

KIC 005480640

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})
005480640-01	OBS	2707.01	58.033801	138.738827	817.4	5.860	25.8	28.9	1.15	5467	3.64	13.20
005480640-02	OBS	2707.03	26.675778	149.994871	461.6	2.887	17.0	18.2	1.15	5467	2.96	37.21
005480640-03	OBS	2707.02	14.425262	136.754580	224.2	3.848	12.4	13.9	1.15	5467	1.99	84.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005480640-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005480640-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005480640-03	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.

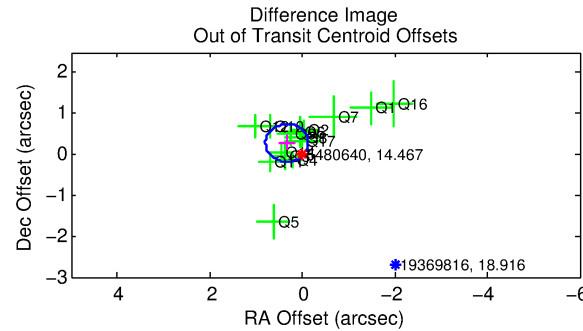
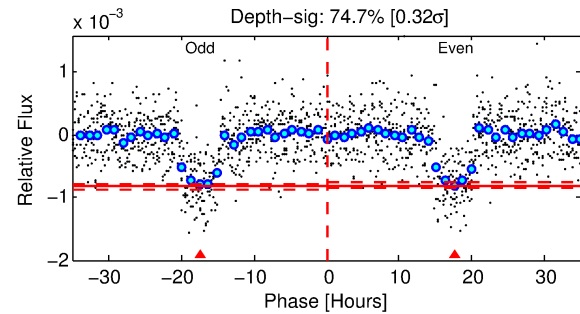
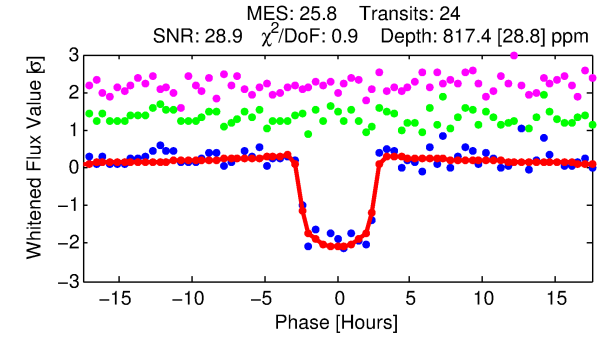
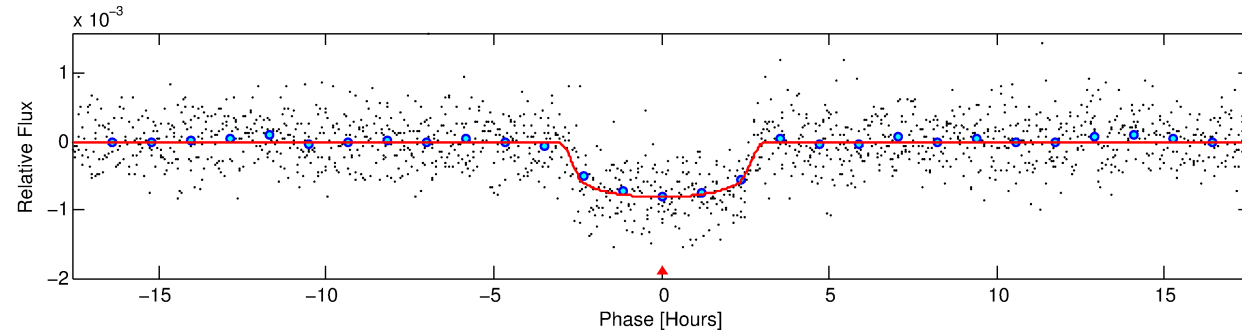
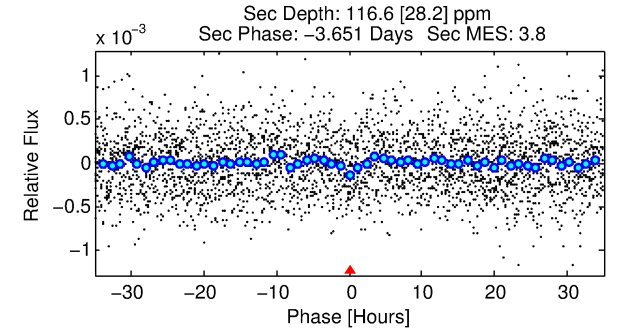
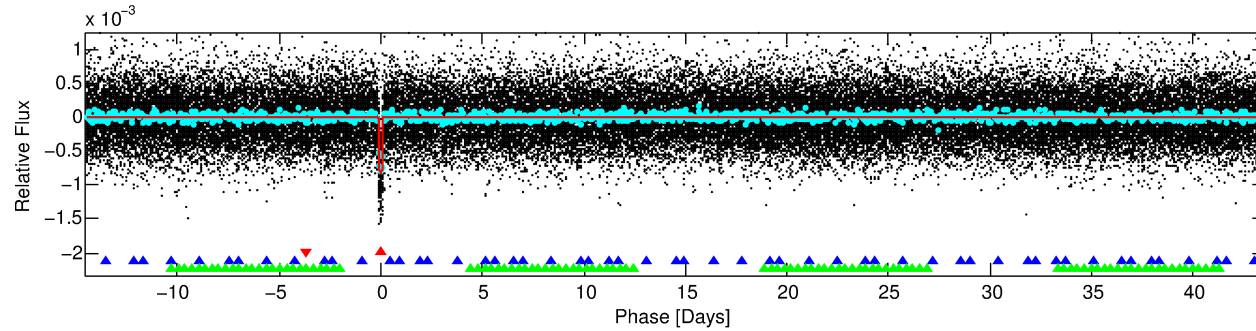
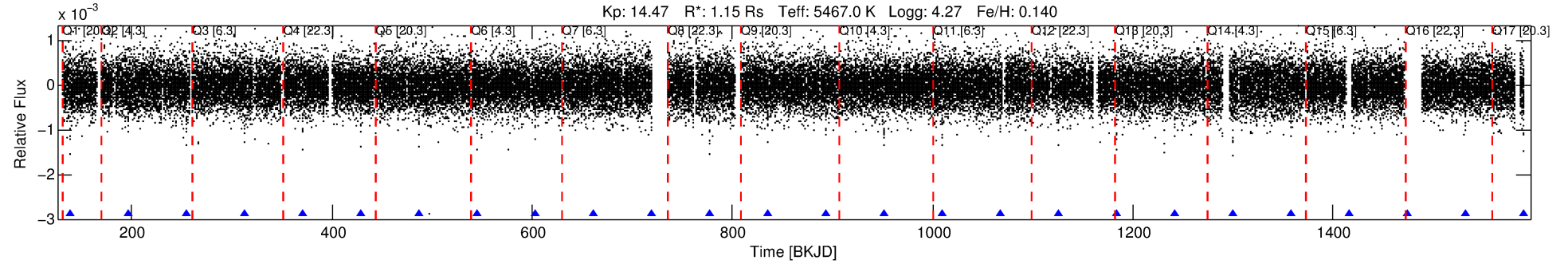
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005480640-01

No Significant Match Found

DV One-Page Summary

KIC: 5480640 Candidate: 1 of 3 Period: 58.034 d
KOI: K02707.01 Name: Kepler-399d Corr: 0.972



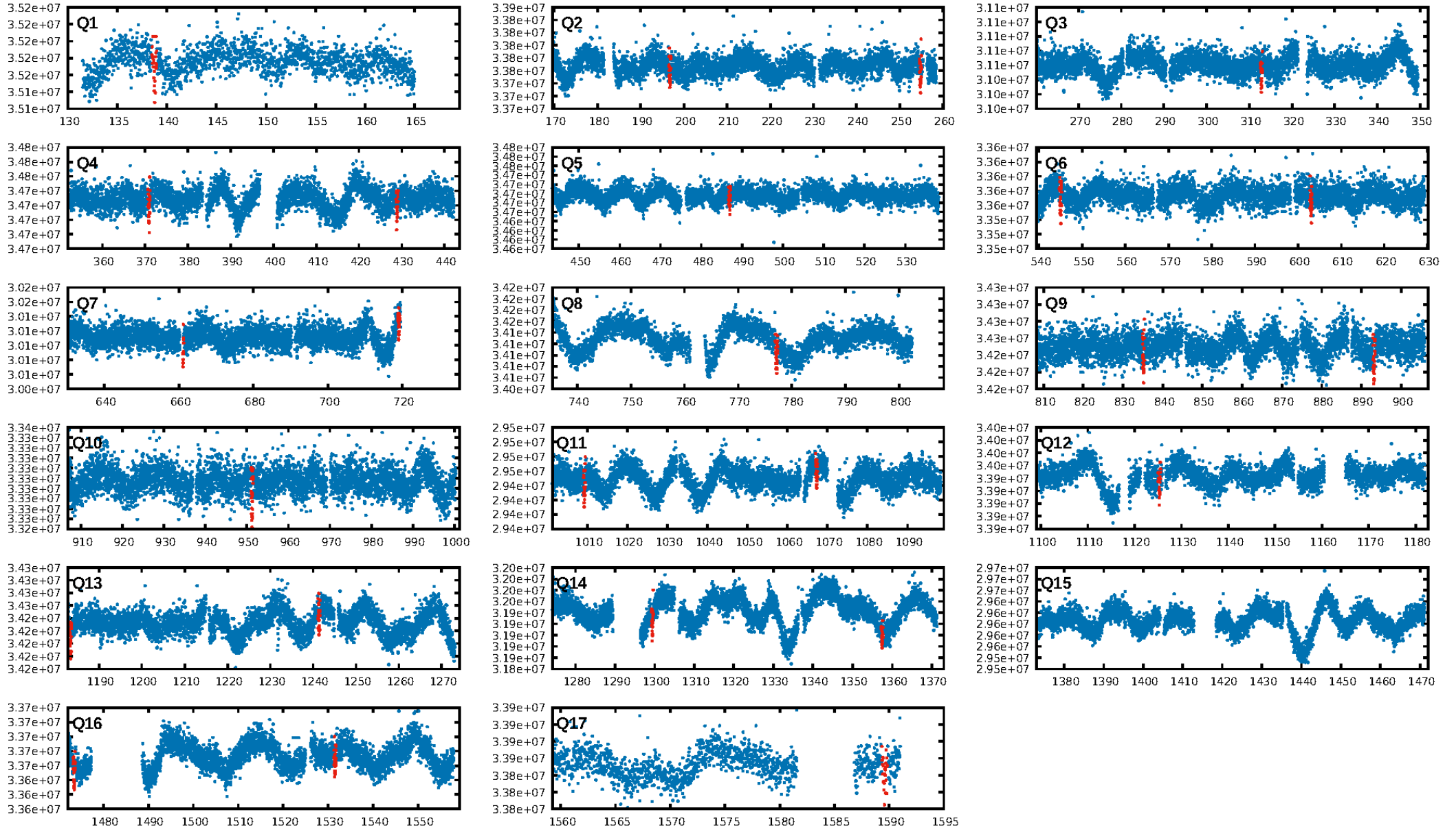
DV Fit Results:

Period = 58.03380 [0.00028] d
Epoch = 138.7388 [0.0037] BKJD
Rp/R* = 0.0290 [0.0045]
a/R* = 50.35 [30.87]
b = 0.78 [0.31]
Seff = 13.20 [4.03]
Teff = 486 [37] K
Rp = 3.64 [0.85] Re
a = 0.2837 [0.0511] AU
Ag = 389.31 [192.22] [2.02σ]
Teffp = 3338 [331] K [8.55σ]

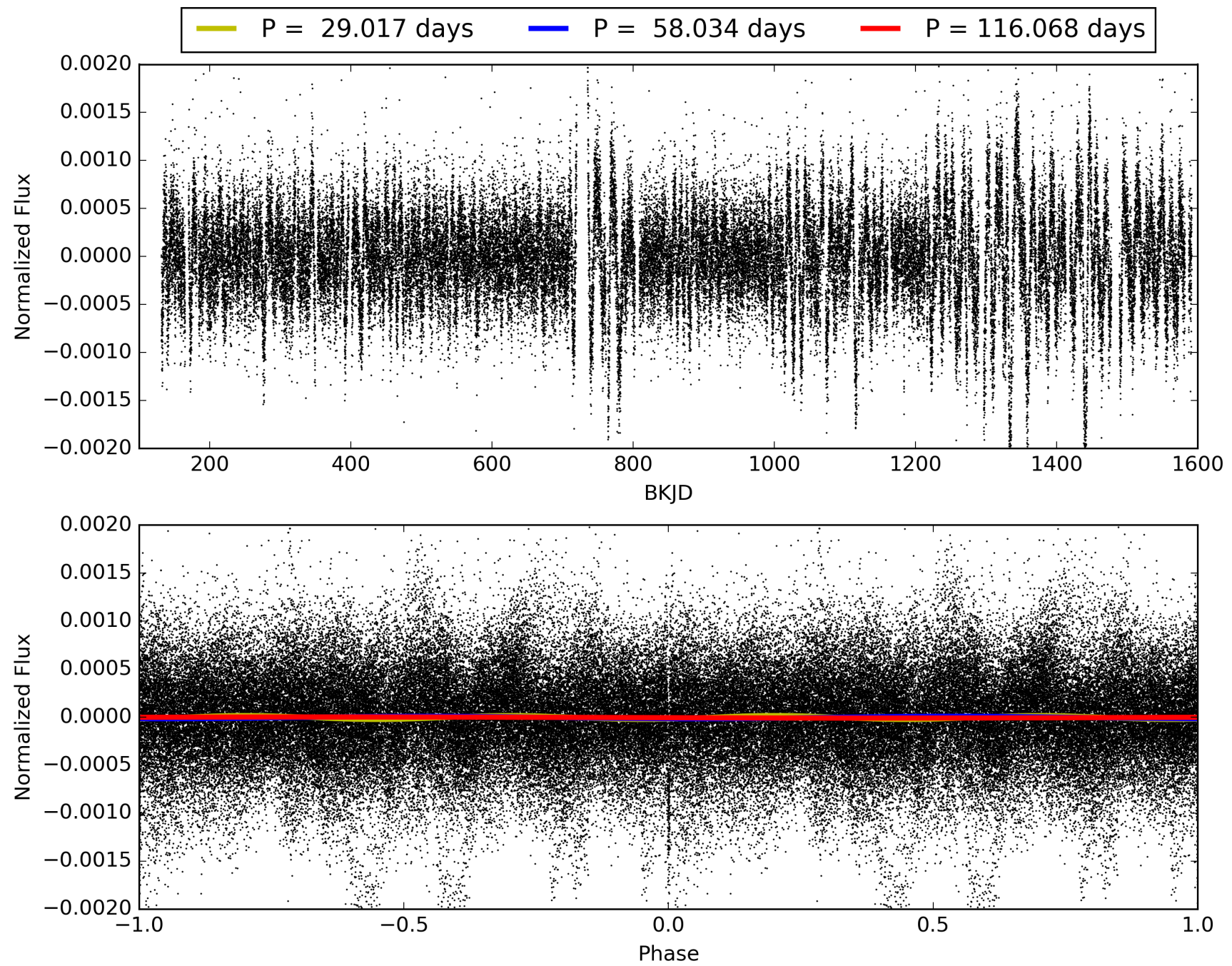
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [115.21σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.46e-136
RollingBand-fgt: 1.00 [22/22]
GhostDiagnostic-chr: 2.812
Centroid-sig: 0.1%
Centroid-so: 0.321 arcsec [0.71σ]
OotOffset-rm: 0.440 arcsec [2.86σ]
KicOffset-rm: 0.294 arcsec [1.74σ]
OotOffset-st: 4/3/4/4 [15]
KicOffset-st: 4/3/4/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [15/15]

TCE 005480640-01, PDC Light Curves

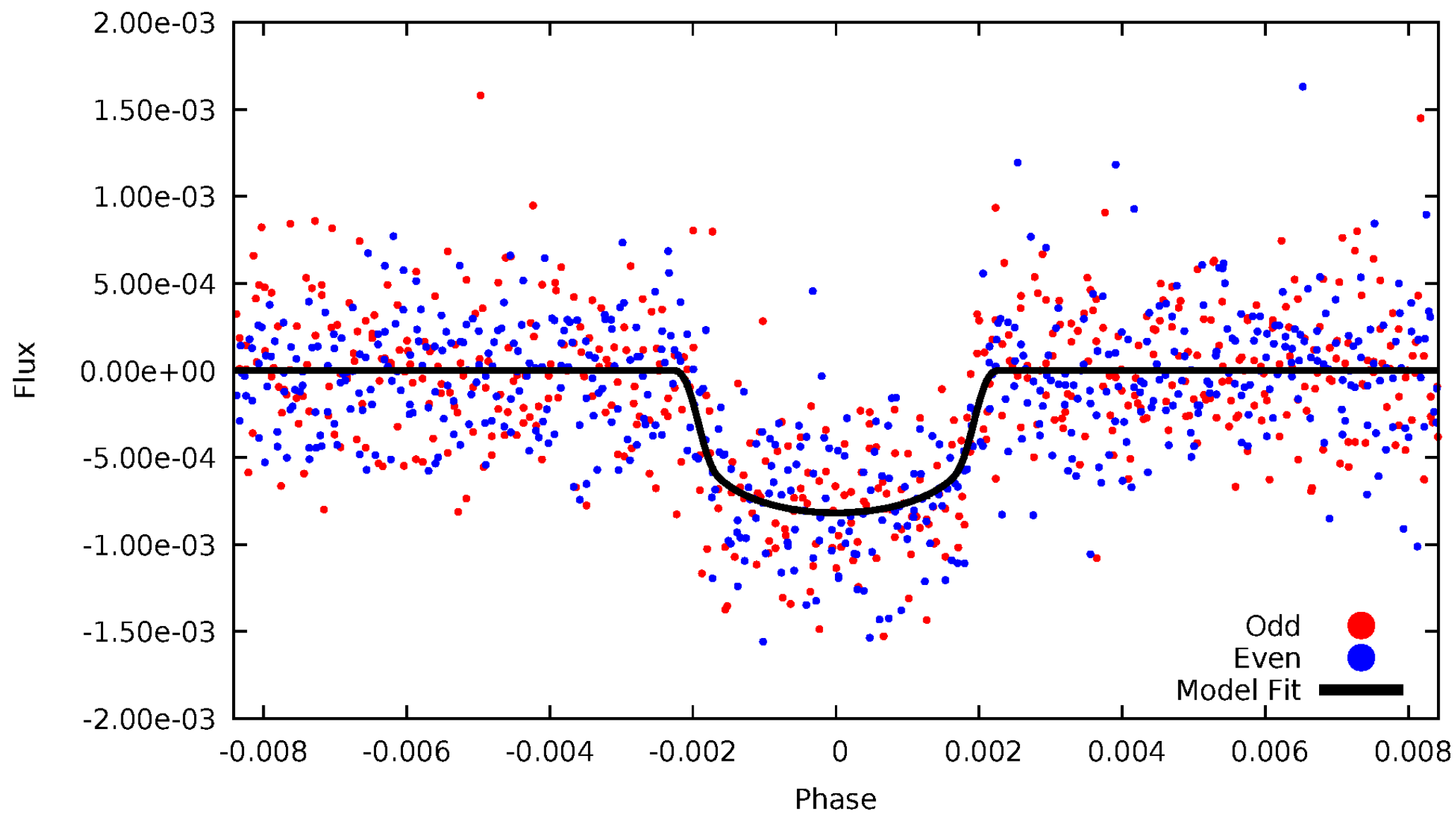


TCE 005480640-01



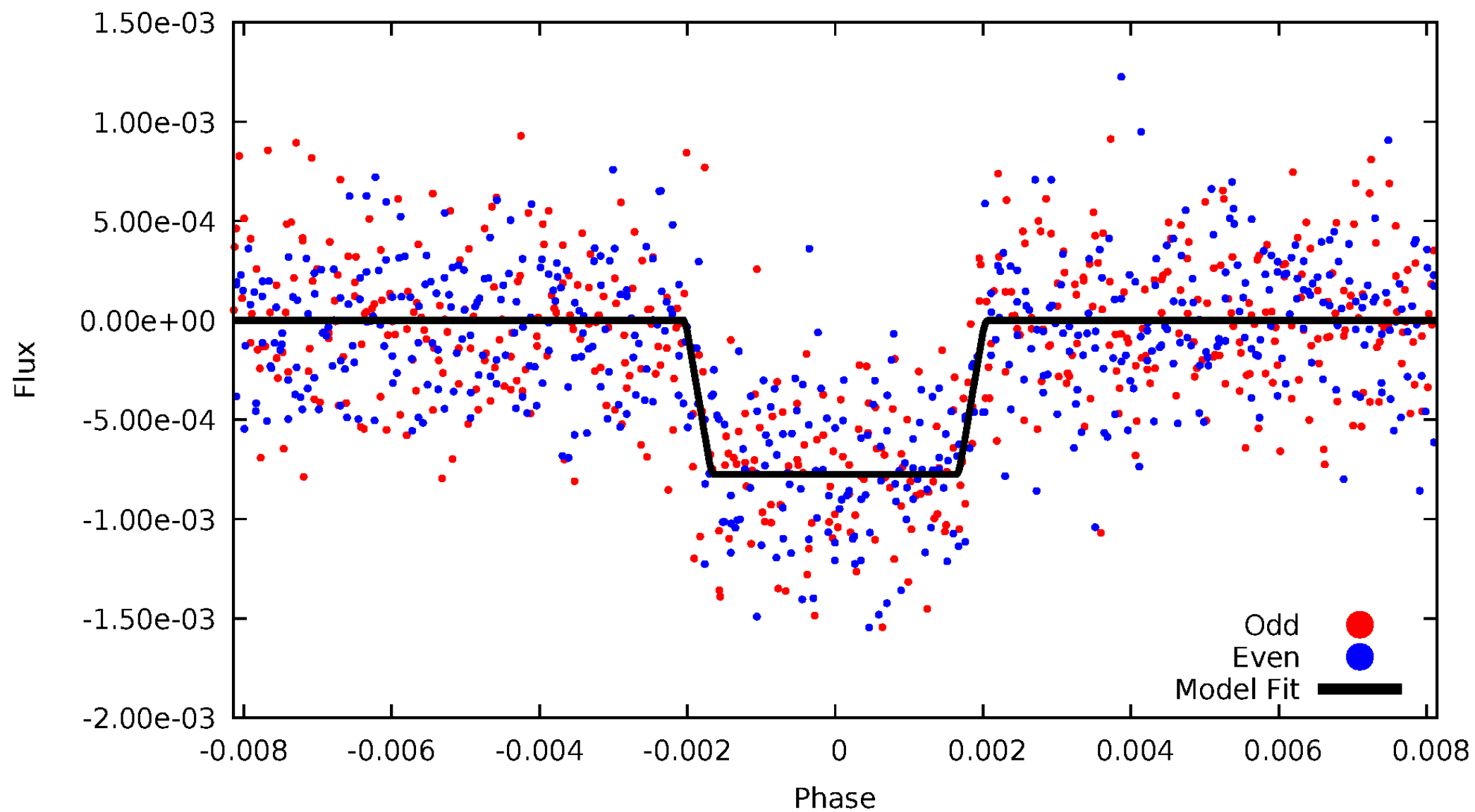
DV Odd/Even

TCE 005480640-01



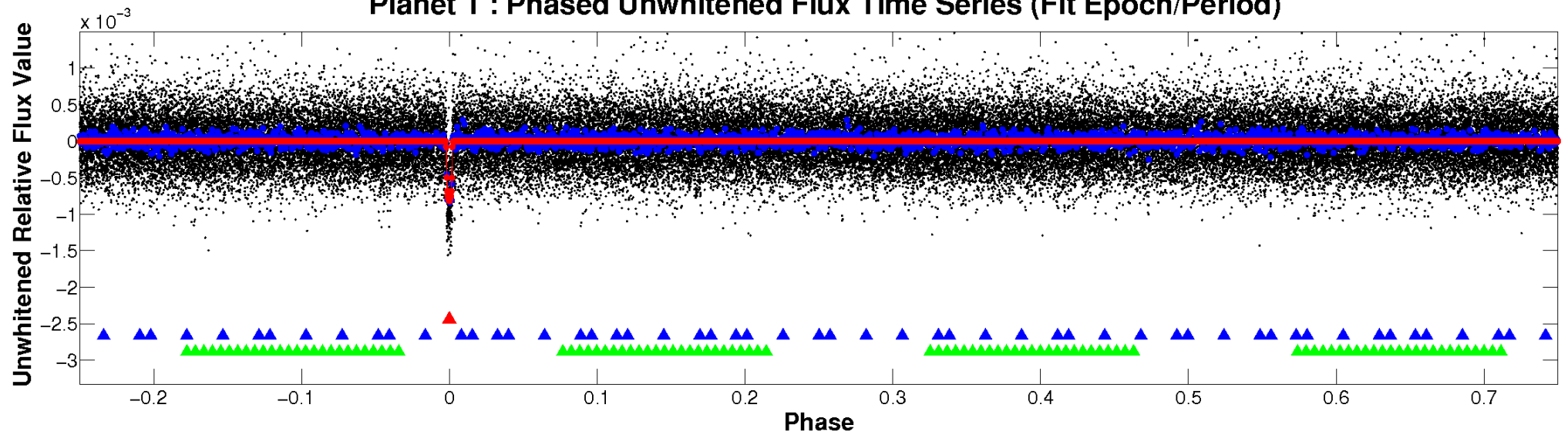
ALT Odd/Even

TCE 005480640-01

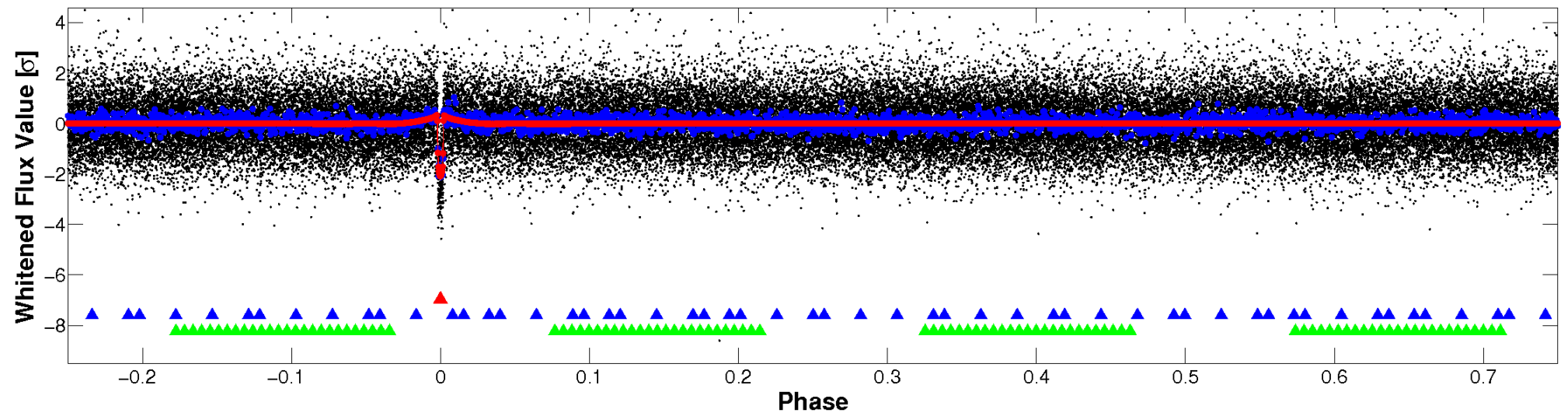


Non-Whitened Vs. Whitened Light Curve

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

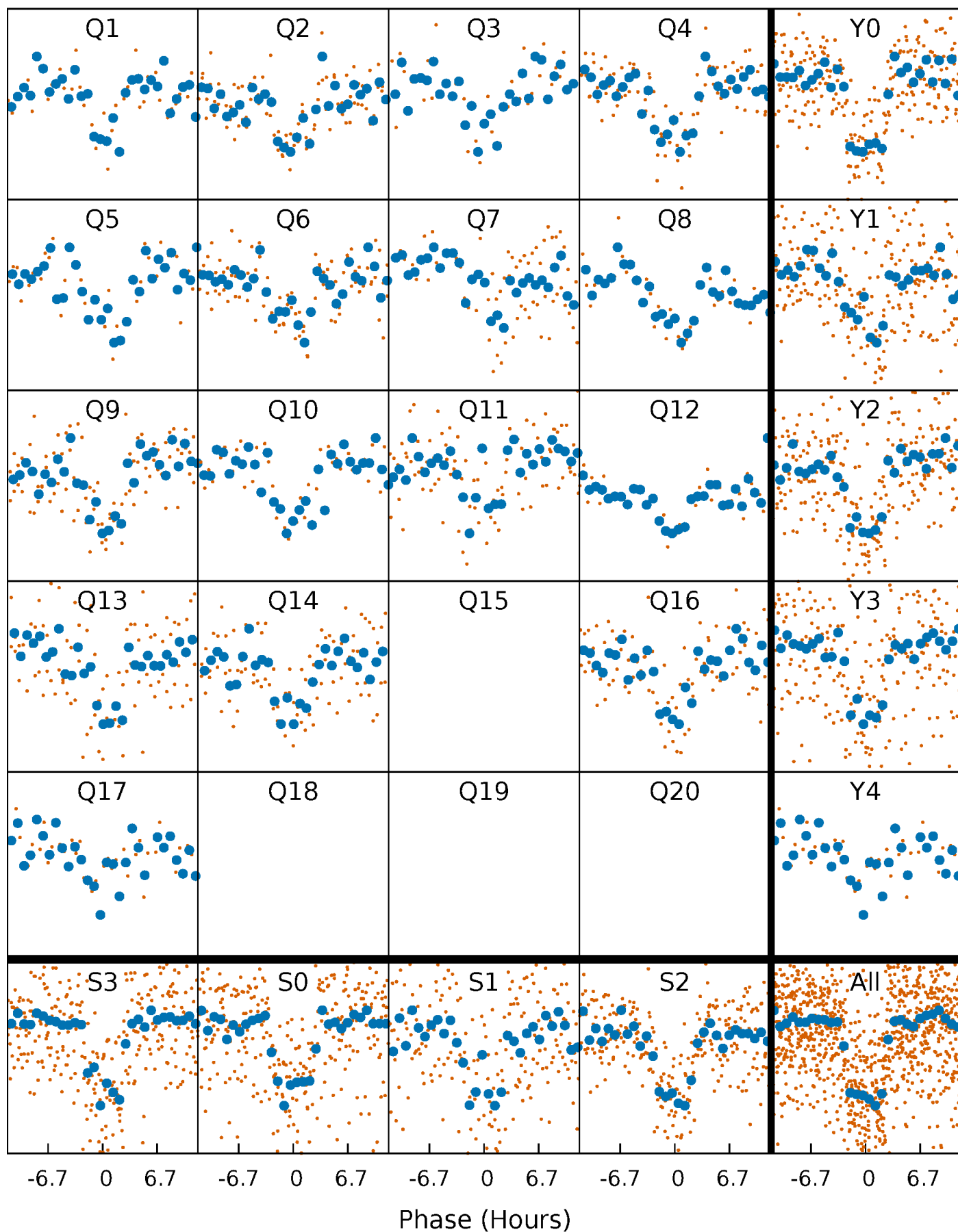


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



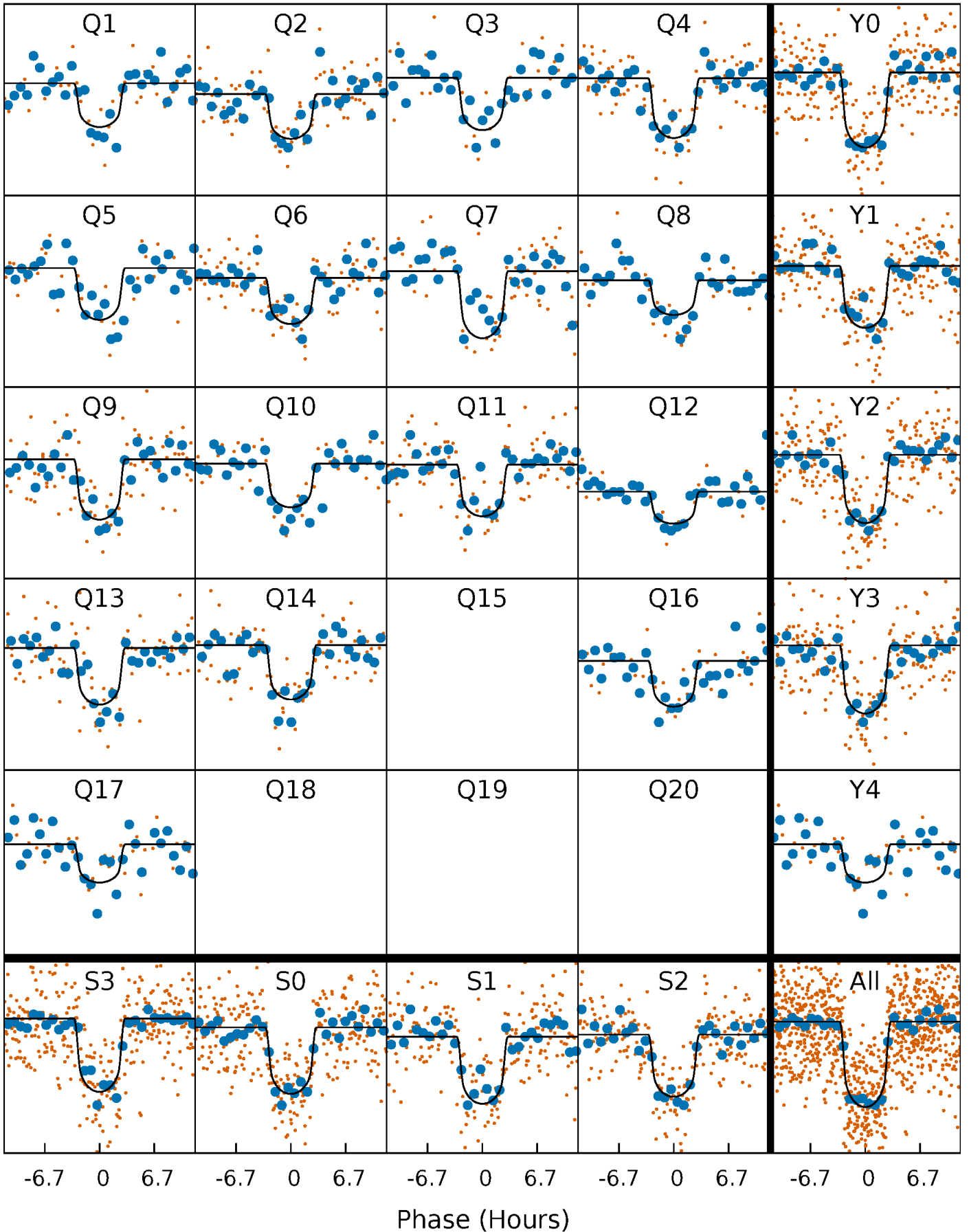
PDC Quarter-Phased Transit Curves

TCE 005480640-01 P= 58.033801 Days $T_0=138.738827$ (BKJD)



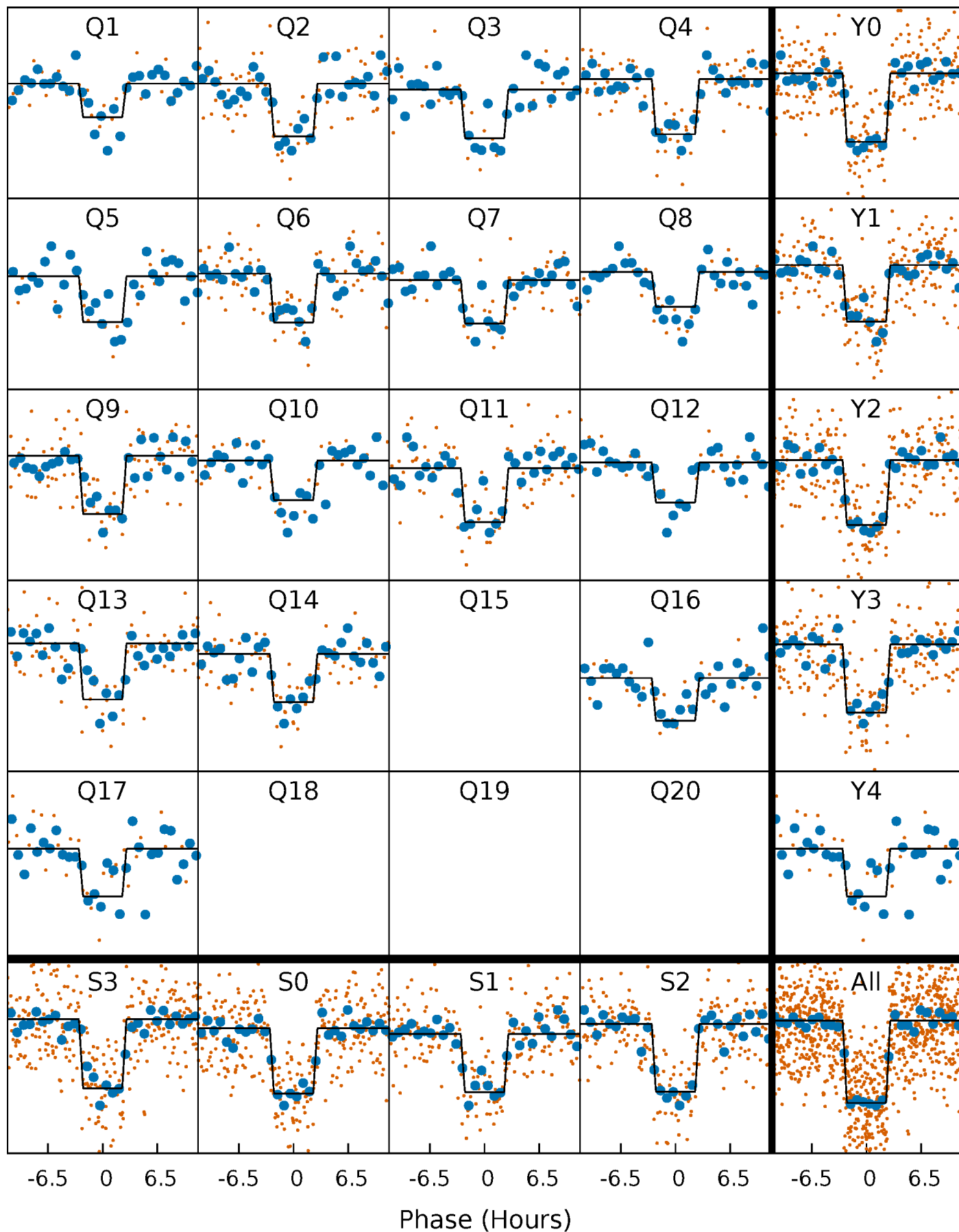
DV Quarter-Phased Transit Curves

TCE 005480640-01 P= 58.033801 Days $T_0=138.738827$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

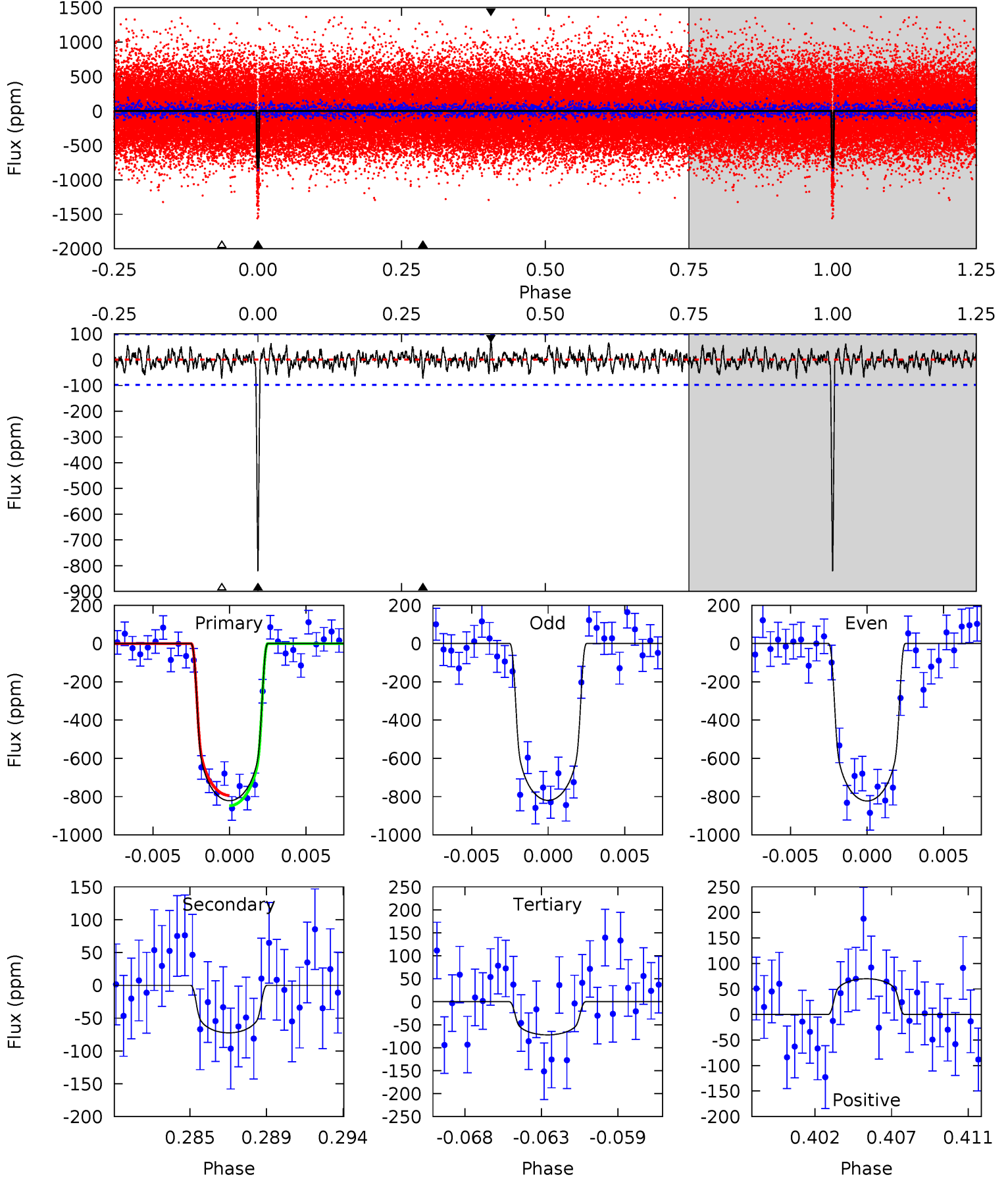
TCE 005480640-01 P= 58.033878 Days $T_0=138.739546$ (BKJD)



DV Model-Shift Uniqueness Test

005480640-01, P = 58.033801 Days, E = 80.705026 Days

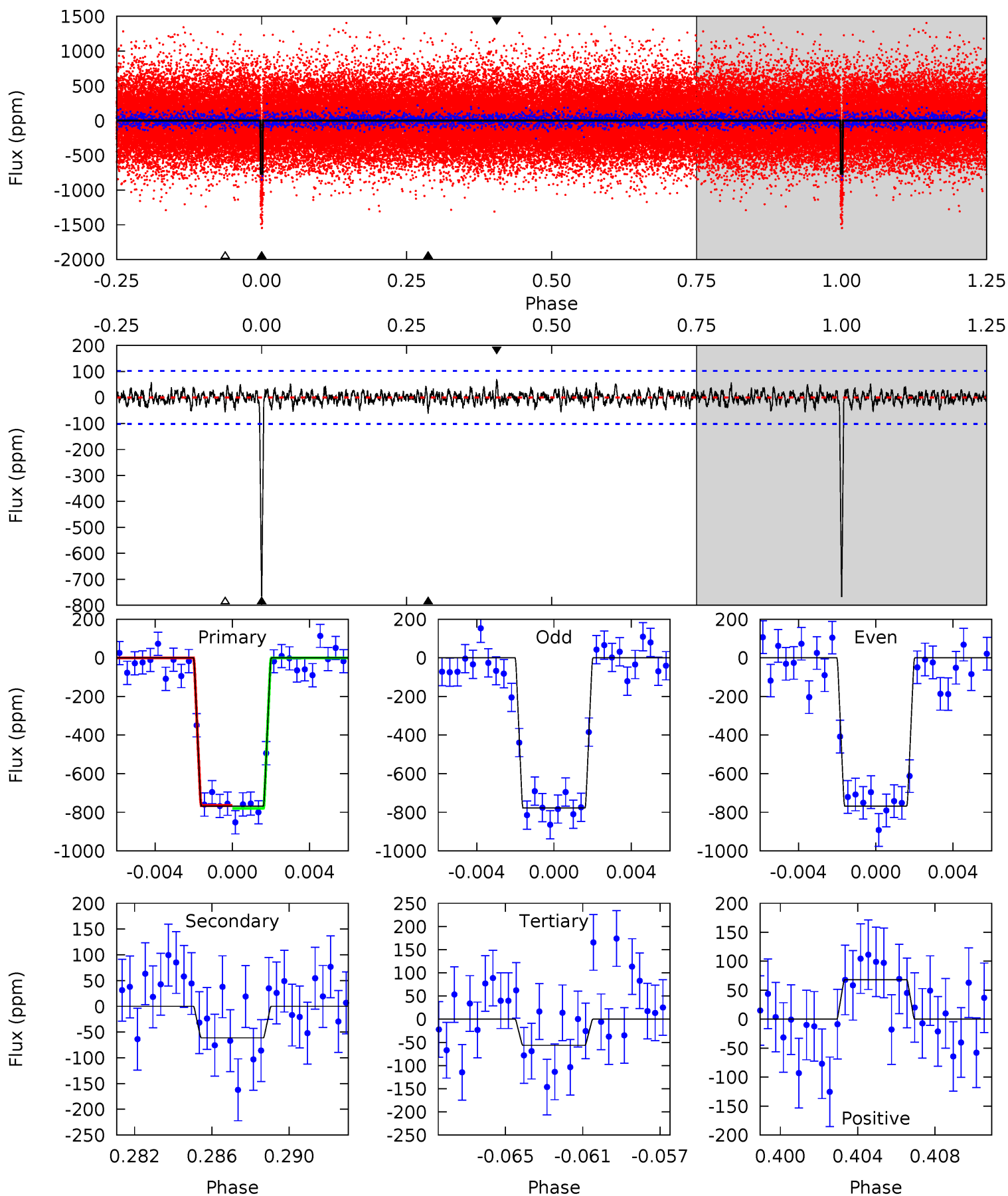
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.4	3.82	3.81	3.70	5.18	2.84	1.16	39.5	39.7	0.01	0.13	0.08	0.99	0.08	1.42



Alt Model-Shift Uniqueness Test

005480640-01, P = 58.033878 Days, E = 80.705668 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.1	3.12	2.88	3.47	5.20	2.87	0.90	36.2	35.6	0.24	-0.35	0.26	0.99	0.08	0.38



Stellar Parameters For KIC 005480640

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5467^{+82}_{-73}	$4.271^{+0.180}_{-0.120}$	$0.140^{+0.150}_{-0.100}$	$1.152^{+0.180}_{-0.200}$	$0.902^{+0.065}_{-0.033}$	$0.831^{+0.684}_{-0.273}$
	+1%/-1%	+4%/-3%	+107%/-71%	+16%/-17%	+7%/-4%	+82%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 005480640-01 / KOI 2707.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-72 ± 19	$3.57^{+0.73}_{-0.67}$	677^{+32}_{-41}	3459^{+240}_{-205}	251^{+155}_{-89}
Alt.	-61 ± 20	$3.45^{+0.67}_{-0.63}$	676^{+32}_{-36}	3383^{+266}_{-240}	223^{+136}_{-88}

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 $A_{obs} \gg 1.0$

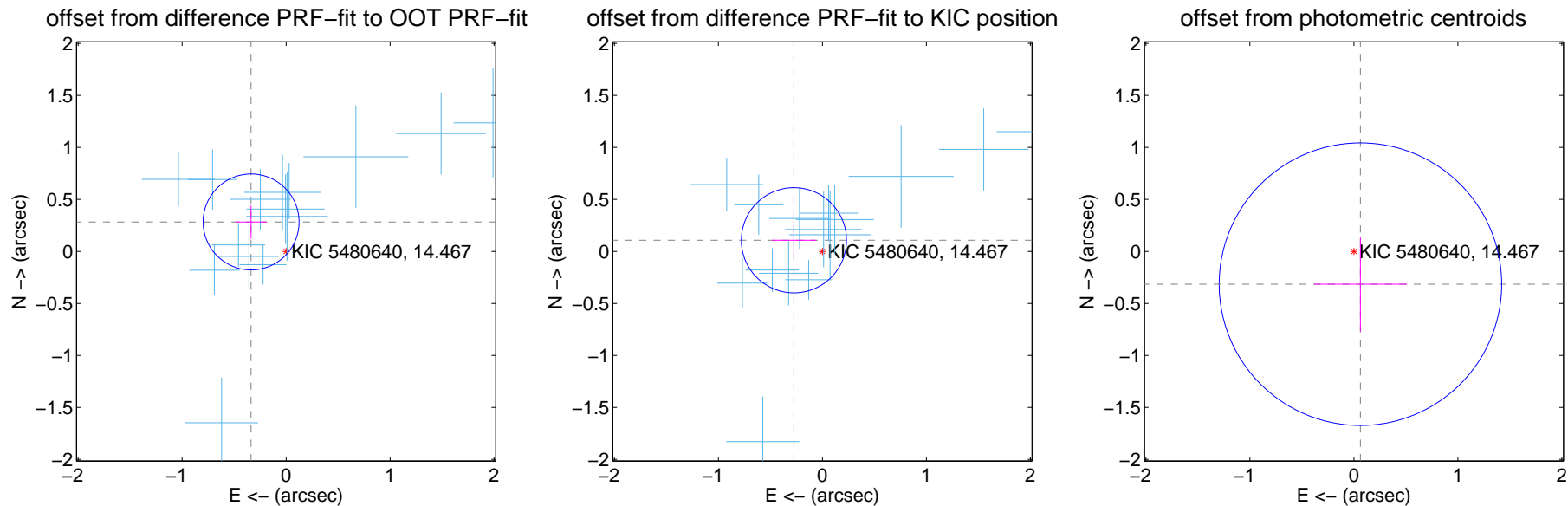
DV Centroid Data

Supplemental centroid analysis for 005480640-01. Kepler magnitude: 14.47. Transit SNR 28.87

There are 15 quarters with good PRF difference image offsets

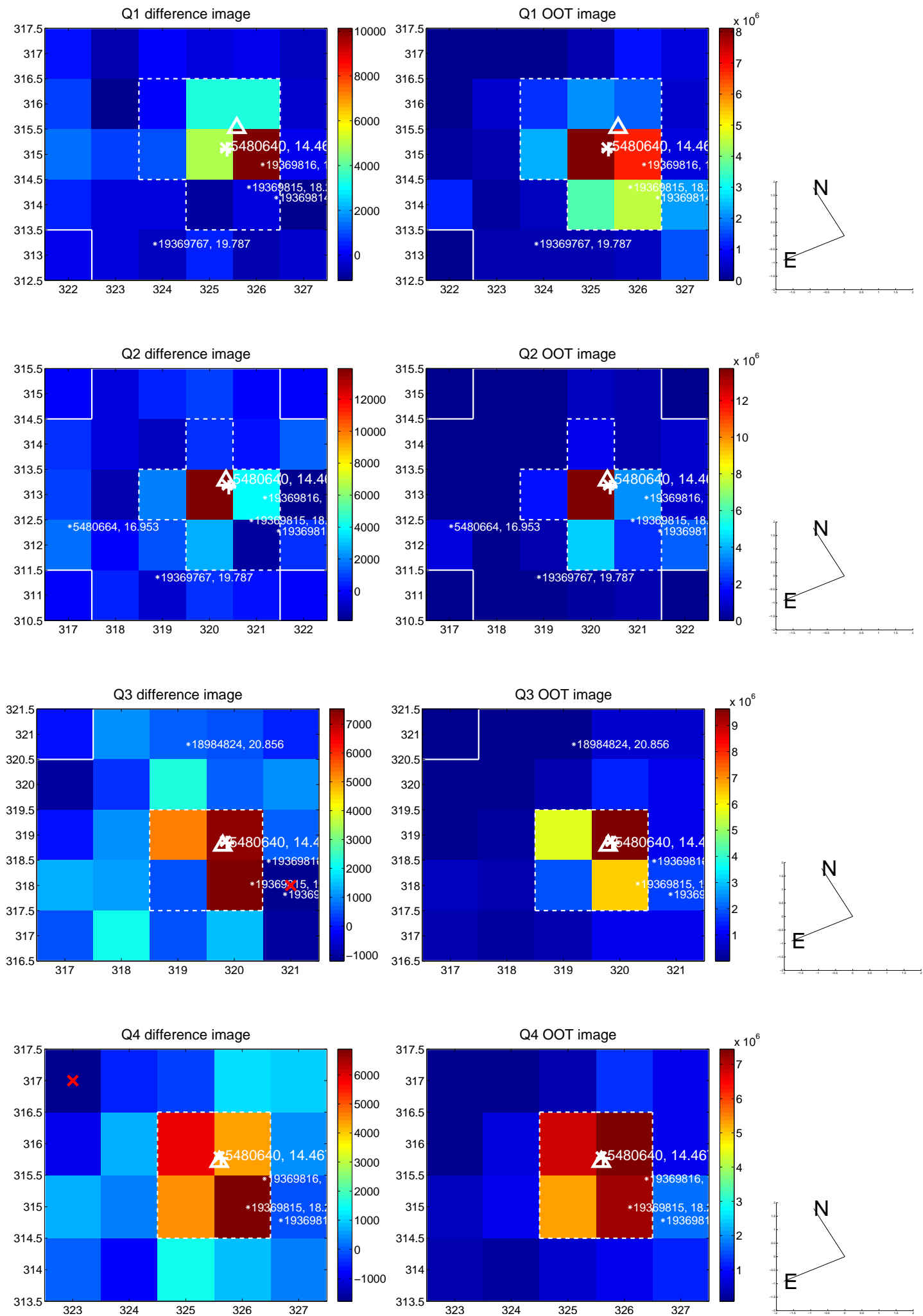
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.440 ± 0.154	2.86	0.337 ± 0.150	0.283 ± 0.158
PRF-fit source offset from KIC position	0.294 ± 0.169	1.74	0.274 ± 0.211	0.107 ± 0.184
photometric centroid source offset	0.32 ± 0.45	0.71	-0.06 ± 0.45	-0.32 ± 0.45

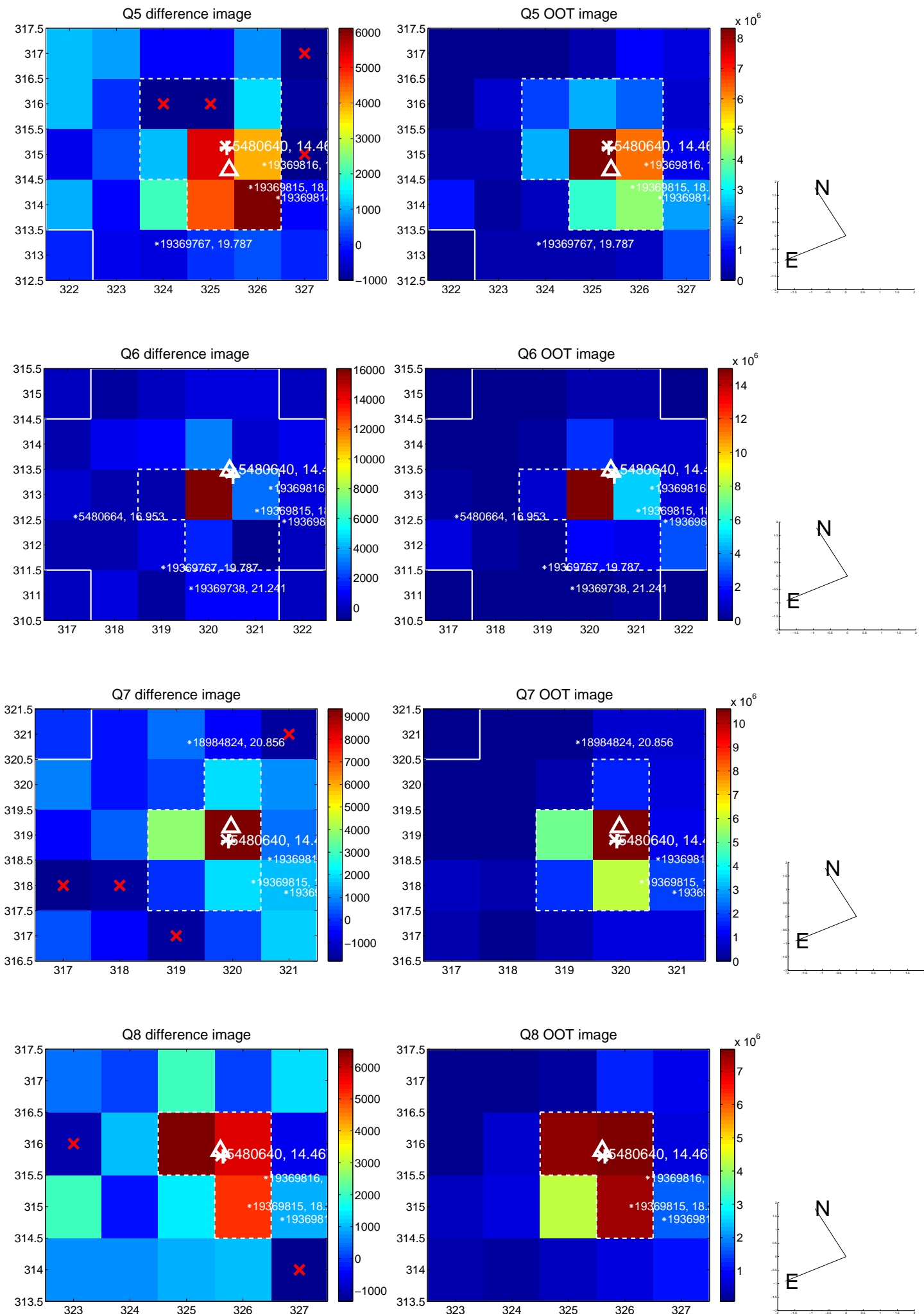


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

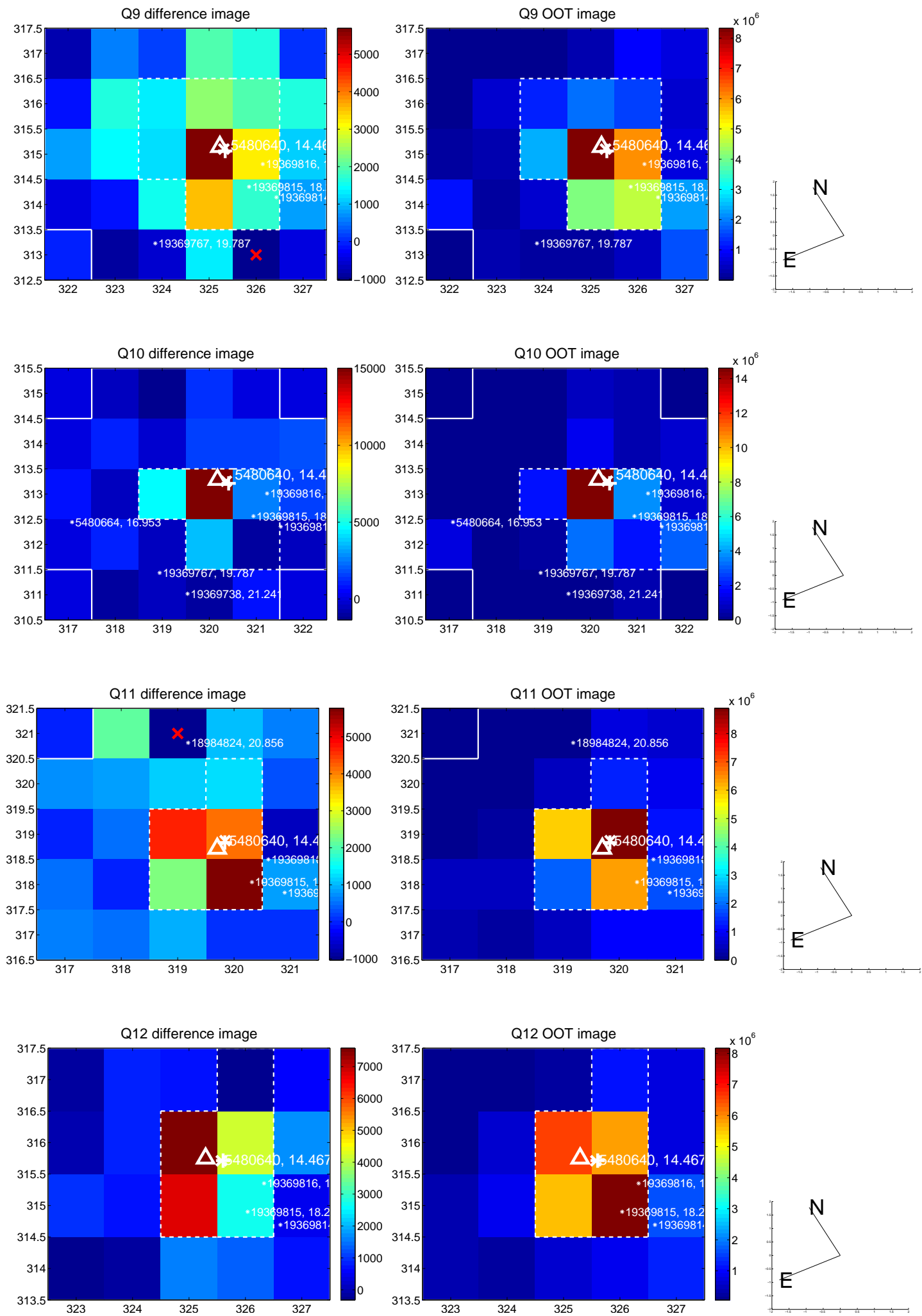
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



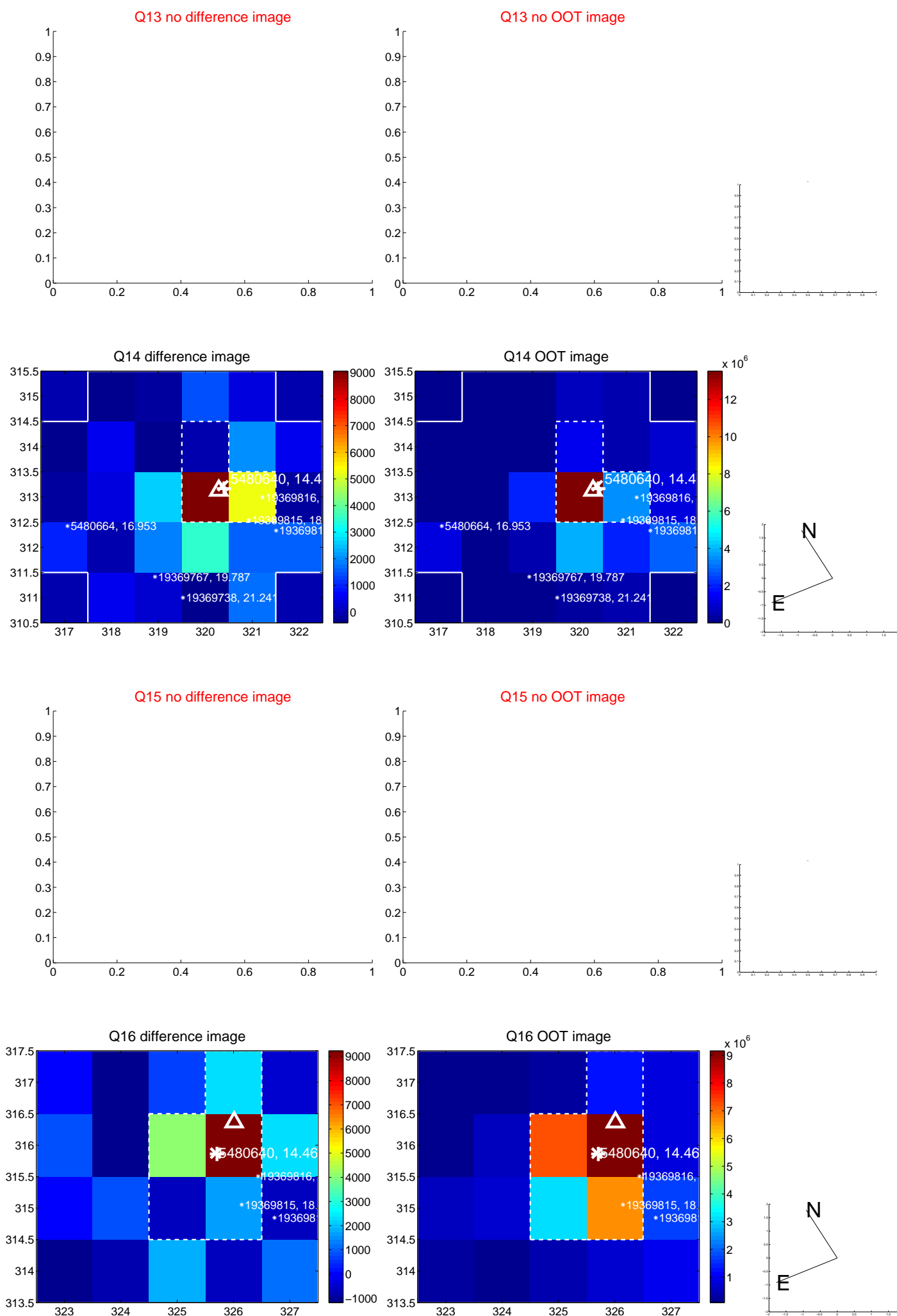
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



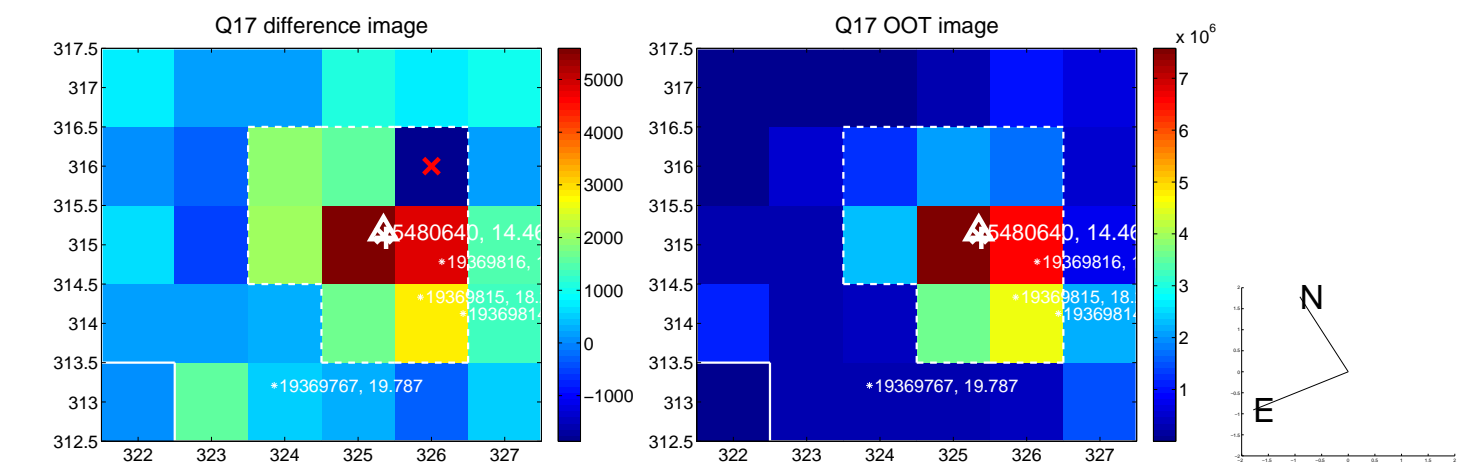
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



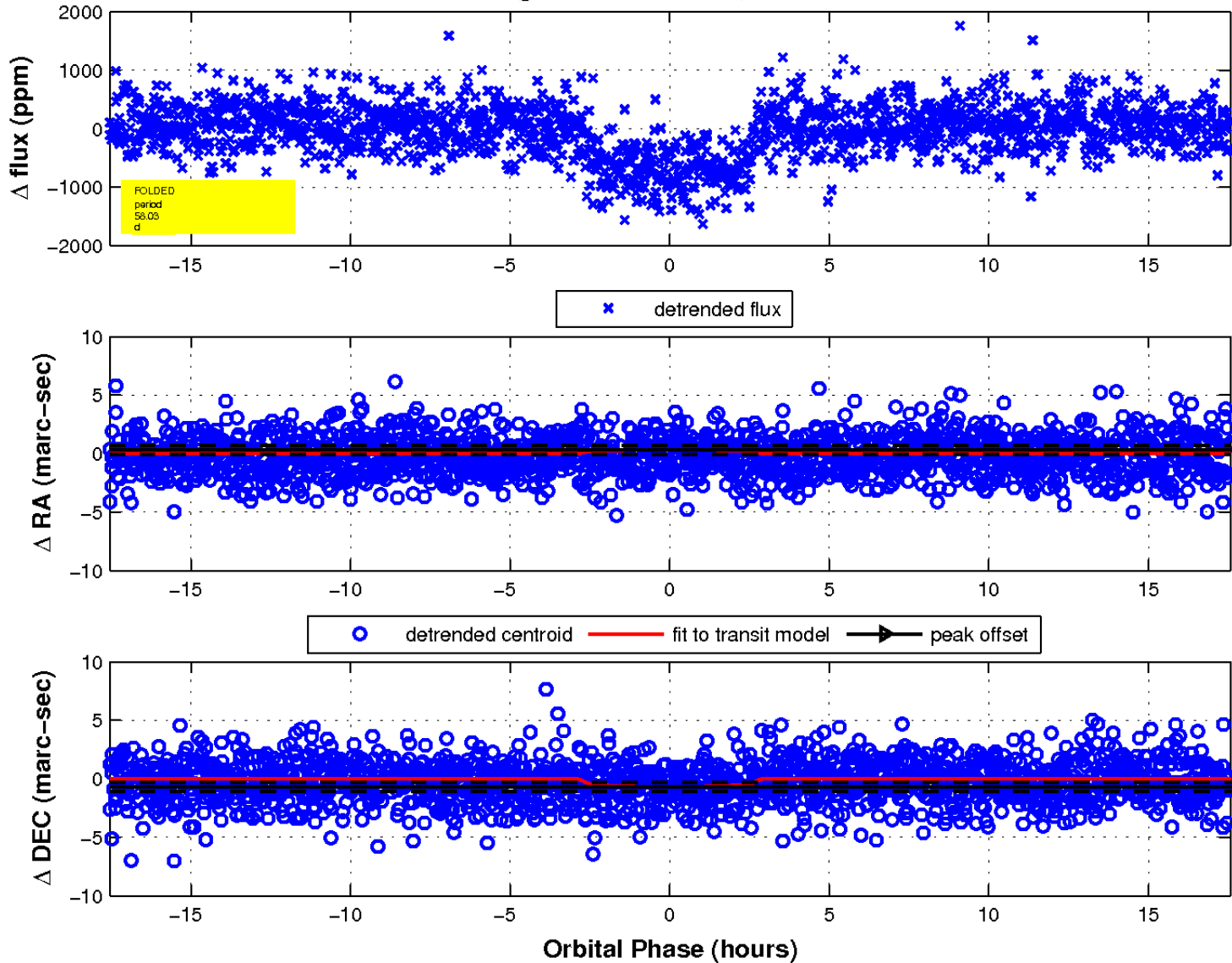
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



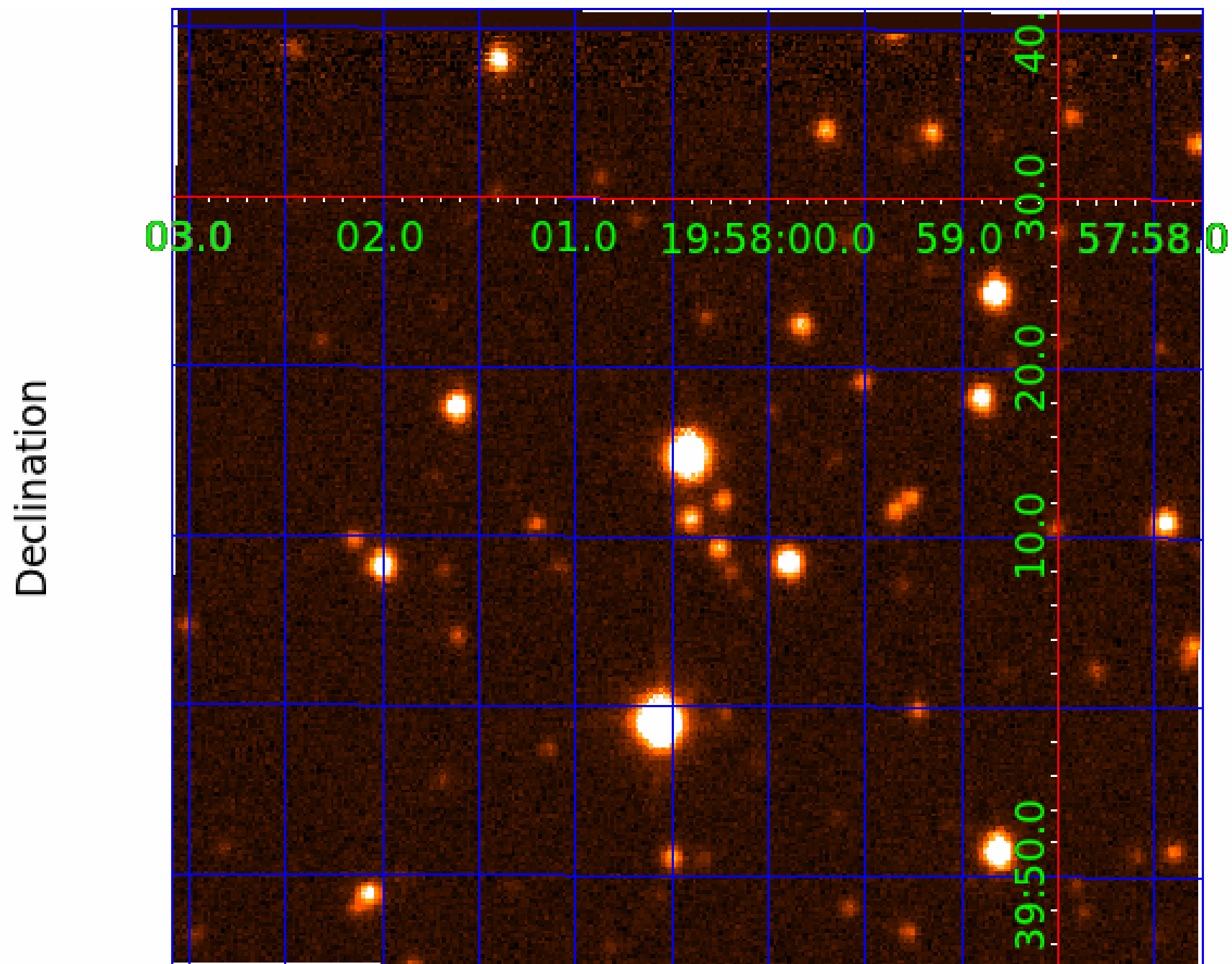
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 3



UKIRT Image



KIC 005480640

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})
005480640-01	OBS	2707.01	58.033801	138.738827	817.4	5.860	25.8	28.9	1.15	5467	3.64	13.20
005480640-02	OBS	2707.03	26.675778	149.994871	461.6	2.887	17.0	18.2	1.15	5467	2.96	37.21
005480640-03	OBS	2707.02	14.425262	136.754580	224.2	3.848	12.4	13.9	1.15	5467	1.99	84.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005480640-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005480640-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005480640-03	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.

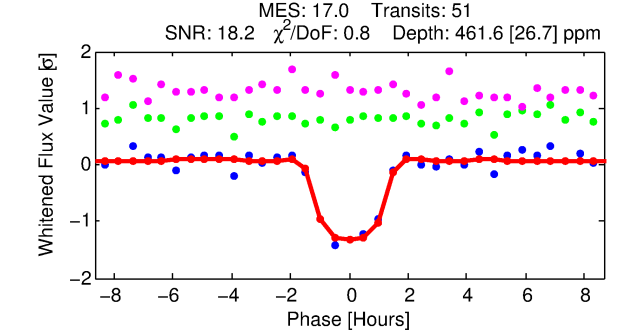
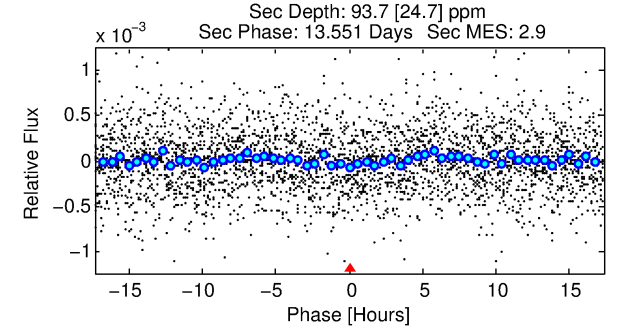
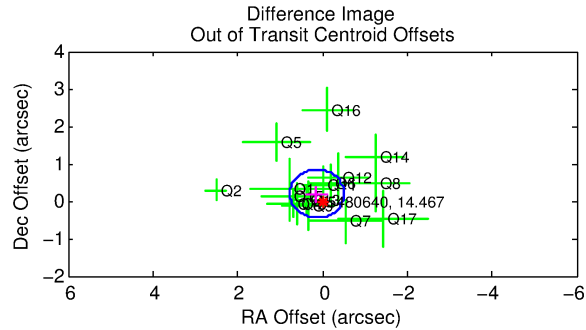
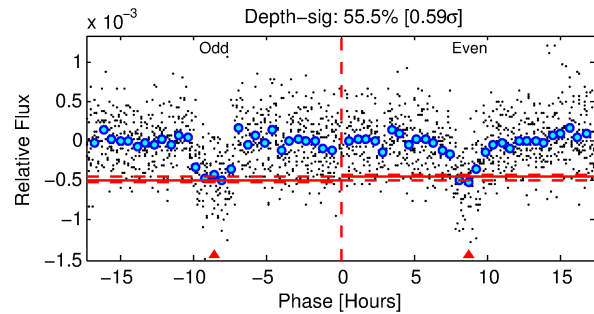
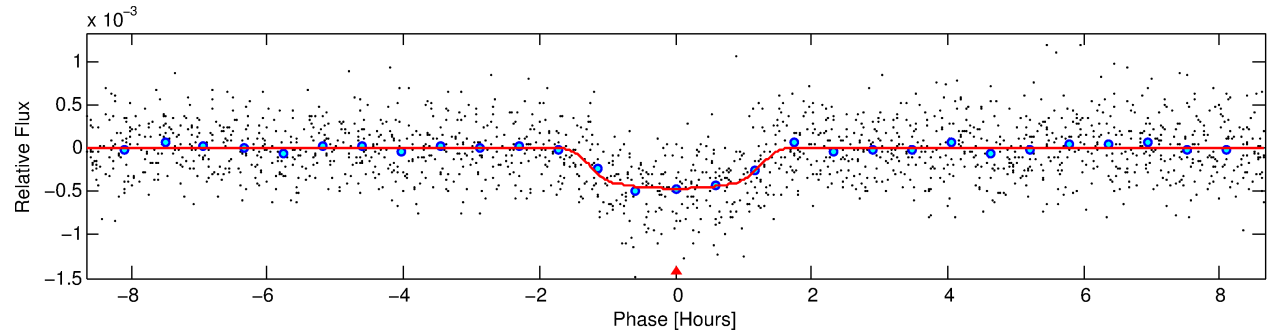
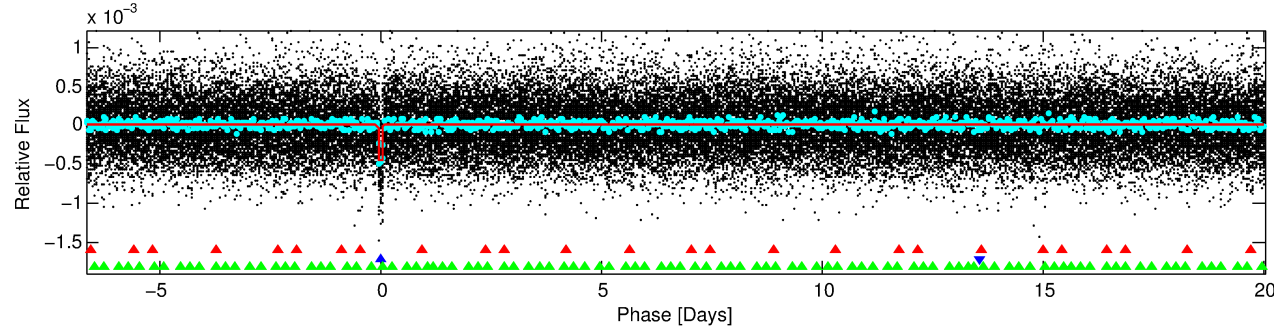
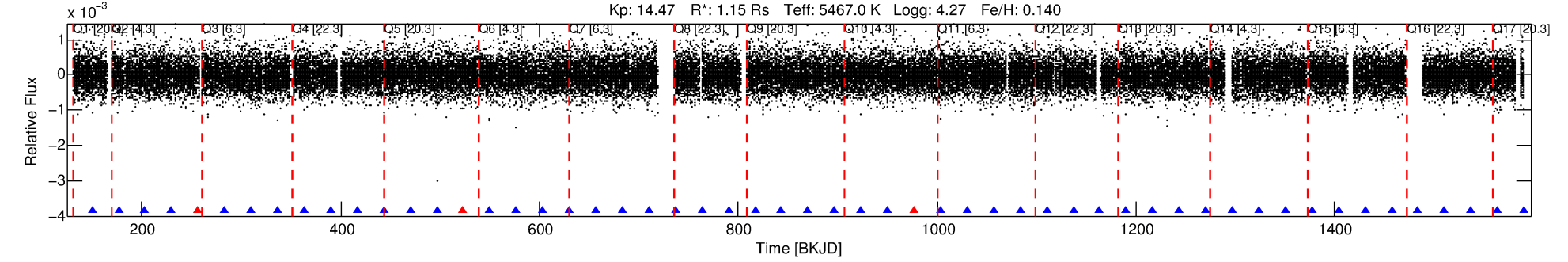
Ephemeris Match Information For 005480640-02

No Significant Match Found

DV One-Page Summary

KIC: 5480640 Candidate: 2 of 3 Period: 26.676 d
KOI: K02707.03 Name: Kepler-399c Corr: 0.960

Kp: 14.47 R*: 1.15 Rs Teff: 5467.0 K Logg: 4.27 Fe/H: 0.140



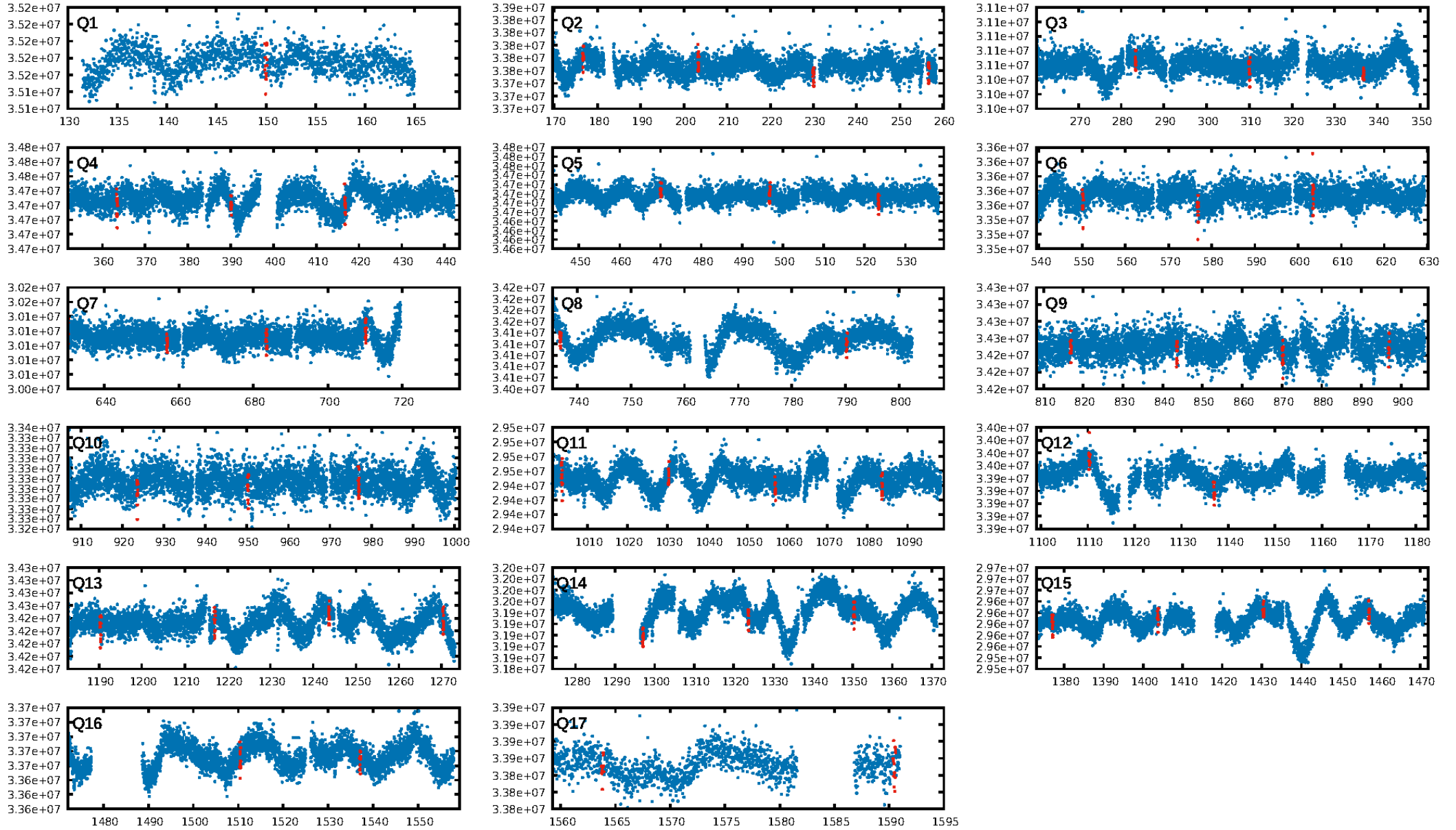
DV Fit Results:

Period = 26.67578 [0.00011] d
Epoch = 149.9949 [0.0036] BKJD
Rp/R* = 0.0235 [0.0058]
a/R* = 35.30 [36.82]
b = 0.89 [0.24]
Seff = 37.21 [11.37]
Teff = 630 [48] K
Rp = 2.96 [0.90] Re
a = 0.1689 [0.0304] AU
Ag = 168.39 [107.24] [1.56σ]
Teffp = 3508 [496] K [5.78σ]

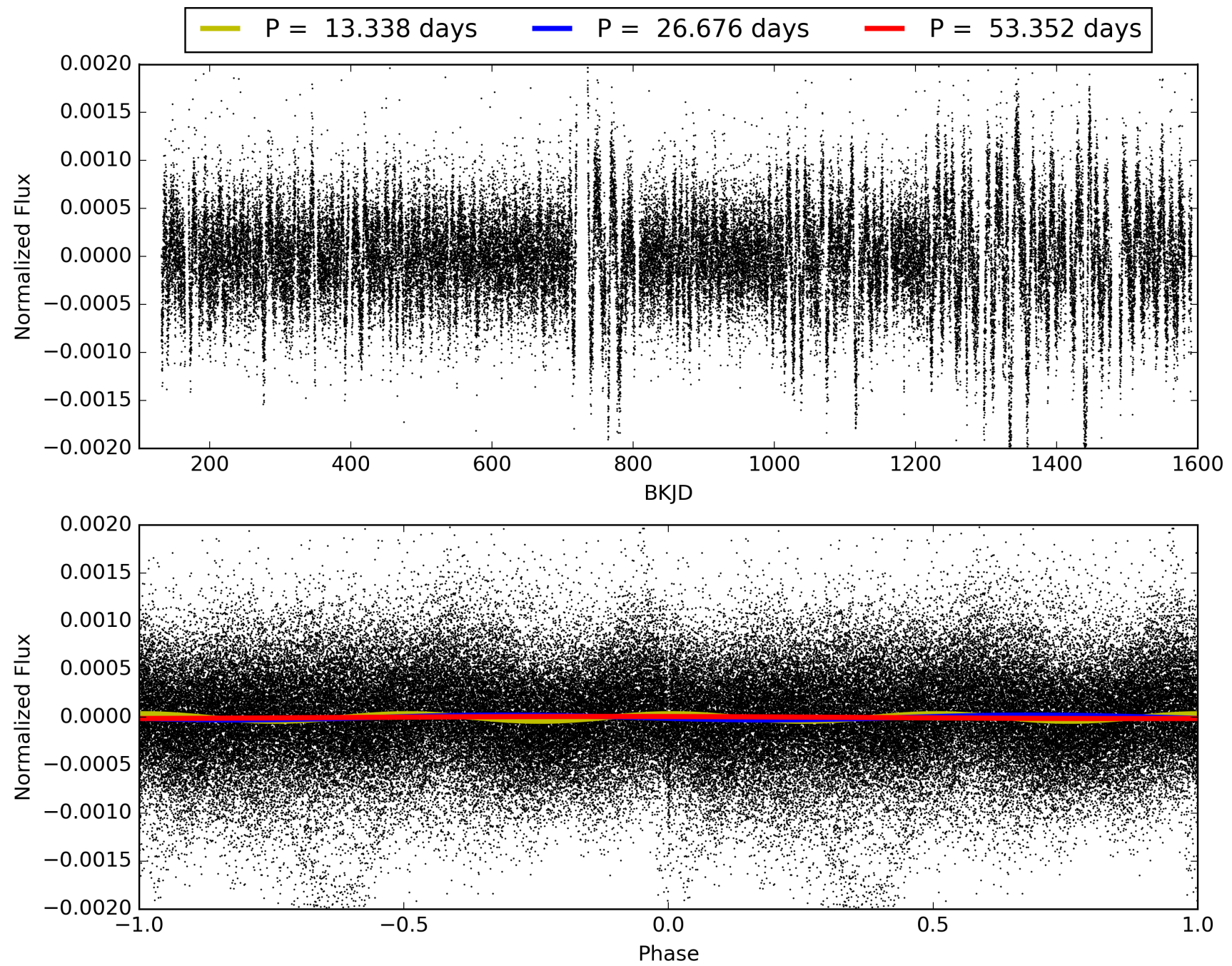
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [61.11σ]
LongPeriod-sig: 100.0% [115.21σ]
ModelChiSquare2-sig: 99.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.63e-64
RollingBand-fgt: 0.94 [45/48]
GhostDiagnostic-chr: 5.037
Centroid-sig: 21.2%
Centroid-so: 1.651 arcsec [2.27σ]
OotOffset-rm: 0.240 arcsec [1.12σ]
KicOffset-rm: 0.098 arcsec [0.38σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005480640-02, PDC Light Curves

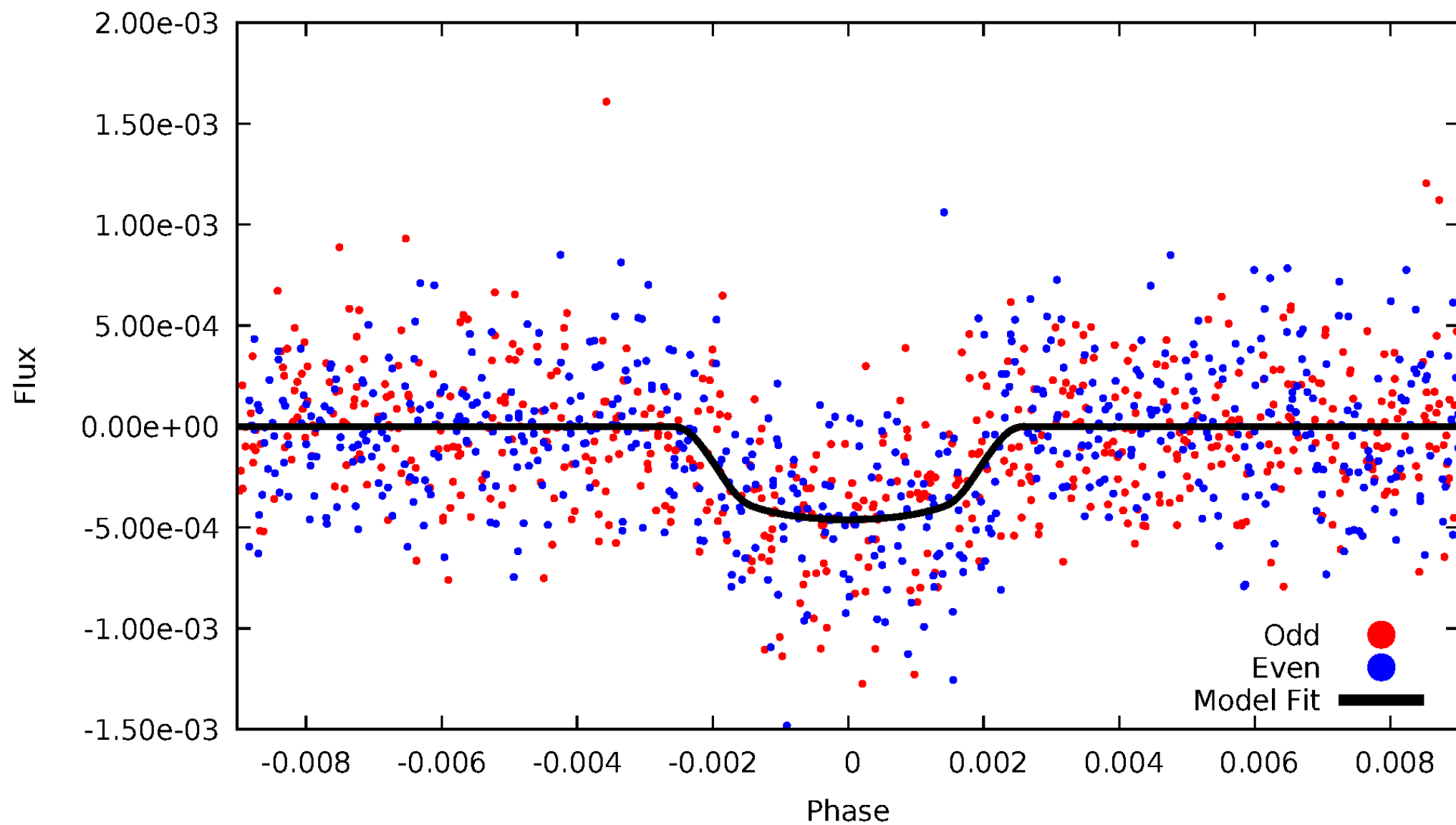


TCE 005480640-02



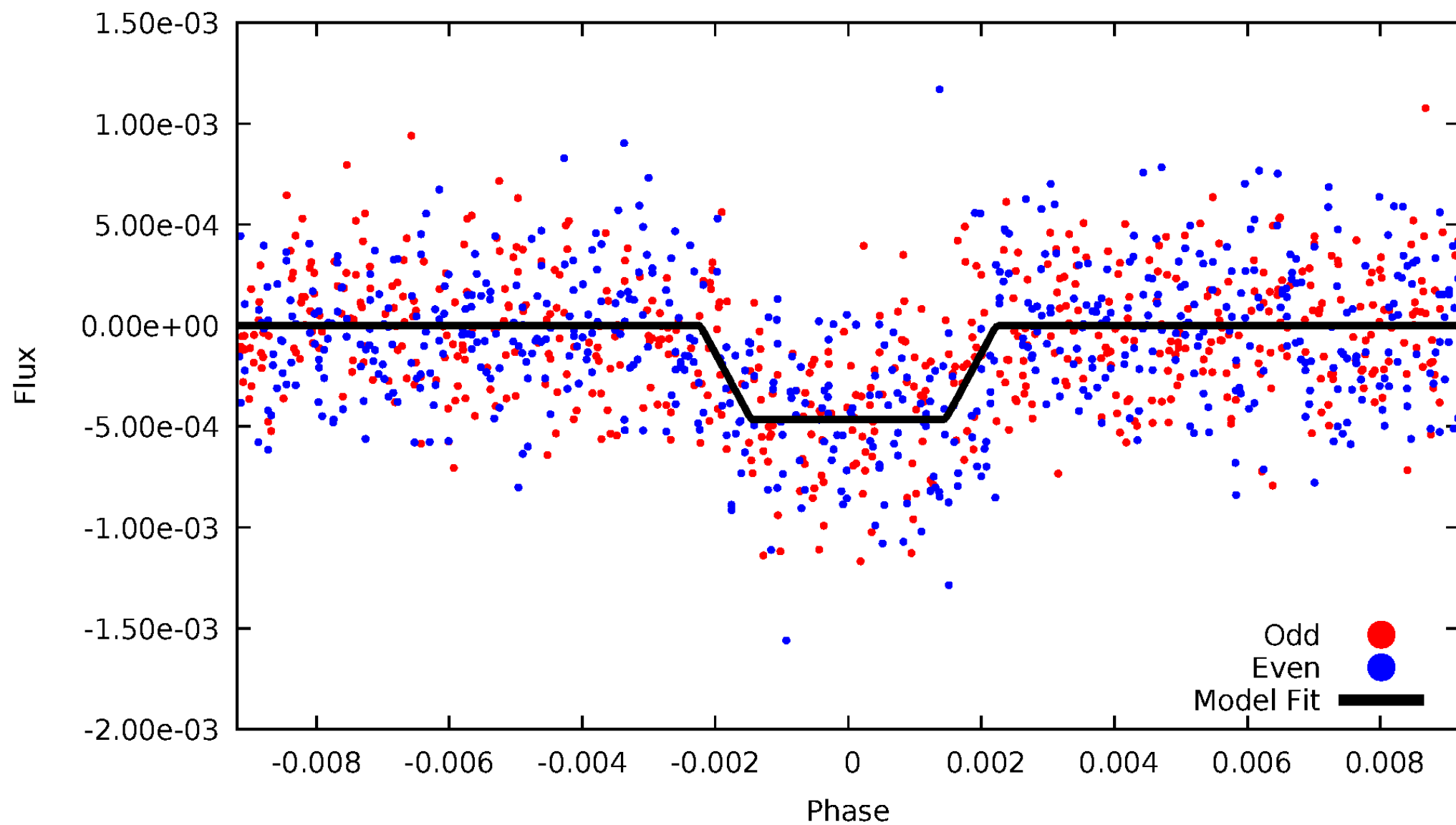
DV Odd/Even

TCE 005480640-02



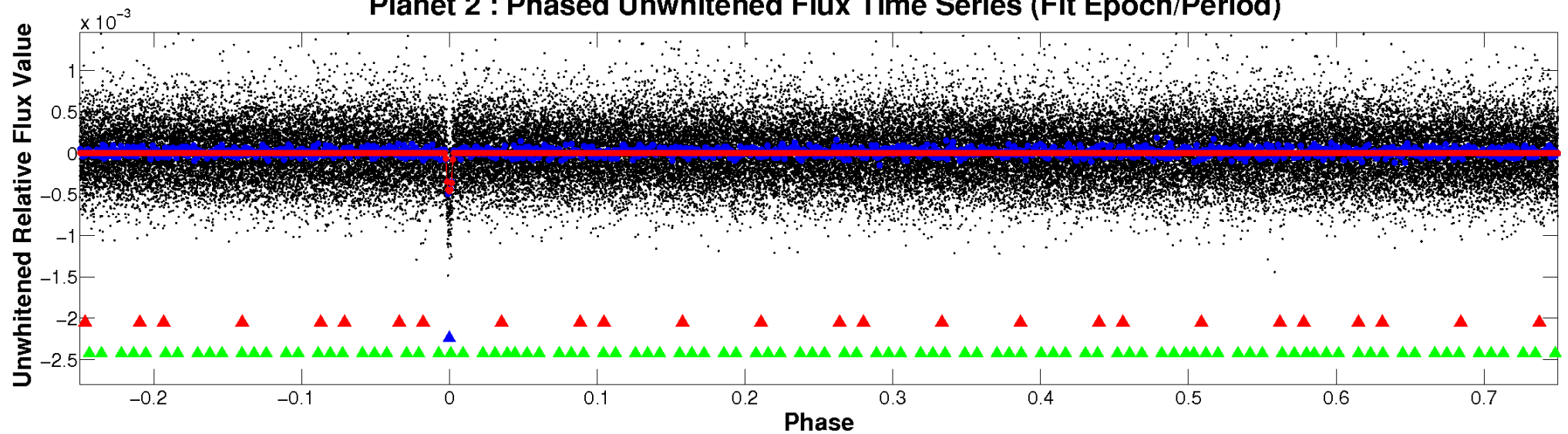
ALT Odd/Even

TCE 005480640-02

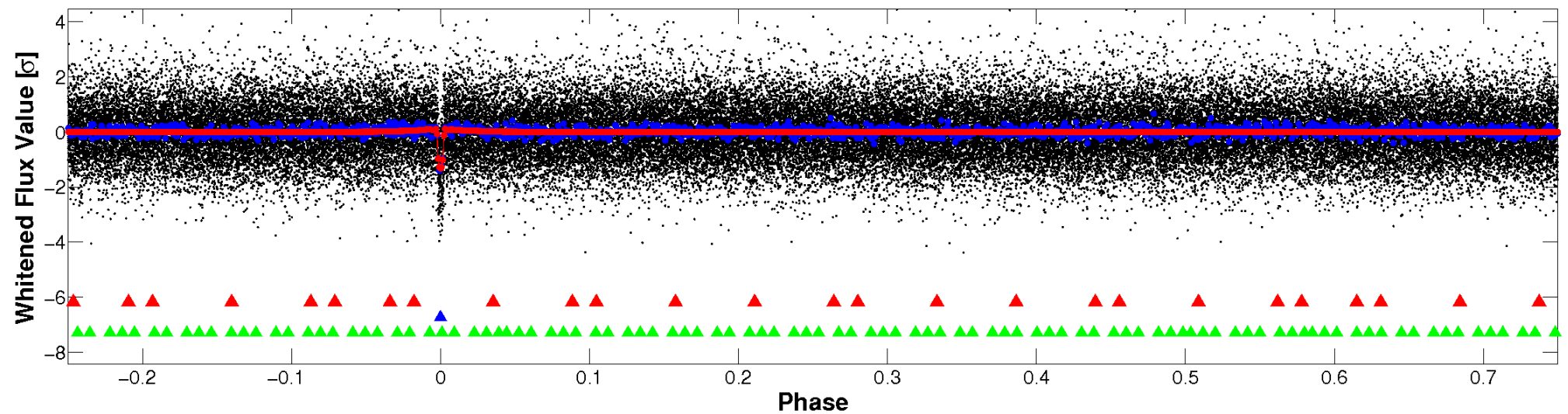


Non-Whitened Vs. Whitened Light Curve

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

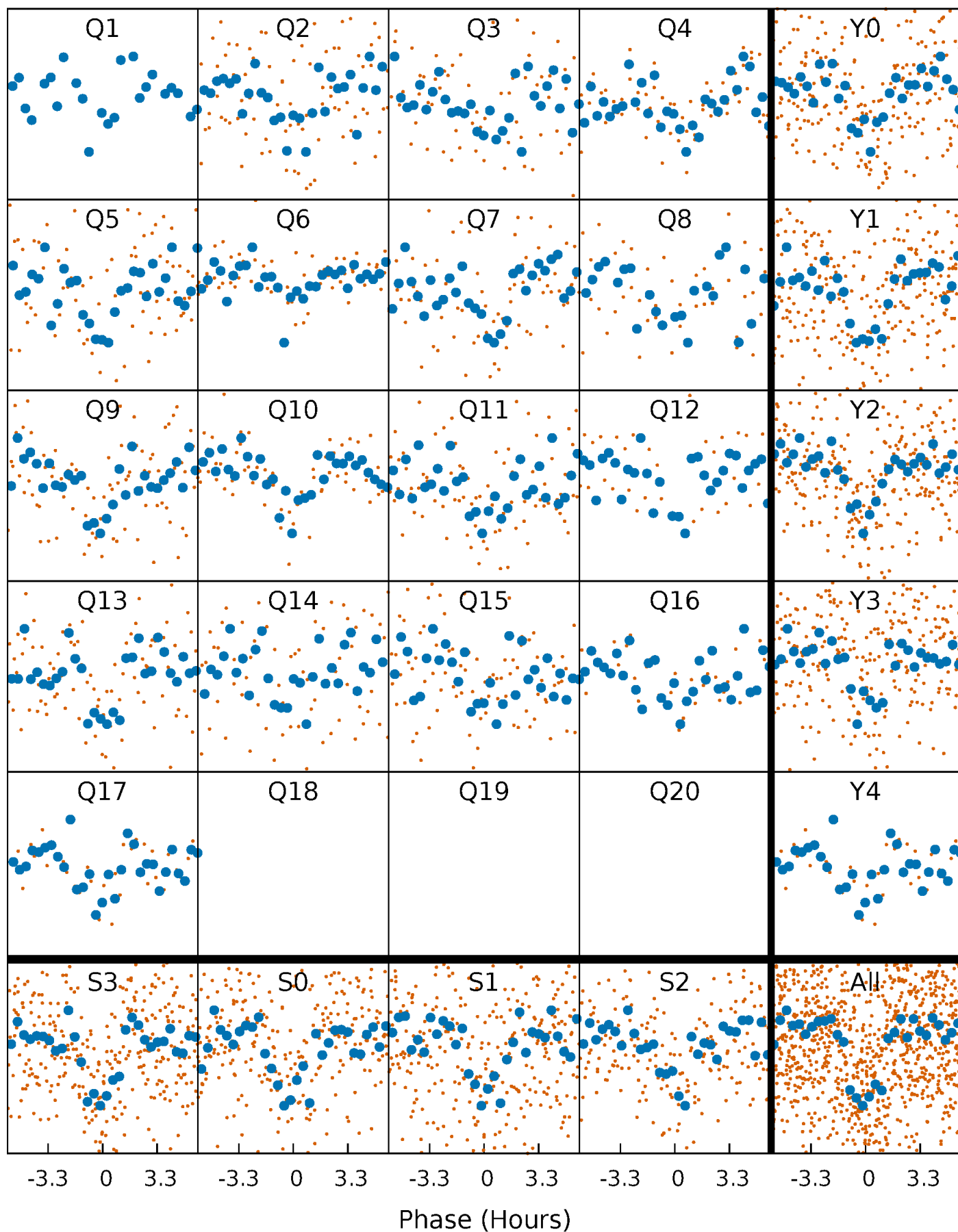


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



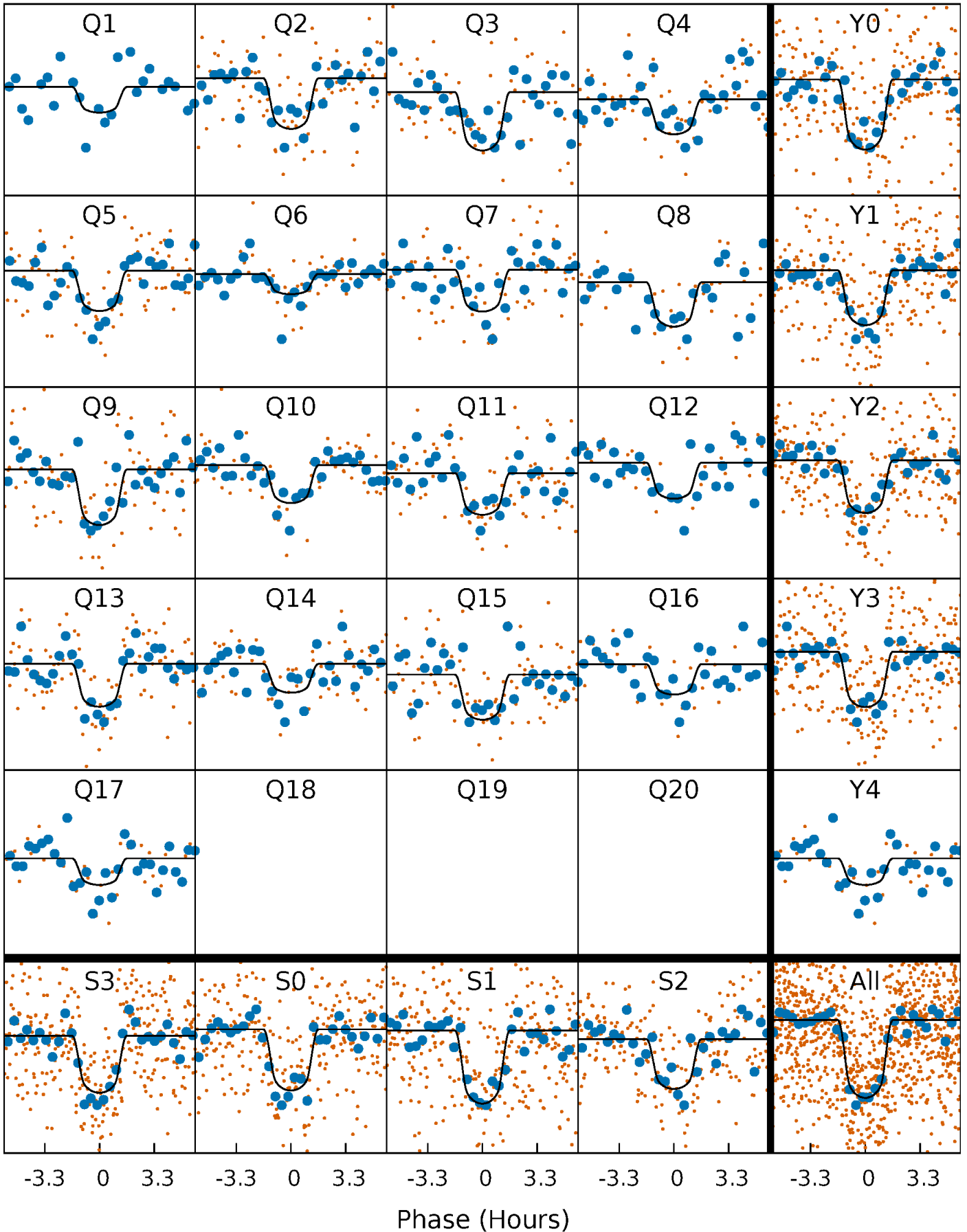
PDC Quarter-Phased Transit Curves

TCE 005480640-02 P= 26.675778 Days $T_0=149.994871$ (BKJD)



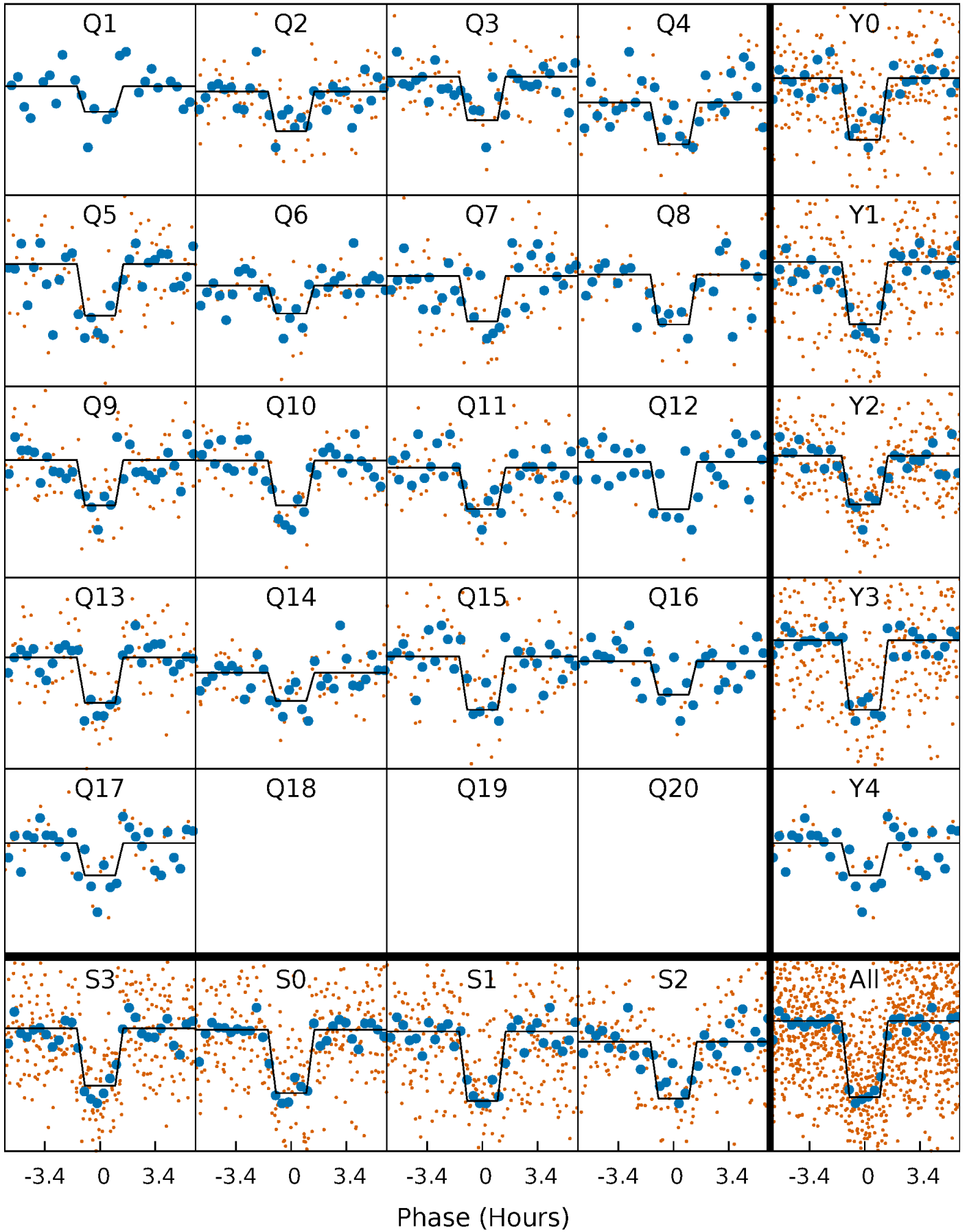
DV Quarter-Phased Transit Curves

TCE 005480640-02 P= 26.675778 Days $T_0=149.994871$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

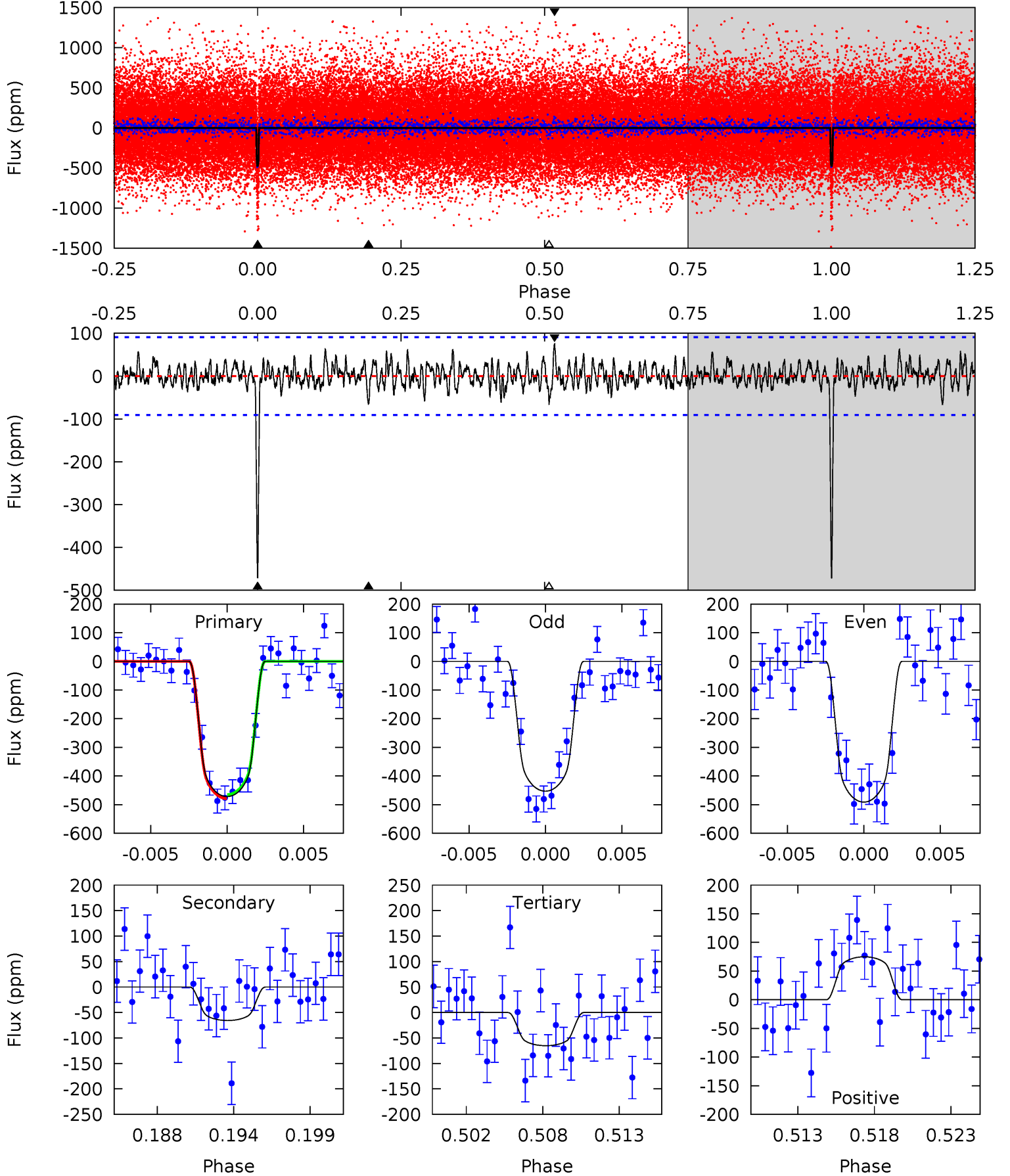
TCE 005480640-02 P= 26.675796 Days $T_0=149.995309$ (BKJD)



DV Model-Shift Uniqueness Test

005480640-02, P = 26.675778 Days, E = 123.319093 Days

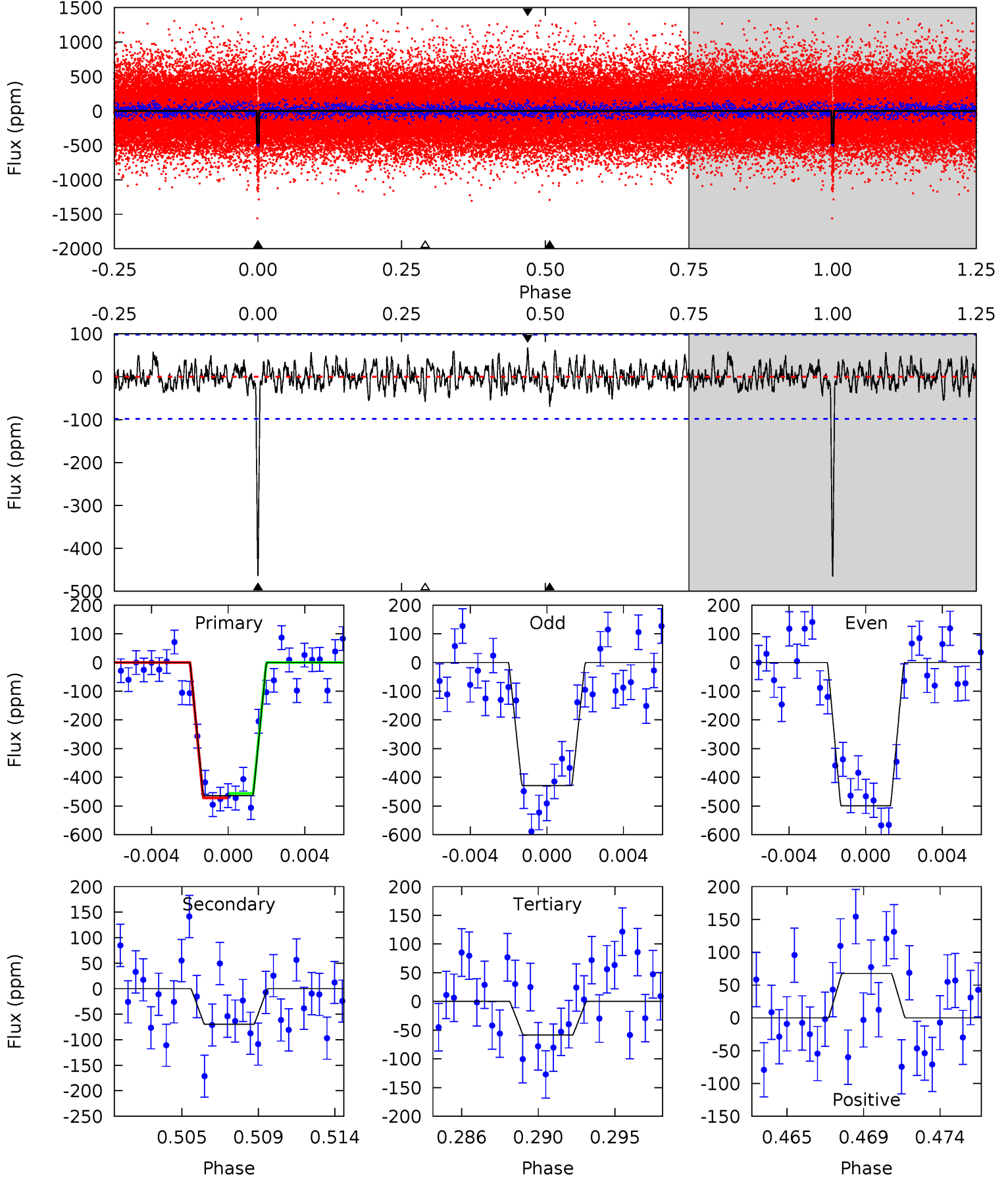
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.7	3.72	3.69	4.24	5.15	2.79	1.20	23.0	22.5	0.03	-0.52	1.08	1.00	0.14	0.39



Alt Model-Shift Uniqueness Test

005480640-02, $P = 26.675796$ Days, $E = 123.319513$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.5	3.69	3.08	3.57	5.18	2.84	1.09	21.4	20.9	0.61	0.12	1.85	1.00	0.13	0.40



Stellar Parameters For KIC 005480640

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5467^{+82}_{-73}	$4.271^{+0.180}_{-0.120}$	$0.140^{+0.150}_{-0.100}$	$1.152^{+0.180}_{-0.200}$	$0.902^{+0.065}_{-0.033}$	$0.831^{+0.684}_{-0.273}$
	+1%/-1%	+4%/-3%	+107%/-71%	+16%/-17%	+7%/-4%	+82%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 005480640-02 / KOI 2707.03

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-66 ± 18	$2.90^{+0.83}_{-0.78}$	877^{+43}_{-49}	3629^{+404}_{-303}	120^{+112}_{-51}
Alt.	-70 ± 19	$2.66^{+0.75}_{-0.74}$	876^{+41}_{-48}	3775^{+464}_{-324}	155^{+153}_{-69}

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

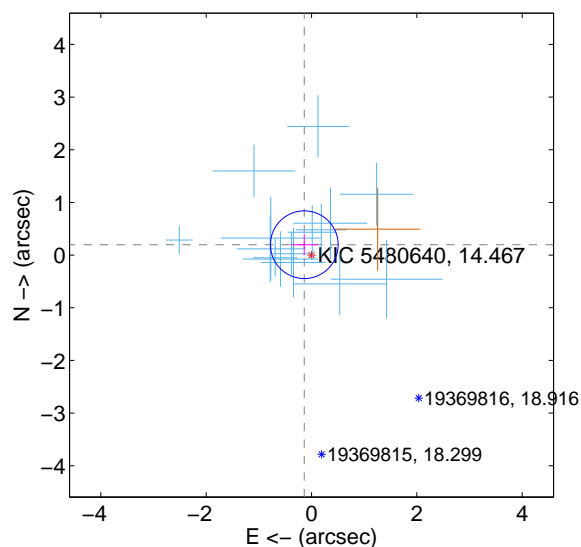
Supplemental centroid analysis for 005480640-02. Kepler magnitude: 14.47. Transit SNR 18.21

There are 15 quarters with good PRF difference image offsets

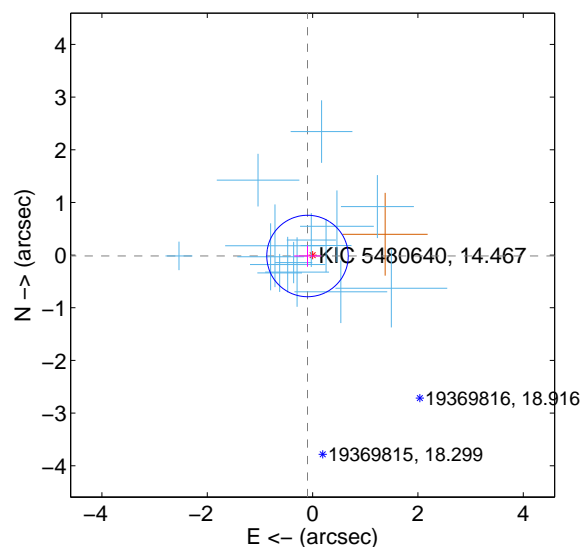
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.240 ± 0.214	1.12	0.137 ± 0.256	0.197 ± 0.201
PRF-fit source offset from KIC position	0.098 ± 0.258	0.38	0.097 ± 0.255	-0.017 ± 0.202
photometric centroid source offset	1.65 ± 0.73	2.27	1.10 ± 0.73	-1.23 ± 0.72

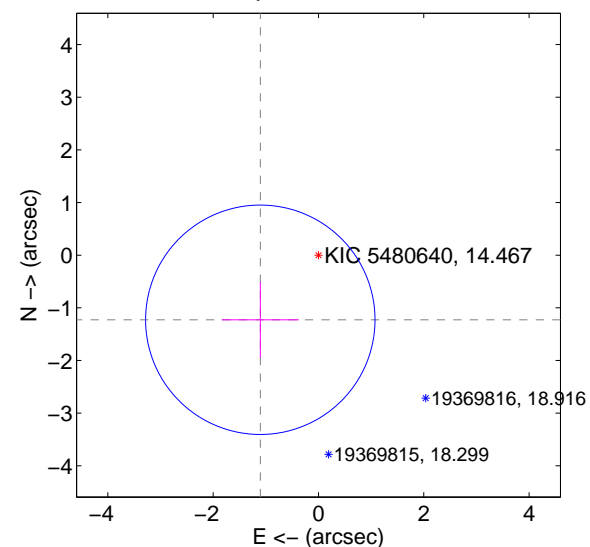
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

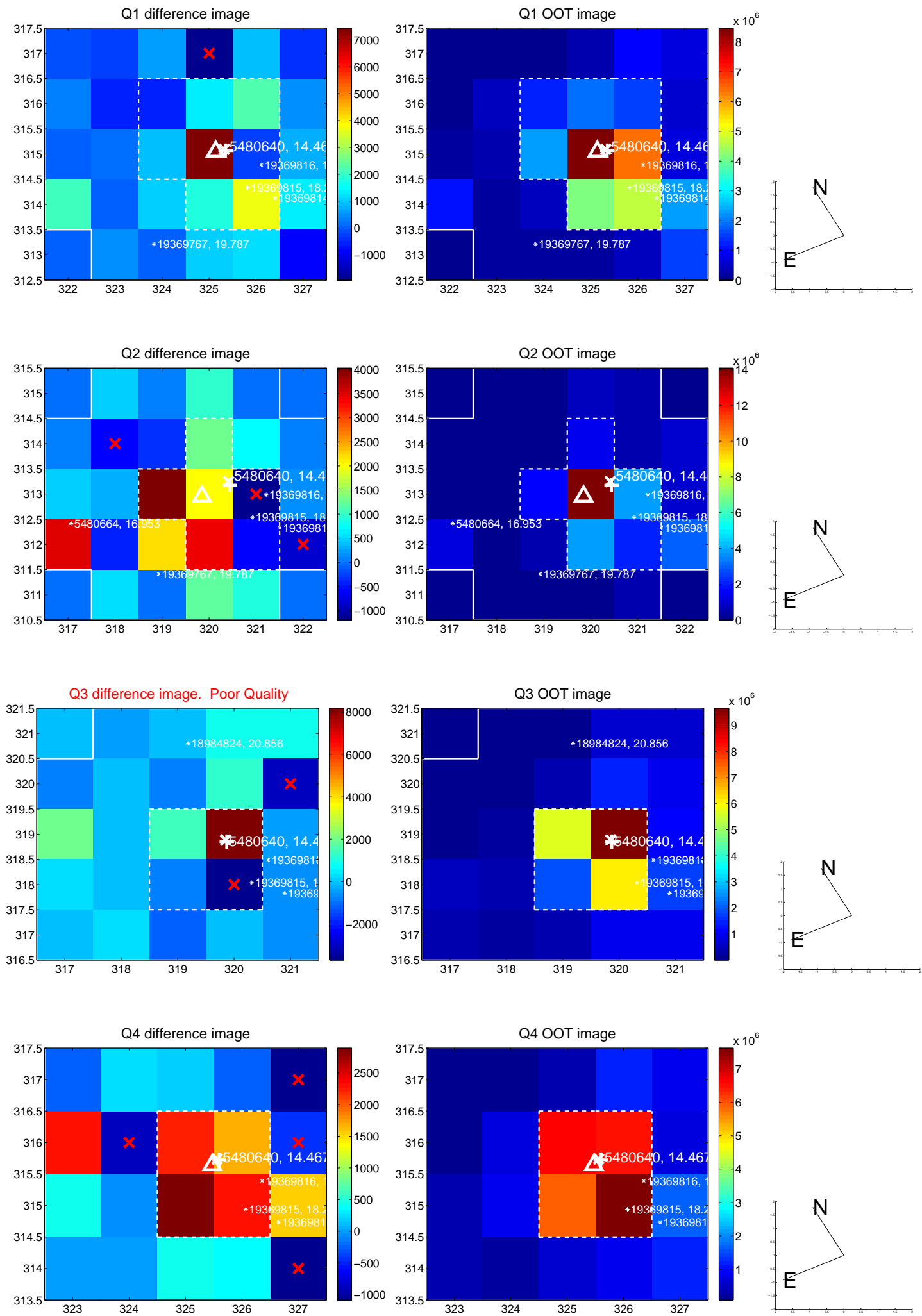


offset from photometric centroids

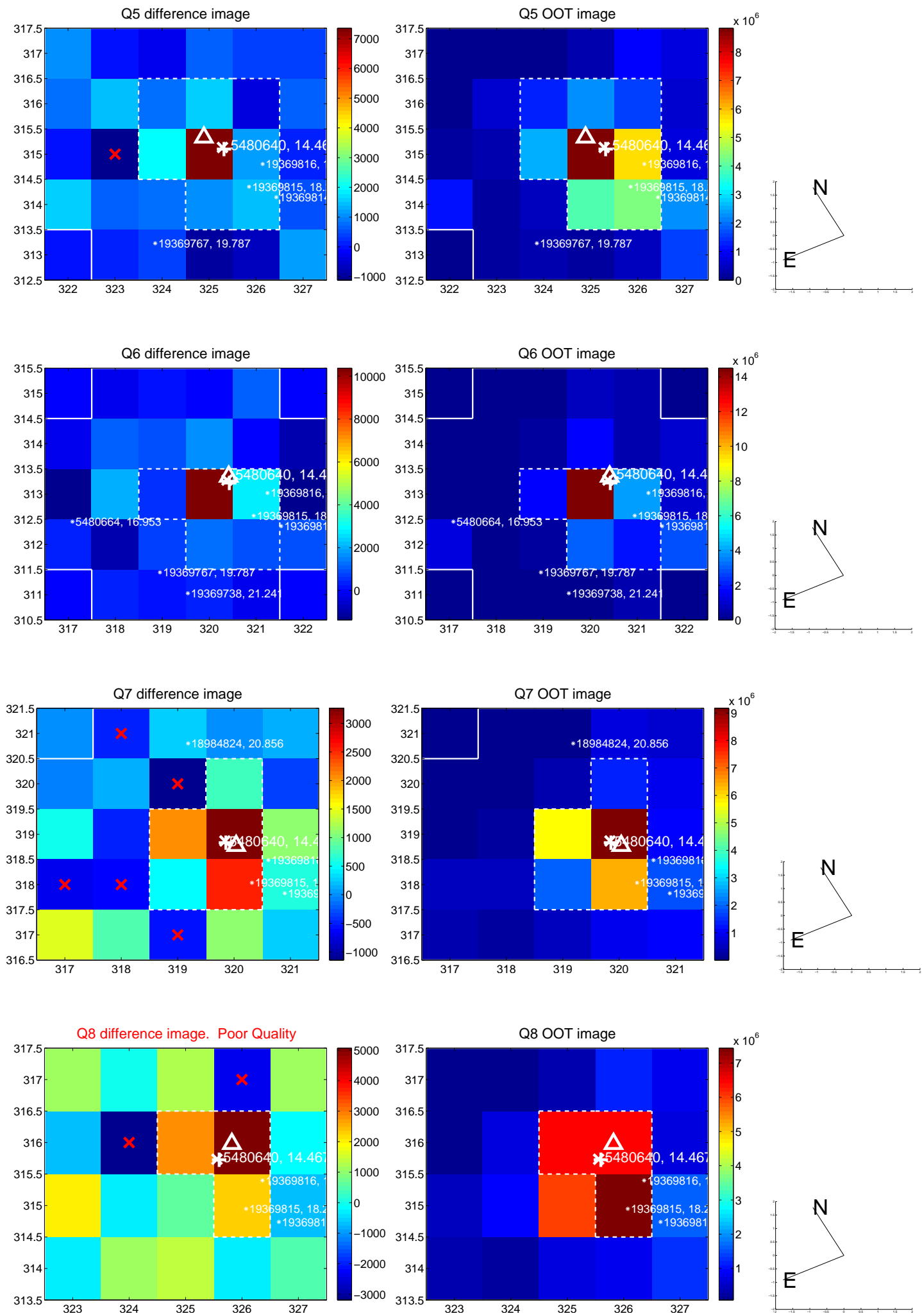


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

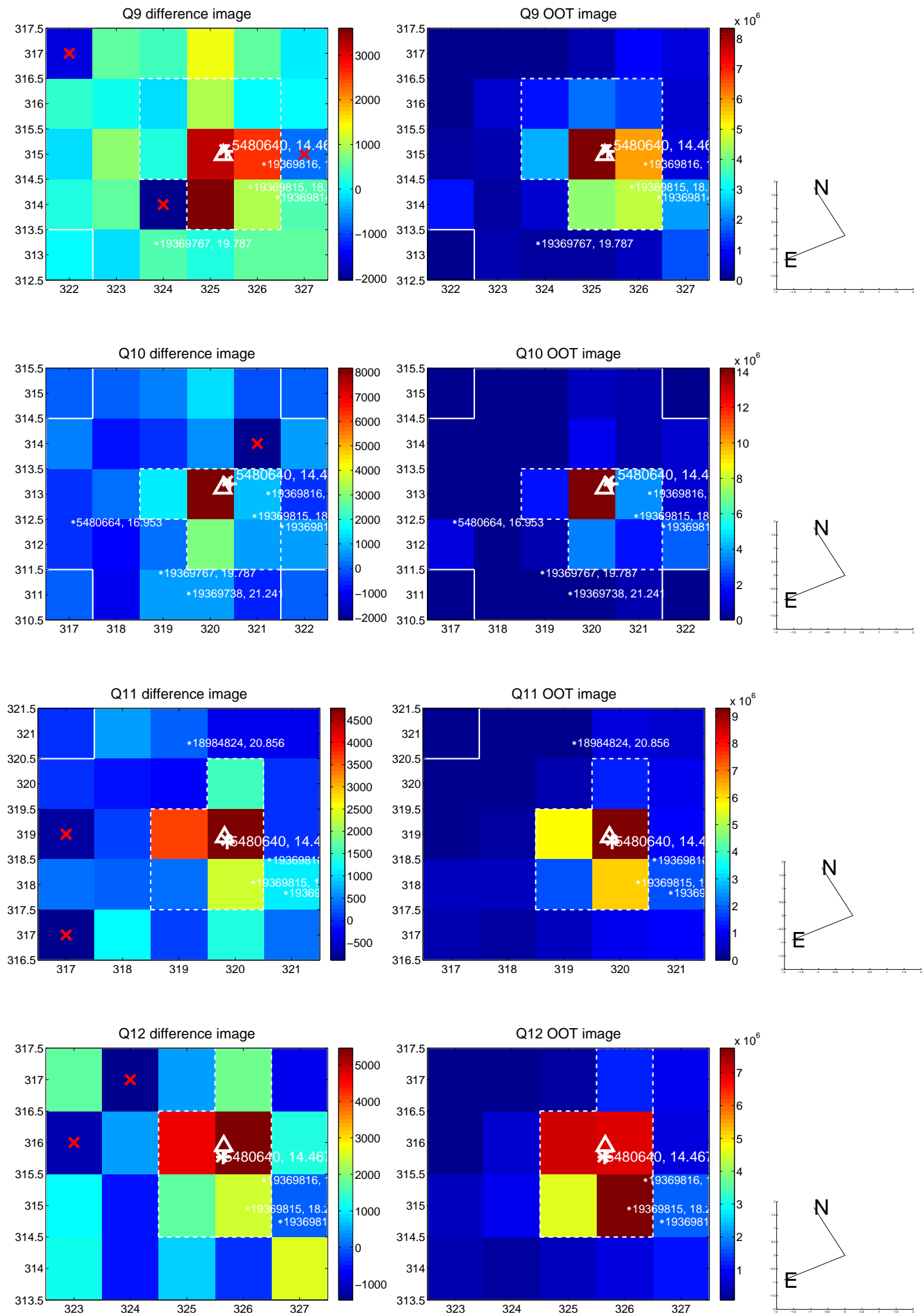
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



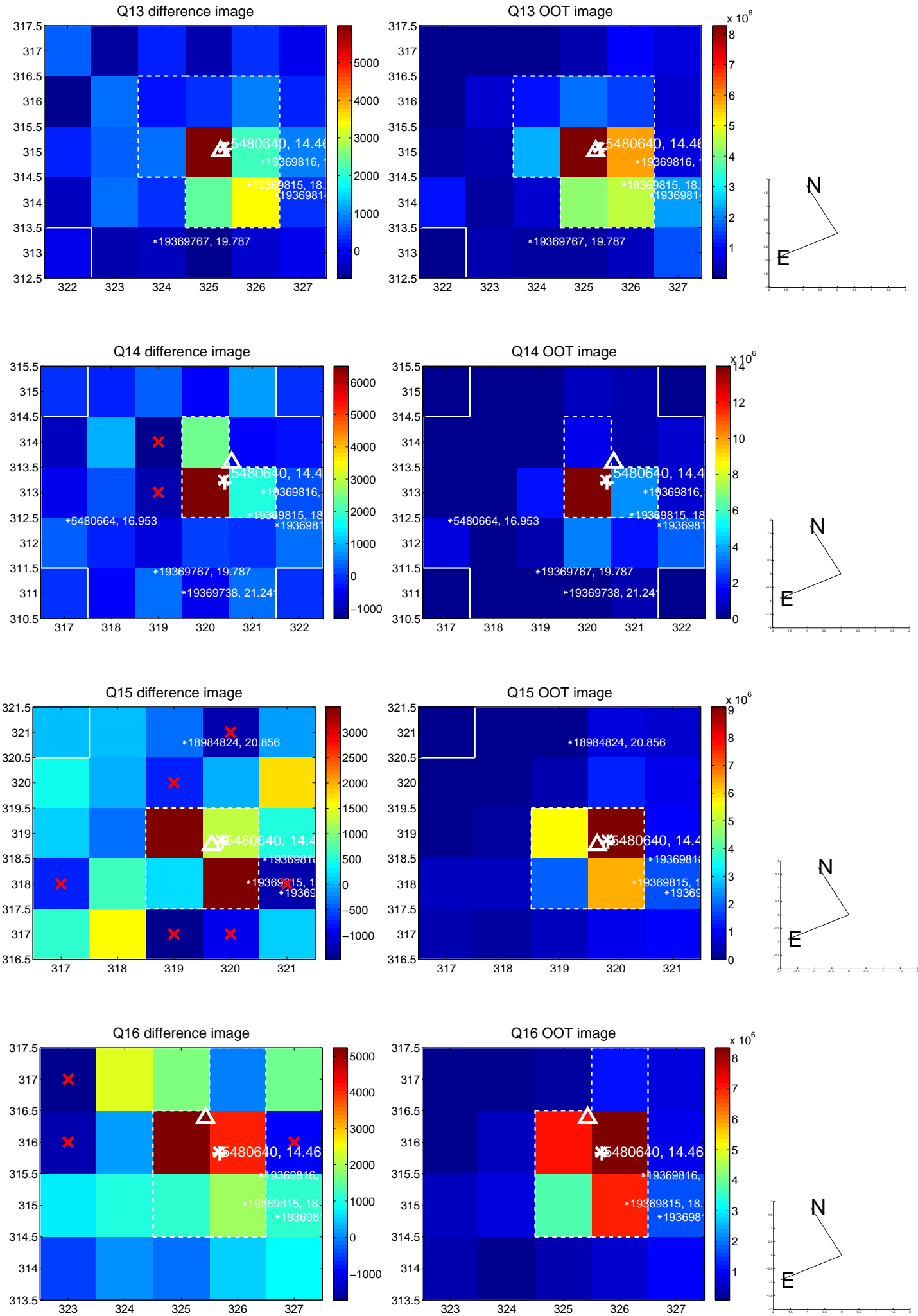
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



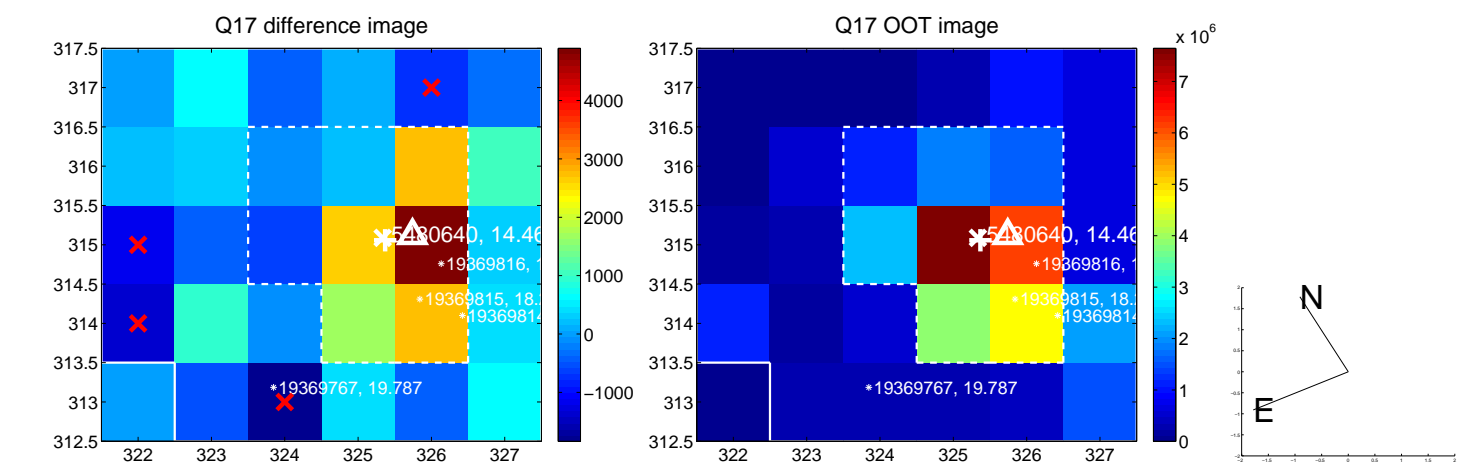
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



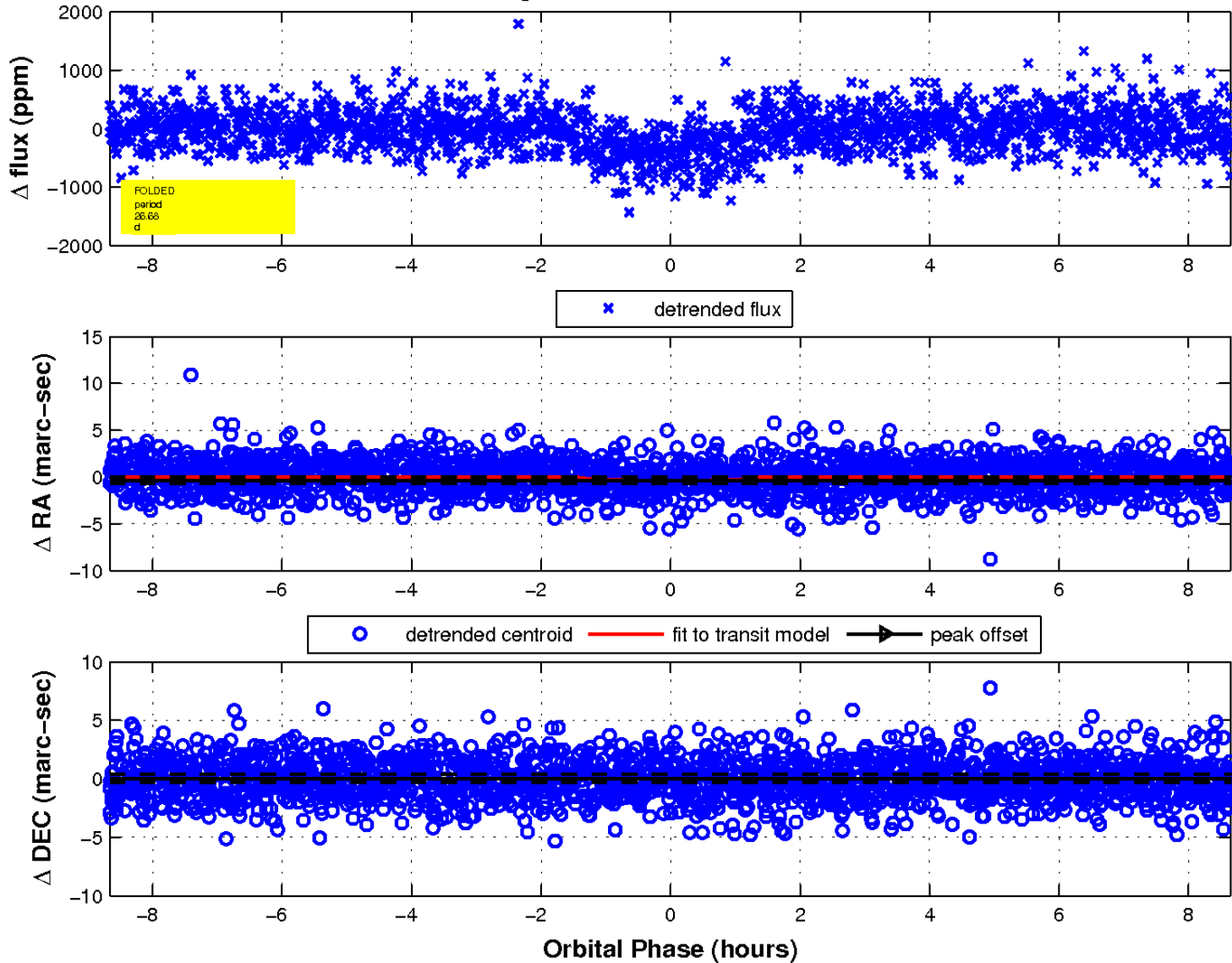
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



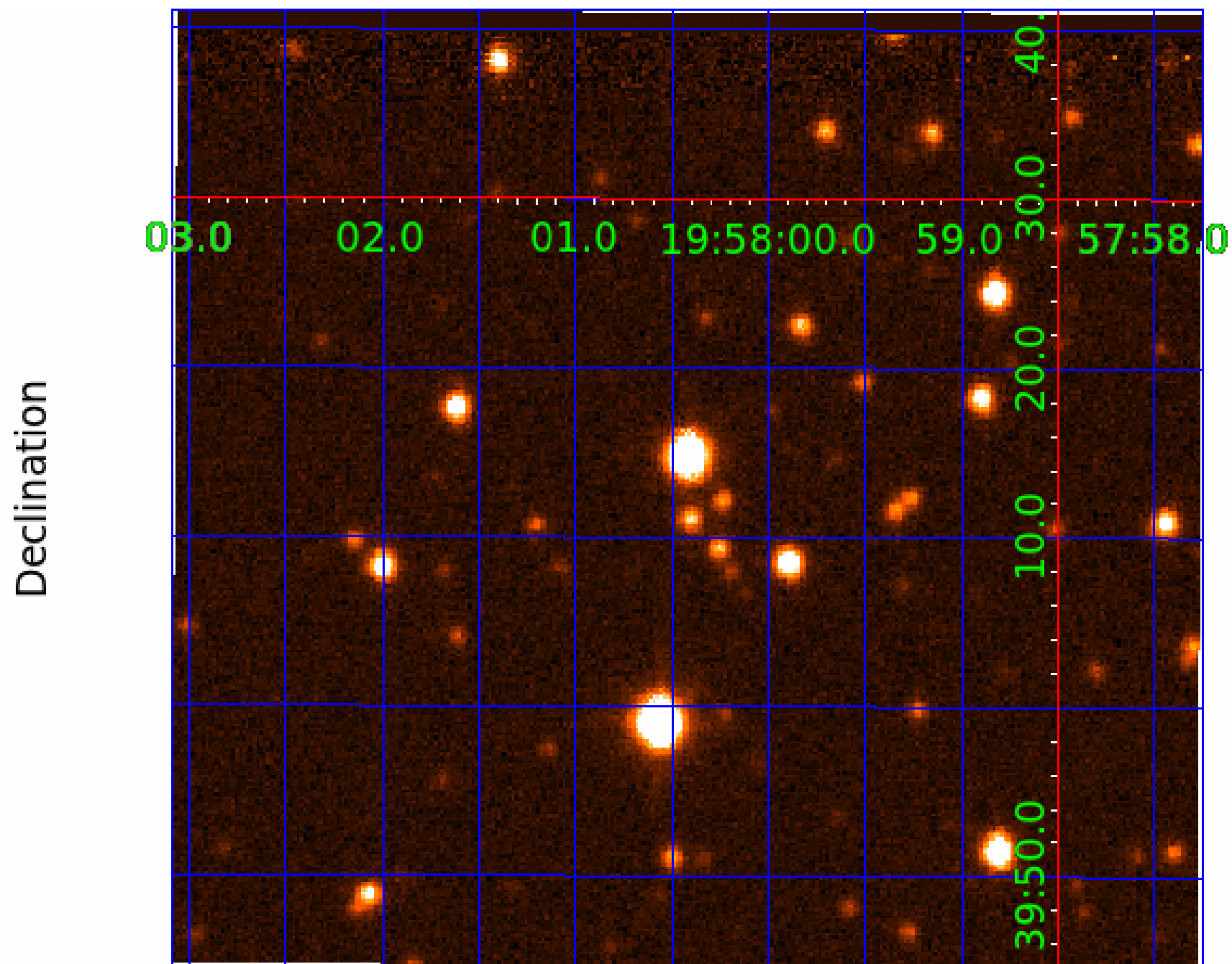
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 3



UKIRT Image



KIC 005480640

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})
005480640-01	OBS	2707.01	58.033801	138.738827	817.4	5.860	25.8	28.9	1.15	5467	3.64	13.20
005480640-02	OBS	2707.03	26.675778	149.994871	461.6	2.887	17.0	18.2	1.15	5467	2.96	37.21
005480640-03	OBS	2707.02	14.425262	136.754580	224.2	3.848	12.4	13.9	1.15	5467	1.99	84.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005480640-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005480640-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005480640-03	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.

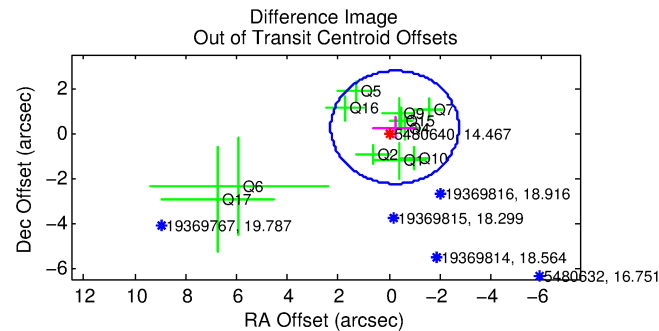
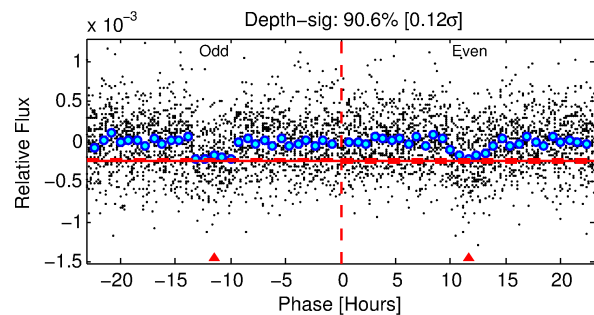
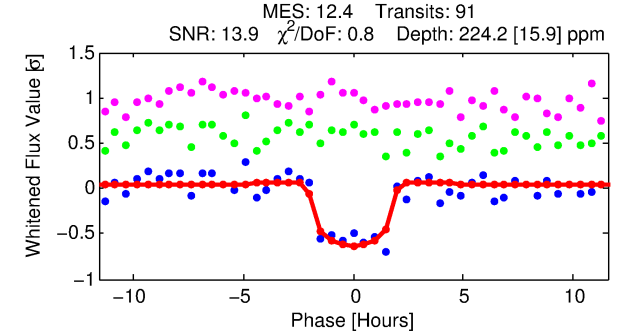
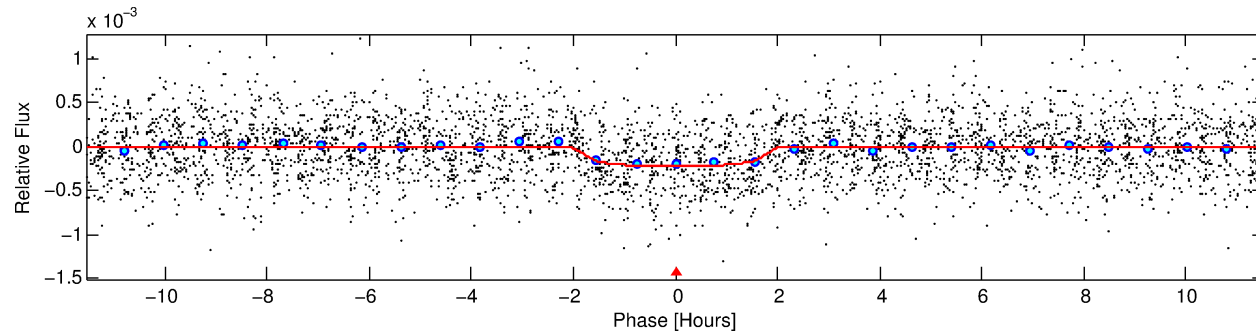
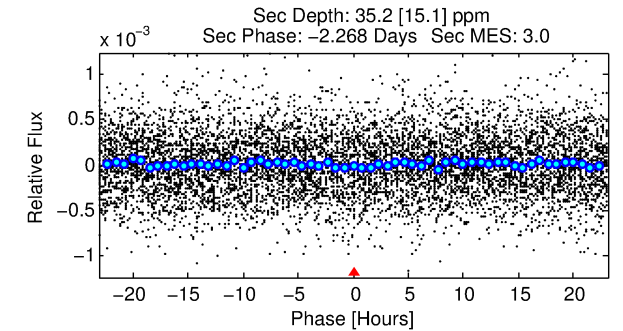
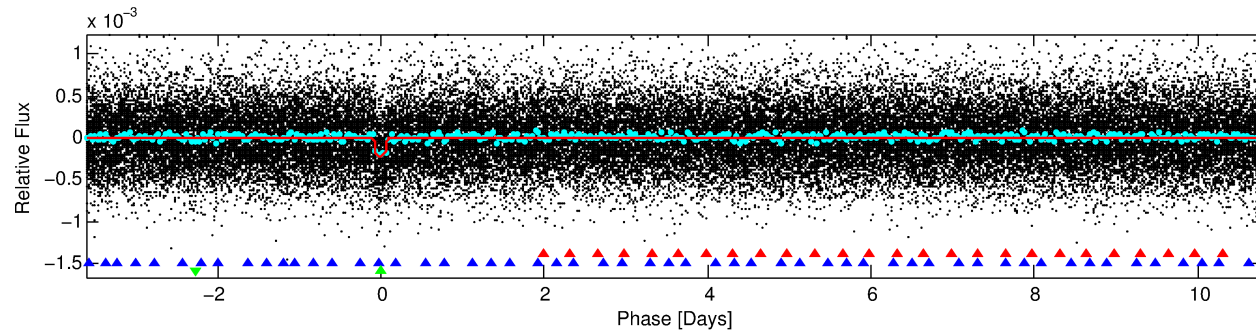
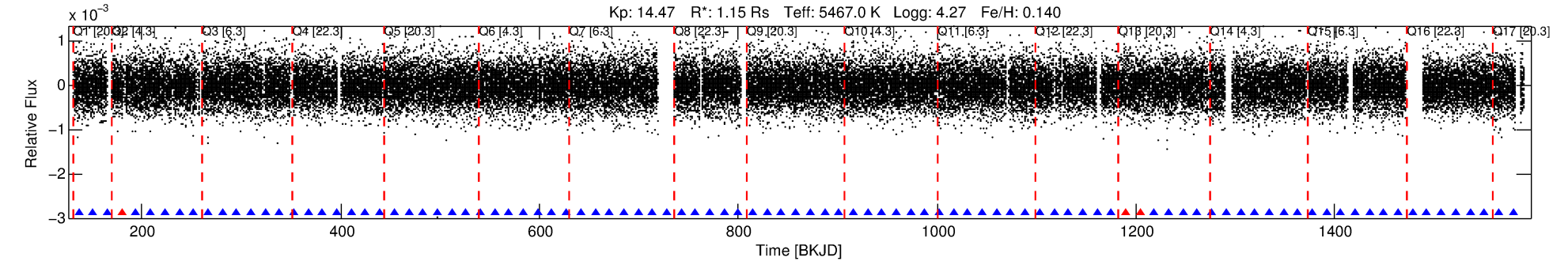
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005480640-03

No Significant Match Found

DV One-Page Summary

KIC: 5480640 Candidate: 3 of 3 Period: 14.425 d
KOI: K02707.02 Name: Kepler-399b Corr: 0.974



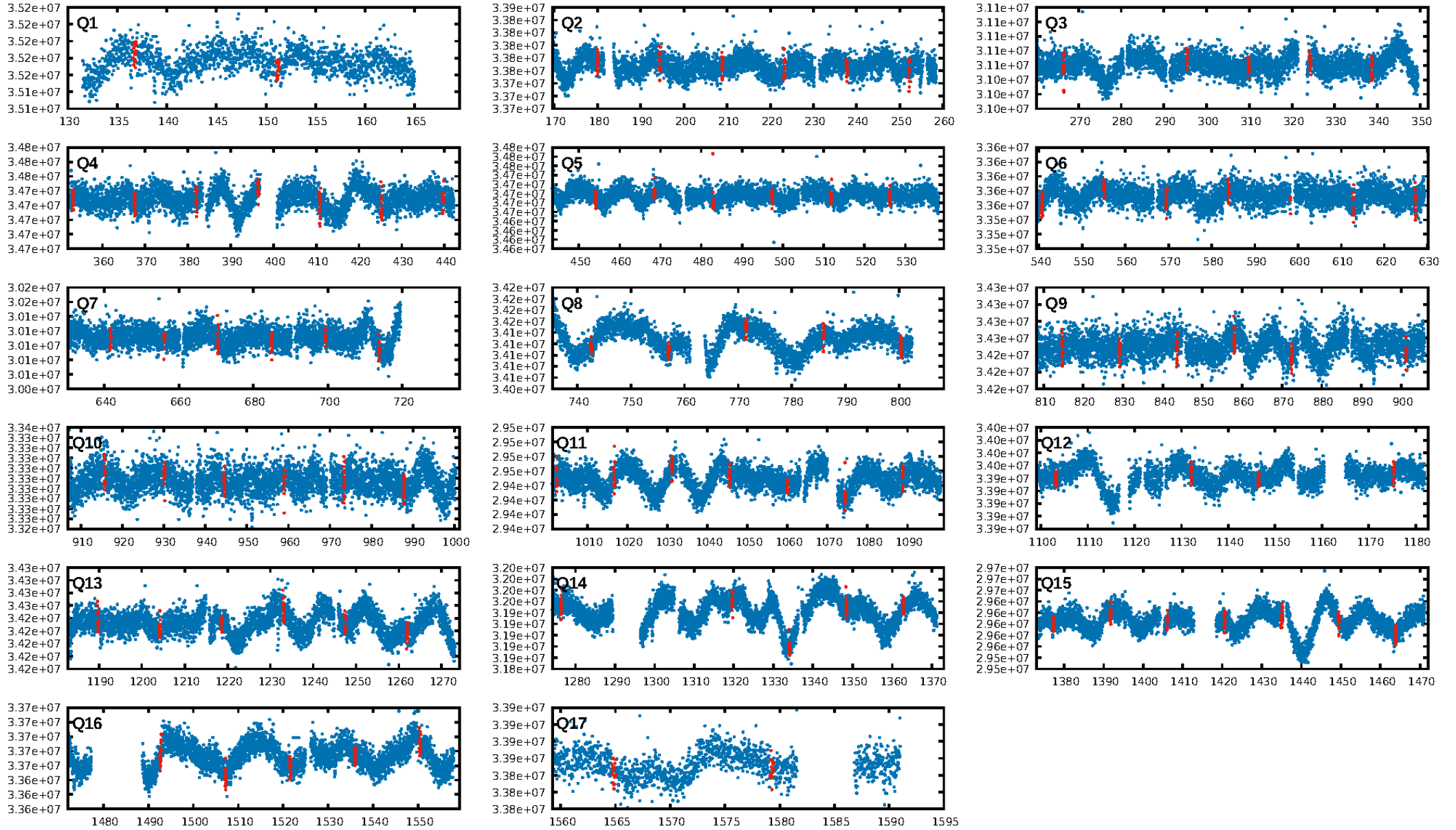
DV Fit Results:

Period = 14.42526 [0.00011] d
Epoch = 136.7546 [0.0059] BKJD
Rp/R* = 0.0158 [0.0082]
a/R* = 15.79 [34.06]
b = 0.85 [0.70]
Seff = 84.47 [25.81]
Teq = 773 [59] K
Rp = 1.99 [1.08] Re
a = 0.1121 [0.0202] AU
Ag = 61.54 [71.17] [0.85 σ]
Teff = 3348 [936] K [2.74 σ]

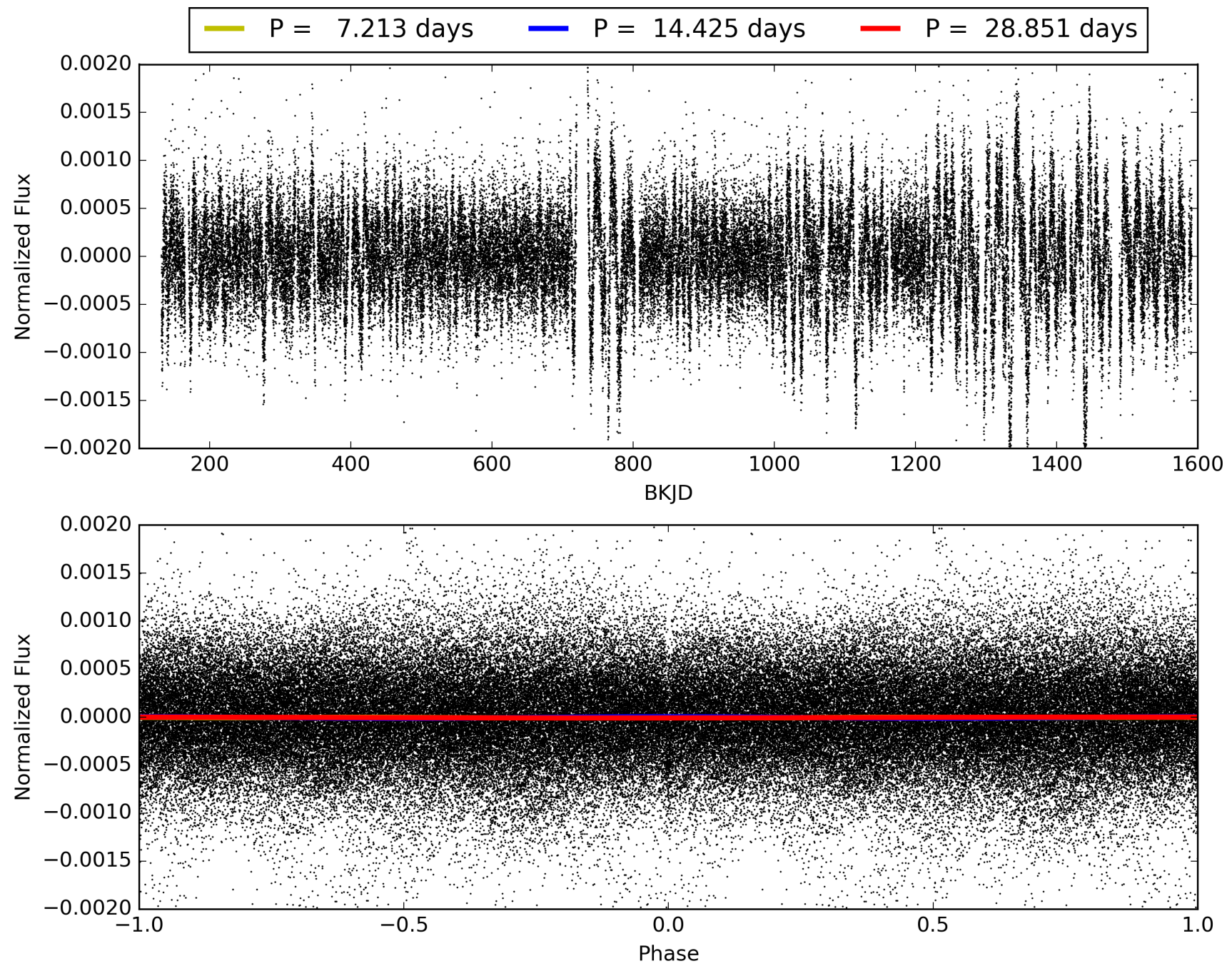
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [61.11 σ]
ModelChiSquare2-sig: 99.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.94e-34
RollingBand-fgt: 0.97 [84/87]
GhostDiagnostic-chr: 1.574
Centroid-sig: 9.6%
Centroid-so: 2.156 arcsec [2.31 σ]
OotOffset-rm: 0.337 arcsec [0.40 σ]
KicOffset-rm: 0.280 arcsec [0.34 σ]
OotOffset-st: 3/2/2/4 [11]
KicOffset-st: 3/2/2/4 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005480640-03, PDC Light Curves

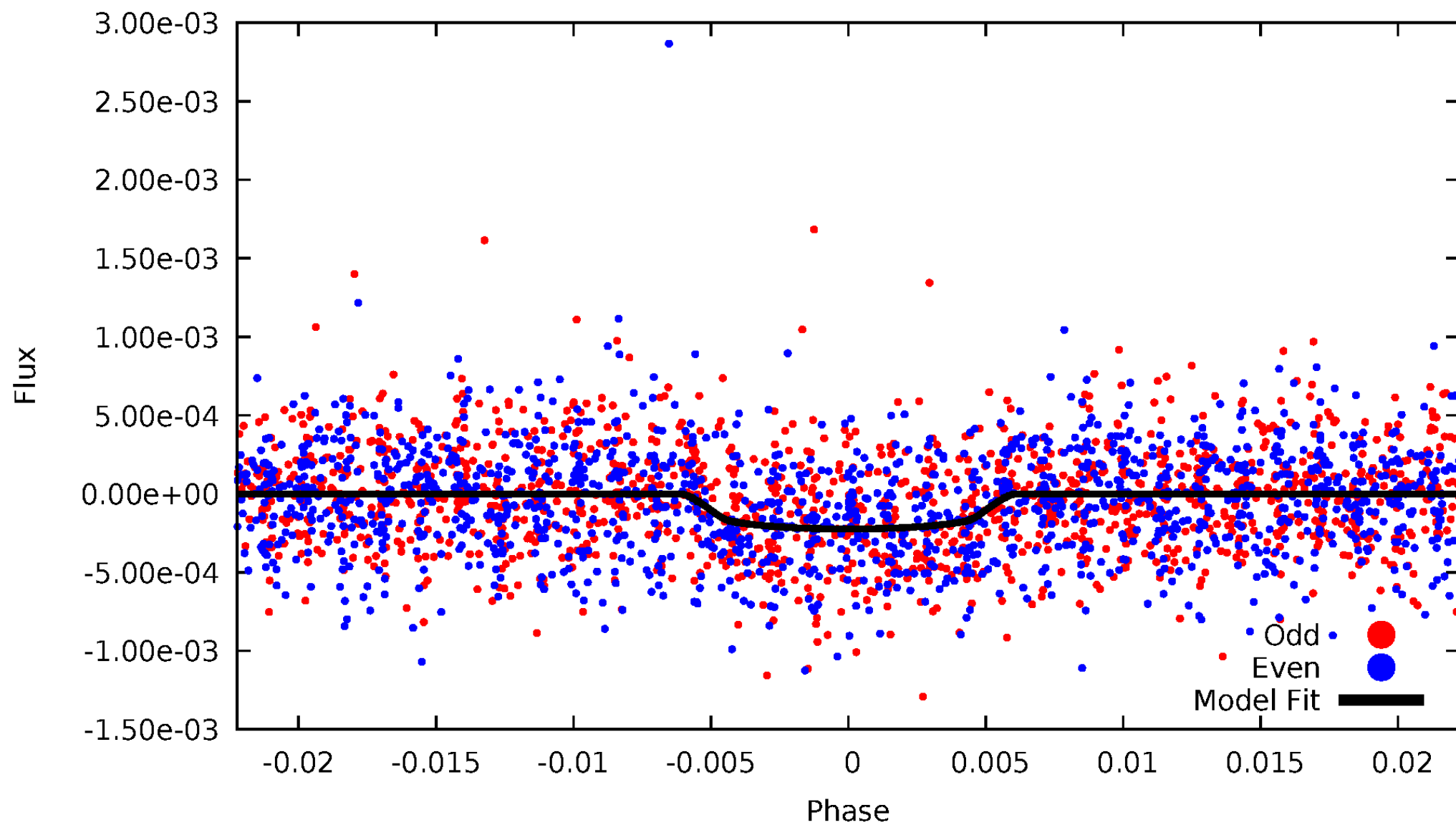


TCE 005480640-03



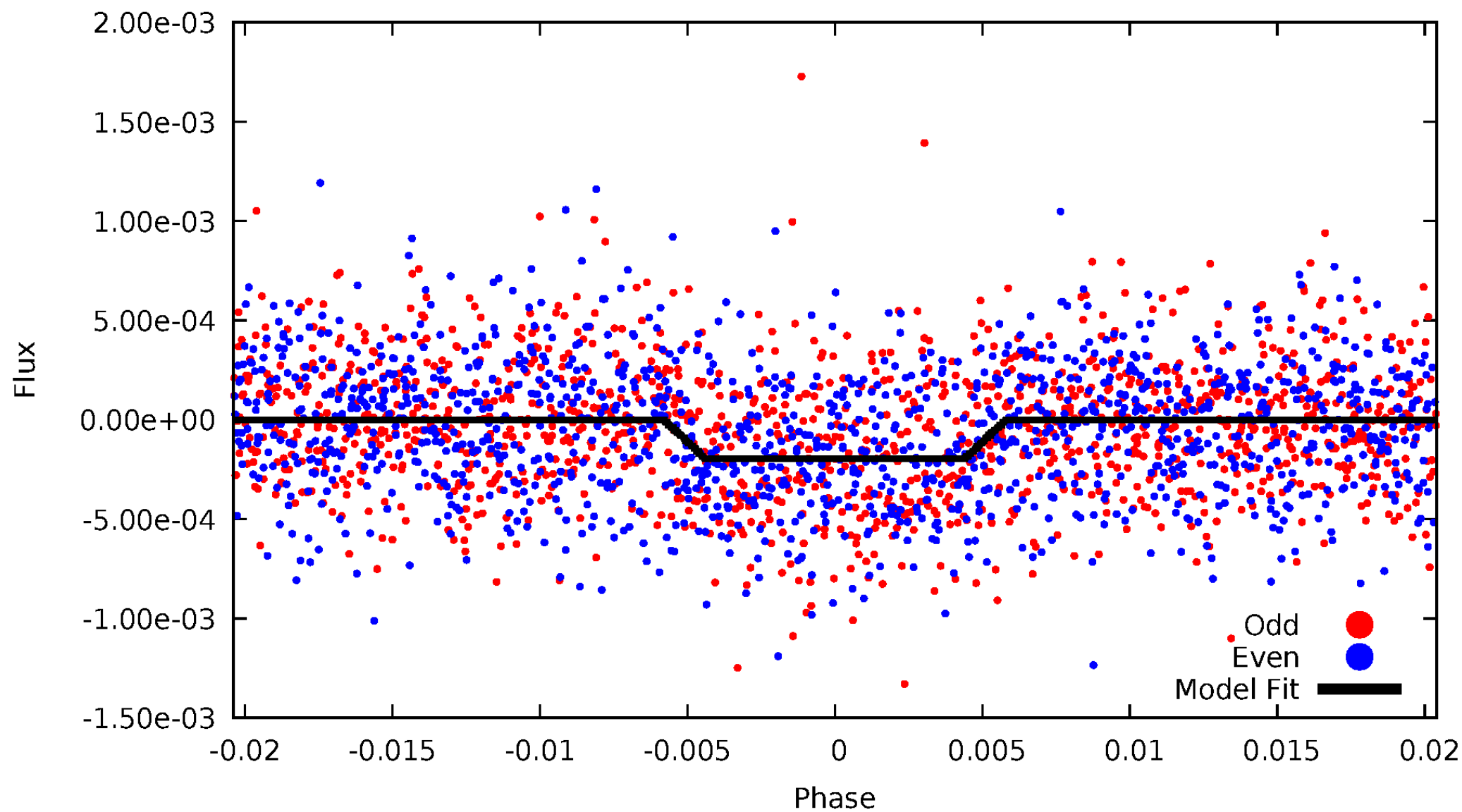
DV Odd/Even

TCE 005480640-03



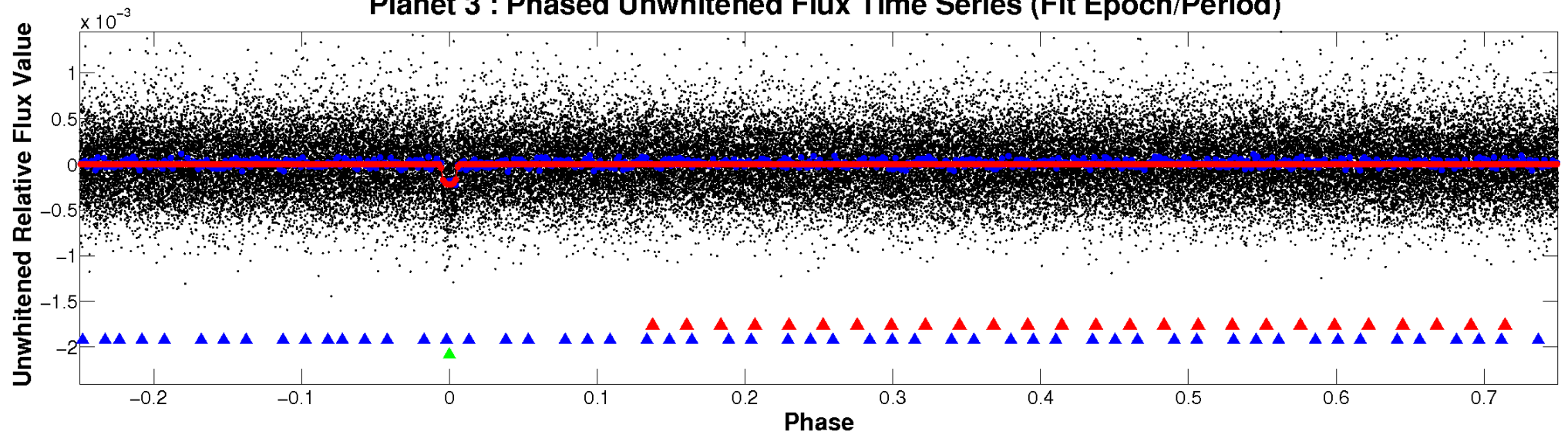
ALT Odd/Even

TCE 005480640-03

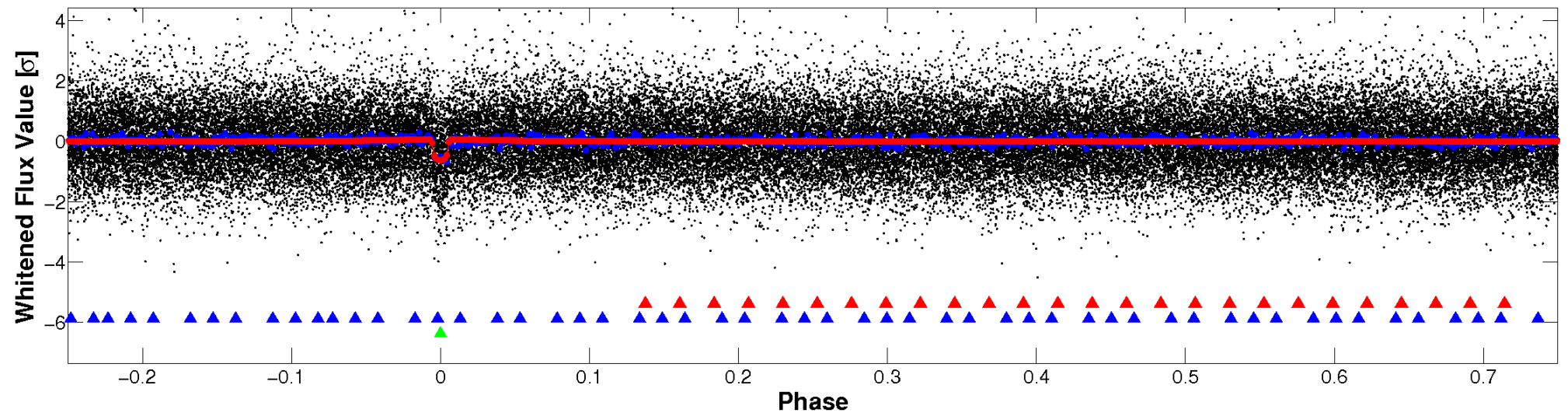


Non-Whitened Vs. Whitened Light Curve

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

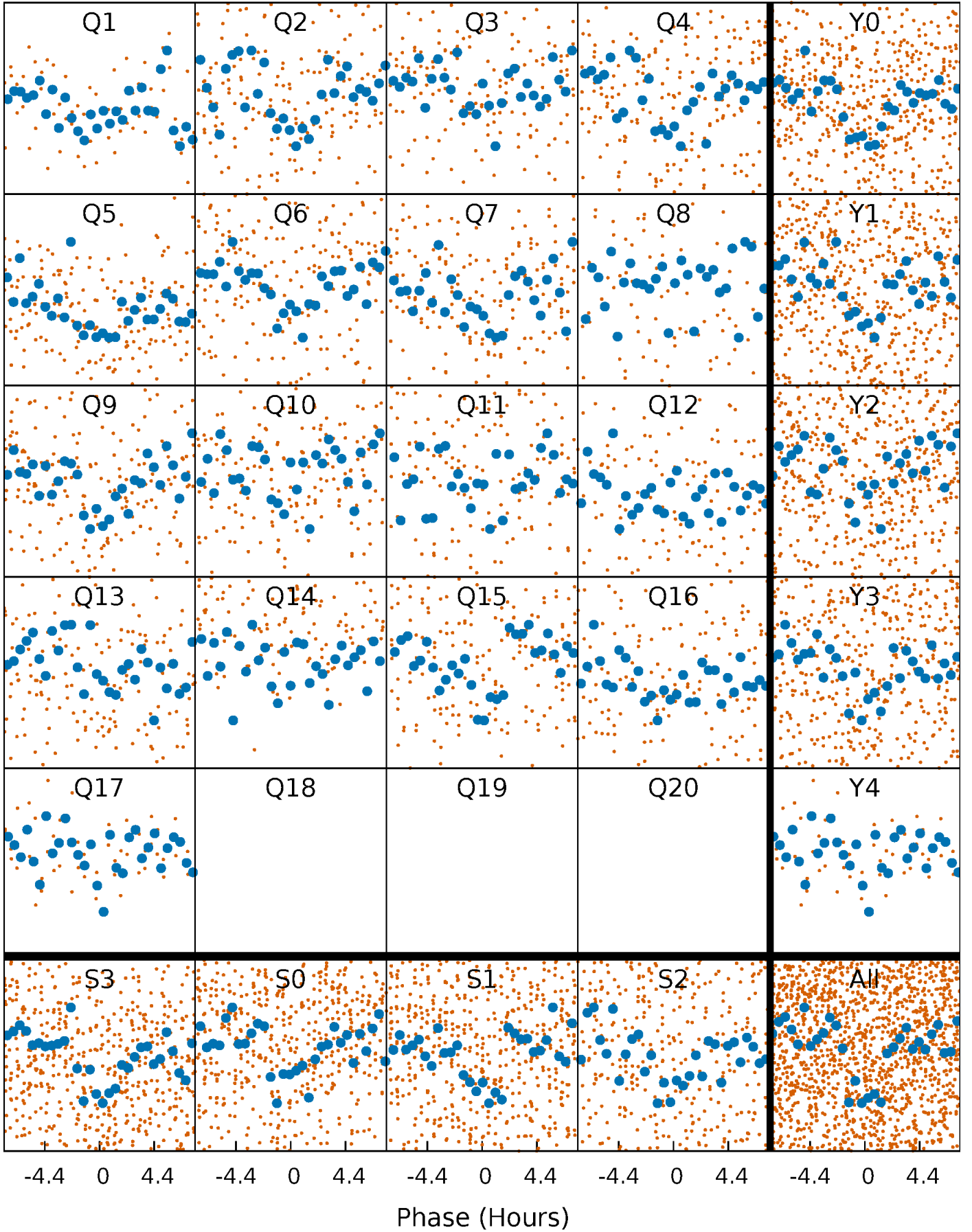


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



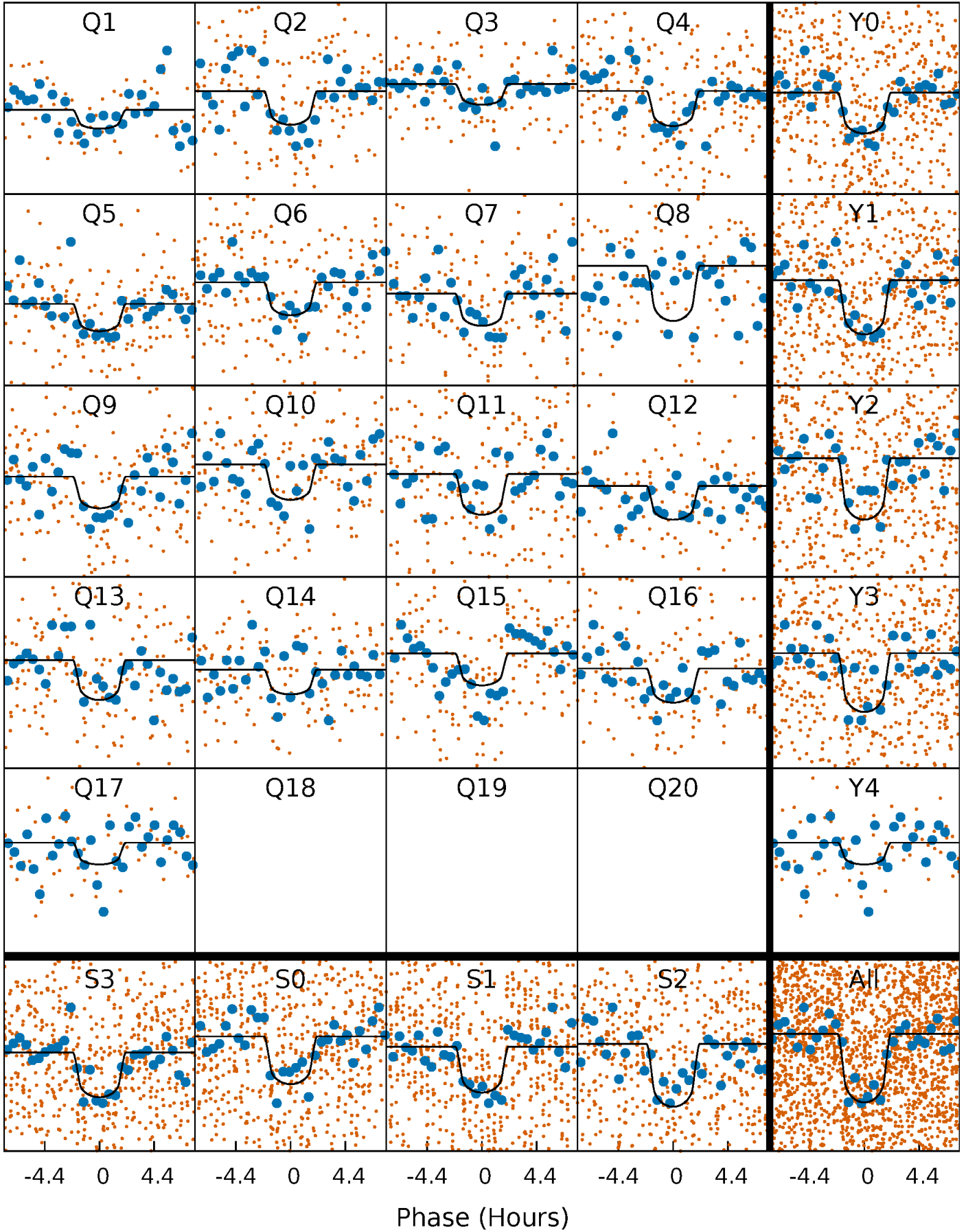
PDC Quarter-Phased Transit Curves

TCE 005480640-03 $P = 14.425262$ Days $T_0 = 136.754580$ (BKJD)



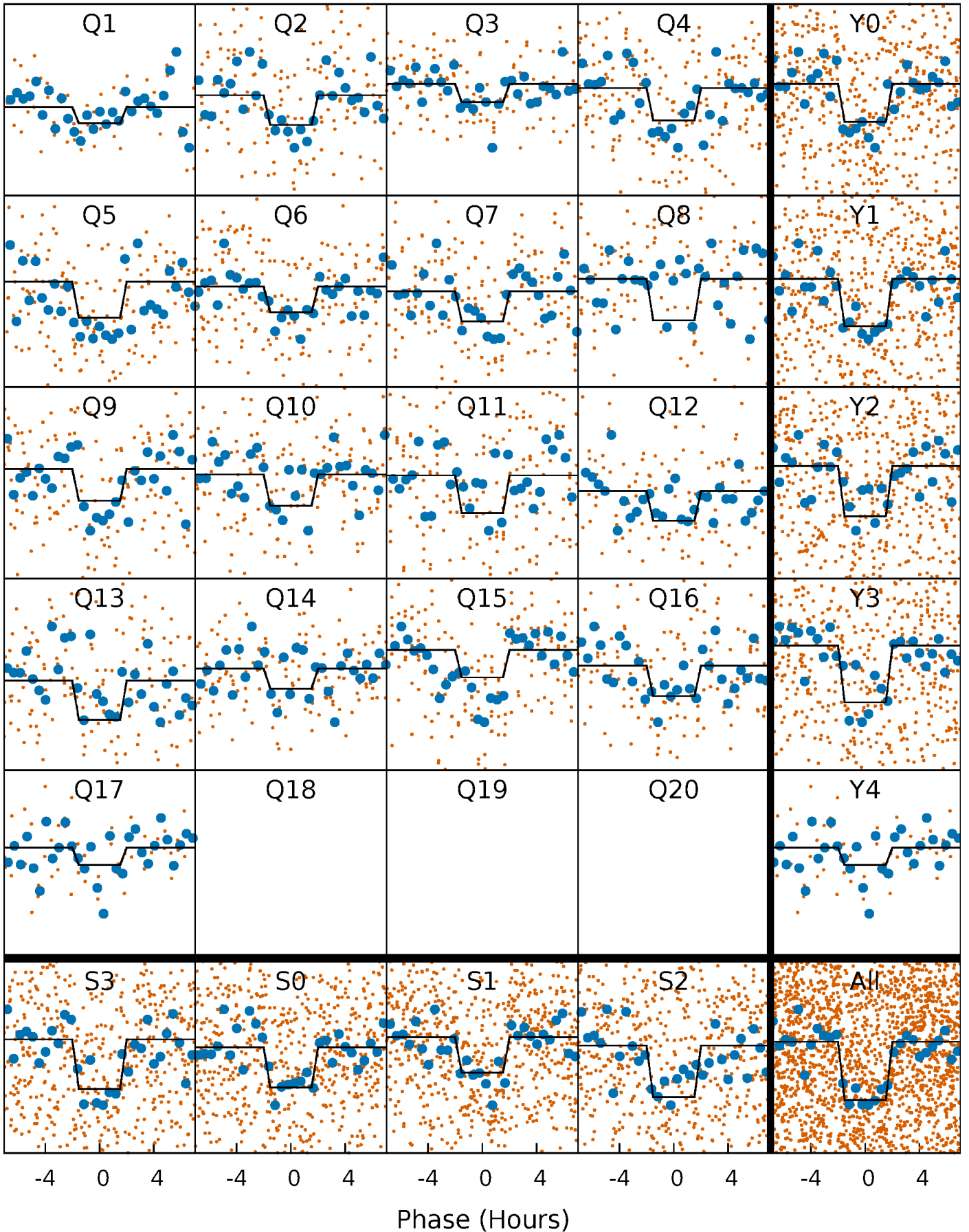
DV Quarter-Phased Transit Curves

TCE 005480640-03 P= 14.425262 Days $T_0=136.754580$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

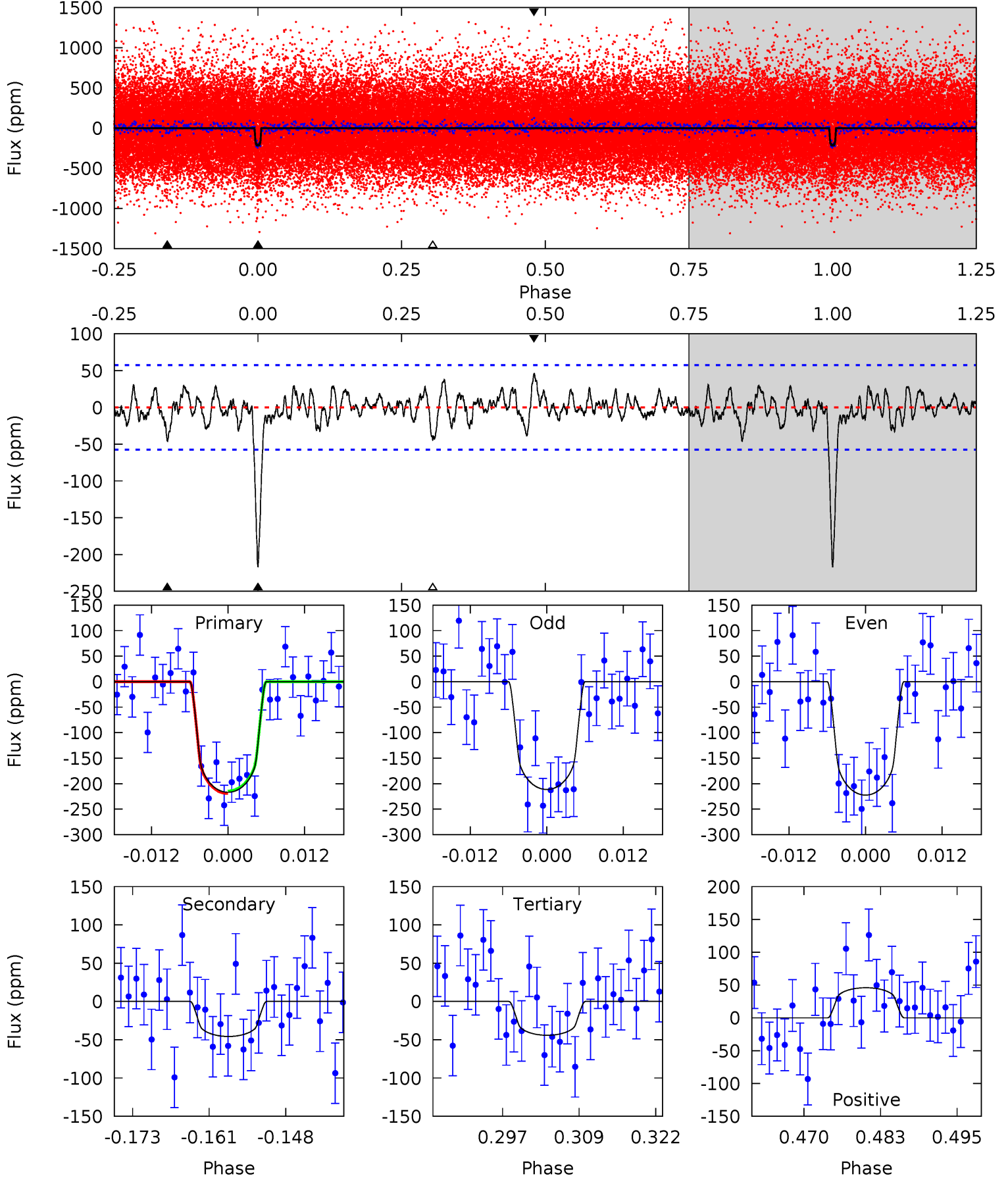
TCE 005480640-03 P= 14.425144 Days $T_0=136.760653$ (BKJD)



DV Model-Shift Uniqueness Test

005480640-03, P = 14.425262 Days, E = 122.329318 Days

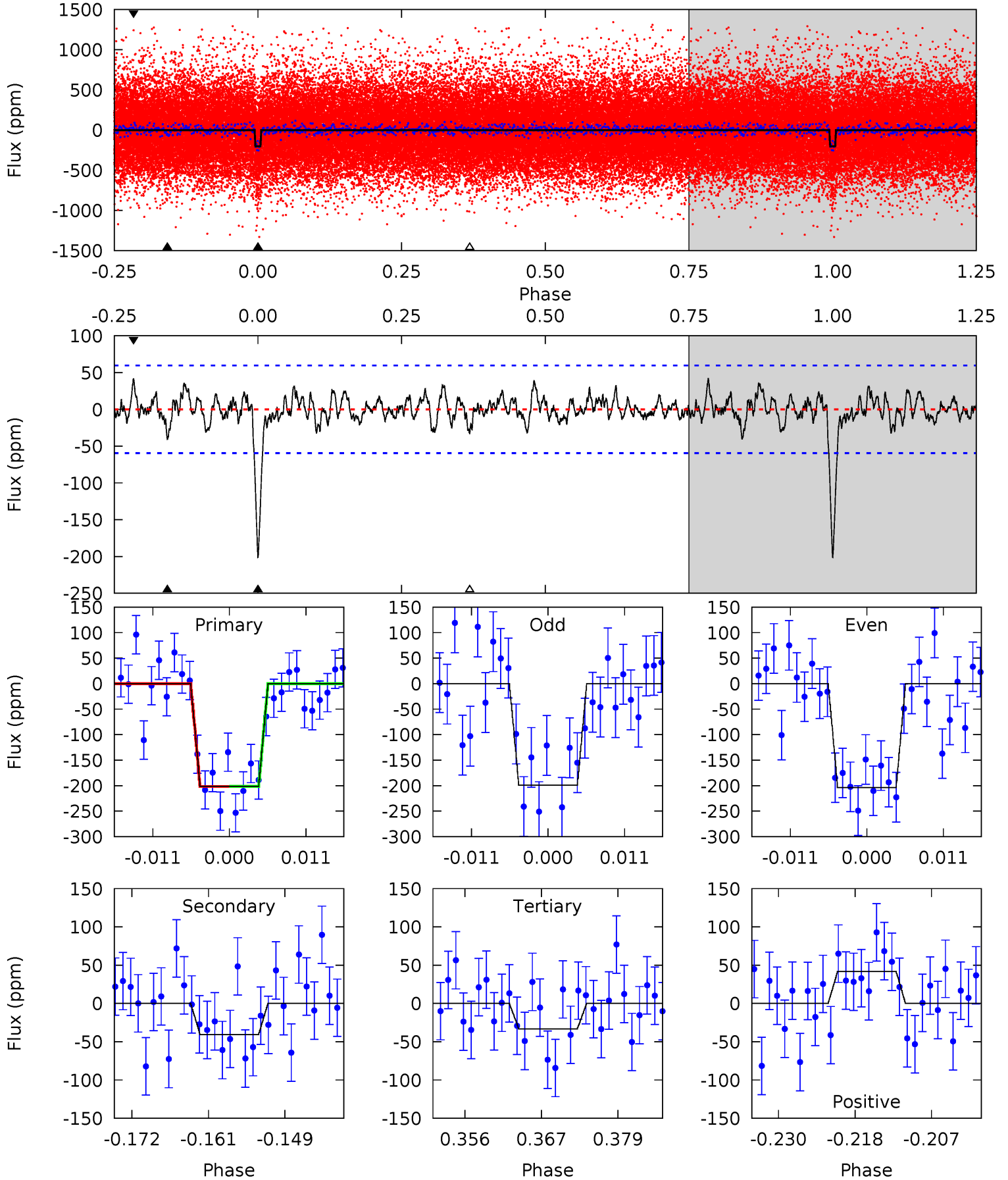
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	3.97	3.83	3.98	4.99	2.50	1.23	15.0	14.8	0.13	-0.02	0.48	0.93	0.17	0.20



Alt Model-Shift Uniqueness Test

005480640-03, P = 14.425144 Days, E = 122.335509 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.9	3.40	2.78	3.51	5.00	2.53	1.09	14.1	13.4	0.62	-0.11	0.19	0.96	0.17	0.01



Stellar Parameters For KIC 005480640

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5467^{+82}_{-73}	$4.271^{+0.180}_{-0.120}$	$0.140^{+0.150}_{-0.100}$	$1.152^{+0.180}_{-0.200}$	$0.902^{+0.065}_{-0.033}$	$0.831^{+0.684}_{-0.273}$
	+1%/-1%	+4%/-3%	+107%/-71%	+16%/-17%	+7%/-4%	+82%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 005480640-03 / KOI 2707.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-46 ± 12	$1.97^{+1.03}_{-0.97}$	1076^{+47}_{-58}	3881^{+1161}_{-505}	81^{+238}_{-47}
Alt.	-41 ± 12	$1.78^{+1.00}_{-1.02}$	1078^{+53}_{-53}	3979^{+1620}_{-611}	88^{+393}_{-55}

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

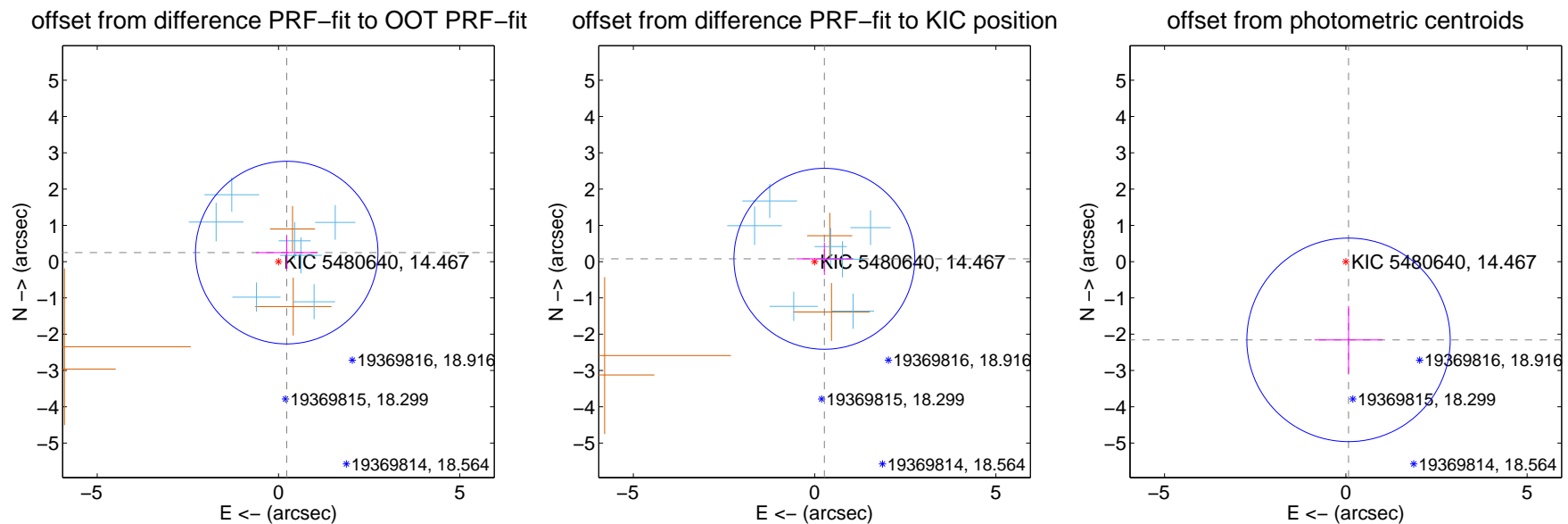
DV Centroid Data

Supplemental centroid analysis for 005480640-03. Kepler magnitude: 14.47. Transit SNR 13.86

There are 7 quarters with good PRF difference image offsets

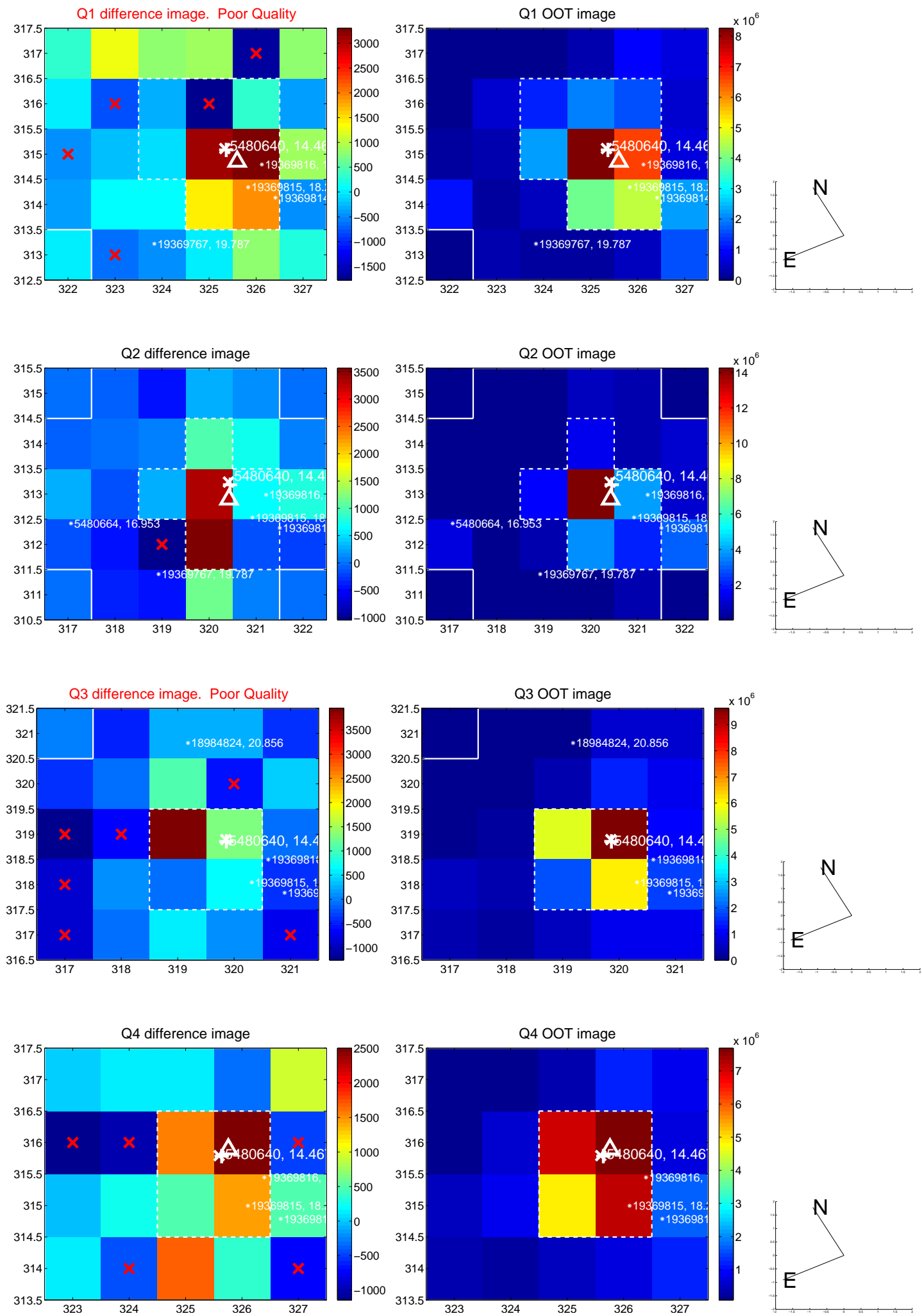
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.337 ± 0.839	0.40	-0.227 ± 0.847	0.250 ± 0.466
PRF-fit source offset from KIC position	0.280 ± 0.831	0.34	-0.269 ± 0.778	0.078 ± 0.445
photometric centroid source offset	2.16 ± 0.93	2.31	-0.07 ± 0.94	-2.16 ± 0.93

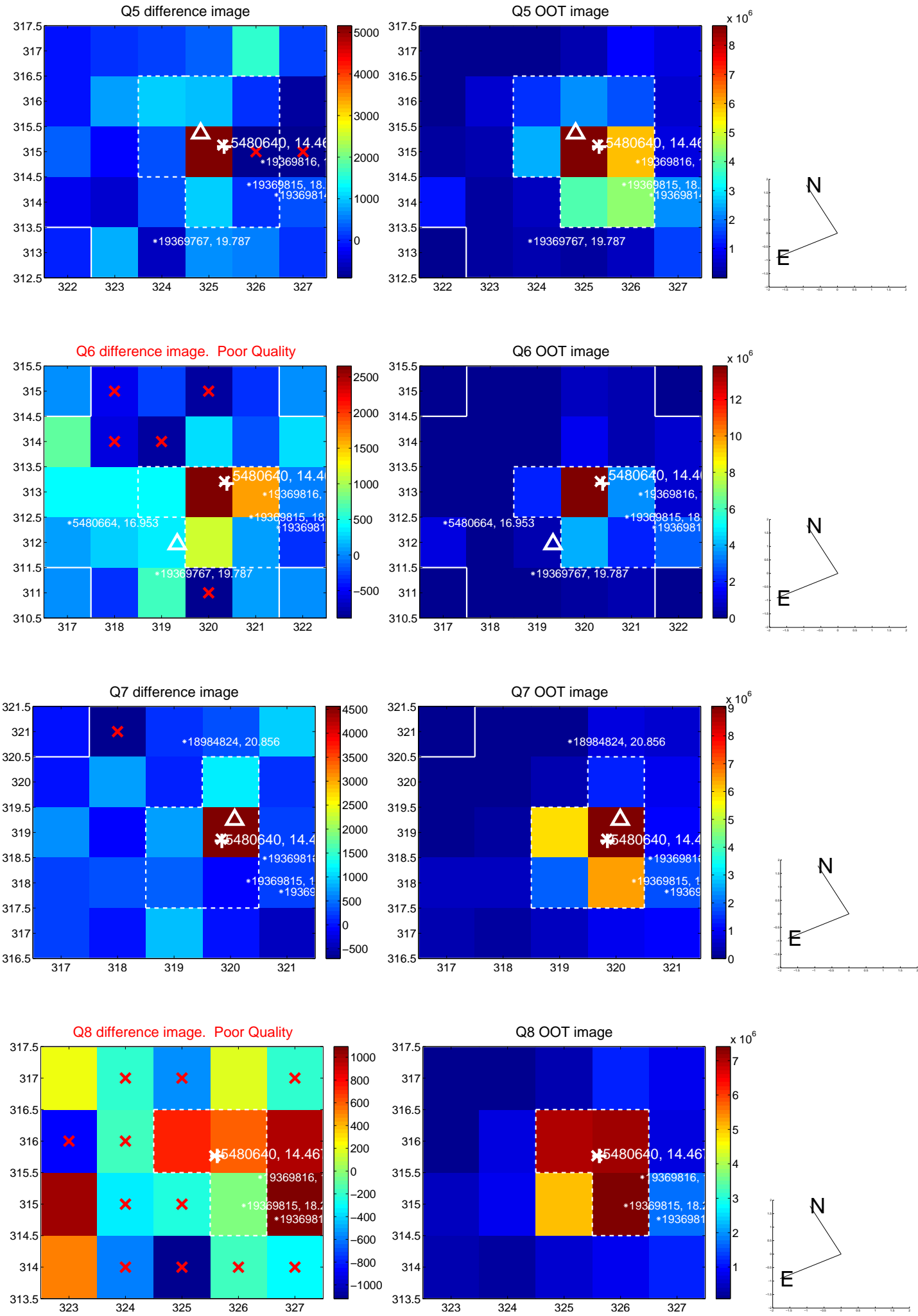


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

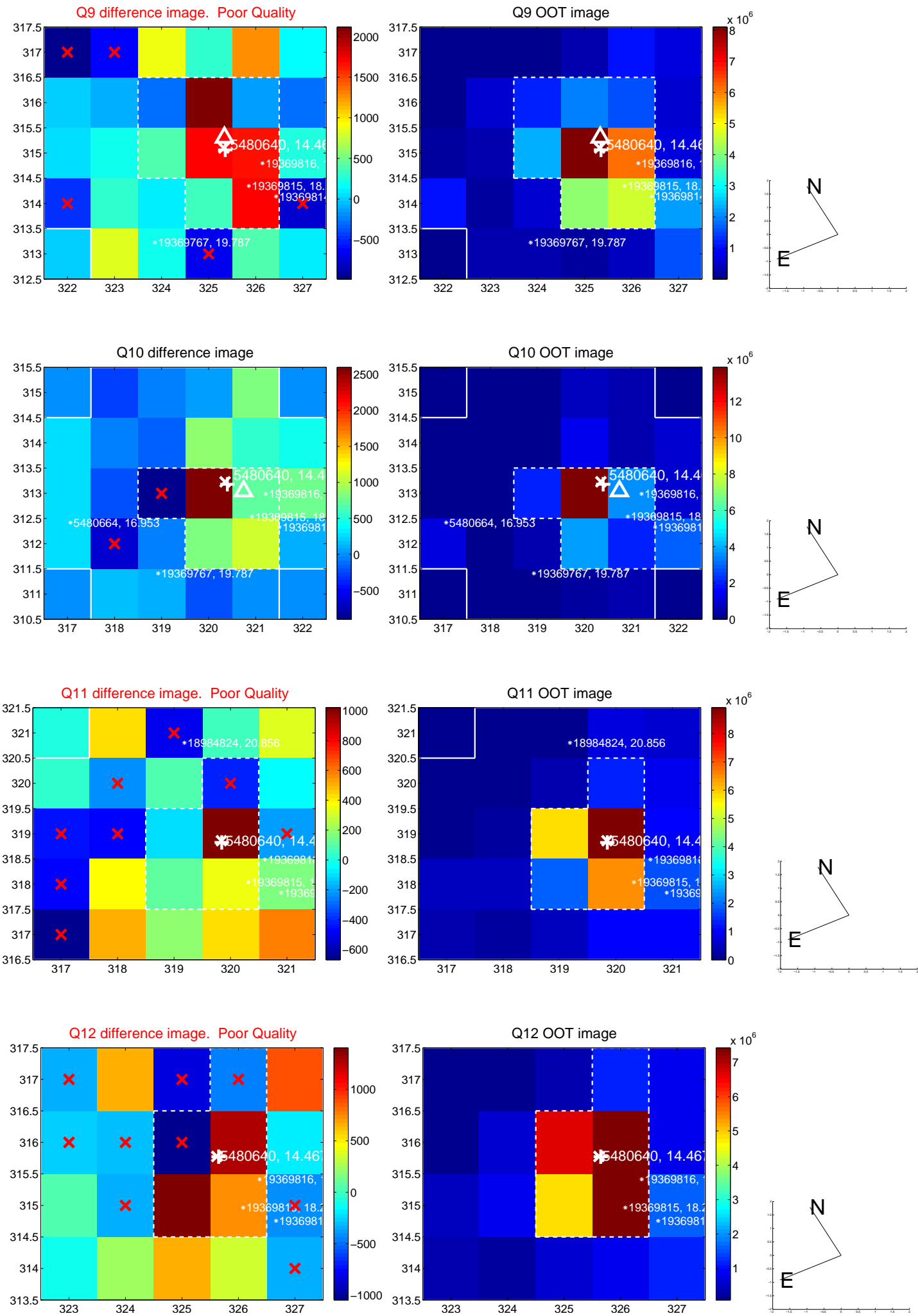
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



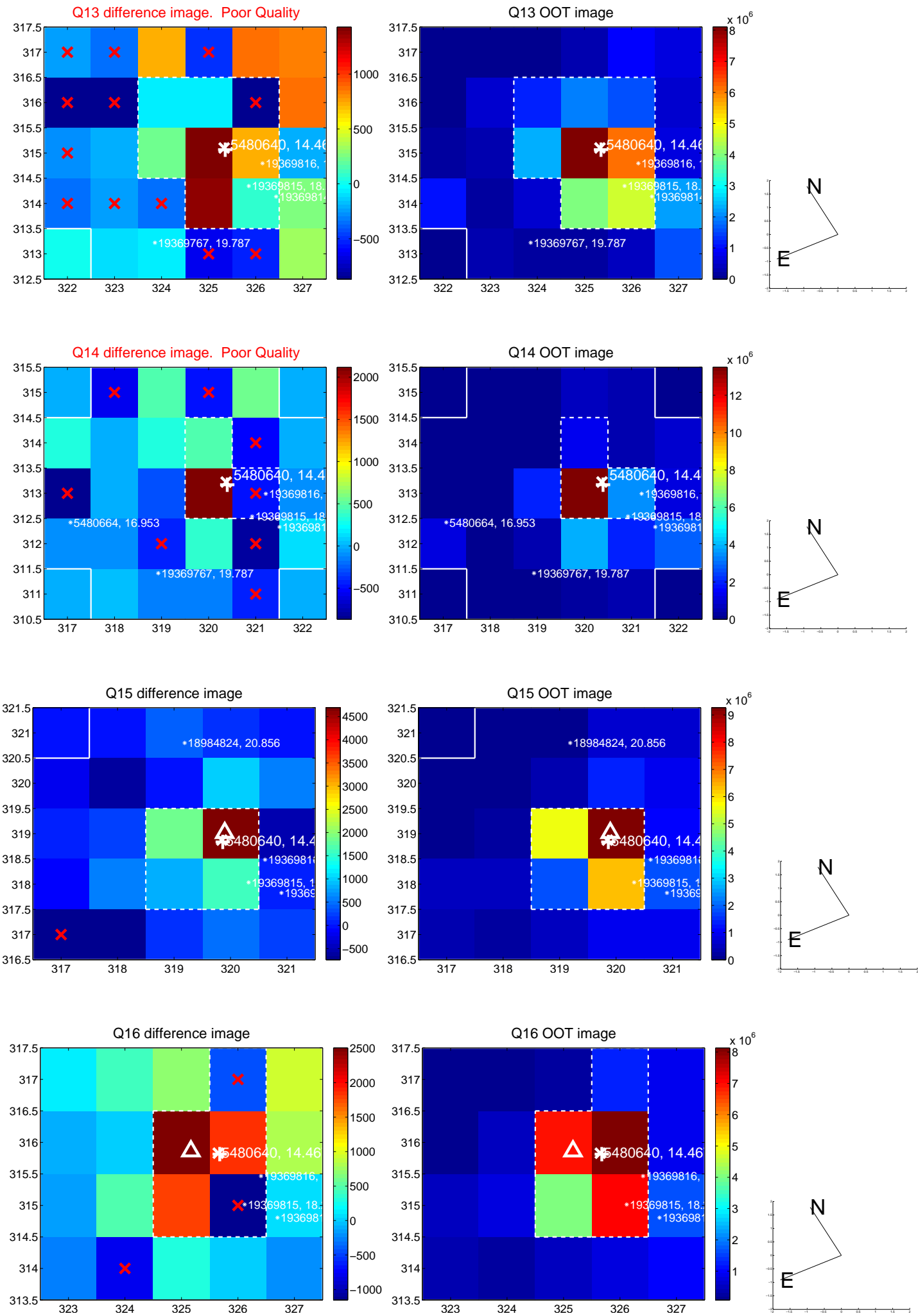
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



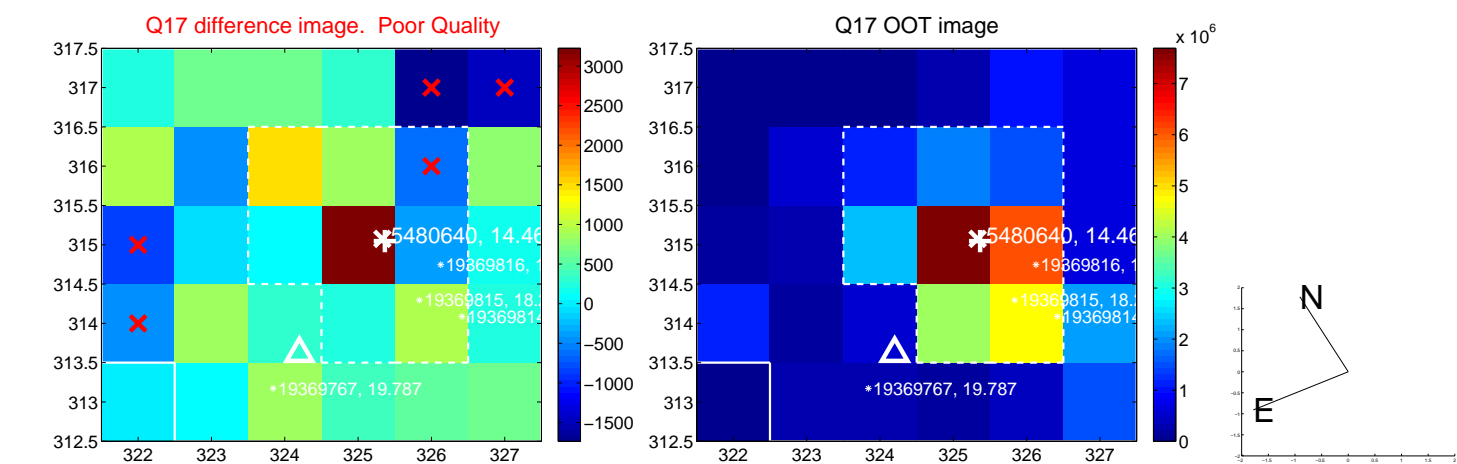
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



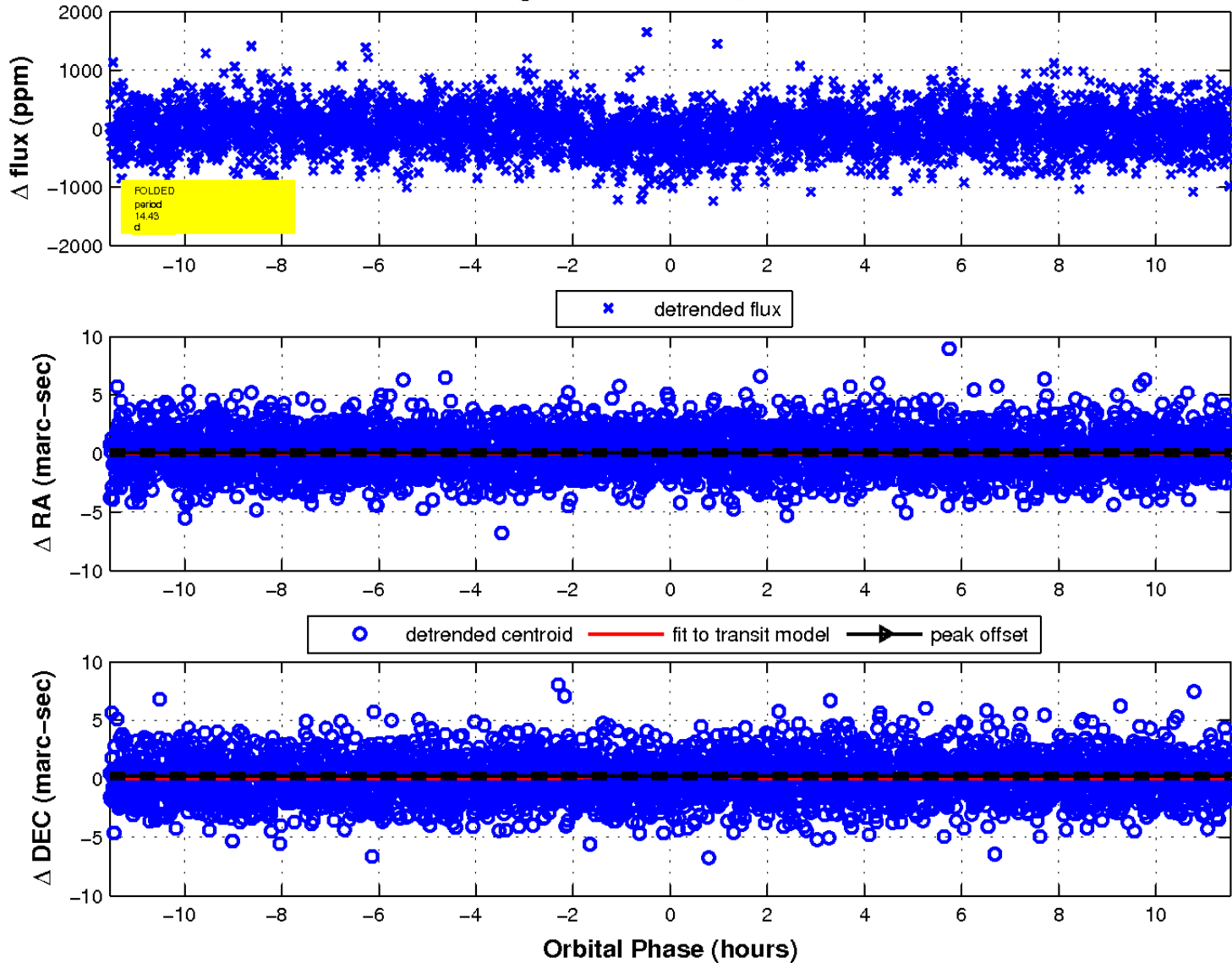
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

