

KIC 005959837

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})
005959837-01	OBS	No	1.578401	131.636829	27.3	8.138	12.2	10.2	2.11	6856	1.31	9050.73
005959837-02	OBS	No	552.315144	342.666907	340.6	10.036	10.1	10.3	2.11	6856	4.46	3.67
005959837-03	OBS	No	38.847634	168.630566	202.0	2.481	9.3	10.0	2.11	6856	3.71	126.42
005959837-04	OBS	No	441.907681	159.462605	300.0	7.415	8.6	8.4	2.11	6856	4.78	4.94
005959837-05	OBS	No	117.461521	186.036741	204.6	6.106	8.4	7.8	2.11	6856	3.55	28.91
005959837-06	OBS	No	177.981800	251.201947	232.4	9.159	7.9	8.0	2.11	6856	3.43	16.61
005959837-07	OBS	No	73.711089	177.731707	82.2	7.500	7.3	-1.0	2.11	6856	1.93	53.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005959837-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
005959837-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—CENT_FEW_DIFFS
005959837-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005959837-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005959837-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005959837-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005959837-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

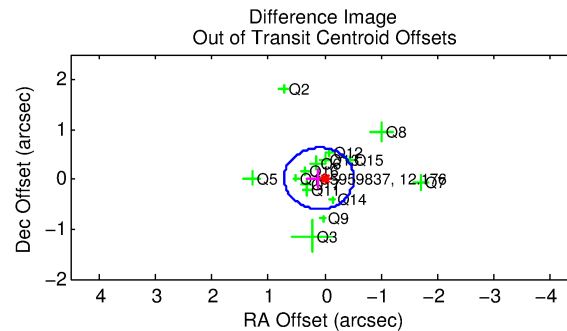
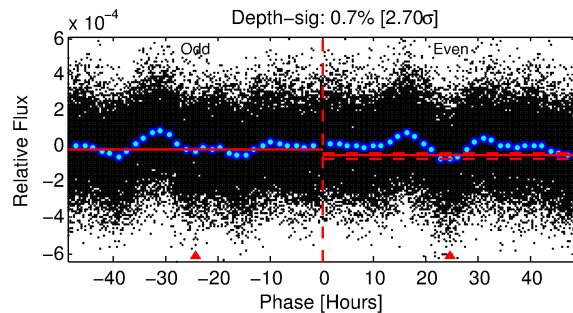
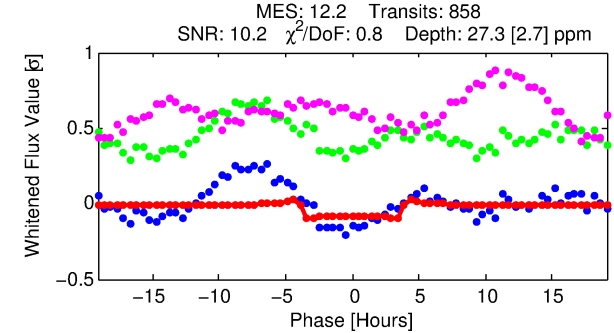
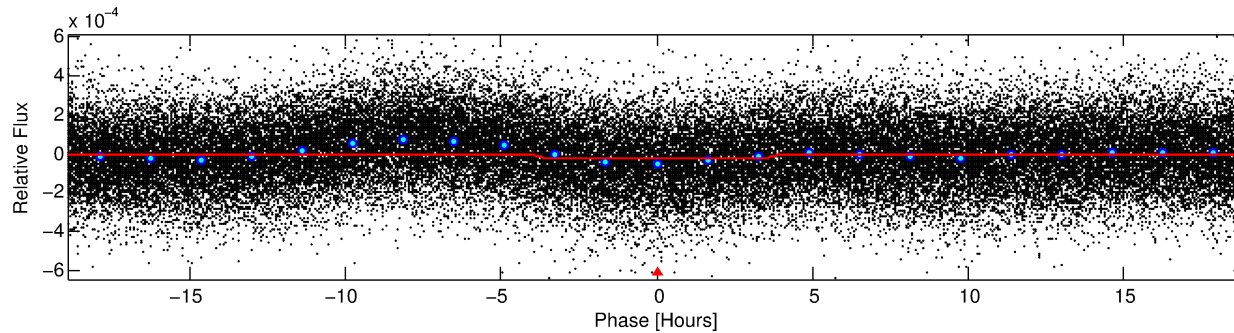
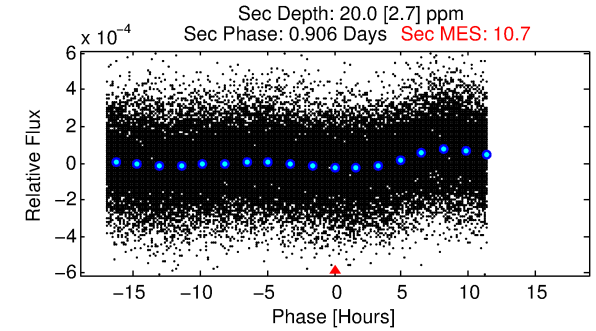
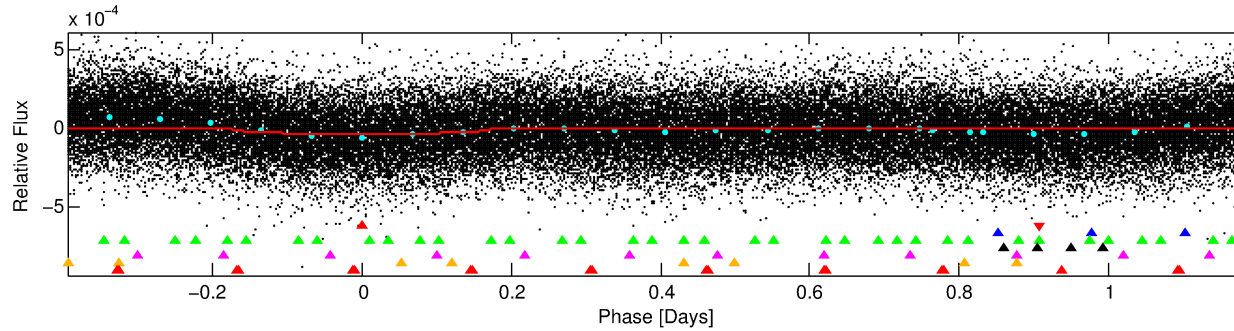
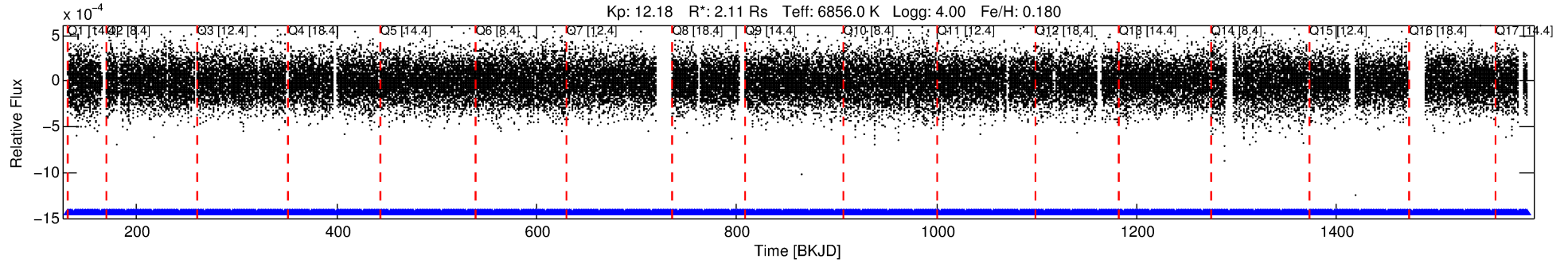
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005959837-01

No Significant Match Found

DV One-Page Summary

KIC: 5959837 Candidate: 1 of 7 Period: 1.578 d



DV Fit Results:

Period = 1.57840 [0.00002] d
Epoch = 131.6368 [0.0040] BKJD
Rp/R* = 0.0057 [0.0008]
a/R* = 1.13 [0.19]
b = 0.92 [0.13]
Seff = 9050.73 [2626.09]
Teq = 2487 [180] K
Rp = 1.31 [0.33] Re
a = 0.0312 [0.0058] AU
Ag = 6.26 [2.65] [1.98σ]
Teffp = 6084 [483] K [6.98σ]

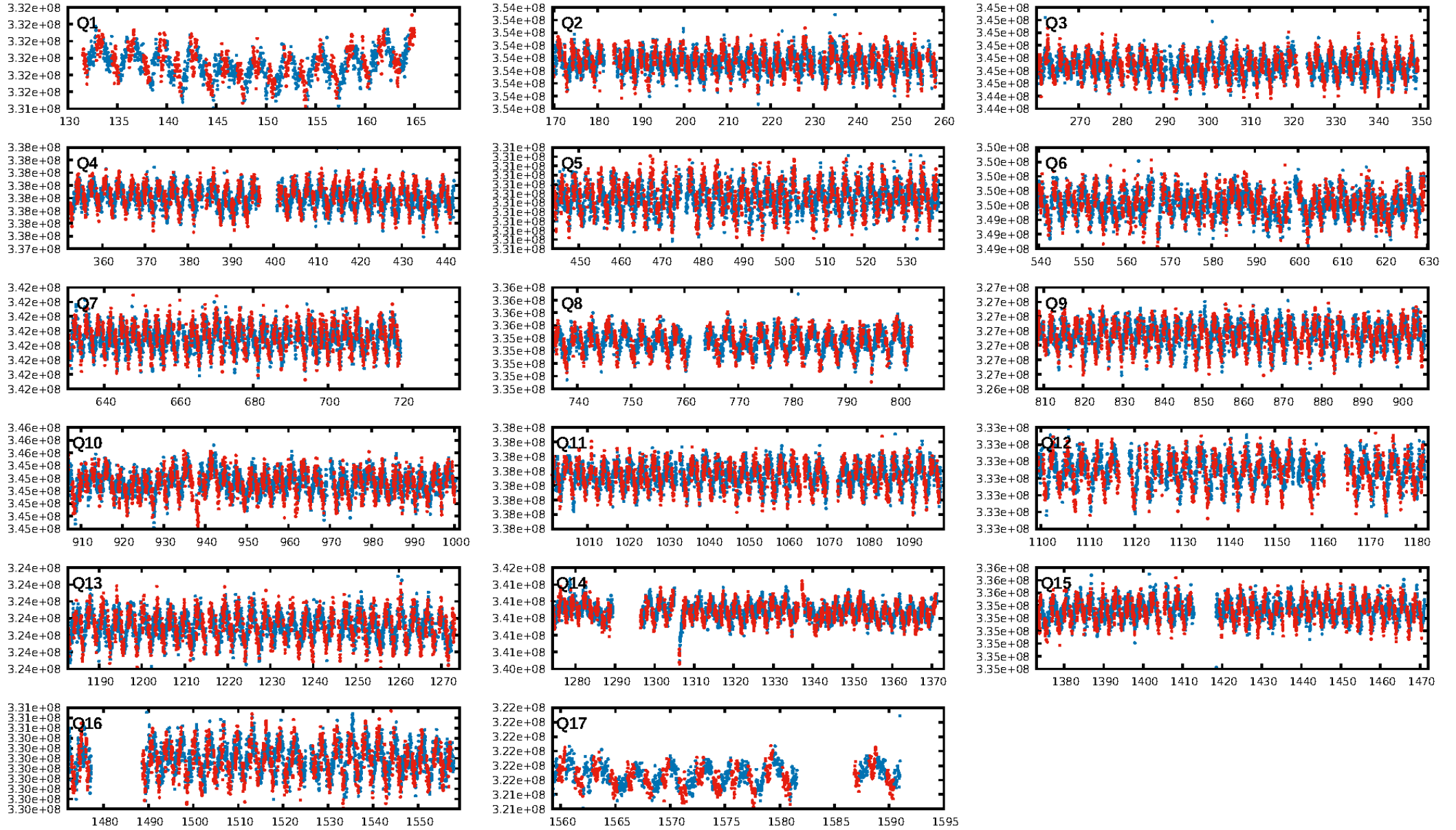
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [105.13σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [819/819]
GhostDiagnostic-chr: 1.502
Centroid-sig: 46.9%
Centroid-so: 0.283 arcsec [0.99σ]
OotOffset-rm: 0.101 arcsec [0.49σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-rm: 0.164 arcsec [0.87σ]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [17/17]

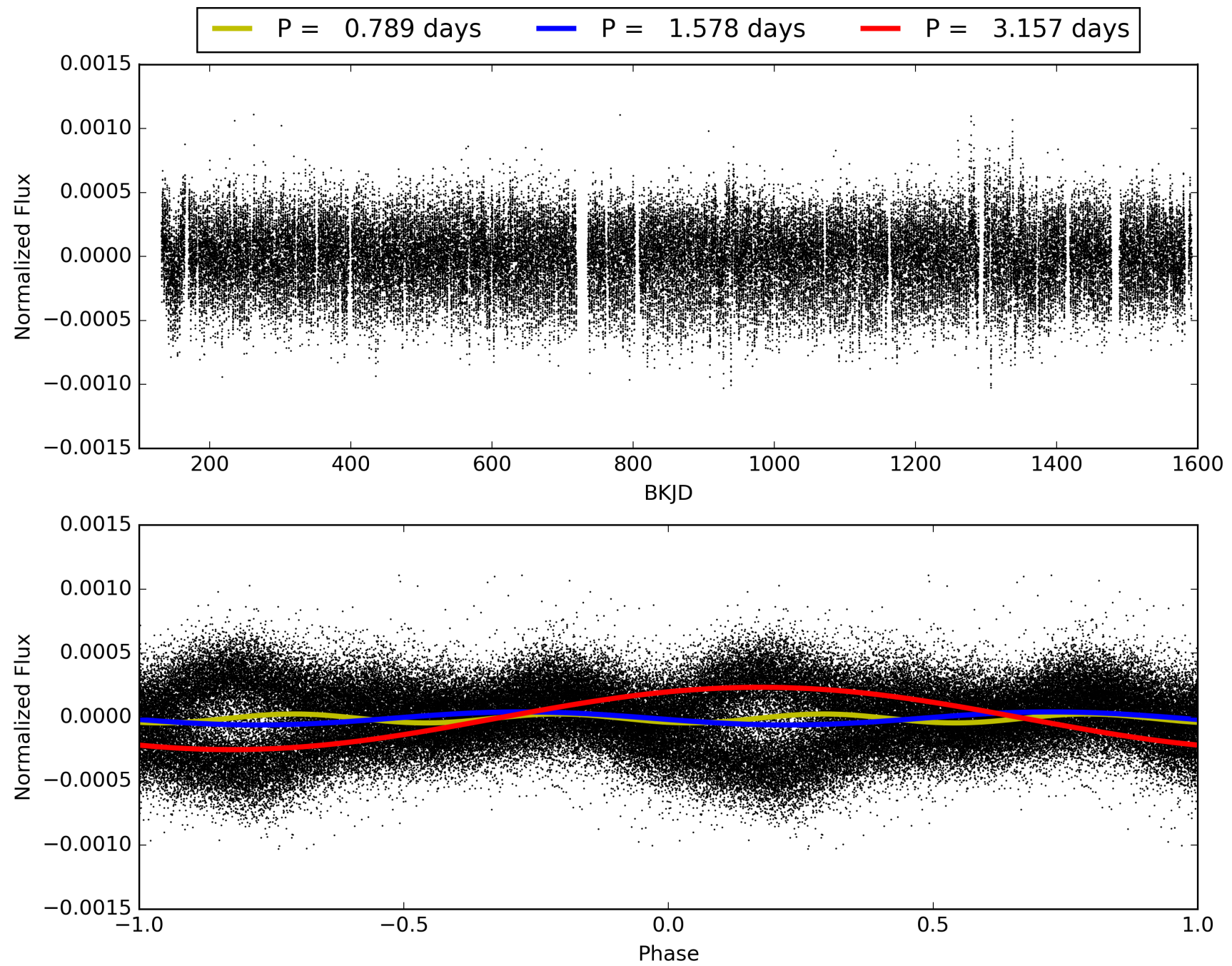
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:45:36 Z

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

TCE 005959837-01, PDC Light Curves

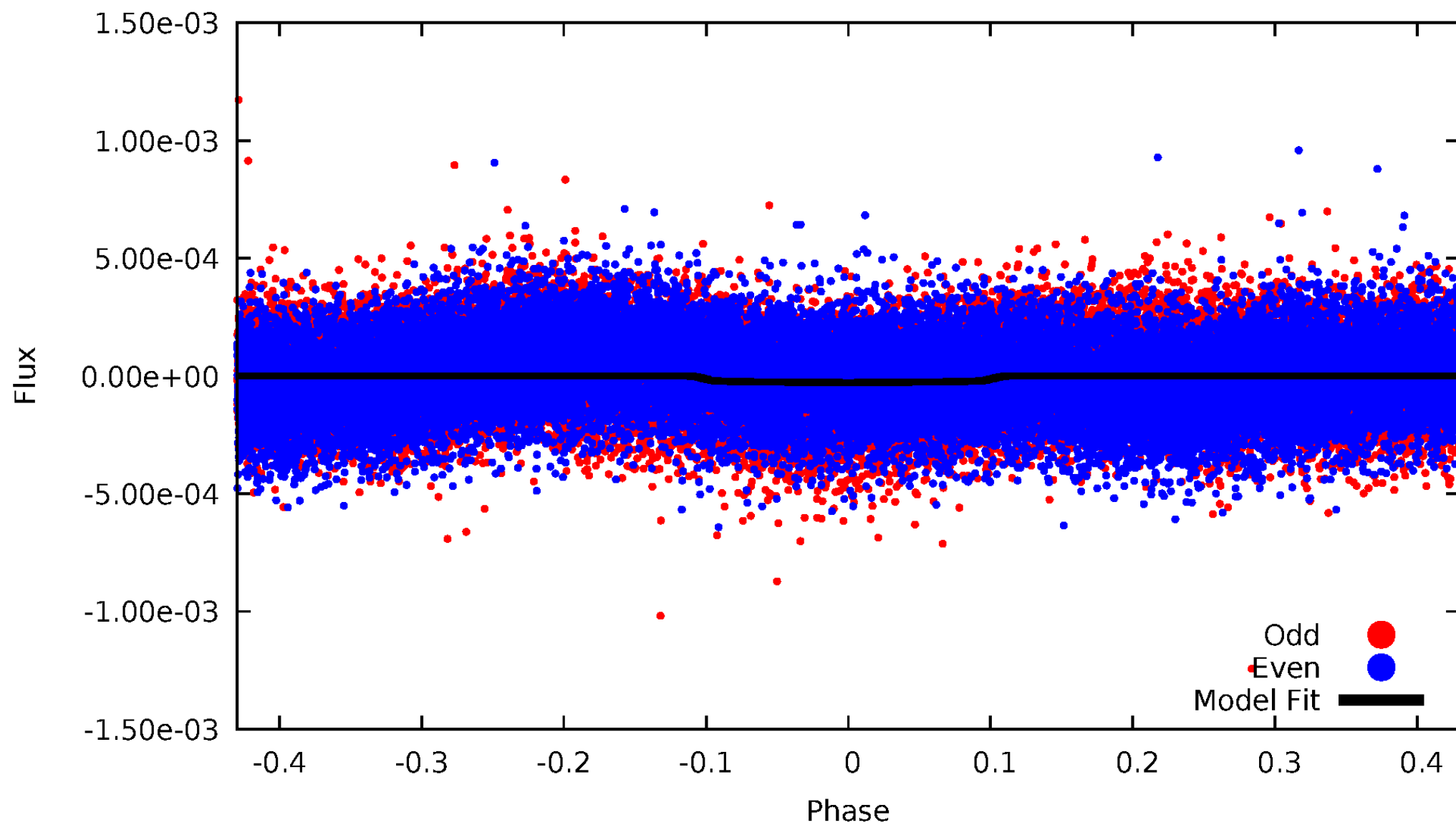


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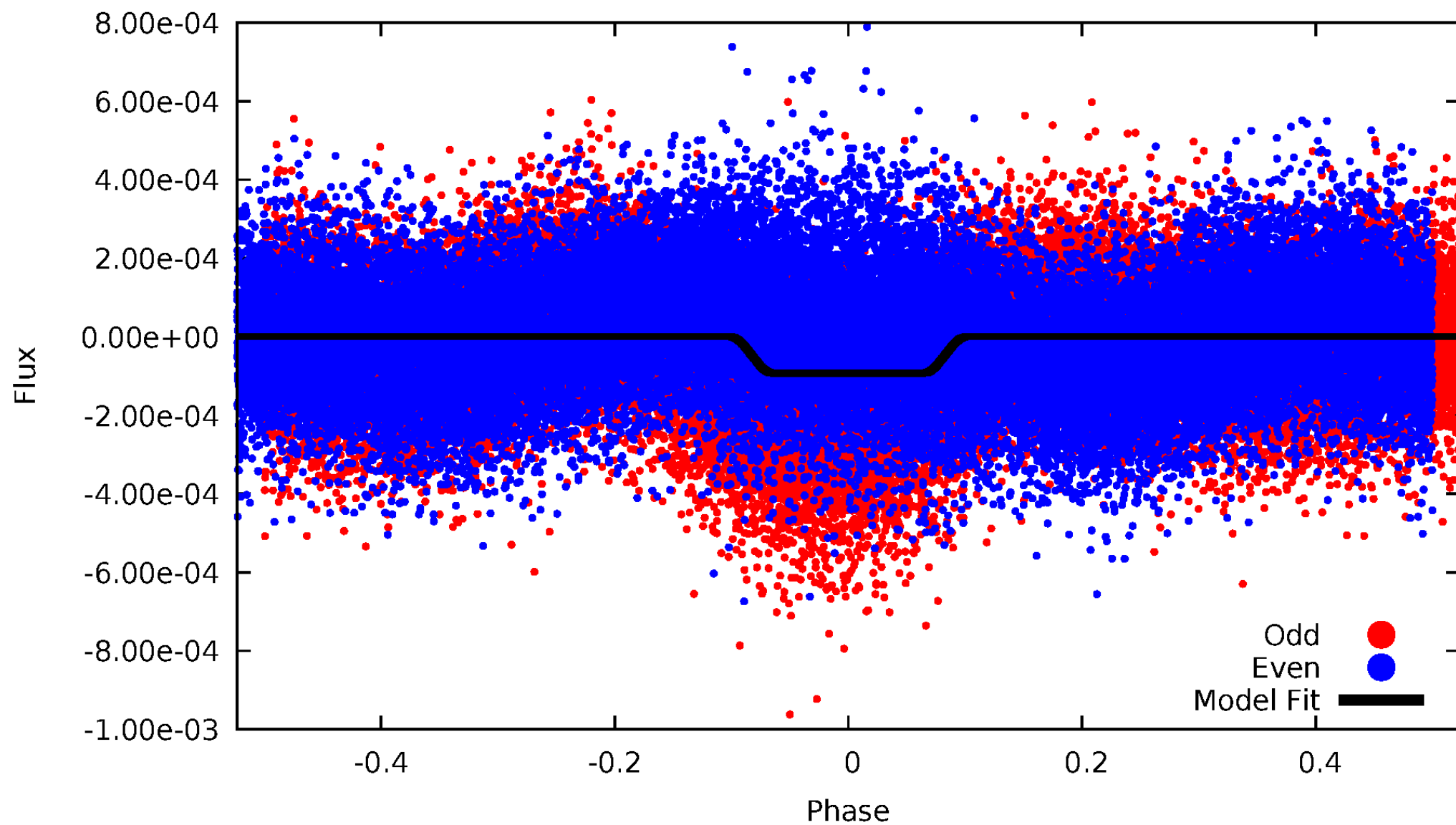
DV Odd/Even

TCE 005959837-01



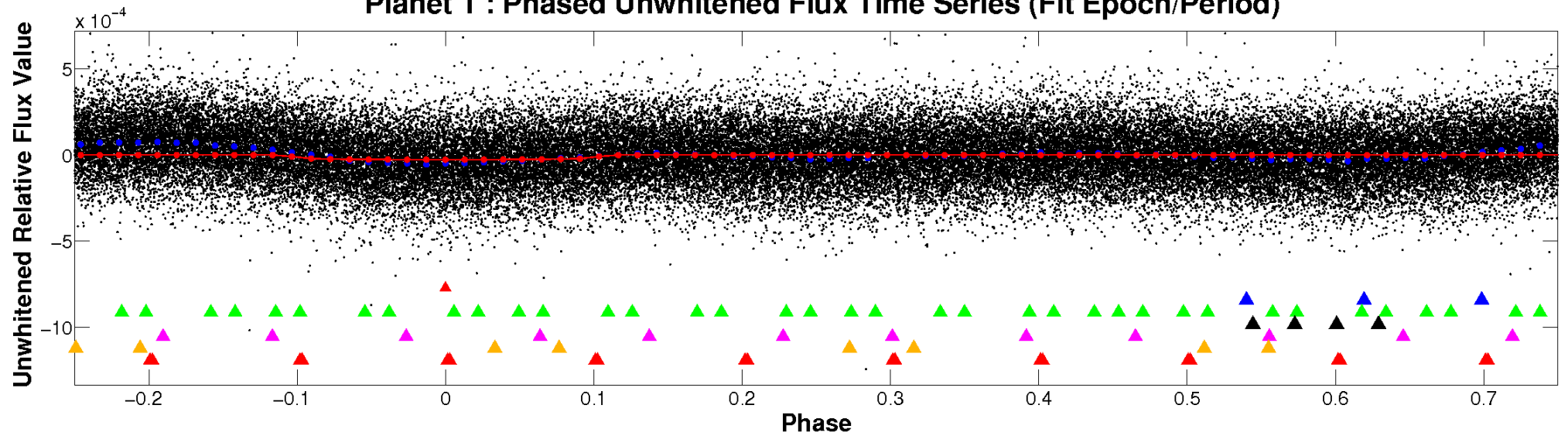
ALT Odd/Even

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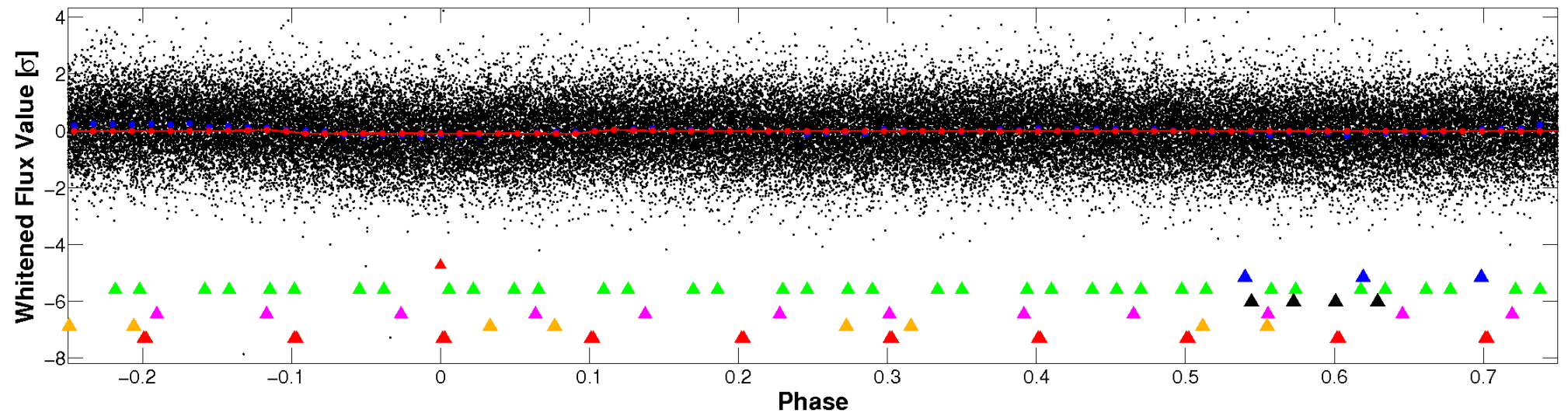


Non-Whitened Vs. Whitened Light Curve

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

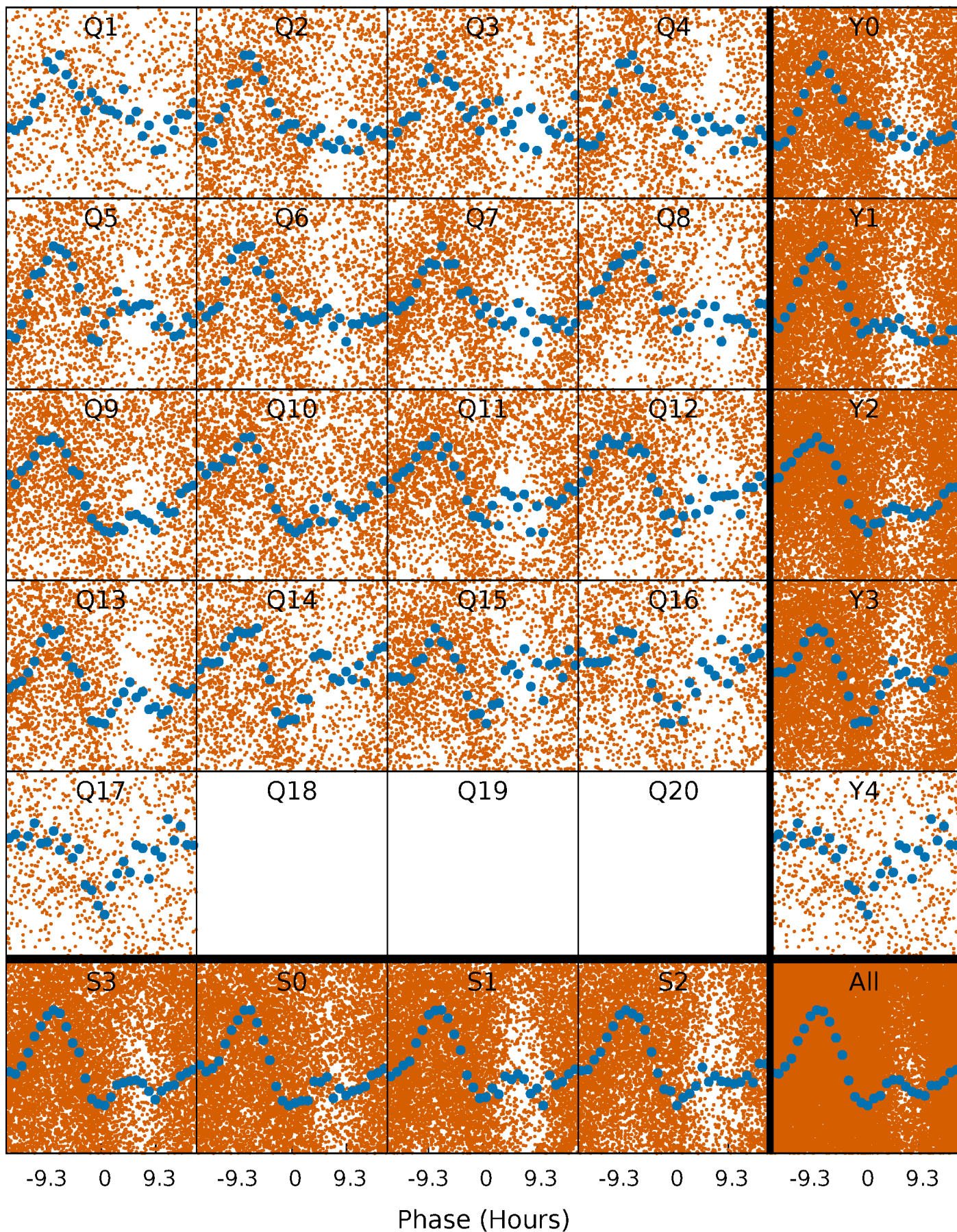


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



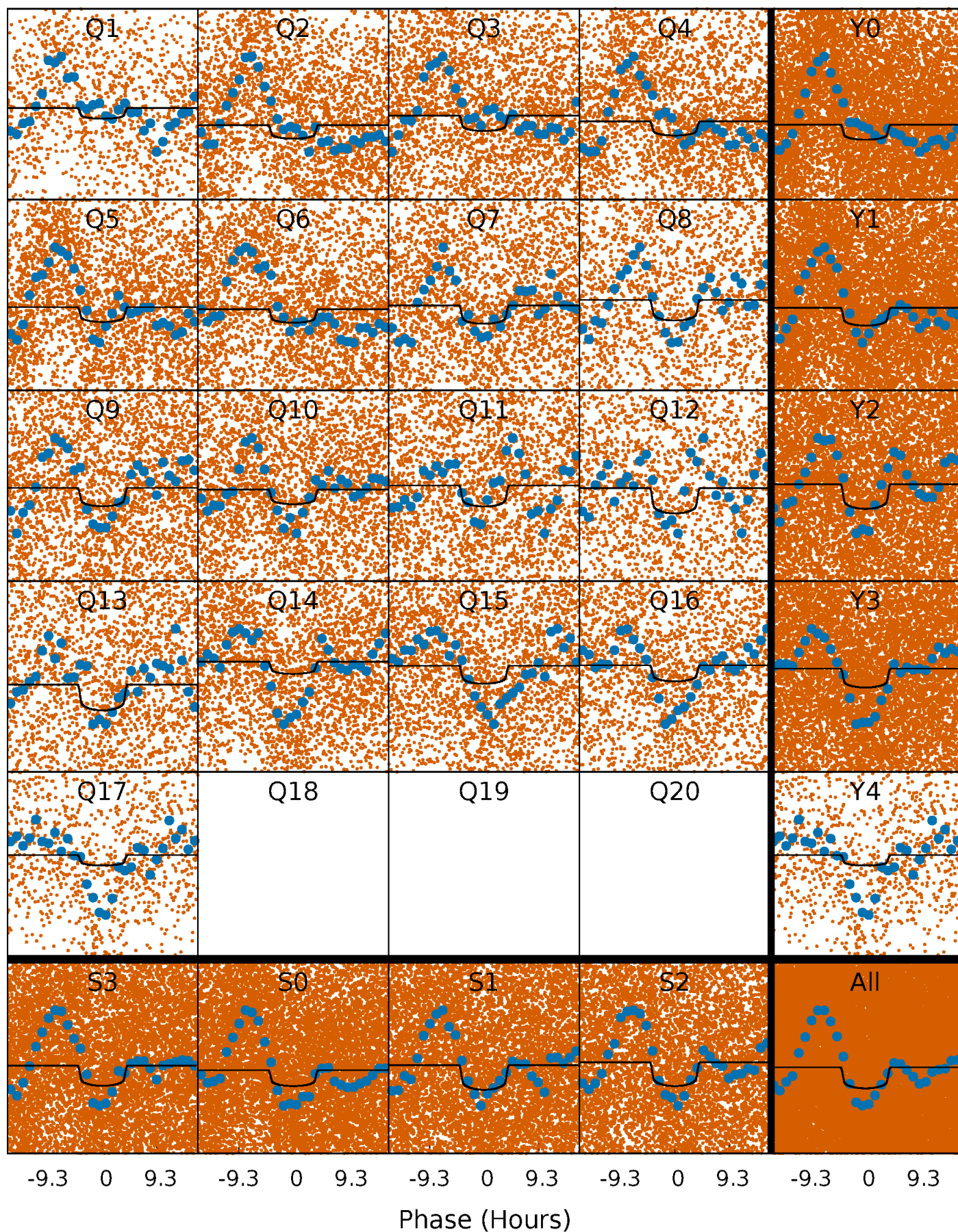
PDC Quarter-Phased Transit Curves

TCE 005959837-01 P= 1.578401 Days $T_0=131.636829$ (BKJD)



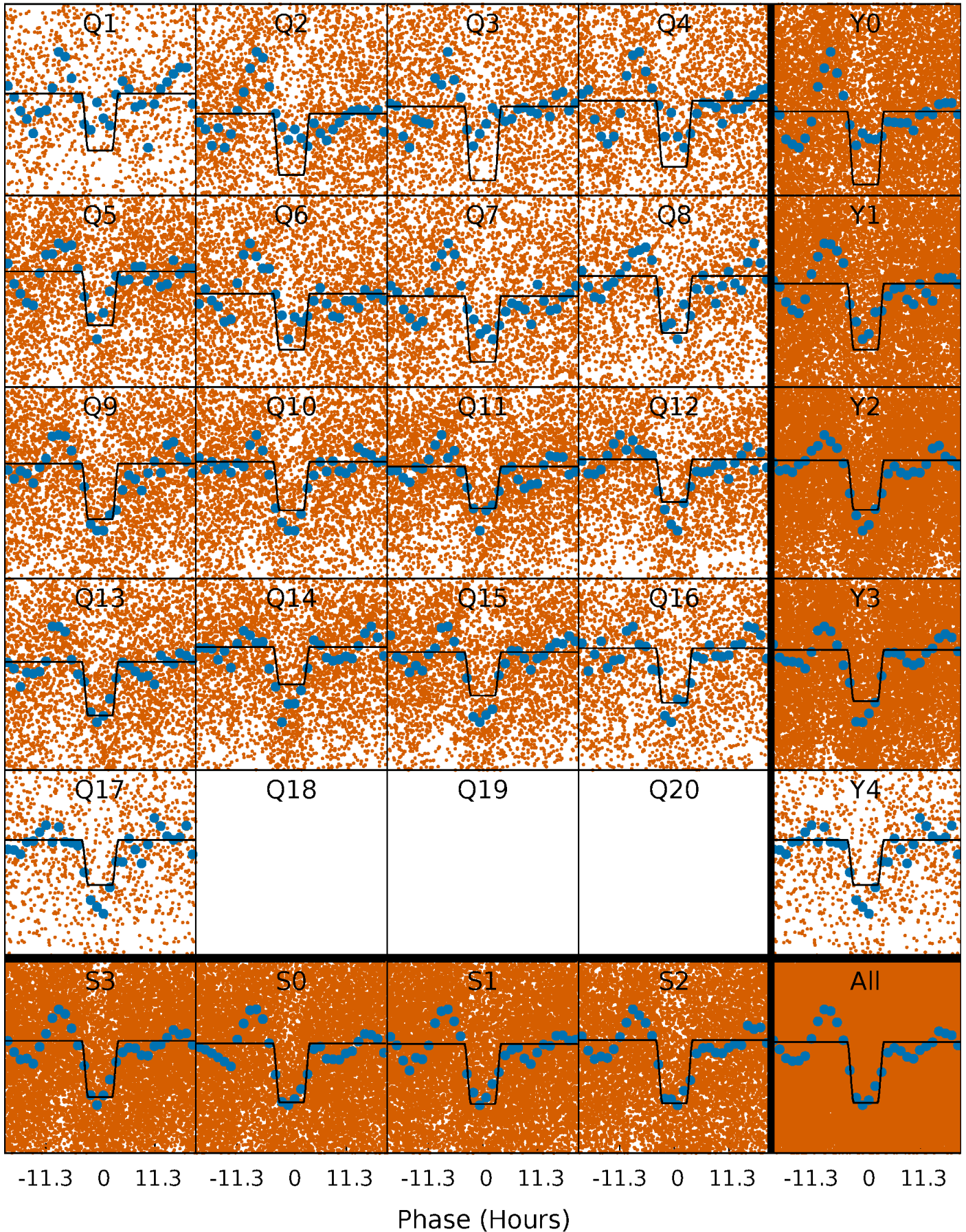
DV Quarter-Phased Transit Curves

TCE 005959837-01 P= 1.578401 Days $T_0=131.636829$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

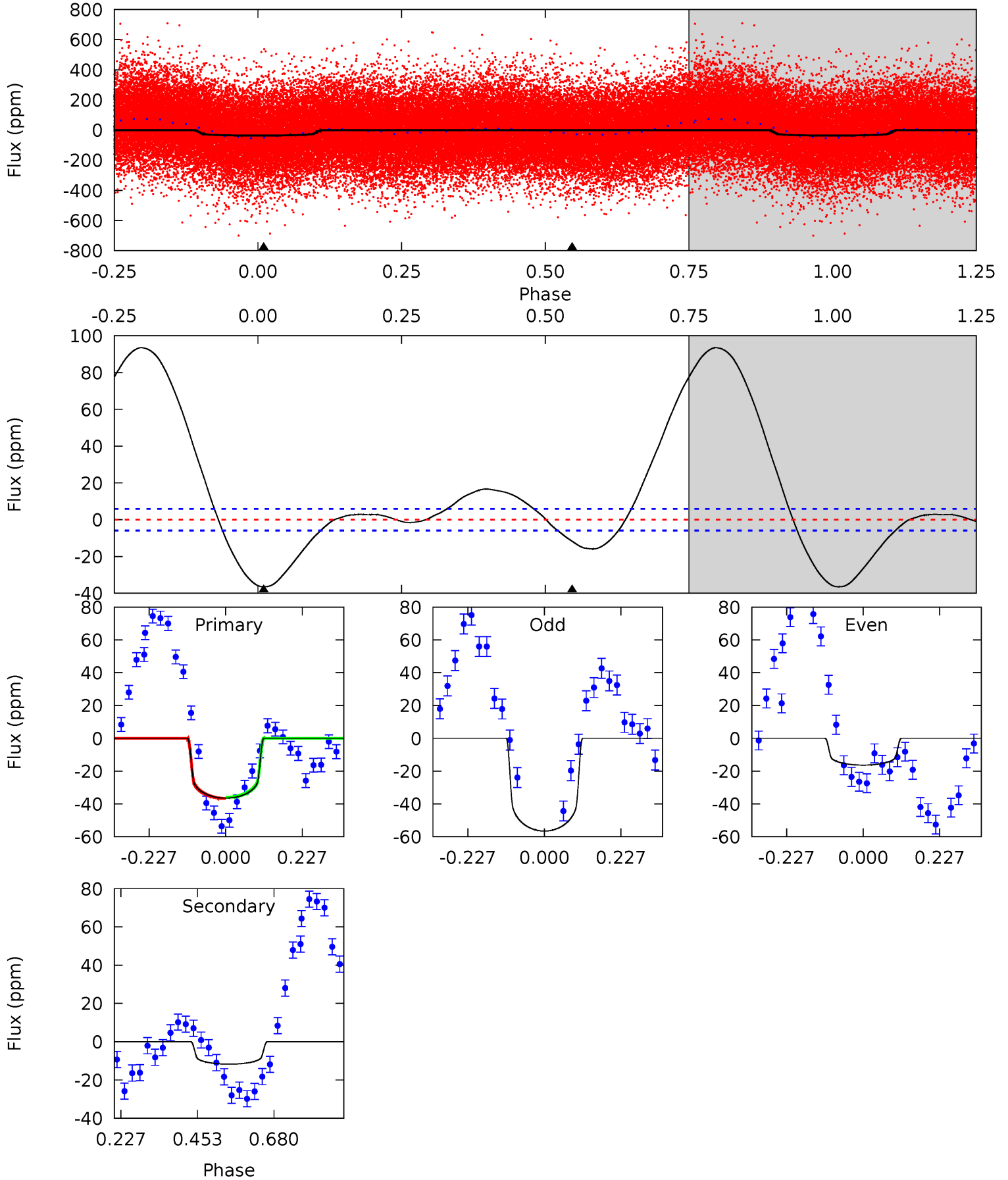
TCE 005959837-01 P= 1.578416 Days $T_0=131.625555$ (BKJD)



DV Model-Shift Uniqueness Test

005959837-01, P = 1.578401 Days, E = 130.058428 Days

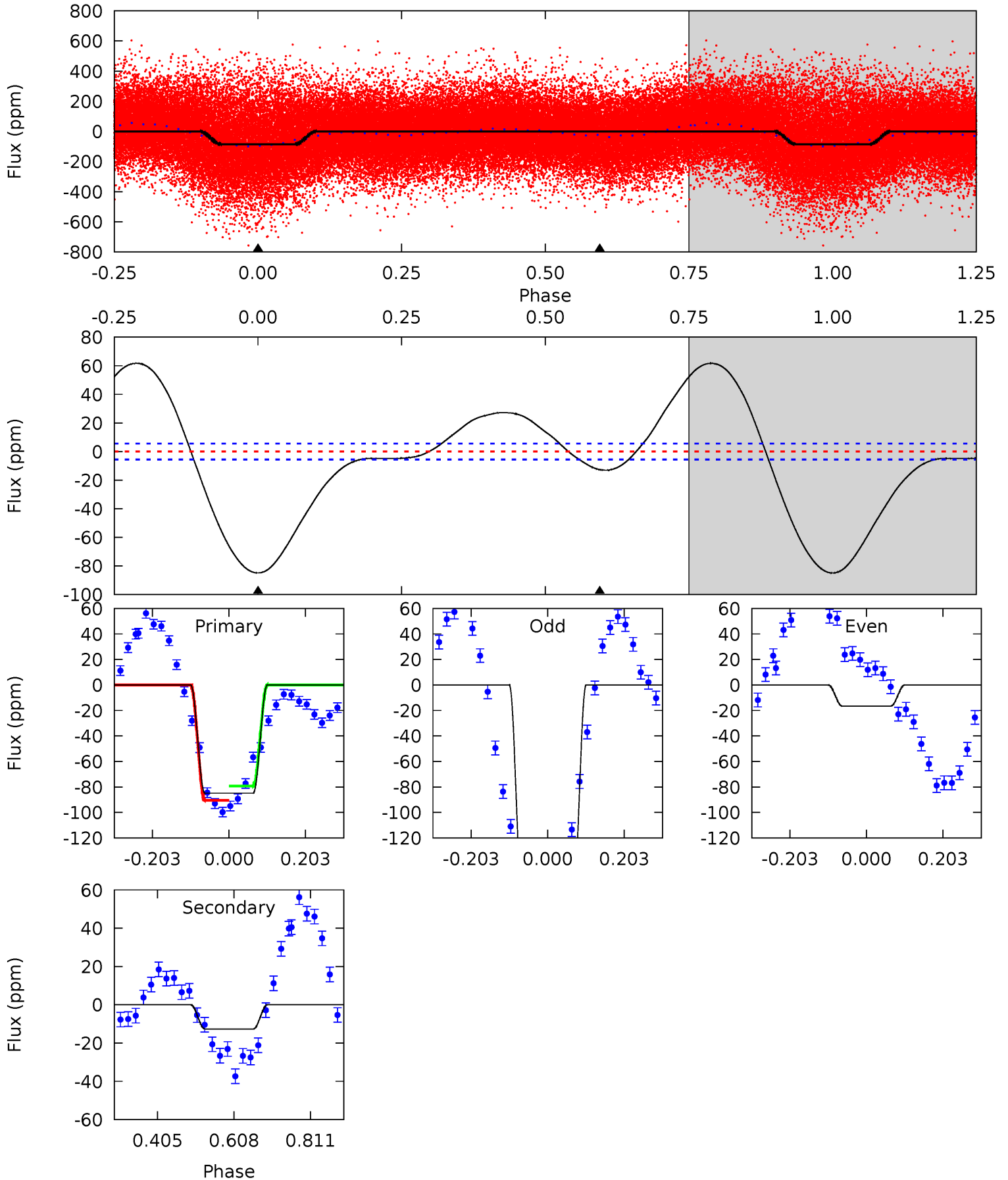
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.3	8.78	0	0	4.39	1.21	23.5	27.3	27.3	8.78	8.78	15.4	1.13	0.72	0.25



Alt Model-Shift Uniqueness Test

005959837-01, P = 1.578416 Days, E = 130.047139 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
67.3	10.0	0	0	4.41	1.27	8.41	67.3	67.3	10.0	10.0	66.7	0.87	0.42	4.36



Stellar Parameters For KIC 005959837

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6856^{+72}_{-92}	$4.001^{+0.162}_{-0.108}$	$0.180^{+0.150}_{-0.150}$	$2.112^{+0.362}_{-0.442}$	$1.630^{+0.111}_{-0.166}$	$0.244^{+0.183}_{-0.082}$
	+1%/-1%	+4%/-3%	+83%/-83%	+17%/-21%	+7%/-10%	+75%/-34%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005959837-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-12 ± 1	$1.29^{+0.23}_{-0.23}$	3466^{+156}_{-193}	5217^{+444}_{-327}	$3.739^{+1.740}_{-1.078}$
Alt.	-13 ± 1	$2.17^{+0.30}_{-0.29}$	3462^{+163}_{-199}	4173^{+204}_{-192}	$1.427^{+0.474}_{-0.354}$

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 $A_{obs} \gg 1.0$

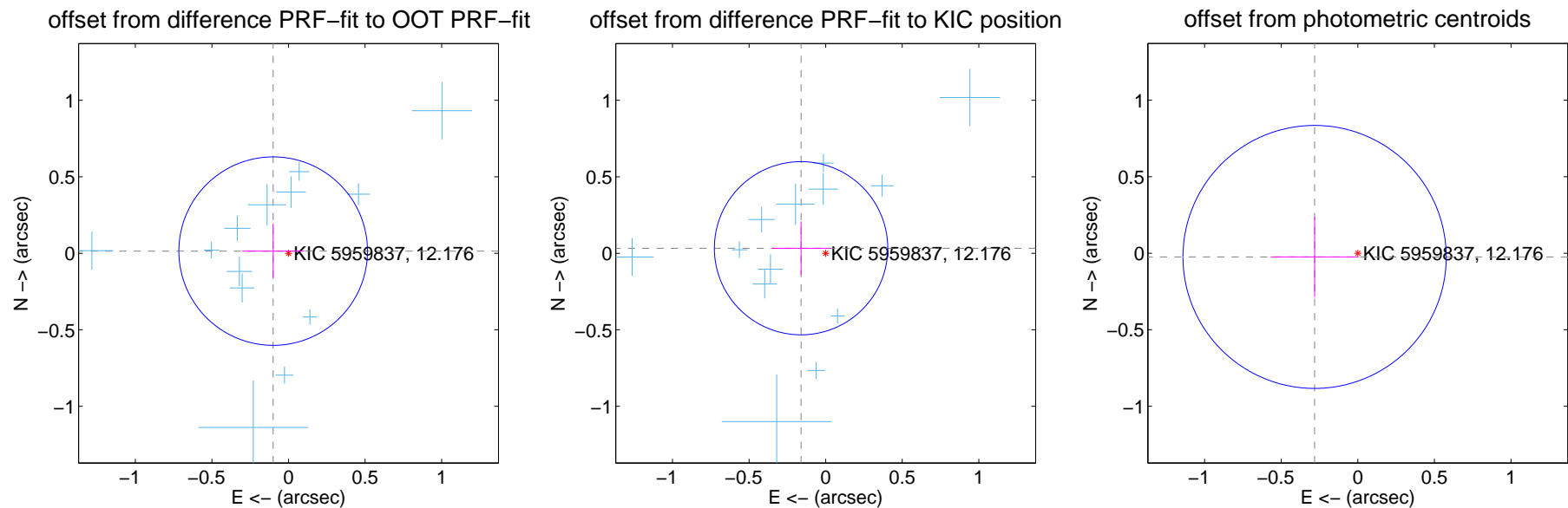
DV Centroid Data

Supplemental centroid analysis for 005959837-01. Kepler magnitude: 12.18. Transit SNR 10.23

There are 15 quarters with good PRF difference image offsets

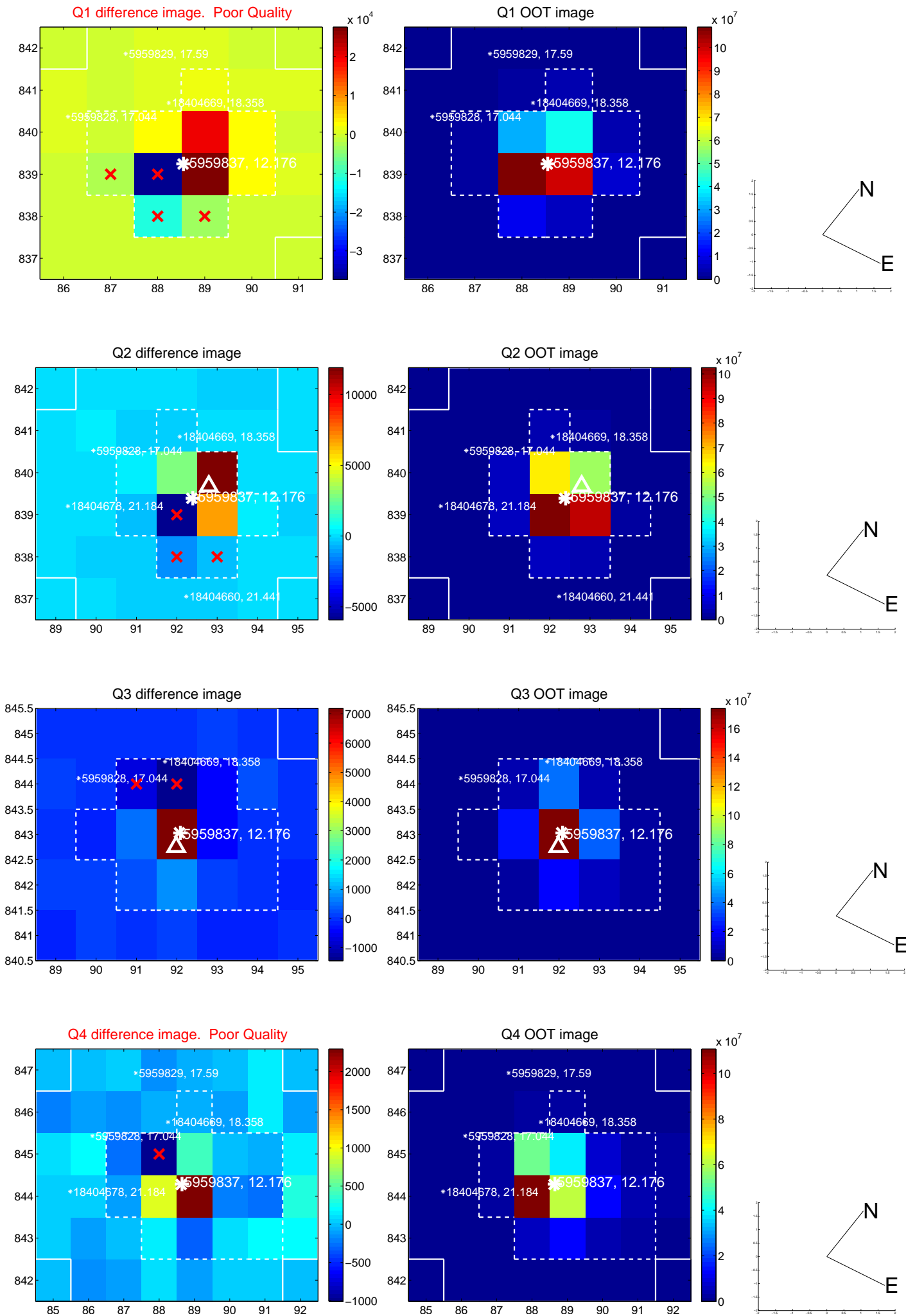
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.101 ± 0.205	0.49	0.100 ± 0.203	0.014 ± 0.180
PRF-fit source offset from KIC position	0.164 ± 0.189	0.87	0.161 ± 0.191	0.033 ± 0.175
photometric centroid source offset	0.28 ± 0.29	0.99	0.28 ± 0.29	-0.02 ± 0.26

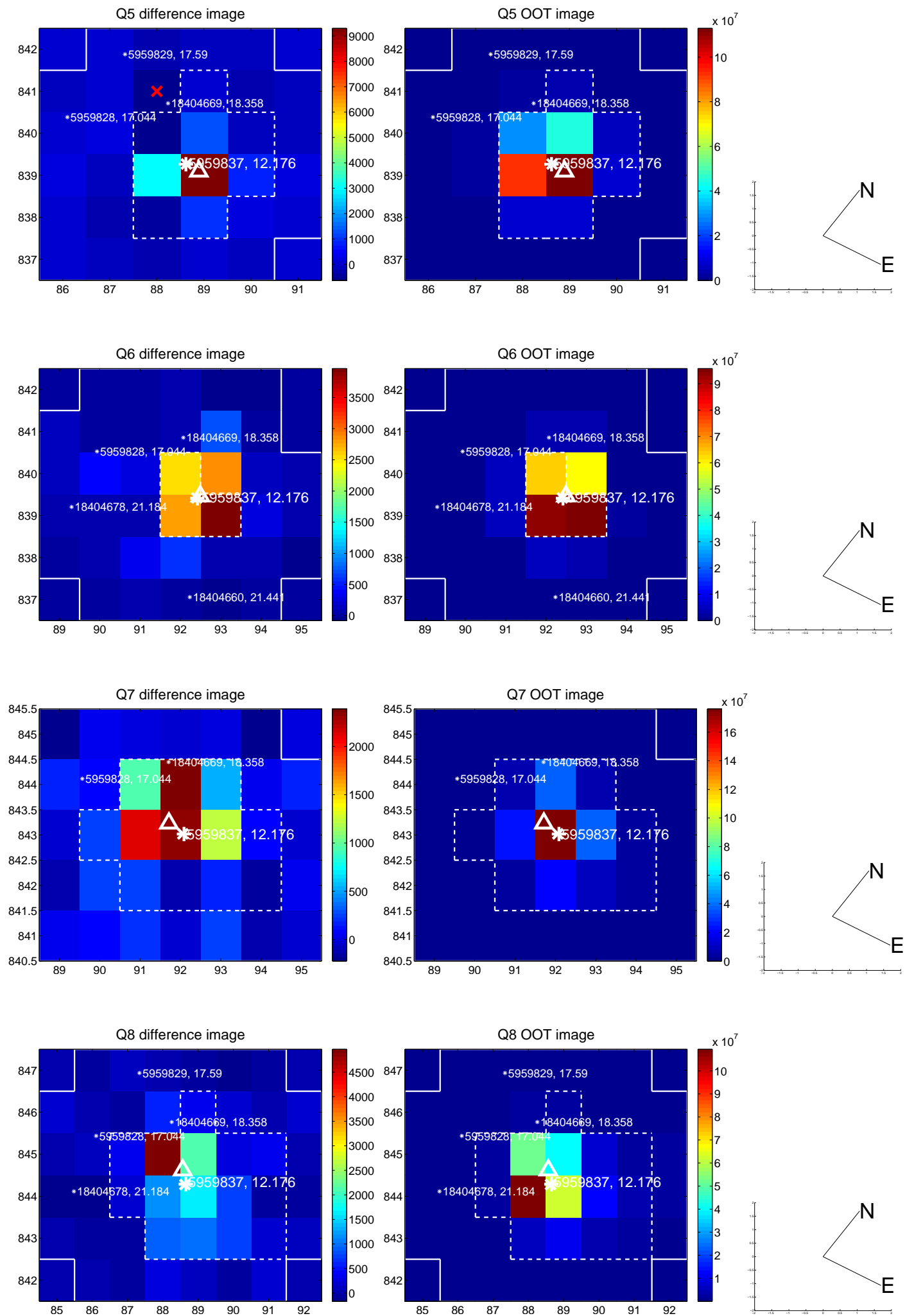


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

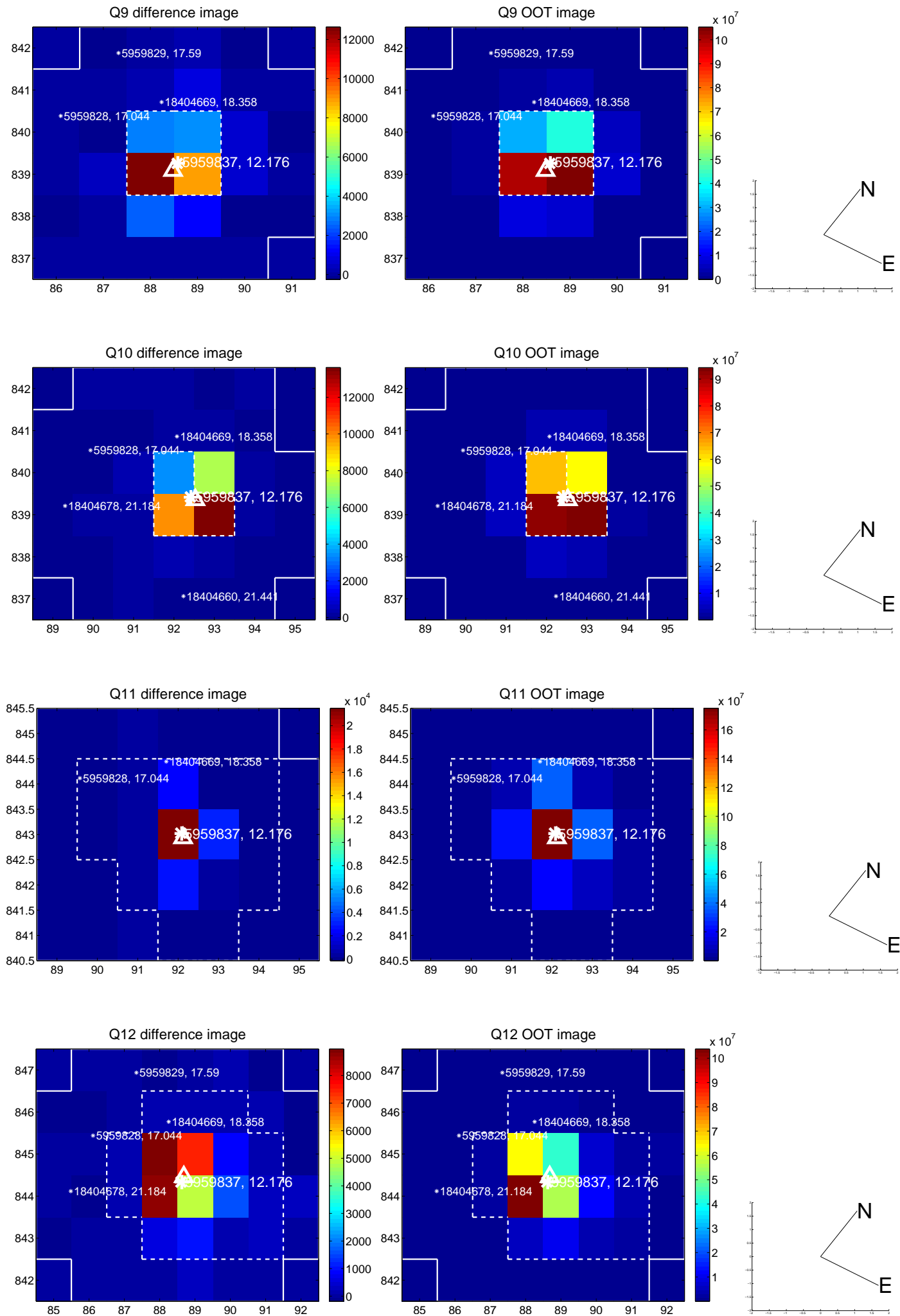
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



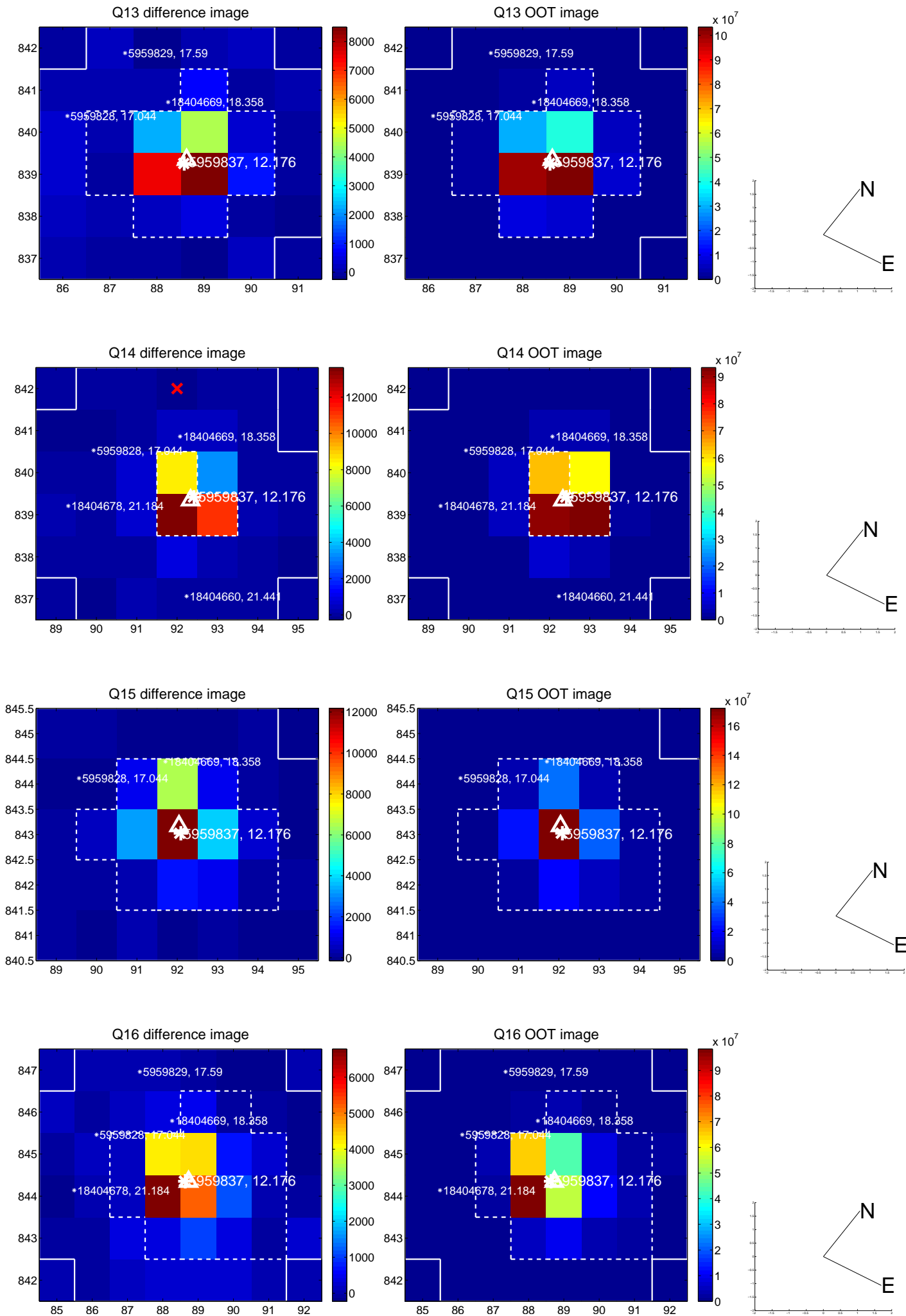
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



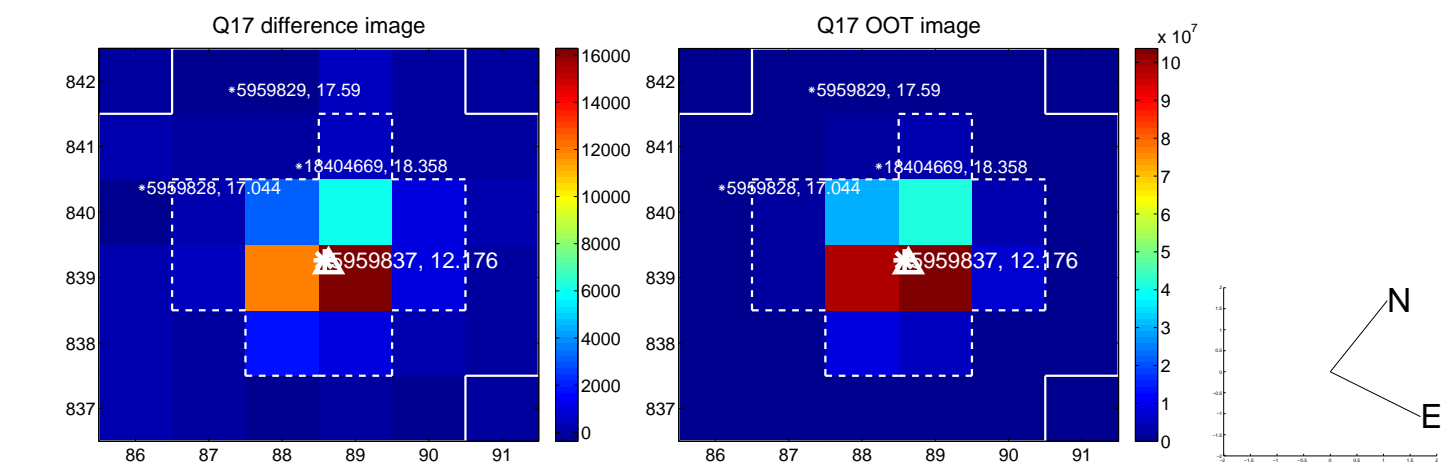
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



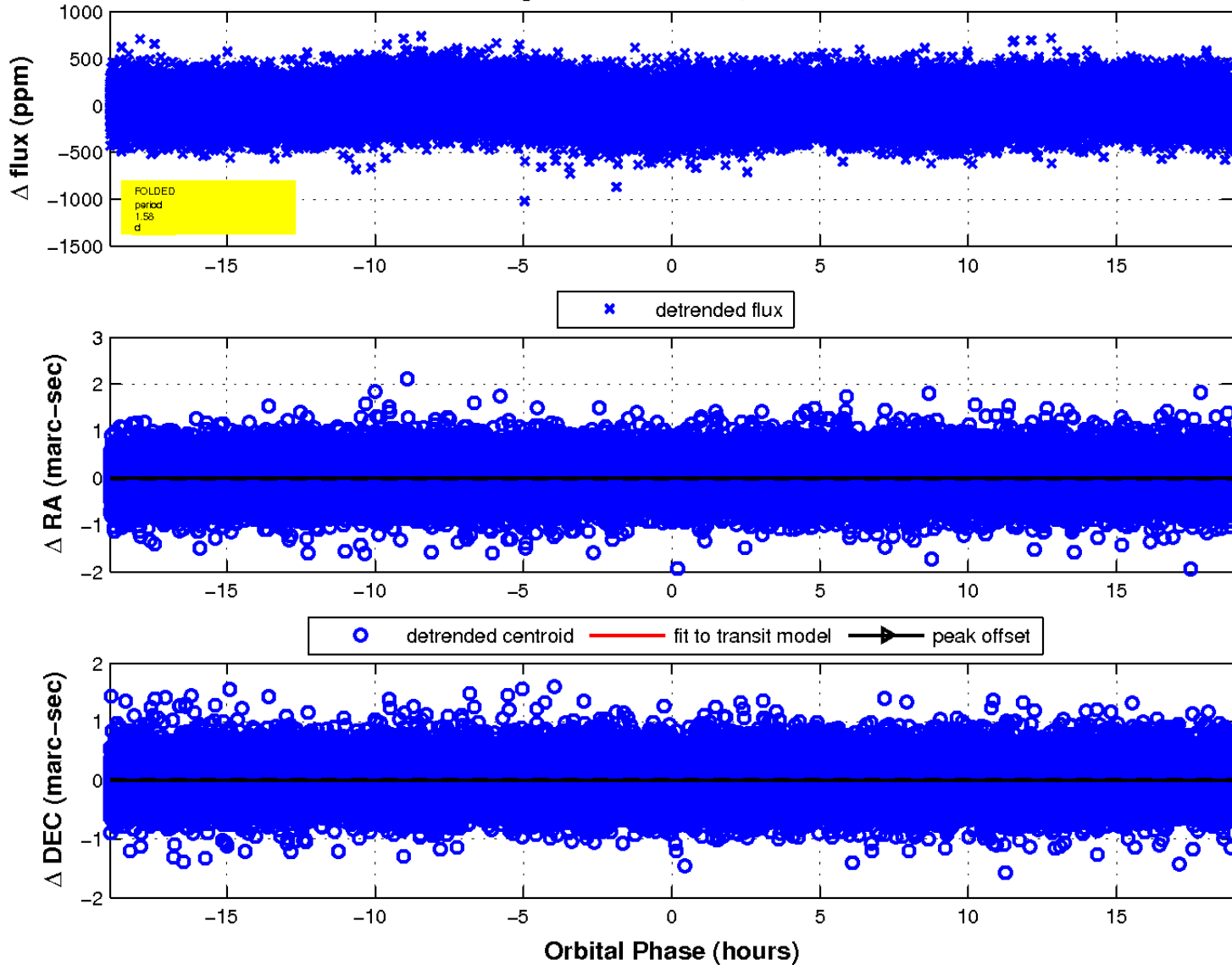
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

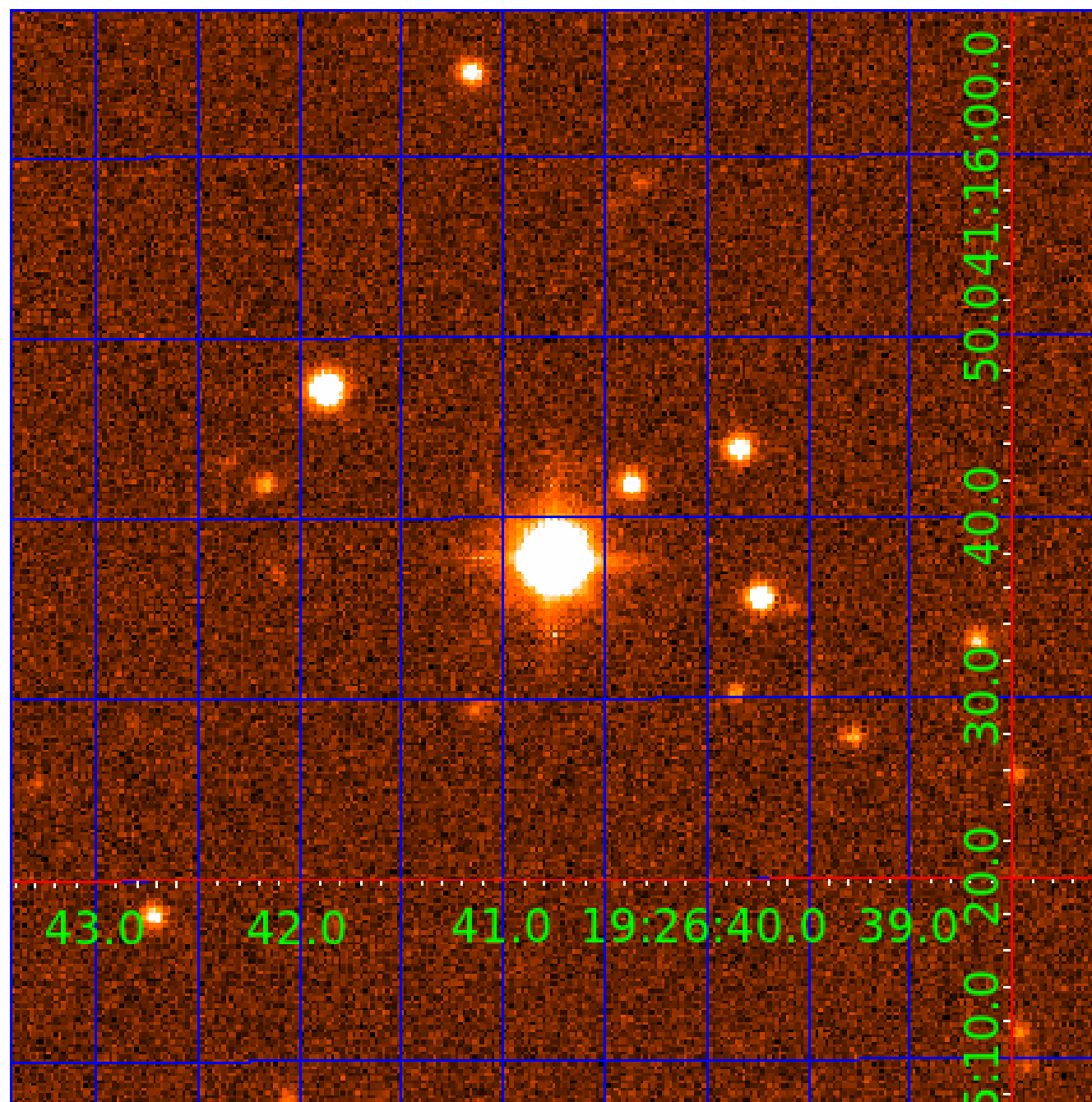


fluxWeightedCentroids, Planet 1 of 7



UKIRT Image

Declination



KIC 005959837

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})
005959837-01	OBS	No	1.578401	131.636829	27.3	8.138	12.2	10.2	2.11	6856	1.31	9050.73
005959837-02	OBS	No	552.315144	342.666907	340.6	10.036	10.1	10.3	2.11	6856	4.46	3.67
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005959837-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
005959837-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—CENT_FEW_DIFFS
005959837-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005959837-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005959837-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005959837-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005959837-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

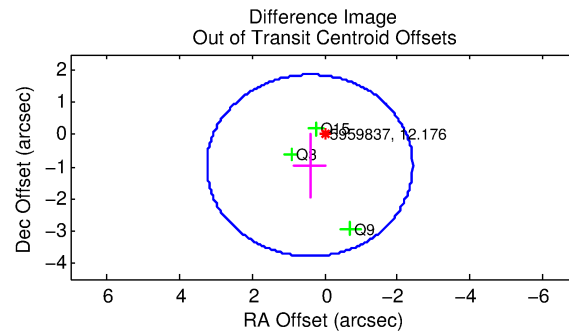
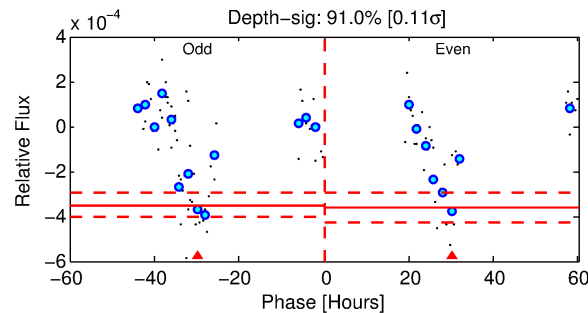
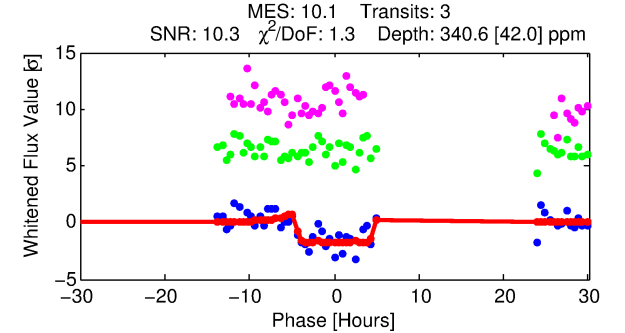
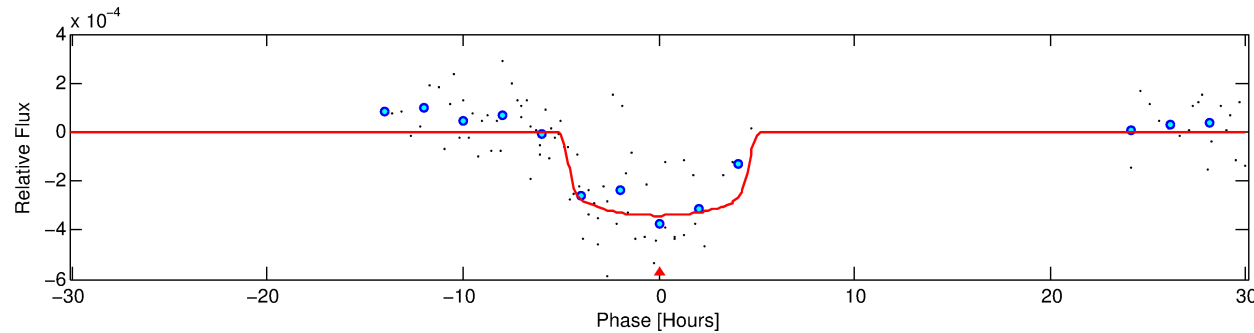
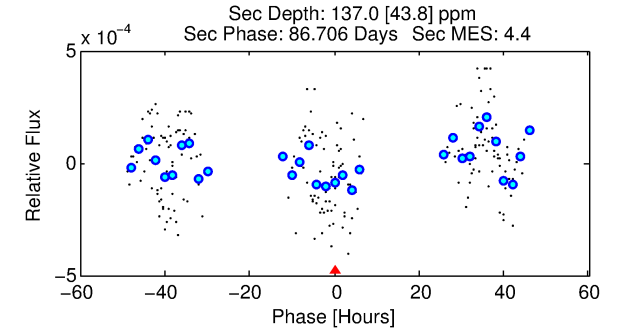
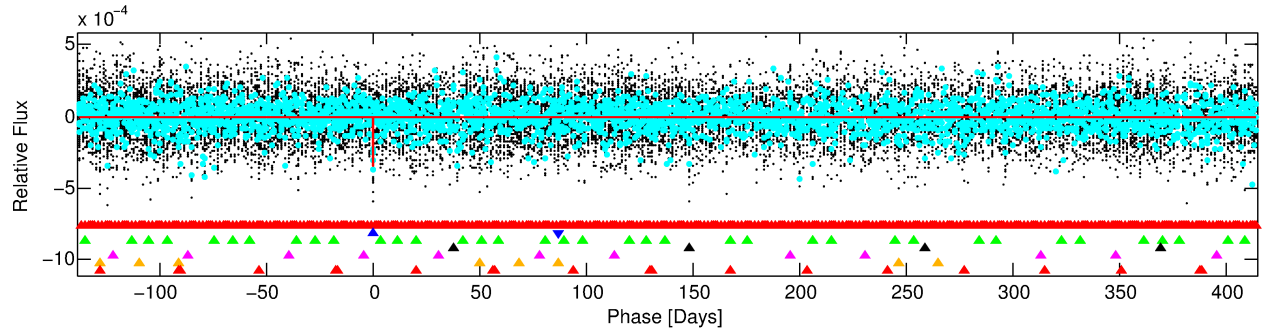
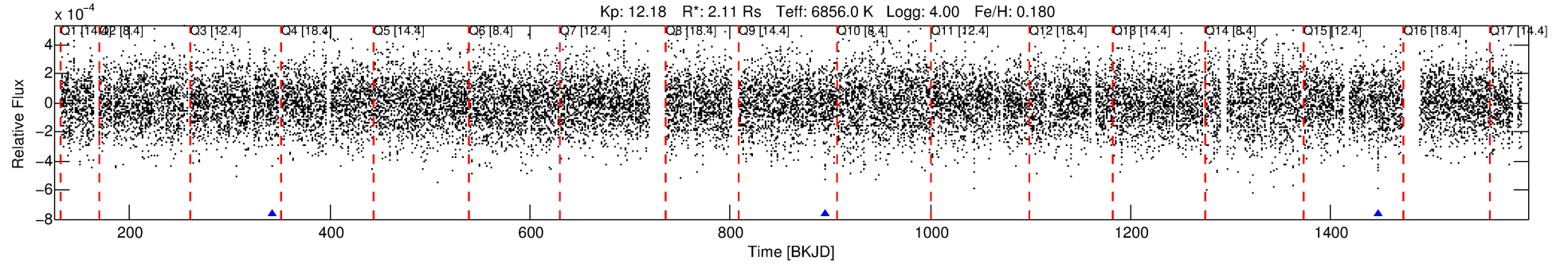
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005959837-02

No Significant Match Found

DV One-Page Summary

KIC: 5959837 Candidate: 2 of 7 Period: 552.315 d



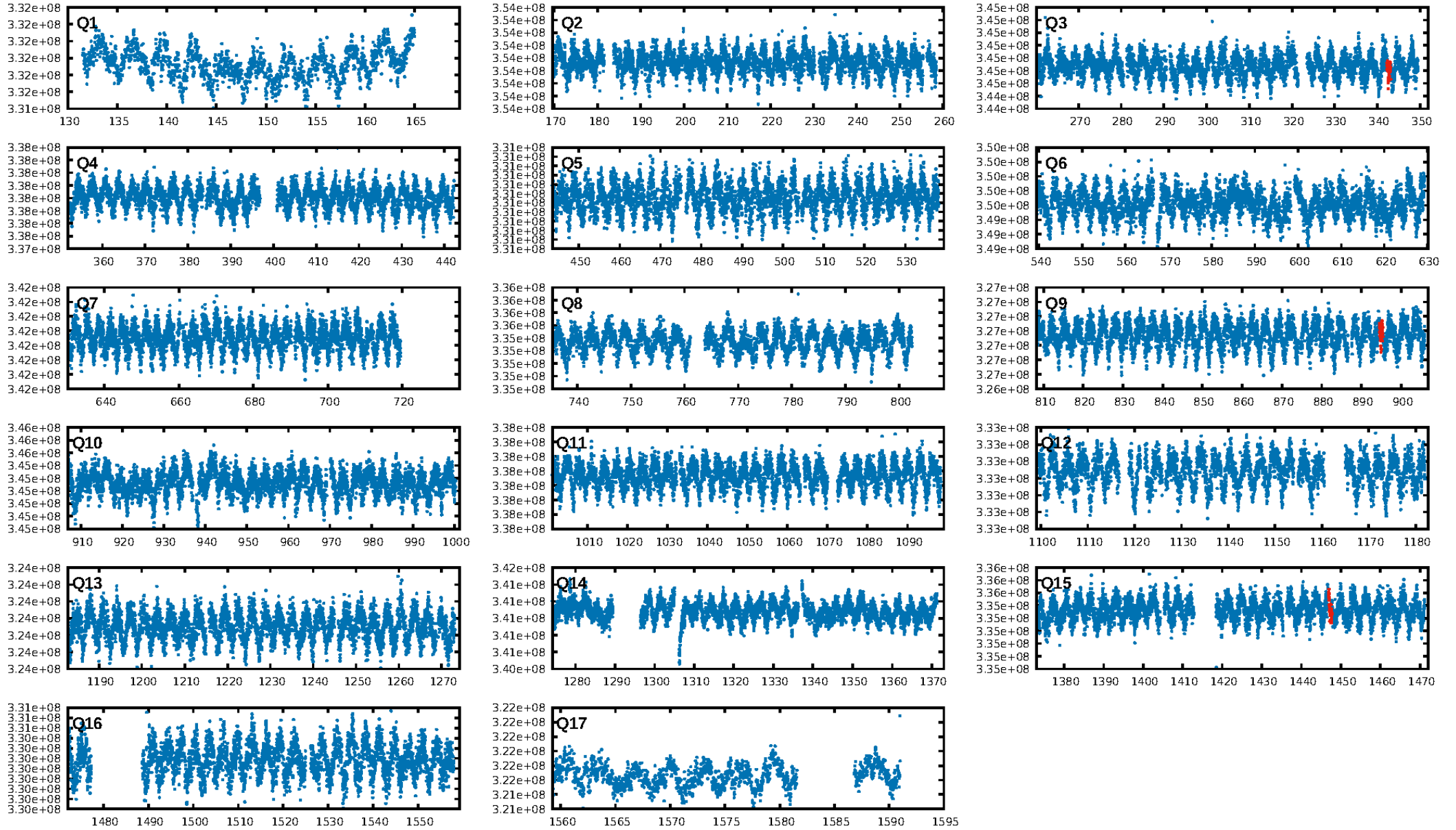
DV Fit Results:

Period = 552.31514 [0.01000] d
Epoch = 342.6669 [0.0175] BKJD
Rp/R* = 0.0193 [0.0024]
a/R* = 220.71 [126.02]
b = 0.87 [0.16]
Seff = 3.67 [1.07]
Teff = 353 [26] K
Rp = 4.46 [1.08] Re
a = 1.5510 [0.2899] AU
Ag = 9130.51 [4504.29] [2.03σ]
Teffp = 5334 [542] K [9.19σ]

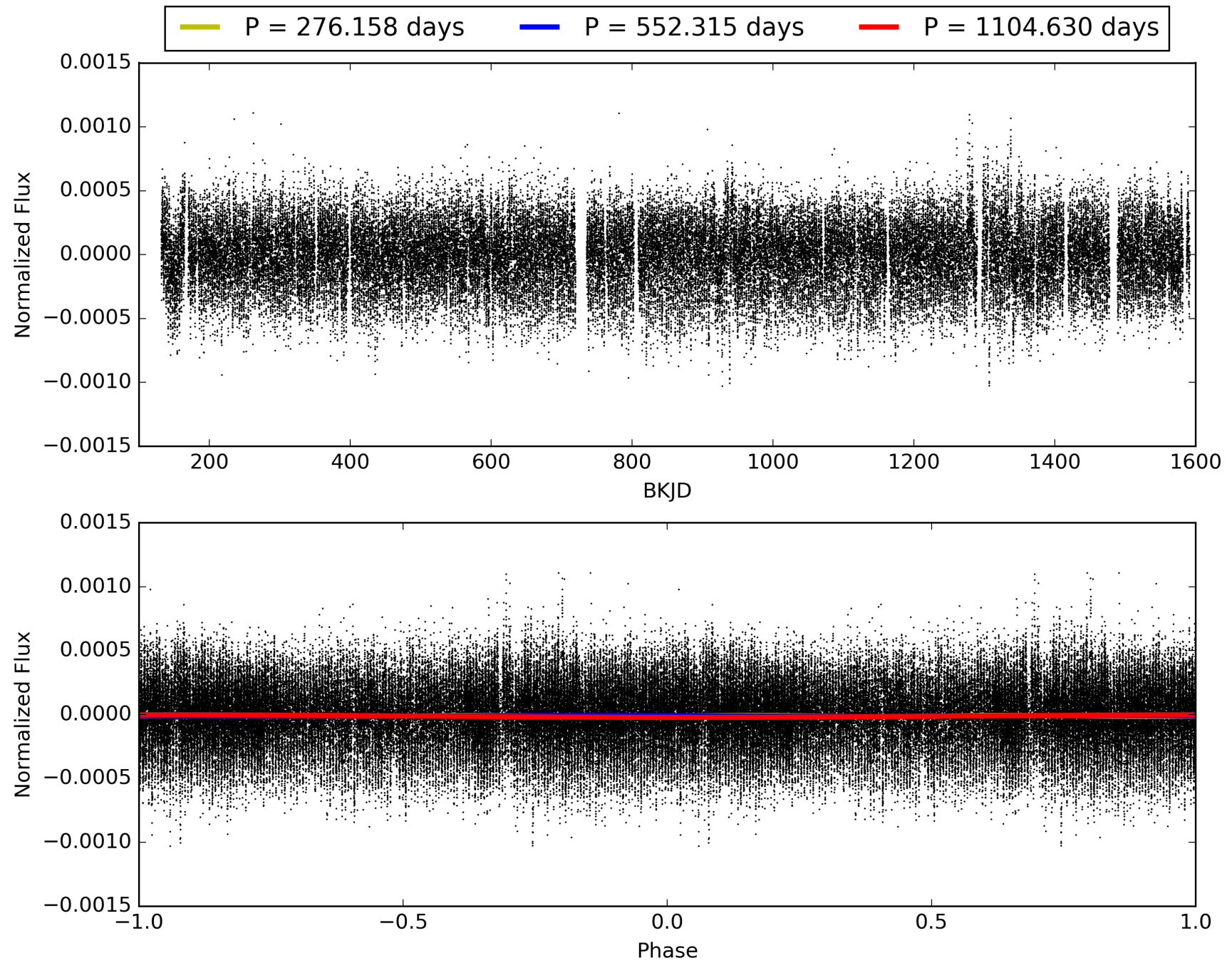
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [212.36σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 94.3%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.432
Centroid-sig: 83.8%
Centroid-so: 0.141 arcsec [0.34σ]
OotOffset-rm: 1.048 arcsec [1.11σ]
KicOffset-rm: 1.041 arcsec [1.13σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/3]

TCE 005959837-02, PDC Light Curves

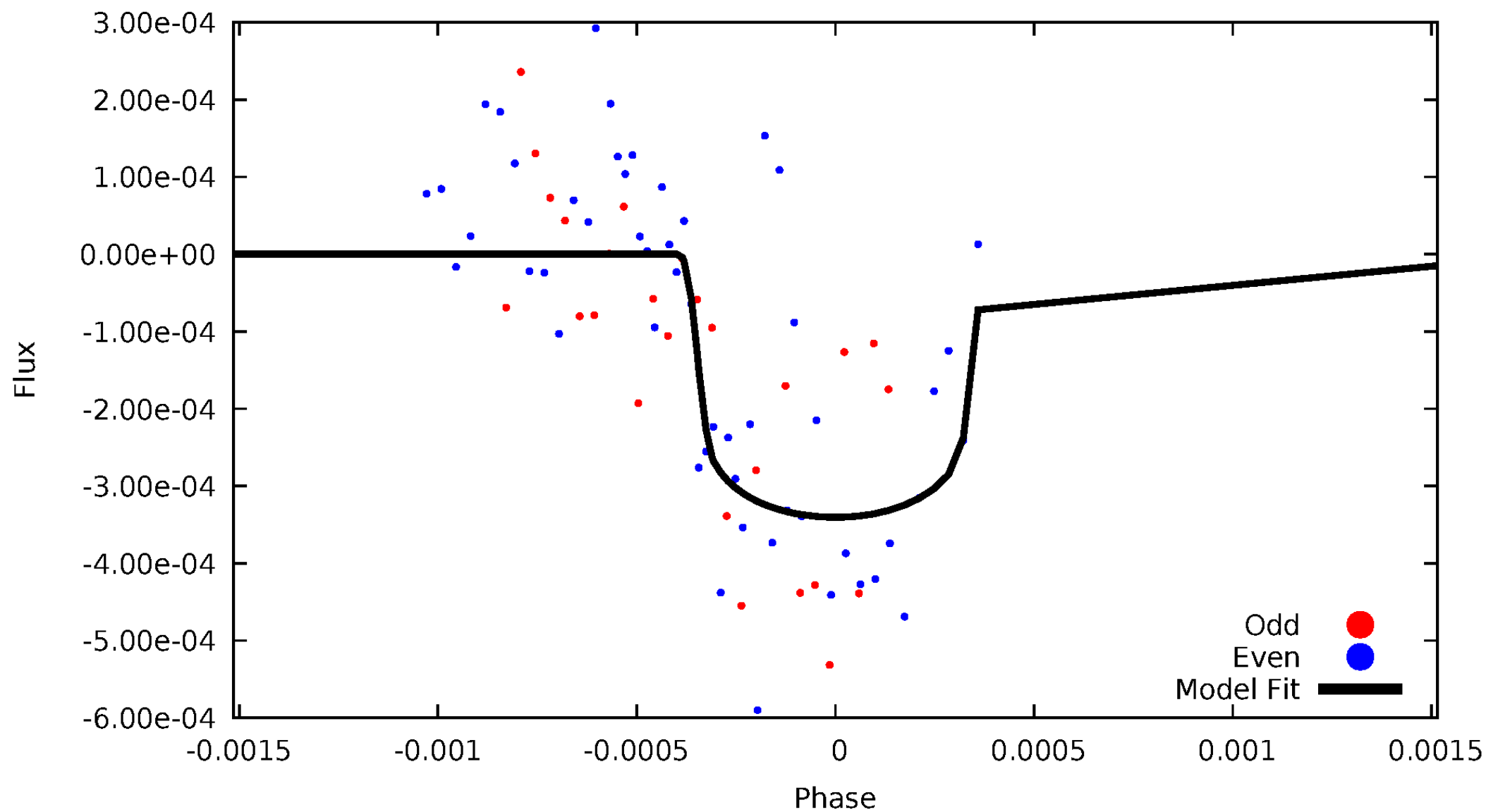


TCE 005959837-02



DV Odd/Even

TCE 005959837-02

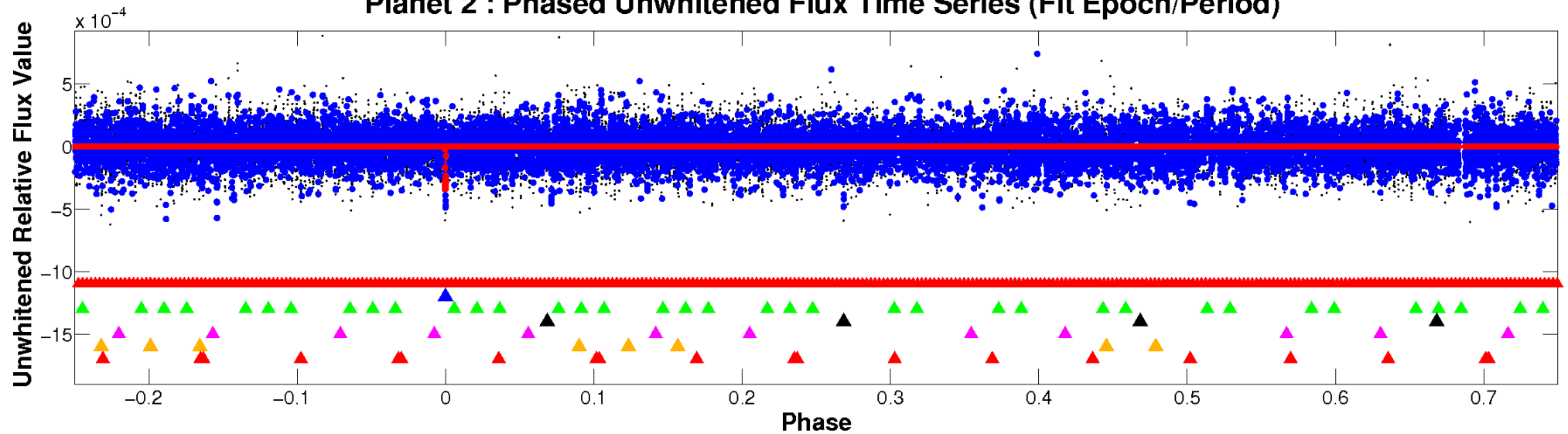


ALT Odd/Even

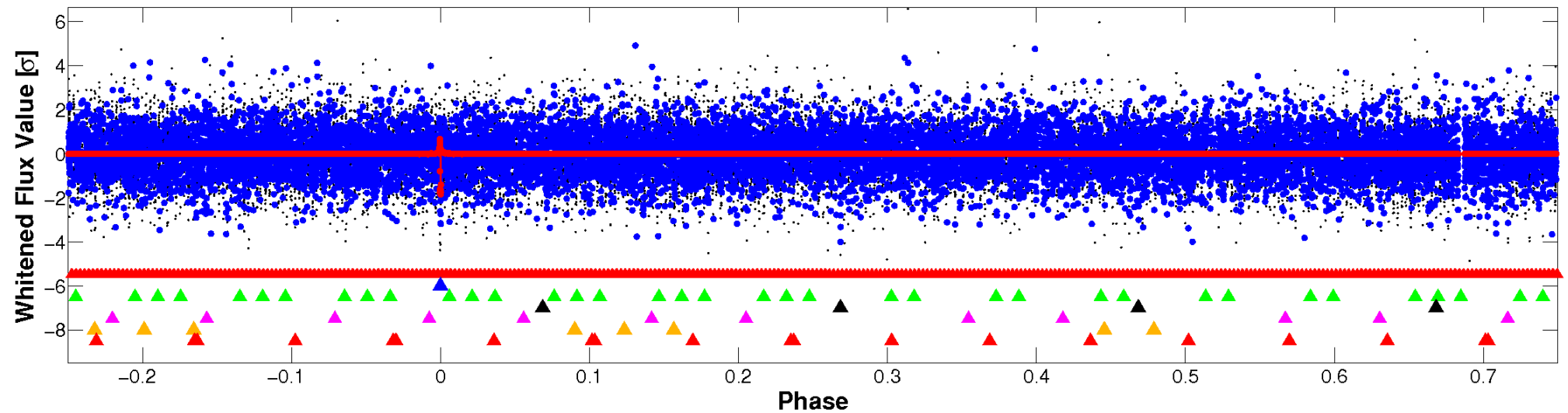
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

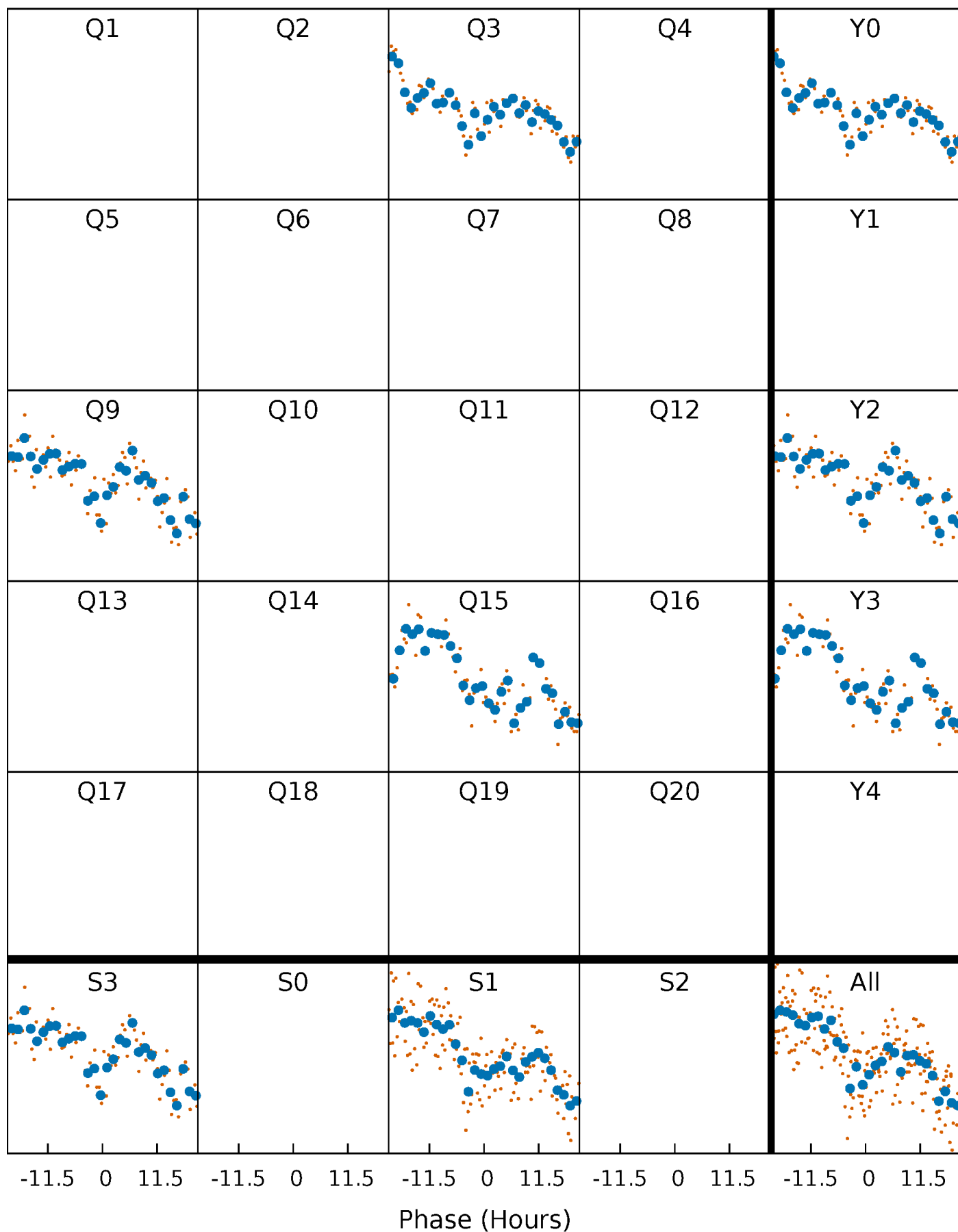


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



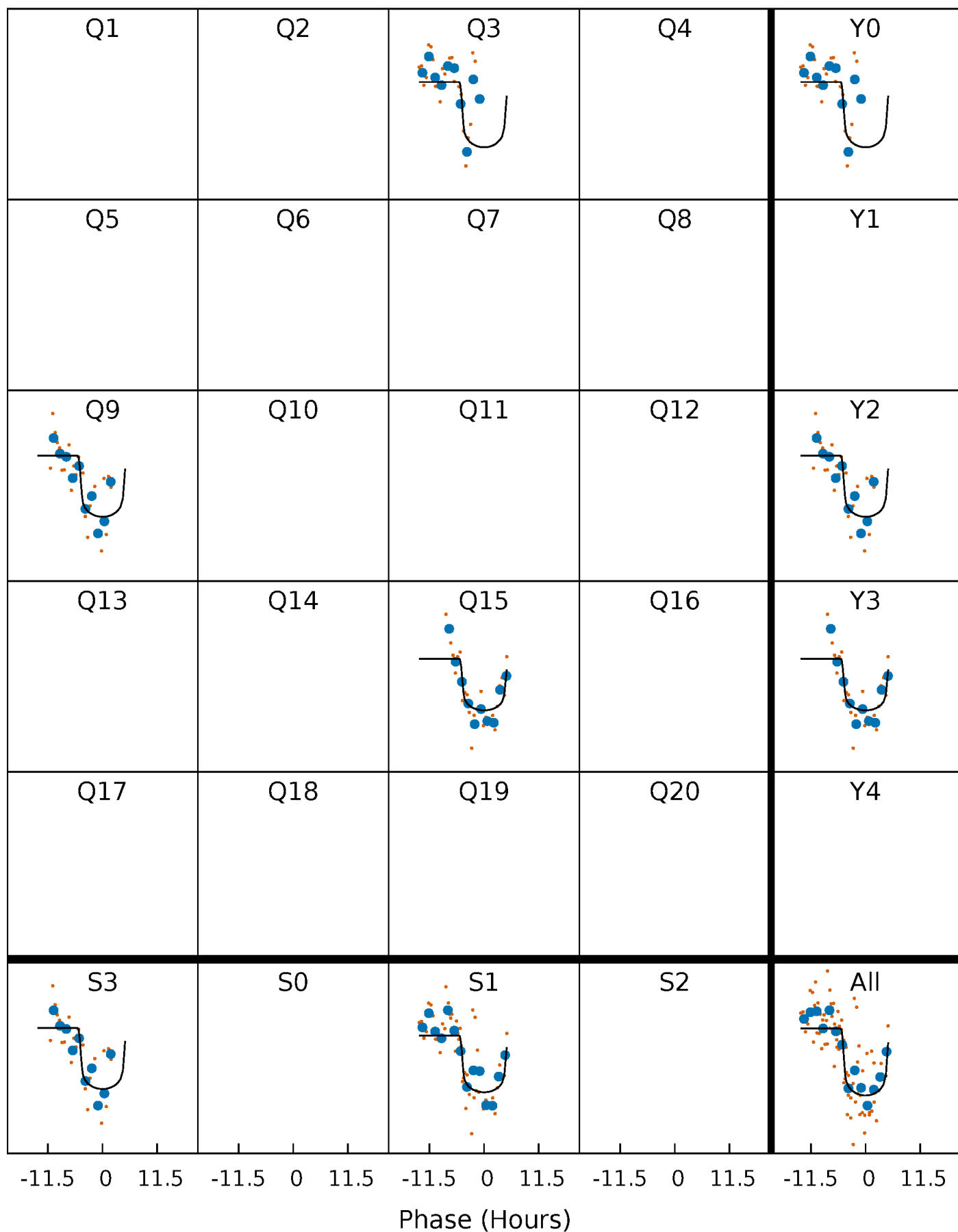
PDC Quarter-Phased Transit Curves

TCE 005959837-02 $P=552.315144$ Days $T_0=342.666907$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 005959837-02 P=552.315144 Days $T_0=342.666907$ (BKJD)

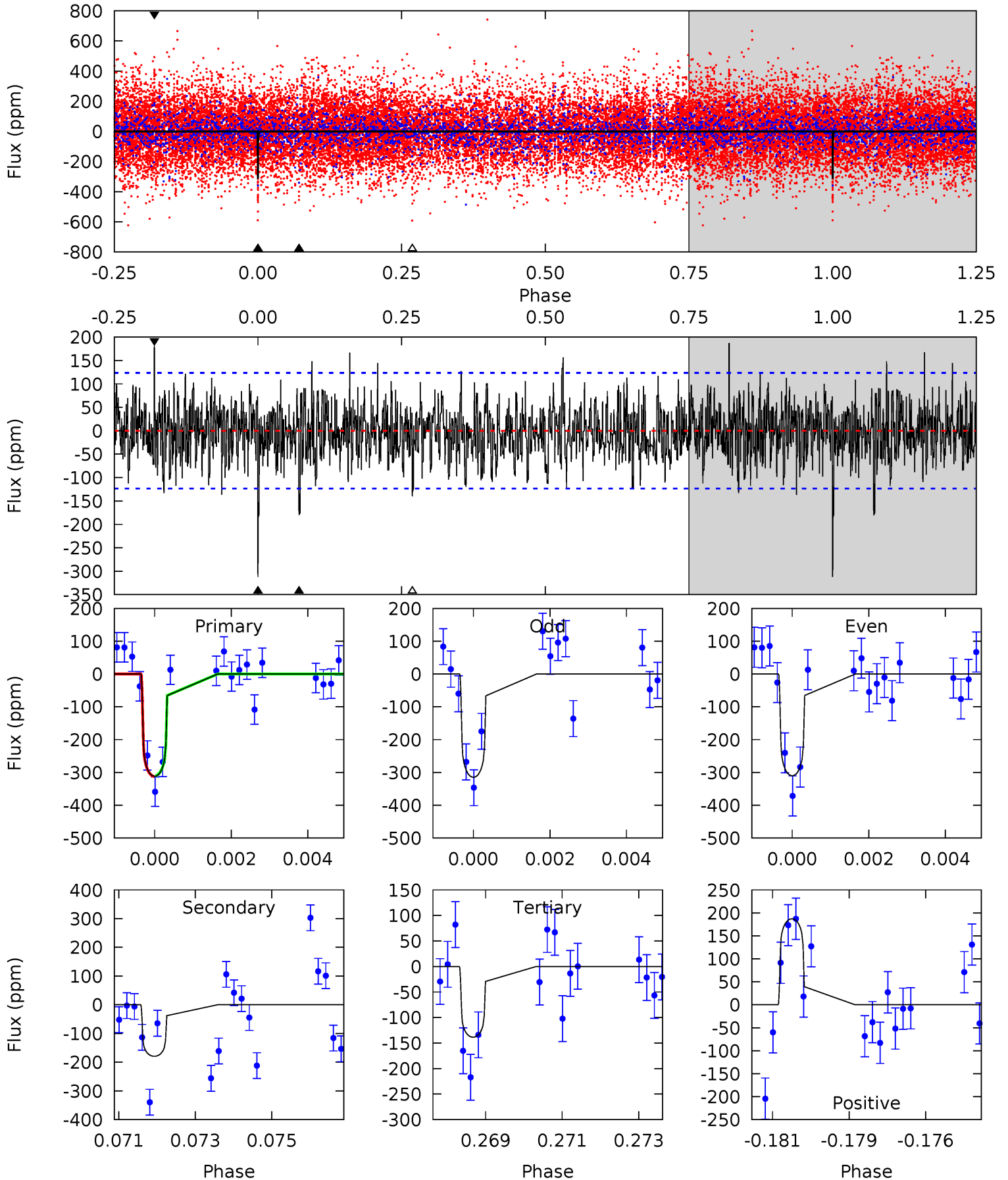


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

005959837-02, P = 552.315144 Days, E = 342.666907 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	7.72	5.96	8.04	5.31	3.06	1.94	7.45	5.36	1.76	-0.33	0.09	0.88	0.38	0.04



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 005959837

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6856^{+72}_{-92}	$4.001^{+0.162}_{-0.108}$	$0.180^{+0.150}_{-0.150}$	$2.112^{+0.362}_{-0.442}$	$1.630^{+0.111}_{-0.166}$	$0.244^{+0.183}_{-0.082}$
	+1%/-1%	+4%/-3%	+83%/-83%	+17%/-21%	+7%/-10%	+75%/-34%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005959837-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-179 ± 23	$4.39^{+0.75}_{-0.67}$	493^{+22}_{-28}	5701^{+402}_{-363}	12285^{+5199}_{-3532}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

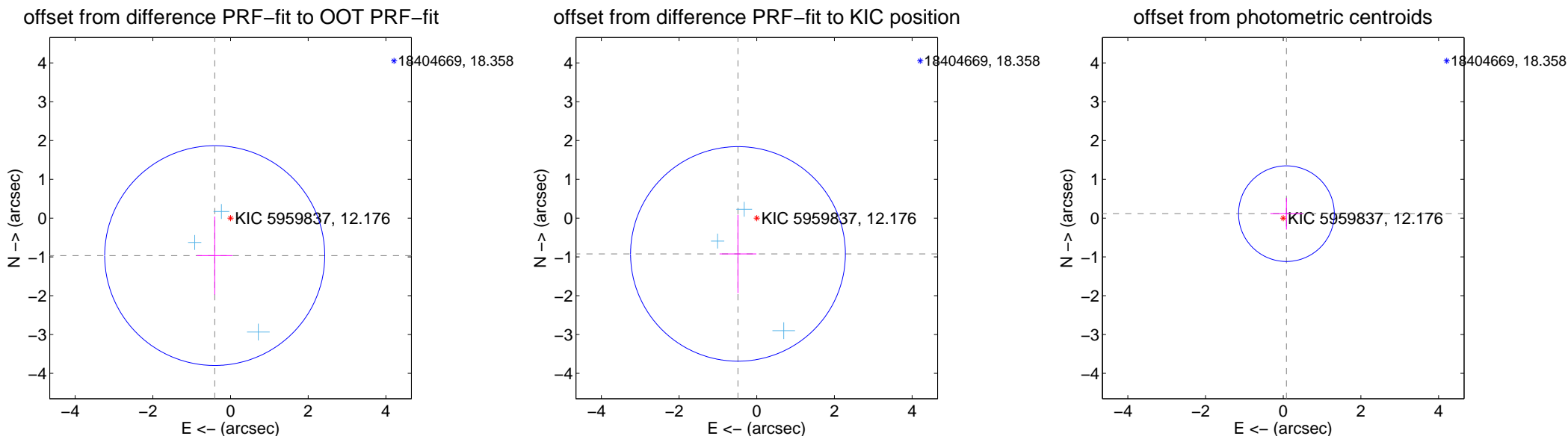
DV Centroid Data

Supplemental centroid analysis for 005959837-02. Kepler magnitude: 12.18. Transit SNR 10.27

There are 3 quarters with good PRF difference image offsets

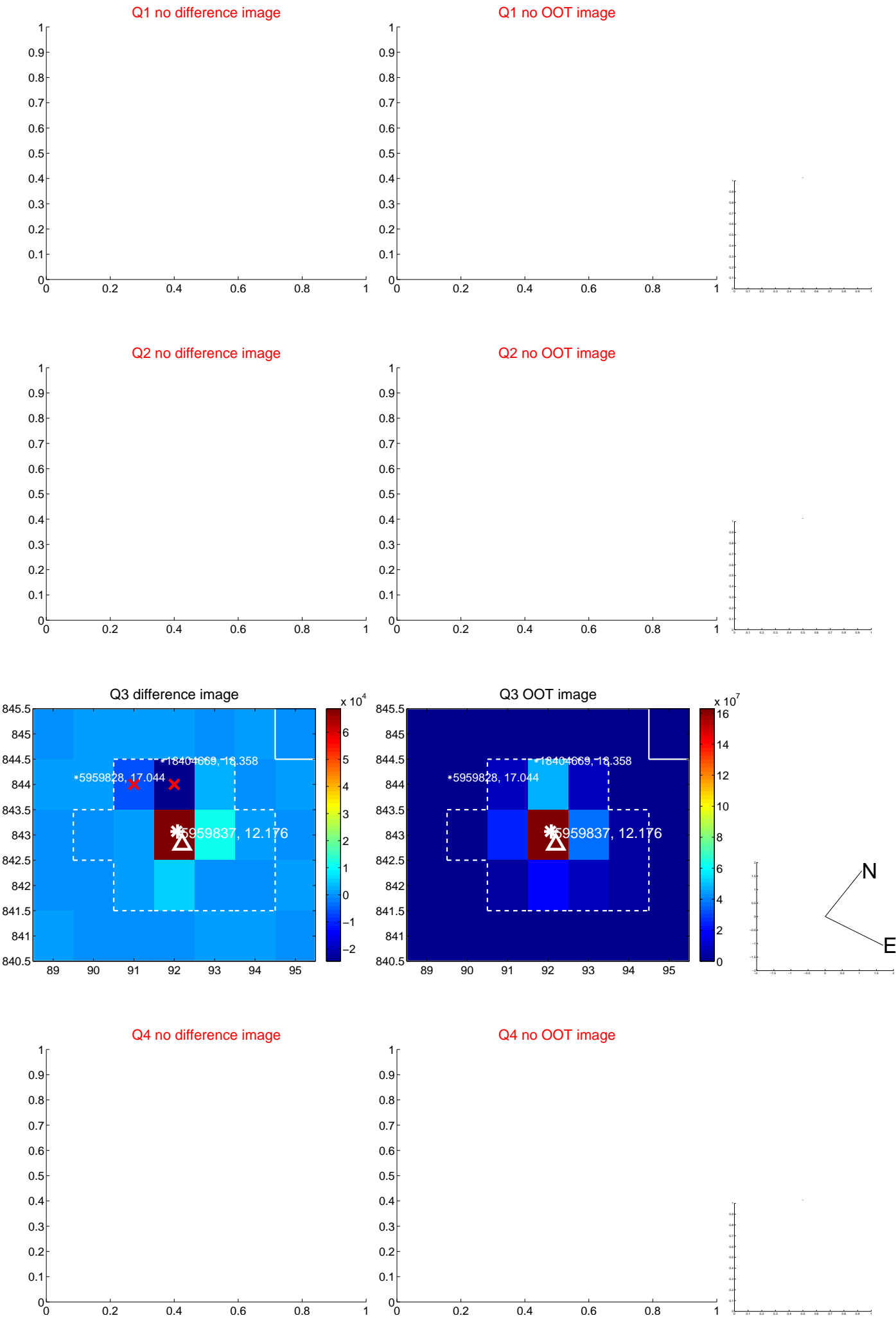
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.048 ± 0.944	1.11	0.407 ± 0.458	-0.965 ± 1.006
PRF-fit source offset from KIC position	1.041 ± 0.922	1.13	0.483 ± 0.473	-0.922 ± 1.010
photometric centroid source offset	0.14 ± 0.41	0.34	-0.08 ± 0.41	0.11 ± 0.41



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.

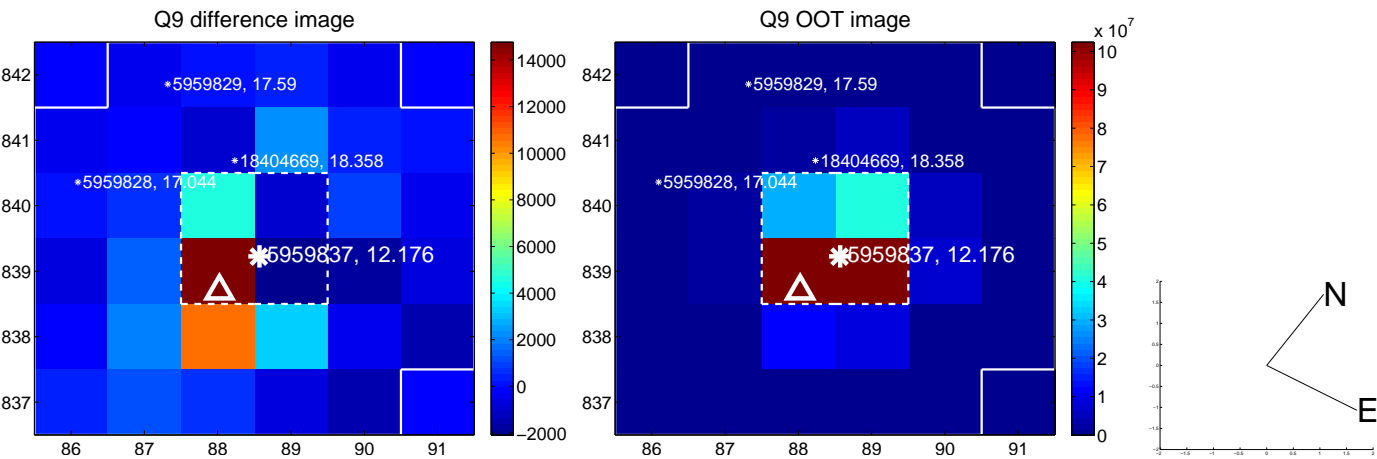
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



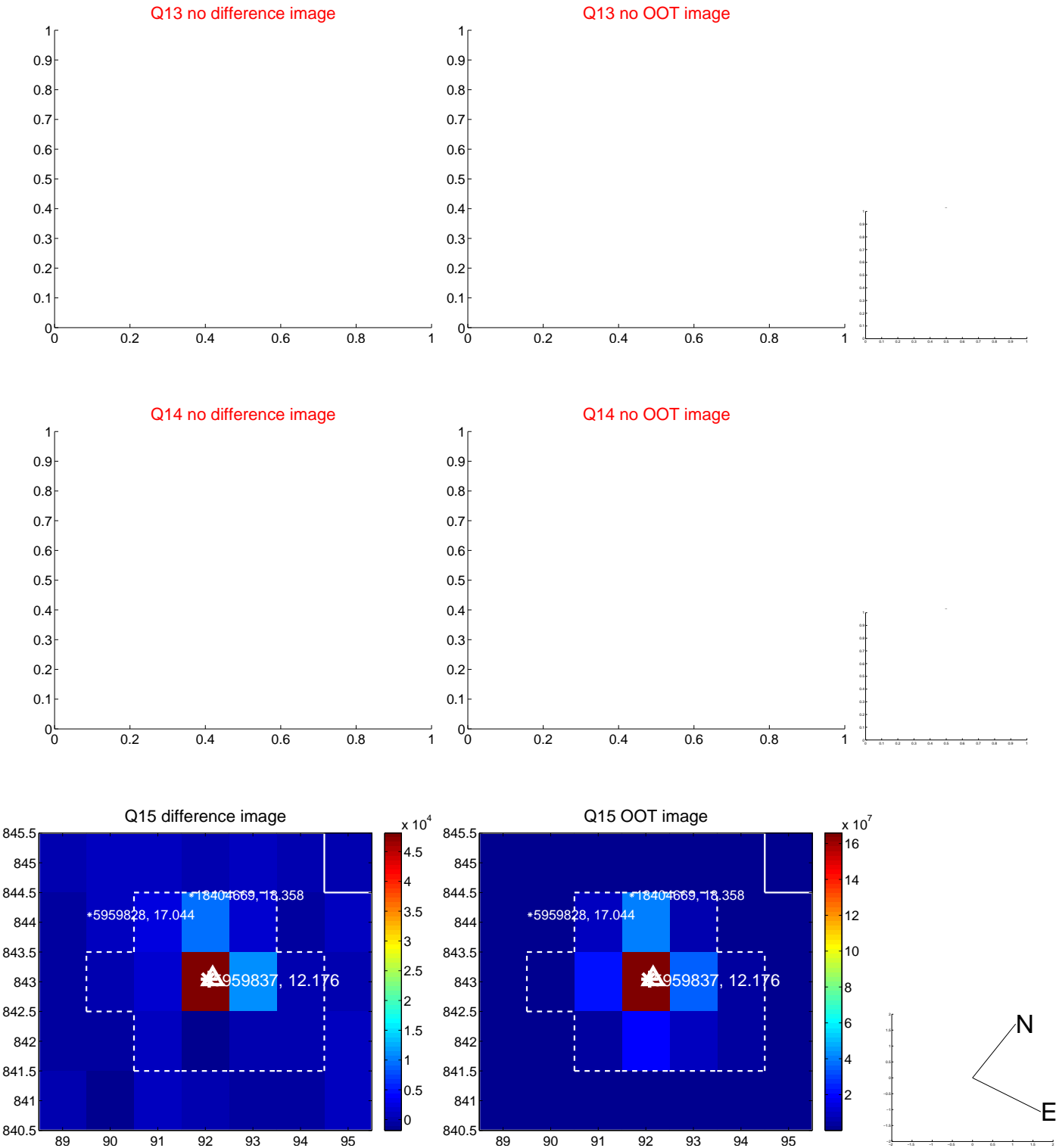
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



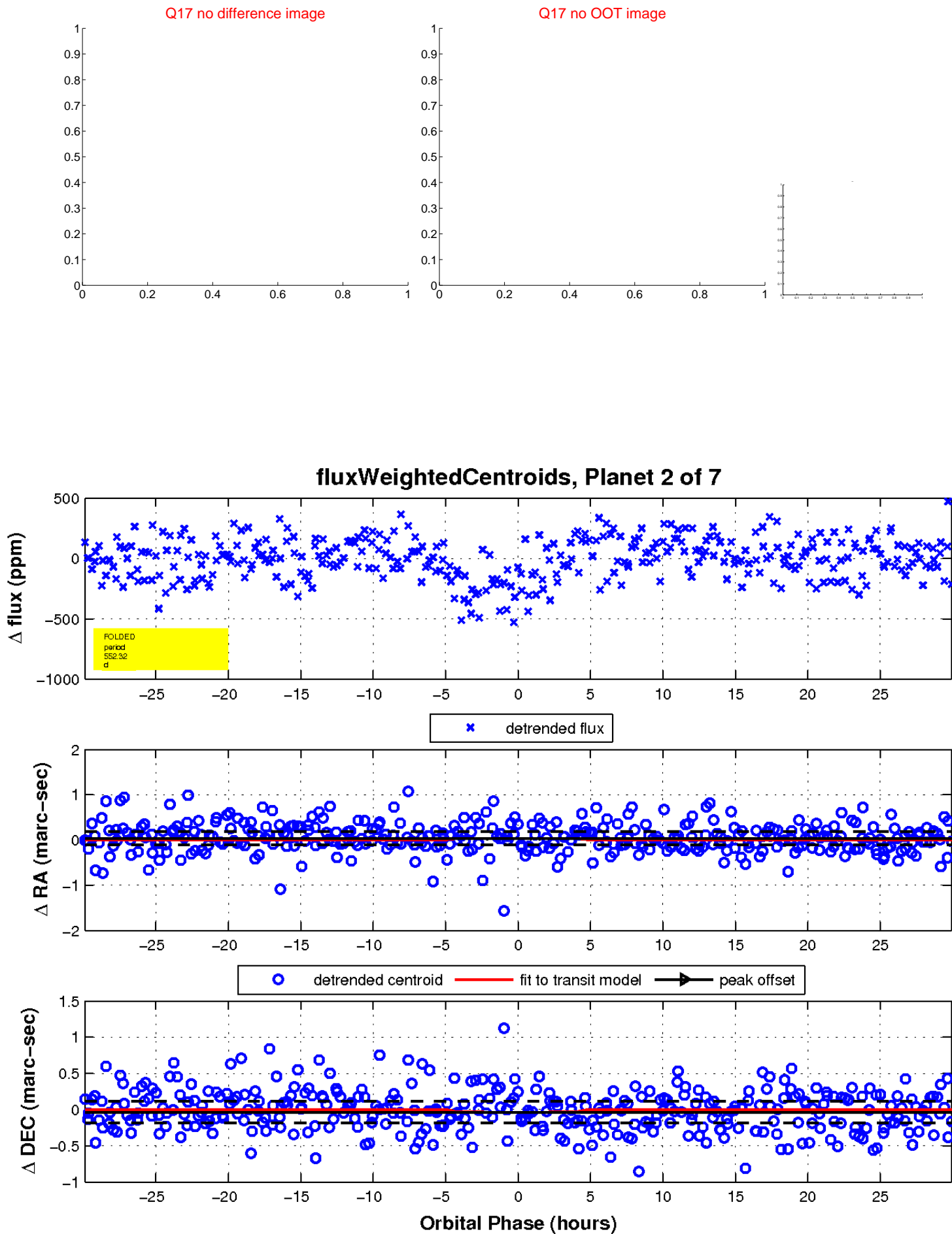
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

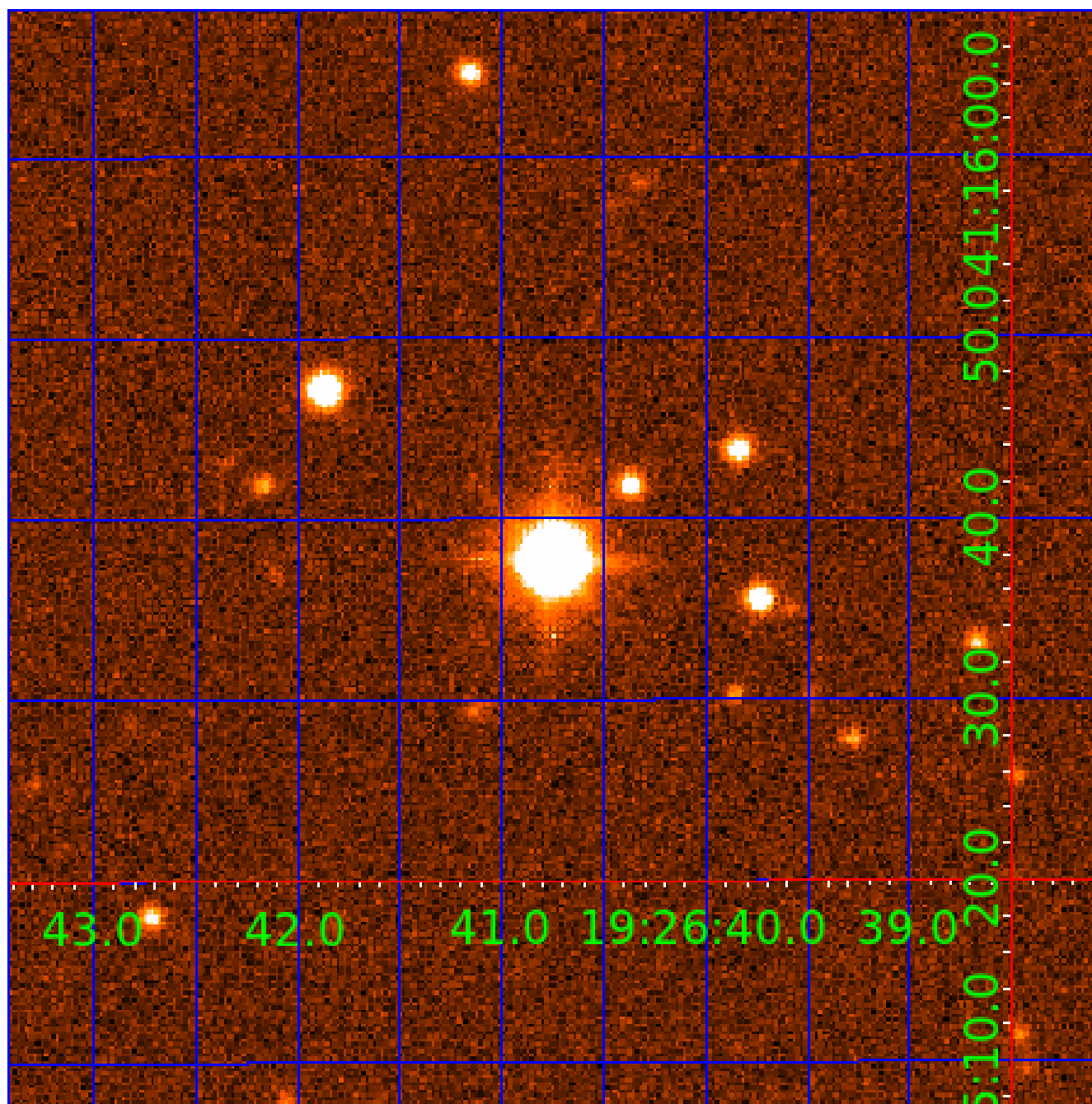


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005959837

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})
005959837-01	OBS	No	1.578401	131.636829	27.3	8.138	12.2	10.2	2.11	6856	1.31	9050.73
005959837-02	OBS	No	552.315144	342.666907	340.6	10.036	10.1	10.3	2.11	6856	4.46	3.67
005959837-03	OBS	No	38.847634	168.630566	202.0	2.481	9.3	10.0	2.11	6856	3.71	126.42
005959837-04	OBS	No	441.907681	159.462605	300.0	7.415	8.6	8.4	2.11	6856	4.78	4.94
005959837-05	OBS	No	117.461521	186.036741	204.6	6.106	8.4	7.8	2.11	6856	3.55	28.91
005959837-06	OBS	No	177.981800	251.201947	232.4	9.159	7.9	8.0	2.11	6856	3.43	16.61
005959837-07	OBS	No	73.711089	177.731707	82.2	7.500	7.3	-1.0	2.11	6856	1.93	53.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005959837-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
005959837-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—CENT_FEW_DIFFS
005959837-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005959837-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005959837-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005959837-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005959837-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

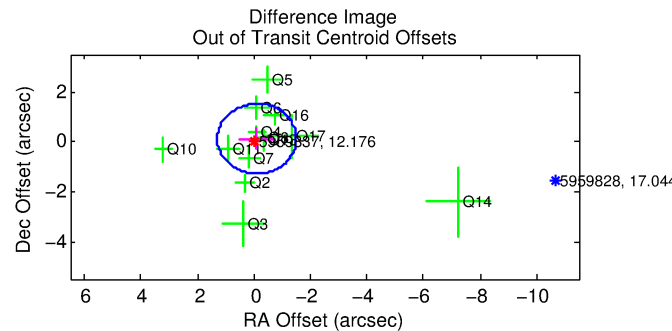
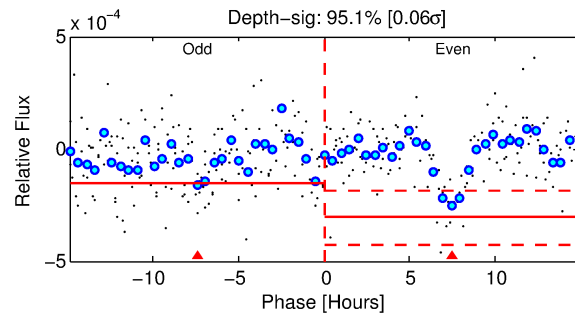
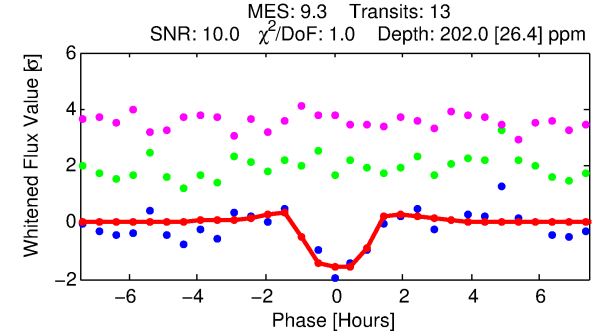
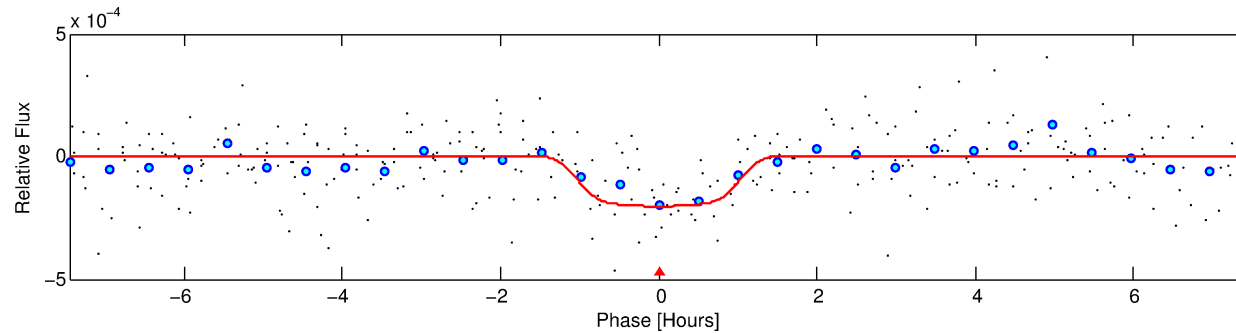
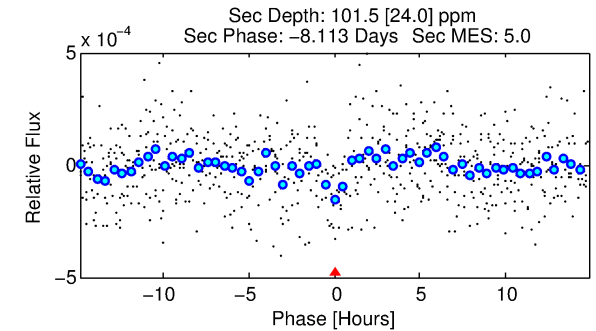
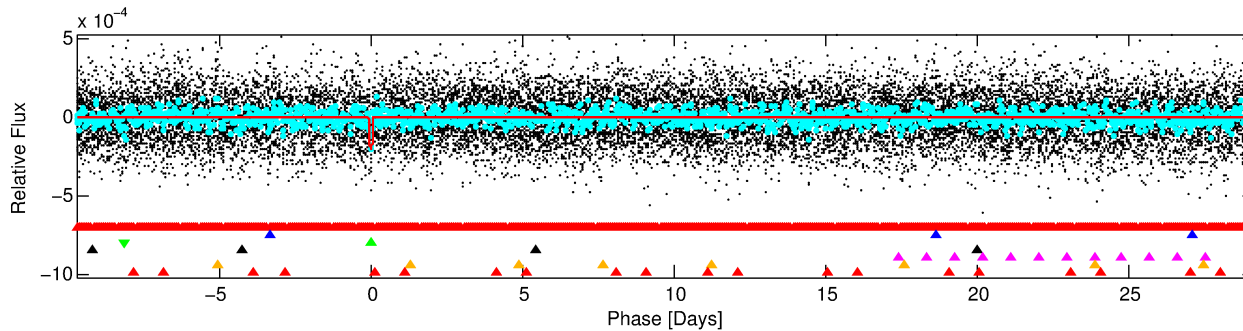
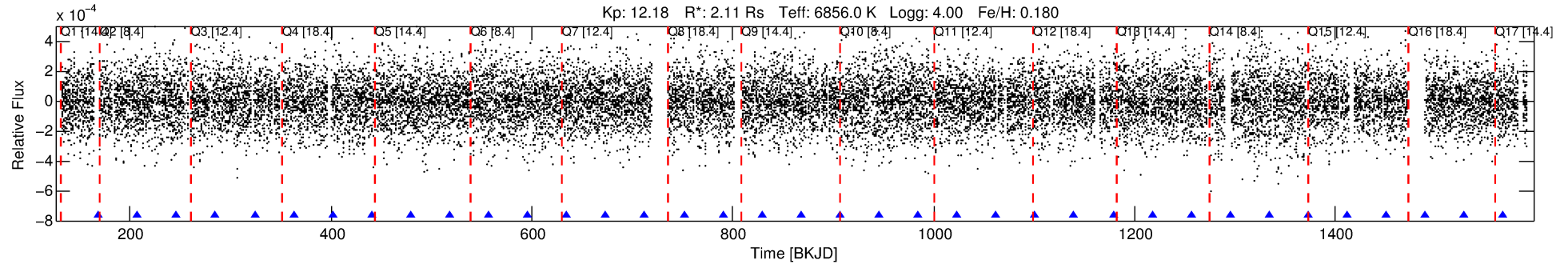
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005959837-03

No Significant Match Found

DV One-Page Summary

KIC: 5959837 Candidate: 3 of 7 Period: 38.848 d



DV Fit Results:

Period = 38.84763 [0.00027] d
Epoch = 168.6306 [0.0059] BKJD
Rp/R* = 0.0161 [0.0031]
a/R* = 42.20 [40.98]
b = 0.95 [0.10]
Seff = 126.42 [36.68]
Teff = 855 [62] K
Rp = 3.71 [1.05] Re
a = 0.2643 [0.0494] AU
Ag = 283.19 [150.28] [1.88σ]
Teffp = 5423 [611] K [7.44σ]

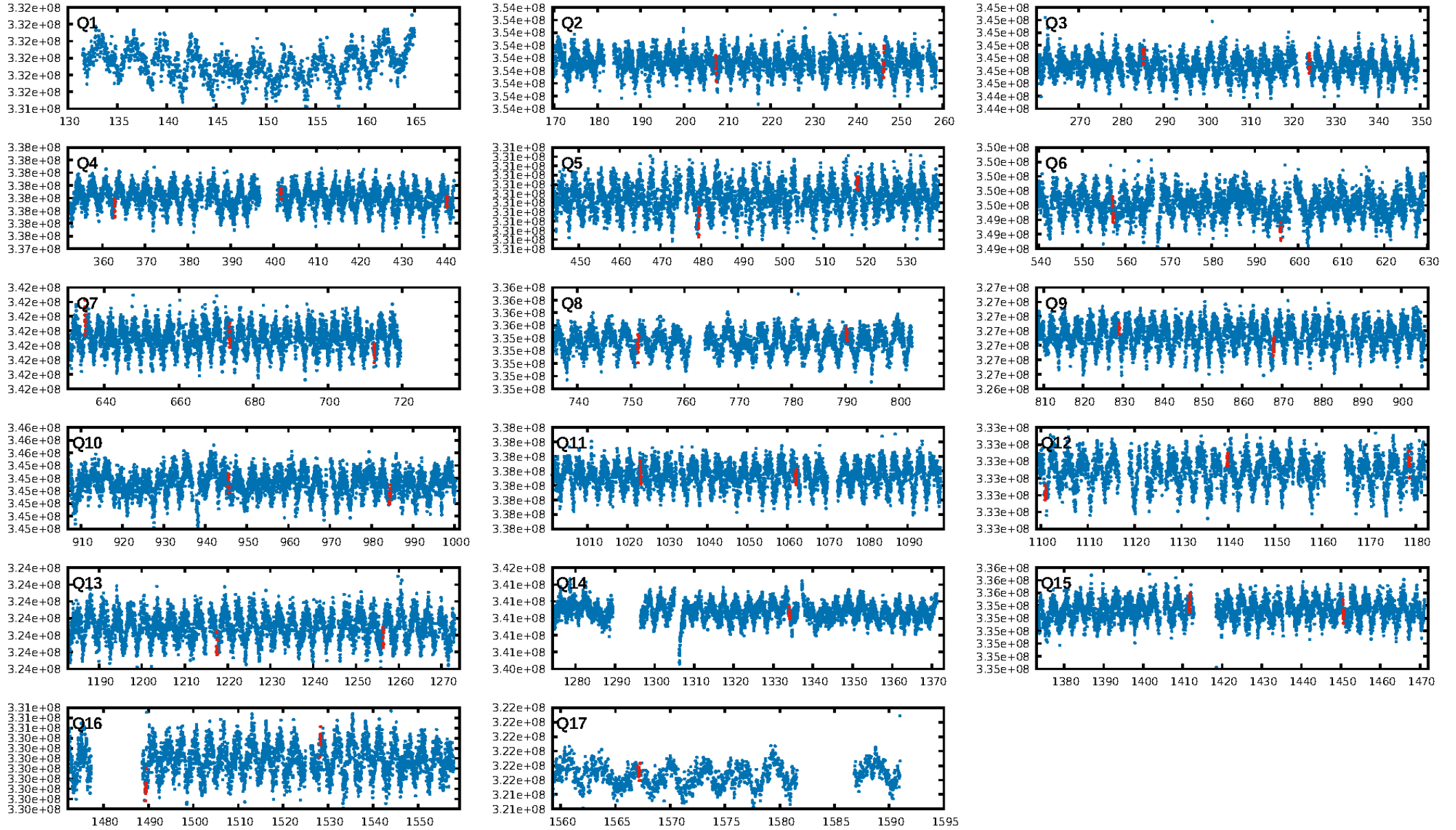
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [105.13σ]
LongPeriod-sig: 100.0% [105.92σ]
ModelChiSquare2-sig: 32.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: -3.292
Centroid-sig: 27.8%
Centroid-so: 0.321 arcsec [0.93σ]
OotOffset-rm: 0.157 arcsec [0.33σ]
KicOffset-rm: 0.170 arcsec [0.44σ]
OotOffset-st: 4/3/3/3 [13]
KicOffset-st: 4/3/3/3 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 0.56 [9/16]

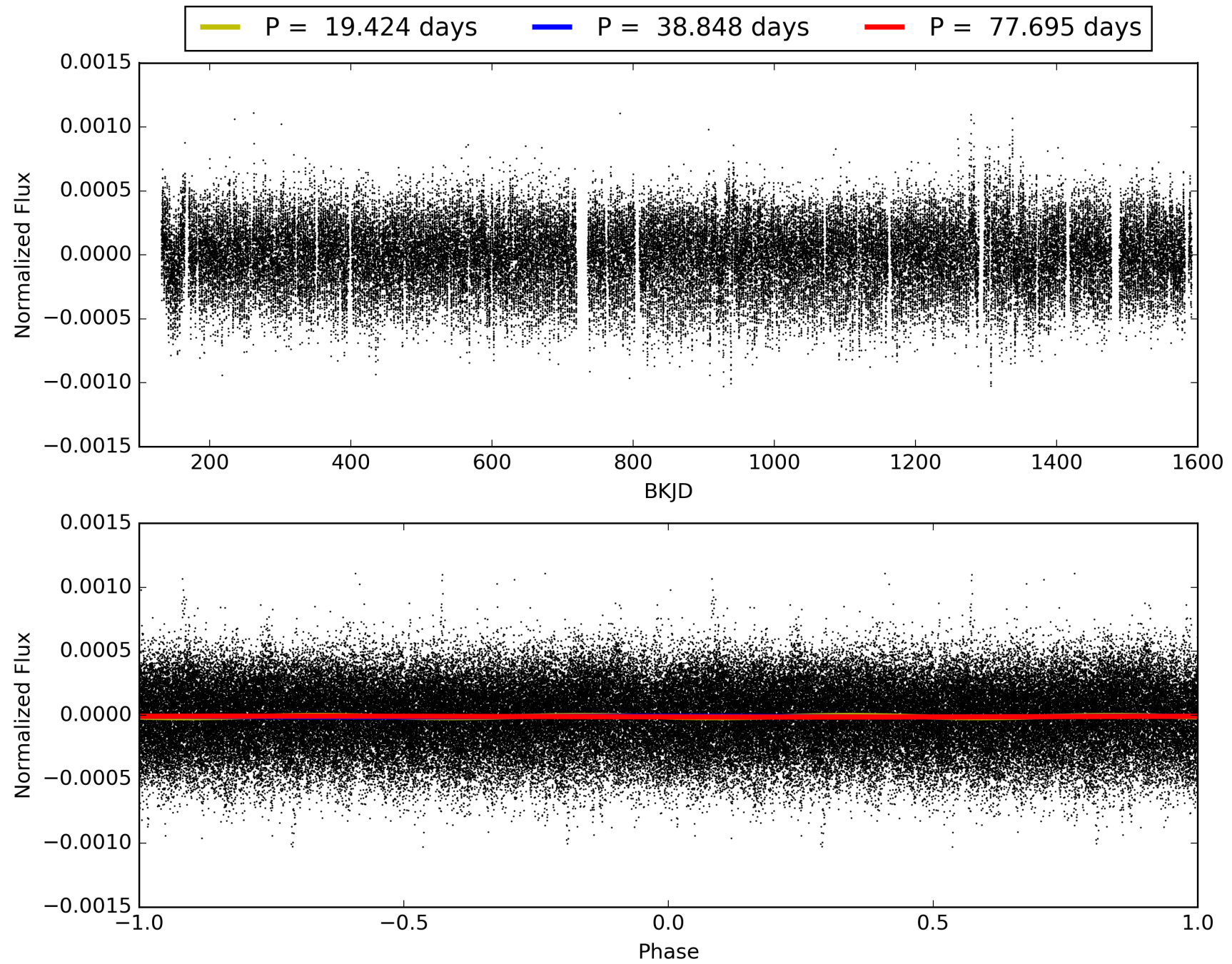
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:45:53 Z

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

TCE 005959837-03, PDC Light Curves

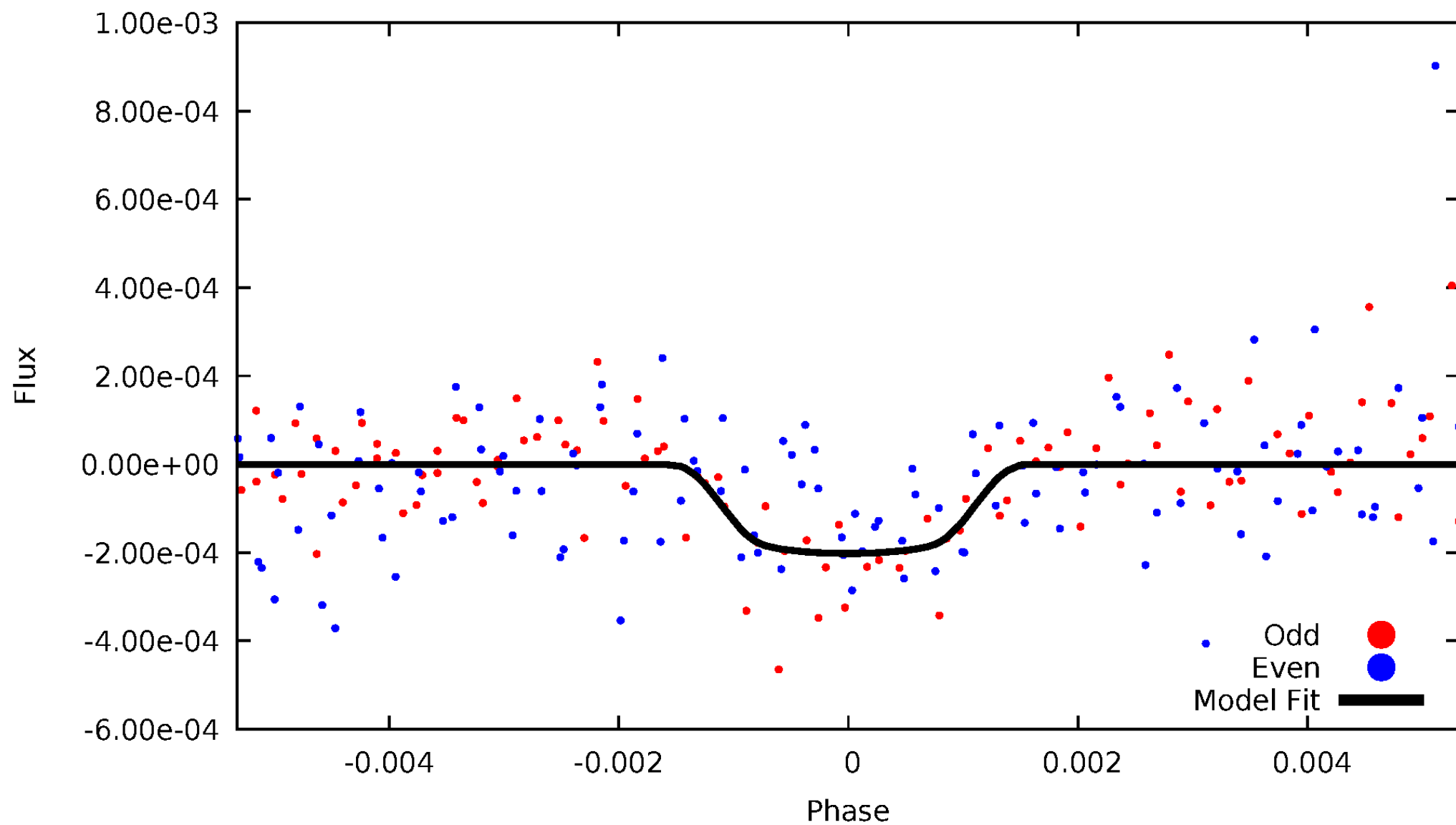


TCE 005959837-03



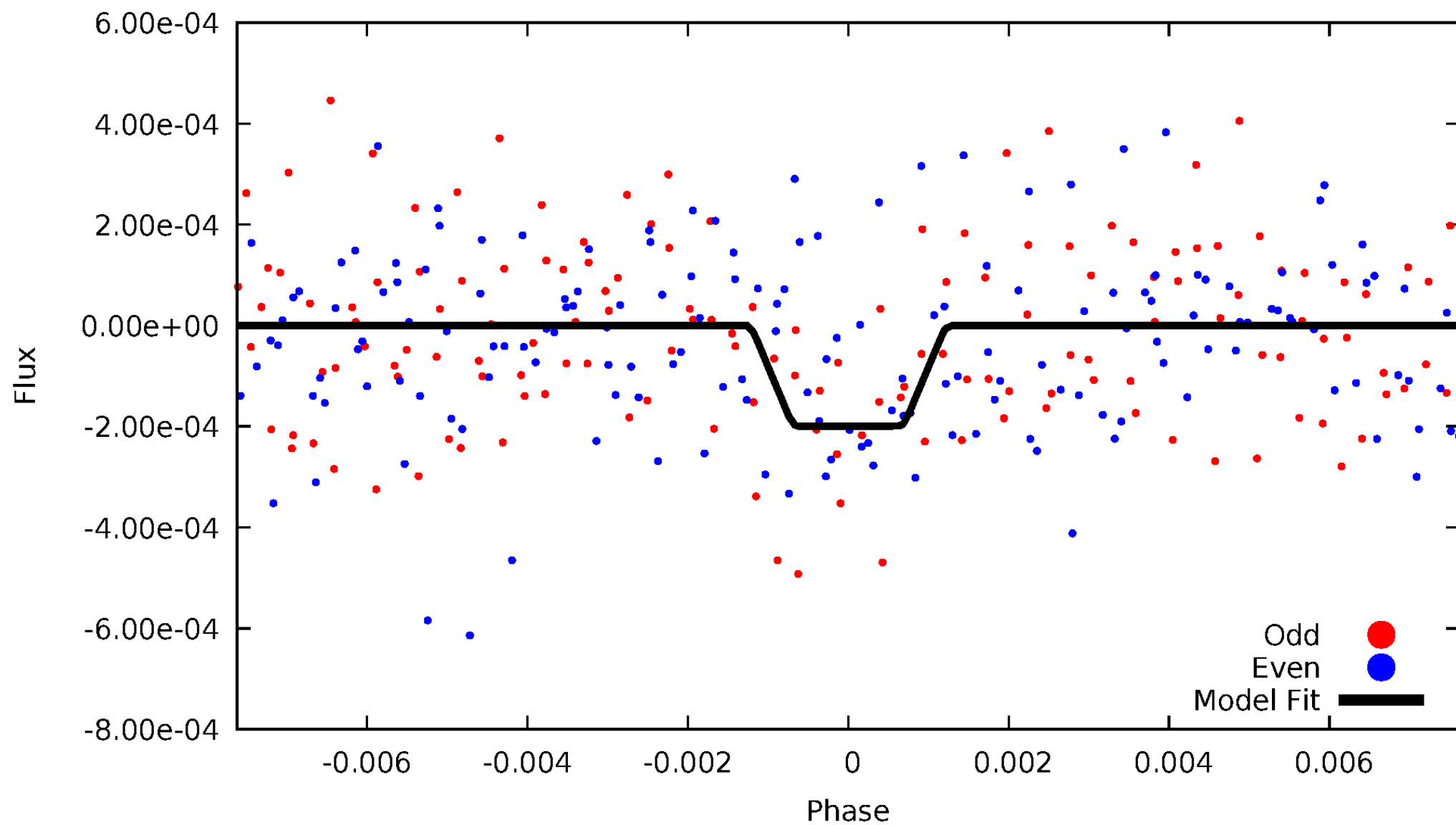
DV Odd/Even

TCE 005959837-03

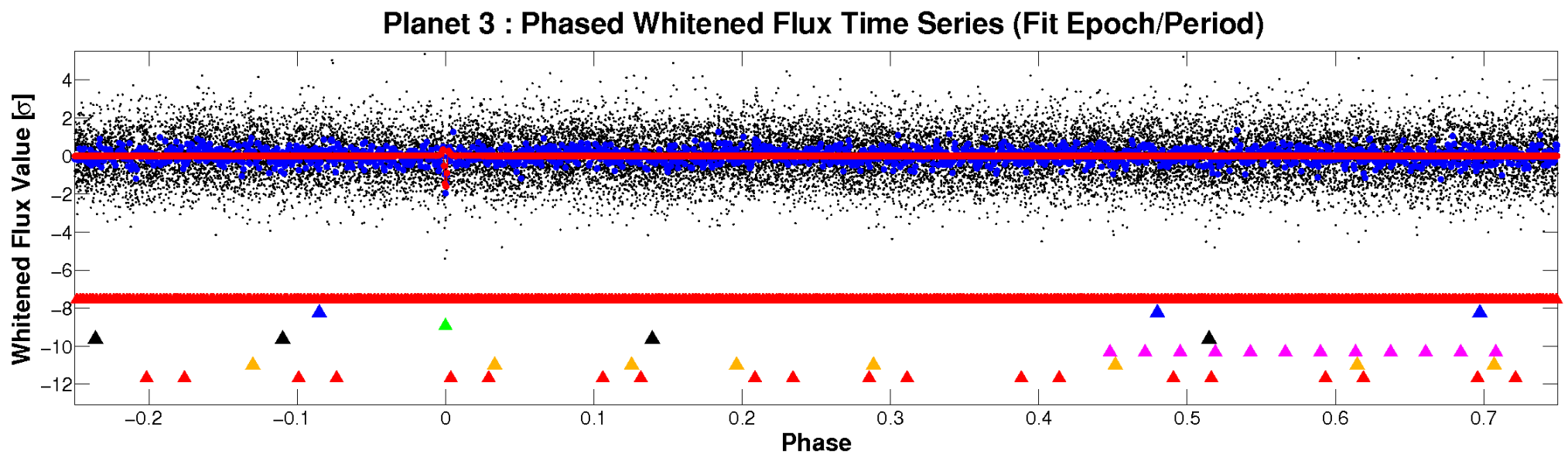
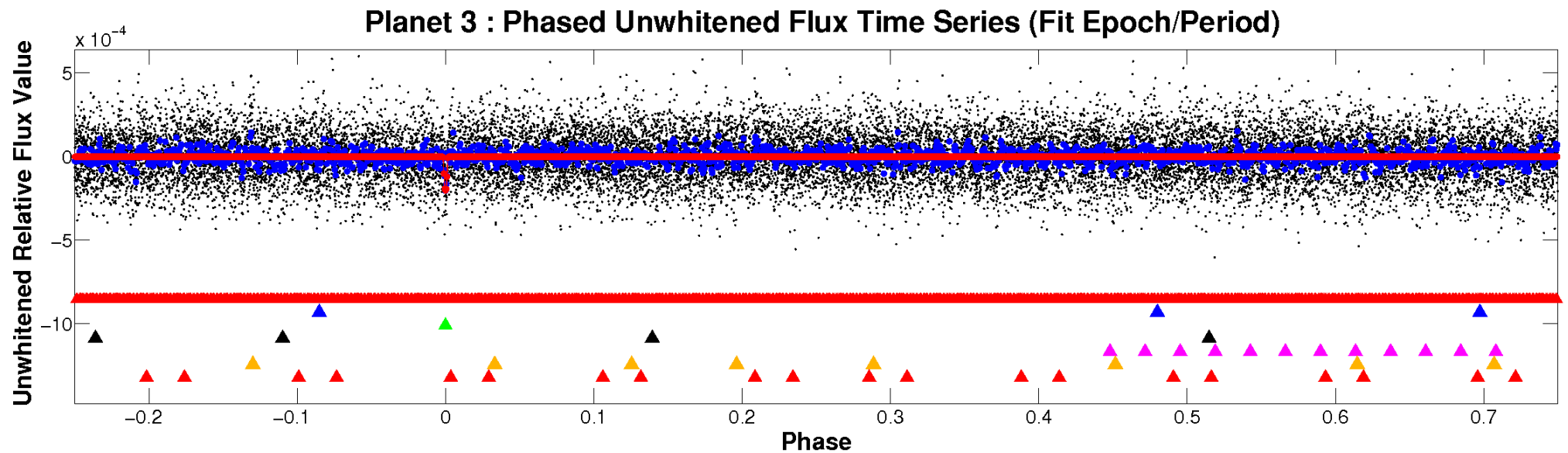


ALT Odd/Even

TCE 005959837-03

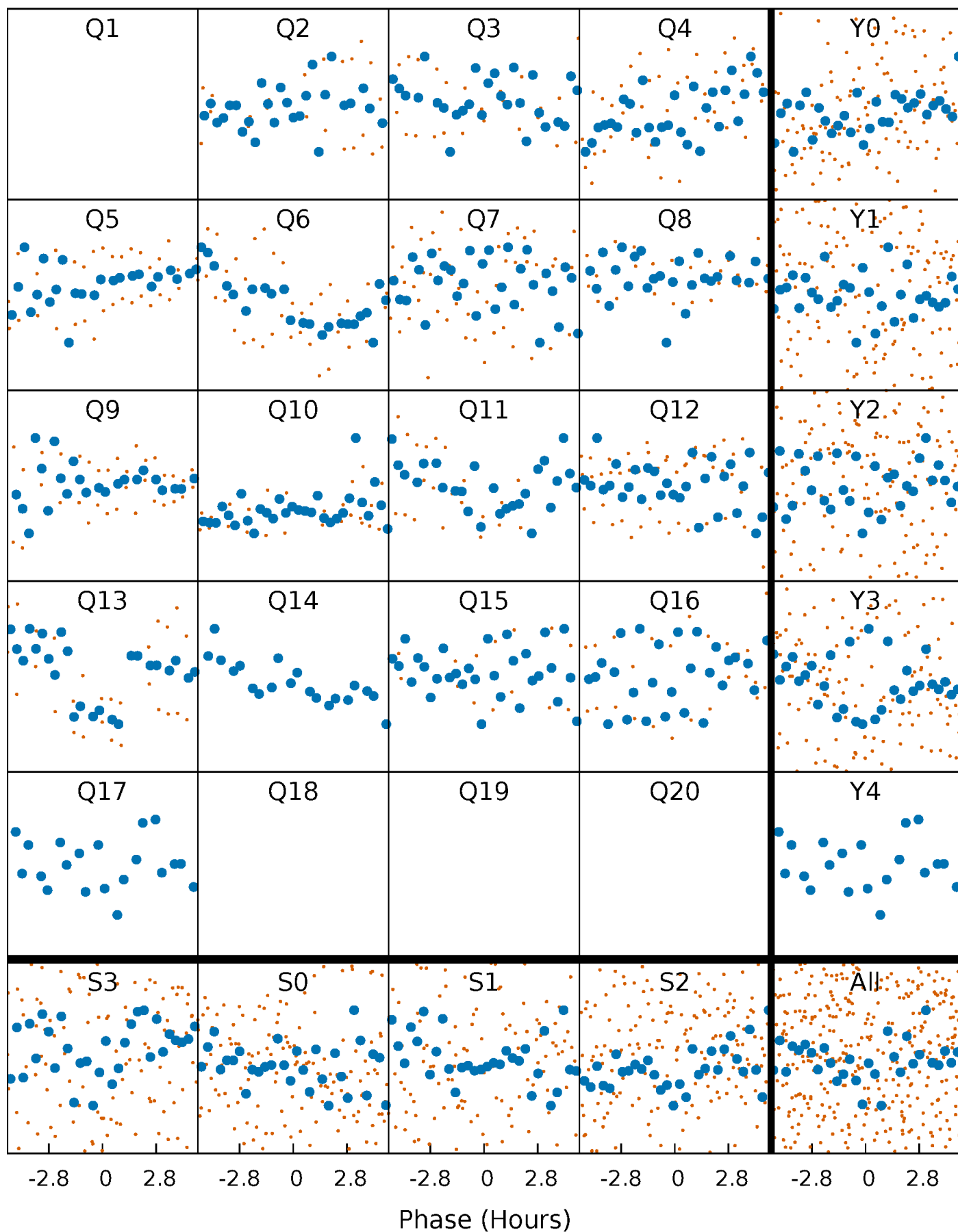


Non-Whitened Vs. Whitened Light Curve



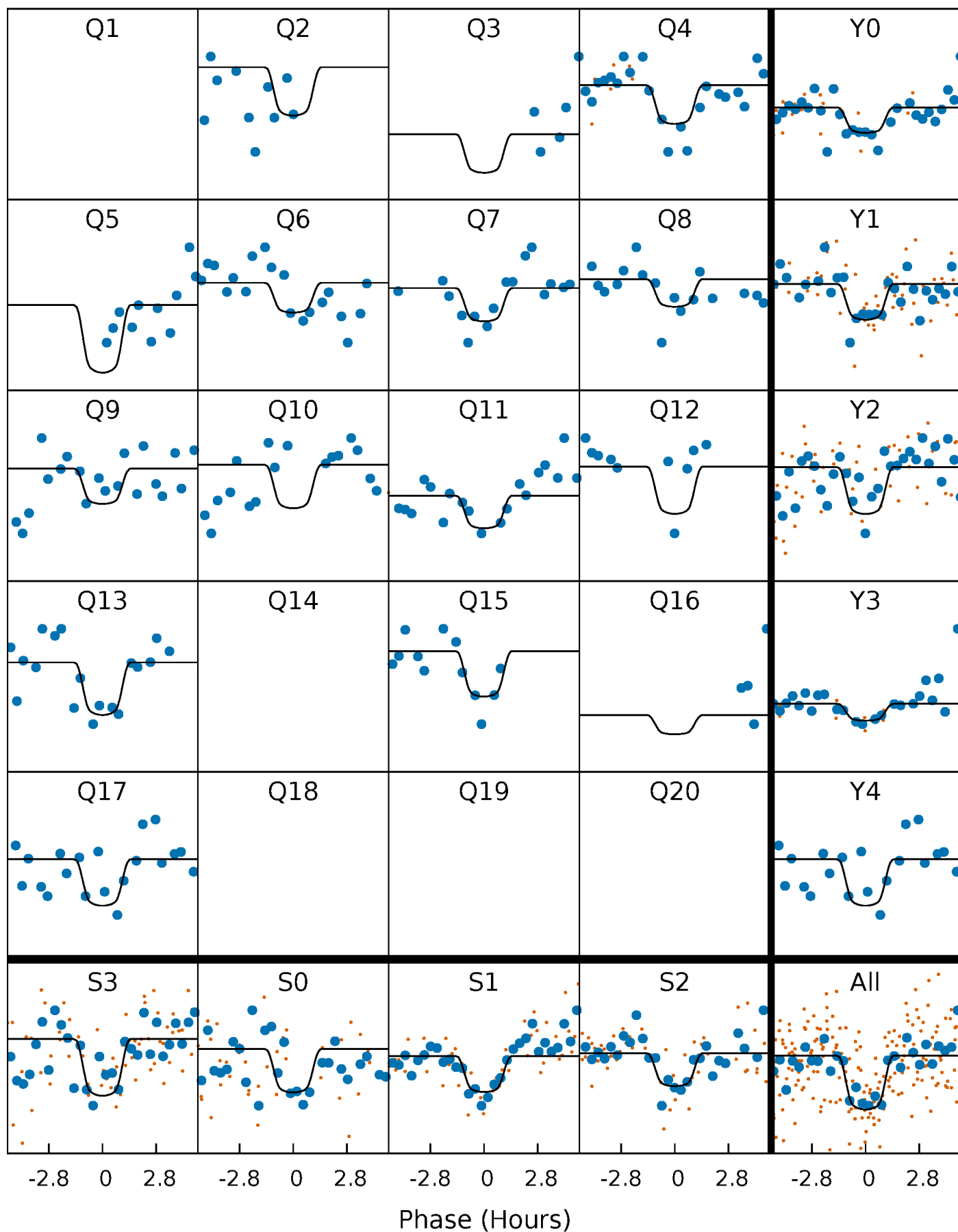
PDC Quarter-Phased Transit Curves

TCE 005959837-03 P= 38.847634 Days $T_0=168.630566$ (BKJD)



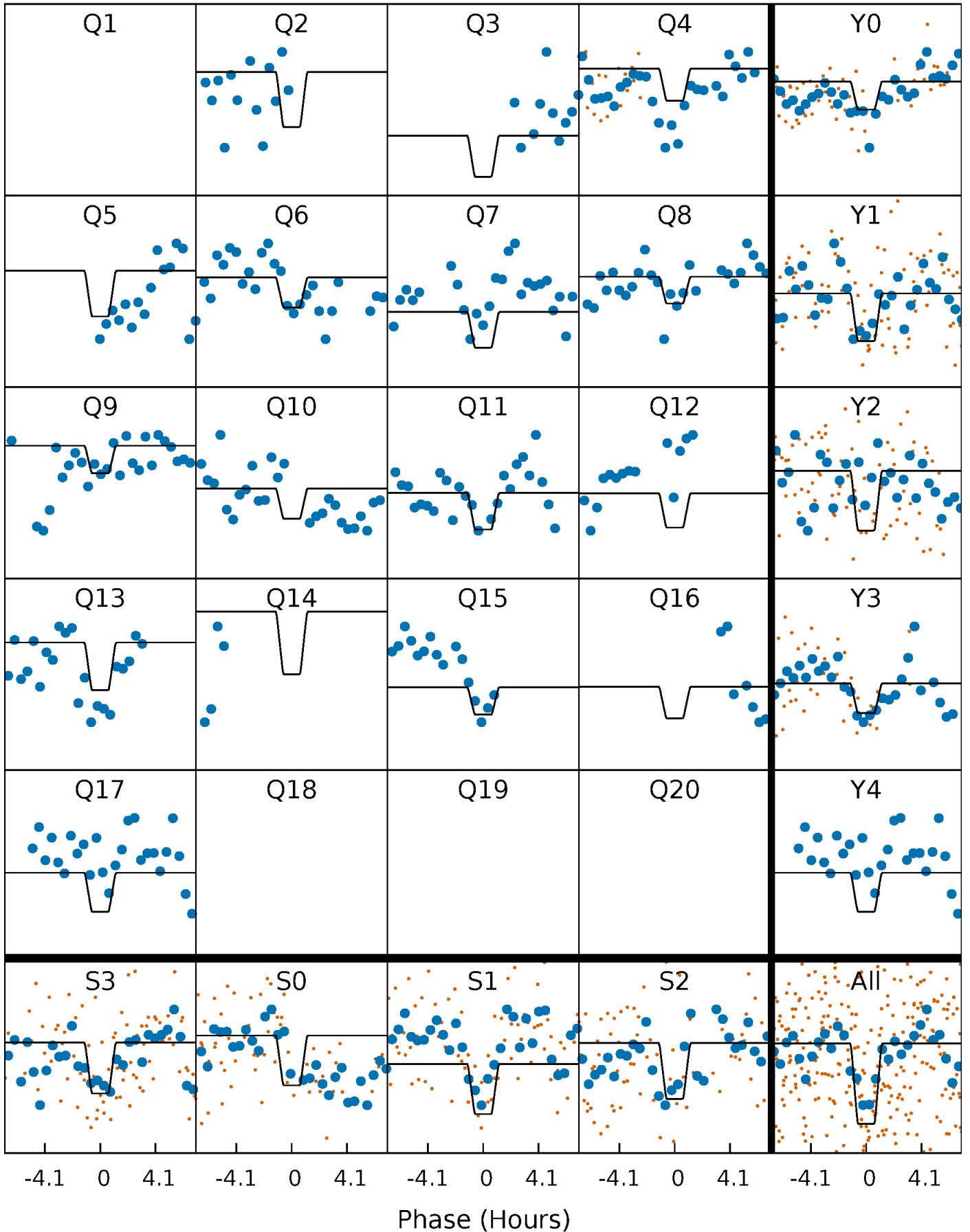
DV Quarter-Phased Transit Curves

TCE 005959837-03 P= 38.847634 Days $T_0=168.630566$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

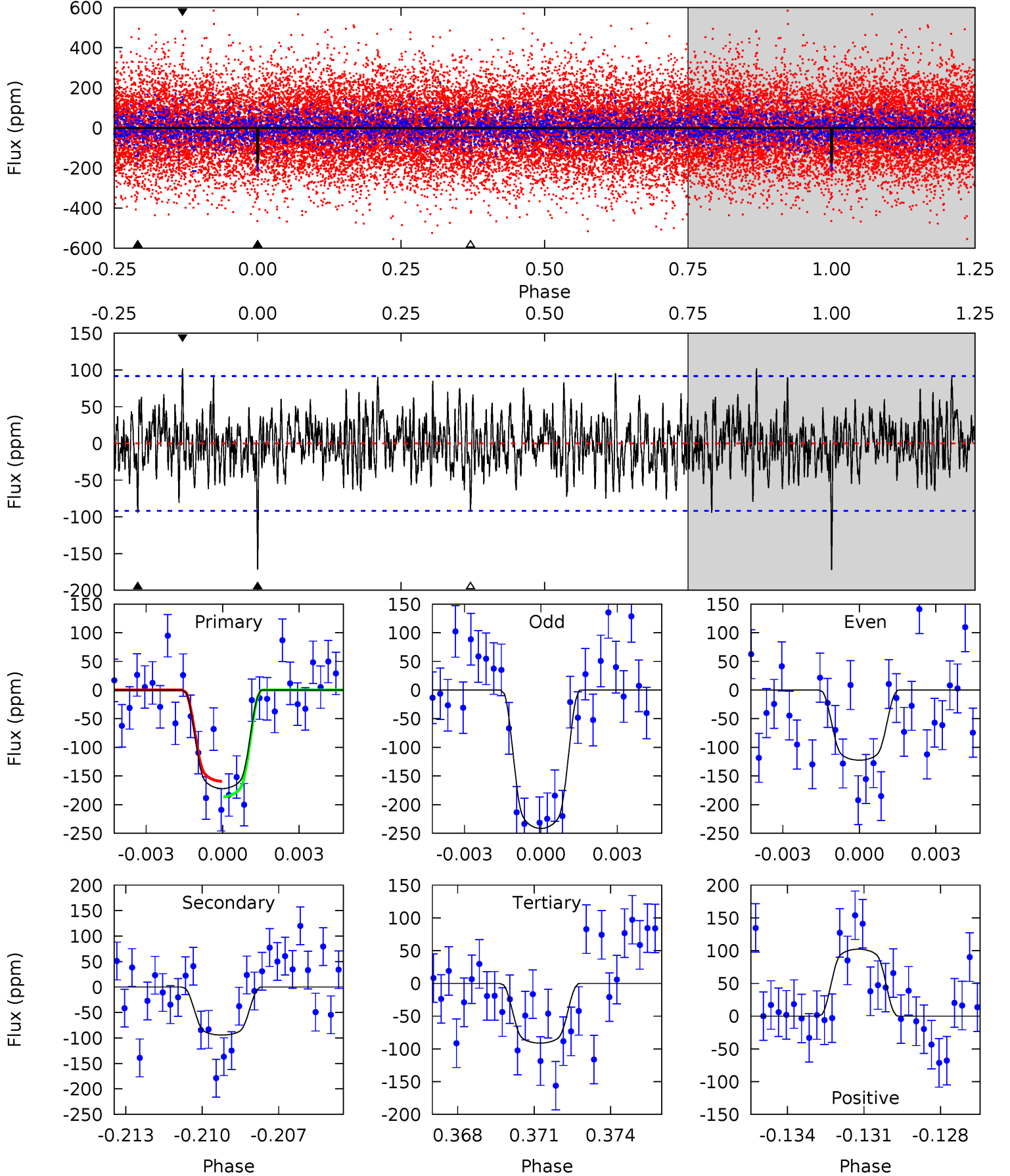
TCE 005959837-03 $P = 38.847284$ Days $T_0 = 168.646481$ (BKJD)



DV Model-Shift Uniqueness Test

005959837-03, P = 38.847634 Days, E = 129.782932 Days

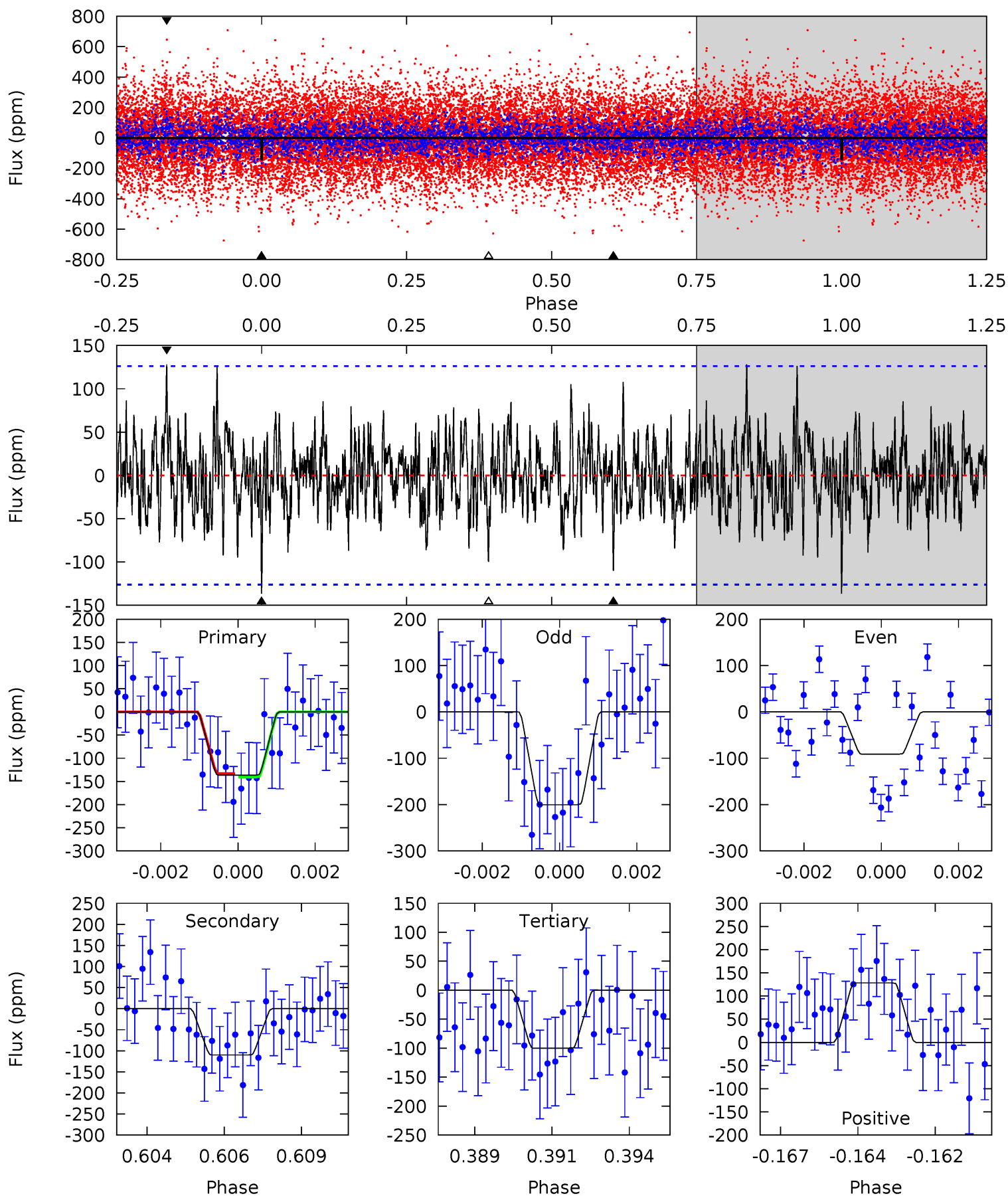
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.84	5.40	5.21	5.85	5.25	2.96	1.65	4.62	3.99	0.18	-0.45	3.39	1.00	0.37	0.77



Alt Model-Shift Uniqueness Test

005959837-03, P = 38.847284 Days, E = 129.799197 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.72	4.61	4.19	5.38	5.29	3.03	1.44	1.53	0.35	0.43	-0.76	2.28	0.70	0.48	0.16



Stellar Parameters For KIC 005959837

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6856^{+72}_{-92}	$4.001^{+0.162}_{-0.108}$	$0.180^{+0.150}_{-0.150}$	$2.112^{+0.362}_{-0.442}$	$1.630^{+0.111}_{-0.166}$	$0.244^{+0.183}_{-0.082}$
	+1%/-1%	+4%/-3%	+83%/-83%	+17%/-21%	+7%/-10%	+75%/-34%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005959837-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-94±17	$3.62^{+0.78}_{-0.81}$	1186^{+53}_{-63}	5329^{+591}_{-443}	277^{+172}_{-101}
Alt.	-110±24	$3.23^{+0.78}_{-0.77}$	1197^{+47}_{-63}	5844^{+920}_{-544}	396^{+304}_{-150}

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 $A_{obs} \gg 1.0$

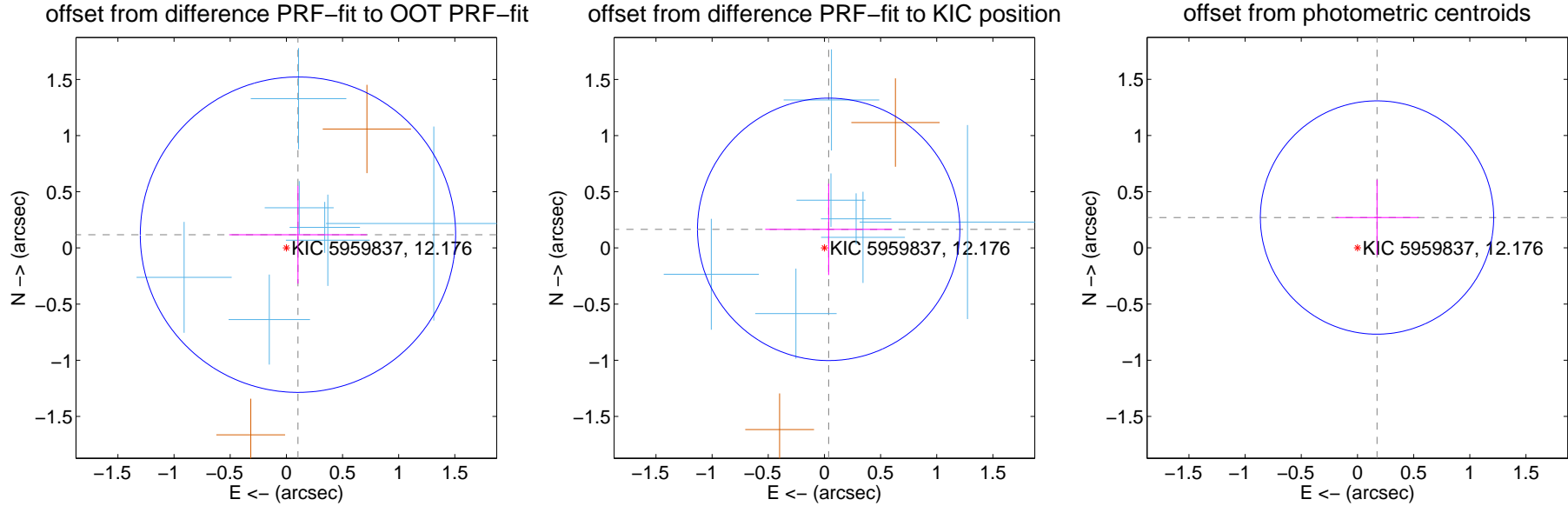
DV Centroid Data

Supplemental centroid analysis for 005959837-03. Kepler magnitude: 12.18. Transit SNR 9.97

There are 9 quarters with good PRF difference image offsets

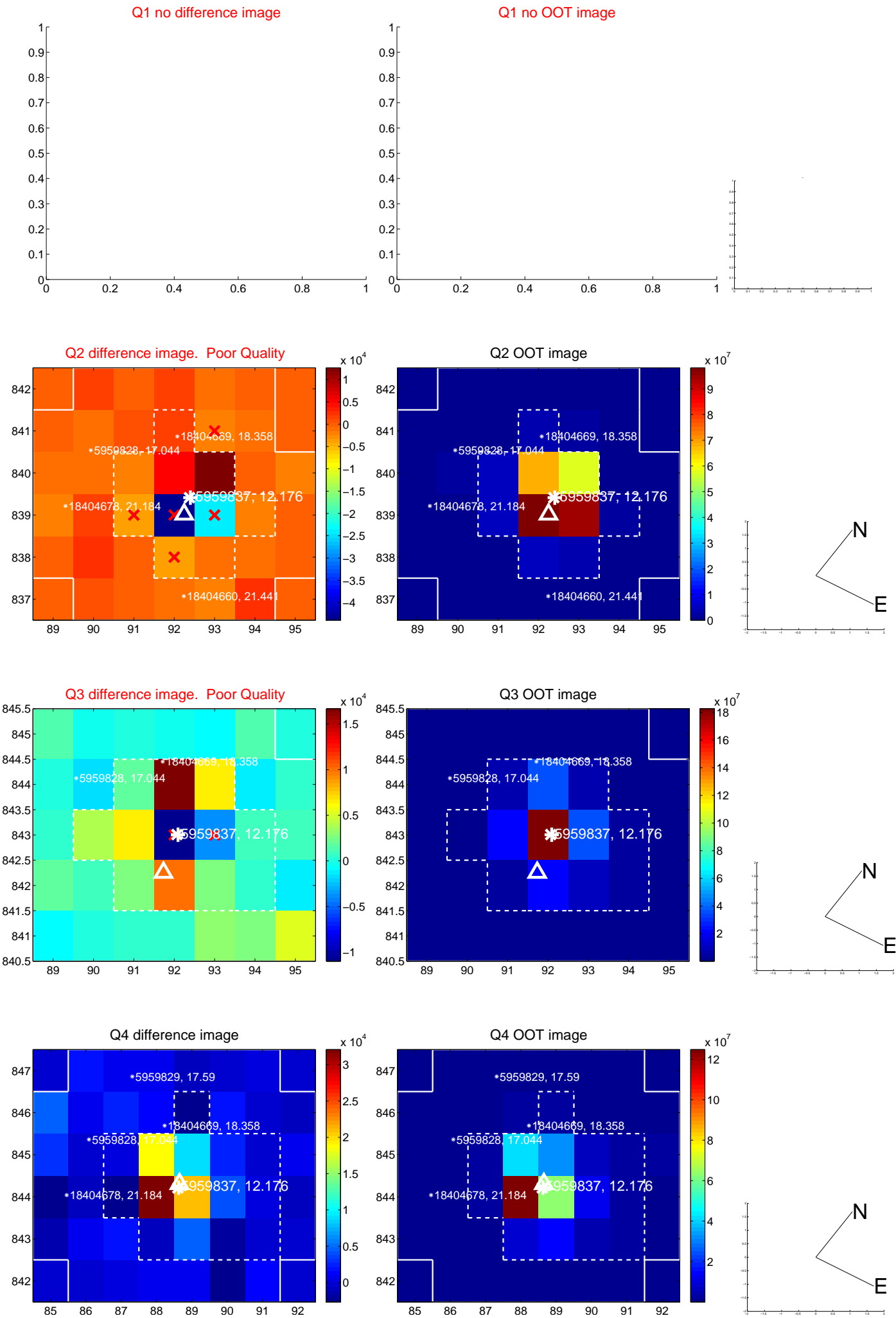
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.157 ± 0.468	0.33	-0.103 ± 0.612	0.118 ± 0.435
PRF-fit source offset from KIC position	0.170 ± 0.389	0.44	-0.038 ± 0.565	0.165 ± 0.407
photometric centroid source offset	0.32 ± 0.35	0.93	-0.17 ± 0.37	0.27 ± 0.34

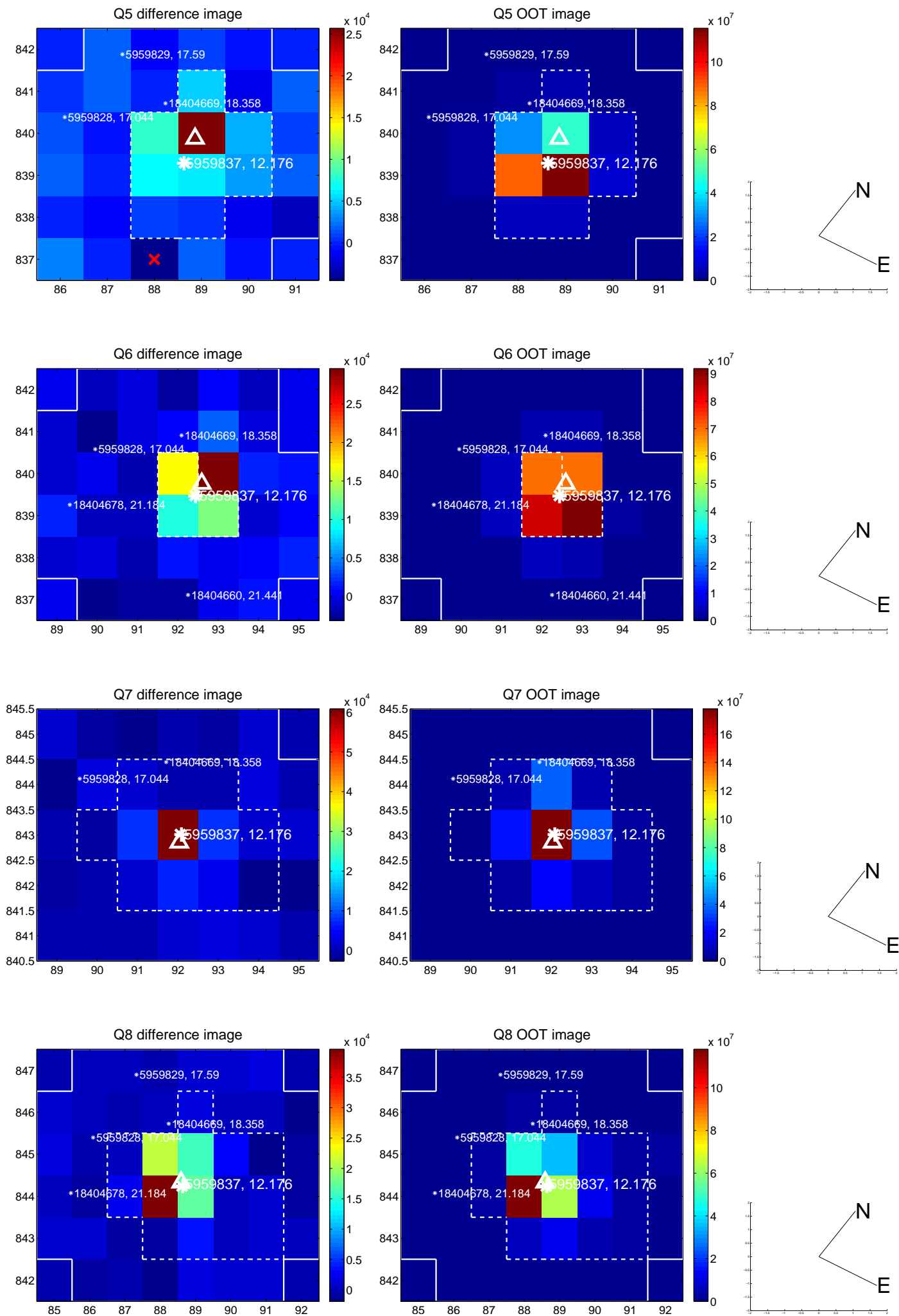


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

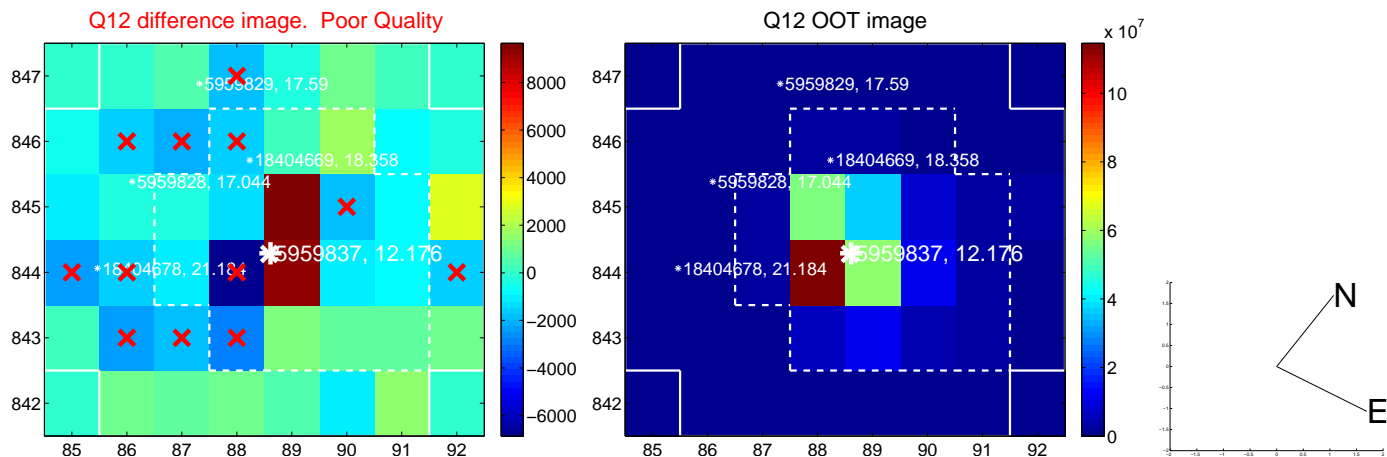
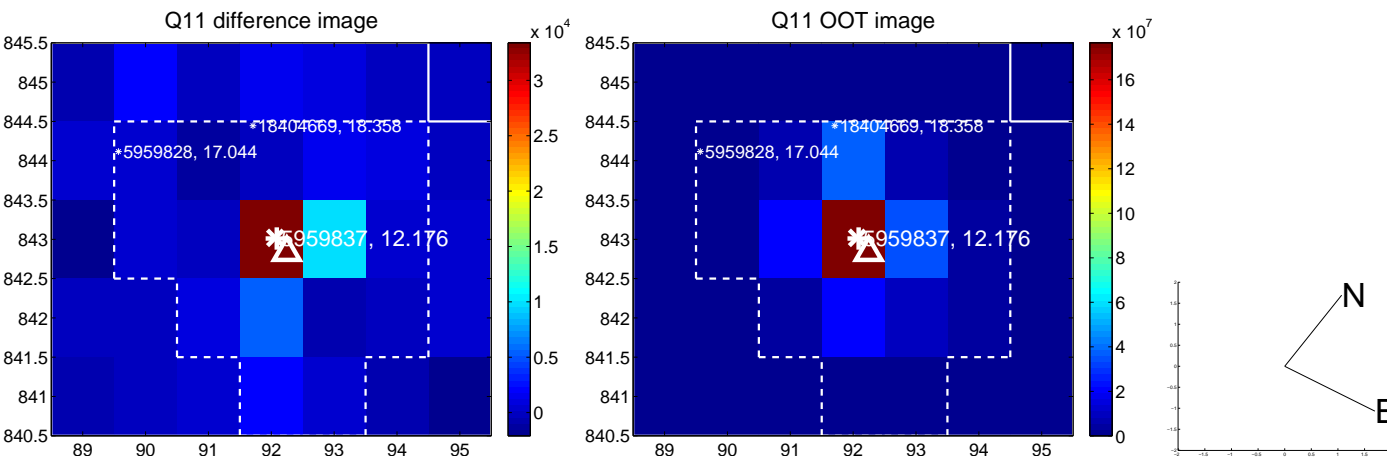
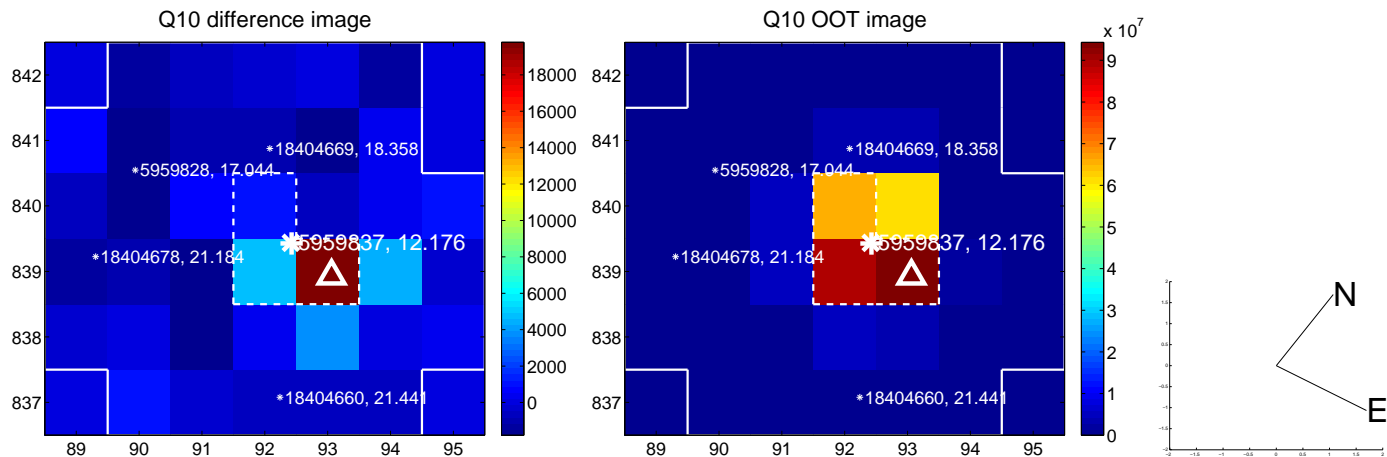
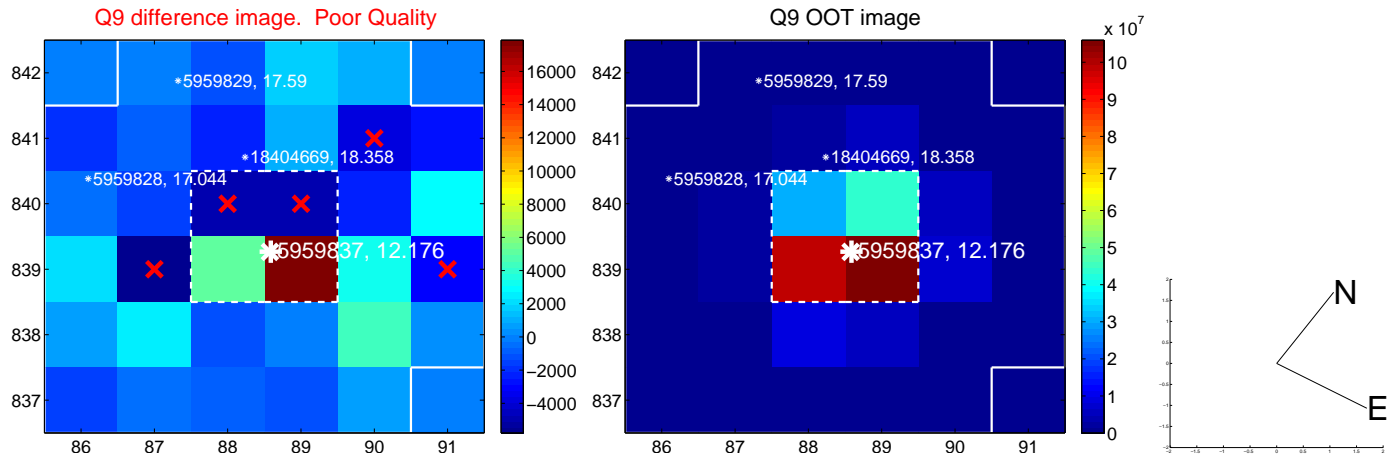
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



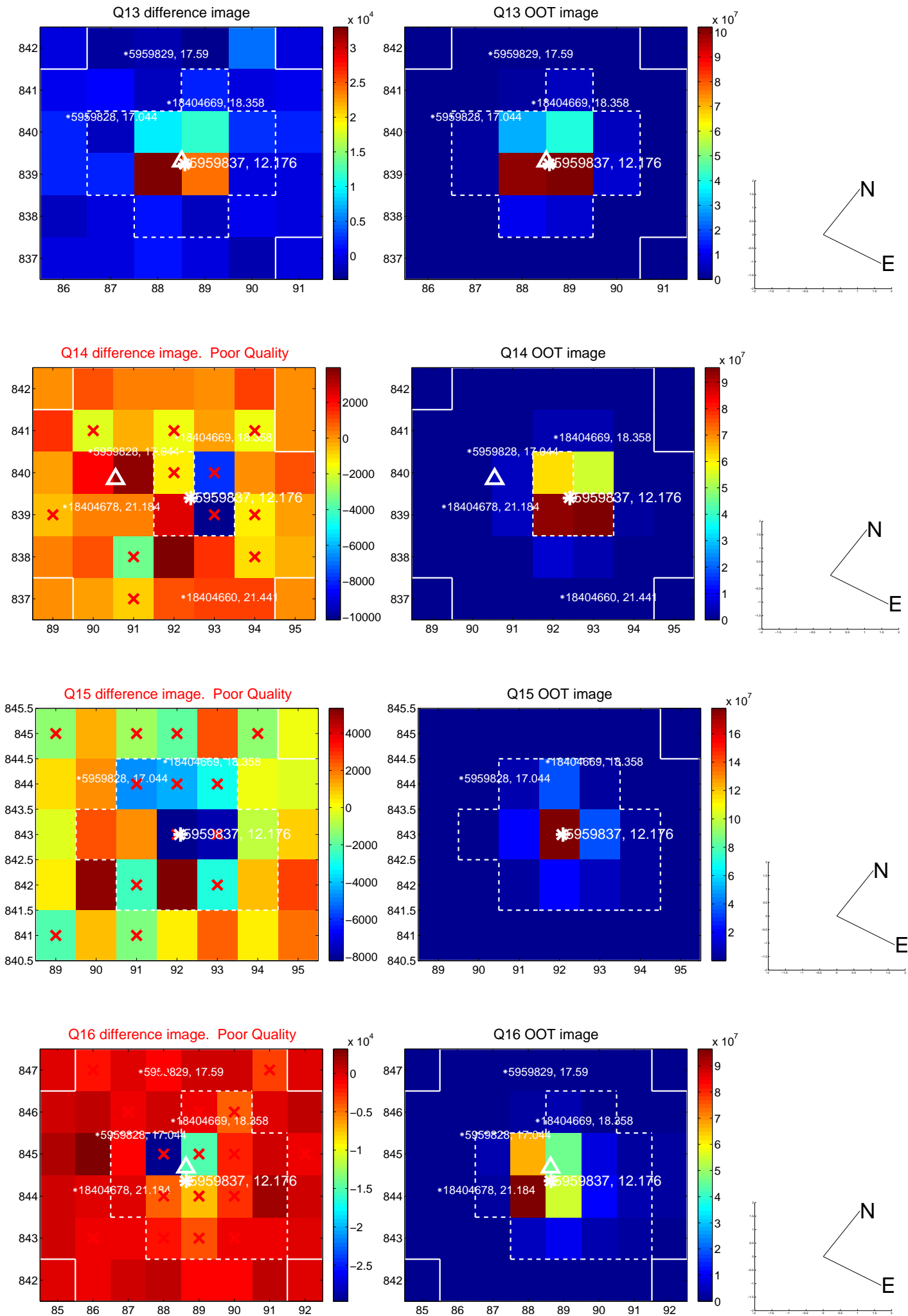
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



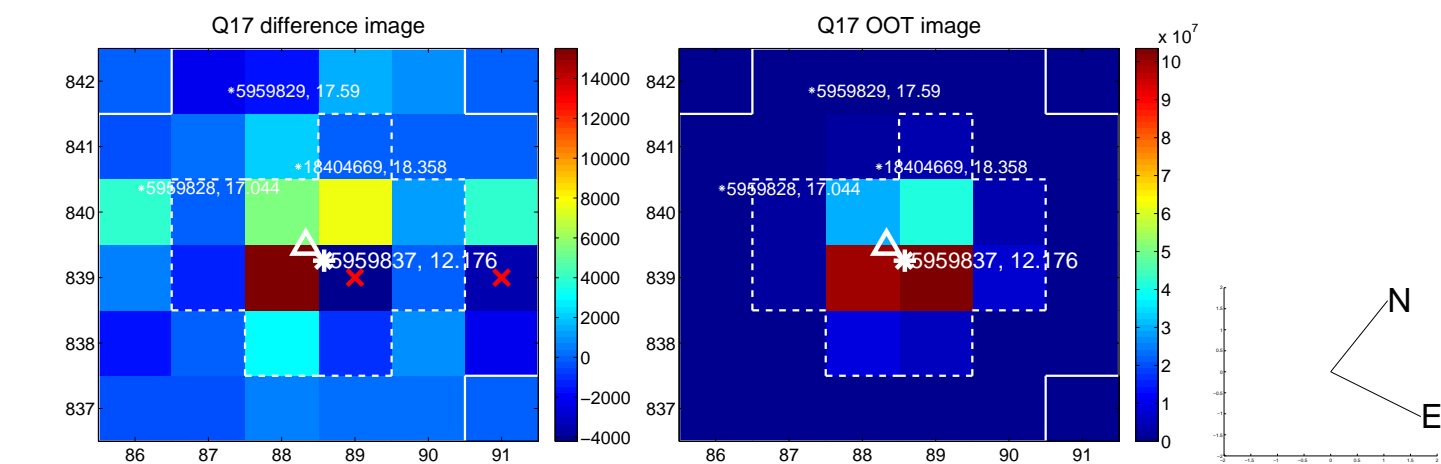
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



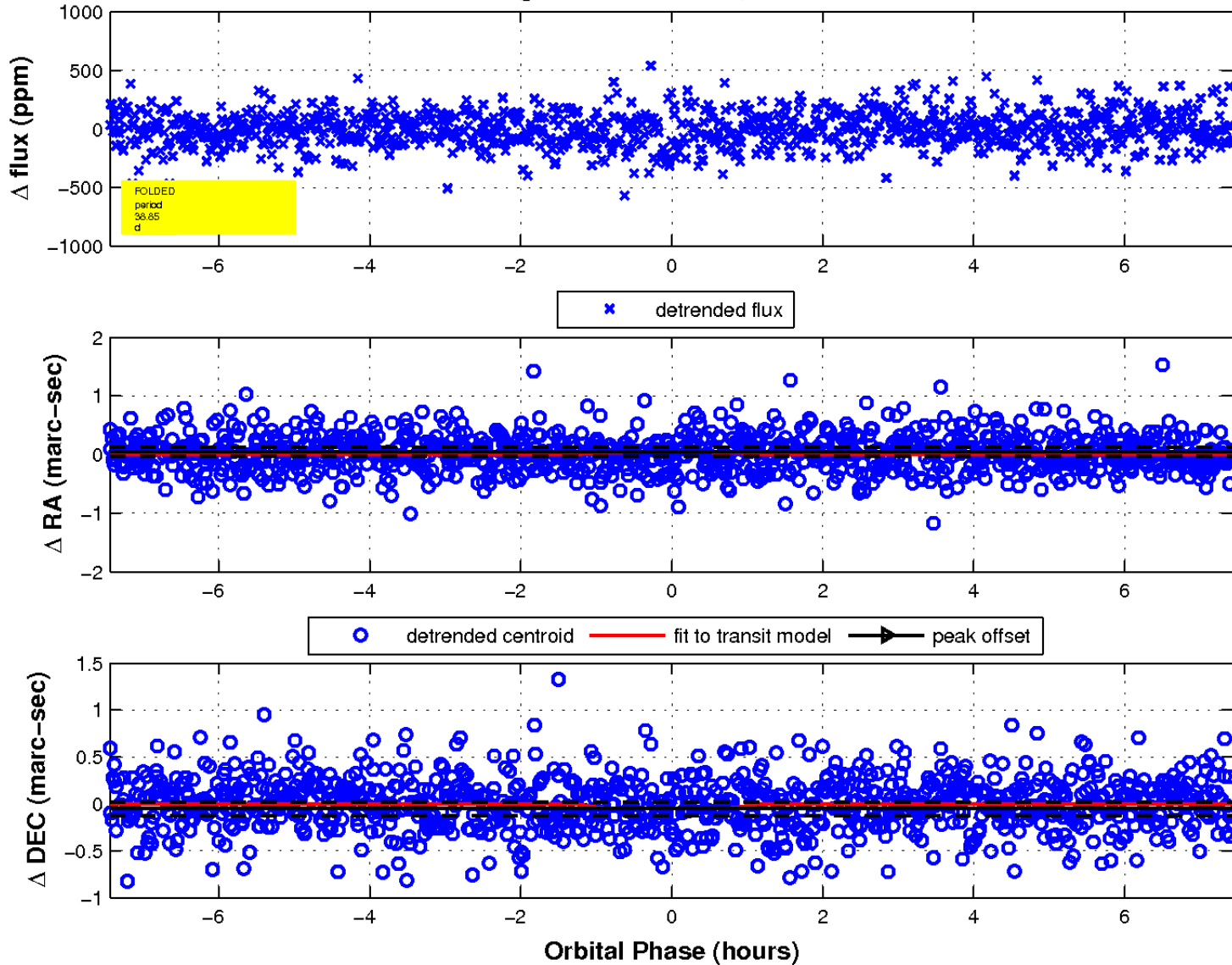
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

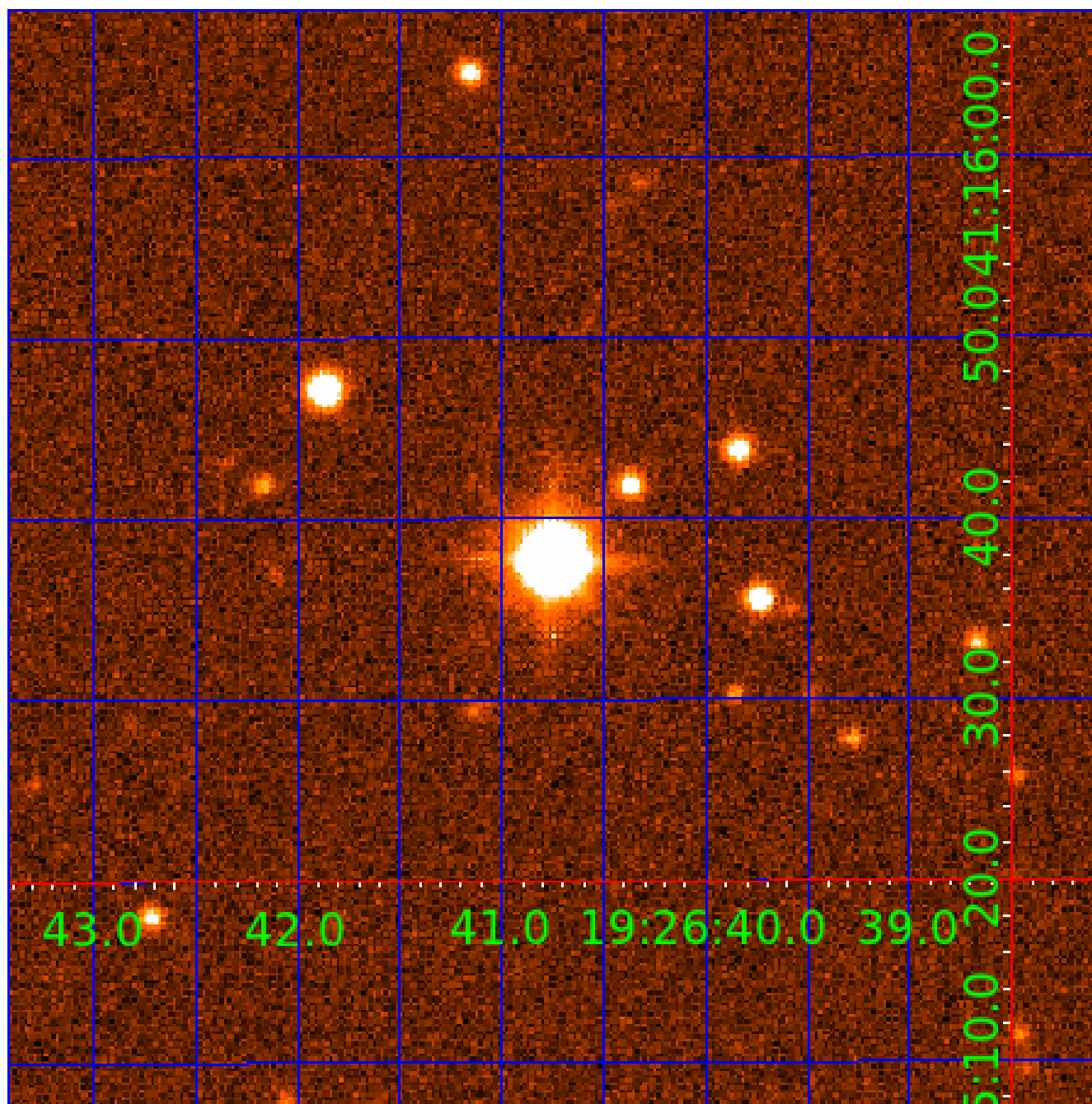


fluxWeightedCentroids, Planet 3 of 7



UKIRT Image

Declination



KIC 005959837

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})
005959837-01	OBS	No	1.578401	131.636829	27.3	8.138	12.2	10.2	2.11	6856	1.31	9050.73
005959837-02	OBS	No	552.315144	342.666907	340.6	10.036	10.1	10.3	2.11	6856	4.46	3.67
005959837-03	OBS	No	38.847634	168.630566	202.0	2.481	9.3	10.0	2.11	6856	3.71	126.42
005959837-04	OBS	No	441.907681	159.462605	300.0	7.415	8.6	8.4	2.11	6856	4.78	4.94
005959837-05	OBS	No	117.461521	186.036741	204.6	6.106	8.4	7.8	2.11	6856	3.55	28.91
005959837-06	OBS	No	177.981800	251.201947	232.4	9.159	7.9	8.0	2.11	6856	3.43	16.61
005959837-07	OBS	No	73.711089	177.731707	82.2	7.500	7.3	-1.0	2.11	6856	1.93	53.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005959837-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
005959837-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—CENT_FEW_DIFFS
005959837-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005959837-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005959837-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005959837-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005959837-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

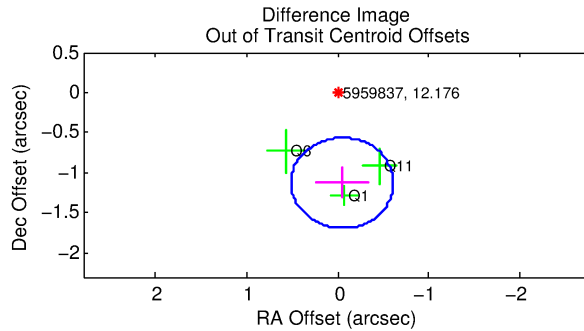
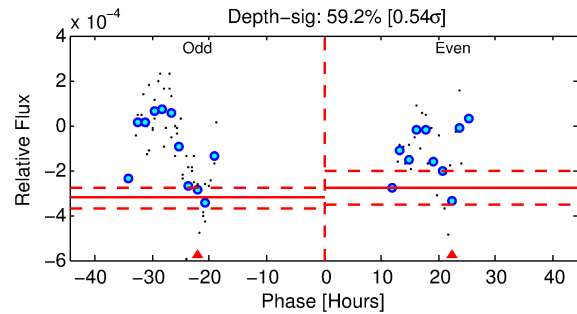
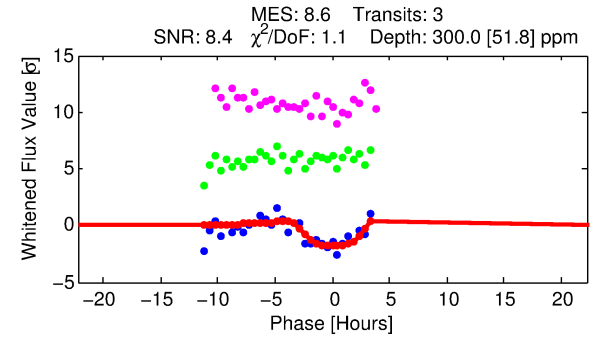
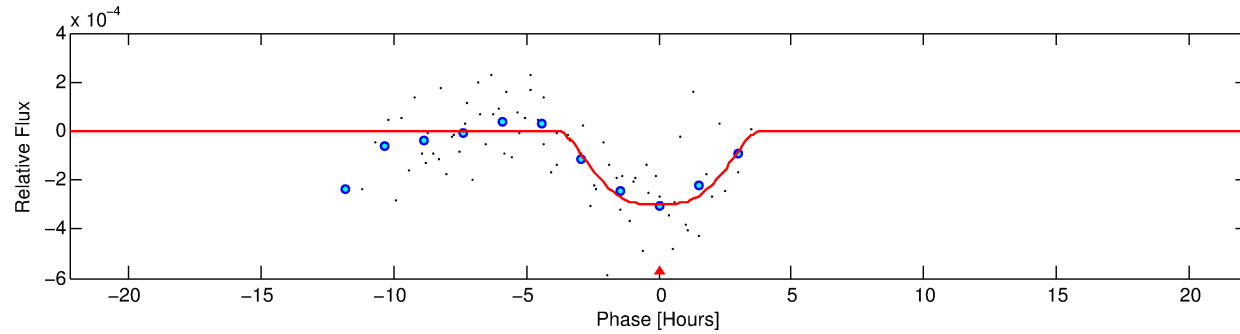
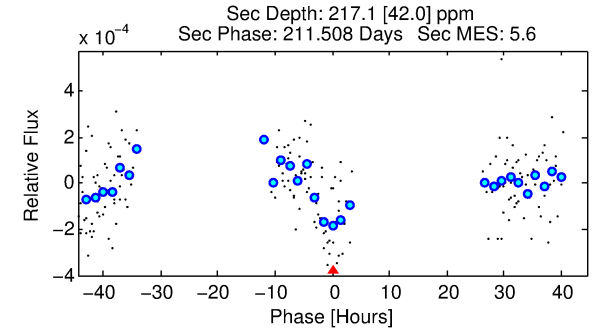
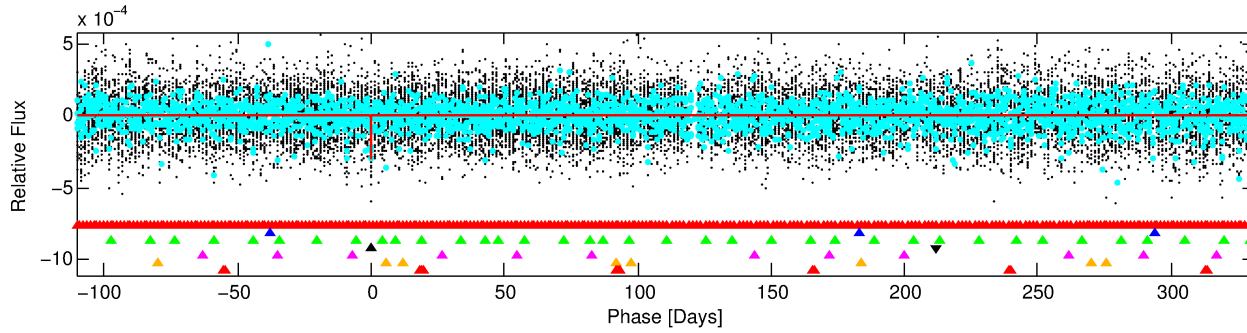
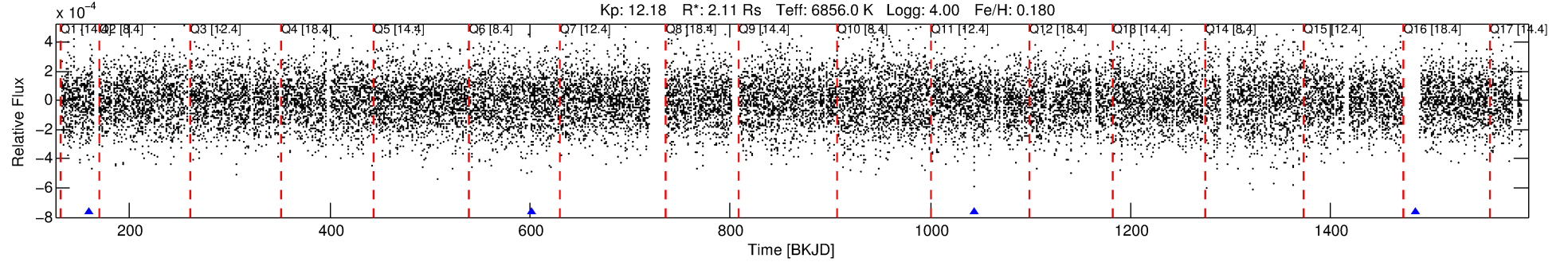
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005959837-04

No Significant Match Found

DV One-Page Summary

KIC: 5959837 Candidate: 4 of 7 Period: 441.908 d



DV Fit Results:

Period = 441.90768 [0.01505] d
Epoch = 159.4626 [0.0242] BKJD
Rp/R* = 0.0207 [0.0024]
a/R* = 135.51 [35.53]
b = 0.98 [0.01]
Seff = 4.94 [1.43]
Teq = 380 [28] K
Rp = 4.78 [1.14] Re
a = 1.3367 [0.2498] AU
Ag = 9354.54 [3888.87] [2.41σ]
Teffp = 5781 [444] K [12.14σ]

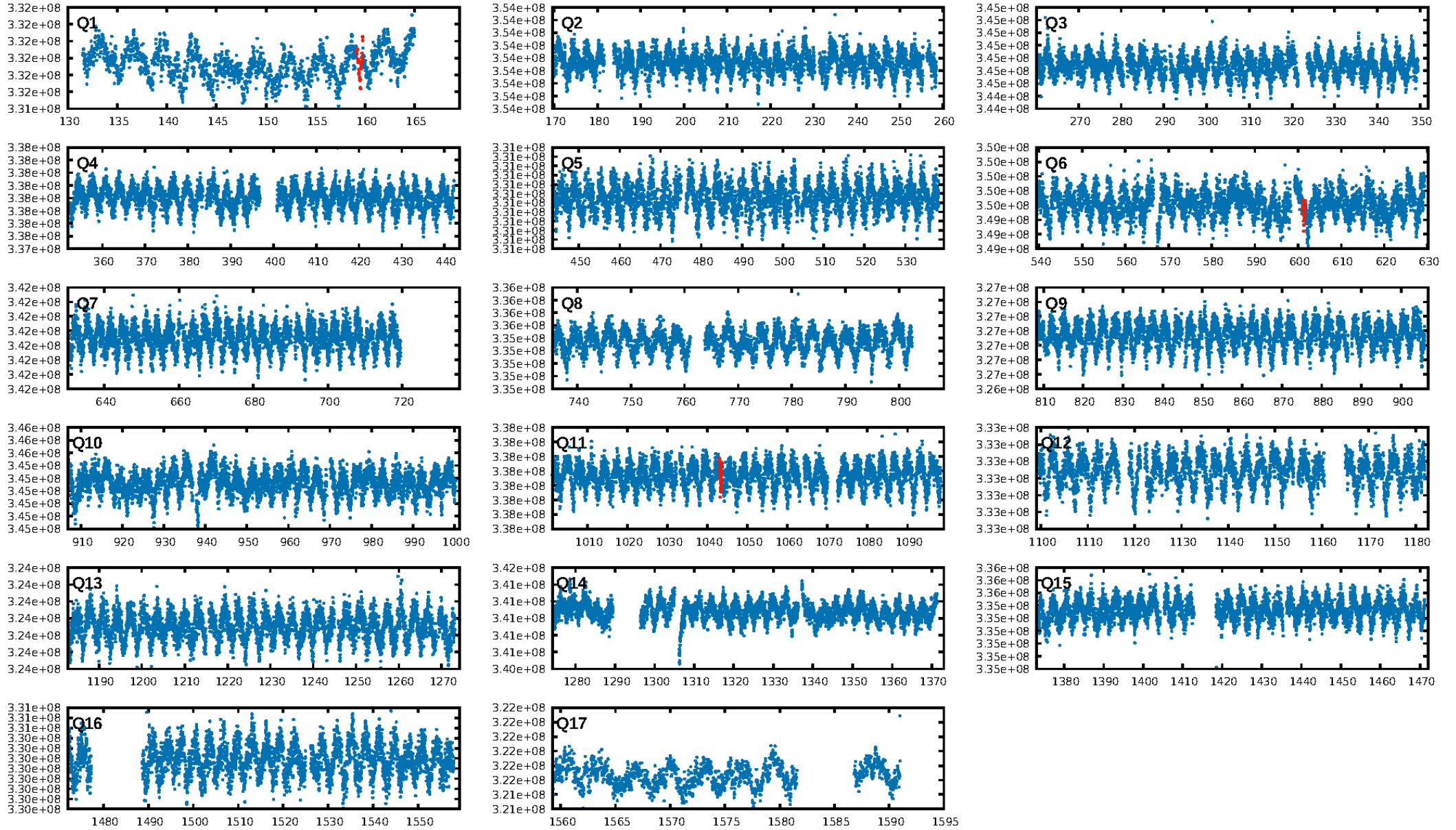
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [537.52σ]
LongPeriod-sig: 100.0% [212.36σ]
ModelChiSquare2-sig: 59.0%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.069
Centroid-sig: 42.3%
Centroid-so: 0.547 arcsec [1.05σ]
OotOffset-rm: 1.130 arcsec [6.02σ]
KicOffset-rm: 1.097 arcsec [6.01σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/3]

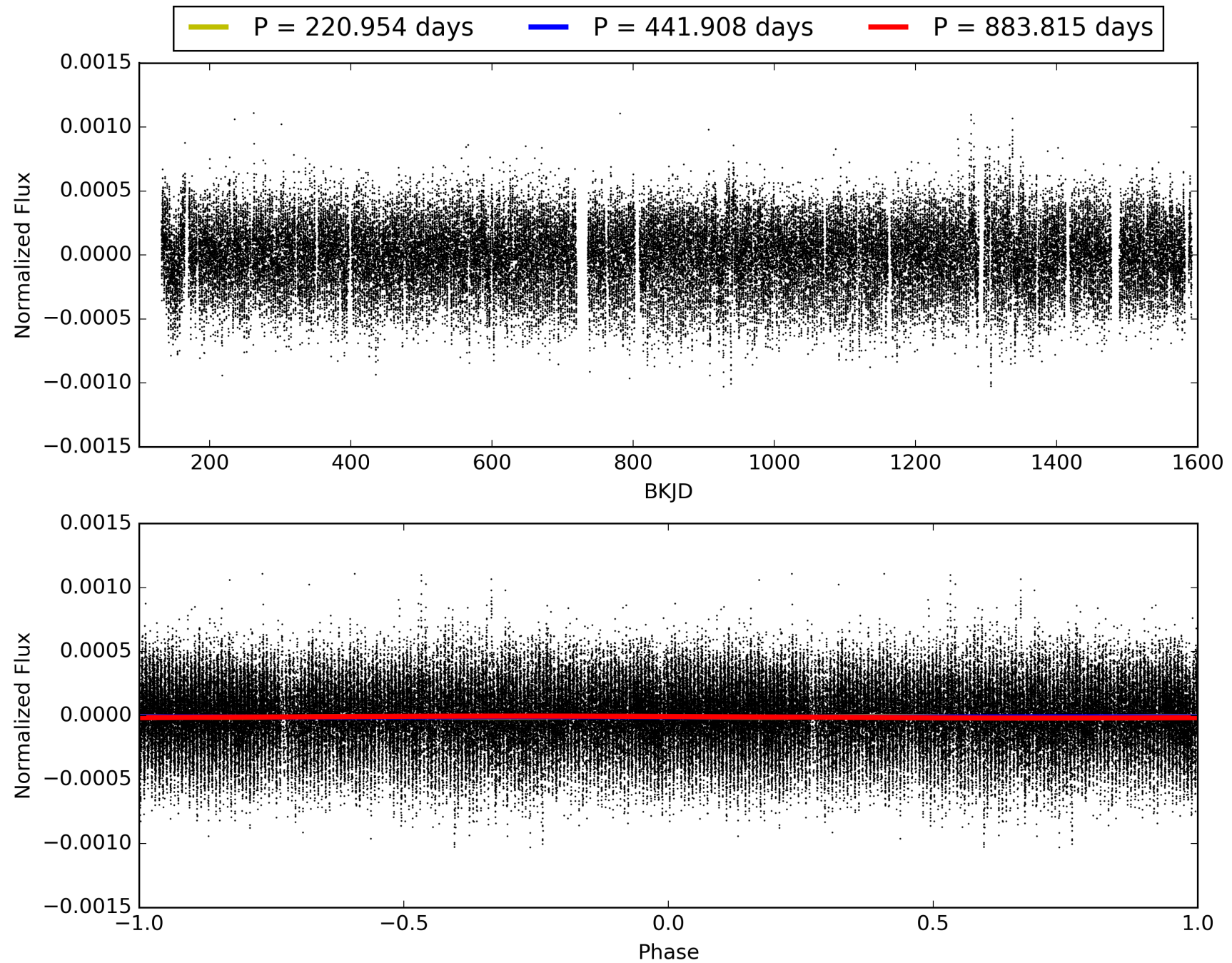
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:45:59 Z

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

TCE 005959837-04, PDC Light Curves

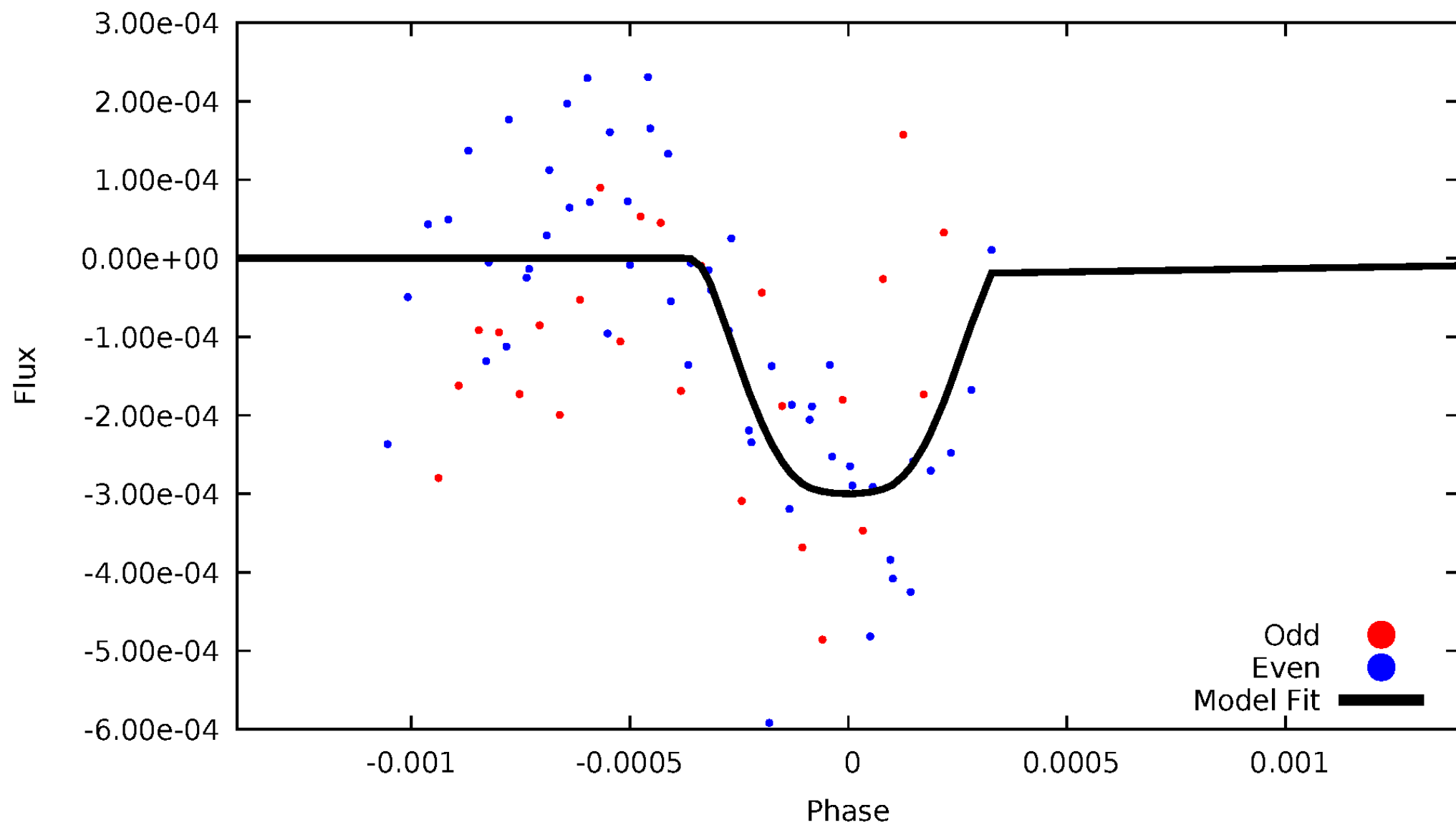


TCE 005959837-04



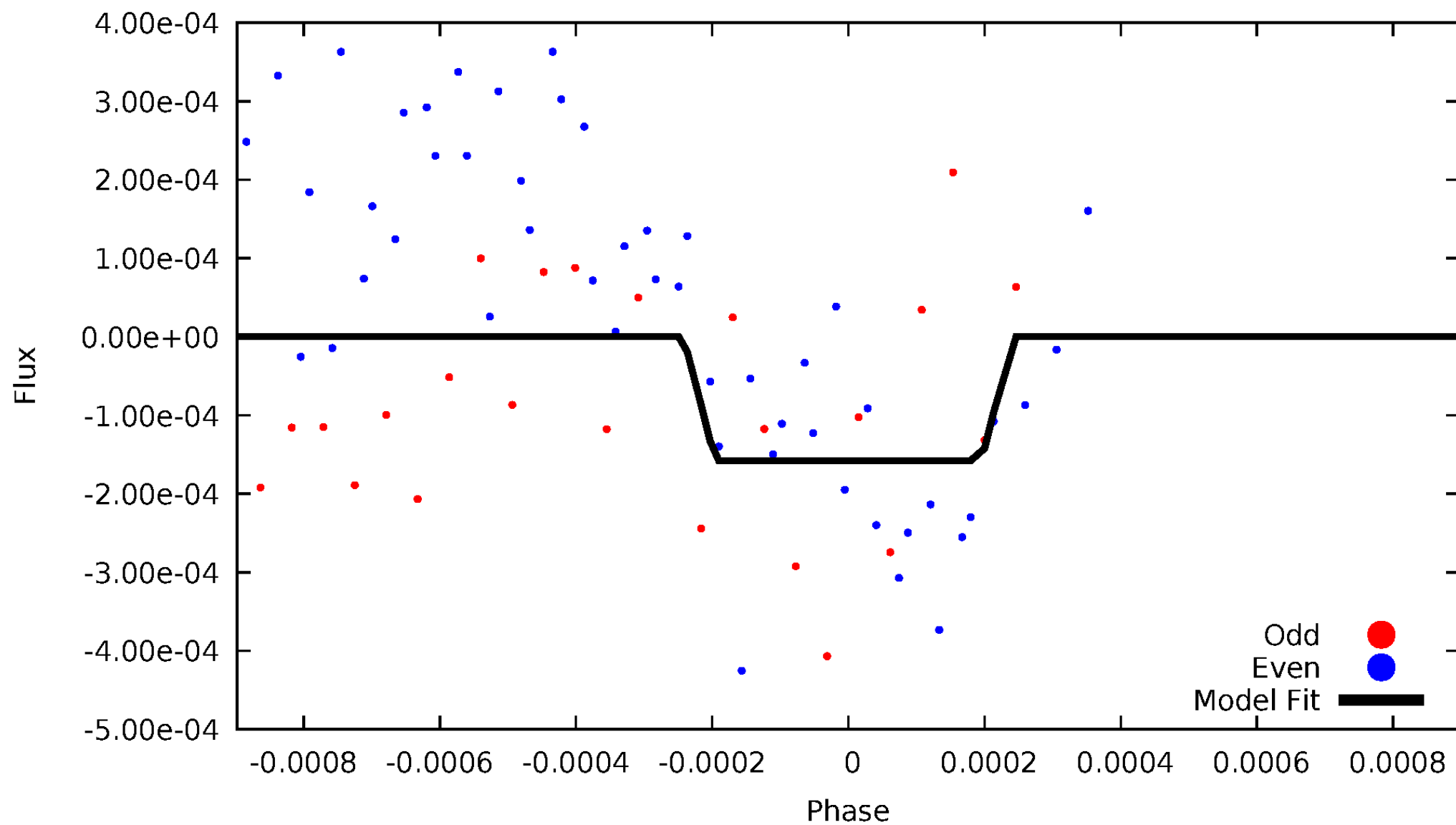
DV Odd/Even

TCE 005959837-04



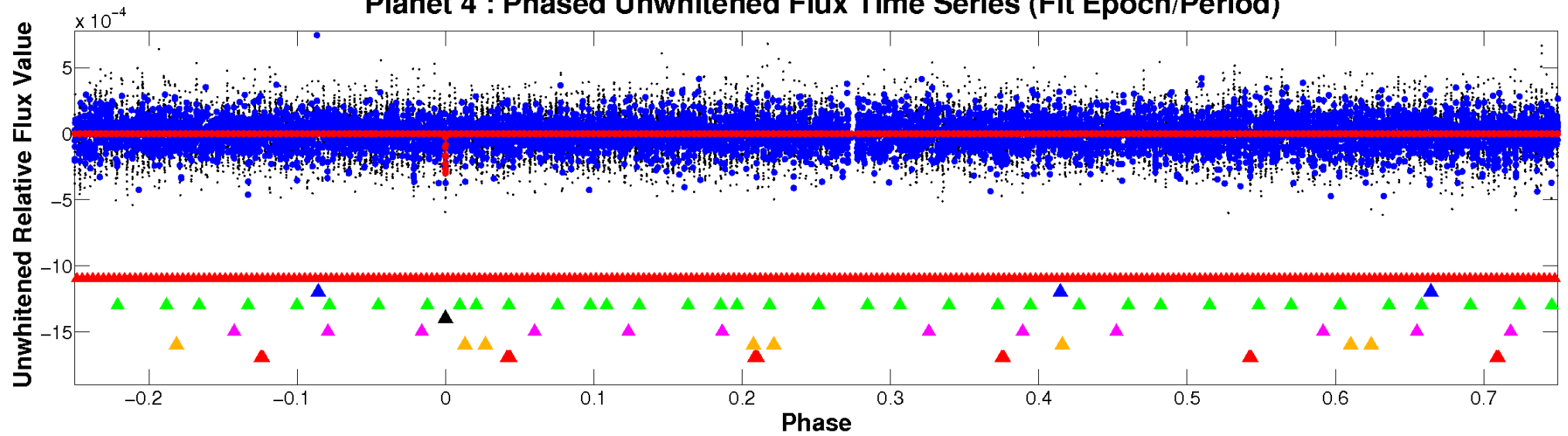
ALT Odd/Even

TCE 005959837-04

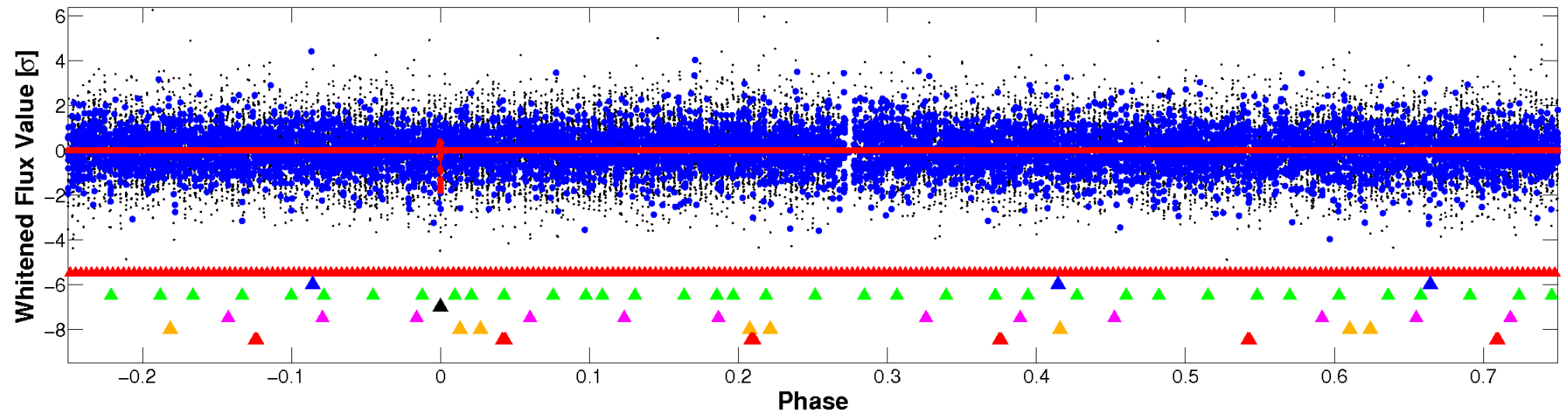


Non-Whitened Vs. Whitened Light Curve

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

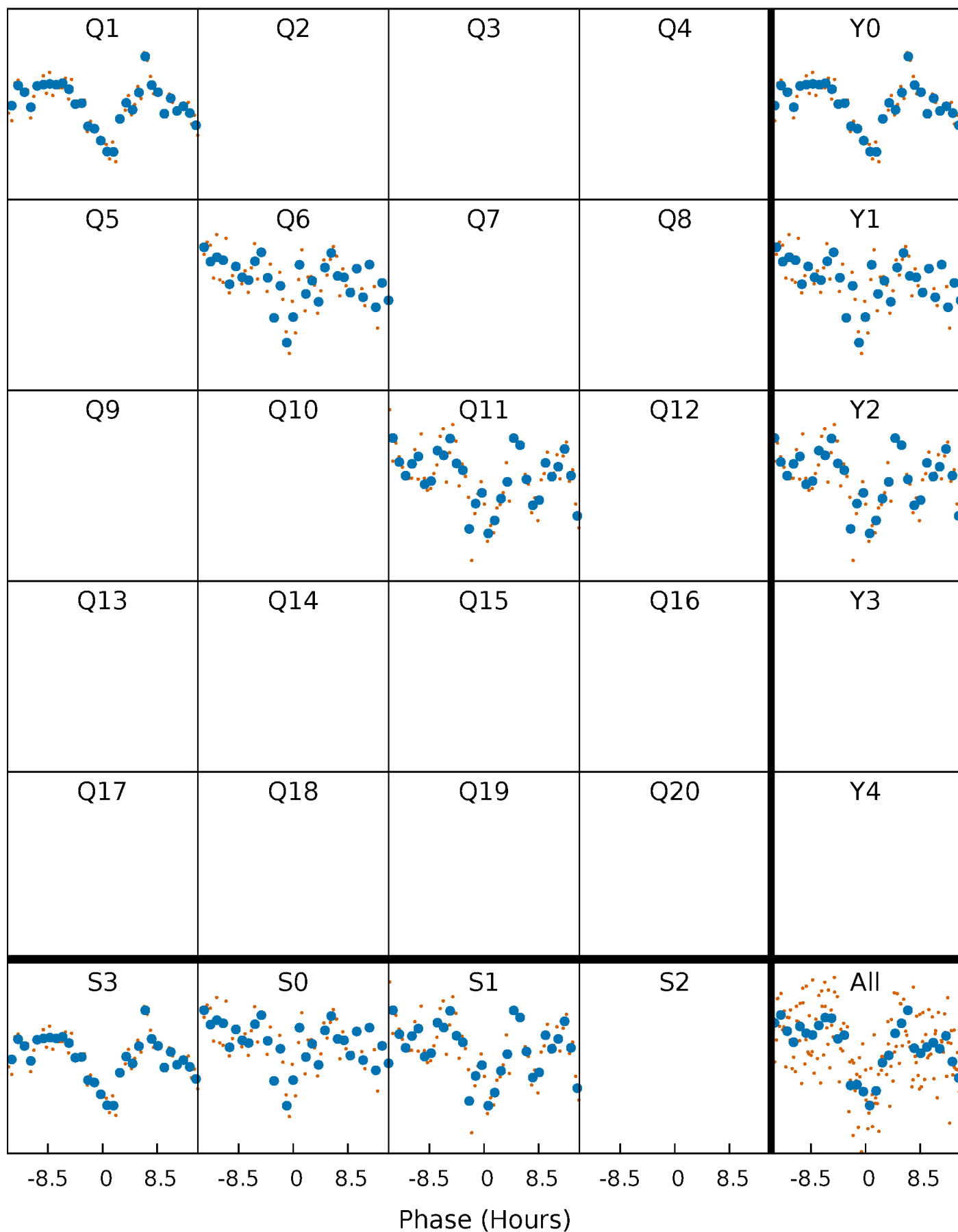


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



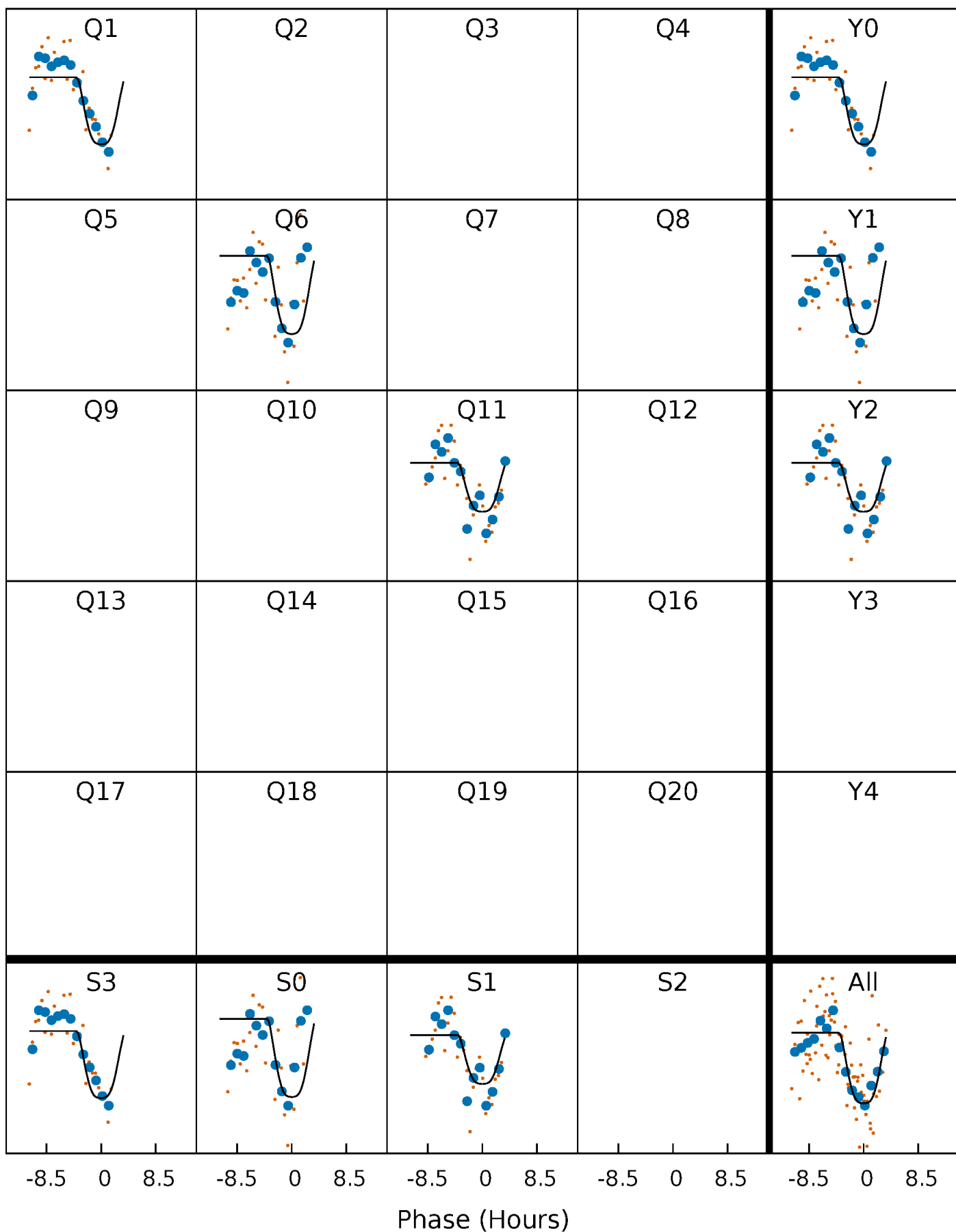
PDC Quarter-Phased Transit Curves

TCE 005959837-04 $P=441.907681$ Days $T_0=159.462605$ (BKJD)



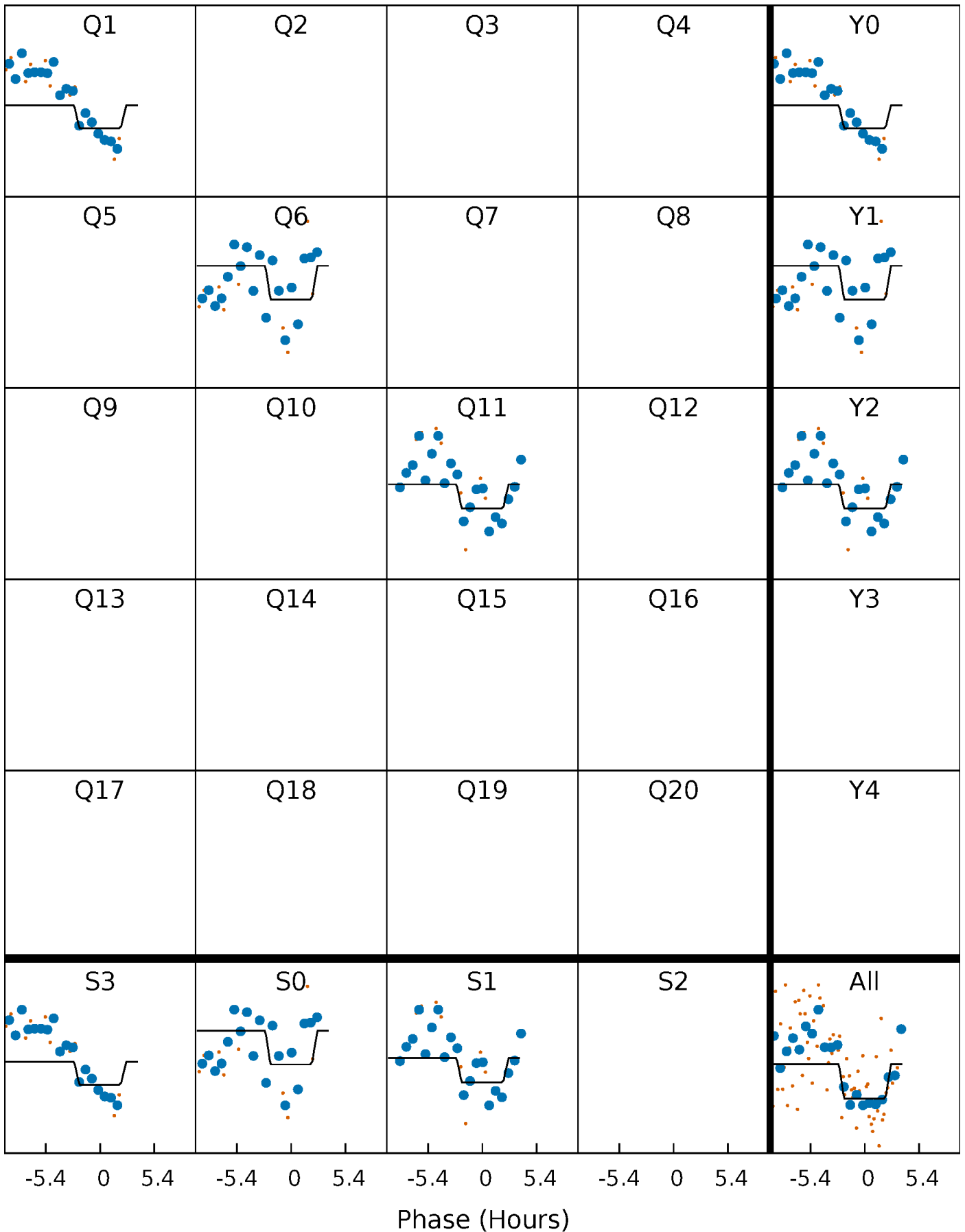
DV Quarter-Phased Transit Curves

TCE 005959837-04 P=441.907681 Days $T_0=159.462605$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

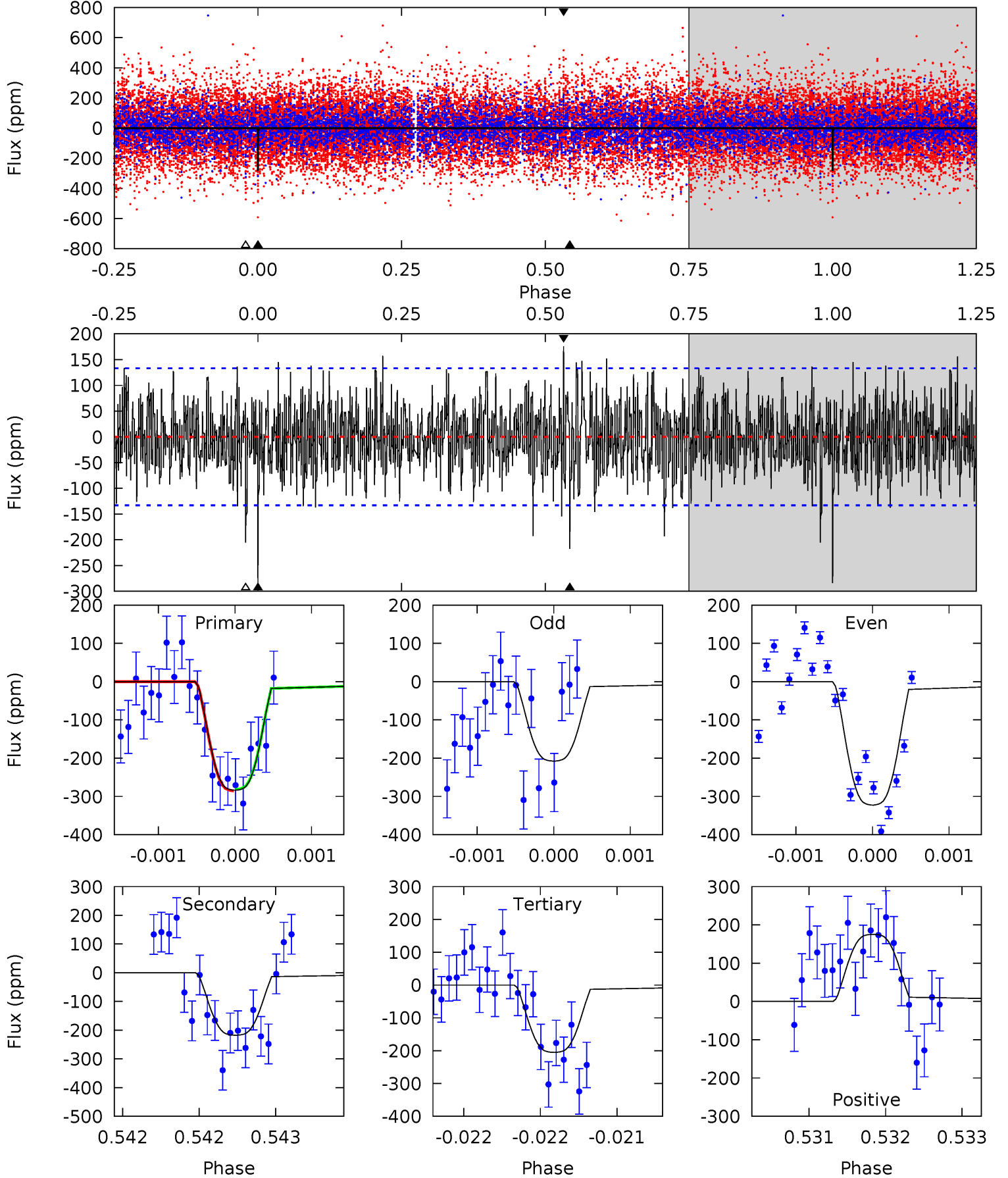
TCE 005959837-04 P=441.909259 Days $T_0=159.448623$ (BKJD)



DV Model-Shift Uniqueness Test

005959837-04, P = 441.907681 Days, E = 159.462605 Days

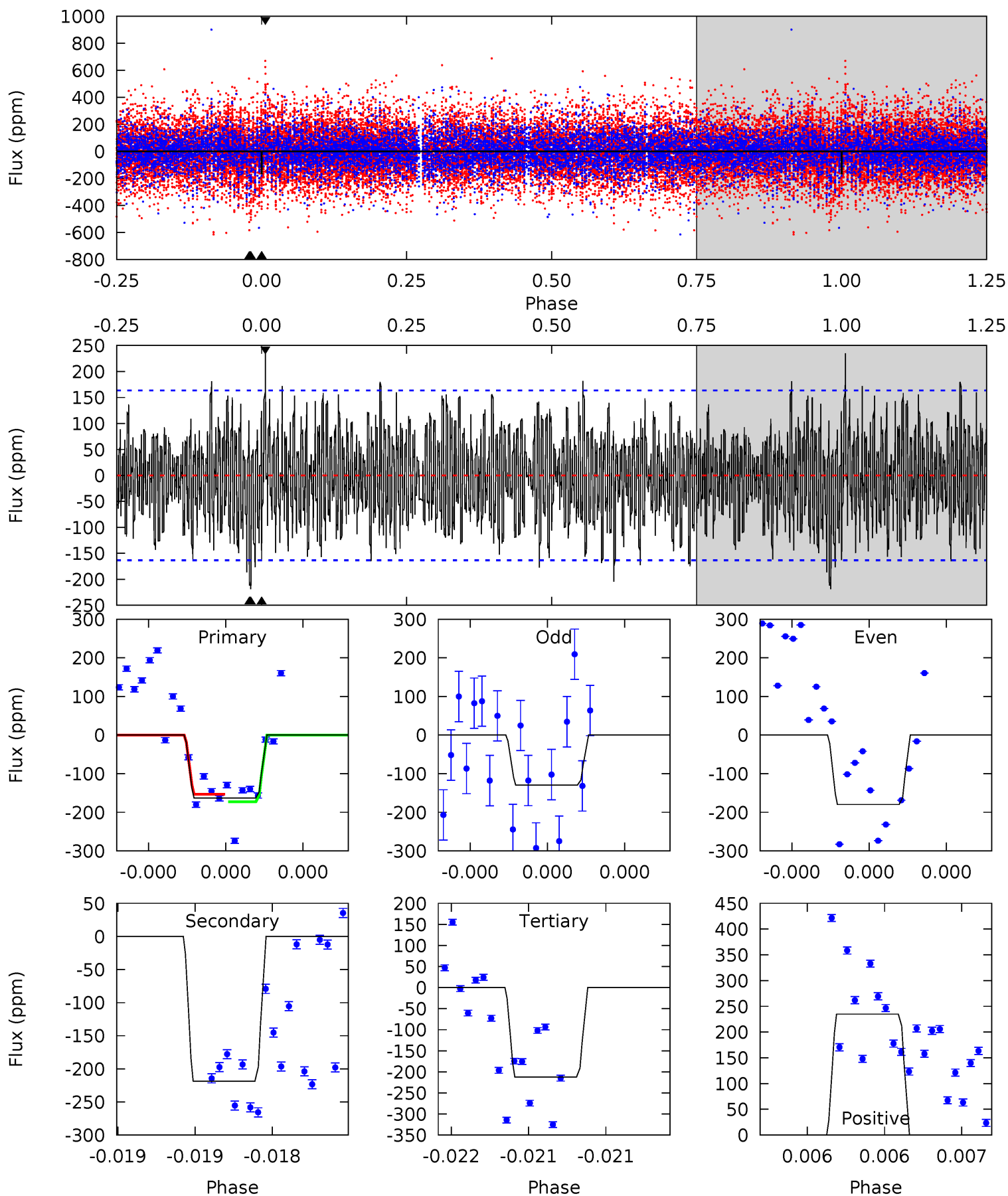
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	9.01	8.50	7.27	5.52	3.39	2.13	3.25	4.48	0.52	1.74	2.22	1.04	0.38	0.08



Alt Model-Shift Uniqueness Test

005959837-04, P = 441.909259 Days, E = 159.448623 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.56	7.47	7.24	8.03	5.59	3.50	2.12	-1.68	-2.47	0.23	-0.56	0.81	0.95	0.52	0.33



Stellar Parameters For KIC 005959837

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6856^{+72}_{-92}	$4.001^{+0.162}_{-0.108}$	$0.180^{+0.150}_{-0.150}$	$2.112^{+0.362}_{-0.442}$	$1.630^{+0.111}_{-0.166}$	$0.244^{+0.183}_{-0.082}$
	+1%/-1%	+4%/-3%	+83%/-83%	+17%/-21%	+7%/-10%	+75%/-34%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005959837-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-218 ± 24	$4.68^{+0.78}_{-0.68}$	528^{+24}_{-26}	5770^{+398}_{-333}	9717^{+3516}_{-2730}
Alt.	-219 ± 29	$2.82^{+0.72}_{-0.61}$	530^{+23}_{-28}	7507^{+1200}_{-769}	26802^{+17187}_{-10004}

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

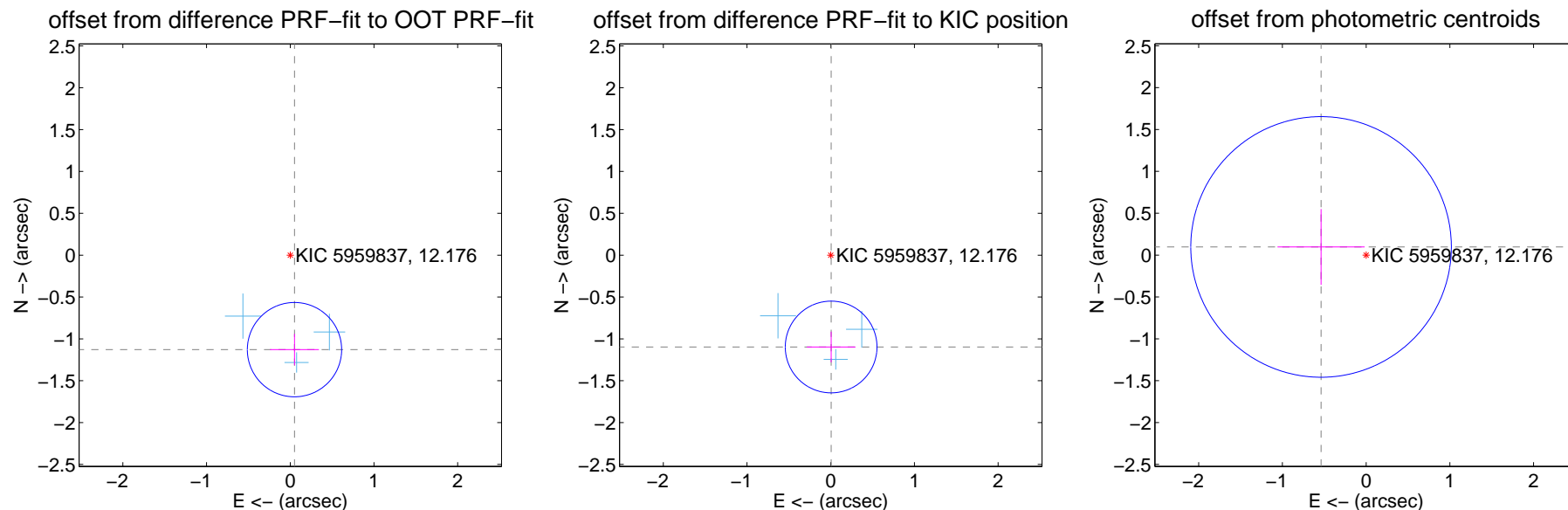
DV Centroid Data

Supplemental centroid analysis for 005959837-04. Kepler magnitude: 12.18. Transit SNR 8.44

There are 3 quarters with good PRF difference image offsets

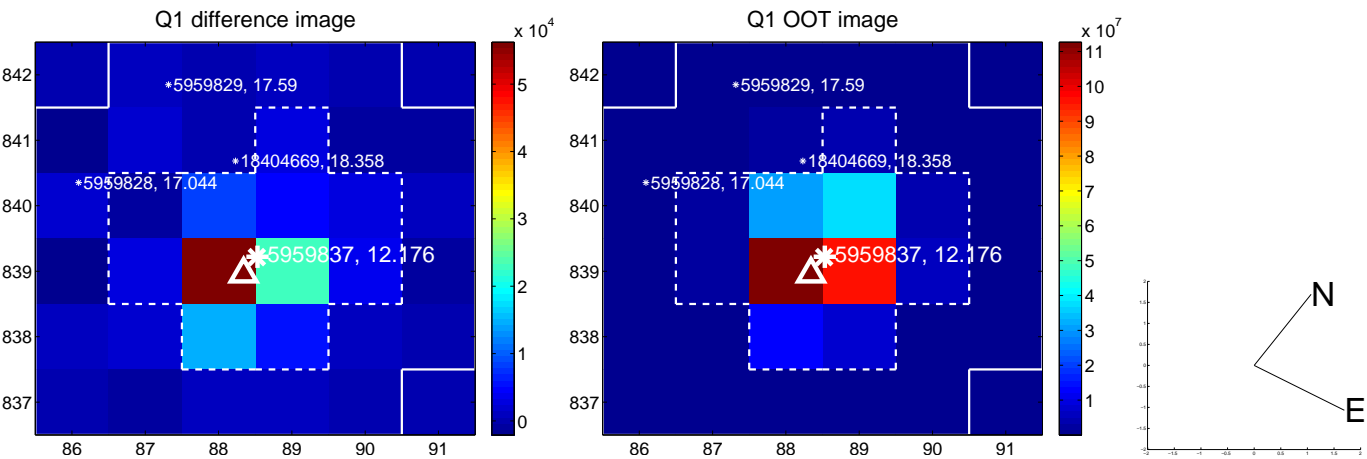
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.130 ± 0.188	6.02	-0.051 ± 0.291	-1.129 ± 0.188
PRF-fit source offset from KIC position	1.097 ± 0.183	6.01	-0.005 ± 0.291	-1.097 ± 0.183
photometric centroid source offset	0.55 ± 0.52	1.05	0.54 ± 0.52	0.10 ± 0.45

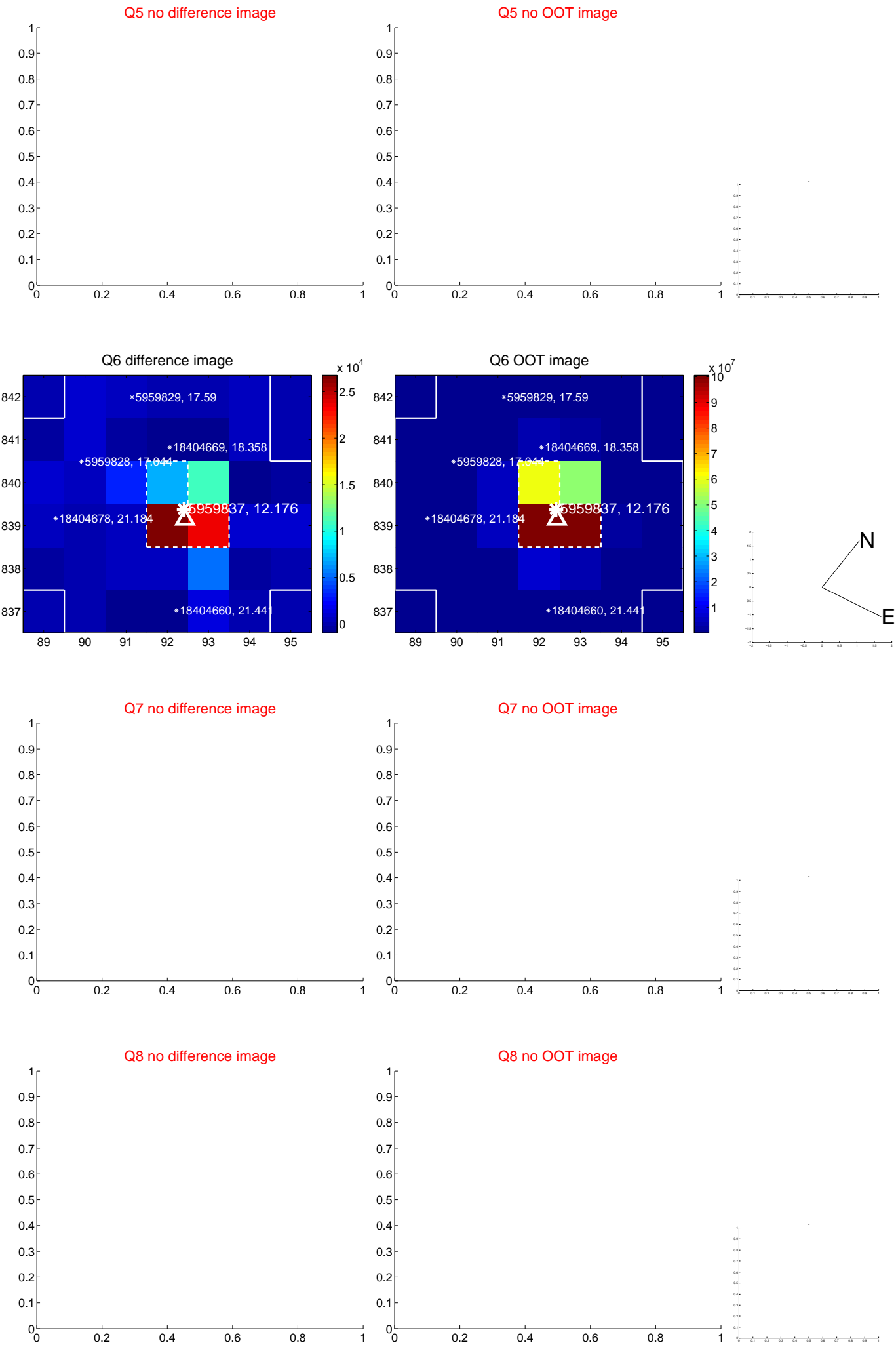


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

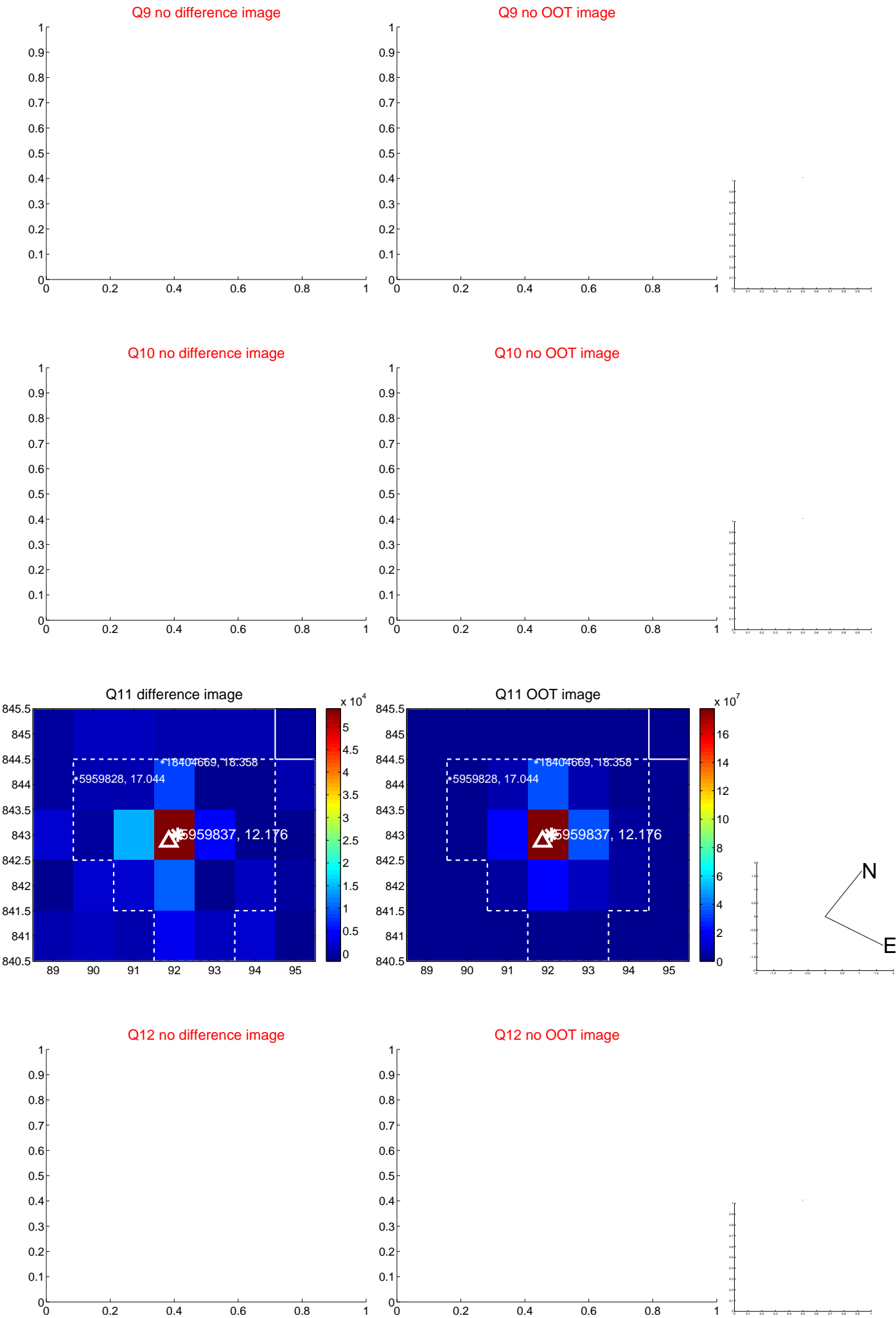
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



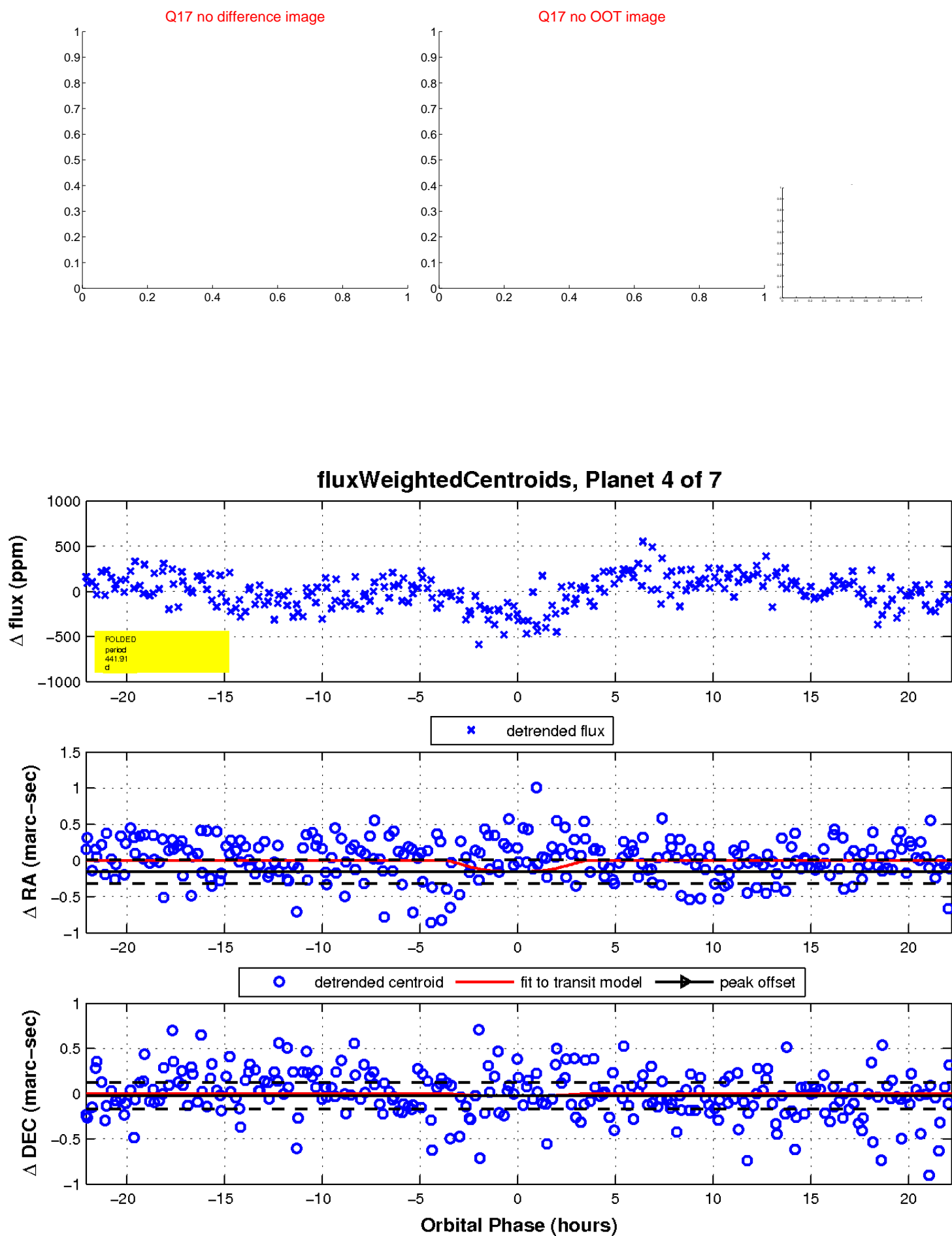
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

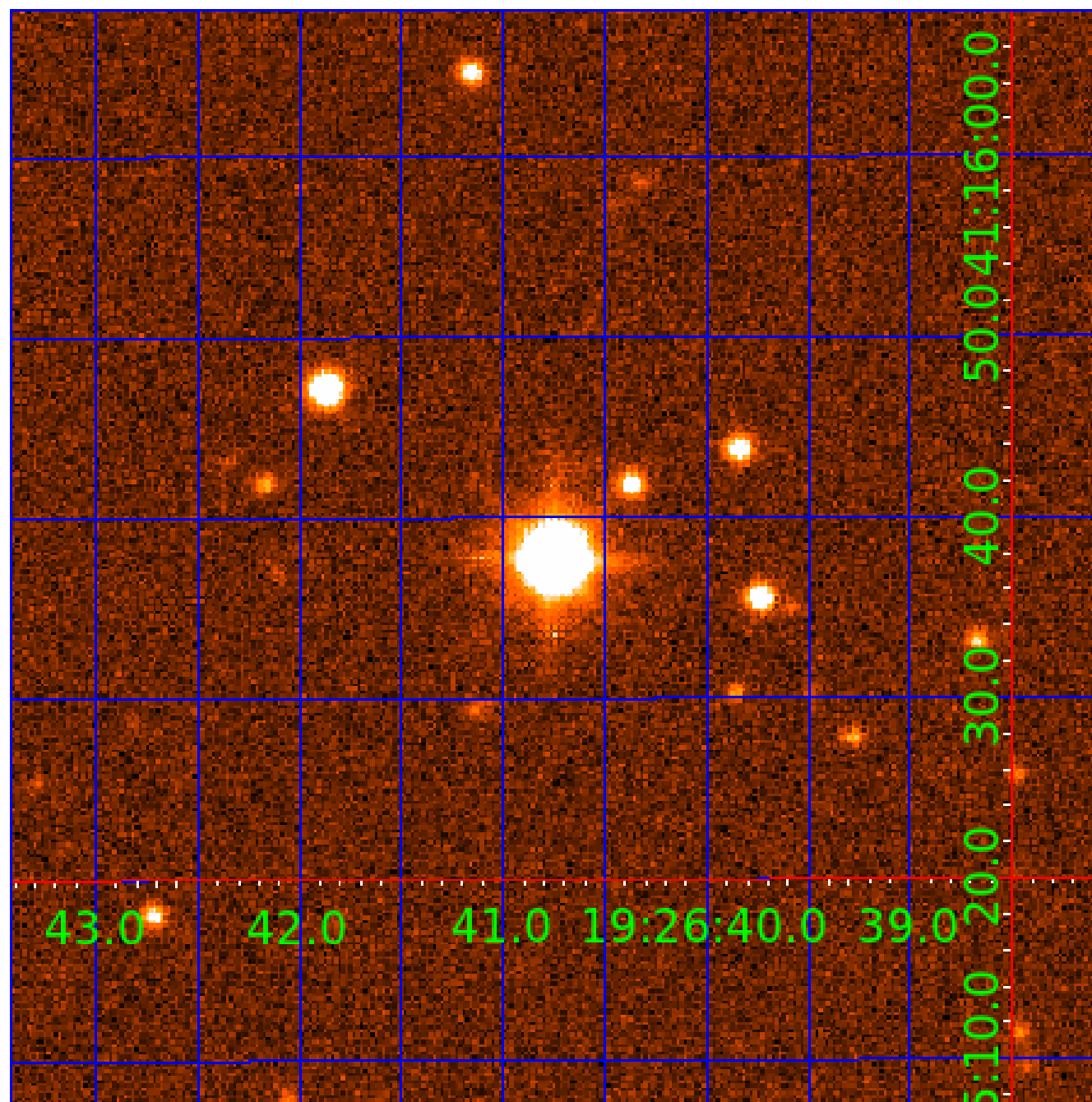


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005959837

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})
005959837-01	OBS	No	1.578401	131.636829	27.3	8.138	12.2	10.2	2.11	6856	1.31	9050.73
005959837-02	OBS	No	552.315144	342.666907	340.6	10.036	10.1	10.3	2.11	6856	4.46	3.67
005959837-03	OBS	No	38.847634	168.630566	202.0	2.481	9.3	10.0	2.11	6856	3.71	126.42
005959837-04	OBS	No	441.907681	159.462605	300.0	7.415	8.6	8.4	2.11	6856	4.78	4.94
005959837-05	OBS	No	117.461521	186.036741	204.6	6.106	8.4	7.8	2.11	6856	3.55	28.91
005959837-06	OBS	No	177.981800	251.201947	232.4	9.159	7.9	8.0	2.11	6856	3.43	16.61
005959837-07	OBS	No	73.711089	177.731707	82.2	7.500	7.3	-1.0	2.11	6856	1.93	53.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005959837-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
005959837-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—CENT_FEW_DIFFS
005959837-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005959837-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005959837-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005959837-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005959837-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

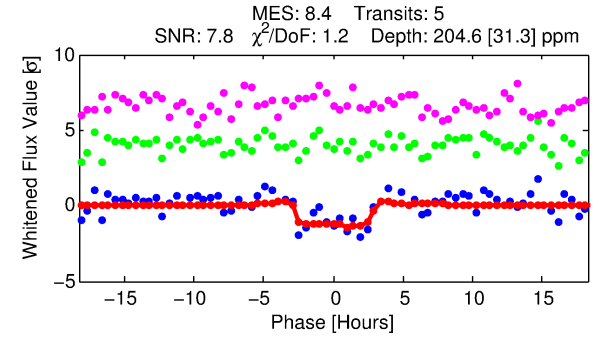
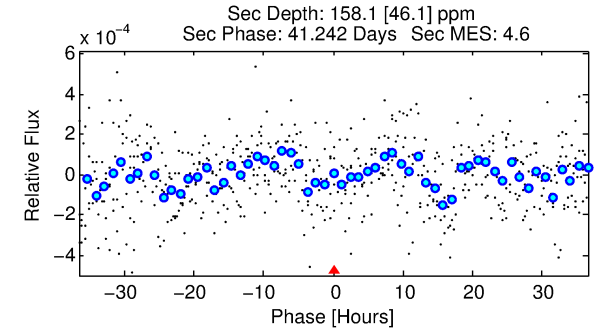
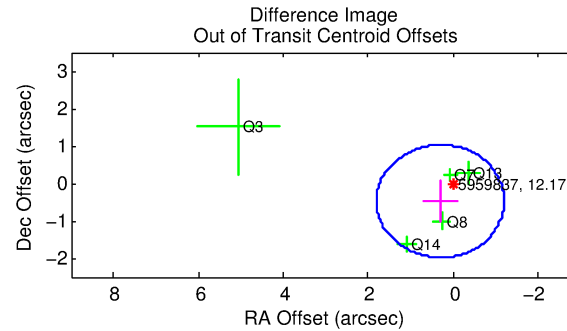
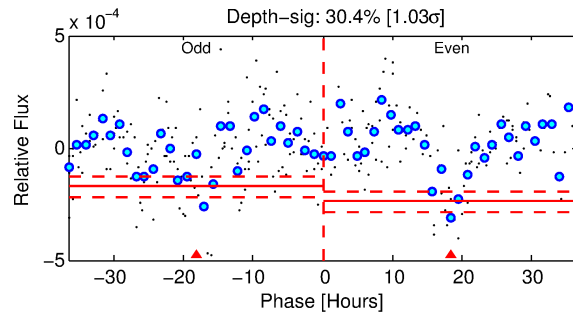
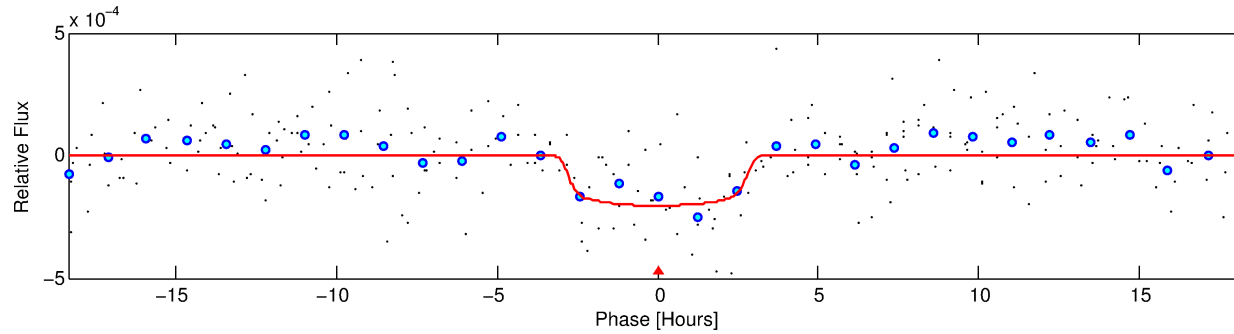
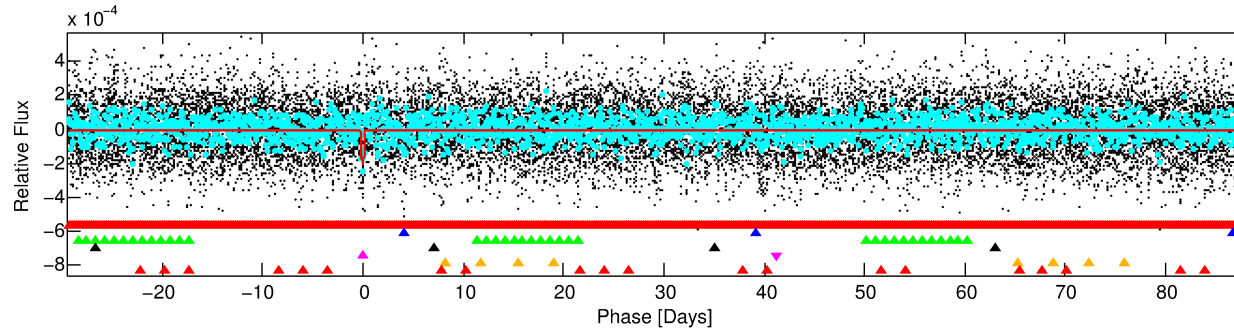
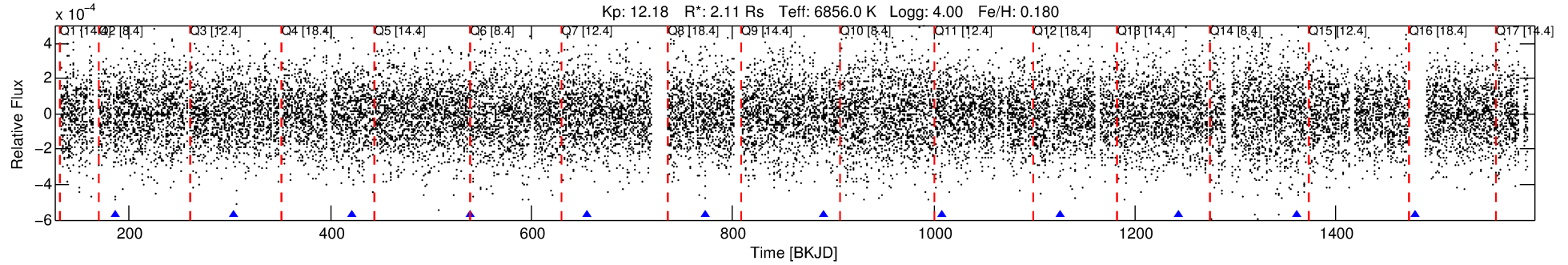
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005959837-05

No Significant Match Found

DV One-Page Summary

KIC: 5959837 Candidate: 5 of 7 Period: 117.462 d



DV Fit Results:

Period = 117.46152 [0.00221] d
Epoch = 186.0367 [0.0119] BKJD
Rp/R* = 0.0154 [0.0041]
a/R* = 66.20 [100.35]
b = 0.91 [0.29]
Seff = 28.91 [8.39]
Teq = 591 [43] K
Rp = 3.55 [1.21] Re
a = 0.5526 [0.1033] AU
Ag = 2111.81 [1422.35] [1.48 σ]
Teffp = 6197 [949] K [5.90 σ]

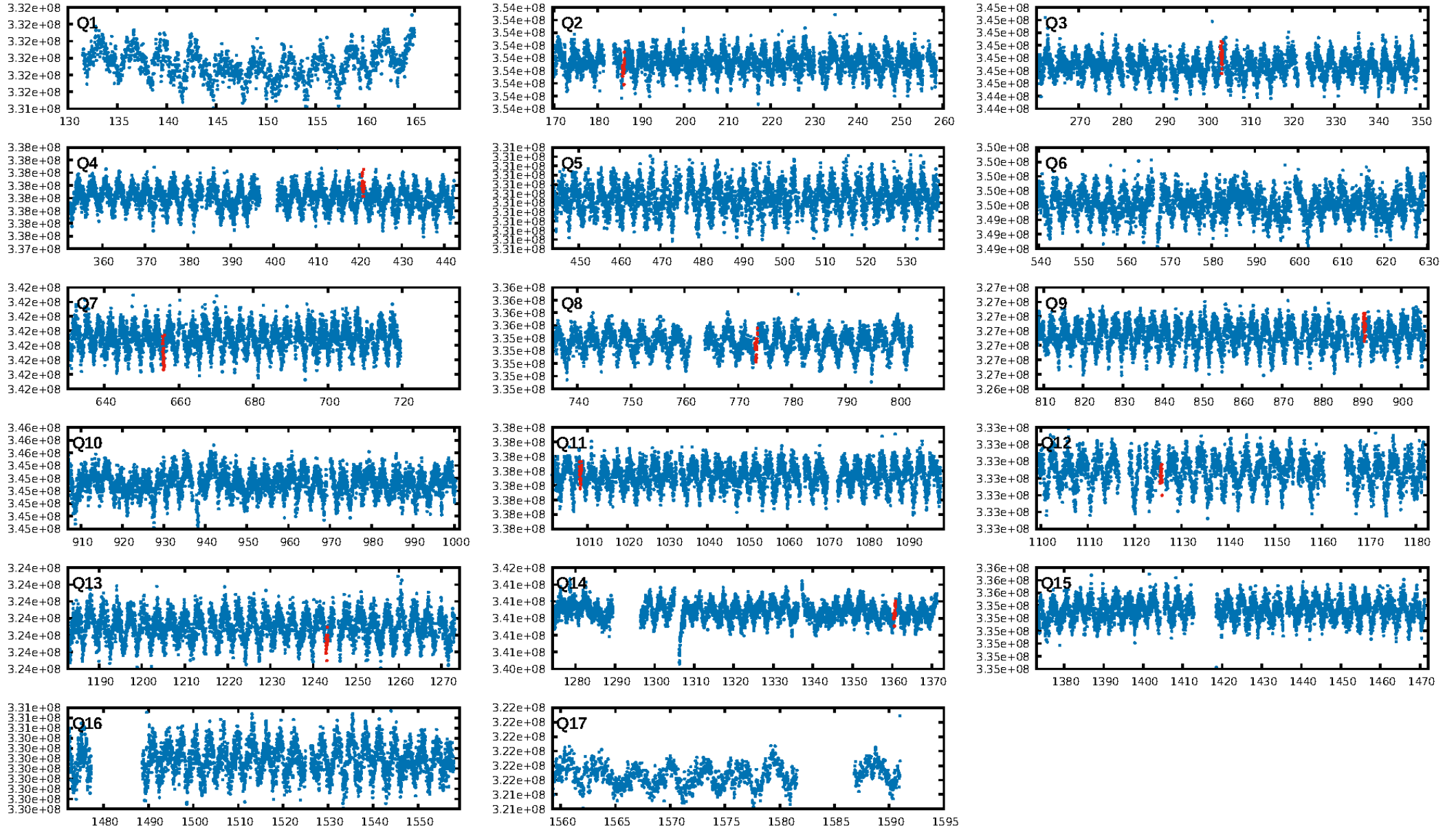
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [108.57 σ]
LongPeriod-sig: 100.0% [131.94 σ]
ModelChiSquare2-sig: 97.2%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.2468
Centroid-sig: 4.4%
Centroid-so: 0.623 arcsec [1.48 σ]
OotOffset-rm: 0.560 arcsec [1.12 σ]
OotOffset-st: 1/2/1/1 [5]
KicOffset-rm: 0.561 arcsec [1.16 σ]
KicOffset-st: 1/2/1/1 [5]
DiffImageQuality-fgm: 0.80 [4/5]
DiffImageOverlap-fno: 0.25 [2/8]

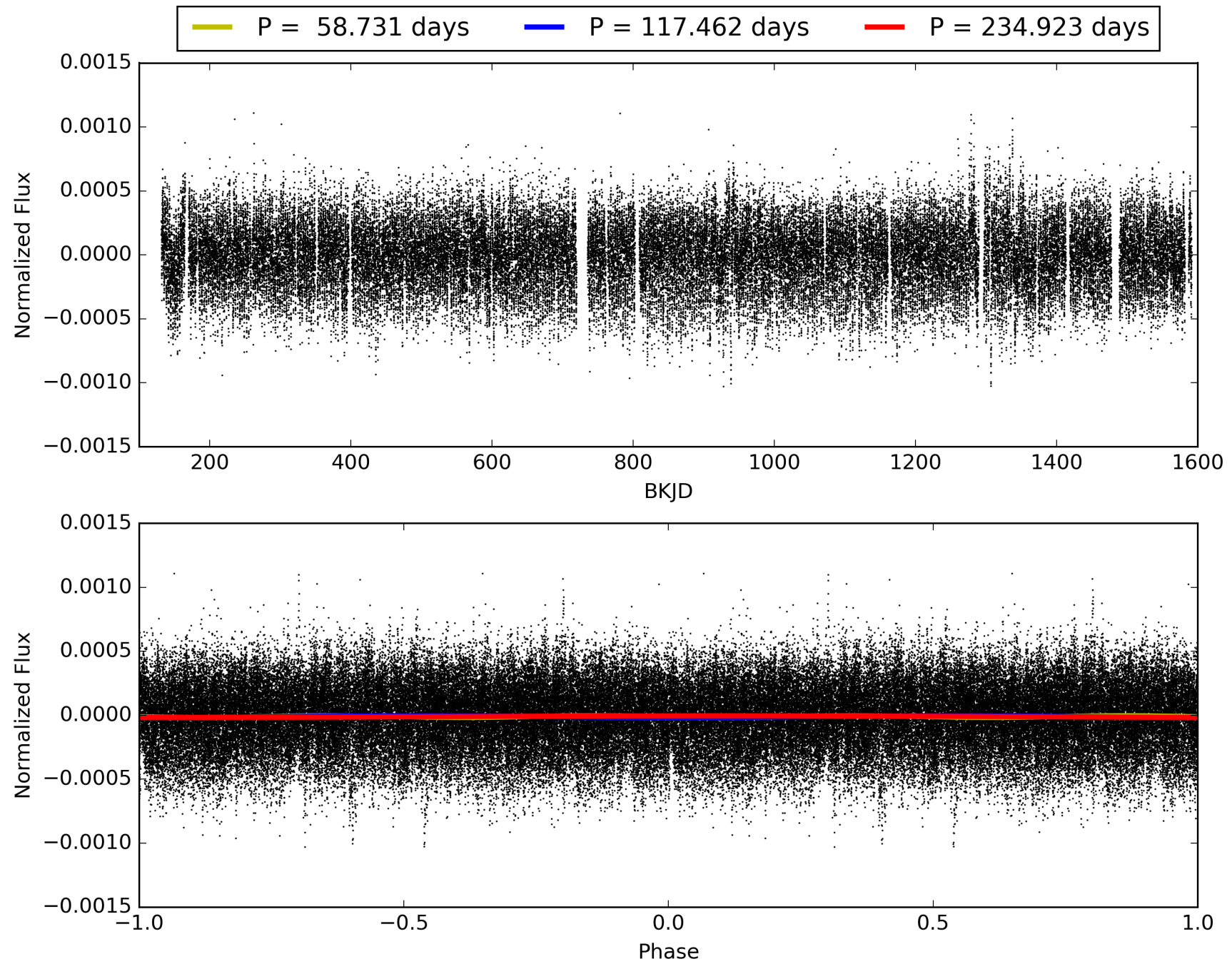
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:46:04 Z

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

TCE 005959837-05, PDC Light Curves

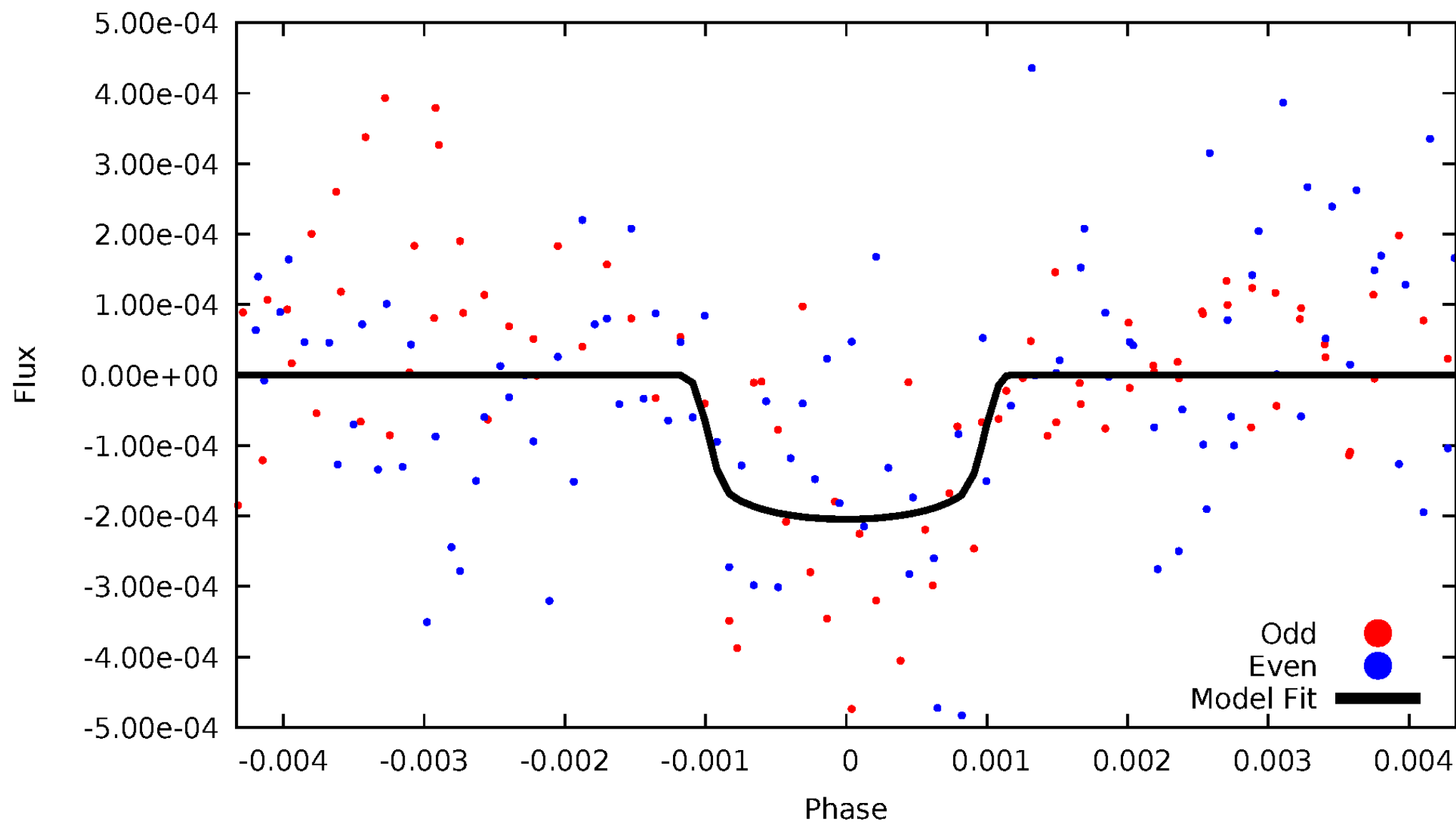


TCE 005959837-05



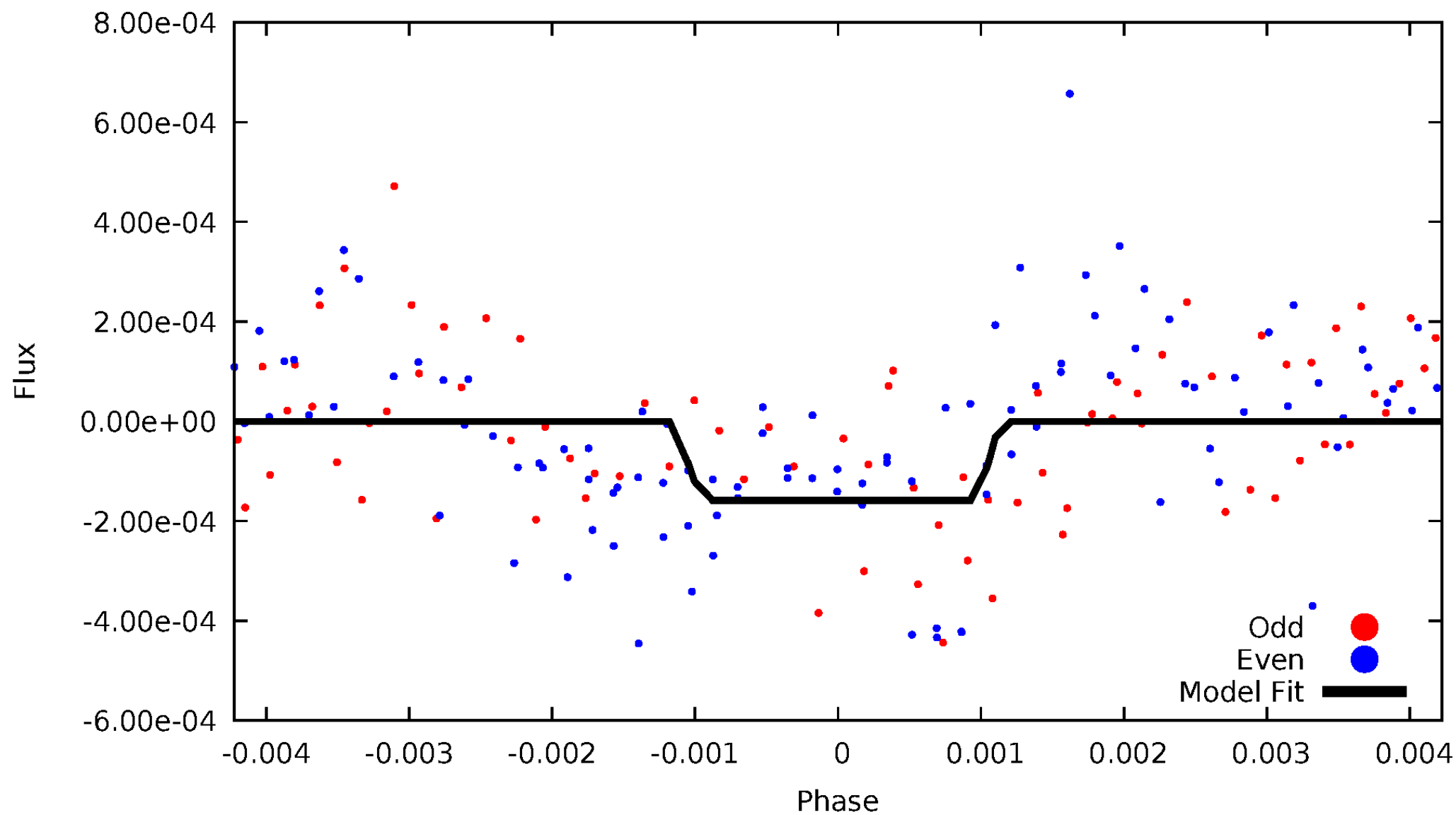
DV Odd/Even

TCE 005959837-05



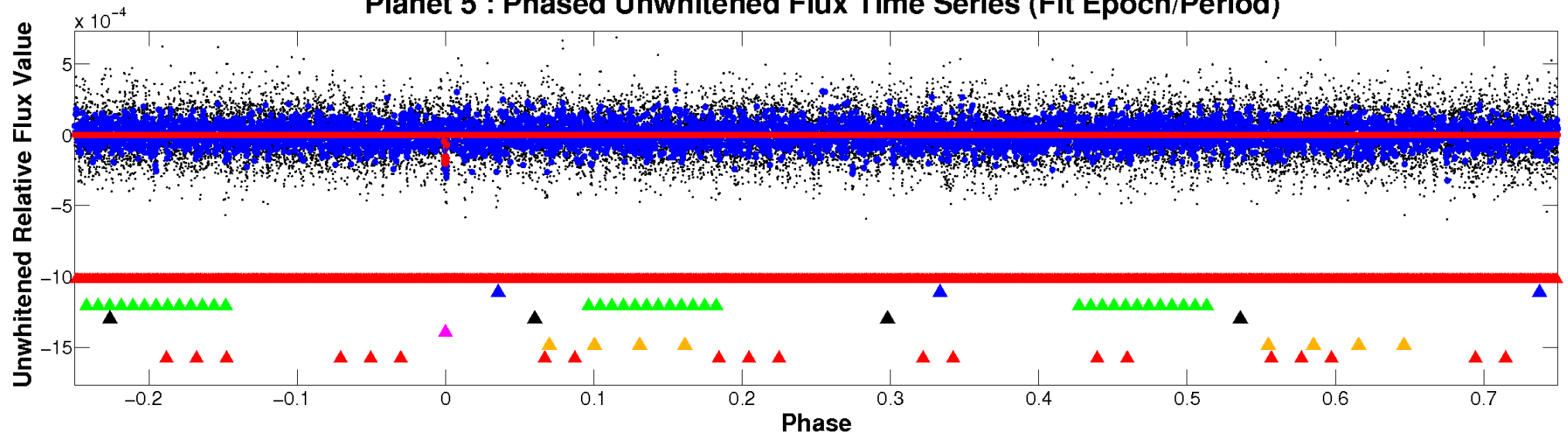
ALT Odd/Even

TCE 005959837-05

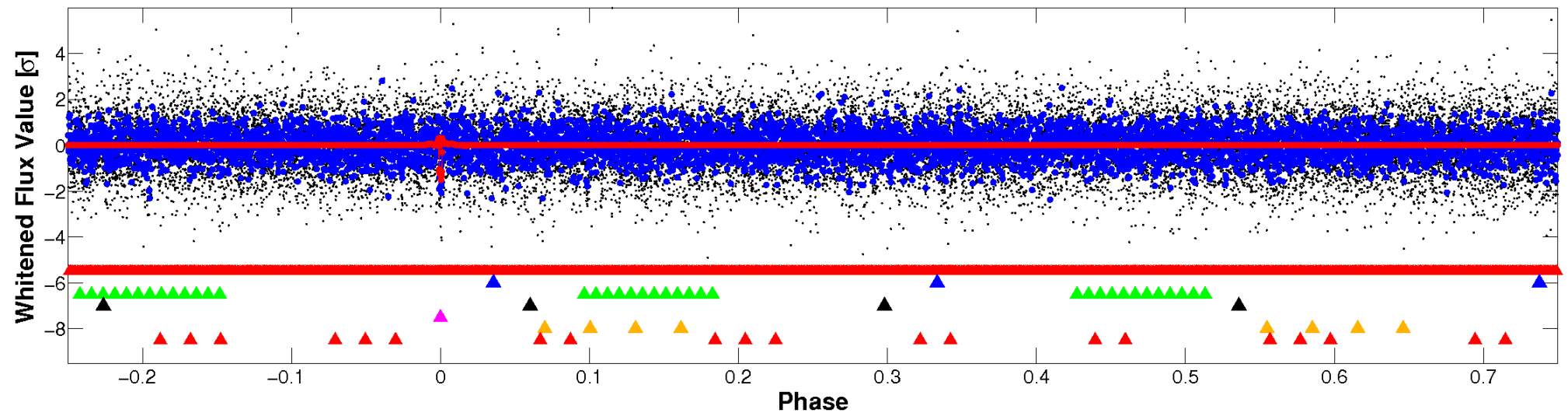


Non-Whitened Vs. Whitened Light Curve

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

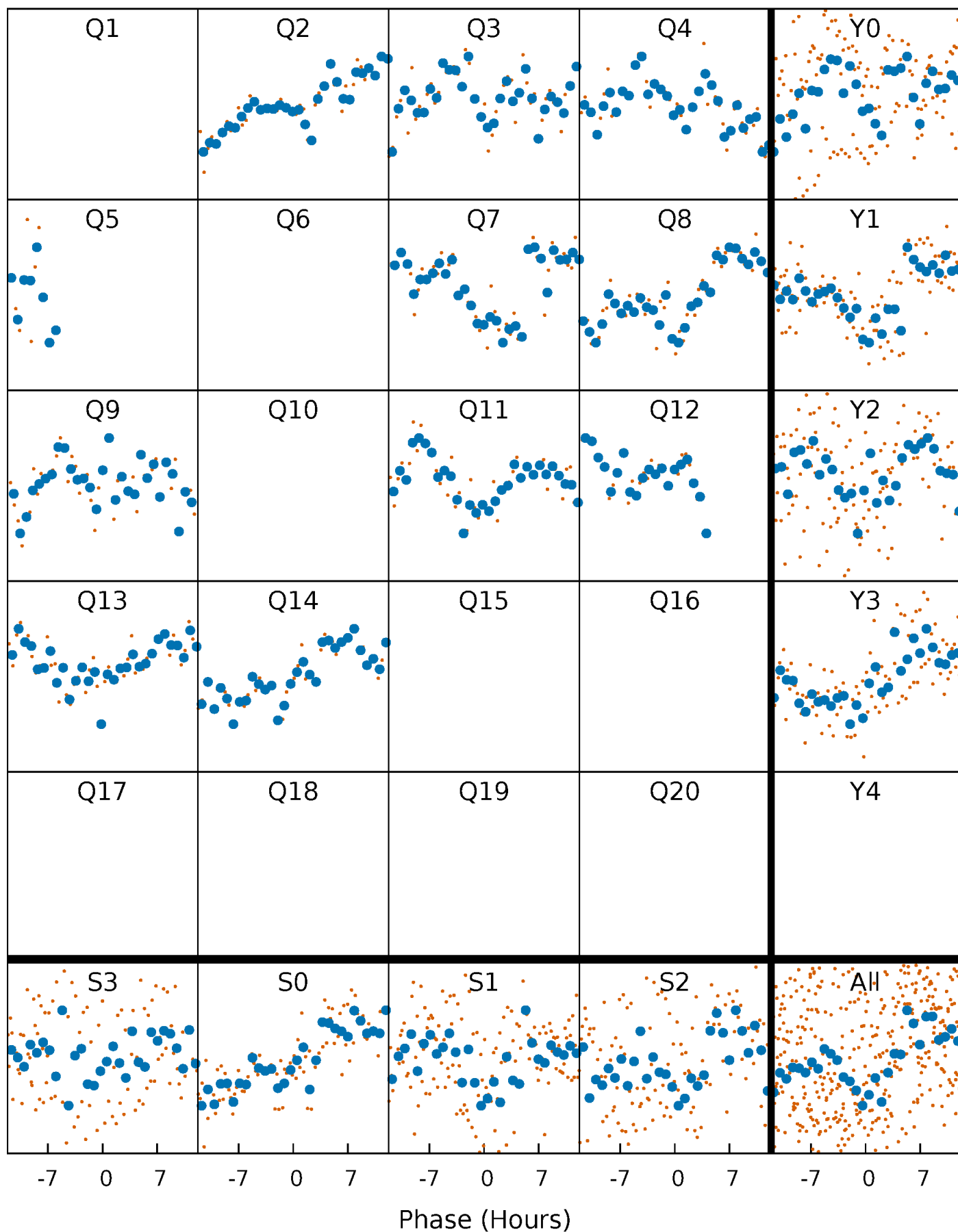


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



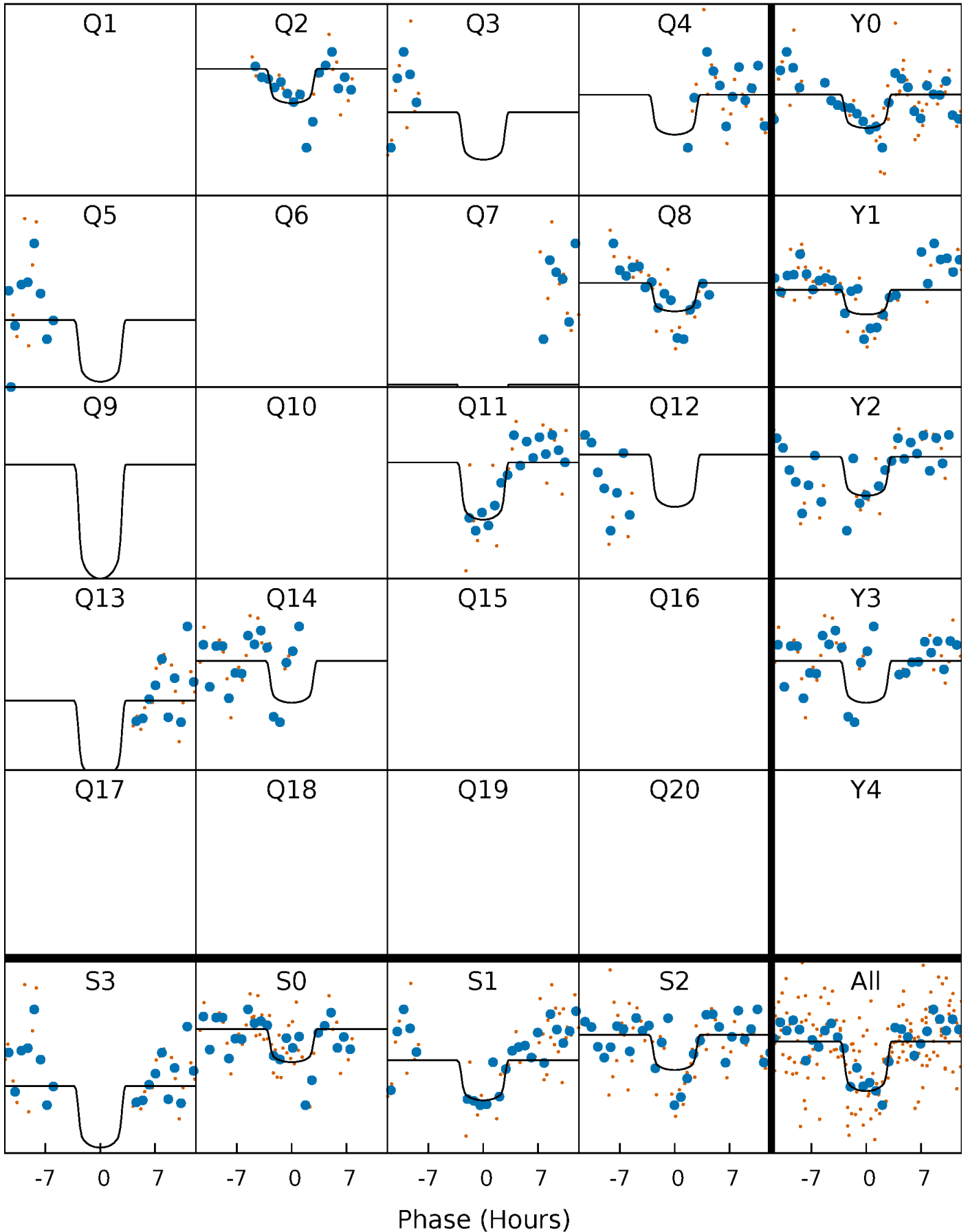
PDC Quarter-Phased Transit Curves

TCE 005959837-05 $P=117.461521$ Days $T_0=186.036741$ (BKJD)



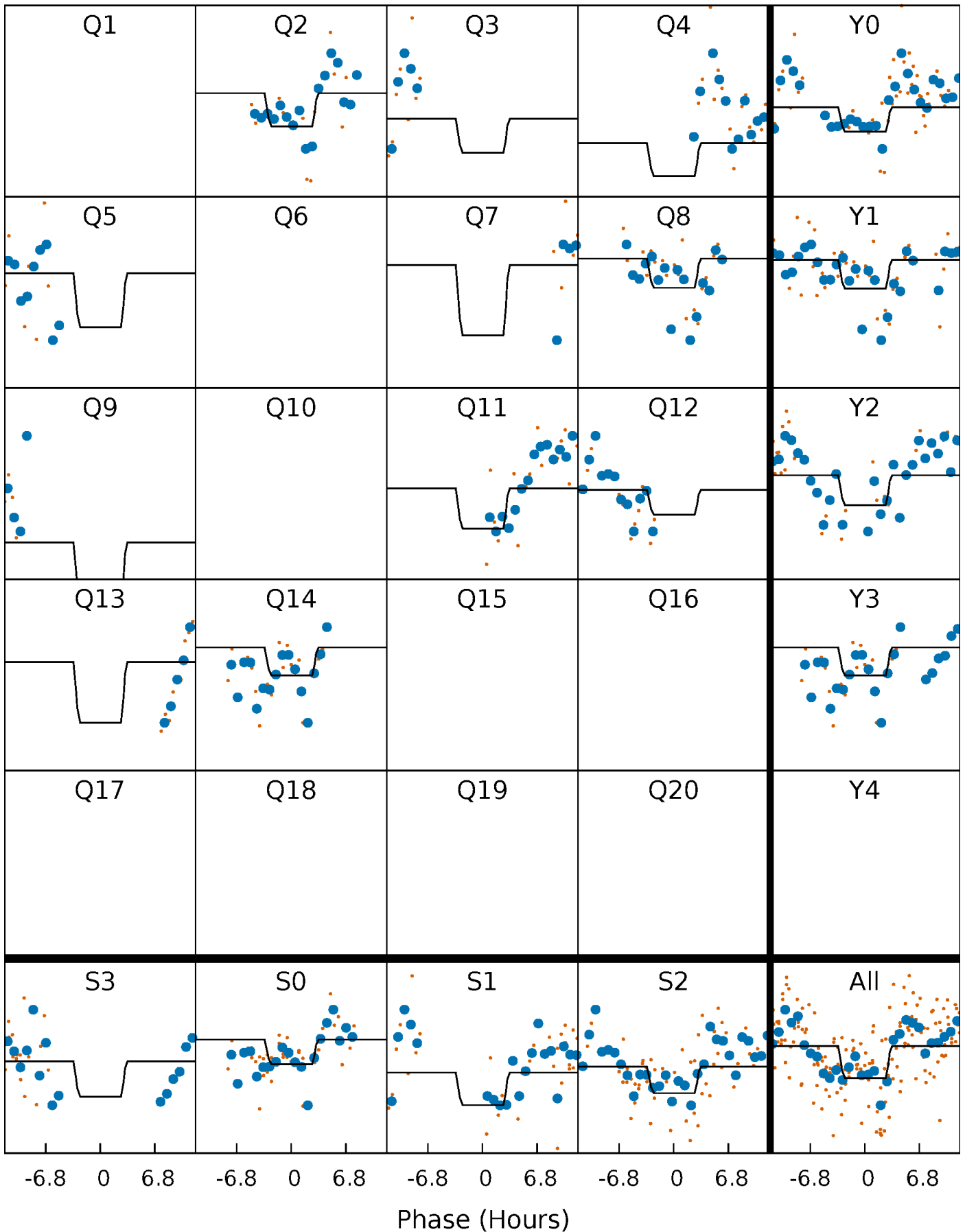
DV Quarter-Phased Transit Curves

TCE 005959837-05 P=117.461521 Days $T_0=186.036741$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

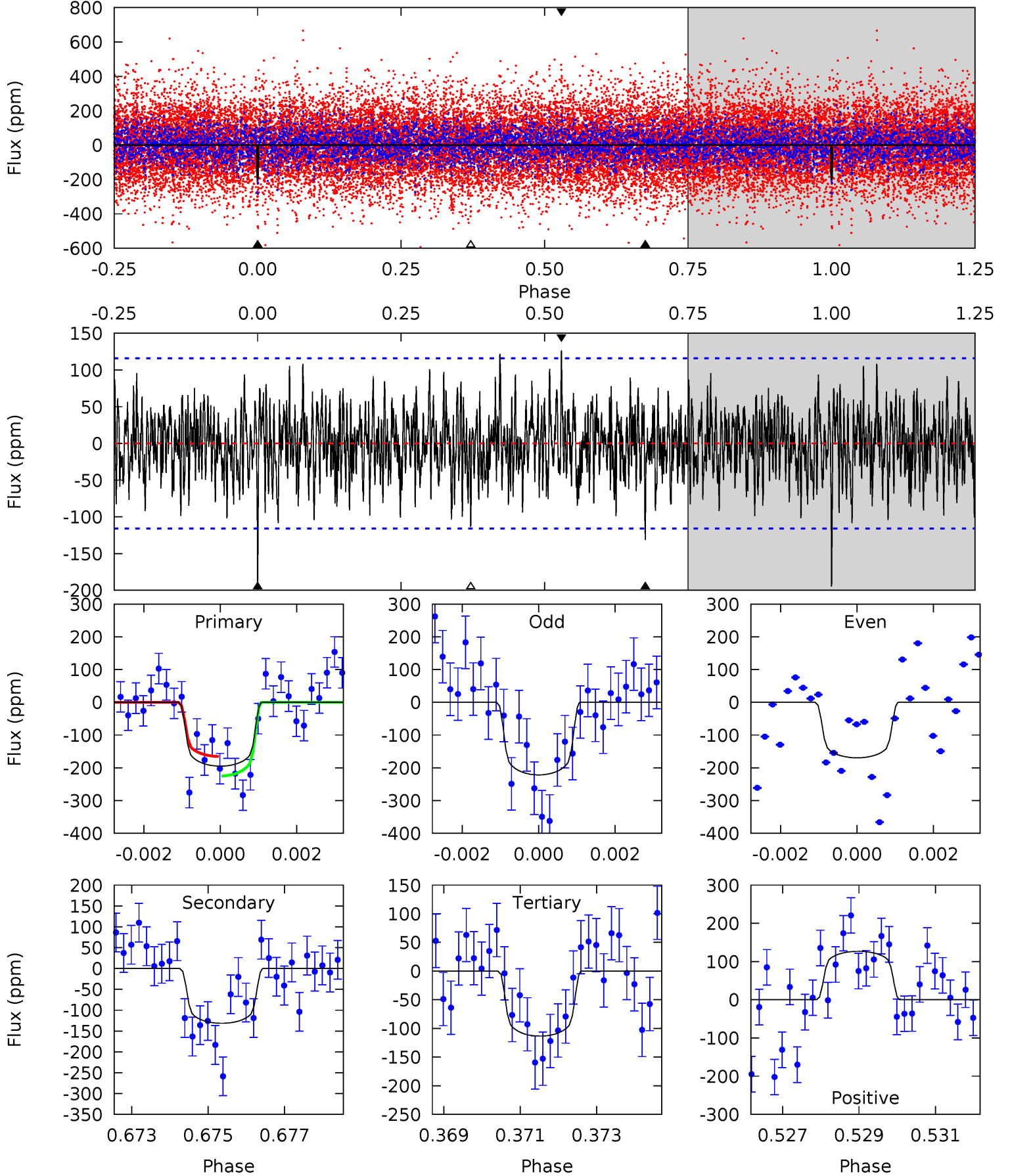
TCE 005959837-05 $P=117.446163$ Days $T_0=186.031821$ (BKJD)



DV Model-Shift Uniqueness Test

005959837-05, $P = 117.461521$ Days, $E = 68.575220$ Days

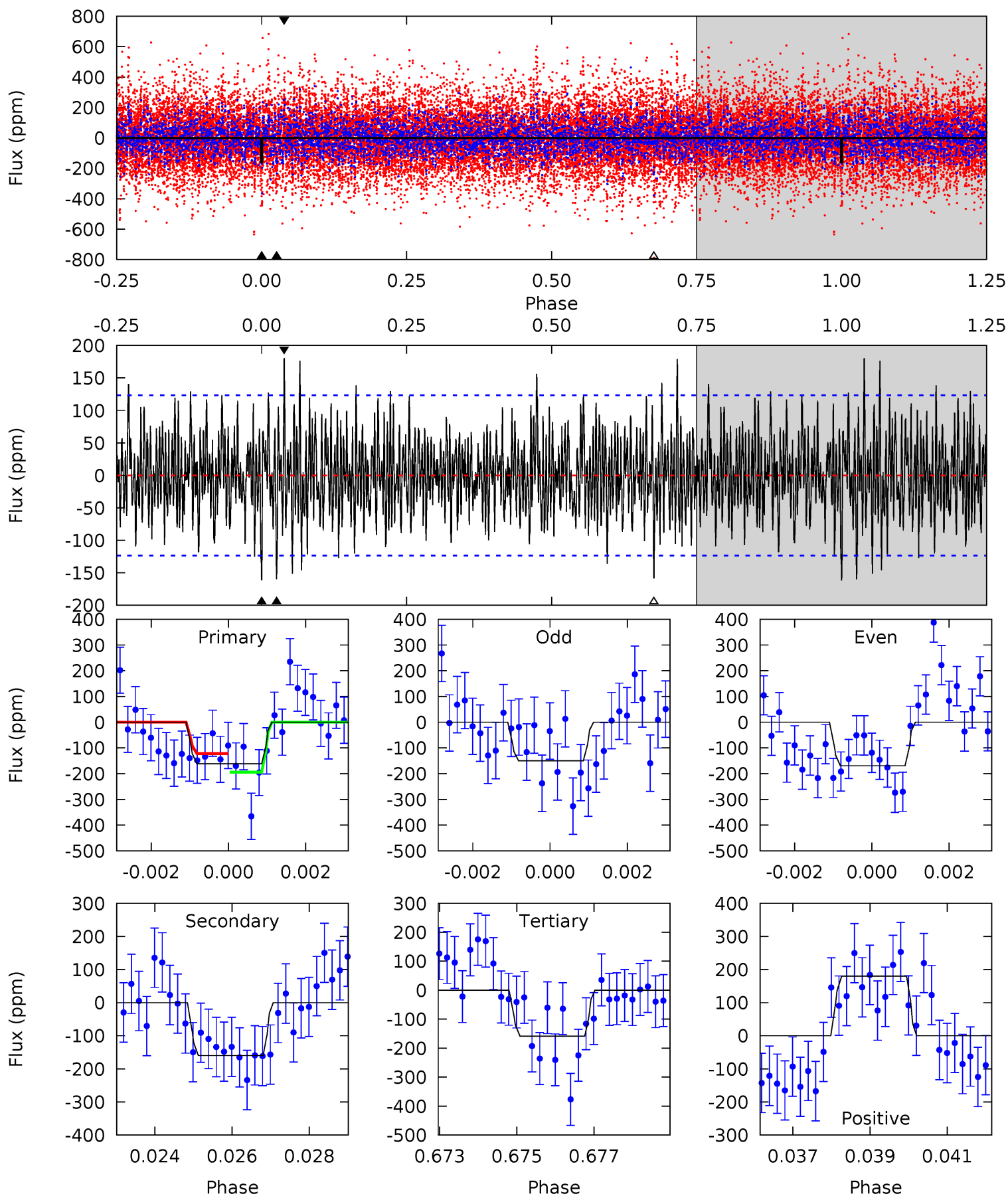
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.94	6.03	5.20	5.81	5.31	3.07	1.72	3.74	3.13	0.82	0.22	1.20	0.92	0.39	1.36



Alt Model-Shift Uniqueness Test

005959837-05, $P = 117.446163$ Days, $E = 68.585658$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.96	6.89	6.83	7.76	5.31	3.07	2.18	0.14	-0.80	0.06	-0.87	0.40	0.94	0.53	1.55



Stellar Parameters For KIC 005959837

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6856^{+72}_{-92}	$4.001^{+0.162}_{-0.108}$	$0.180^{+0.150}_{-0.150}$	$2.112^{+0.362}_{-0.442}$	$1.630^{+0.111}_{-0.166}$	$0.244^{+0.183}_{-0.082}$
	+1%/-1%	+4%/-3%	+83%/-83%	+17%/-21%	+7%/-10%	+75%/-34%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005959837-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-131 ± 22	$3.45^{+1.05}_{-0.96}$	823^{+34}_{-46}	5915^{+1057}_{-654}	1855^{+1778}_{-788}
Alt.	-160 ± 23	$2.89^{+0.95}_{-1.02}$	823^{+38}_{-42}	6803^{+2016}_{-917}	3142^{+4540}_{-1299}

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

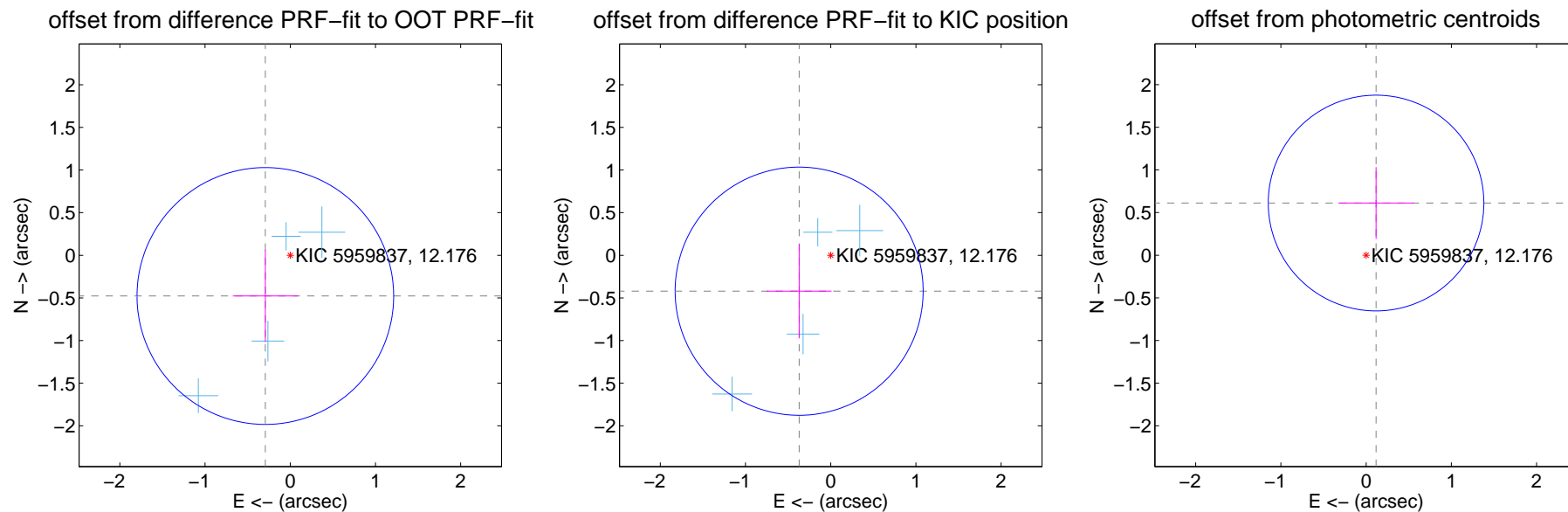
DV Centroid Data

Supplemental centroid analysis for 005959837-05. Kepler magnitude: 12.18. Transit SNR 7.81

There are 4 quarters with good PRF difference image offsets

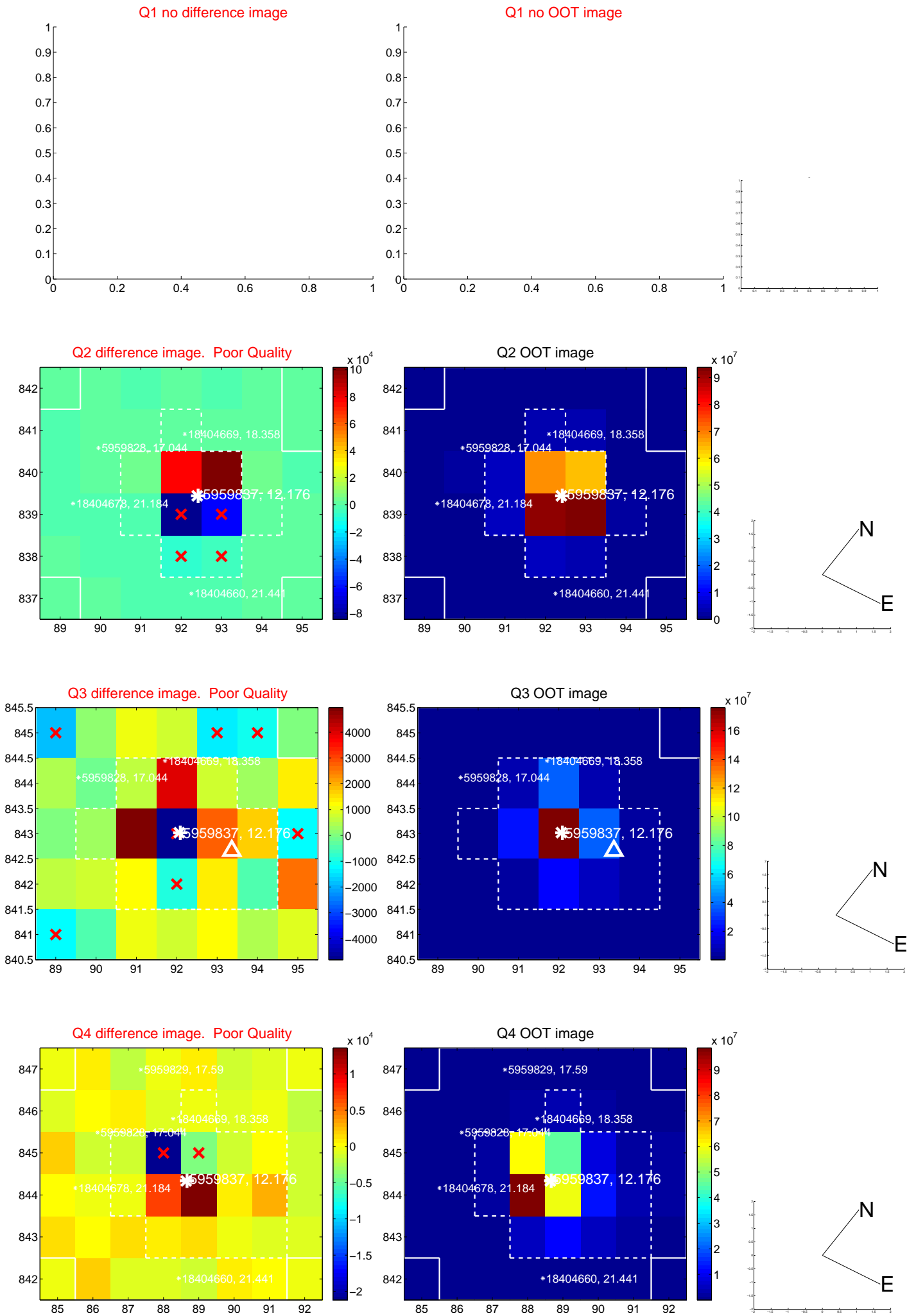
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.560 ± 0.502	1.12	0.293 ± 0.382	-0.477 ± 0.540
PRF-fit source offset from KIC position	0.561 ± 0.485	1.16	0.371 ± 0.379	-0.421 ± 0.553
photometric centroid source offset	0.62 ± 0.42	1.48	-0.12 ± 0.44	0.61 ± 0.42



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



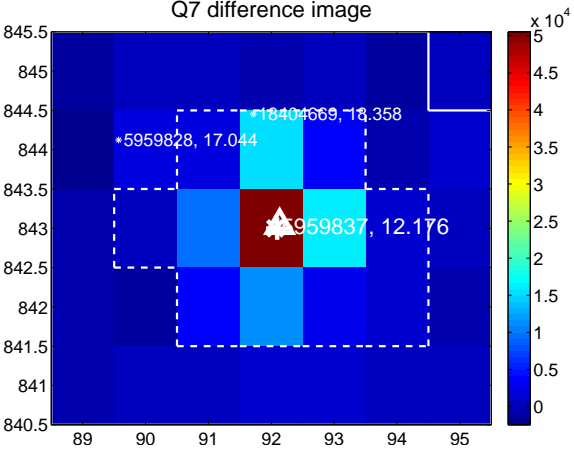
Q6 no difference image



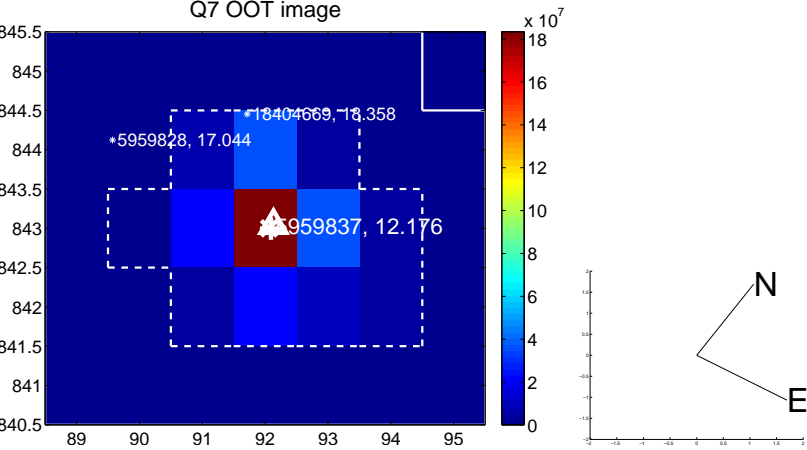
Q6 no OOT image



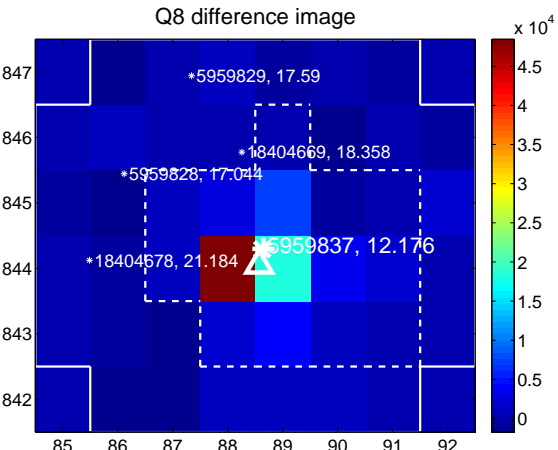
Q7 difference image



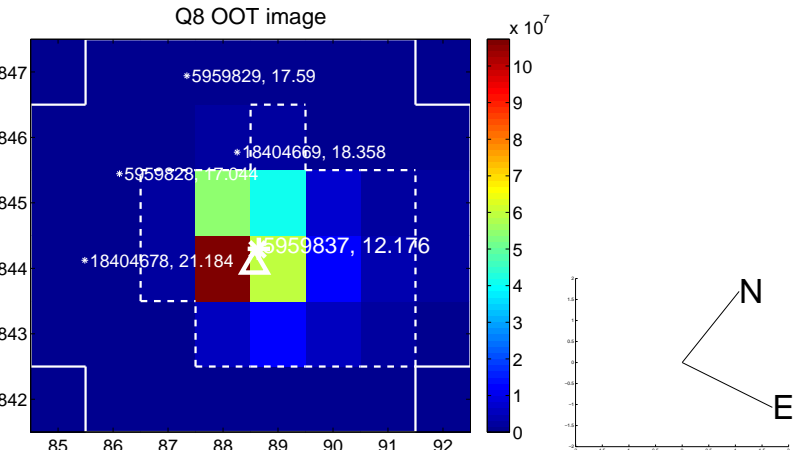
Q7 OOT image



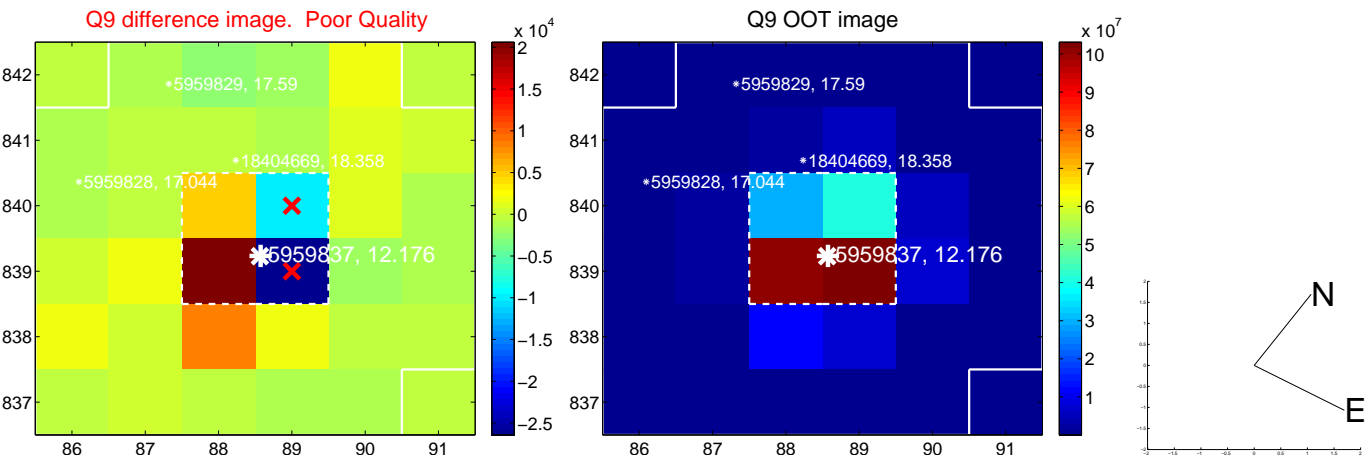
Q8 difference image



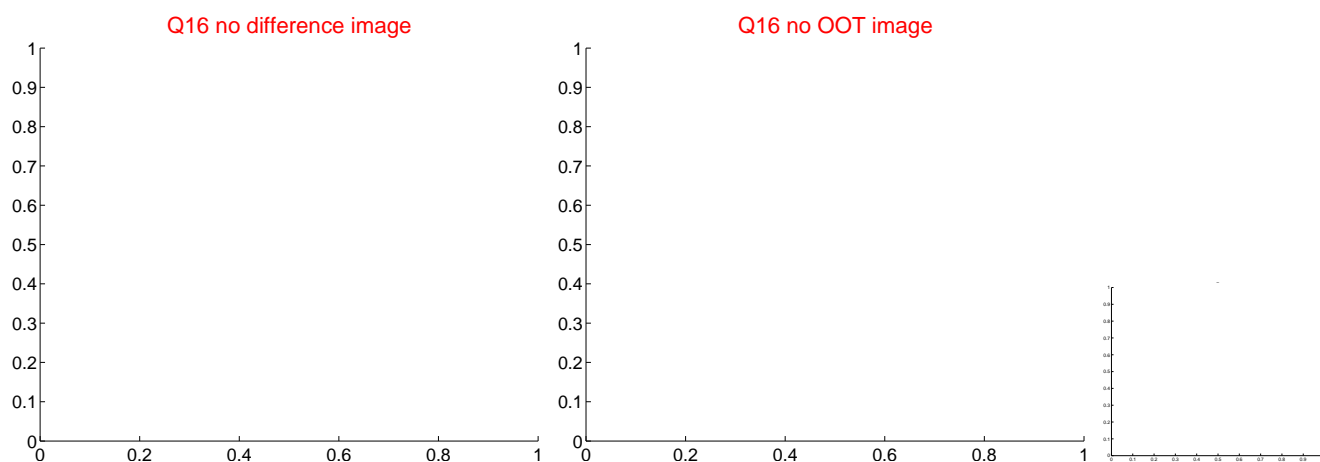
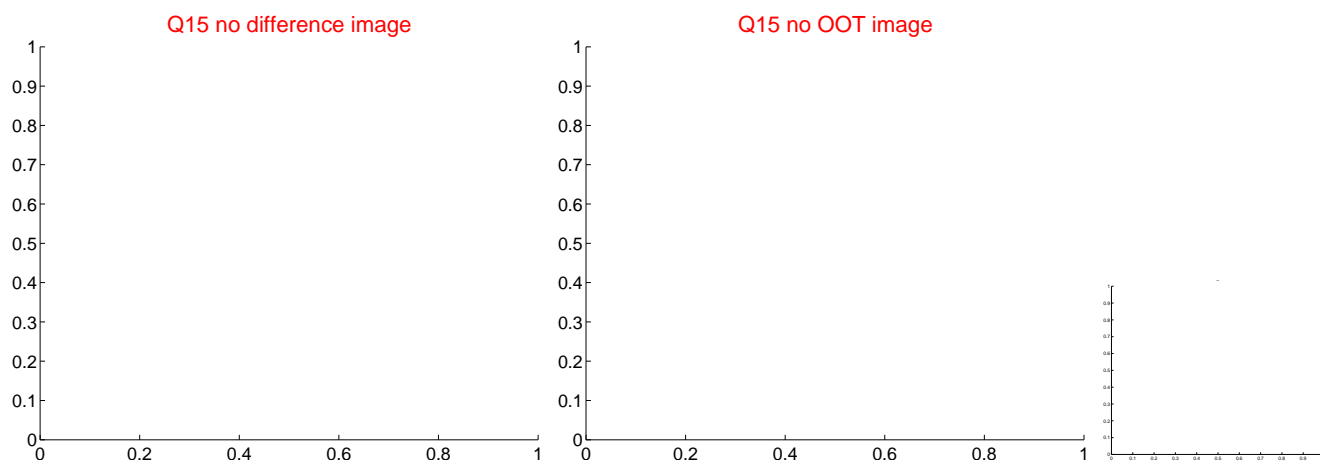
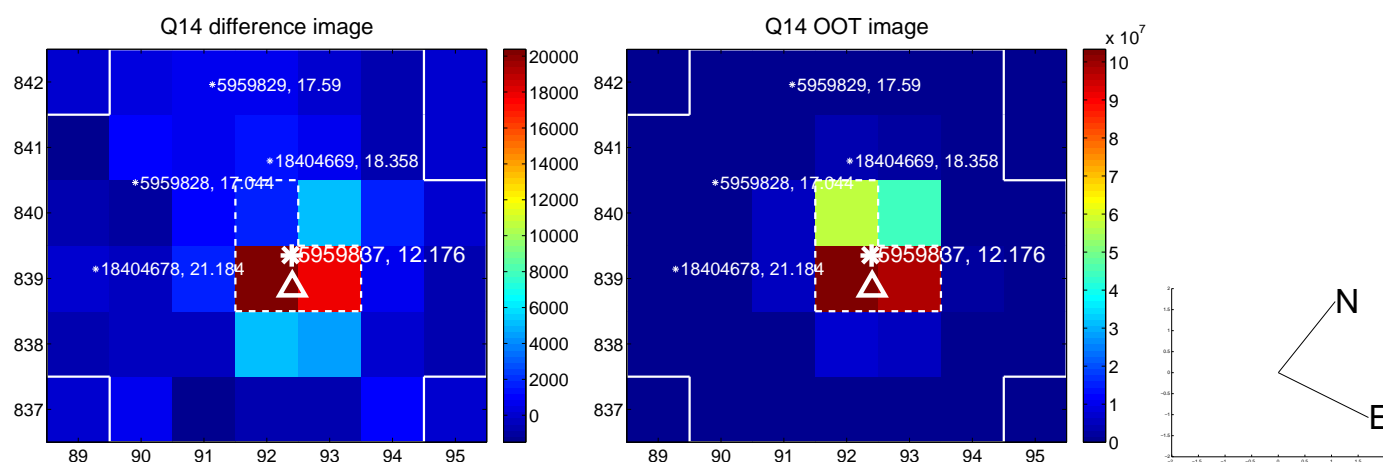
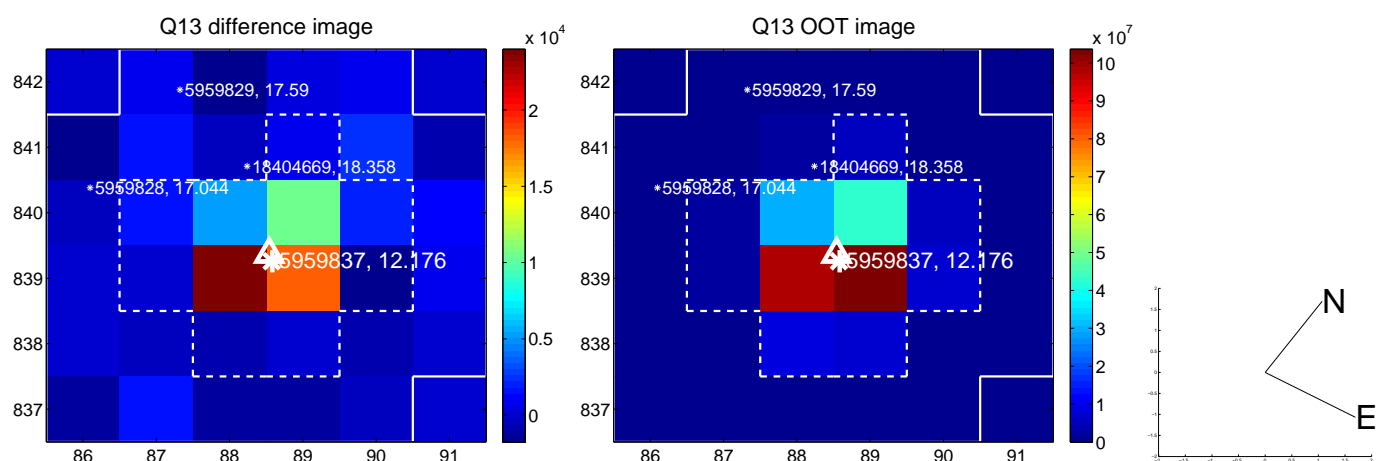
Q8 OOT image



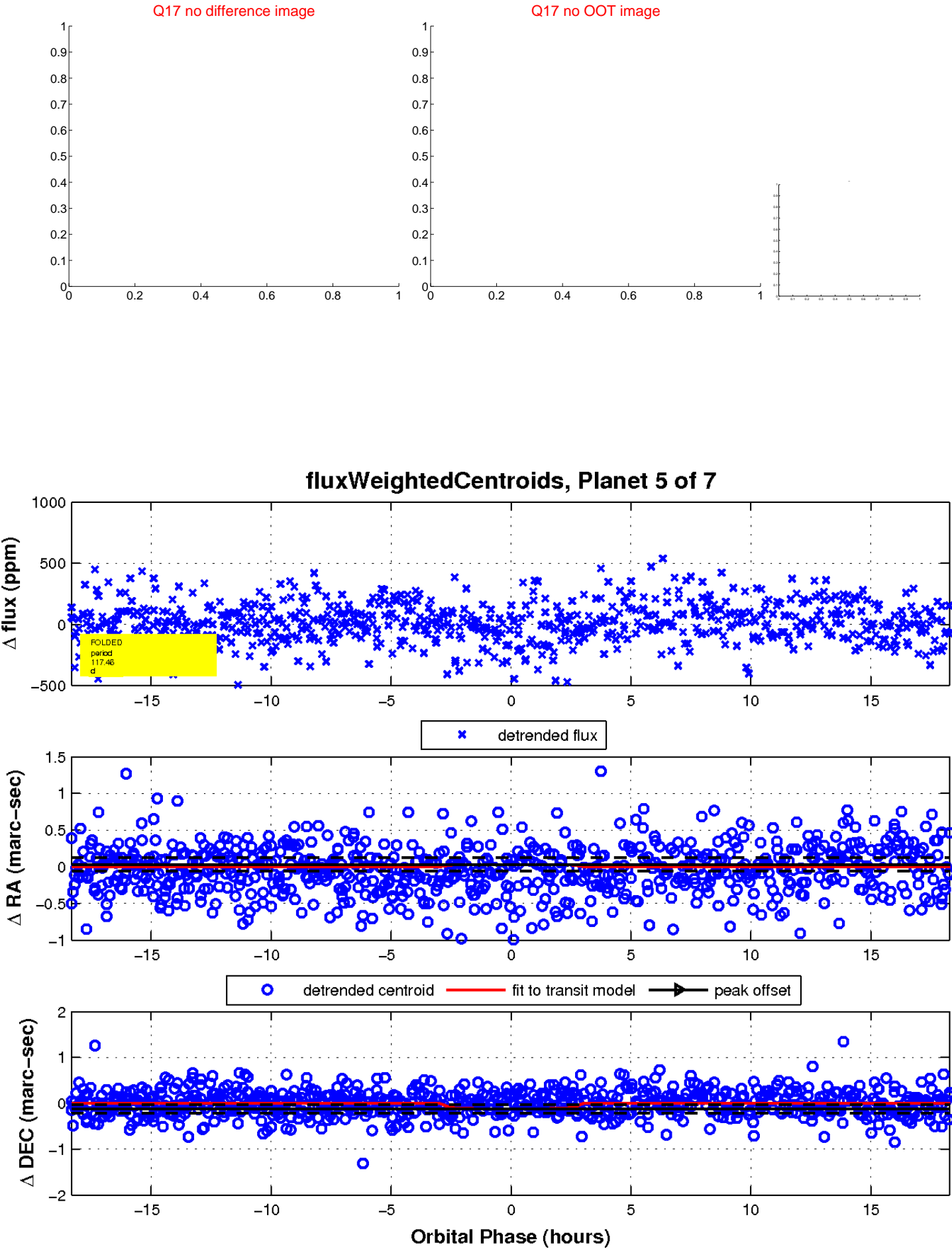
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

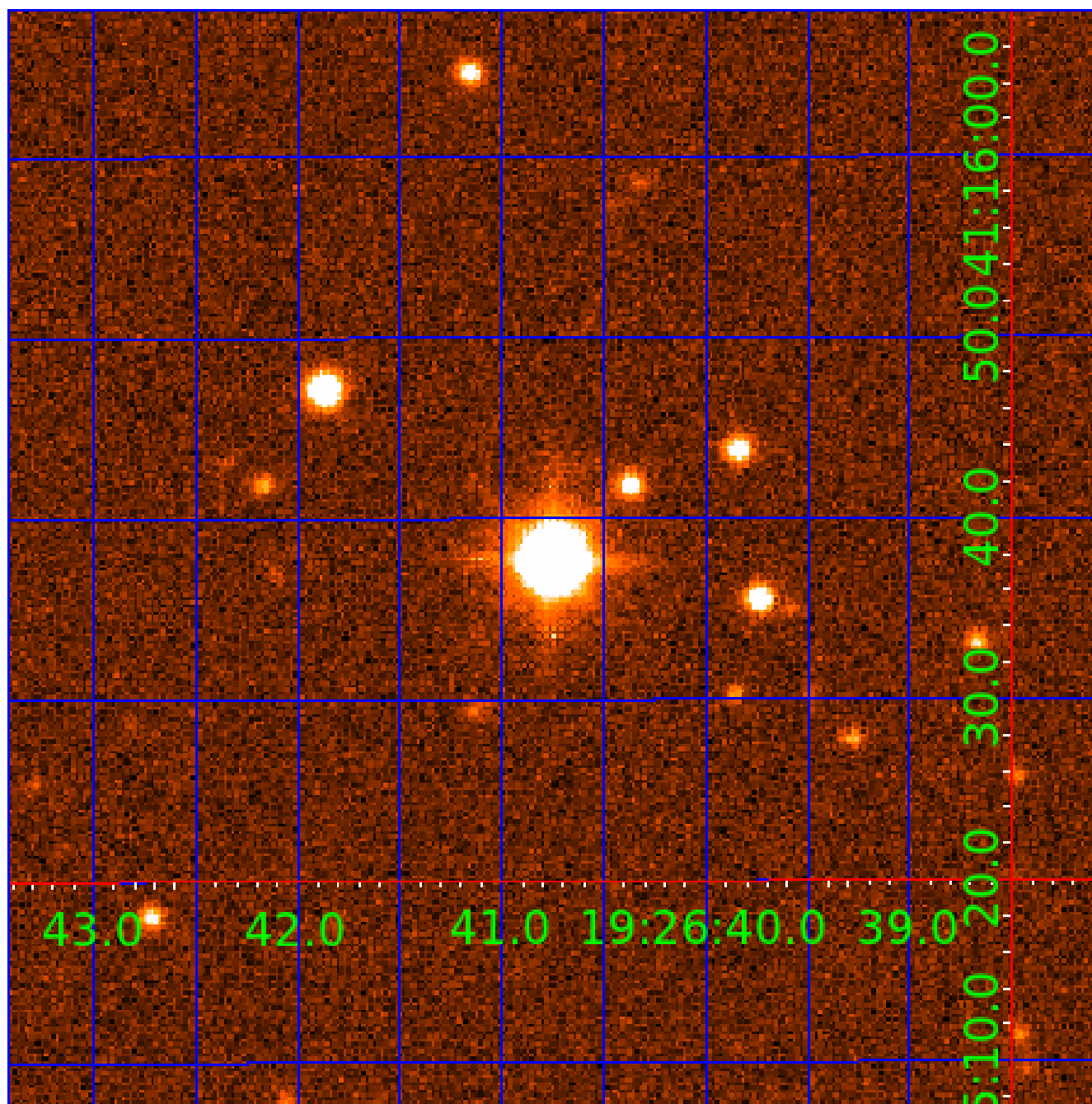


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005959837

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})
005959837-01	OBS	No	1.578401	131.636829	27.3	8.138	12.2	10.2	2.11	6856	1.31	9050.73
005959837-02	OBS	No	552.315144	342.666907	340.6	10.036	10.1	10.3	2.11	6856	4.46	3.67
005959837-03	OBS	No	38.847634	168.630566	202.0	2.481	9.3	10.0	2.11	6856	3.71	126.42
005959837-04	OBS	No	441.907681	159.462605	300.0	7.415	8.6	8.4	2.11	6856	4.78	4.94
005959837-05	OBS	No	117.461521	186.036741	204.6	6.106	8.4	7.8	2.11	6856	3.55	28.91
005959837-06	OBS	No	177.981800	251.201947	232.4	9.159	7.9	8.0	2.11	6856	3.43	16.61
005959837-07	OBS	No	73.711089	177.731707	82.2	7.500	7.3	-1.0	2.11	6856	1.93	53.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005959837-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
005959837-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—CENT_FEW_DIFFS
005959837-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005959837-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005959837-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005959837-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005959837-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

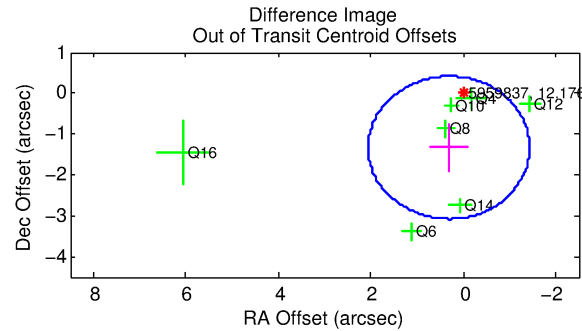
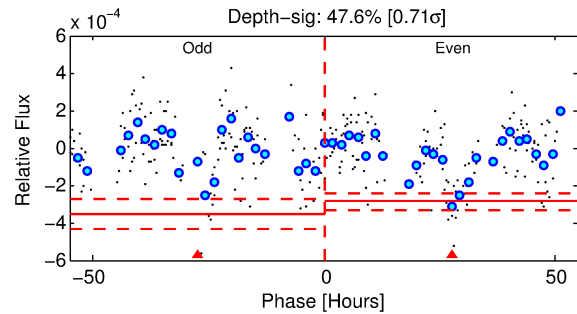
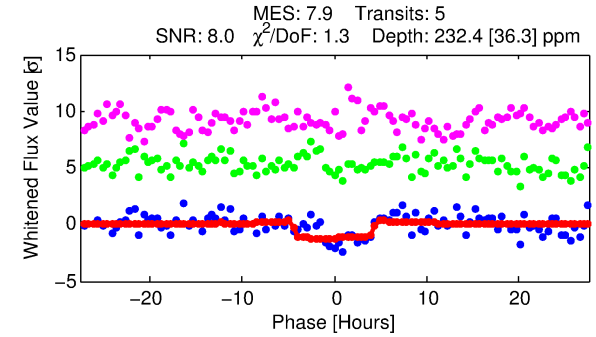
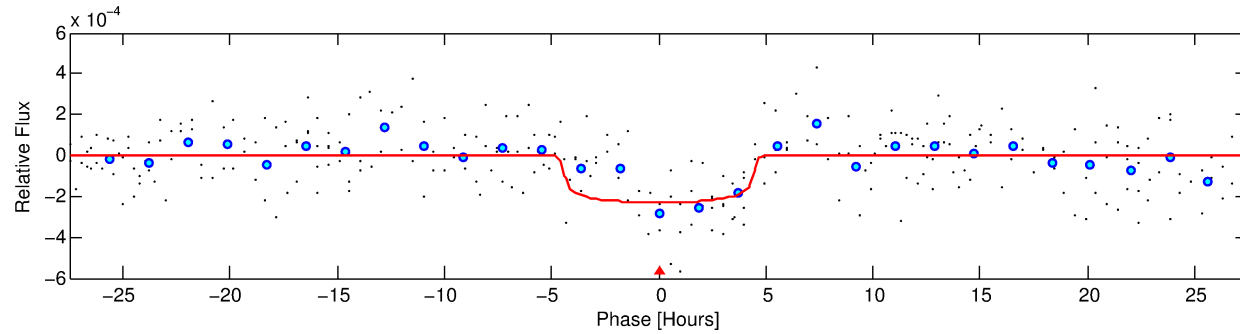
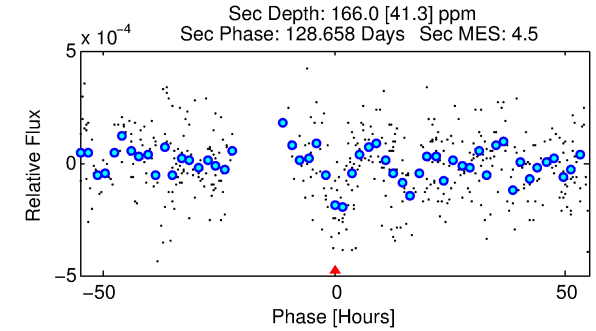
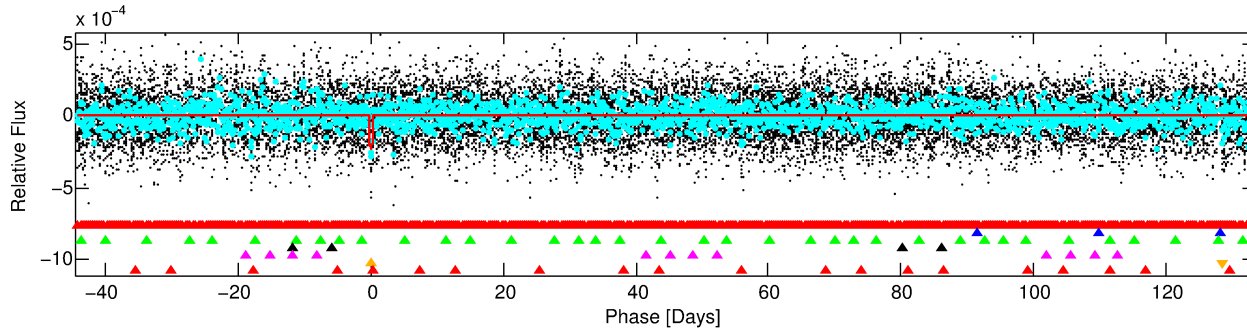
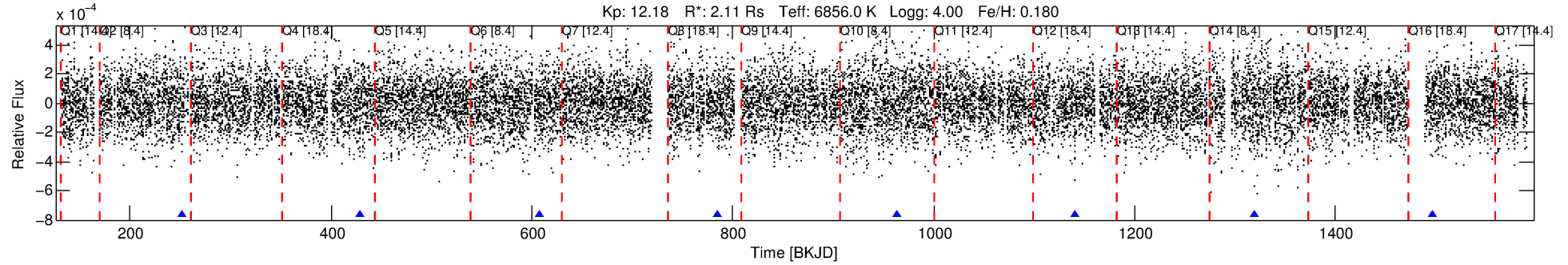
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005959837-06

No Significant Match Found

DV One-Page Summary

KIC: 5959837 Candidate: 6 of 7 Period: 177.982 d



DV Fit Results:

Period = 177.98180 [0.00421] d
Epoch = 251.2019 [0.0133] BKJD
Rp/R* = 0.0149 [0.0157]
a/R* = 112.43 [674.39]
b = 0.68 [4.87]
Seff = 16.61 [4.82]
Teq = 515 [37] K
Rp = 3.43 [3.68] Re
a = 0.7290 [0.1362] AU
Ag = 4131.92 [8839.79] [0.47σ]
Teffp = 6382 [3384] K [1.73σ]

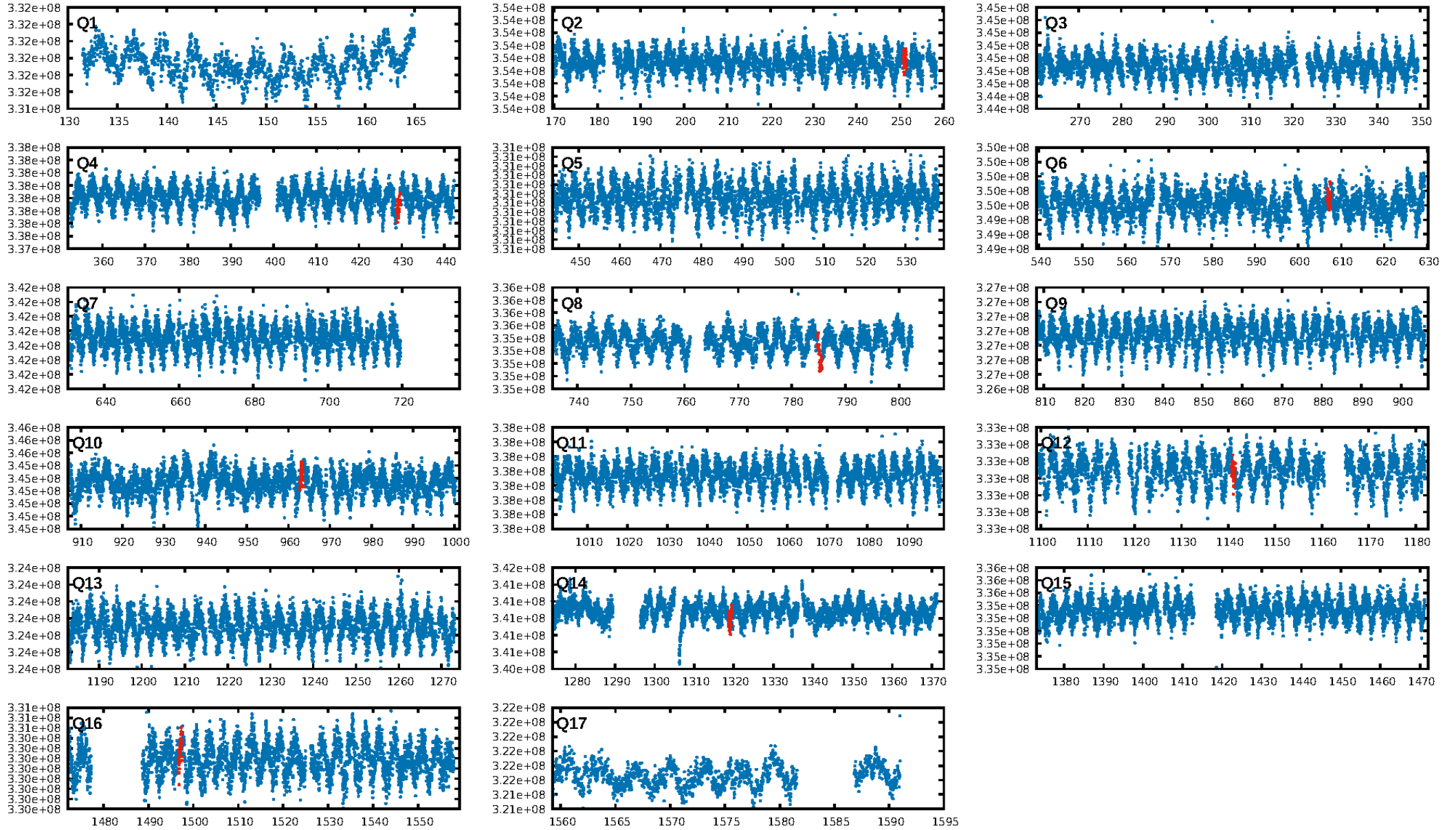
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [131.94σ]
LongPeriod-sig: 100.0% [537.52σ]
ModelChiSquare2-sig: 75.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.5703
Centroid-sig: 23.0%
Centroid-so: 0.458 arcsec [1.37σ]
OotOffset-rm: 1.370 arcsec [2.35σ]
KicOffset-rm: 1.362 arcsec [2.34σ]
OotOffset-st: 3/0/4/0 [7]
KicOffset-st: 3/0/4/0 [7]
DiffImageQuality-fgm: 0.57 [4/7]
DiffImageOverlap-fno: 0.00 [0/8]

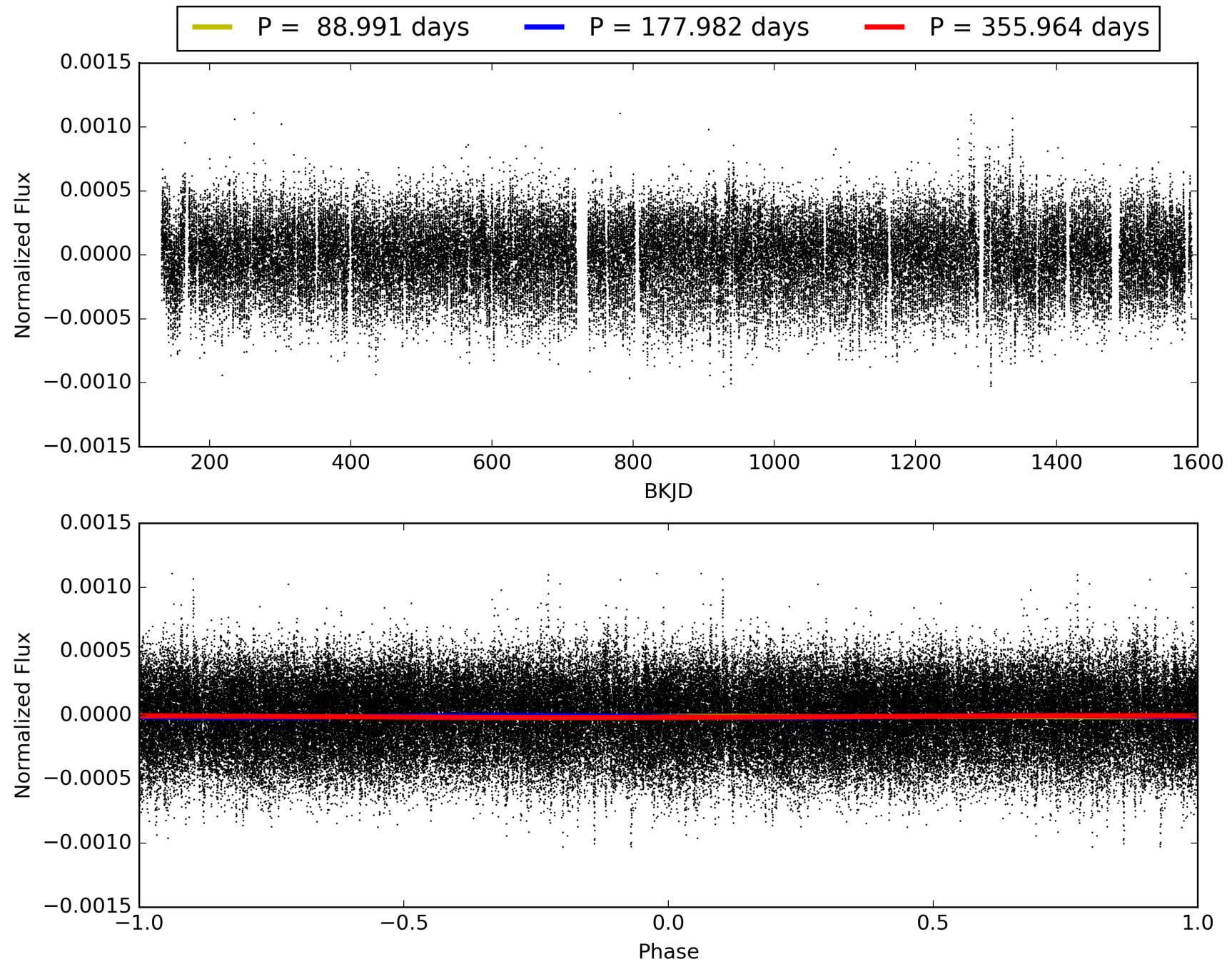
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:46:08 Z

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

TCE 005959837-06, PDC Light Curves

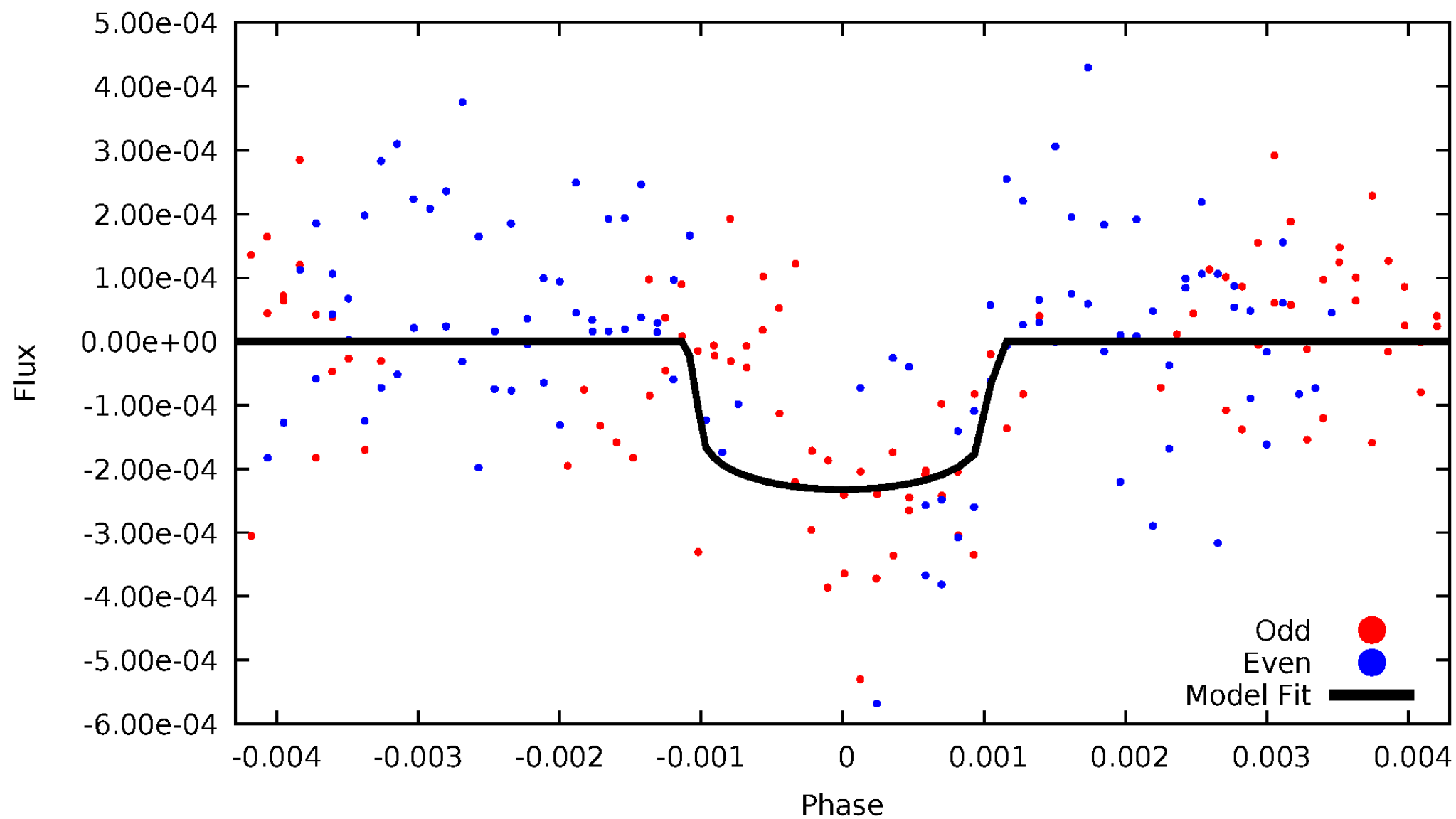


TCE 005959837-06



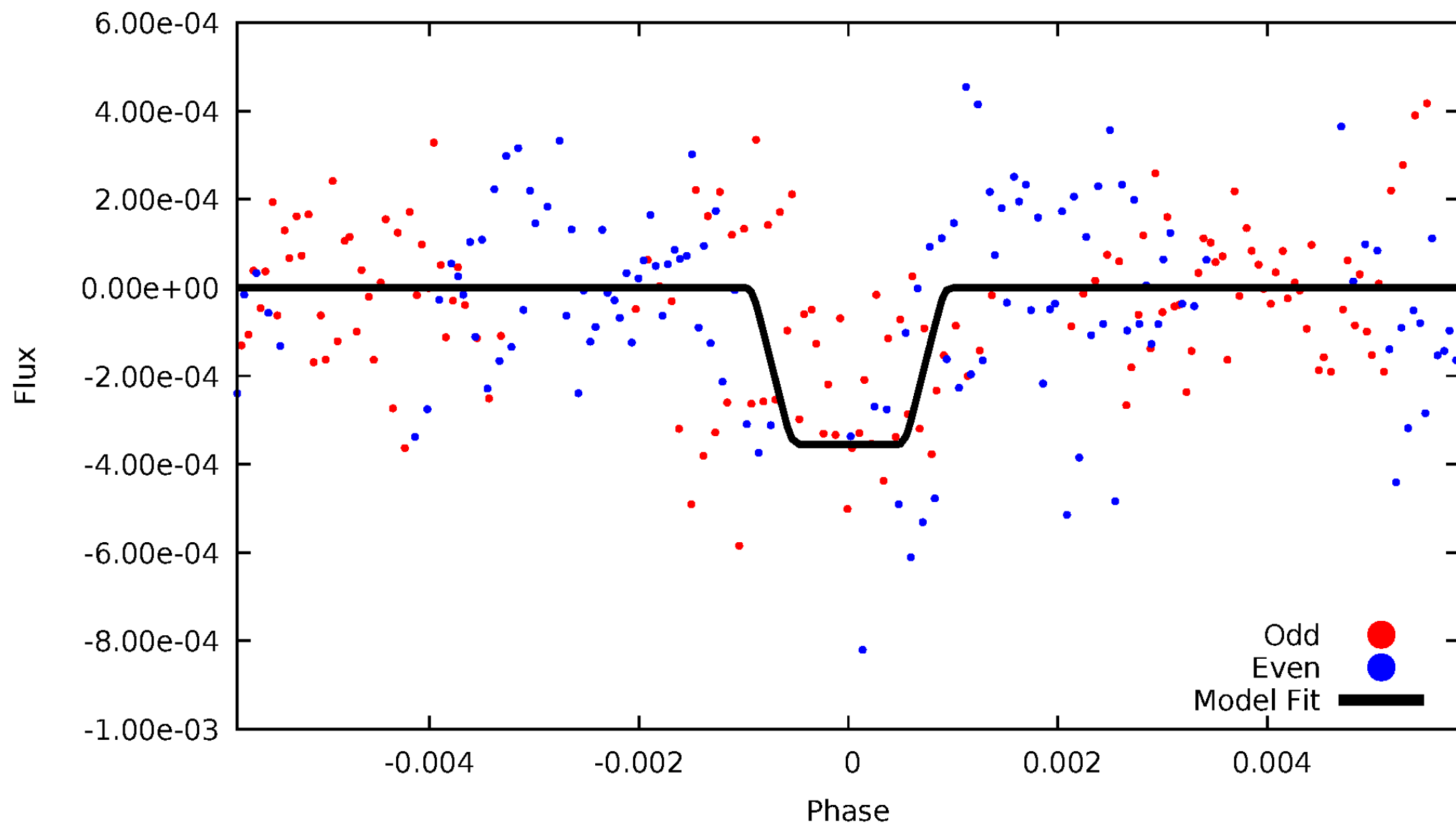
DV Odd/Even

TCE 005959837-06



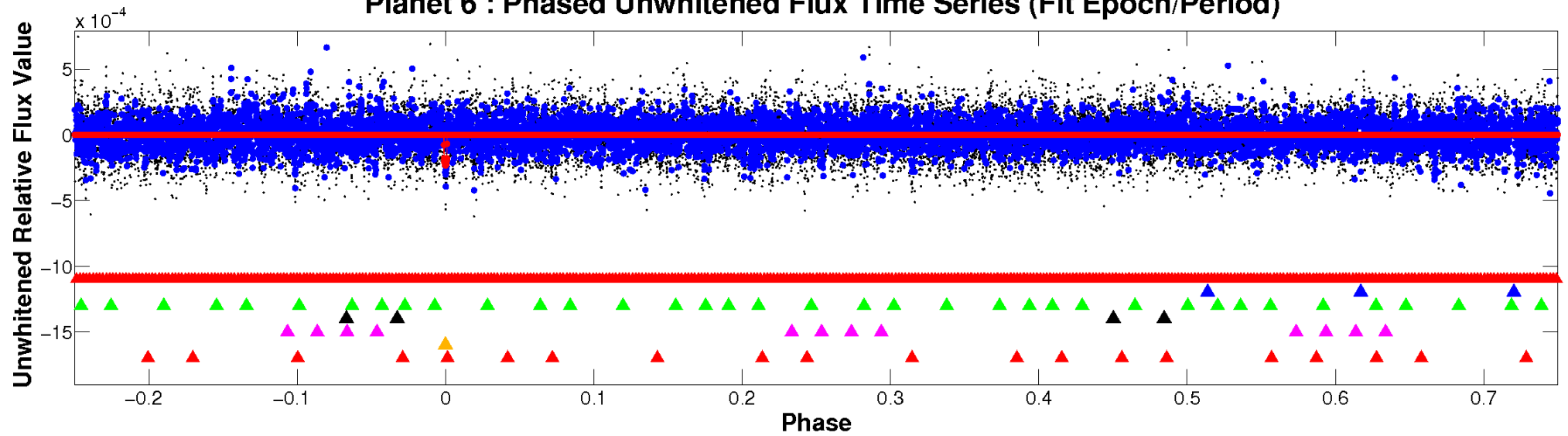
ALT Odd/Even

TCE 005959837-06

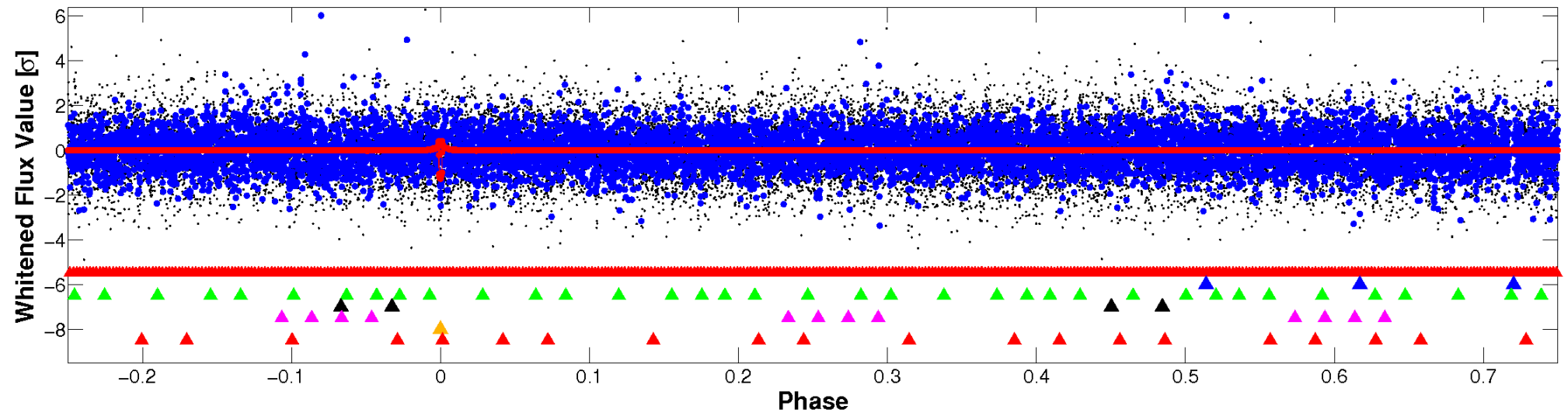


Non-Whitened Vs. Whitened Light Curve

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



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



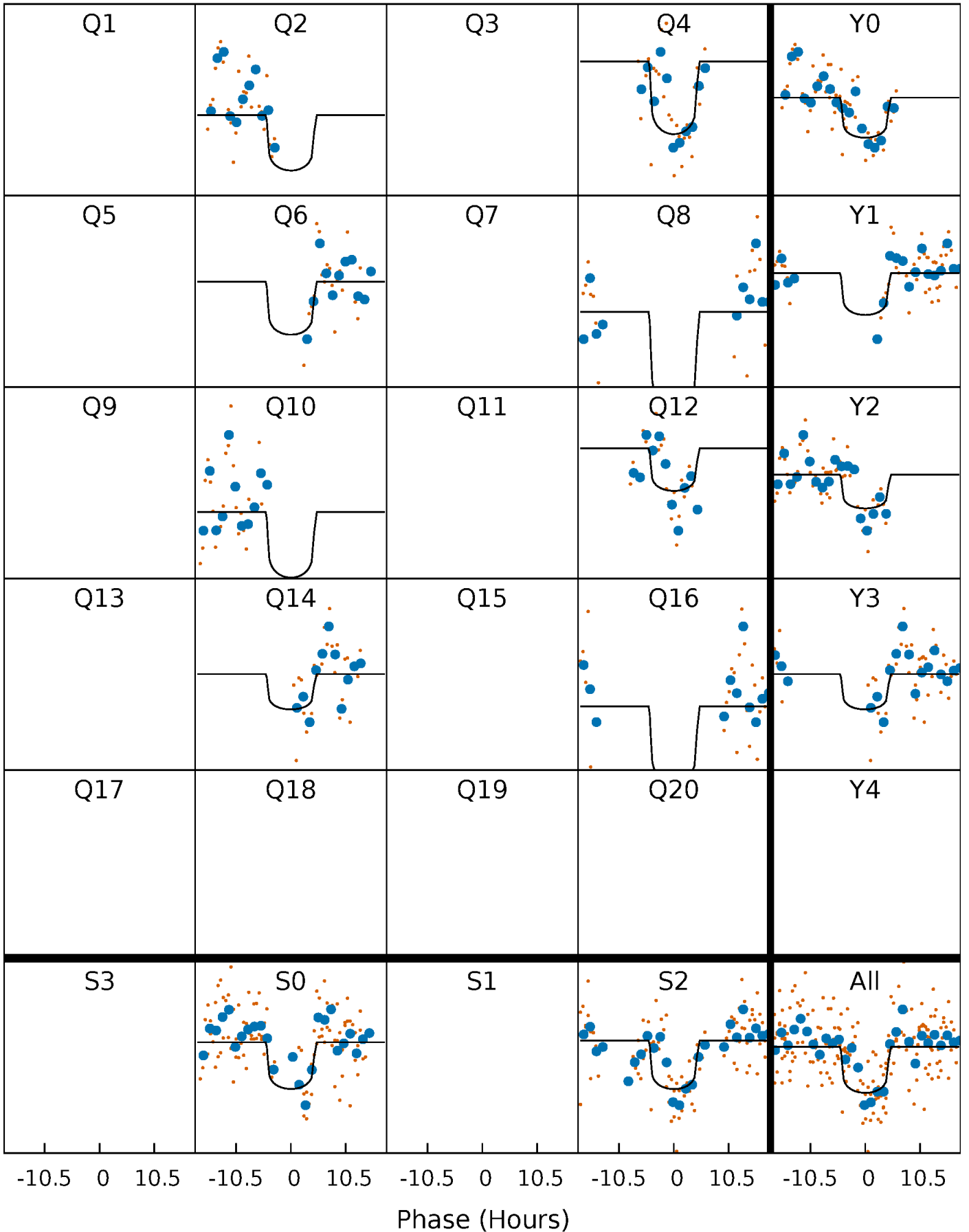
PDC Quarter-Phased Transit Curves

TCE 005959837-06 P=177.981800 Days $T_0=251.201947$ (BKJD)



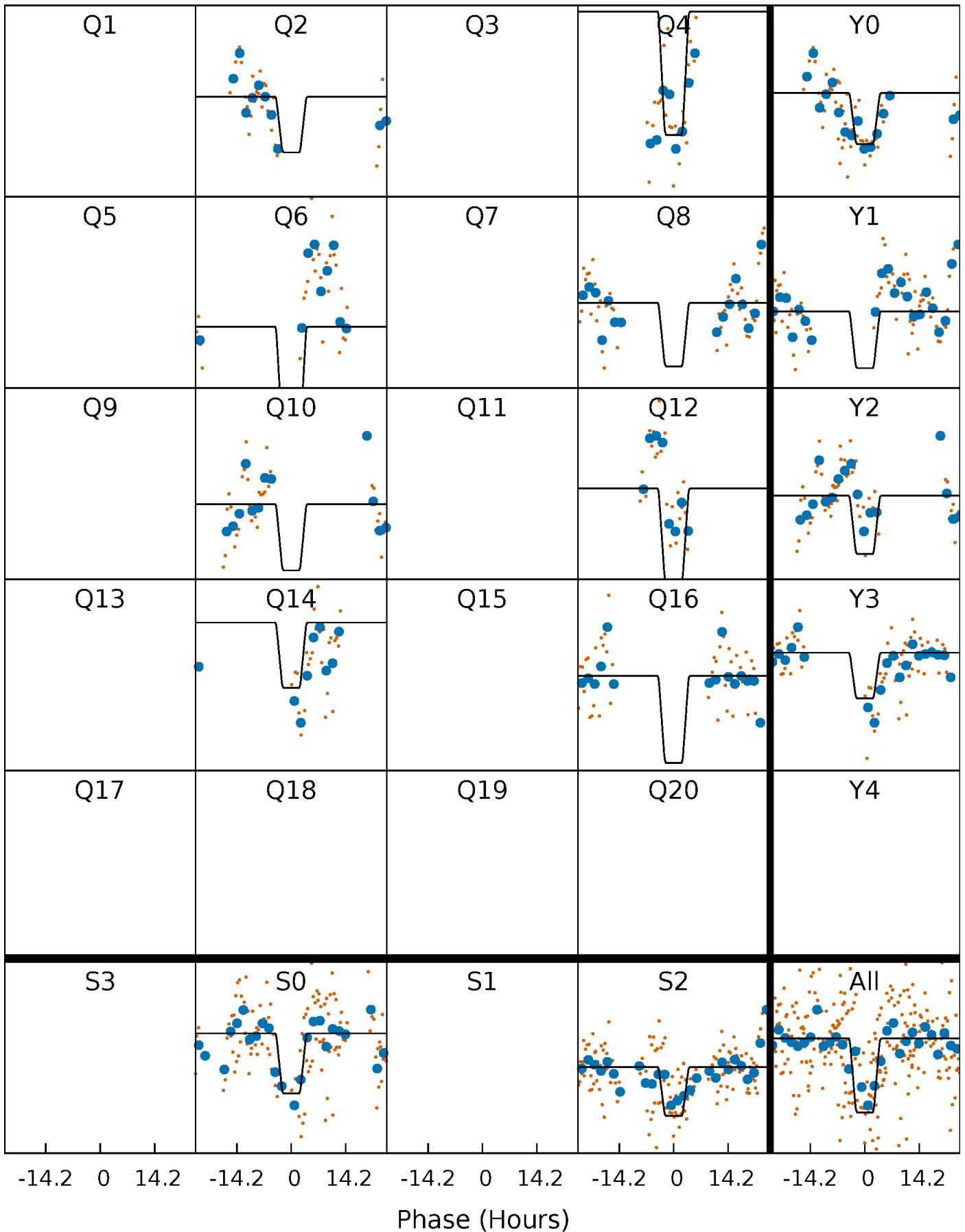
DV Quarter-Phased Transit Curves

TCE 005959837-06 $P=177.981800$ Days $T_0=251.201947$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

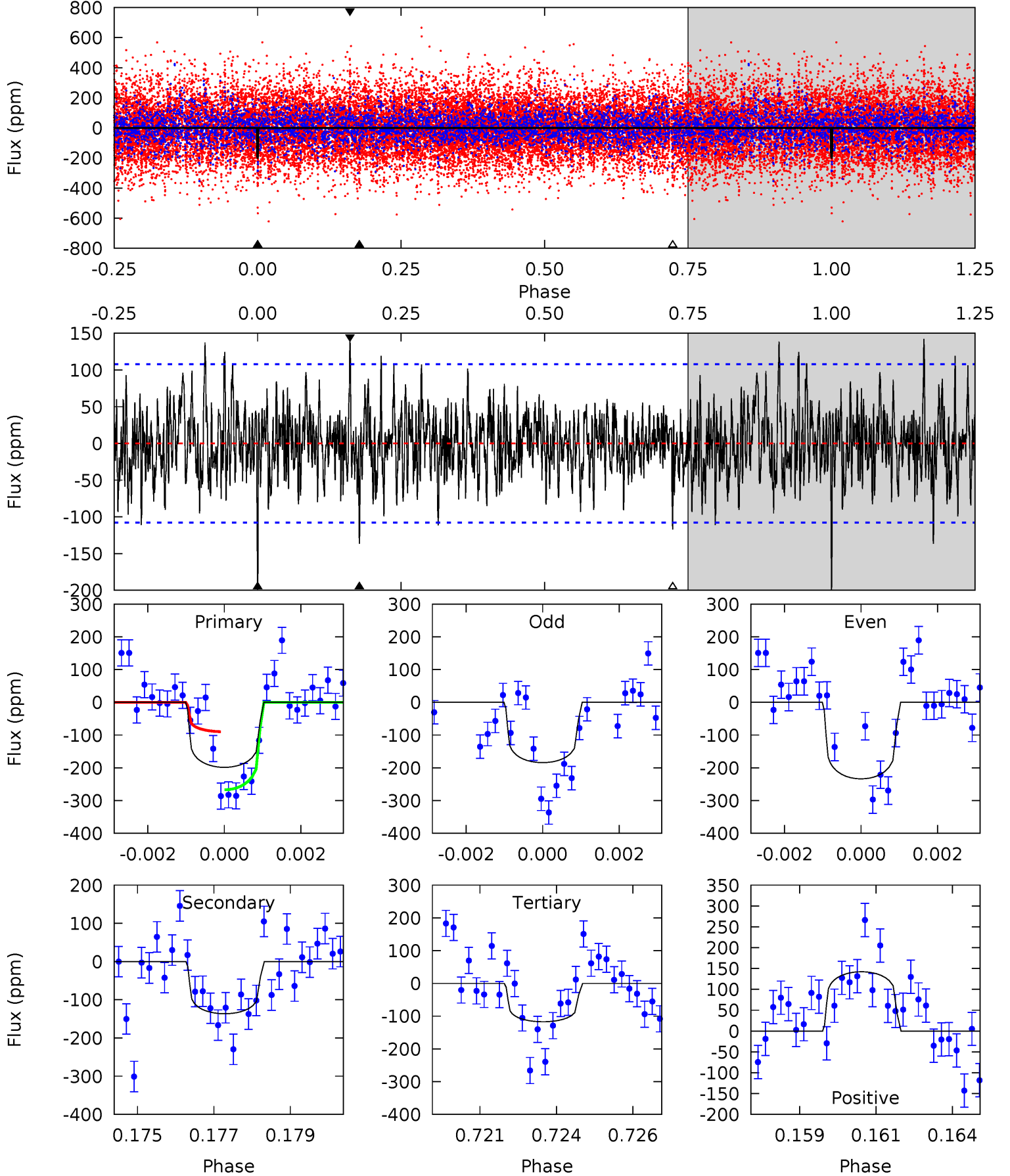
TCE 005959837-06 P=177.984760 Days $T_0=251.202805$ (BKJD)



DV Model-Shift Uniqueness Test

005959837-06, $P = 177.981800$ Days, $E = 73.220147$ Days

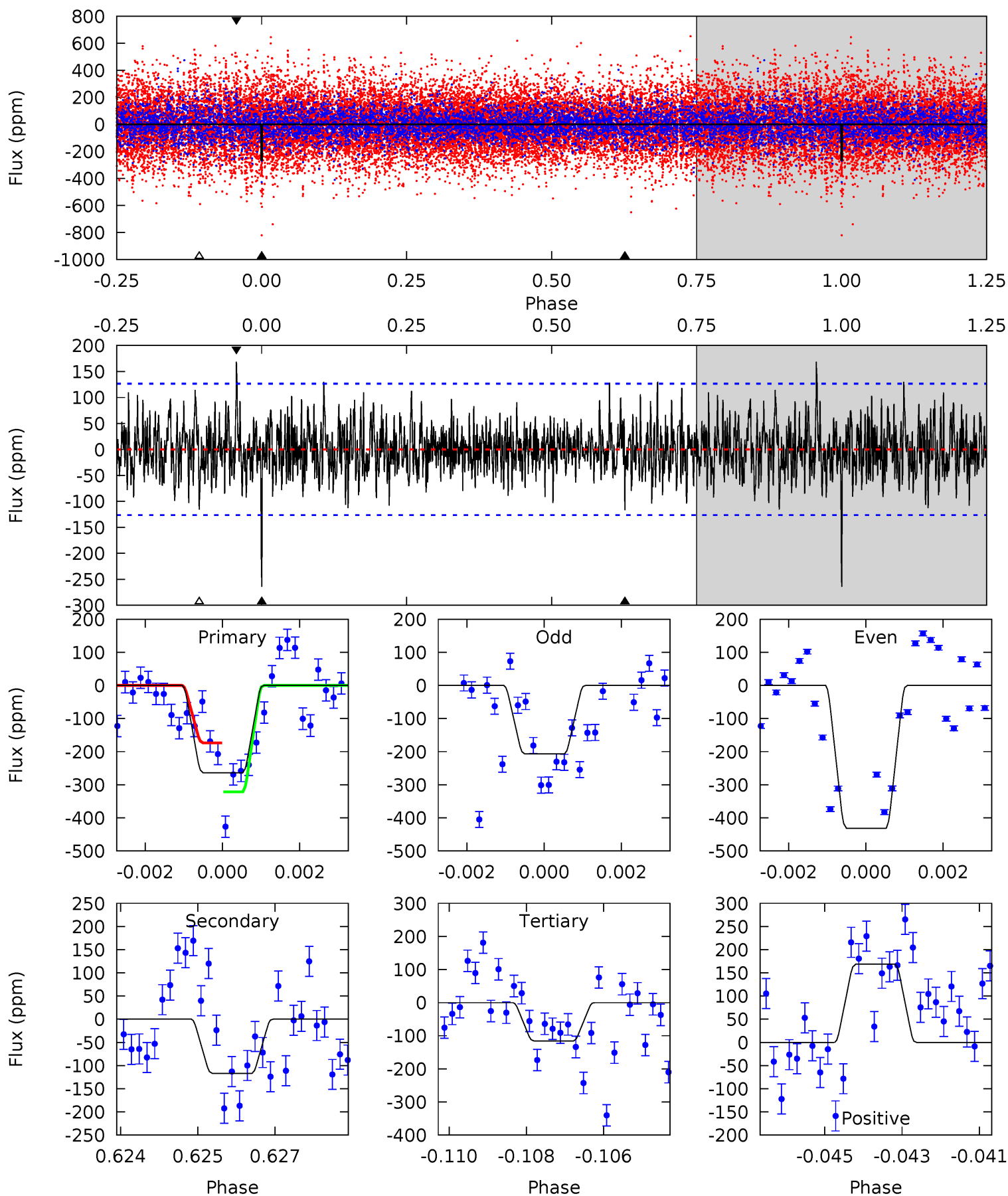
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.77	6.72	5.77	6.99	5.31	3.06	1.84	4.00	2.78	0.95	-0.28	1.14	1.04	0.42	4.26



Alt Model-Shift Uniqueness Test

005959837-06, $P = 177.984760$ Days, $E = 73.218045$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	4.94	4.89	7.12	5.34	3.11	1.66	6.26	4.03	0.05	-2.18	4.30	1.07	0.39	3.04



Stellar Parameters For KIC 005959837

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6856^{+72}_{-92}	$4.001^{+0.162}_{-0.108}$	$0.180^{+0.150}_{-0.150}$	$2.112^{+0.362}_{-0.442}$	$1.630^{+0.111}_{-0.166}$	$0.244^{+0.183}_{-0.082}$
	+1%/-1%	+4%/-3%	+83%/-83%	+17%/-21%	+7%/-10%	+75%/-34%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005959837-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-137 ± 20	$4.12^{+3.31}_{-2.56}$	717^{+35}_{-39}	5501^{+4021}_{-1172}	2404^{+14384}_{-1660}
Alt.	-117 ± 24	$4.68^{+3.32}_{-2.77}$	716^{+30}_{-35}	5004^{+2682}_{-965}	1547^{+7258}_{-1039}

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 $A_{obs} \gg 1.0$

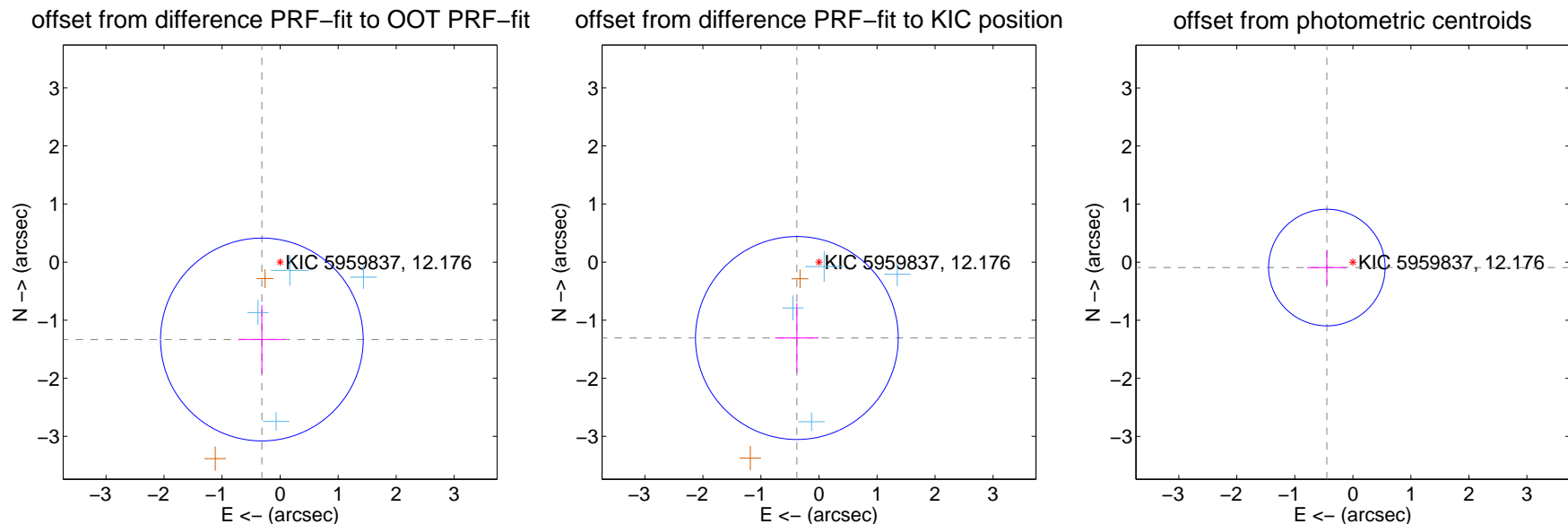
DV Centroid Data

Supplemental centroid analysis for 005959837-06. Kepler magnitude: 12.18. Transit SNR 7.97

There are 4 quarters with good PRF difference image offsets

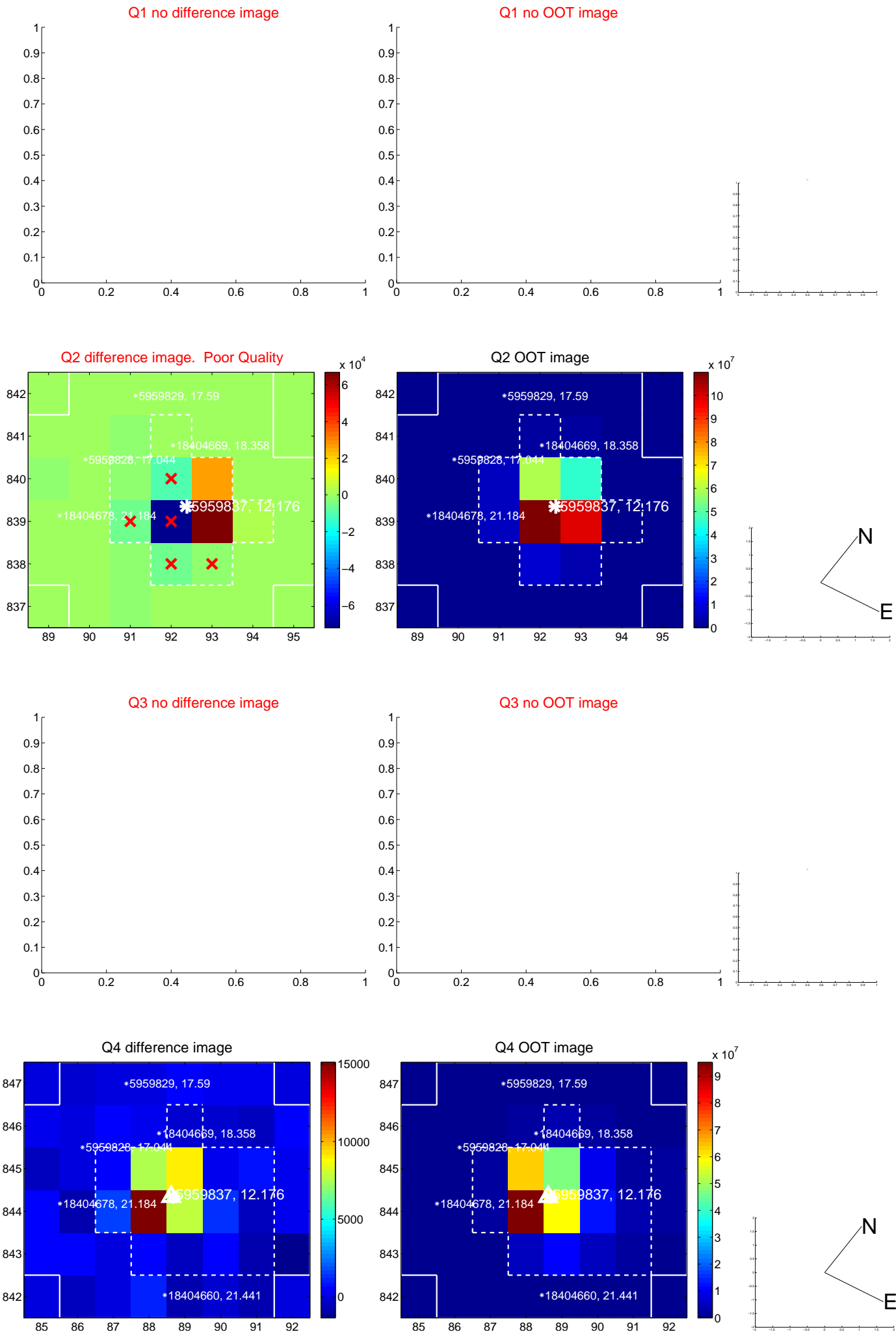
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.370 ± 0.582	2.35	0.314 ± 0.401	-1.333 ± 0.591
PRF-fit source offset from KIC position	1.362 ± 0.582	2.34	0.381 ± 0.376	-1.308 ± 0.597
photometric centroid source offset	0.46 ± 0.33	1.37	0.45 ± 0.34	-0.09 ± 0.30

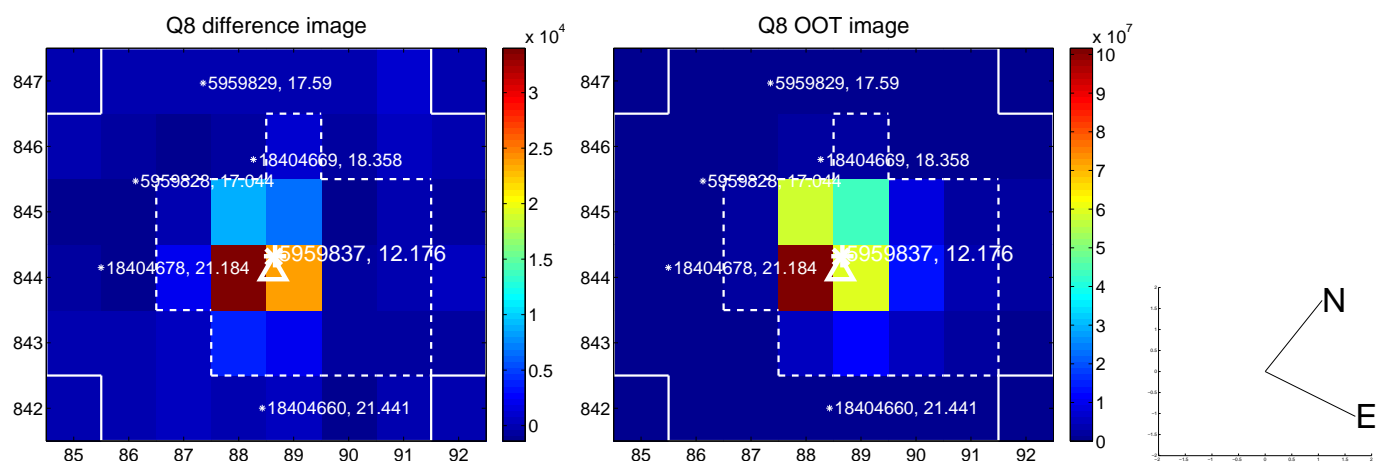
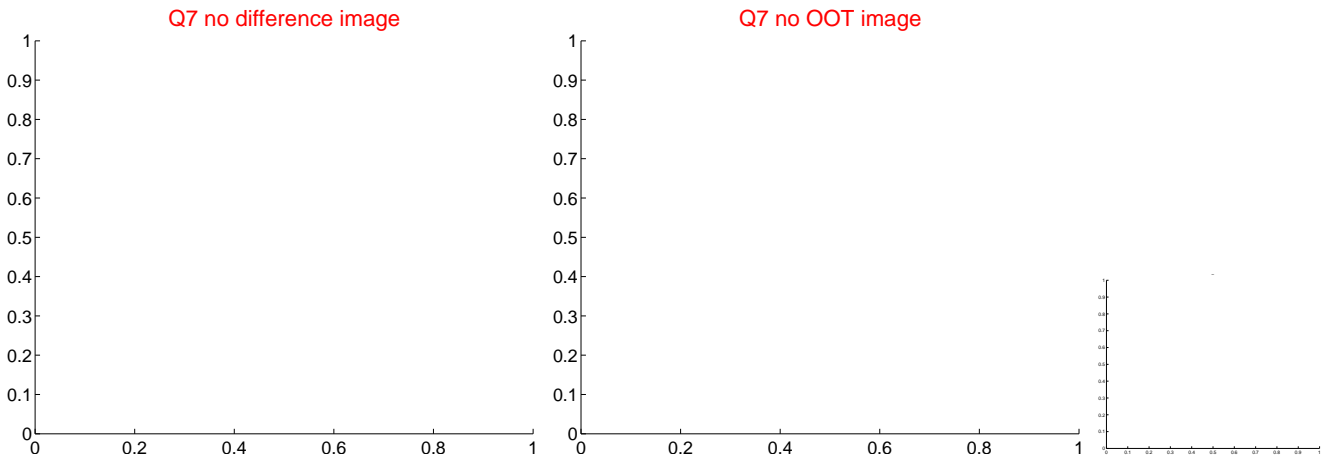
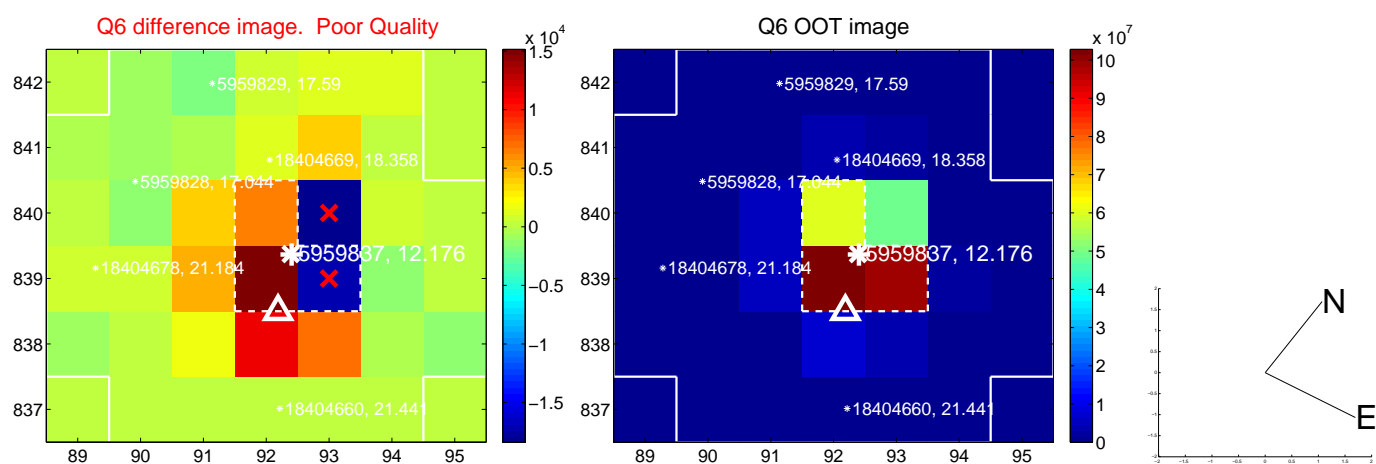
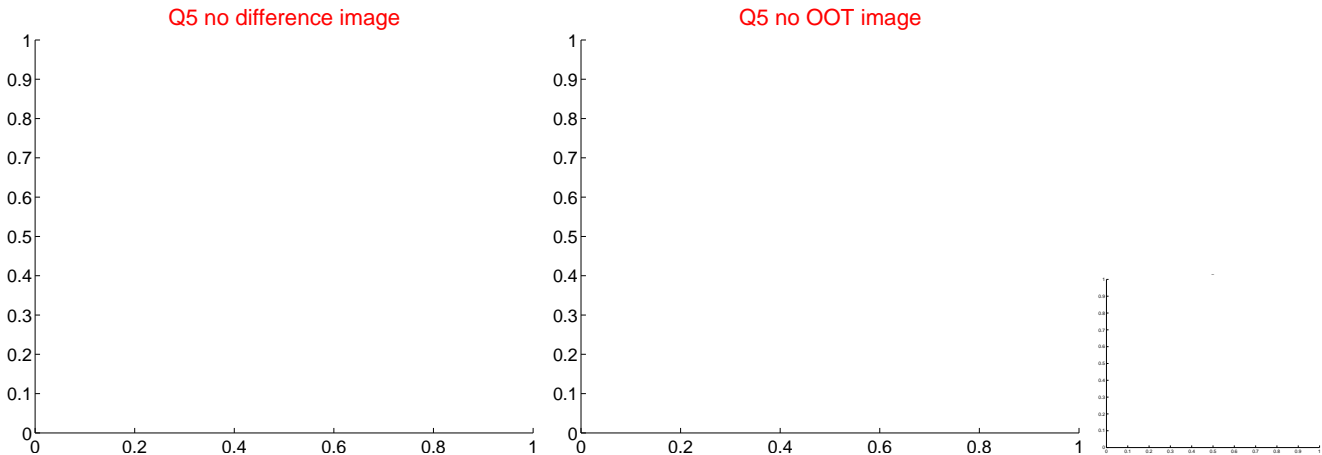


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

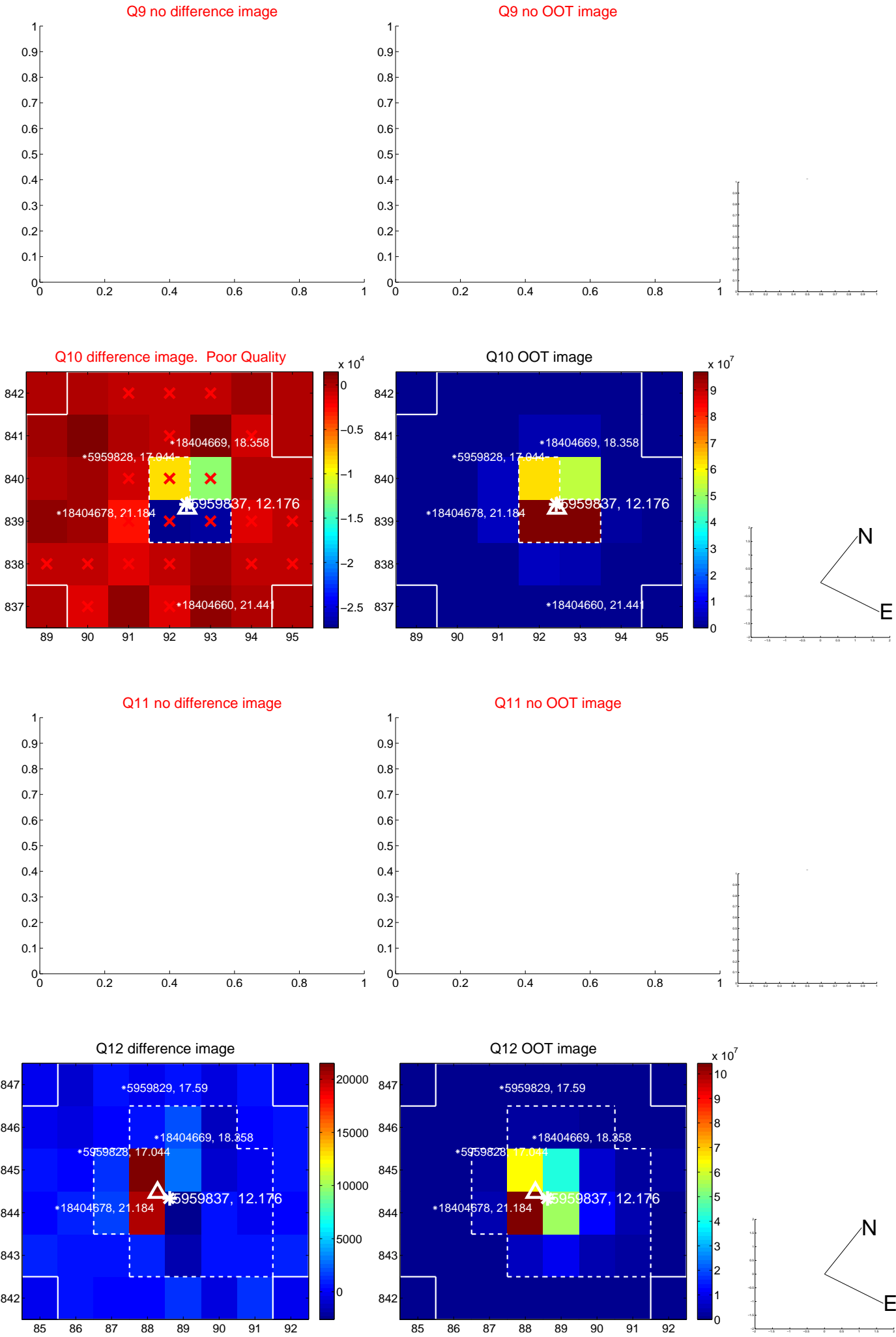
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



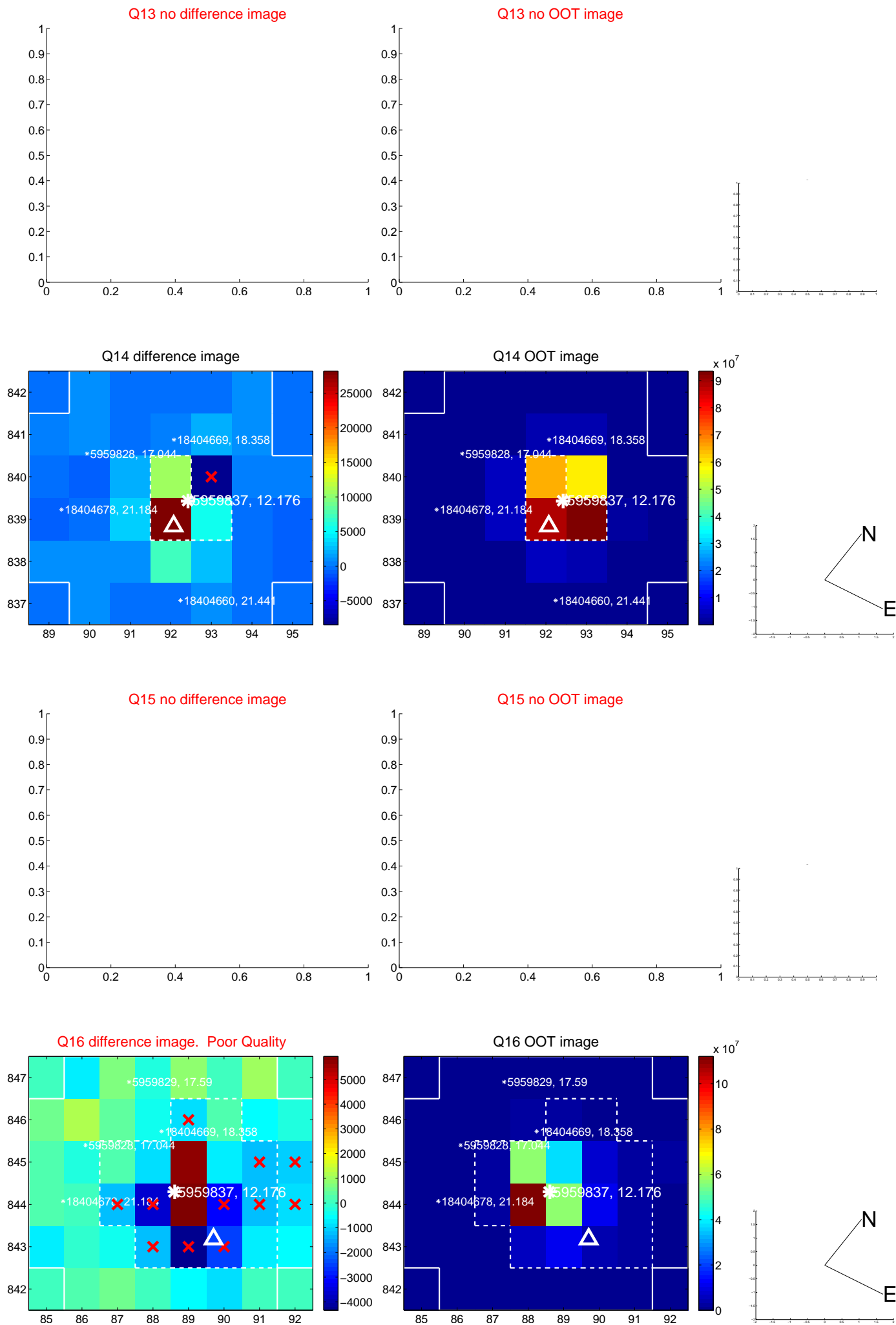
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



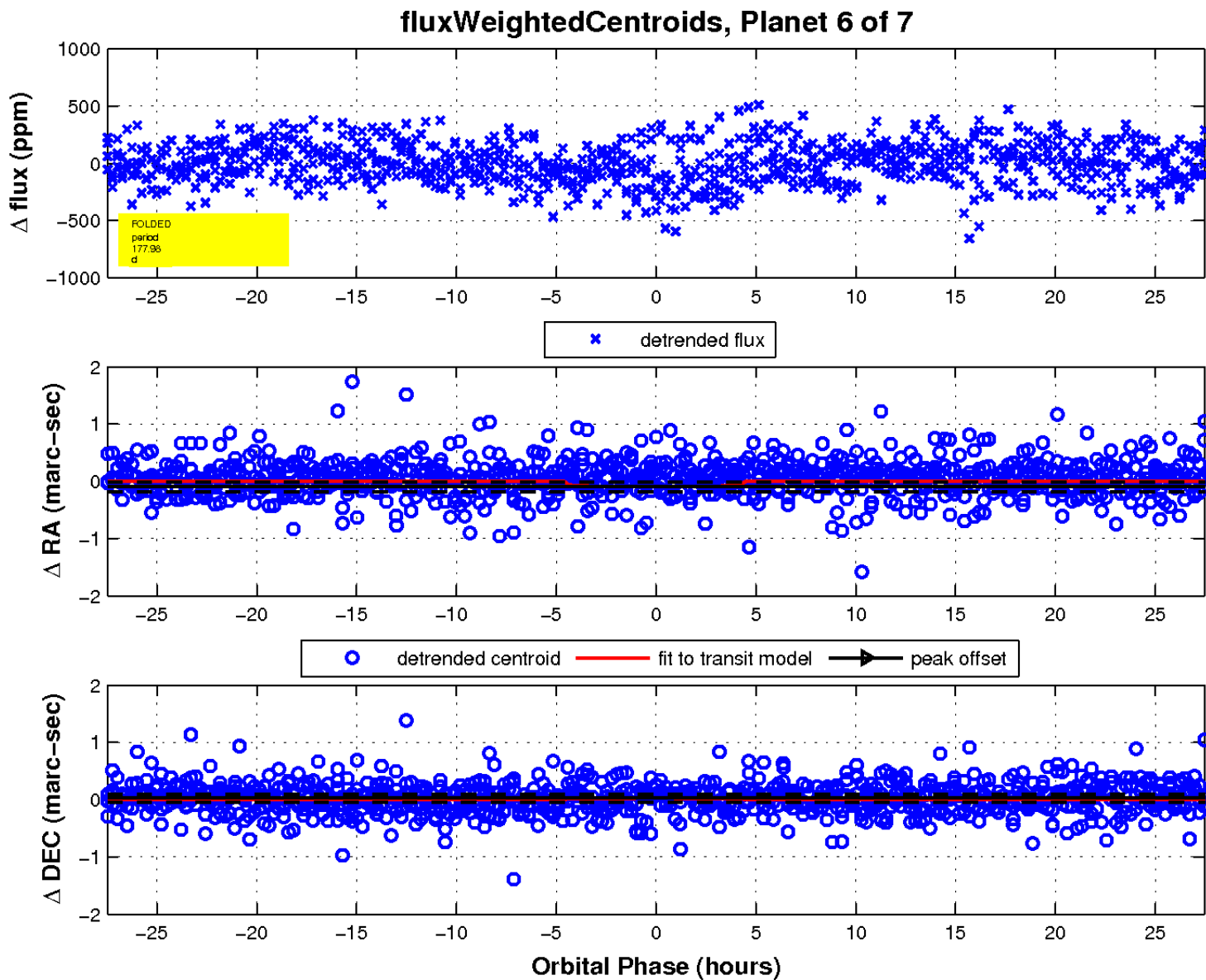
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

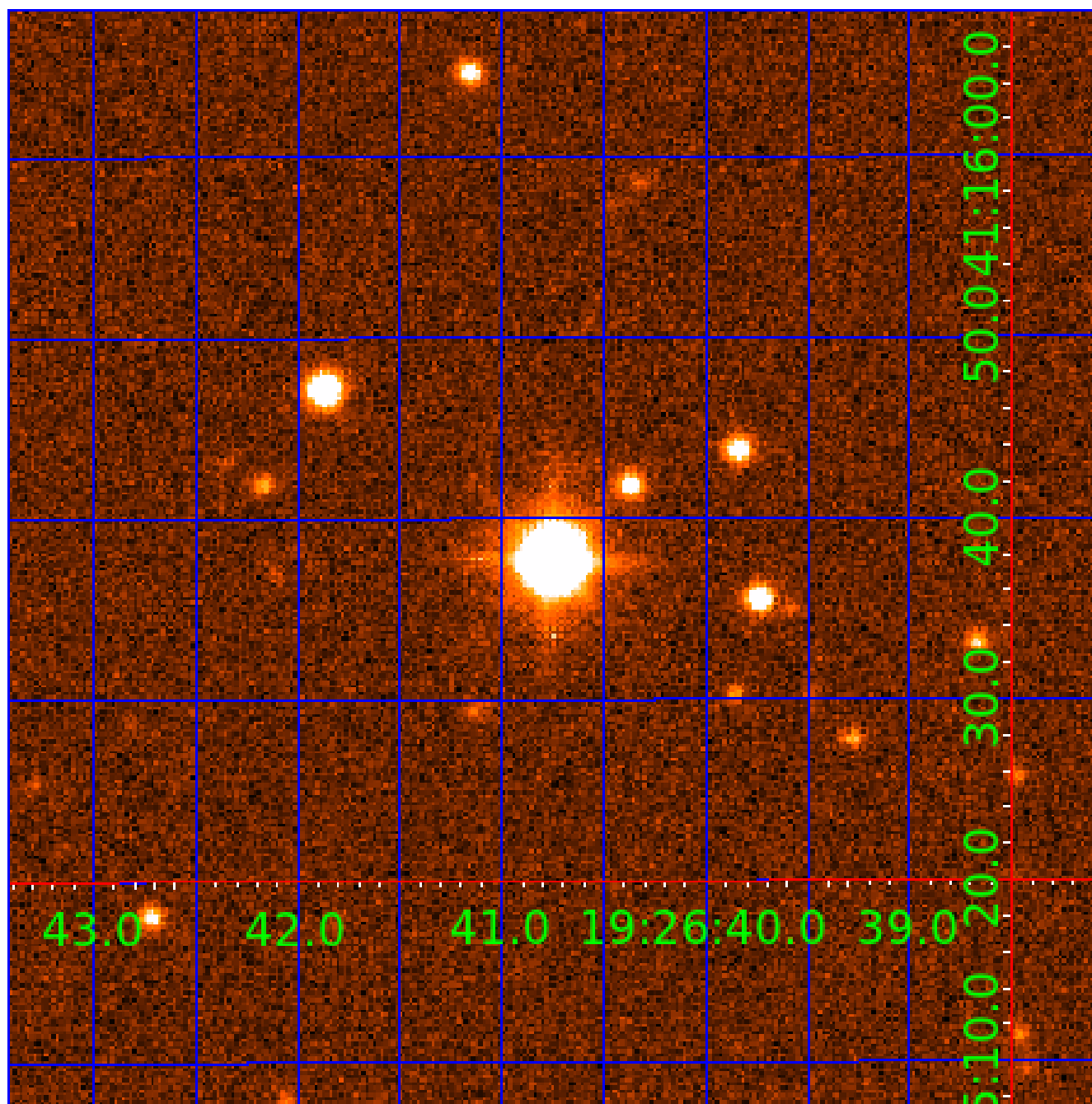


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005959837

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})
005959837-01	OBS	No	1.578401	131.636829	27.3	8.138	12.2	10.2	2.11	6856	1.31	9050.73
005959837-02	OBS	No	552.315144	342.666907	340.6	10.036	10.1	10.3	2.11	6856	4.46	3.67
005959837-03	OBS	No	38.847634	168.630566	202.0	2.481	9.3	10.0	2.11	6856	3.71	126.42
005959837-04	OBS	No	441.907681	159.462605	300.0	7.415	8.6	8.4	2.11	6856	4.78	4.94
005959837-05	OBS	No	117.461521	186.036741	204.6	6.106	8.4	7.8	2.11	6856	3.55	28.91
005959837-06	OBS	No	177.981800	251.201947	232.4	9.159	7.9	8.0	2.11	6856	3.43	16.61
005959837-07	OBS	No	73.711089	177.731707	82.2	7.500	7.3	-1.0	2.11	6856	1.93	53.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005959837-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
005959837-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—CENT_FEW_DIFFS
005959837-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005959837-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005959837-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005959837-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005959837-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

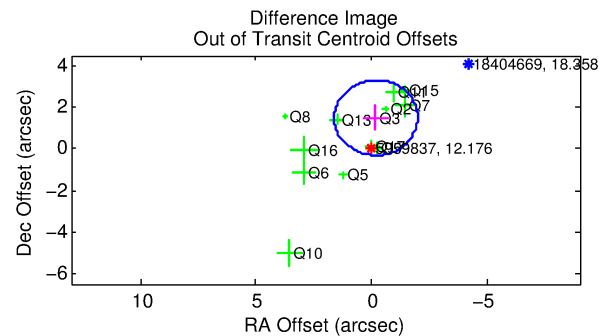
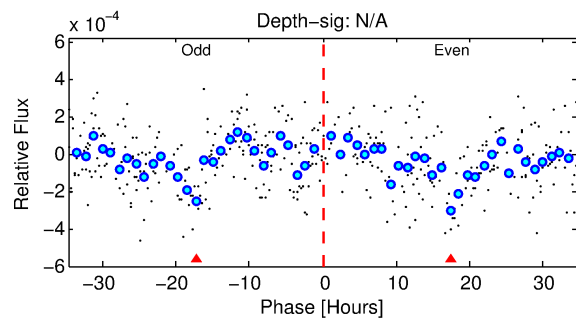
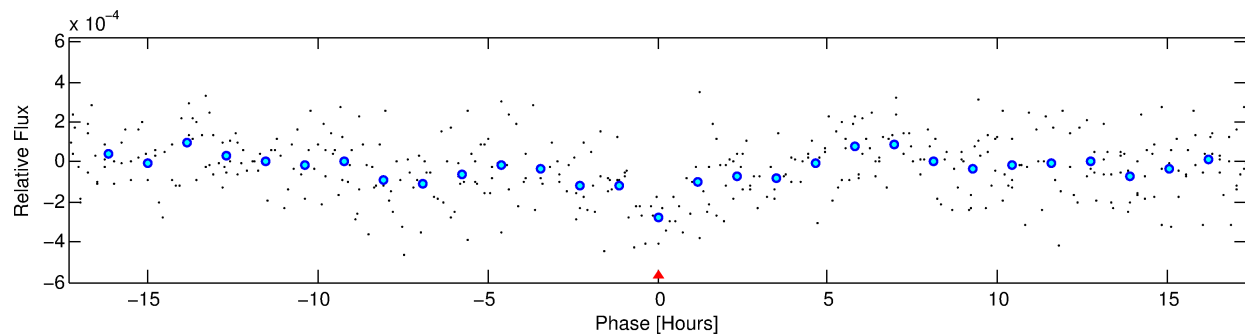
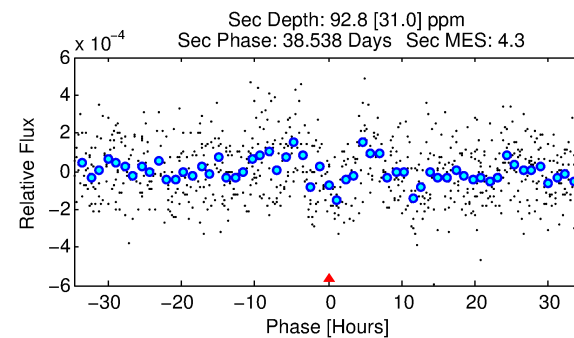
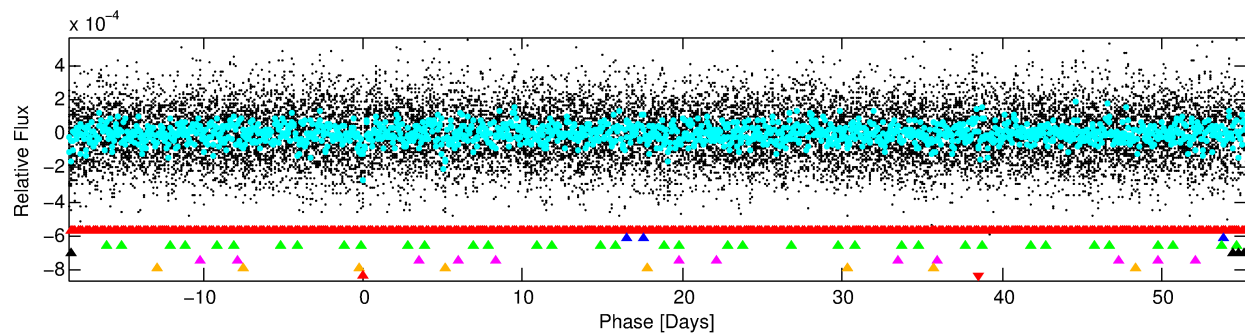
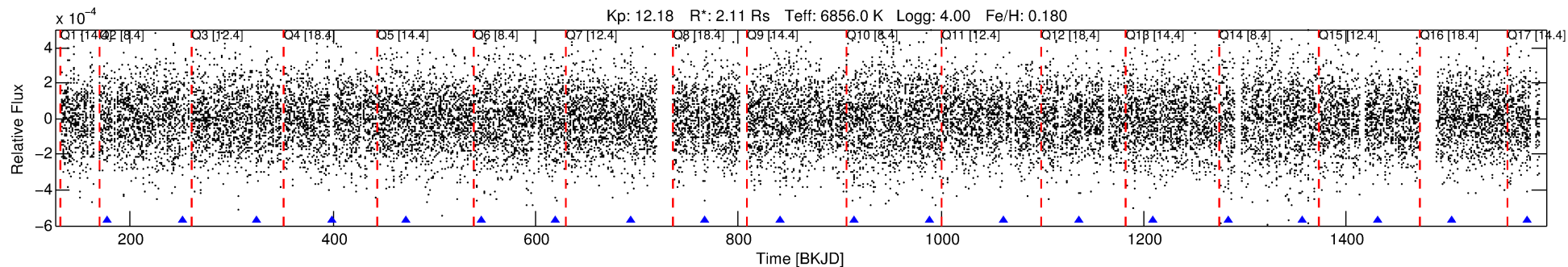
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005959837-07

No Significant Match Found

DV One-Page Summary

KIC: 5959837 Candidate: 7 of 7 Period: 73.711 d



TPS TCE Results:

Period = 73.71109 d
Epoch = 177.7317 BKJD

DV fit results are unavailable

DV Diagnostic Results:

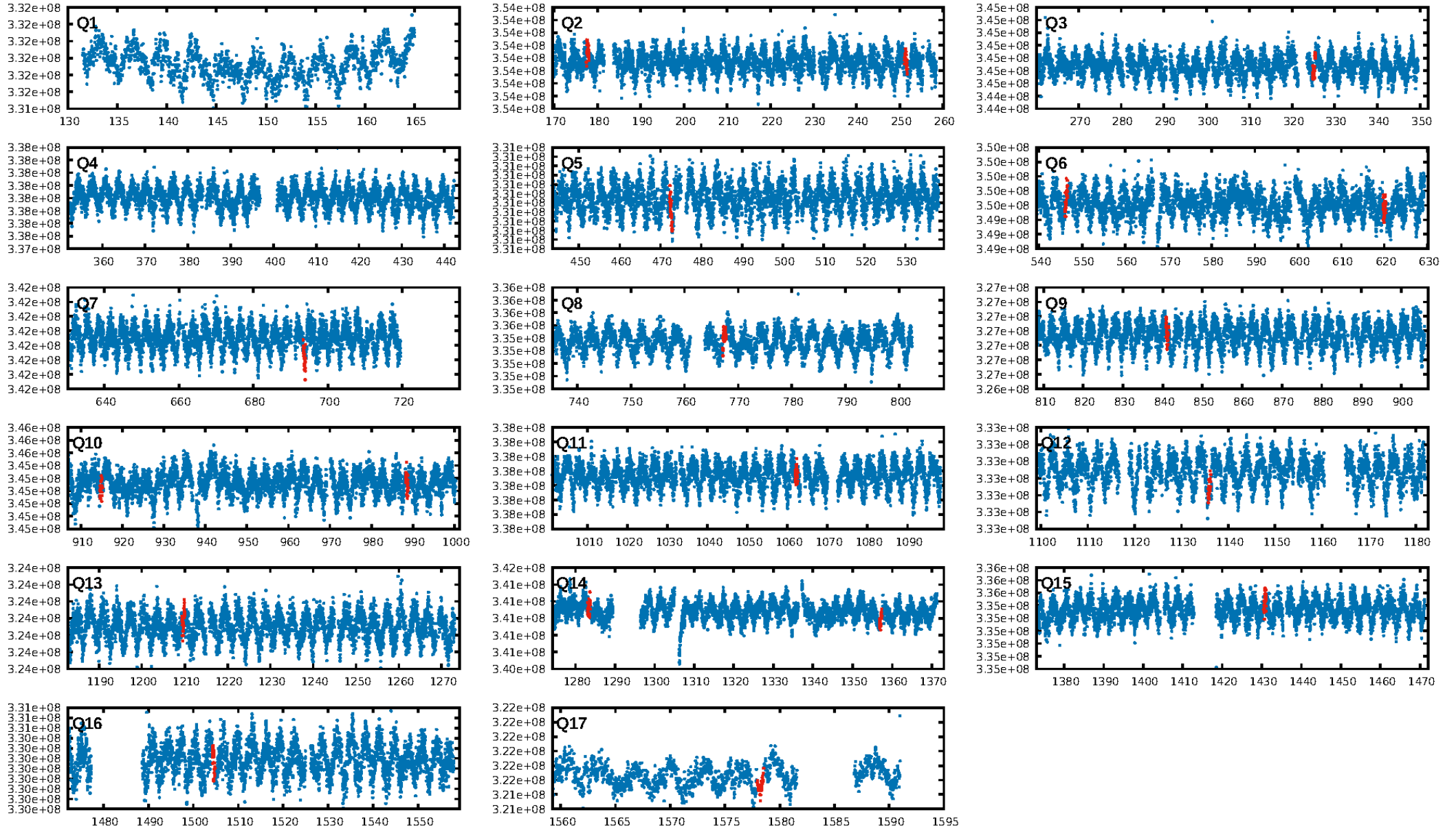
ShortPeriod-sig: 100.0% [105.92σ]
LongPeriod-sig: 100.0% [108.57σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: -12.24

Centroid-sig: 11.4%
Centroid-so: 0.380 arcsec [1.21σ]
OotOffset-rm: 1.512 arcsec [2.51σ]
KicOffset-rm: 1.602 arcsec [2.90σ]
OotOffset-st: 3/4/2/4 [13]
KicOffset-st: 3/4/2/4 [13]
DiffImageQuality-fgm: 0.46 [6/13]
DiffImageOverlap-fno: 0.13 [2/15]

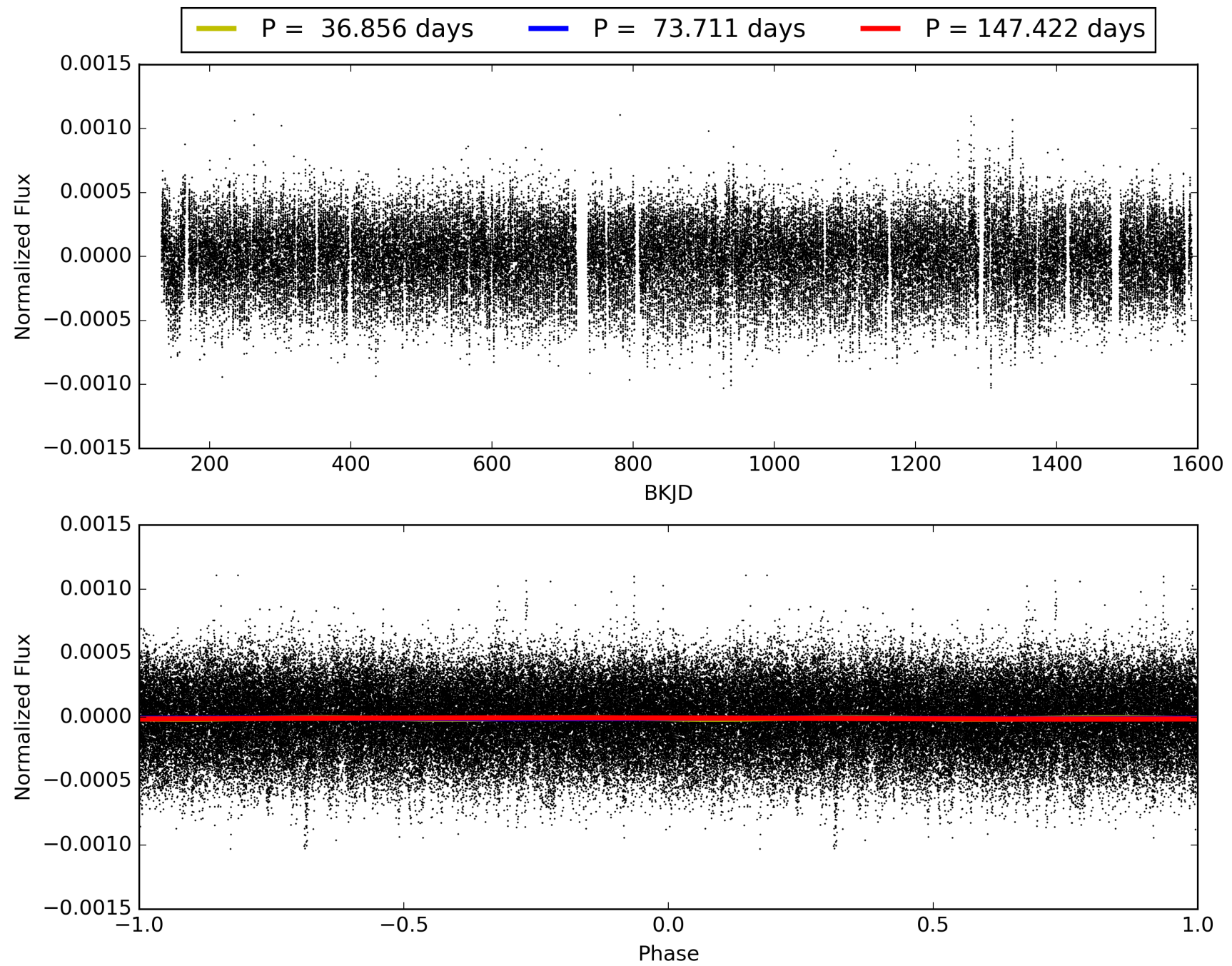
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:46:13 Z

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

TCE 005959837-07, PDC Light Curves

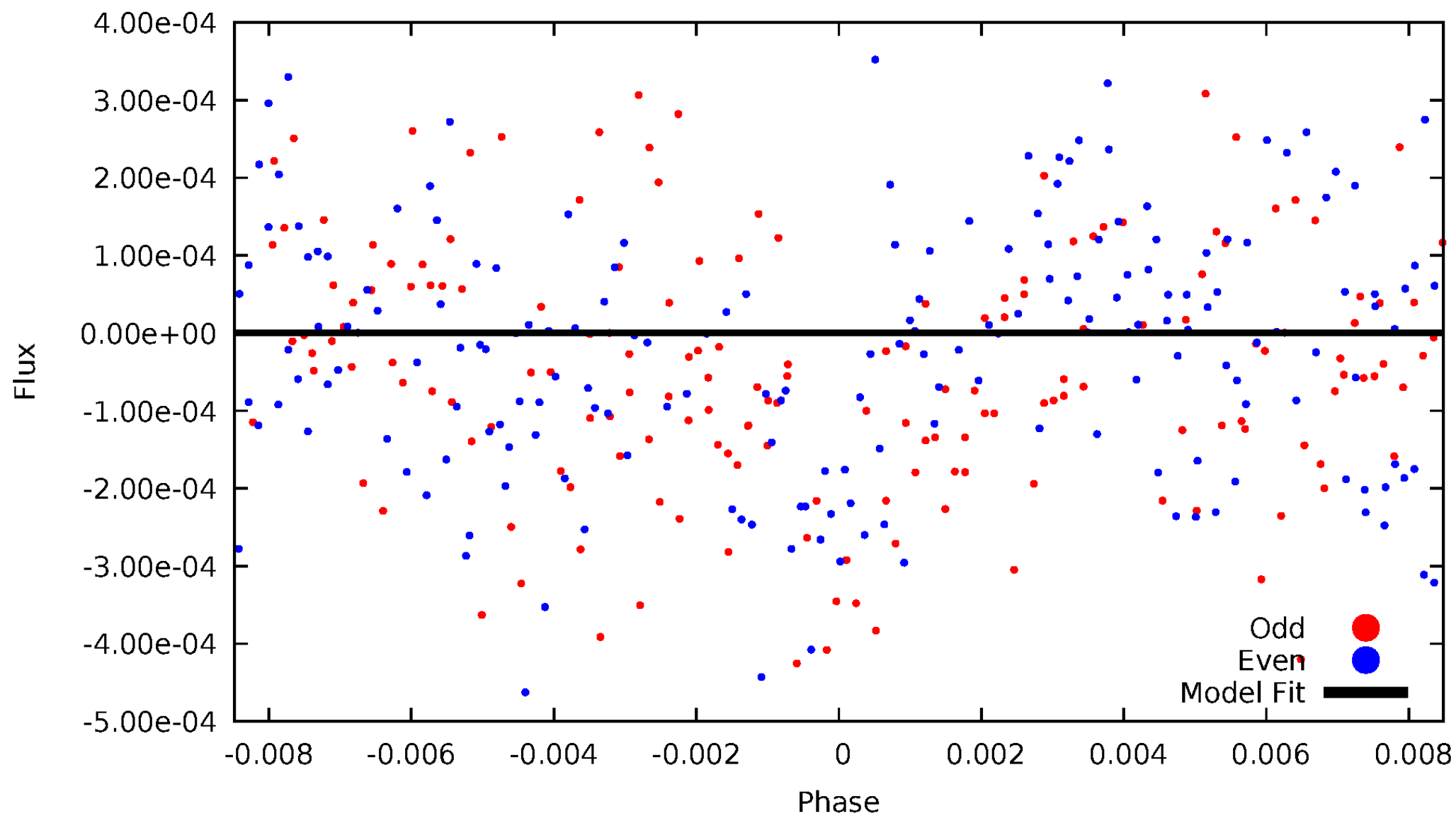


TCE 005959837-07



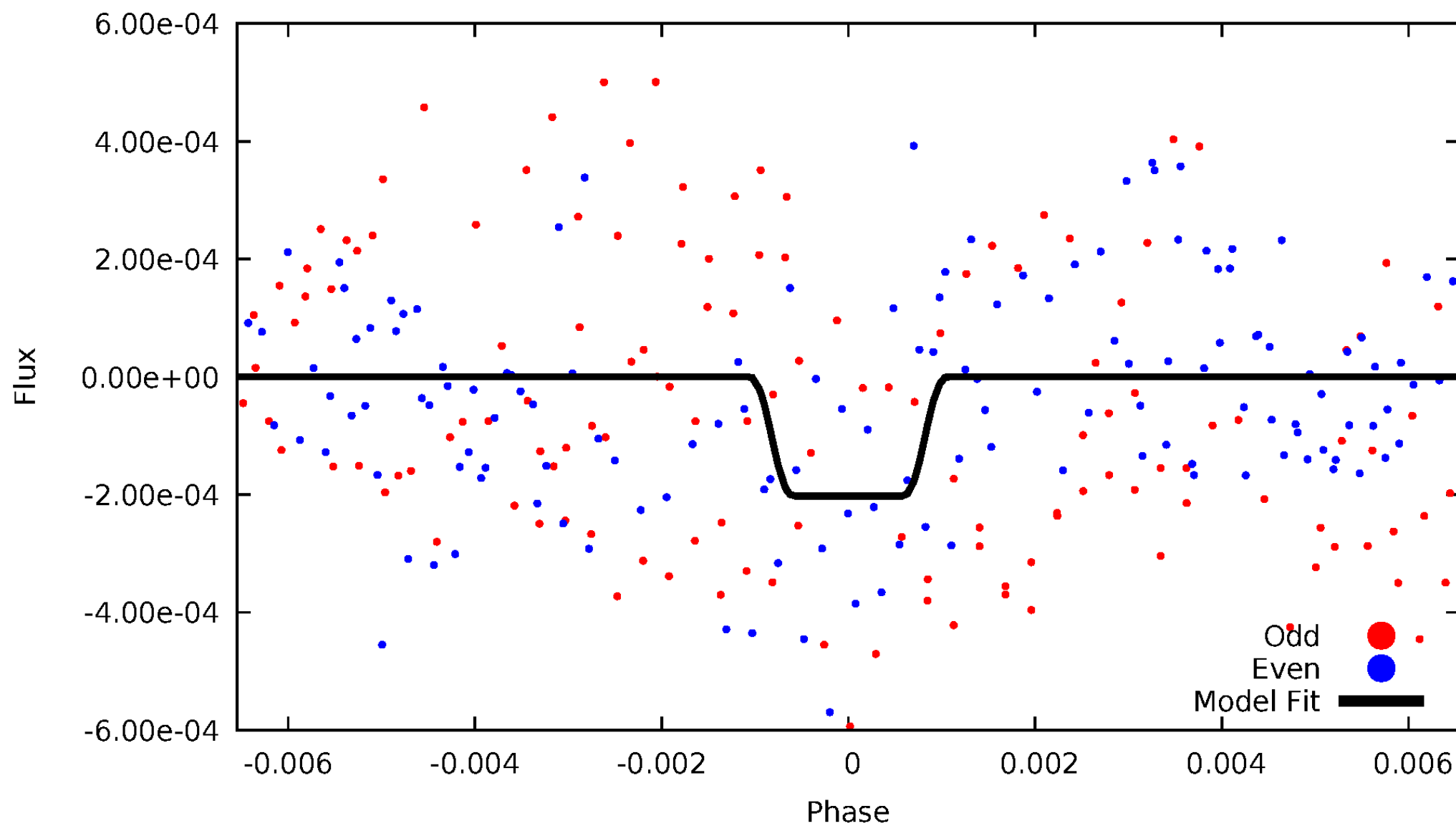
DV Odd/Even

TCE 005959837-07

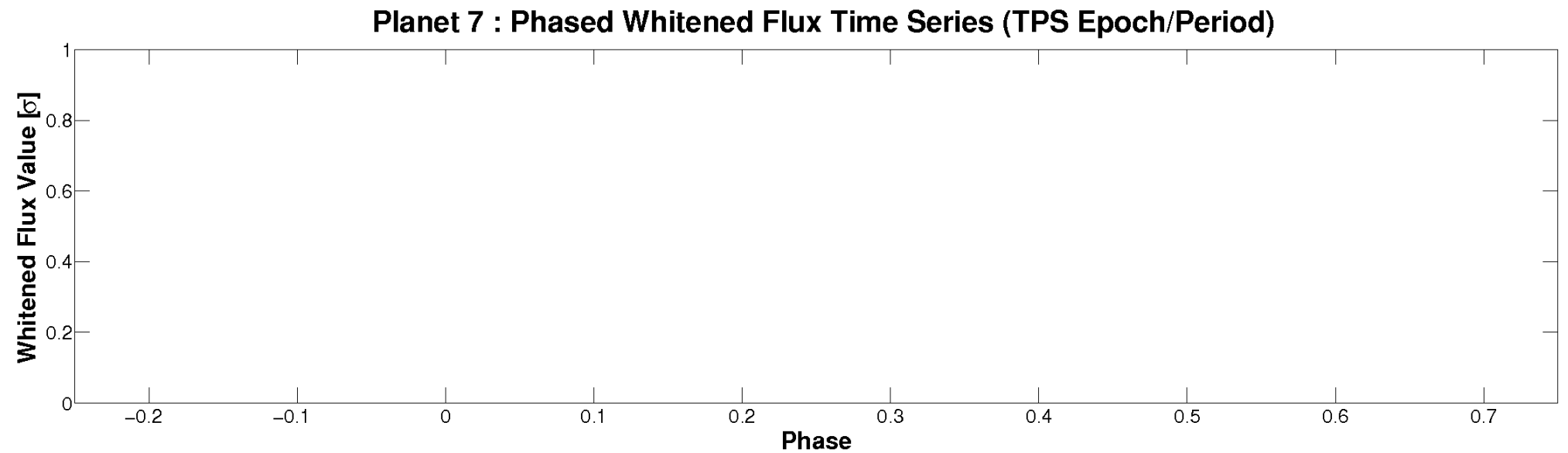
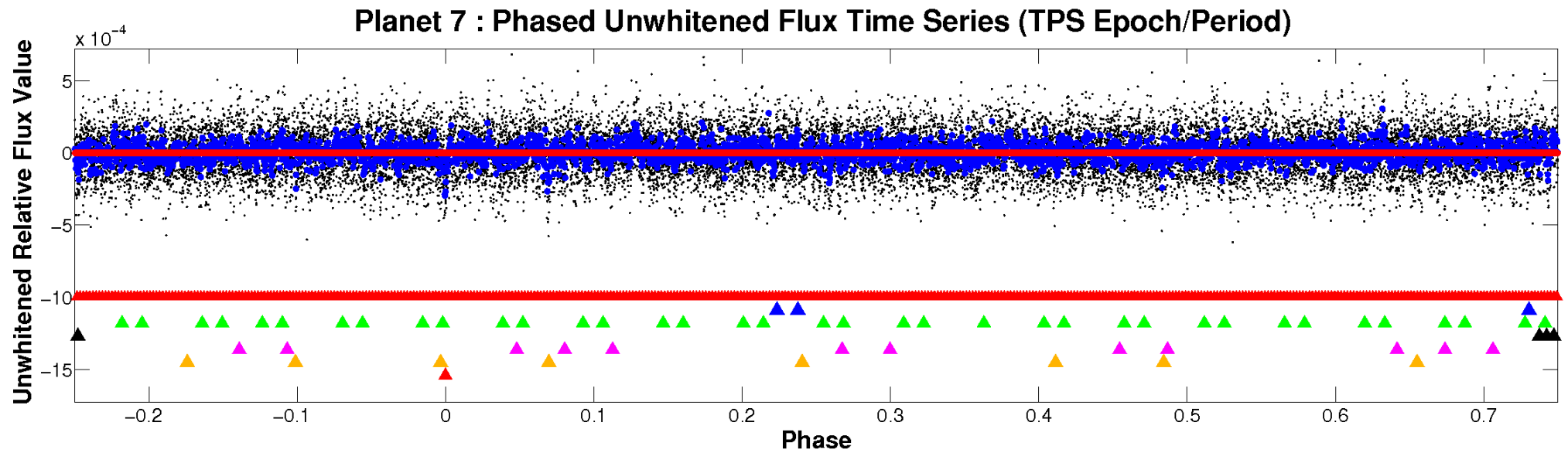


ALT Odd/Even

TCE 005959837-07

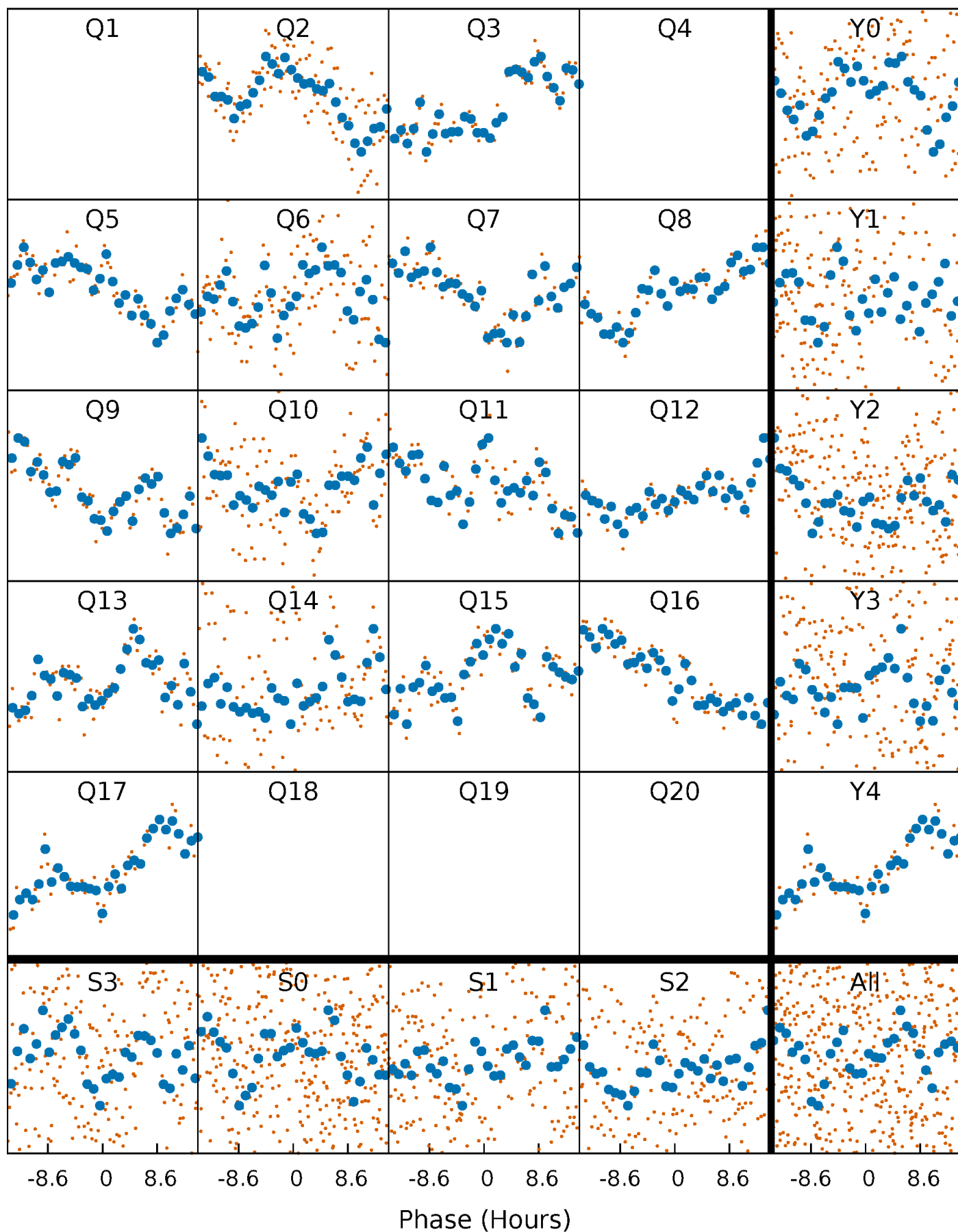


Non-Whitened Vs. Whitened Light Curve



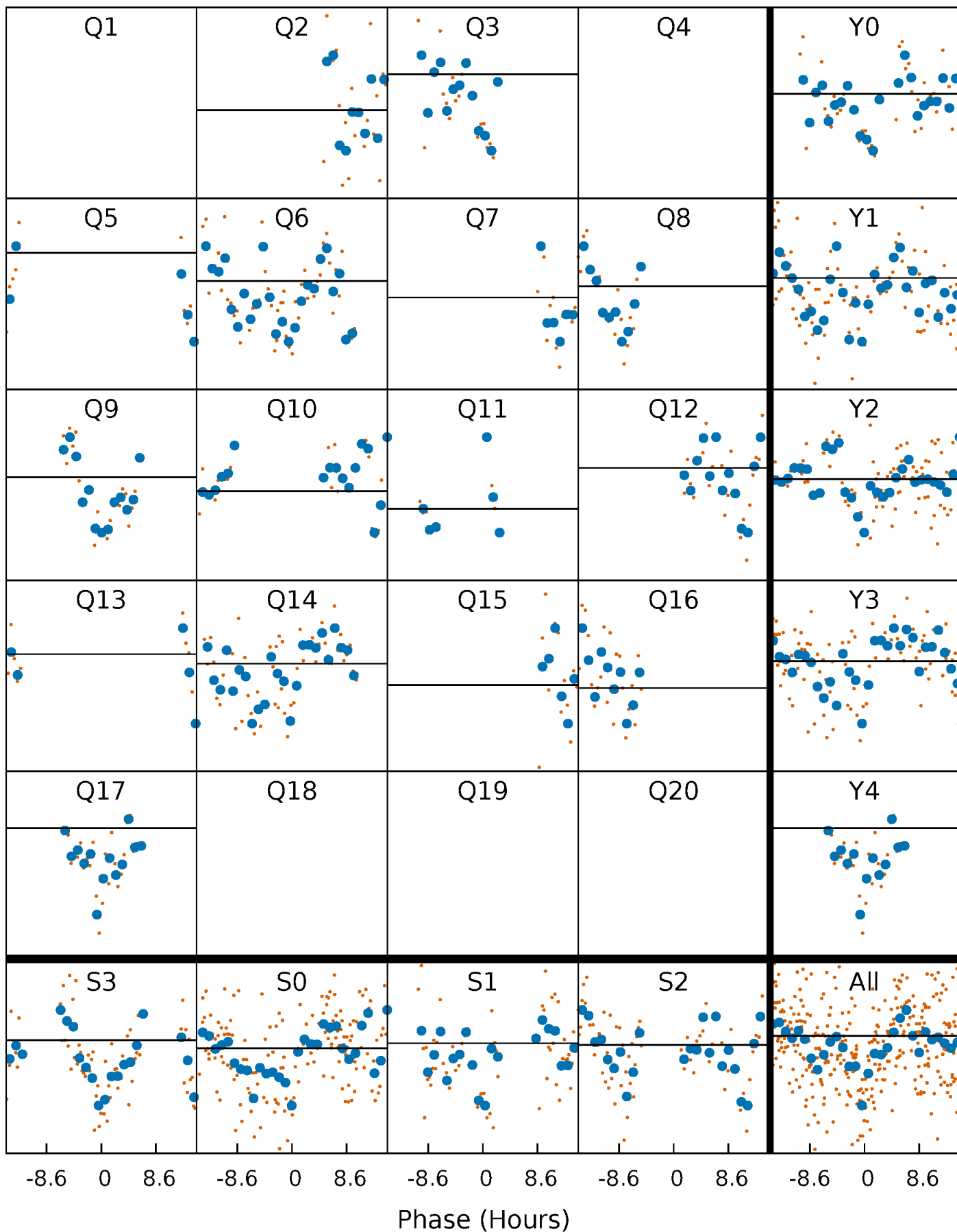
PDC Quarter-Phased Transit Curves

TCE 005959837-07 $P = 73.711089$ Days $T_0 = 177.731707$ (BKJD)



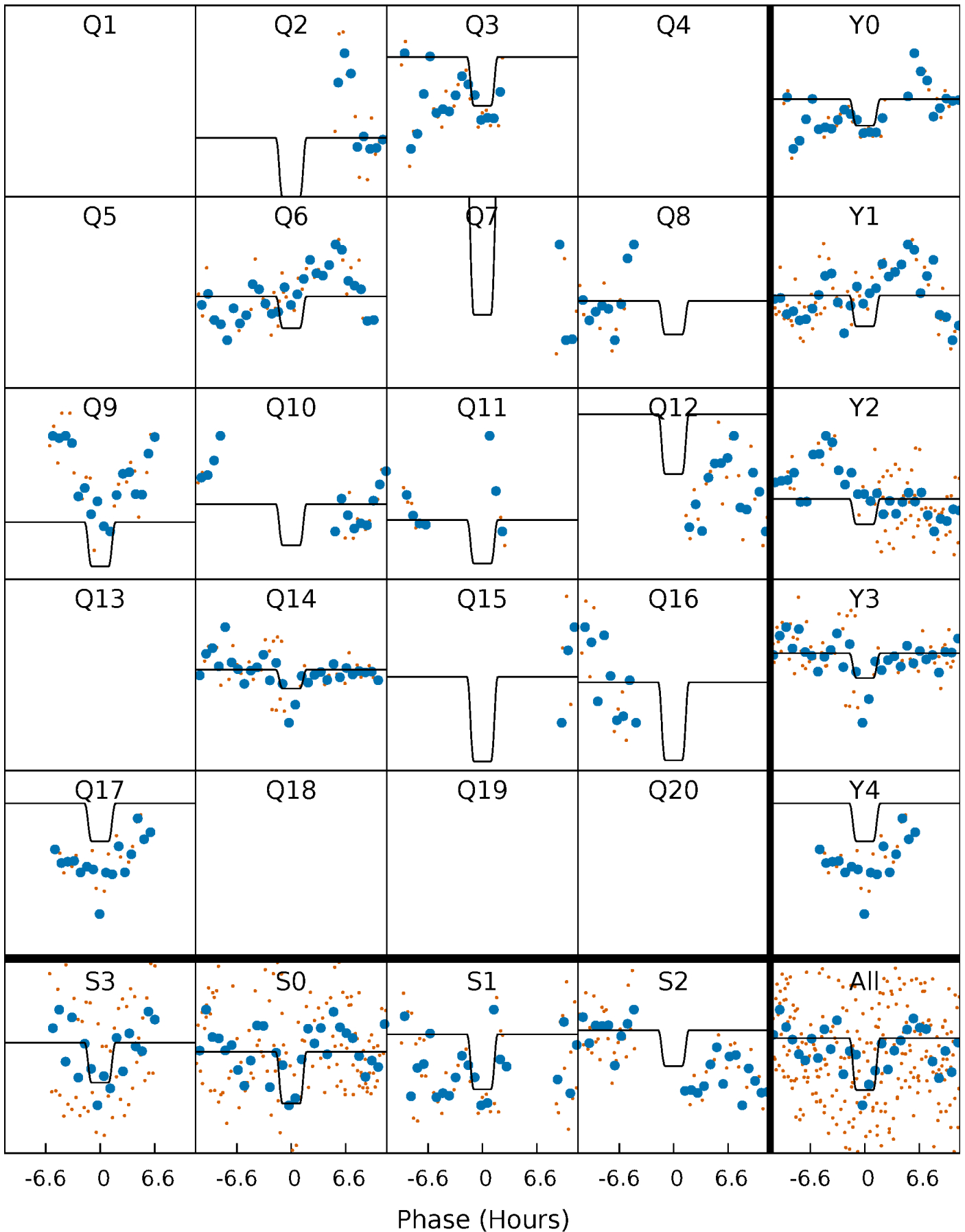
DV Quarter-Phased Transit Curves

TCE 005959837-07 P= 73.711089 Days $T_0=177.731707$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

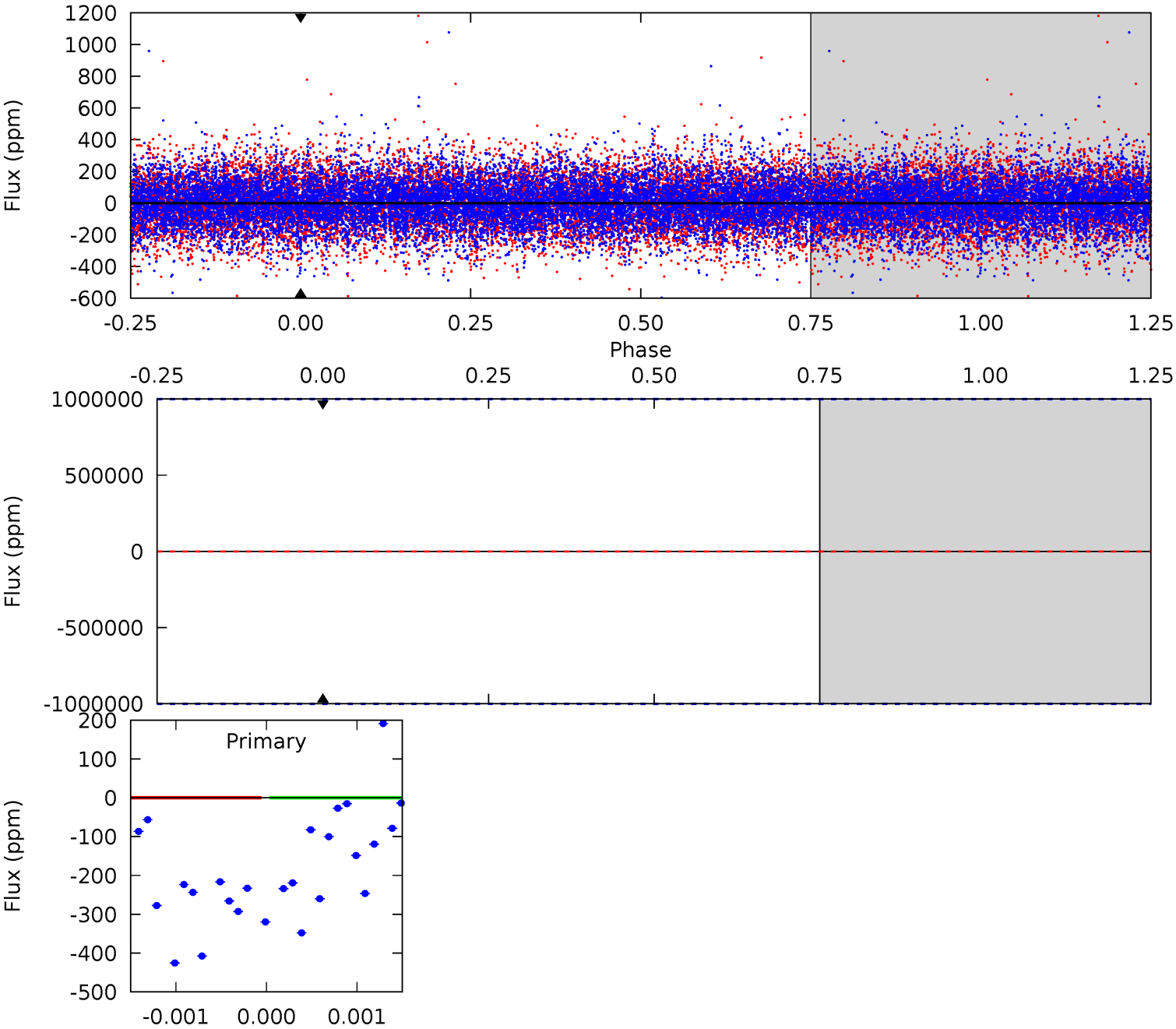
TCE 005959837-07 $P = 73.711089$ Days $T_0 = 177.717805$ (BKJD)



DV Model-Shift Uniqueness Test

005959837-07, P = 73.711089 Days, E = 104.020618 Days

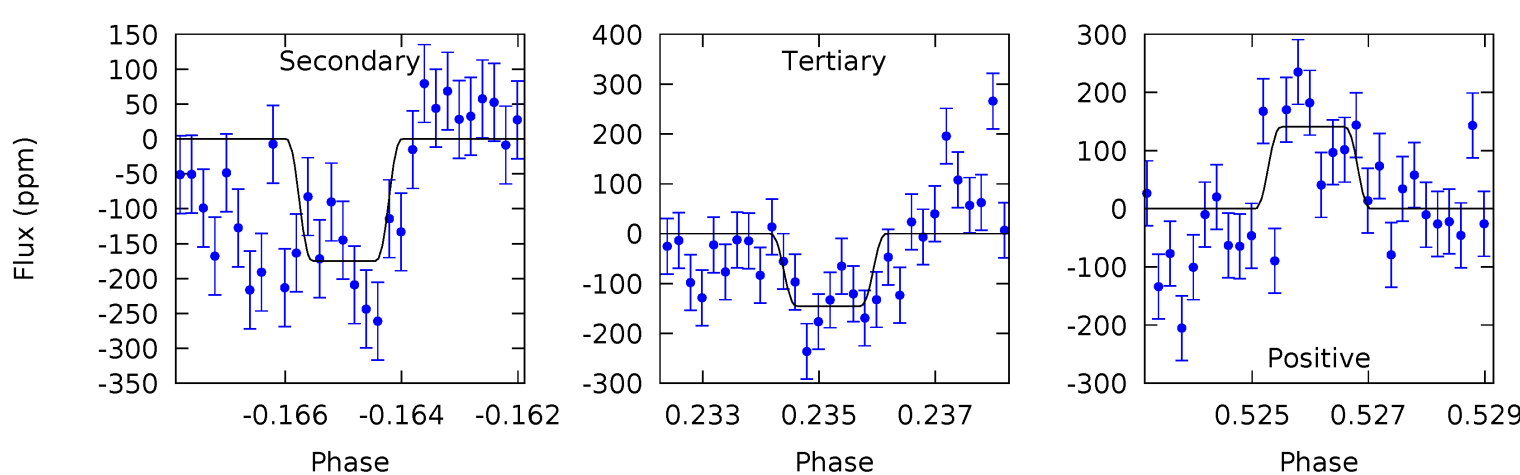
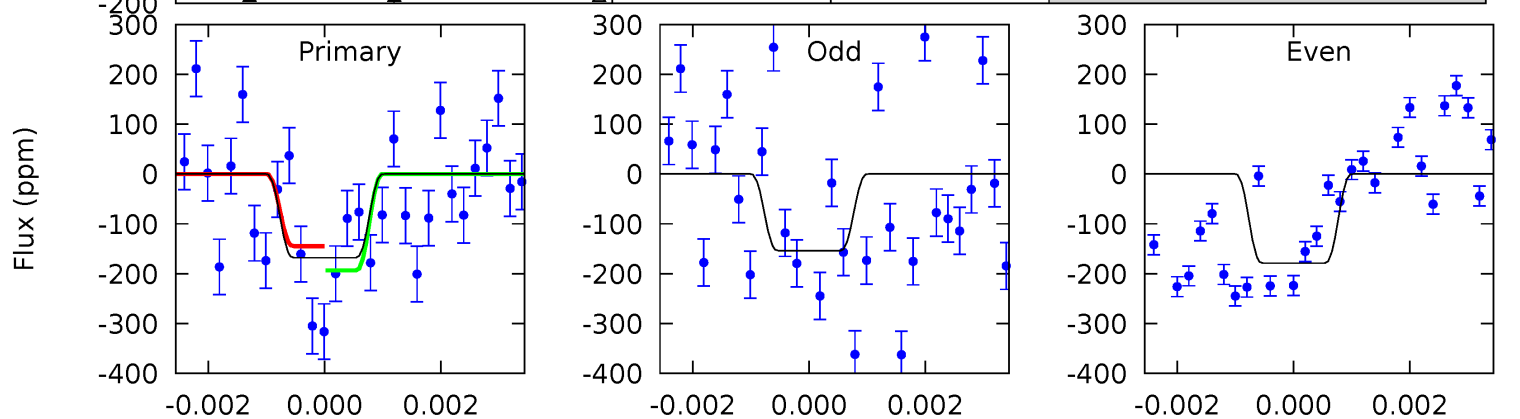
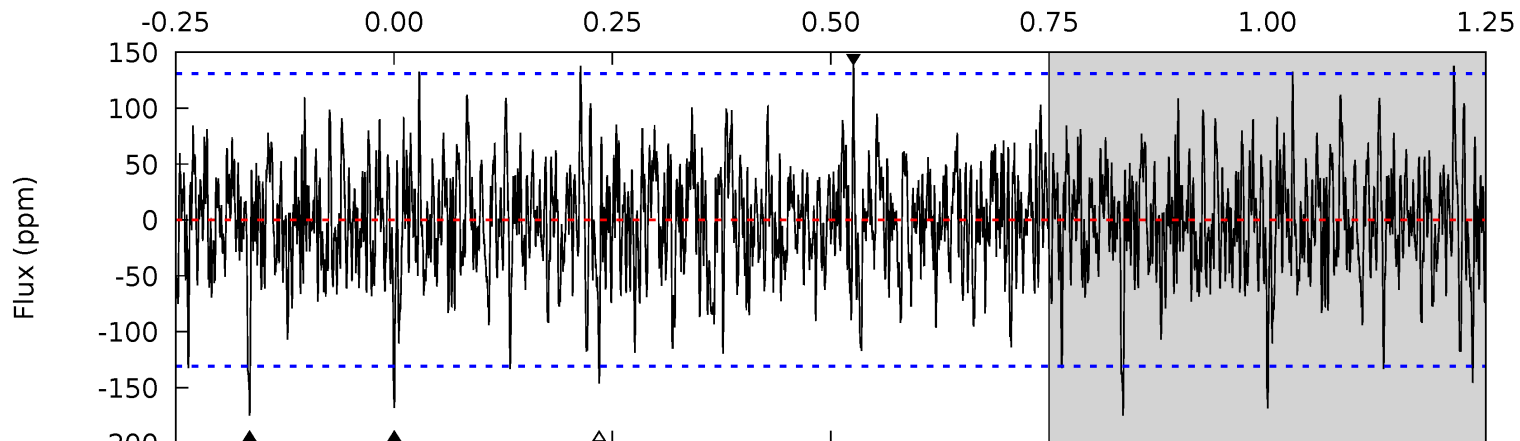
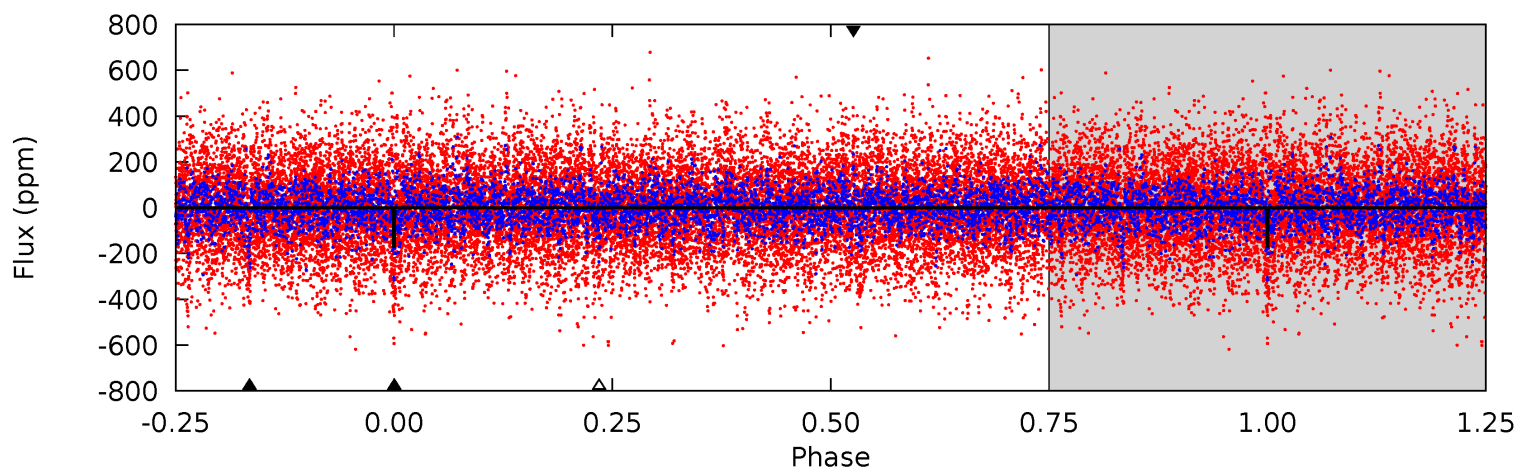
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005959837-07, P = 73.711089 Days, E = 104.006716 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.82	7.10	5.92	5.72	5.31	3.07	1.71	0.91	1.10	1.19	1.38	0.52	-2.04	0.45	0.99



Stellar Parameters For KIC 005959837

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6856^{+72}_{-92}	$4.001^{+0.162}_{-0.108}$	$0.180^{+0.150}_{-0.150}$	$2.112^{+0.362}_{-0.442}$	$1.630^{+0.111}_{-0.166}$	$0.244^{+0.183}_{-0.082}$
	+1%/-1%	+4%/-3%	+83%/-83%	+17%/-21%	+7%/-10%	+75%/-34%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005959837-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$16.63^{+18.21}_{-11.72}$	962^{+45}_{-53}	-4591^{+42378}_{-23331}	$-343.808^{+71954.644}_{-48380.939}$
Alt.	-175 ± 25	$17.10^{+17.39}_{-11.59}$	959^{+42}_{-51}	3375^{+1784}_{-593}	53^{+466}_{-41}

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

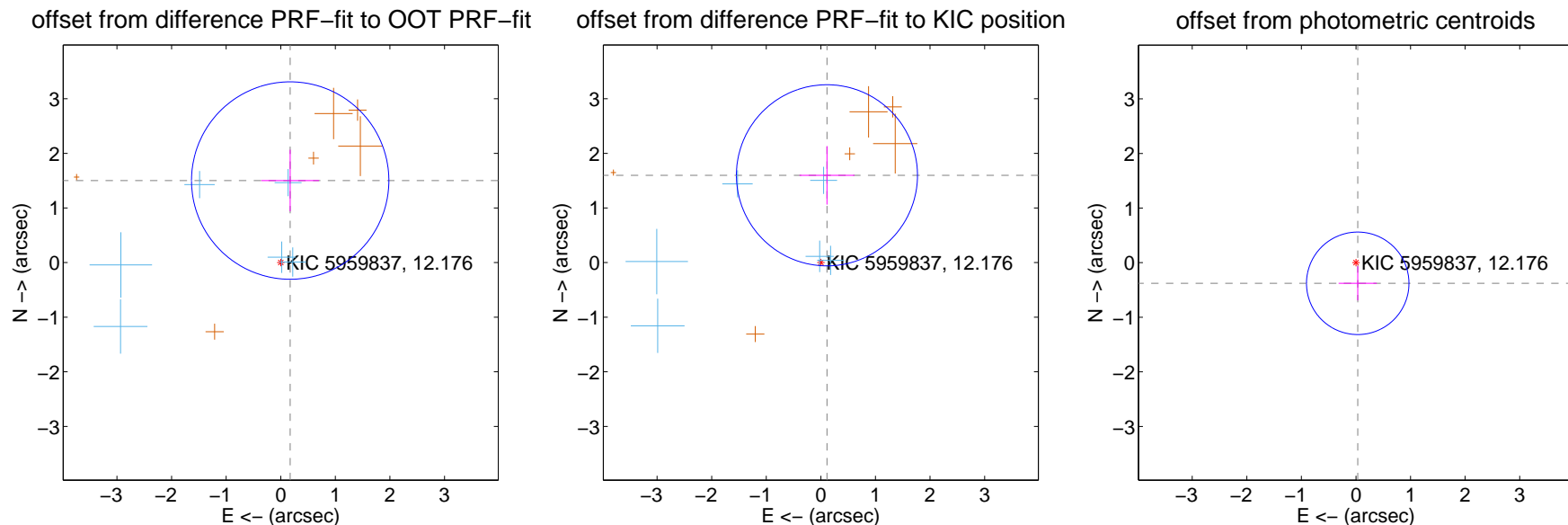
DV Centroid Data

Supplemental centroid analysis for 005959837-07. Kepler magnitude: 12.18. Transit SNR -1.00

There are 6 quarters with good PRF difference image offsets

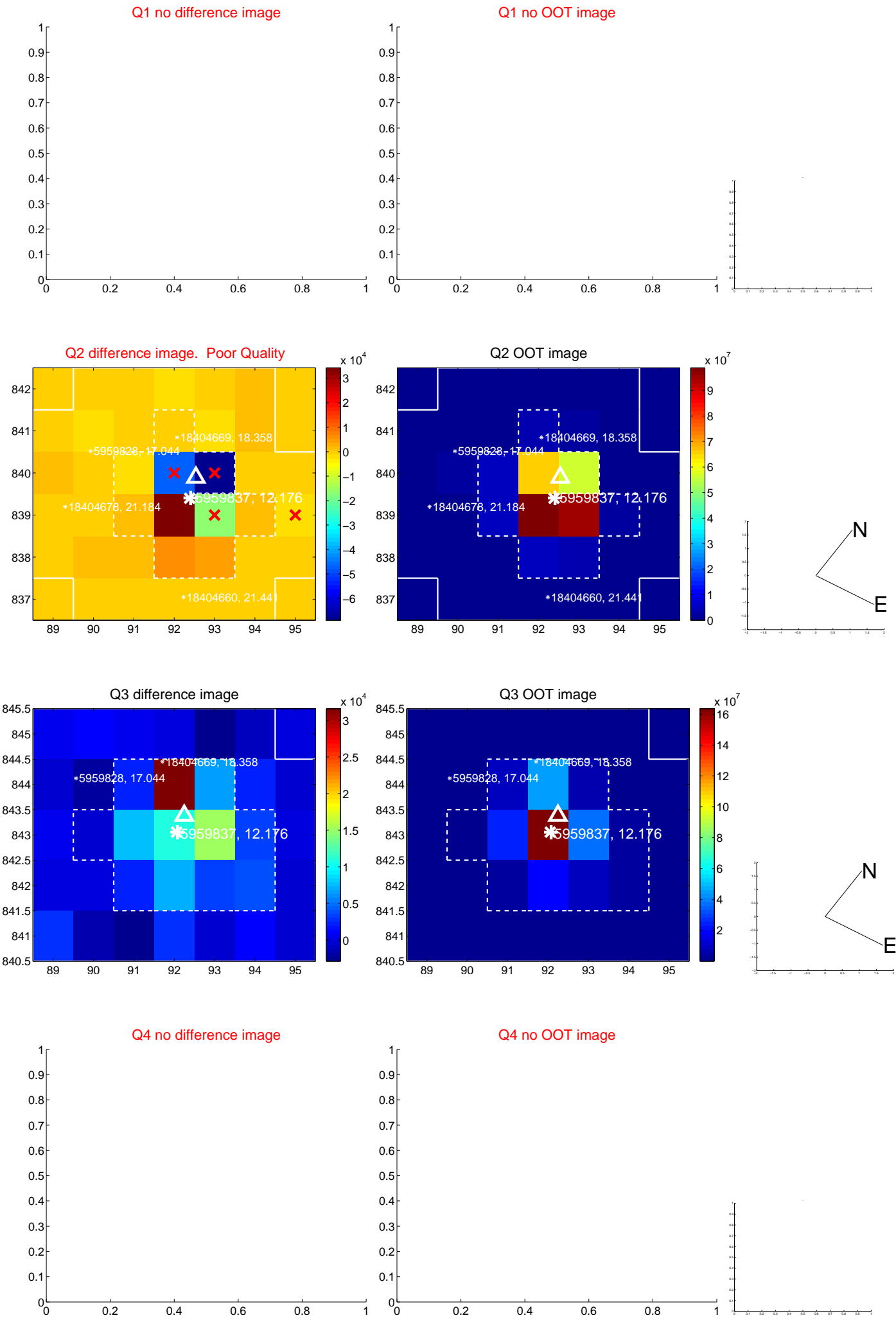
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.512 ± 0.603	2.51	-0.173 ± 0.528	1.502 ± 0.564
PRF-fit source offset from KIC position	1.602 ± 0.553	2.90	-0.112 ± 0.503	1.598 ± 0.535
photometric centroid source offset	0.38 ± 0.31	1.21	-0.03 ± 0.35	-0.38 ± 0.31

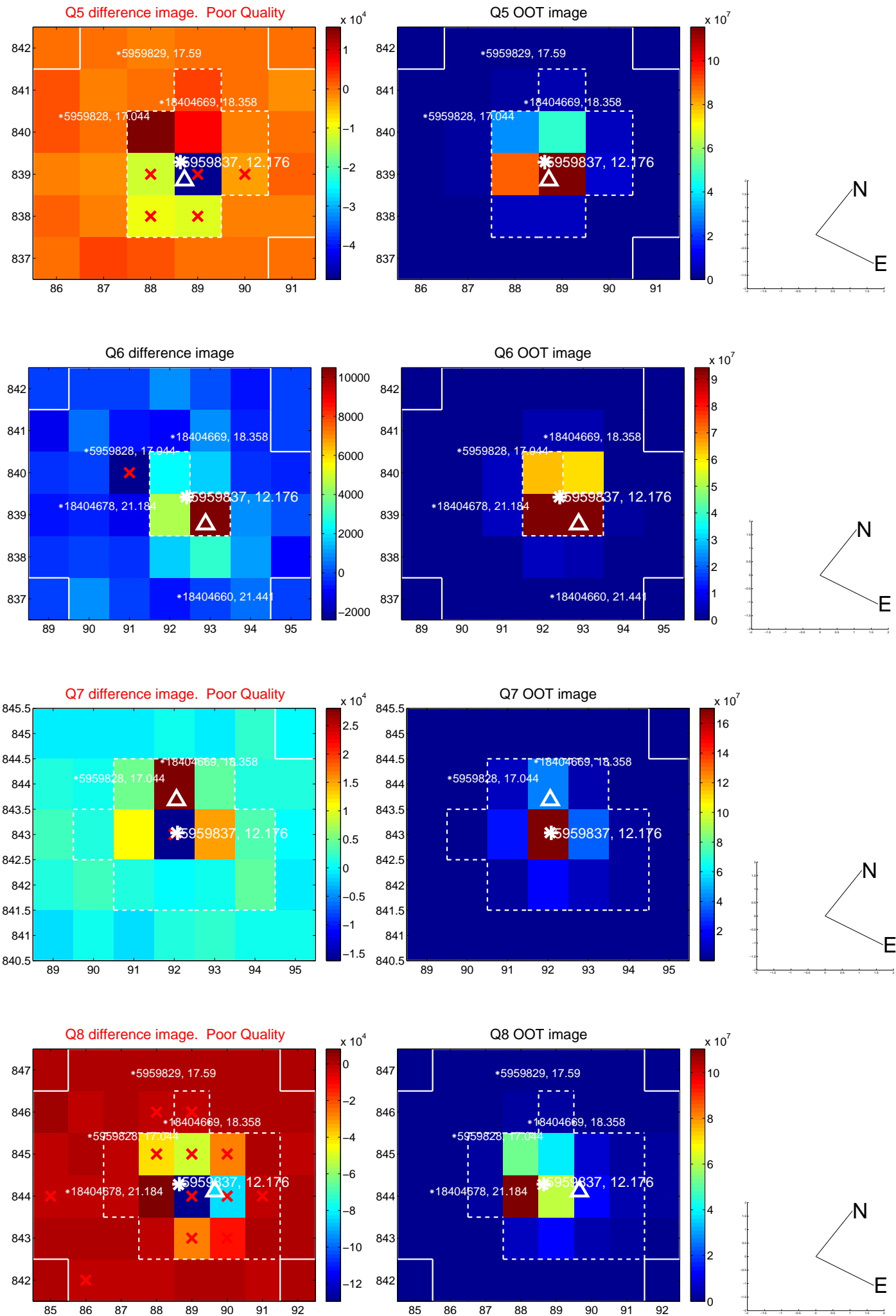


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

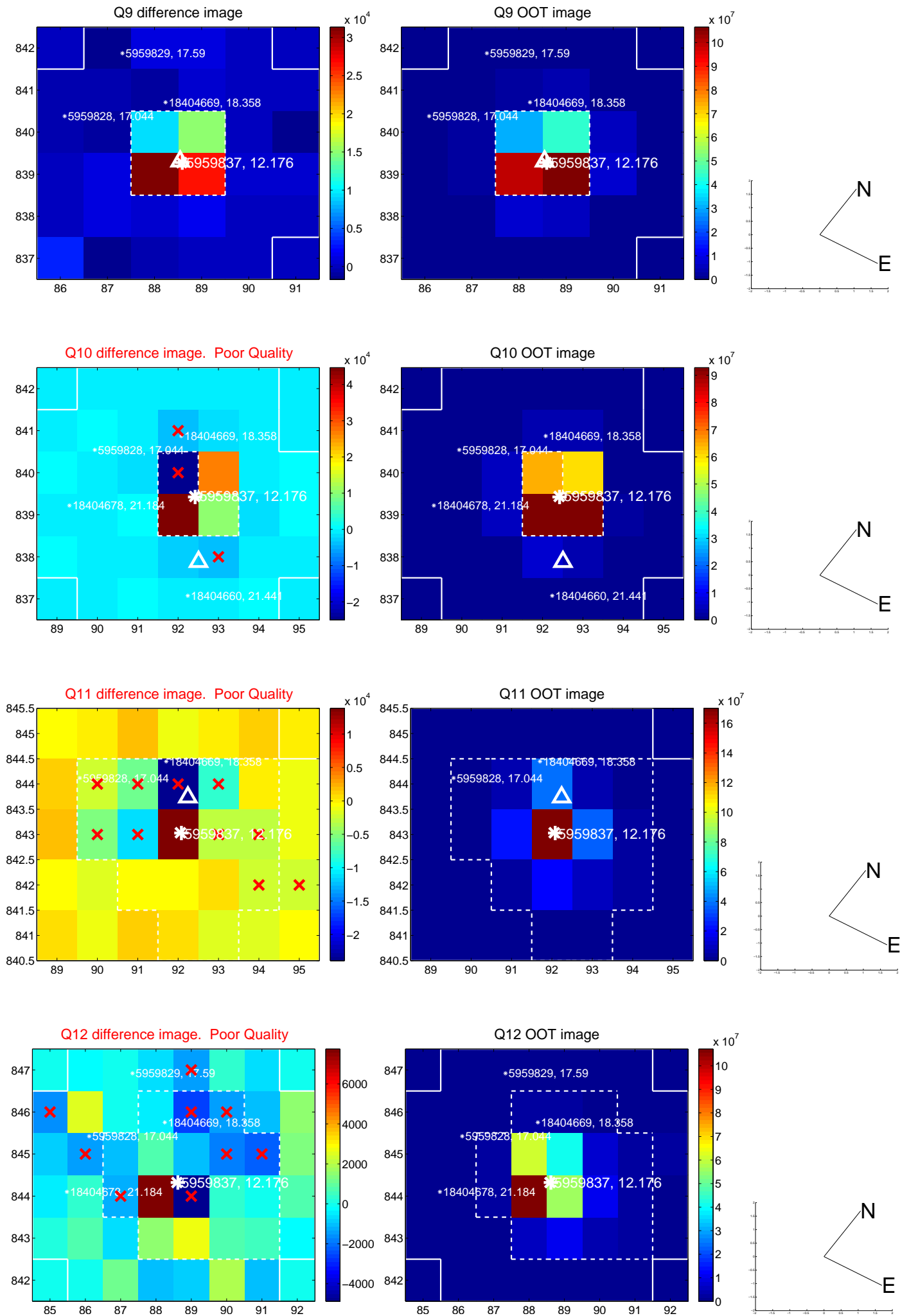
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



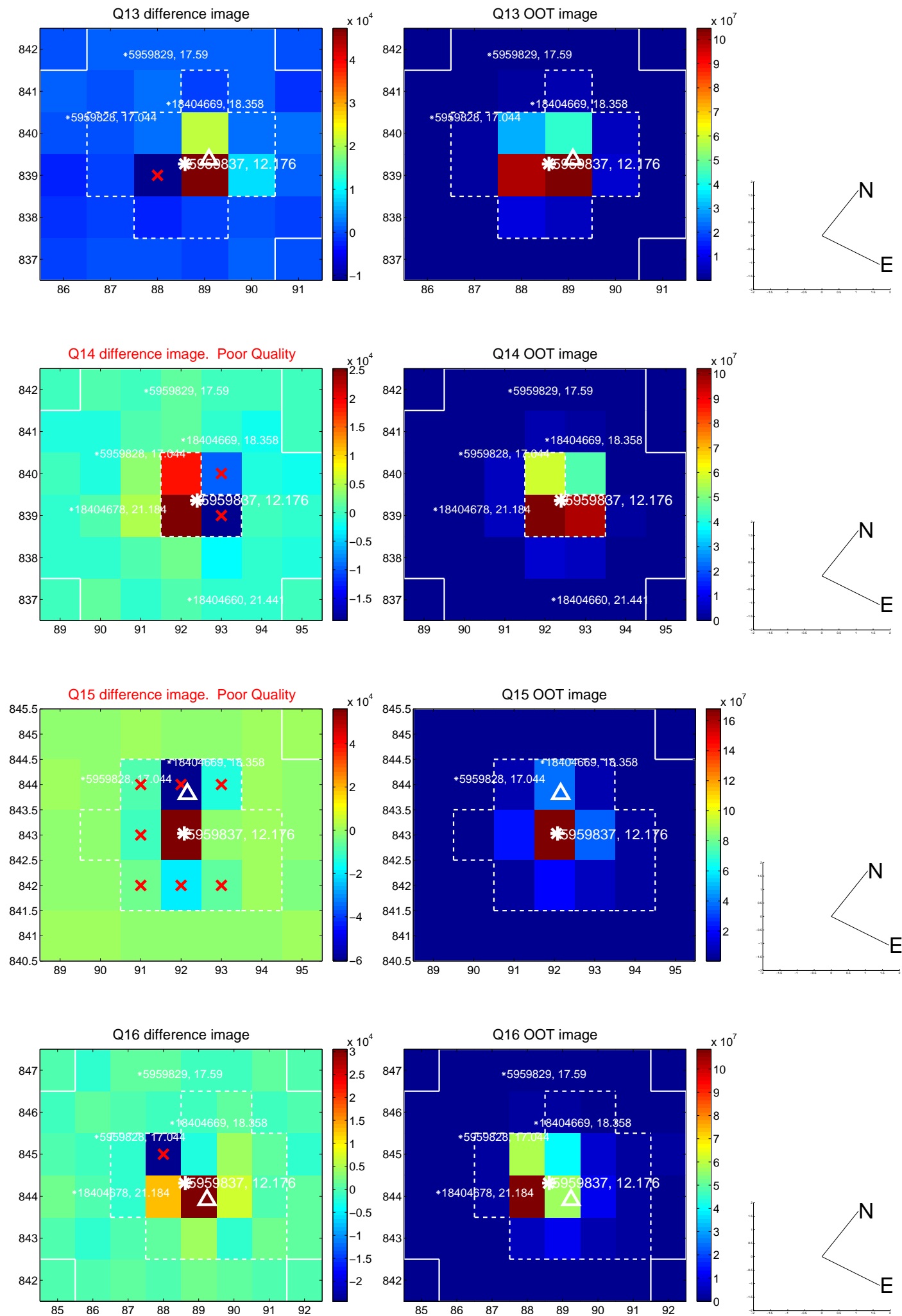
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



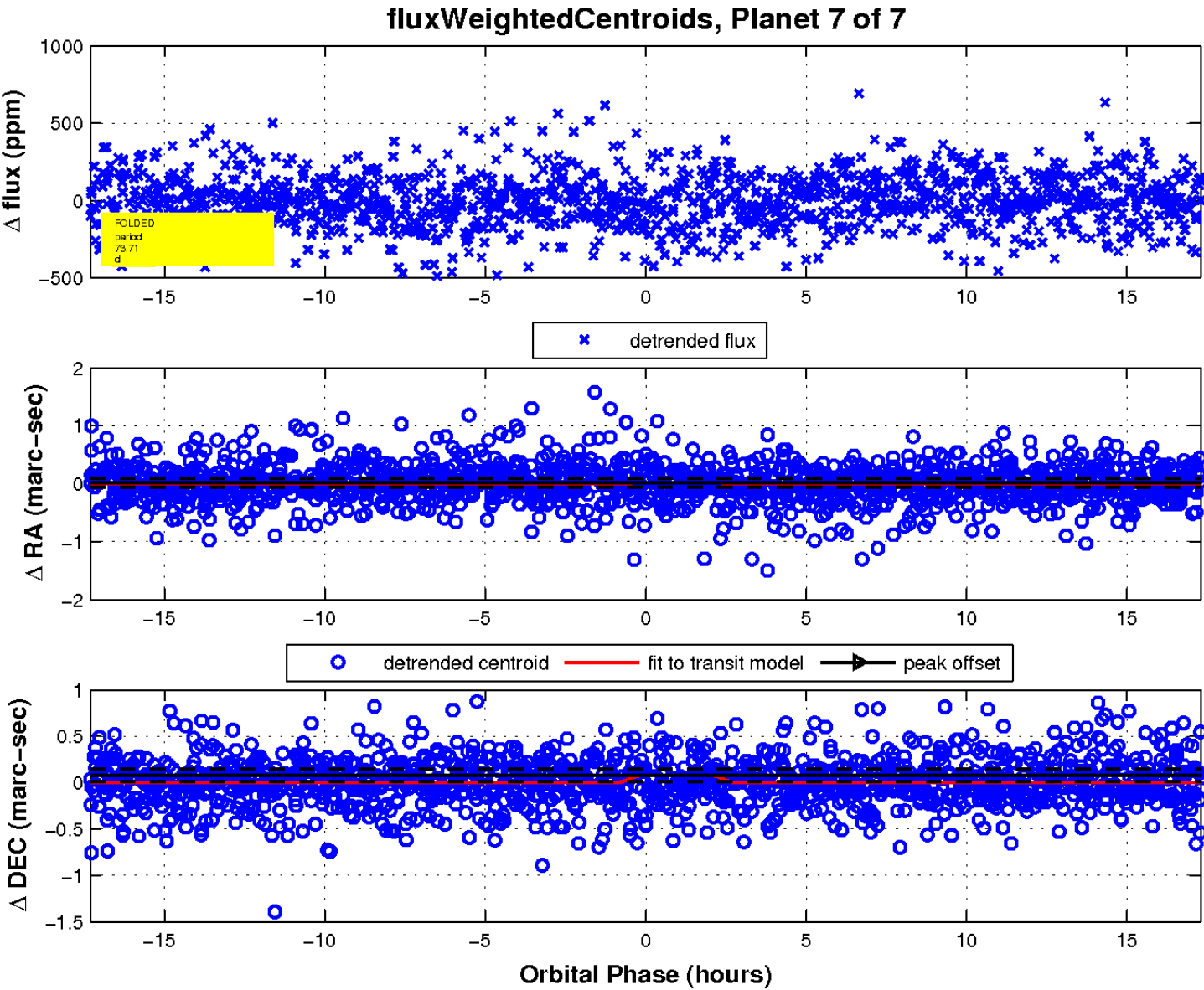
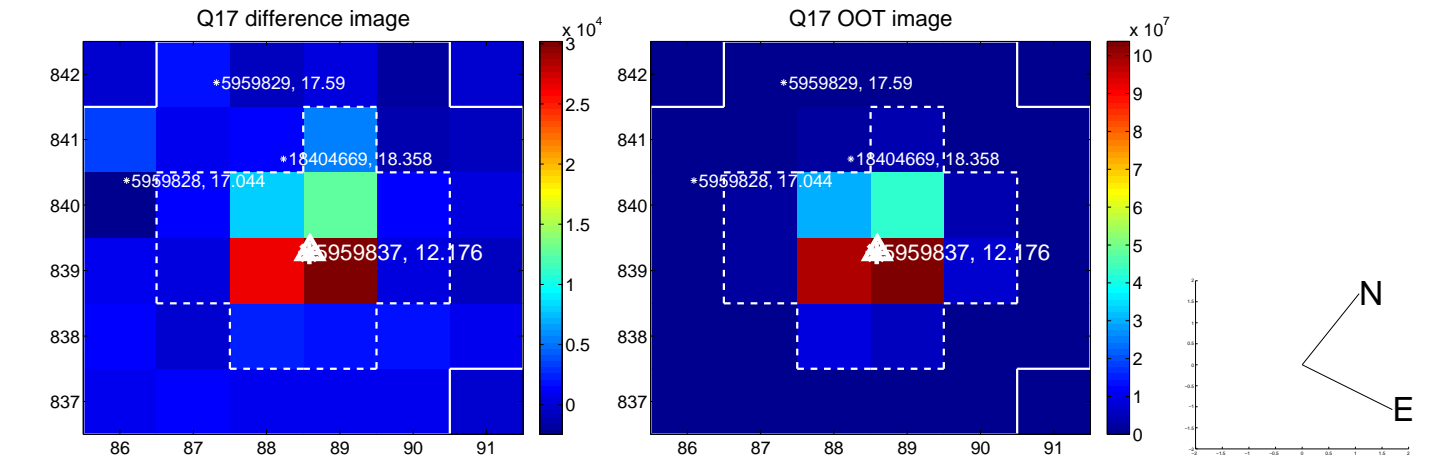
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

