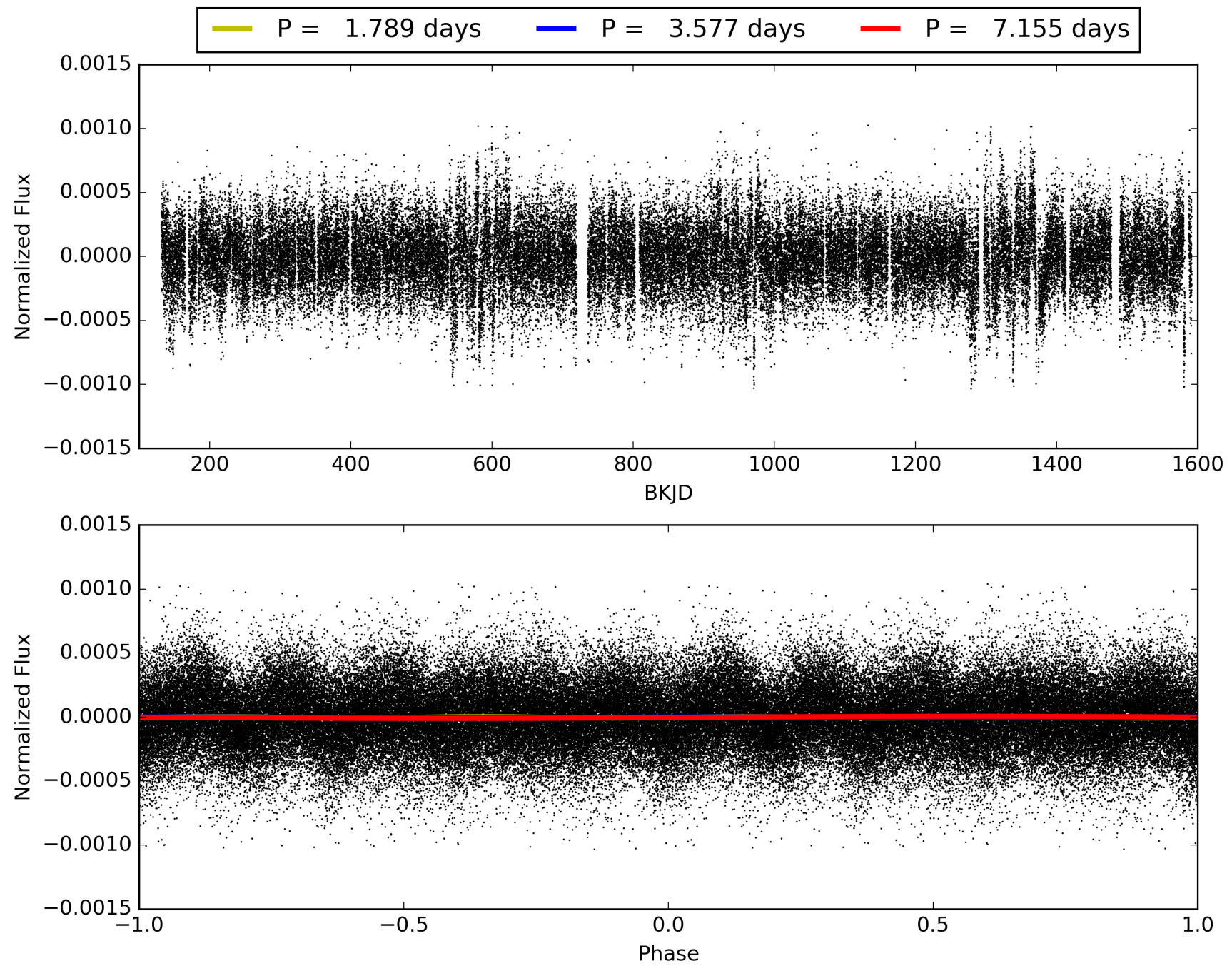
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:30:41 Z

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

TCE 009301183-04, PDC Light Curves

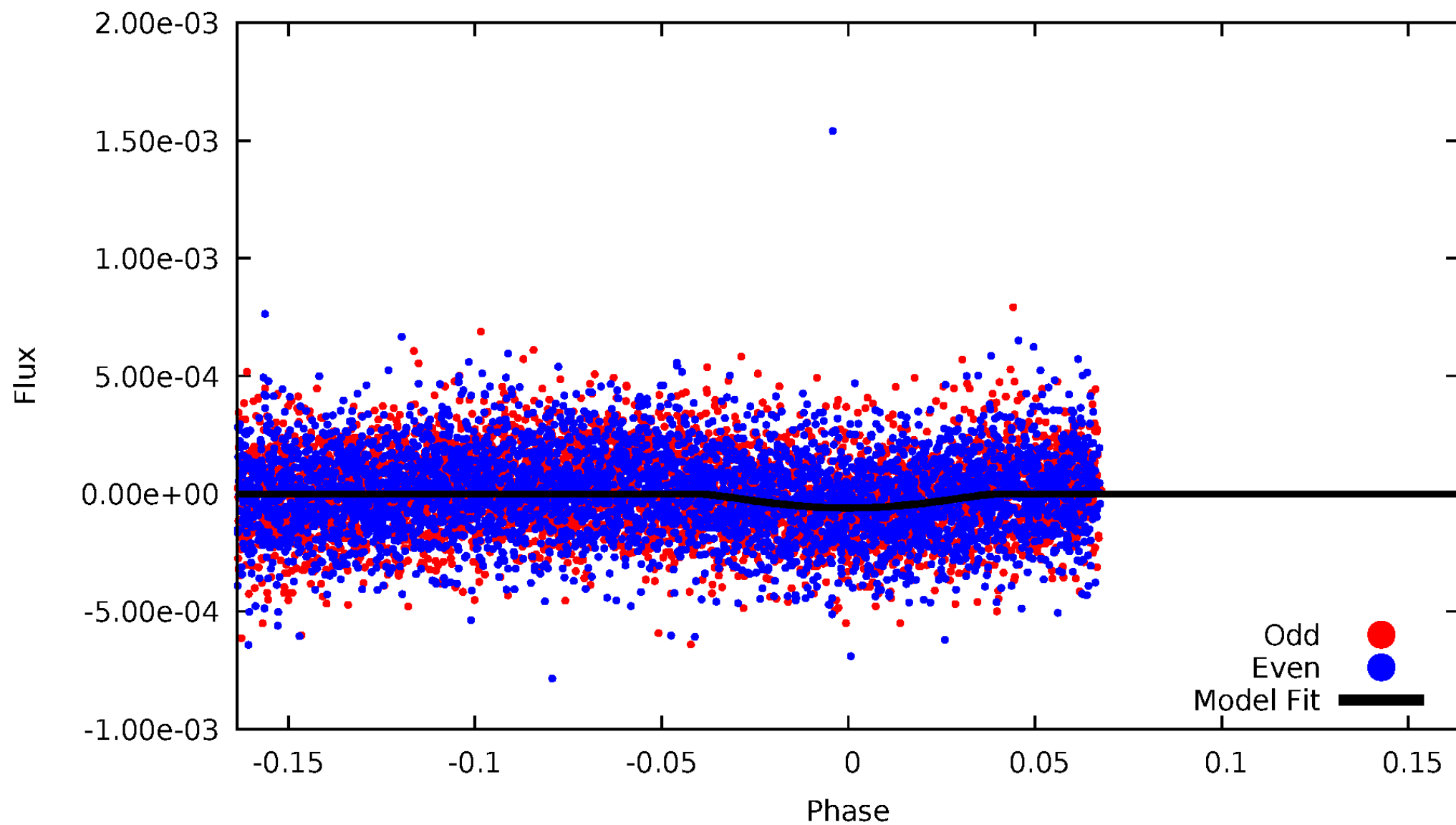


TCE 009301183-04



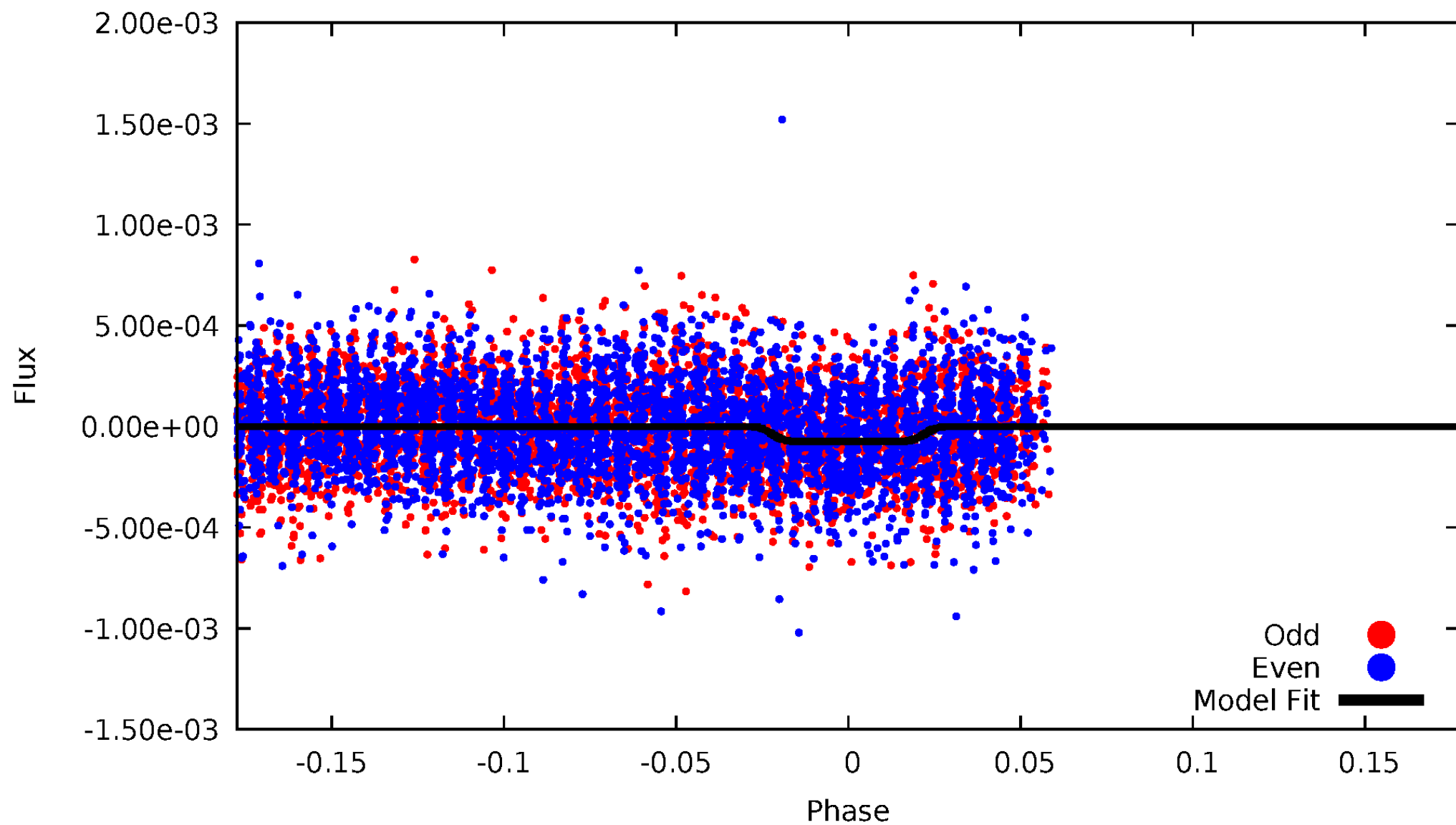
DV Odd/Even

TCE 009301183-04



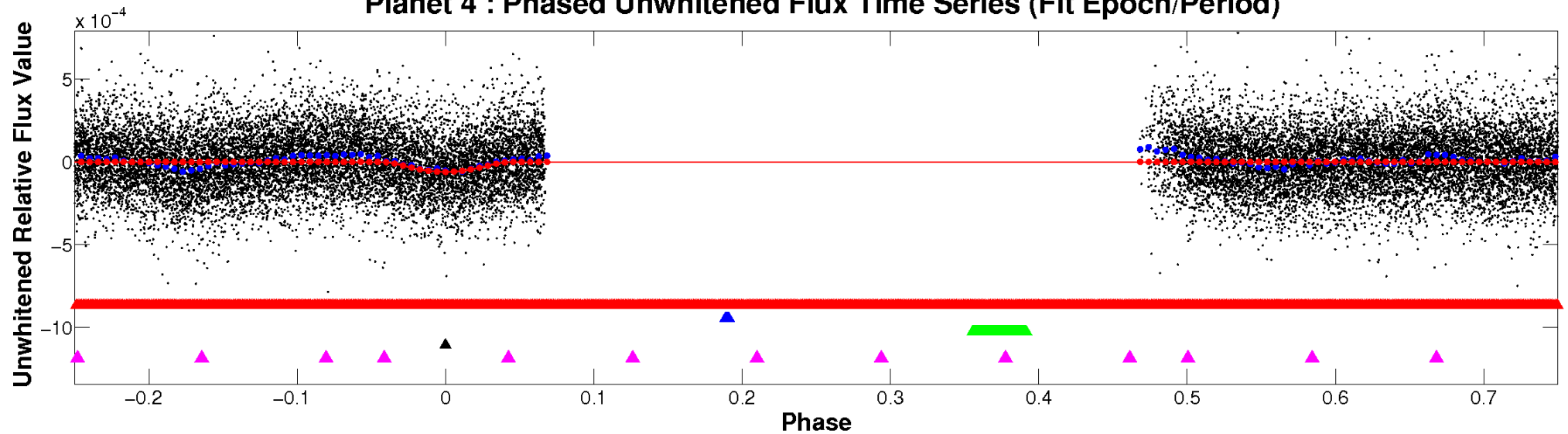
ALT Odd/Even

TCE 009301183-04

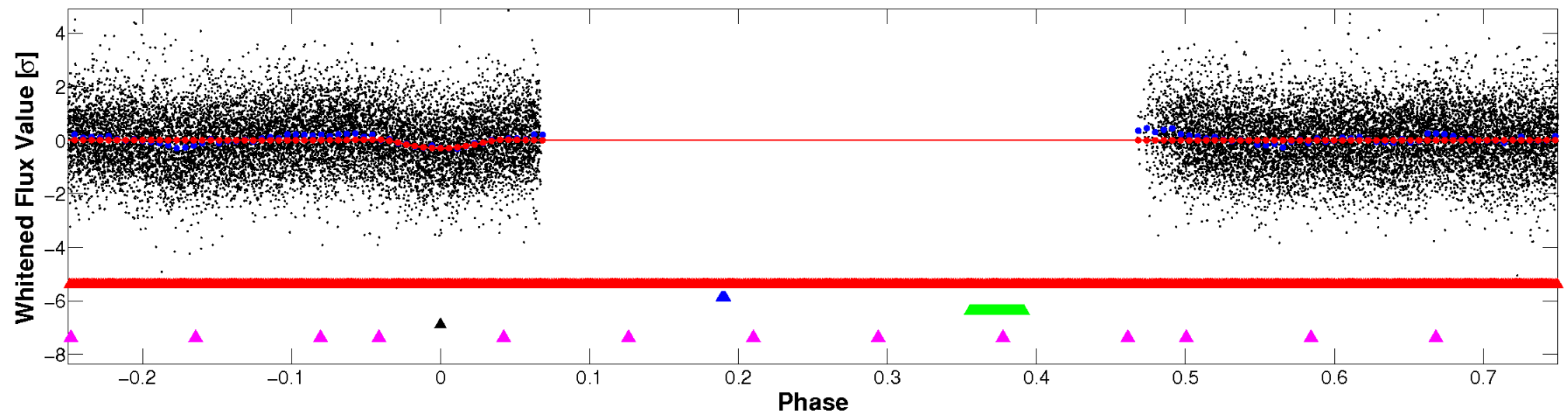


Non-Whitened Vs. Whitened Light Curve

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

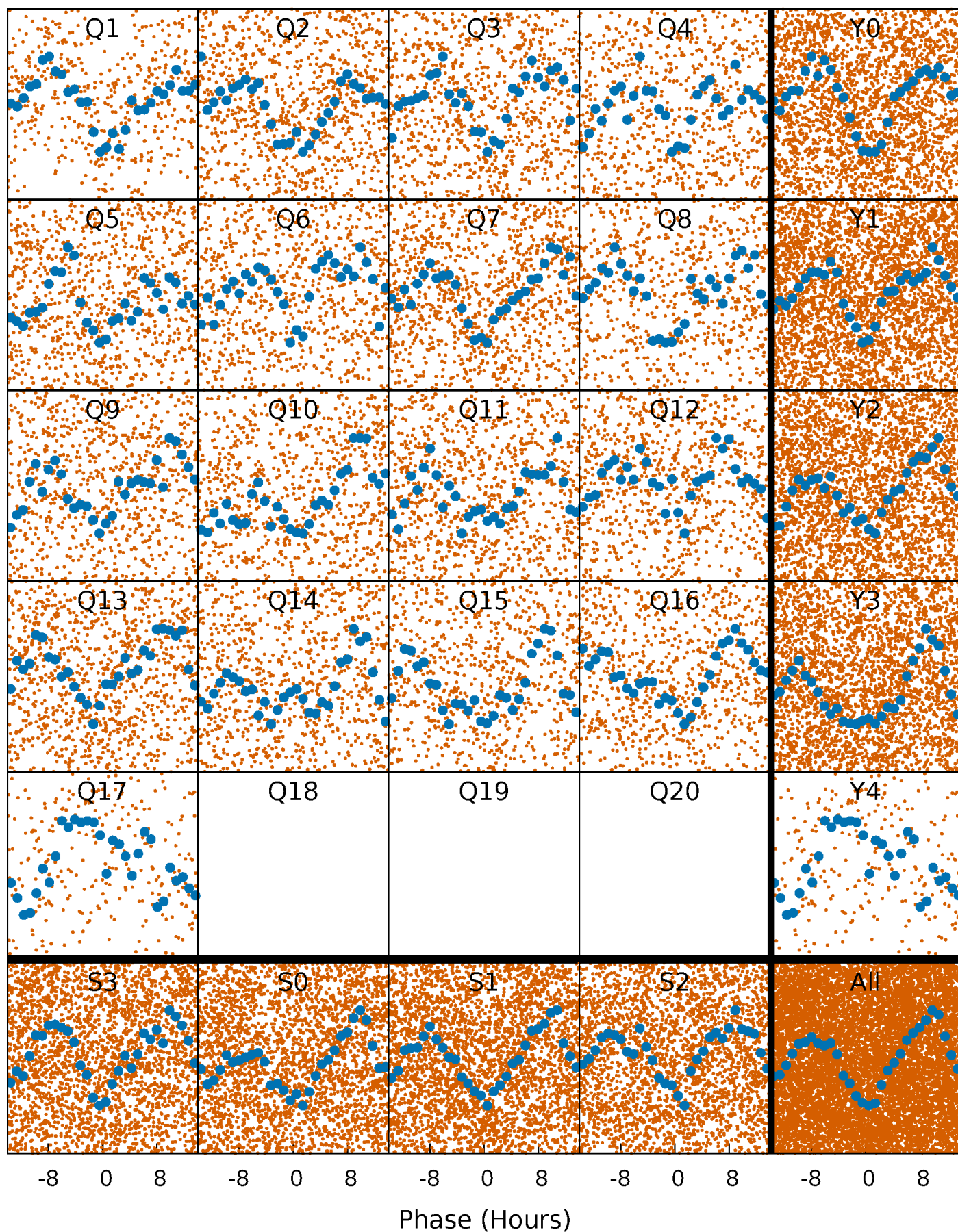


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



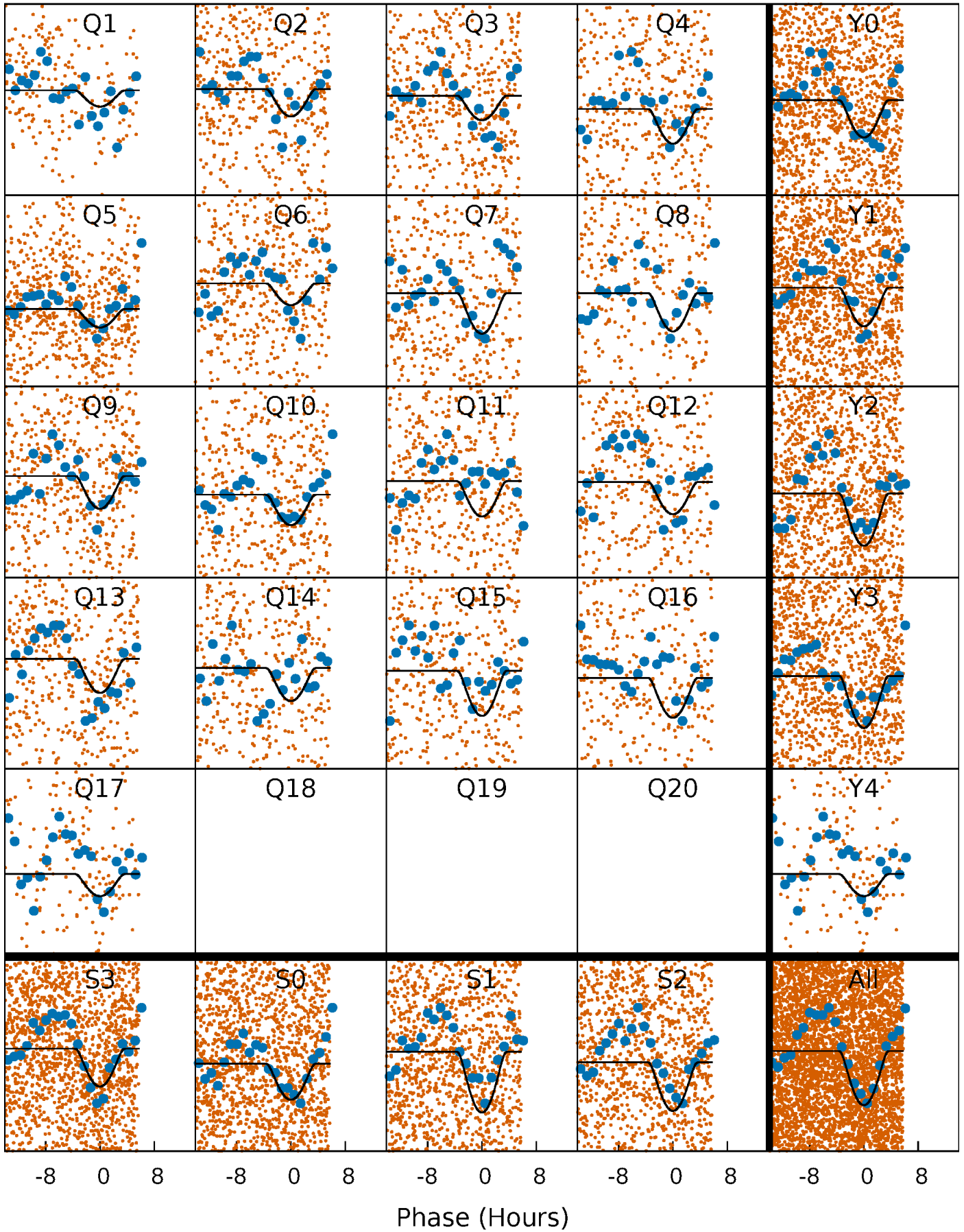
PDC Quarter-Phased Transit Curves

TCE 009301183-04 P= 3.577459 Days $T_0=133.982549$ (BKJD)



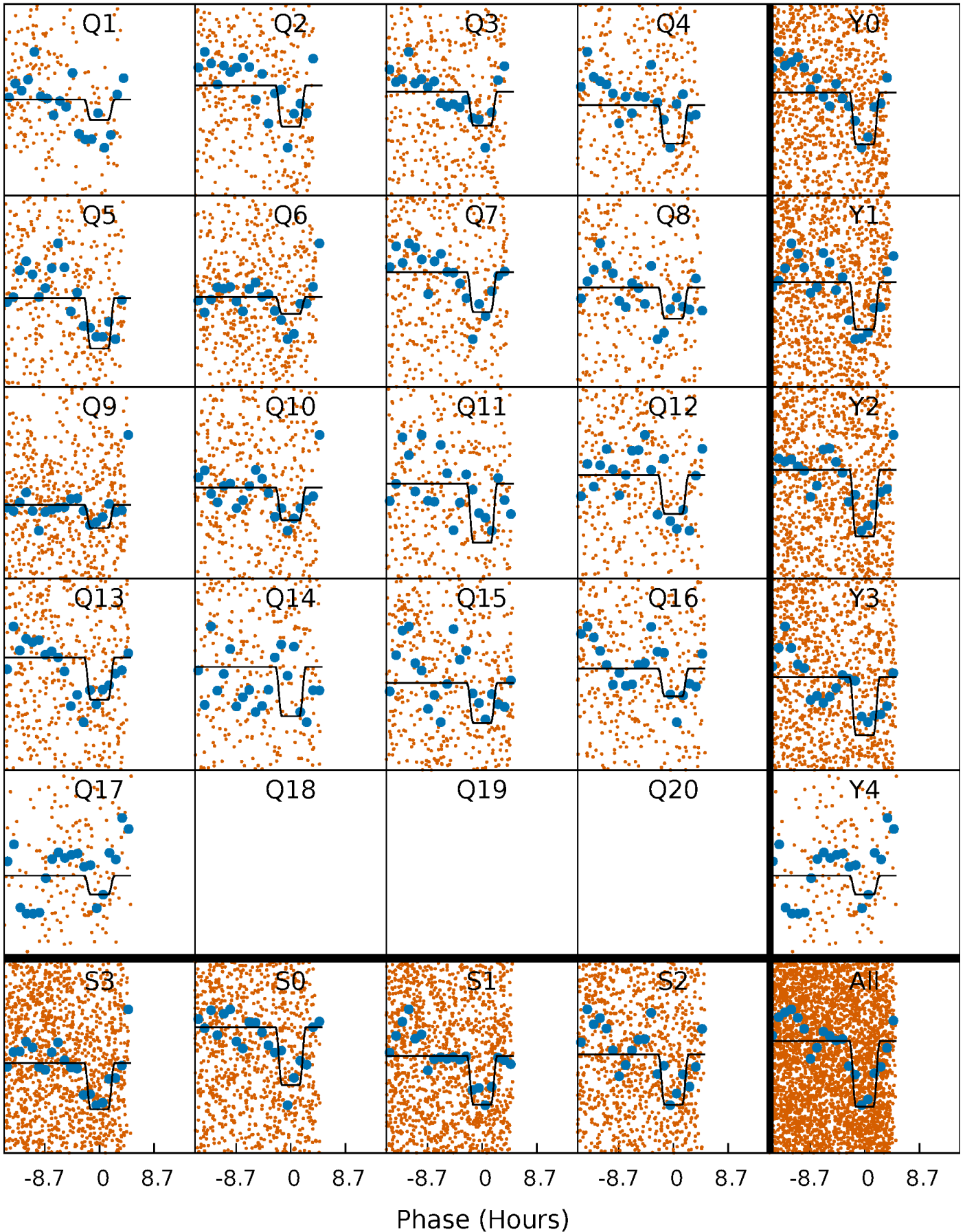
DV Quarter-Phased Transit Curves

TCE 009301183-04 P= 3.577459 Days $T_0=133.982549$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

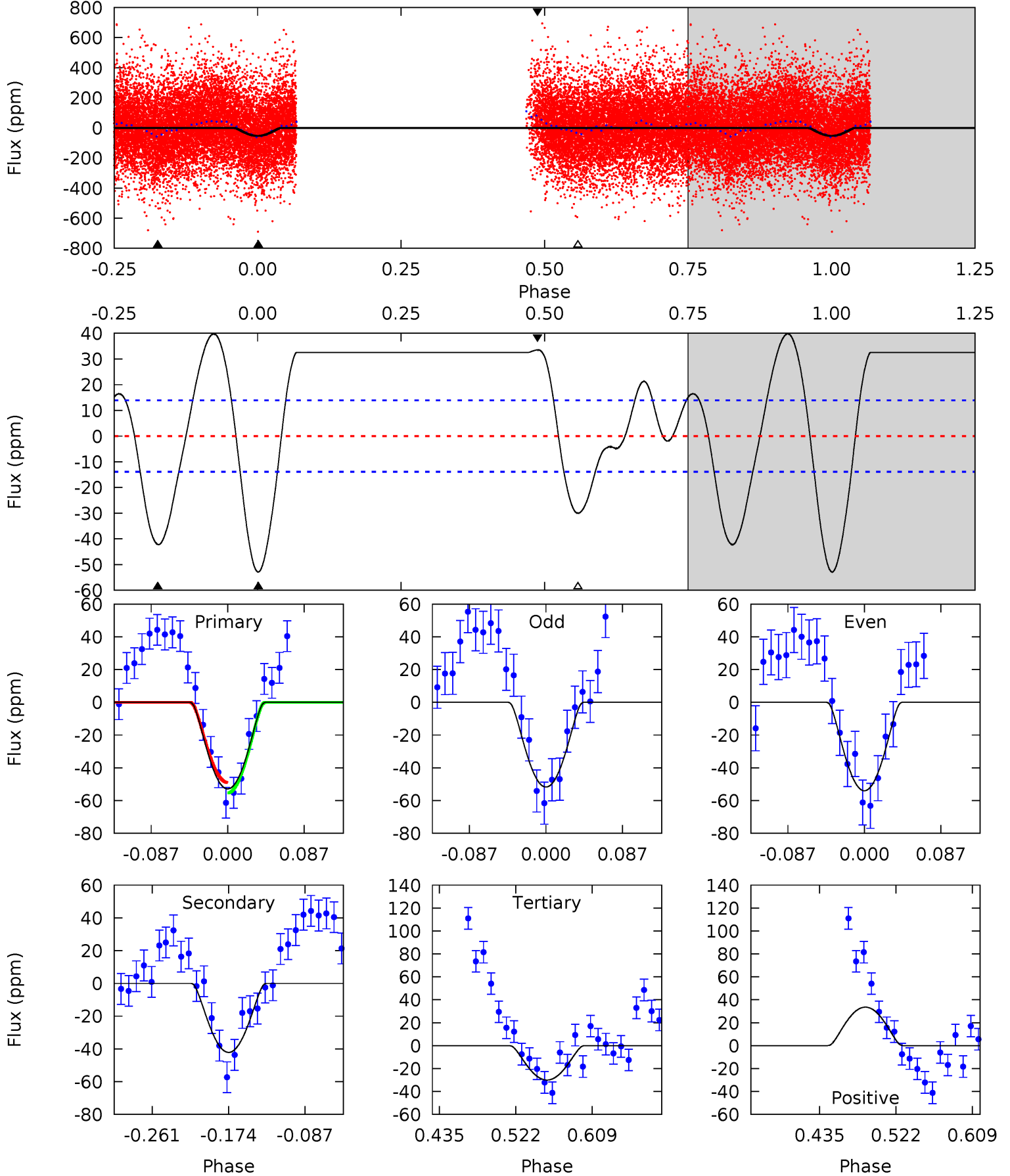
TCE 009301183-04 P= 3.577319 Days $T_0=134.068991$ (BKJD)



DV Model-Shift Uniqueness Test

009301183-04, P = 3.577459 Days, E = 130.405090 Days

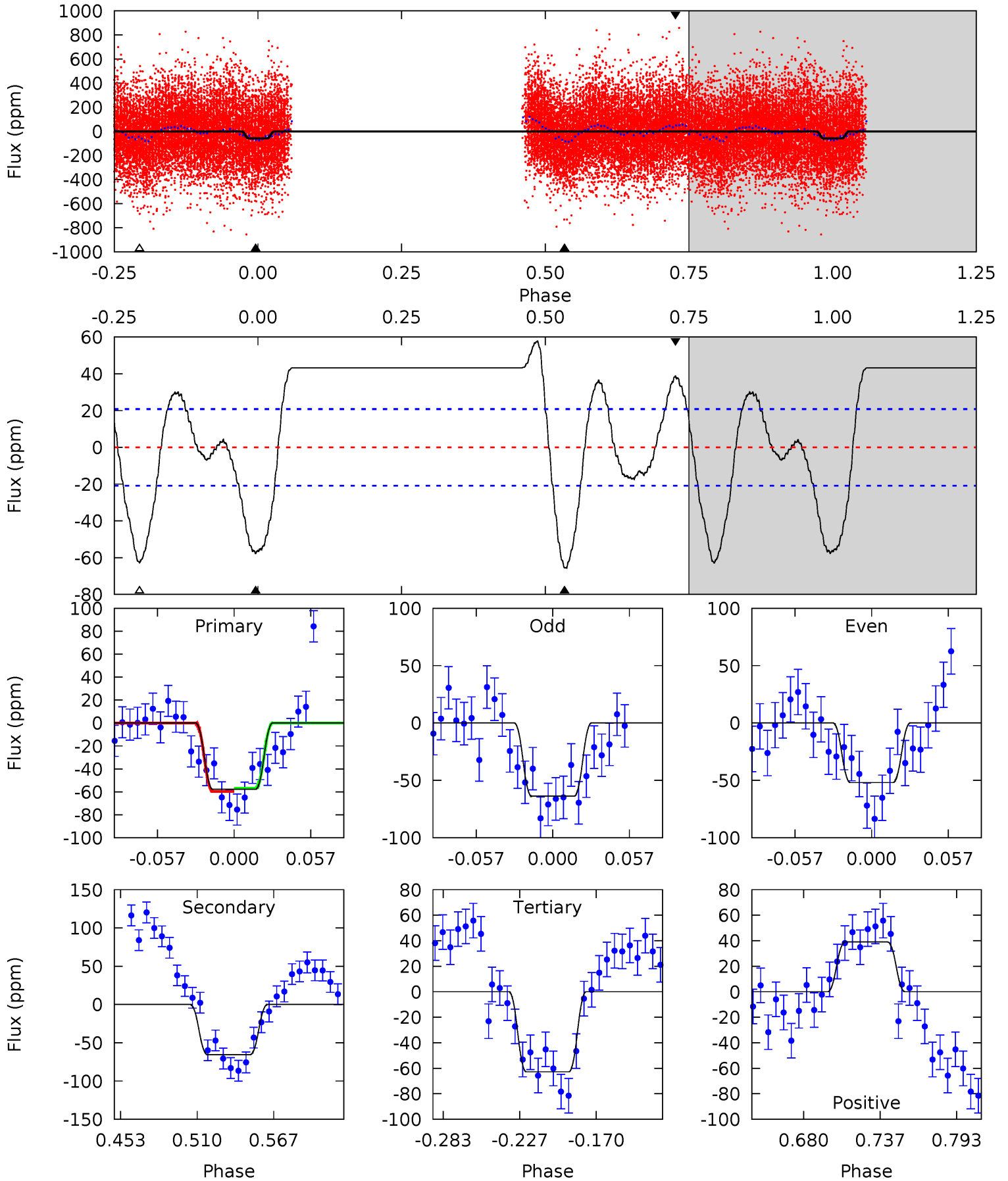
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.5	13.9	9.92	11.1	4.59	1.71	5.65	7.56	6.39	4.01	2.85	0.38	1.26	0.43	1.03



Alt Model-Shift Uniqueness Test

009301183-04, P = 3.577319 Days, E = 130.491672 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	14.8	14.1	8.76	4.68	1.91	6.02	-1.12	4.23	0.65	6.00	1.34	0.93	0.47	0.33



Stellar Parameters For KIC 009301183

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6585^{+179}_{-219}	$3.348^{+0.432}_{-0.048}$	$-0.140^{+0.350}_{-0.300}$	$5.006^{+0.389}_{-2.205}$	$2.035^{+0.107}_{-0.455}$	$0.023^{+0.087}_{-0.004}$
	+3%/-3%	+13%/-1%	+250%/-214%	+8%/-44%	+5%/-22%	+382%/-16%
Source	PHO1	FLK73	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 009301183-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-42 ± 3	$16.07^{+16.69}_{-10.98}$	3667^{+194}_{-428}	-1801^{+6864}_{-1535}	$0.297^{+2.846}_{-0.224}$
Alt.	-66 ± 4	$14.98^{+18.81}_{-10.23}$	3662^{+201}_{-390}	3239^{+2710}_{-6490}	$0.531^{+4.708}_{-0.426}$

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 $A_{obs} \gg 1.0$

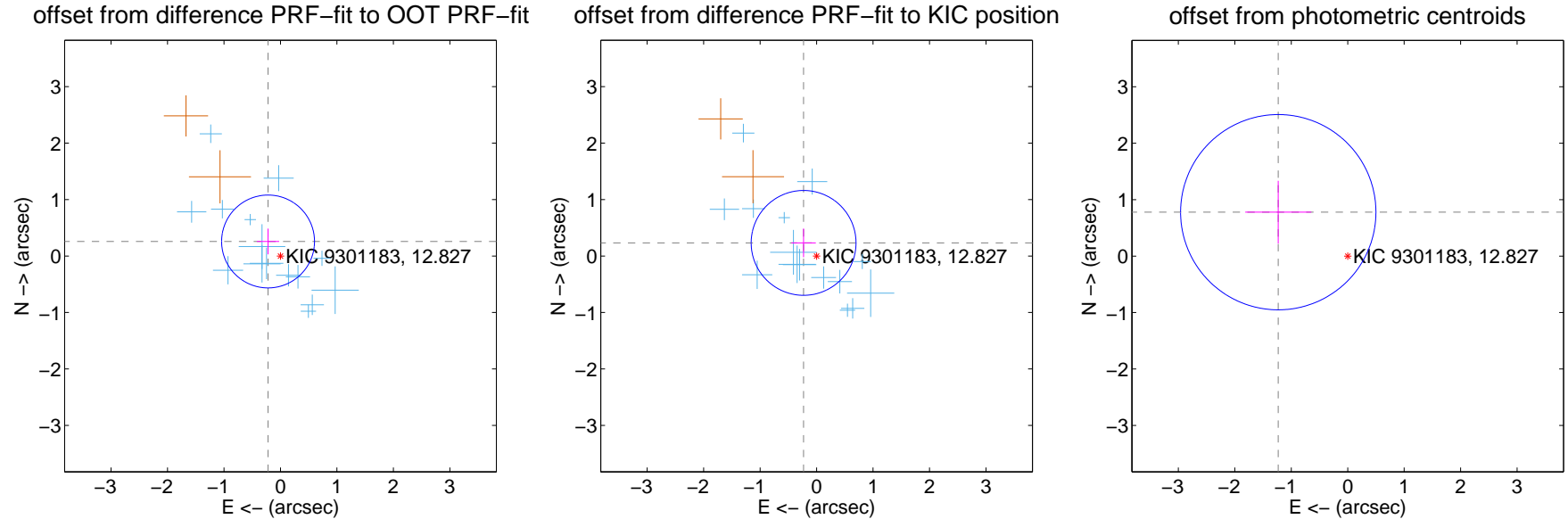
DV Centroid Data

Supplemental centroid analysis for 009301183-04. Kepler magnitude: 12.83. Transit SNR 10.46

There are 15 quarters with good PRF difference image offsets

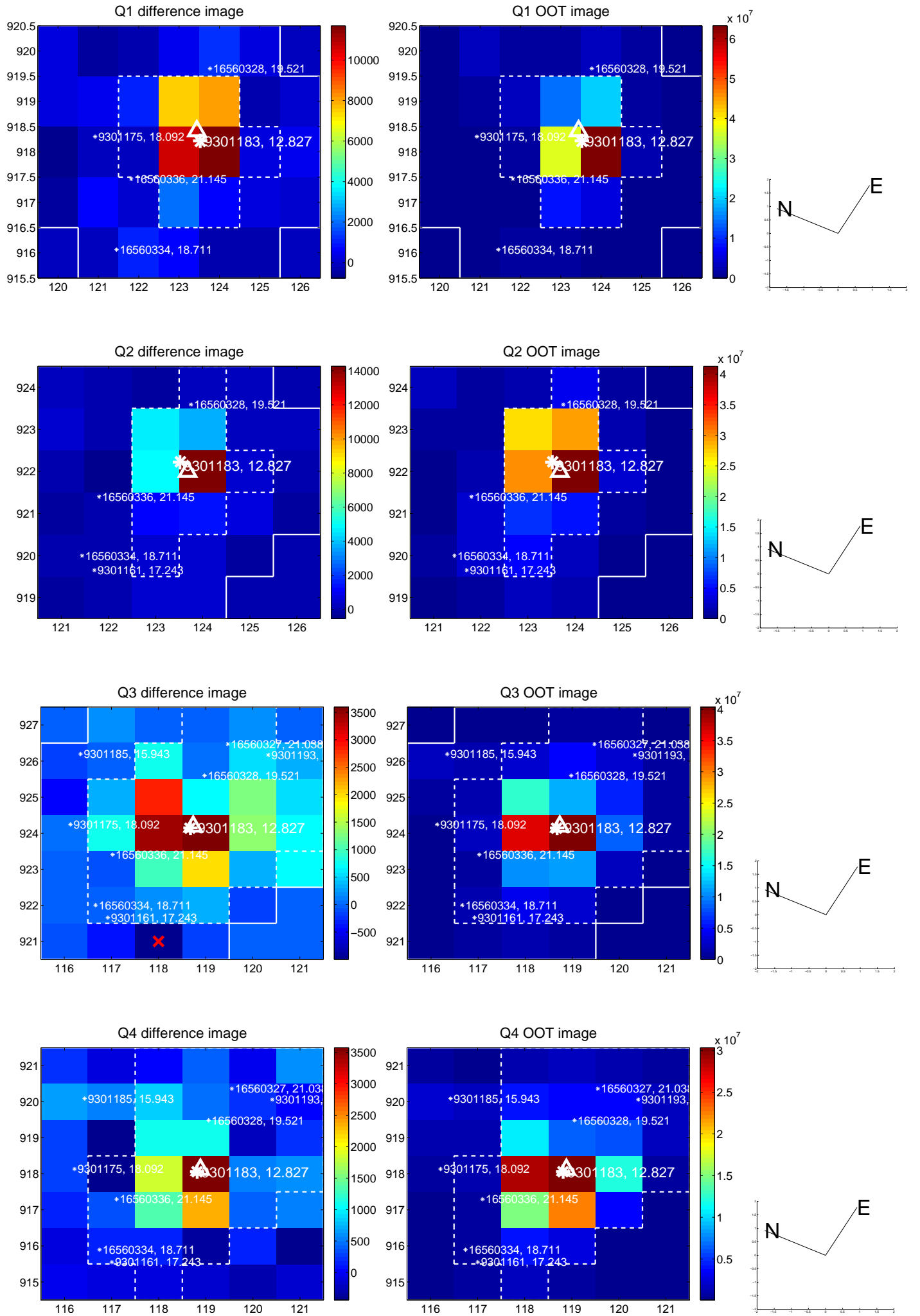
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.338 ± 0.274	1.23	0.220 ± 0.197	0.258 ± 0.228
PRF-fit source offset from KIC position	0.327 ± 0.309	1.06	0.230 ± 0.216	0.232 ± 0.254
photometric centroid source offset	1.46 ± 0.58	2.52	1.23 ± 0.58	0.78 ± 0.56

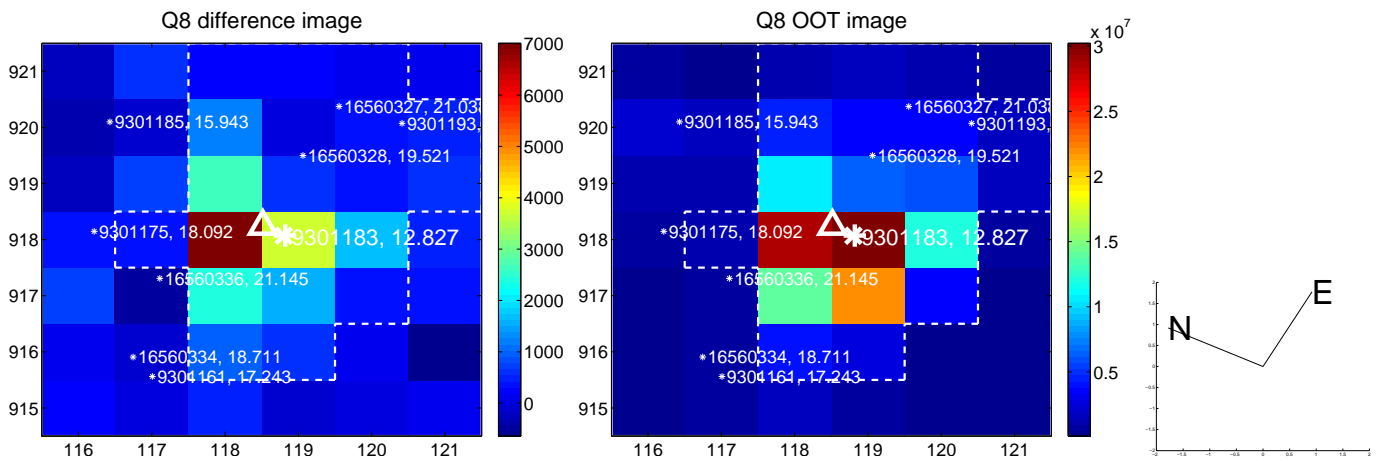
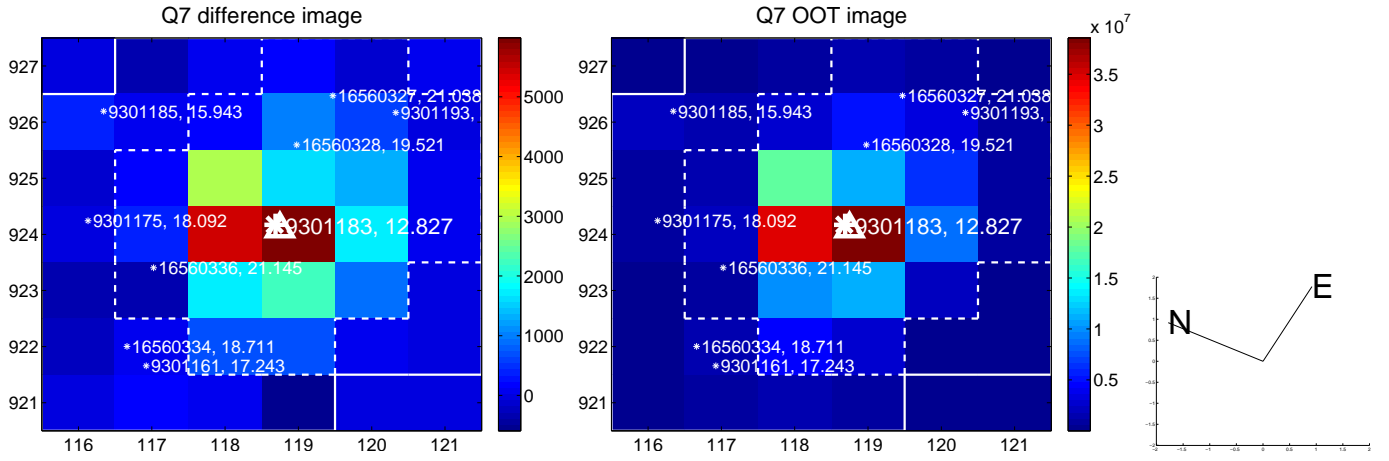
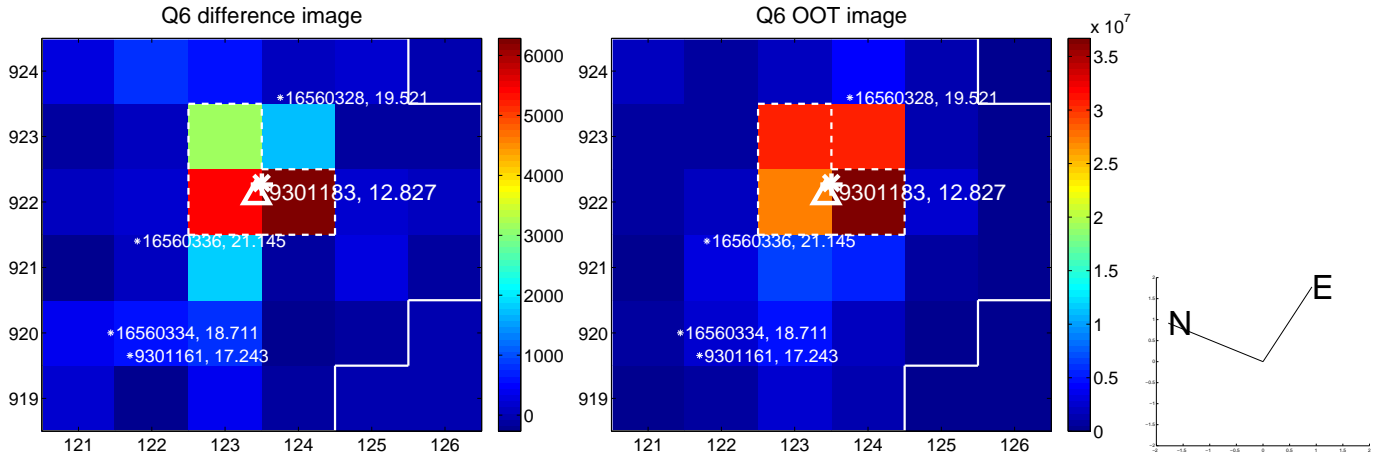
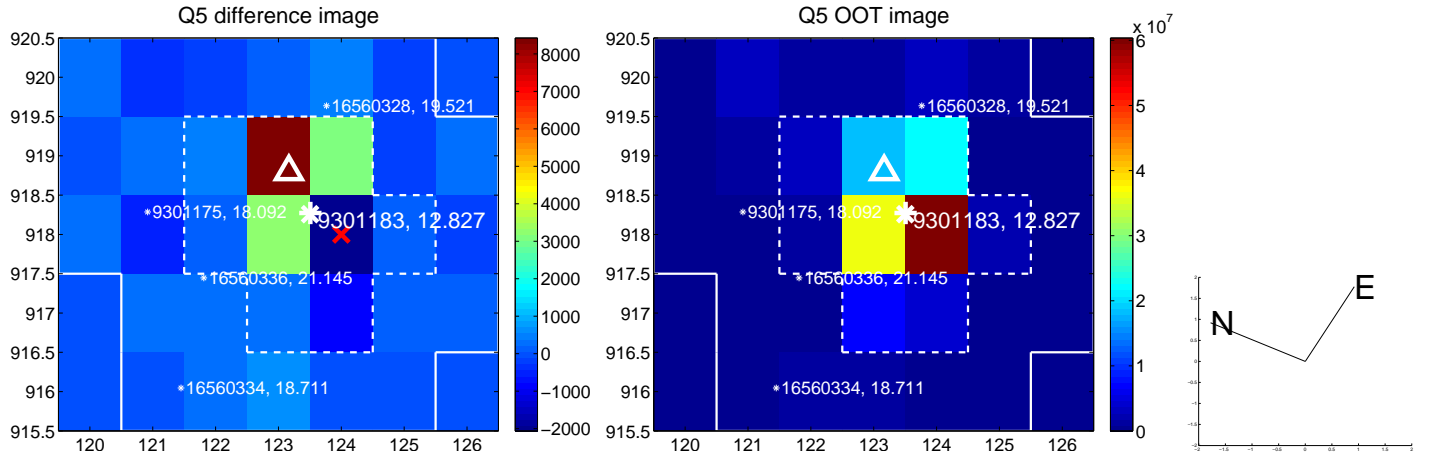


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

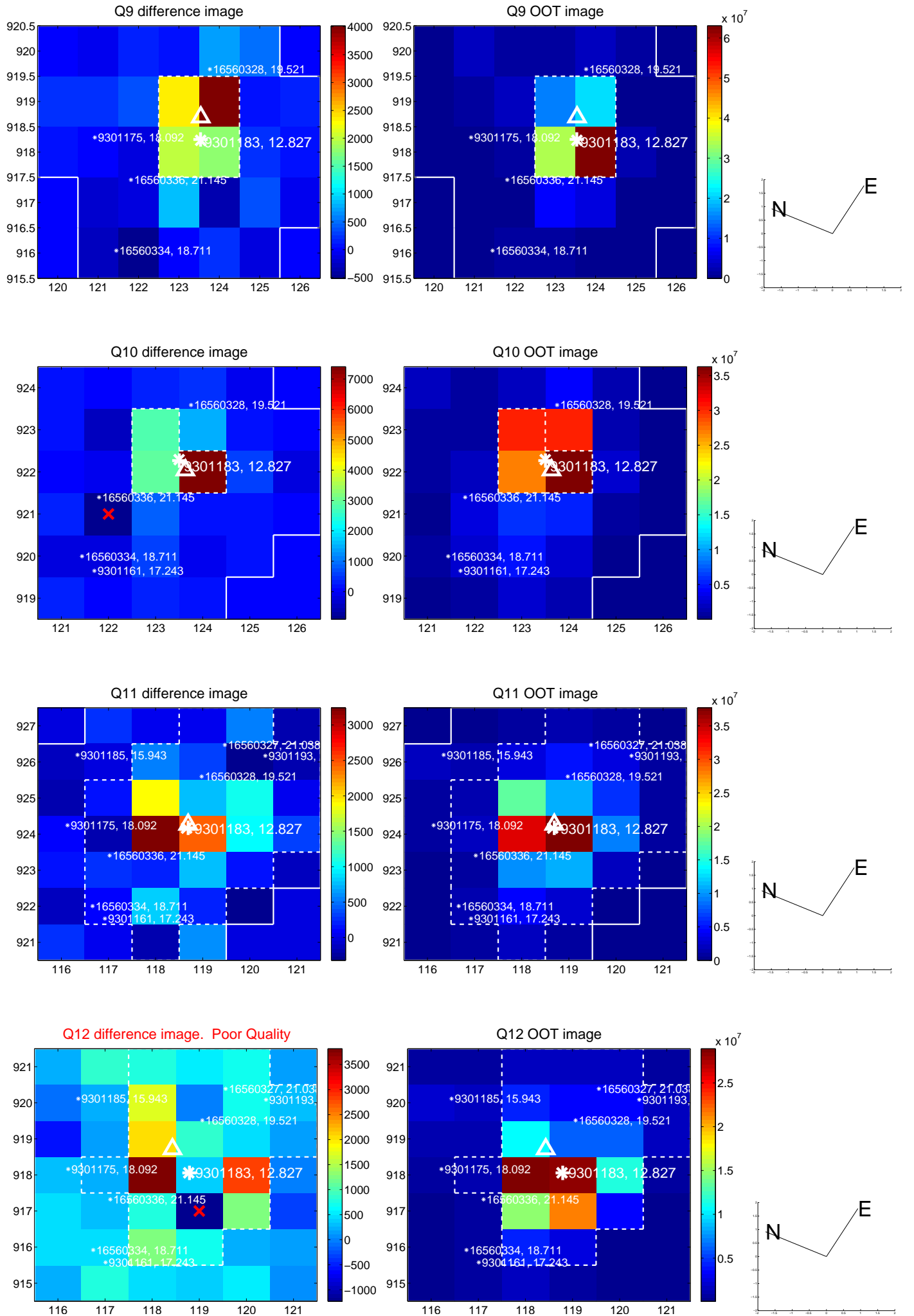
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



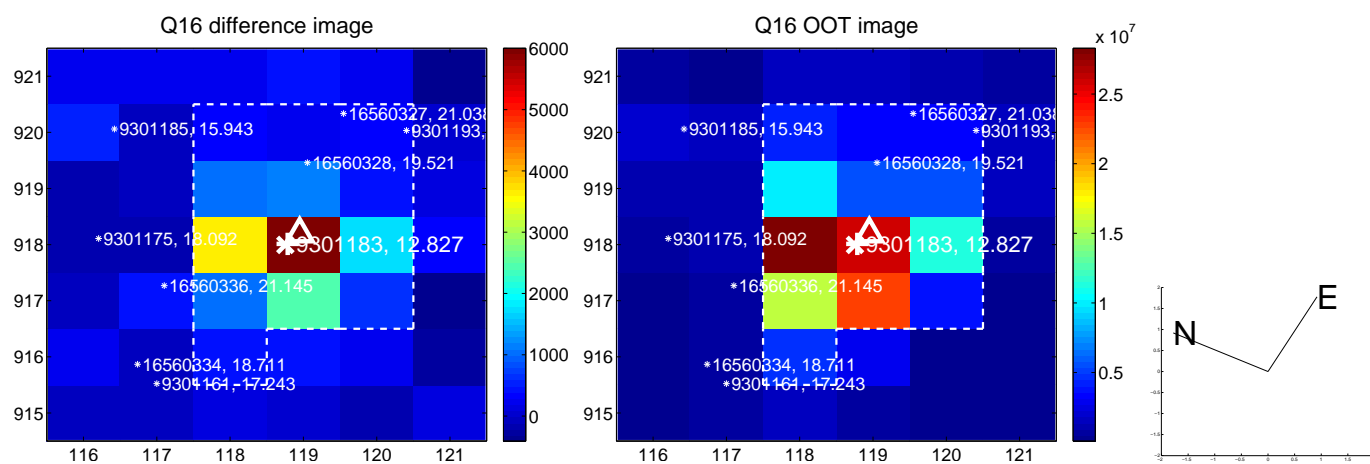
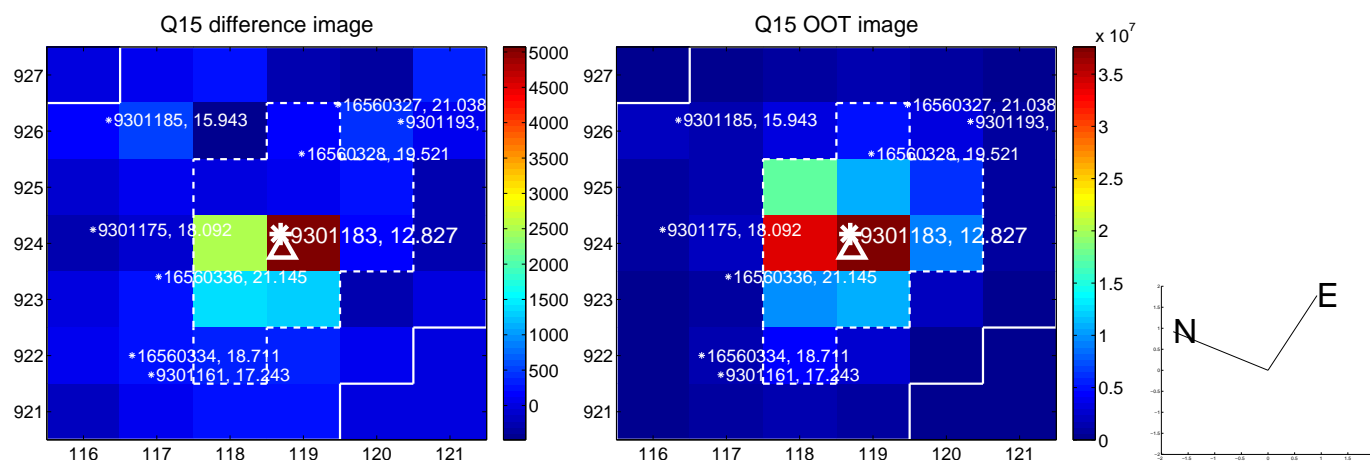
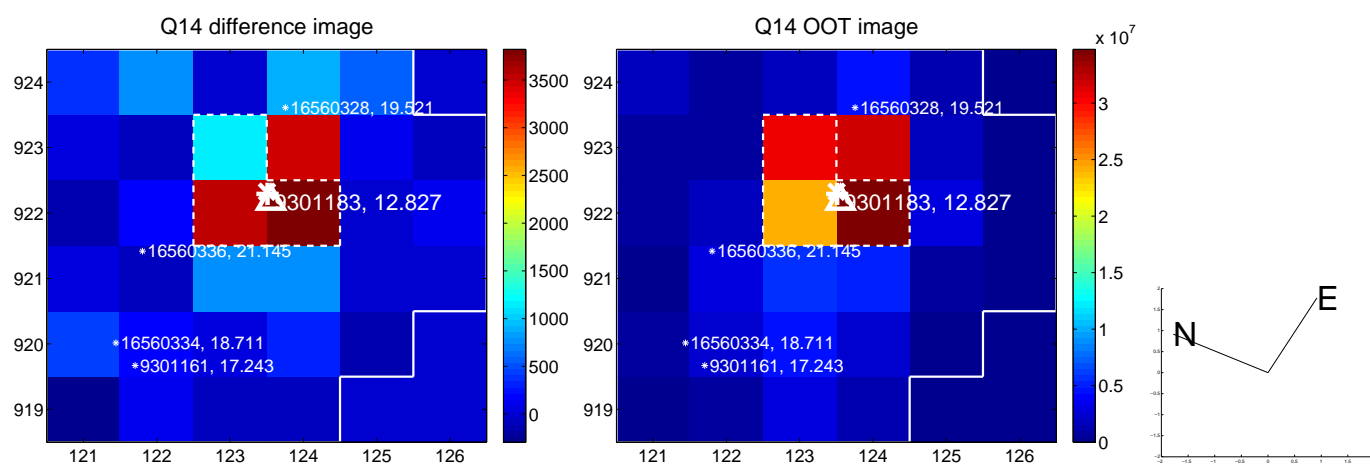
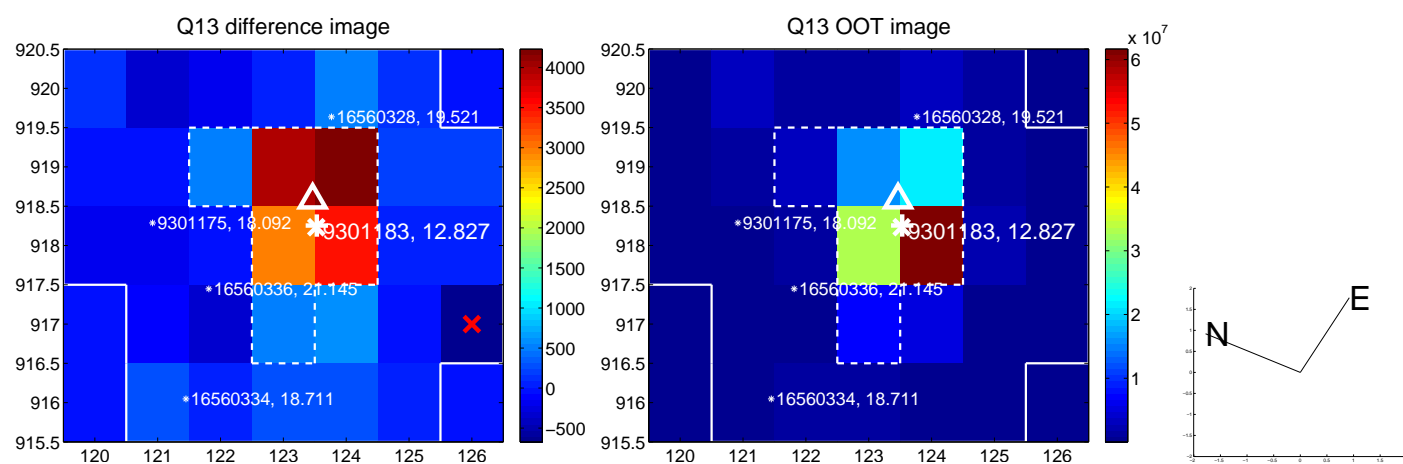
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



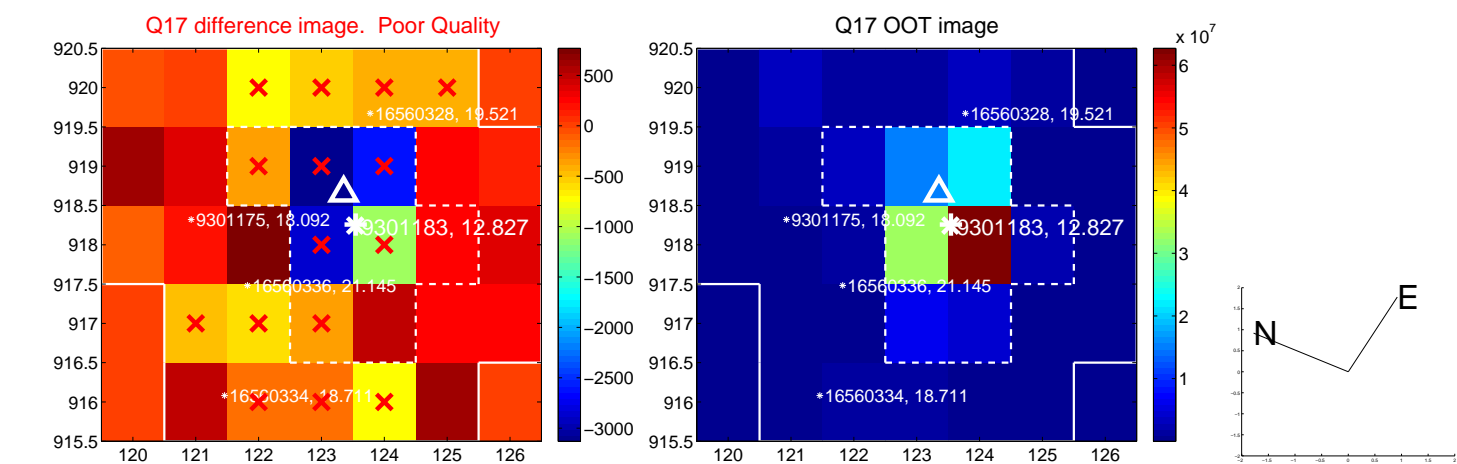
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



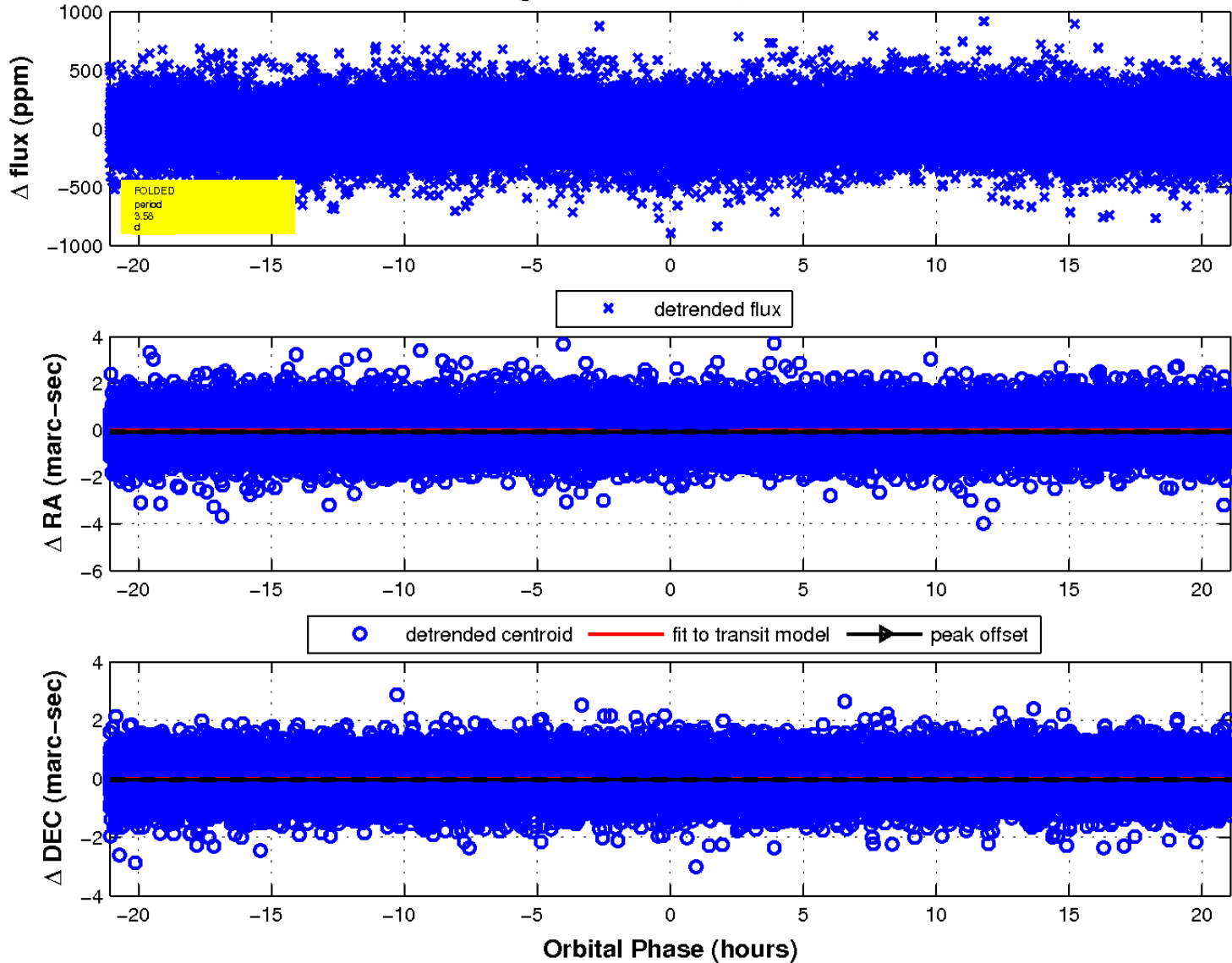
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

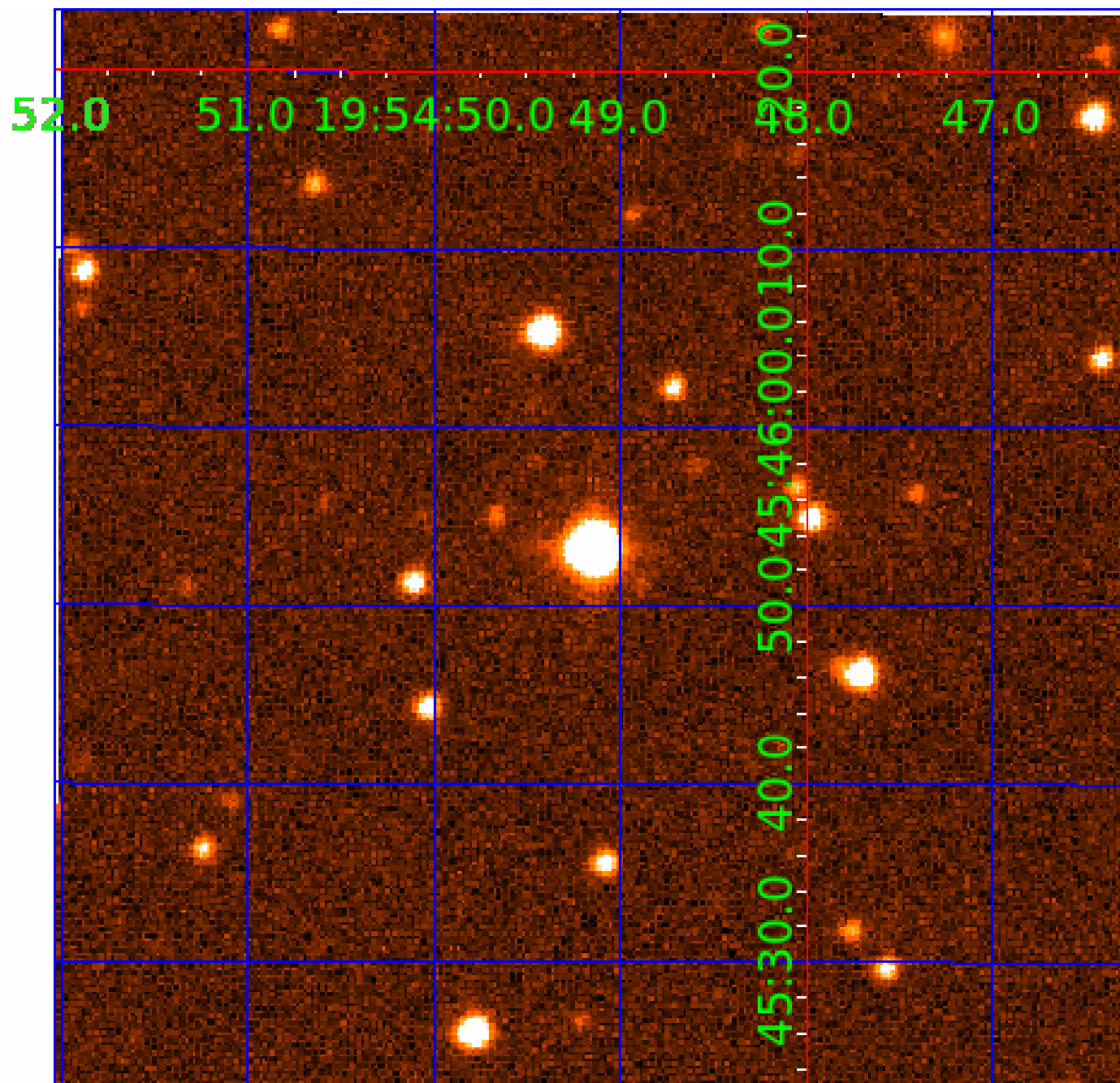


fluxWeightedCentroids, Planet 4 of 5



UKIRT Image

Declination



KIC 009301183

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})
009301183-01	OBS	No	0.910548	131.968942	14.0	2.711	11.6	4.7	5.01	6585	2.20	0.00
009301183-02	OBS	No	3.577482	134.657092	55.8	6.884	11.2	10.6	5.01	6585	4.36	12531.64
009301183-03	OBS	No	3.577140	131.806056	59.5	6.258	11.2	12.3	5.01	6585	4.56	12533.24
009301183-04	OBS	No	3.577459	133.982549	60.7	7.026	9.9	10.5	5.01	6585	7.93	12531.75
009301183-05	OBS	No	112.540098	157.097865	270.9	4.843	7.6	5.2	5.01	6585	9.81	126.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009301183-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—HALO_GHOST
009301183-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
009301183-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
009301183-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD
009301183-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

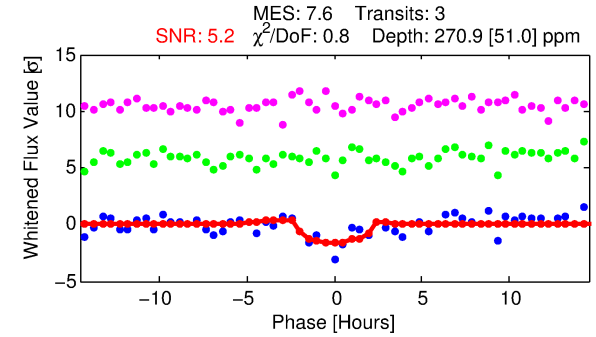
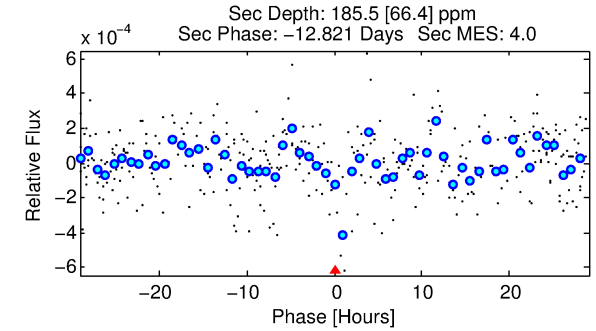
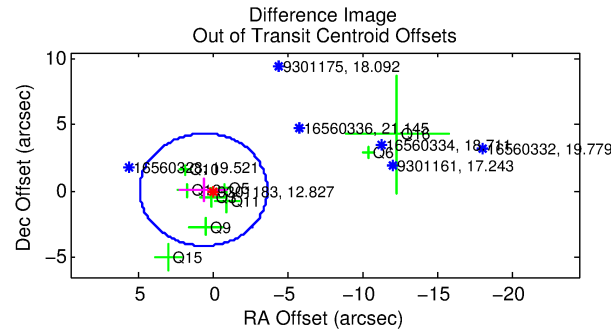
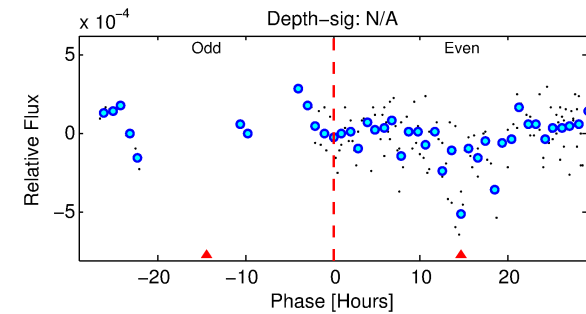
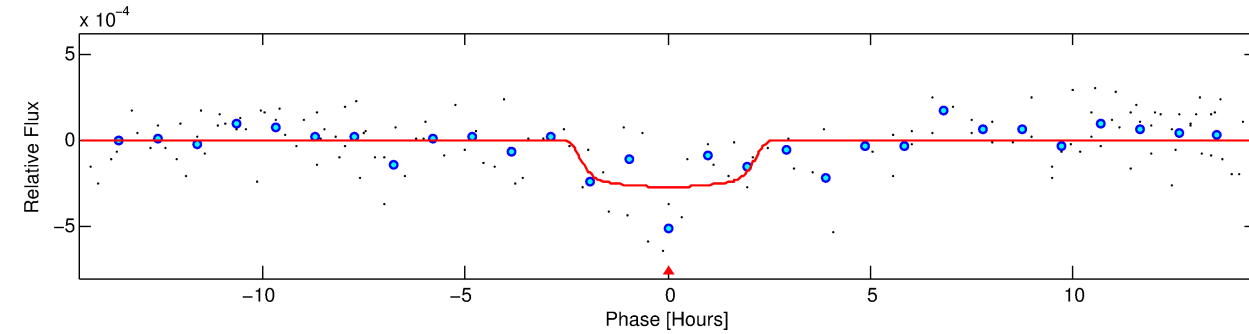
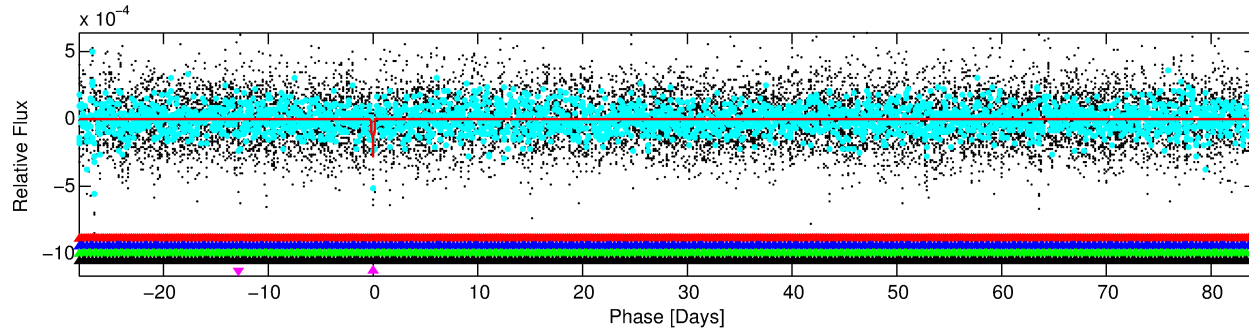
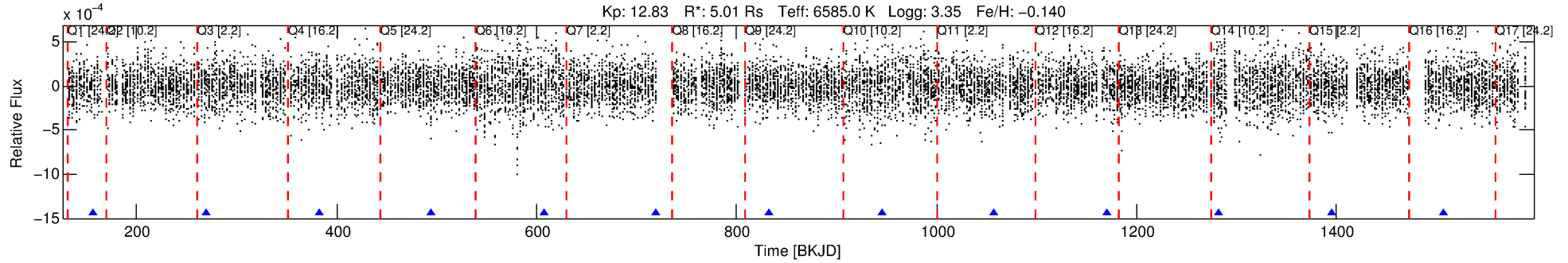
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009301183-05

No Significant Match Found

DV One-Page Summary

KIC: 9301183 Candidate: 5 of 5 Period: 112.540 d



DV Fit Results:

Period = 112.54010 [0.00280] d
Epoch = 157.0979 [0.0190] BKJD
Rp/R* = 0.0180 [0.0052]
a/R* = 76.44 [121.26]
b = 0.92 [0.26]
Seff = 126.19 [93.05]
Teq = 855 [158] K
Rp = 9.81 [5.17] Re
a = 0.5784 [0.2562] AU
Ag = 355.16 [353.52] [1.00 σ]
Teffp = 5736 [996] K [4.84 σ]

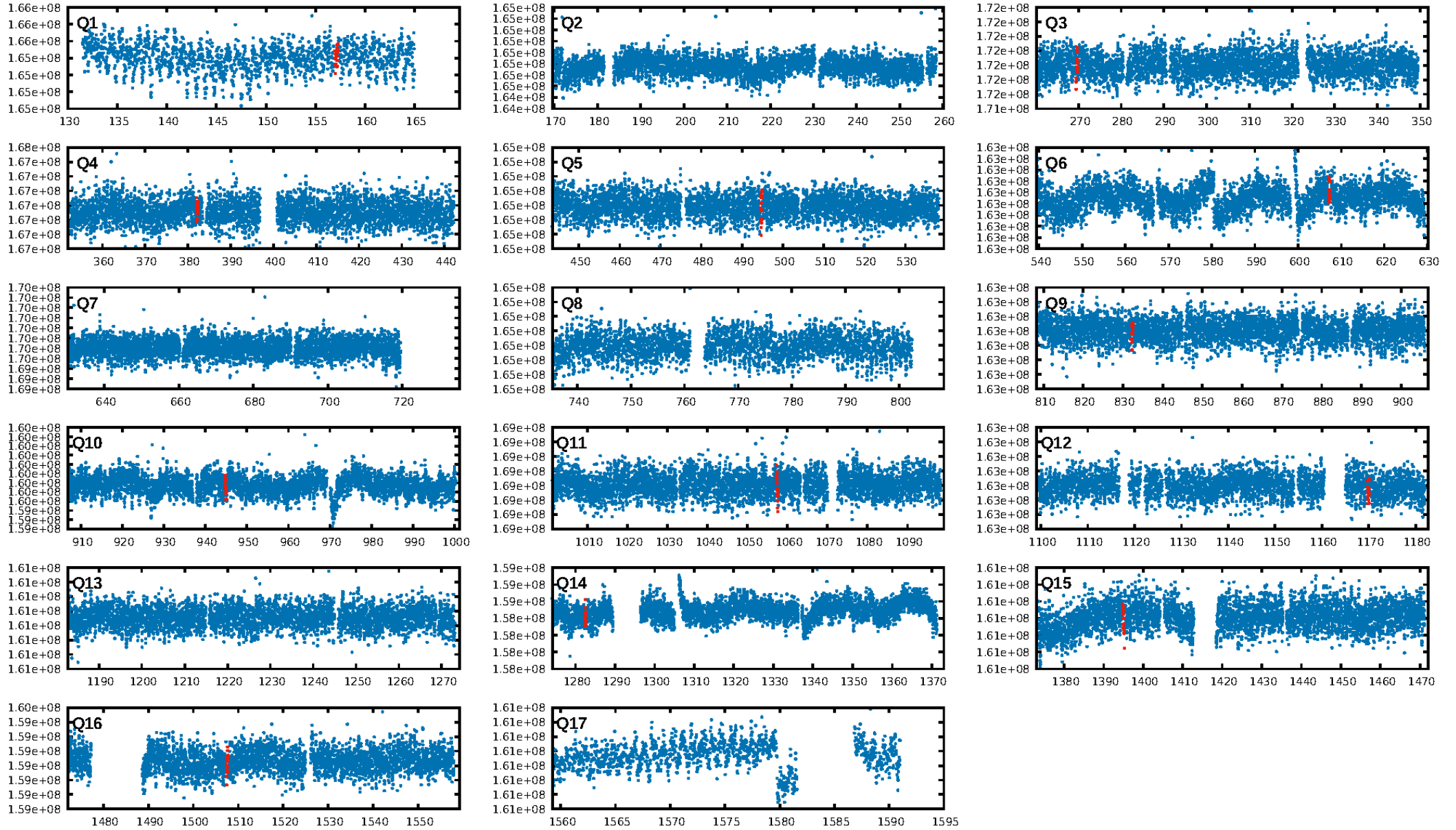
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [310.69 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 75.9%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 2.29e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.6051
Centroid-sig: 5.2%
Centroid-so: 0.781 arcsec [1.20 σ]
OotOffset-rm: 0.597 arcsec [0.42 σ]
KicOffset-rm: 0.612 arcsec [0.37 σ]
OotOffset-st: 2/3/2/2 [9]
KicOffset-st: 2/3/2/2 [9]
DiffImageQuality-fgm: 0.33 [3/9]
DiffImageOverlap-fno: 0.00 [0/11]

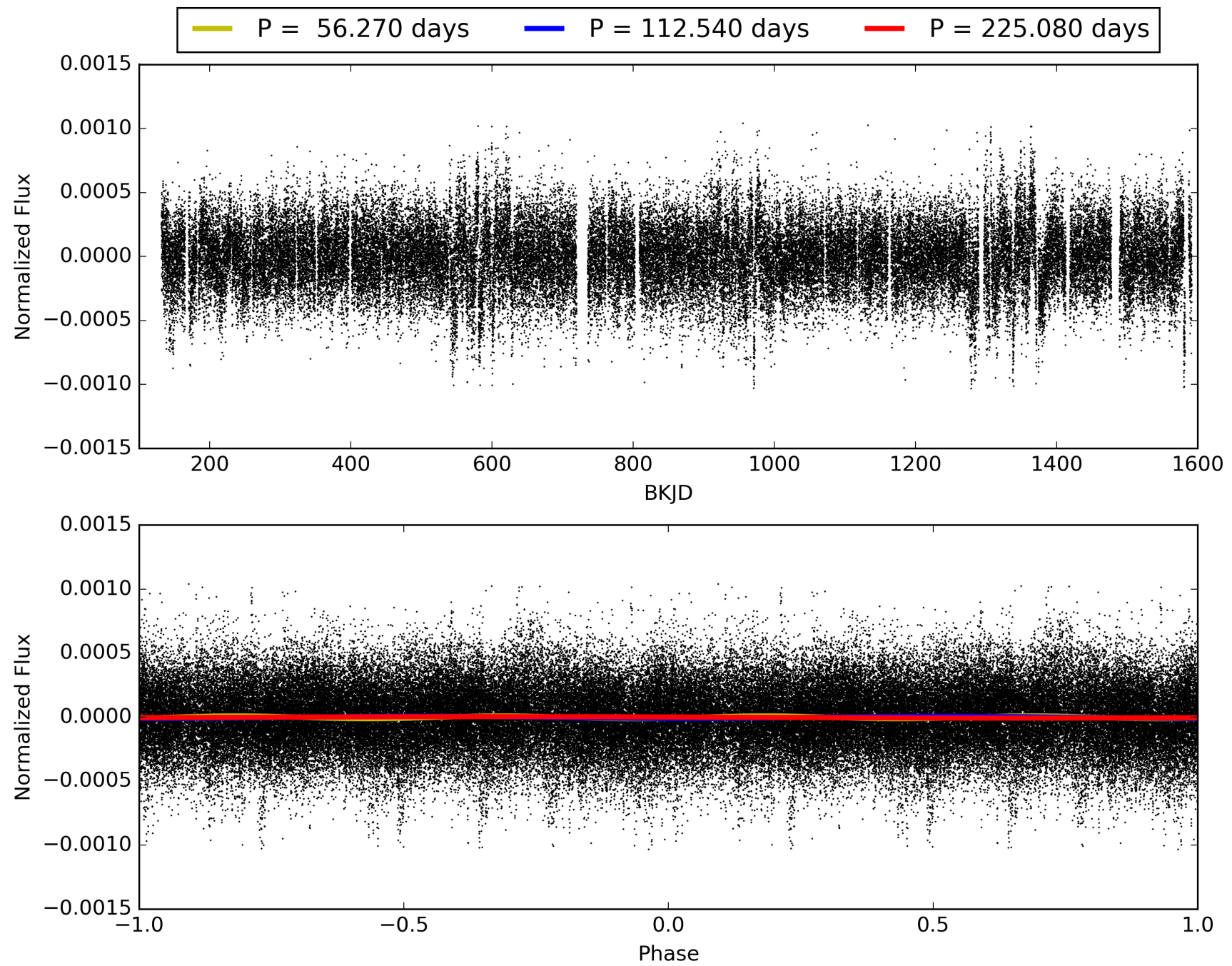
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:30:46 Z

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

TCE 009301183-05, PDC Light Curves

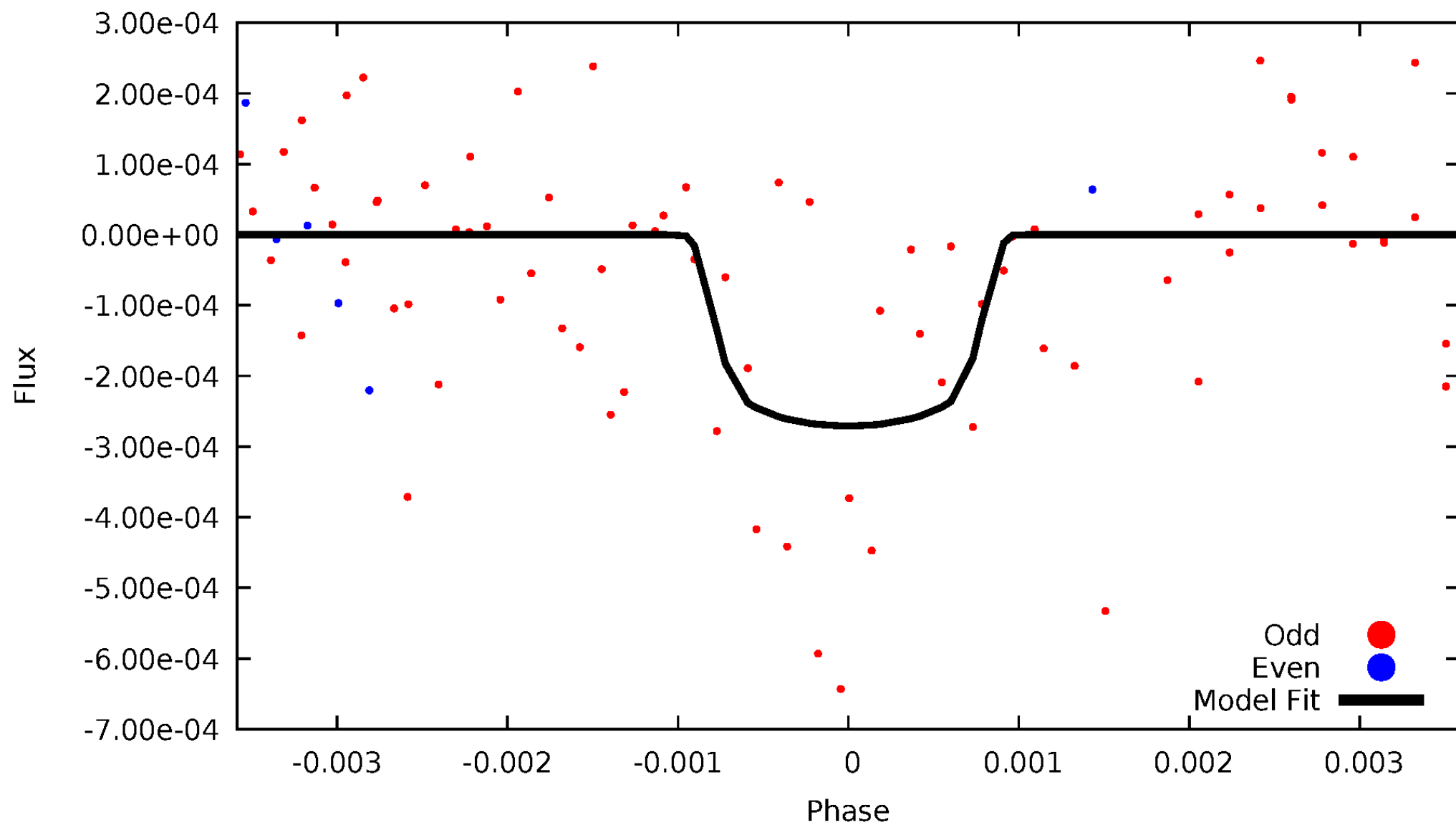


TCE 009301183-05



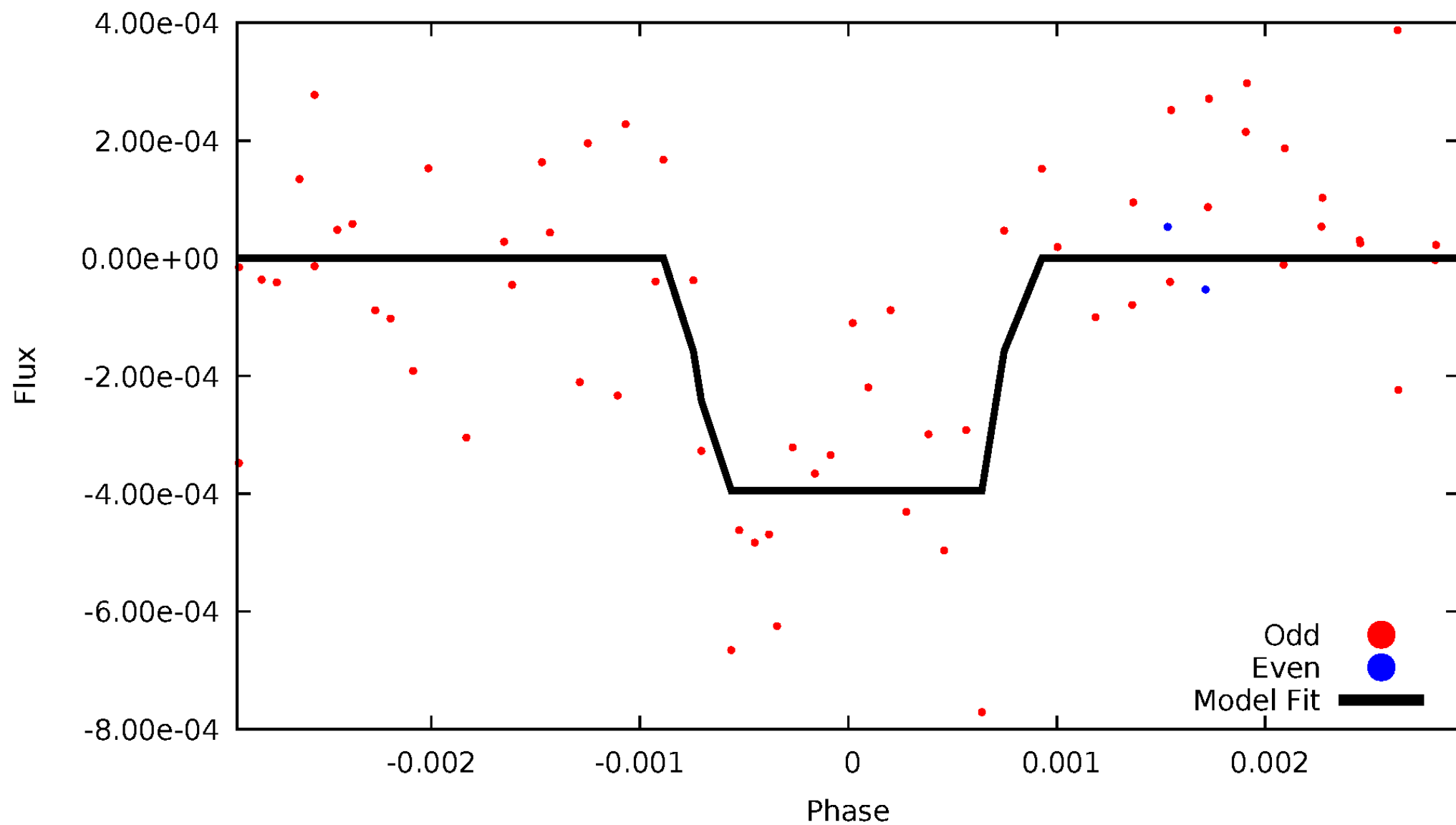
DV Odd/Even

TCE 009301183-05



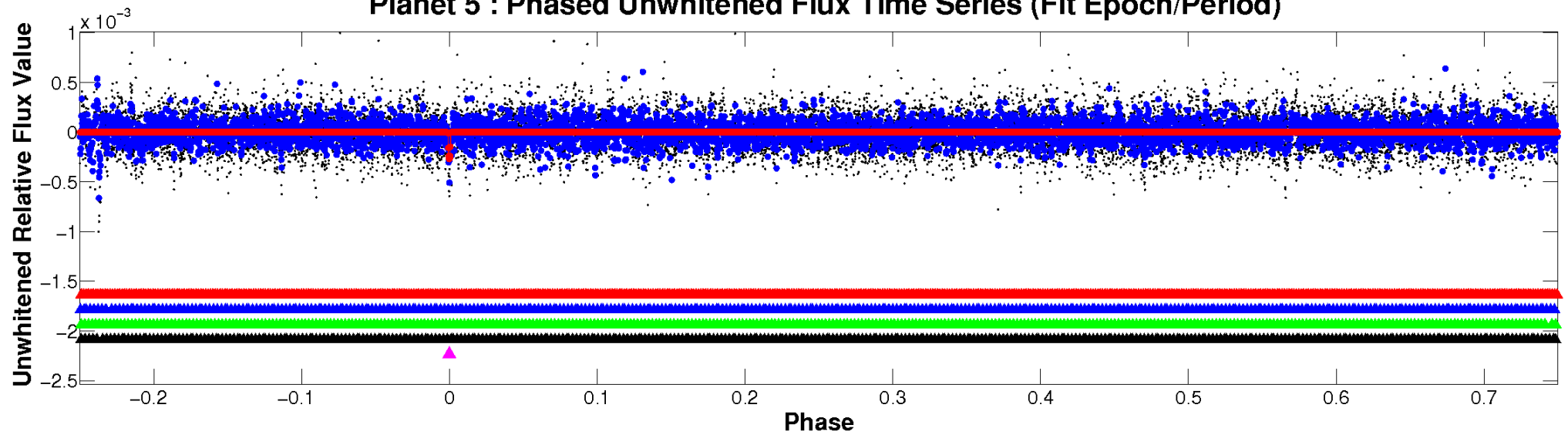
ALT Odd/Even

TCE 009301183-05

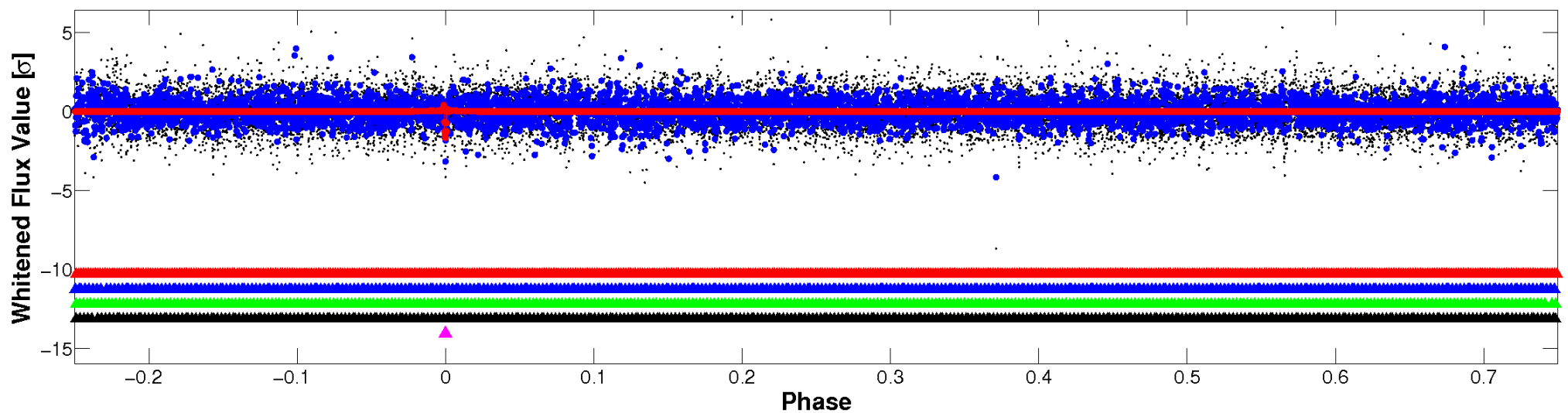


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

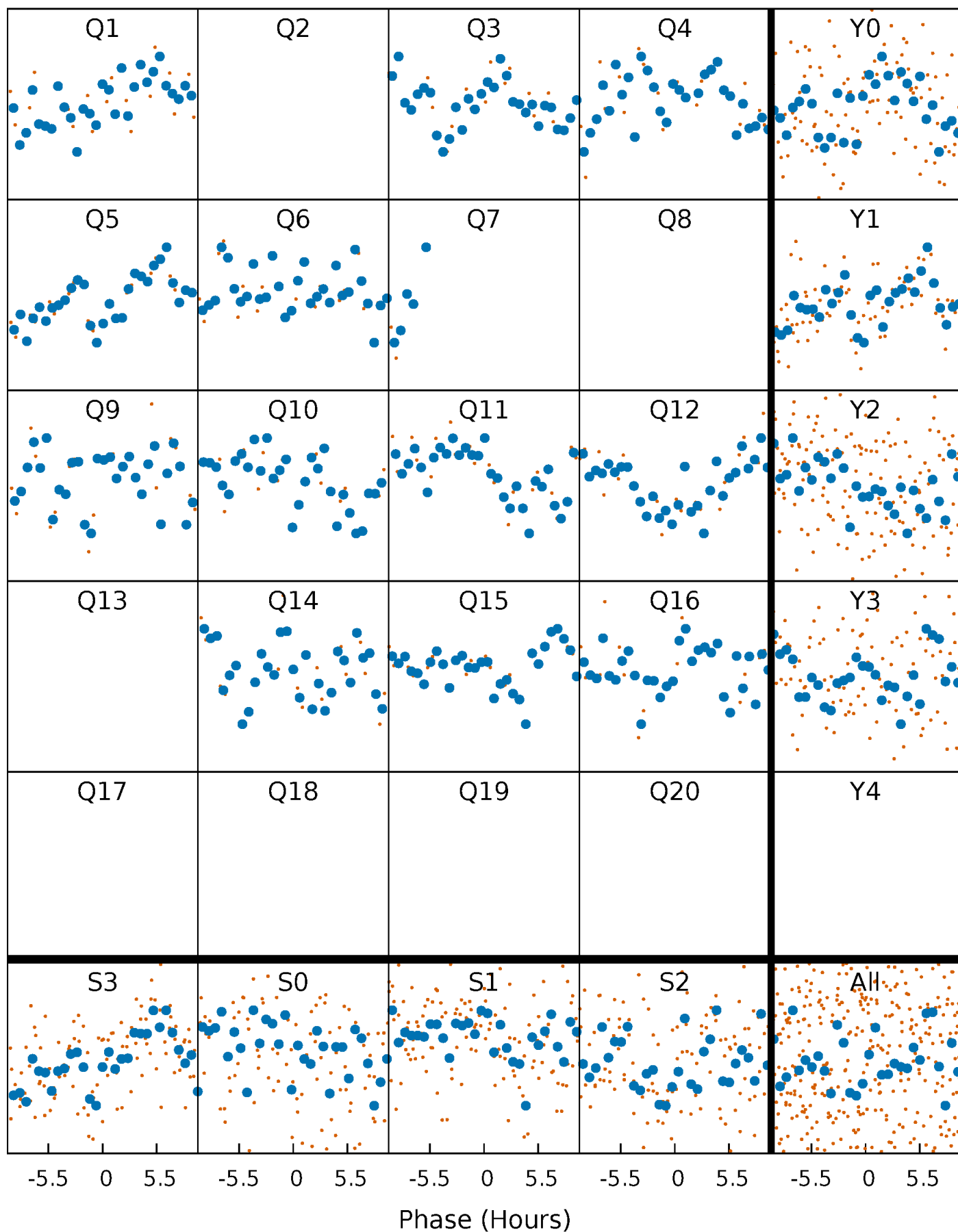


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



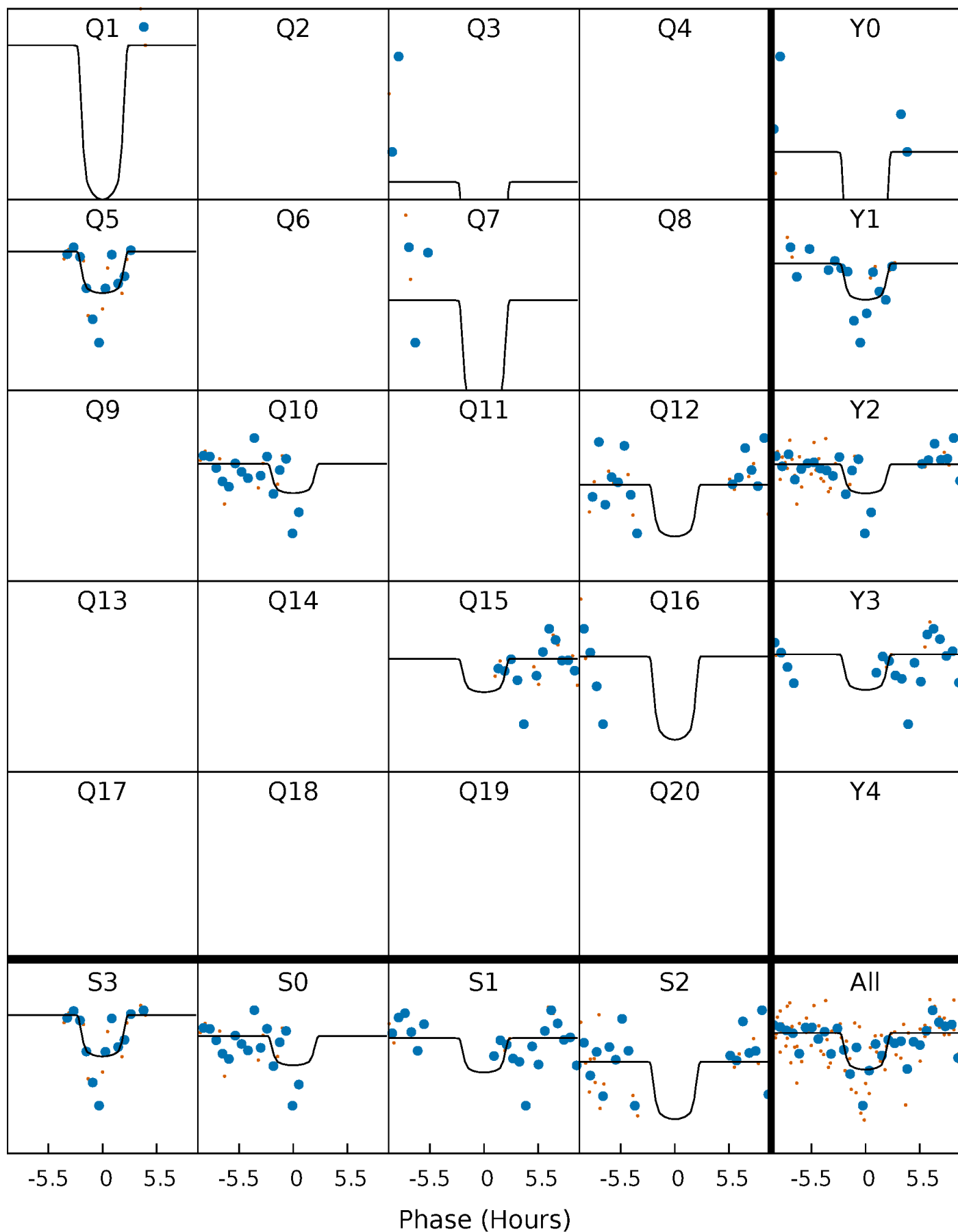
PDC Quarter-Phased Transit Curves

TCE 009301183-05 $P=112.540098$ Days $T_0=157.097865$ (BKJD)



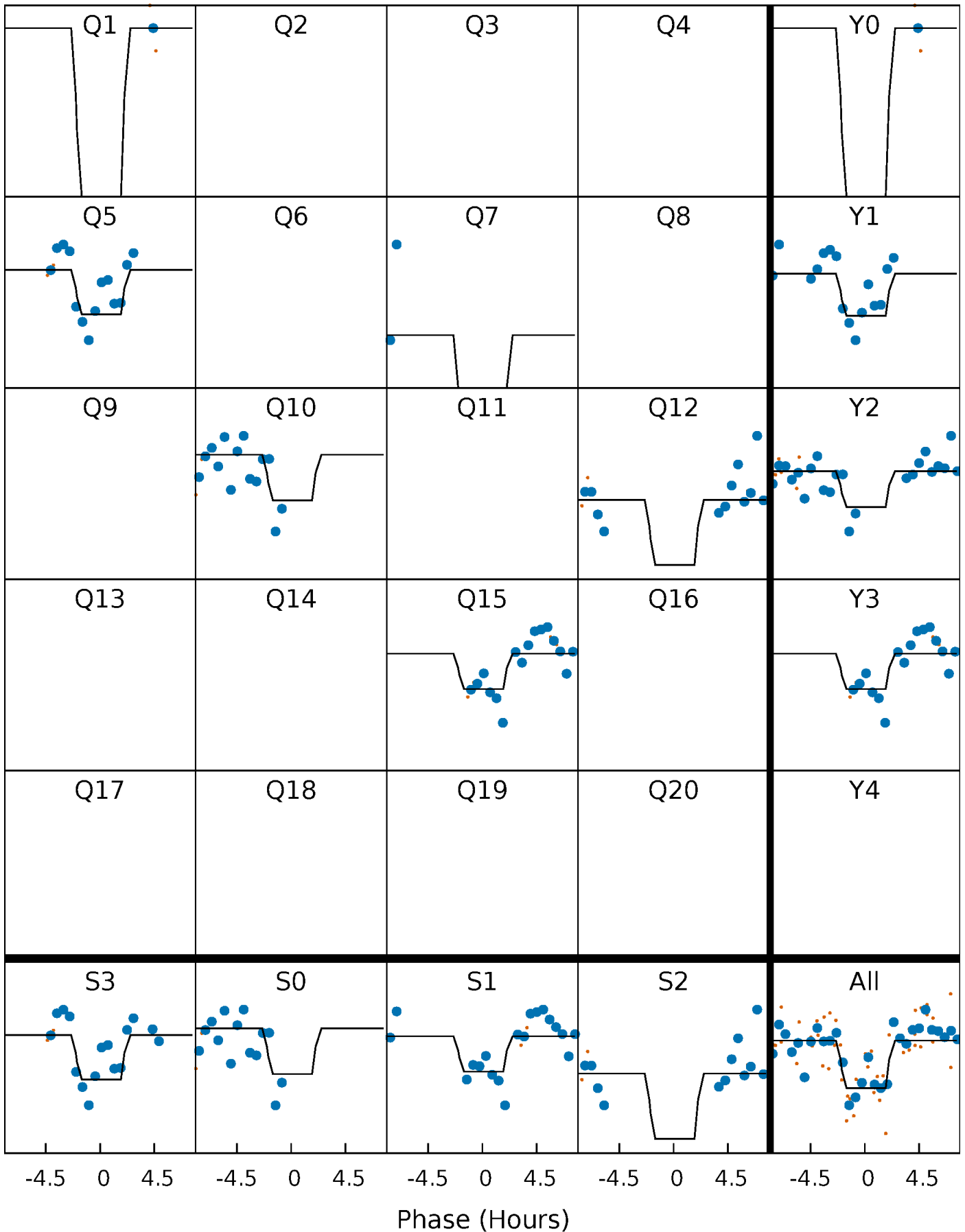
DV Quarter-Phased Transit Curves

TCE 009301183-05 $P=112.540098$ Days $T_0=157.097865$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

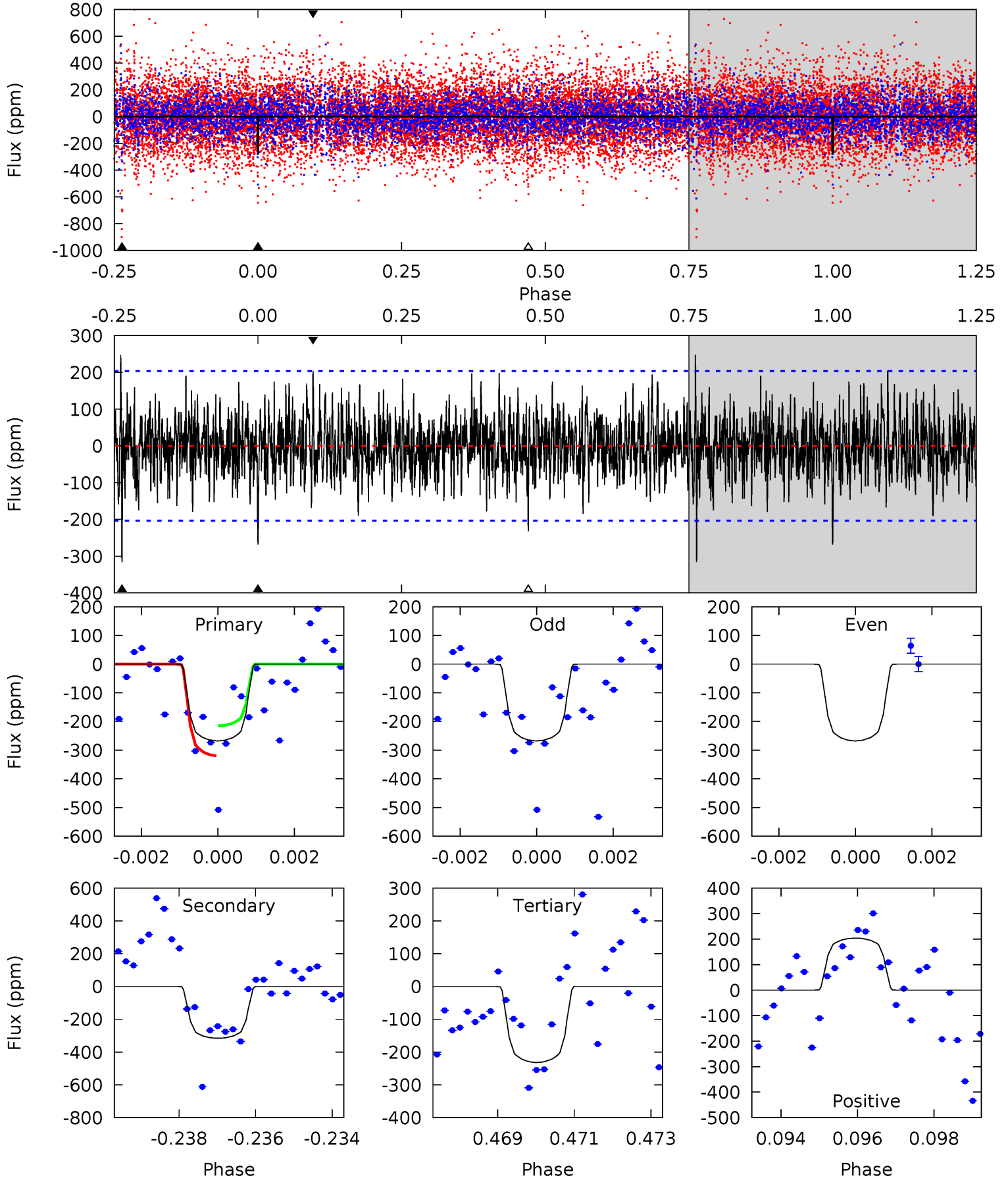
TCE 009301183-05 P=112.550008 Days $T_0=157.086688$ (BKJD)



DV Model-Shift Uniqueness Test

009301183-05, P = 112.540098 Days, E = 44.557767 Days

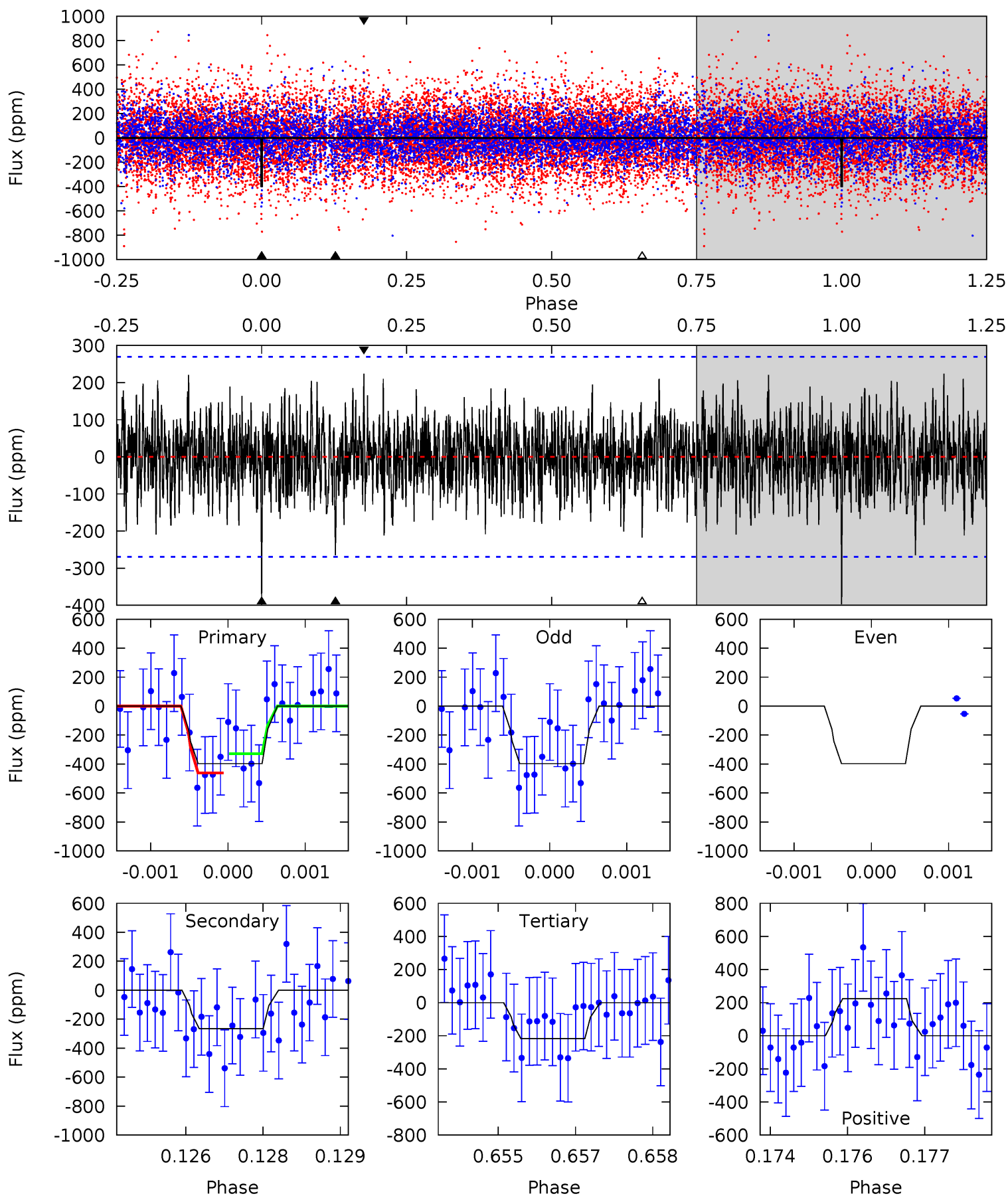
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.01	8.27	6.07	5.34	5.33	3.09	1.64	0.94	1.67	2.20	2.93	0	0.87	0.44	1.36



Alt Model-Shift Uniqueness Test

009301183-05, P = 112.550008 Days, E = 44.536680 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.93	5.30	4.34	4.47	5.38	3.18	1.37	3.59	3.46	0.96	0.83	0	0.99	0.36	1.32



Stellar Parameters For KIC 009301183

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6585^{+179}_{-219}	$3.348^{+0.432}_{-0.048}$	$-0.140^{+0.350}_{-0.300}$	$5.006^{+0.389}_{-2.205}$	$2.035^{+0.107}_{-0.455}$	$0.023^{+0.087}_{-0.004}$
	+3%/-3%	+13%/-1%	+250%/-214%	+8%/-44%	+5%/-22%	+382%/-16%
Source	PHO1	FLK73	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 009301183-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-316 ± 38	$8.60^{+3.24}_{-2.72}$	1148^{+71}_{-123}	6490^{+1395}_{-761}	754^{+858}_{-343}
Alt.	-265 ± 50	$9.62^{+3.34}_{-3.10}$	1155^{+66}_{-119}	5912^{+1145}_{-642}	515^{+583}_{-231}

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 $A_{obs} \gg 1.0$

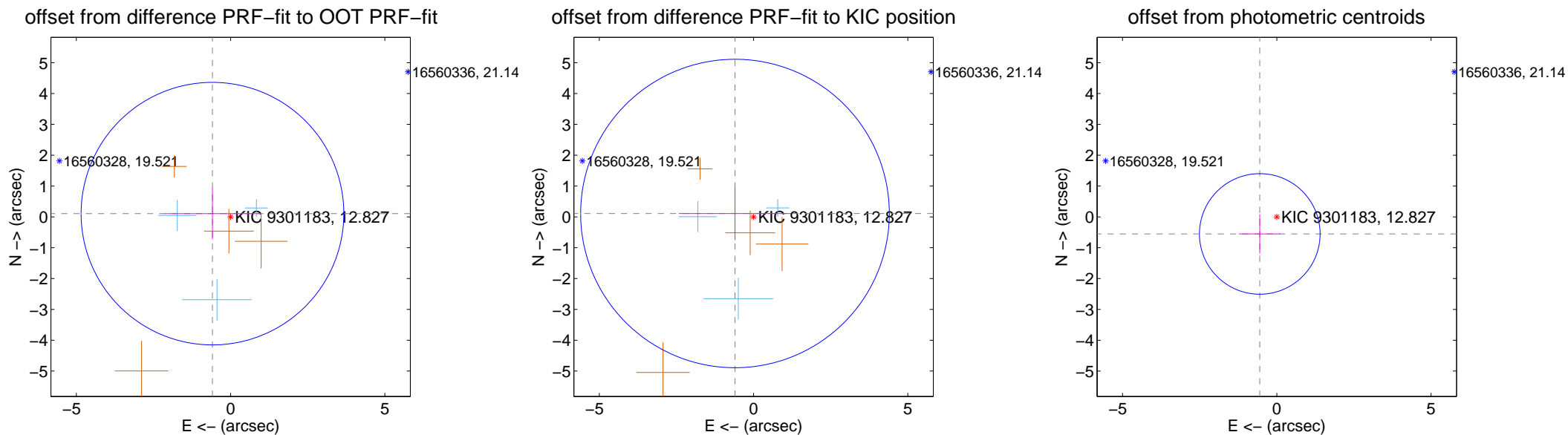
DV Centroid Data

Supplemental centroid analysis for 009301183-05. Kepler magnitude: 12.83. Transit SNR 5.21

There are 3 quarters with good PRF difference image offsets

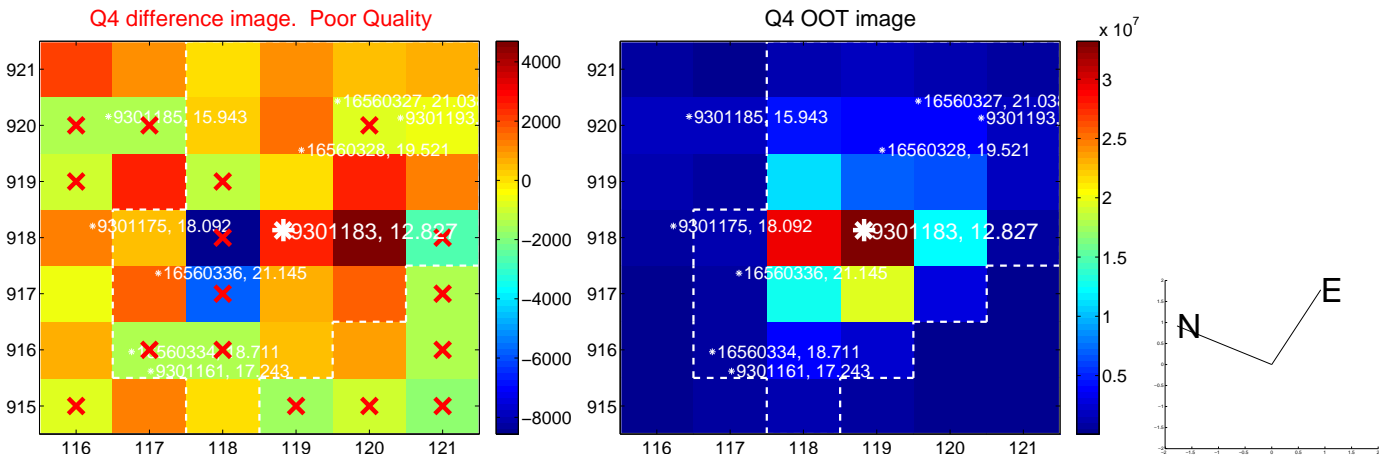
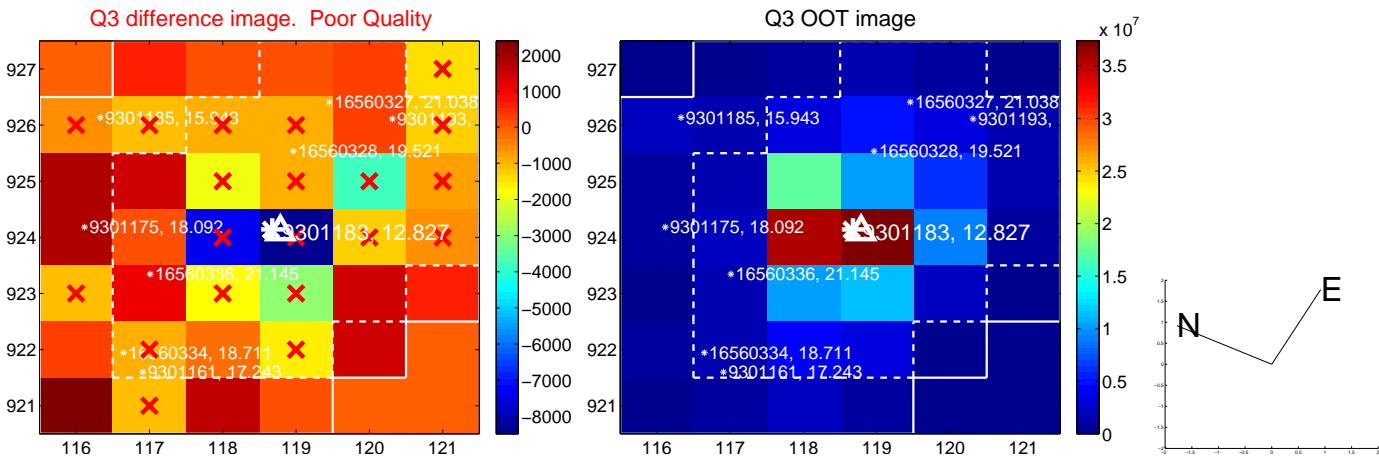
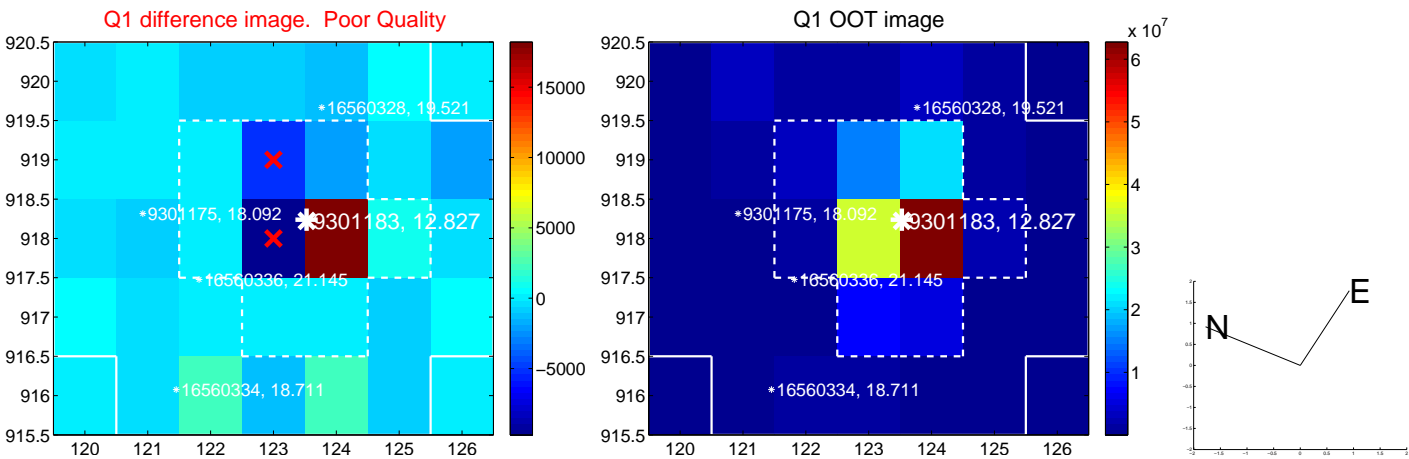
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.597 ± 1.419	0.42	0.587 ± 1.552	0.105 ± 0.832
PRF-fit source offset from KIC position	0.612 ± 1.667	0.37	0.602 ± 1.815	0.110 ± 0.859
photometric centroid source offset	0.78 ± 0.65	1.20	0.55 ± 0.67	-0.55 ± 0.63

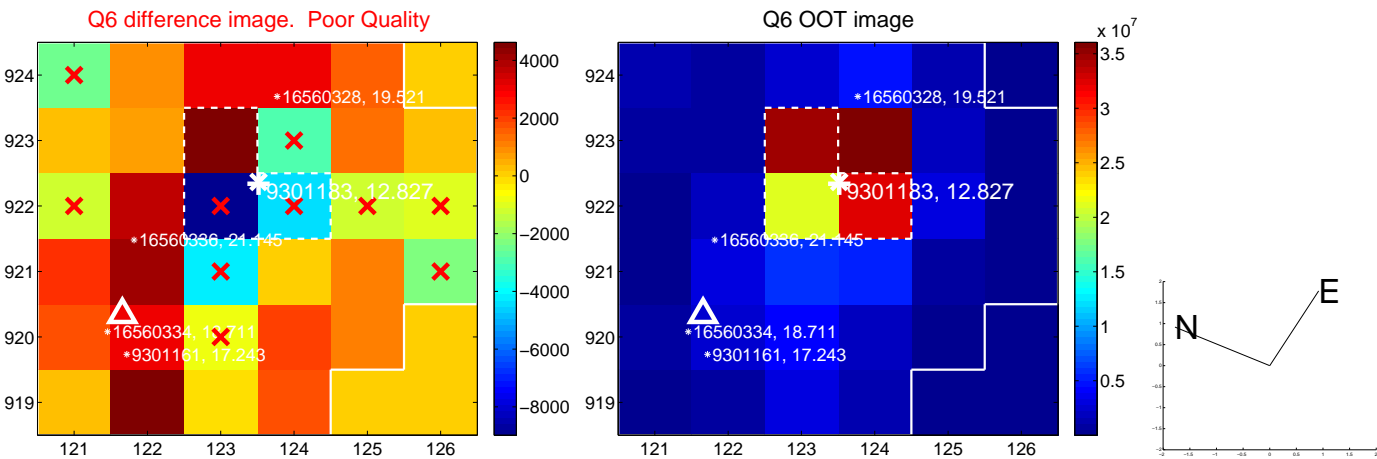
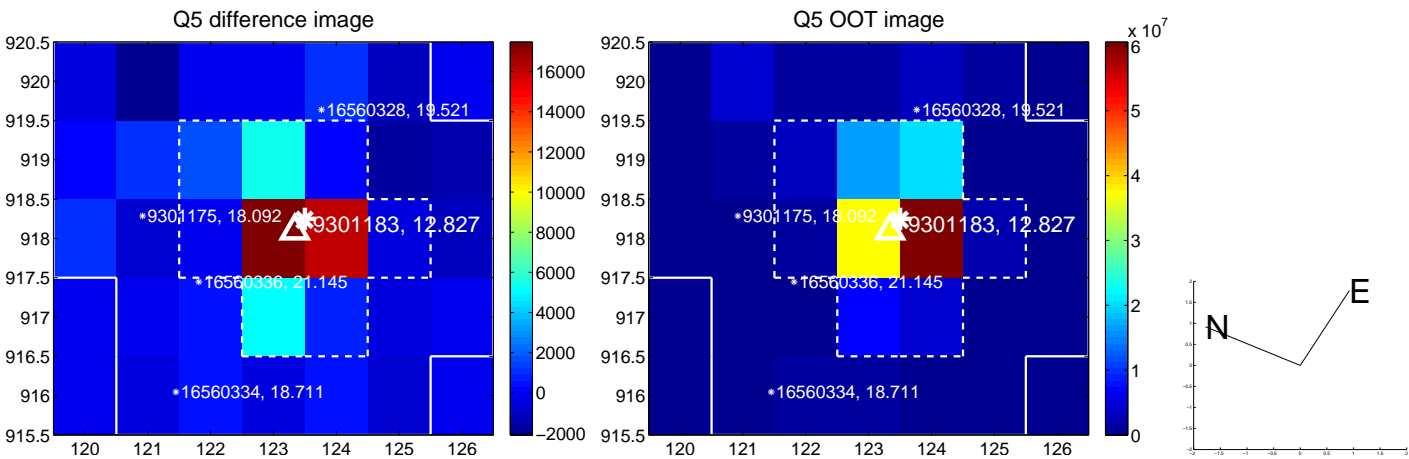


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

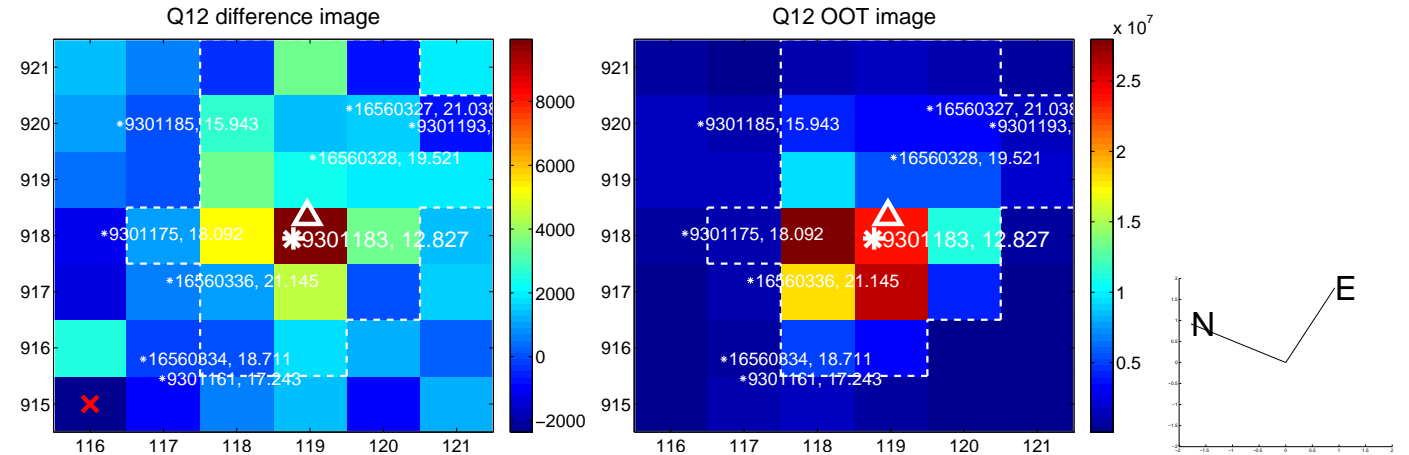
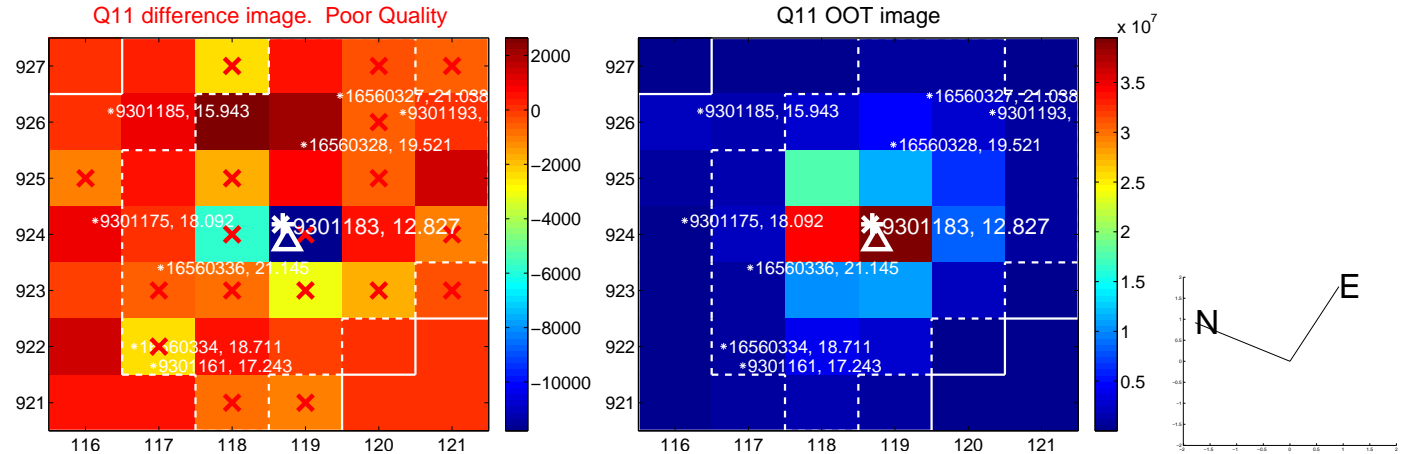
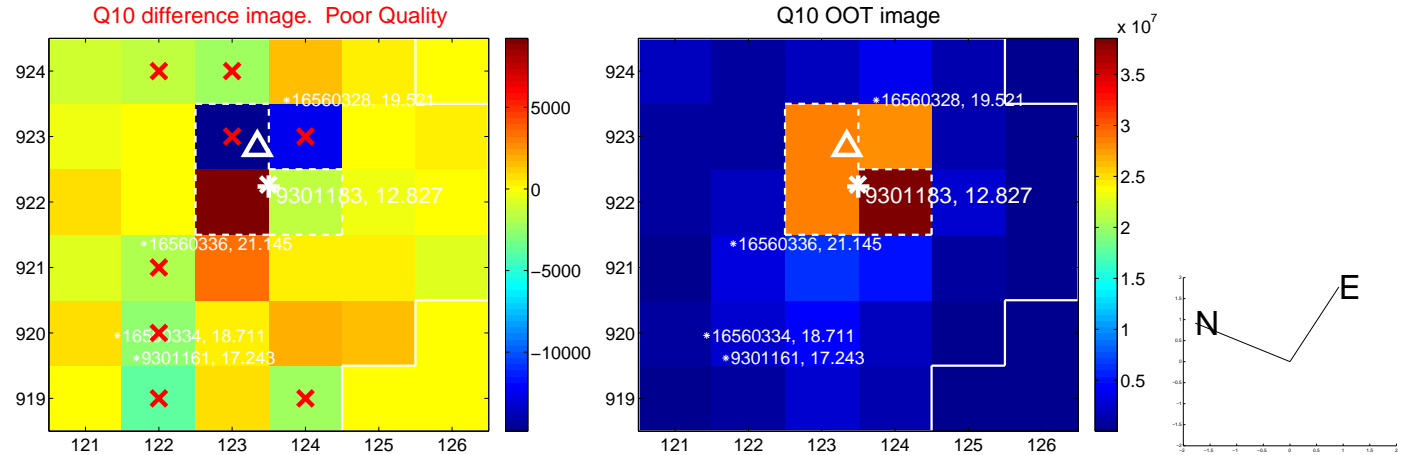
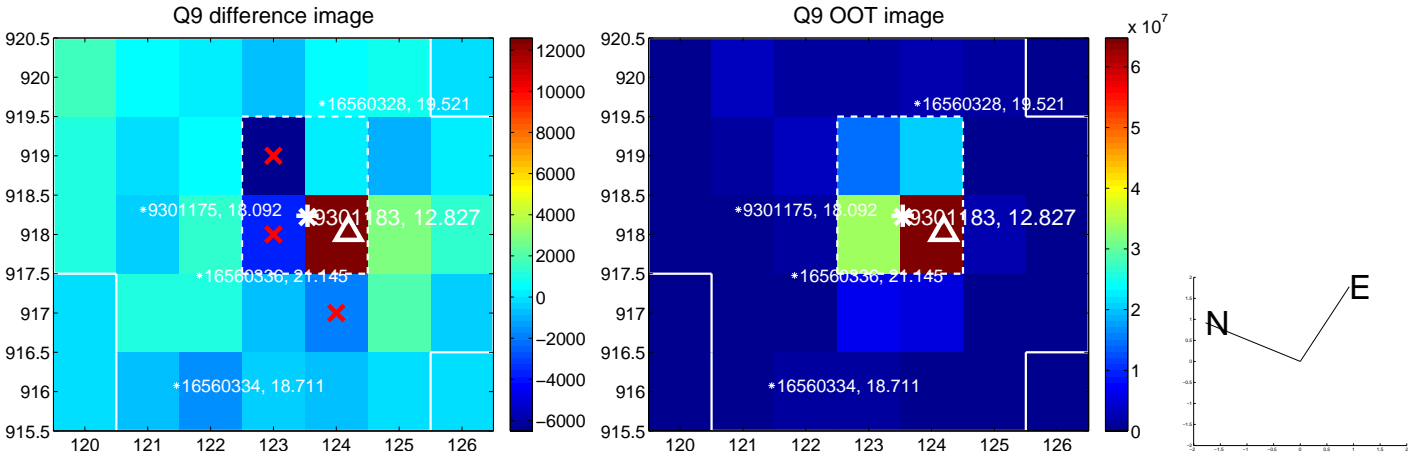
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



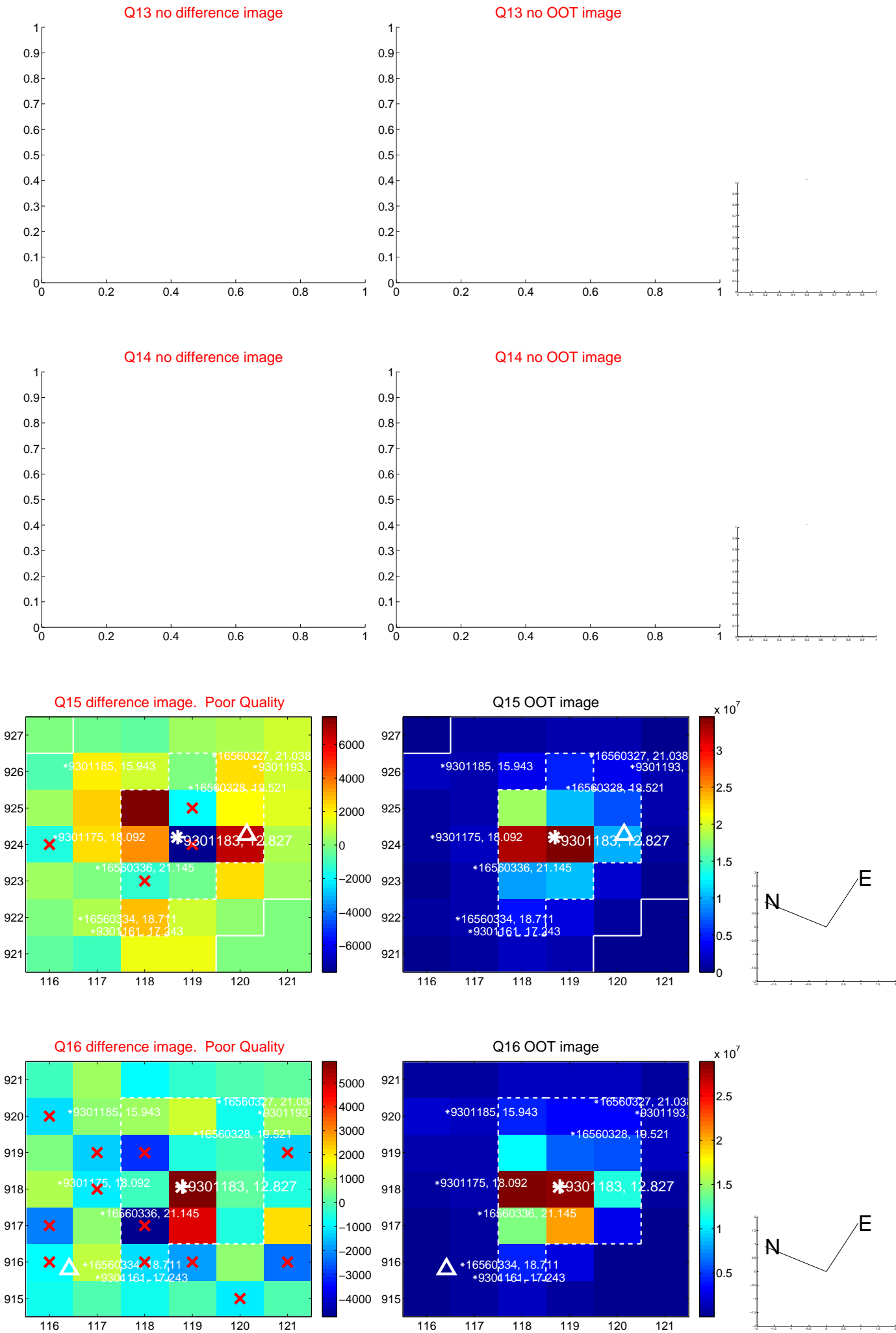
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



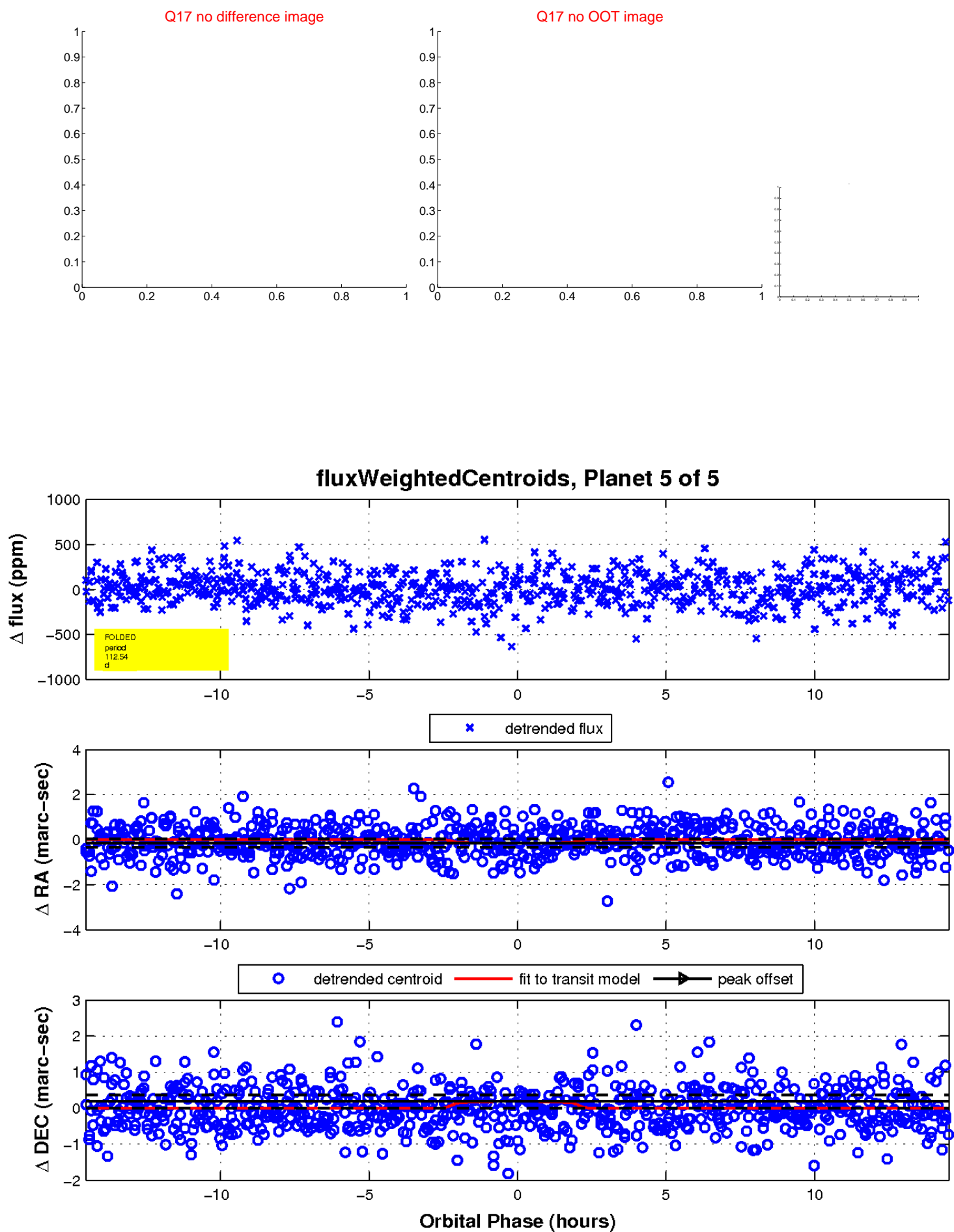
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

