

KIC 009480189

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})
009480189-01	OBS	0941.01	6.581466	135.299912	2291.4	3.256	104.4	104.5	0.97	5188	5.11	142.96
009480189-02	OBS	0941.03	24.664537	139.692772	2329.2	2.848	51.4	51.9	0.97	5188	5.26	24.56
009480189-03	OBS	0941.02	2.382639	132.547988	696.5	1.887	39.7	44.6	0.97	5188	2.86	554.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009480189-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
009480189-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
009480189-03	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.

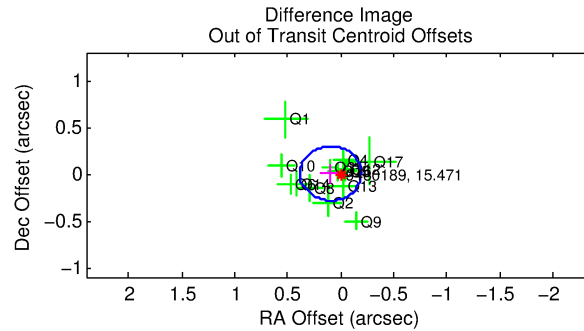
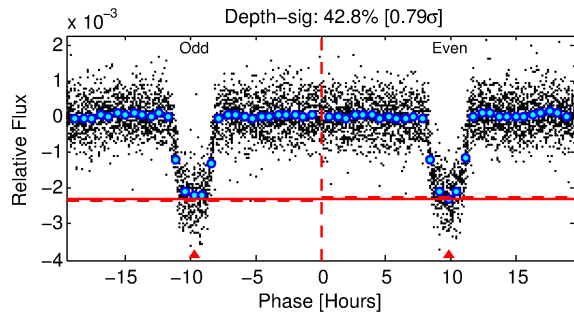
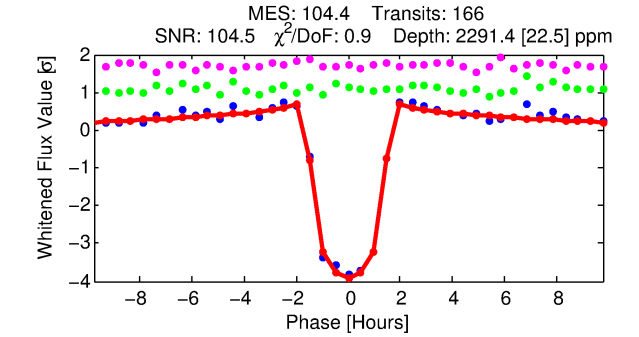
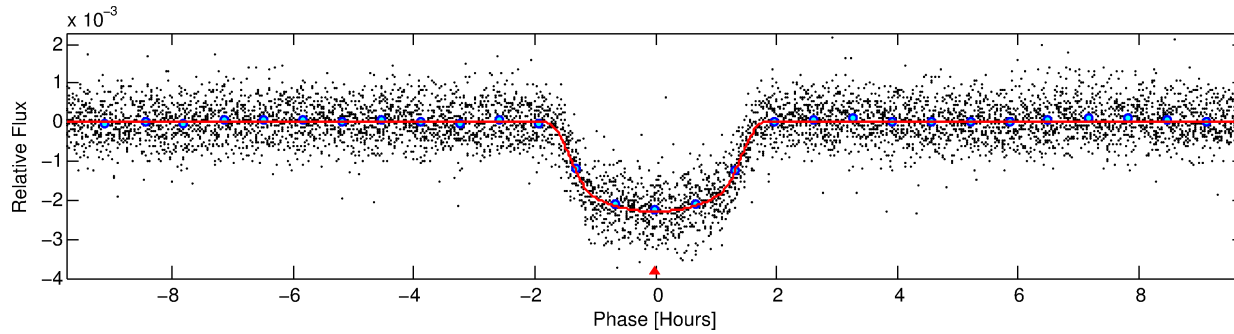
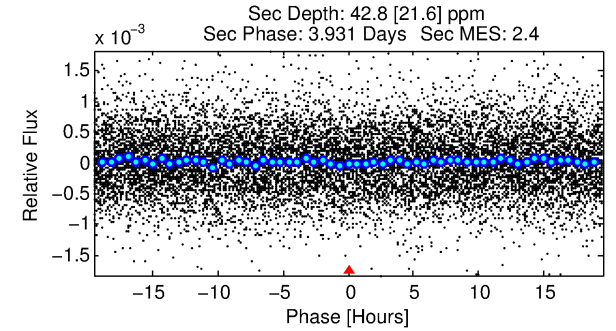
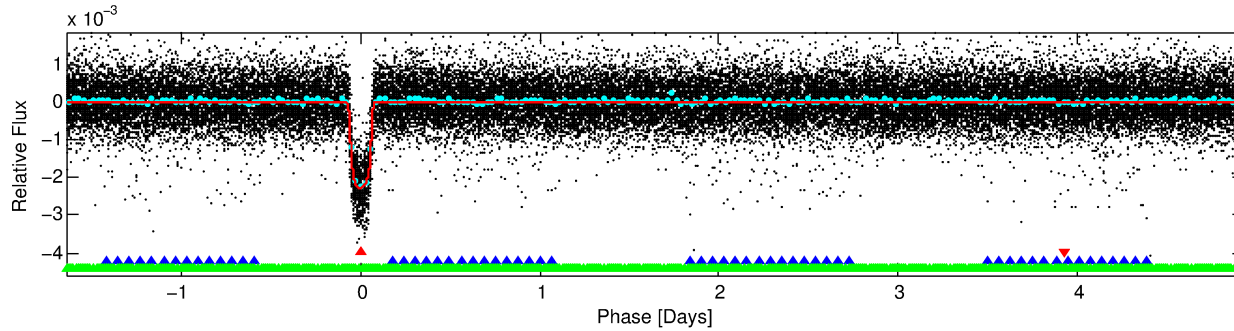
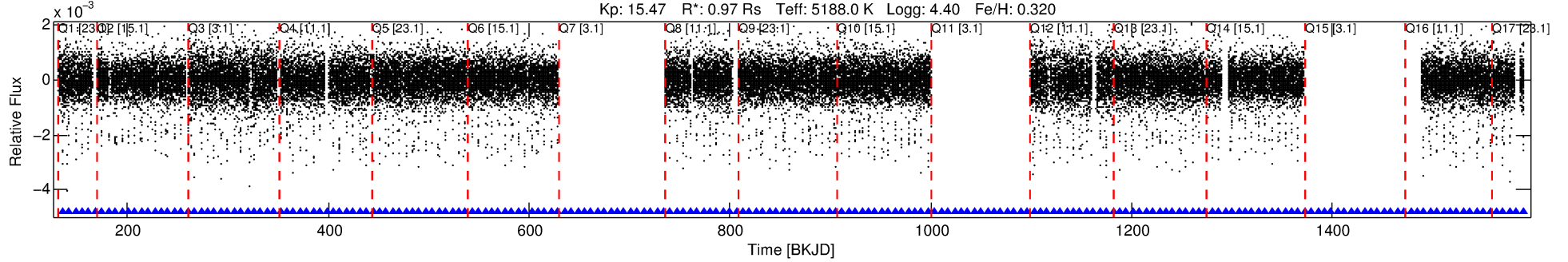
Ephemeris Match Information For 009480189-01

No Significant Match Found

DV One-Page Summary

KIC: 9480189 Candidate: 1 of 3 Period: 6.581 d
KOI: K00941.01 Name: Kepler-257c Corr: 0.980

Kp: 15.47 R*: 0.97 Rs Teff: 5188.0 K Logg: 4.40 Fe/H: 0.320



DV Fit Results:

Period = 6.58147 [0.00000] d
Epoch = 135.2999 [0.0005] BKJD
Rp/R* = 0.0481 [0.0024]
a/R* = 11.15 [1.96]
b = 0.76 [0.10]
Seff = 142.96 [68.37]
Teq = 882 [105] K
Rp = 5.11 [1.77] Re
a = 0.0656 [0.0199] AU
Ag = 3.87 [2.67] [1.08σ]
Teffp = 1913 [254] K [3.75σ]

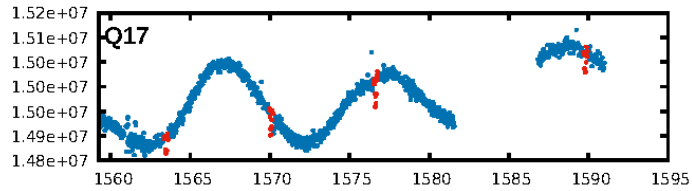
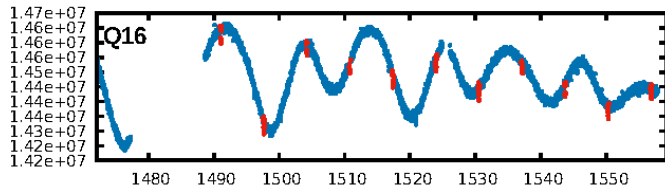
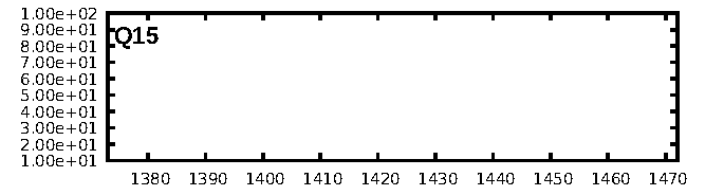
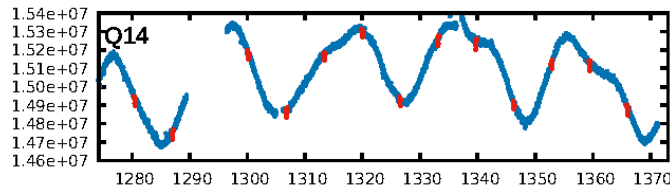
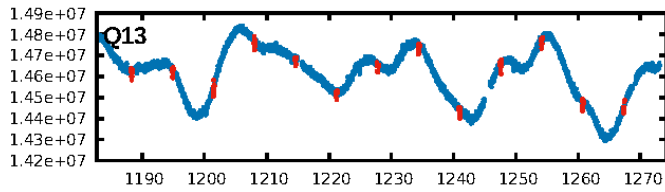
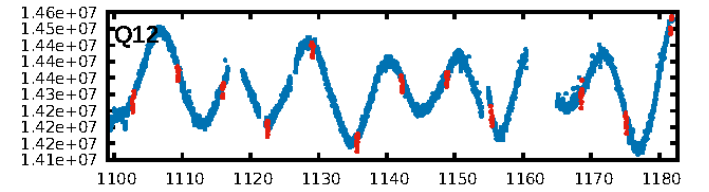
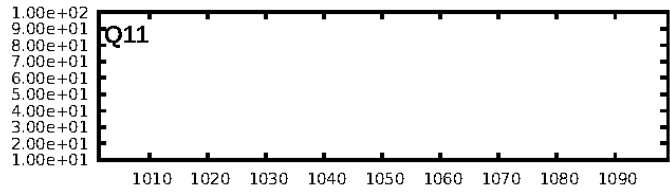
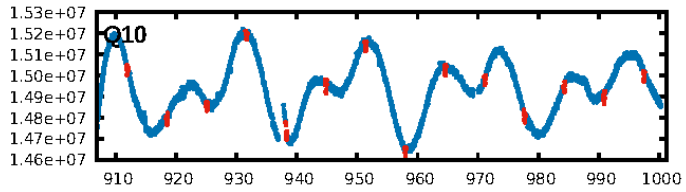
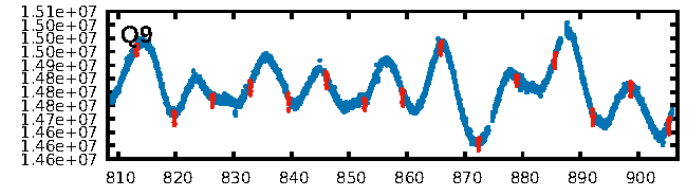
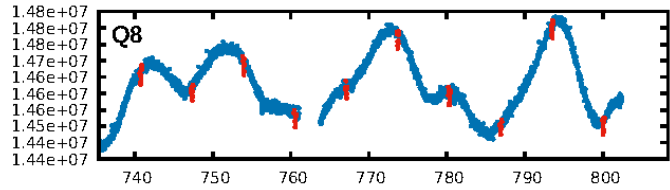
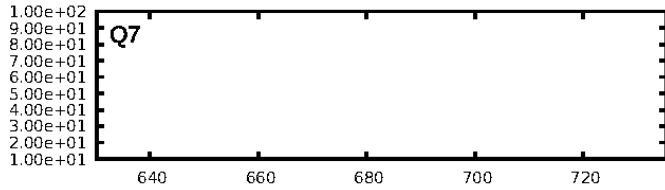
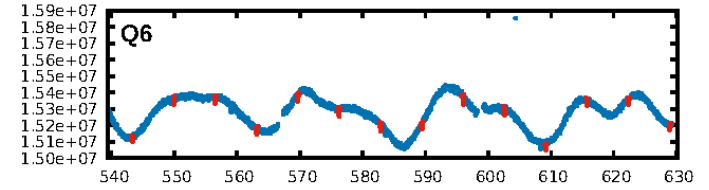
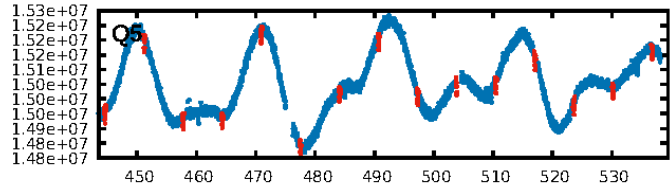
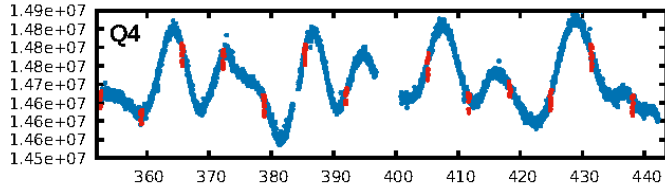
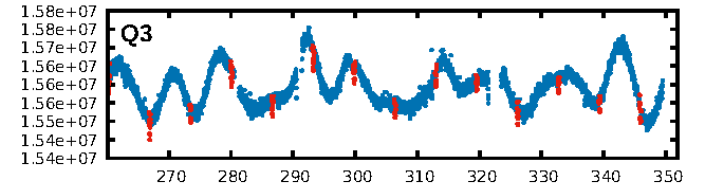
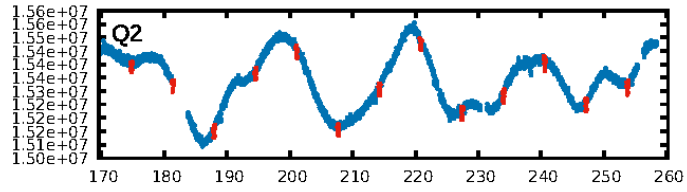
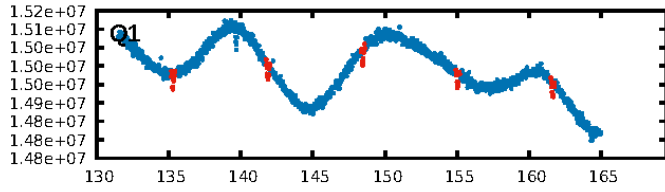
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [26.78σ]
LongPeriod-sig: 100.0% [100.34σ]
ModelChiSquare2-sig: 96.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [157/157]
GhostDiagnostic-chr: 3.926
Centroid-sig: 52.9%
Centroid-so: 0.145 arcsec [1.33σ]
OotOffset-rm: 0.095 arcsec [0.99σ]
KicOffset-rm: 0.110 arcsec [1.16σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

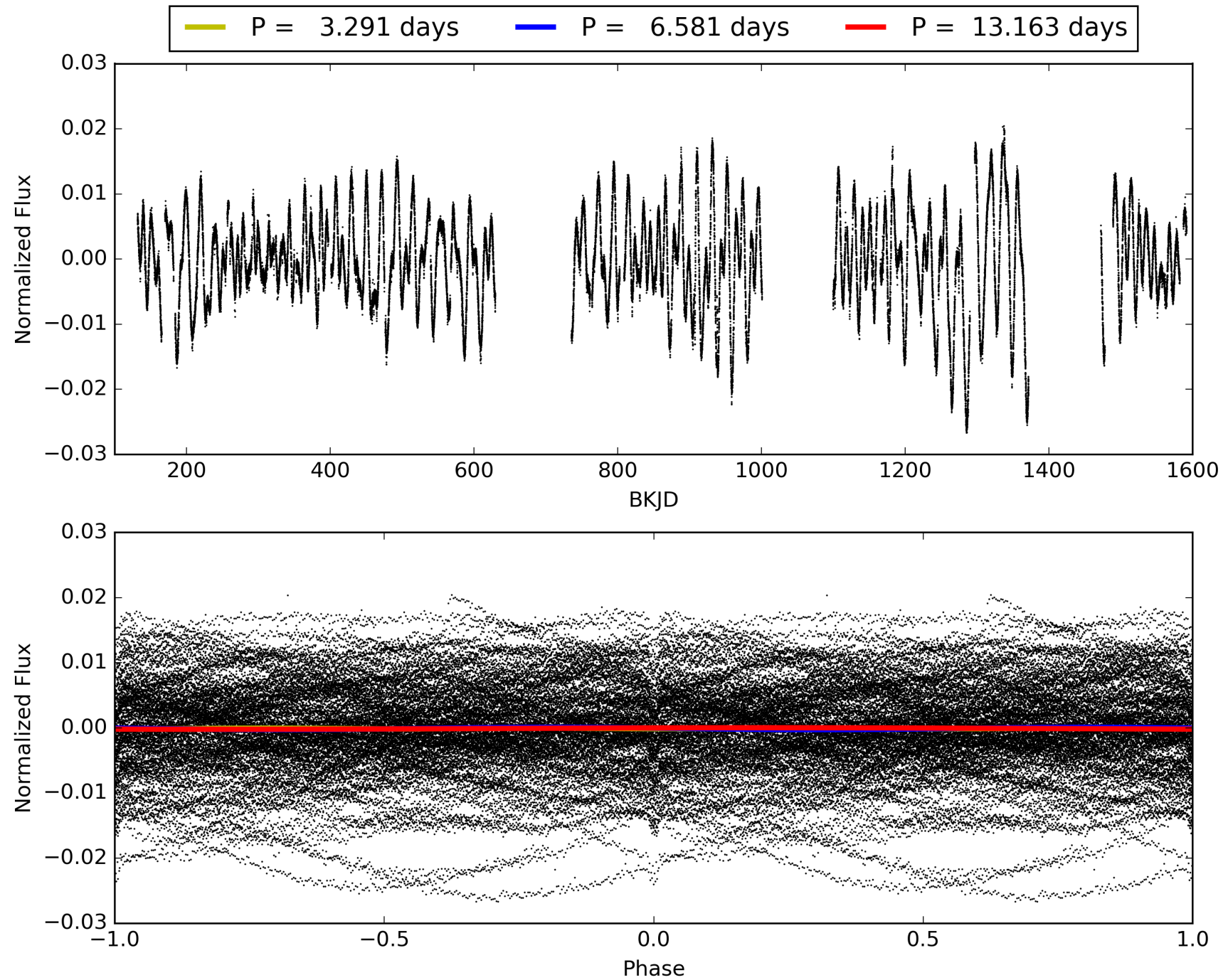
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:21:43 Z

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

TCE 009480189-01, PDC Light Curves

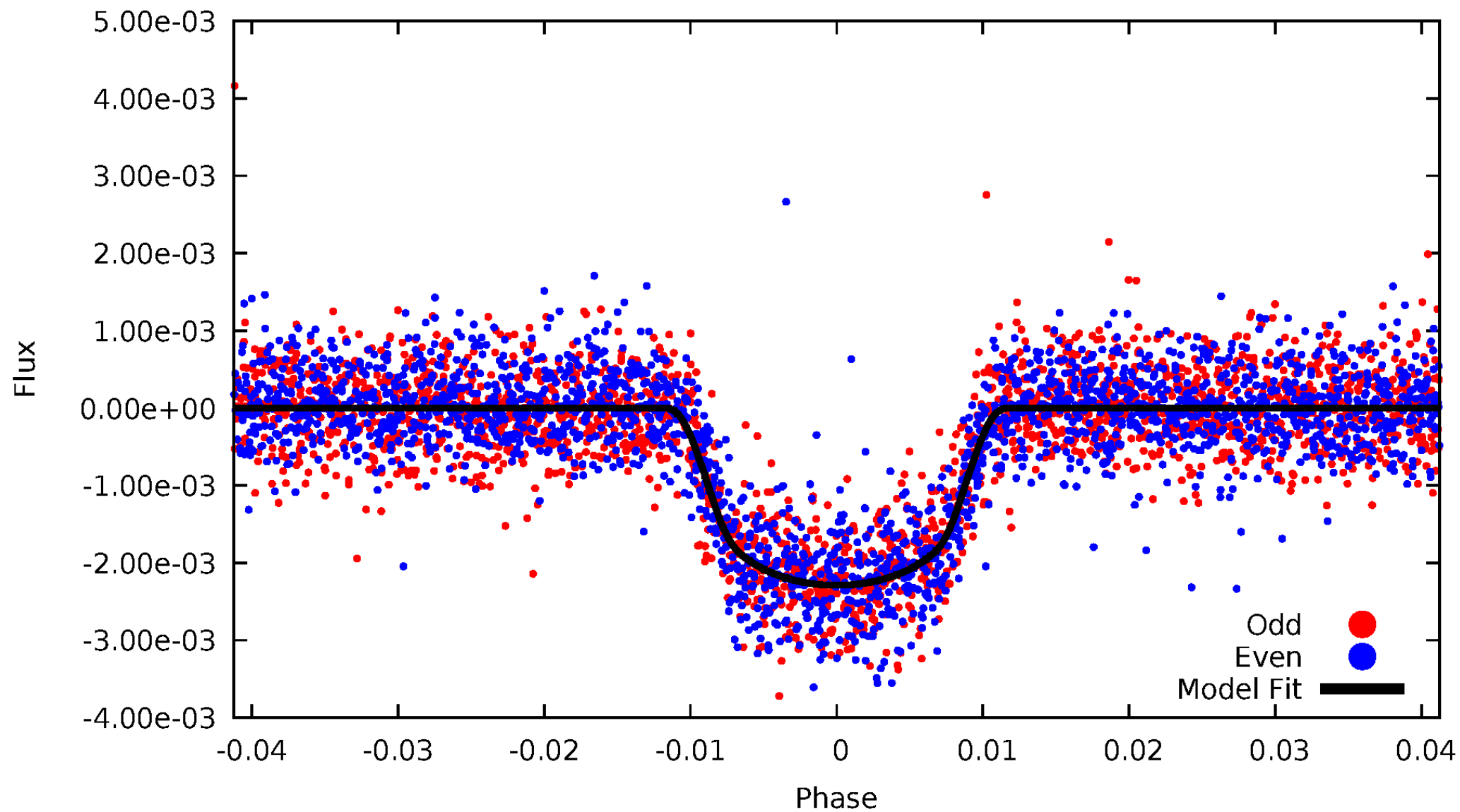


TCE 009480189-01



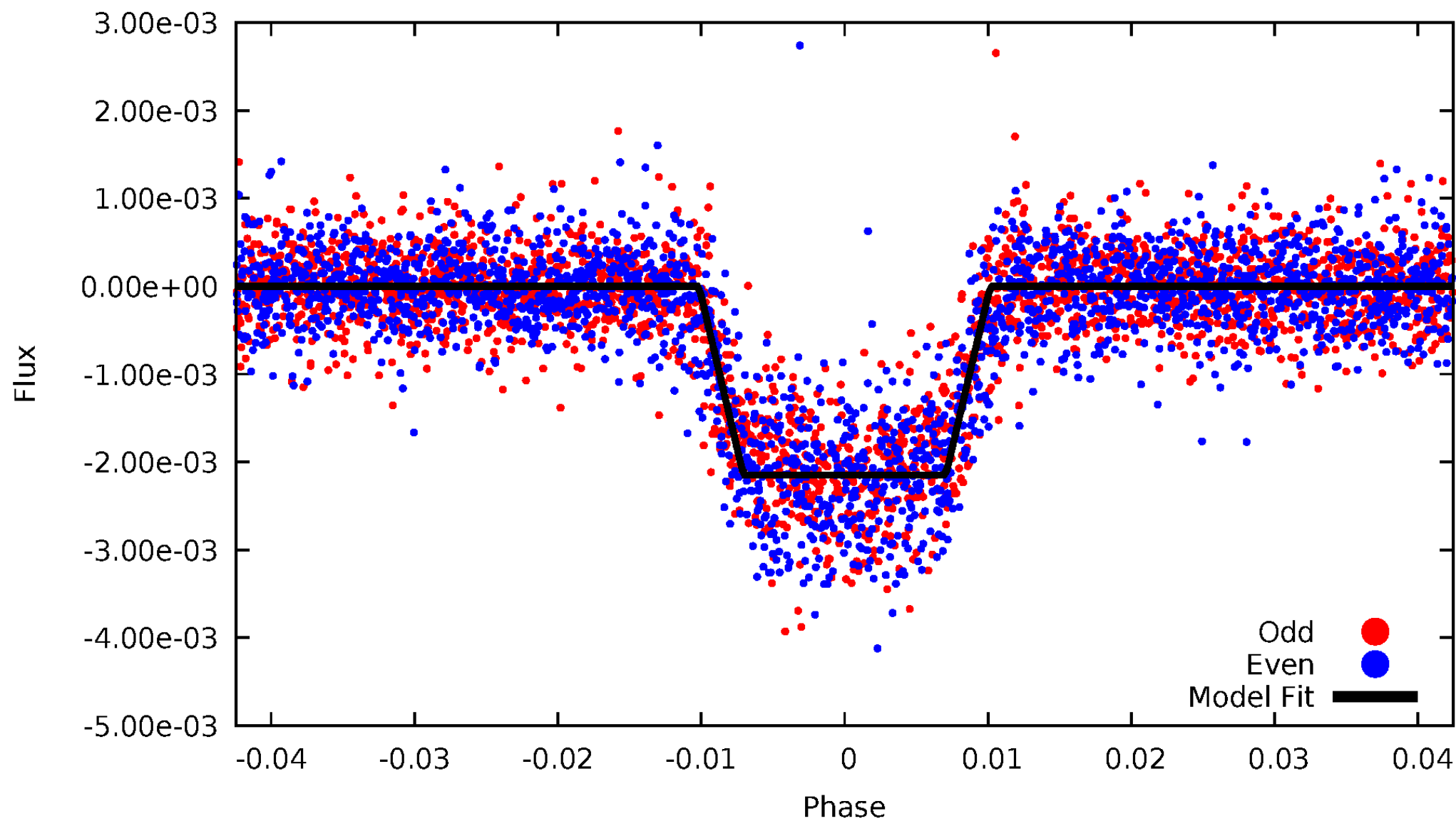
DV Odd/Even

TCE 009480189-01



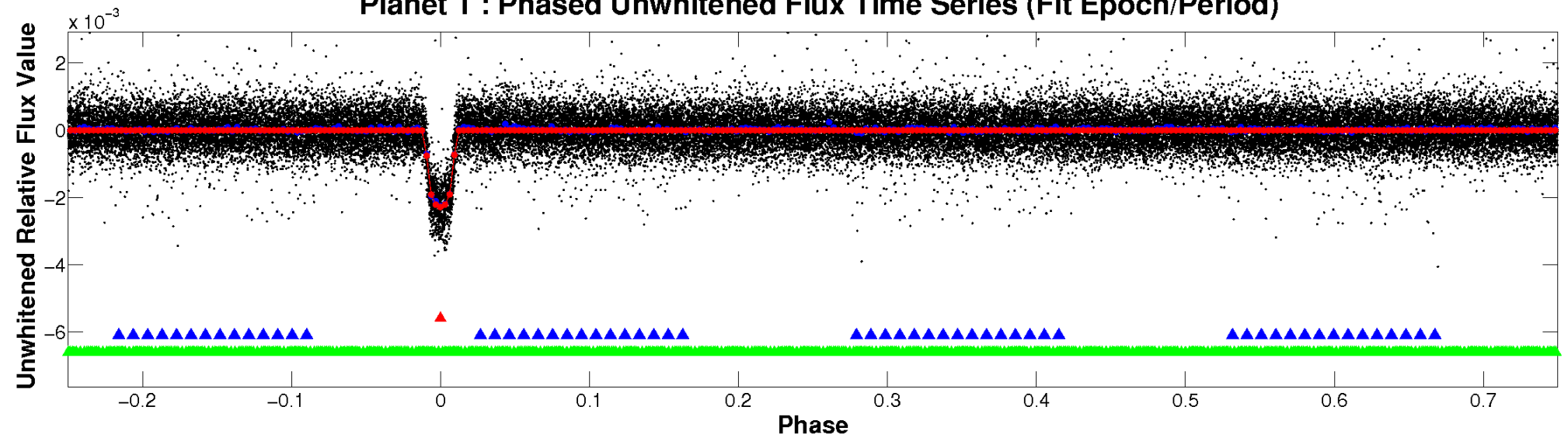
ALT Odd/Even

TCE 009480189-01

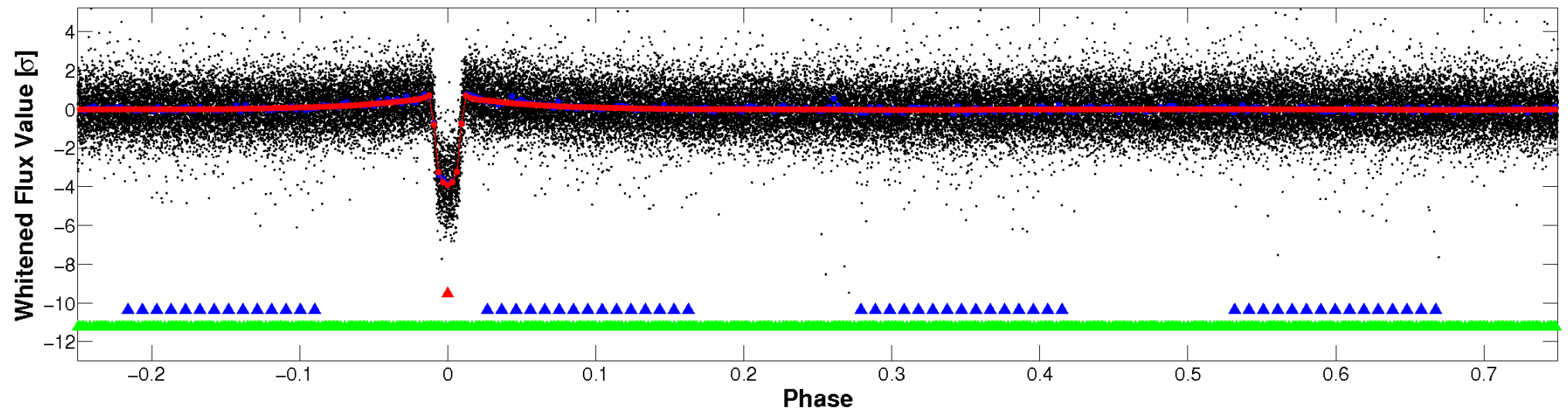


Non-Whitened Vs. Whitened Light Curve

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

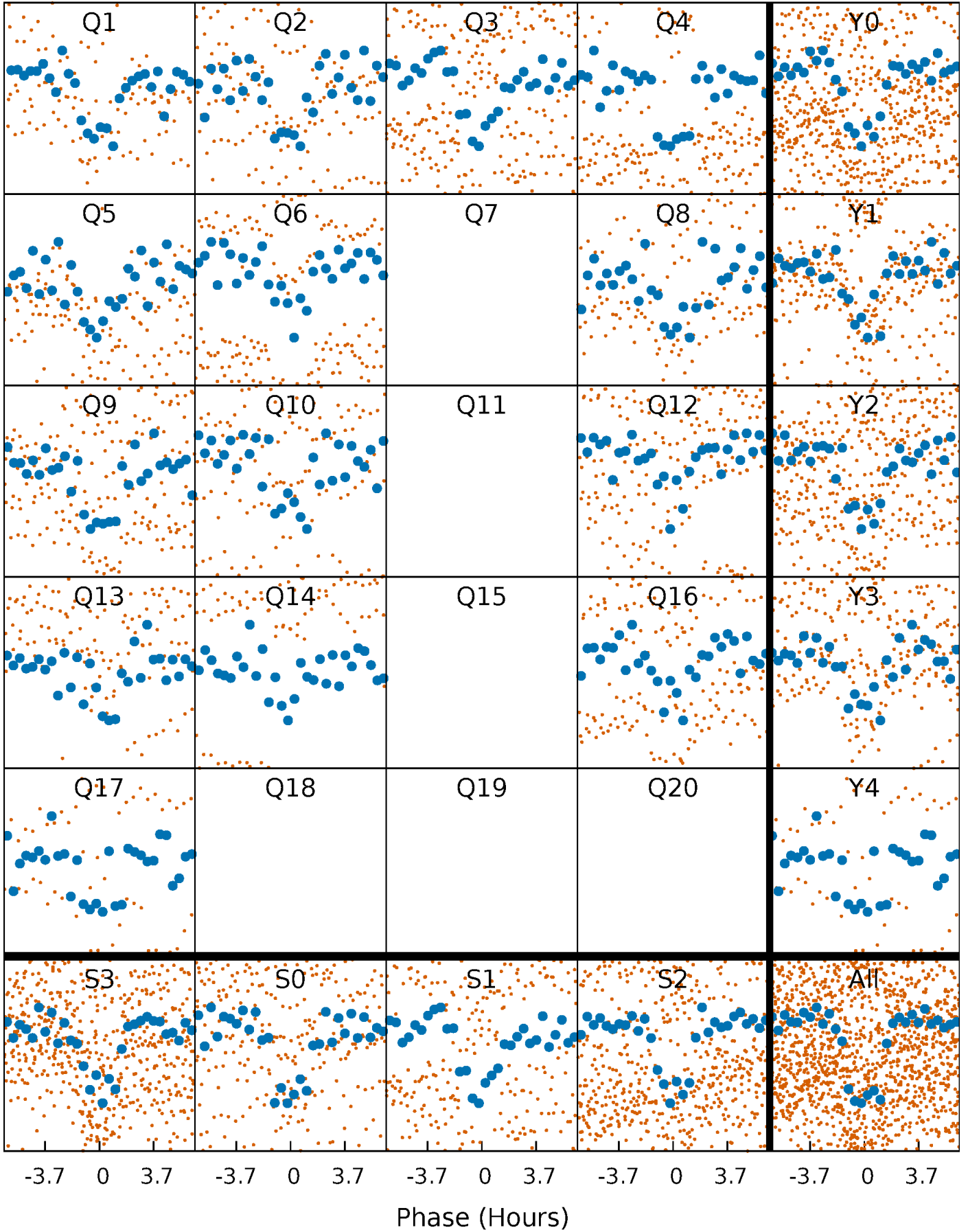


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



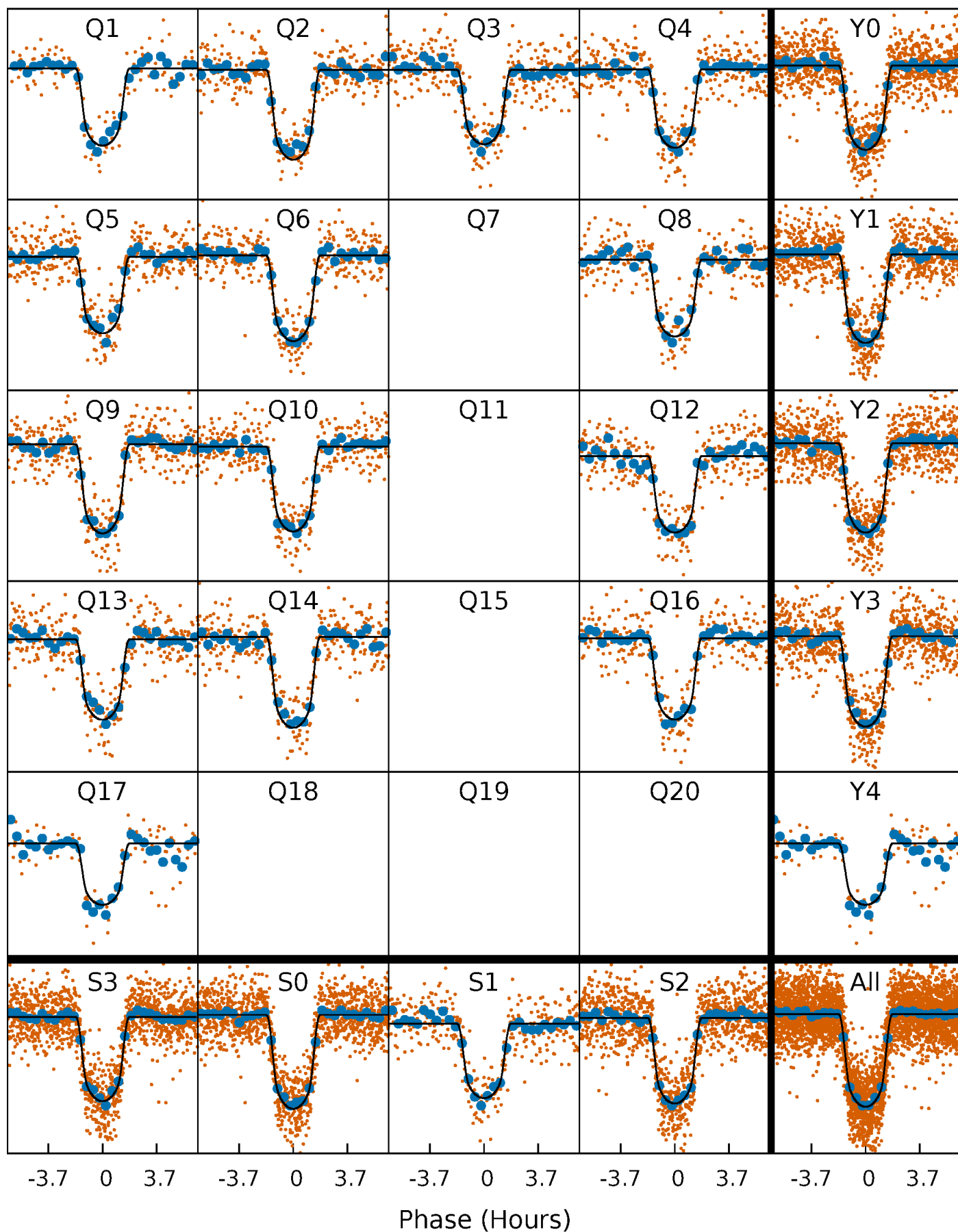
PDC Quarter-Phased Transit Curves

TCE 009480189-01 P= 6.581466 Days $T_0=135.299912$ (BKJD)



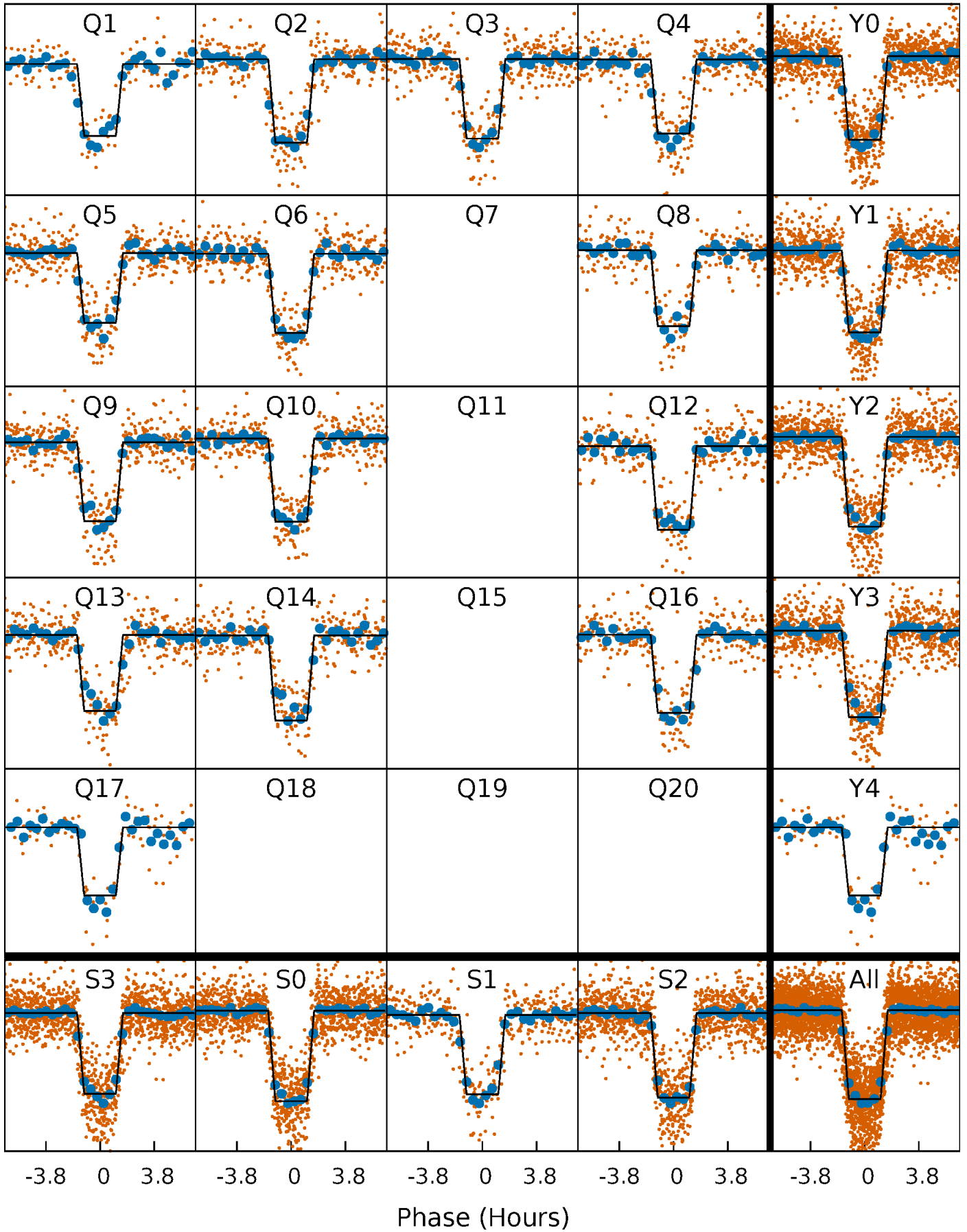
DV Quarter-Phased Transit Curves

TCE 009480189-01 P= 6.581466 Days $T_0=135.299912$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

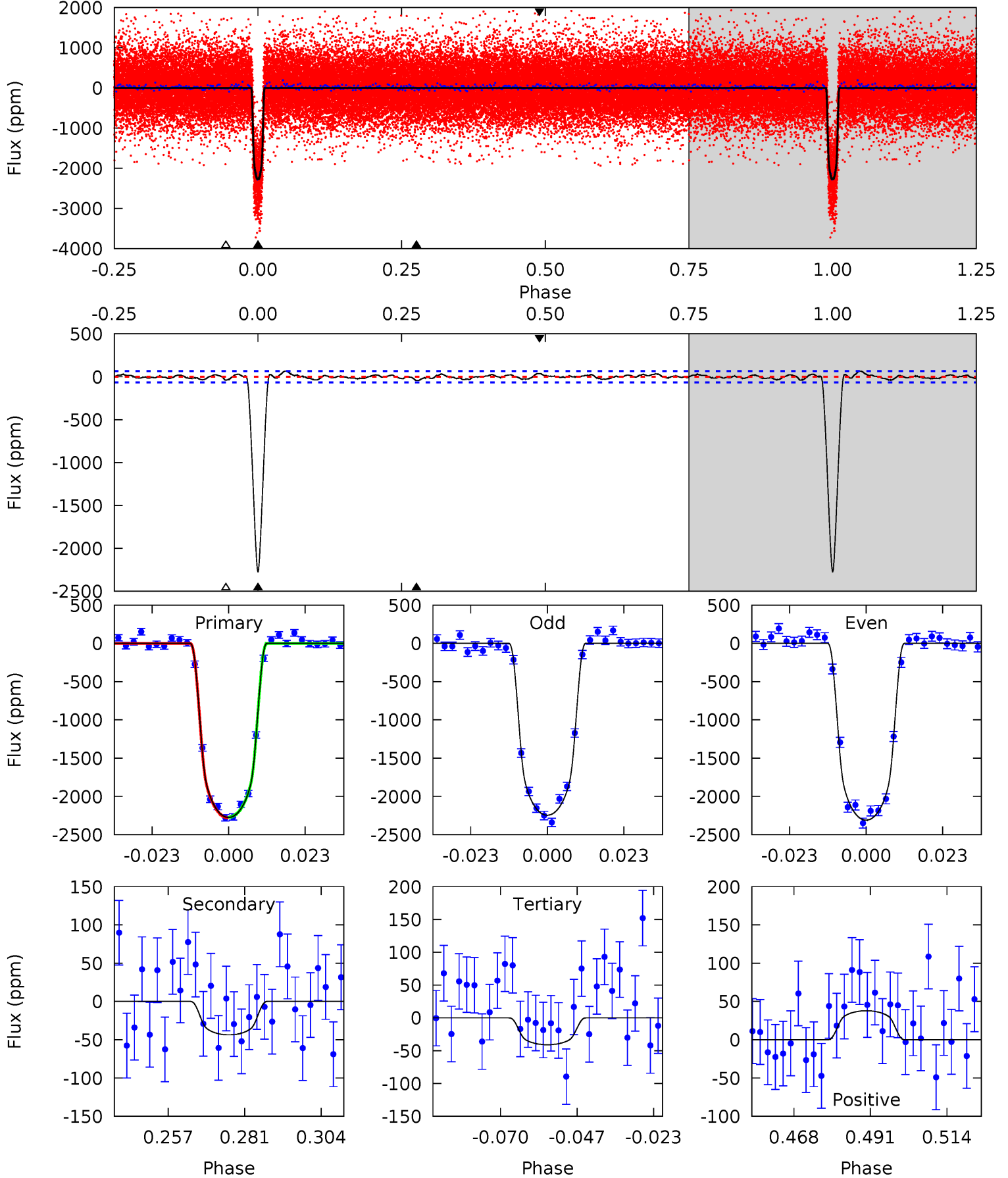
TCE 009480189-01 P= 6.581428 Days $T_0=135.303947$ (BKJD)



DV Model-Shift Uniqueness Test

009480189-01, P = 6.581466 Days, E = 128.718446 Days

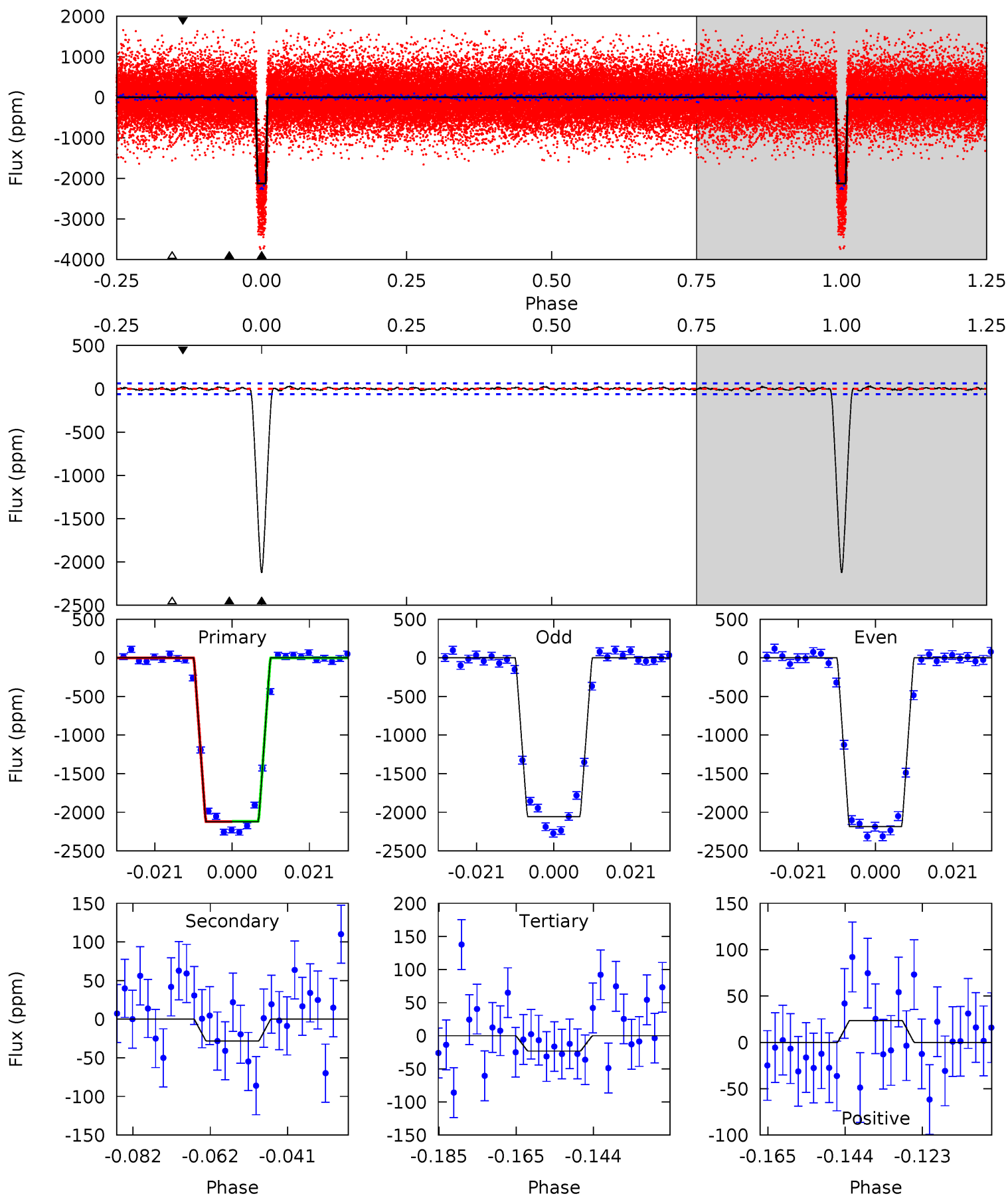
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
165.2	3.17	2.97	2.75	4.86	2.27	1.30	162.2	162.4	0.20	0.42	2.35	1.00	0.03	0.30



Alt Model-Shift Uniqueness Test

009480189-01, P = 6.581428 Days, E = 128.722519 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
167.4	2.22	1.82	1.86	4.89	2.32	0.73	165.6	165.5	0.40	0.36	5.10	1.01	0.01	0.09



Stellar Parameters For KIC 009480189

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5188^{+171}_{-155}	$4.400^{+0.140}_{-0.260}$	$0.320^{+0.150}_{-0.250}$	$0.973^{+0.333}_{-0.154}$	$0.868^{+0.073}_{-0.060}$	$1.326^{+0.838}_{-0.782}$
	+3%/-3%	+3%/-6%	+47%/-78%	+34%/-16%	+8%/-7%	+63%/-59%
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 009480189-01 / KOI 0941.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-44 ± 14	$5.23^{+1.03}_{-0.59}$	1253^{+113}_{-82}	2655^{+116}_{-151}	$3.553^{+1.718}_{-1.391}$
Alt.	-28 ± 13	$5.01^{+0.92}_{-0.55}$	1245^{+109}_{-82}	2539^{+142}_{-212}	$2.609^{+1.573}_{-1.300}$

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 $A_{obs} \gg 1.0$

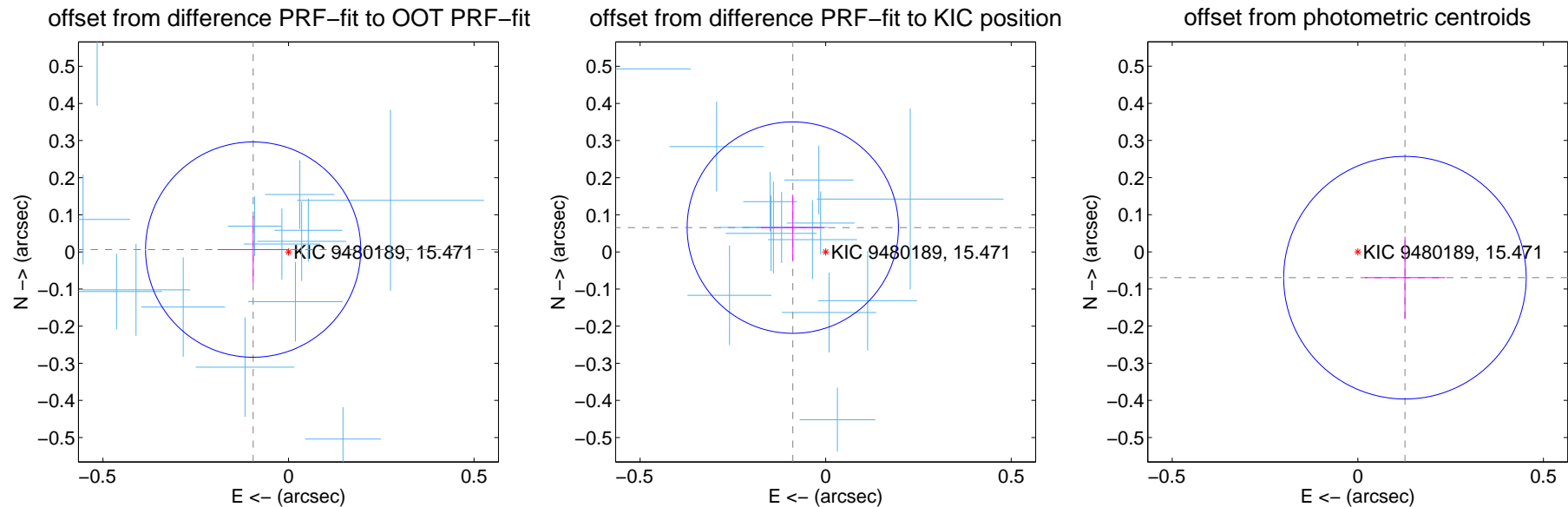
DV Centroid Data

Supplemental centroid analysis for 009480189-01. Kepler magnitude: 15.47. Transit SNR 104.46

There are 14 quarters with good PRF difference image offsets

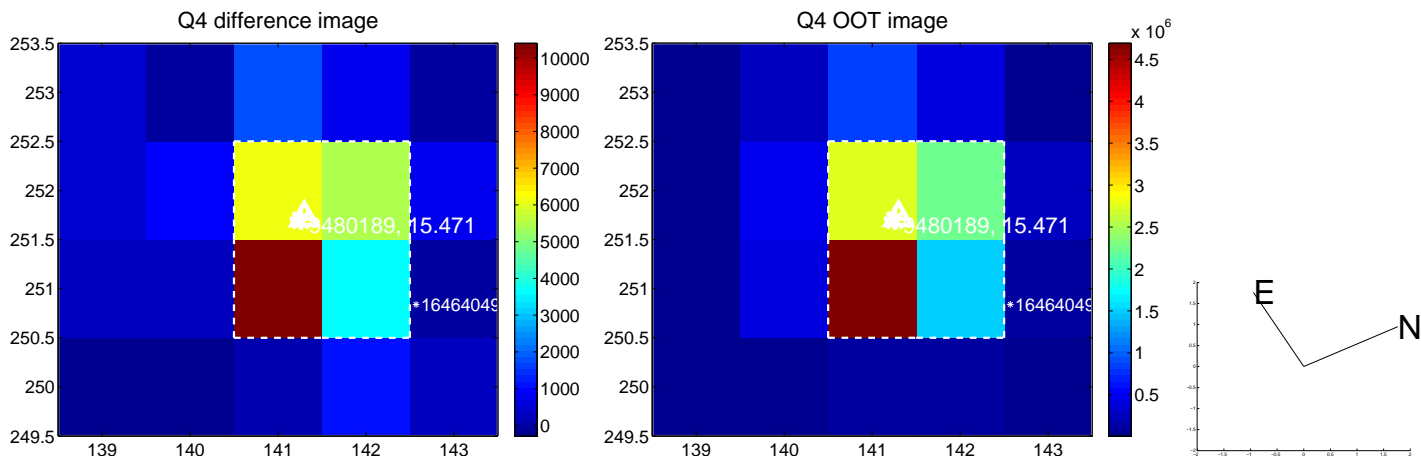
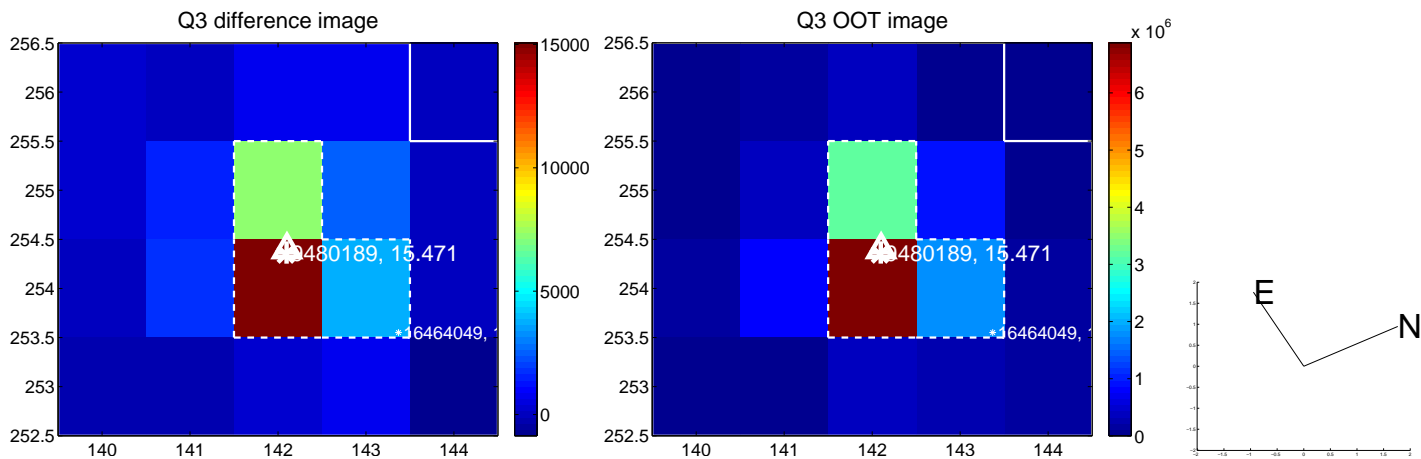
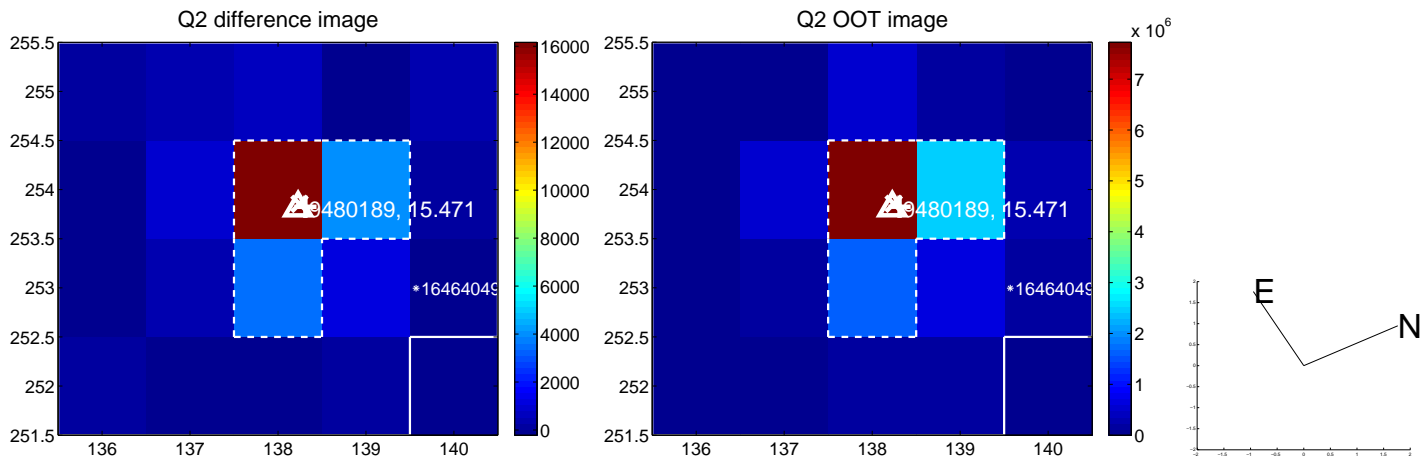
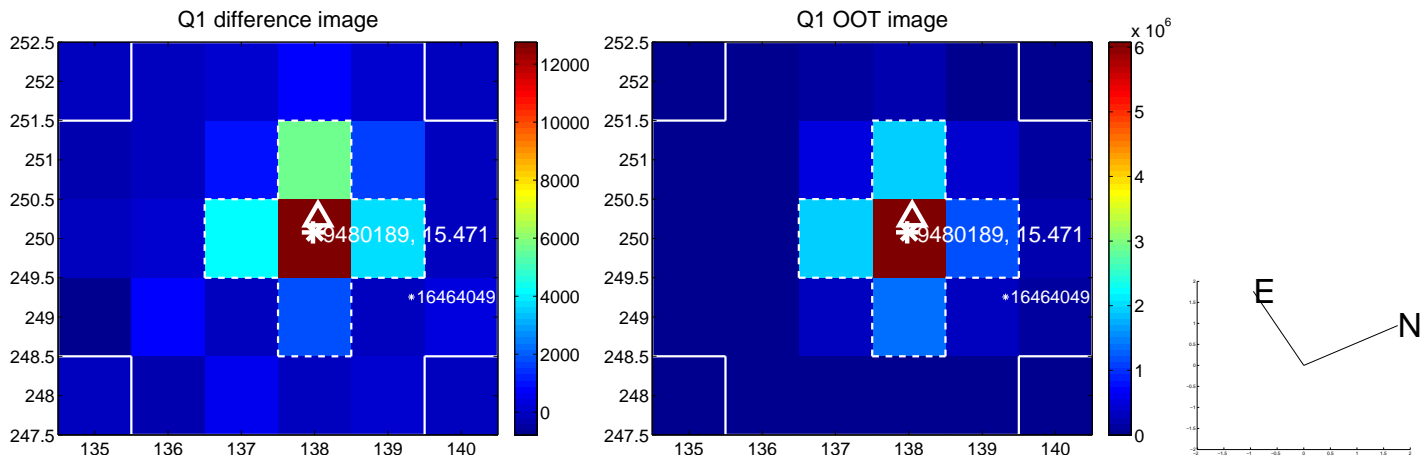
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.095 ± 0.097	0.99	0.095 ± 0.096	0.006 ± 0.090
PRF-fit source offset from KIC position	0.110 ± 0.095	1.16	0.089 ± 0.085	0.065 ± 0.089
photometric centroid source offset	0.14 ± 0.11	1.33	-0.13 ± 0.11	-0.07 ± 0.11

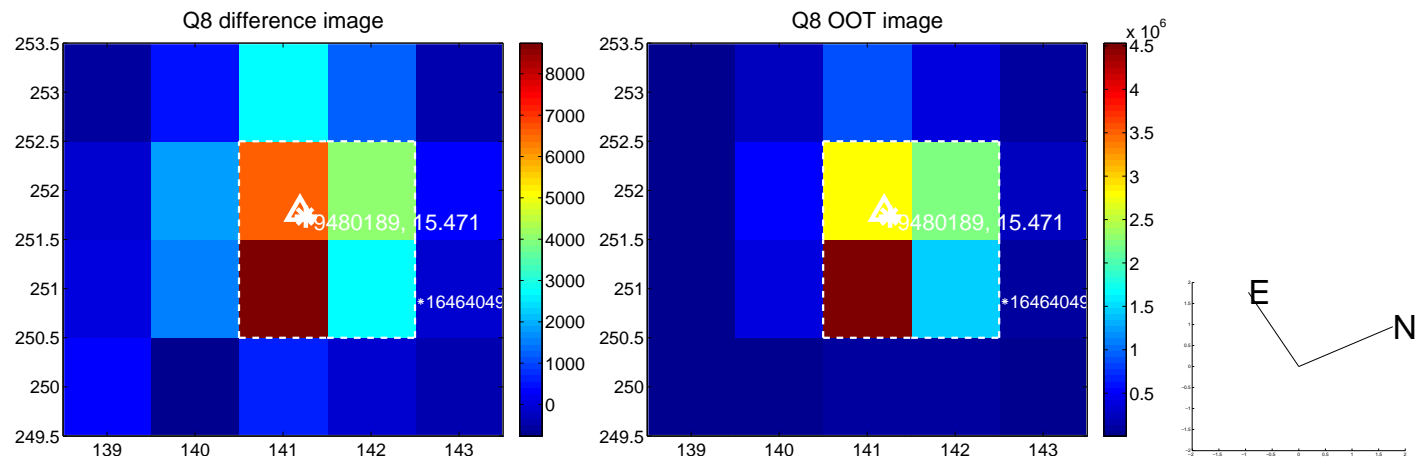
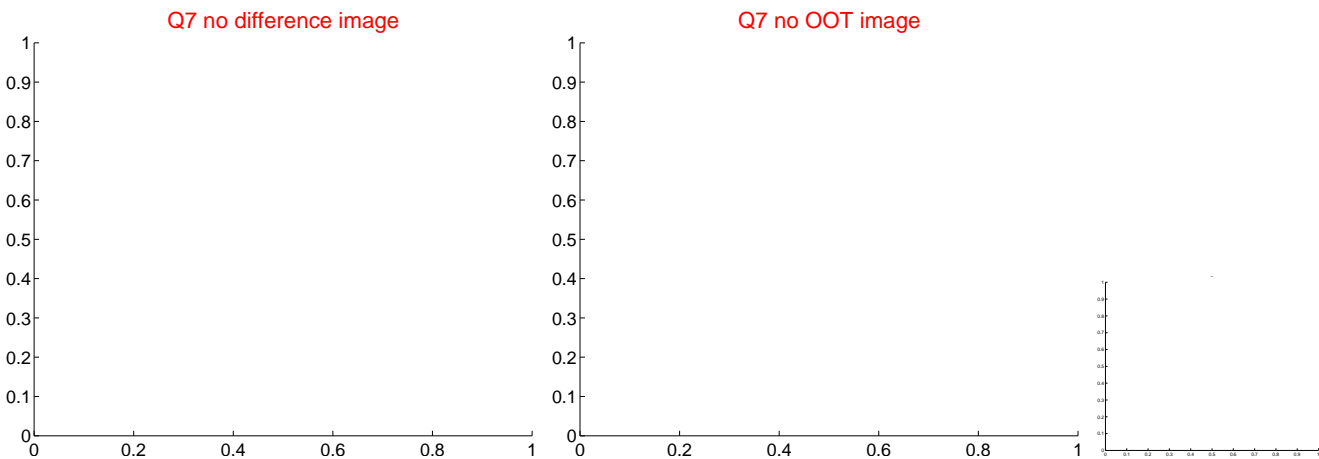
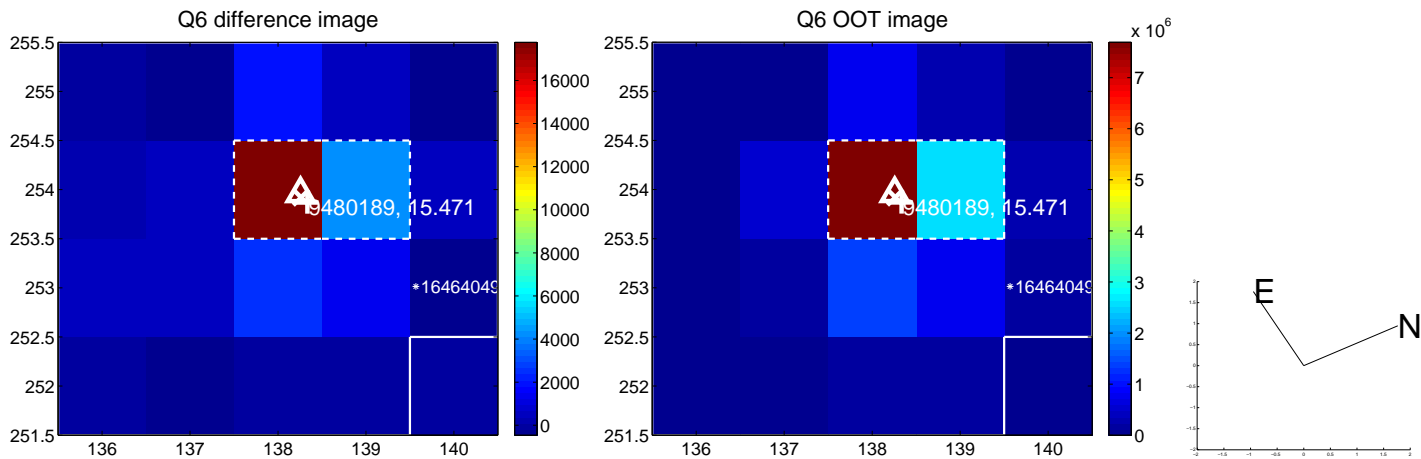
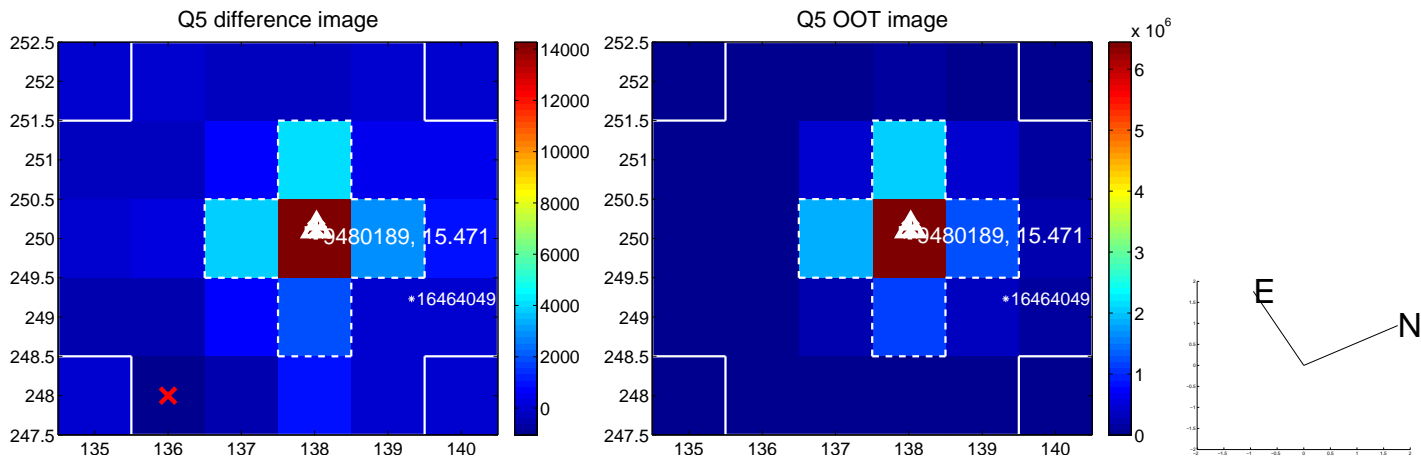


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

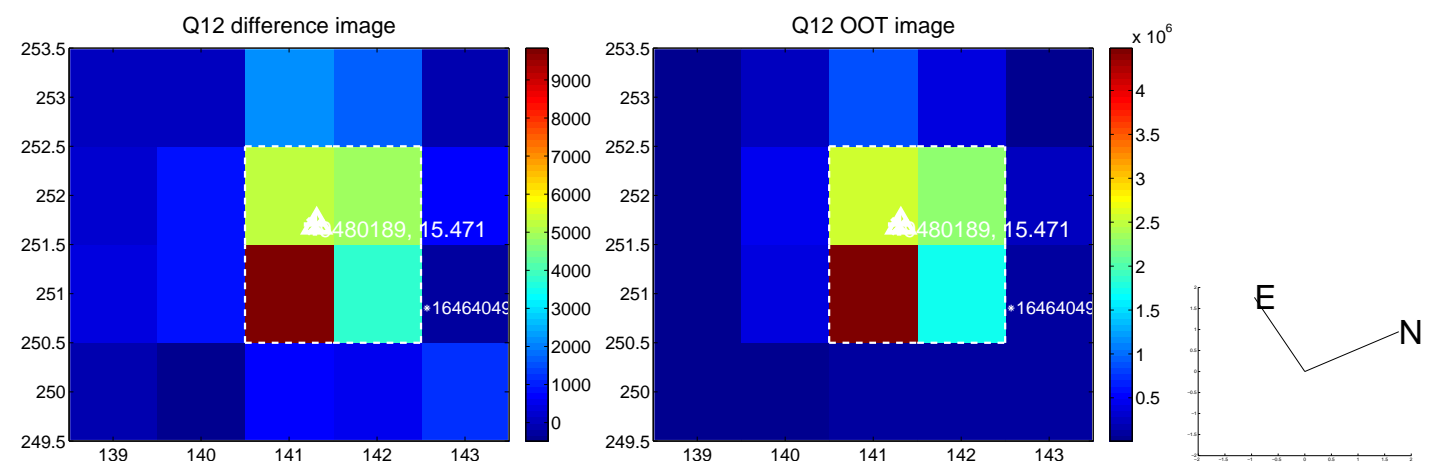
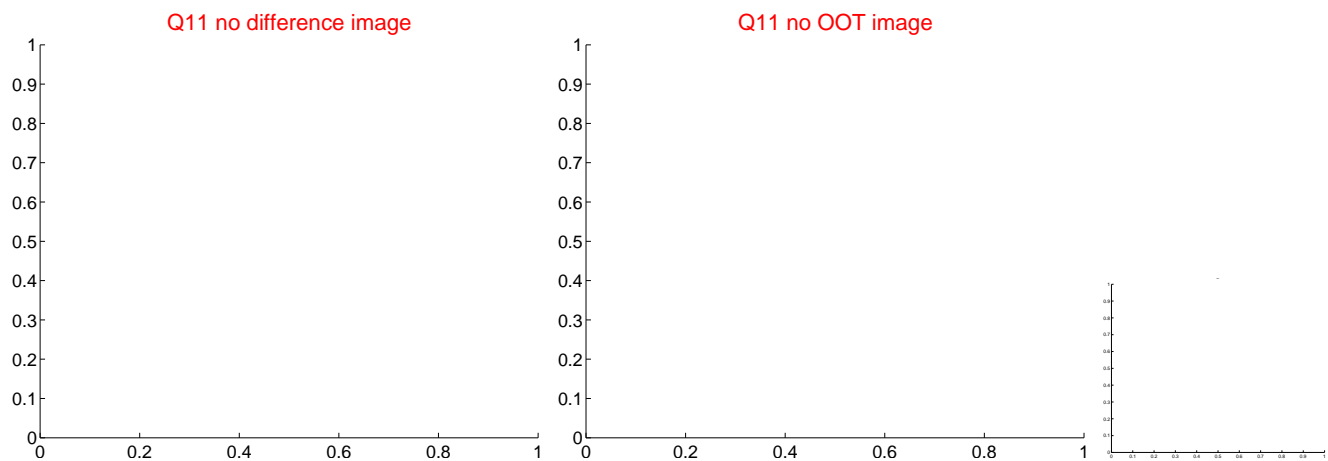
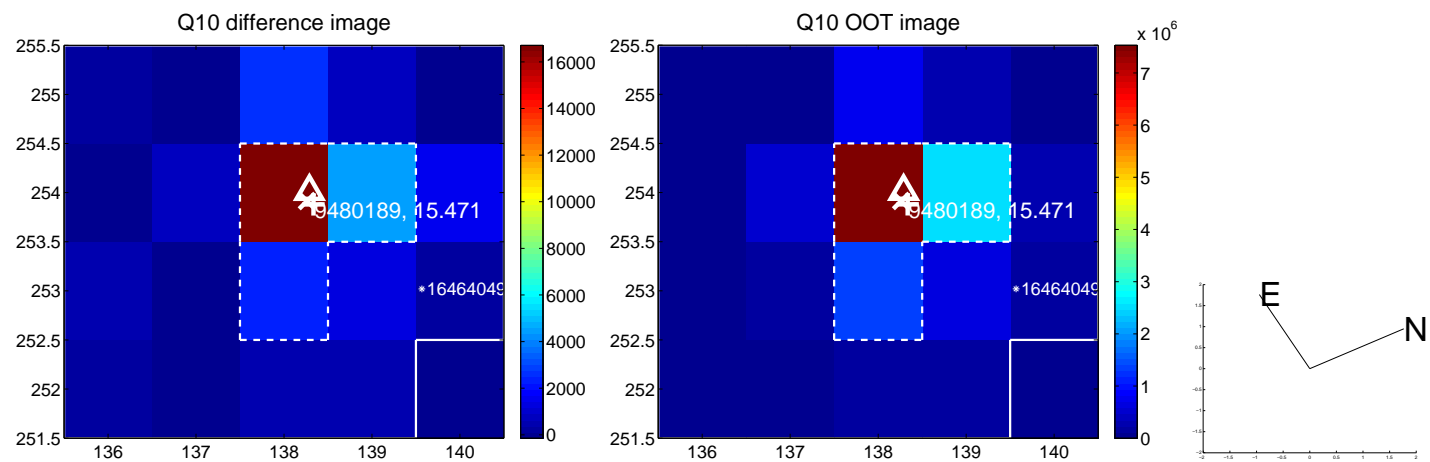
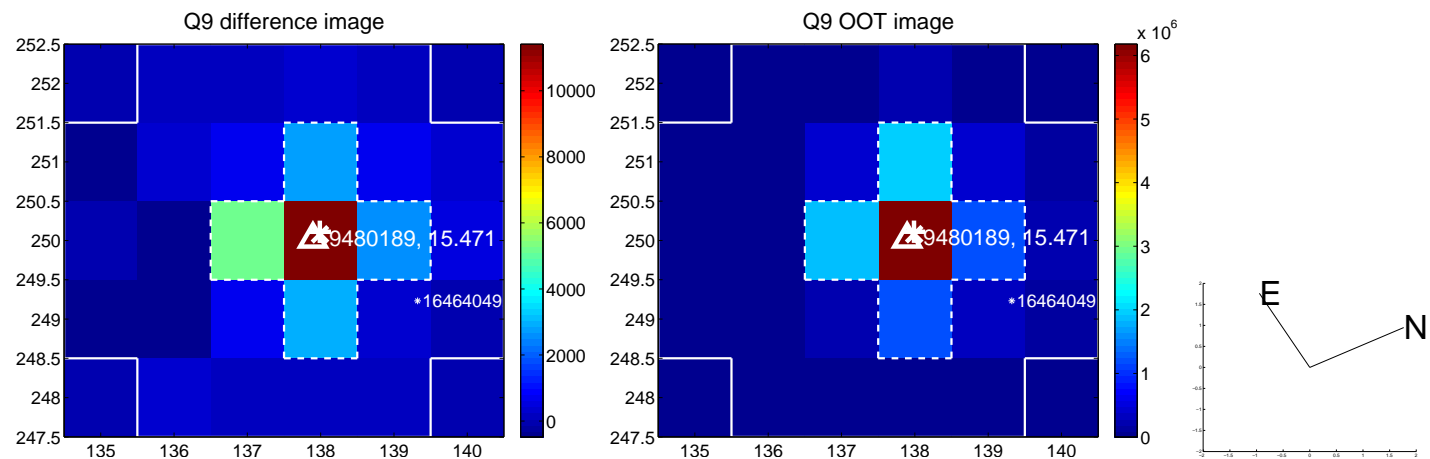
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



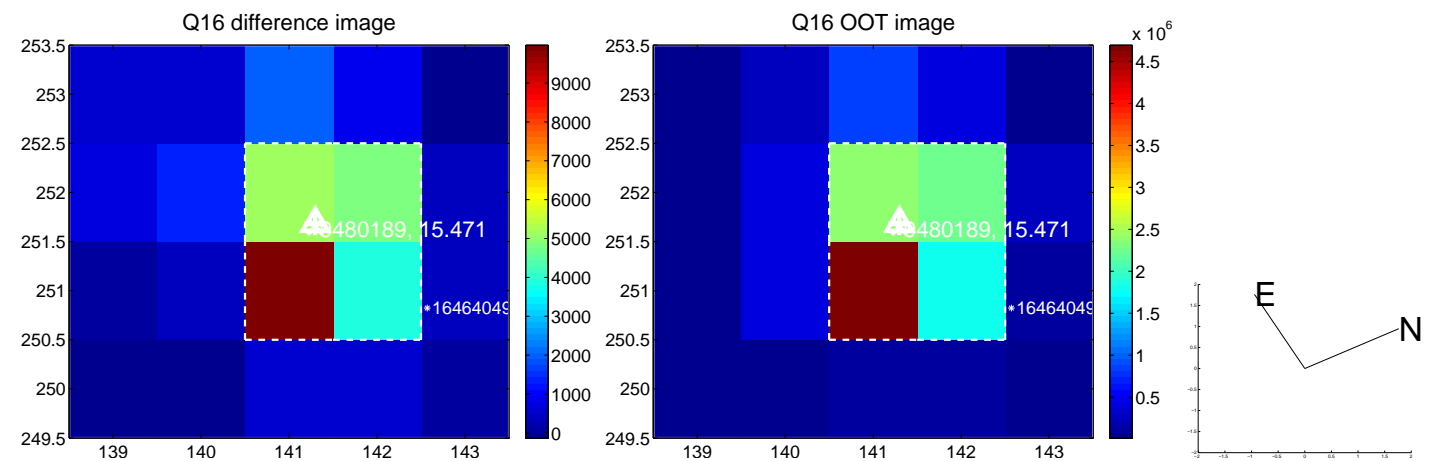
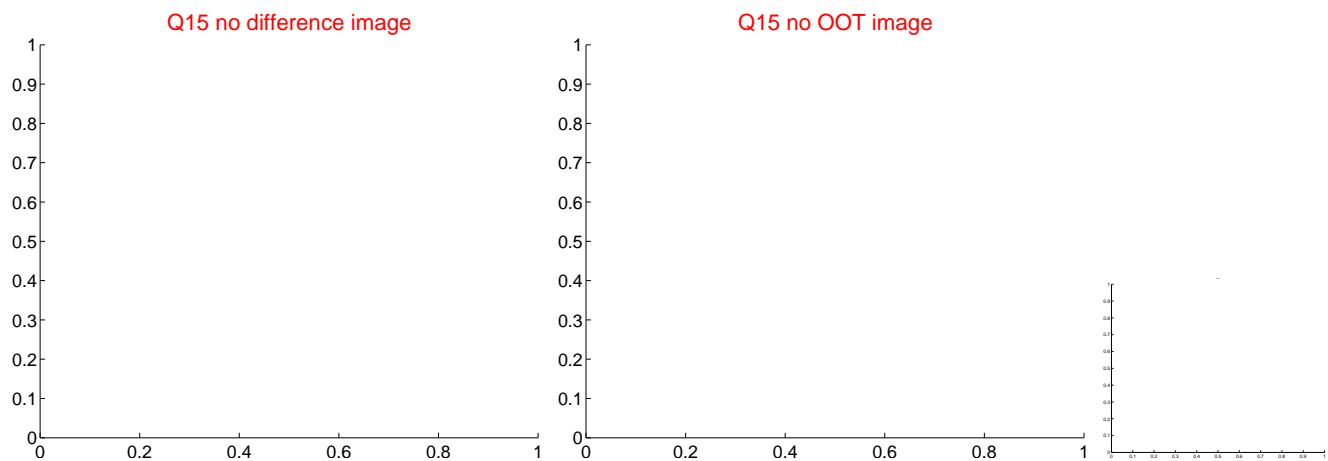
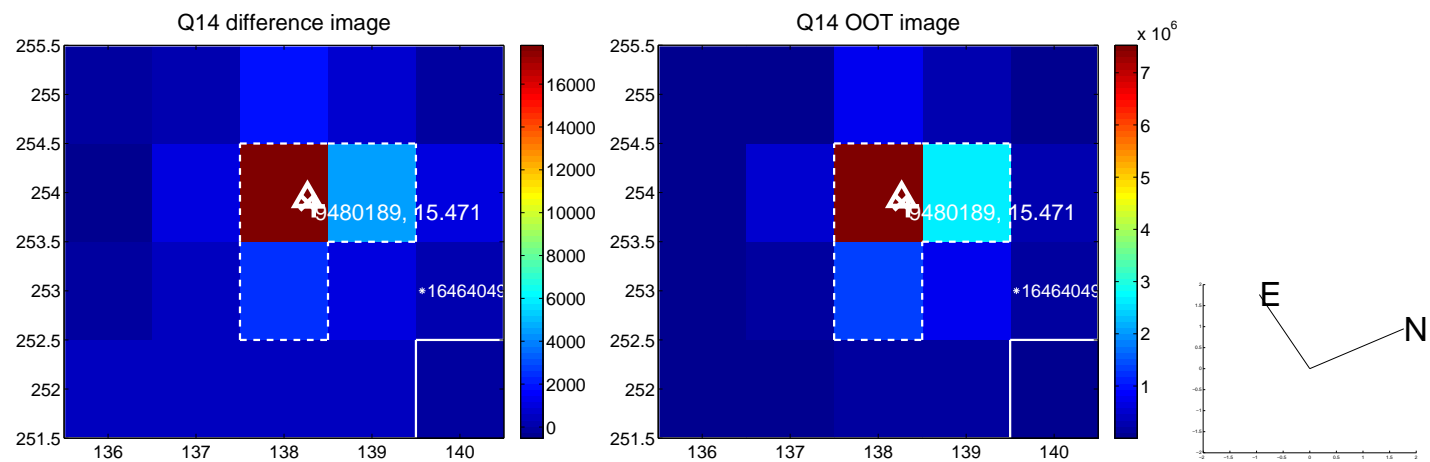
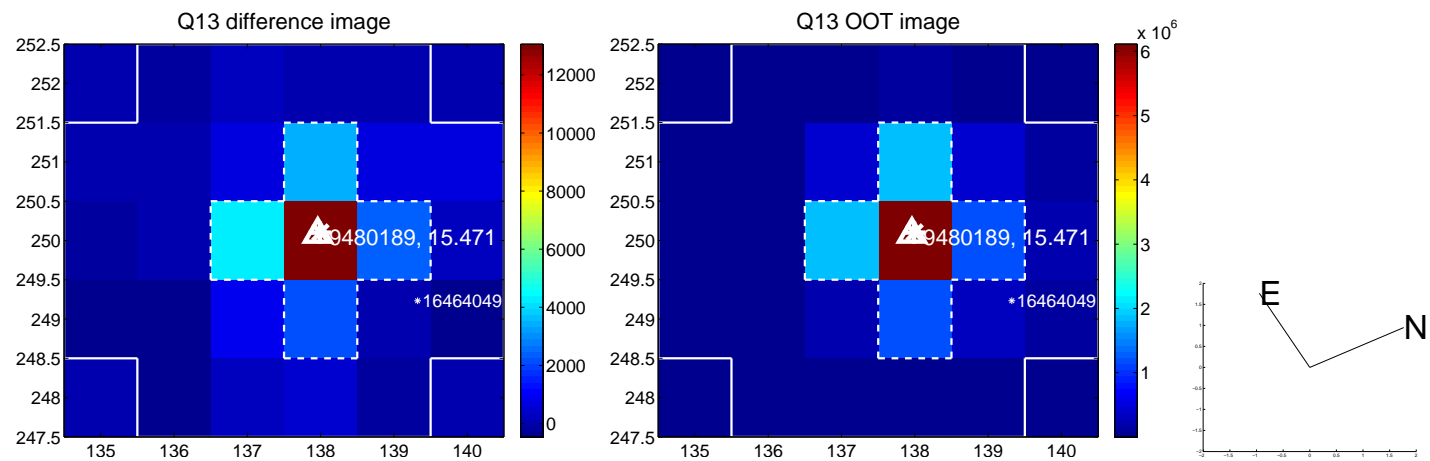
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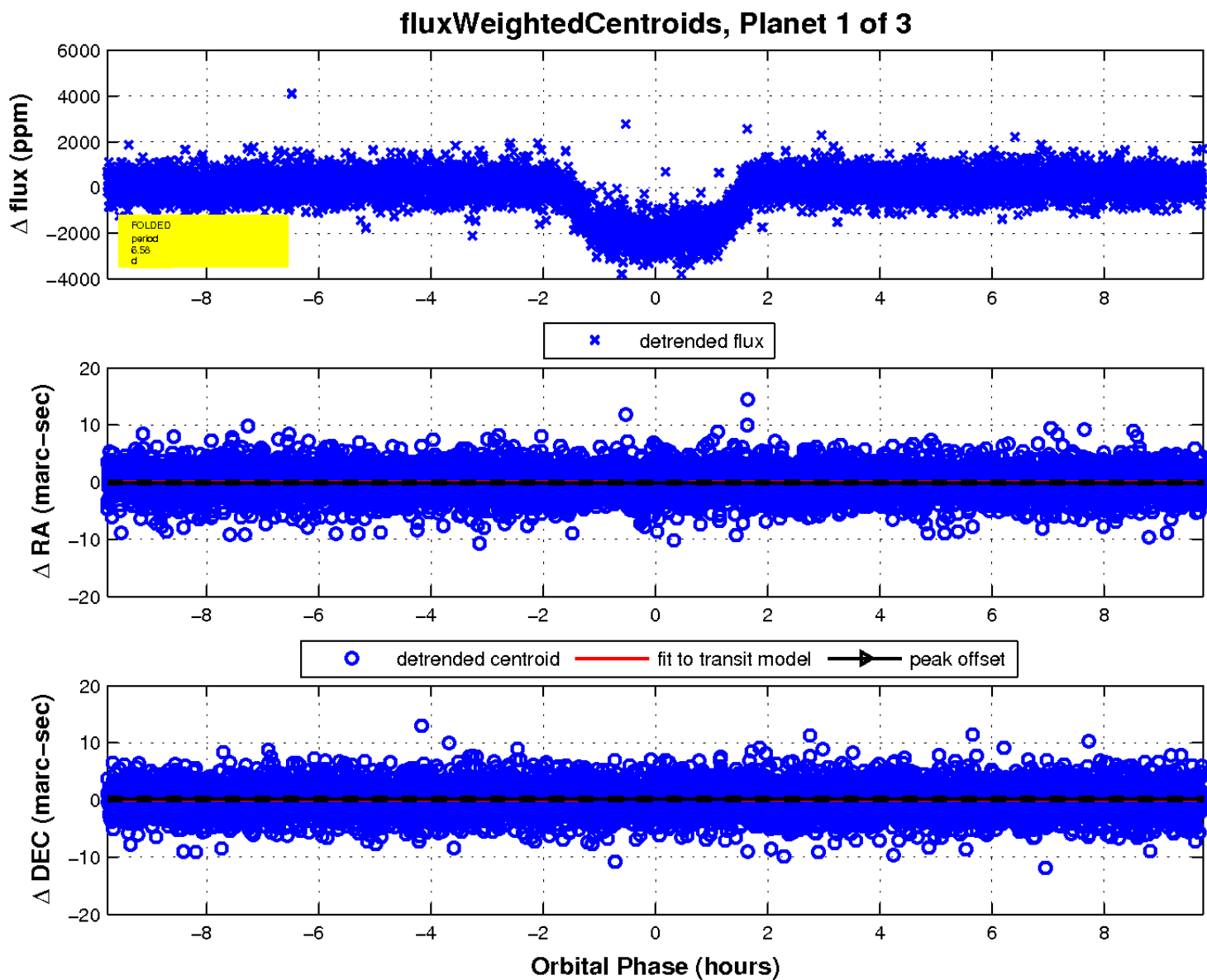
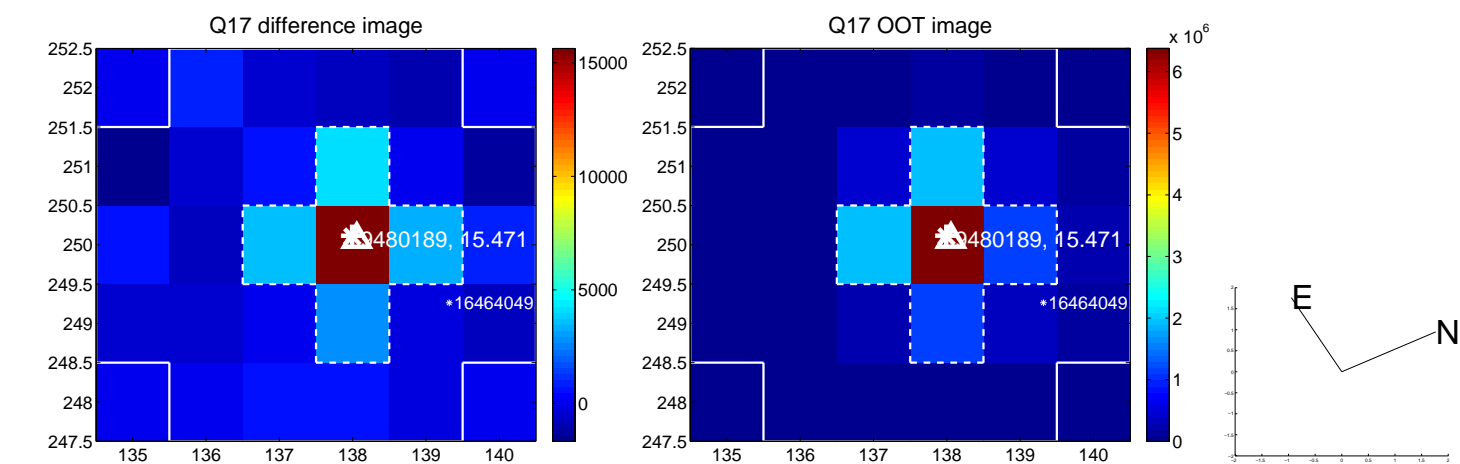
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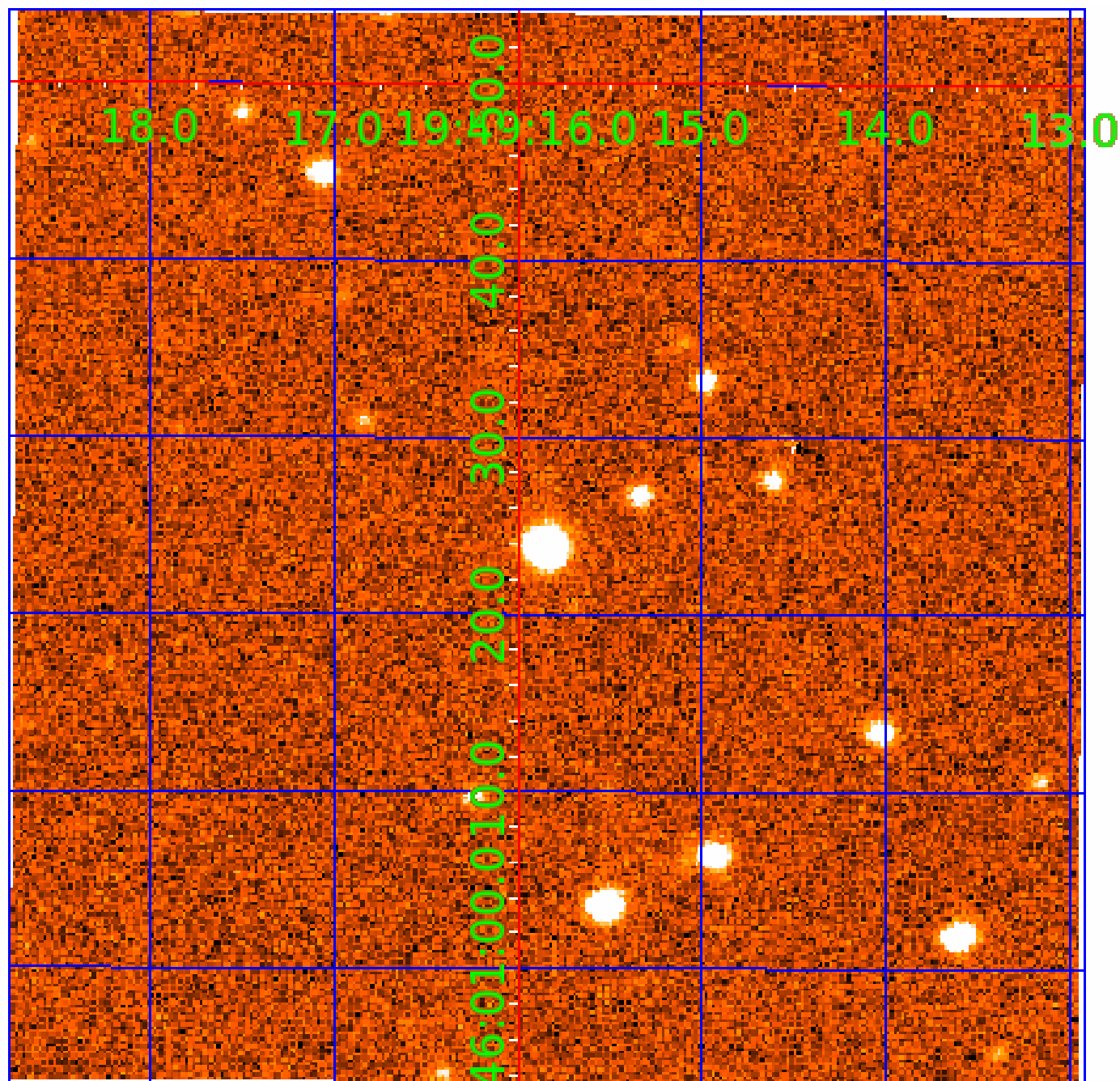


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009480189

Q1-17 DR25 TCE Parameters

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

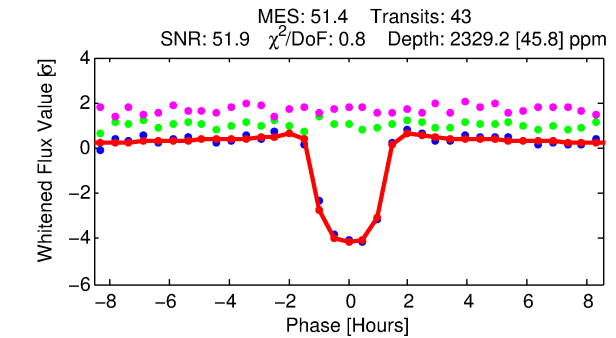
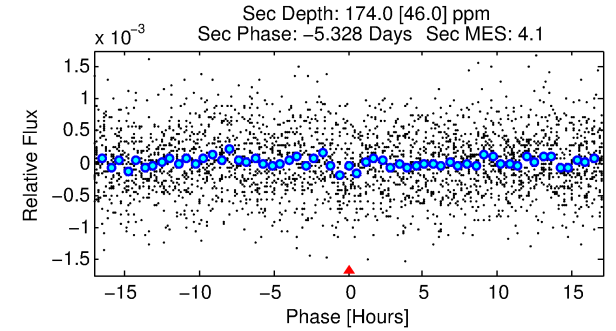
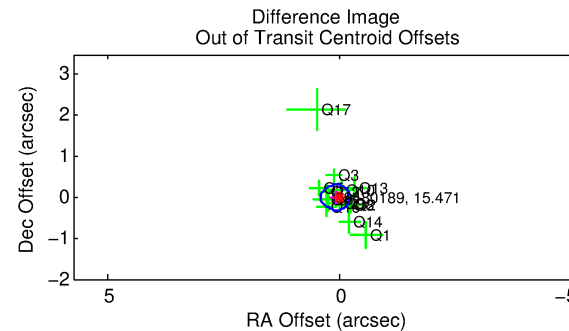
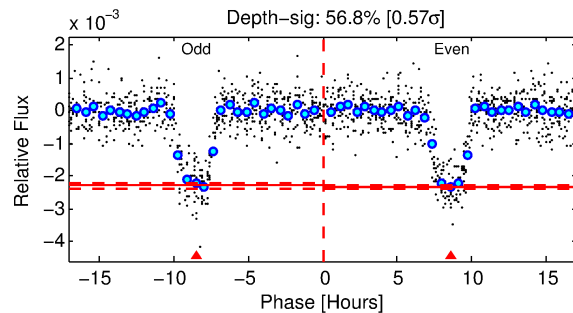
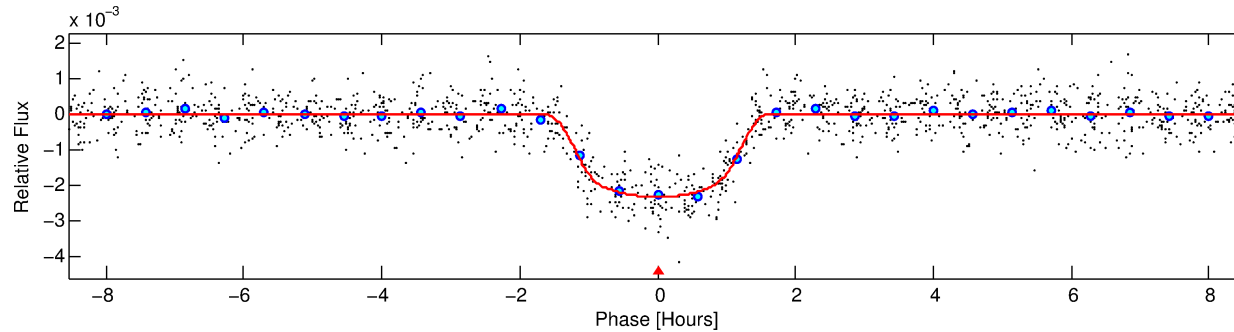
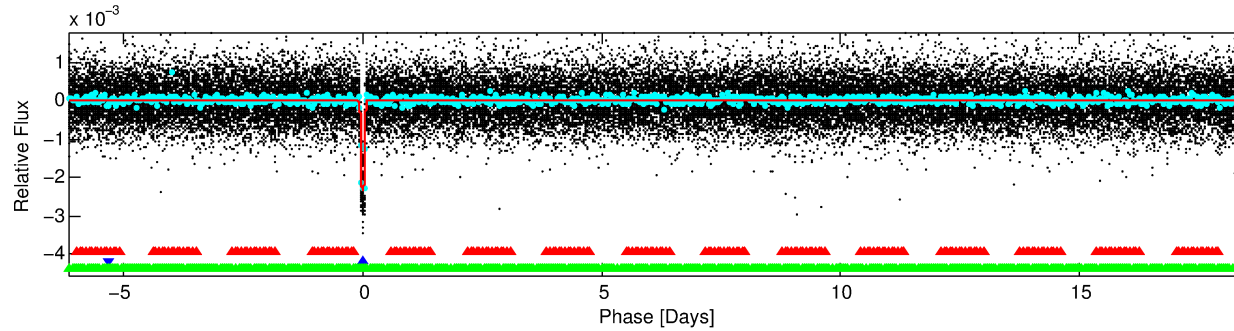
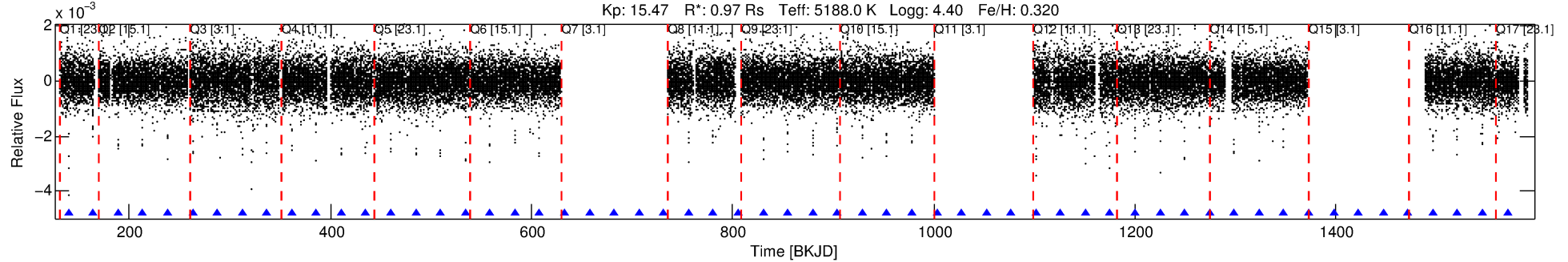
Ephemeris Match Information For 009480189-02

No Significant Match Found

DV One-Page Summary

KIC: 9480189 Candidate: 2 of 3 Period: 24.665 d
KOI: K00941.03 Name: Kepler-257d Corr: 0.979

Kp: 15.47 R*: 0.97 Rs Teff: 5188.0 K Logg: 4.40 Fe/H: 0.320



DV Fit Results:

Period = 24.66454 [0.00003] d
Epoch = 139.6928 [0.0010] BKJD
Rp/R* = 0.0495 [0.0036]
a/R* = 45.07 [11.18]
b = 0.80 [0.12]
Seff = 24.56 [11.75]
Teq = 568 [68] K
Rp = 5.26 [1.84] Re
a = 0.1582 [0.0479] AU
Ag = 86.56 [47.57] [1.80σ]
Teffp = 2677 [220] K [9.16σ]

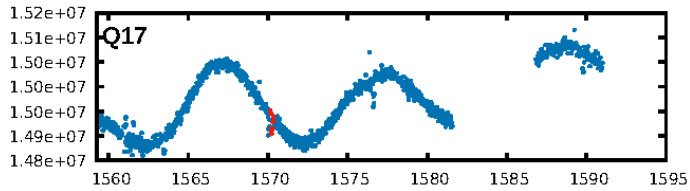
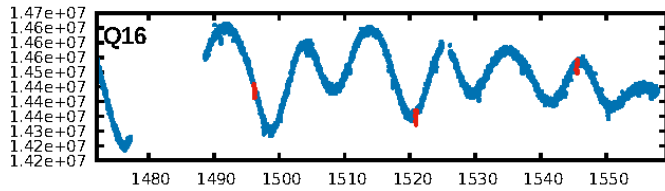
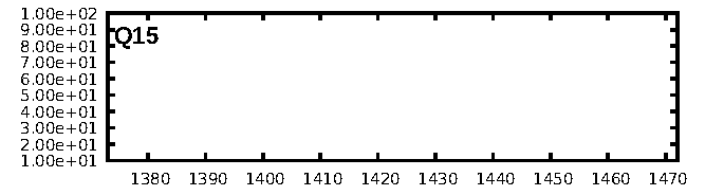
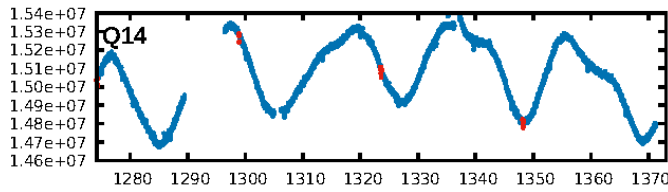
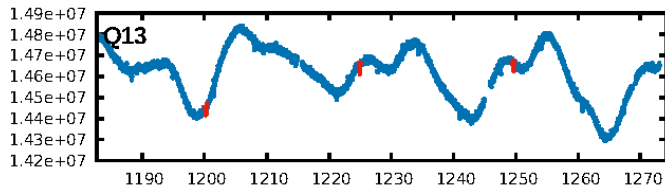
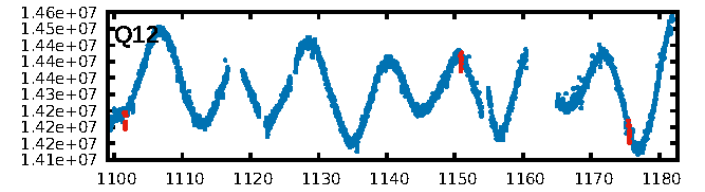
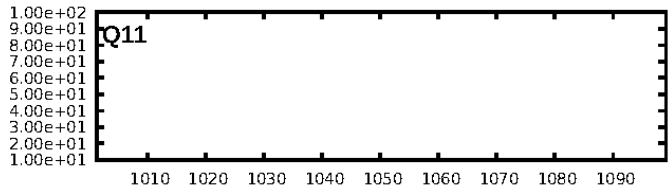
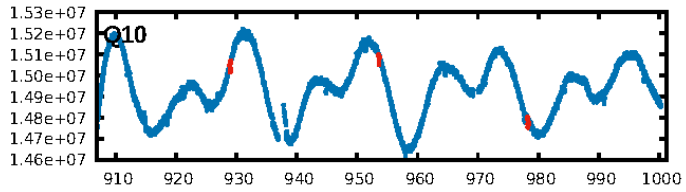
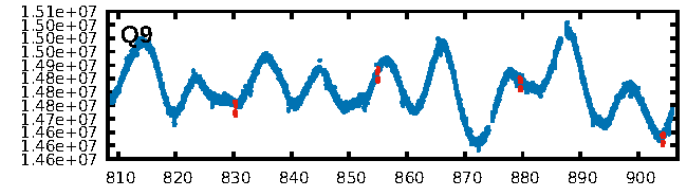
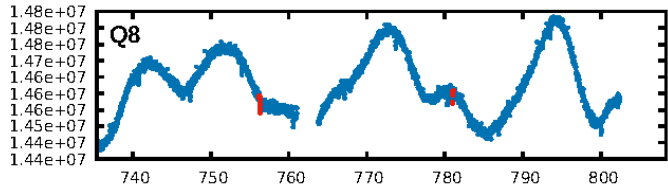
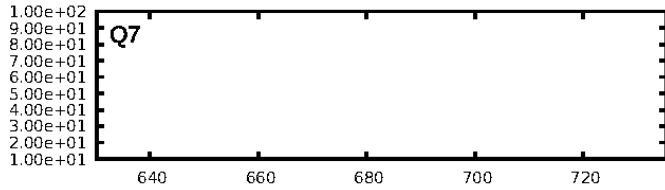
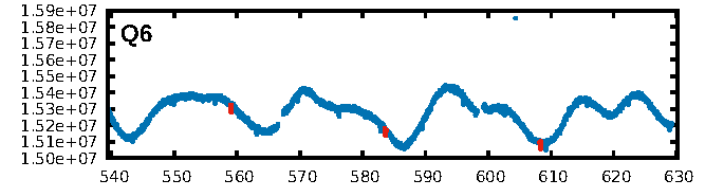
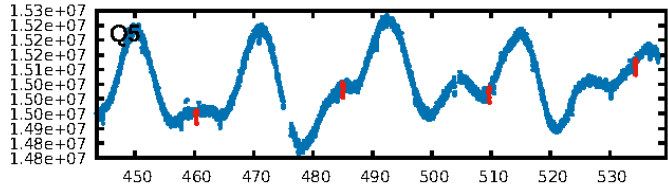
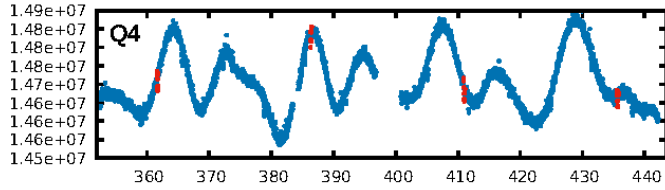
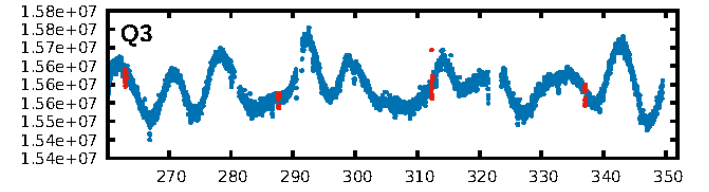
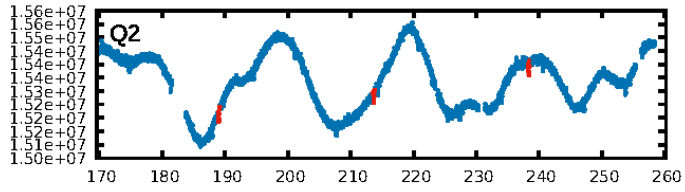
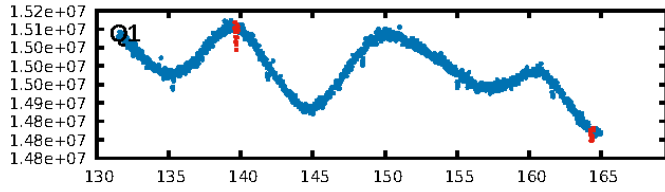
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [100.34σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [40/40]
GhostDiagnostic-chr: 6.858
Centroid-sig: 64.5%
Centroid-so: 0.289 arcsec [1.26σ]
OotOffset-rm: 0.071 arcsec [0.69σ]
KicOffset-rm: 0.091 arcsec [0.50σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.93 [13/14]

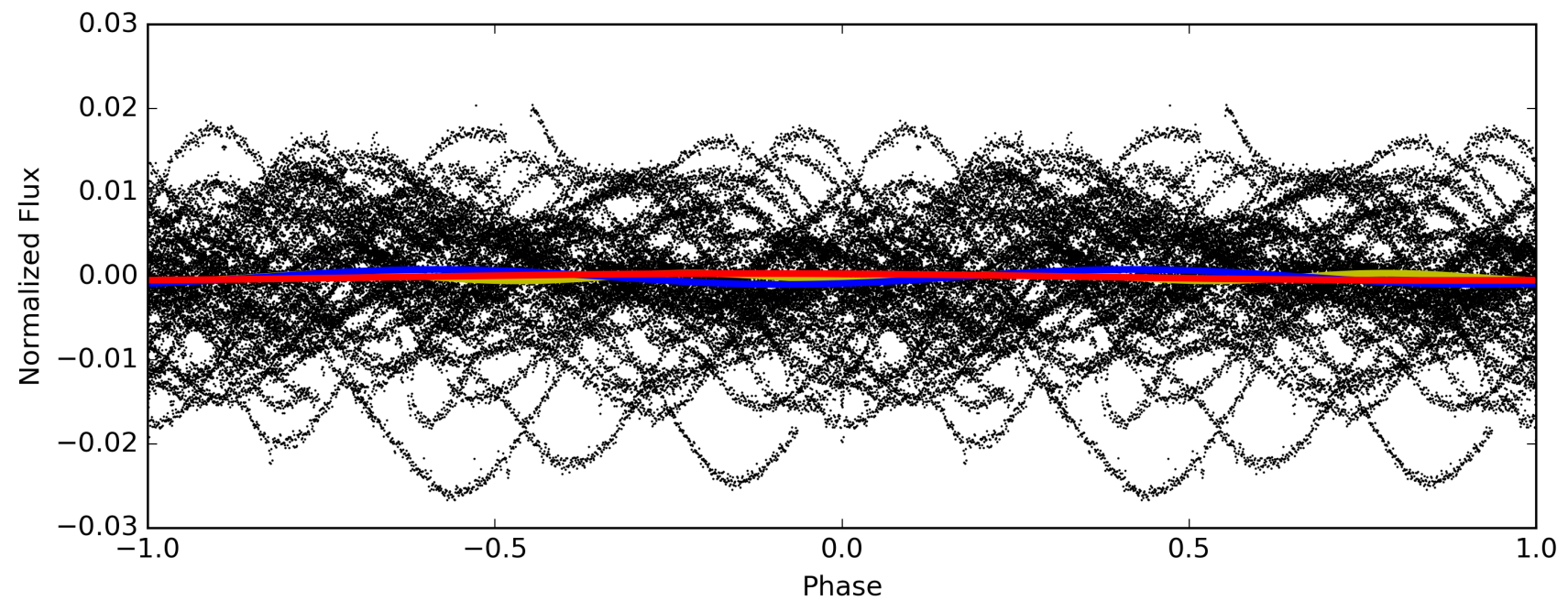
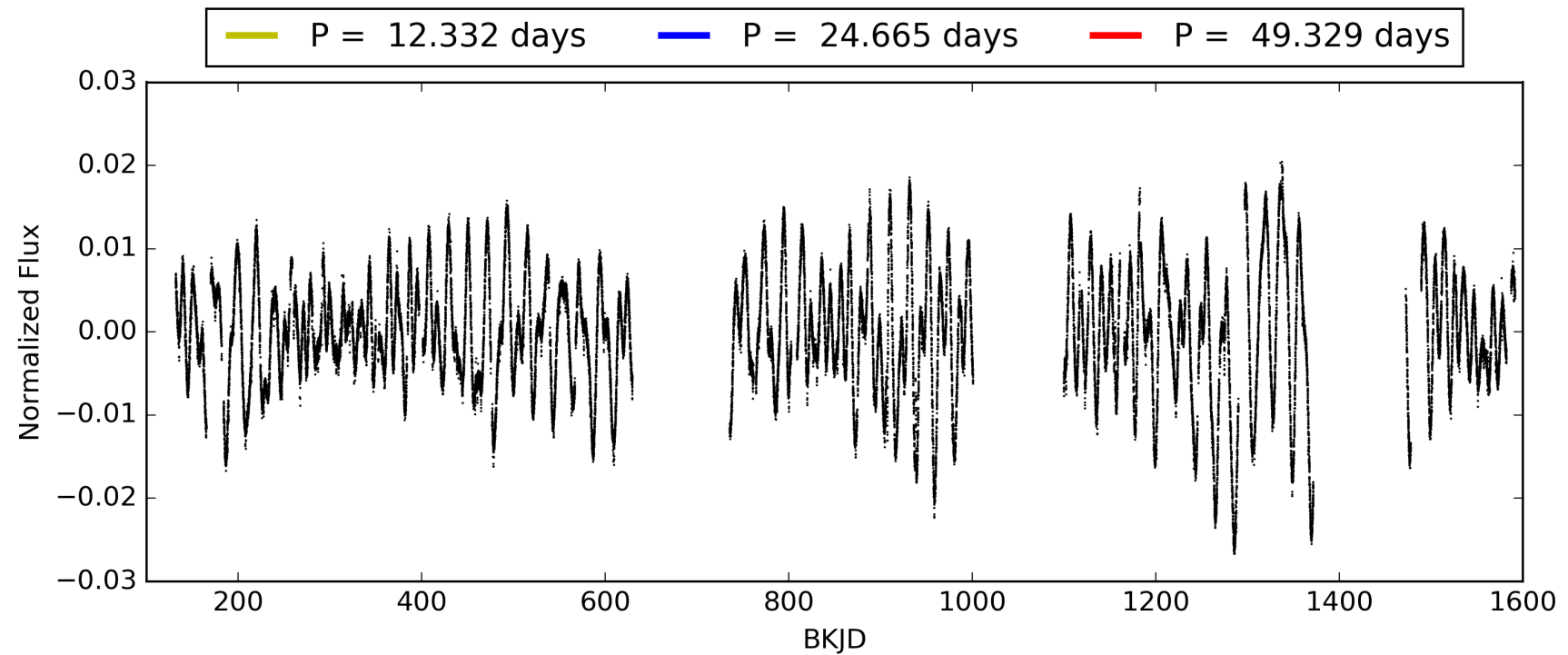
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:21:50 Z

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

TCE 009480189-02, PDC Light Curves

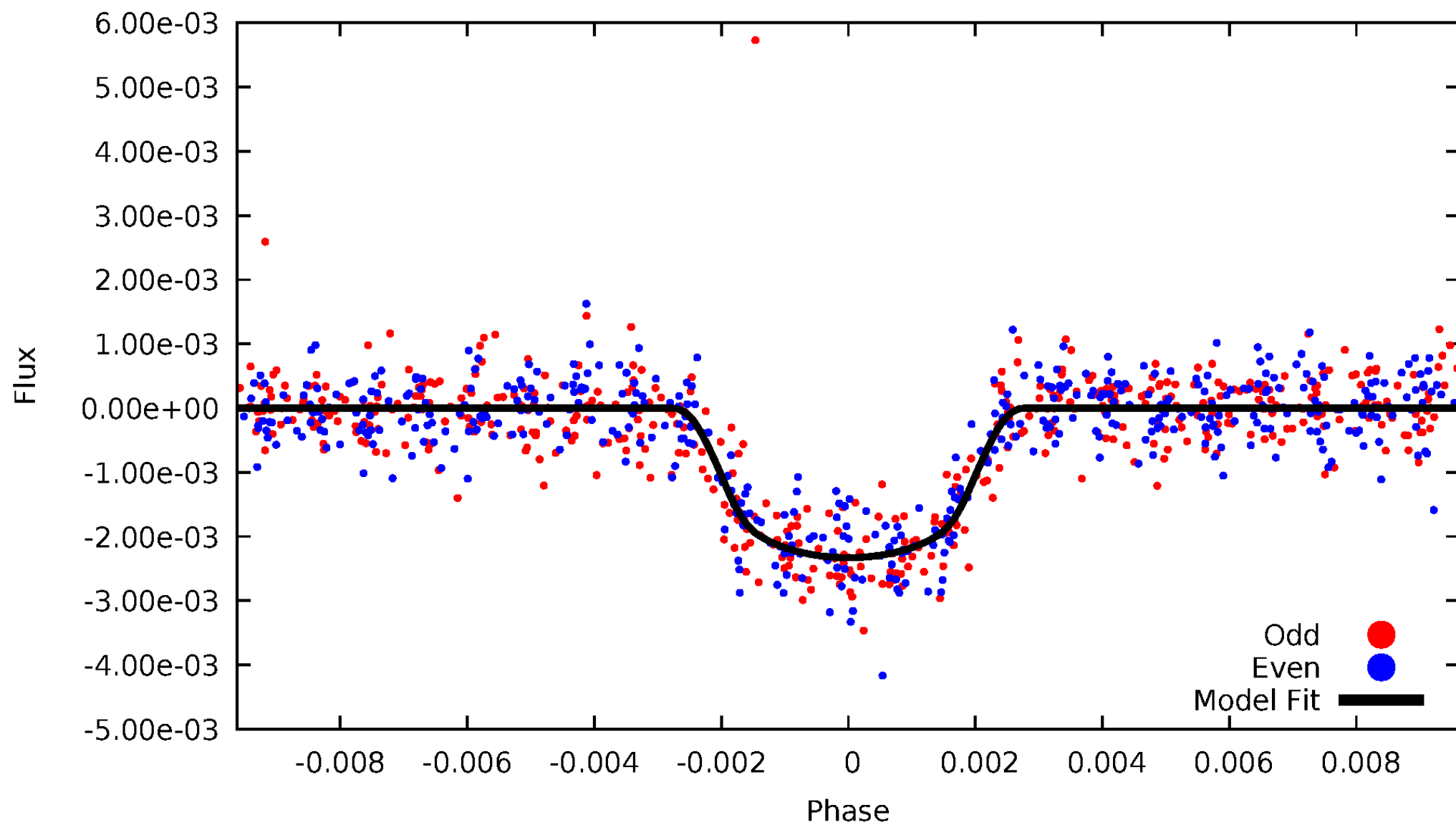


TCE 009480189-02



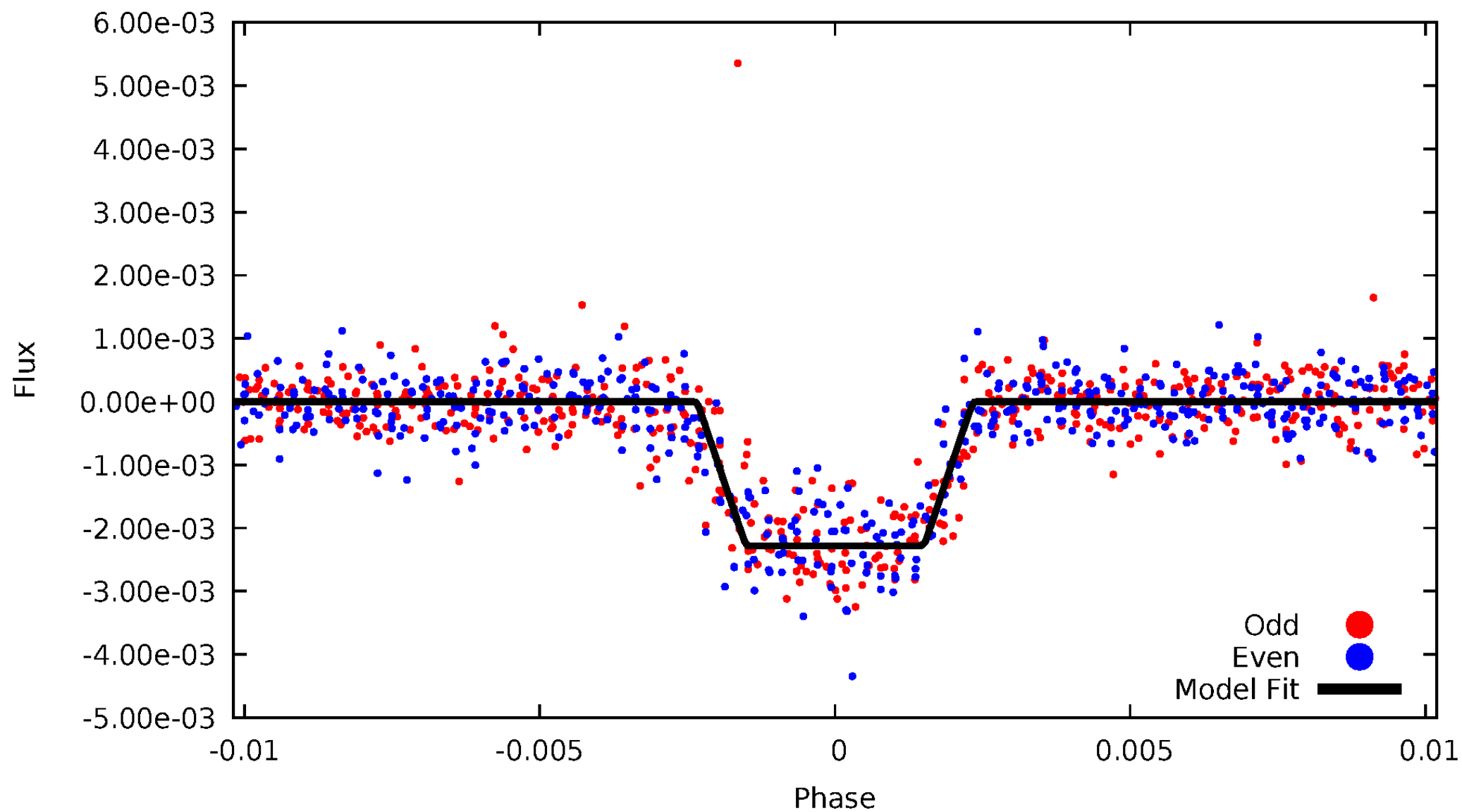
DV Odd/Even

TCE 009480189-02



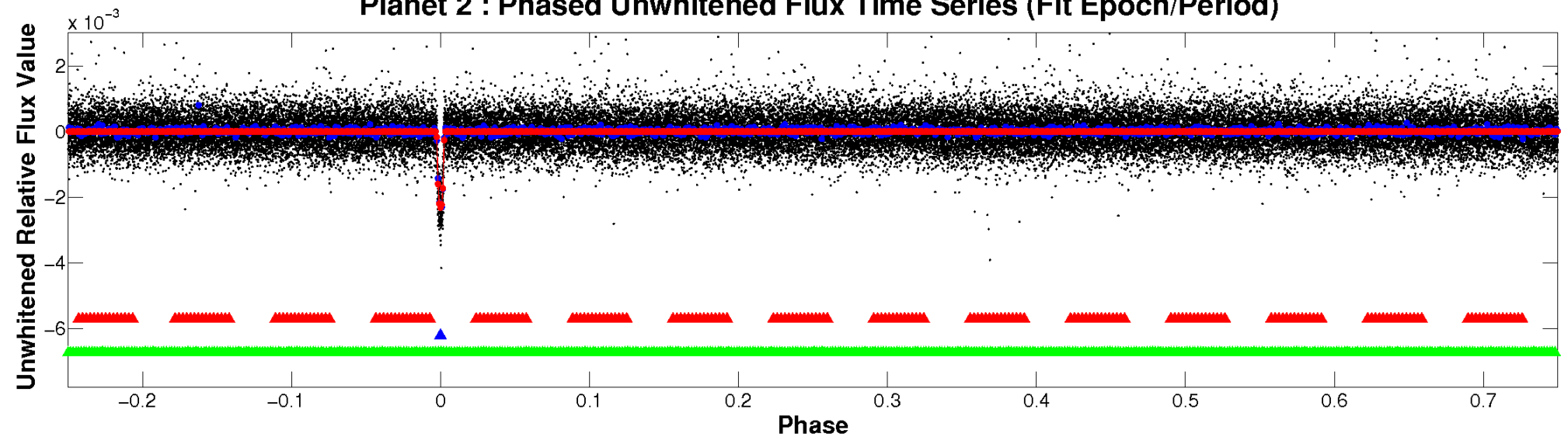
ALT Odd/Even

TCE 009480189-02

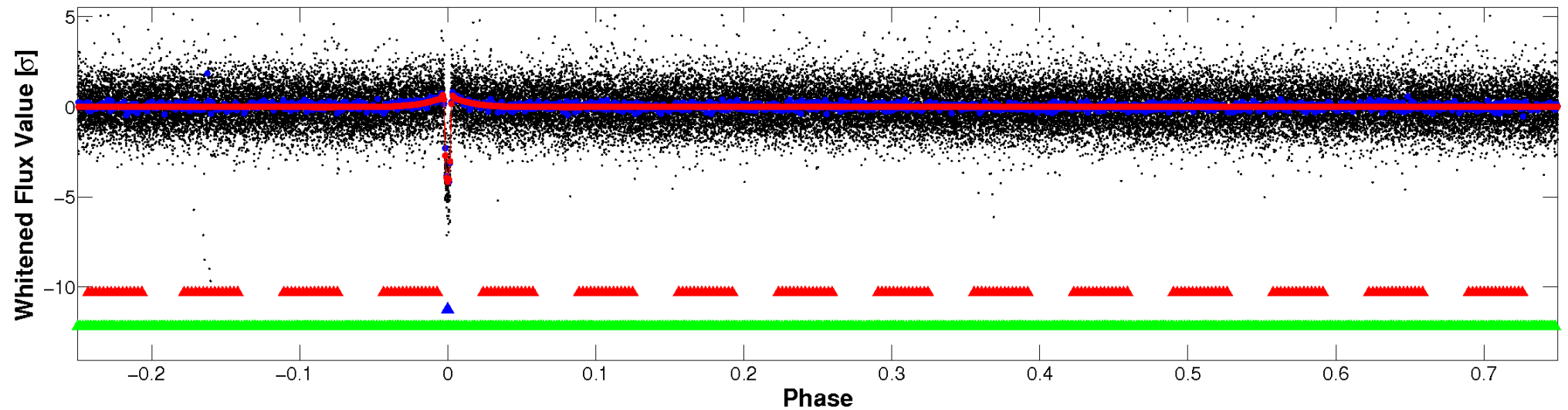


Non-Whitened Vs. Whitened Light Curve

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

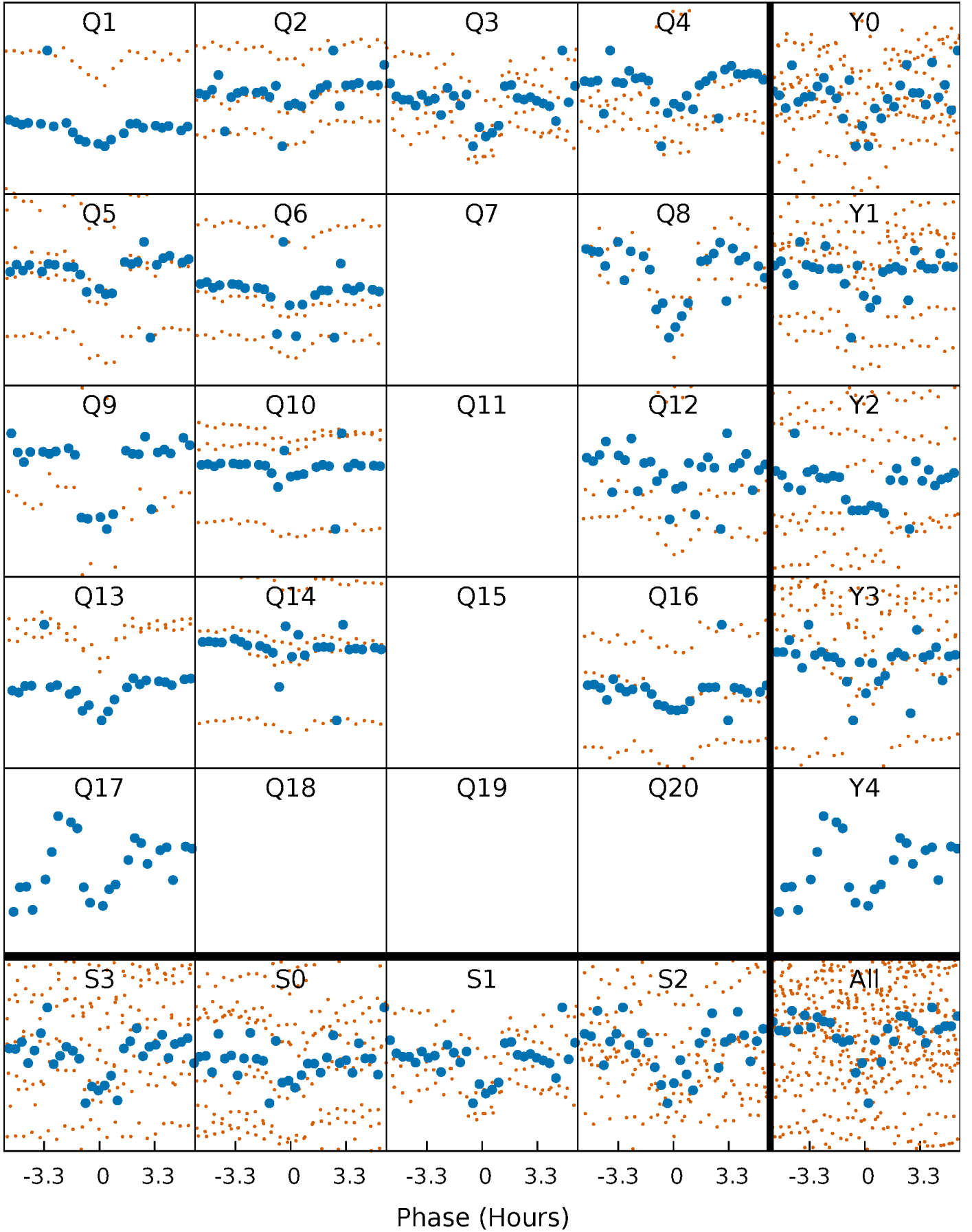


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



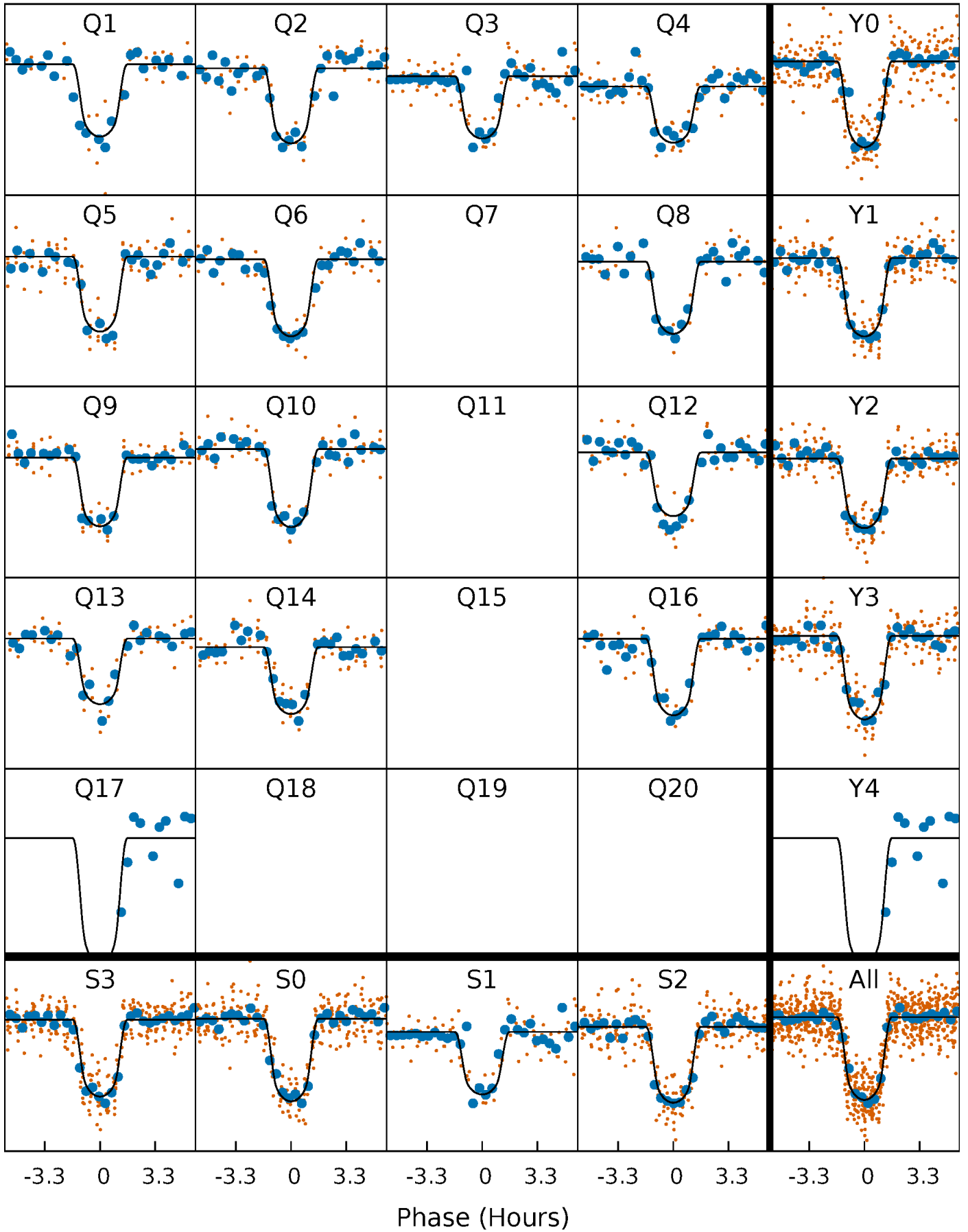
PDC Quarter-Phased Transit Curves

TCE 009480189-02 P= 24.664537 Days $T_0=139.692772$ (BKJD)



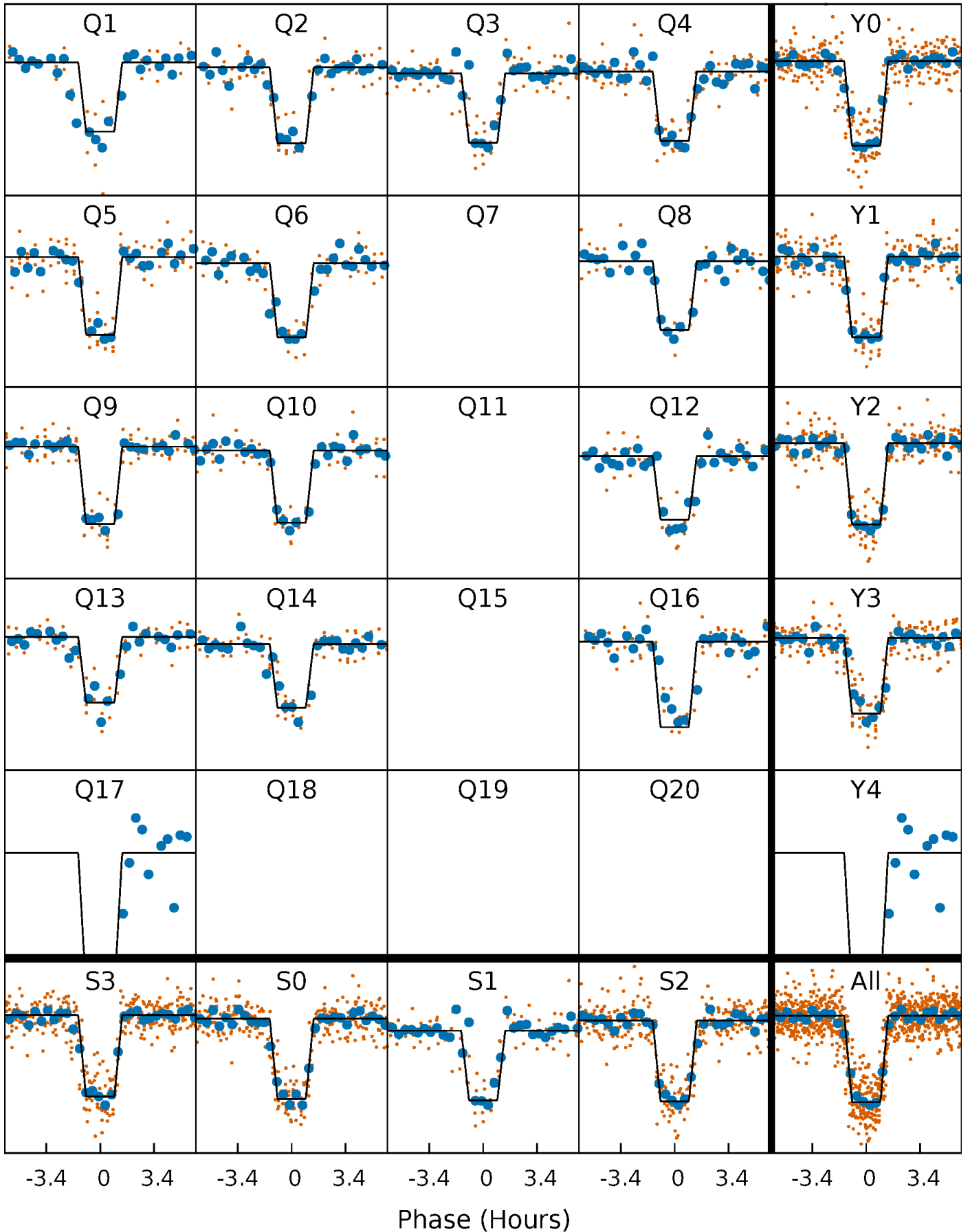
DV Quarter-Phased Transit Curves

TCE 009480189-02 P= 24.664537 Days $T_0=139.692772$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

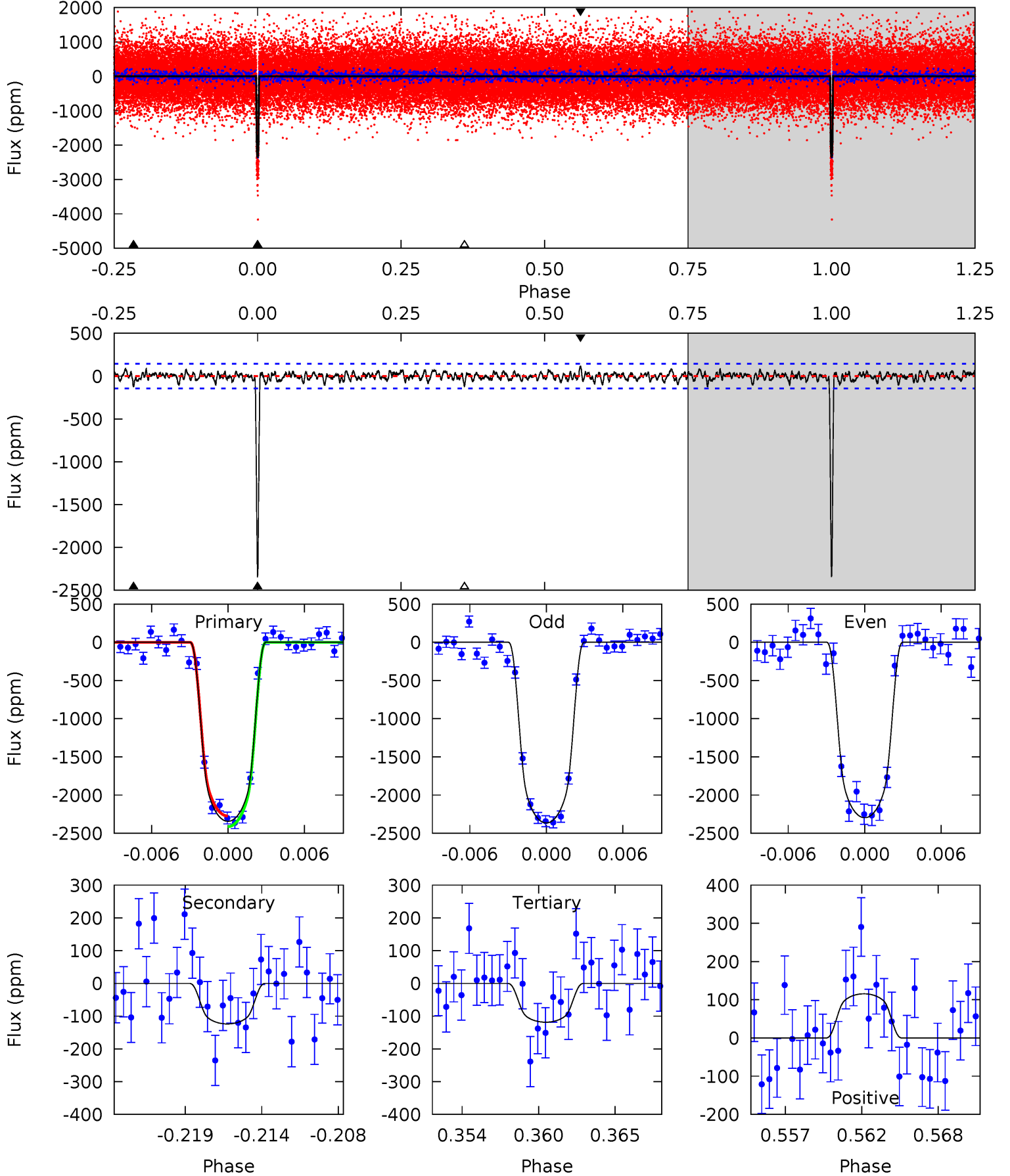
TCE 009480189-02 P= 24.664317 Days $T_0=139.698808$ (BKJD)



DV Model-Shift Uniqueness Test

009480189-02, $P = 24.664537$ Days, $E = 115.028235$ Days

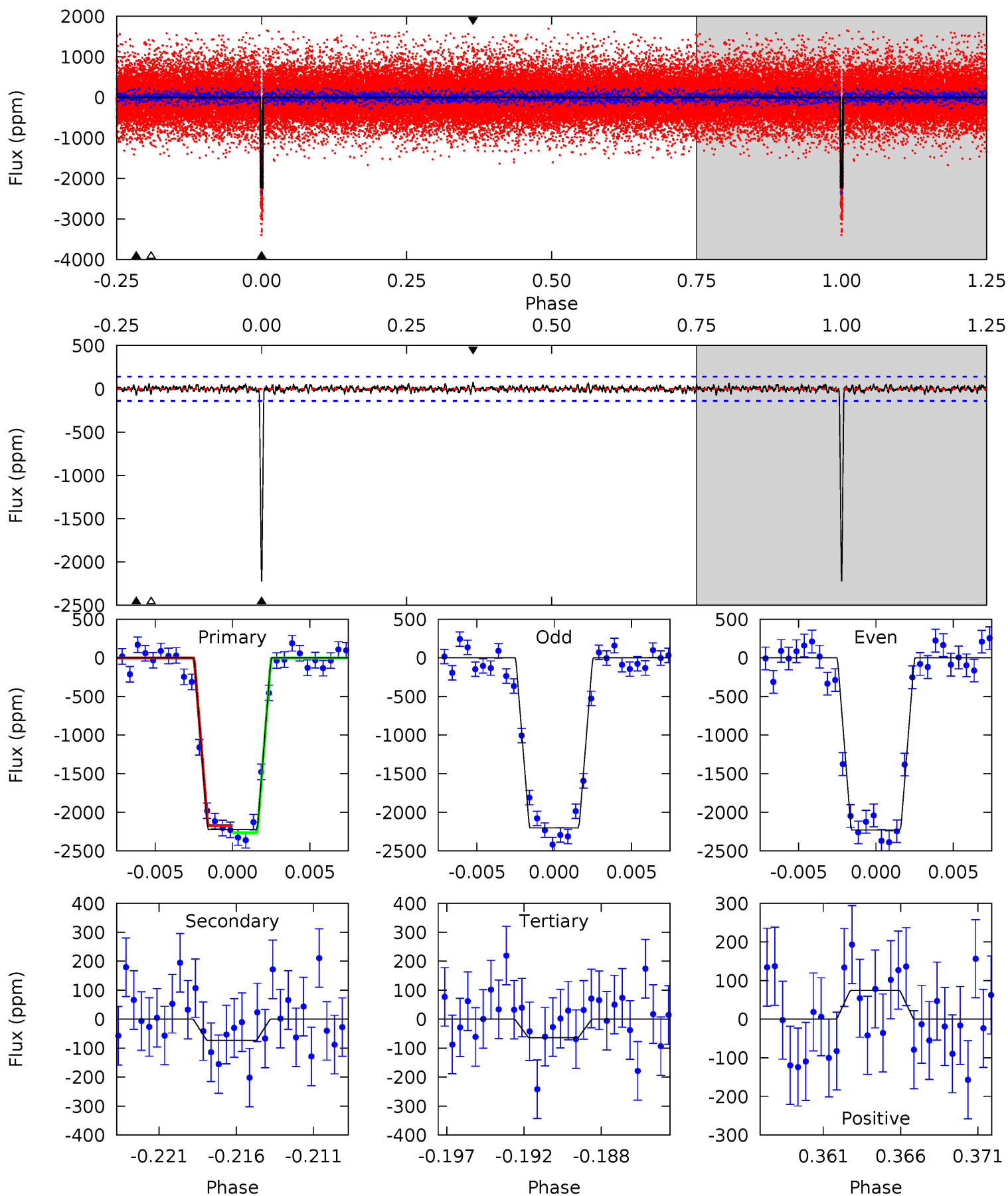
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
83.5	4.41	4.22	4.12	5.14	2.77	1.25	79.2	79.3	0.19	0.29	1.22	0.99	0.05	2.46



Alt Model-Shift Uniqueness Test

009480189-02, P = 24.664317 Days, E = 115.034491 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
82.4	2.72	2.38	2.76	5.17	2.83	0.75	80.1	79.7	0.34	-0.04	0.49	0.99	0.03	1.79



Stellar Parameters For KIC 009480189

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5188^{+171}_{-155}	$4.400^{+0.140}_{-0.260}$	$0.320^{+0.150}_{-0.250}$	$0.973^{+0.333}_{-0.154}$	$0.868^{+0.073}_{-0.060}$	$1.326^{+0.838}_{-0.782}$
	+3%/-3%	+3%/-6%	+47%/-78%	+34%/-16%	+8%/-7%	+63%/-59%
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 009480189-02 / KOI 0941.03

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-124 ± 28	$5.43^{+1.02}_{-0.77}$	804^{+71}_{-49}	3064^{+138}_{-135}	57^{+24}_{-21}
Alt.	-73 ± 27	$5.20^{+1.05}_{-0.69}$	803^{+71}_{-52}	2876^{+158}_{-188}	35^{+22}_{-15}

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 $A_{obs} \gg 1.0$

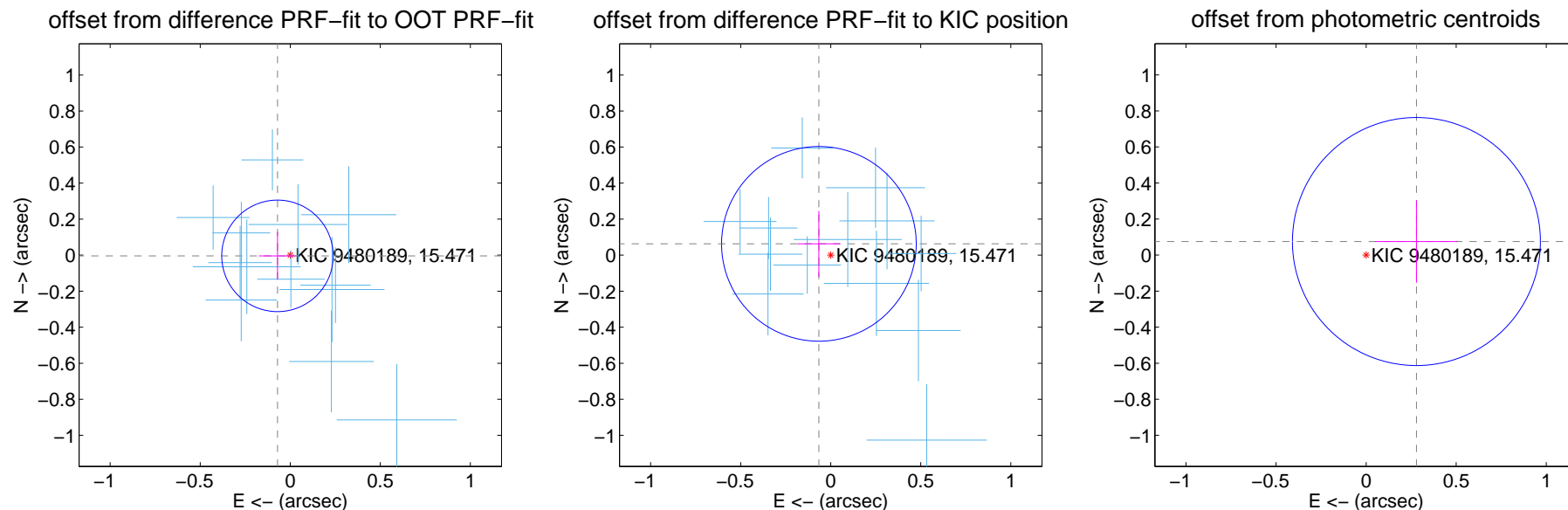
DV Centroid Data

Supplemental centroid analysis for 009480189-02. Kepler magnitude: 15.47. Transit SNR 51.89

There are 14 quarters with good PRF difference image offsets

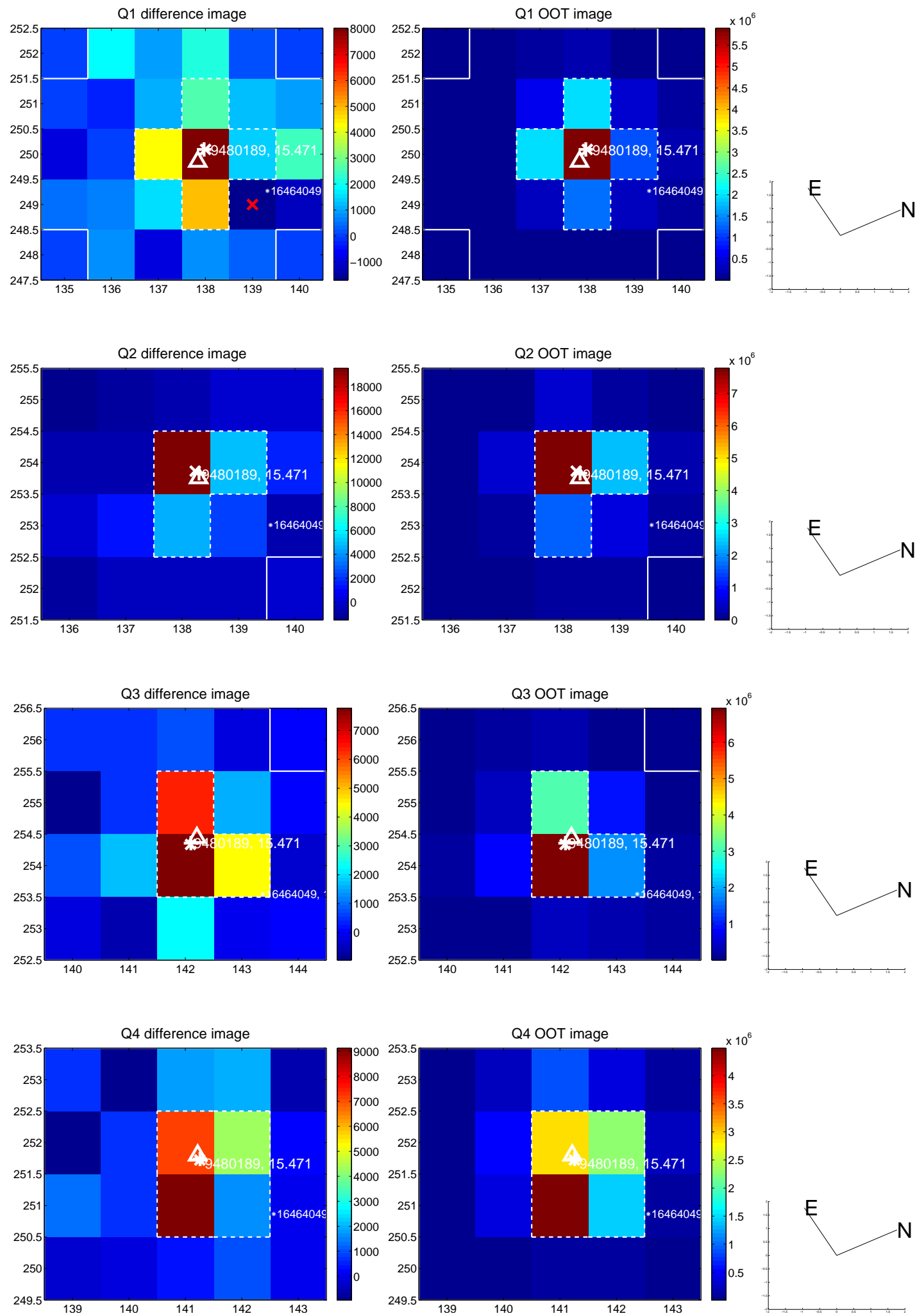
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.071 ± 0.103	0.69	0.071 ± 0.103	-0.004 ± 0.132
PRF-fit source offset from KIC position	0.091 ± 0.180	0.50	0.066 ± 0.118	0.063 ± 0.183
photometric centroid source offset	0.29 ± 0.23	1.26	-0.28 ± 0.23	0.08 ± 0.23

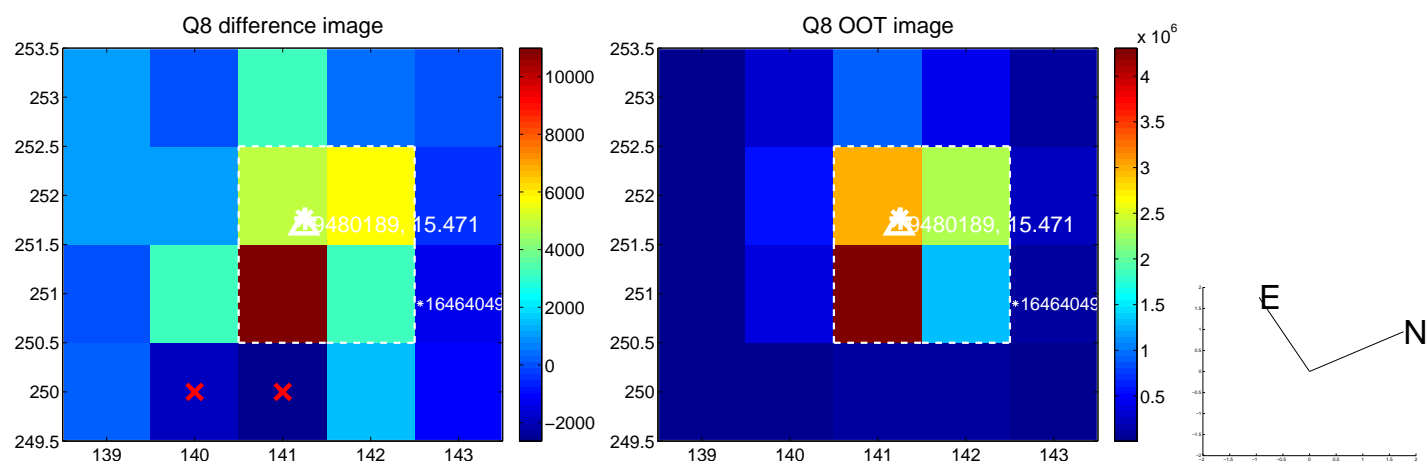
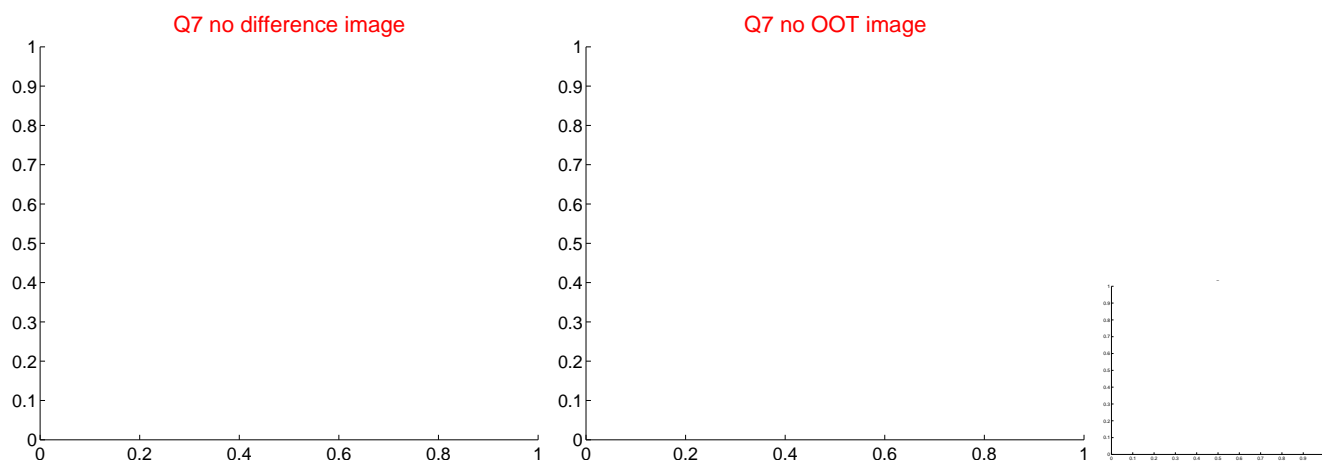
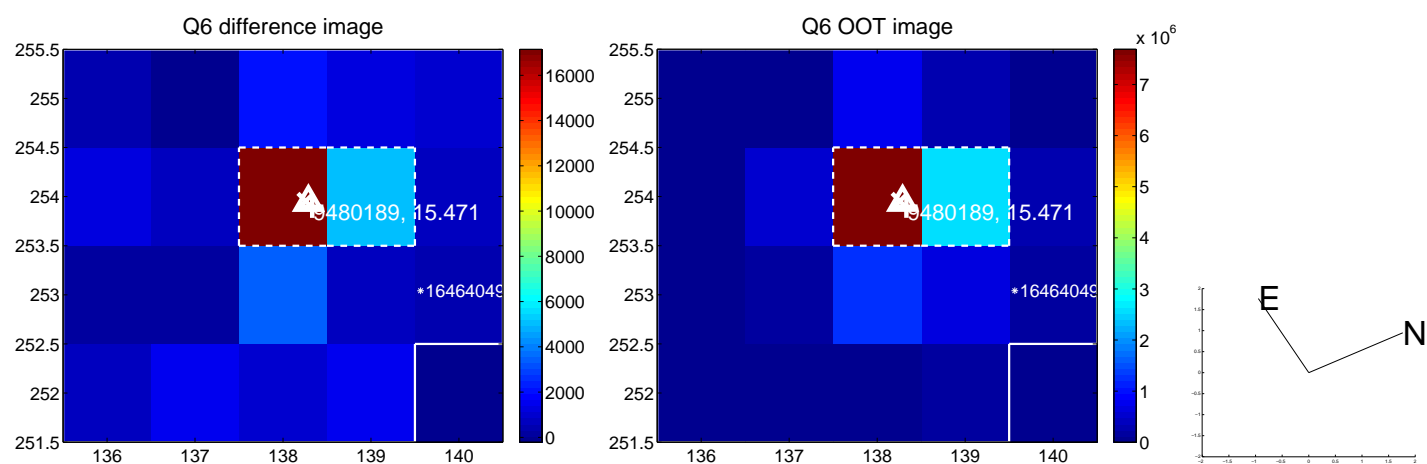
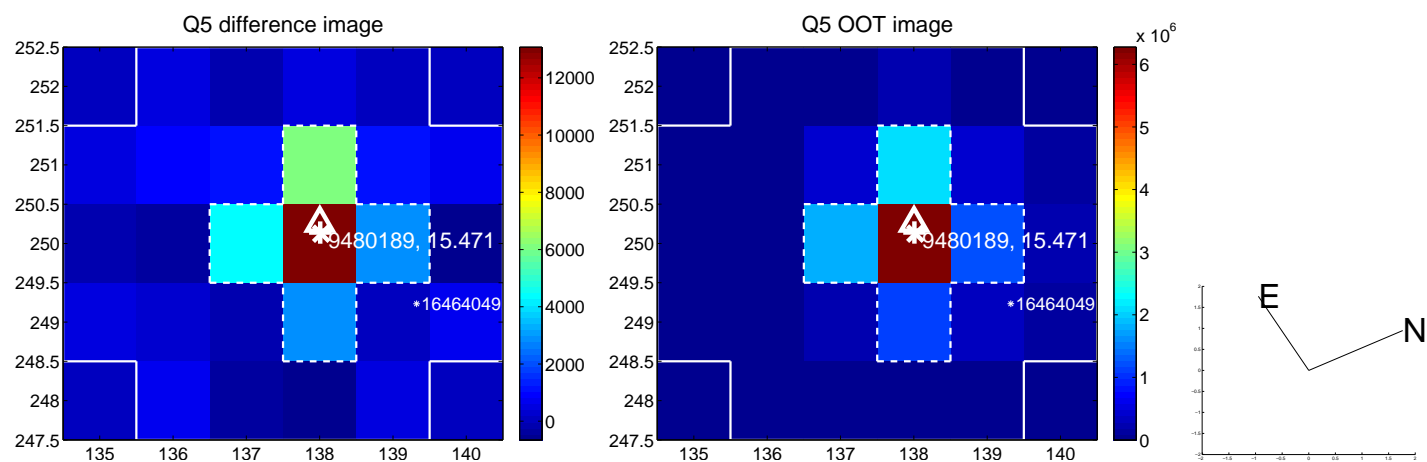


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

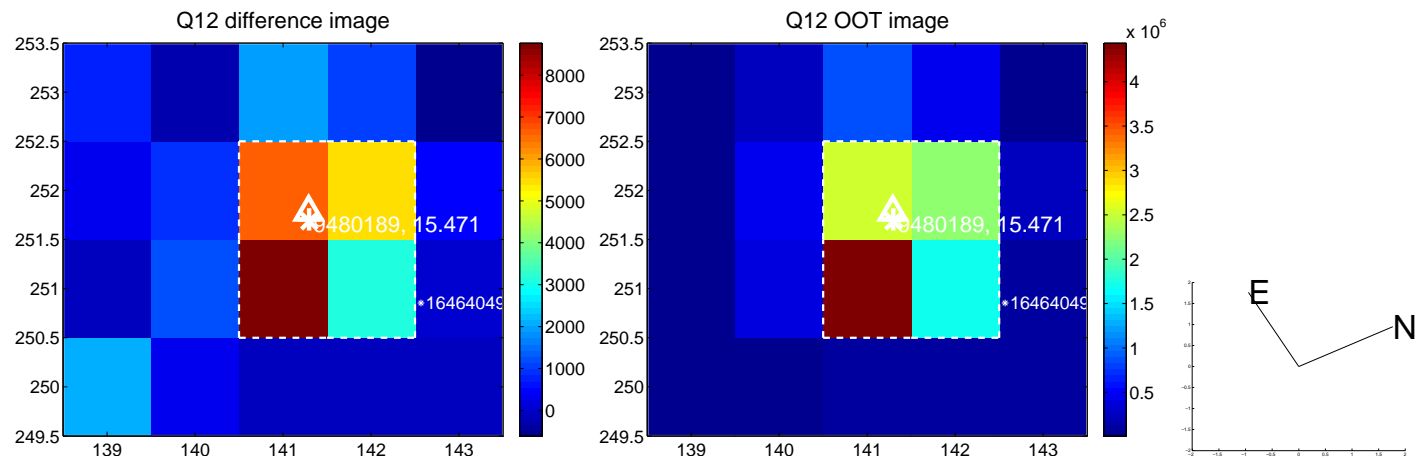
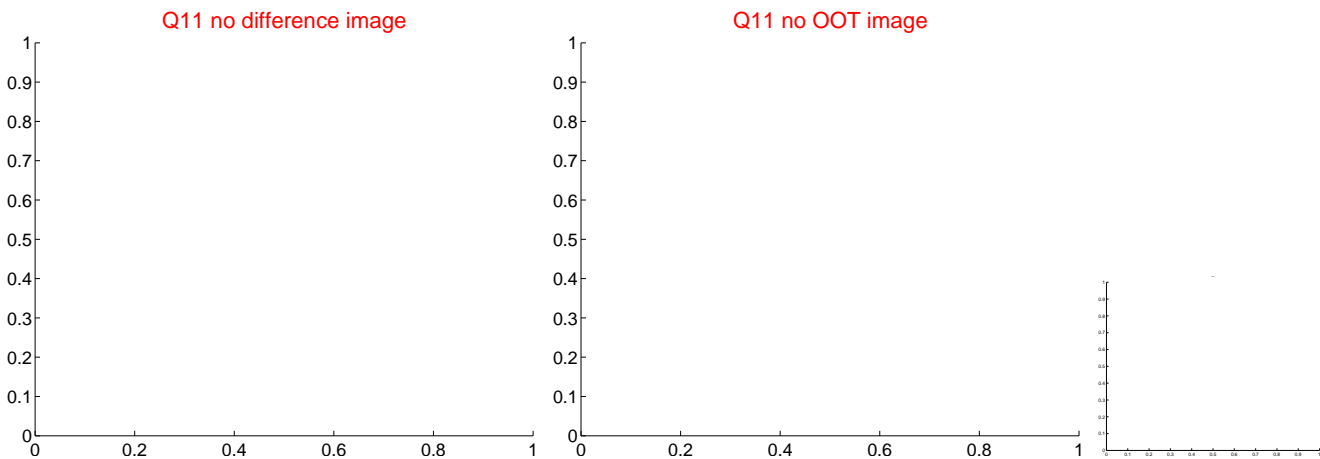
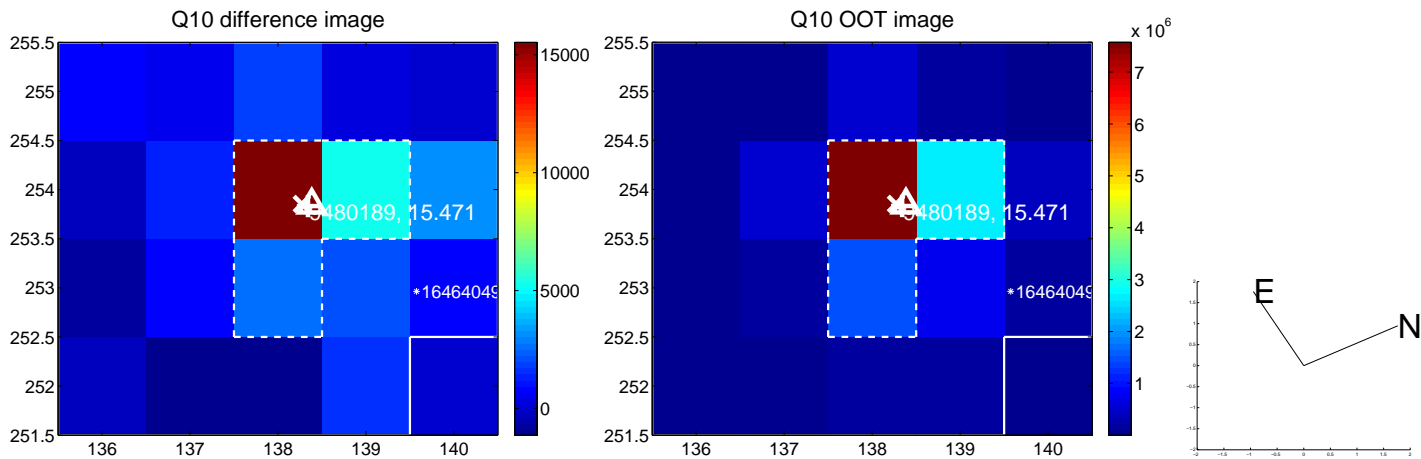
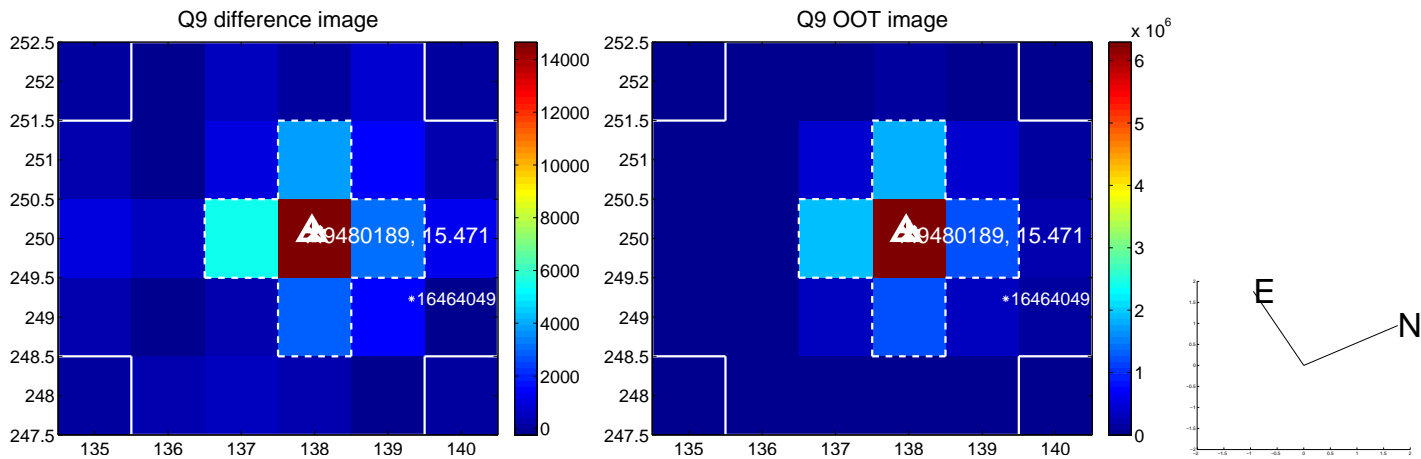
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



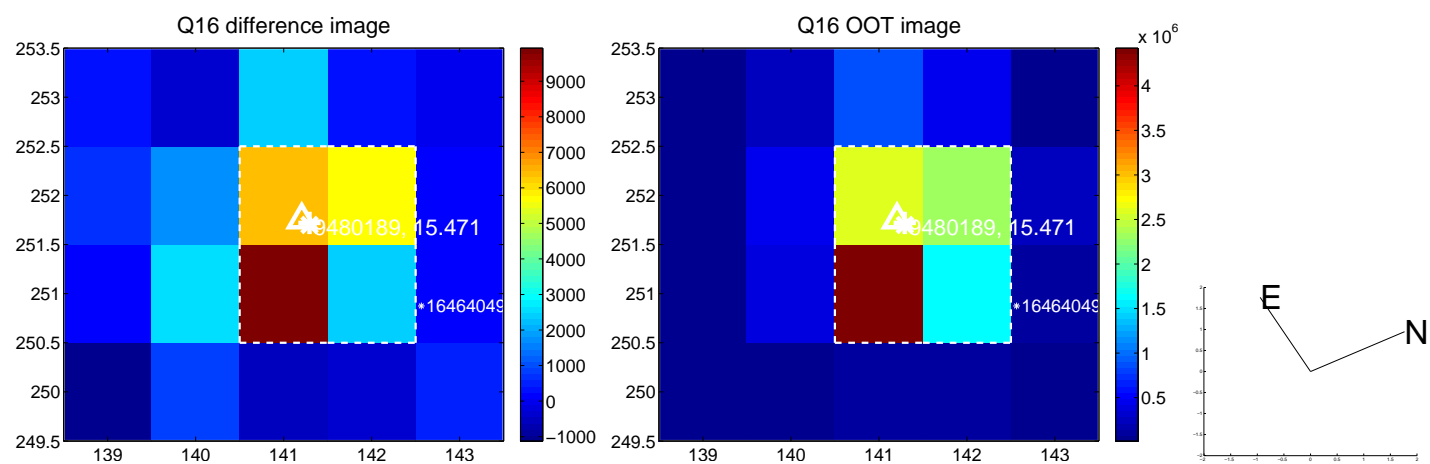
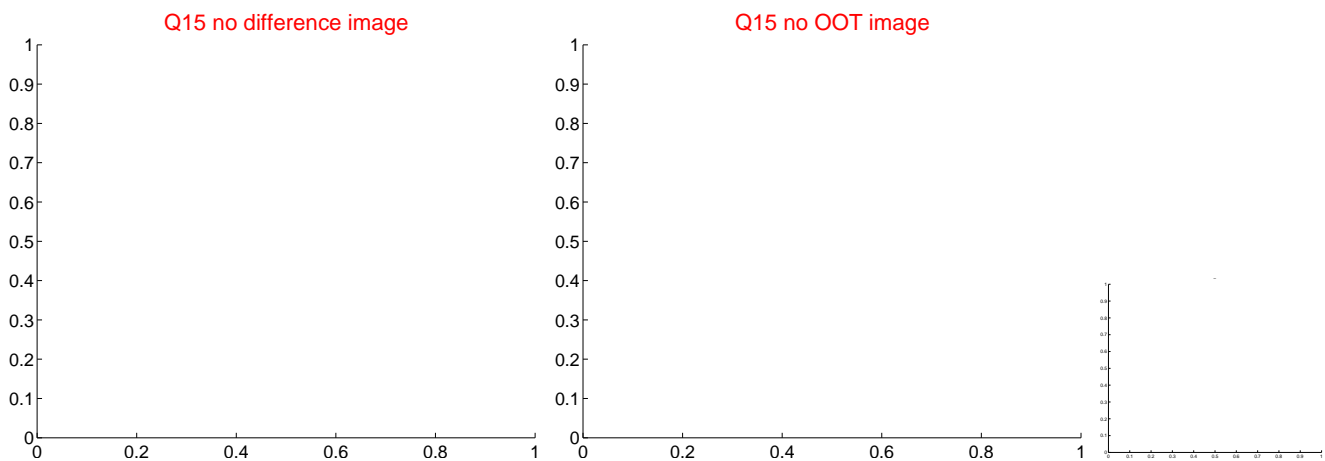
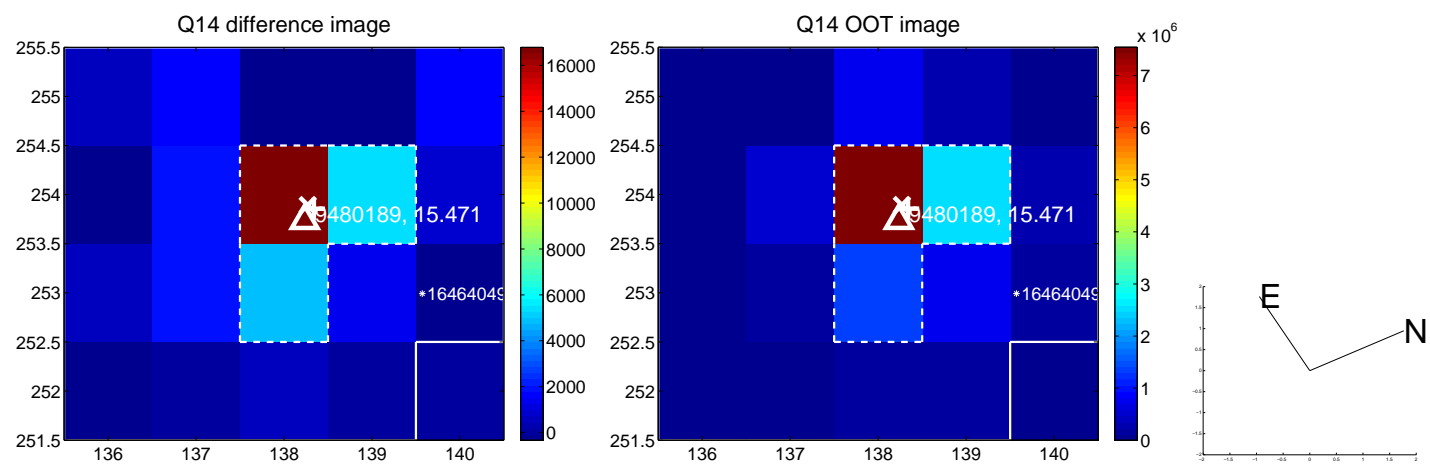
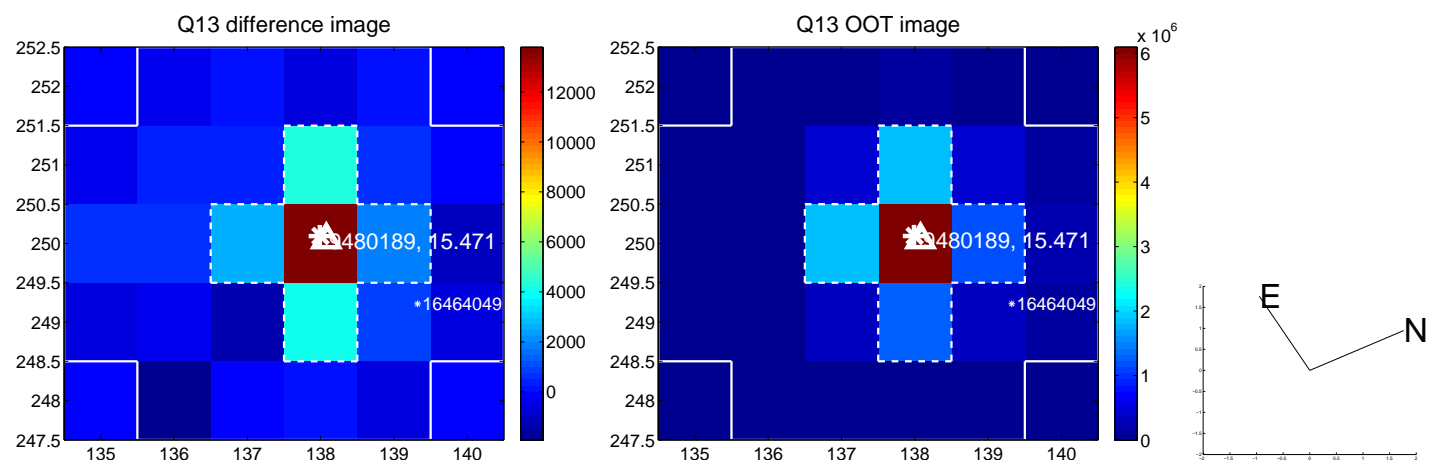
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



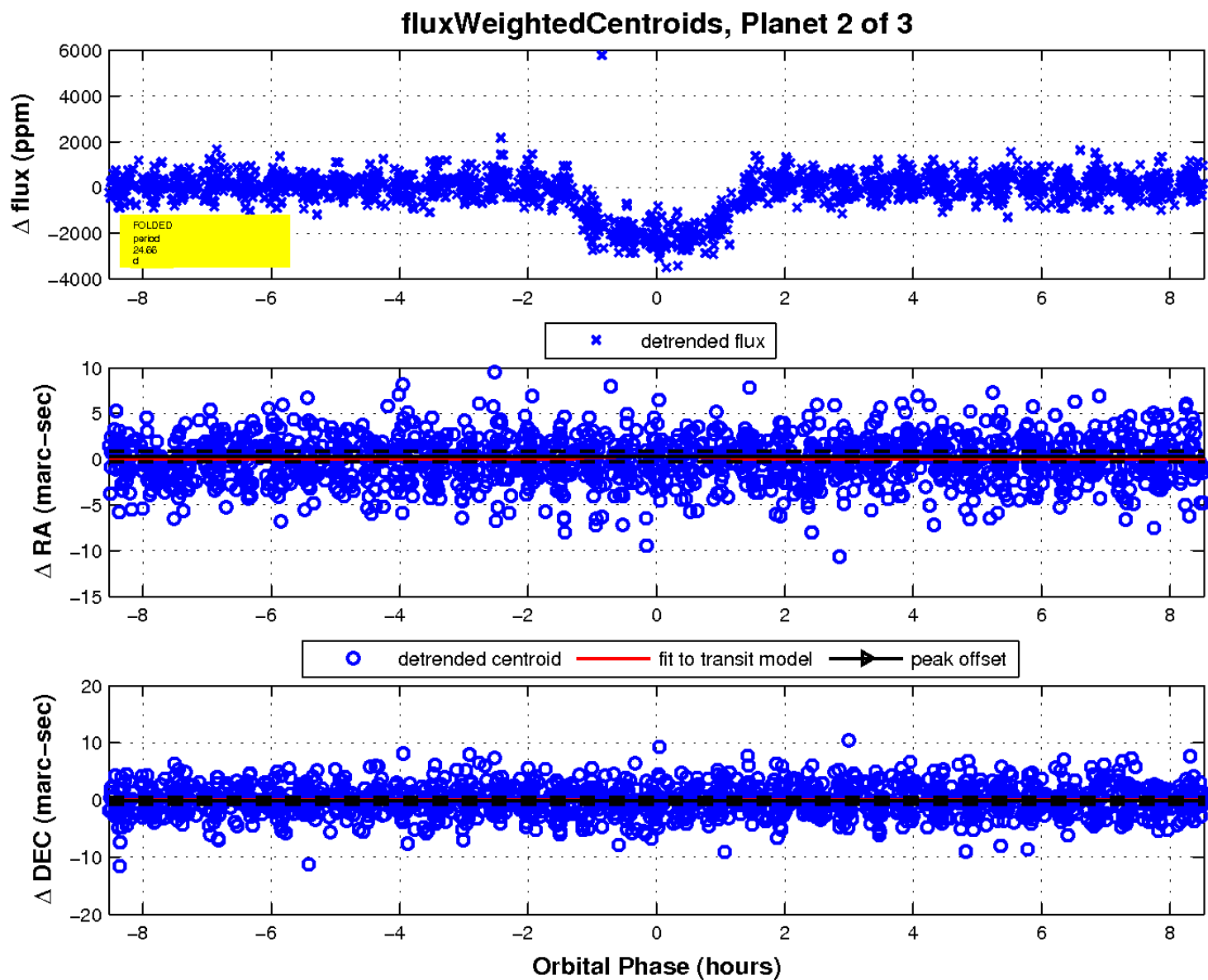
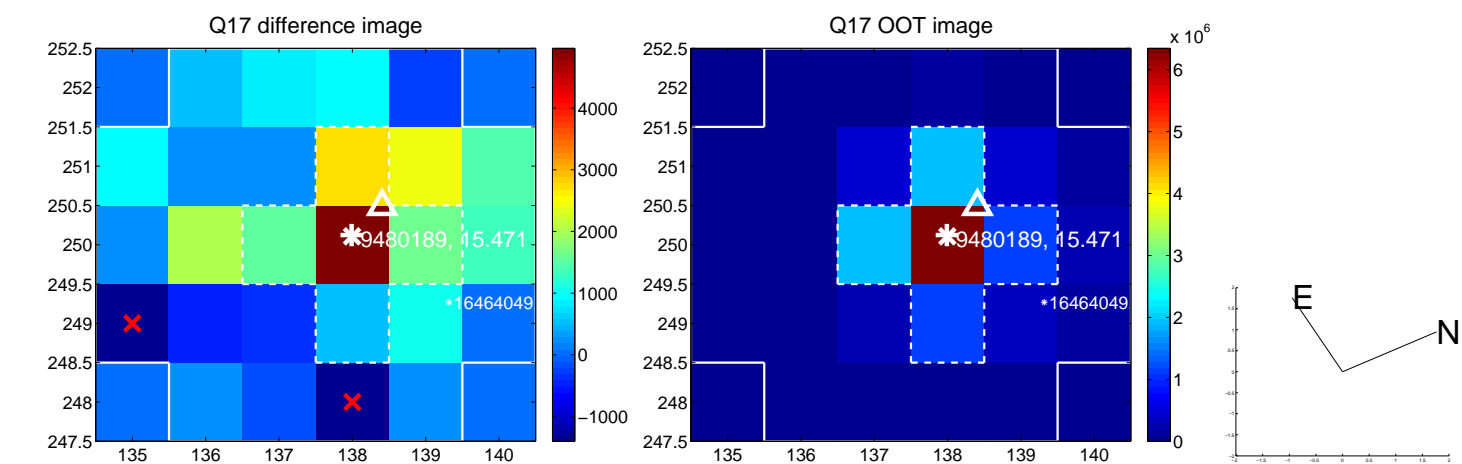
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

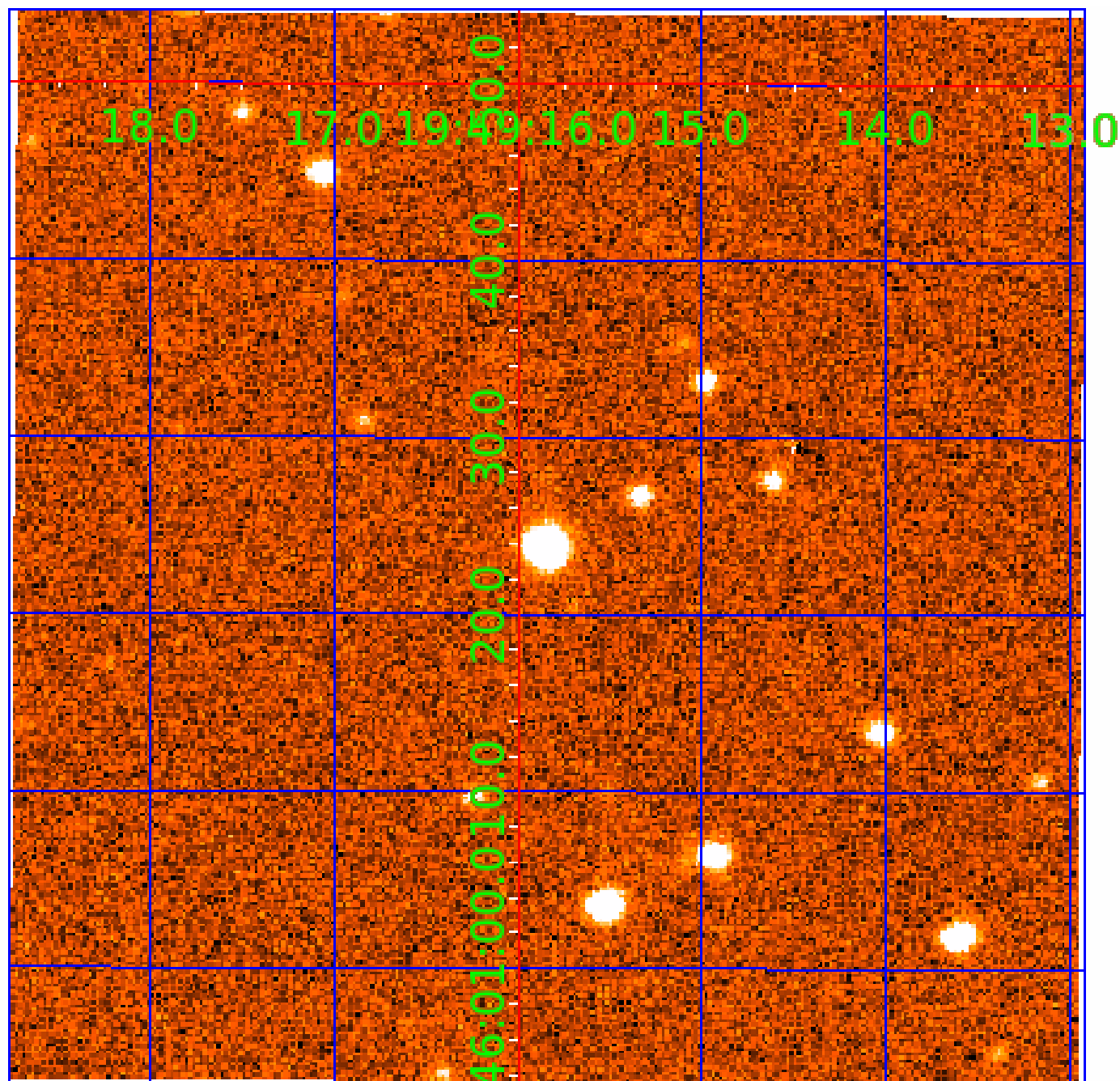


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009480189

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})
009480189-01	OBS	0941.01	6.581466	135.299912	2291.4	3.256	104.4	104.5	0.97	5188	5.11	142.96
009480189-02	OBS	0941.03	24.664537	139.692772	2329.2	2.848	51.4	51.9	0.97	5188	5.26	24.56
009480189-03	OBS	0941.02	2.382639	132.547988	696.5	1.887	39.7	44.6	0.97	5188	2.86	554.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009480189-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
009480189-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
009480189-03	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.

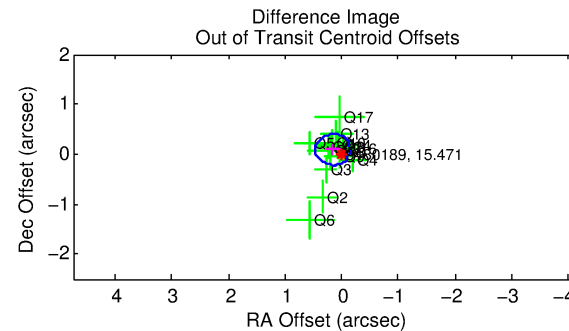
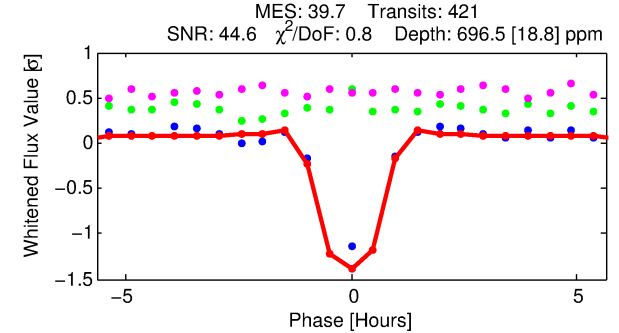
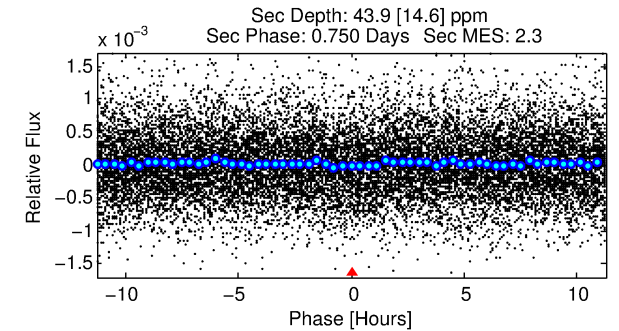
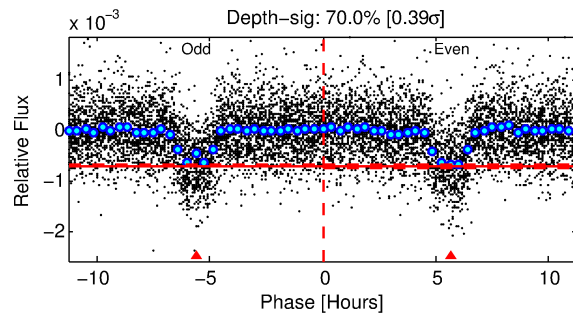
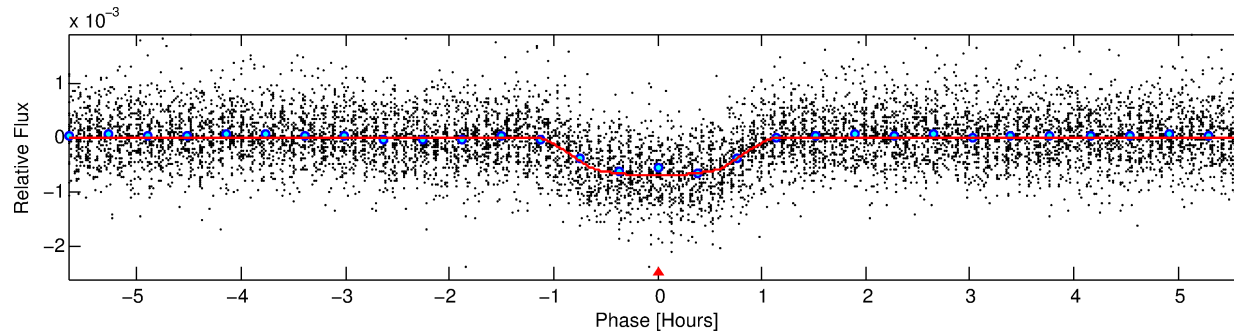
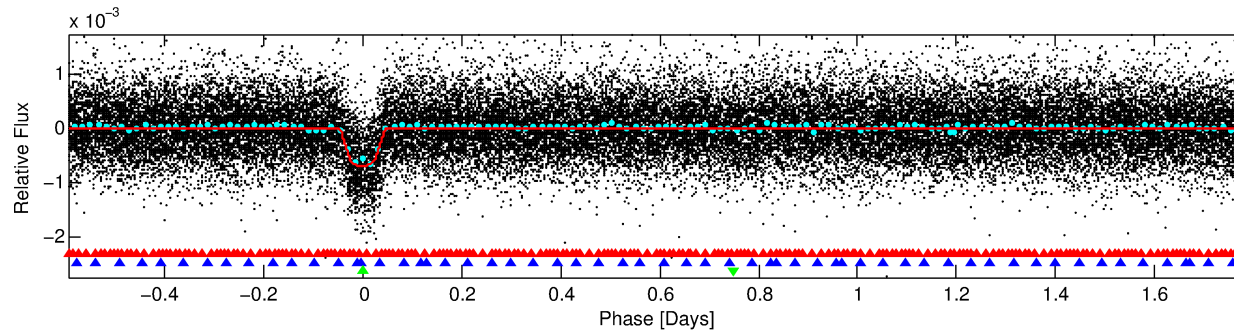
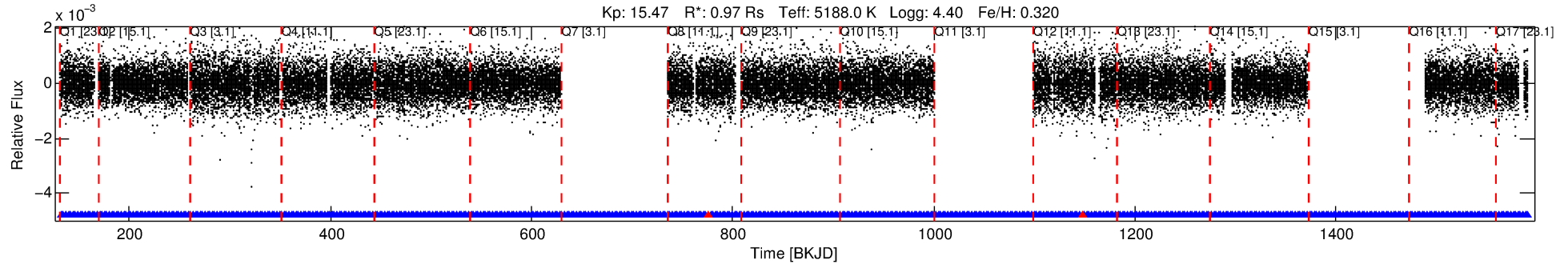
Ephemeris Match Information For 009480189-03

No Significant Match Found

DV One-Page Summary

KIC: 9480189 Candidate: 3 of 3 Period: 2.383 d
KOI: K00941.02 Name: Kepler-257b Corr: 0.973

Kp: 15.47 R*: 0.97 Rs Teff: 5188.0 K Logg: 4.40 Fe/H: 0.320



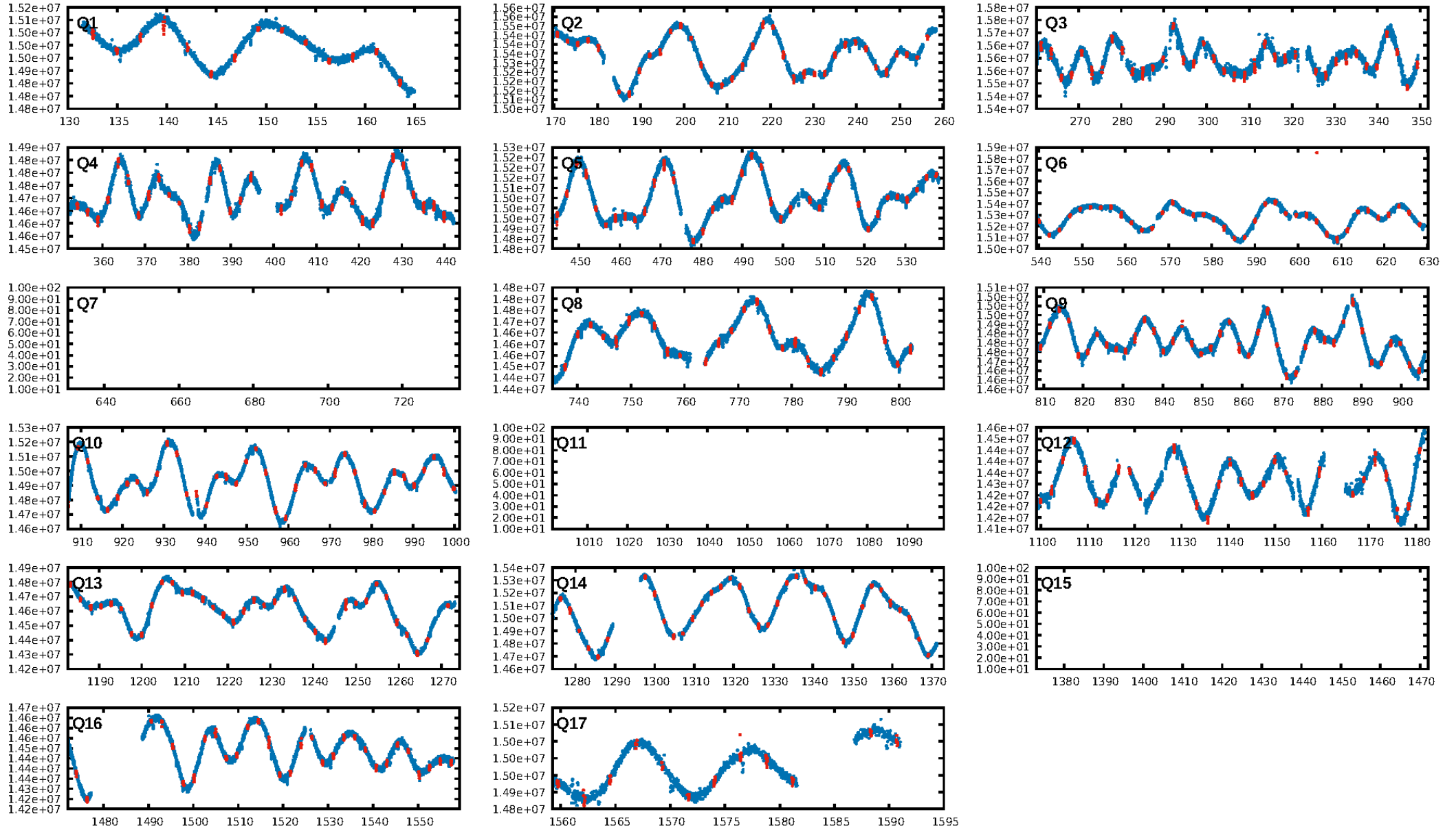
DV Fit Results:

Period = 2.38264 [0.00000] d
Epoch = 132.5480 [0.0007] BKJD
Rp/R* = 0.0269 [0.0081]
a/R* = 6.42 [6.81]
b = 0.79 [0.54]
Seff = 554.06 [264.99]
Teq = 1237 [148] K
Rp = 2.86 [1.30] Re
a = 0.0333 [0.0101] AU
Ag = 3.28 [2.71] [0.84σ]
Teffp = 2573 [450] K [2.82σ]

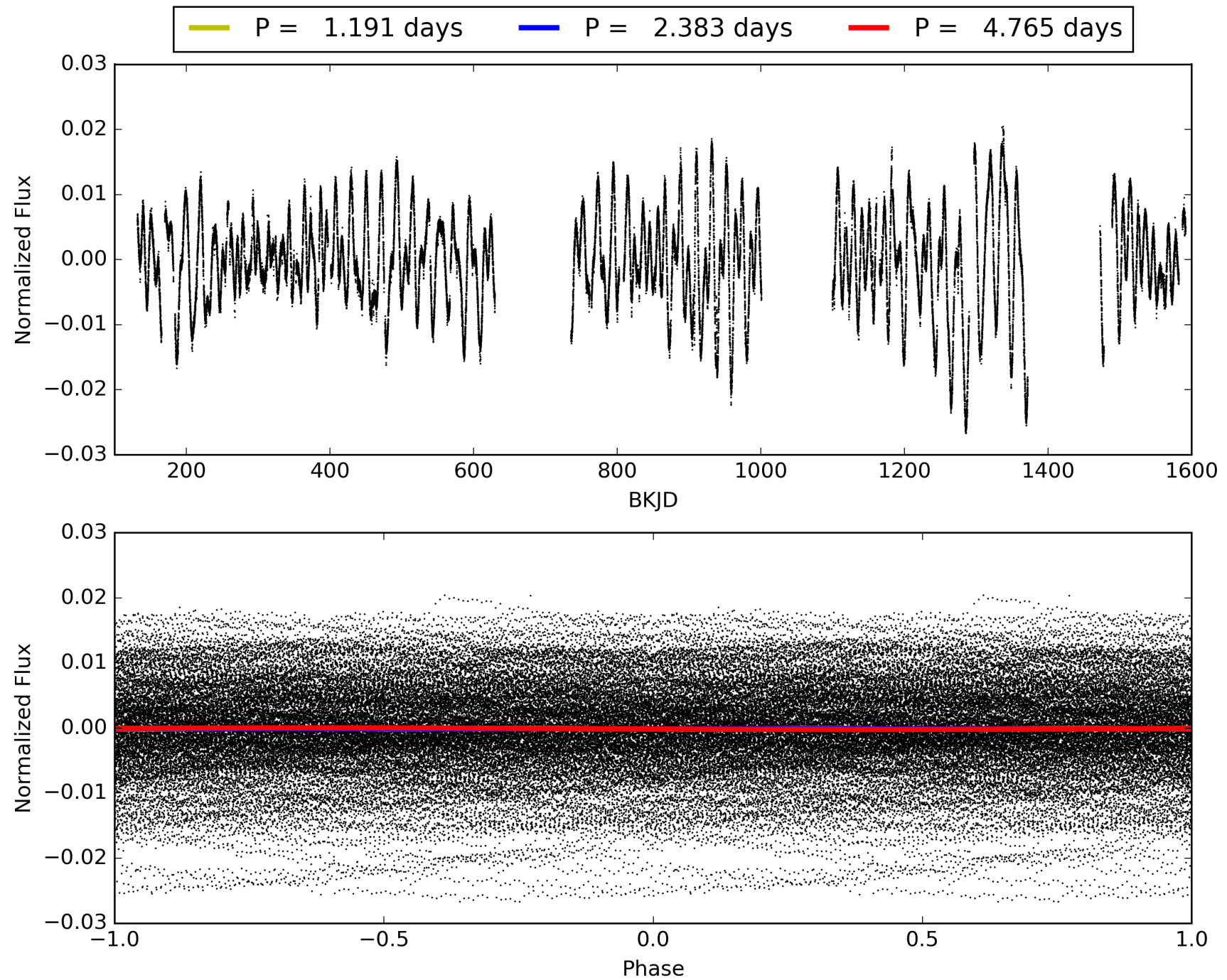
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [26.78σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [394/396]
GhostDiagnostic-chr: 5.861
Centroid-sig: 87.6%
Centroid-so: 0.246 arcsec [0.89σ]
OotOffset-rm: 0.181 arcsec [1.75σ]
KicOffset-rm: 0.145 arcsec [1.25σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 009480189-03, PDC Light Curves

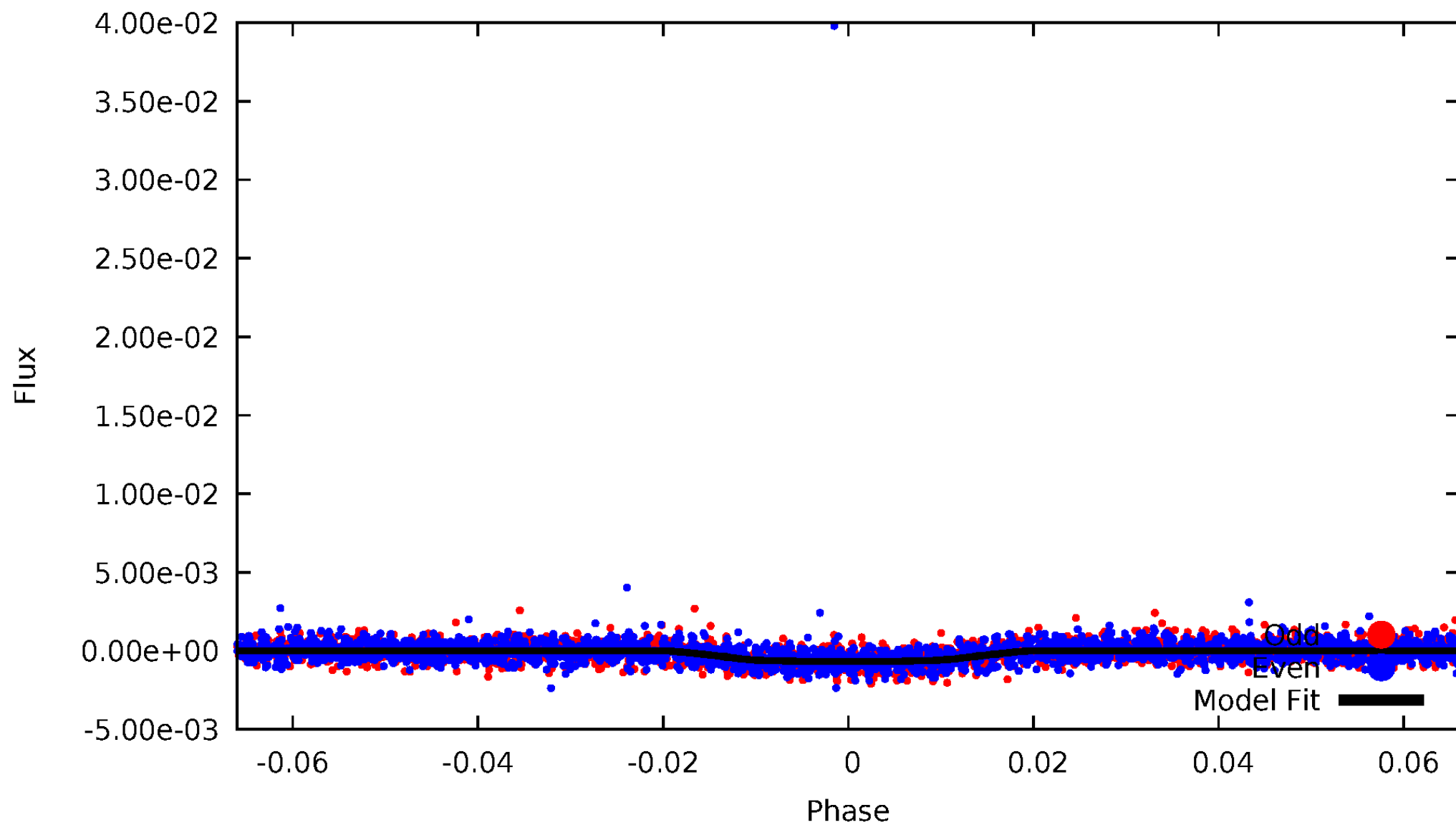


TCE 009480189-03



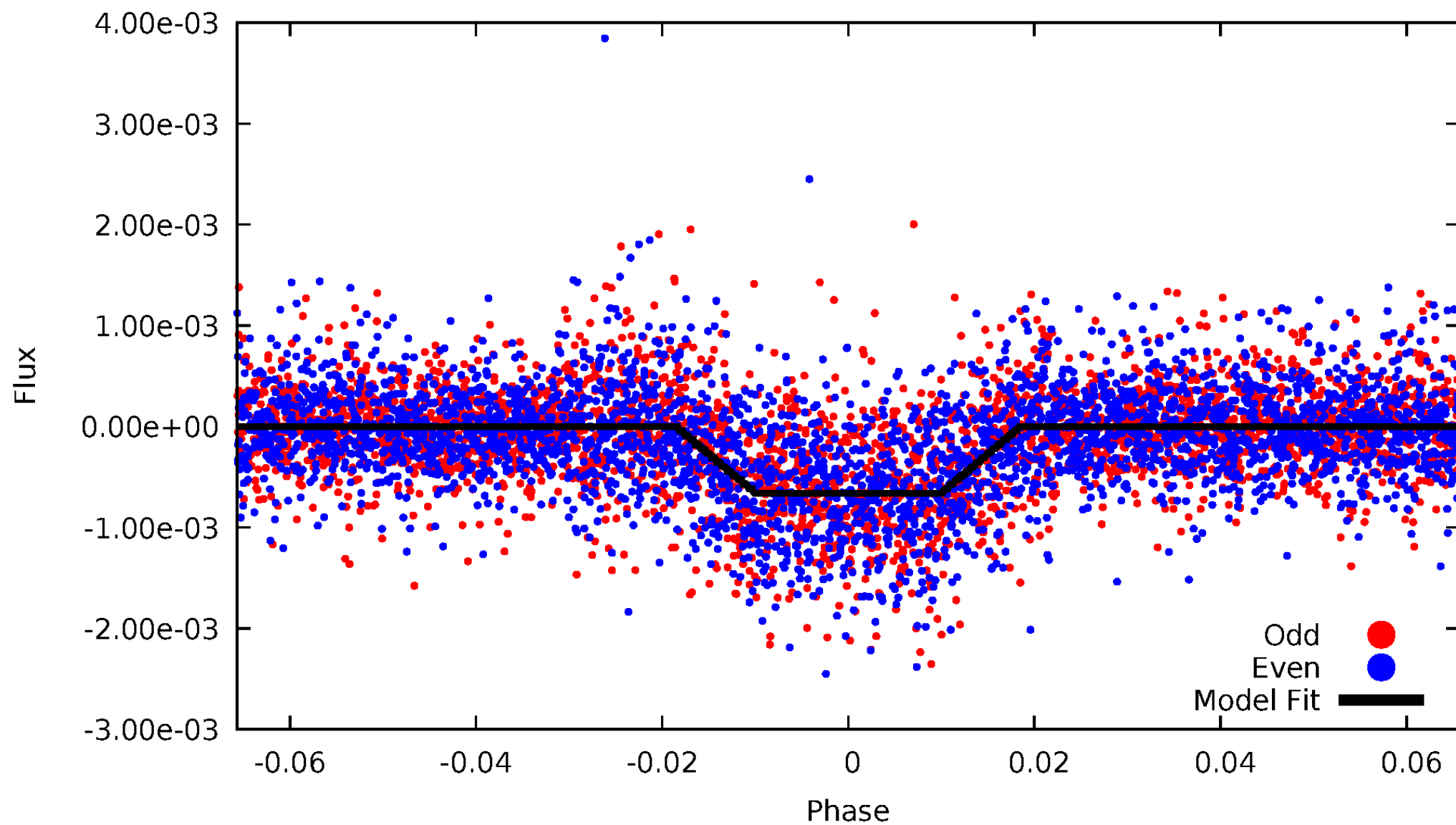
DV Odd/Even

TCE 009480189-03



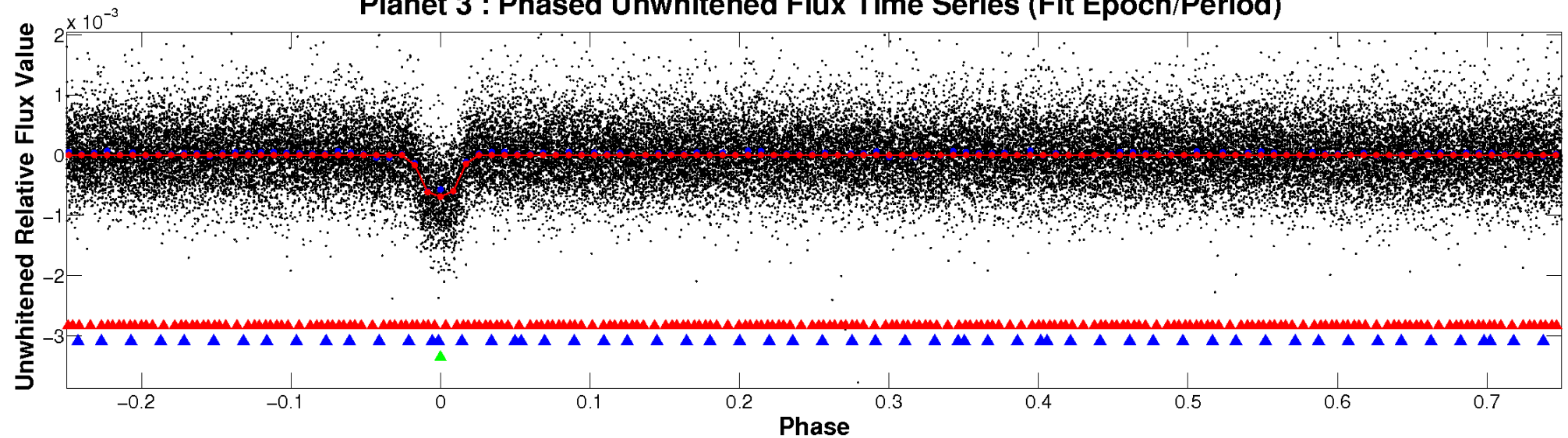
ALT Odd/Even

TCE 009480189-03

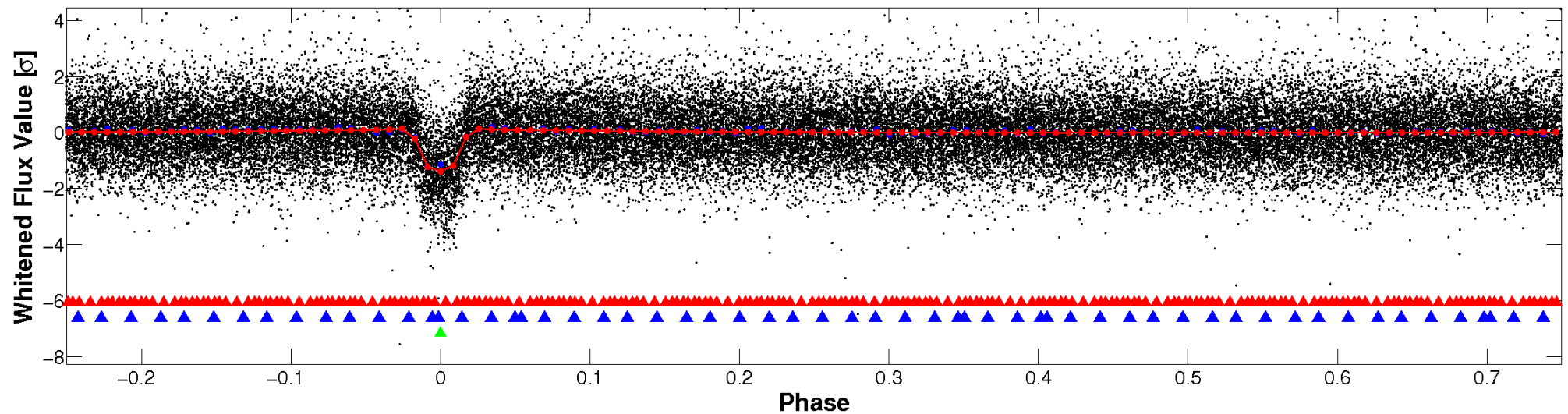


Non-Whitened Vs. Whitened Light Curve

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

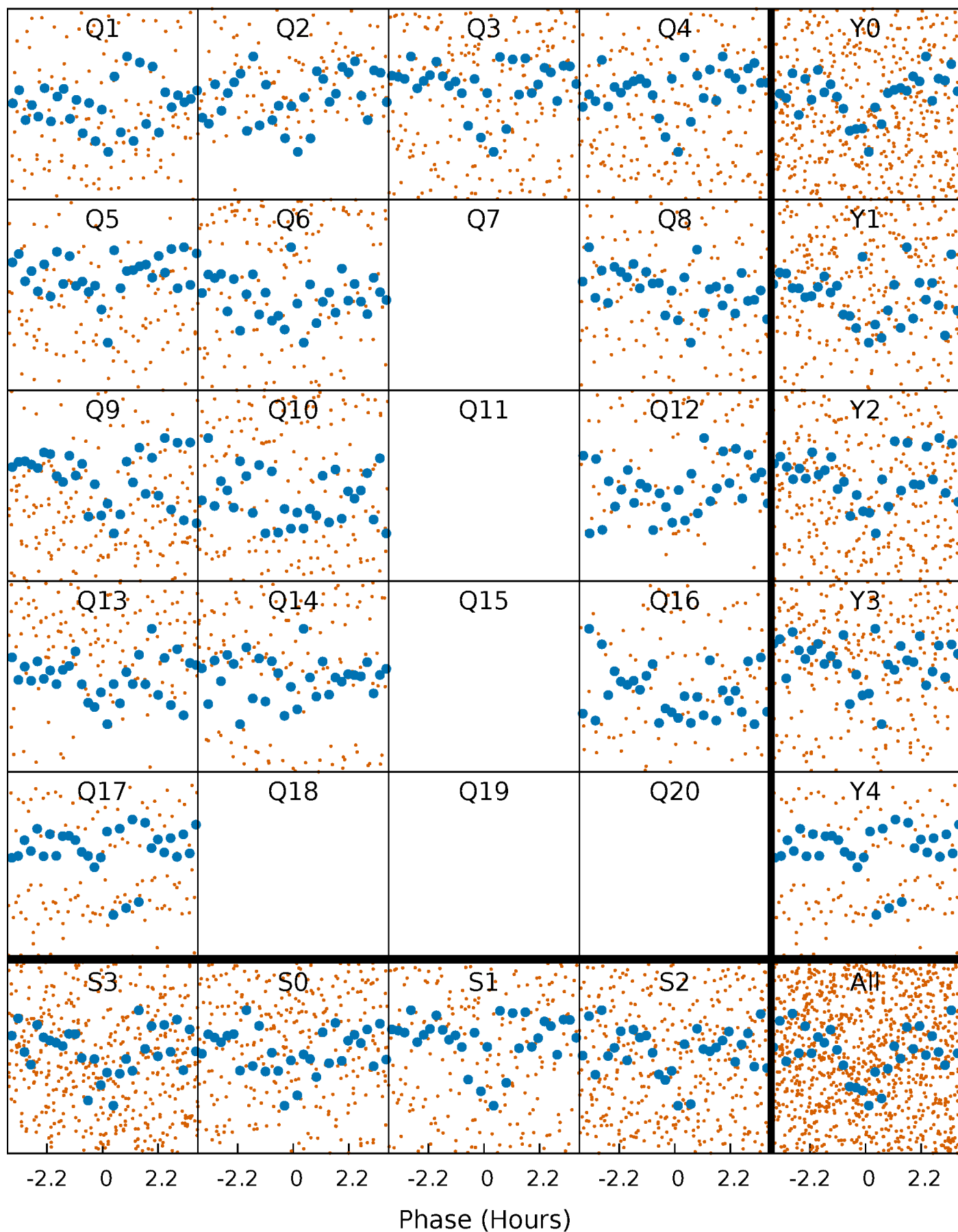


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



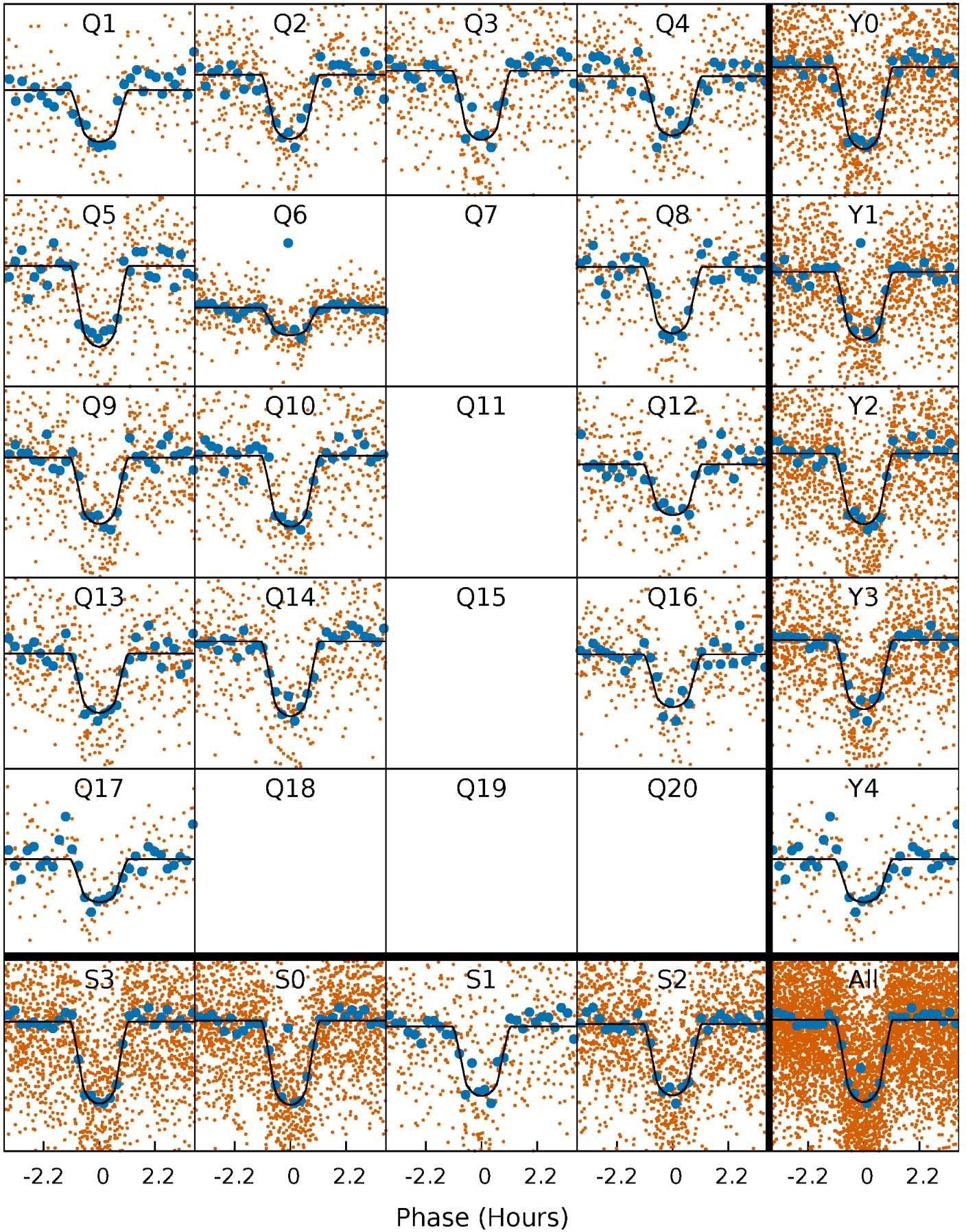
PDC Quarter-Phased Transit Curves

TCE 009480189-03 P= 2.382639 Days $T_0=132.547988$ (BKJD)



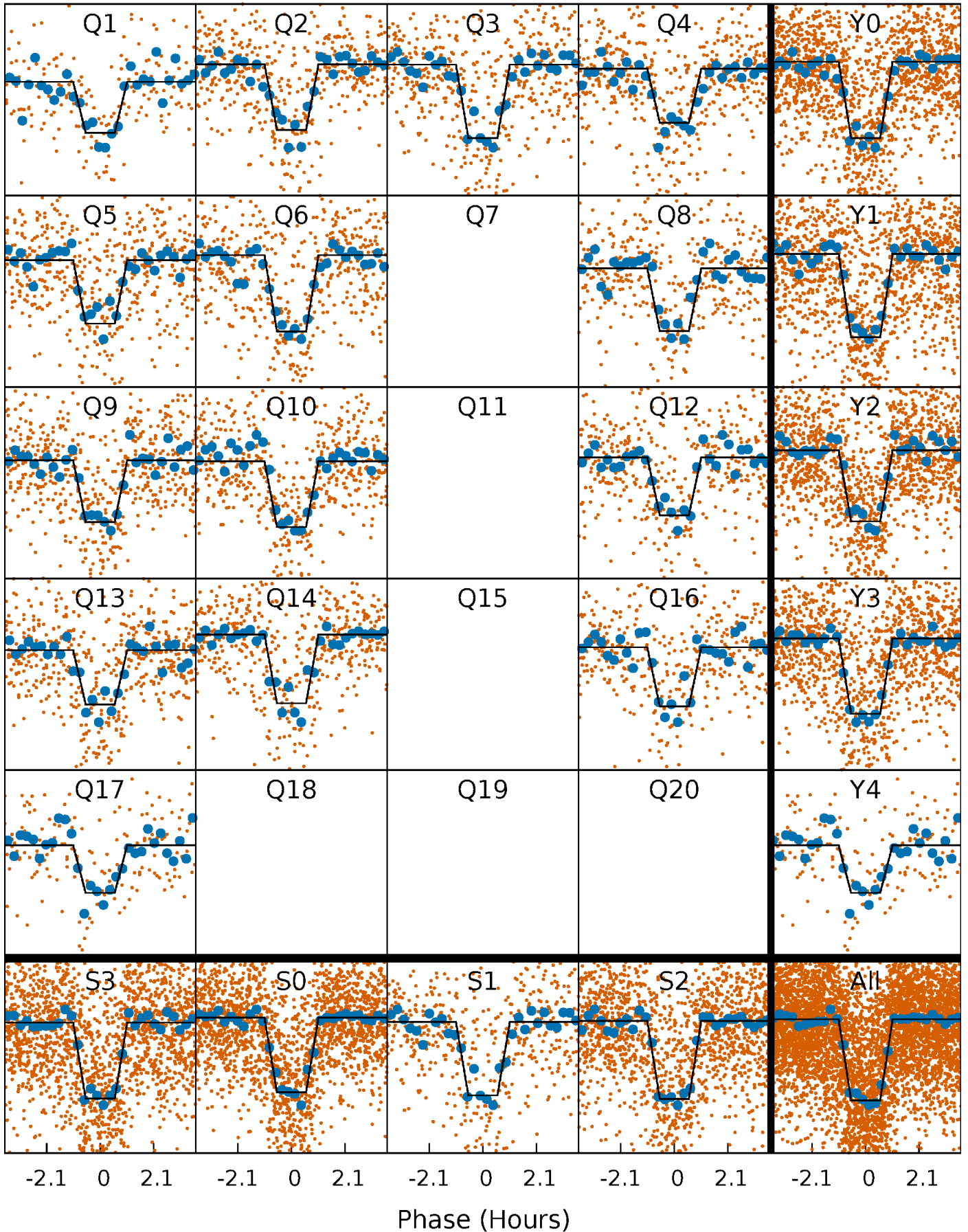
DV Quarter-Phased Transit Curves

TCE 009480189-03 P= 2.382639 Days $T_0=132.547988$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

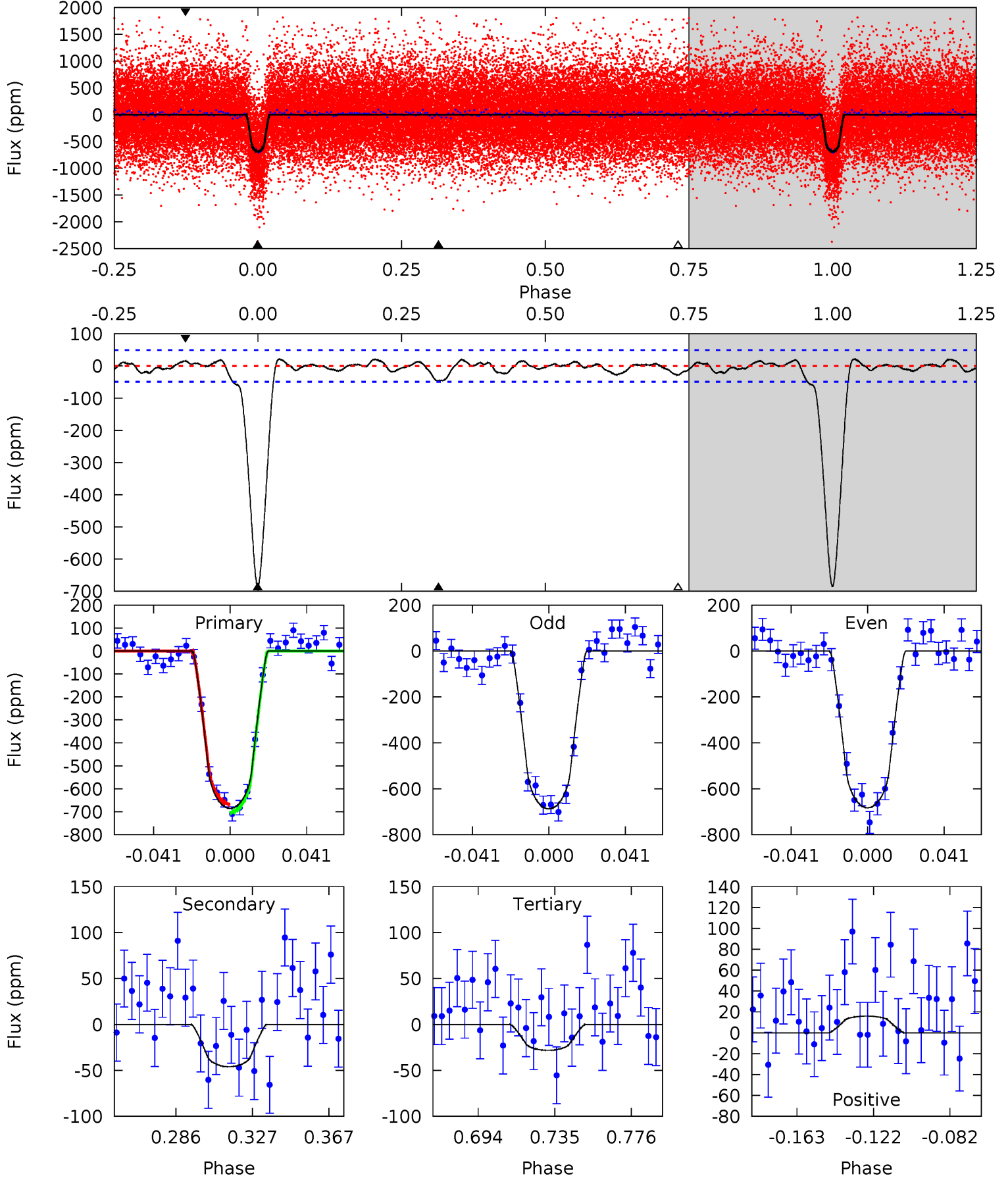
TCE 009480189-03 P= 2.382654 Days $T_0=132.543753$ (BKJD)



DV Model-Shift Uniqueness Test

009480189-03, P = 2.382639 Days, E = 130.165349 Days

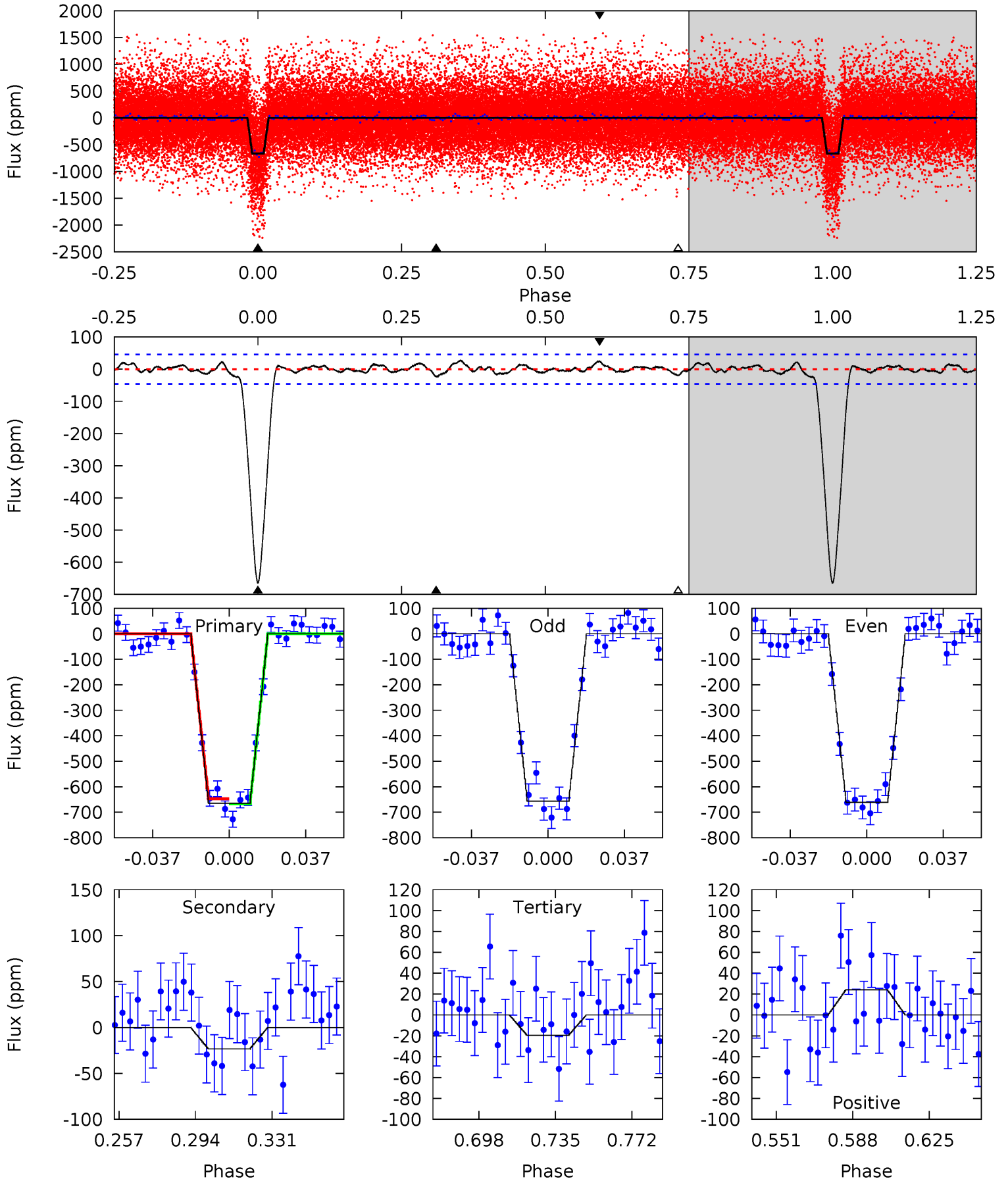
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
66.0	4.43	2.72	1.54	4.75	2.05	1.13	63.3	64.5	1.72	2.89	0.21	0.93	0.03	1.75



Alt Model-Shift Uniqueness Test

009480189-03, P = 2.382654 Days, E = 130.161099 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
69.3	2.44	2.03	2.51	4.77	2.09	0.96	67.3	66.8	0.40	-0.08	0.25	1.02	0.04	1.09



Stellar Parameters For KIC 009480189

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5188^{+171}_{-155}	$4.400^{+0.140}_{-0.260}$	$0.320^{+0.150}_{-0.250}$	$0.973^{+0.333}_{-0.154}$	$0.868^{+0.073}_{-0.060}$	$1.326^{+0.838}_{-0.782}$
	+3%/-3%	+3%/-6%	+47%/-78%	+34%/-16%	+8%/-7%	+63%/-59%
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 009480189-03 / KOI 0941.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-46 ± 10	$3.01^{+1.02}_{-1.02}$	1750^{+156}_{-102}	3131^{+441}_{-286}	$3.179^{+4.238}_{-1.576}$
Alt.	-23 ± 10	$2.78^{+1.04}_{-0.91}$	1746^{+159}_{-106}	2849^{+423}_{-364}	$1.756^{+2.535}_{-0.957}$

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 $A_{obs} \gg 1.0$

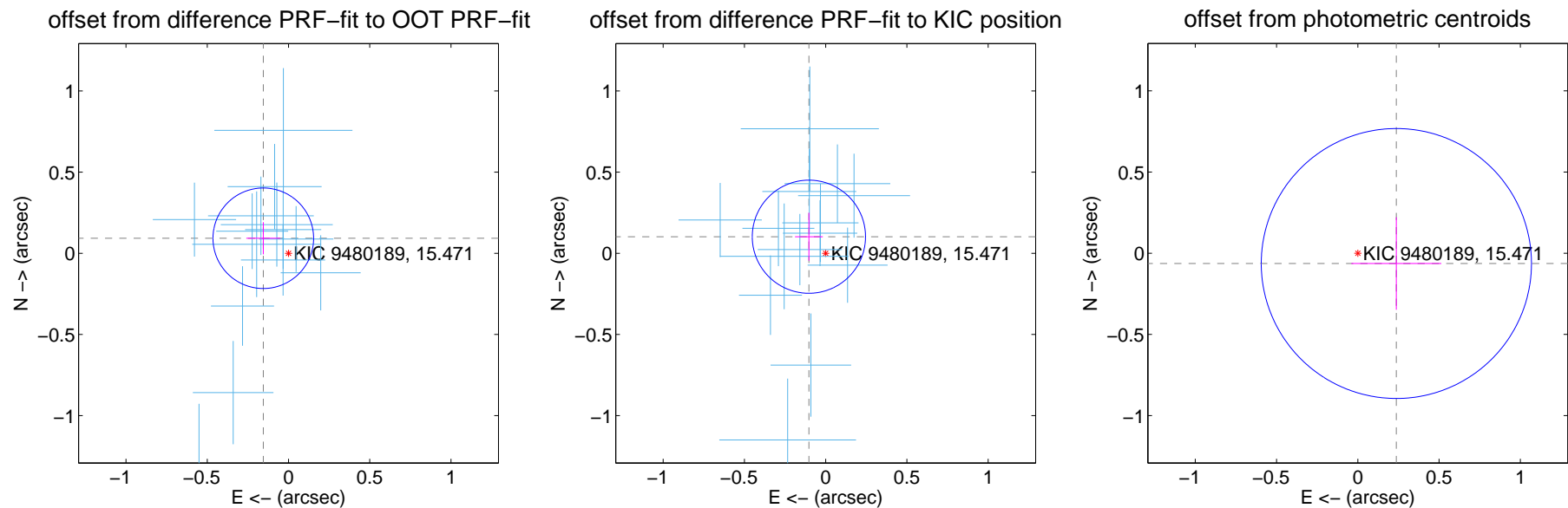
DV Centroid Data

Supplemental centroid analysis for 009480189-03. Kepler magnitude: 15.47. Transit SNR 44.58

There are 14 quarters with good PRF difference image offsets

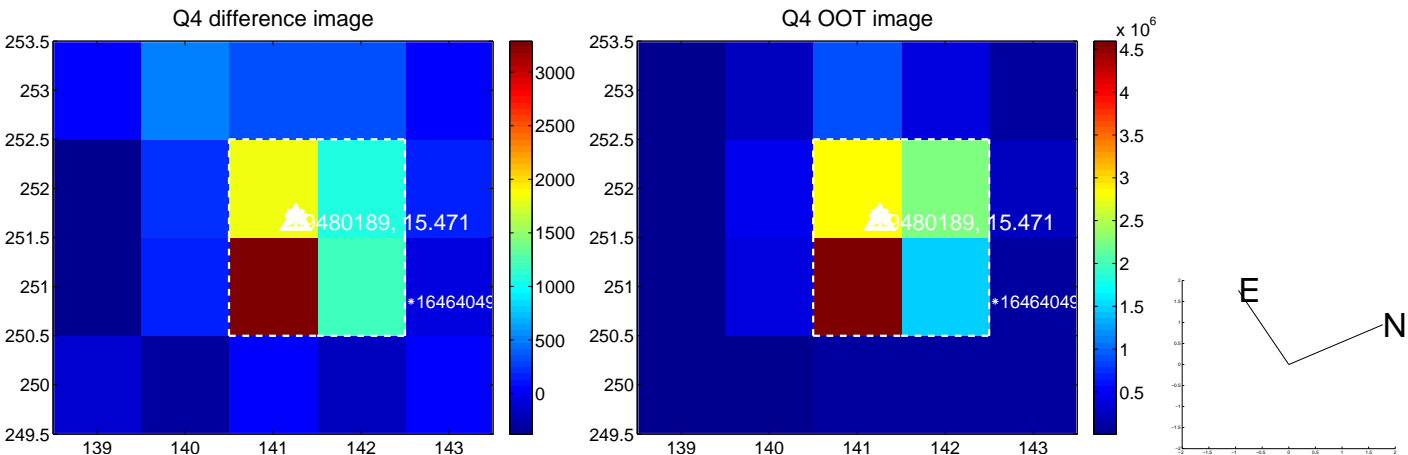
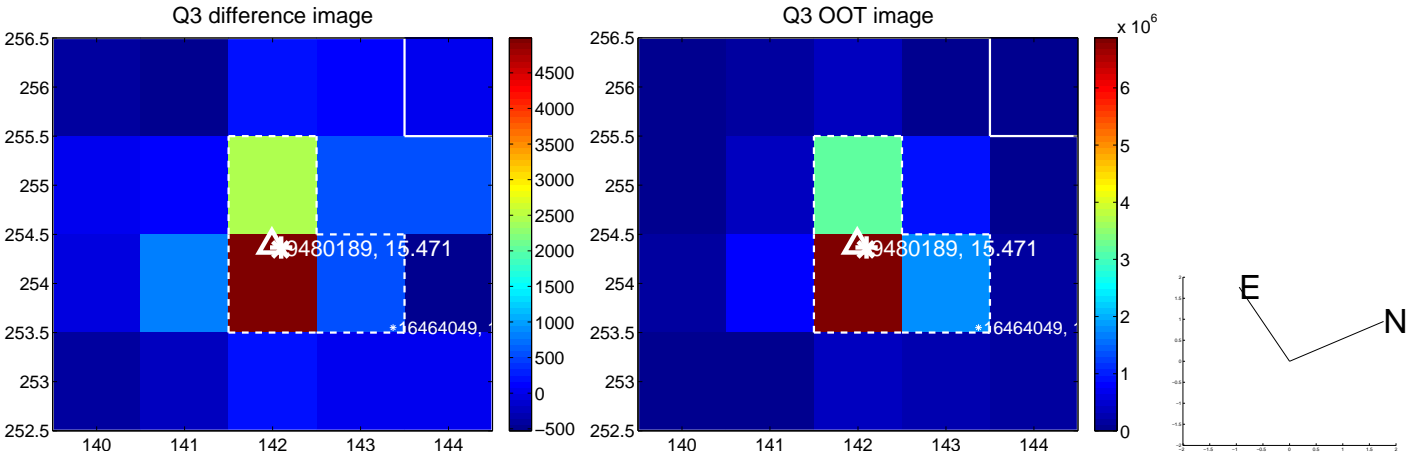
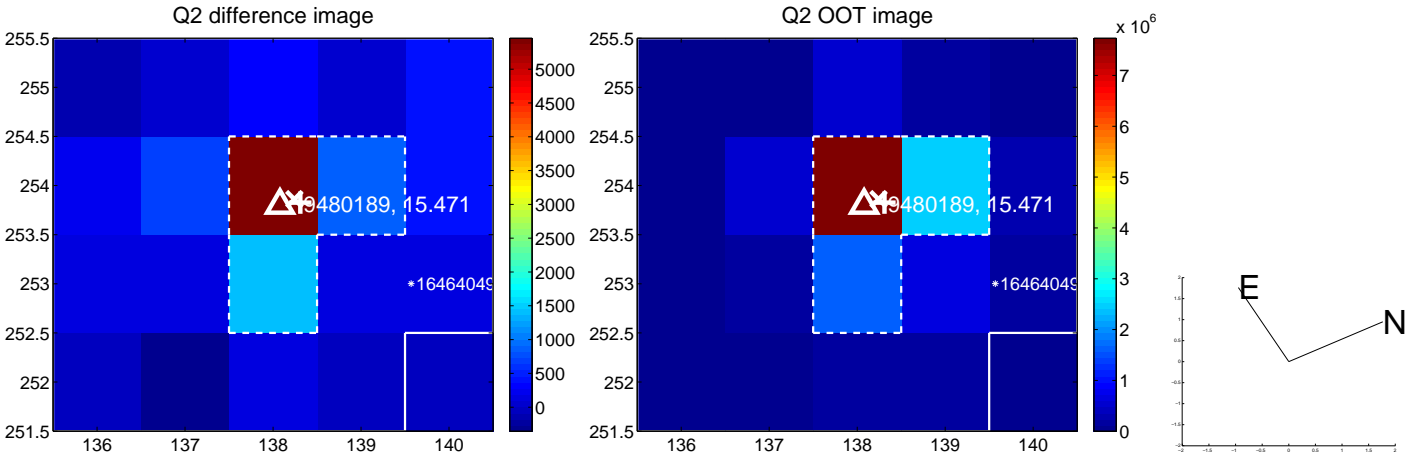
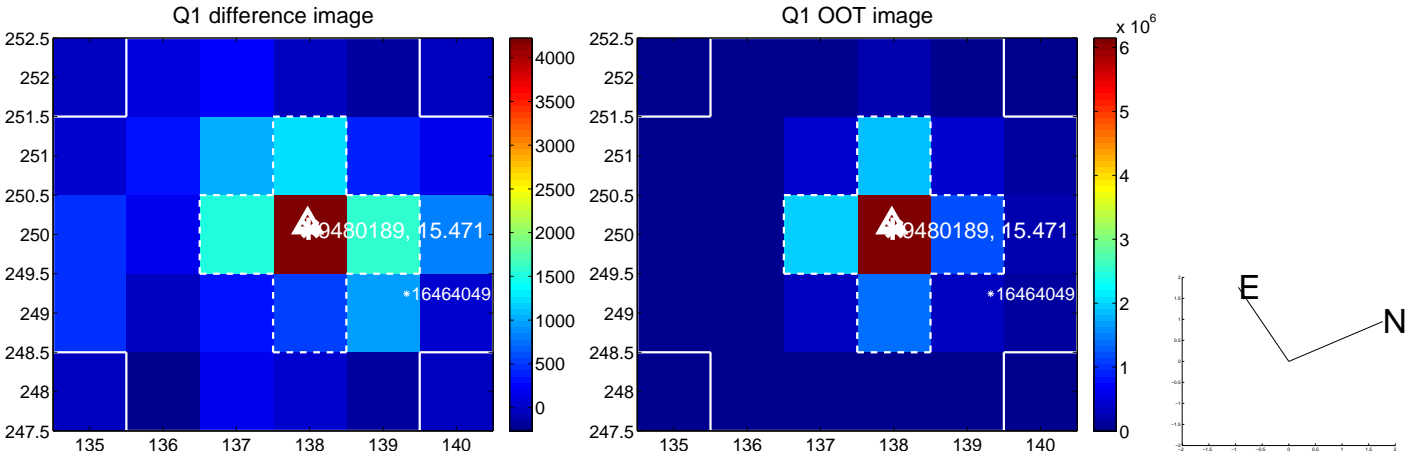
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.181 ± 0.103	1.75	0.155 ± 0.105	0.093 ± 0.099
PRF-fit source offset from KIC position	0.145 ± 0.116	1.25	0.103 ± 0.086	0.102 ± 0.148
photometric centroid source offset	0.25 ± 0.28	0.89	-0.24 ± 0.28	-0.06 ± 0.29

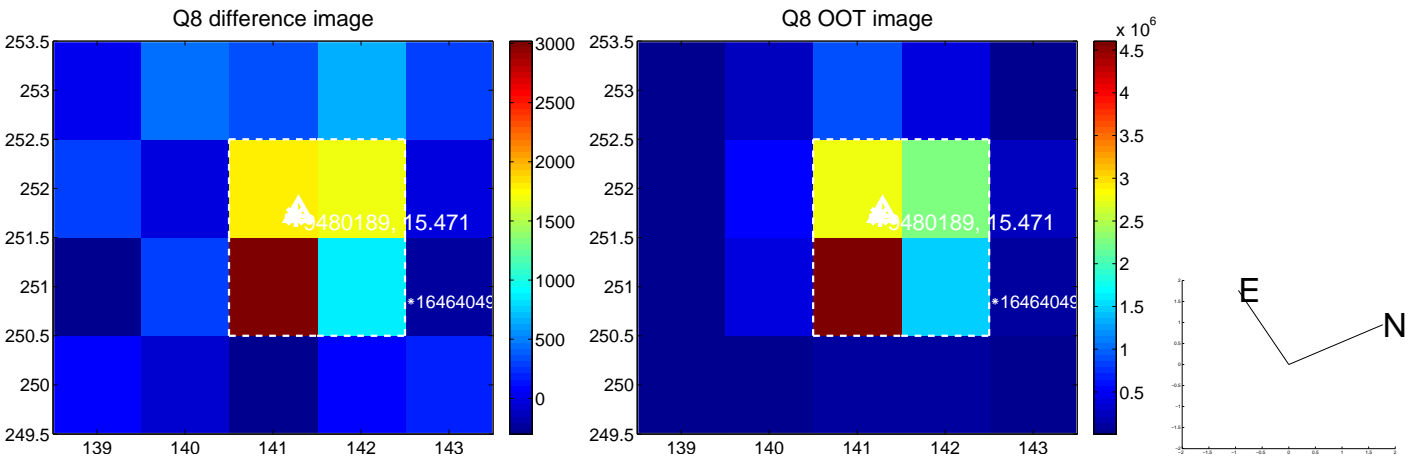
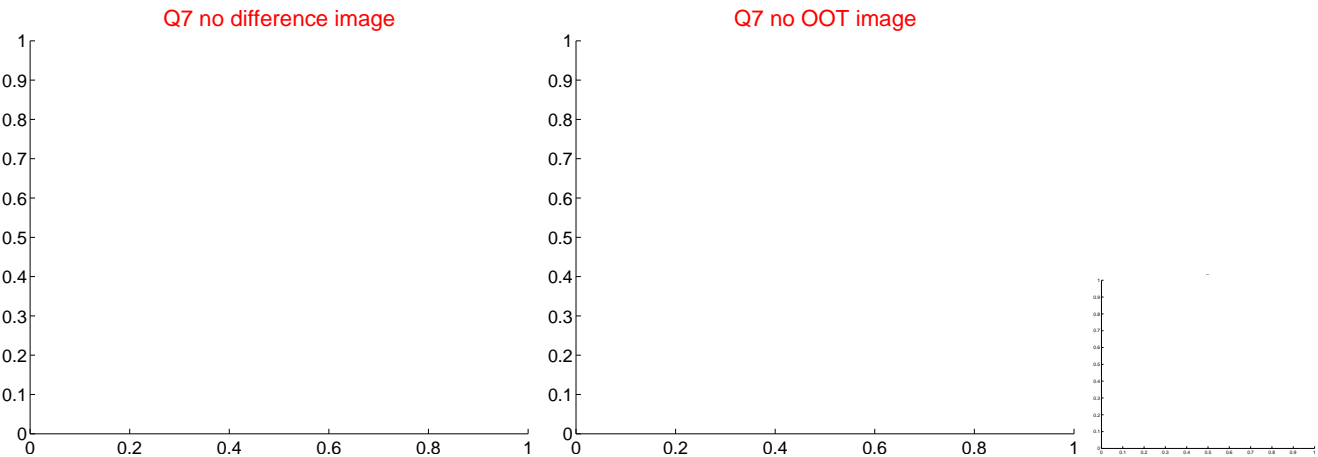
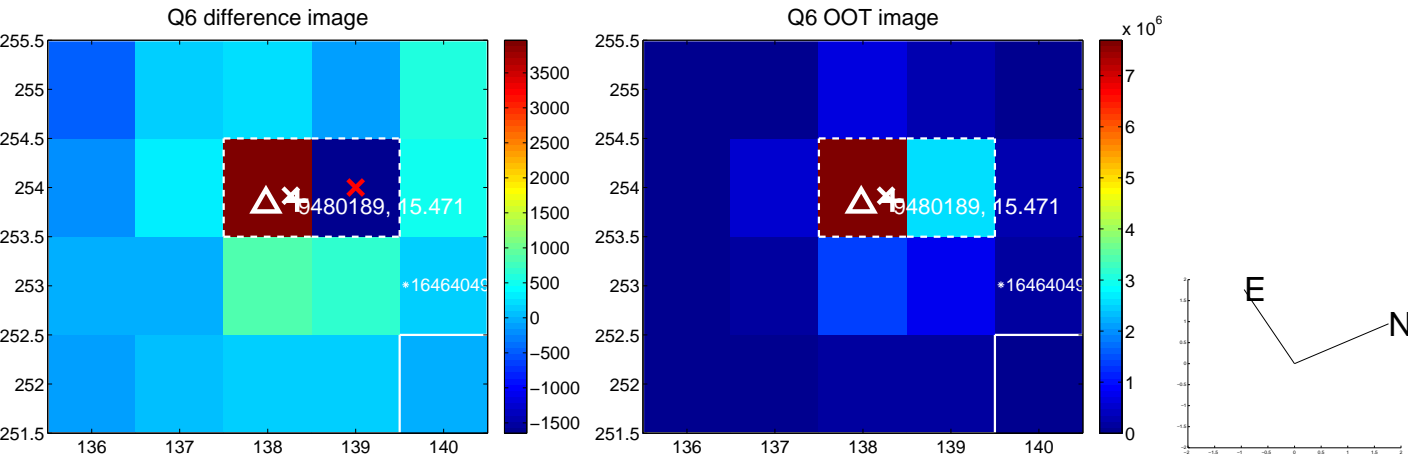
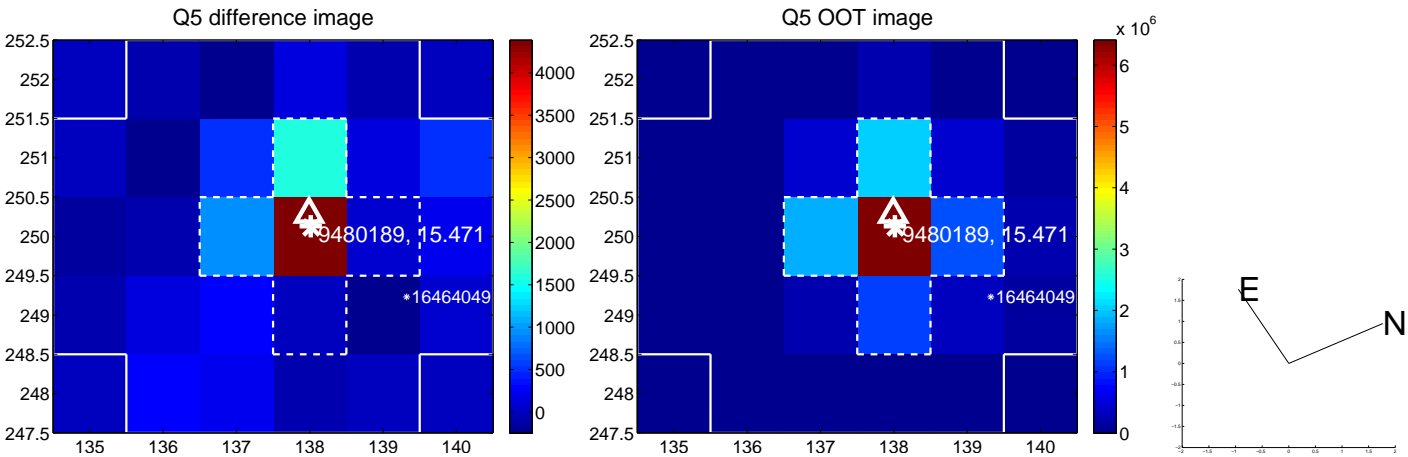


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

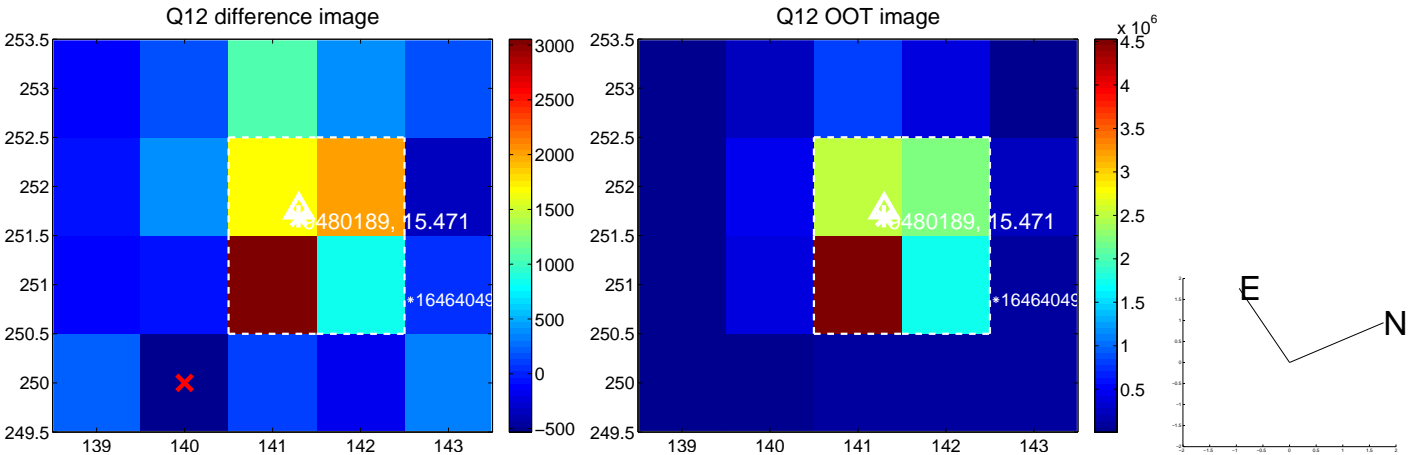
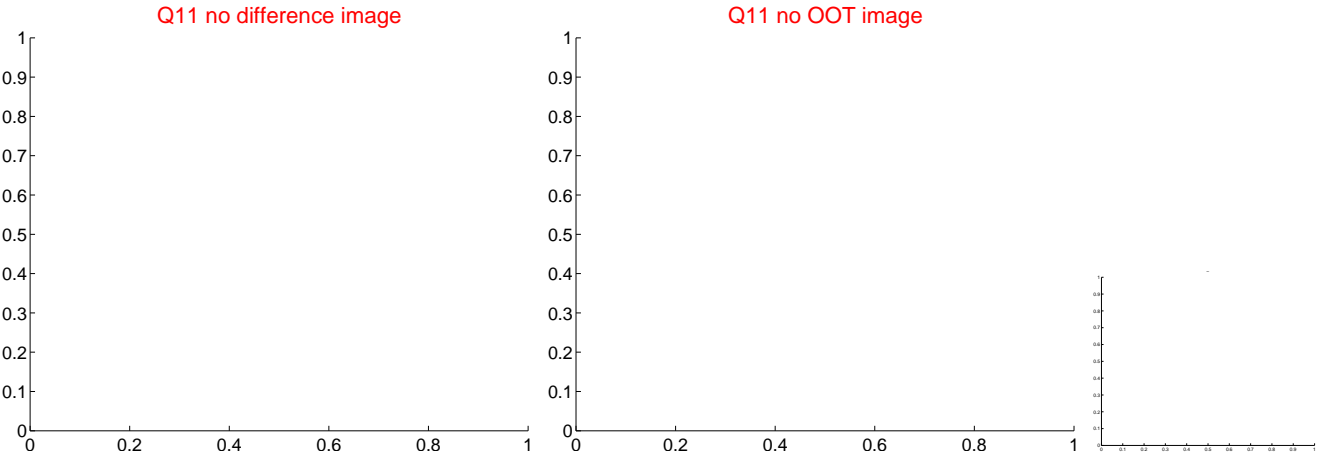
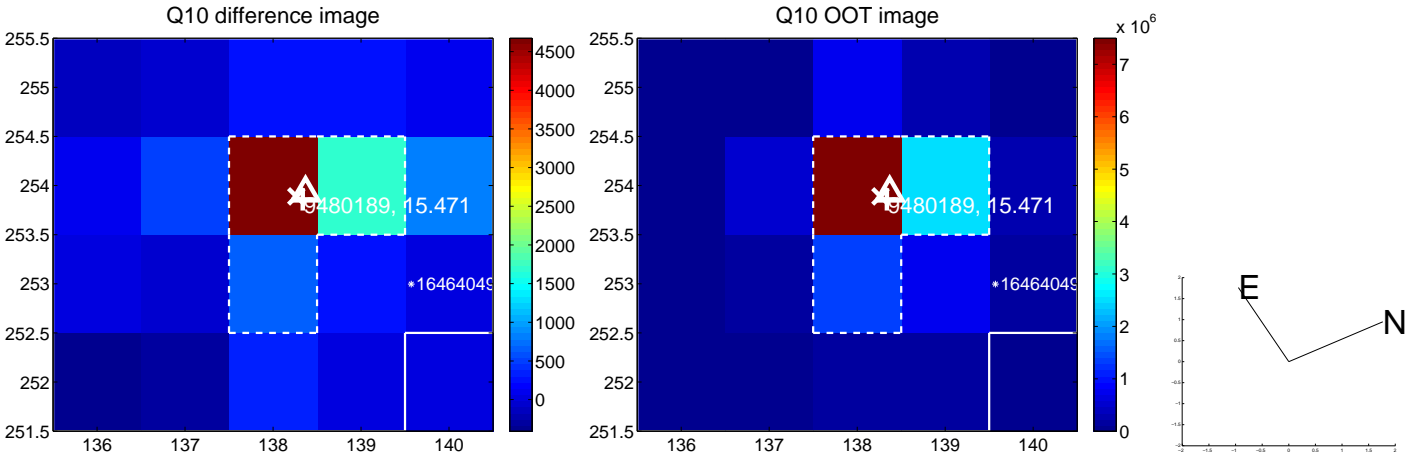
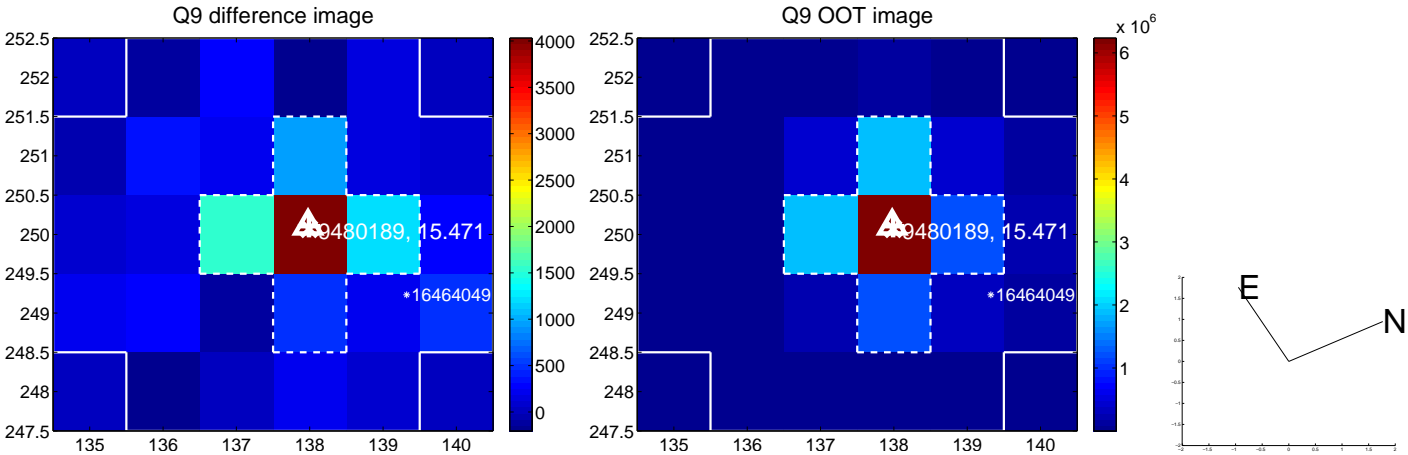
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



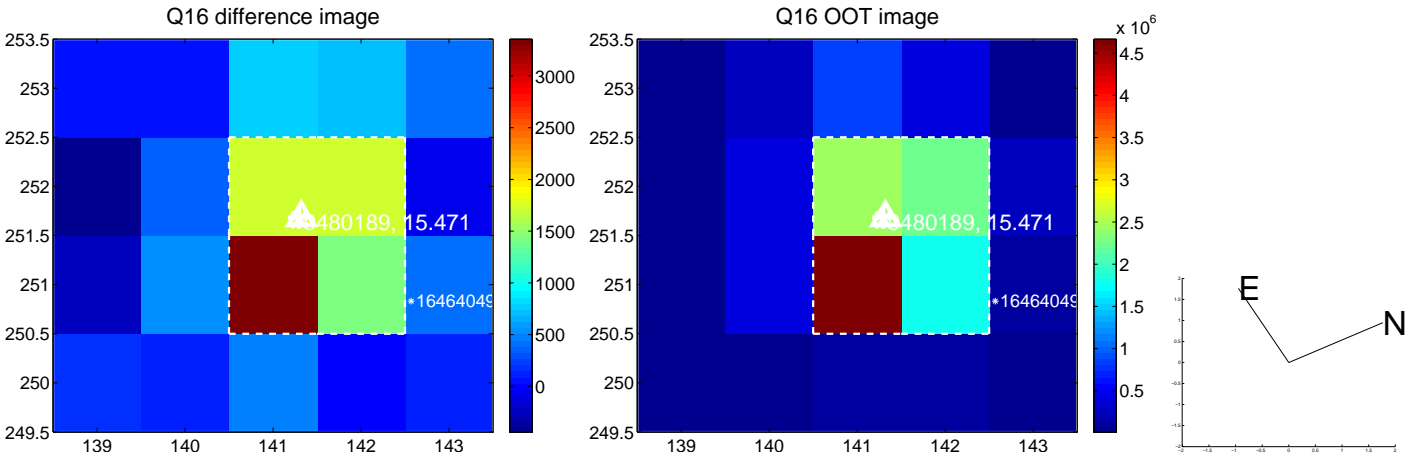
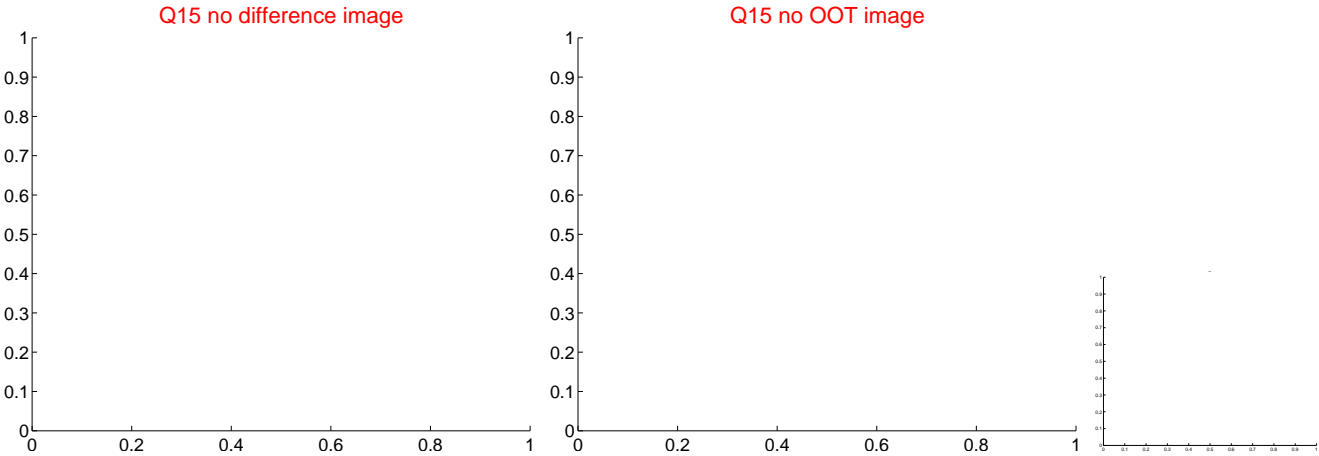
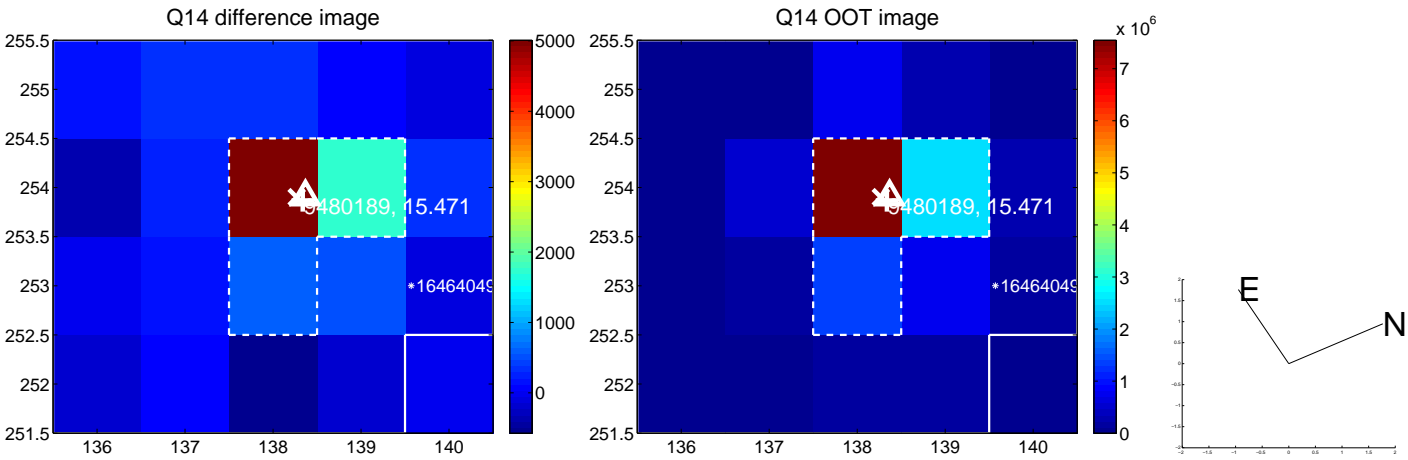
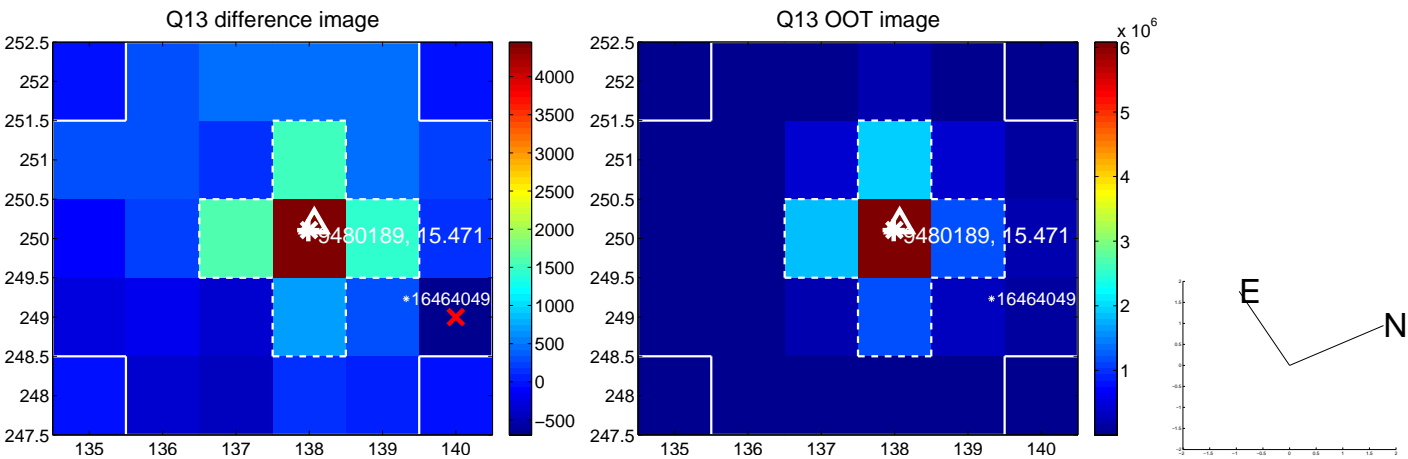
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



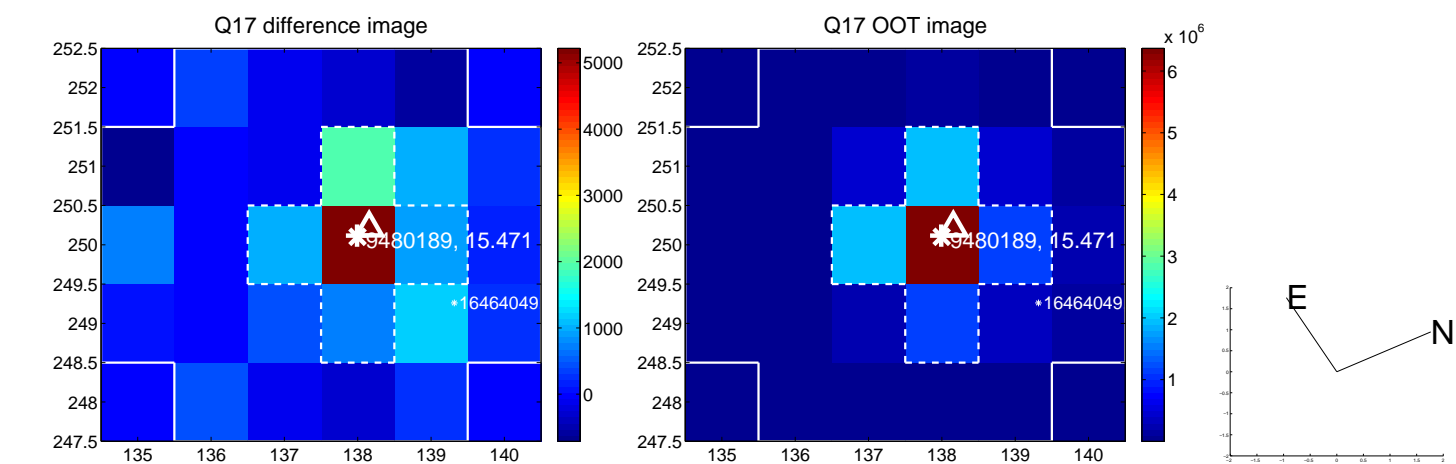
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



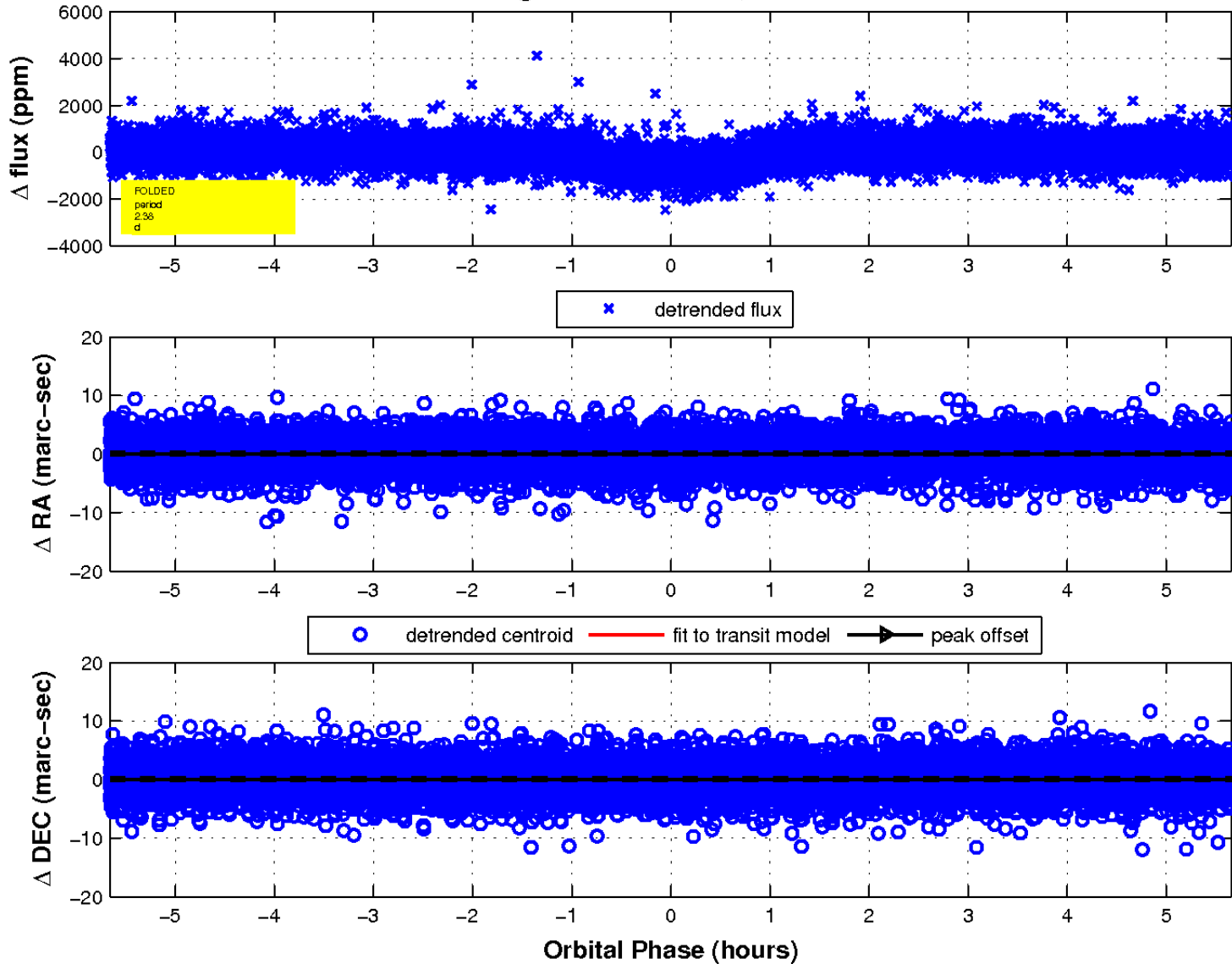
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

