

KIC 005903242

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})
005903242-01	OBS	No	0.541246	131.687236	16.9	3.182	7.4	9.6	5.49	6194	2.65	0.00
005903242-02	OBS	No	97.158868	135.353966	282.7	6.675	10.6	6.9	5.49	6194	10.07	144.41
005903242-03	OBS	No	170.327684	136.279380	395.1	3.183	8.7	7.0	5.49	6194	12.41	68.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005903242-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
005903242-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005903242-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET

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

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

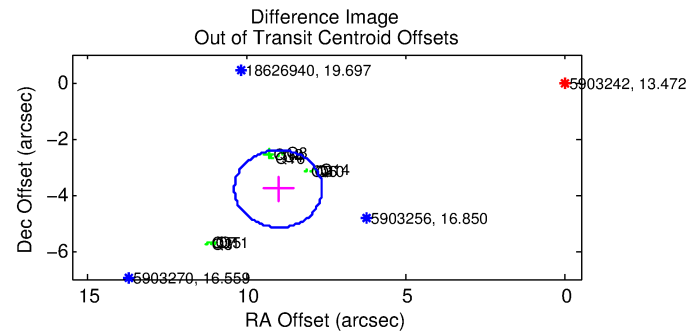
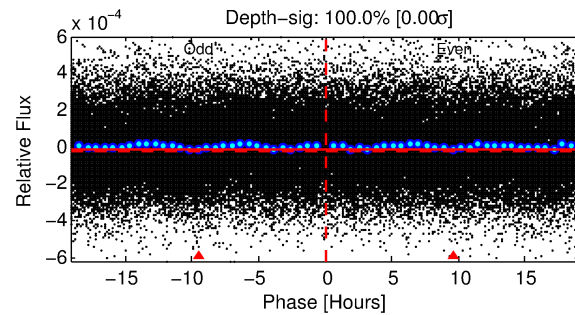
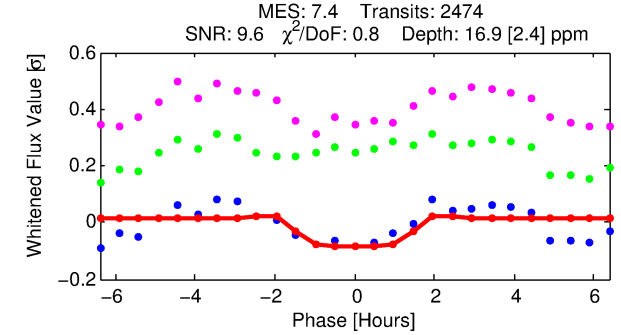
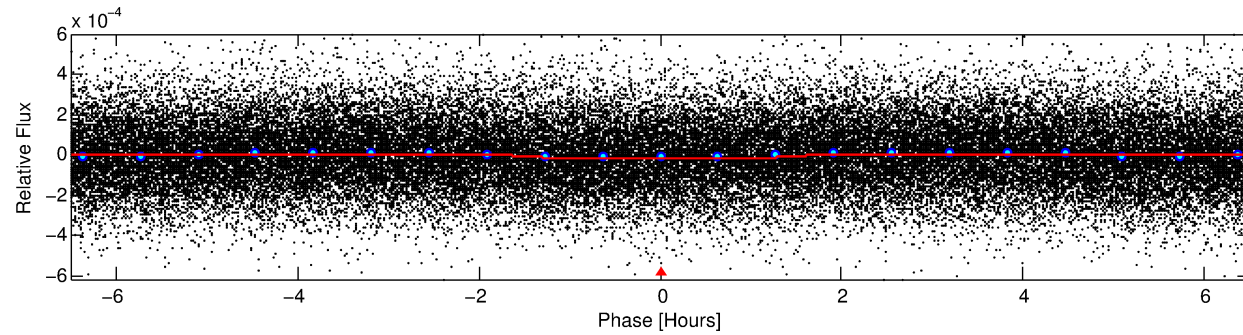
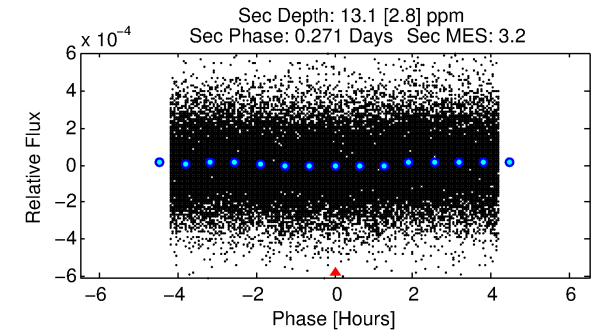
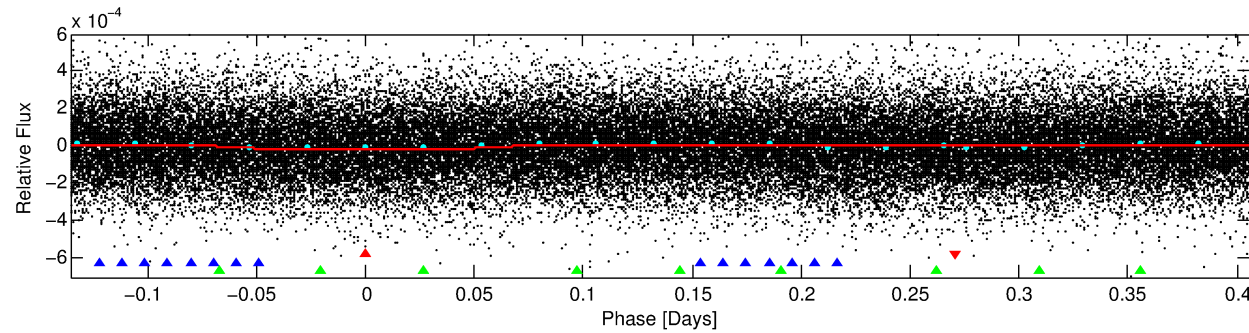
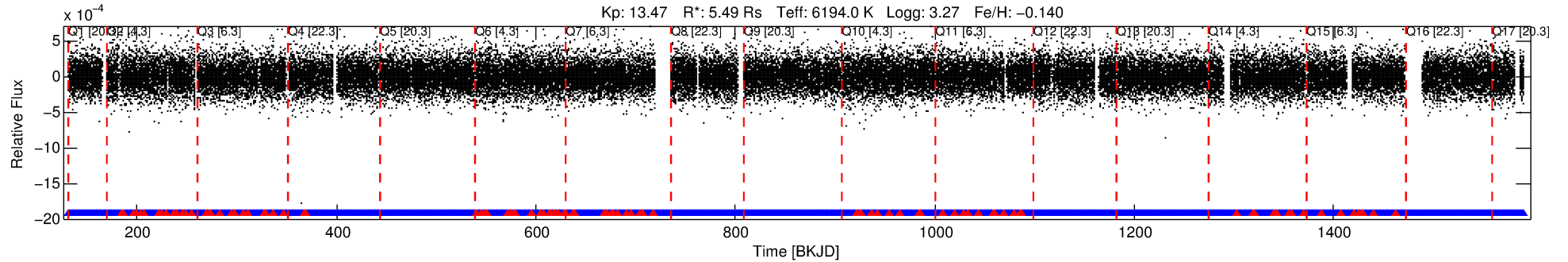
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005903242-01

No Significant Match Found

DV One-Page Summary

KIC: 5903242 Candidate: 1 of 3 Period: 0.541 d



DV Fit Results:

Period = 0.54125 [0.00001] d
Epoch = 131.6872 [0.0034] BKJD
Rp/R* = 0.0044 [0.0022]
a/R* = 1.10 [0.56]
b = 0.90 [0.60]
Seff = N/A
Teq = N/A
Rp = 2.65 [1.70] Re
a = N/A
Ag = N/A
Teffp = N/A

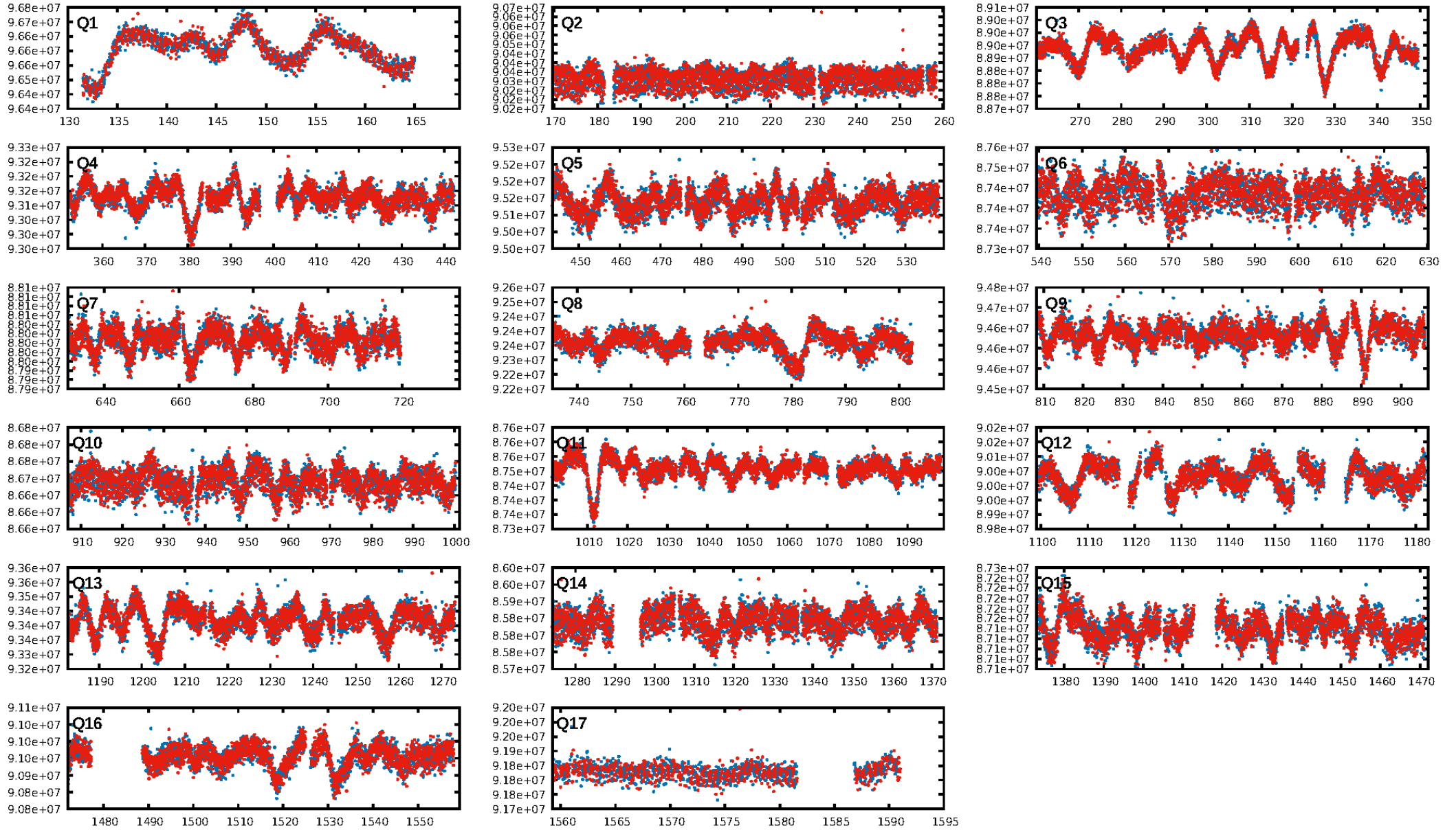
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [313.59σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.34e-12
RollingBand-fgt: 0.96 [2264/2363]
GhostDiagnostic-chr: -4.333
Centroid-sig: 11.1%
Centroid-so: 1.835 arcsec [1.51σ]
OotOffset-rm: 9.778 arcsec [21.30σ]
KicOffset-rm: 9.735 arcsec [20.54σ]
OotOffset-st: 4/4/4/0 [12]
KicOffset-st: 4/4/4/0 [12]
DiffImageQuality-fgm: 0.75 [9/12]
DiffImageOverlap-fno: 1.00 [17/17]

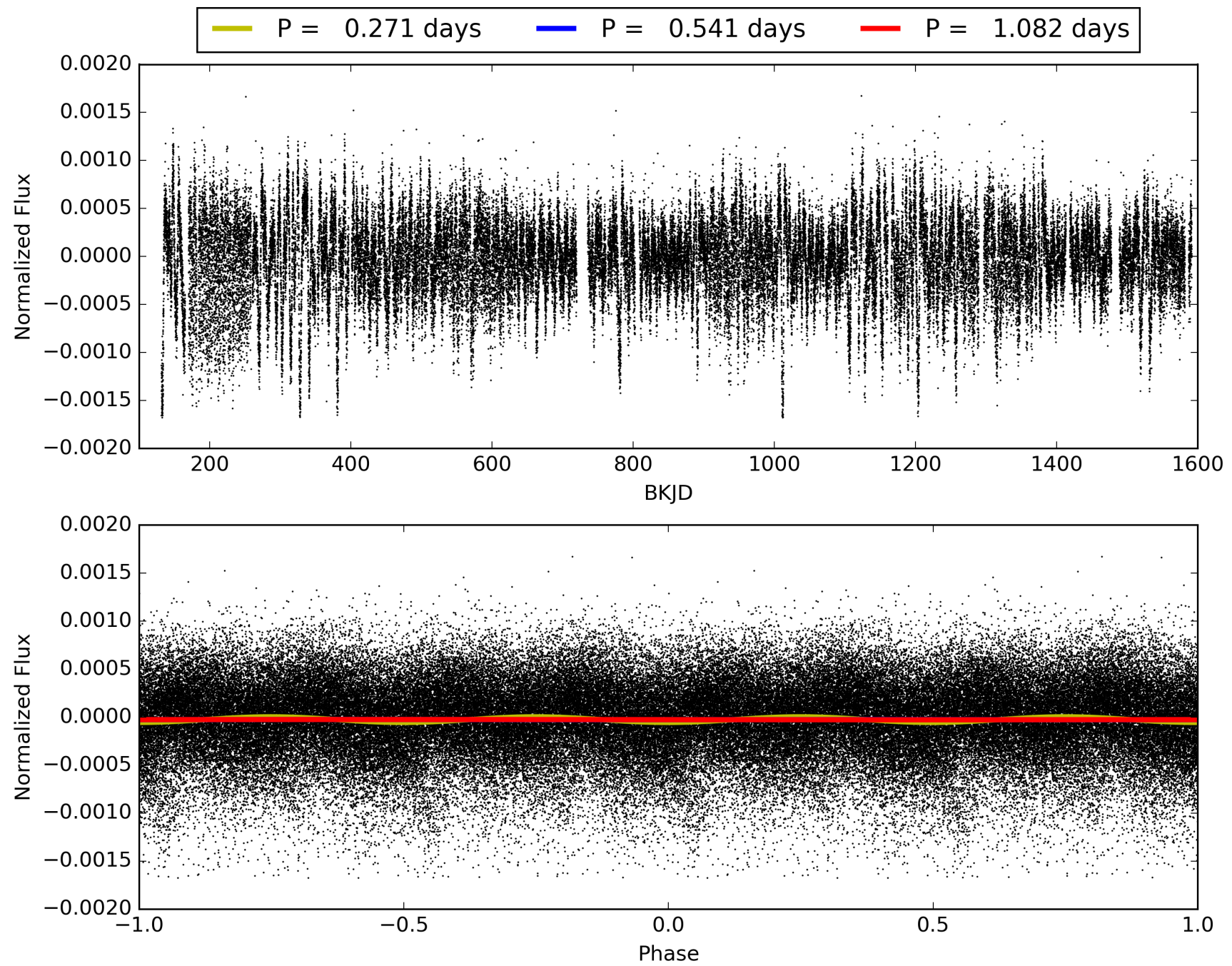
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005903242-01, PDC Light Curves

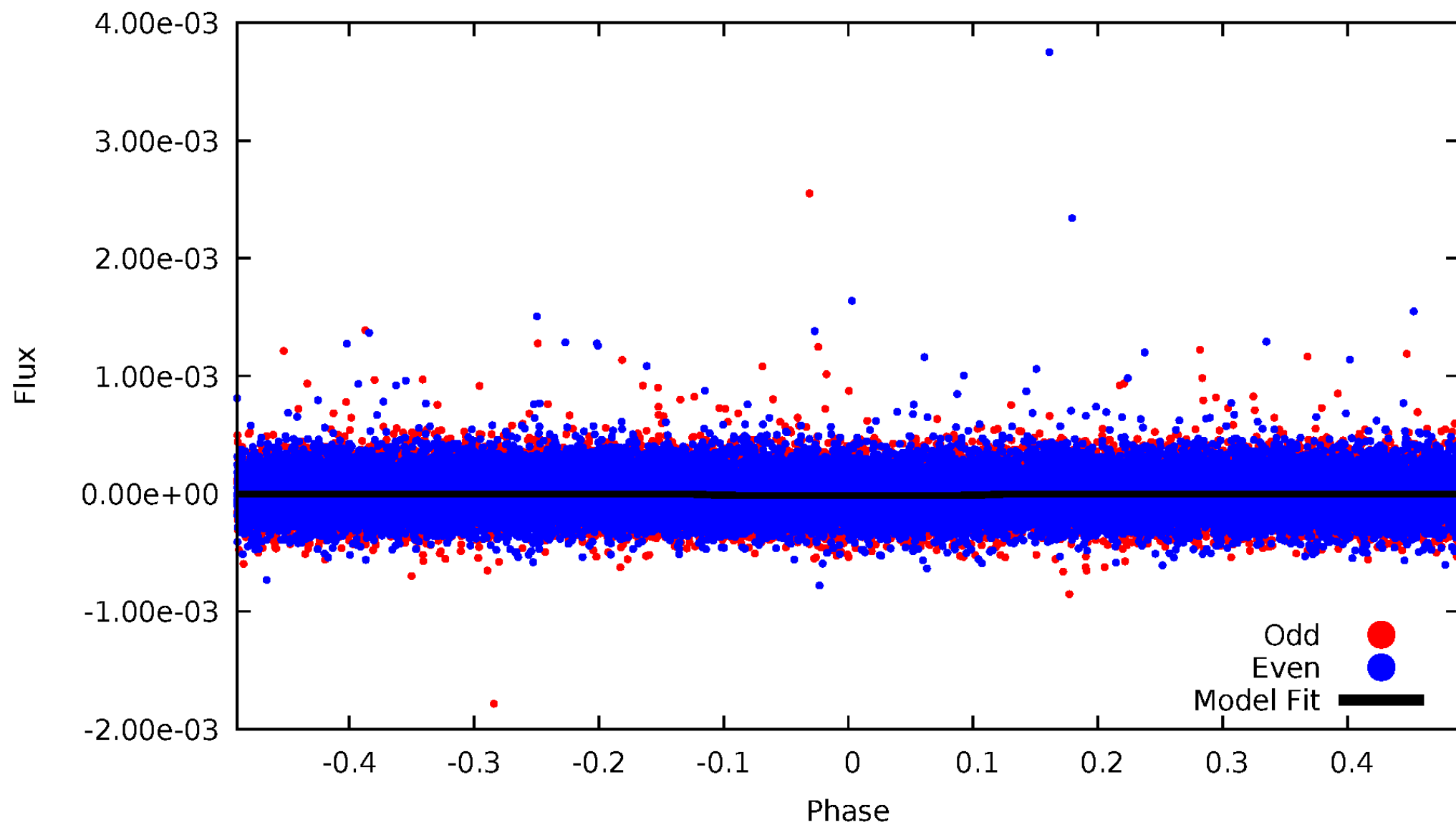


TCE 005903242-01



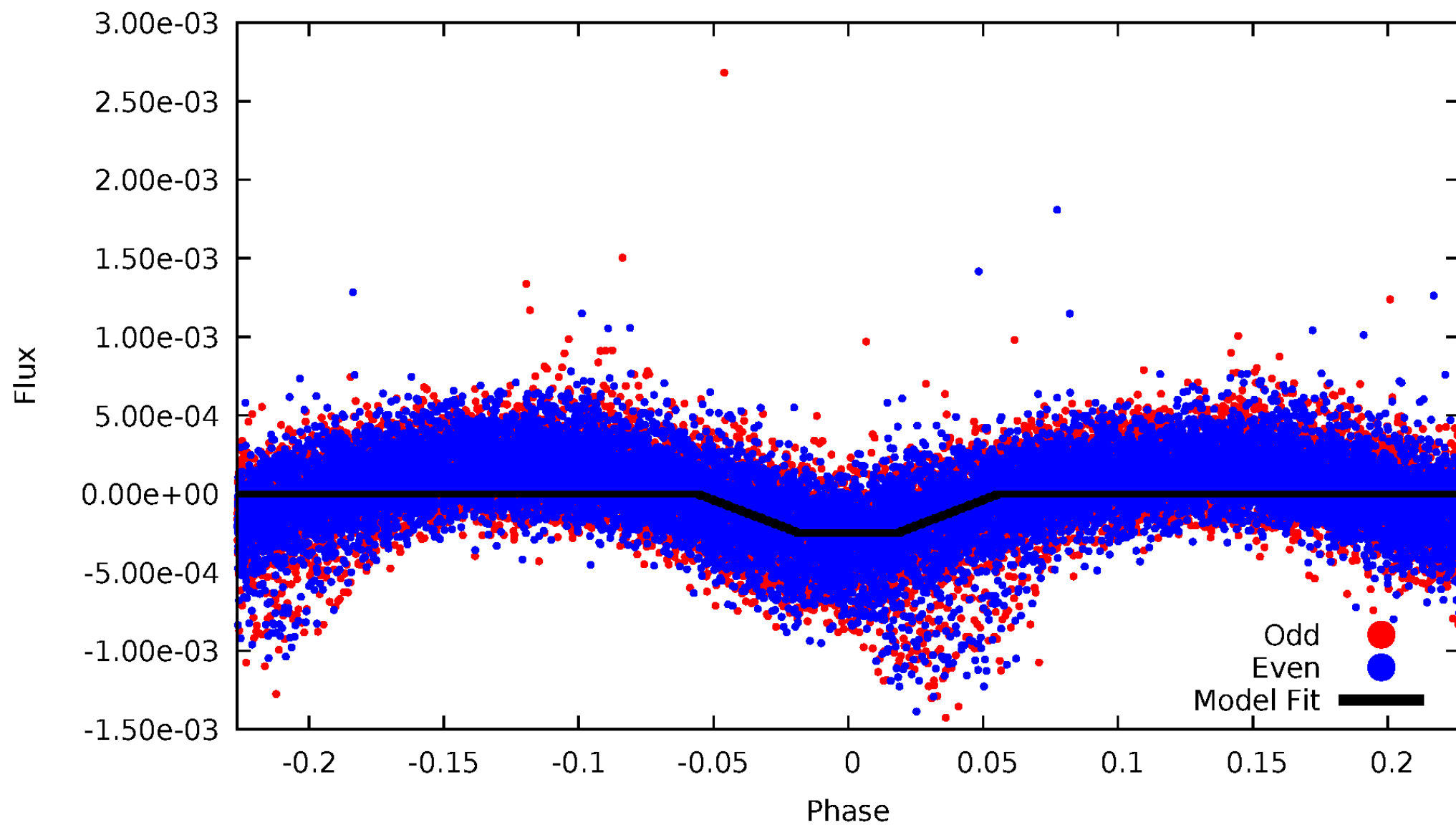
DV Odd/Even

TCE 005903242-01

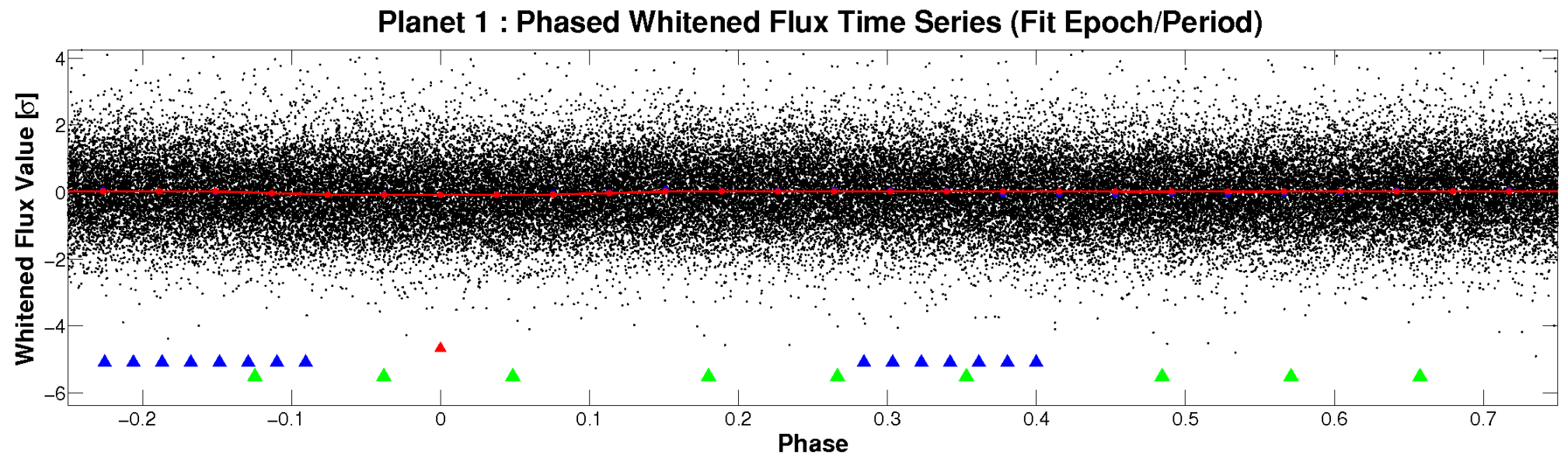
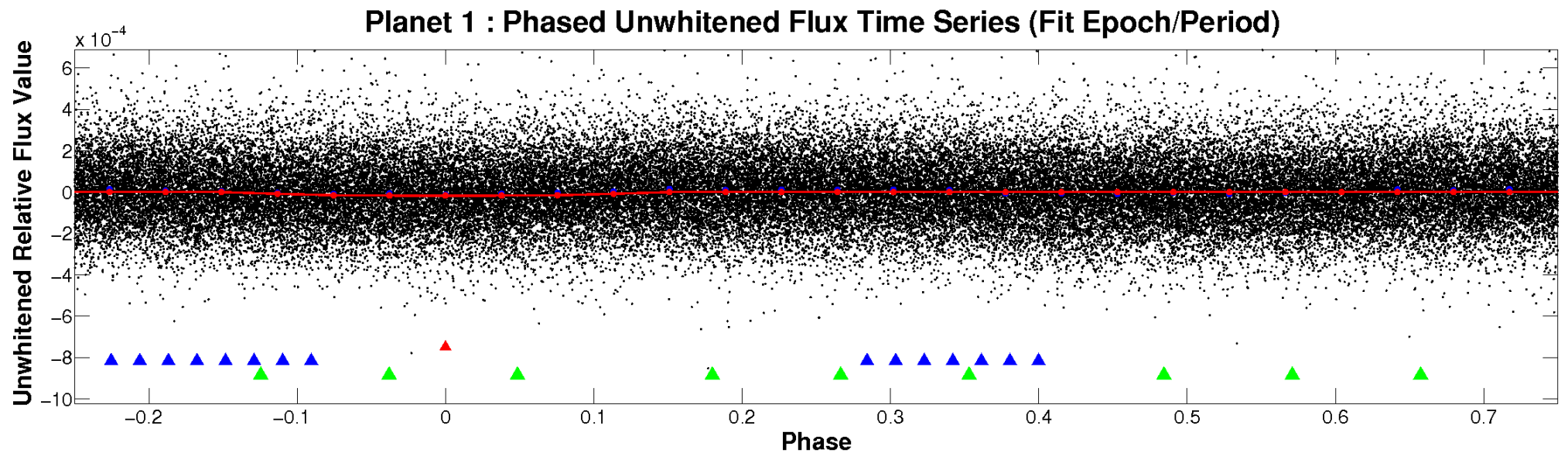


ALT Odd/Even

TCE 005903242-01

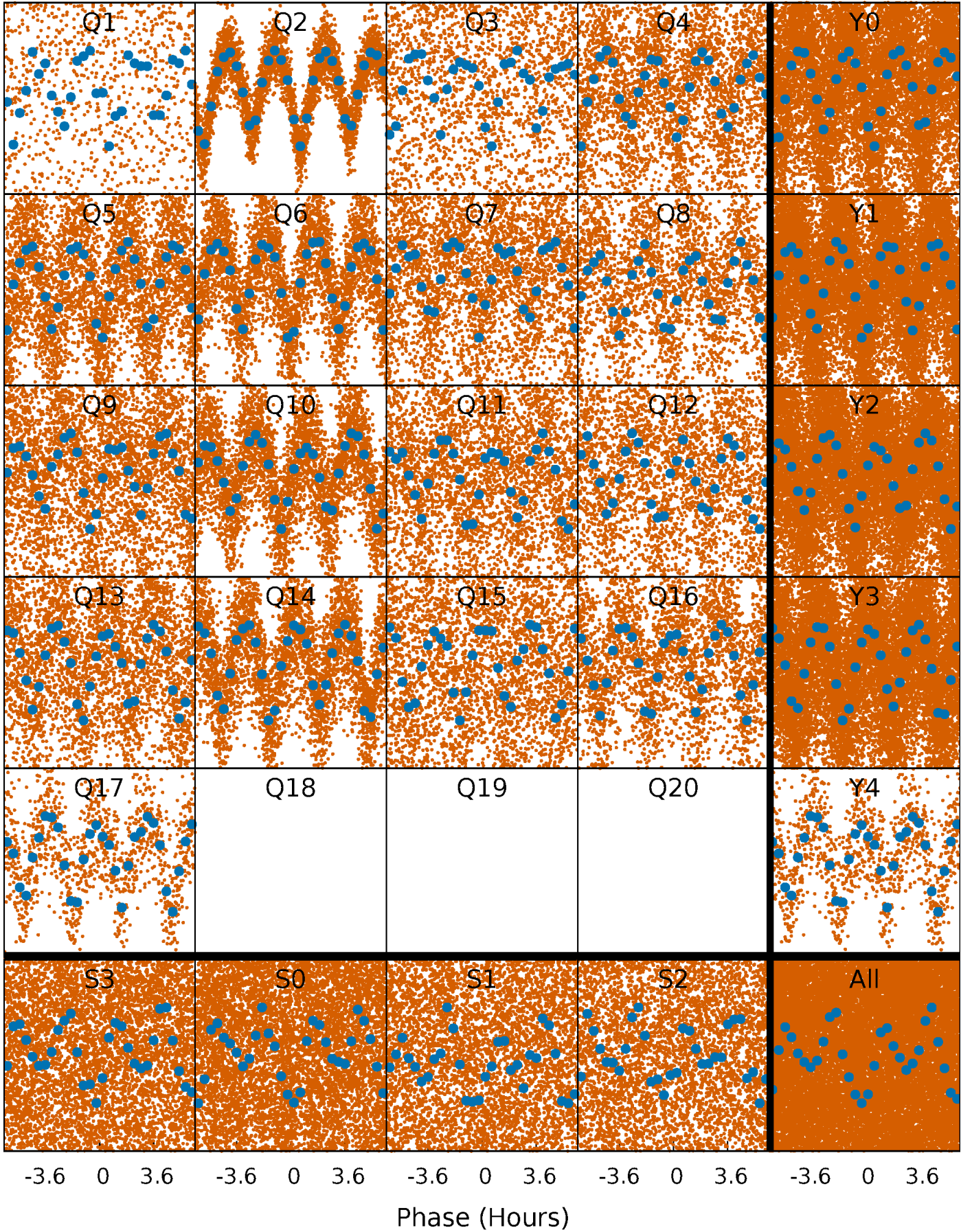


Non-Whitened Vs. Whitened Light Curve



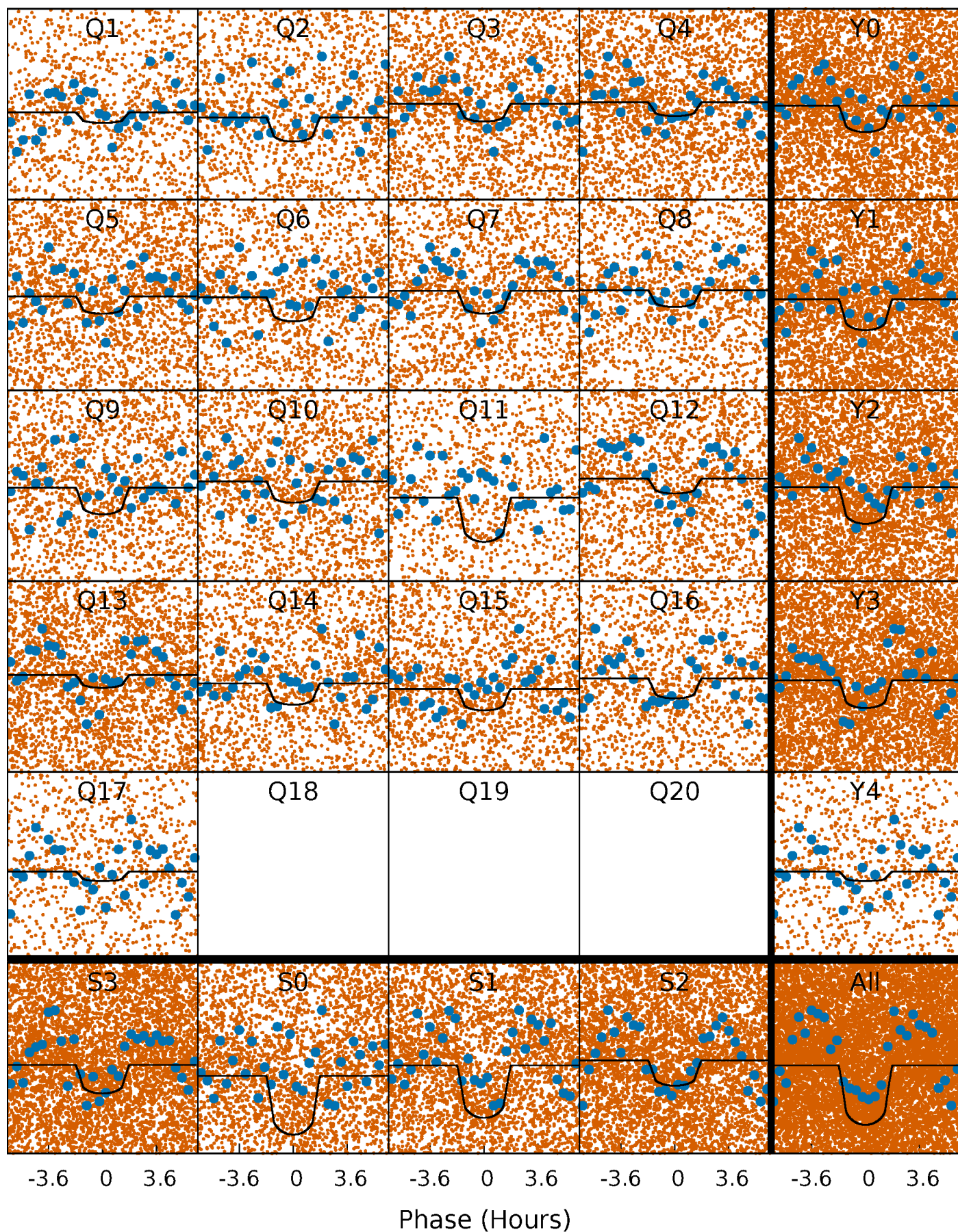
PDC Quarter-Phased Transit Curves

TCE 005903242-01 P= 0.541246 Days $T_0=131.687236$ (BKJD)



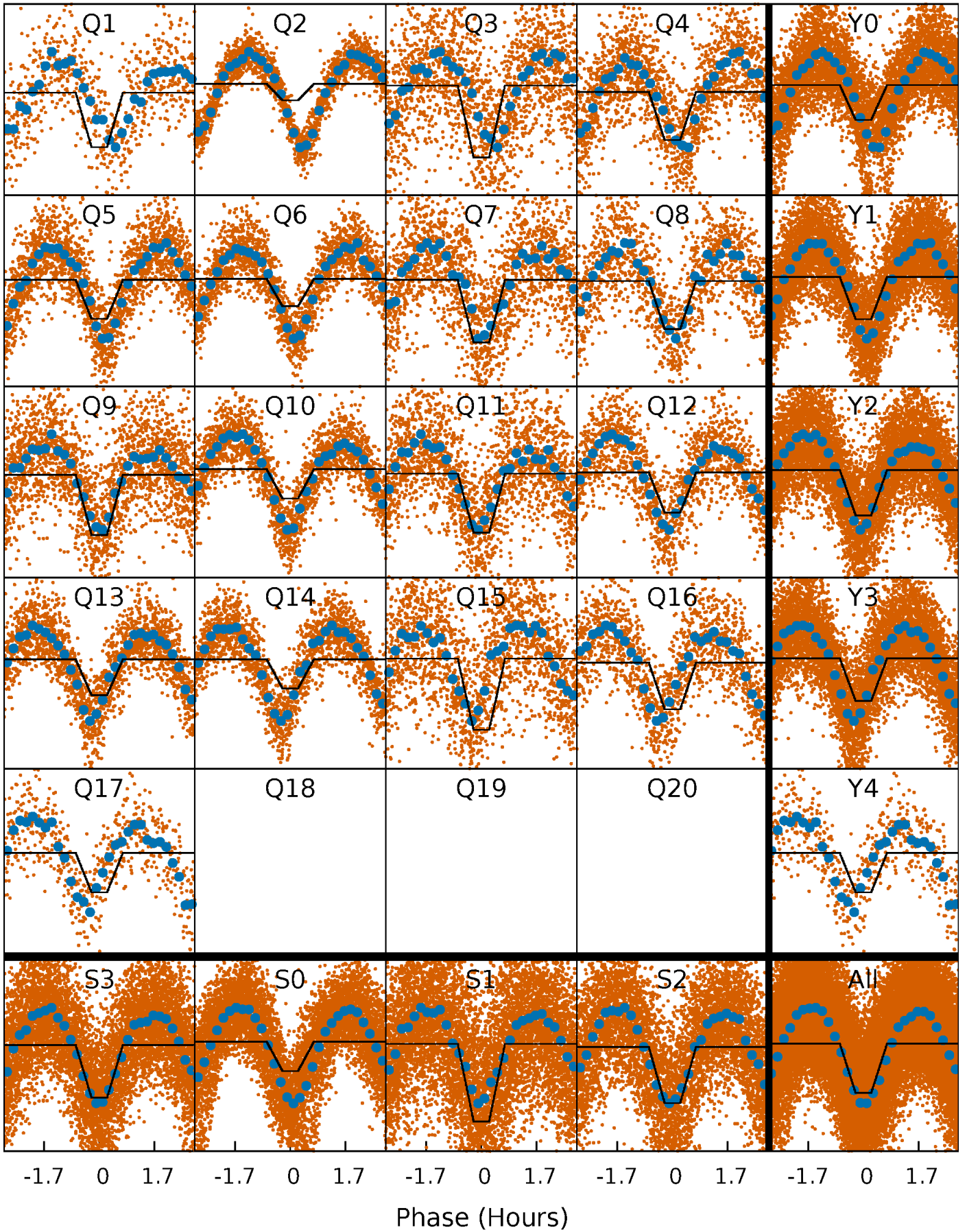
DV Quarter-Phased Transit Curves

TCE 005903242-01 P= 0.541246 Days $T_0=131.687236$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

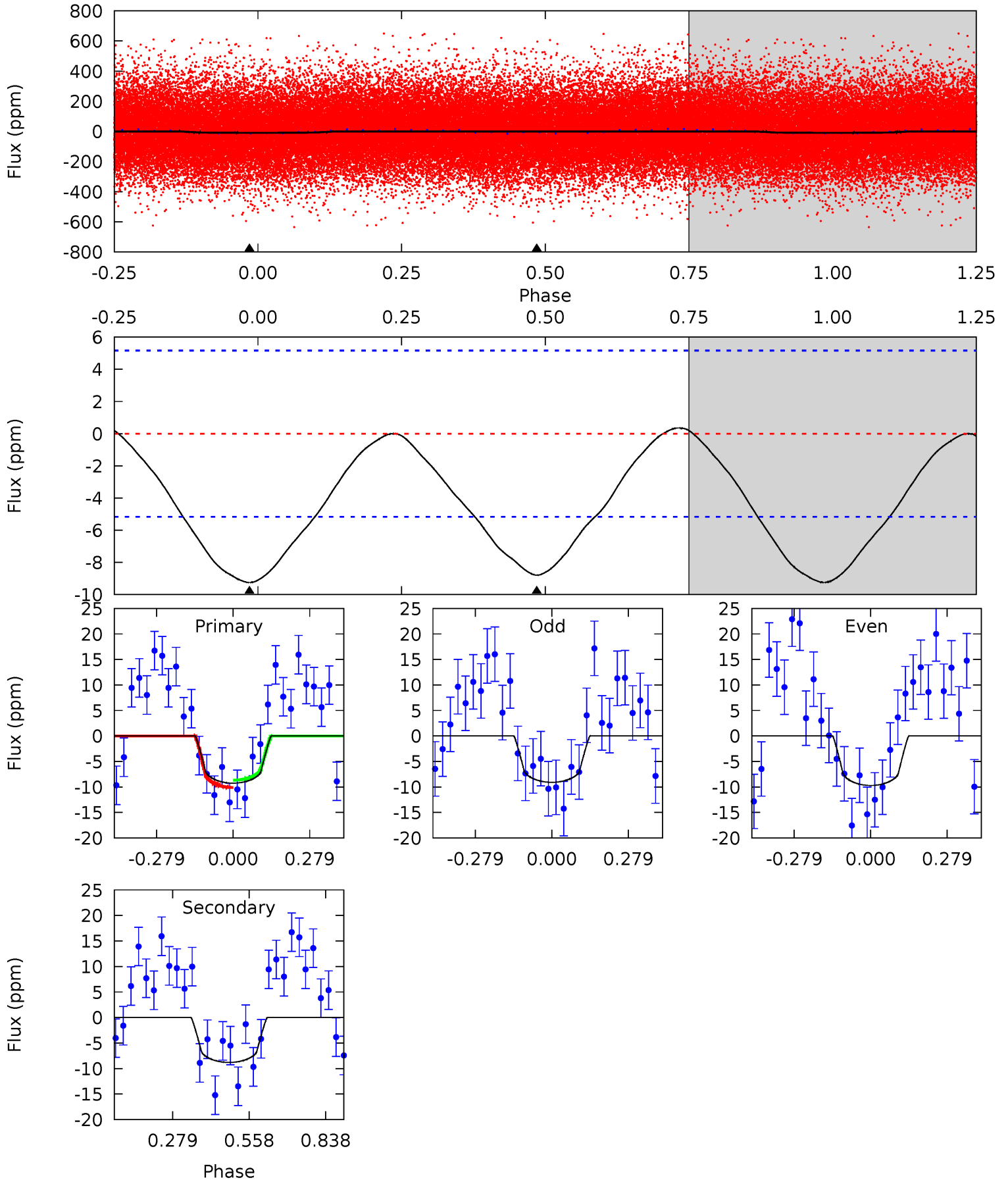
TCE 005903242-01 P= 0.541220 Days $T_0=131.700899$ (BKJD)



DV Model-Shift Uniqueness Test

005903242-01, P = 0.541246 Days, E = 131.145990 Days

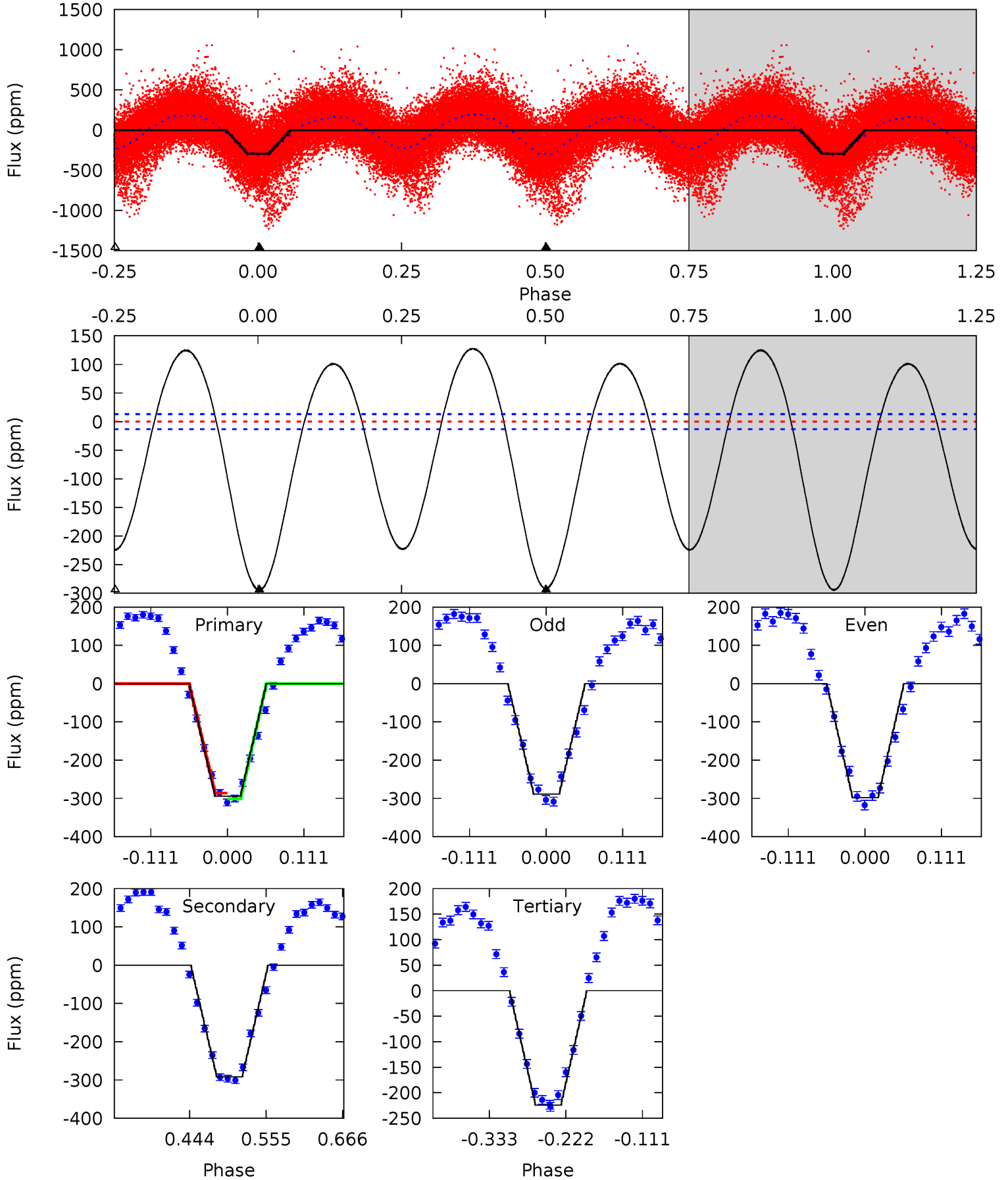
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.77	7.39	0	0	4.34	1.08	0.18	7.77	7.77	7.39	7.39	0.26	1.14	0.04	0.62



Alt Model-Shift Uniqueness Test

005903242-01, P = 0.541220 Days, E = 131.159679 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
101.9	101.1	77.7	0	4.54	1.59	42.6	24.2	101.9	23.4	101.1	1.58	1.08	0.30	2.62



Stellar Parameters For KIC 005903242

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6194^{+185}_{-185}	$3.268^{+0.351}_{-0.059}$	$-0.140^{+0.350}_{-0.350}$	$5.485^{+0.243}_{-2.190}$	$2.036^{+0.109}_{-0.435}$	$0.017^{+0.047}_{-0.002}$
	+3%/-3%	+11%/-2%	+250%/-250%	+4%/-40%	+5%/-21%	+272%/-14%
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 005903242-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9 ± 1	$2.40^{+1.48}_{-1.16}$	6838^{+335}_{-630}	-4200^{+10327}_{-1059}	$0.220^{+0.571}_{-0.133}$
Alt.	-292 ± 3	$8.83^{+1.71}_{-2.03}$	6868^{+341}_{-711}	5376^{+864}_{-897}	$0.558^{+0.351}_{-0.161}$

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 $A_{obs} \gg 1.0$

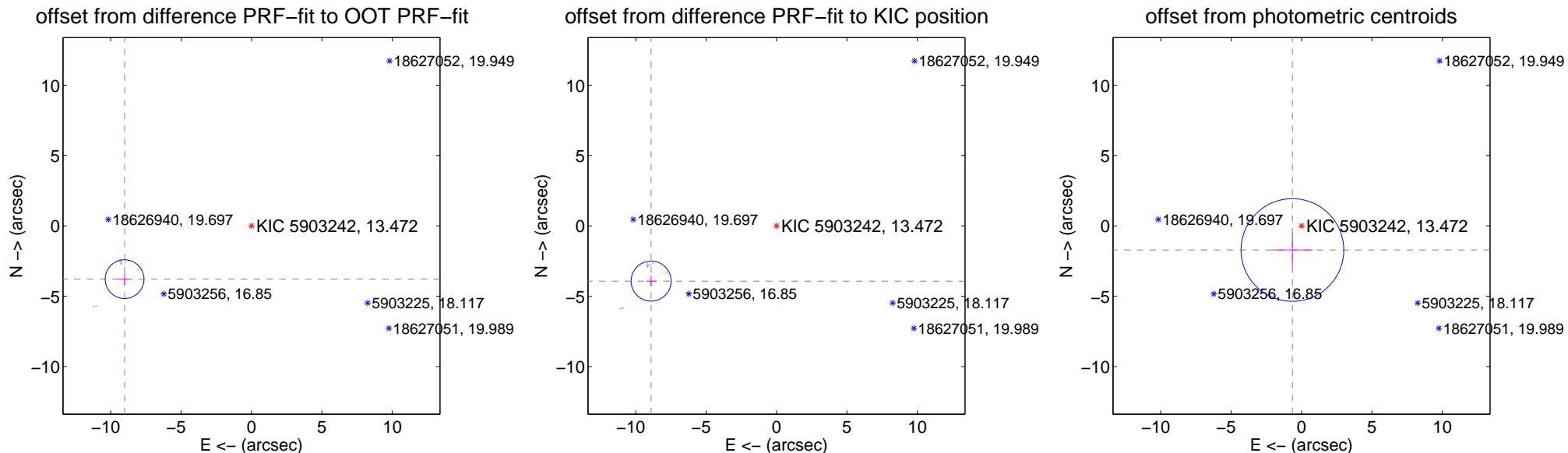
DV Centroid Data

Supplemental centroid analysis for 005903242-01. Kepler magnitude: 13.47. Transit SNR 9.64

There are 9 quarters with good PRF difference image offsets

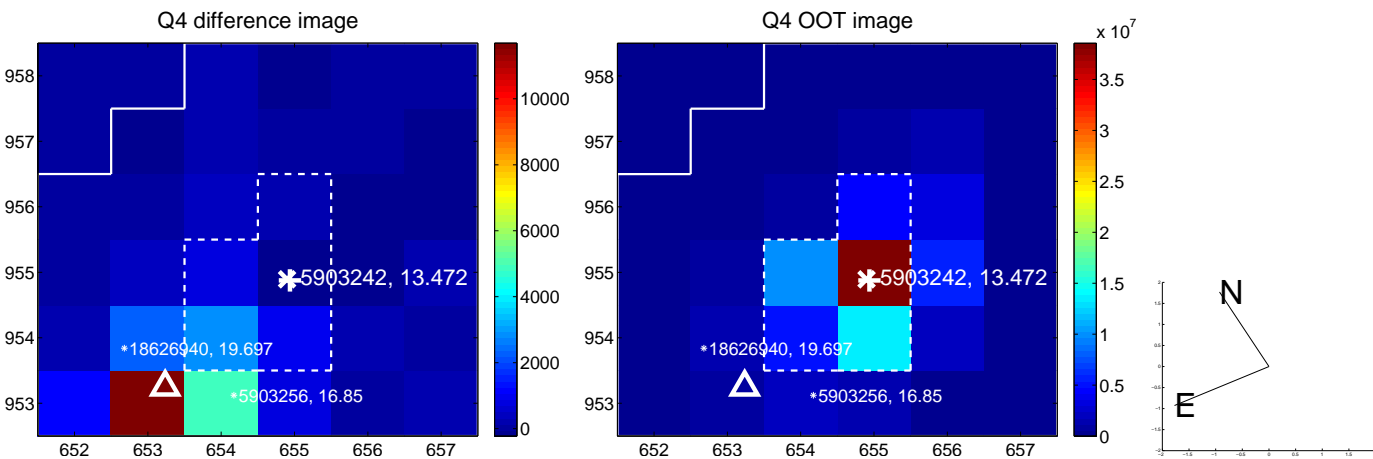
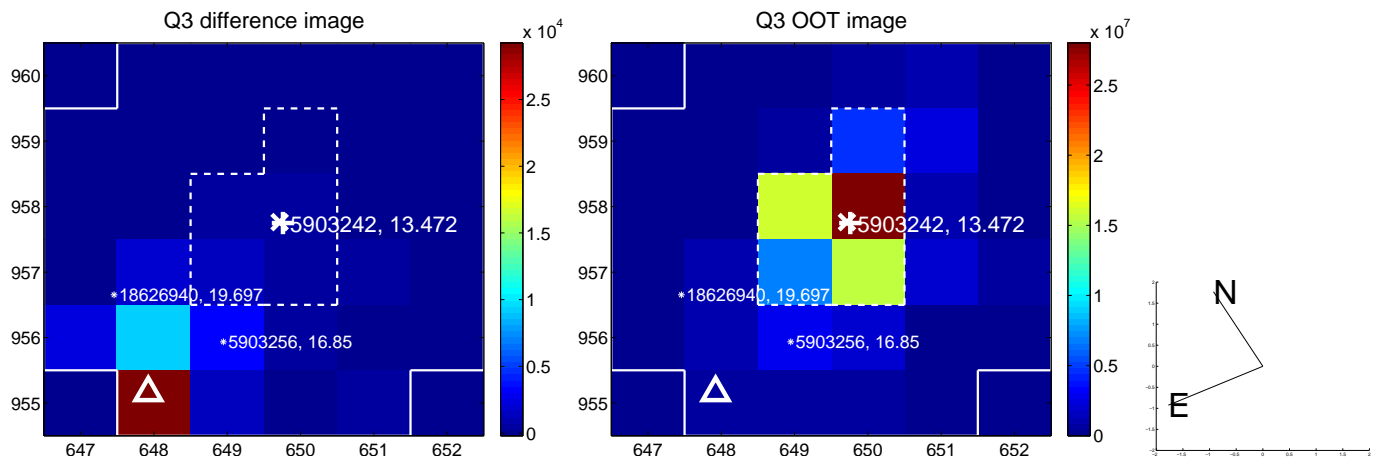
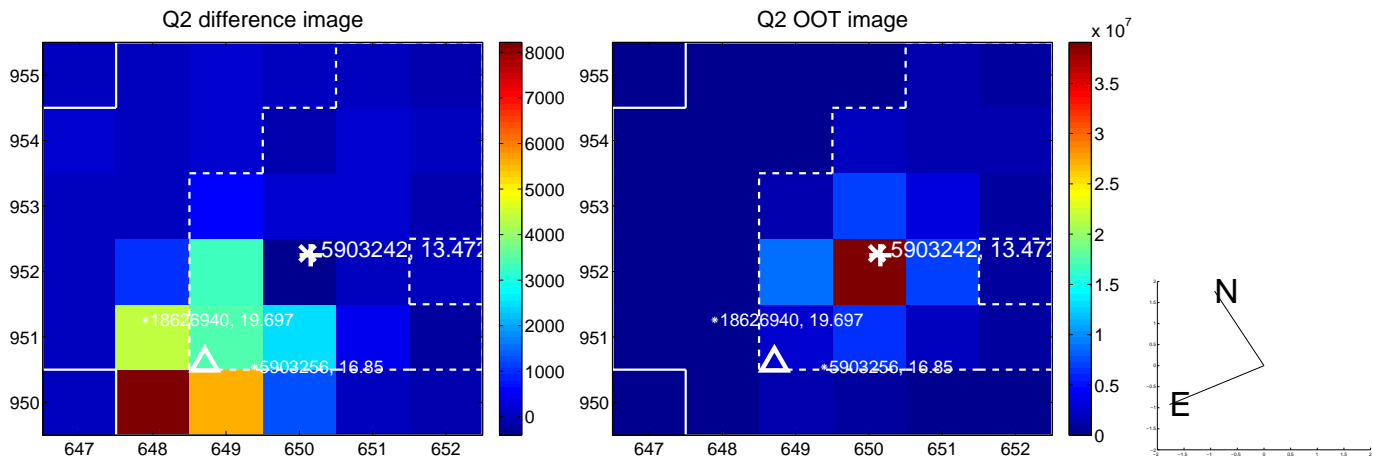
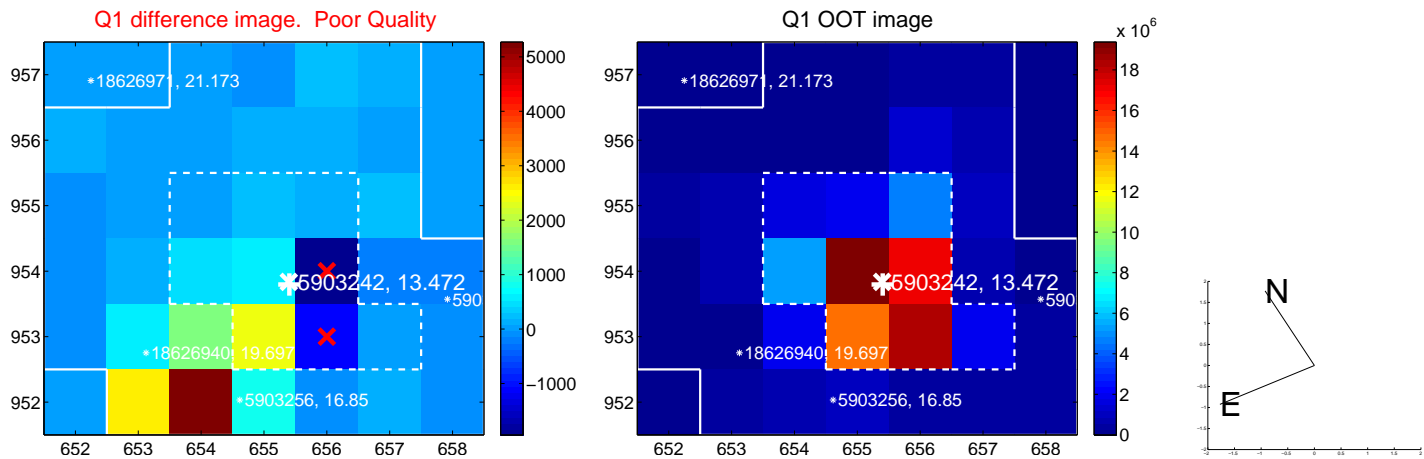
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.778 \pm 0.459	21.30	9.015 \pm 0.464	-3.787 \pm 0.429
PRF-fit source offset from KIC position	9.735 \pm 0.474	20.54	8.908 \pm 0.366	-3.928 \pm 0.386
photometric centroid source offset	1.83 \pm 1.22	1.51	0.65 \pm 1.44	-1.72 \pm 1.18

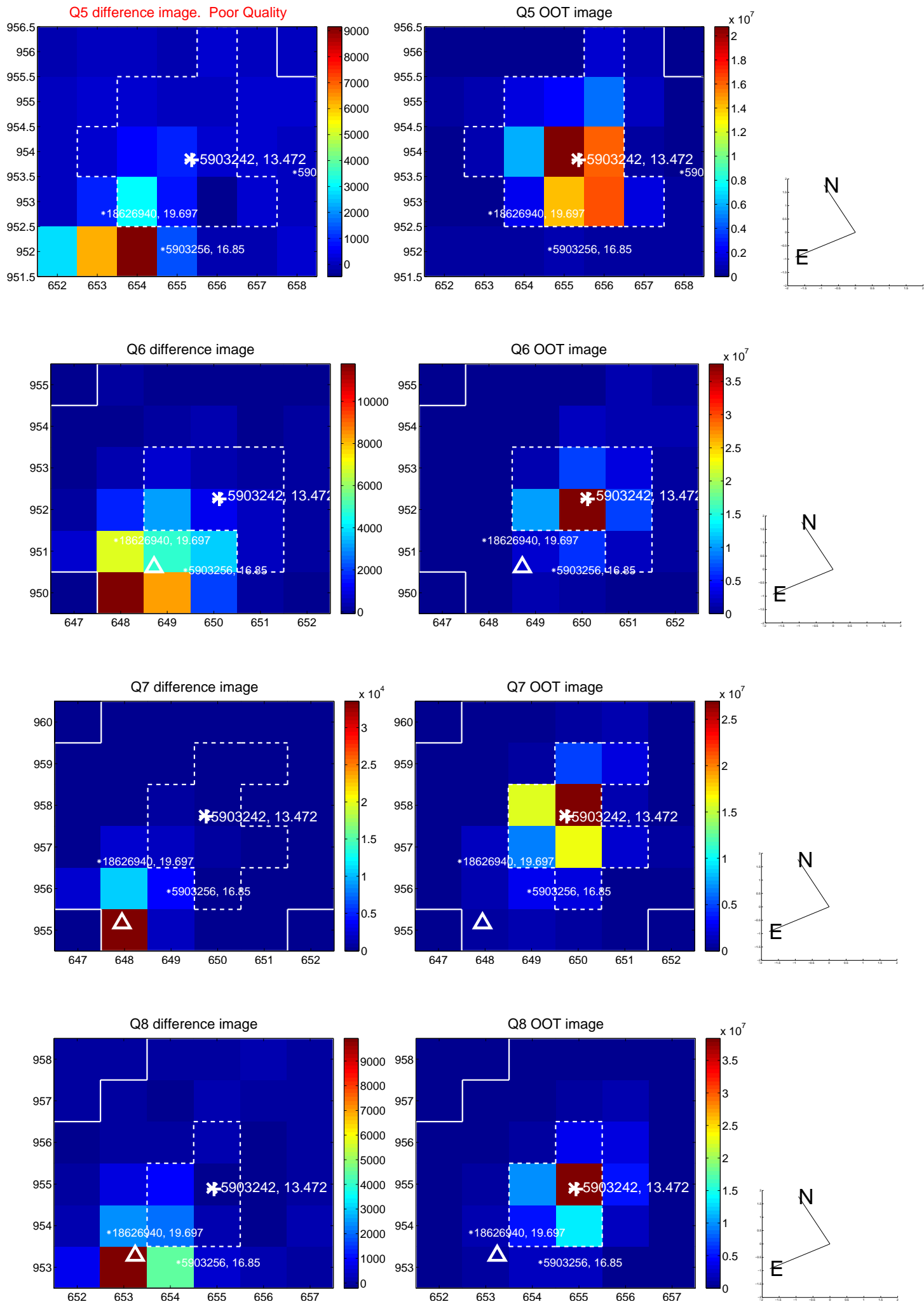


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

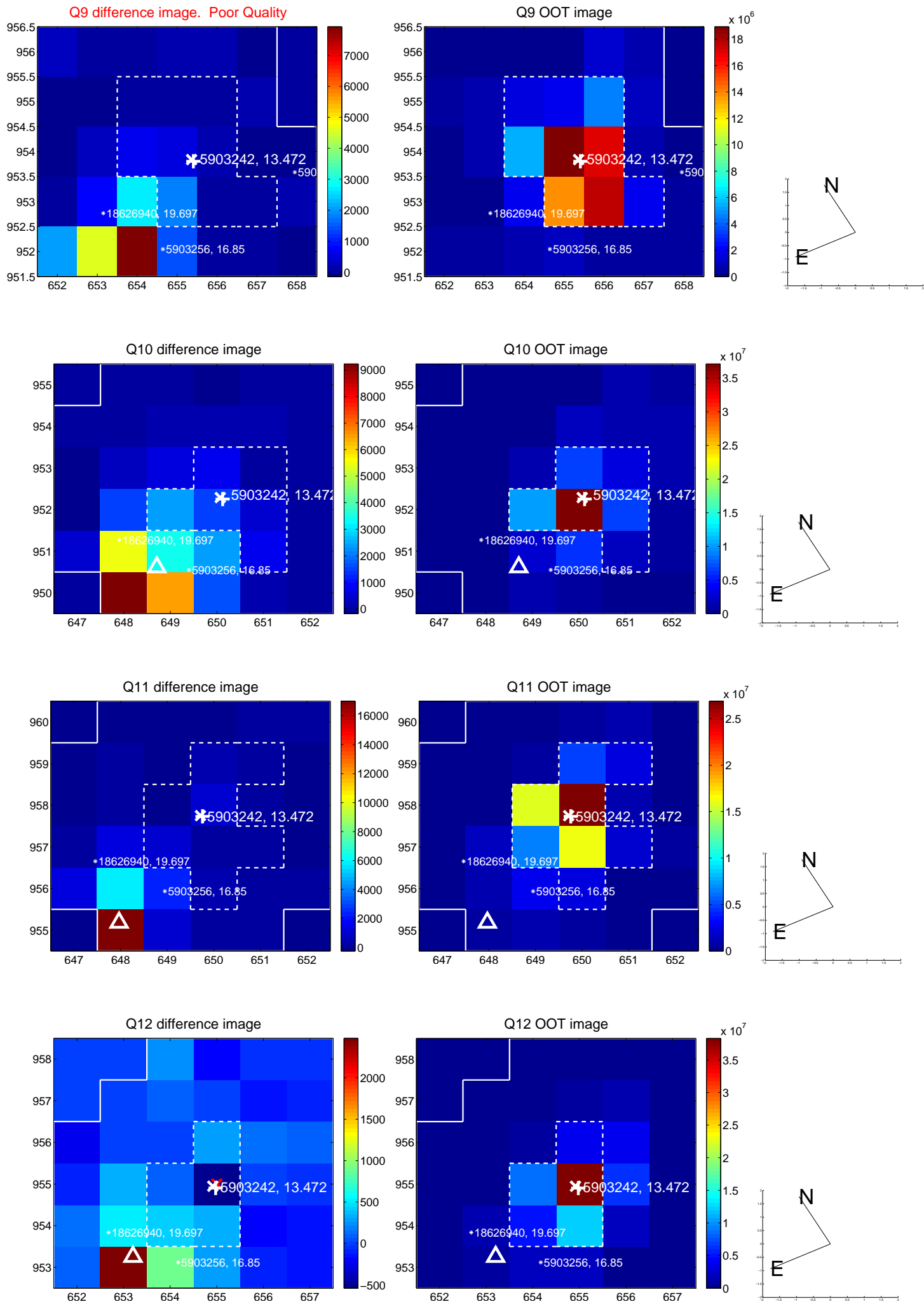
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



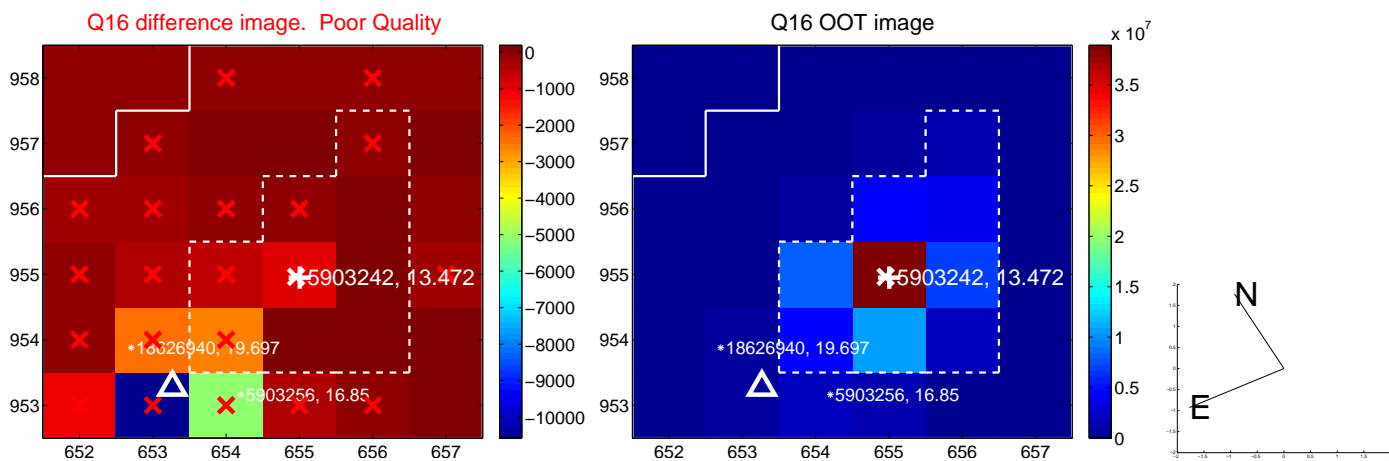
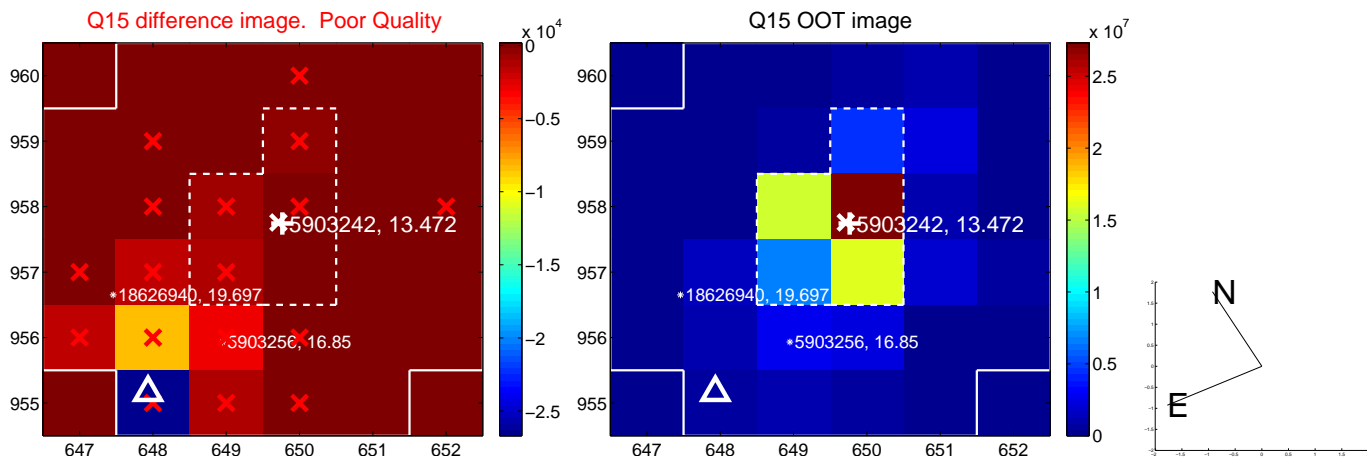
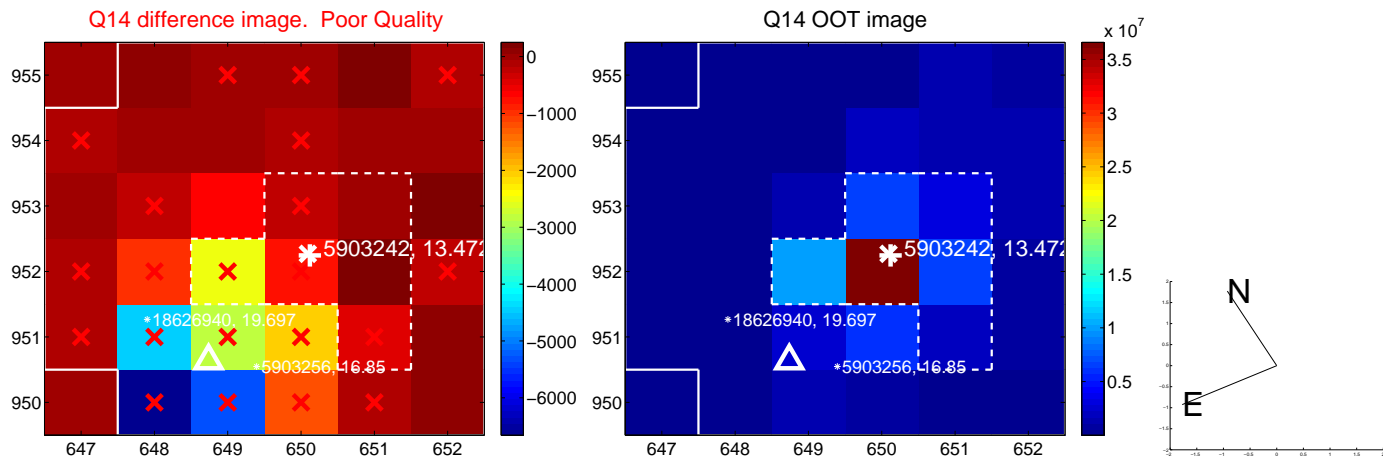
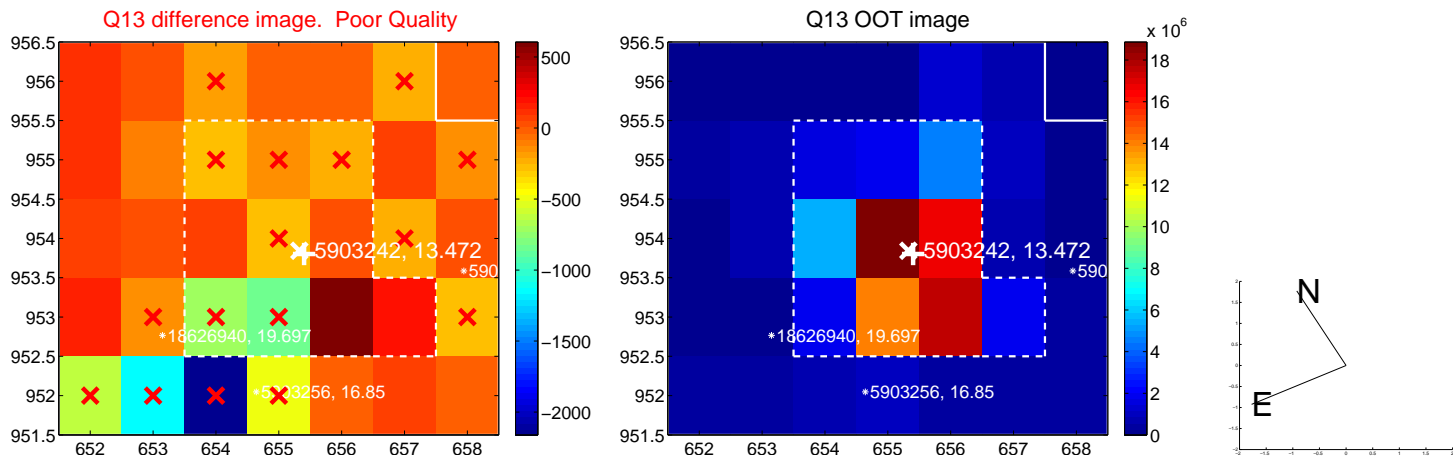
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



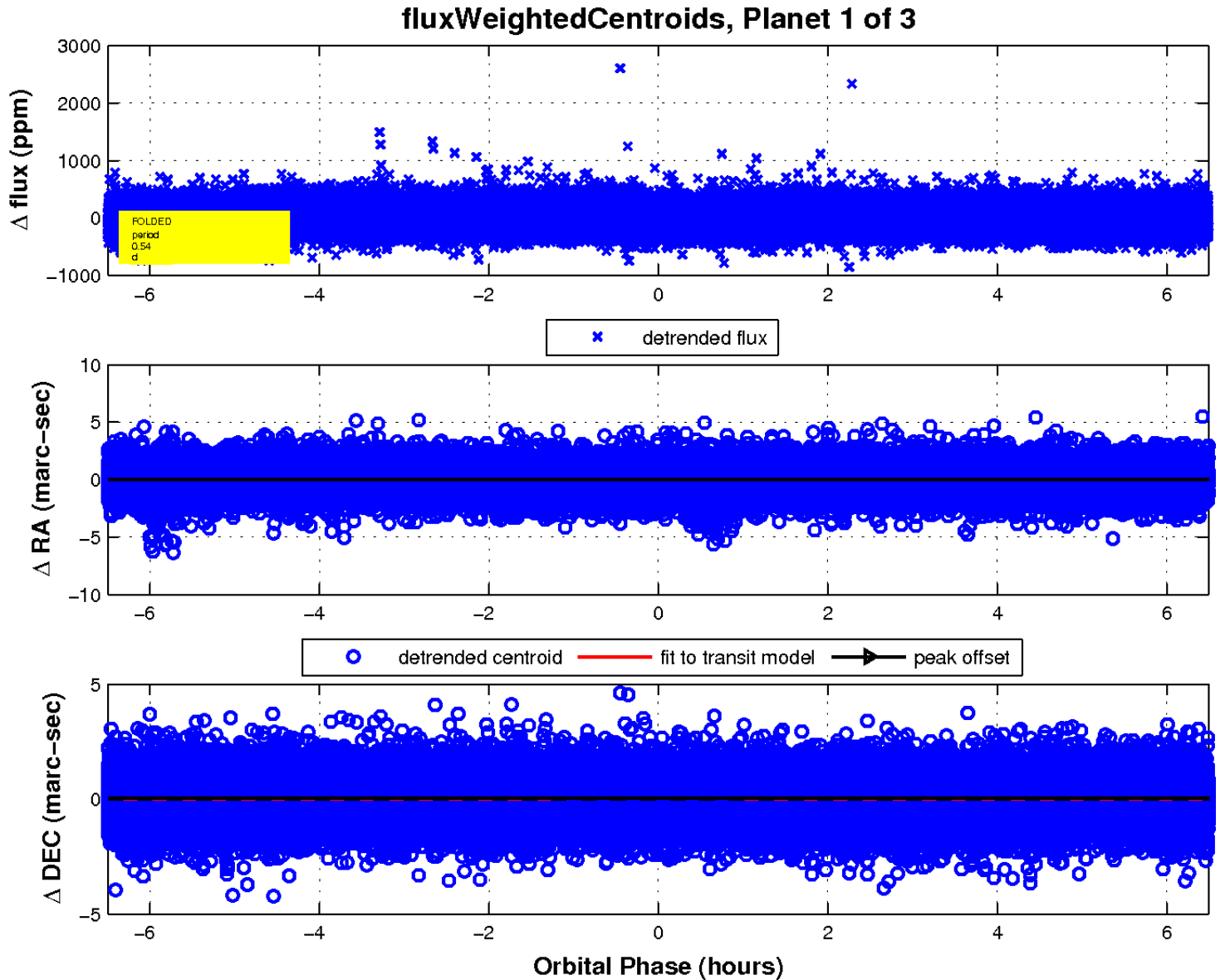
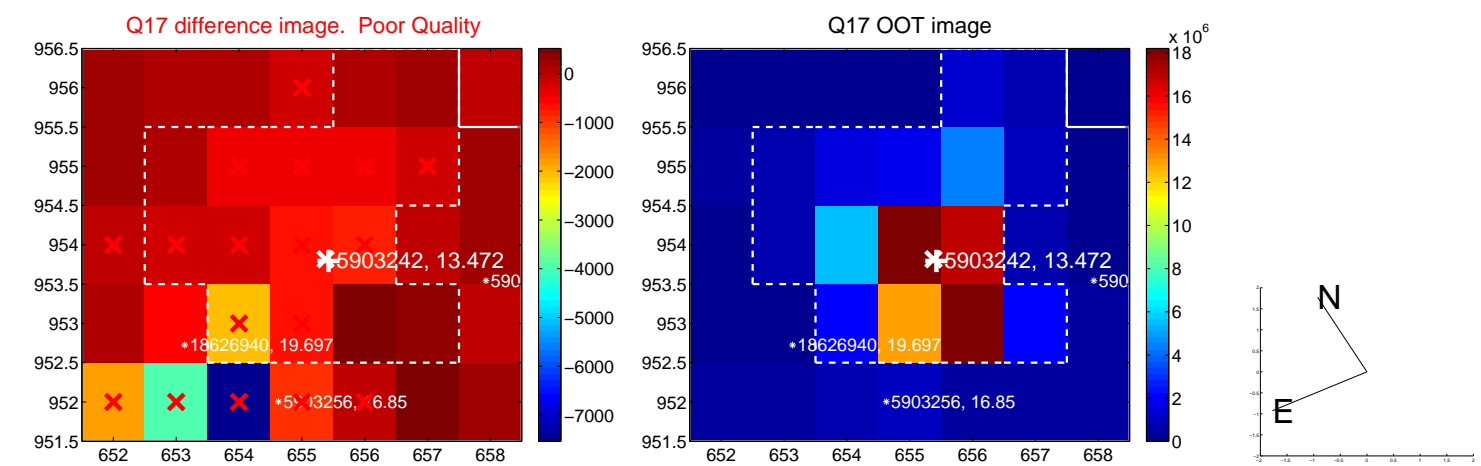
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

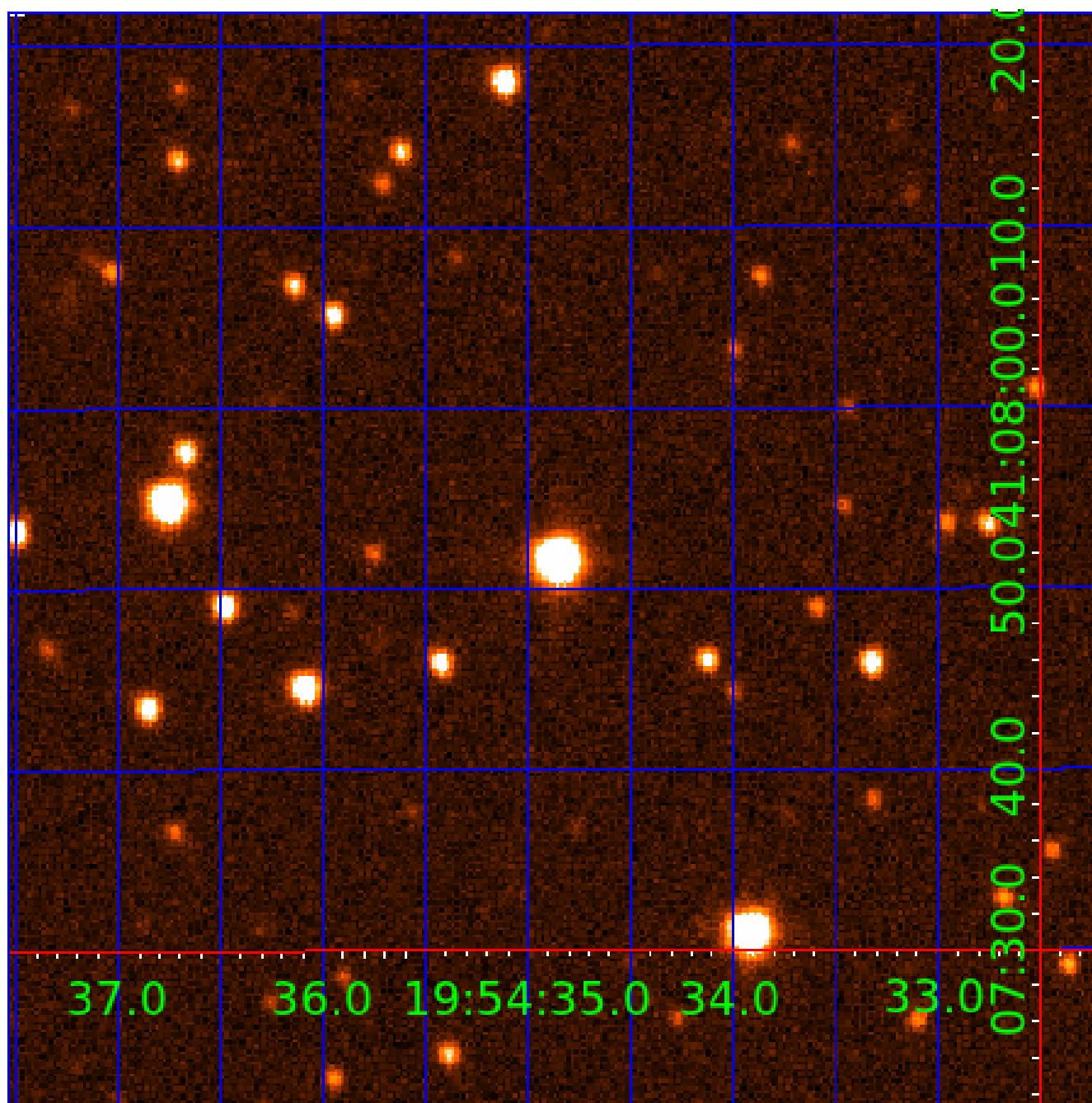


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



UKIRT Image

Declination



KIC 005903242

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})
005903242-01	OBS	No	0.541246	131.687236	16.9	3.182	7.4	9.6	5.49	6194	2.65	0.00
005903242-02	OBS	No	97.158868	135.353966	282.7	6.675	10.6	6.9	5.49	6194	10.07	144.41
005903242-03	OBS	No	170.327684	136.279380	395.1	3.183	8.7	7.0	5.49	6194	12.41	68.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005903242-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
005903242-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005903242-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET

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

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

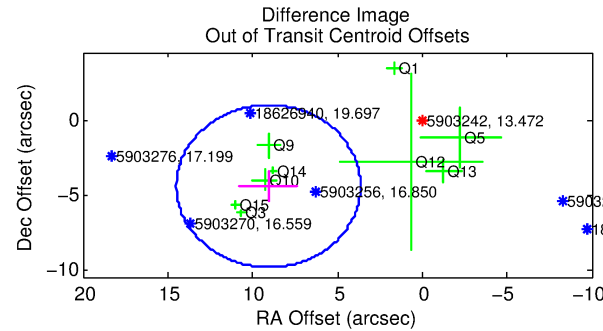
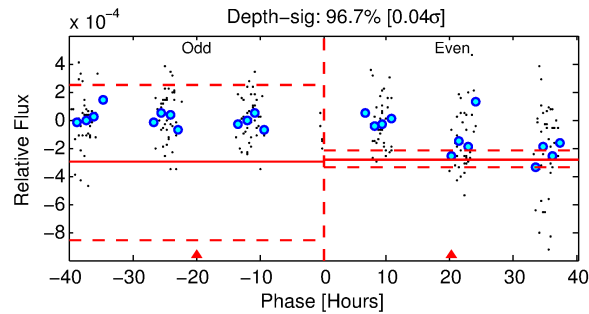
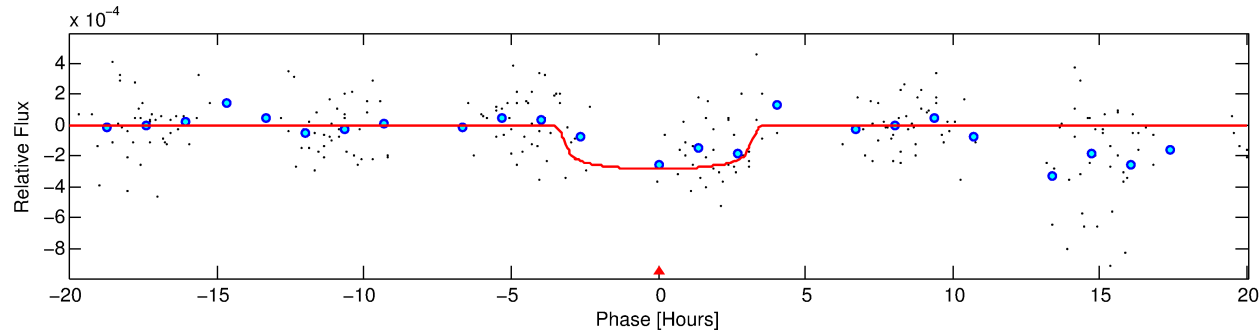
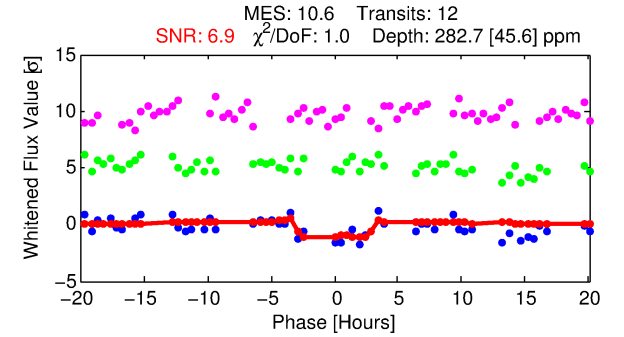
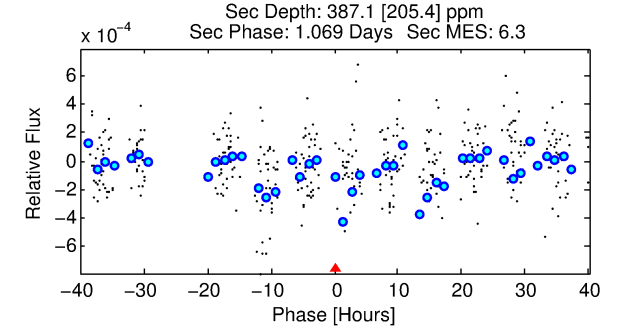
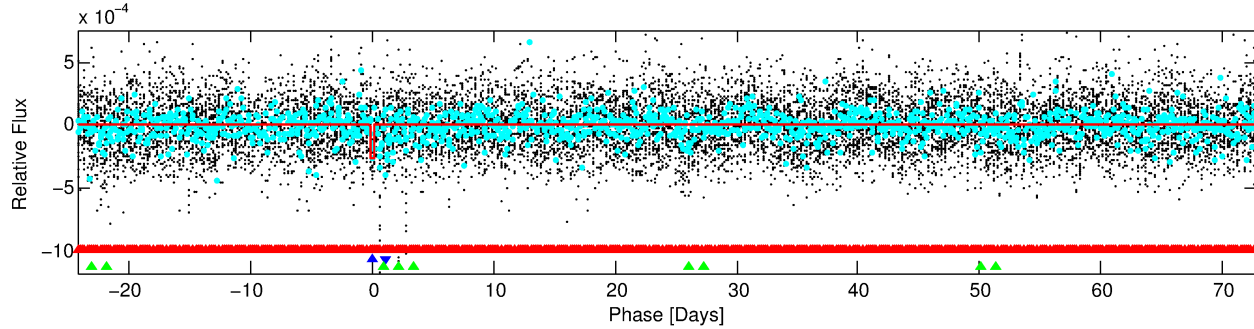
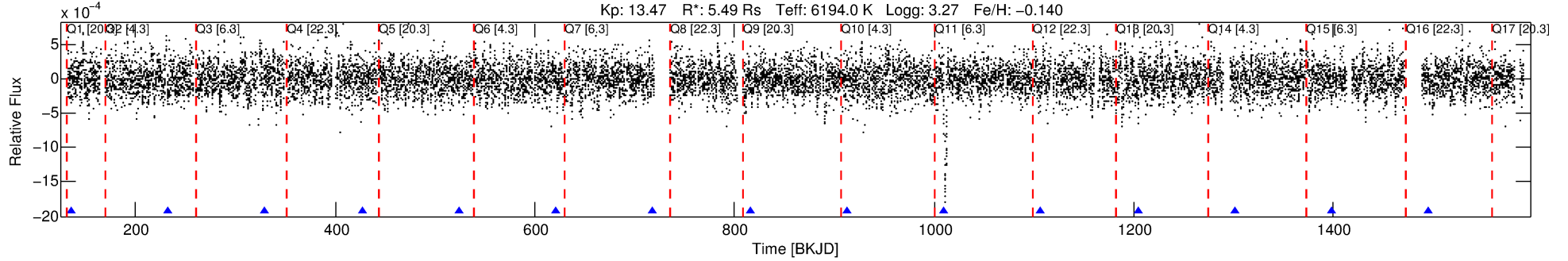
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005903242-02

No Significant Match Found

DV One-Page Summary

KIC: 5903242 Candidate: 2 of 3 Period: 97.159 d



DV Fit Results:

Period = 97.15887 [0.00180] d
Epoch = 135.3540 [0.0105] BKJD
Rp/R* = 0.0168 [0.0089]
a/R* = 74.30 [199.99]
b = 0.77 [1.47]
Seff = 144.41 [88.48]
Teq = 884 [135] K
Rp = 10.07 [6.66] Re
a = 0.5242 [0.1985] AU
Ag = 577.12 [764.63] [0.75σ]
Teffp = 6699 [1987] K [2.92σ]

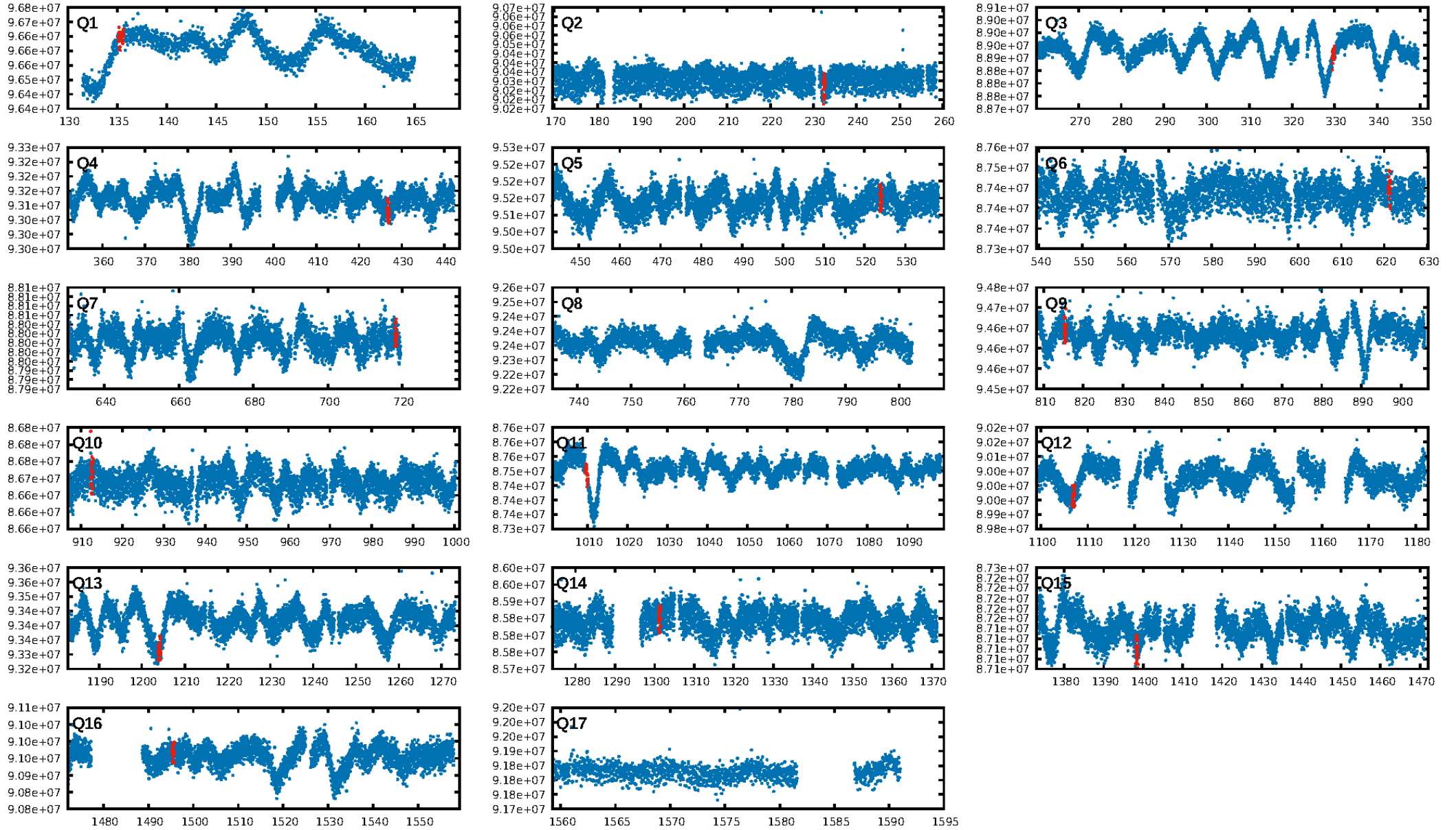
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [313.59σ]
LongPeriod-sig: 100.0% [237.46σ]
ModelChiSquare2-sig: 8.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.39e-18
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: -1.11
Centroid-sig: 4.1%
Centroid-so: 1.499 arcsec [2.00σ]
OotOffset-rm: 10.093 arcsec [5.58σ]
KicOffset-rm: 10.104 arcsec [5.90σ]
OotOffset-st: 2/2/1/4 [9]
KicOffset-st: 2/2/1/4 [9]
DiffImageQuality-fgm: 0.00 [0/9]
DiffImageOverlap-fno: 0.00 [0/14]

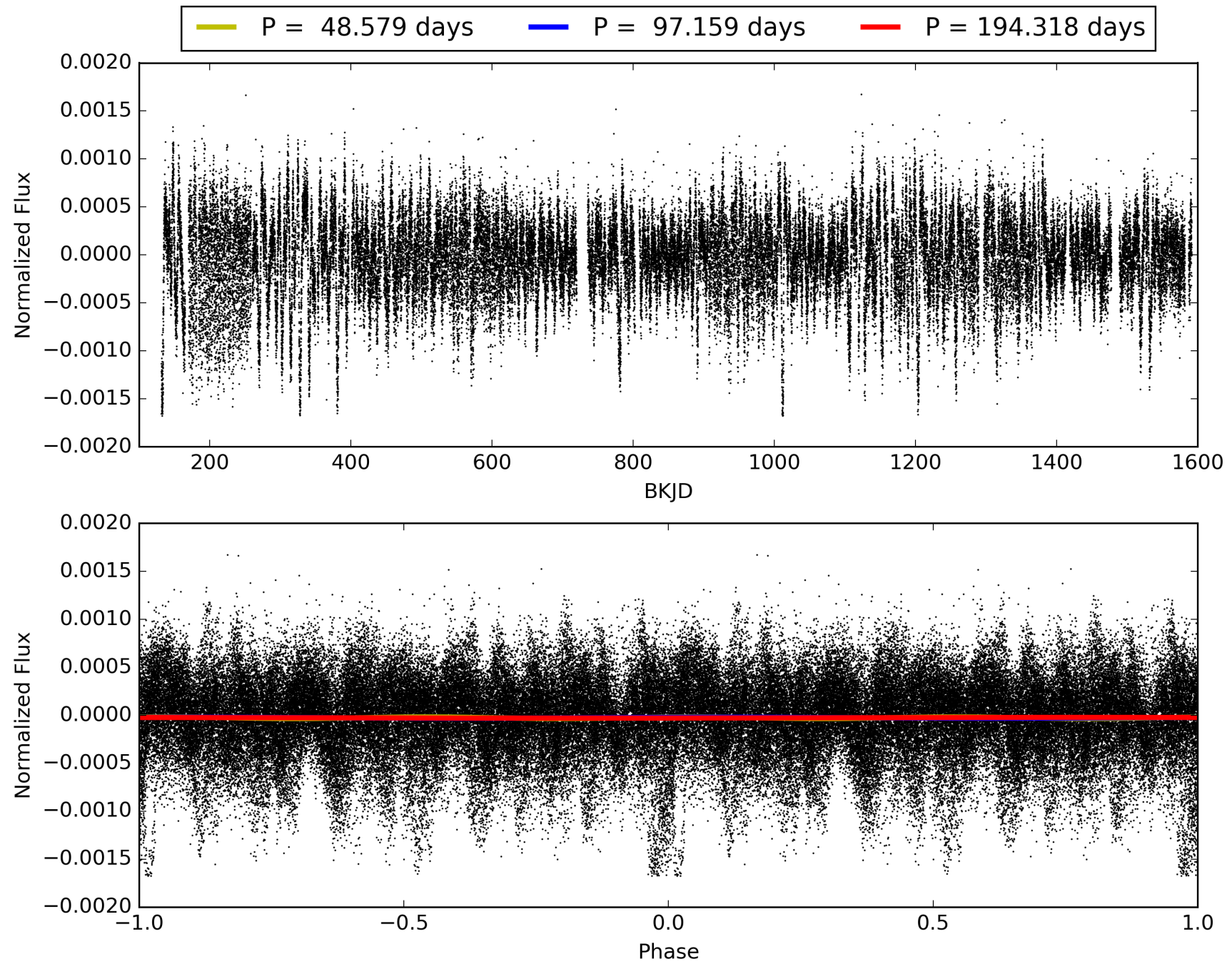
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:36:41 Z

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

TCE 005903242-02, PDC Light Curves

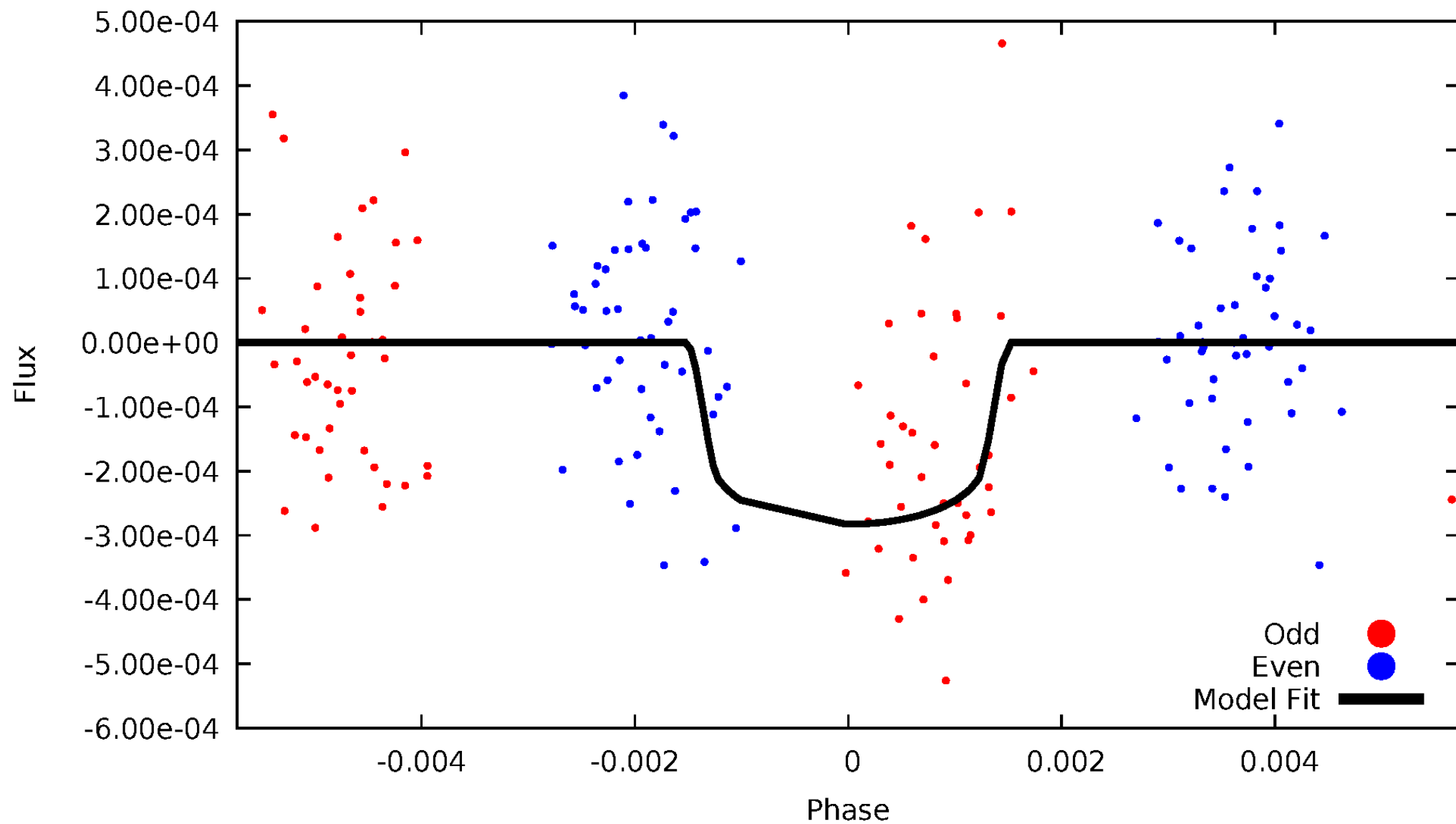


TCE 005903242-02



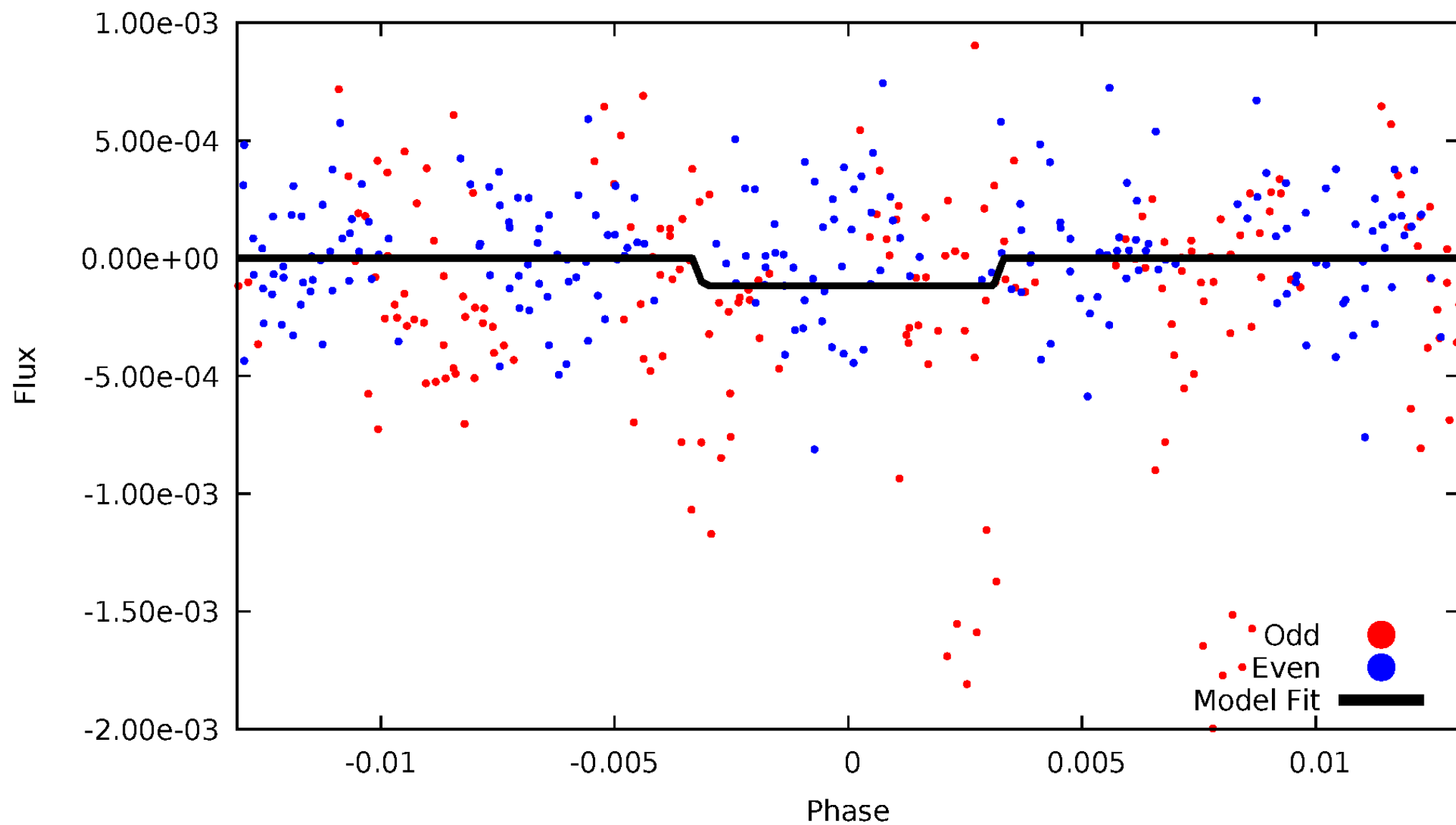
DV Odd/Even

TCE 005903242-02



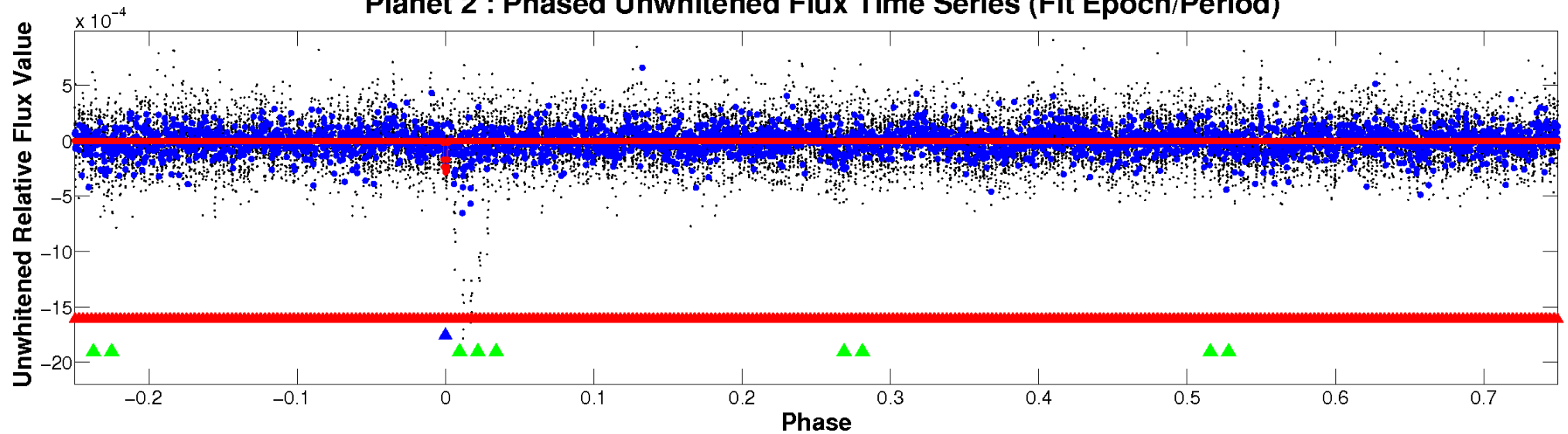
ALT Odd/Even

TCE 005903242-02

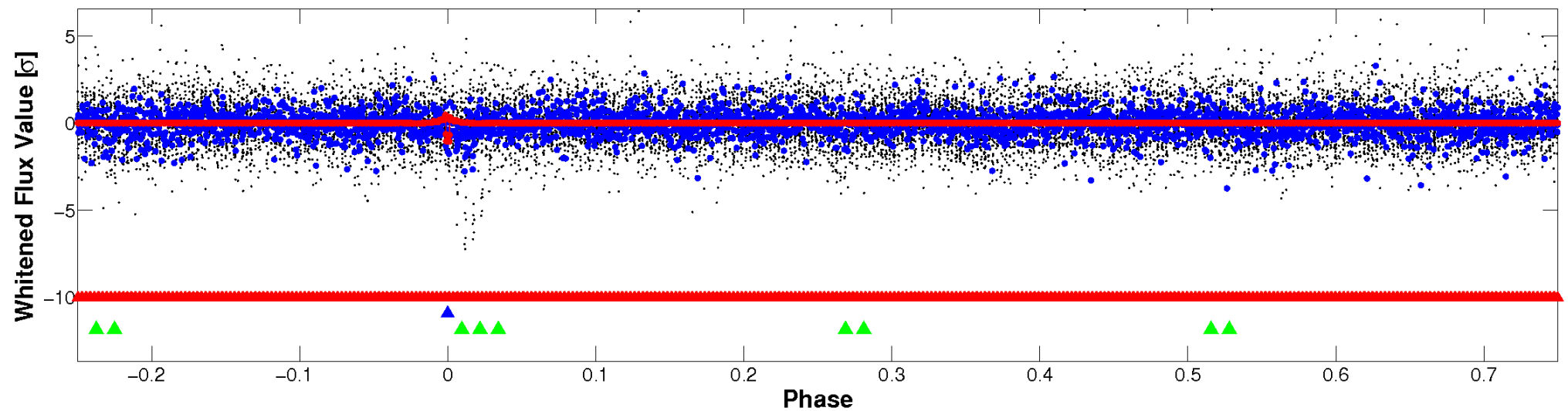


Non-Whitened Vs. Whitened Light Curve

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

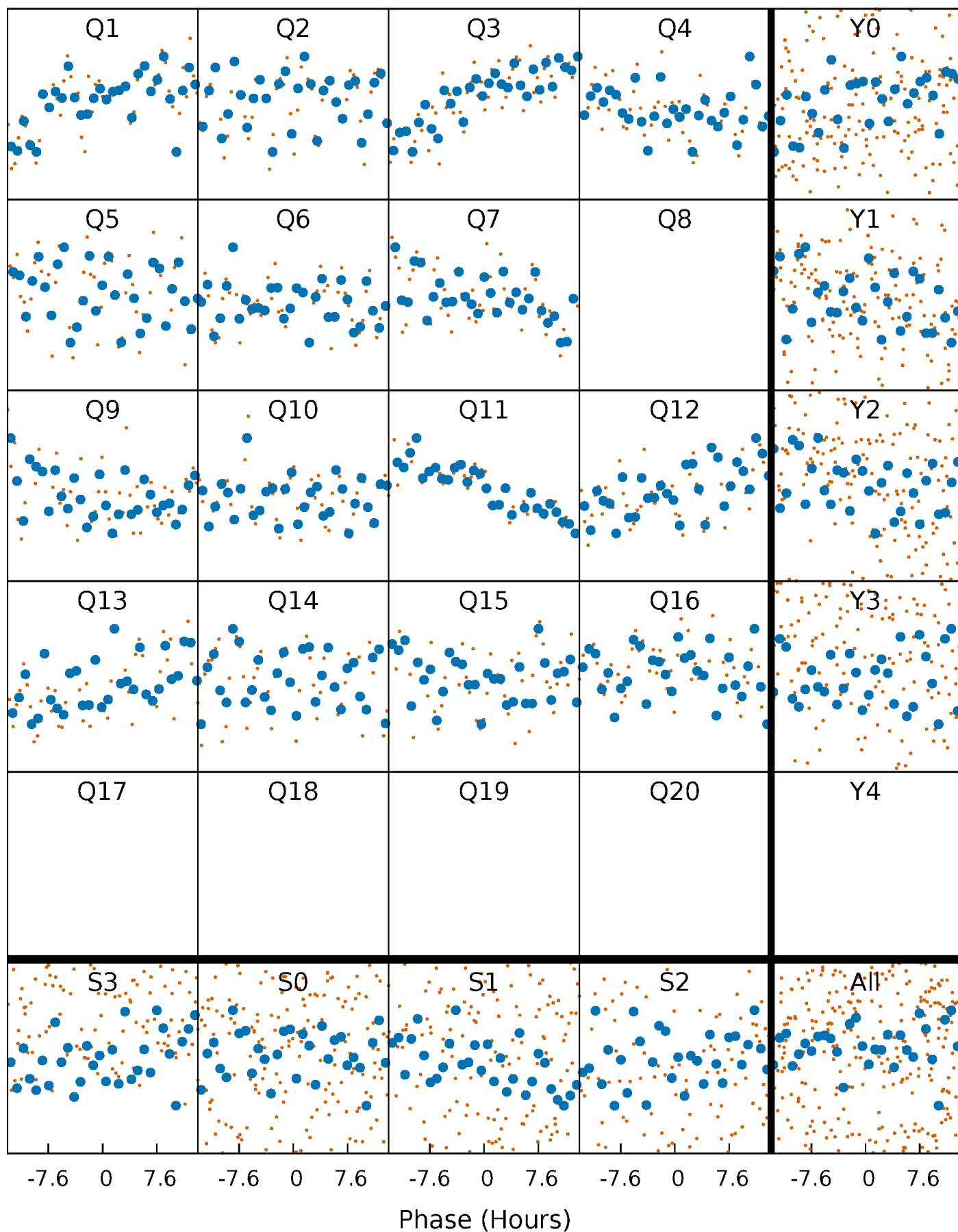


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



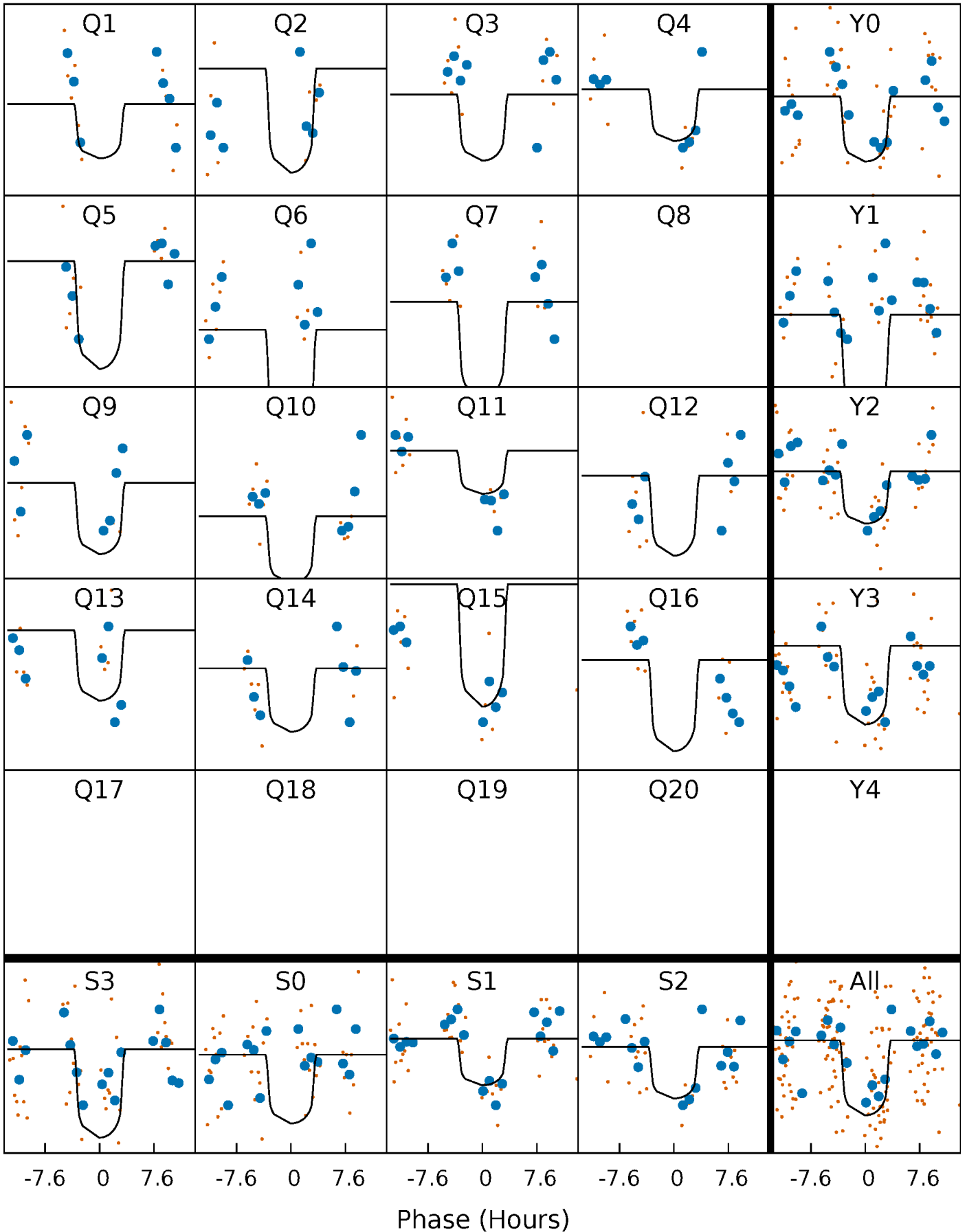
PDC Quarter-Phased Transit Curves

TCE 005903242-02 $P = 97.158868$ Days $T_0 = 135.353966$ (BKJD)



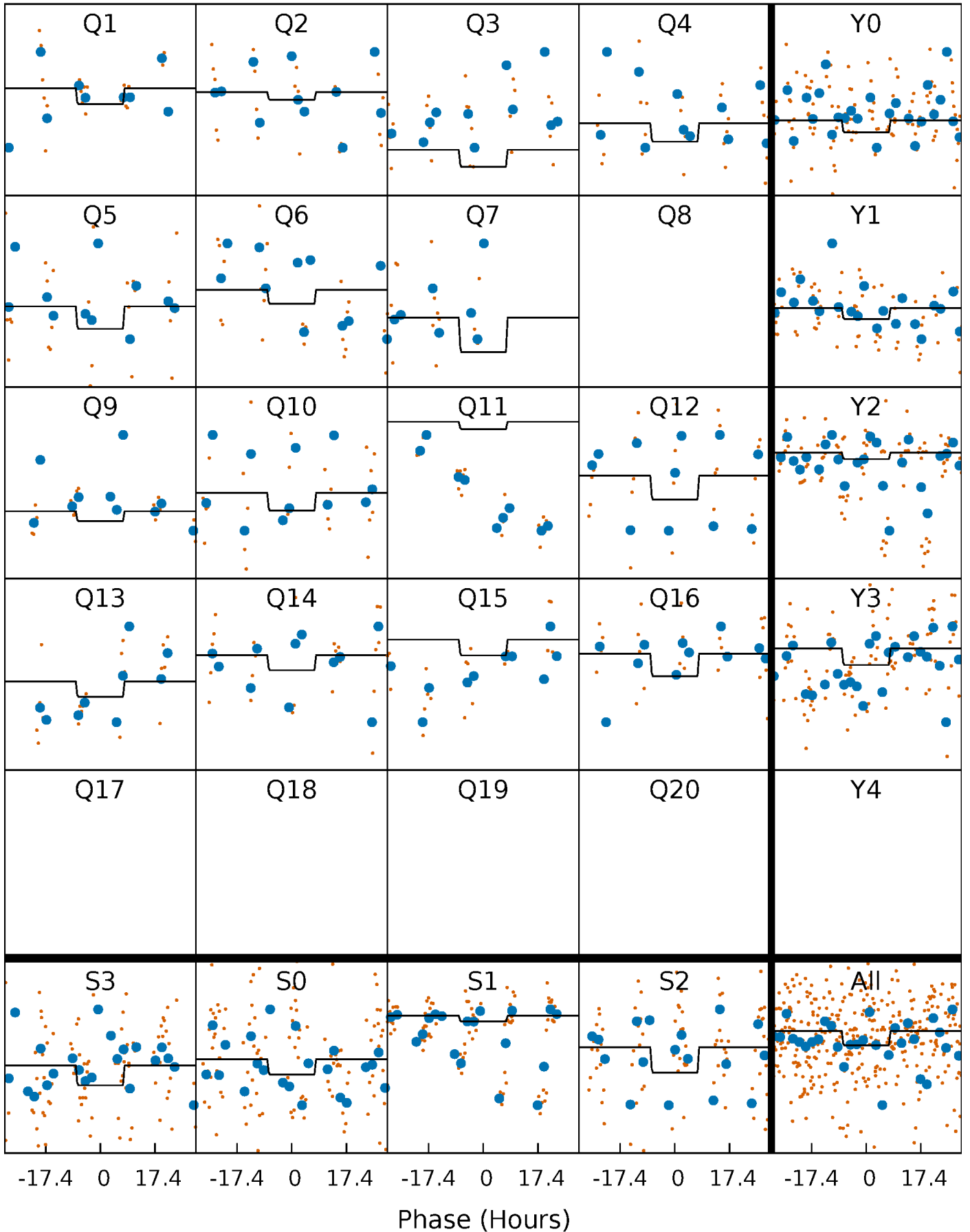
DV Quarter-Phased Transit Curves

TCE 005903242-02 $P = 97.158868$ Days $T_0 = 135.353966$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

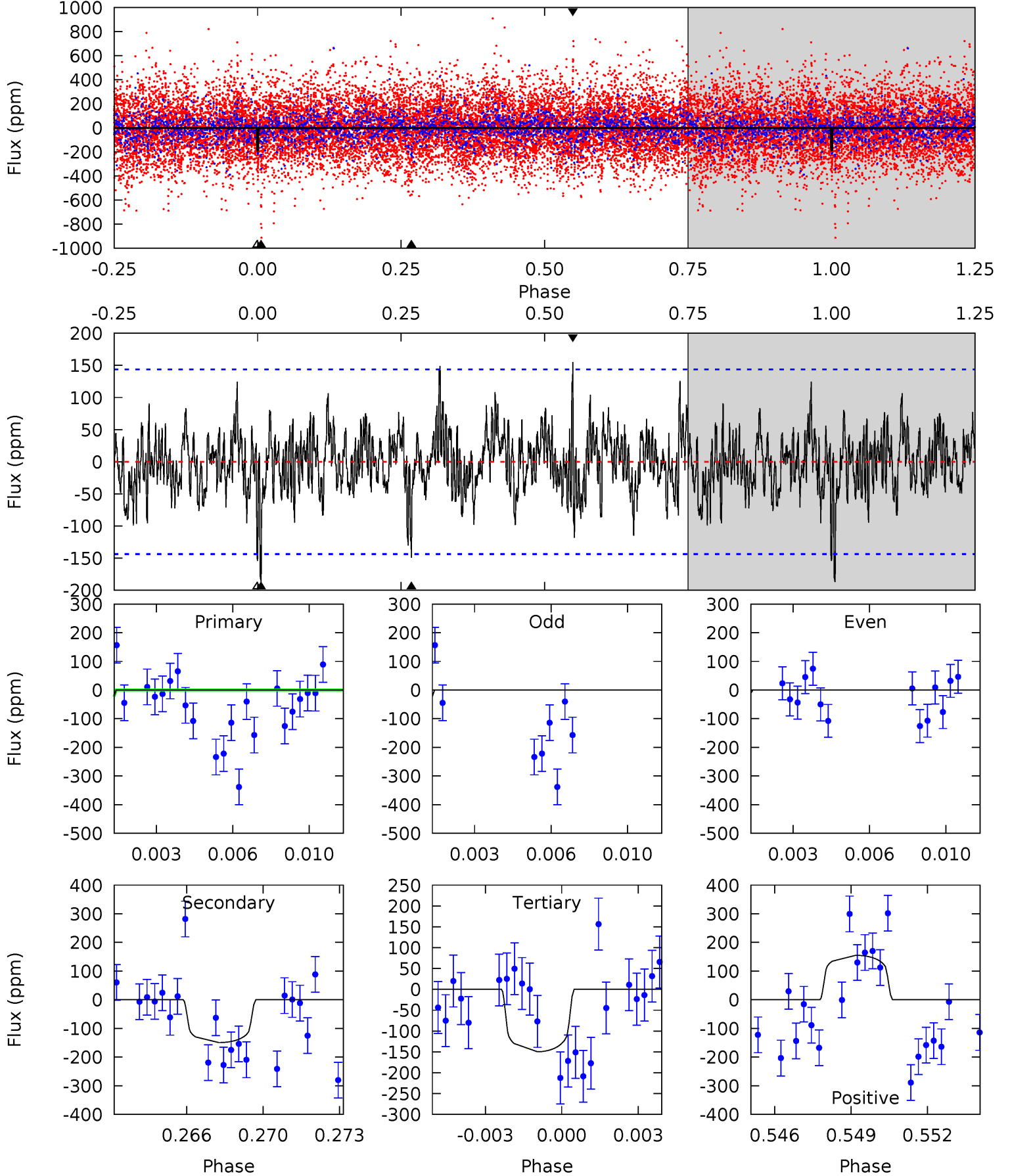
TCE 005903242-02 P= 97.131362 Days $T_0=136.506566$ (BKJD)



DV Model-Shift Uniqueness Test

005903242-02, P = 97.158868 Days, E = 38.195098 Days

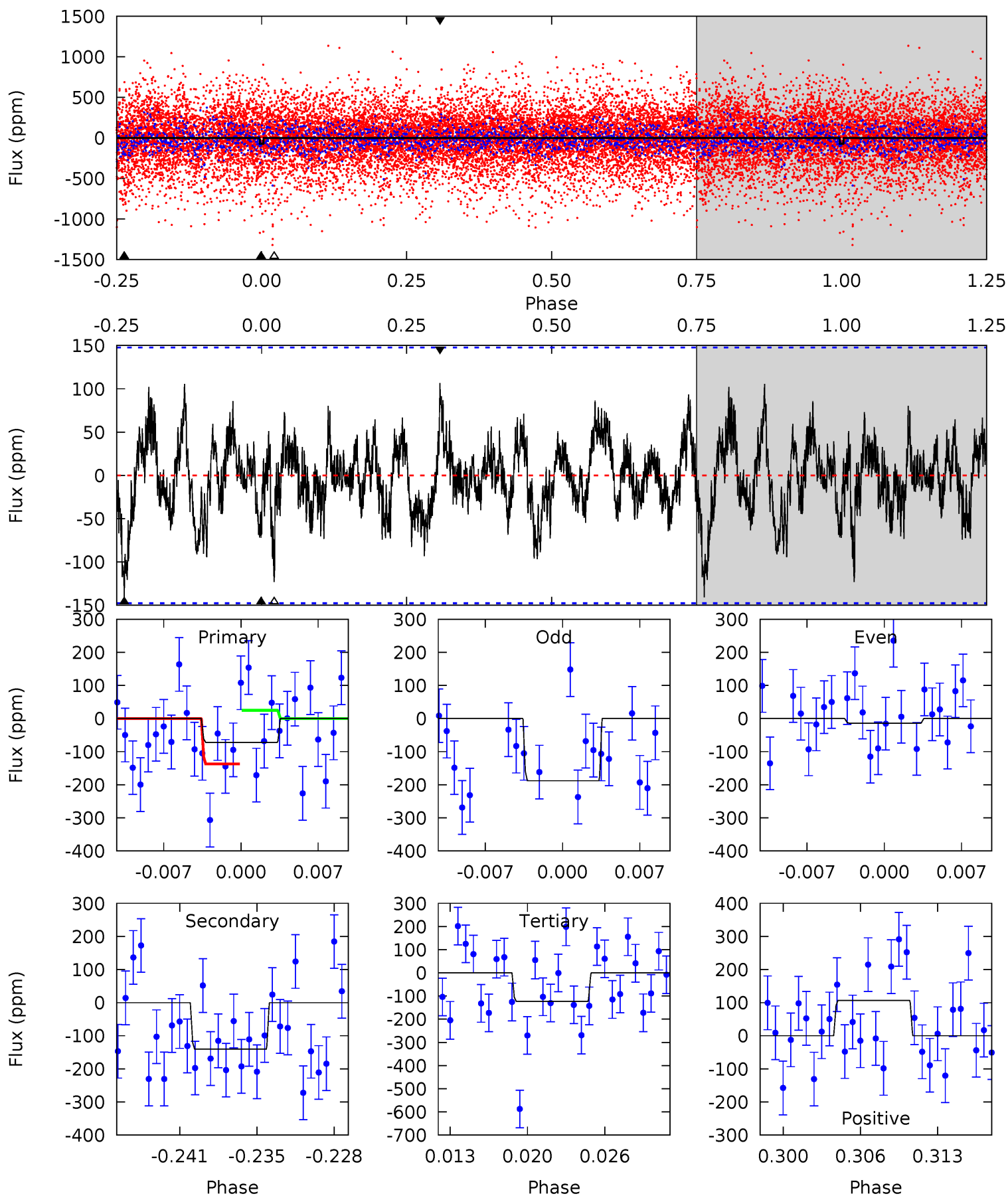
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.82	5.44	5.45	5.65	5.24	2.95	1.47	1.37	1.17	-0.01	-0.21	1.35	1.12	0.45	0.33



Alt Model-Shift Uniqueness Test

005903242-02, P = 97.131362 Days, E = 39.375204 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.49	4.86	4.25	3.69	5.11	2.72	1.22	-1.76	-1.20	0.61	1.17	2.97	10.7	0.43	1.93



Stellar Parameters For KIC 005903242

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6194^{+185}_{-185}	$3.268^{+0.351}_{-0.059}$	$-0.140^{+0.350}_{-0.350}$	$5.485^{+0.243}_{-2.190}$	$2.036^{+0.109}_{-0.435}$	$0.017^{+0.047}_{-0.002}$
	+3%/-3%	+11%/-2%	+250%/-250%	+4%/-40%	+5%/-21%	+272%/-14%
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 005903242-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-149 ± 27	$9.41^{+5.29}_{-4.46}$	1218^{+56}_{-112}	5313^{+1890}_{-885}	250^{+673}_{-150}
Alt.	-141 ± 29	$6.71^{+4.86}_{-4.04}$	1208^{+58}_{-104}	6067^{+4420}_{-1312}	465^{+2478}_{-313}

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 $A_{obs} \gg 1.0$

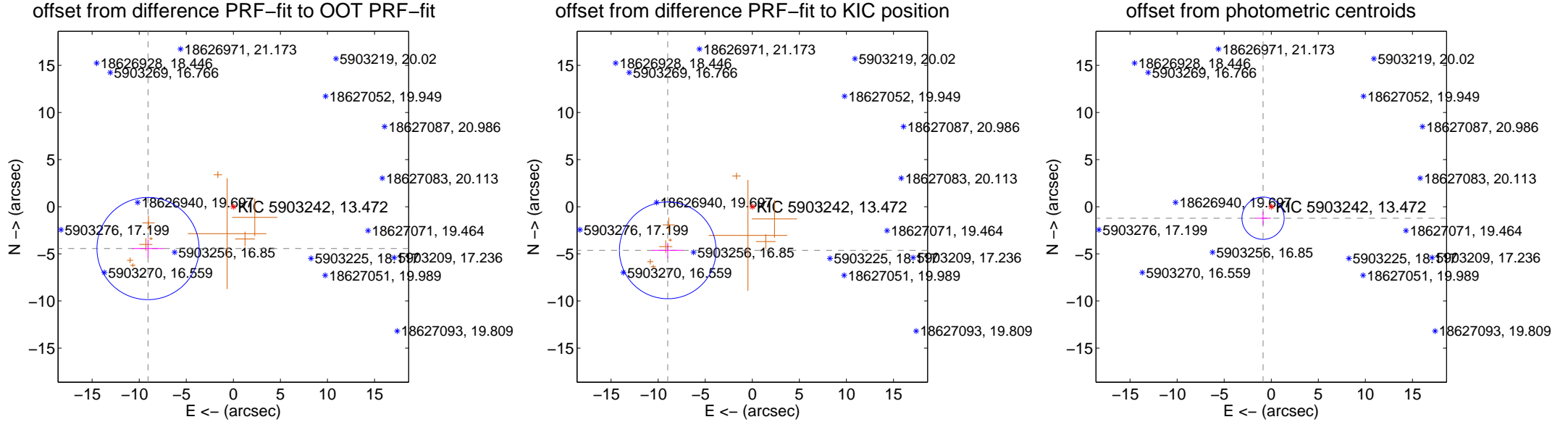
DV Centroid Data

Supplemental centroid analysis for 005903242-02. Kepler magnitude: 13.47. Transit SNR 6.93

There are 0 quarters with good PRF difference image offsets

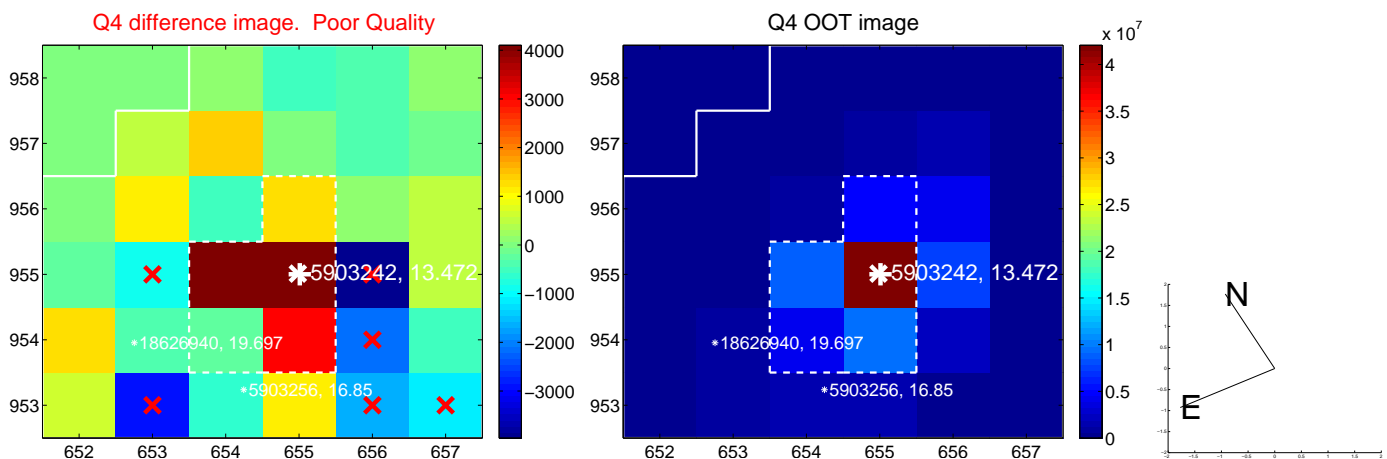
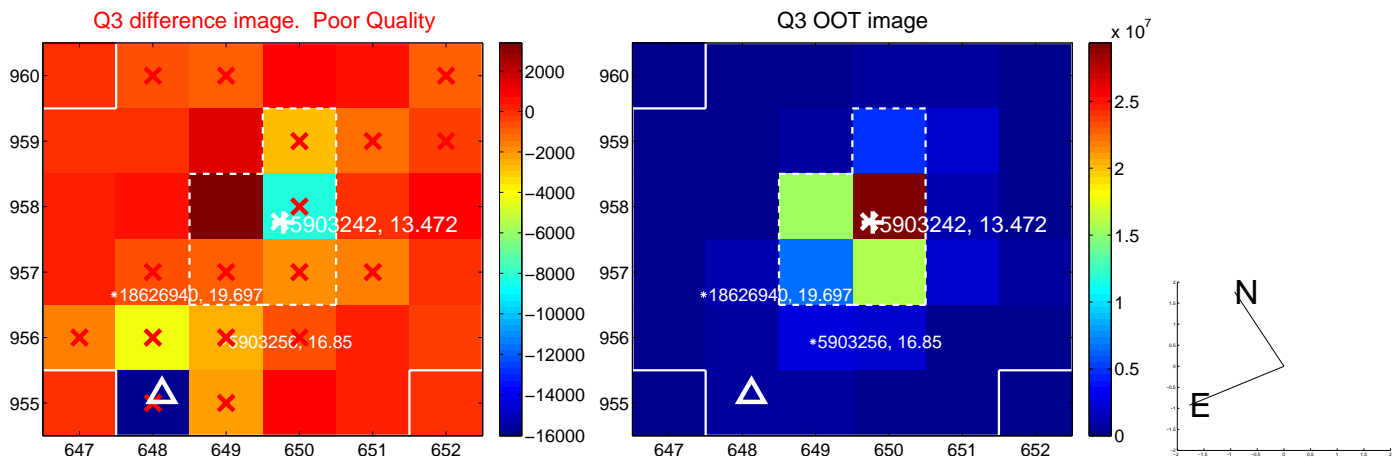
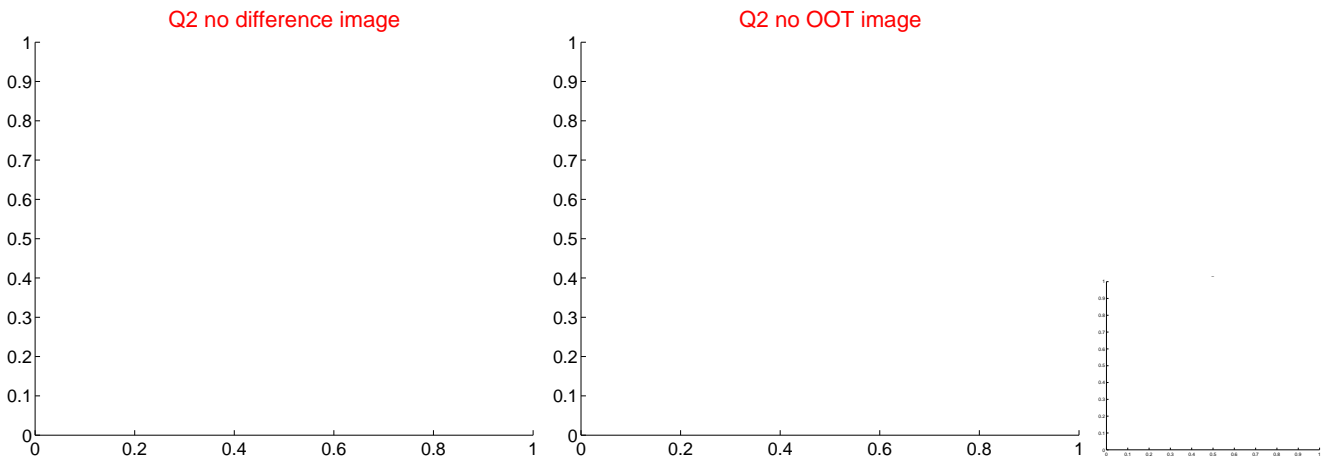
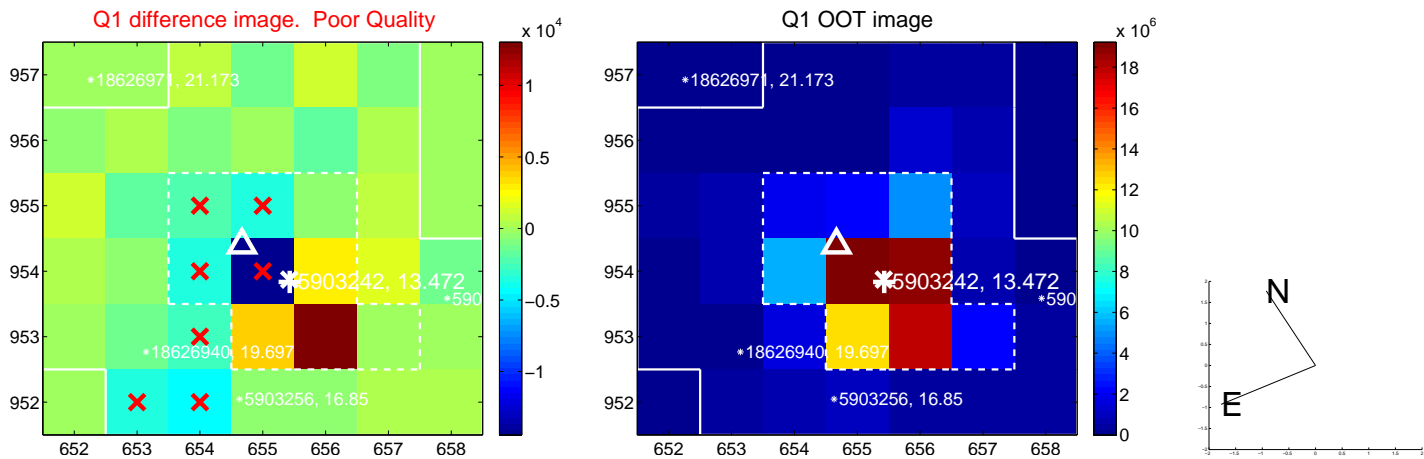
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.093 \pm 1.808	5.58	9.066 \pm 1.702	-4.437 \pm 0.960
PRF-fit source offset from KIC position	10.104 \pm 1.711	5.90	8.981 \pm 1.674	-4.629 \pm 0.808
photometric centroid source offset	1.50 \pm 0.75	2.00	0.87 \pm 0.84	-1.22 \pm 0.70

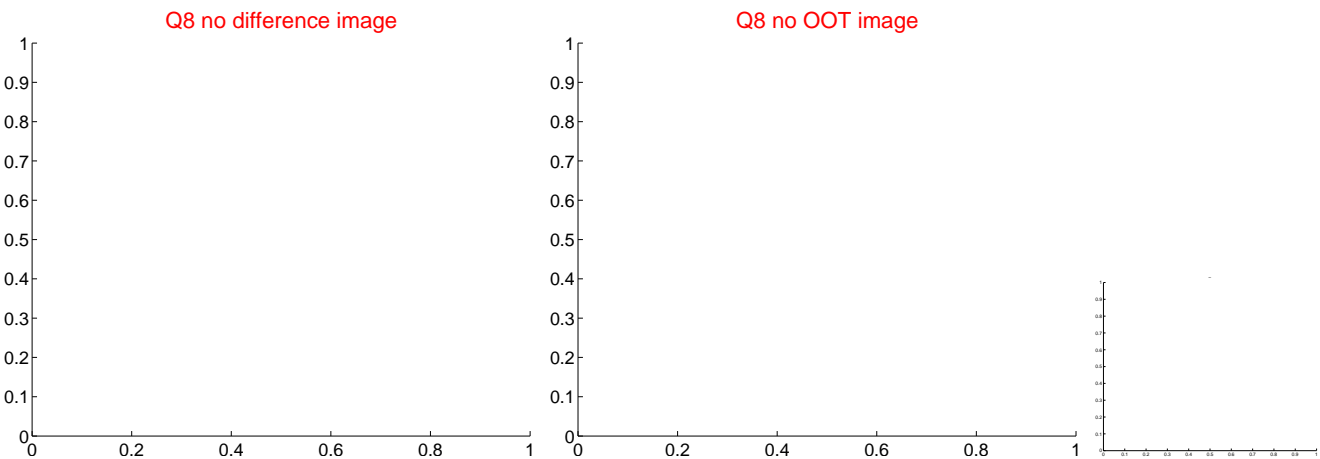
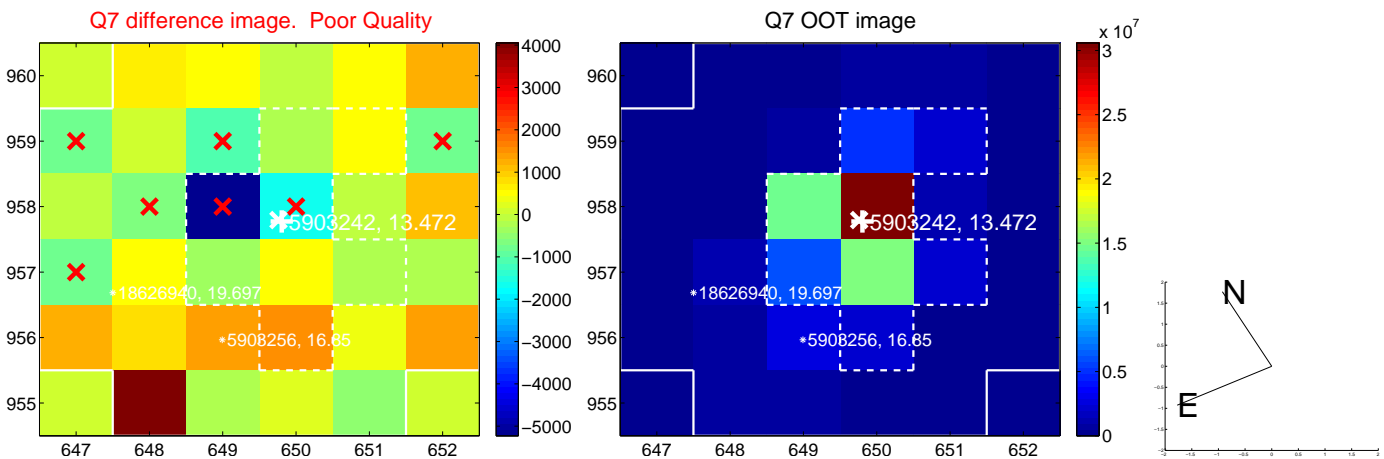
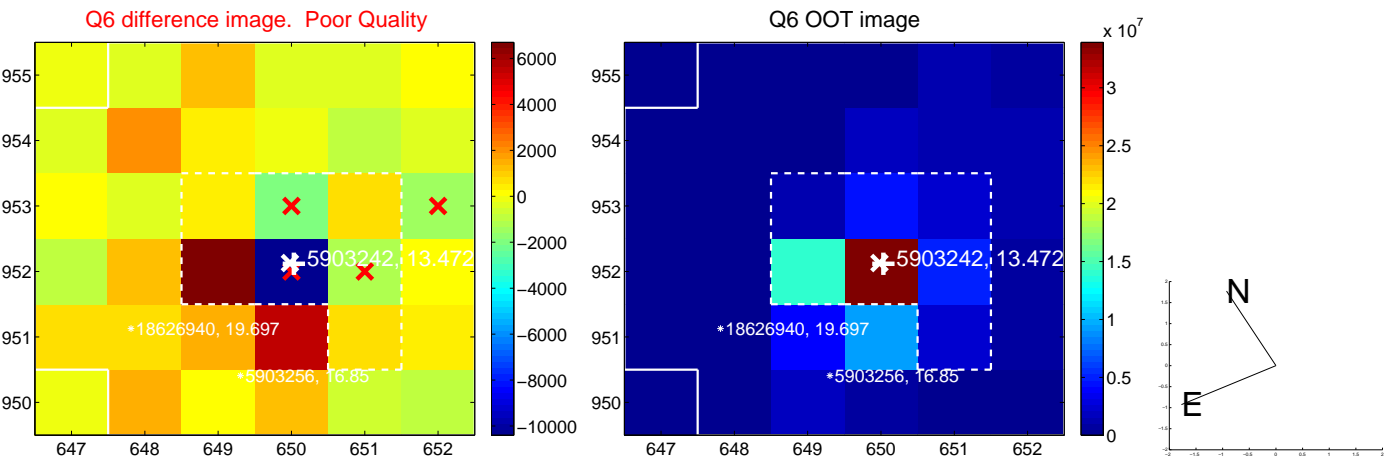
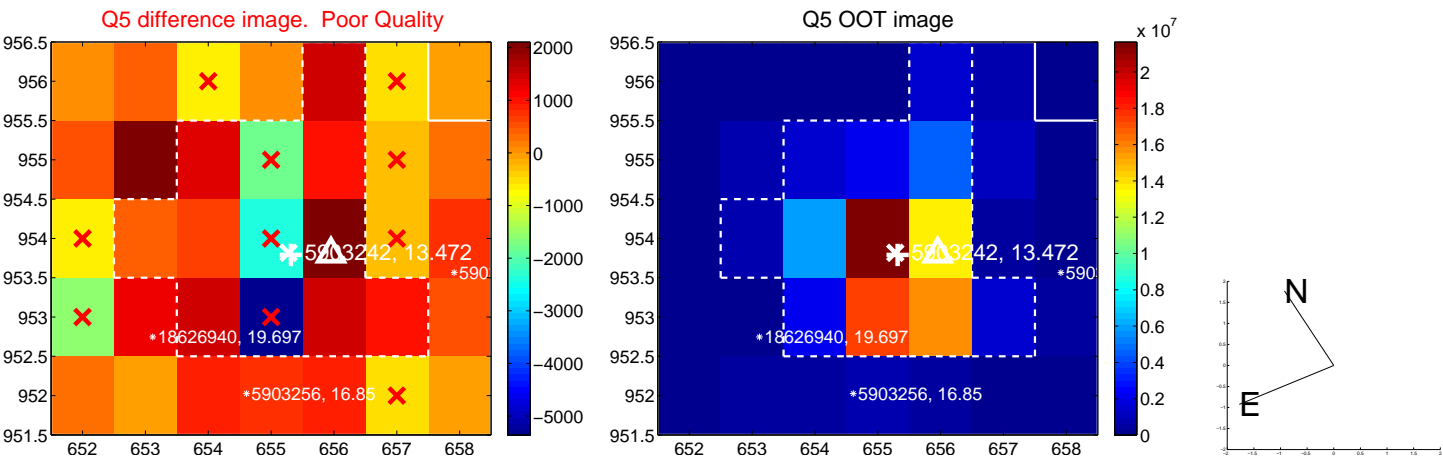


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

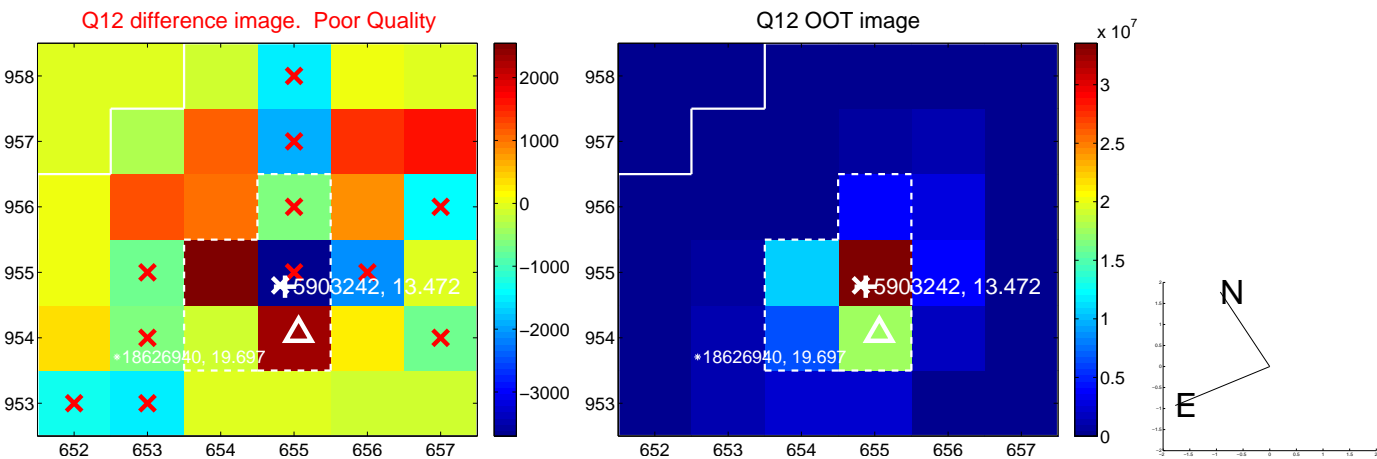
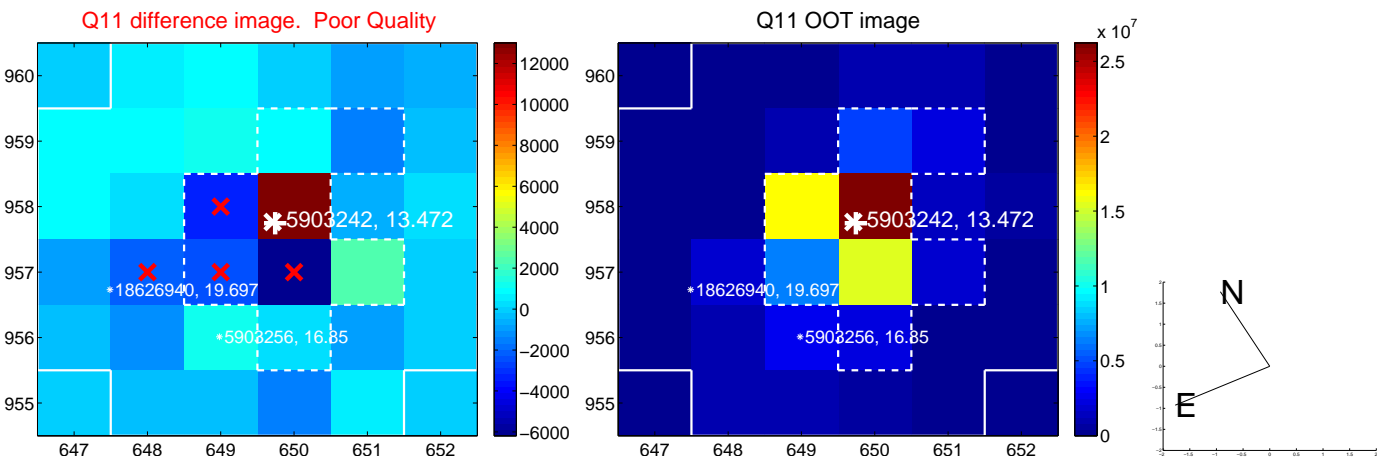
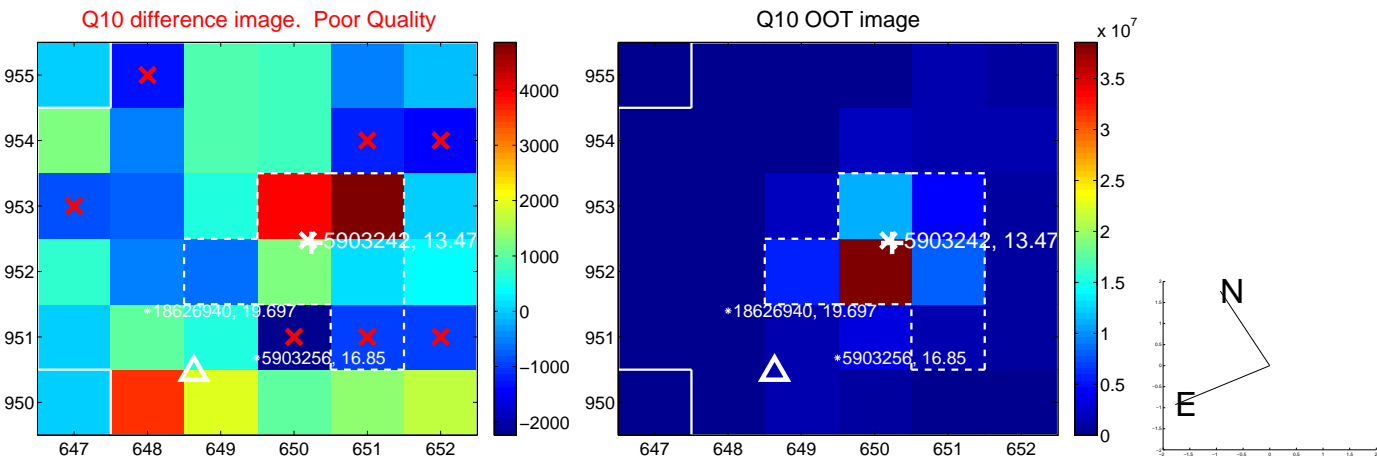
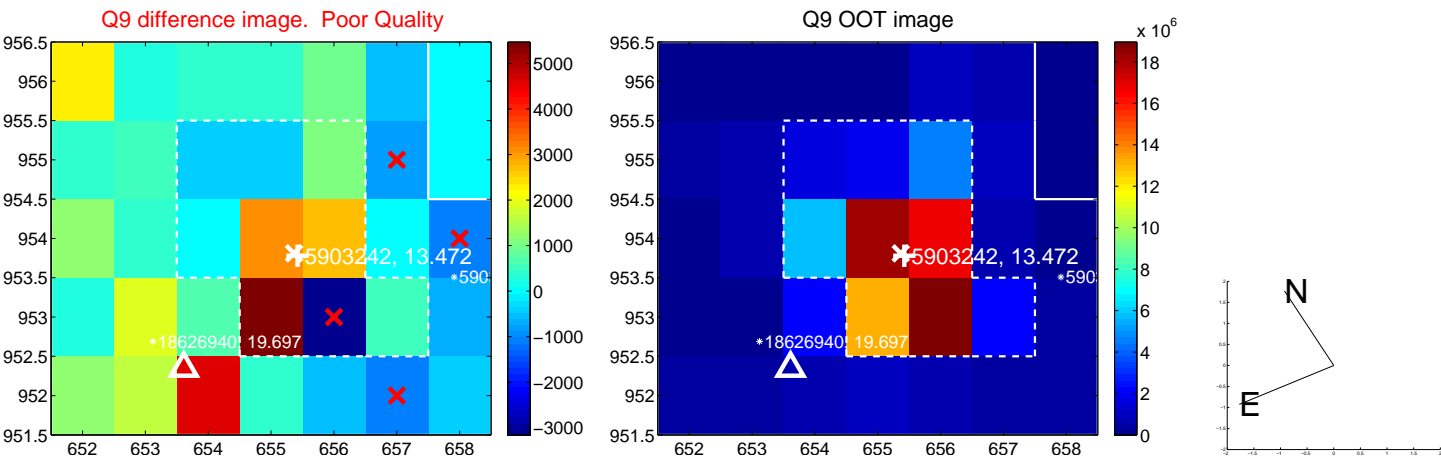
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



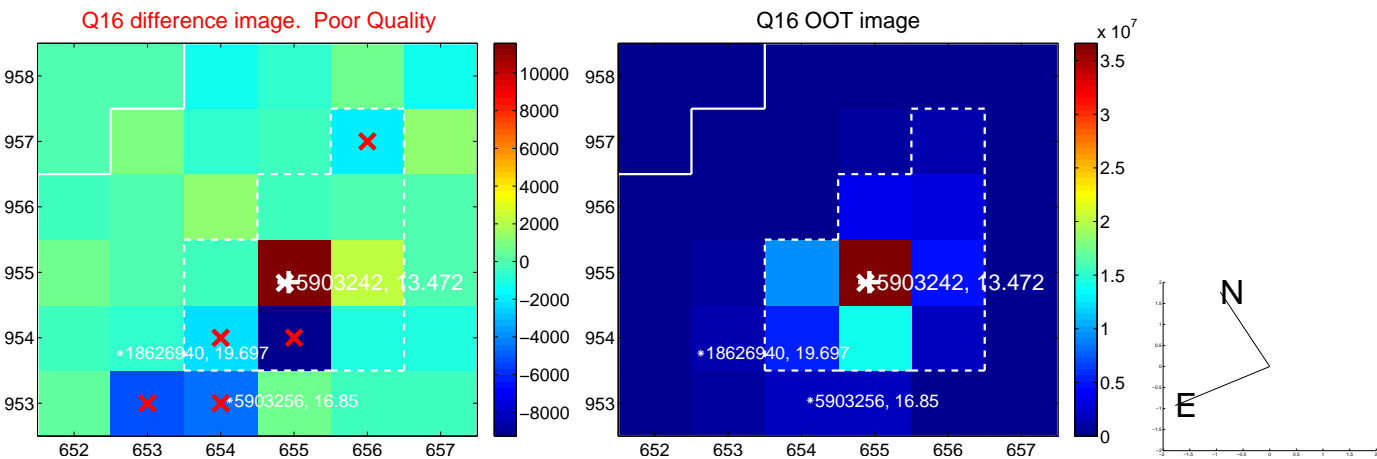
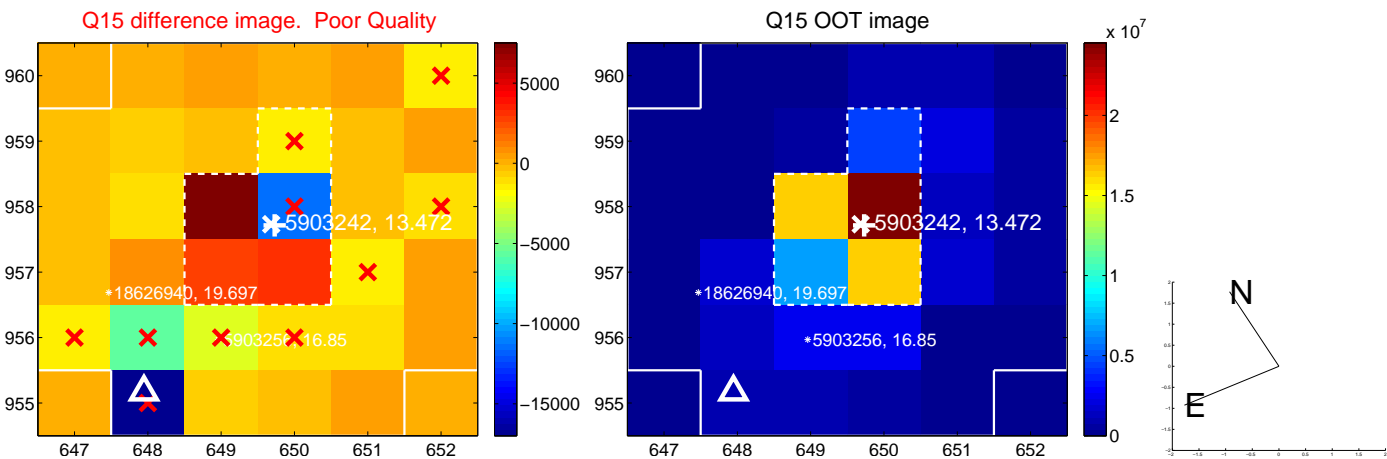
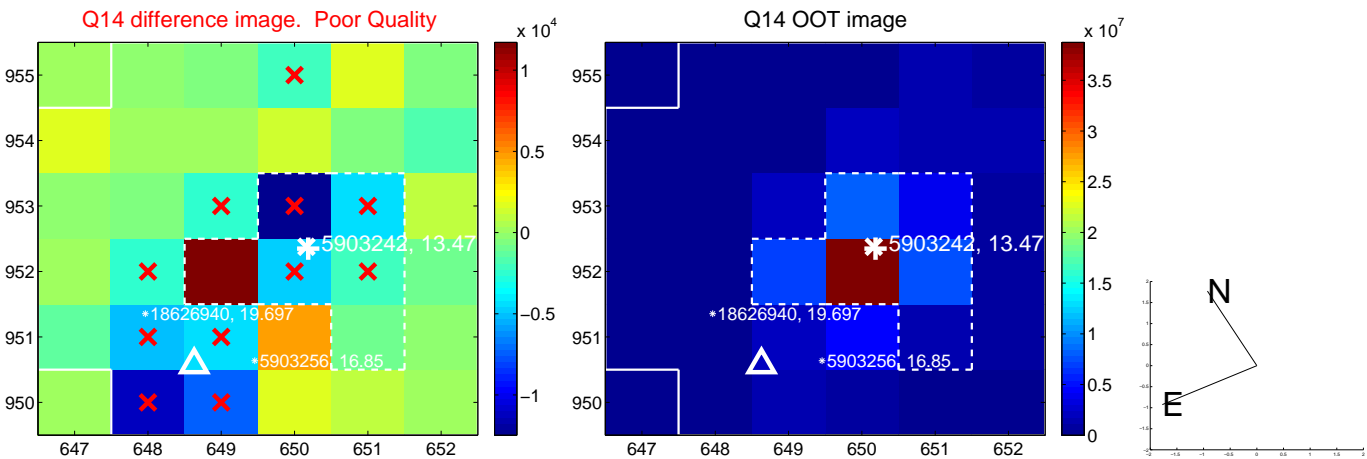
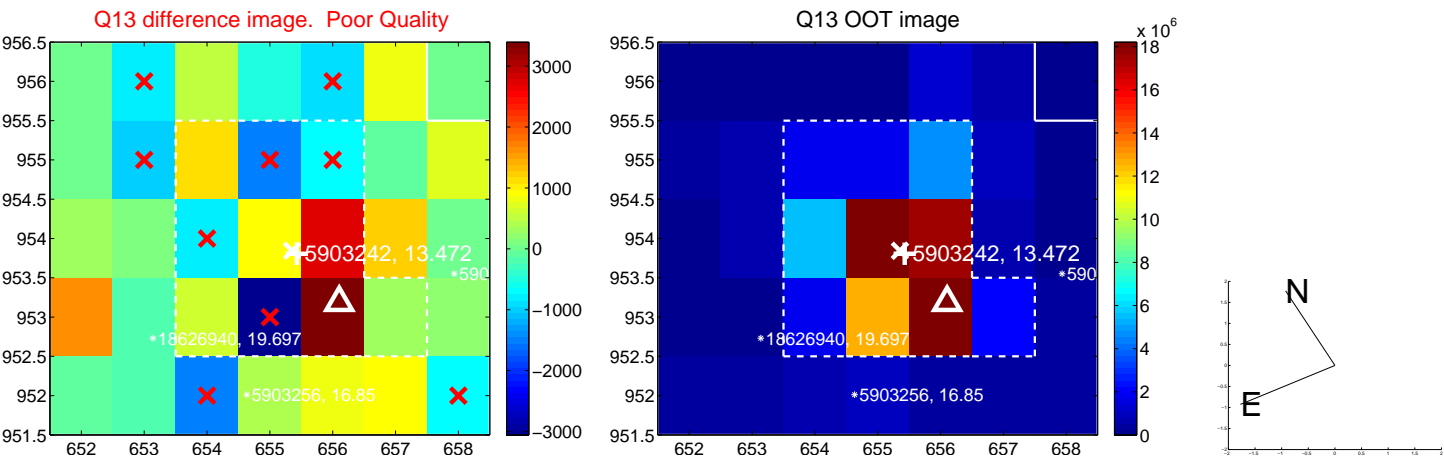
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



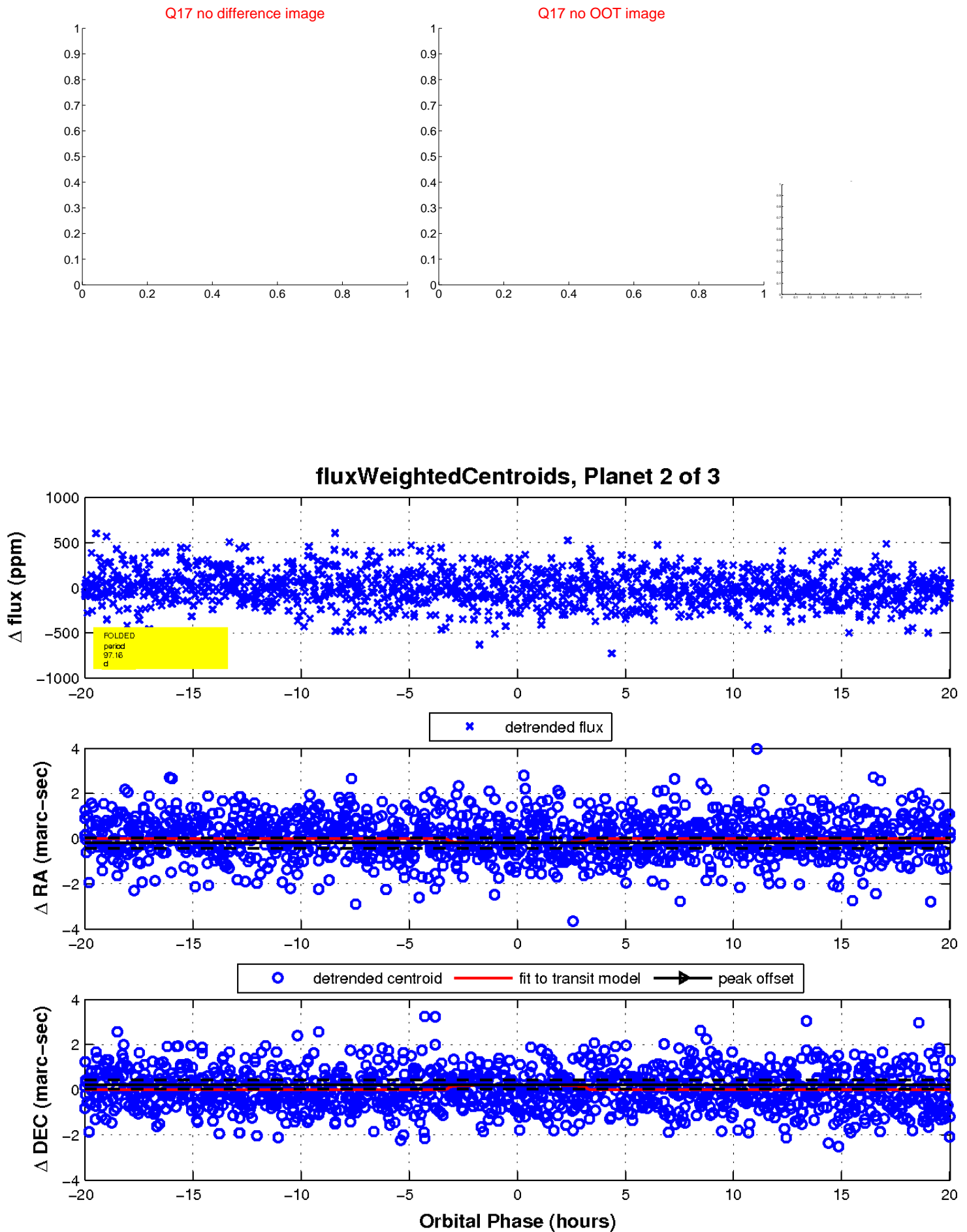
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

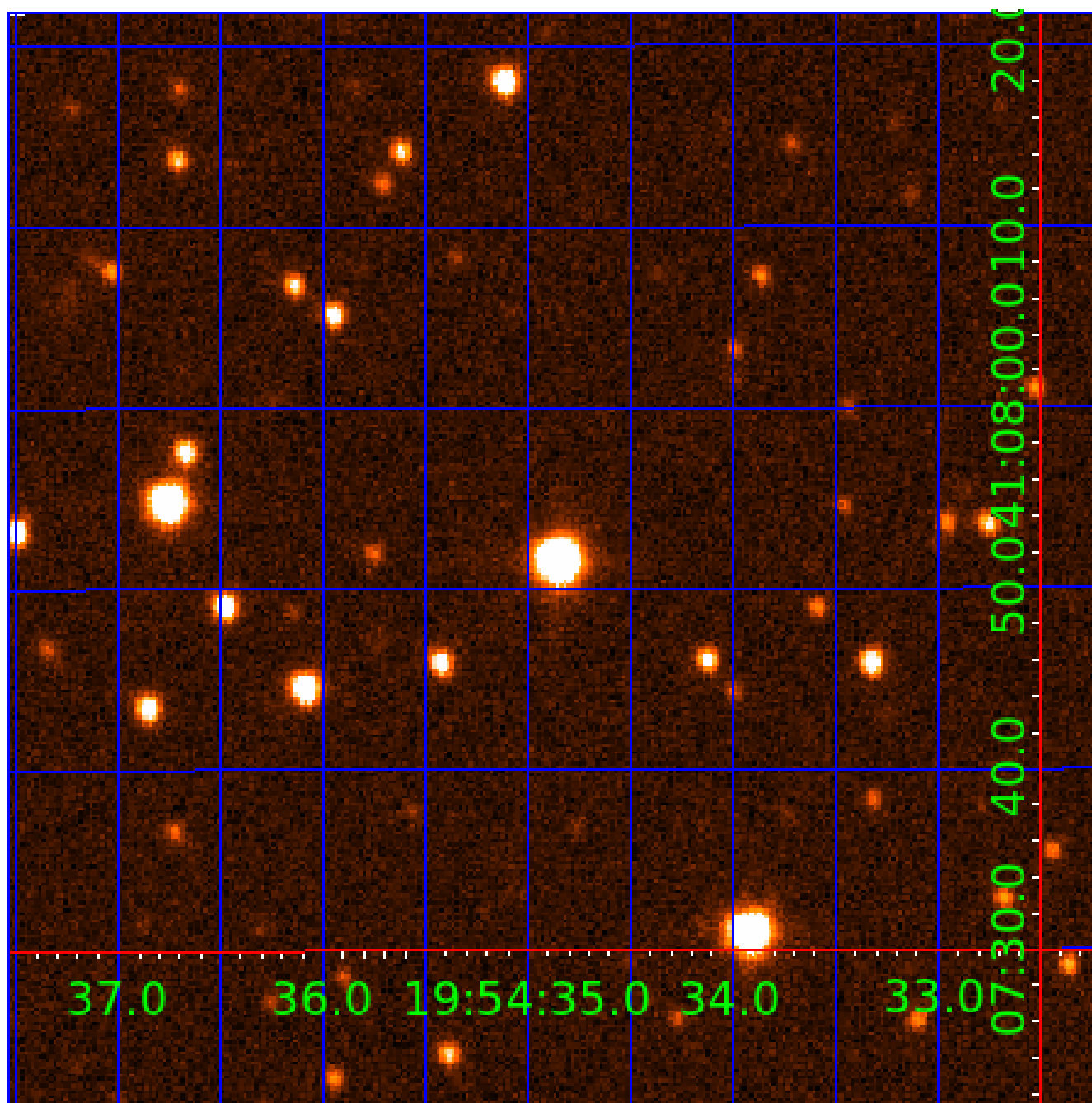


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005903242

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})
005903242-01	OBS	No	0.541246	131.687236	16.9	3.182	7.4	9.6	5.49	6194	2.65	0.00
005903242-02	OBS	No	97.158868	135.353966	282.7	6.675	10.6	6.9	5.49	6194	10.07	144.41
005903242-03	OBS	No	170.327684	136.279380	395.1	3.183	8.7	7.0	5.49	6194	12.41	68.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005903242-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
005903242-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005903242-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET

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

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

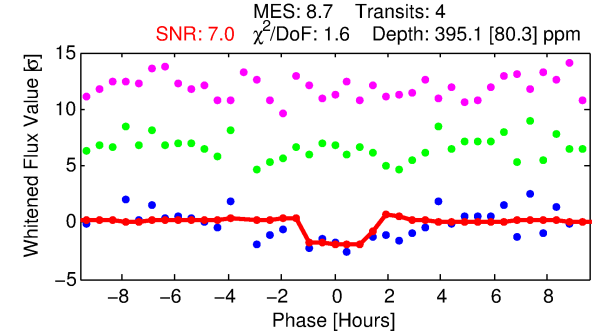
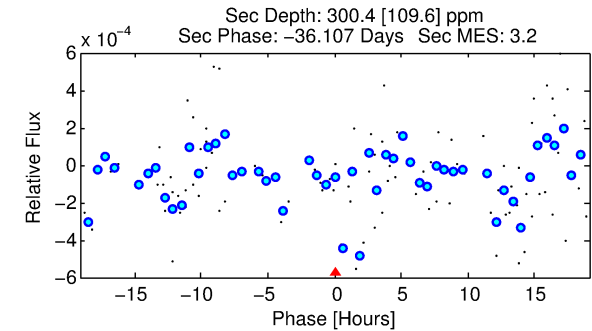
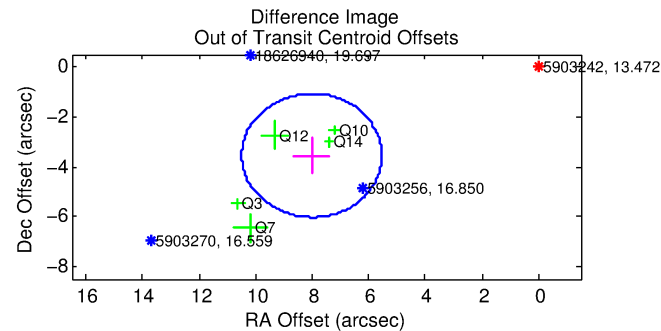
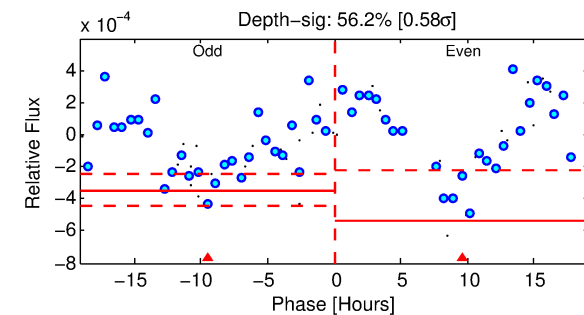
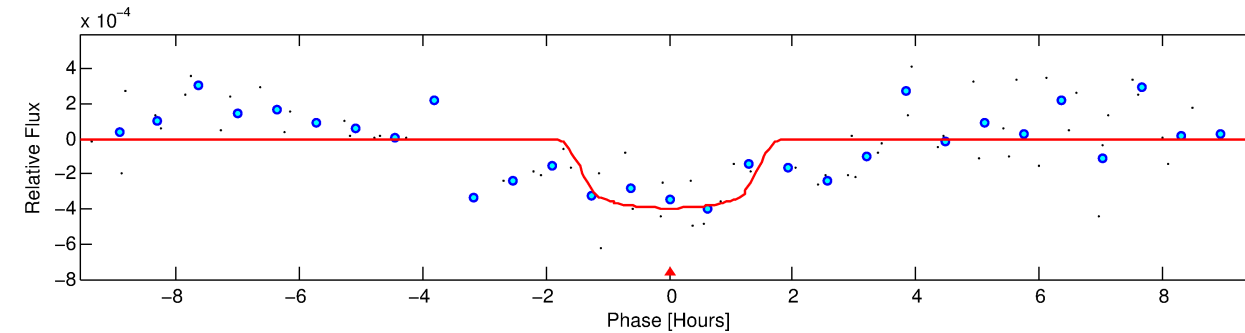
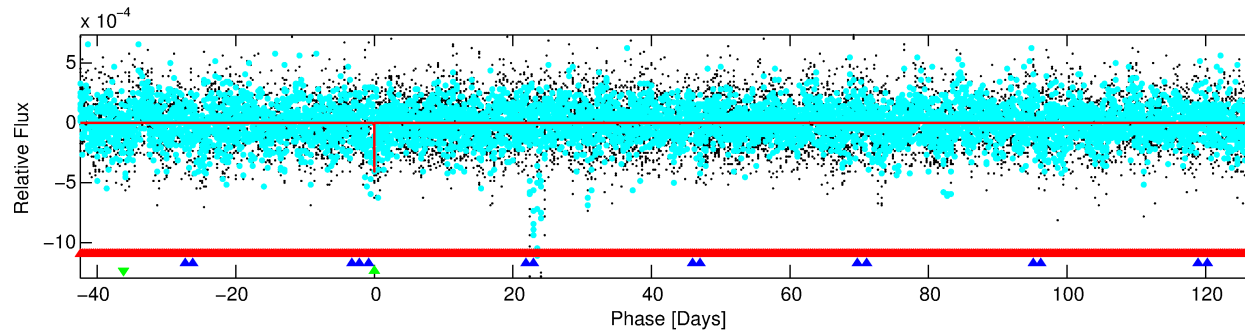
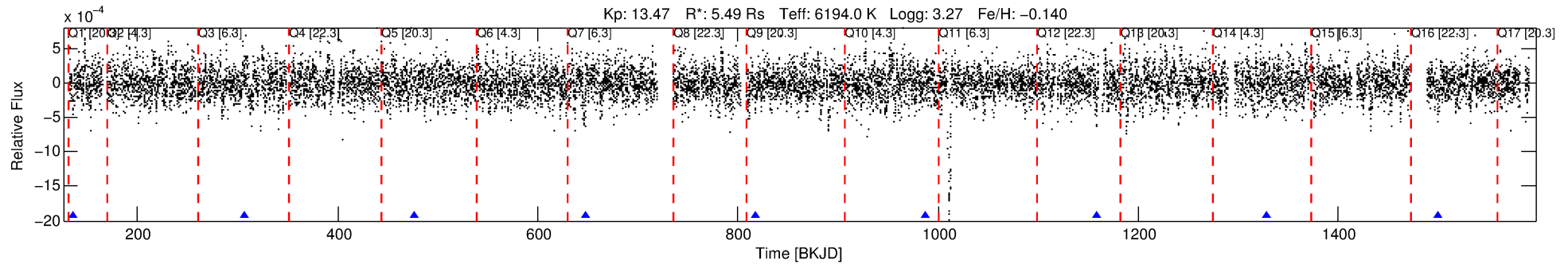
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005903242-03

No Significant Match Found

DV One-Page Summary

KIC: 5903242 Candidate: 3 of 3 Period: 170.328 d



DV Fit Results:

Period = 170.32768 [0.00240] d
Epoch = 136.2794 [0.0106] BKJD
Rp/R* = 0.0207 [0.0146]
a/R* = 226.62 [835.93]
b = 0.86 [1.15]
Seff = 68.32 [41.86]
Teq = 733 [112] K
Rp = 12.41 [10.03] Re
a = 0.7621 [0.2886] AU
Ag = 622.99 [979.35] [0.64 σ]
Teffp = 5663 [2063] K [2.39 σ]

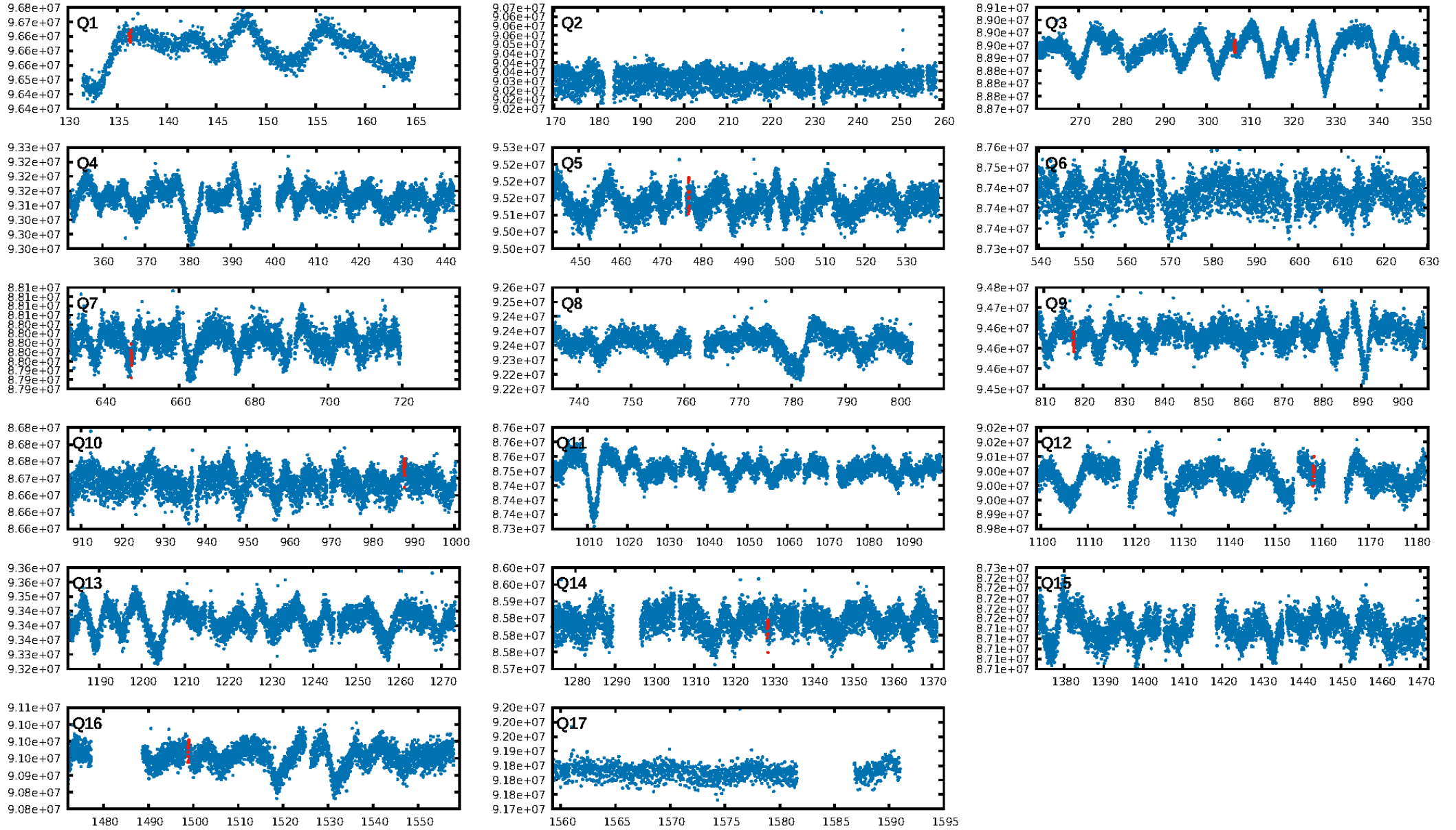
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [237.46 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 69.1%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 3.00e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.033
Centroid-sig: 11.8%
Centroid-so: 1.739 arcsec [1.66 σ]
OotOffset-rm: 8.769 arcsec [10.63 σ]
KicOffset-rm: 8.704 arcsec [8.68 σ]
OotOffset-st: 2/2/1/0 [5]
KicOffset-st: 2/2/1/0 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 0.00 [0/7]

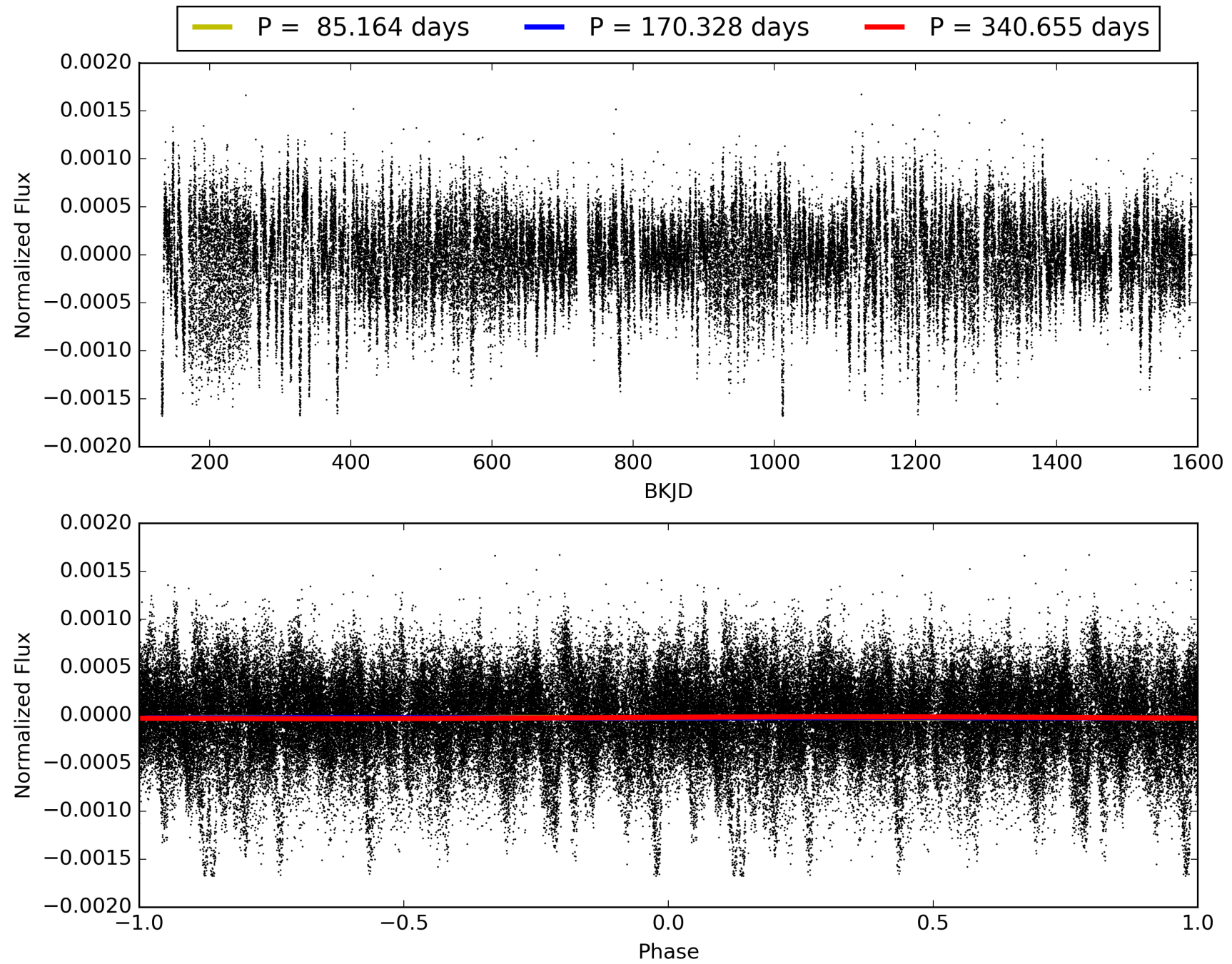
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:36:46 Z

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

TCE 005903242-03, PDC Light Curves

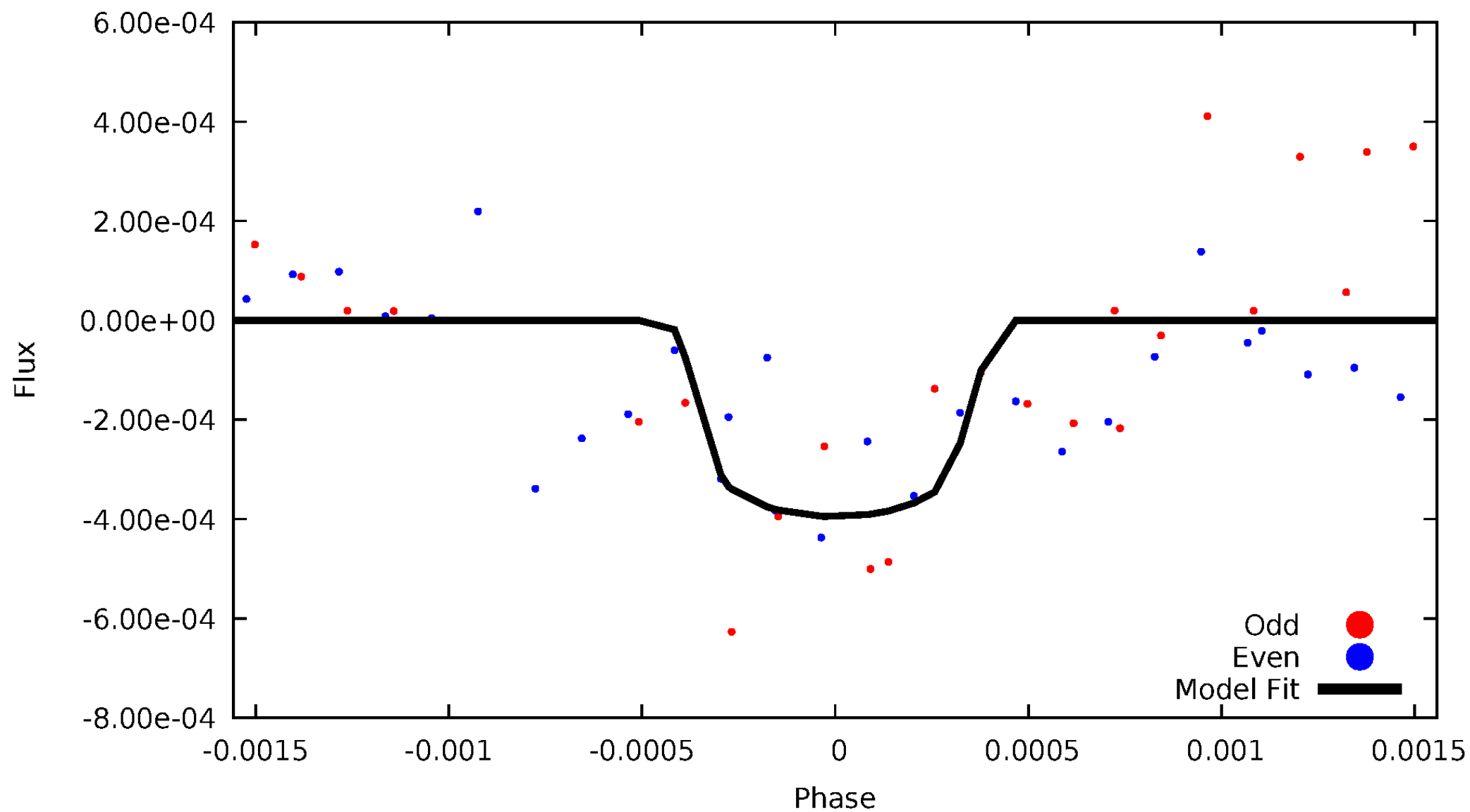


TCE 005903242-03



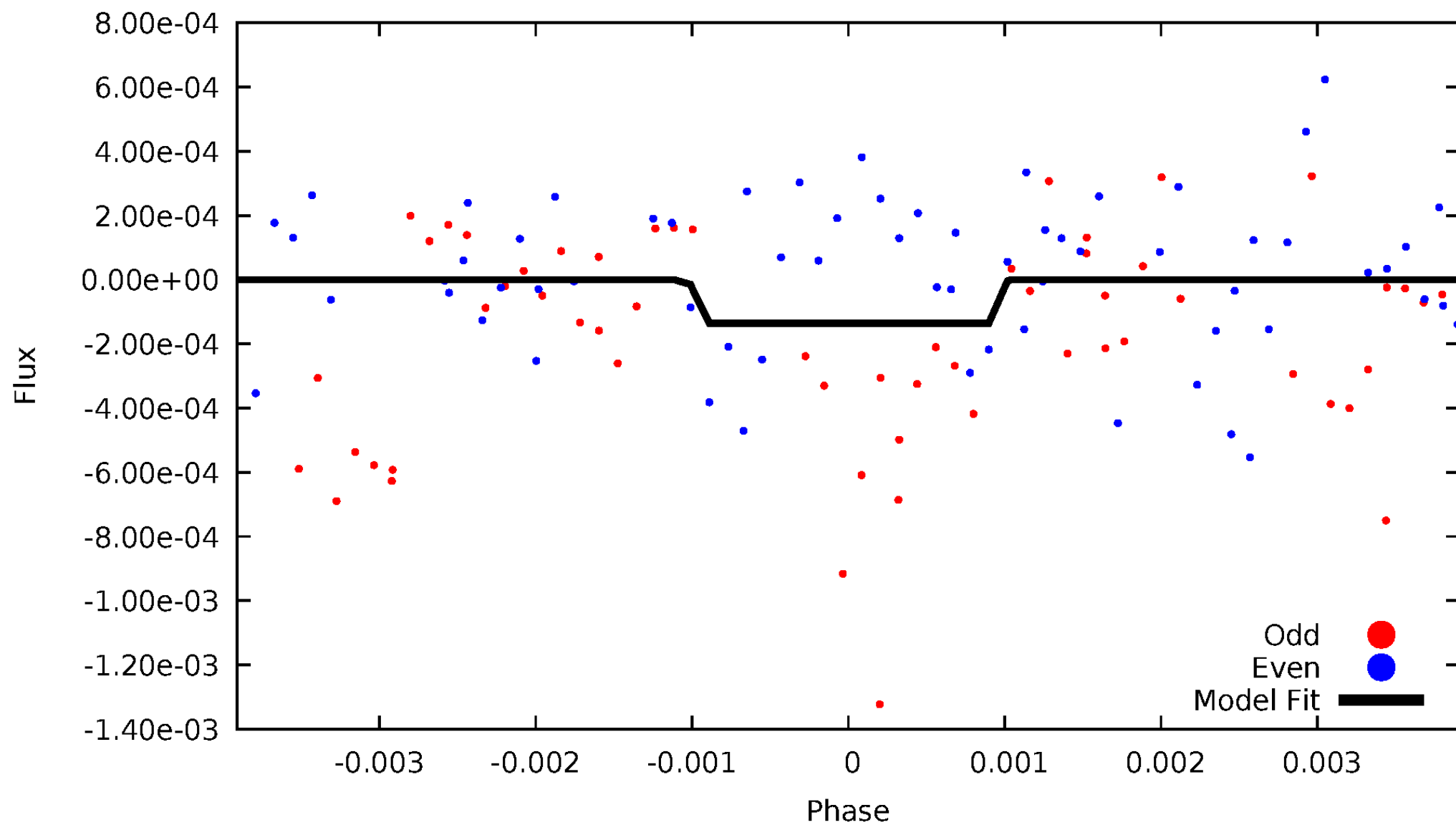
DV Odd/Even

TCE 005903242-03



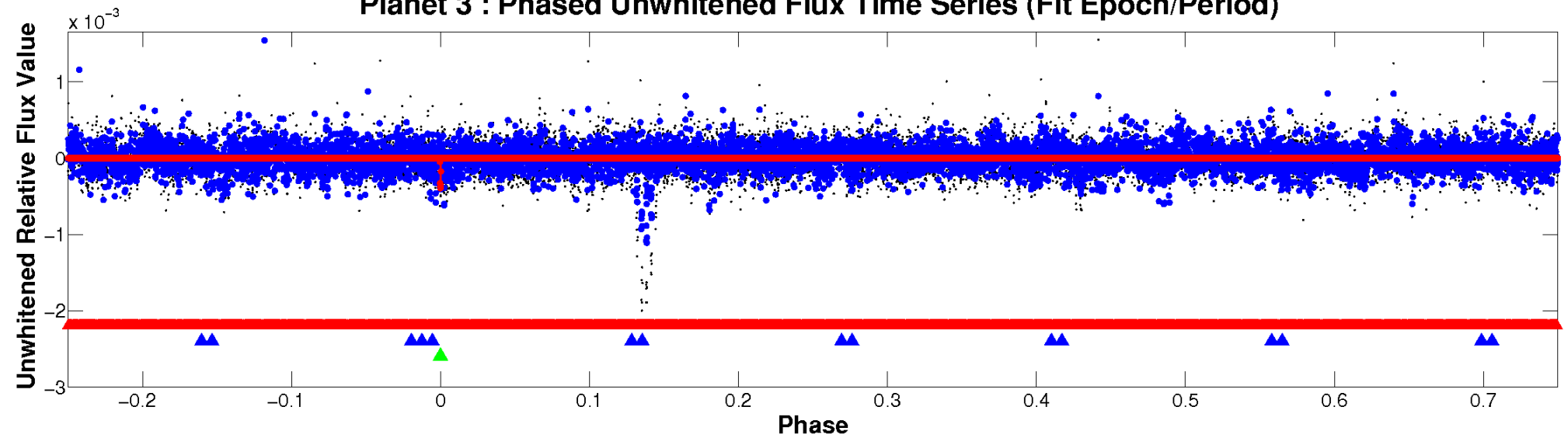
ALT Odd/Even

TCE 005903242-03

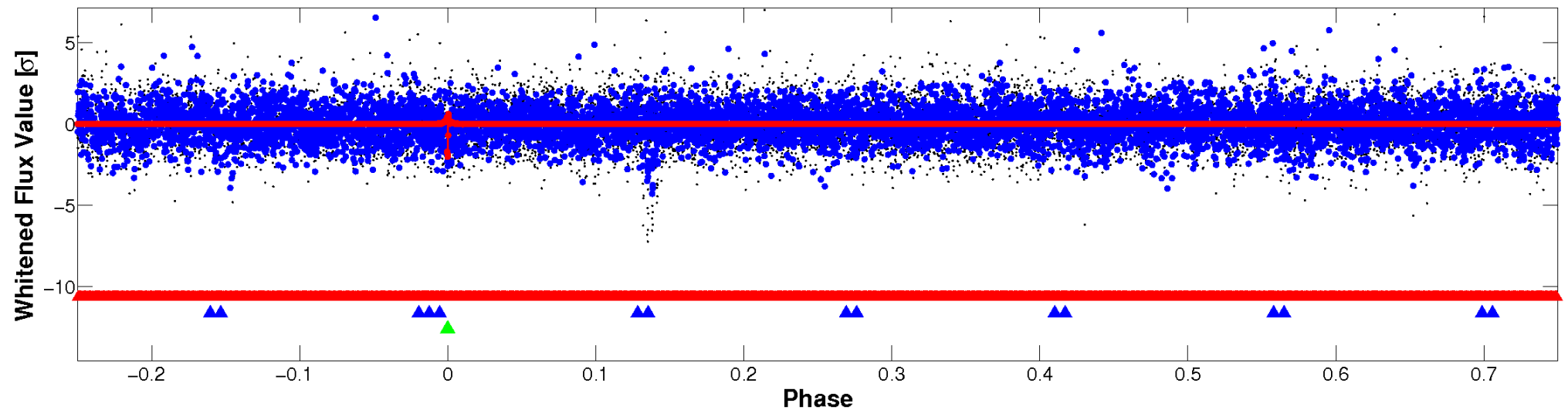


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

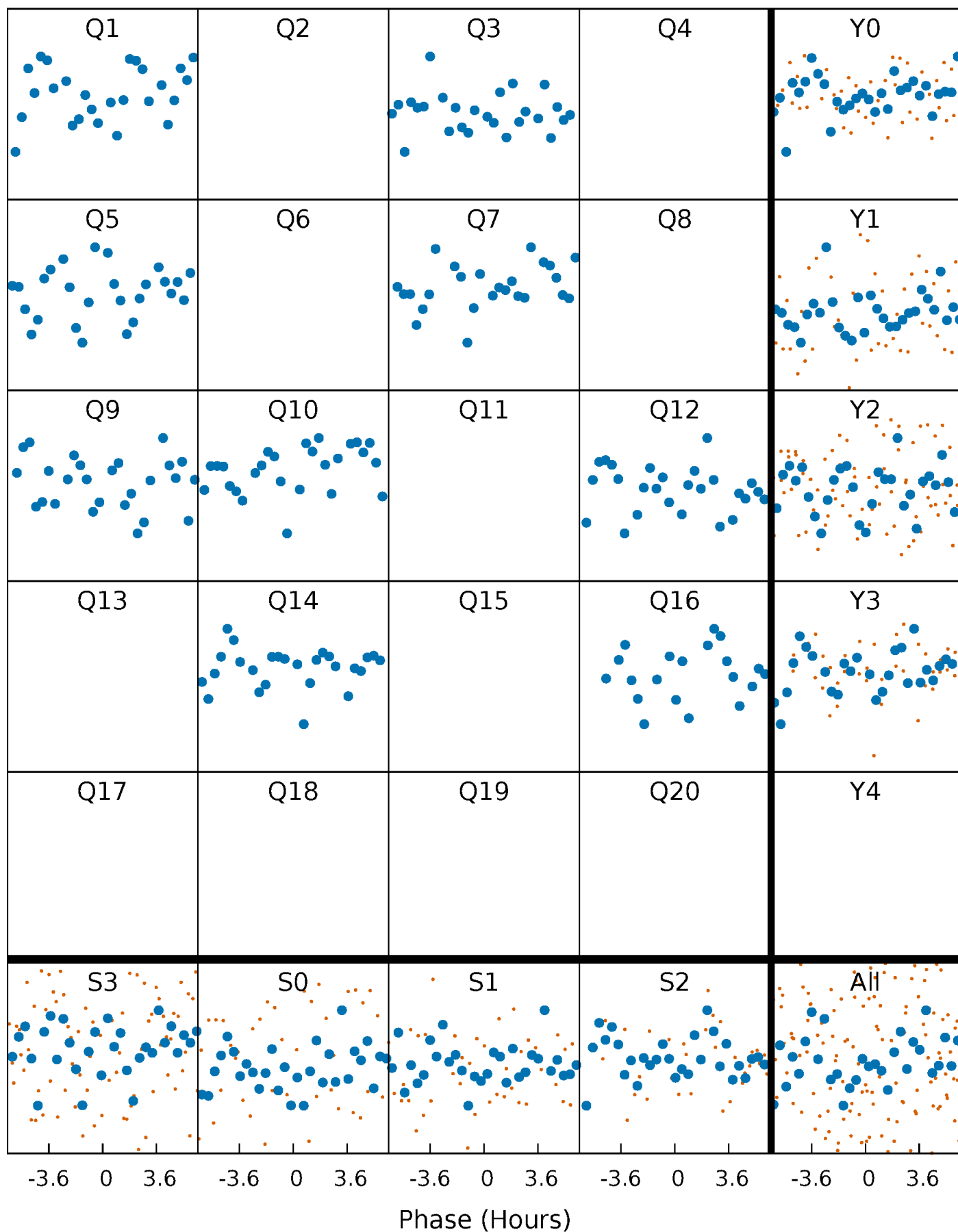


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



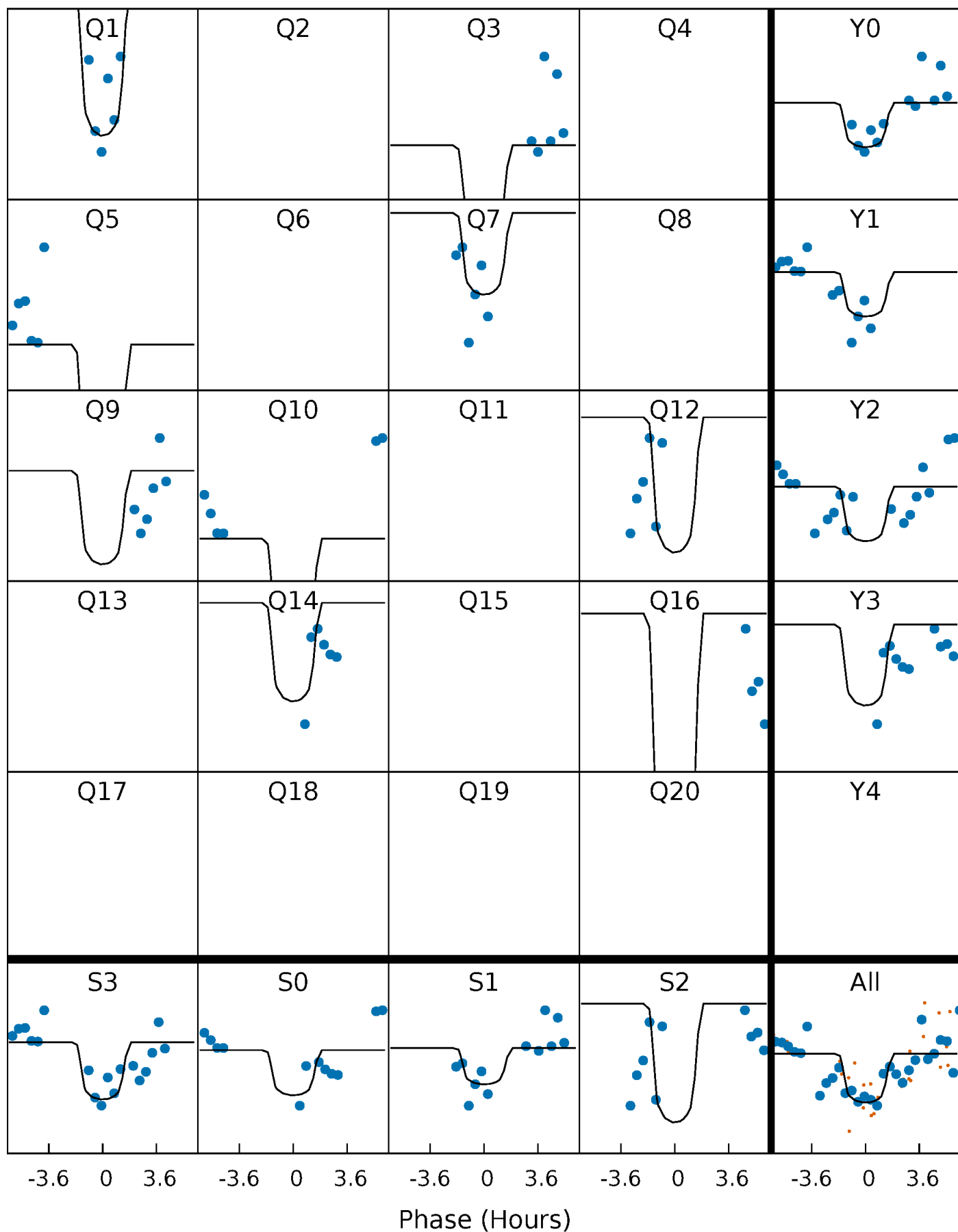
PDC Quarter-Phased Transit Curves

TCE 005903242-03 $P=170.327684$ Days $T_0=136.279380$ (BKJD)



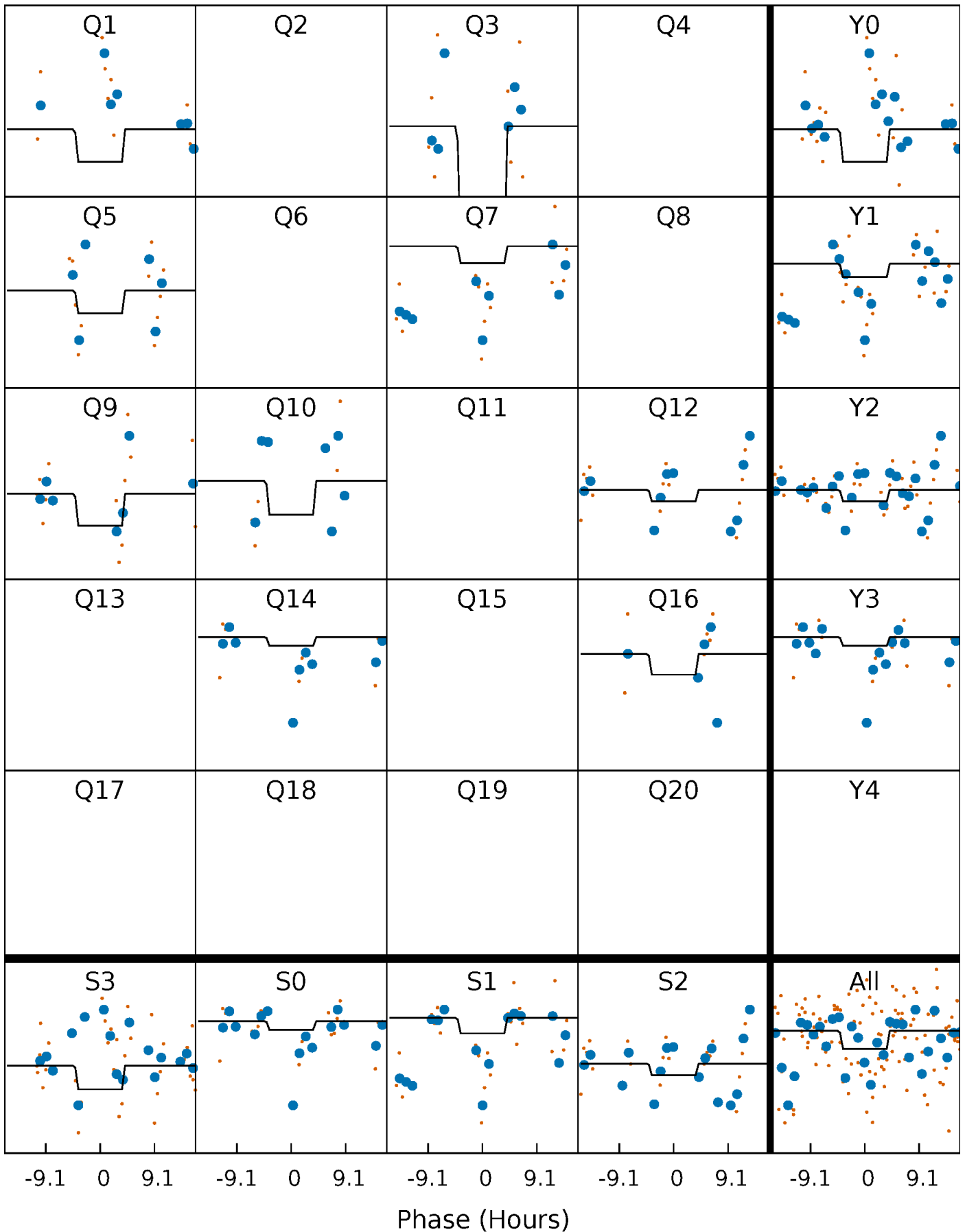
DV Quarter-Phased Transit Curves

TCE 005903242-03 P=170.327684 Days $T_0=136.279380$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

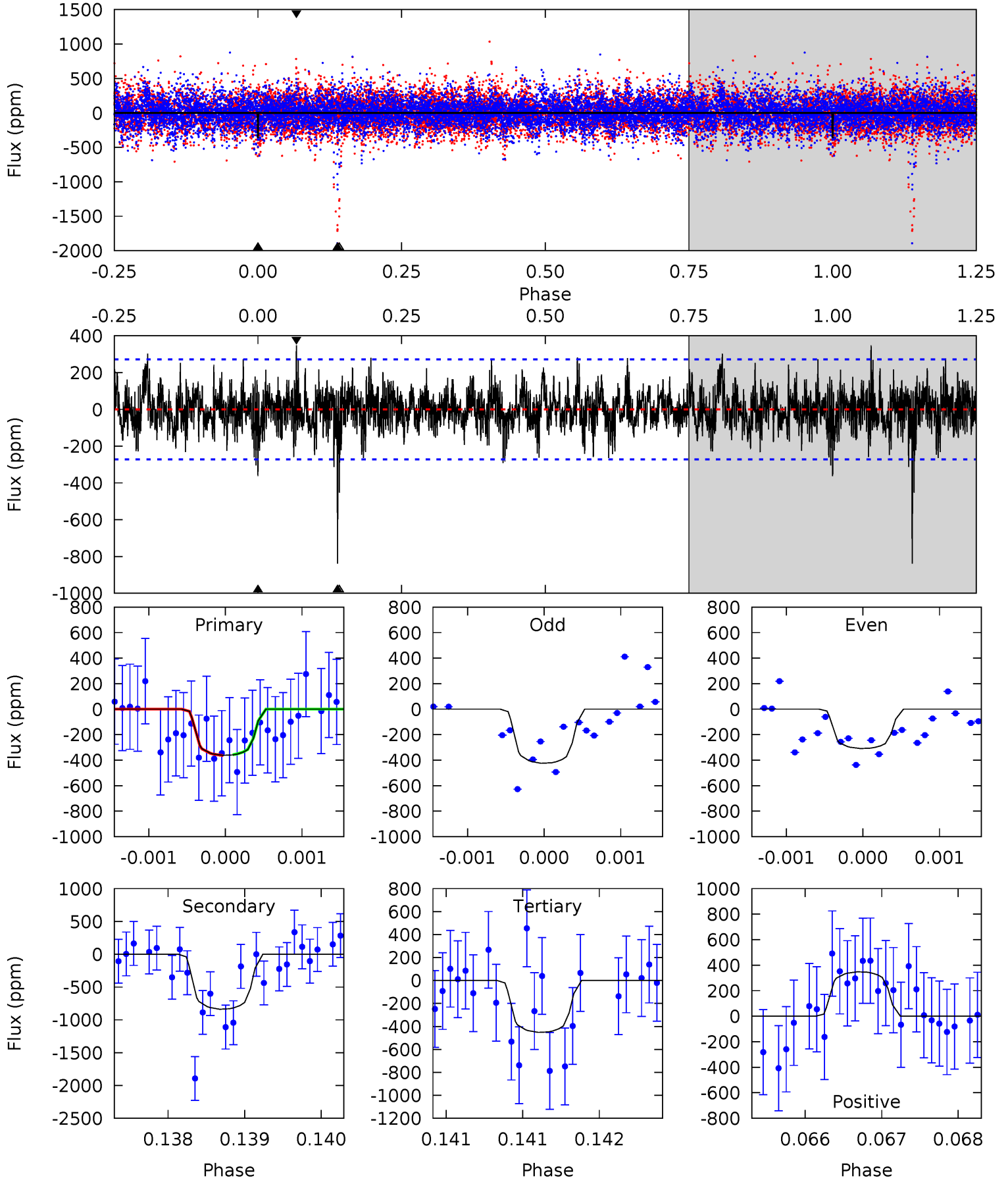
TCE 005903242-03 P=170.334971 Days $T_0=136.217774$ (BKJD)



DV Model-Shift Uniqueness Test

005903242-03, P = 170.327684 Days, E = 136.279380 Days

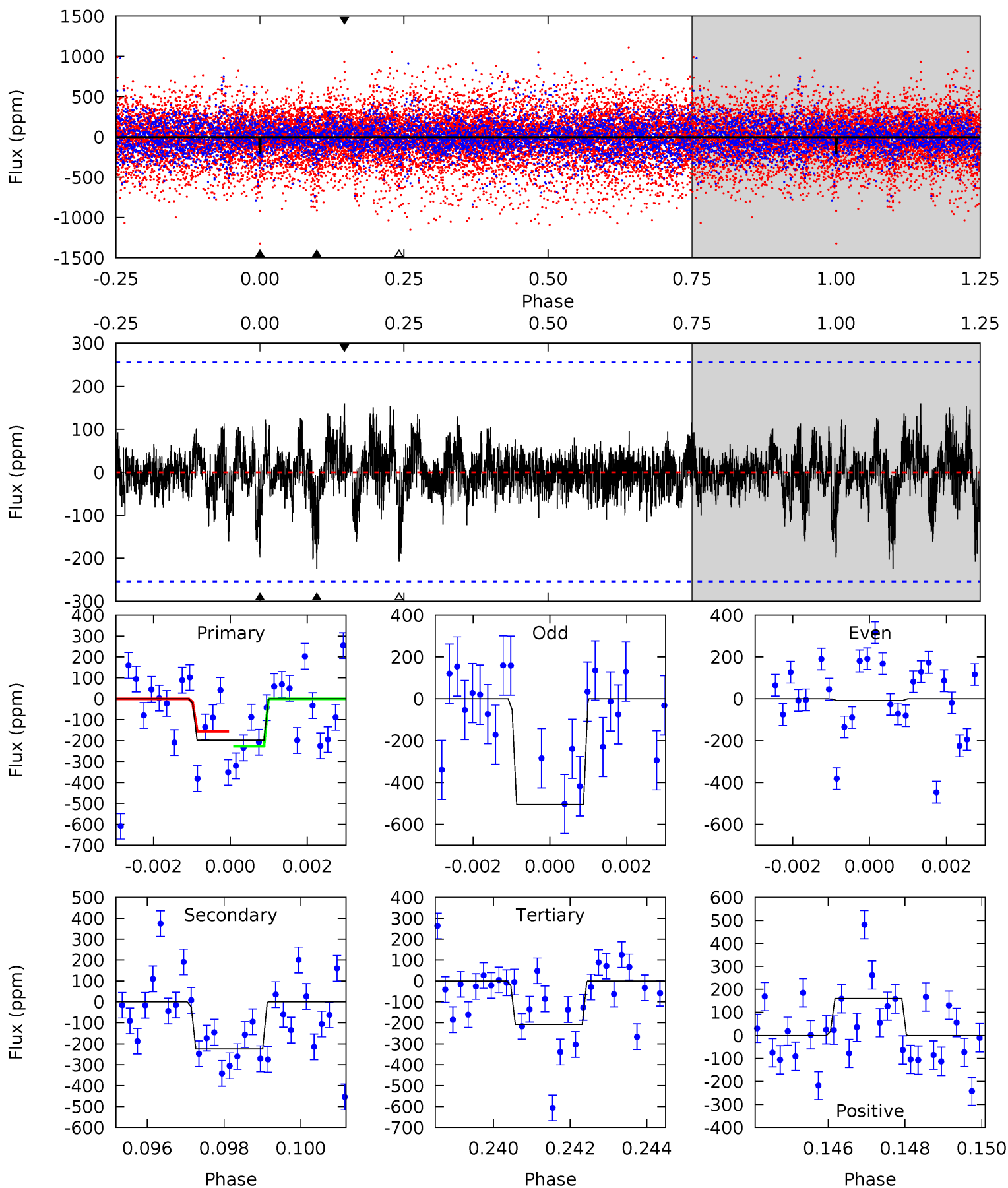
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.30	16.9	9.10	7.01	5.47	3.33	1.71	-1.81	0.29	7.78	9.87	1.17	0.99	0.29	0.06



Alt Model-Shift Uniqueness Test

005903242-03, P = 170.334971 Days, E = 136.217774 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.14	4.69	4.34	3.33	5.32	3.08	0.92	-0.20	0.80	0.35	1.36	5.01	1.33	0.42	0.74



Stellar Parameters For KIC 005903242

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6194^{+185}_{-185}	$3.268^{+0.351}_{-0.059}$	$-0.140^{+0.350}_{-0.350}$	$5.485^{+0.243}_{-2.190}$	$2.036^{+0.109}_{-0.435}$	$0.017^{+0.047}_{-0.002}$
	+3%/-3%	+11%/-2%	+250%/-250%	+4%/-40%	+5%/-21%	+272%/-14%
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 005903242-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-838 ± 50	$11.78^{+8.03}_{-6.92}$	1006^{+49}_{-91}	7202^{+6343}_{-1569}	1874^{+9062}_{-1214}
Alt.	-225 ± 48	$8.22^{+7.29}_{-5.44}$	1003^{+51}_{-90}	6160^{+6496}_{-1483}	1031^{+8162}_{-753}

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 $A_{obs} \gg 1.0$

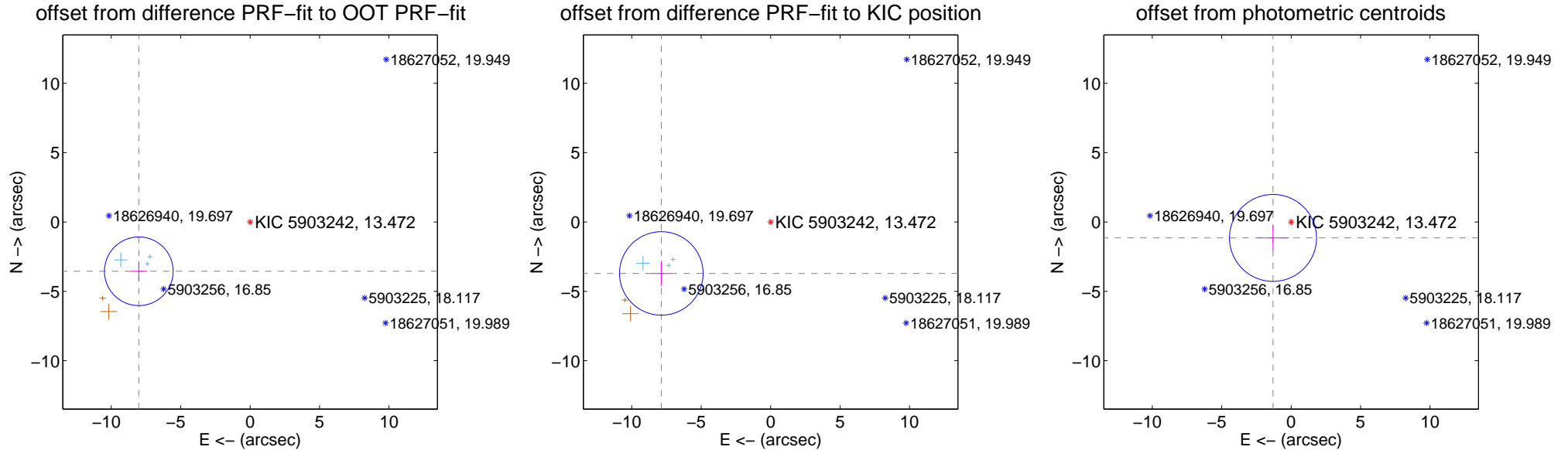
DV Centroid Data

Supplemental centroid analysis for 005903242-03. Kepler magnitude: 13.47. Transit SNR 7.01

There are 3 quarters with good PRF difference image offsets

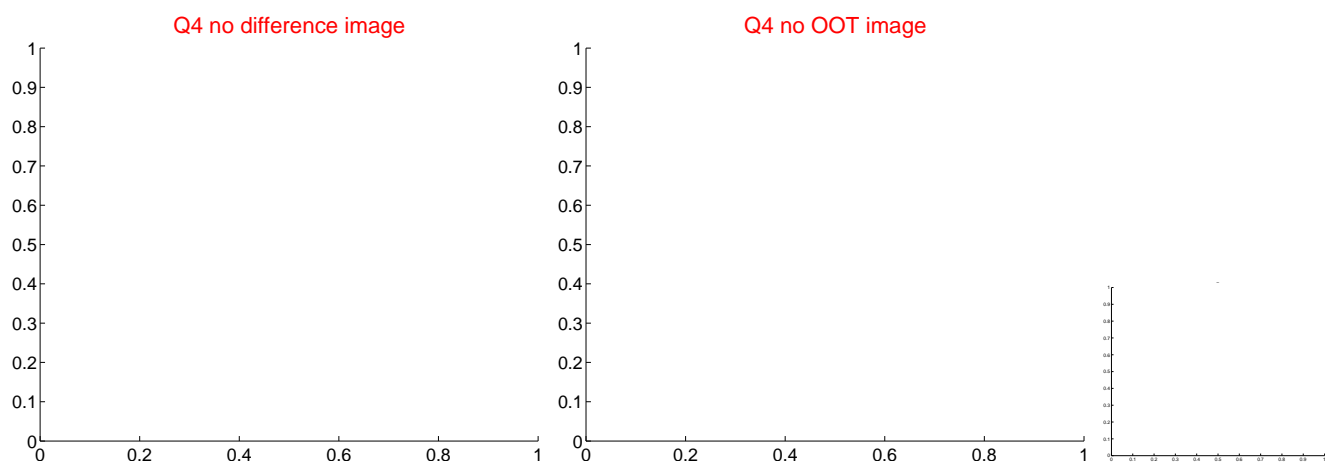
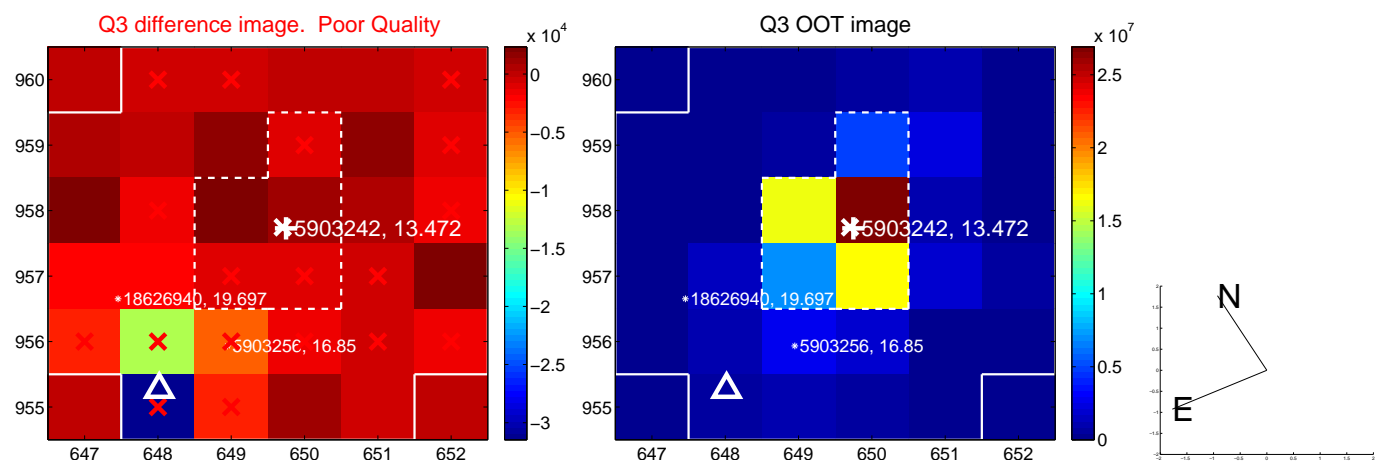
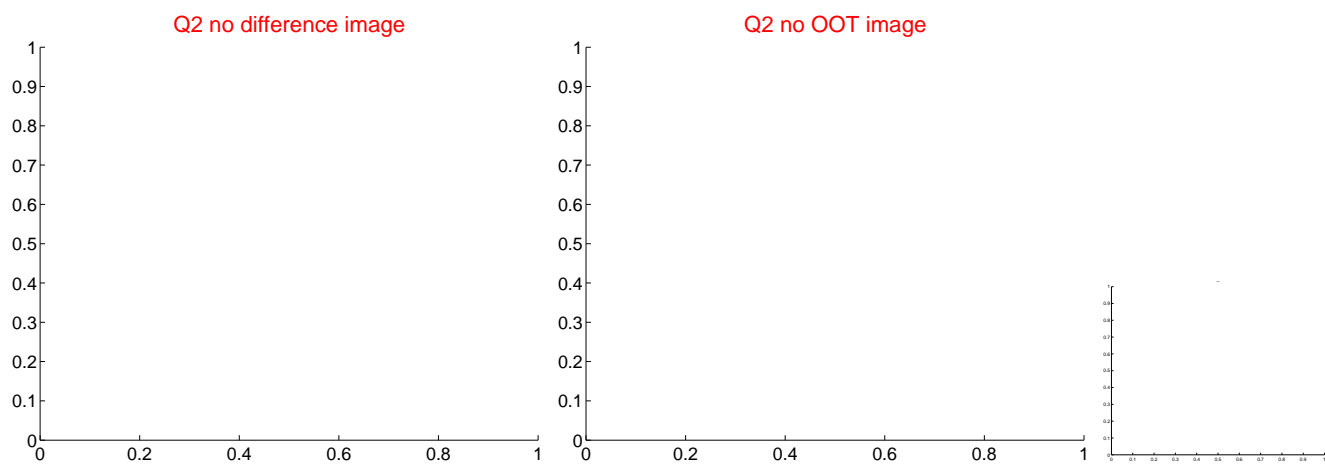
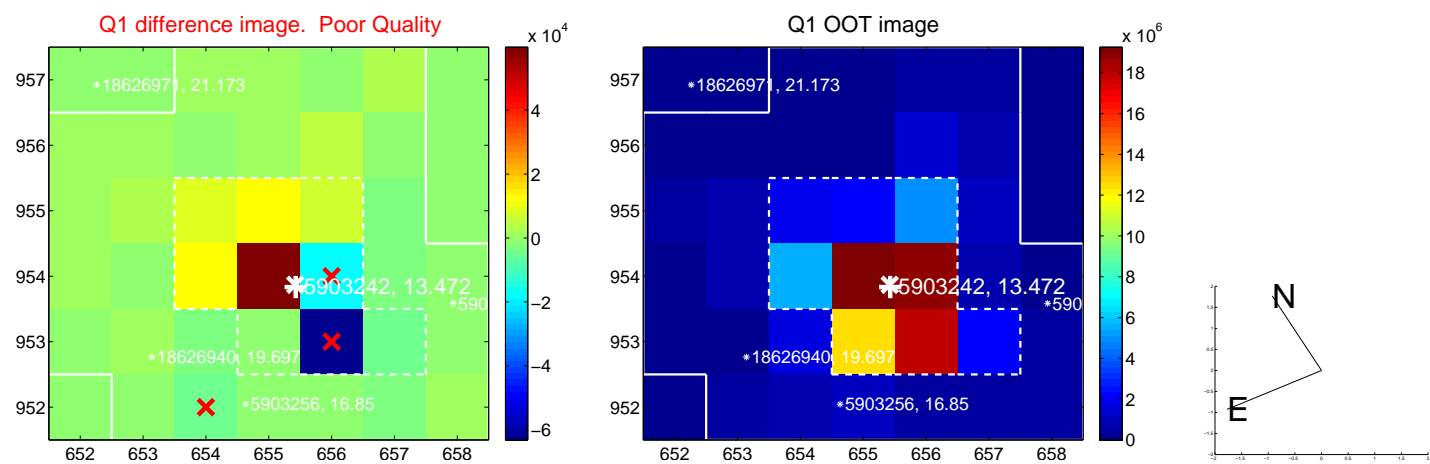
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.769 ± 0.825	10.63	8.016 ± 0.613	-3.554 ± 0.730
PRF-fit source offset from KIC position	8.704 ± 1.003	8.68	7.874 ± 0.725	-3.710 ± 0.899
photometric centroid source offset	1.74 ± 1.05	1.66	1.31 ± 1.15	-1.15 ± 0.90



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.

Q5 no difference image



Q5 no OOT image



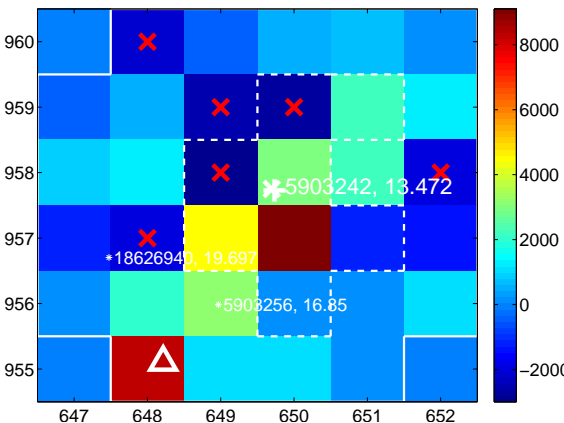
Q6 no difference image



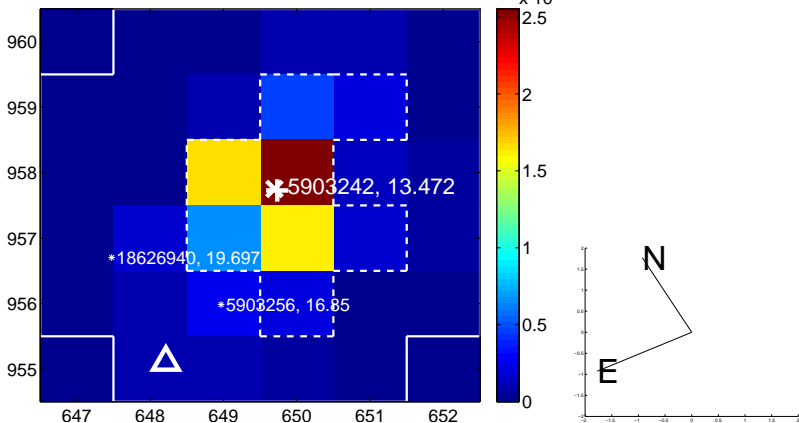
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



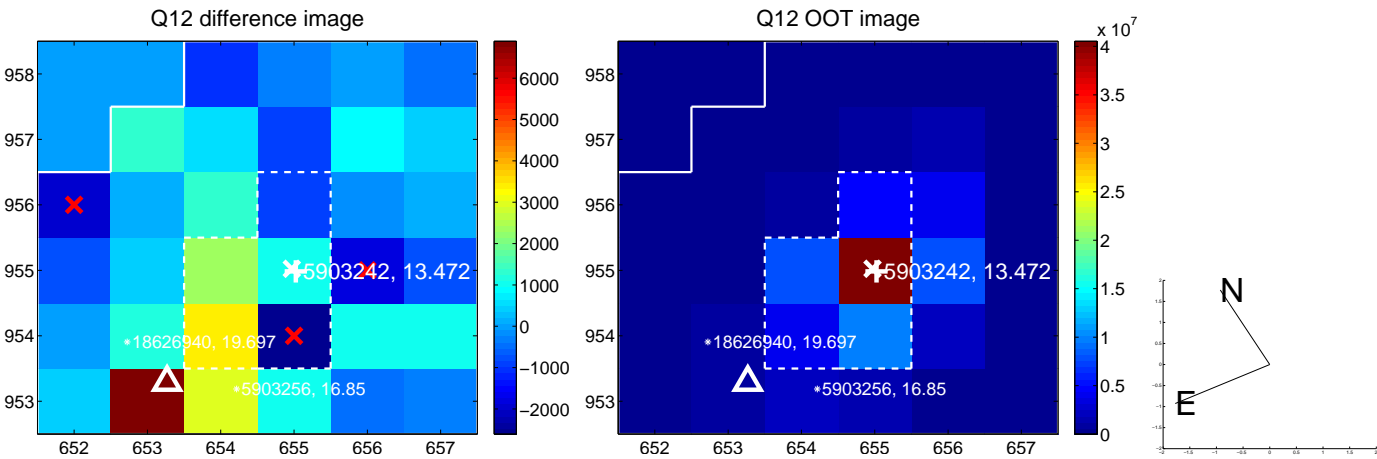
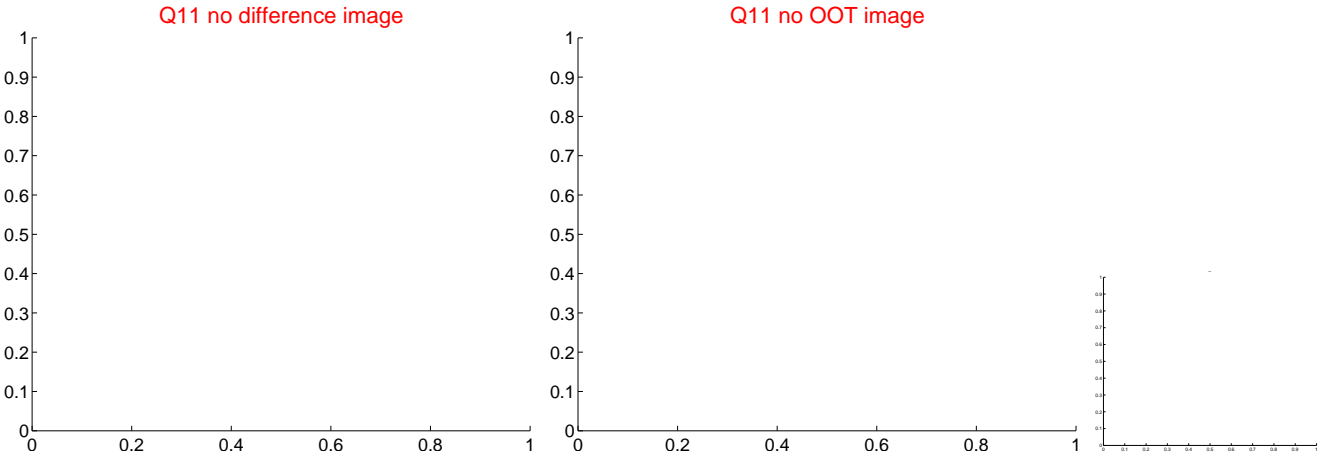
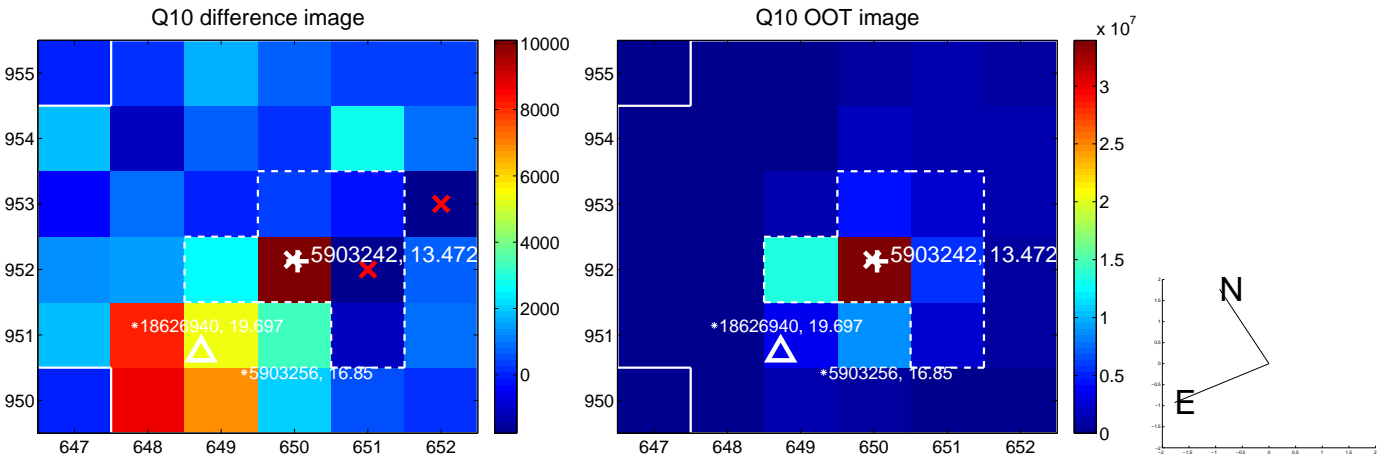
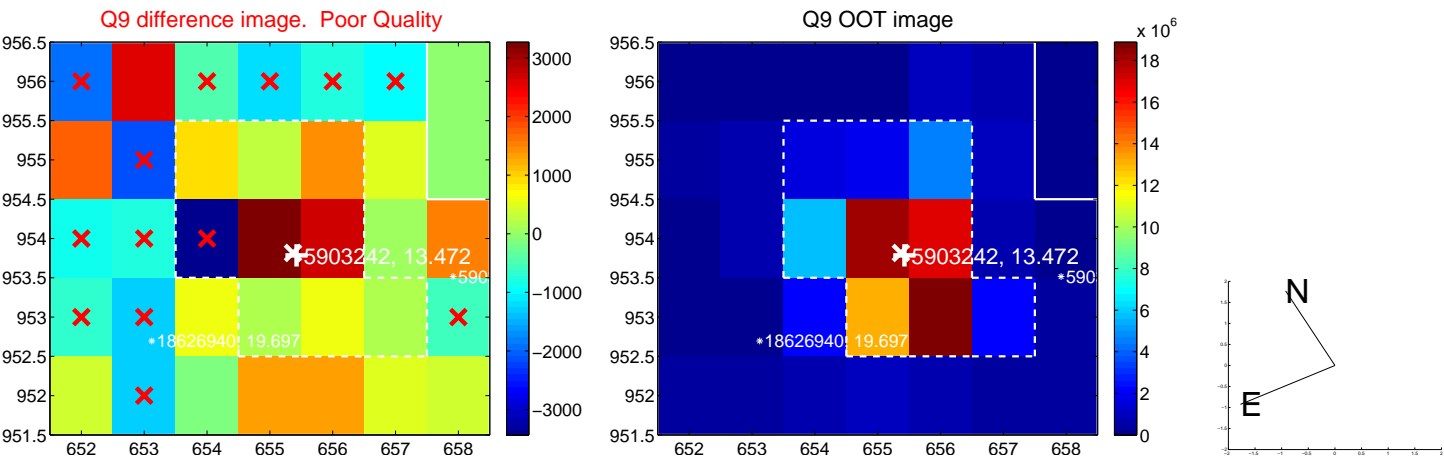
Q8 no difference image



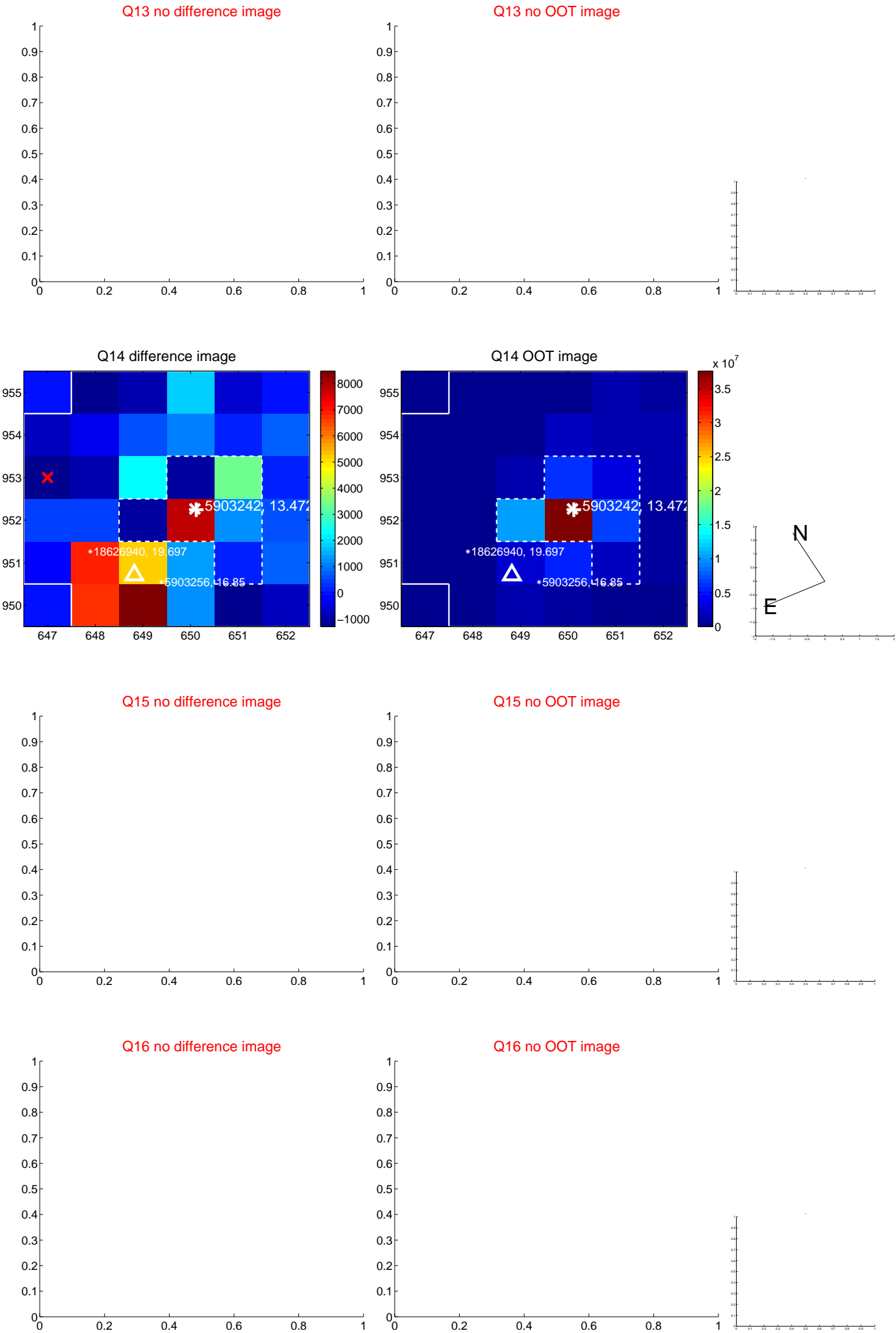
Q8 no OOT image



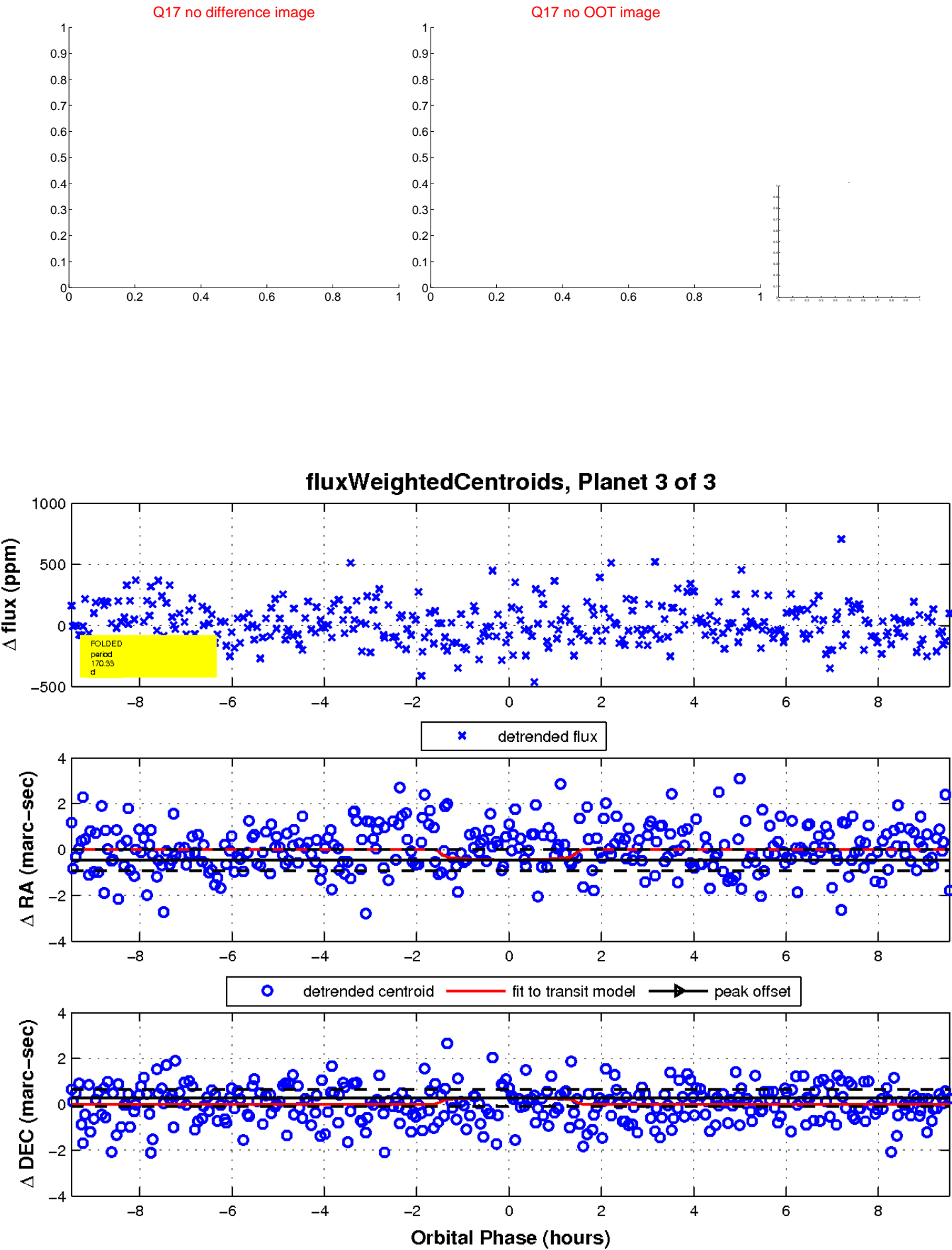
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

