

KIC 007300623

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})
007300623-01	OBS	No	1.129041	132.170844	17.1	3.626	9.7	7.1	3.95	7514	1.82	62695.63
007300623-02	OBS	No	1.689648	132.718966	35.3	2.189	7.7	8.6	3.95	7514	2.68	36625.93
007300623-03	OBS	No	196.549124	270.897061	140.1	5.950	9.9	2.8	3.95	7514	5.35	64.50
007300623-04	OBS	No	0.555226	131.703104	18.8	2.243	7.3	7.6	3.95	7514	2.01	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007300623-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007300623-02	OBS	FP	0.00	1	0	1	0	LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
007300623-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007300623-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

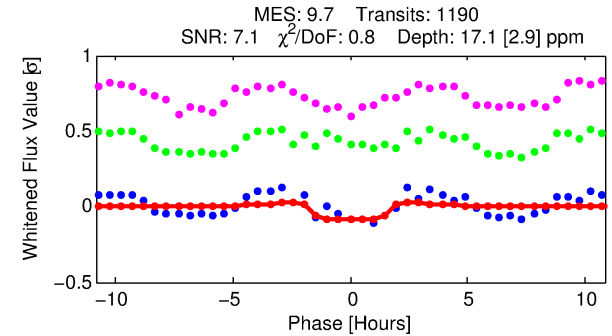
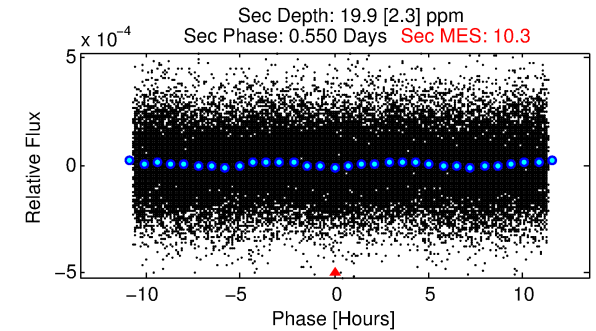
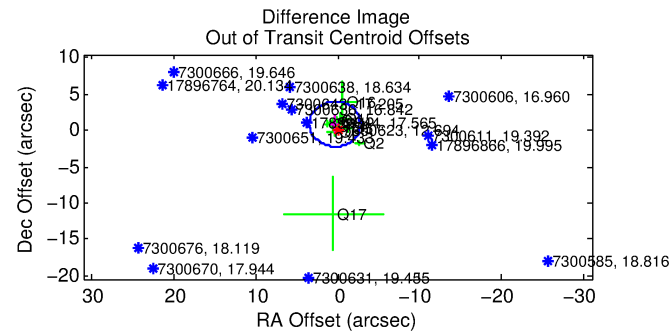
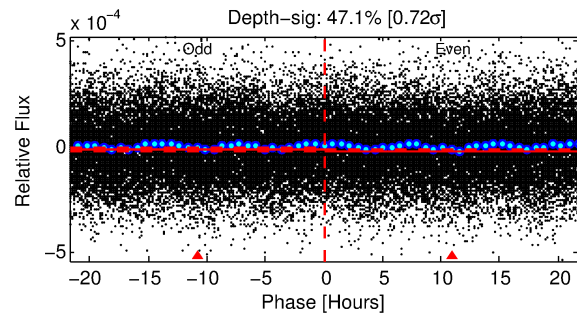
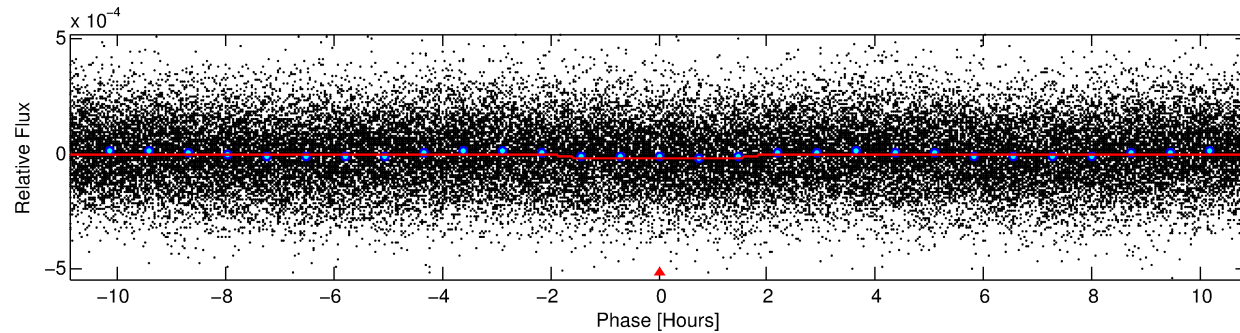
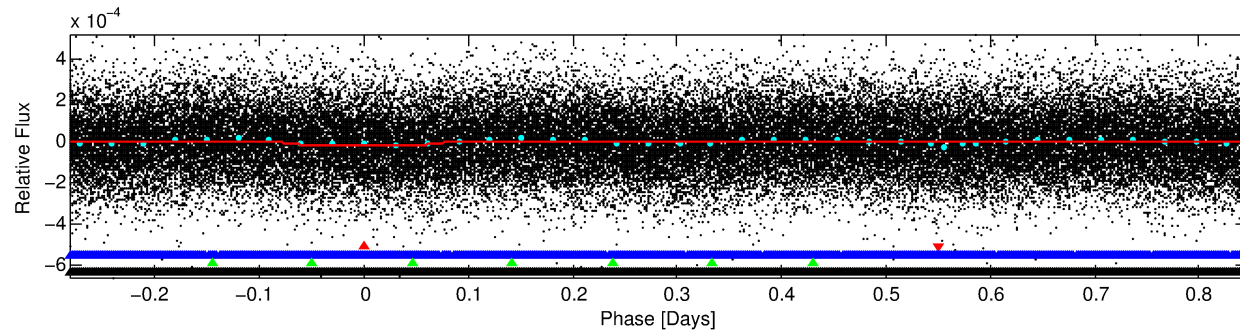
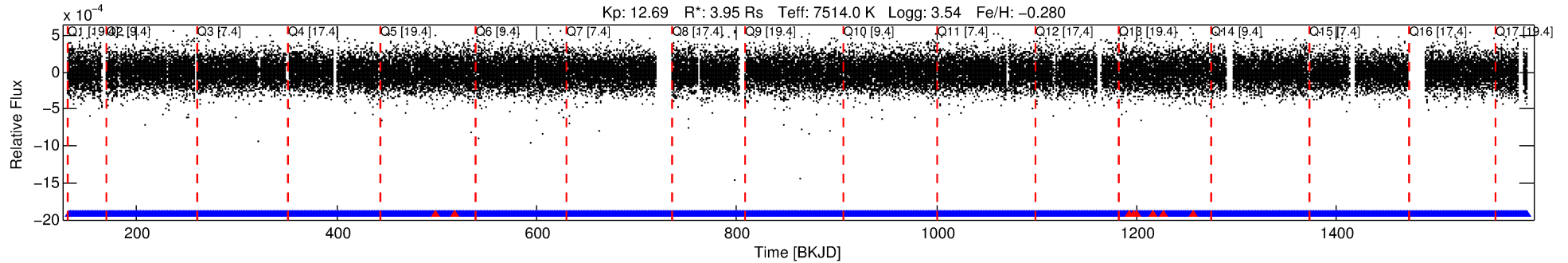
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007300623-01

No Significant Match Found

DV One-Page Summary

KIC: 7300623 Candidate: 1 of 4 Period: 1.129 d



DV Fit Results:

Period = 1.12904 [0.00002] d
Epoch = 132.1708 [0.0044] BKJD
Rp/R* = 0.0042 [0.0014]
a/R* = 1.64 [1.70]
b = 0.82 [0.67]
Seff = 62695.63 [61282.01]
Teq = 4035 [986] K
Rp = 1.82 [1.20] Re
a = 0.0267 [0.0156] AU
Ag = 2.35 [2.73] [0.49 σ]
Teffp = 7722 [1305] K [2.25 σ]

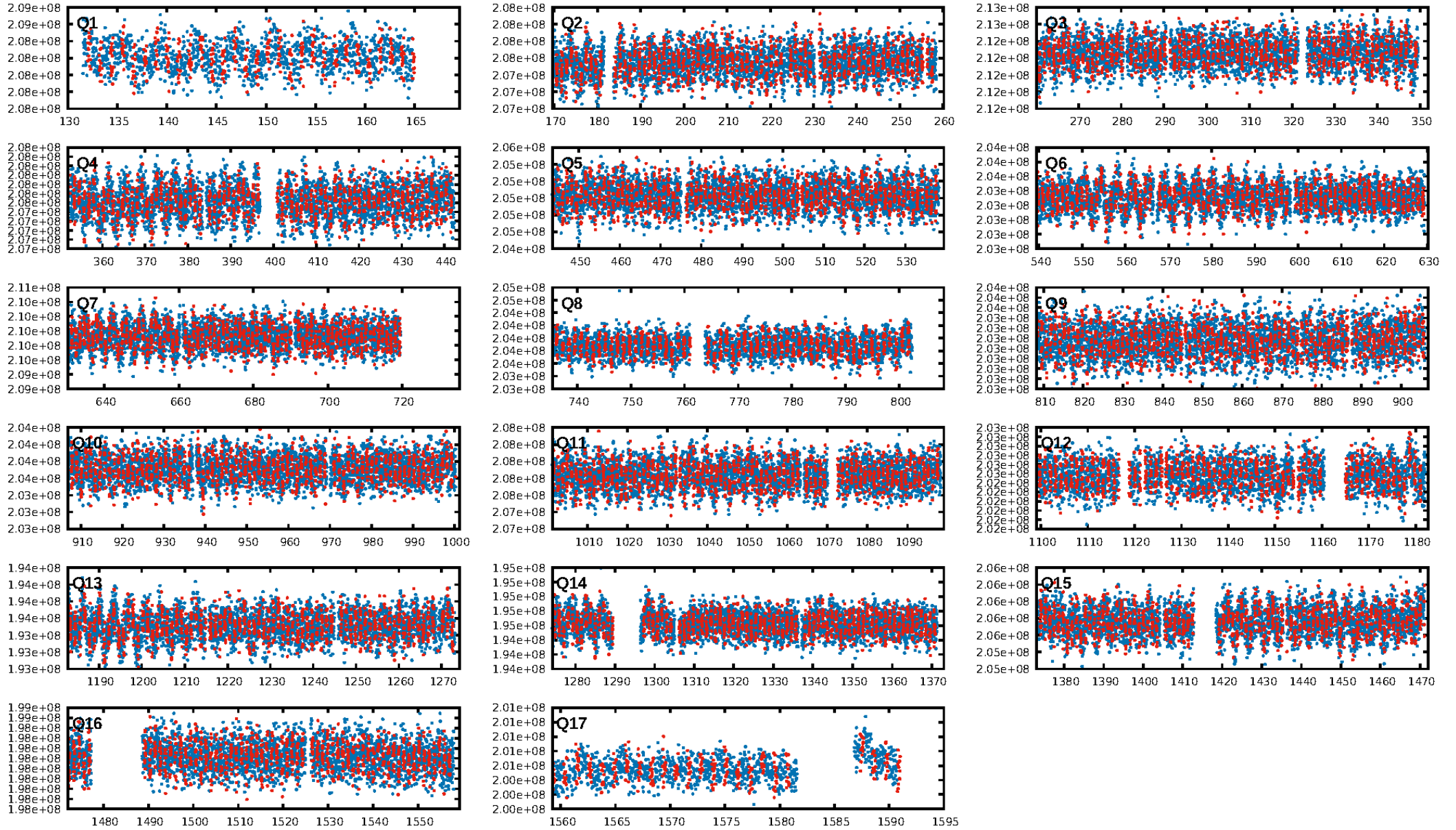
DV Diagnostic Results:

ShortPeriod-sig: 99.9% [3.23 σ]
LongPeriod-sig: 99.9% [3.18 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 2.24e-13
RollingBand-fgt: 0.99 [1128/1136]
GhostDiagnostic-chr: 2.481
Centroid-sig: 44.8%
Centroid-so: 0.680 arcsec [0.87 σ]
OotOffset-rm: 0.926 arcsec [0.89 σ]
OotOffset-st: 3/3/2/2 [10]
KicOffset-rm: 1.101 arcsec [0.87 σ]
KicOffset-st: 3/3/2/2 [10]
DiffImageQuality-fgm: 0.70 [7/10]
DiffImageOverlap-fno: 0.00 [0/17]

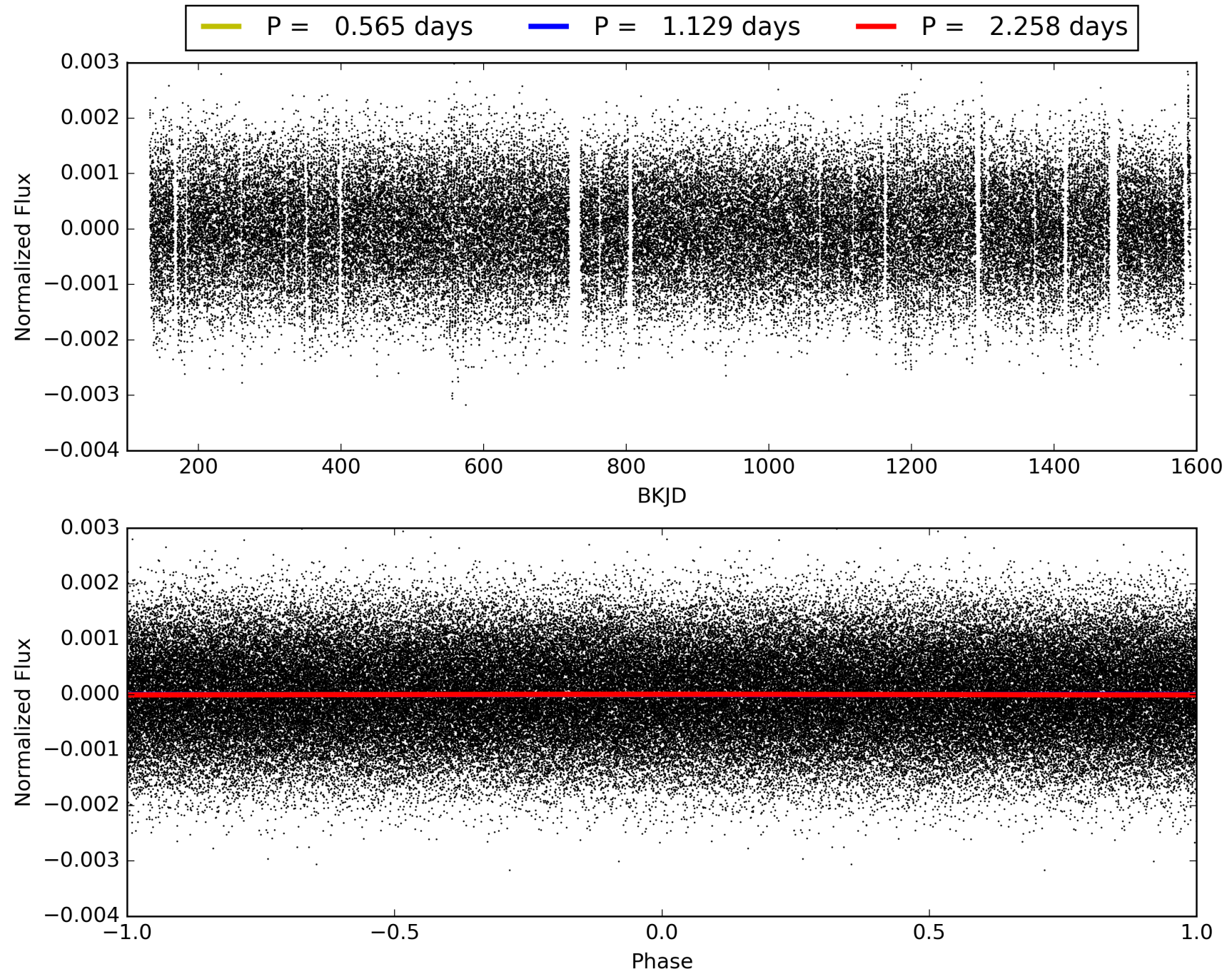
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:14:34 Z

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

TCE 007300623-01, PDC Light Curves

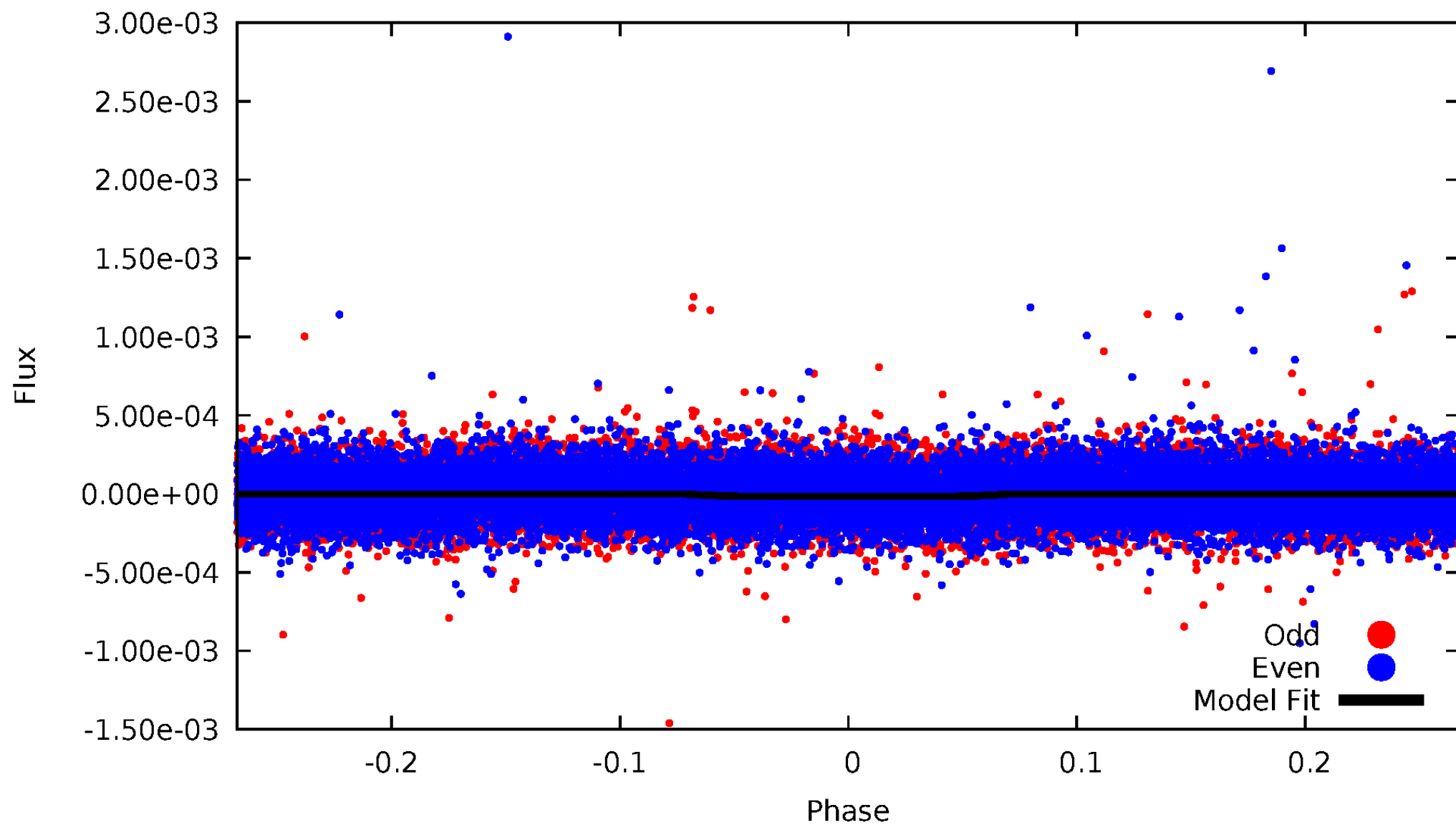


TCE 007300623-01



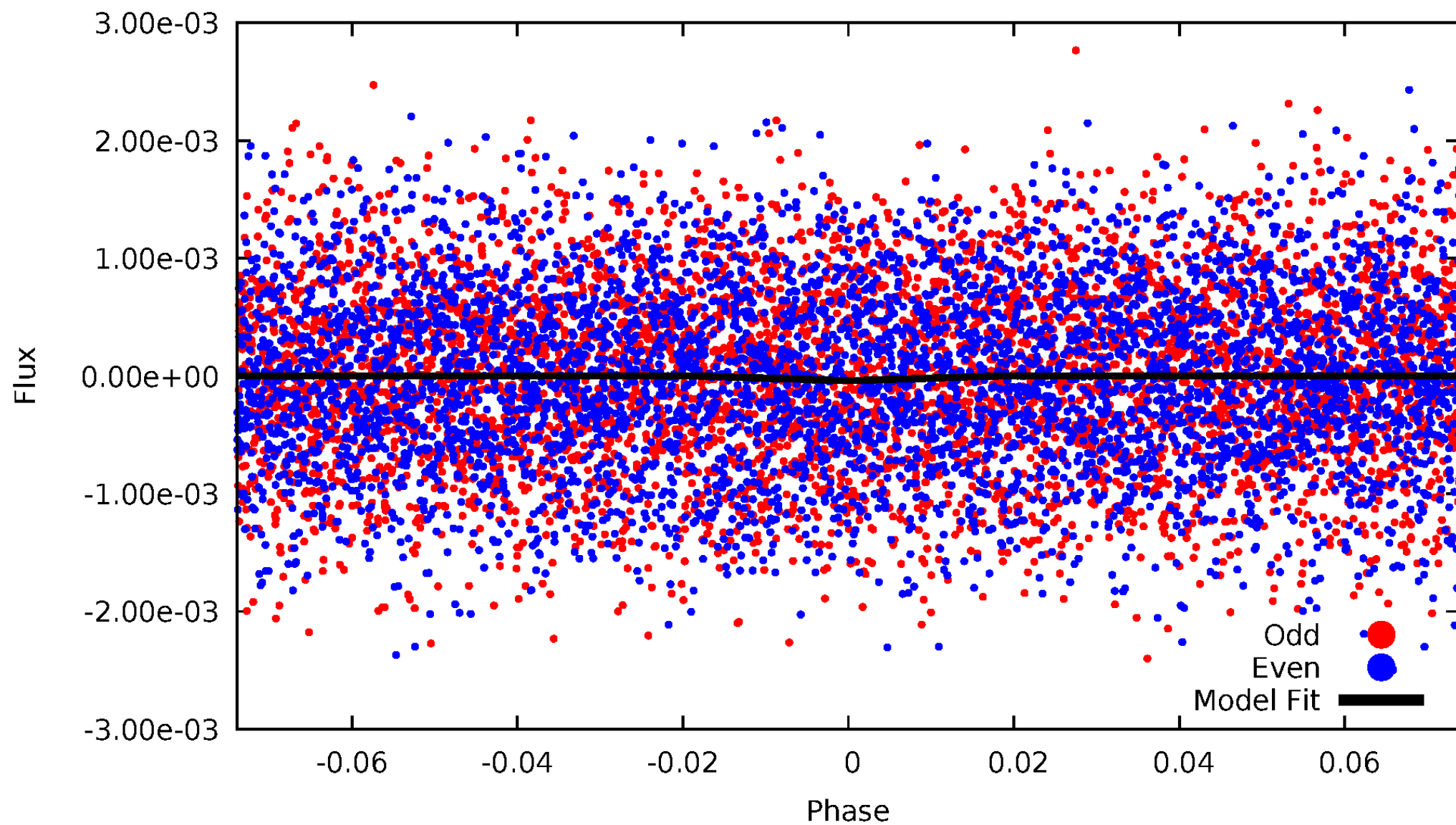
DV Odd/Even

TCE 007300623-01

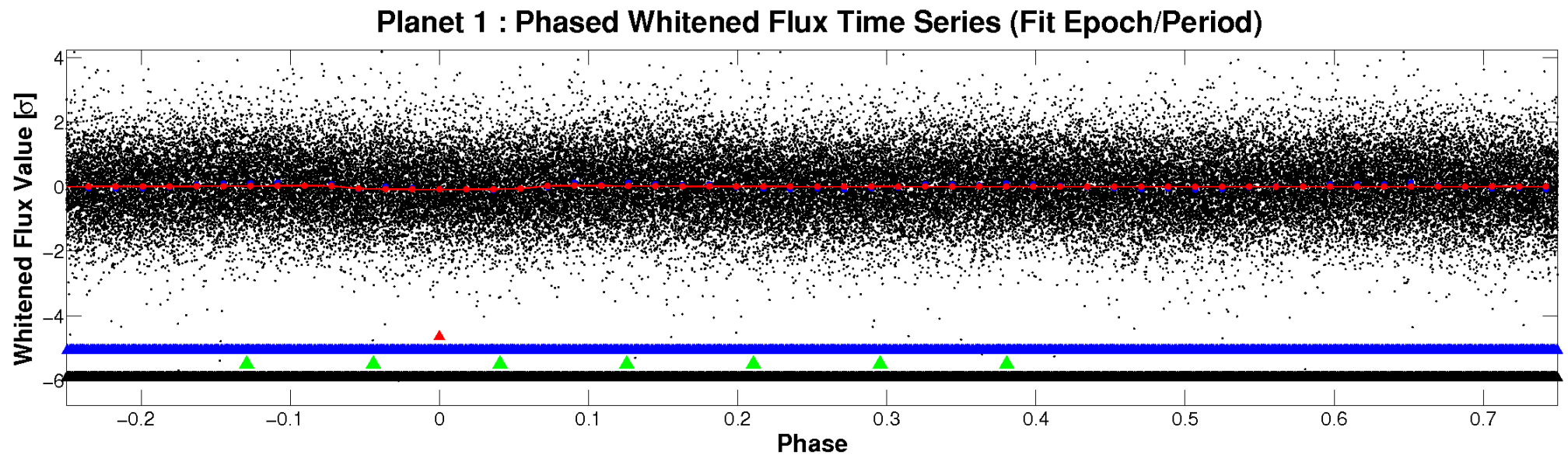
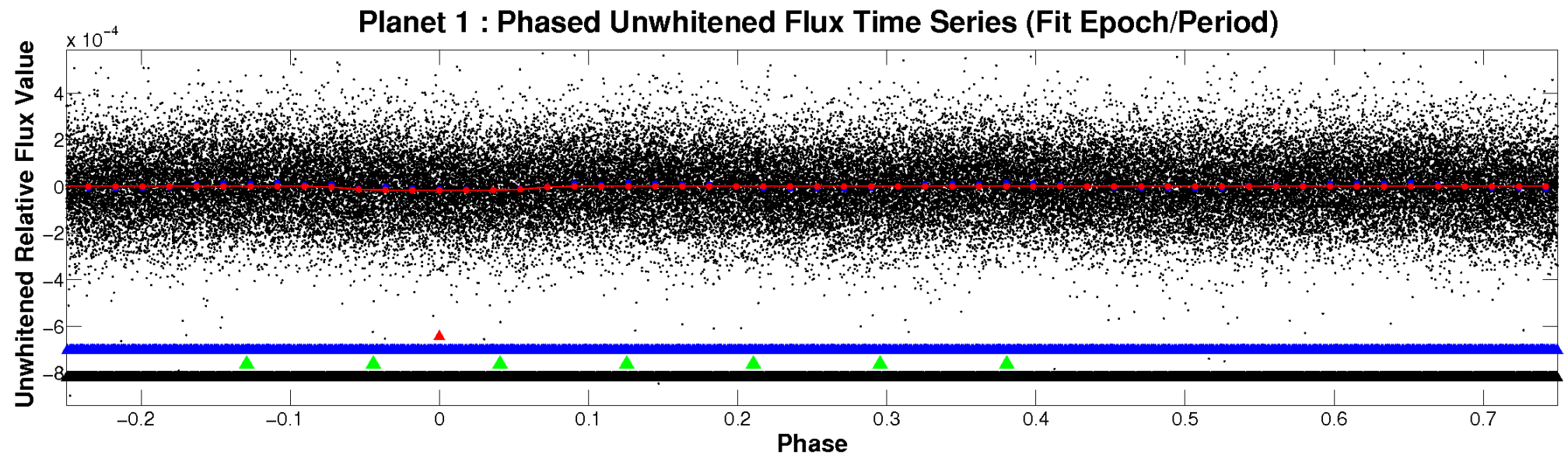


ALT Odd/Even

TCE 007300623-01

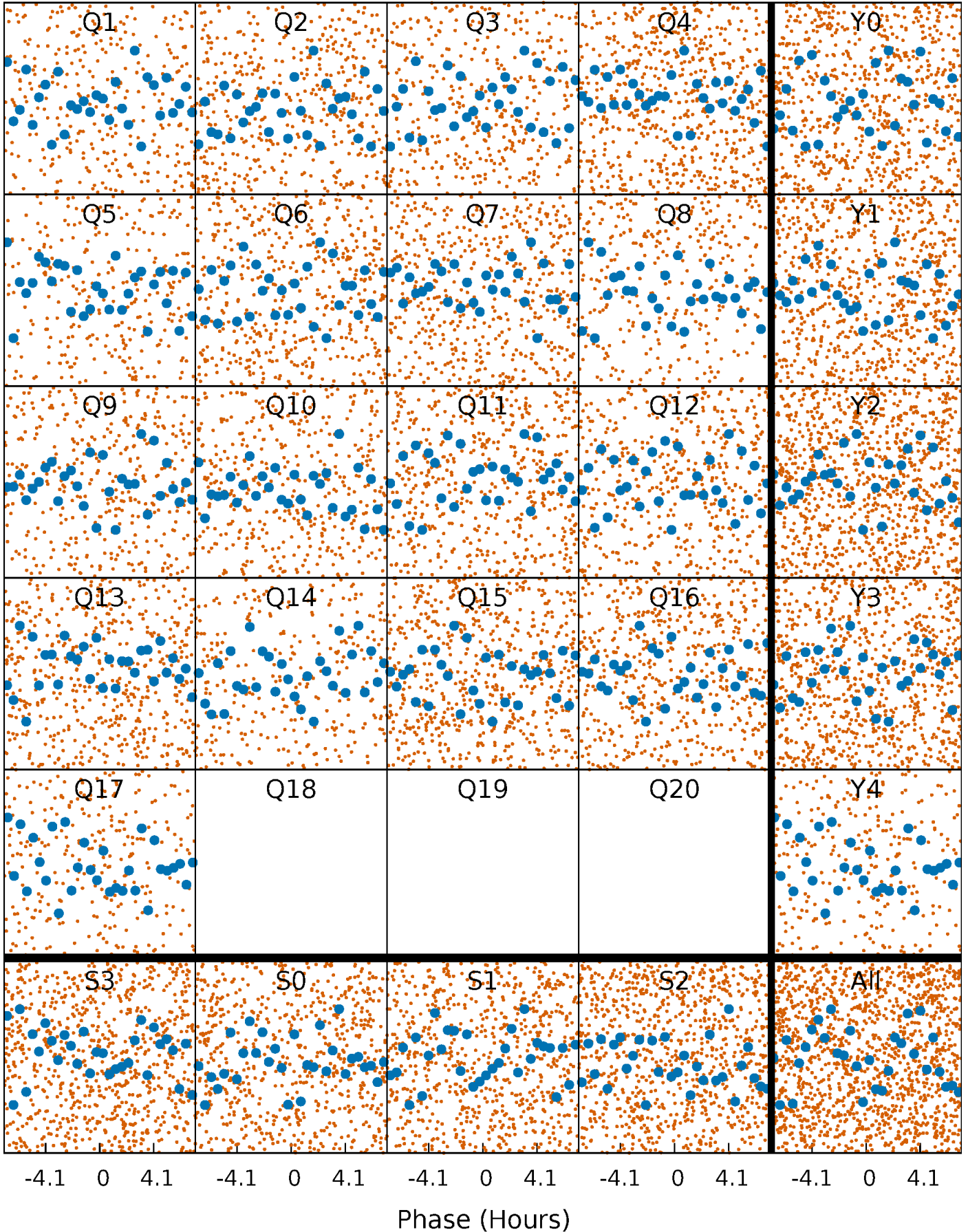


Non-Whitened Vs. Whitened Light Curve



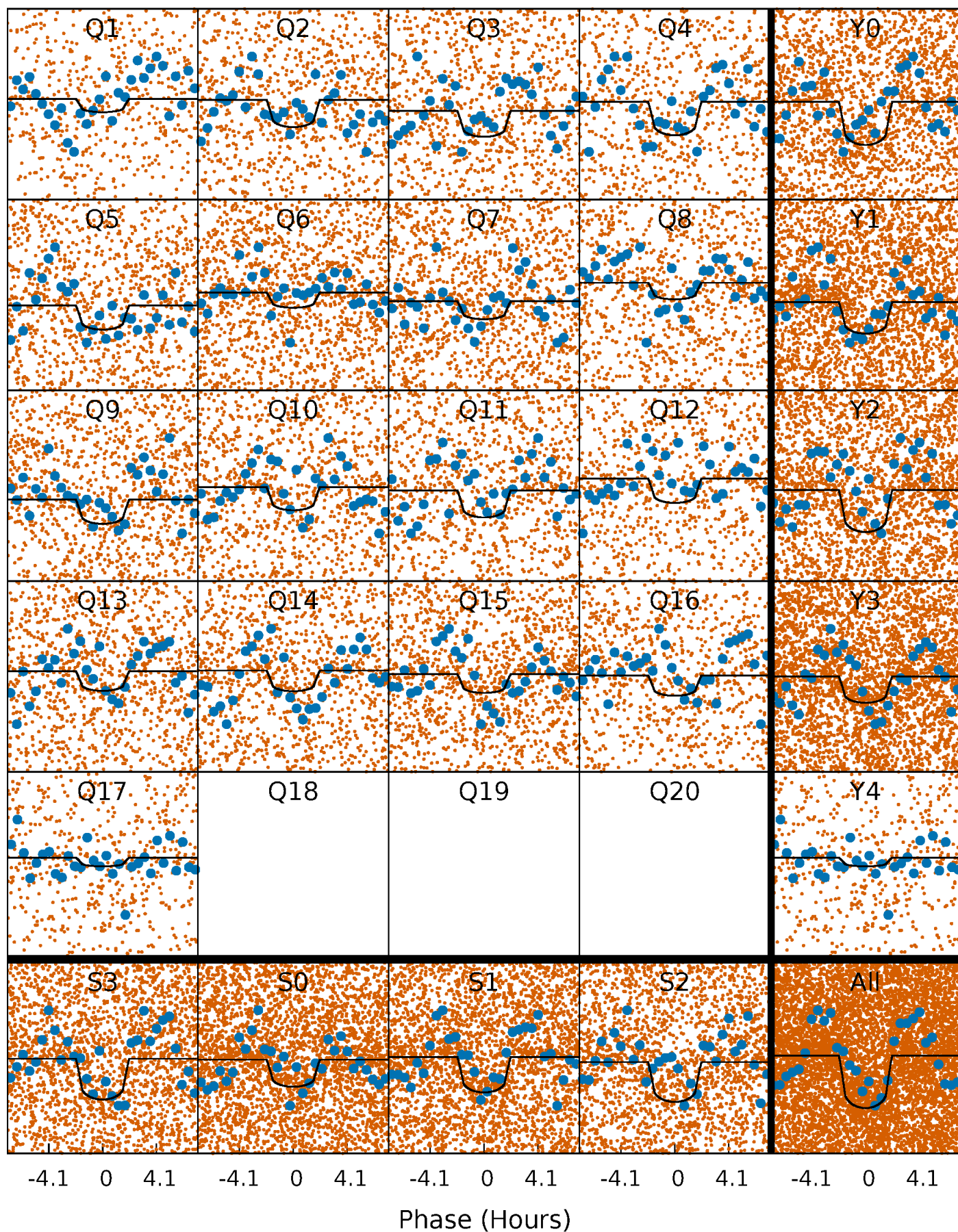
PDC Quarter-Phased Transit Curves

TCE 007300623-01 P= 1.129041 Days $T_0=132.170844$ (BKJD)



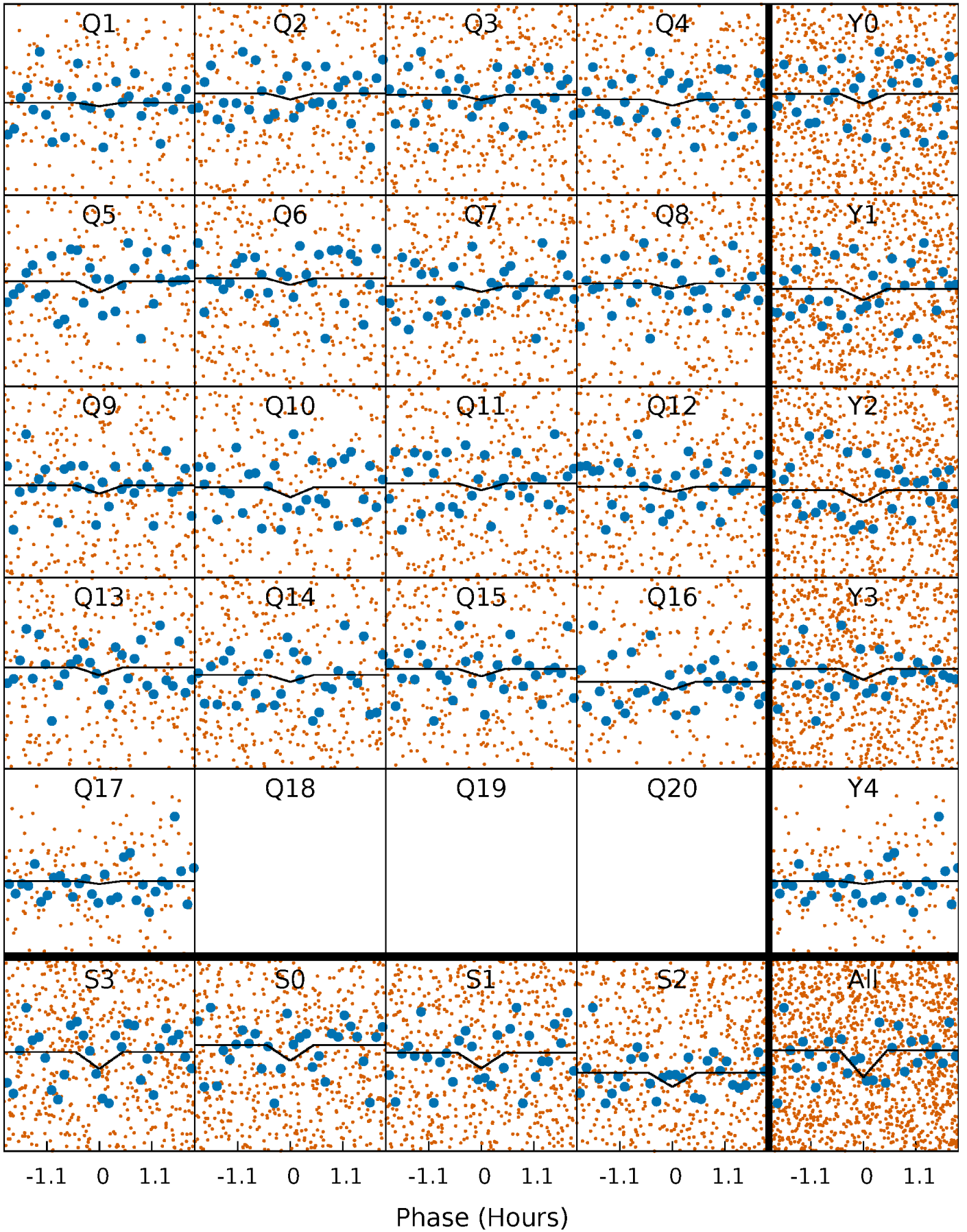
DV Quarter-Phased Transit Curves

TCE 007300623-01 P= 1.129041 Days $T_0=132.170844$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

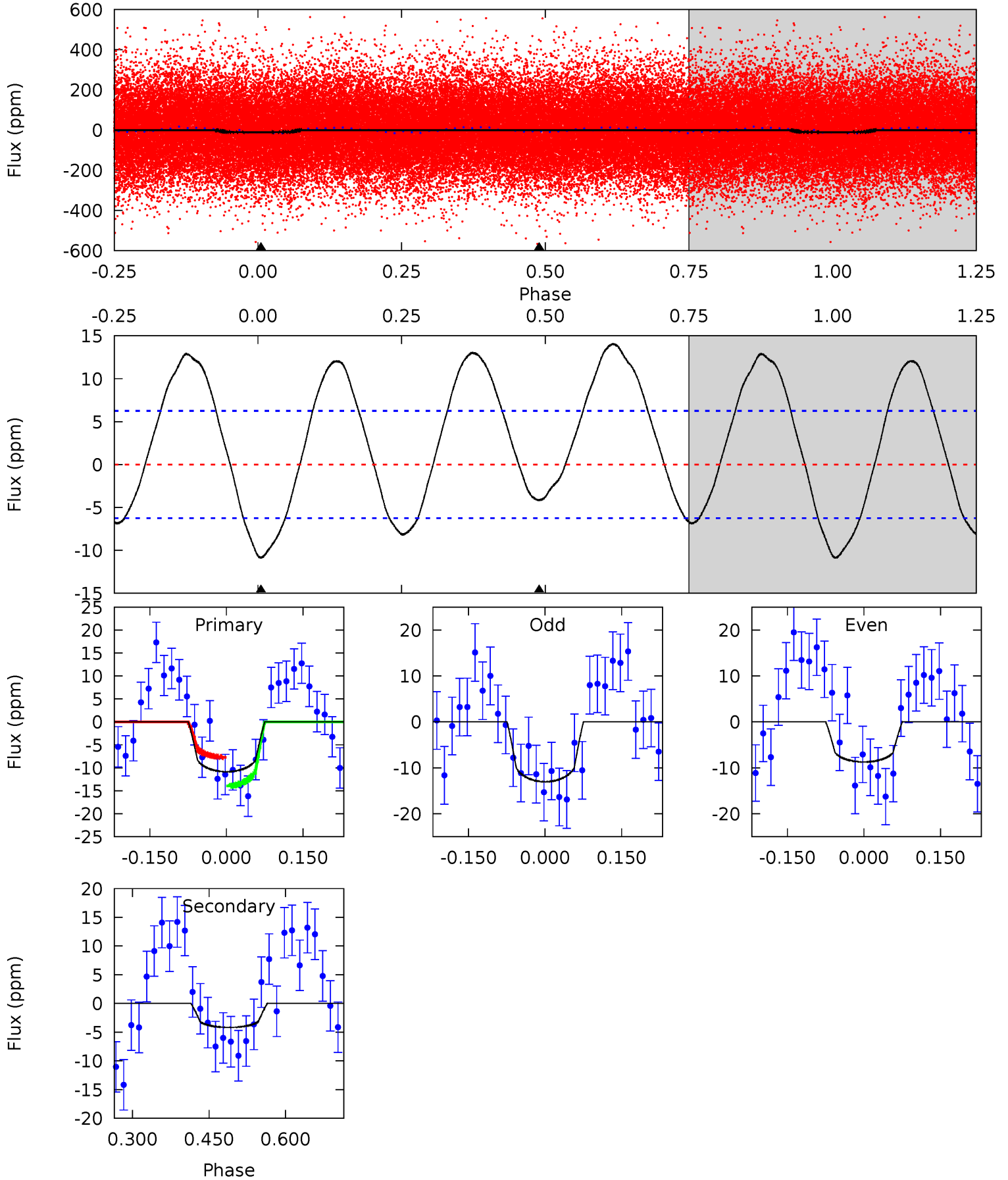
TCE 007300623-01 P= 1.129123 Days $T_0=132.143057$ (BKJD)



DV Model-Shift Uniqueness Test

007300623-01, P = 1.129041 Days, E = 131.041803 Days

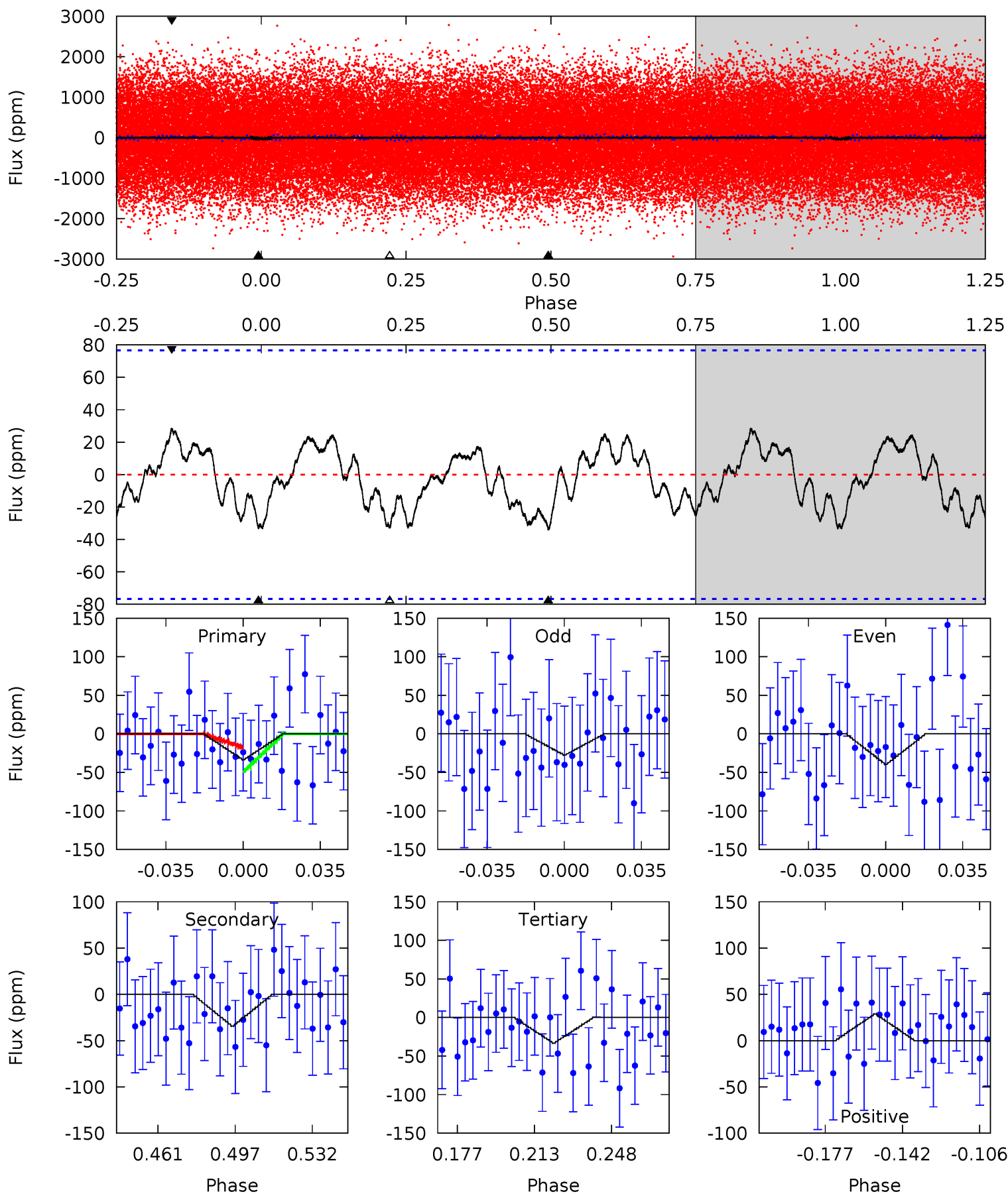
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.78	2.99	0	0	4.48	1.44	4.38	7.78	7.78	2.99	2.99	1.53	0.94	0.56	2.25



Alt Model-Shift Uniqueness Test

007300623-01, P = 1.129123 Days, E = 131.013934 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.10	2.14	2.06	1.79	4.78	2.10	0.93	0.03	0.30	0.08	0.35	0.38	0.80	0.46	0.98



Stellar Parameters For KIC 007300623

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7514^{+235}_{-314}	$3.542^{+0.576}_{-0.064}$	$-0.280^{+0.250}_{-0.300}$	$3.951^{+0.399}_{-2.262}$	$1.980^{+0.063}_{-0.571}$	$0.045^{+0.367}_{-0.010}$
	+3%/-4%	+16%/-2%	+89%/-107%	+10%/-57%	+3%/-29%	+810%/-22%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007300623-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4 ± 1	$1.57^{+0.70}_{-0.64}$	5407^{+394}_{-768}	4532^{+1316}_{-7459}	$0.641^{+1.108}_{-0.361}$
Alt.	-34 ± 16	$2.39^{+0.73}_{-0.78}$	5415^{+390}_{-716}	6741^{+1722}_{-1420}	$2.111^{+2.700}_{-1.169}$

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 $A_{obs} \gg 1.0$

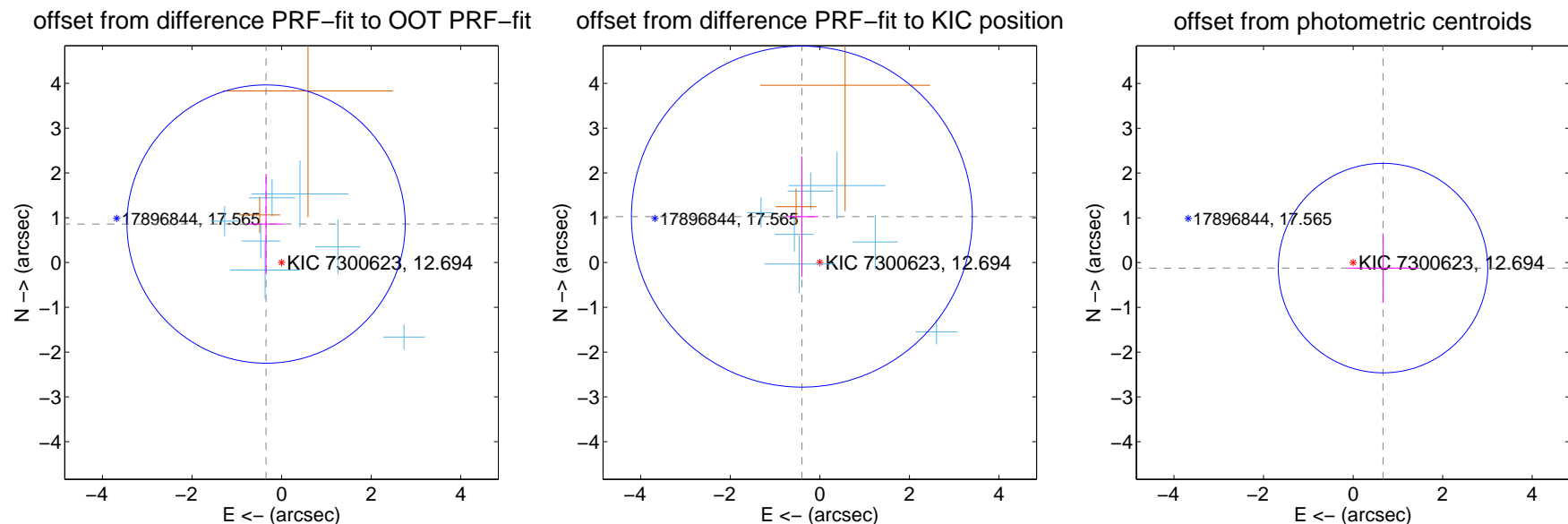
DV Centroid Data

Supplemental centroid analysis for 007300623-01. Kepler magnitude: 12.69. Transit SNR 7.12

There are 7 quarters with good PRF difference image offsets

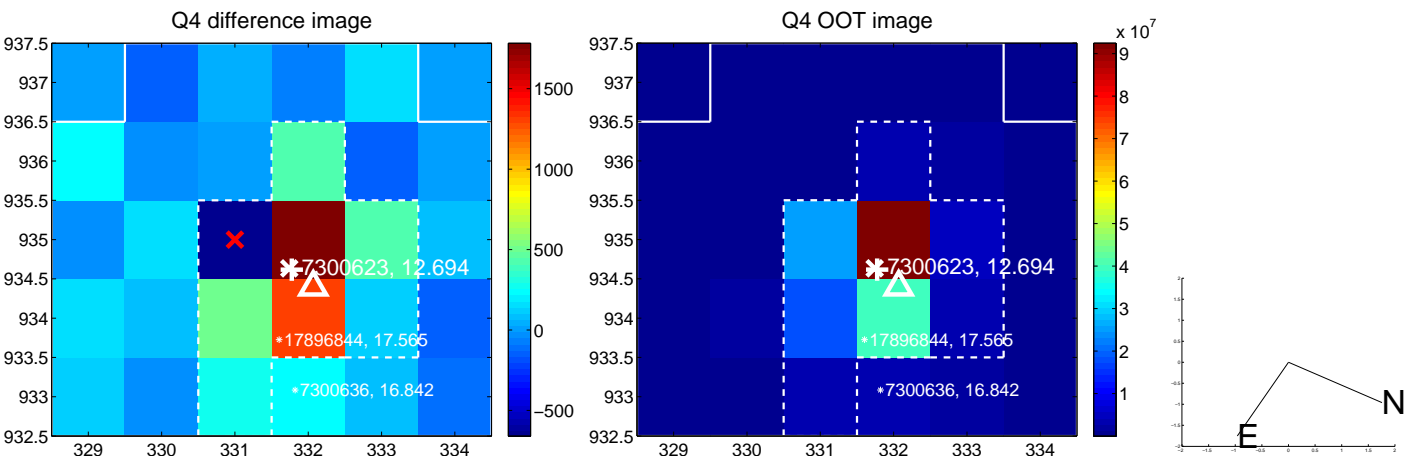
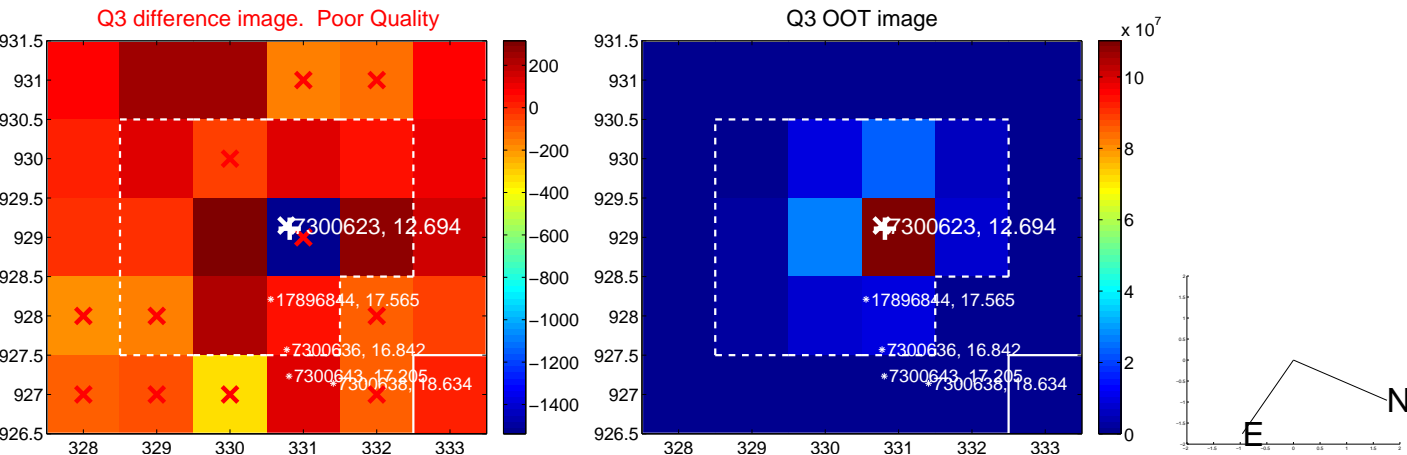
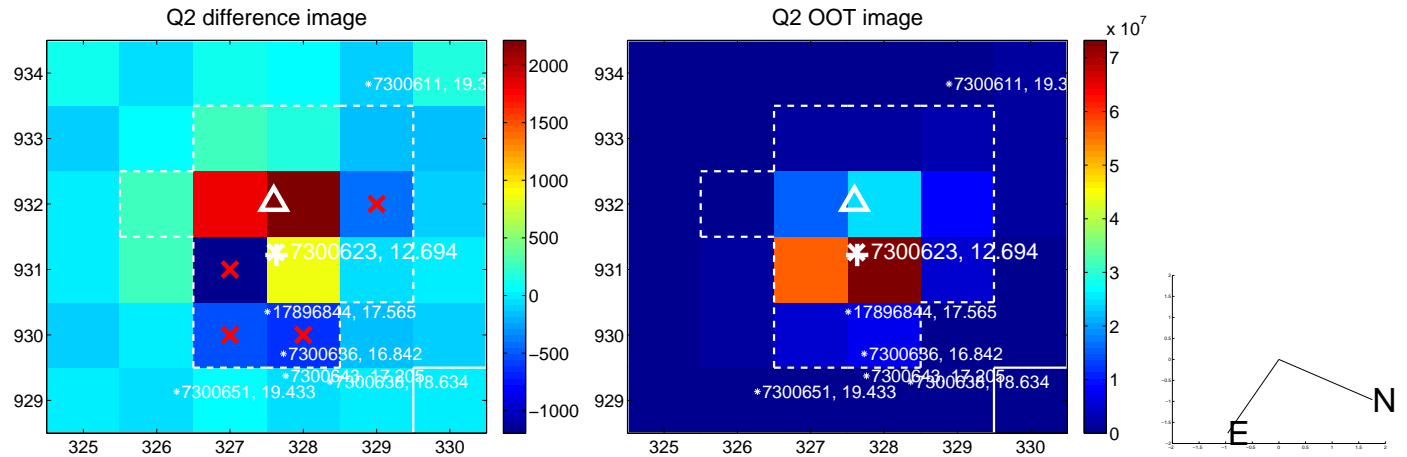
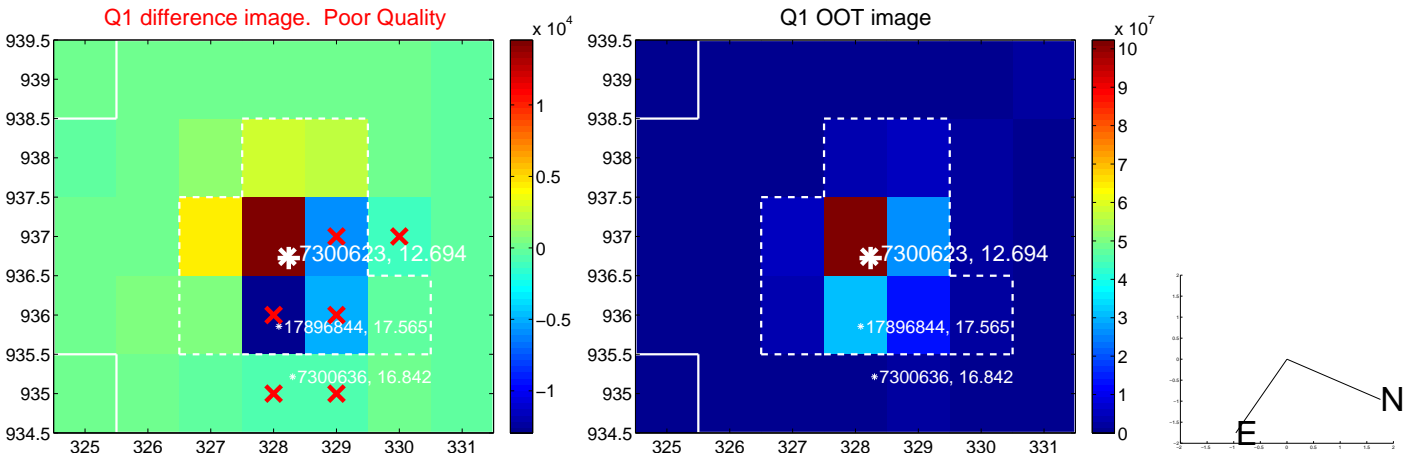
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.926 ± 1.036	0.89	0.346 ± 0.401	0.859 ± 1.123
PRF-fit source offset from KIC position	1.101 ± 1.269	0.87	0.401 ± 0.366	1.025 ± 1.345
photometric centroid source offset	0.68 ± 0.78	0.87	-0.67 ± 0.78	-0.12 ± 0.77

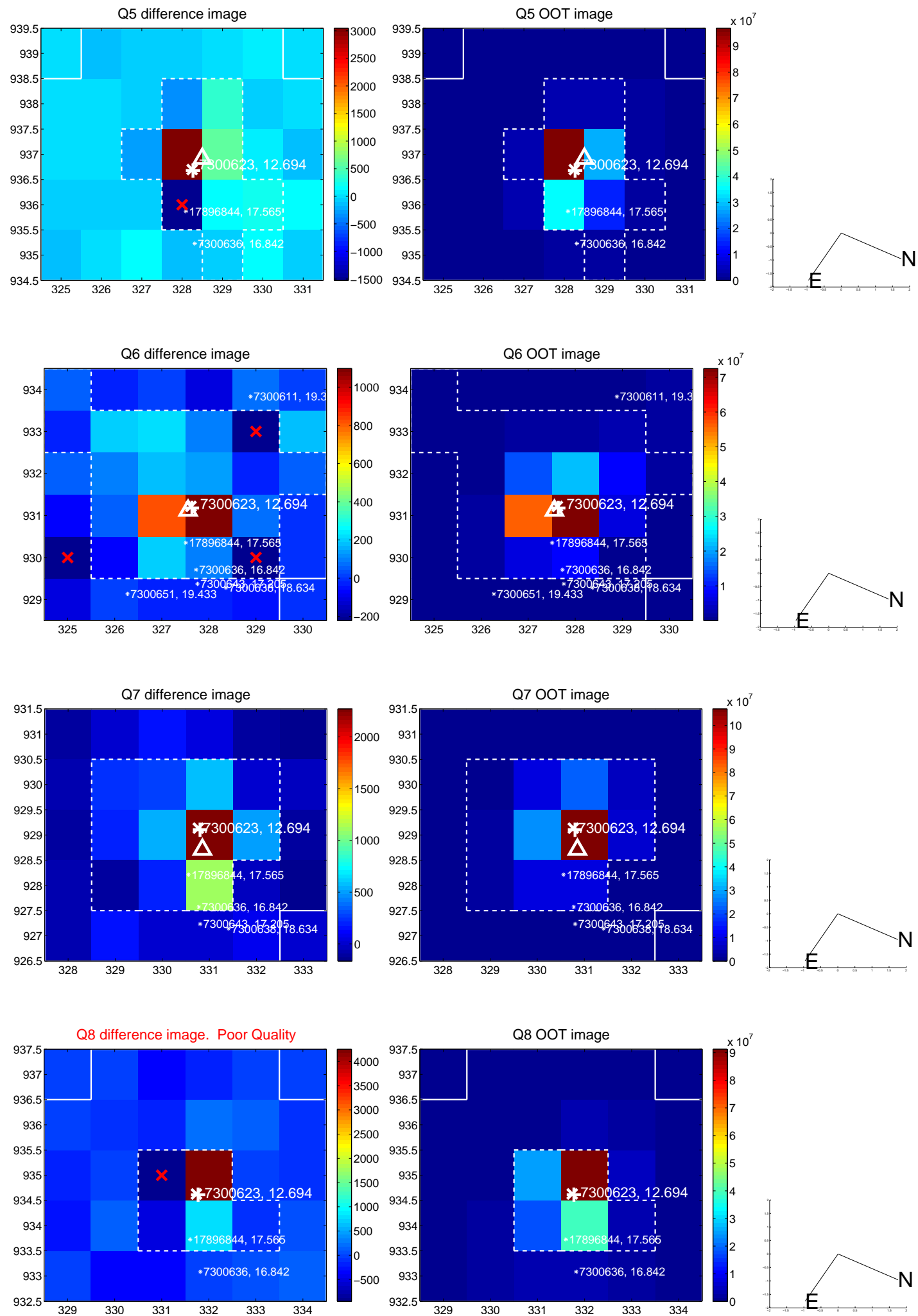


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

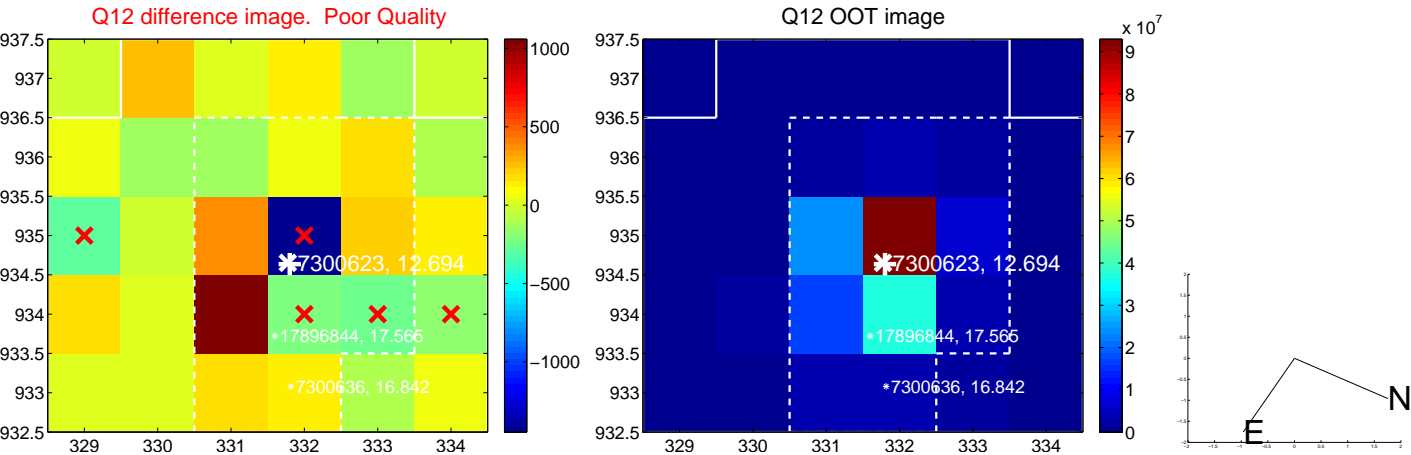
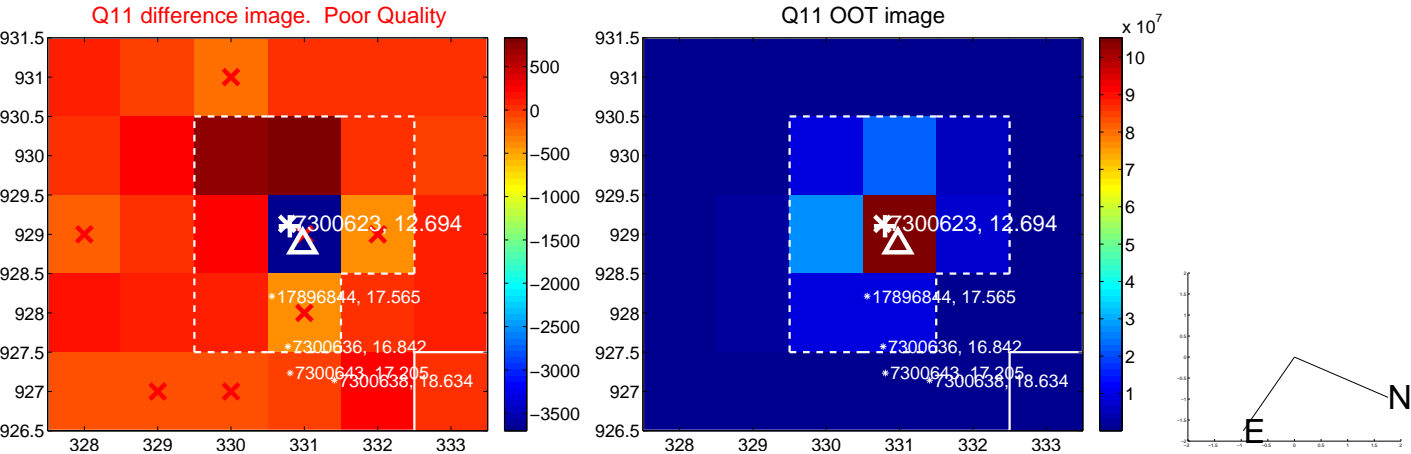
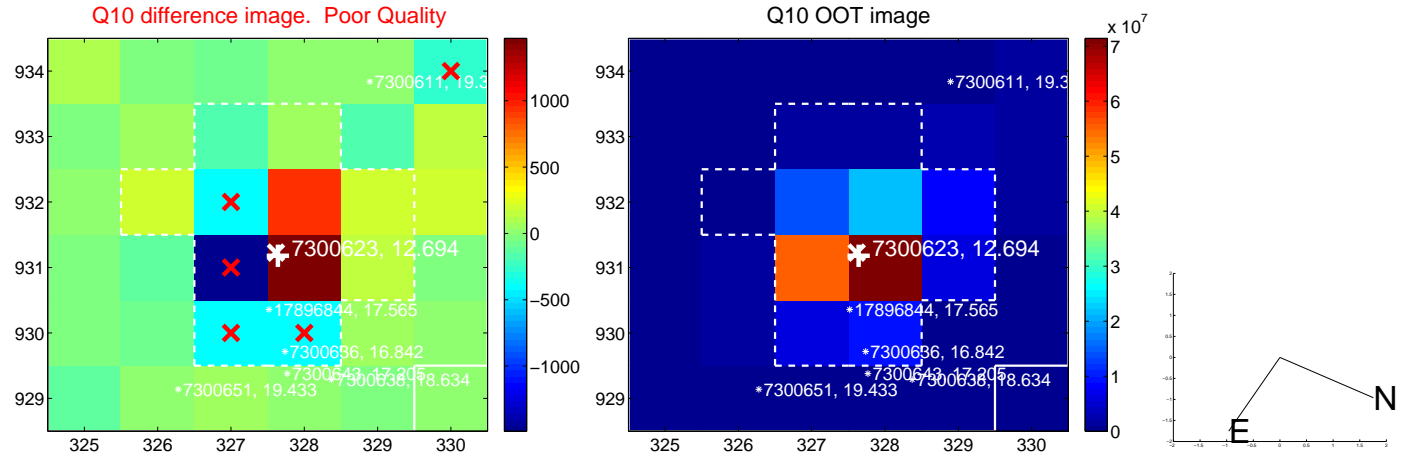
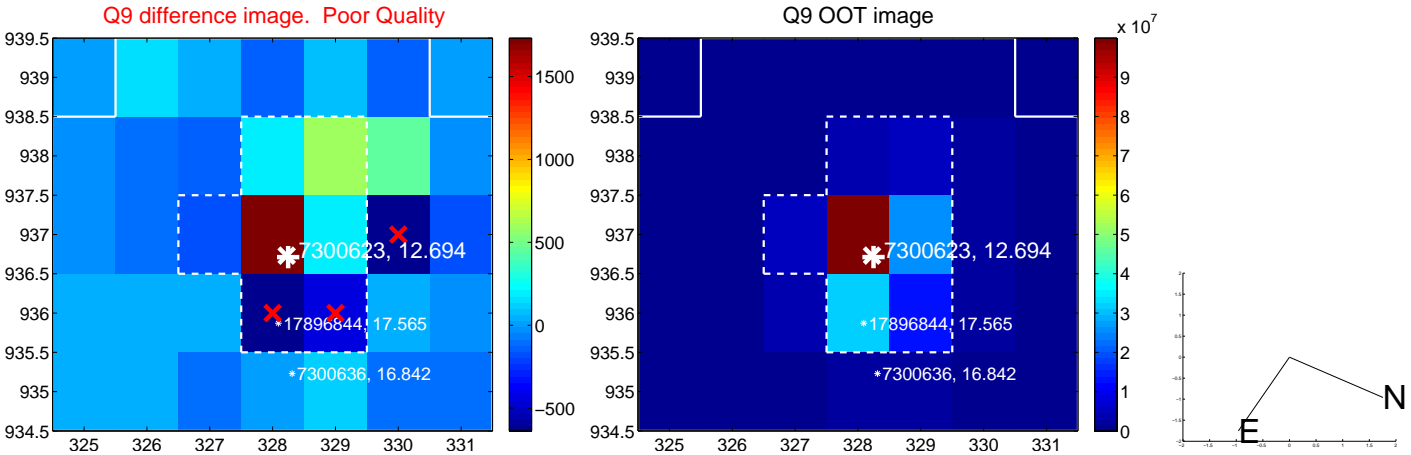
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



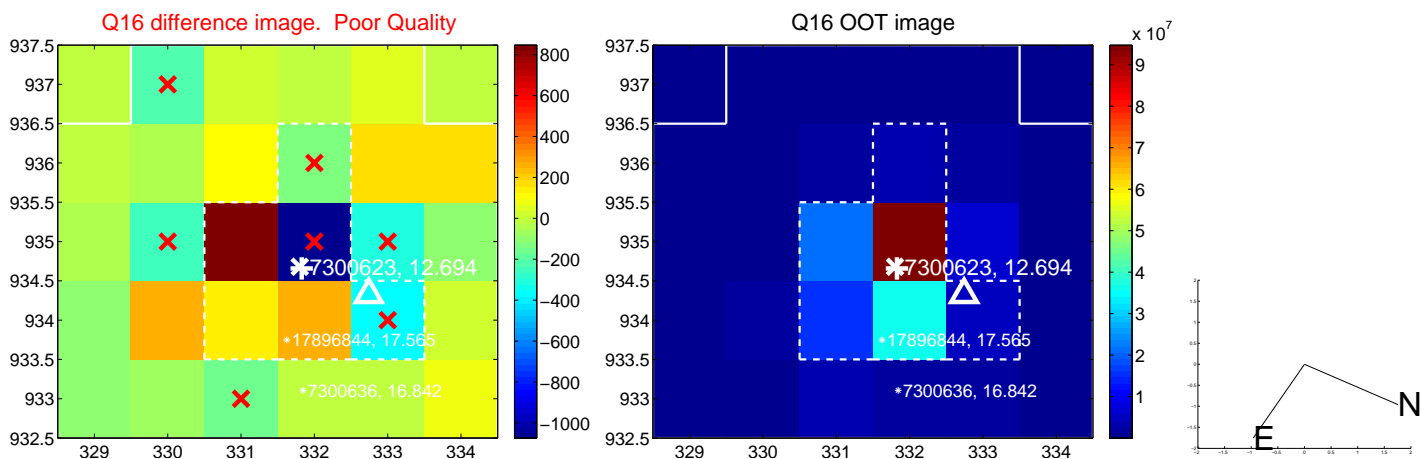
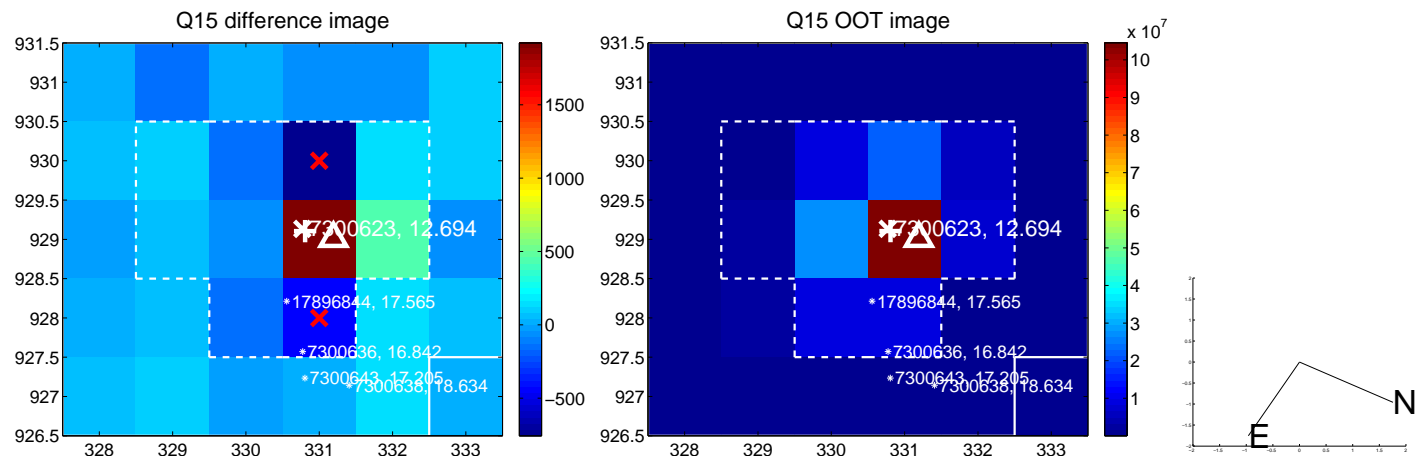
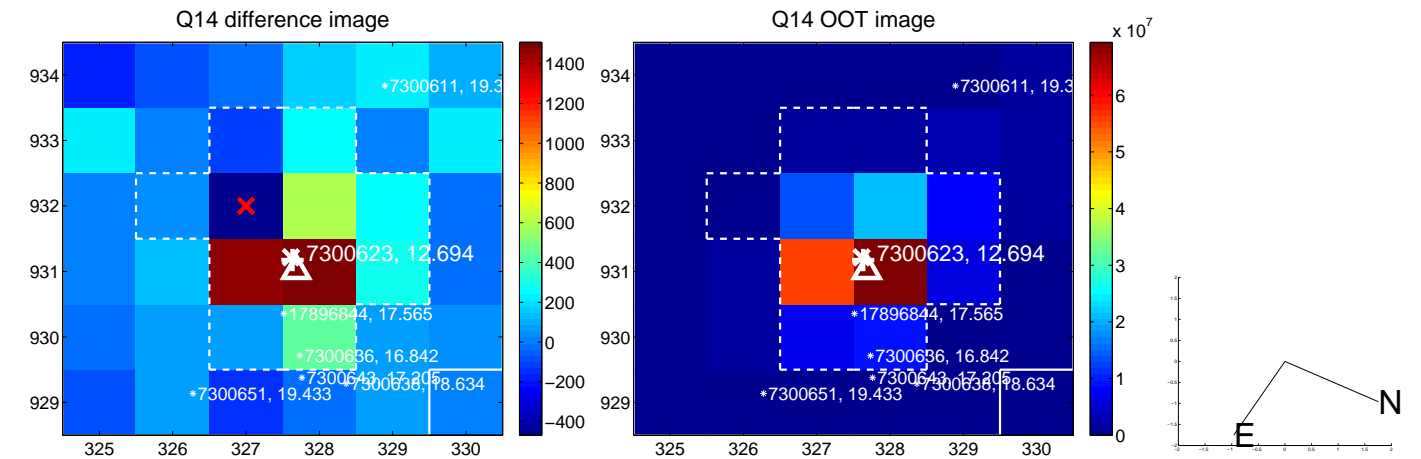
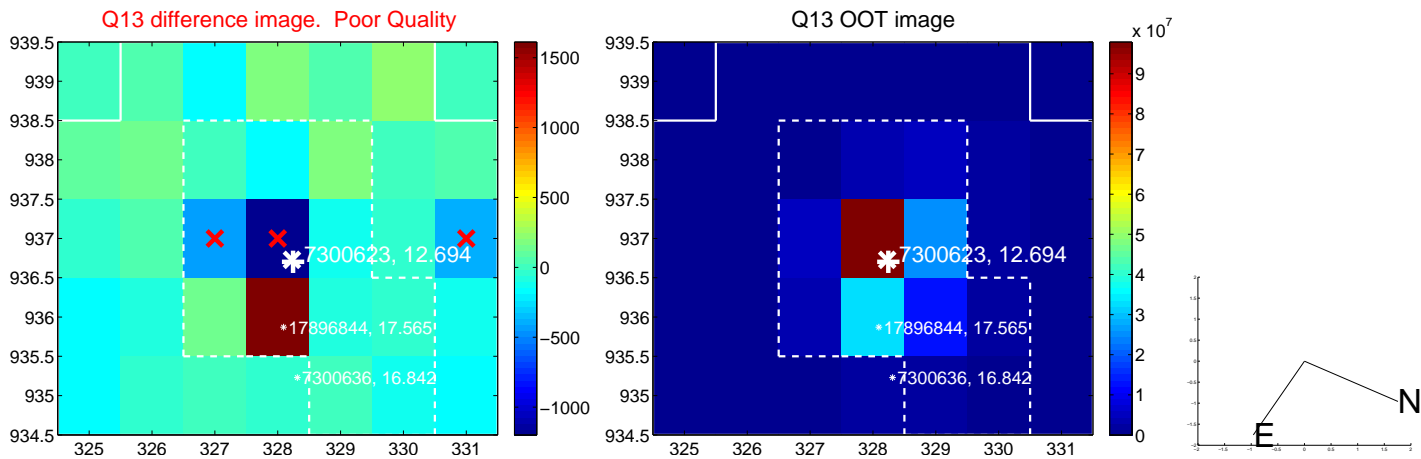
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



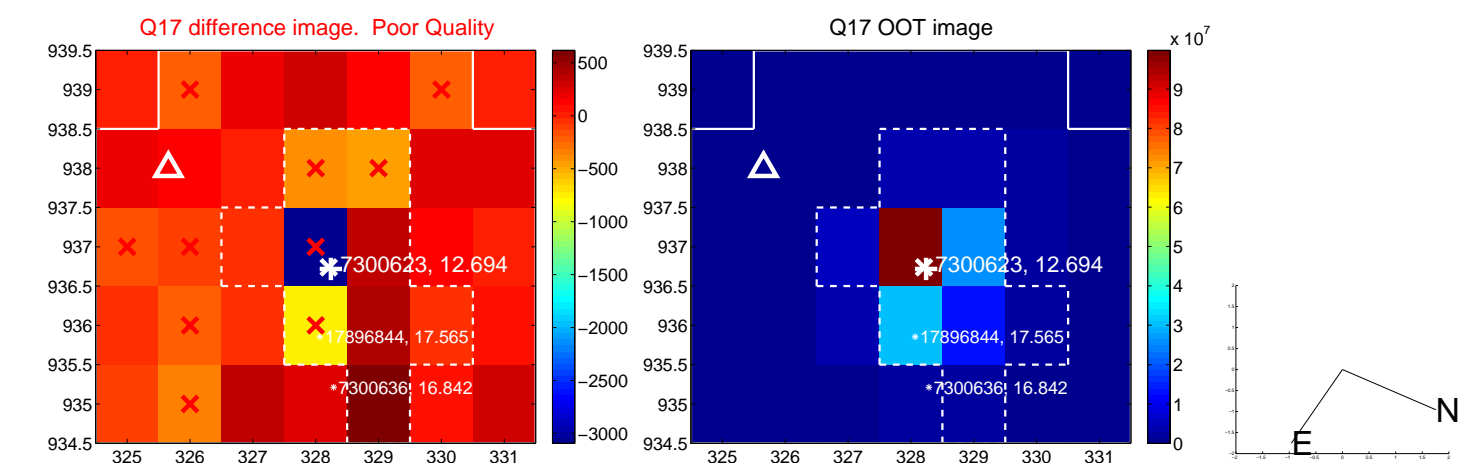
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



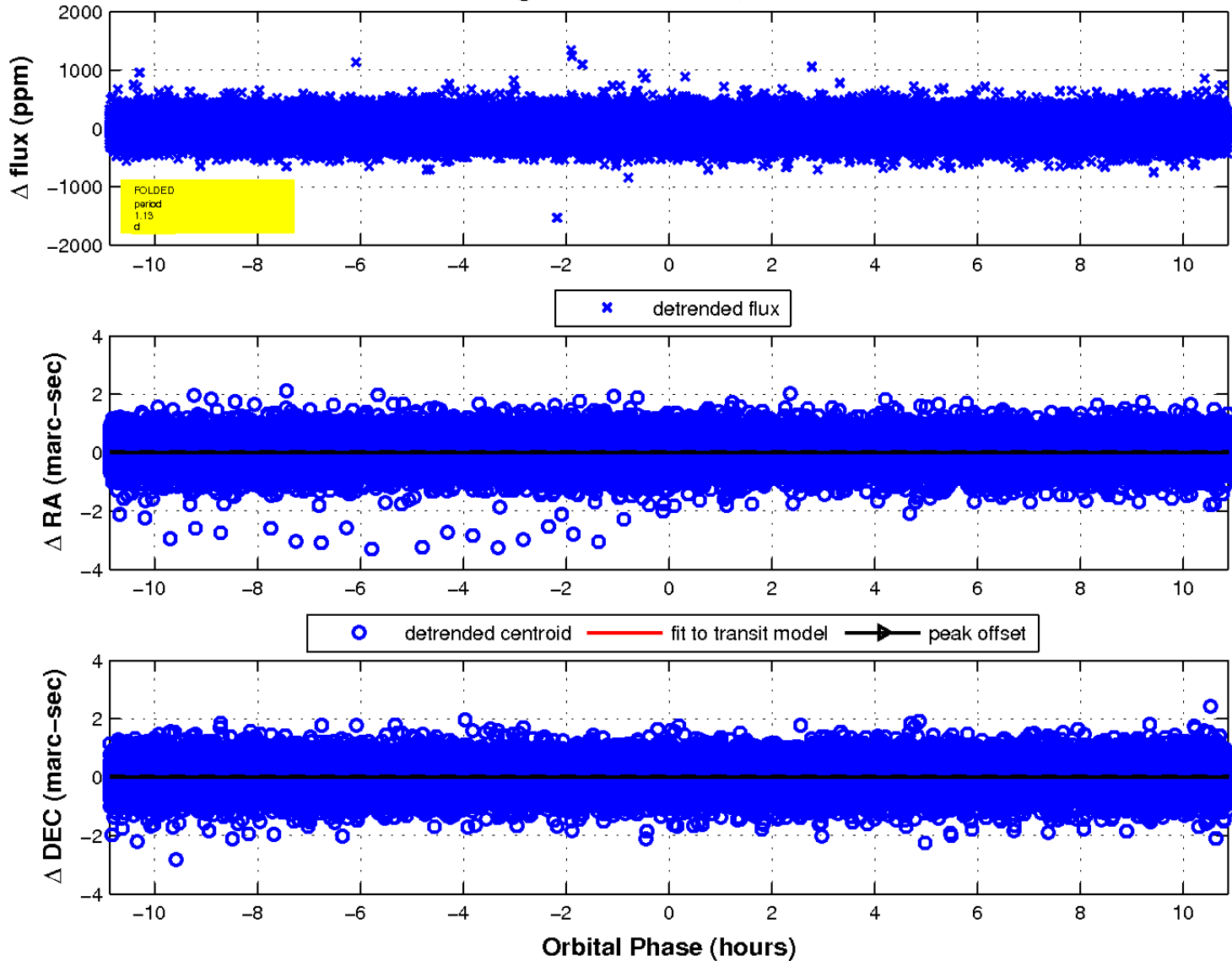
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

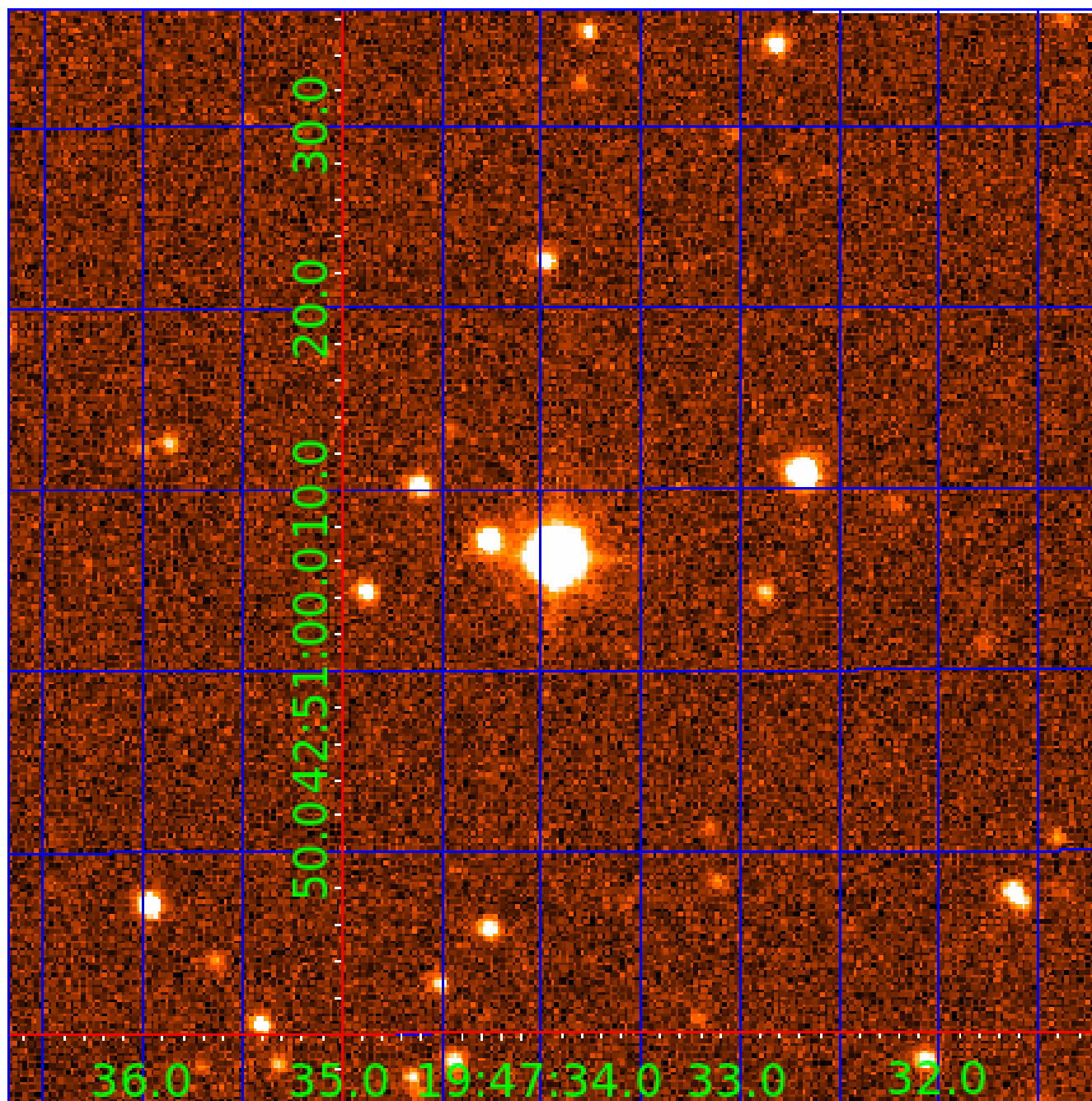


fluxWeightedCentroids, Planet 1 of 4



UKIRT Image

Declination



KIC 007300623

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})
007300623-01	OBS	No	1.129041	132.170844	17.1	3.626	9.7	7.1	3.95	7514	1.82	62695.63
007300623-02	OBS	No	1.689648	132.718966	35.3	2.189	7.7	8.6	3.95	7514	2.68	36625.93
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007300623-04	OBS	No	0.555226	131.703104	18.8	2.243	7.3	7.6	3.95	7514	2.01	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007300623-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007300623-02	OBS	FP	0.00	1	0	1	0	LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
007300623-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007300623-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

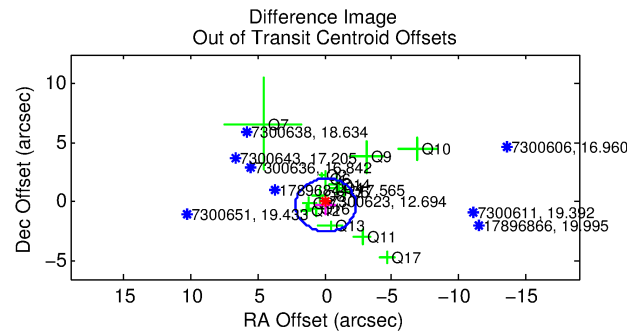
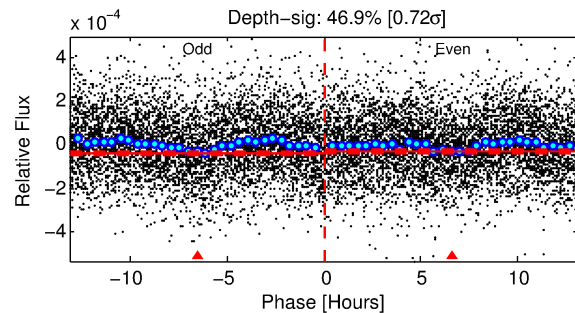
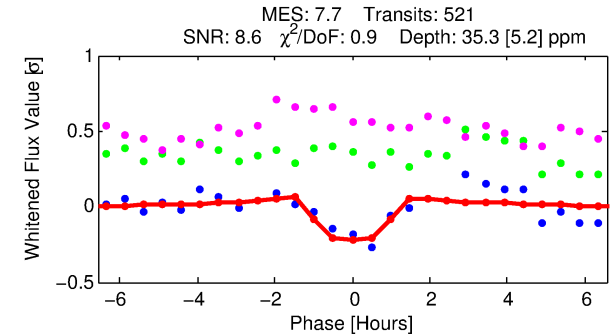
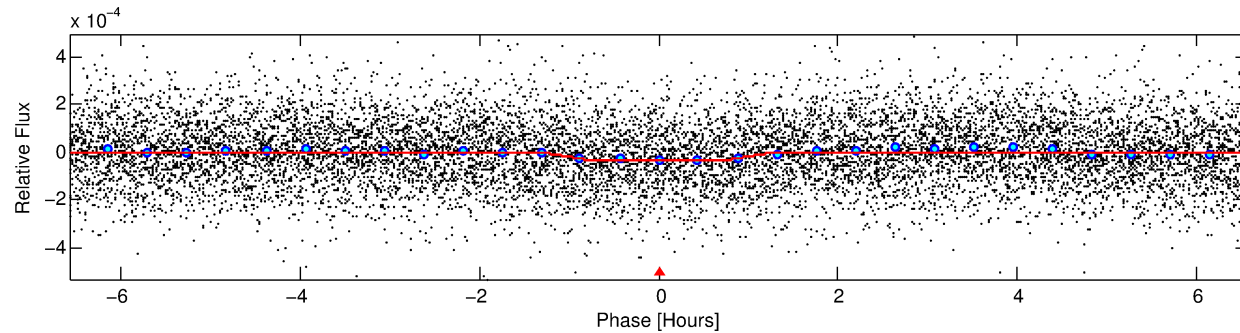
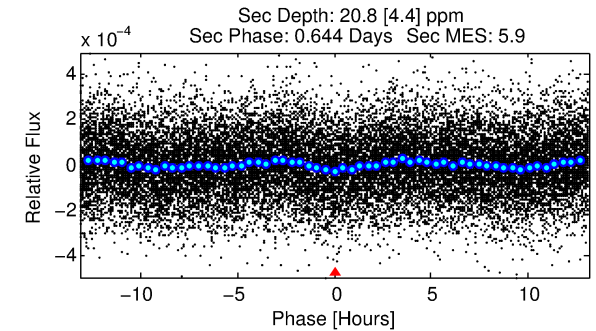
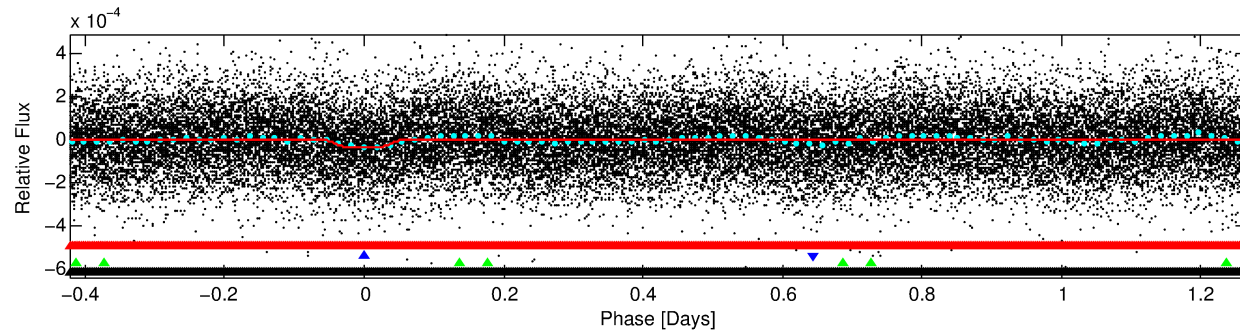
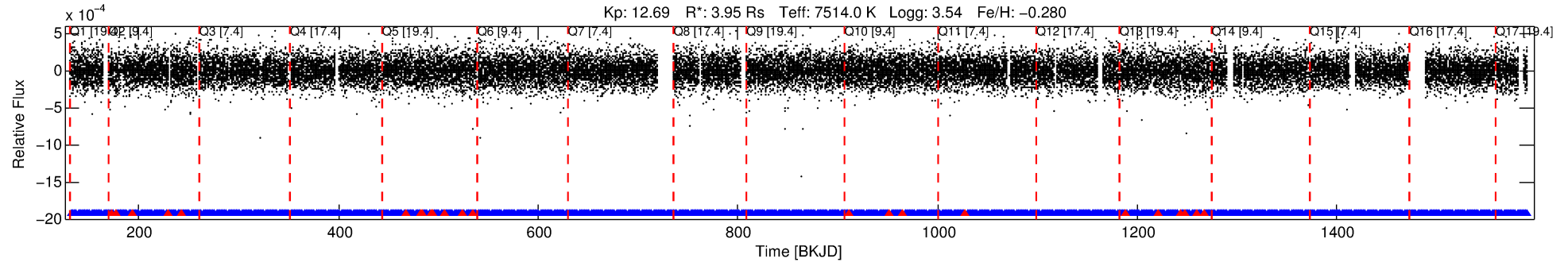
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007300623-02

No Significant Match Found

DV One-Page Summary

KIC: 7300623 Candidate: 2 of 4 Period: 1.690 d



DV Fit Results:

Period = 1.68965 [0.00001] d
Epoch = 132.7190 [0.0032] BKJD
Rp/R* = 0.0062 [0.0023]
a/R* = 3.25 [5.78]
b = 0.86 [0.63]
Seff = 36625.93 [35800.11]
Teq = 3528 [862] K
Rp = 2.68 [1.83] Re
a = 0.0349 [0.0204] AU
Ag = 1.94 [2.40] [0.39σ]
Teffp = 6438 [1280] K [1.89σ]

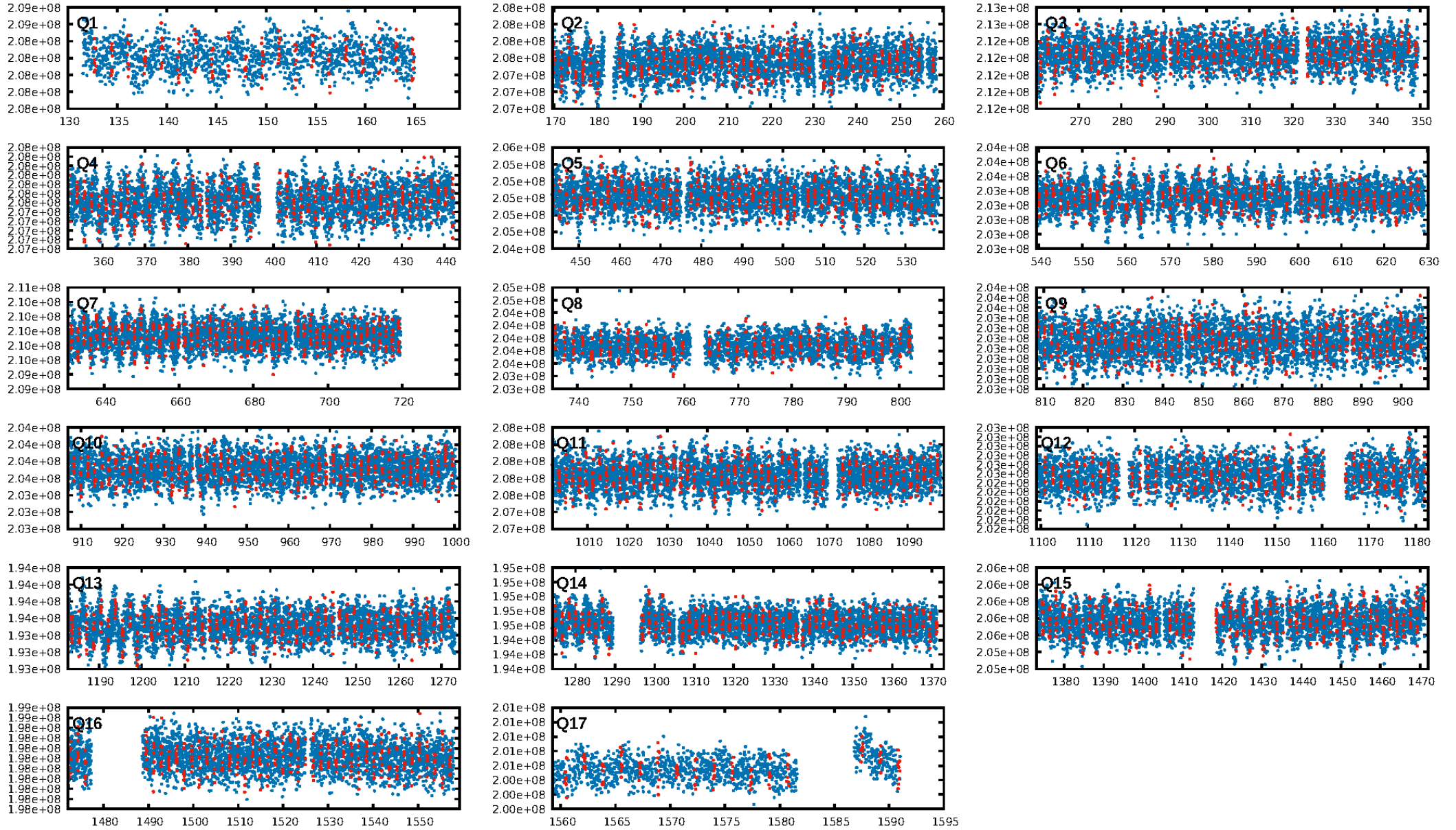
DV Diagnostic Results:

ShortPeriod-sig: 99.9% [3.18σ]
LongPeriod-sig: 100.0% [737.63σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 3.05e-11
RollingBand-fgt: 0.95 [481/504]
GhostDiagnostic-chr: -0.2058
Centroid-sig: 16.7%
Centroid-so: 0.544 arcsec [0.93σ]
OotOffset-rm: 0.269 arcsec [0.36σ]
OotOffset-st: 4/3/4/4 [15]
KicOffset-rm: 0.109 arcsec [0.14σ]
KicOffset-st: 4/3/4/4 [15]
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DiffImageOverlap-fno: 0.00 [0/17]

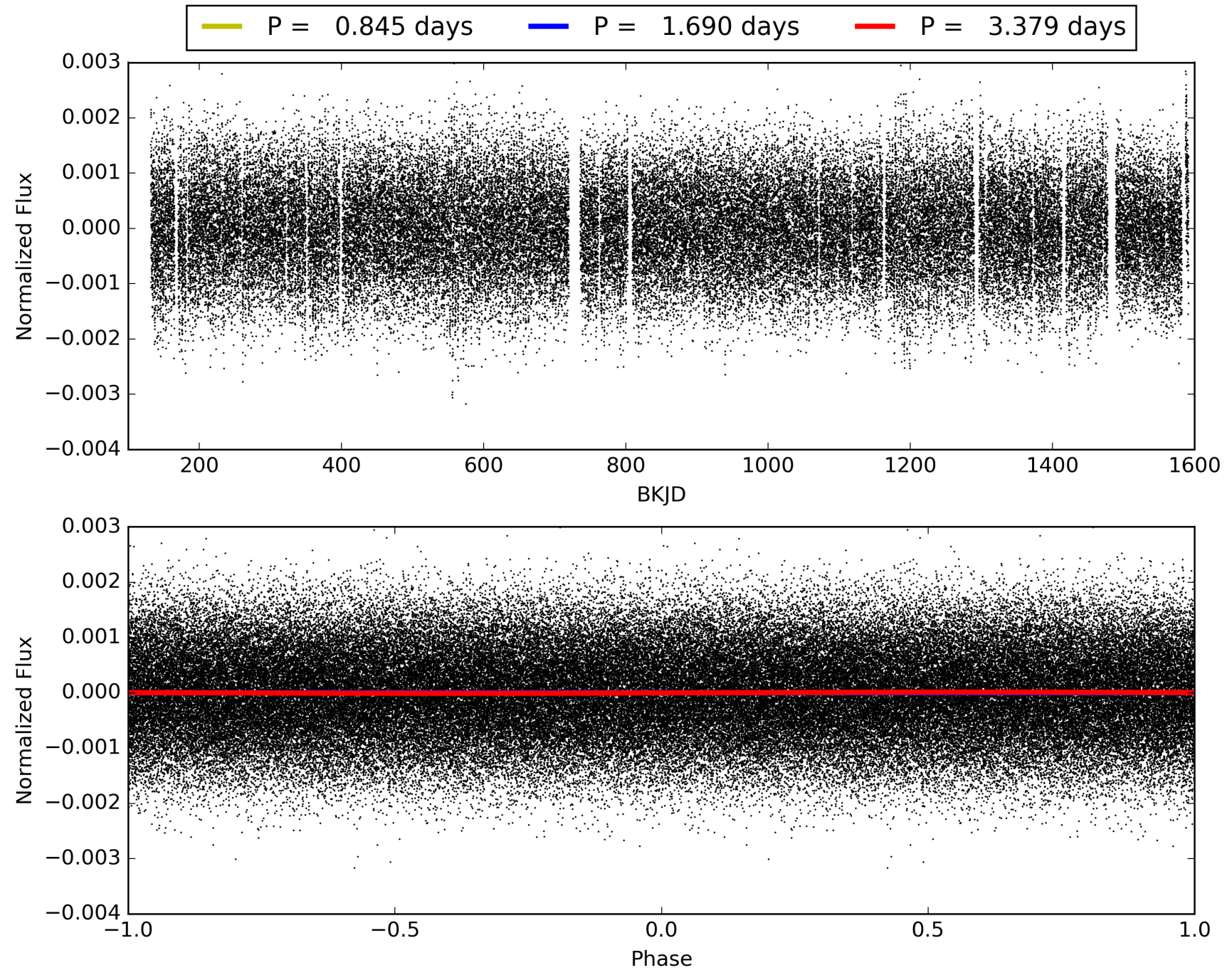
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:14:45 Z

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

TCE 007300623-02, PDC Light Curves

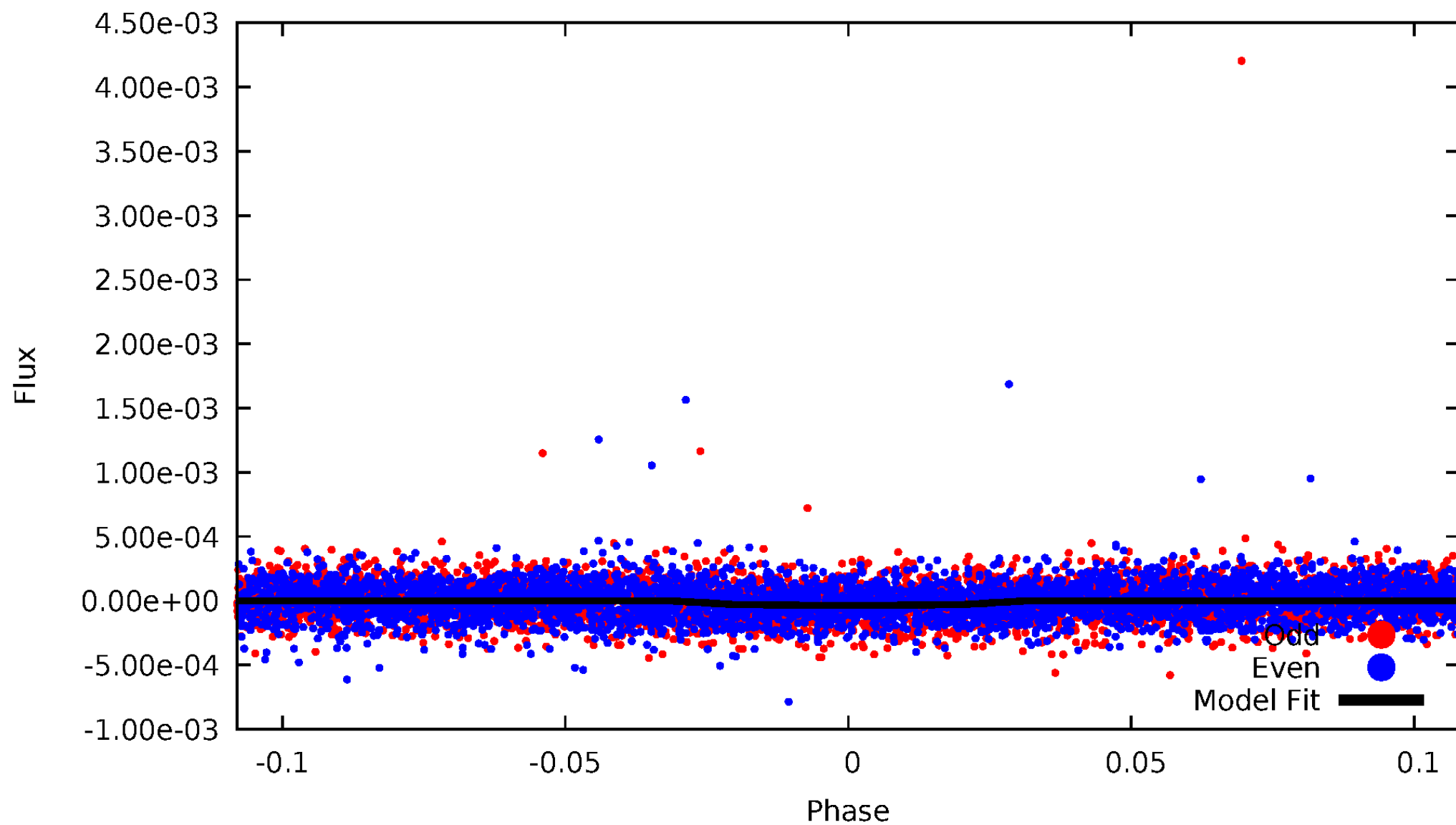


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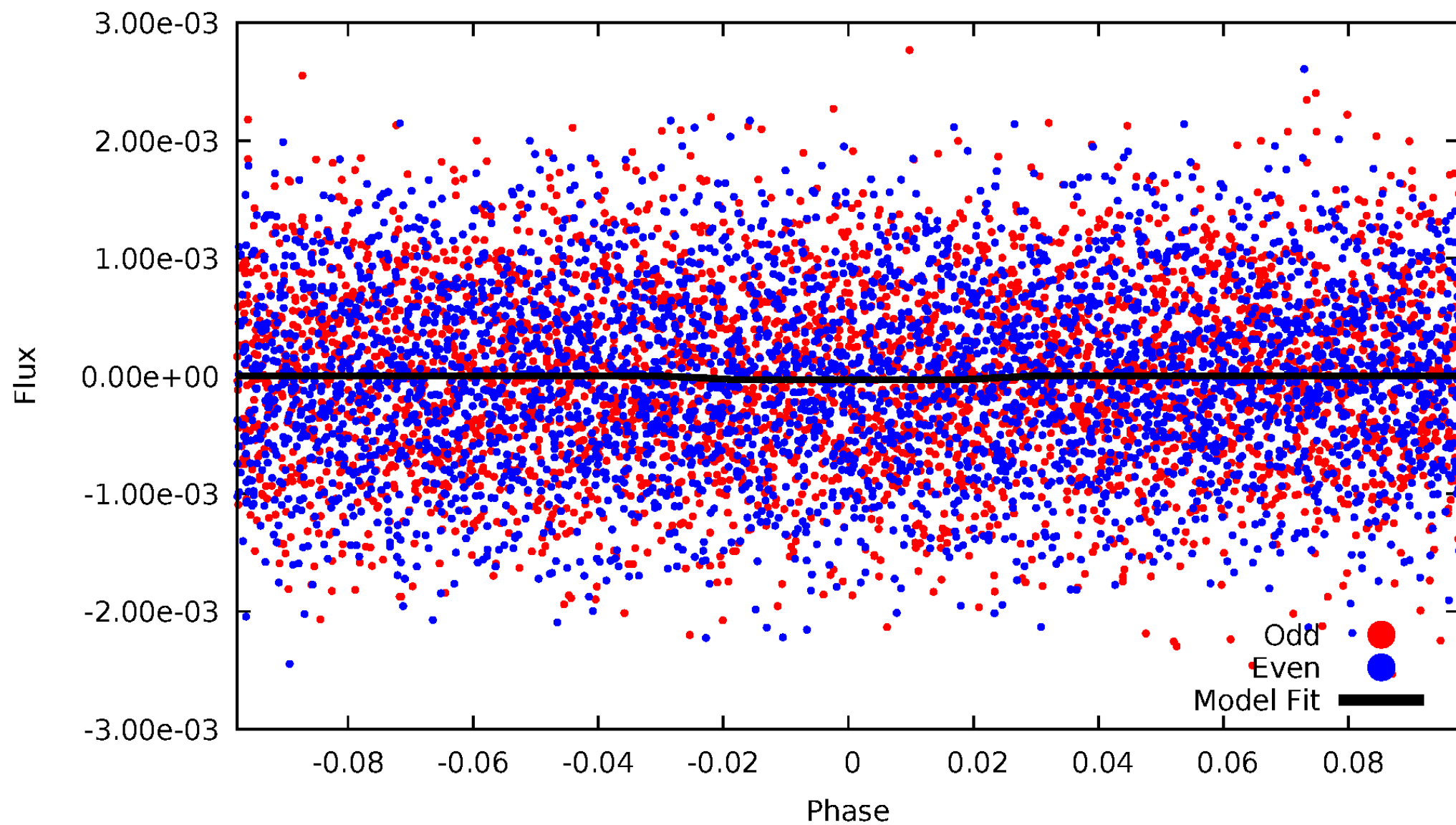
DV Odd/Even

TCE 007300623-02



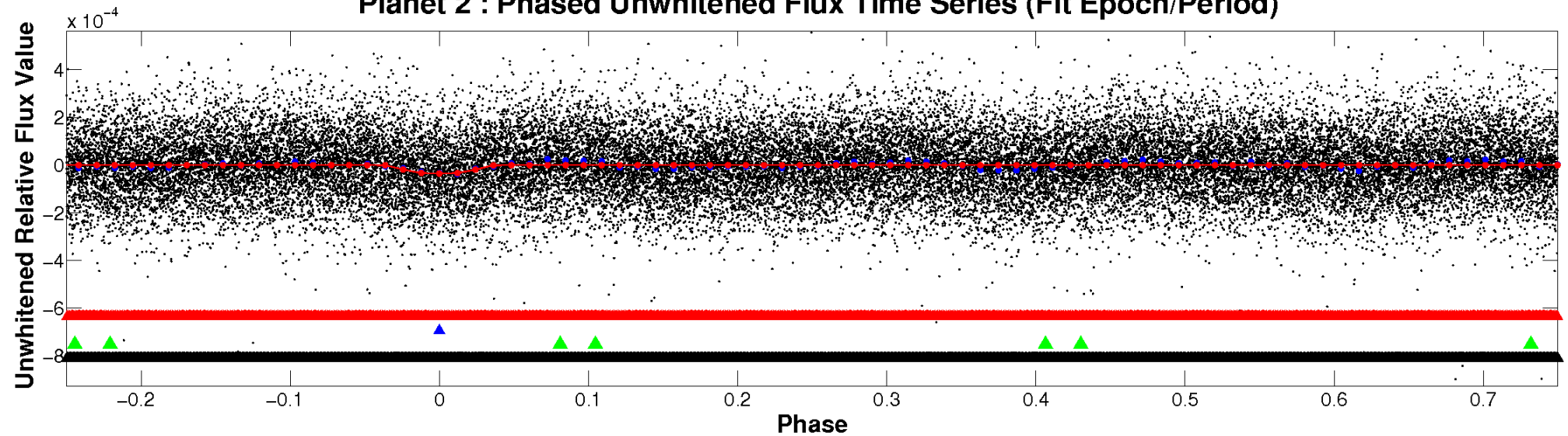
ALT Odd/Even

TCE 007300623-02

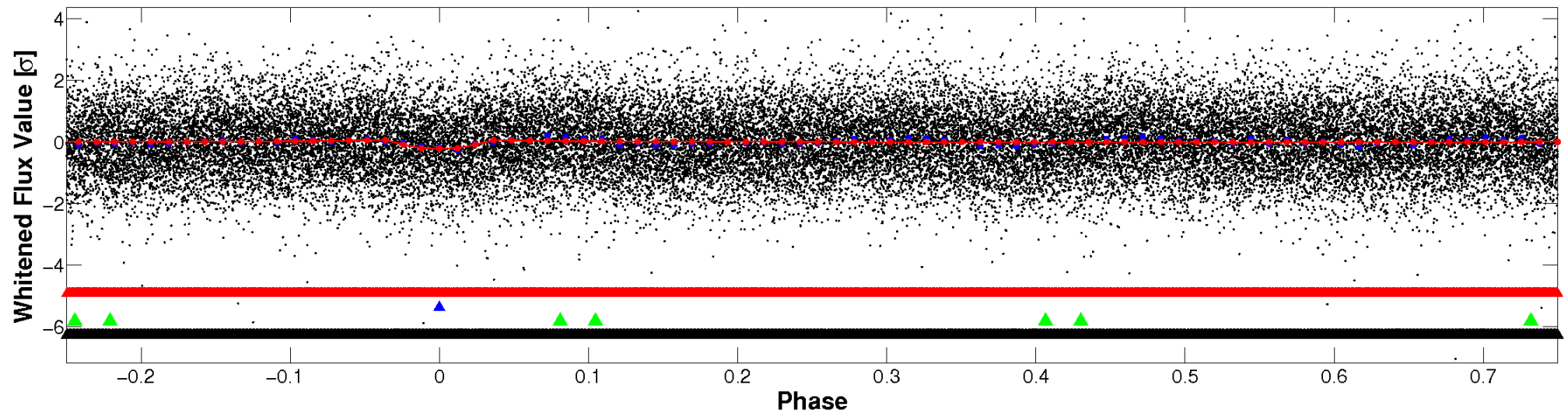


Non-Whitened Vs. Whitened Light Curve

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

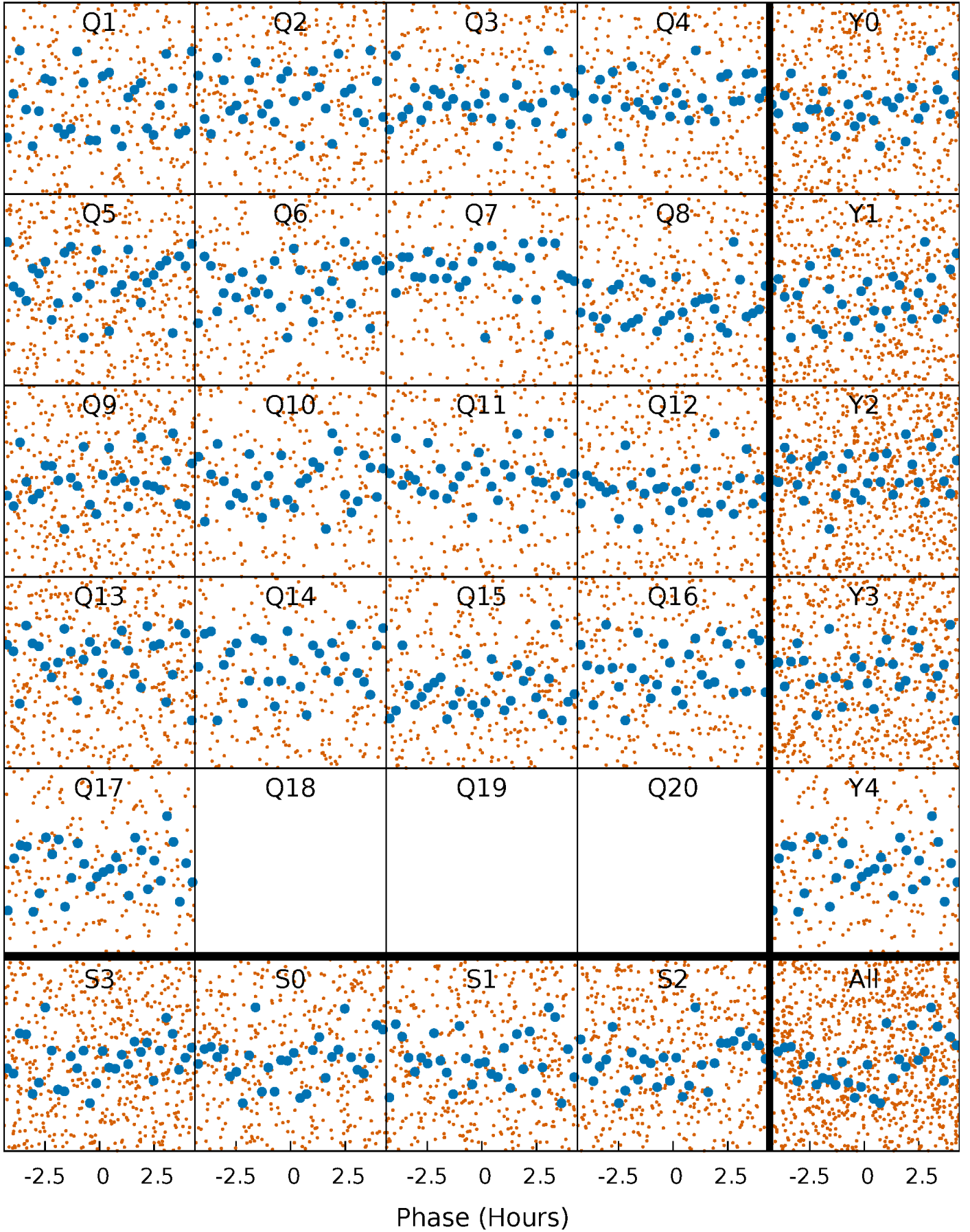


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



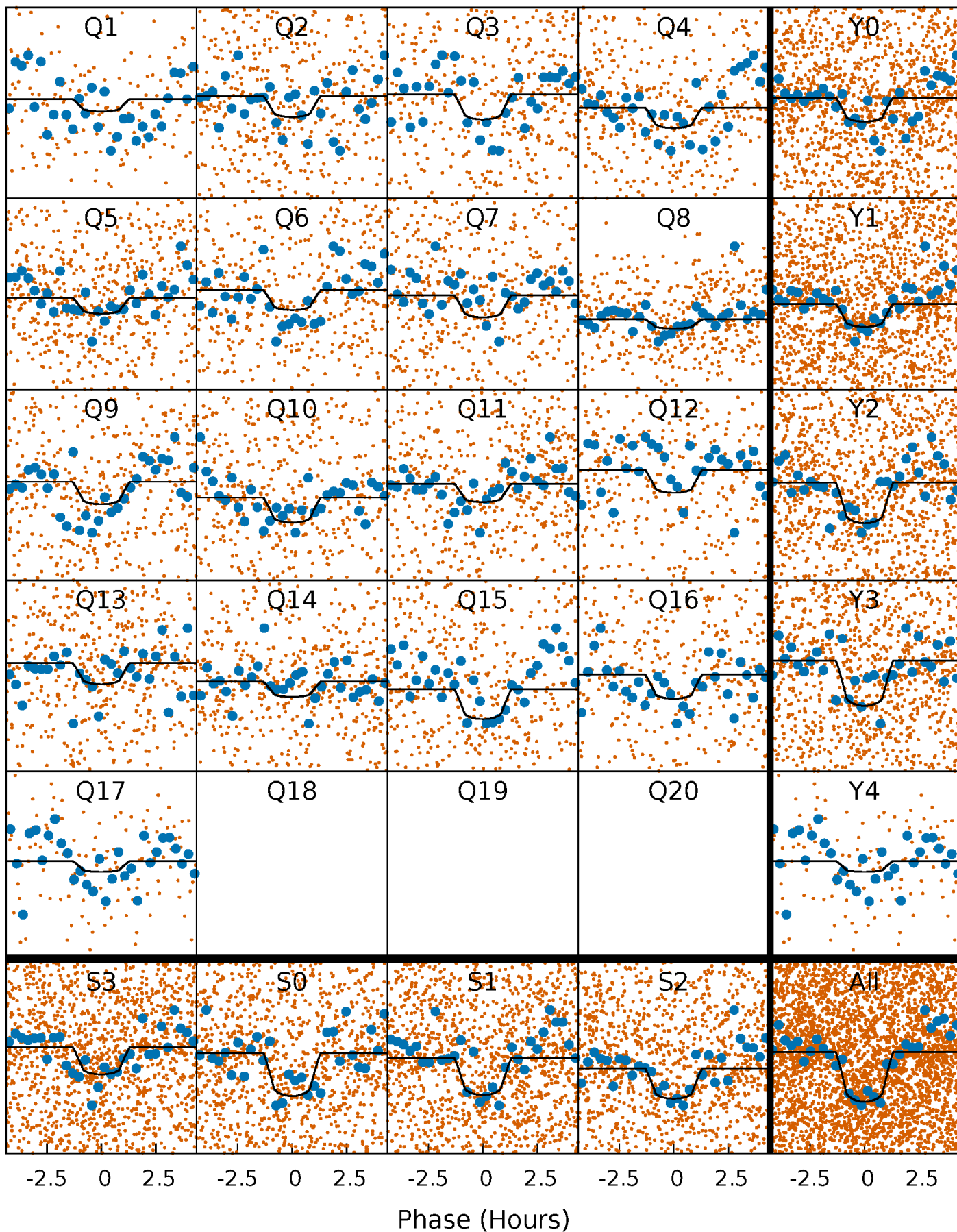
PDC Quarter-Phased Transit Curves

TCE 007300623-02 P= 1.689648 Days $T_0=132.718966$ (BKJD)



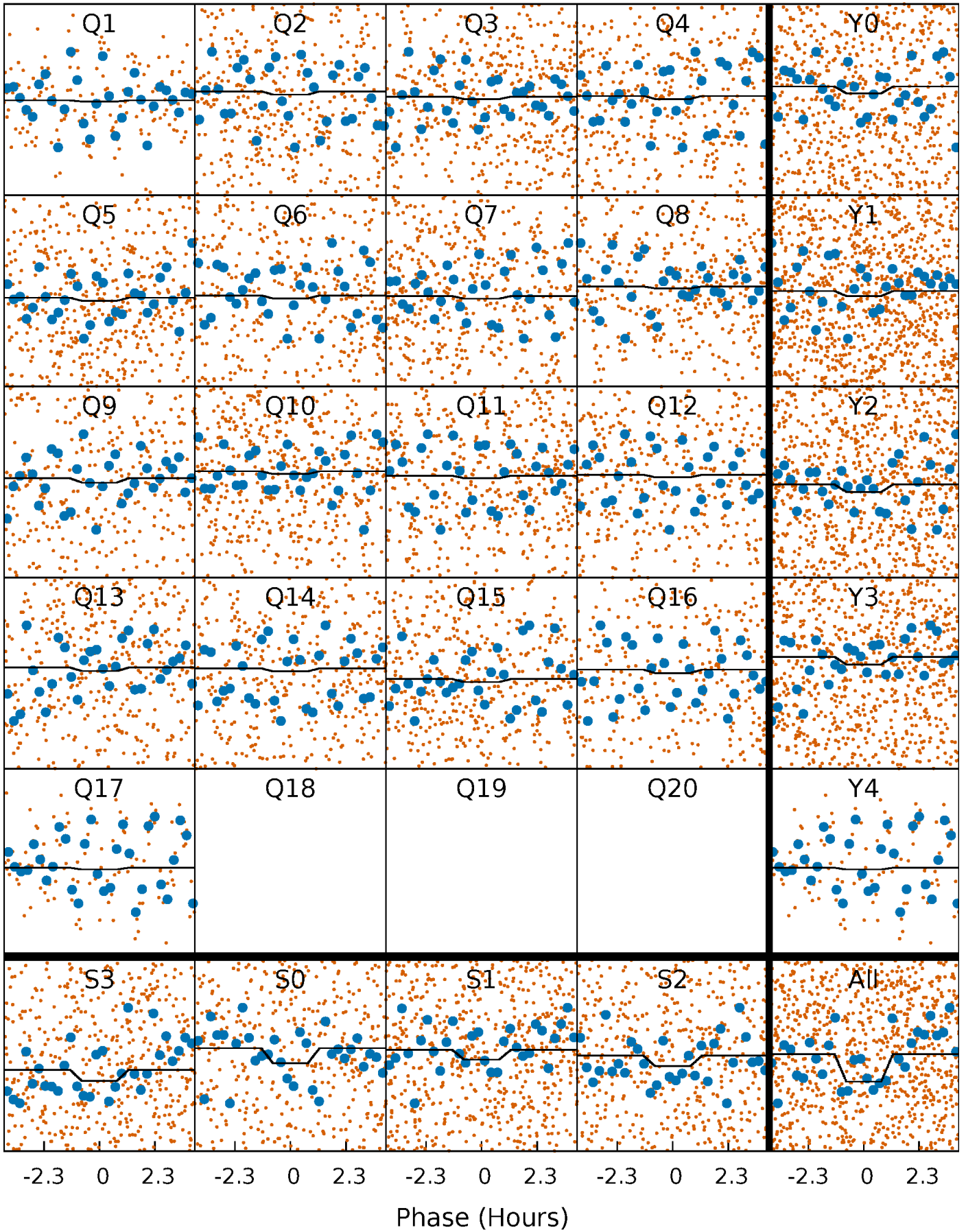
DV Quarter-Phased Transit Curves

TCE 007300623-02 P= 1.689648 Days $T_0=132.718966$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

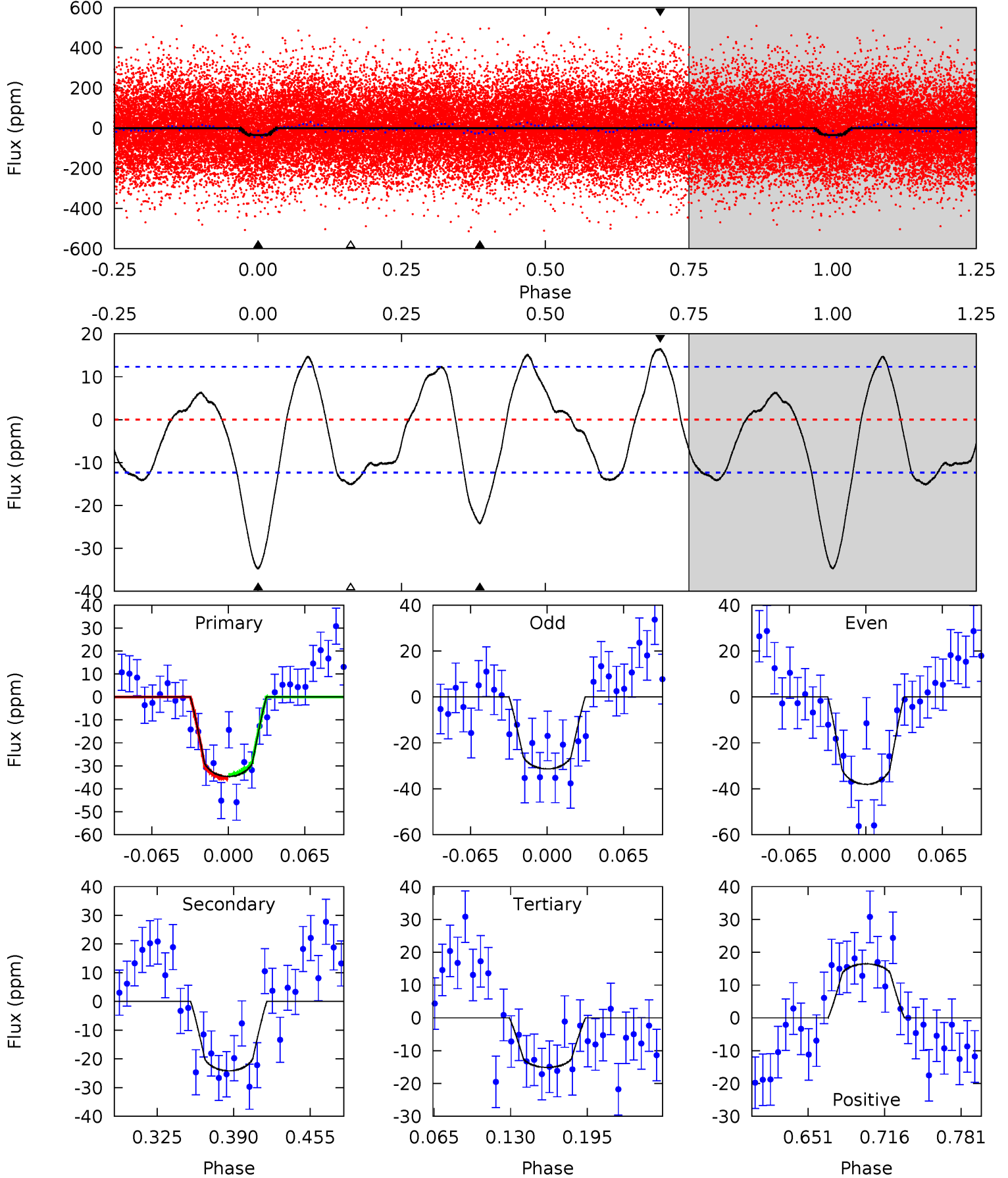
TCE 007300623-02 P= 1.689618 Days $T_0=132.727420$ (BKJD)



DV Model-Shift Uniqueness Test

007300623-02, P = 1.689648 Days, E = 131.029318 Days

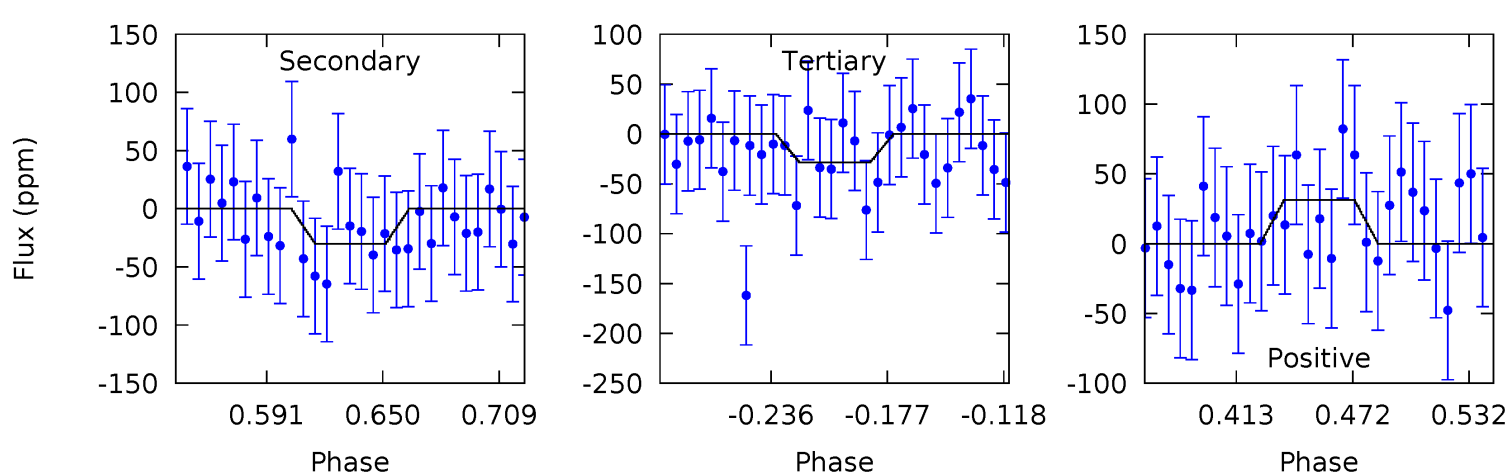
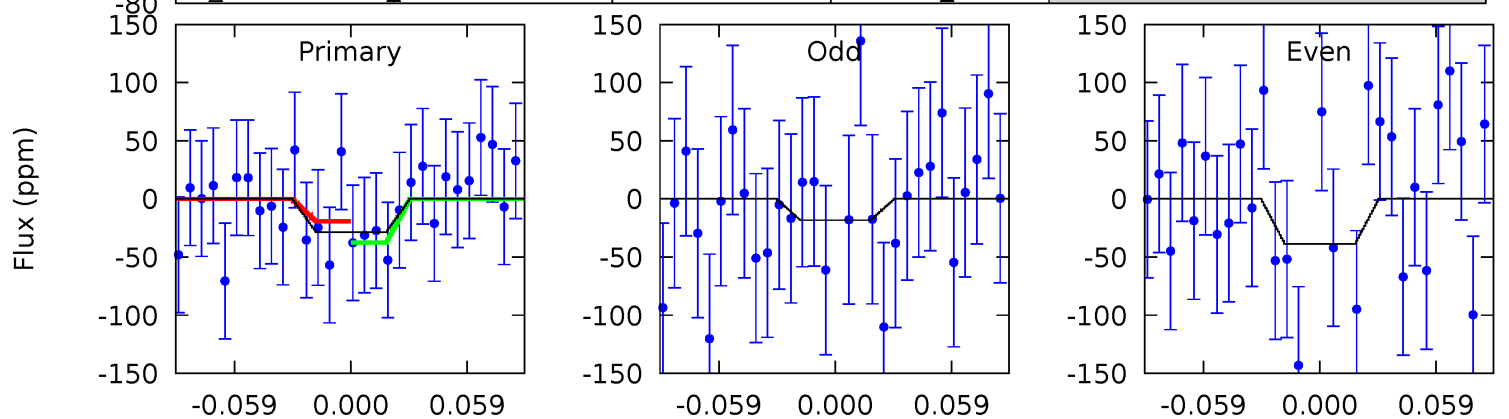
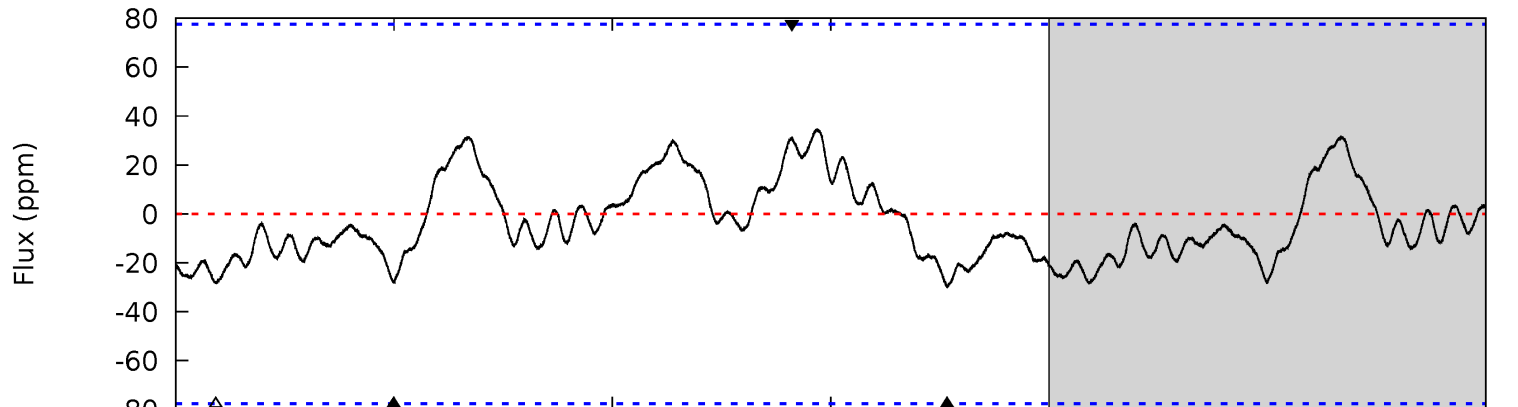
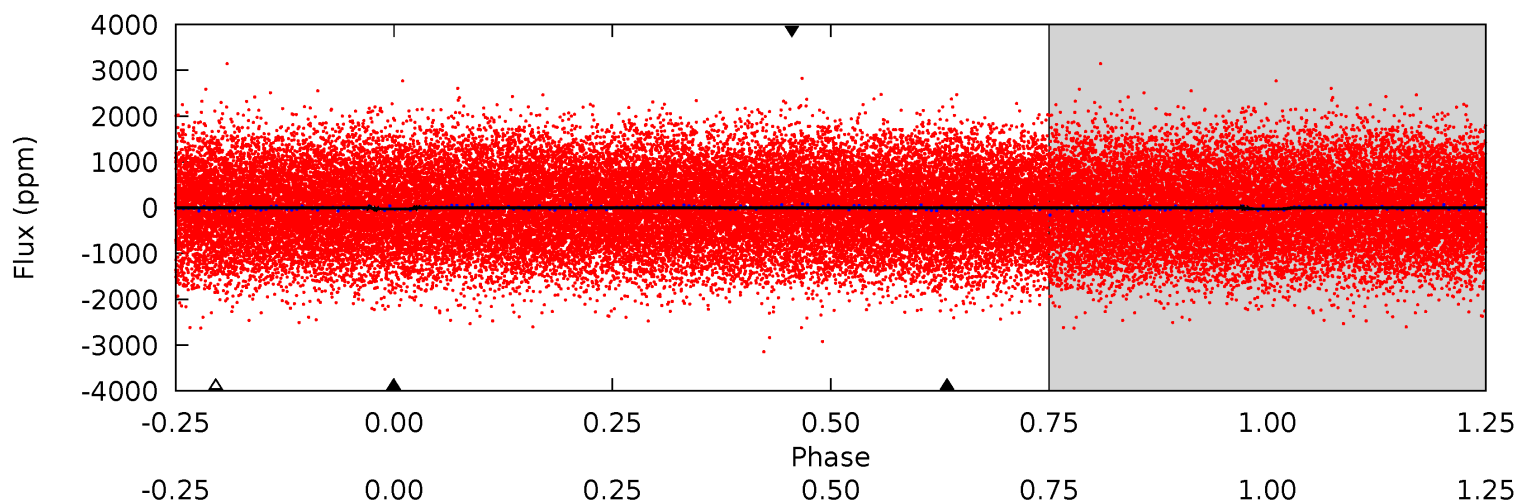
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	9.12	5.70	6.21	4.65	1.84	3.60	7.39	6.88	3.42	2.91	1.26	0.95	0.32	0.33



Alt Model-Shift Uniqueness Test

007300623-02, P = 1.689618 Days, E = 131.037802 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.71	1.82	1.73	1.88	4.67	1.89	0.98	-0.01	-0.17	0.09	-0.06	0.61	1.13	0.54	0.55



Stellar Parameters For KIC 007300623

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7514^{+235}_{-314}	$3.542^{+0.576}_{-0.064}$	$-0.280^{+0.250}_{-0.300}$	$3.951^{+0.399}_{-2.262}$	$1.980^{+0.063}_{-0.571}$	$0.045^{+0.367}_{-0.010}$
	+3%/-4%	+16%/-2%	+89%/-107%	+10%/-57%	+3%/-29%	+810%/-22%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007300623-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-24 ± 3	$2.27^{+1.11}_{-1.04}$	4711^{+357}_{-639}	6413^{+2495}_{-1141}	$3.173^{+6.904}_{-1.793}$
Alt.	-30 ± 17	$2.05^{+1.06}_{-0.93}$	4709^{+376}_{-674}	7053^{+3407}_{-1795}	$4.326^{+11.092}_{-2.831}$

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

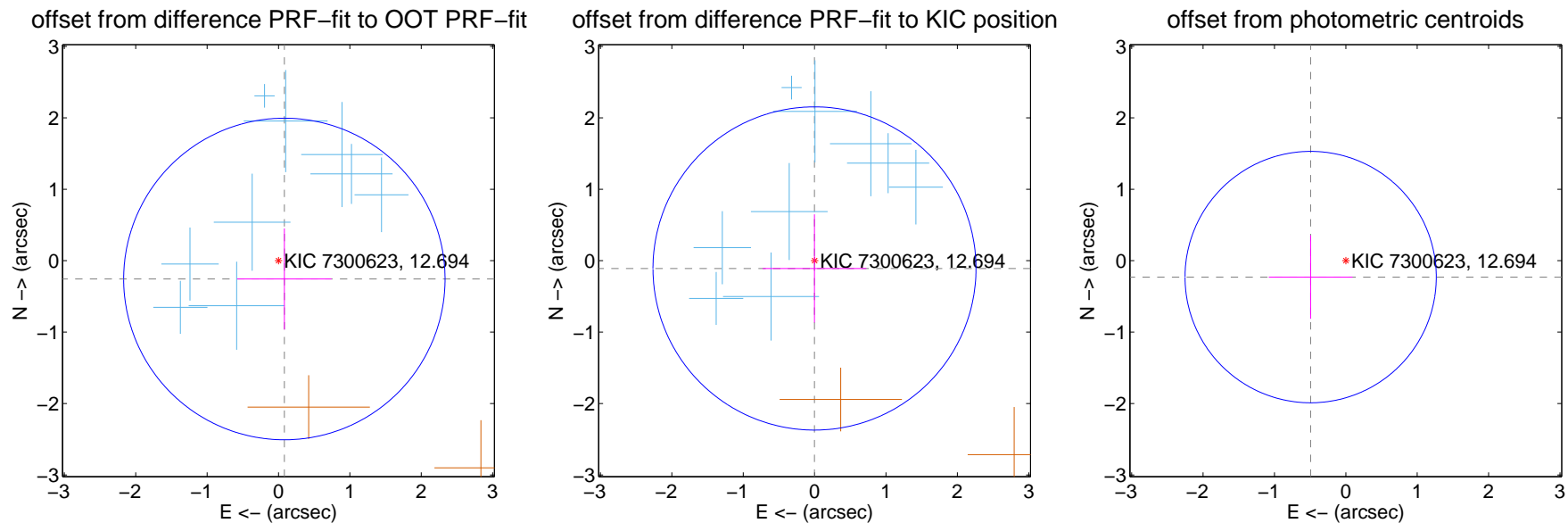
DV Centroid Data

Supplemental centroid analysis for 007300623-02. Kepler magnitude: 12.69. Transit SNR 8.62

There are 9 quarters with good PRF difference image offsets

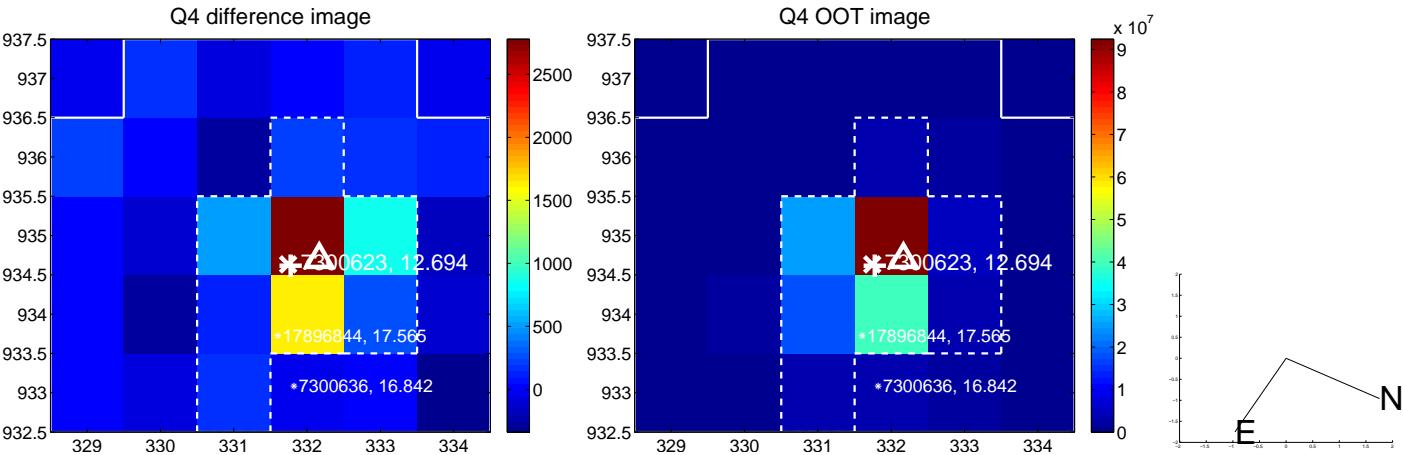
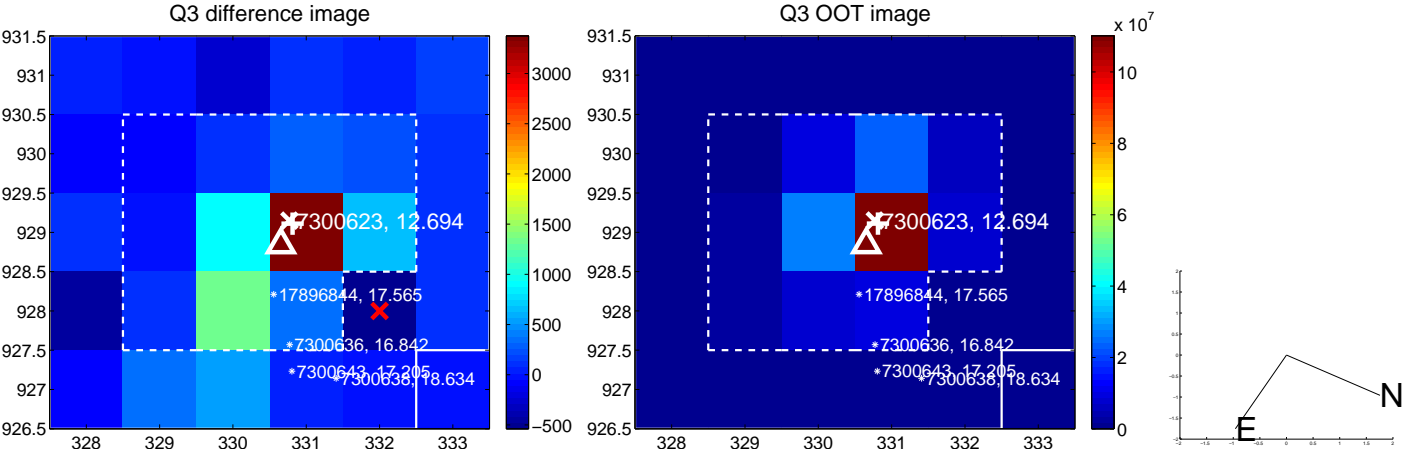
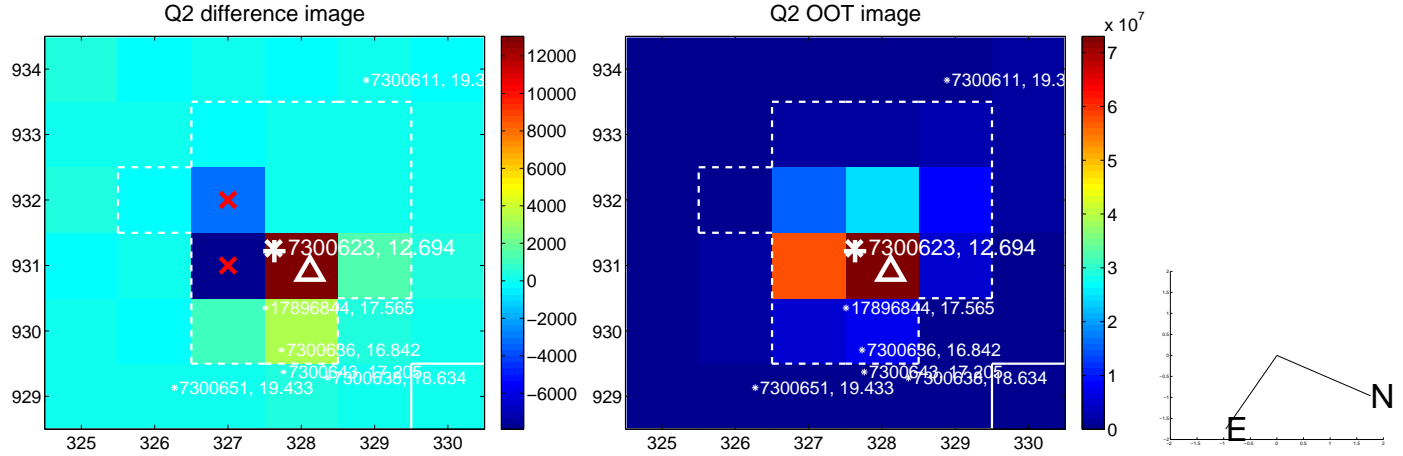
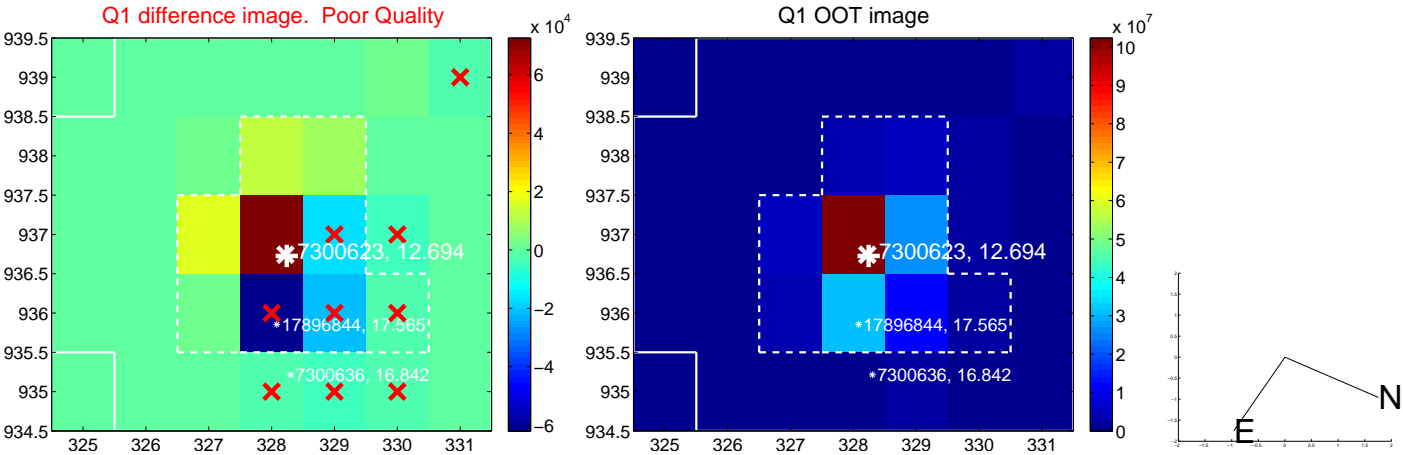
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.269 ± 0.750	0.36	-0.082 ± 0.660	-0.256 ± 0.708
PRF-fit source offset from KIC position	0.109 ± 0.754	0.14	0.002 ± 0.726	-0.109 ± 0.758
photometric centroid source offset	0.54 ± 0.59	0.93	0.49 ± 0.59	-0.23 ± 0.58

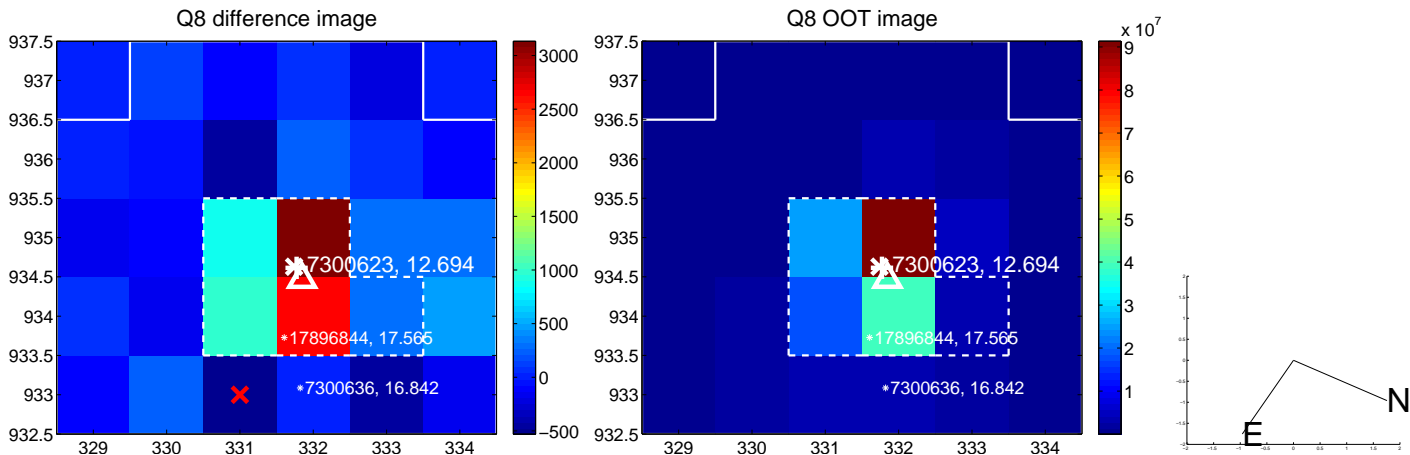
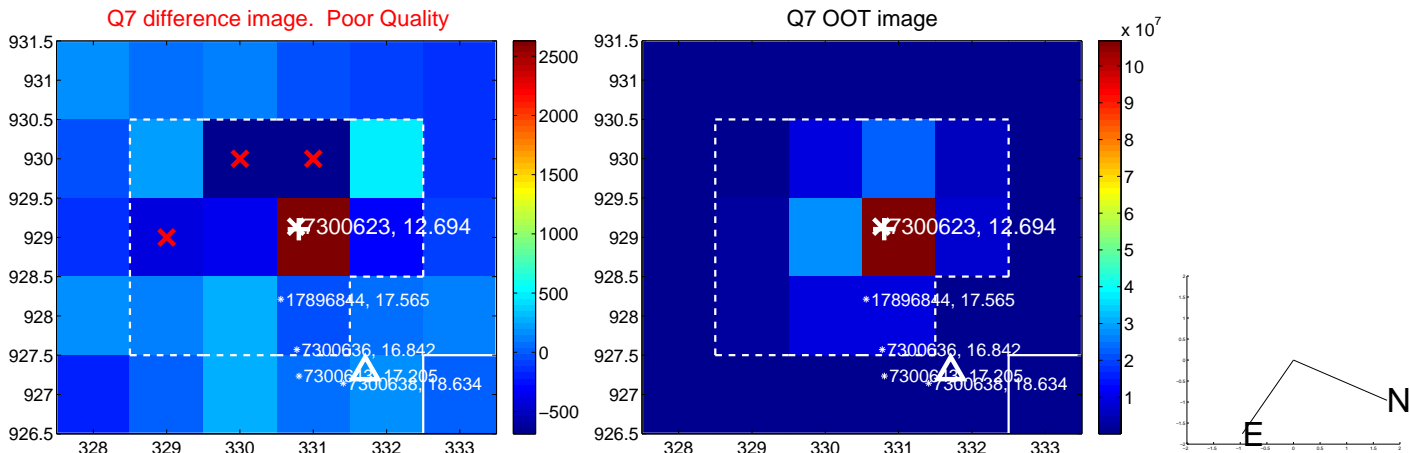
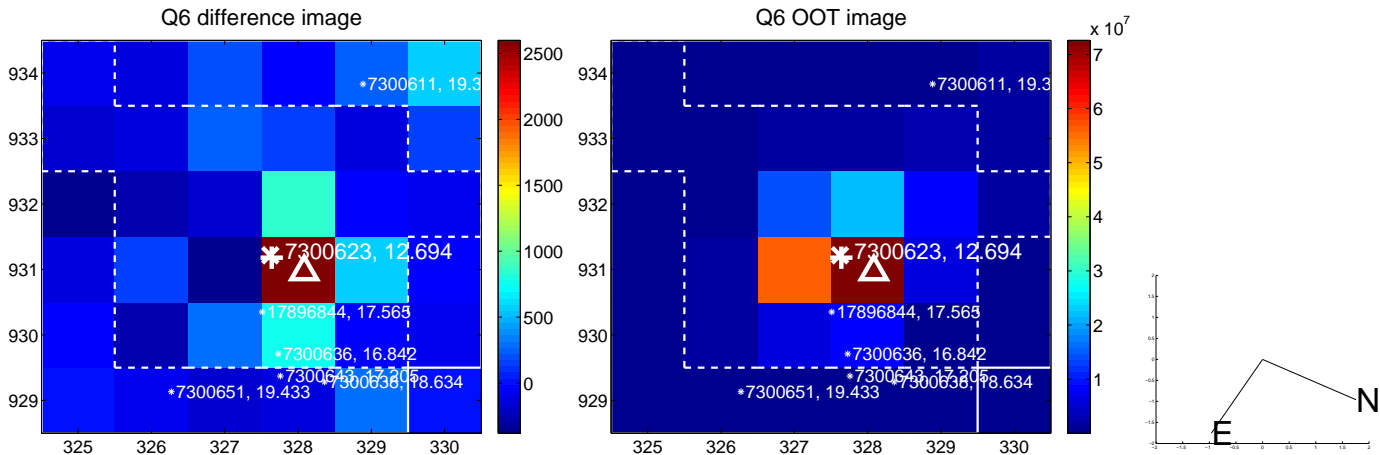
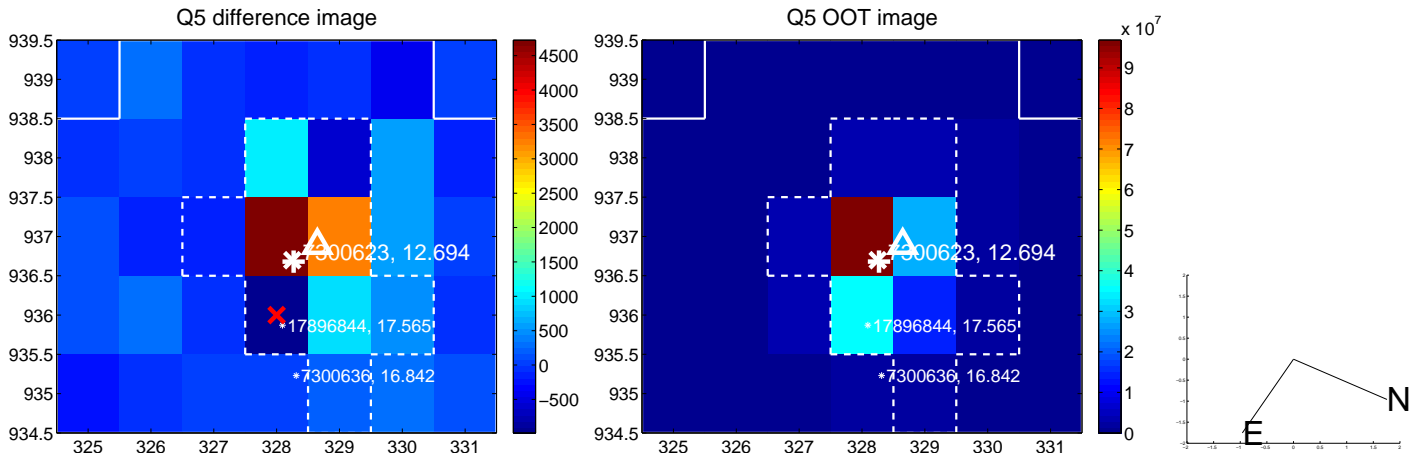


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

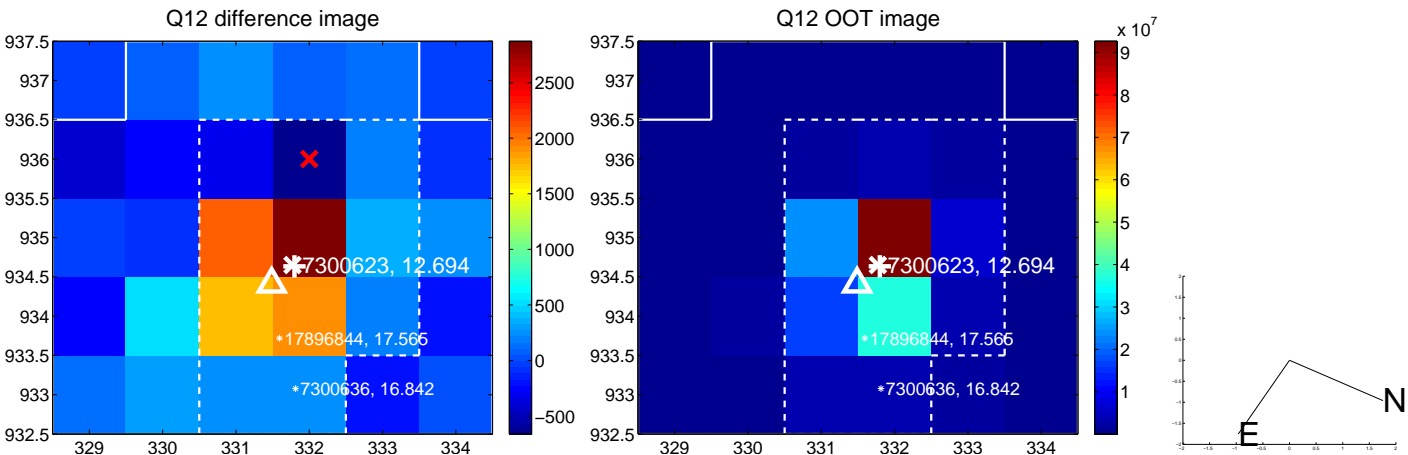
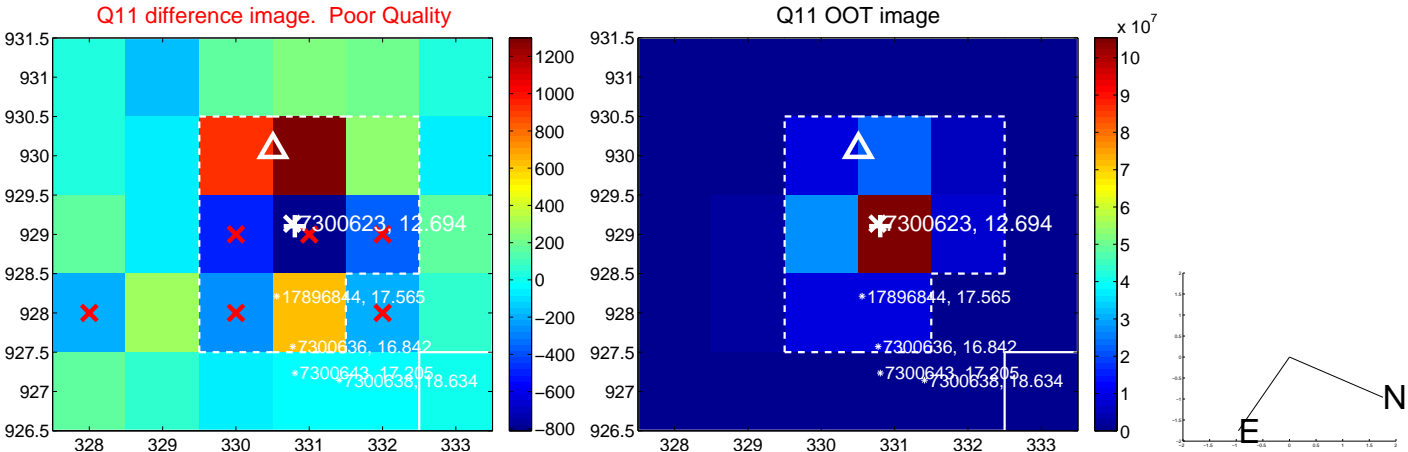
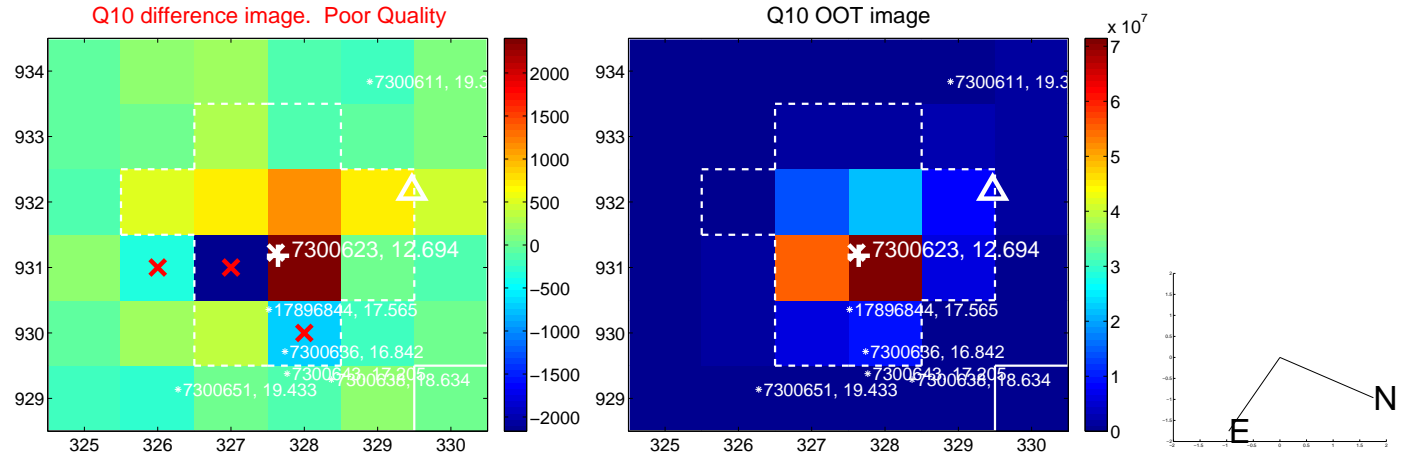
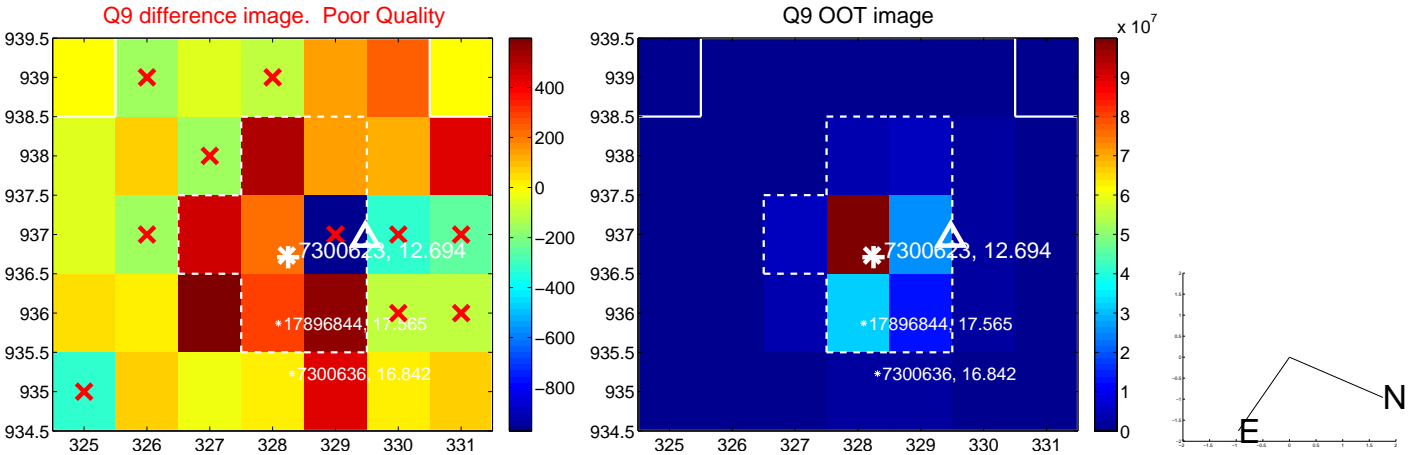
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



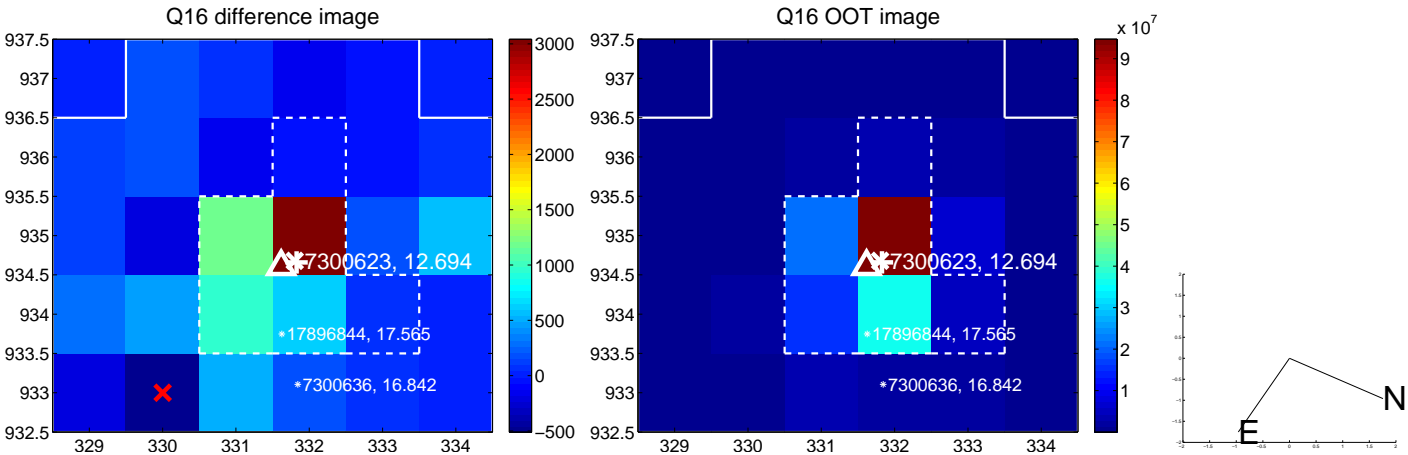
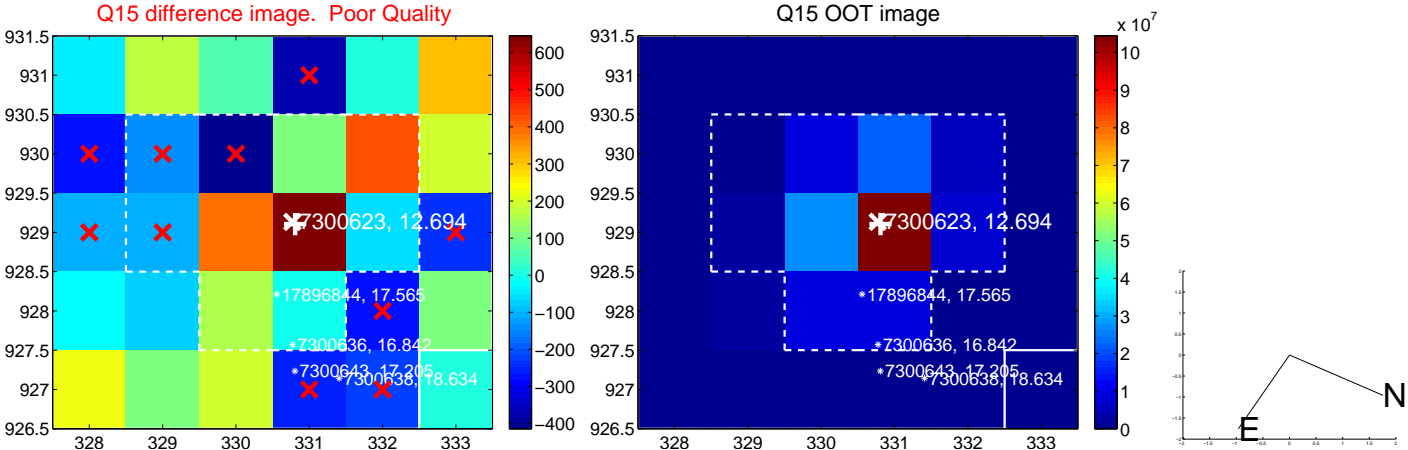
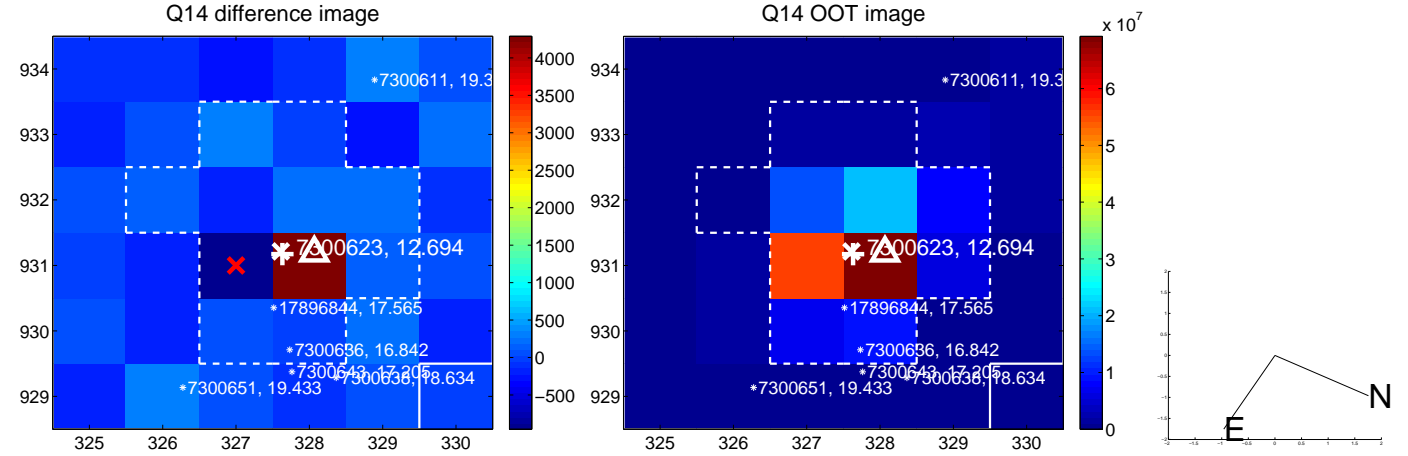
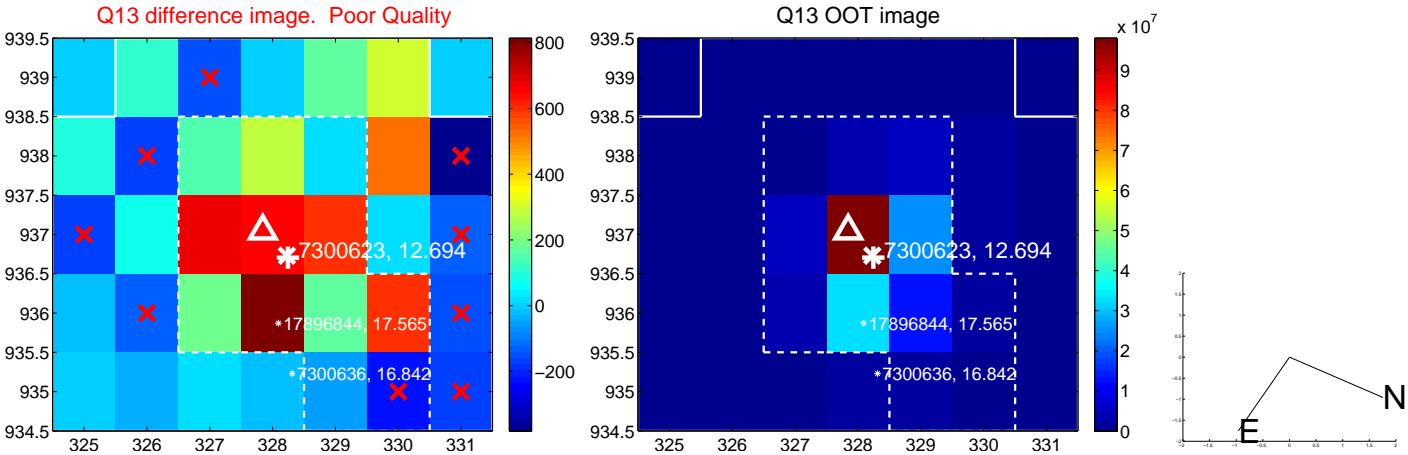
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



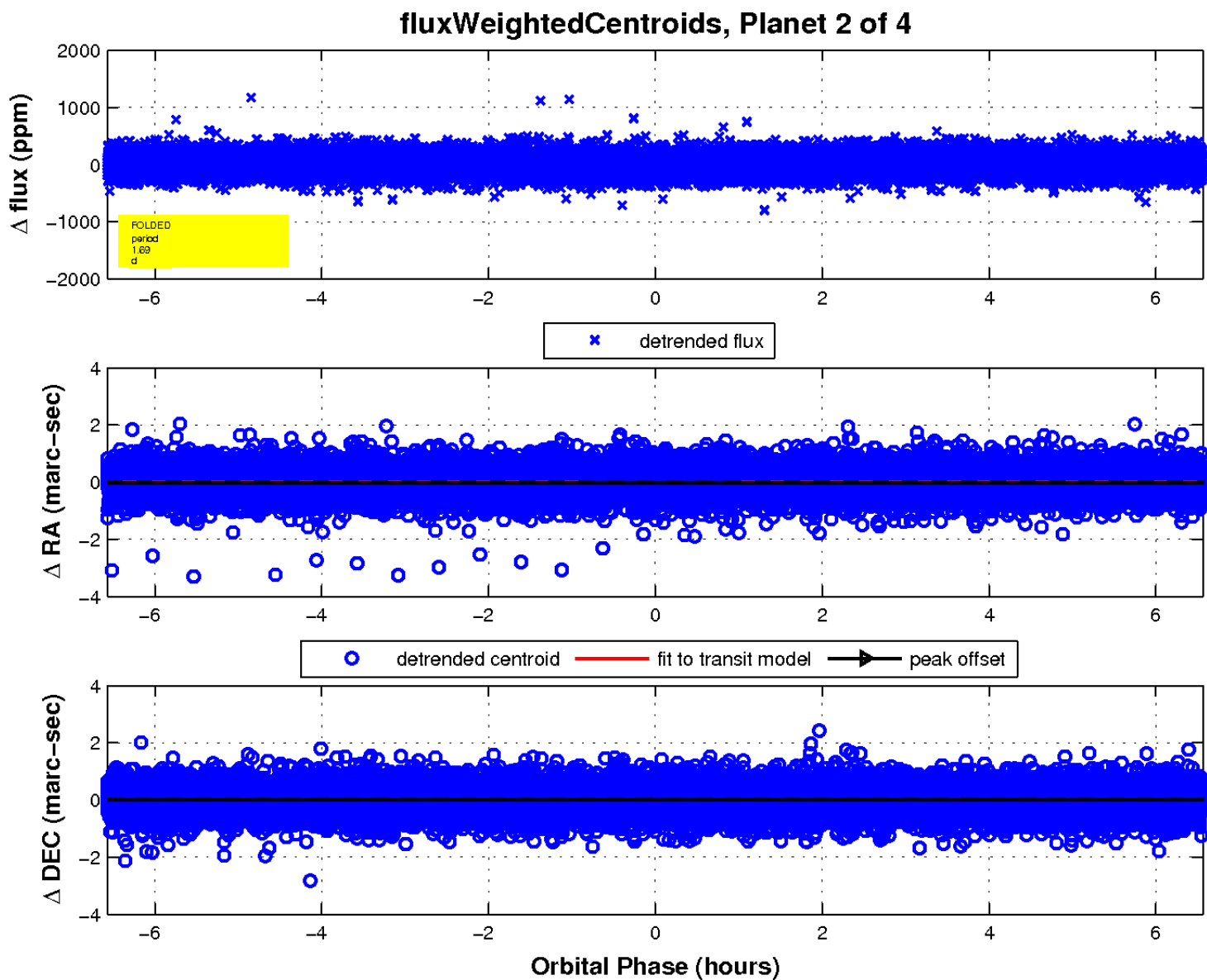
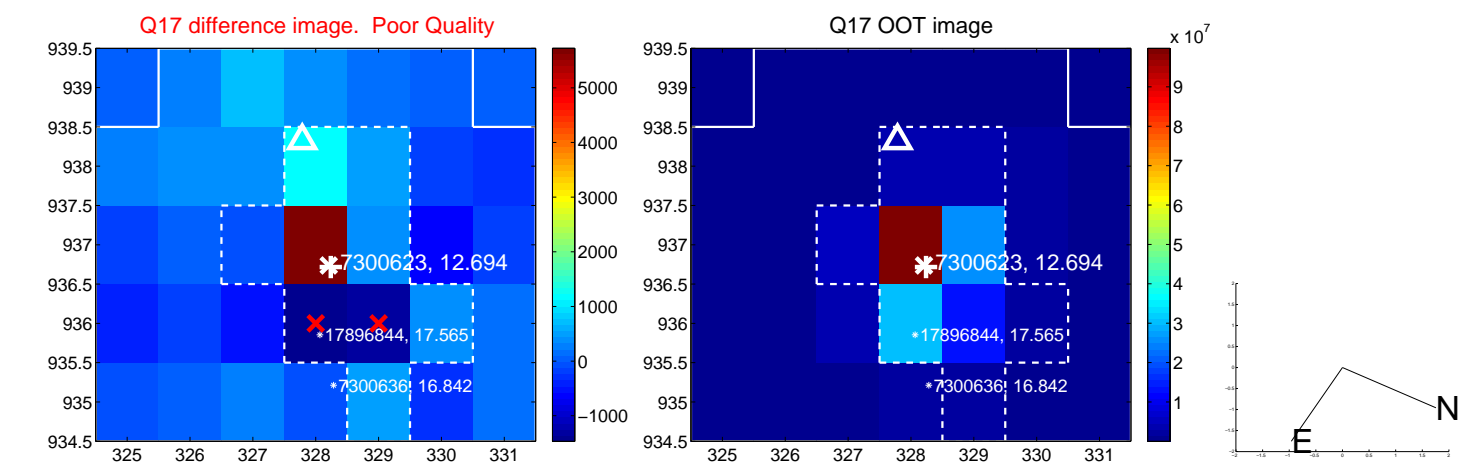
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

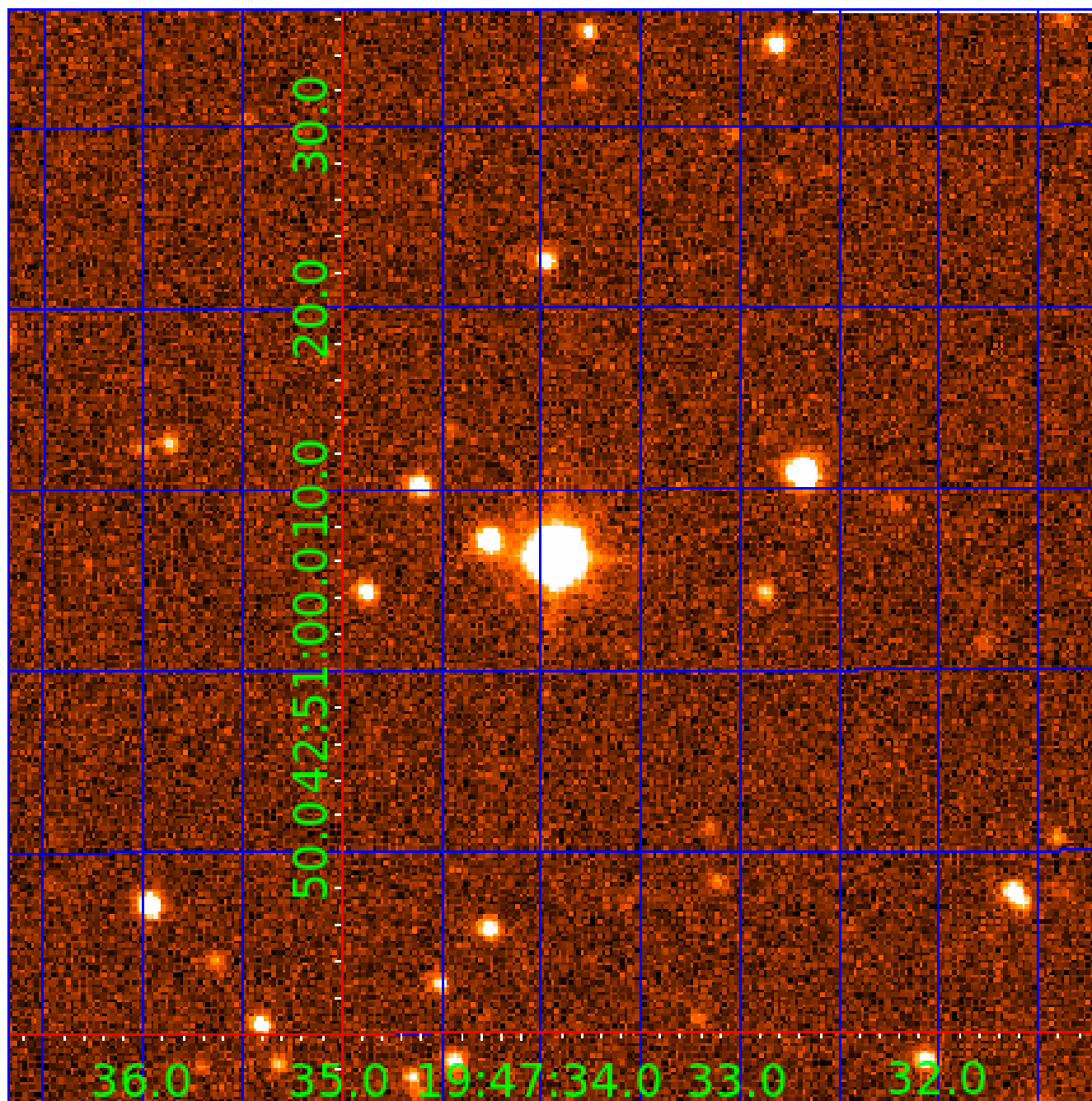


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007300623

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})
007300623-01	OBS	No	1.129041	132.170844	17.1	3.626	9.7	7.1	3.95	7514	1.82	62695.63
007300623-02	OBS	No	1.689648	132.718966	35.3	2.189	7.7	8.6	3.95	7514	2.68	36625.93
007300623-03	OBS	No	196.549124	270.897061	140.1	5.950	9.9	2.8	3.95	7514	5.35	64.50
007300623-04	OBS	No	0.555226	131.703104	18.8	2.243	7.3	7.6	3.95	7514	2.01	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007300623-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007300623-02	OBS	FP	0.00	1	0	1	0	LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
007300623-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007300623-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

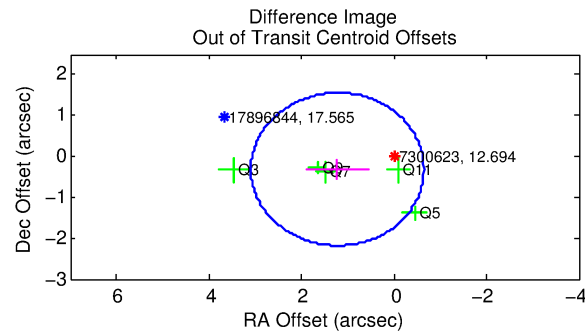
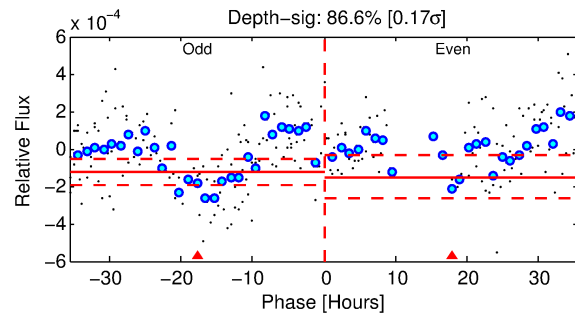
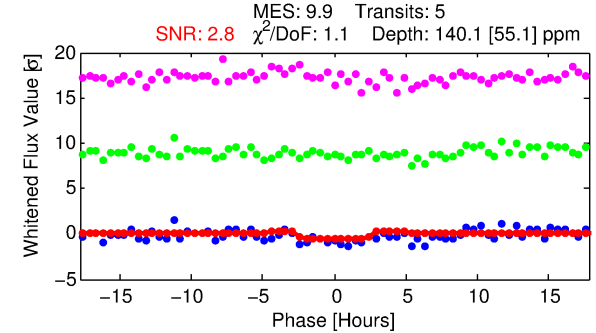
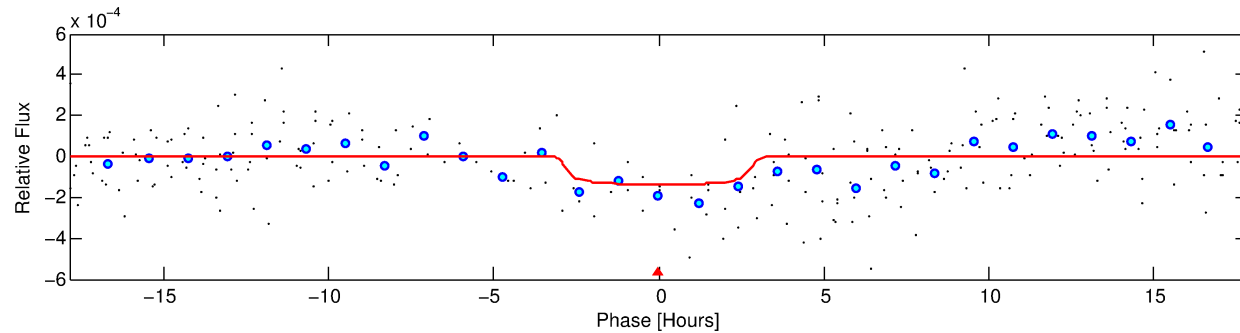
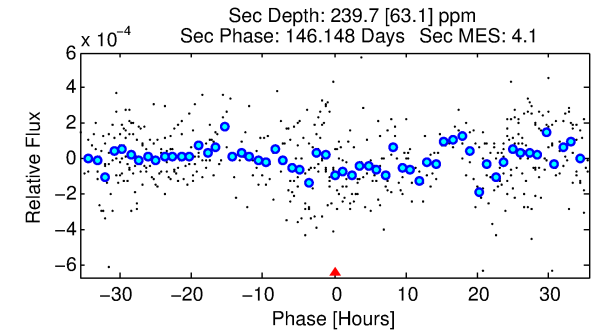
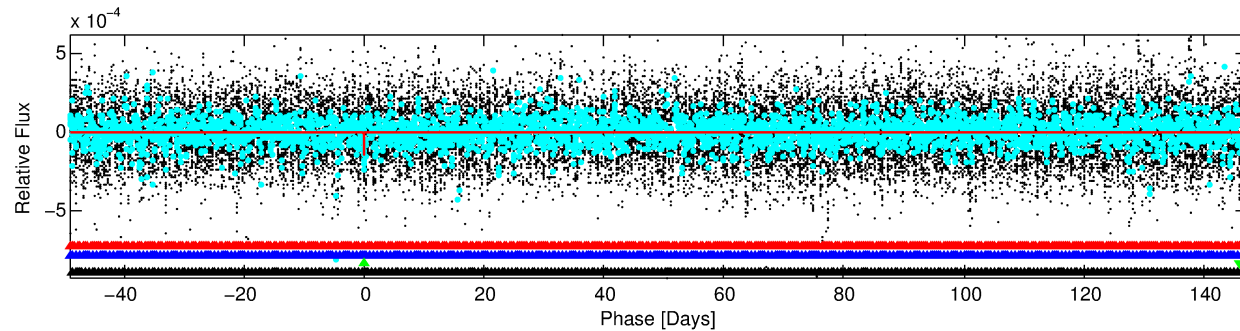
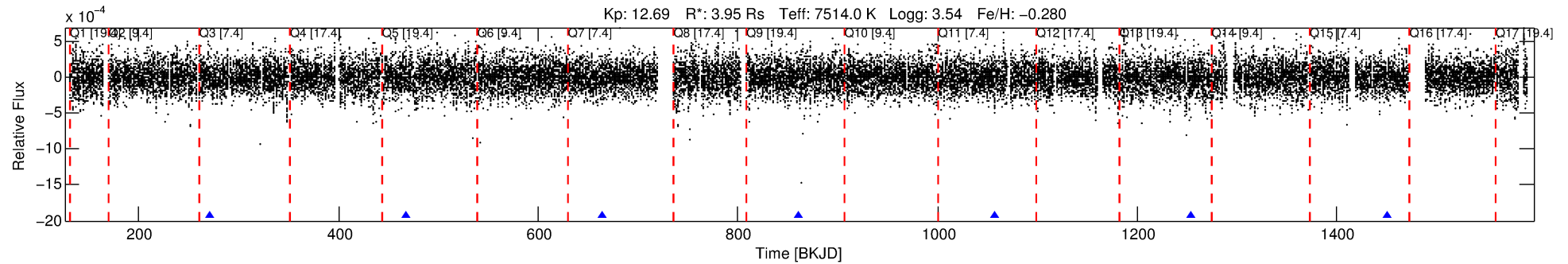
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007300623-03

No Significant Match Found

DV One-Page Summary

KIC: 7300623 Candidate: 3 of 4 Period: 196.549 d



DV Fit Results:

Period = 196.54912 [0.00629] d
Epoch = 270.8971 [0.0298] BKJD
Rp/R* = 0.0124 [0.0146]
a/R* = 133.64 [821.50]
b = 0.86 [1.85]
Seff = 64.50 [63.05]
Teq = 723 [177] K
Rp = 5.35 [6.99] Re
a = 0.8314 [0.4856] AU
Ag = 3186.30 [8138.46] [0.39σ]
Teffp = 8394 [4977] K [1.54σ]

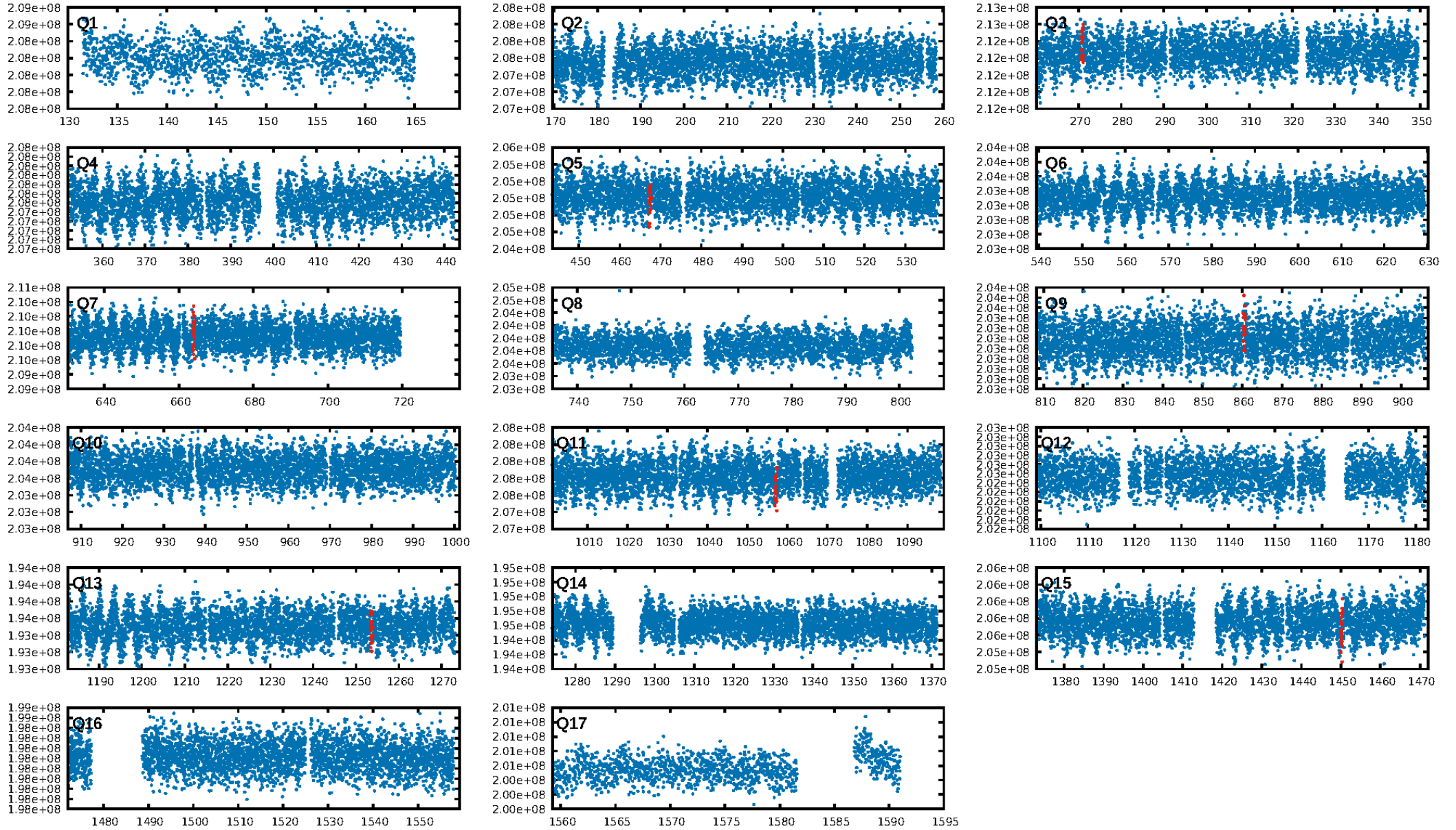
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [737.63σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.59e-16
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.3626
Centroid-sig: 50.4%
Centroid-so: 0.500 arcsec [0.50σ]
OotOffset-rm: 1.263 arcsec [2.03σ]
OotOffset-st: 0.3/0/2 [5]
KicOffset-rm: 1.265 arcsec [2.06σ]
KicOffset-st: 0.3/0/2 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 0.00 [0/6]

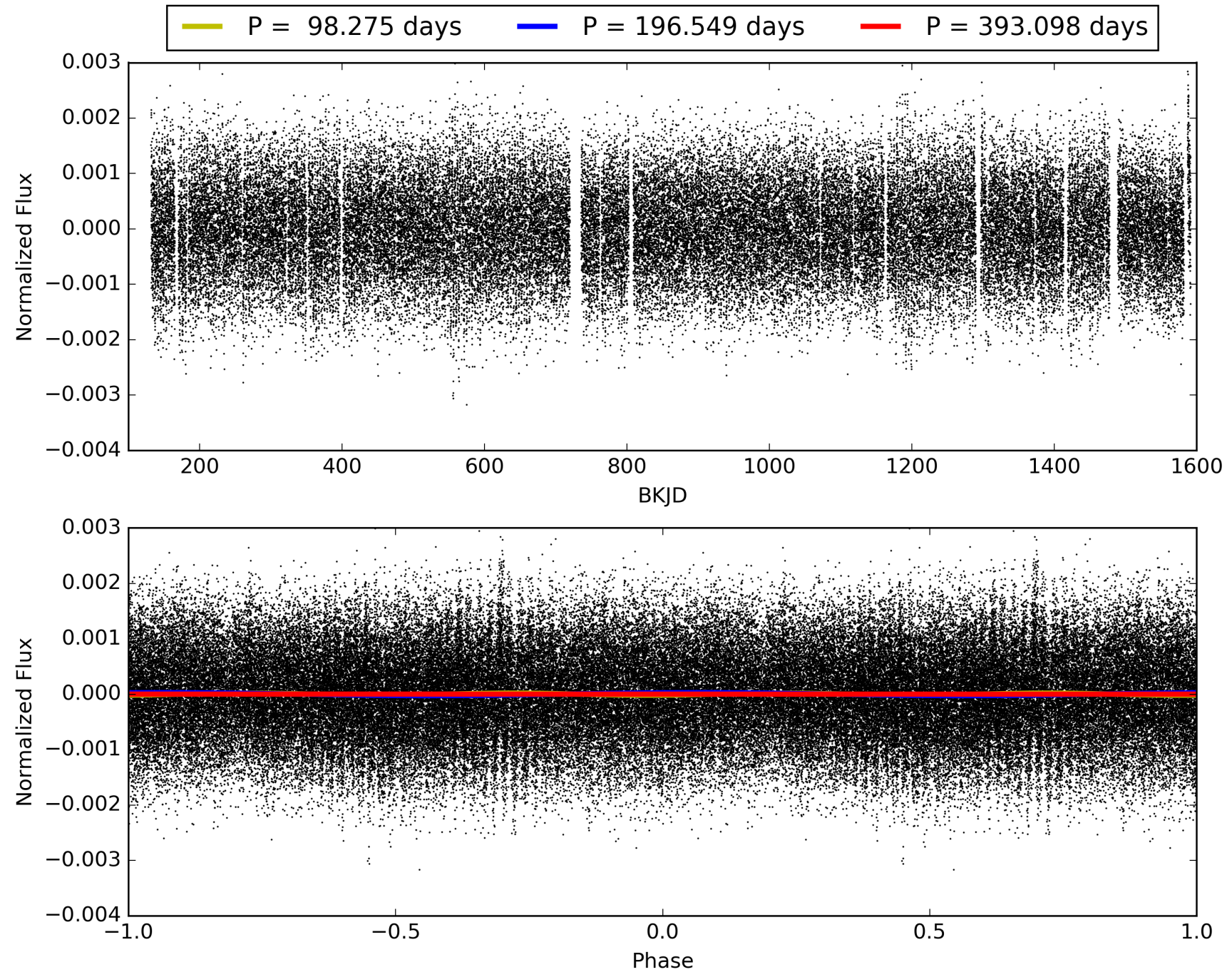
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:14:52 Z

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

TCE 007300623-03, PDC Light Curves

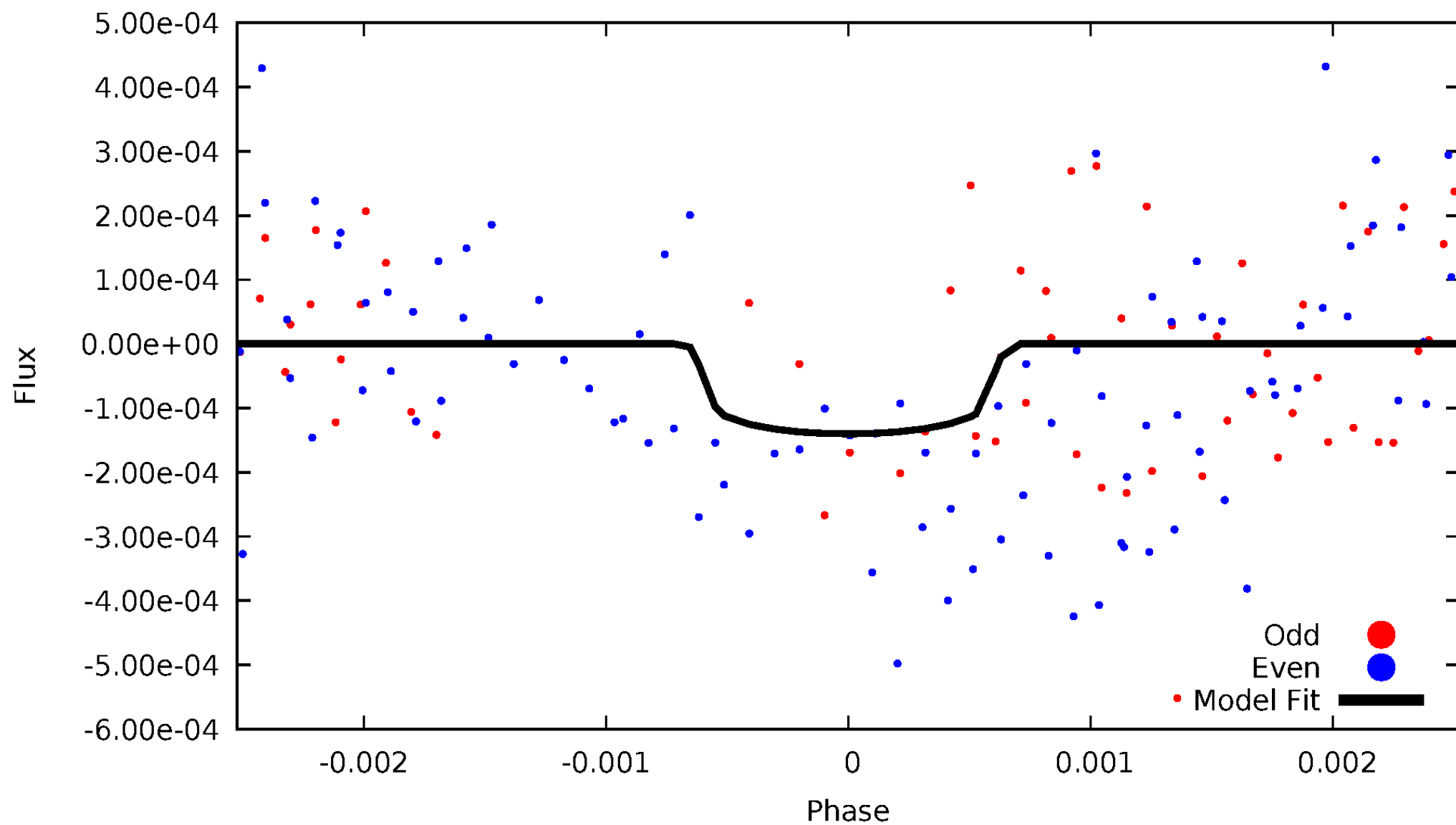


TCE 007300623-03



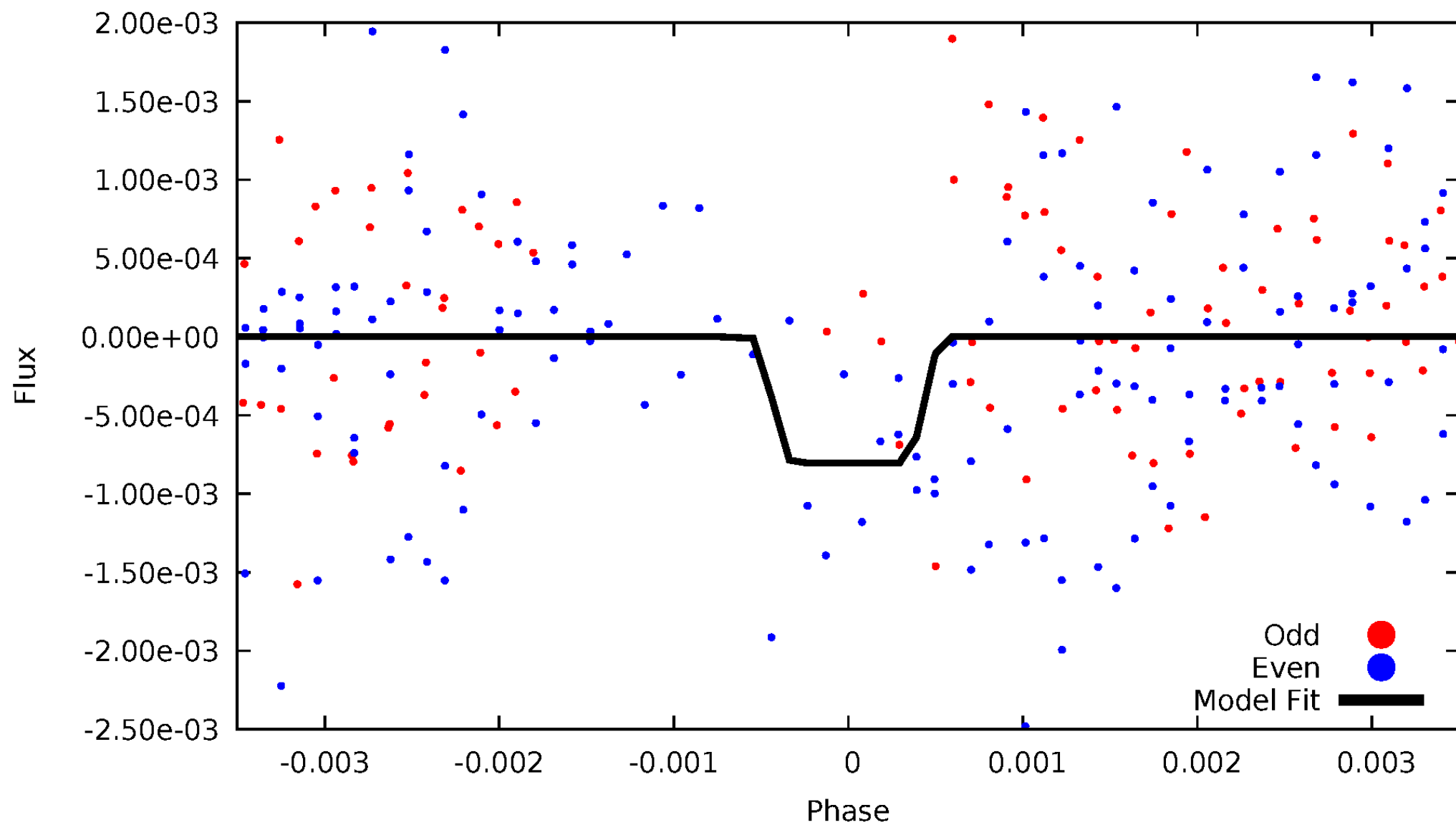
DV Odd/Even

TCE 007300623-03

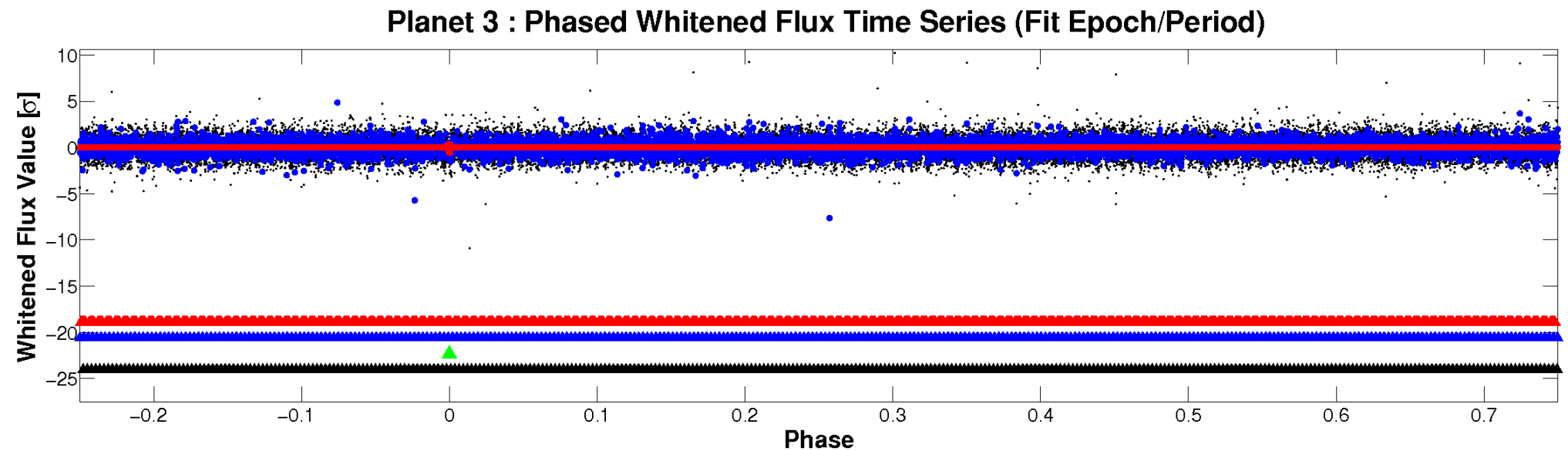
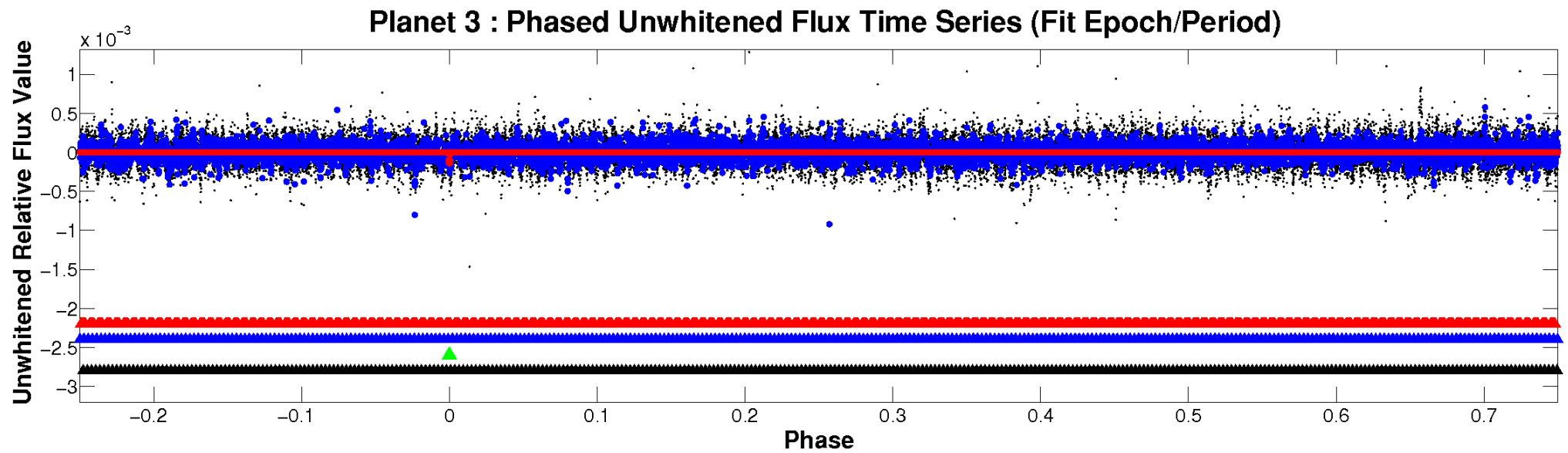


ALT Odd/Even

TCE 007300623-03

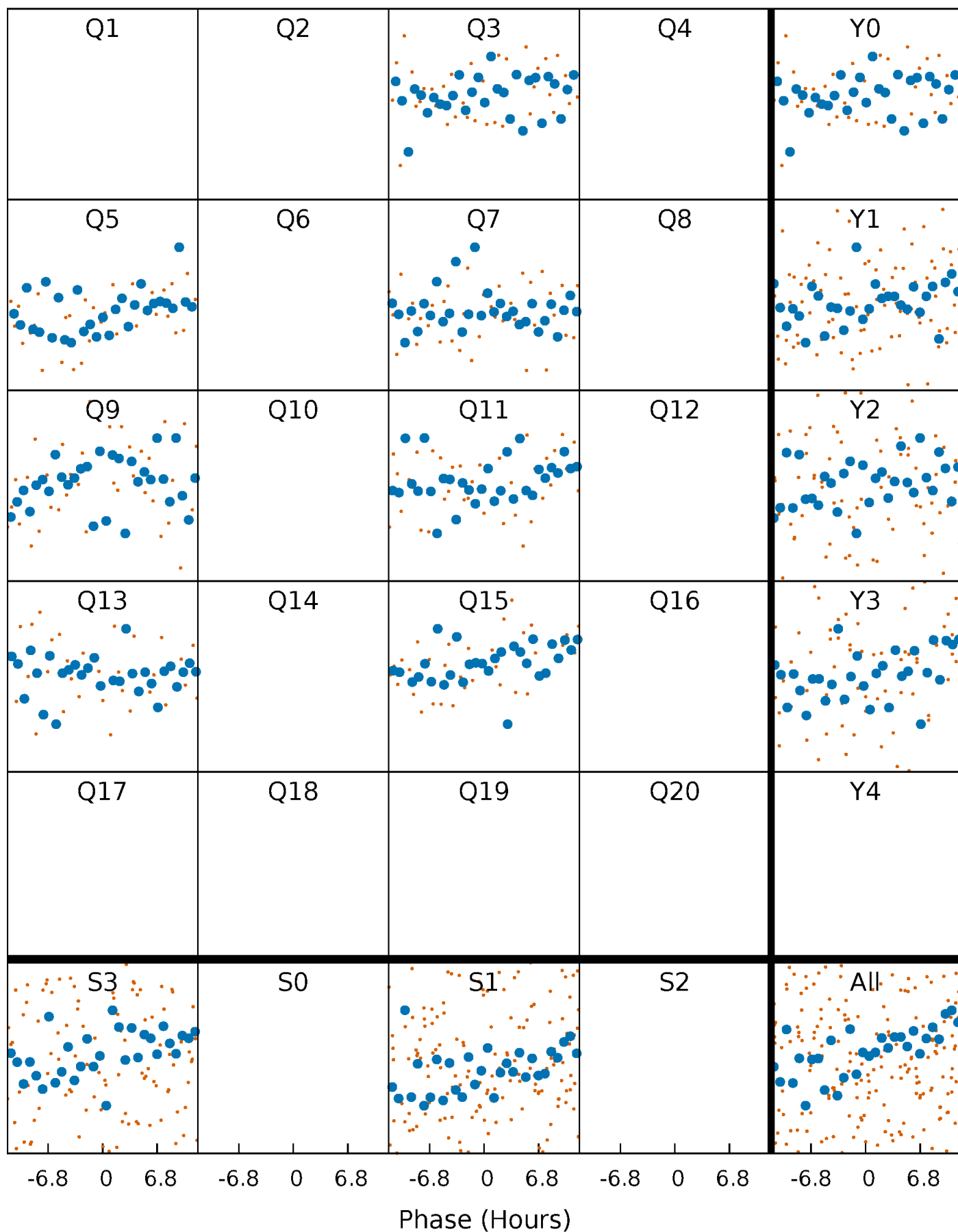


Non-Whitened Vs. Whitened Light Curve



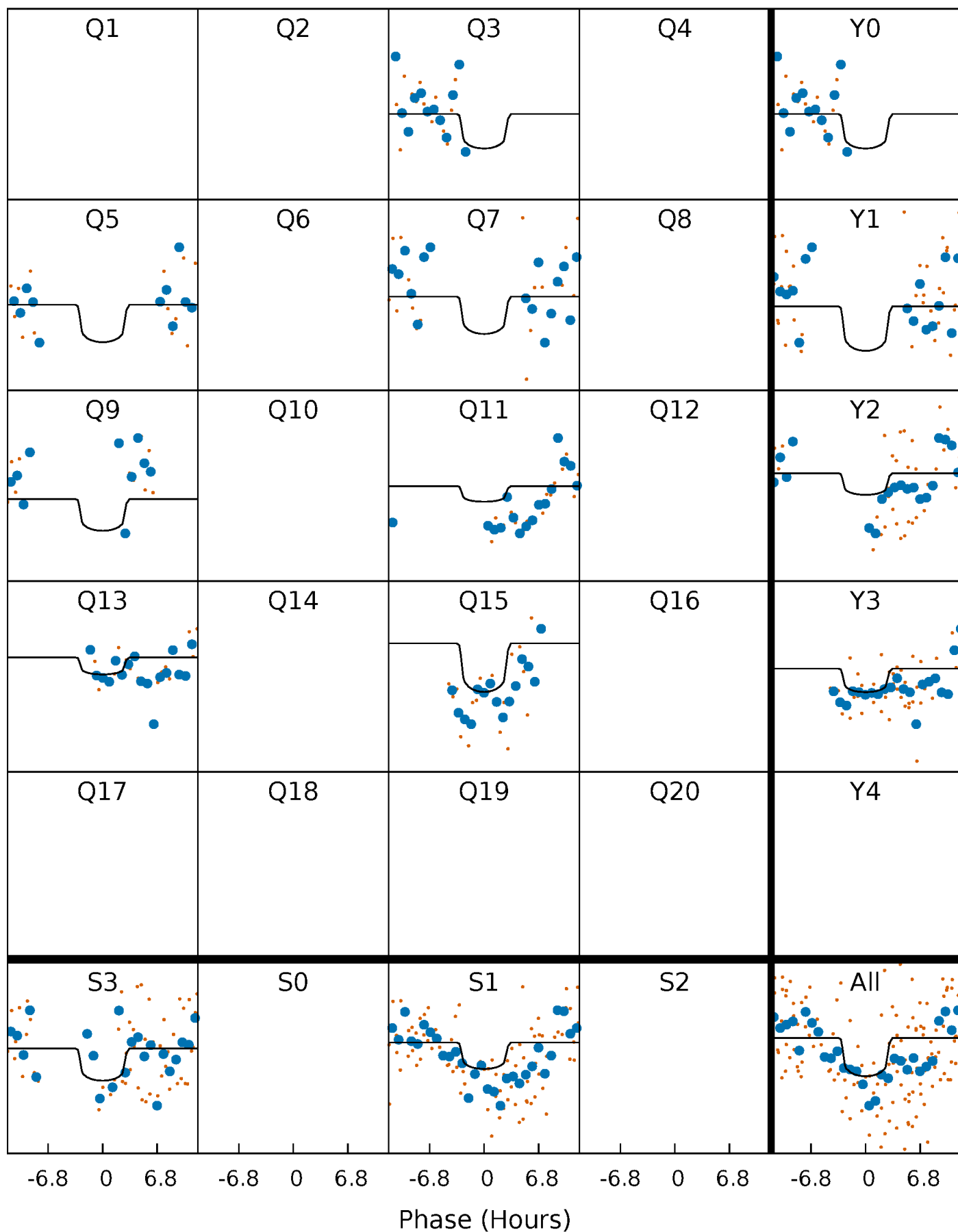
PDC Quarter-Phased Transit Curves

TCE 007300623-03 P=196.549125 Days $T_0=270.897061$ (BKJD)



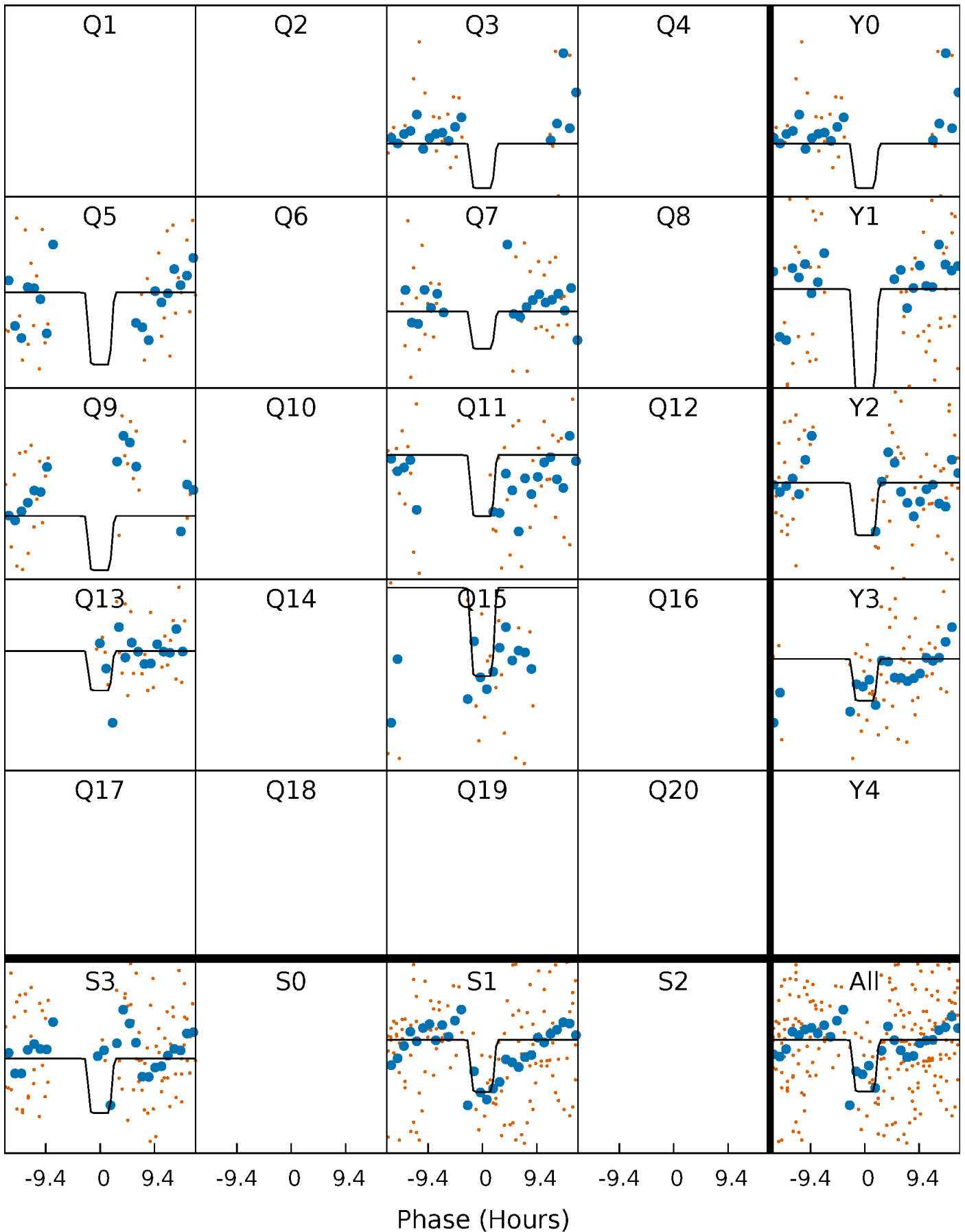
DV Quarter-Phased Transit Curves

TCE 007300623-03 P=196.549125 Days $T_0=270.897061$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

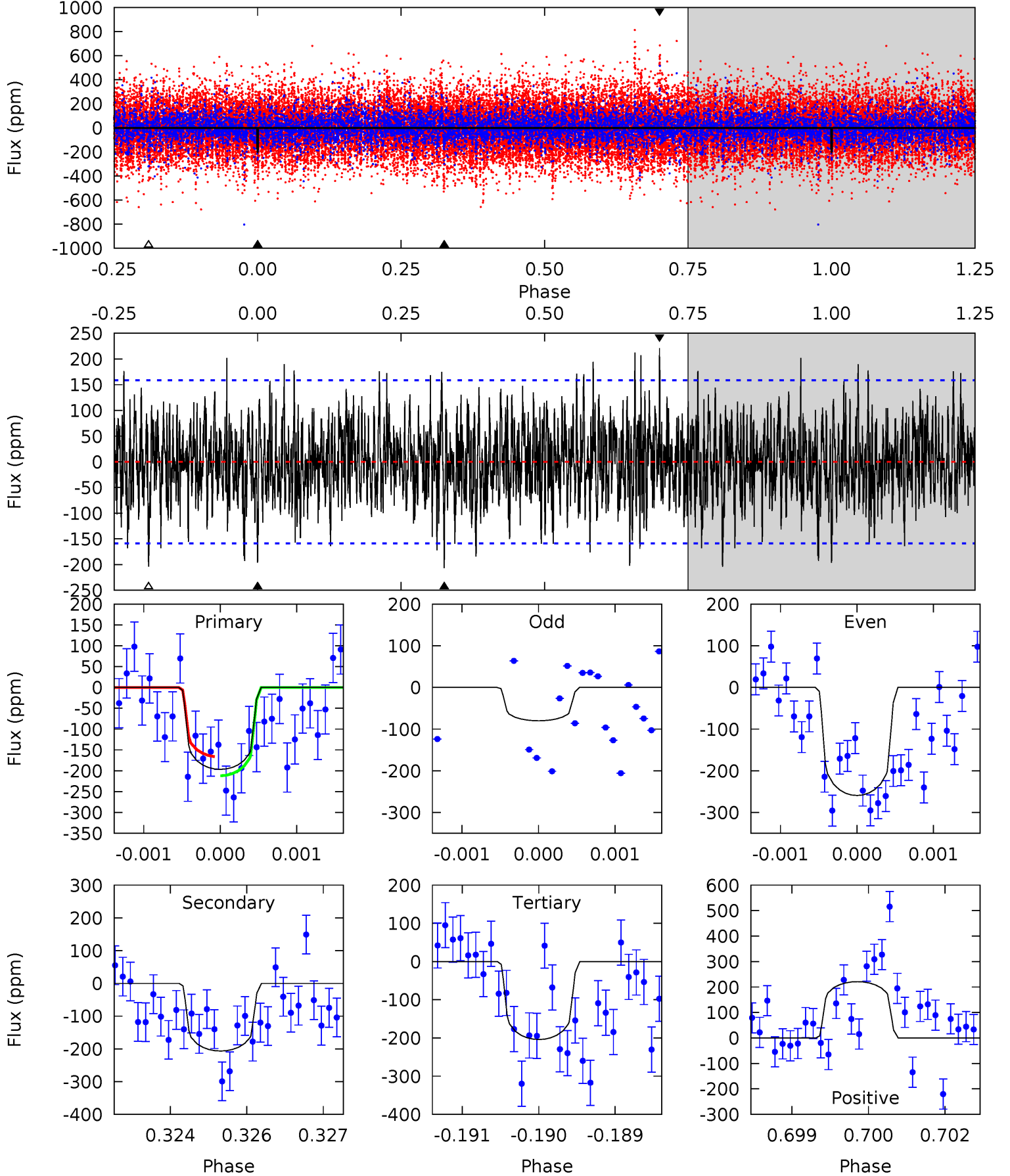
TCE 007300623-03 P=196.529980 Days $T_0=270.936529$ (BKJD)



DV Model-Shift Uniqueness Test

007300623-03, P = 196.549125 Days, E = 74.347936 Days

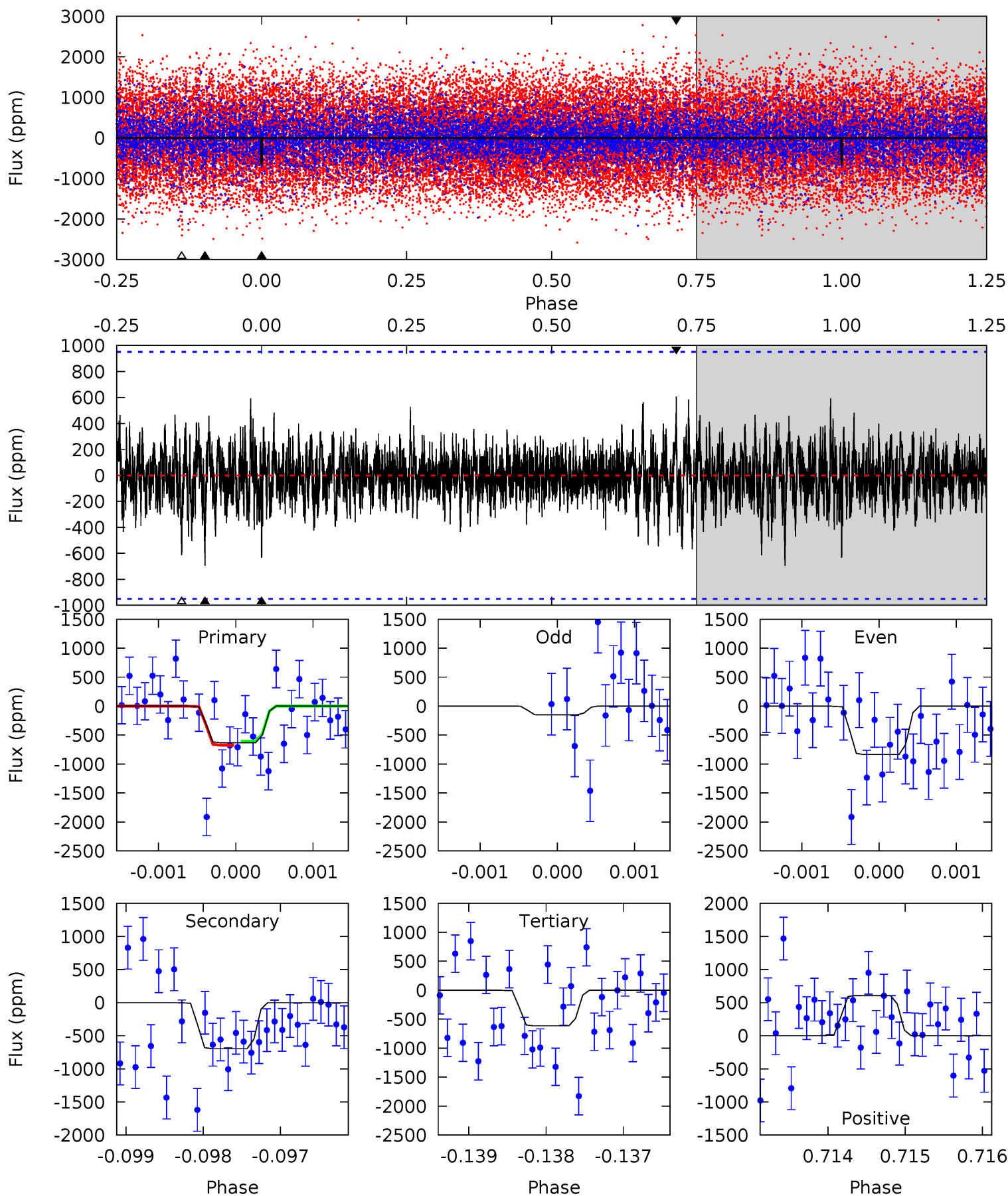
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.69	7.03	6.95	7.52	5.40	3.21	2.03	-0.26	-0.83	0.08	-0.49	2.89	0.73	0.52	0.71



Alt Model-Shift Uniqueness Test

007300623-03, P = 196.529980 Days, E = 74.406549 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.61	3.97	3.51	3.46	5.43	3.25	0.80	0.10	0.15	0.46	0.51	1.76	0.80	0.47	0.18



Stellar Parameters For KIC 007300623

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7514^{+235}_{-314}	$3.542^{+0.576}_{-0.064}$	$-0.280^{+0.250}_{-0.300}$	$3.951^{+0.399}_{-2.262}$	$1.980^{+0.063}_{-0.571}$	$0.045^{+0.367}_{-0.010}$
	+3%/-4%	+16%/-2%	+89%/-107%	+10%/-57%	+3%/-29%	+810%/-22%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007300623-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-206 ± 29	$5.67^{+5.42}_{-3.61}$	969^{+70}_{-137}	7086^{+6668}_{-1875}	2311^{+15131}_{-1695}
Alt.	-695 ± 175	$10.47^{+6.45}_{-5.27}$	966^{+77}_{-147}	7066^{+3708}_{-1406}	2286^{+6428}_{-1422}

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

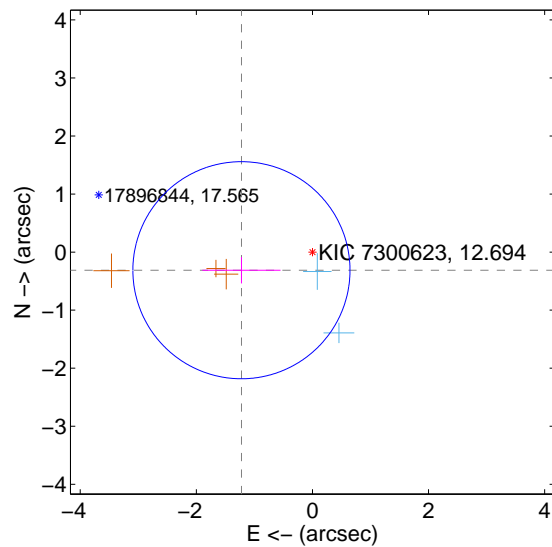
Supplemental centroid analysis for 007300623-03. Kepler magnitude: 12.69. Transit SNR 2.84

There are 2 quarters with good PRF difference image offsets

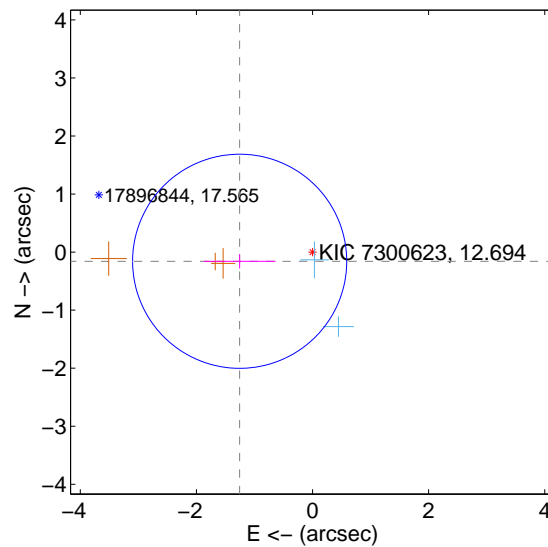
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.263 ± 0.623	2.03	1.223 ± 0.674	-0.312 ± 0.227
PRF-fit source offset from KIC position	1.265 ± 0.615	2.06	1.255 ± 0.619	-0.158 ± 0.124
photometric centroid source offset	0.50 ± 0.99	0.50	0.00 ± 1.01	-0.50 ± 0.99

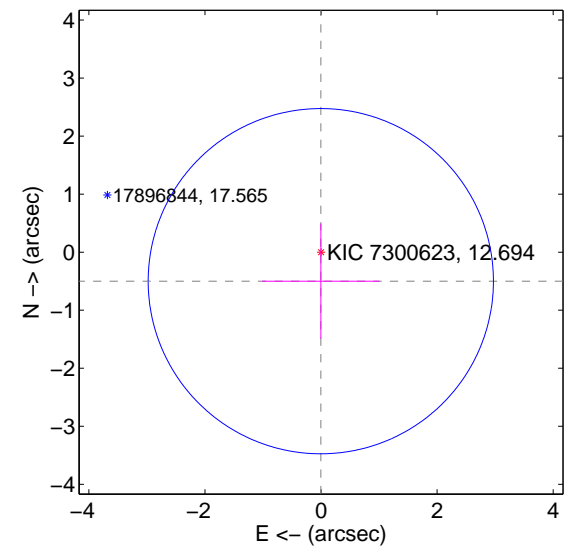
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

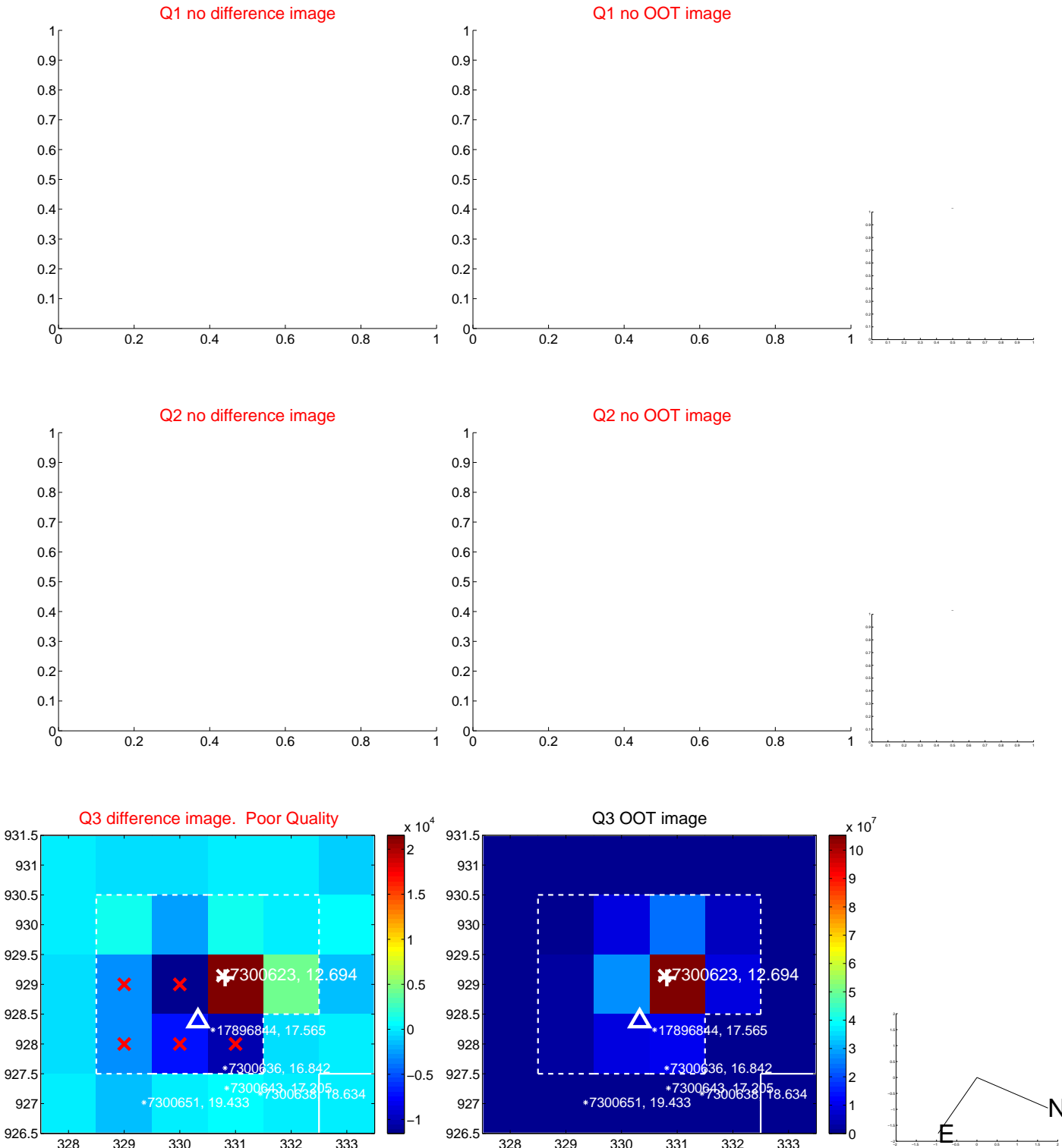


offset from photometric centroids

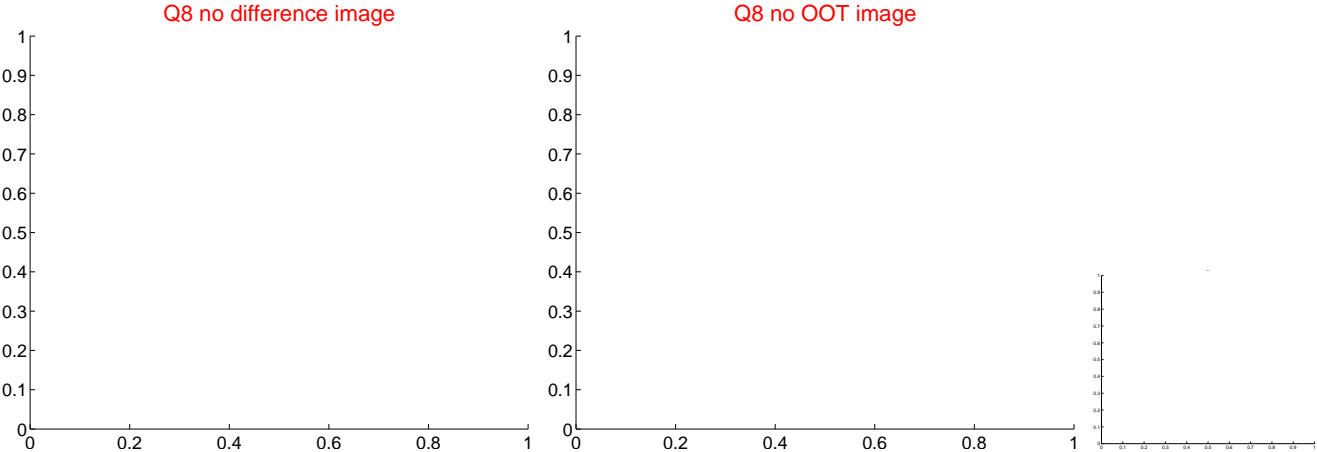
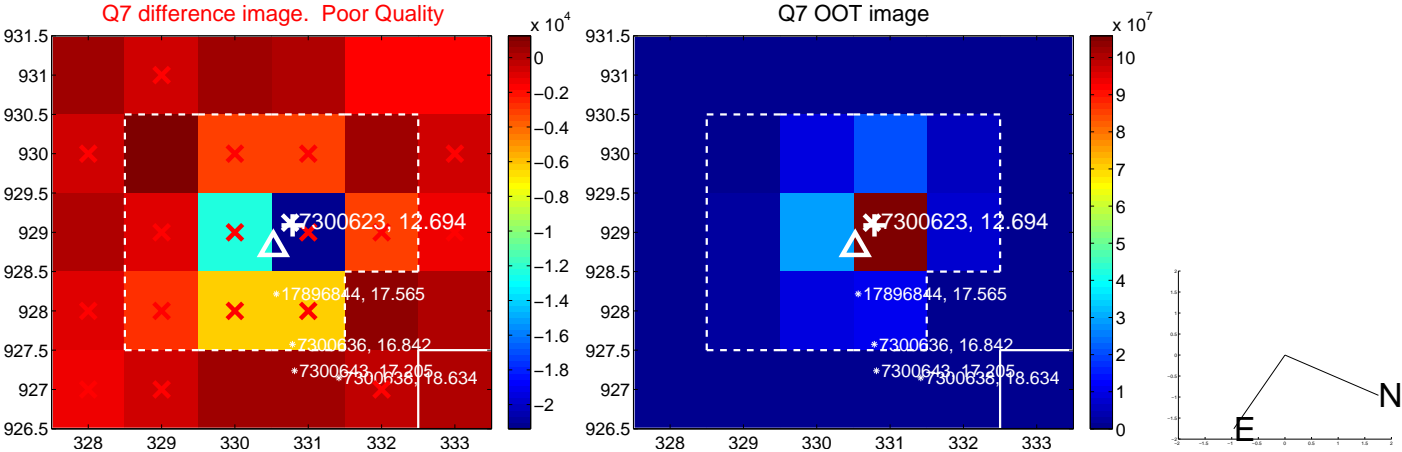
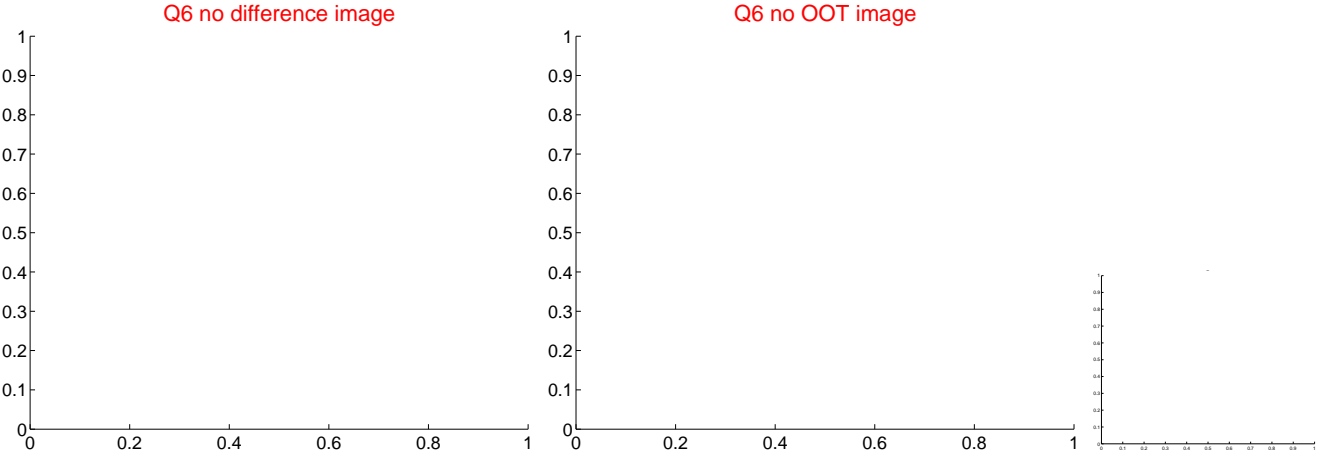
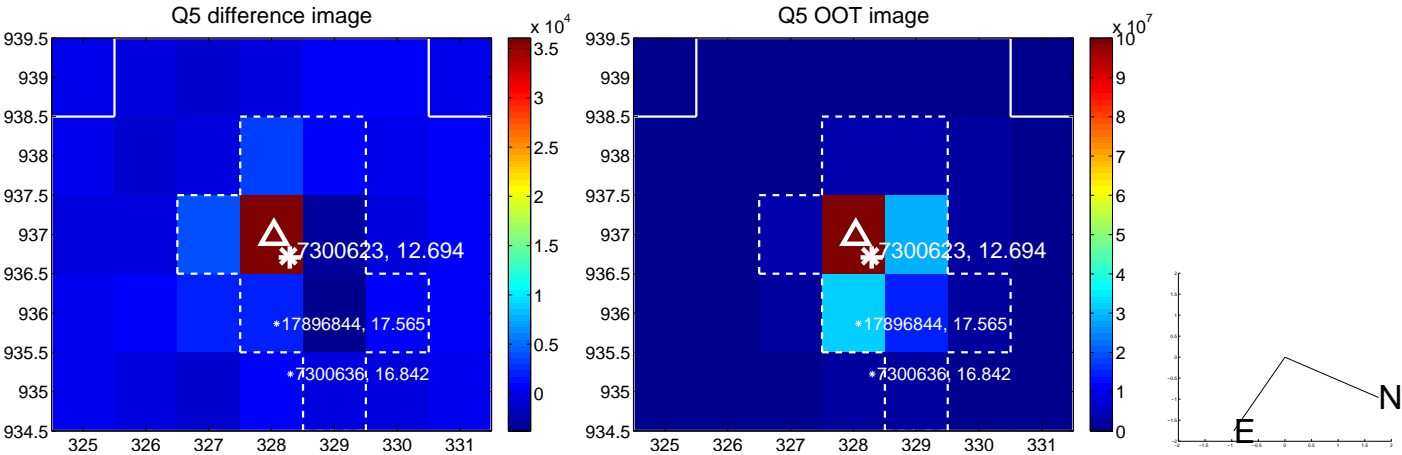


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

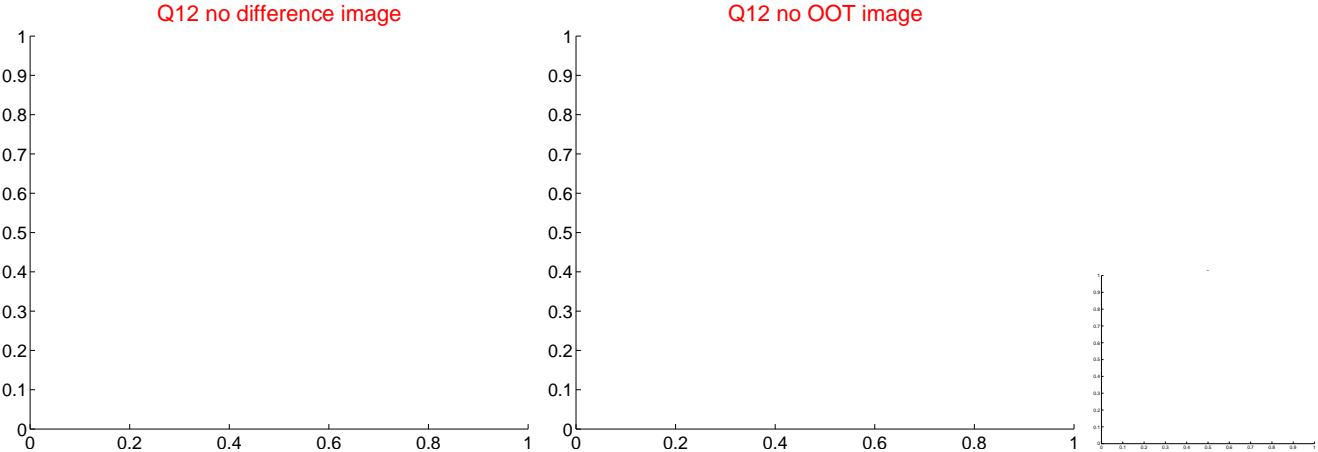
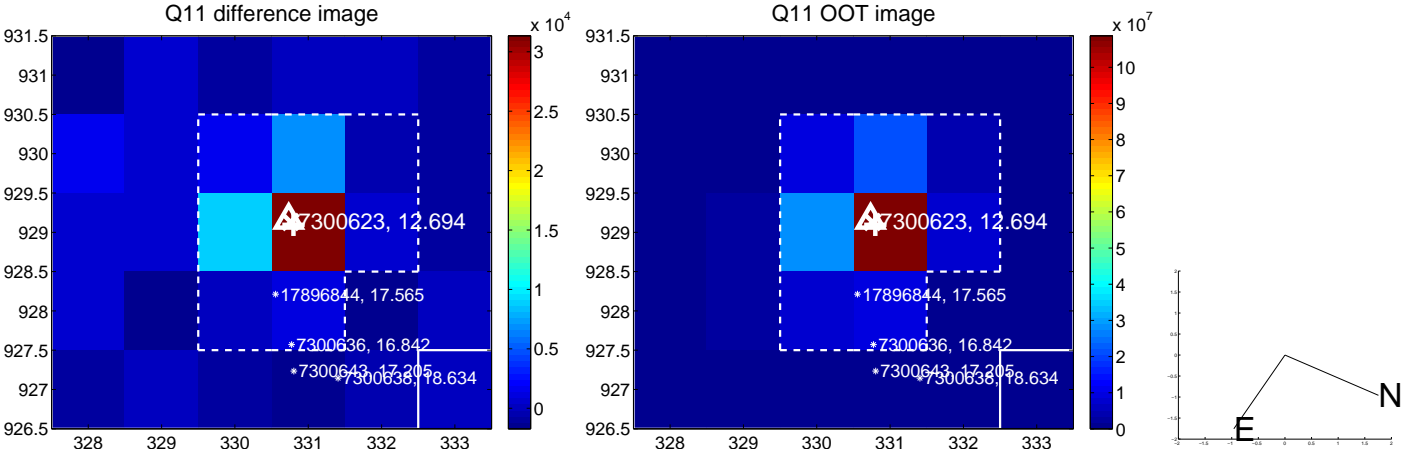
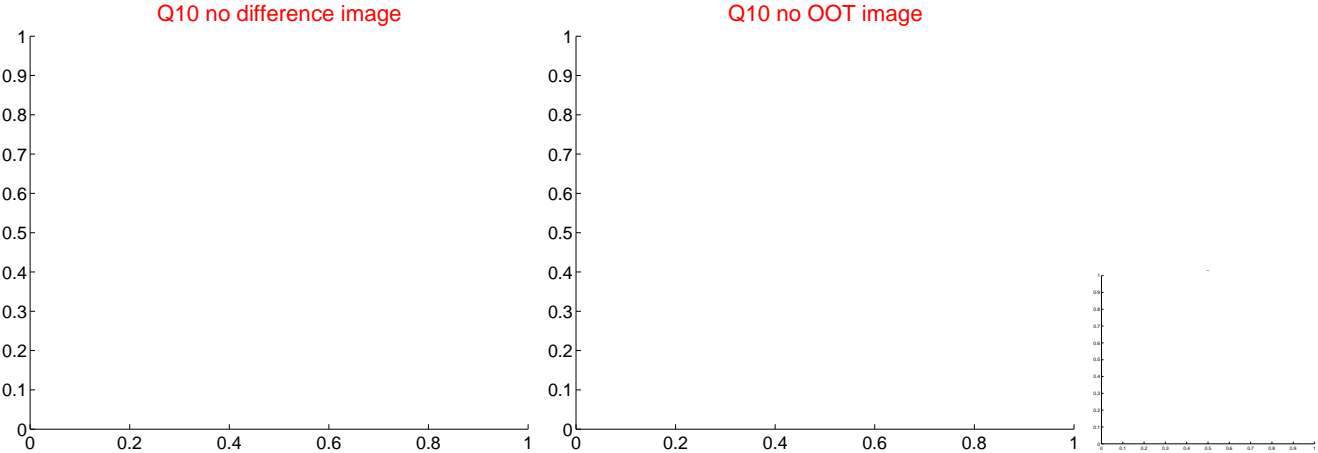
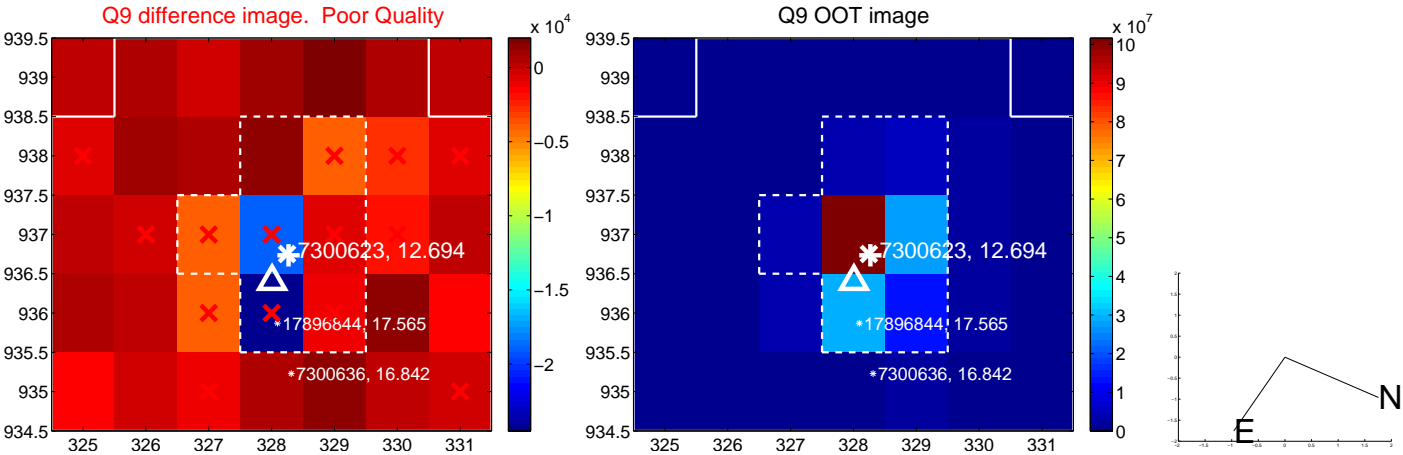
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



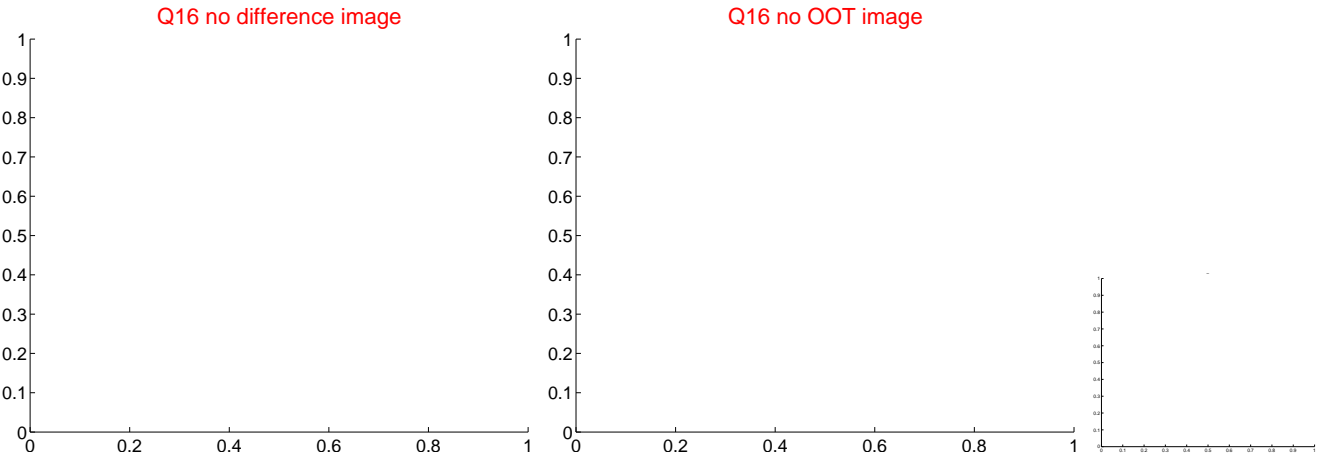
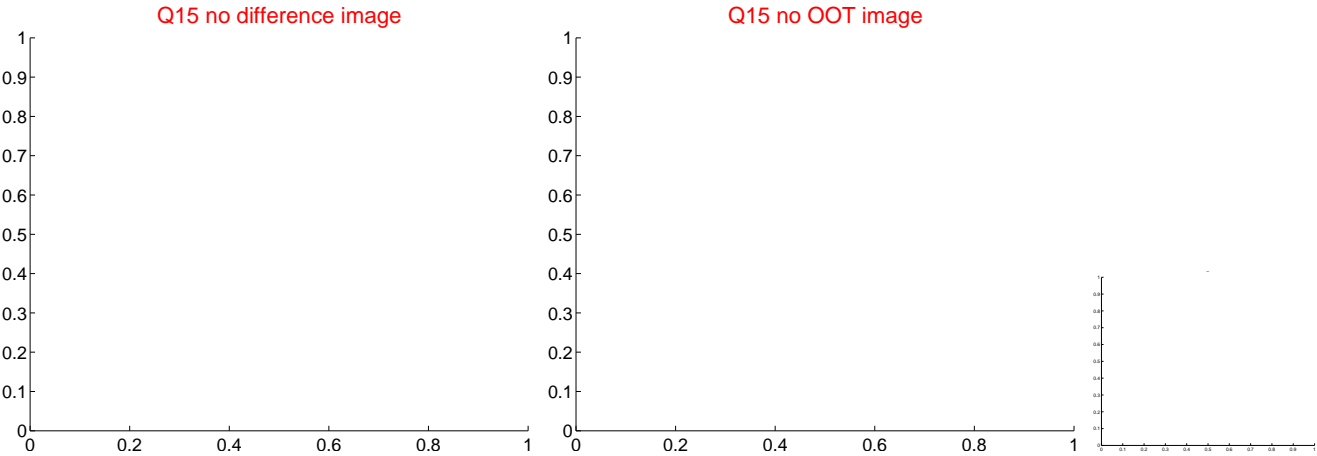
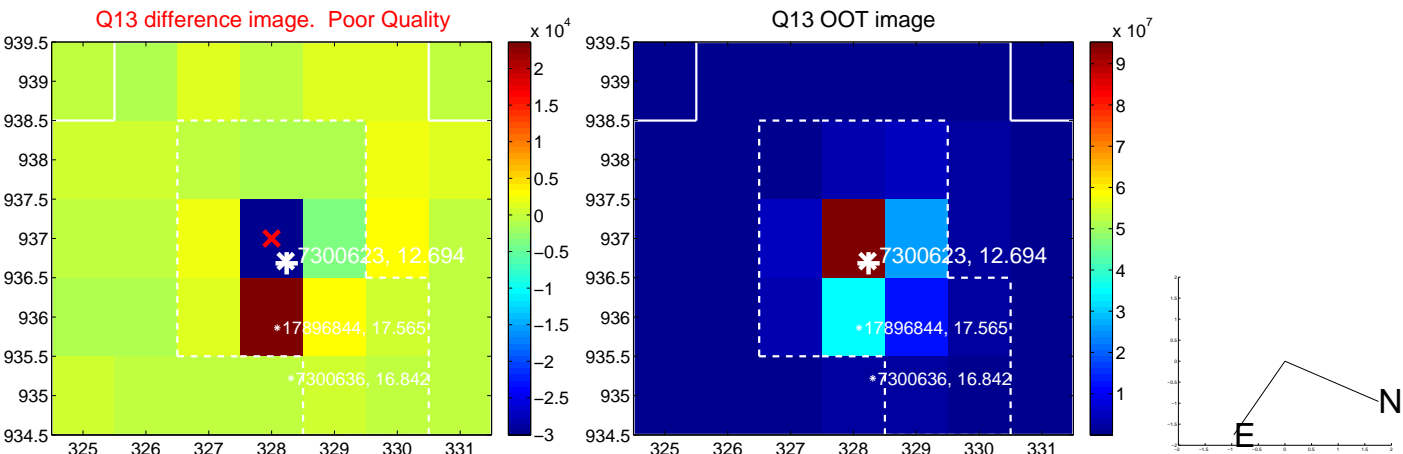
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



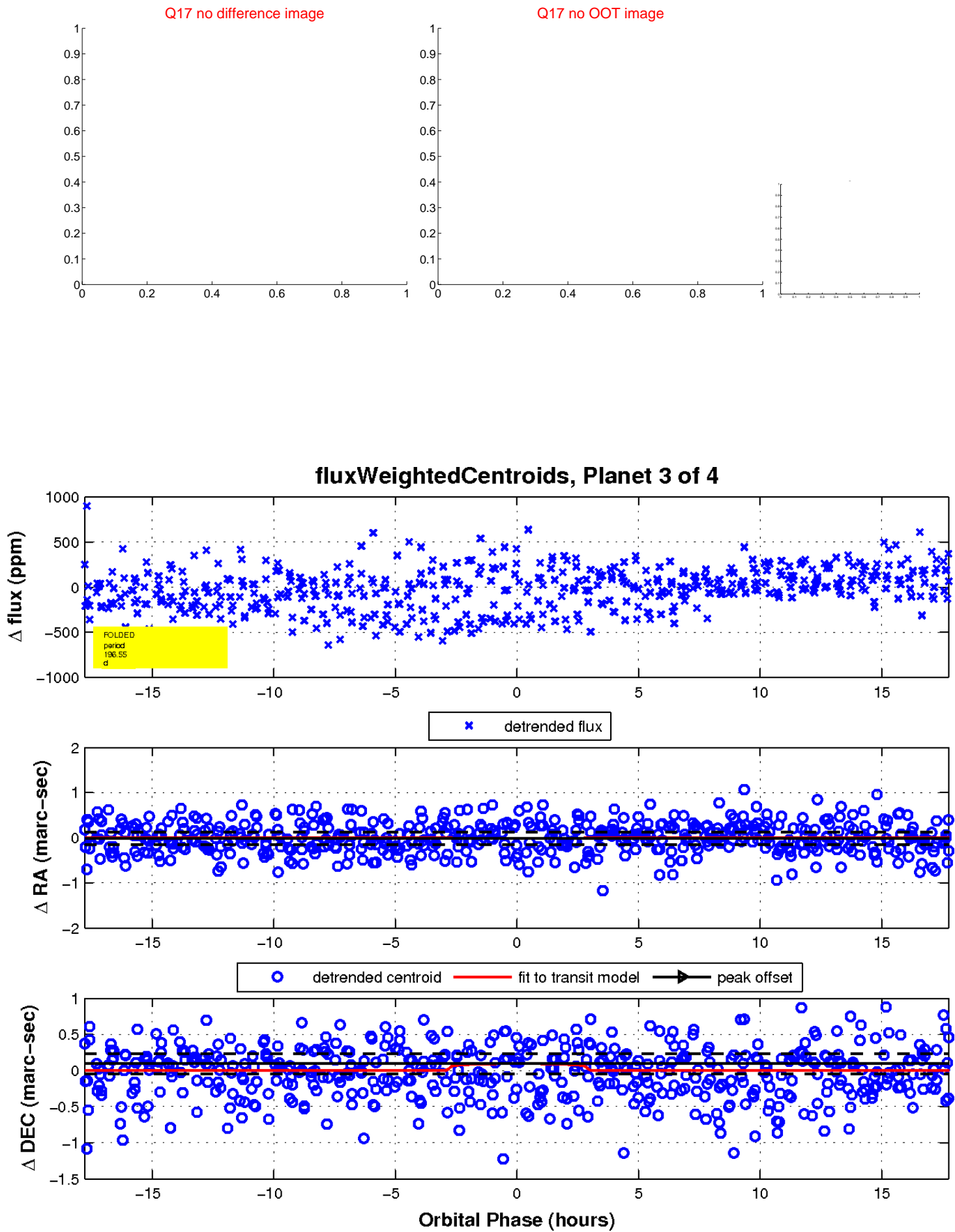
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

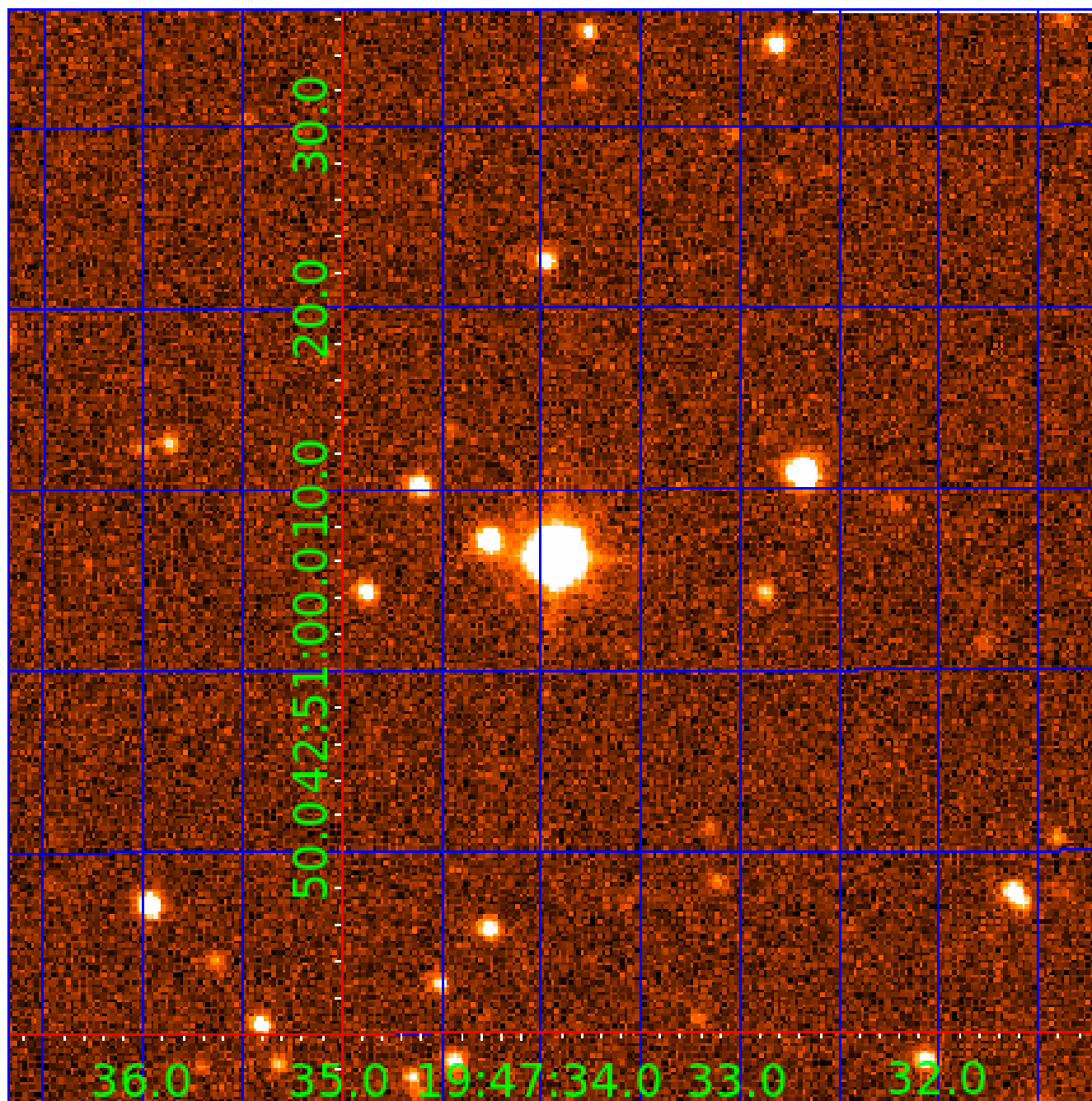


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007300623

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})
007300623-01	OBS	No	1.129041	132.170844	17.1	3.626	9.7	7.1	3.95	7514	1.82	62695.63
007300623-02	OBS	No	1.689648	132.718966	35.3	2.189	7.7	8.6	3.95	7514	2.68	36625.93
007300623-03	OBS	No	196.549124	270.897061	140.1	5.950	9.9	2.8	3.95	7514	5.35	64.50
007300623-04	OBS	No	0.555226	131.703104	18.8	2.243	7.3	7.6	3.95	7514	2.01	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007300623-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007300623-02	OBS	FP	0.00	1	0	1	0	LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
007300623-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007300623-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

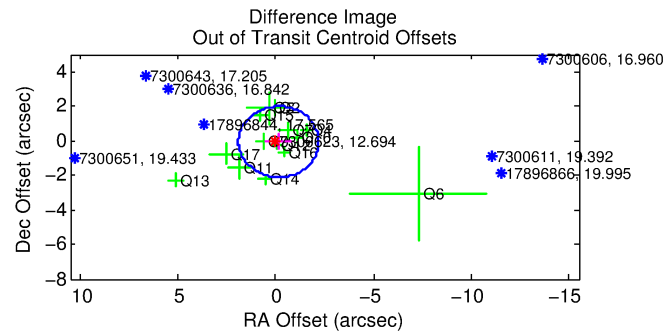
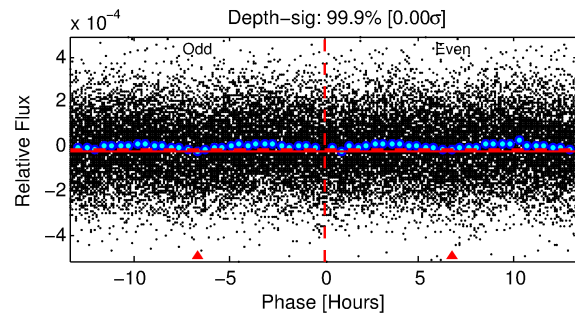
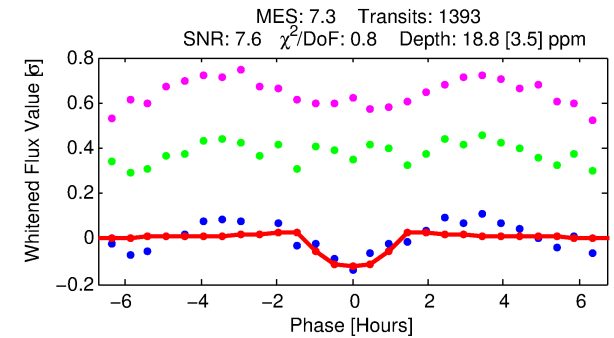
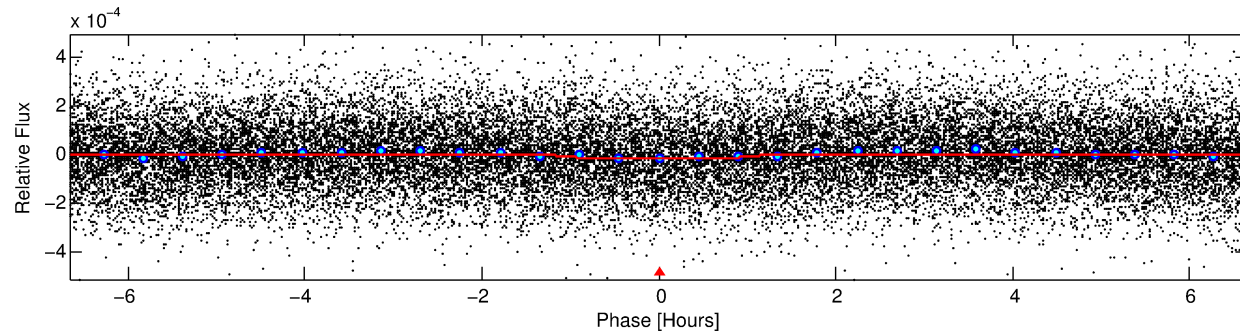
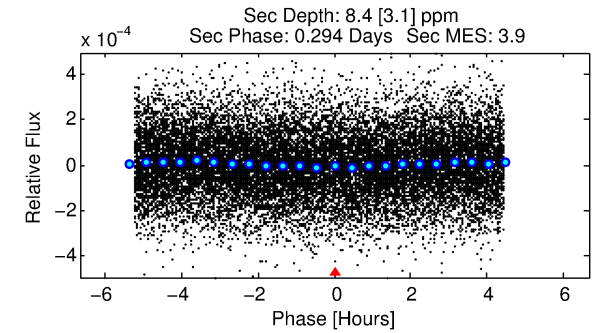
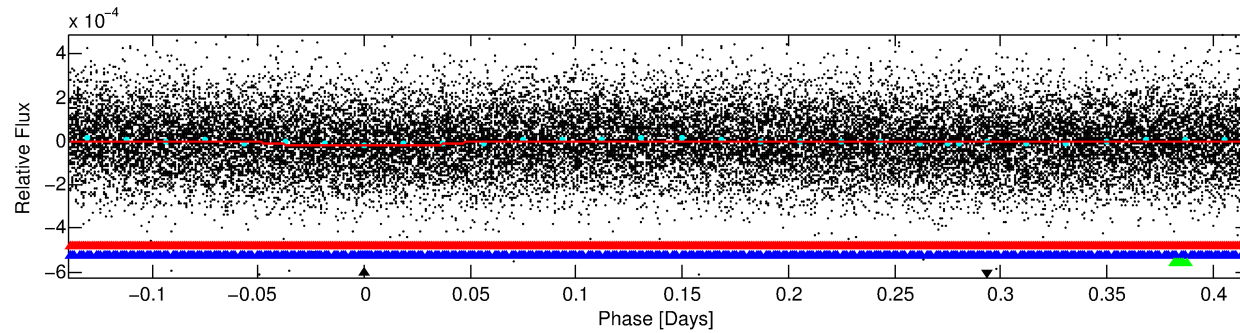
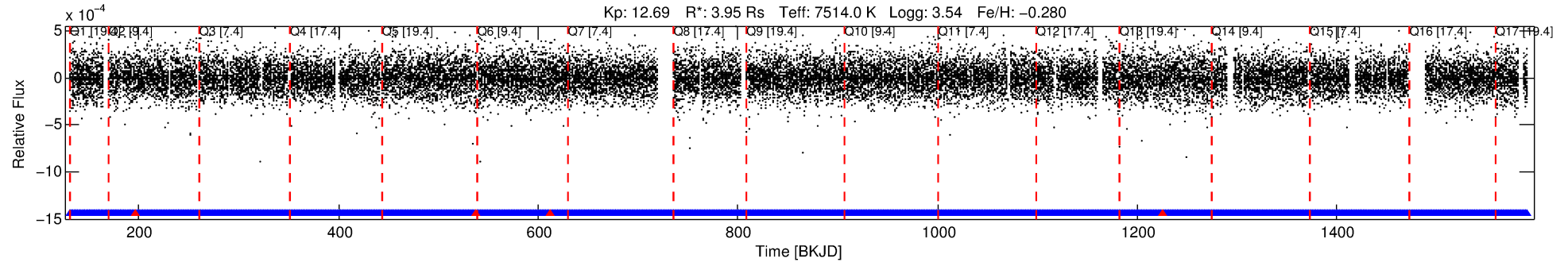
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007300623-04

No Significant Match Found

DV One-Page Summary

KIC: 7300623 Candidate: 4 of 4 Period: 0.555 d



DV Fit Results:

Period = 0.55523 [0.00001] d
Epoch = 131.7031 [0.0033] BKJD
Rp/R* = 0.0047 [0.0023]
a/R* = 1.26 [1.28]
b = 0.90 [0.59]
Seff = N/A
Teq = N/A
Rp = 2.01 [1.52] Re
a = N/A
Ag = N/A
Teffp = N/A

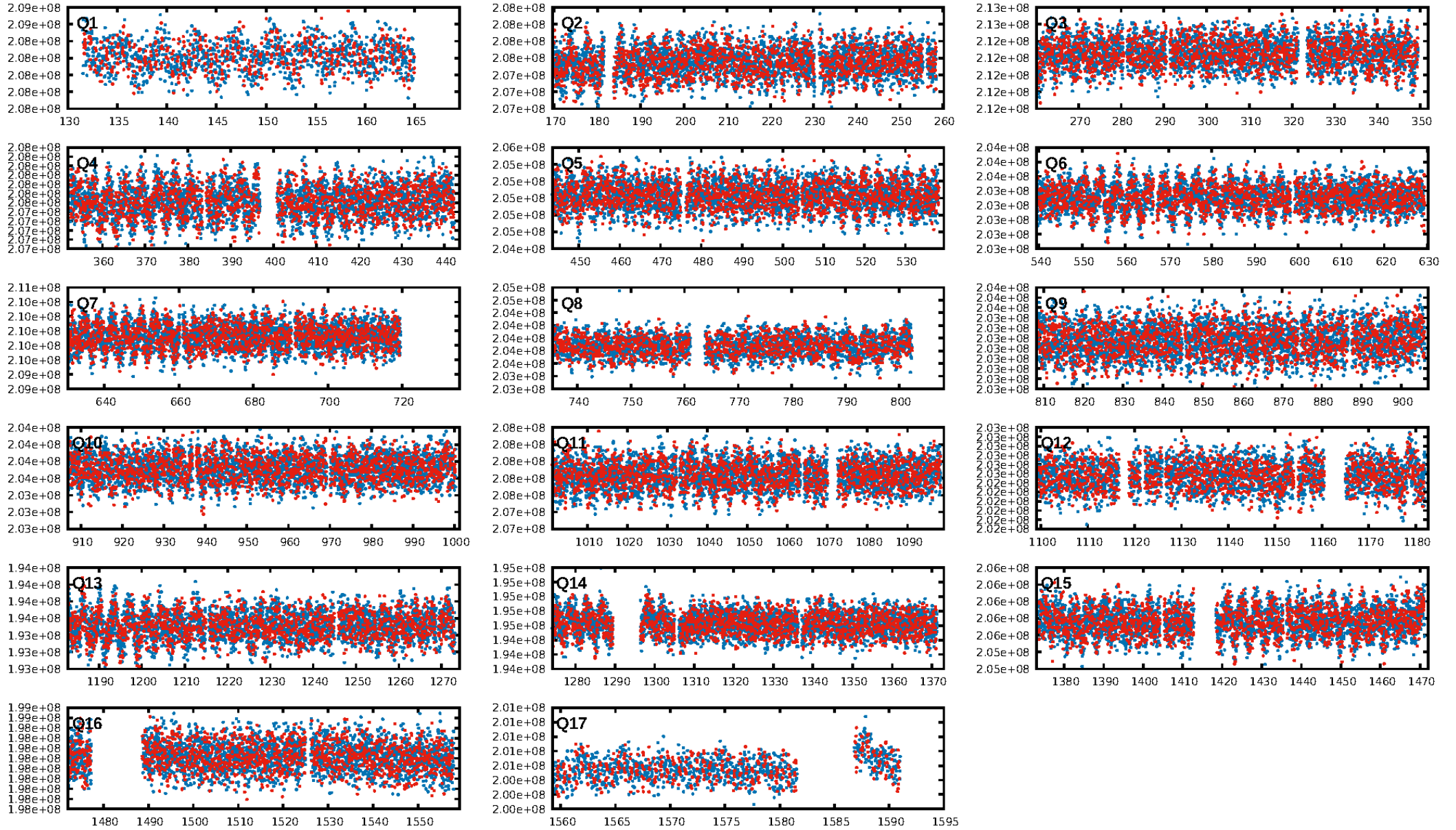
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.9% [3.23σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.84e-10
RollingBand-fgt: 1.00 [1320/1324]
GhostDiagnostic-chr: 1.818
Centroid-sig: 7.0%
Centroid-so: 0.585 arcsec [0.94σ]
OotOffset-rm: 0.158 arcsec [0.23σ]
KicOffset-rm: 0.119 arcsec [0.21σ]
OotOffset-st: 4/3/3/4 [14]
KicOffset-st: 4/3/3/4 [14]
DiffImageQuality-fgm: 0.64 [9/14]
DiffImageOverlap-fno: 1.00 [17/17]

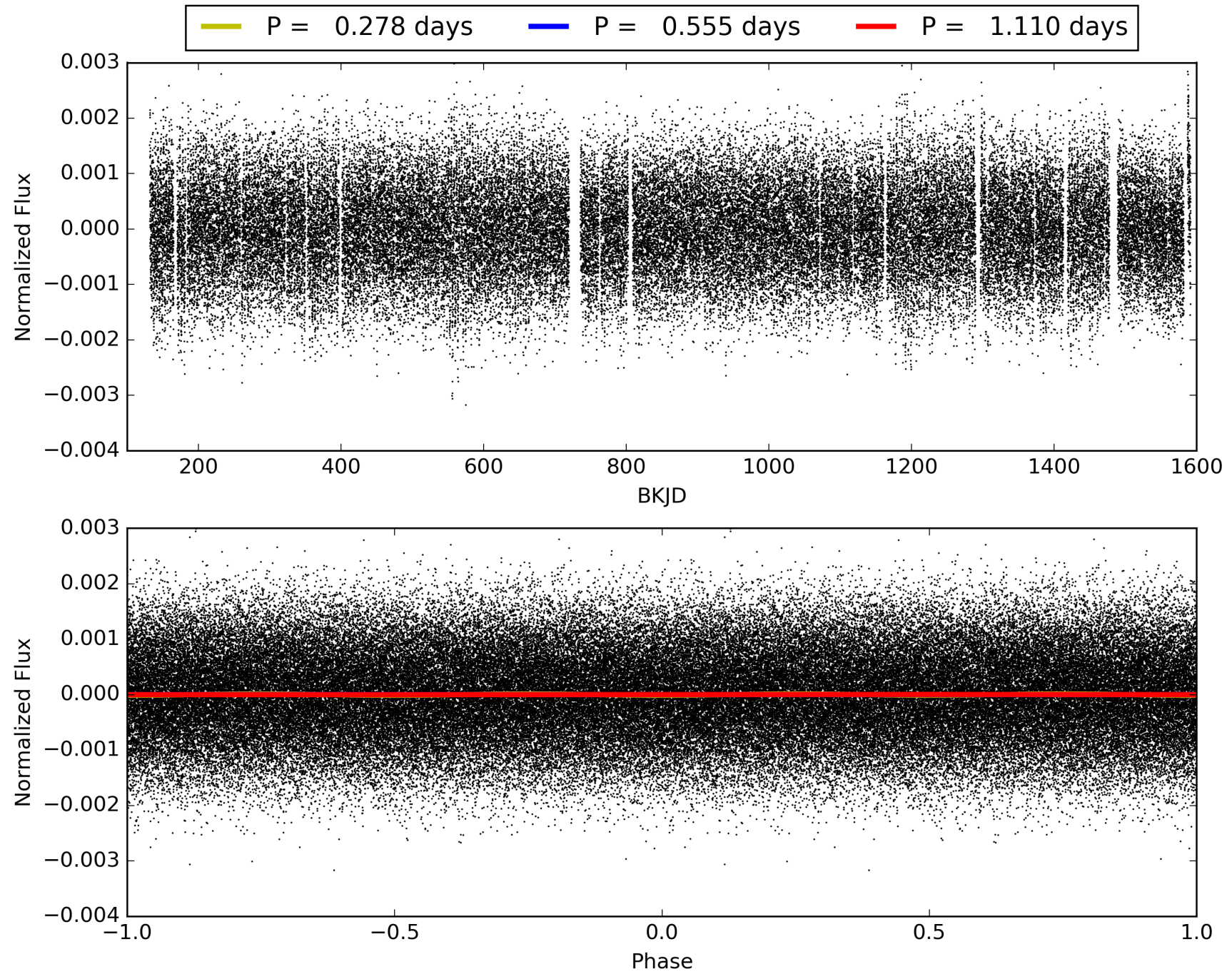
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:15:00 Z

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

TCE 007300623-04, PDC Light Curves

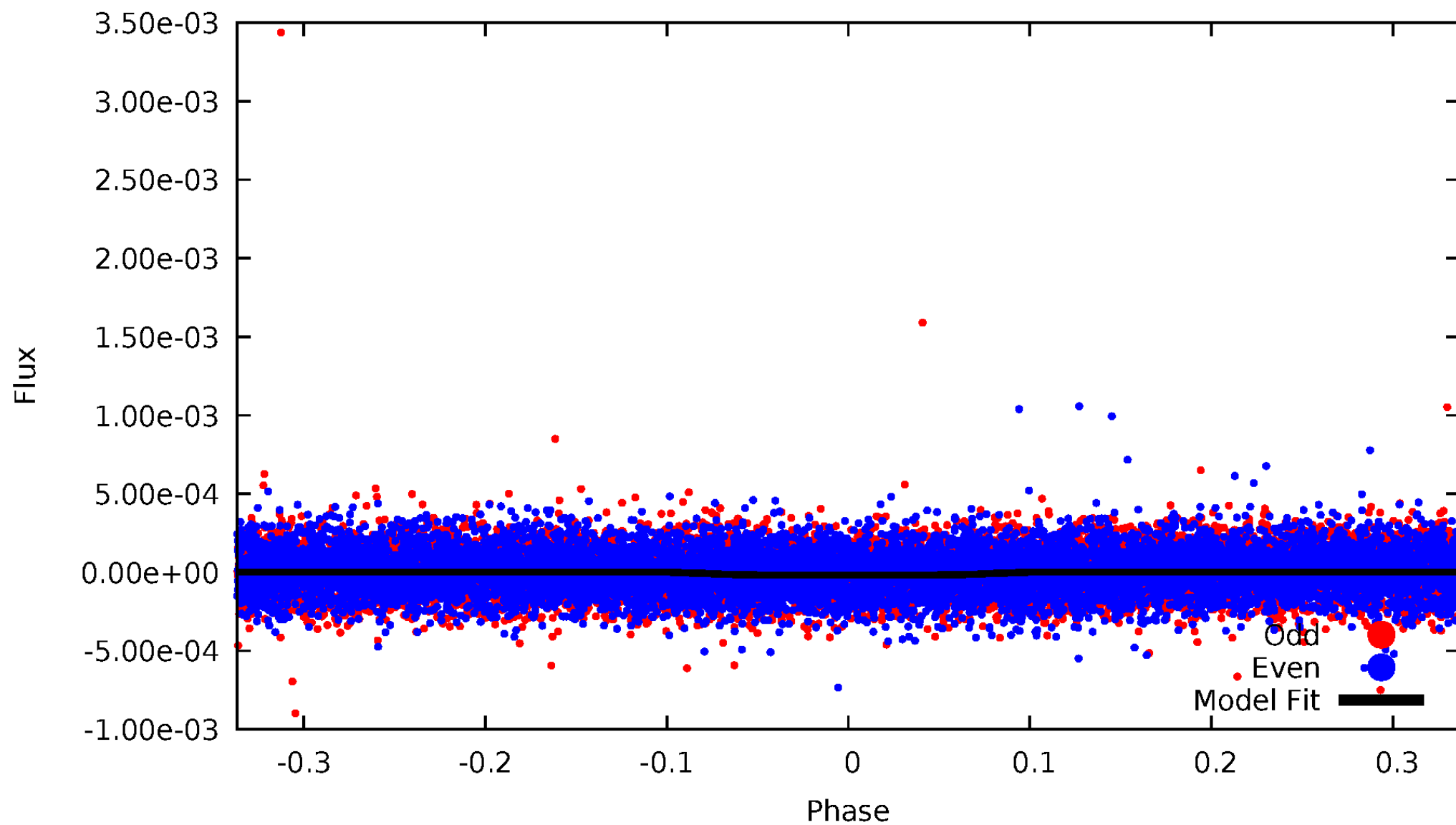


TCE 007300623-04



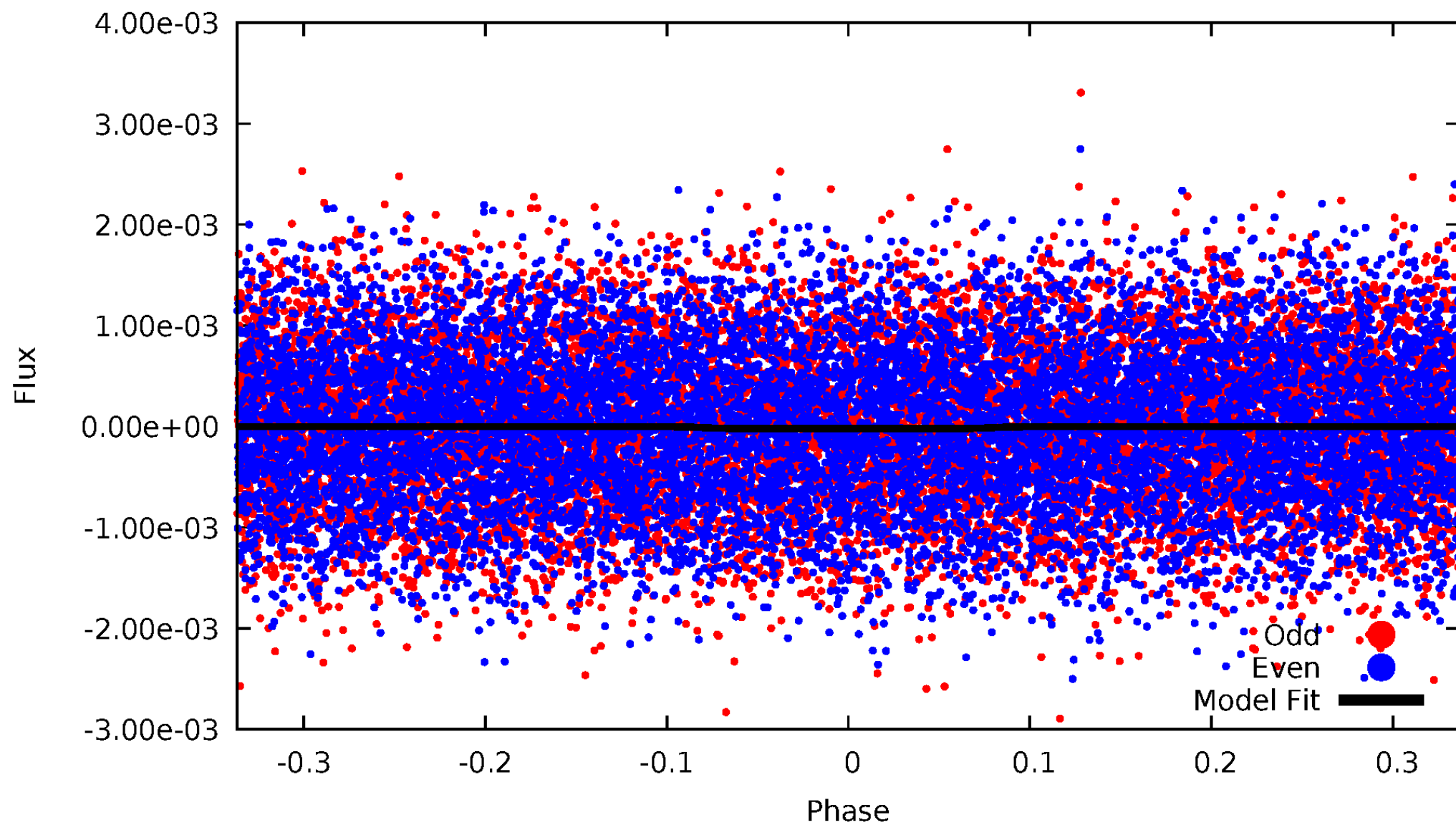
DV Odd/Even

TCE 007300623-04



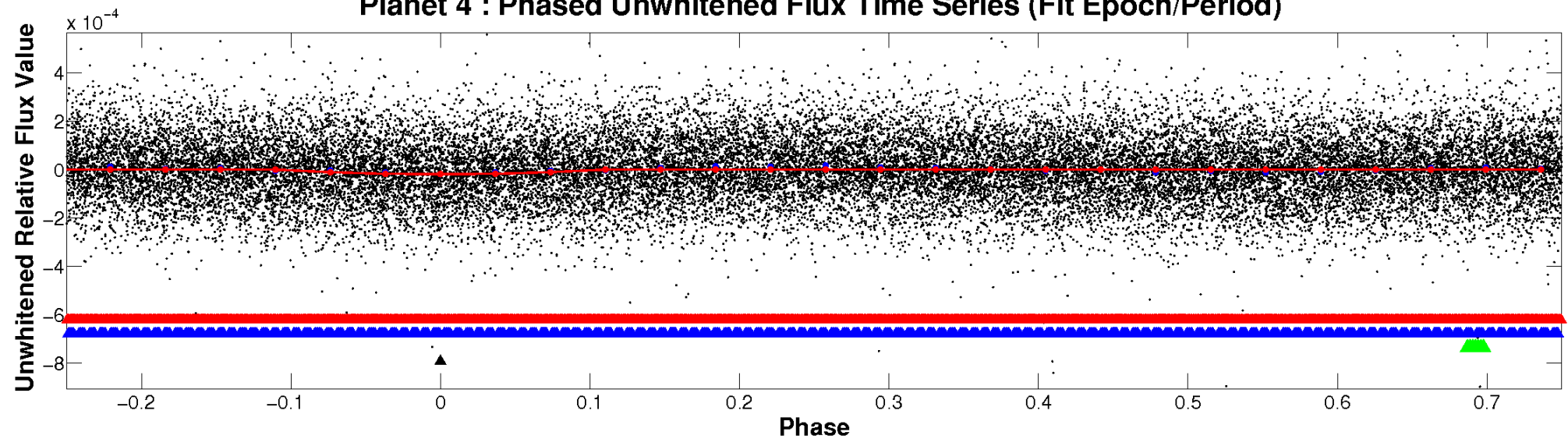
ALT Odd/Even

TCE 007300623-04

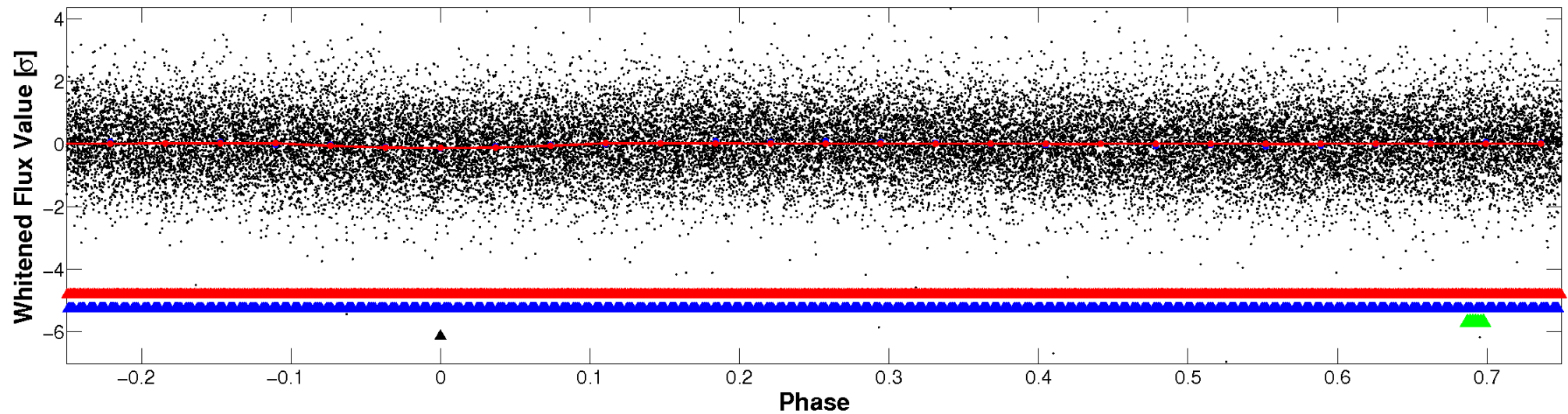


Non-Whitened Vs. Whitened Light Curve

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

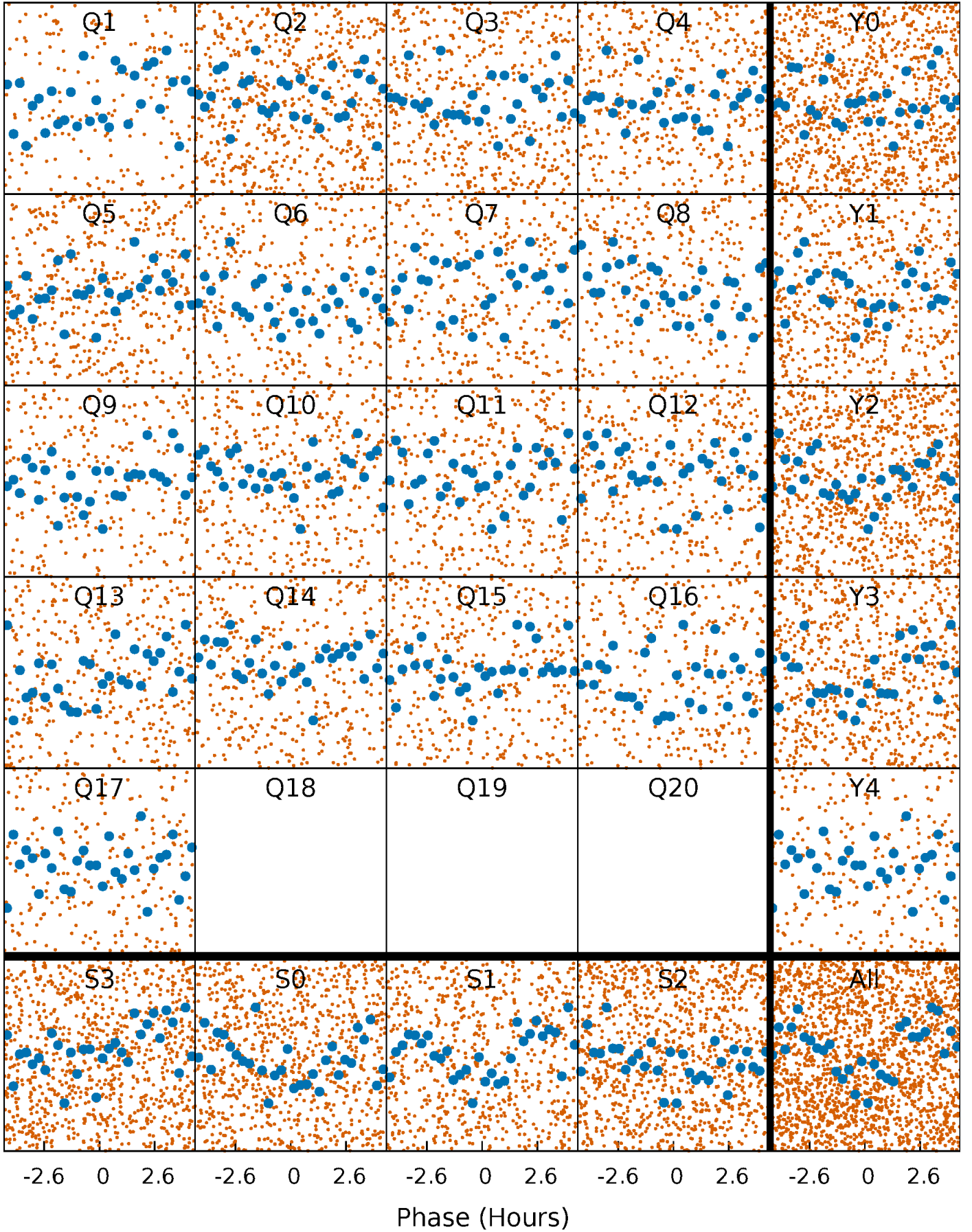


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



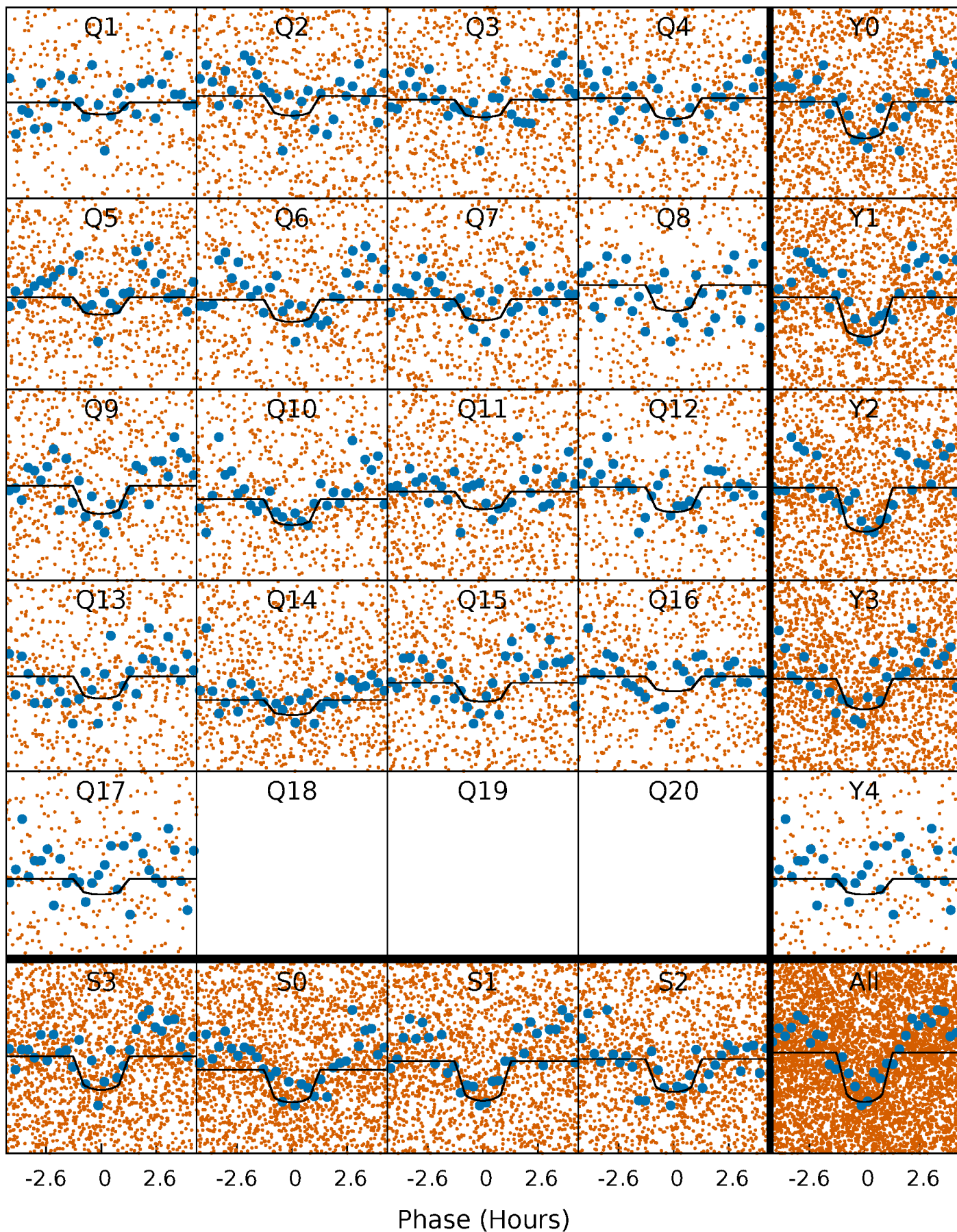
PDC Quarter-Phased Transit Curves

TCE 007300623-04 P= 0.555226 Days $T_0=131.703104$ (BKJD)



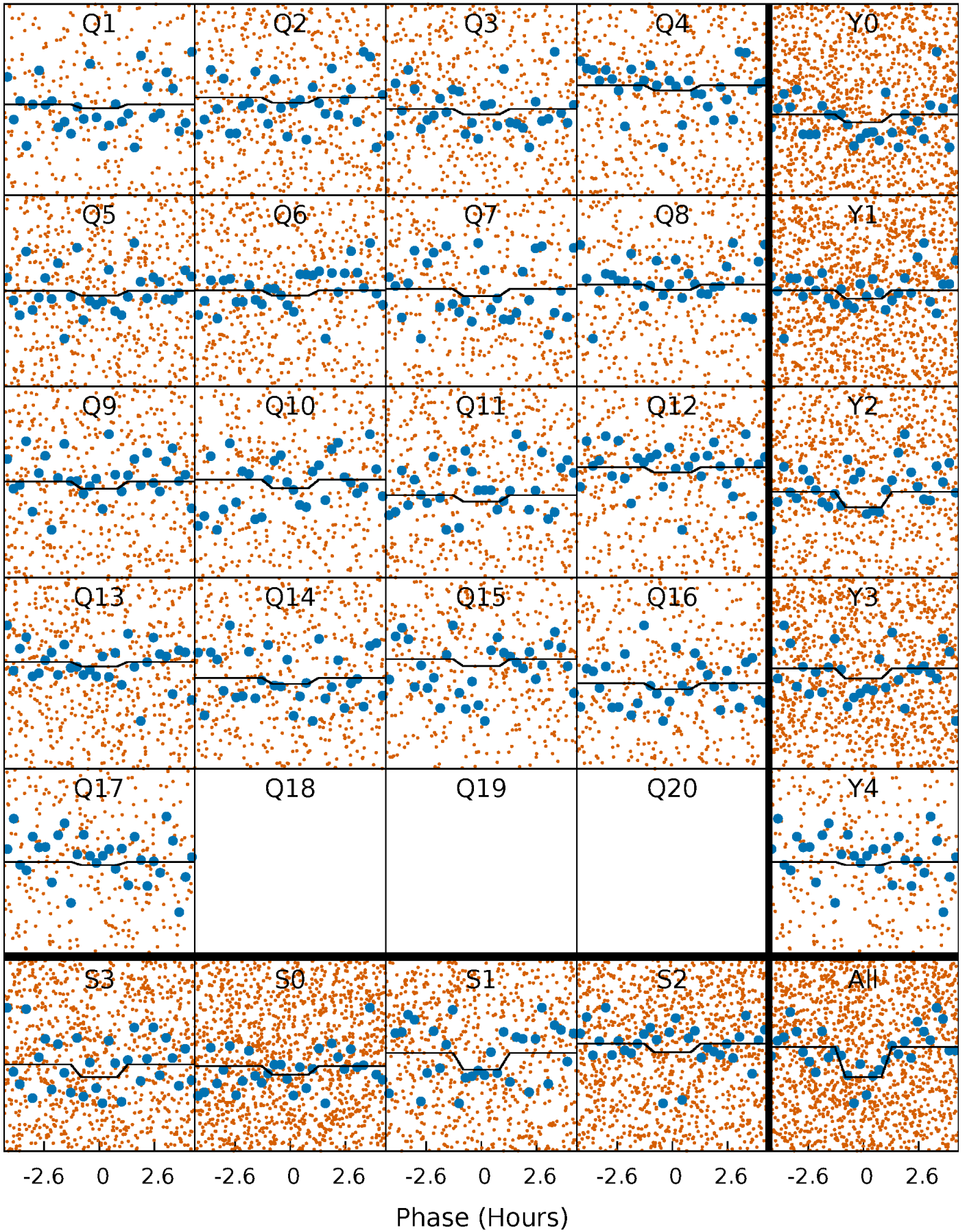
DV Quarter-Phased Transit Curves

TCE 007300623-04 P= 0.555226 Days $T_0=131.703104$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

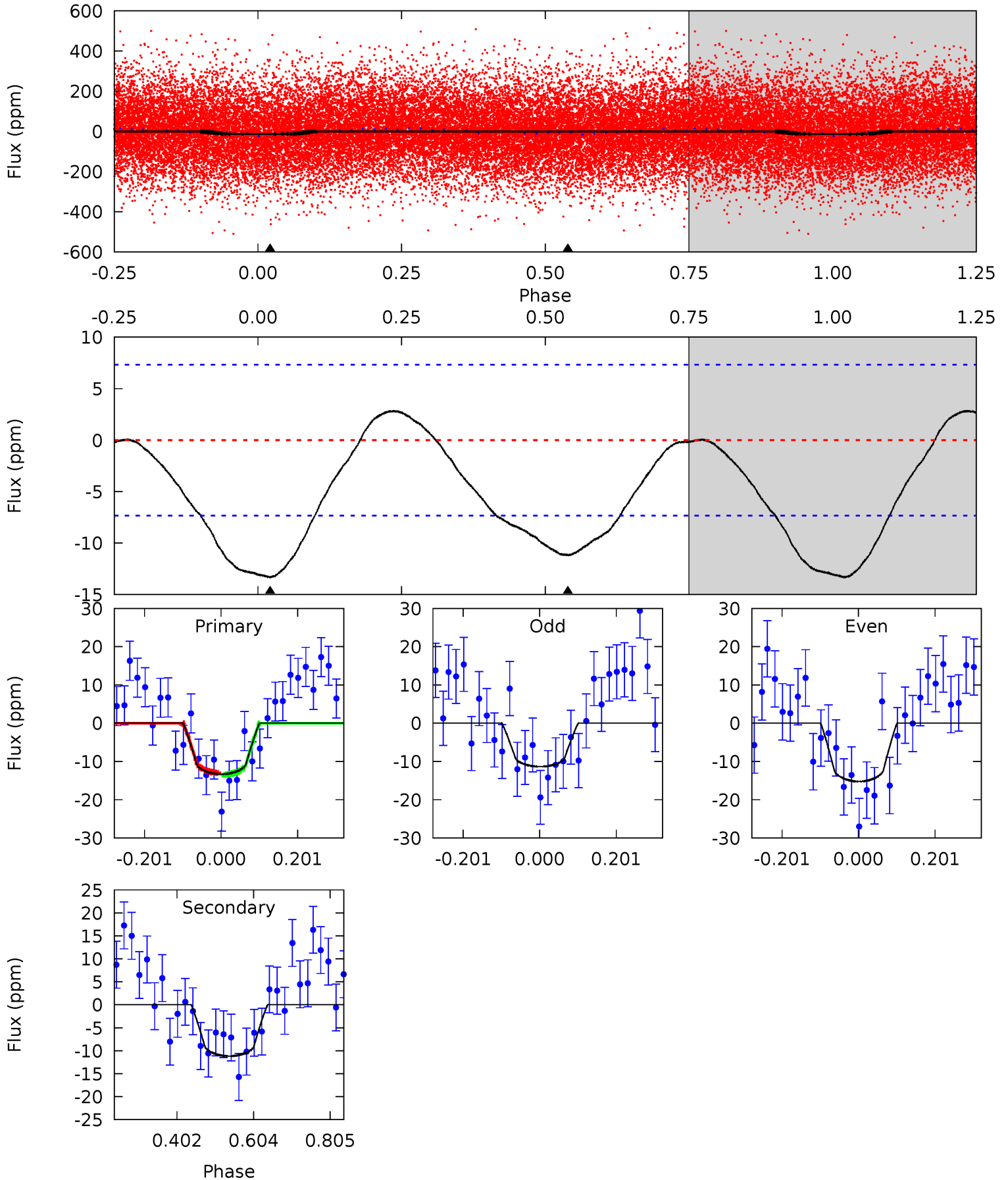
TCE 007300623-04 P= 0.555226 Days $T_0=131.703104$ (BKJD)



DV Model-Shift Uniqueness Test

007300623-04, P = 0.555226 Days, E = 131.147878 Days

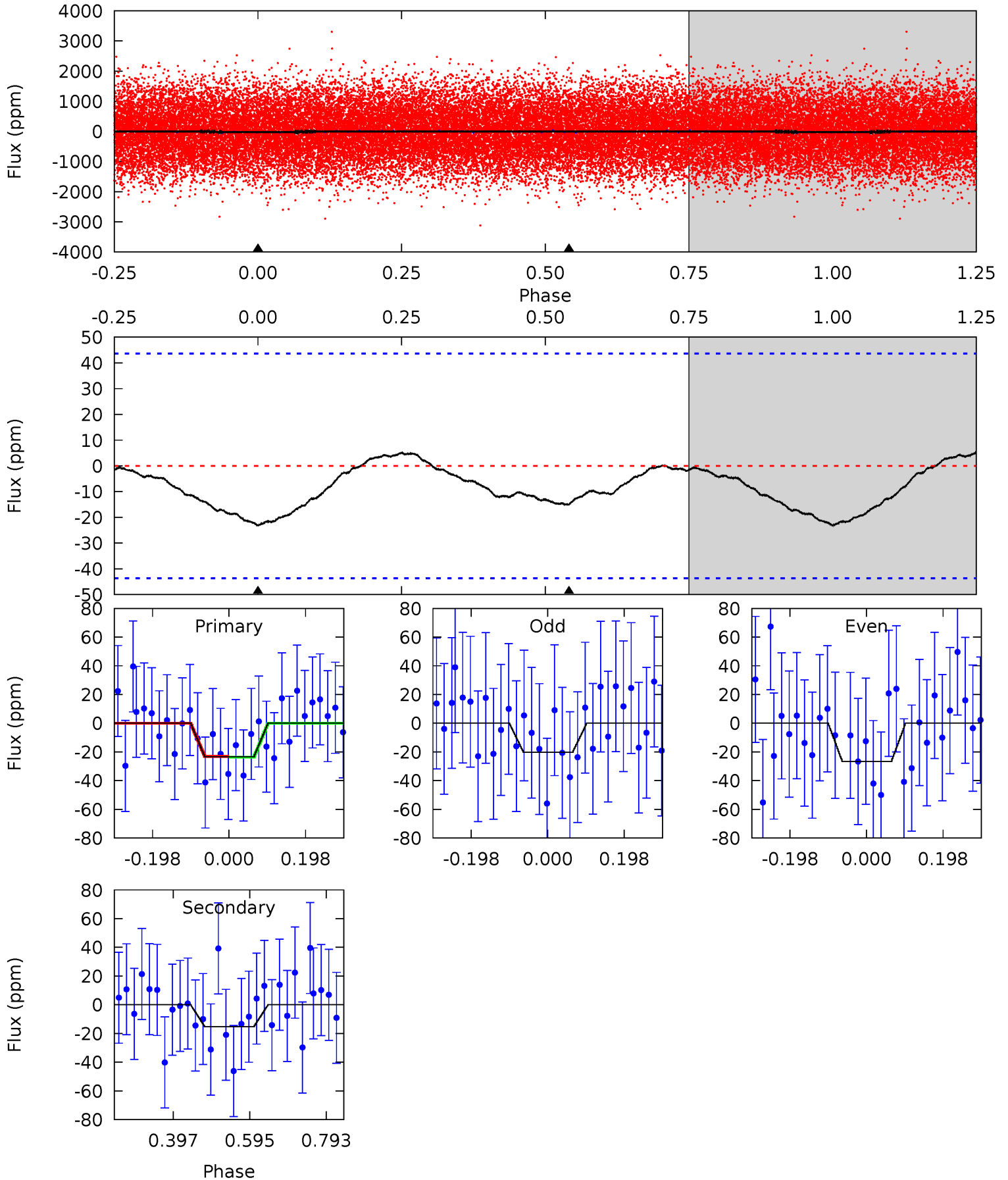
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.02	6.74	0	0	4.42	1.28	0.86	8.02	8.02	6.74	6.74	1.18	0.96	0.18	0.14



Alt Model-Shift Uniqueness Test

007300623-04, P = 0.555226 Days, E = 131.147878 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.37	1.55	0	0	4.42	1.29	0.30	2.37	2.37	1.55	1.55	0.32	1.27	0.19	0.03



Stellar Parameters For KIC 007300623

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7514^{+235}_{-314}	$3.542^{+0.576}_{-0.064}$	$-0.280^{+0.250}_{-0.300}$	$3.951^{+0.399}_{-2.262}$	$1.980^{+0.063}_{-0.571}$	$0.045^{+0.367}_{-0.010}$
	+3%/-4%	+16%/-2%	+89%/-107%	+10%/-57%	+3%/-29%	+810%/-22%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007300623-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-11 ± 2	$1.73^{+1.00}_{-0.88}$	6858^{+516}_{-939}	5061^{+3403}_{-9303}	$0.543^{+1.714}_{-0.321}$
Alt.	-15 ± 10	$1.76^{+0.99}_{-0.93}$	6824^{+517}_{-871}	5612^{+4573}_{-10301}	$0.679^{+2.701}_{-0.513}$

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

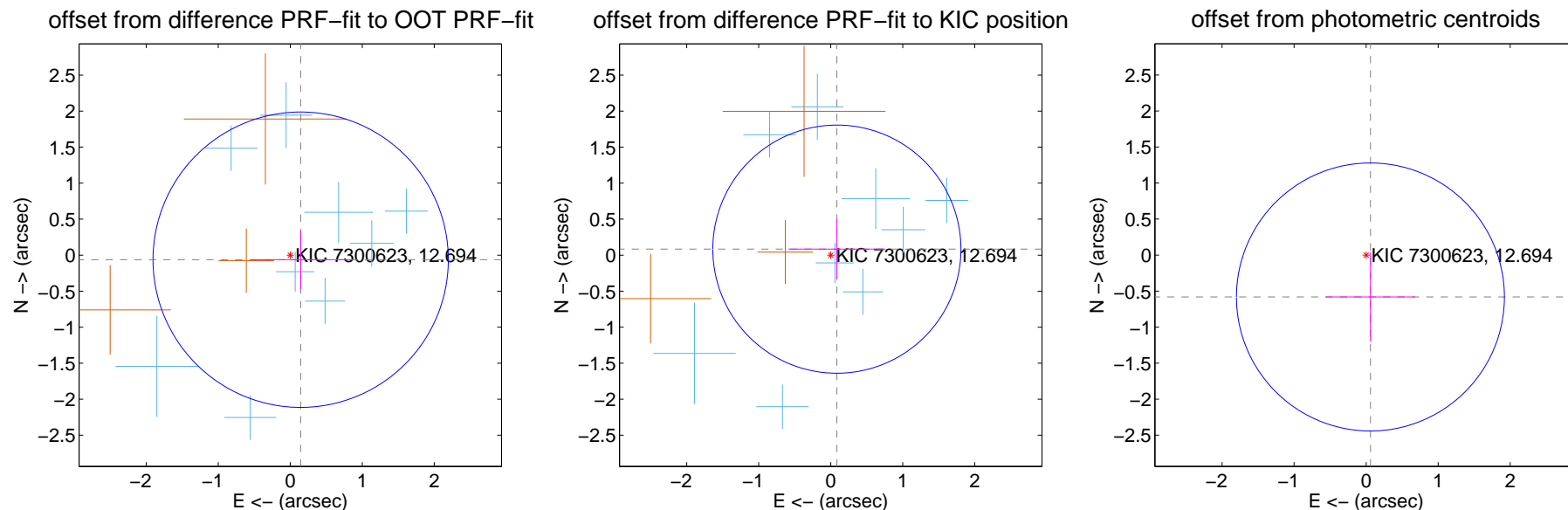
DV Centroid Data

Supplemental centroid analysis for 007300623-04. Kepler magnitude: 12.69. Transit SNR 7.62

There are 9 quarters with good PRF difference image offsets

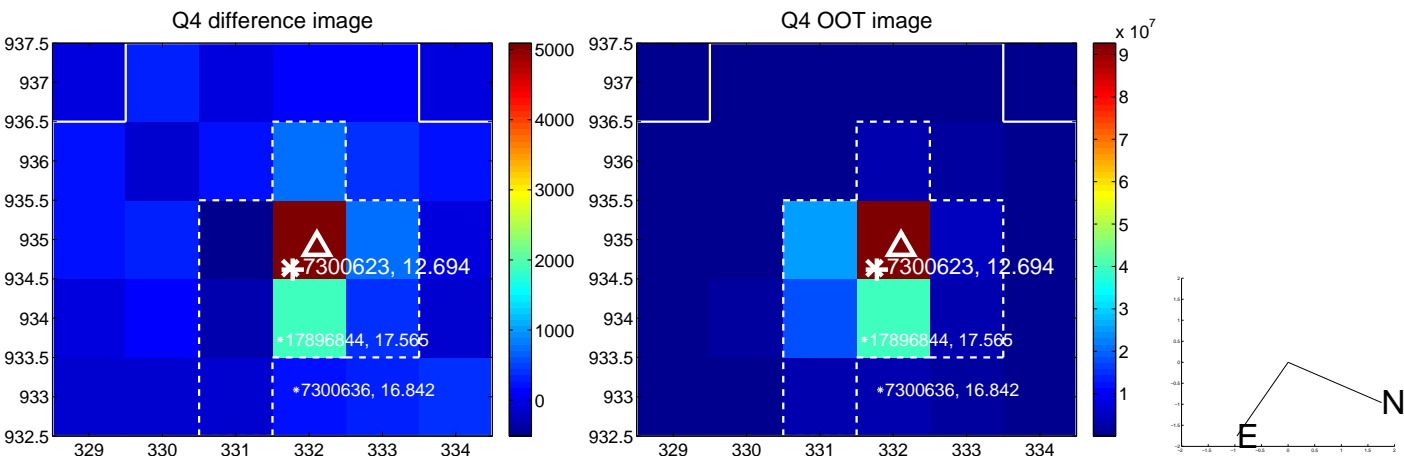
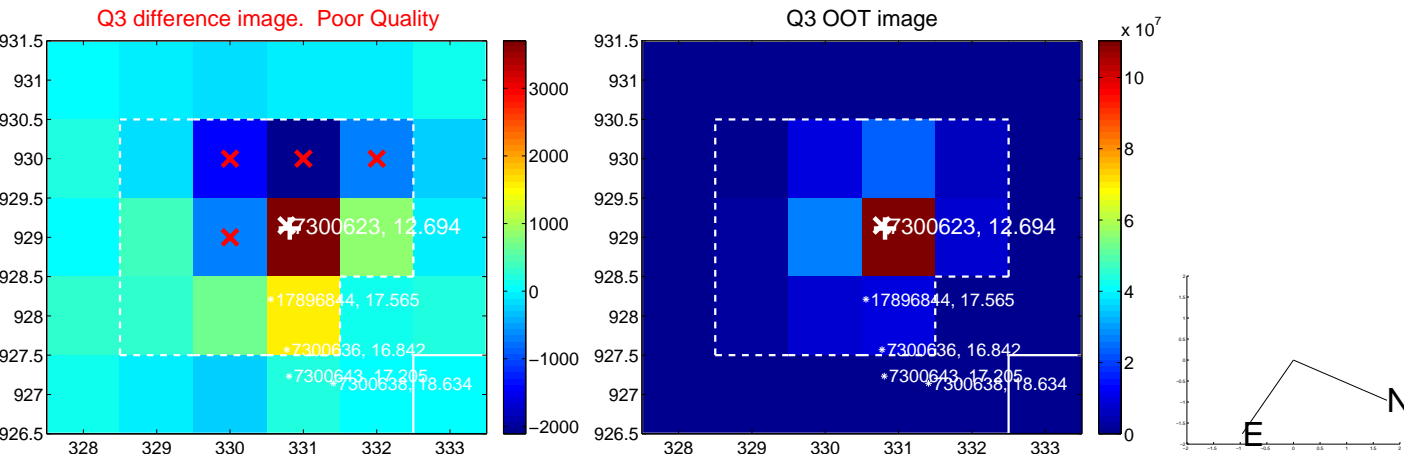
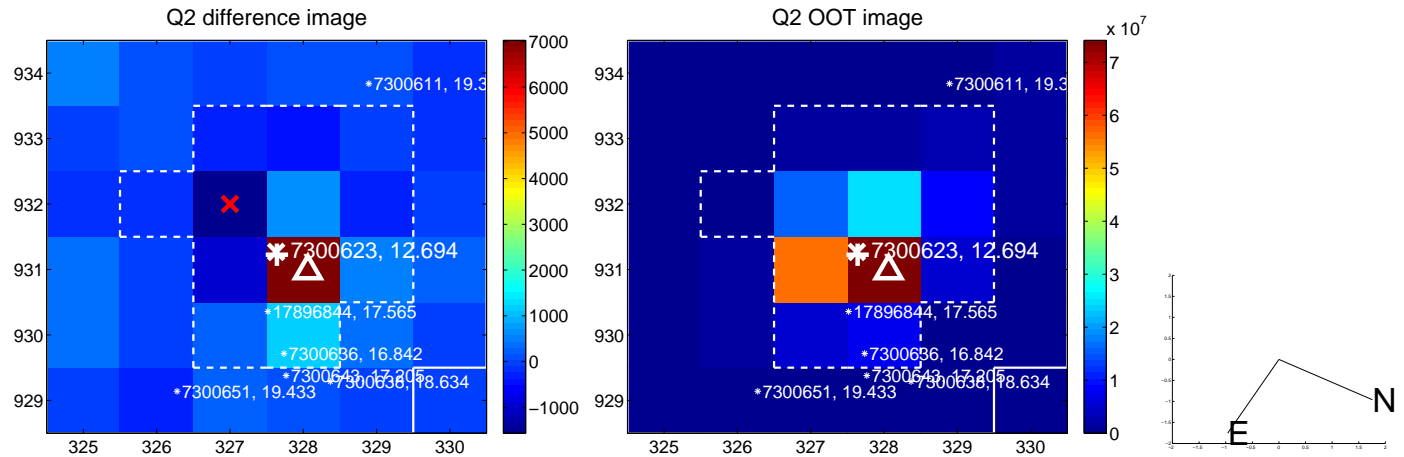
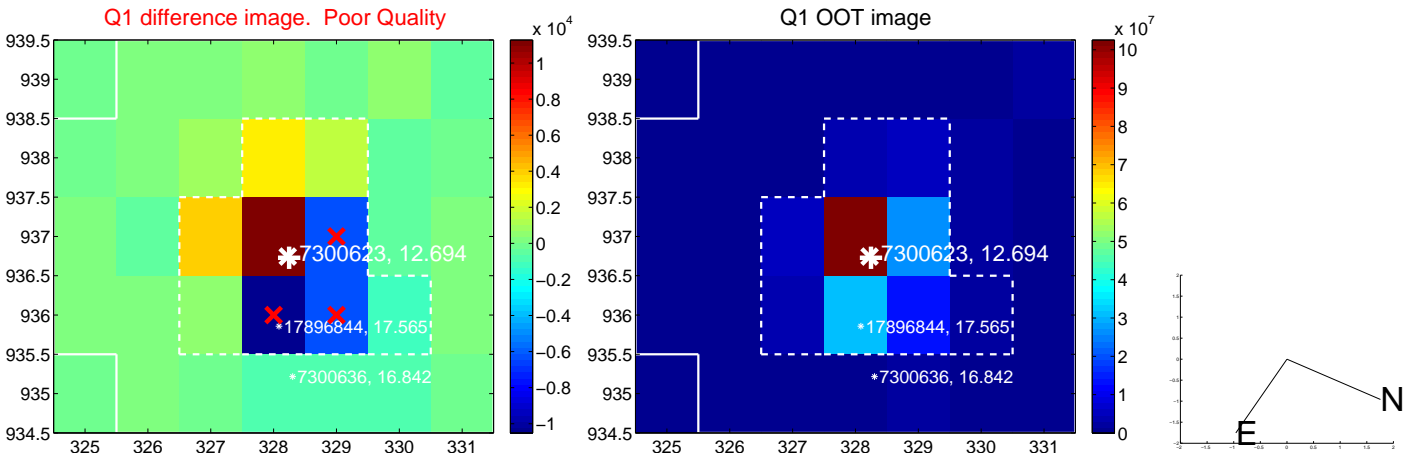
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.158 ± 0.683	0.23	-0.144 ± 0.693	-0.063 ± 0.409
PRF-fit source offset from KIC position	0.119 ± 0.574	0.21	-0.085 ± 0.673	0.083 ± 0.421
photometric centroid source offset	0.58 ± 0.62	0.94	-0.06 ± 0.62	-0.58 ± 0.62

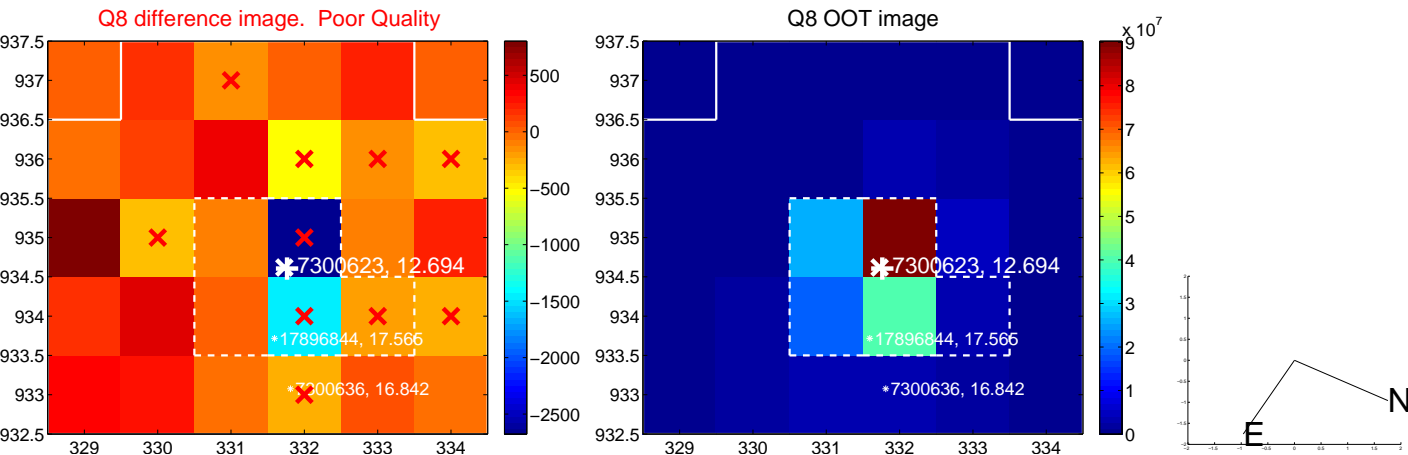
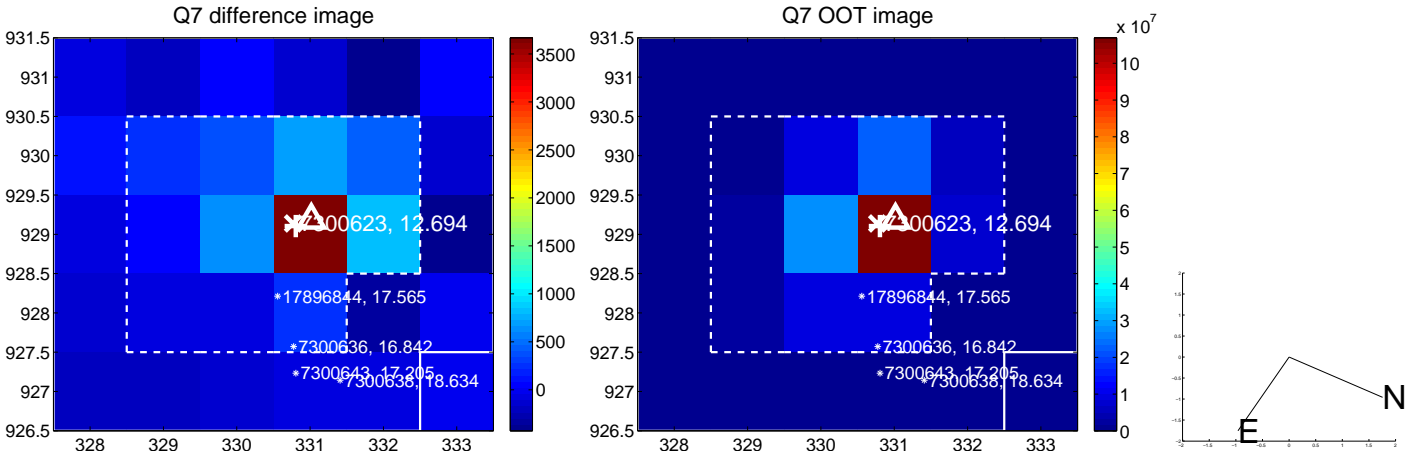
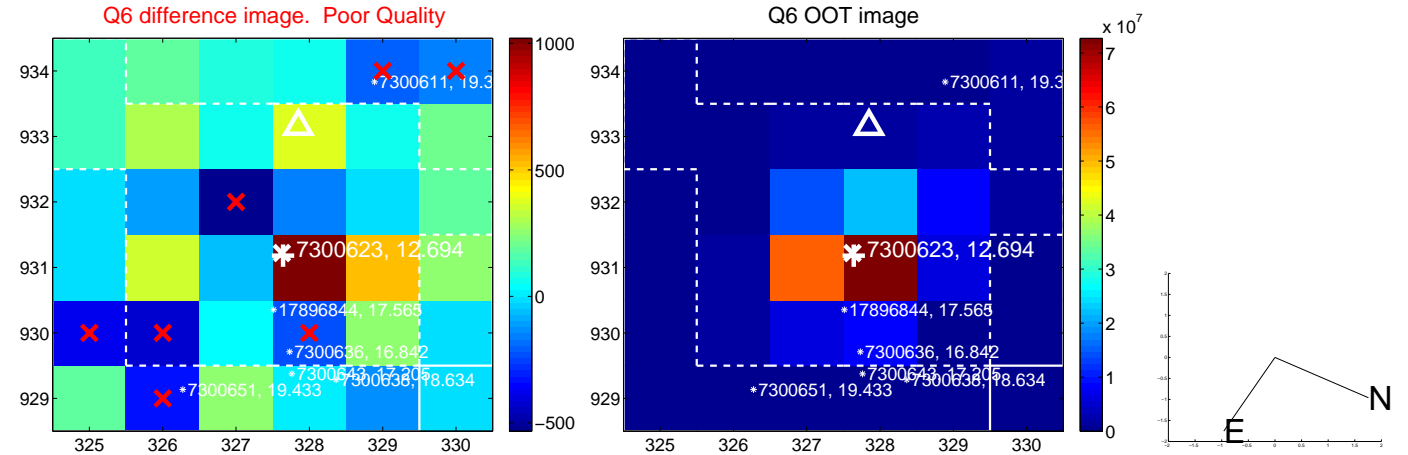
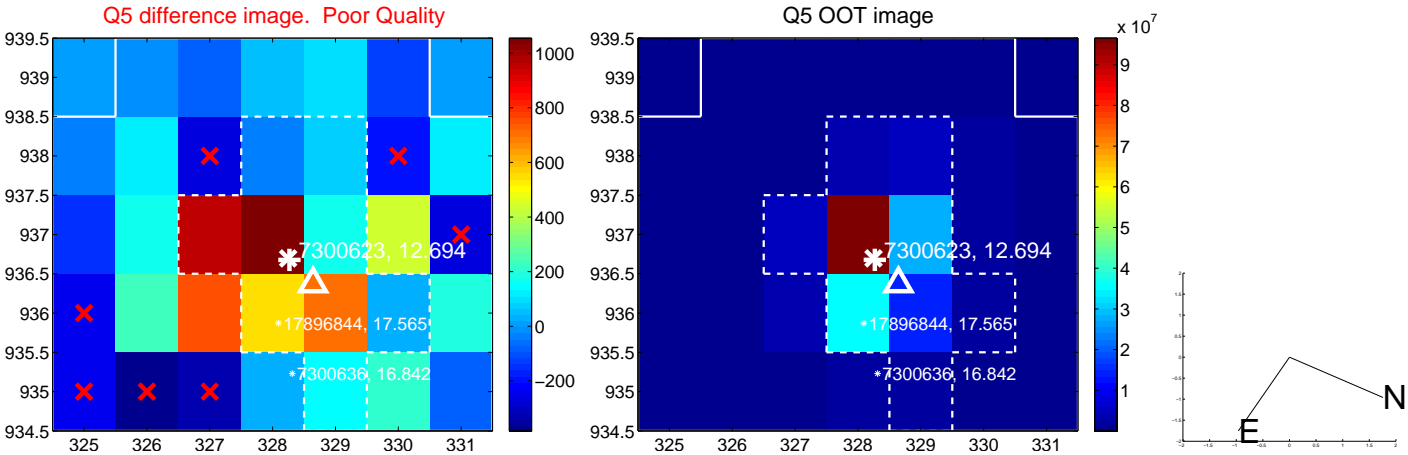


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

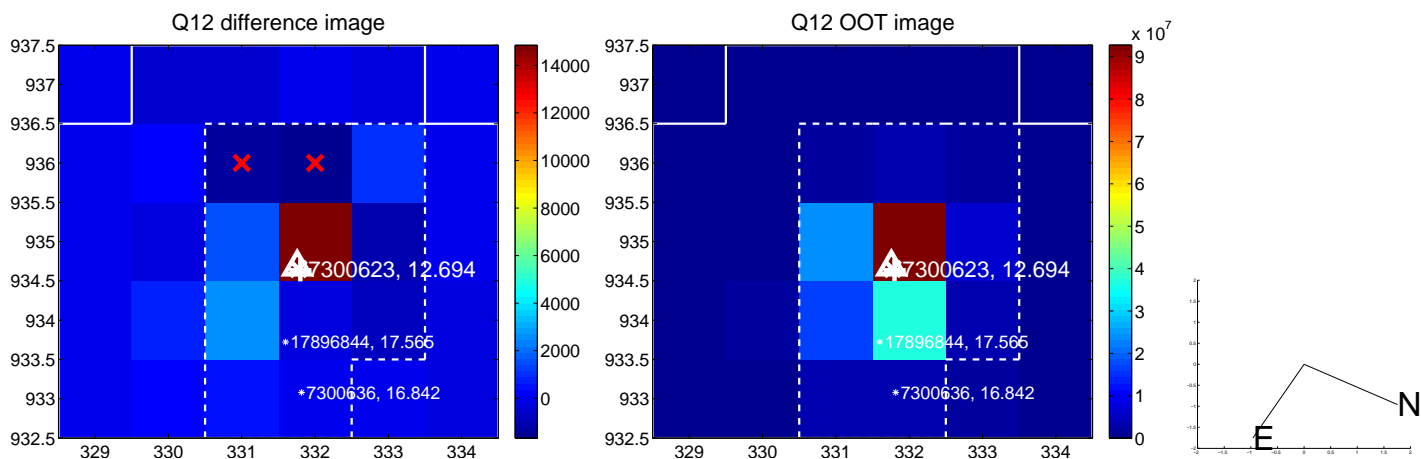
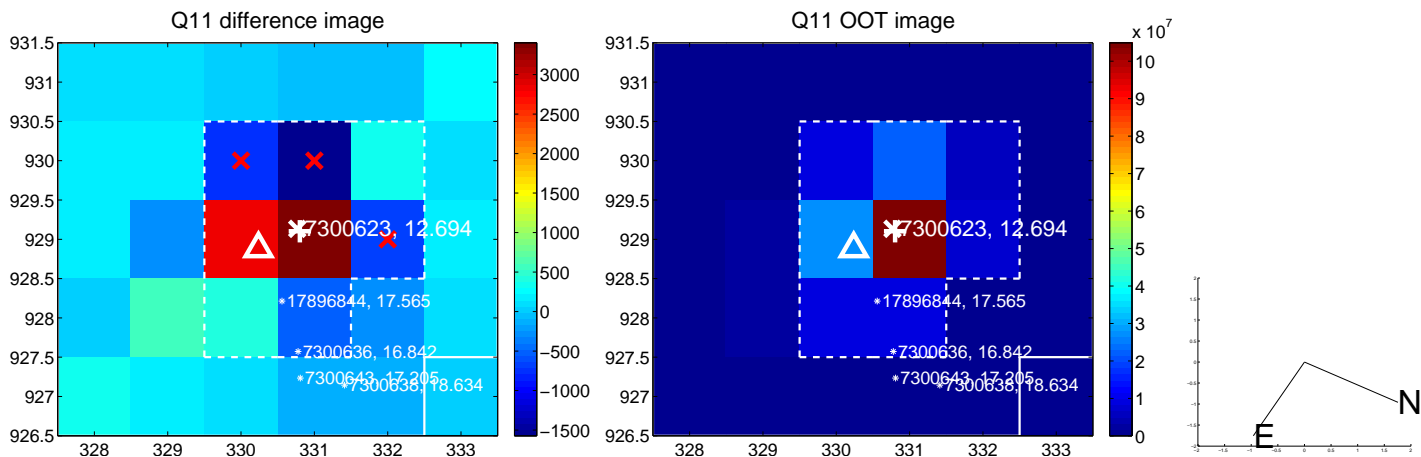
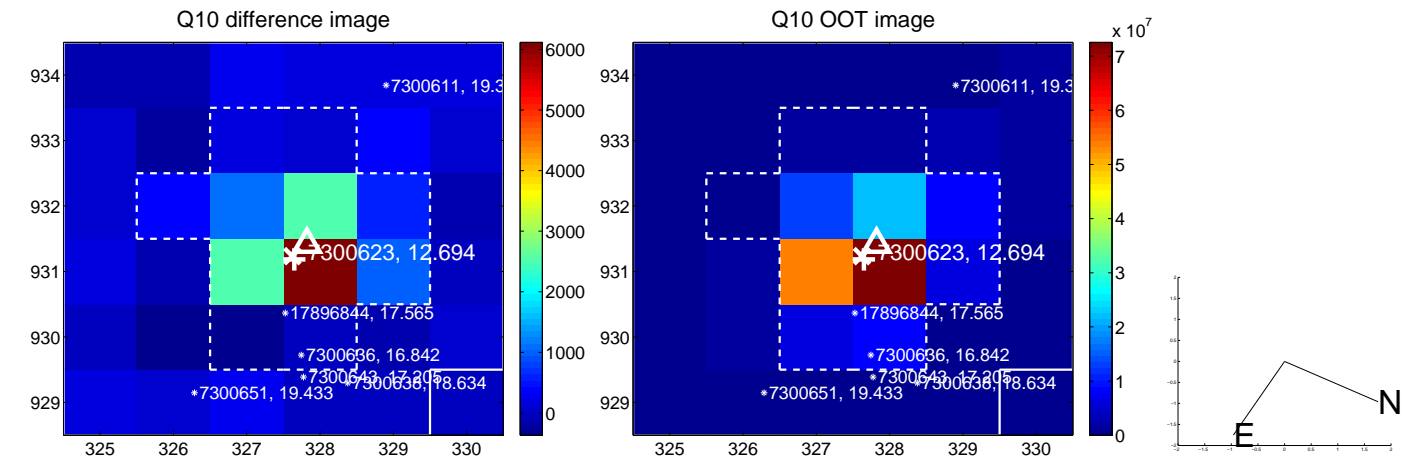
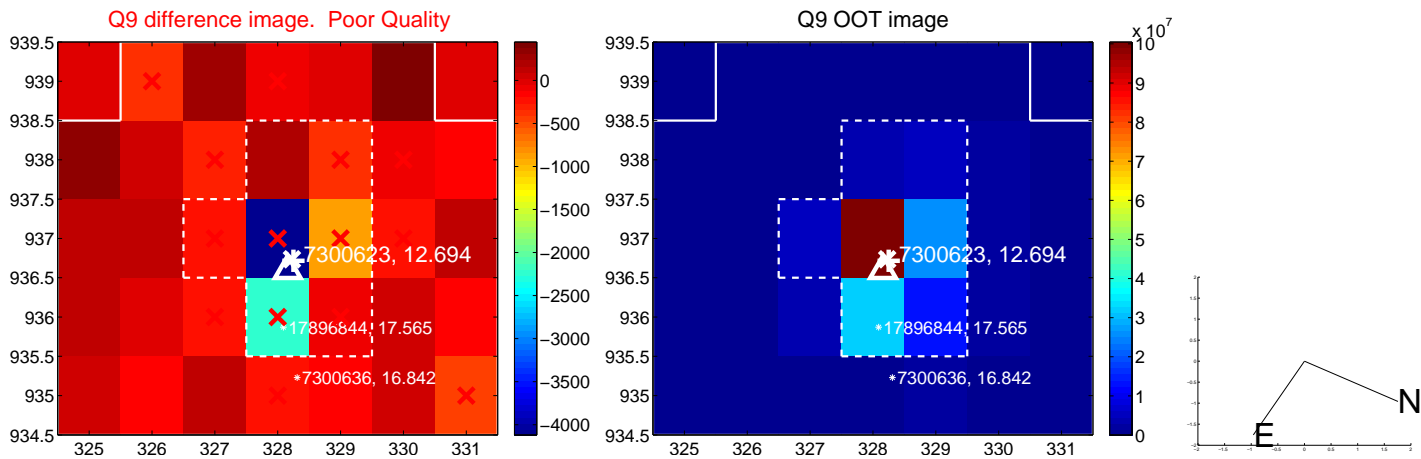
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



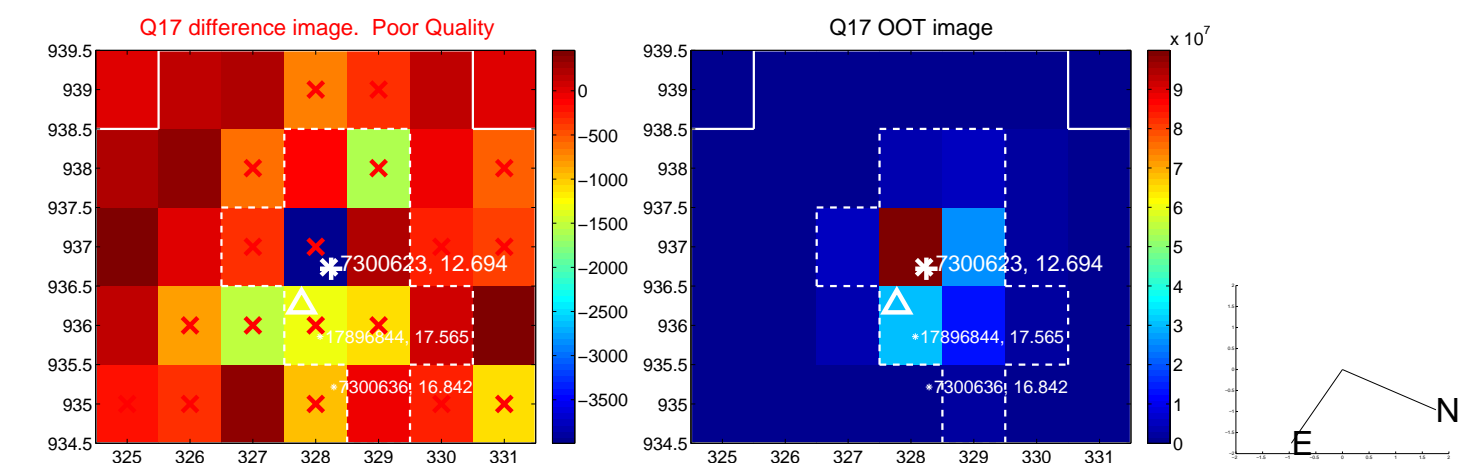
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



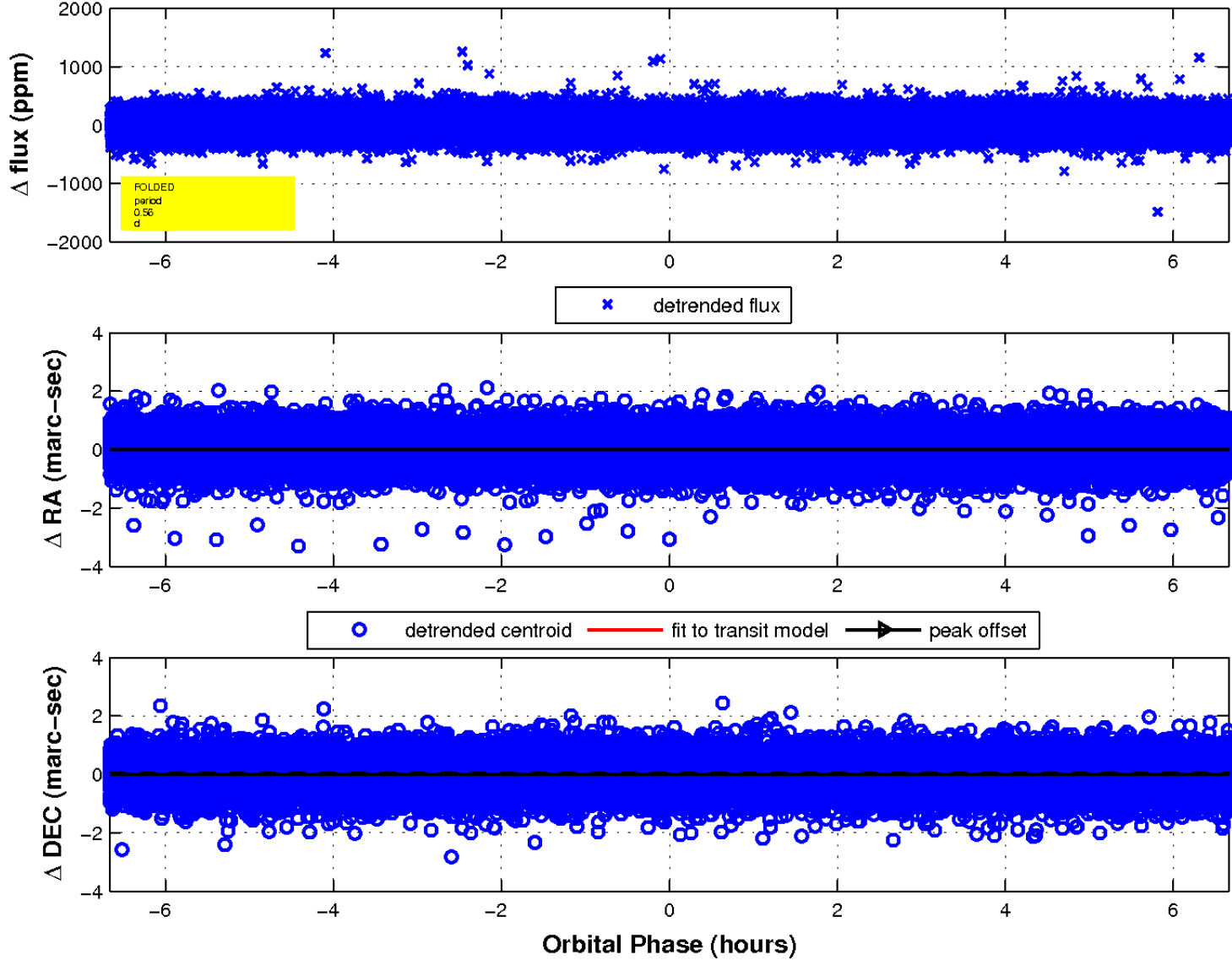
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 4 of 4



UKIRT Image

Declination

