

KIC 008456774

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})
008456774-01	OBS	No	2.886324	134.418517	28.4	0.594	27.7	1.1	1.60	7022	0.89	2970.59
008456774-02	OBS	No	2.886316	134.093507	272.1	4.036	21.4	21.2	1.60	7022	2.68	2970.60
008456774-03	OBS	No	2.886148	132.695104	51.9	15.875	14.3	6.4	1.60	7022	1.28	2970.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008456774-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008456774-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008456774-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD

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

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

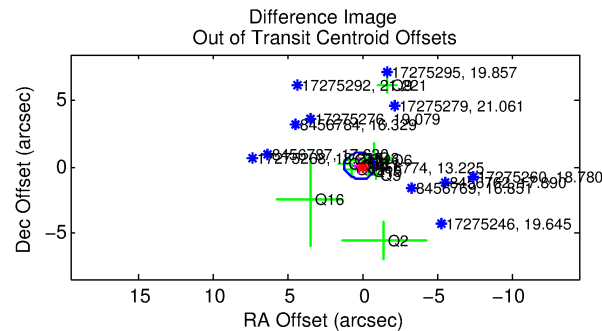
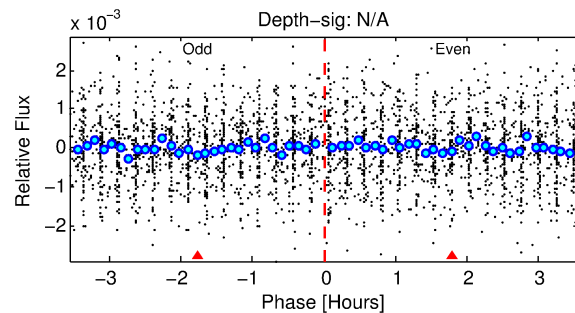
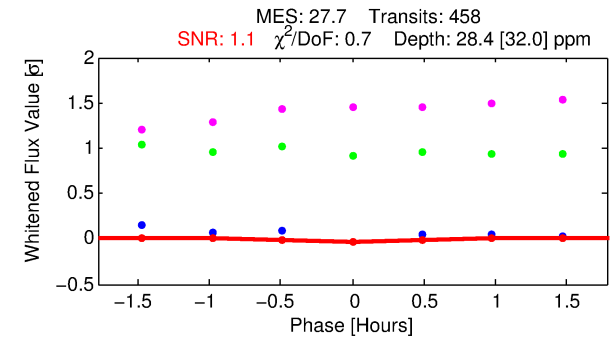
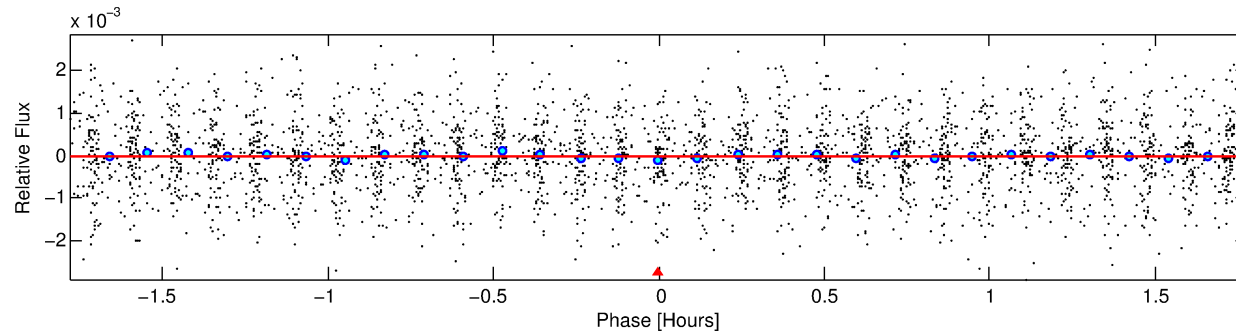
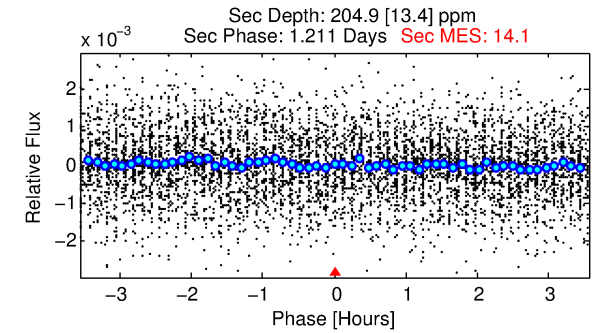
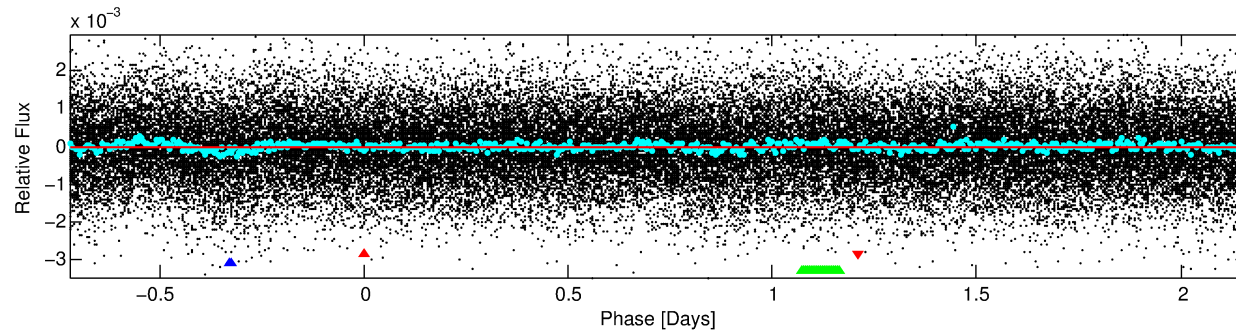
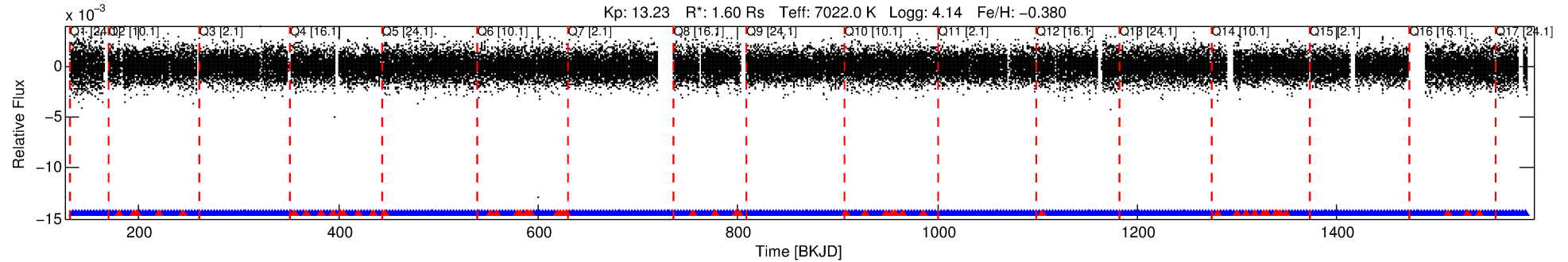
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008456774-01

No Significant Match Found

DV One-Page Summary

KIC: 8456774 Candidate: 1 of 3 Period: 2.886 d



DV Fit Results:

Period = 2.88632 [0.00011] d
Epoch = 134.4185 [0.0177] BKJD
Rp/R* = 0.0051 [0.0766]
a/R* = 36.94 [3232.69]
b = 0.14 [595.41]
Seff = 2970.59 [1116.14]
Teq = 1883 [177] K
Rp = 0.88 [13.37] Re
a = 0.0433 [0.0103] AU
Ag = 269.86 [8154.62] [0.03σ]
Teffp = 11797 [89113] K [0.11σ]

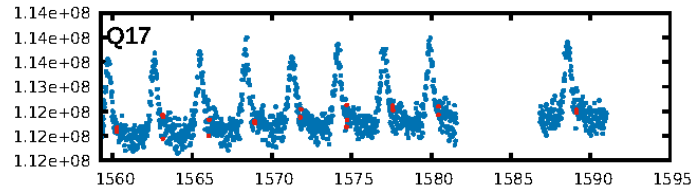
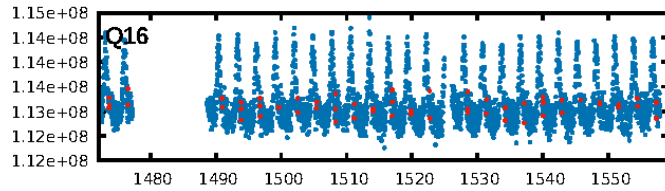
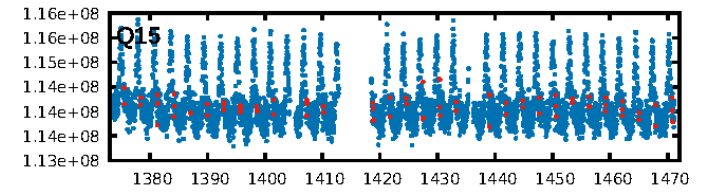
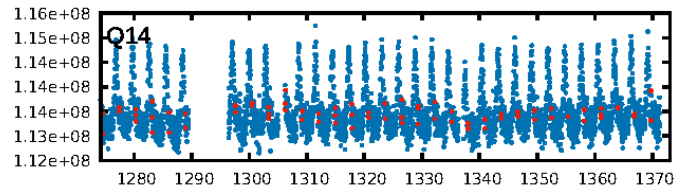
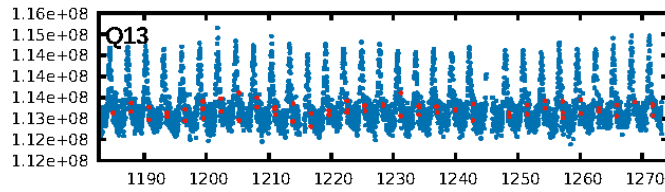
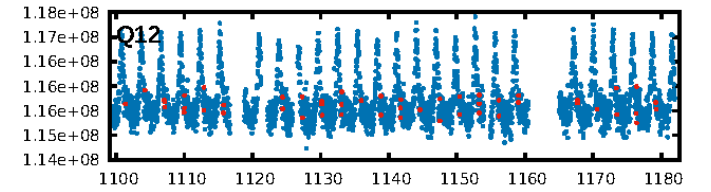
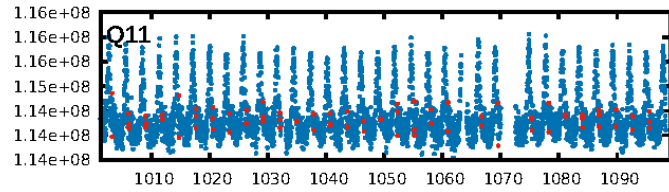
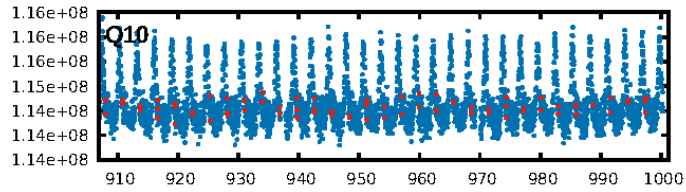
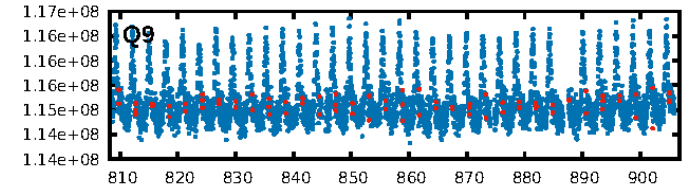
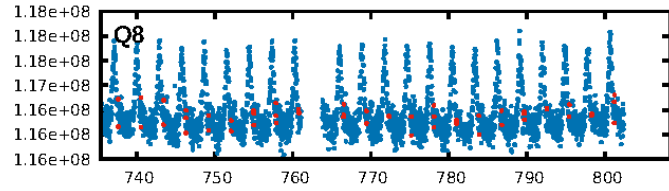
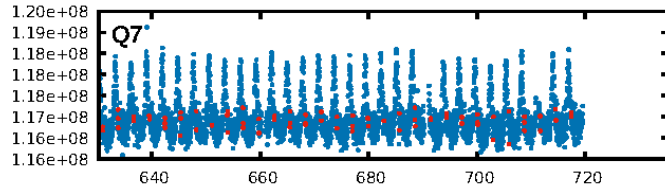
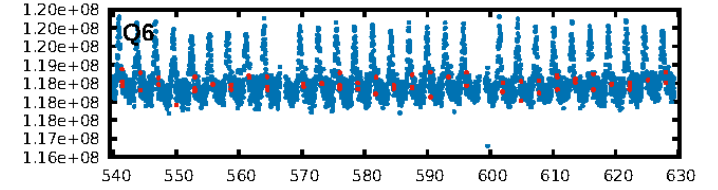
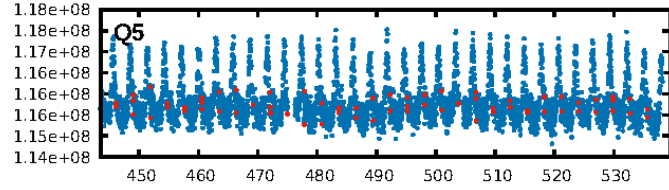
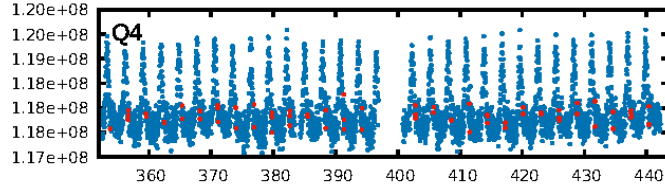
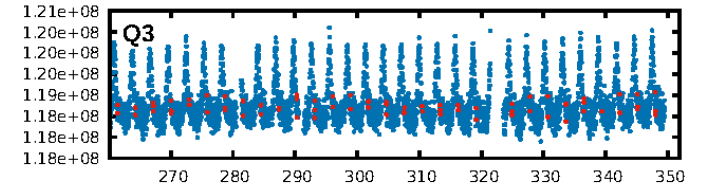
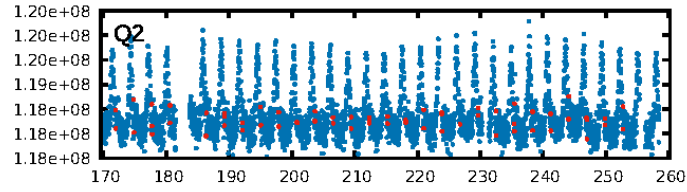
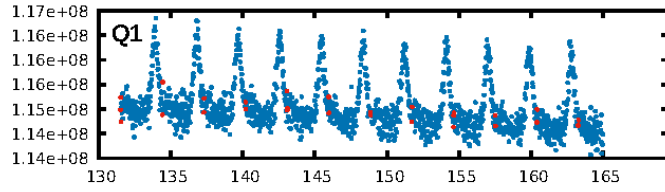
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.10e-129
RollingBand-fgt: 0.89 [387/437]
GhostDiagnostic-chr: -3.712
Centroid-sig: N/A
Centroid-so: 4.698 arcsec [1.26σ]
OotOffset-rm: 0.184 arcsec [0.55σ]
KicOffset-rm: 0.208 arcsec [0.60σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.36 [5/14]
DiffImageOverlap-fno: 1.00 [17/17]

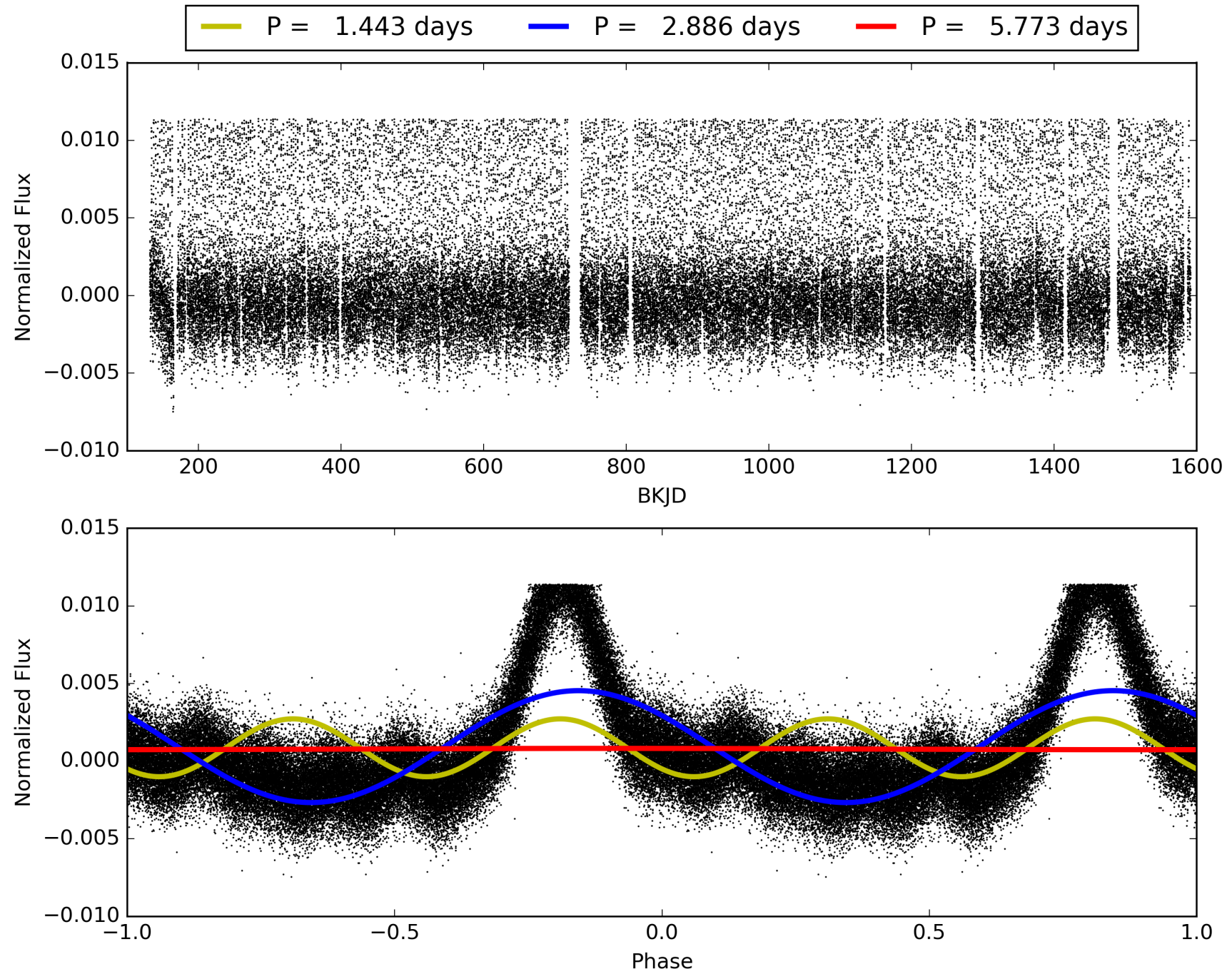
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008456774-01, PDC Light Curves

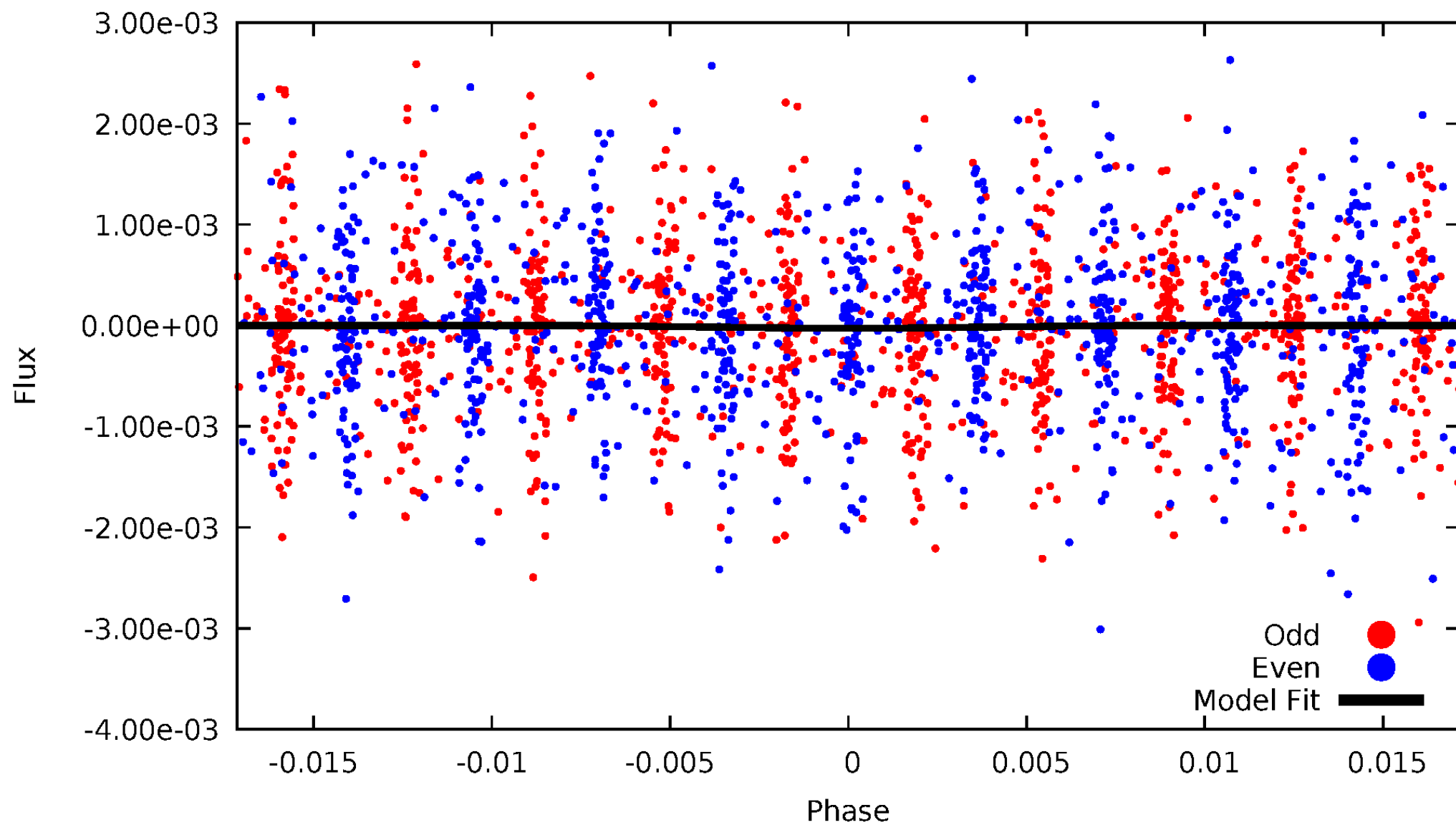


TCE 008456774-01



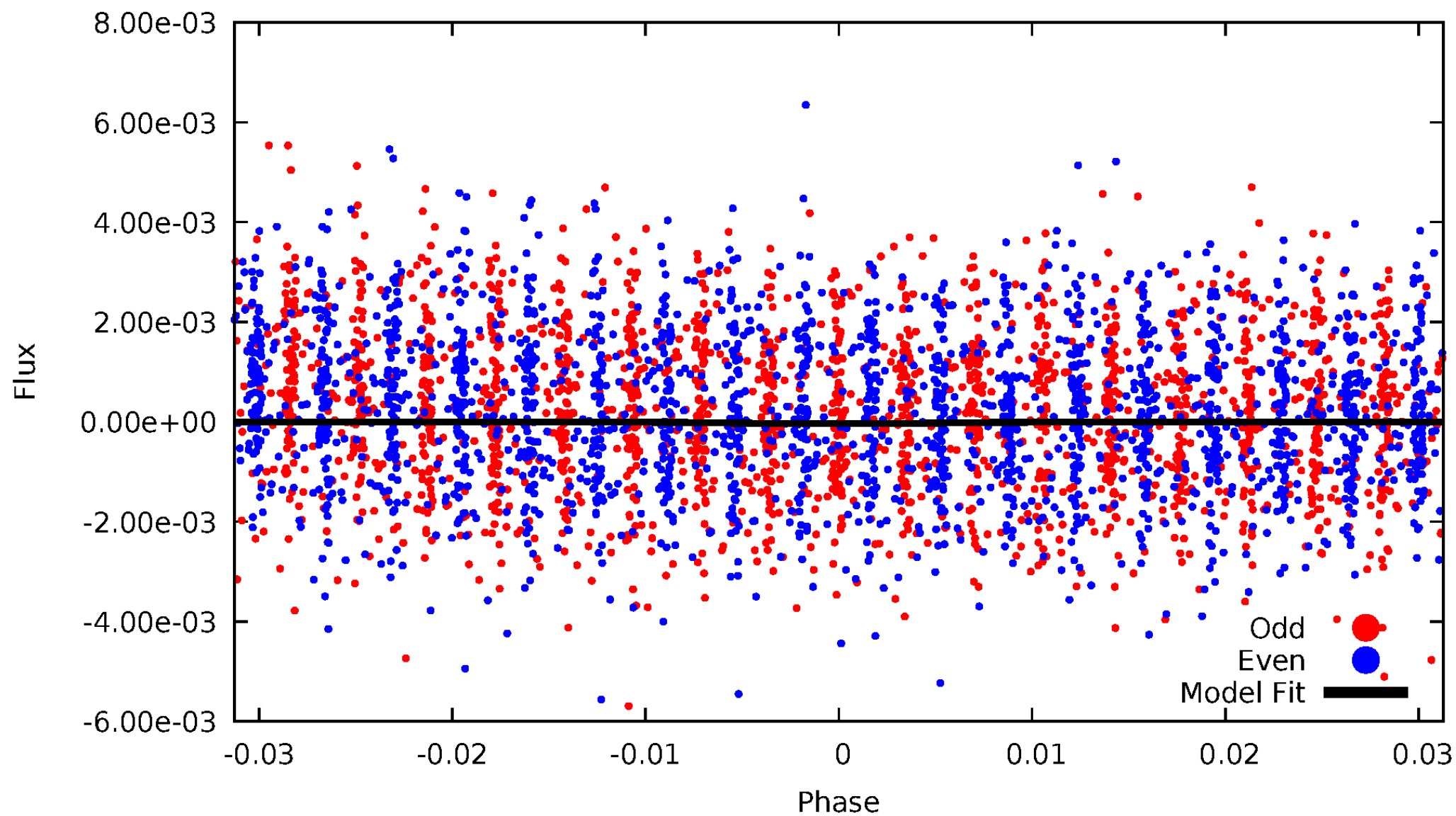
DV Odd/Even

TCE 008456774-01

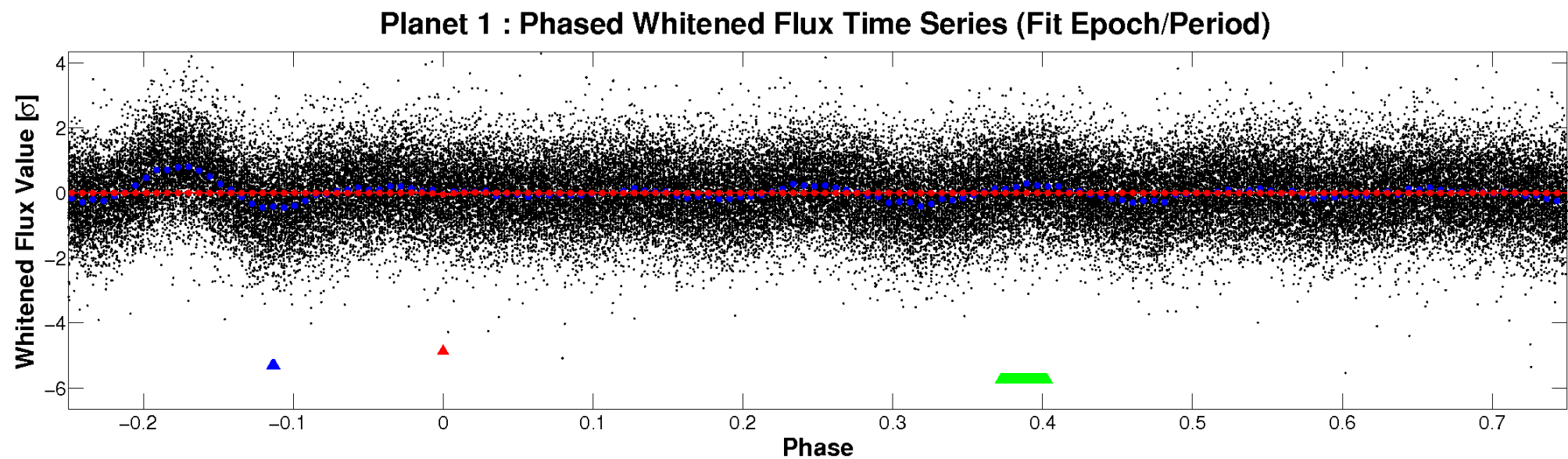
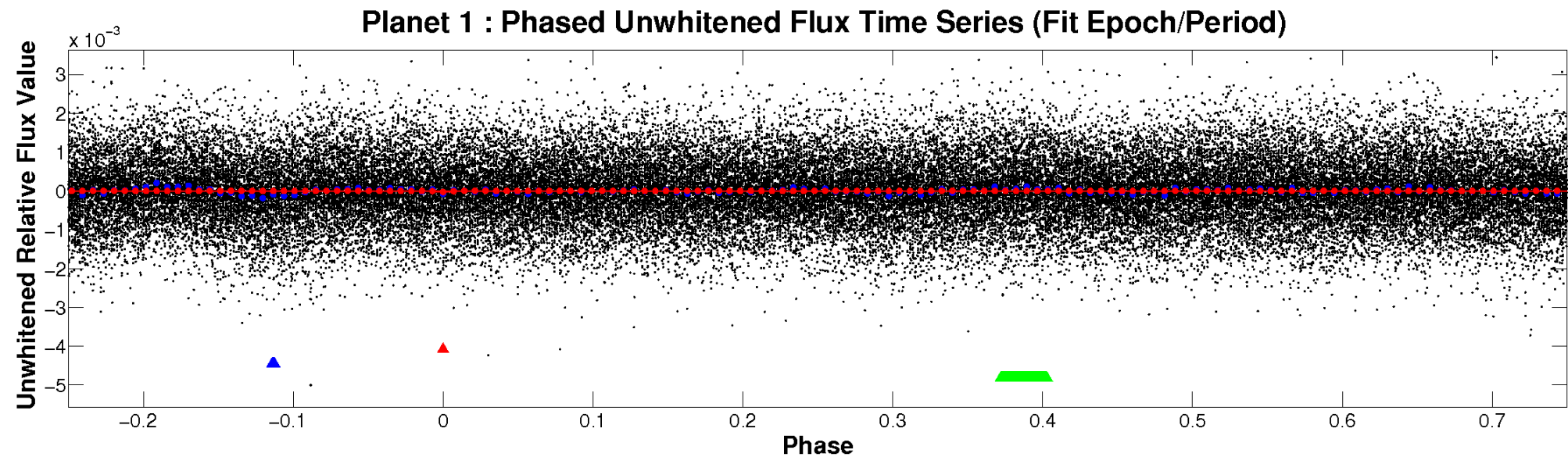


ALT Odd/Even

TCE 008456774-01

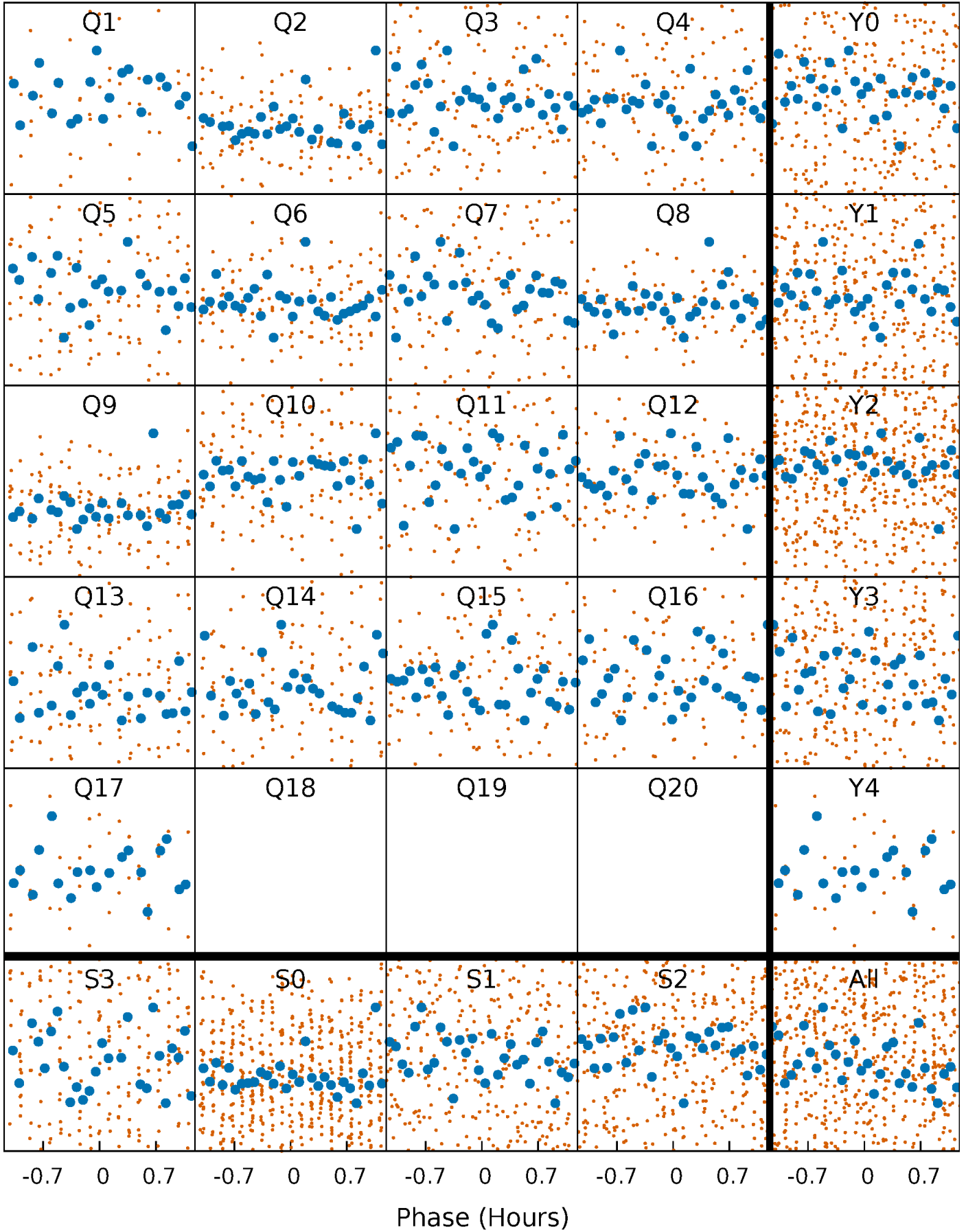


Non-Whitened Vs. Whitened Light Curve



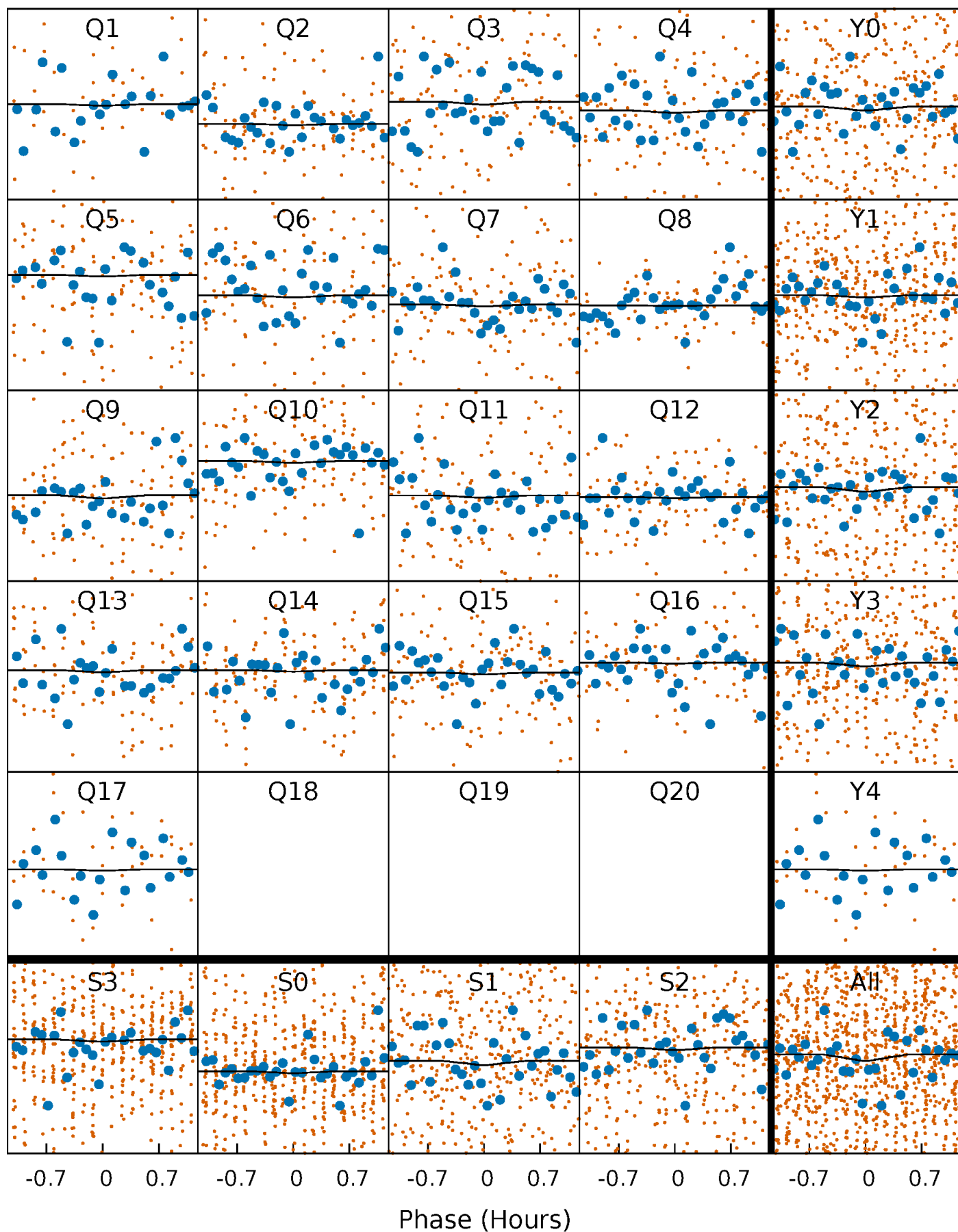
PDC Quarter-Phased Transit Curves

TCE 008456774-01 P= 2.886324 Days $T_0=134.418517$ (BKJD)



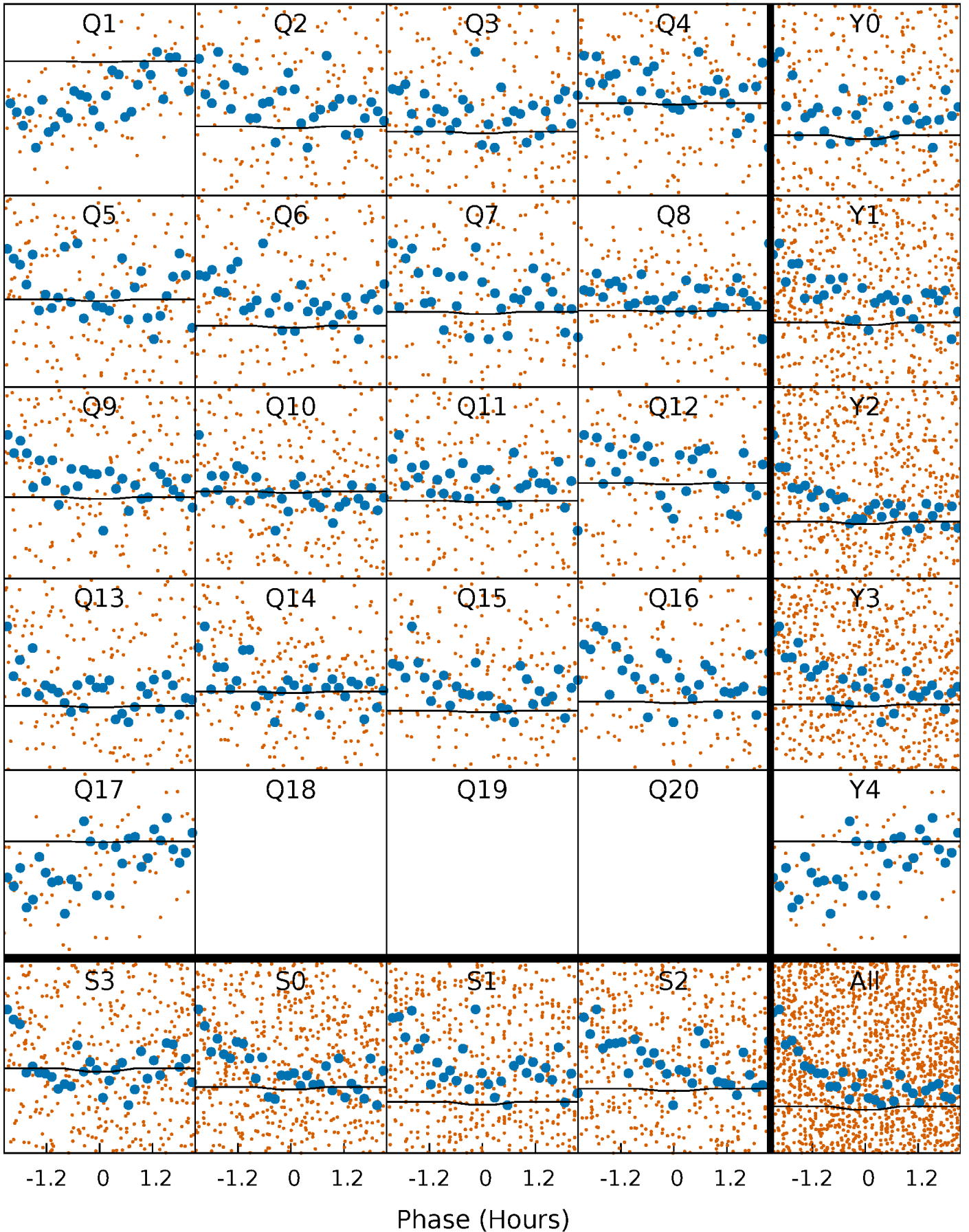
DV Quarter-Phased Transit Curves

TCE 008456774-01 P= 2.886324 Days $T_0=134.418517$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

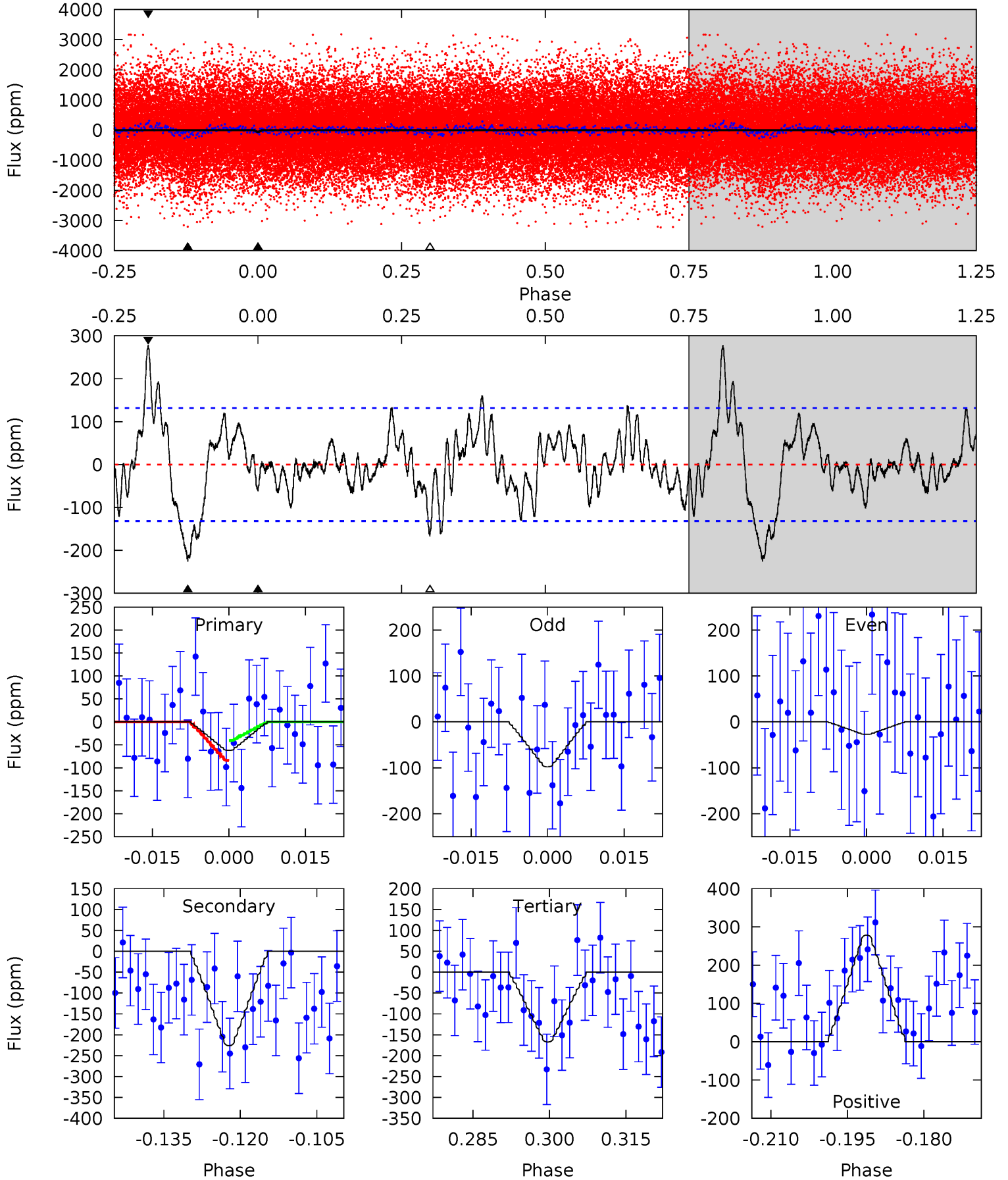
TCE 008456774-01 P= 2.886166 Days $T_0=134.377954$ (BKJD)



DV Model-Shift Uniqueness Test

008456774-01, P = 2.886324 Days, E = 128.645869 Days

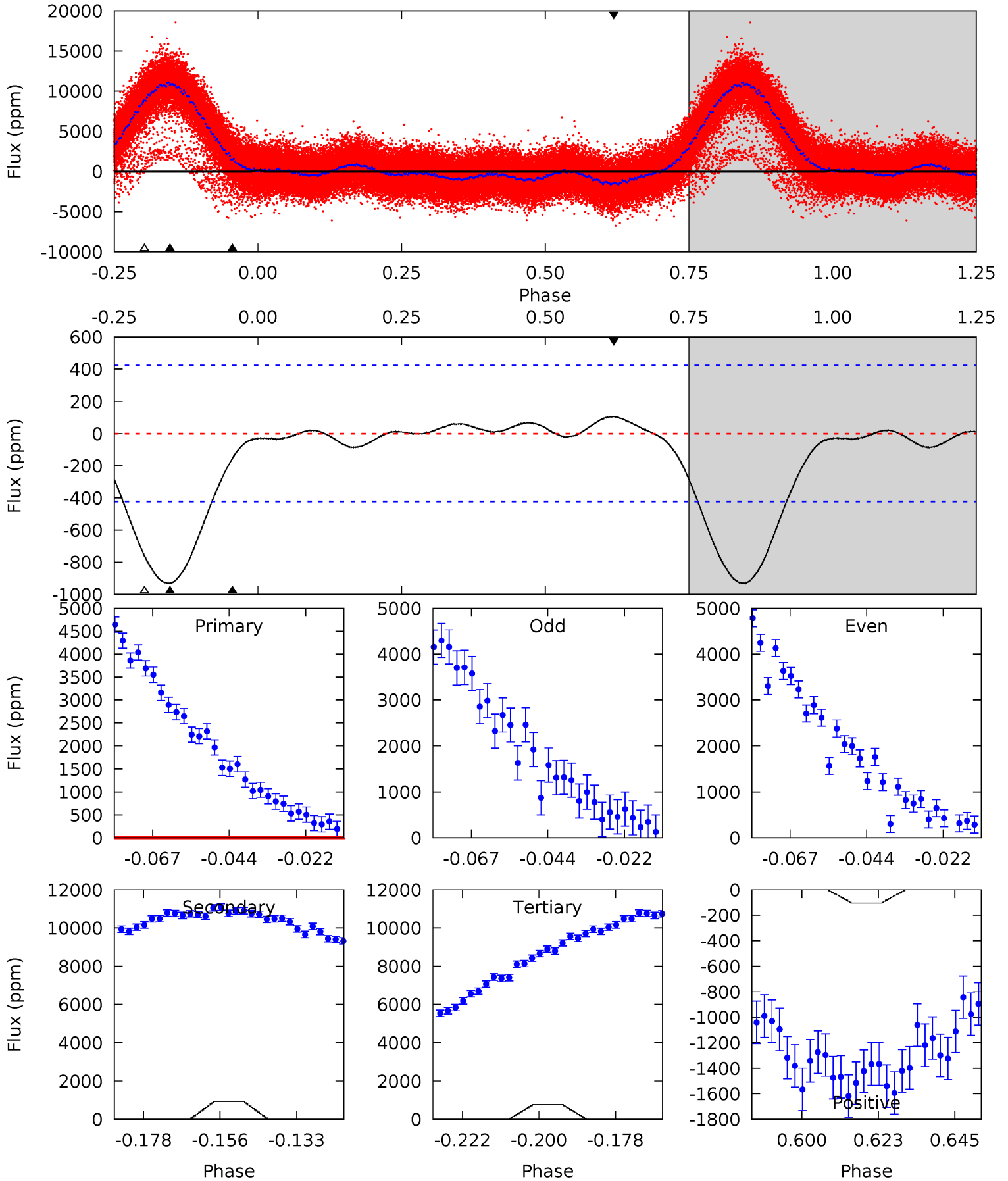
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.33	8.50	6.29	10.5	4.95	2.43	2.53	-3.96	-8.14	2.22	-1.97	1.33	8.63	0.55	0.82



Alt Model-Shift Uniqueness Test

008456774-01, P = 2.886166 Days, E = 131.491788 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.80	10.7	8.75	1.21	4.87	2.29	2.68	-6.96	0.59	1.97	9.52	0.20	0.71	0.10	0.74



Stellar Parameters For KIC 008456774

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7022^{+192}_{-288}	$4.144^{+0.180}_{-0.180}$	$-0.380^{+0.300}_{-0.300}$	$1.599^{+0.467}_{-0.382}$	$1.302^{+0.198}_{-0.198}$	$0.449^{+0.432}_{-0.219}$
	+3%/-4%	+4%/-4%	+79%/-79%	+29%/-24%	+15%/-15%	+96%/-49%
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 008456774-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-226 ± 27	$9.35^{+10.75}_{-6.58}$	2634^{+221}_{-176}	3889^{+2969}_{-1074}	$2.594^{+26.972}_{-2.020}$
Alt.	-931 ± 87	$9.23^{+10.09}_{-6.80}$	2625^{+206}_{-185}	5279^{+6372}_{-1383}	11^{+149}_{-9}

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 $A_{obs} \gg 1.0$

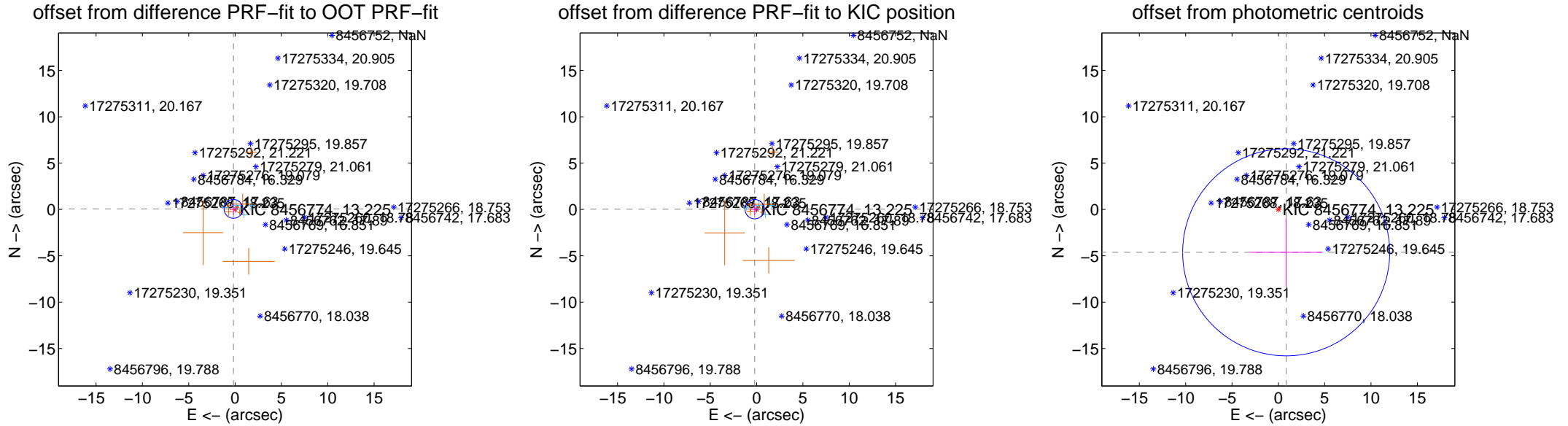
DV Centroid Data

Supplemental centroid analysis for 008456774-01. Kepler magnitude: 13.22. Transit SNR 1.08

There are 5 quarters with good PRF difference image offsets

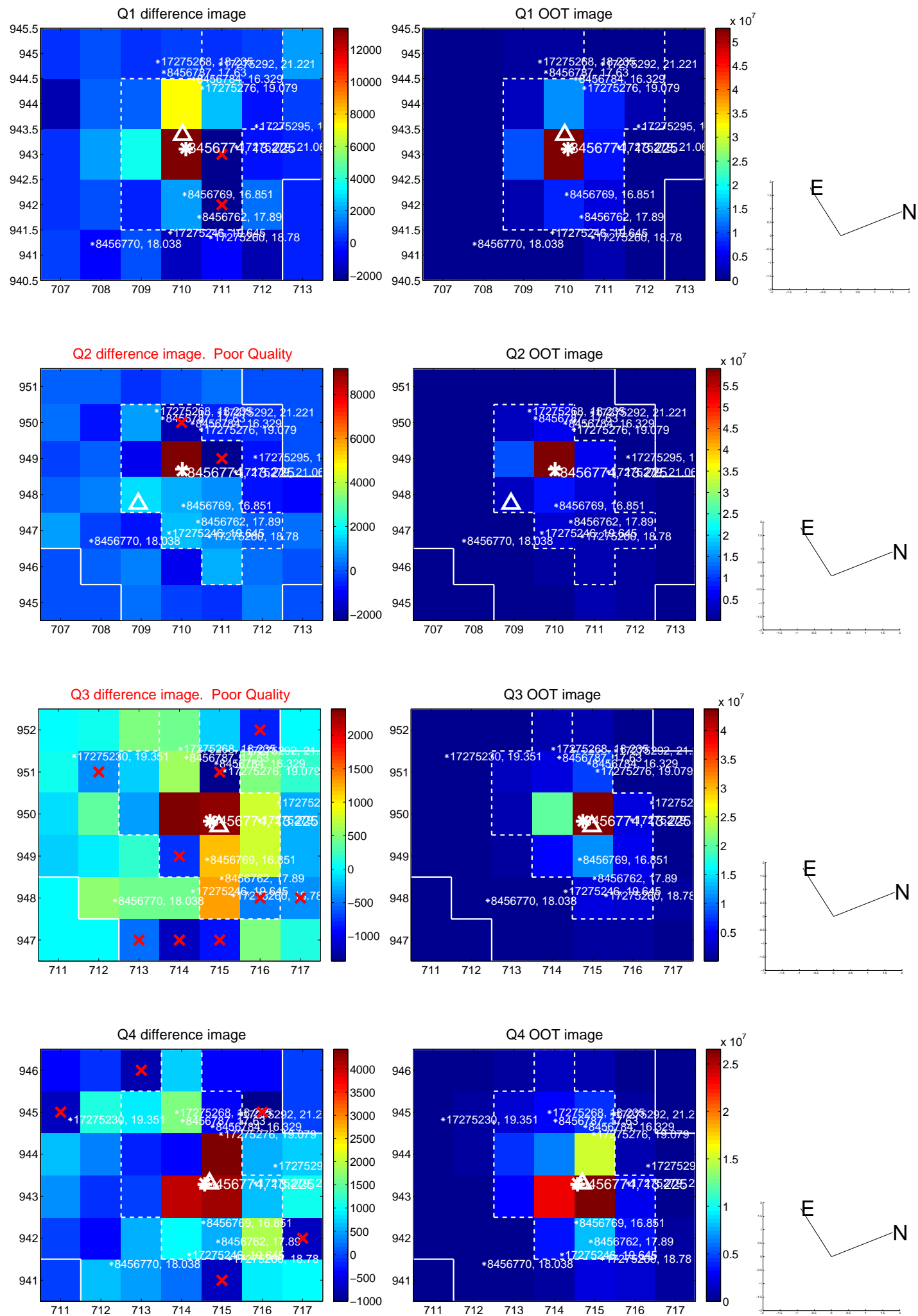
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.184 ± 0.338	0.55	0.173 ± 0.369	0.063 ± 0.603
PRF-fit source offset from KIC position	0.208 ± 0.347	0.60	0.206 ± 0.362	0.031 ± 0.603
photometric centroid source offset	4.70 ± 3.72	1.26	-0.84 ± 3.86	-4.62 ± 3.72

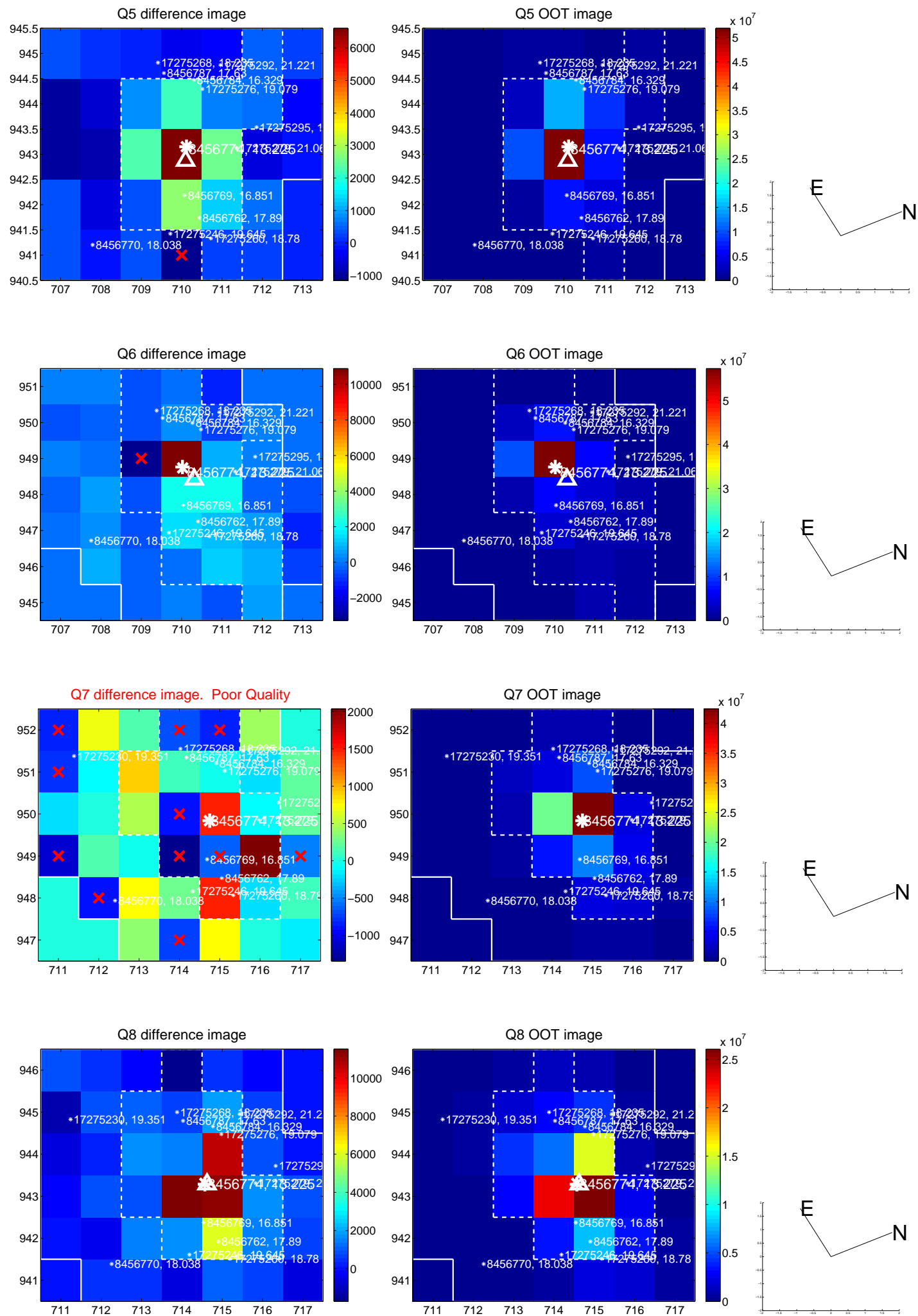


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

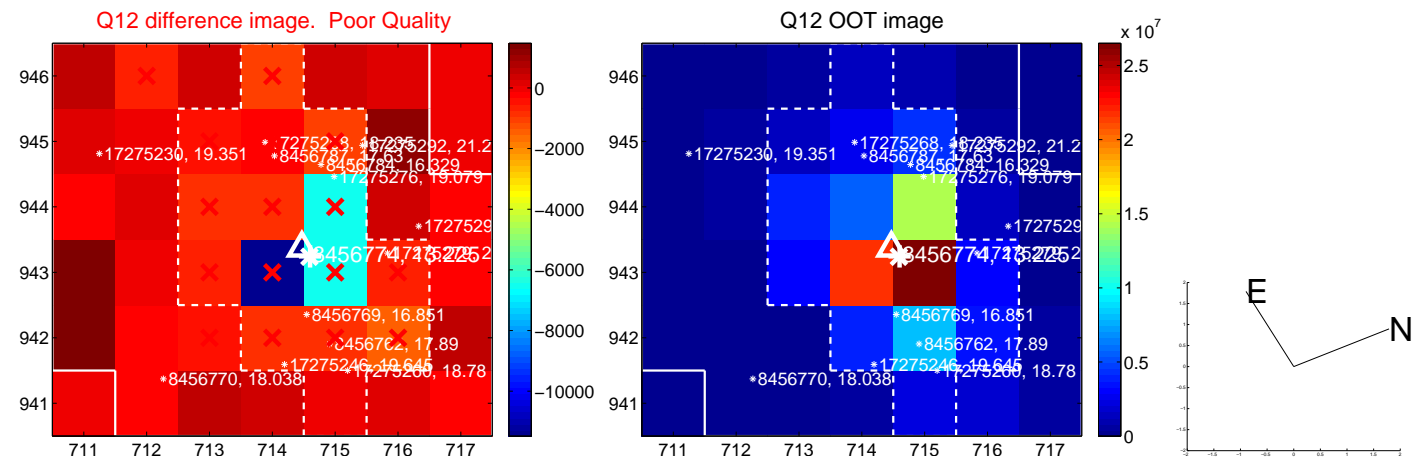
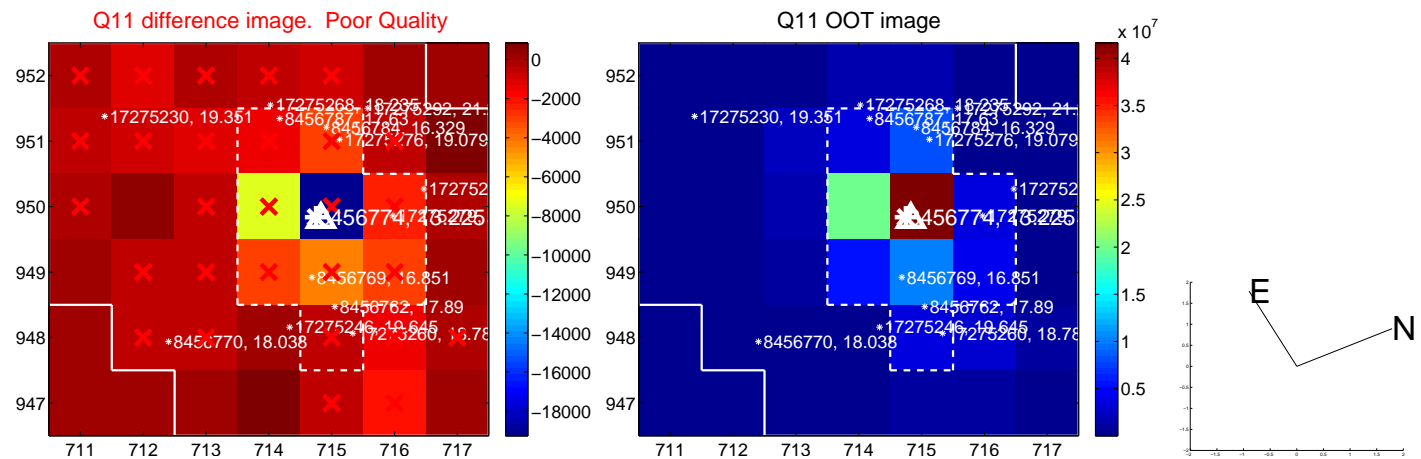
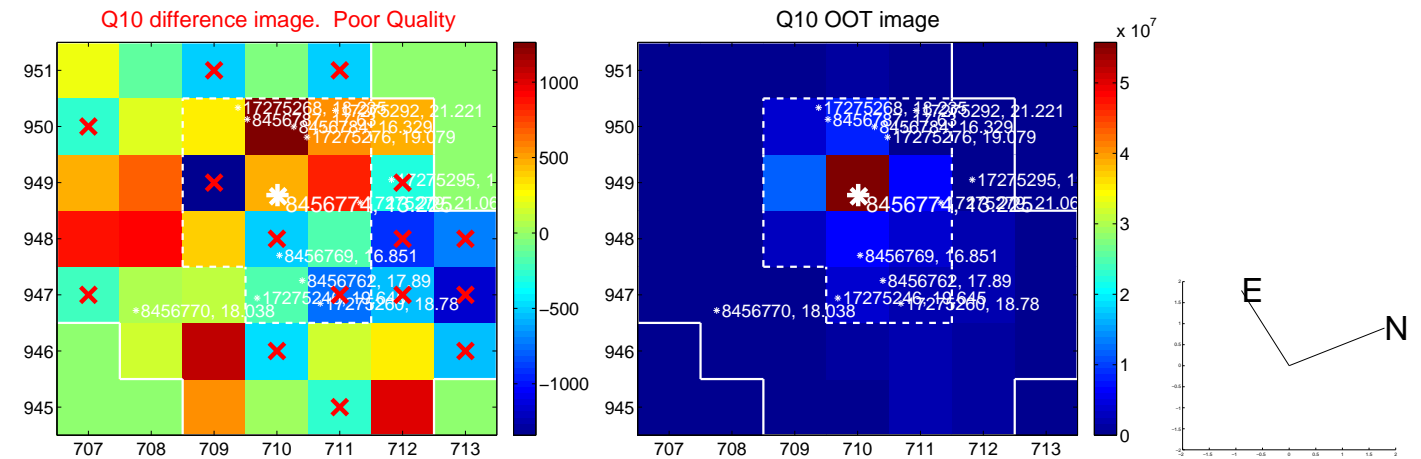
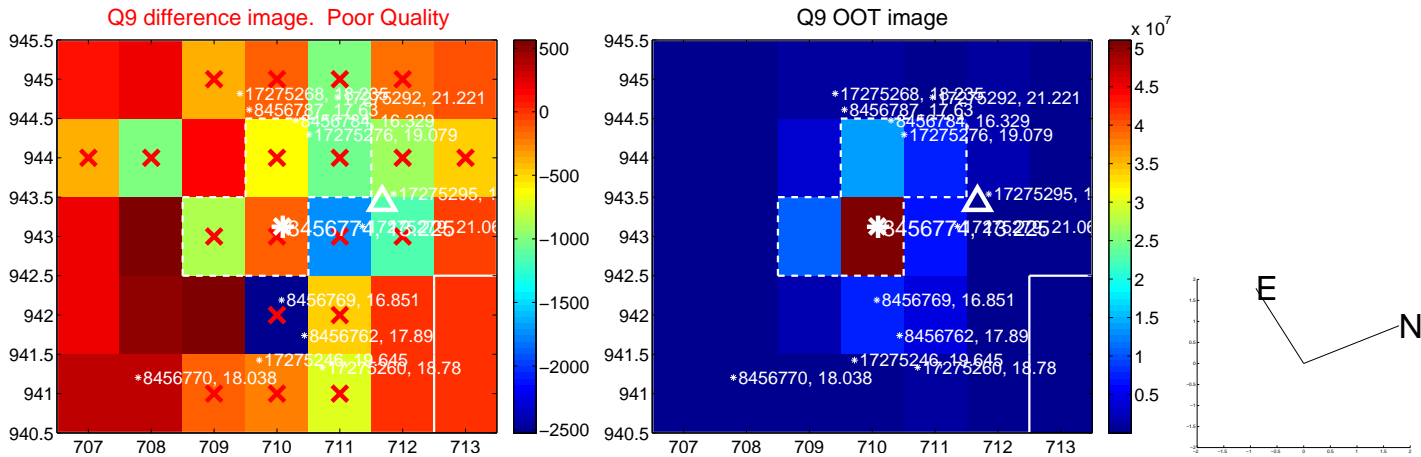
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



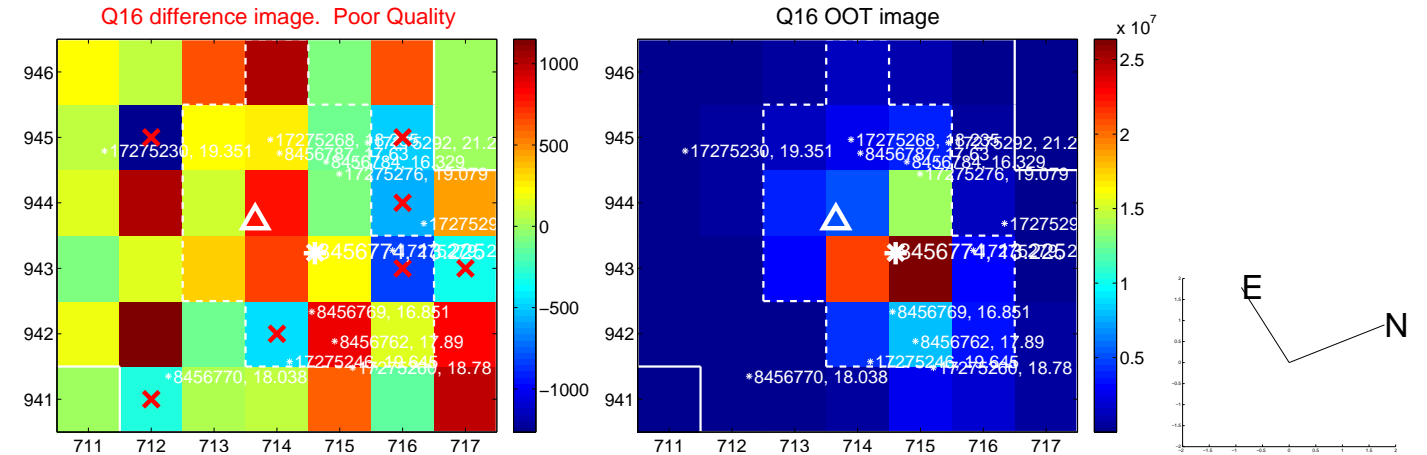
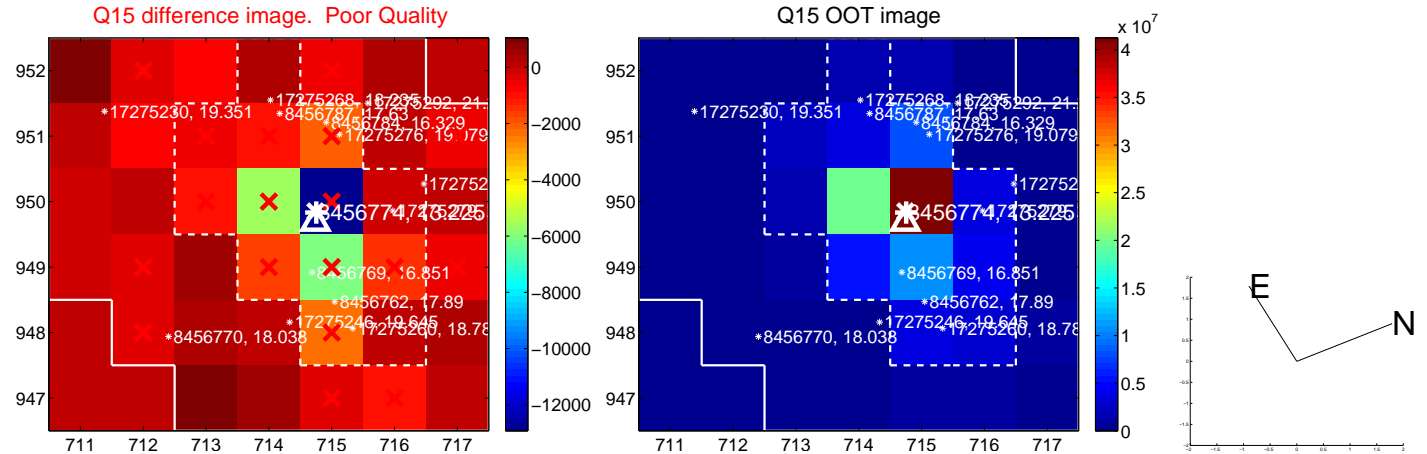
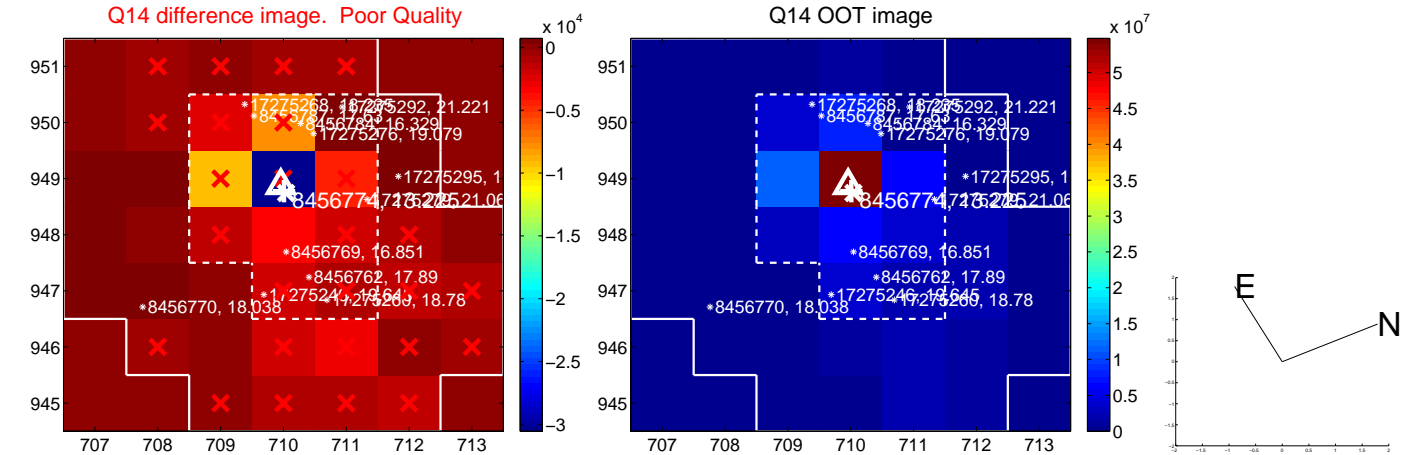
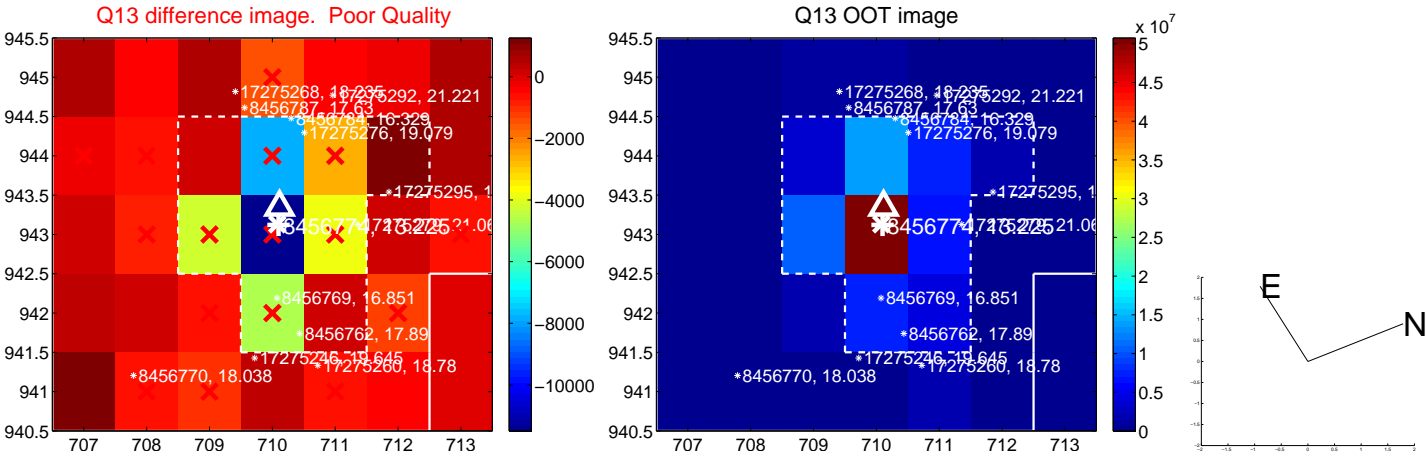
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



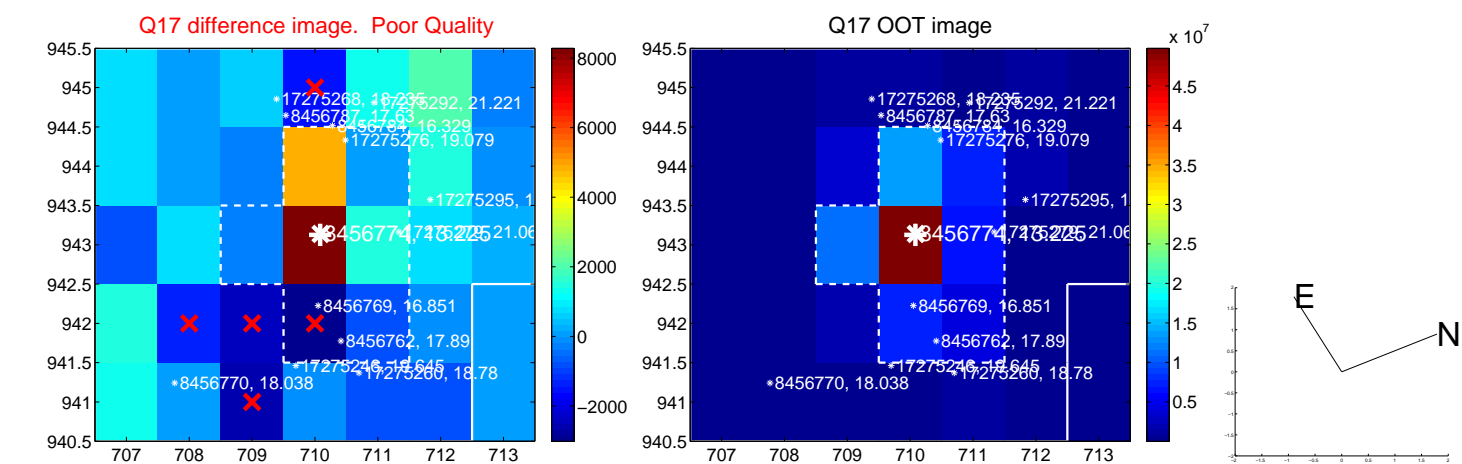
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



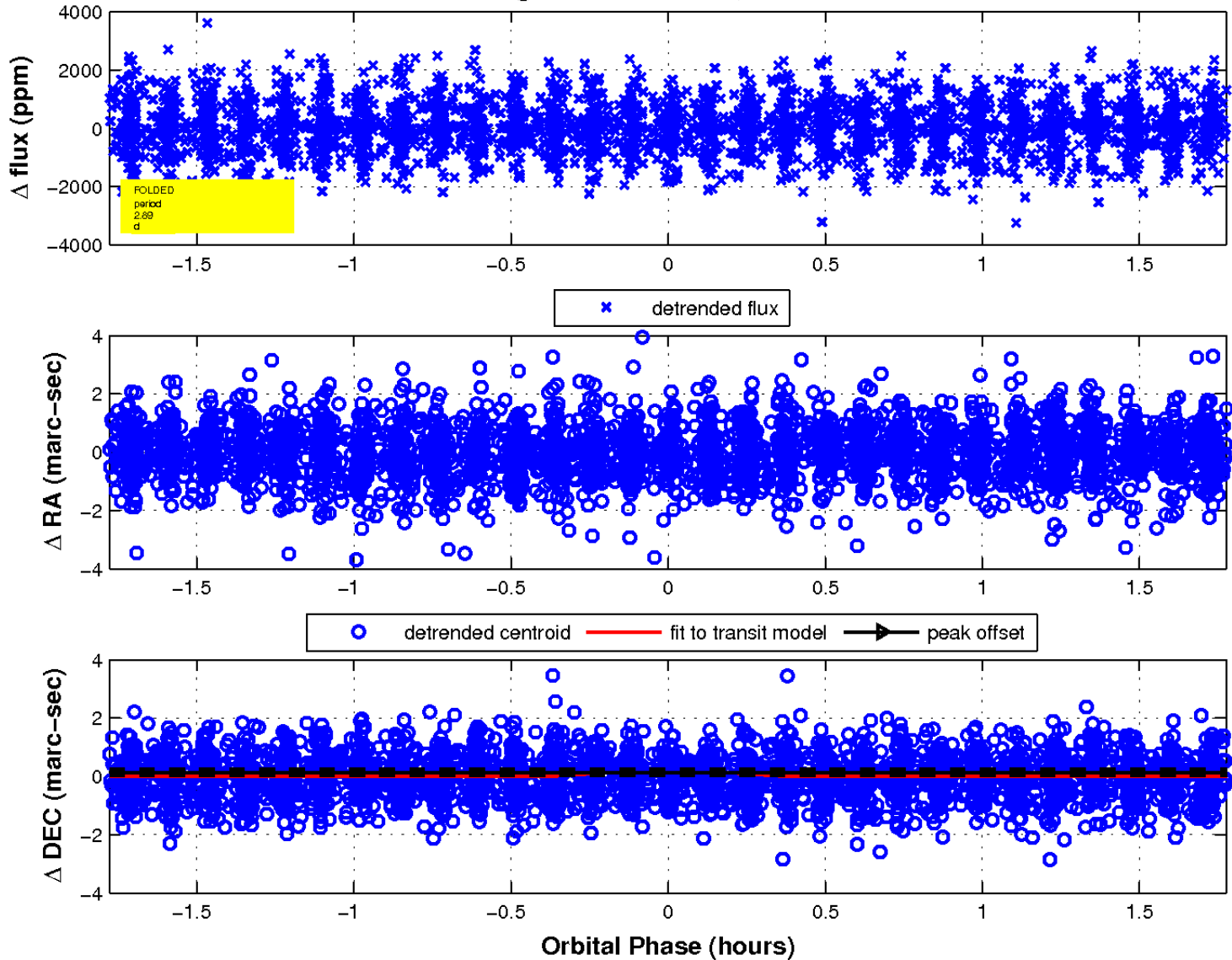
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

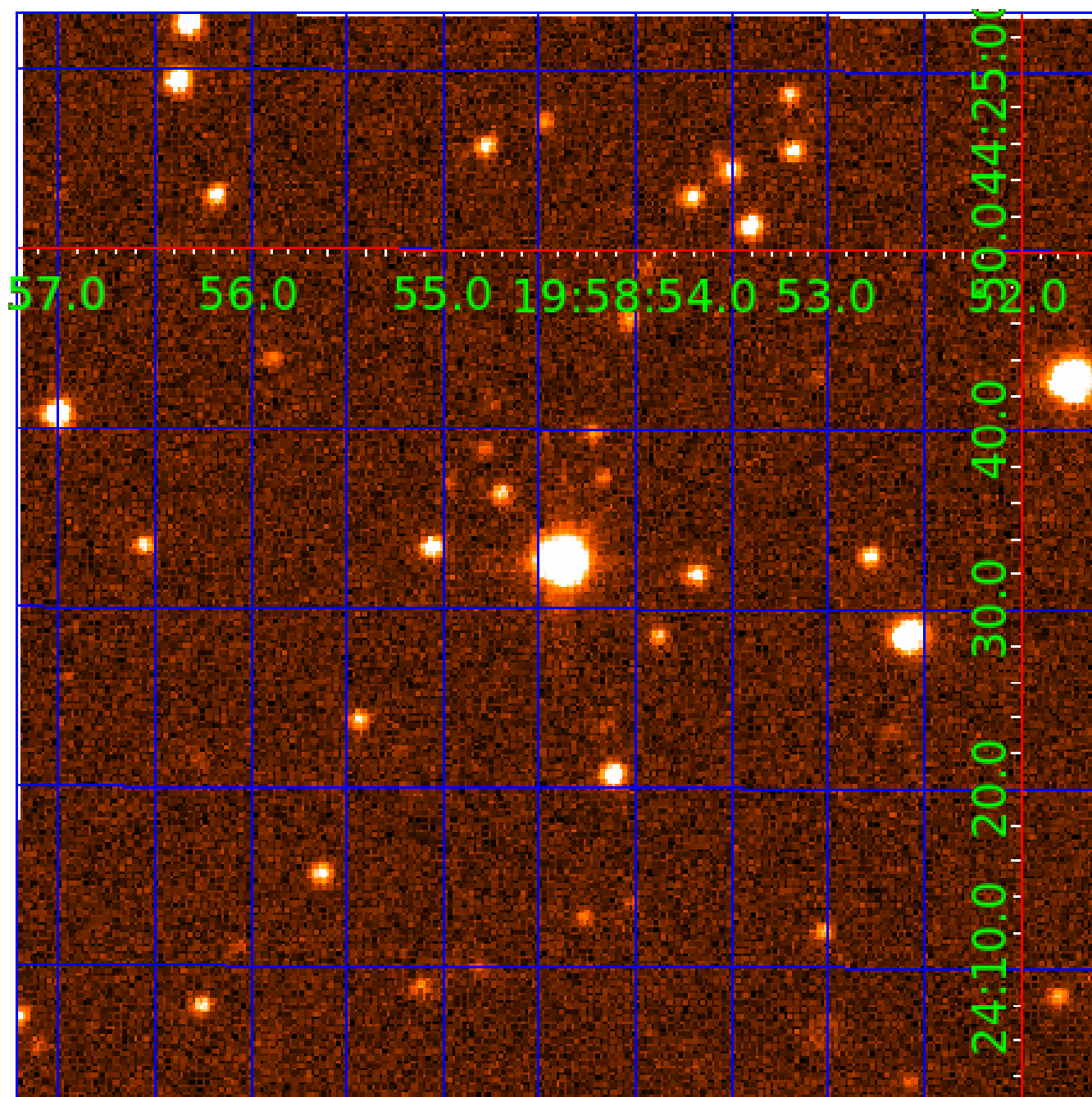


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 008456774

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008456774-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008456774-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008456774-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD

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

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

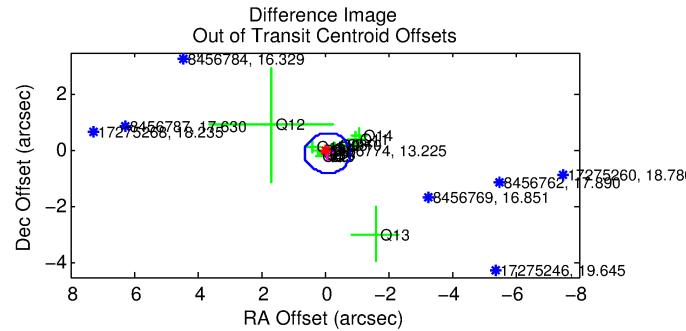
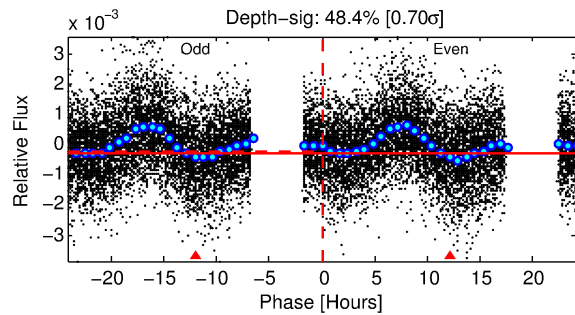
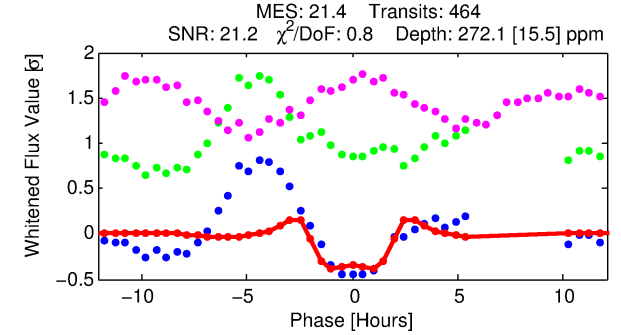
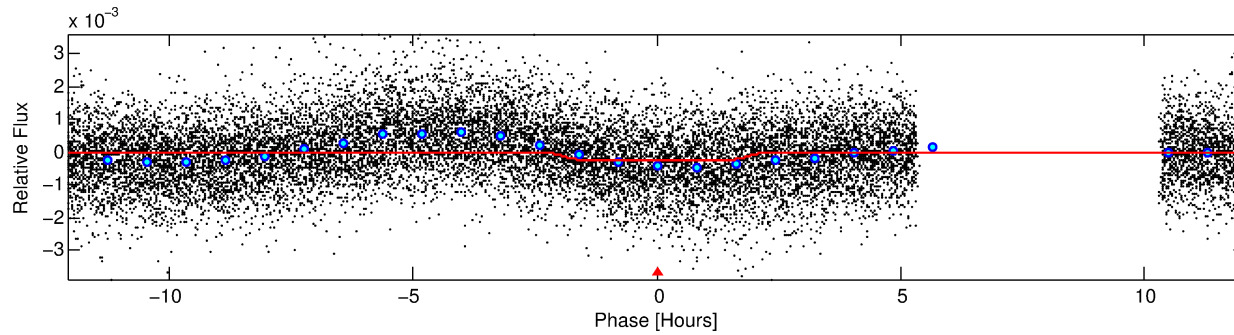
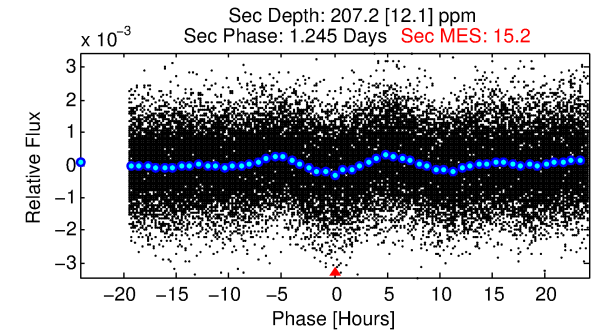
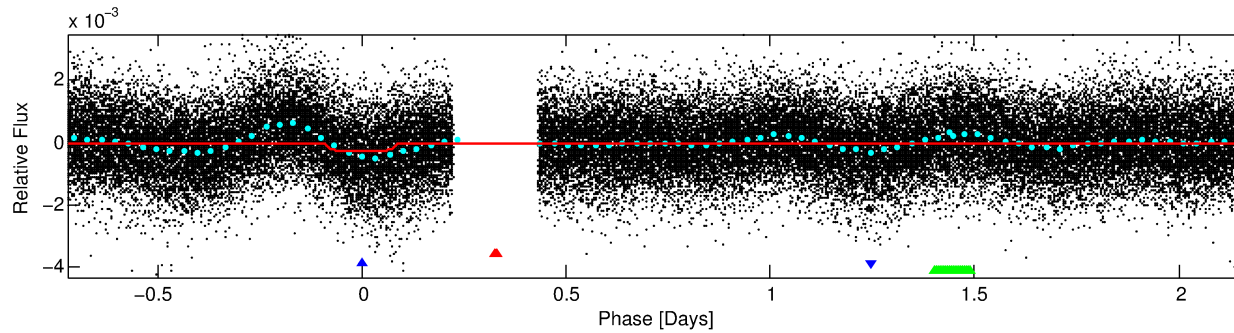
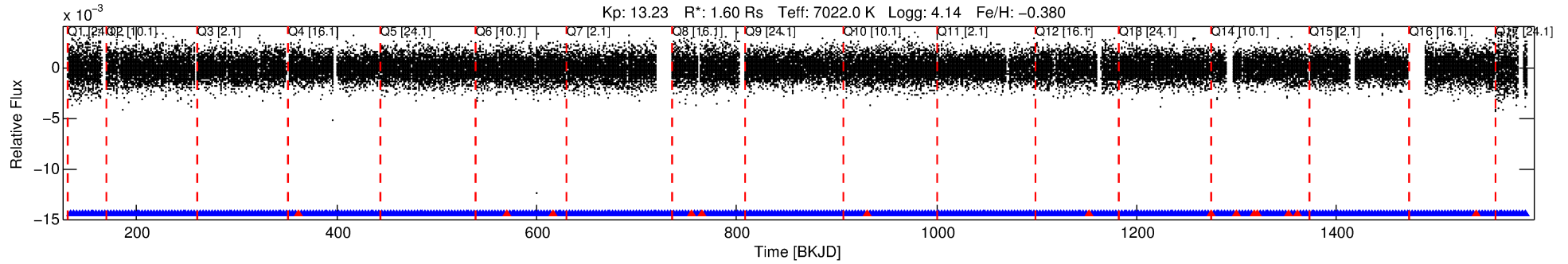
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008456774-02

No Significant Match Found

DV One-Page Summary

KIC: 8456774 Candidate: 2 of 3 Period: 2.886 d



DV Fit Results:

Period = 2.88632 [0.00001] d
Epoch = 134.0935 [0.0024] BKJD
Rp/R* = 0.0153 [0.0086]
a/R* = 5.48 [16.88]
b = 0.20 [15.73]
Seff = 2970.60 [1116.14]
Teq = 1883 [177] K
Rp = 2.68 [1.70] Re
a = 0.0433 [0.0103] AU
Ag = 29.85 [35.16] [0.82σ]
Teffp = 6803 [1939] K [2.53σ]

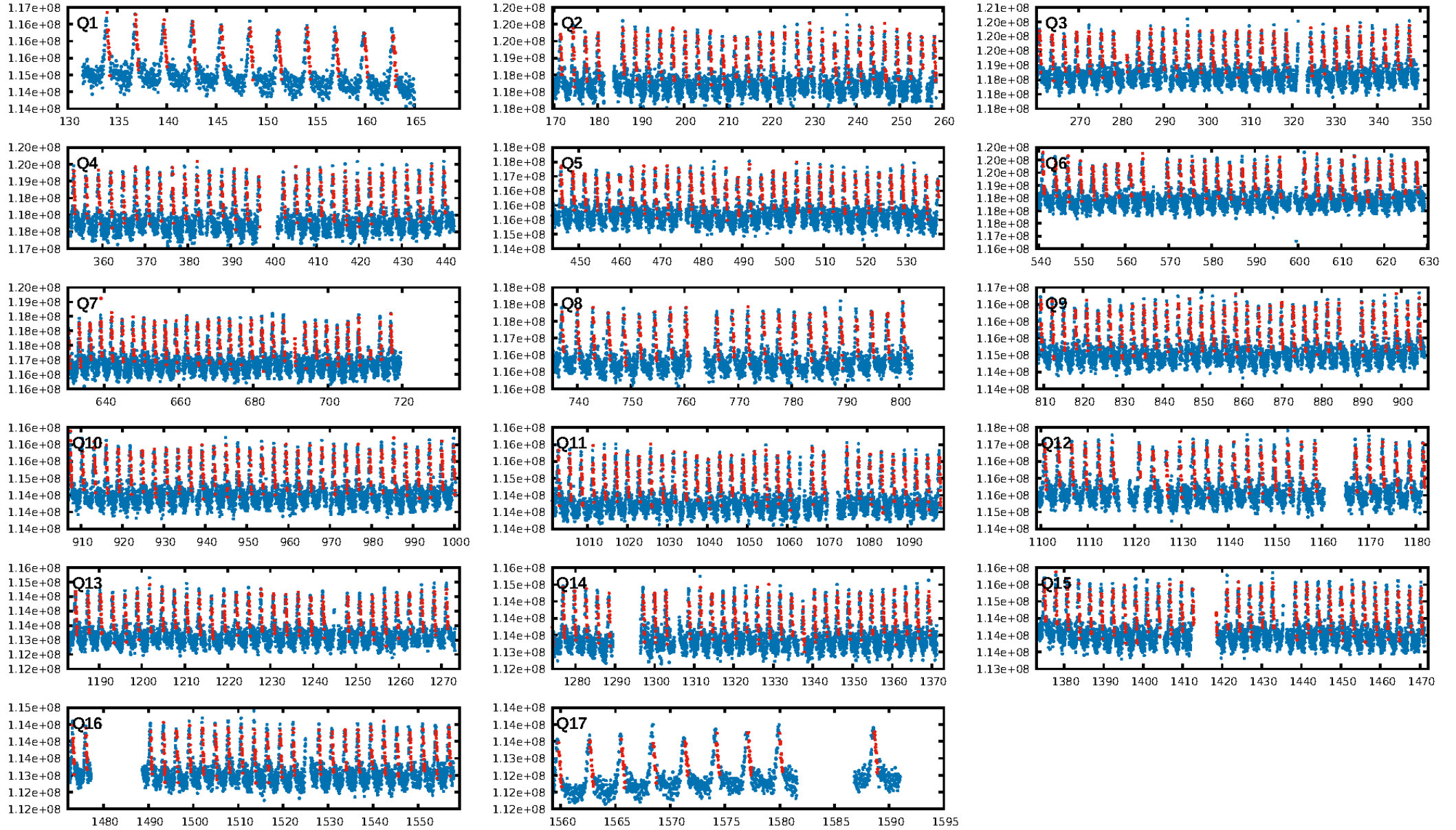
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.40e-77
RollingBand-fgt: 0.97 [430/444]
GhostDiagnostic-chr: 1.781
Centroid-sig: N/A
Centroid-so: 0.298 arcsec [2.00σ]
OotOffset-rm: 0.128 arcsec [0.54σ]
KicOffset-rm: 0.091 arcsec [0.42σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.24 [4/17]
DiffImageOverlap-fno: 0.00 [0/17]

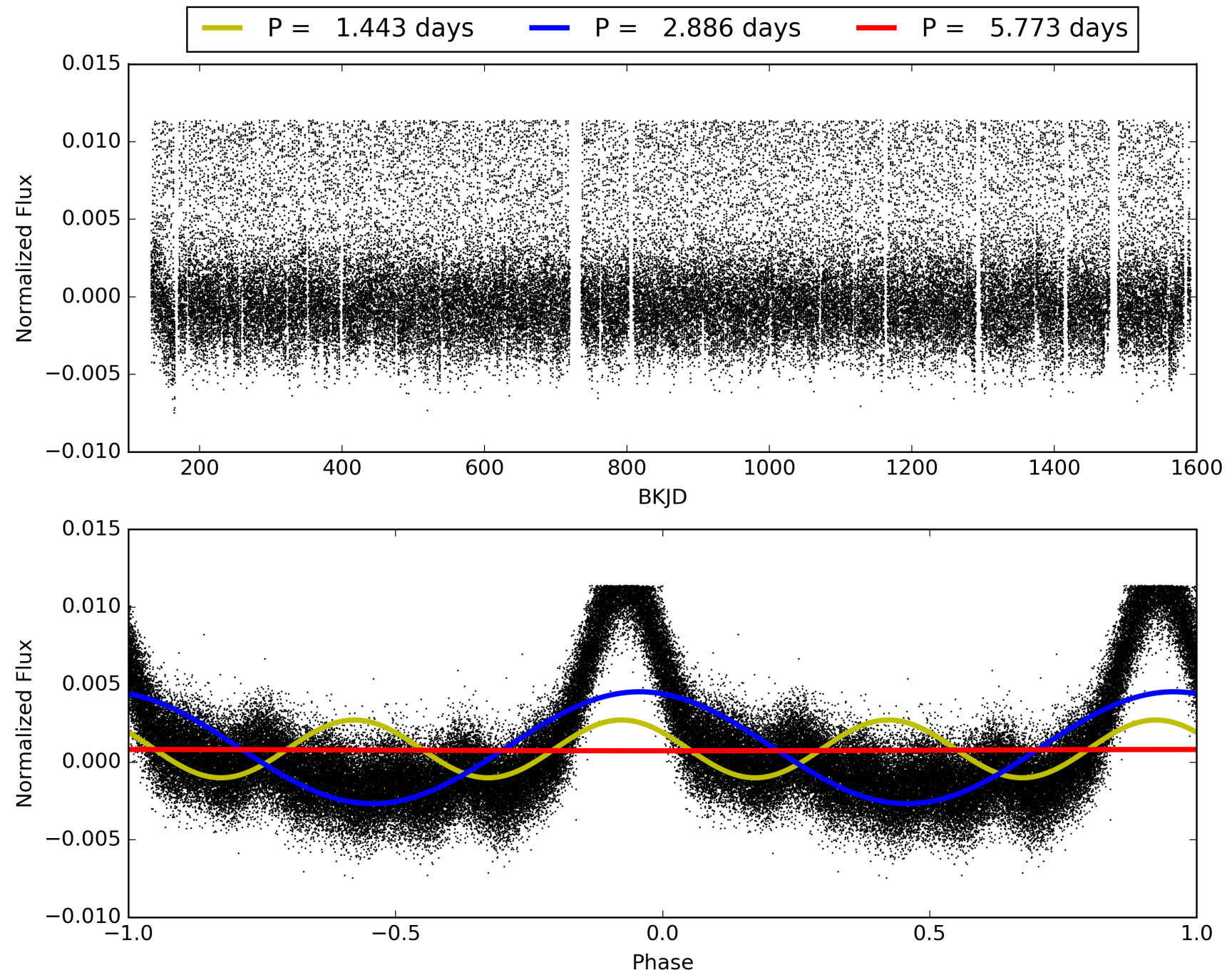
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:39:12 Z

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

TCE 008456774-02, PDC Light Curves

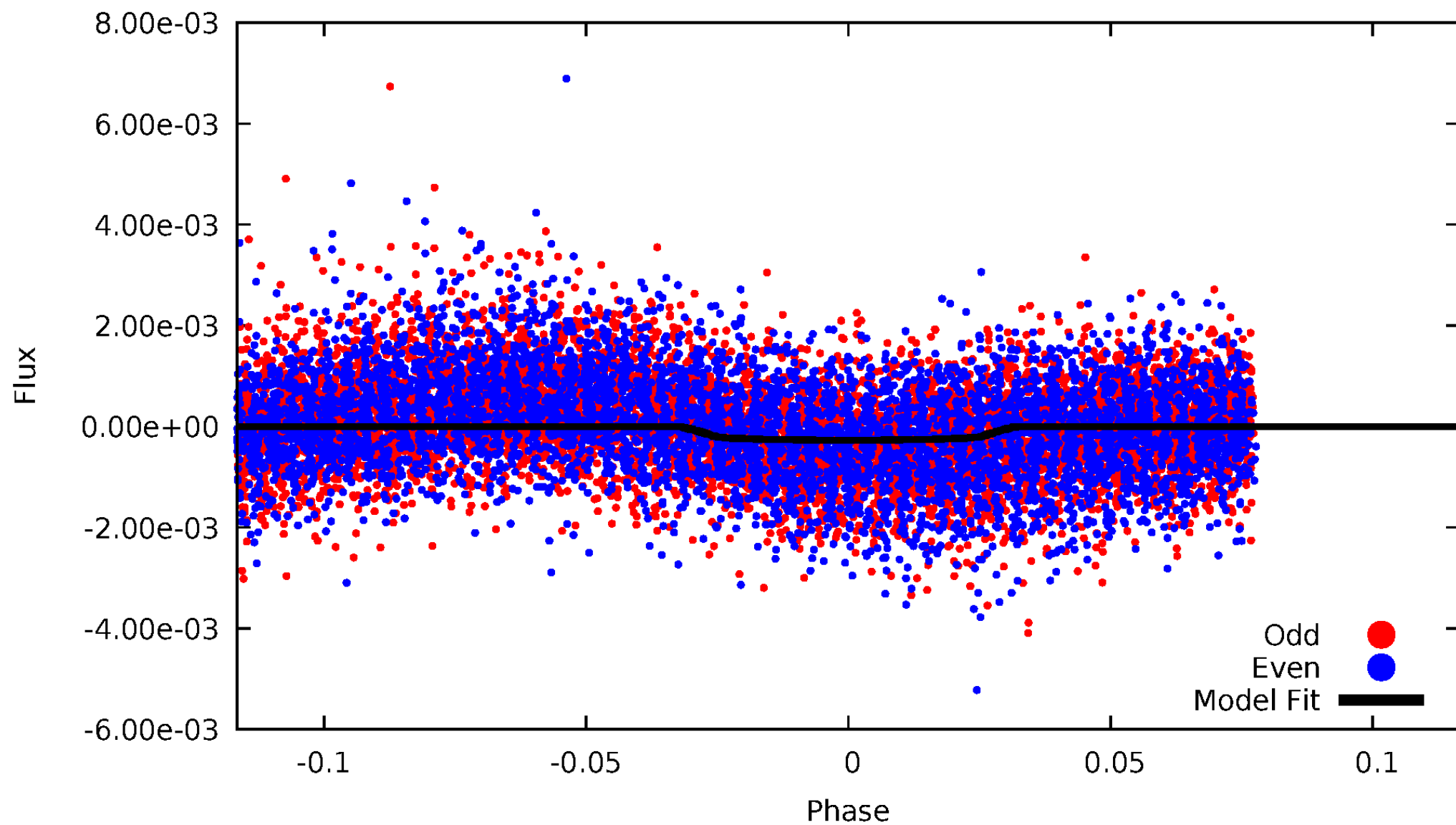


TCE 008456774-02



DV Odd/Even

TCE 008456774-02

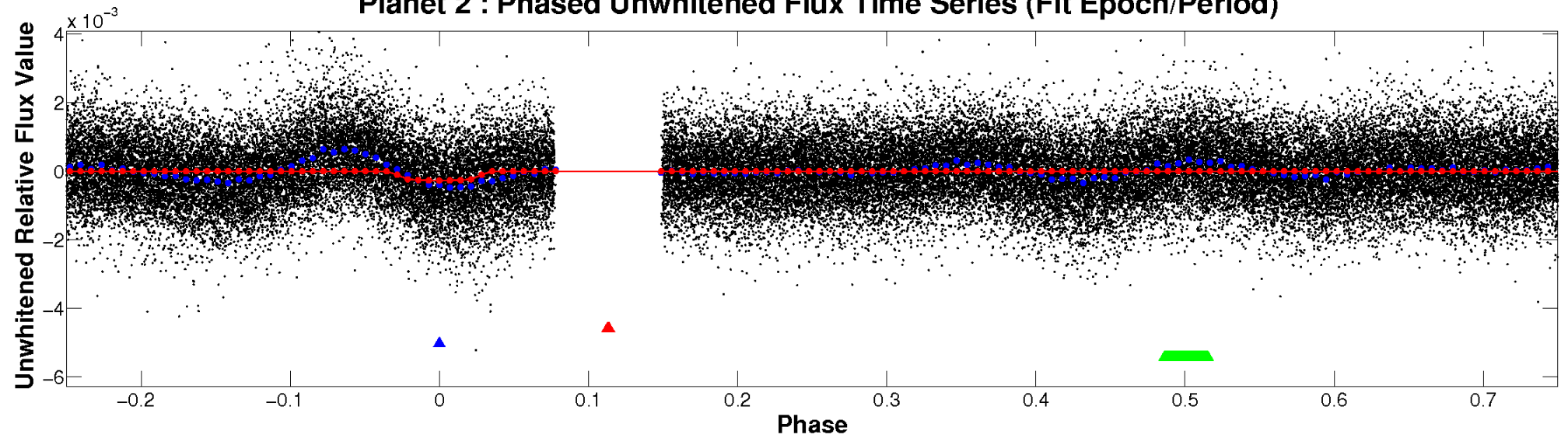


ALT Odd/Even

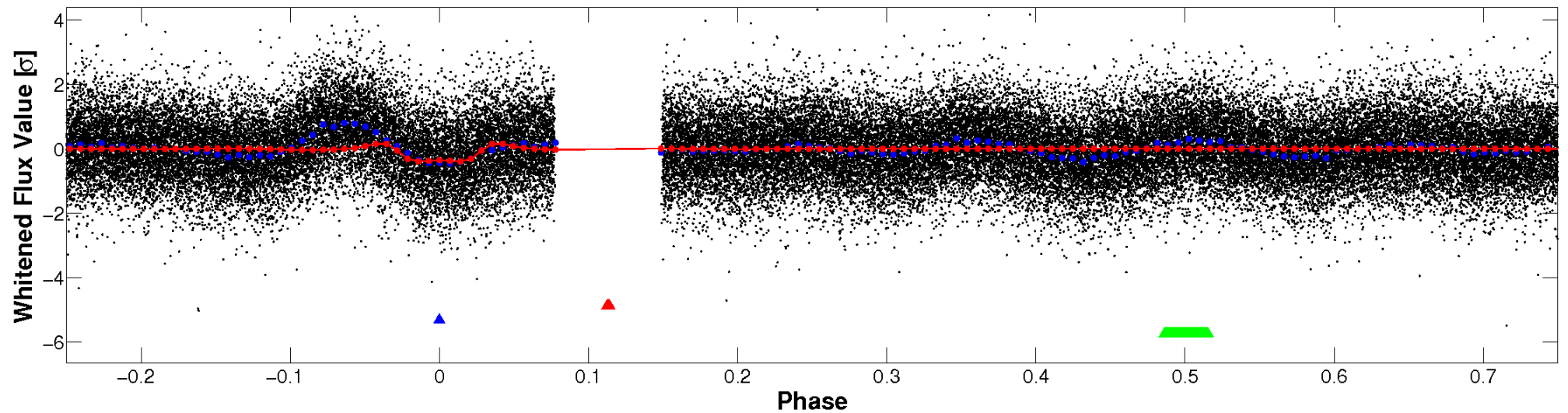
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

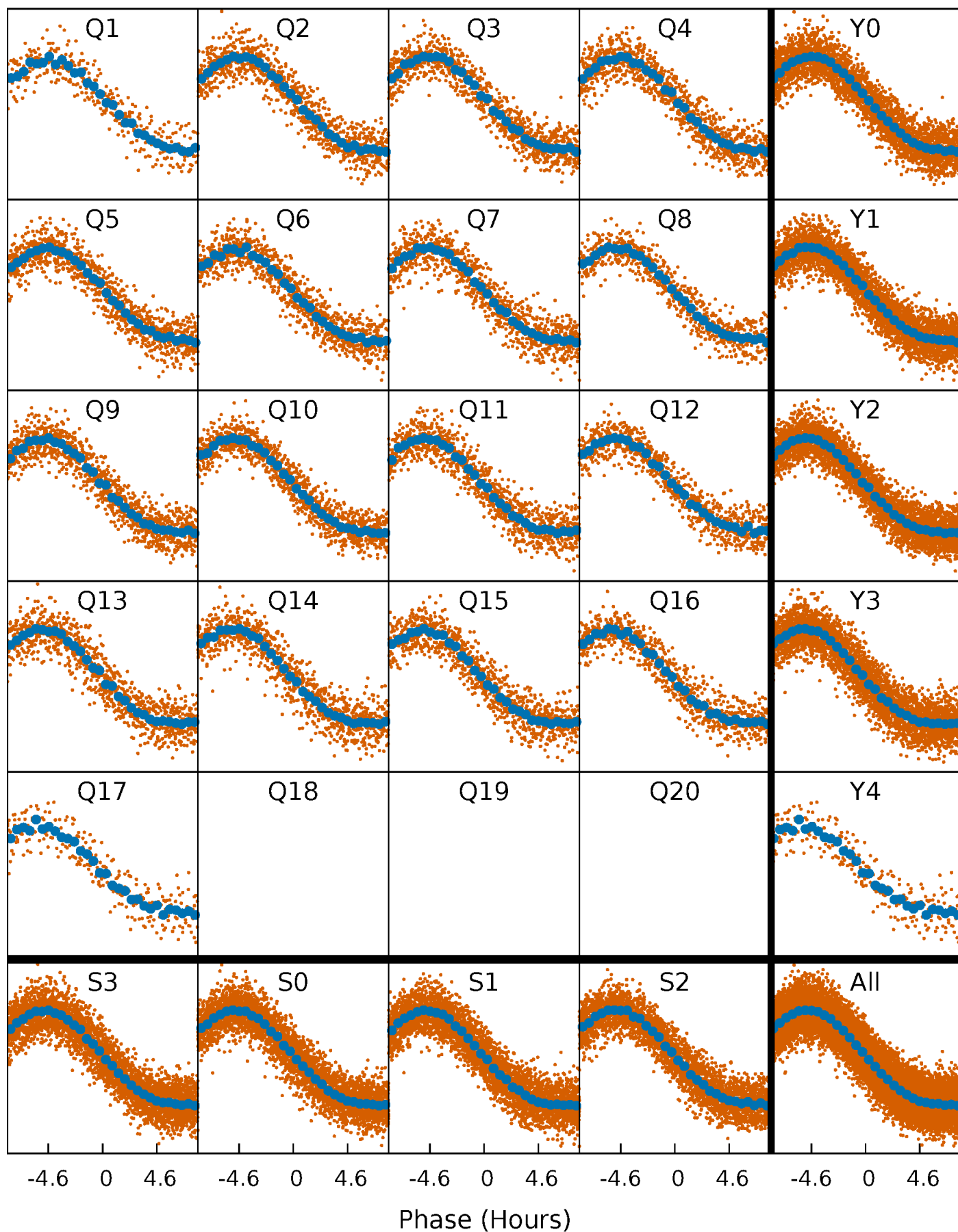


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



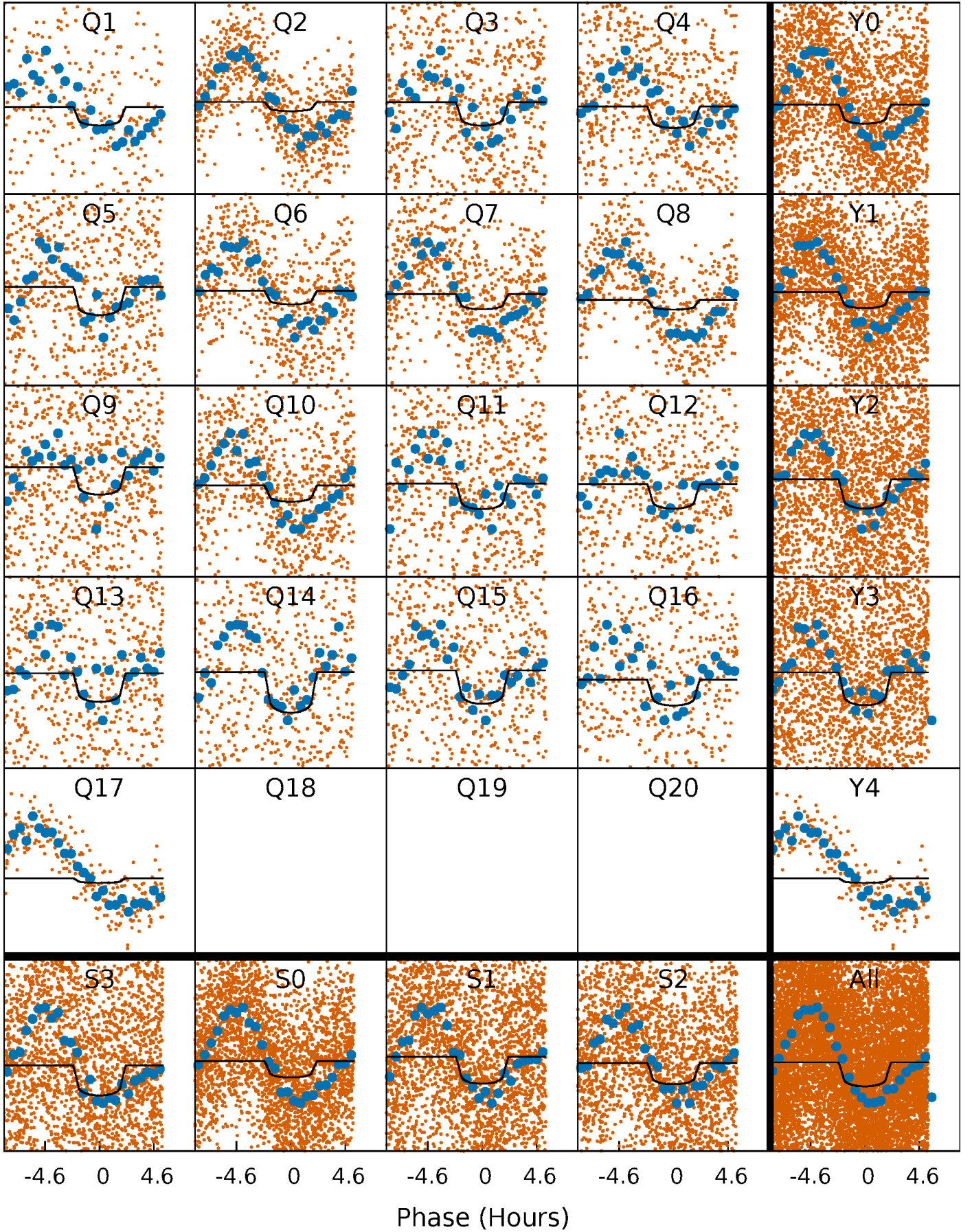
PDC Quarter-Phased Transit Curves

TCE 008456774-02 P= 2.886316 Days $T_0=134.093507$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008456774-02 P= 2.886316 Days $T_0=134.093507$ (BKJD)

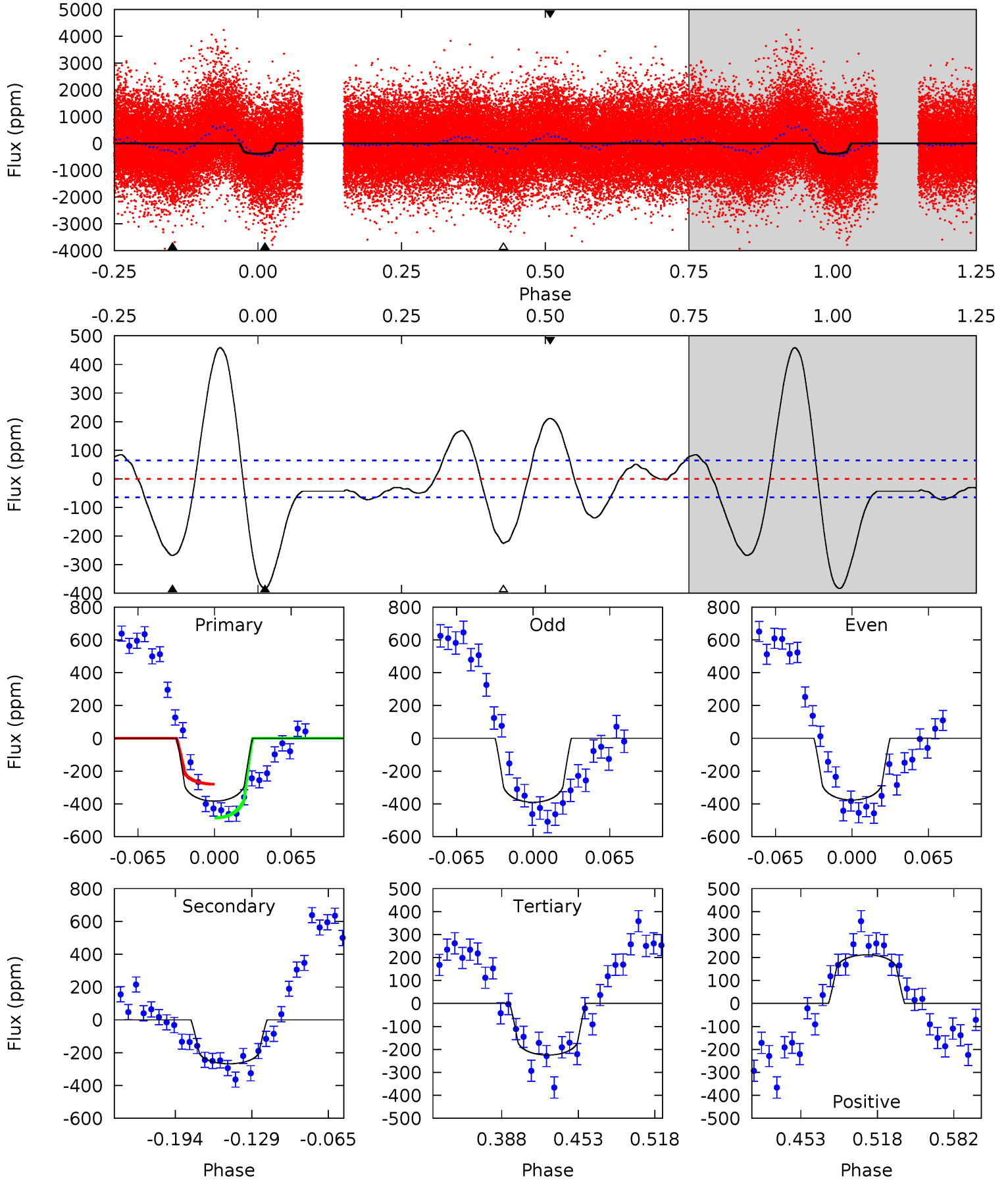


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008456774-02, P = 2.886316 Days, E = 131.207191 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.7	19.3	16.2	15.3	4.66	1.85	9.50	11.5	12.4	3.10	4.05	0.49	1.08	0.54	7.55



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008456774

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	7022^{+192}_{-288}	$4.144^{+0.180}_{-0.180}$	$-0.380^{+0.300}_{-0.300}$	$1.599^{+0.467}_{-0.382}$	$1.302^{+0.198}_{-0.198}$	$0.449^{+0.432}_{-0.219}$
	+3%/-4%	+4%/-4%	+79%/-79%	+29%/-24%	+15%/-15%	+96%/-49%
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 008456774-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-268 ± 14	$2.74^{+1.56}_{-1.39}$	2631^{+228}_{-188}	7204^{+4597}_{-1506}	37^{+120}_{-22}
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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

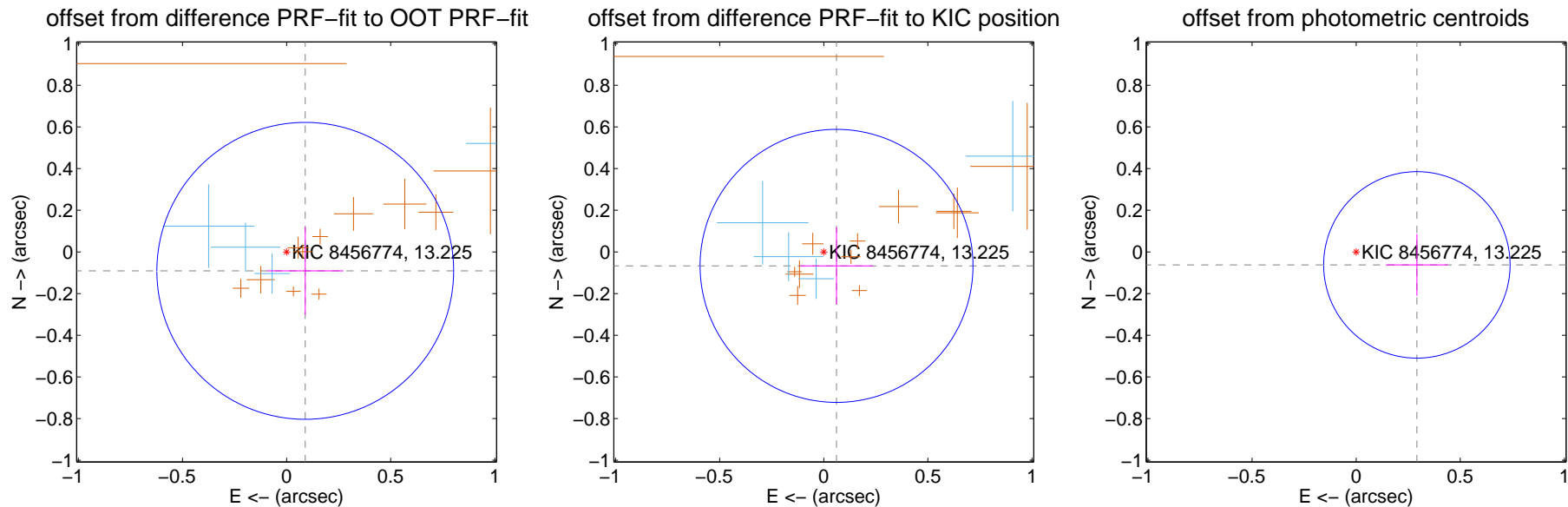
DV Centroid Data

Supplemental centroid analysis for 008456774-02. Kepler magnitude: 13.22. Transit SNR 21.19

There are 4 quarters with good PRF difference image offsets

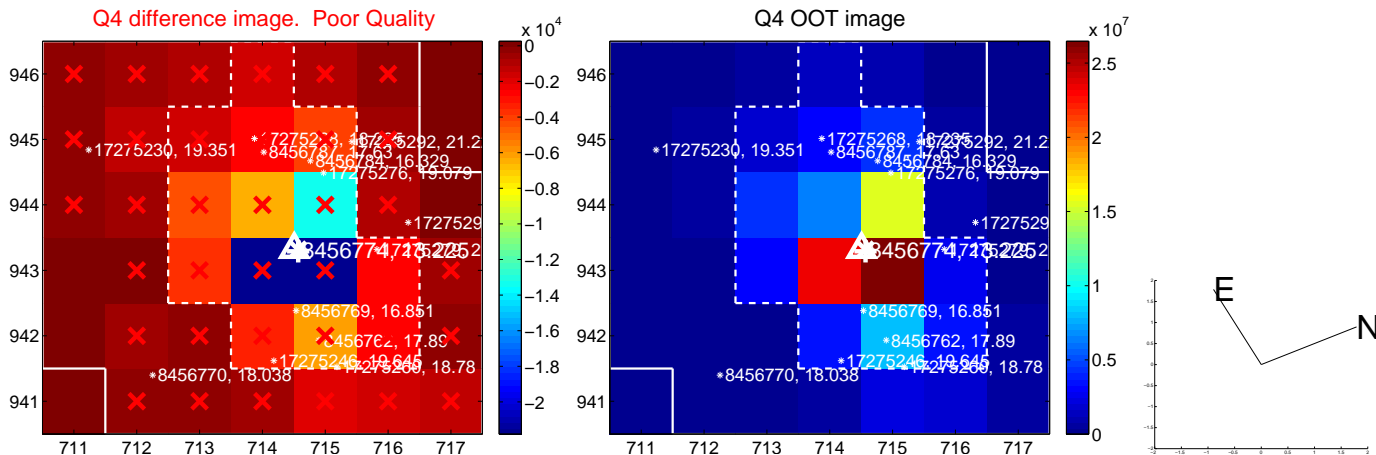
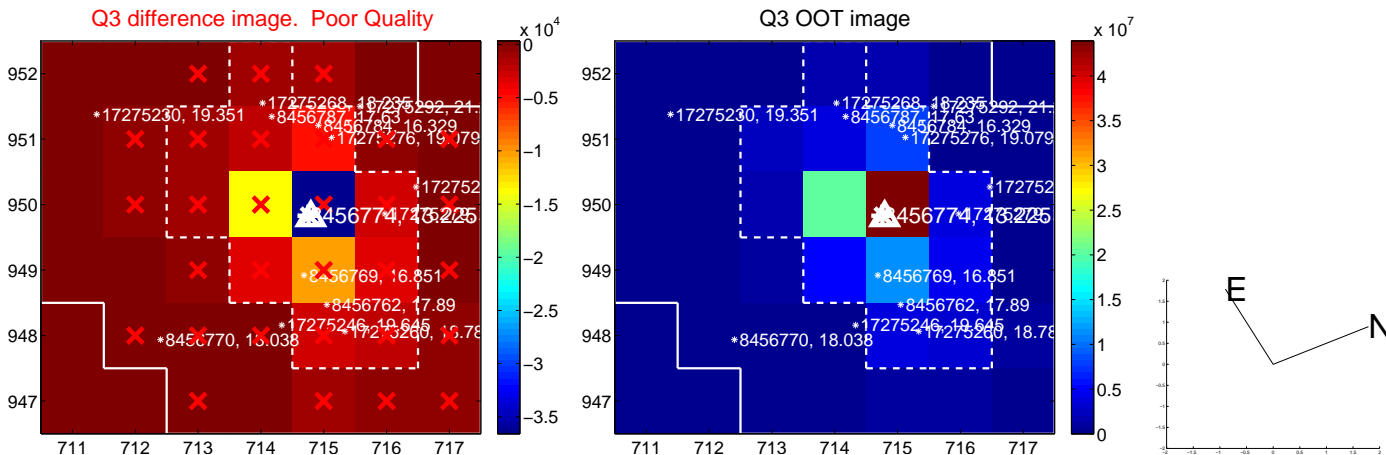
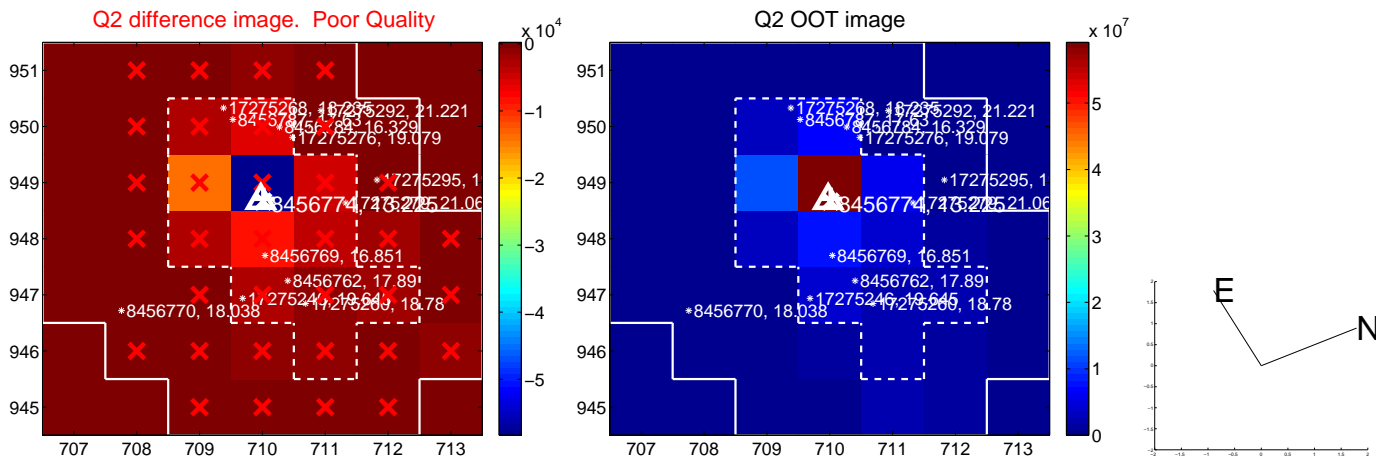
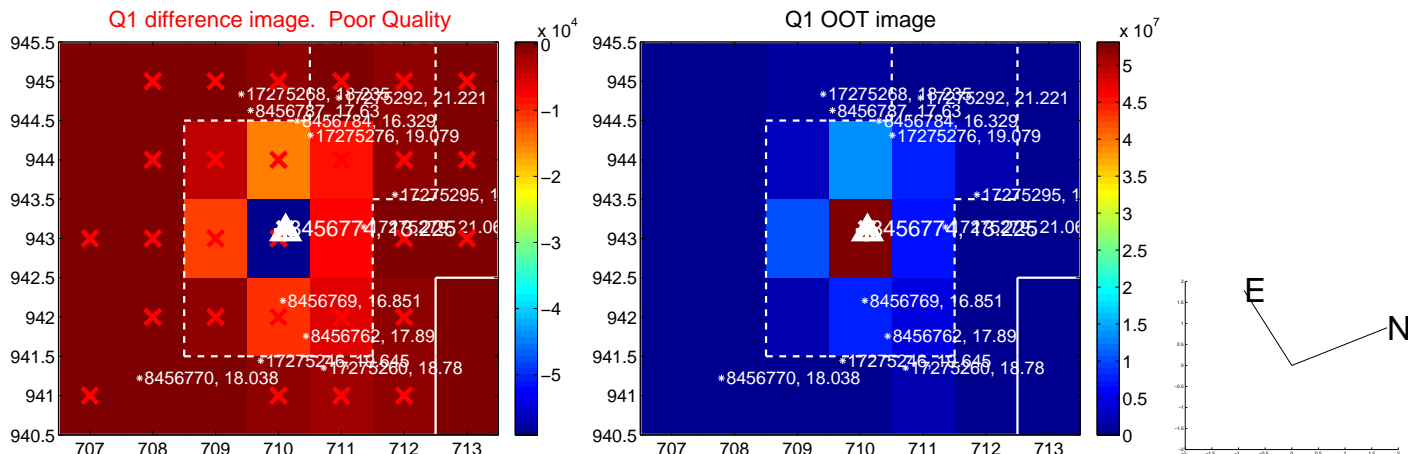
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.128 ± 0.238	0.54	-0.090 ± 0.183	-0.091 ± 0.210
PRF-fit source offset from KIC position	0.091 ± 0.218	0.42	-0.061 ± 0.175	-0.067 ± 0.185
photometric centroid source offset	0.30 ± 0.15	2.00	-0.29 ± 0.15	-0.06 ± 0.15

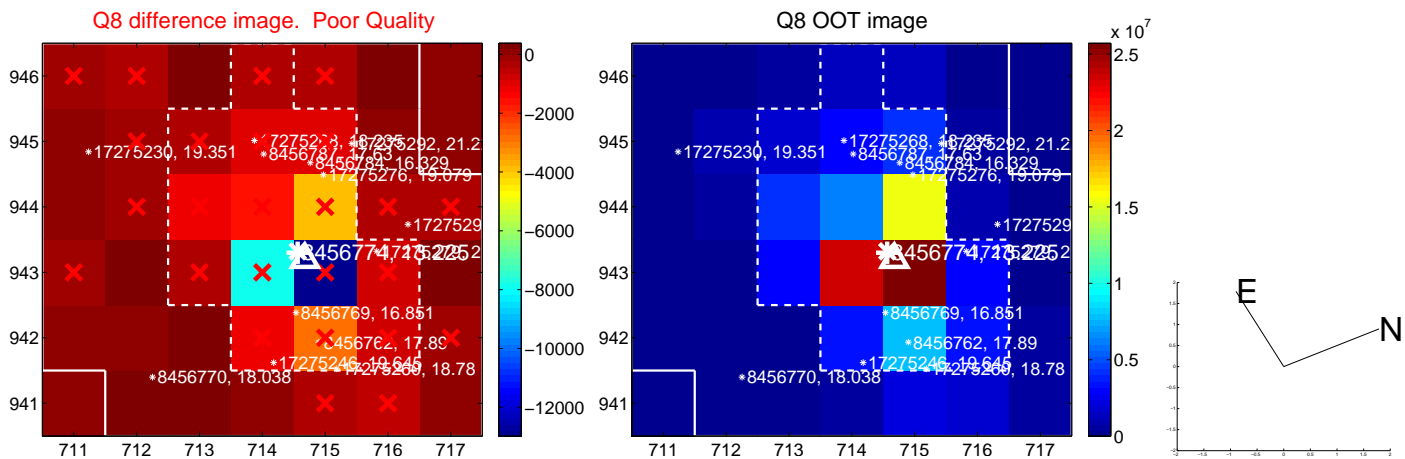
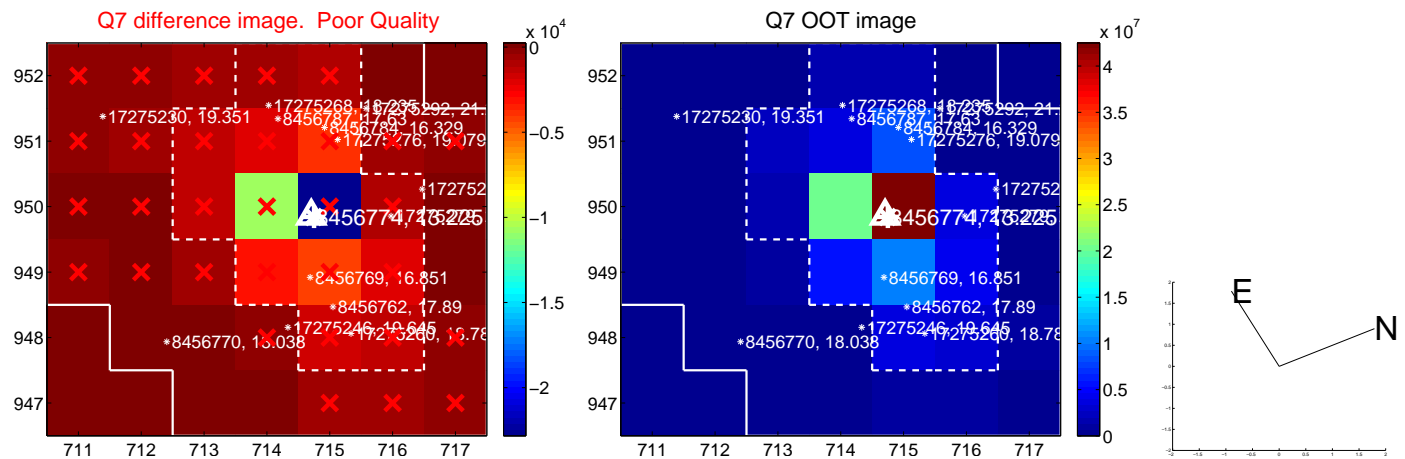
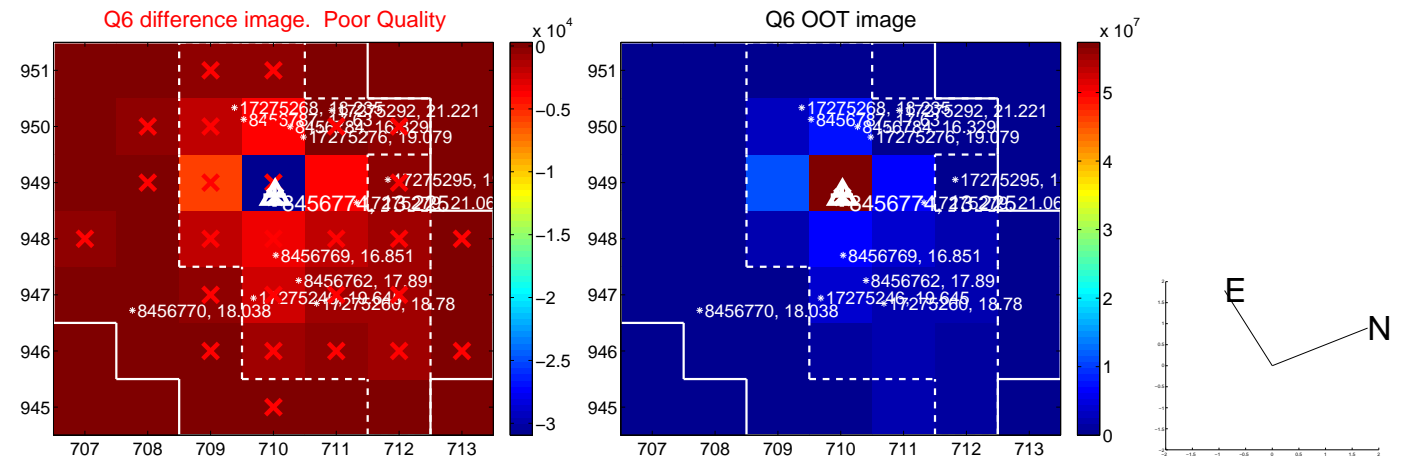
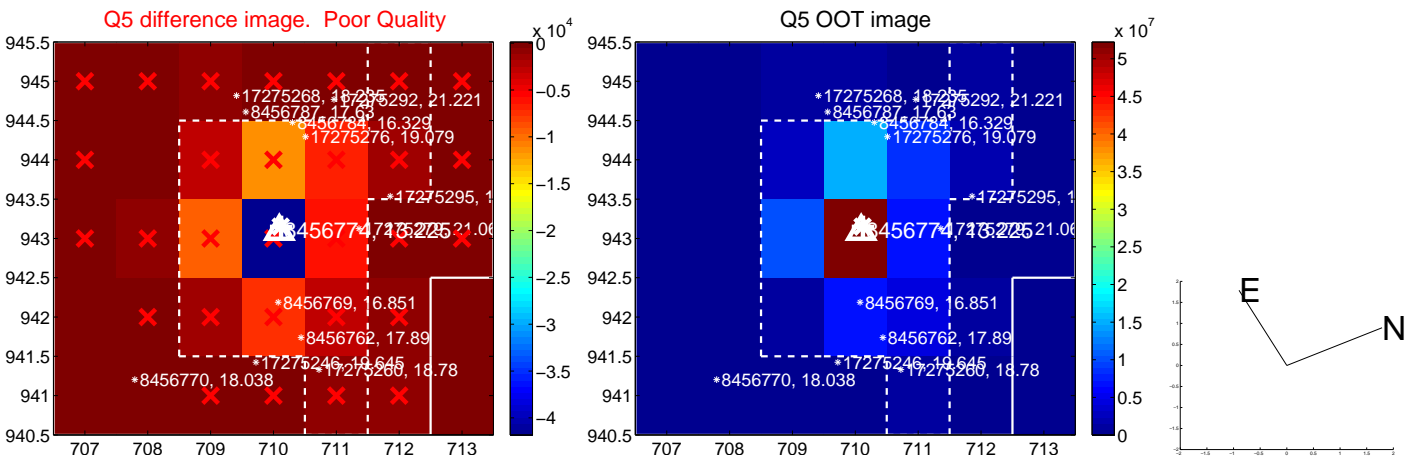


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

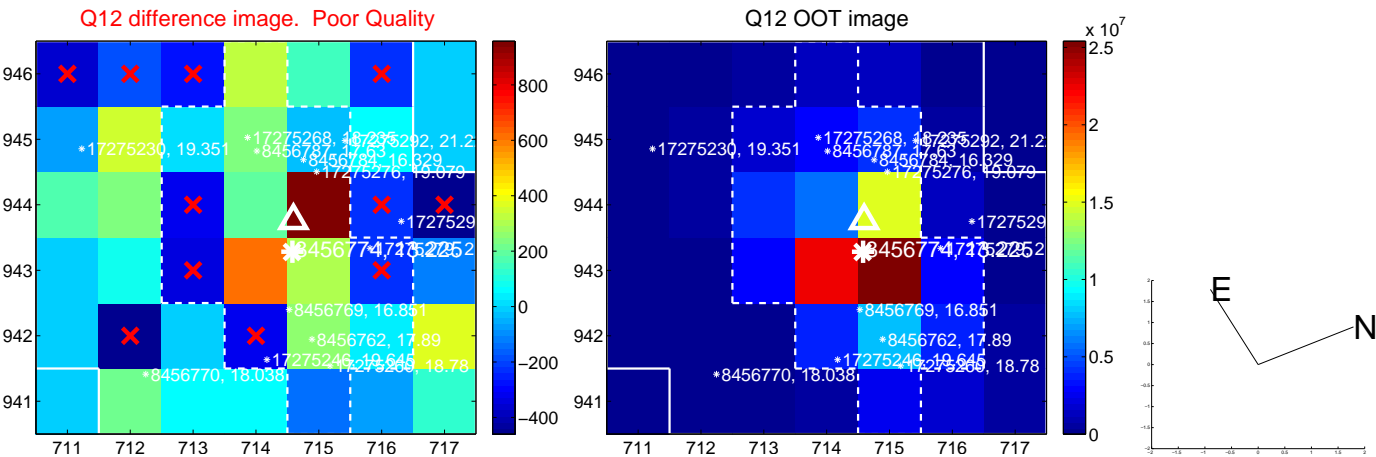
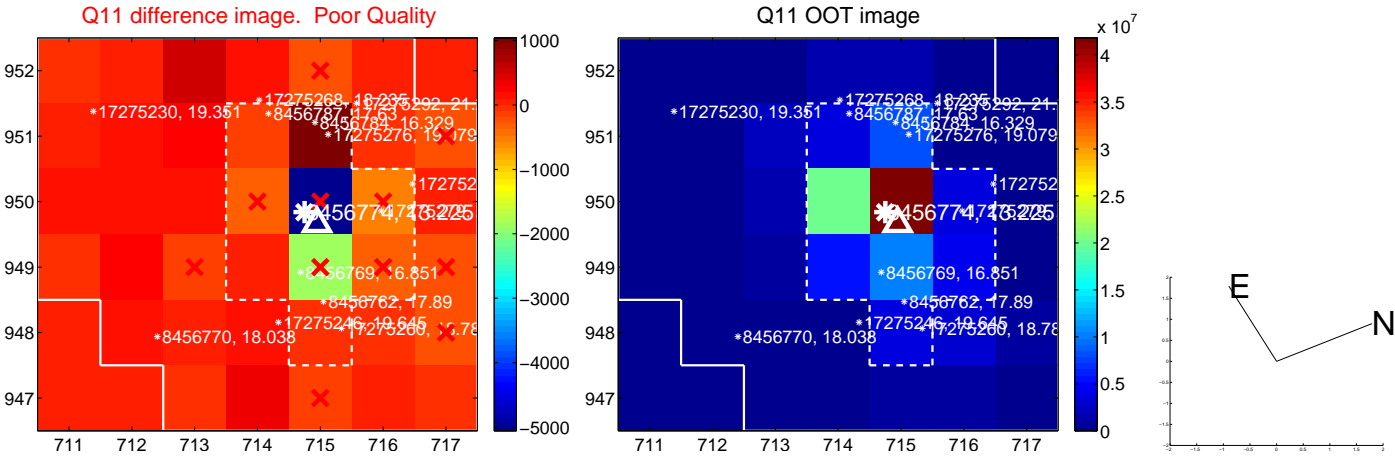
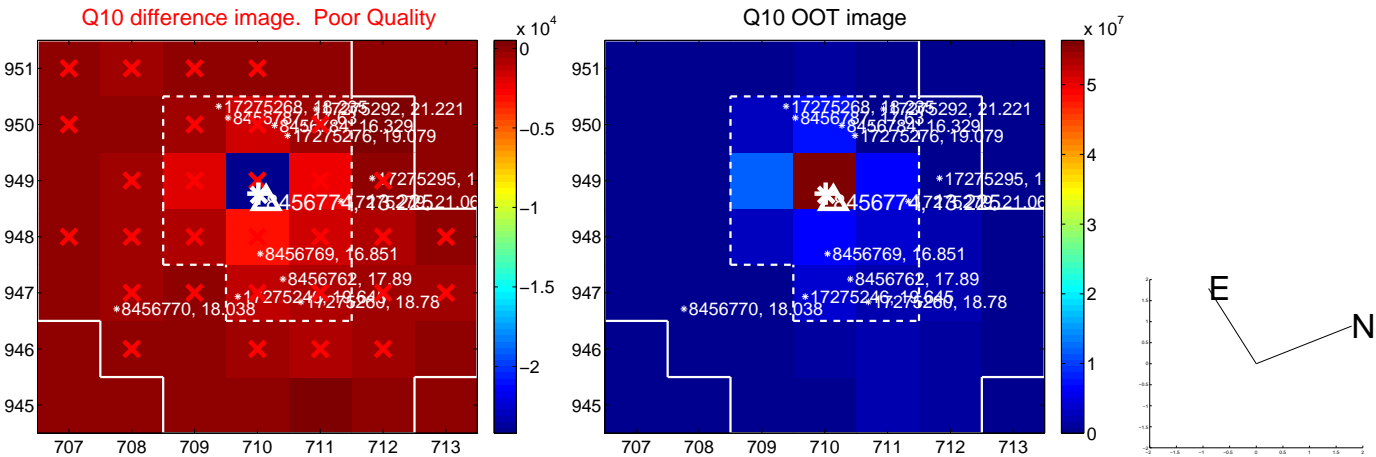
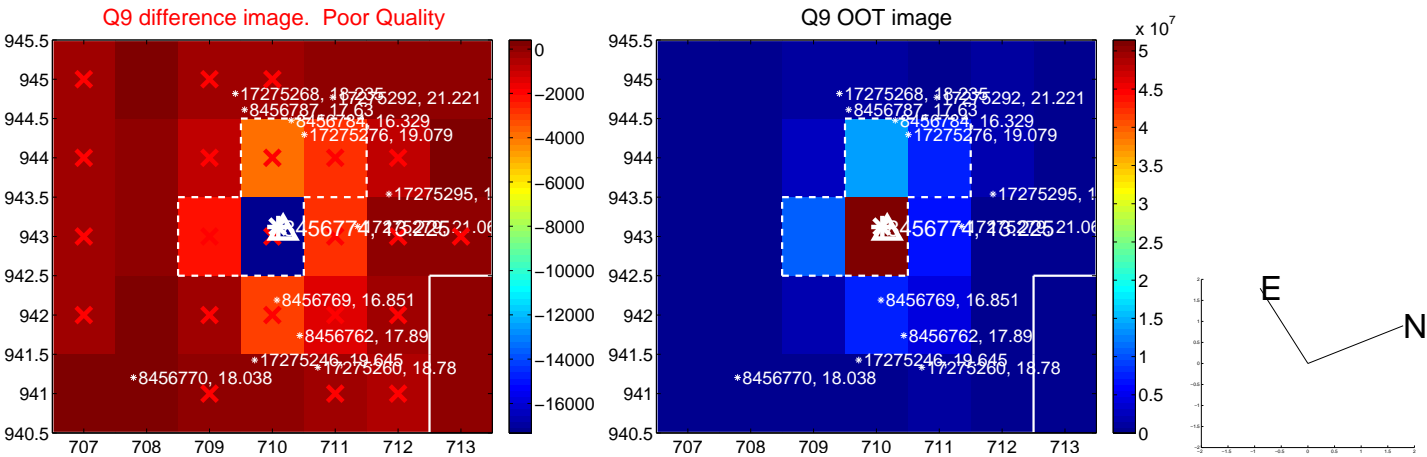
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



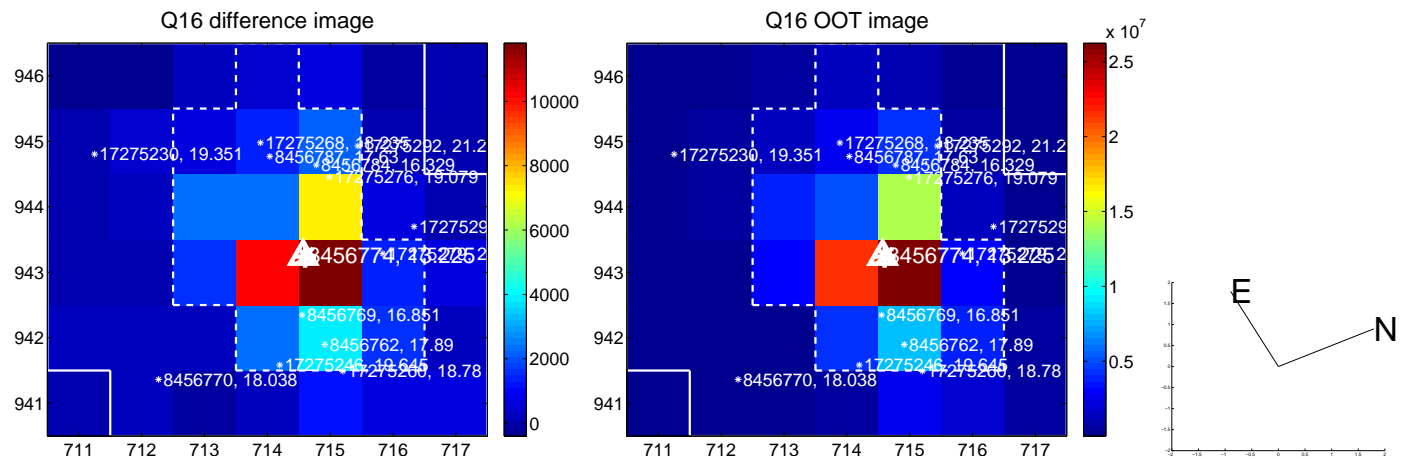
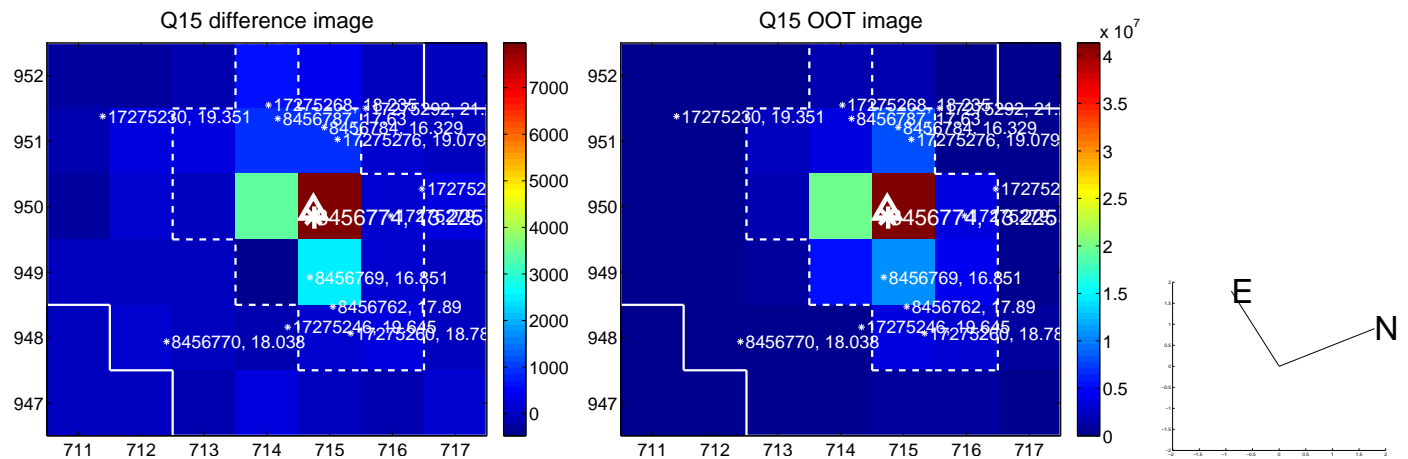
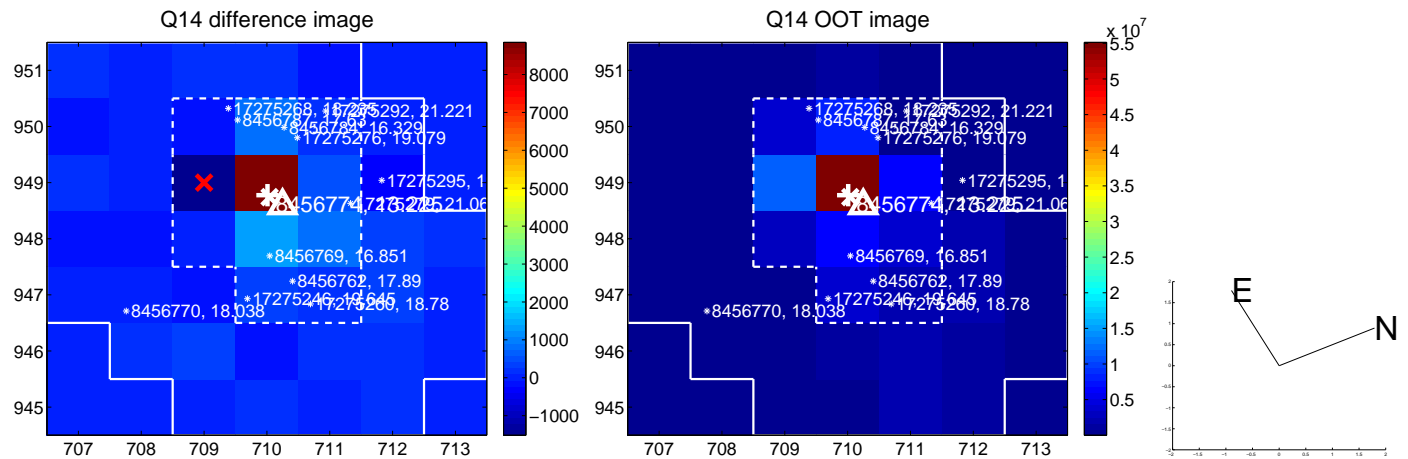
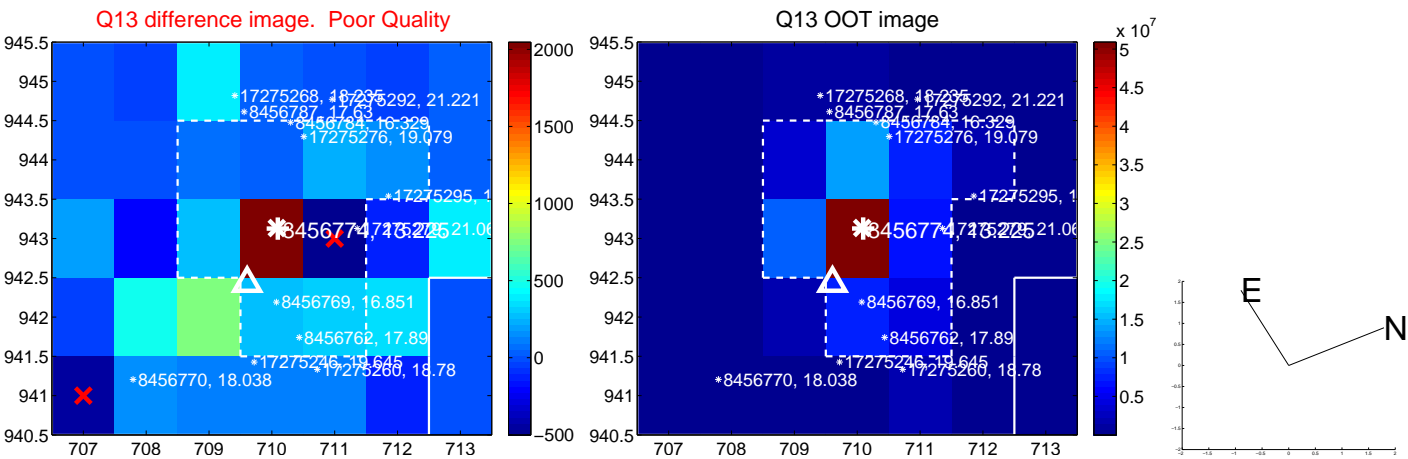
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



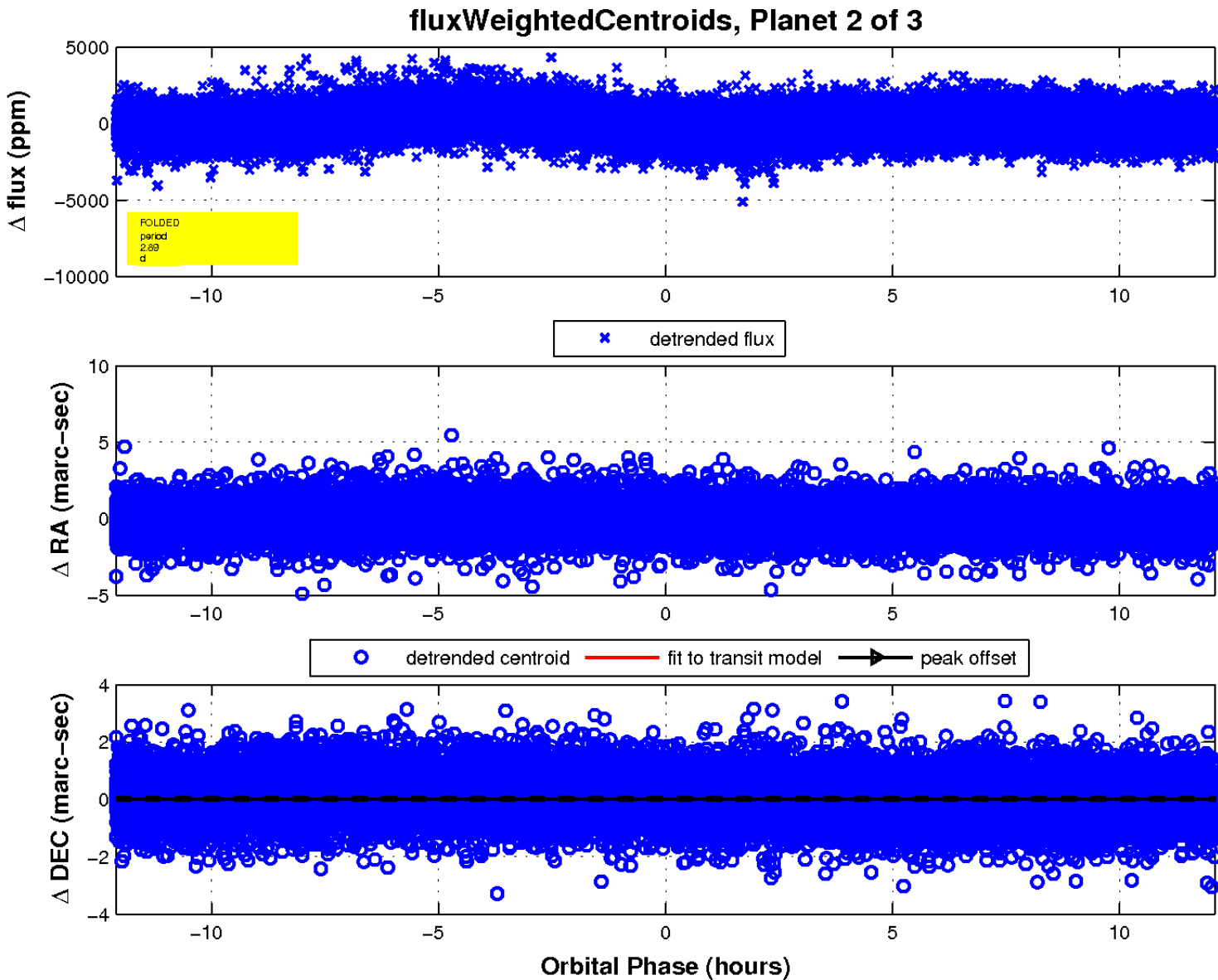
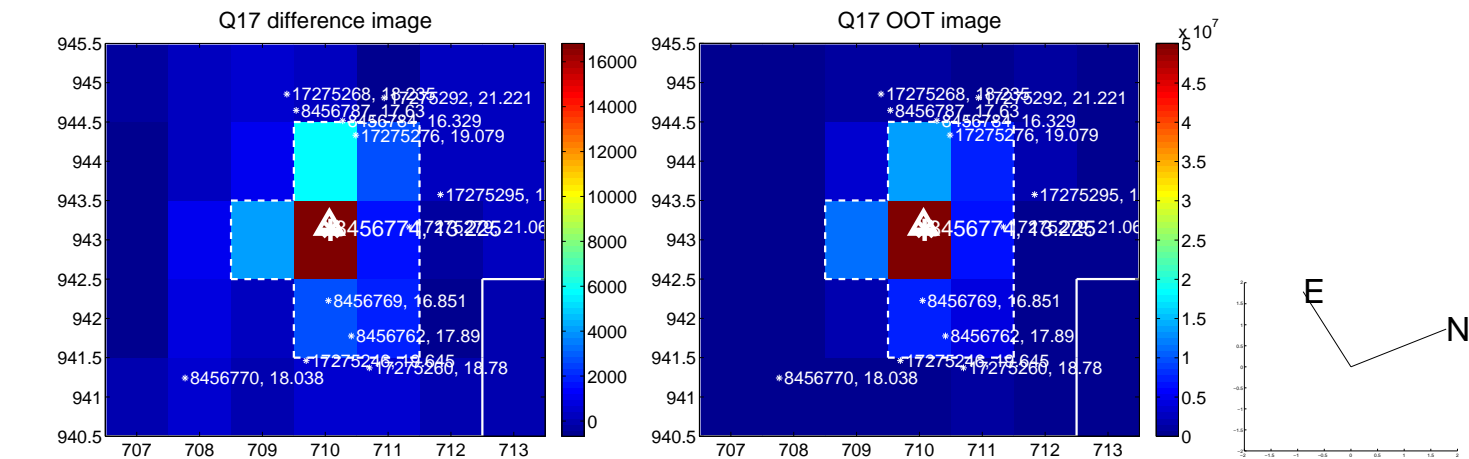
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

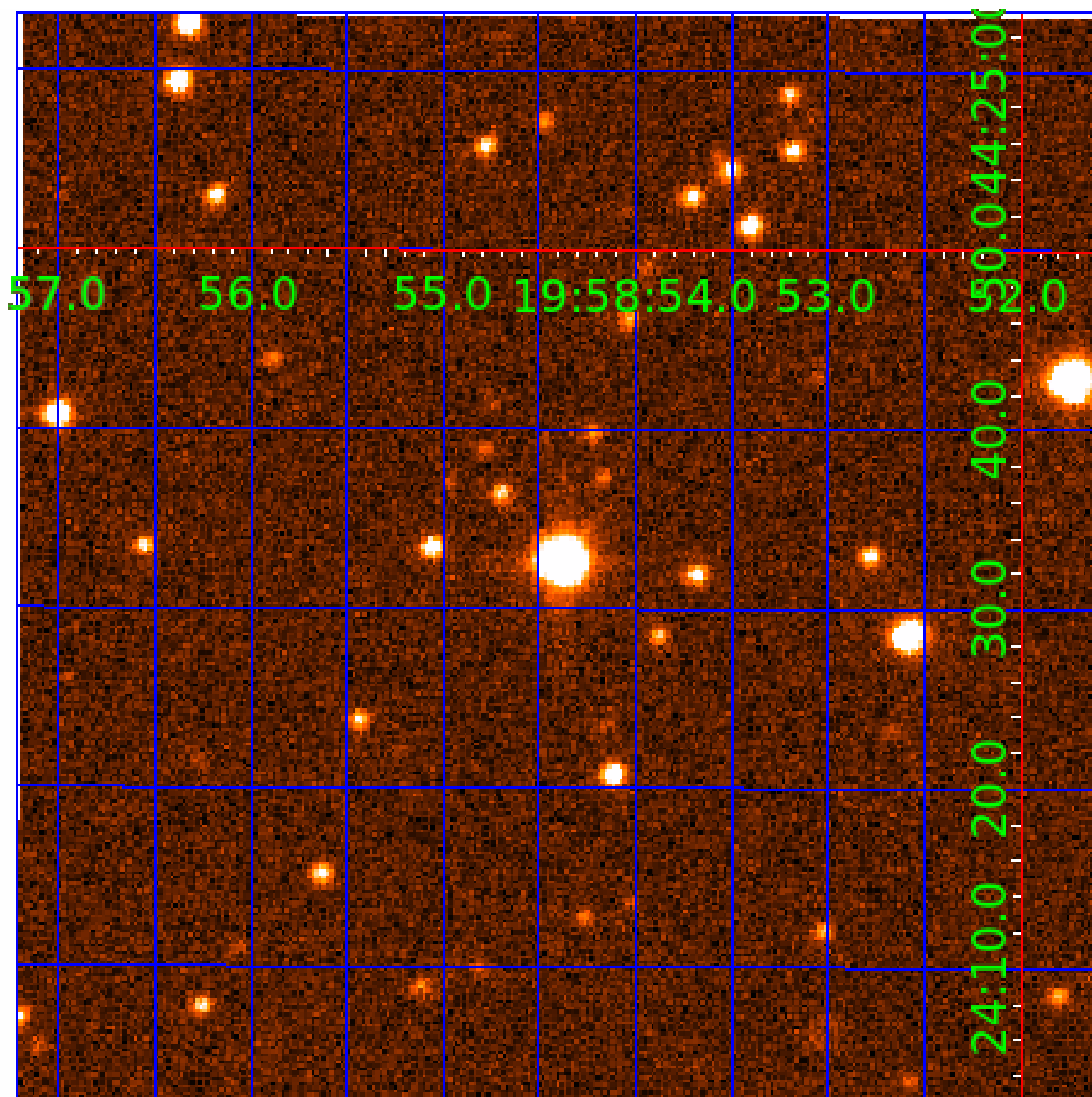


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008456774

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})
008456774-01	OBS	No	2.886324	134.418517	28.4	0.594	27.7	1.1	1.60	7022	0.89	2970.59
008456774-02	OBS	No	2.886316	134.093507	272.1	4.036	21.4	21.2	1.60	7022	2.68	2970.60
008456774-03	OBS	No	2.886148	132.695104	51.9	15.875	14.3	6.4	1.60	7022	1.28	2970.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008456774-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008456774-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008456774-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD

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

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

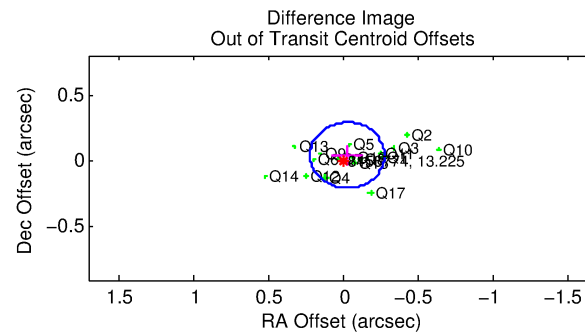
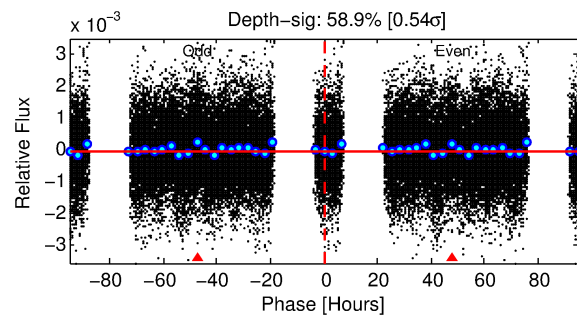
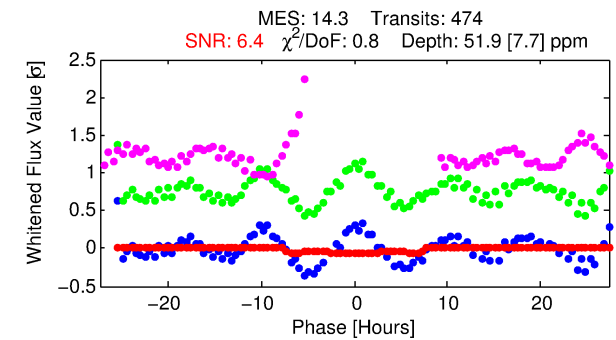
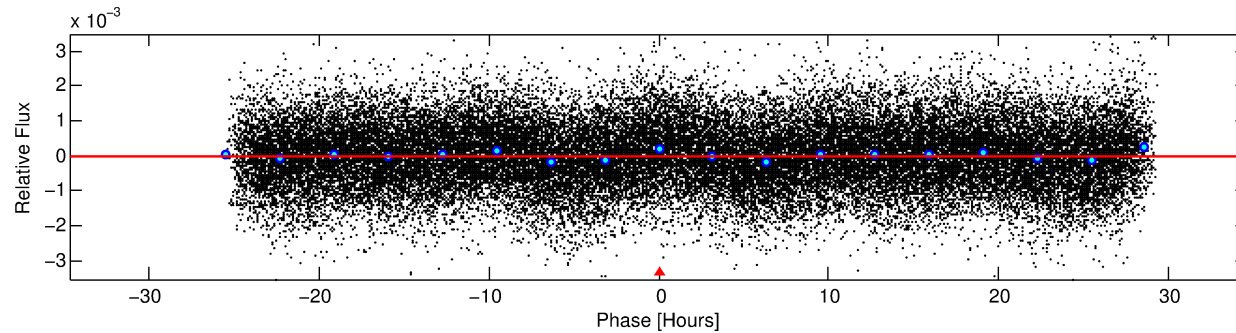
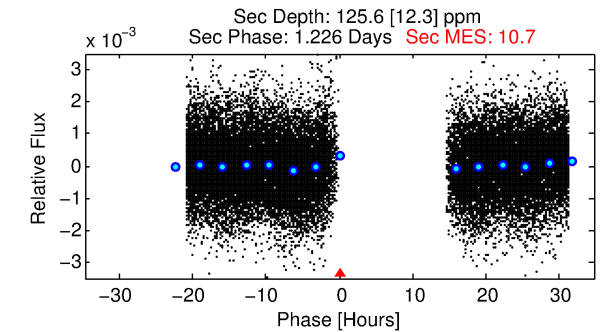
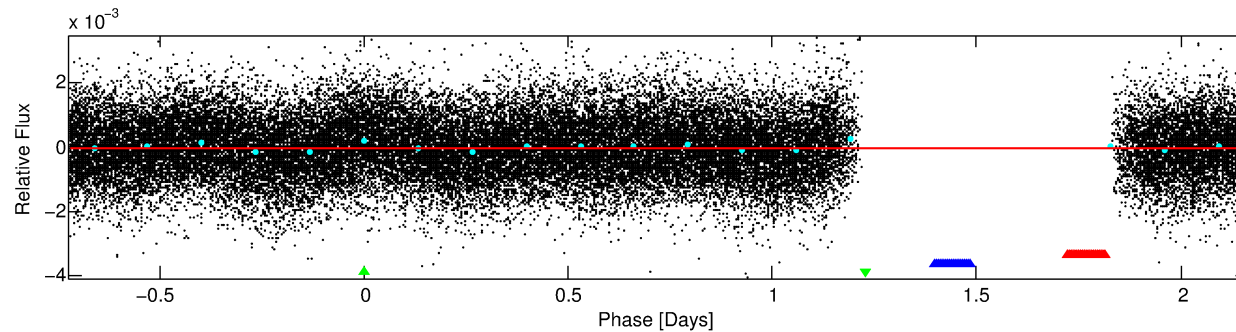
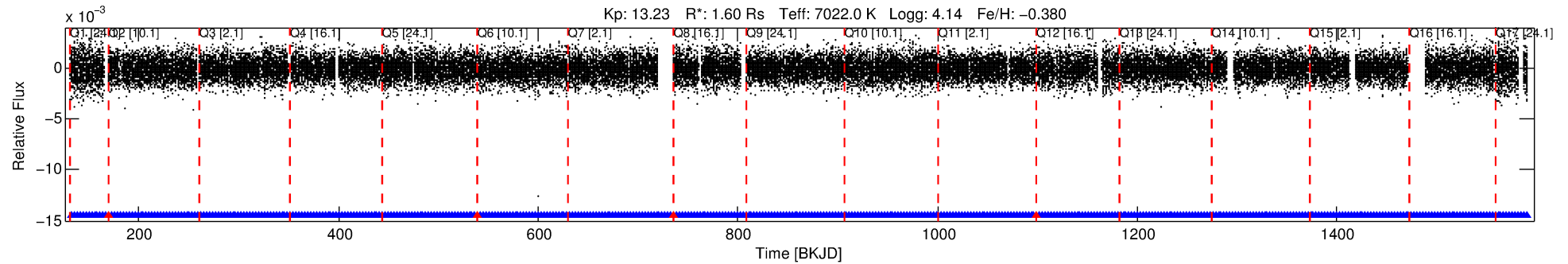
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008456774-03

No Significant Match Found

DV One-Page Summary

KIC: 8456774 Candidate: 3 of 3 Period: 2.886 d



DV Fit Results:

Period = 2.88615 [0.00007] d
Epoch = 132.6951 [0.0161] BKJD
Rp/R* = 0.0073 [0.0036]
a/R* = 1.21 [1.14]
b = 0.82 [1.21]
Seff = 2970.84 [1116.23]
Teq = 1883 [177] K
Rp = 1.28 [0.73] Re
a = 0.0433 [0.0103] AU
Ag = 79.10 [82.30] [0.95σ]
Teffp = 8680 [2165] K [3.13σ]

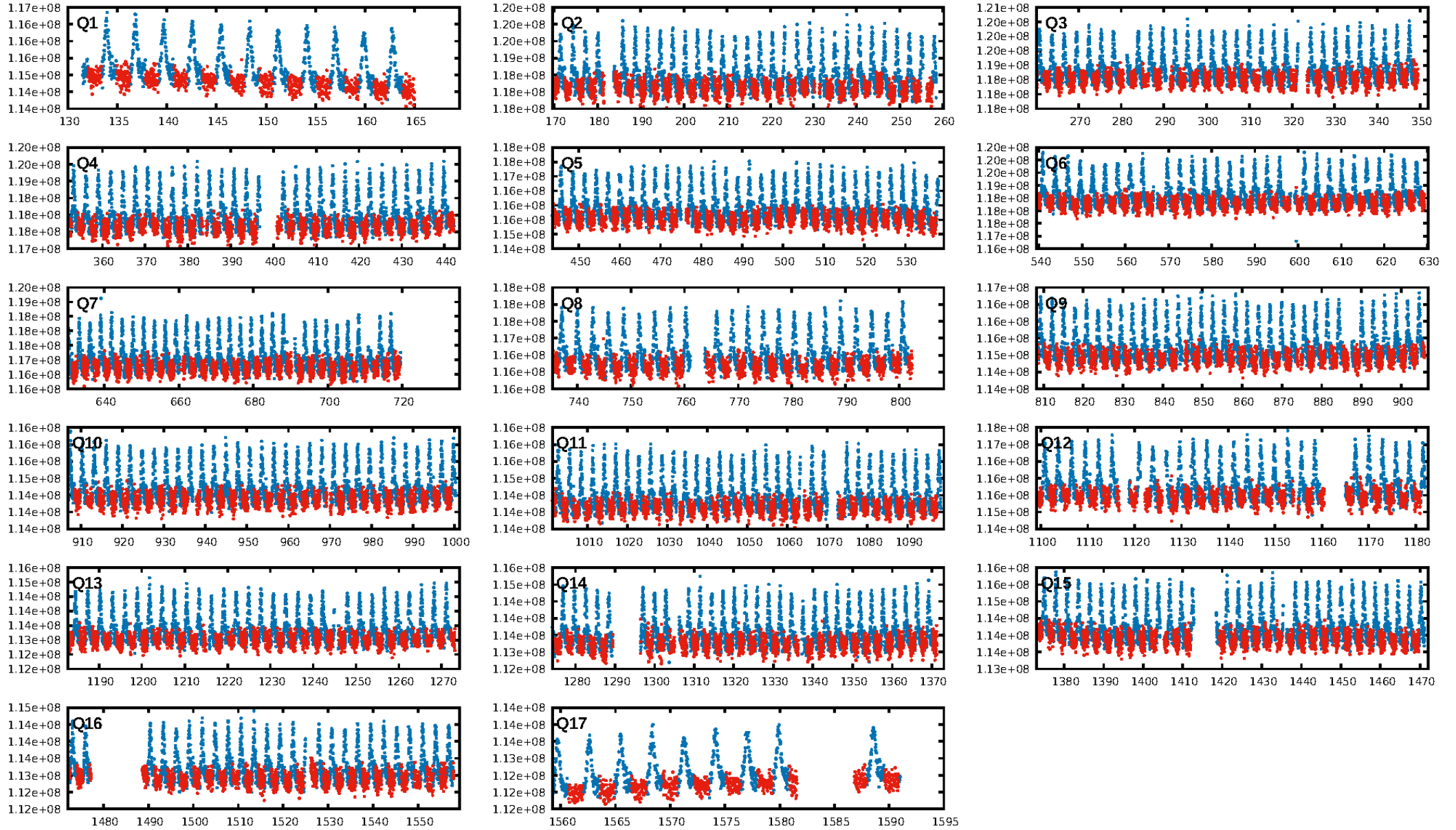
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.55e-37
RollingBand-fgt: 0.99 [448/452]
GhostDiagnostic-chr: 1.994
Centroid-sig: N/A
Centroid-so: 1.671 arcsec [3.72σ]
OotOffset-rm: 0.053 arcsec [0.64σ]
KicOffset-rm: 0.098 arcsec [1.07σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.24 [4/17]

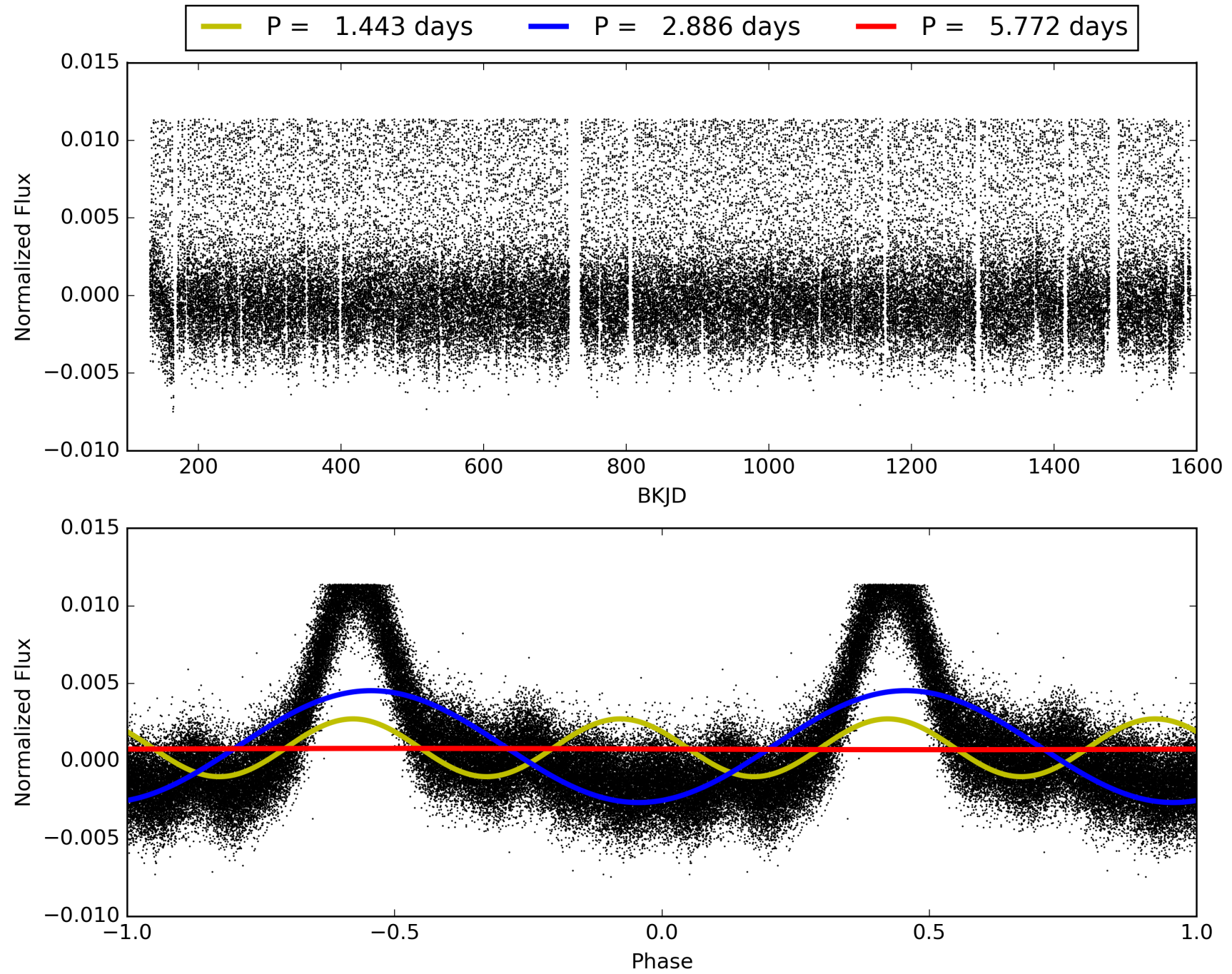
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:39:23 Z

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

TCE 008456774-03, PDC Light Curves

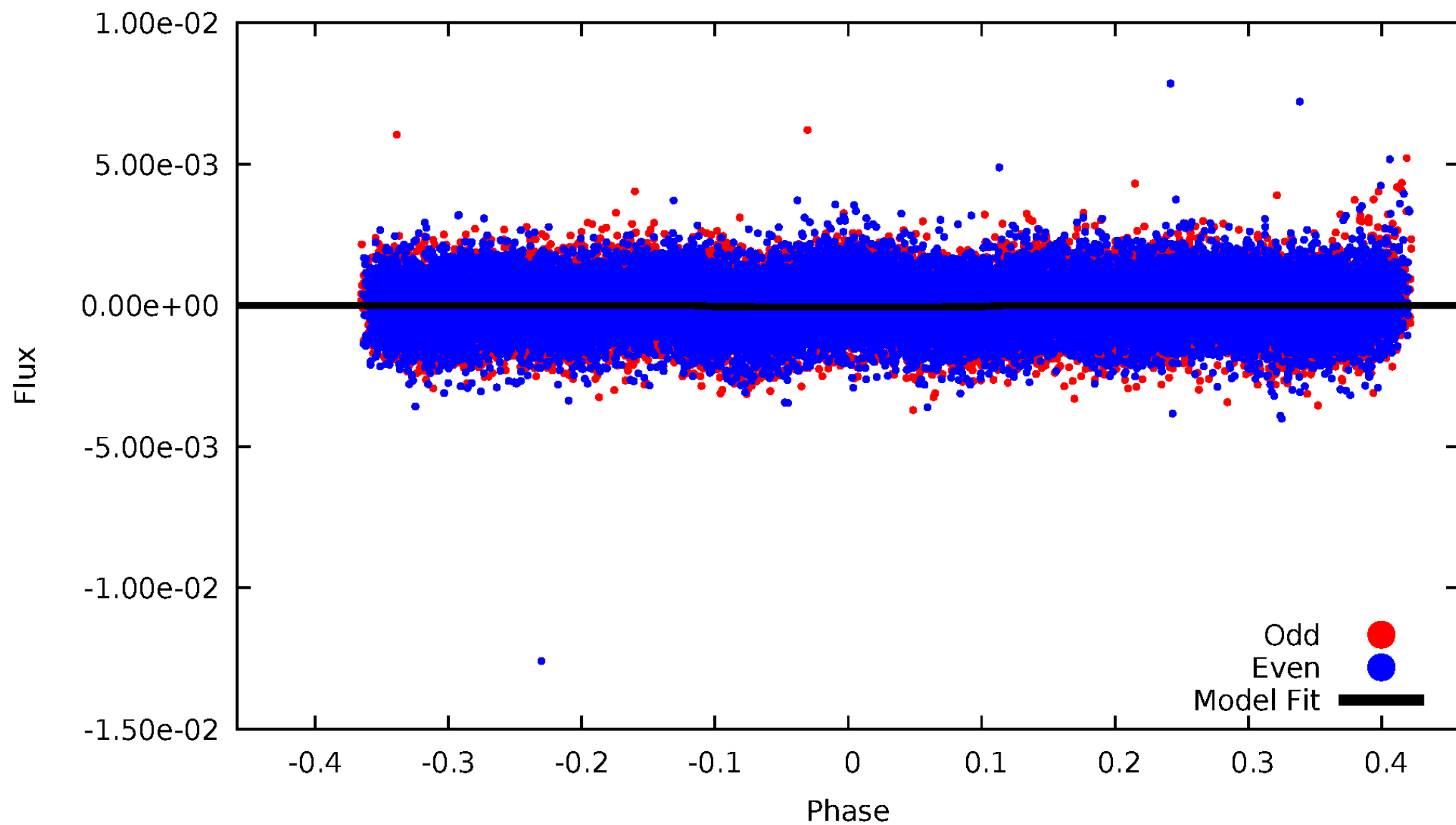


TCE 008456774-03



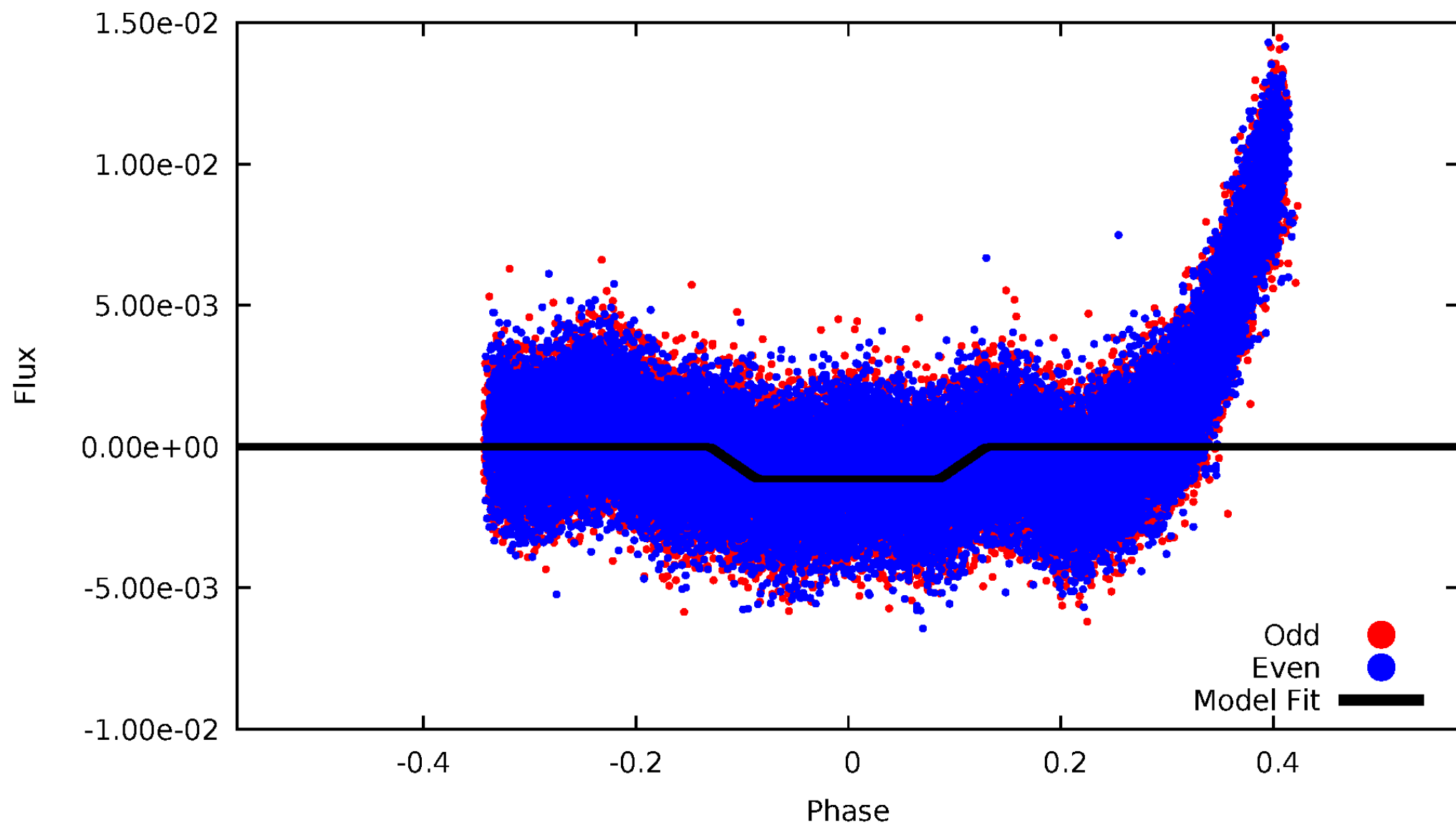
DV Odd/Even

TCE 008456774-03



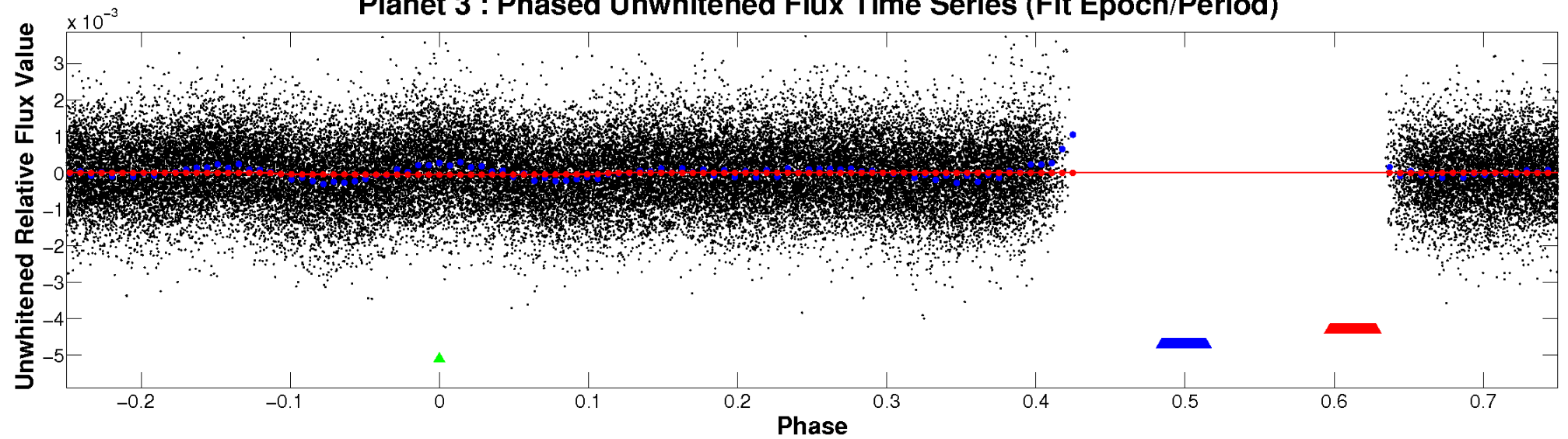
ALT Odd/Even

TCE 008456774-03

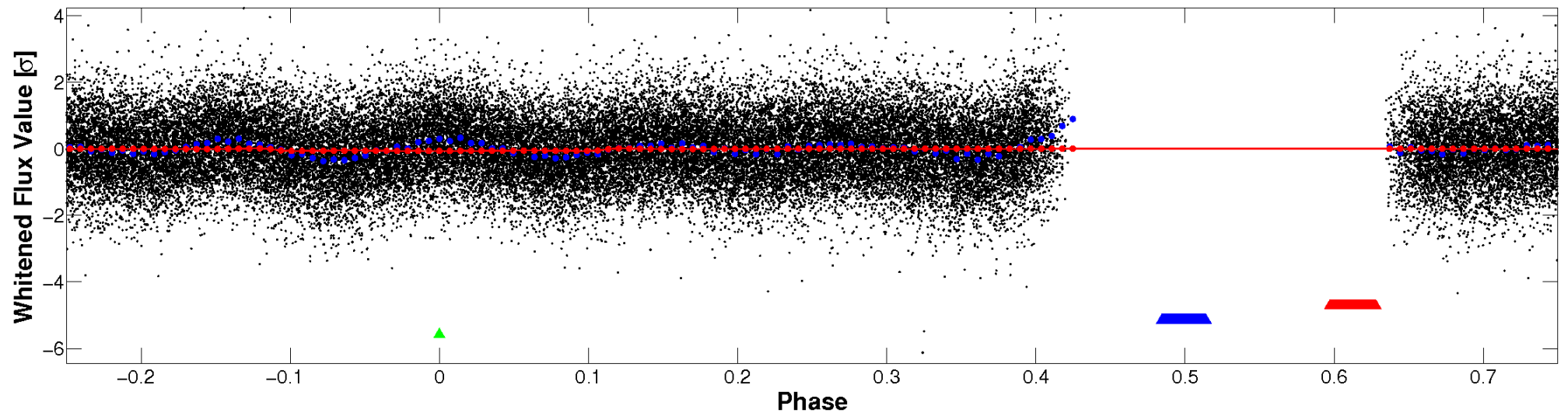


Non-Whitened Vs. Whitened Light Curve

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

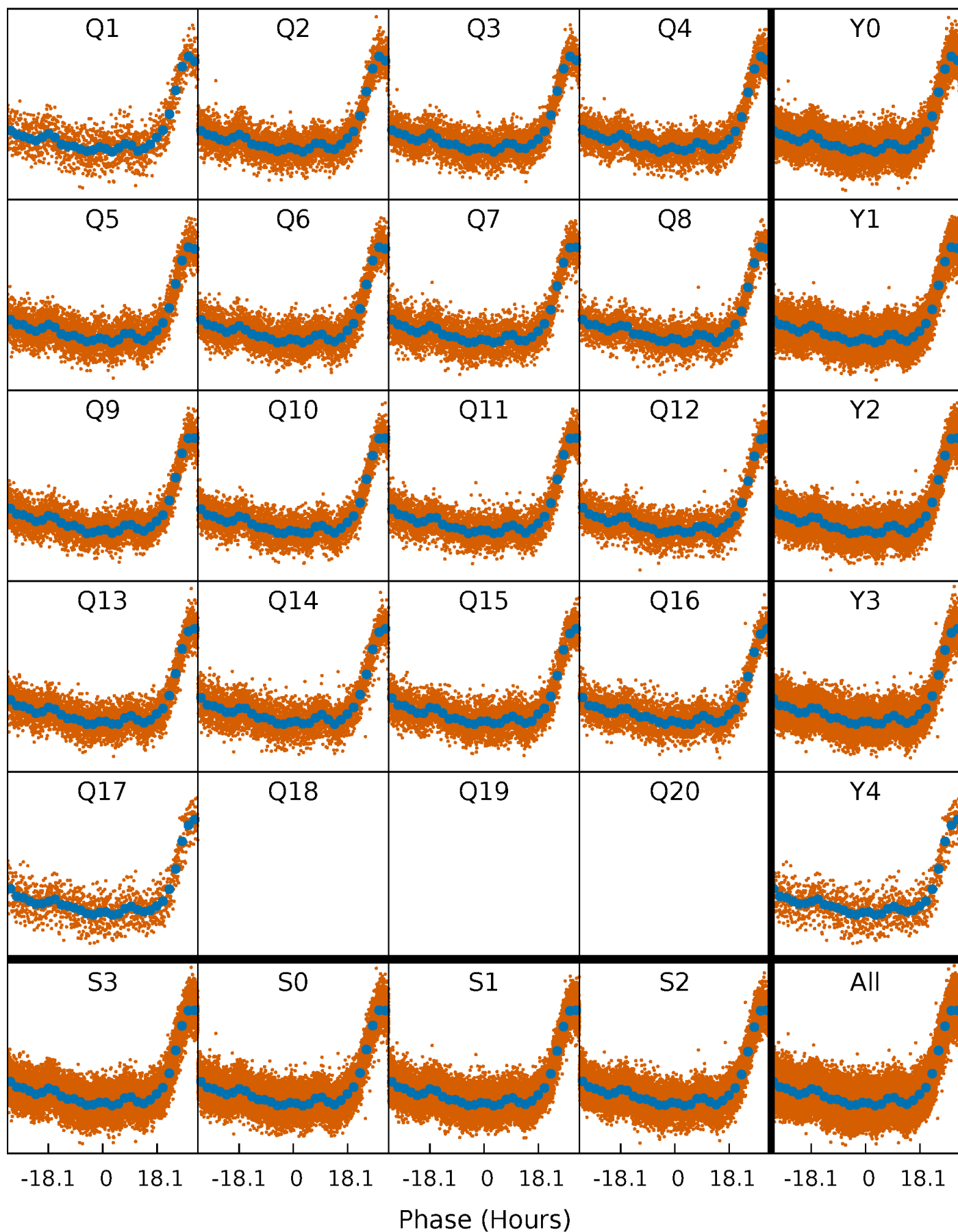


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



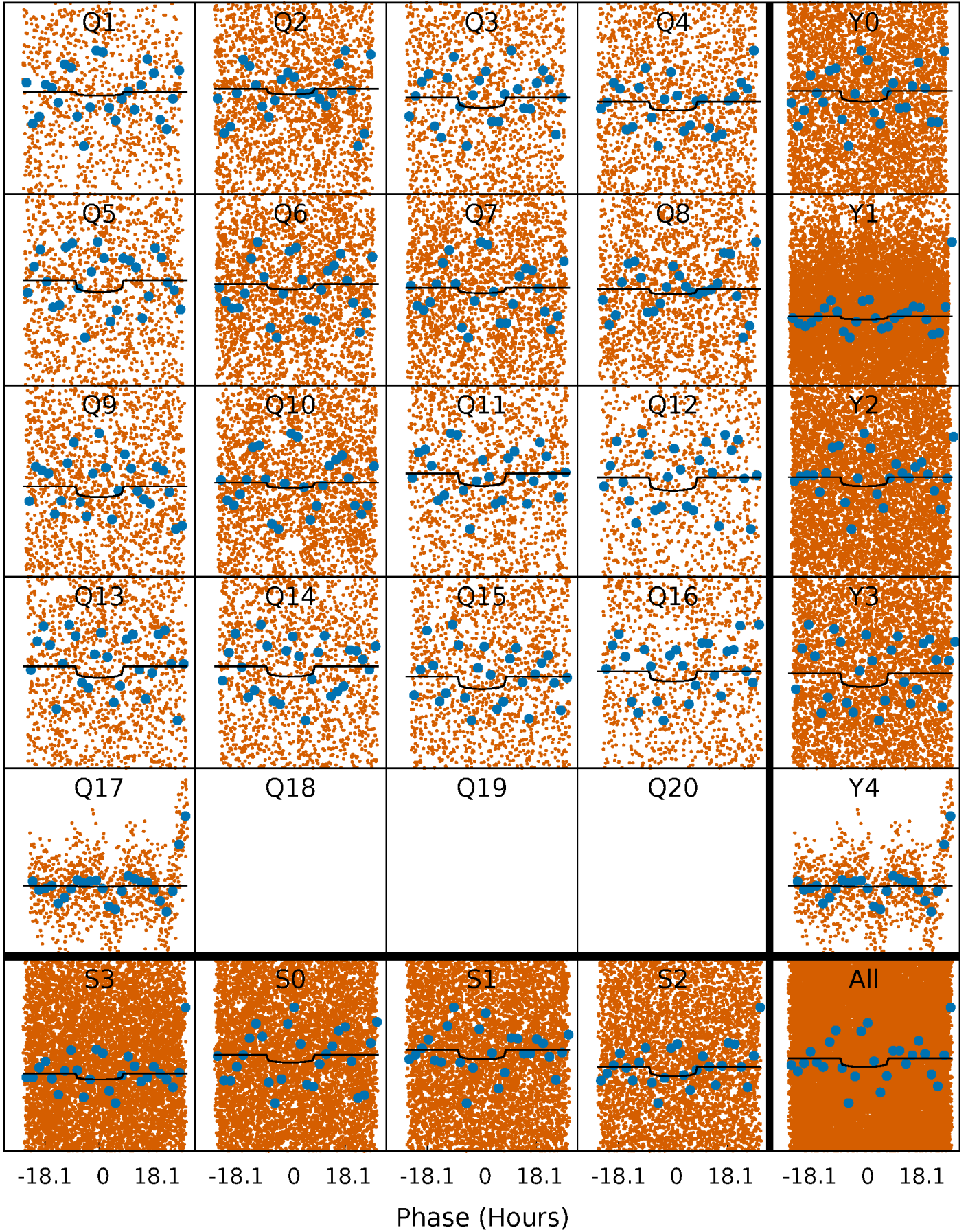
PDC Quarter-Phased Transit Curves

TCE 008456774-03 P= 2.886148 Days $T_0=132.695104$ (BKJD)



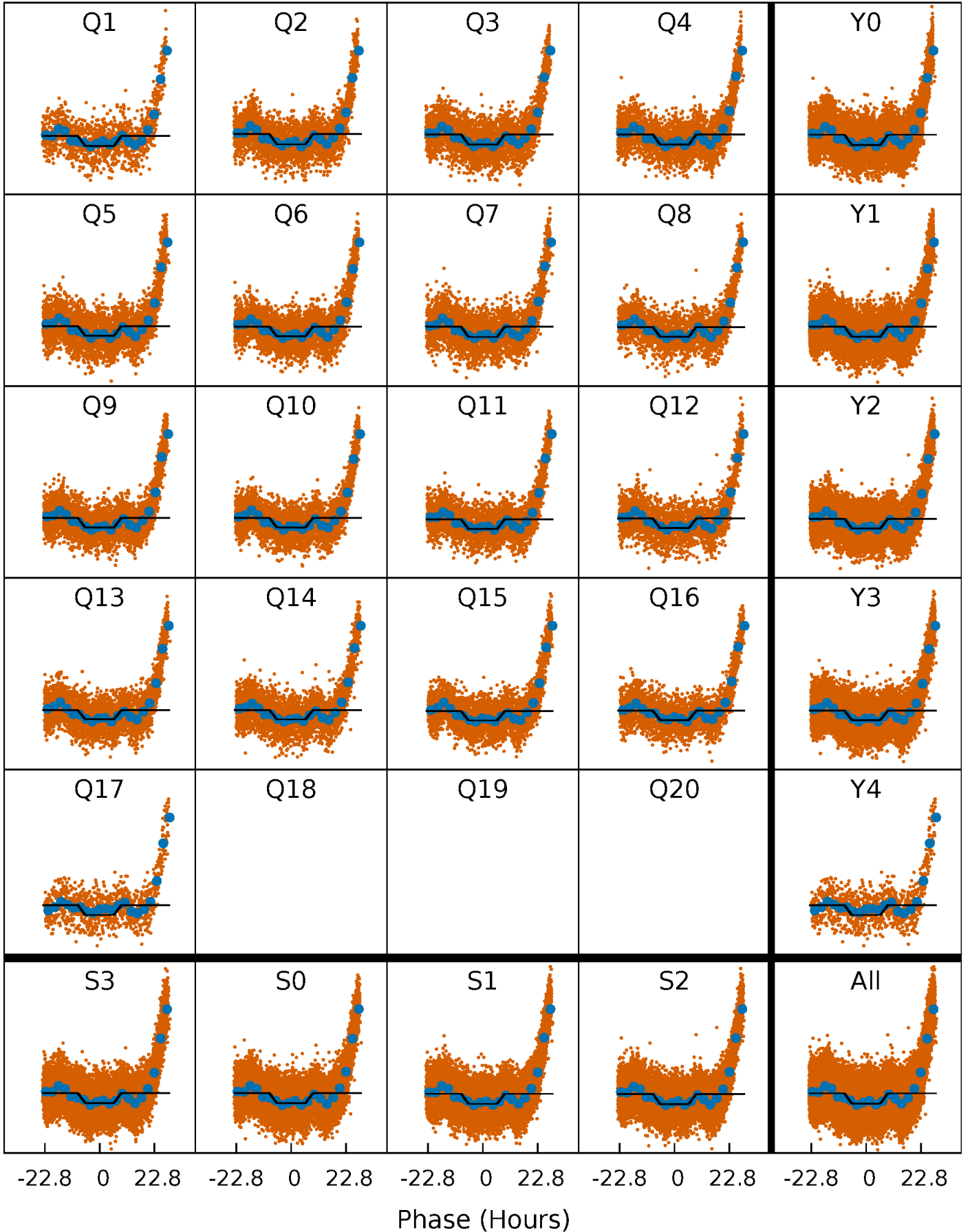
DV Quarter-Phased Transit Curves

TCE 008456774-03 P= 2.886148 Days $T_0=132.695104$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

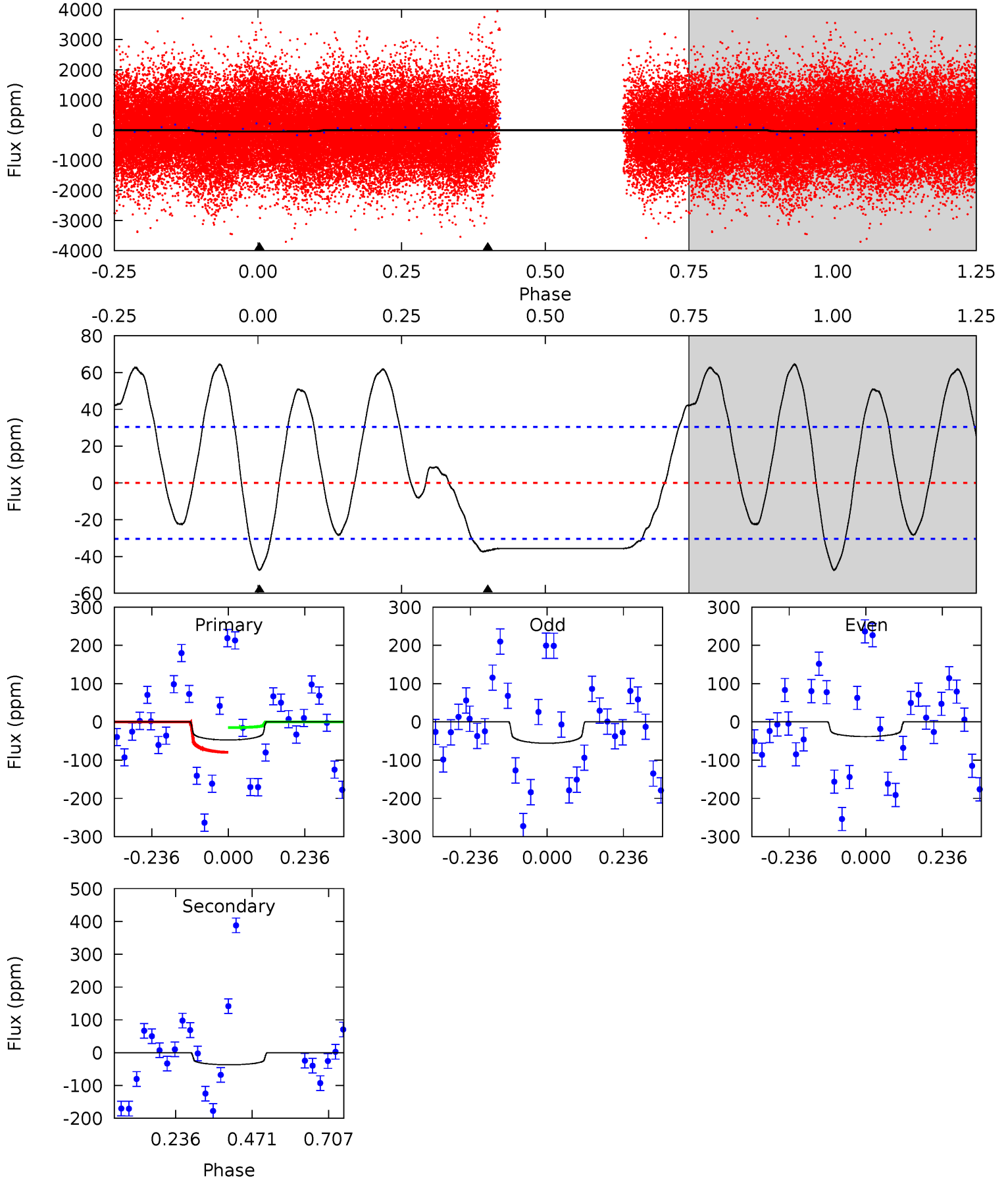
TCE 008456774-03 P= 2.886231 Days $T_0=132.629526$ (BKJD)



DV Model-Shift Uniqueness Test

008456774-03, P = 2.886148 Days, E = 129.808956 Days

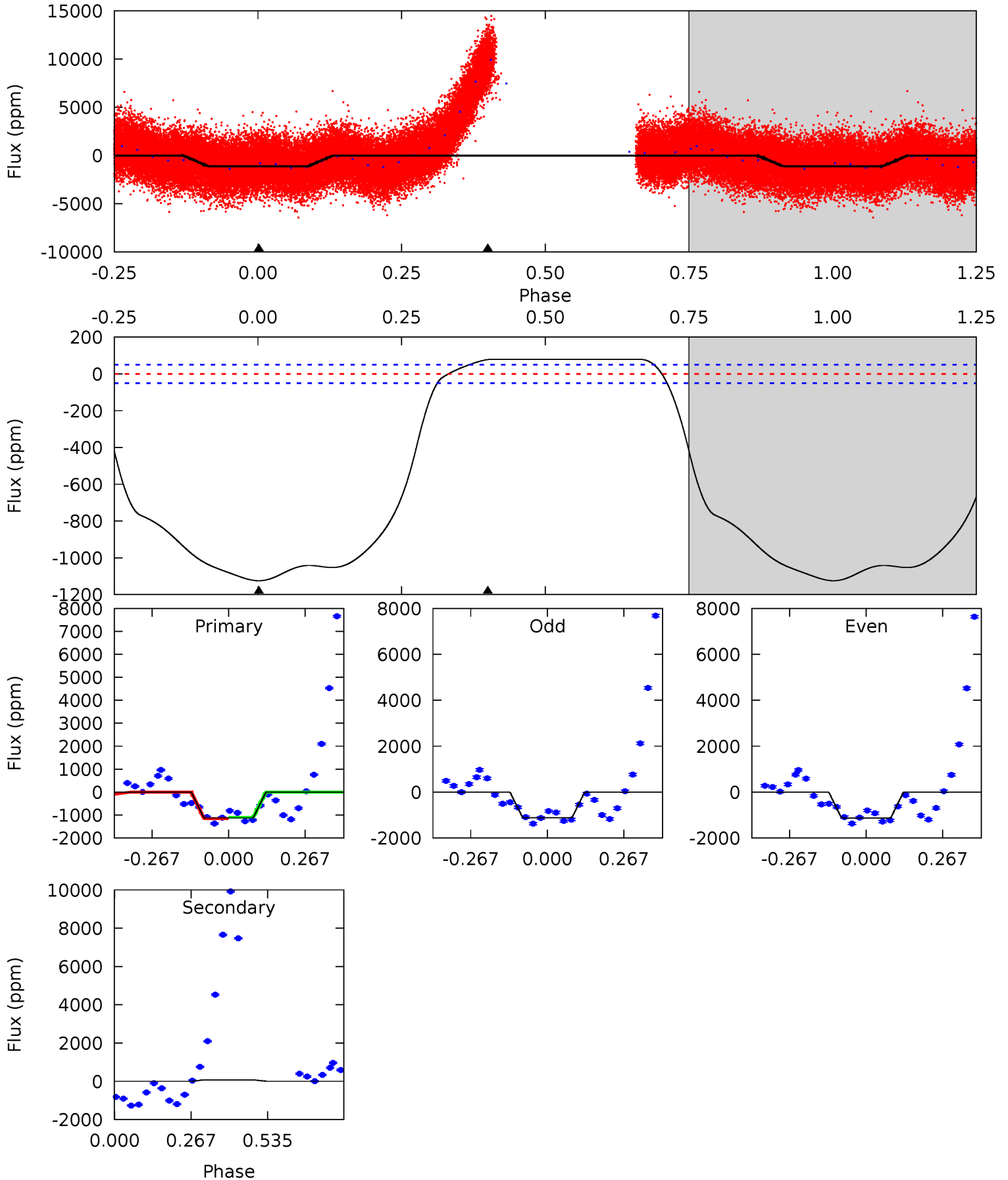
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.82	5.30	0	0	4.38	1.19	4.16	6.82	6.82	5.30	5.30	1.26	0.85	0.58	4.55



Alt Model-Shift Uniqueness Test

008456774-03, P = 2.886231 Days, E = 129.743295 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
98.4	-6.82	0	0	4.35	1.11	9.94	98.4	98.4	-6.82	-6.82	0.37	1.00	0.07	2.22



Stellar Parameters For KIC 008456774

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7022^{+192}_{-288}	$4.144^{+0.180}_{-0.180}$	$-0.380^{+0.300}_{-0.300}$	$1.599^{+0.467}_{-0.382}$	$1.302^{+0.198}_{-0.198}$	$0.449^{+0.432}_{-0.219}$
	+3%/-4%	+4%/-4%	+79%/-79%	+29%/-24%	+15%/-15%	+96%/-49%
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 008456774-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-37 ± 7	$1.29^{+0.64}_{-0.59}$	2630^{+203}_{-187}	6323^{+2658}_{-1201}	23^{+52}_{-13}
Alt.	78 ± 11	$5.86^{+1.25}_{-0.97}$	2612^{+215}_{-187}	-3987^{+190}_{-200}	$-2.283^{+0.698}_{-1.077}$

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

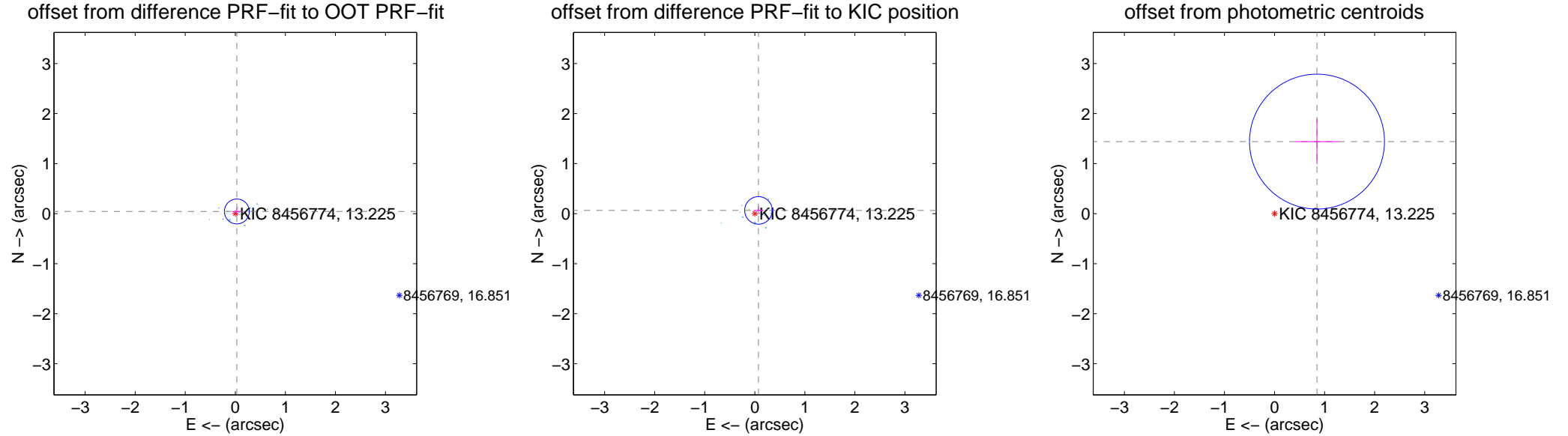
DV Centroid Data

Supplemental centroid analysis for 008456774-03. Kepler magnitude: 13.22. Transit SNR 6.45

There are 17 quarters with good PRF difference image offsets

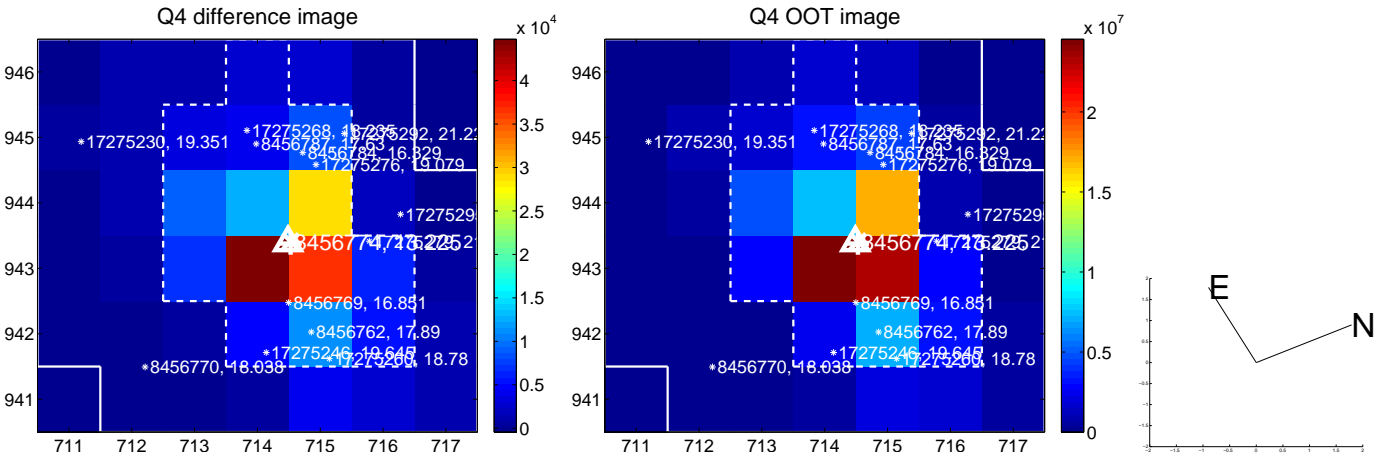
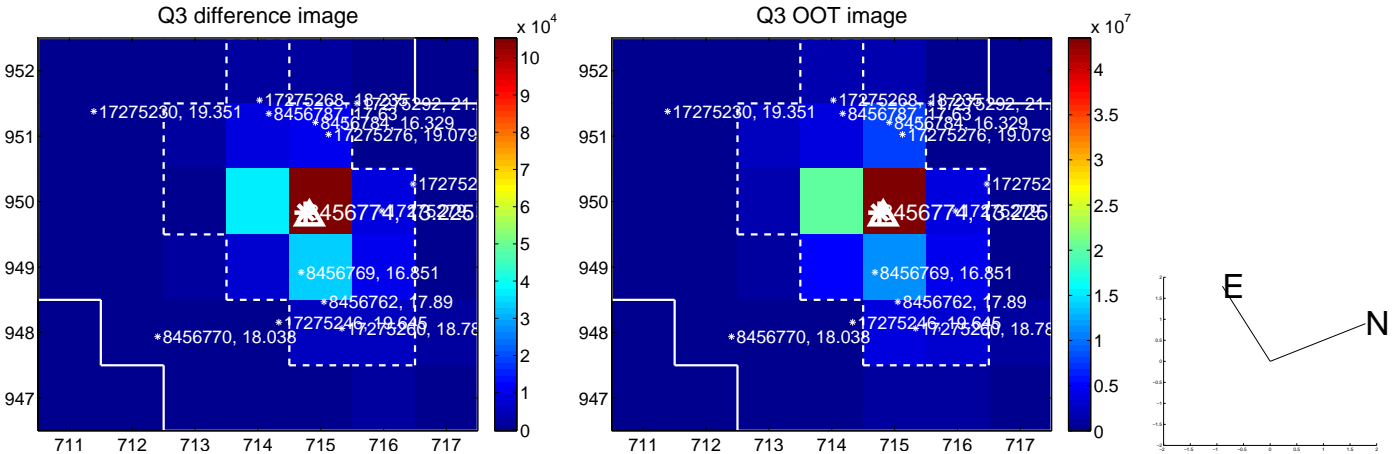
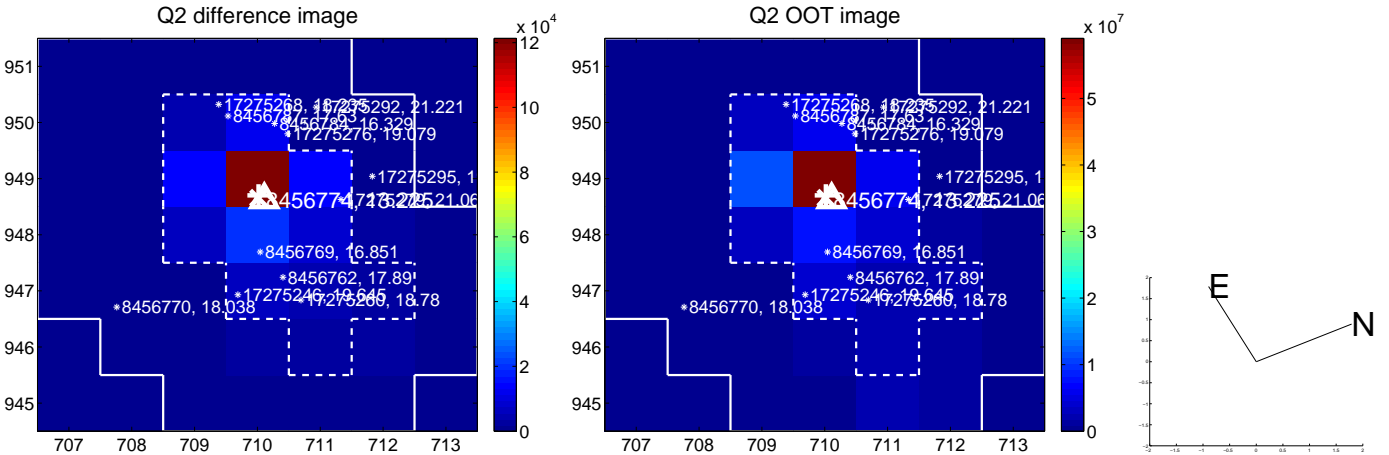
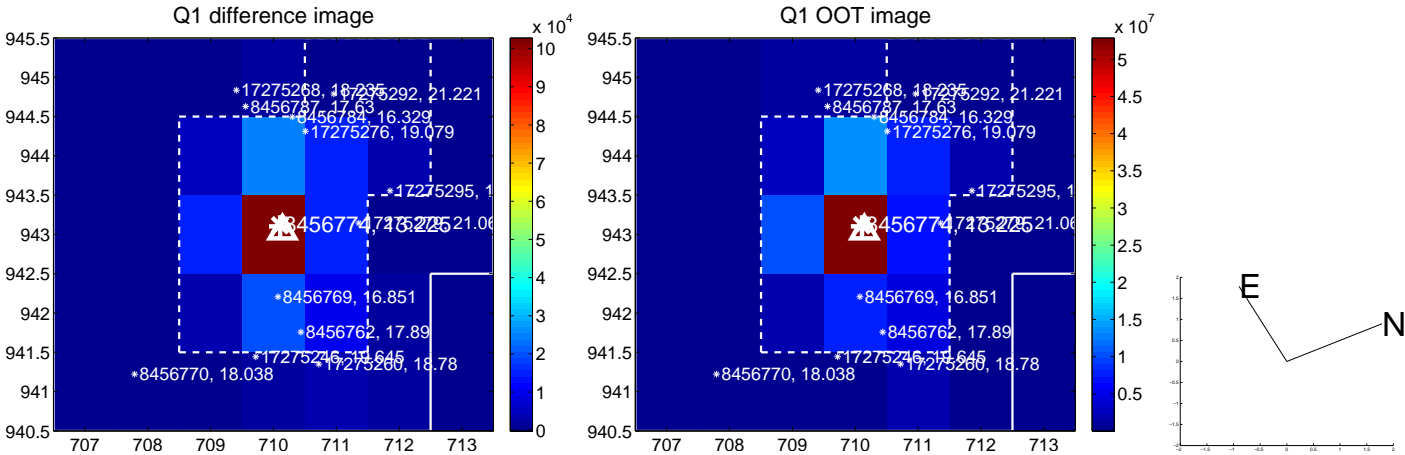
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.053 ± 0.083	0.64	-0.031 ± 0.095	0.044 ± 0.071
PRF-fit source offset from KIC position	0.098 ± 0.092	1.07	-0.074 ± 0.098	0.065 ± 0.075
photometric centroid source offset	1.67 ± 0.45	3.72	-0.85 ± 0.44	1.44 ± 0.45

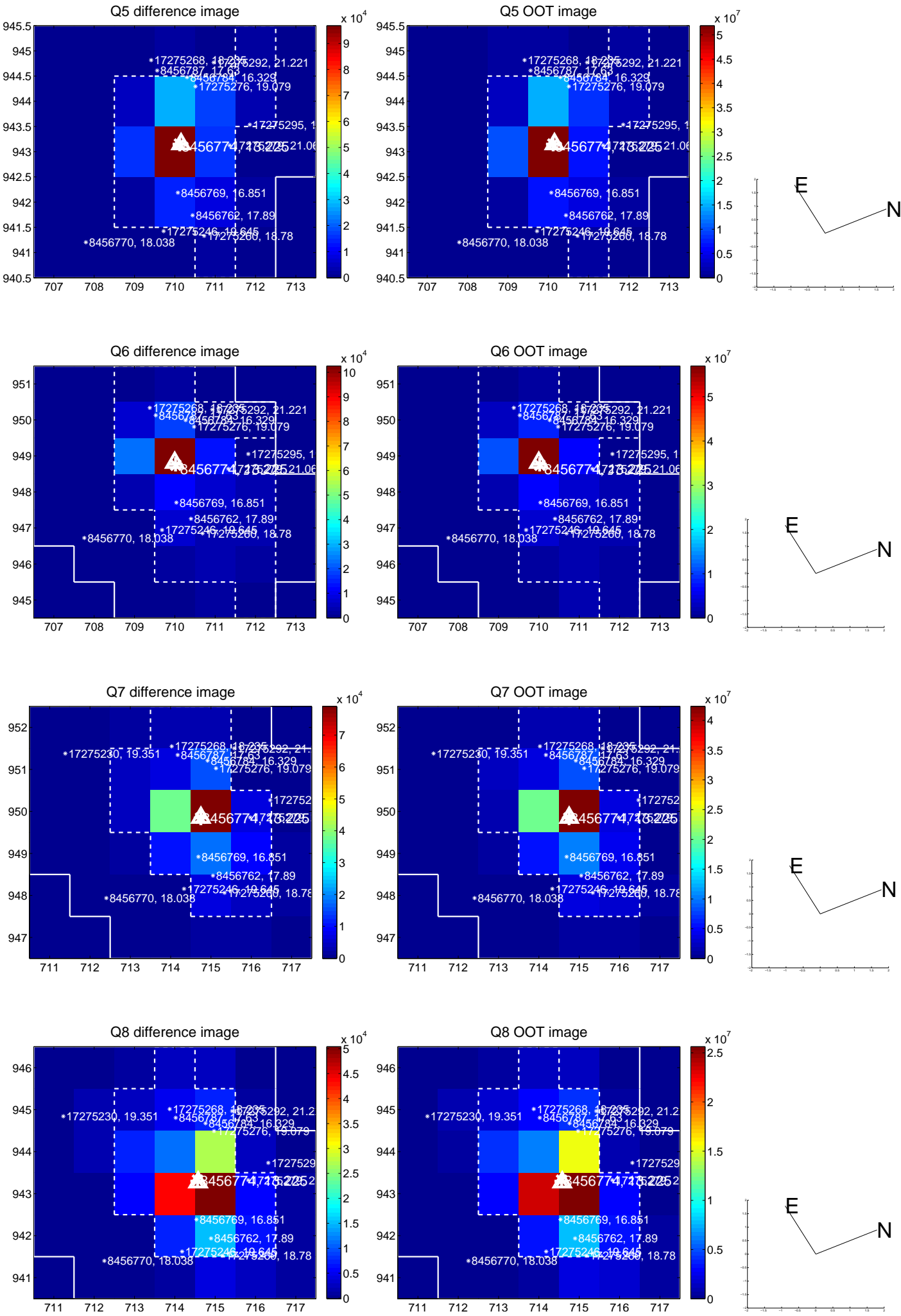


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

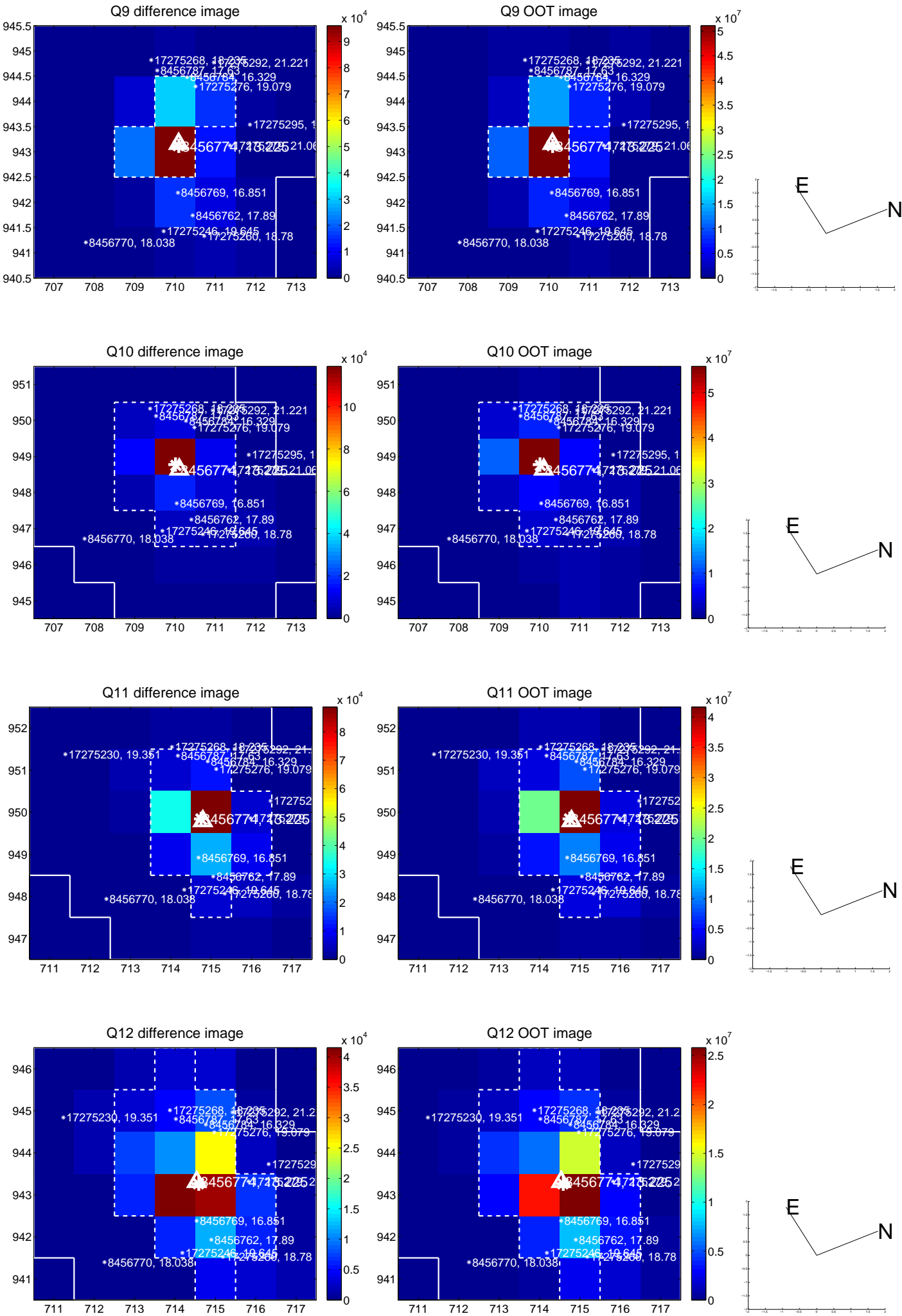
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



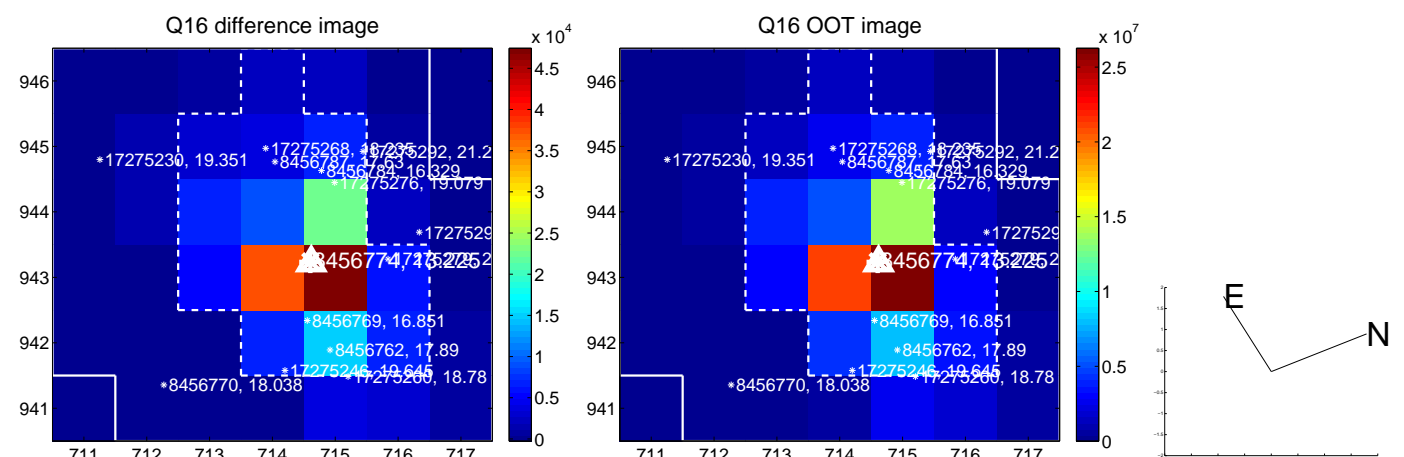
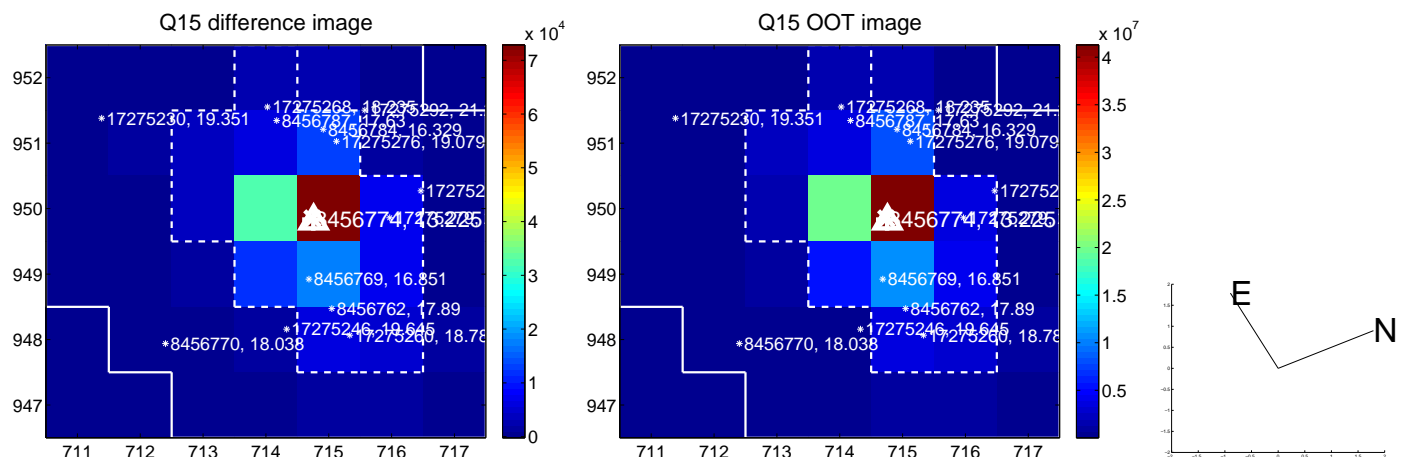
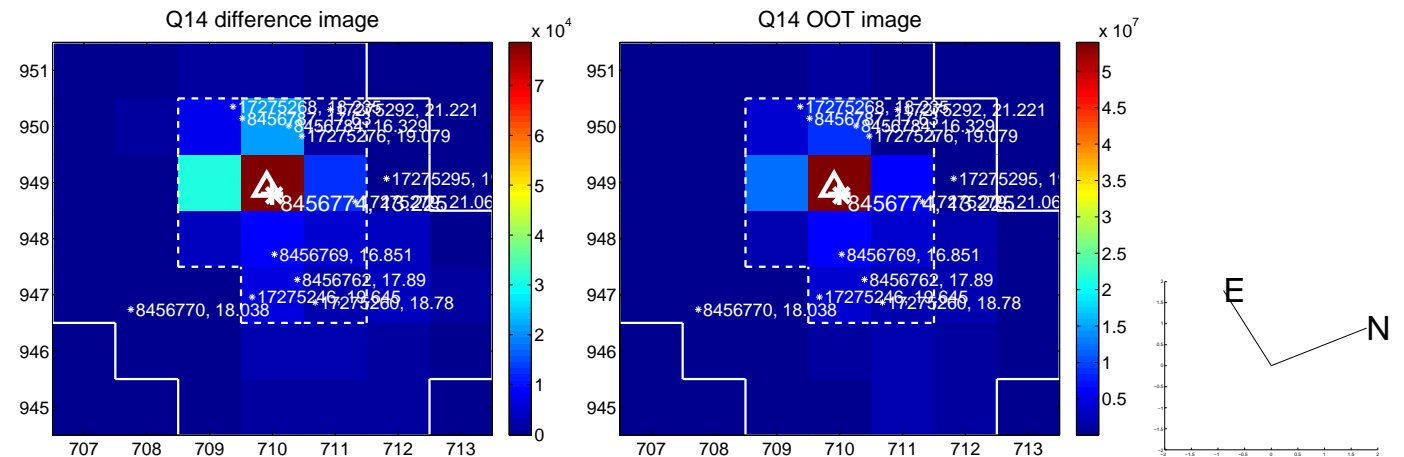
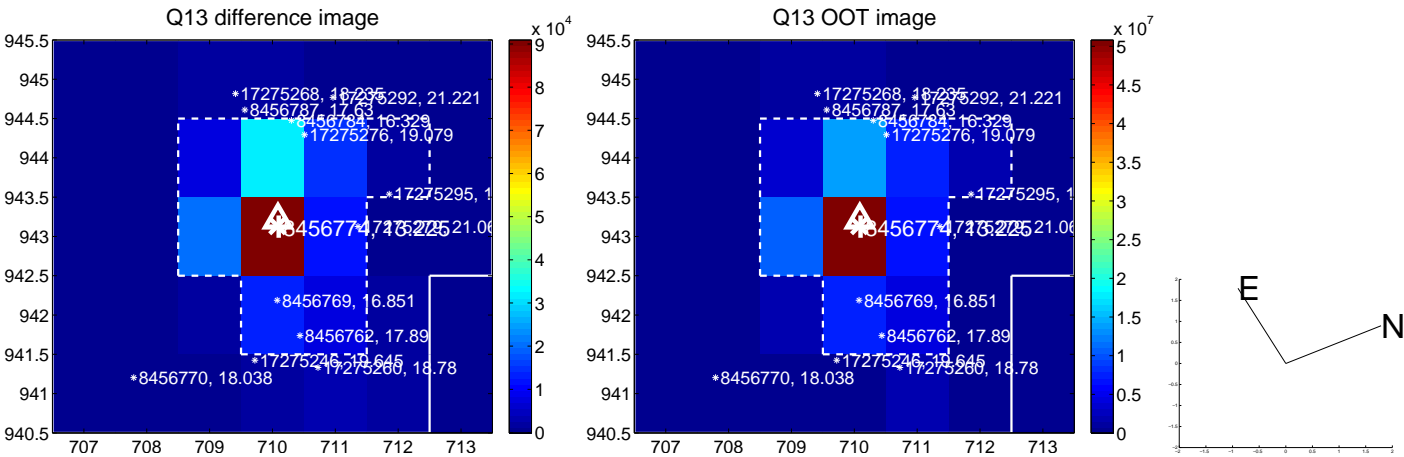
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



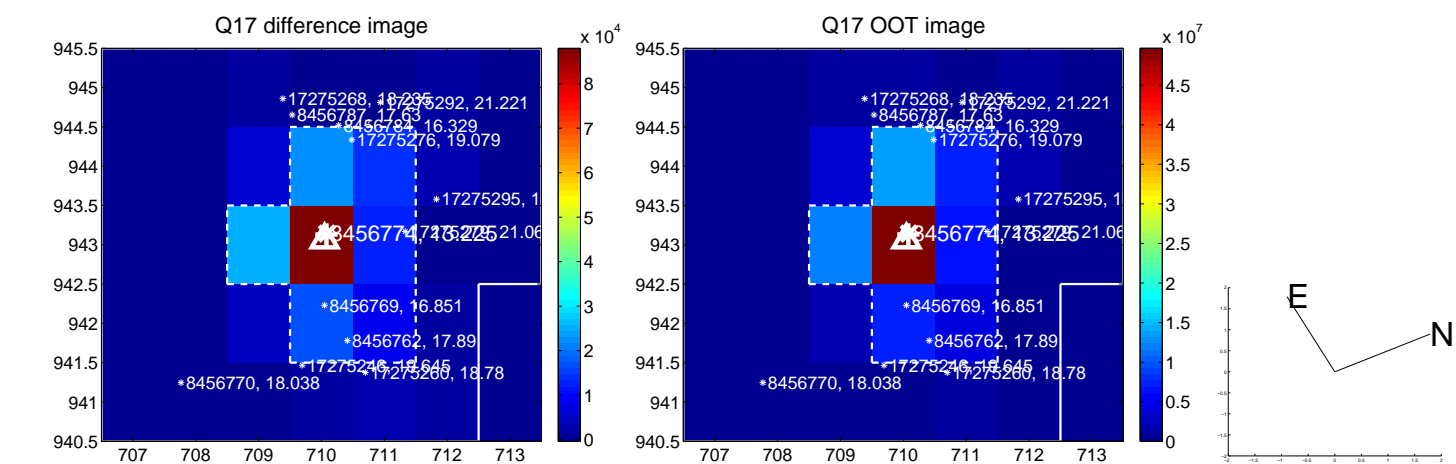
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



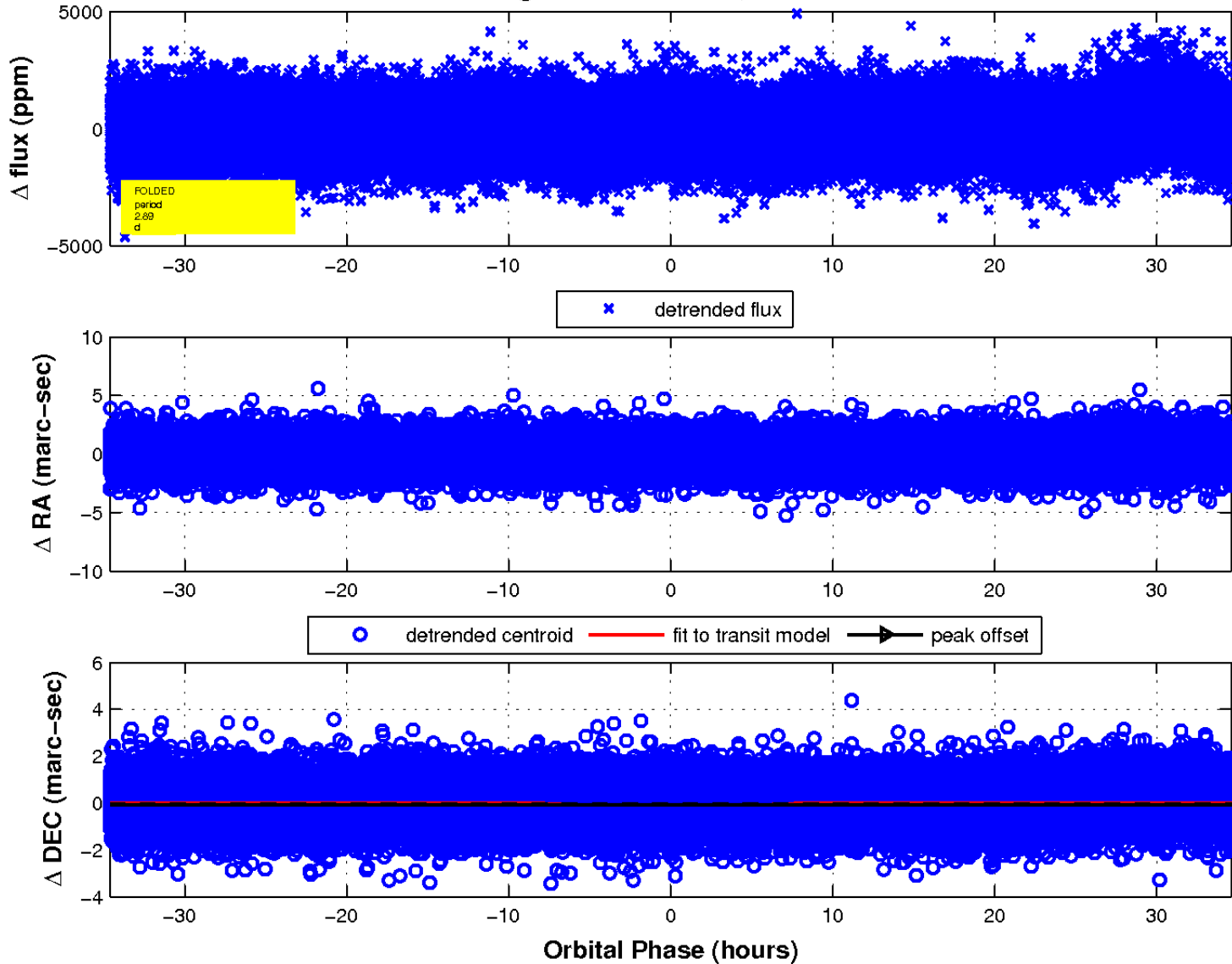
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

