

KIC 005894155

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})
005894155-01	OBS	No	494.665076	335.878503	2667.4	5.752	15.4	10.2	0.49	4440	2.51	0.09
005894155-02	OBS	No	433.363936	357.977488	417.2	0.655	15.1	1.2	0.49	4440	1.24	0.11
005894155-04	OBS	No	433.381260	358.010522	1331.5	16.736	15.0	3.0	0.49	4440	2.05	0.11
005894155-05	OBS	No	356.150509	377.403959	1998.9	10.714	12.8	5.9	0.49	4440	2.20	0.14
005894155-06	OBS	No	541.209675	455.178397	1807.1	4.471	12.8	5.7	0.49	4440	2.10	0.08
005894155-07	OBS	No	371.746857	298.247796	2333.6	3.794	12.8	9.0	0.49	4440	2.35	0.13
005894155-08	OBS	No	382.908110	466.055958	2151.6	7.075	12.3	7.5	0.49	4440	2.69	0.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005894155-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
005894155-05	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
005894155-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005894155-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

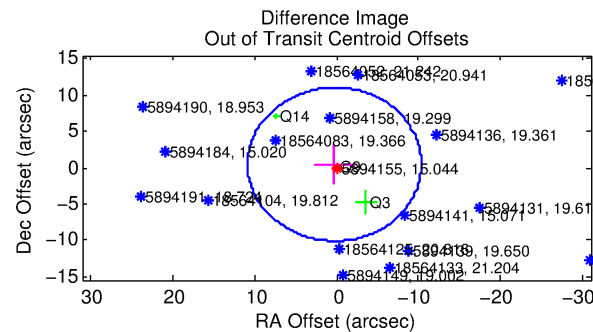
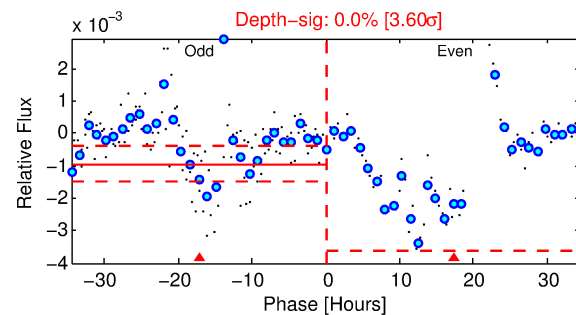
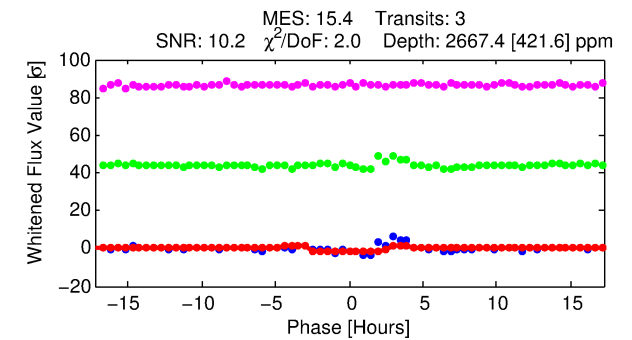
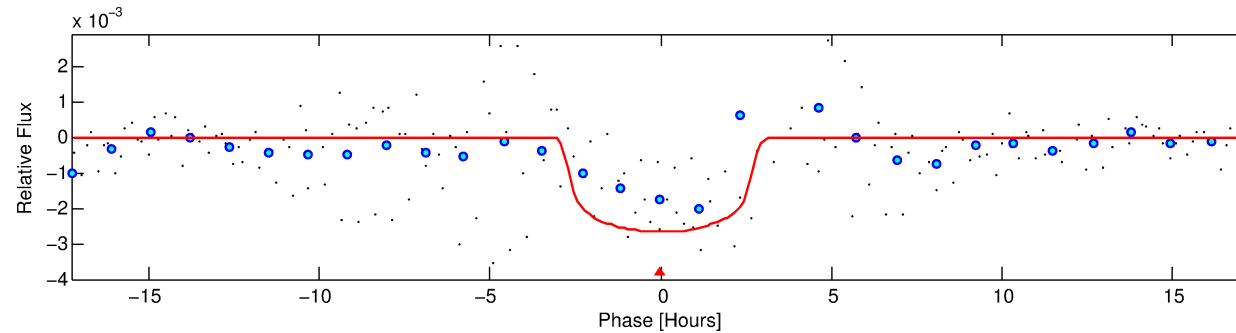
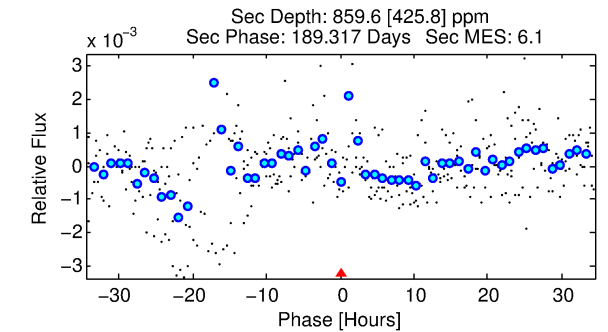
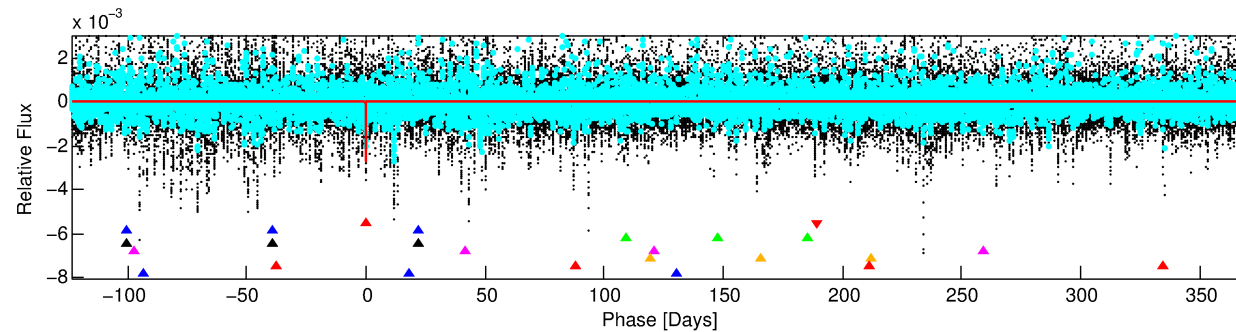
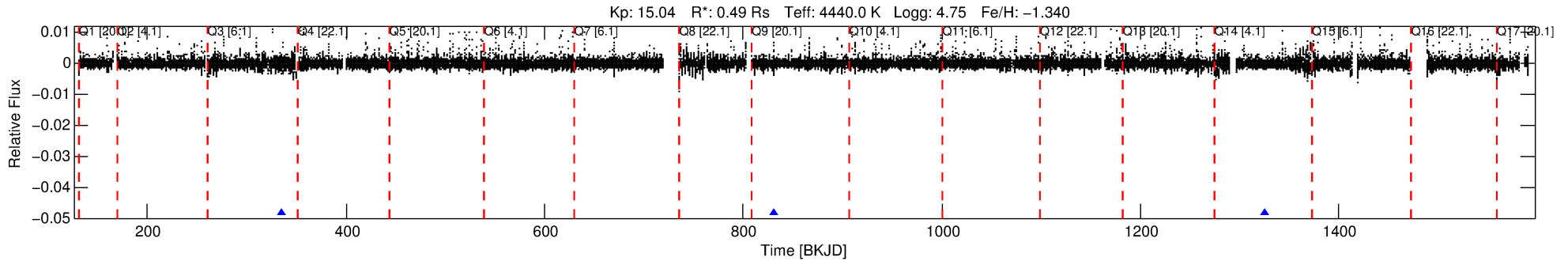
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005894155-01

No Significant Match Found

DV One-Page Summary

KIC: 5894155 Candidate: 1 of 8 Period: 494.665 d



DV Fit Results:

Period = 494.66508 [0.00564] d
Epoch = 335.8785 [0.0074] BKJD
Rp/R* = 0.0467 [0.0284]
a/R* = 685.48 [1678.63]
b = 0.08 [29.26]
Seff = 0.09 [0.02]
Teq = 139 [6] K
Rp = 2.51 [1.54] Re
a = 0.9725 [0.0767] AU
Ag = 70995.07 [93533.45] [0.76σ]
Teffp = 3516 [1161] K [2.91σ]

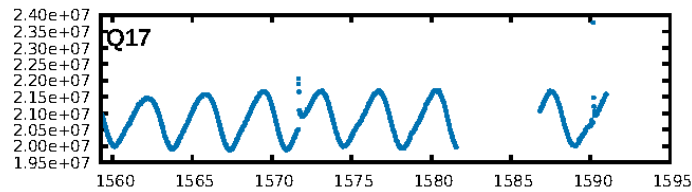
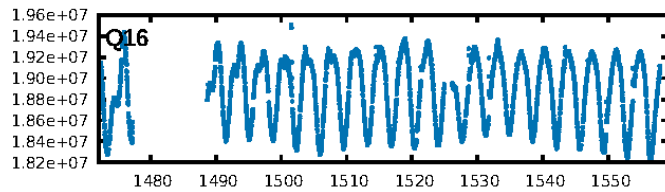
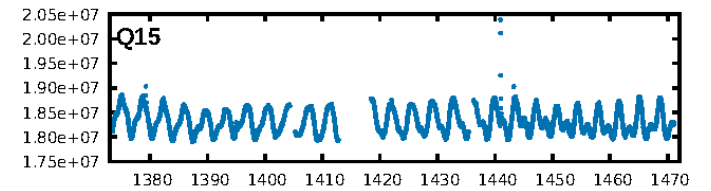
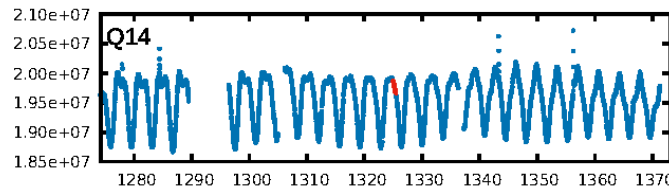
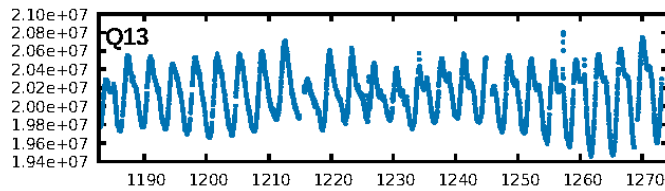
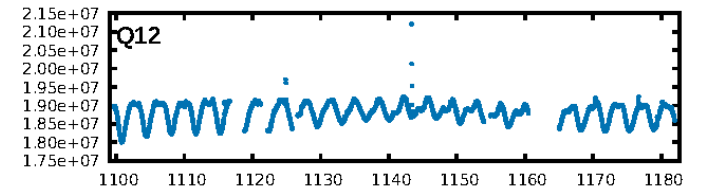
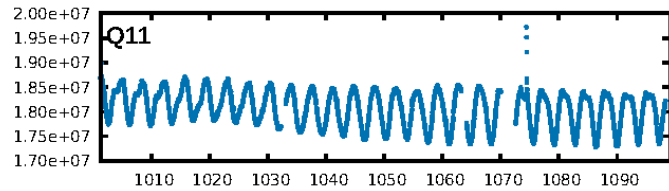
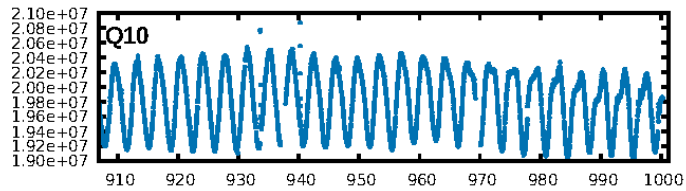
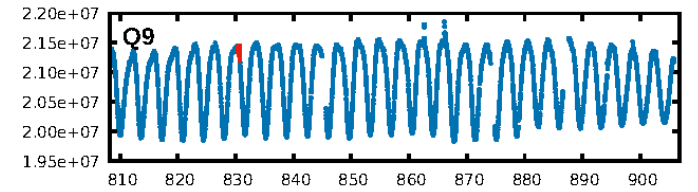
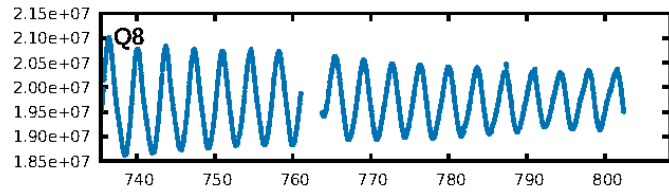
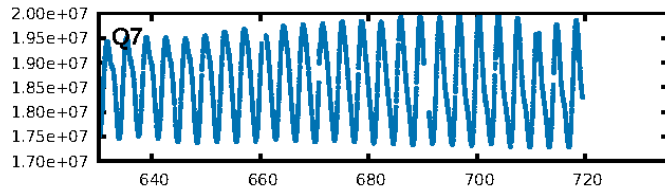
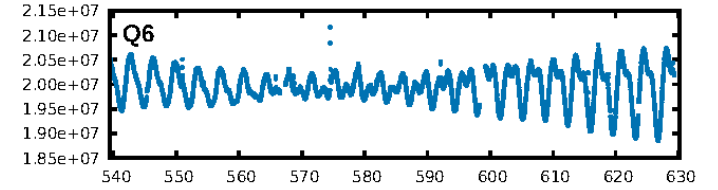
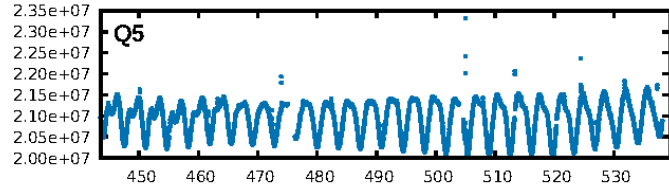
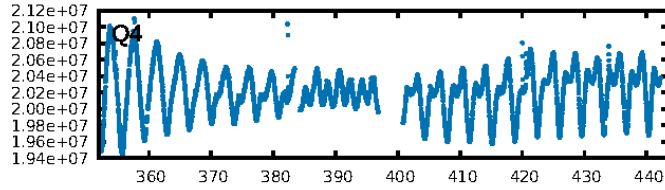
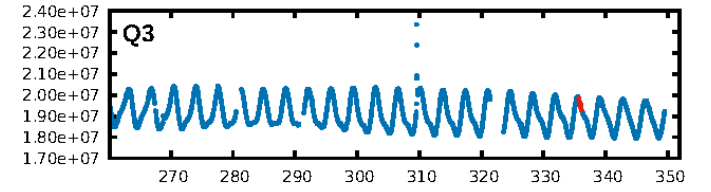
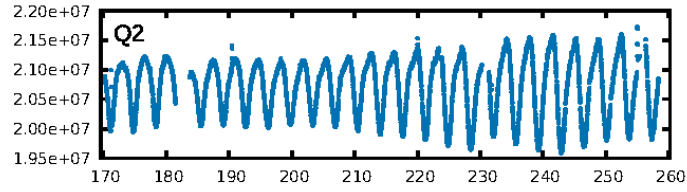
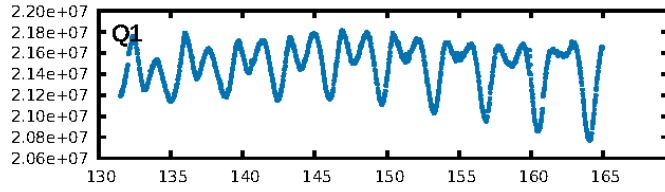
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [121.10σ]
LongPeriod-sig: 100.0% [153.33σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 9.0%
Bootstrap-pfa: 9.39e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.4451
Centroid-sig: 73.8%
Centroid-so: 1.446 arcsec [2.10σ]
OotOffset-rm: 0.524 arcsec [0.15σ]
KicOffset-rm: 0.176 arcsec [0.12σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

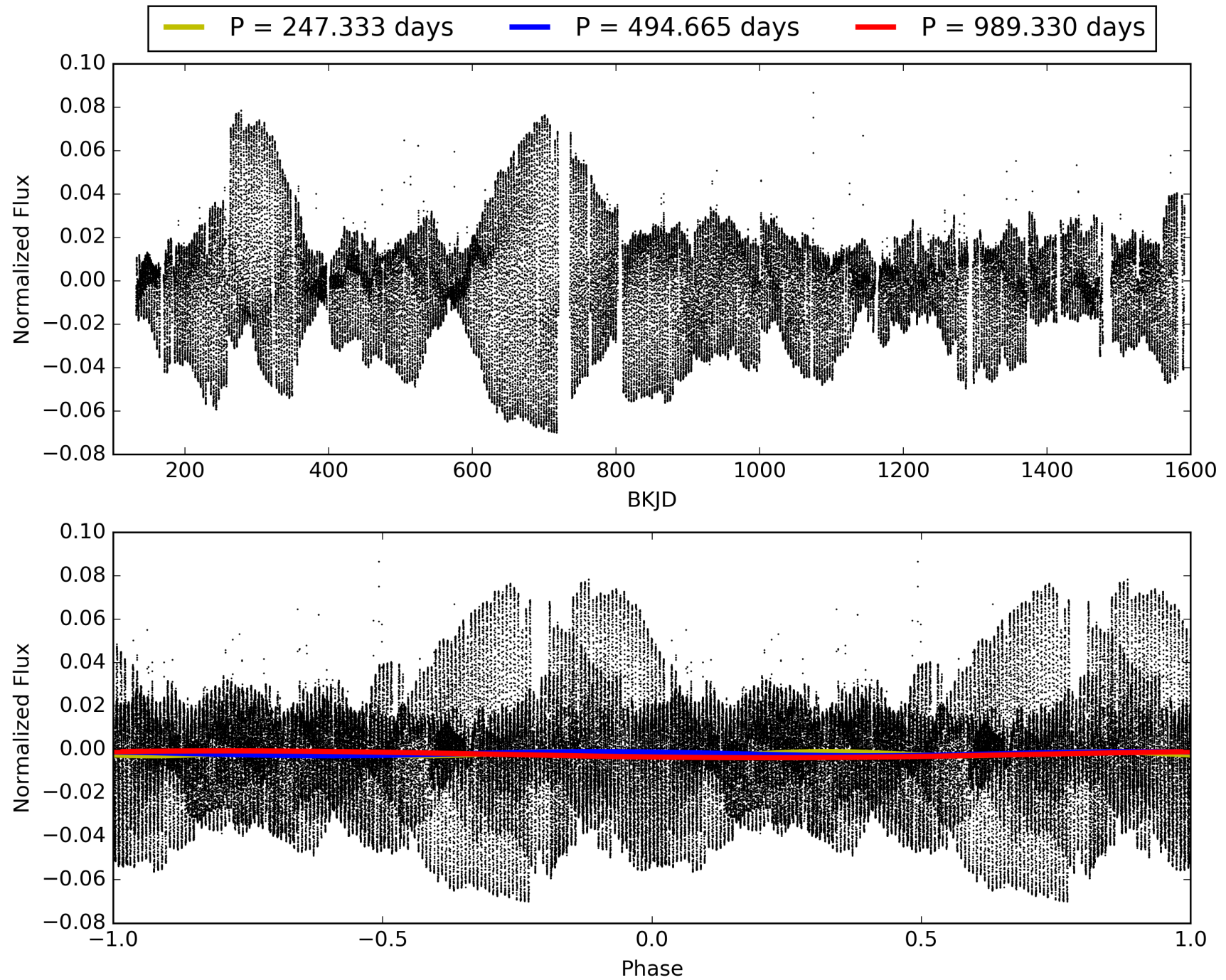
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:38:24 Z

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

TCE 005894155-01, PDC Light Curves

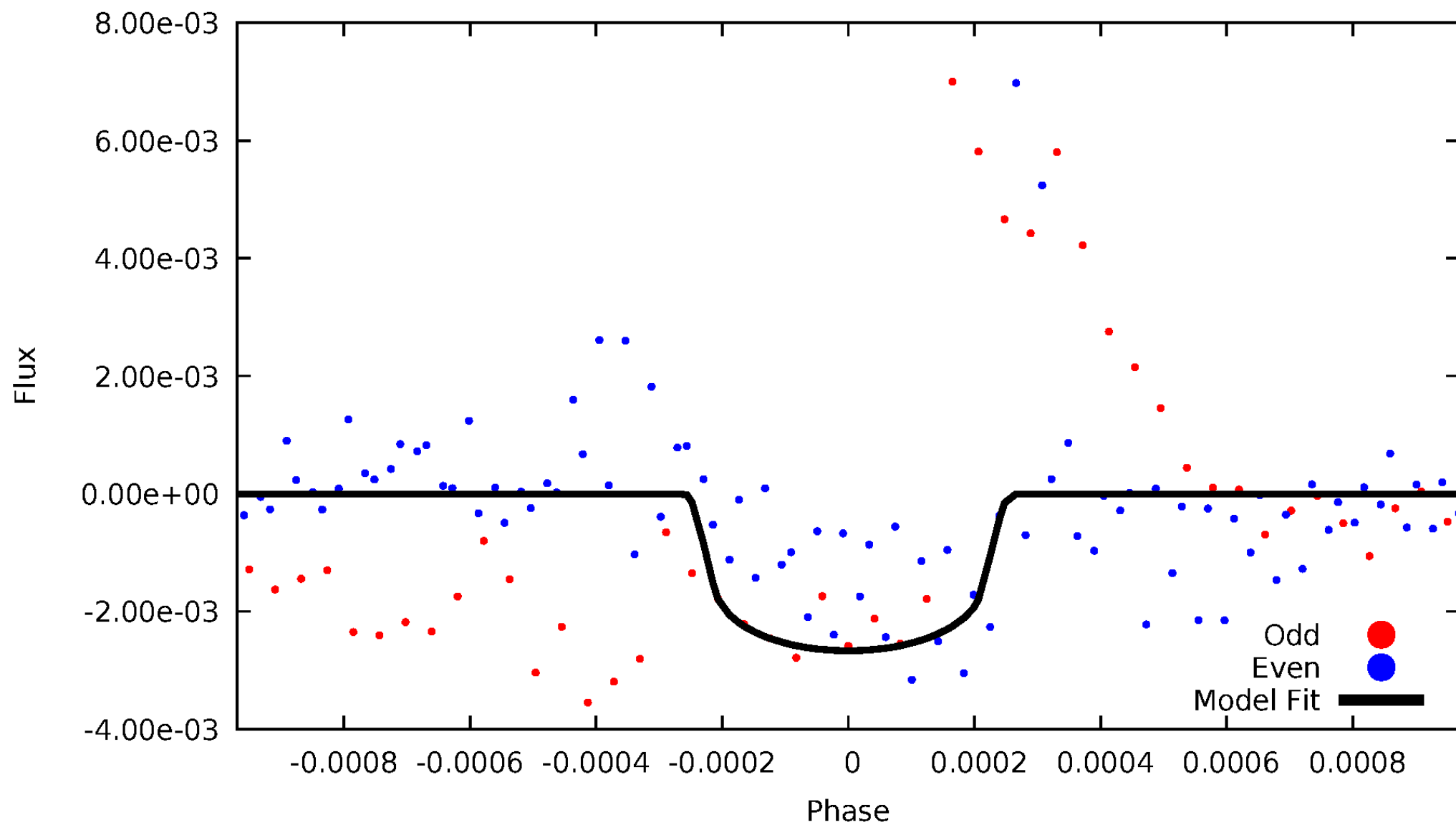


TCE 005894155-01



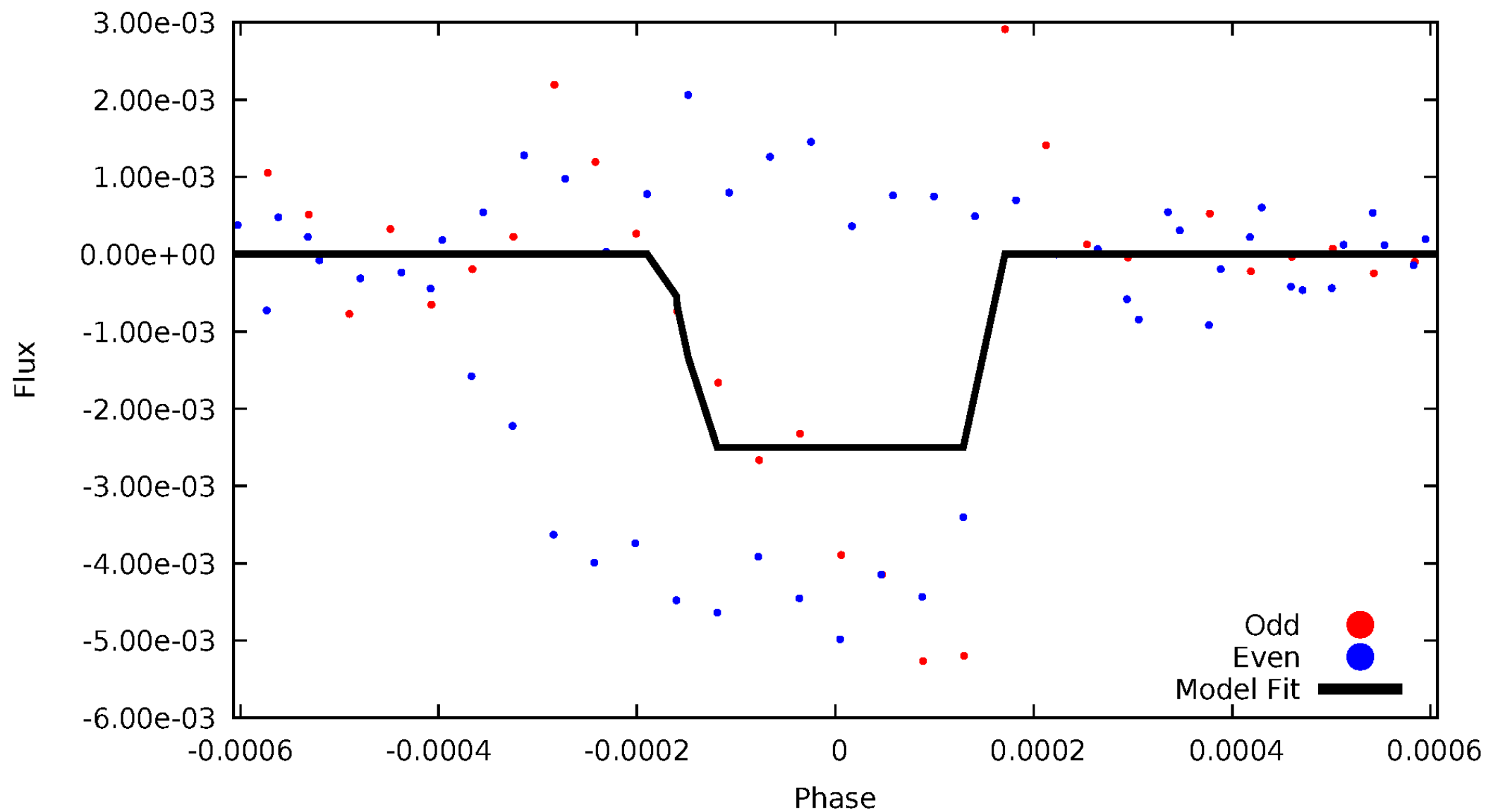
DV Odd/Even

TCE 005894155-01

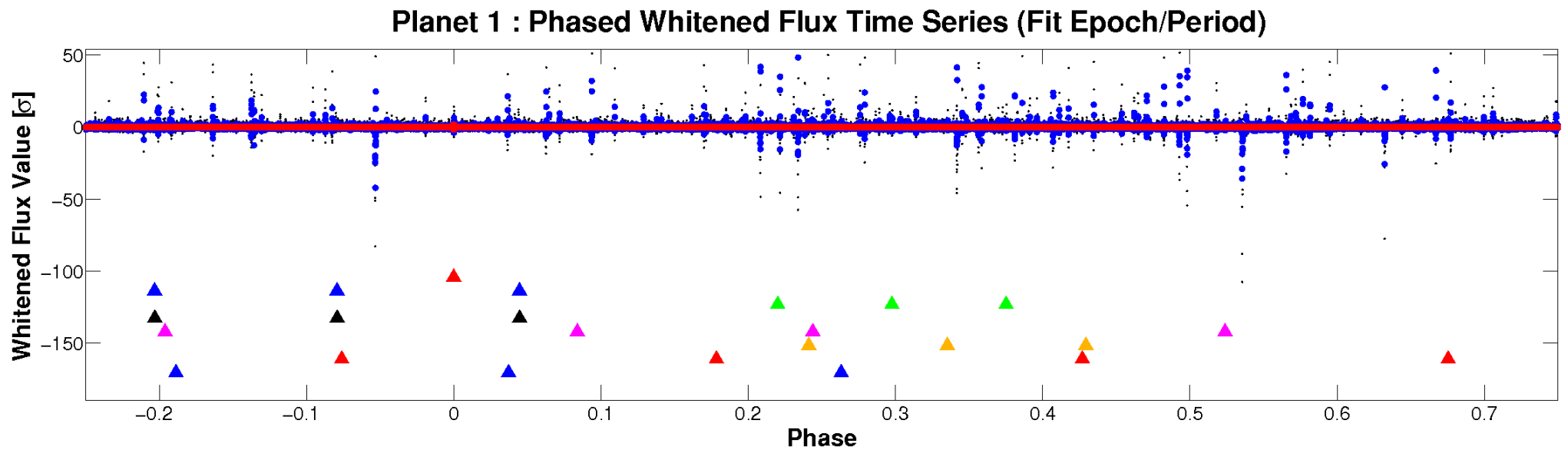
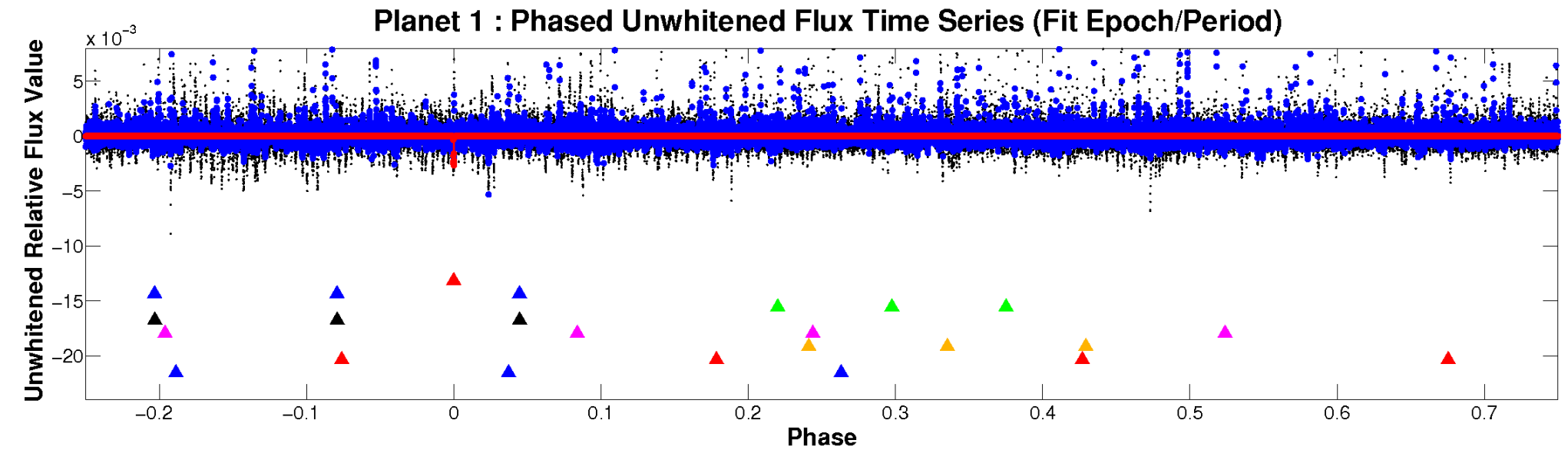


ALT Odd/Even

TCE 005894155-01

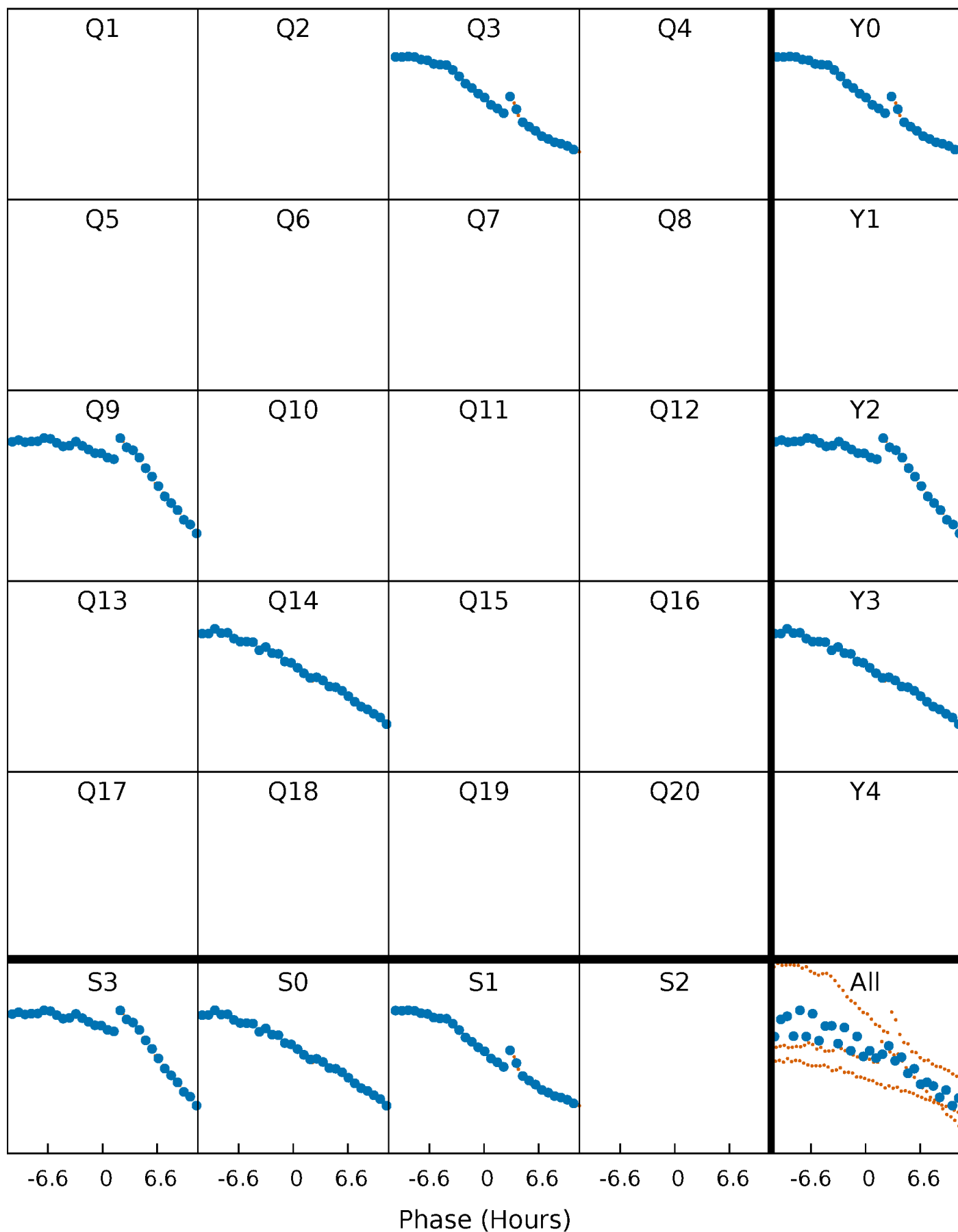


Non-Whitened Vs. Whitened Light Curve



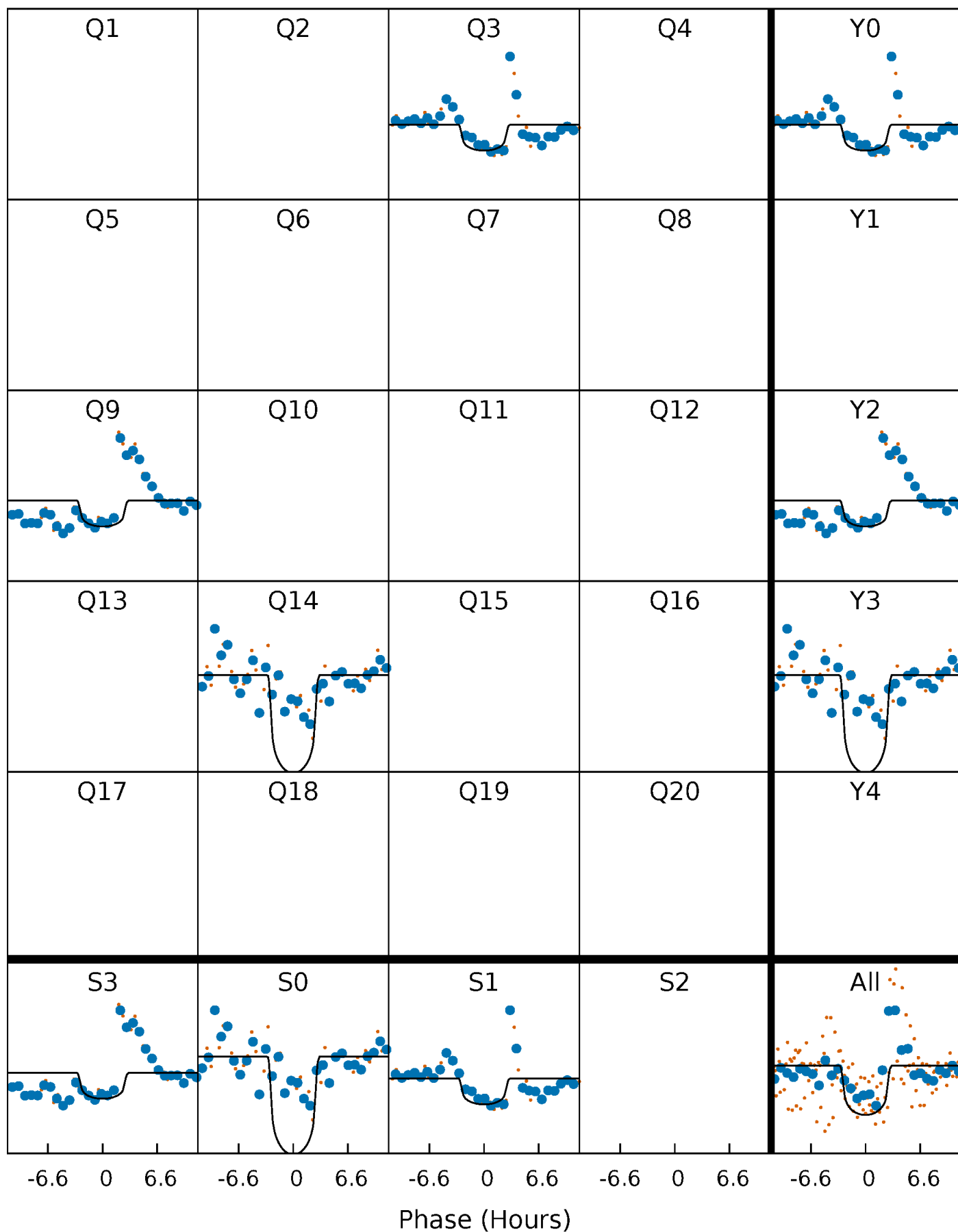
PDC Quarter-Phased Transit Curves

TCE 005894155-01 P=494.665076 Days $T_0=335.878503$ (BKJD)



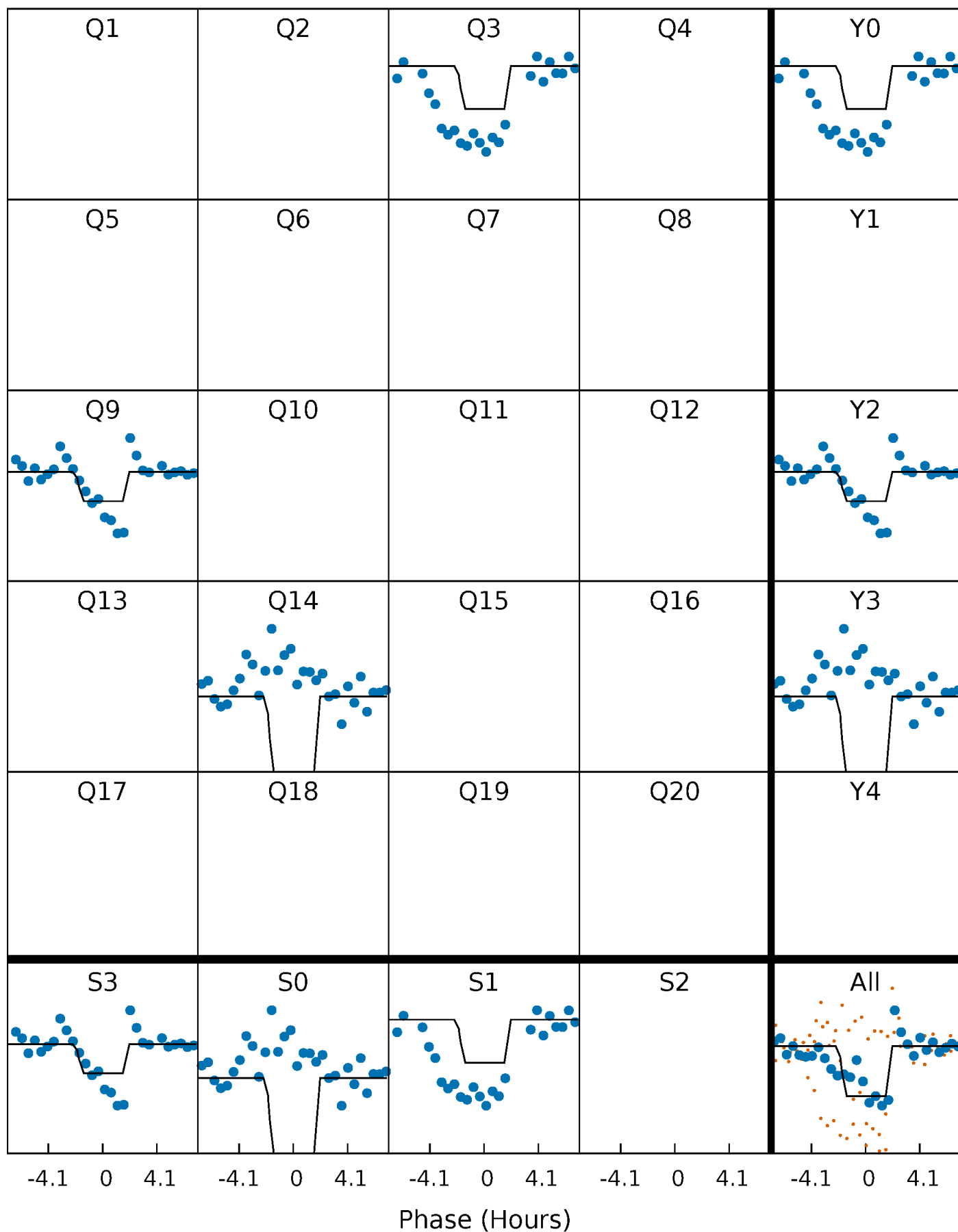
DV Quarter-Phased Transit Curves

TCE 005894155-01 P=494.665076 Days $T_0=335.878503$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

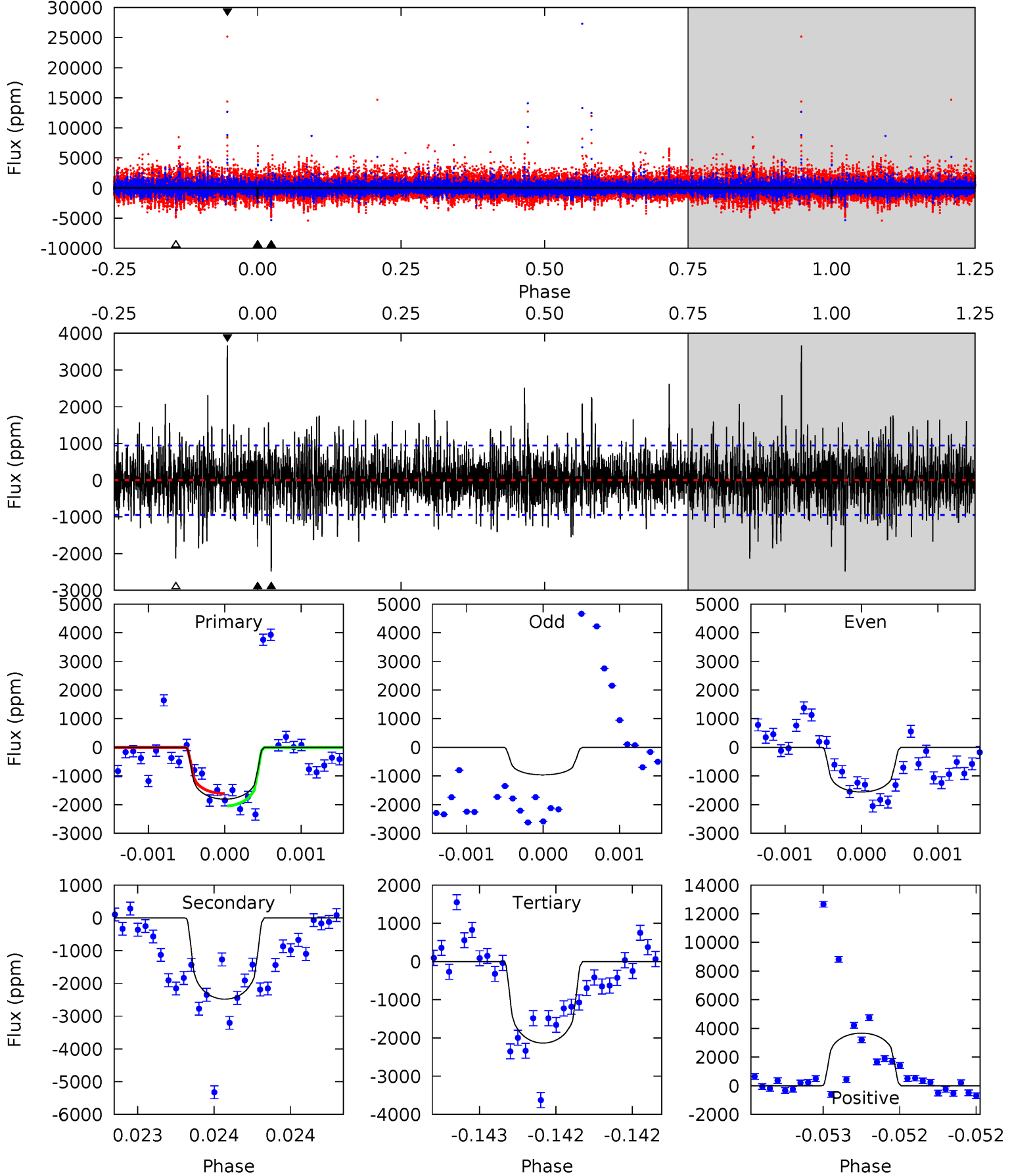
TCE 005894155-01 P=494.614753 Days $T_0=335.925948$ (BKJD)



DV Model-Shift Uniqueness Test

005894155-01, P = 494.665076 Days, E = 335.878503 Days

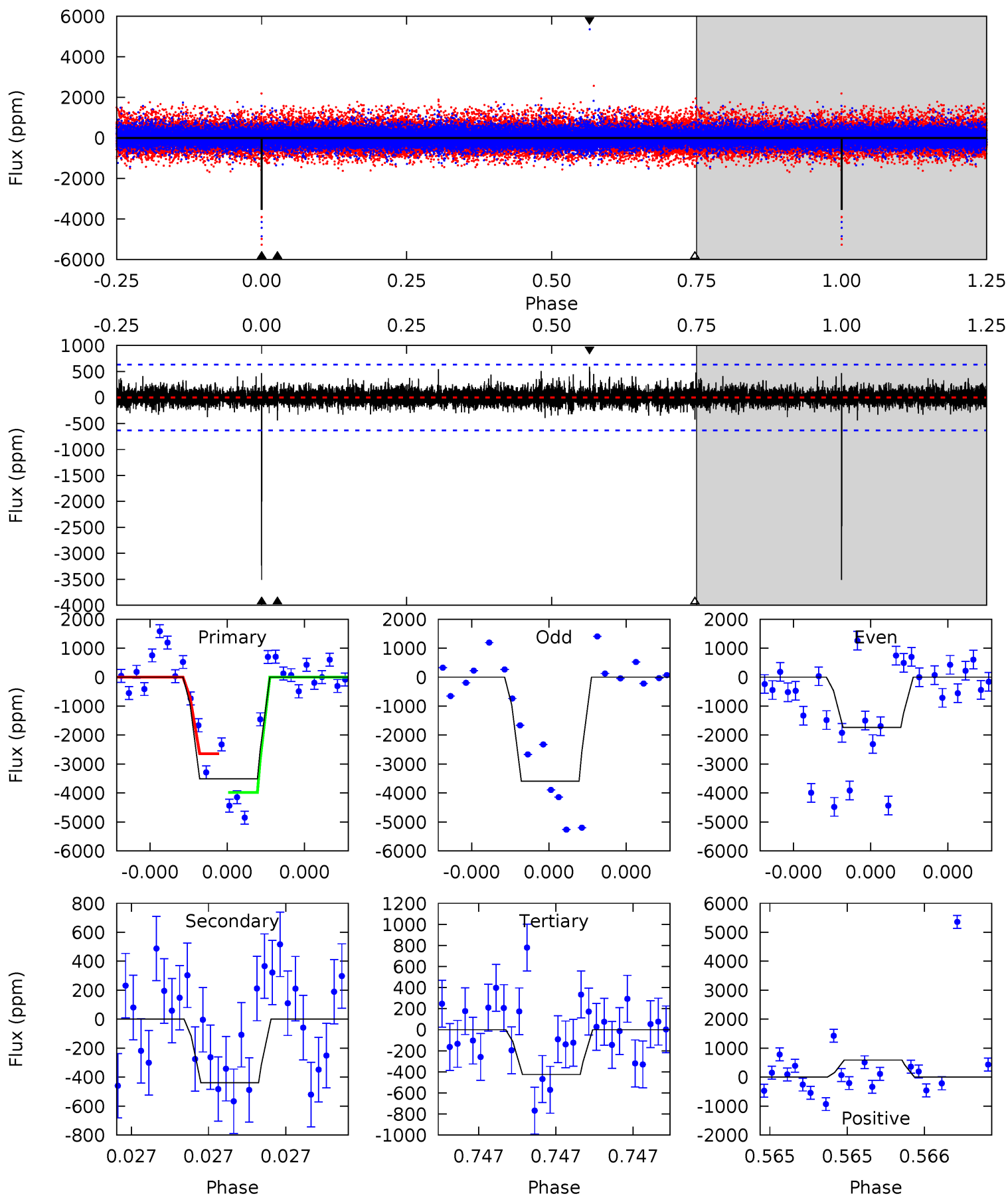
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	14.6	12.6	21.6	5.57	3.47	2.99	-1.91	-11.0	2.06	-6.99	1.13	1.42	0.60	1.29



Alt Model-Shift Uniqueness Test

005894155-01, P = 494.614753 Days, E = 335.925948 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.3	3.91	3.79	5.24	5.64	3.59	0.78	27.5	26.1	0.12	-1.33	9.73	0.65	0.14	0



Stellar Parameters For KIC 005894155

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4440^{+135}_{-162}	$4.754^{+0.063}_{-0.032}$	$-1.340^{+0.300}_{-0.300}$	$0.492^{+0.031}_{-0.046}$	$0.500^{+0.034}_{-0.034}$	$5.932^{+1.606}_{-0.718}$
	+3%/-4%	+1%/-1%	+22%/-22%	+6%/-9%	+7%/-7%	+27%/-12%
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 005894155-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2483 ± 170	$2.65^{+1.39}_{-1.38}$	193^{+7}_{-8}	4462^{+1643}_{-671}	$185306^{+618835}_{-106260}$
Alt.	-438 ± 112	$2.71^{+1.50}_{-1.36}$	193^{+8}_{-8}	3277^{+834}_{-426}	31512^{+97054}_{-19603}

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

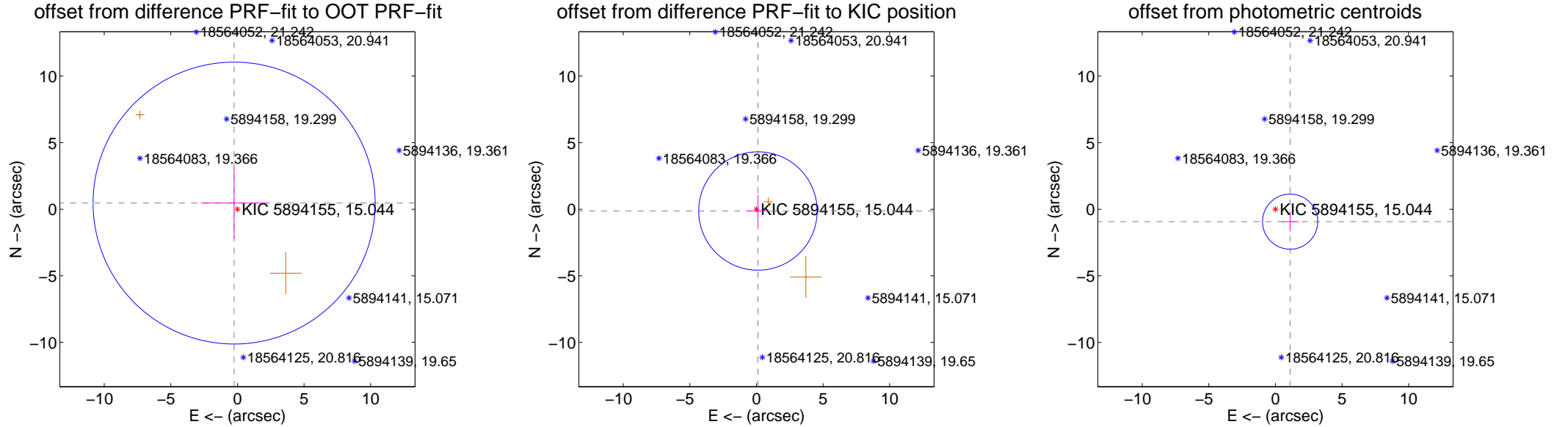
DV Centroid Data

Supplemental centroid analysis for 005894155-01. Kepler magnitude: 15.04. Transit SNR 10.18

There are 0 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 10.48 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.524 ± 3.529	0.15	0.248 ± 2.467	0.462 ± 2.685
PRF-fit source offset from KIC position	0.176 ± 1.482	0.12	-0.114 ± 0.884	-0.134 ± 1.196
photometric centroid source offset	1.45 ± 0.69	2.10	-1.10 ± 0.67	-0.93 ± 0.72



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.

Q1 no difference image



Q1 no OOT image



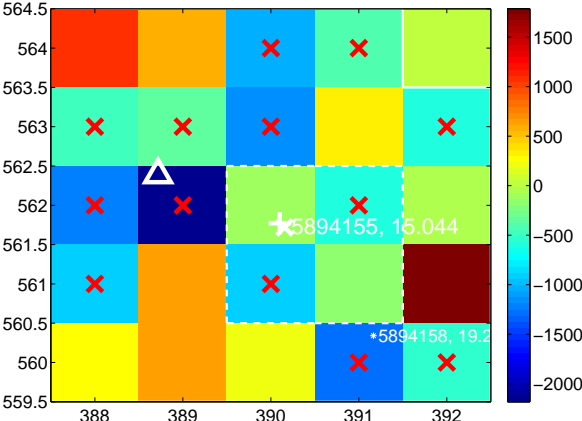
Q2 no difference image



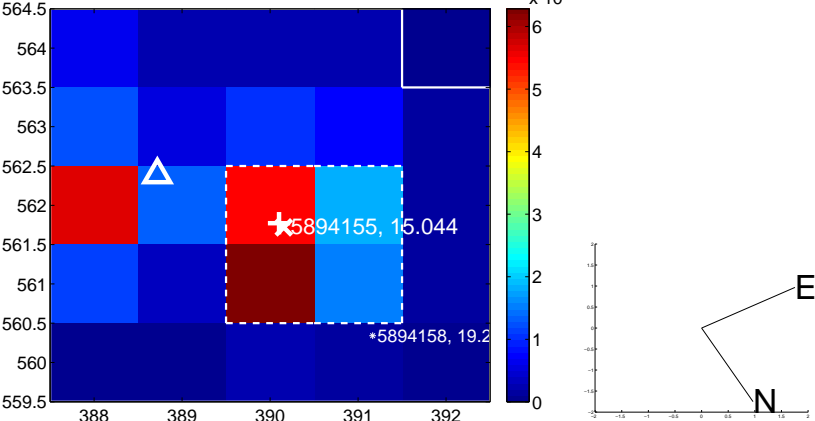
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



Q4 no difference image



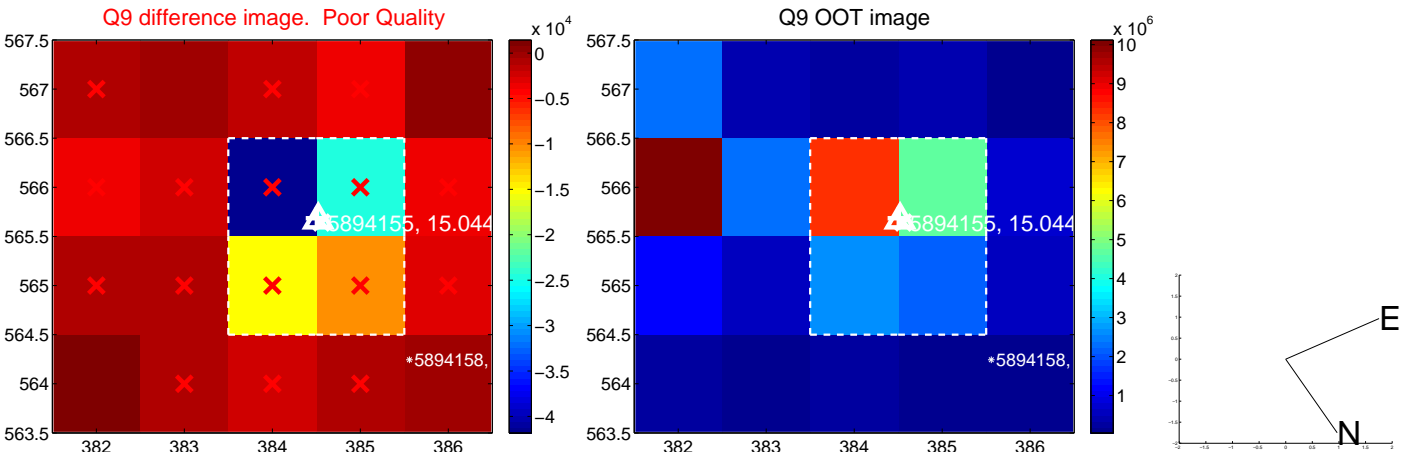
Q4 no OOT image



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

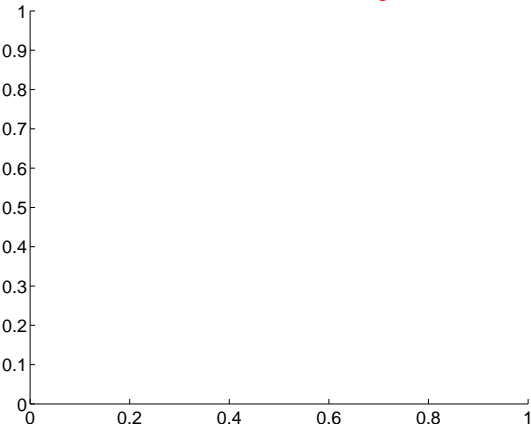


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

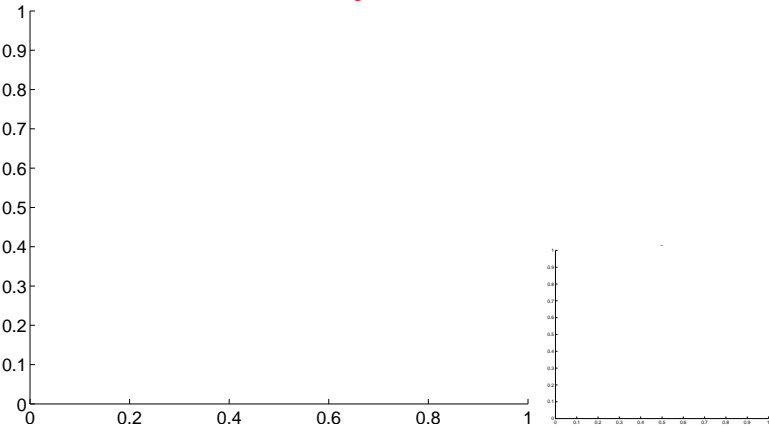


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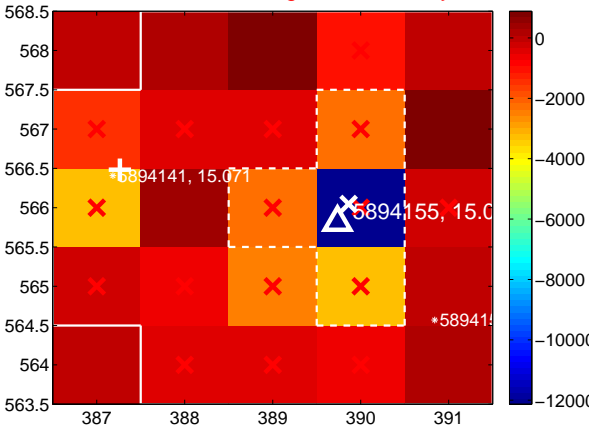
Q13 no difference image



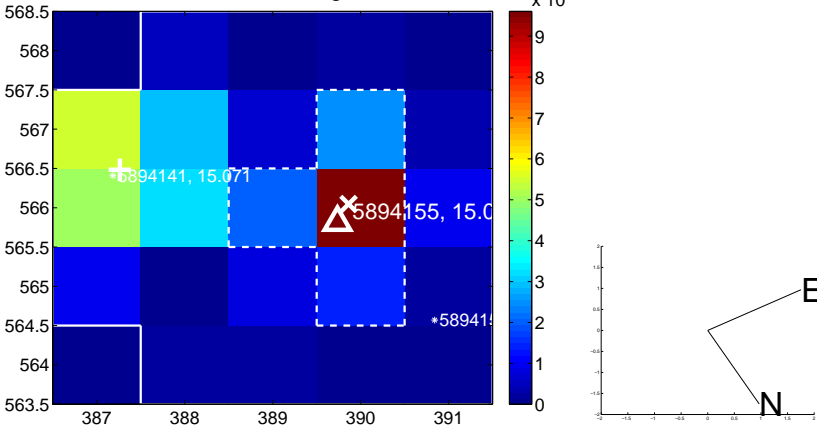
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



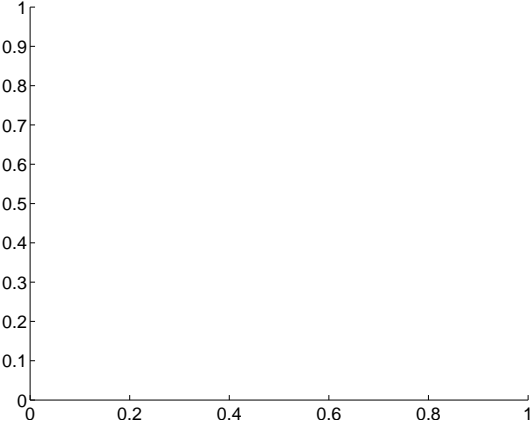
Q15 no difference image



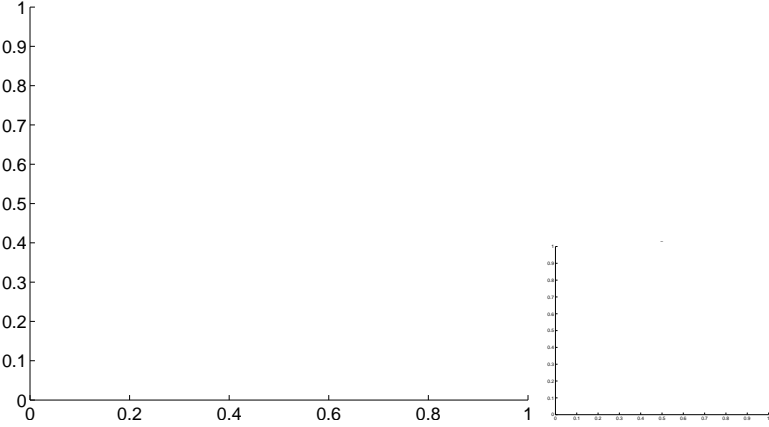
Q15 no OOT image



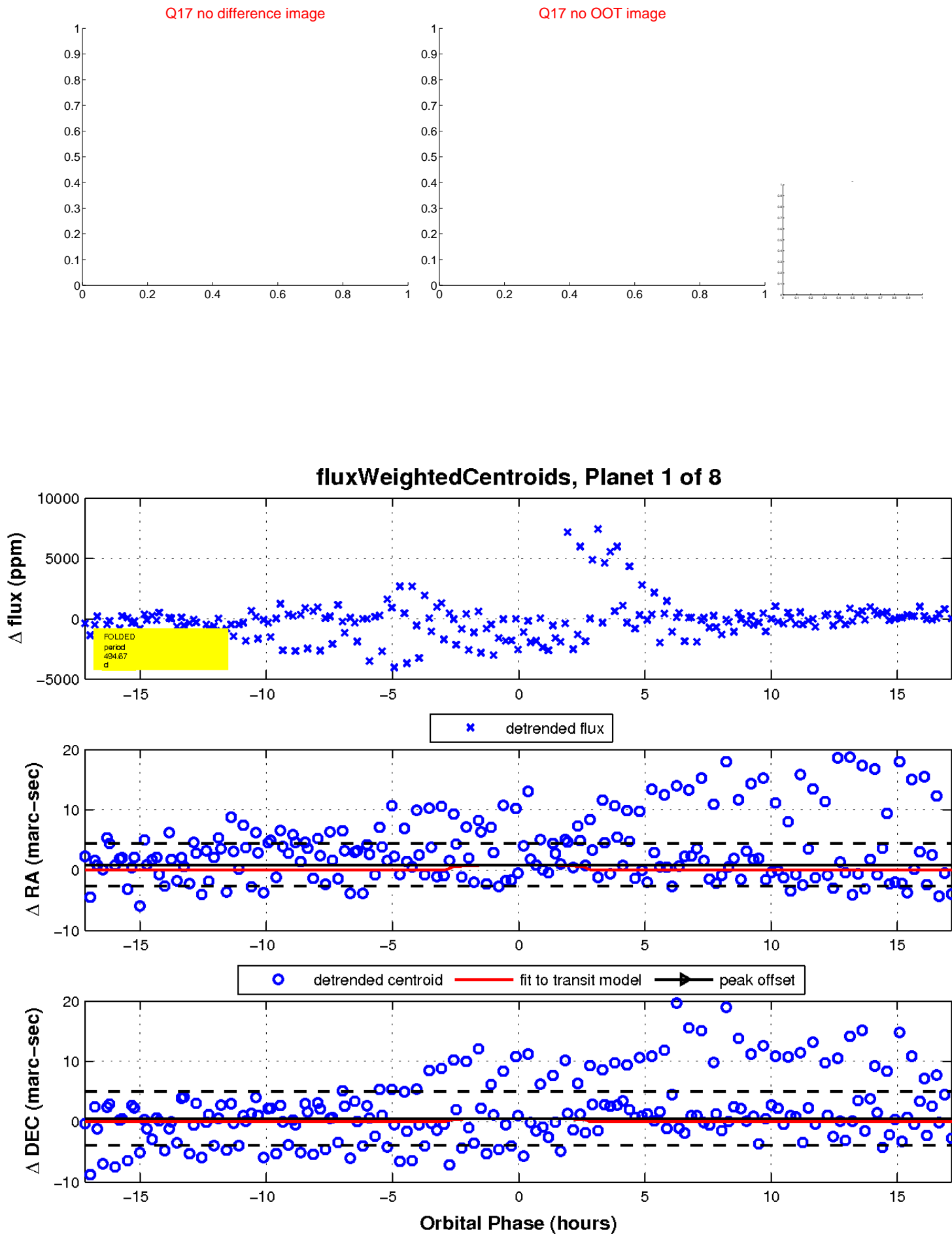
Q16 no difference image



Q16 no OOT image

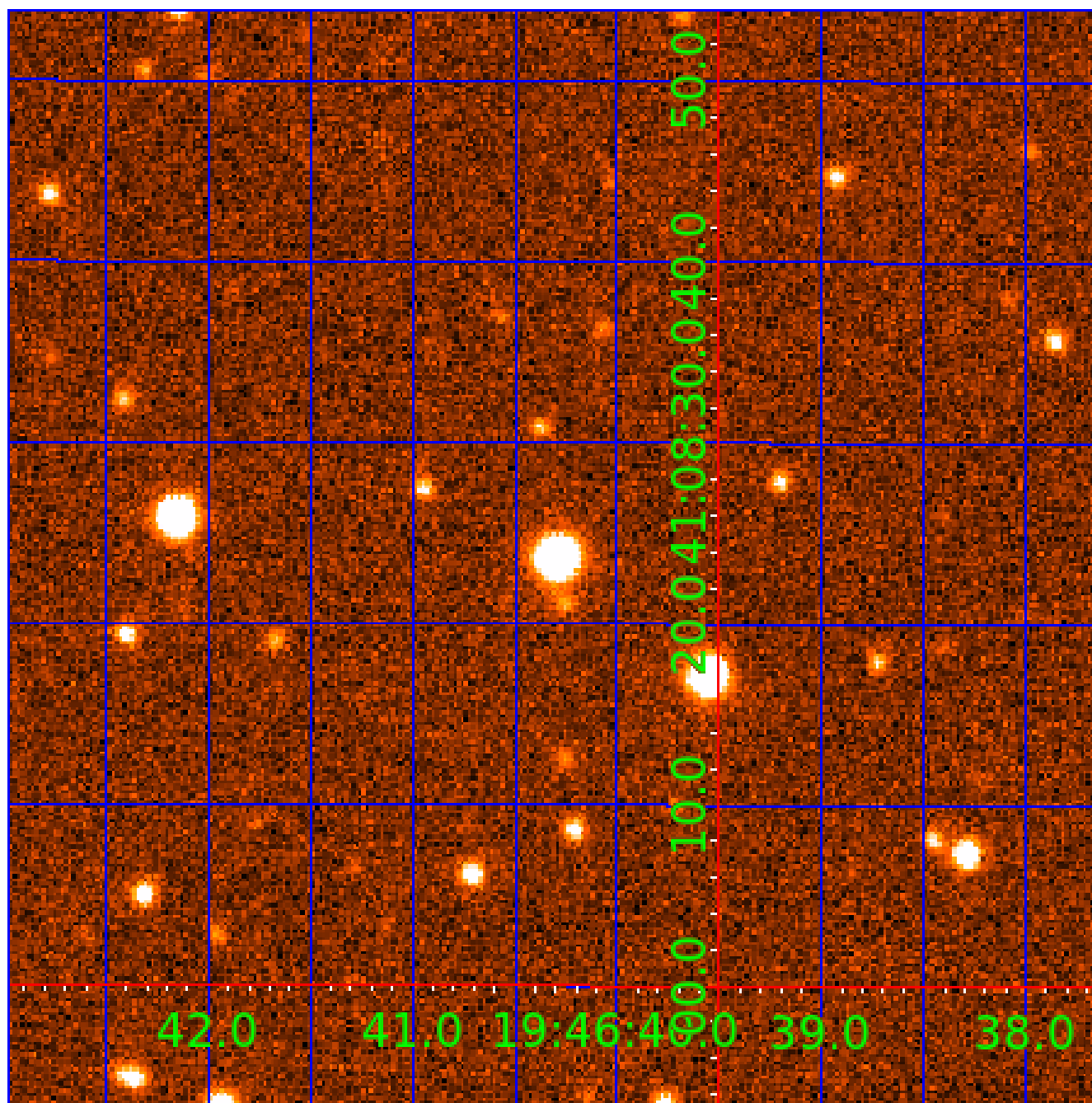


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005894155

Q1-17 DR25 TCE Parameters

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005894155-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
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005894155-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005894155-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

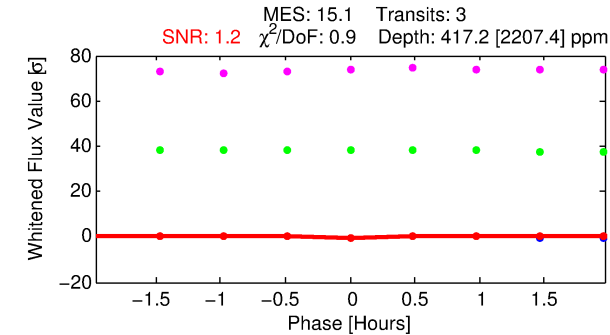
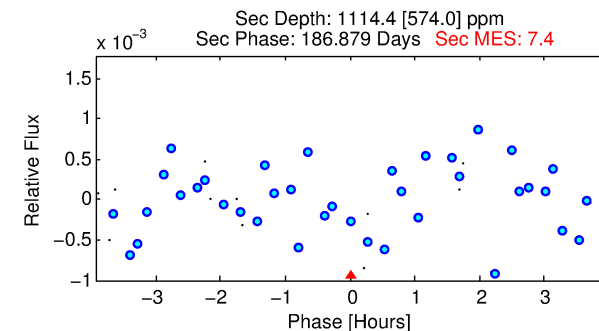
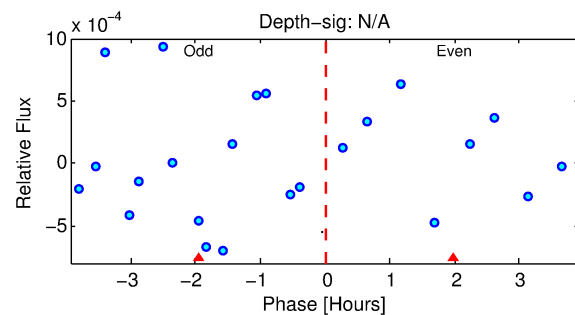
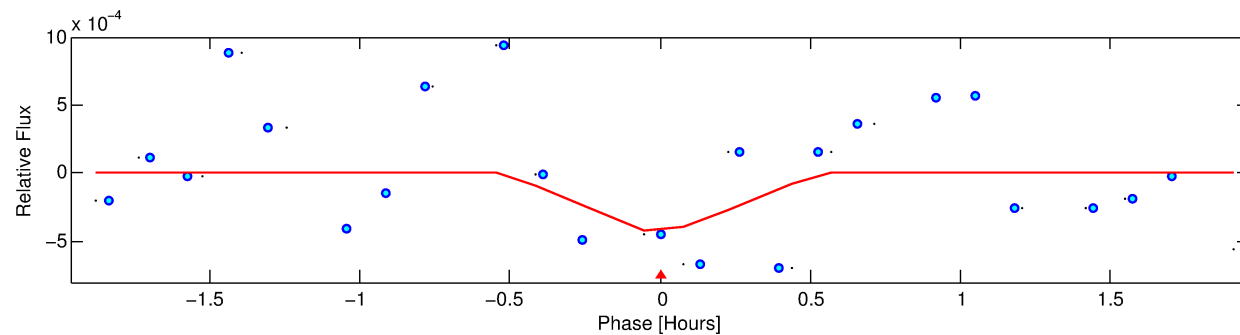
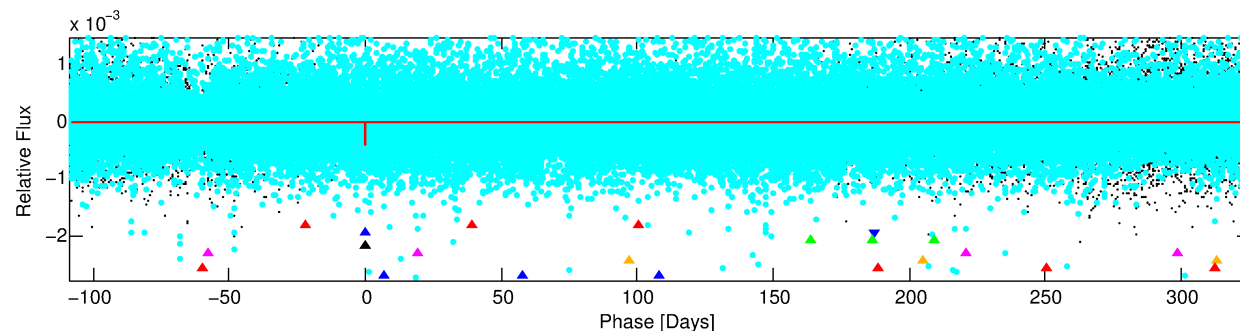
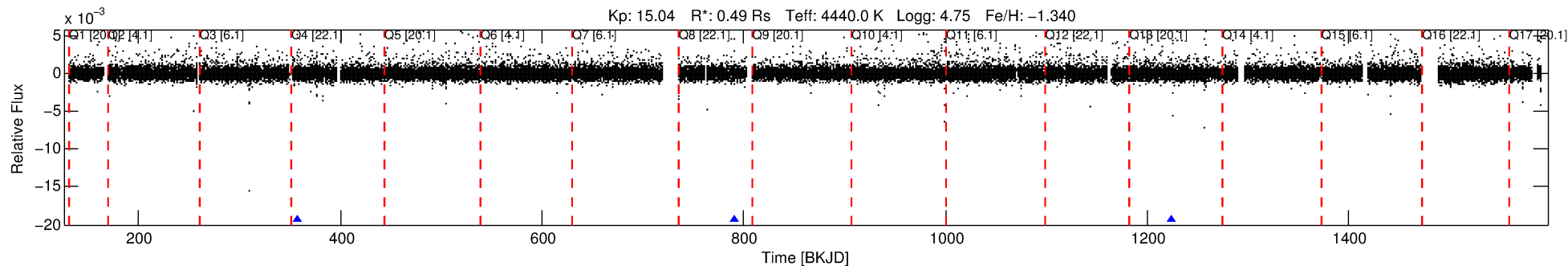
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005894155-02

No Significant Match Found

DV One-Page Summary

KIC: 5894155 Candidate: 2 of 8 Period: 433.364 d



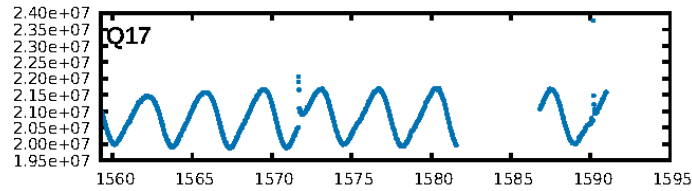
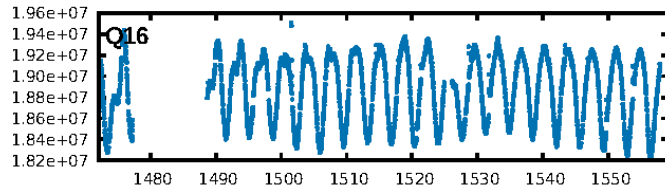
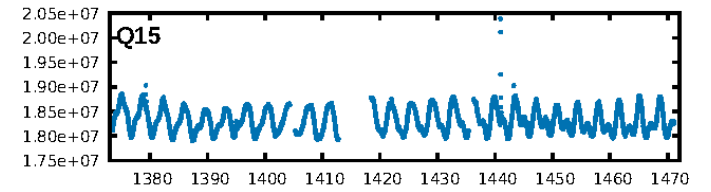
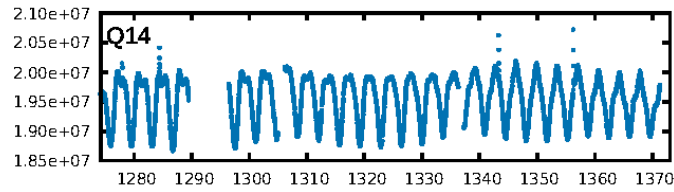
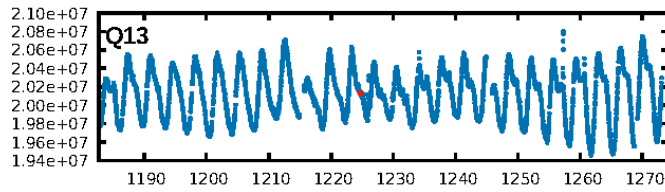
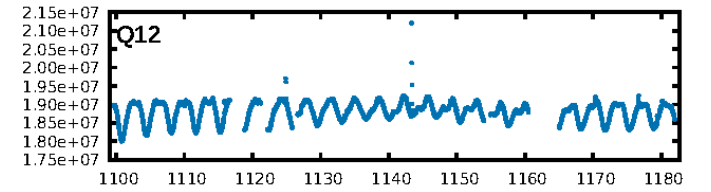
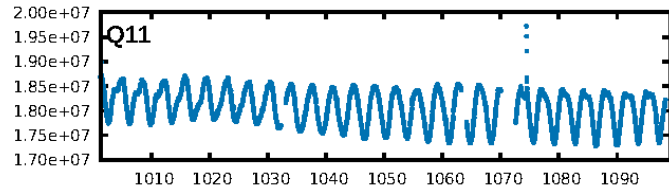
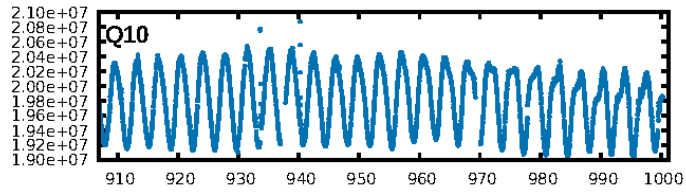
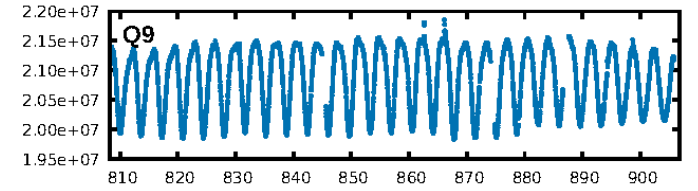
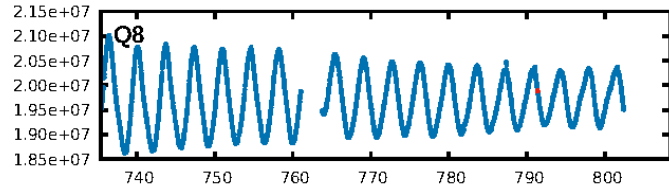
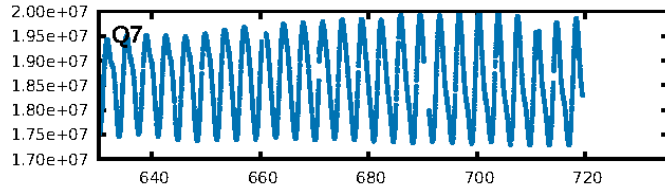
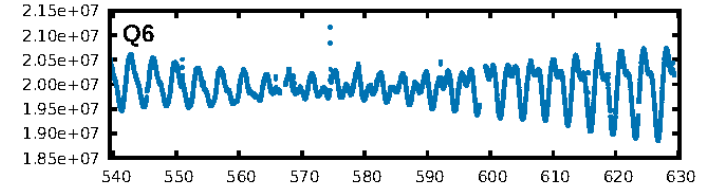
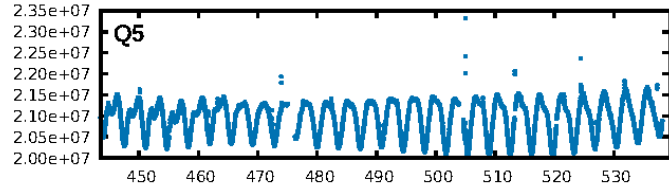
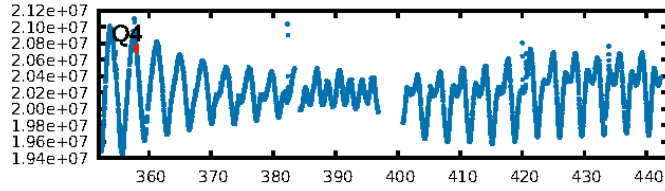
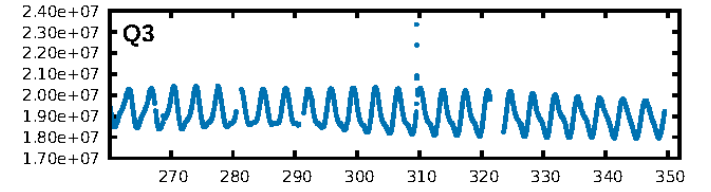
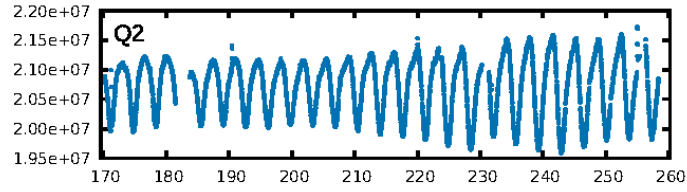
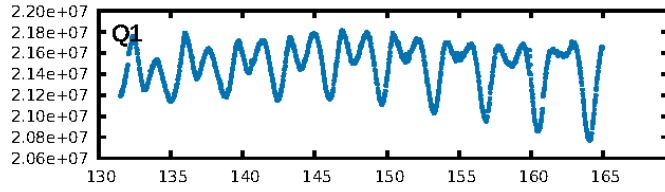
DV Fit Results:

Period = 433.36394 [0.04376] d
Epoch = 357.9775 [0.0454] BKJD
Rp/R* = 0.0232 [0.2853]
a/R* = 2498.95 [98788.37]
b = 0.90 [9.95]
Seff = 0.11 [0.02]
Teq = 146 [7] K
Rp = 1.24 [15.32] Re
a = 0.8904 [0.0702] AU
Ag = 314068.44 [7737037.96] [0.04σ]
Teffp = 5329 [32822] K [0.16σ]

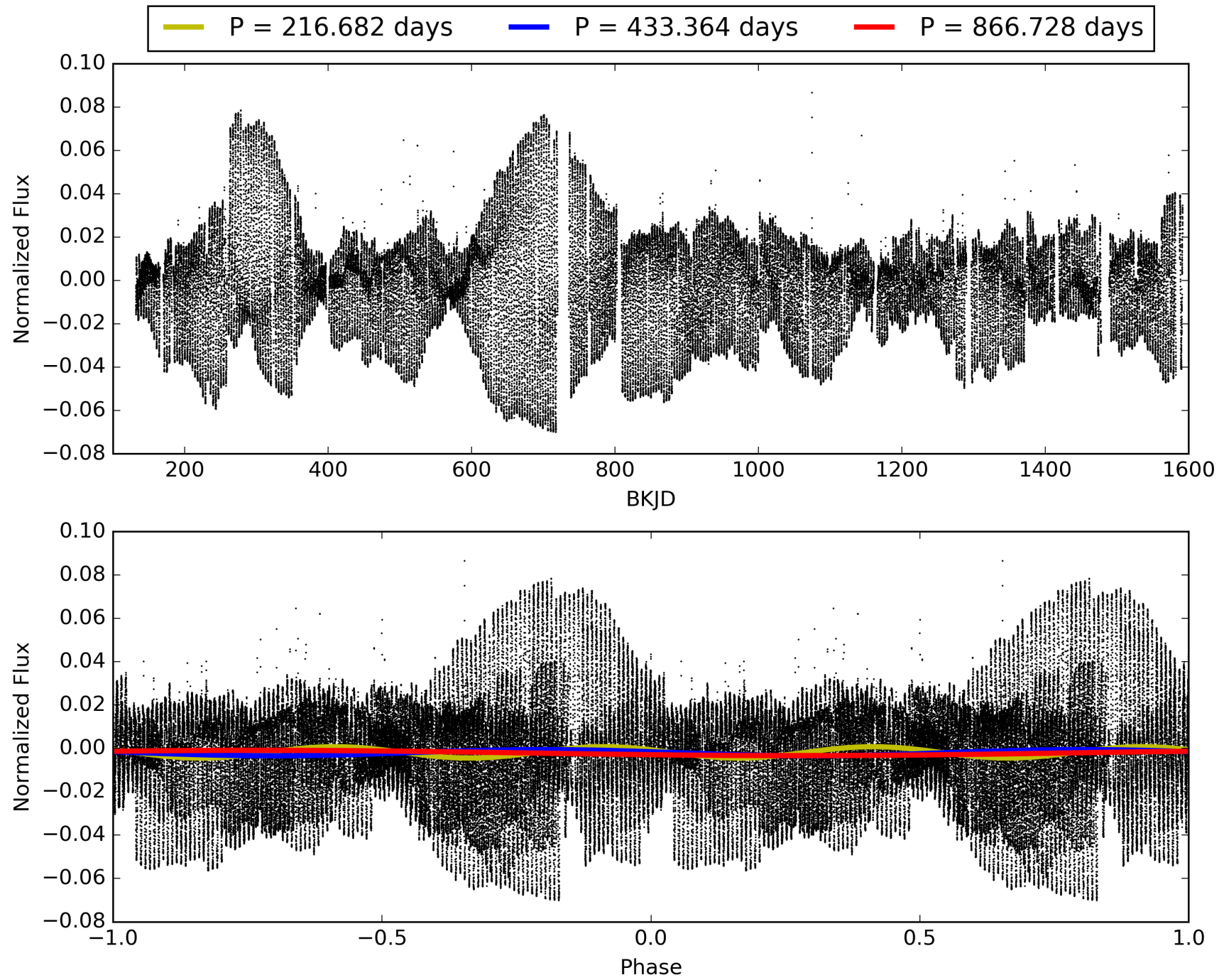
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [170.44σ]
LongPeriod-sig: 2.0% [0.02σ]
ModelChiSquare2-sig: 67.6%
ModelChiSquareGof-sig: 78.3%
Bootstrap-pfa: 2.99e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.6599
Centroid-sig: 65.0%
Centroid-so: 4.181 arcsec [0.45σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.00 [0/2]

TCE 005894155-02, PDC Light Curves

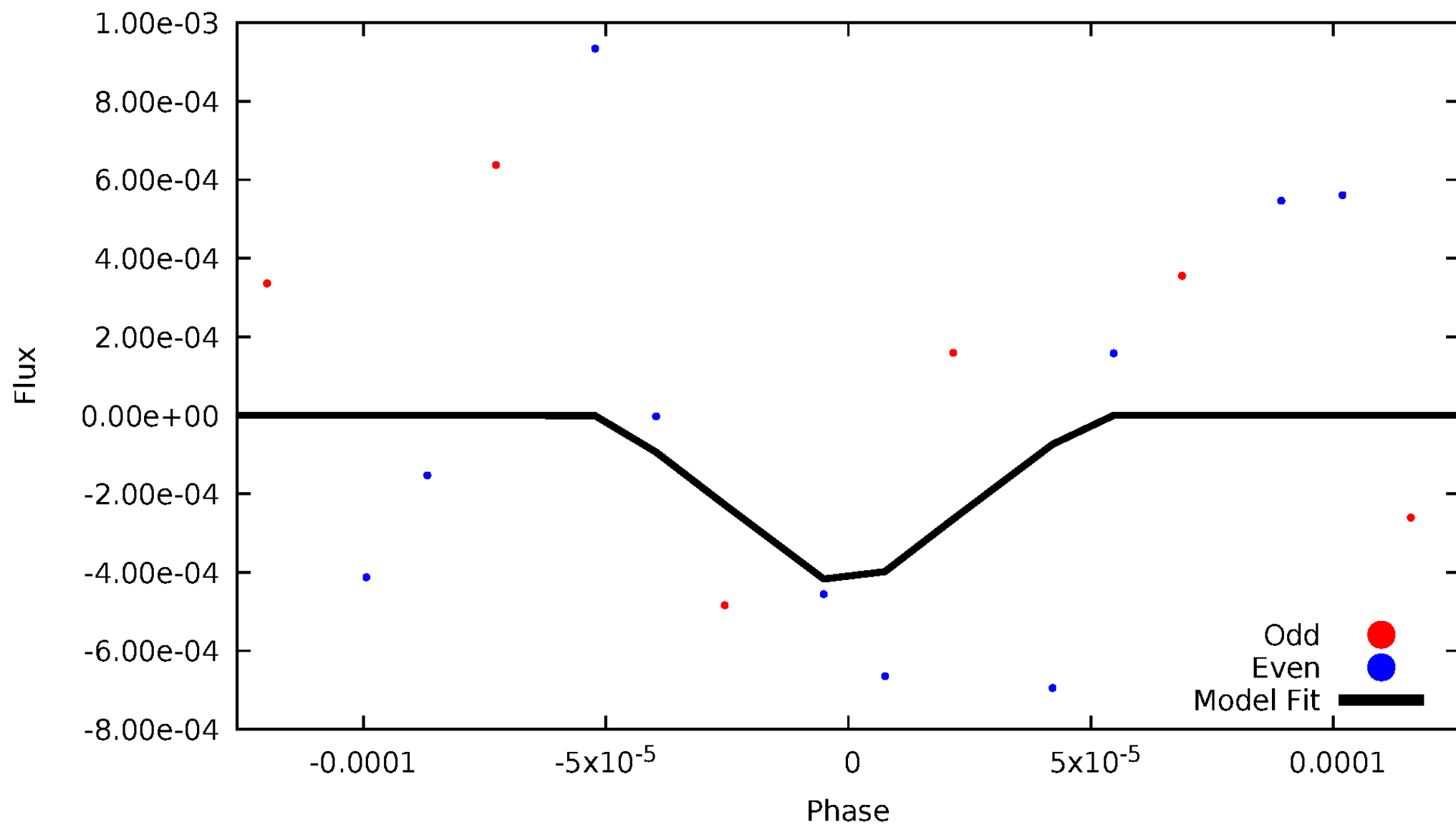


TCE 005894155-02



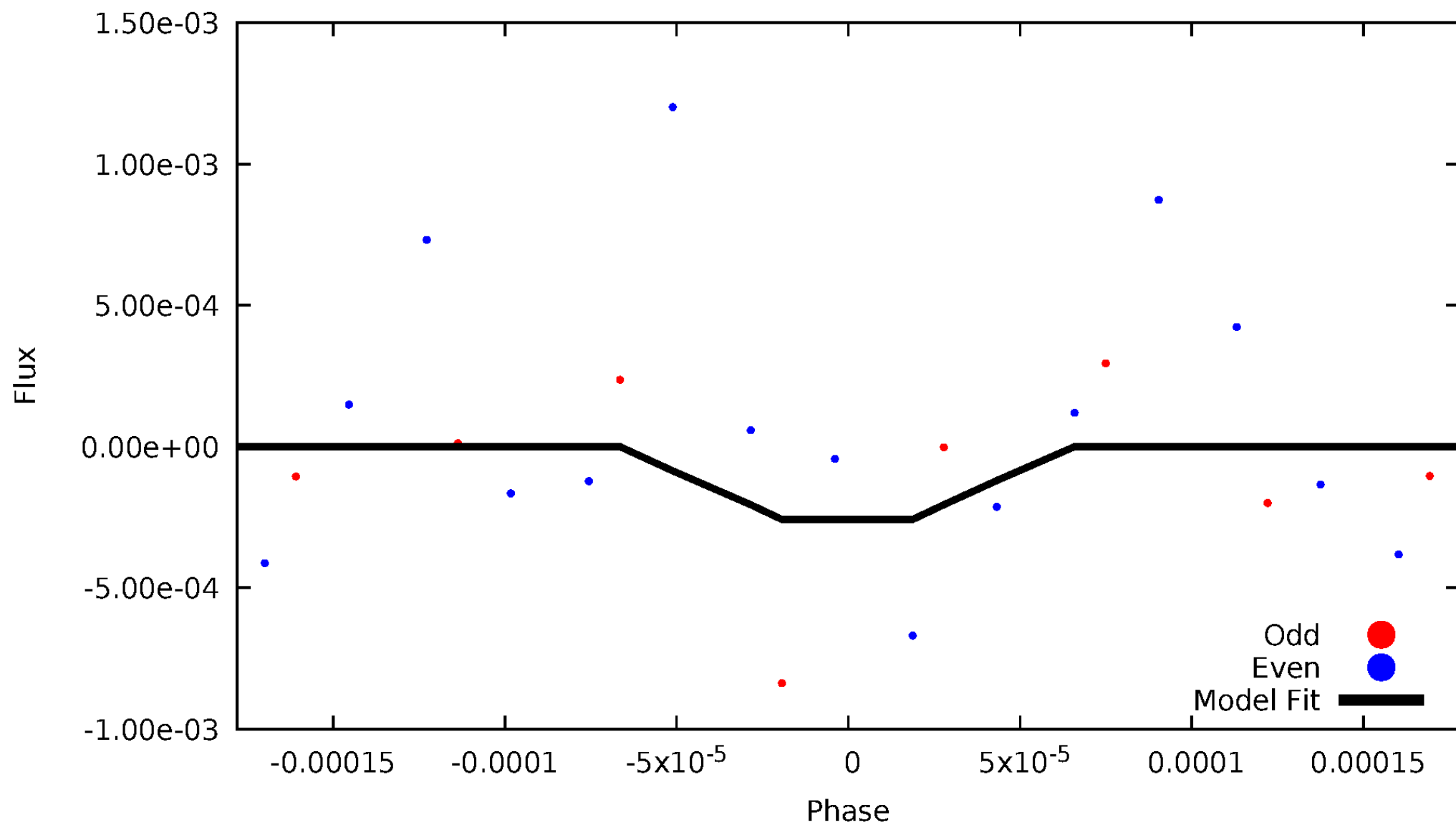
DV Odd/Even

TCE 005894155-02



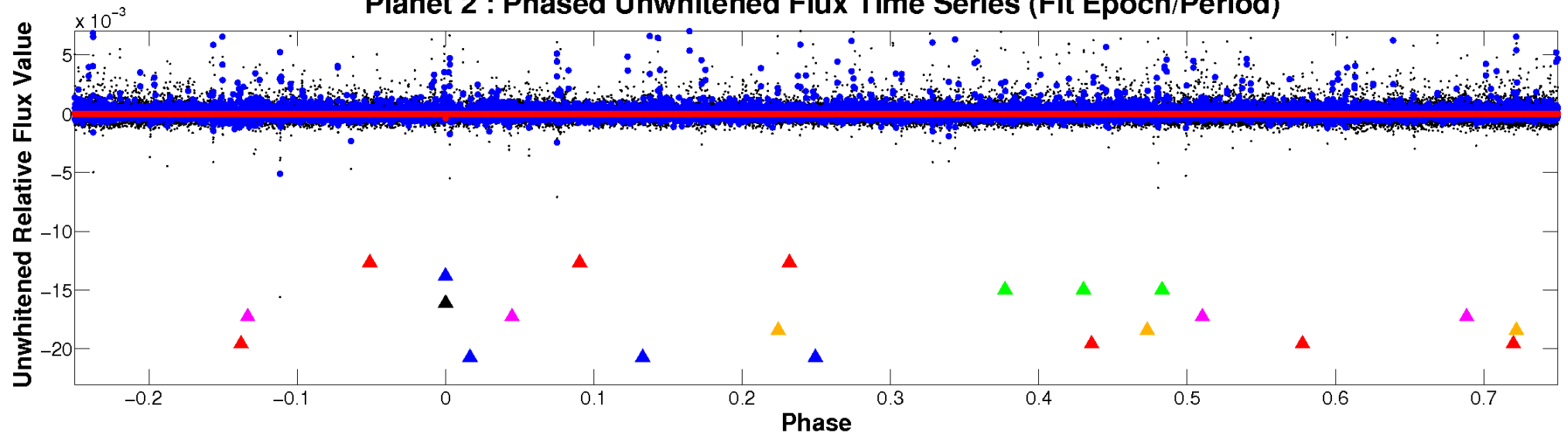
ALT Odd/Even

TCE 005894155-02

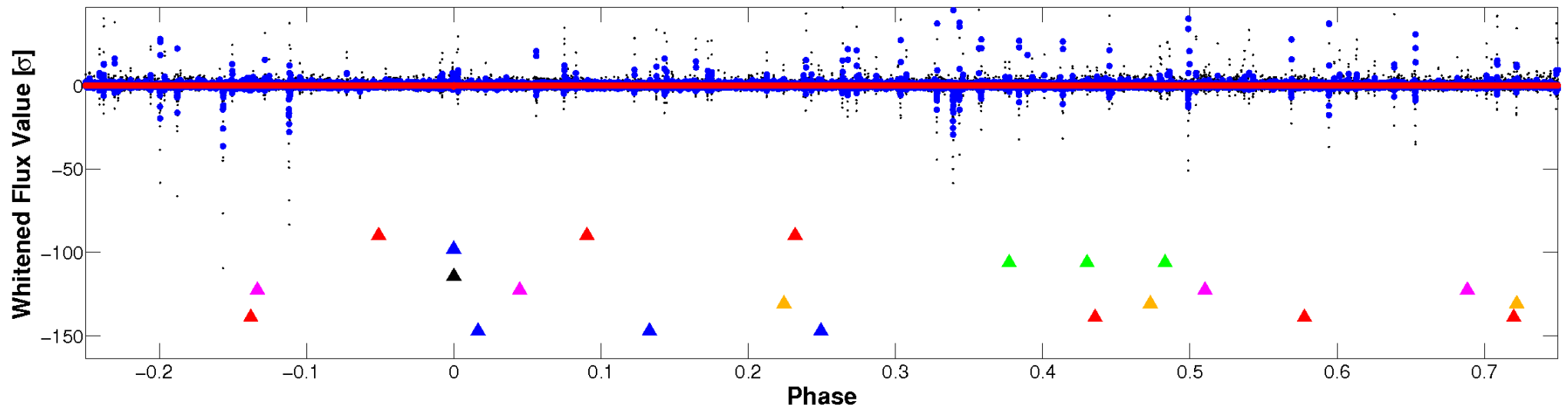


Non-Whitened Vs. Whitened Light Curve

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

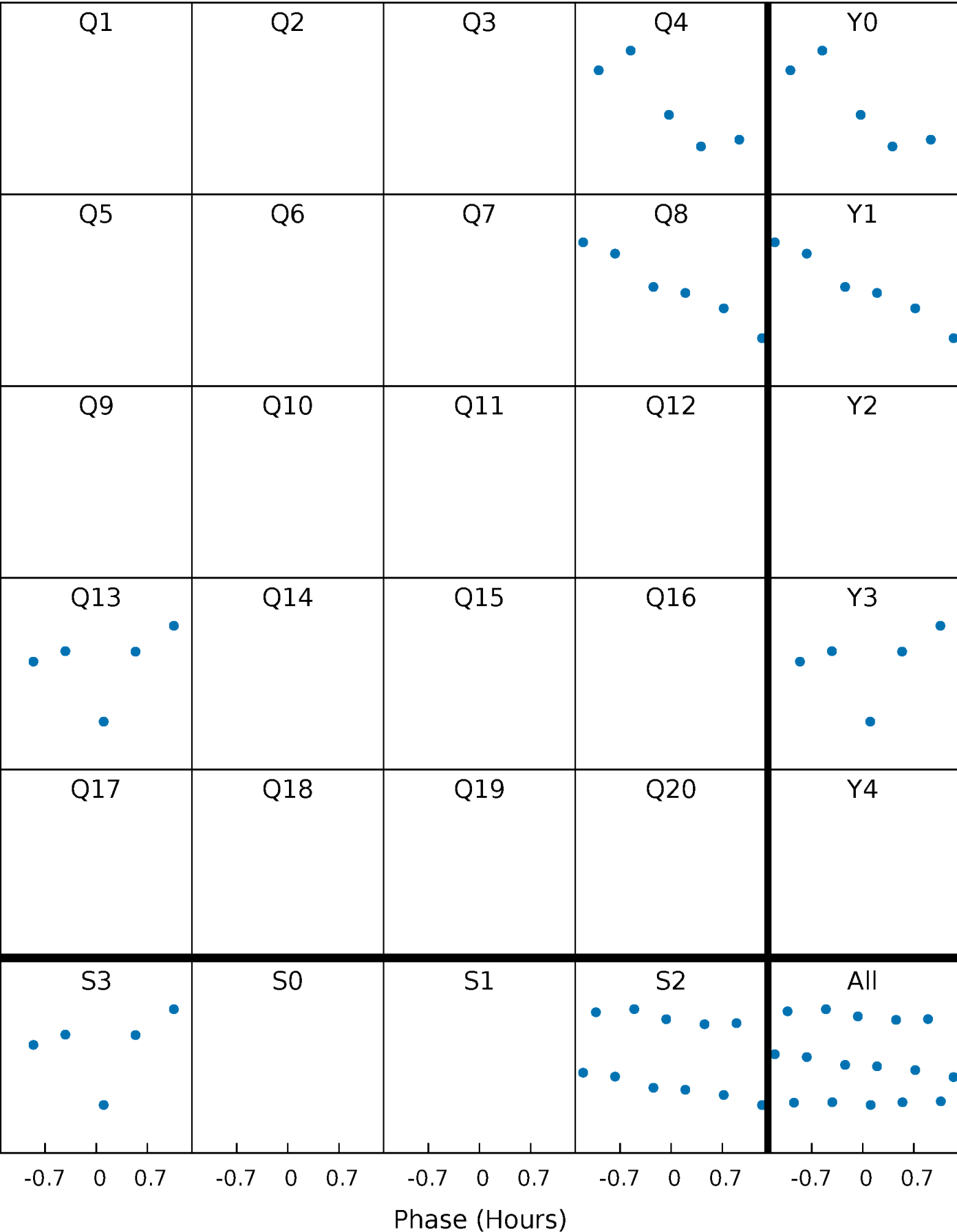


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



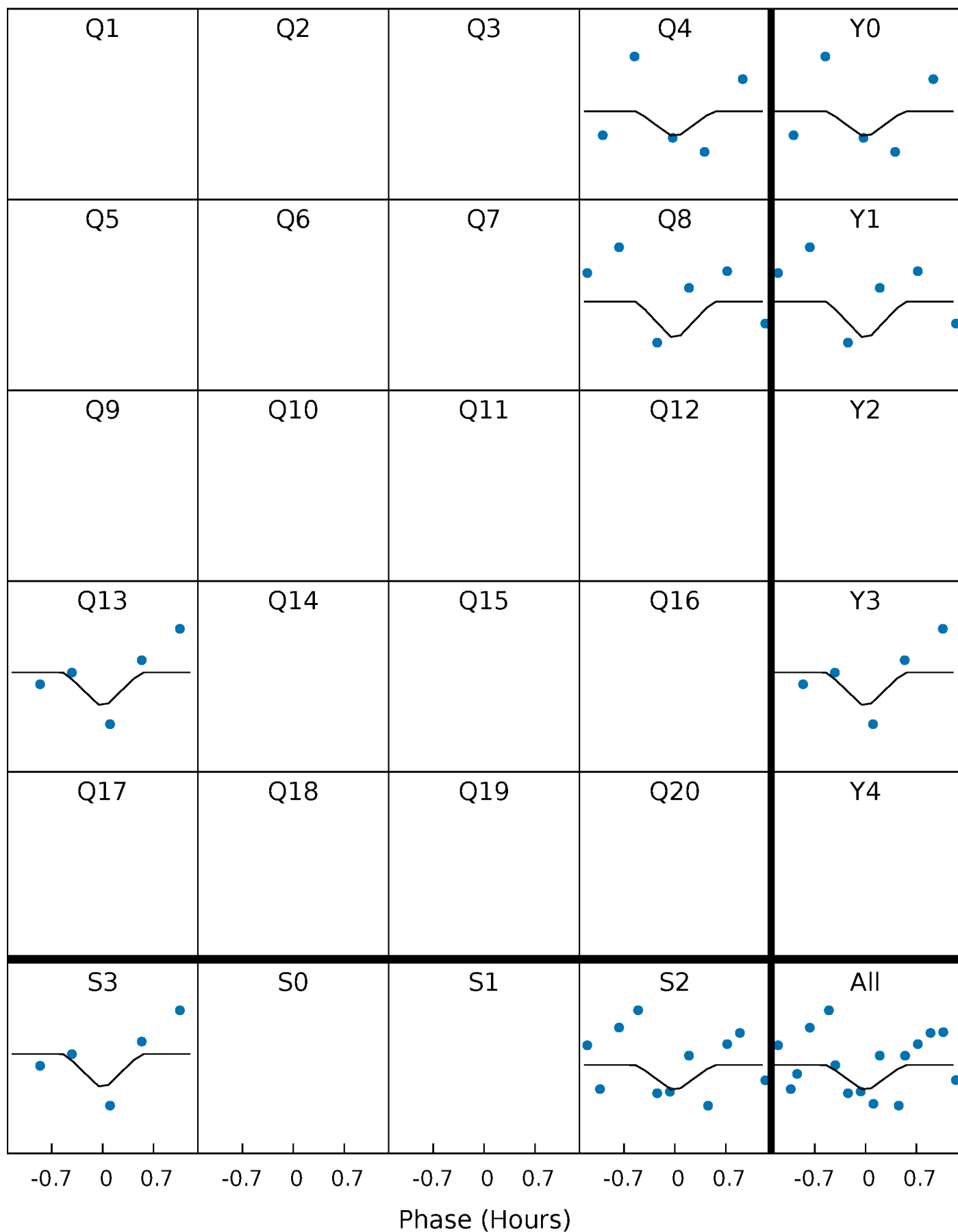
PDC Quarter-Phased Transit Curves

TCE 005894155-02 P=433.363936 Days T₀=357.977488 (BKJD)



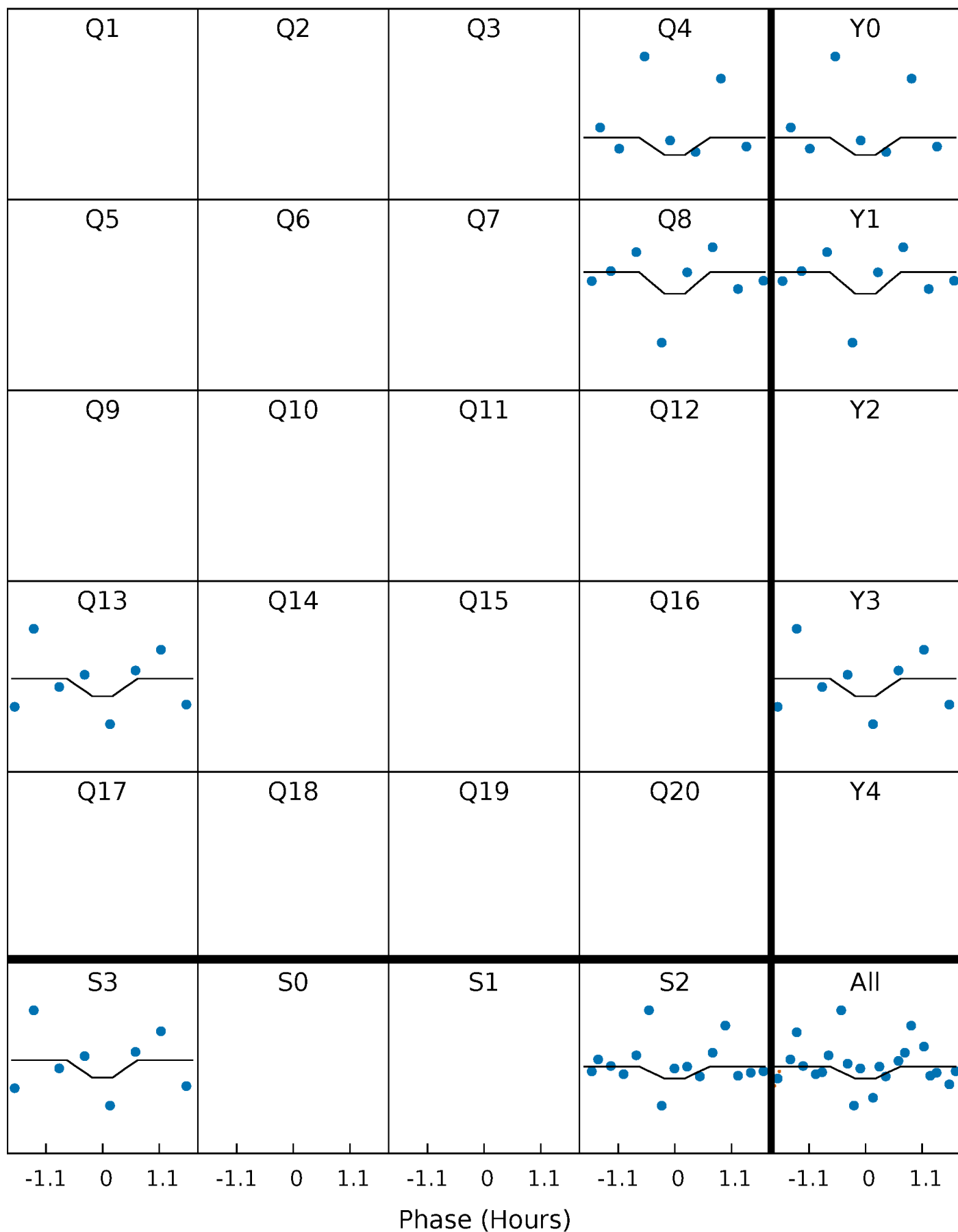
DV Quarter-Phased Transit Curves

TCE 005894155-02 P=433.363936 Days $T_0=357.977488$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

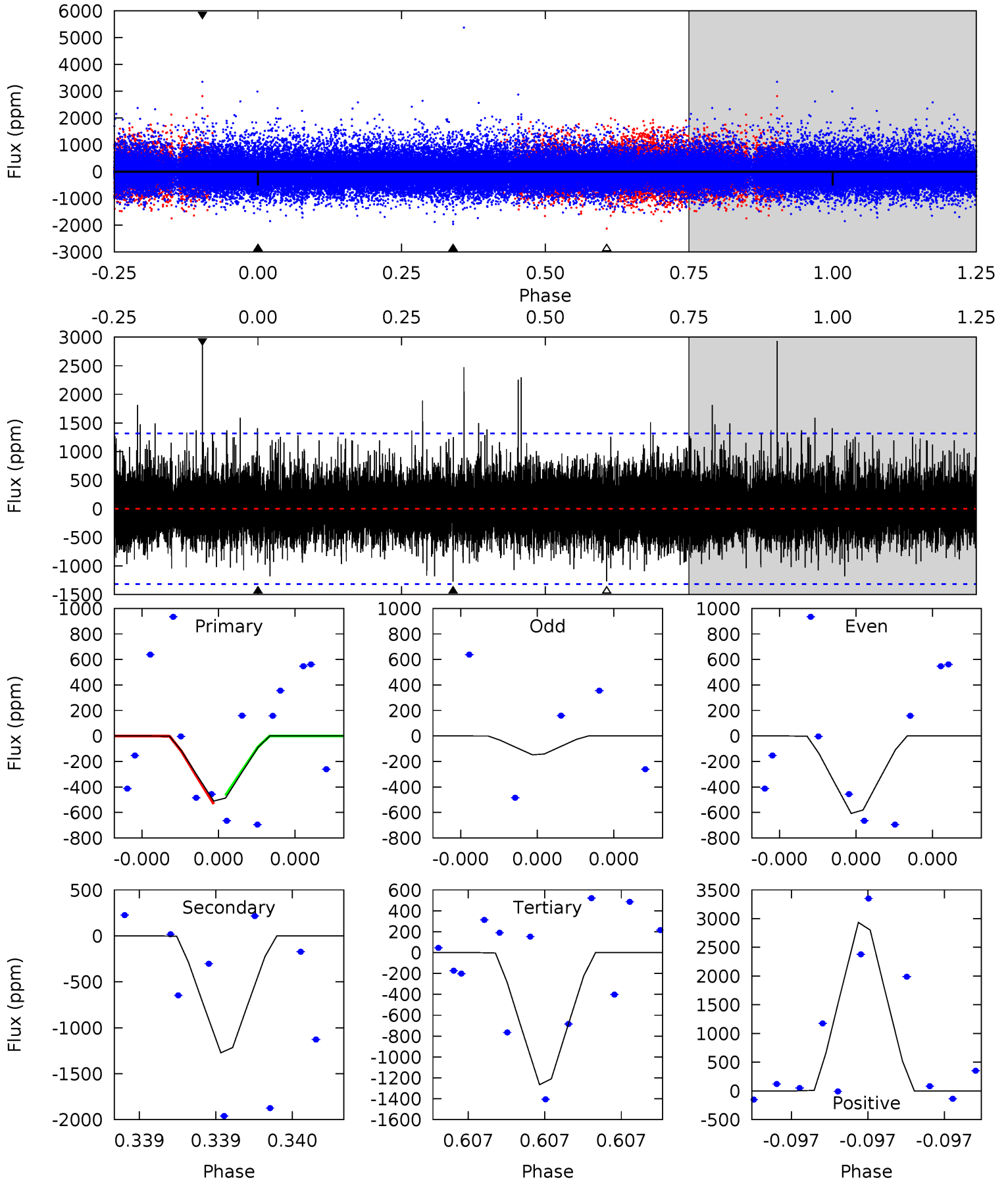
TCE 005894155-02 P=433.361752 Days $T_0=357.977006$ (BKJD)



DV Model-Shift Uniqueness Test

005894155-02, P = 433.363936 Days, E = 357.977488 Days

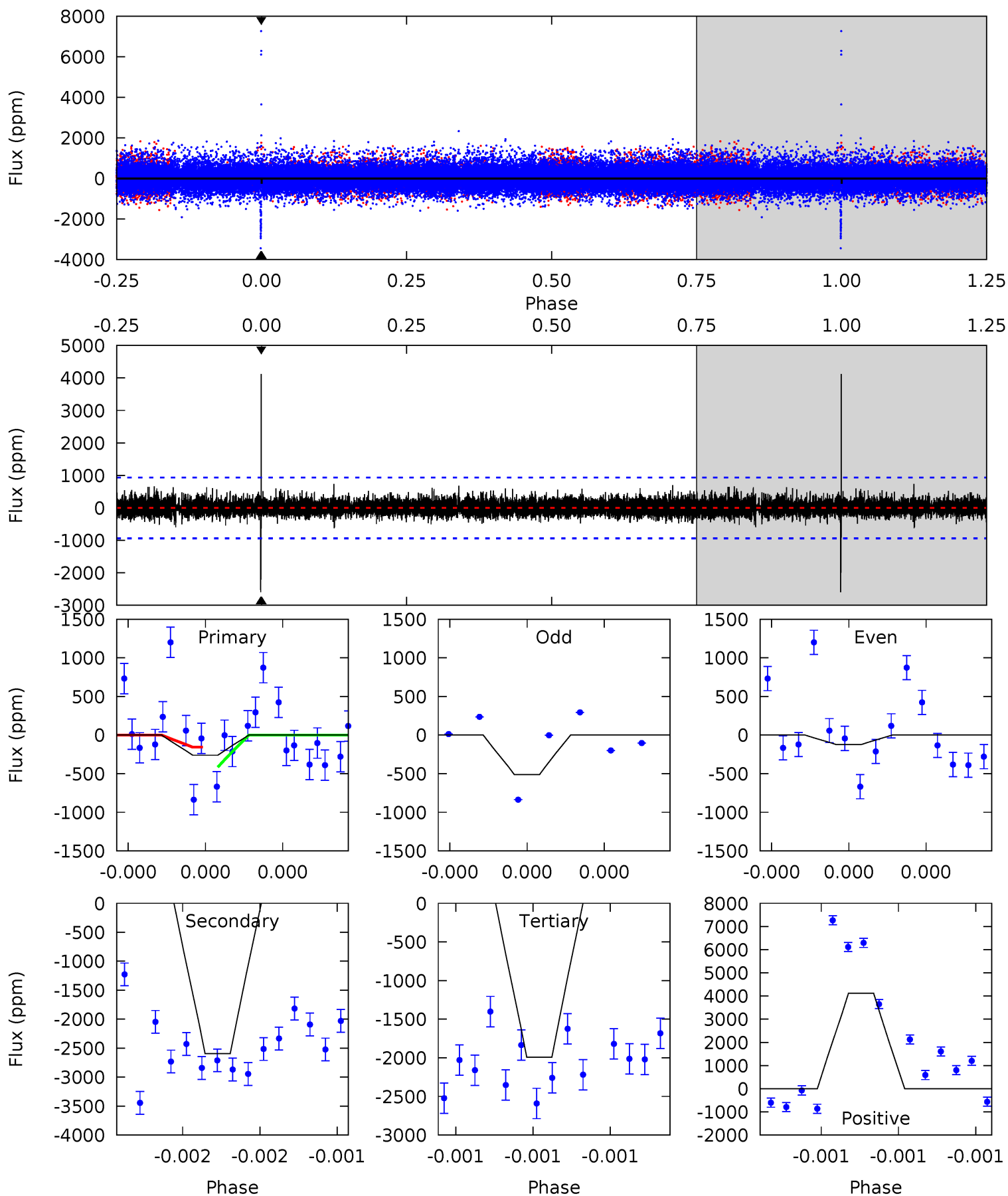
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.28	5.68	5.65	13.1	5.88	3.94	1.31	-3.38	-10.8	0.03	-7.42	0.52	0.87	0.70	0.15



Alt Model-Shift Uniqueness Test

005894155-02, P = 433.361752 Days, E = 357.977006 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.62	16.1	12.4	25.6	5.82	3.85	0.91	-10.8	-24.0	3.74	-9.50	1.06	0.61	0.61	0.80



Stellar Parameters For KIC 005894155

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4440^{+135}_{-162}	$4.754^{+0.063}_{-0.032}$	$-1.340^{+0.300}_{-0.300}$	$0.492^{+0.031}_{-0.046}$	$0.500^{+0.034}_{-0.034}$	$5.932^{+1.606}_{-0.718}$
	+3%/-4%	+1%/-1%	+22%/-22%	+6%/-9%	+7%/-7%	+27%/-12%
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 005894155-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1273 ± 224	$11.15^{+11.48}_{-8.20}$	202^{+8}_{-8}	2556^{+1155}_{-375}	4363^{+55443}_{-3275}
Alt.	-2596 ± 161	$9.85^{+11.75}_{-7.22}$	202^{+7}_{-9}	2912^{+1600}_{-538}	$11457^{+163229}_{-8994}$

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 $A_{obs} \gg 1.0$

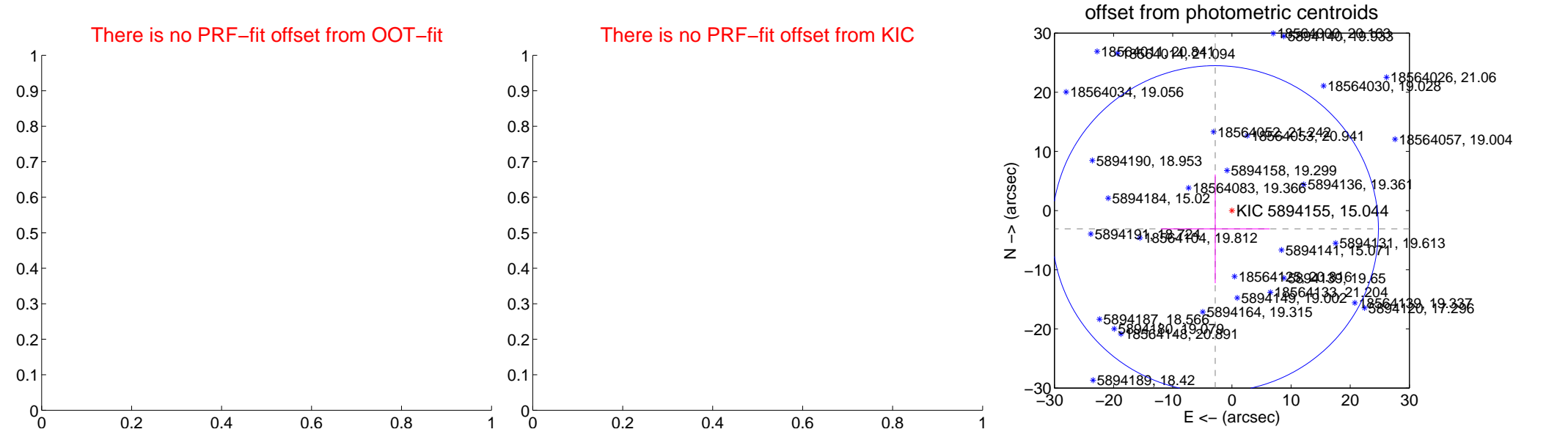
DV Centroid Data

Supplemental centroid analysis for 005894155-02. Kepler magnitude: 15.04. Transit SNR 1.22

There are 0 quarters with good PRF difference image offsets

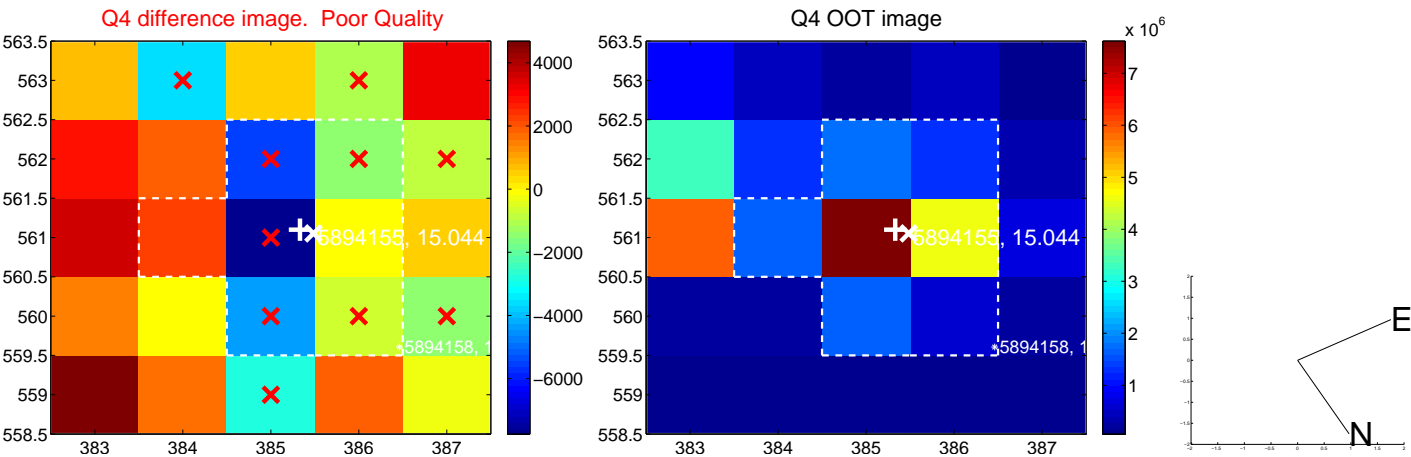
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	4.18 ± 9.19	0.45	2.82 ± 9.21	-3.09 ± 9.18



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

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



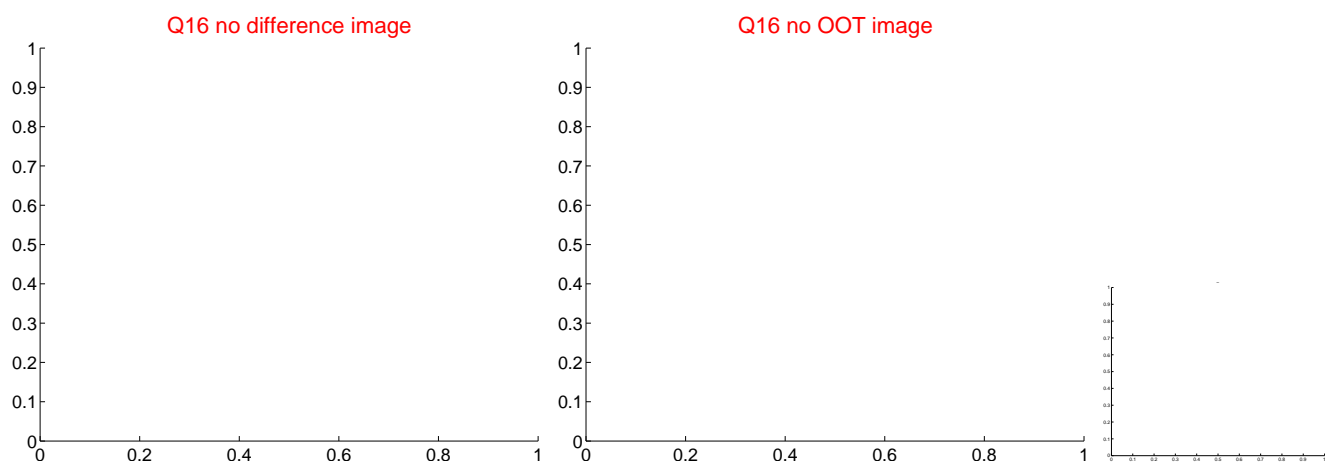
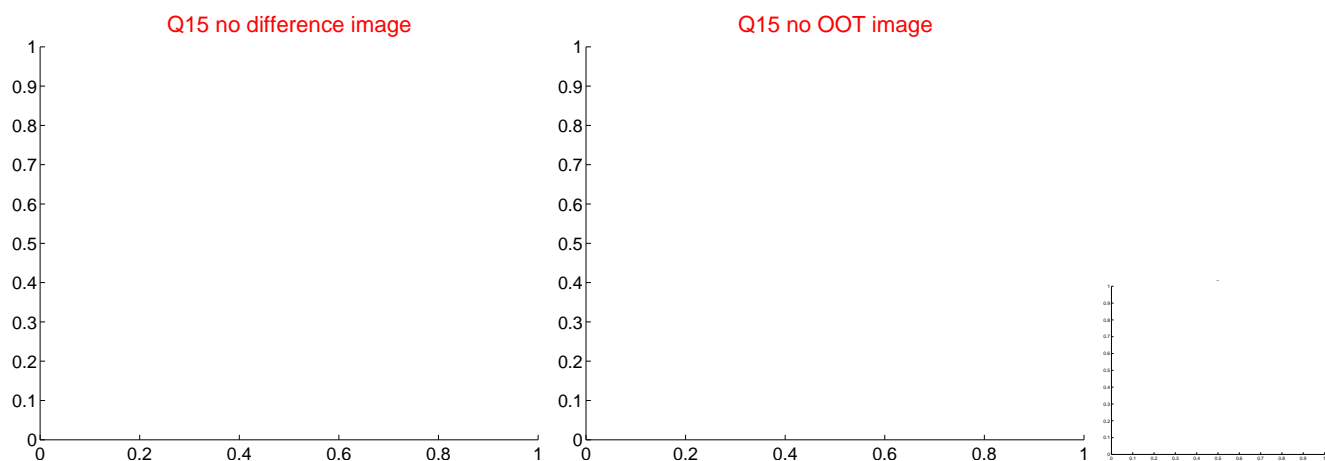
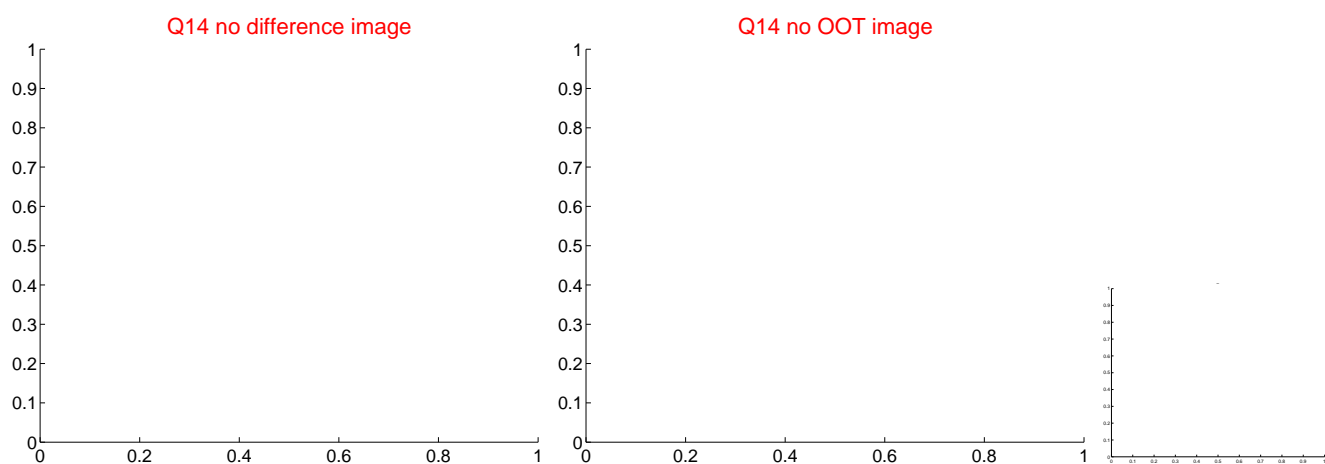
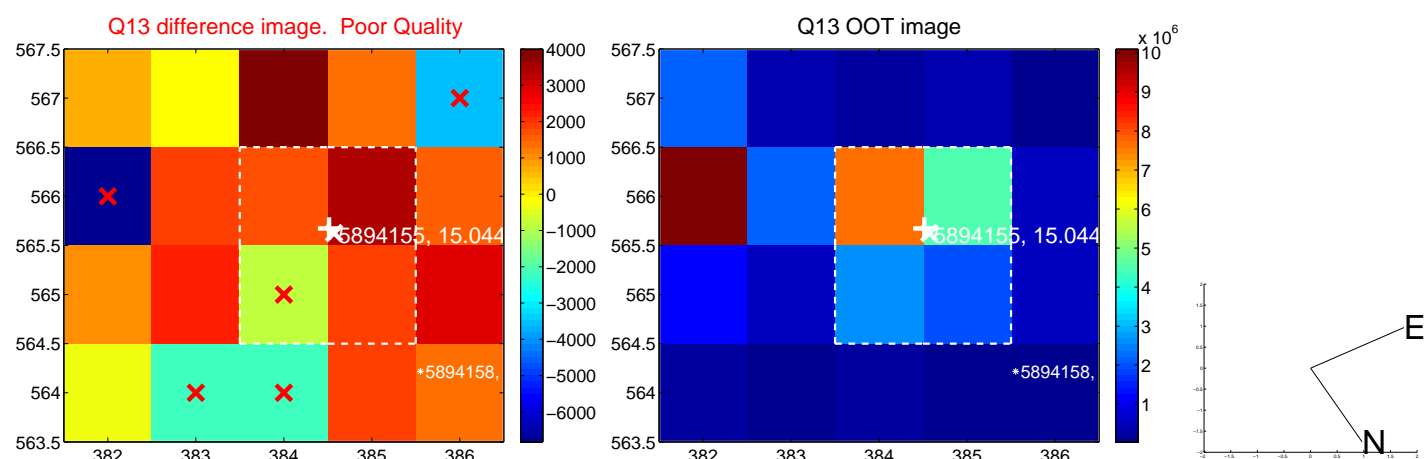
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



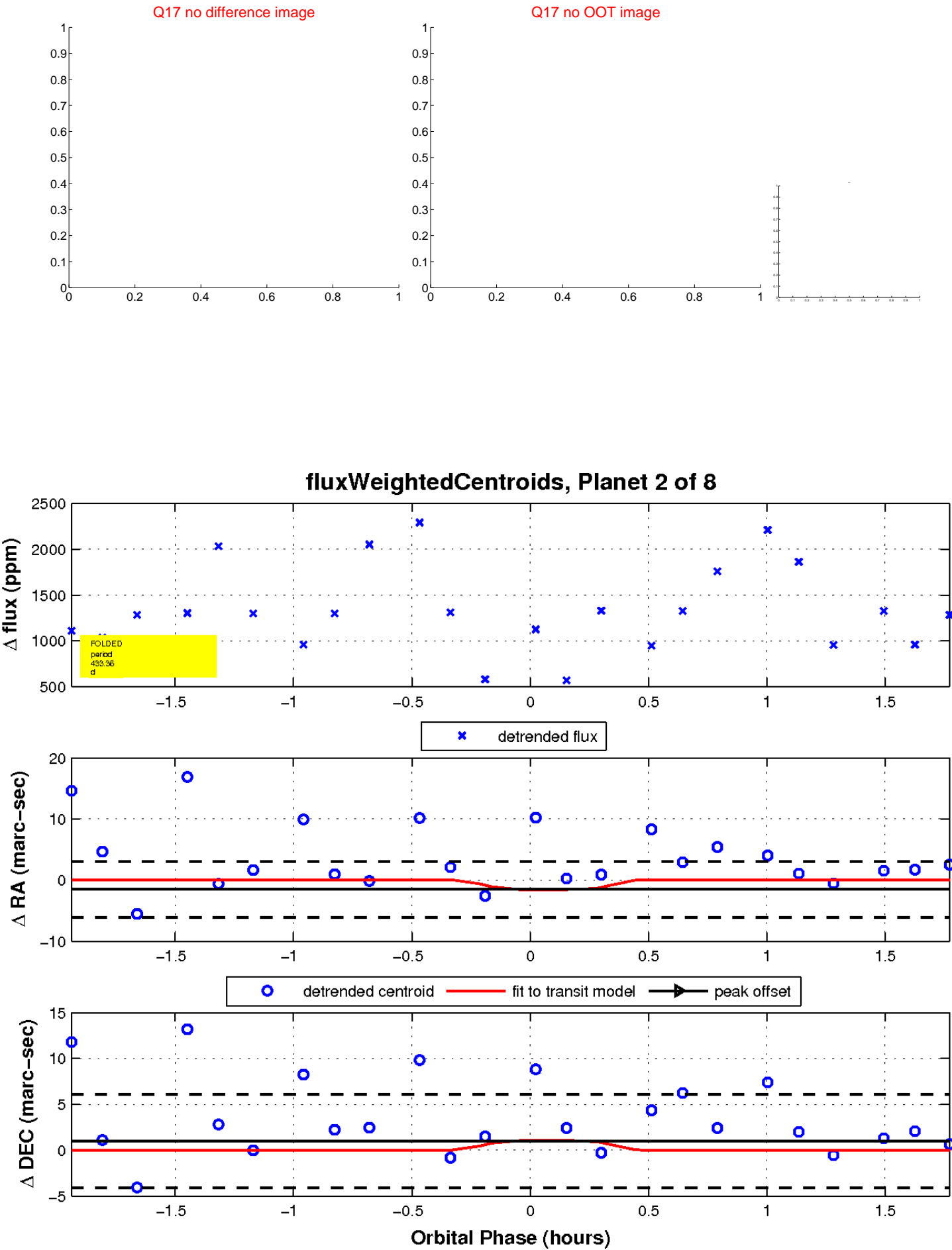
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

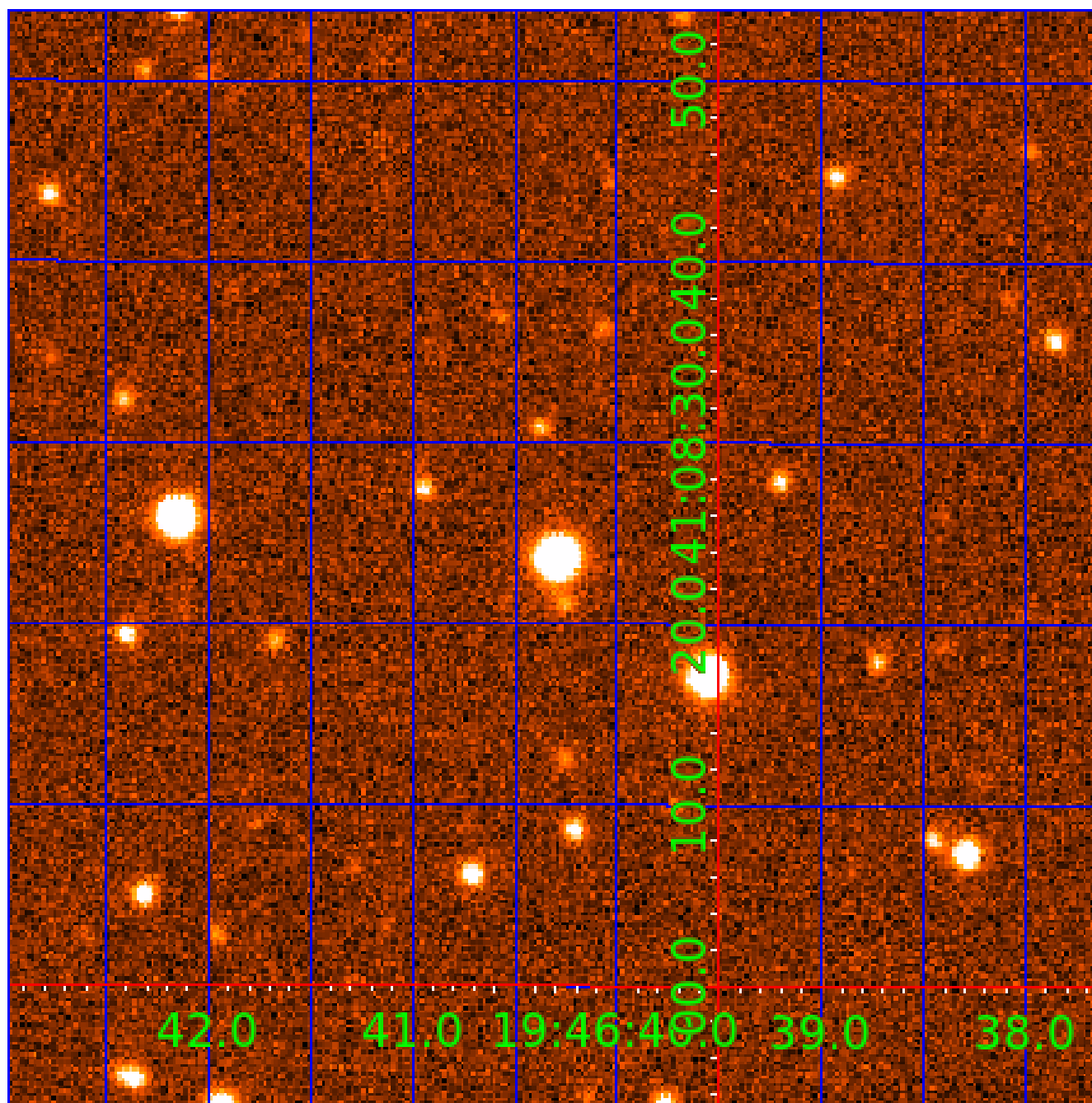


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005894155

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})
005894155-01	OBS	No	494.665076	335.878503	2667.4	5.752	15.4	10.2	0.49	4440	2.51	0.09
005894155-02	OBS	No	433.363936	357.977488	417.2	0.655	15.1	1.2	0.49	4440	1.24	0.11
005894155-04	OBS	No	433.381260	358.010522	1331.5	16.736	15.0	3.0	0.49	4440	2.05	0.11
005894155-05	OBS	No	356.150509	377.403959	1998.9	10.714	12.8	5.9	0.49	4440	2.20	0.14
005894155-06	OBS	No	541.209675	455.178397	1807.1	4.471	12.8	5.7	0.49	4440	2.10	0.08
005894155-07	OBS	No	371.746857	298.247796	2333.6	3.794	12.8	9.0	0.49	4440	2.35	0.13
005894155-08	OBS	No	382.908110	466.055958	2151.6	7.075	12.3	7.5	0.49	4440	2.69	0.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005894155-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
005894155-05	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
005894155-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005894155-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

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

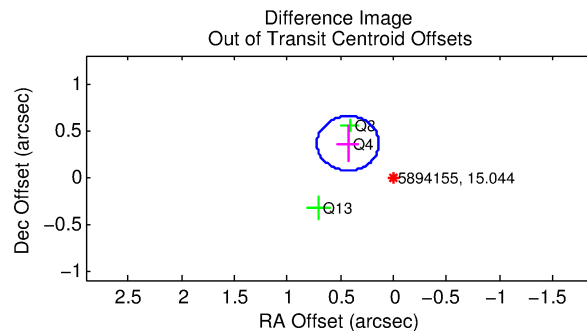
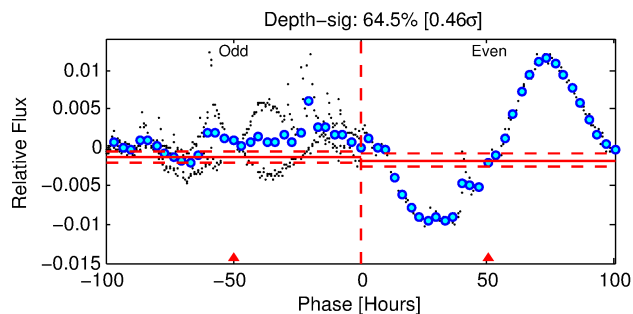
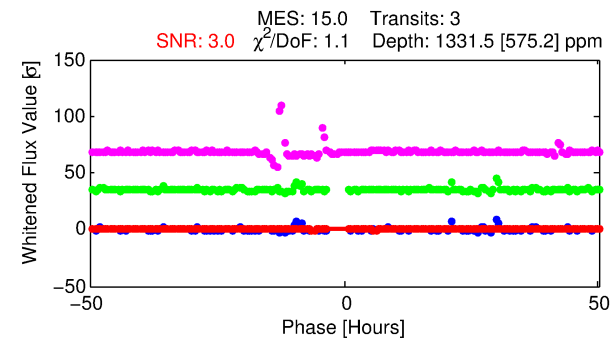
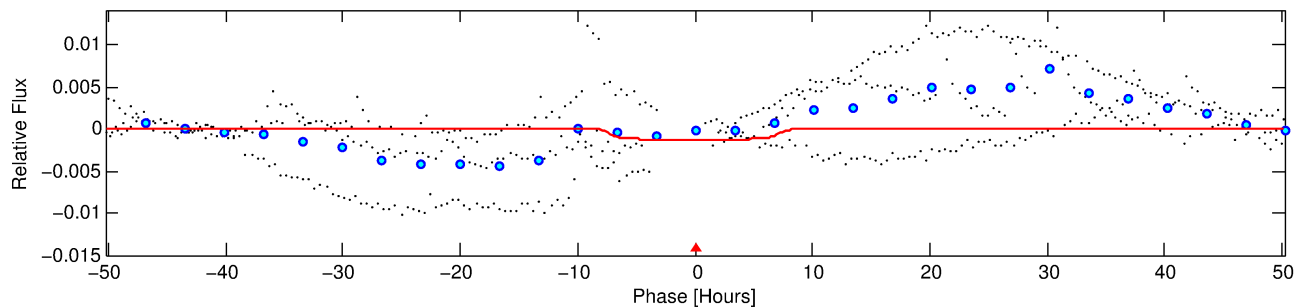
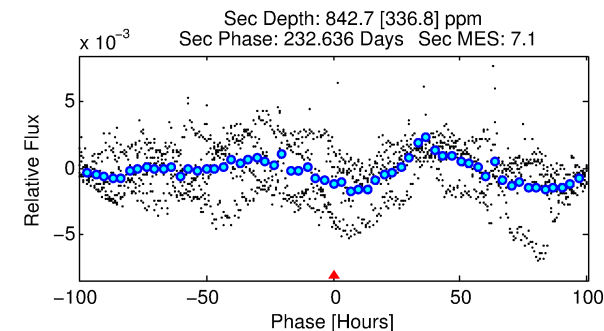
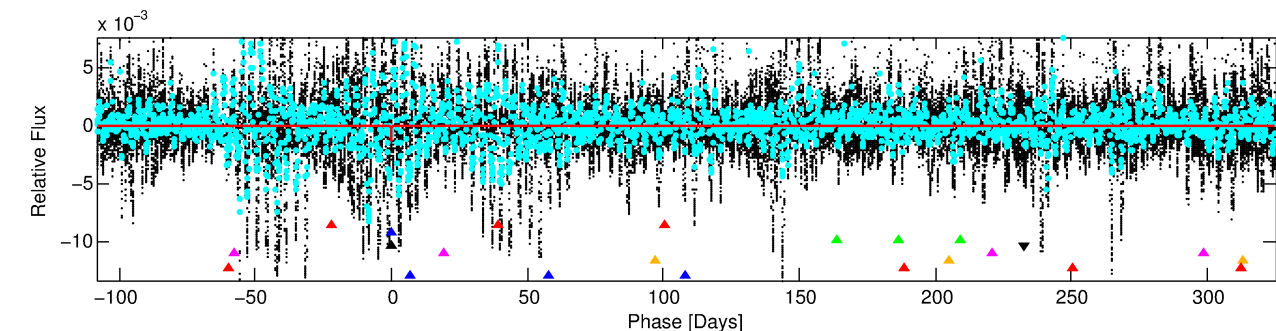
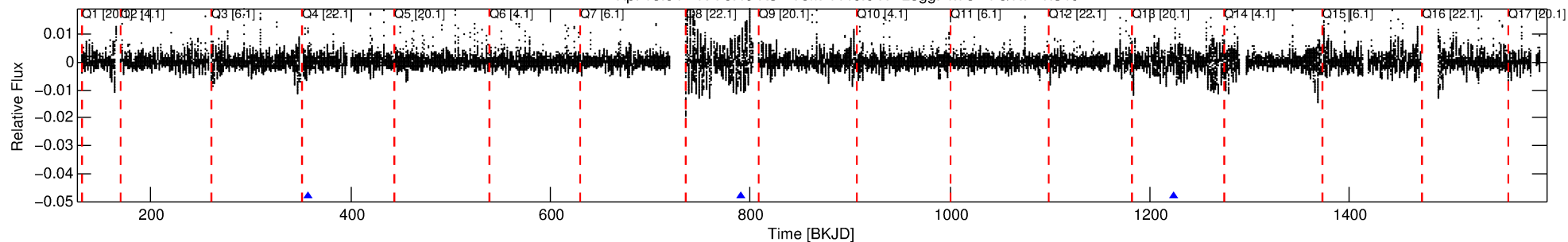
Ephemeris Match Information For 005894155-04

No Significant Match Found

DV One-Page Summary

KIC: 5894155 Candidate: 4 of 8 Period: 433.381 d

Kp: 15.04 R*: 0.49 Rs Teff: 4440.0 K Logg: 4.75 Fe/H: -1.340



DV Fit Results:

Period = 433.38126 [0.02164] d
Epoch = 358.0105 [0.0260] BKJD
Rp/R* = 0.0382 [0.0095]
a/R* = 118.38 [41.97]
b = 0.85 [0.12]
Seff = 0.11 [0.02]
Teq = 146 [7] K
Rp = 2.05 [0.55] Re
a = 0.8904 [0.0702] AU
Ag = 87504.11 [56814.00] [1.54σ]
Teffp = 3872 [634] K [5.87σ]

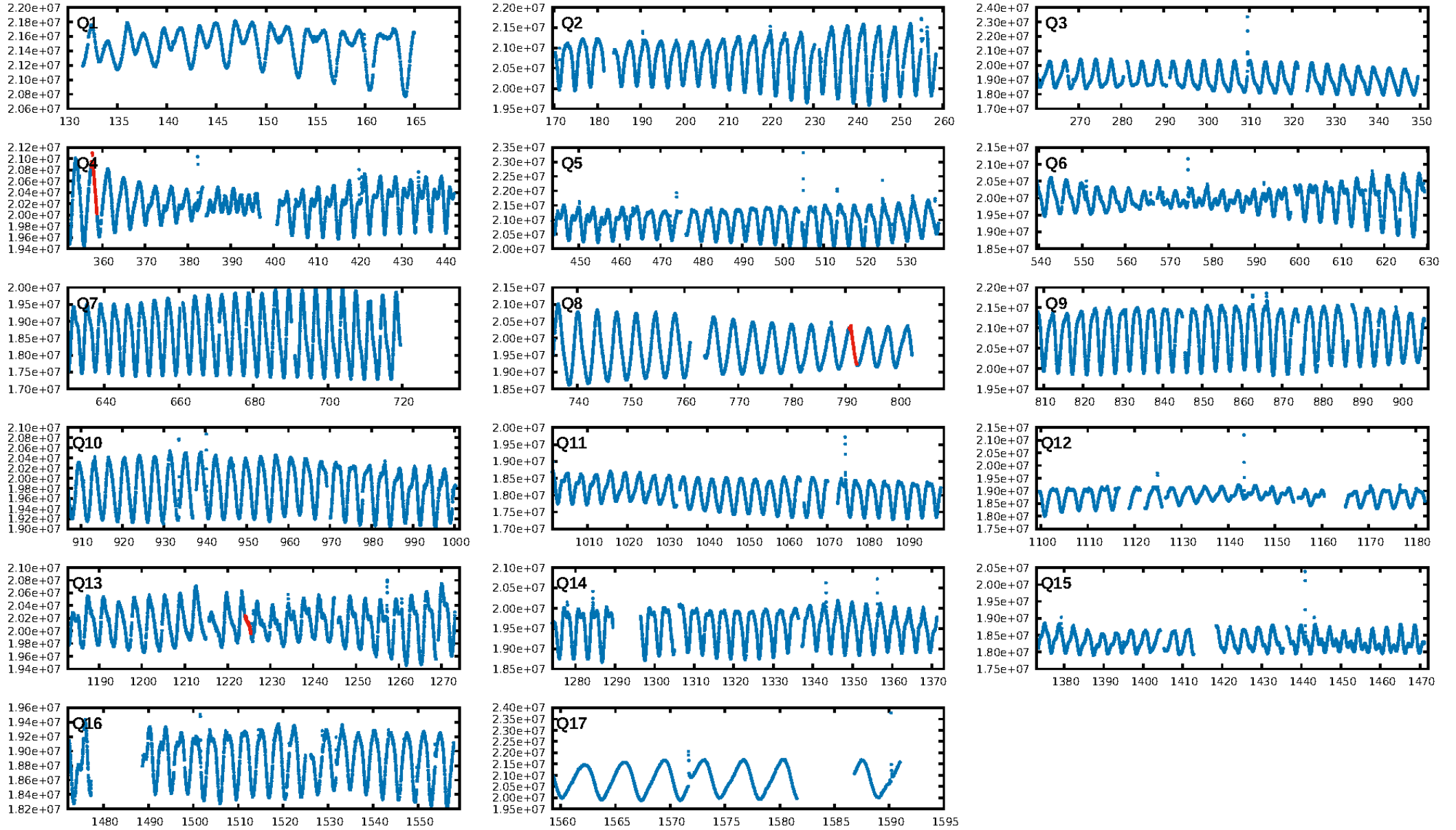
DV Diagnostic Results:

ShortPeriod-sig: 2.0% [0.02σ]
LongPeriod-sig: 100.0% [31.52σ]
ModelChiSquare2-sig: 92.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.96e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.661
Centroid-sig: 49.9%
Centroid-so: 0.364 arcsec [0.19σ]
OotOffset-rm: 0.558 arcsec [5.75σ]
OotOffset-st: 0/0/2/1 [3]
KicOffset-st: 0/0/2/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.00 [0/3]

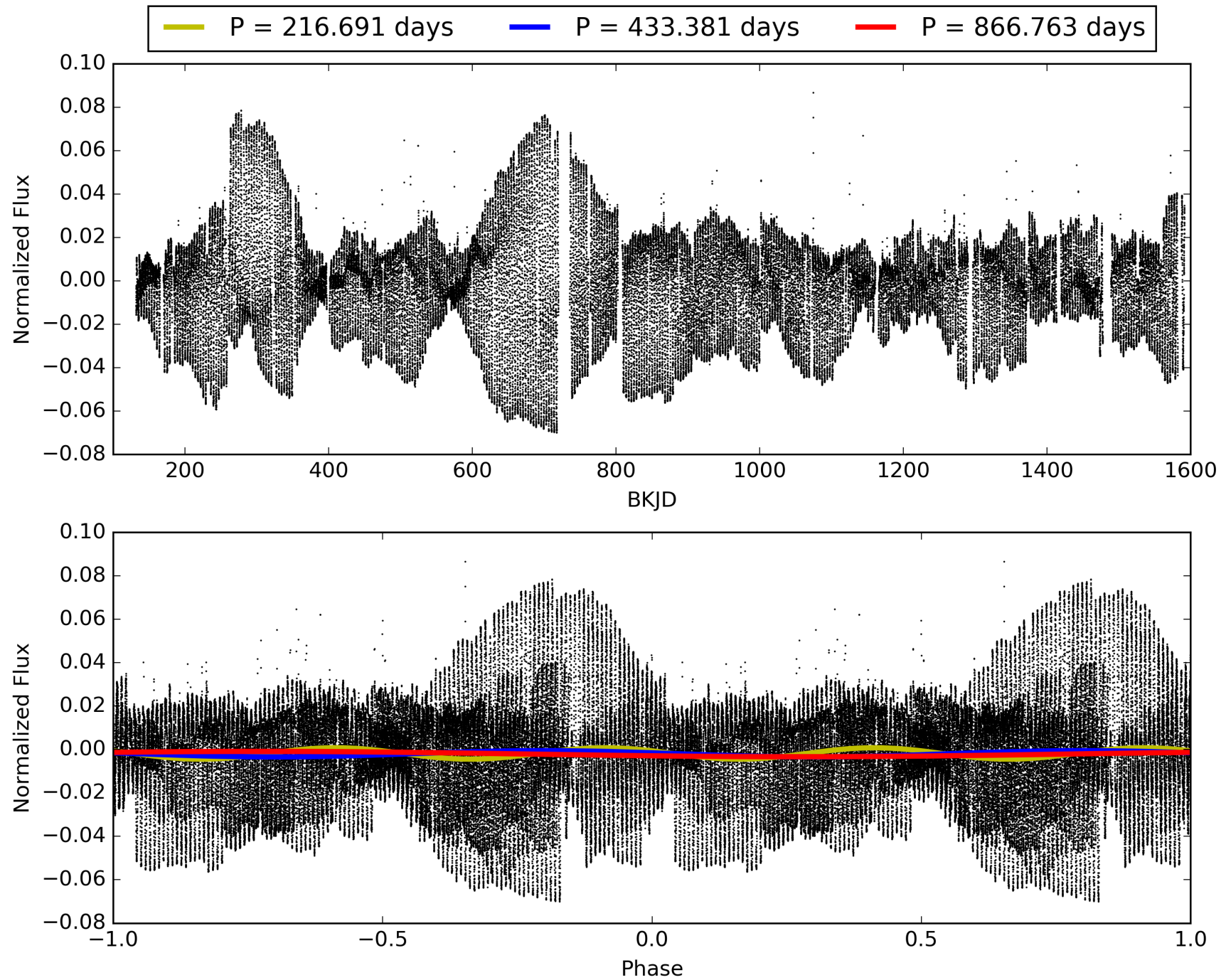
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:40:02 Z

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

TCE 005894155-04, PDC Light Curves

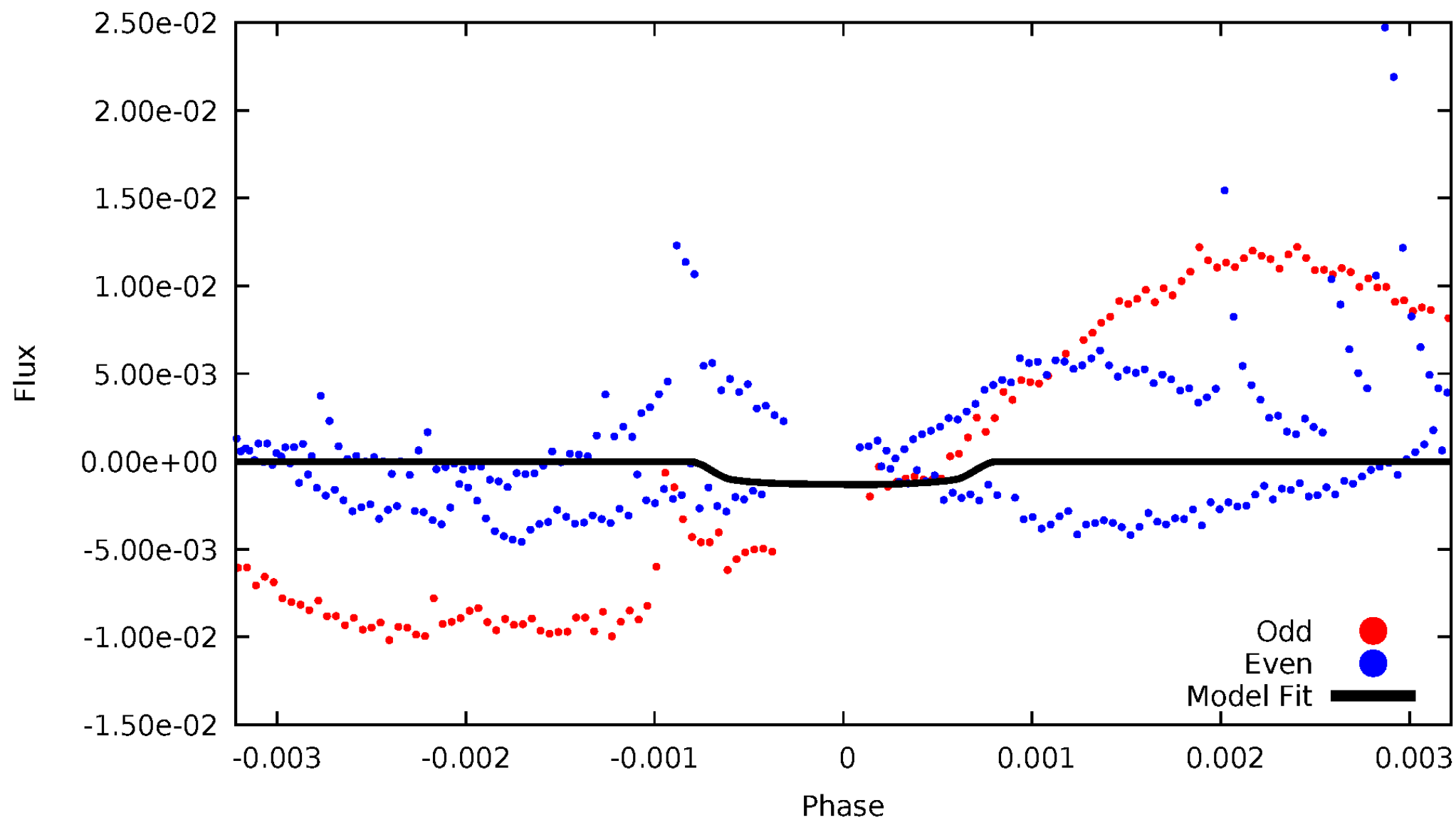


TCE 005894155-04



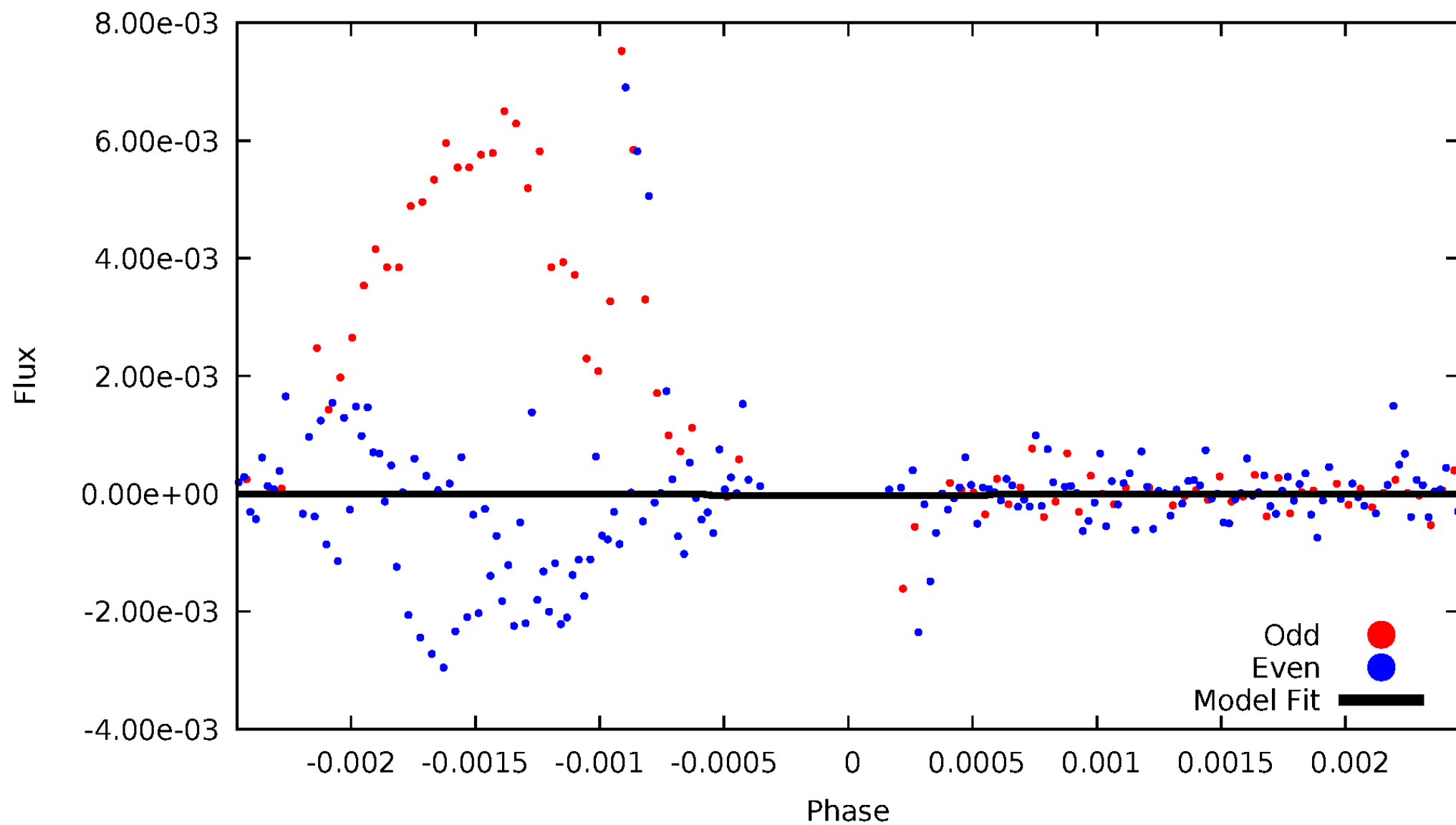
DV Odd/Even

TCE 005894155-04



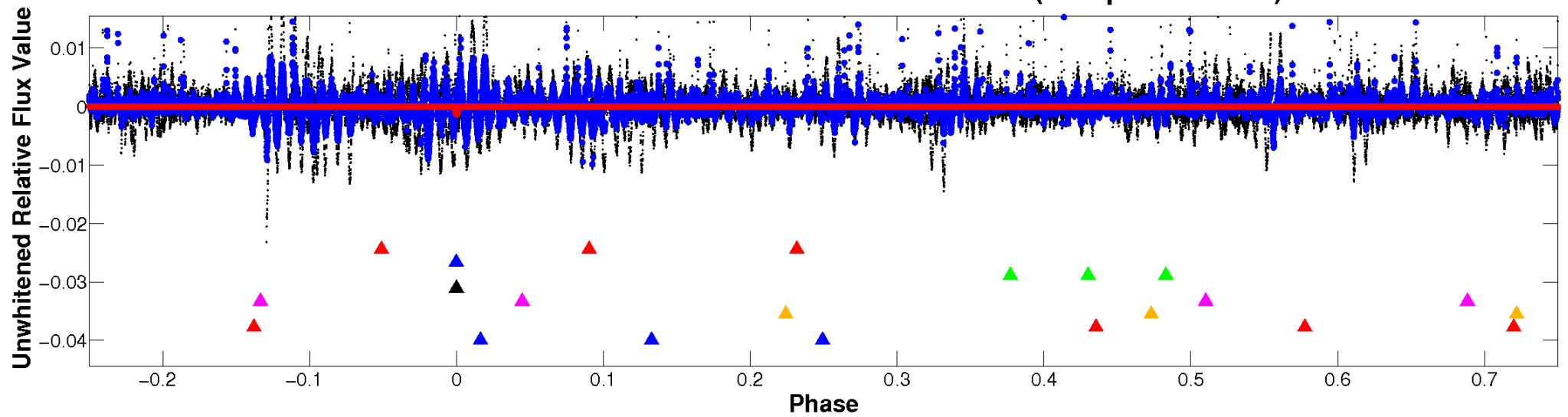
ALT Odd/Even

TCE 005894155-04

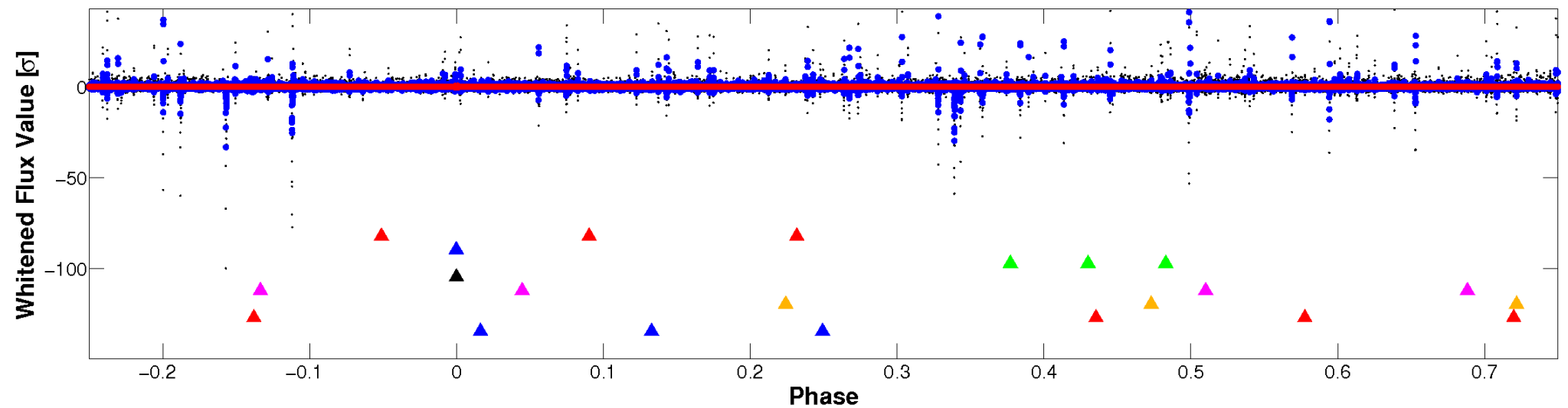


Non-Whitened Vs. Whitened Light Curve

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

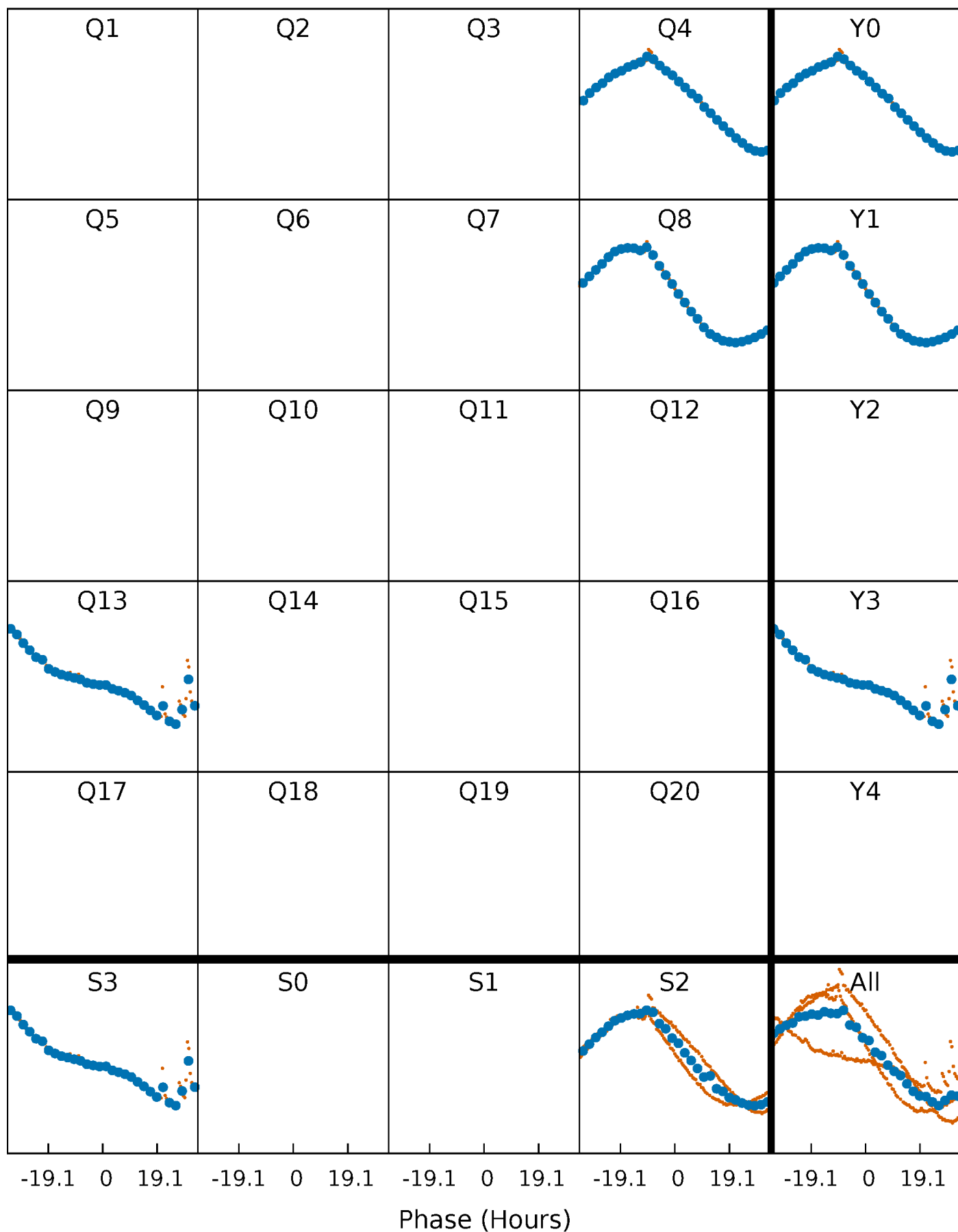


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



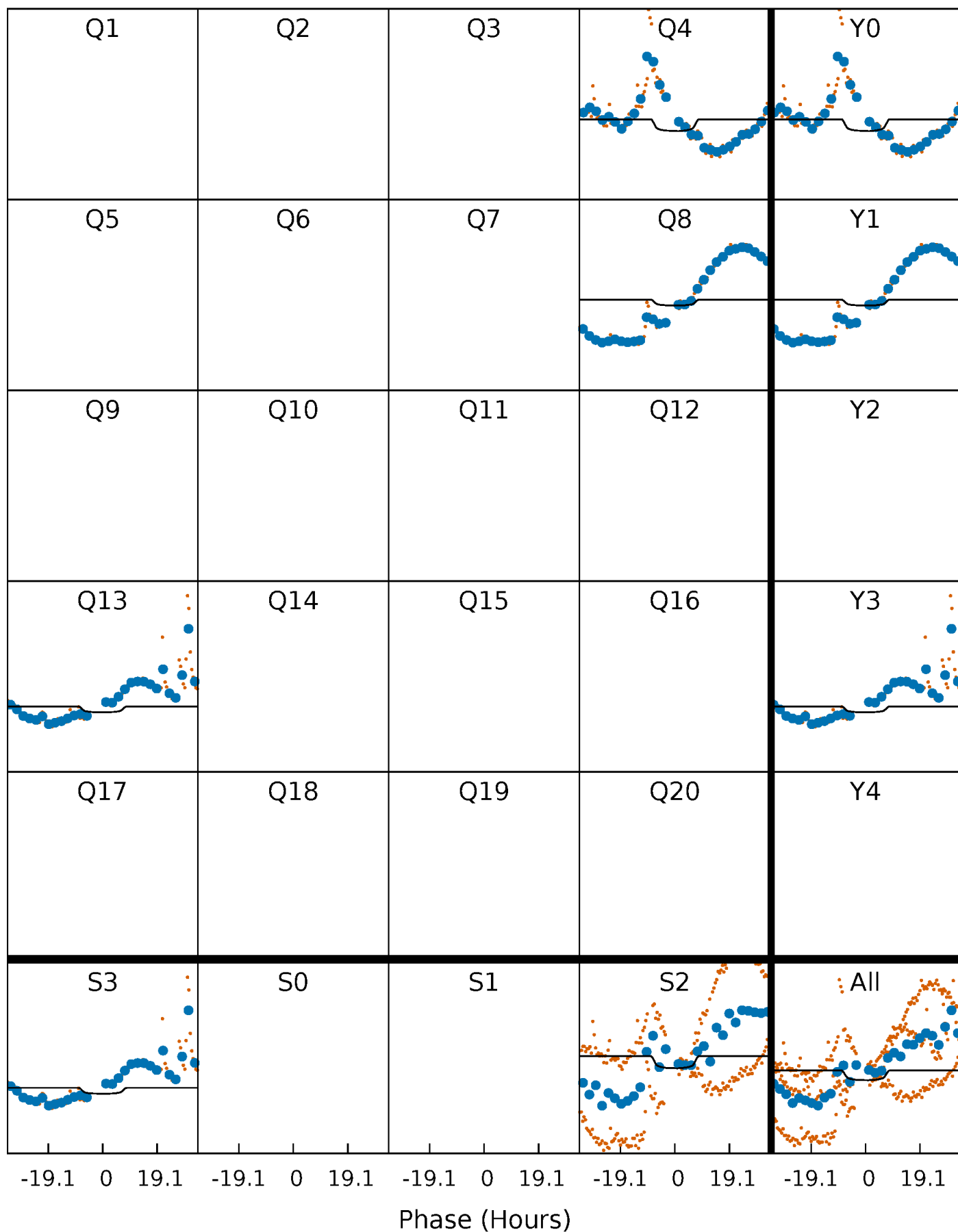
PDC Quarter-Phased Transit Curves

TCE 005894155-04 P=433.381260 Days $T_0=358.010522$ (BKJD)



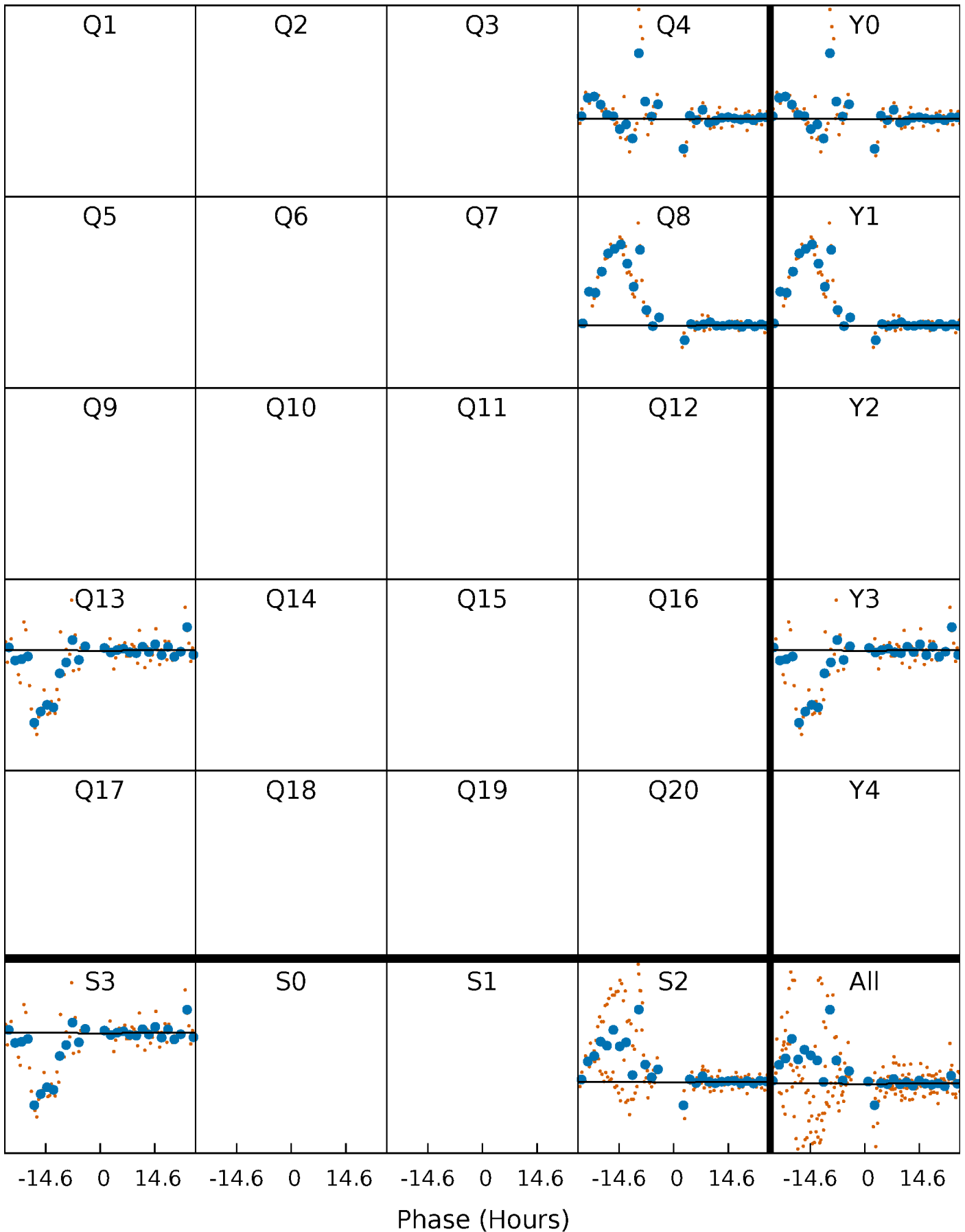
DV Quarter-Phased Transit Curves

TCE 005894155-04 P=433.381260 Days $T_0=358.010522$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

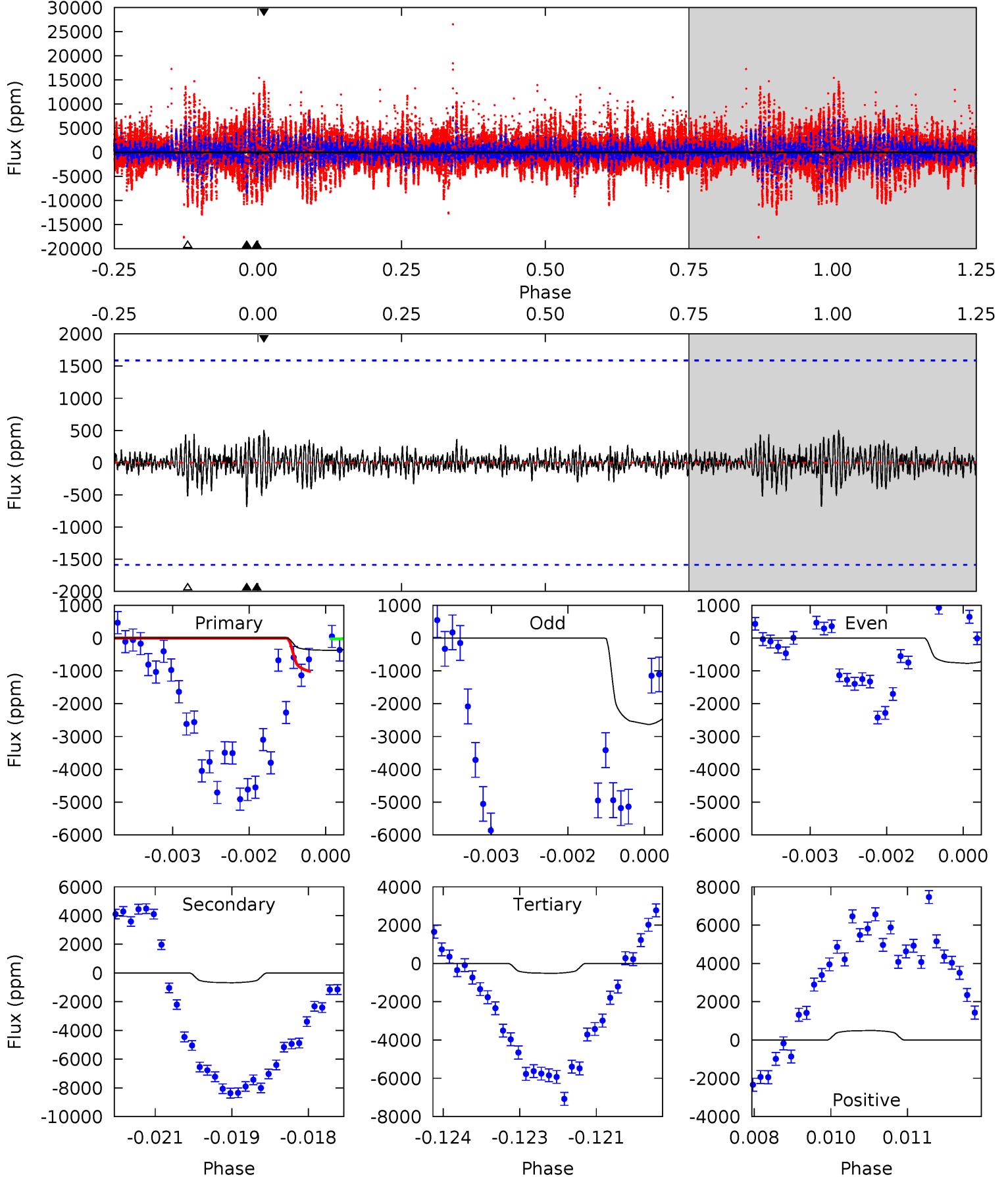
TCE 005894155-04 $P=433.361752$ Days $T_0=358.016200$ (BKJD)



DV Model-Shift Uniqueness Test

005894155-04, P = 433.381260 Days, E = 358.010522 Days

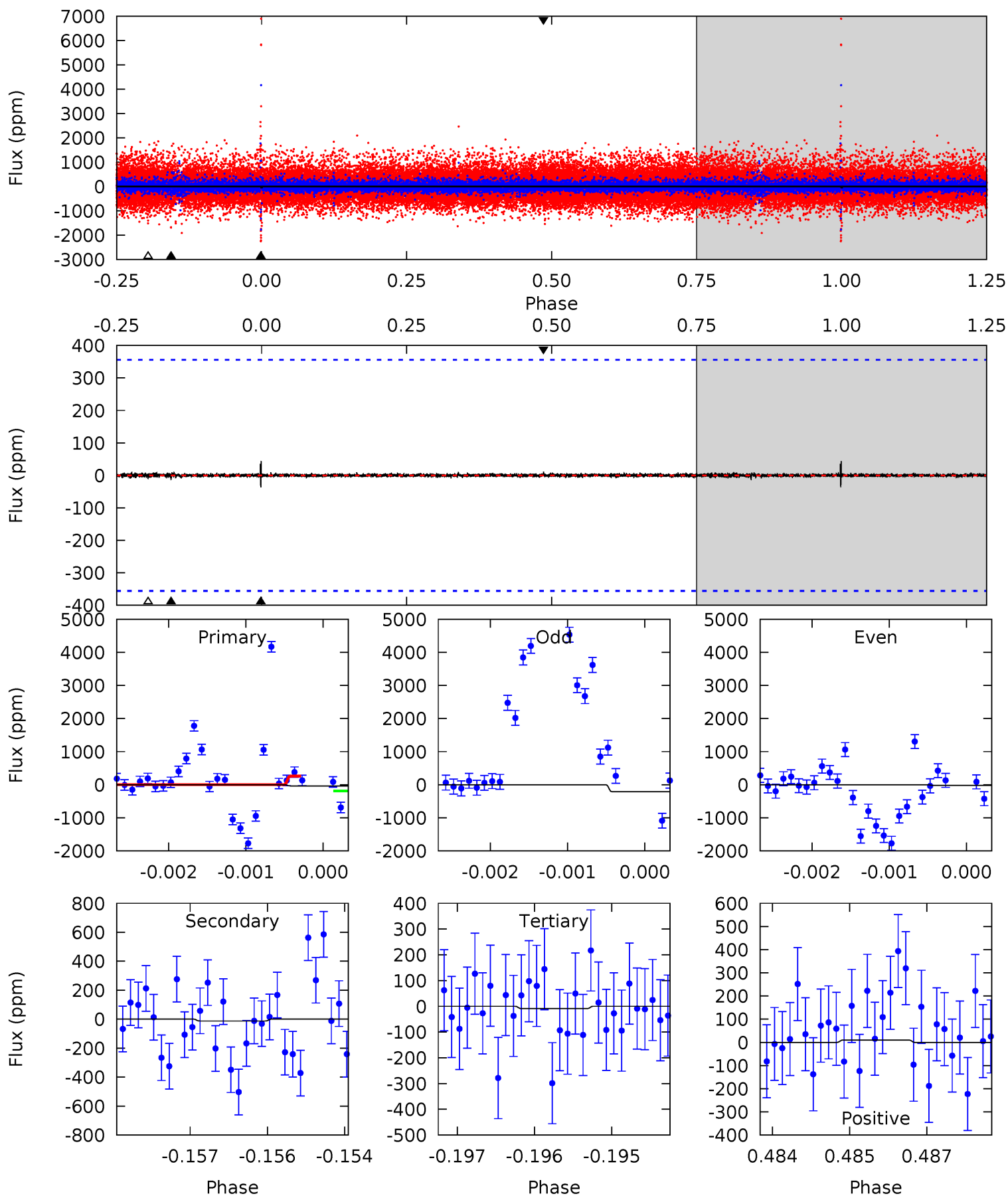
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.27	2.30	1.76	1.68	5.37	3.15	0.41	-0.49	-0.41	0.54	0.61	2.31	-0.78	0.42	1.67



Alt Model-Shift Uniqueness Test

005894155-04, P = 433.361752 Days, E = 358.016200 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.56	0.19	0.14	0.15	5.41	3.23	0.03	0.42	0.40	0.05	0.04	1.21	0.90	0.55	0.52



Stellar Parameters For KIC 005894155

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4440^{+135}_{-162}	$4.754^{+0.063}_{-0.032}$	$-1.340^{+0.300}_{-0.300}$	$0.492^{+0.031}_{-0.046}$	$0.500^{+0.034}_{-0.034}$	$5.932^{+1.606}_{-0.718}$
	+3%/-4%	+1%/-1%	+22%/-22%	+6%/-9%	+7%/-7%	+27%/-12%
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 005894155-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-680 ± 296	$2.05^{+0.49}_{-0.49}$	202^{+7}_{-8}	3803^{+513}_{-428}	68082^{+62239}_{-35049}
Alt.	-12 ± 66	$0.48^{+0.42}_{-0.31}$	202^{+8}_{-8}	2899^{+2025}_{-7334}	$11085^{+246881}_{-167818}$

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

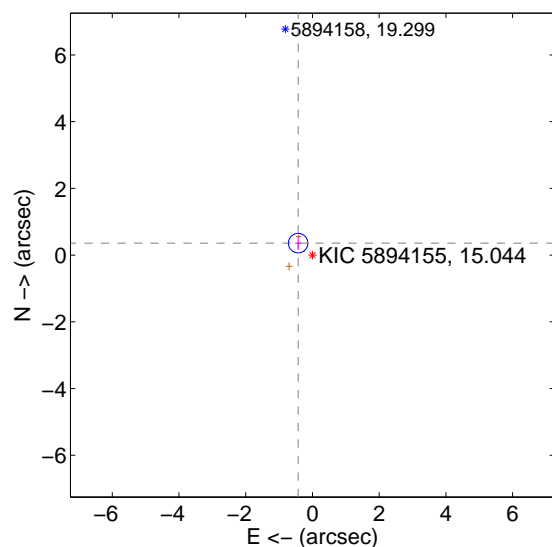
Supplemental centroid analysis for 005894155-04. Kepler magnitude: 15.04. Transit SNR 3.03

There are 0 quarters with good PRF difference image offsets

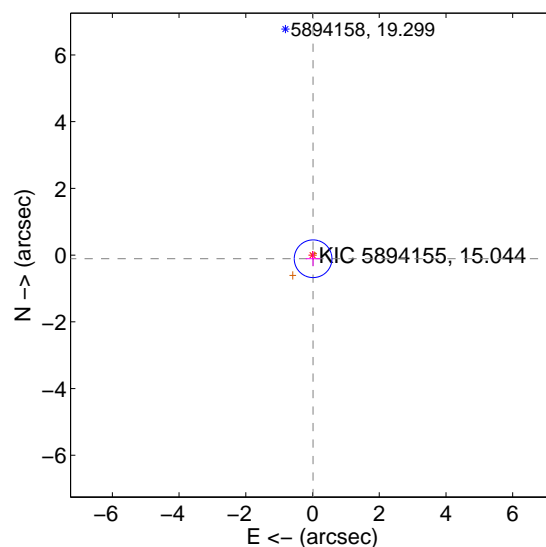
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.558 ± 0.097	5.75	0.428 ± 0.092	0.358 ± 0.194
PRF-fit source offset from KIC position	0.111 ± 0.188	0.59	-0.017 ± 0.219	-0.109 ± 0.220
photometric centroid source offset	0.36 ± 1.89	0.19	0.03 ± 2.11	0.36 ± 1.89

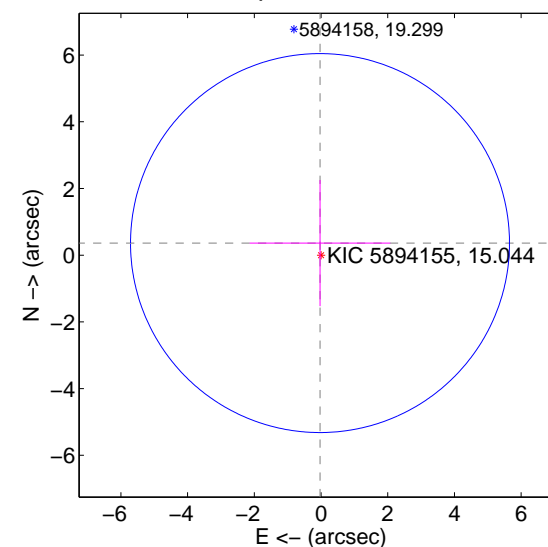
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

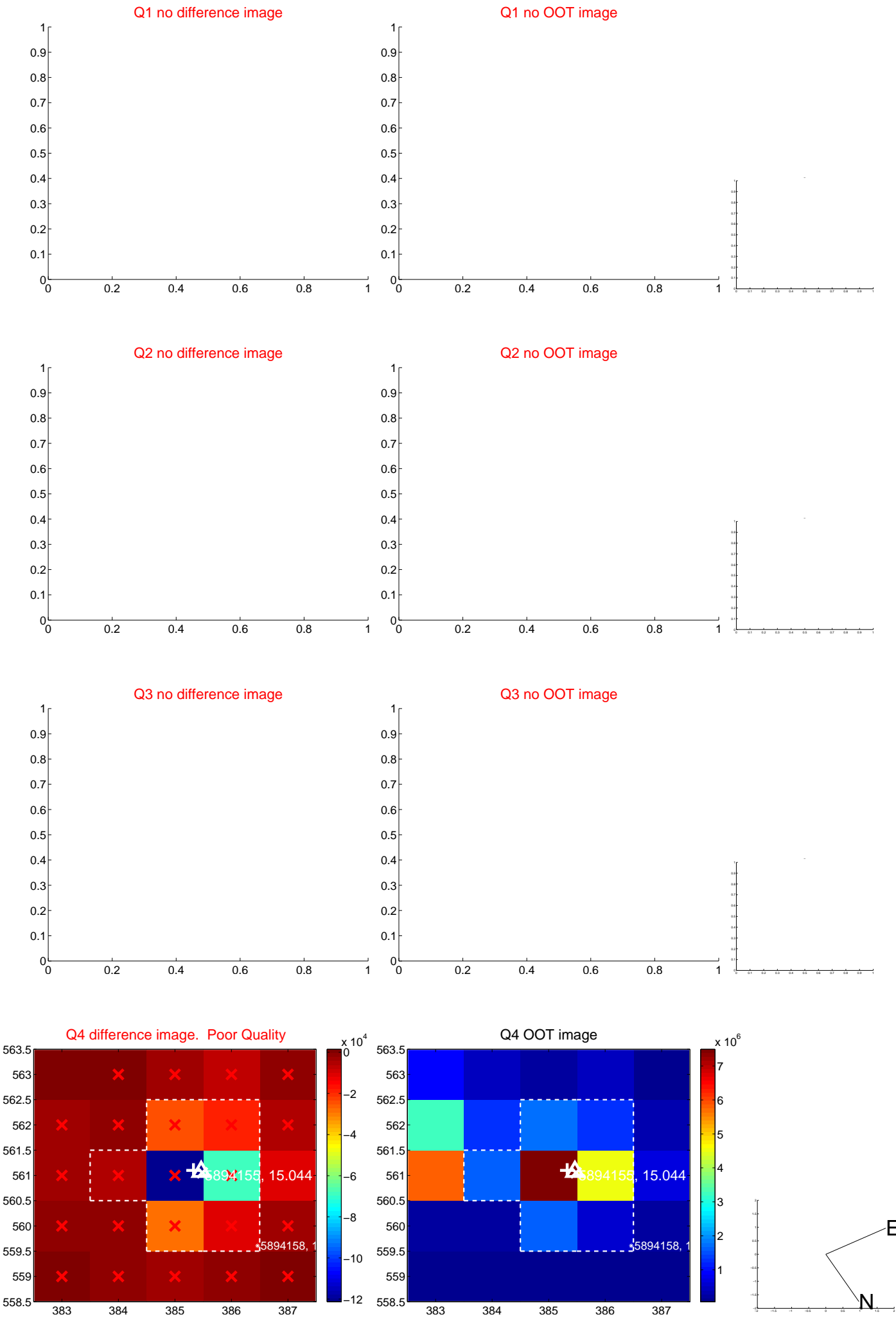


offset from photometric centroids

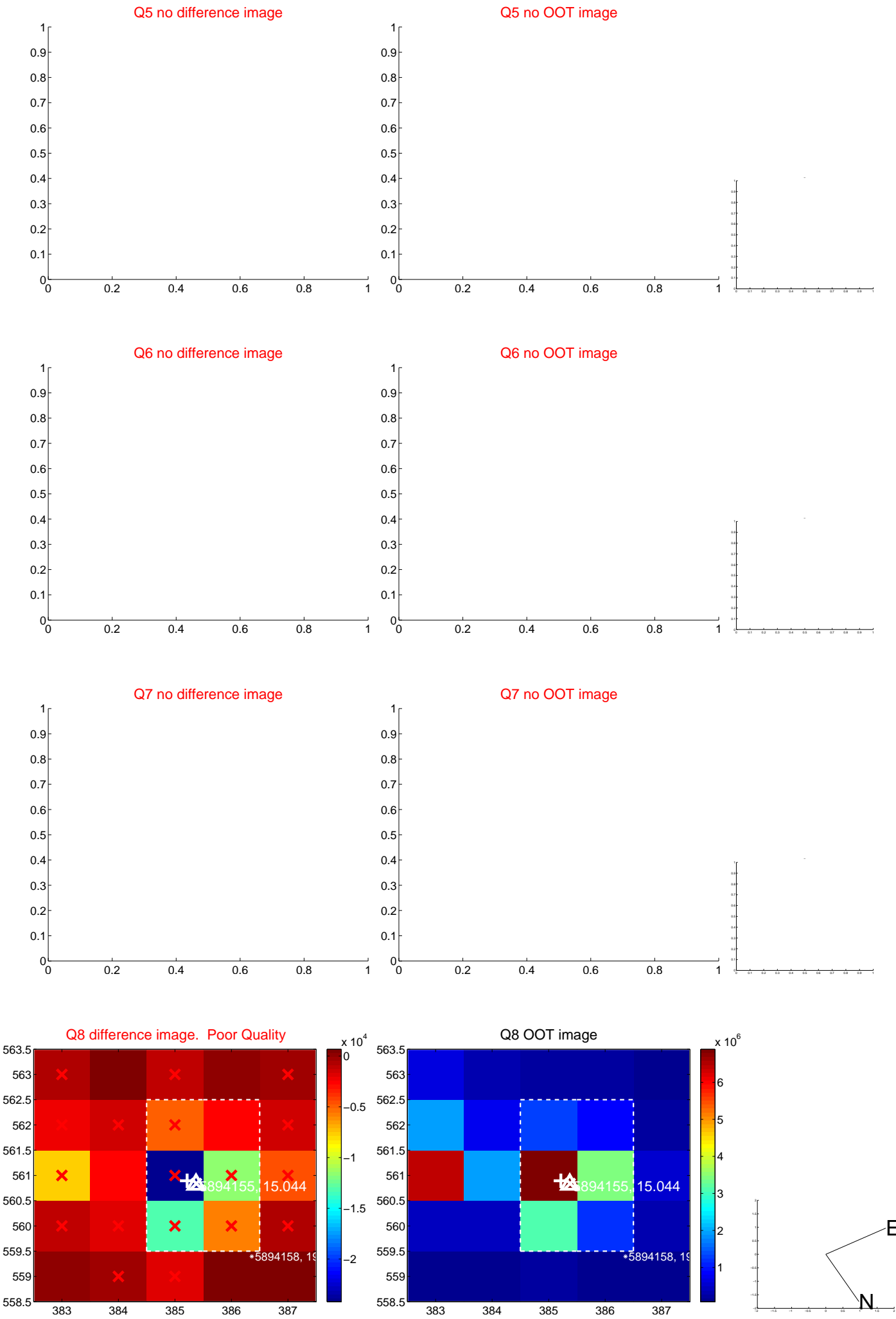


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



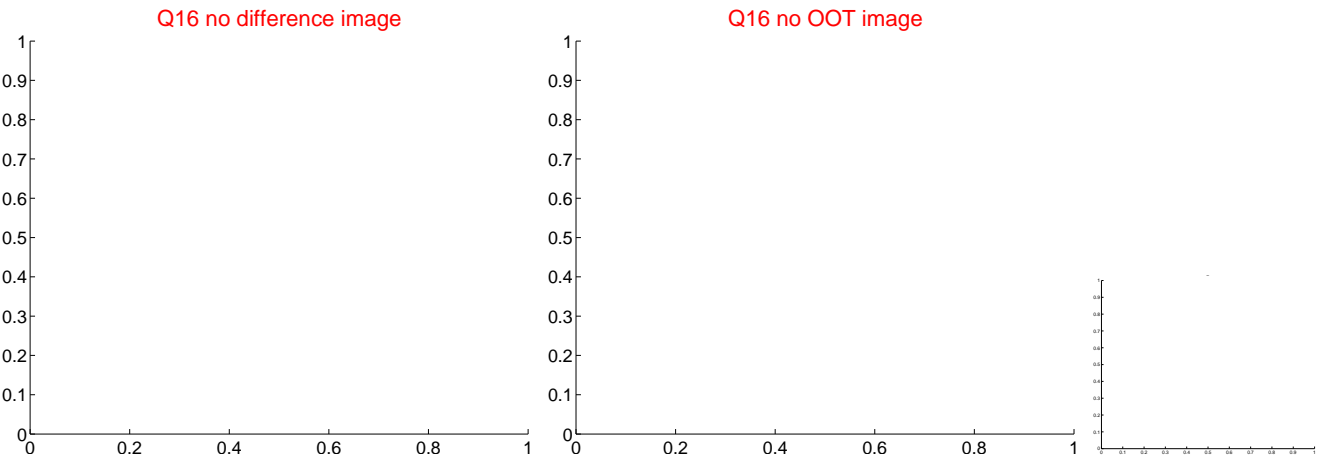
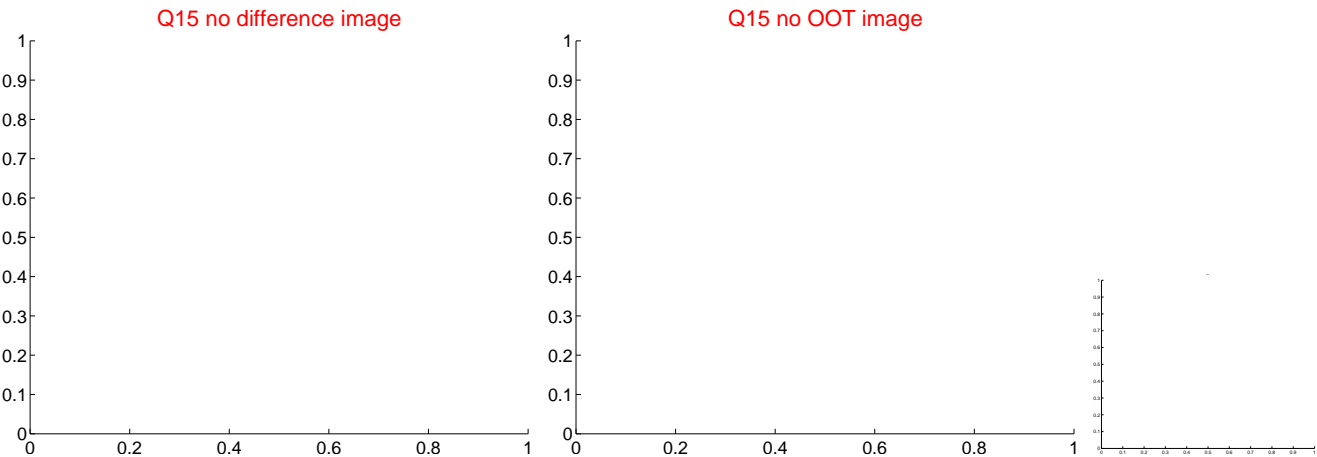
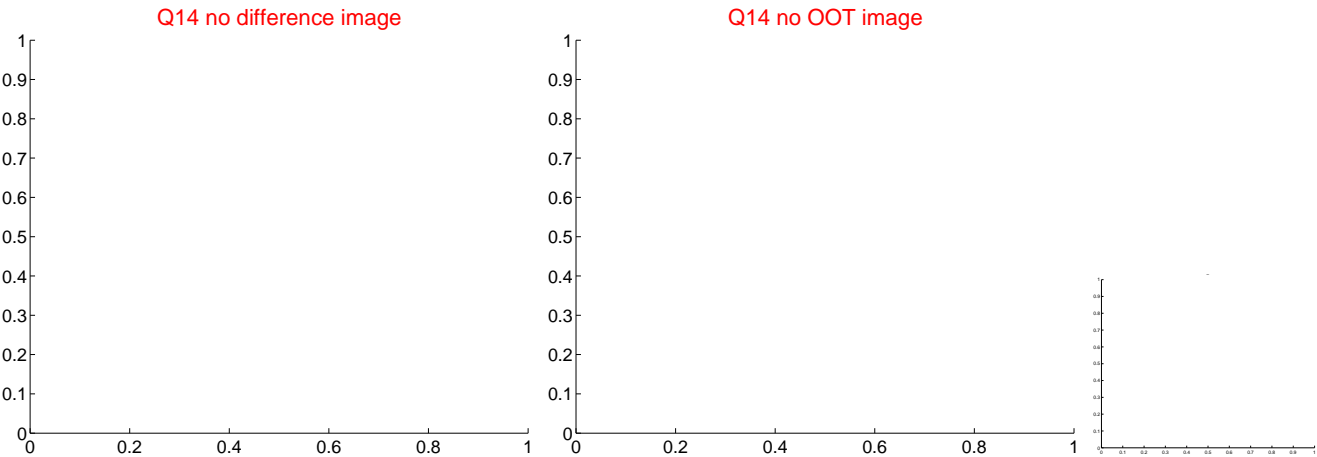
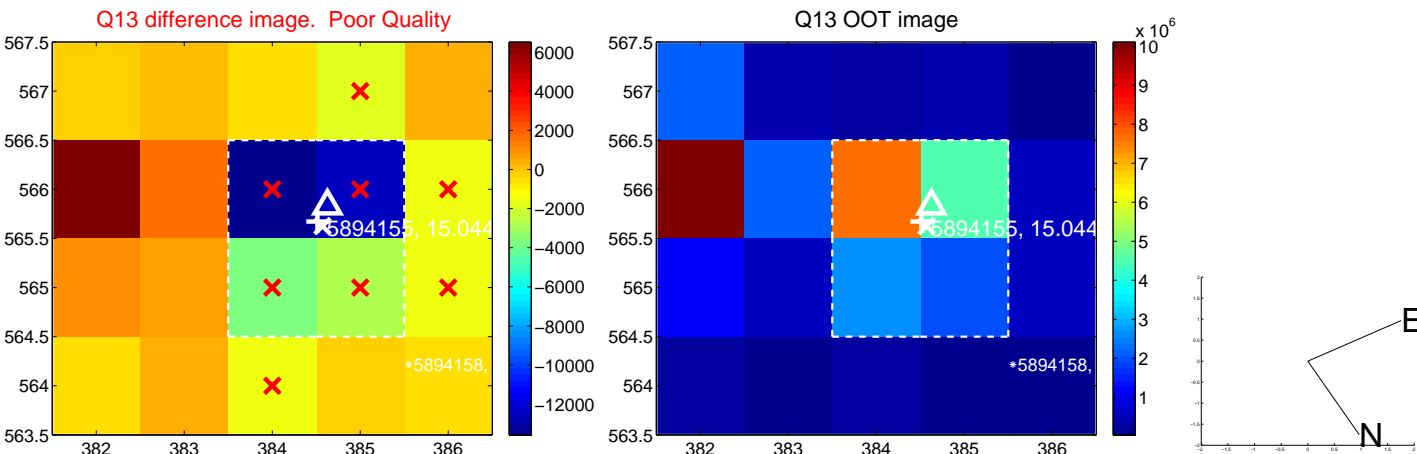
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



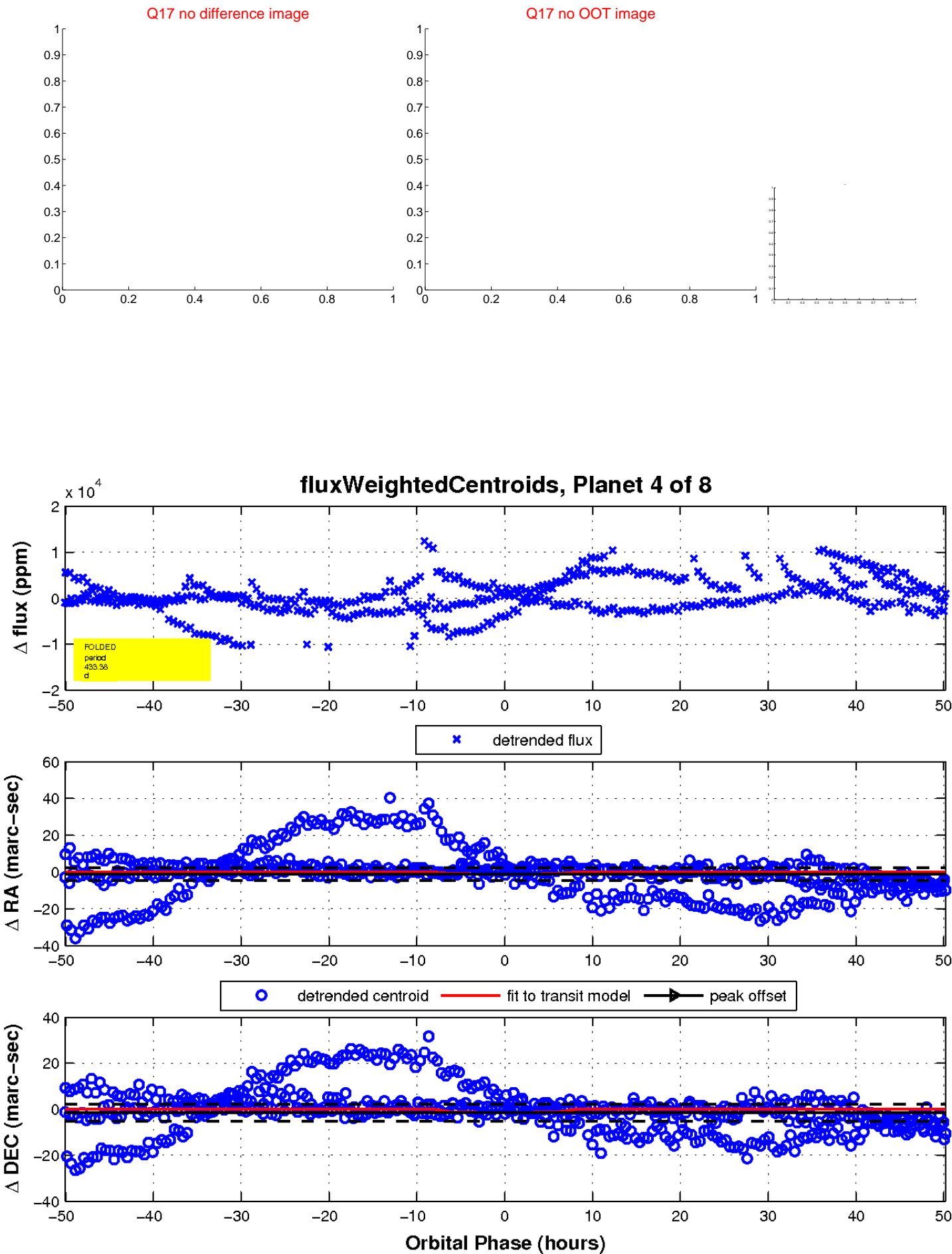
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

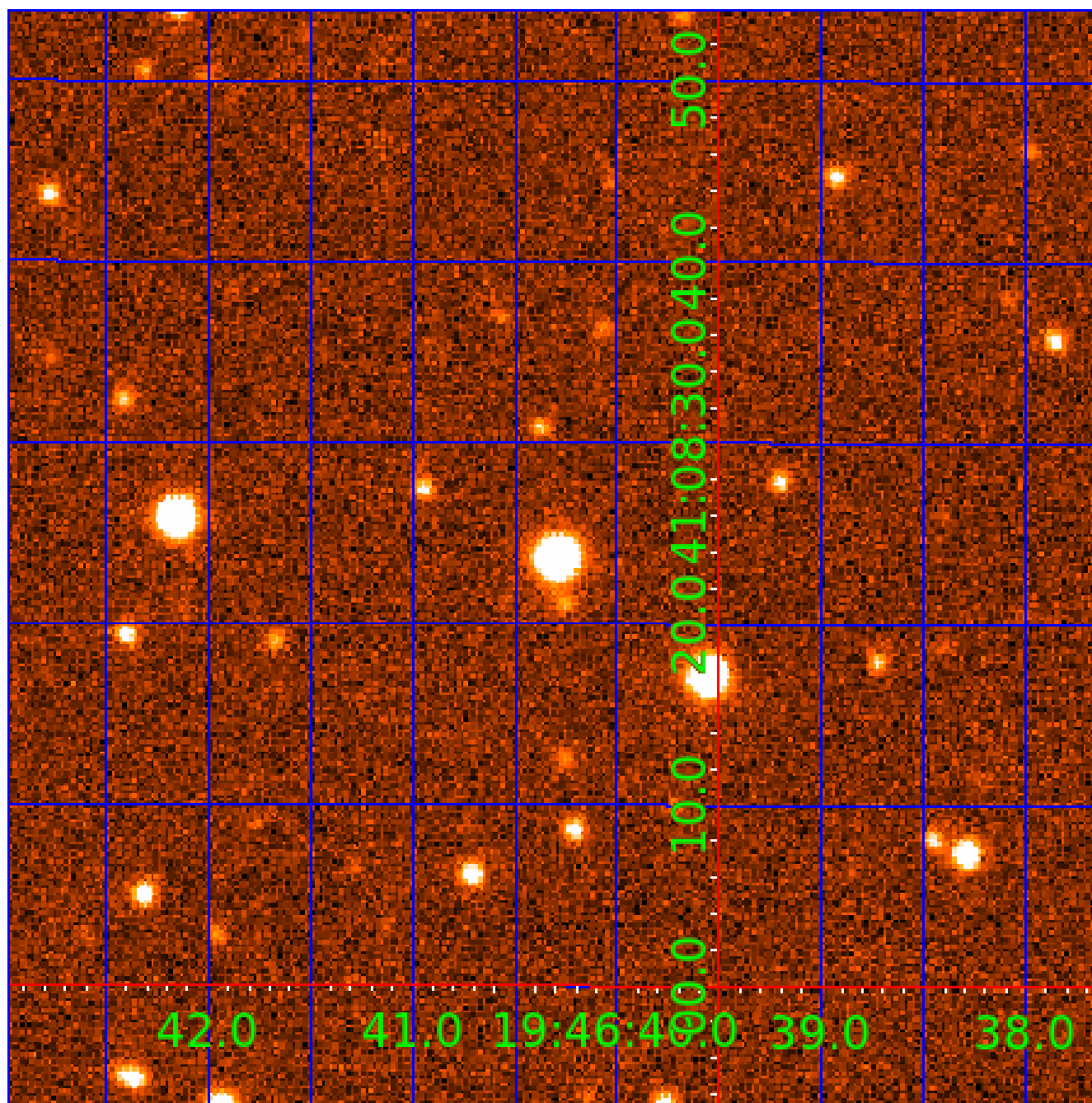


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005894155

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})
005894155-01	OBS	No	494.665076	335.878503	2667.4	5.752	15.4	10.2	0.49	4440	2.51	0.09
005894155-02	OBS	No	433.363936	357.977488	417.2	0.655	15.1	1.2	0.49	4440	1.24	0.11
005894155-04	OBS	No	433.381260	358.010522	1331.5	16.736	15.0	3.0	0.49	4440	2.05	0.11
005894155-05	OBS	No	356.150509	377.403959	1998.9	10.714	12.8	5.9	0.49	4440	2.20	0.14
005894155-06	OBS	No	541.209675	455.178397	1807.1	4.471	12.8	5.7	0.49	4440	2.10	0.08
005894155-07	OBS	No	371.746857	298.247796	2333.6	3.794	12.8	9.0	0.49	4440	2.35	0.13
005894155-08	OBS	No	382.908110	466.055958	2151.6	7.075	12.3	7.5	0.49	4440	2.69	0.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005894155-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
005894155-05	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
005894155-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005894155-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

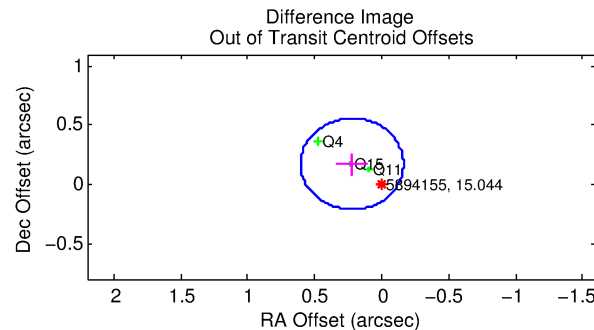
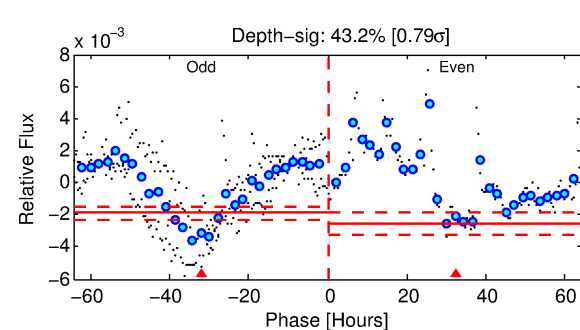
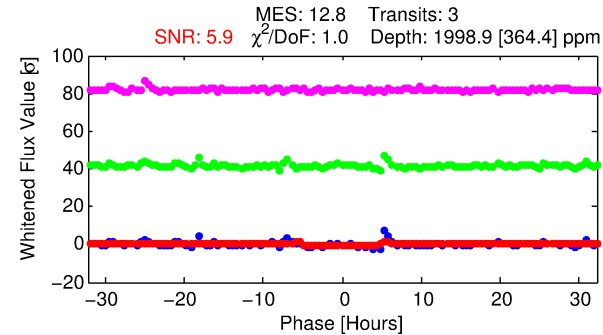
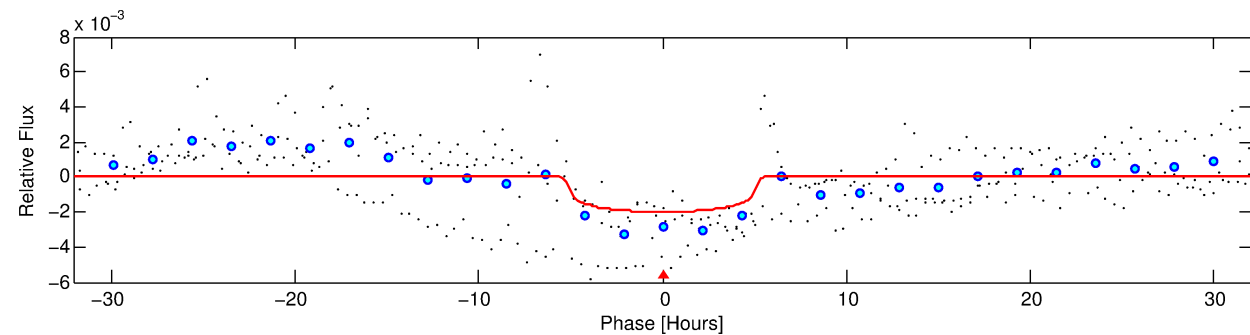
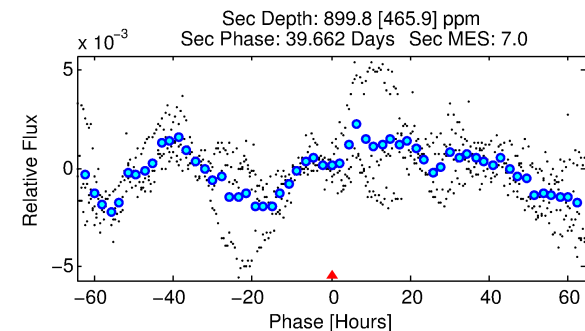
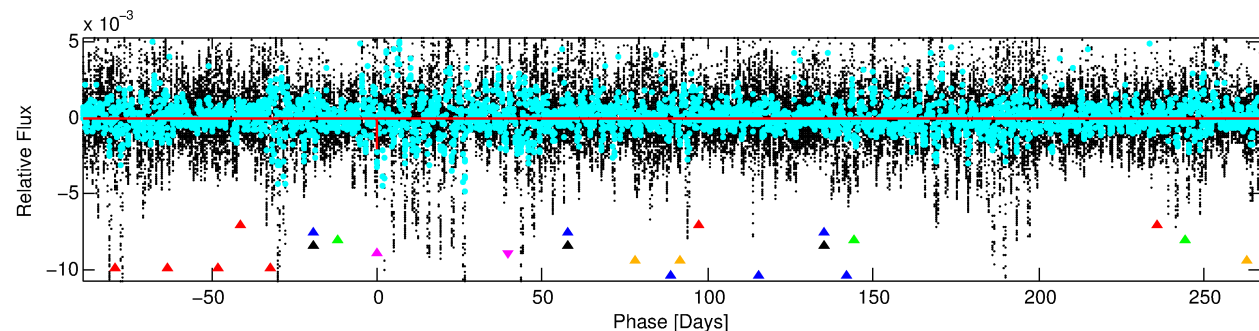
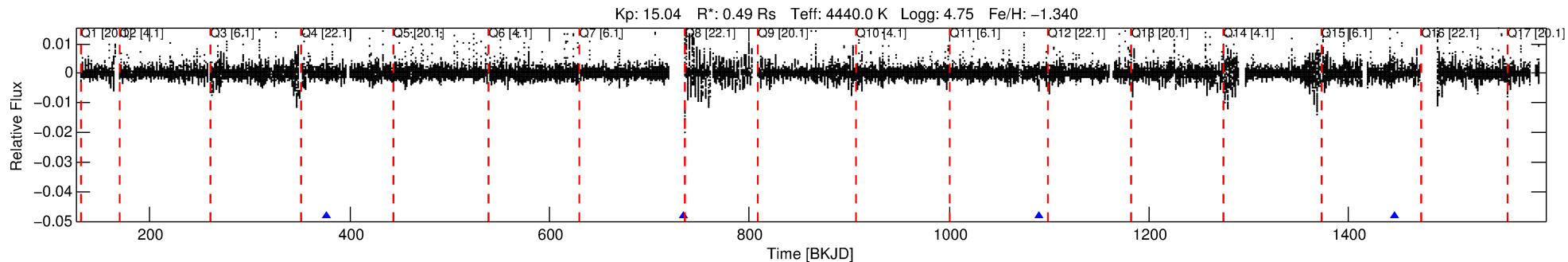
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005894155-05

No Significant Match Found

DV One-Page Summary

KIC: 5894155 Candidate: 5 of 8 Period: 356.151 d



DV Fit Results:

Period = 356.15051 [0.00462] d
Epoch = 377.4040 [0.0107] BKJD
Rp/R* = 0.0409 [0.0126]
a/R* = 252.54 [296.60]
b = 0.31 [3.47]
Seff = 0.14 [0.03]
Teq = 155 [7] K
Rp = 2.20 [0.71] Re
a = 0.7812 [0.0616] AU
Ag = 62621.67 [50904.16] [1.23σ]
Teffp = 3802 [777] K [4.69σ]

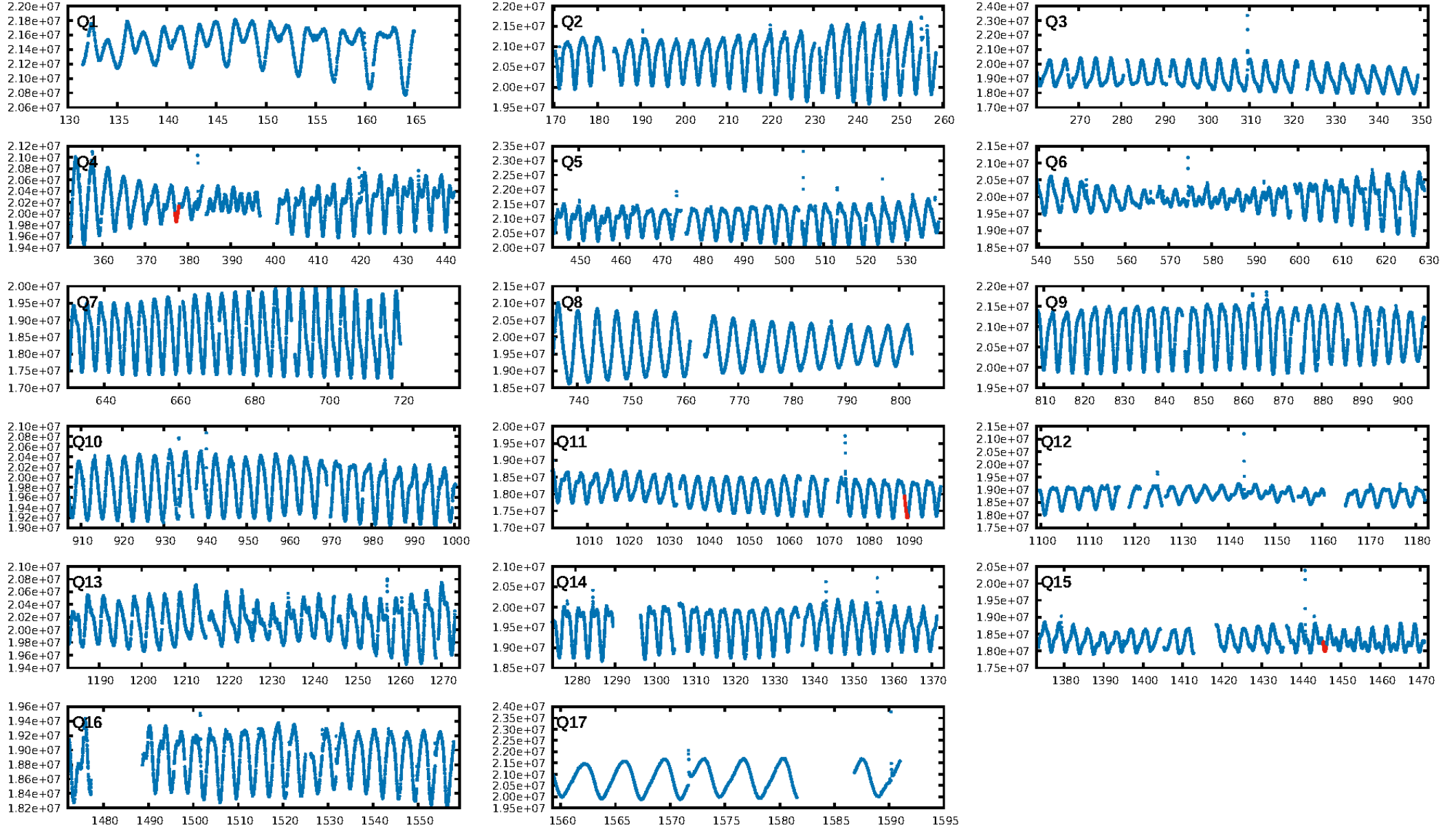
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [32.93σ]
ModelChiSquare2-sig: 1.9%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: 1.07e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.617
Centroid-sig: 8.8%
Centroid-so: 0.624 arcsec [0.86σ]
OotOffset-rm: 0.281 arcsec [2.19σ]
KicOffset-rm: 0.177 arcsec [2.56σ]
OotOffset-st: 0/2/1/0 [3]
KicOffset-st: 0/2/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

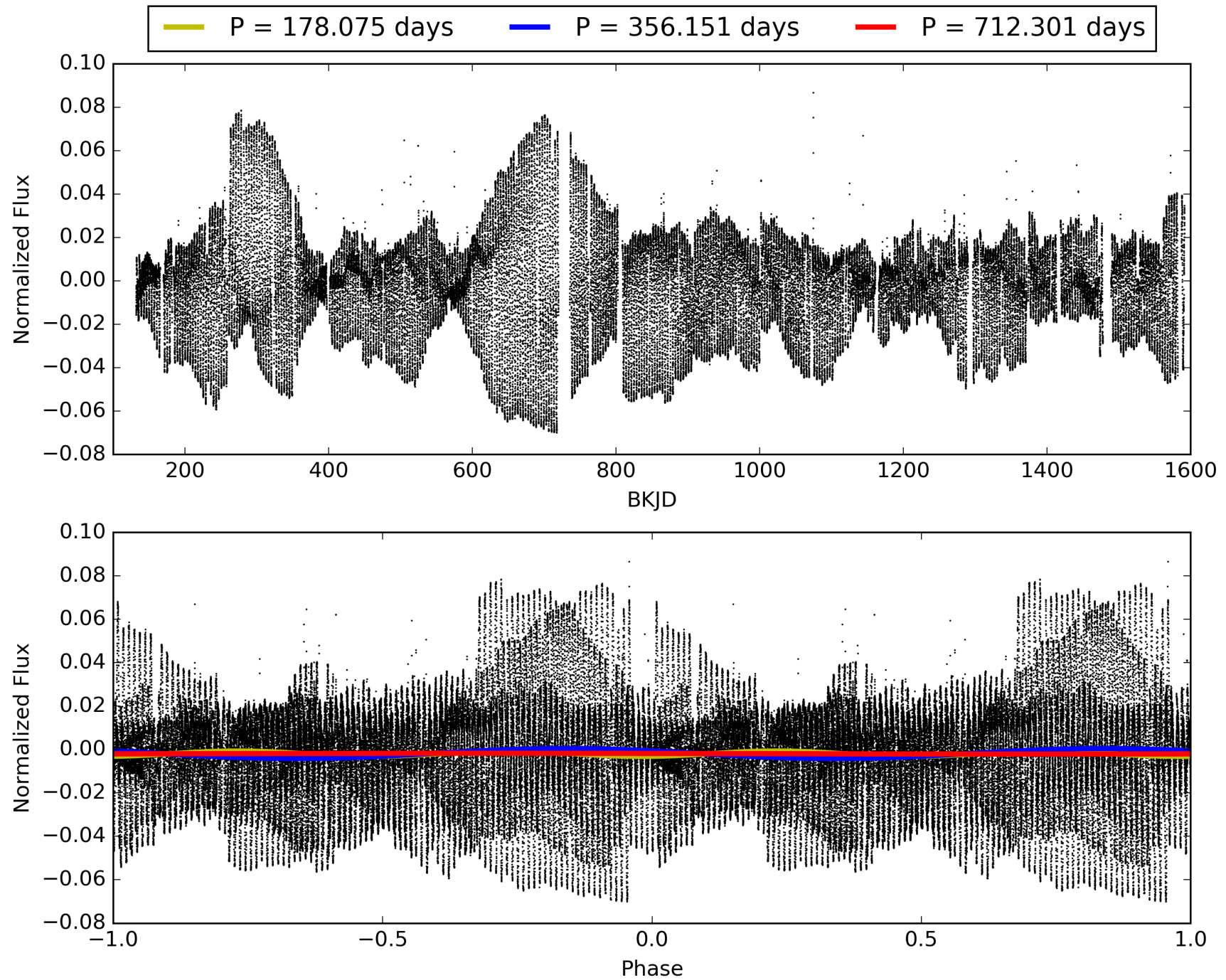
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:40:11 Z

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TCE 005894155-05, PDC Light Curves

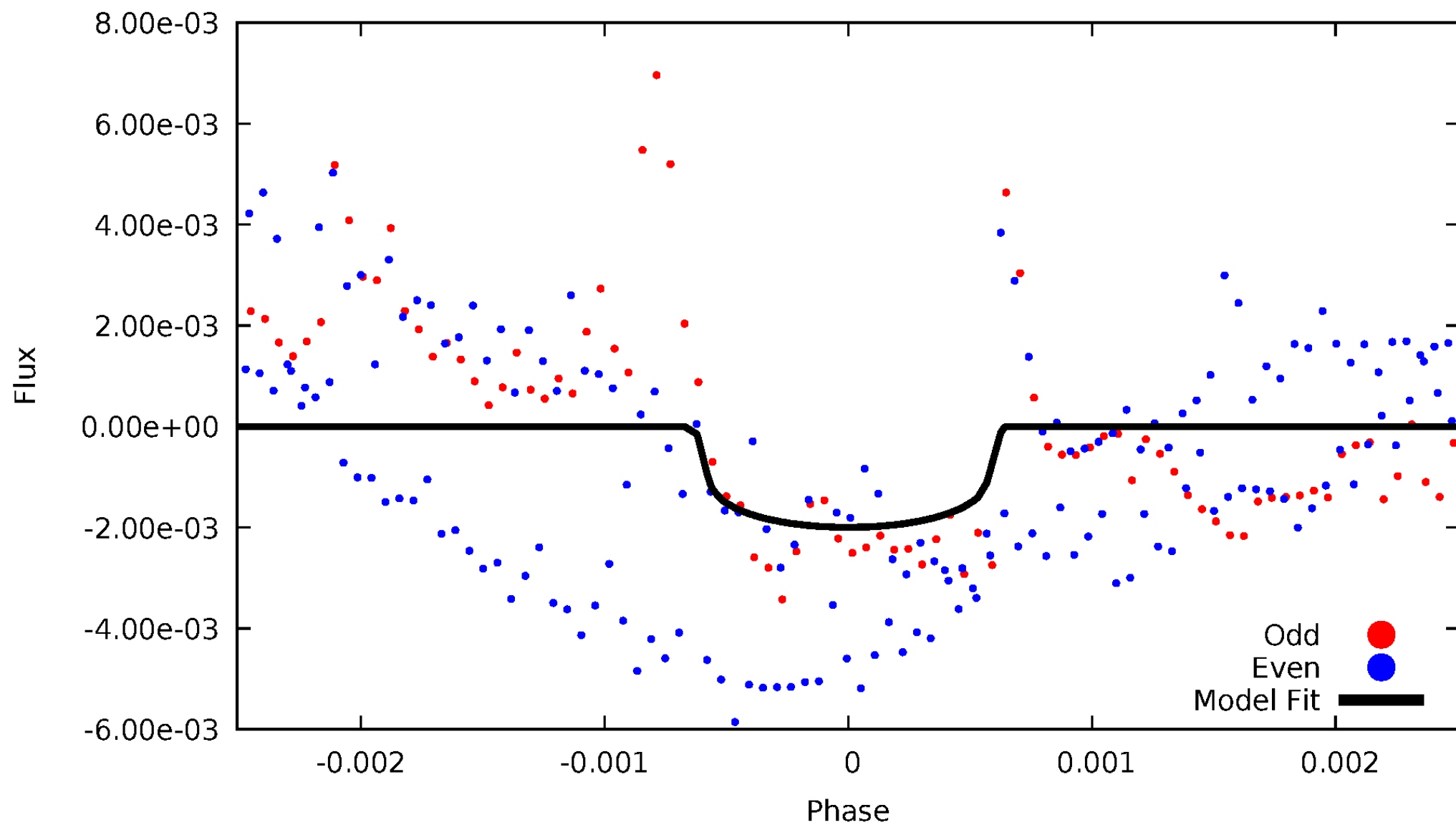


TCE 005894155-05



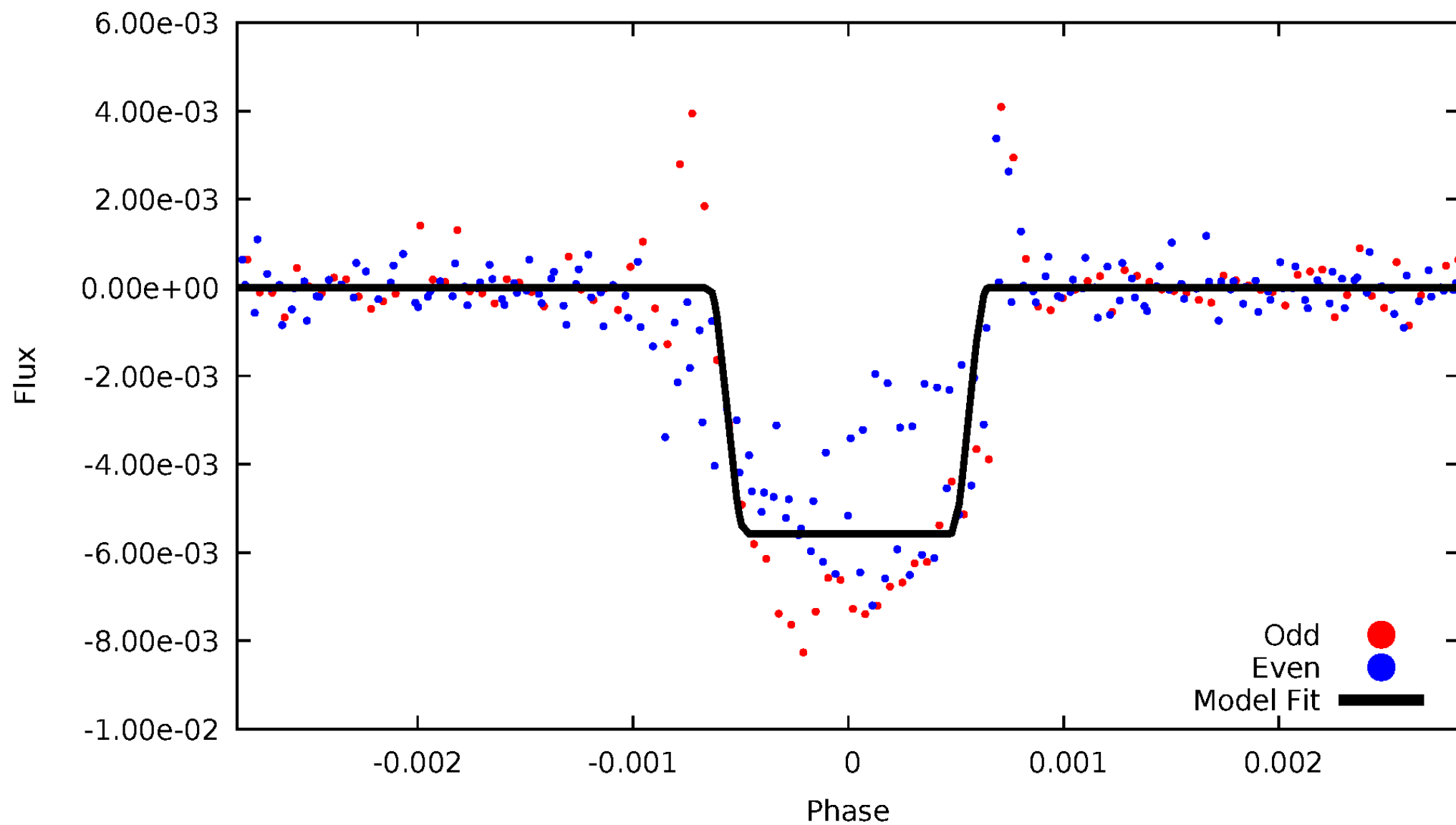
DV Odd/Even

TCE 005894155-05



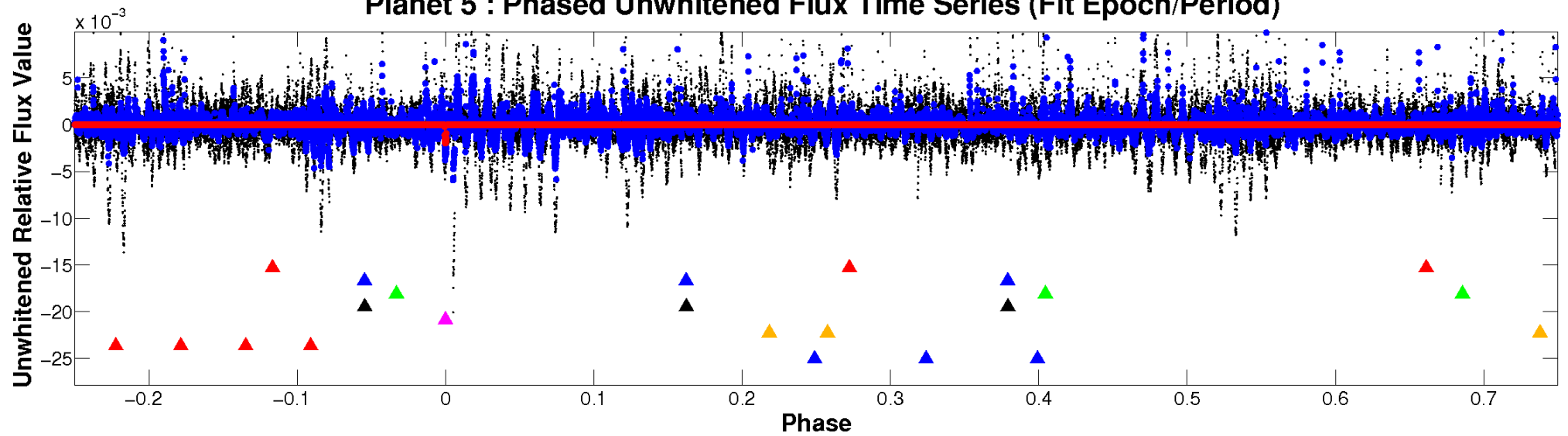
ALT Odd/Even

TCE 005894155-05

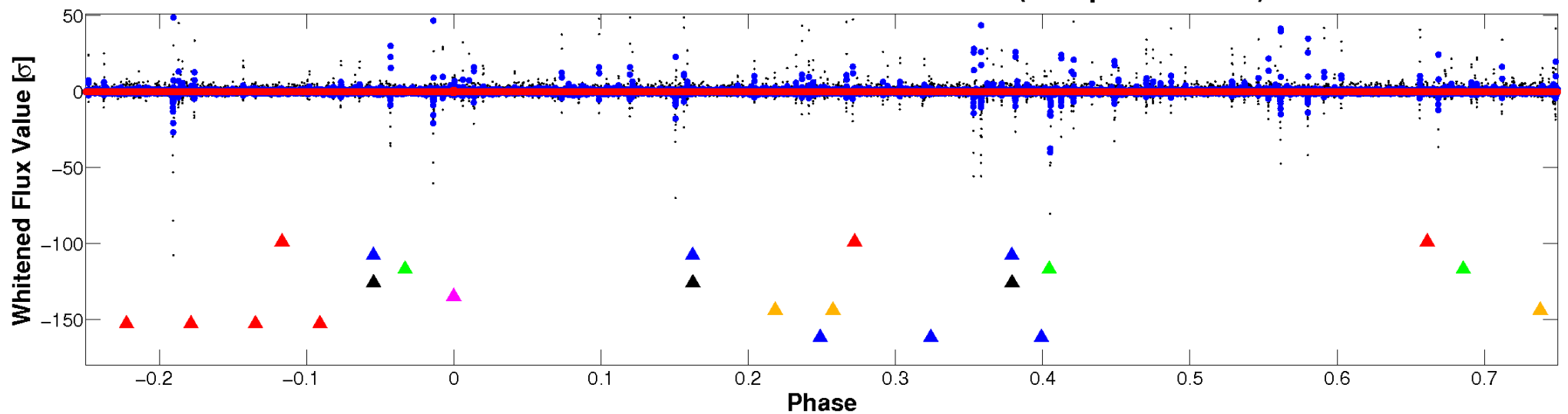


Non-Whitened Vs. Whitened Light Curve

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

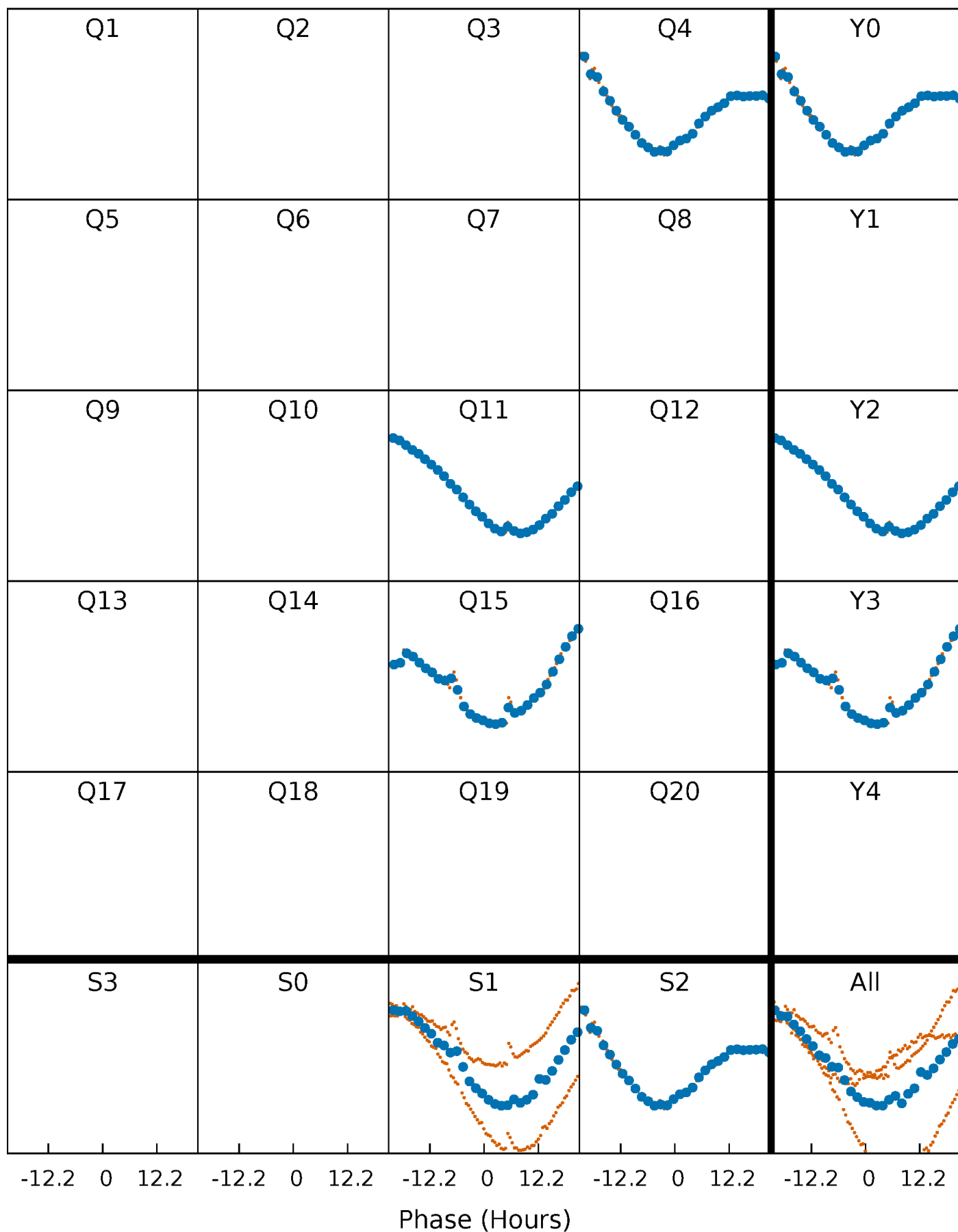


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



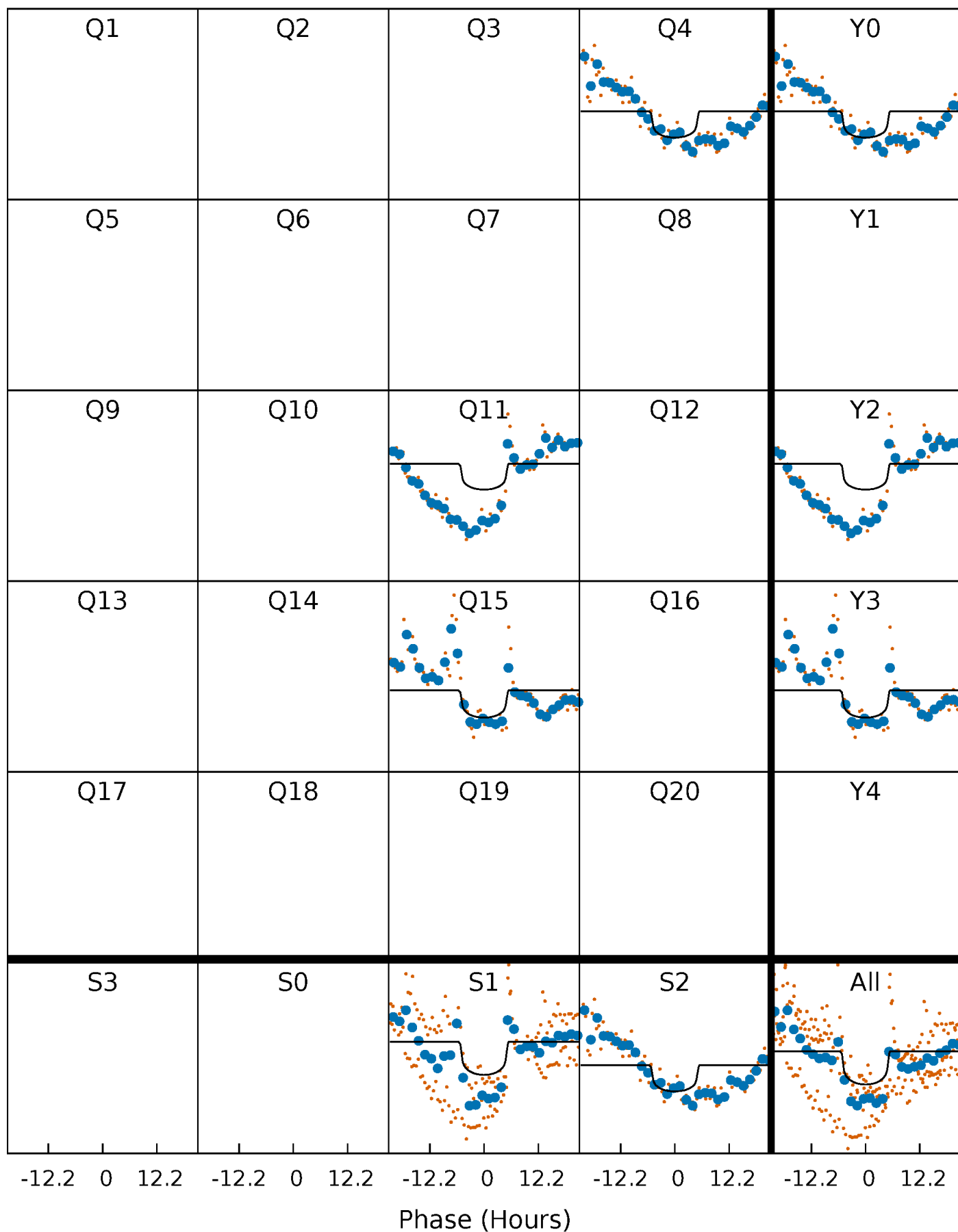
PDC Quarter-Phased Transit Curves

TCE 005894155-05 $P=356.150509$ Days $T_0=377.403959$ (BKJD)



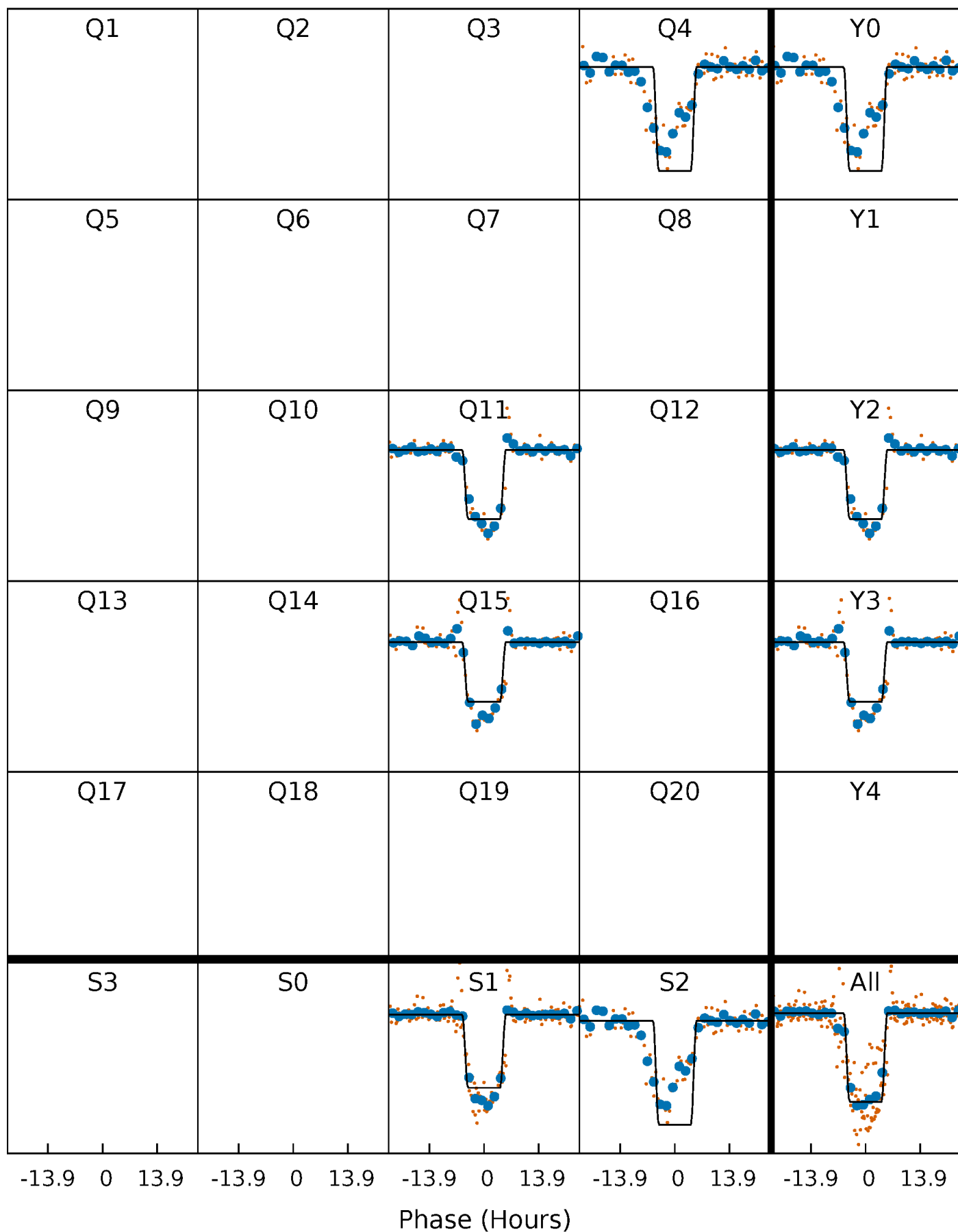
DV Quarter-Phased Transit Curves

TCE 005894155-05 $P=356.150509$ Days $T_0=377.403959$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

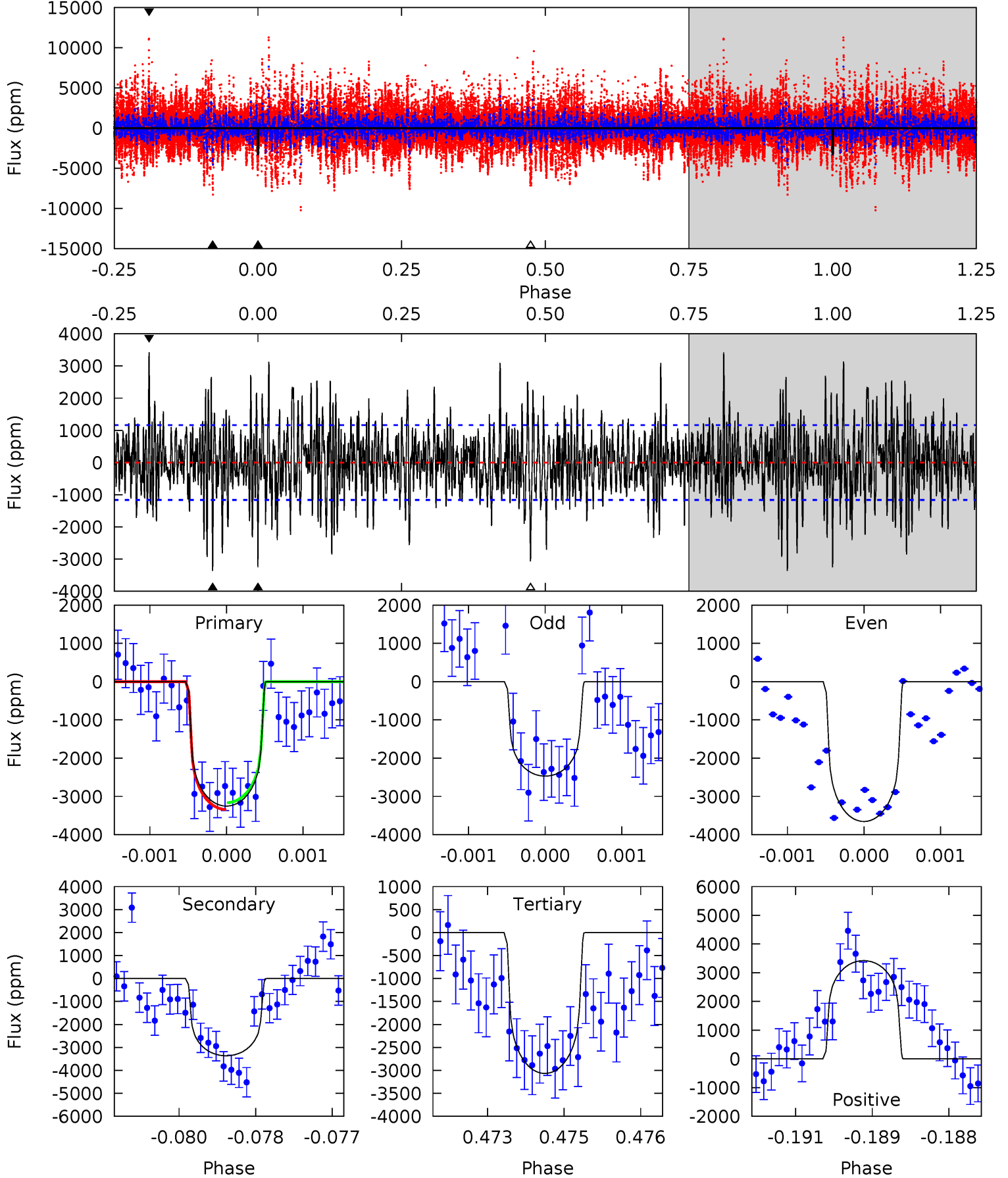
TCE 005894155-05 $P=356.150140$ Days $T_0=377.382953$ (BKJD)



DV Model-Shift Uniqueness Test

005894155-05, P = 356.150509 Days, E = 21.253450 Days

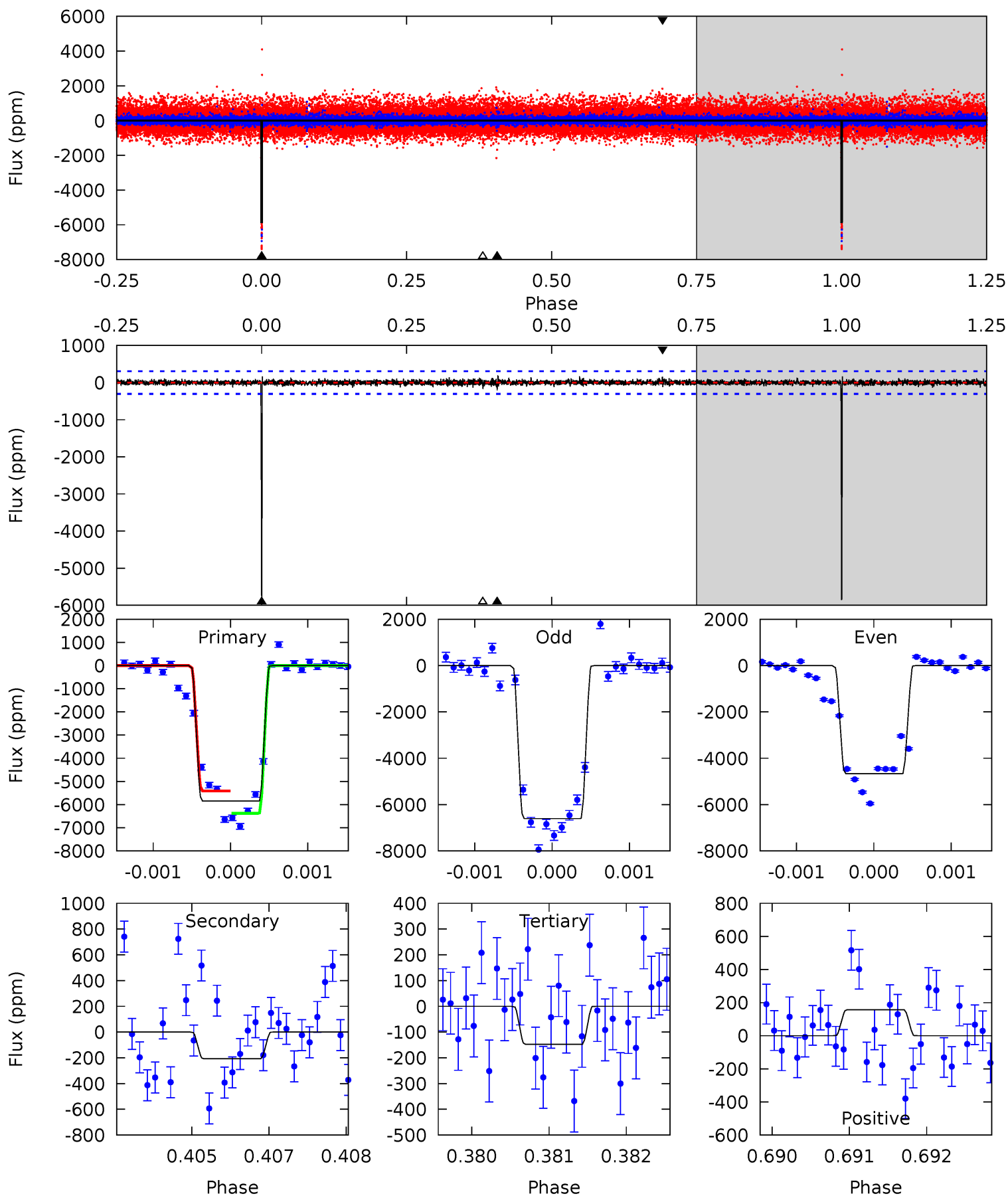
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	15.7	14.3	15.9	5.41	3.22	3.97	0.86	-0.79	1.39	-0.27	2.05	1.31	0.50	0.42



Alt Model-Shift Uniqueness Test

005894155-05, P = 356.150140 Days, E = 21.232813 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
103.6	3.68	2.61	2.78	5.41	3.22	0.56	101.0	100.8	1.07	0.90	17.8	0.92	0.03	8.57



Stellar Parameters For KIC 005894155

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4440^{+135}_{-162}	$4.754^{+0.063}_{-0.032}$	$-1.340^{+0.300}_{-0.300}$	$0.492^{+0.031}_{-0.046}$	$0.500^{+0.034}_{-0.034}$	$5.932^{+1.606}_{-0.718}$
	+3%/-4%	+1%/-1%	+22%/-22%	+6%/-9%	+7%/-7%	+27%/-12%
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 005894155-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3365 ± 215	$2.19^{+0.68}_{-0.70}$	215^{+8}_{-9}	5110^{+995}_{-567}	$239785^{+271040}_{-99839}$
Alt.	-208 ± 56	$4.00^{+0.67}_{-0.68}$	215^{+8}_{-9}	2639^{+165}_{-151}	4336^{+2234}_{-1644}

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 $A_{obs} \gg 1.0$

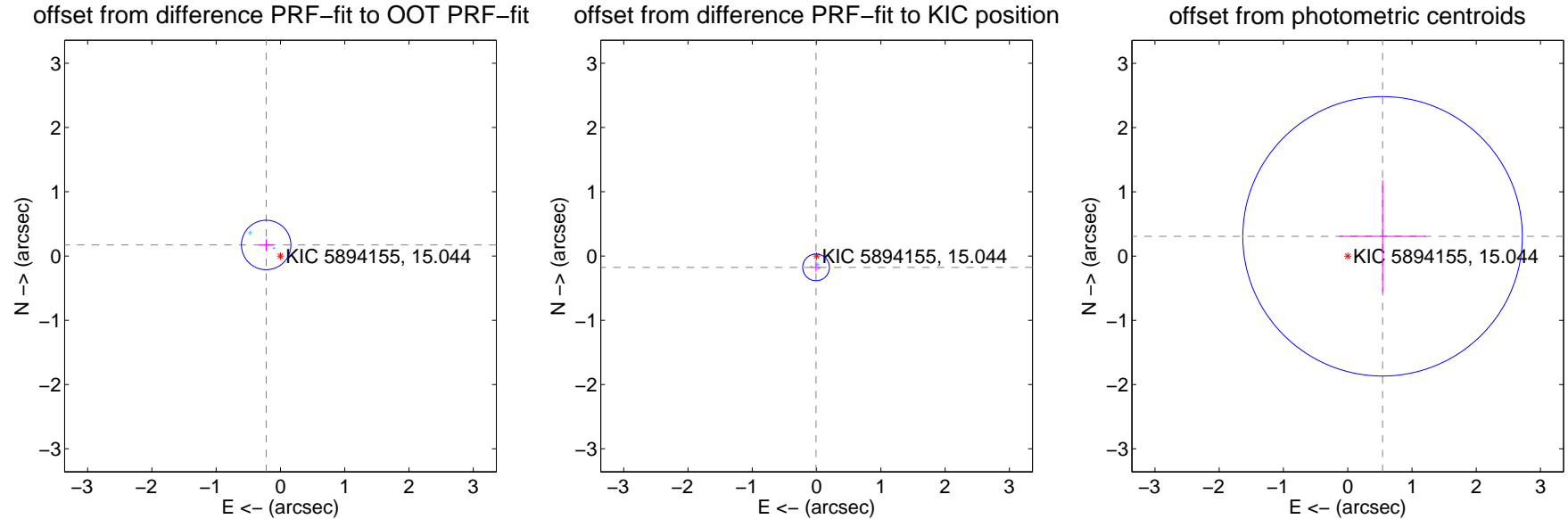
DV Centroid Data

Supplemental centroid analysis for 005894155-05. Kepler magnitude: 15.04. Transit SNR 5.88

There are 3 quarters with good PRF difference image offsets

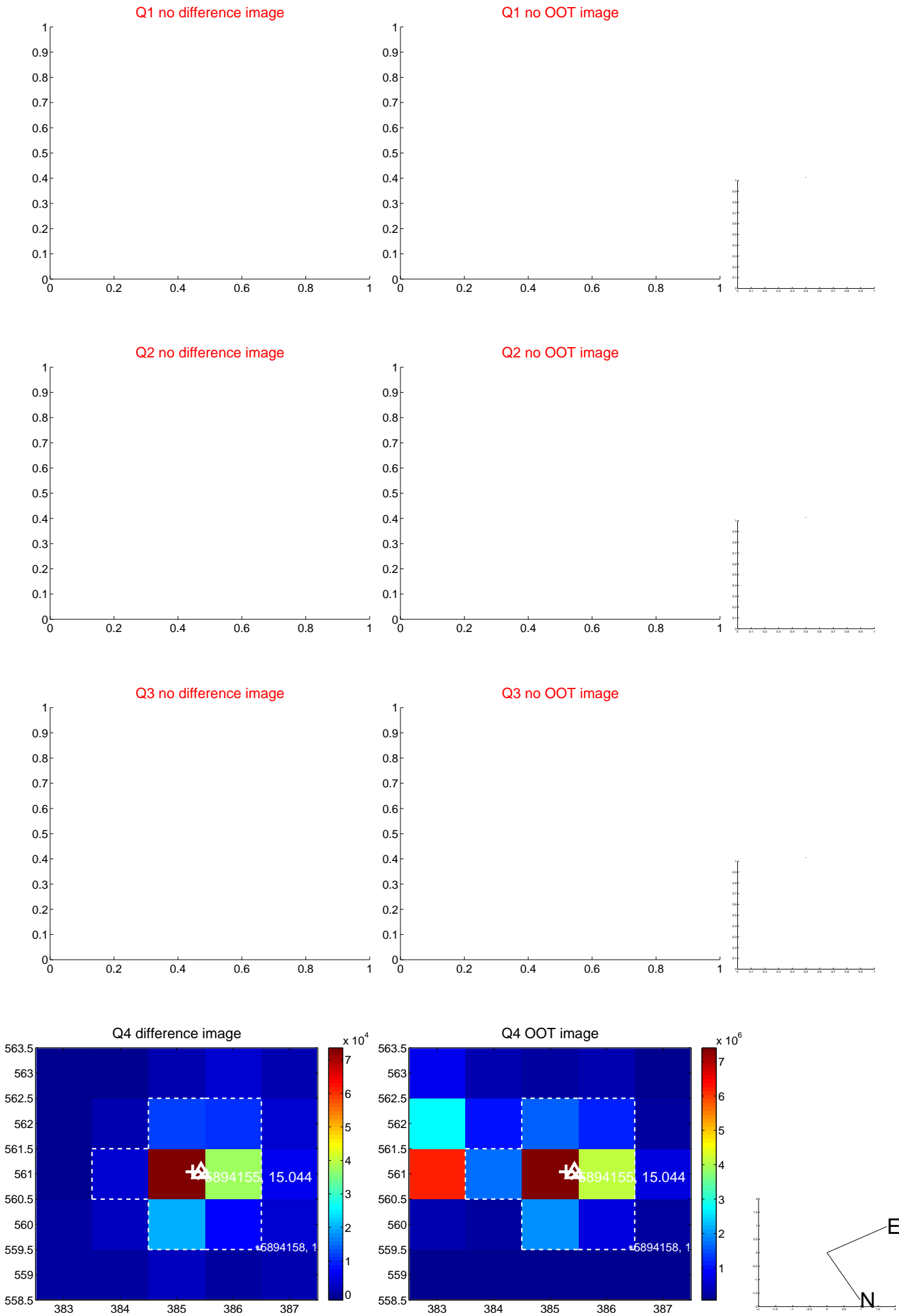
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.281 ± 0.128	2.19	0.222 ± 0.115	0.172 ± 0.089
PRF-fit source offset from KIC position	0.177 ± 0.069	2.56	0.008 ± 0.070	-0.177 ± 0.069
photometric centroid source offset	0.62 ± 0.72	0.86	-0.54 ± 0.67	0.31 ± 0.87



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.

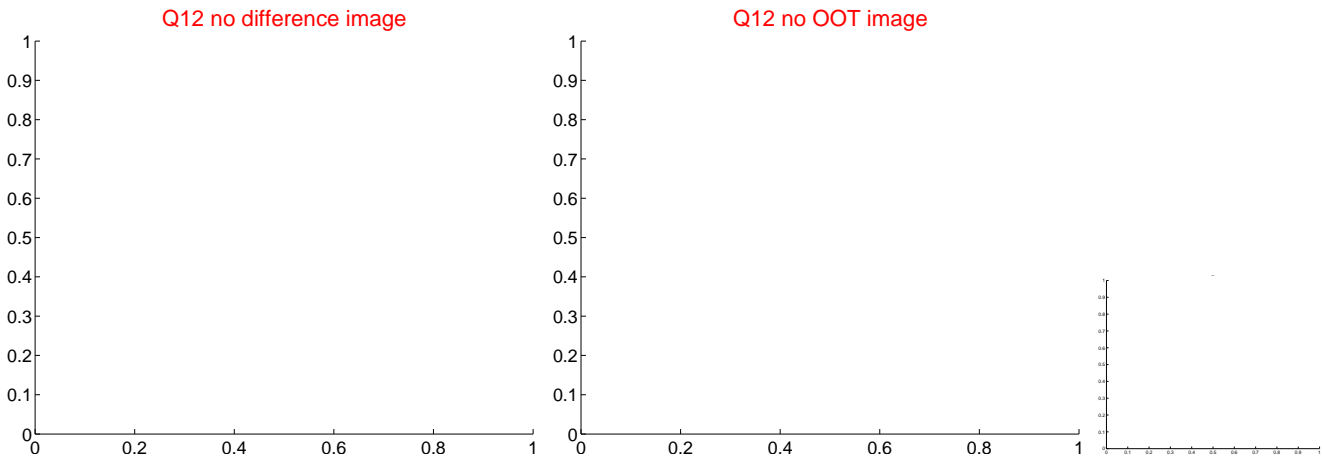
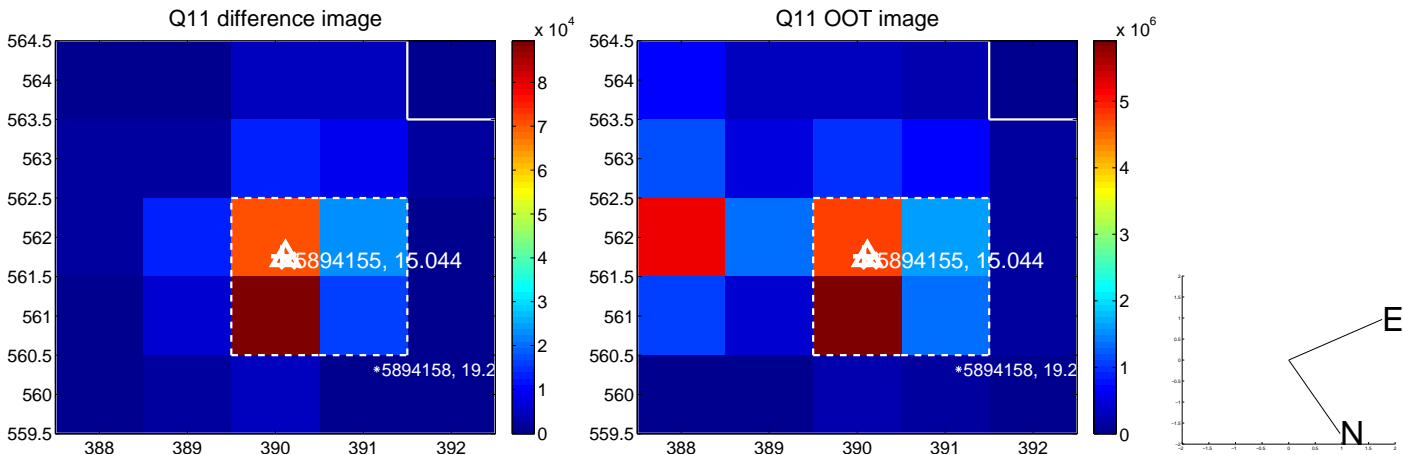
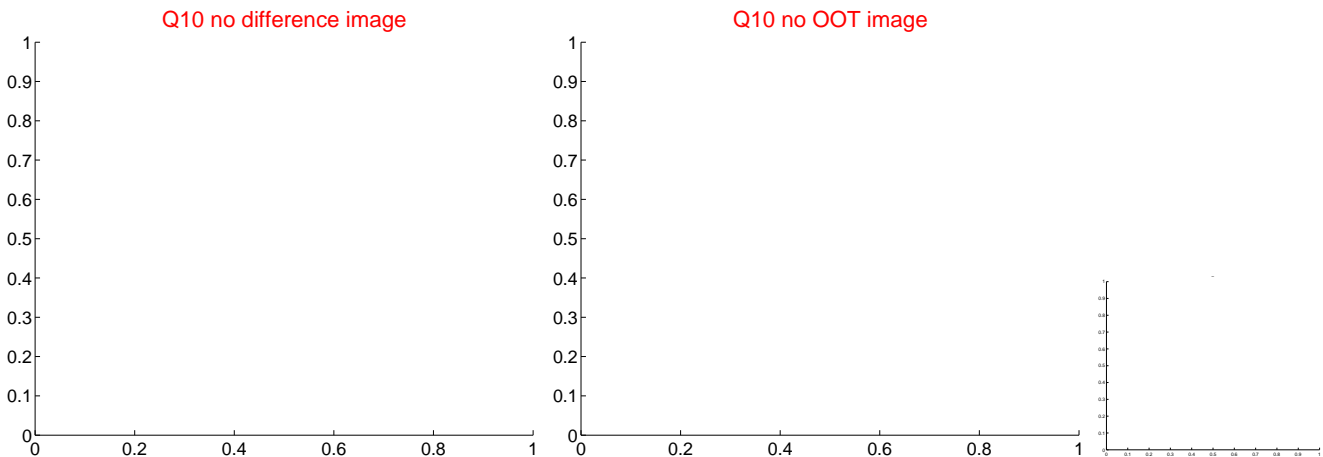
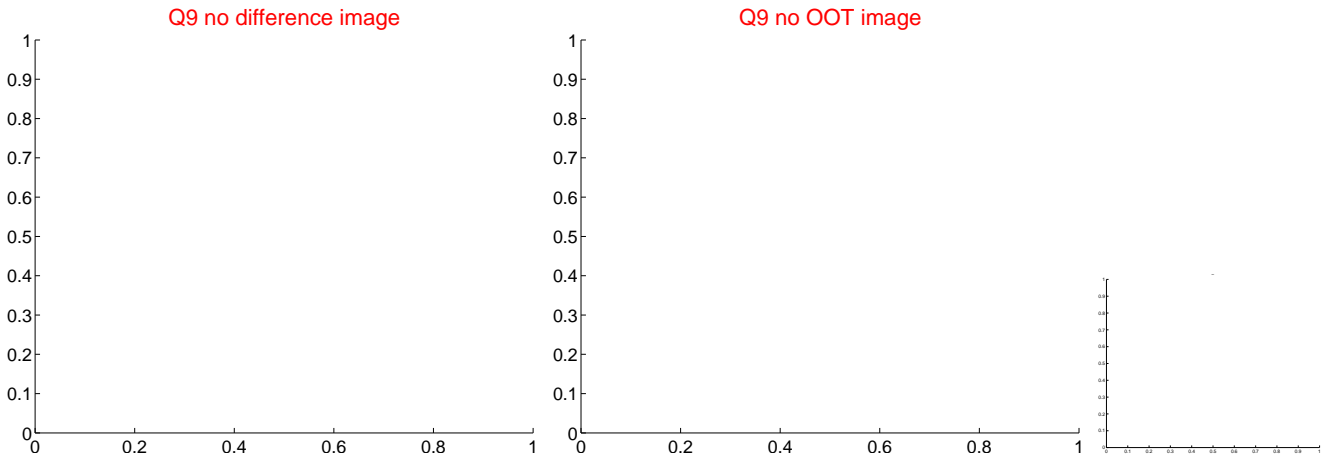
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



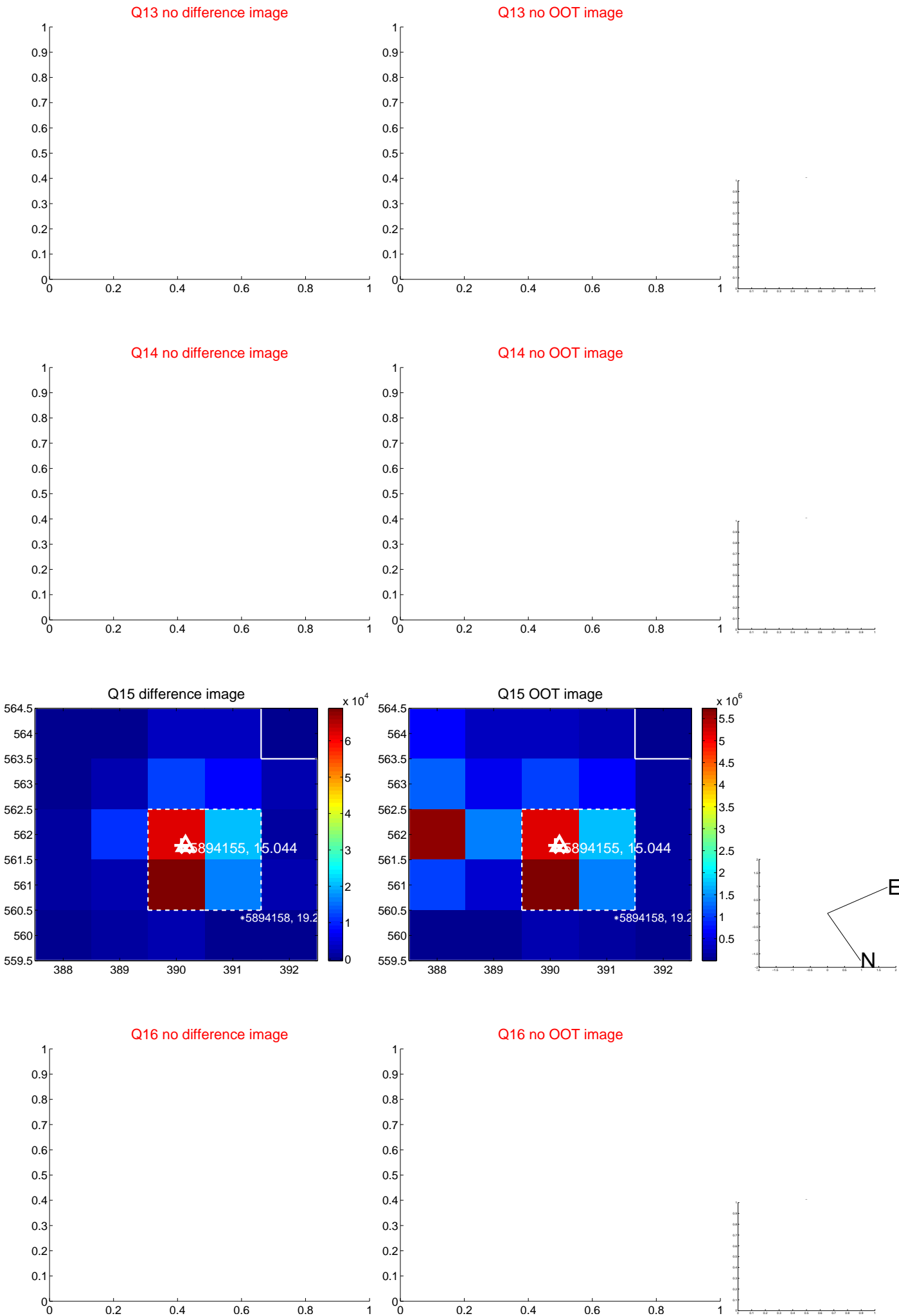
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



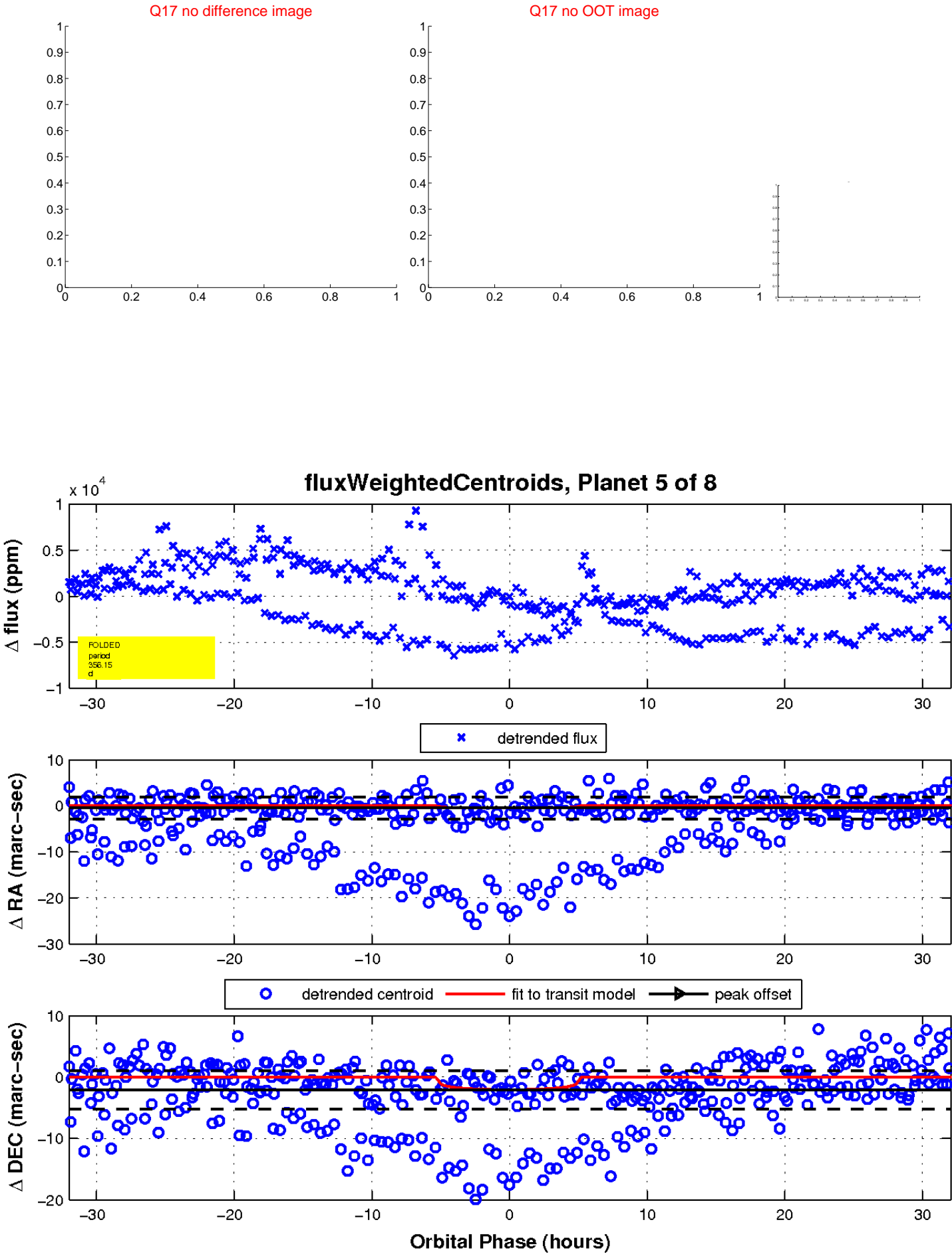
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

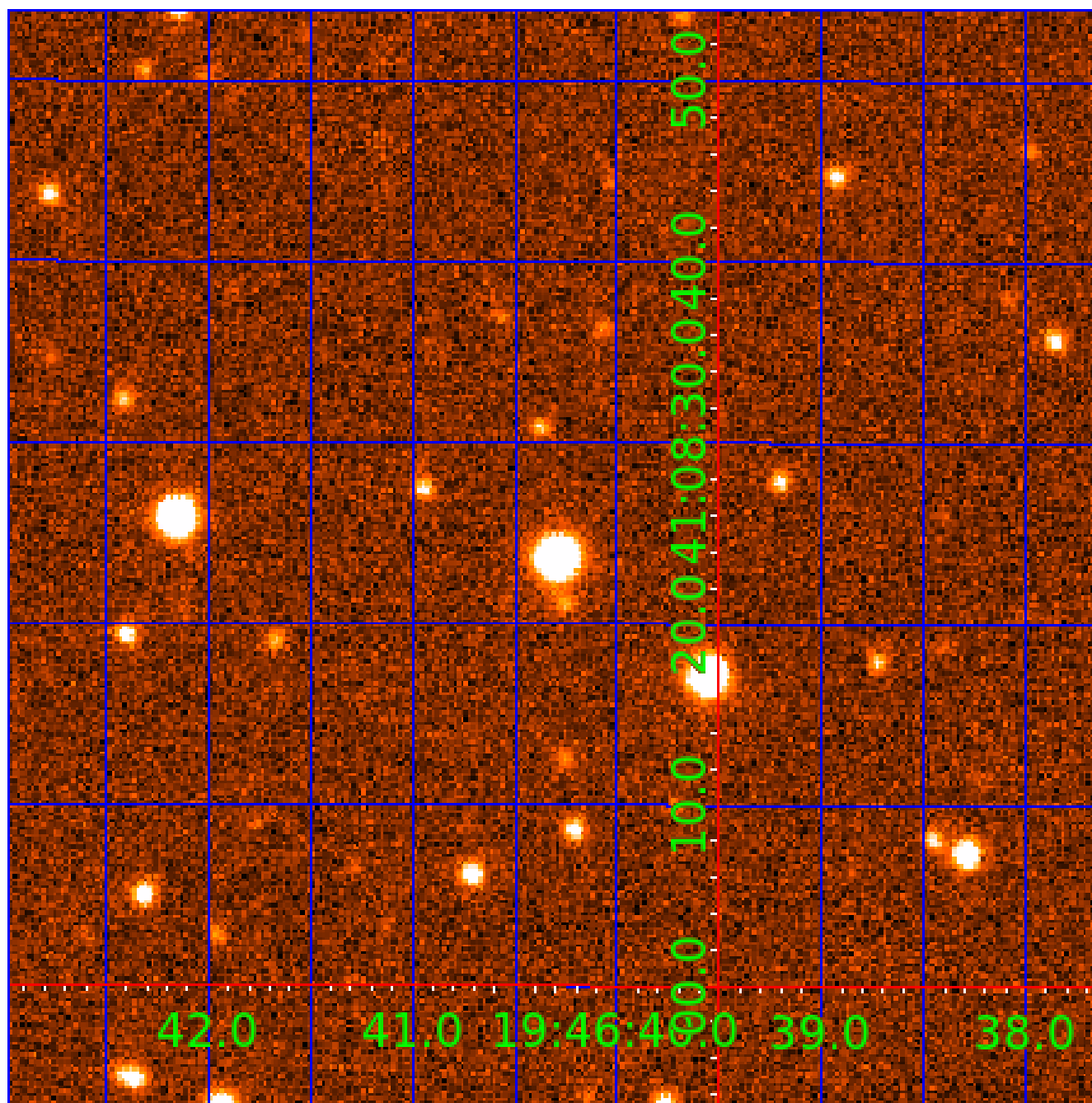


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005894155

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})
005894155-01	OBS	No	494.665076	335.878503	2667.4	5.752	15.4	10.2	0.49	4440	2.51	0.09
005894155-02	OBS	No	433.363936	357.977488	417.2	0.655	15.1	1.2	0.49	4440	1.24	0.11
005894155-04	OBS	No	433.381260	358.010522	1331.5	16.736	15.0	3.0	0.49	4440	2.05	0.11
005894155-05	OBS	No	356.150509	377.403959	1998.9	10.714	12.8	5.9	0.49	4440	2.20	0.14
005894155-06	OBS	No	541.209675	455.178397	1807.1	4.471	12.8	5.7	0.49	4440	2.10	0.08
005894155-07	OBS	No	371.746857	298.247796	2333.6	3.794	12.8	9.0	0.49	4440	2.35	0.13
005894155-08	OBS	No	382.908110	466.055958	2151.6	7.075	12.3	7.5	0.49	4440	2.69	0.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005894155-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
005894155-05	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
005894155-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005894155-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

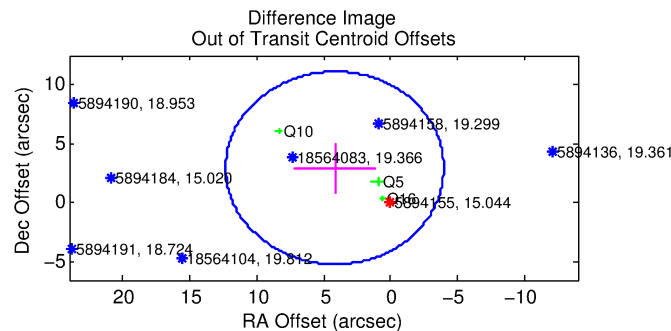
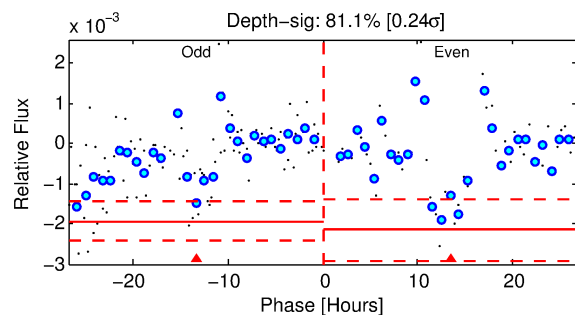
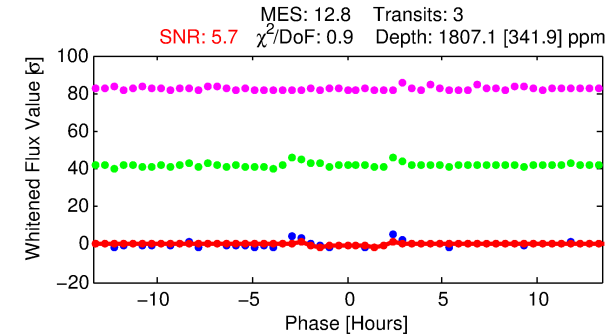
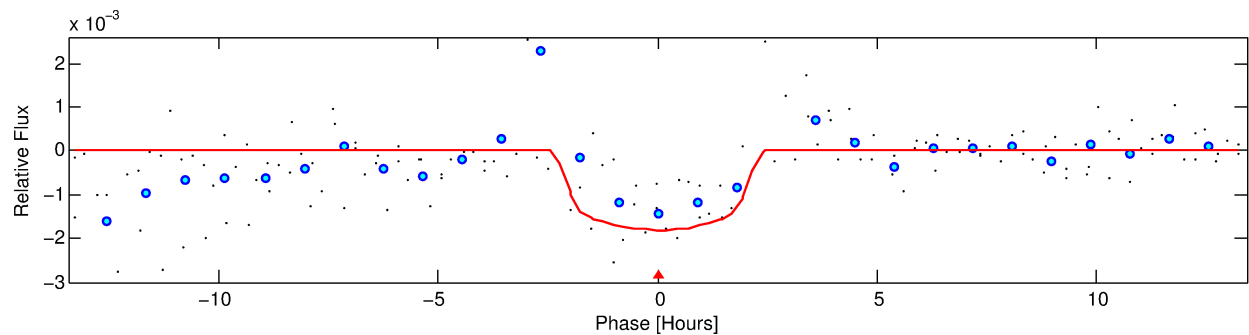
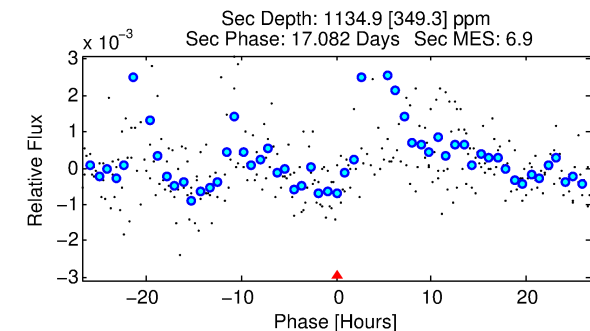
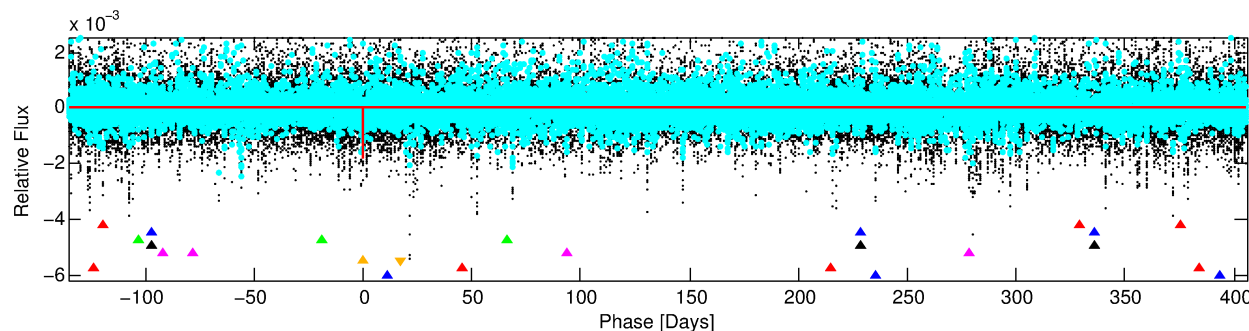
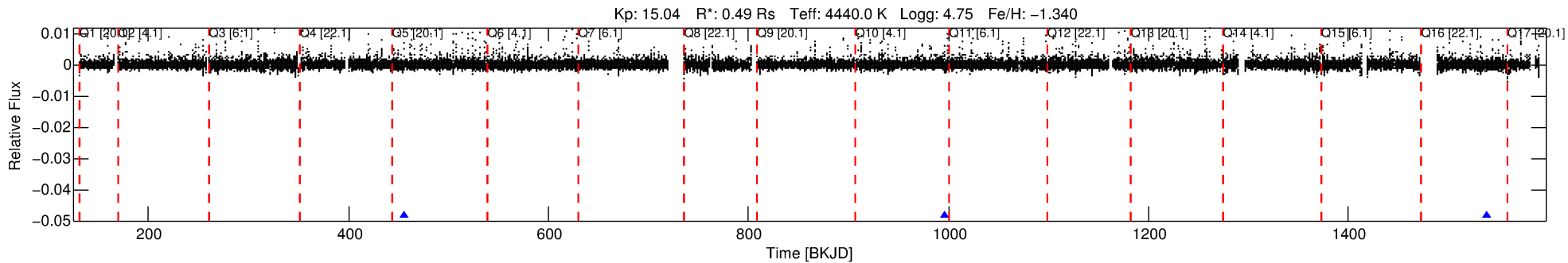
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005894155-06

No Significant Match Found

DV One-Page Summary

KIC: 5894155 Candidate: 6 of 8 Period: 541.210 d



DV Fit Results:

Period = 541.20967 [0.00549] d
Epoch = 455.1784 [0.0069] BKJD
Rp/R* = 0.0392 [0.0552]
a/R* = 891.59 [5246.74]
b = 0.39 [13.00]
Seff = 0.08 [0.01]
Teq = 135 [6] K
Rp = 2.10 [2.97] Re
a = 1.0326 [0.0815] AU
Ag = 150233.66 [425593.50] [0.35σ]
Teffp = 4116 [2916] K [1.36σ]

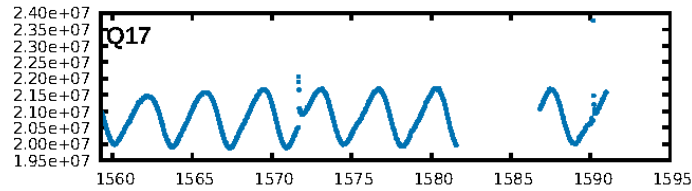
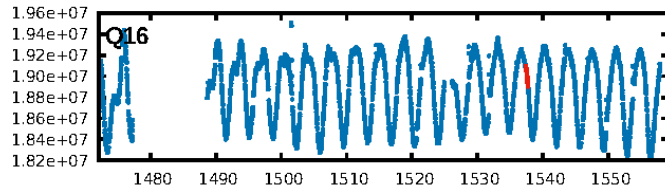
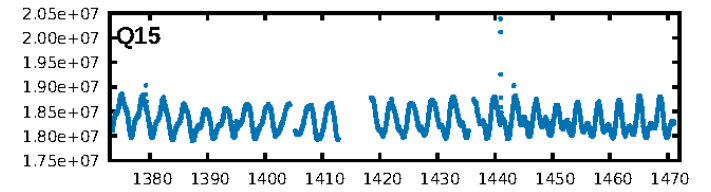
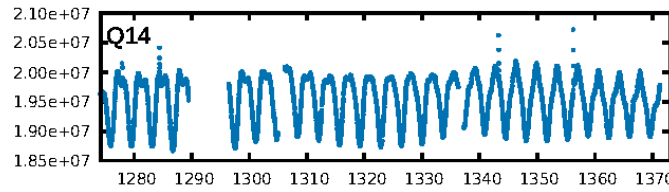
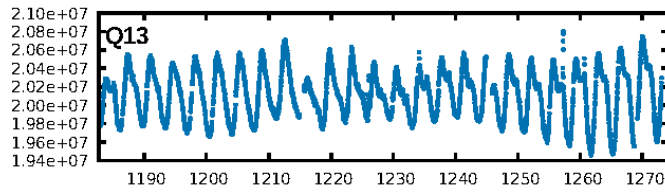
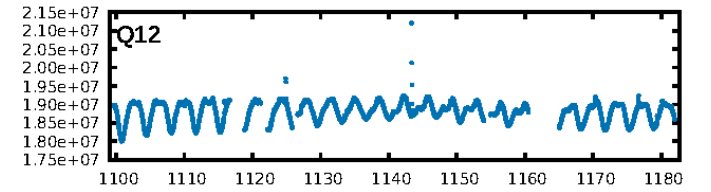
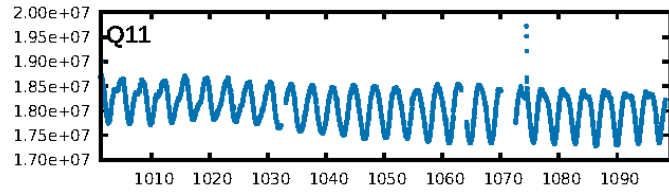
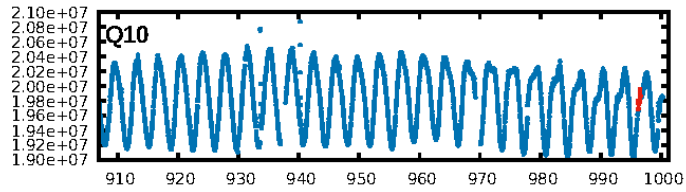
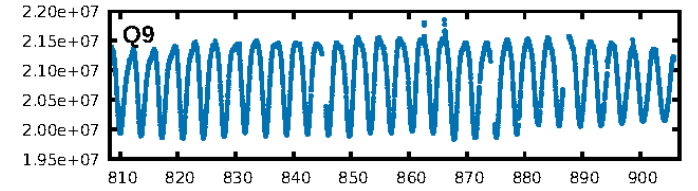
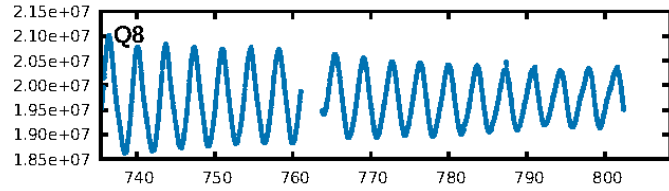
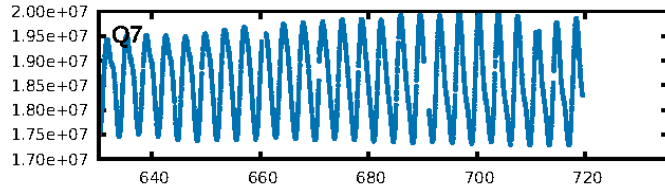
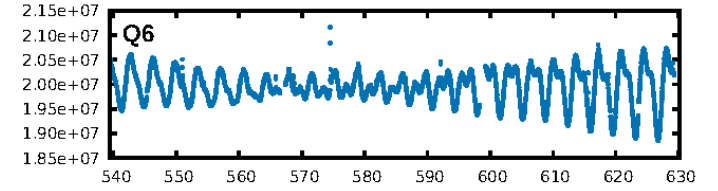
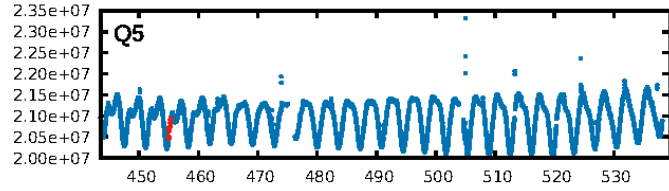
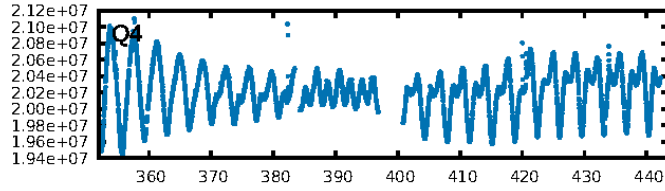
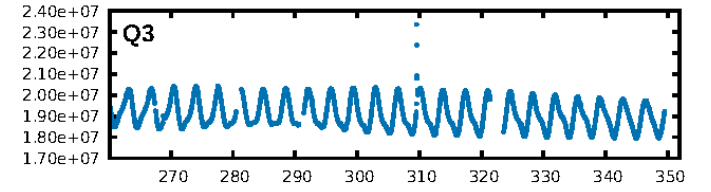
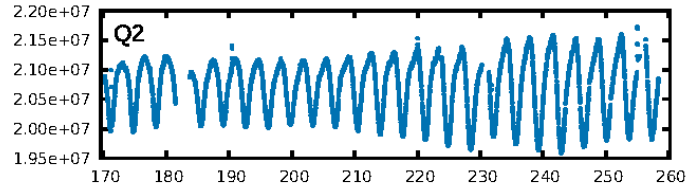
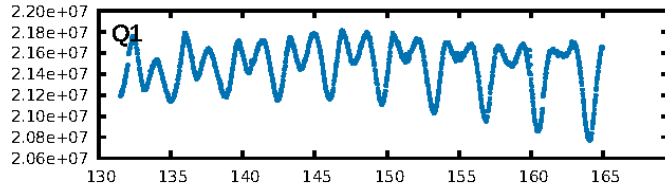
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [153.33σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.8%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 9.10e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.3195
Centroid-sig: 72.1%
Centroid-so: 0.585 arcsec [0.52σ]
OotOffset-rm: 5.115 arcsec [1.88σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-rm: 0.148 arcsec [0.72σ]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

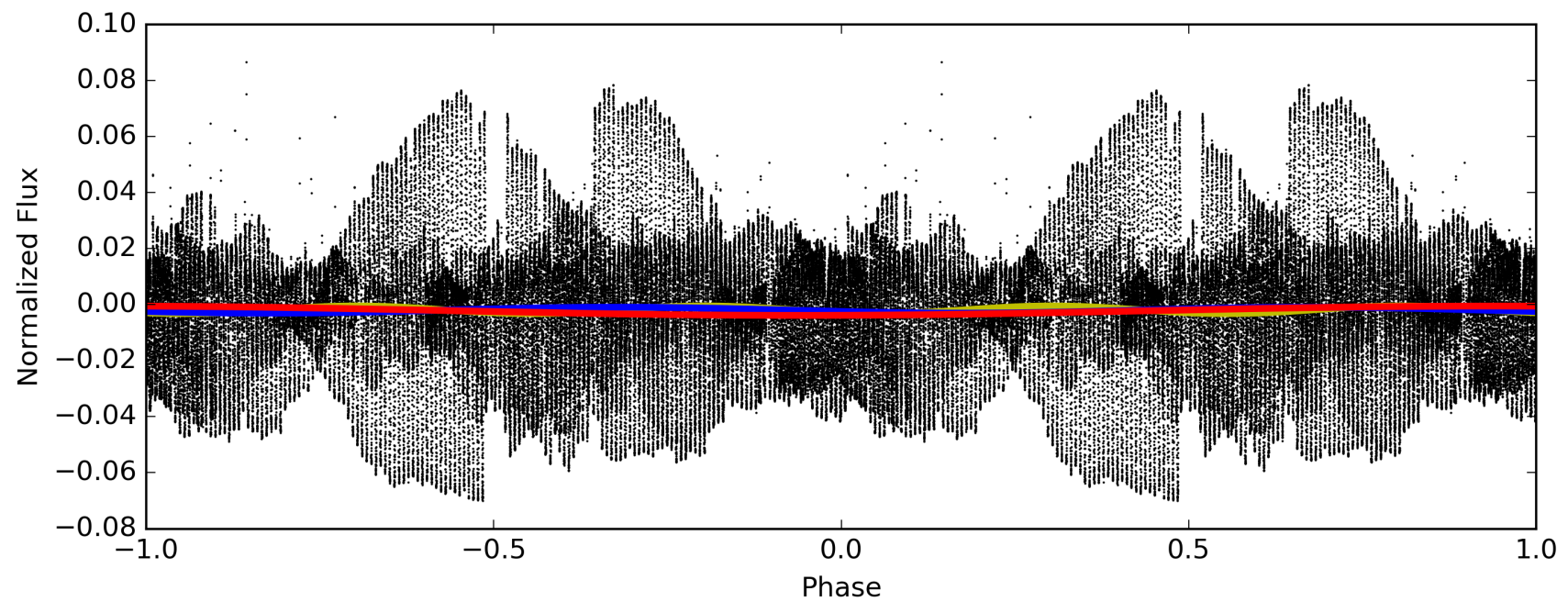
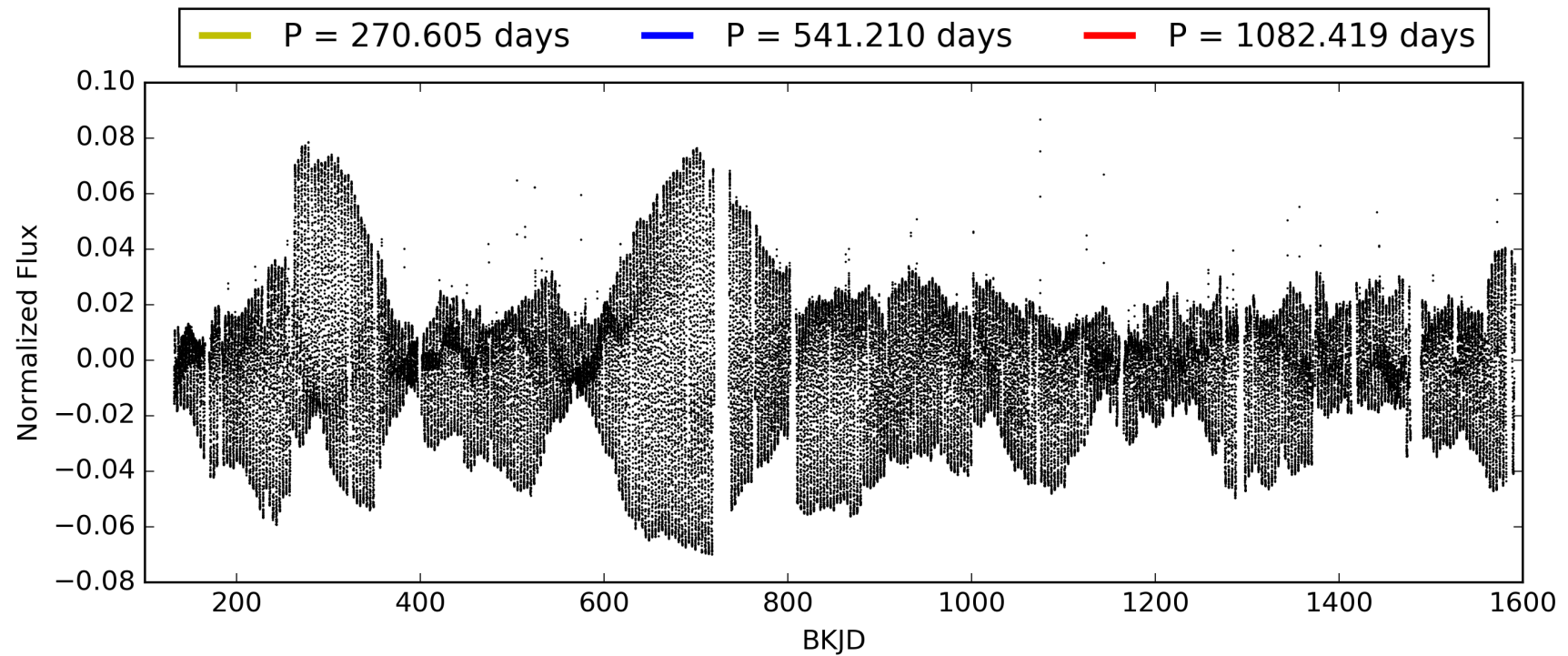
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:40:28 Z

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

TCE 005894155-06, PDC Light Curves

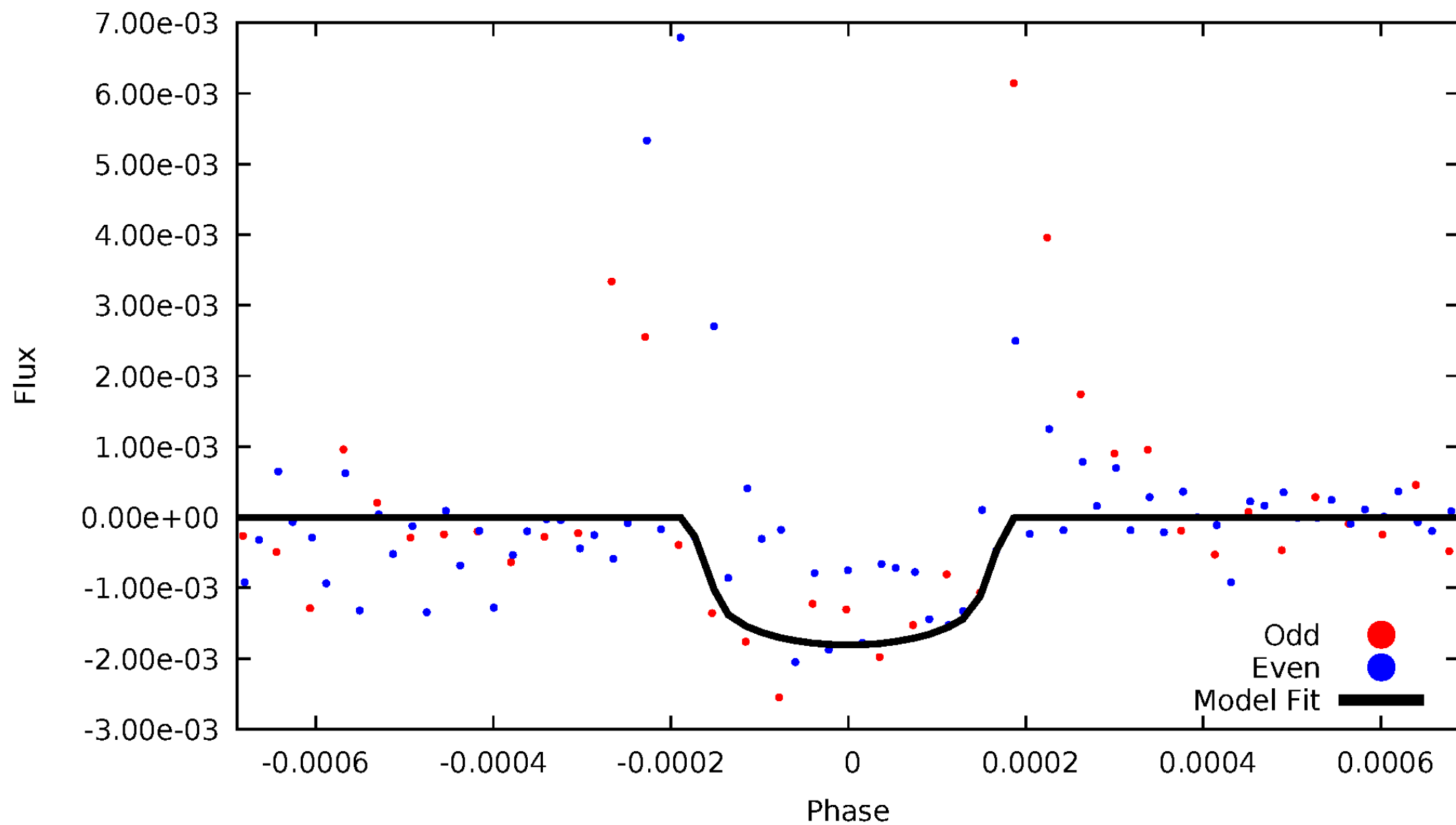


TCE 005894155-06



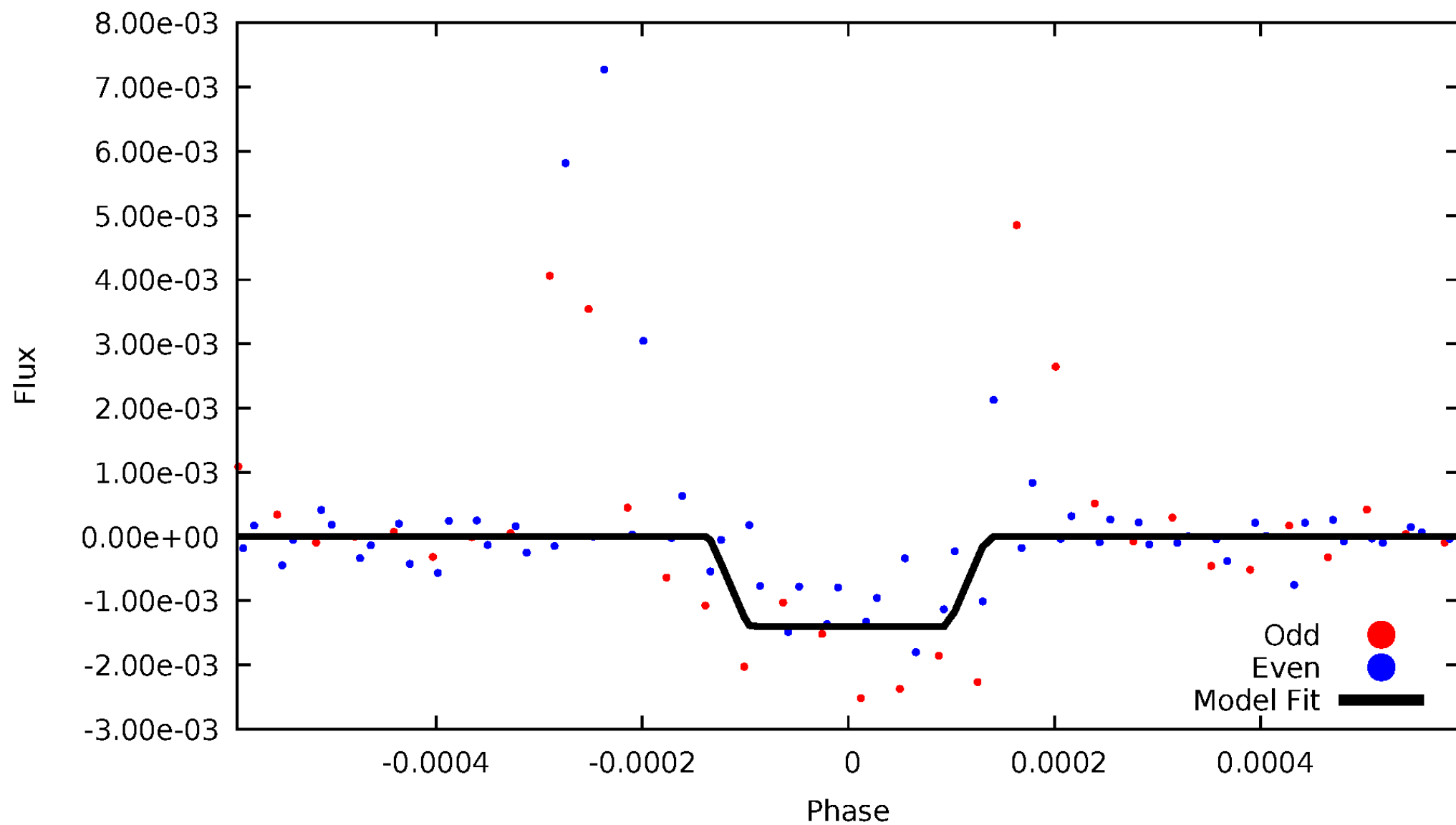
DV Odd/Even

TCE 005894155-06



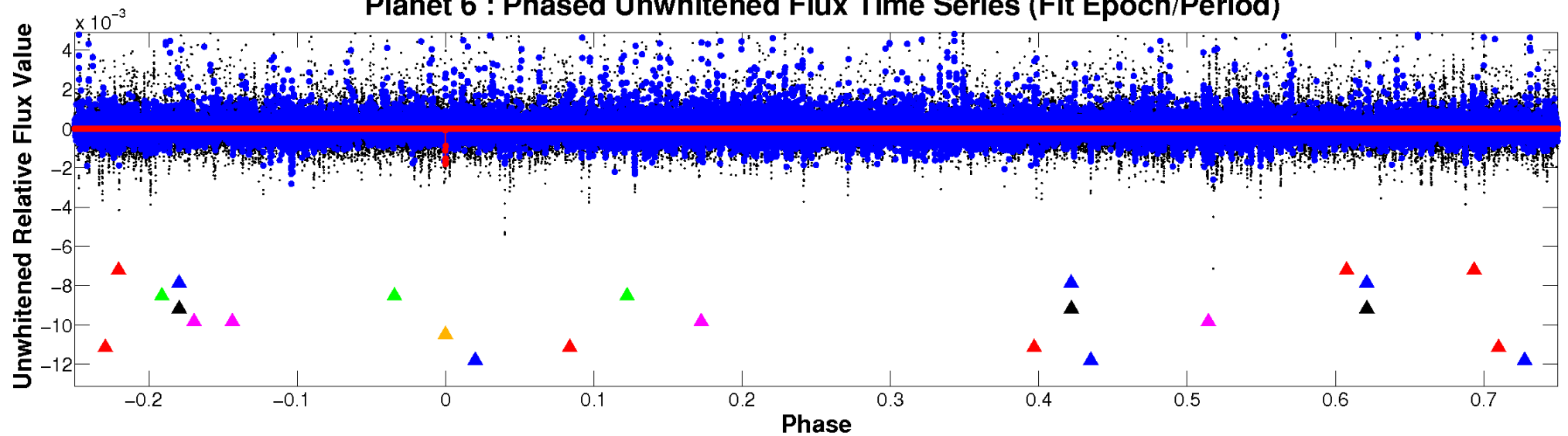
ALT Odd/Even

TCE 005894155-06

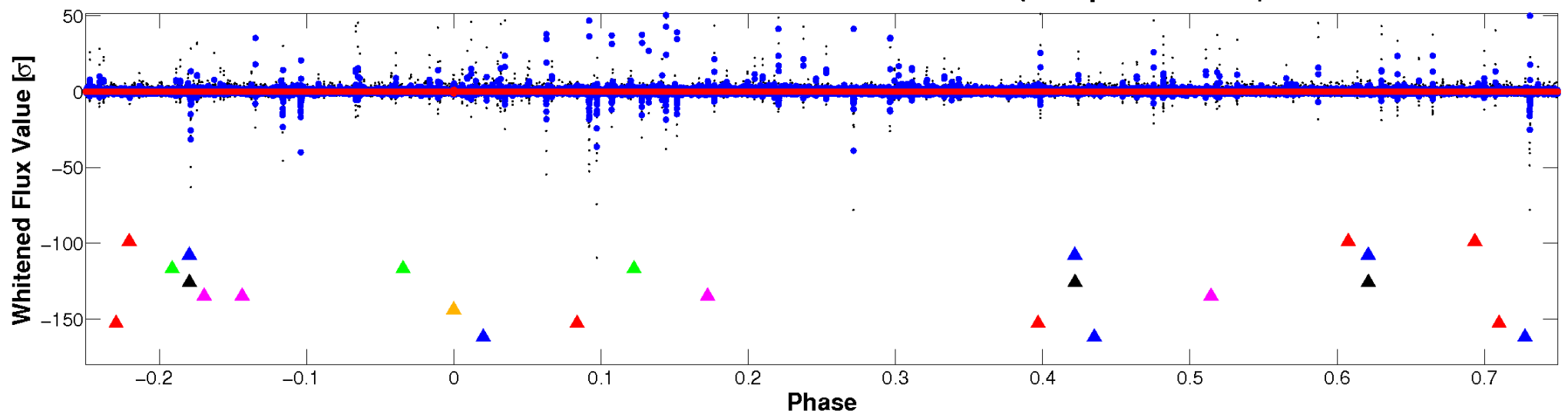


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

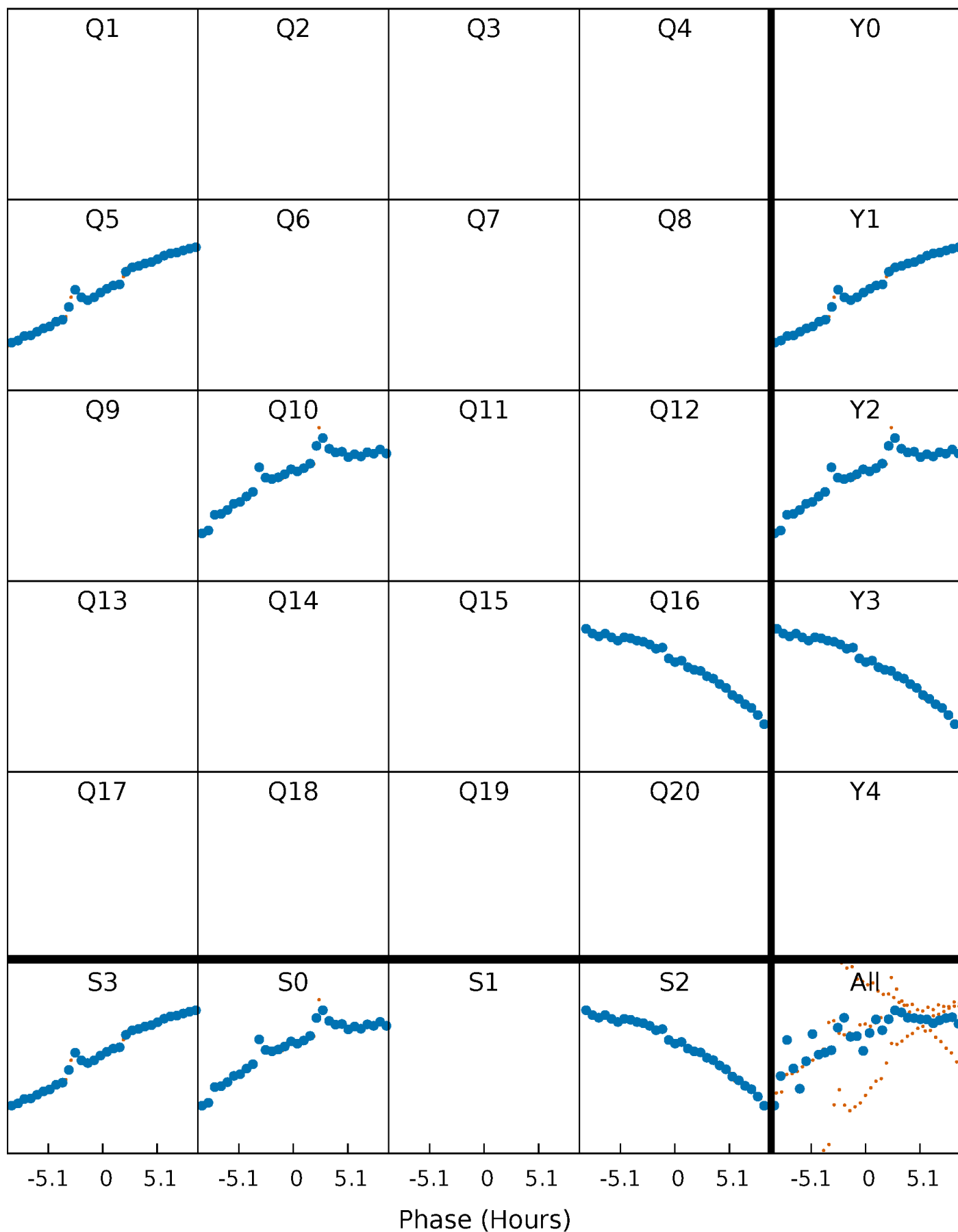


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



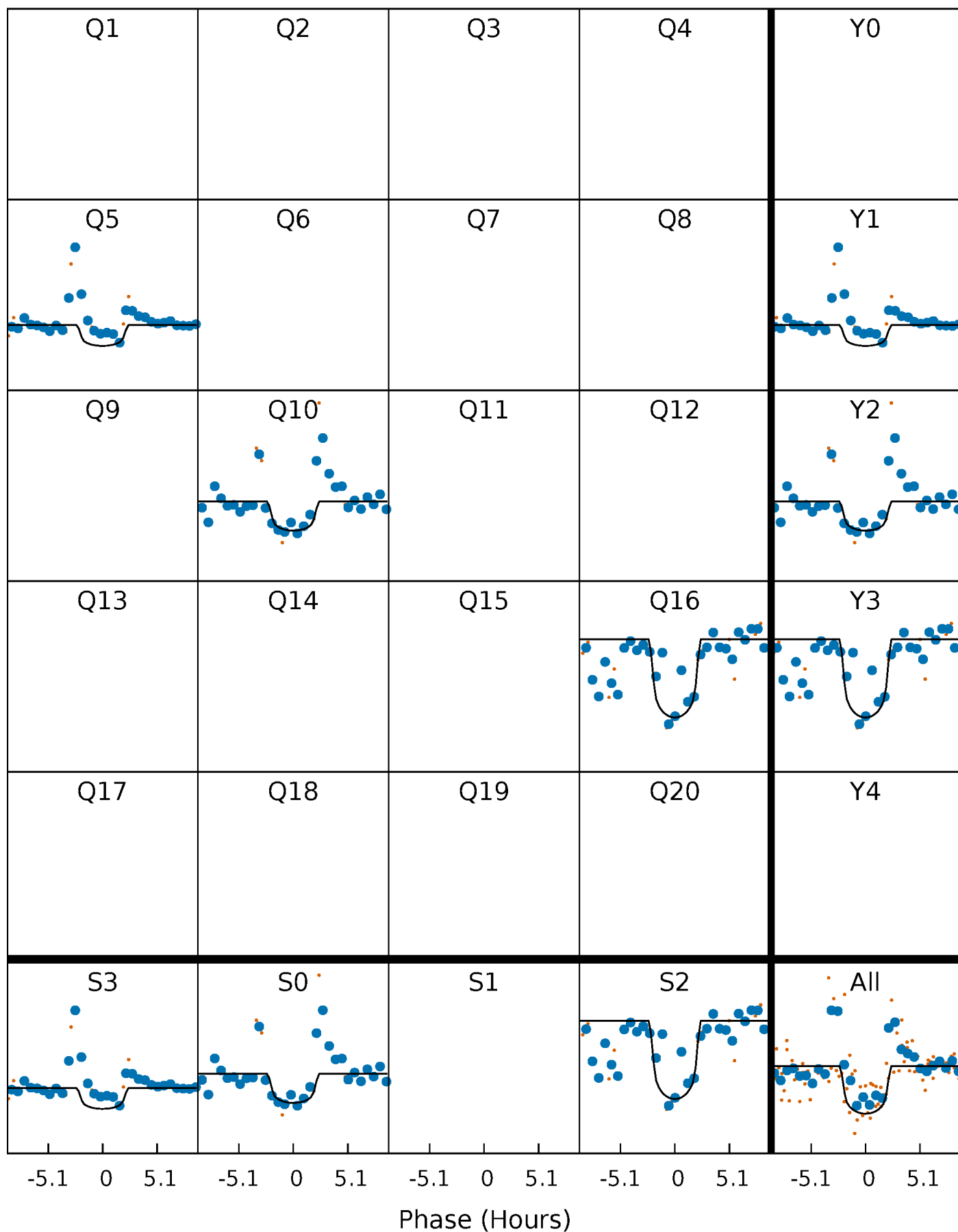
PDC Quarter-Phased Transit Curves

TCE 005894155-06 P=541.209675 Days $T_0=455.178397$ (BKJD)



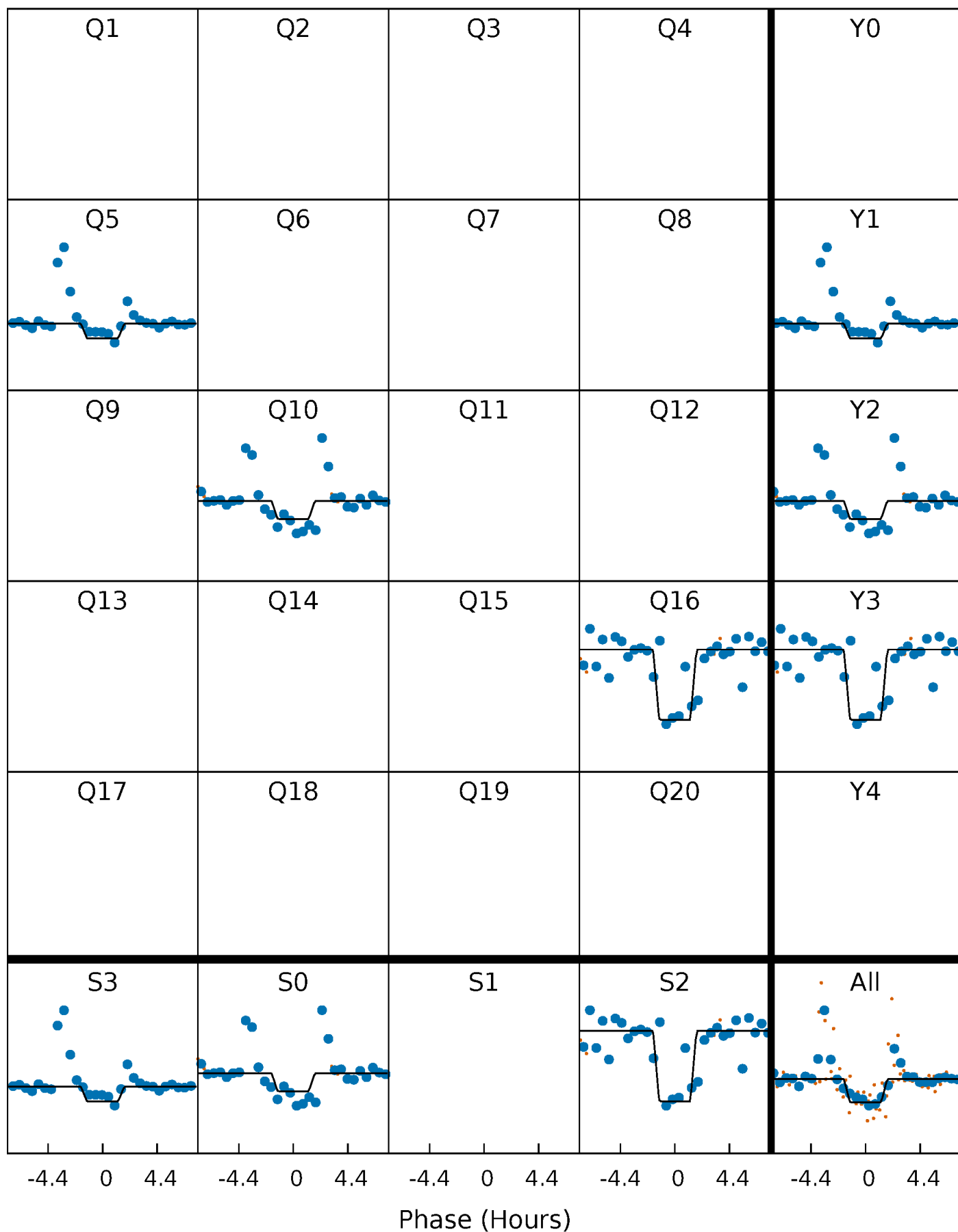
DV Quarter-Phased Transit Curves

TCE 005894155-06 P=541.209675 Days $T_0=455.178397$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

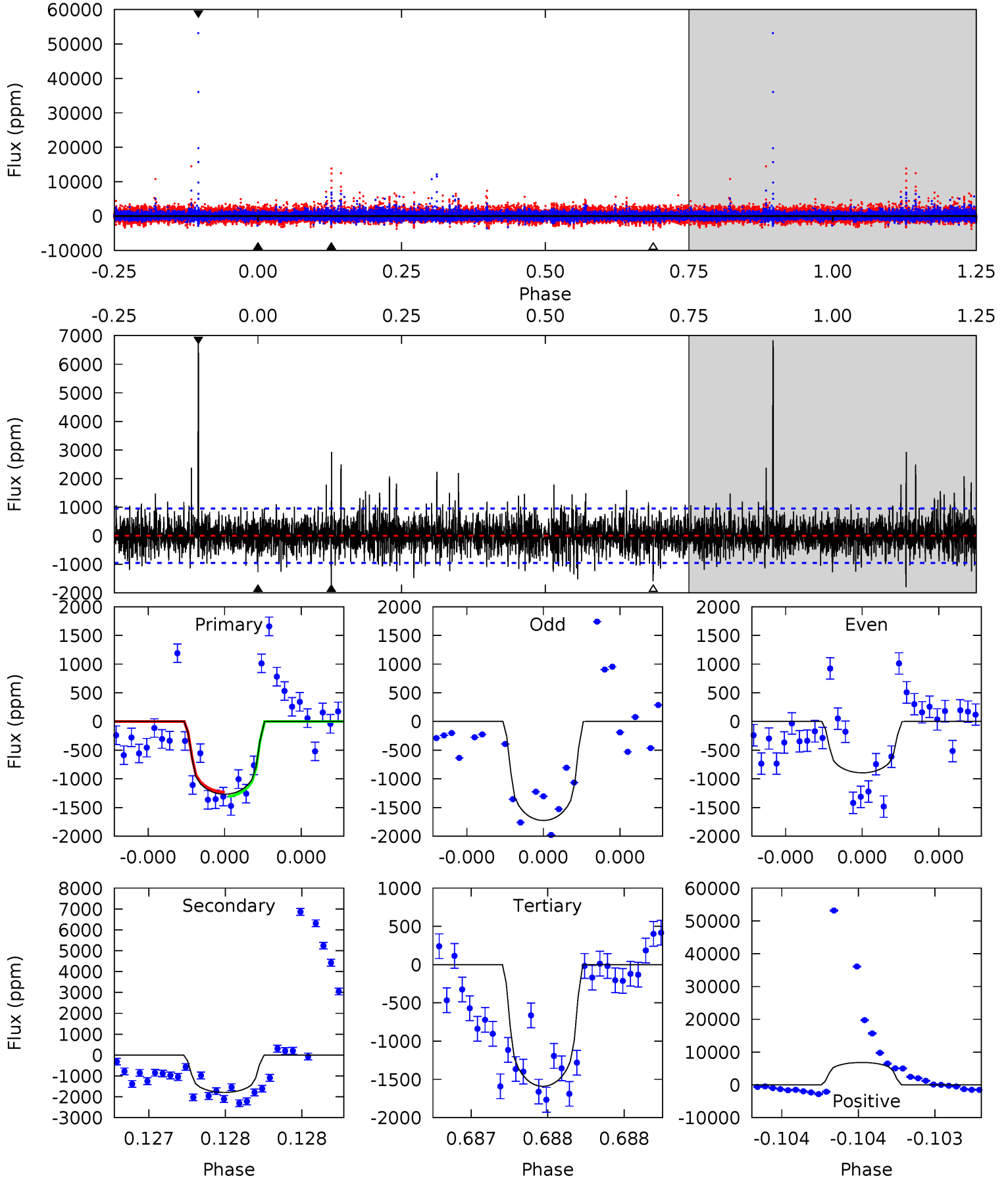
TCE 005894155-06 P=541.196459 Days $T_0=455.204087$ (BKJD)



DV Model-Shift Uniqueness Test

005894155-06, P = 541.209675 Days, E = 455.178397 Days

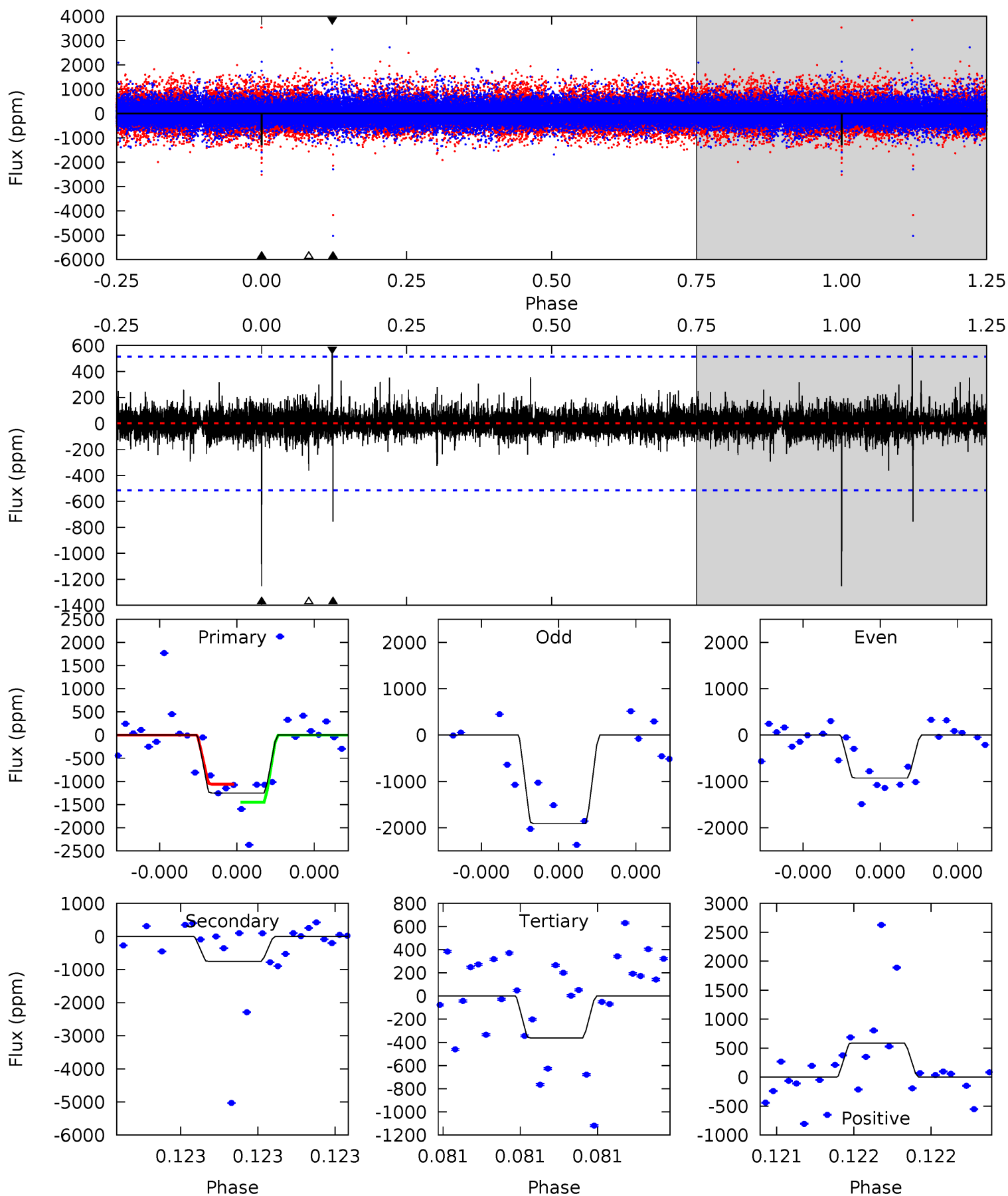
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.52	10.6	9.43	40.5	5.63	3.57	2.40	-1.91	-33.0	1.20	-29.8	1.46	0.82	0.79	0.23



Alt Model-Shift Uniqueness Test

005894155-06, P = 541.196459 Days, E = 455.204087 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	8.34	3.99	6.50	5.68	3.65	0.66	9.84	7.34	4.34	1.84	5.00	1.37	0.32	2.14



Stellar Parameters For KIC 005894155

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4440^{+135}_{-162}	$4.754^{+0.063}_{-0.032}$	$-1.340^{+0.300}_{-0.300}$	$0.492^{+0.031}_{-0.046}$	$0.500^{+0.034}_{-0.034}$	$5.932^{+1.606}_{-0.718}$
	+3%/-4%	+1%/-1%	+22%/-22%	+6%/-9%	+7%/-7%	+27%/-12%
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 005894155-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1793 ± 169	$2.94^{+2.61}_{-1.95}$	188^{+7}_{-8}	4019^{+2471}_{-767}	$125729^{+1005667}_{-91375}$
Alt.	-755 ± 91	$2.99^{+2.60}_{-2.04}$	188^{+7}_{-8}	3472^{+1788}_{-583}	$49850^{+435721}_{-35902}$

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

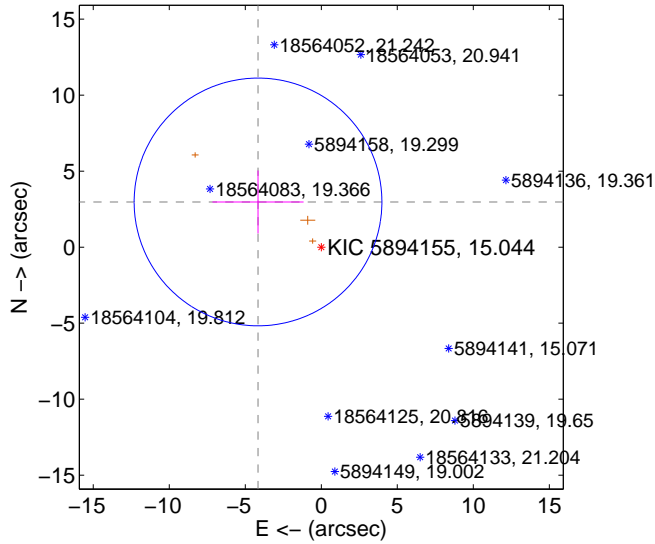
Supplemental centroid analysis for 005894155-06. Kepler magnitude: 15.04. Transit SNR 5.70

There are 0 quarters with good PRF difference image offsets

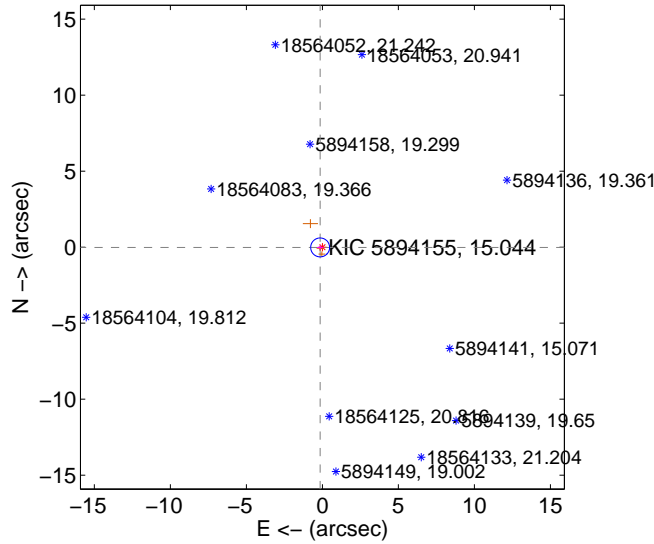
The direct PRF centroid is offset from the target star catalog position by about 0.64 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.115 ± 2.716	1.88	4.161 ± 2.994	2.974 ± 2.065
PRF-fit source offset from KIC position	0.148 ± 0.207	0.72	0.147 ± 0.208	-0.017 ± 0.143
photometric centroid source offset	0.58 ± 1.12	0.52	-0.53 ± 1.14	-0.24 ± 1.02

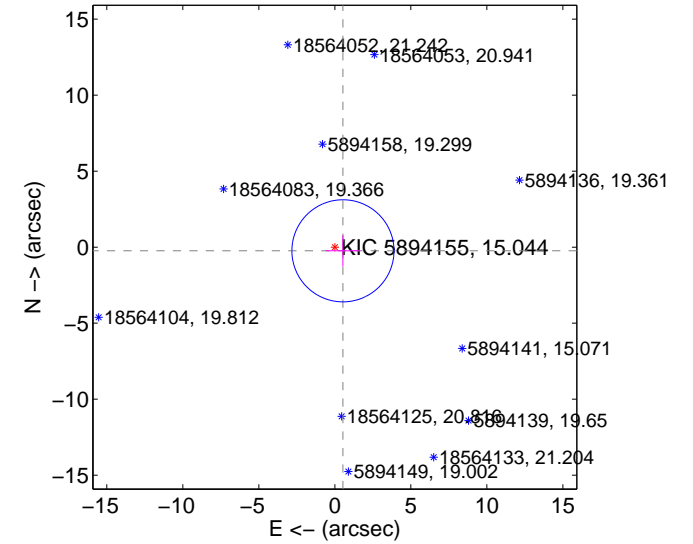
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

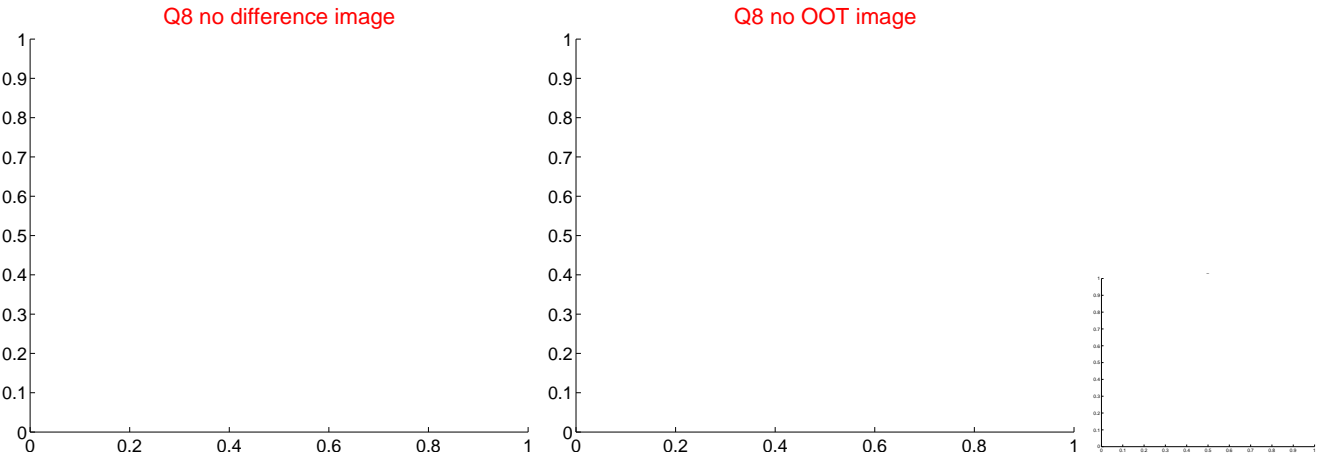
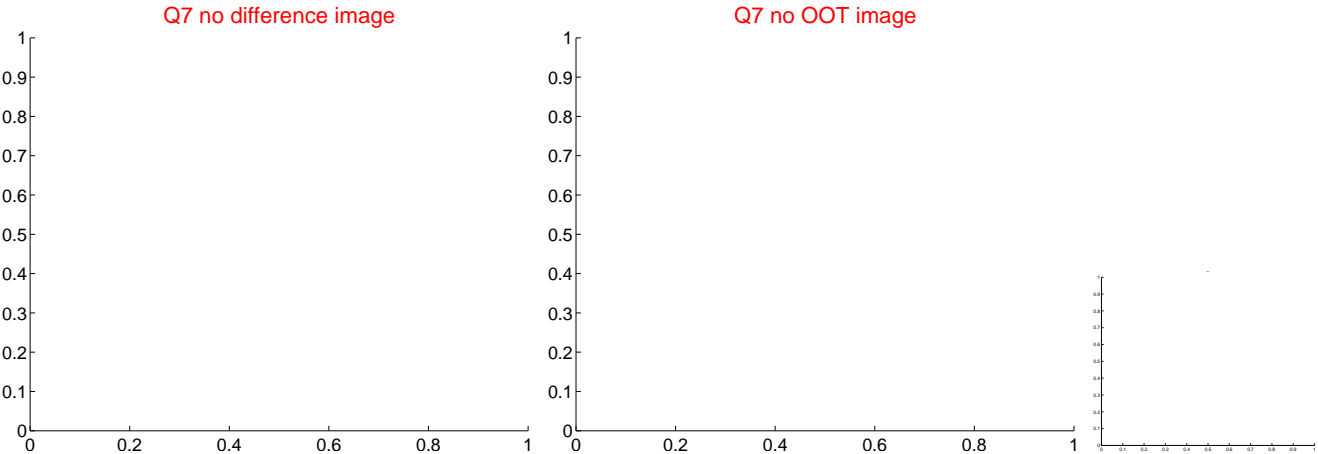
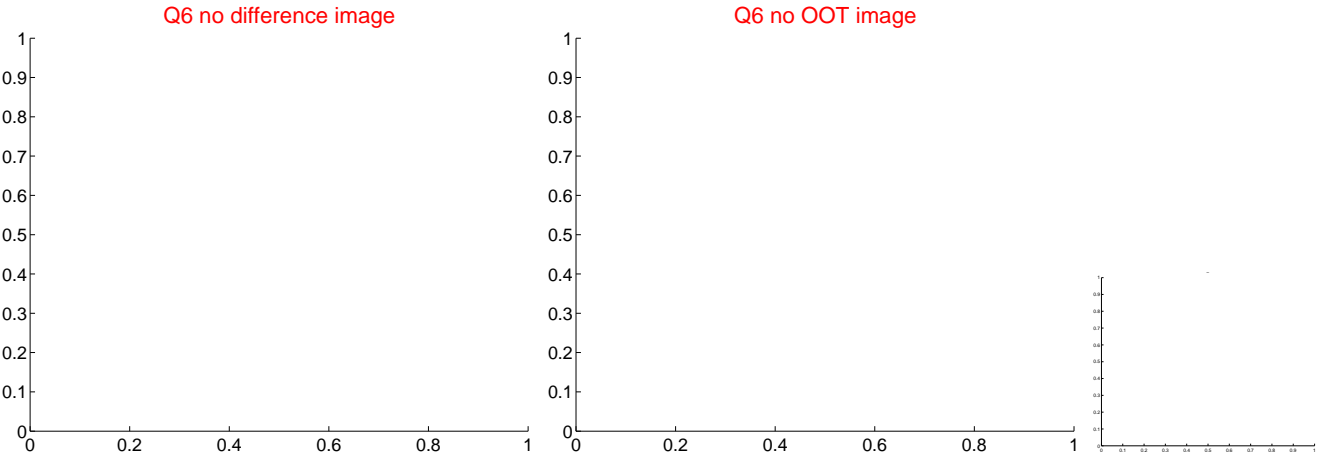
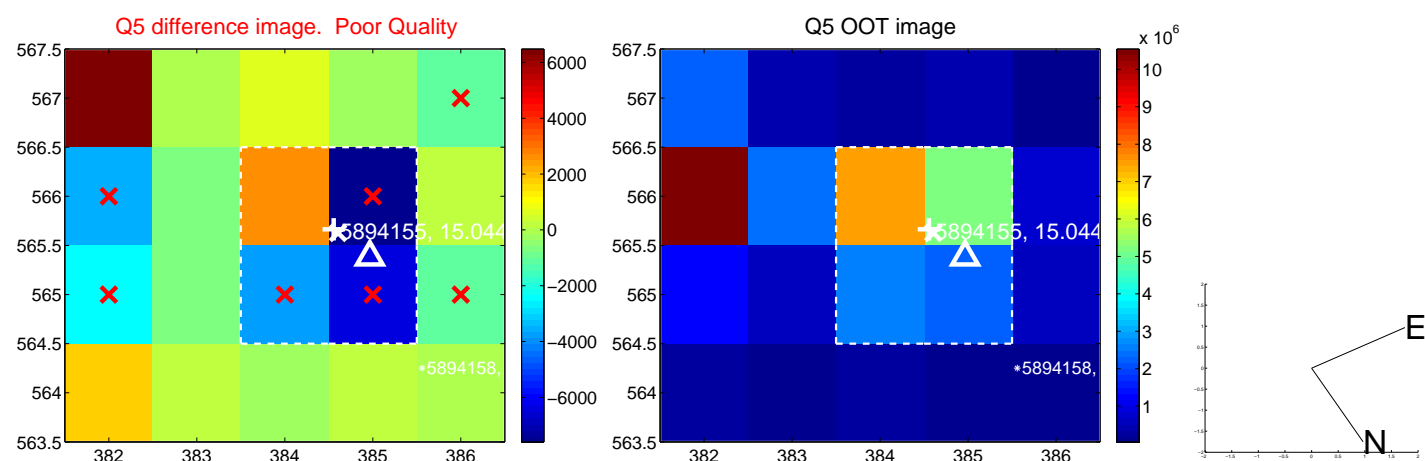


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

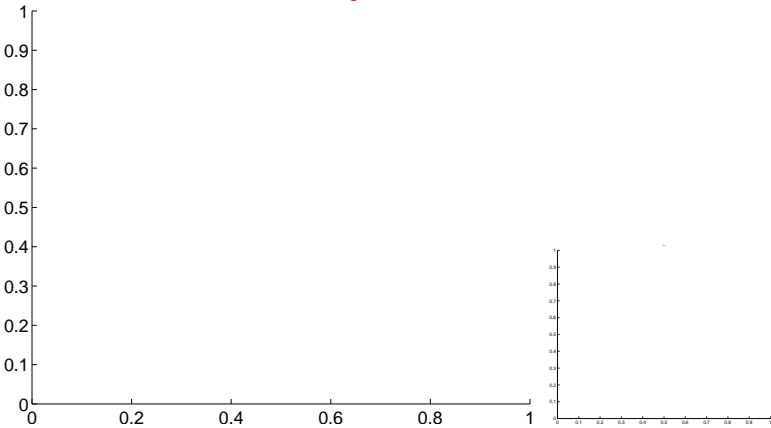


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

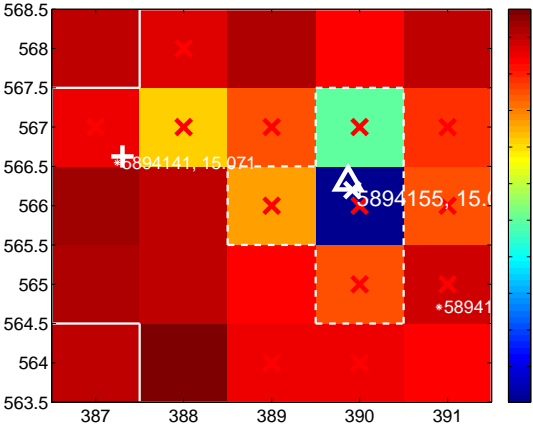
Q9 no difference image



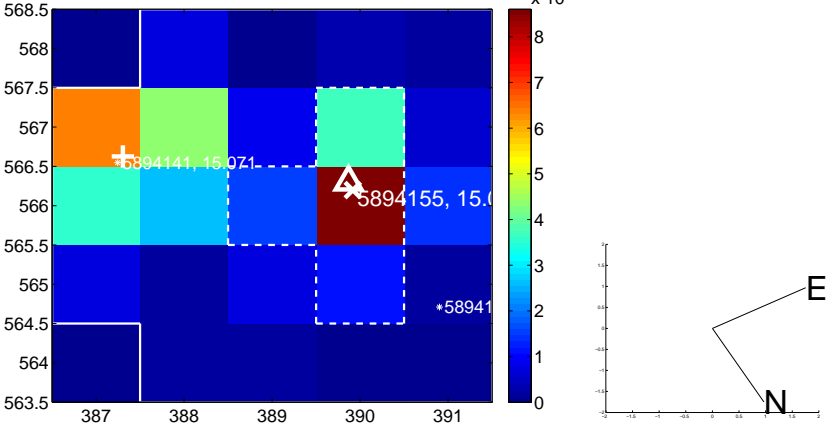
Q9 no OOT image



Q10 difference image. Poor Quality



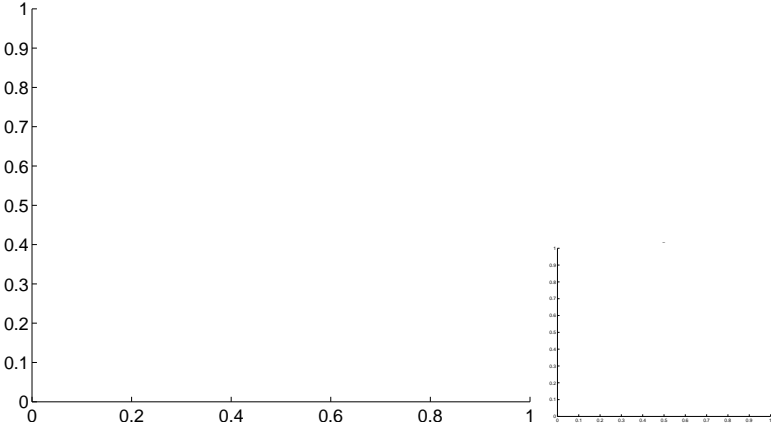
Q10 OOT image



Q11 no difference image



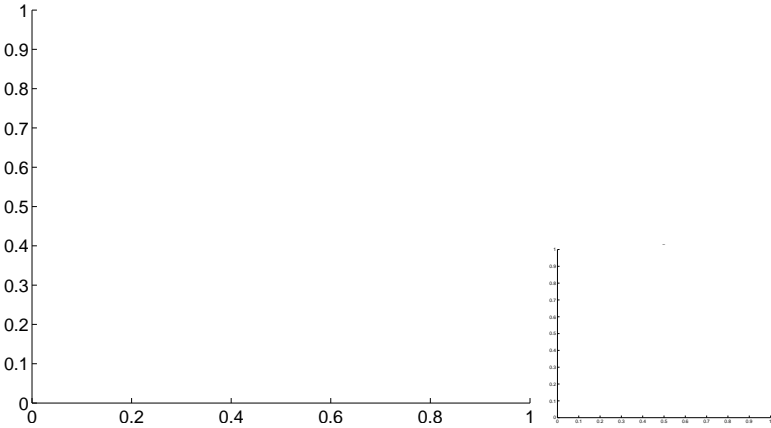
Q11 no OOT image



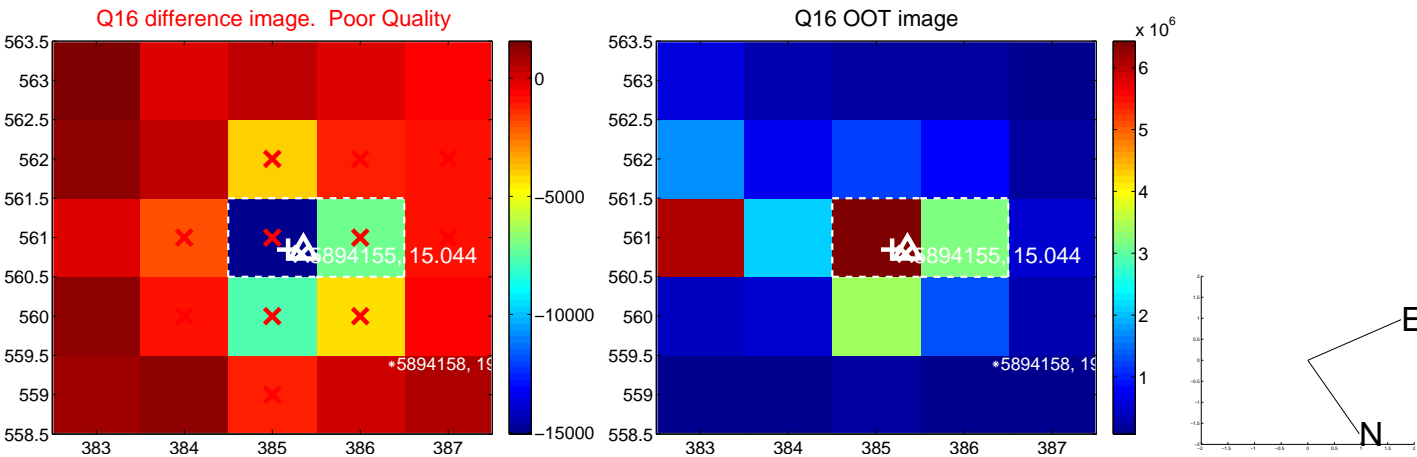
Q12 no difference image



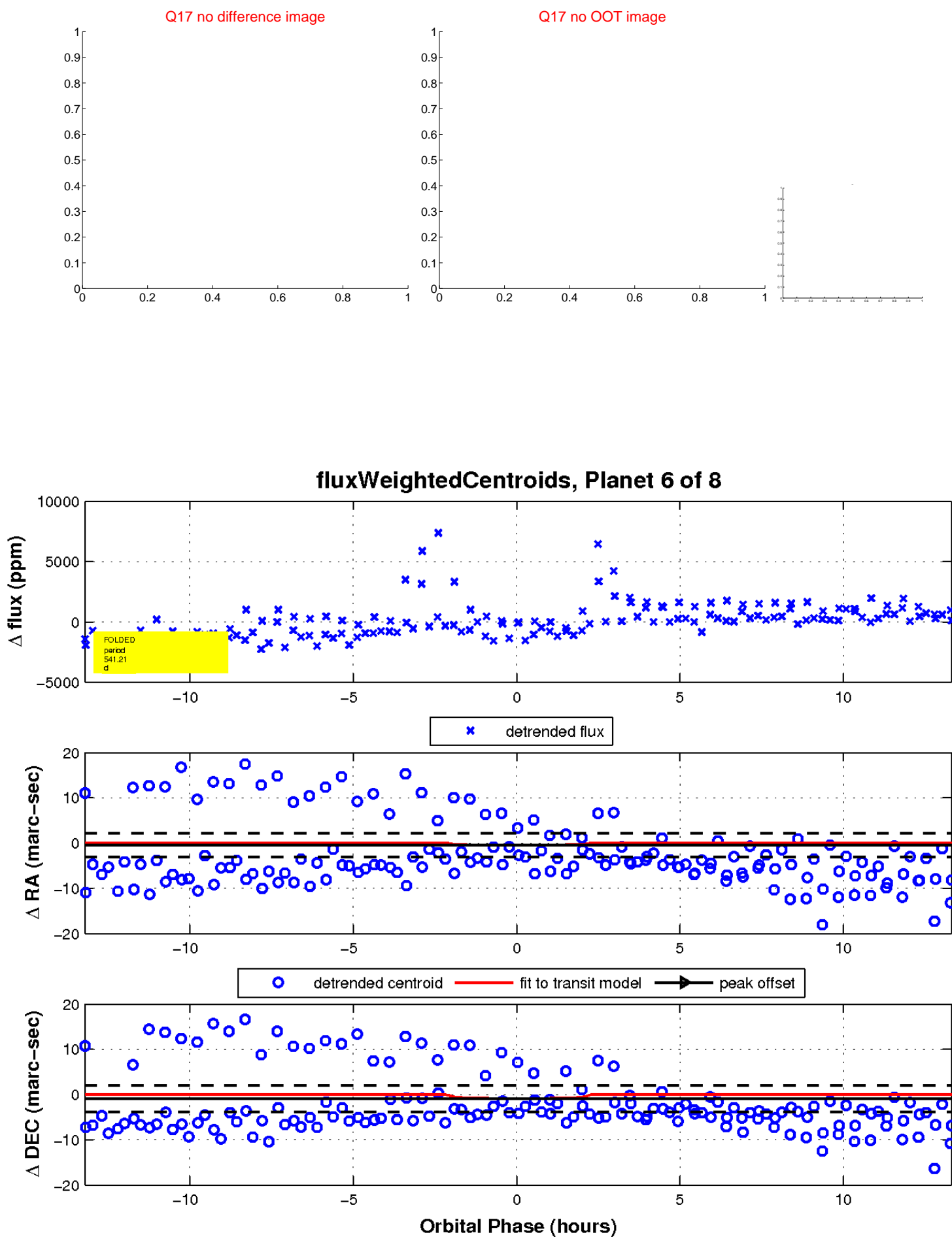
Q12 no OOT image



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

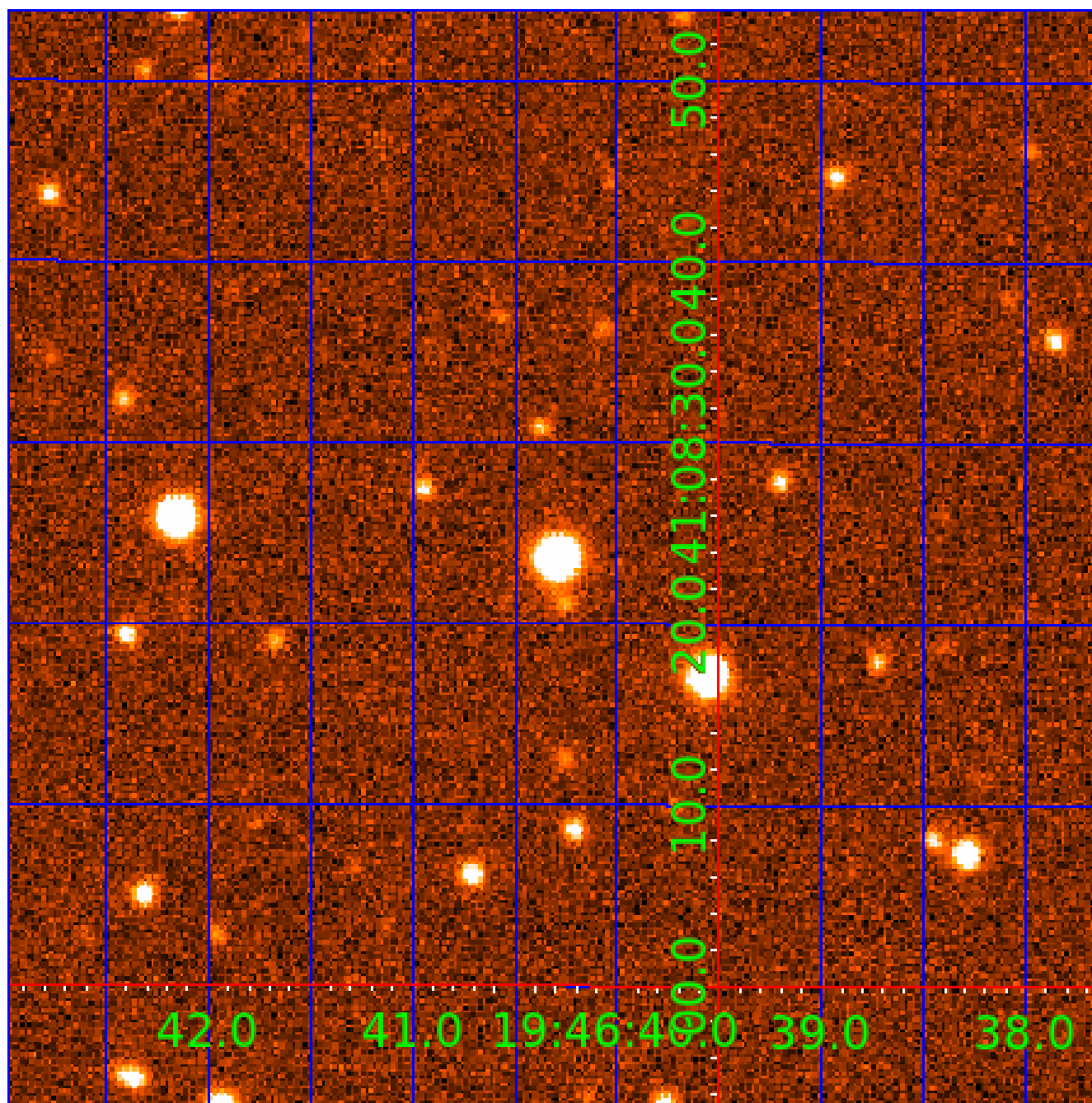


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005894155

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})
005894155-01	OBS	No	494.665076	335.878503	2667.4	5.752	15.4	10.2	0.49	4440	2.51	0.09
005894155-02	OBS	No	433.363936	357.977488	417.2	0.655	15.1	1.2	0.49	4440	1.24	0.11
005894155-04	OBS	No	433.381260	358.010522	1331.5	16.736	15.0	3.0	0.49	4440	2.05	0.11
005894155-05	OBS	No	356.150509	377.403959	1998.9	10.714	12.8	5.9	0.49	4440	2.20	0.14
005894155-06	OBS	No	541.209675	455.178397	1807.1	4.471	12.8	5.7	0.49	4440	2.10	0.08
005894155-07	OBS	No	371.746857	298.247796	2333.6	3.794	12.8	9.0	0.49	4440	2.35	0.13
005894155-08	OBS	No	382.908110	466.055958	2151.6	7.075	12.3	7.5	0.49	4440	2.69	0.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005894155-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
005894155-05	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
005894155-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005894155-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

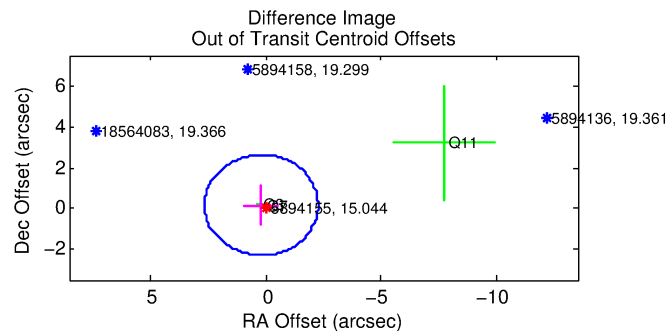
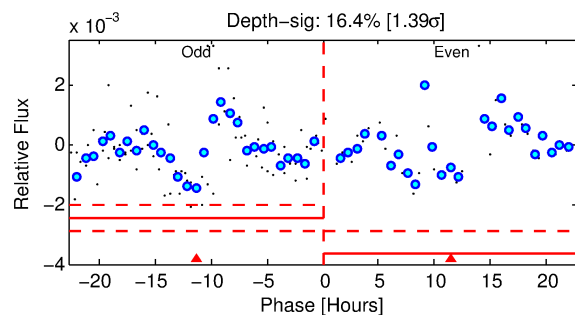
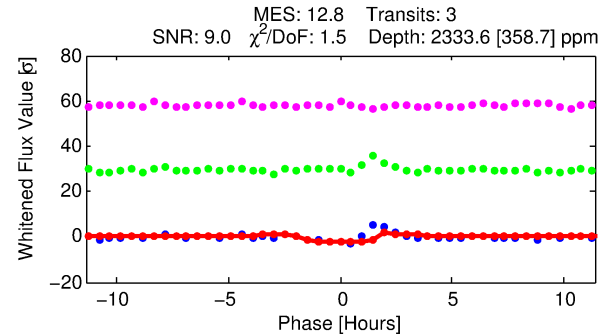
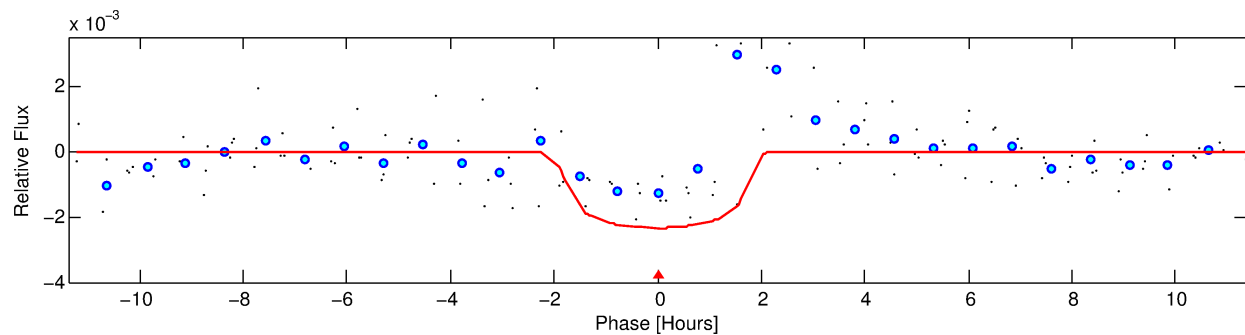
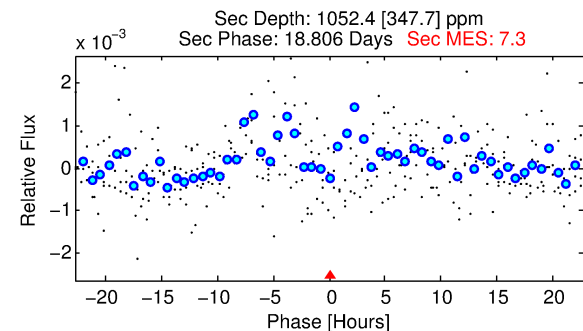
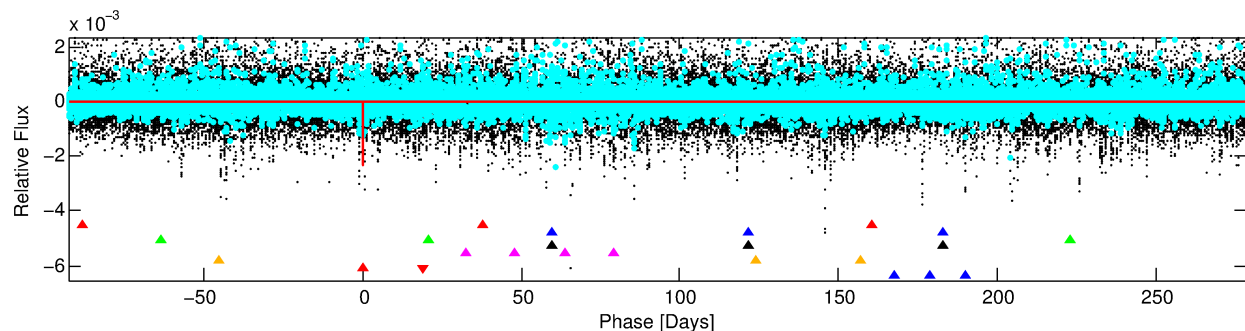
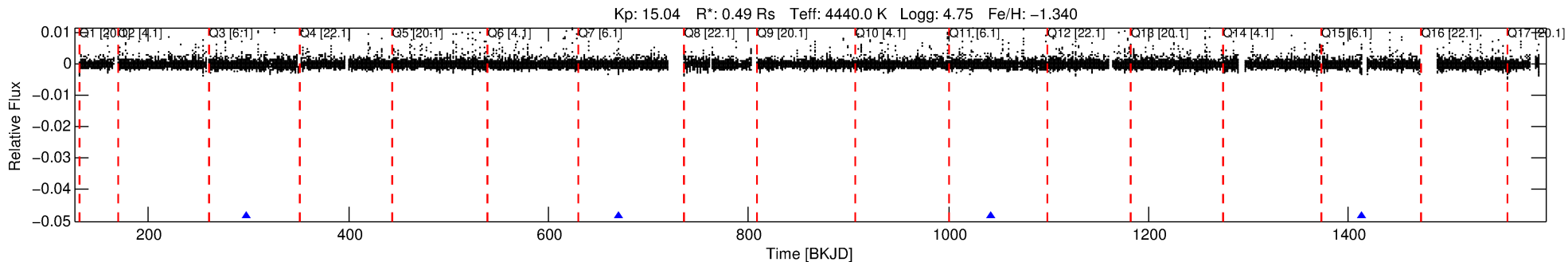
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005894155-07

No Significant Match Found

DV One-Page Summary

KIC: 5894155 Candidate: 7 of 8 Period: 371.747 d



DV Fit Results:

Period = 371.74686 [0.00530] d
Epoch = 298.2478 [0.0078] BKJD
Rp/R* = 0.0439 [0.0535]
a/R* = 770.68 [3870.86]
b = 0.17 [28.52]
Seff = 0.13 [0.02]
Teq = 153 [7] K
Rp = 2.36 [2.88] Re
a = 0.8038 [0.0634] AU
Ag = 67430.51 [166112.56] [0.41σ]
Teffp = 3818 [2353] K [1.56σ]

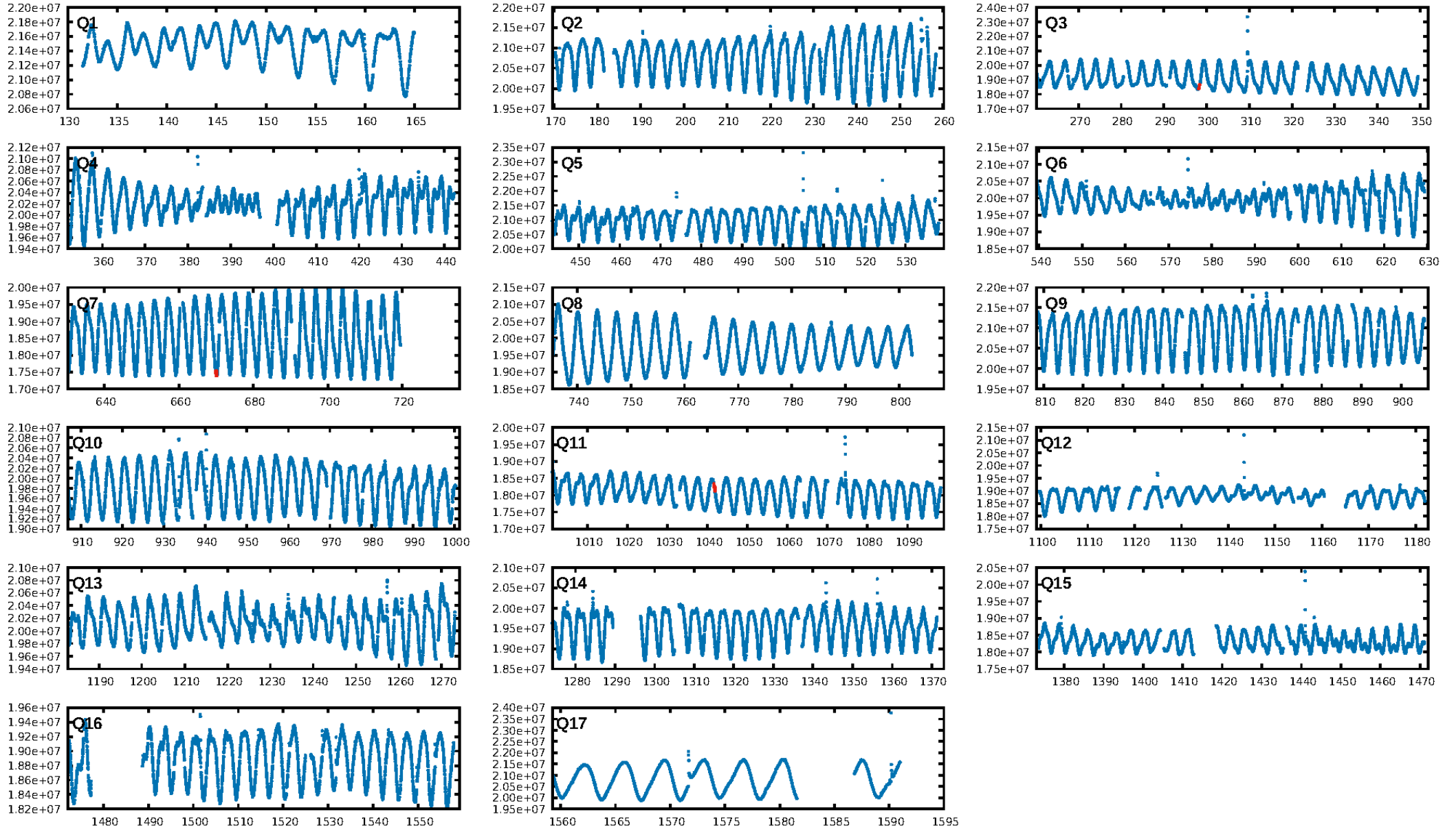
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [32.93σ]
LongPeriod-sig: 100.0% [33.37σ]
ModelChiSquare2-sig: 10.3%
ModelChiSquareGof-sig: 74.0%
Bootstrap-pfa: 2.52e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.1933
Centroid-sig: 48.0%
Centroid-so: 0.745 arcsec [1.06σ]
OotOffset-rm: 0.254 arcsec [0.31σ]
KicOffset-rm: 0.150 arcsec [0.09σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

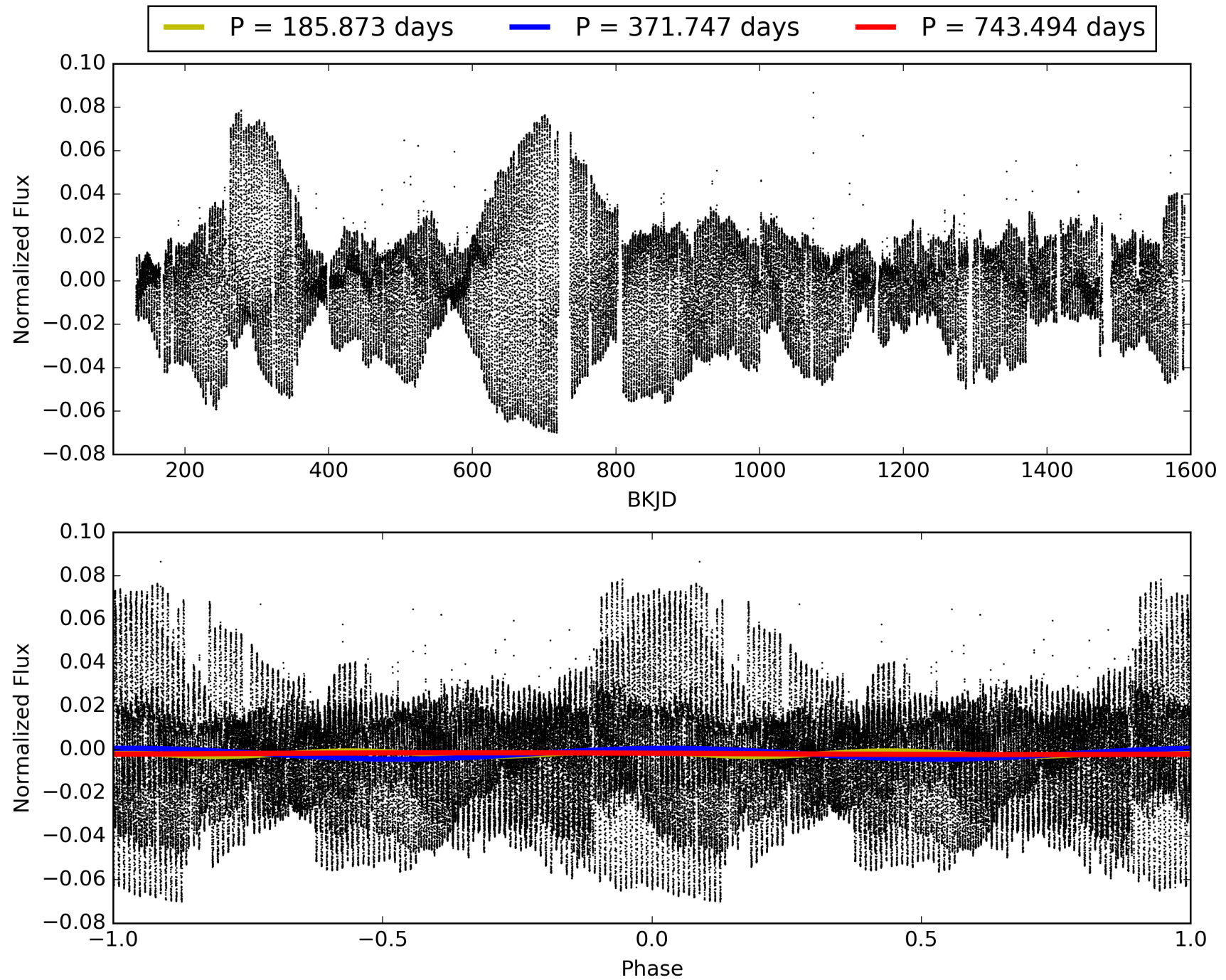
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:40:44 Z

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

TCE 005894155-07, PDC Light Curves

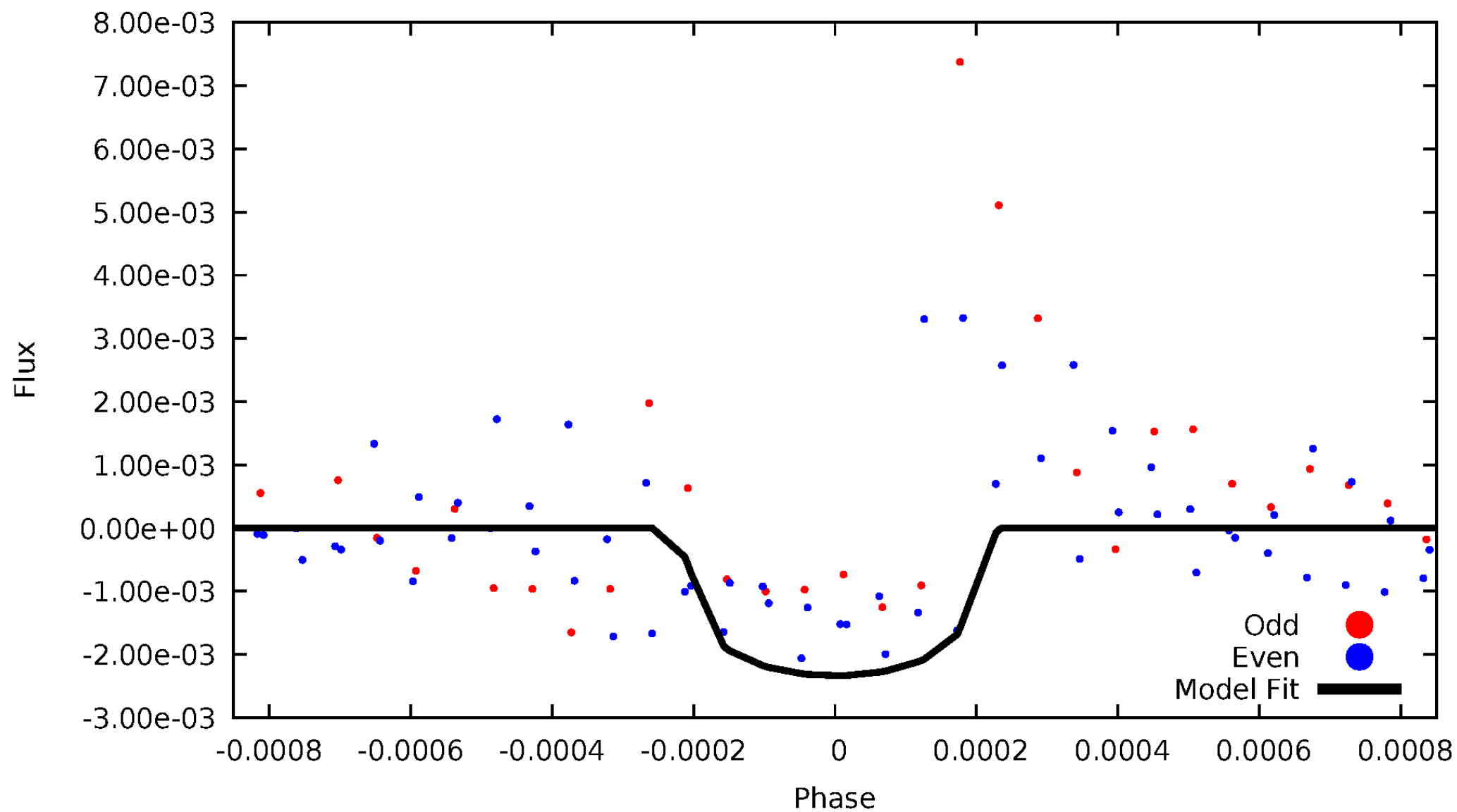


TCE 005894155-07



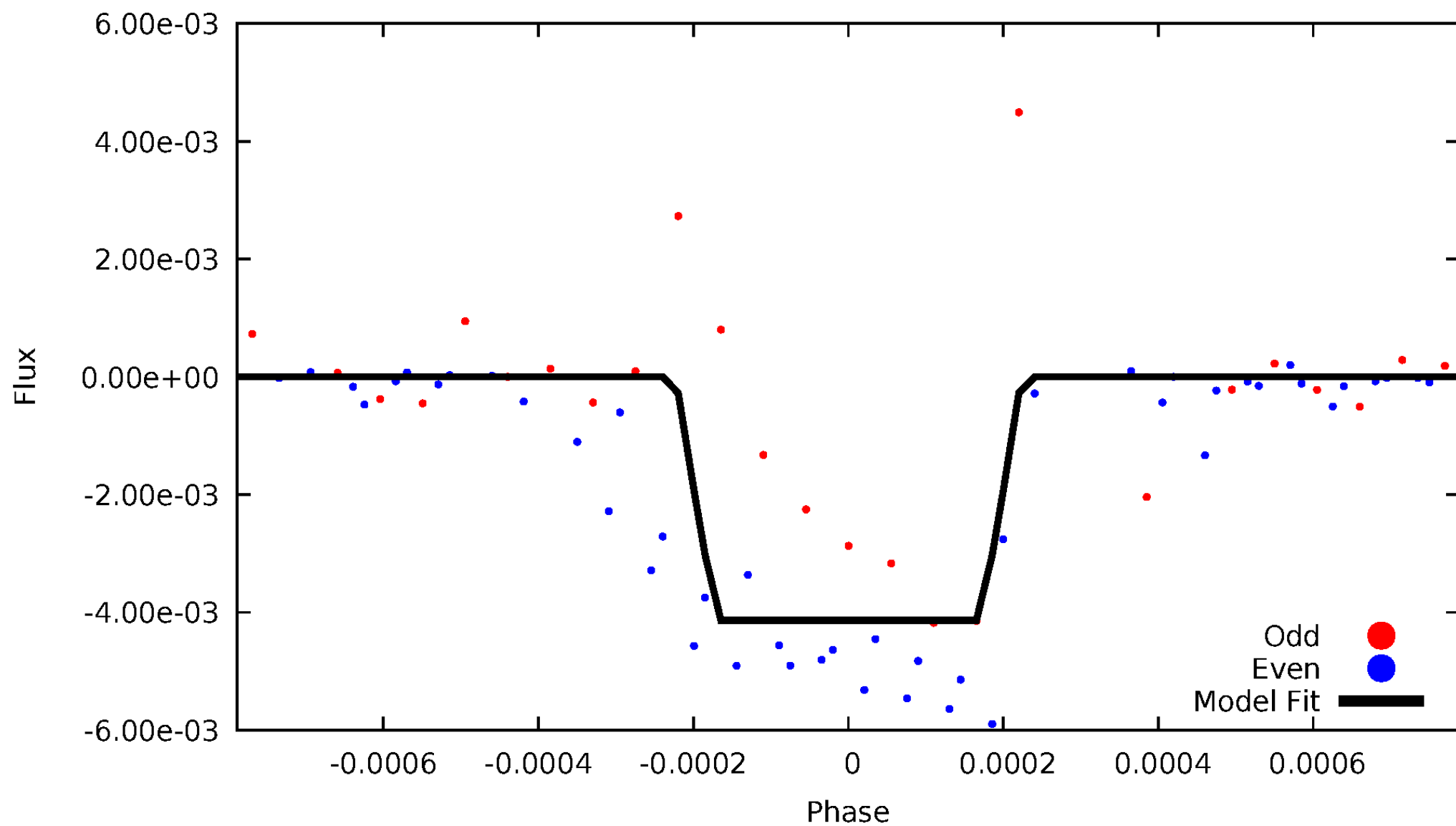
DV Odd/Even

TCE 005894155-07



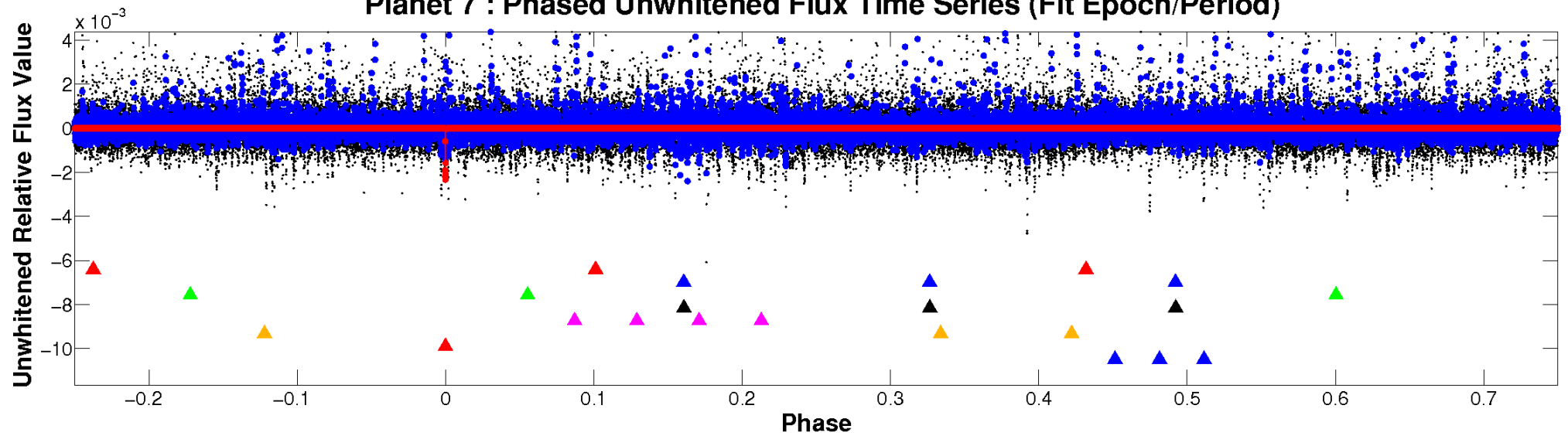
ALT Odd/Even

TCE 005894155-07

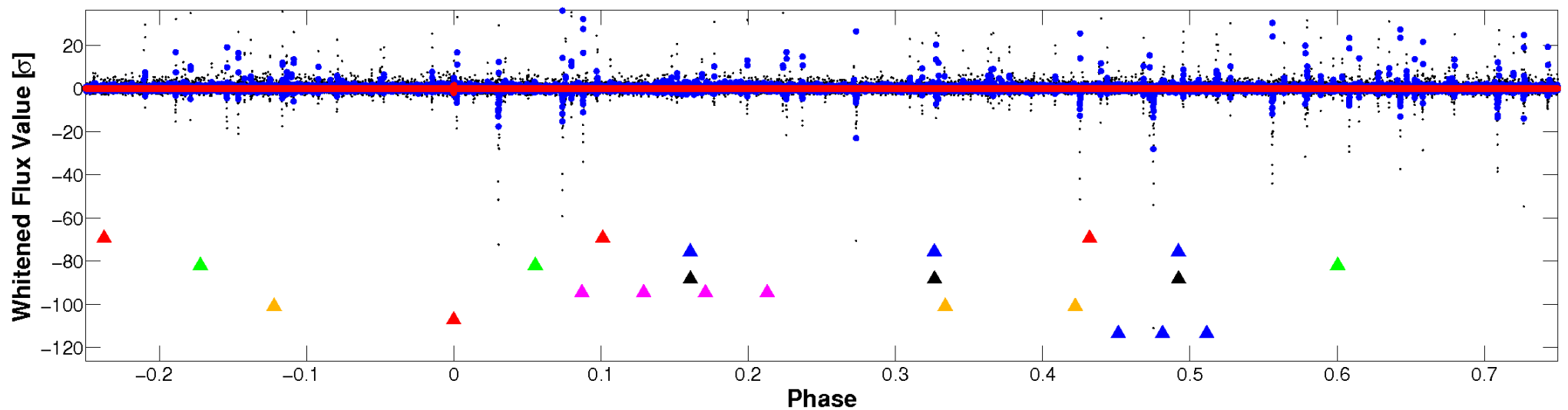


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

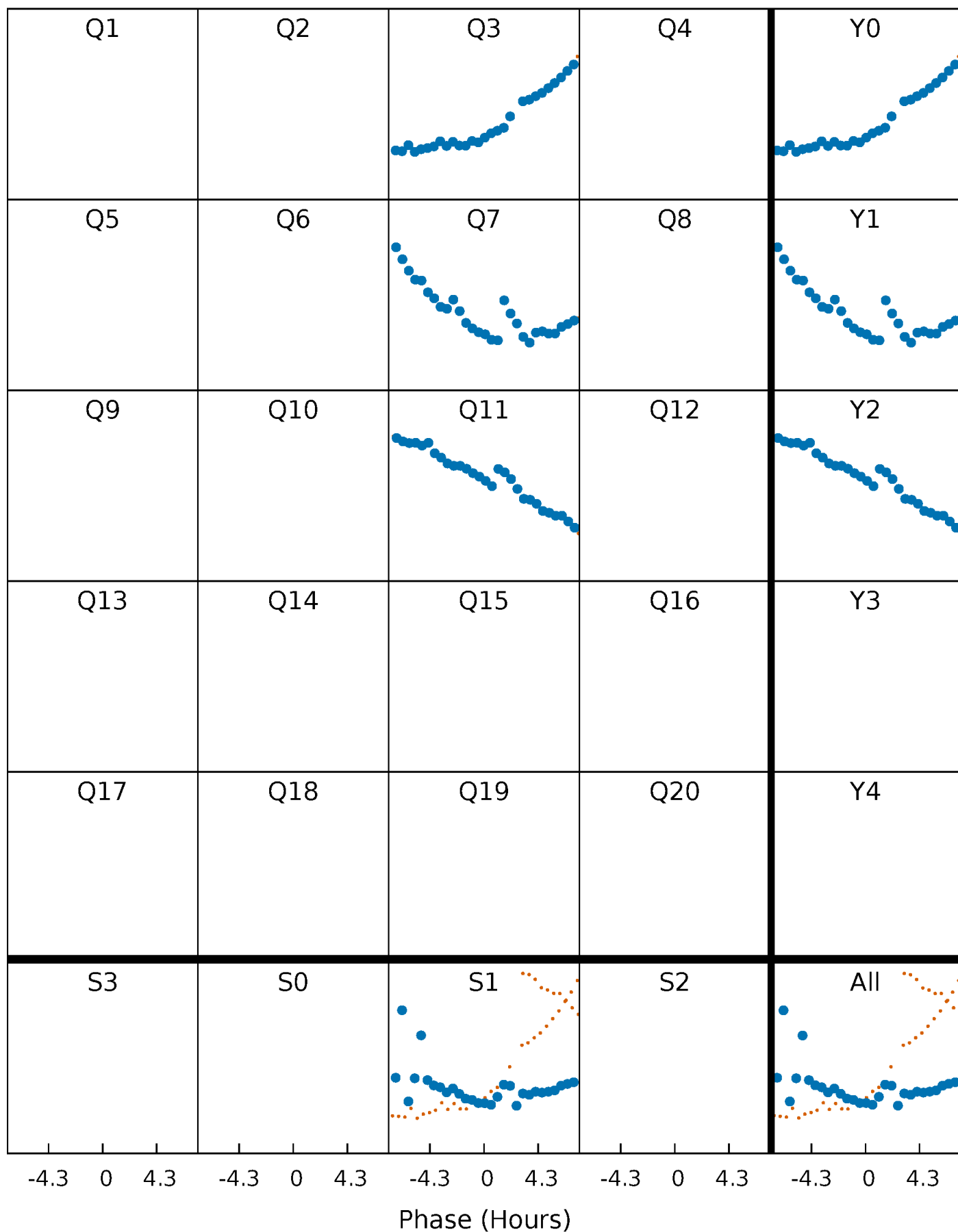


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



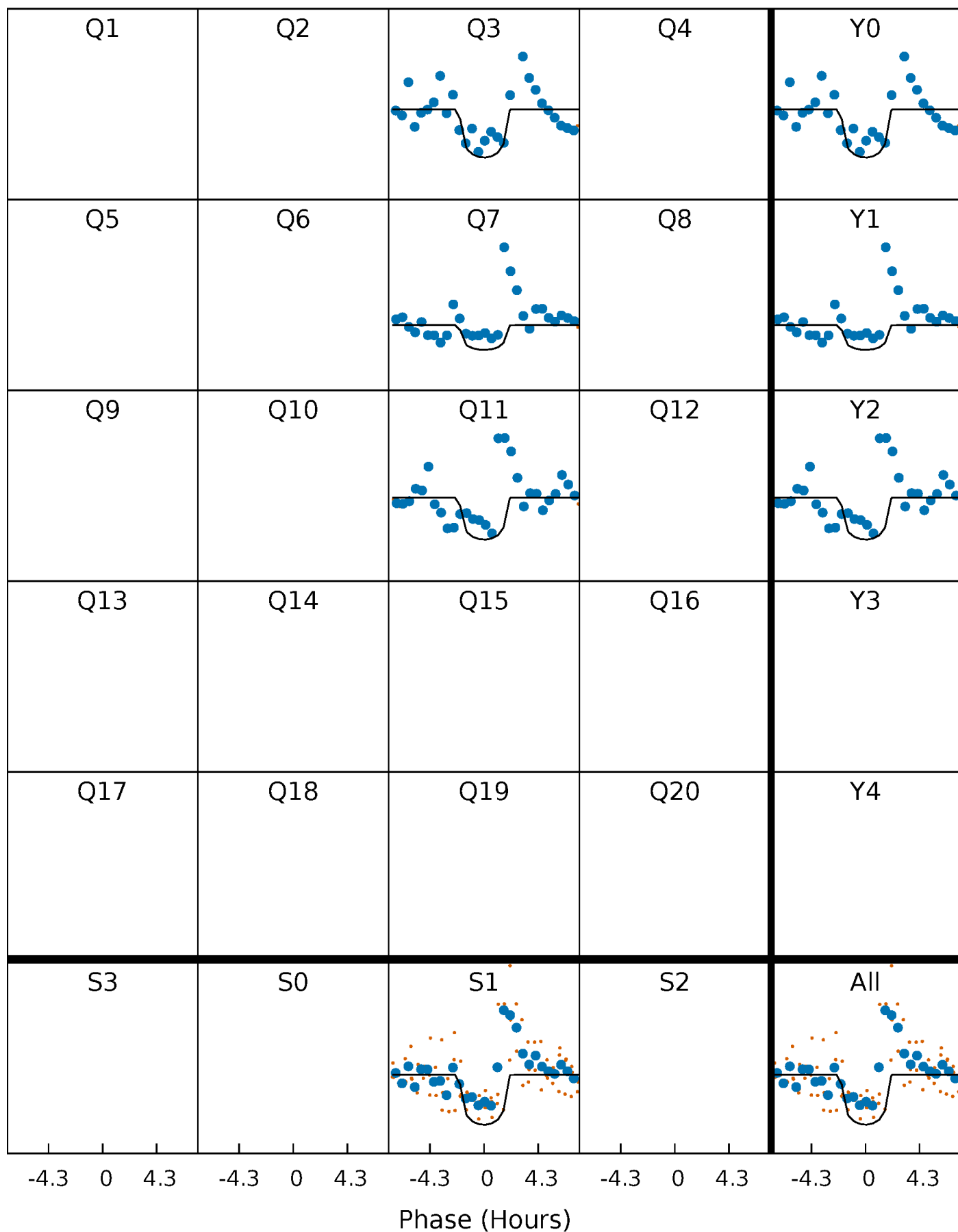
PDC Quarter-Phased Transit Curves

TCE 005894155-07 P=371.746857 Days $T_0=298.247796$ (BKJD)



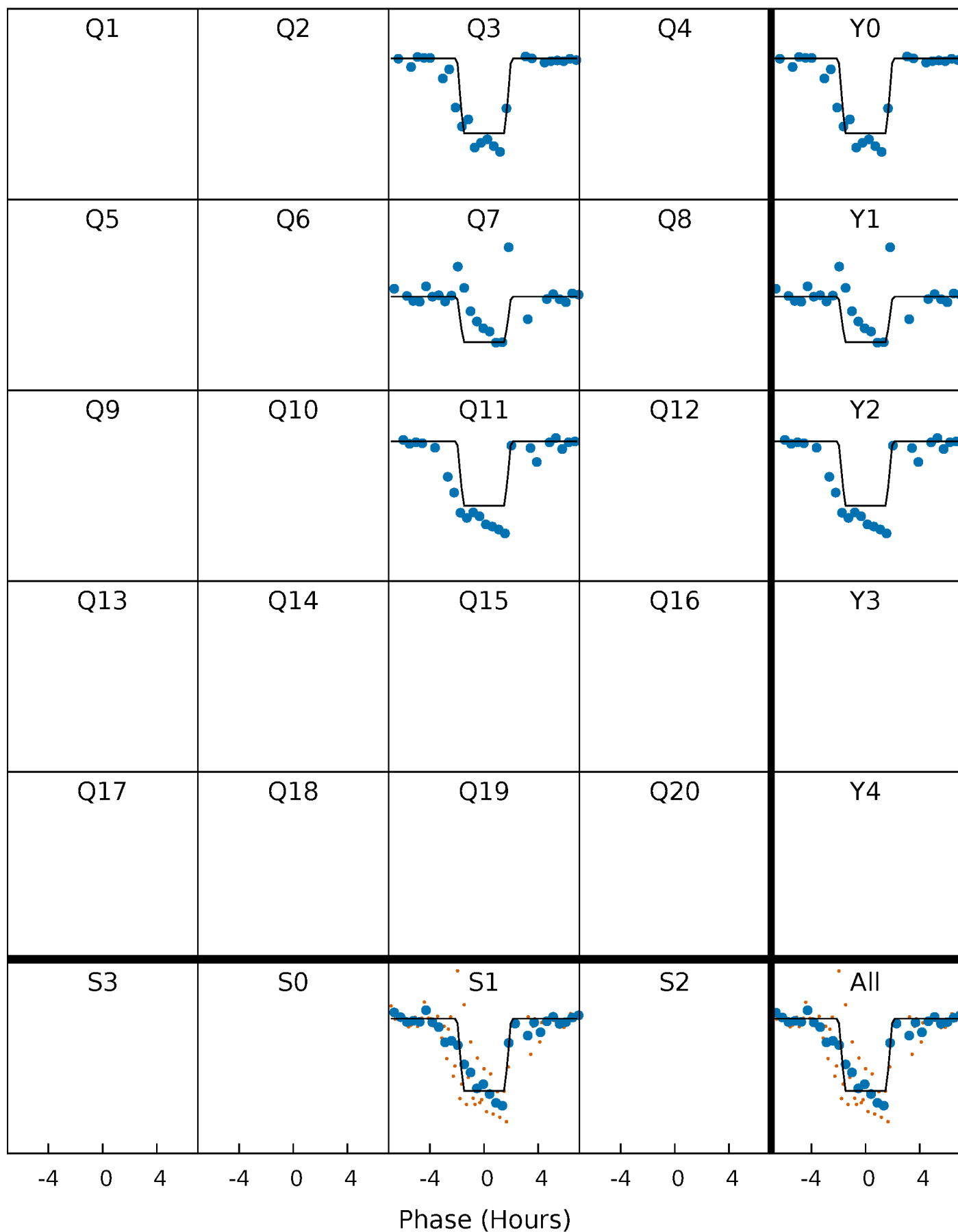
DV Quarter-Phased Transit Curves

TCE 005894155-07 P=371.746857 Days $T_0=298.247796$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

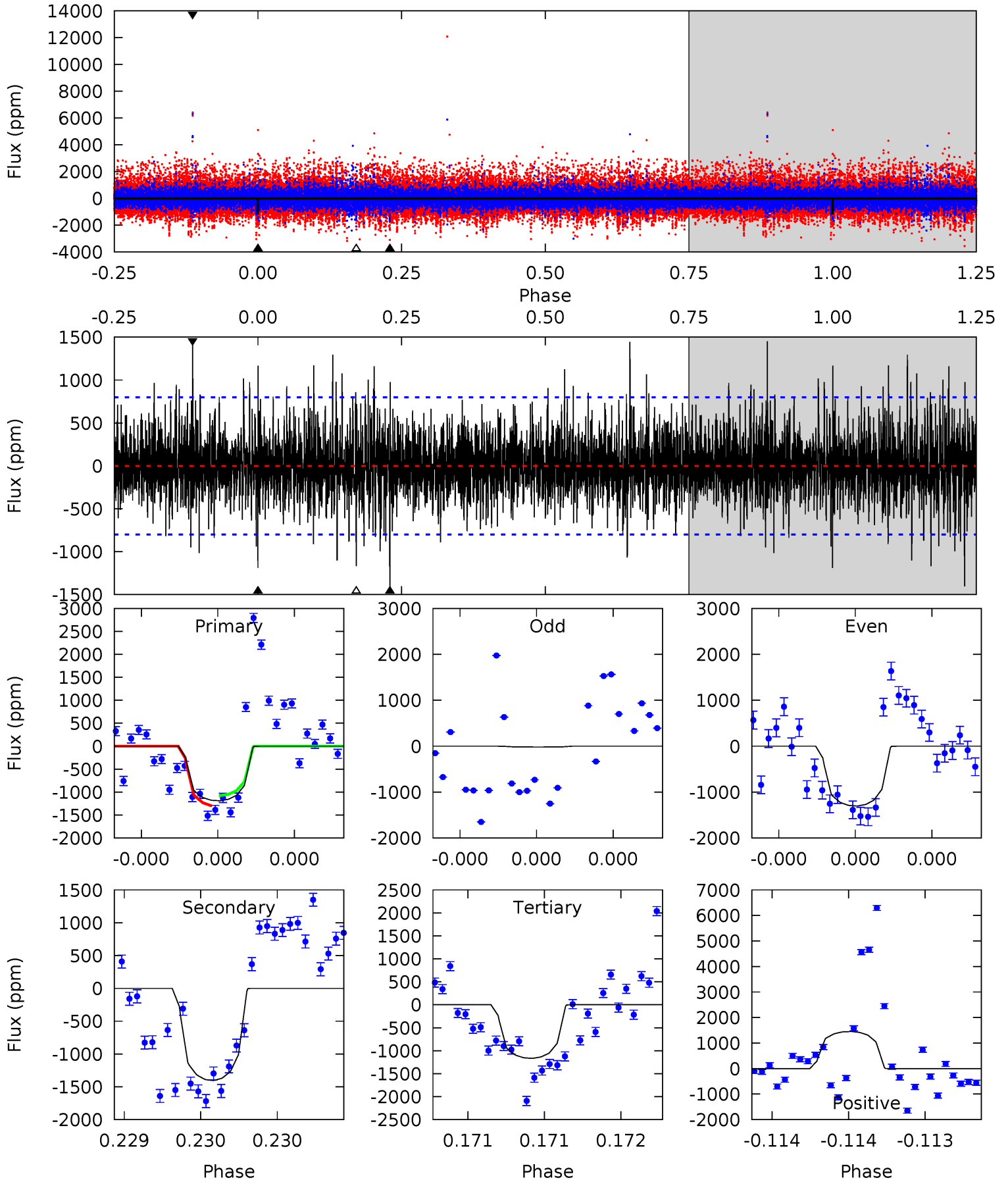
TCE 005894155-07 P=371.720512 Days $T_0=298.258034$ (BKJD)



DV Model-Shift Uniqueness Test

005894155-07, P = 371.746857 Days, E = 298.247796 Days

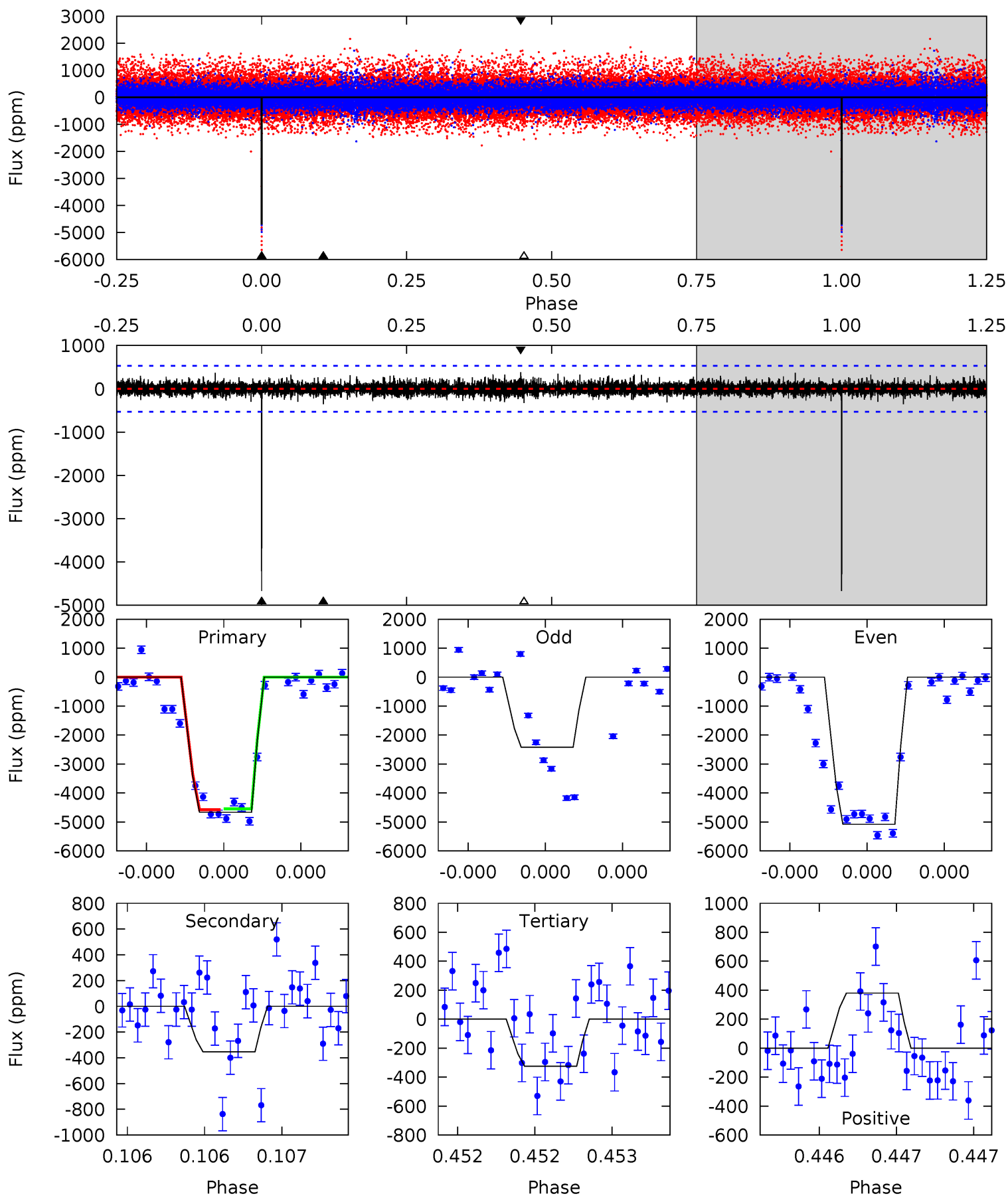
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.29	9.79	8.13	10.1	5.57	3.48	1.88	0.16	-1.83	1.66	-0.33	3.46	2.06	0.51	0.78



Alt Model-Shift Uniqueness Test

005894155-07, P = 371.720512 Days, E = 298.258034 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.1	3.72	3.42	4.00	5.59	3.50	0.80	45.6	45.1	0.30	-0.28	14.5	0.90	0.08	0.15



Stellar Parameters For KIC 005894155

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4440^{+135}_{-162}	$4.754^{+0.063}_{-0.032}$	$-1.340^{+0.300}_{-0.300}$	$0.492^{+0.031}_{-0.046}$	$0.500^{+0.034}_{-0.034}$	$5.932^{+1.606}_{-0.718}$
	+3%/-4%	+1%/-1%	+22%/-22%	+6%/-9%	+7%/-7%	+27%/-12%
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 005894155-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1404 ± 143	$3.02^{+2.76}_{-1.97}$	213^{+8}_{-8}	3821^{+1979}_{-711}	$54757^{+411286}_{-39654}$
Alt.	-354 ± 95	$3.73^{+2.79}_{-2.19}$	213^{+7}_{-9}	2883^{+867}_{-406}	8587^{+42492}_{-5836}

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

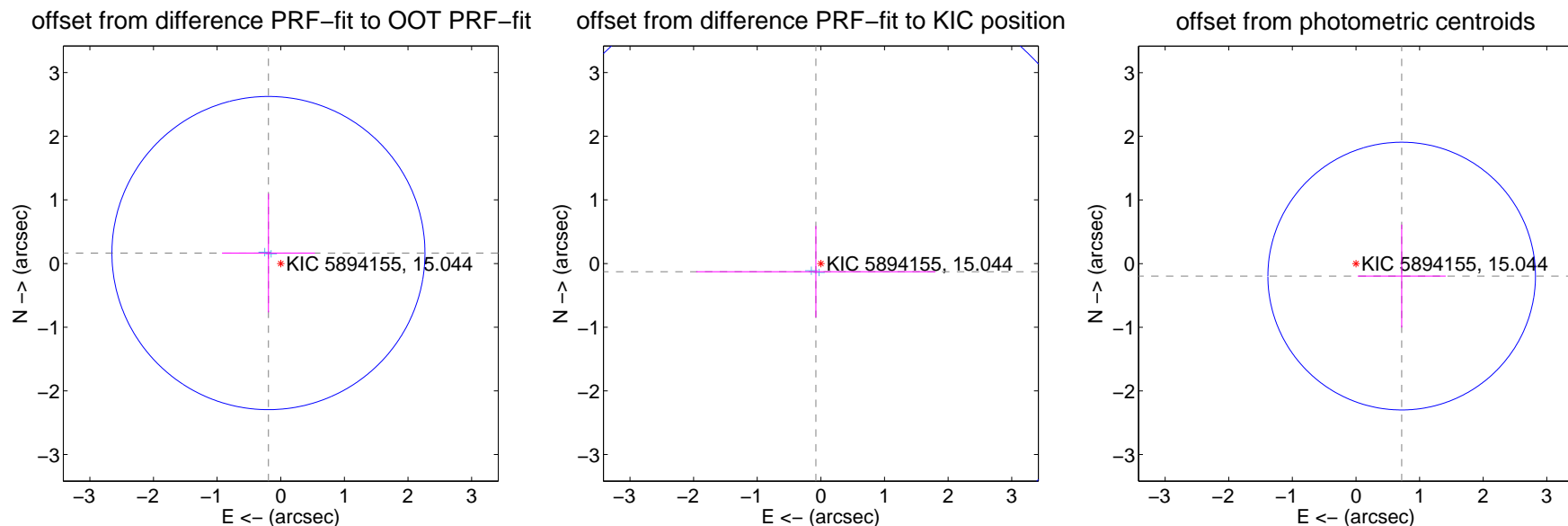
DV Centroid Data

Supplemental centroid analysis for 005894155-07. Kepler magnitude: 15.04. Transit SNR 8.97

There are 2 quarters with good PRF difference image offsets

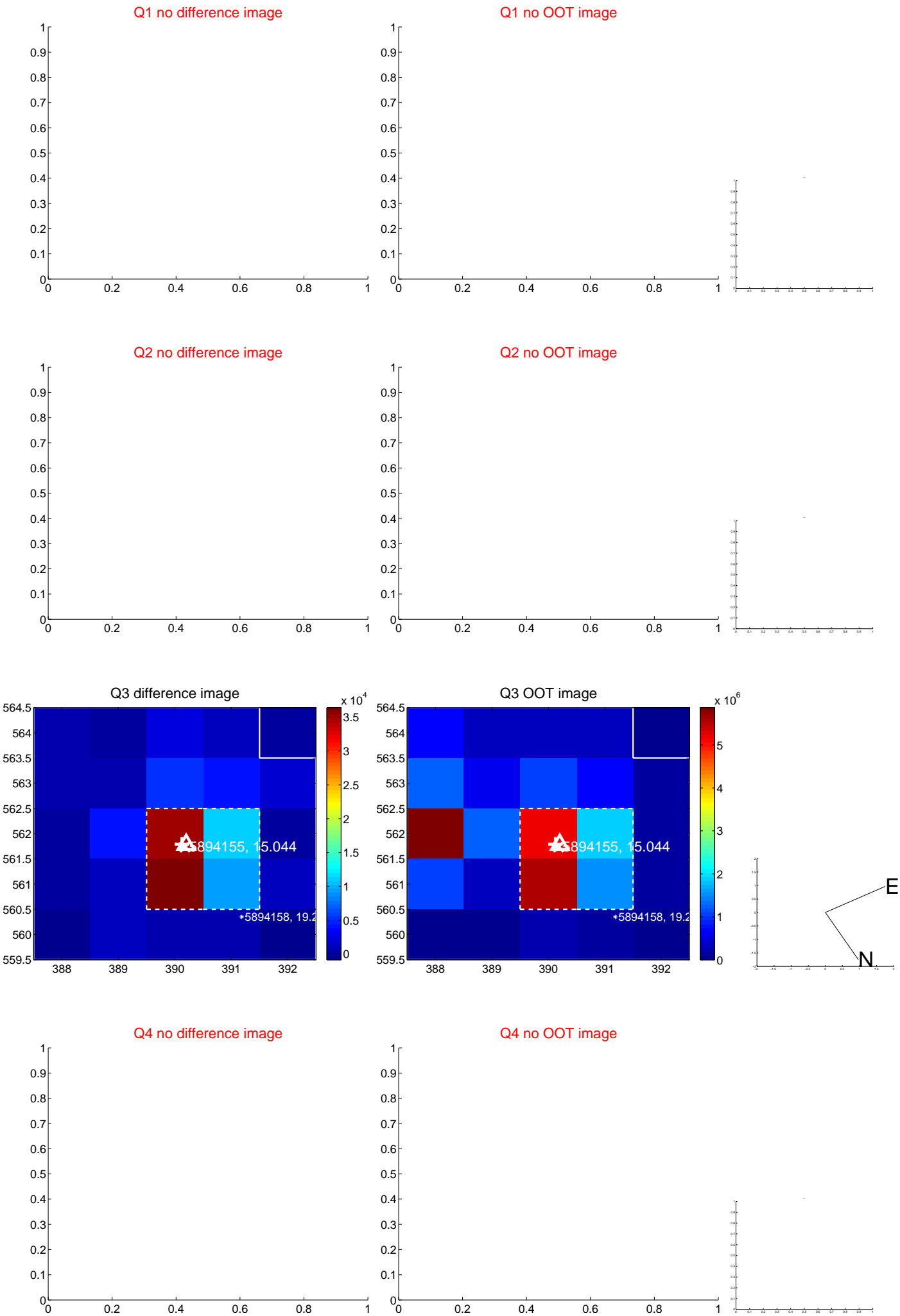
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.254 ± 0.820	0.31	0.194 ± 0.730	0.165 ± 0.931
PRF-fit source offset from KIC position	0.150 ± 1.595	0.09	0.079 ± 1.881	-0.128 ± 0.718
photometric centroid source offset	0.75 ± 0.70	1.06	-0.72 ± 0.69	-0.20 ± 0.81



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

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



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

Q5 no difference image



Q5 no OOT image



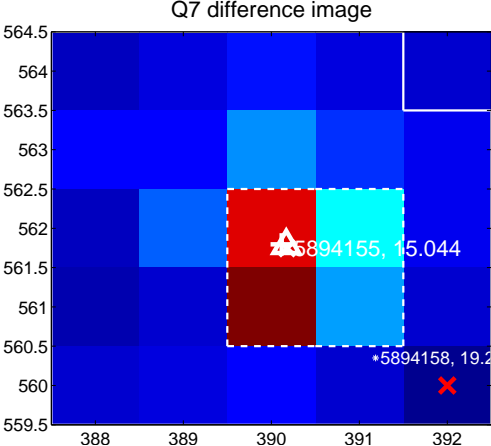
Q6 no difference image



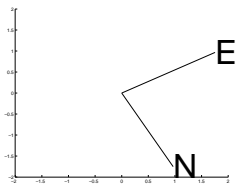
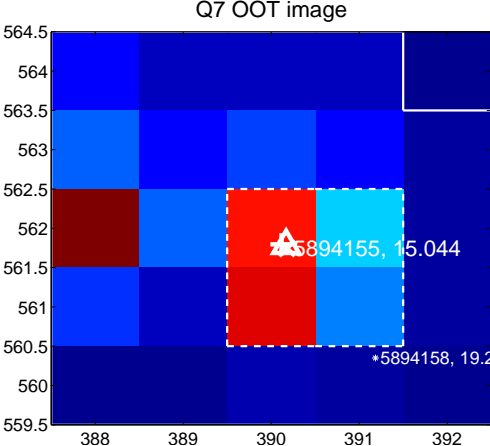
Q6 no OOT image



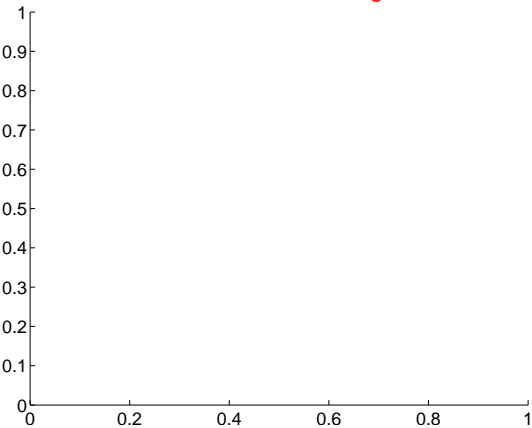
Q7 difference image



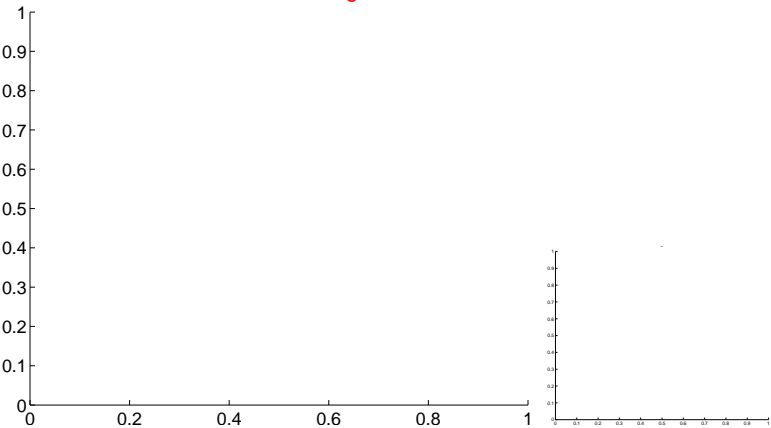
Q7 OOT image



Q8 no difference image



Q8 no OOT image



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

Q9 no difference image



Q9 no OOT image



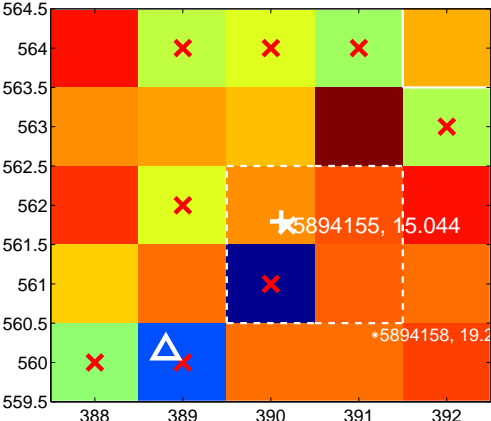
Q10 no difference image



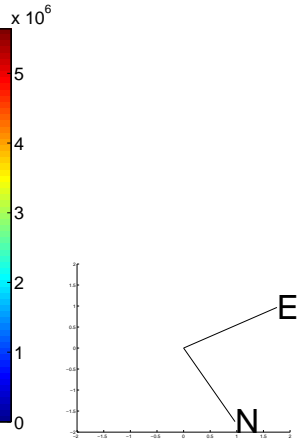
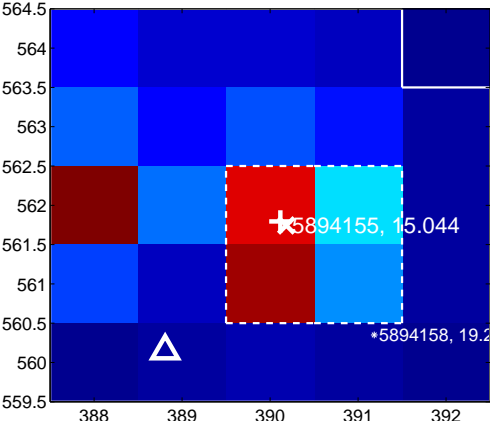
Q10 no OOT image



Q11 difference image. Poor Quality



Q11 OOT image



Q12 no difference image



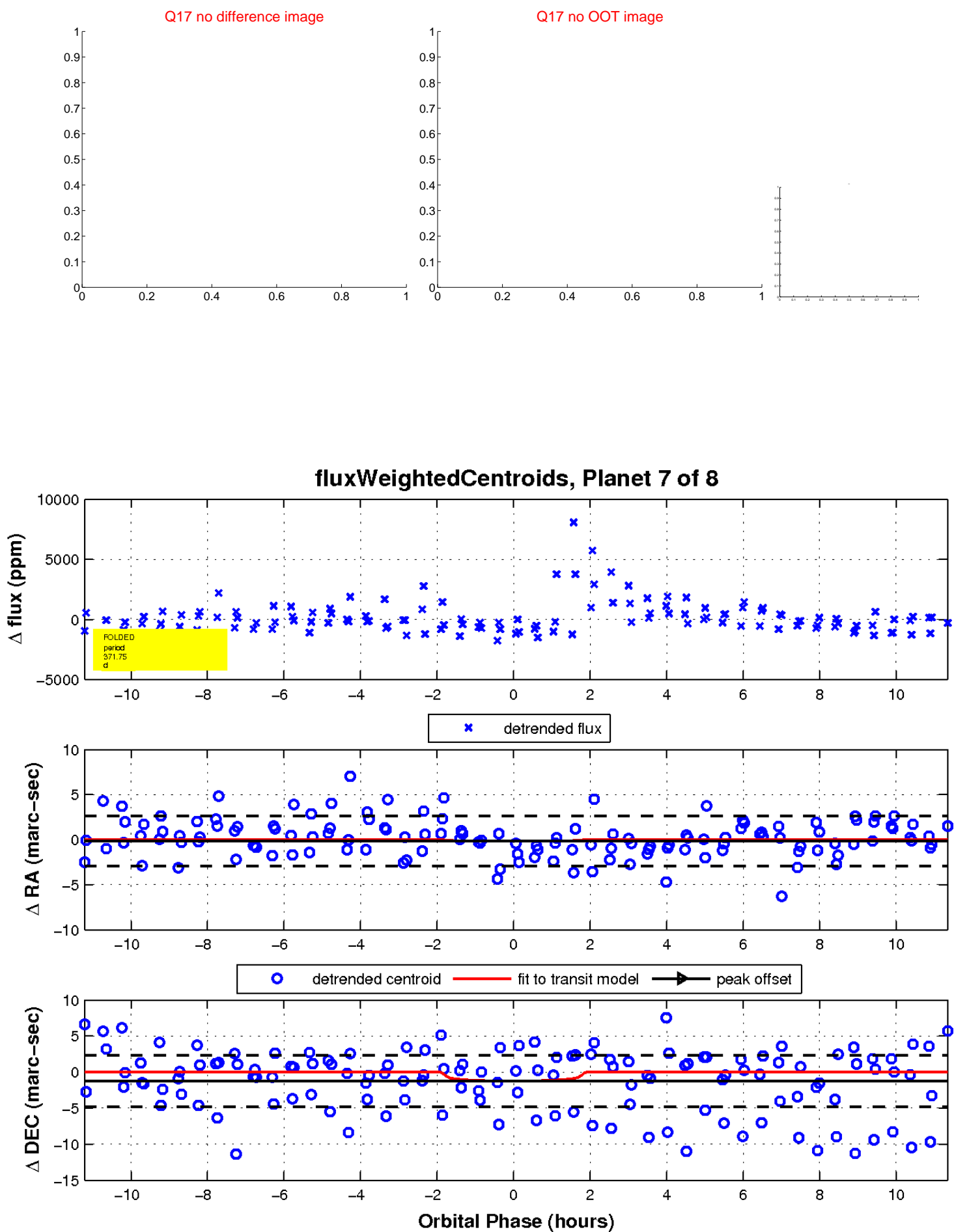
Q12 no OOT image



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

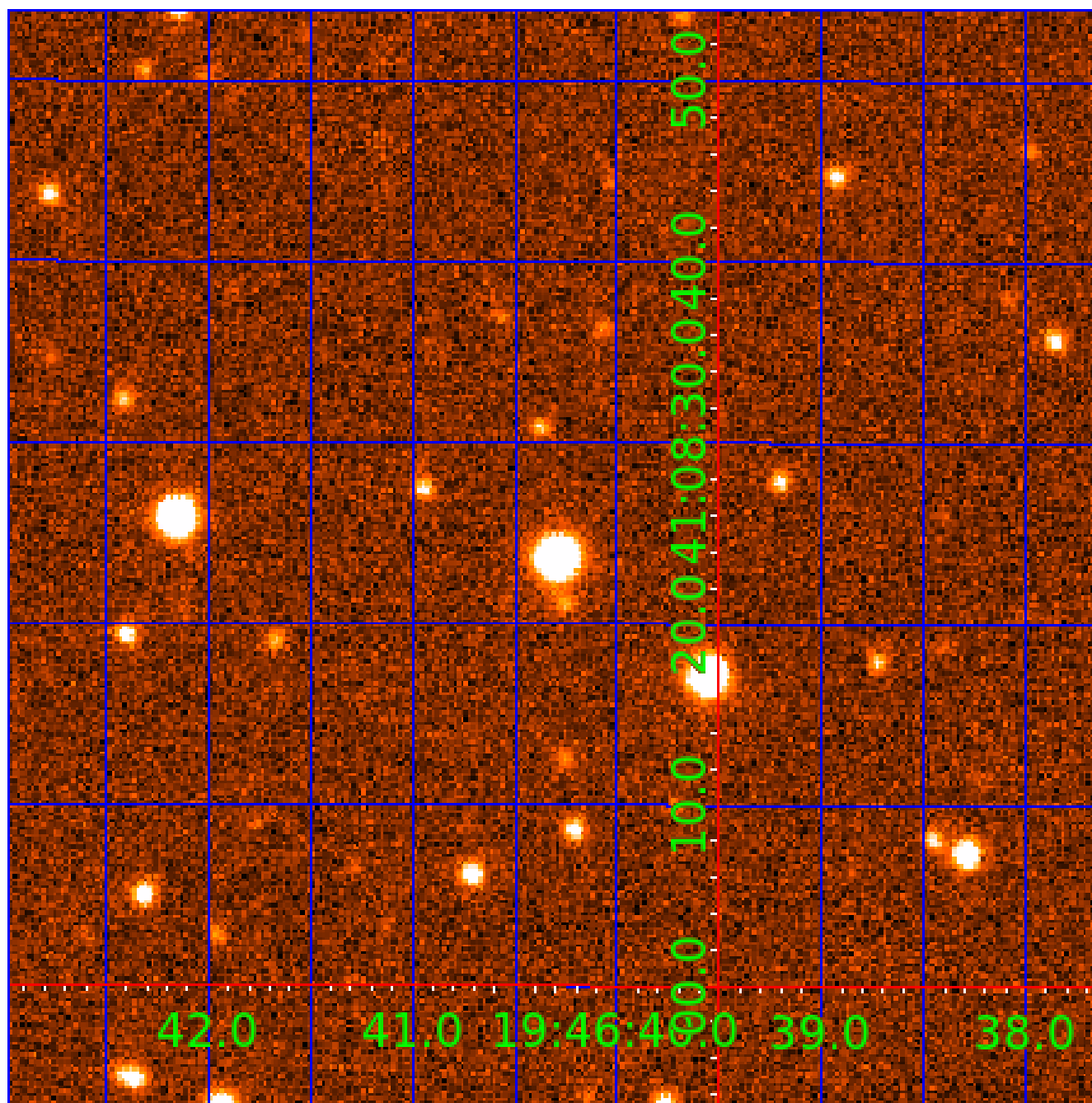


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005894155

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})
005894155-01	OBS	No	494.665076	335.878503	2667.4	5.752	15.4	10.2	0.49	4440	2.51	0.09
005894155-02	OBS	No	433.363936	357.977488	417.2	0.655	15.1	1.2	0.49	4440	1.24	0.11
005894155-04	OBS	No	433.381260	358.010522	1331.5	16.736	15.0	3.0	0.49	4440	2.05	0.11
005894155-05	OBS	No	356.150509	377.403959	1998.9	10.714	12.8	5.9	0.49	4440	2.20	0.14
005894155-06	OBS	No	541.209675	455.178397	1807.1	4.471	12.8	5.7	0.49	4440	2.10	0.08
005894155-07	OBS	No	371.746857	298.247796	2333.6	3.794	12.8	9.0	0.49	4440	2.35	0.13
005894155-08	OBS	No	382.908110	466.055958	2151.6	7.075	12.3	7.5	0.49	4440	2.69	0.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005894155-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
005894155-05	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
005894155-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005894155-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005894155-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

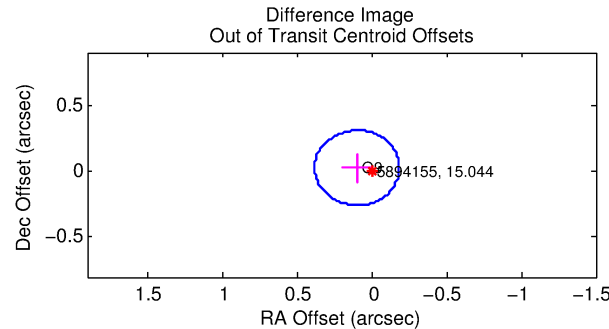
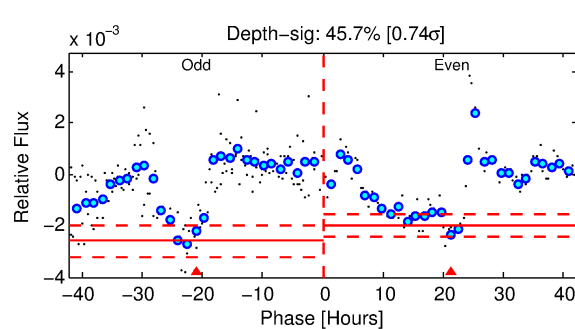
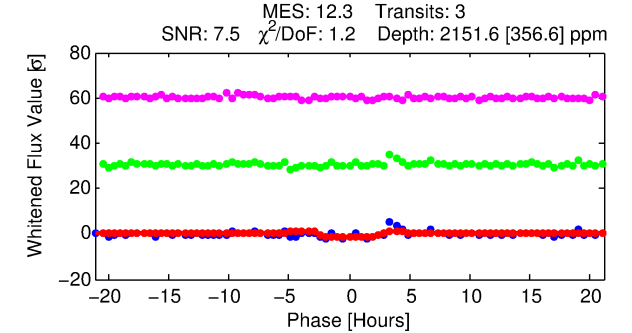
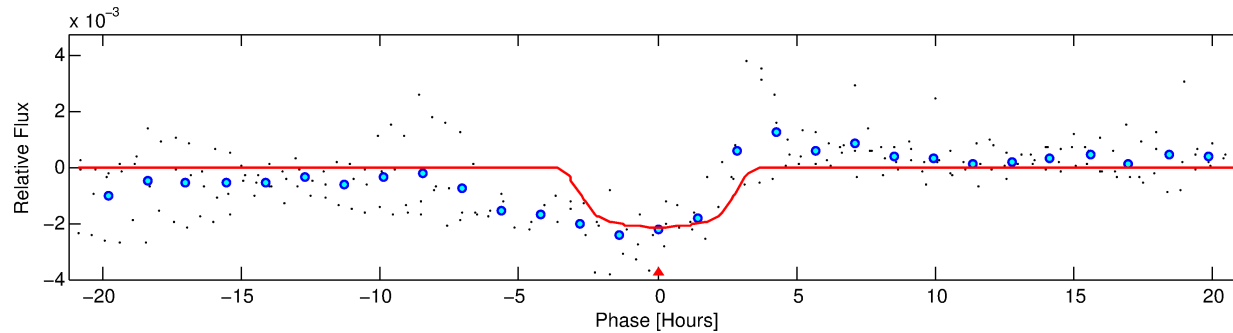
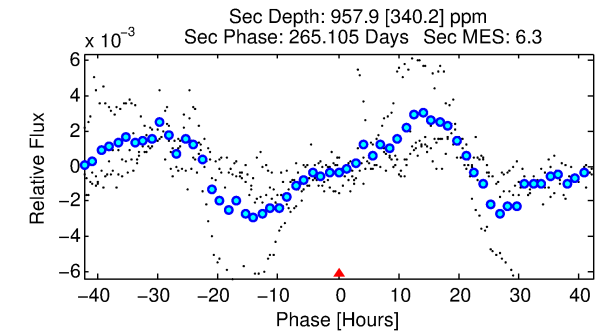
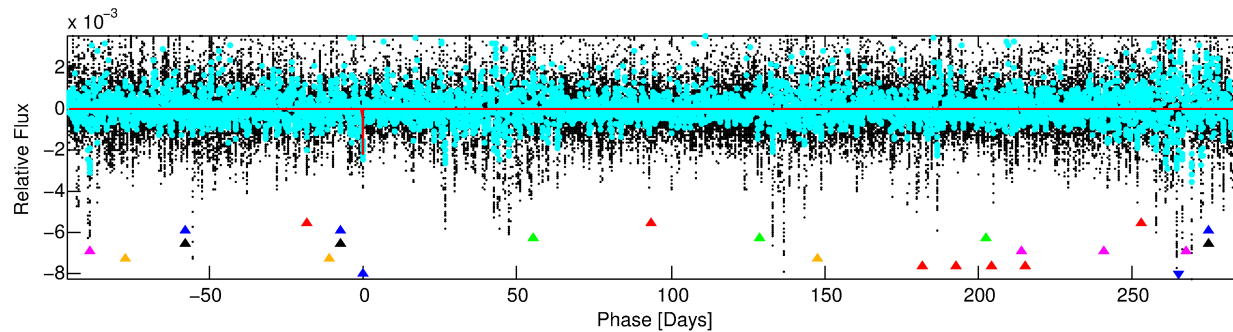
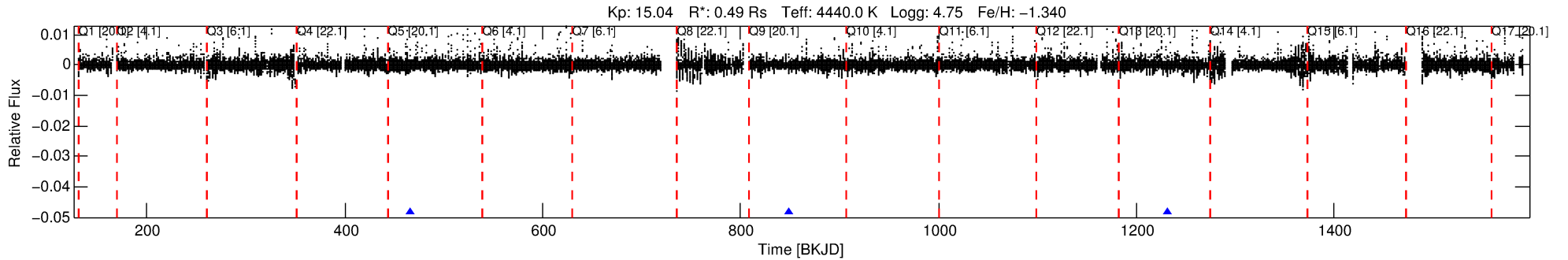
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005894155-08

No Significant Match Found

DV One-Page Summary

KIC: 5894155 Candidate: 8 of 8 Period: 382.908 d



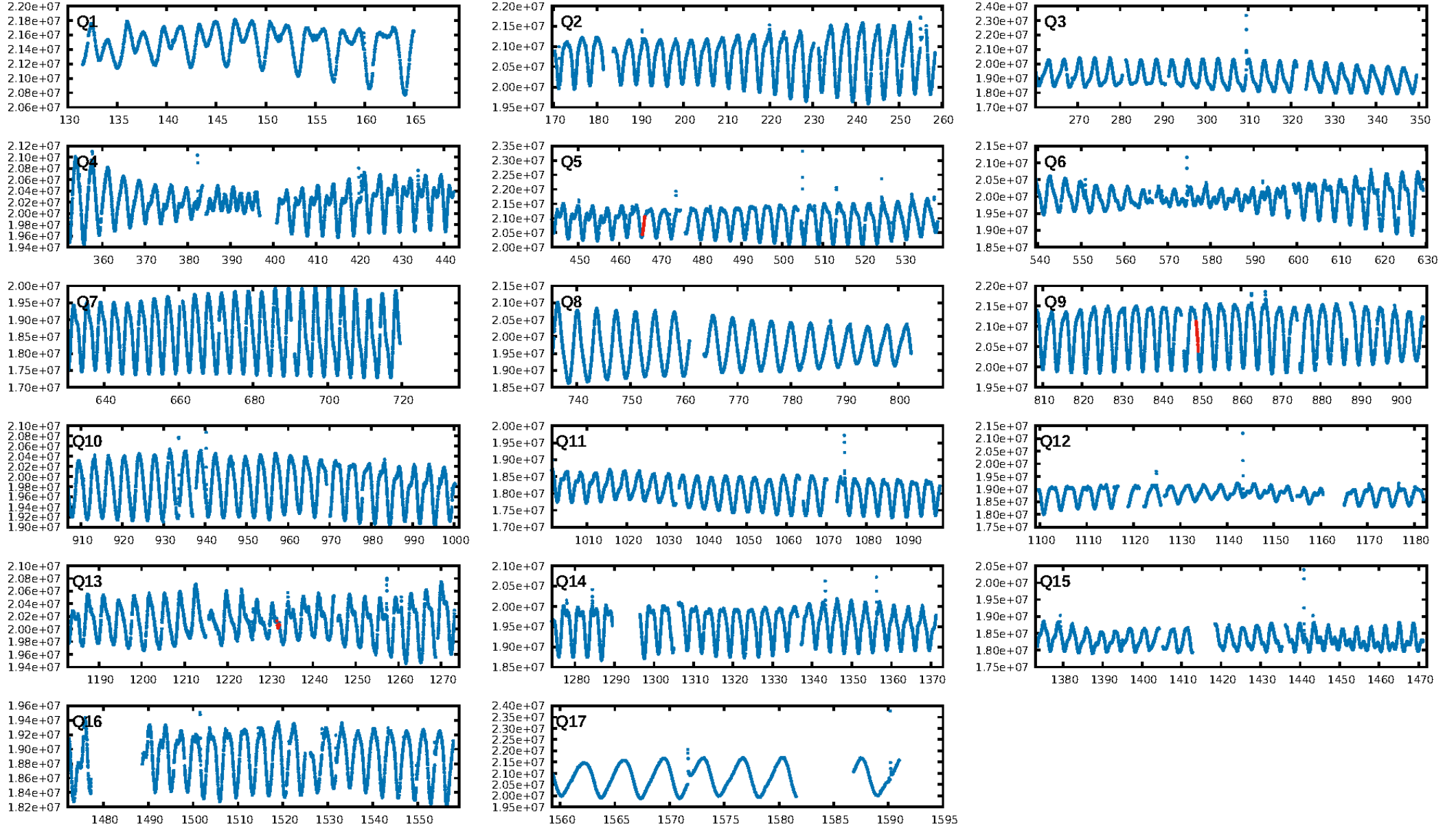
DV Fit Results:

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Epoch = 466.0560 [0.0096] BKJD
Rp/R* = 0.0501 [0.0054]
a/R* = 232.10 [52.37]
b = 0.89 [0.06]
Seff = 0.13 [0.02]
Teq = 152 [7] K
Rp = 2.69 [0.38] Re
a = 0.8199 [0.0647] AU
Ag = 48997.16 [21083.56] [2.32σ]
Teffp = 3490 [384] K [8.70σ]

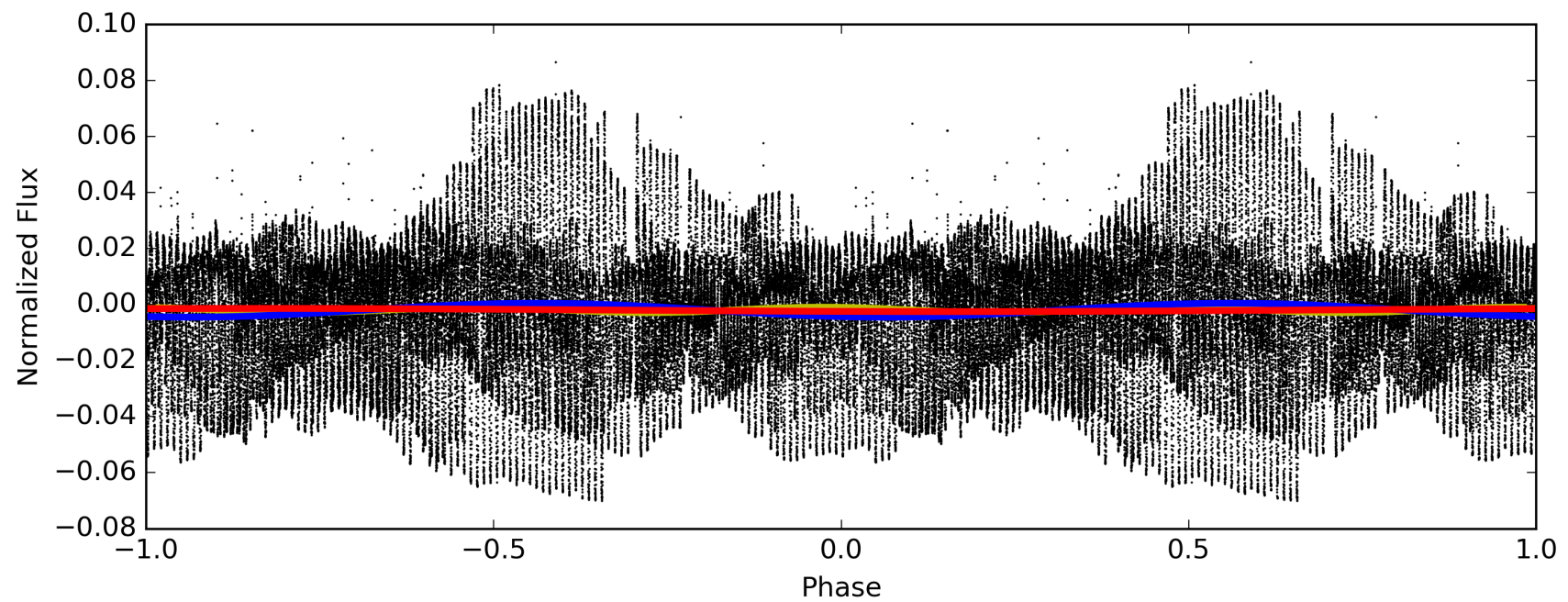
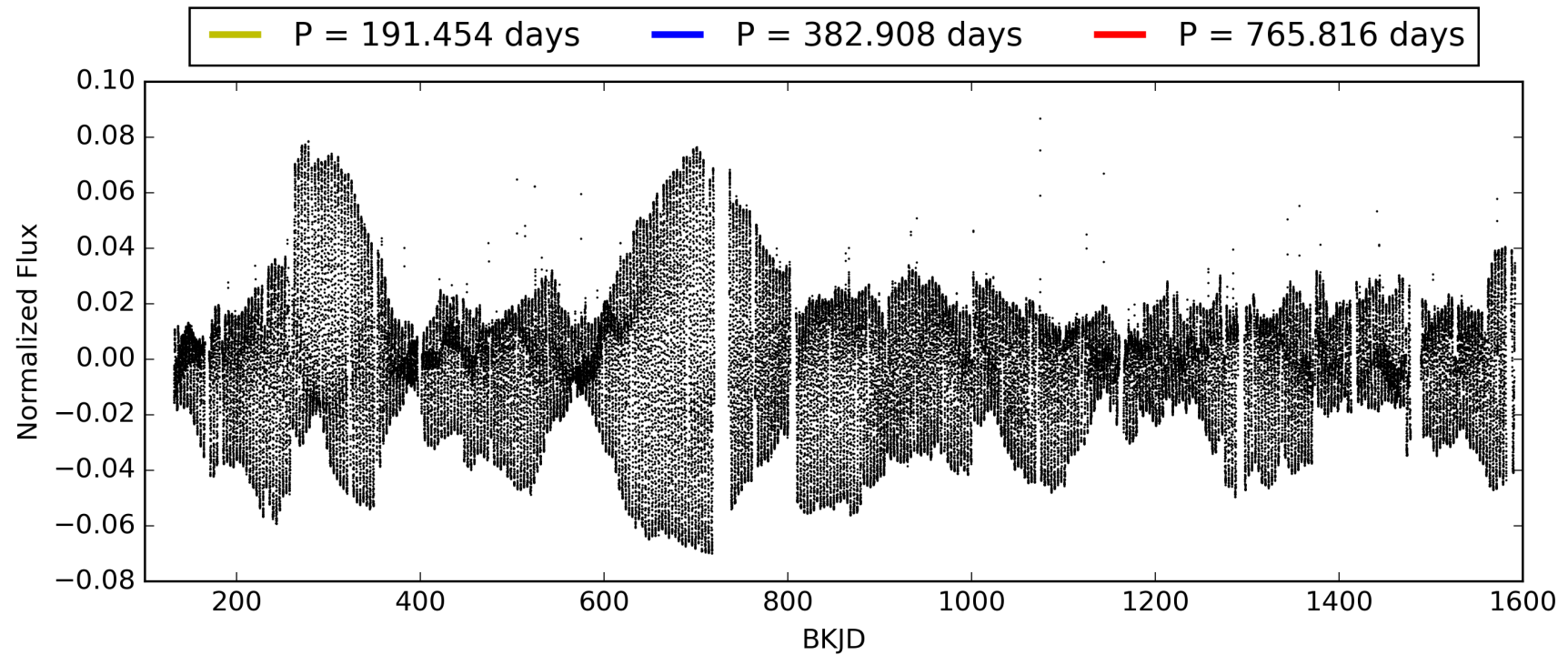
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [33.37σ]
LongPeriod-sig: 100.0% [170.44σ]
ModelChiSquare2-sig: 36.6%
ModelChiSquareGof-sig: 85.9%
Bootstrap-pfa: 6.17e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.091
Centroid-sig: 7.5%
Centroid-so: 0.468 arcsec [0.52σ]
OotOffset-rm: 0.100 arcsec [1.06σ]
KicOffset-rm: 0.226 arcsec [2.15σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 005894155-08, PDC Light Curves

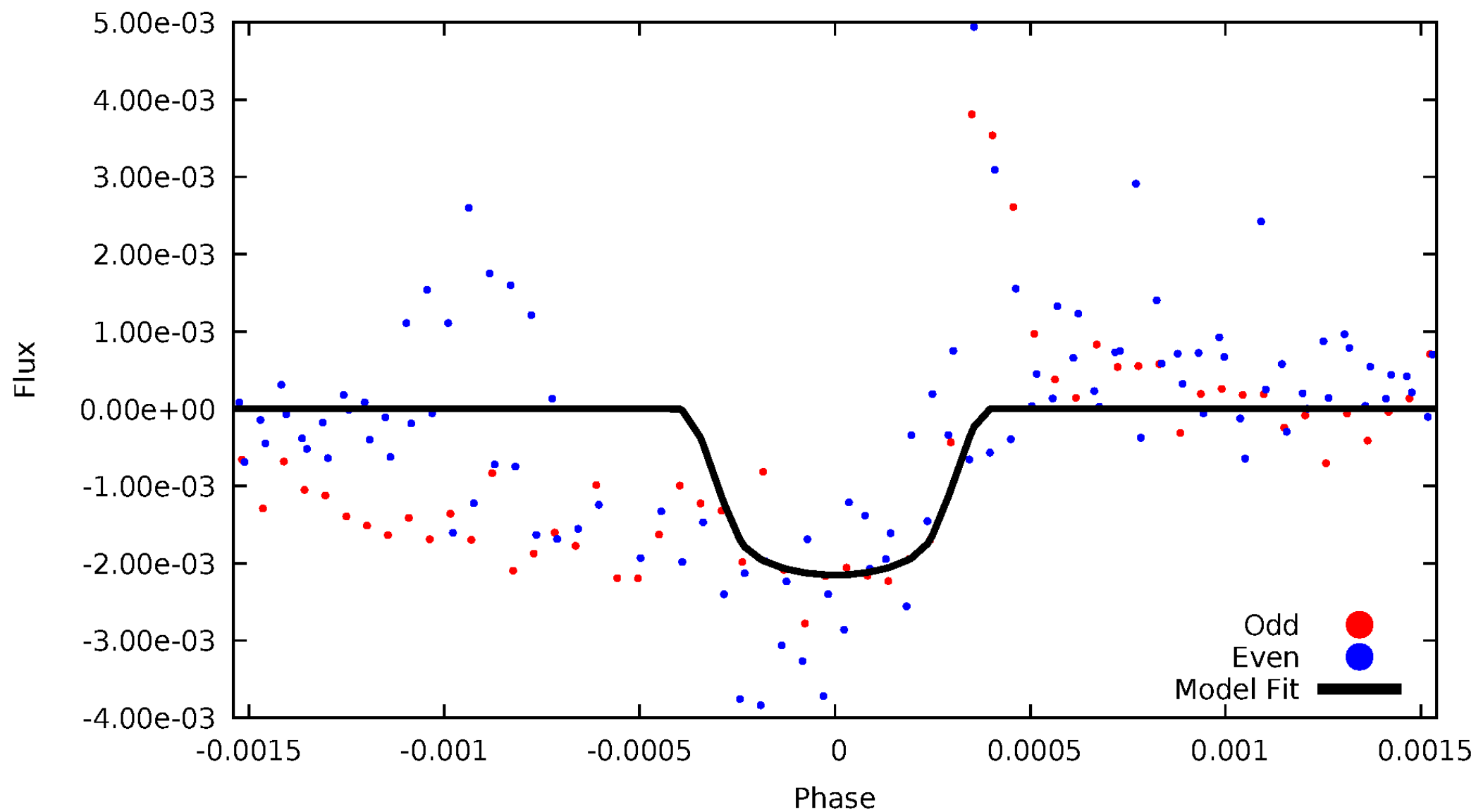


TCE 005894155-08



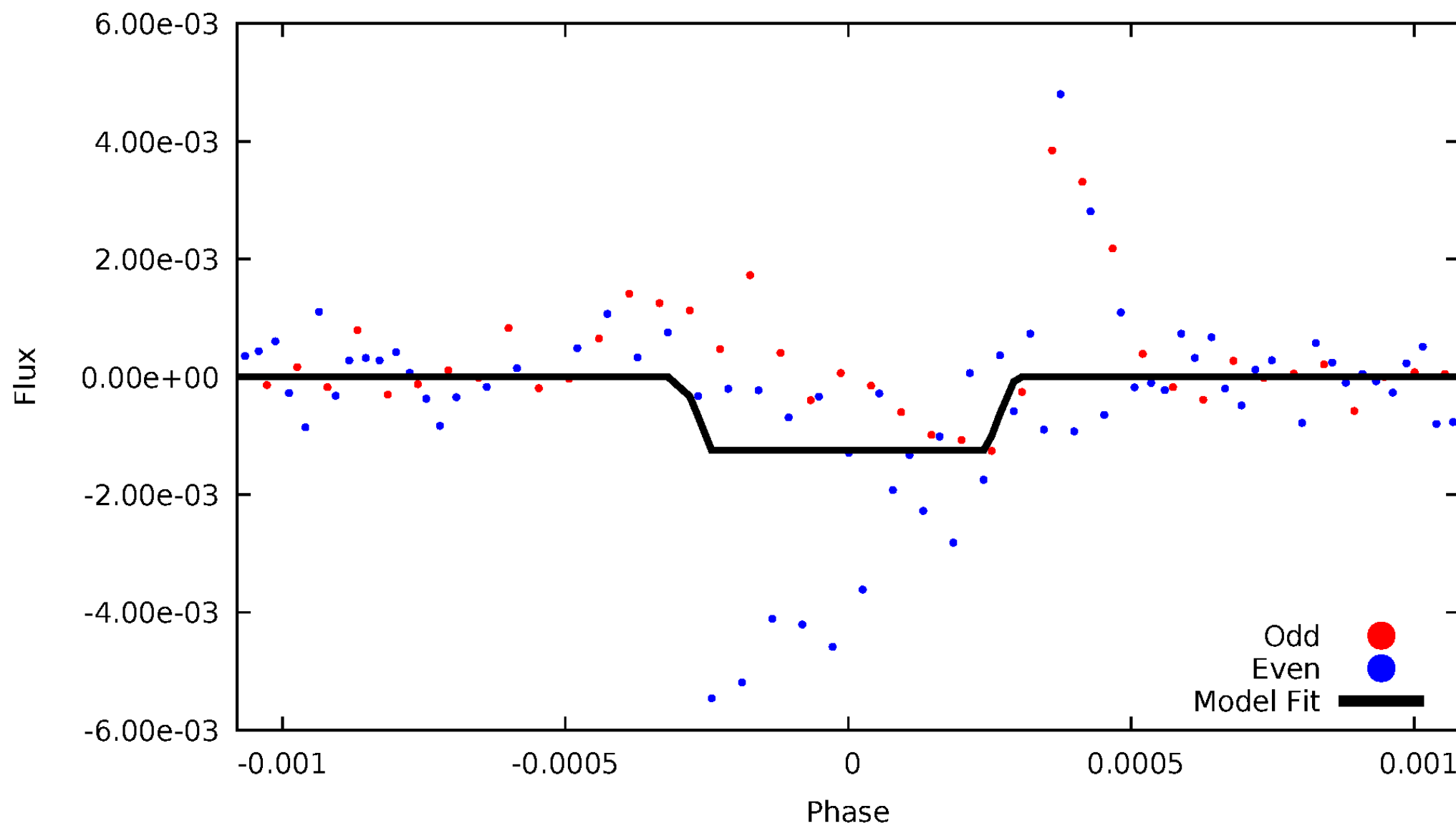
DV Odd/Even

TCE 005894155-08



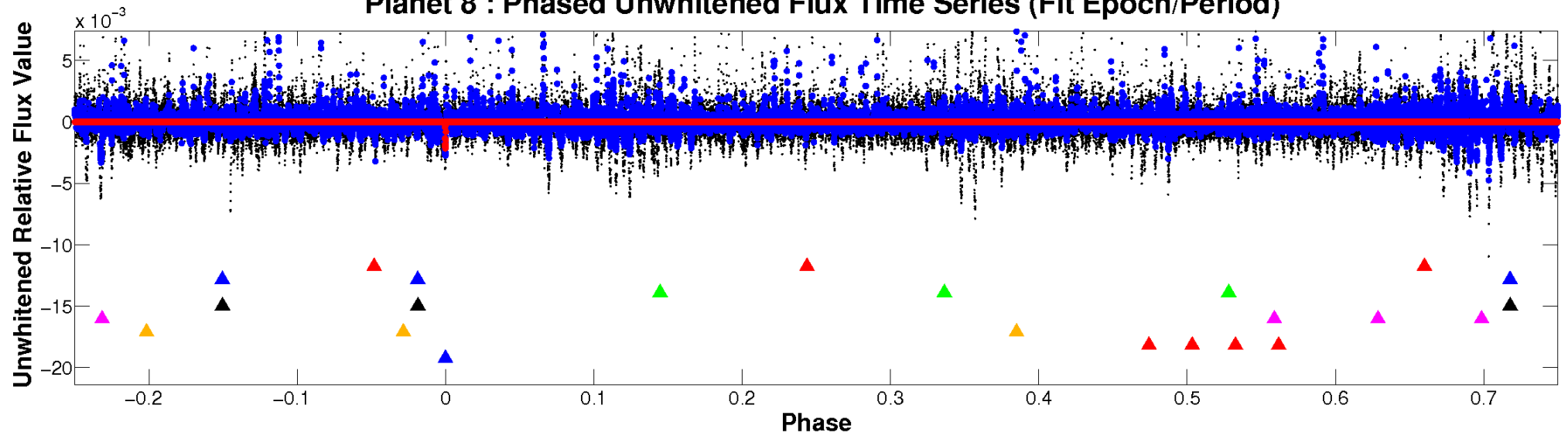
ALT Odd/Even

TCE 005894155-08

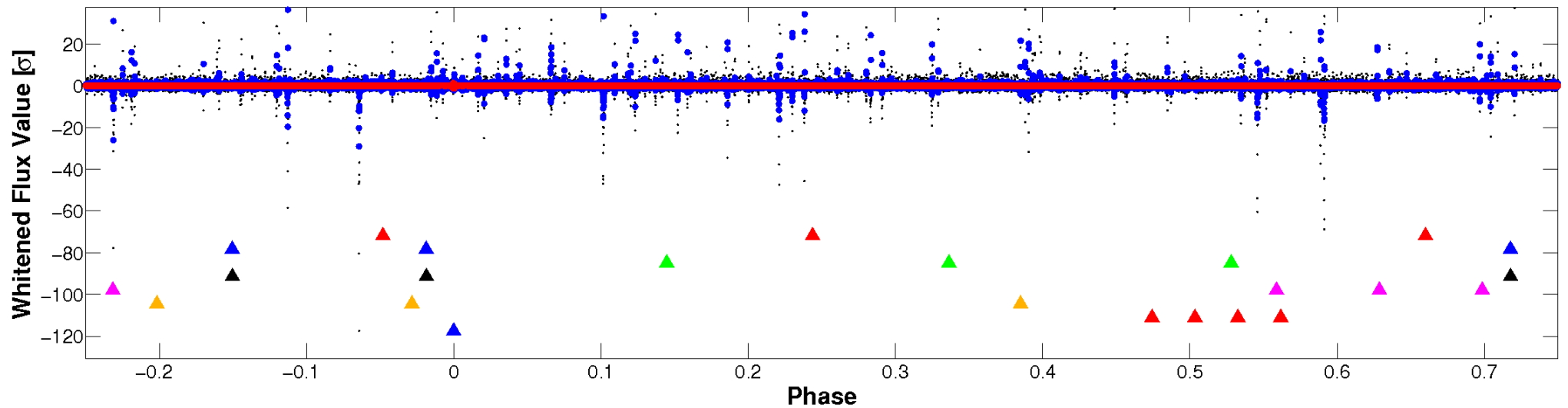


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

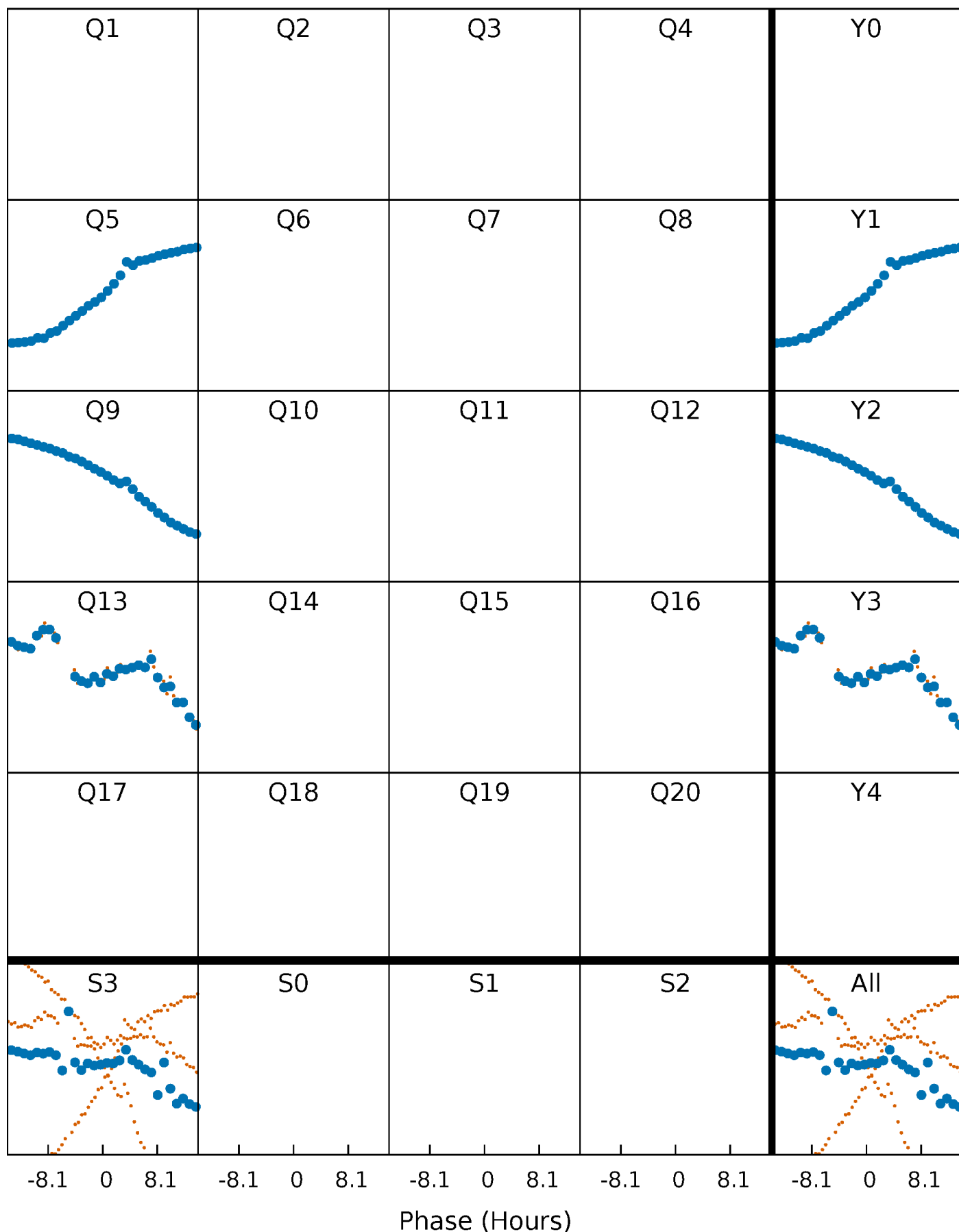


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



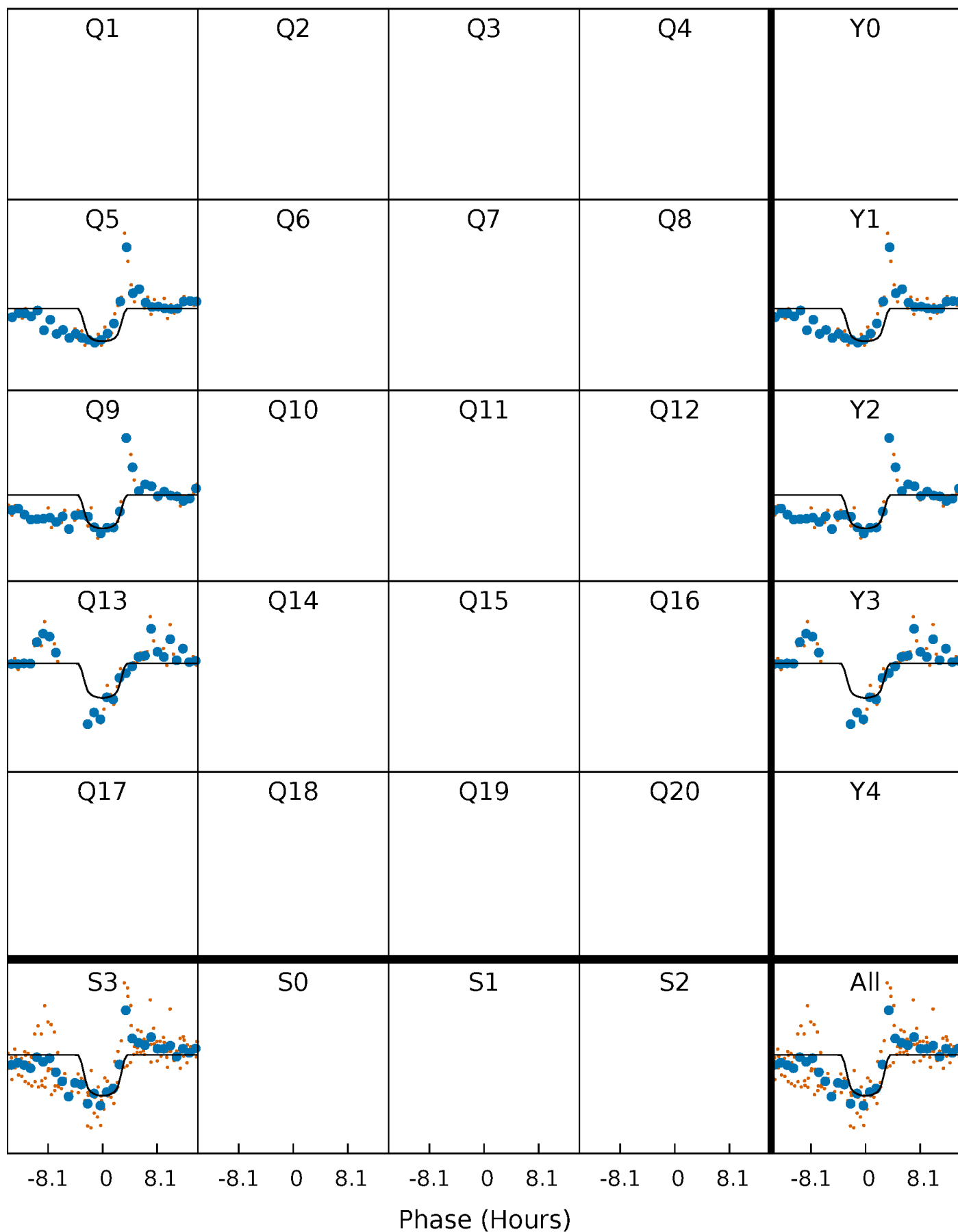
PDC Quarter-Phased Transit Curves

TCE 005894155-08 P=382.908110 Days $T_0=466.055958$ (BKJD)



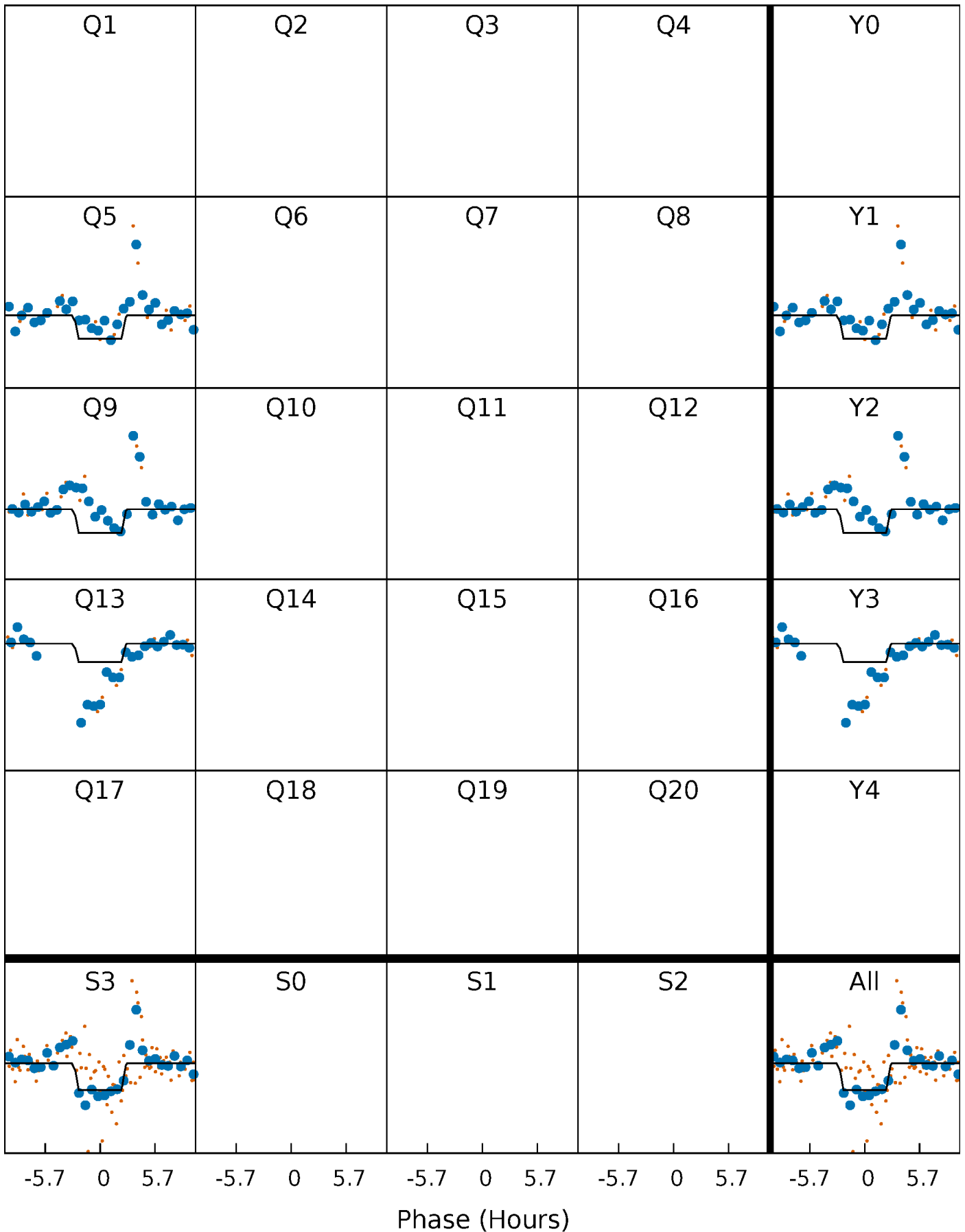
DV Quarter-Phased Transit Curves

TCE 005894155-08 $P=382.908110$ Days $T_0=466.055958$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

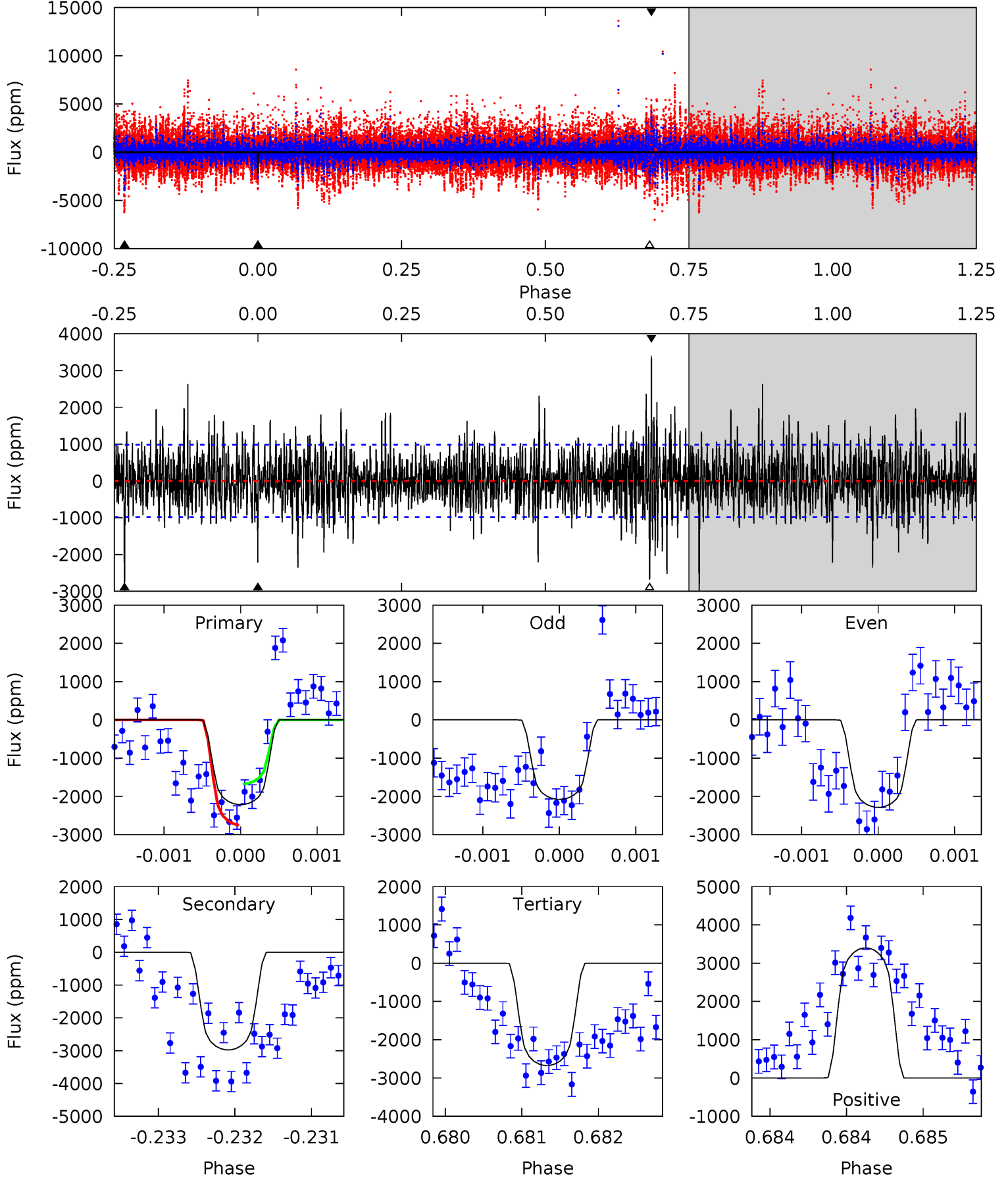
TCE 005894155-08 $P=382.911292$ Days $T_0=466.048838$ (BKJD)



DV Model-Shift Uniqueness Test

005894155-08, P = 382.908110 Days, E = 83.147848 Days

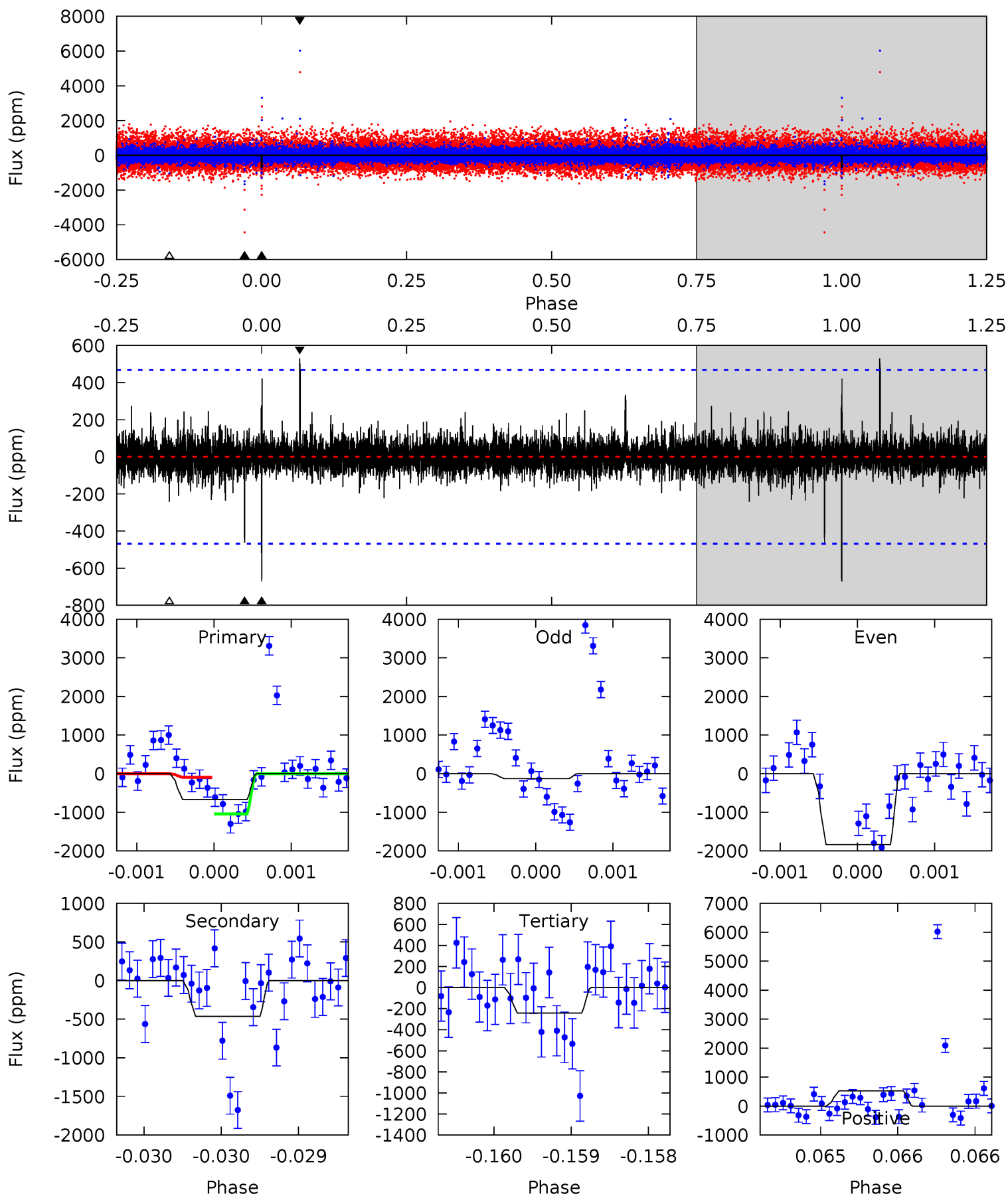
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	16.6	14.9	19.0	5.49	3.35	3.21	-2.57	-6.62	1.69	-2.36	0.41	1.07	0.53	2.97



Alt Model-Shift Uniqueness Test

005894155-08, P = 382.911292 Days, E = 83.137546 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.96	5.48	2.86	6.29	5.55	3.45	0.62	5.09	1.67	2.62	-0.80	10.5	2.57	0.44	5.41



Stellar Parameters For KIC 005894155

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4440^{+135}_{-162}	$4.754^{+0.063}_{-0.032}$	$-1.340^{+0.300}_{-0.300}$	$0.492^{+0.031}_{-0.046}$	$0.500^{+0.034}_{-0.034}$	$5.932^{+1.606}_{-0.718}$
	+3%/-4%	+1%/-1%	+22%/-22%	+6%/-9%	+7%/-7%	+27%/-12%
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 005894155-08 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2976 ± 179	$2.67^{+0.28}_{-0.31}$	210^{+8}_{-8}	4596^{+251}_{-249}	157087^{+42811}_{-30841}
Alt.	-462 ± 84	$1.89^{+0.30}_{-0.31}$	211^{+7}_{-8}	3708^{+267}_{-238}	48386^{+21383}_{-14764}

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 $A_{obs} \gg 1.0$

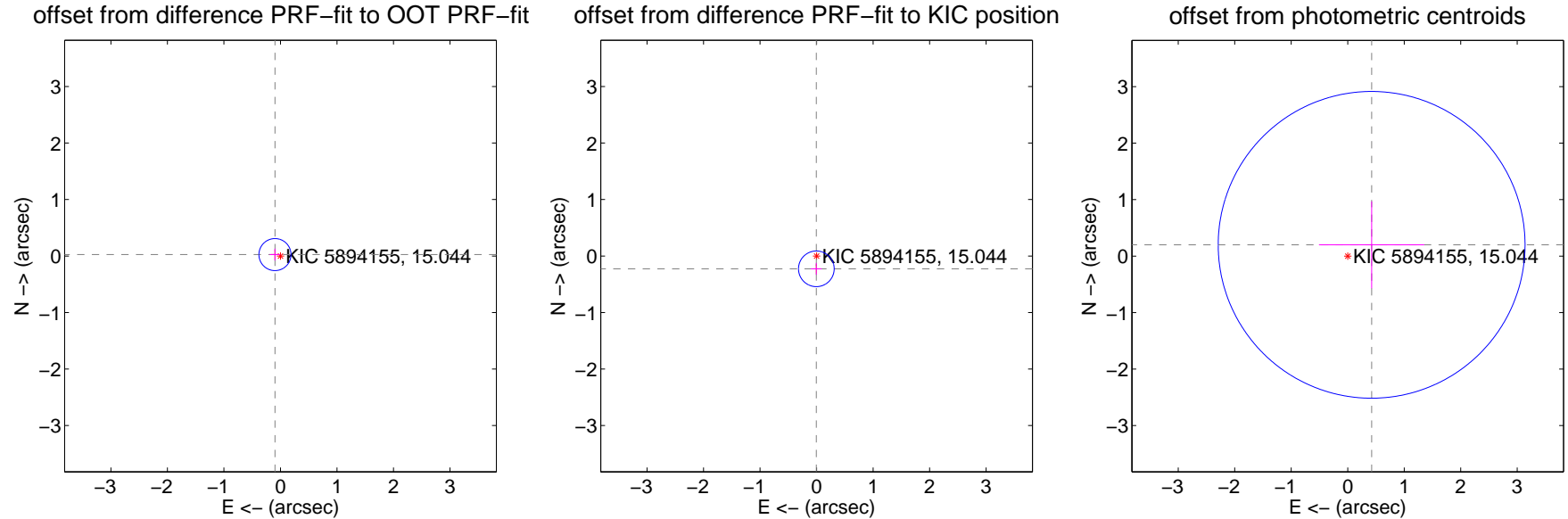
DV Centroid Data

Supplemental centroid analysis for 005894155-08. Kepler magnitude: 15.04. Transit SNR 7.49

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.100 ± 0.095	1.06	0.097 ± 0.094	0.026 ± 0.105
PRF-fit source offset from KIC position	0.226 ± 0.105	2.15	0.004 ± 0.094	-0.226 ± 0.105
photometric centroid source offset	0.47 ± 0.91	0.52	-0.42 ± 0.93	0.20 ± 0.77

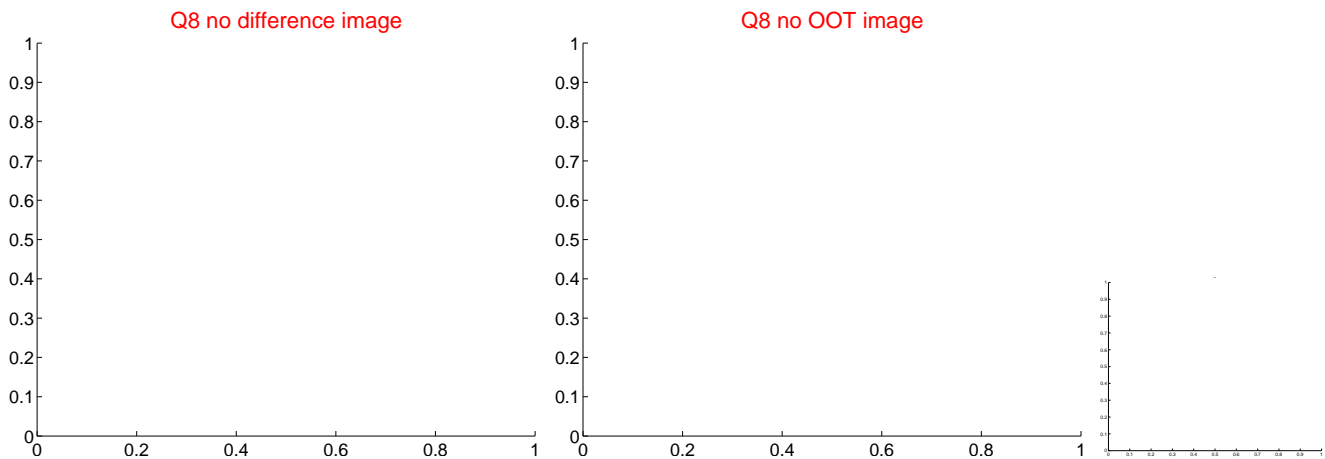
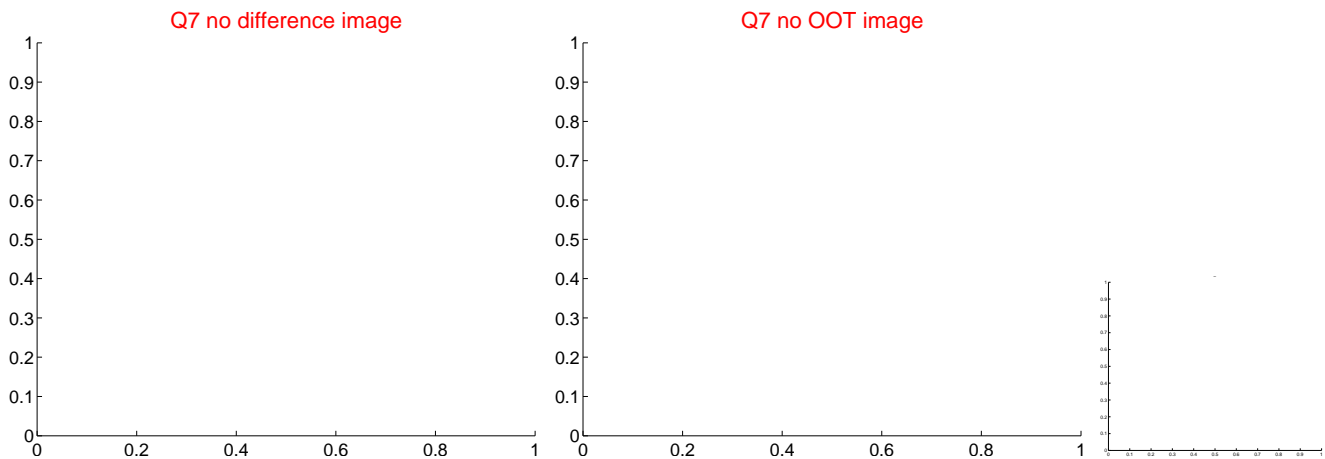
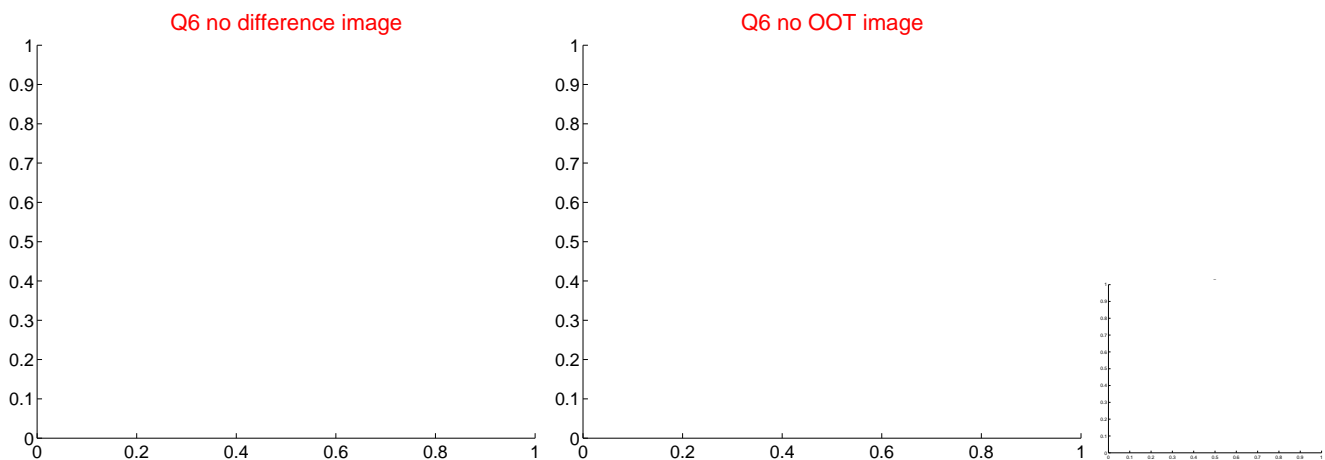
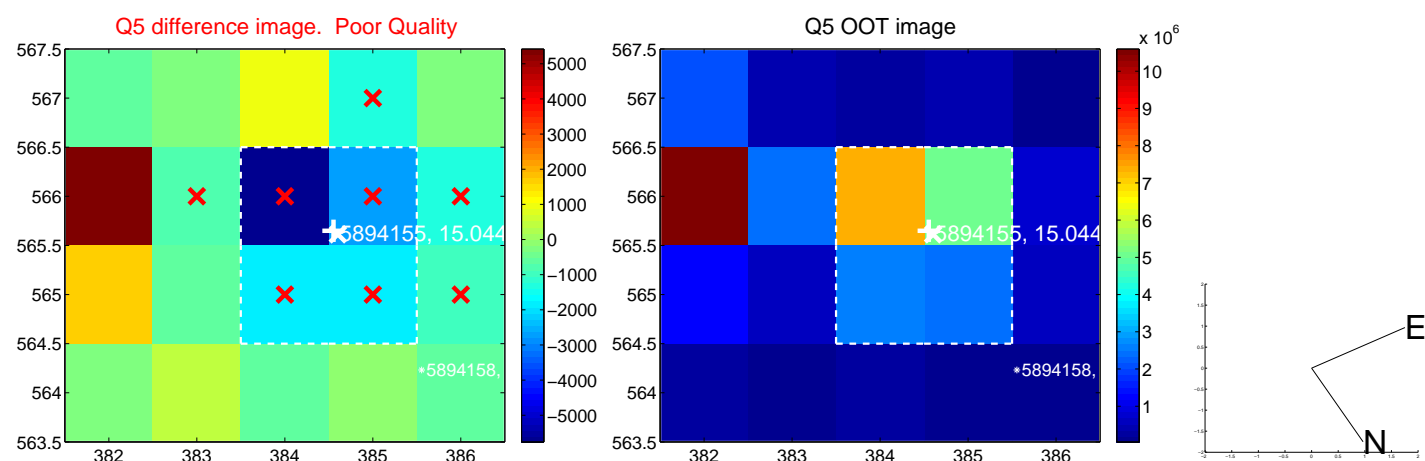


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

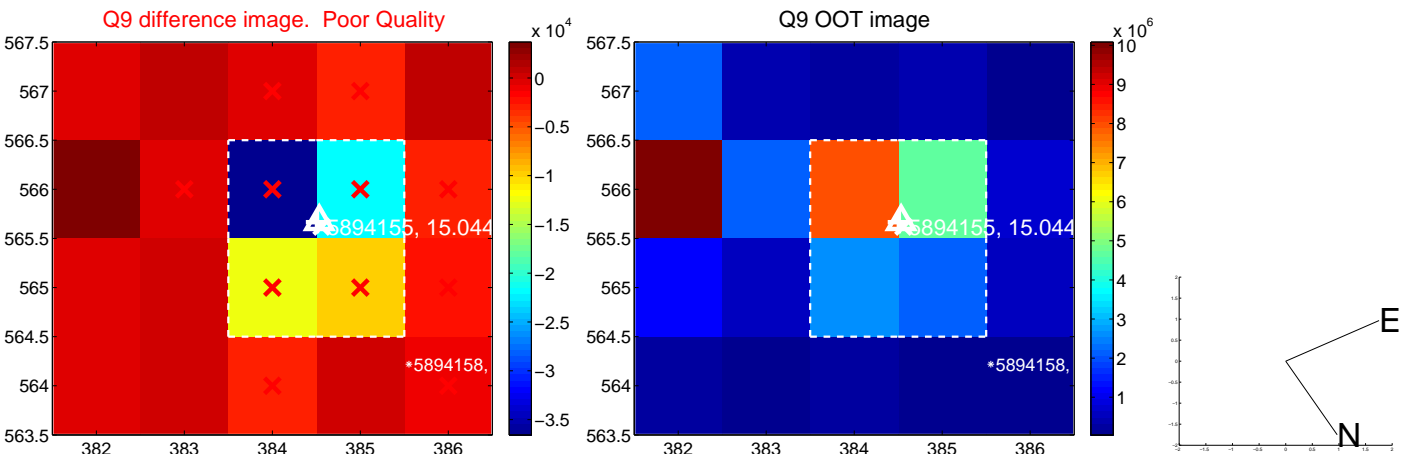
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



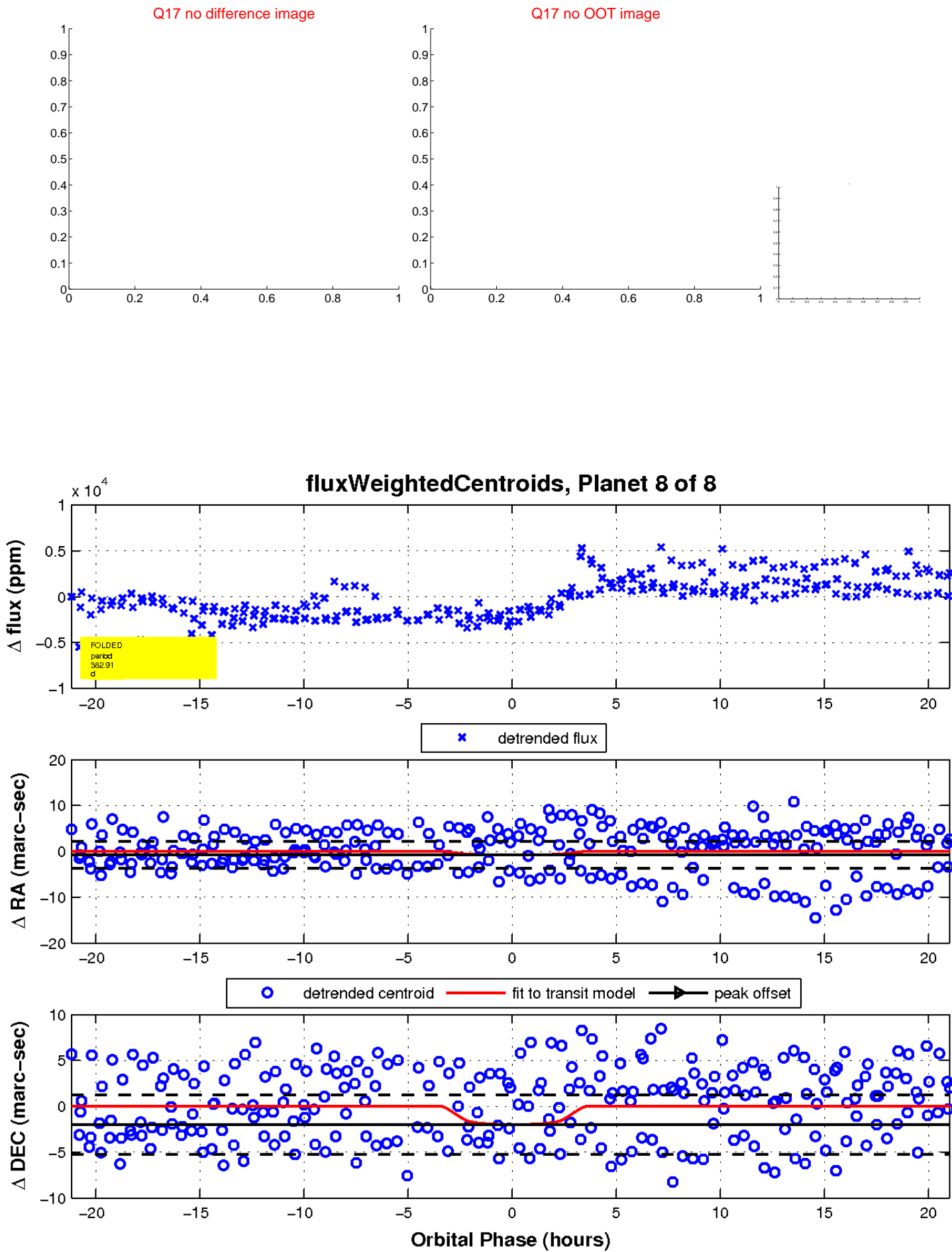
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

