

KIC 008158127

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})
008158127-01	OBS	1015.01	9.428861	140.107160	557.3	4.560	38.6	43.9	1.86	5897	4.76	433.66
008158127-02	OBS	1015.02	4.088932	131.680567	142.1	3.621	15.5	15.6	1.86	5897	2.63	1321.14
008158127-03	OBS	1015.03	16.997688	143.863190	242.9	2.686	8.2	8.8	1.86	5897	3.95	197.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008158127-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008158127-02	OBS	PC	0.99	0	0	0	0	NO_COMMENT
008158127-03	OBS	PC	0.70	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.

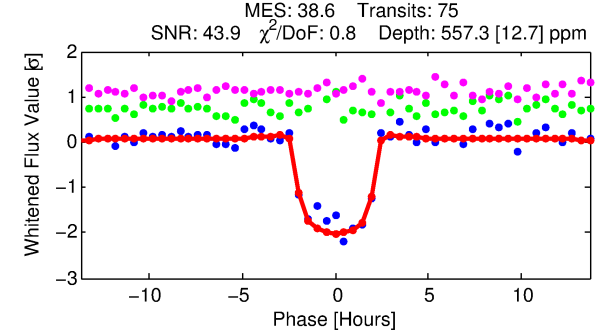
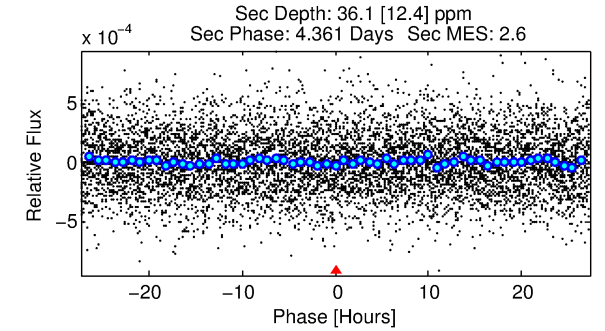
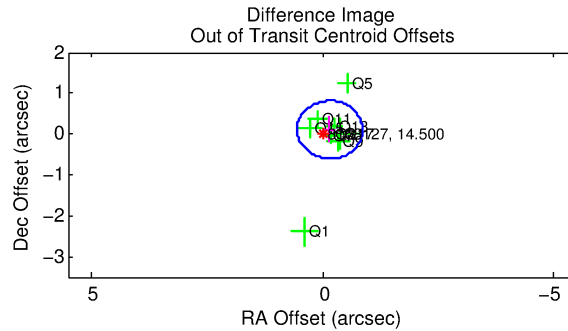
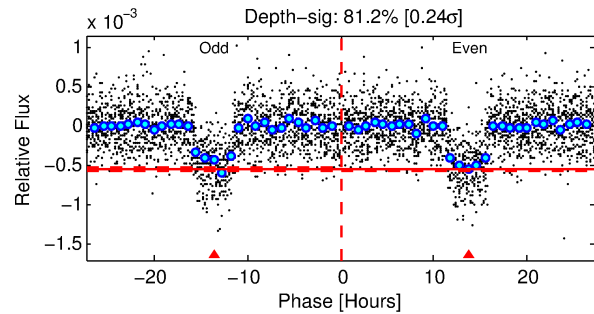
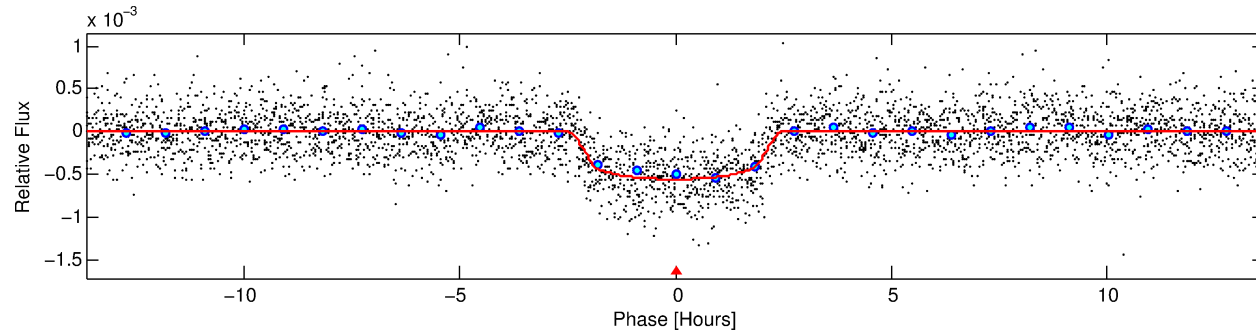
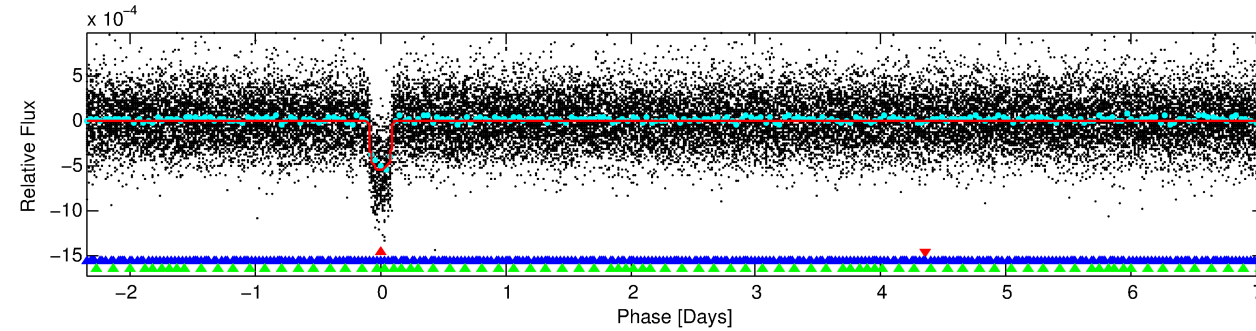
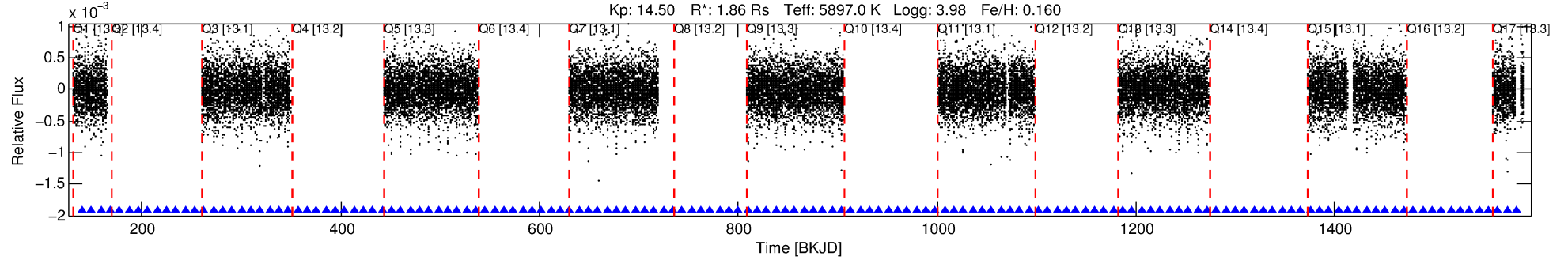
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008158127-01

No Significant Match Found

DV One-Page Summary

KIC: 8158127 Candidate: 1 of 3 Period: 9.429 d
KOI: K01015.01 Corr: 0.983



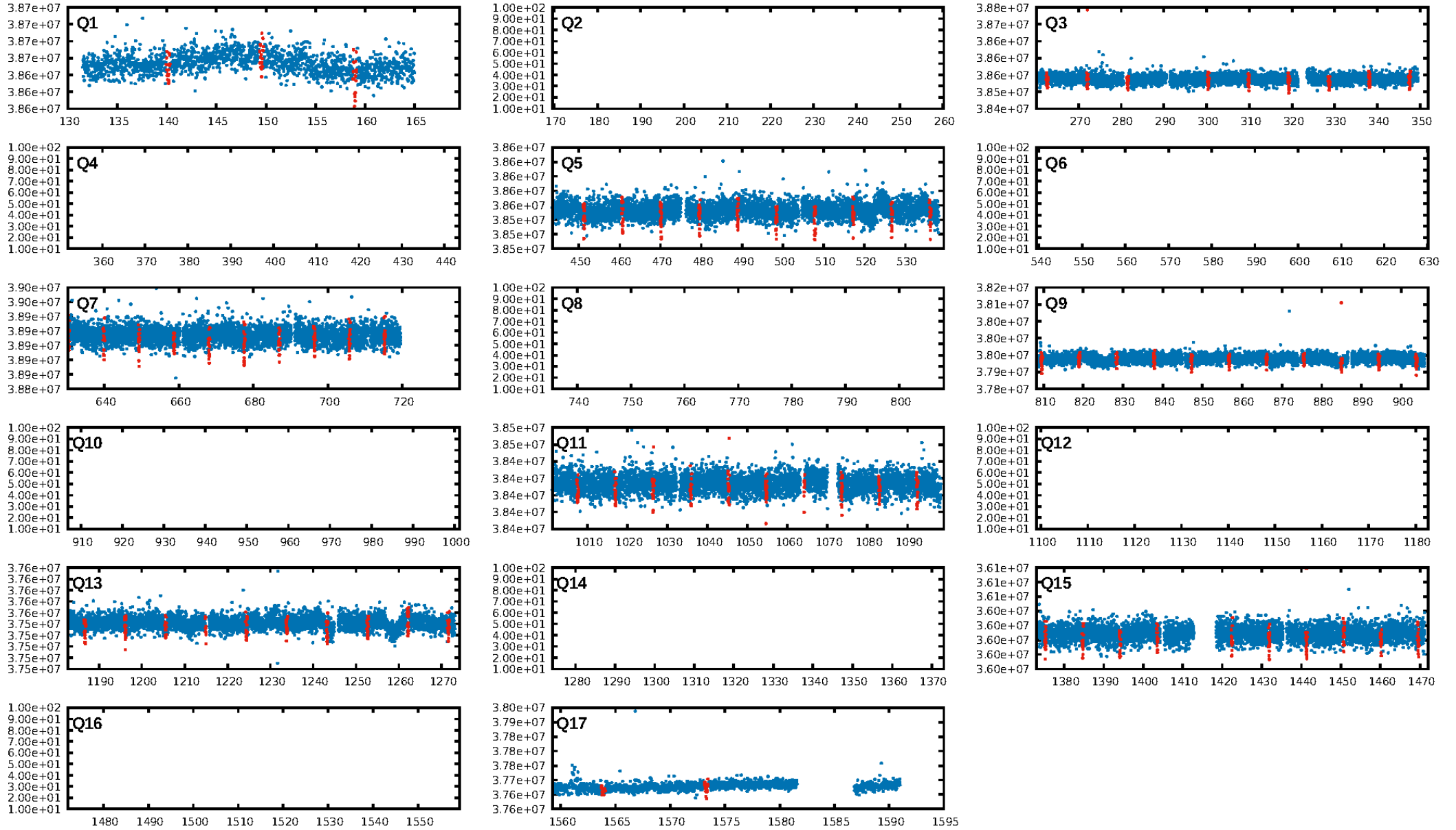
DV Fit Results:

Period = 9.42886 [0.00002] d
Epoch = 140.1072 [0.0020] BKJD
Rp/R* = 0.0234 [0.0043]
a/R* = 11.15 [9.17]
b = 0.74 [0.51]
Seff = 433.66 [156.18]
Teff = 1164 [105] K
Rp = 4.76 [1.51] Re
a = 0.0930 [0.0216] AU
Ag = 7.59 [4.67] [1.41 σ]
Teffp = 2986 [377] K [4.65 σ]

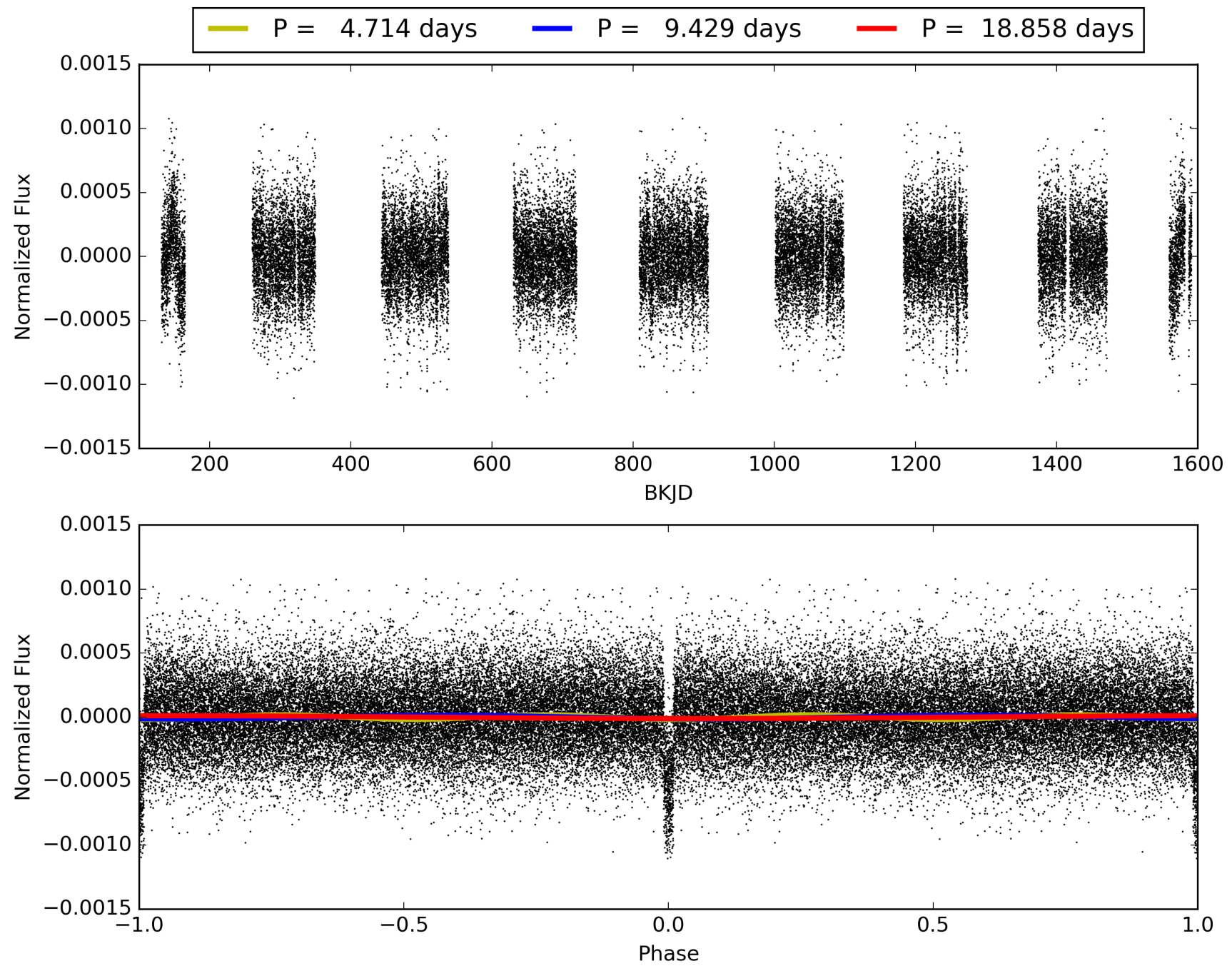
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [22.01 σ]
LongPeriod-sig: 100.0% [34.33 σ]
ModelChiSquare2-sig: 89.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [70/70]
GhostDiagnostic-chr: 11.19
Centroid-sig: 4.1%
Centroid-so: 0.287 arcsec [1.07 σ]
OotOffset-rm: 0.187 arcsec [0.79 σ]
OotOffset-st: 0/4/0/5 [9]
KicOffset-rm: 0.381 arcsec [3.55 σ]
KicOffset-st: 0/4/0/5 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [9/9]

TCE 008158127-01, PDC Light Curves

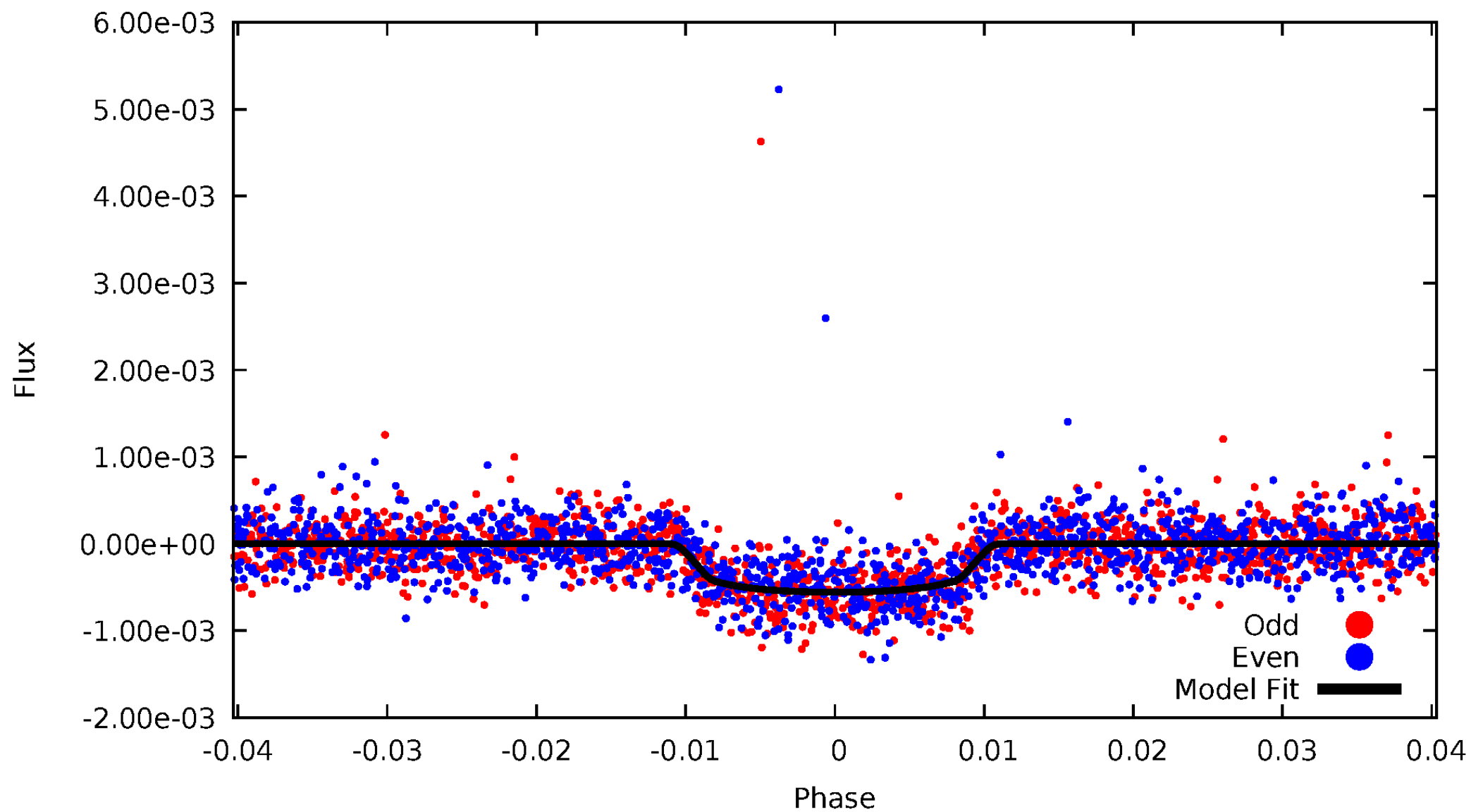


TCE 008158127-01



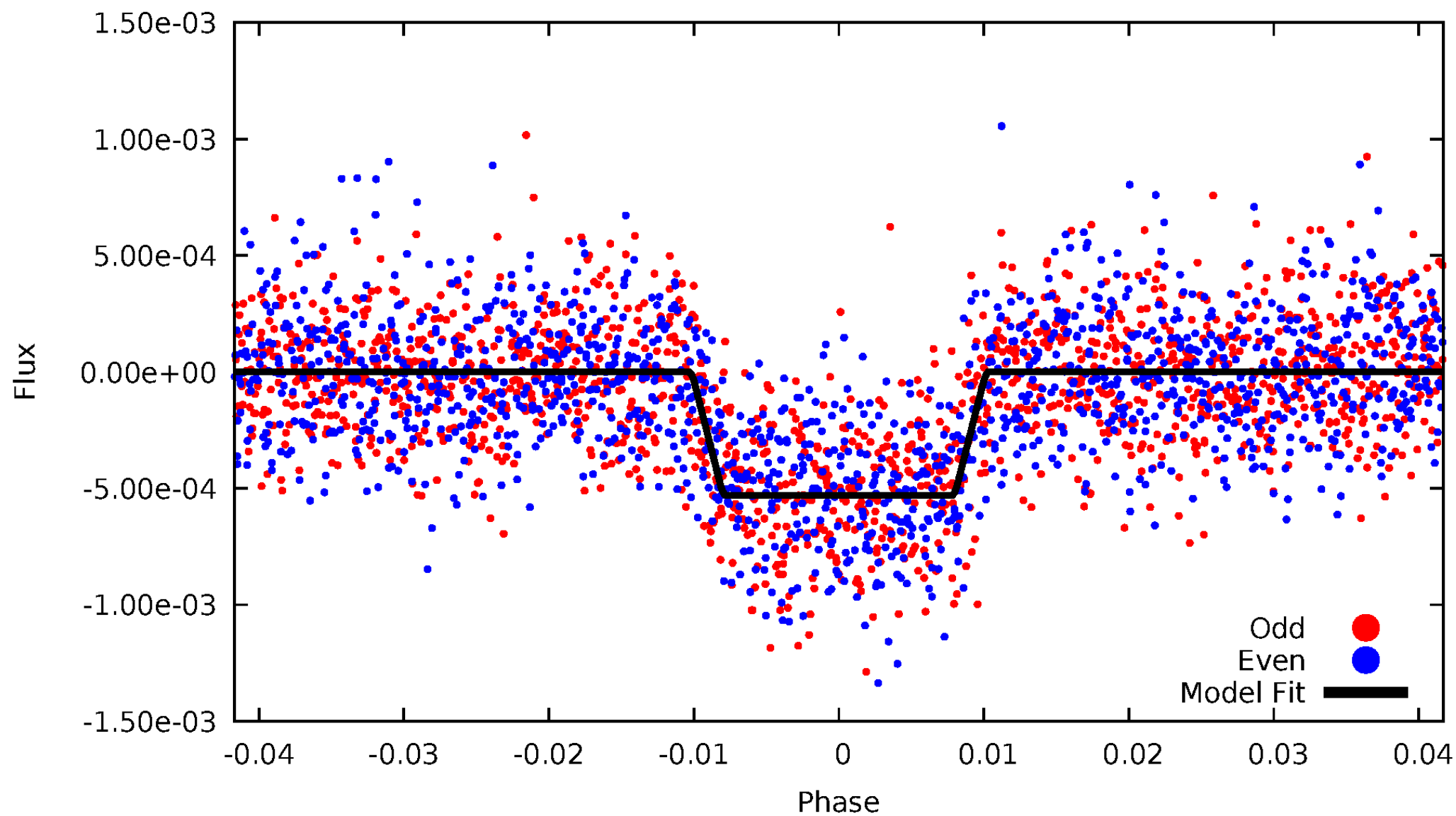
DV Odd/Even

TCE 008158127-01



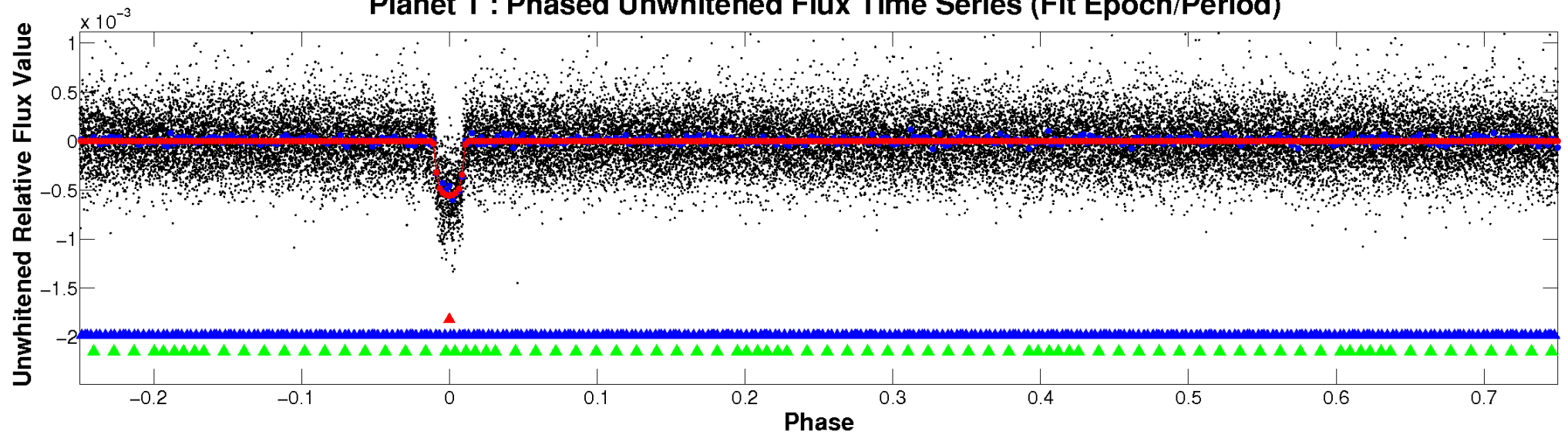
ALT Odd/Even

TCE 008158127-01

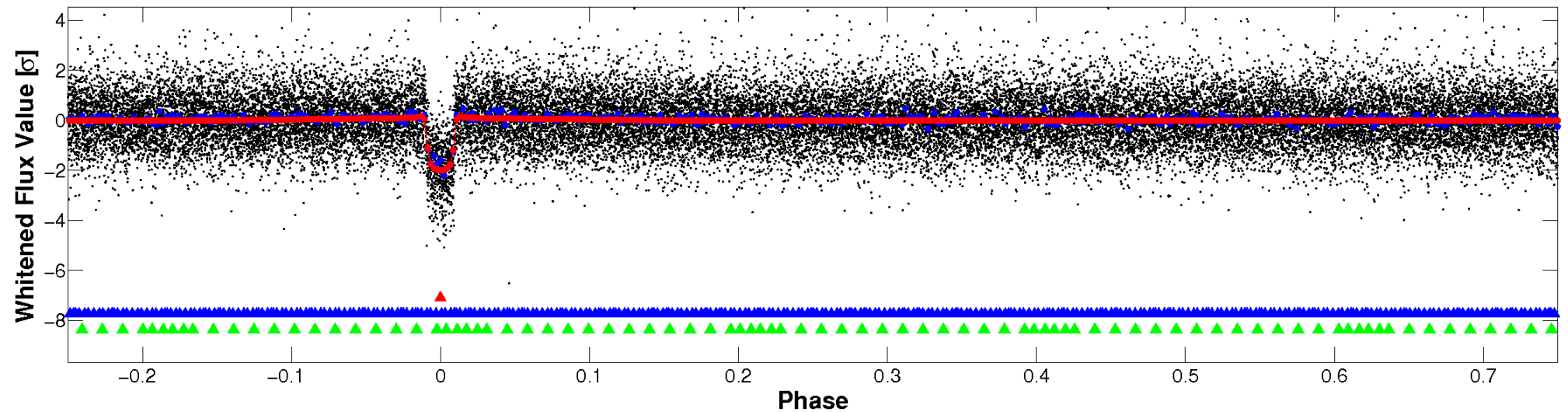


Non-Whitened Vs. Whitened Light Curve

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

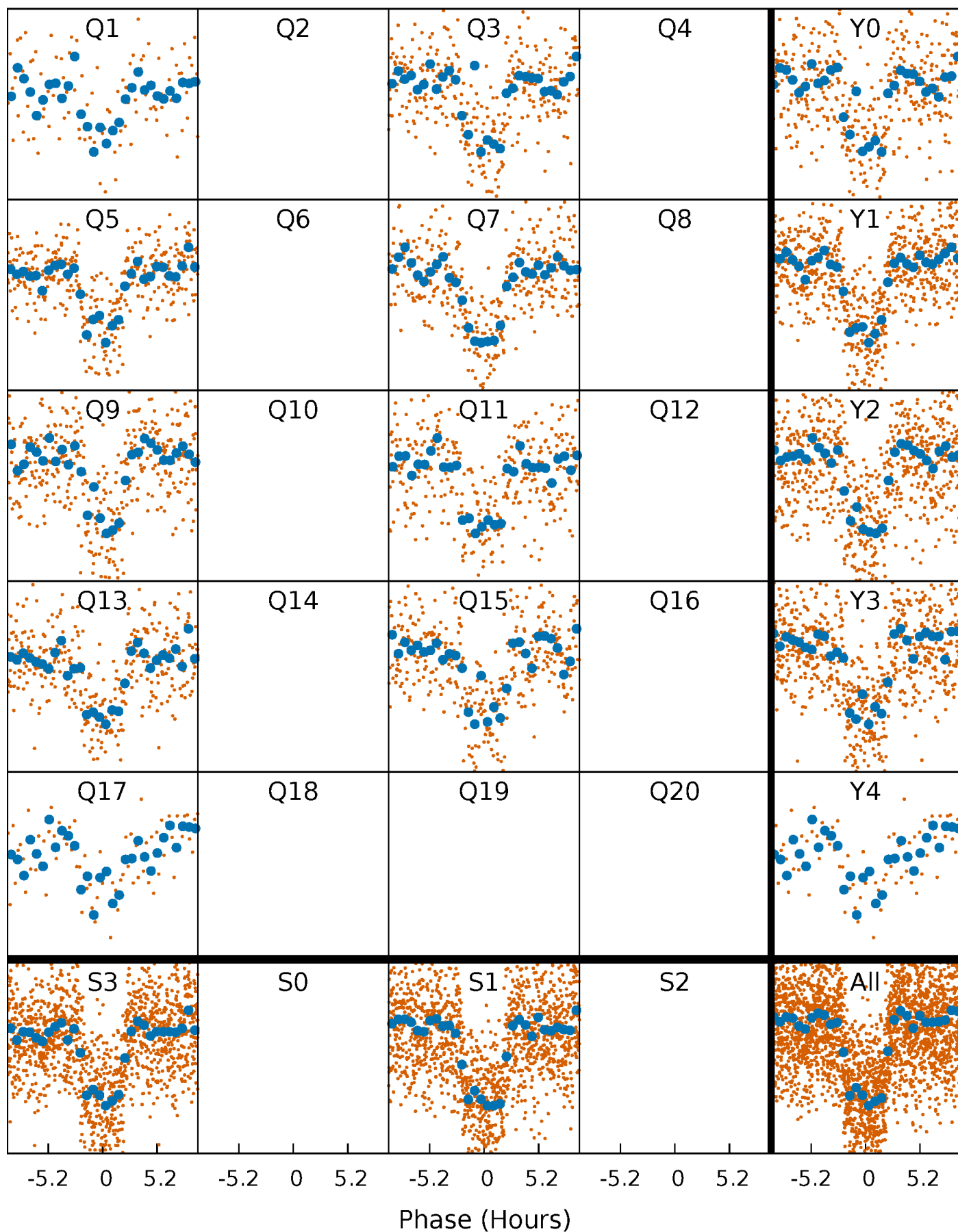


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



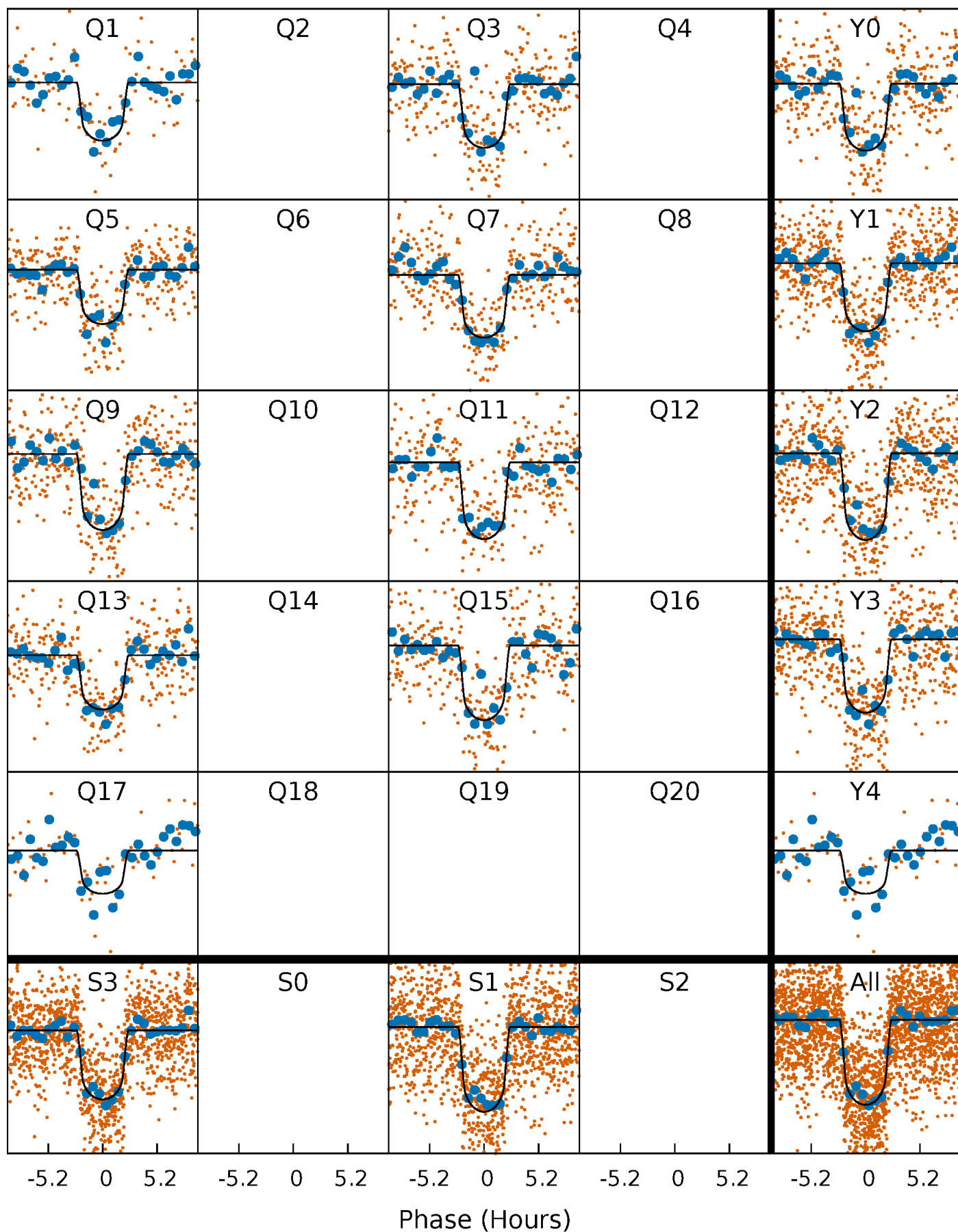
PDC Quarter-Phased Transit Curves

TCE 008158127-01 P= 9.428861 Days $T_0=140.107160$ (BKJD)



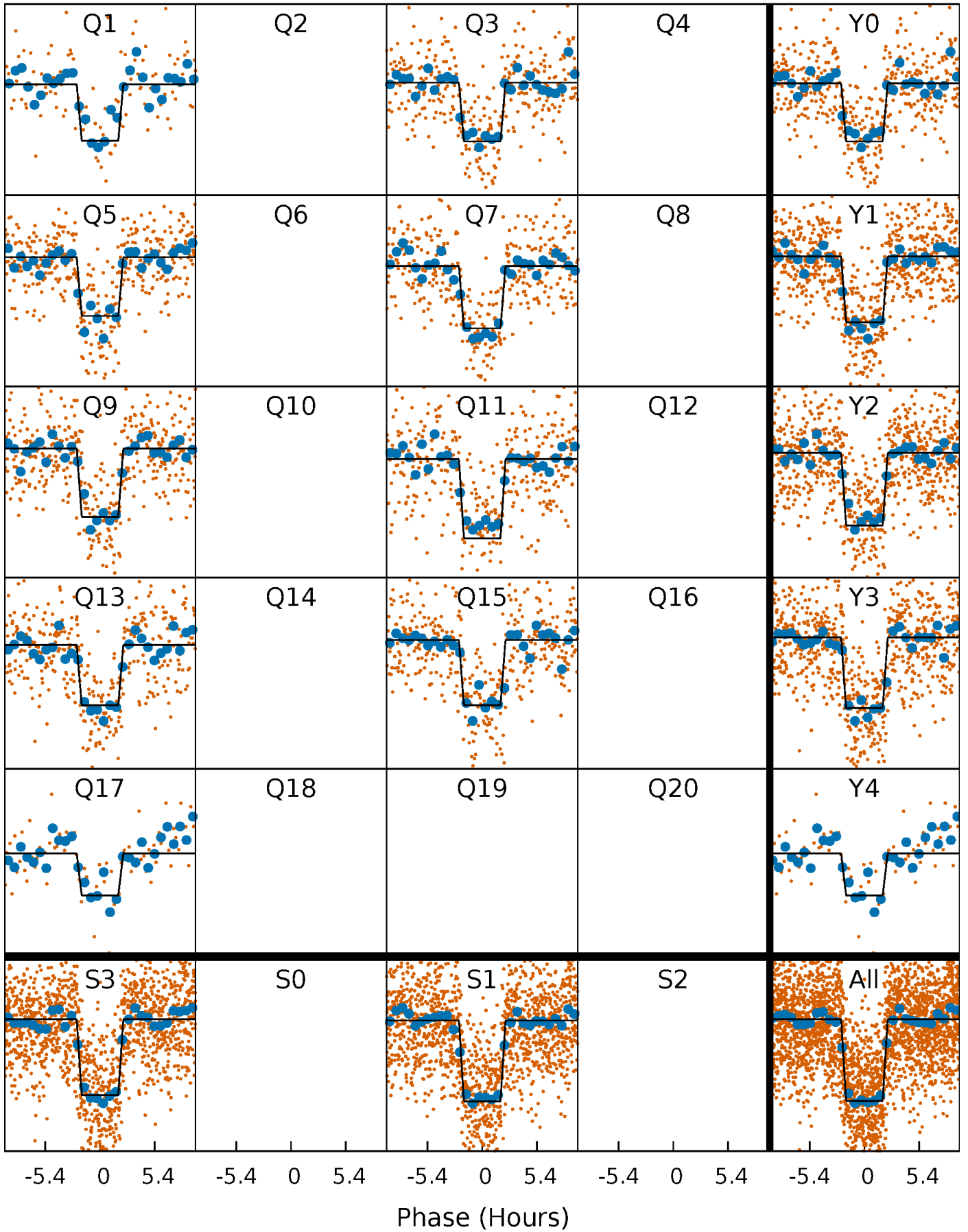
DV Quarter-Phased Transit Curves

TCE 008158127-01 P= 9.428861 Days $T_0=140.107160$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

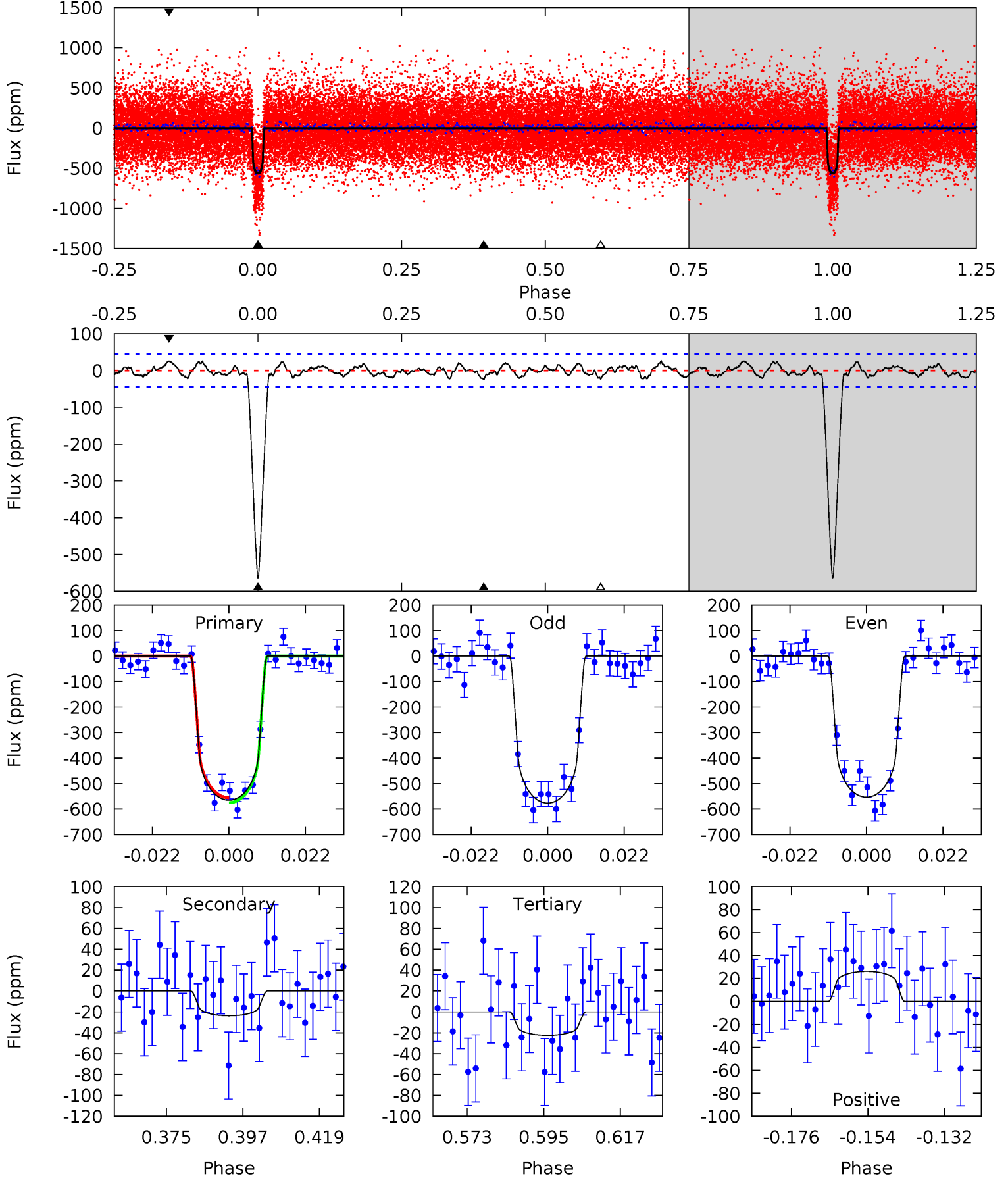
TCE 008158127-01 P= 9.428773 Days $T_0=140.114234$ (BKJD)



DV Model-Shift Uniqueness Test

008158127-01, P = 9.428861 Days, E = 130.678299 Days

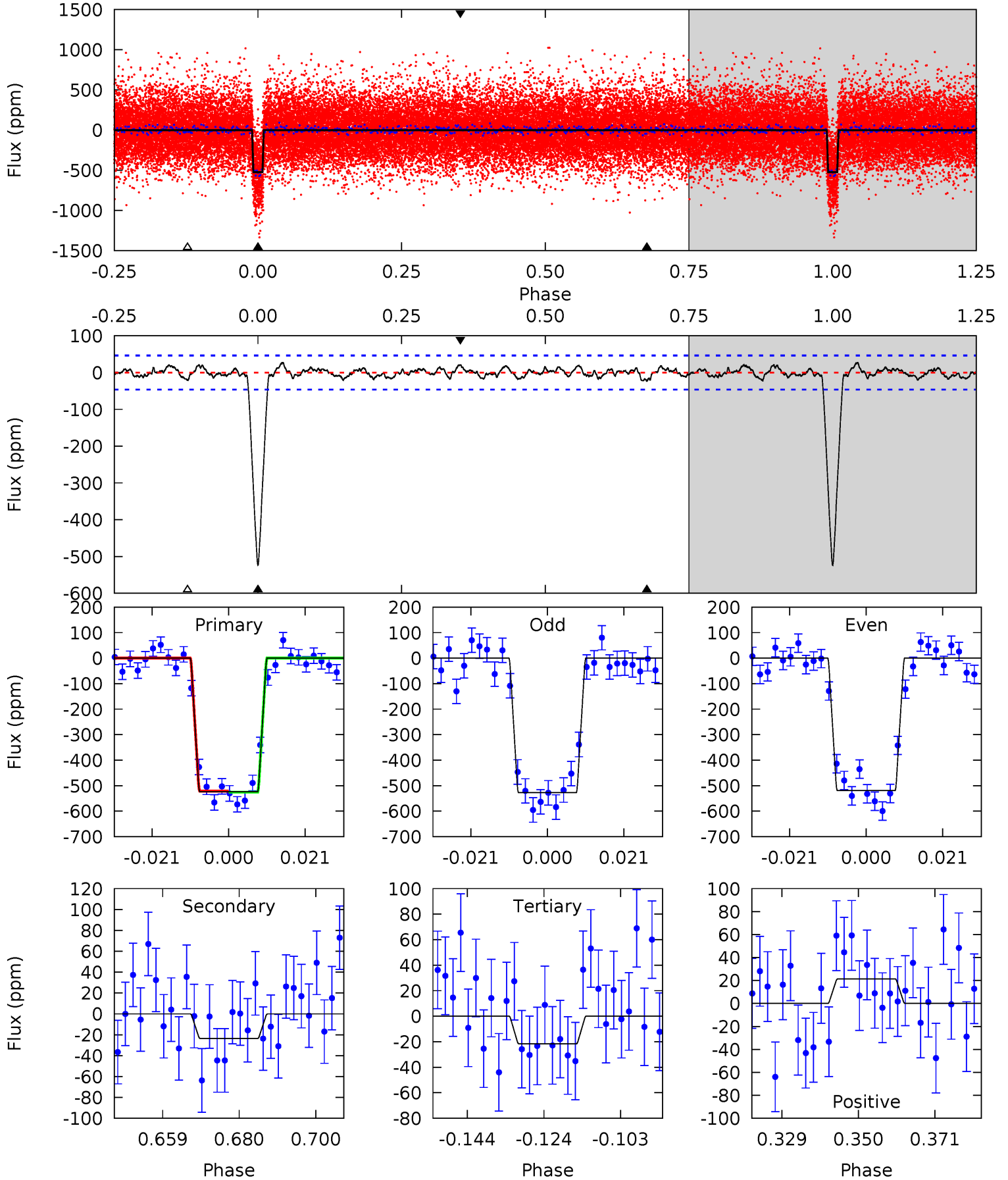
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
61.4	2.58	2.44	2.84	4.87	2.29	1.20	59.0	58.6	0.14	-0.26	1.26	0.96	0.04	1.07



Alt Model-Shift Uniqueness Test

008158127-01, P = 9.428773 Days, E = 130.685461 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.3	2.48	2.27	2.25	4.89	2.32	0.97	53.0	53.1	0.20	0.23	0.44	1.01	0.05	0.23



Stellar Parameters For KIC 008158127

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5897^{+79}_{-79}	$3.980^{+0.203}_{-0.072}$	$0.160^{+0.150}_{-0.150}$	$1.860^{+0.259}_{-0.481}$	$1.204^{+0.133}_{-0.133}$	$0.264^{+0.296}_{-0.073}$
	+1%/-1%	+5%/-2%	+94%/-94%	+14%/-26%	+11%/-11%	+112%/-28%
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 008158127-01 / KOI 1015.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-24 ± 9	$4.52^{+1.03}_{-0.90}$	1602^{+65}_{-101}	3228^{+290}_{-306}	$5.499^{+4.161}_{-2.780}$
Alt.	-23 ± 9	$4.46^{+1.08}_{-0.98}$	1605^{+67}_{-96}	3258^{+300}_{-298}	$5.704^{+4.390}_{-2.727}$

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

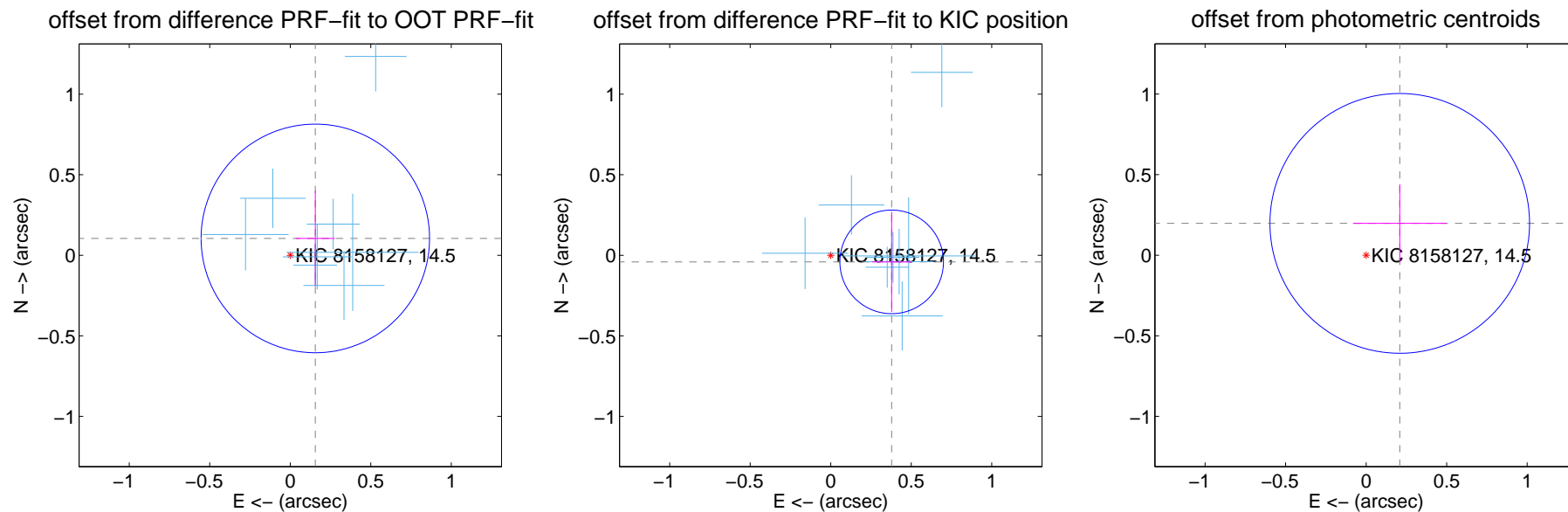
DV Centroid Data

Supplemental centroid analysis for 008158127-01. Kepler magnitude: 14.50. Transit SNR 43.89

There are 9 quarters with good PRF difference image offsets

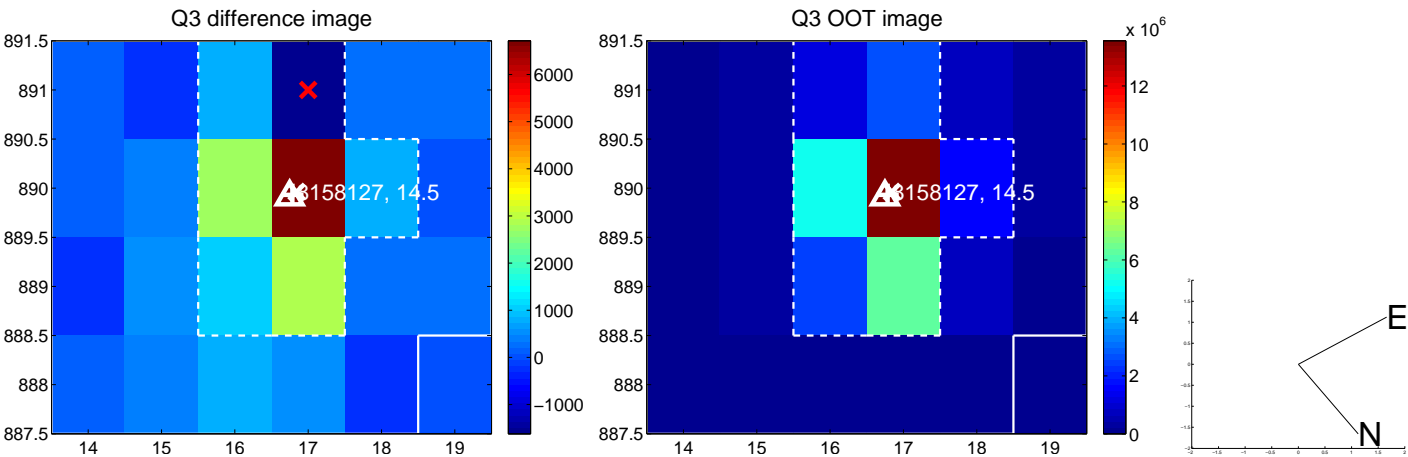
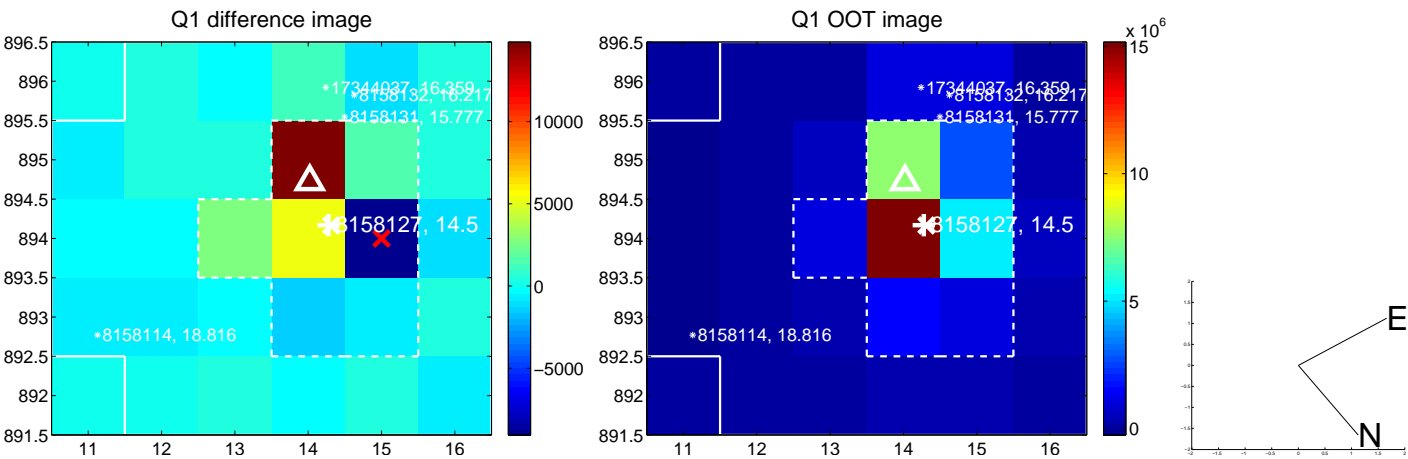
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.187 ± 0.237	0.79	-0.156 ± 0.122	0.105 ± 0.296
PRF-fit source offset from KIC position	0.381 ± 0.107	3.55	-0.379 ± 0.123	-0.041 ± 0.311
photometric centroid source offset	0.29 ± 0.27	1.07	-0.21 ± 0.29	0.20 ± 0.24

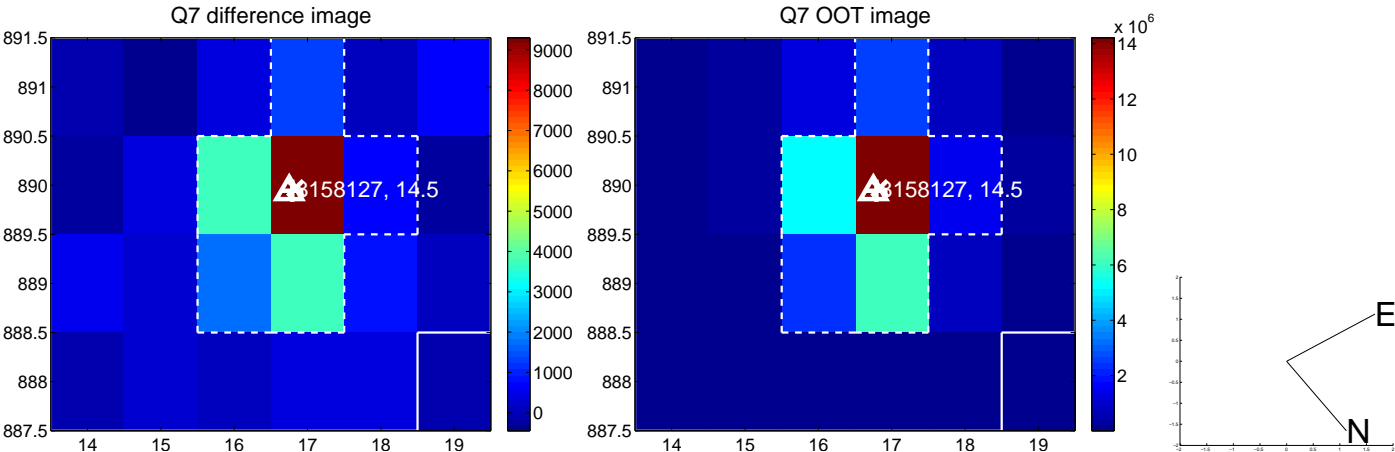
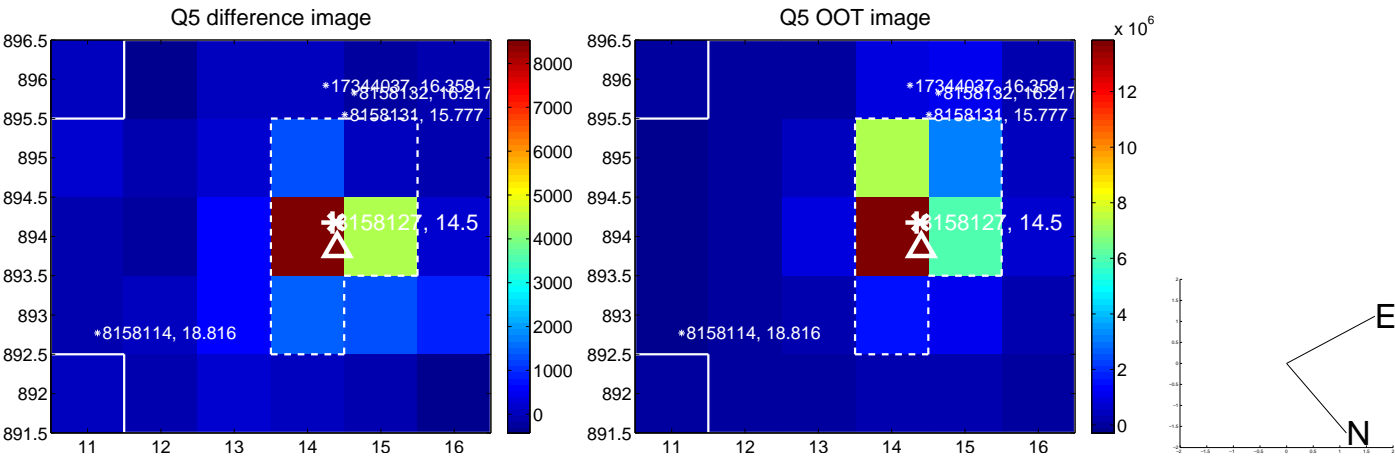


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

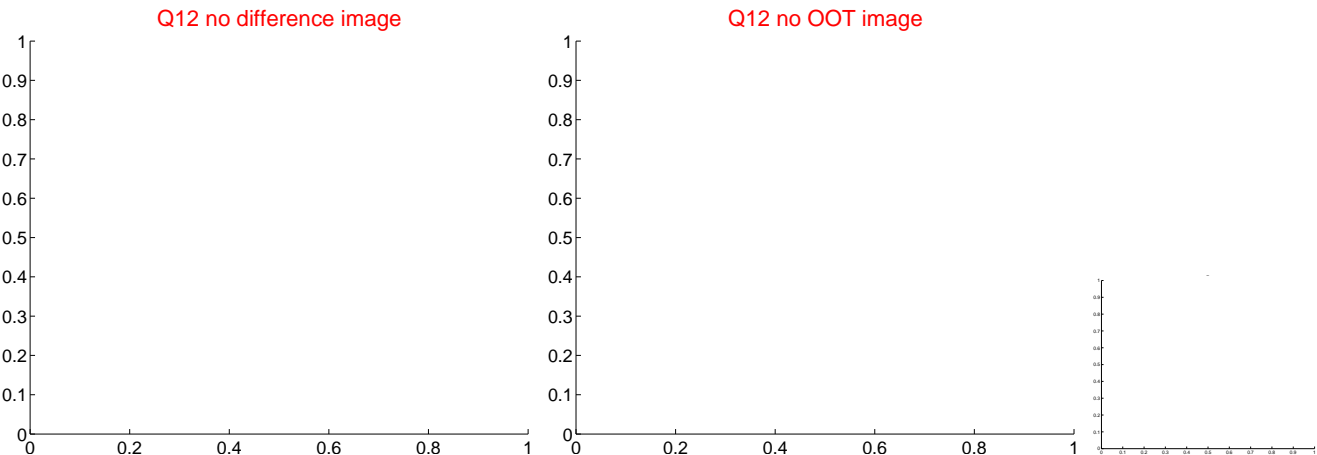
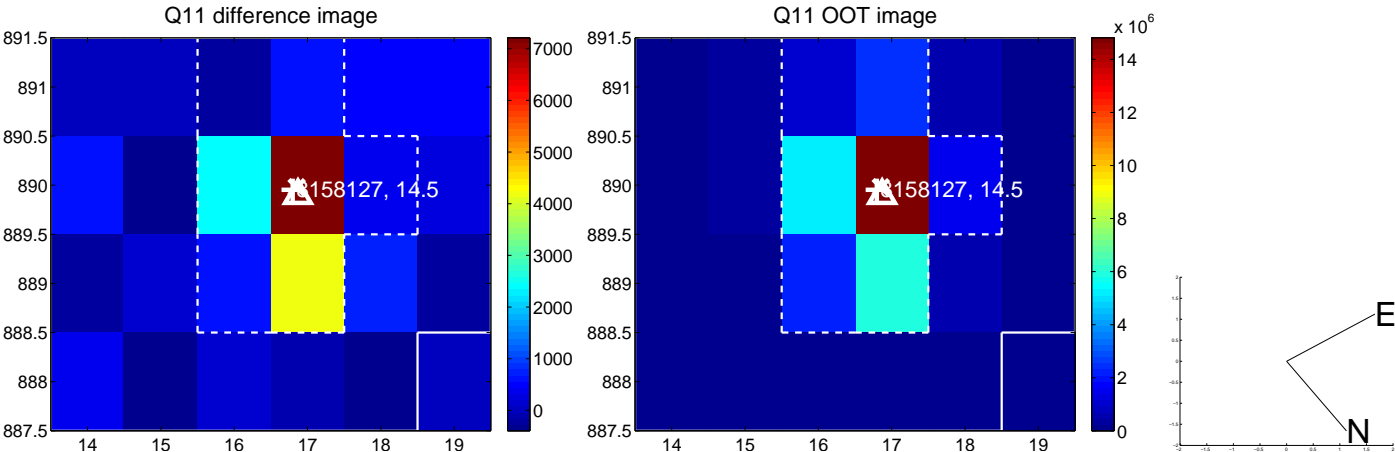
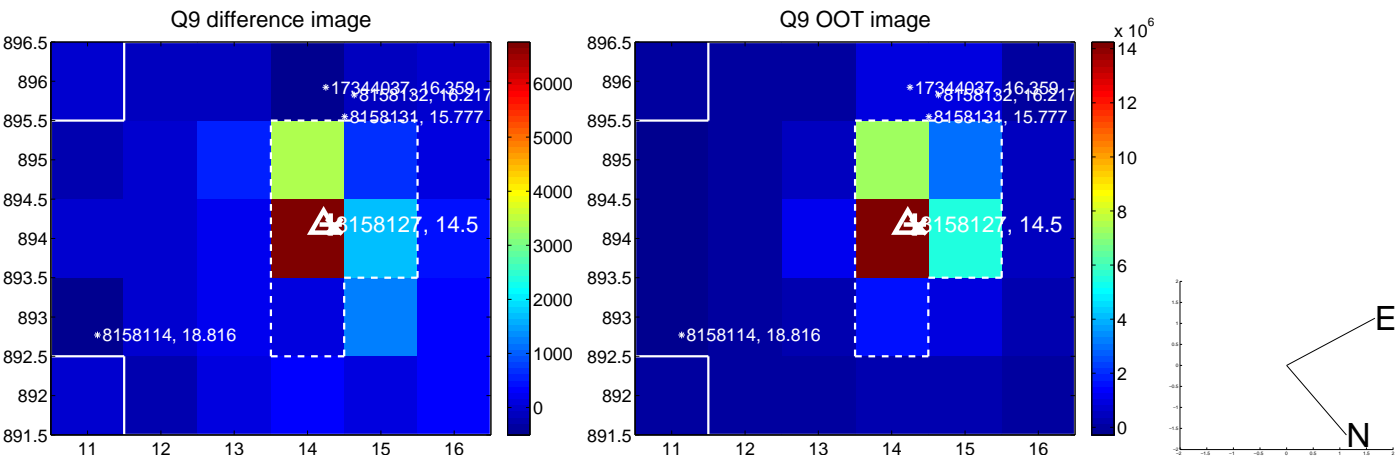
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



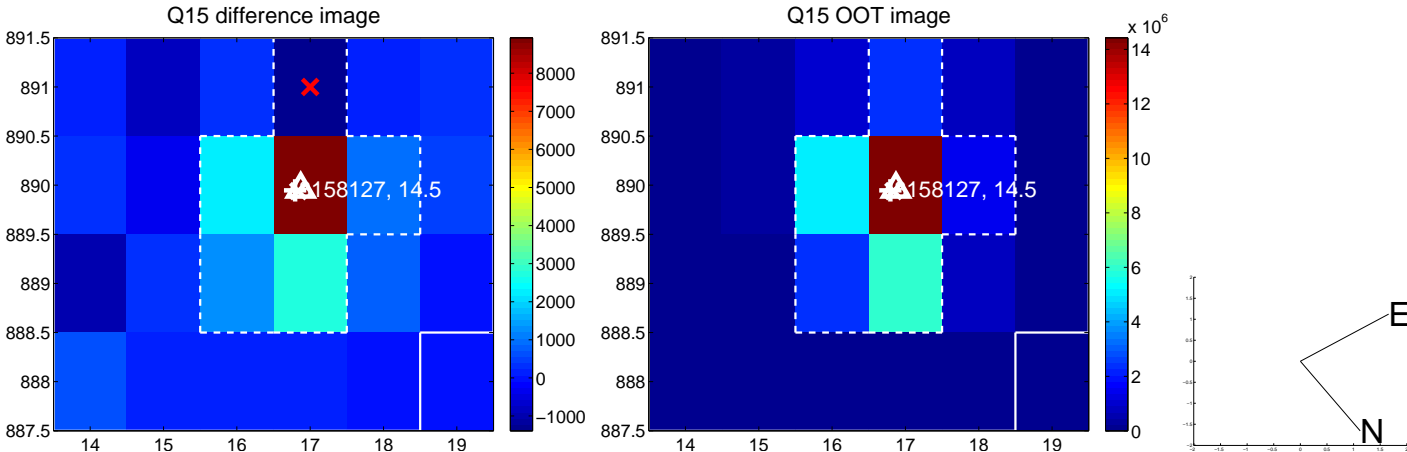
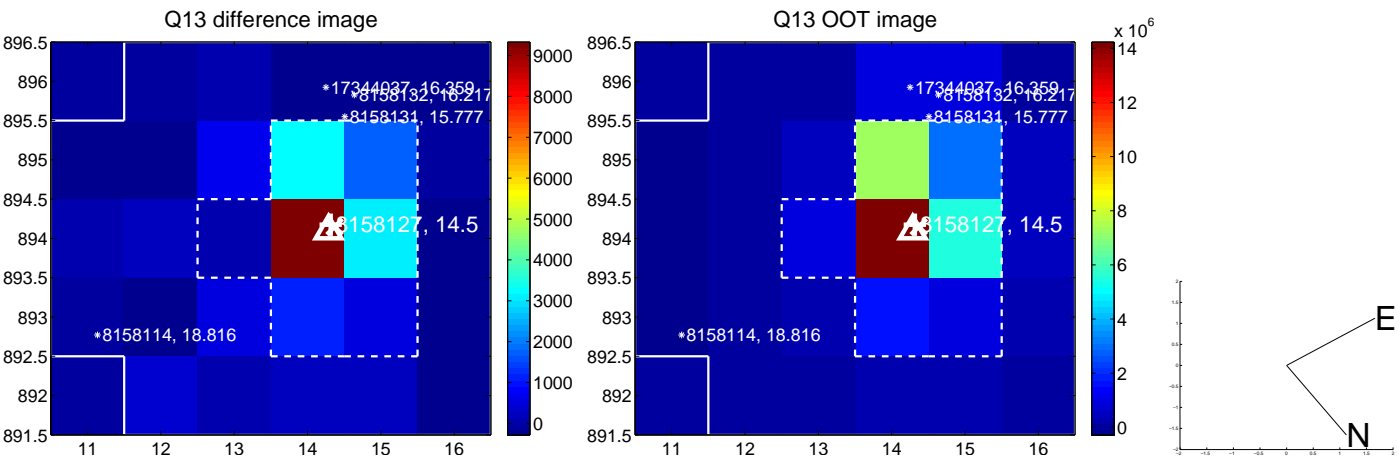
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



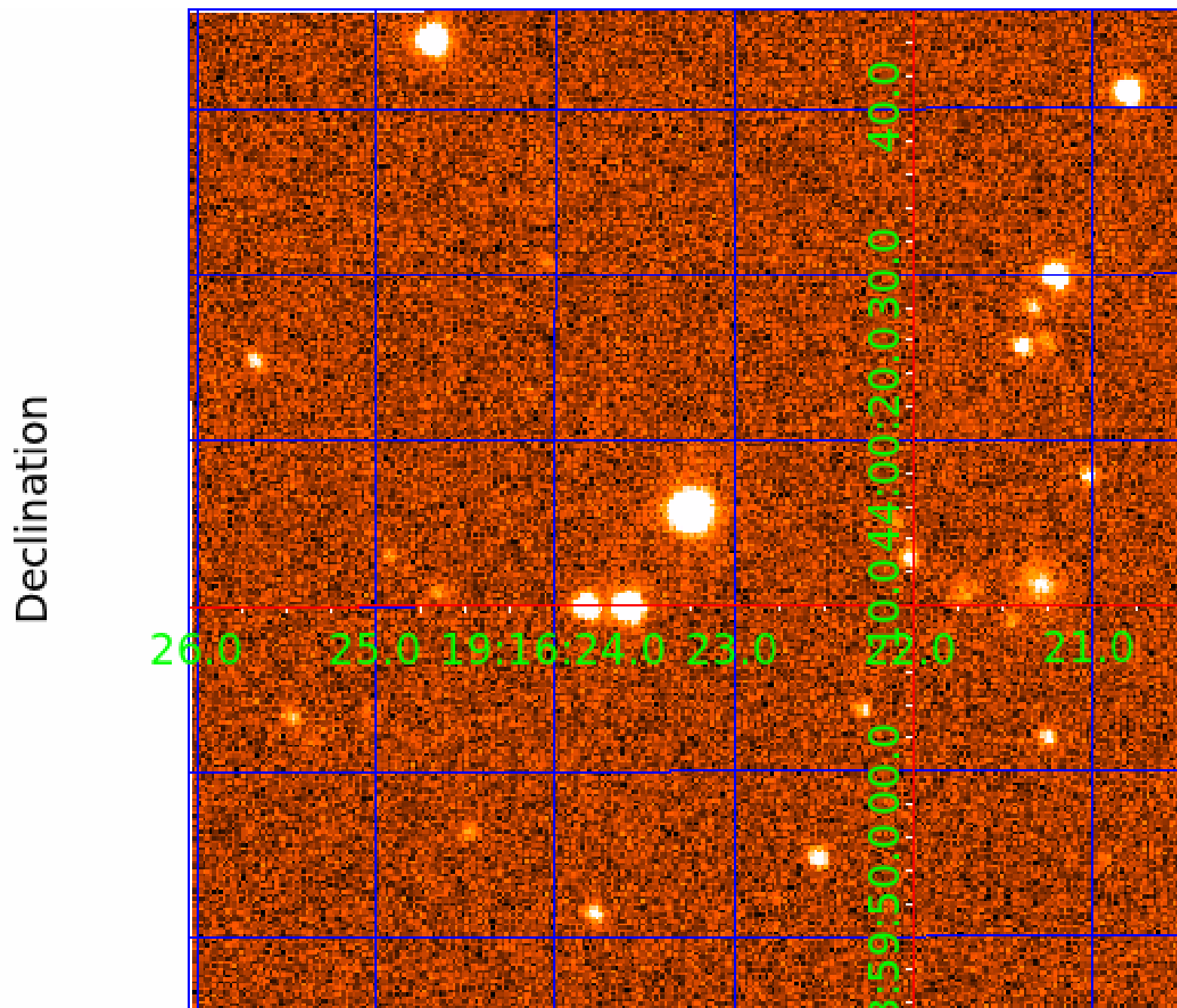
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008158127

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})
008158127-01	OBS	1015.01	9.428861	140.107160	557.3	4.560	38.6	43.9	1.86	5897	4.76	433.66
008158127-02	OBS	1015.02	4.088932	131.680567	142.1	3.621	15.5	15.6	1.86	5897	2.63	1321.14
008158127-03	OBS	1015.03	16.997688	143.863190	242.9	2.686	8.2	8.8	1.86	5897	3.95	197.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008158127-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008158127-02	OBS	PC	0.99	0	0	0	0	NO_COMMENT
008158127-03	OBS	PC	0.70	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.

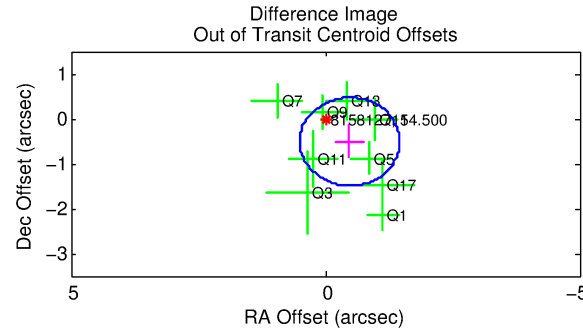
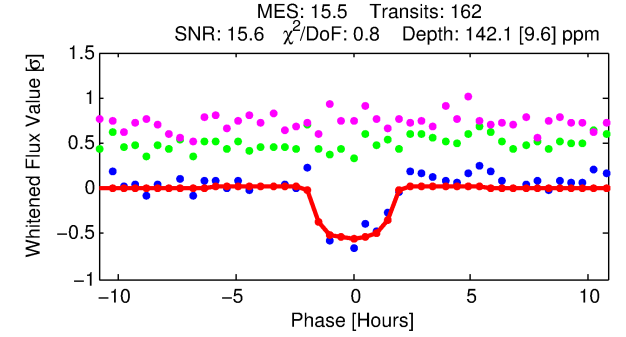
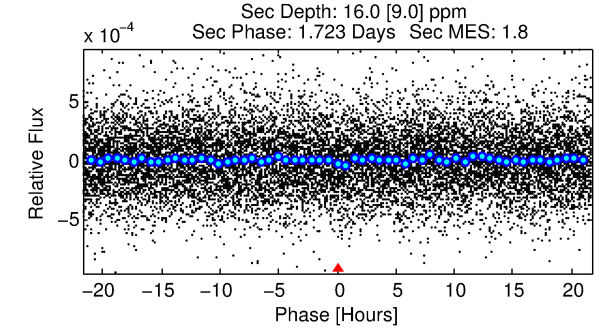
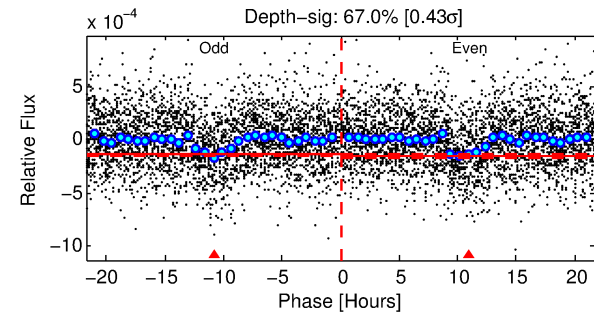
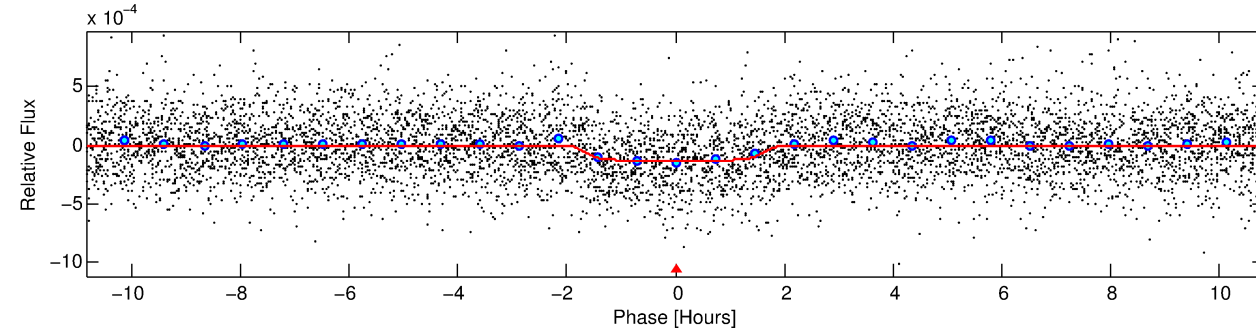
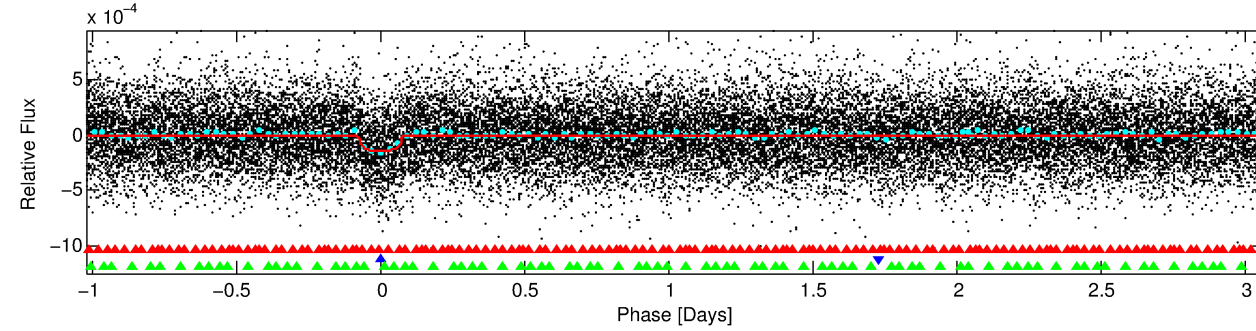
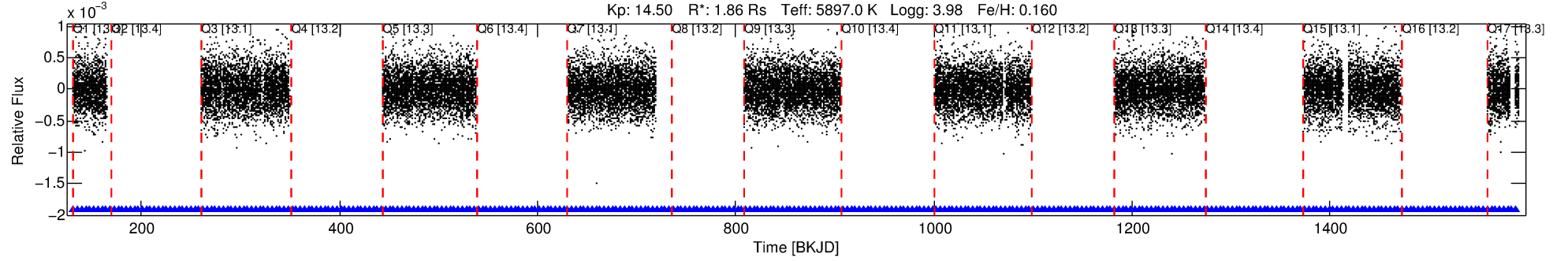
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008158127-02

No Significant Match Found

DV One-Page Summary

KIC: 8158127 Candidate: 2 of 3 Period: 4.089 d
KOI: K01015.02 Corr: 0.960



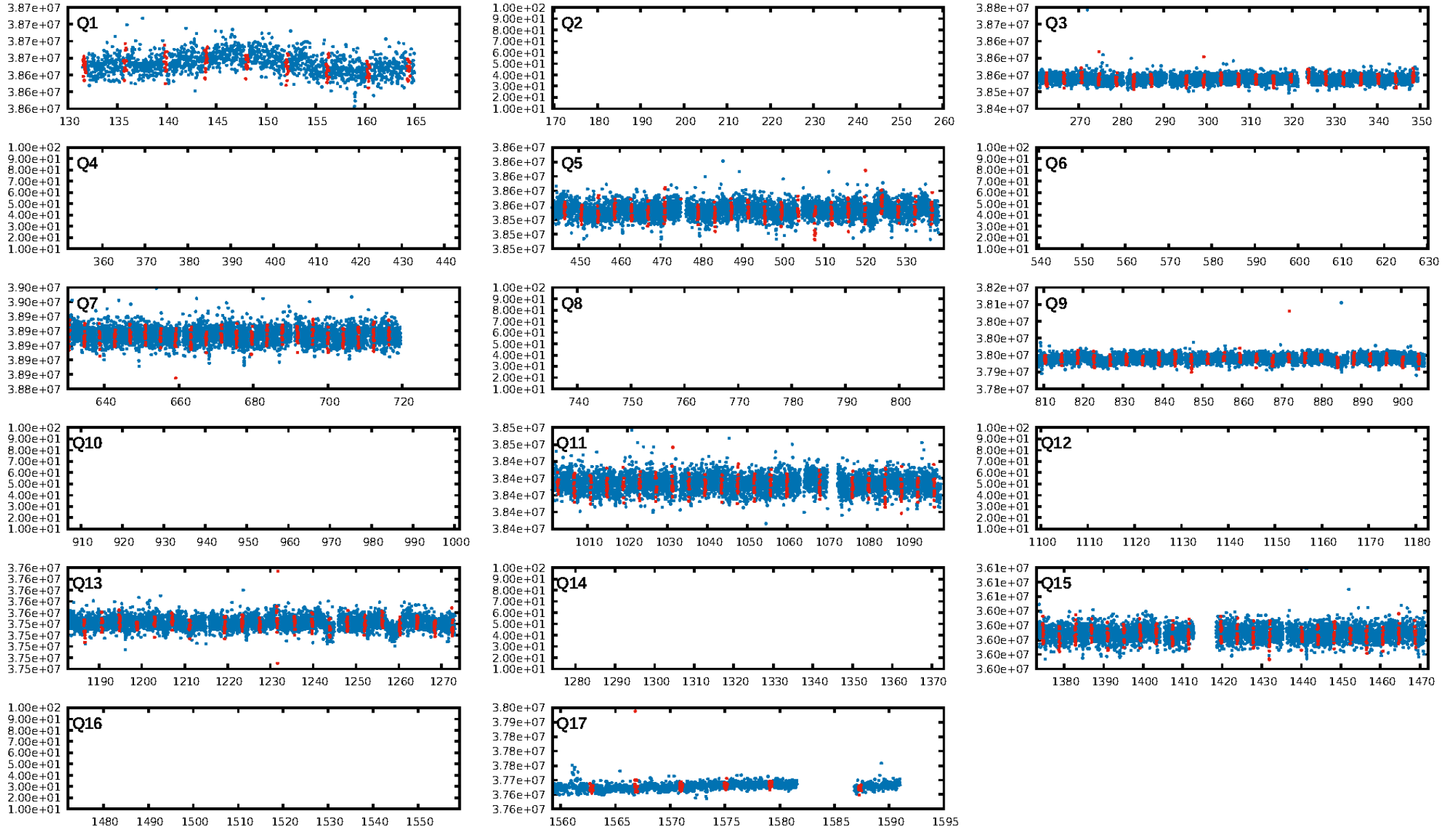
DV Fit Results:

Period = 4.08893 [0.00002] d
Epoch = 131.6806 [0.0037] BKJD
Rp/R* = 0.0130 [0.0046]
a/R* = 4.13 [6.82]
b = 0.90 [0.38]
Seff = 1321.14 [475.79]
Teq = 1537 [138] K
Rp = 2.63 [1.16] Re
a = 0.0533 [0.0124] AU
Ag = 3.60 [3.53] [0.74 σ]
Teffp = 3275 [748] K [2.28 σ]

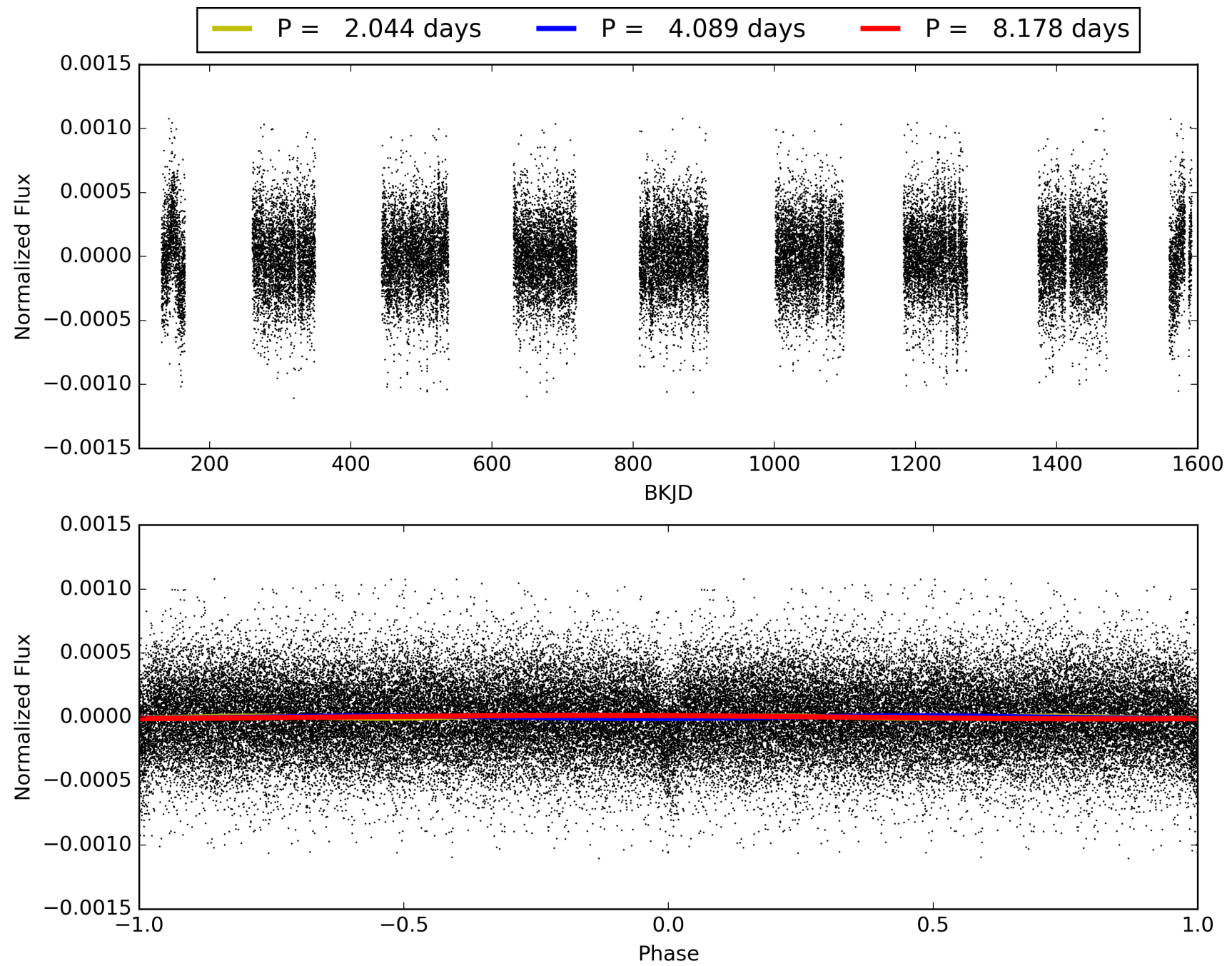
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [22.01 σ]
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.17e-55
RollingBand-fgt: 1.00 [147/147]
GhostDiagnostic-chr: 3.963
Centroid-sig: 19.6%
Centroid-so: 0.594 arcsec [0.83 σ]
OotOffset-rm: 0.699 arcsec [2.14 σ]
KicOffset-rm: 0.817 arcsec [2.55 σ]
OotOffset-st: 0/4/0/5 [9]
KicOffset-st: 0/4/0/5 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [9/9]

TCE 008158127-02, PDC Light Curves

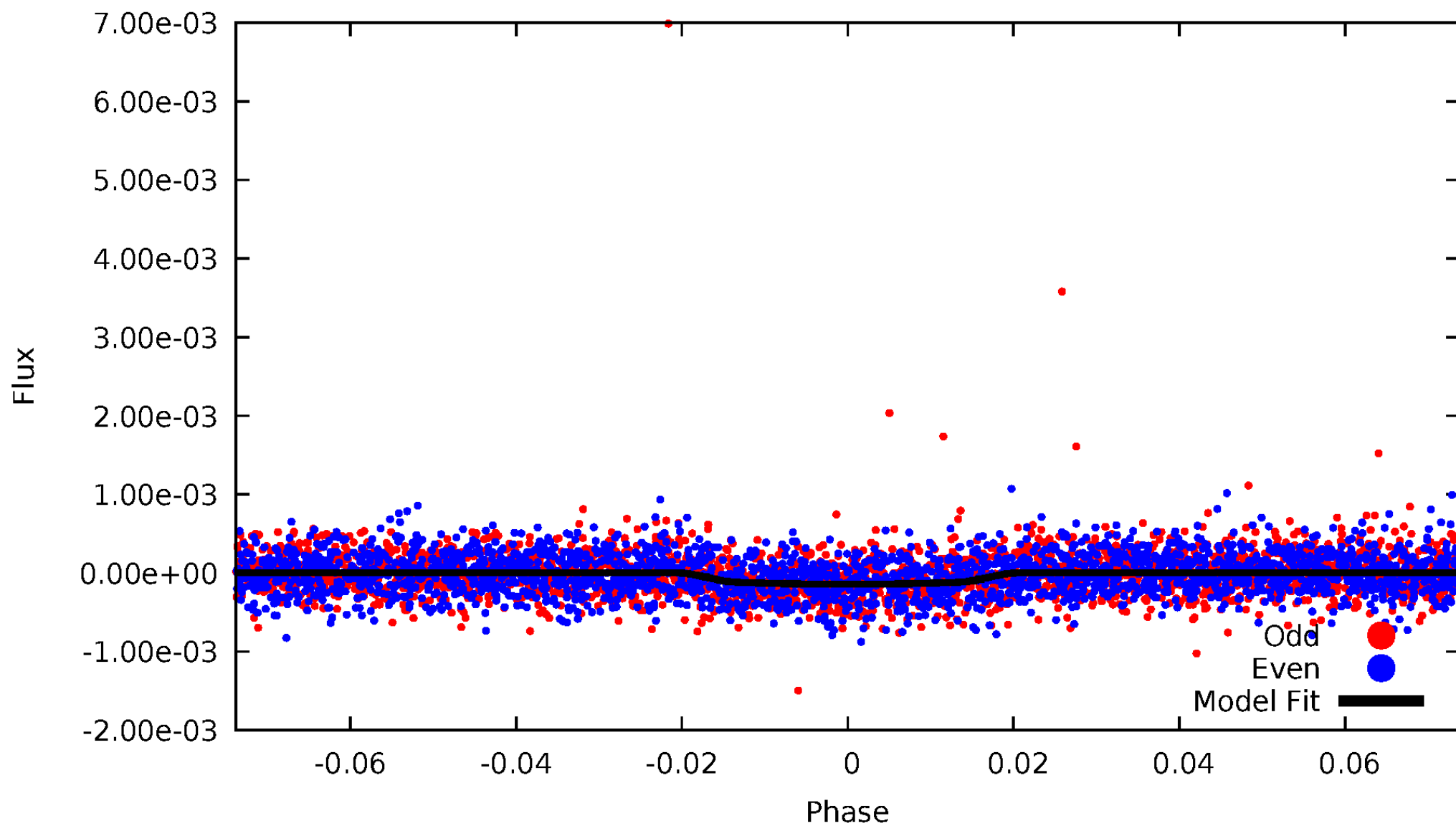


TCE 008158127-02



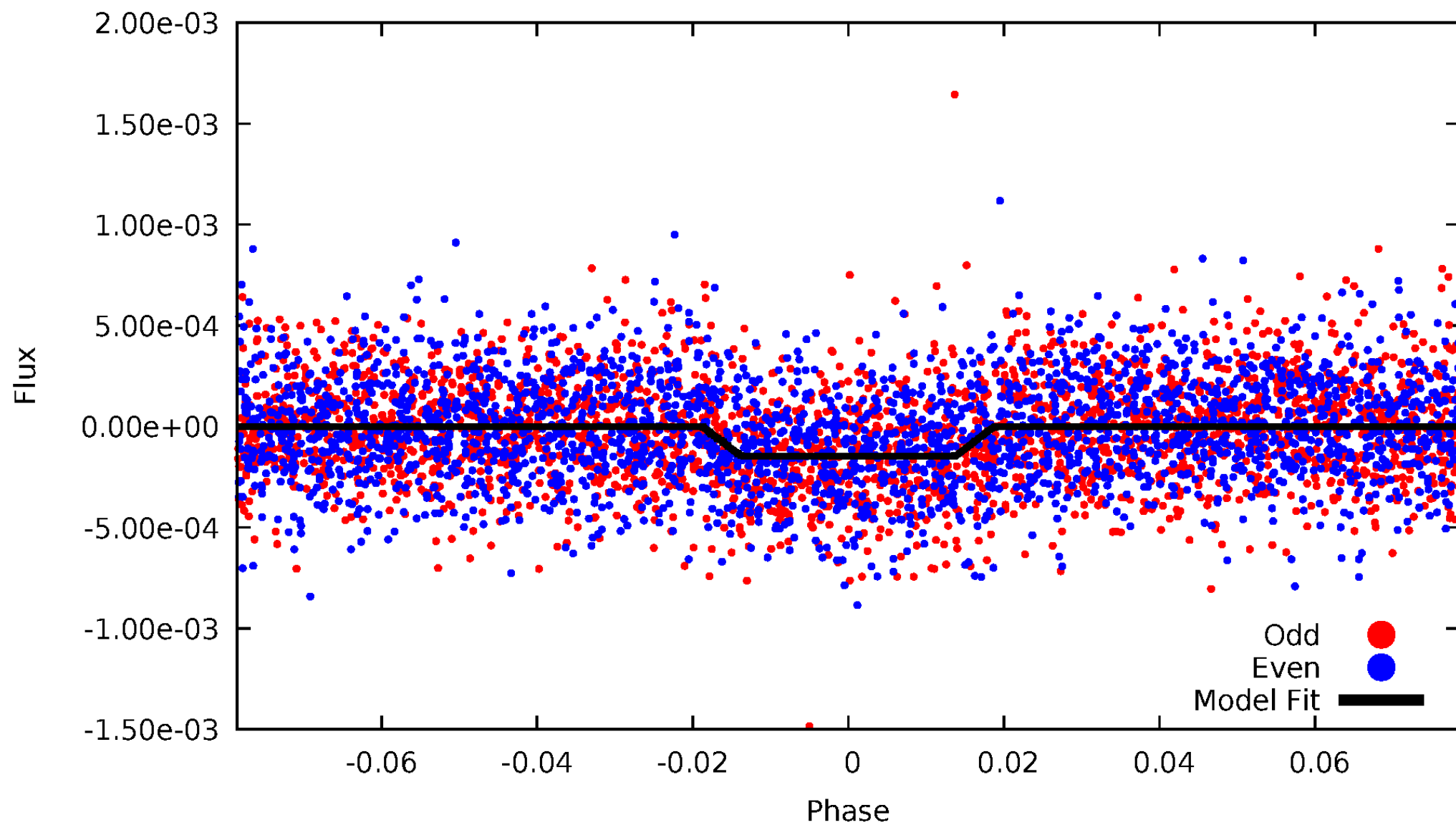
DV Odd/Even

TCE 008158127-02



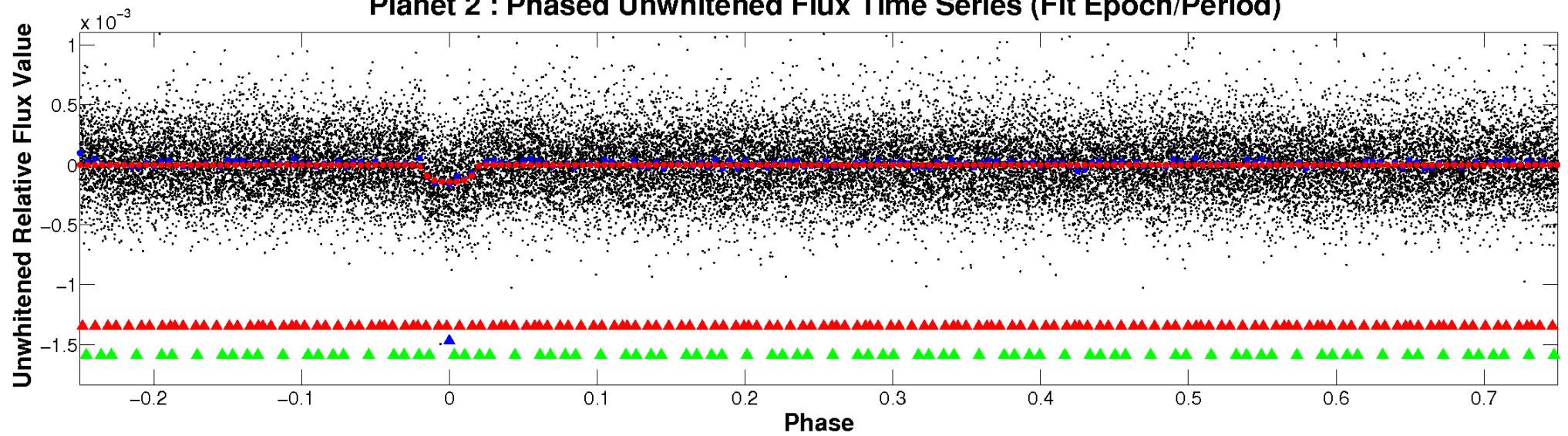
ALT Odd/Even

TCE 008158127-02

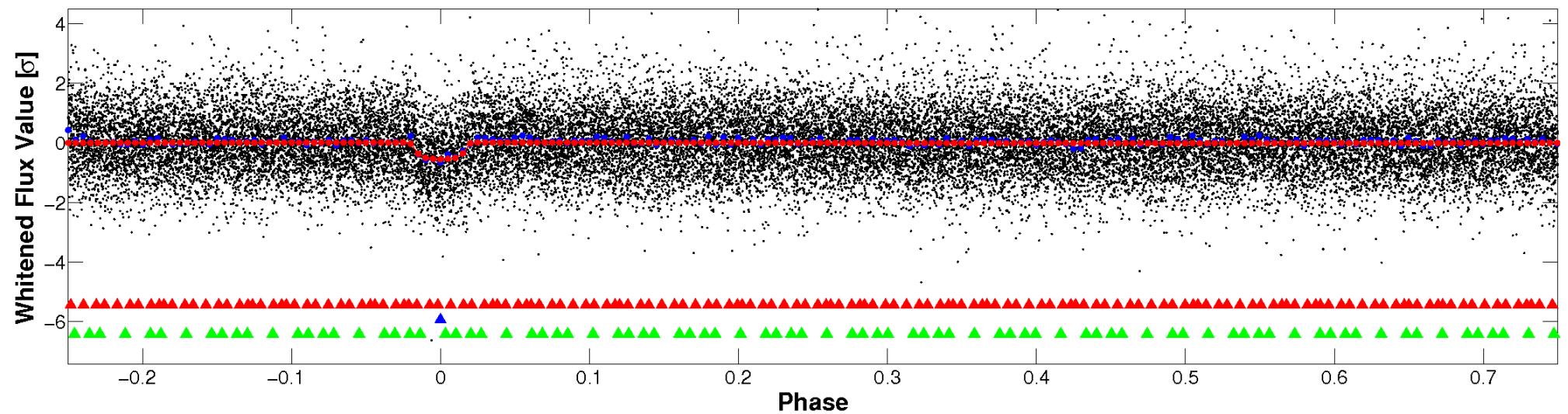


Non-Whitened Vs. Whitened Light Curve

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

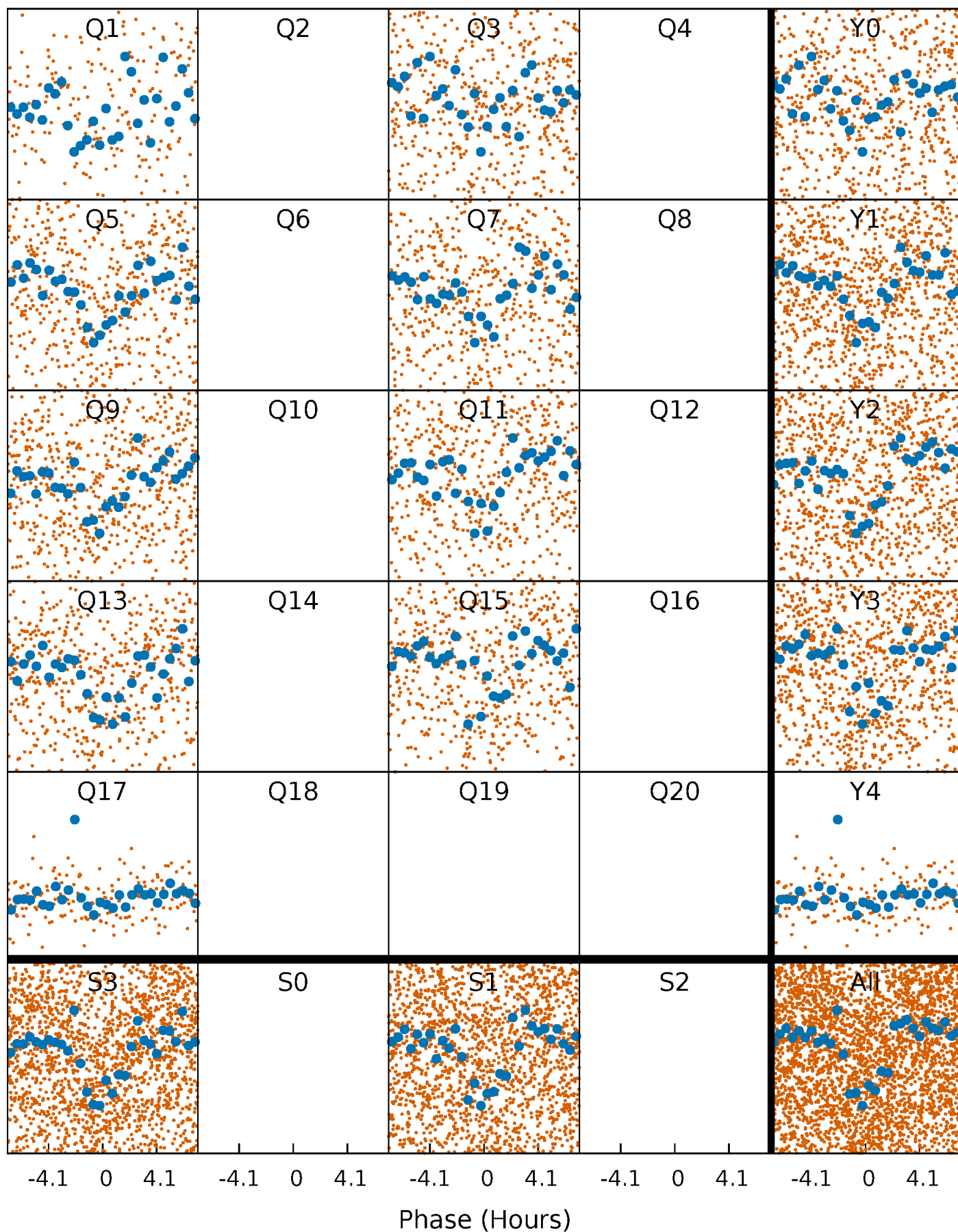


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



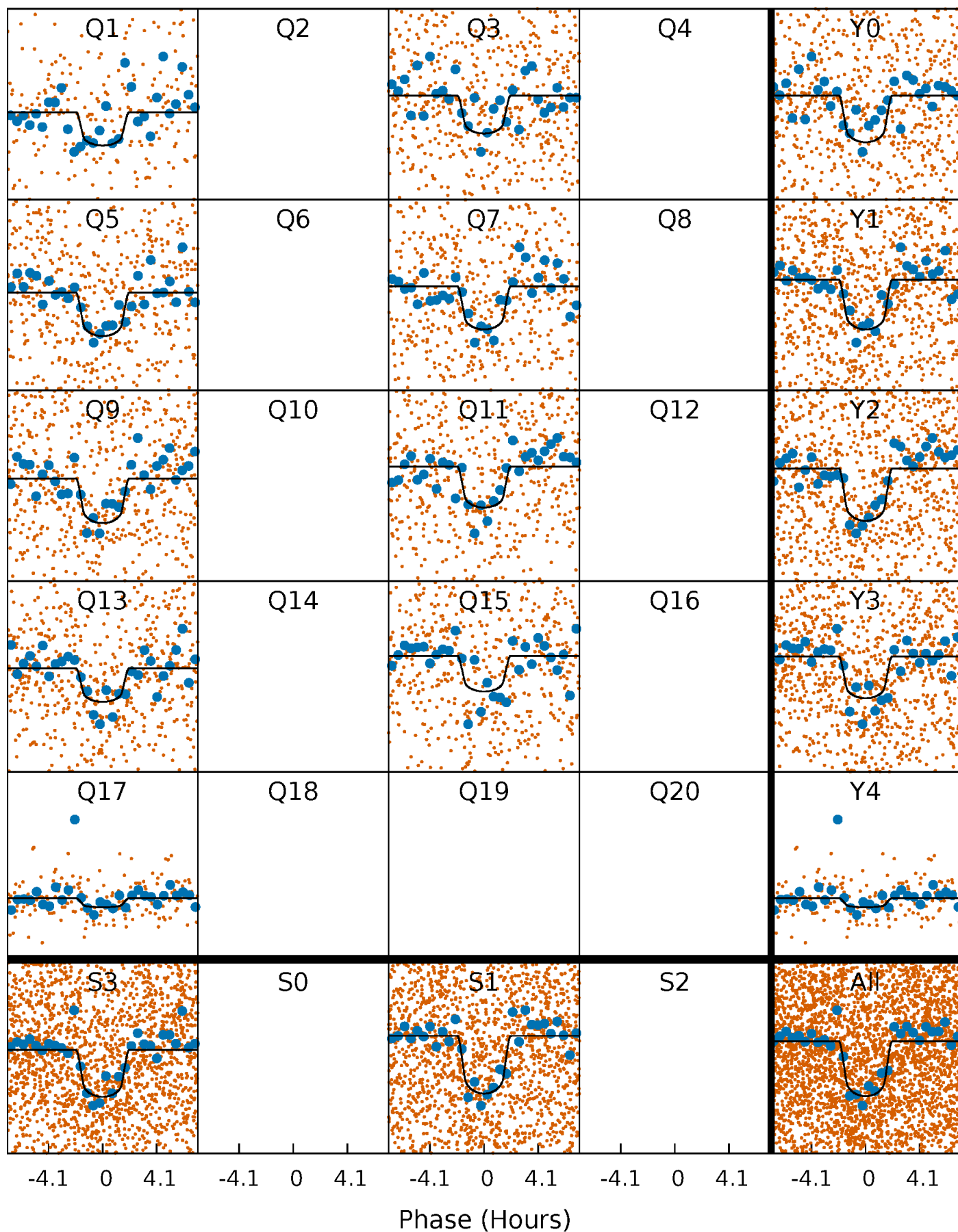
PDC Quarter-Phased Transit Curves

TCE 008158127-02 P= 4.088932 Days $T_0=131.680567$ (BKJD)



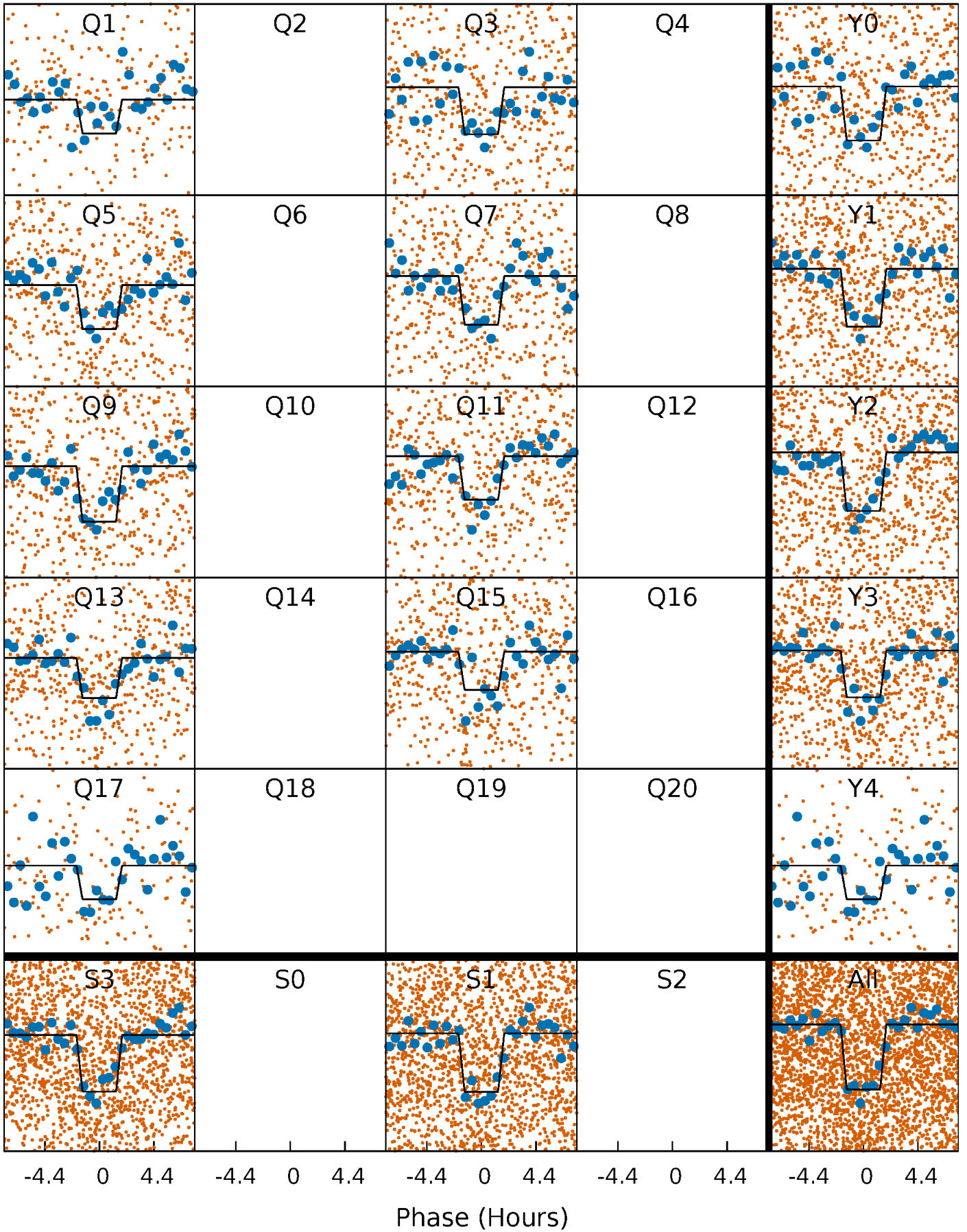
DV Quarter-Phased Transit Curves

TCE 008158127-02 $P = 4.088932$ Days $T_0 = 131.680567$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

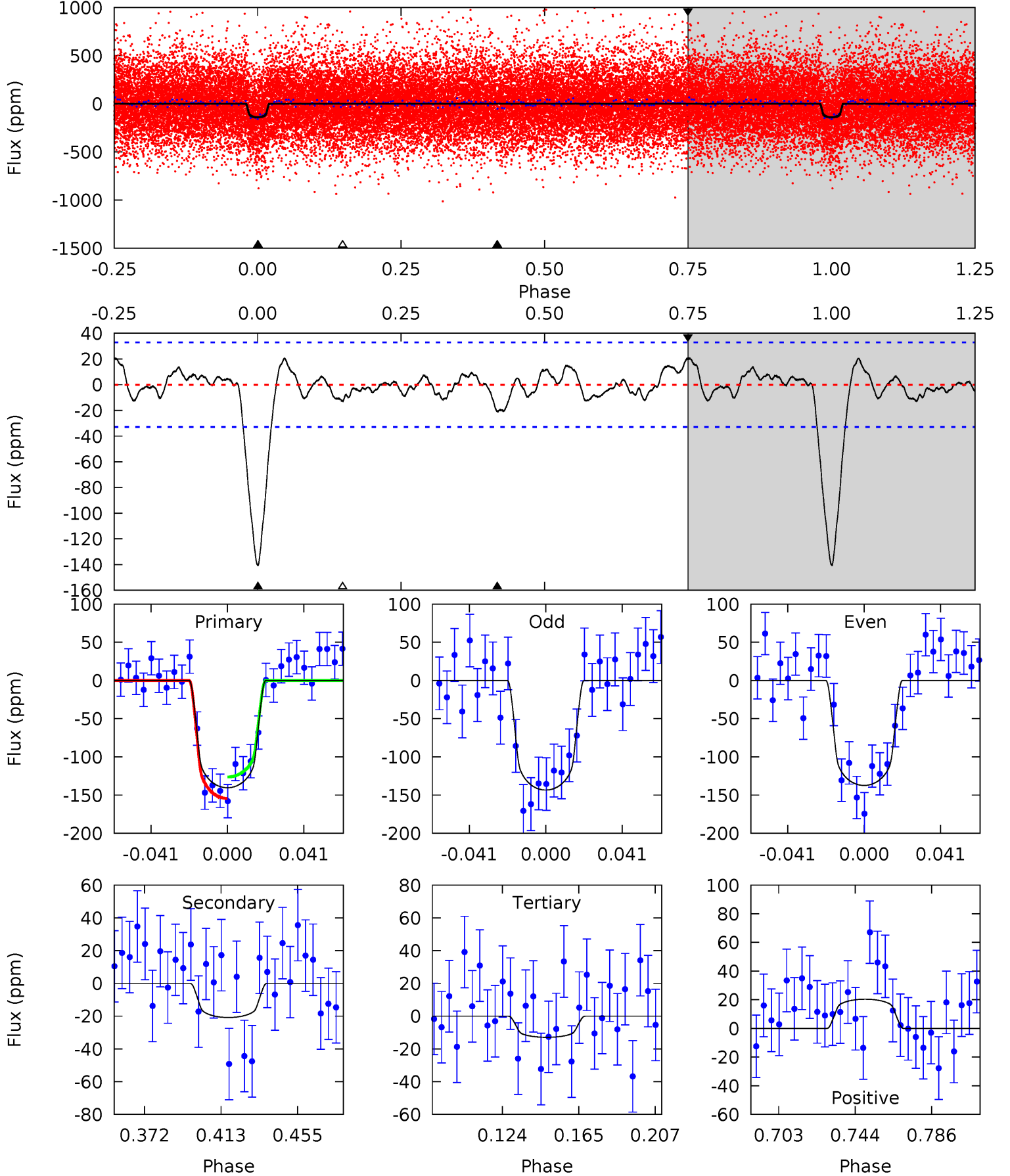
TCE 008158127-02 P= 4.088987 Days $T_0=131.669655$ (BKJD)



DV Model-Shift Uniqueness Test

008158127-02, P = 4.088932 Days, E = 127.591635 Days

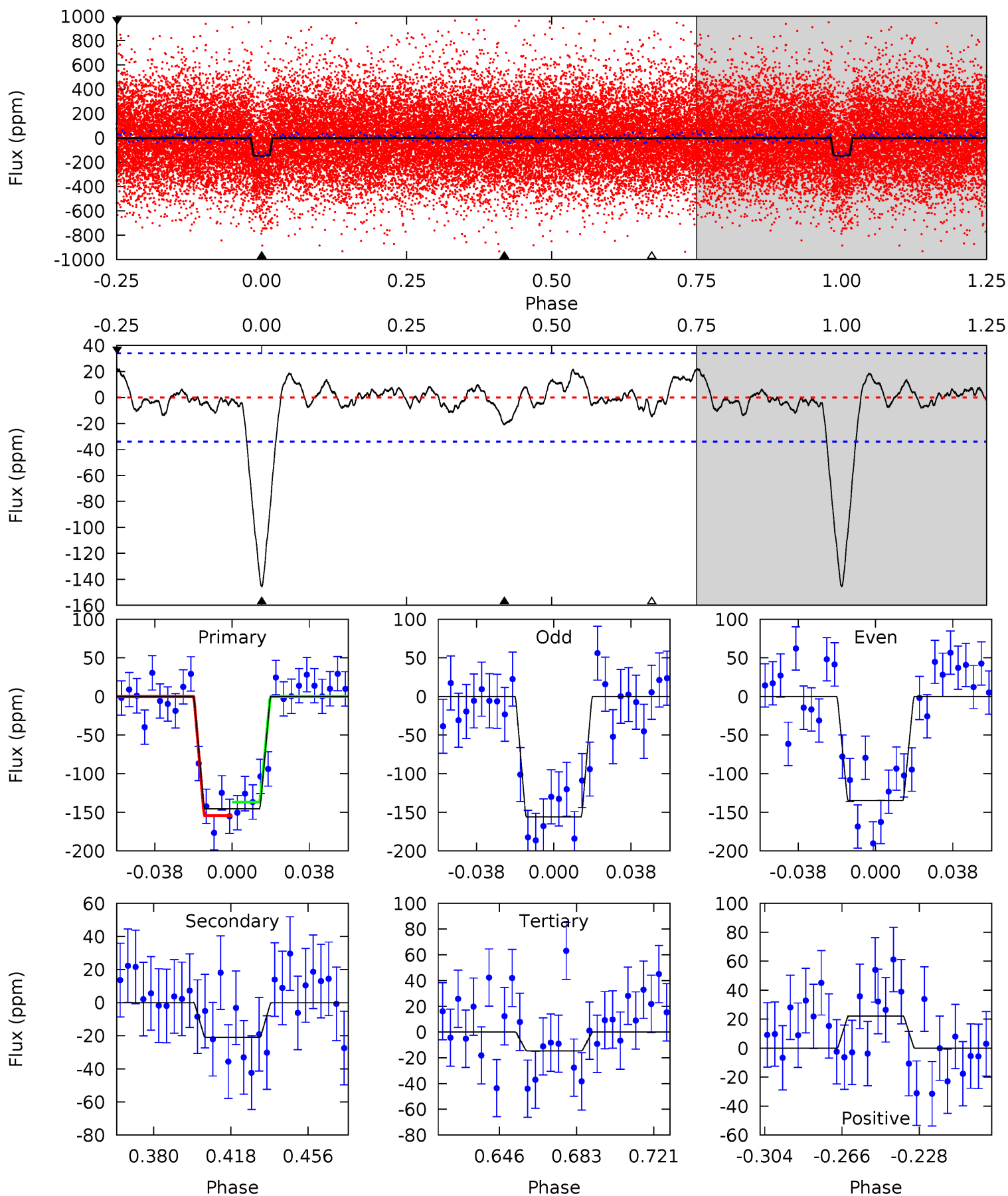
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	3.01	1.87	2.94	4.75	2.04	1.13	18.4	17.3	1.14	0.07	0.44	1.03	0.13	2.03



Alt Model-Shift Uniqueness Test

008158127-02, P = 4.088987 Days, E = 127.580668 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.4	2.93	2.04	3.09	4.76	2.08	1.10	18.3	17.3	0.89	-0.16	1.47	1.01	0.13	1.23



Stellar Parameters For KIC 008158127

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5897^{+79}_{-79}	$3.980^{+0.203}_{-0.072}$	$0.160^{+0.150}_{-0.150}$	$1.860^{+0.259}_{-0.481}$	$1.204^{+0.133}_{-0.133}$	$0.264^{+0.296}_{-0.073}$
	+1%/-1%	+5%/-2%	+94%/-94%	+14%/-26%	+11%/-11%	+112%/-28%
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 008158127-02 / KOI 1015.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-21 ± 7	$2.58^{+1.01}_{-0.84}$	2125^{+85}_{-130}	3747^{+691}_{-444}	$4.590^{+6.872}_{-2.340}$
Alt.	-21 ± 7	$2.35^{+0.98}_{-0.91}$	2126^{+82}_{-119}	3900^{+849}_{-490}	$5.785^{+10.062}_{-3.135}$

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

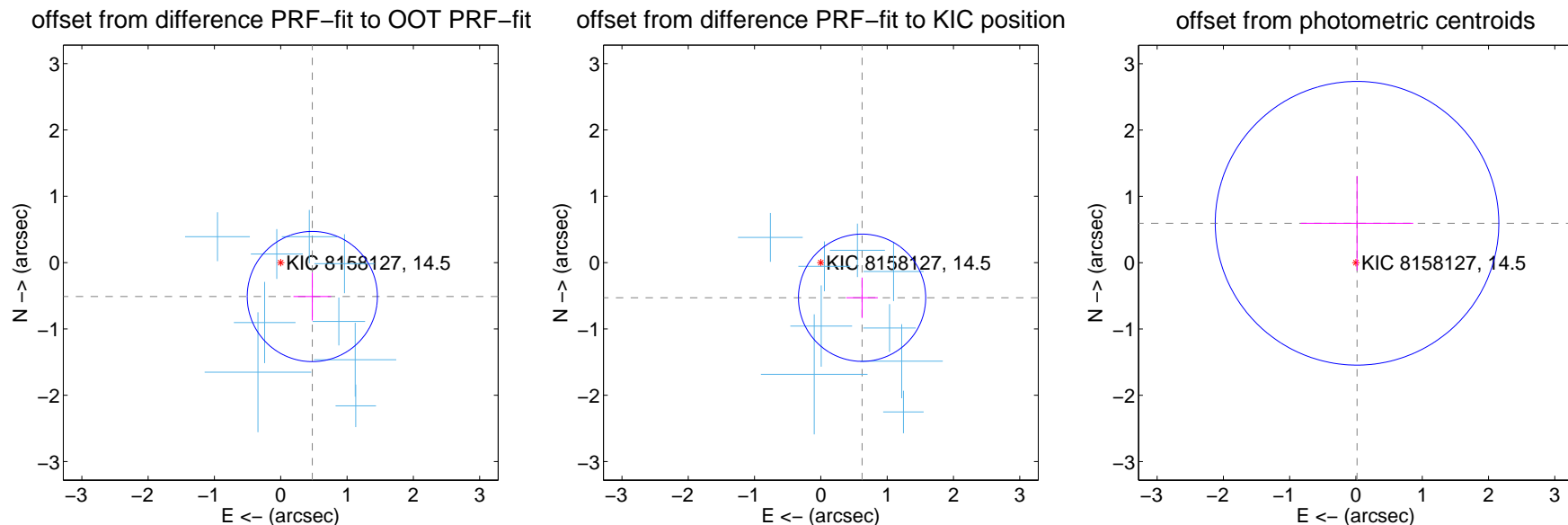
DV Centroid Data

Supplemental centroid analysis for 008158127-02. Kepler magnitude: 14.50. Transit SNR 15.56

There are 9 quarters with good PRF difference image offsets

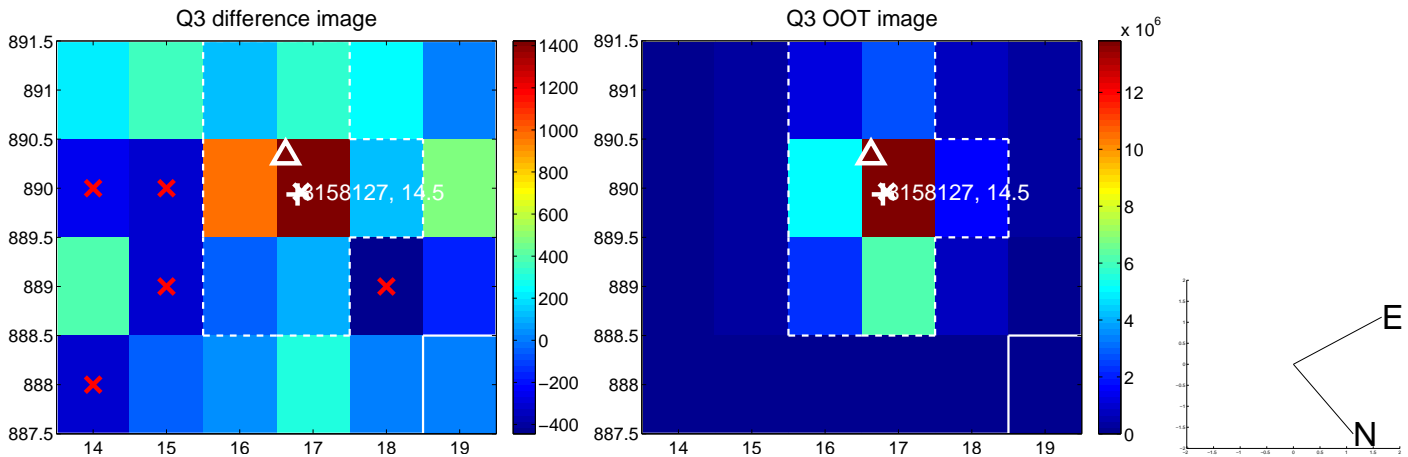
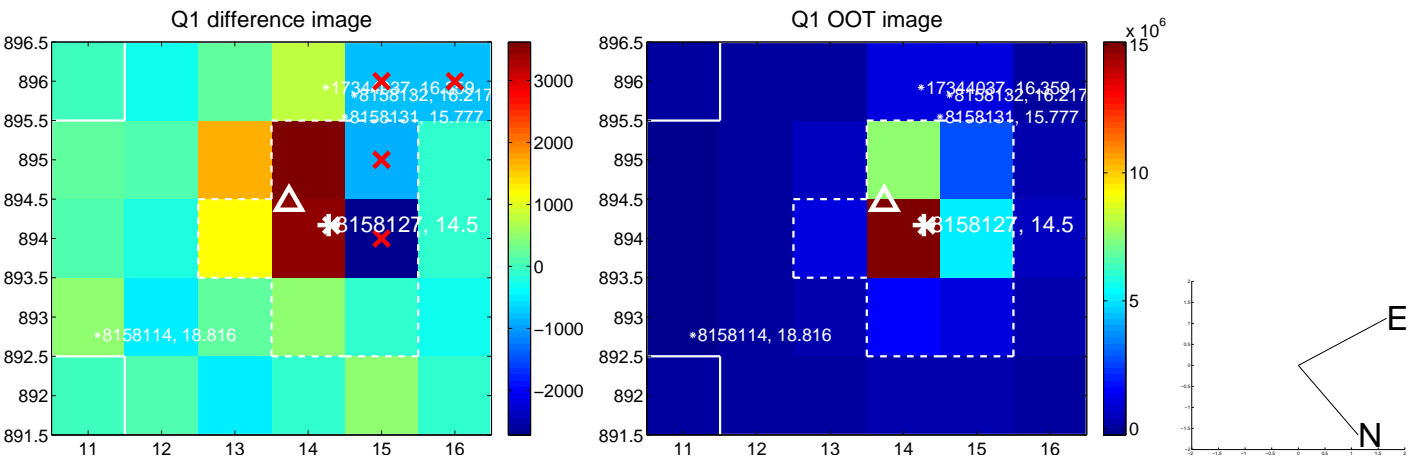
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.699 ± 0.327	2.14	-0.476 ± 0.284	-0.512 ± 0.361
PRF-fit source offset from KIC position	0.817 ± 0.320	2.55	-0.622 ± 0.238	-0.530 ± 0.304
photometric centroid source offset	0.59 ± 0.71	0.83	-0.02 ± 0.85	0.59 ± 0.71

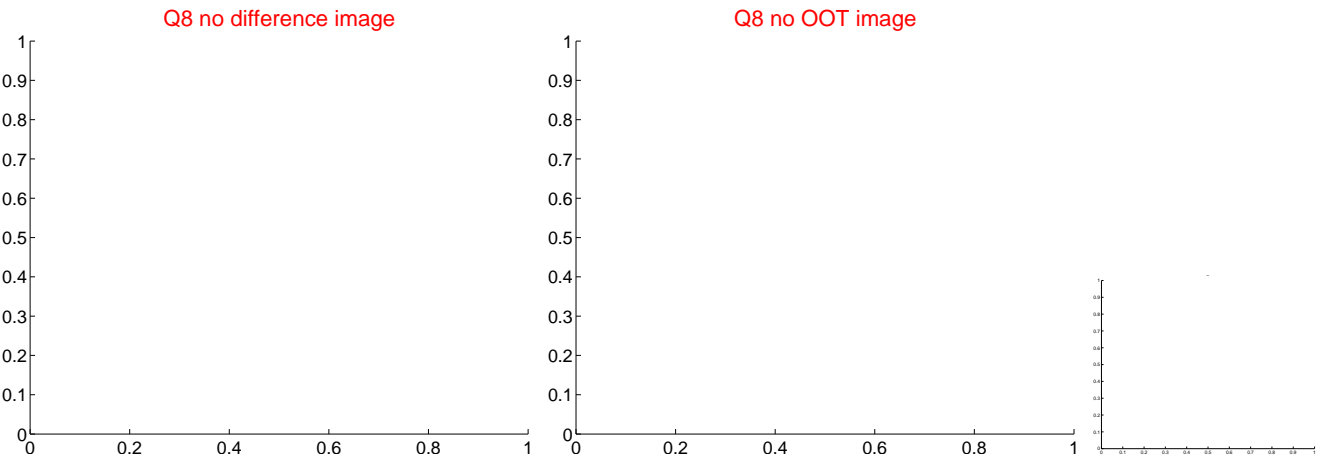
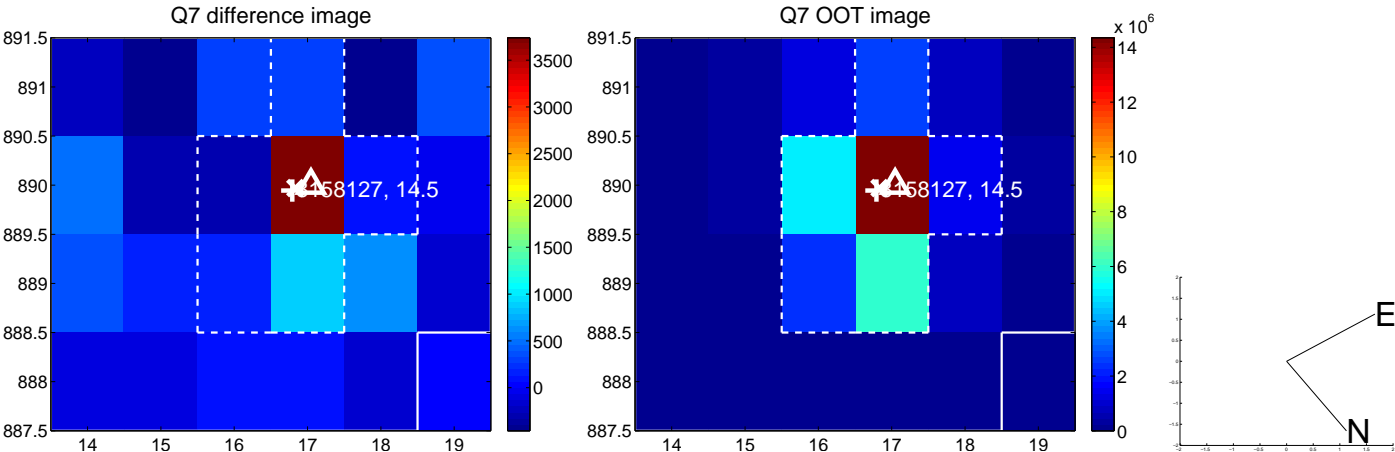
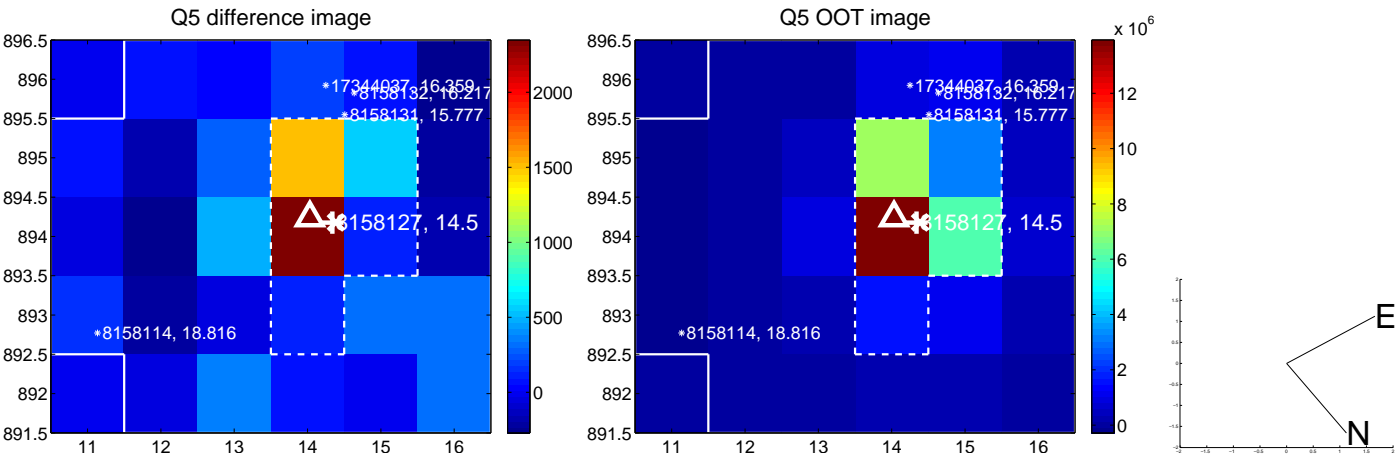


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

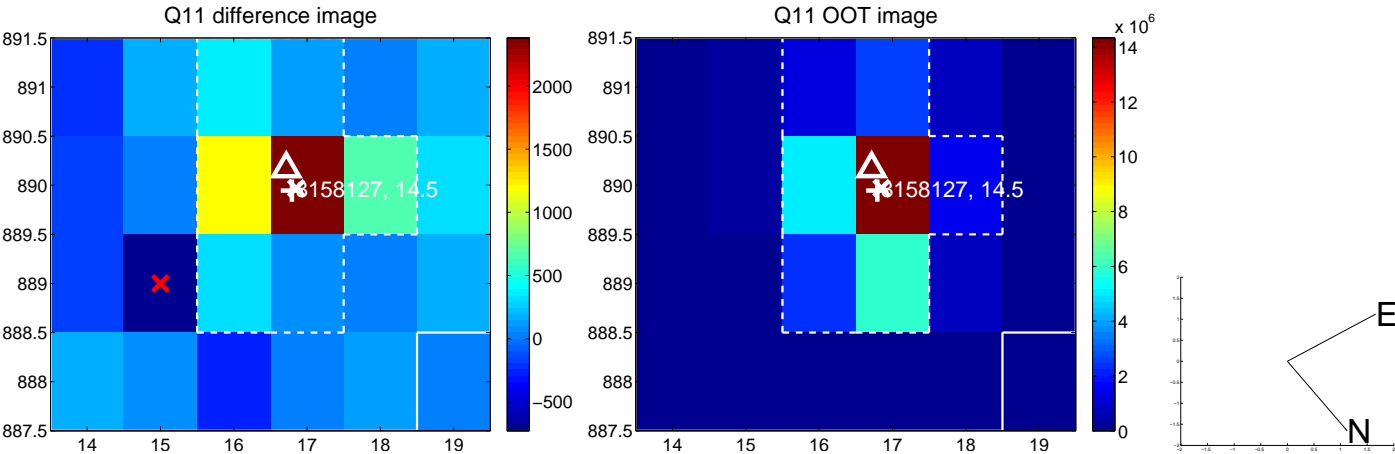
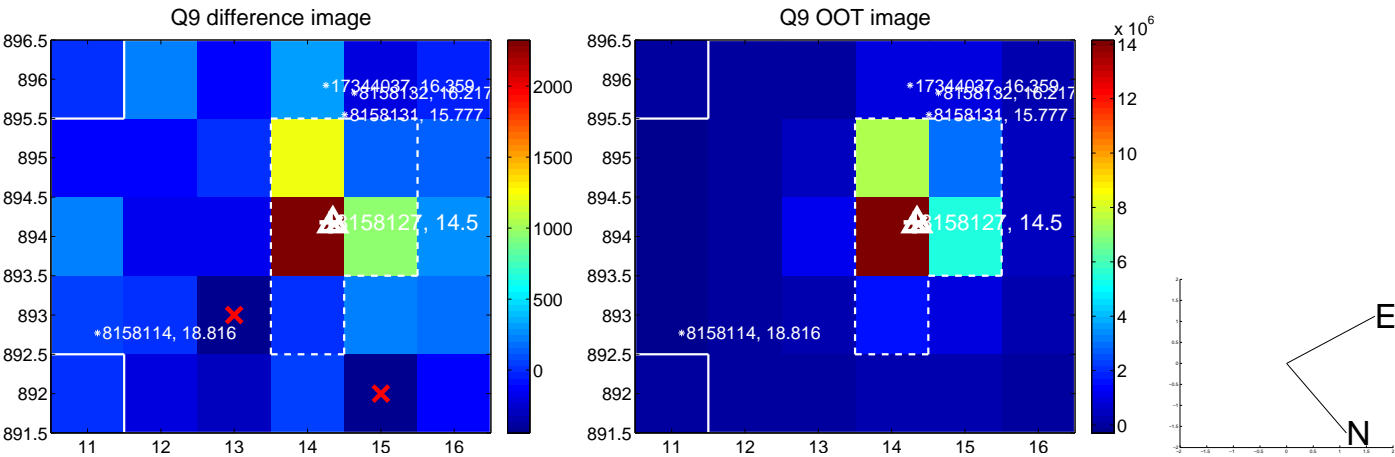
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



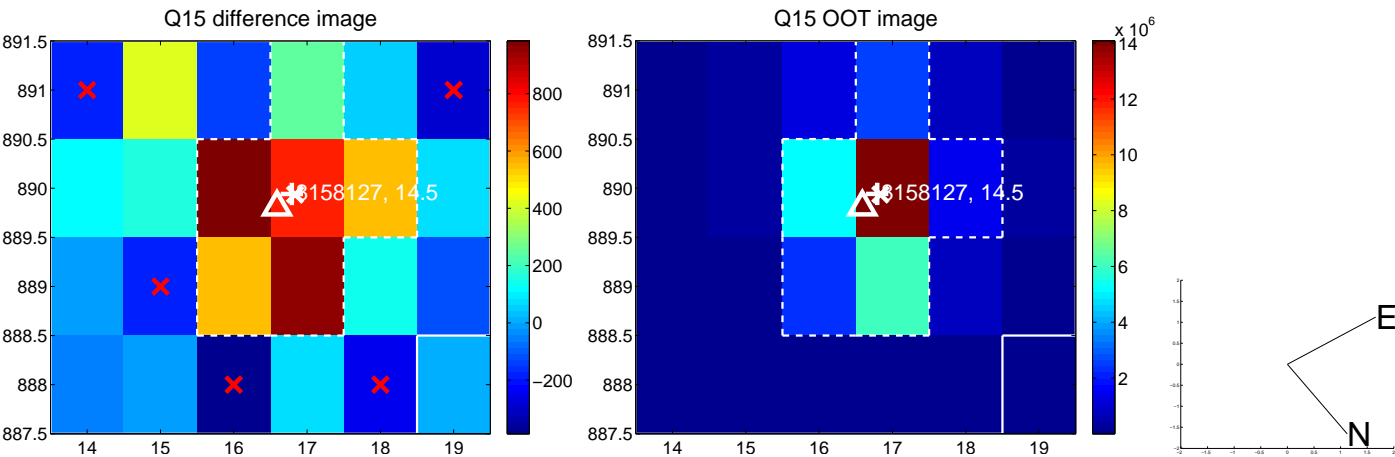
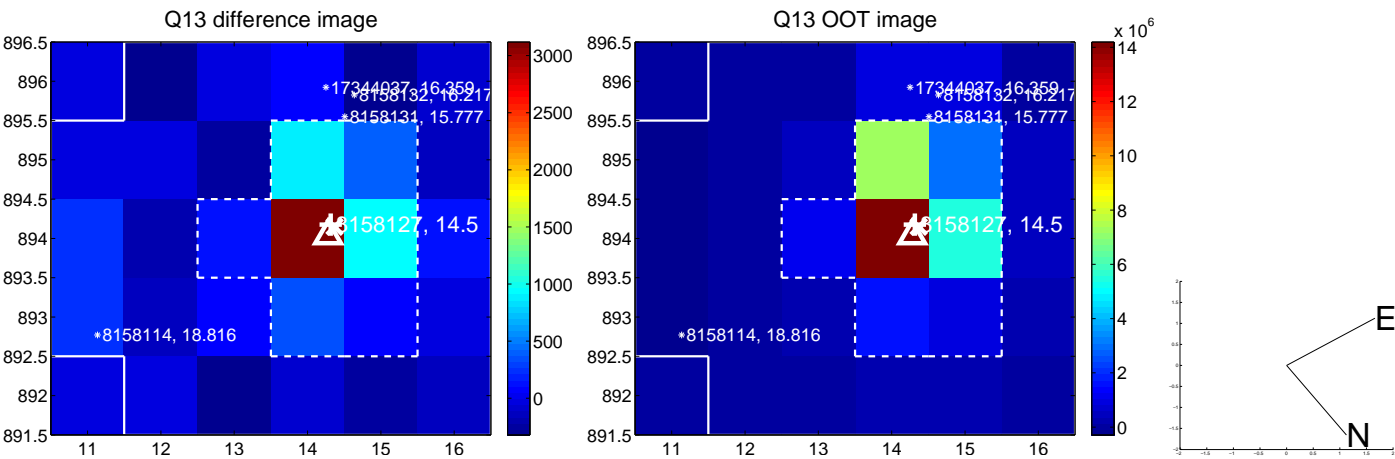
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



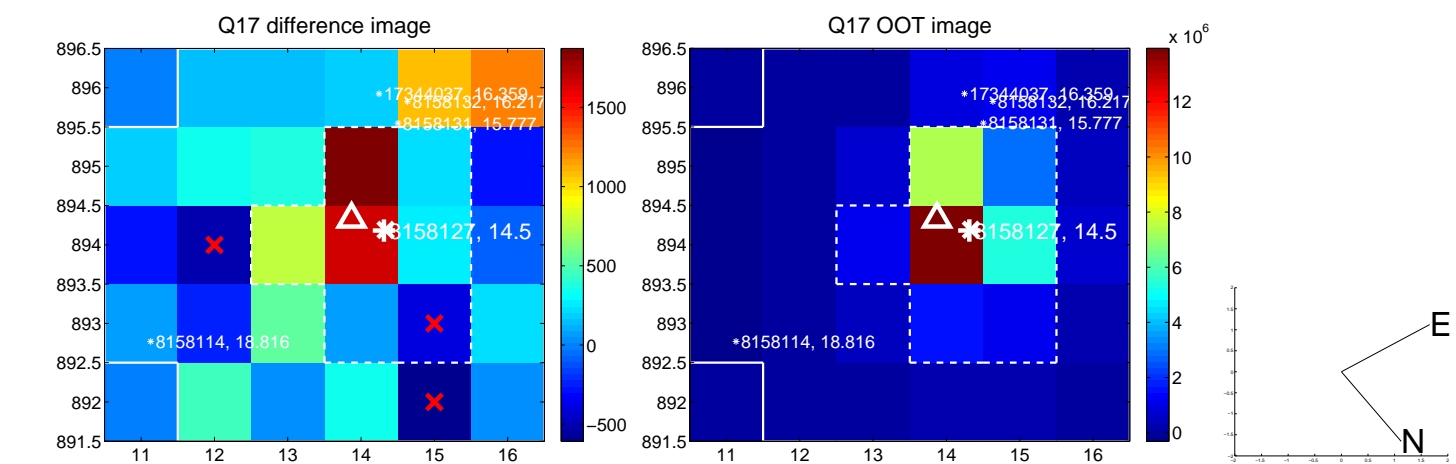
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



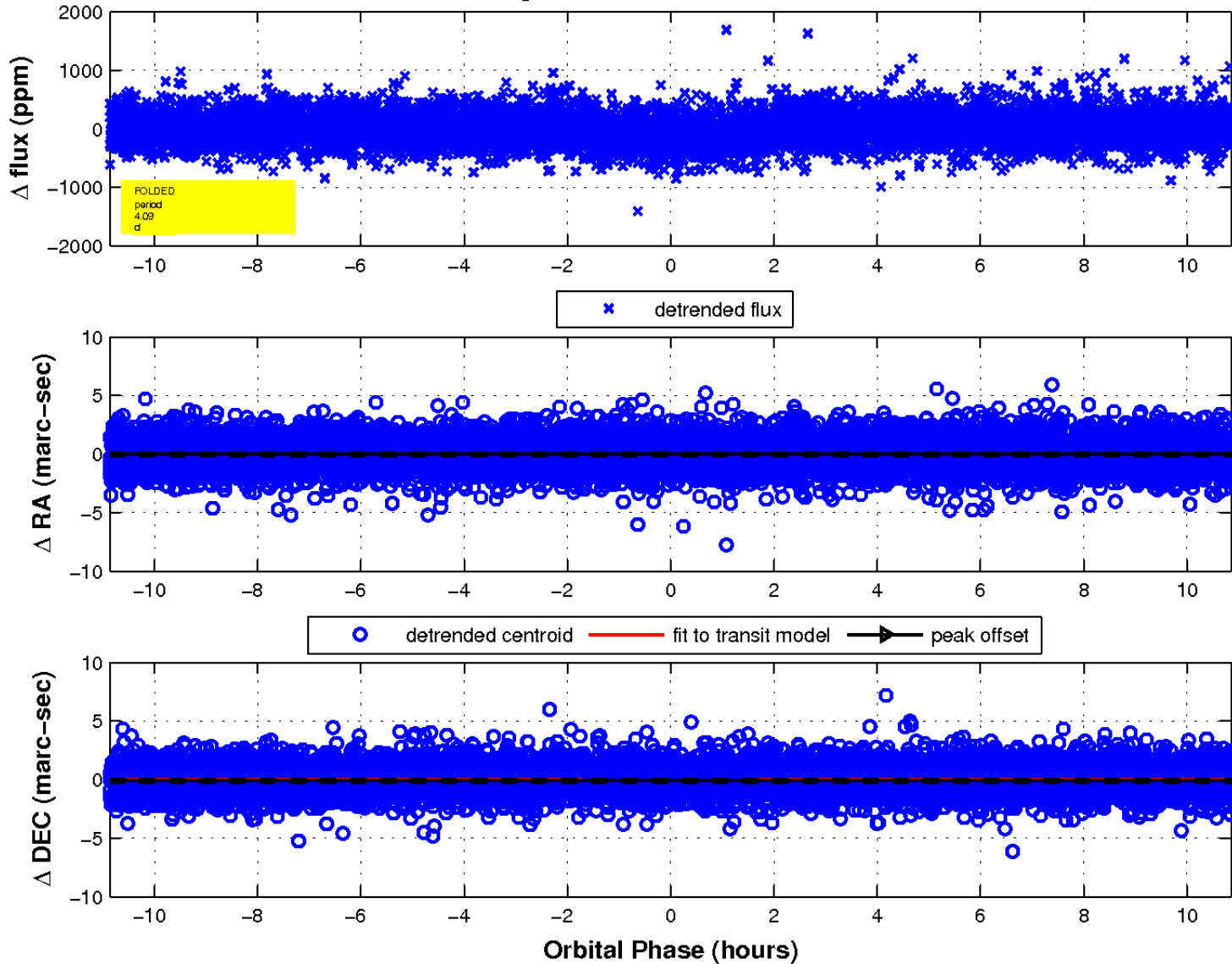
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



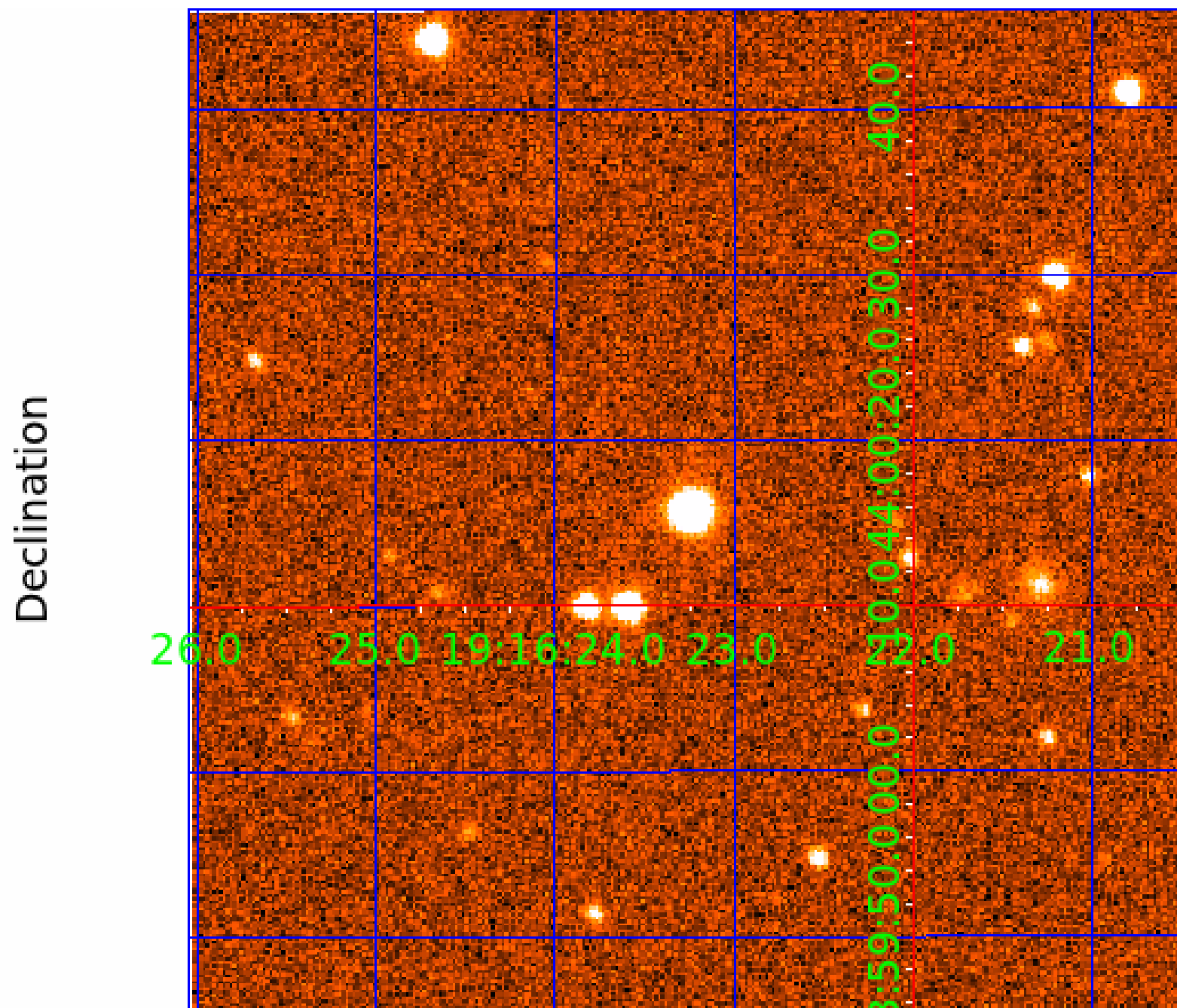
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 3



UKIRT Image



KIC 008158127

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})
008158127-01	OBS	1015.01	9.428861	140.107160	557.3	4.560	38.6	43.9	1.86	5897	4.76	433.66
008158127-02	OBS	1015.02	4.088932	131.680567	142.1	3.621	15.5	15.6	1.86	5897	2.63	1321.14
008158127-03	OBS	1015.03	16.997688	143.863190	242.9	2.686	8.2	8.8	1.86	5897	3.95	197.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008158127-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008158127-02	OBS	PC	0.99	0	0	0	0	NO_COMMENT
008158127-03	OBS	PC	0.70	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.

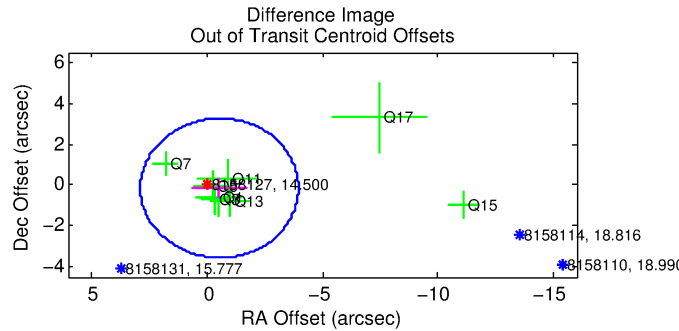
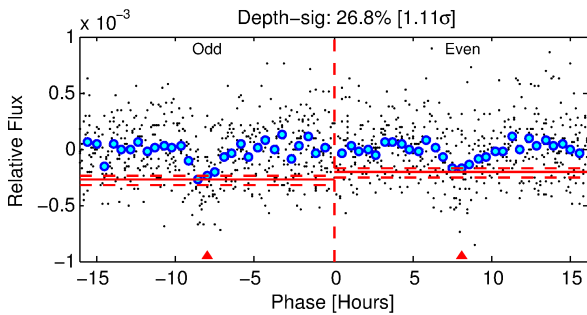
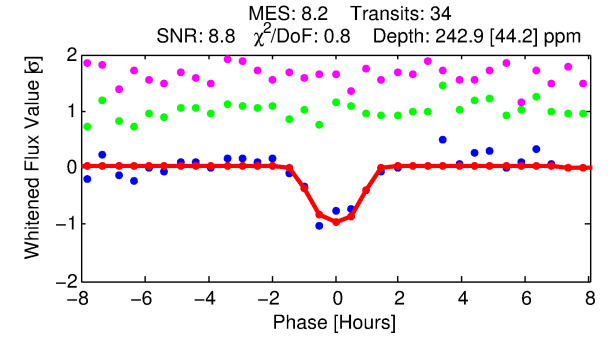
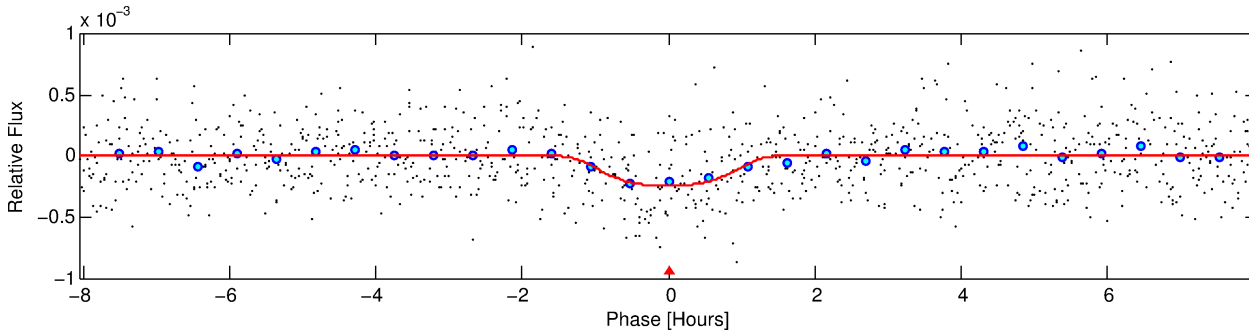
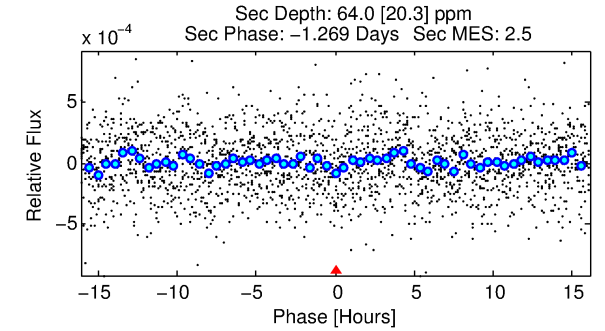
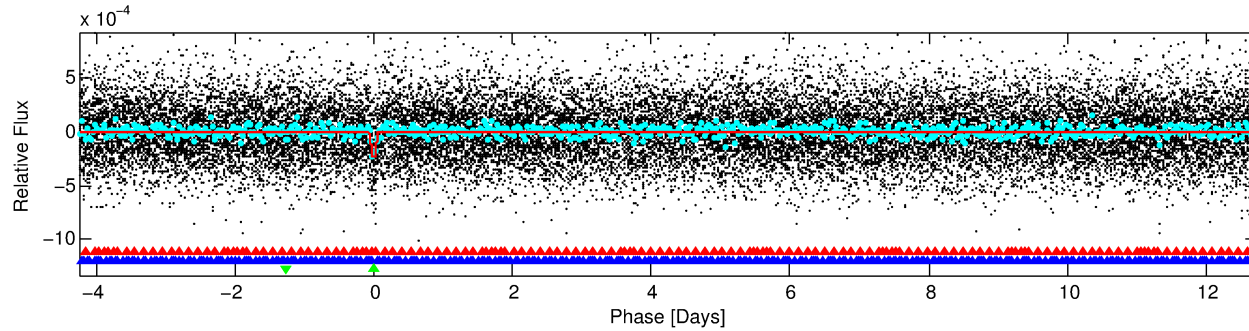
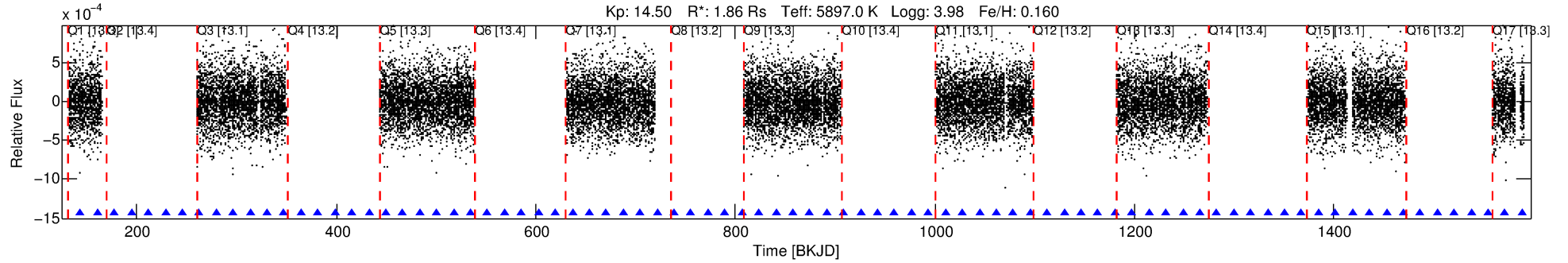
Ephemeris Match Information For 008158127-03

No Significant Match Found

DV One-Page Summary

KIC: 8158127 Candidate: 3 of 3 Period: 16.998 d

KOI: K01015.03 Corr: 0.942



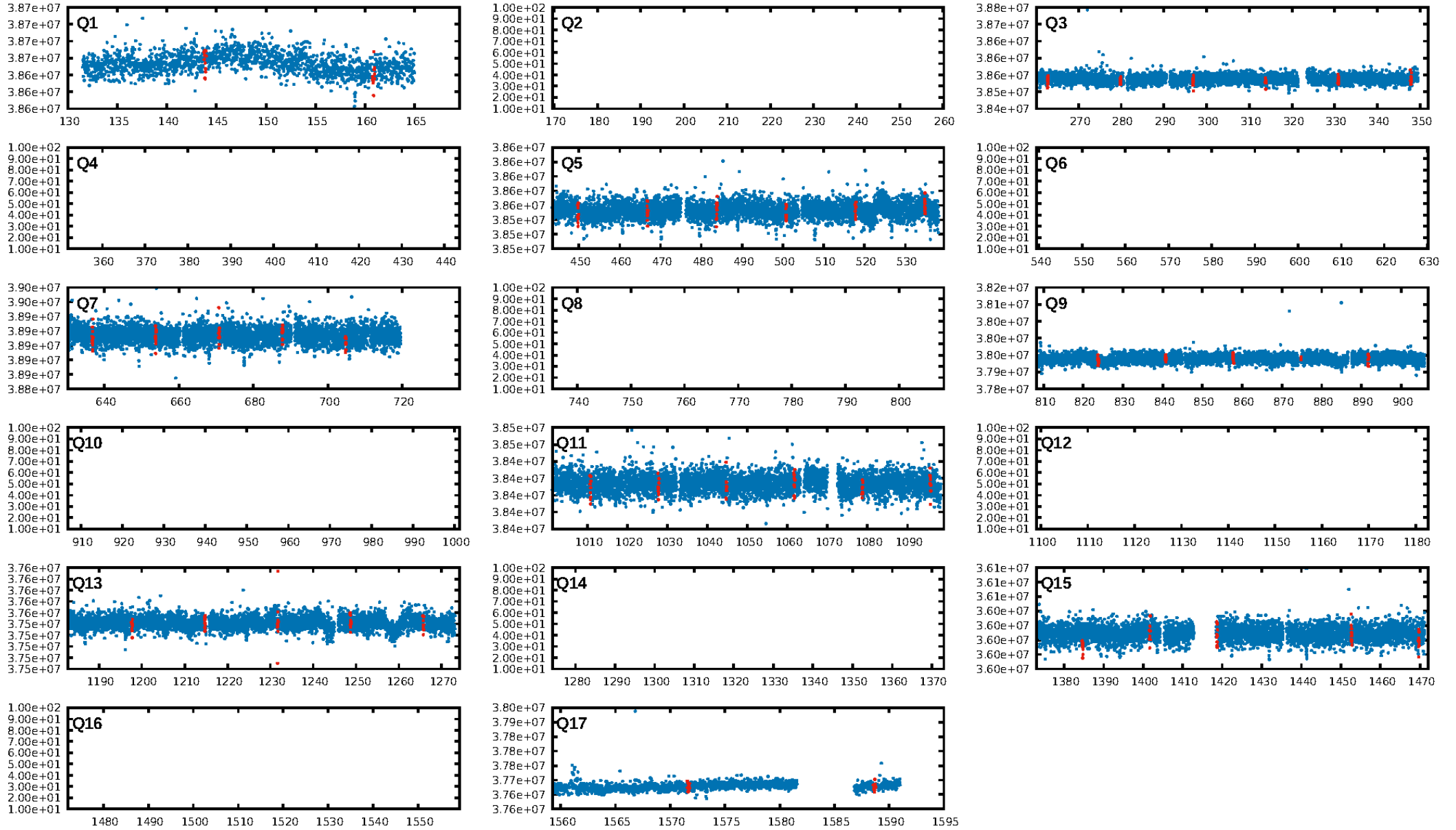
DV Fit Results:

Period = 16.99769 [0.00016] d
Epoch = 143.8632 [0.0076] BKJD
Rp/R* = 0.0195 [0.0028]
a/R* = 14.03 [4.55]
b = 0.98 [0.02]
Seff = 197.65 [71.18]
Teff = 956 [86] K
Rp = 3.95 [1.17] Re
a = 0.1377 [0.0320] AU
Ag = 42.71 [23.81] [1.75 σ]
Teffp = 3779 [408] K [6.76 σ]

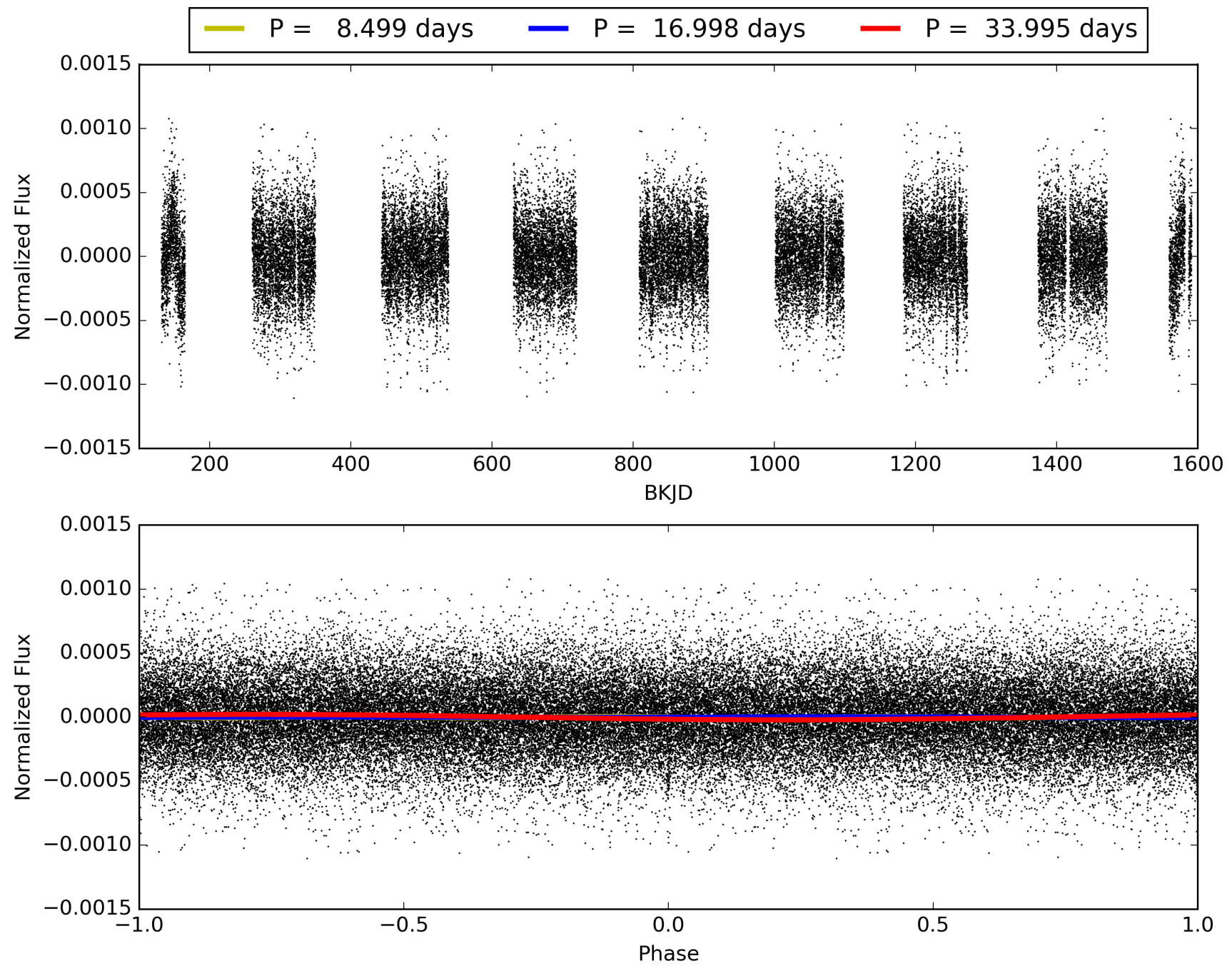
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [34.33 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.68e-16
RollingBand-fgt: 1.00 [31/31]
GhostDiagnostic-chr: 1.098
Centroid-sig: 83.5%
Centroid-so: 0.722 arcsec [0.53 σ]
OotOffset-rm: 0.567 arcsec [0.50 σ]
KicOffset-rm: 0.767 arcsec [0.60 σ]
OotOffset-st: 0/4/0/4 [8]
KicOffset-st: 0/4/0/4 [8]
DiffImageQuality-fgm: 0.50 [4/8]
DiffImageOverlap-fno: 1.00 [9/9]

TCE 008158127-03, PDC Light Curves

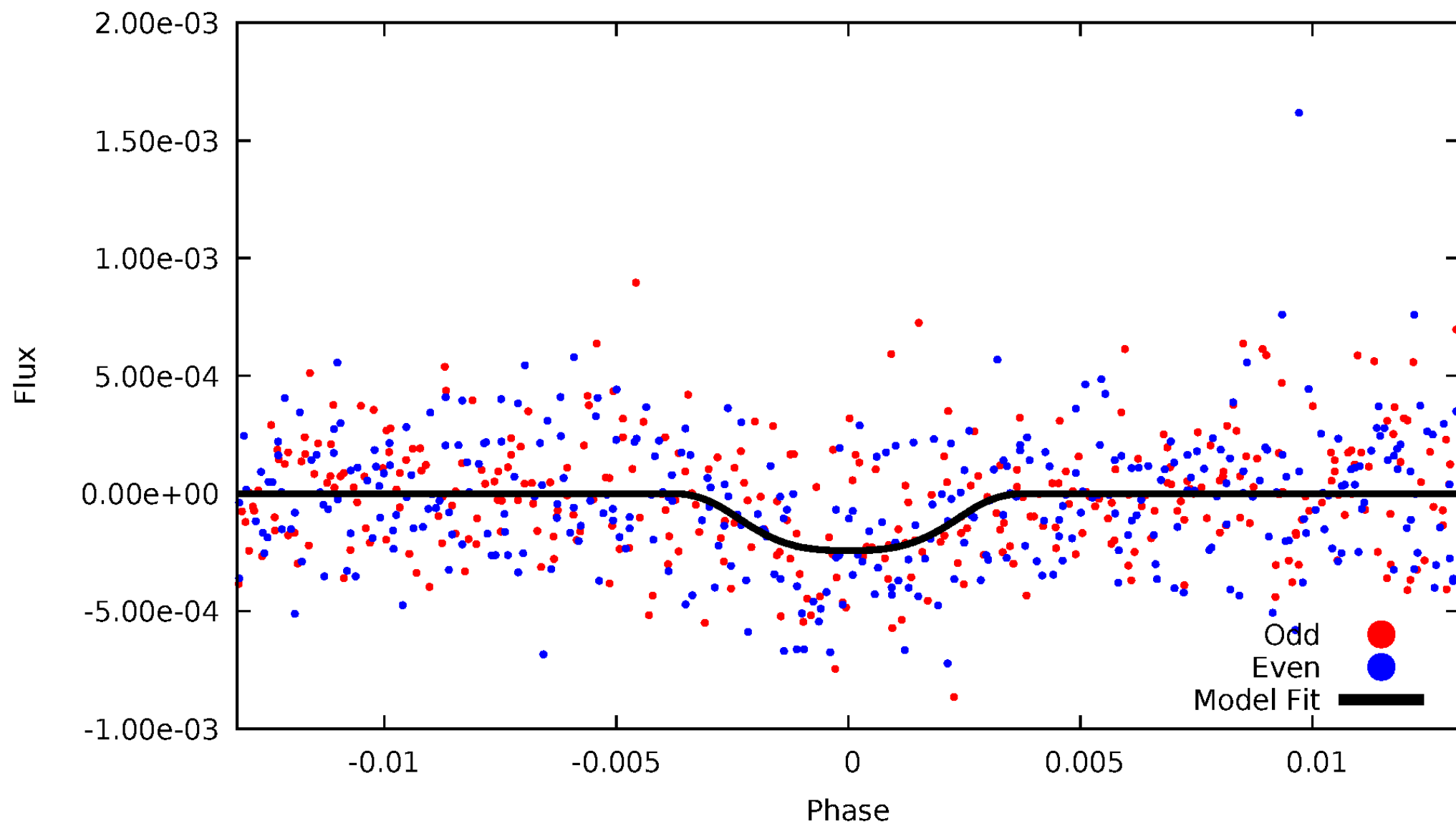


TCE 008158127-03



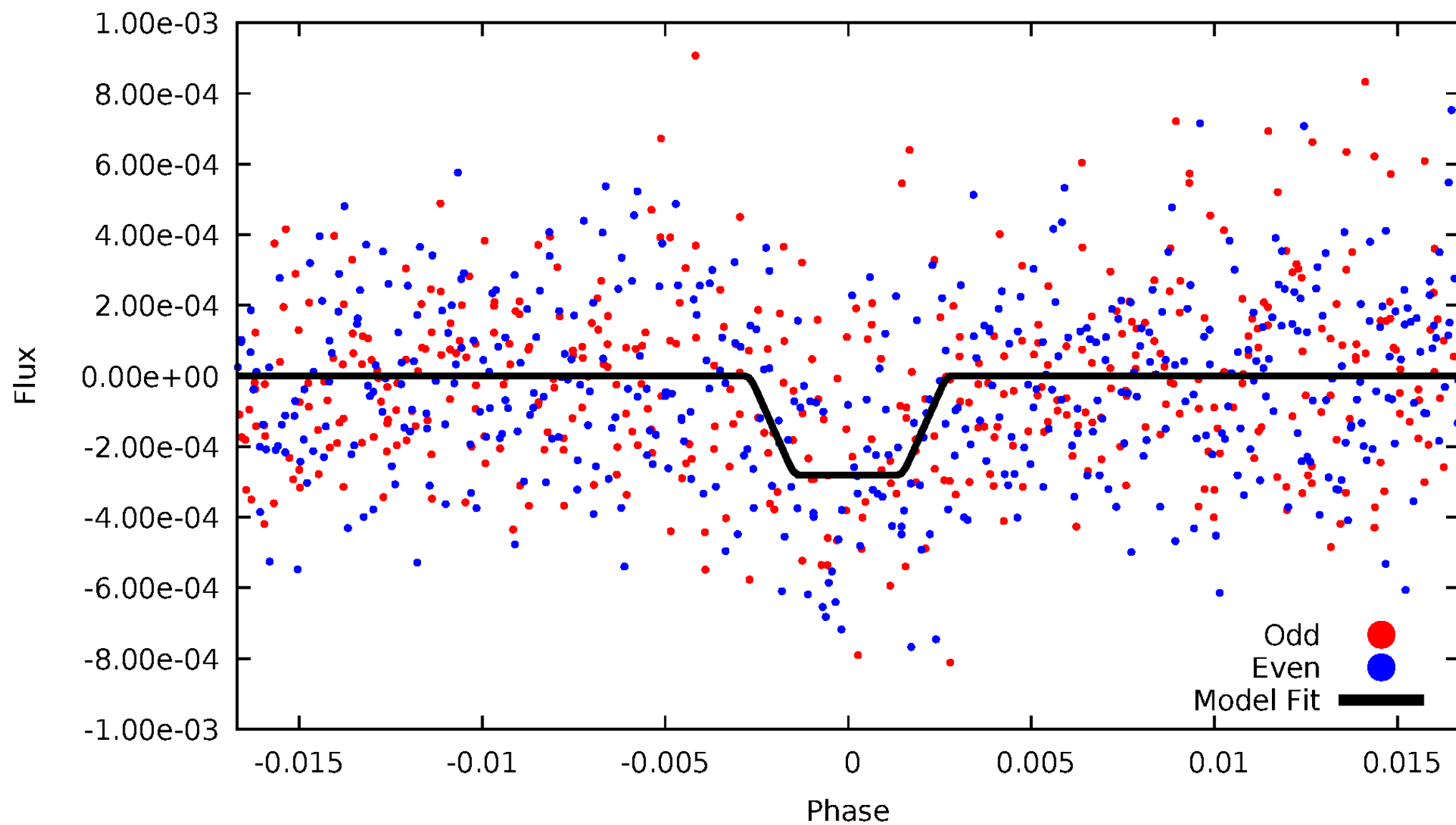
DV Odd/Even

TCE 008158127-03



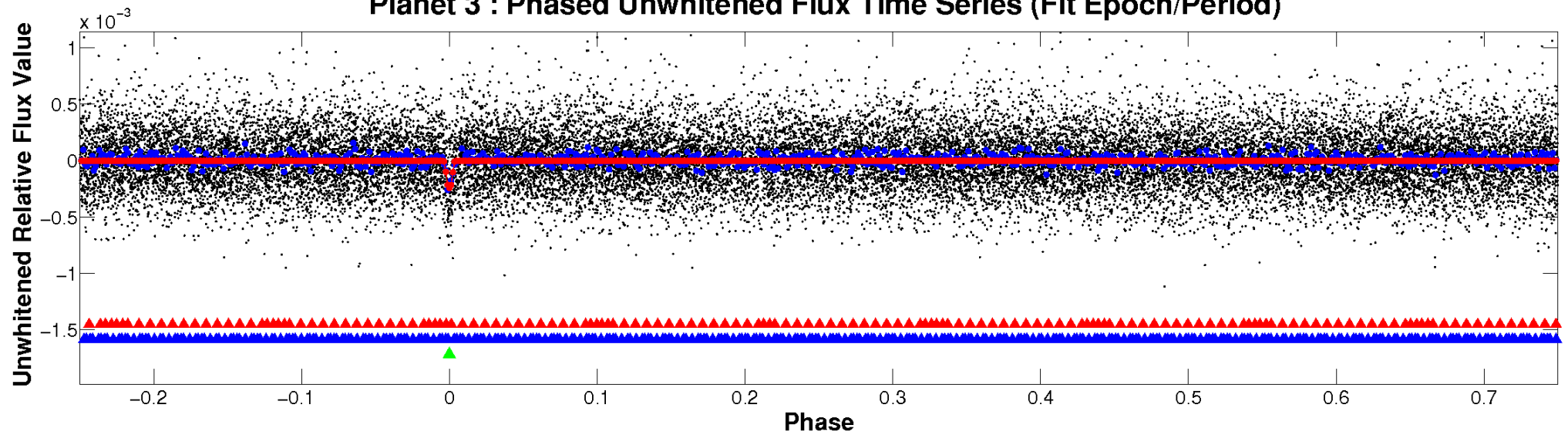
ALT Odd/Even

TCE 008158127-03

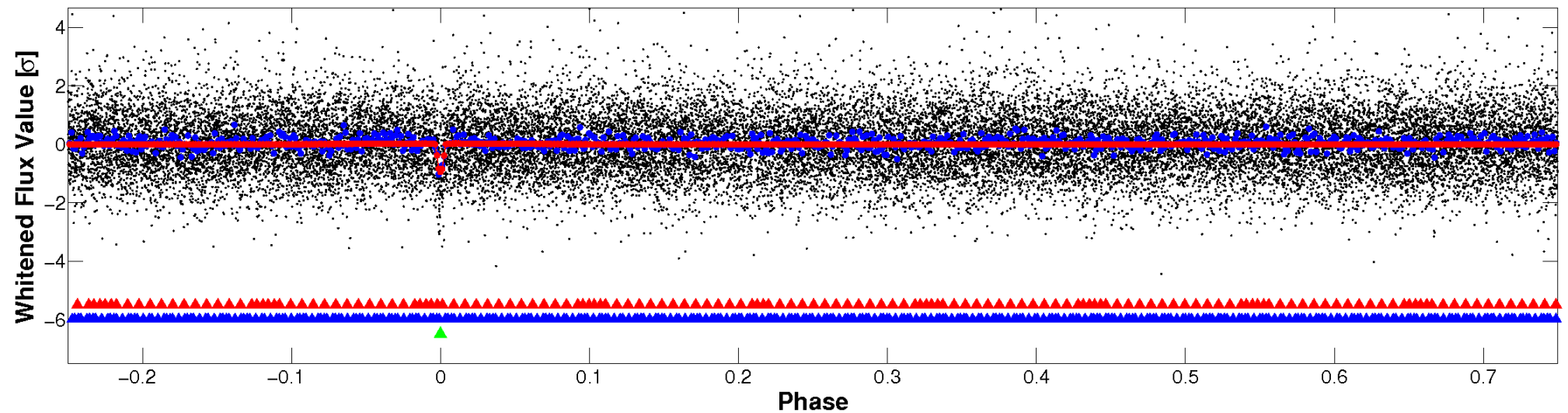


Non-Whitened Vs. Whitened Light Curve

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

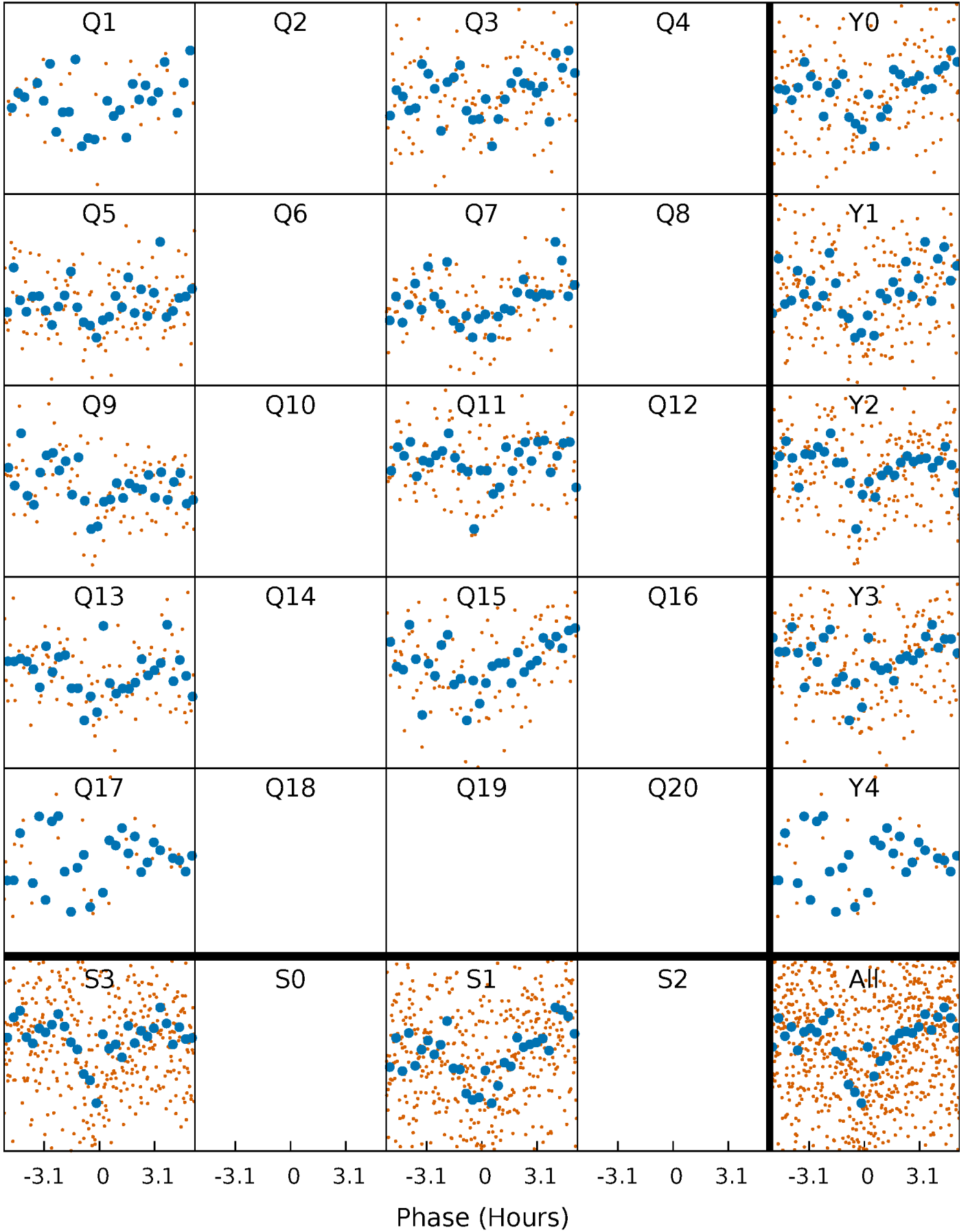


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008158127-03 P= 16.997688 Days $T_0=143.863190$ (BKJD)



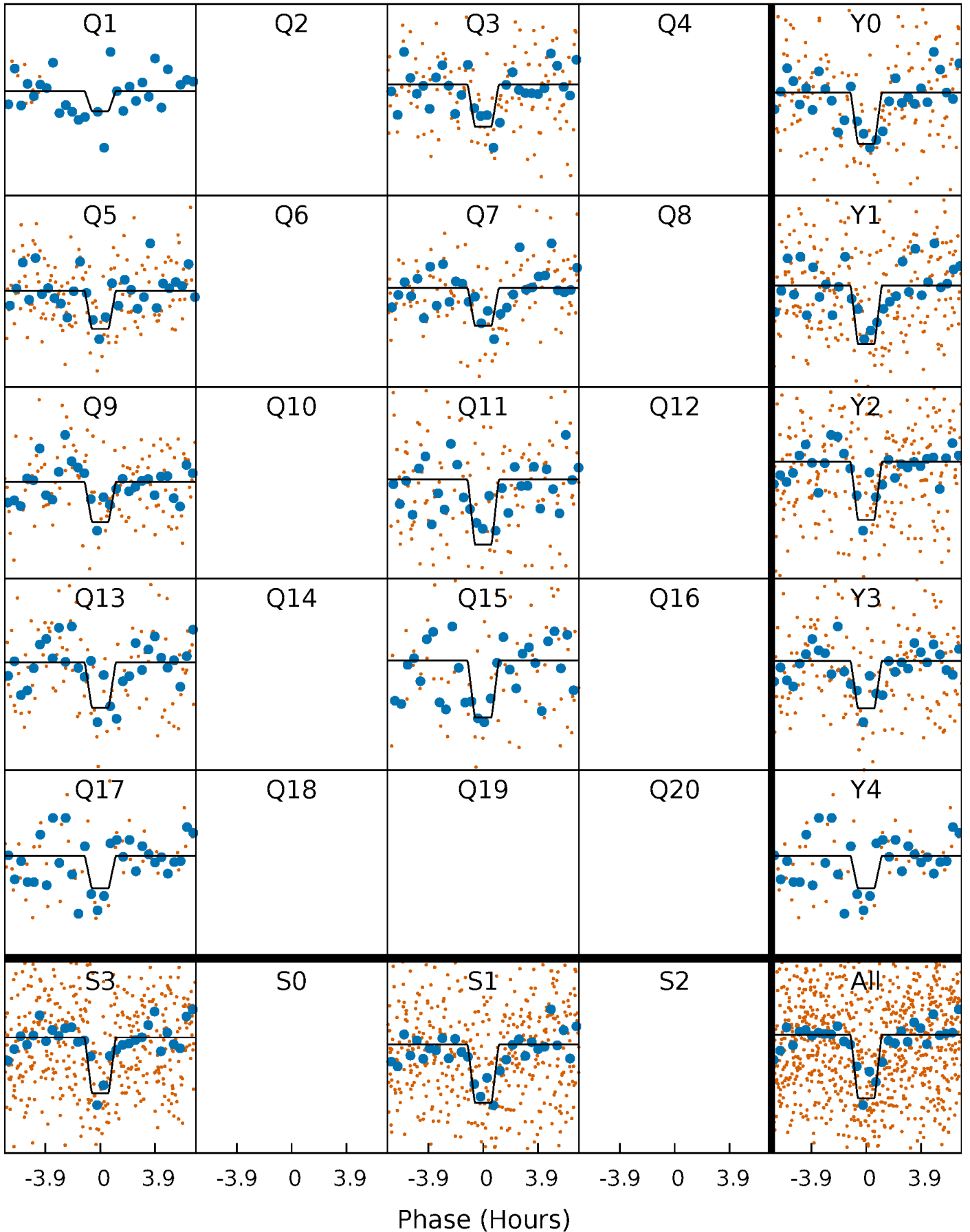
DV Quarter-Phased Transit Curves

TCE 008158127-03 P= 16.997688 Days $T_0=143.863190$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

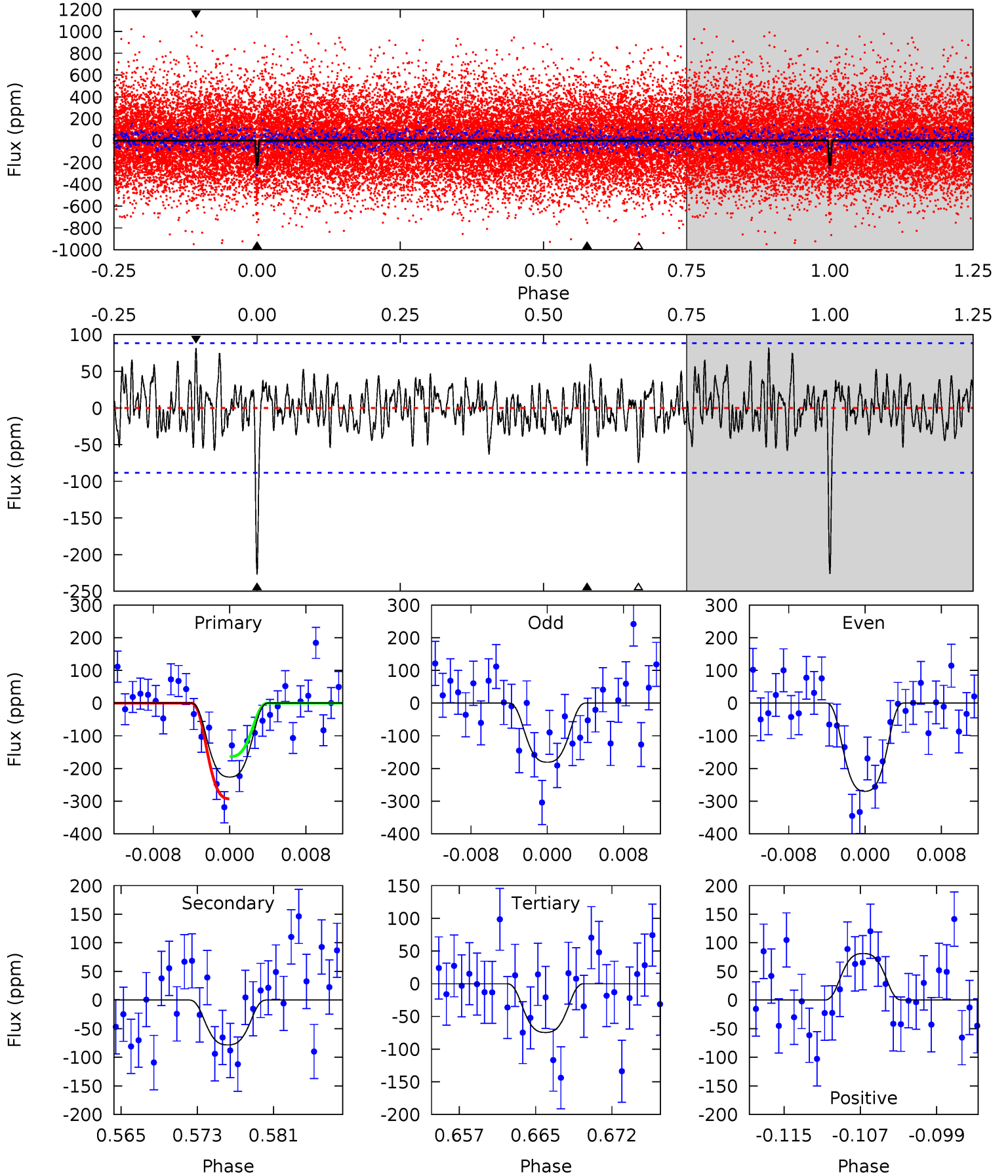
TCE 008158127-03 P= 16.997767 Days $T_0=143.853877$ (BKJD)



DV Model-Shift Uniqueness Test

008158127-03, $P = 16.997688$ Days, $E = 126.865502$ Days

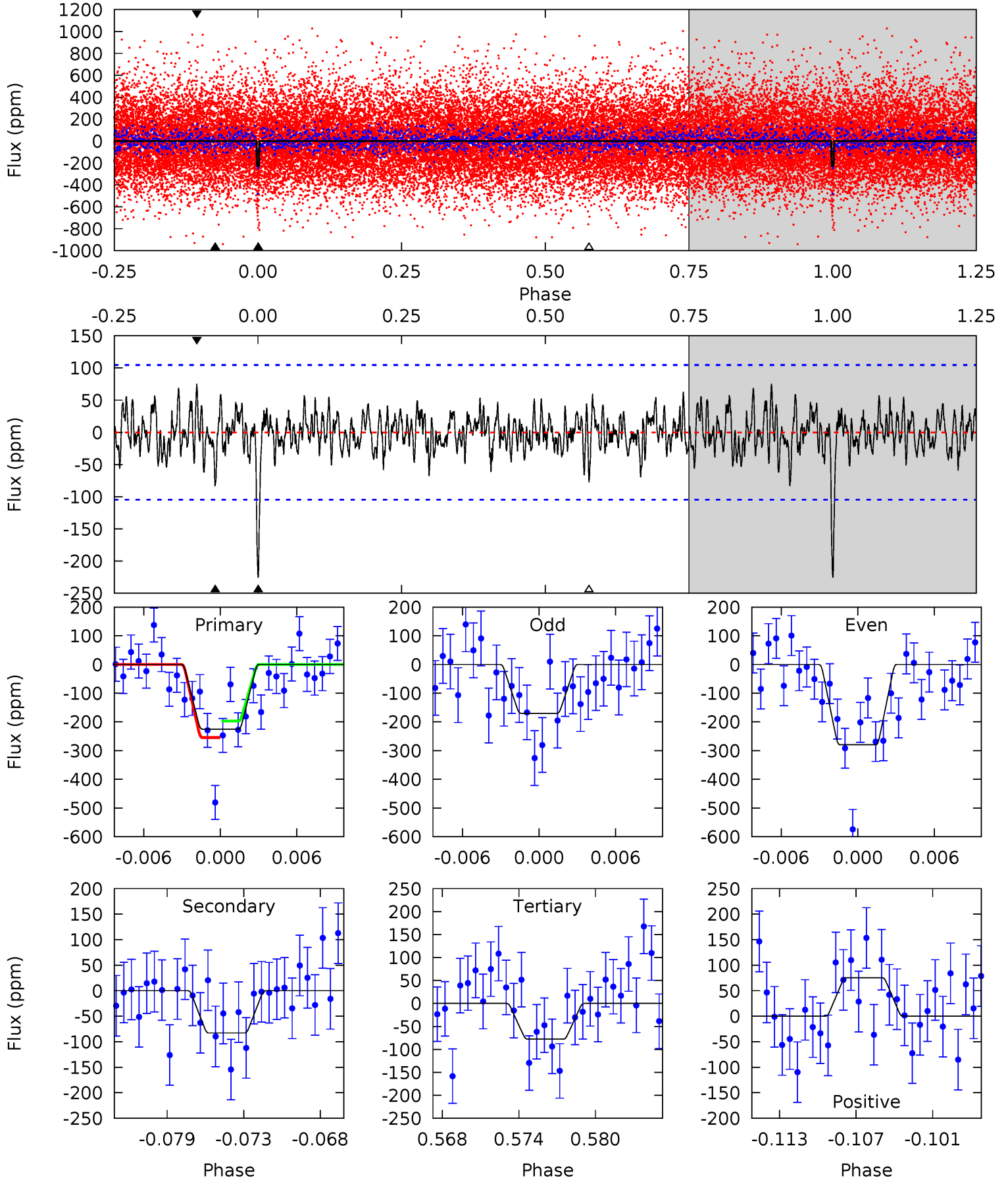
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	4.50	4.28	4.67	5.08	2.67	1.33	8.70	8.31	0.21	-0.17	2.57	0.95	0.26	3.71



Alt Model-Shift Uniqueness Test

008158127-03, $P = 16.997767$ Days, $E = 126.856110$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	4.07	3.81	3.70	5.14	2.77	1.17	7.27	7.38	0.26	0.37	2.69	0.97	0.25	1.41



Stellar Parameters For KIC 008158127

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5897^{+79}_{-79}	$3.980^{+0.203}_{-0.072}$	$0.160^{+0.150}_{-0.150}$	$1.860^{+0.259}_{-0.481}$	$1.204^{+0.133}_{-0.133}$	$0.264^{+0.296}_{-0.073}$
	+1%/-1%	+5%/-2%	+94%/-94%	+14%/-26%	+11%/-11%	+112%/-28%
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 008158127-03 / KOI 1015.03

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-78 ± 17	$3.75^{+0.69}_{-0.68}$	1321^{+54}_{-86}	4243^{+323}_{-270}	59^{+31}_{-20}
Alt.	-83 ± 20	$3.28^{+0.69}_{-0.66}$	1318^{+55}_{-83}	4527^{+420}_{-362}	82^{+52}_{-31}

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 $A_{obs} \gg 1.0$

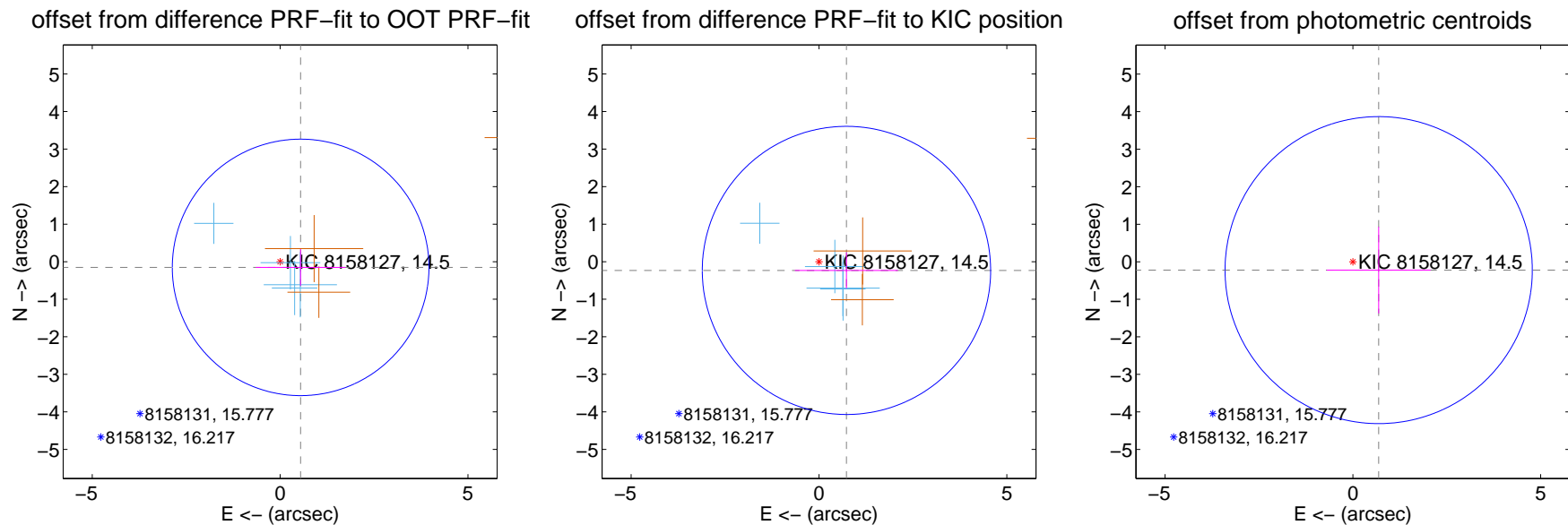
DV Centroid Data

Supplemental centroid analysis for 008158127-03. Kepler magnitude: 14.50. Transit SNR 8.80

There are 4 quarters with good PRF difference image offsets

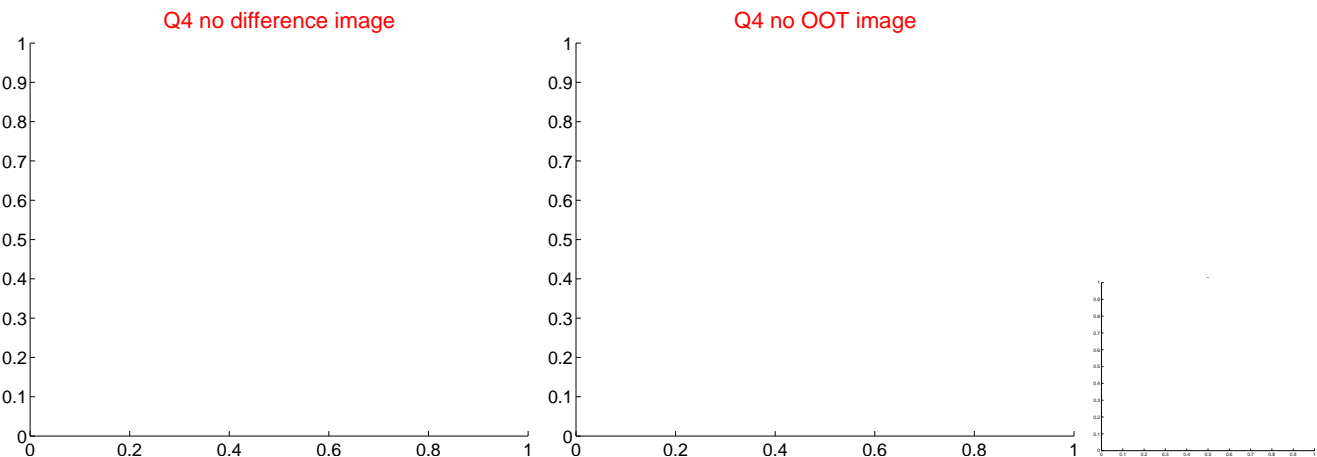
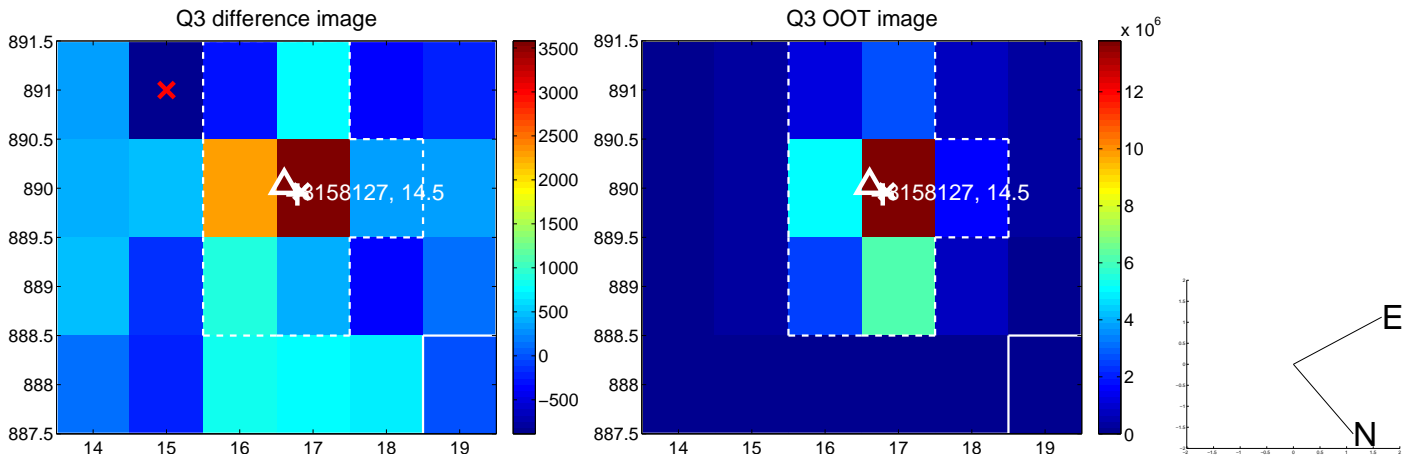
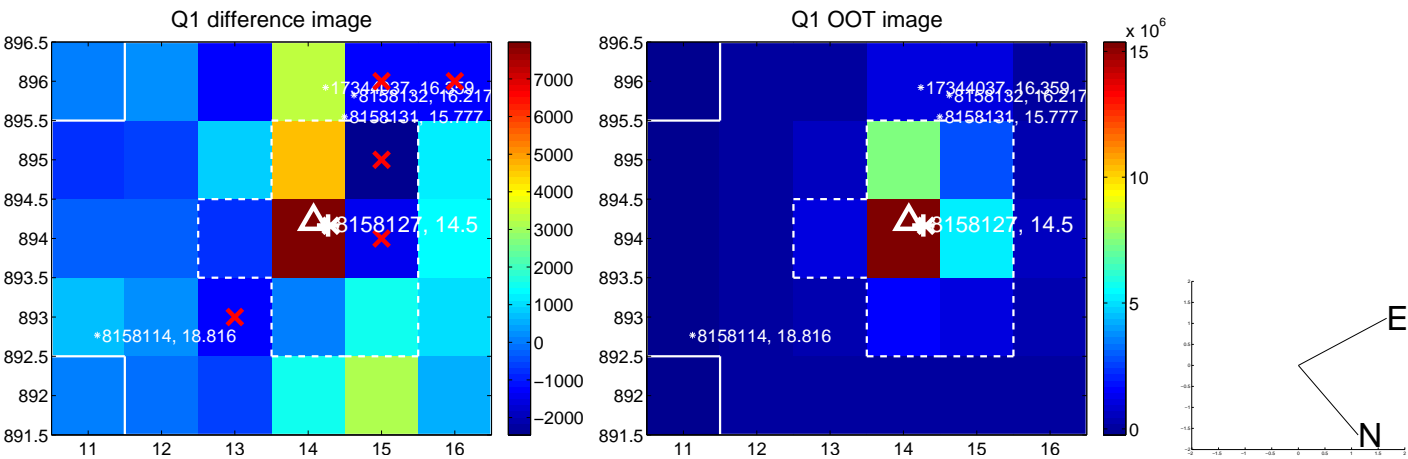
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.567 ± 1.138	0.50	-0.546 ± 1.192	-0.152 ± 0.486
PRF-fit source offset from KIC position	0.767 ± 1.279	0.60	-0.731 ± 1.372	-0.232 ± 0.478
photometric centroid source offset	0.72 ± 1.36	0.53	-0.69 ± 1.38	-0.22 ± 1.15

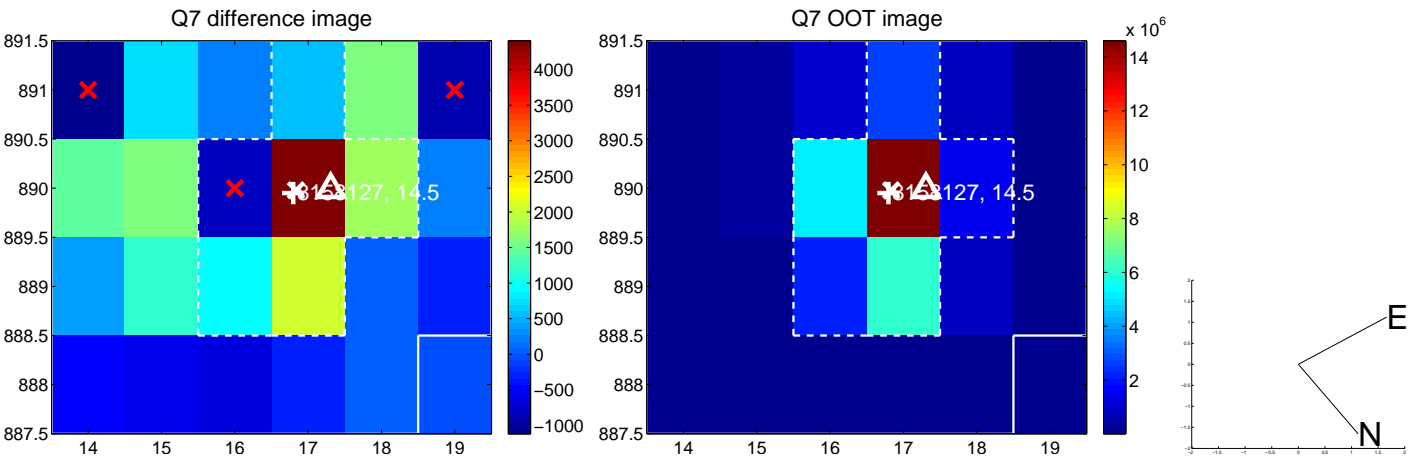
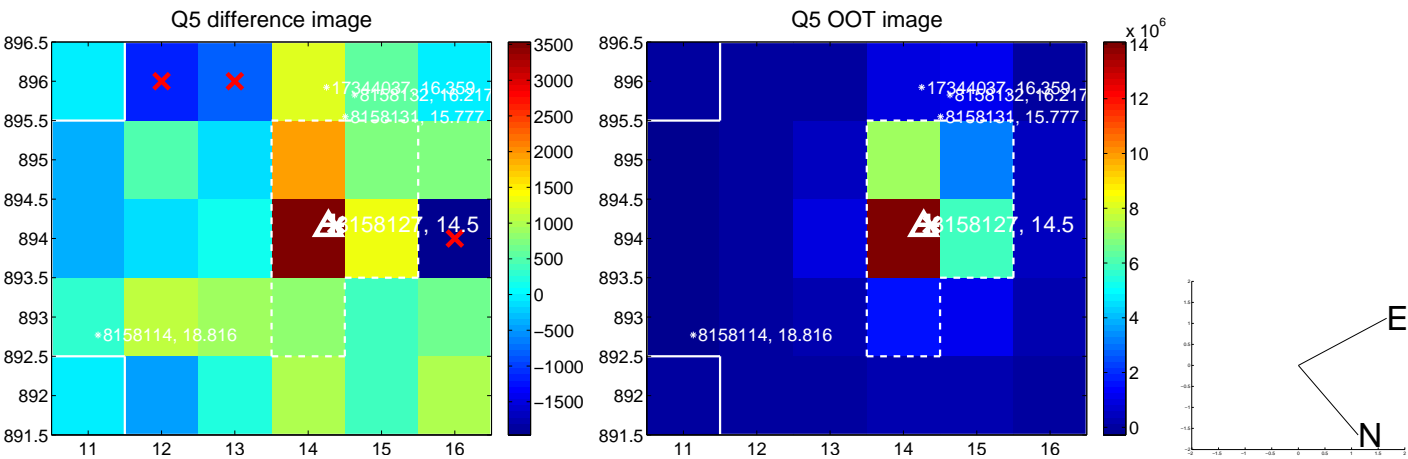


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

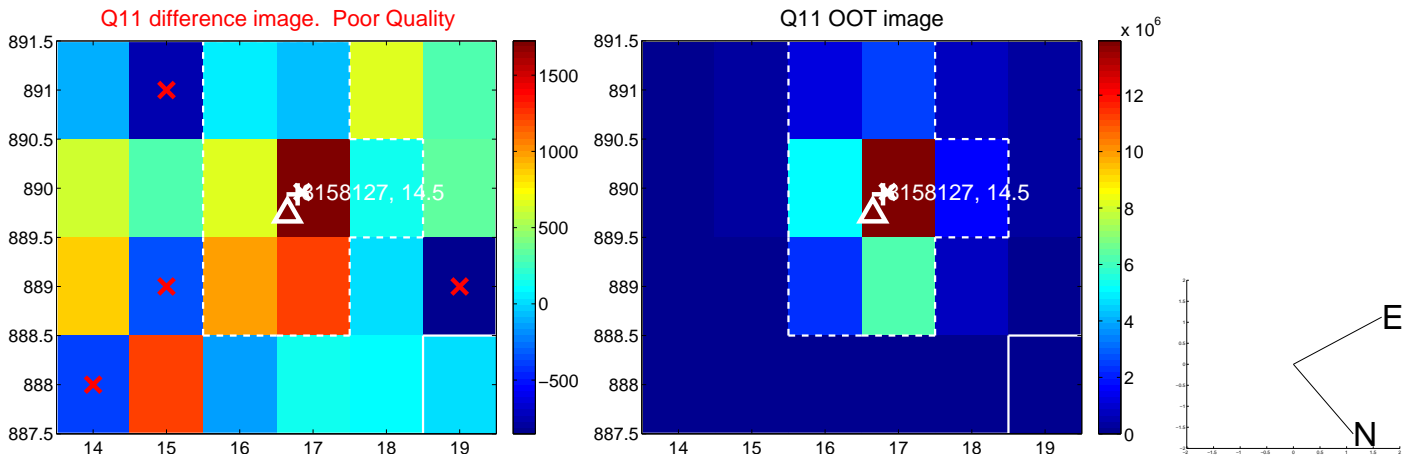
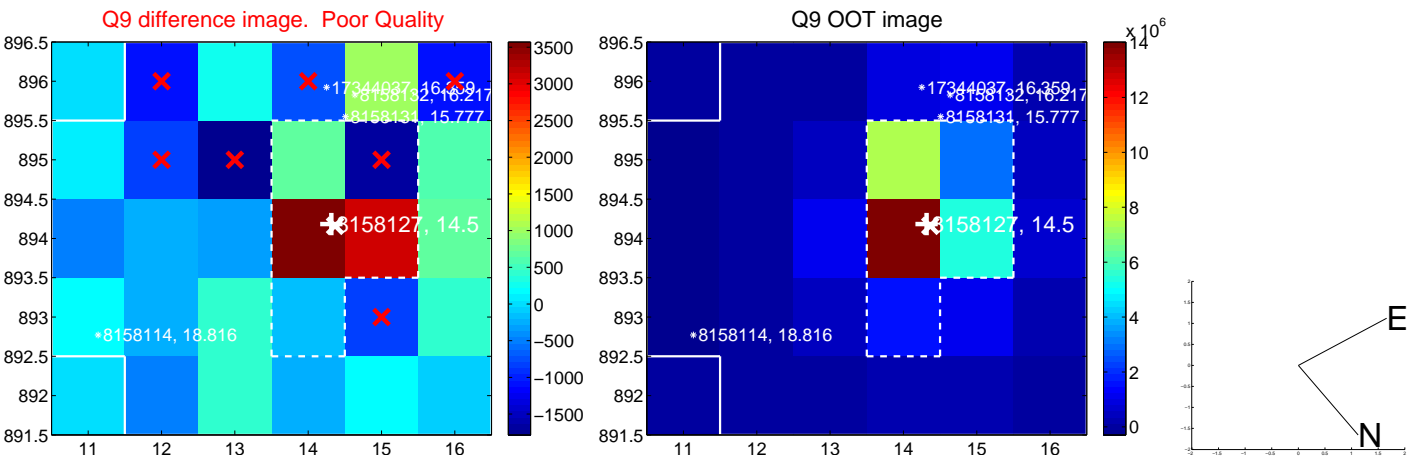
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



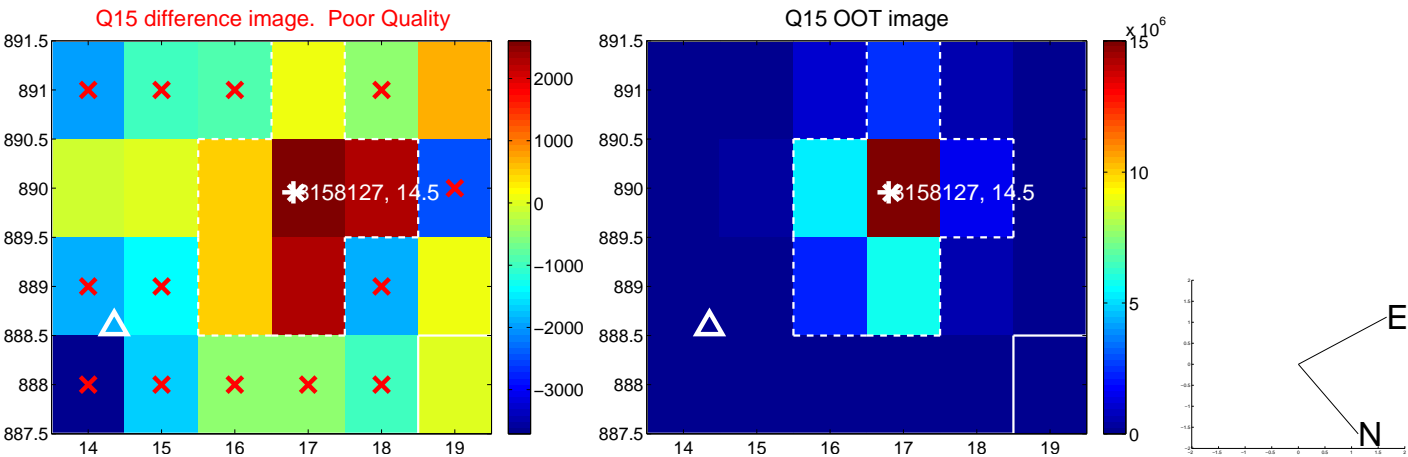
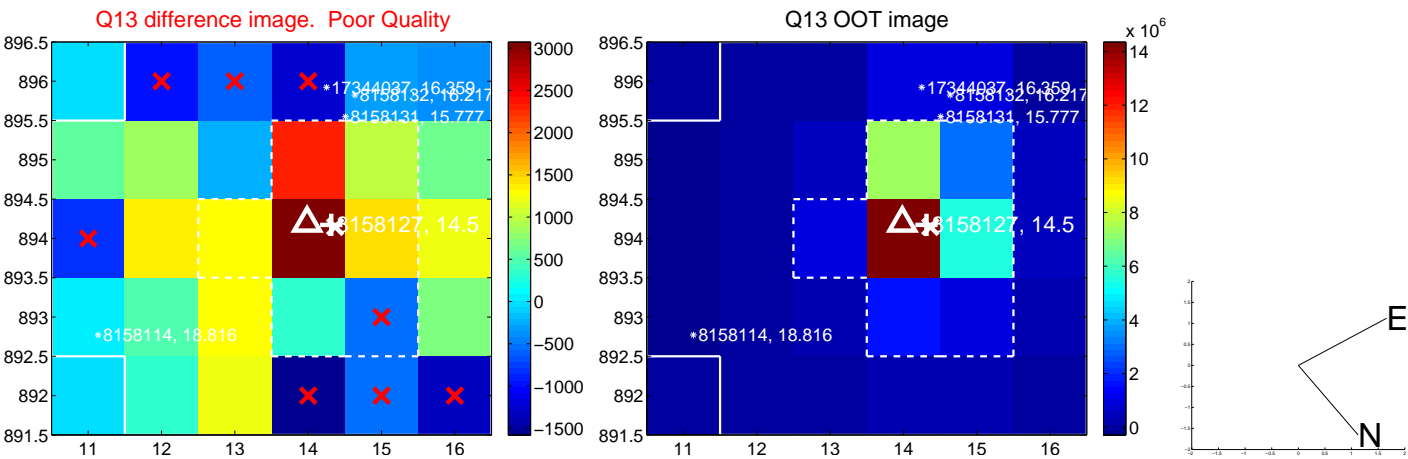
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



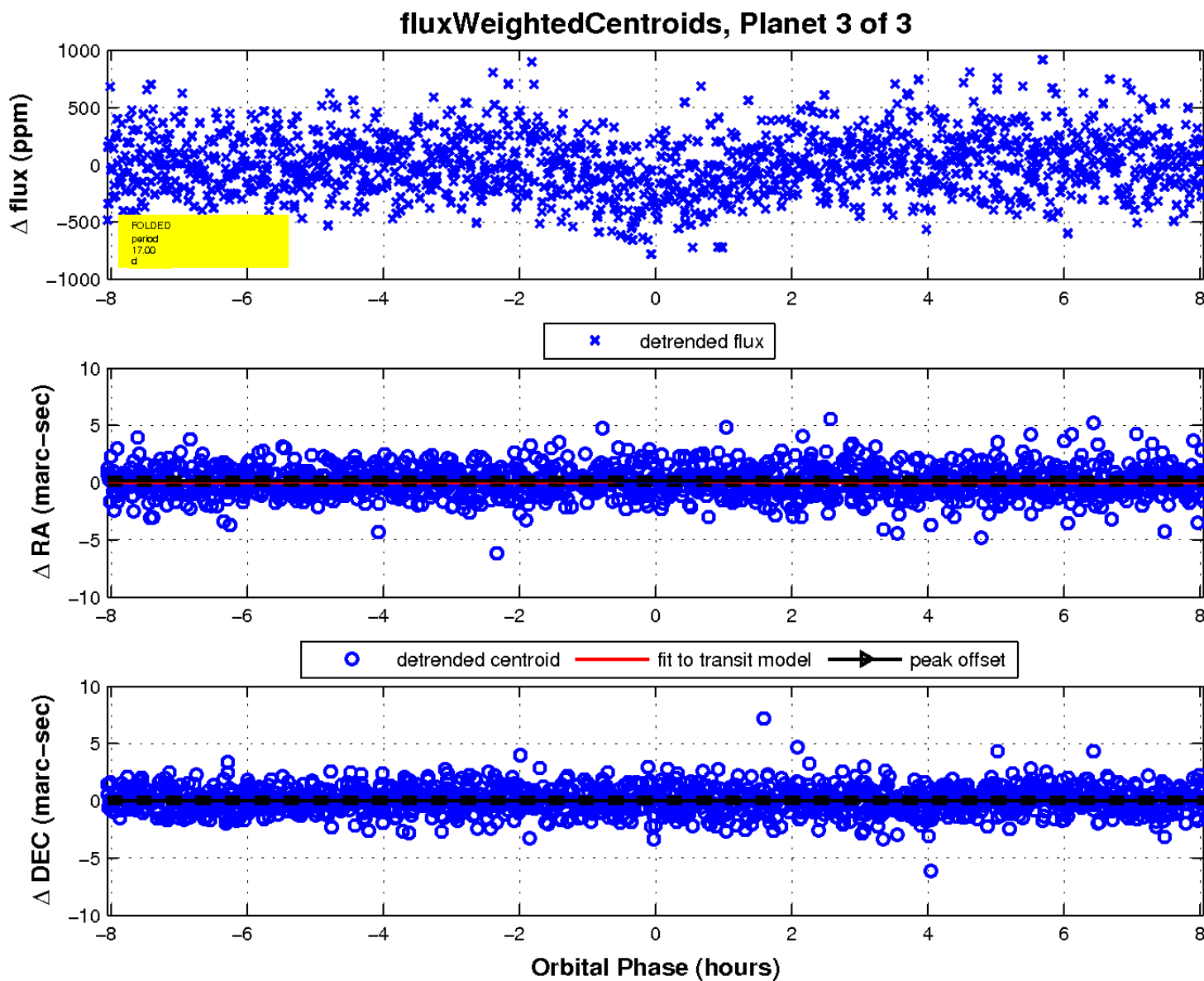
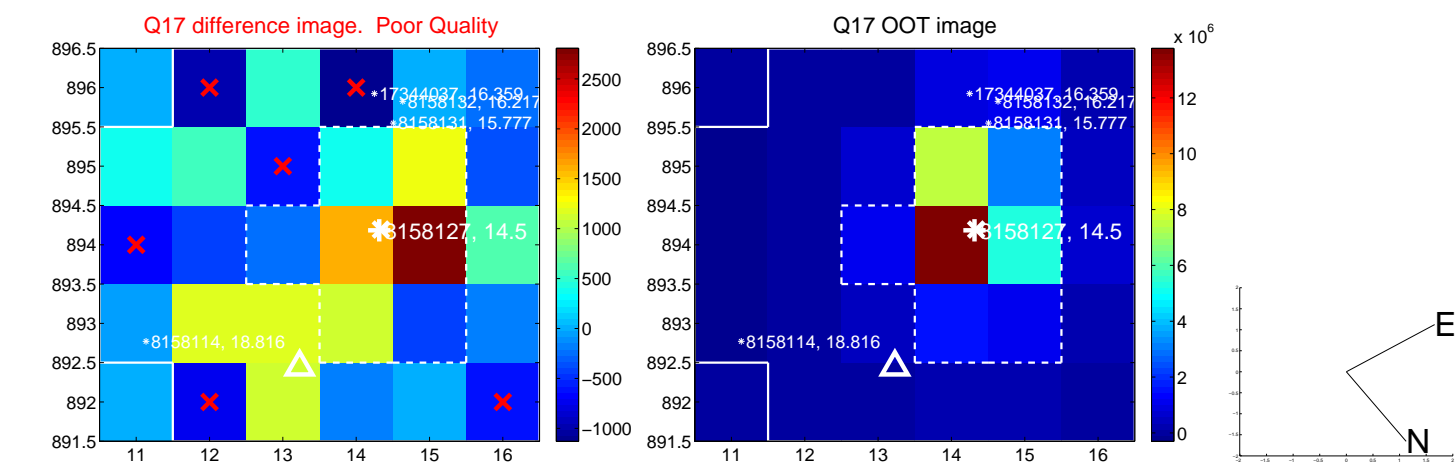
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

