

KIC 005722895

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})
005722895-01	OBS	No	1.928152	132.708277	68.0	6.251	11.6	12.2	1.43	6912	2.06	3864.41
005722895-02	OBS	No	1.231220	132.339136	46.4	5.250	8.9	10.4	1.43	6912	1.03	7027.87
005722895-03	OBS	No	256.502488	152.500725	651.4	10.787	9.4	9.8	1.43	6912	4.06	5.69
005722895-04	OBS	No	111.771146	162.567326	350.6	8.659	8.6	6.3	1.43	6912	2.92	17.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005722895-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
005722895-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005722895-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005722895-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

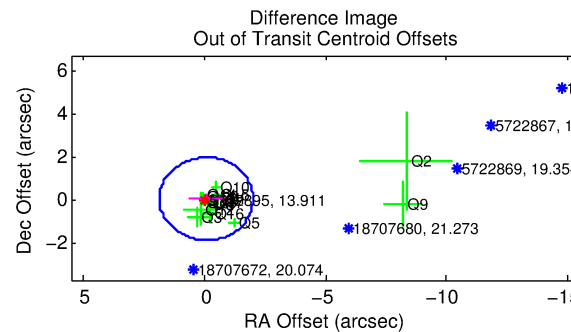
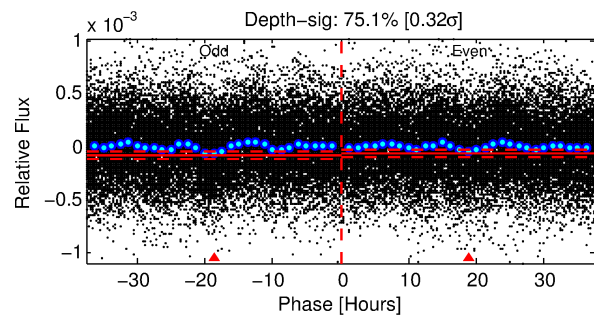
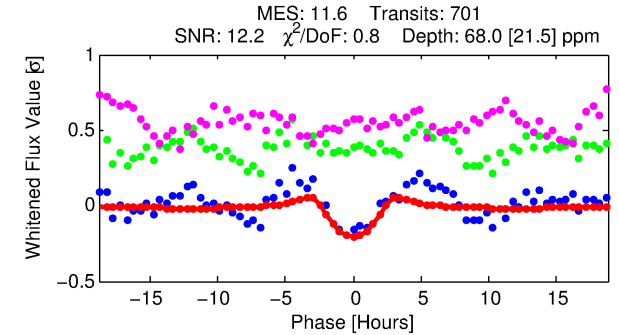
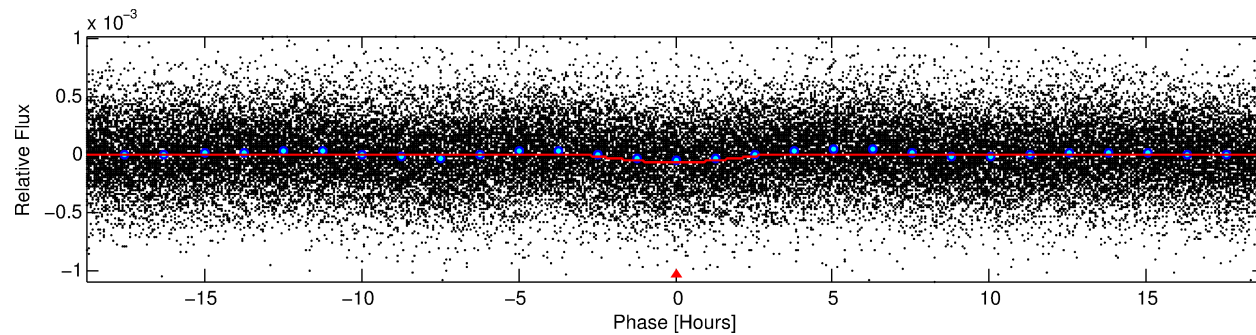
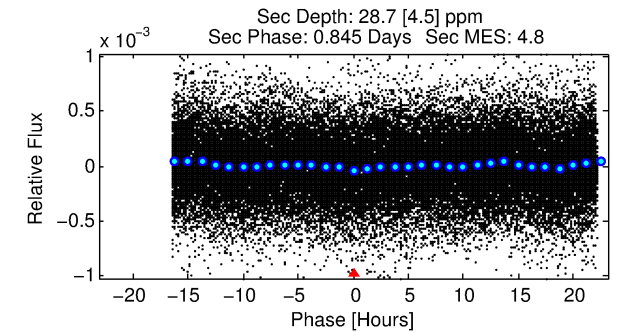
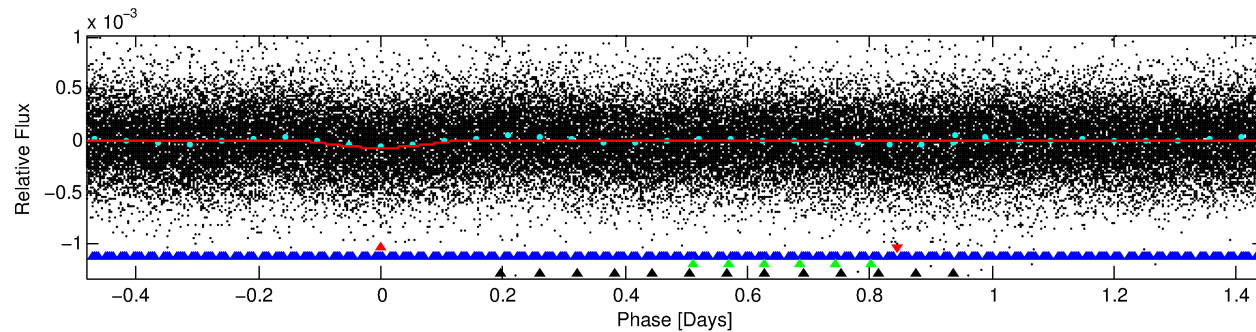
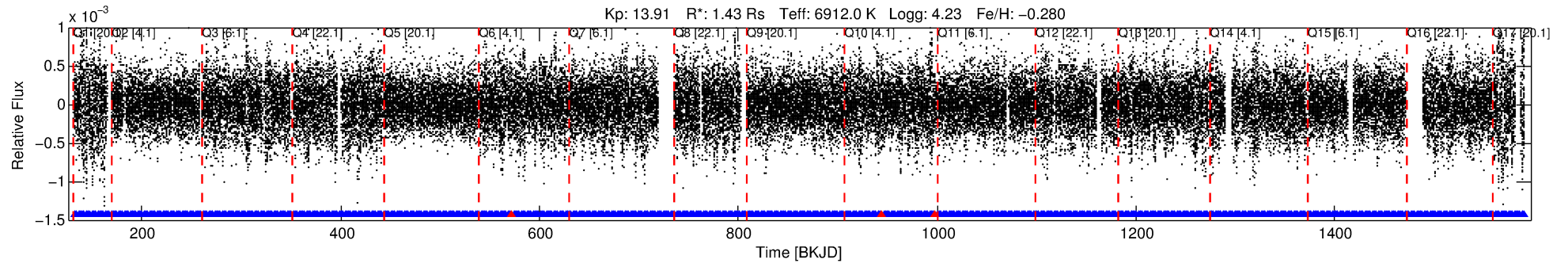
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005722895-01

No Significant Match Found

DV One-Page Summary

KIC: 5722895 Candidate: 1 of 4 Period: 1.928 d



DV Fit Results:

Period = 1.92815 [0.00002] d
Epoch = 132.7083 [0.0072] BKJD
Rp/R* = 0.0132 [0.0127]
a/R* = 1.09 [0.04]
b = 1.00 [0.02]
Seff = 3864.41 [1587.02]
Teq = 2010 [206] K
Rp = 2.06 [2.09] Re
a = 0.0329 [0.0085] AU
Ag = 4.03 [7.94] [0.38σ]
Teffp = 4405 [2138] K [1.11σ]

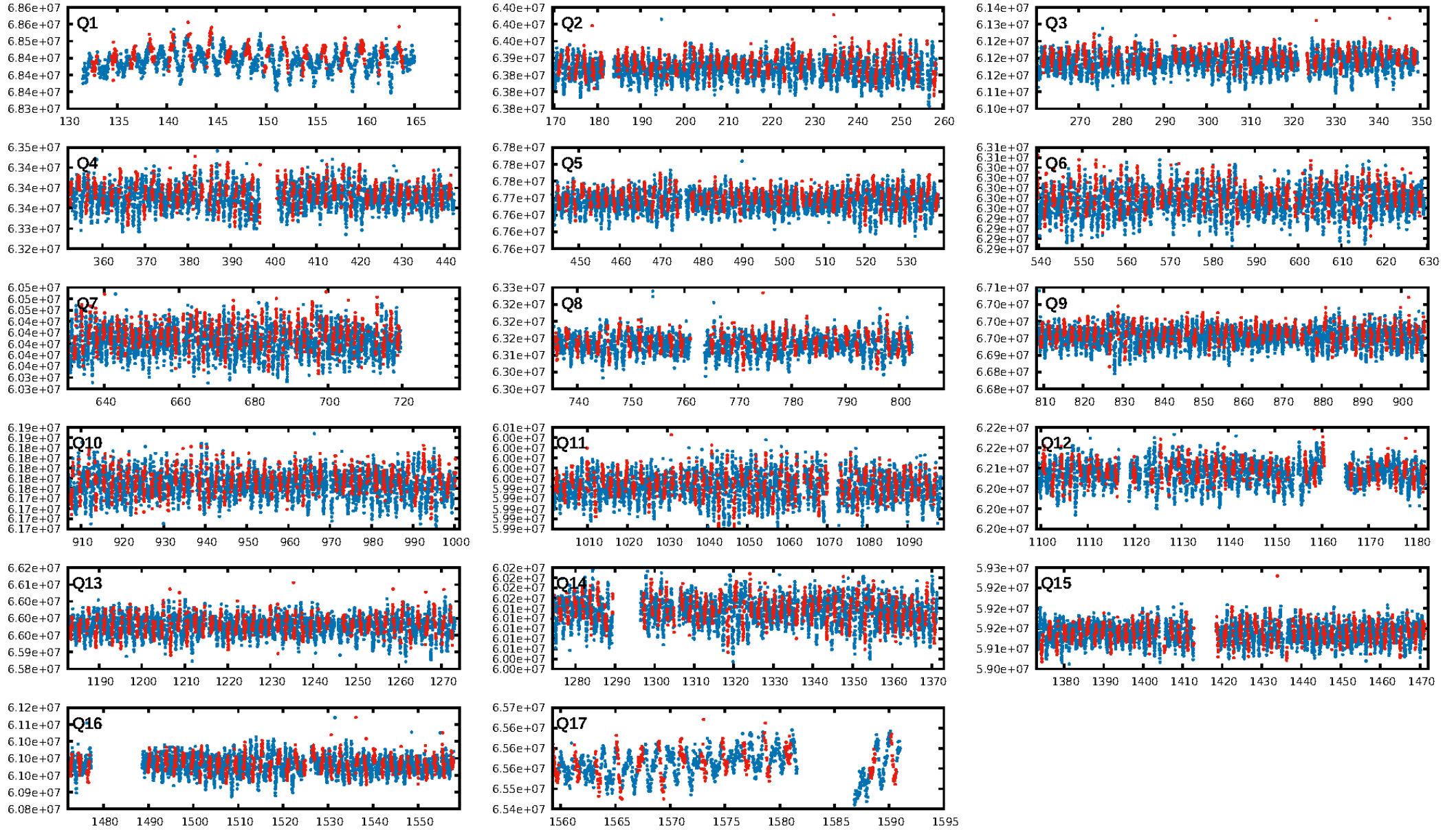
DV Diagnostic Results:

ShortPeriod-sig: 96.0% [2.05σ]
LongPeriod-sig: 100.0% [246.85σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.86e-19
RollingBand-fgt: 1.00 [667/670]
GhostDiagnostic-chr: -5.922
Centroid-sig: 73.9%
Centroid-so: 0.412 arcsec [0.67σ]
OotOffset-rm: 0.089 arcsec [0.14σ]
KicOffset-rm: 0.177 arcsec [0.34σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.69 [11/16]
DiffImageOverlap-fno: 0.00 [0/17]

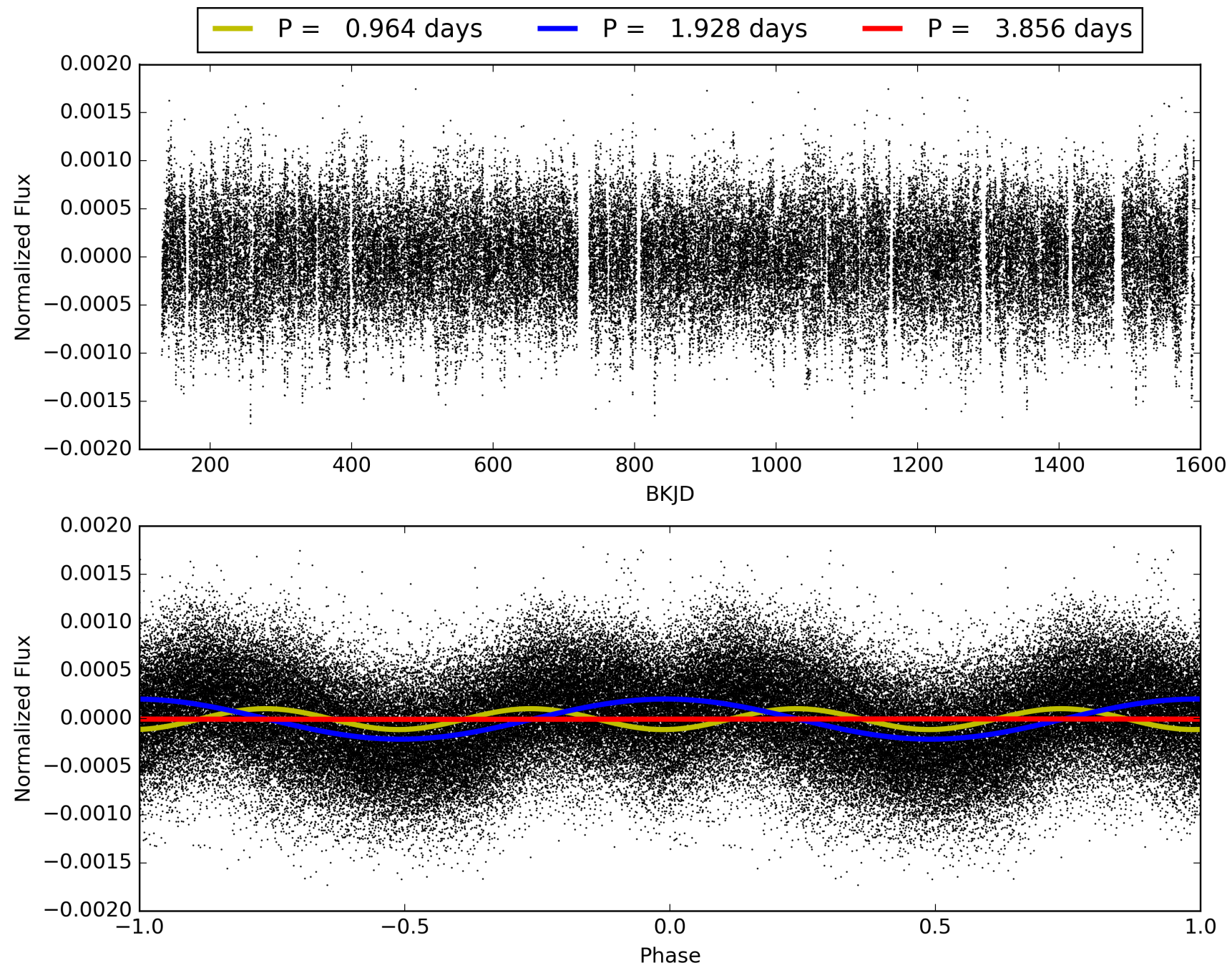
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005722895-01, PDC Light Curves

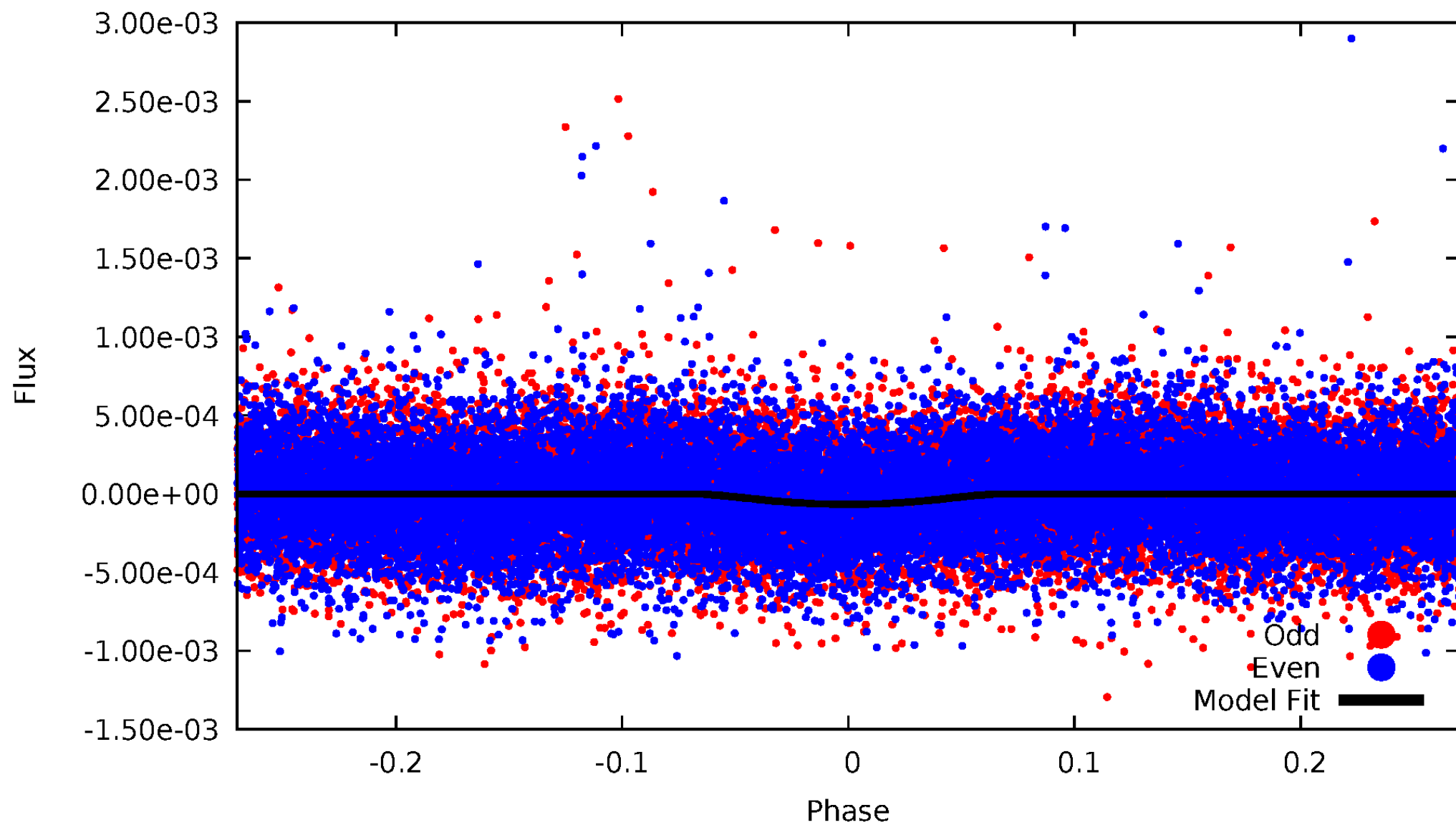


TCE 005722895-01



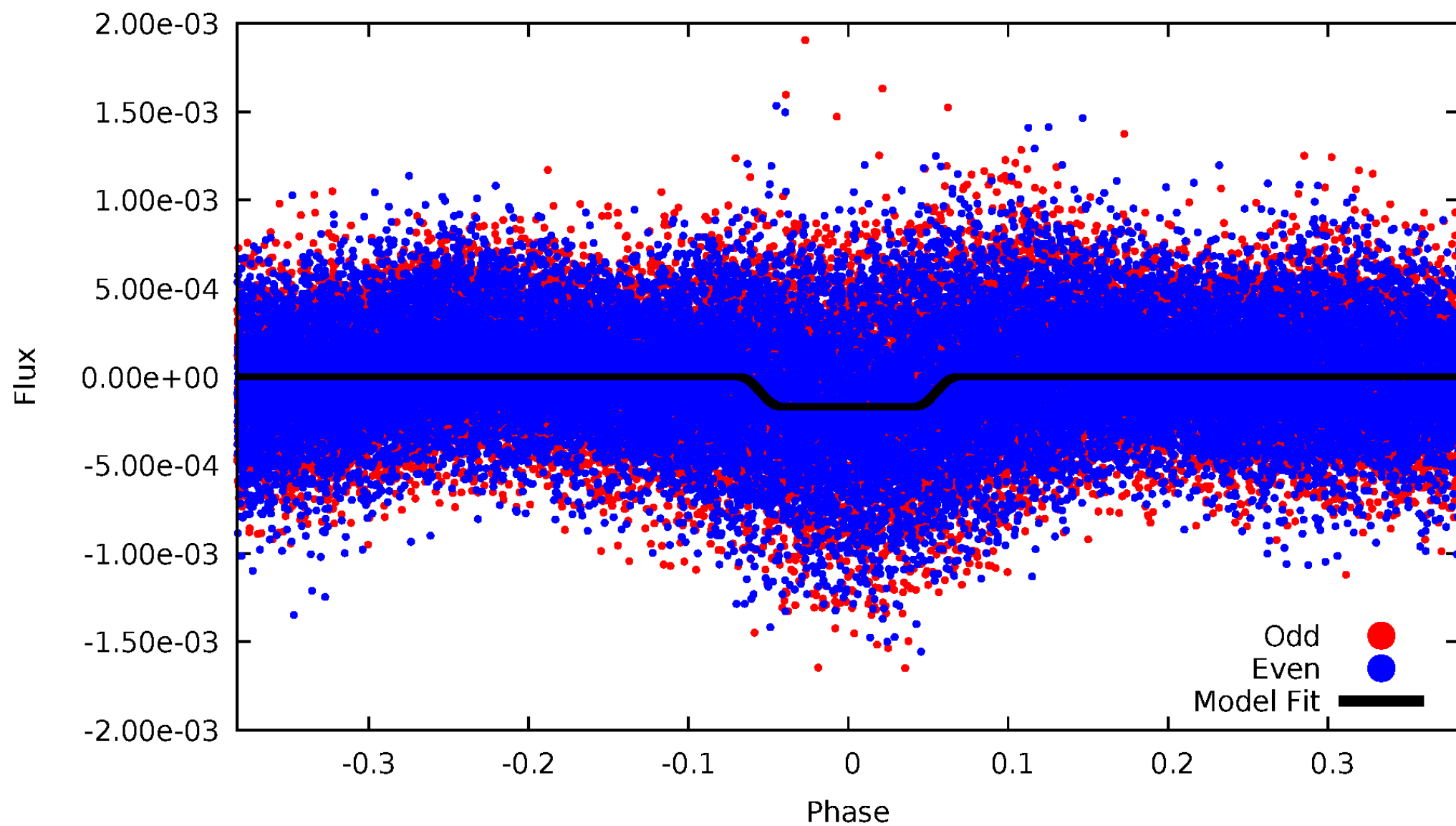
DV Odd/Even

TCE 005722895-01



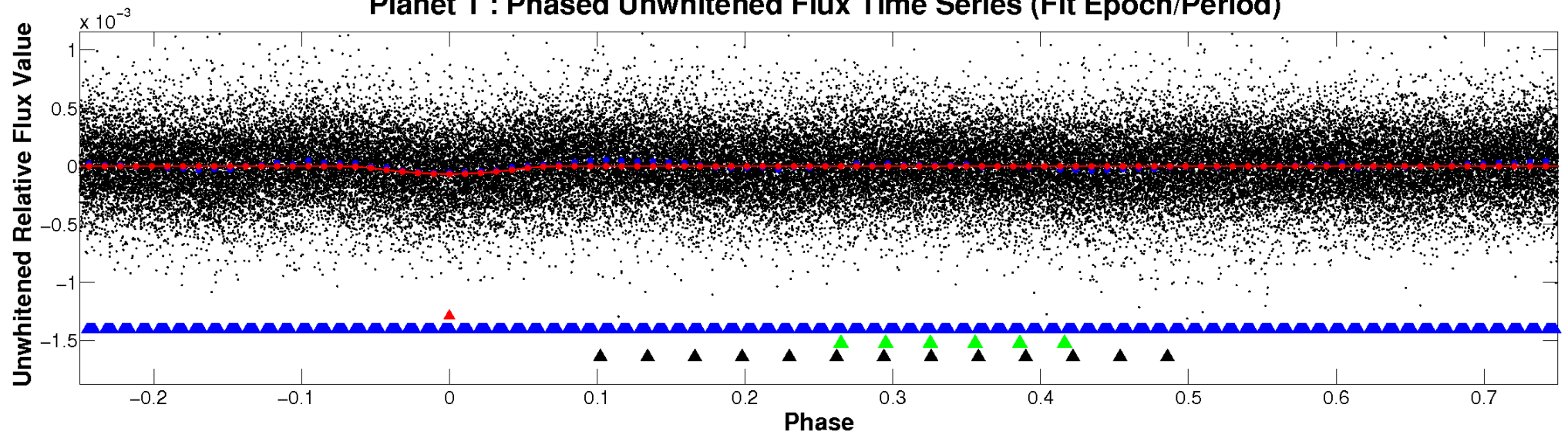
ALT Odd/Even

TCE 005722895-01

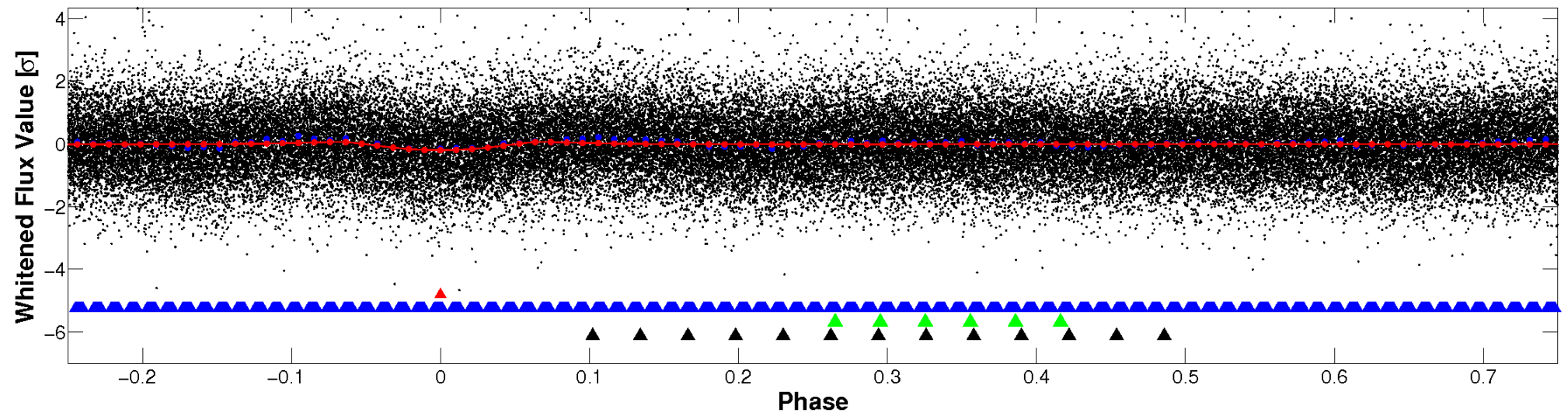


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

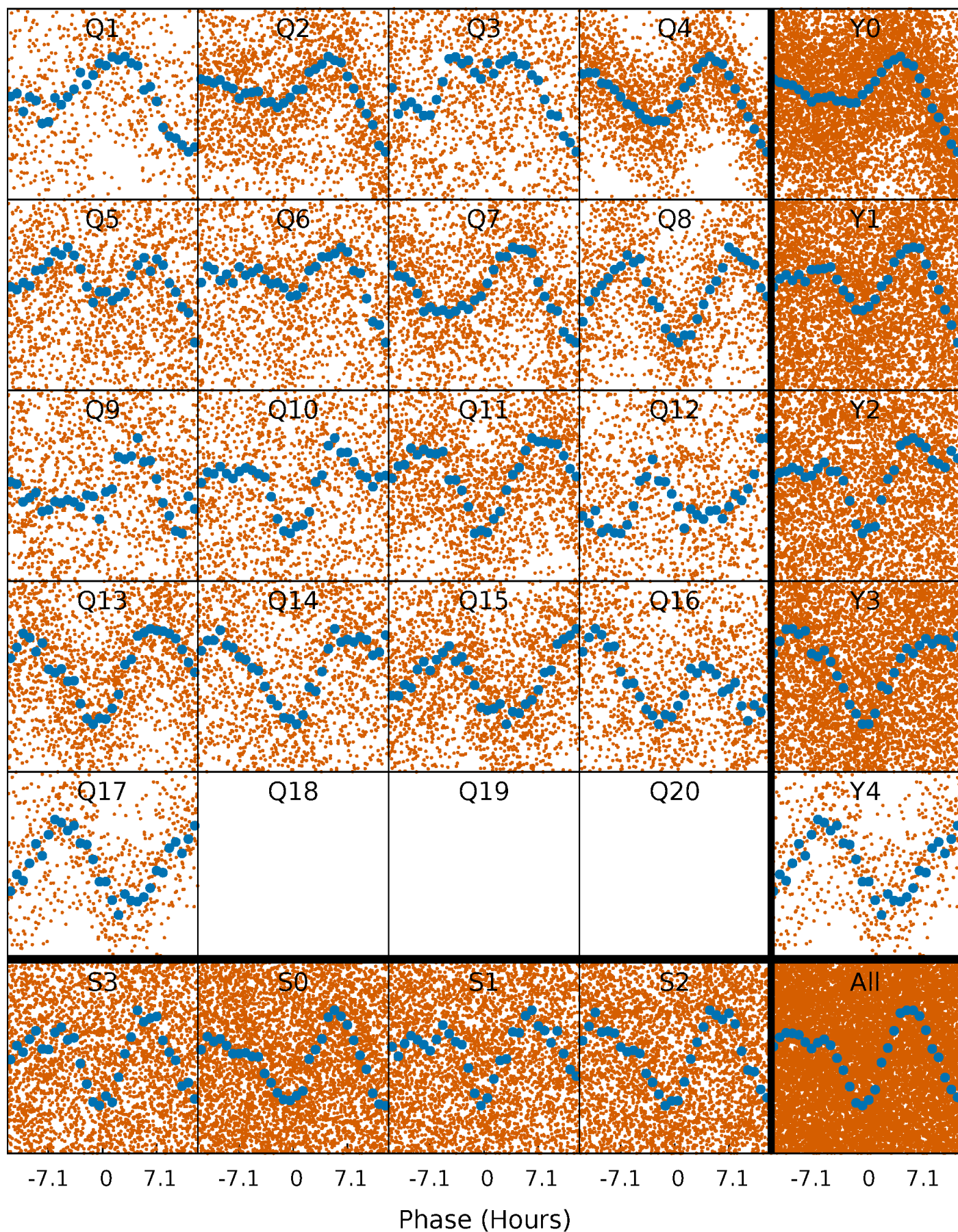


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



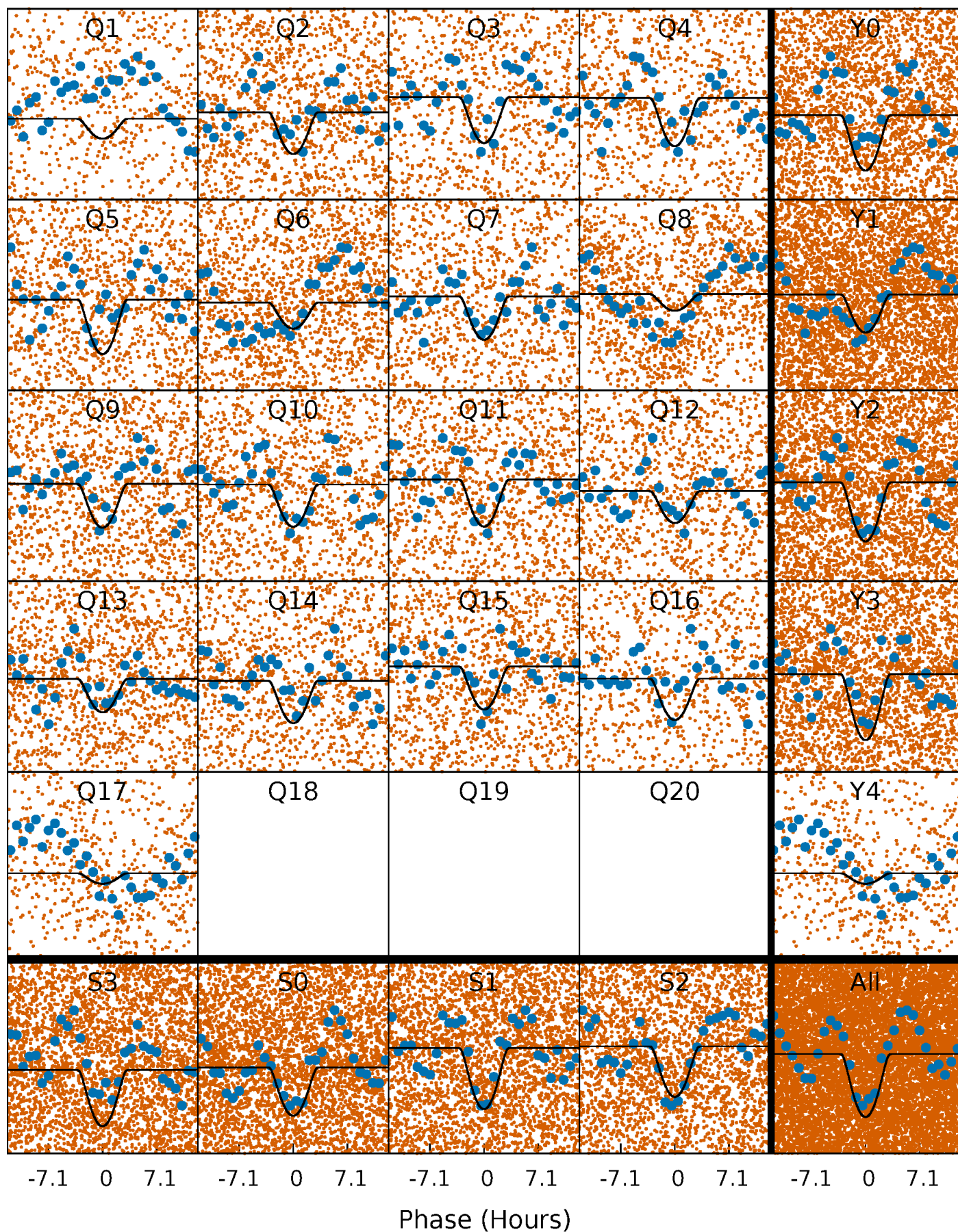
PDC Quarter-Phased Transit Curves

TCE 005722895-01 P= 1.928152 Days $T_0=132.708277$ (BKJD)



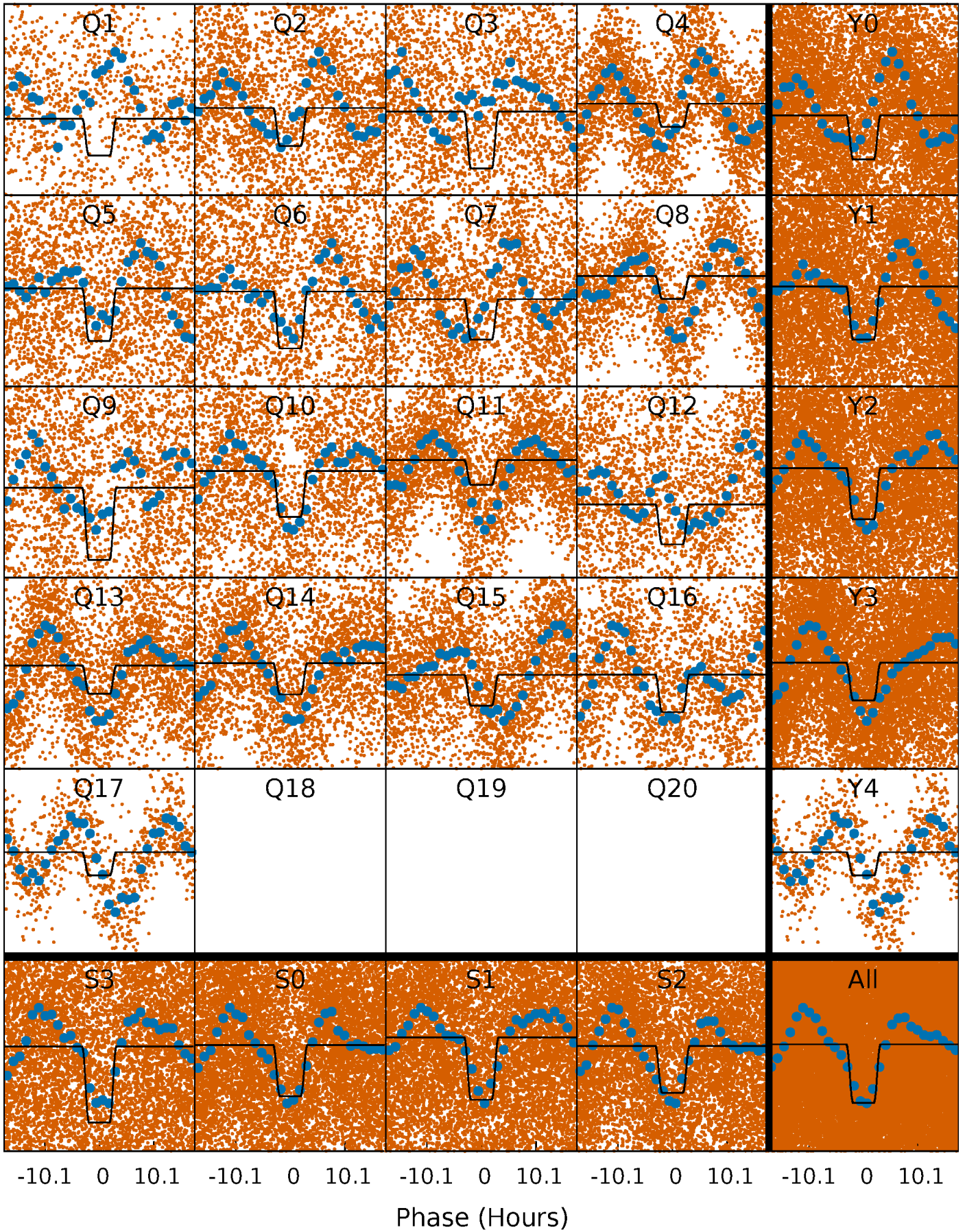
DV Quarter-Phased Transit Curves

TCE 005722895-01 P= 1.928152 Days $T_0=132.708277$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

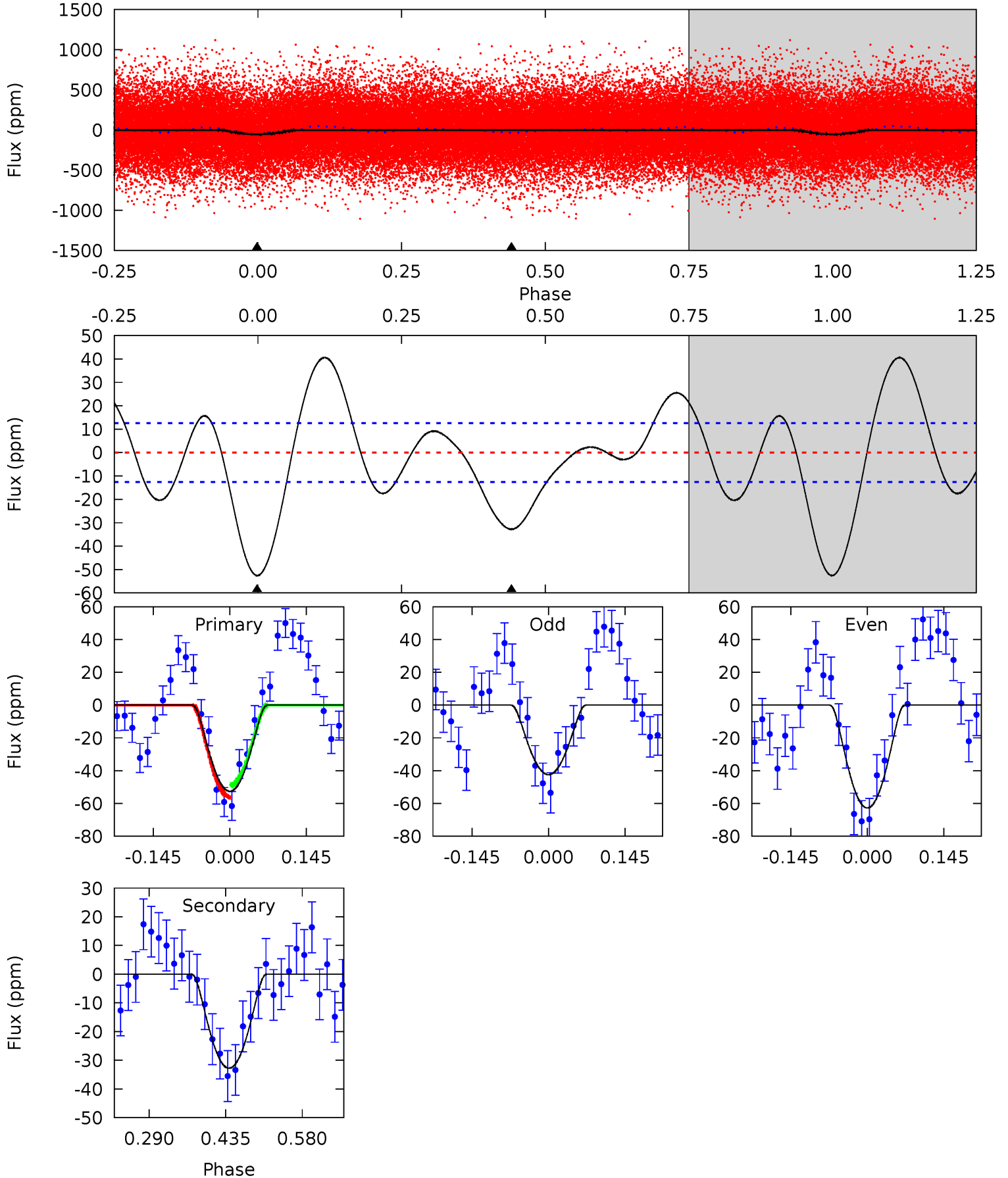
TCE 005722895-01 P= 1.928106 Days $T_0=132.702517$ (BKJD)



DV Model-Shift Uniqueness Test

005722895-01, P = 1.928152 Days, E = 130.780125 Days

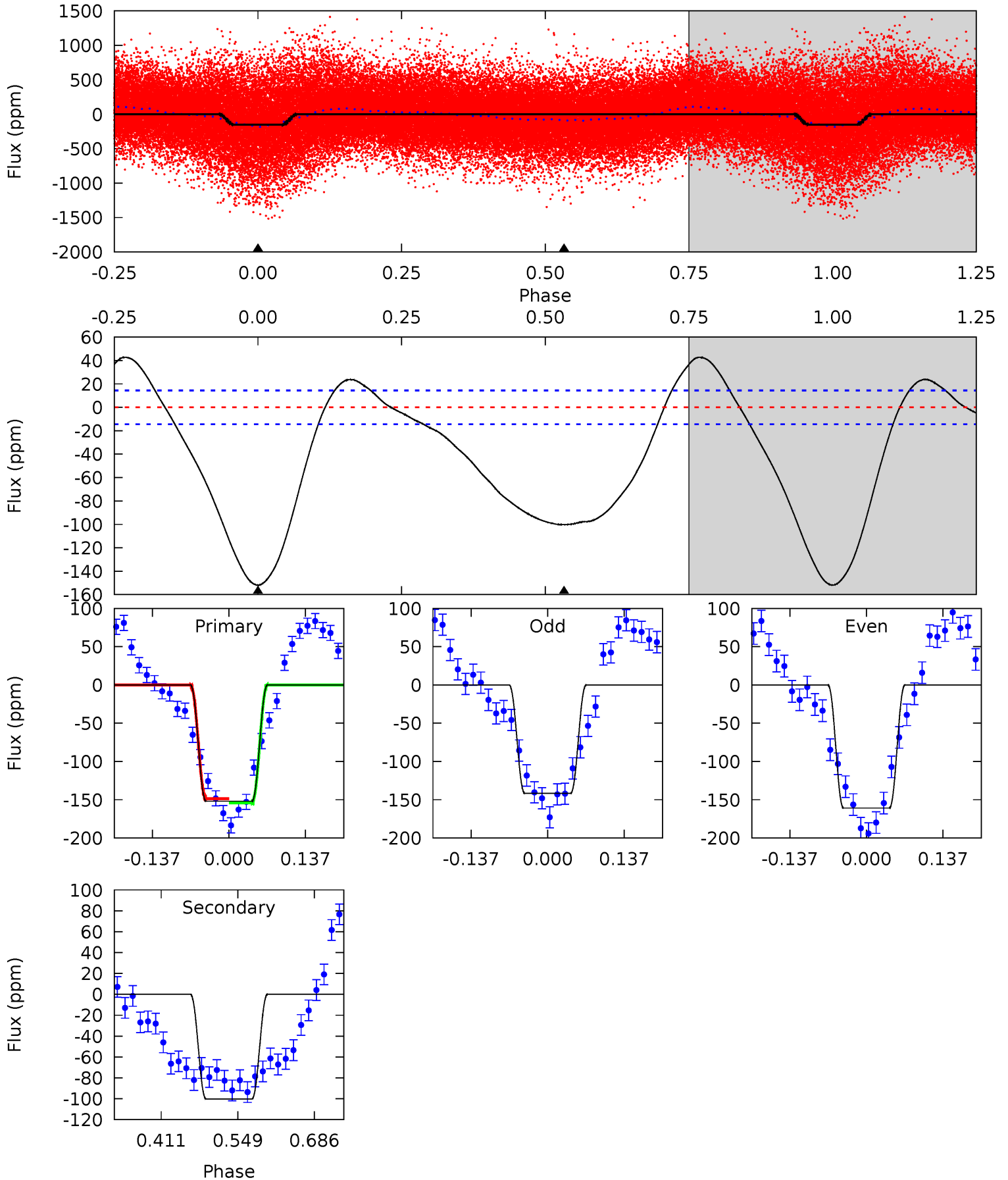
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	11.7	0	0	4.49	1.46	4.95	18.8	18.8	11.7	11.7	3.63	1.10	0.44	1.24



Alt Model-Shift Uniqueness Test

005722895-01, P = 1.928106 Days, E = 130.774411 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.4	31.3	0	0	4.50	1.49	8.31	47.4	47.4	31.3	31.3	3.01	1.03	0.22	0.88



Stellar Parameters For KIC 005722895

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6912^{+192}_{-301}	$4.234^{+0.124}_{-0.201}$	$-0.280^{+0.250}_{-0.350}$	$1.432^{+0.446}_{-0.260}$	$1.291^{+0.198}_{-0.198}$	$0.619^{+0.391}_{-0.326}$
	+3%/-4%	+3%/-5%	+89%/-125%	+31%/-18%	+15%/-15%	+63%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005722895-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-33 ± 3	$2.47^{+1.96}_{-1.51}$	2827^{+223}_{-173}	4283^{+2417}_{-884}	$3.257^{+17.852}_{-2.237}$
Alt.	-100 ± 3	$2.53^{+2.08}_{-1.59}$	2833^{+221}_{-195}	5476^{+4023}_{-1248}	$9.370^{+57.544}_{-6.521}$

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 $A_{obs} \gg 1.0$

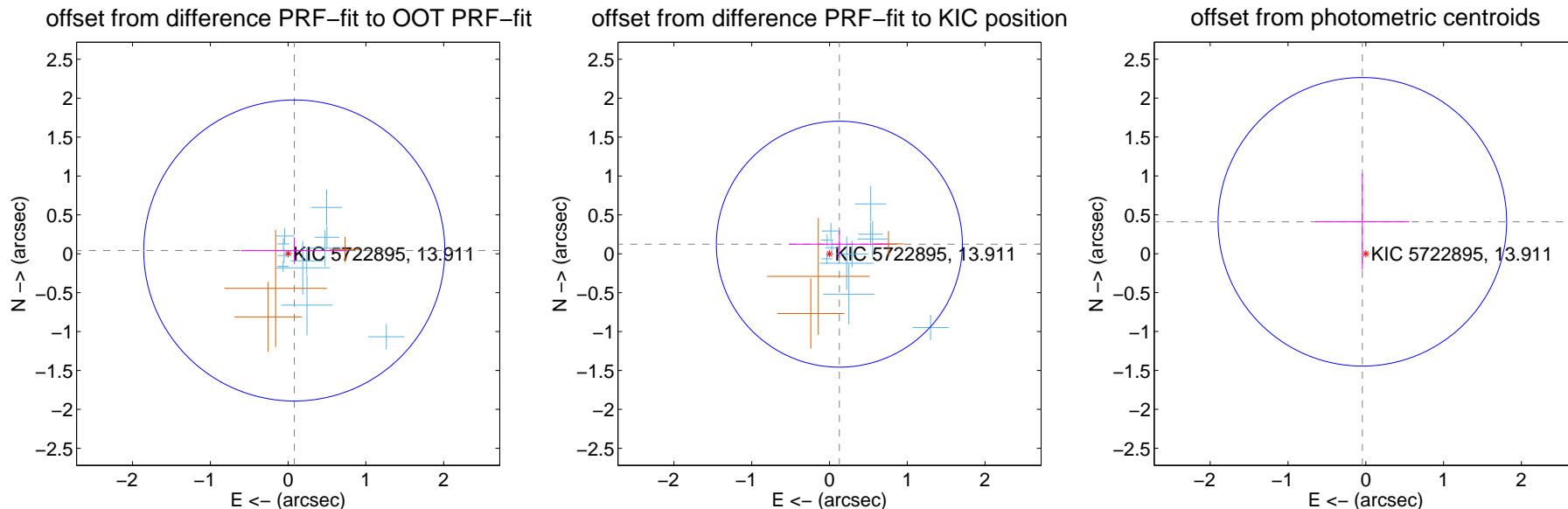
DV Centroid Data

Supplemental centroid analysis for 005722895-01. Kepler magnitude: 13.91. Transit SNR 12.24

There are 11 quarters with good PRF difference image offsets

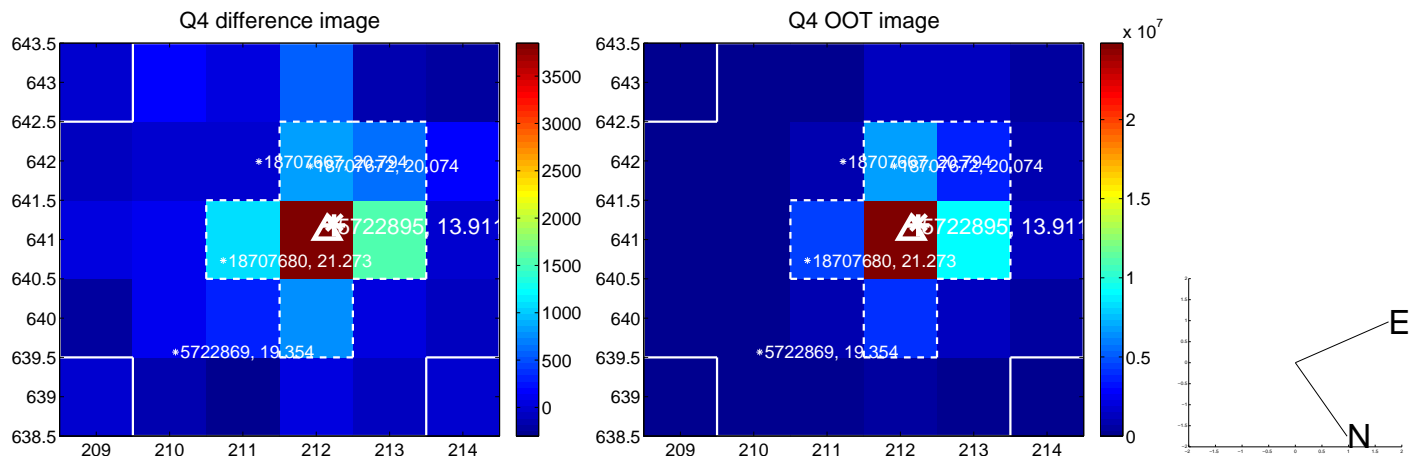
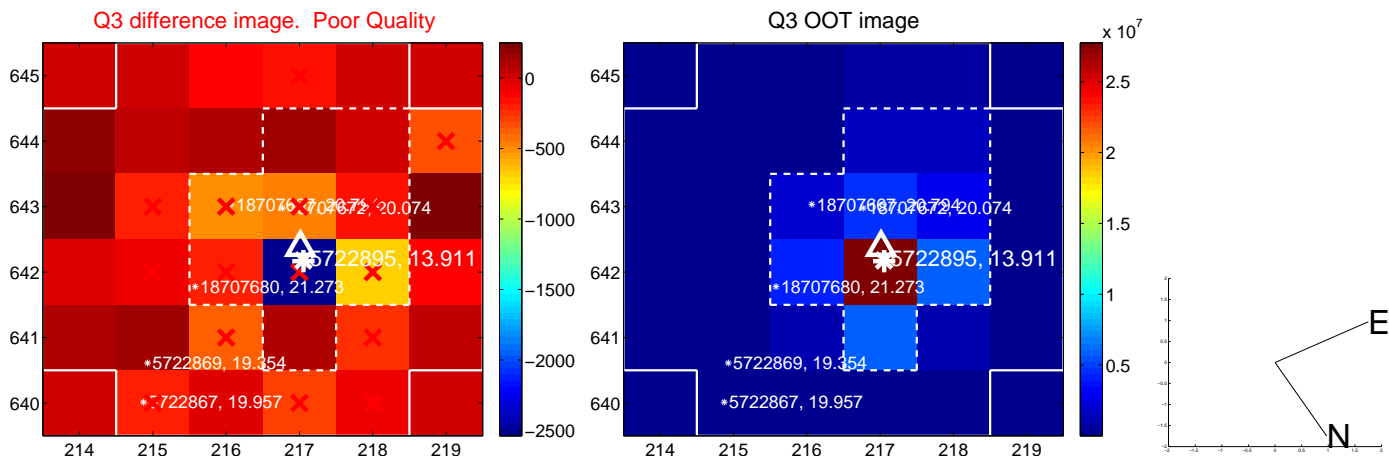
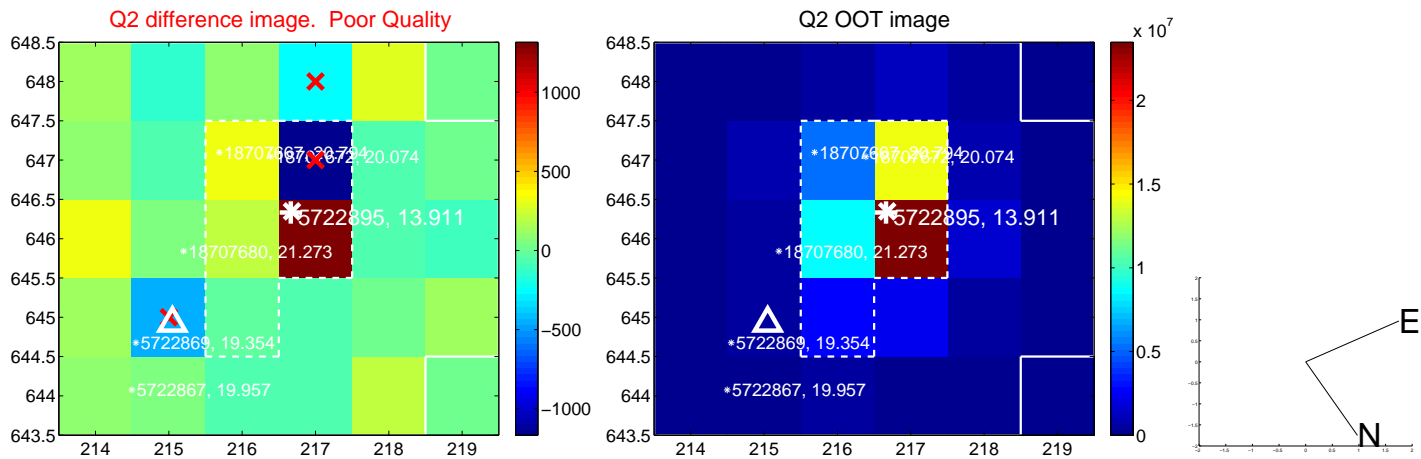
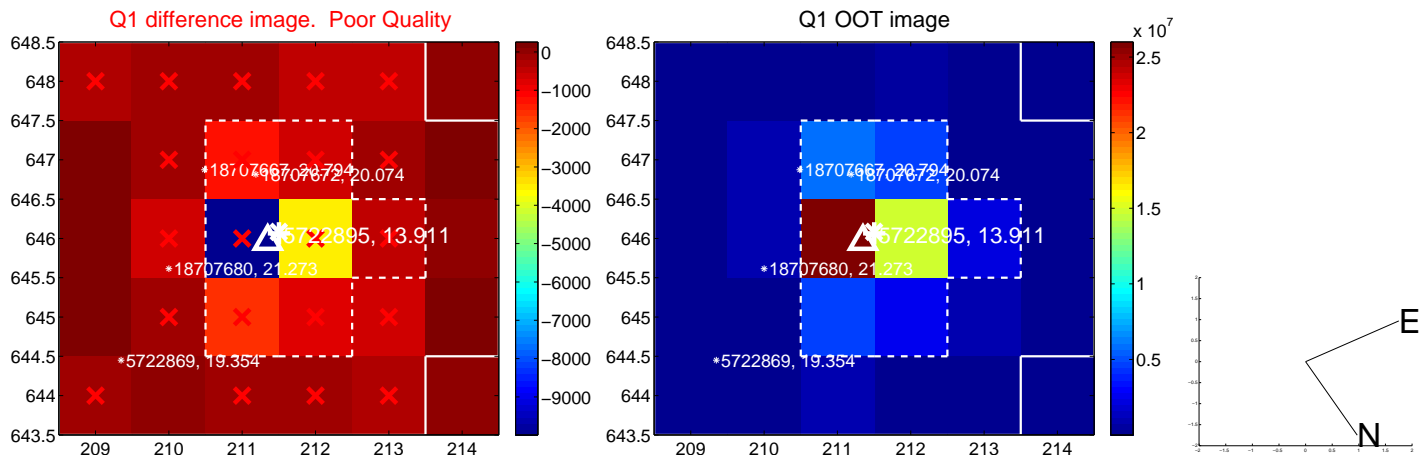
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.089 ± 0.645	0.14	-0.079 ± 0.685	0.042 ± 0.170
PRF-fit source offset from KIC position	0.177 ± 0.527	0.34	-0.127 ± 0.645	0.123 ± 0.167
photometric centroid source offset	0.41 ± 0.62	0.67	0.04 ± 0.60	0.41 ± 0.62

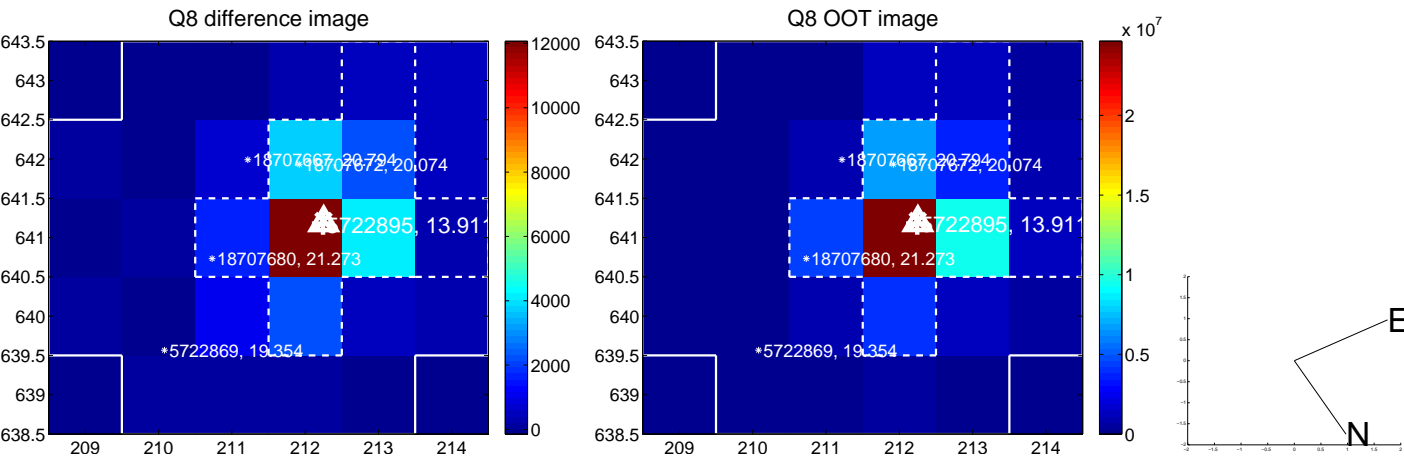
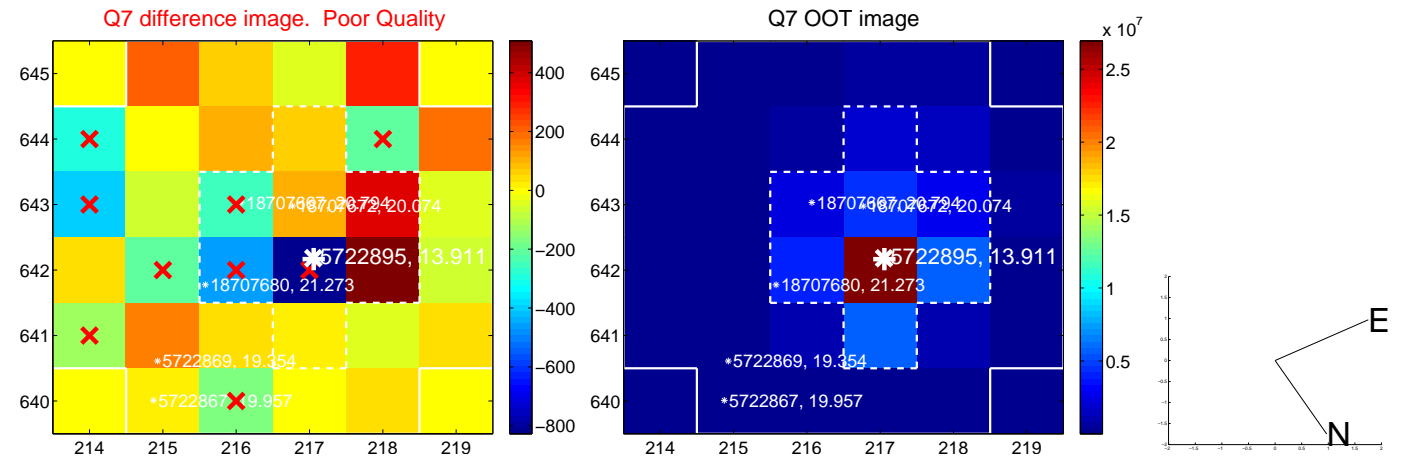
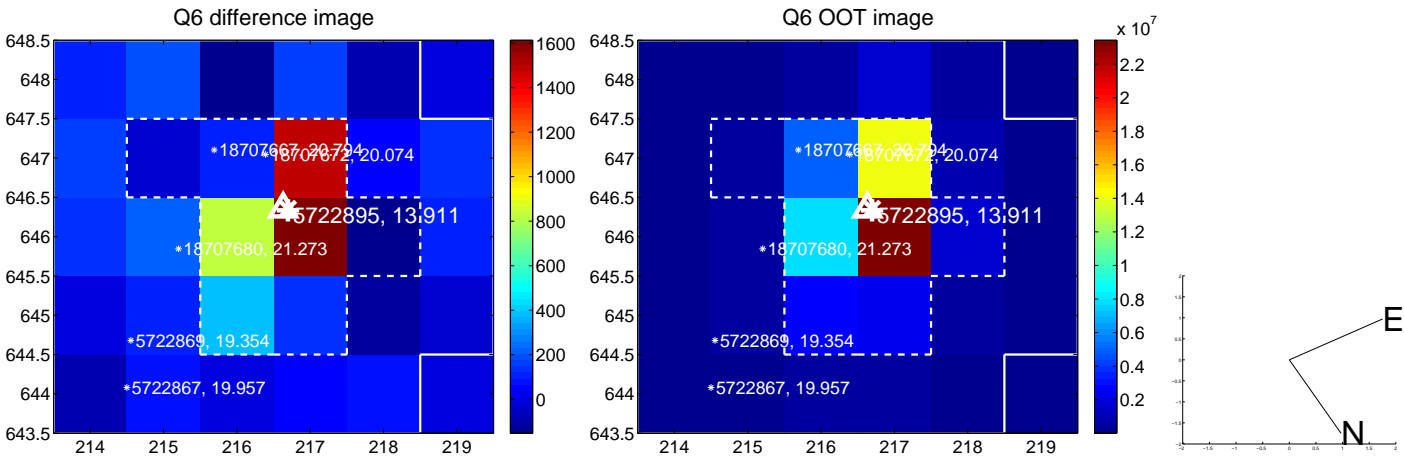
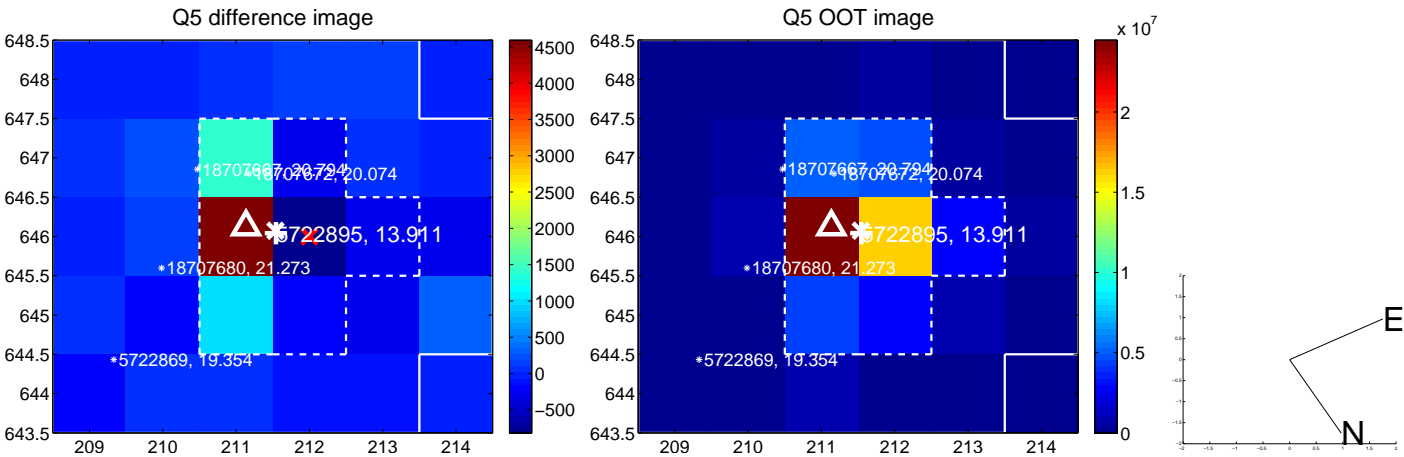


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

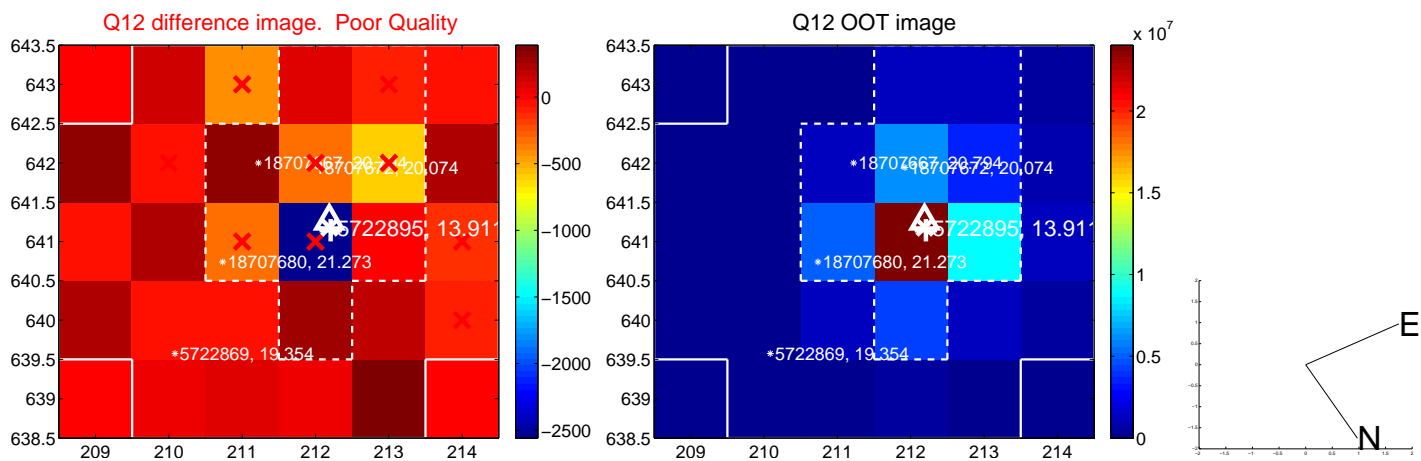
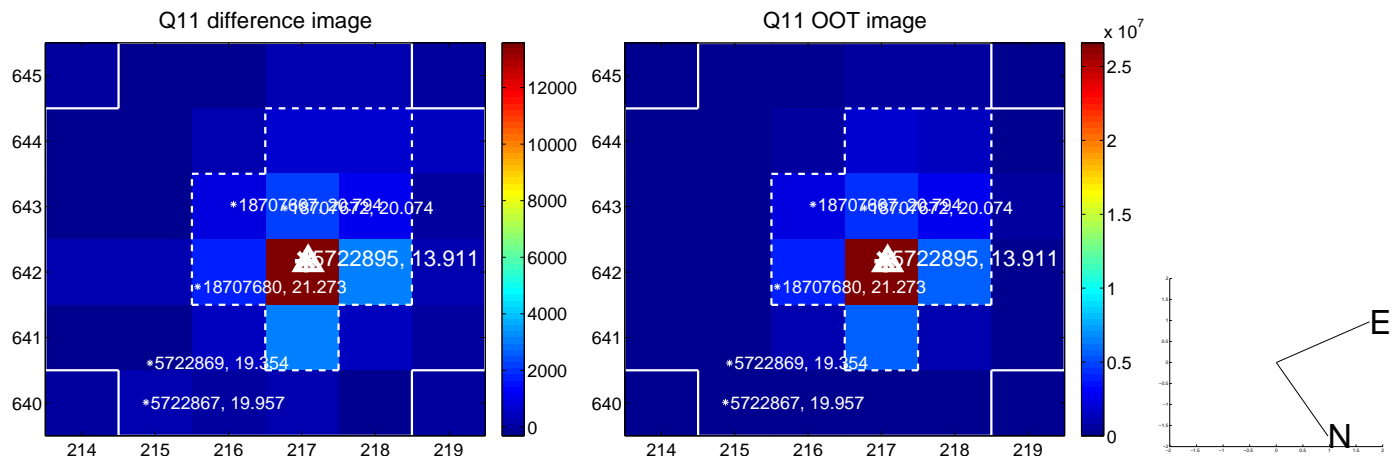
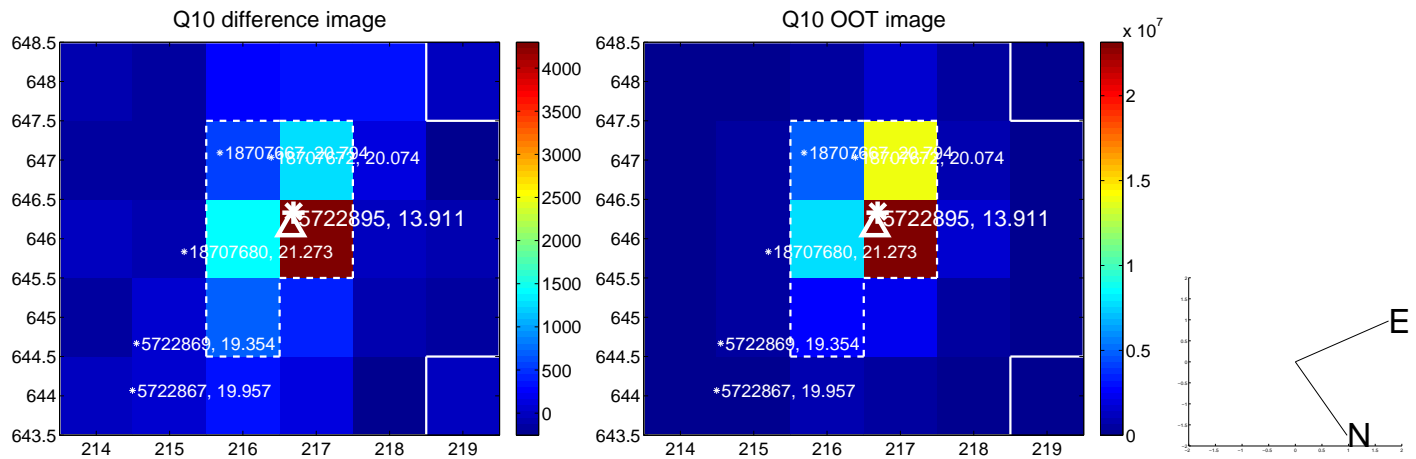
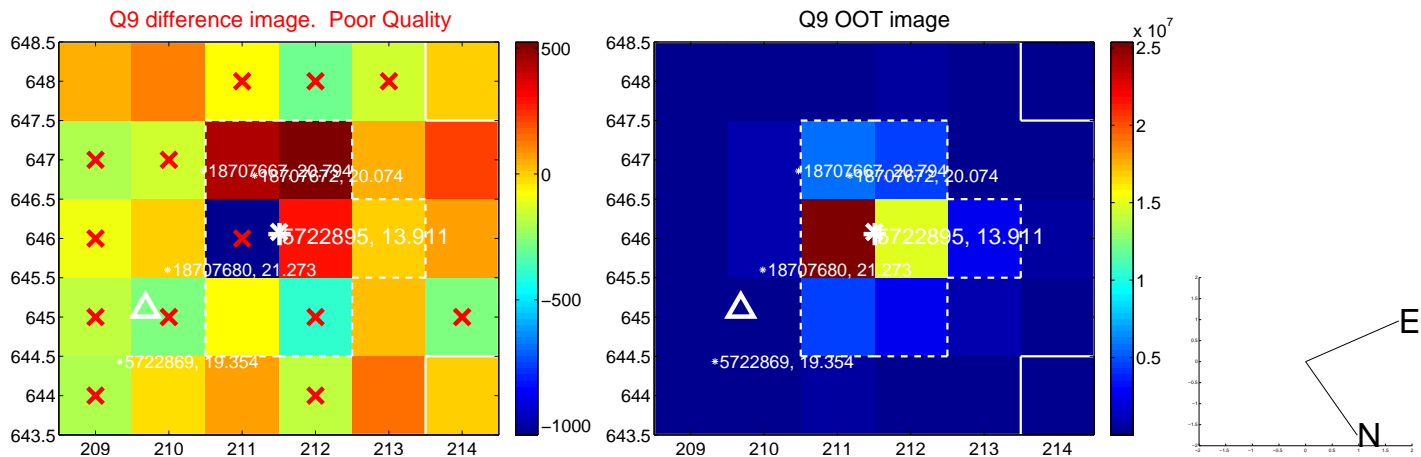
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



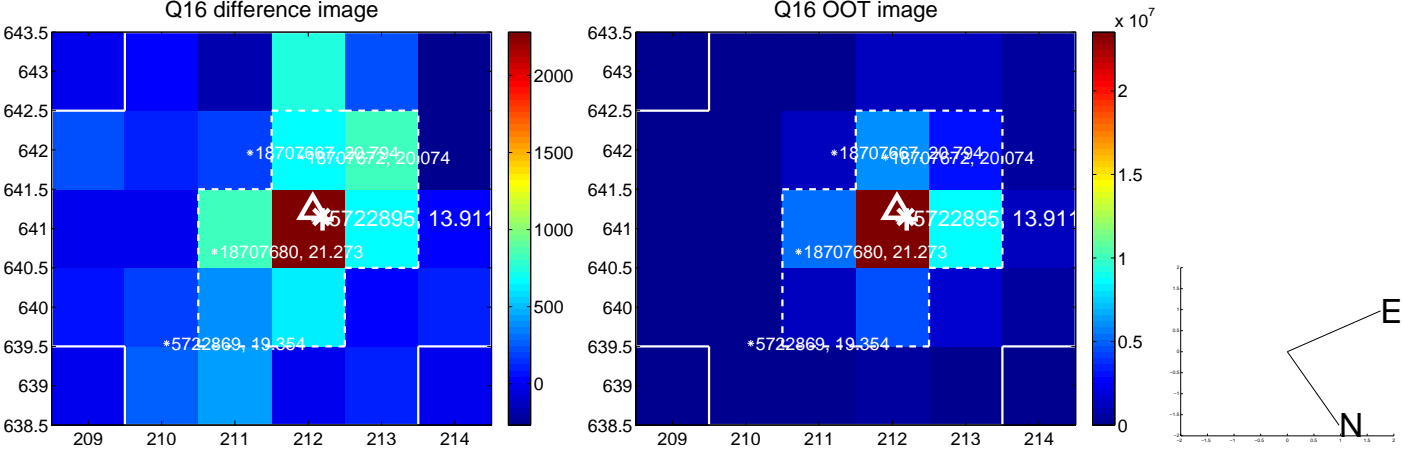
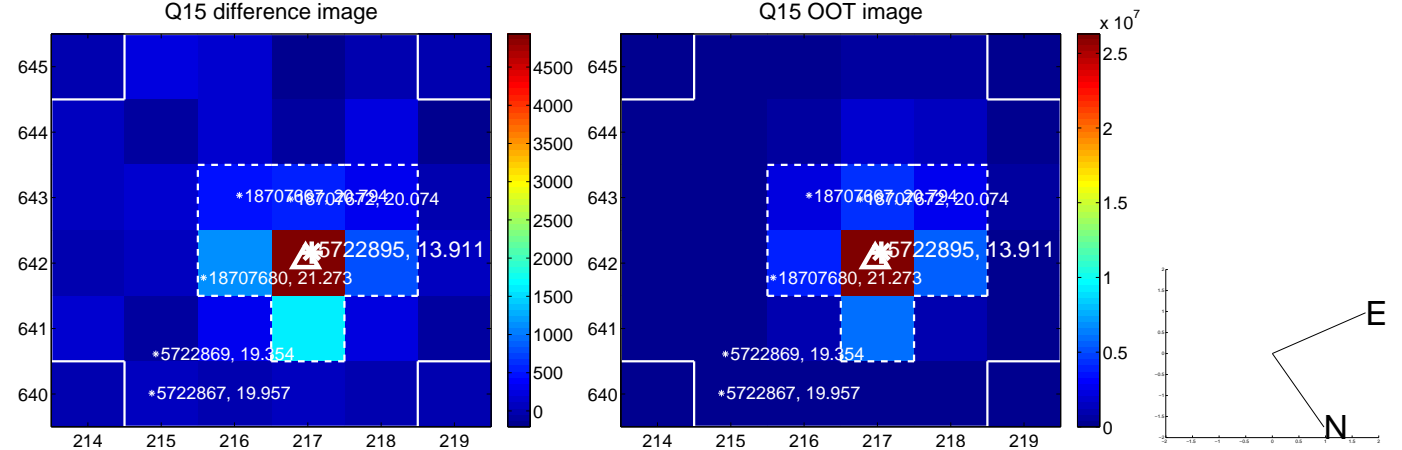
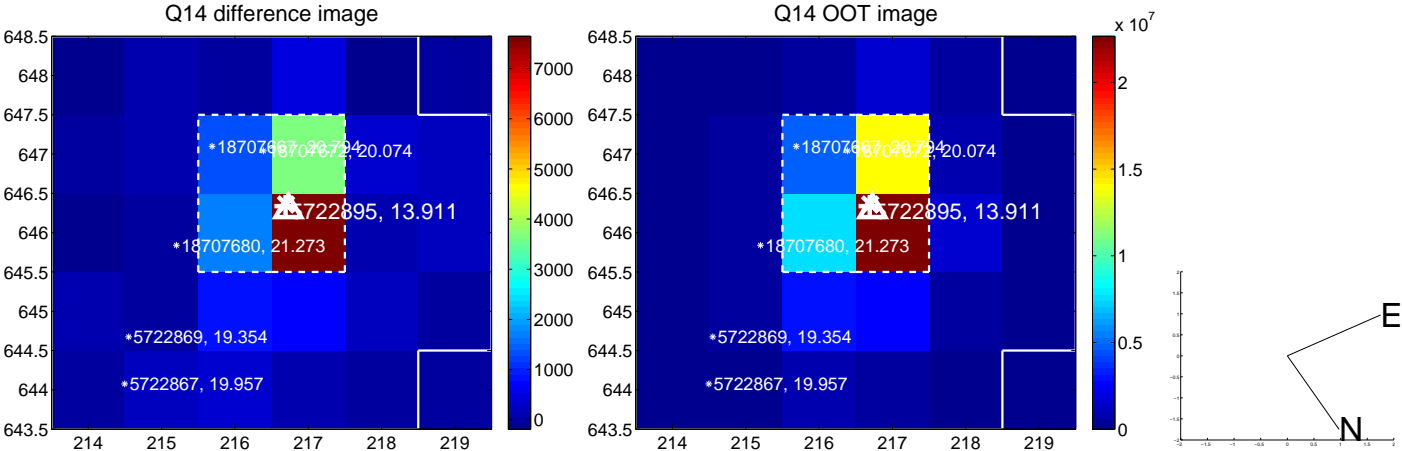
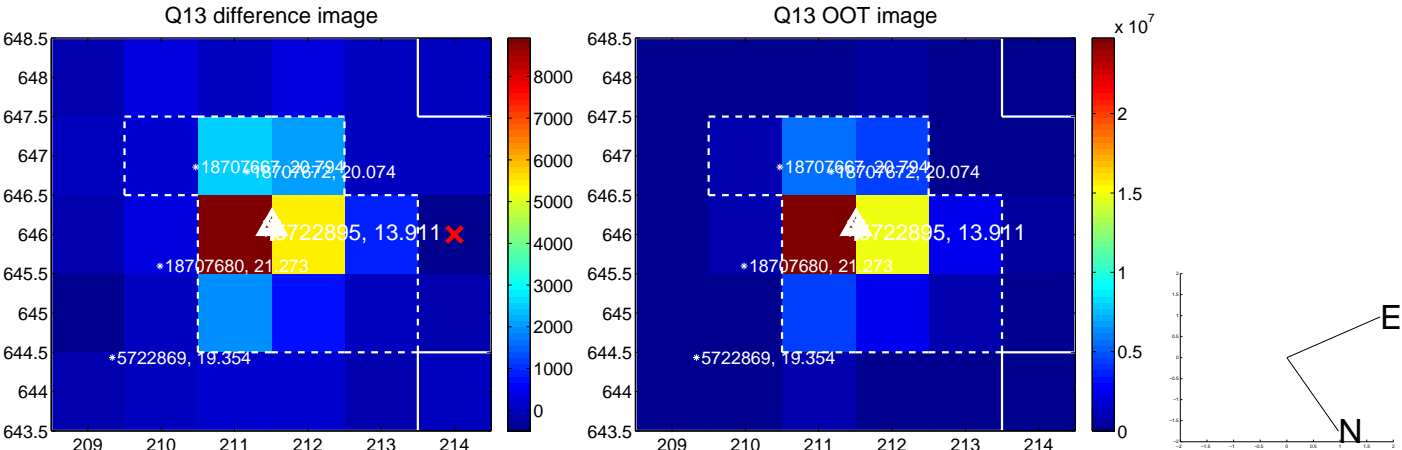
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

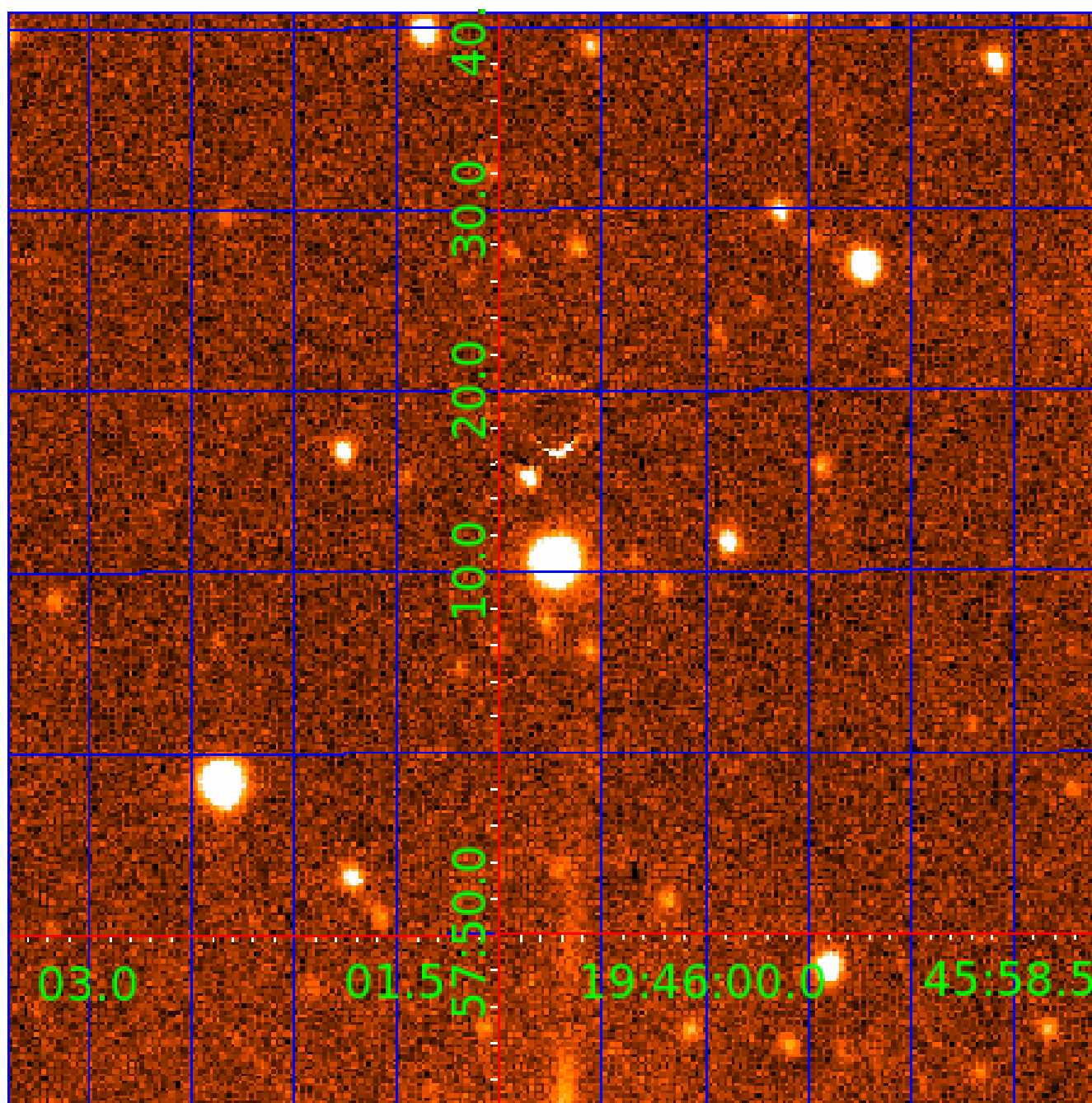


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005722895

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})
005722895-01	OBS	No	1.928152	132.708277	68.0	6.251	11.6	12.2	1.43	6912	2.06	3864.41
005722895-02	OBS	No	1.231220	132.339136	46.4	5.250	8.9	10.4	1.43	6912	1.03	7027.87
005722895-03	OBS	No	256.502488	152.500725	651.4	10.787	9.4	9.8	1.43	6912	4.06	5.69
005722895-04	OBS	No	111.771146	162.567326	350.6	8.659	8.6	6.3	1.43	6912	2.92	17.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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005722895-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005722895-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005722895-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

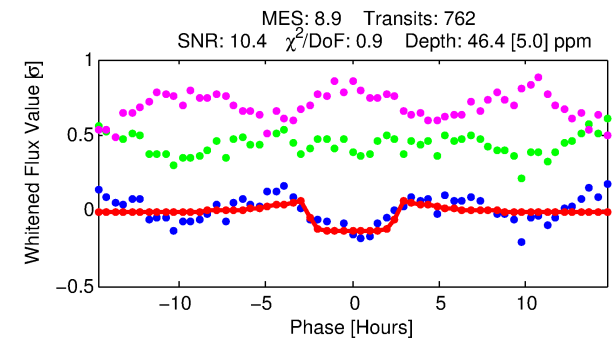
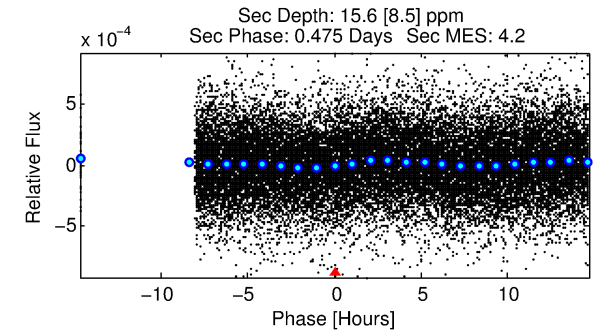
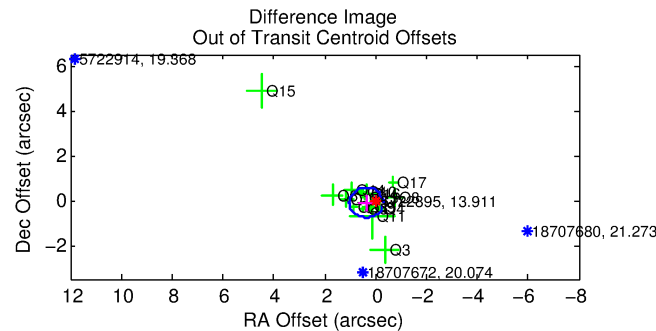
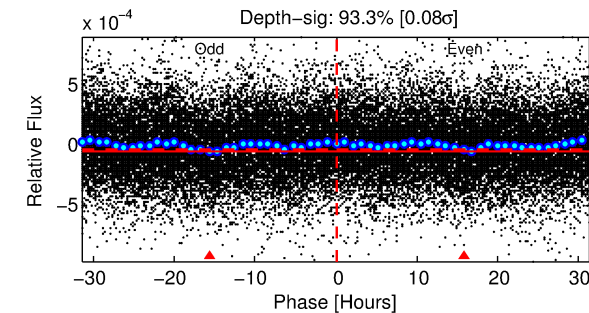
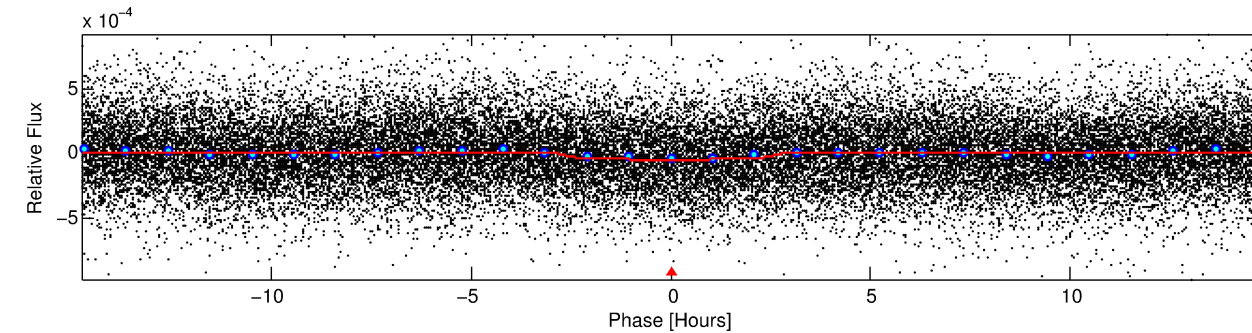
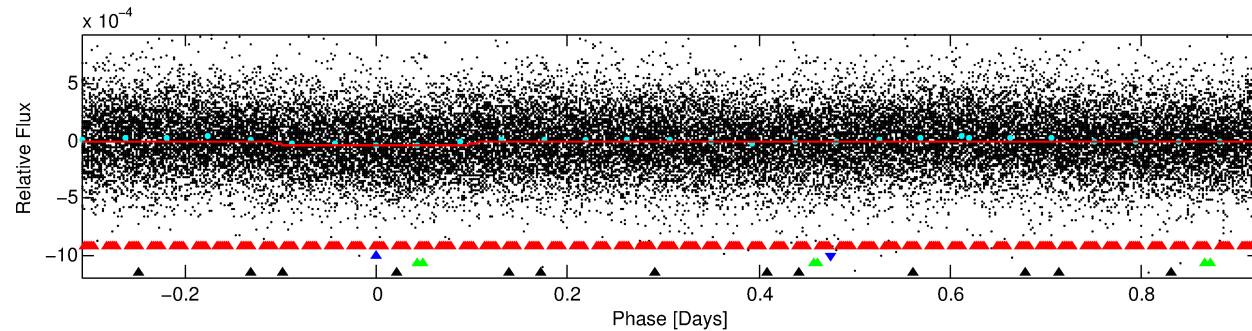
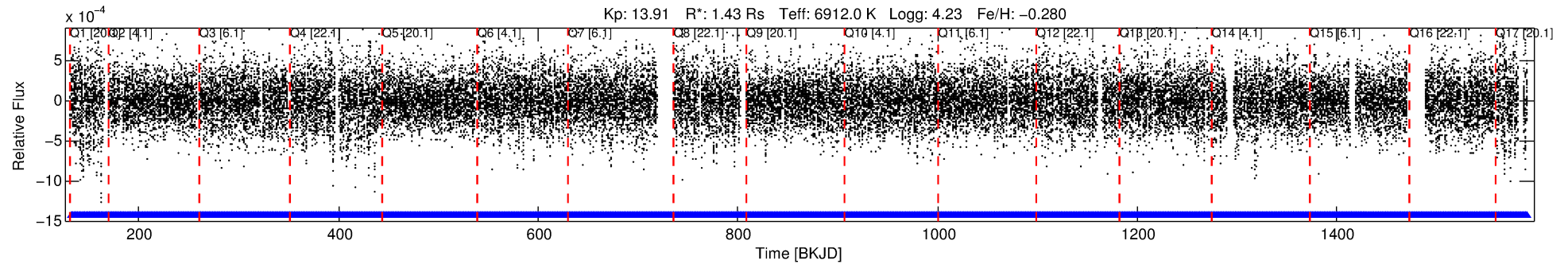
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005722895-02

No Significant Match Found

DV One-Page Summary

KIC: 5722895 Candidate: 2 of 4 Period: 1.231 d



DV Fit Results:

Period = 1.23122 [0.00001] d
Epoch = 132.3391 [0.0037] BKJD
Rp/R* = 0.0066 [0.0026]
a/R* = 1.62 [2.31]
b = 0.62 [2.31]
Seff = 7027.87 [2886.18]
Teq = 2335 [240] K
Rp = 1.03 [0.52] Re
a = 0.0244 [0.0063] AU
Ag = 4.84 [4.99] [0.77 σ]
Teffp = 5354 [1309] K [2.27 σ]

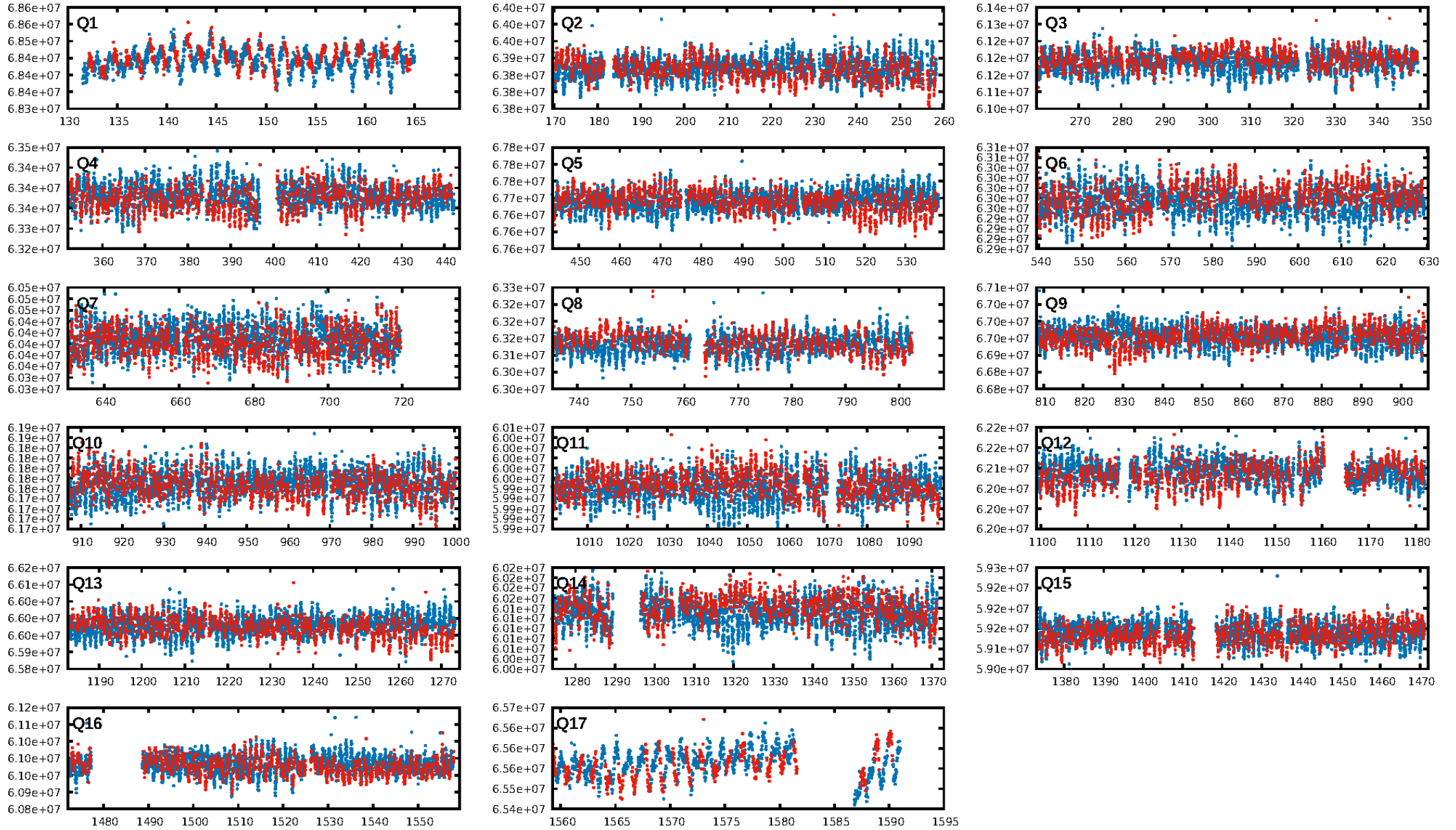
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 96.0% [2.05 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.44e-12
RollingBand-fgt: 1.00 [727/727]
GhostDiagnostic-chr: 2.69
Centroid-sig: 0.7%
Centroid-so: 0.939 arcsec [1.59 σ]
OotOffset-rm: 0.388 arcsec [1.74 σ]
KicOffset-rm: 0.335 arcsec [1.02 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.81 [13/16]
DiffImageOverlap-fno: 1.00 [17/17]

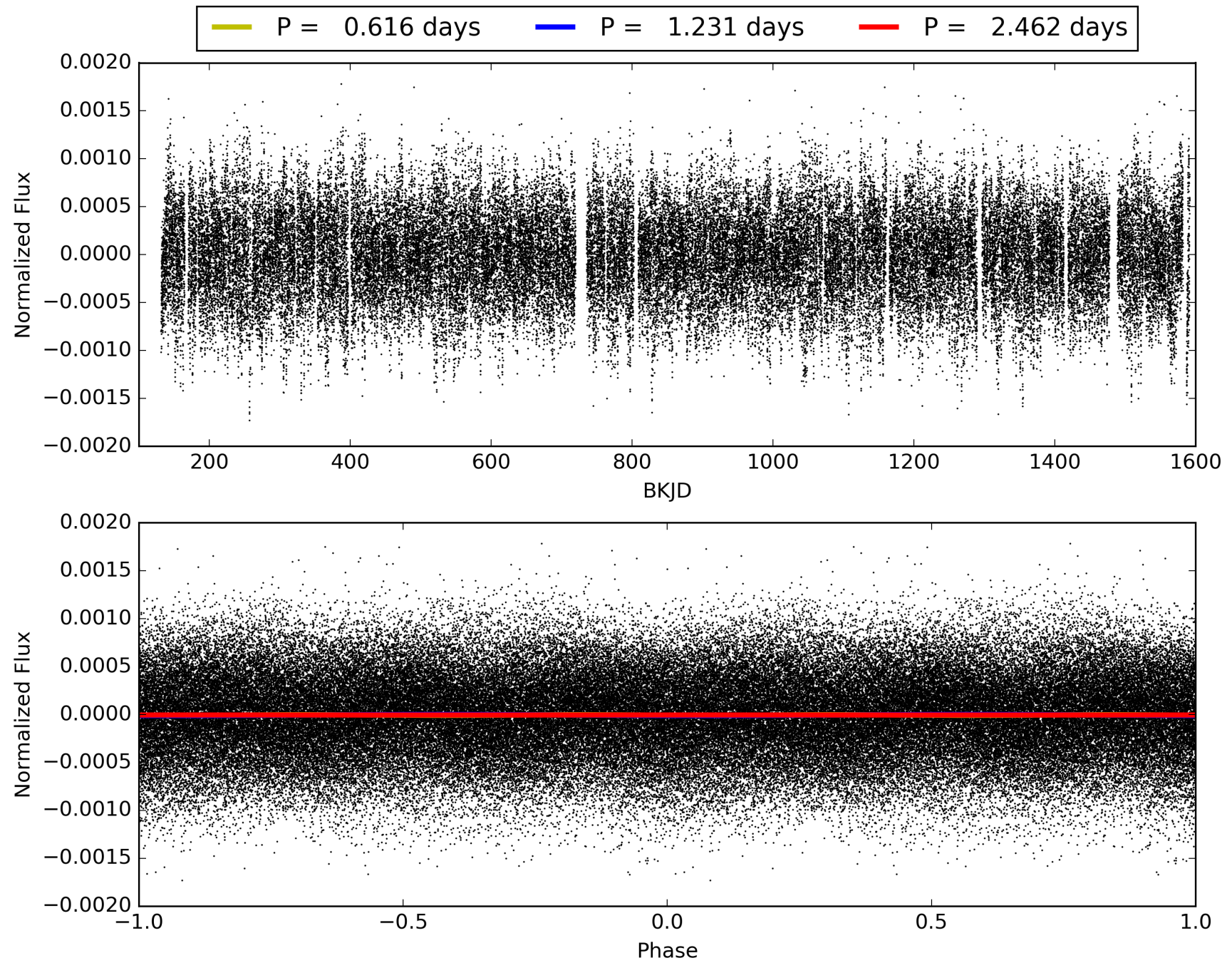
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:32:53 Z

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

TCE 005722895-02, PDC Light Curves

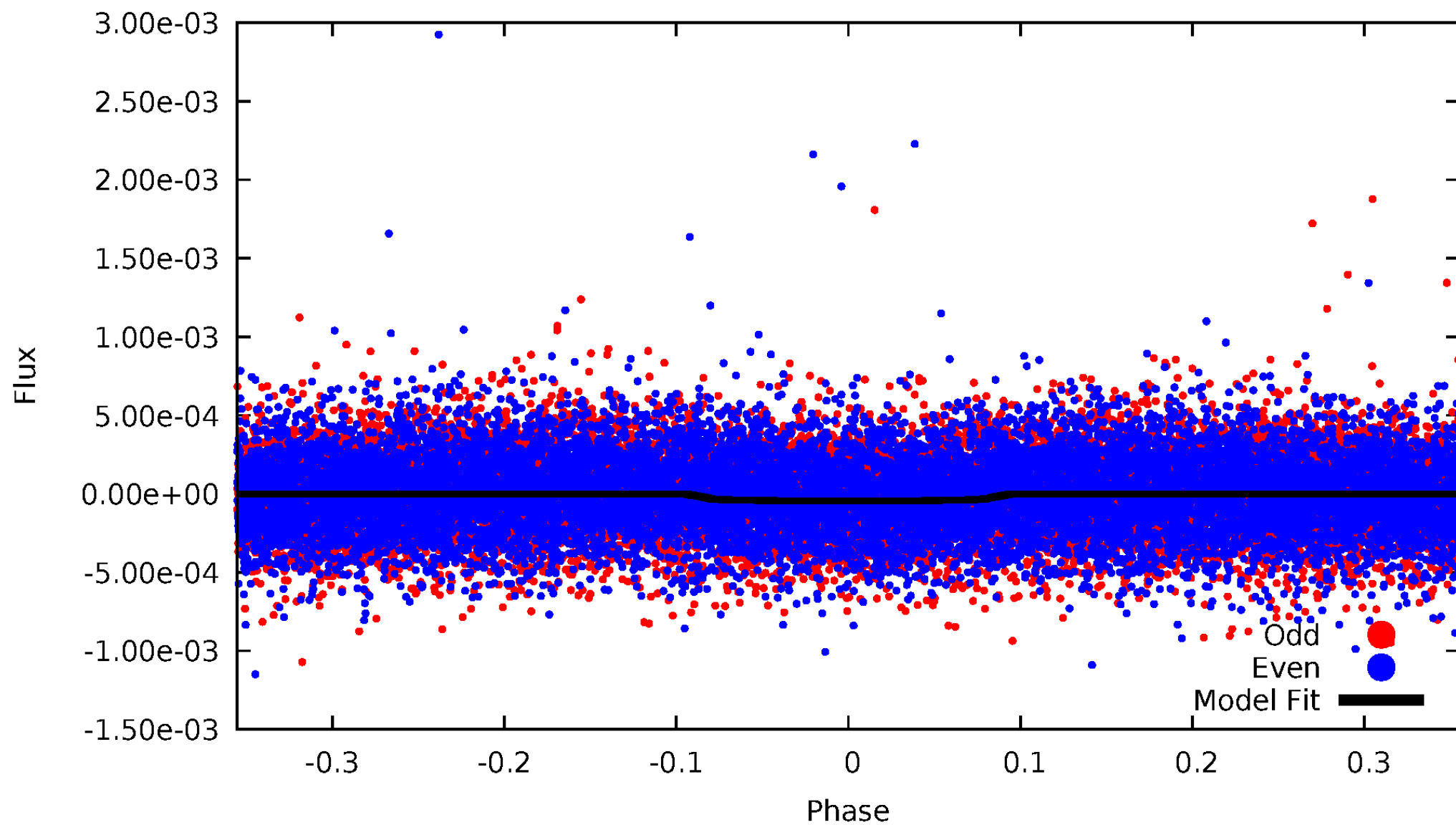


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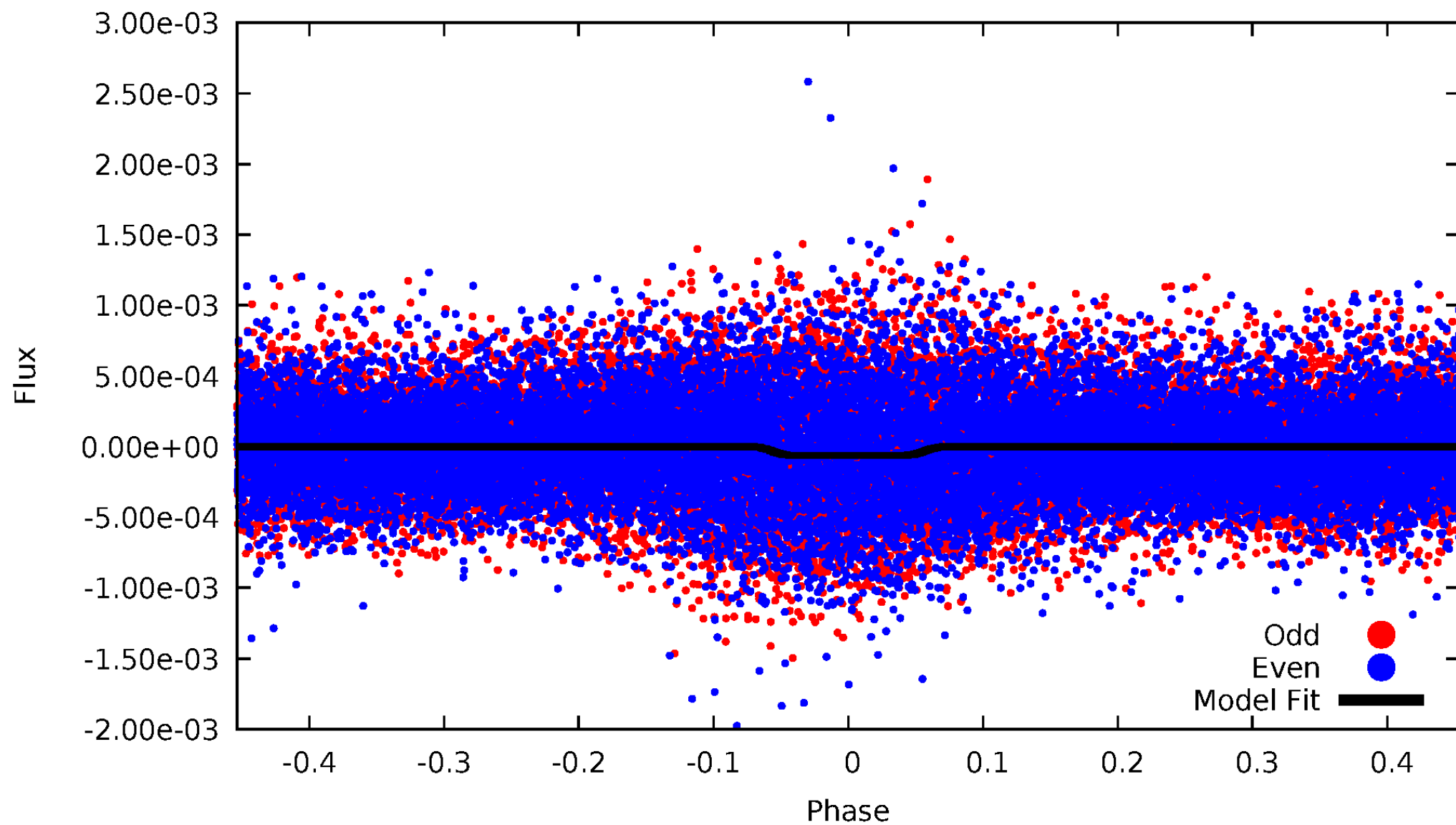
DV Odd/Even

TCE 005722895-02



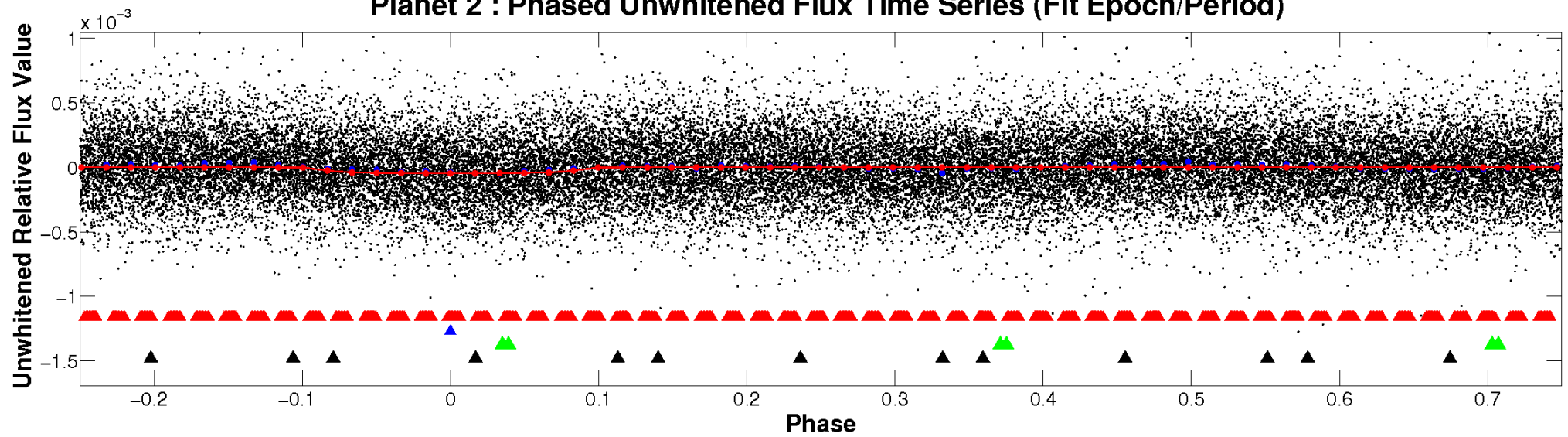
ALT Odd/Even

TCE 005722895-02

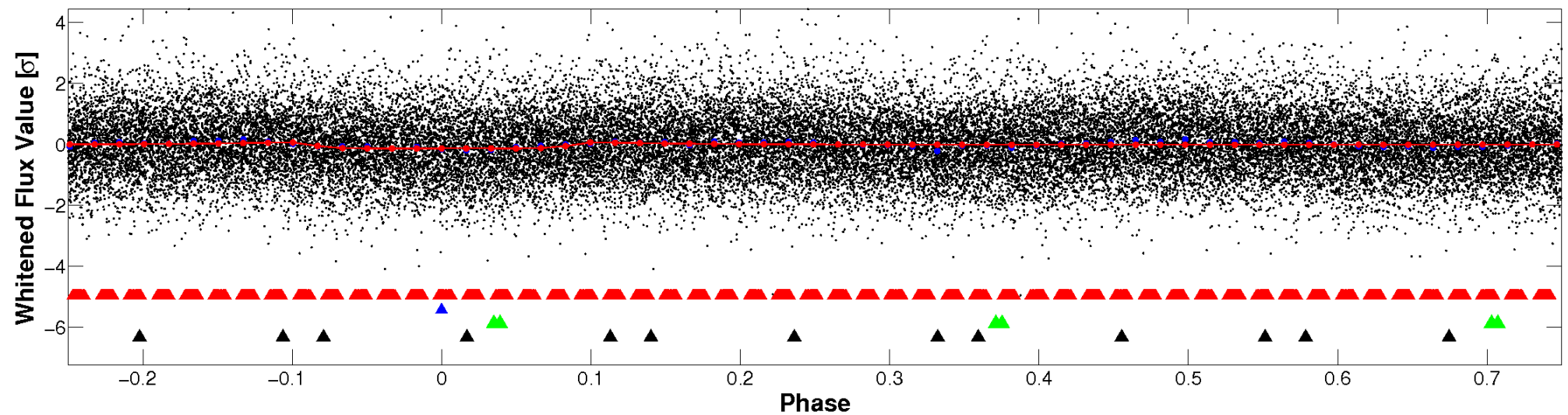


Non-Whitened Vs. Whitened Light Curve

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

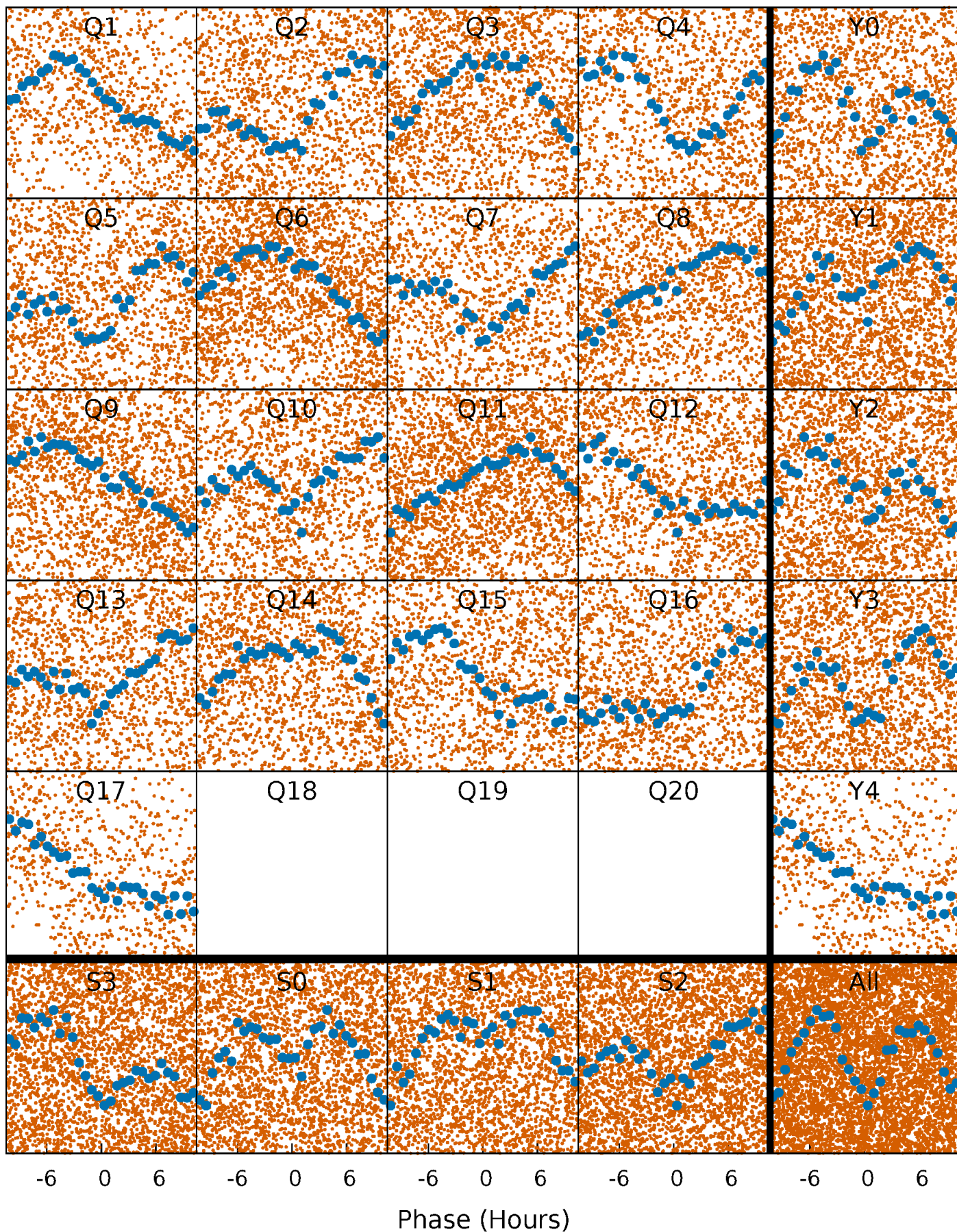


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



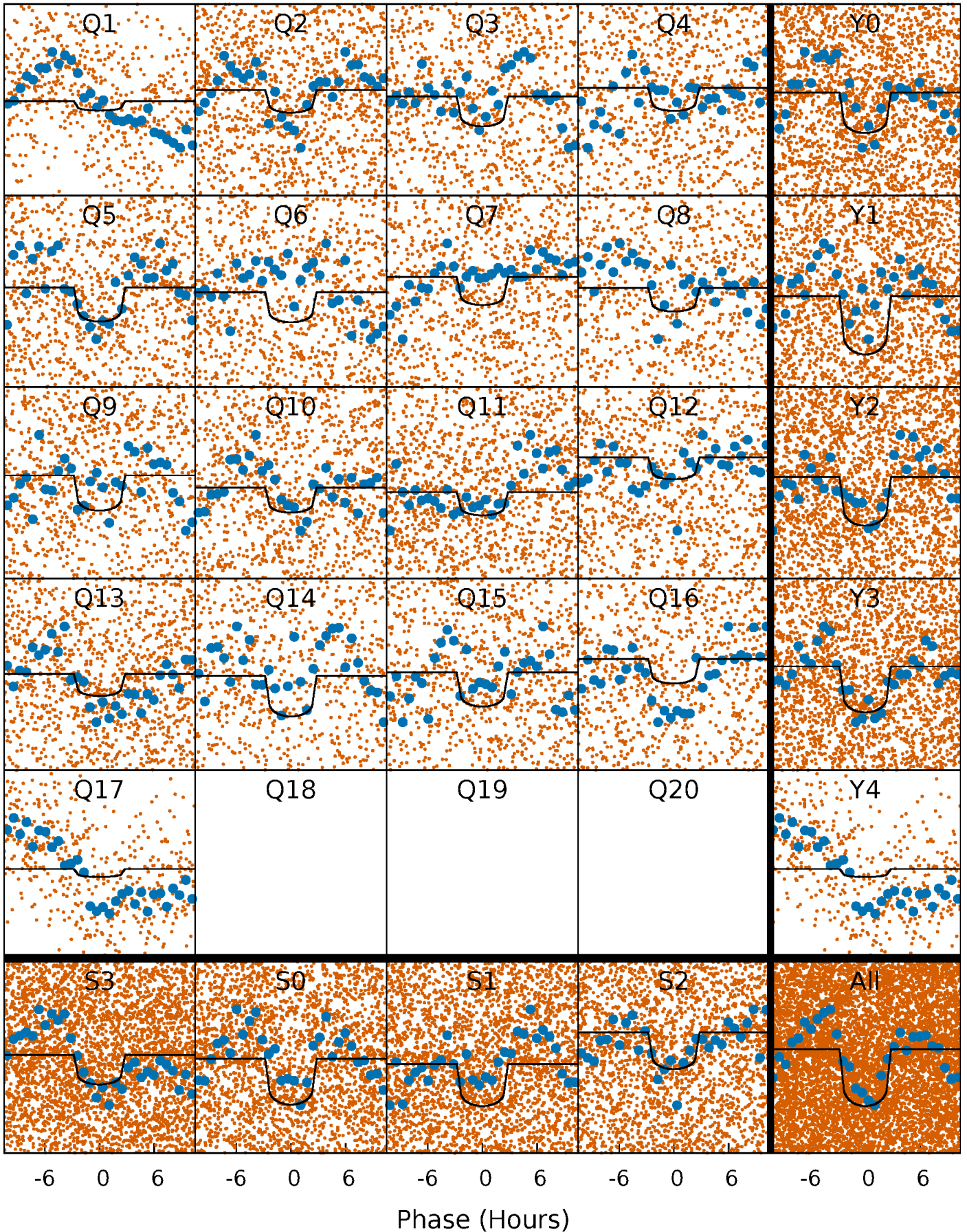
PDC Quarter-Phased Transit Curves

TCE 005722895-02 P= 1.231220 Days $T_0=132.339136$ (BKJD)



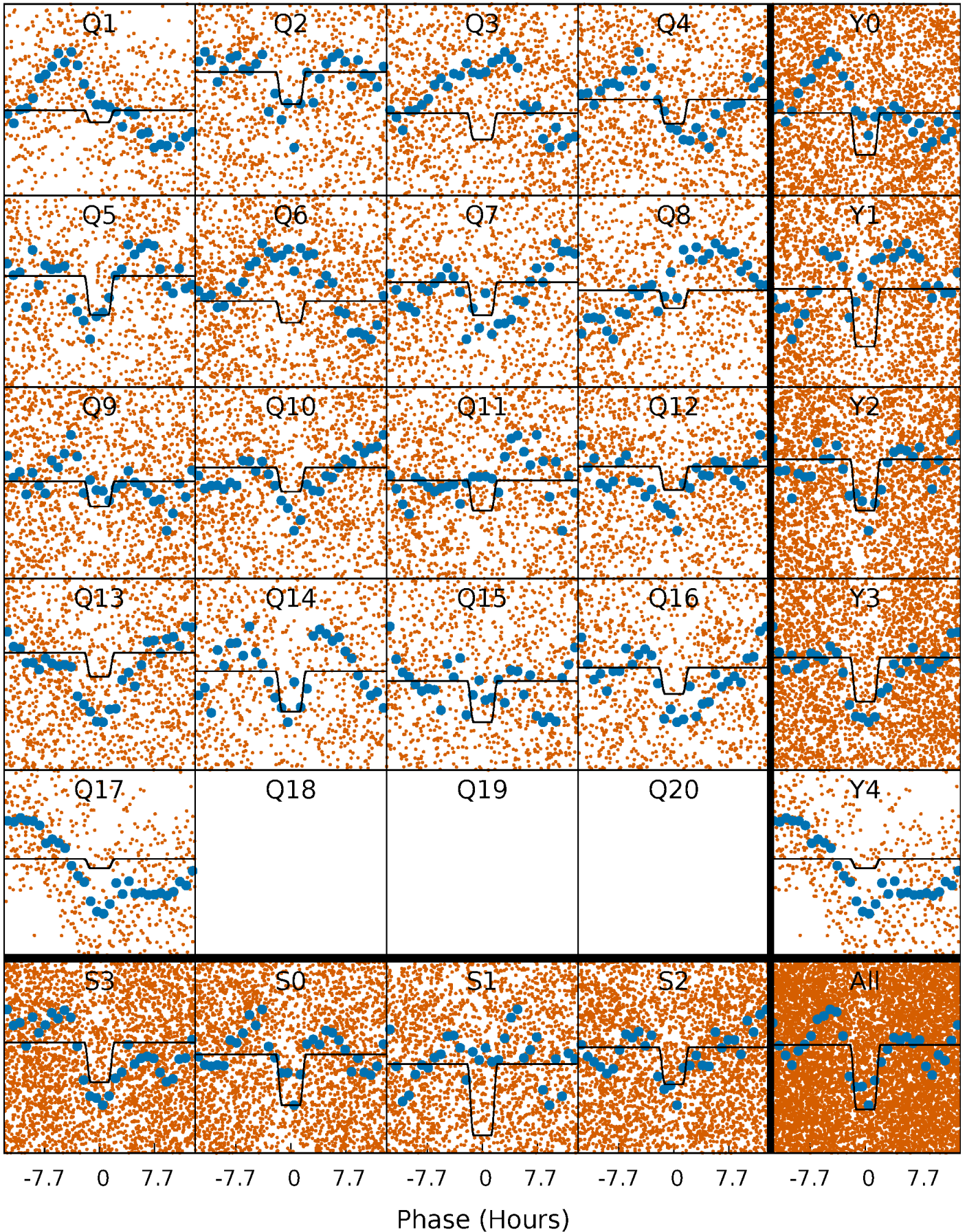
DV Quarter-Phased Transit Curves

TCE 005722895-02 P= 1.231220 Days $T_0=132.339136$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

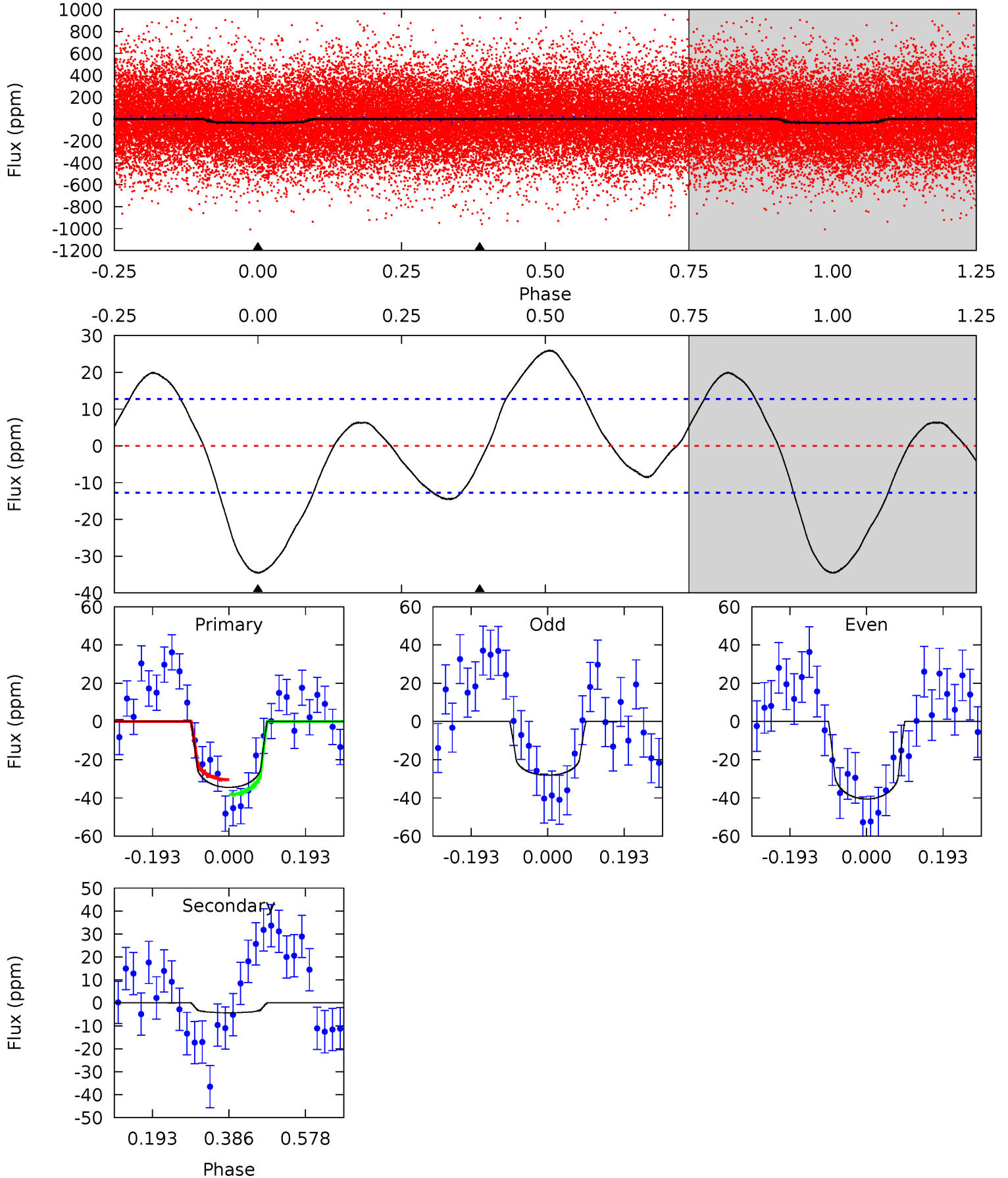
TCE 005722895-02 P= 1.231204 Days $T_0=132.358353$ (BKJD)



DV Model-Shift Uniqueness Test

005722895-02, P = 1.231220 Days, E = 131.107916 Days

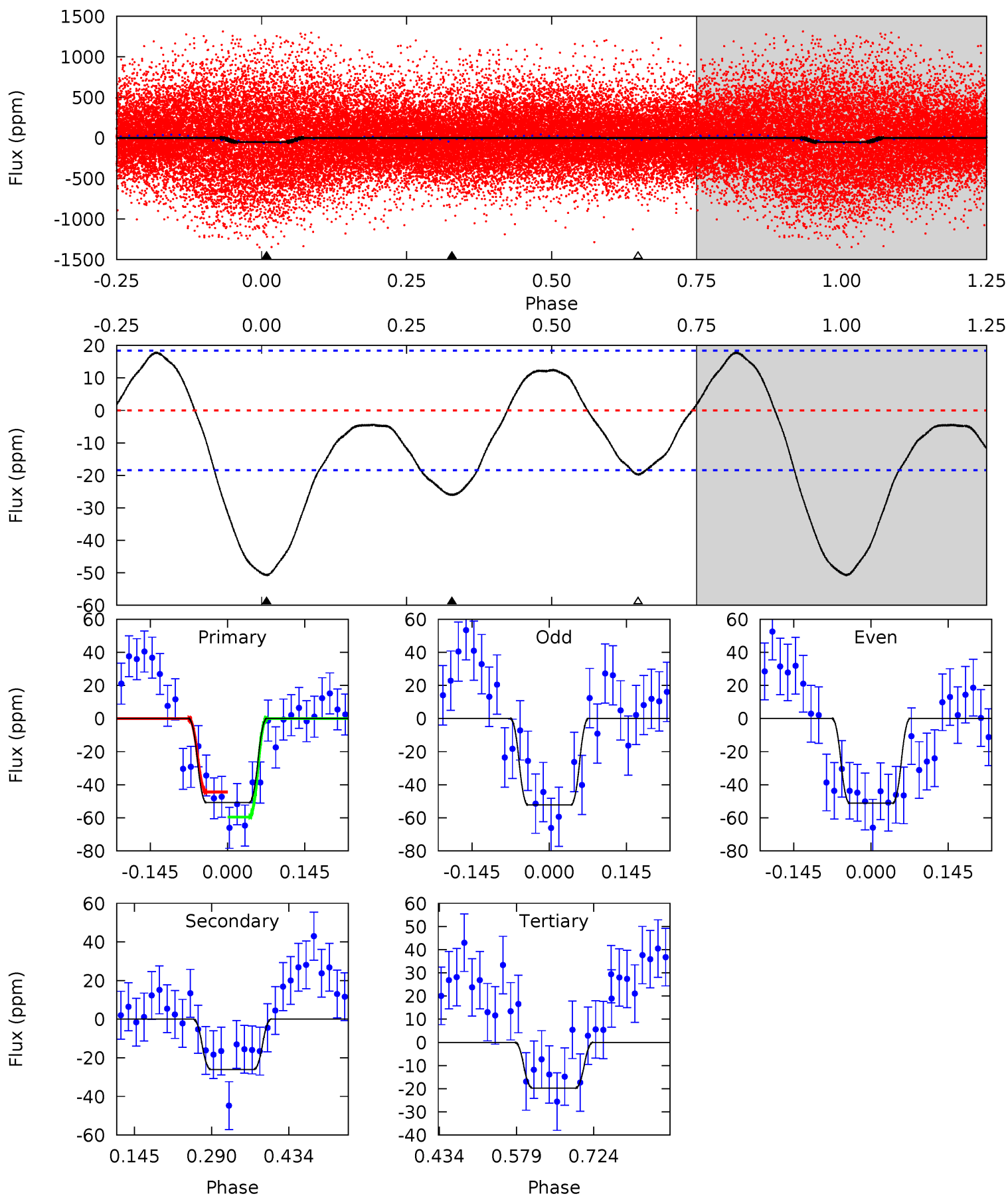
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	1.50	0	0	4.43	1.30	2.79	12.0	12.0	1.50	1.50	2.16	0.84	0.43	1.34



Alt Model-Shift Uniqueness Test

005722895-02, P = 1.231204 Days, E = 131.127149 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	6.34	4.81	0	4.49	1.46	2.90	7.55	12.4	1.53	6.34	0.12	0.78	0.26	1.85



Stellar Parameters For KIC 005722895

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6912^{+192}_{-301}	$4.234^{+0.124}_{-0.201}$	$-0.280^{+0.250}_{-0.350}$	$1.432^{+0.446}_{-0.260}$	$1.291^{+0.198}_{-0.198}$	$0.619^{+0.391}_{-0.326}$
	+3%/-4%	+3%/-5%	+89%/-125%	+31%/-18%	+15%/-15%	+63%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005722895-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4 ± 3	$1.06^{+0.45}_{-0.41}$	3276^{+263}_{-212}	3845^{+1090}_{-1795}	$1.130^{+2.484}_{-0.822}$
Alt.	-26 ± 4	$1.27^{+0.50}_{-0.46}$	3287^{+258}_{-211}	5452^{+1259}_{-754}	$5.249^{+7.434}_{-2.565}$

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 $A_{obs} \gg 1.0$

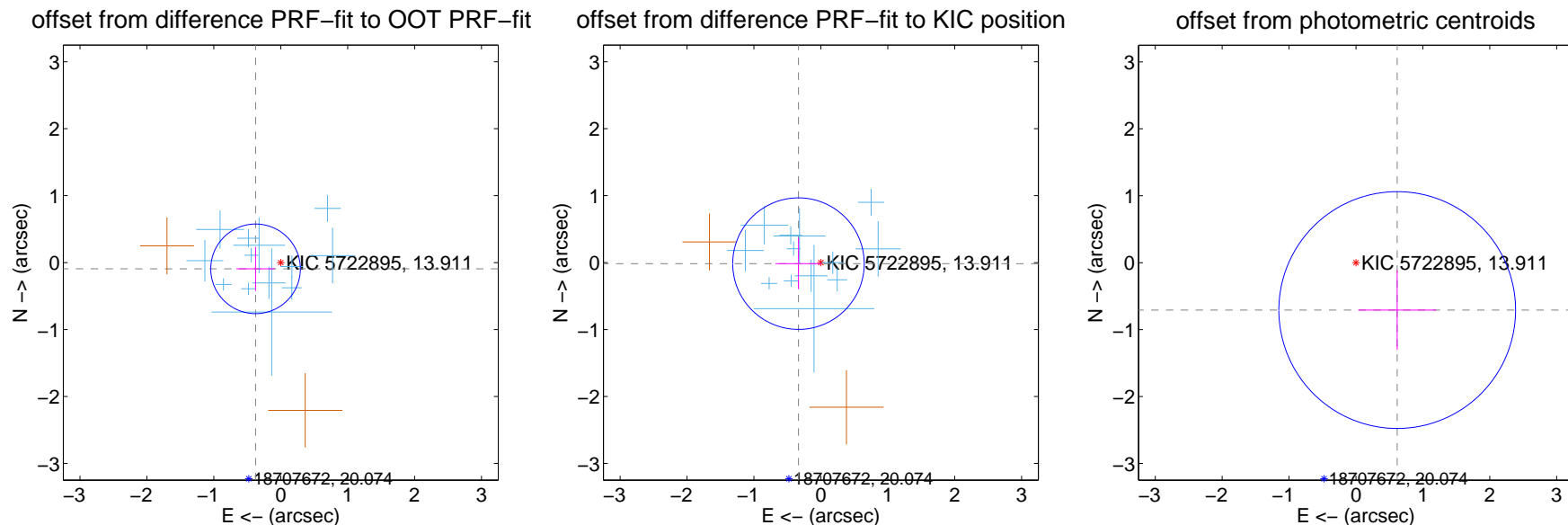
DV Centroid Data

Supplemental centroid analysis for 005722895-02. Kepler magnitude: 13.91. Transit SNR 10.40

There are 13 quarters with good PRF difference image offsets

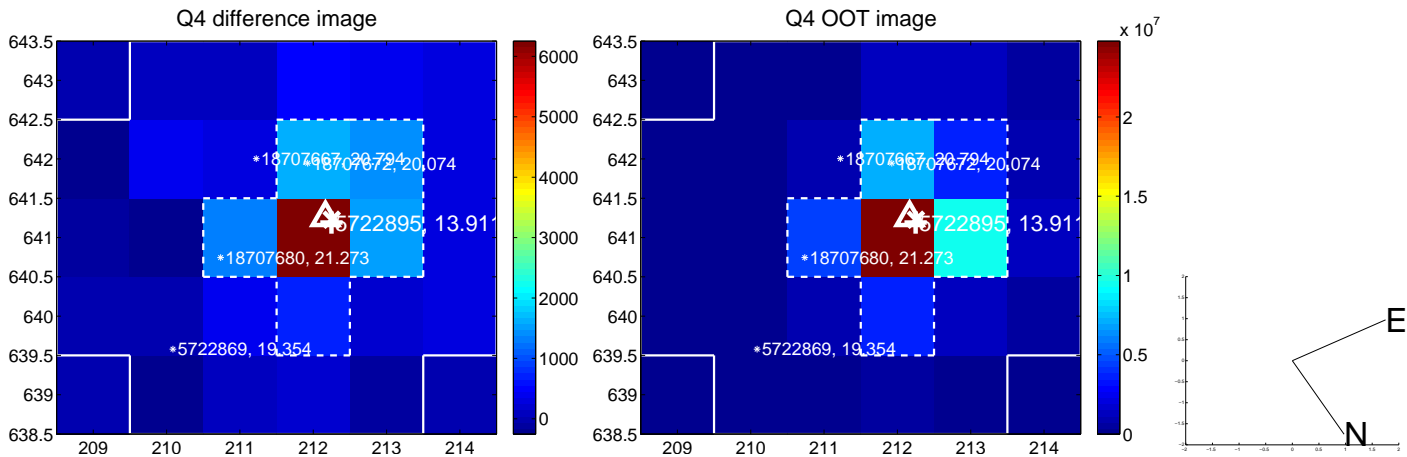
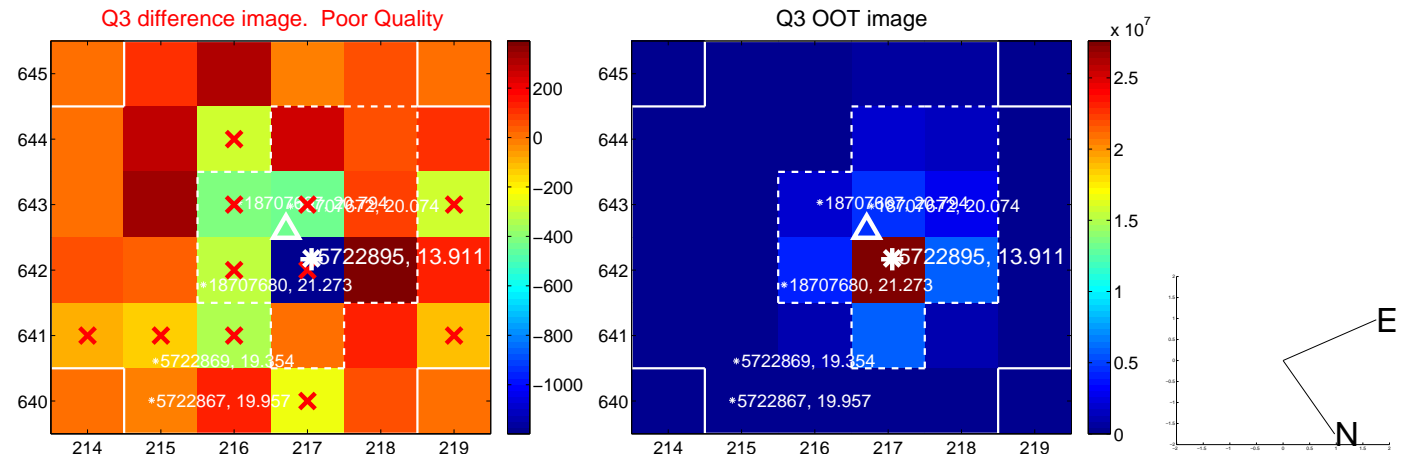
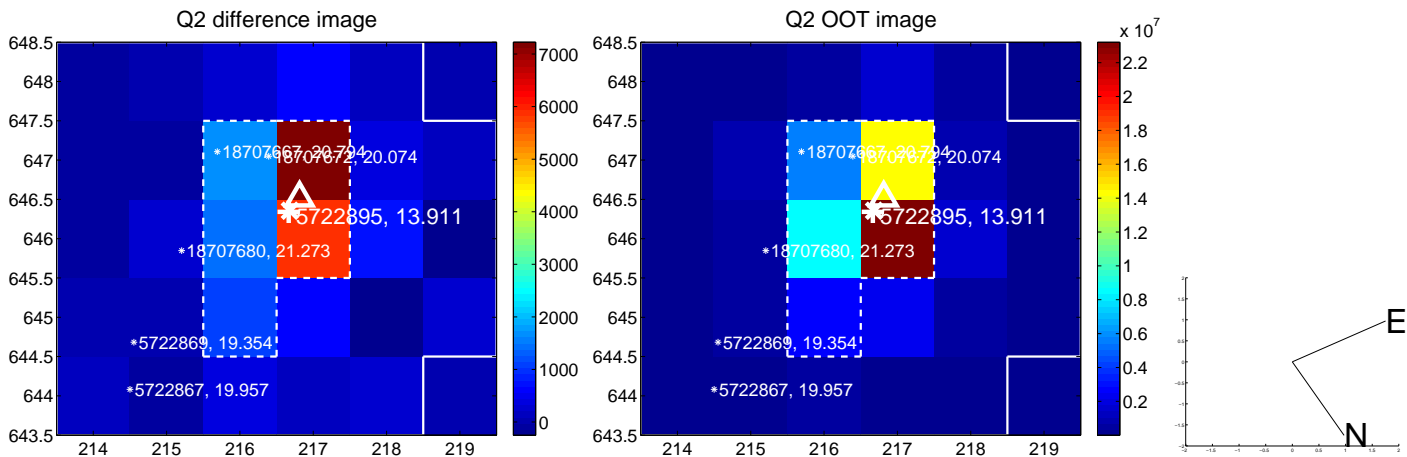
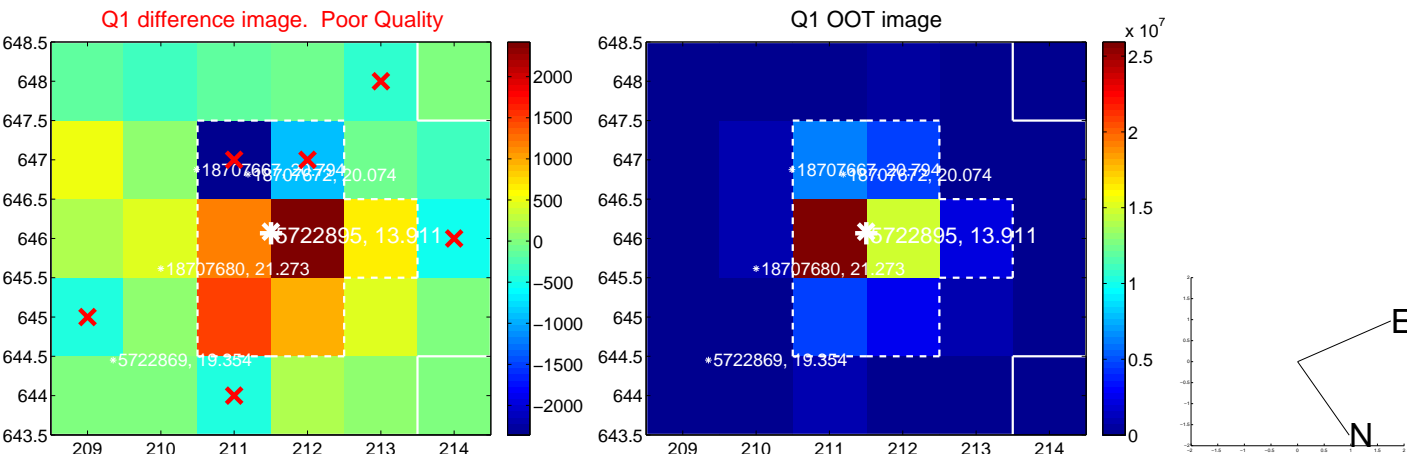
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.388 ± 0.223	1.74	0.377 ± 0.286	-0.093 ± 0.330
PRF-fit source offset from KIC position	0.335 ± 0.328	1.02	0.335 ± 0.342	-0.015 ± 0.383
photometric centroid source offset	0.94 ± 0.59	1.59	-0.62 ± 0.58	-0.71 ± 0.60

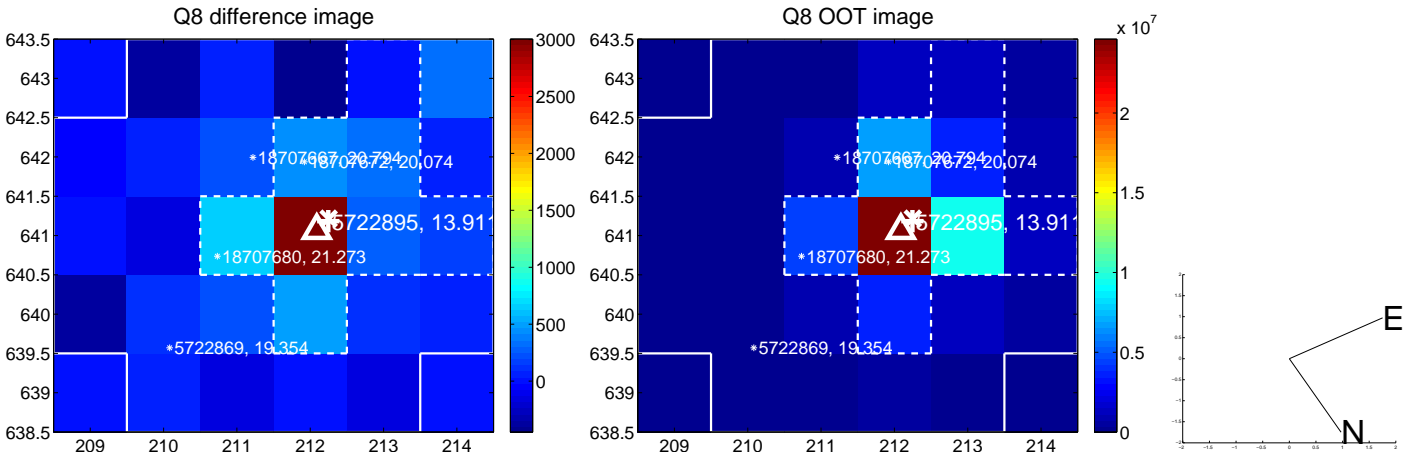
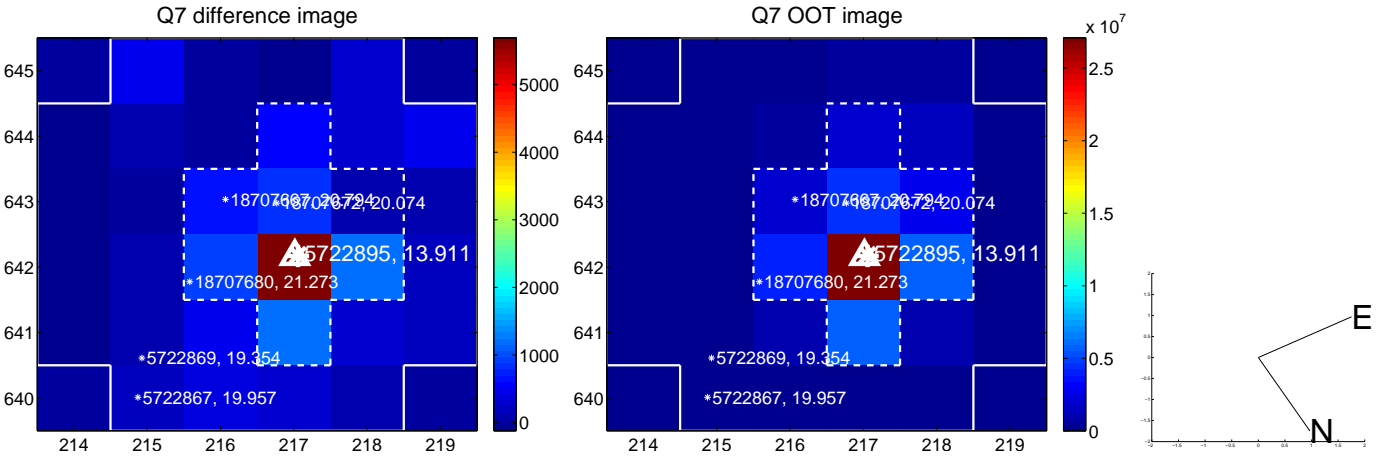
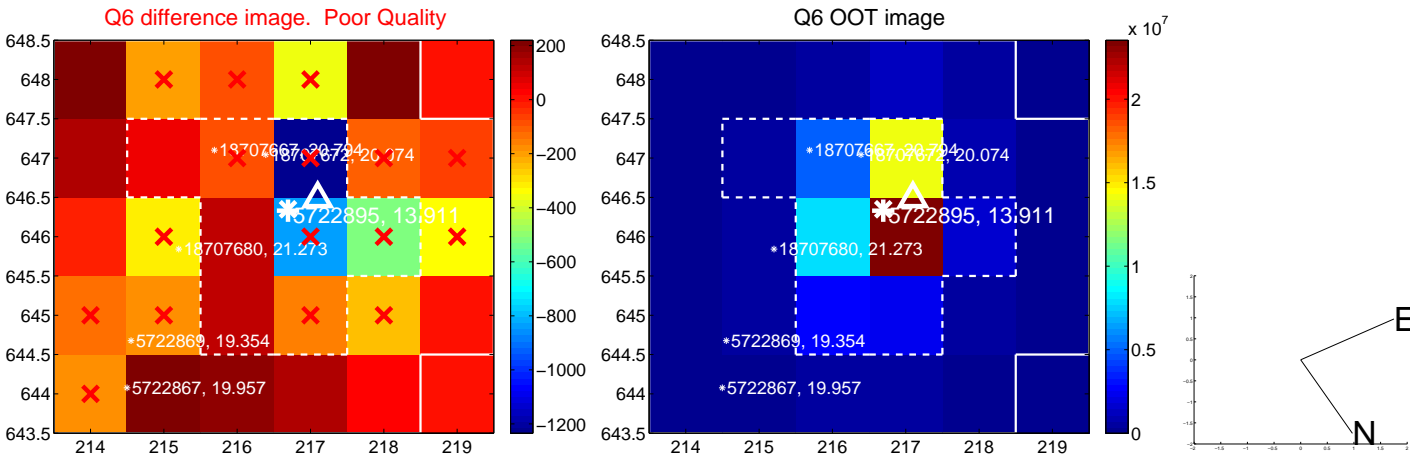
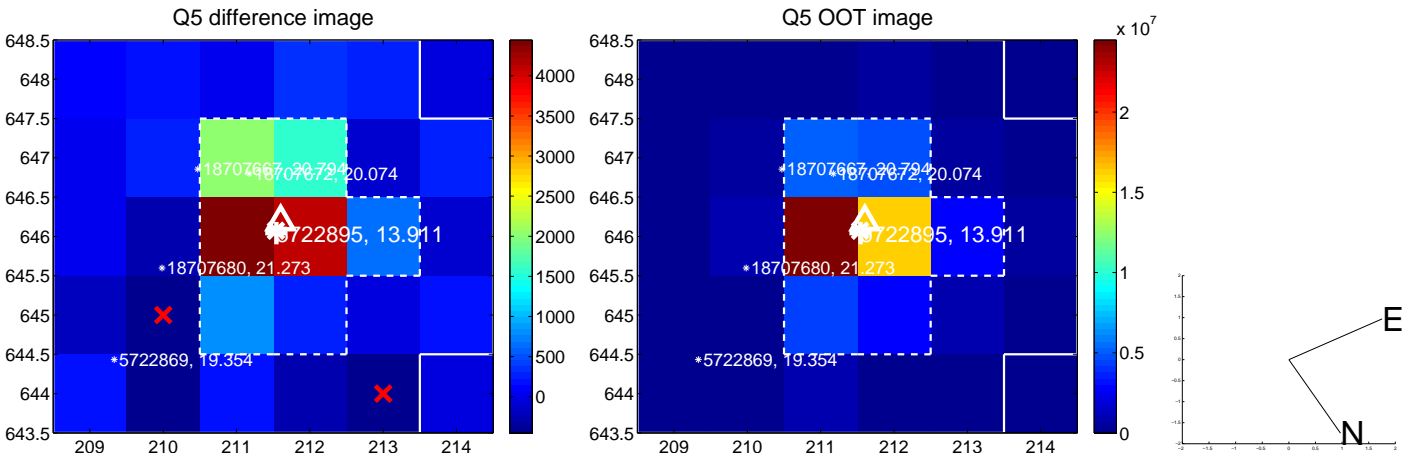


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

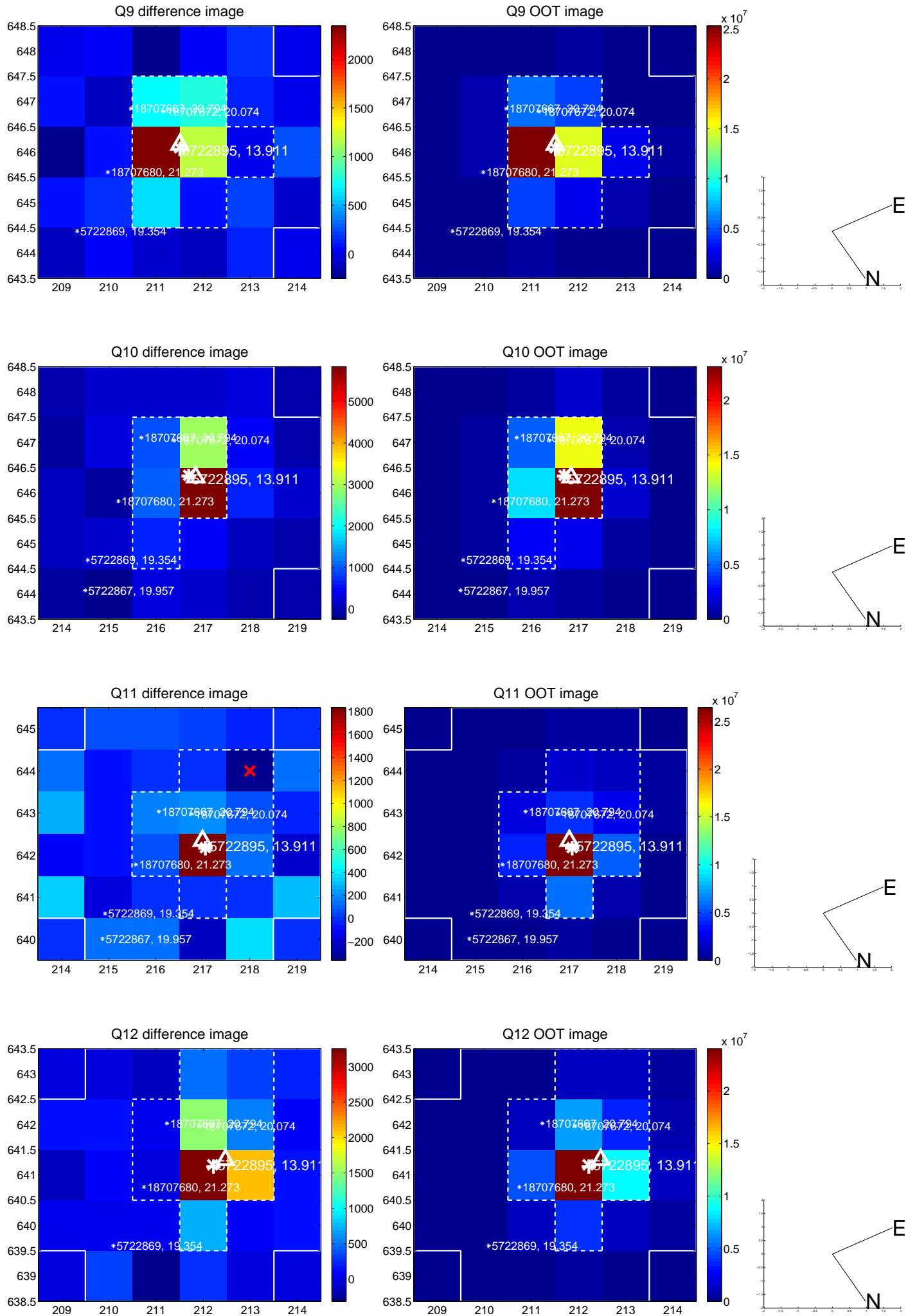
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



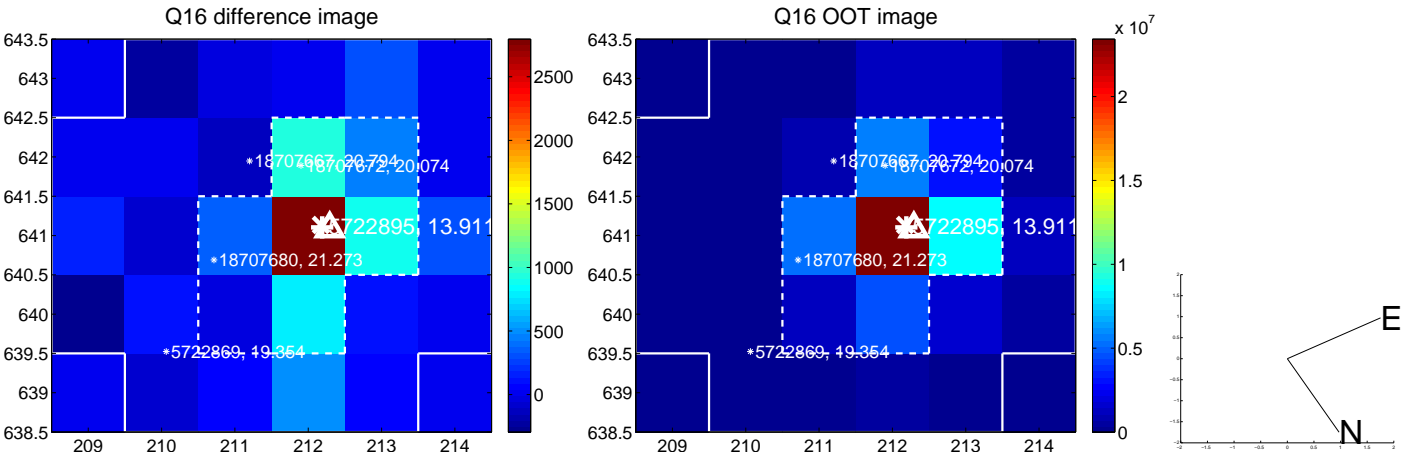
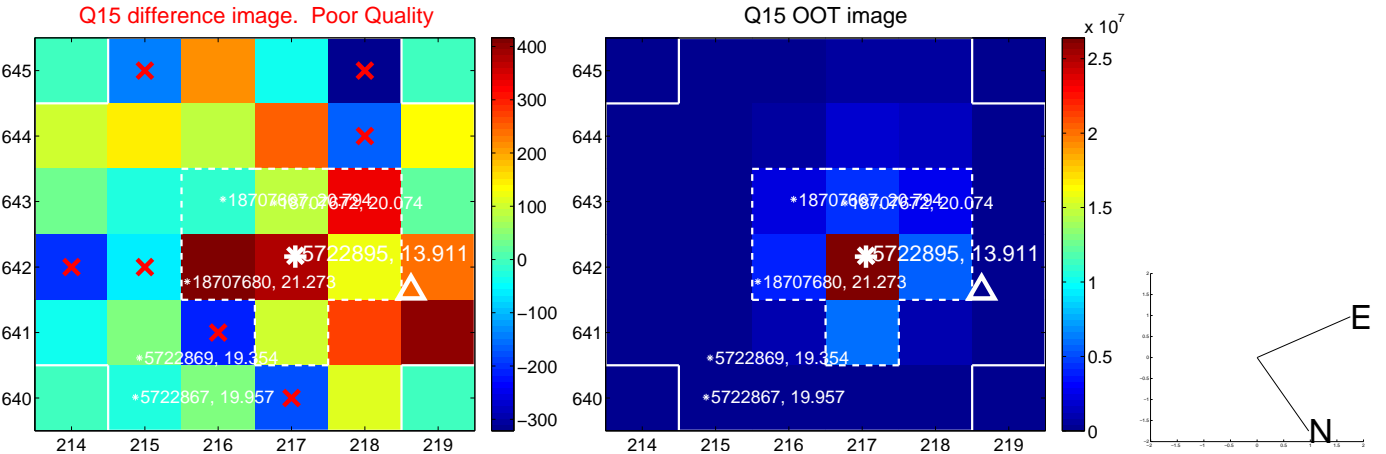
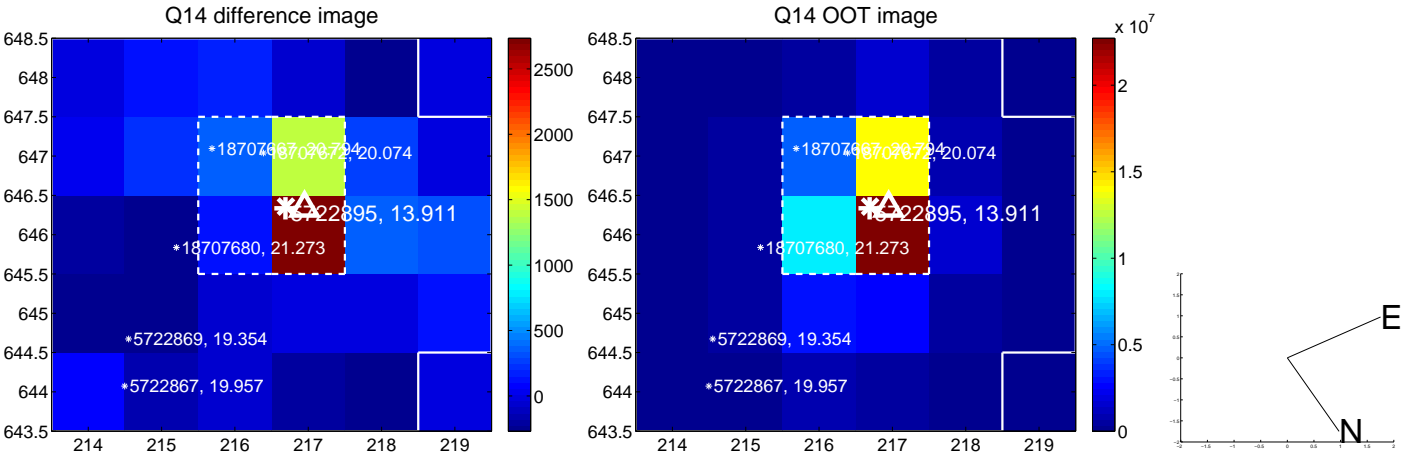
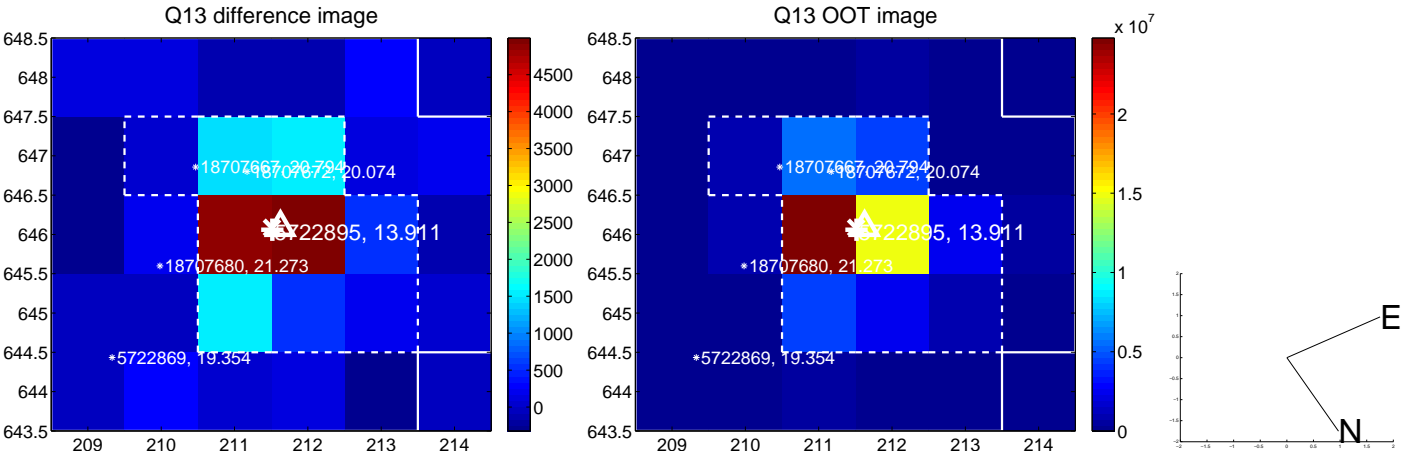
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



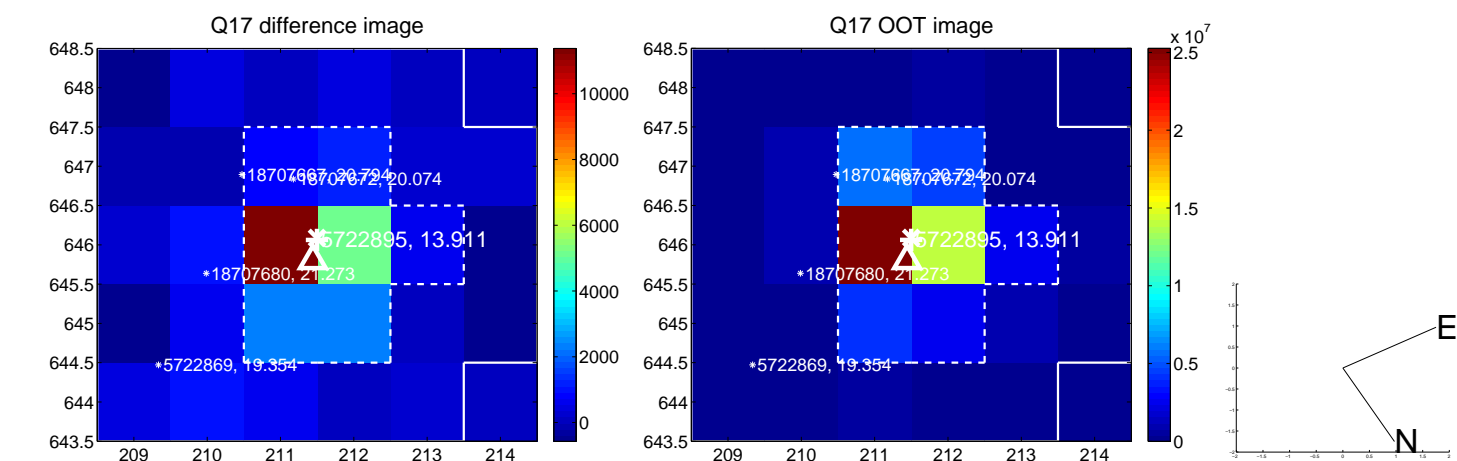
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



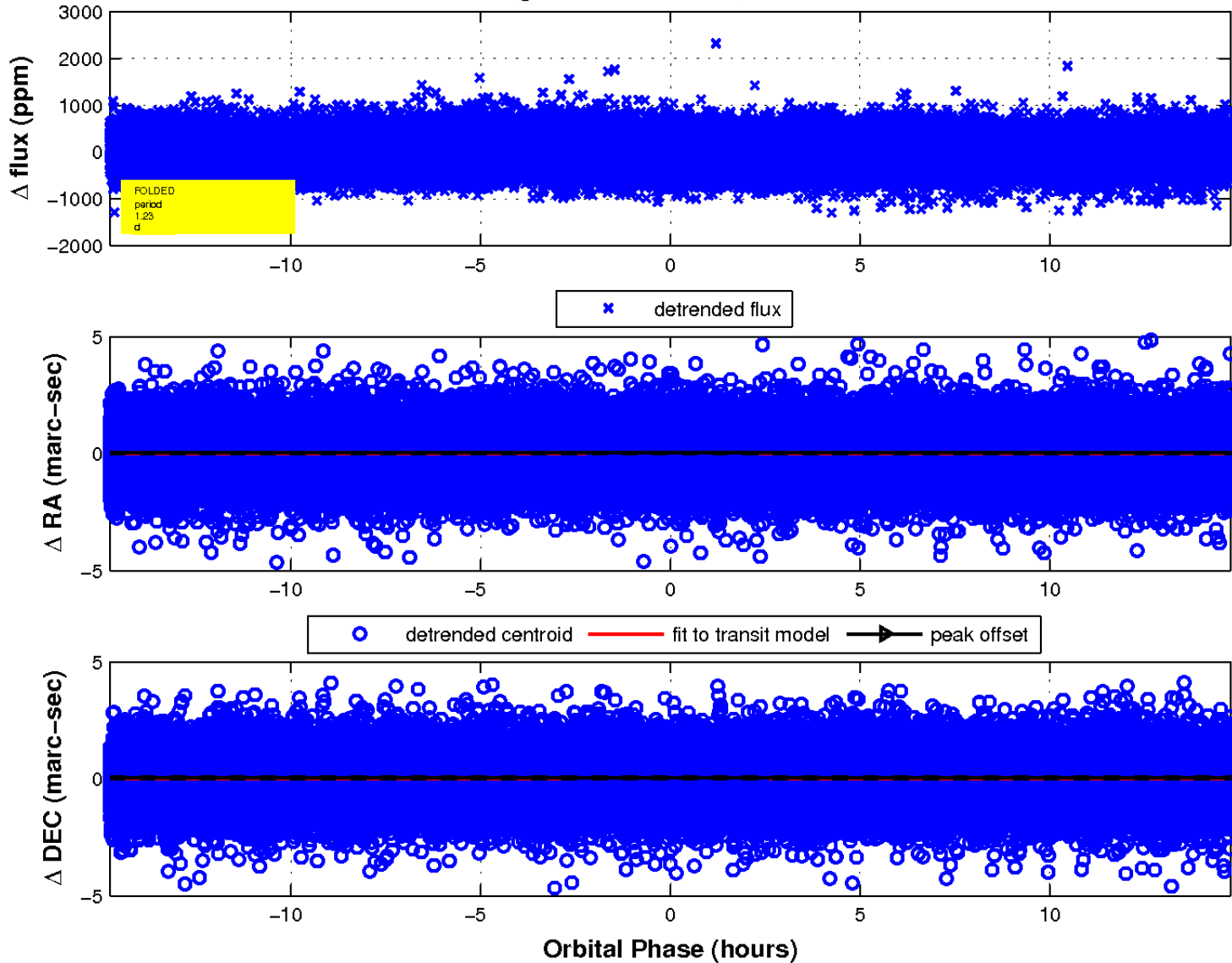
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

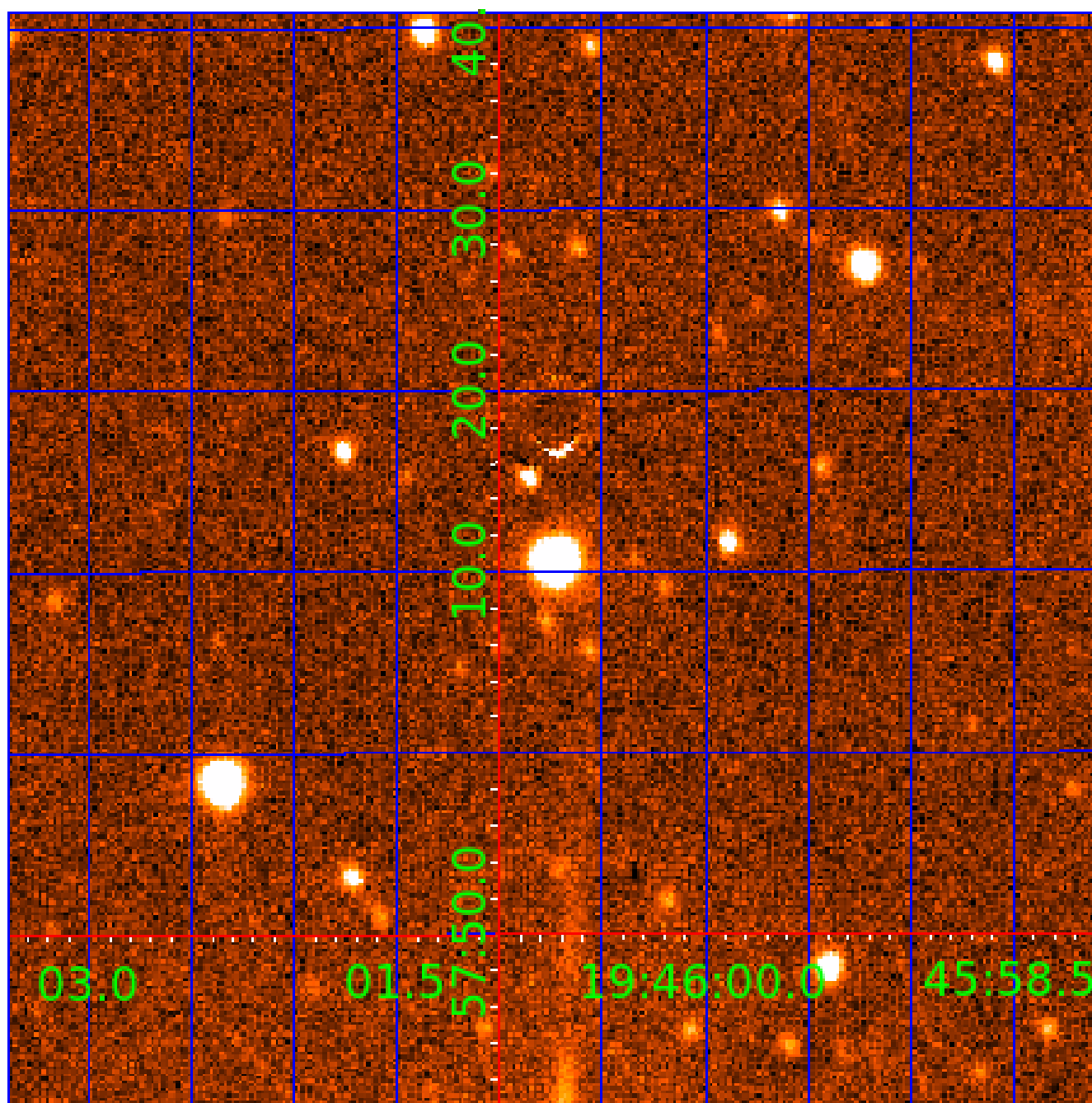


fluxWeightedCentroids, Planet 2 of 4



UKIRT Image

Declination



KIC 005722895

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})
005722895-01	OBS	No	1.928152	132.708277	68.0	6.251	11.6	12.2	1.43	6912	2.06	3864.41
005722895-02	OBS	No	1.231220	132.339136	46.4	5.250	8.9	10.4	1.43	6912	1.03	7027.87
005722895-03	OBS	No	256.502488	152.500725	651.4	10.787	9.4	9.8	1.43	6912	4.06	5.69
005722895-04	OBS	No	111.771146	162.567326	350.6	8.659	8.6	6.3	1.43	6912	2.92	17.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005722895-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
005722895-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005722895-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005722895-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

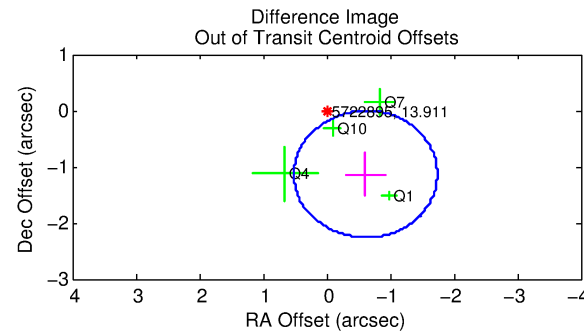
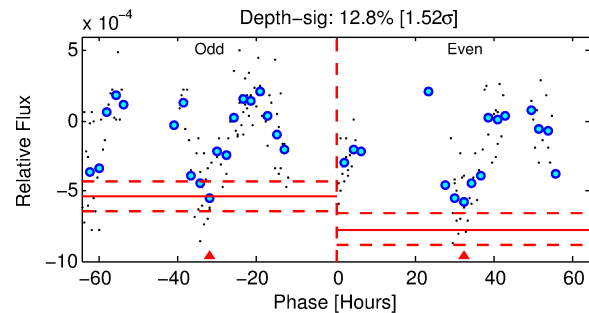
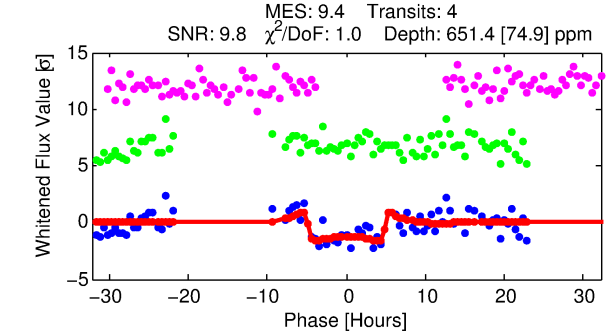
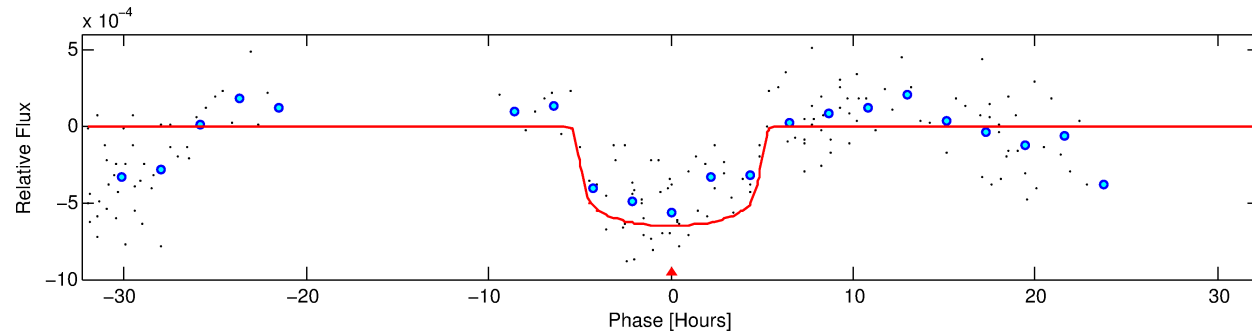
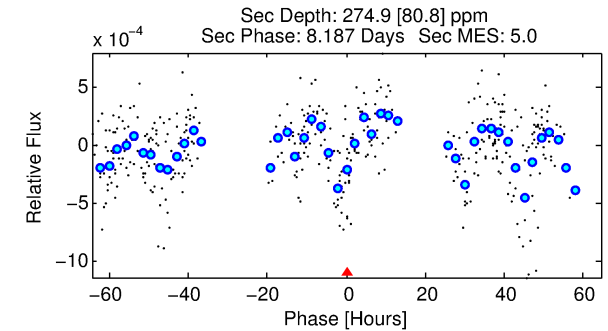
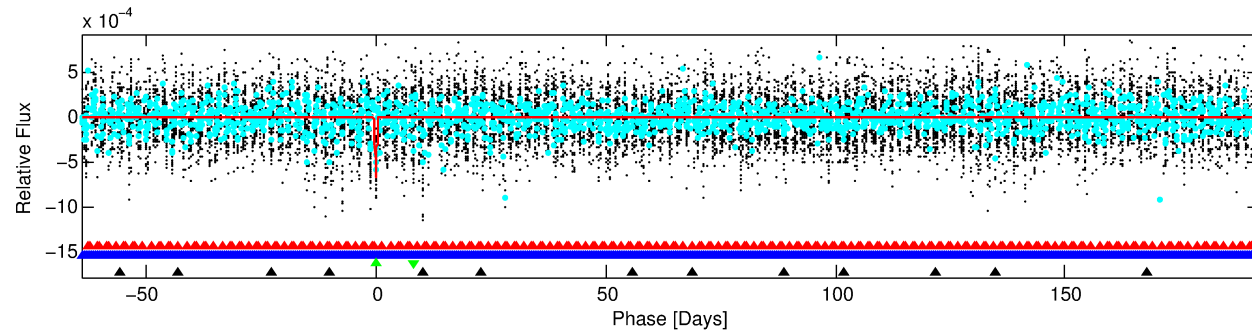
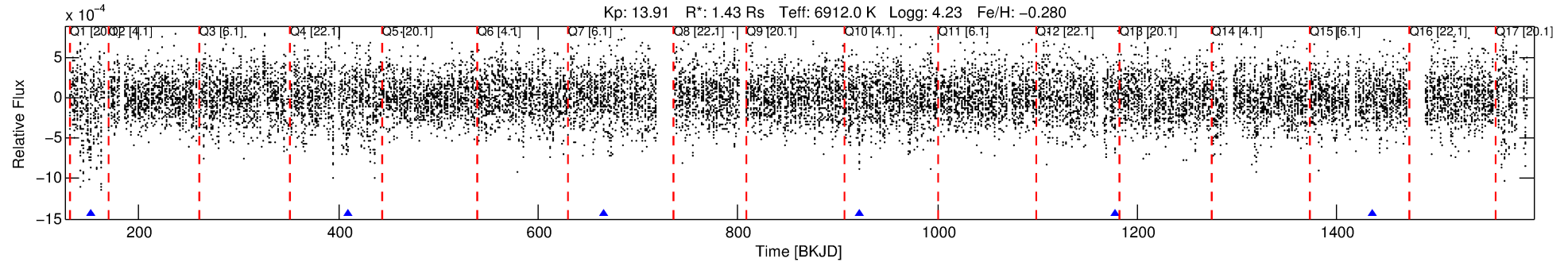
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005722895-03

No Significant Match Found

DV One-Page Summary

KIC: 5722895 Candidate: 3 of 4 Period: 256.502 d



DV Fit Results:

Period = 256.50249 [0.00542] d
Epoch = 152.5007 [0.0164] BKJD
Rp/R* = 0.0260 [0.0036]
a/R* = 112.54 [79.58]
b = 0.82 [0.28]
Seff = 5.69 [2.34]
Teq = 394 [40] K
Rp = 4.06 [1.38] Re
a = 0.8585 [0.2221] AU
Ag = 6765.38 [3710.72] [1.82σ]
Teffp = 5522 [606] K [8.44σ]

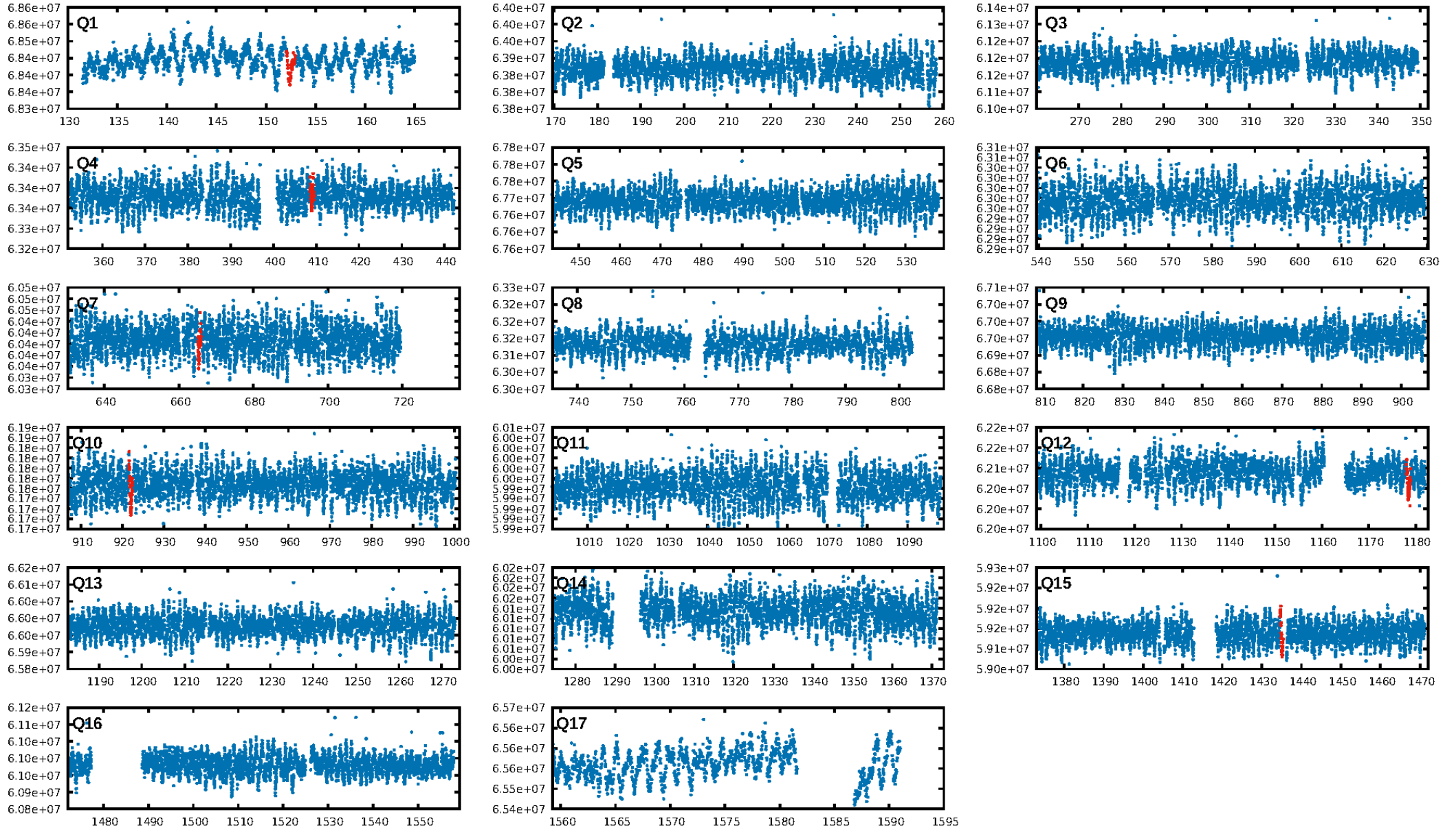
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [251.11σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 27.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.26e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.295
Centroid-sig: 0.2%
Centroid-so: 1.057 arcsec [2.48σ]
OotOffset-rm: 1.290 arcsec [3.43σ]
KicOffset-rm: 1.240 arcsec [3.37σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 0.00 [0/4]

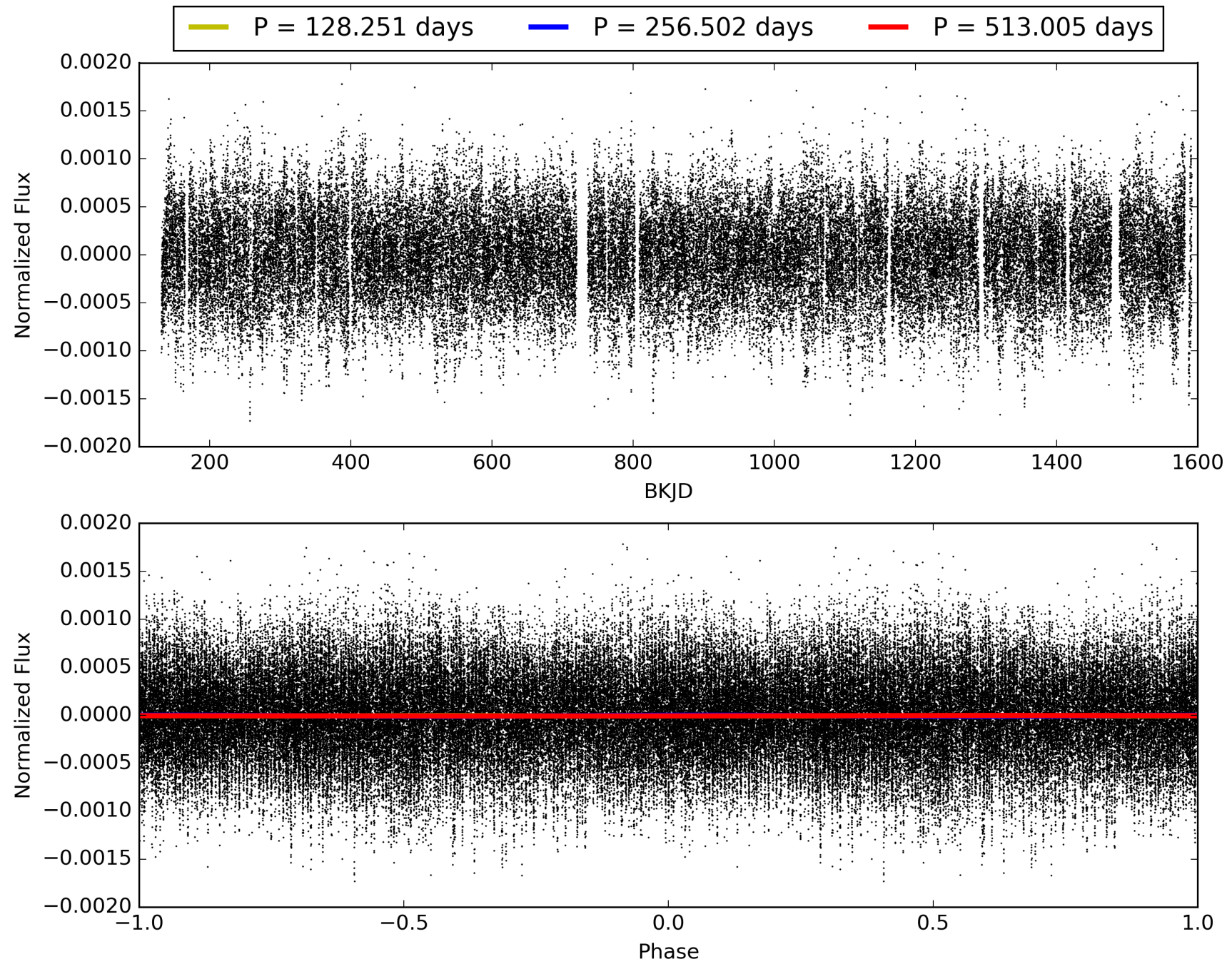
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:33:02 Z

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

TCE 005722895-03, PDC Light Curves

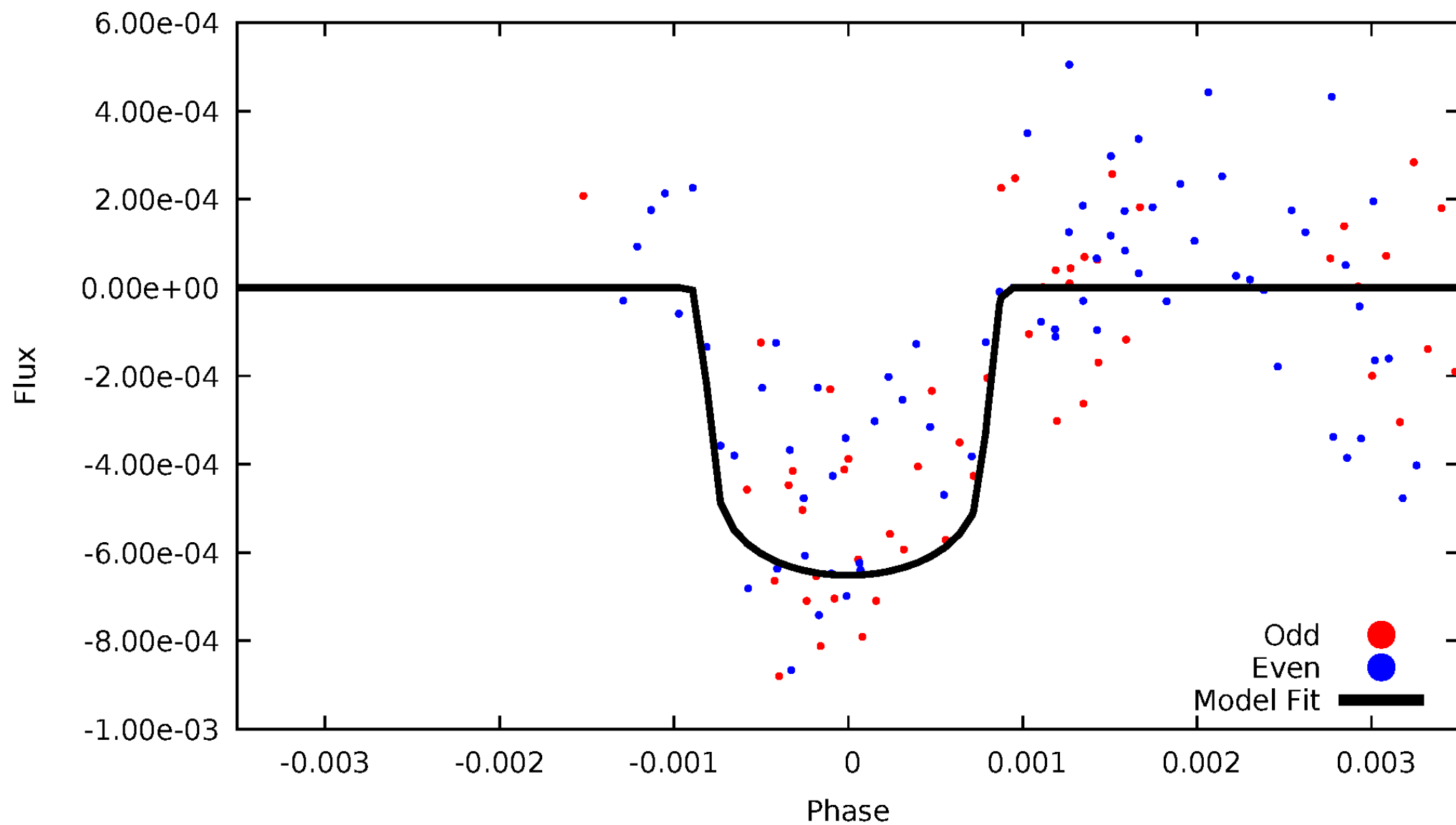


TCE 005722895-03



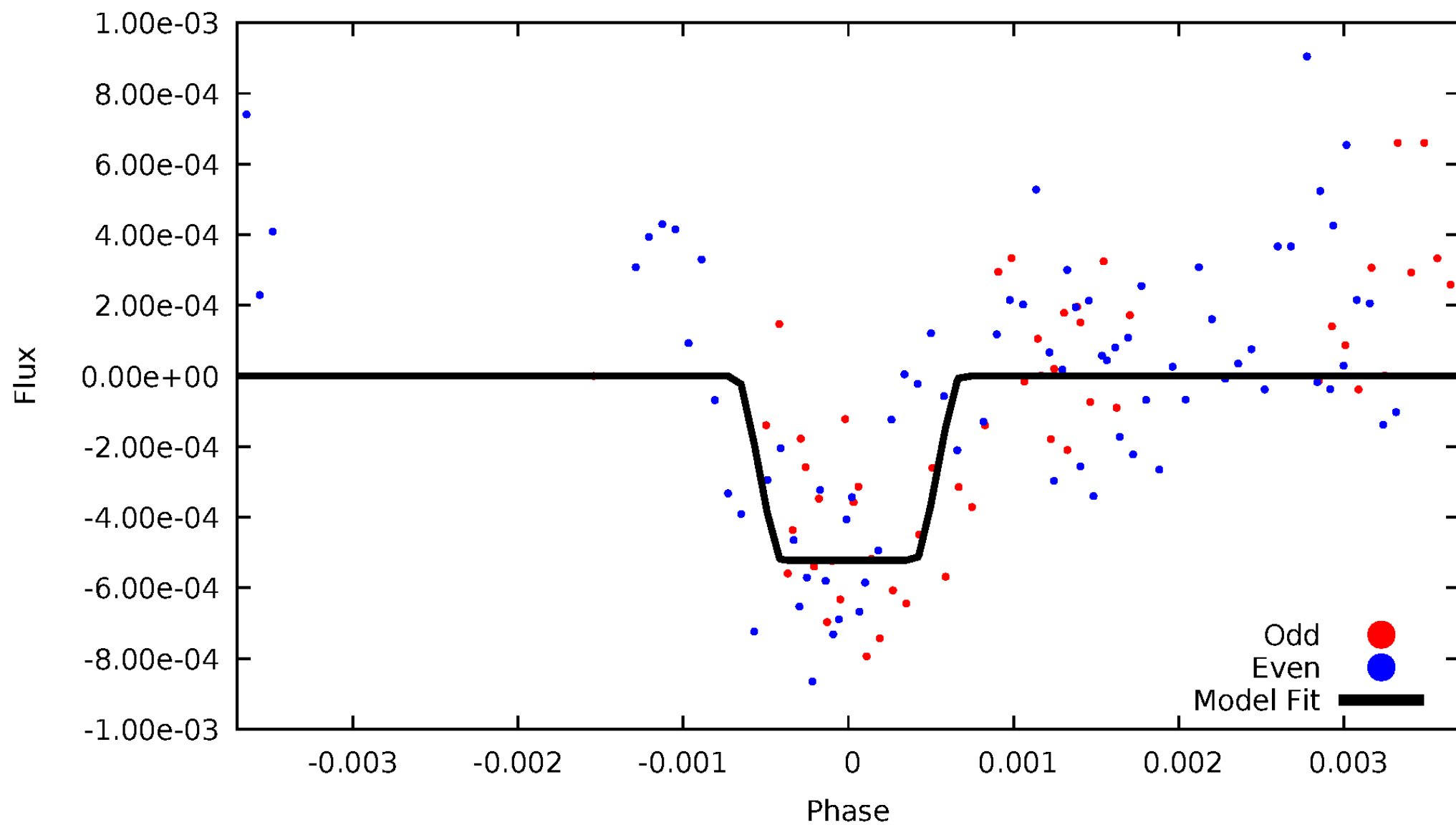
DV Odd/Even

TCE 005722895-03



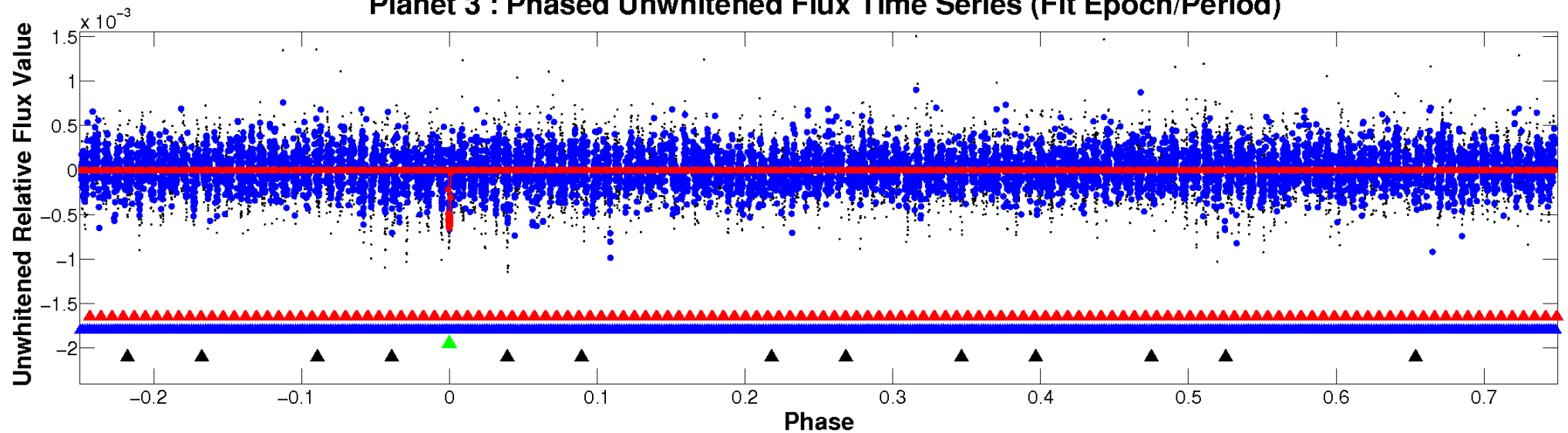
ALT Odd/Even

TCE 005722895-03

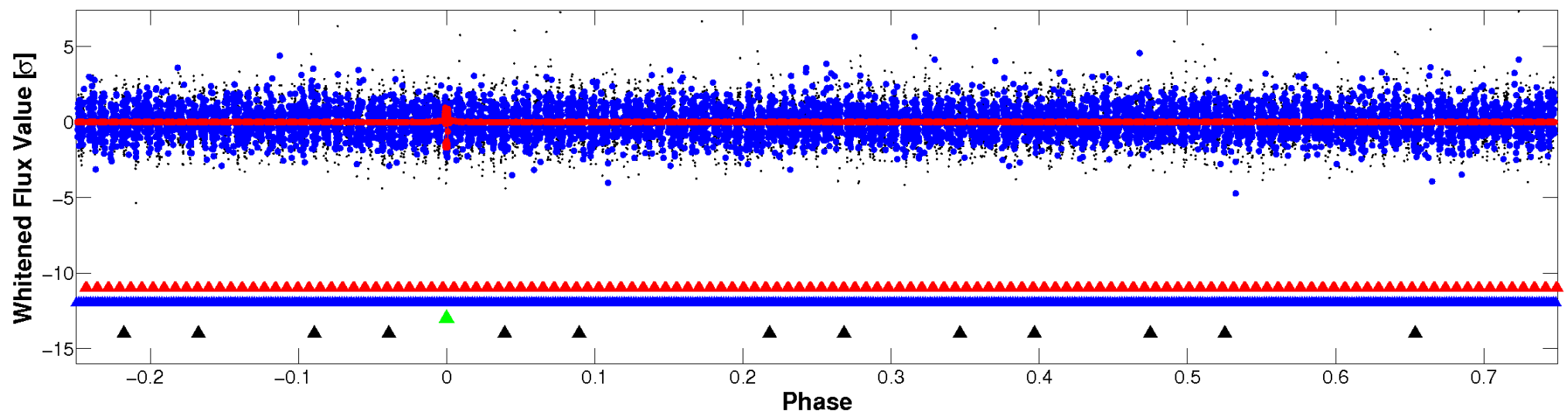


Non-Whitened Vs. Whitened Light Curve

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

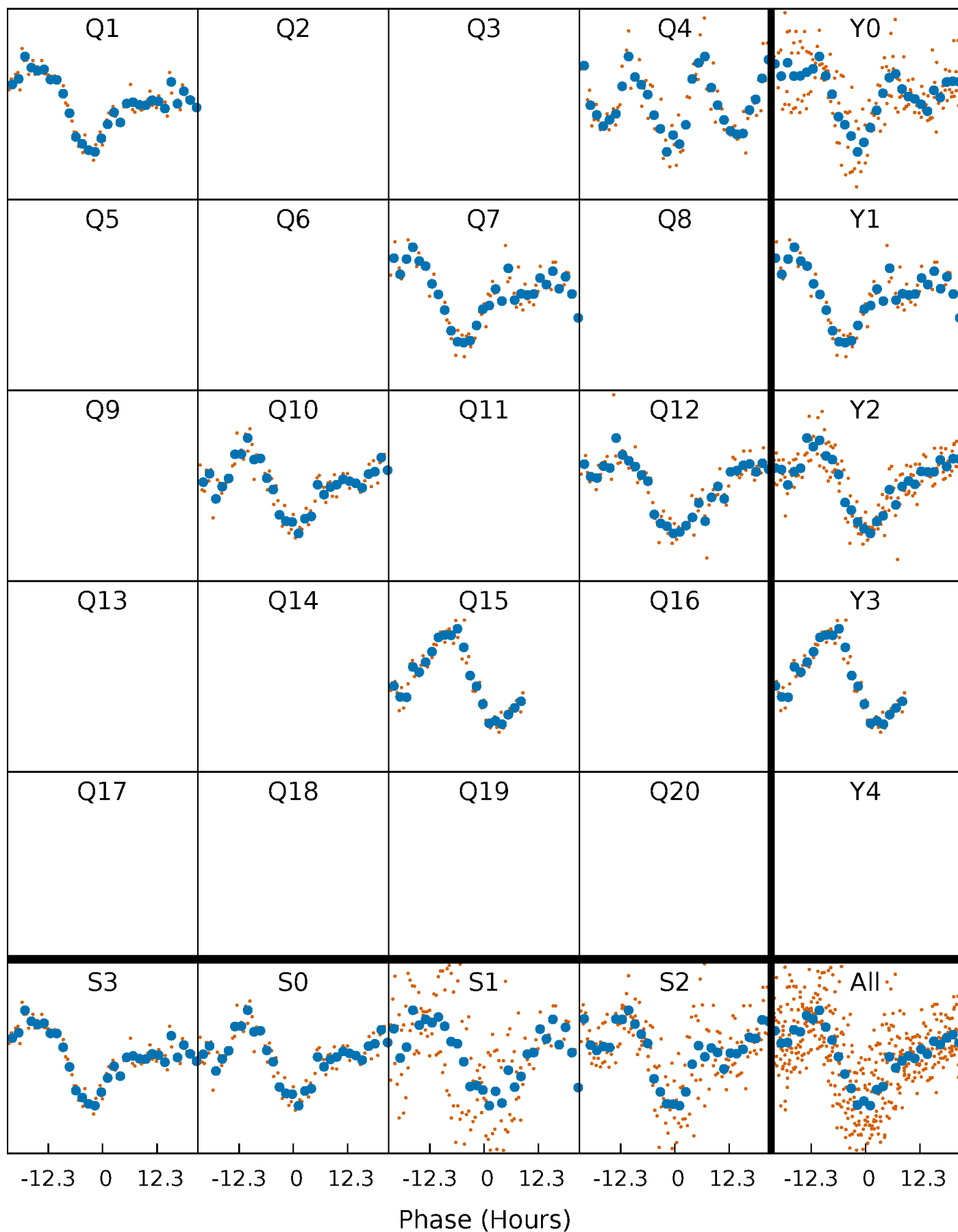


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



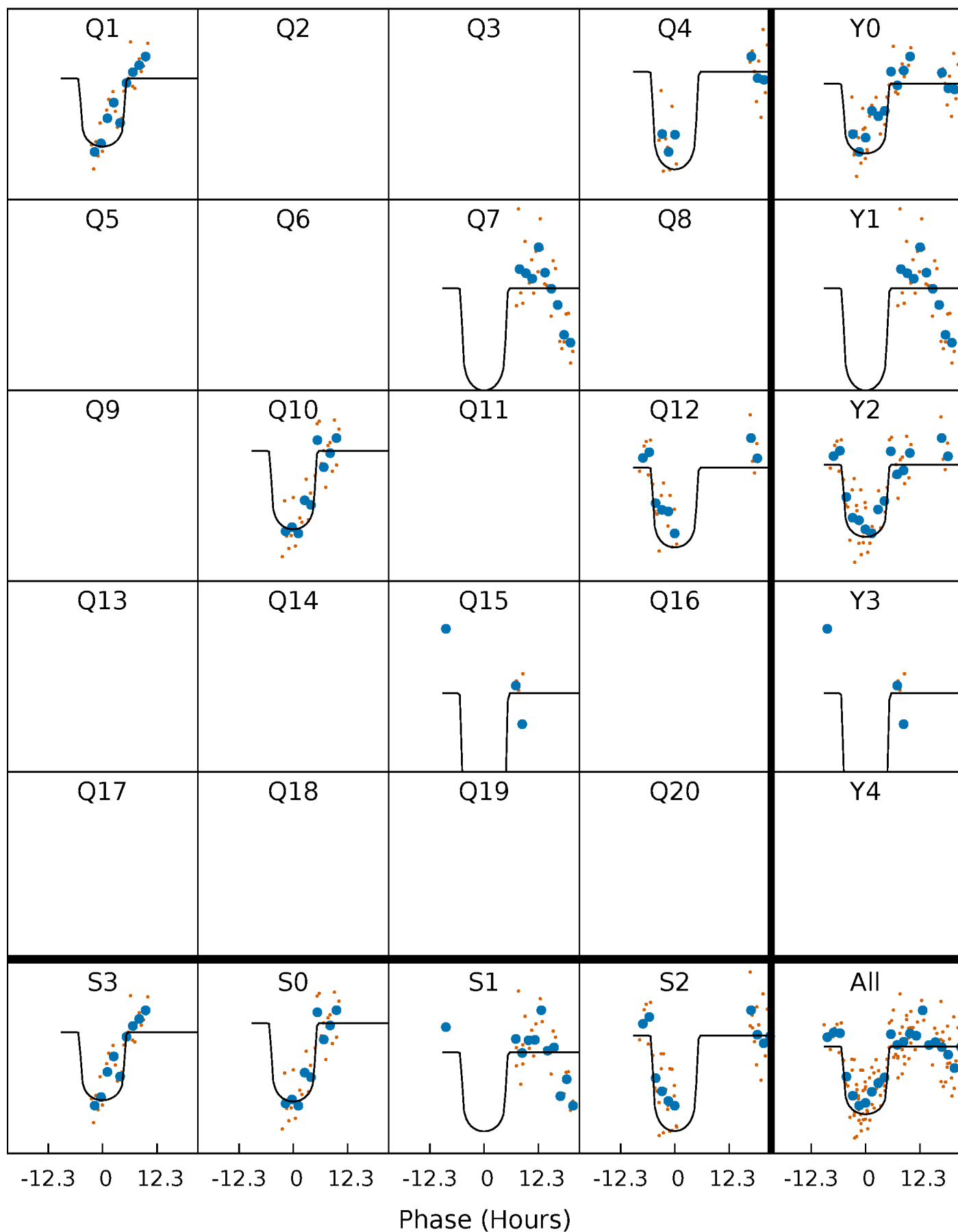
PDC Quarter-Phased Transit Curves

TCE 005722895-03 $P=256.502488$ Days $T_0=152.500725$ (BKJD)



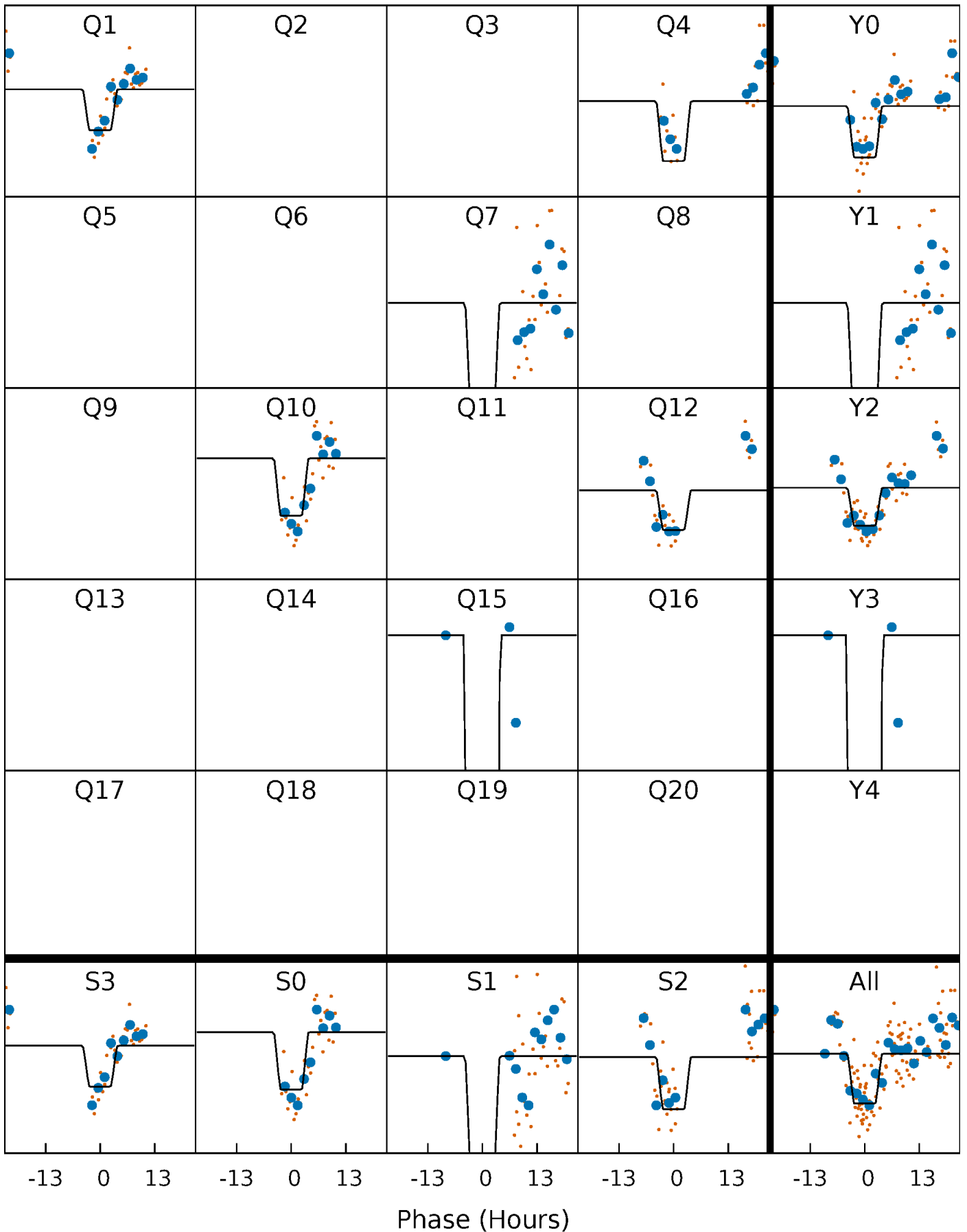
DV Quarter-Phased Transit Curves

TCE 005722895-03 P=256.502488 Days $T_0=152.500725$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

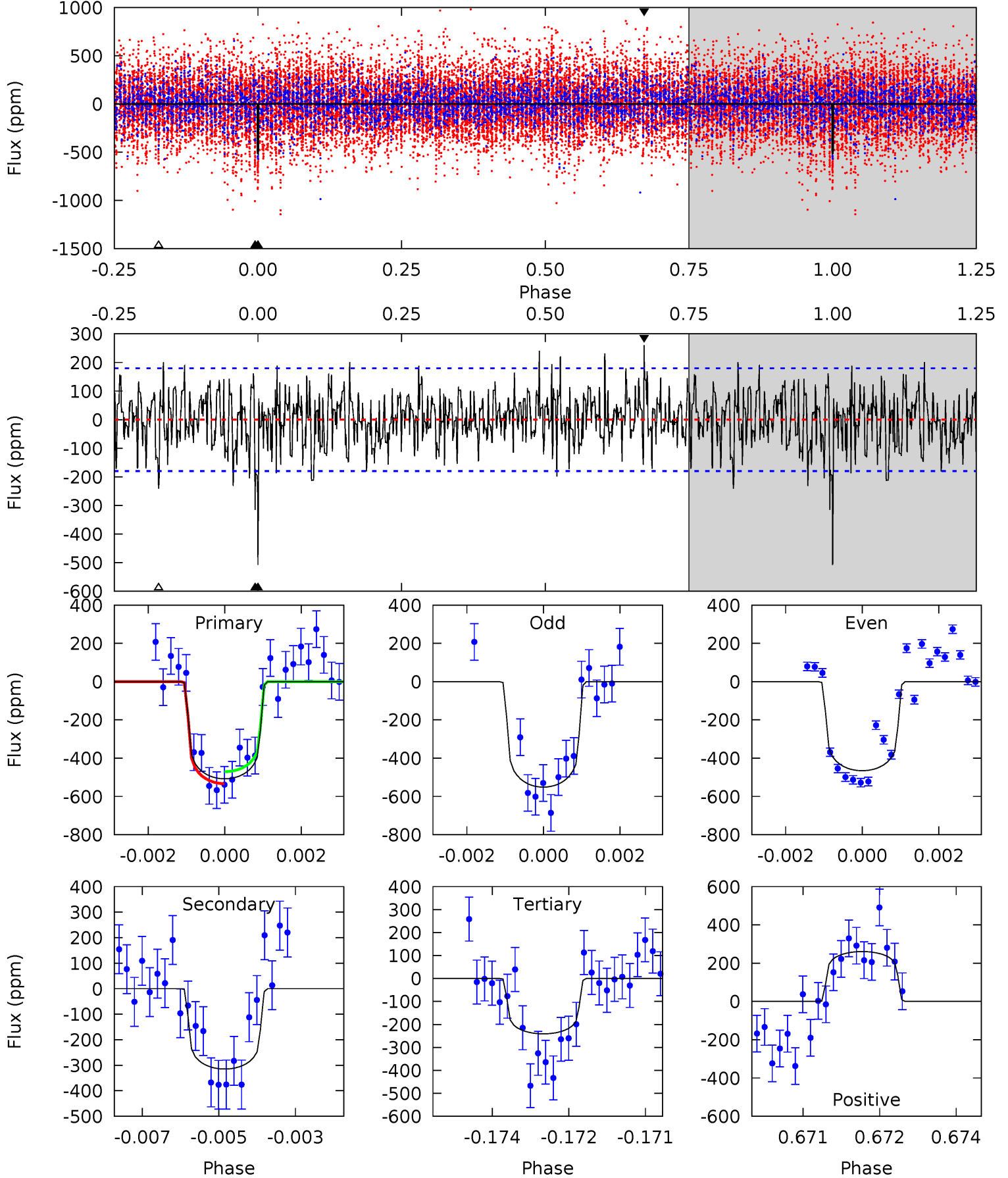
TCE 005722895-03 $P=256.509290$ Days $T_0=152.472365$ (BKJD)



DV Model-Shift Uniqueness Test

005722895-03, P = 256.502488 Days, E = 152.500725 Days

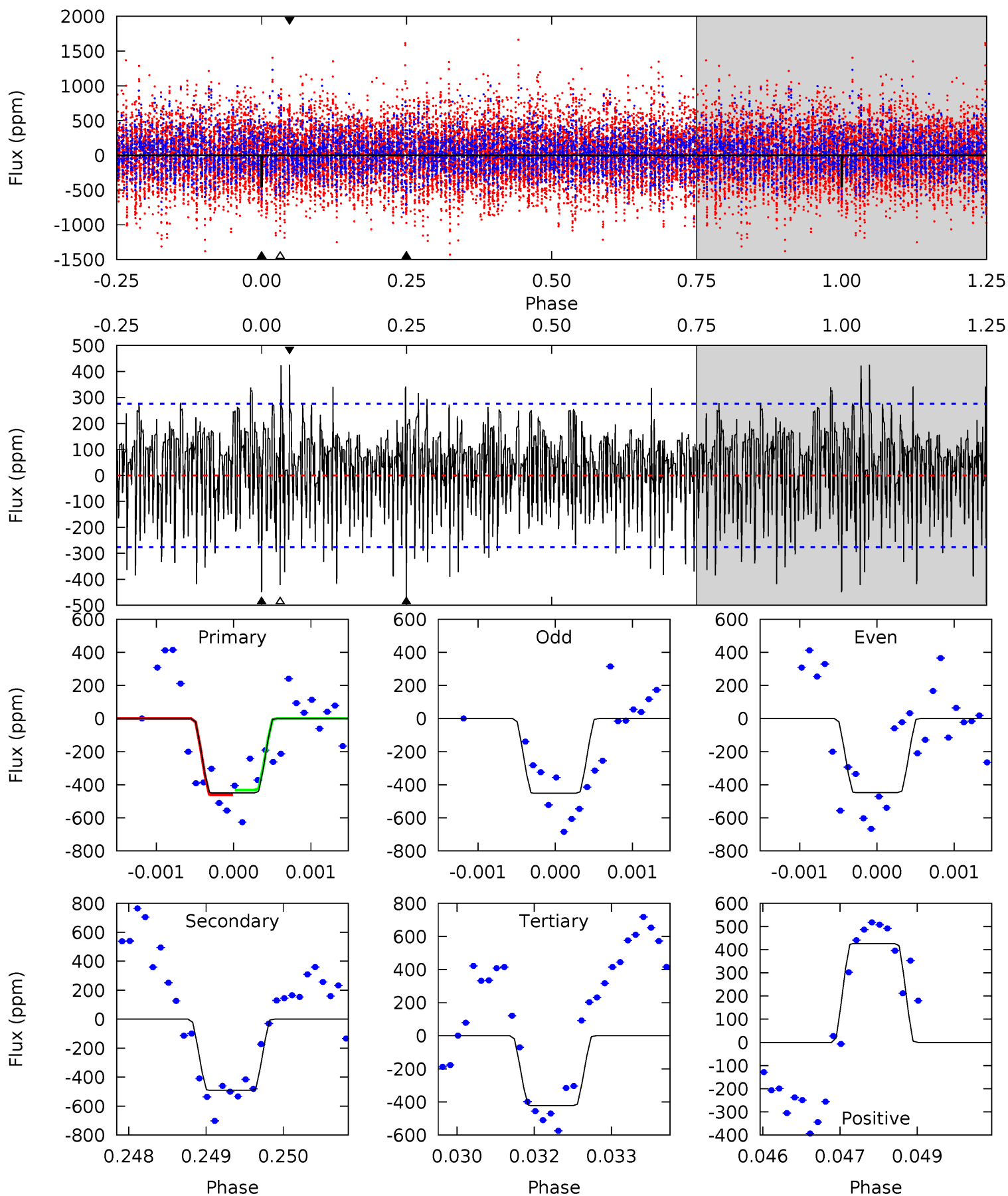
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	9.38	7.18	7.77	5.36	3.14	2.19	7.95	7.36	2.20	1.61	1.27	1.03	0.34	0.93



Alt Model-Shift Uniqueness Test

005722895-03, P = 256.509290 Days, E = 152.472365 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.80	9.61	8.26	8.34	5.40	3.21	2.50	0.54	0.46	1.35	1.27	0.04	0.97	0.46	0.29



Stellar Parameters For KIC 005722895

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6912^{+192}_{-301}	$4.234^{+0.124}_{-0.201}$	$-0.280^{+0.250}_{-0.350}$	$1.432^{+0.446}_{-0.260}$	$1.291^{+0.198}_{-0.198}$	$0.619^{+0.391}_{-0.326}$
	+3%/-4%	+3%/-5%	+89%/-125%	+31%/-18%	+15%/-15%	+63%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005722895-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-315 ± 34	$4.14^{+0.93}_{-0.70}$	552^{+42}_{-35}	5624^{+505}_{-367}	7219^{+3210}_{-2260}
Alt.	-491 ± 51	$3.60^{+0.86}_{-0.67}$	553^{+40}_{-35}	6798^{+738}_{-618}	15094^{+7642}_{-5051}

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 $A_{obs} \gg 1.0$

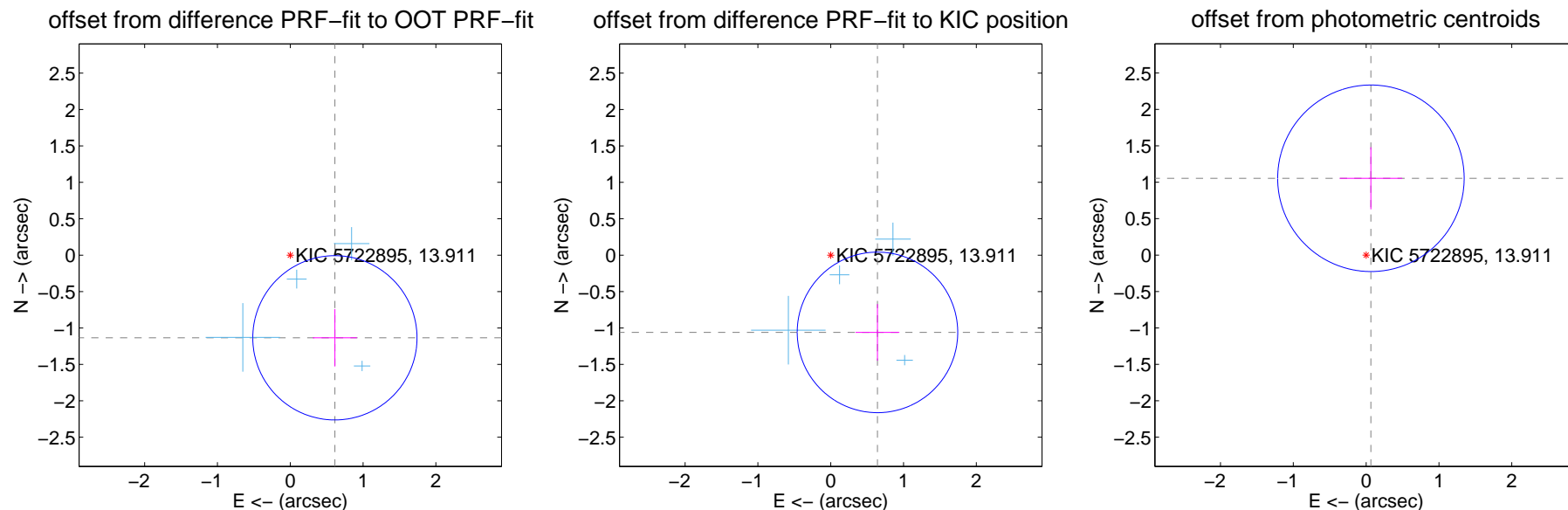
DV Centroid Data

Supplemental centroid analysis for 005722895-03. Kepler magnitude: 13.91. Transit SNR 9.80

There are 4 quarters with good PRF difference image offsets

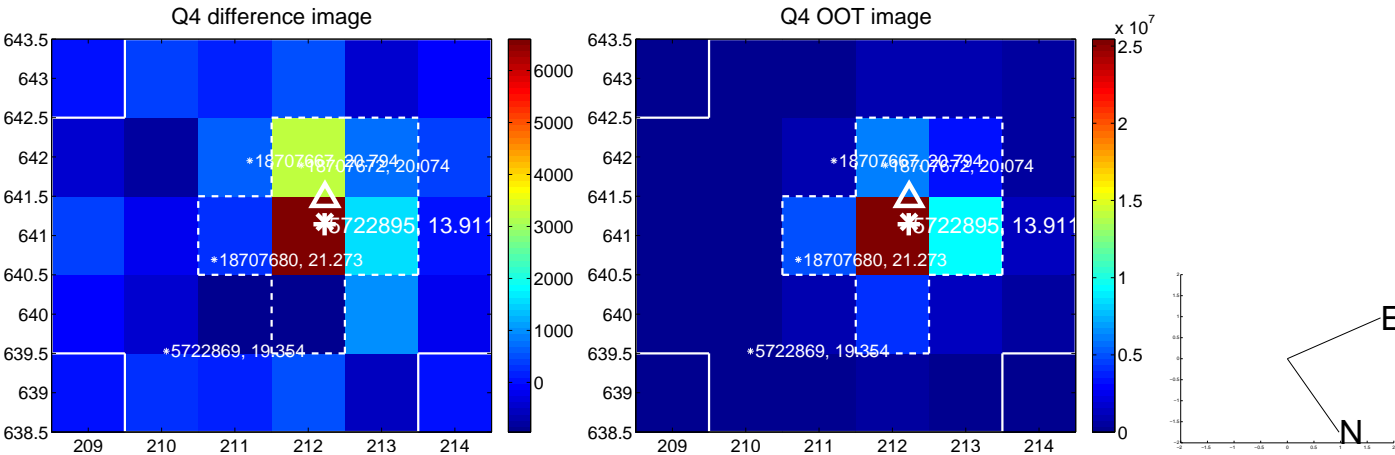
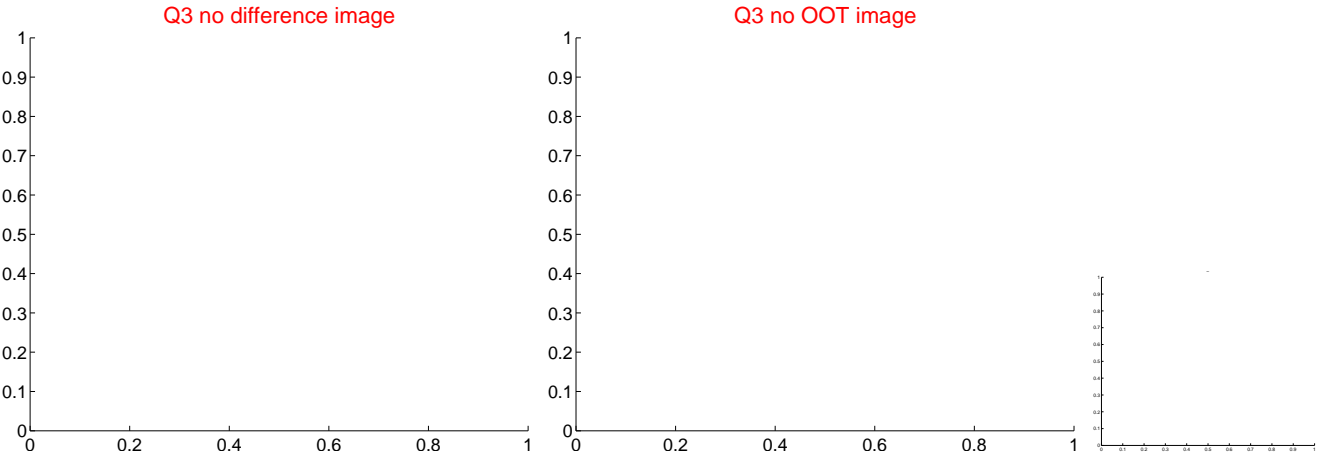
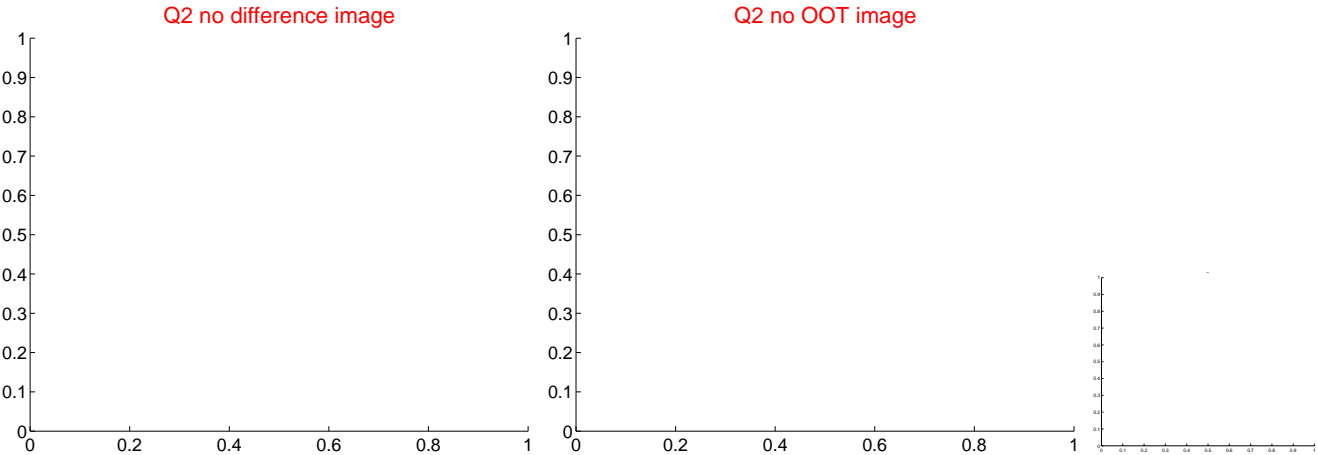
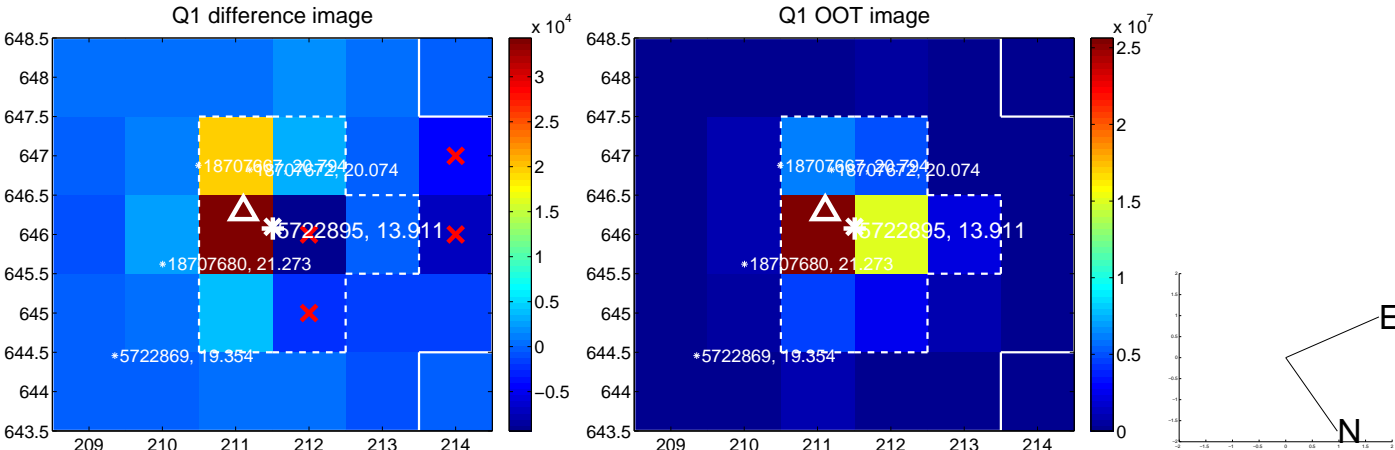
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.290 ± 0.376	3.43	-0.613 ± 0.304	-1.135 ± 0.395
PRF-fit source offset from KIC position	1.240 ± 0.368	3.37	-0.642 ± 0.301	-1.061 ± 0.389
photometric centroid source offset	1.06 ± 0.43	2.48	-0.07 ± 0.43	1.05 ± 0.43

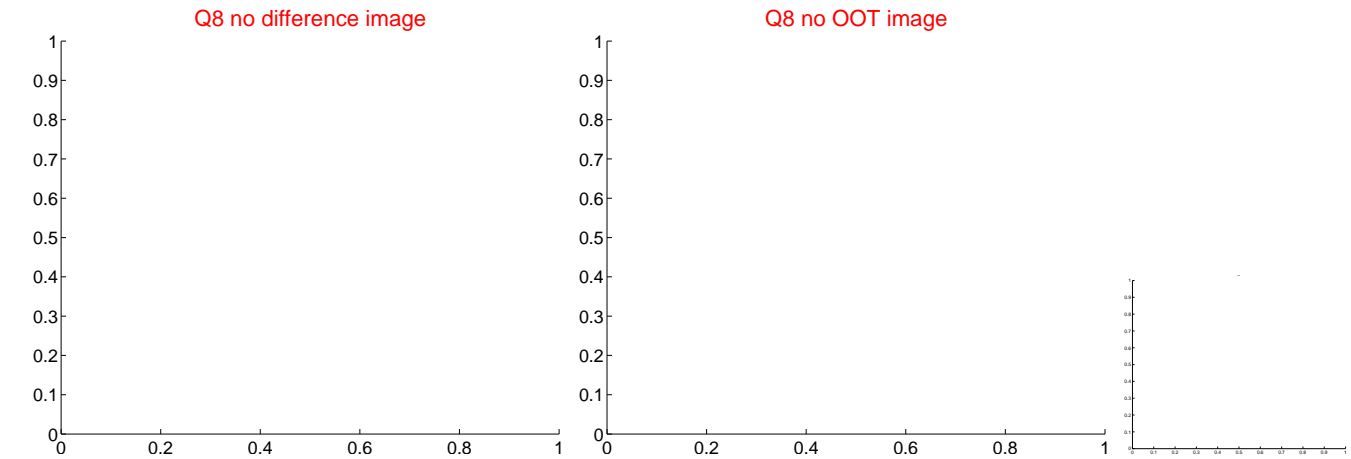
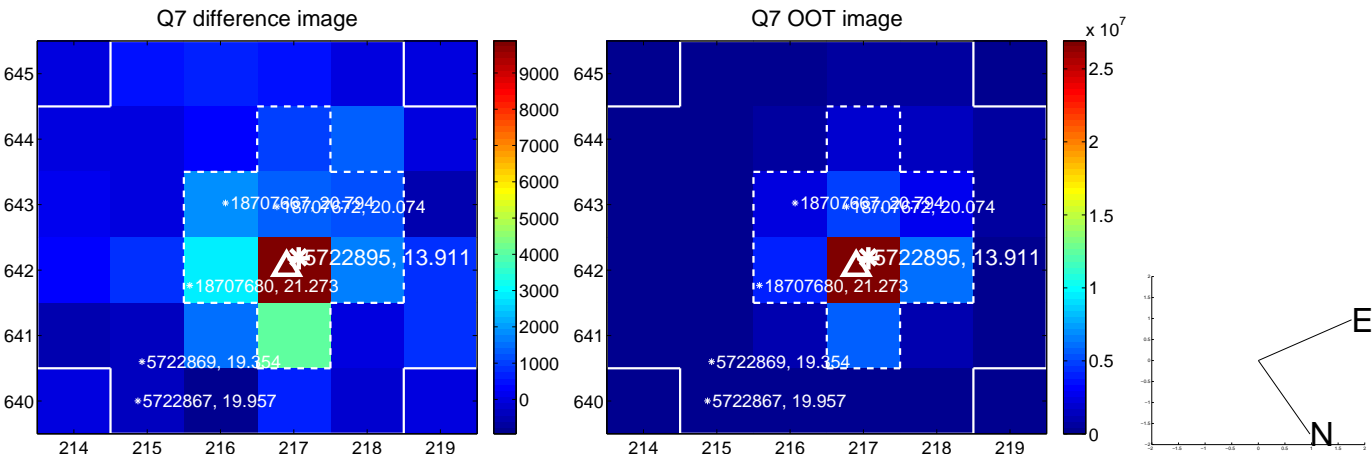
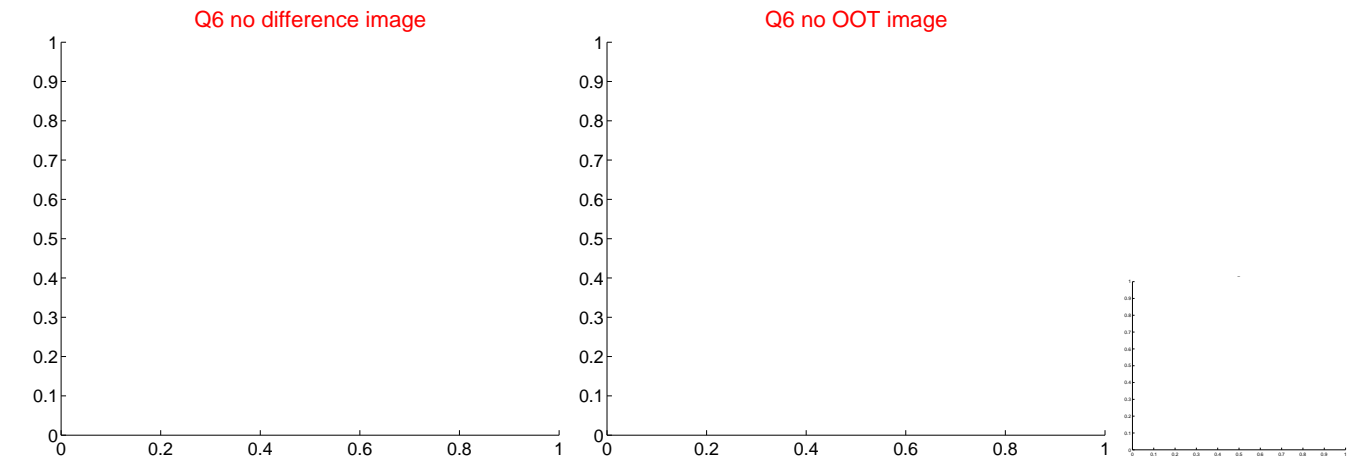
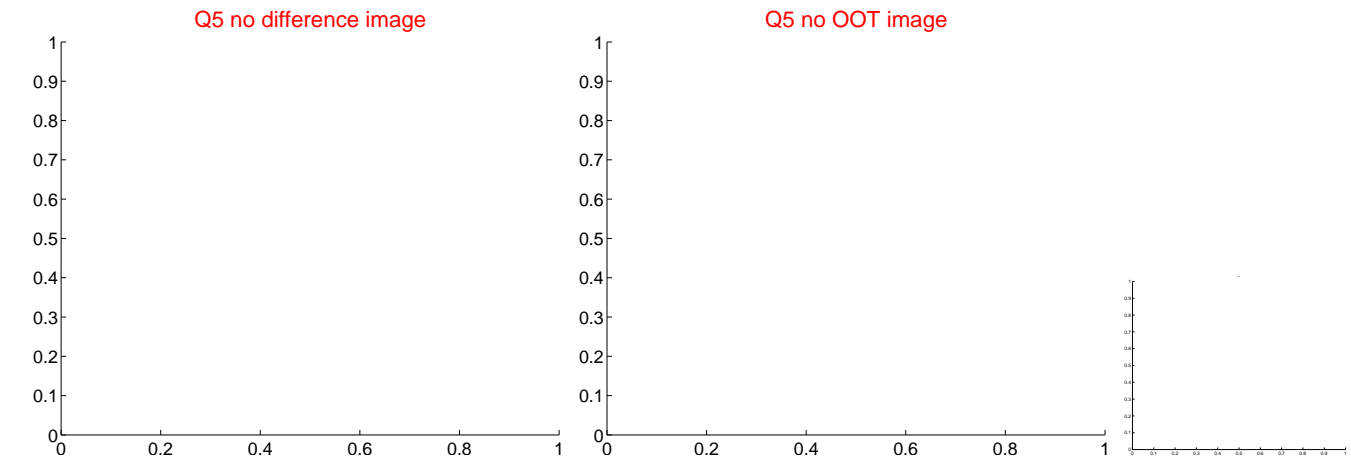


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

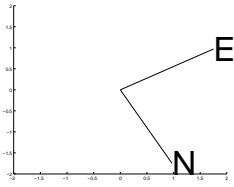
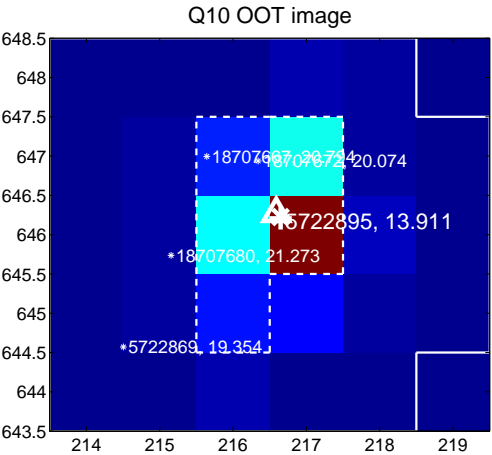
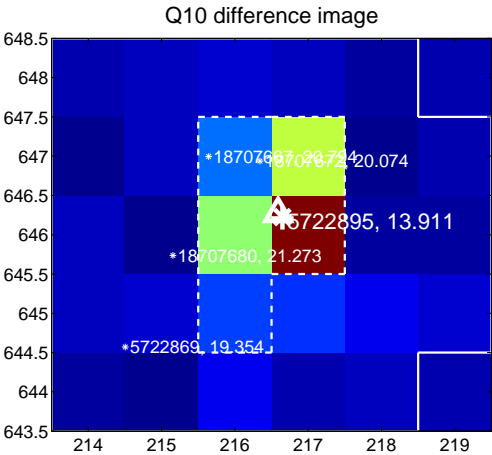


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

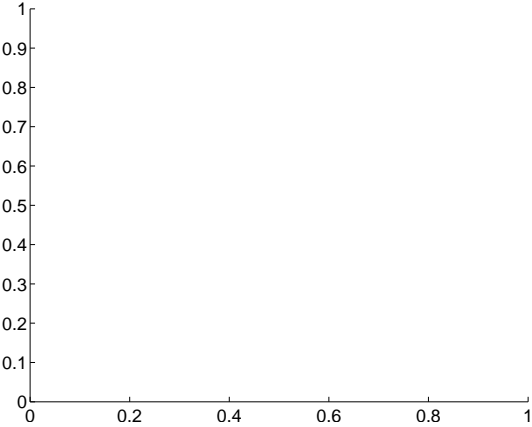
Q9 no difference image



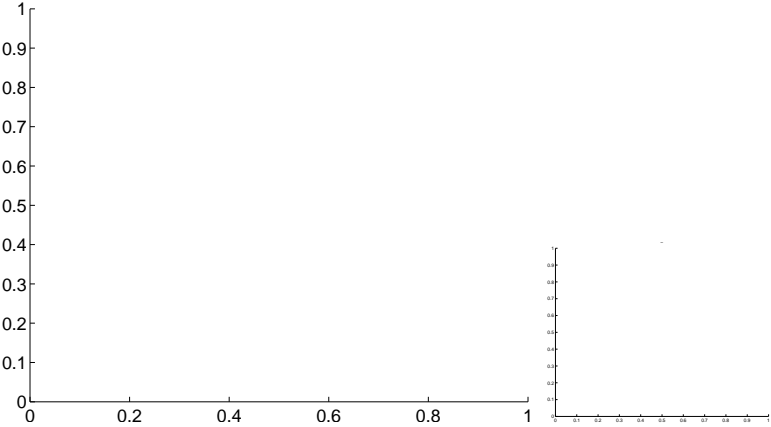
Q9 no OOT image



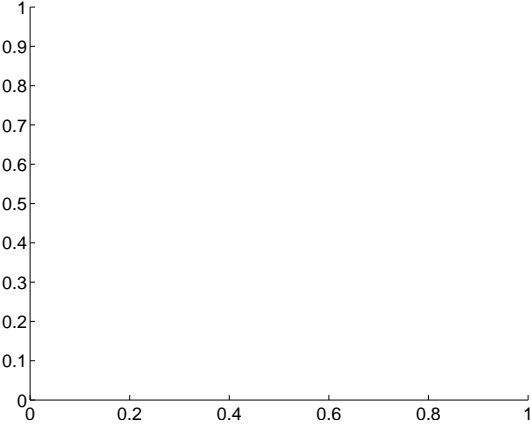
Q11 no difference image



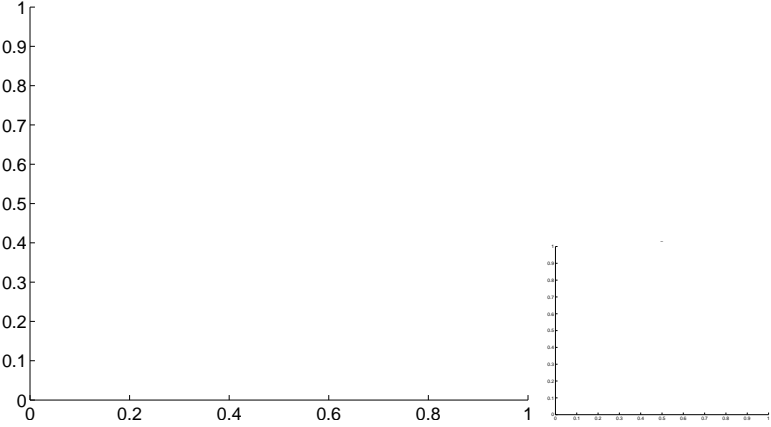
Q11 no OOT image



Q12 no difference image



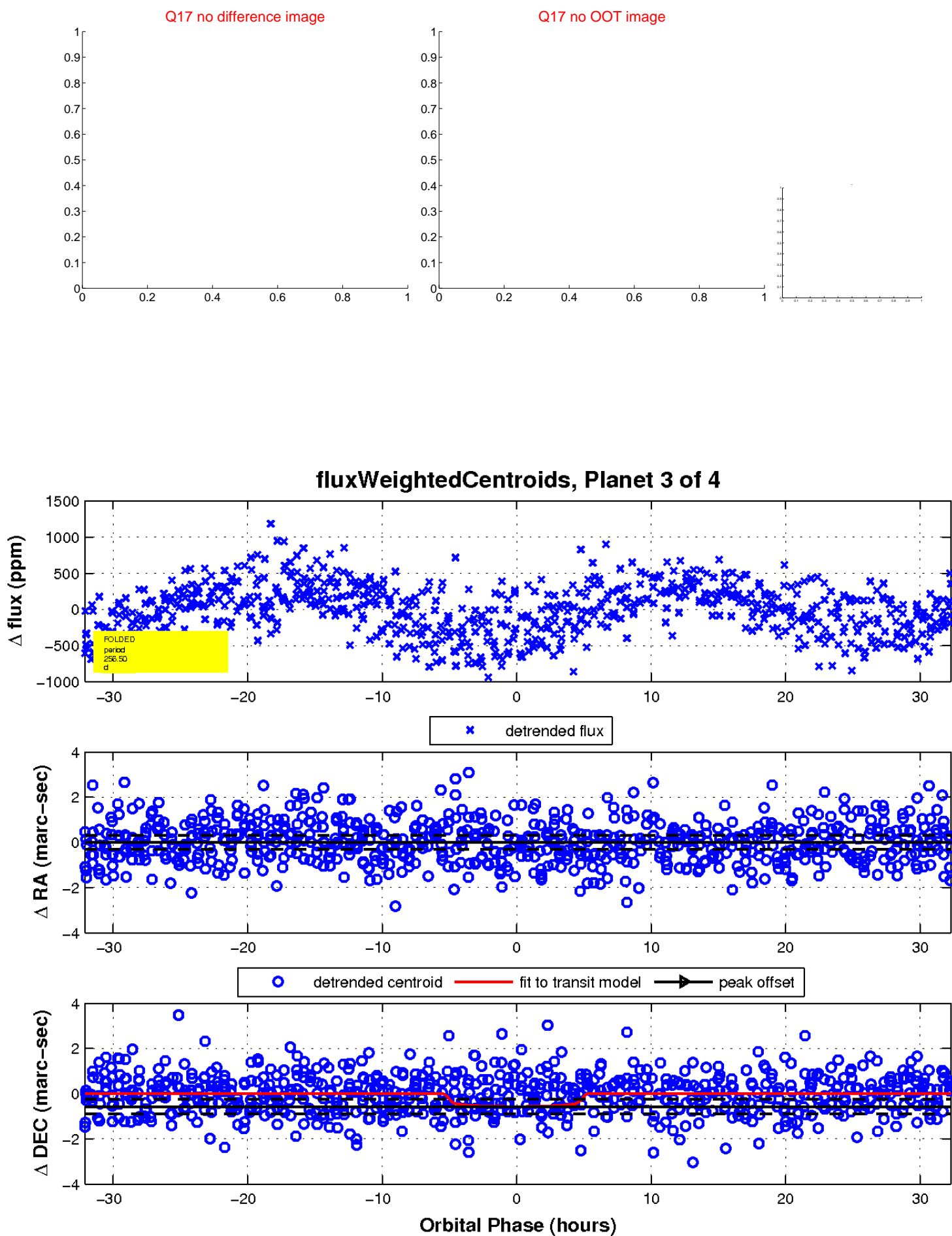
Q12 no OOT image



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

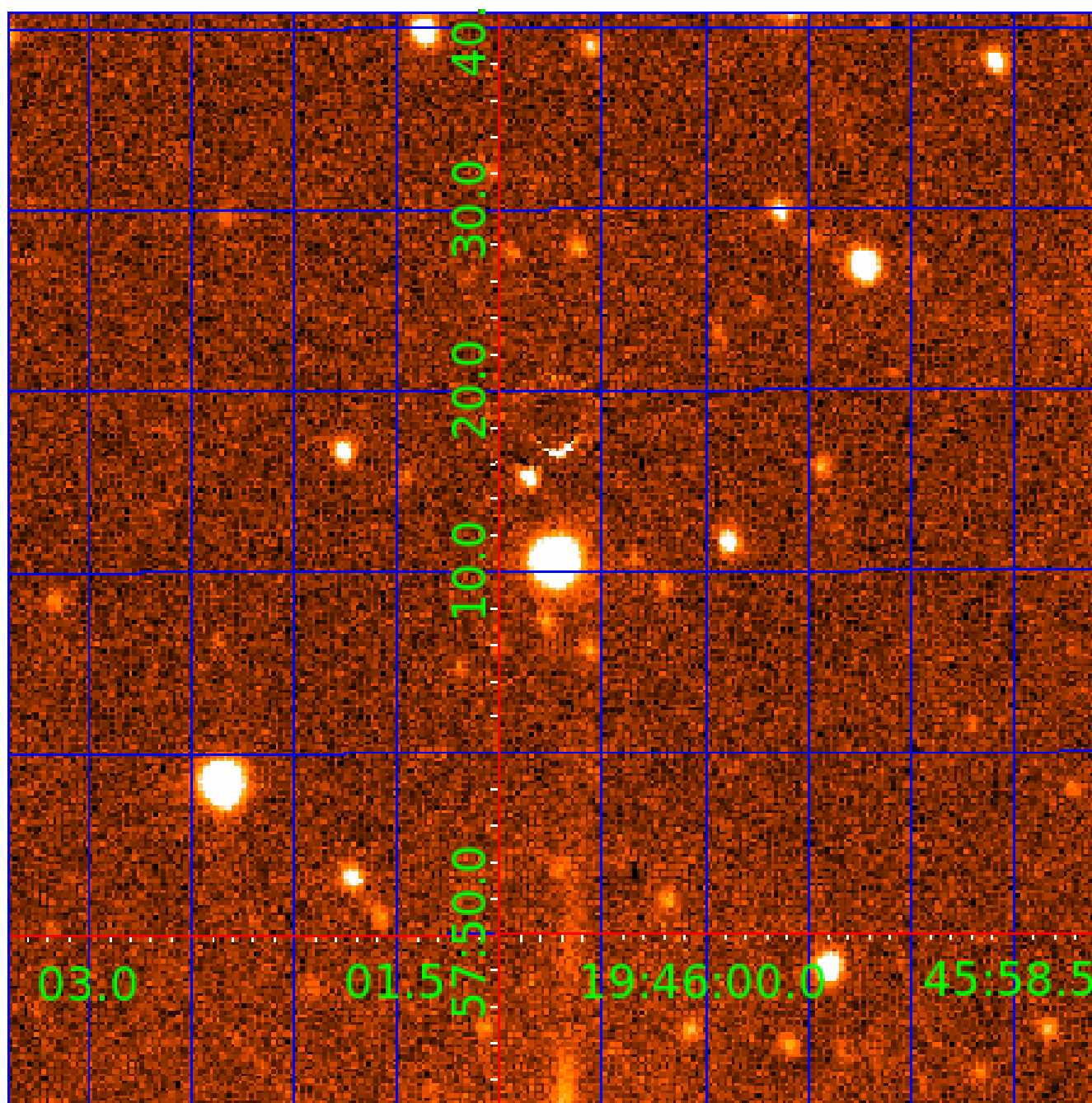


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005722895

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})
005722895-01	OBS	No	1.928152	132.708277	68.0	6.251	11.6	12.2	1.43	6912	2.06	3864.41
005722895-02	OBS	No	1.231220	132.339136	46.4	5.250	8.9	10.4	1.43	6912	1.03	7027.87
005722895-03	OBS	No	256.502488	152.500725	651.4	10.787	9.4	9.8	1.43	6912	4.06	5.69
005722895-04	OBS	No	111.771146	162.567326	350.6	8.659	8.6	6.3	1.43	6912	2.92	17.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005722895-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
005722895-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005722895-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005722895-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

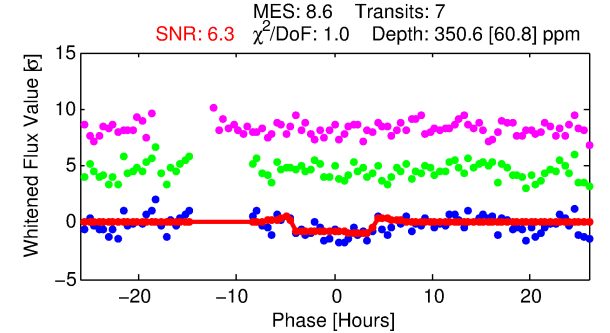
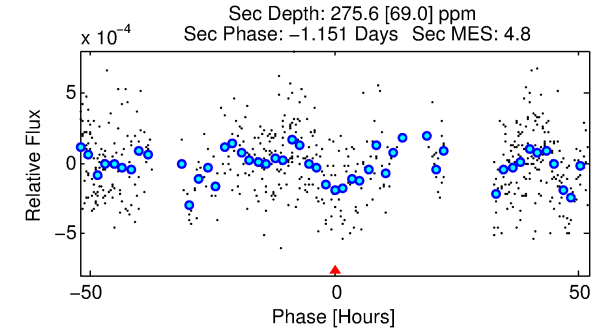
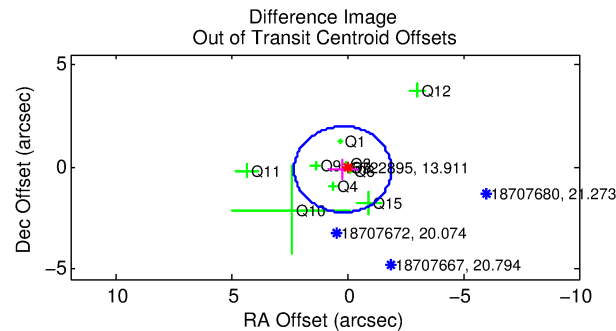
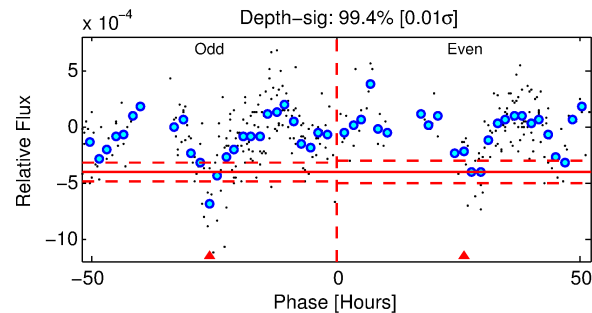
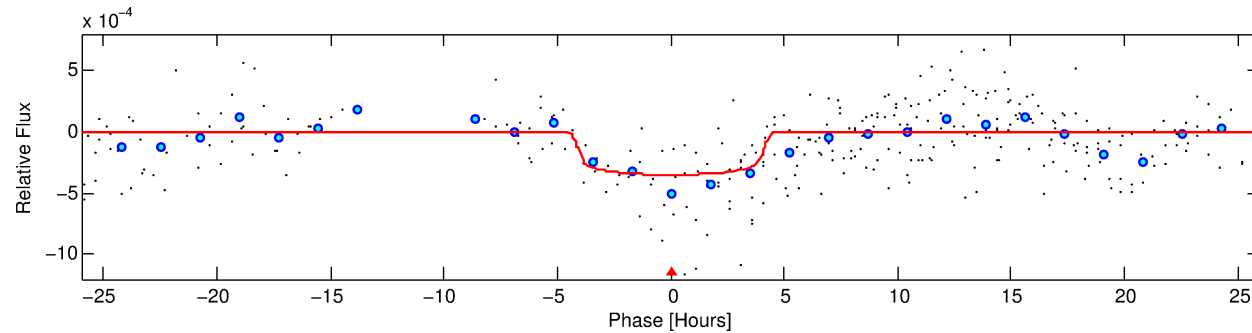
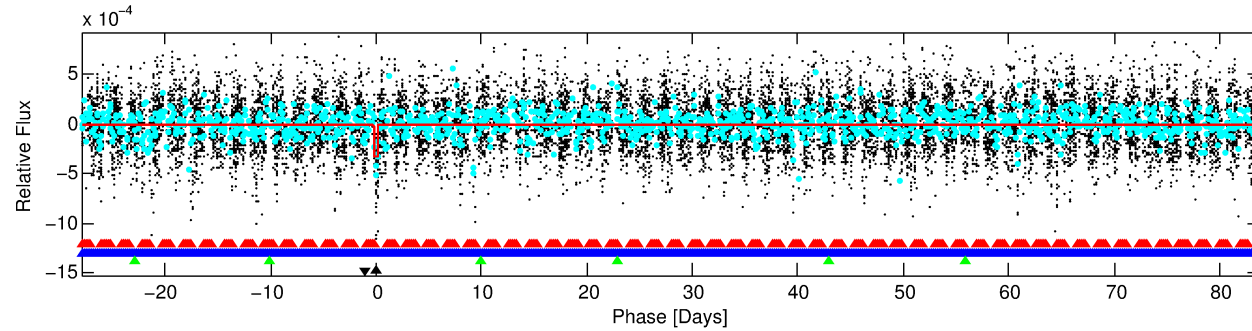
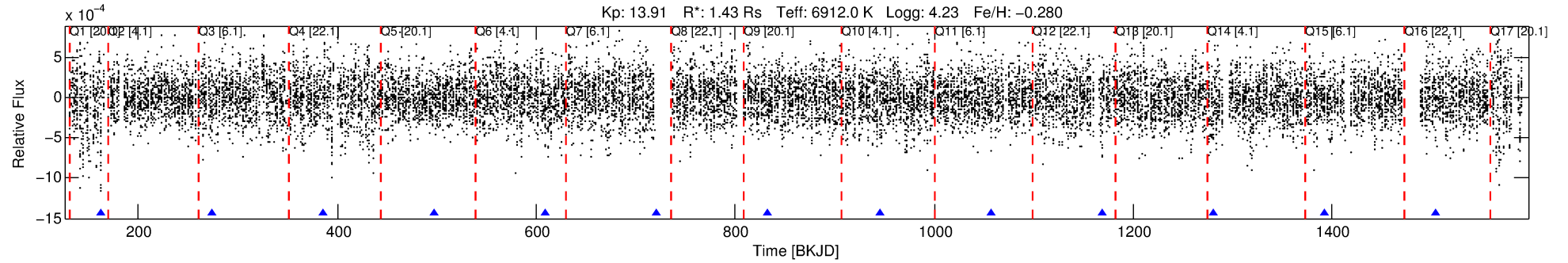
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005722895-04

No Significant Match Found

DV One-Page Summary

KIC: 5722895 Candidate: 4 of 4 Period: 111.771 d



DV Fit Results:

Period = 111.77115 [0.00175] d
Epoch = 162.5673 [0.0117] BKJD
Rp/R* = 0.0187 [0.0110]
a/R* = 66.66 [228.30]
b = 0.76 [1.89]
Seff = 17.23 [7.07]
Teq = 519 [53] K
Rp = 2.92 [1.94] Re
a = 0.4934 [0.1276] AU
Ag = 4330.71 [5439.89] [0.80σ]
Teffp = 6515 [1975] K [3.04σ]

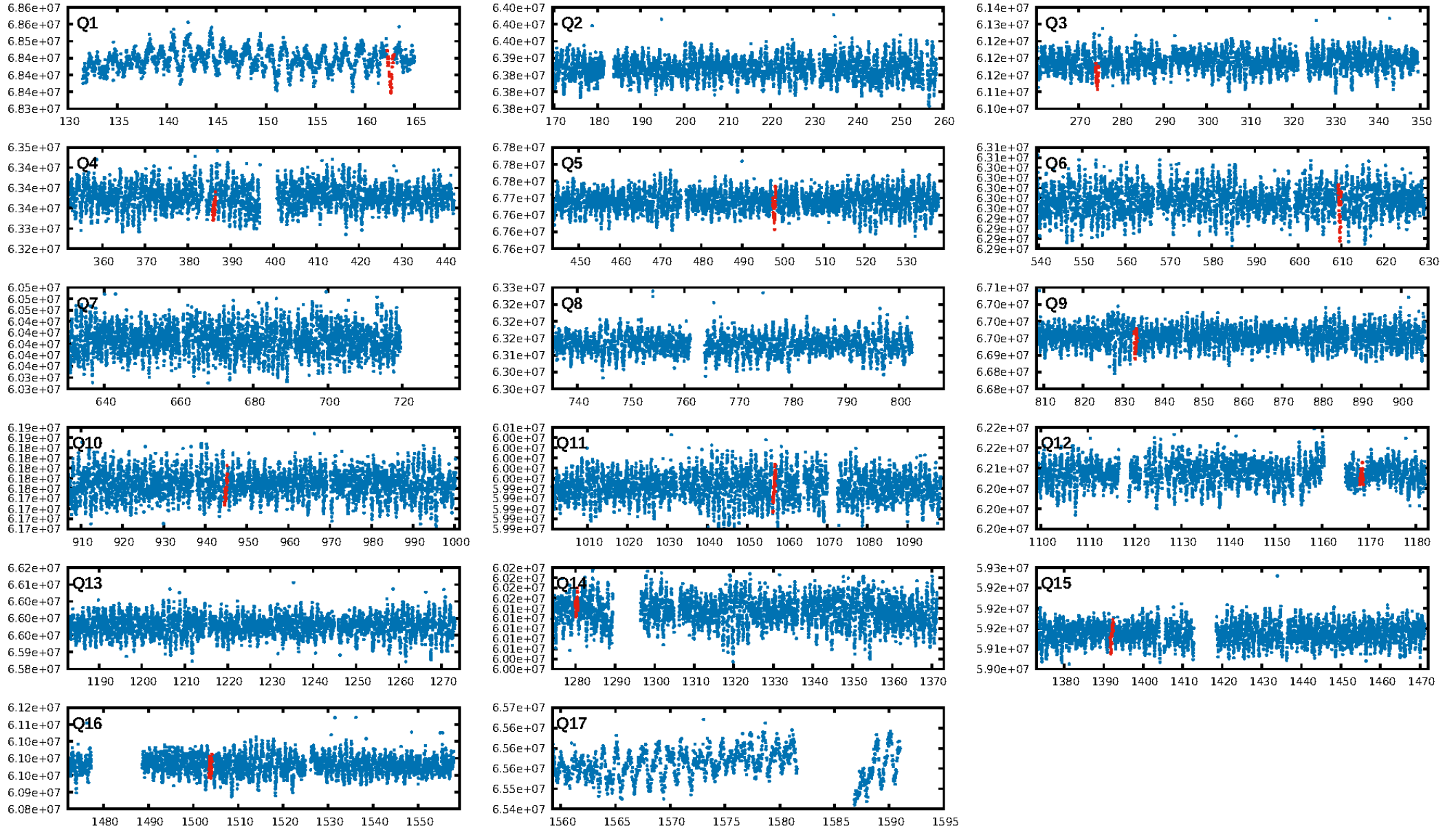
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [246.85σ]
LongPeriod-sig: 100.0% [251.11σ]
ModelChiSquare2-sig: 8.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.10e-09
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.1836
Centroid-sig: 5.5%
Centroid-so: 1.112 arcsec [1.84σ]
OotOffset-rm: 0.252 arcsec [0.36σ]
KicOffset-rm: 0.191 arcsec [0.30σ]
OotOffset-st: 2/3/2/3 [10]
KicOffset-st: 2/3/2/3 [10]
DiffImageQuality-fgm: 0.70 [7/10]
DiffImageOverlap-fno: 0.00 [0/12]

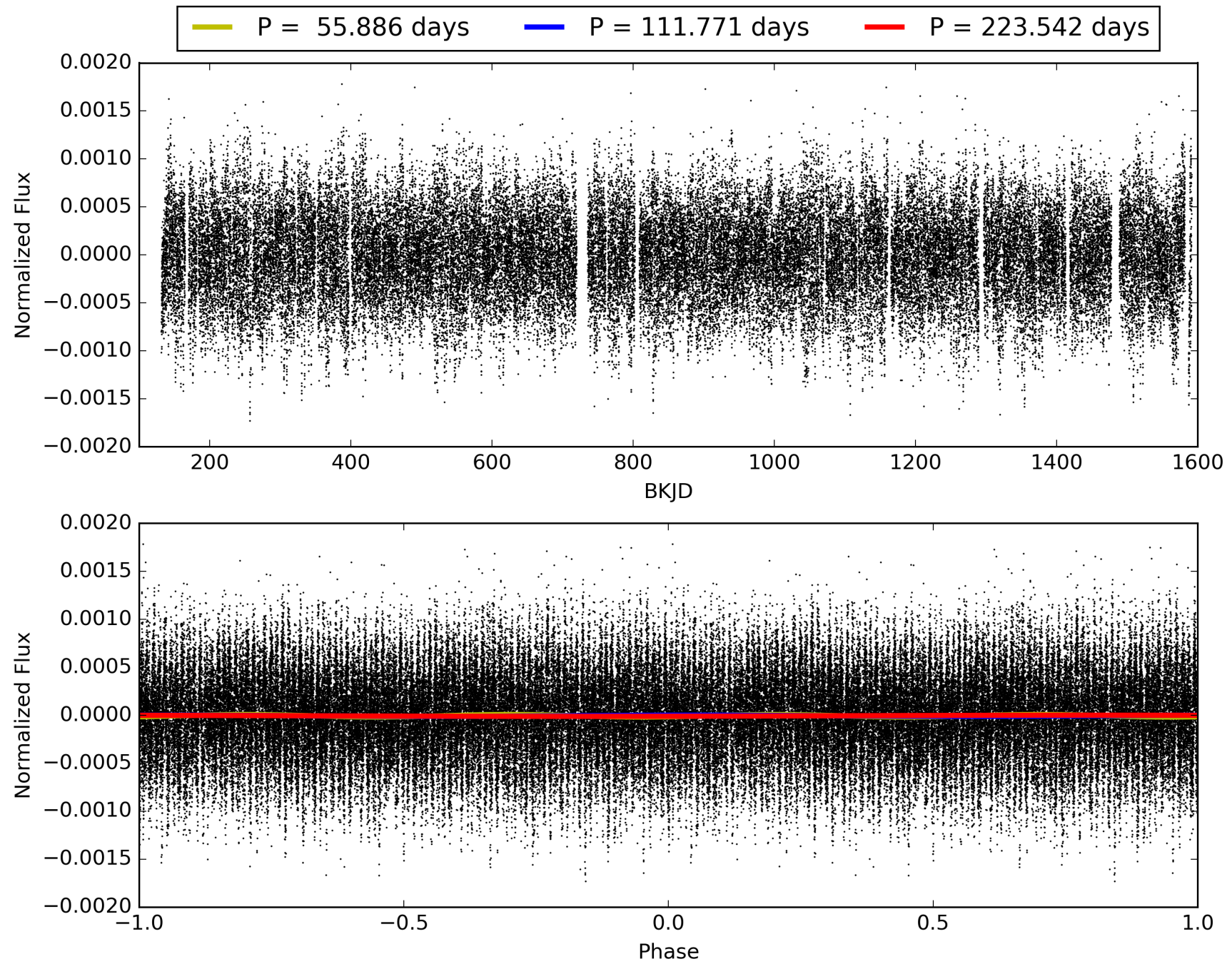
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:33:06 Z

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

TCE 005722895-04, PDC Light Curves

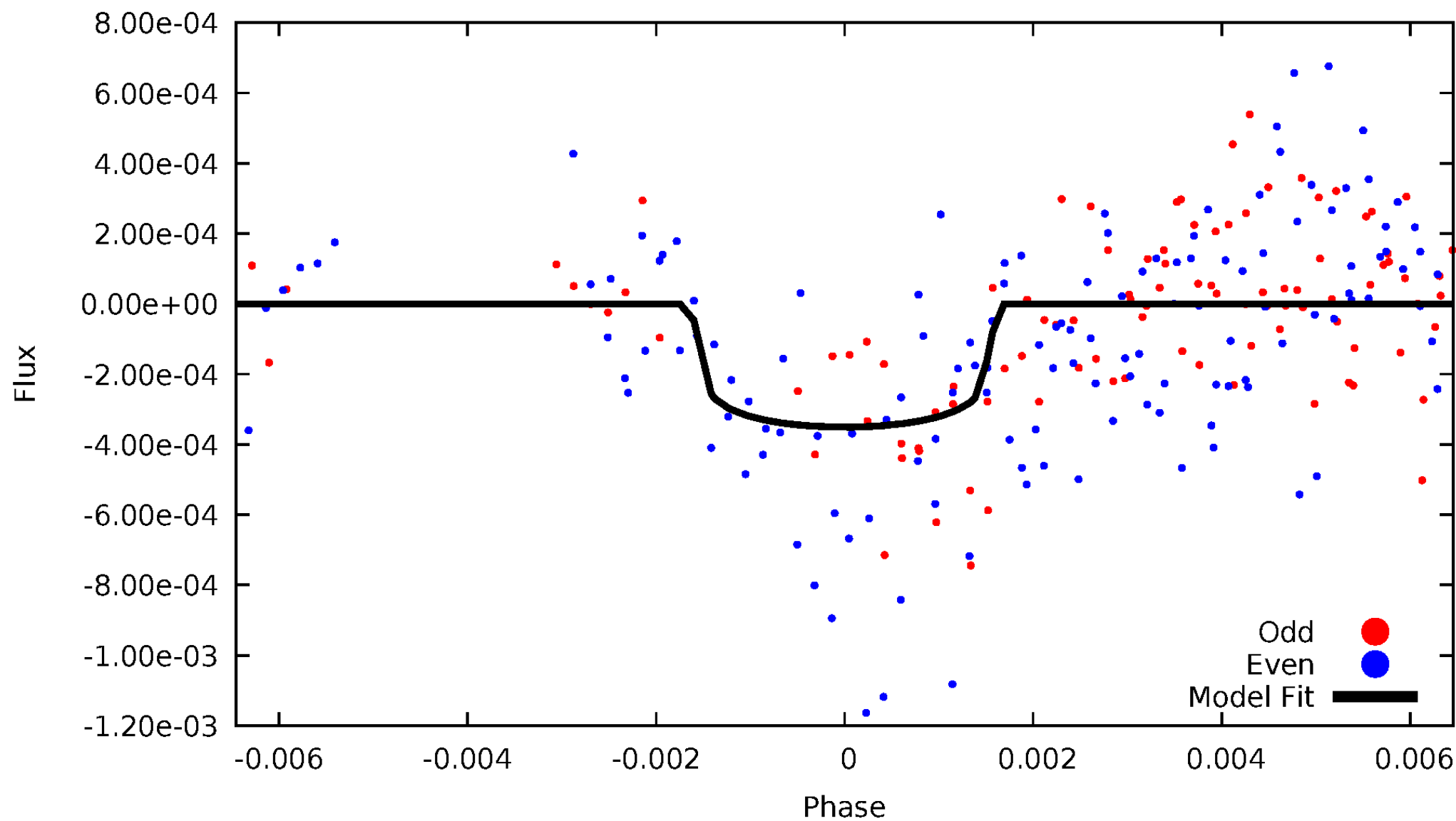


TCE 005722895-04



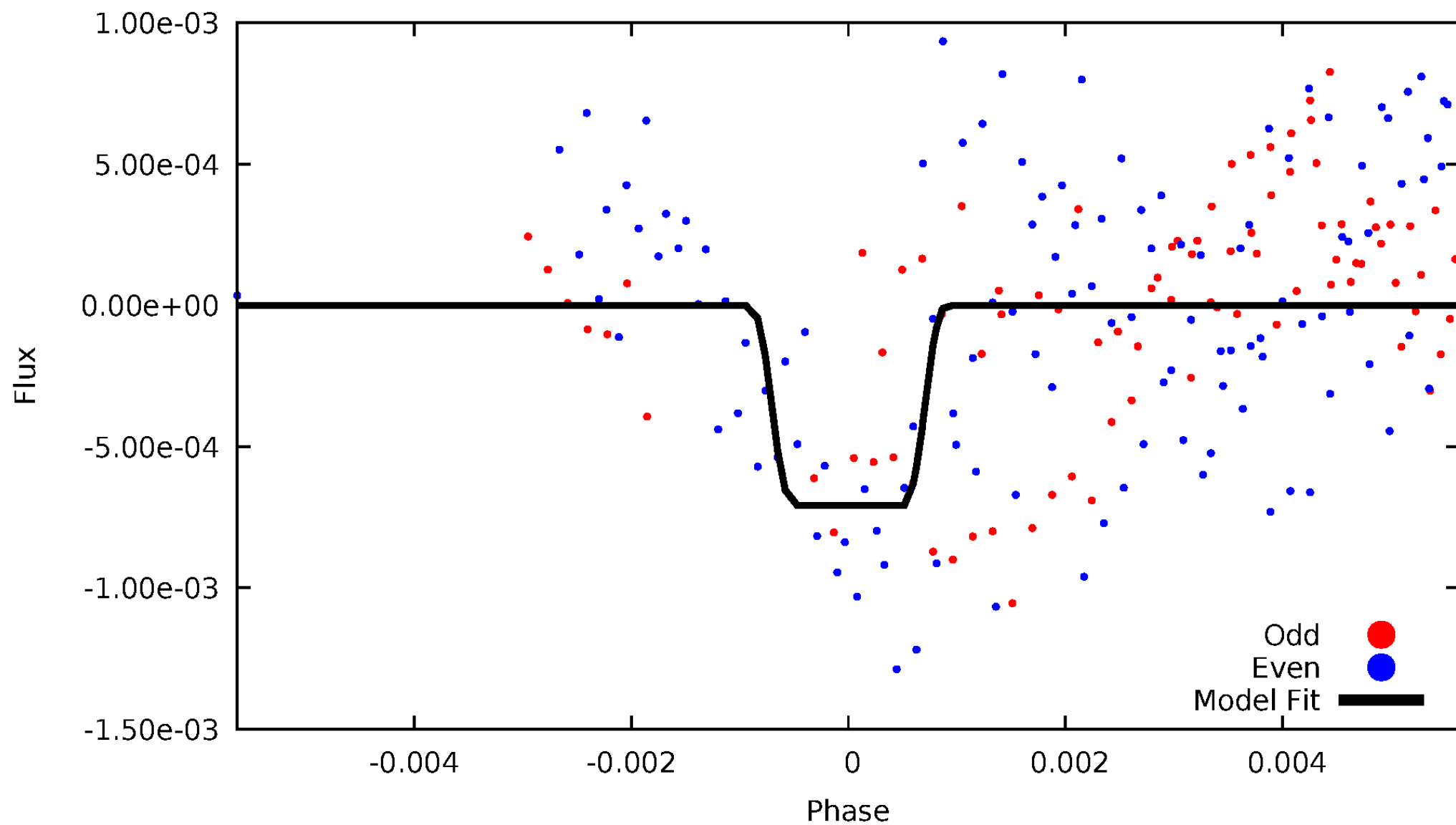
DV Odd/Even

TCE 005722895-04



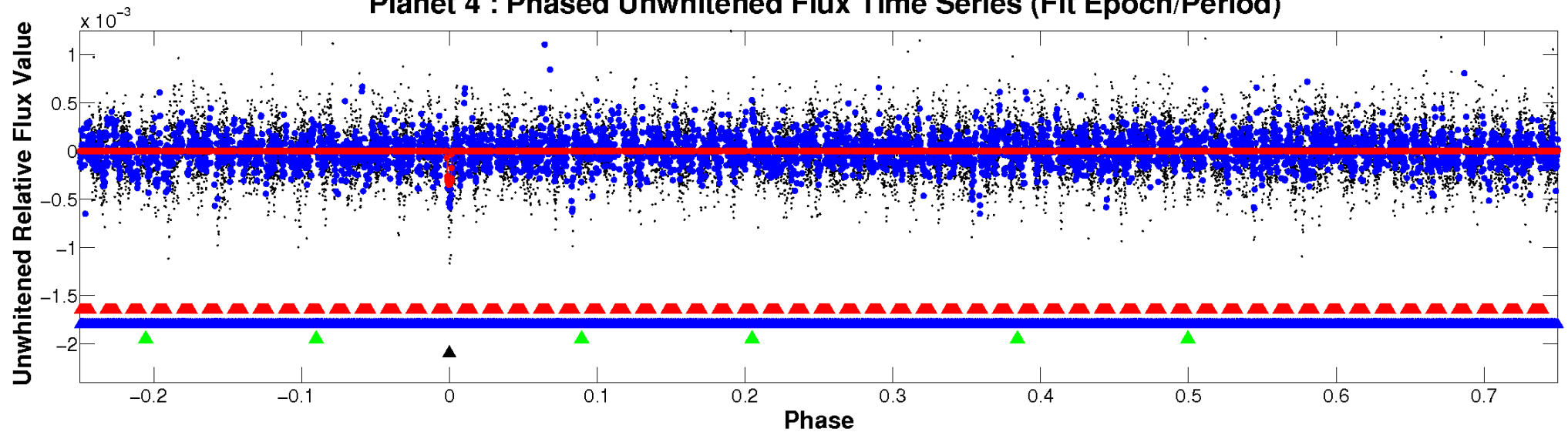
ALT Odd/Even

TCE 005722895-04

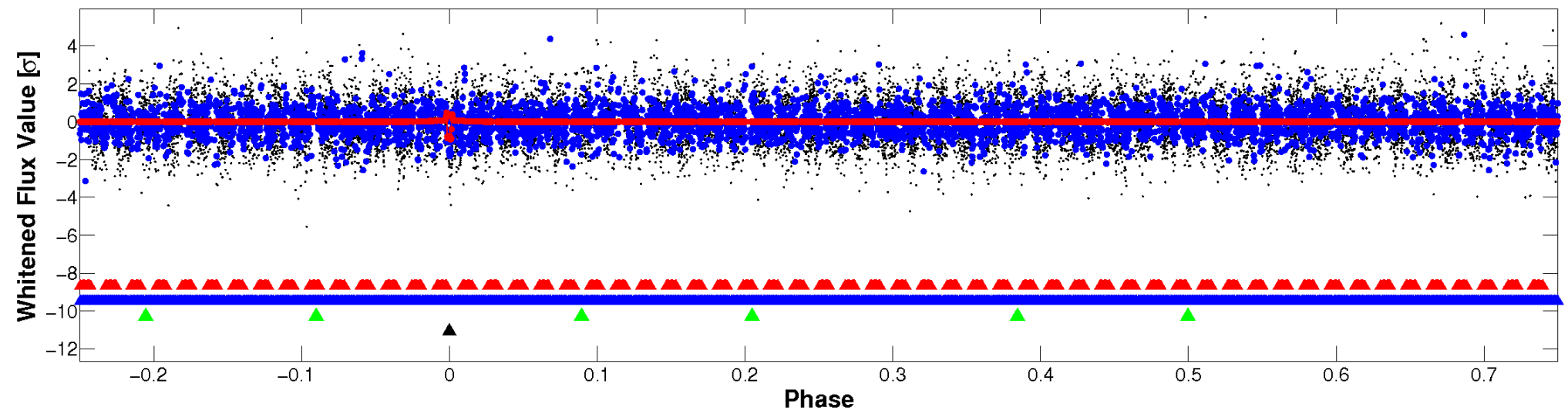


Non-Whitened Vs. Whitened Light Curve

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

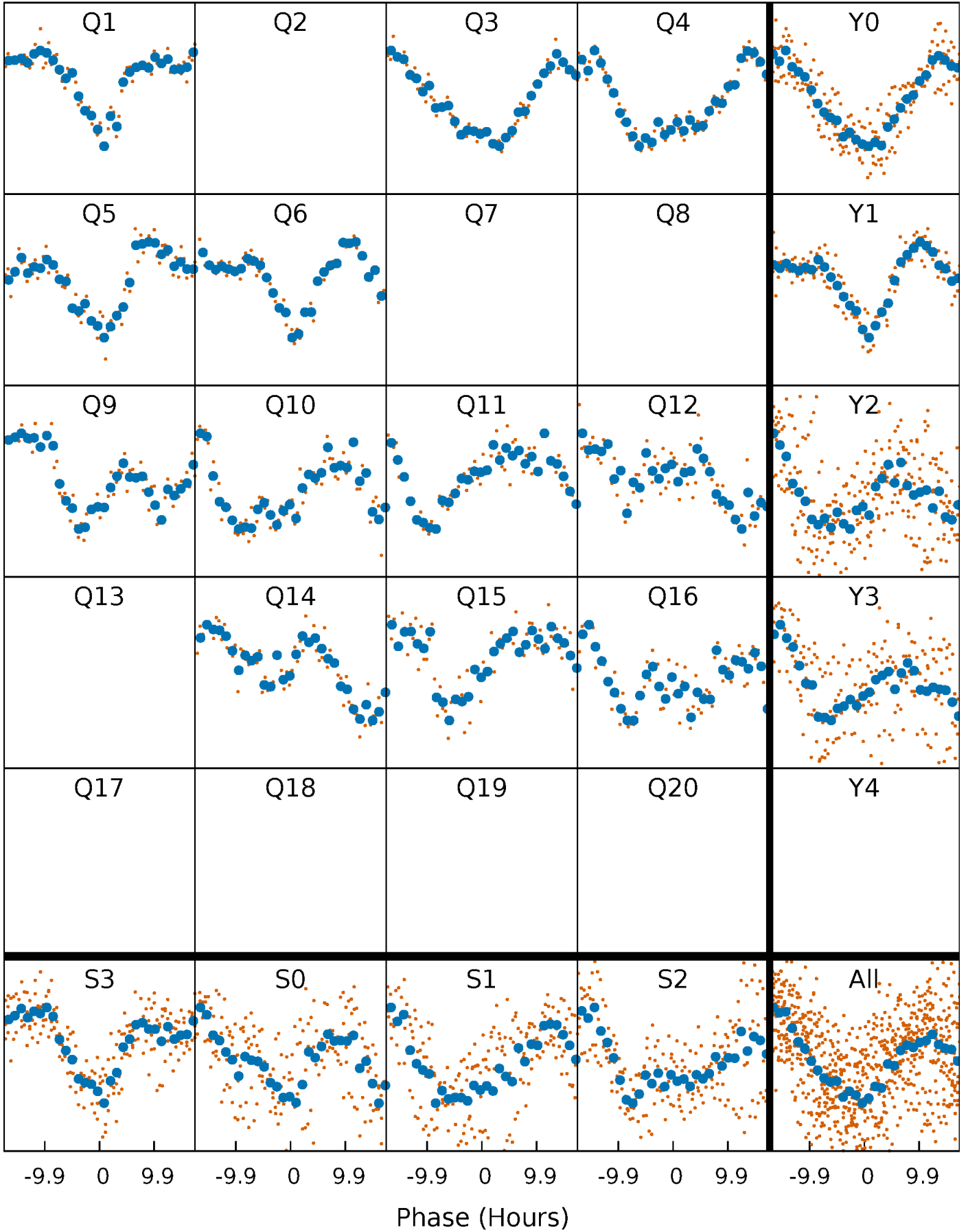


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



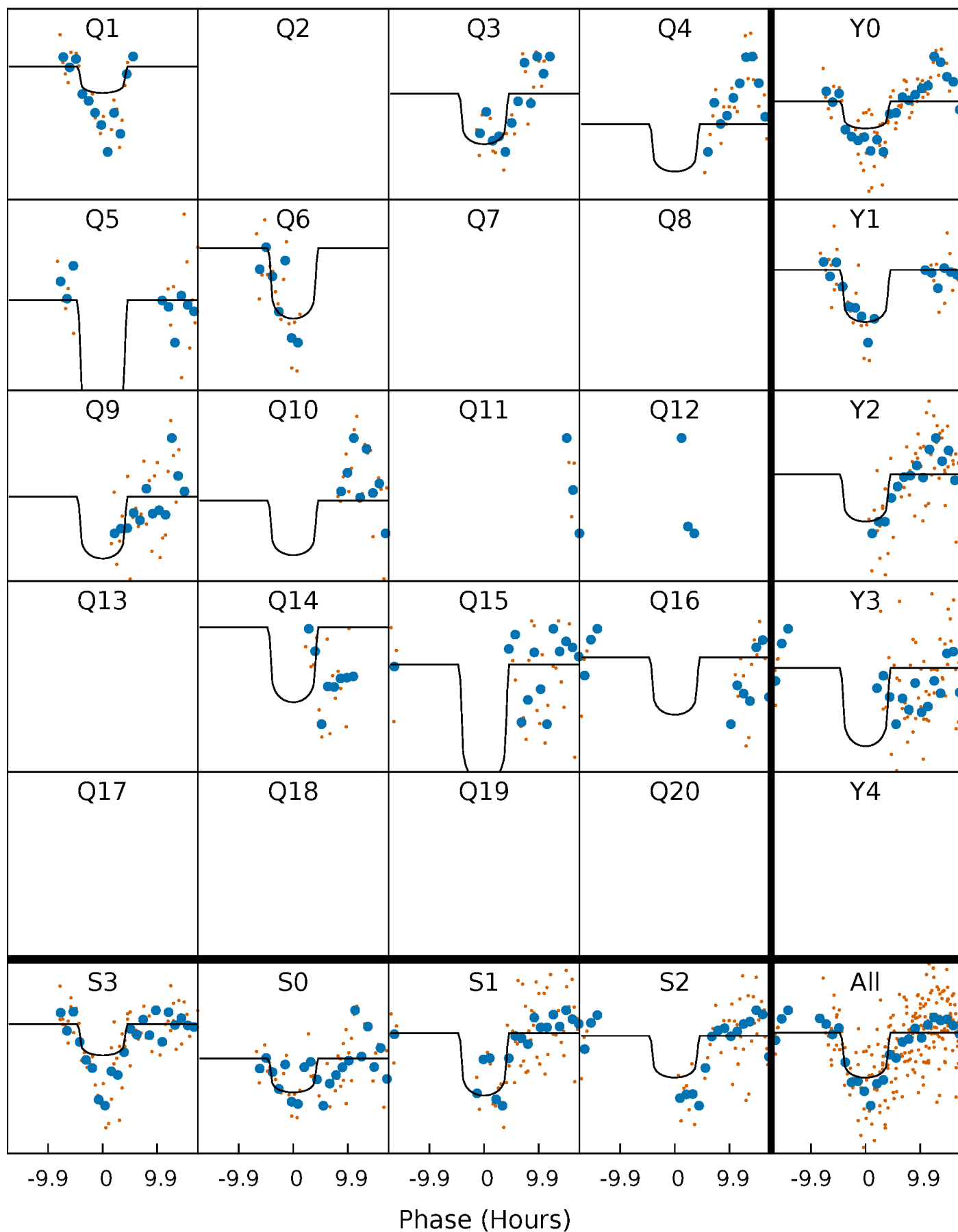
PDC Quarter-Phased Transit Curves

TCE 005722895-04 P=111.771146 Days $T_0=162.567326$ (BKJD)



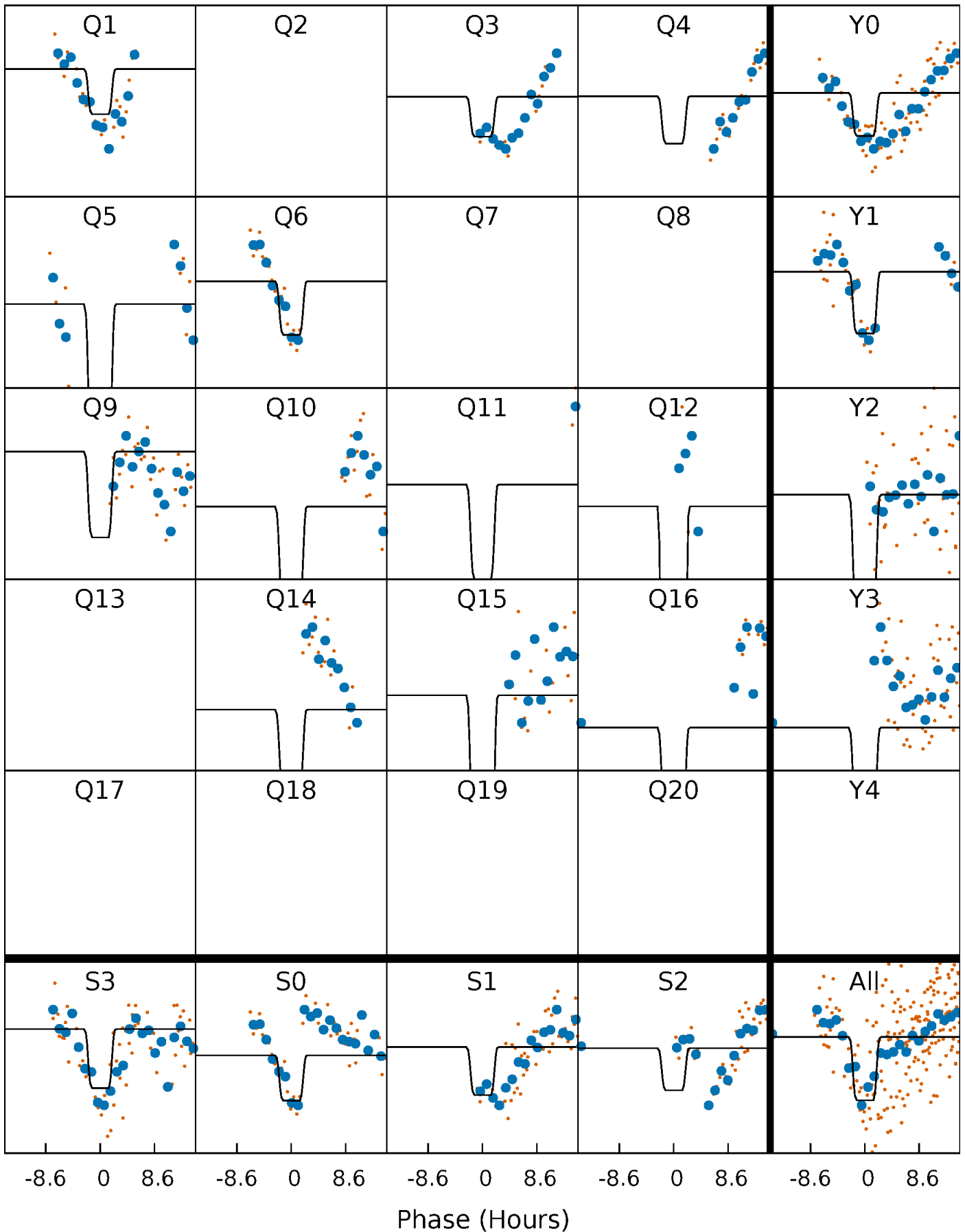
DV Quarter-Phased Transit Curves

TCE 005722895-04 P=111.771146 Days $T_0=162.567326$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

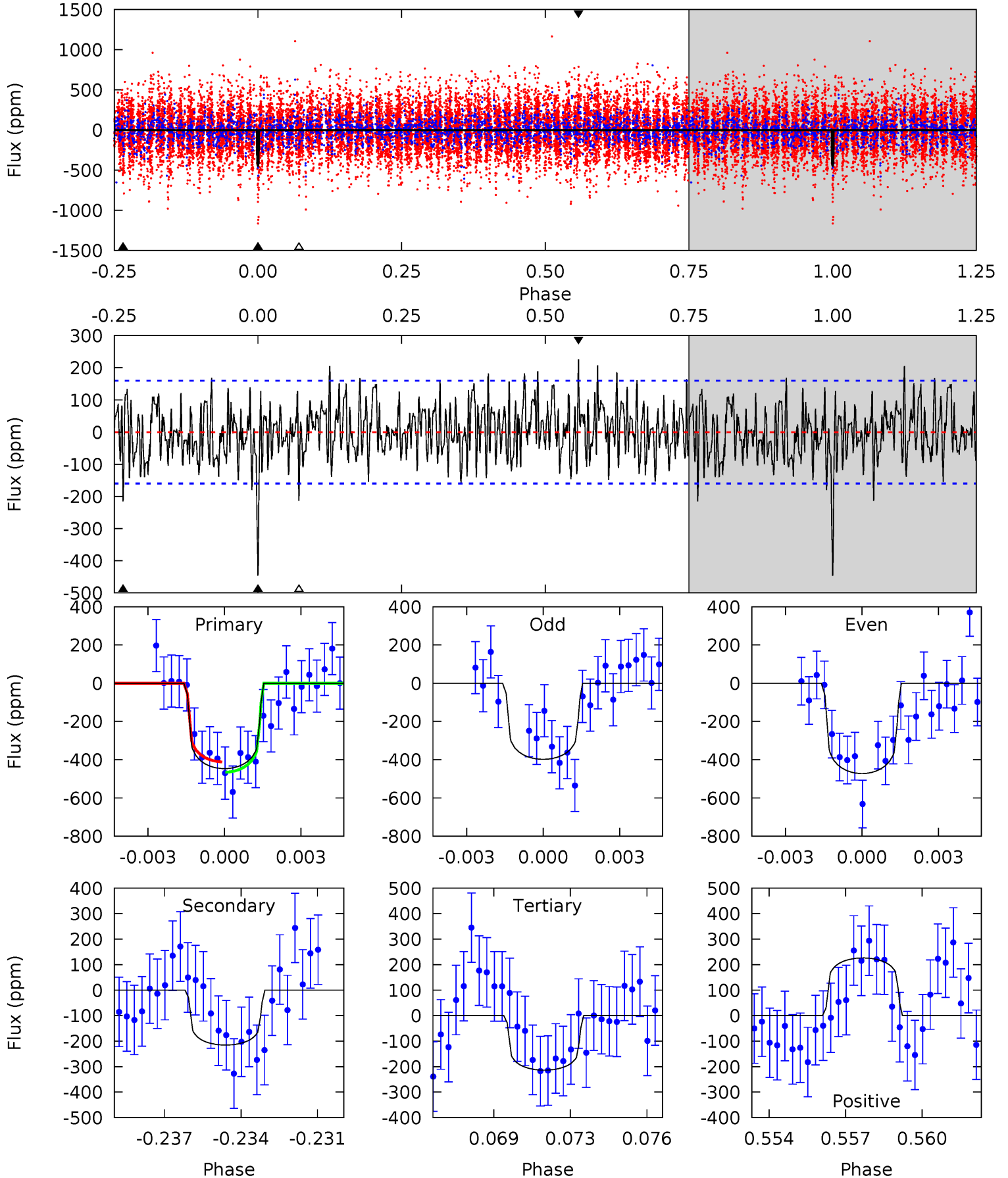
TCE 005722895-04 P=111.775208 Days $T_0=162.543225$ (BKJD)



DV Model-Shift Uniqueness Test

005722895-04, P = 111.771146 Days, E = 50.796180 Days

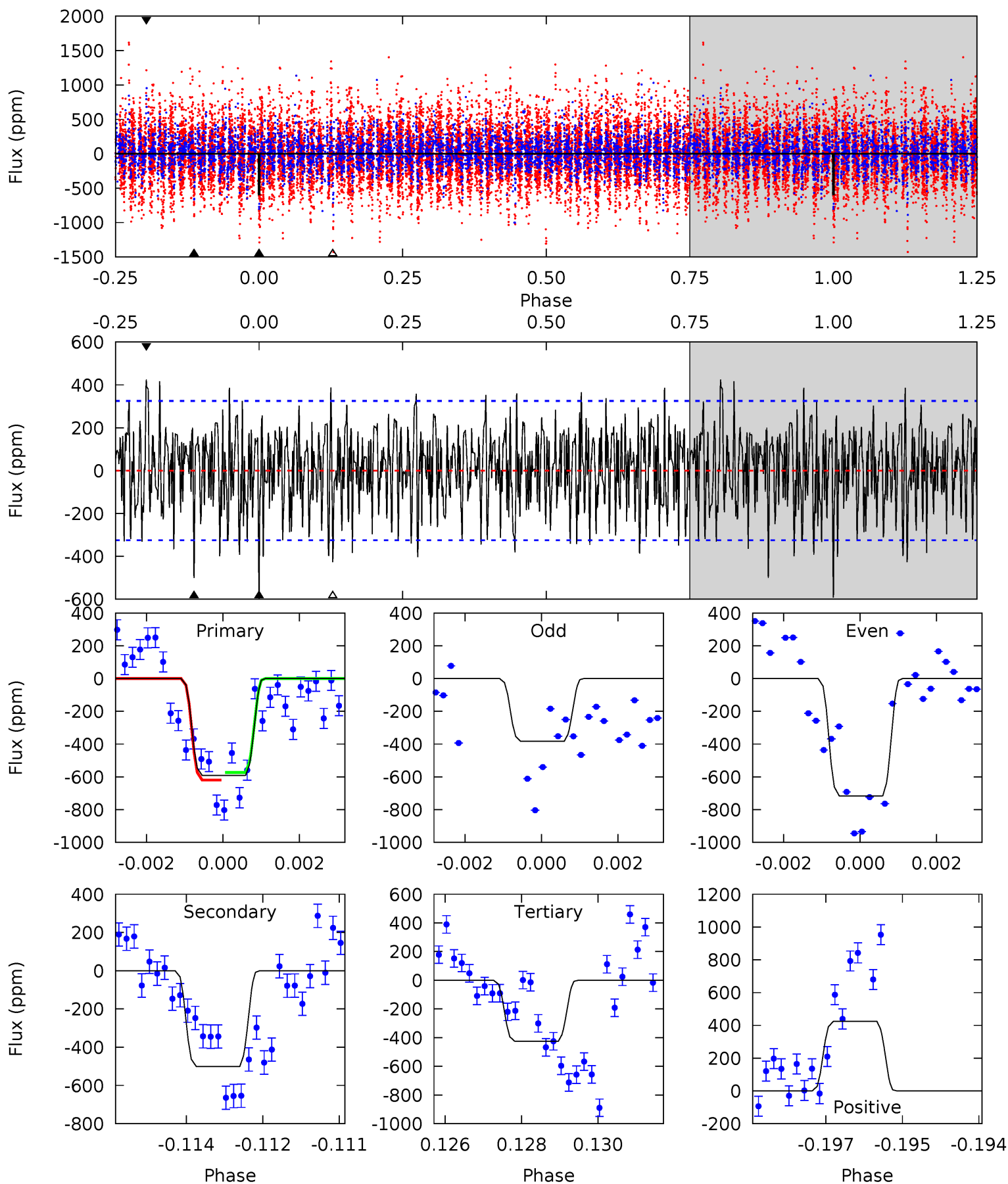
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	7.06	7.00	7.40	5.24	2.94	2.28	7.63	7.22	0.05	-0.35	1.16	1.16	0.34	0.82



Alt Model-Shift Uniqueness Test

005722895-04, P = 111.775208 Days, E = 50.768017 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.74	8.26	7.02	6.99	5.35	3.13	2.35	2.72	2.75	1.24	1.26	2.66	0.53	0.42	0.36



Stellar Parameters For KIC 005722895

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6912^{+192}_{-301}	$4.234^{+0.124}_{-0.201}$	$-0.280^{+0.250}_{-0.350}$	$1.432^{+0.446}_{-0.260}$	$1.291^{+0.198}_{-0.198}$	$0.619^{+0.391}_{-0.326}$
	+3%/-4%	+3%/-5%	+89%/-125%	+31%/-18%	+15%/-15%	+63%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005722895-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-215 ± 31	$3.03^{+1.87}_{-1.60}$	734^{+55}_{-52}	6012^{+3419}_{-1148}	3125^{+11368}_{-1924}
Alt.	-501 ± 61	$4.29^{+1.98}_{-1.75}$	736^{+53}_{-50}	6258^{+2179}_{-962}	3597^{+6595}_{-1934}

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 $A_{obs} \gg 1.0$

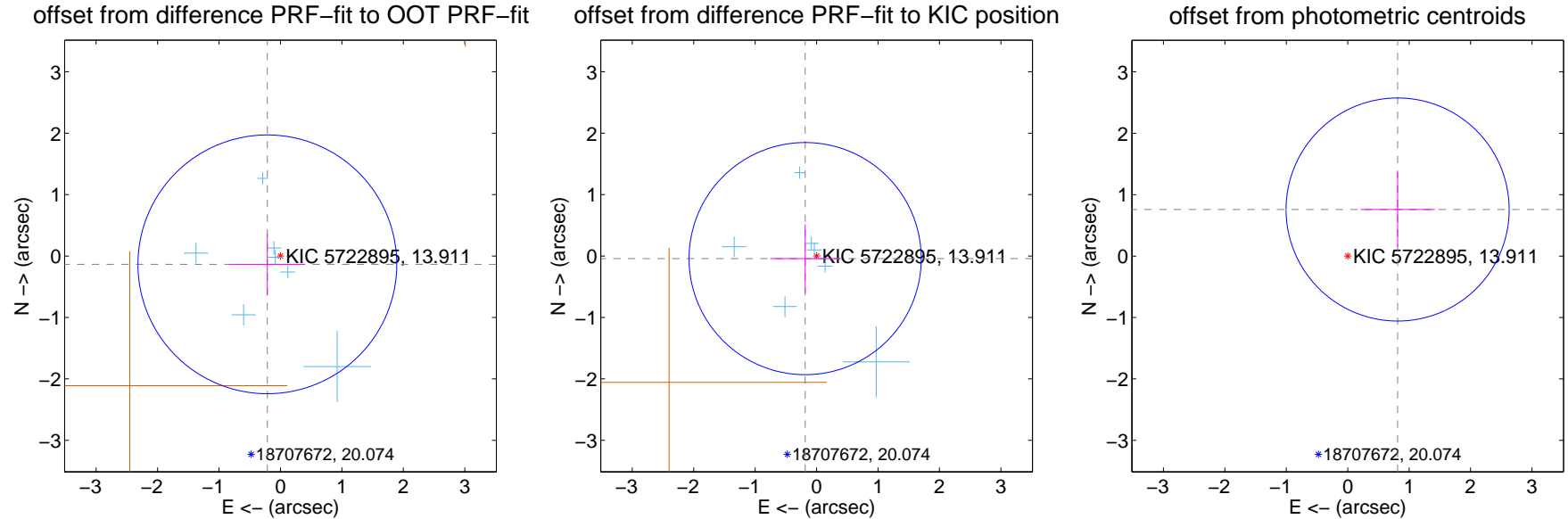
DV Centroid Data

Supplemental centroid analysis for 005722895-04. Kepler magnitude: 13.91. Transit SNR 6.29

There are 7 quarters with good PRF difference image offsets

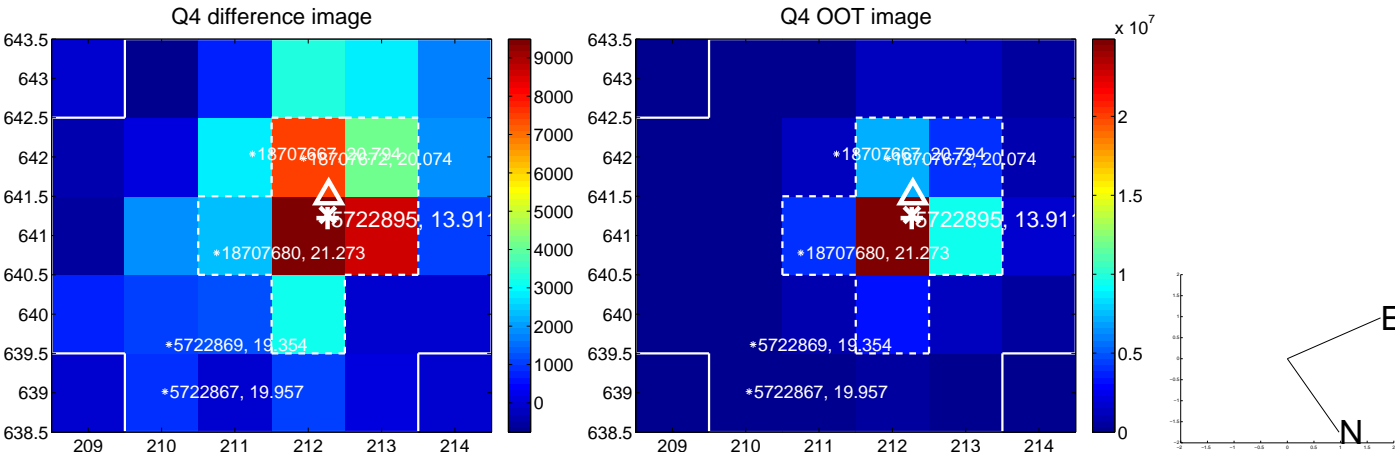
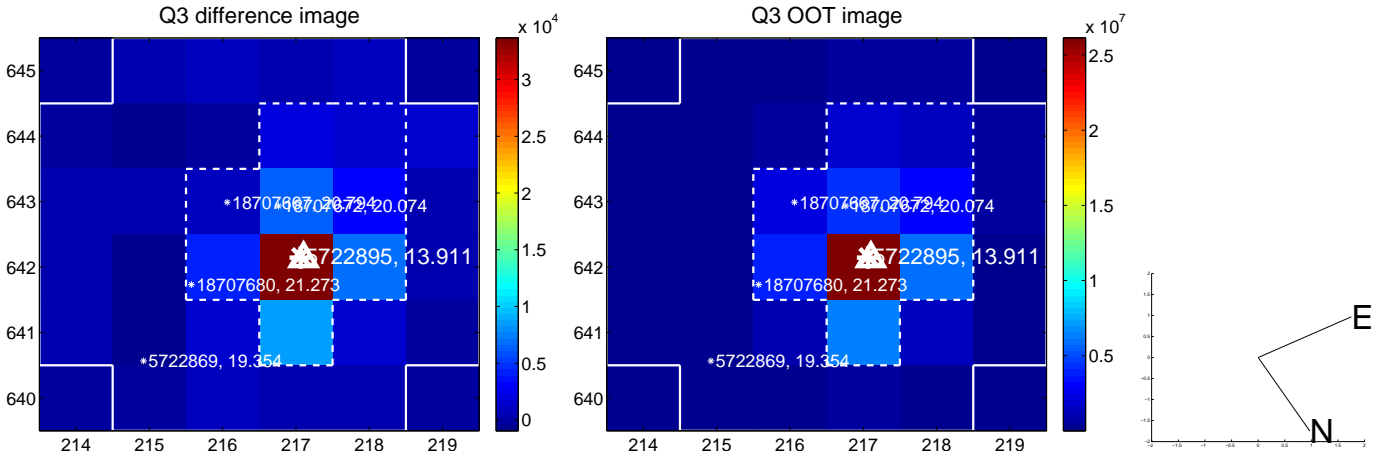
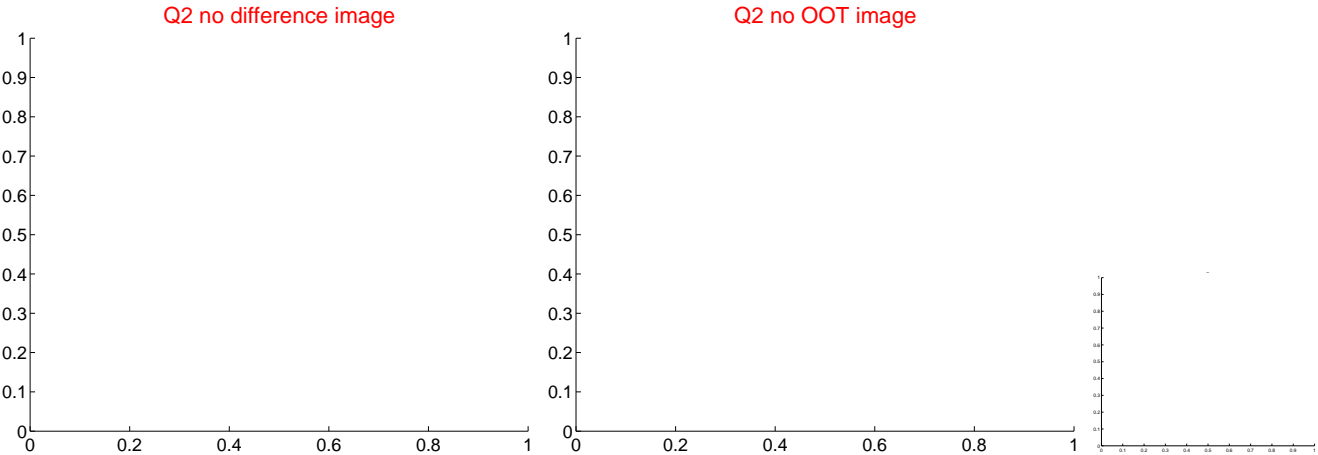
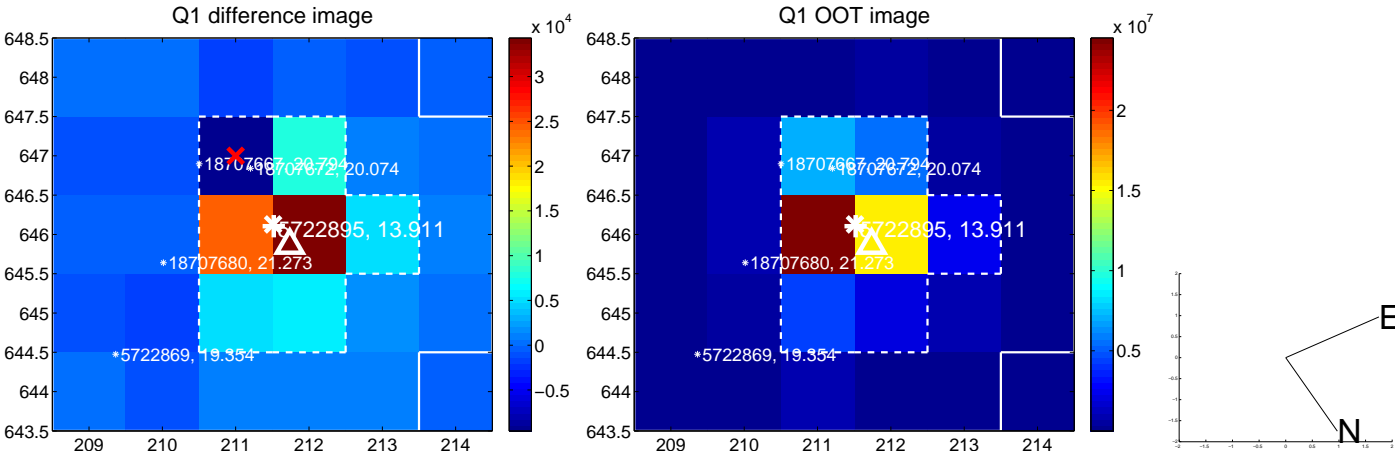
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.252 ± 0.702	0.36	0.213 ± 0.613	-0.135 ± 0.496
PRF-fit source offset from KIC position	0.191 ± 0.630	0.30	0.186 ± 0.567	-0.042 ± 0.557
photometric centroid source offset	1.11 ± 0.61	1.84	-0.81 ± 0.60	0.76 ± 0.61

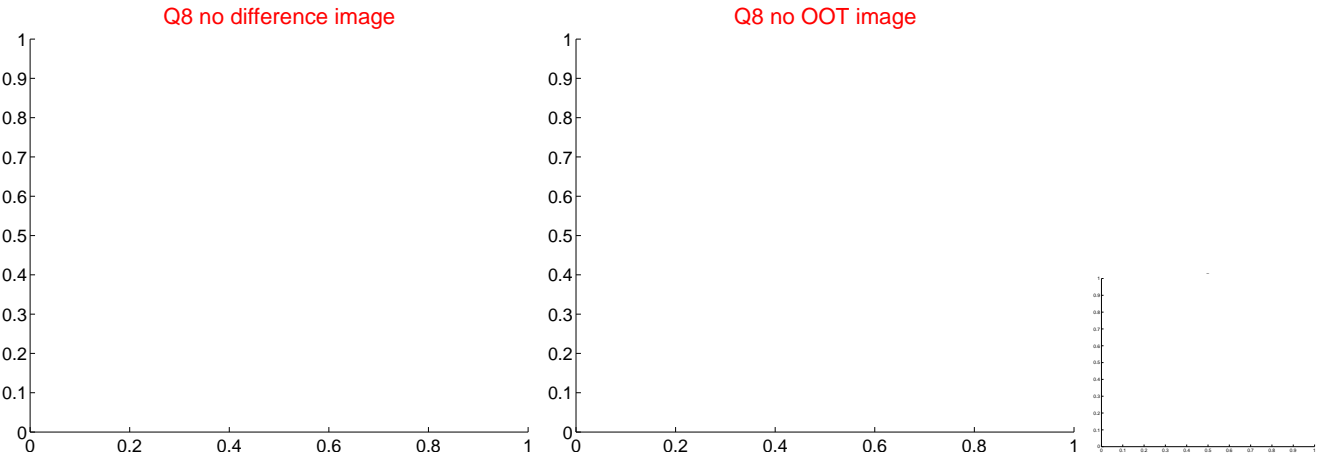
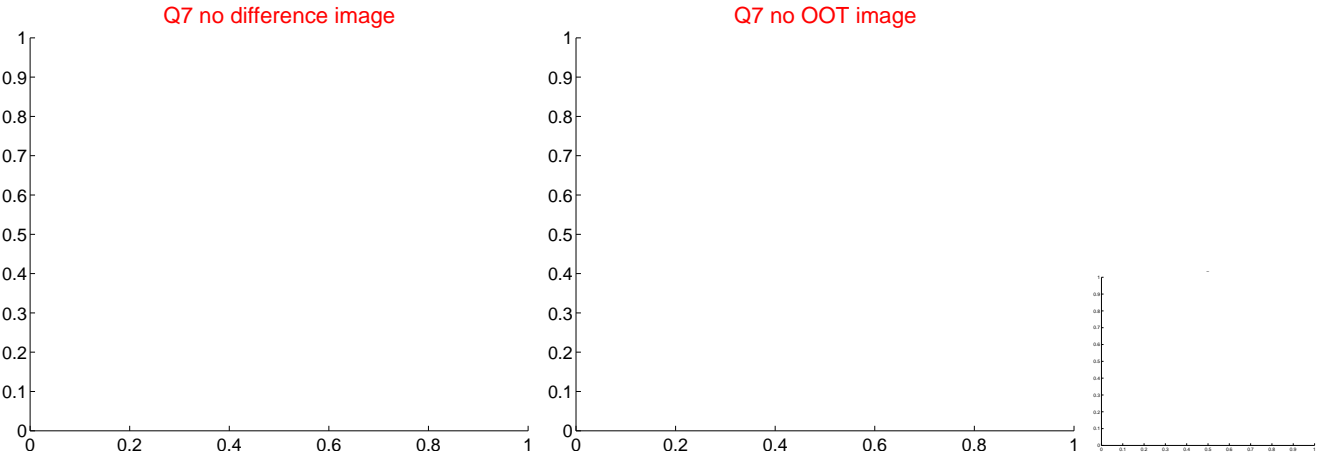
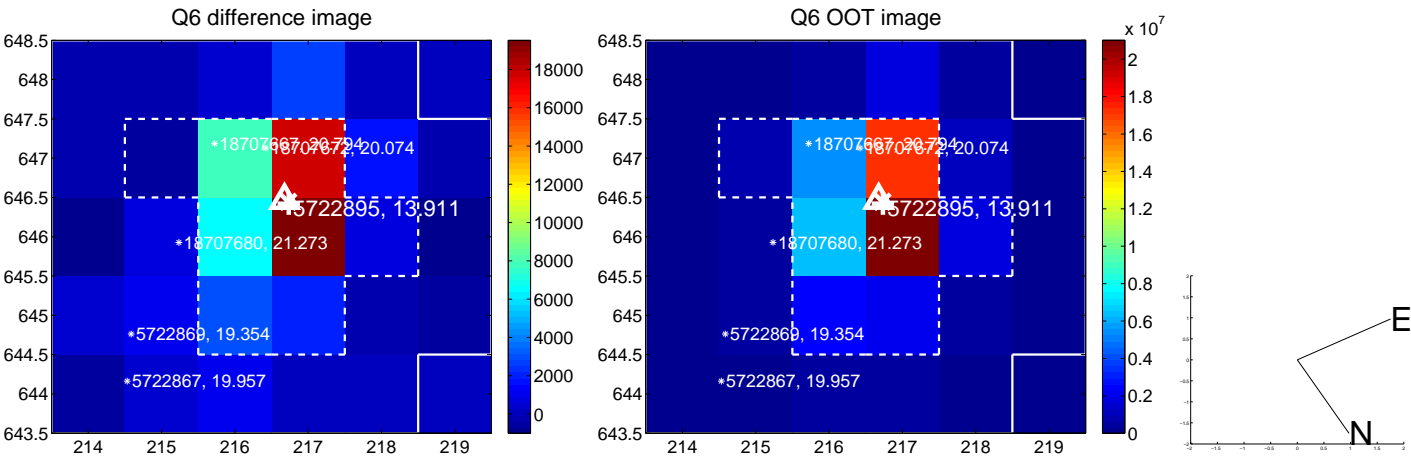
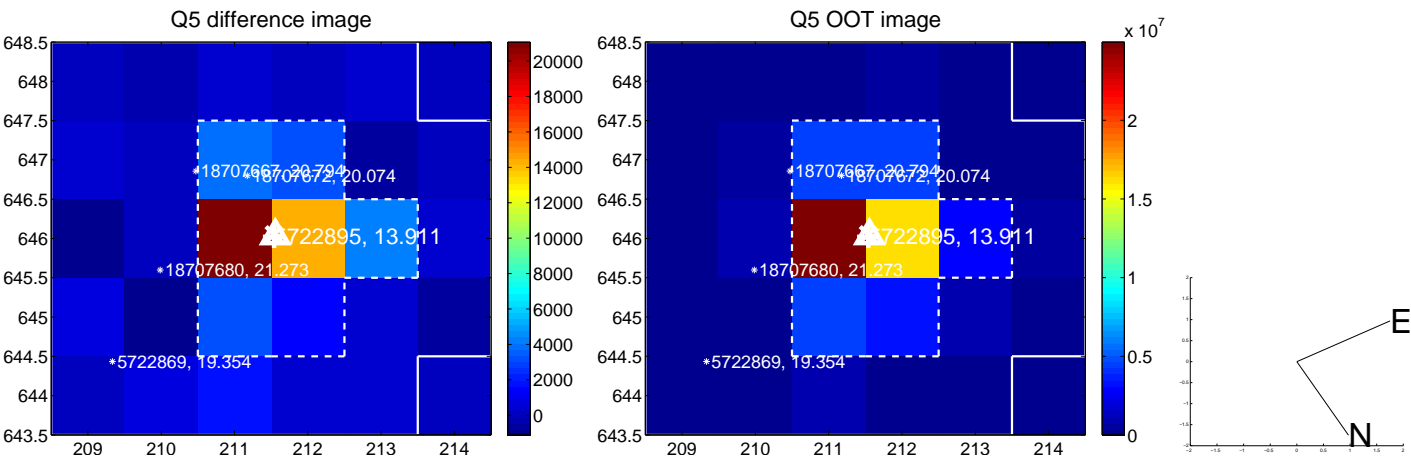


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

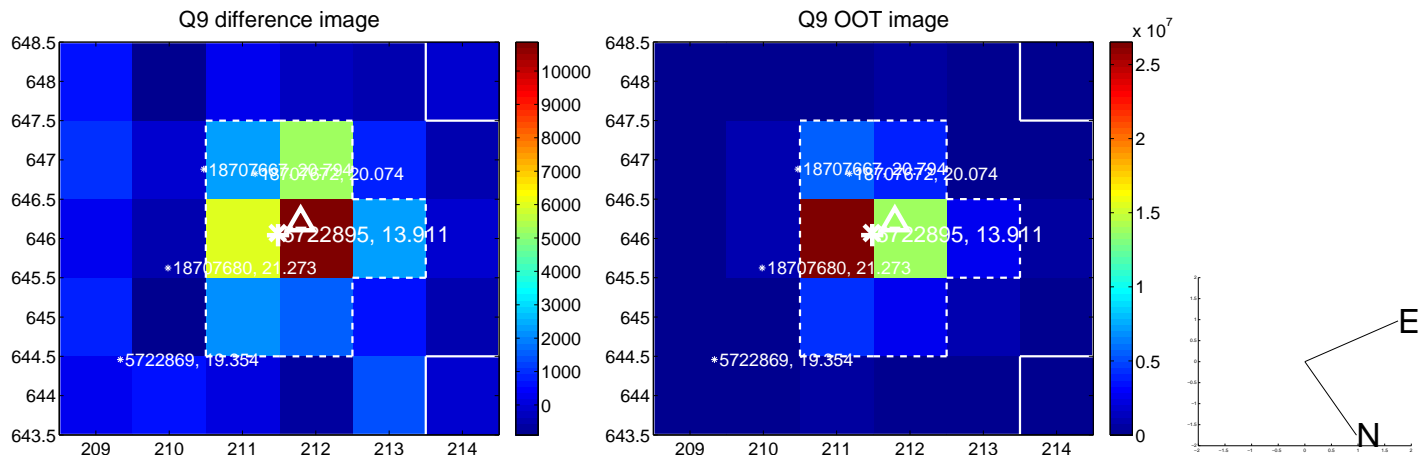
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



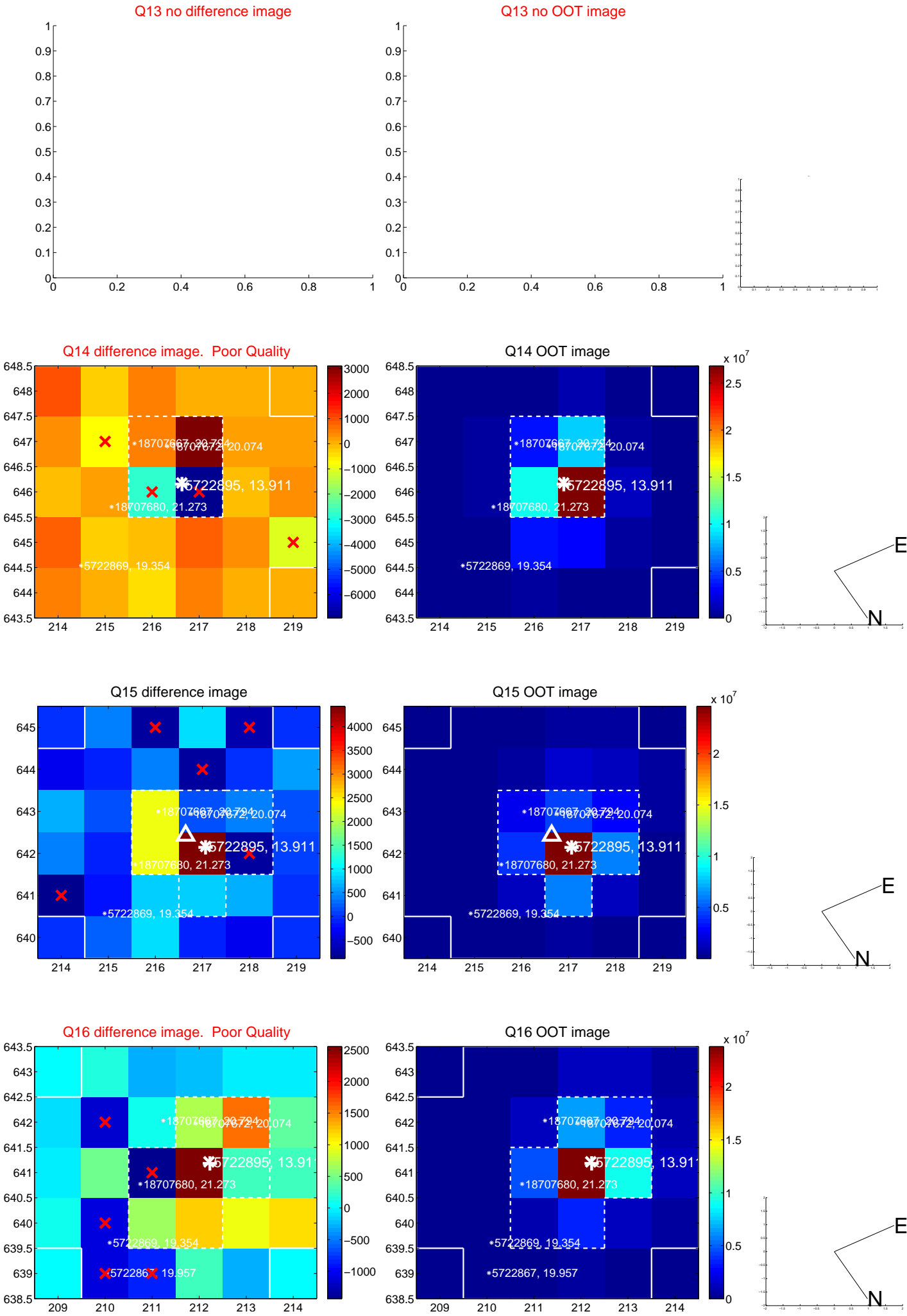
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



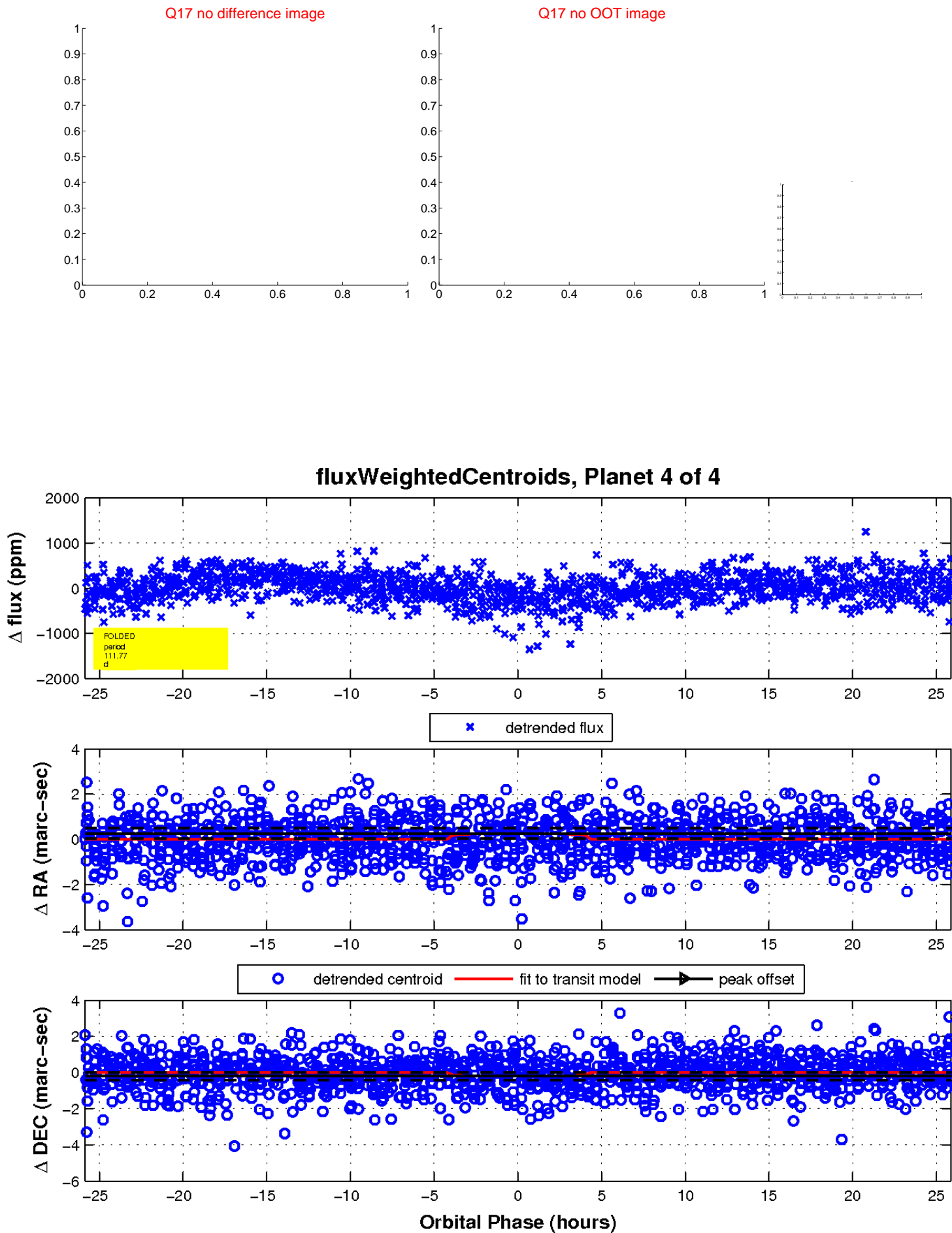
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

