

KIC 010875245

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})
010875245-01	OBS	0117.01	14.749132	138.778684	426.9	6.529	66.2	69.0	1.40	5847	3.42	138.28
010875245-02	OBS	0117.03	3.180021	133.501140	119.3	3.728	35.0	38.5	1.40	5847	1.84	1069.59
010875245-03	OBS	0117.02	4.901449	133.703842	136.4	4.388	33.2	36.4	1.40	5847	1.95	600.75
010875245-04	OBS	0117.04	7.958179	137.813608	49.6	4.736	10.2	10.3	1.40	5847	1.16	314.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010875245-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT
010875245-02	OBS	PC	0.99	0	0	0	0	NO_COMMENT
010875245-03	OBS	PC	1.00	0	0	0	0	CENT_CROWDED
010875245-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

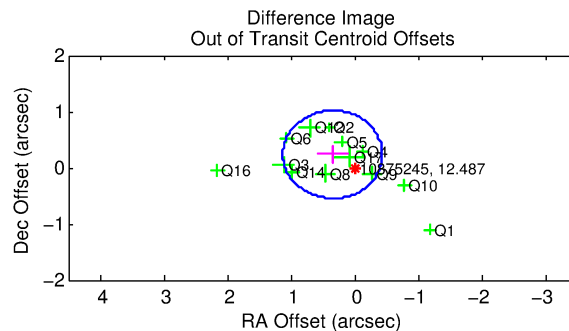
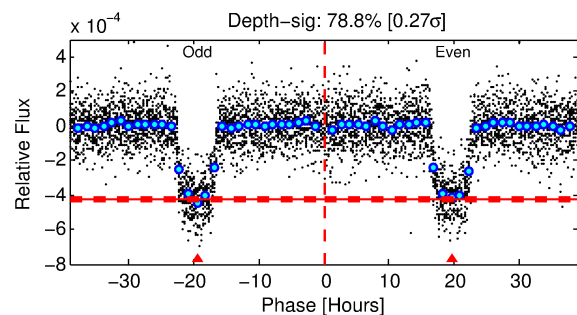
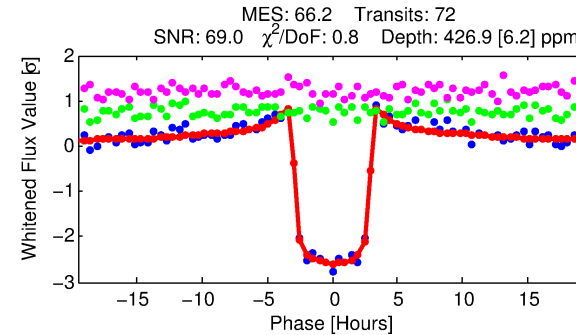
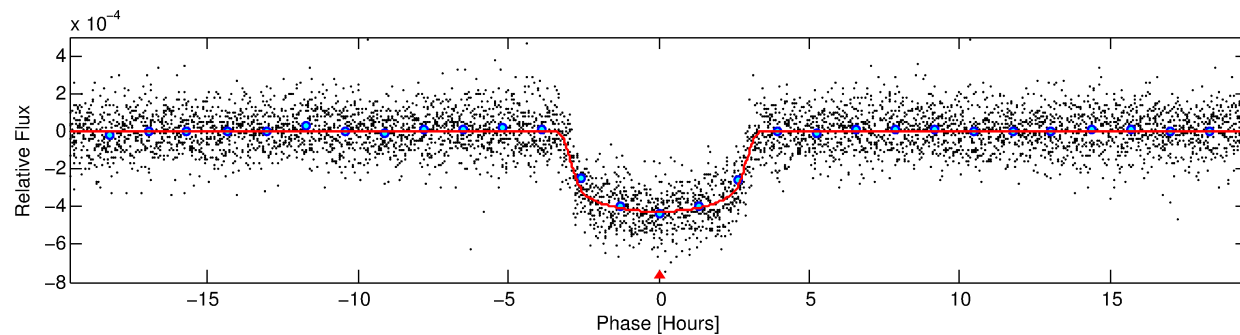
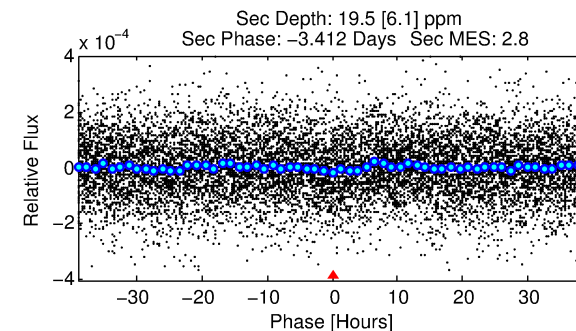
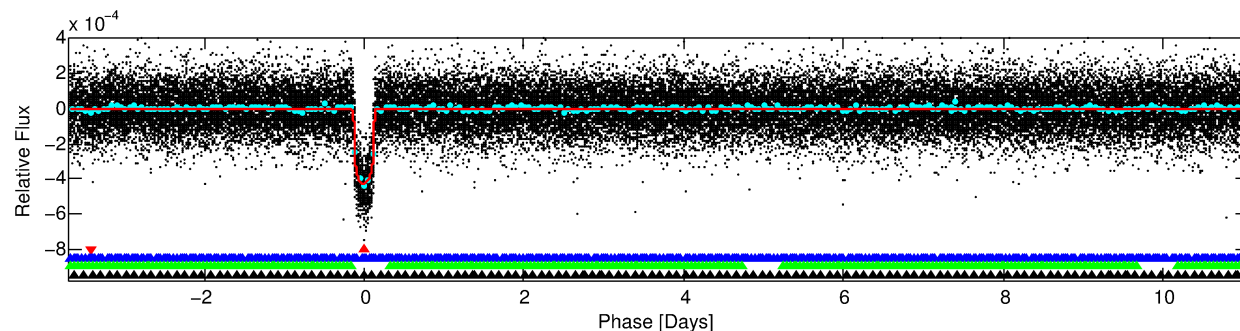
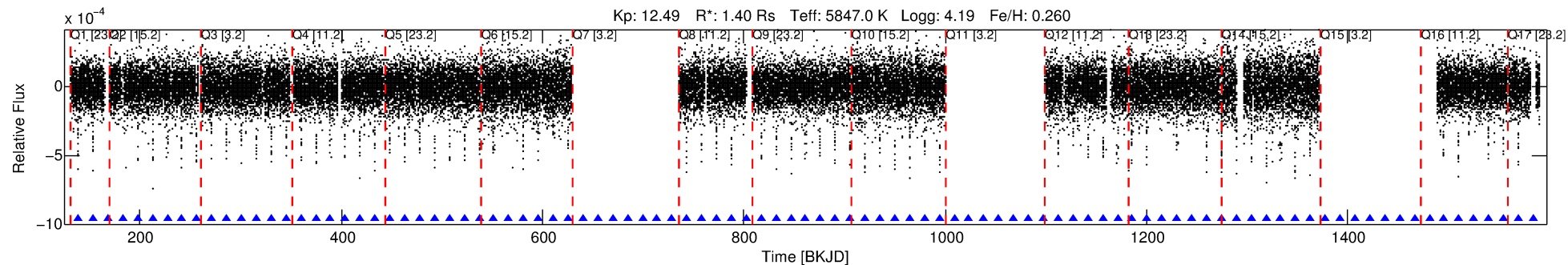
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010875245-01

No Significant Match Found

DV One-Page Summary

KIC: 10875245 Candidate: 1 of 4 Period: 14.749 d
KOI: K00117.01 Name: Kepler-107e Corr: 0.974



DV Fit Results:

Period = 14.74913 [0.00003] d
Epoch = 138.7787 [0.0013] BKJD
Rp/R* = 0.0224 [0.0005]
a/R* = 8.68 [0.73]
b = 0.89 [0.02]
Seff = 138.28 [9.25]
Teq = 874 [15] K
Rp = 3.42 [0.17] Re
a = 0.1220 [0.0041] AU
Ag = 13.68 [4.34] [2.92σ]
Teffp = 2600 [207] K [8.32σ]

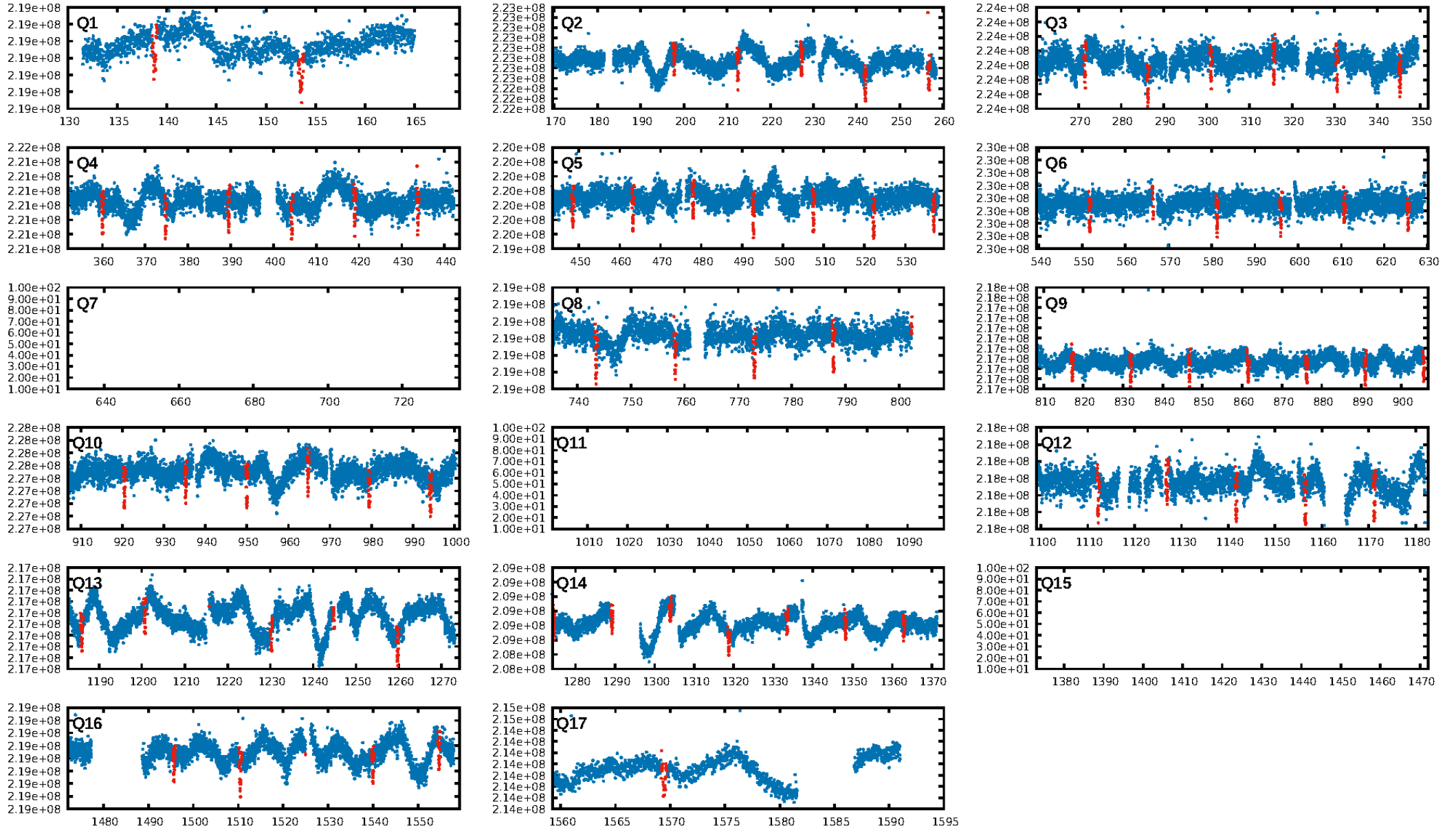
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [20.21σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 51.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [69/69]
GhostDiagnostic-chr: 3.785
Centroid-sig: 0.0%
Centroid-so: 0.217 arcsec [1.99σ]
OotOffset-rm: 0.417 arcsec [1.60σ]
KicOffset-rm: 0.428 arcsec [2.20σ]
OotOffset-st: 4/1/4/4 [13]
KicOffset-st: 4/1/4/4 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 0.64 [9/14]

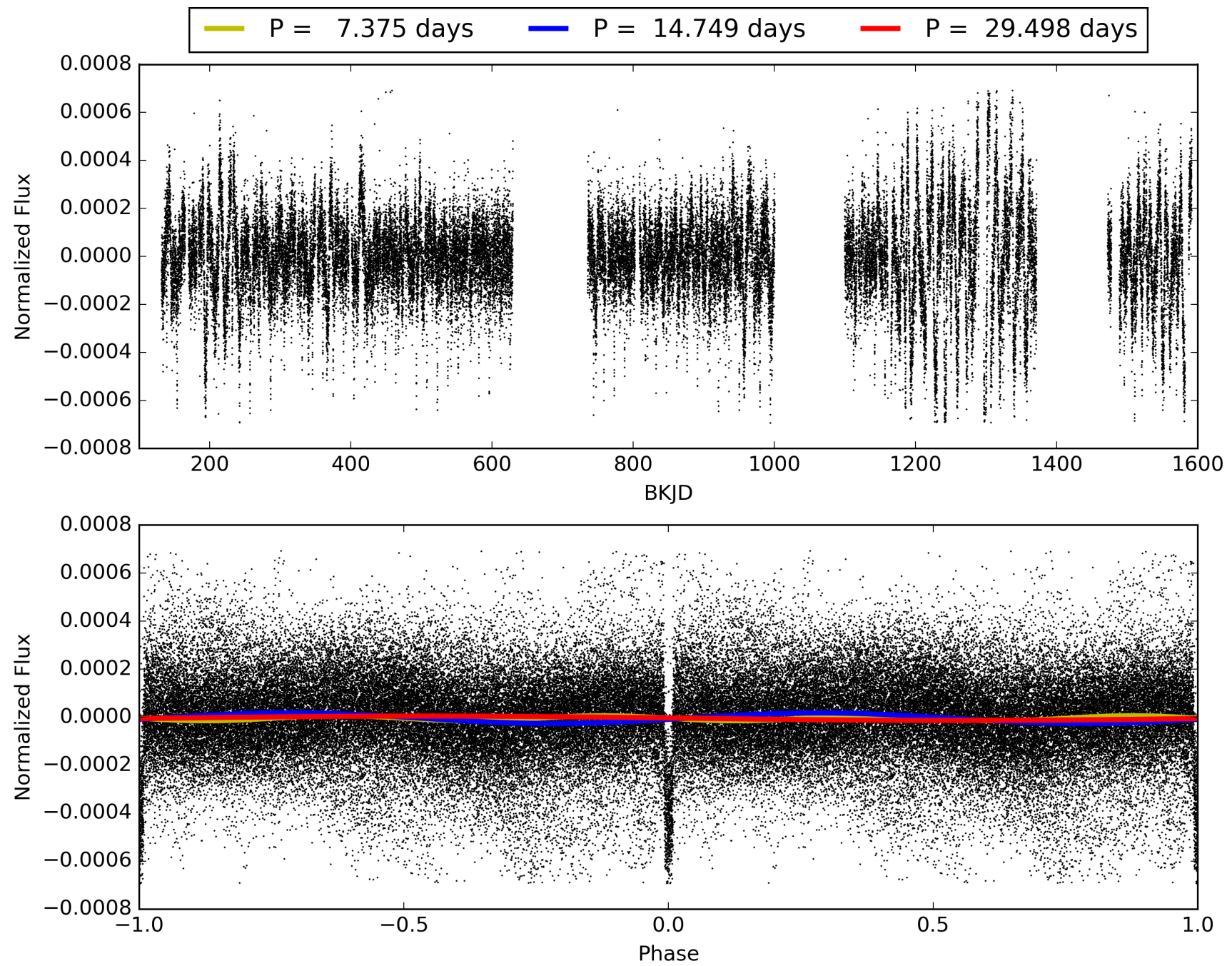
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:06:15 Z

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

TCE 010875245-01, PDC Light Curves

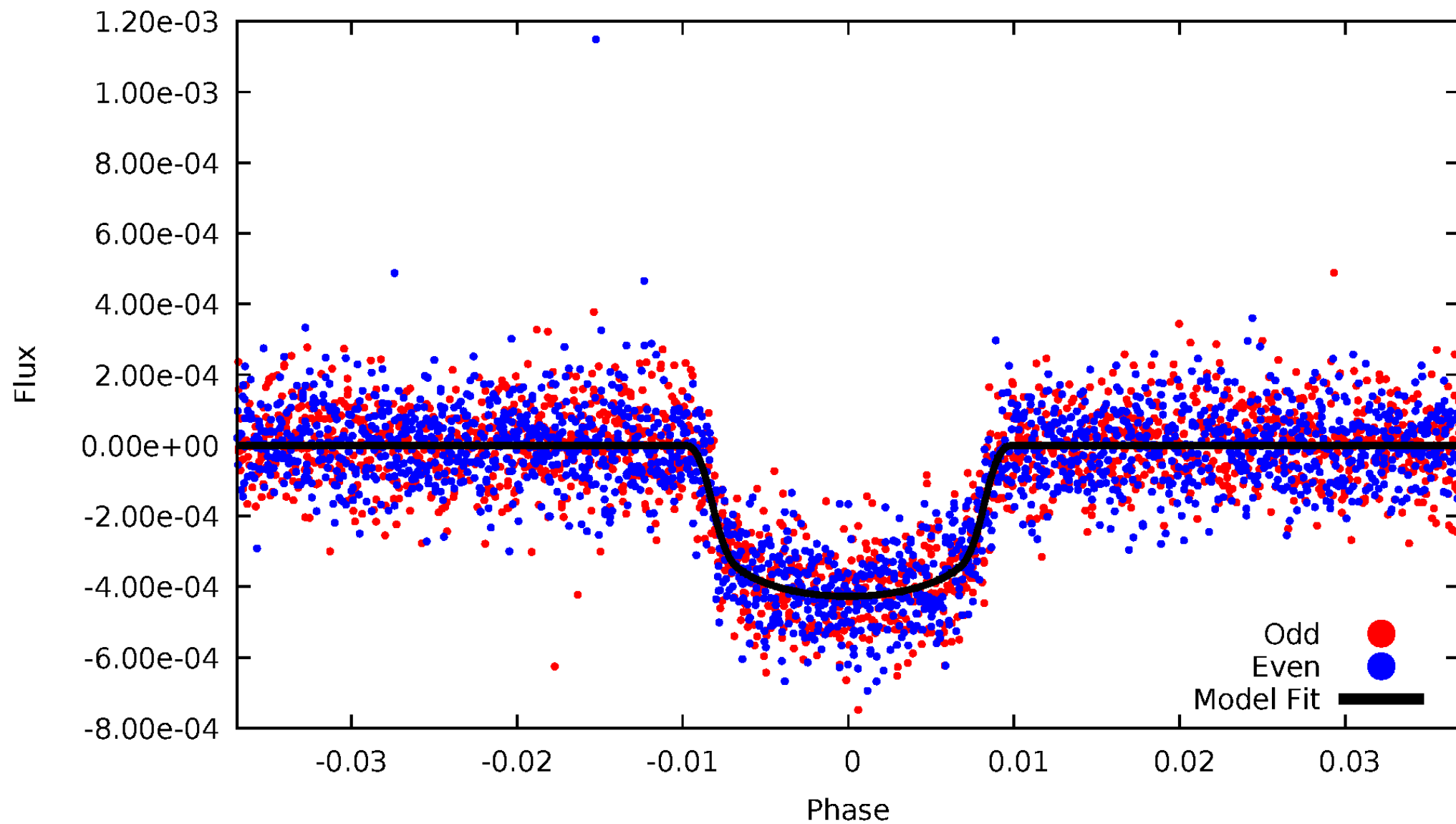


TCE 010875245-01



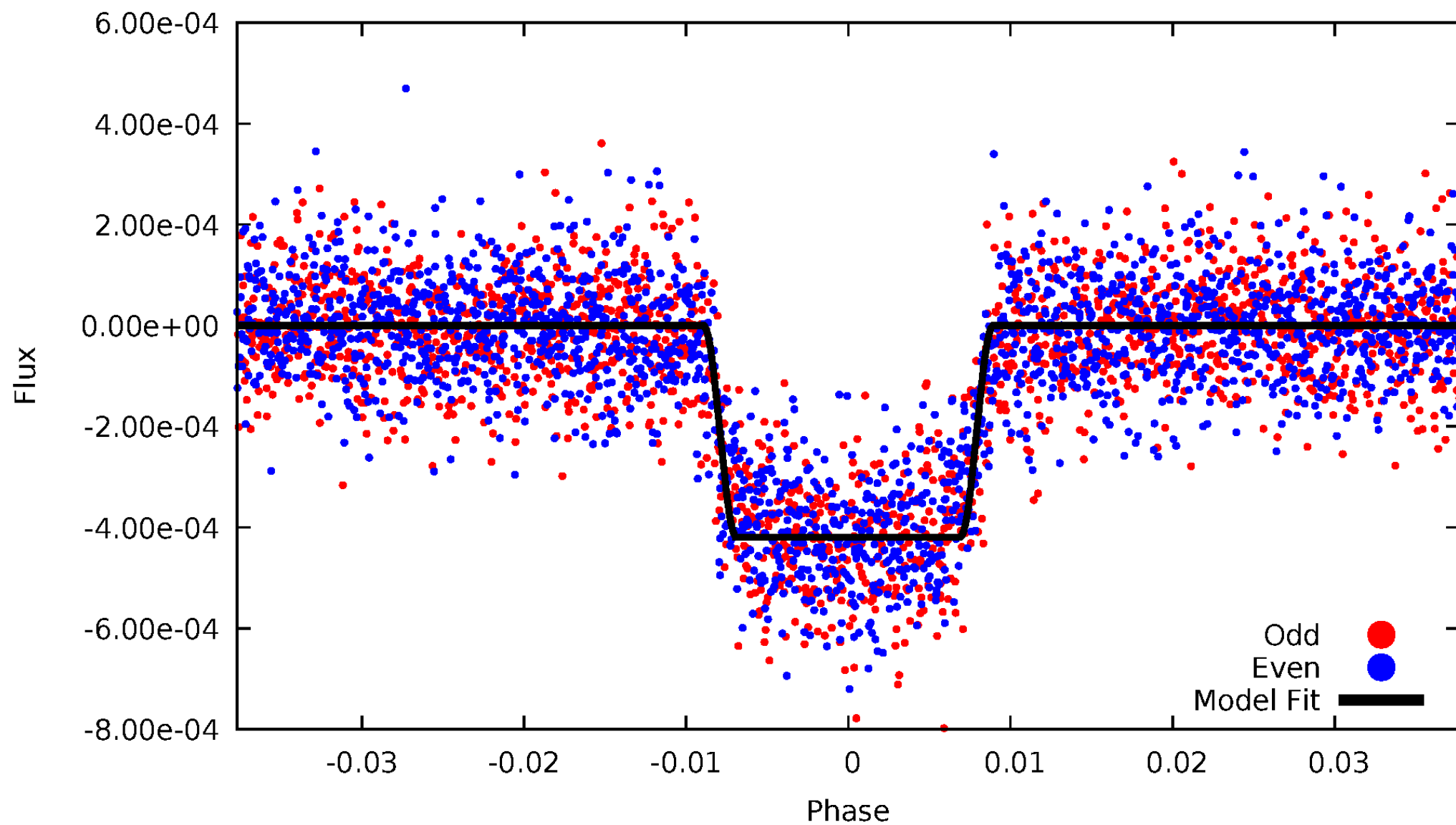
DV Odd/Even

TCE 010875245-01



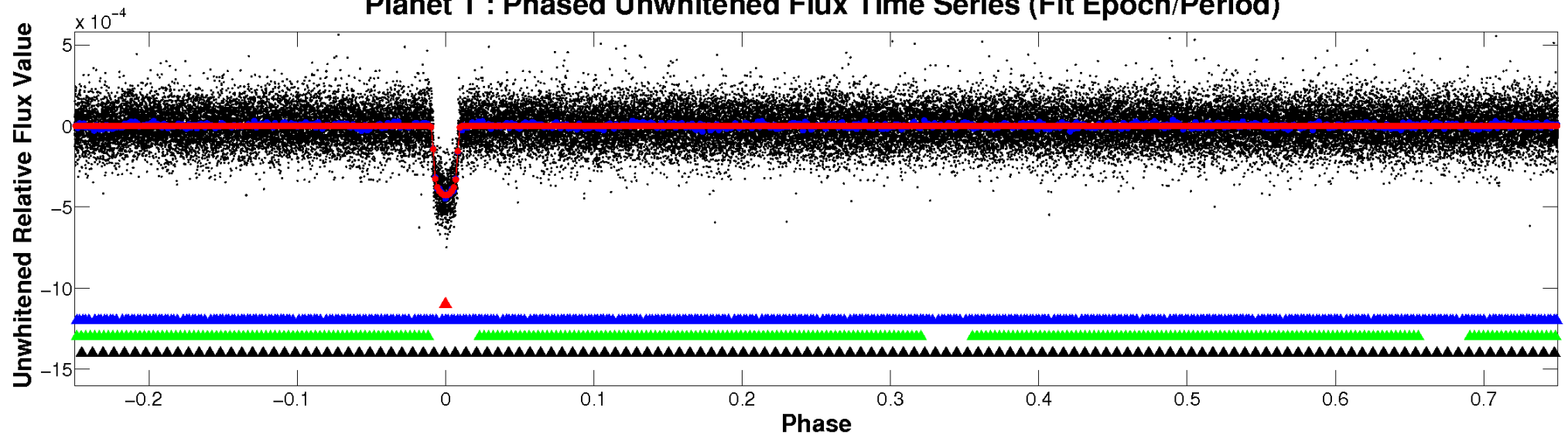
ALT Odd/Even

TCE 010875245-01

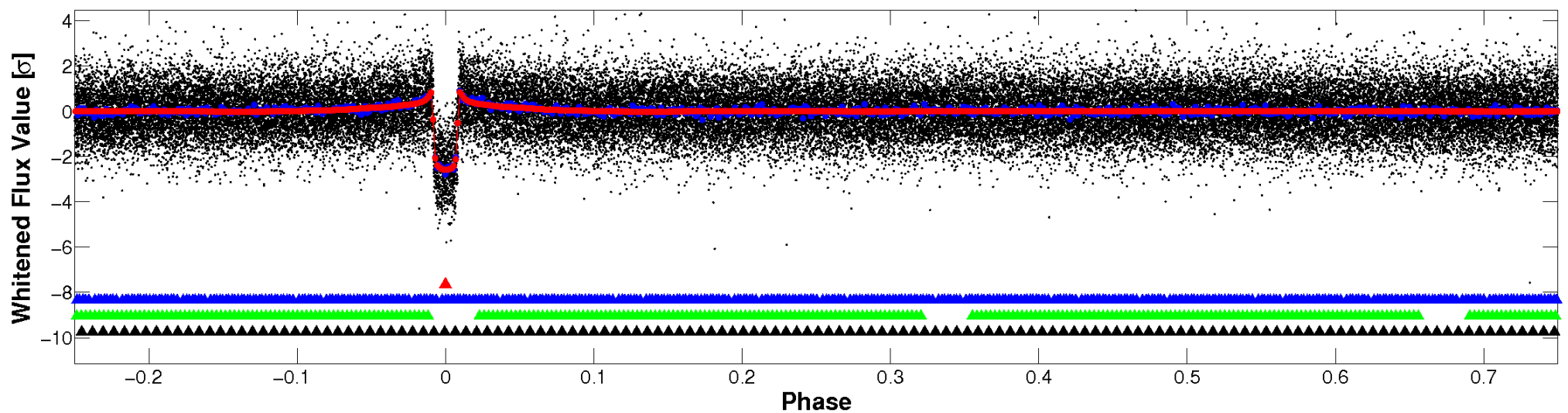


Non-Whitened Vs. Whitened Light Curve

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

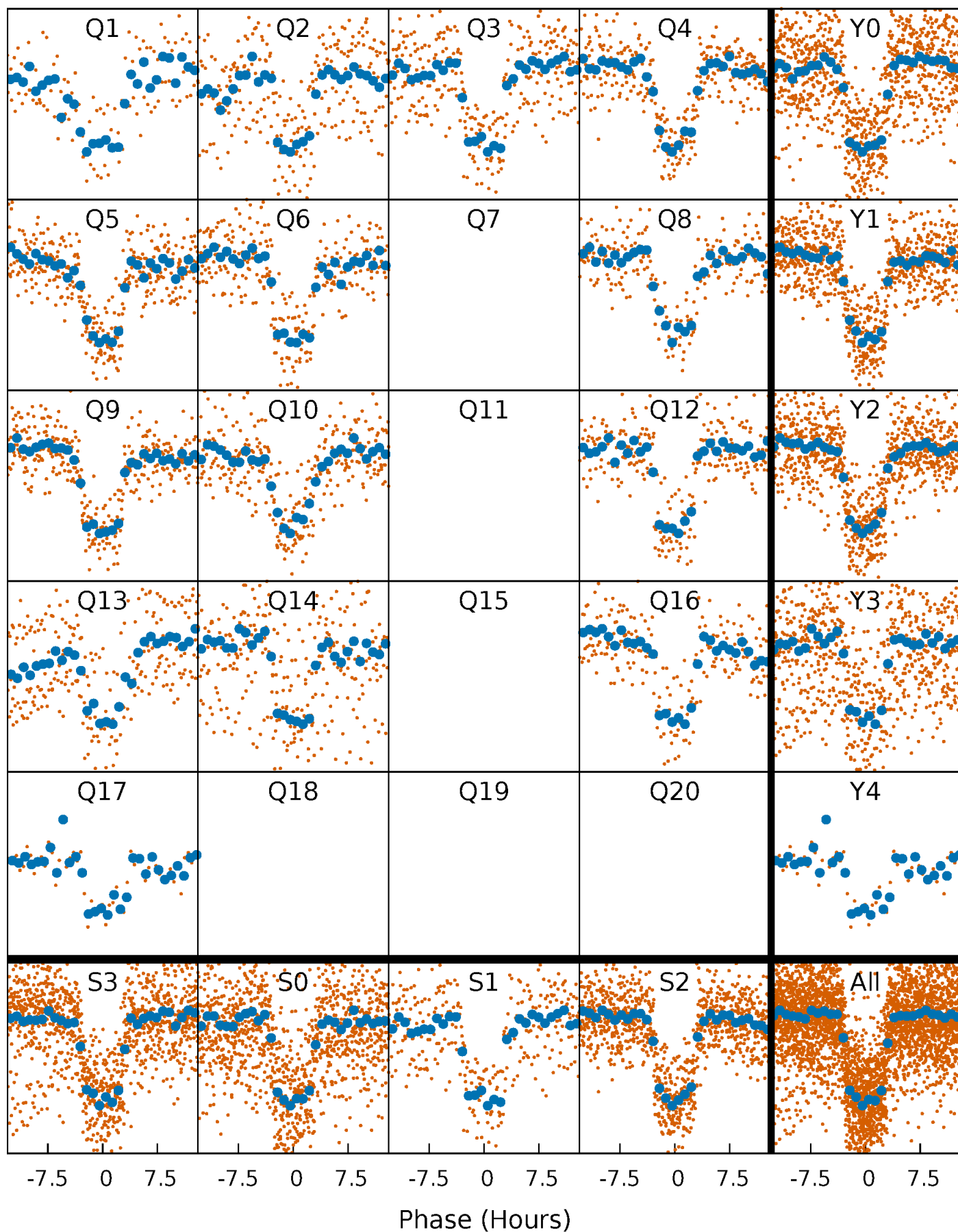


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



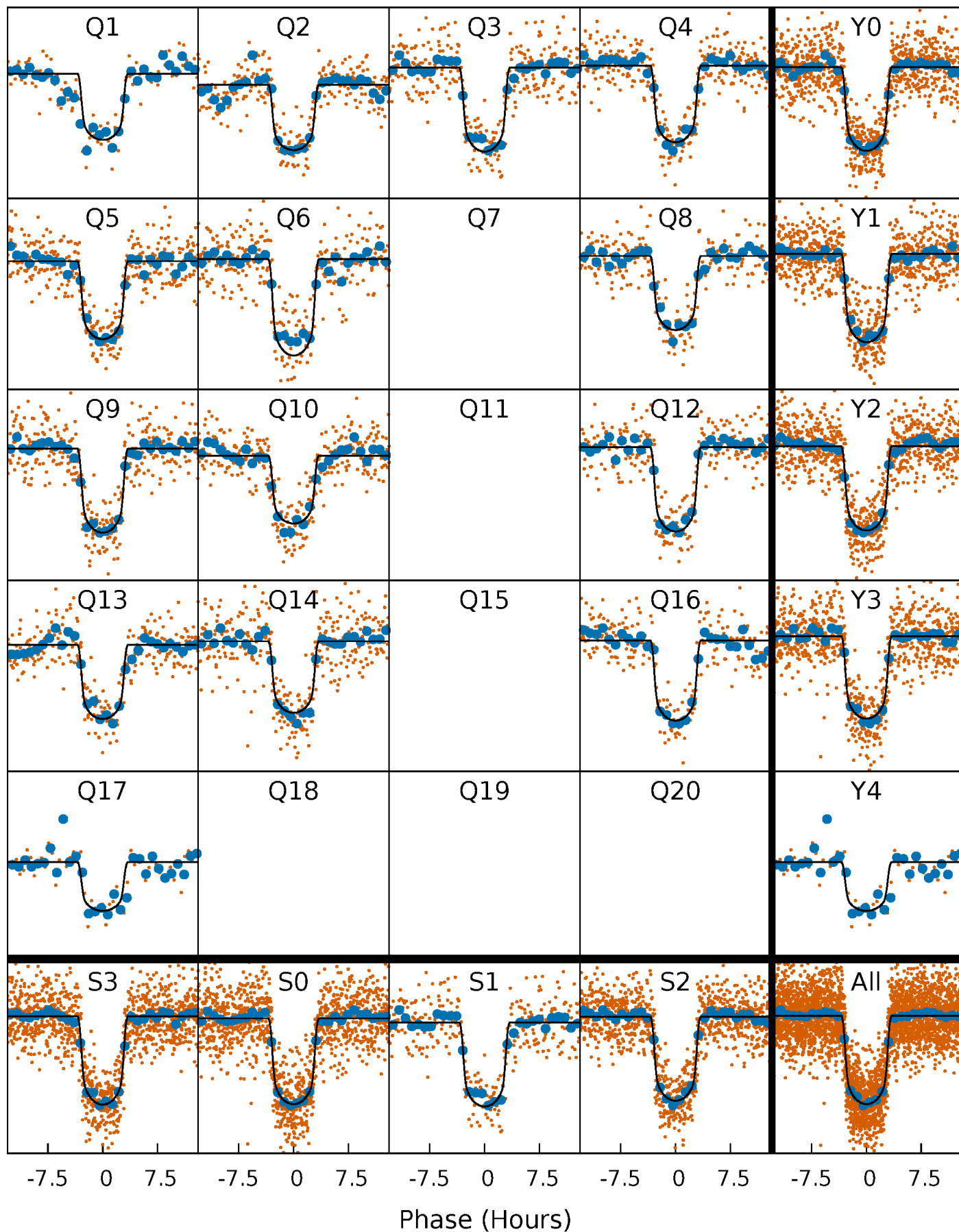
PDC Quarter-Phased Transit Curves

TCE 010875245-01 P= 14.749132 Days $T_0=138.778684$ (BKJD)



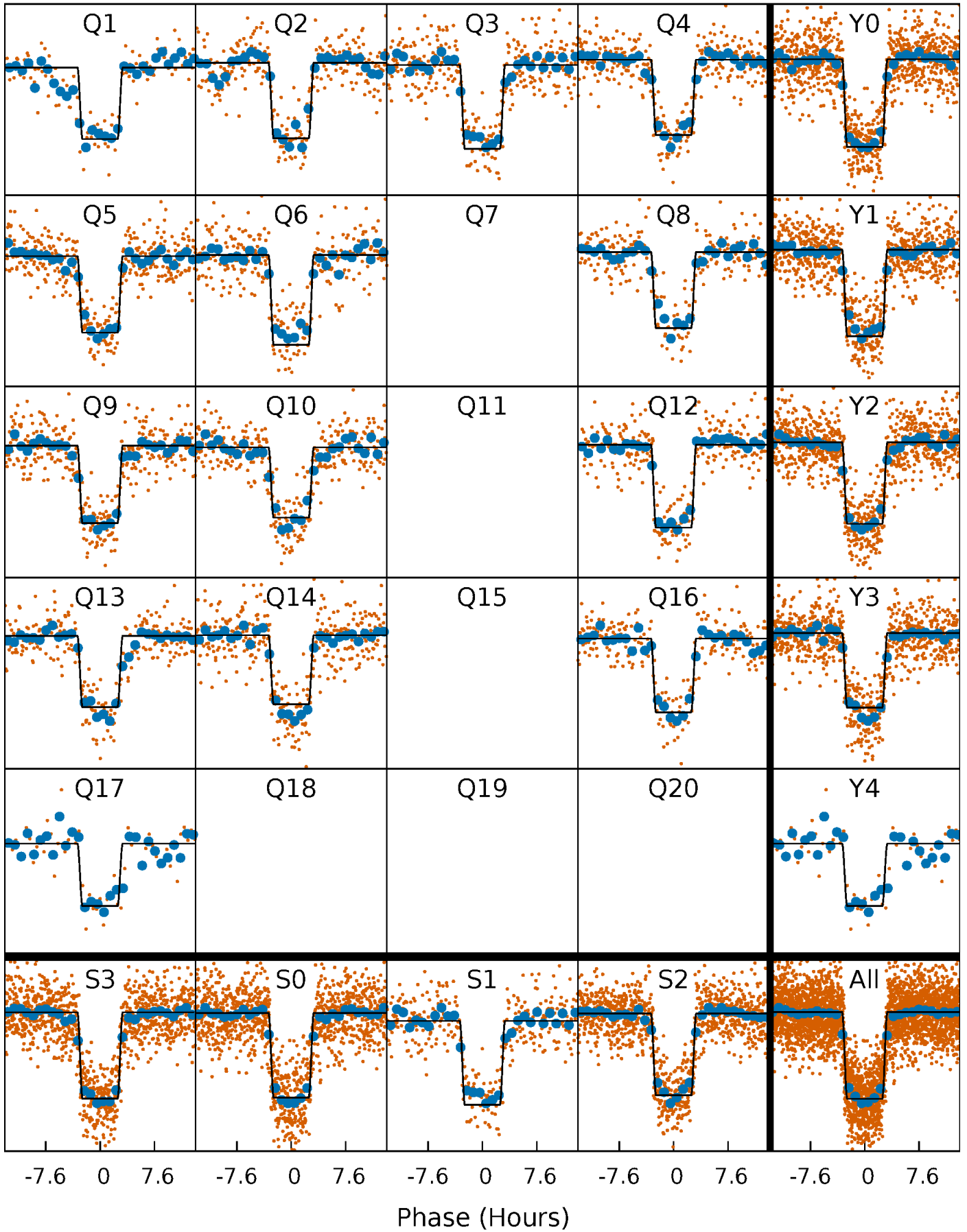
DV Quarter-Phased Transit Curves

TCE 010875245-01 P= 14.749132 Days $T_0=138.778684$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

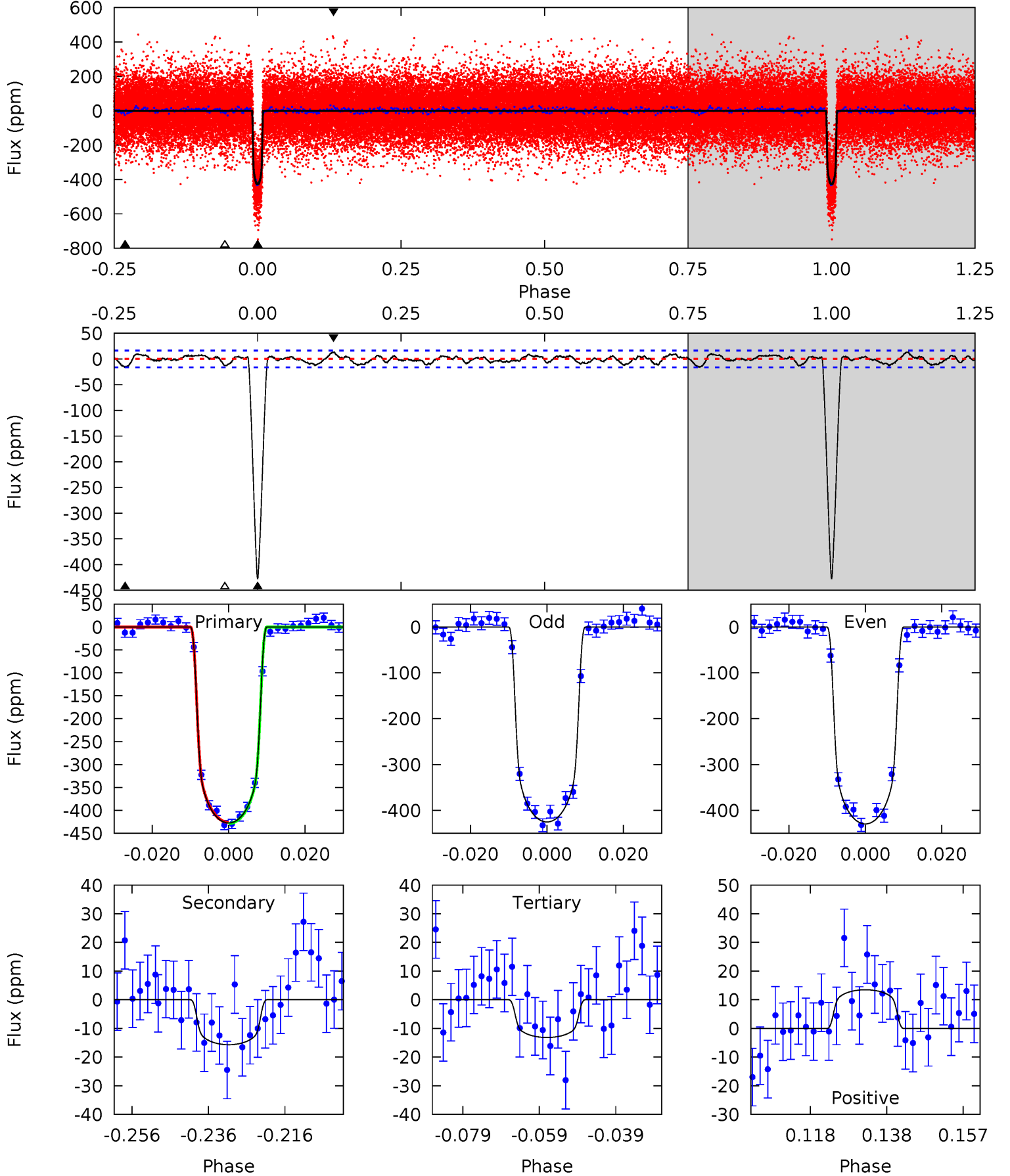
TCE 010875245-01 $P = 14.749095$ Days $T_0 = 138.780429$ (BKJD)



DV Model-Shift Uniqueness Test

010875245-01, $P = 14.749132$ Days, $E = 124.029552$ Days

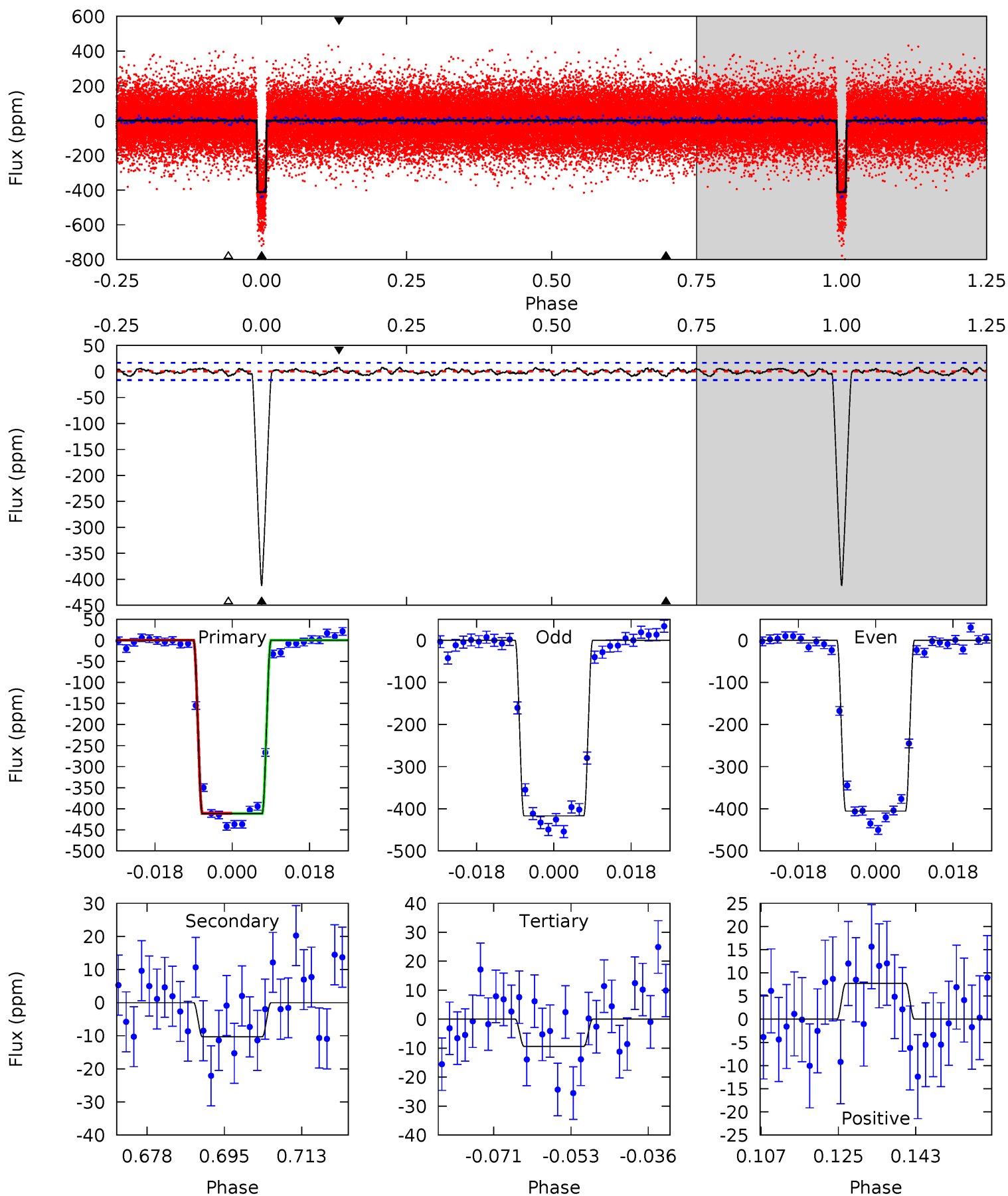
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
128.3	4.71	3.95	4.05	4.89	2.33	1.62	124.4	124.3	0.76	0.66	0.64	0.98	0.03	0.39



Alt Model-Shift Uniqueness Test

010875245-01, $P = 14.749095$ Days, $E = 124.031334$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
121.9	3.05	2.78	2.29	4.91	2.37	1.10	119.1	119.6	0.27	0.76	1.68	1.00	0.02	0.10



Stellar Parameters For KIC 010875245

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5847^{+64}_{-75}	$4.191^{+0.020}_{-0.018}$	$0.260^{+0.100}_{-0.100}$	$1.402^{+0.063}_{-0.046}$	$1.113^{+0.092}_{-0.050}$	$0.569^{+0.043}_{-0.044}$
	+1%/-1%	+0%/-0%	+38%/-38%	+4%/-3%	+8%/-4%	+8%/-8%
Source	SPE8	AST8	SPE8	DSEP		

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

Secondary Eclipse Parameters for KIC 010875245-01 / KOI 0117.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-16 ± 3	$3.43^{+0.11}_{-0.11}$	1221^{+18}_{-19}	3082^{+96}_{-114}	11^{+2}_{-3}
Alt.	-10 ± 3	$3.13^{+0.11}_{-0.10}$	1221^{+17}_{-18}	2972^{+121}_{-159}	$8.630^{+2.648}_{-2.682}$

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

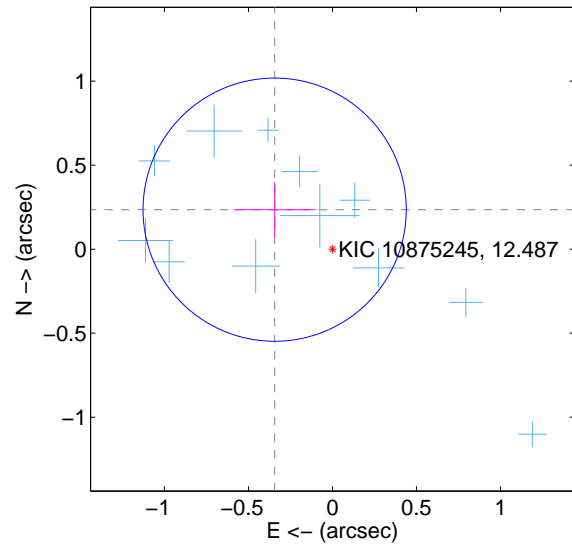
Supplemental centroid analysis for 010875245-01. Kepler magnitude: 12.49. Transit SNR 68.96

There are 13 quarters with good PRF difference image offsets

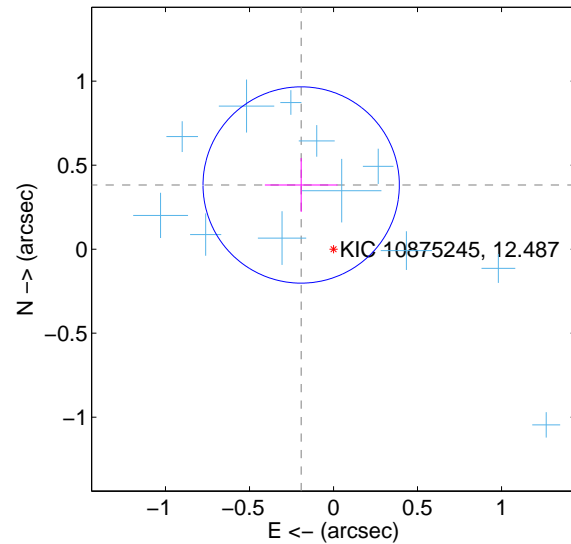
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.417 ± 0.261	1.60	0.344 ± 0.244	0.235 ± 0.163
PRF-fit source offset from KIC position	0.428 ± 0.195	2.20	0.192 ± 0.216	0.382 ± 0.160
photometric centroid source offset	0.22 ± 0.11	1.99	-0.21 ± 0.11	-0.06 ± 0.11

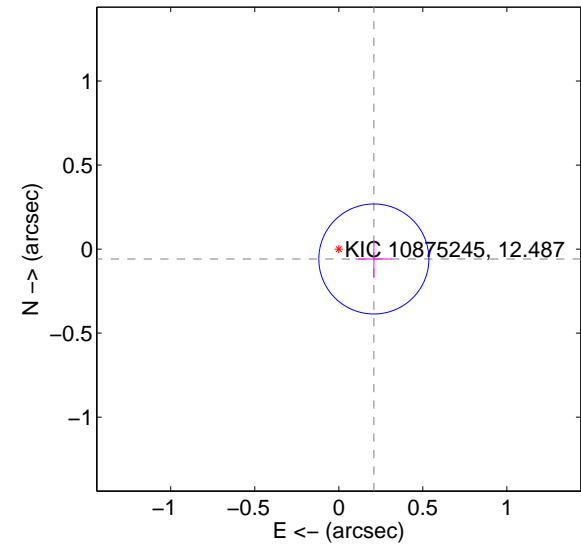
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

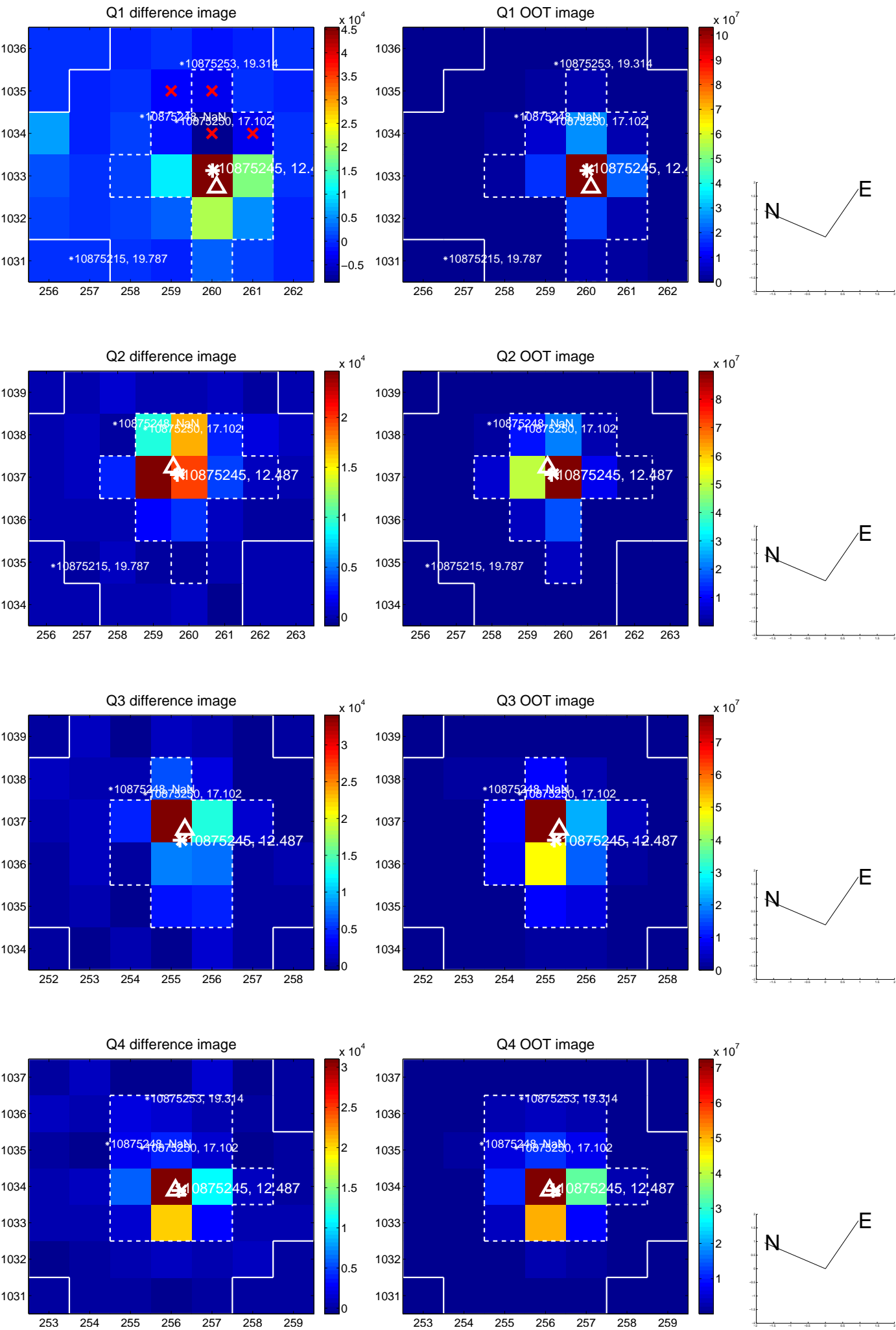


offset from photometric centroids

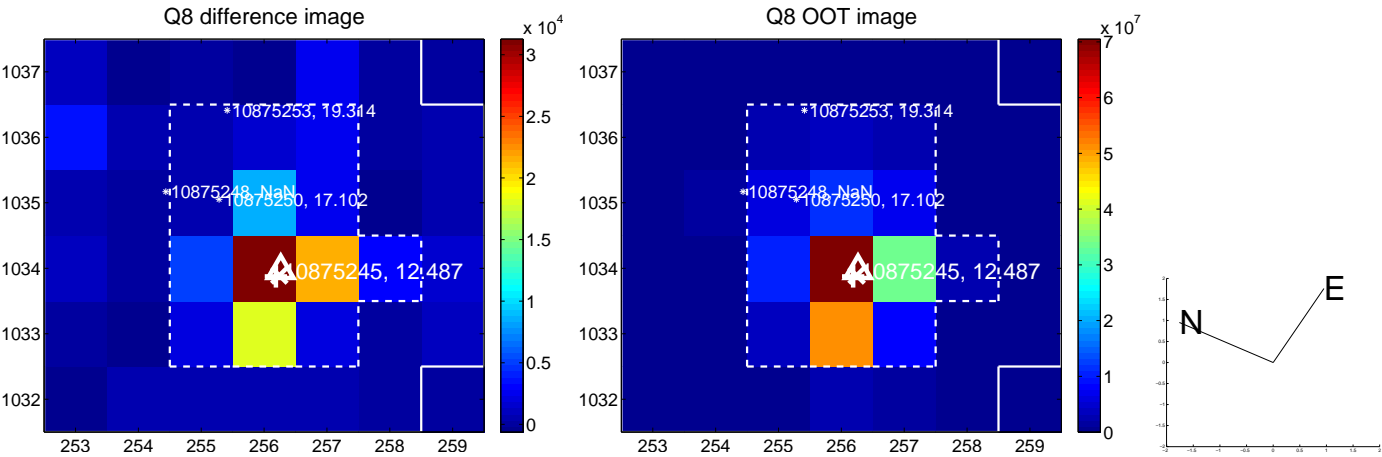
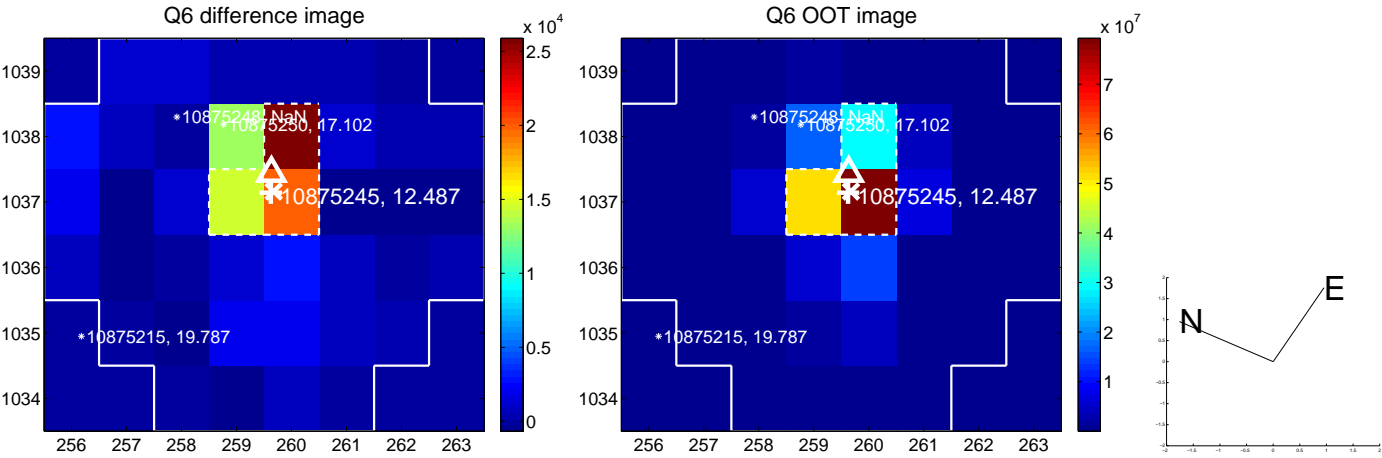
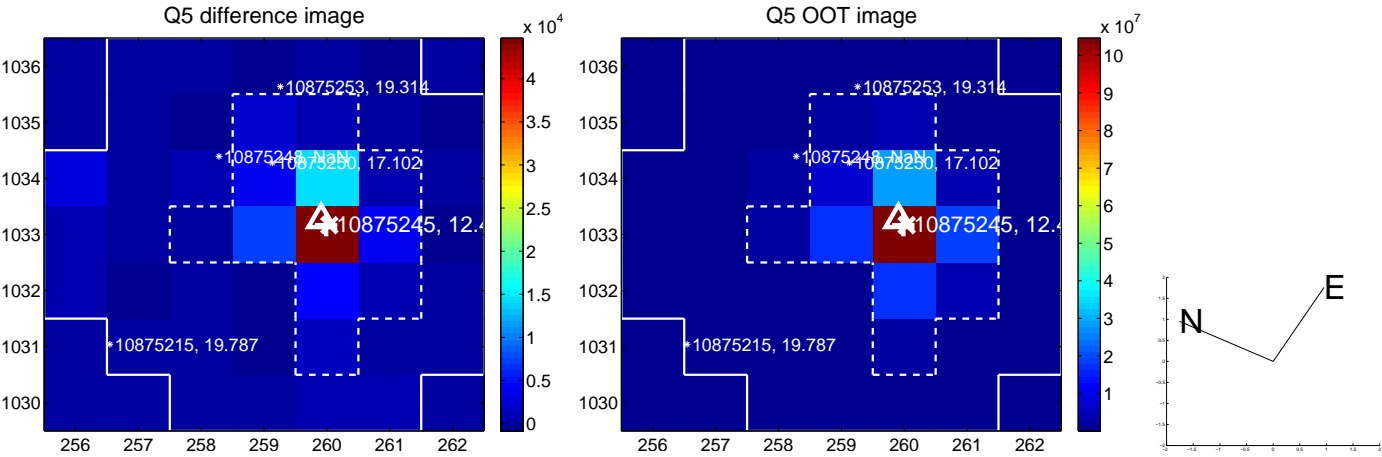


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

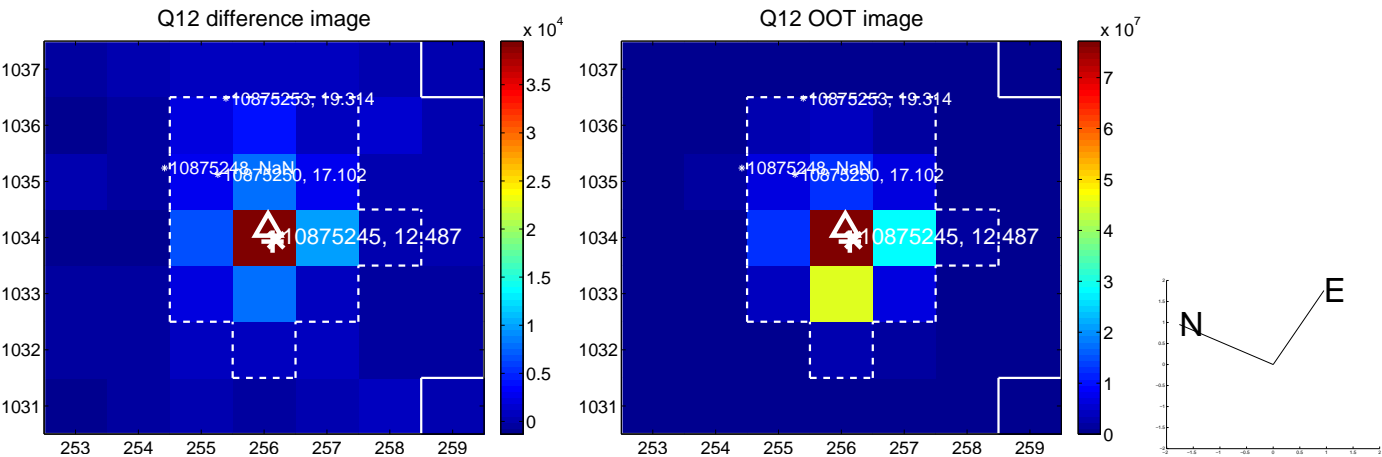
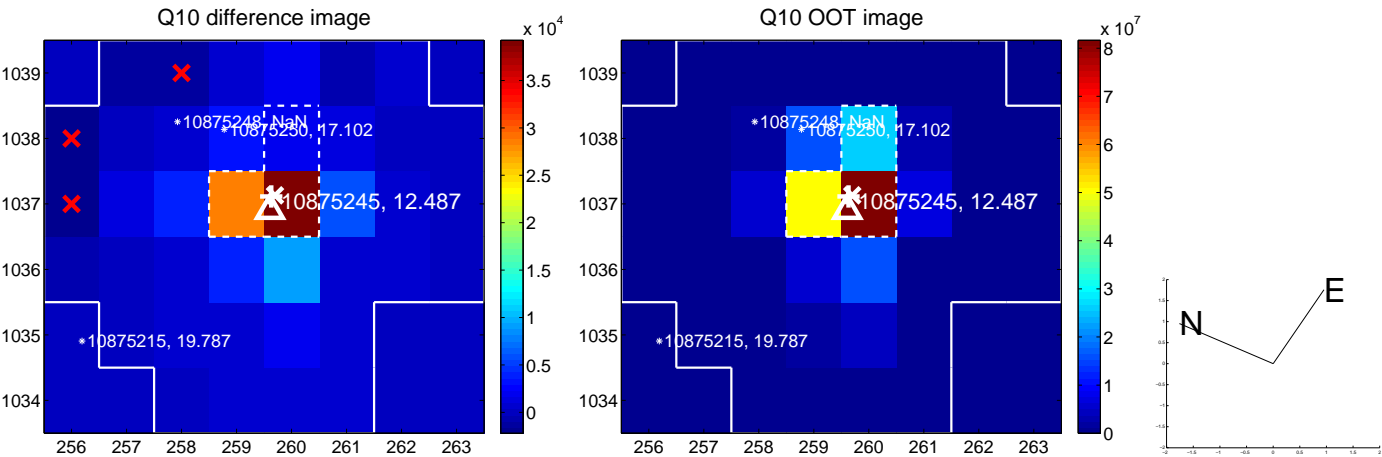
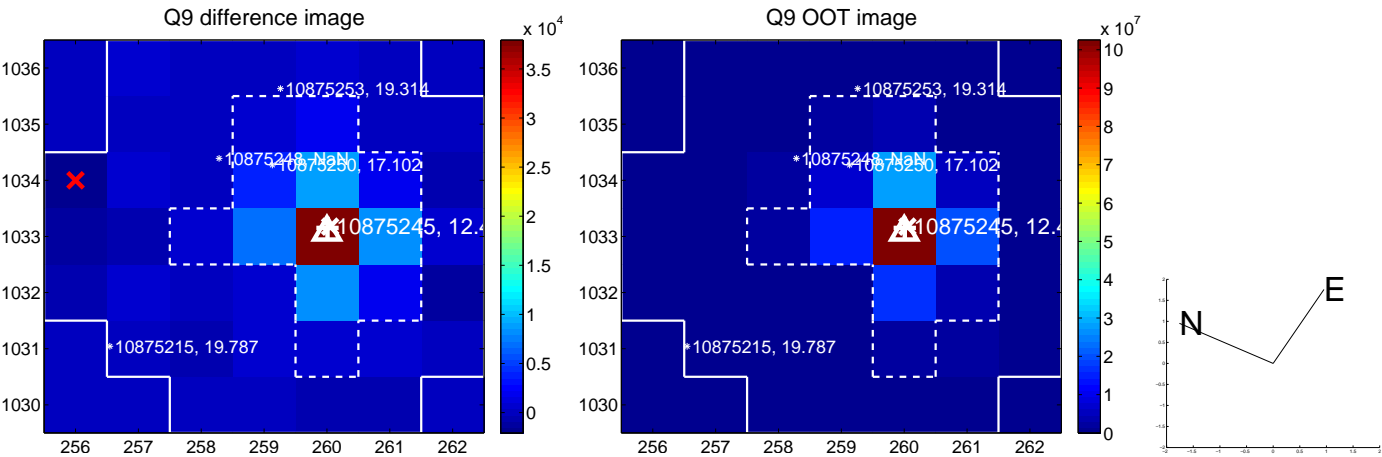
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



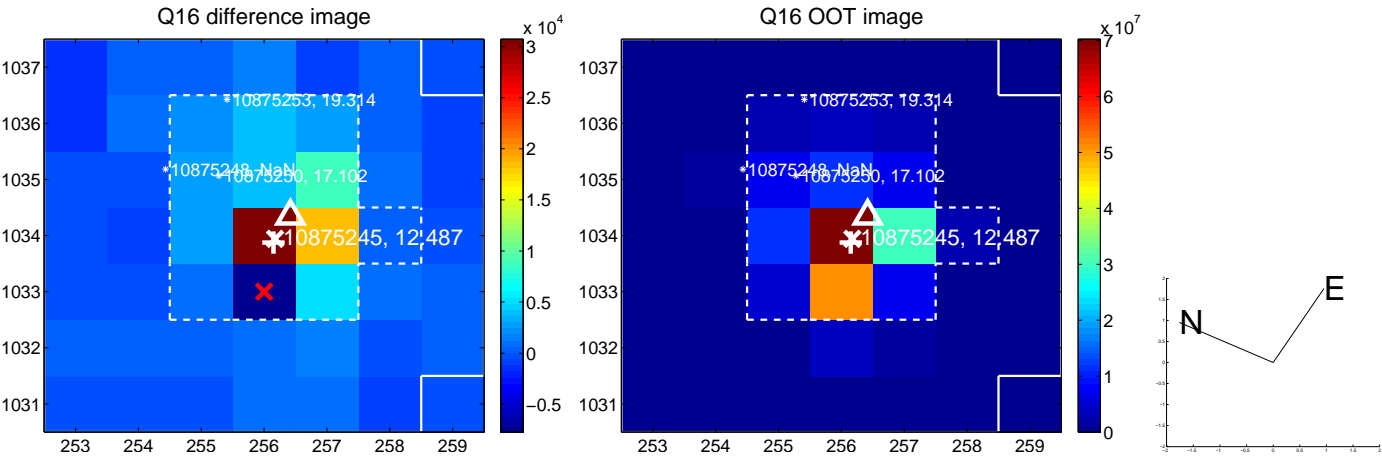
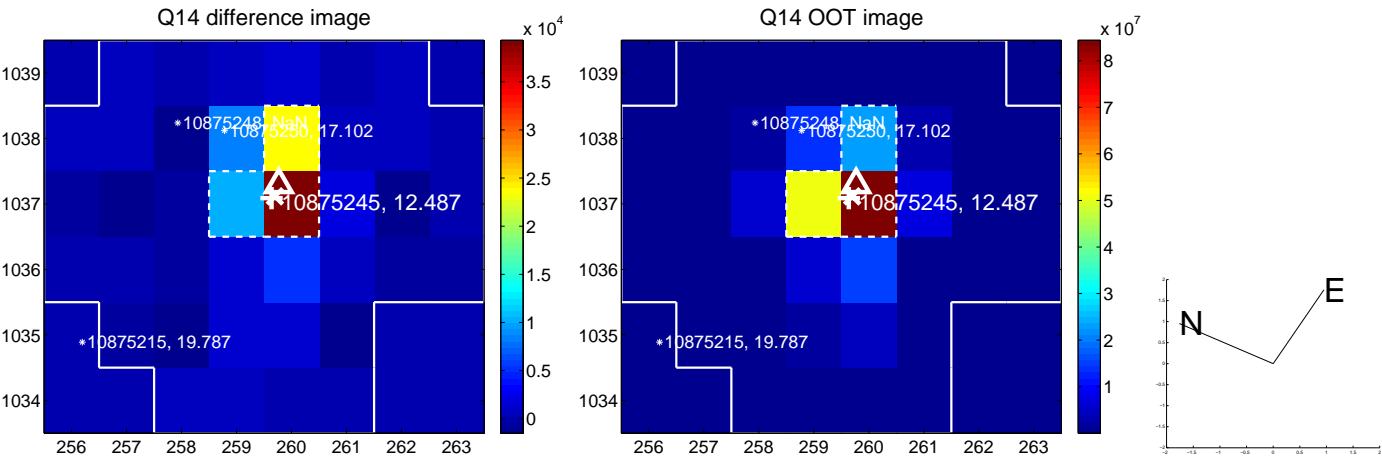
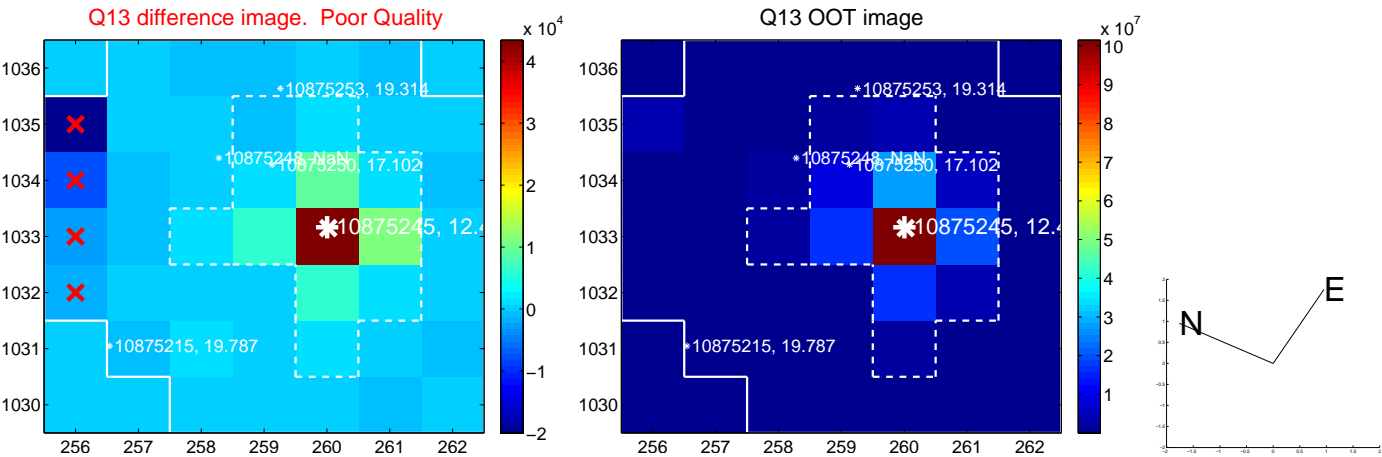
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



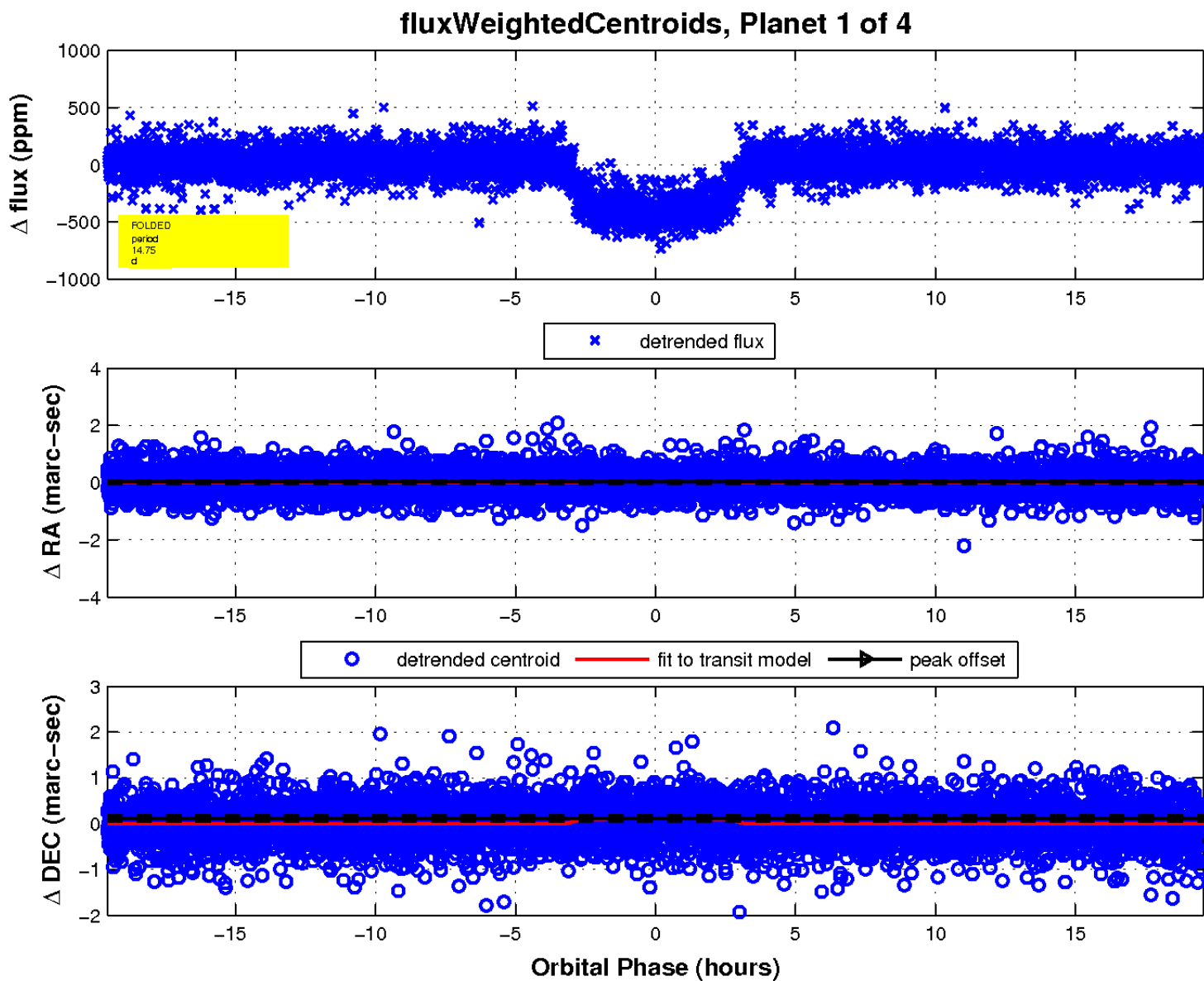
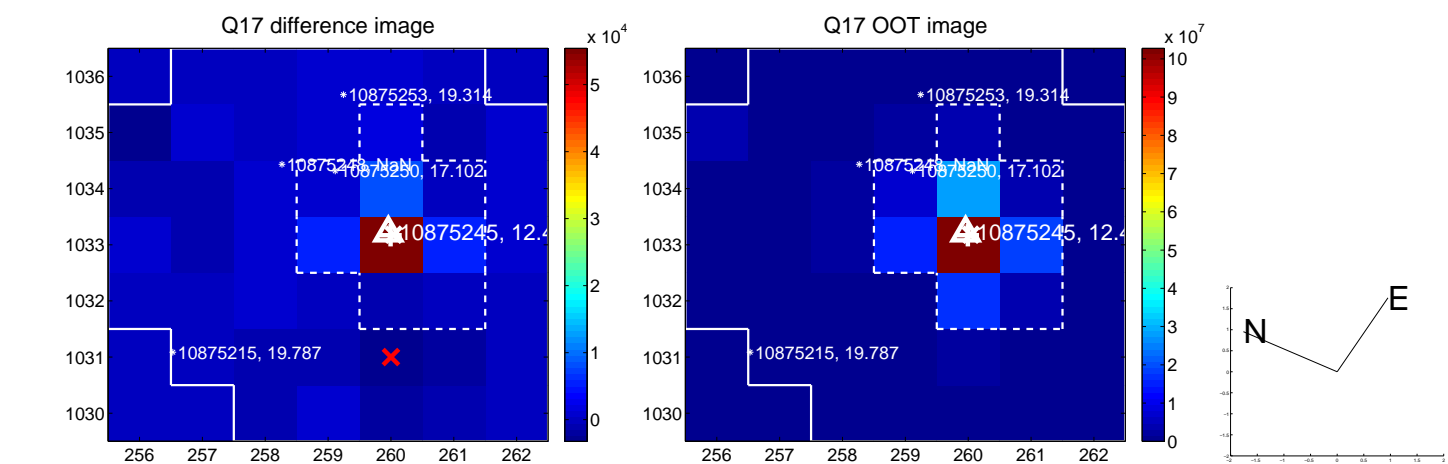
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



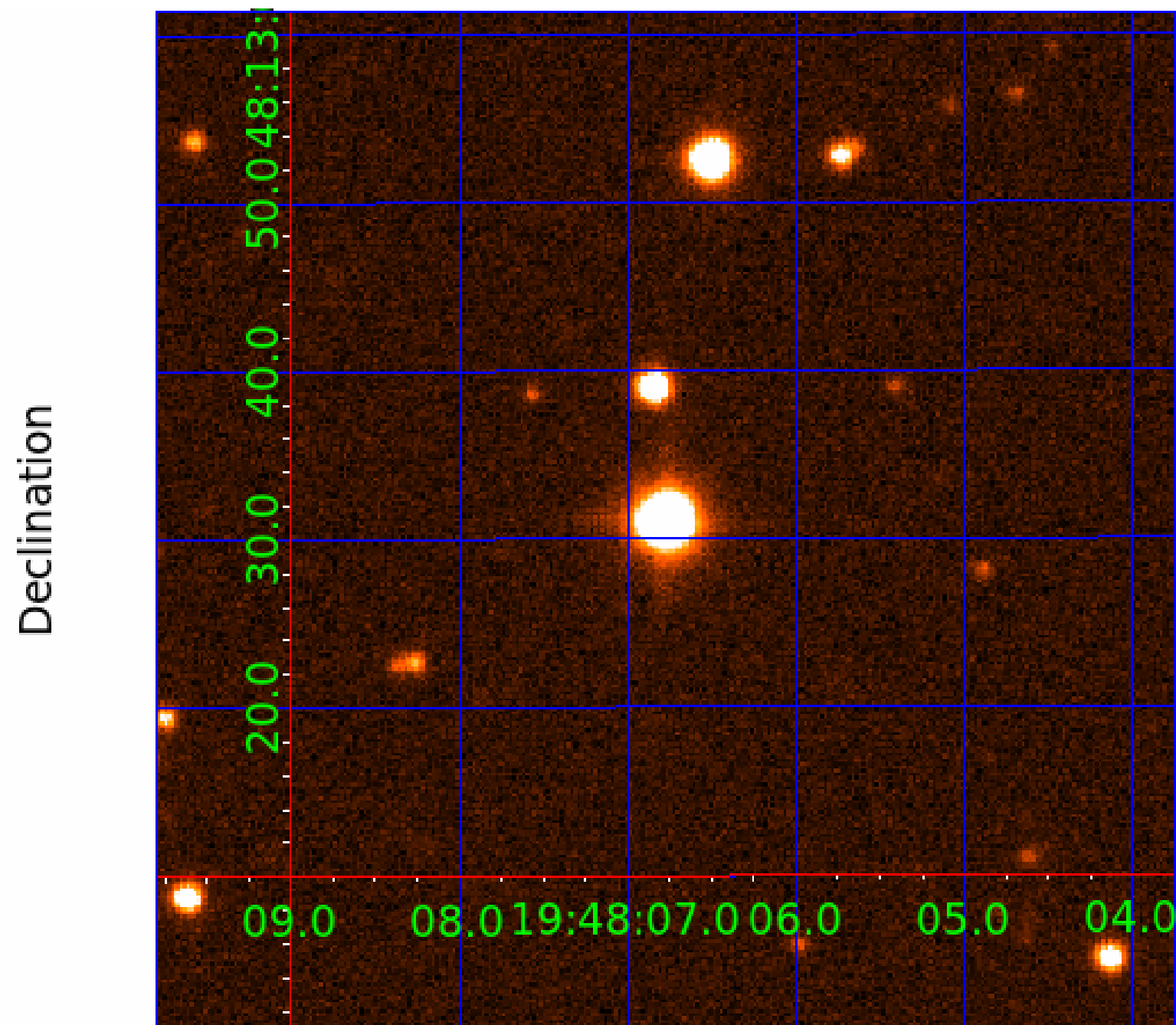
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 010875245

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})
010875245-01	OBS	0117.01	14.749132	138.778684	426.9	6.529	66.2	69.0	1.40	5847	3.42	138.28
010875245-02	OBS	0117.03	3.180021	133.501140	119.3	3.728	35.0	38.5	1.40	5847	1.84	1069.59
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010875245-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT
010875245-02	OBS	PC	0.99	0	0	0	0	NO_COMMENT
010875245-03	OBS	PC	1.00	0	0	0	0	CENT_CROWDED
010875245-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

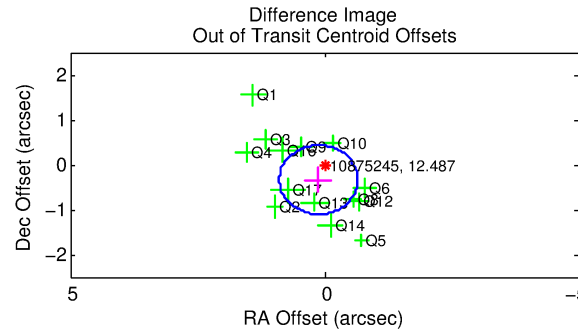
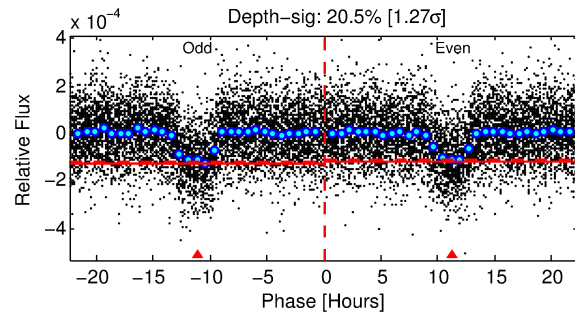
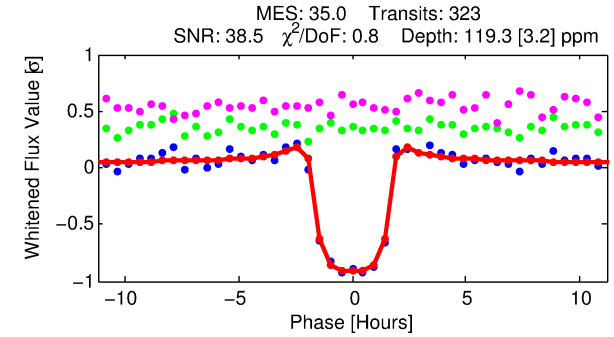
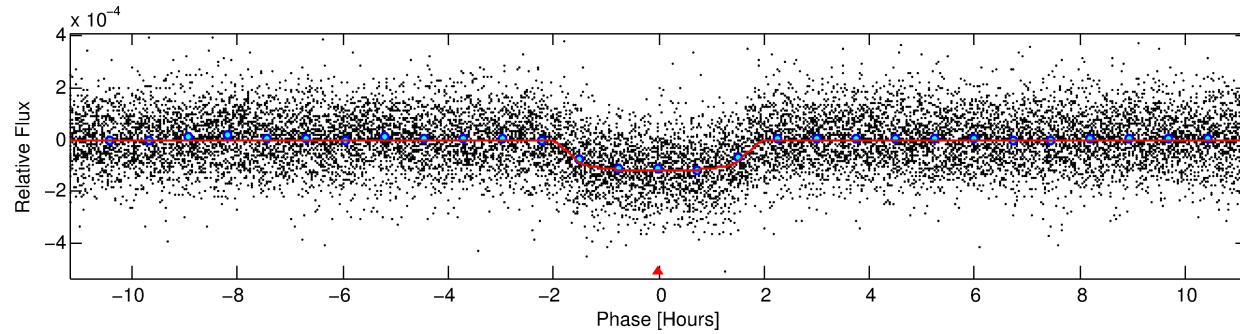
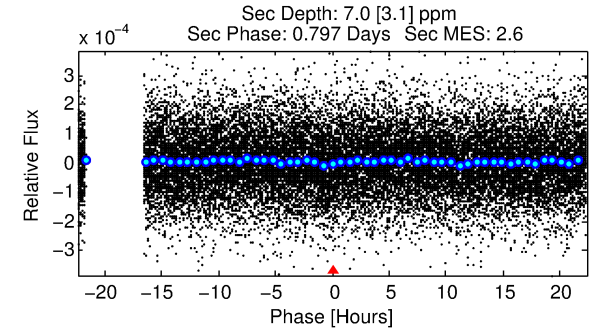
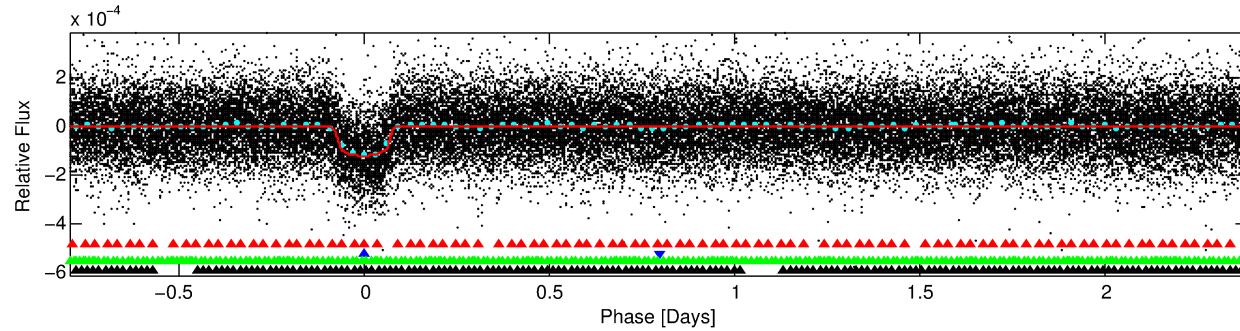
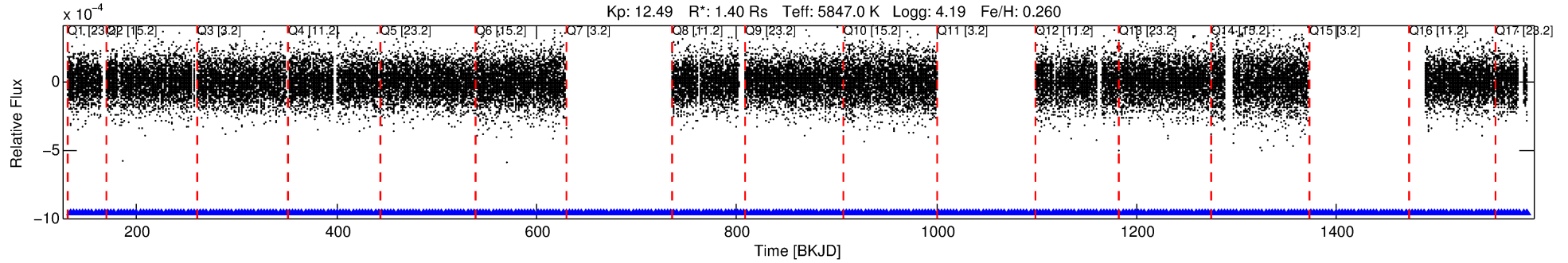
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010875245-02

No Significant Match Found

DV One-Page Summary

KIC: 10875245 Candidate: 2 of 4 Period: 3.180 d
KOI: K00117.03 Name: Kepler-107b Corr: 0.978



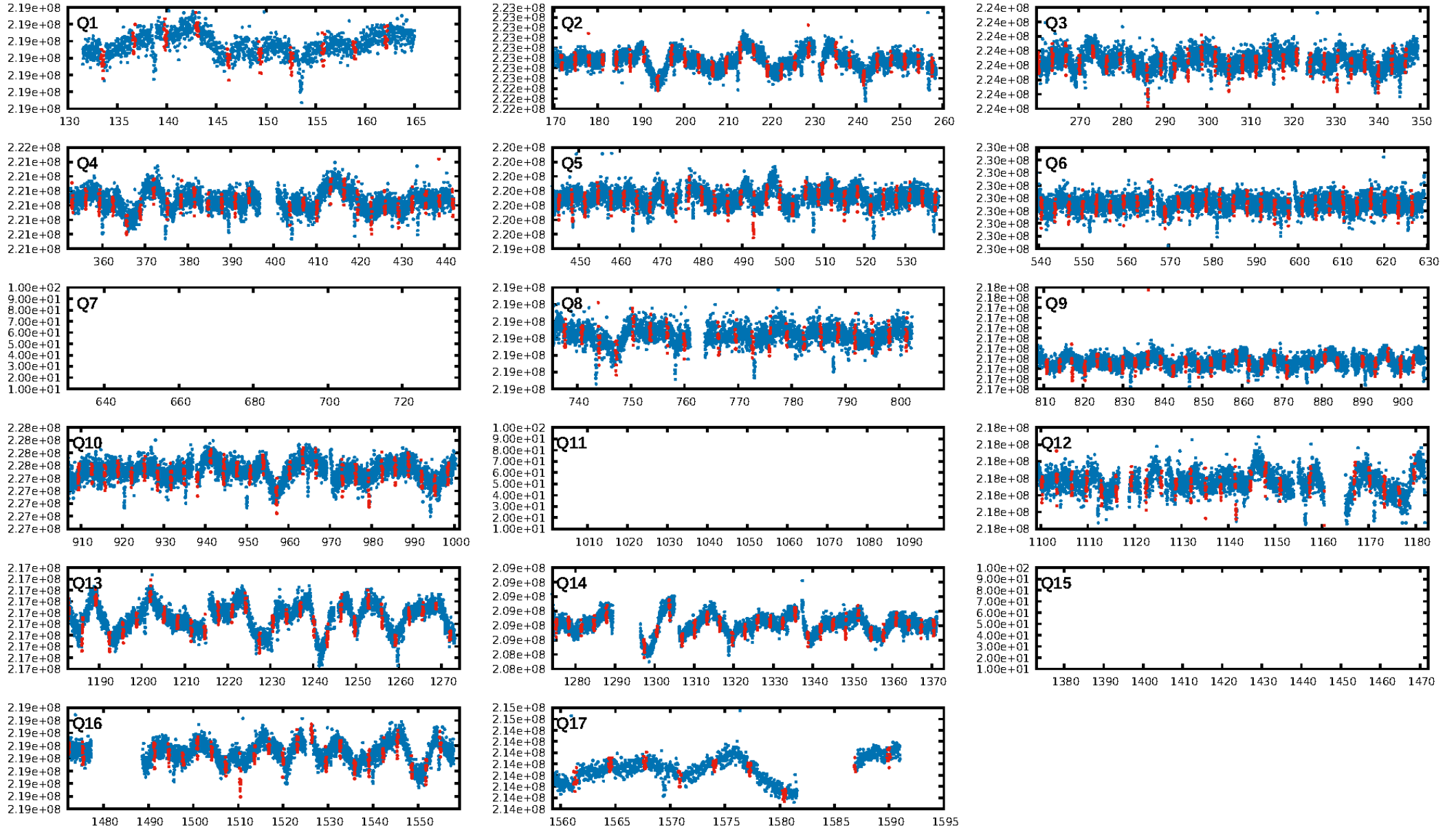
DV Fit Results:

Period = 3.18002 [0.00001] d
Epoch = 133.5011 [0.0011] BKJD
Rp/R* = 0.0121 [0.0012]
a/R* = 3.02 [1.33]
b = 0.91 [0.09]
Seff = 1069.59 [71.53]
Teff = 1458 [24] K
Rp = 1.84 [0.21] Re
a = 0.0439 [0.0015] AU
Ag = 2.17 [1.06] [1.10σ]
Teffp = 2737 [335] K [3.81σ]

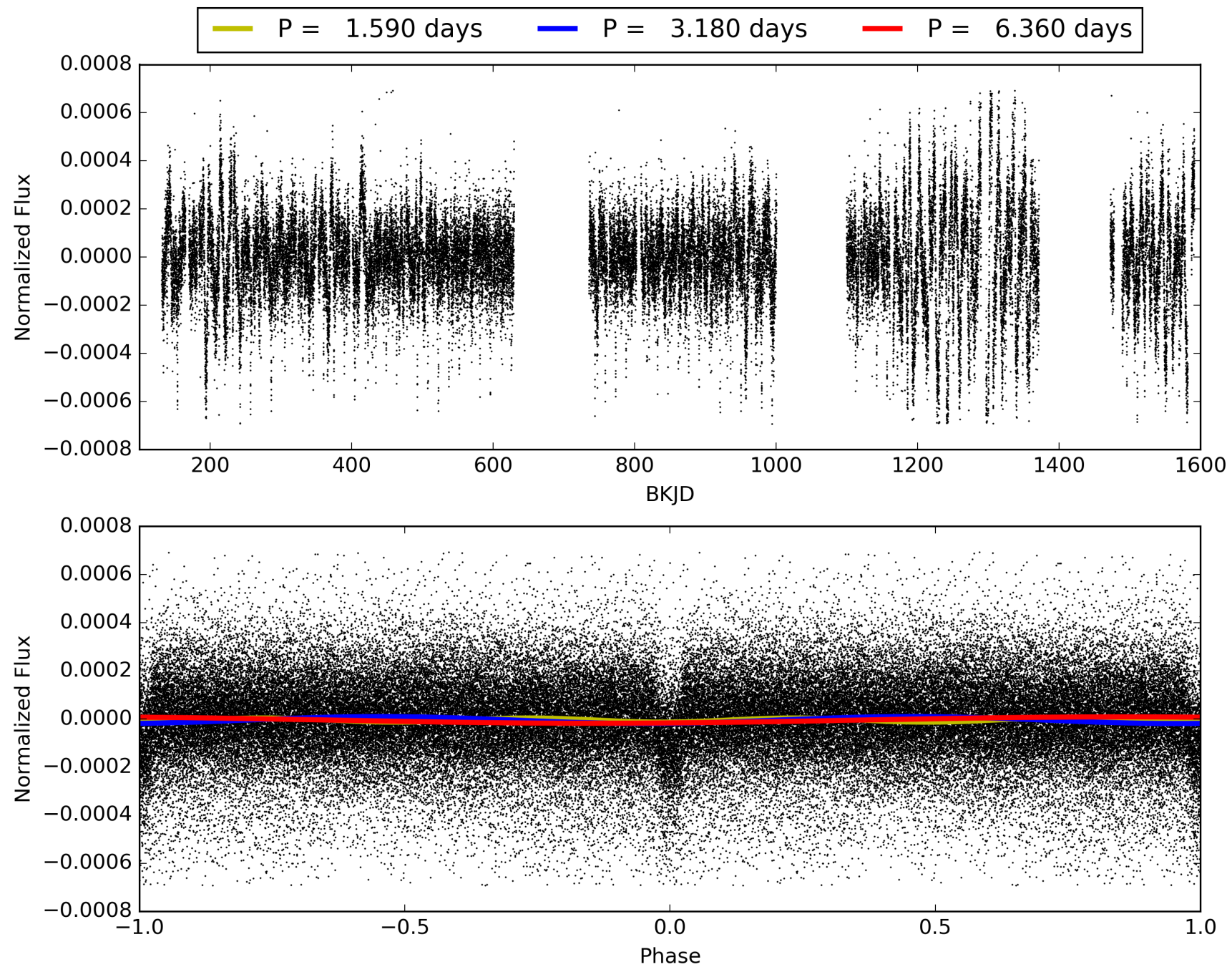
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [7.17σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.74e-243
RollingBand-fgt: 1.00 [304/304]
GhostDiagnostic-chr: 3.001
Centroid-sig: 30.7%
Centroid-so: 0.255 arcsec [1.20σ]
OotOffset-rm: 0.358 arcsec [1.40σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-rm: 0.218 arcsec [0.86σ]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010875245-02, PDC Light Curves

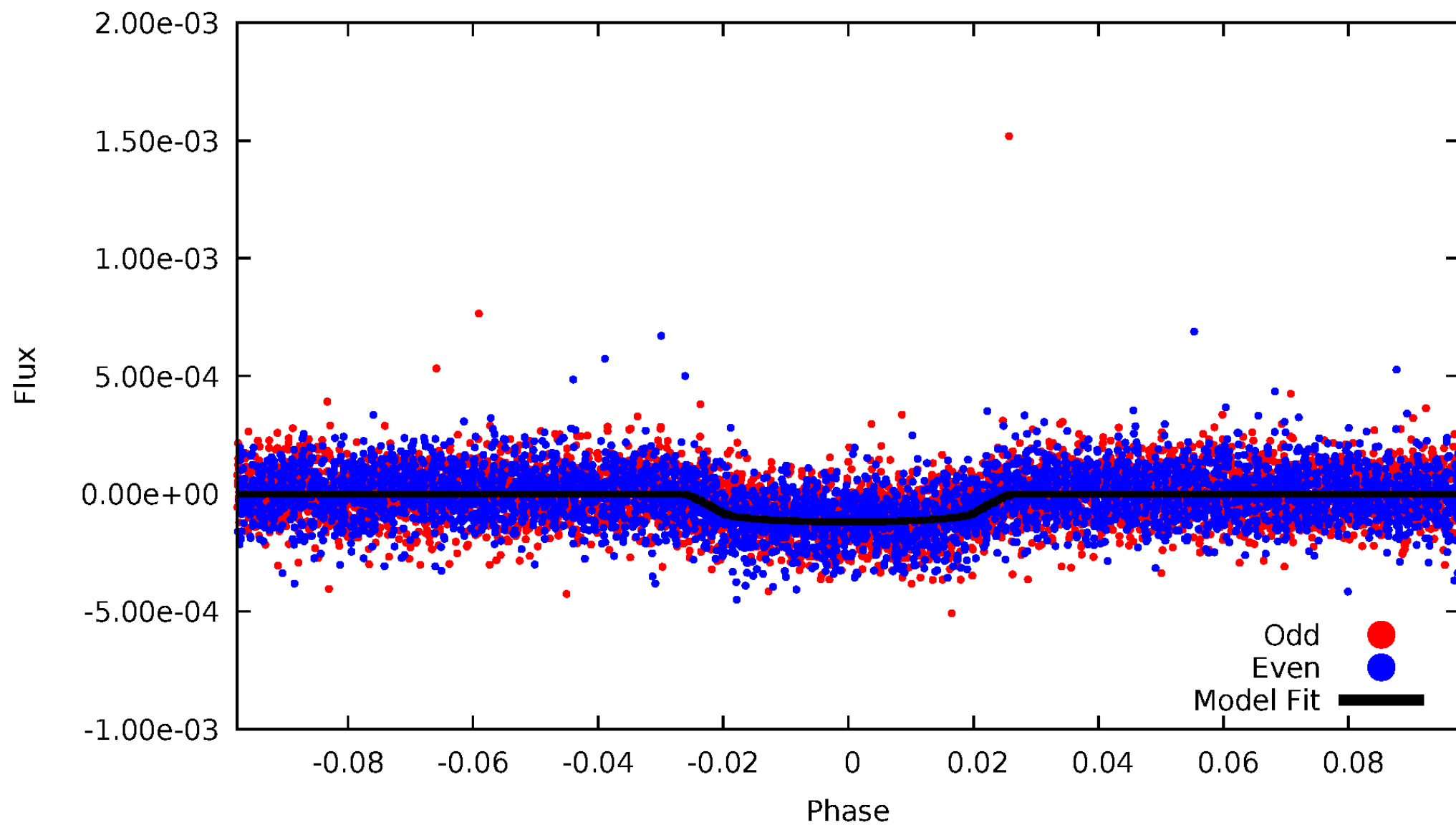


TCE 010875245-02



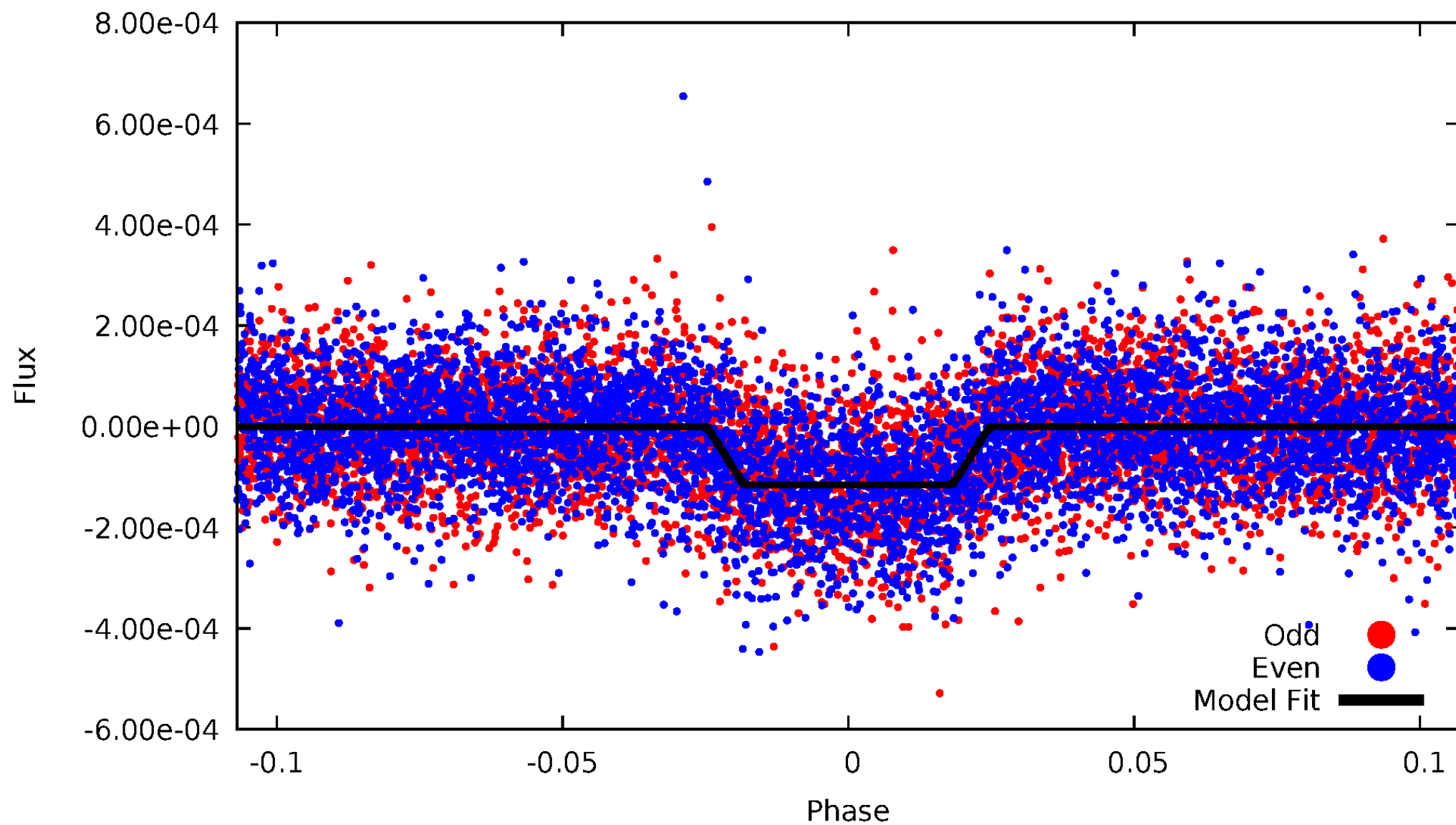
DV Odd/Even

TCE 010875245-02



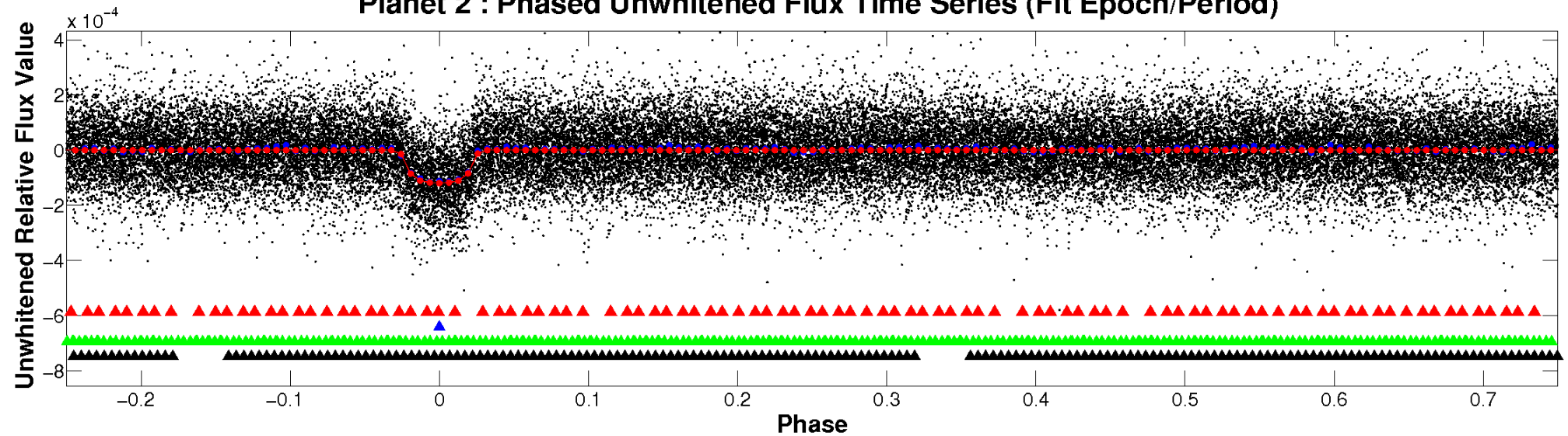
ALT Odd/Even

TCE 010875245-02

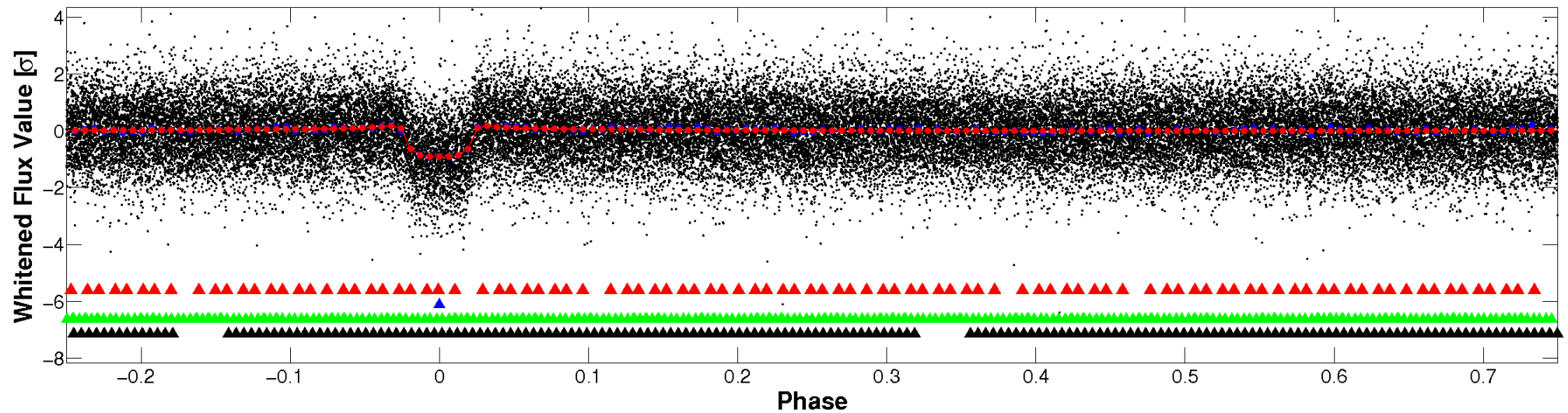


Non-Whitened Vs. Whitened Light Curve

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

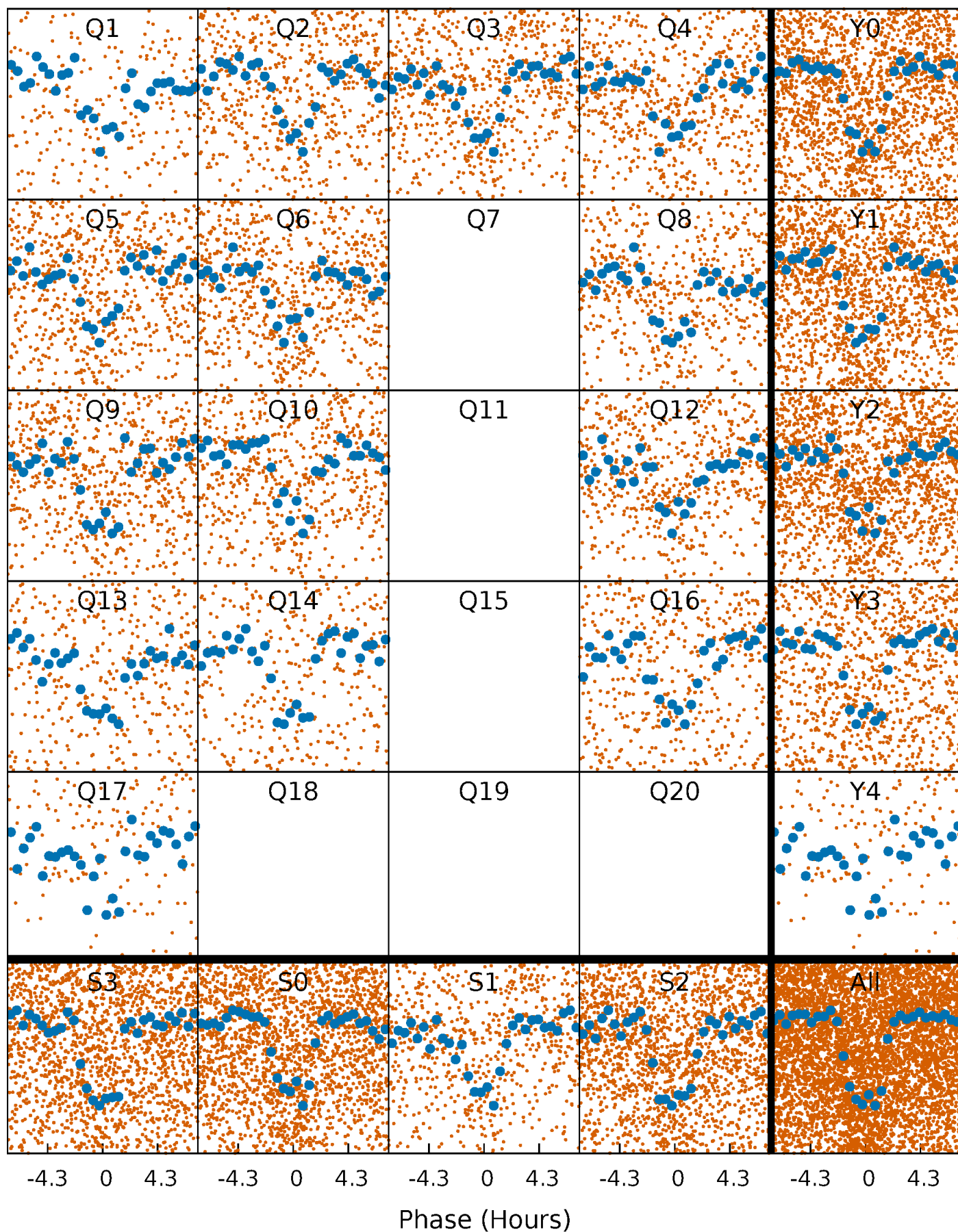


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



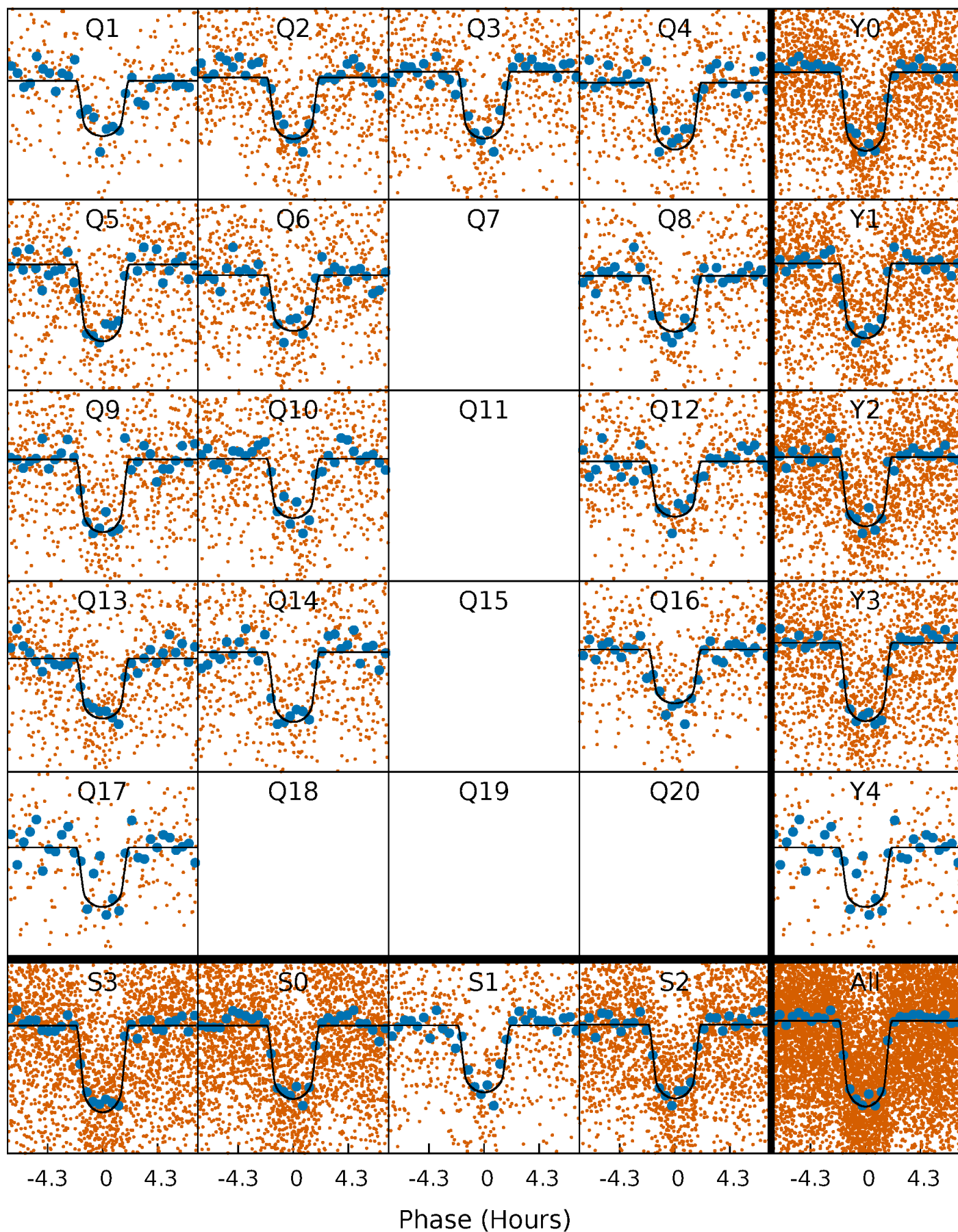
PDC Quarter-Phased Transit Curves

TCE 010875245-02 P= 3.180021 Days $T_0=133.501140$ (BKJD)



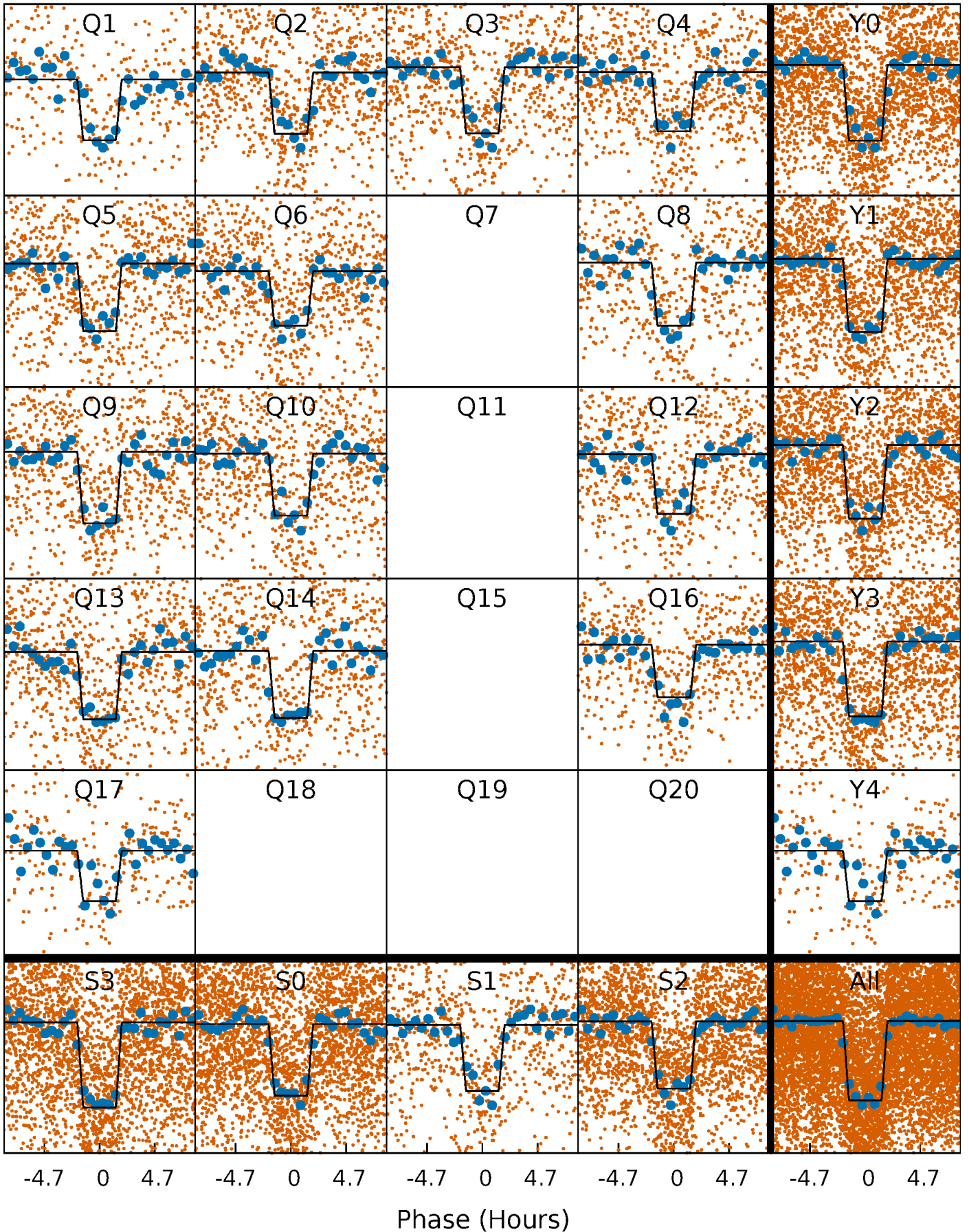
DV Quarter-Phased Transit Curves

TCE 010875245-02 P= 3.180021 Days $T_0=133.501140$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

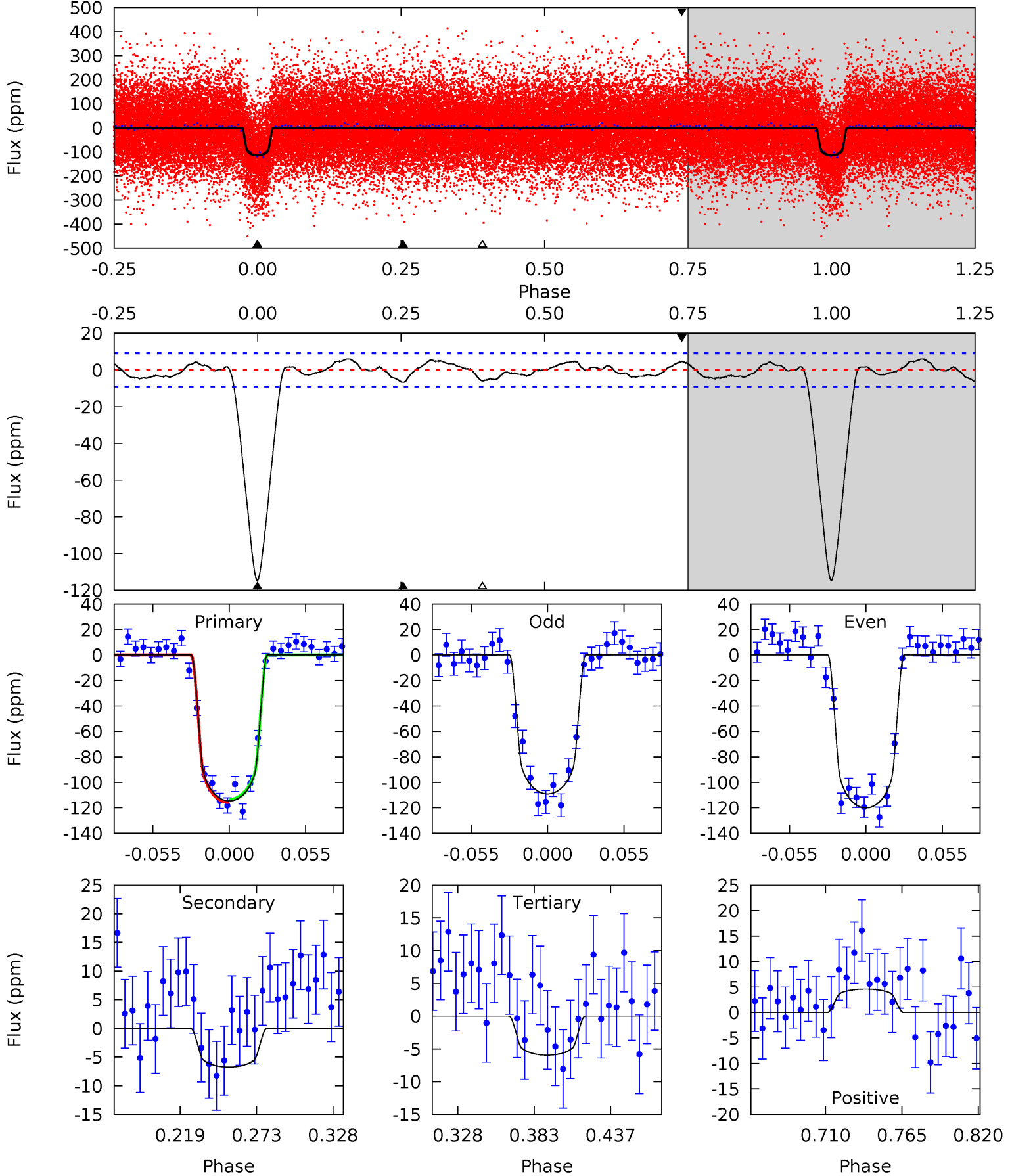
TCE 010875245-02 $P = 3.180040$ Days $T_0 = 133.496017$ (BKJD)



DV Model-Shift Uniqueness Test

010875245-02, P = 3.180021 Days, E = 130.321119 Days

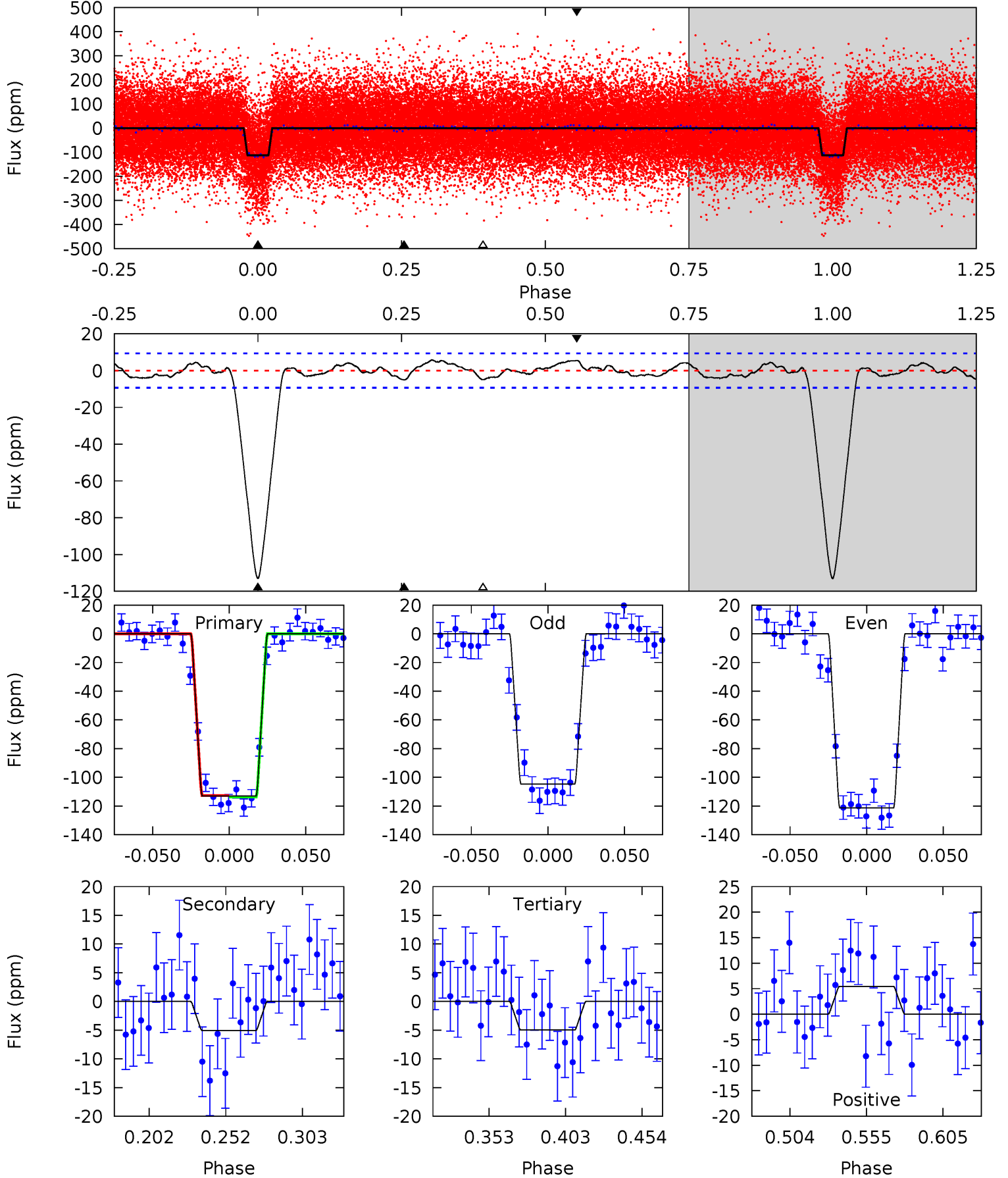
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.0	3.48	3.07	2.37	4.69	1.92	1.53	56.0	56.7	0.41	1.11	2.82	1.01	0.05	0.55



Alt Model-Shift Uniqueness Test

010875245-02, P = 3.180040 Days, E = 130.315977 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
56.8	2.54	2.50	2.74	4.71	1.96	1.34	54.3	54.0	0.04	-0.20	4.16	1.01	0.05	0.23



Stellar Parameters For KIC 010875245

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5847^{+64}_{-75}	$4.191^{+0.020}_{-0.018}$	$0.260^{+0.100}_{-0.100}$	$1.402^{+0.063}_{-0.046}$	$1.113^{+0.092}_{-0.050}$	$0.569^{+0.043}_{-0.044}$
	+1%/-1%	+0%/-0%	+38%/-38%	+4%/-3%	+8%/-4%	+8%/-8%
Source	SPE8	AST8	SPE8	DSEP		

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

Secondary Eclipse Parameters for KIC 010875245-02 / KOI 0117.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 2	$1.86^{+0.18}_{-0.20}$	2036^{+29}_{-29}	3206^{+188}_{-214}	$2.092^{+0.867}_{-0.668}$
Alt.	-5 ± 2	$1.63^{+0.20}_{-0.20}$	2037^{+27}_{-31}	3168^{+229}_{-299}	$1.964^{+0.970}_{-0.832}$

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

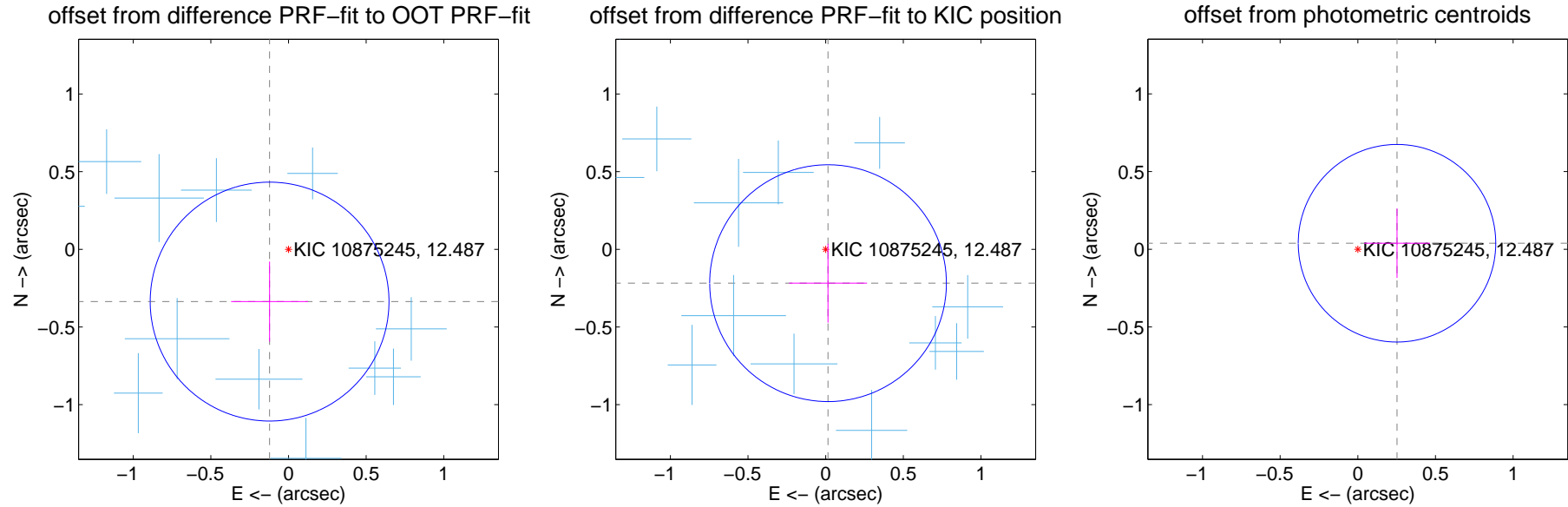
DV Centroid Data

Supplemental centroid analysis for 010875245-02. Kepler magnitude: 12.49. Transit SNR 38.54

There are 14 quarters with good PRF difference image offsets

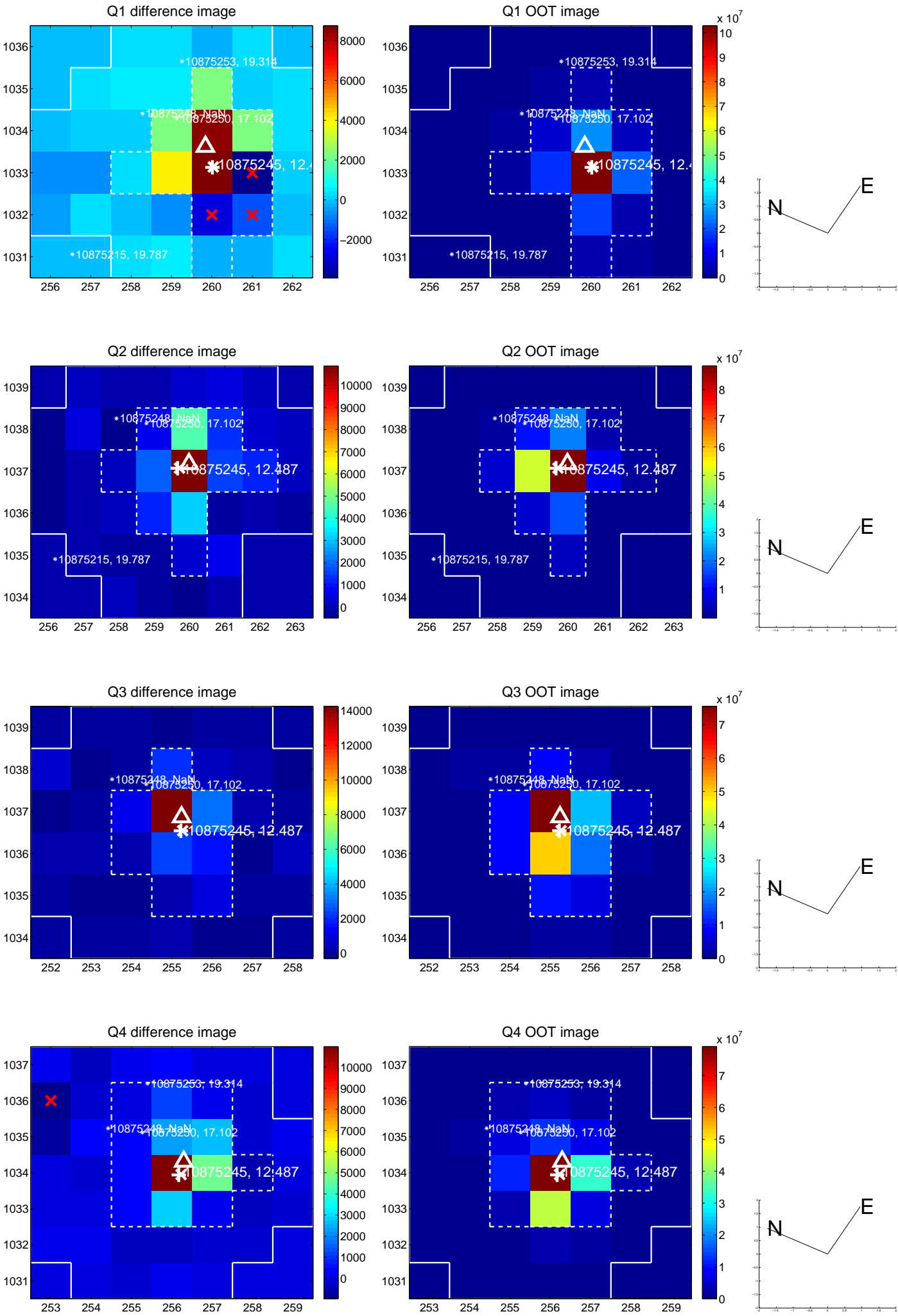
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.358 ± 0.256	1.40	0.122 ± 0.248	-0.337 ± 0.257
PRF-fit source offset from KIC position	0.218 ± 0.254	0.86	-0.015 ± 0.251	-0.218 ± 0.254
photometric centroid source offset	0.26 ± 0.21	1.20	-0.25 ± 0.21	0.04 ± 0.22

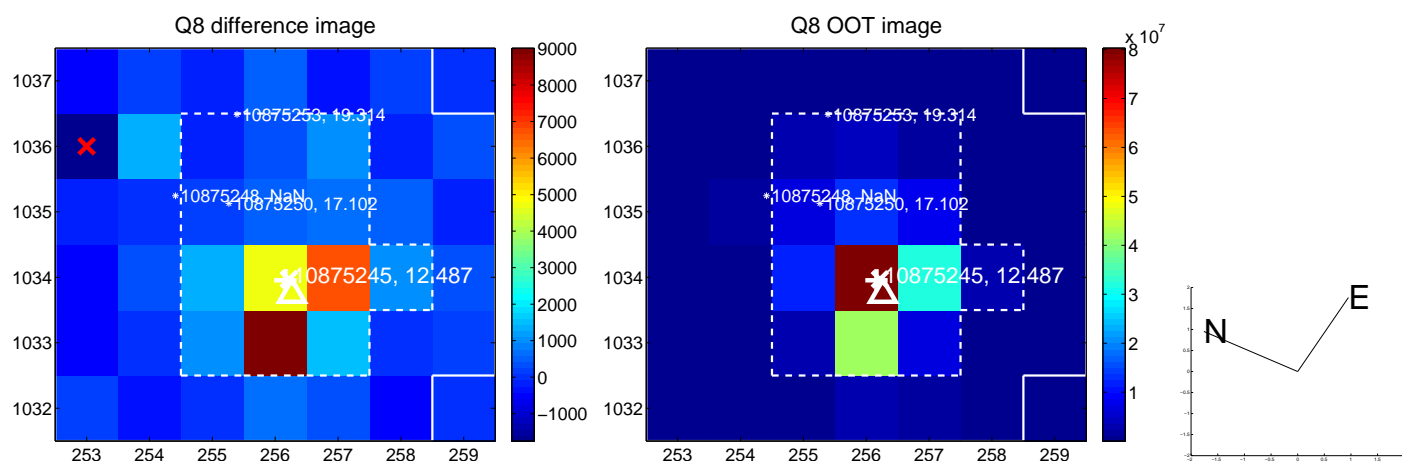
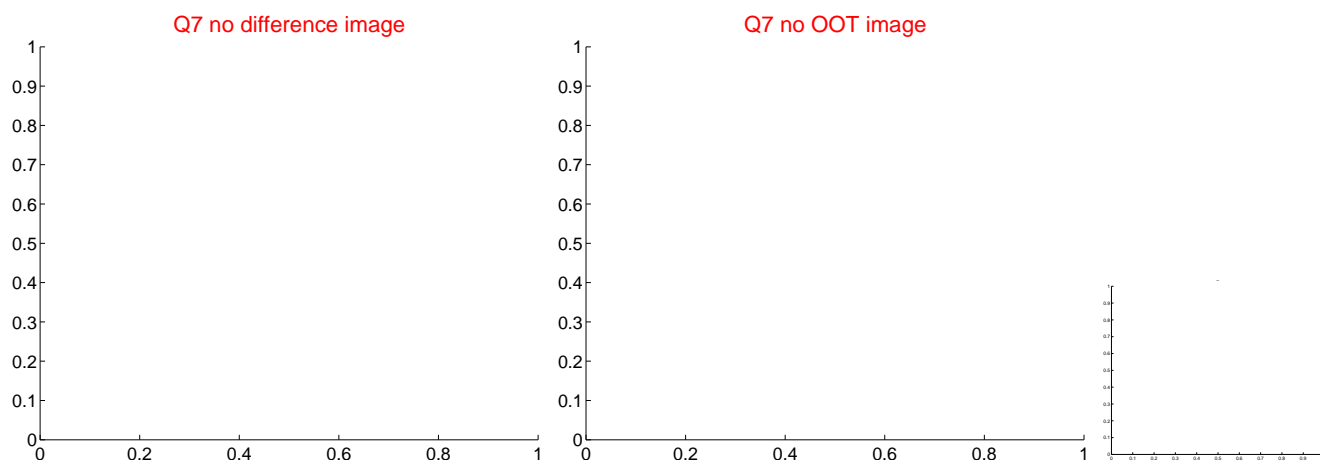
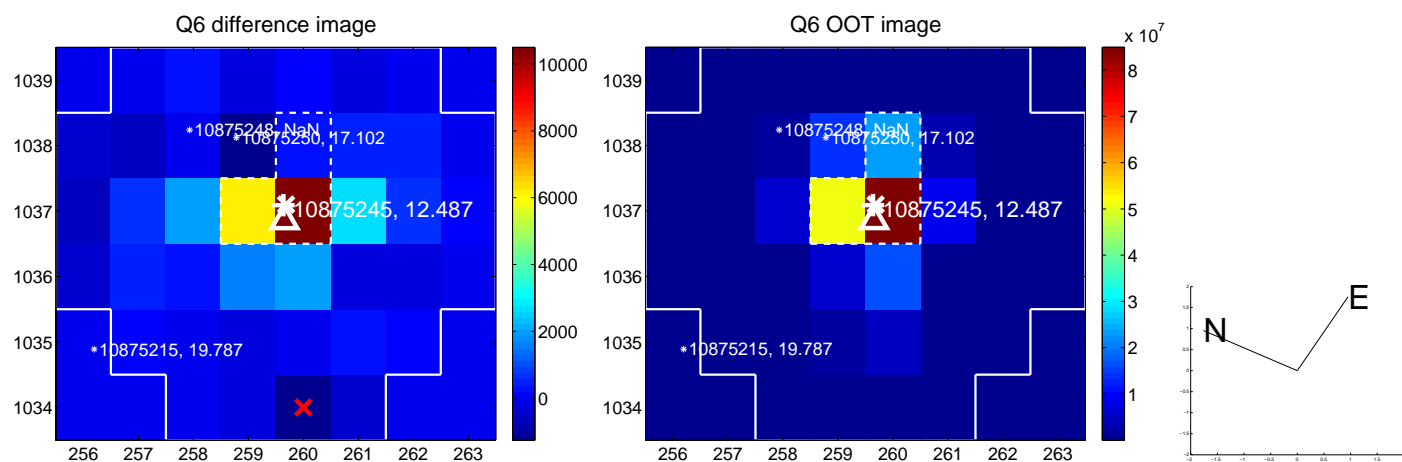
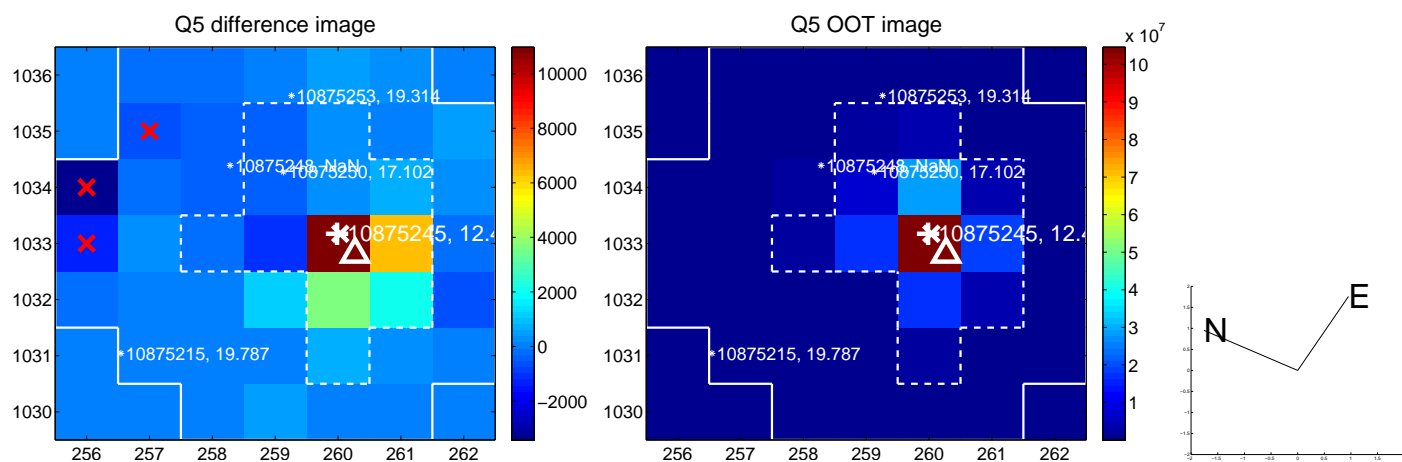


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

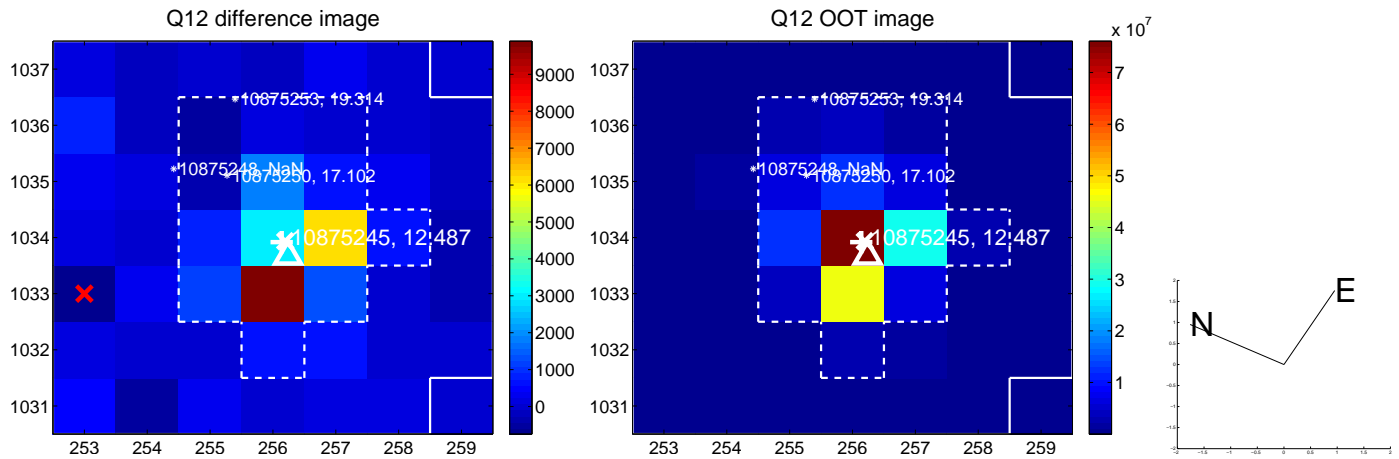
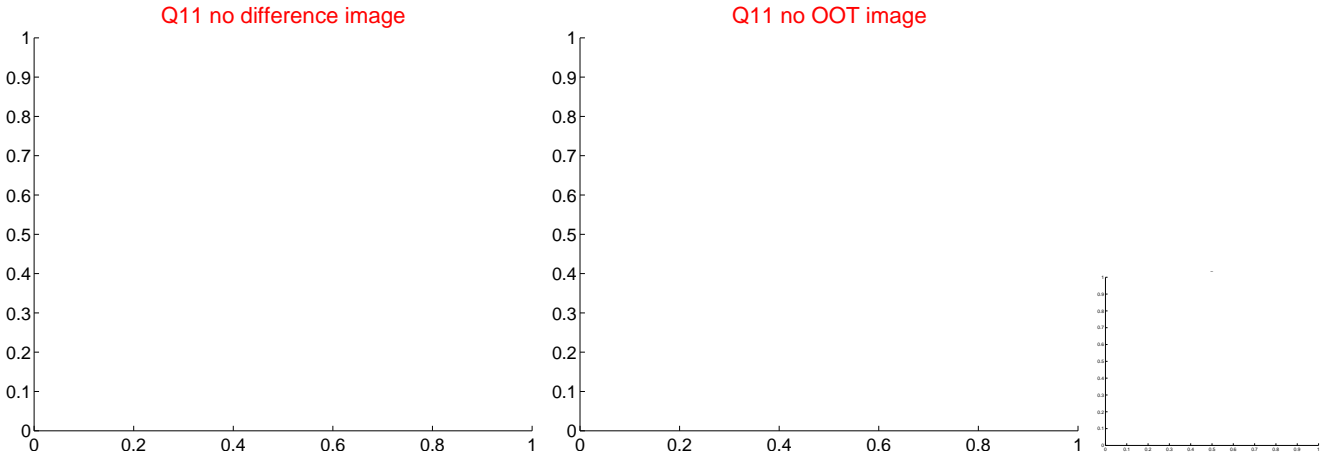
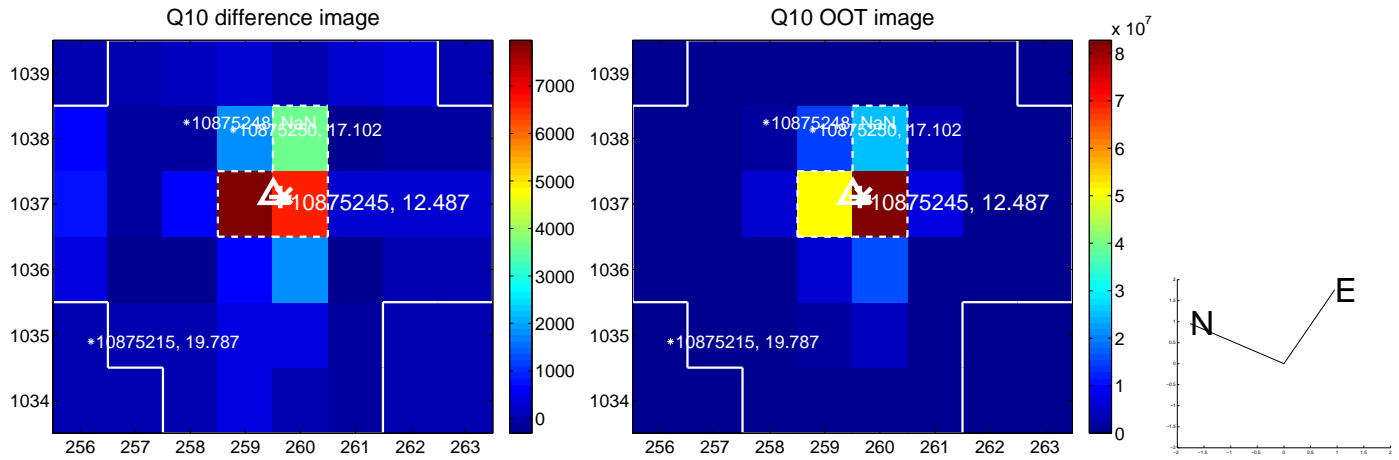
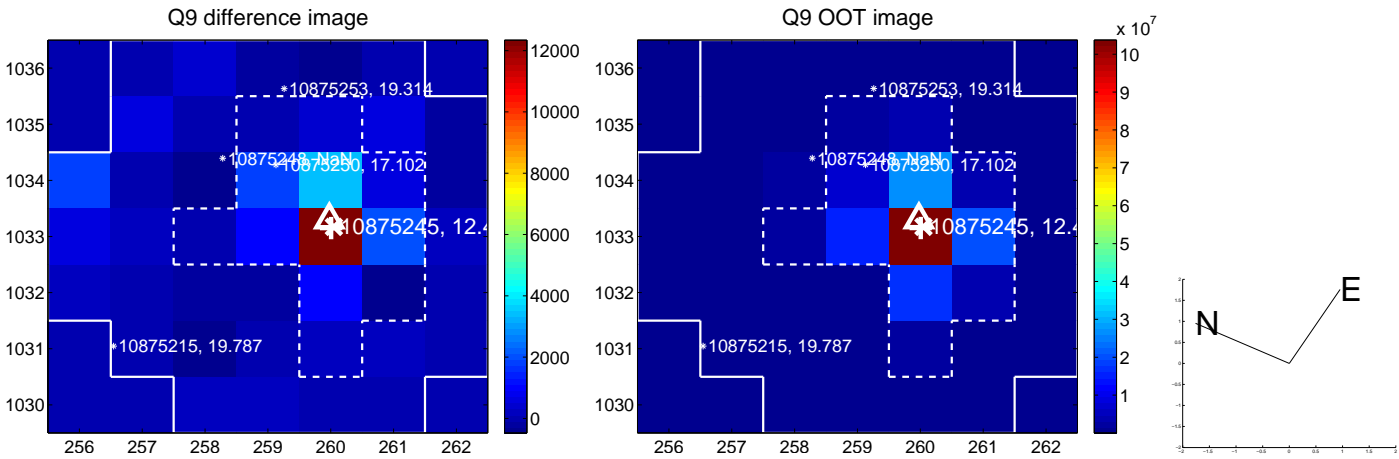
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



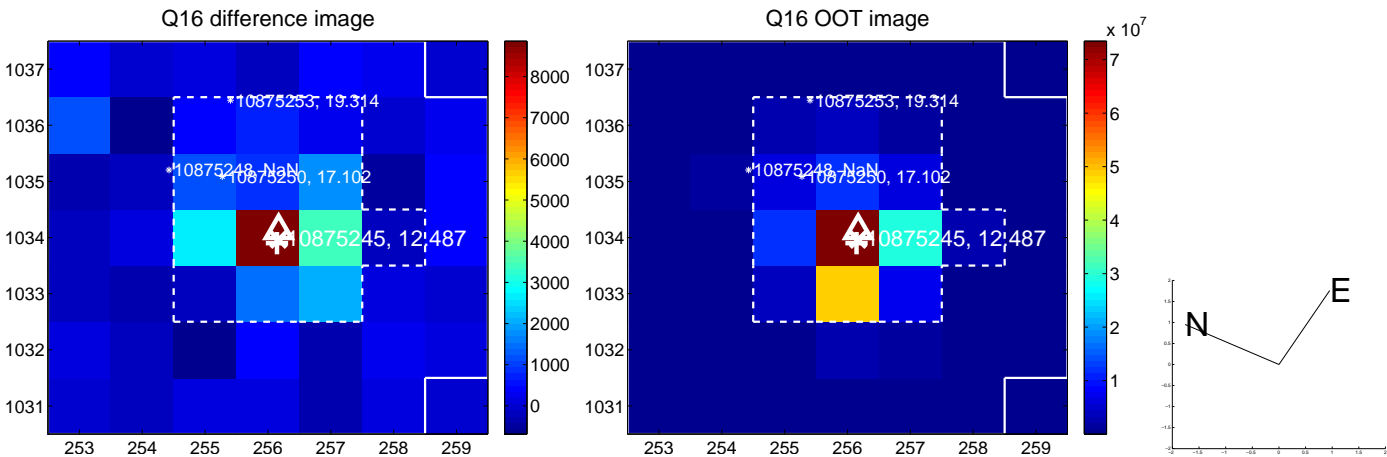
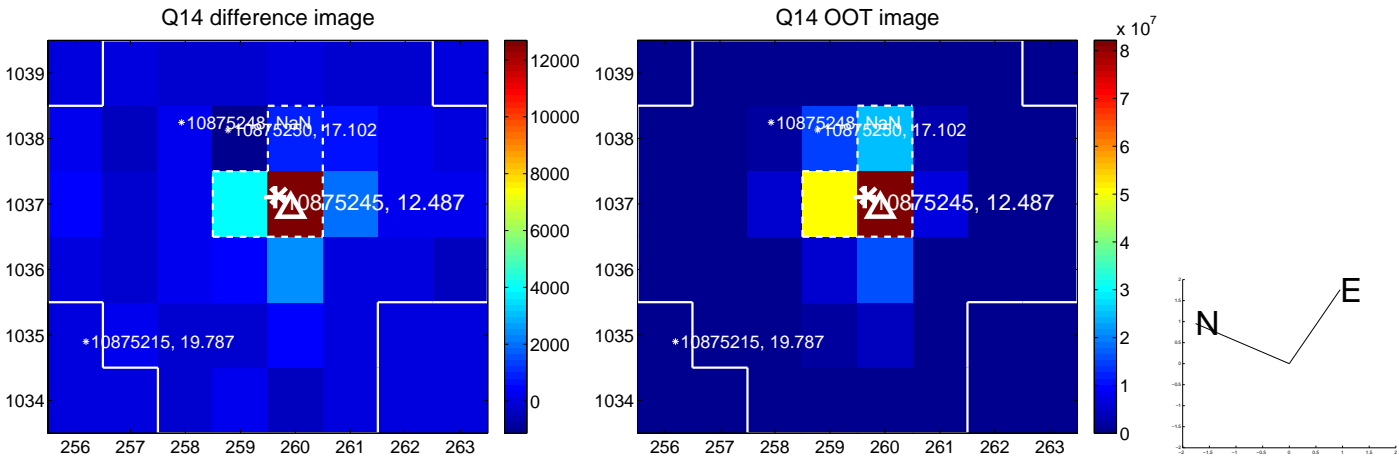
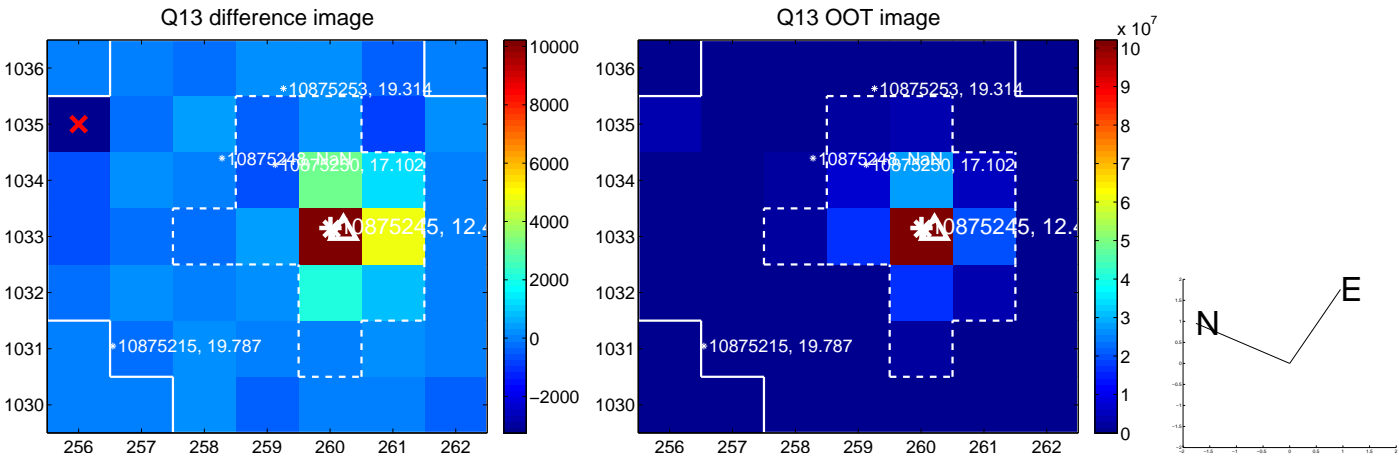
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



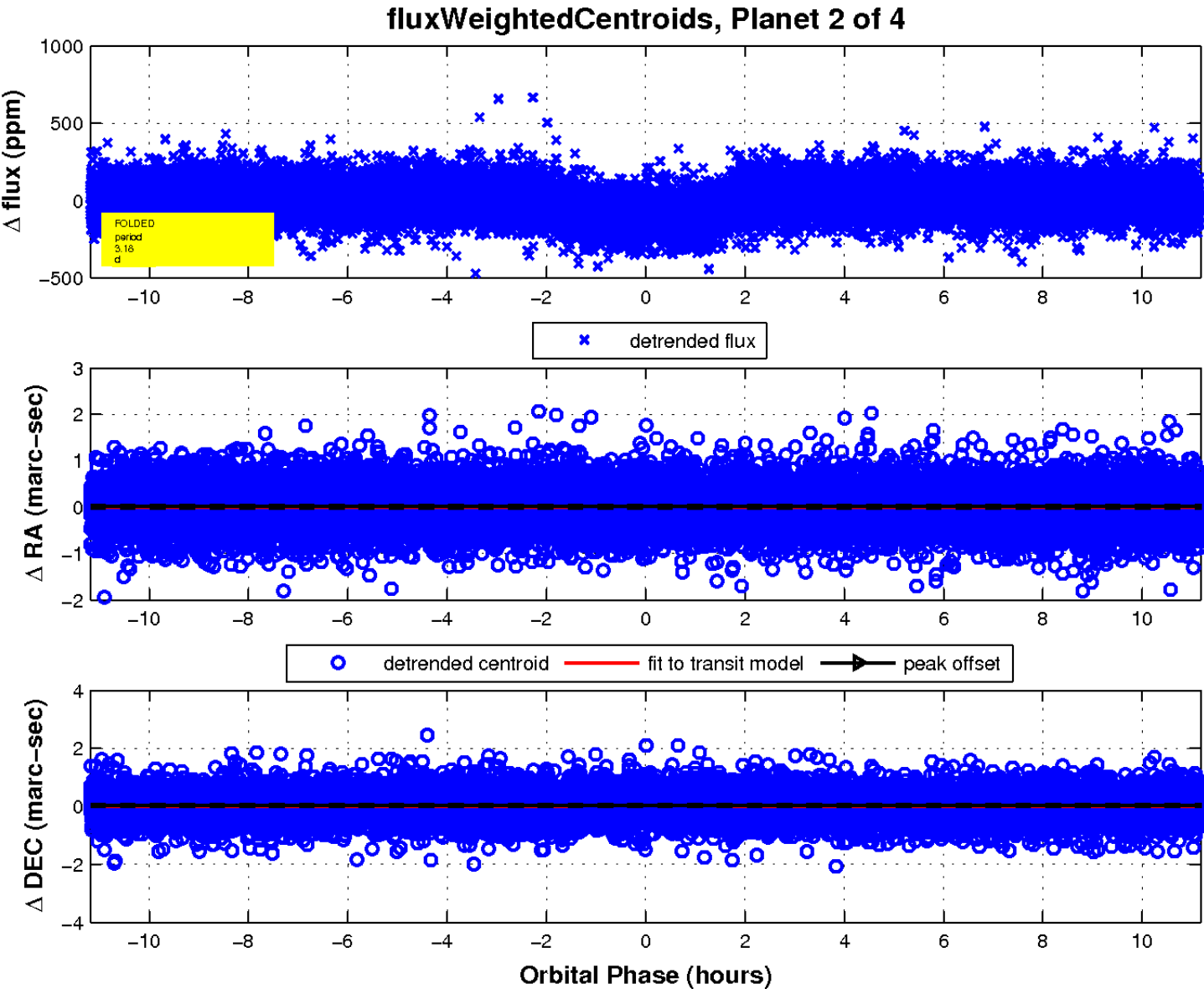
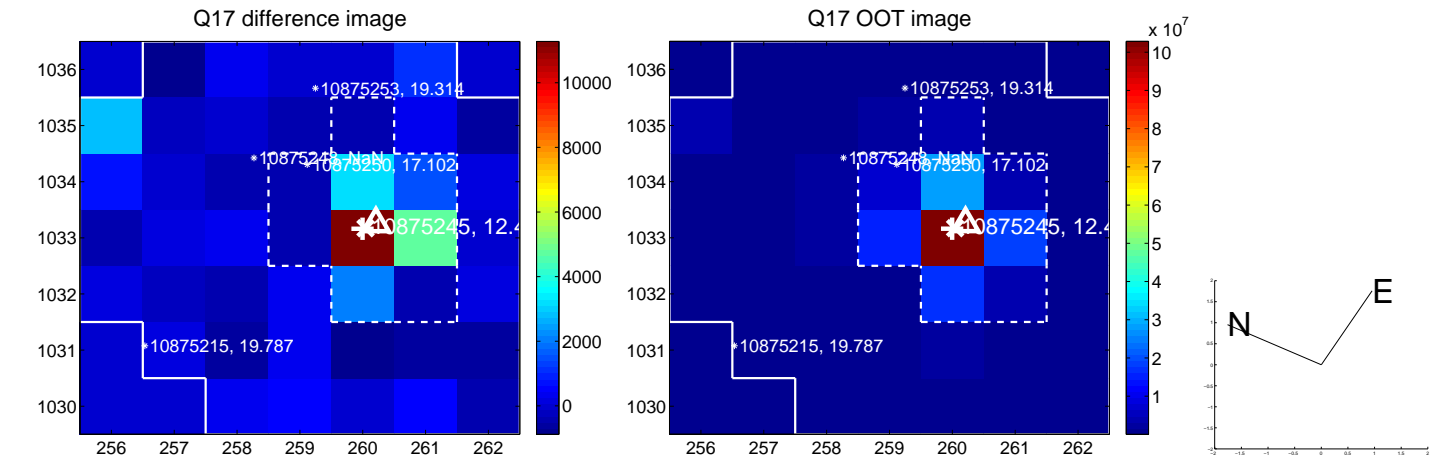
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



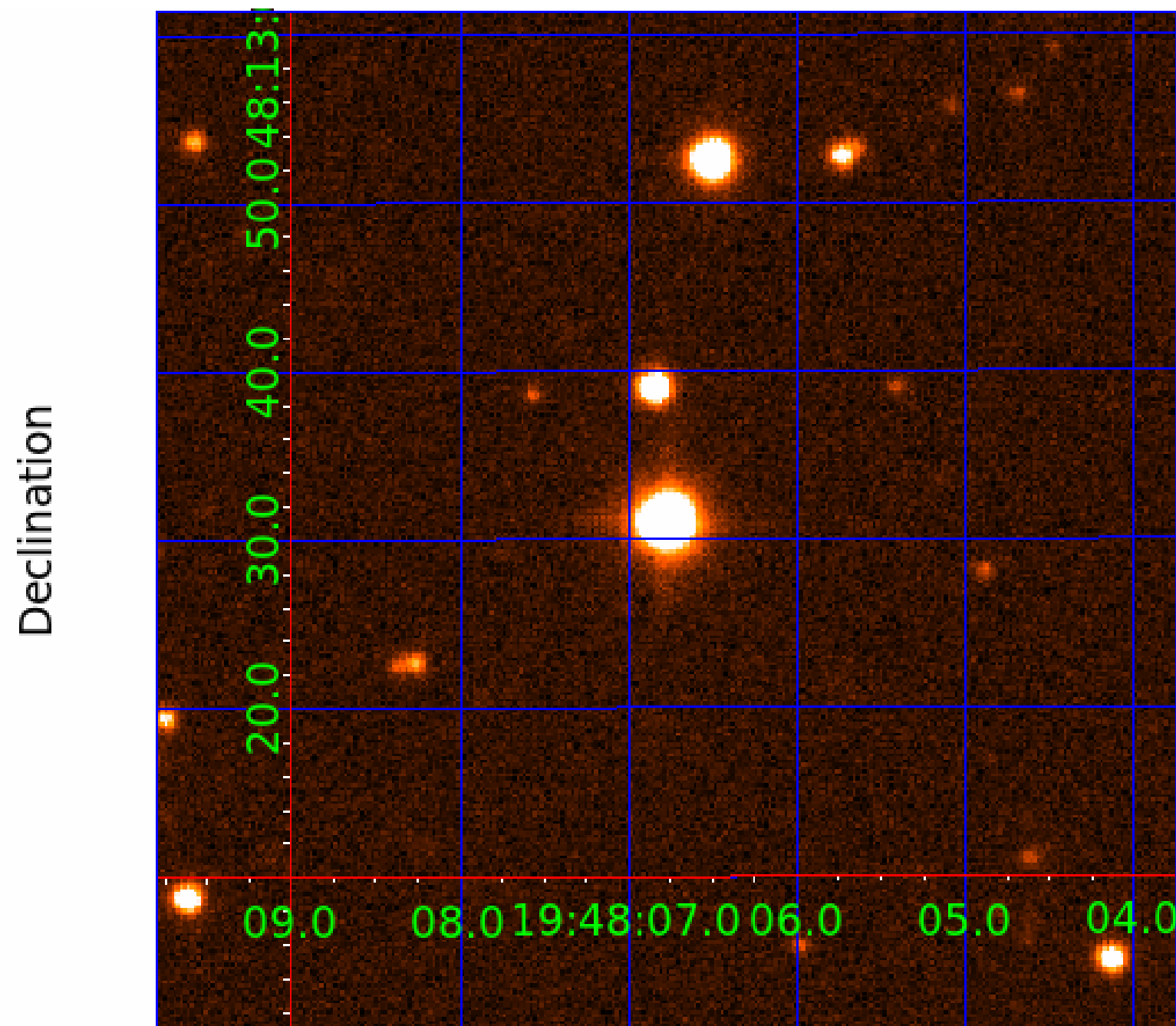
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 010875245

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})
010875245-01	OBS	0117.01	14.749132	138.778684	426.9	6.529	66.2	69.0	1.40	5847	3.42	138.28
010875245-02	OBS	0117.03	3.180021	133.501140	119.3	3.728	35.0	38.5	1.40	5847	1.84	1069.59
010875245-03	OBS	0117.02	4.901449	133.703842	136.4	4.388	33.2	36.4	1.40	5847	1.95	600.75
010875245-04	OBS	0117.04	7.958179	137.813608	49.6	4.736	10.2	10.3	1.40	5847	1.16	314.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010875245-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT
010875245-02	OBS	PC	0.99	0	0	0	0	NO_COMMENT
010875245-03	OBS	PC	1.00	0	0	0	0	CENT_CROWDED
010875245-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

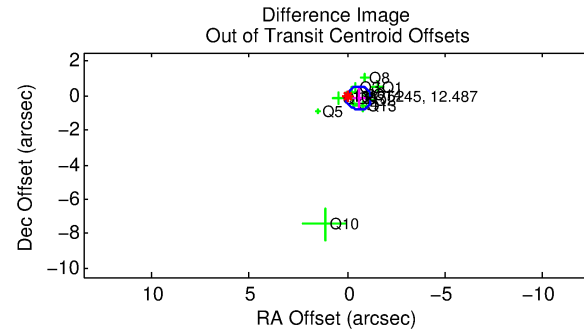
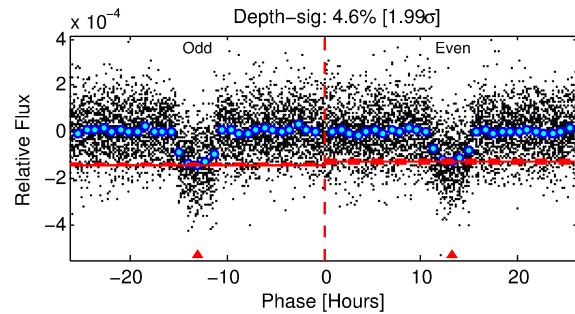
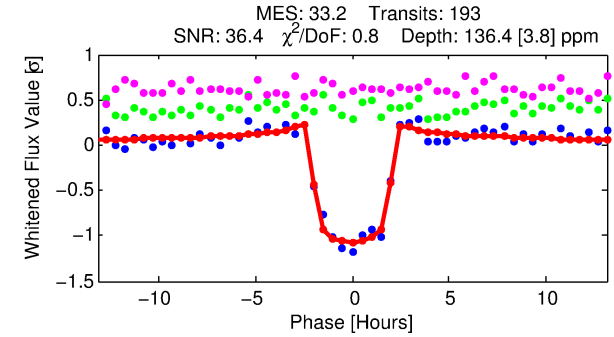
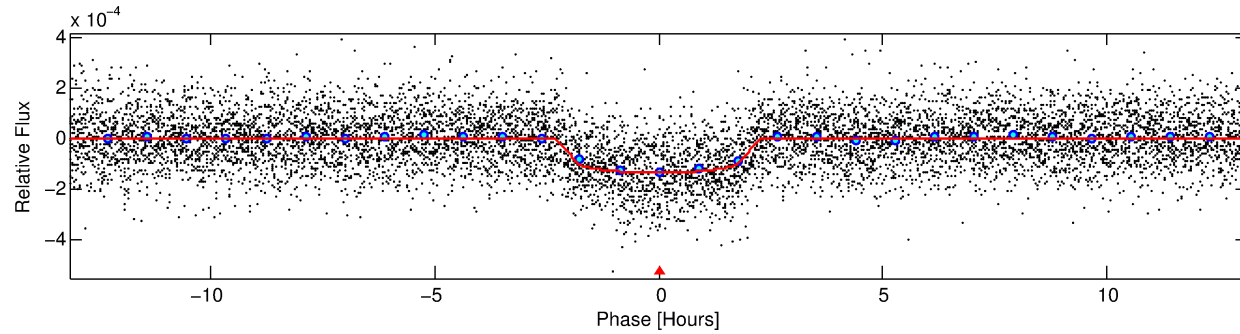
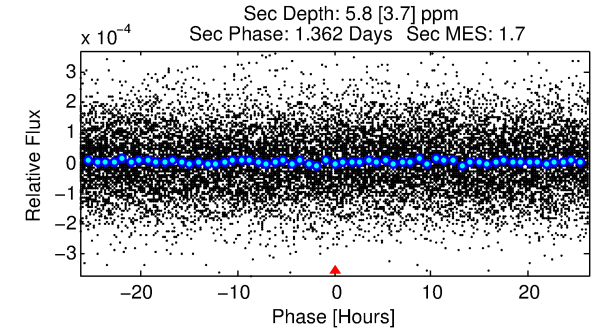
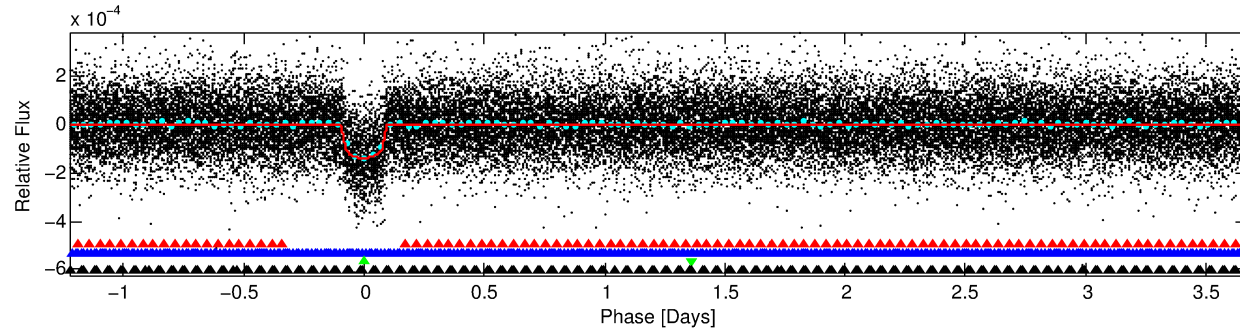
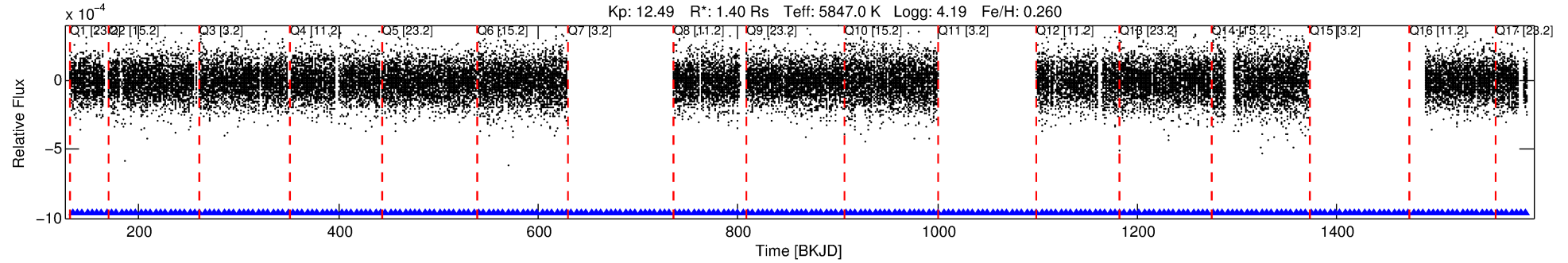
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010875245-03

No Significant Match Found

DV One-Page Summary

KIC: 10875245 Candidate: 3 of 4 Period: 4.901 d
KOI: K00117.02 Name: Kepler-107c Corr: 0.984



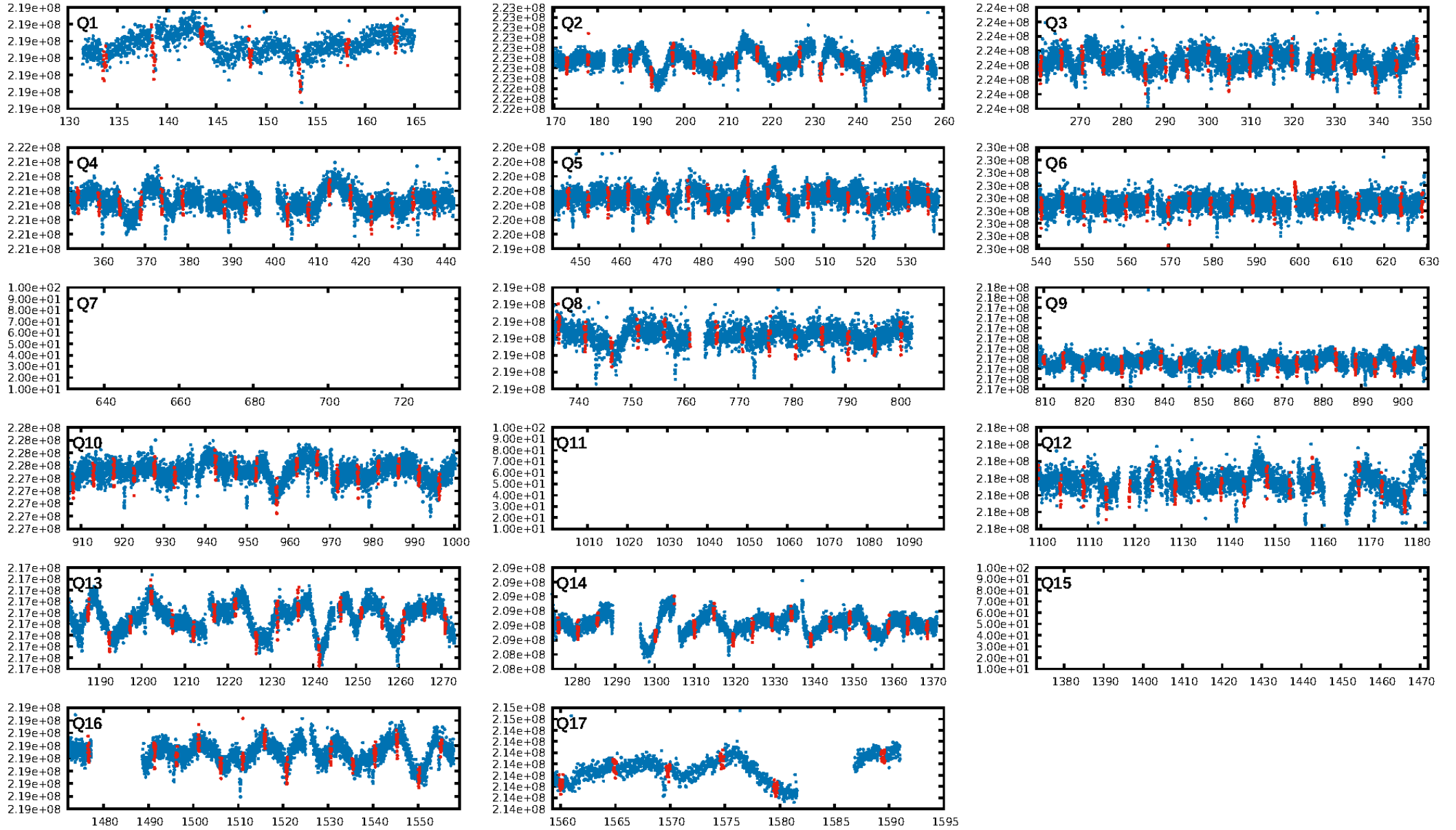
DV Fit Results:

Period = 4.90145 [0.00001] d
Epoch = 133.7038 [0.0016] BKJD
Rp/R* = 0.0127 [0.0014]
a/R* = 4.07 [1.93]
b = 0.90 [0.11]
Seff = 600.75 [40.18]
Teq = 1262 [21] K
Rp = 1.95 [0.23] Re
a = 0.0585 [0.0020] AU
Ag = 2.89 [1.92] [0.98σ]
Teffp = 2544 [424] K [3.02σ]

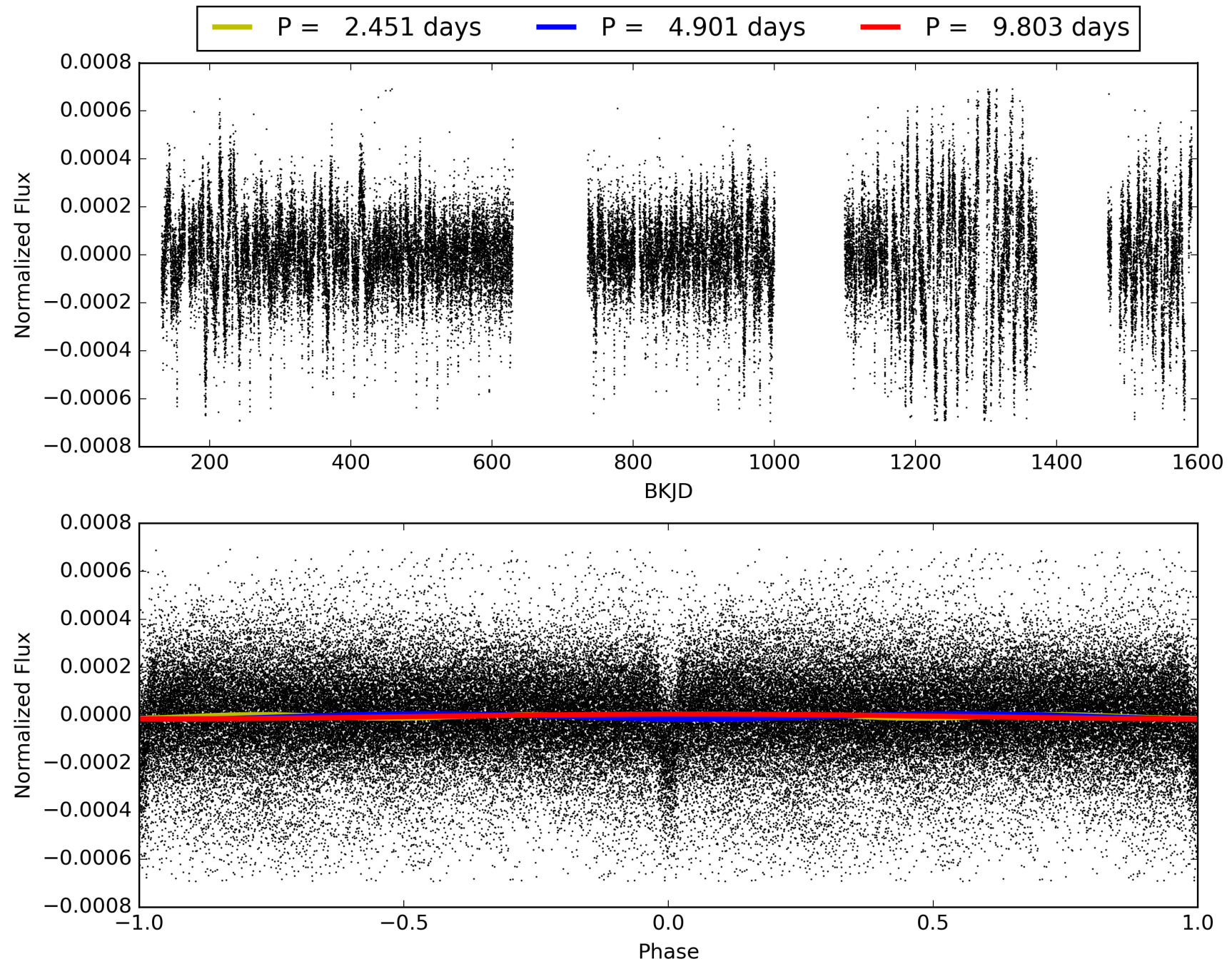
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.17σ]
LongPeriod-sig: 100.0% [11.36σ]
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.55e-219
RollingBand-fgt: 1.00 [182/182]
GhostDiagnostic-chr: 4.004
Centroid-sig: 5.4%
Centroid-so: 0.392 arcsec [1.75σ]
OotOffset-rm: 0.587 arcsec [2.65σ]
KicOffset-rm: 0.695 arcsec [2.79σ]
OotOffset-st: 4/1/4/3 [12]
KicOffset-st: 4/1/4/3 [12]
DiffImageQuality-fgm: 0.92 [11/12]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010875245-03, PDC Light Curves

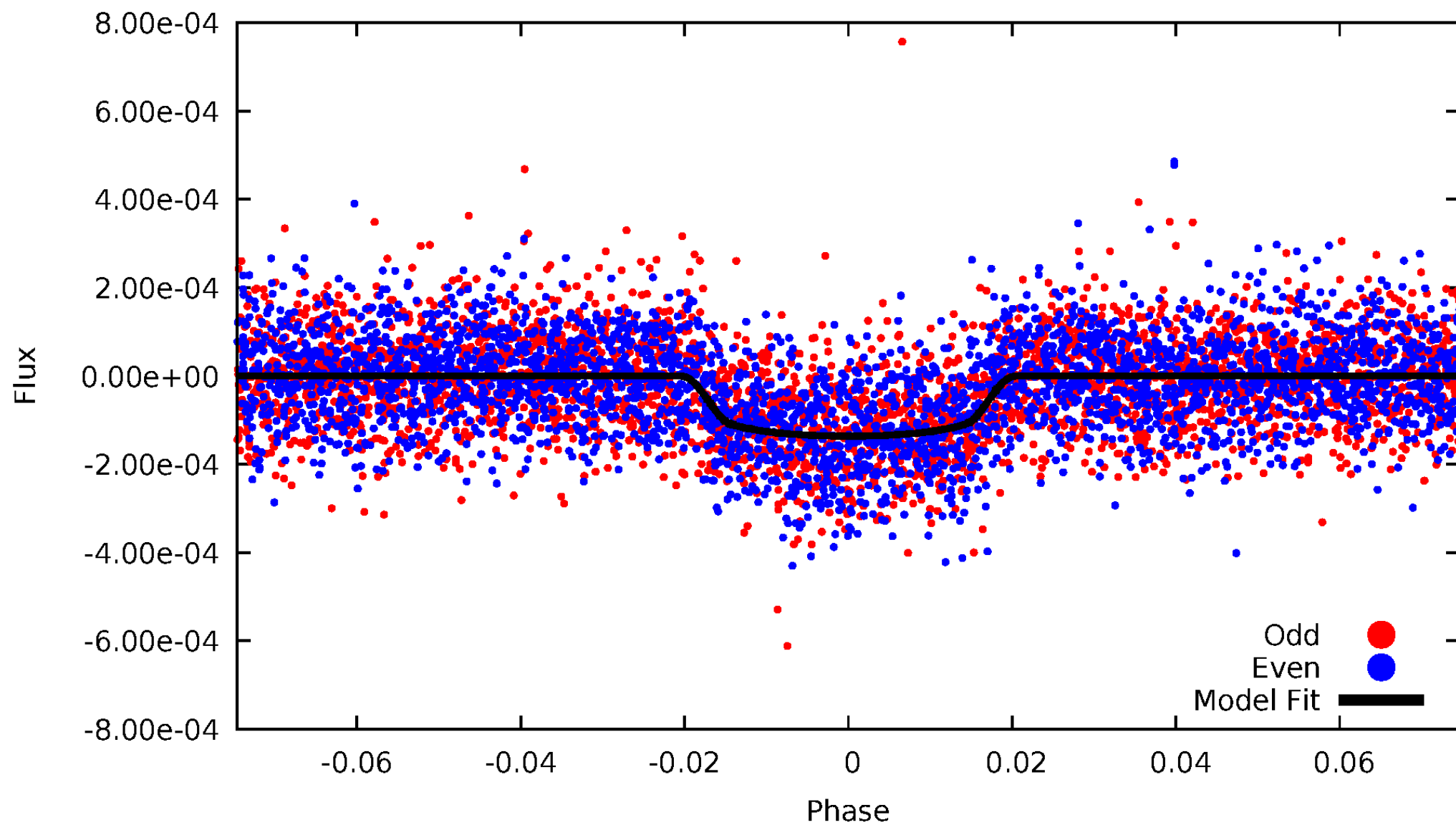


TCE 010875245-03



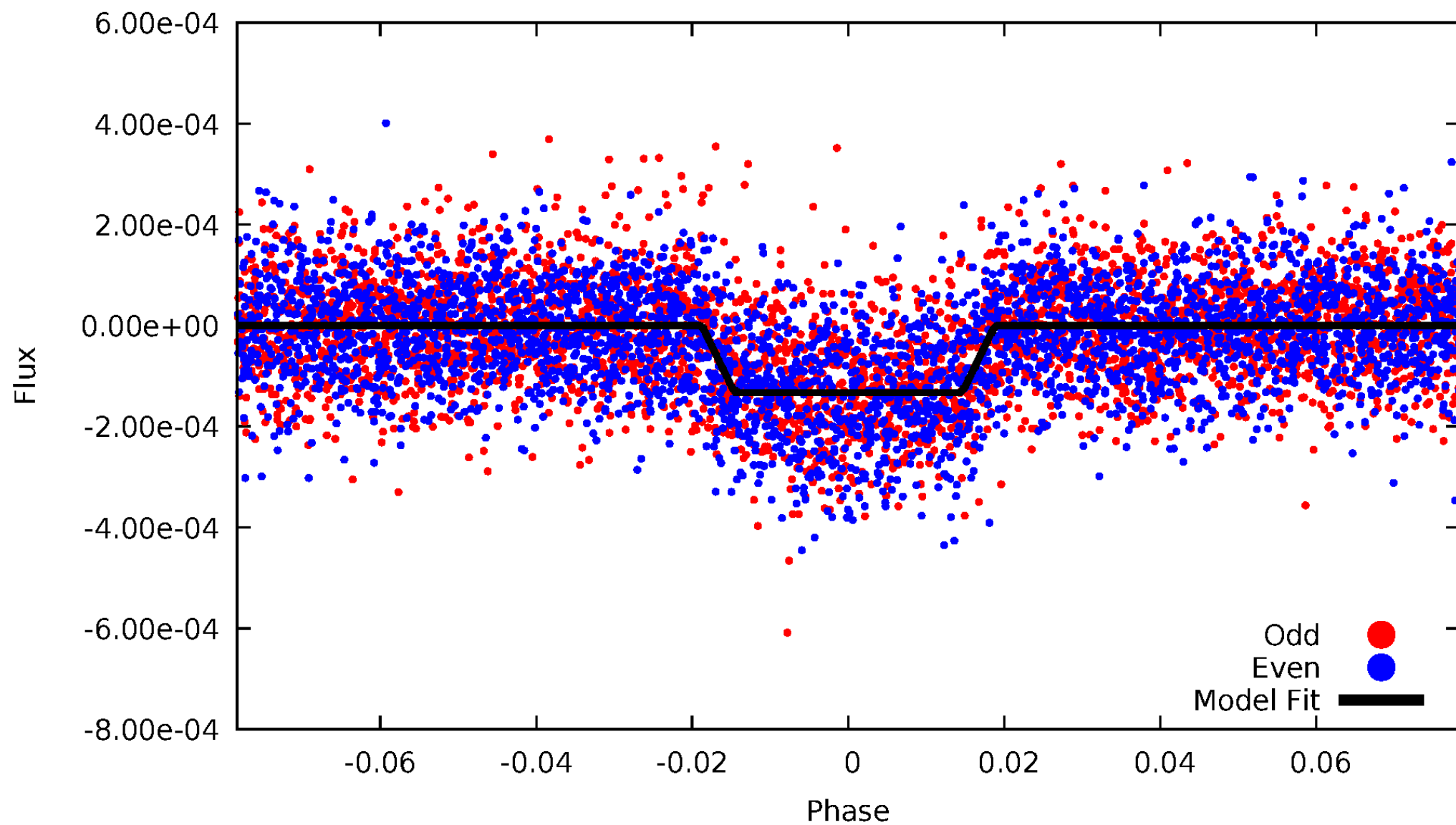
DV Odd/Even

TCE 010875245-03



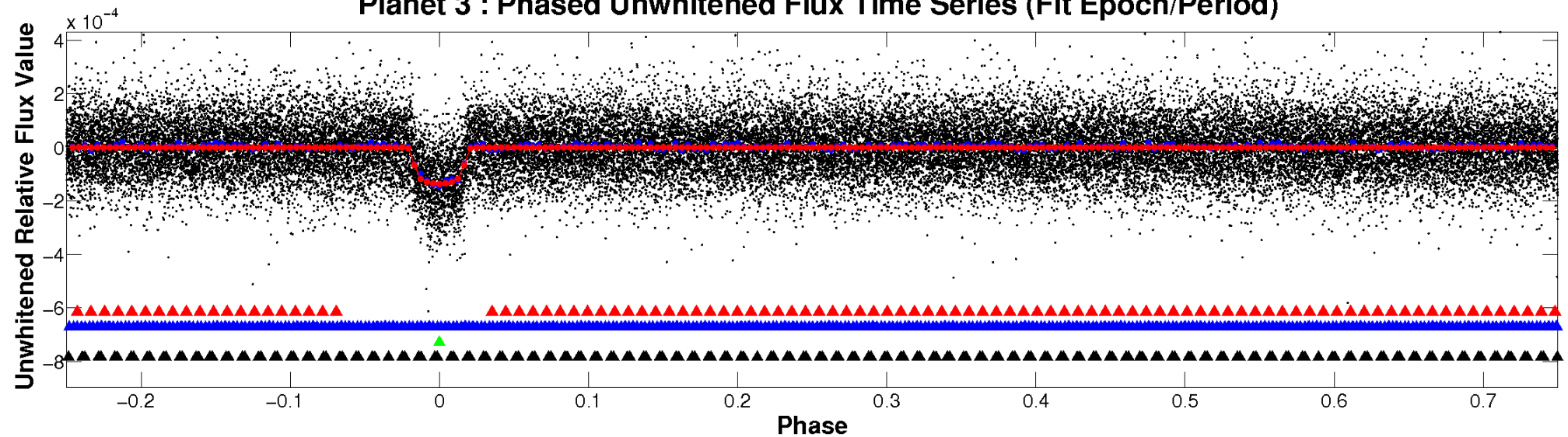
ALT Odd/Even

TCE 010875245-03

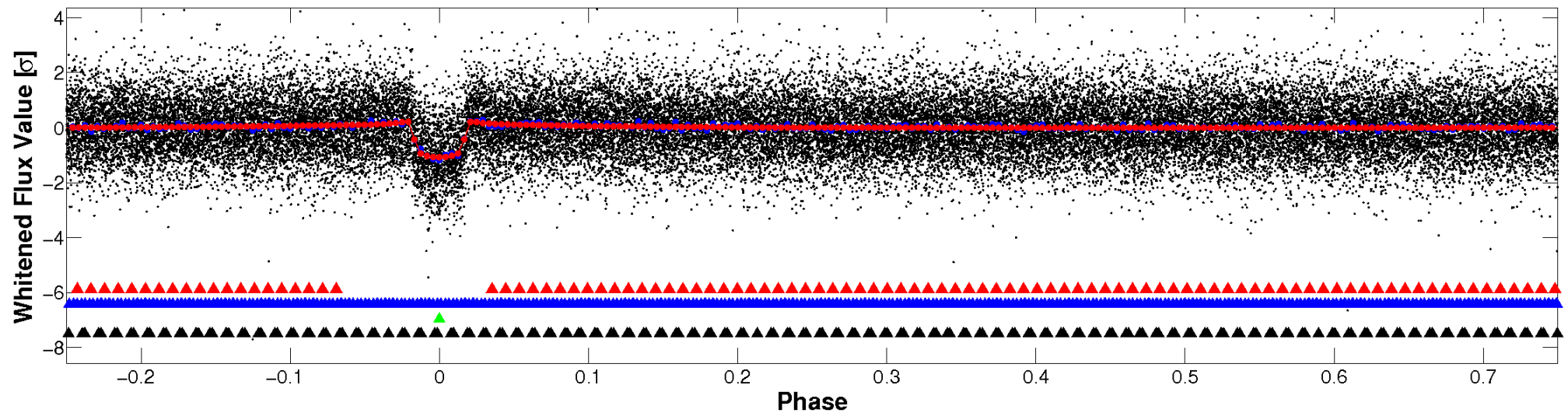


Non-Whitened Vs. Whitened Light Curve

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

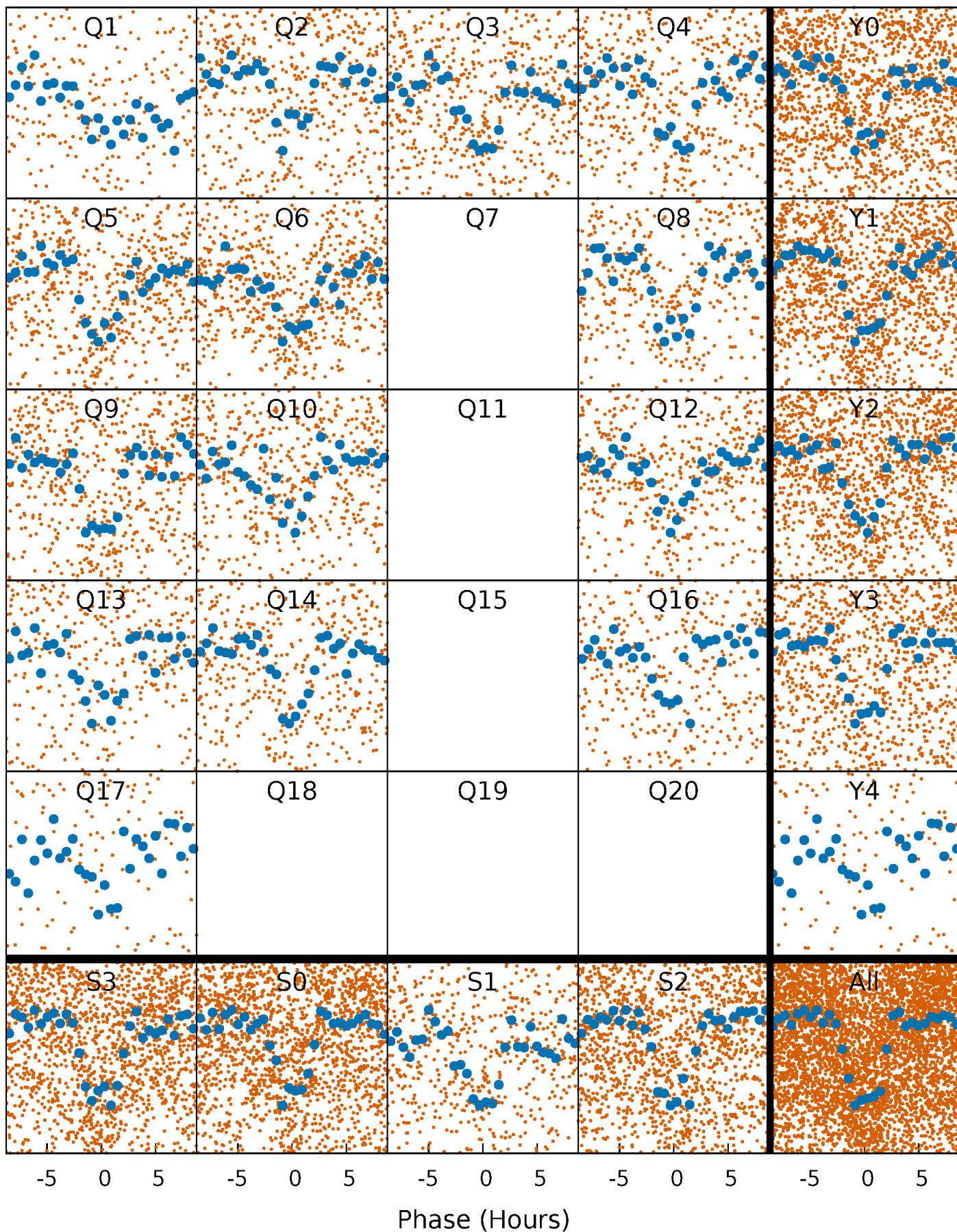


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



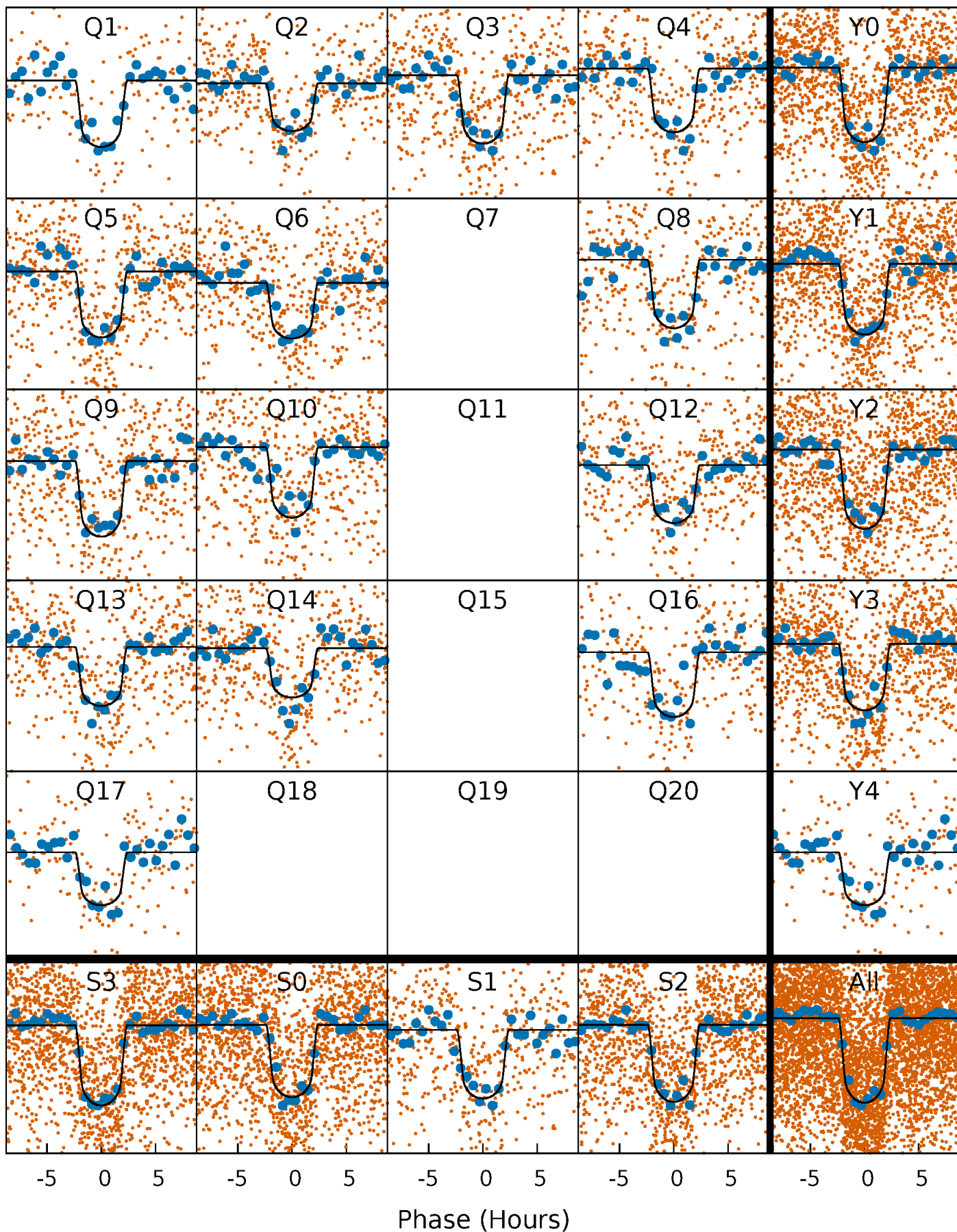
PDC Quarter-Phased Transit Curves

TCE 010875245-03 P= 4.901449 Days $T_0=133.703842$ (BKJD)



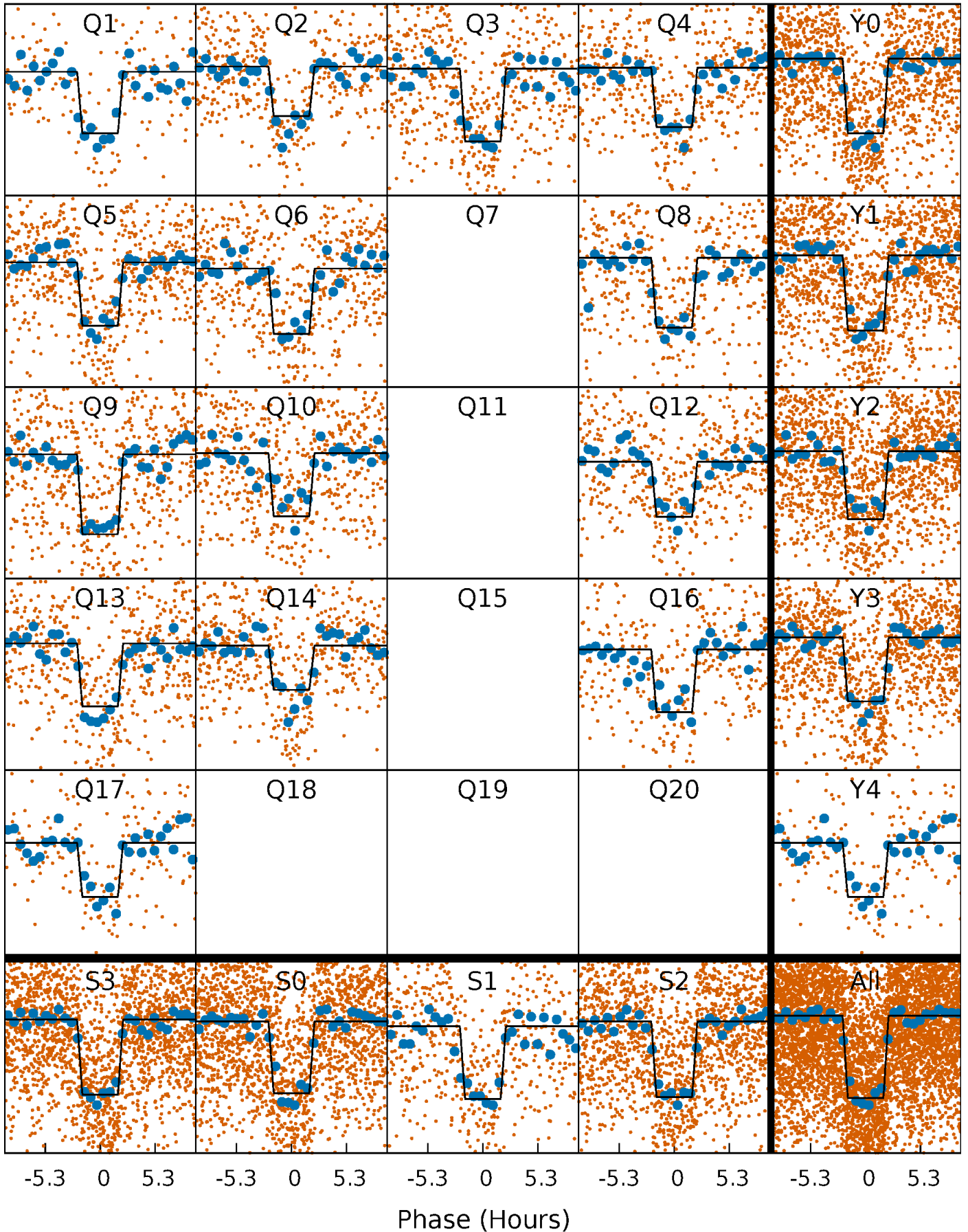
DV Quarter-Phased Transit Curves

TCE 010875245-03 P= 4.901449 Days $T_0=133.703842$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

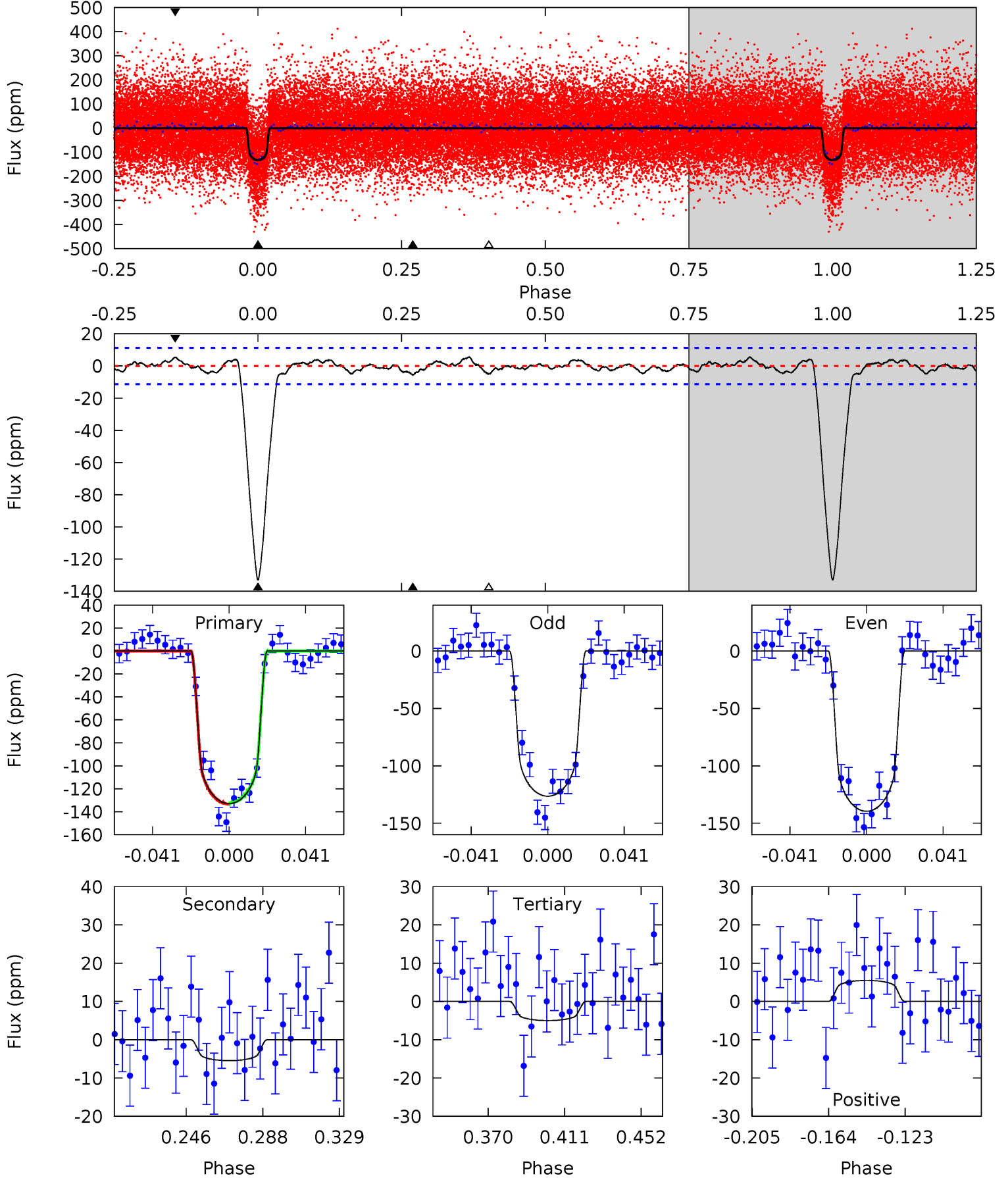
TCE 010875245-03 P= 4.901404 Days $T_0=133.709577$ (BKJD)



DV Model-Shift Uniqueness Test

010875245-03, P = 4.901449 Days, E = 128.802393 Days

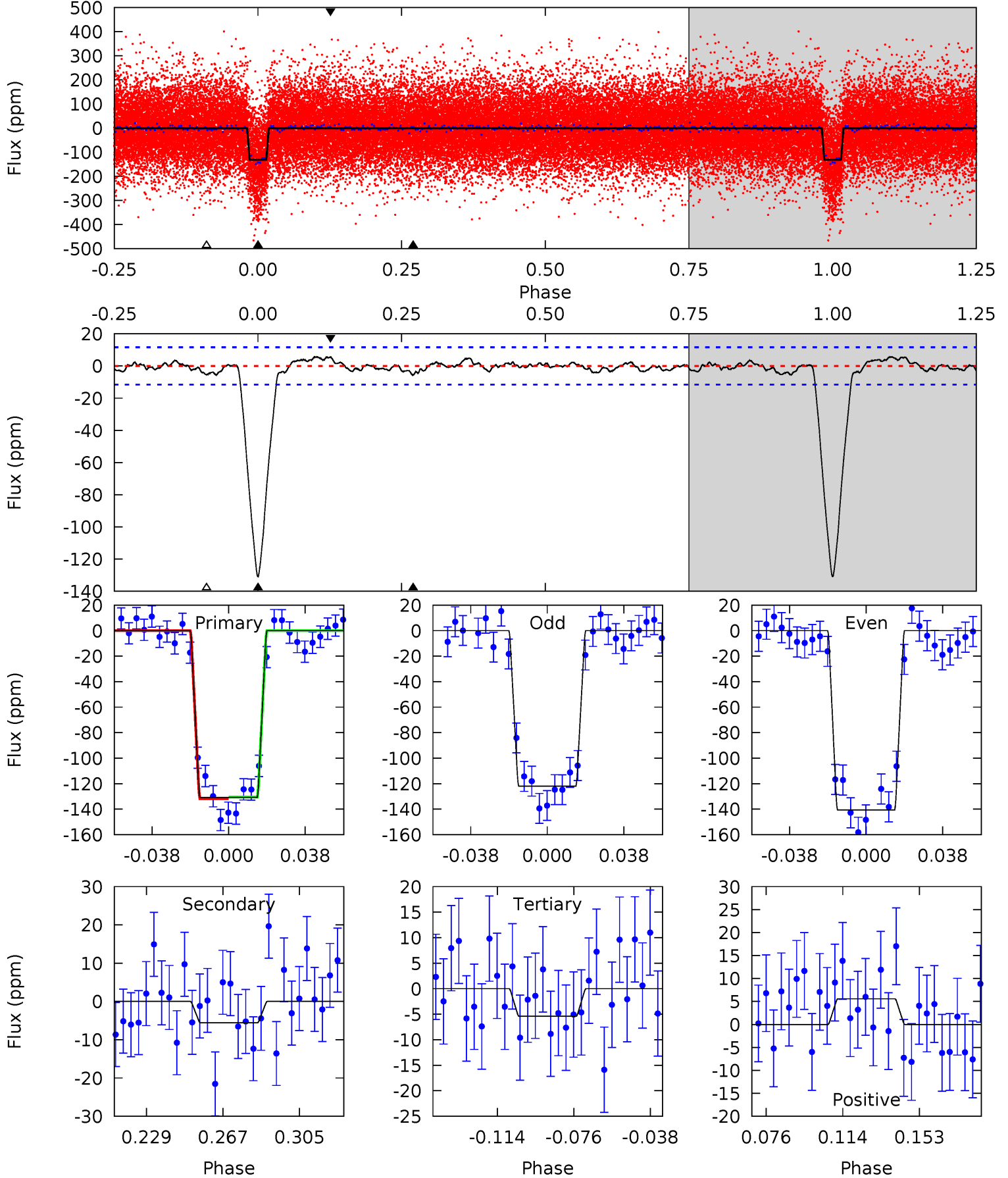
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.8	2.29	2.10	2.31	4.75	2.04	0.97	53.7	53.4	0.20	-0.01	2.76	1.02	0.04	0.19



Alt Model-Shift Uniqueness Test

010875245-03, P = 4.901404 Days, E = 128.808173 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.7	2.29	2.22	2.29	4.76	2.07	0.94	51.5	51.4	0.07	-0.00	3.85	1.00	0.04	0.25



Stellar Parameters For KIC 010875245

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5847^{+64}_{-75}	$4.191^{+0.020}_{-0.018}$	$0.260^{+0.100}_{-0.100}$	$1.402^{+0.063}_{-0.046}$	$1.113^{+0.092}_{-0.050}$	$0.569^{+0.043}_{-0.044}$
	+1%/-1%	+0%/-0%	+38%/-38%	+4%/-3%	+8%/-4%	+8%/-8%
Source	SPE8	AST8	SPE8	DSEP		

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

Secondary Eclipse Parameters for KIC 010875245-03 / KOI 0117.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 2	$1.95^{+0.21}_{-0.21}$	1763^{+23}_{-23}	3089^{+194}_{-285}	$2.788^{+1.293}_{-1.235}$
Alt.	-6 ± 2	$1.77^{+0.22}_{-0.22}$	1762^{+24}_{-23}	3181^{+245}_{-325}	$3.366^{+1.836}_{-1.614}$

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

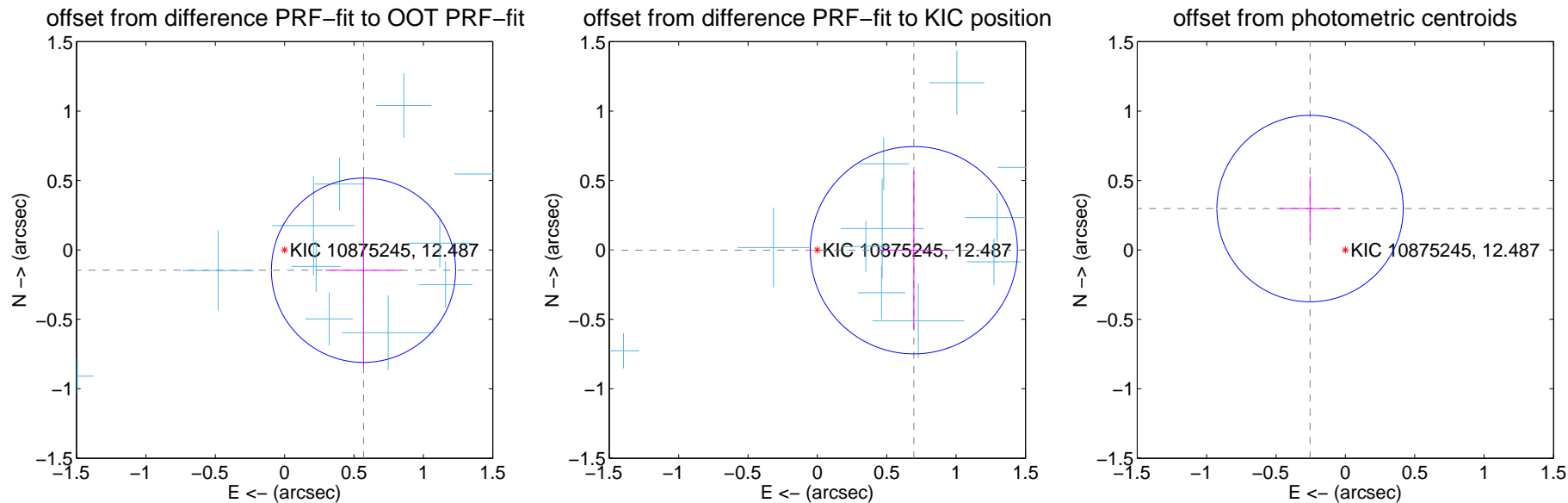
DV Centroid Data

Supplemental centroid analysis for 010875245-03. Kepler magnitude: 12.49. Transit SNR 36.40

There are 11 quarters with good PRF difference image offsets

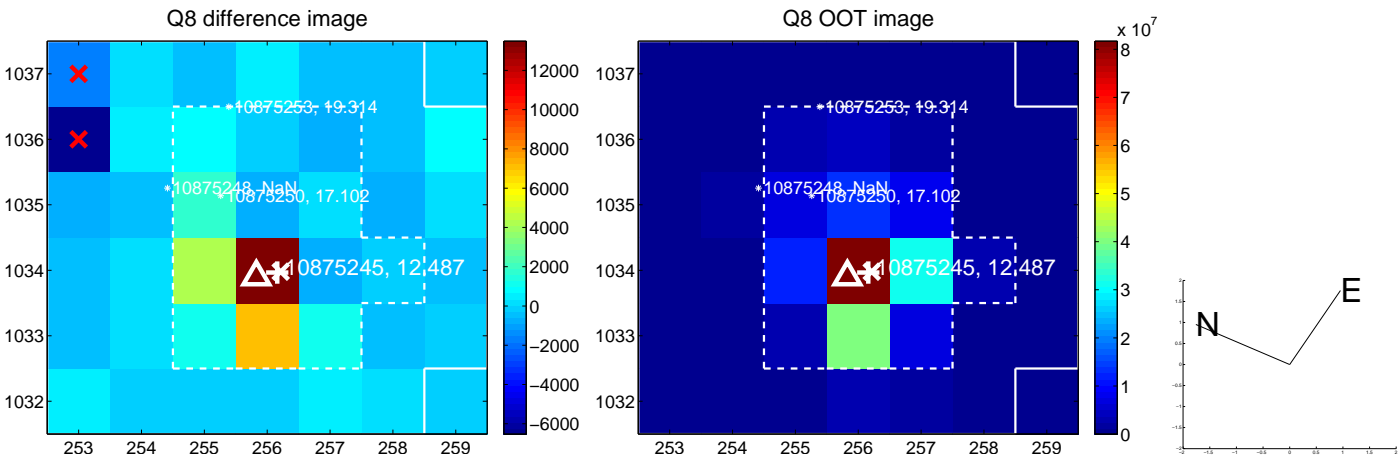
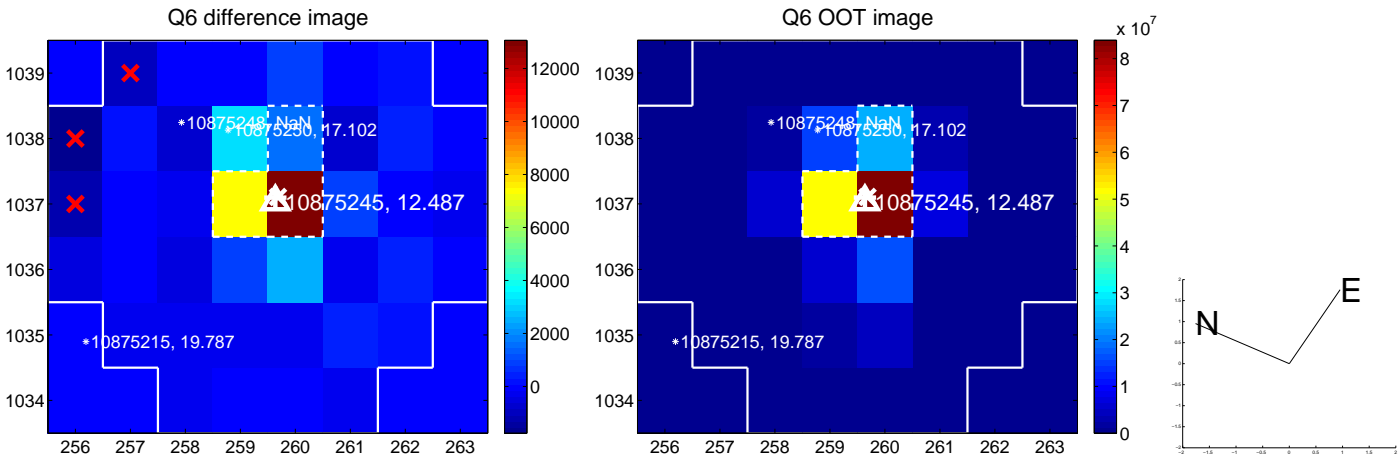
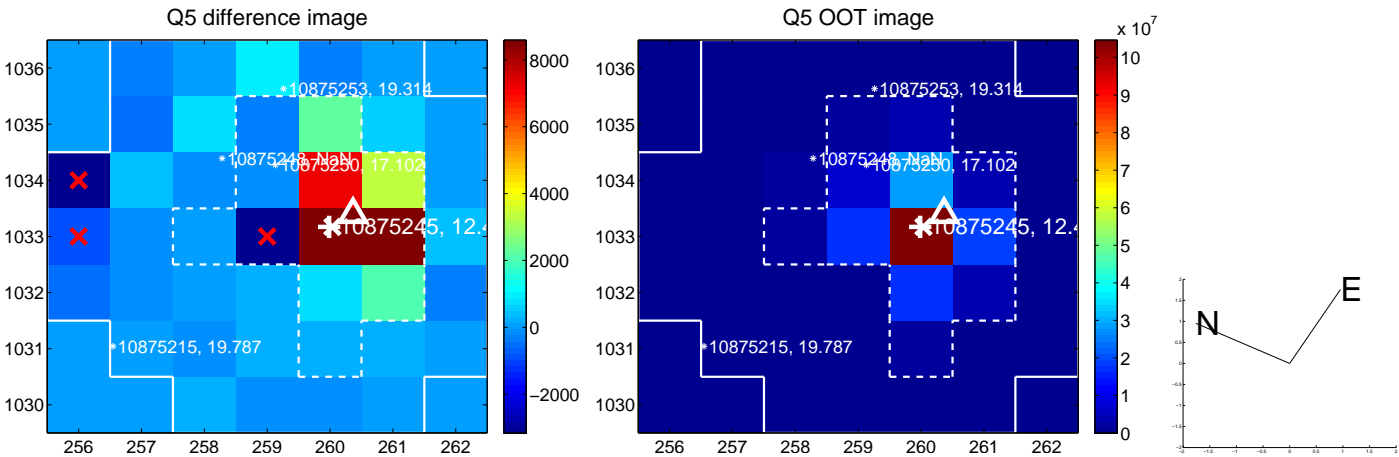
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.587 ± 0.221	2.65	-0.568 ± 0.276	-0.146 ± 0.691
PRF-fit source offset from KIC position	0.695 ± 0.249	2.79	-0.695 ± 0.250	-0.002 ± 0.569
photometric centroid source offset	0.39 ± 0.22	1.75	0.26 ± 0.22	0.30 ± 0.23

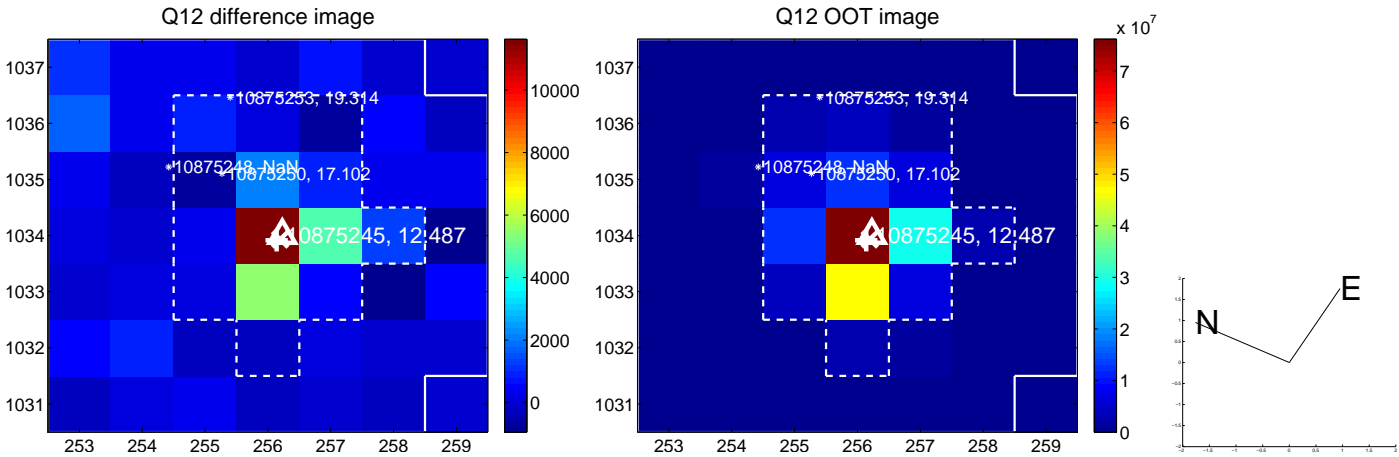
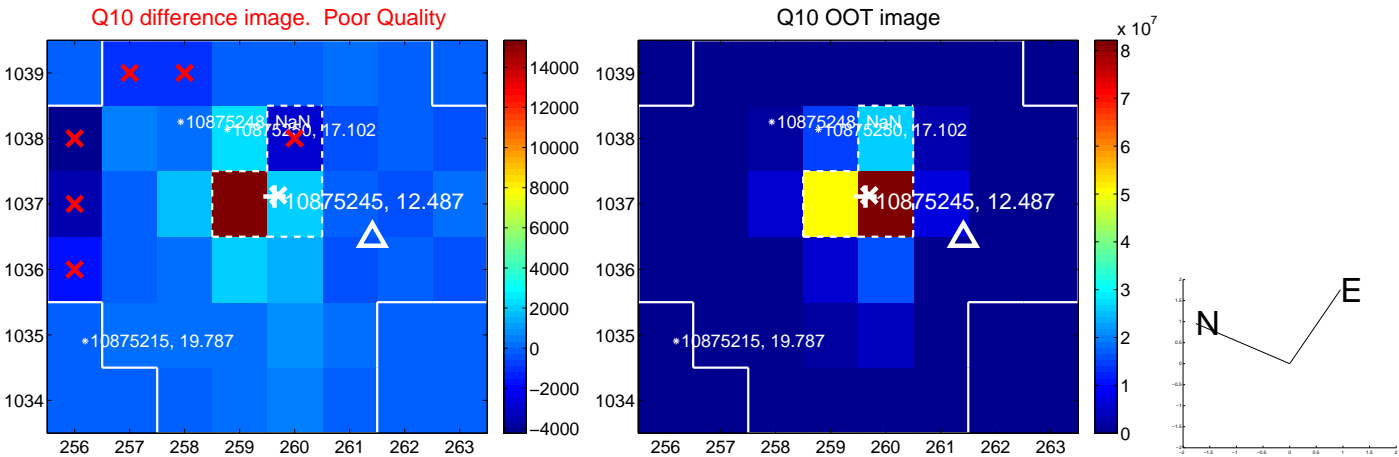
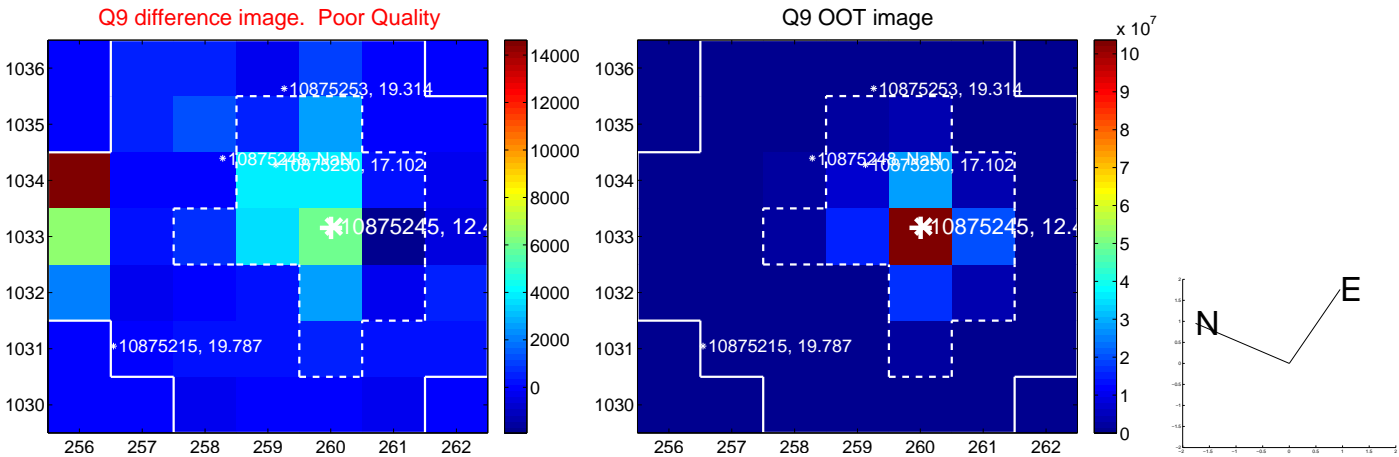


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

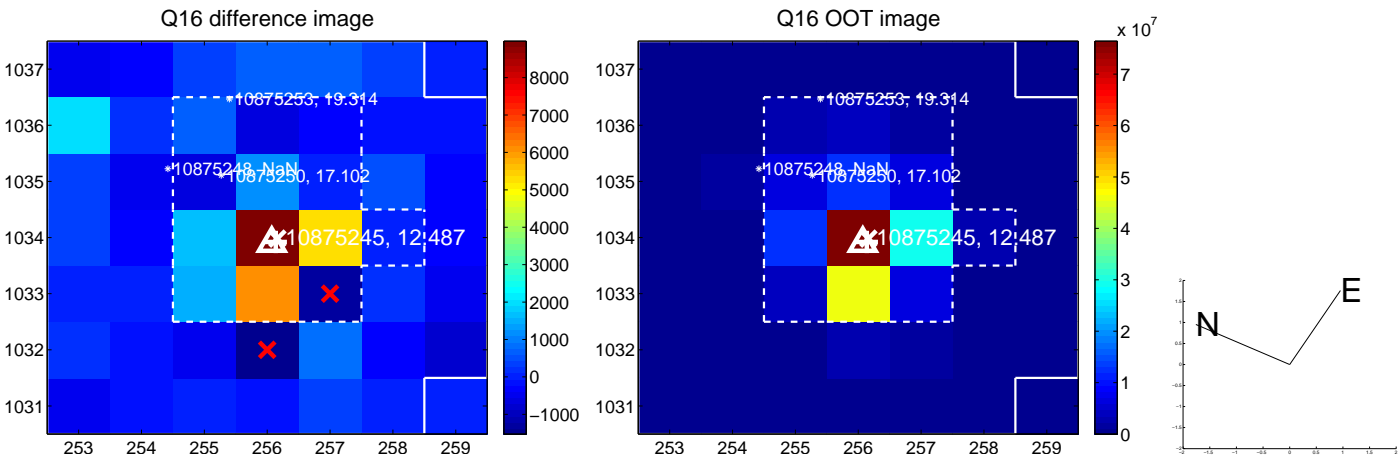
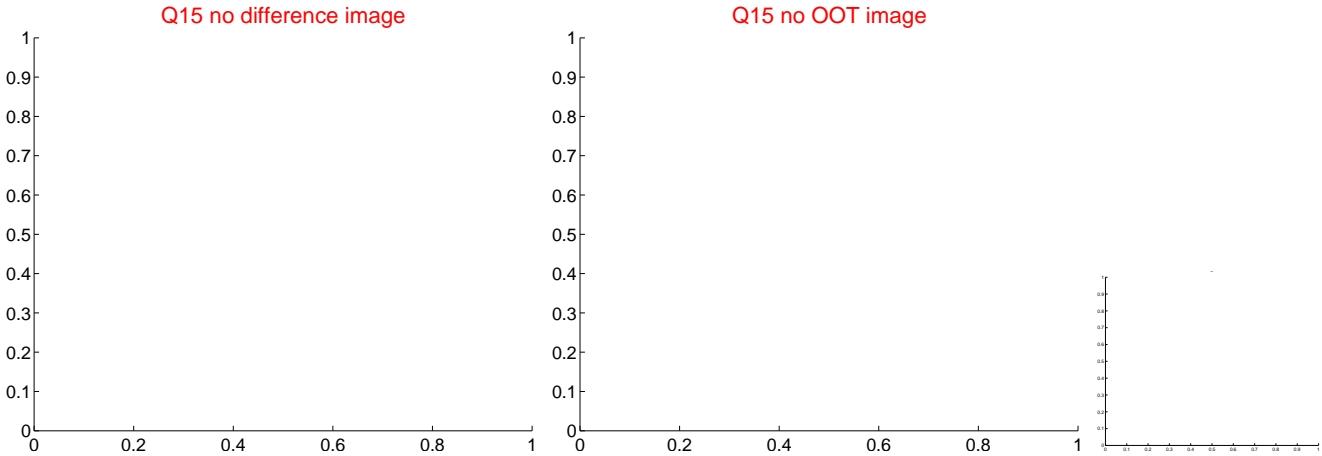
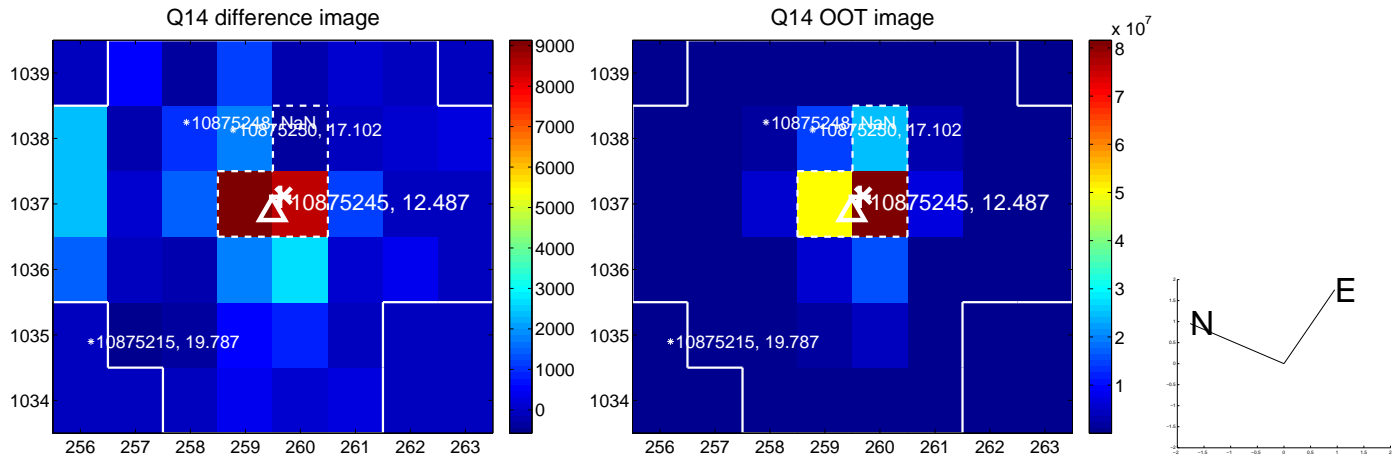
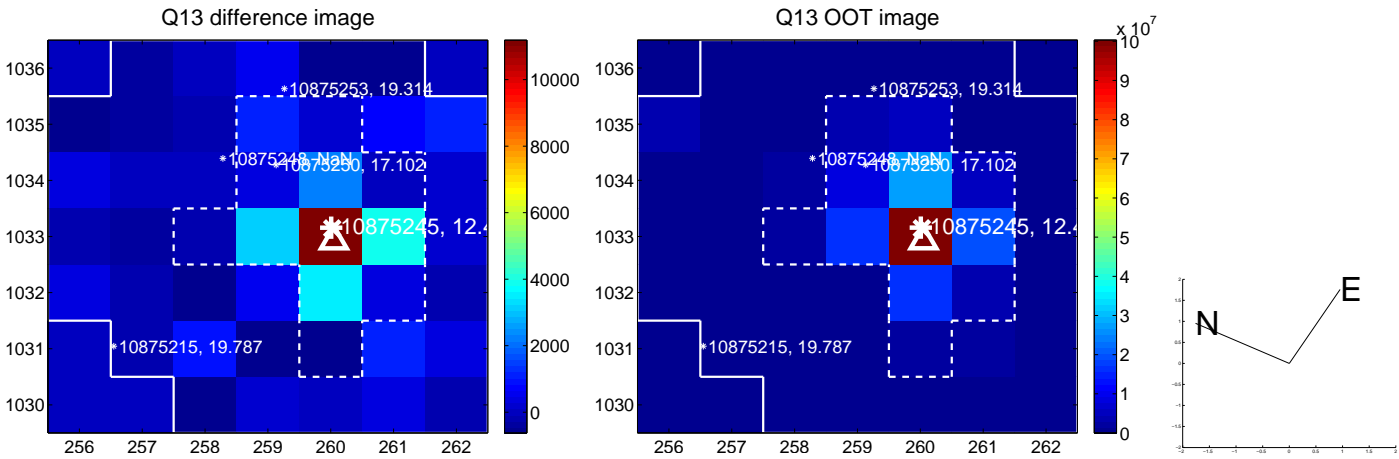
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



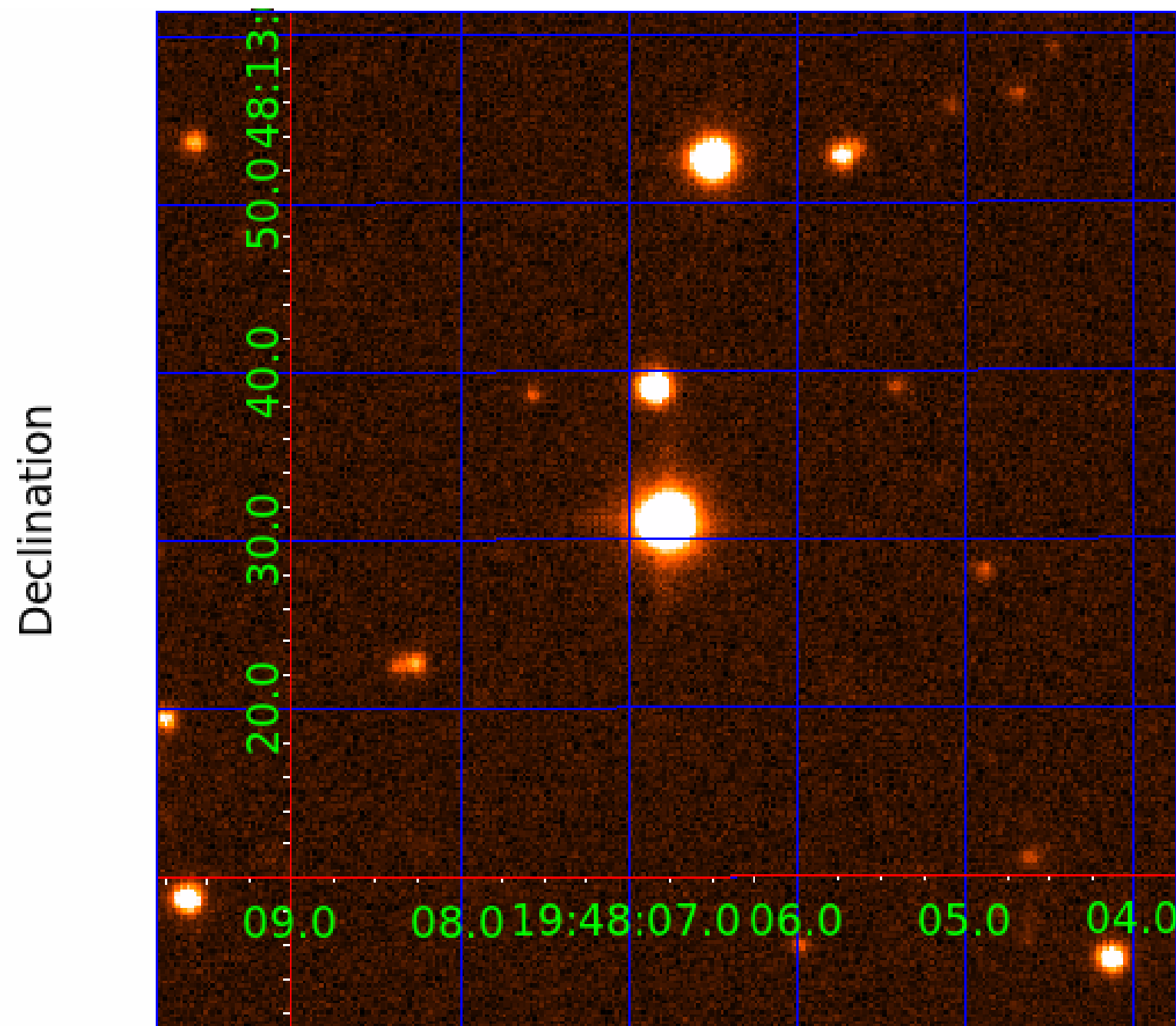
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 010875245

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})
010875245-01	OBS	0117.01	14.749132	138.778684	426.9	6.529	66.2	69.0	1.40	5847	3.42	138.28
010875245-02	OBS	0117.03	3.180021	133.501140	119.3	3.728	35.0	38.5	1.40	5847	1.84	1069.59
010875245-03	OBS	0117.02	4.901449	133.703842	136.4	4.388	33.2	36.4	1.40	5847	1.95	600.75
010875245-04	OBS	0117.04	7.958179	137.813608	49.6	4.736	10.2	10.3	1.40	5847	1.16	314.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010875245-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT
010875245-02	OBS	PC	0.99	0	0	0	0	NO_COMMENT
010875245-03	OBS	PC	1.00	0	0	0	0	CENT_CROWDED
010875245-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

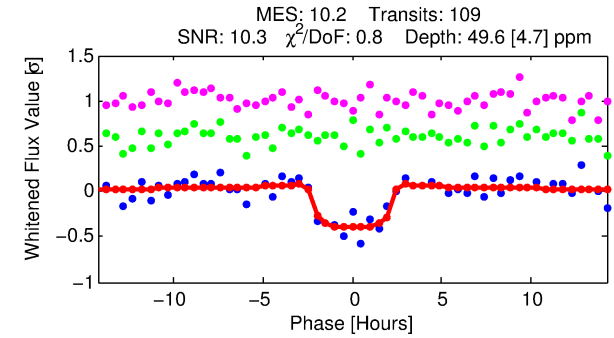
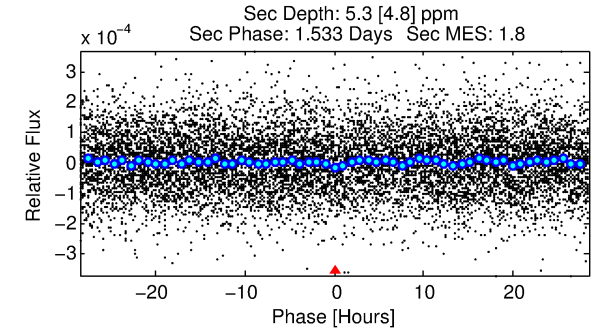
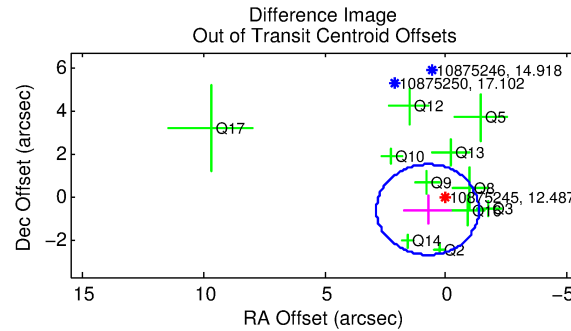
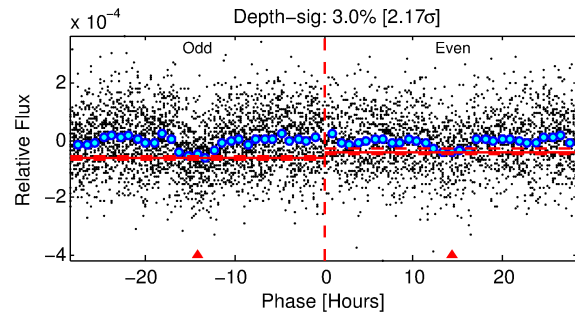
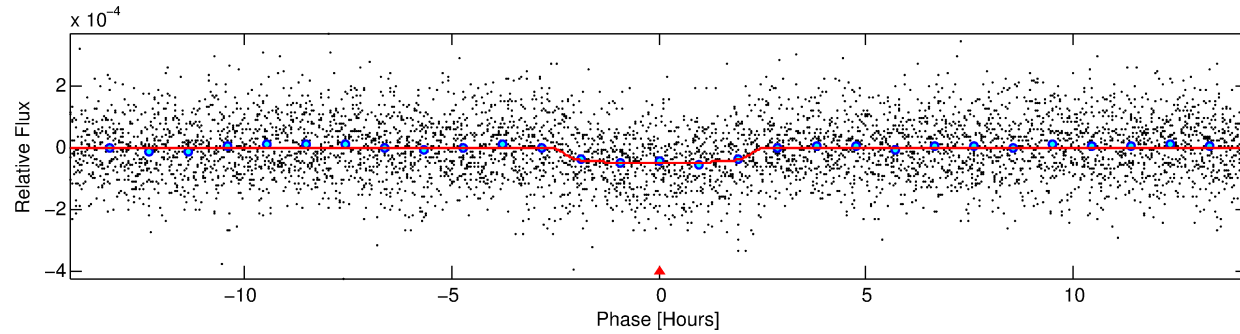
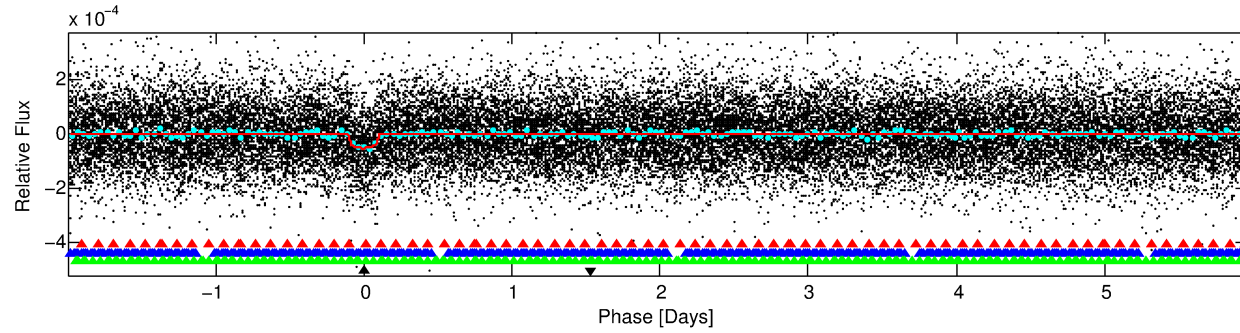
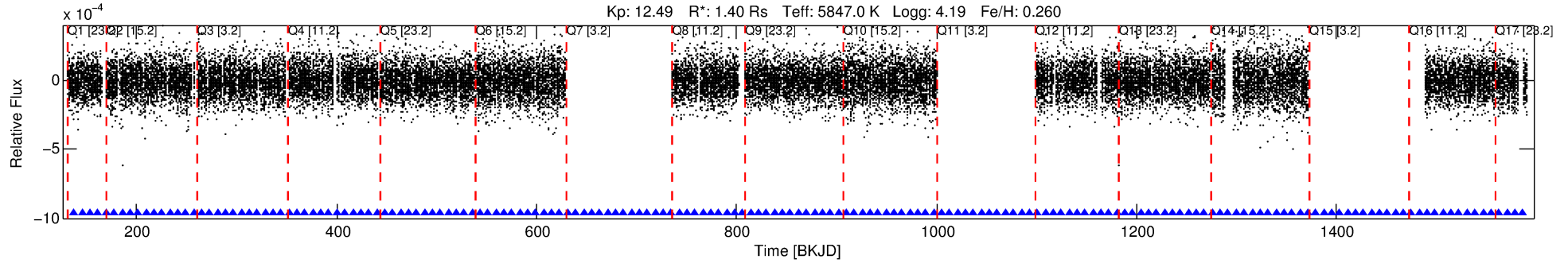
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010875245-04

No Significant Match Found

DV One-Page Summary

KIC: 10875245 Candidate: 4 of 4 Period: 7.958 d
KOI: K00117.04 Name: Kepler-107d Corr: 0.953



DV Fit Results:

Period = 7.95818 [0.00007] d
Epoch = 137.8136 [0.0066] BKJD
Rp/R* = 0.0076 [0.0031]
a/R* = 6.13 [11.61]
b = 0.89 [0.46]
Seff = 314.80 [21.05]
Teq = 1074 [18] K
Rp = 1.16 [0.48] Re
a = 0.0809 [0.0027] AU
Ag = 14.02 [17.24] [0.76 σ]
Teffp = 3213 [988] K [2.16 σ]

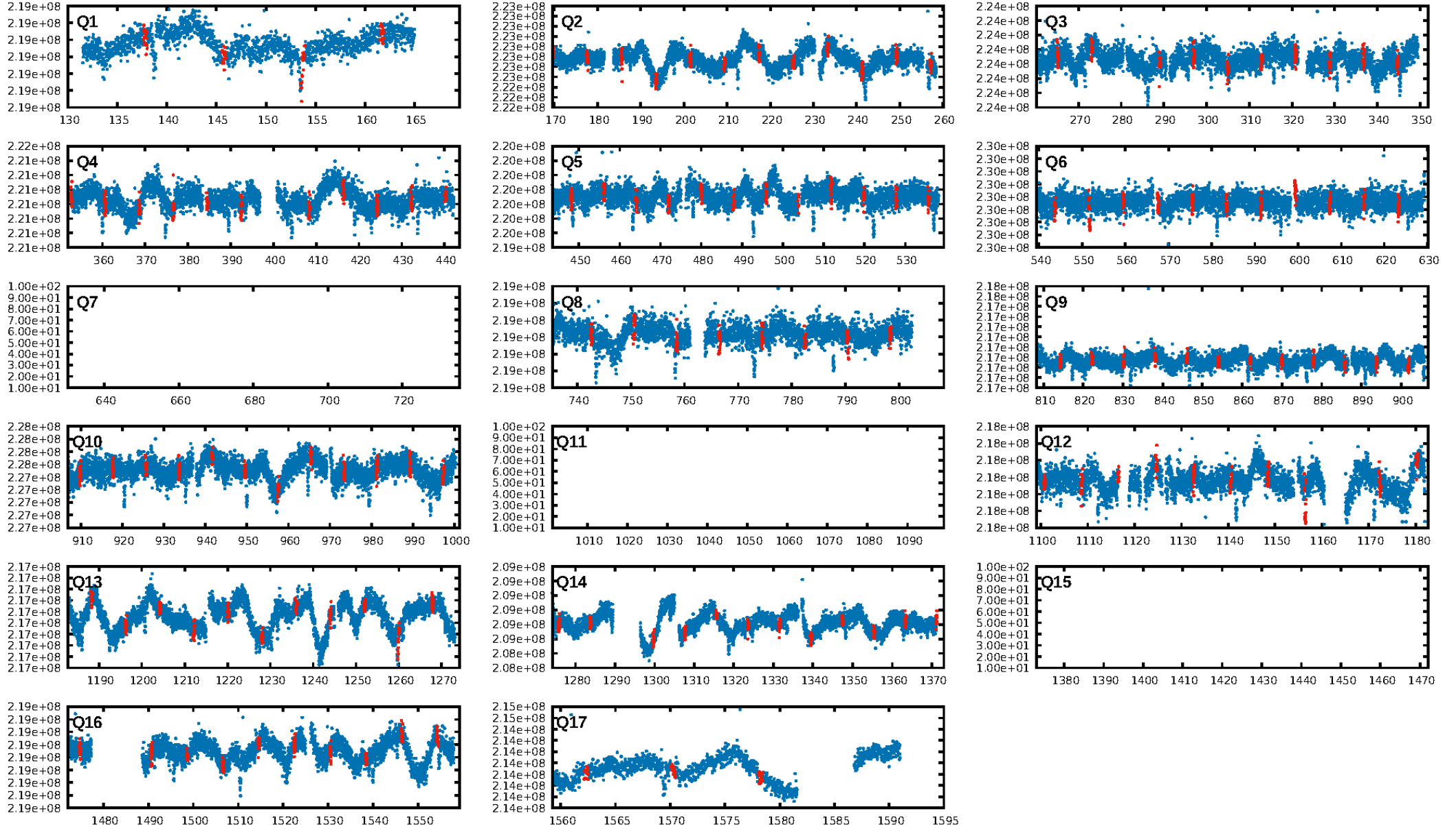
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.36 σ]
LongPeriod-sig: 100.0% [20.21 σ]
ModelChiSquare2-sig: 95.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.01e-23
RollingBand-fgt: 1.00 [103/103]
GhostDiagnostic-chr: 1.059
Centroid-sig: 62.8%
Centroid-so: 0.584 arcsec [0.76 σ]
OotOffset-rm: 0.964 arcsec [1.37 σ]
OotOffset-st: 3/1/3/4 [11]
KicOffset-rm: 0.760 arcsec [1.09 σ]
KicOffset-st: 3/1/3/4 [11]
DiffImageQuality-fgm: 0.45 [5/11]
DiffImageOverlap-fno: 1.00 [14/14]

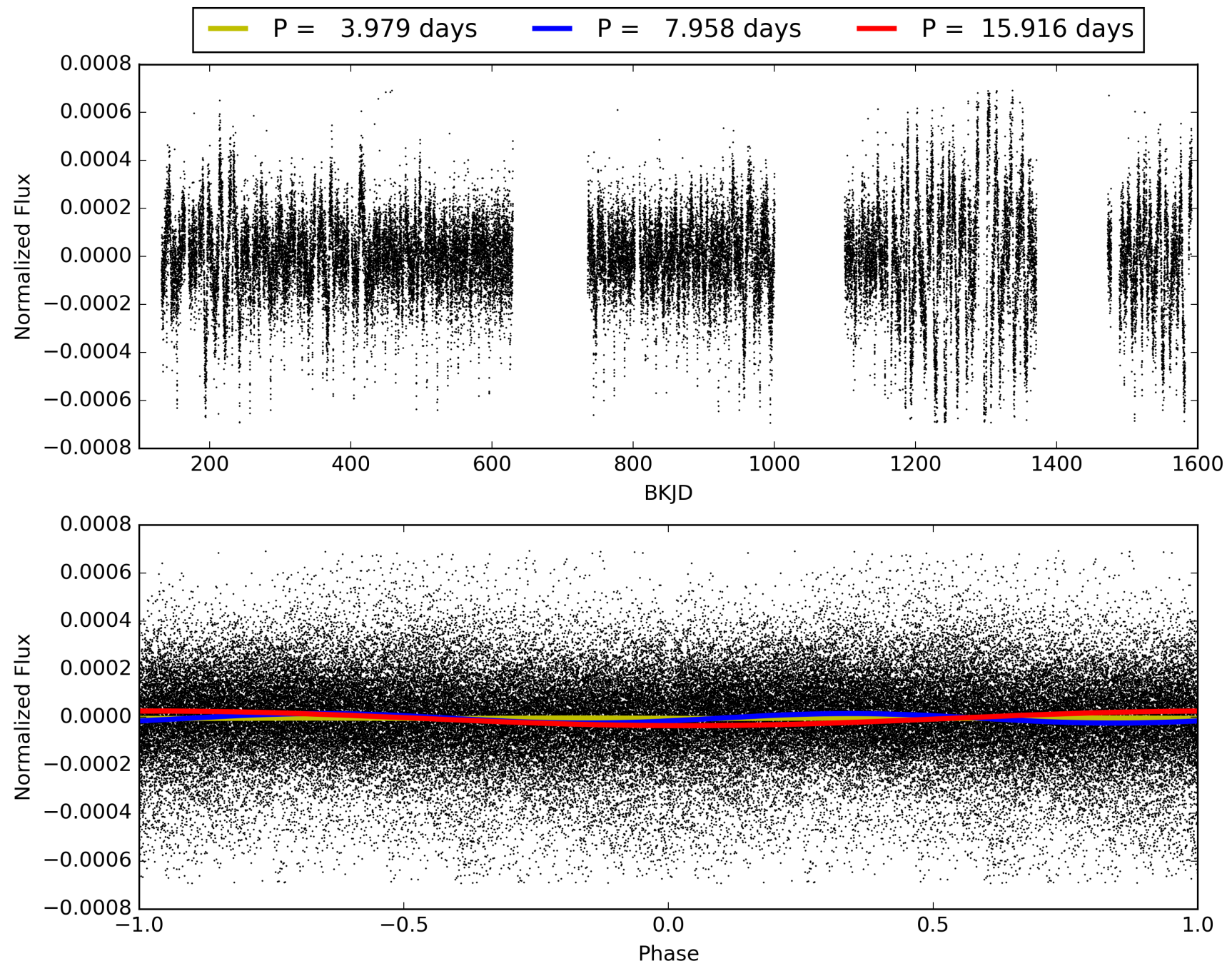
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:06:36 Z

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

TCE 010875245-04, PDC Light Curves

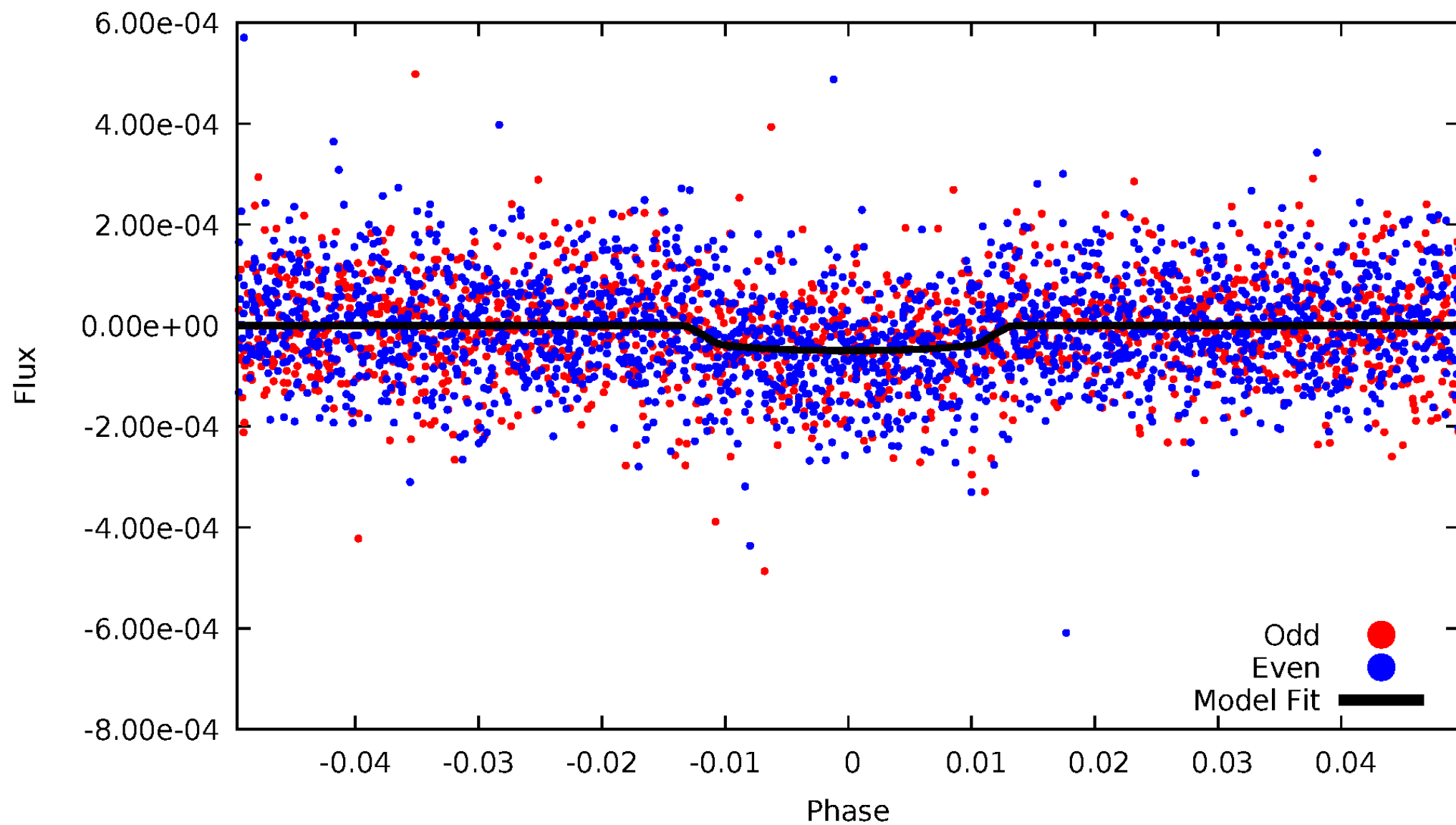


TCE 010875245-04



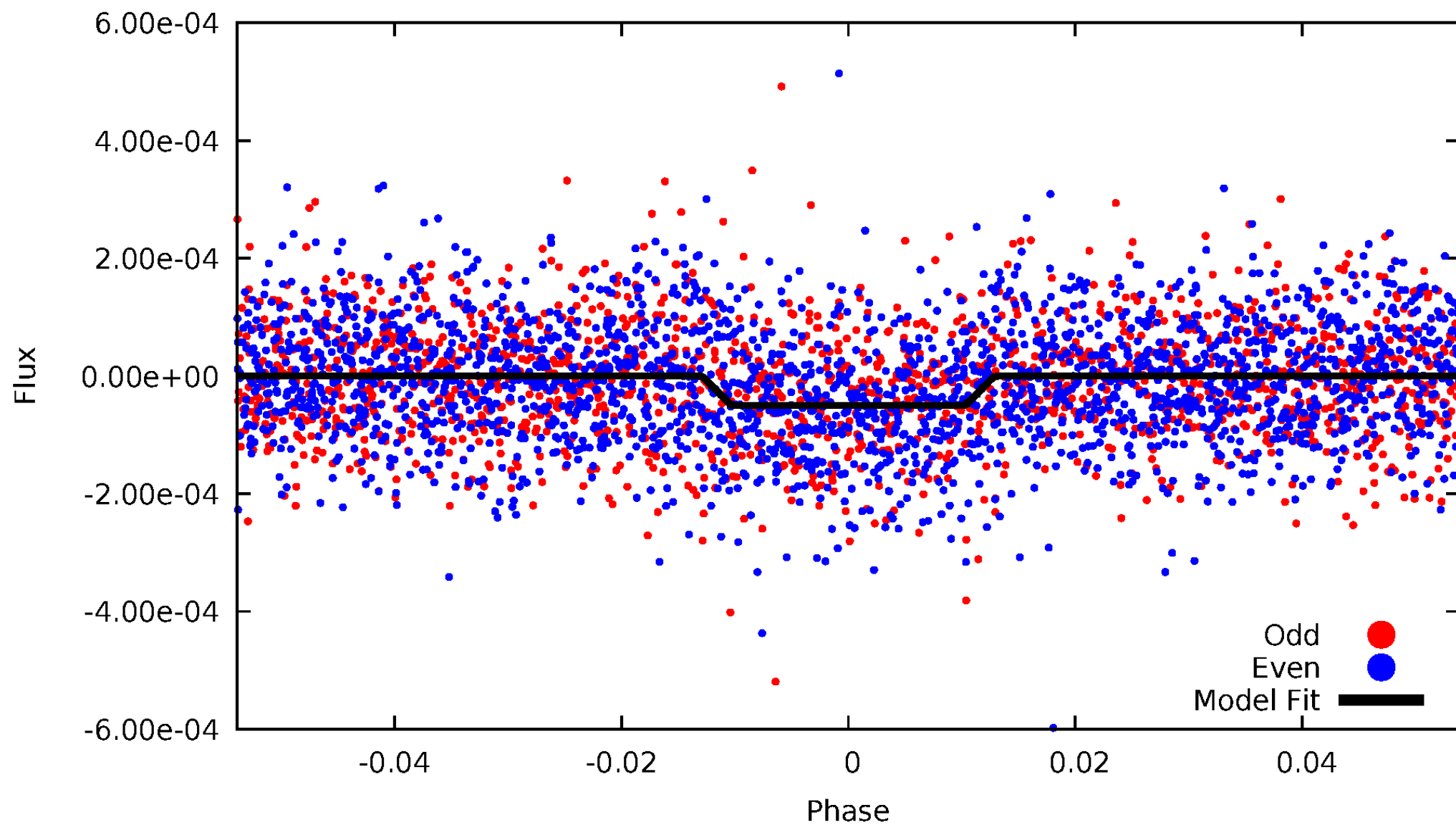
DV Odd/Even

TCE 010875245-04



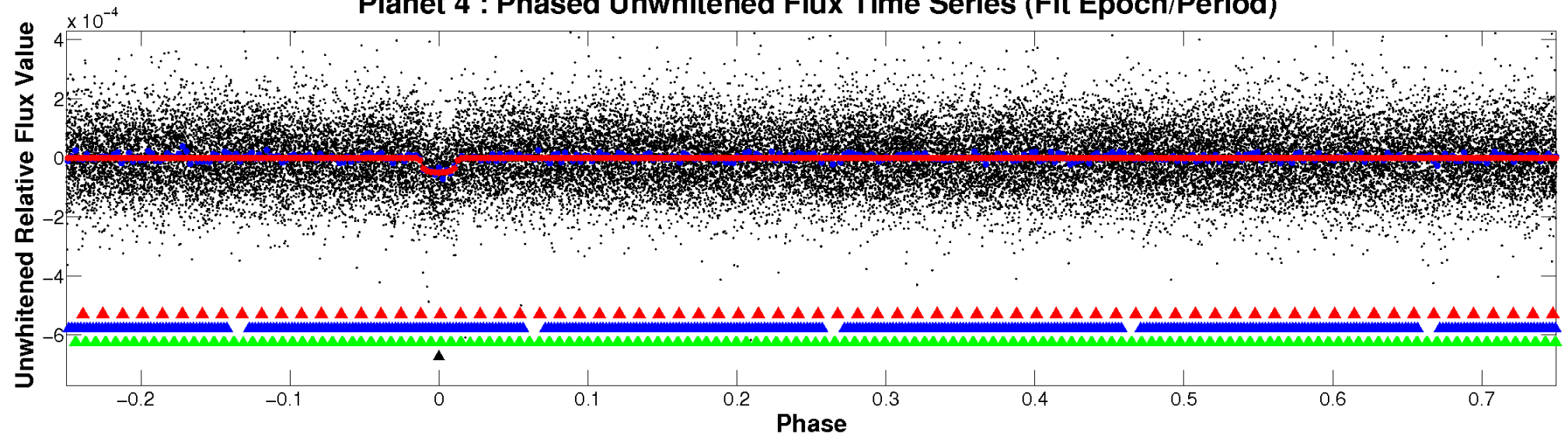
ALT Odd/Even

TCE 010875245-04

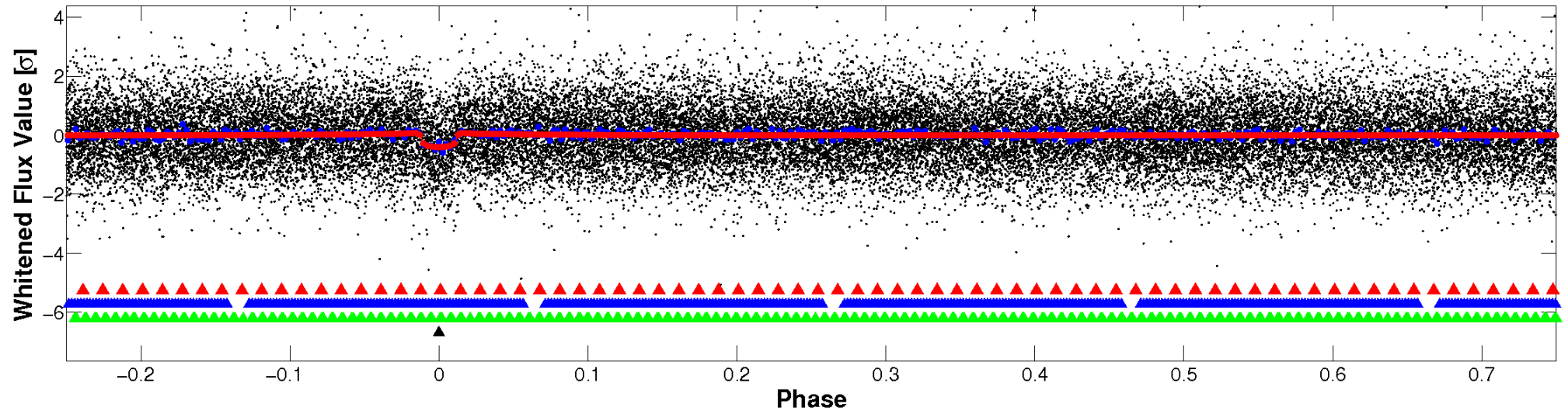


Non-Whitened Vs. Whitened Light Curve

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

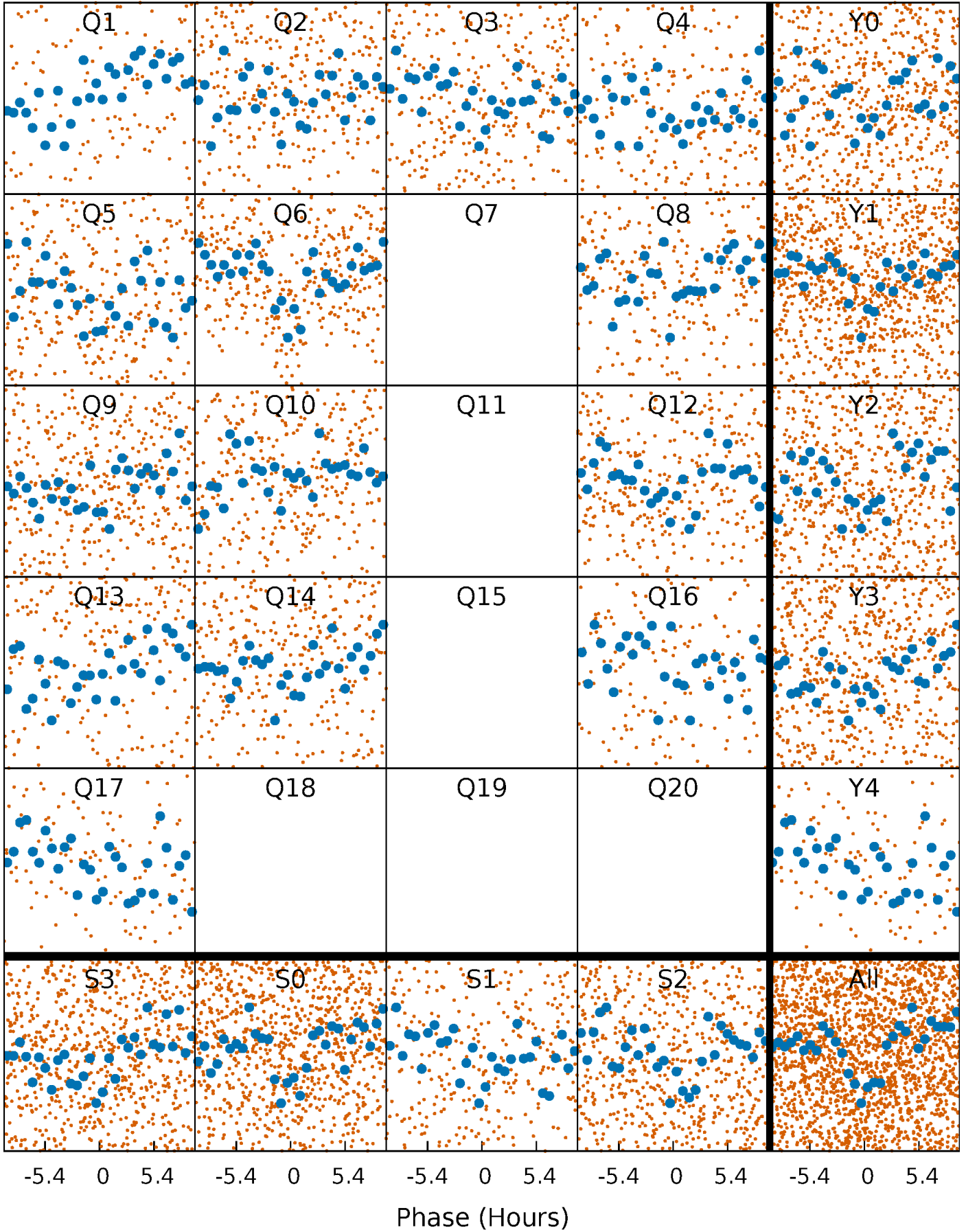


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



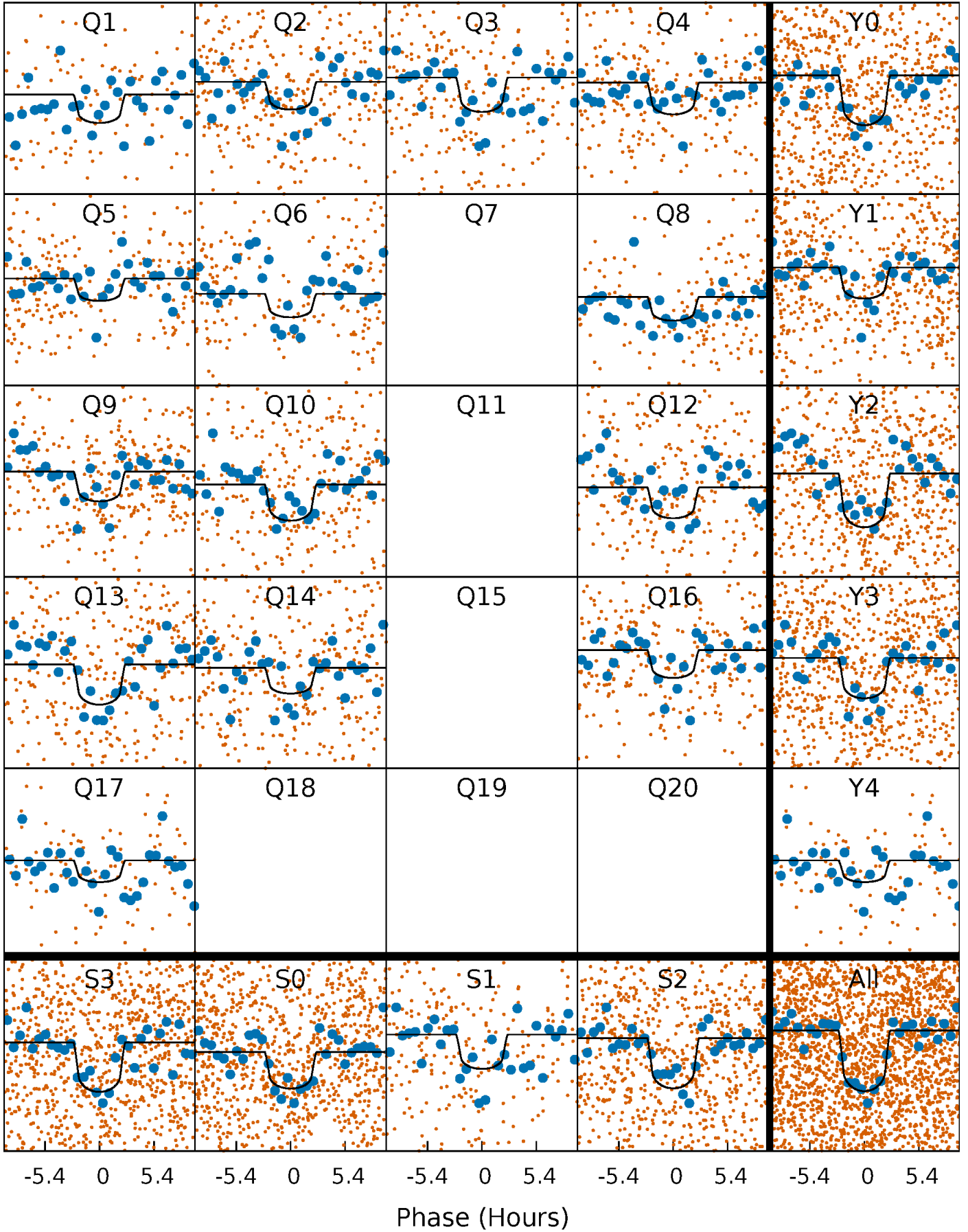
PDC Quarter-Phased Transit Curves

TCE 010875245-04 $P = 7.958179$ Days $T_0 = 137.813608$ (BKJD)



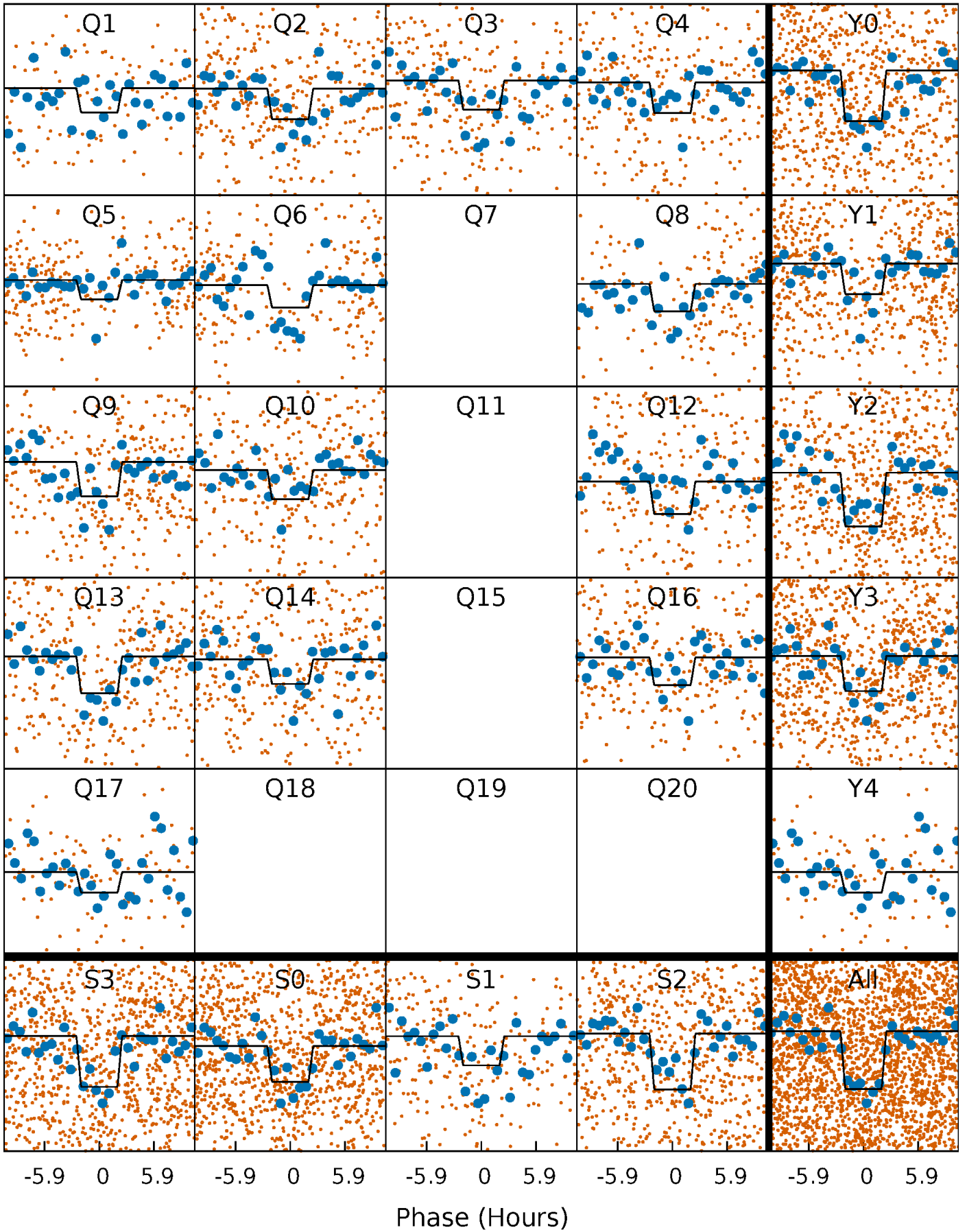
DV Quarter-Phased Transit Curves

TCE 010875245-04 P= 7.958179 Days $T_0=137.813608$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

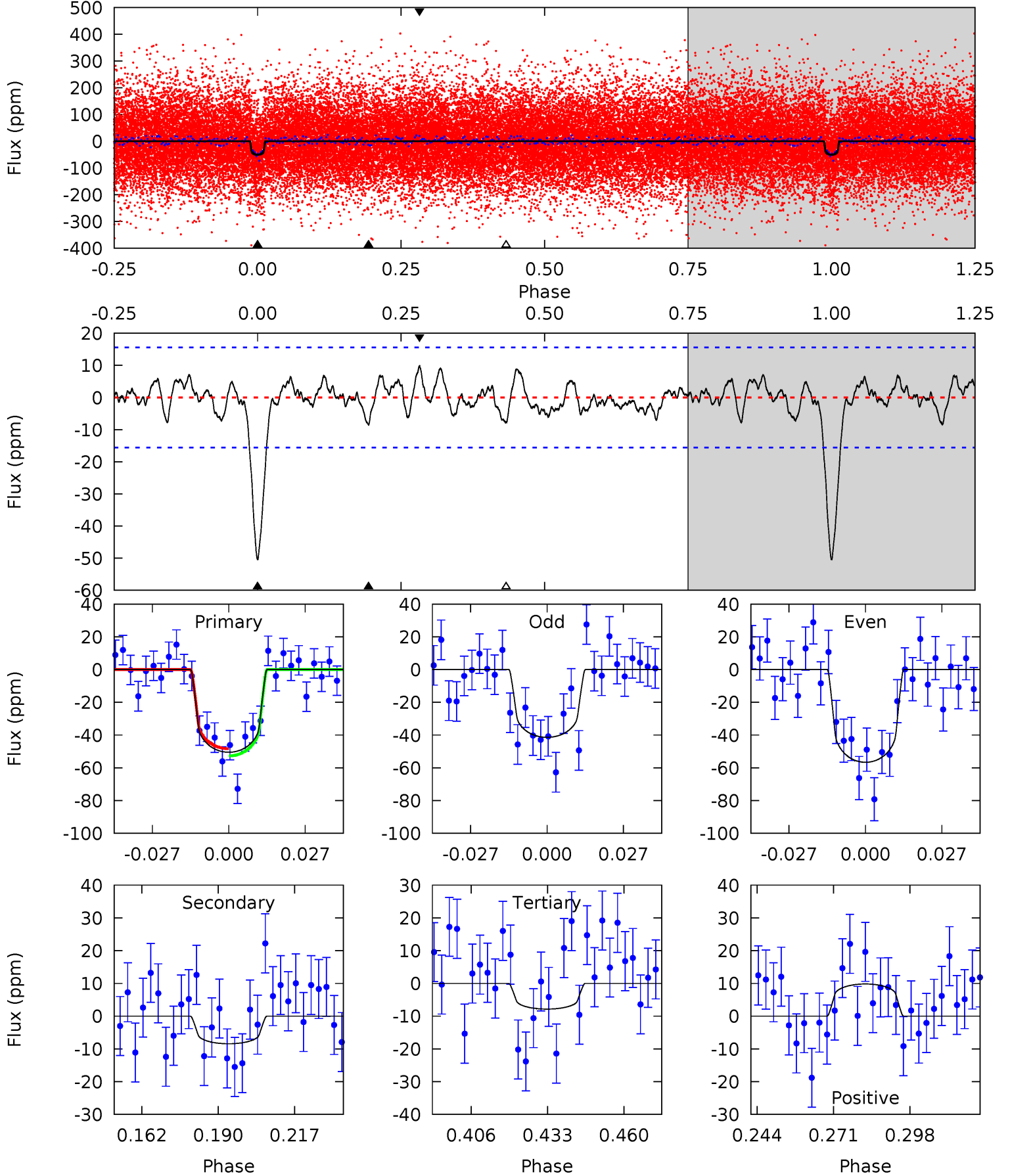
TCE 010875245-04 P= 7.958180 Days $T_0=137.810596$ (BKJD)



DV Model-Shift Uniqueness Test

010875245-04, P = 7.958179 Days, E = 129.855429 Days

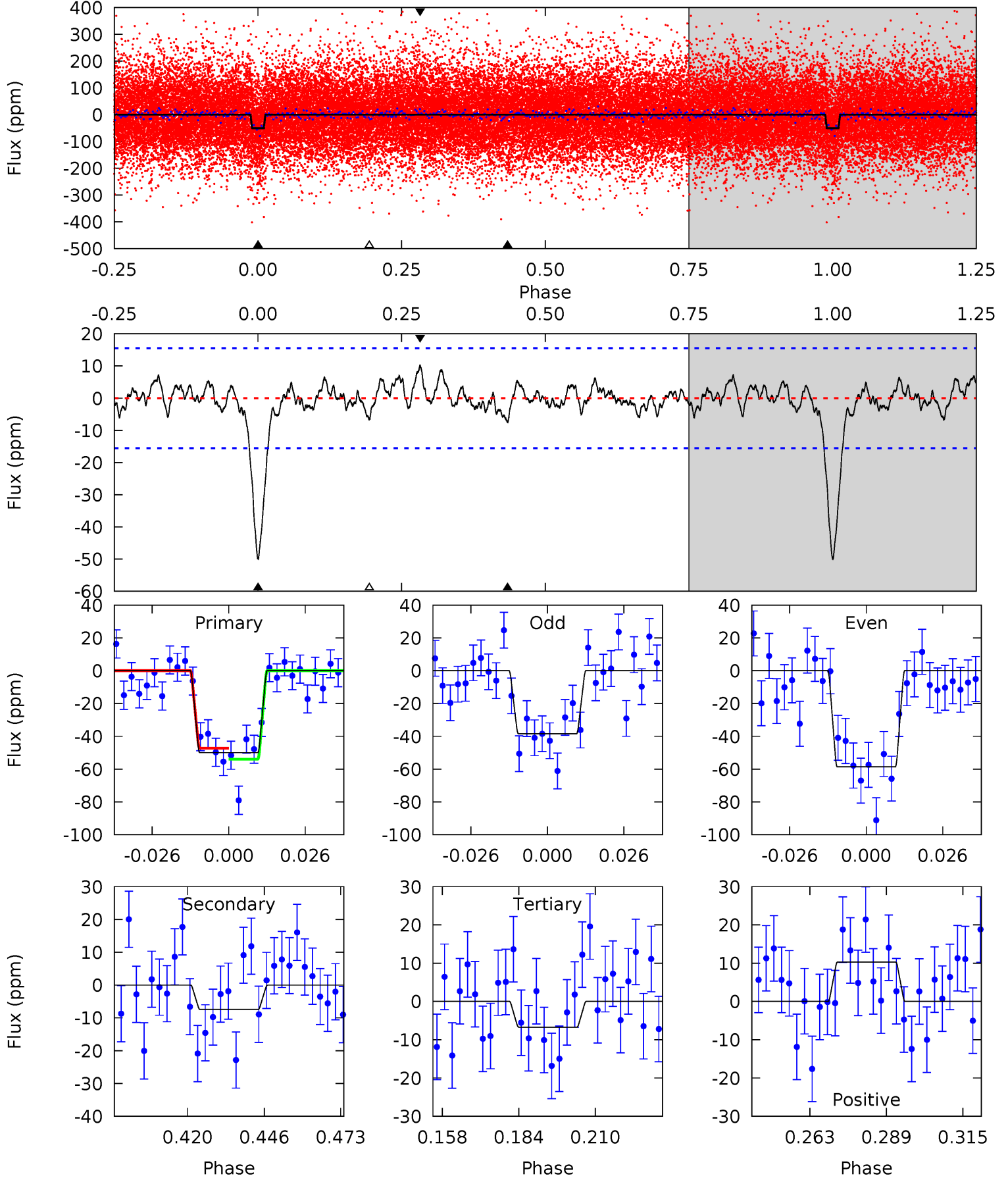
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	2.62	2.43	3.04	4.83	2.21	1.10	13.2	12.6	0.18	-0.43	2.33	0.95	0.16	0.68



Alt Model-Shift Uniqueness Test

010875245-04, P = 7.958180 Days, E = 129.852416 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	2.32	2.09	3.21	4.84	2.22	0.94	13.5	12.4	0.23	-0.89	3.10	0.80	0.17	1.04



Stellar Parameters For KIC 010875245

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5847^{+64}_{-75}	$4.191^{+0.020}_{-0.018}$	$0.260^{+0.100}_{-0.100}$	$1.402^{+0.063}_{-0.046}$	$1.113^{+0.092}_{-0.050}$	$0.569^{+0.043}_{-0.044}$
	+1%/-1%	+0%/-0%	+38%/-38%	+4%/-3%	+8%/-4%	+8%/-8%
Source	SPE8	AST8	SPE8	DSEP		

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

Secondary Eclipse Parameters for KIC 010875245-04 / KOI 0117.04

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-8 ± 3	$1.15^{+0.50}_{-0.43}$	1498^{+22}_{-23}	3948^{+834}_{-542}	22^{+40}_{-13}
Alt.	-7 ± 3	$1.12^{+0.49}_{-0.44}$	1500^{+21}_{-26}	3896^{+851}_{-547}	21^{+40}_{-13}

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

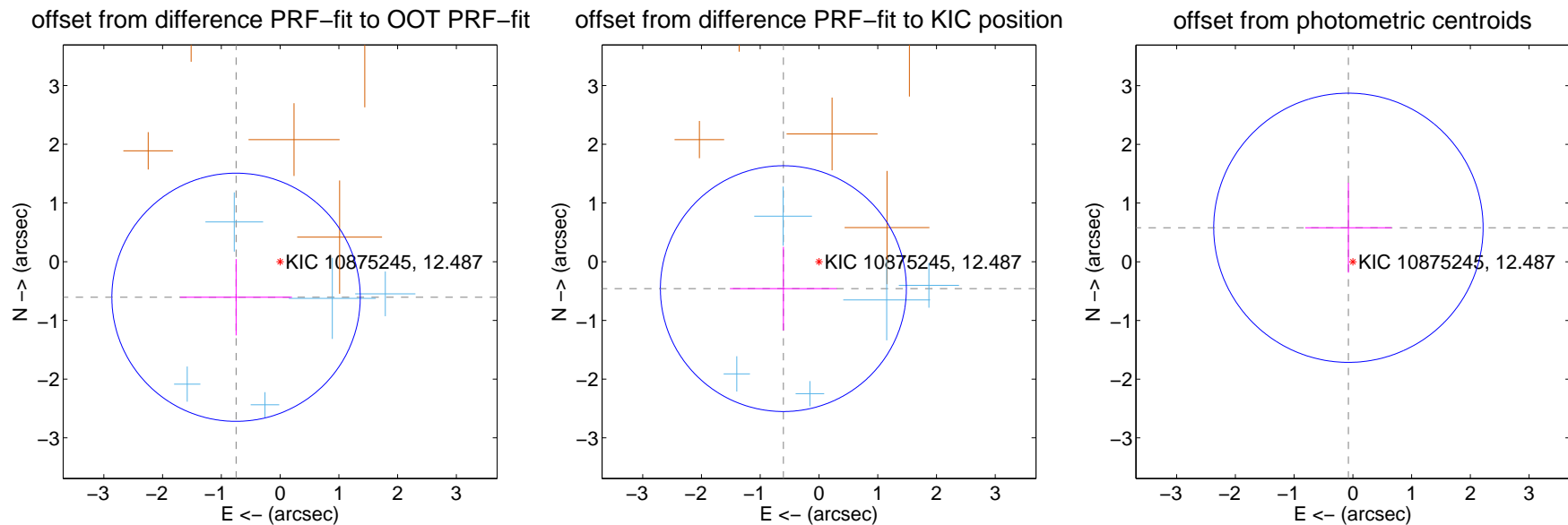
DV Centroid Data

Supplemental centroid analysis for 010875245-04. Kepler magnitude: 12.49. Transit SNR 10.27

There are 5 quarters with good PRF difference image offsets

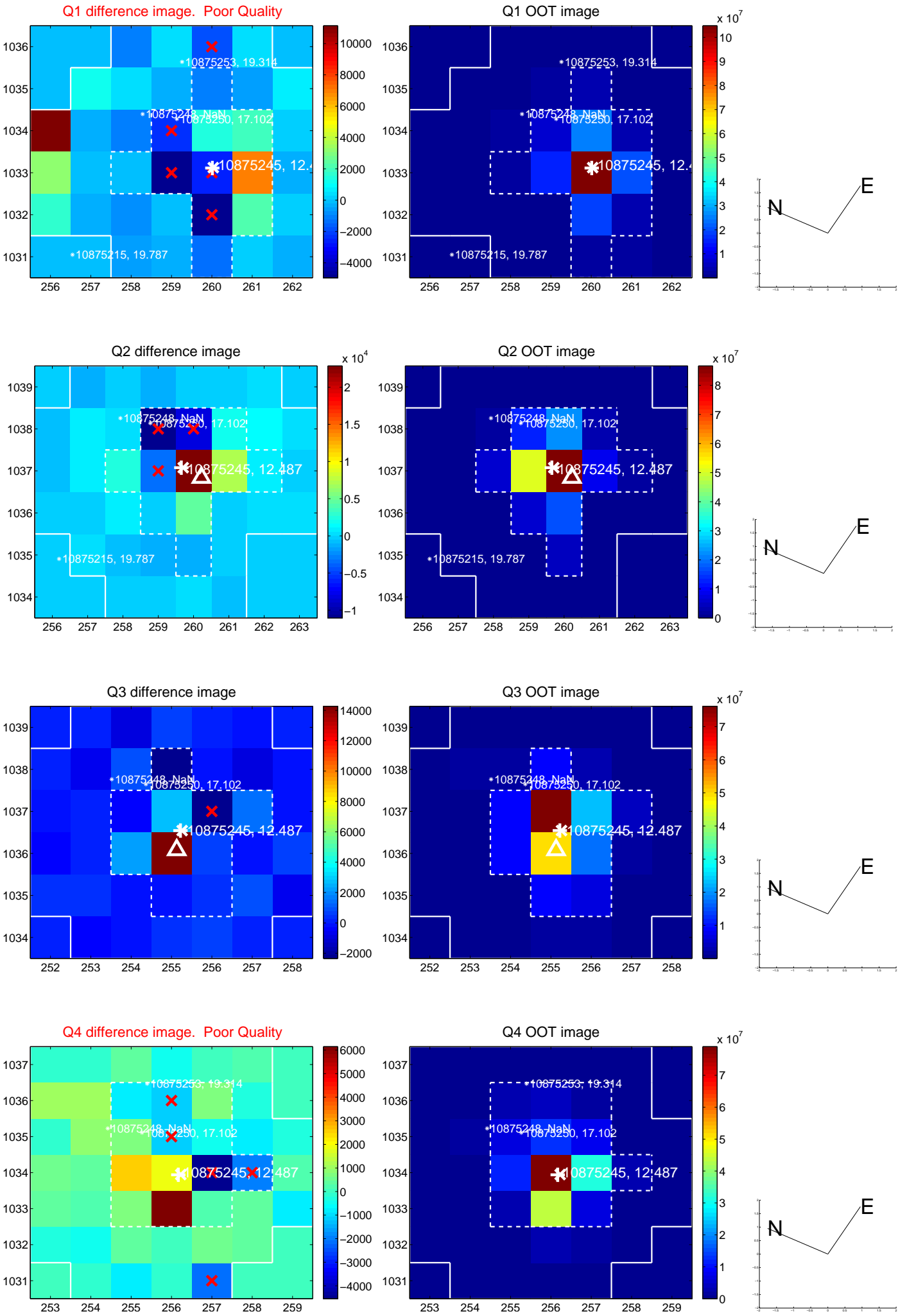
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.964 ± 0.705	1.37	0.750 ± 0.952	-0.606 ± 0.650
PRF-fit source offset from KIC position	0.760 ± 0.698	1.09	0.606 ± 0.910	-0.459 ± 0.713
photometric centroid source offset	0.58 ± 0.76	0.76	0.08 ± 0.73	0.58 ± 0.77

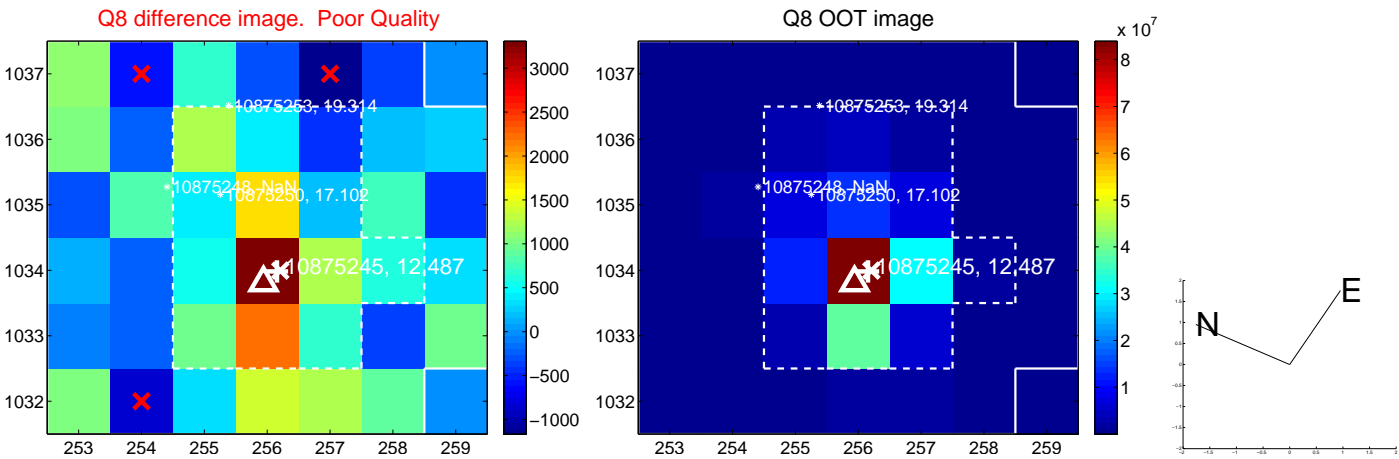
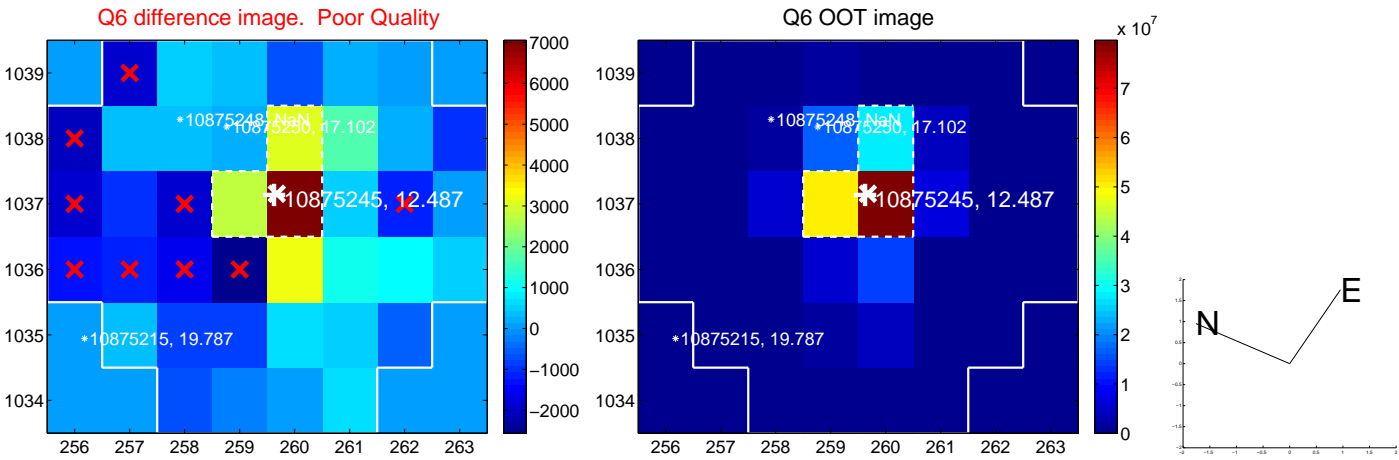
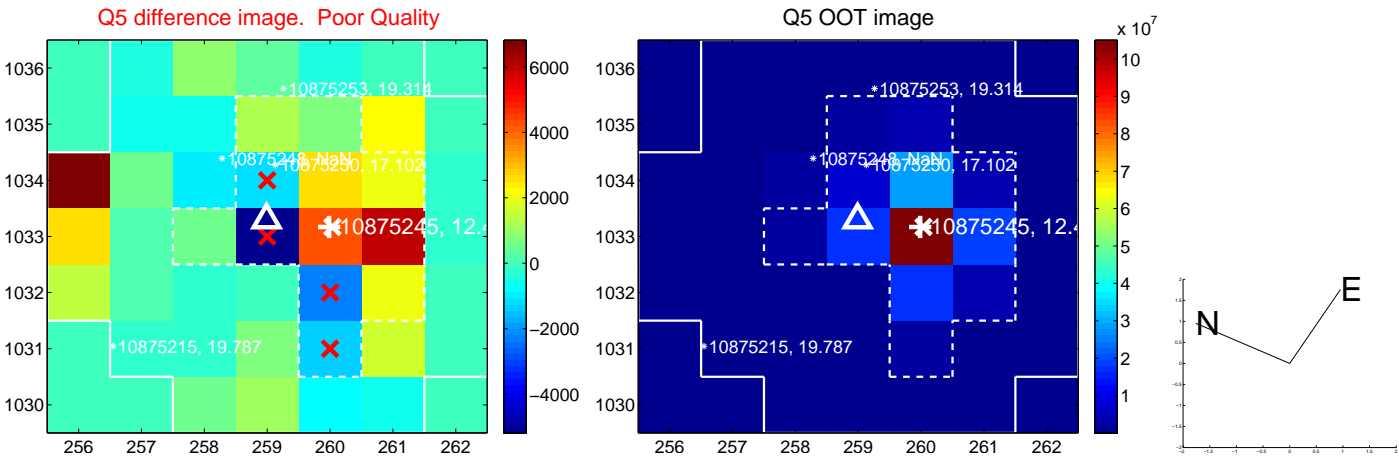


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

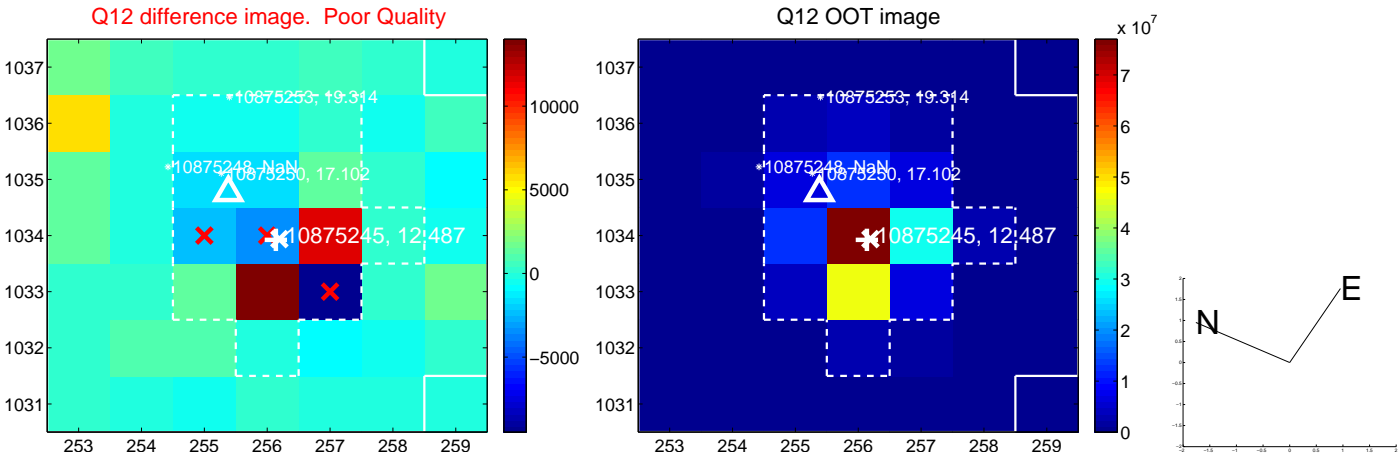
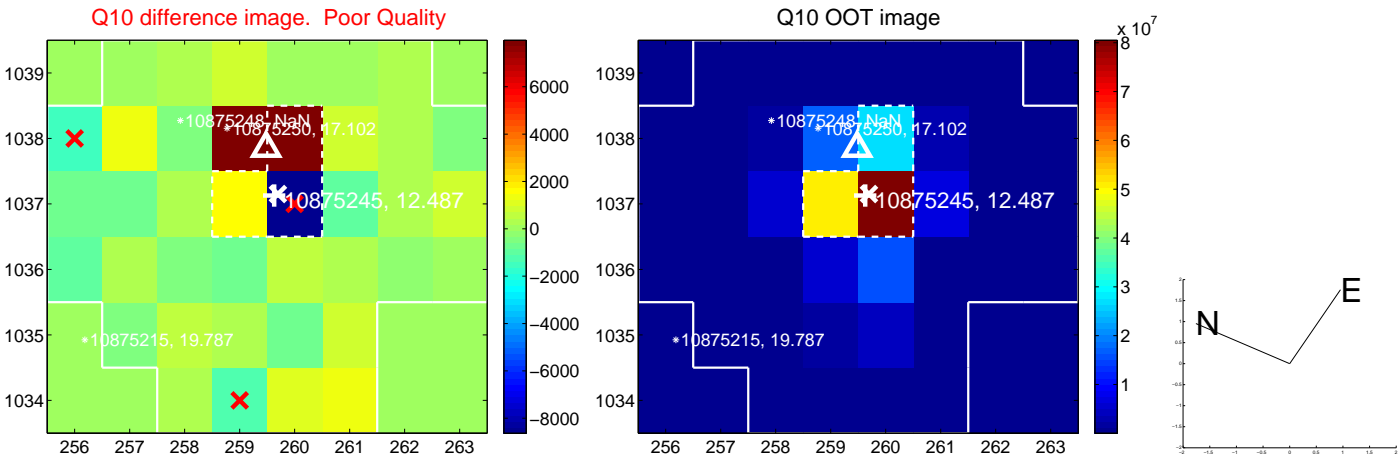
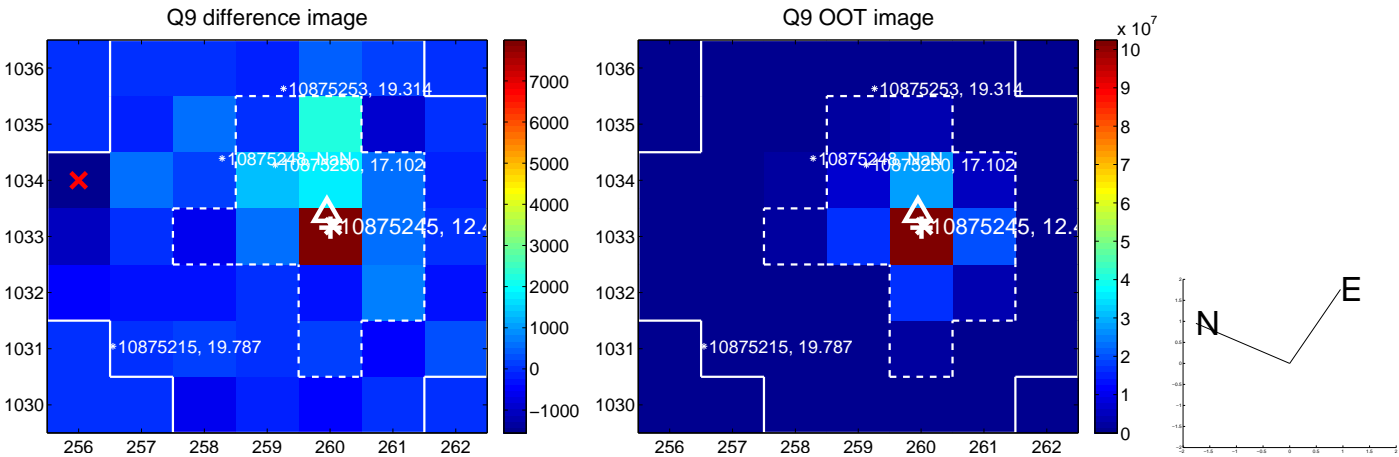
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



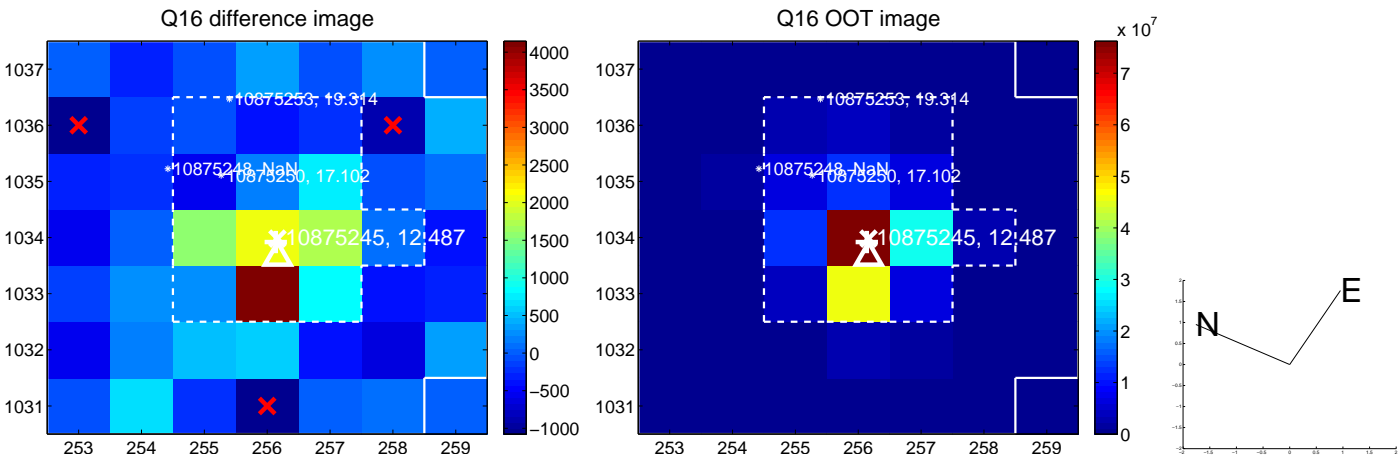
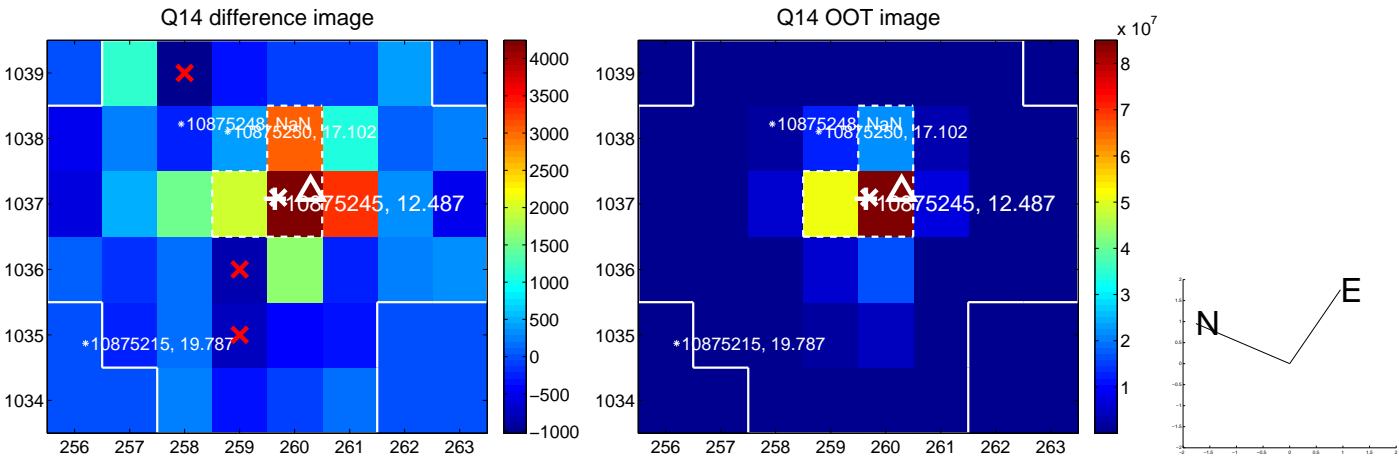
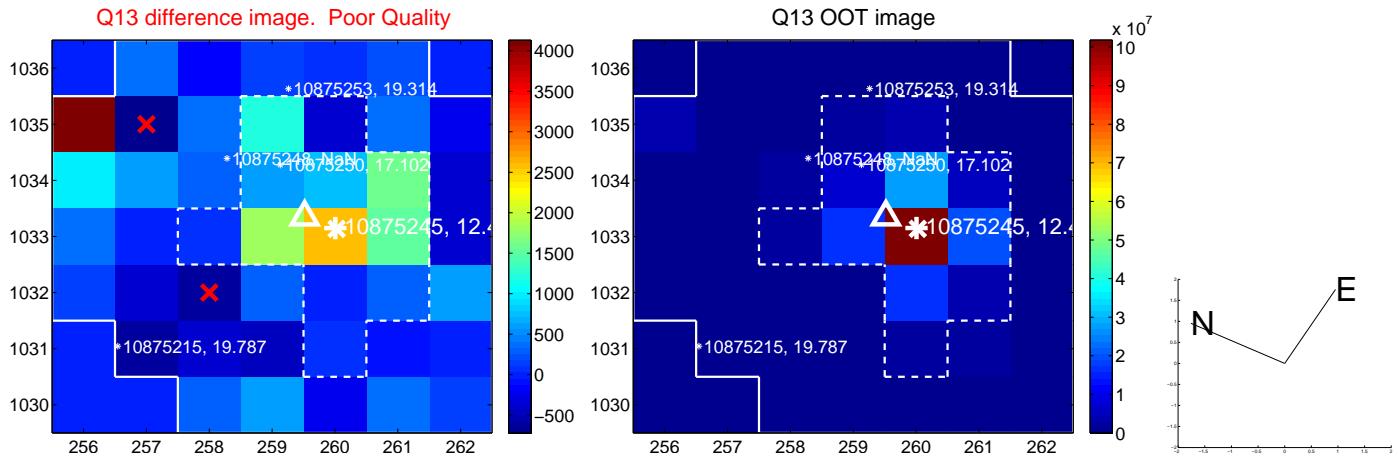
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



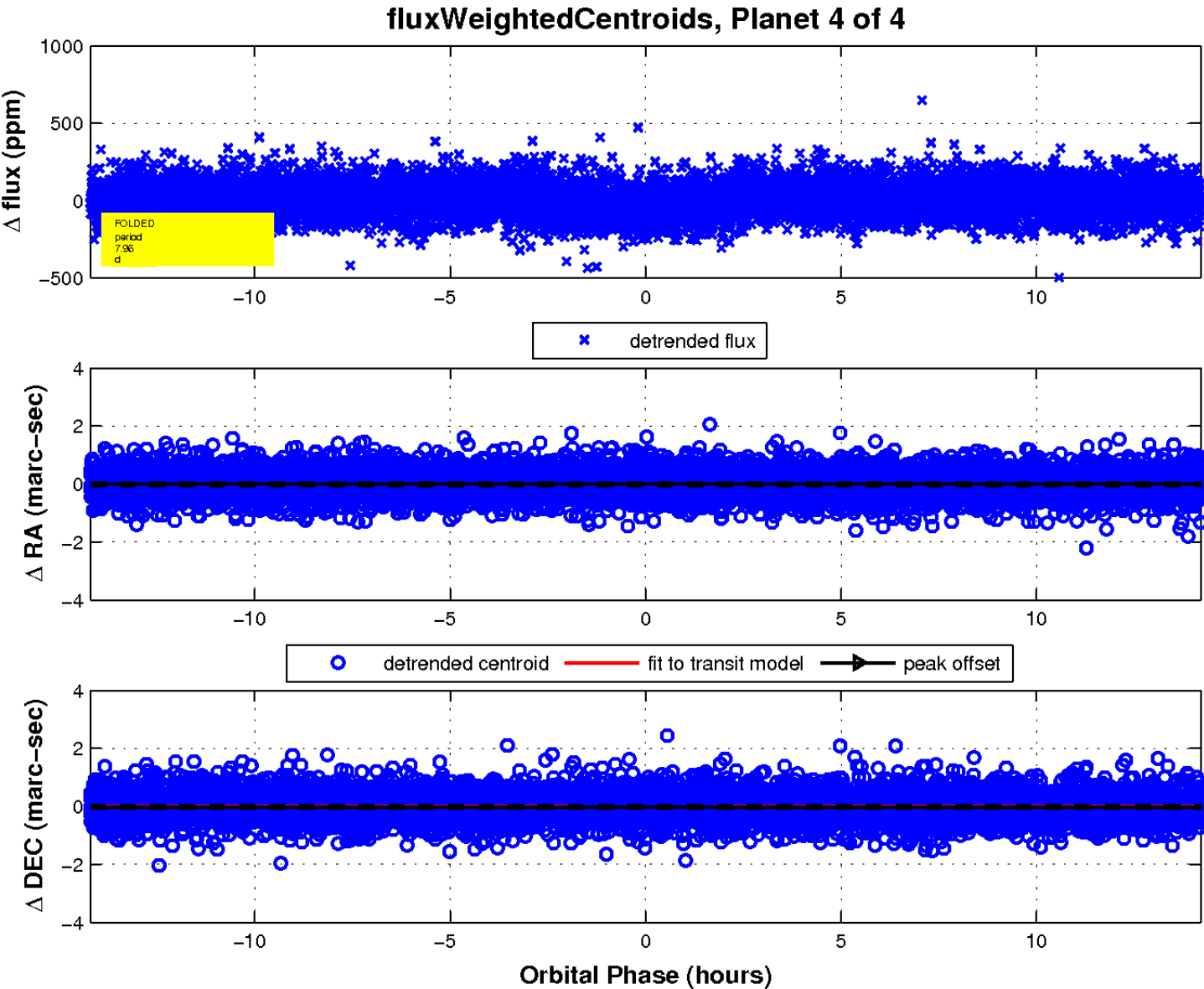
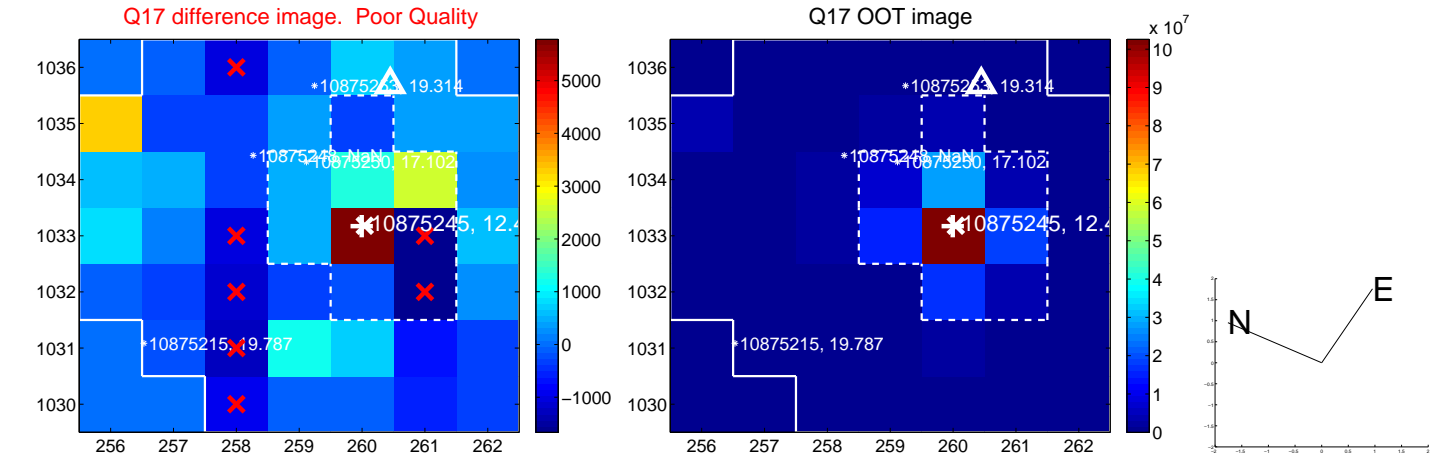
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

