

KIC 009896018

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})
009896018-01	OBS	2579.01	2.729603	133.286874	145.3	2.852	14.4	16.9	1.24	5887	1.81	1060.35
009896018-02	OBS	2579.02	3.596426	132.775479	146.7	2.922	12.7	14.2	1.24	5887	1.72	734.10
009896018-03	OBS	2579.03	10.301465	134.881467	181.2	4.199	9.3	11.4	1.24	5887	1.86	180.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009896018-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
009896018-02	OBS	PC	0.98	0	0	0	0	NO_COMMENT
009896018-03	OBS	PC	0.94	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.

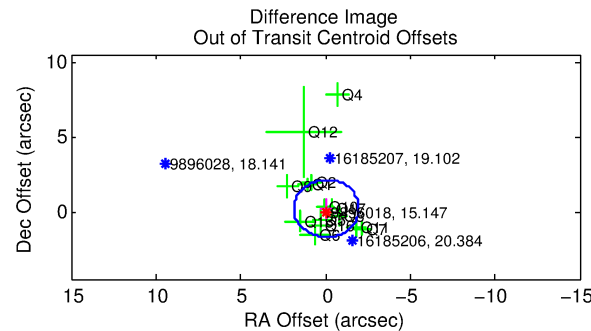
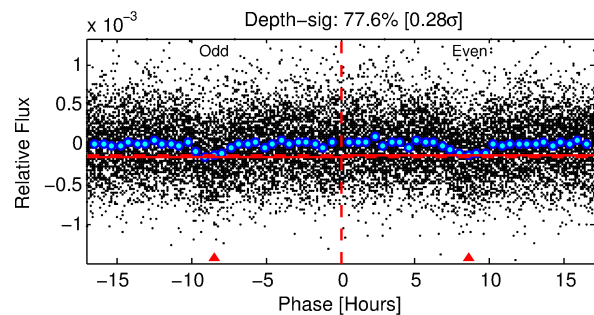
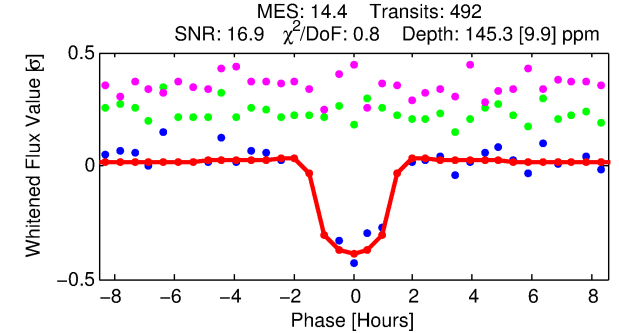
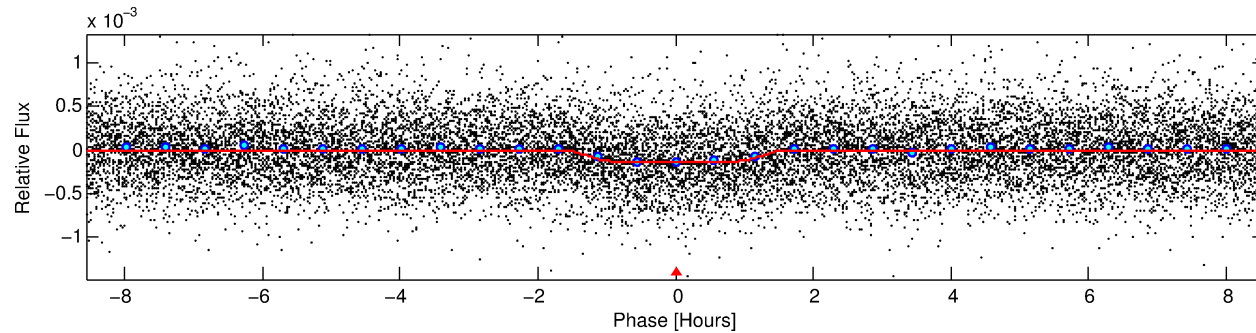
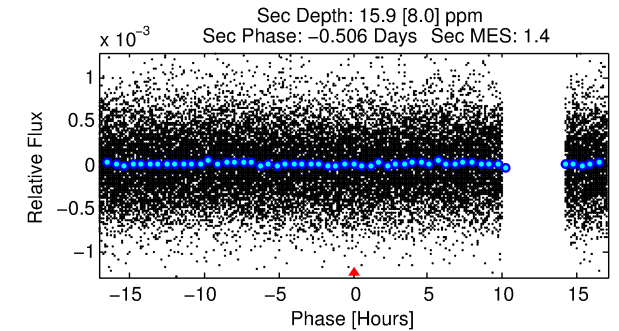
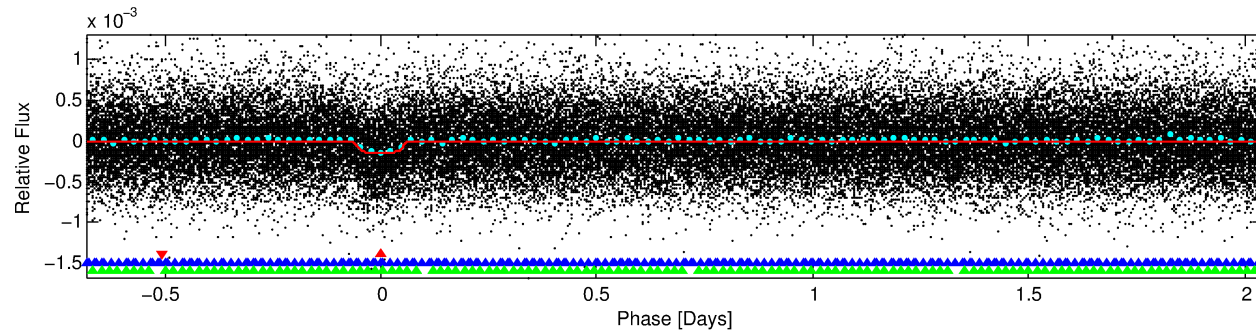
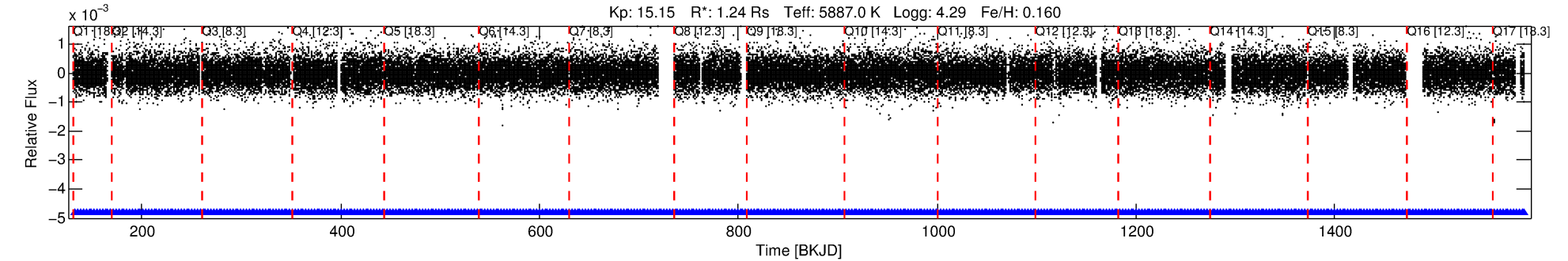
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009896018-01

No Significant Match Found

DV One-Page Summary

KIC: 9896018 Candidate: 1 of 3 Period: 2.730 d
KOI: K02579.01 Corr: 0.976



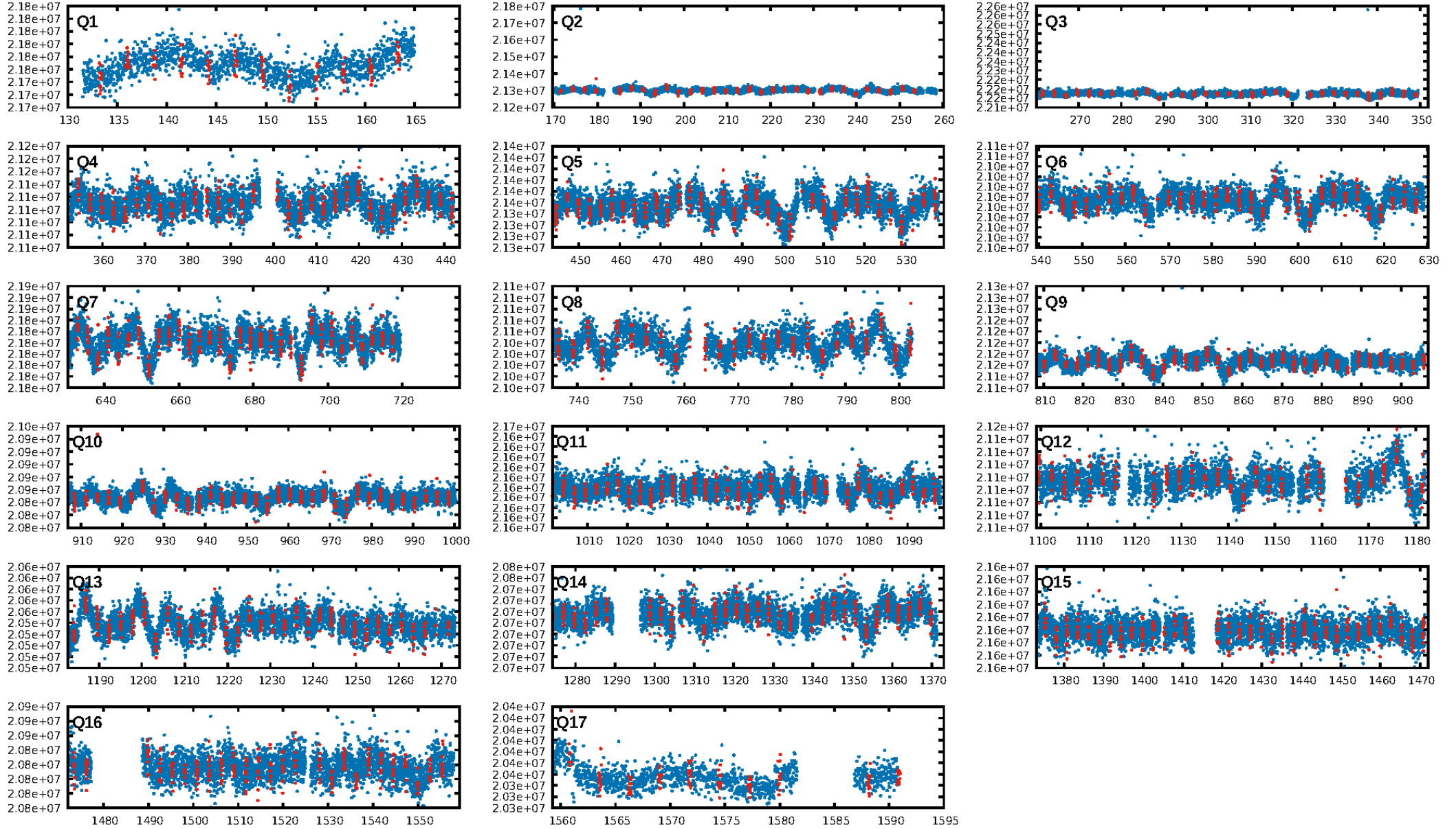
DV Fit Results:

Period = 2.72960 [0.00001] d
Epoch = 133.2869 [0.0025] BKJD
Rp/R* = 0.0134 [0.0039]
a/R* = 3.26 [4.24]
b = 0.92 [0.25]
Seff = 1060.35 [237.18]
Teff = 1455 [81] K
Rp = 1.81 [0.61] Re
a = 0.0393 [0.0058] AU
Ag = 4.16 [3.33] [0.95σ]
Teffp = 3213 [619] K [2.81σ]

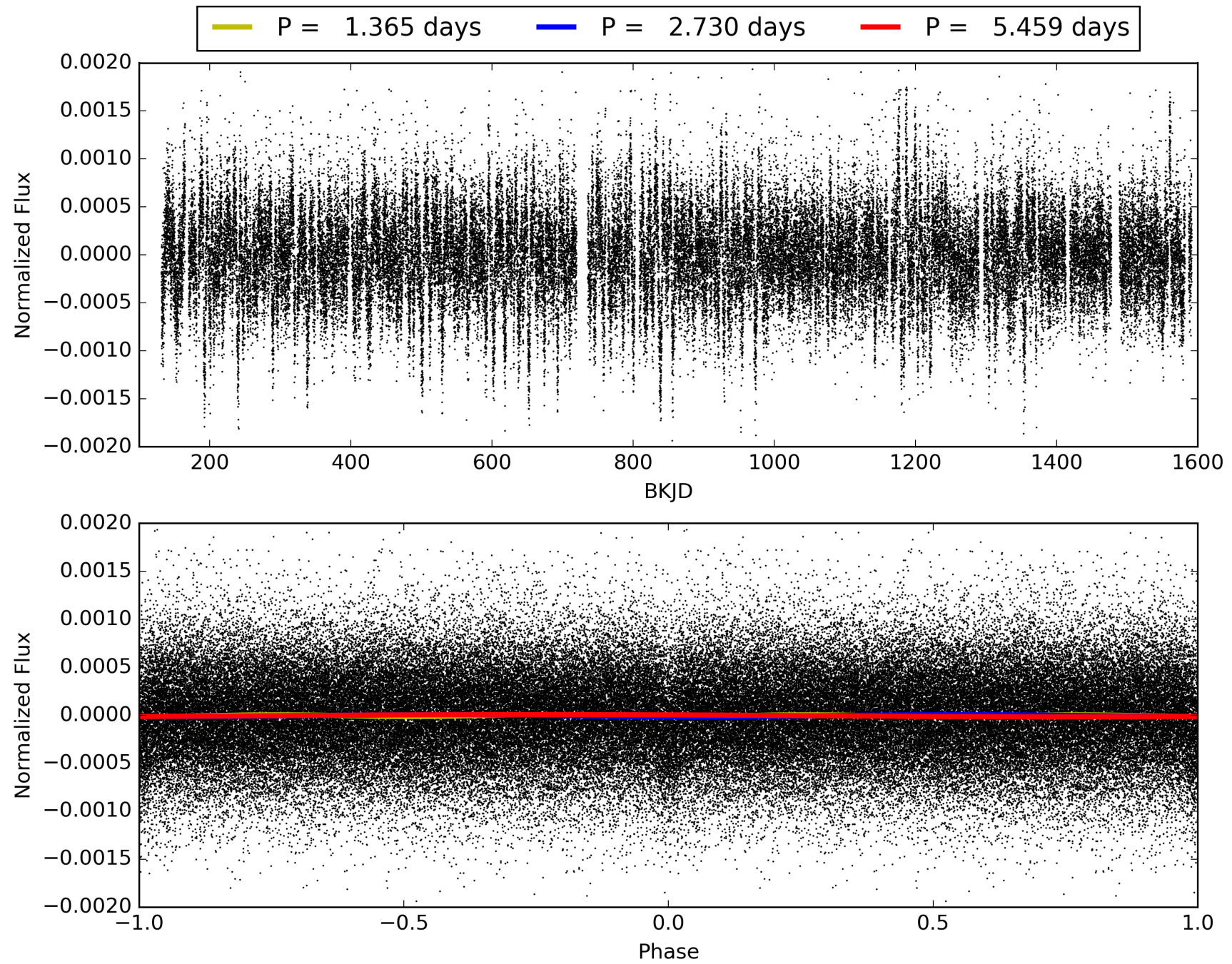
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [5.10σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.29e-47
RollingBand-fgt: 1.00 [470/470]
GhostDiagnostic-chr: 8.292
Centroid-sig: 23.9%
Centroid-so: 0.808 arcsec [1.09σ]
OotOffset-rm: 0.215 arcsec [0.34σ]
KicOffset-rm: 0.356 arcsec [0.57σ]
OotOffset-st: 3/2/4/5 [14]
KicOffset-st: 3/2/4/5 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009896018-01, PDC Light Curves

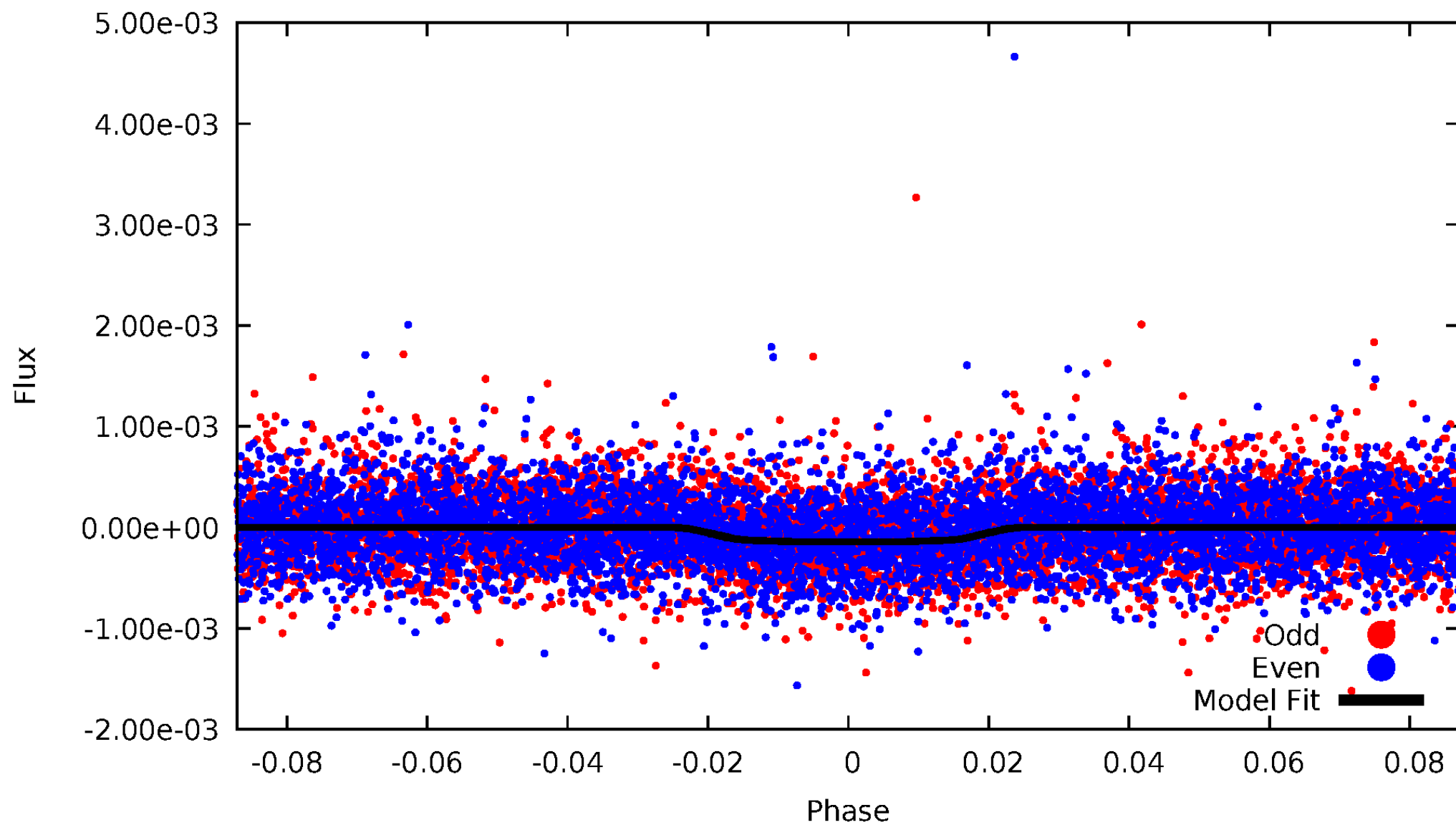


TCE 009896018-01



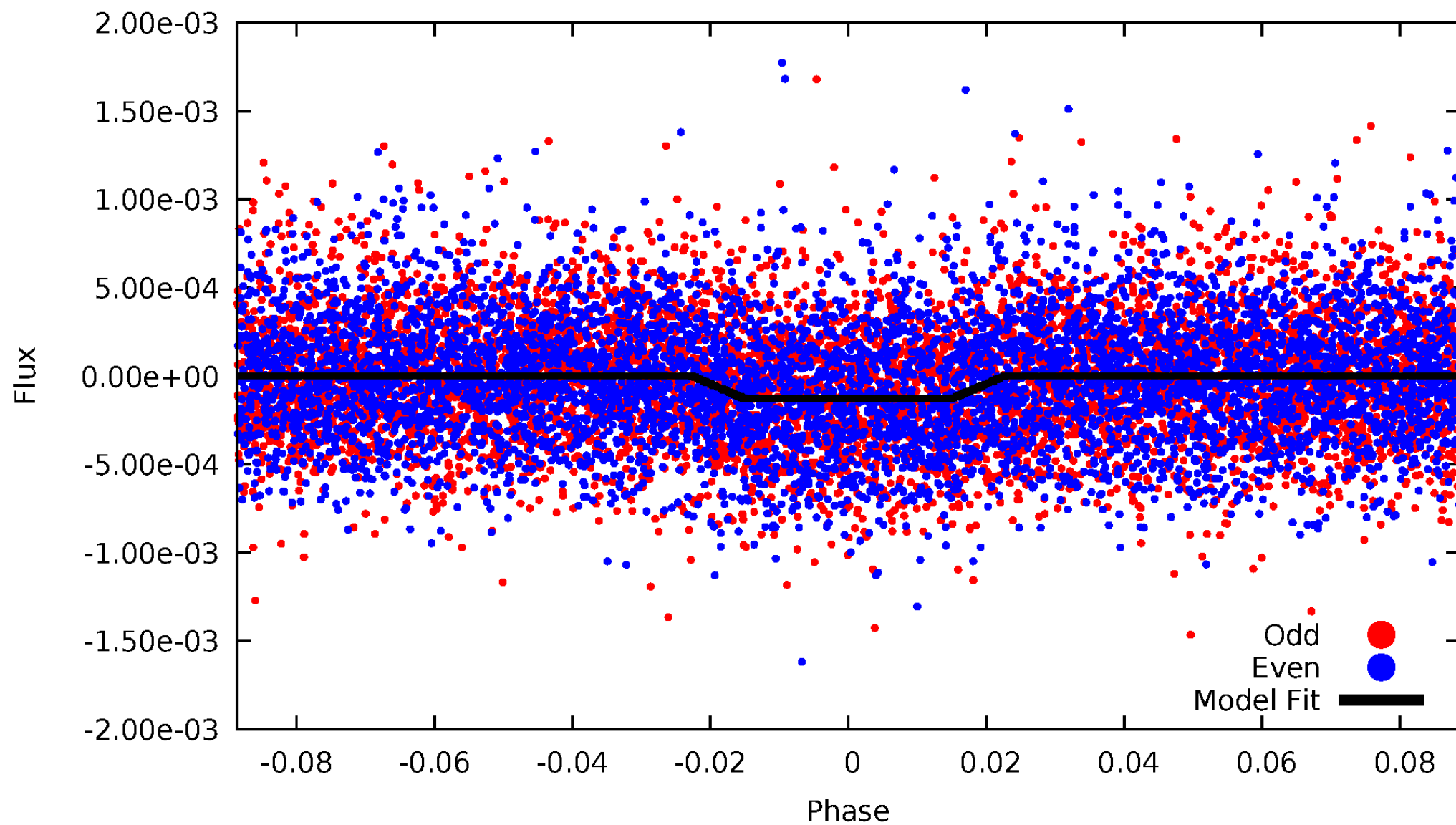
DV Odd/Even

TCE 009896018-01

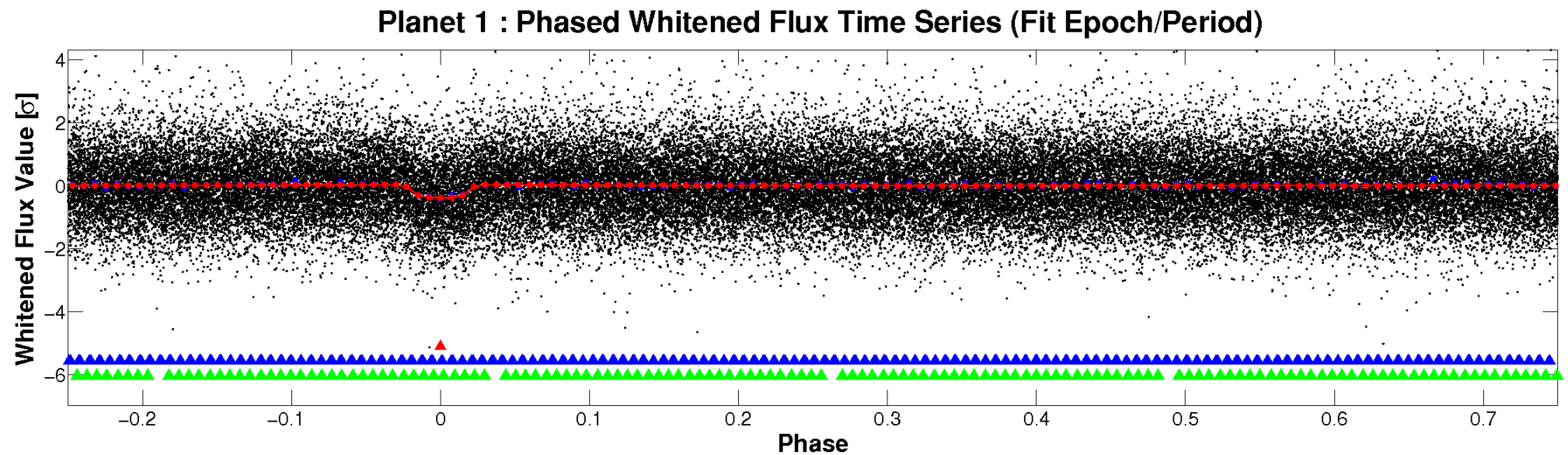
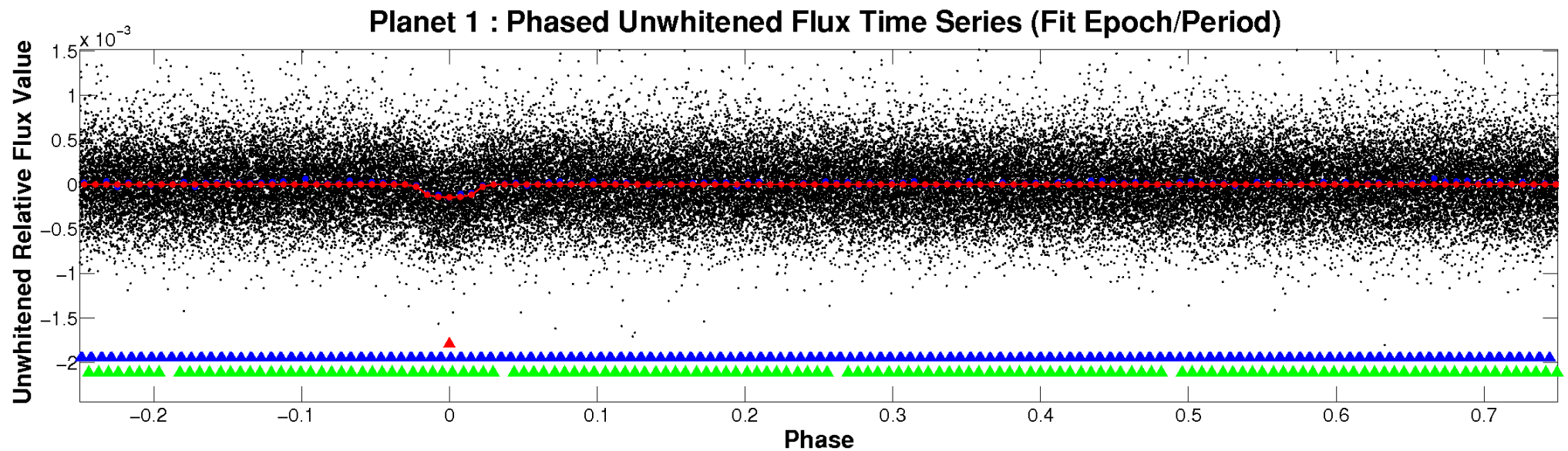


ALT Odd/Even

TCE 009896018-01

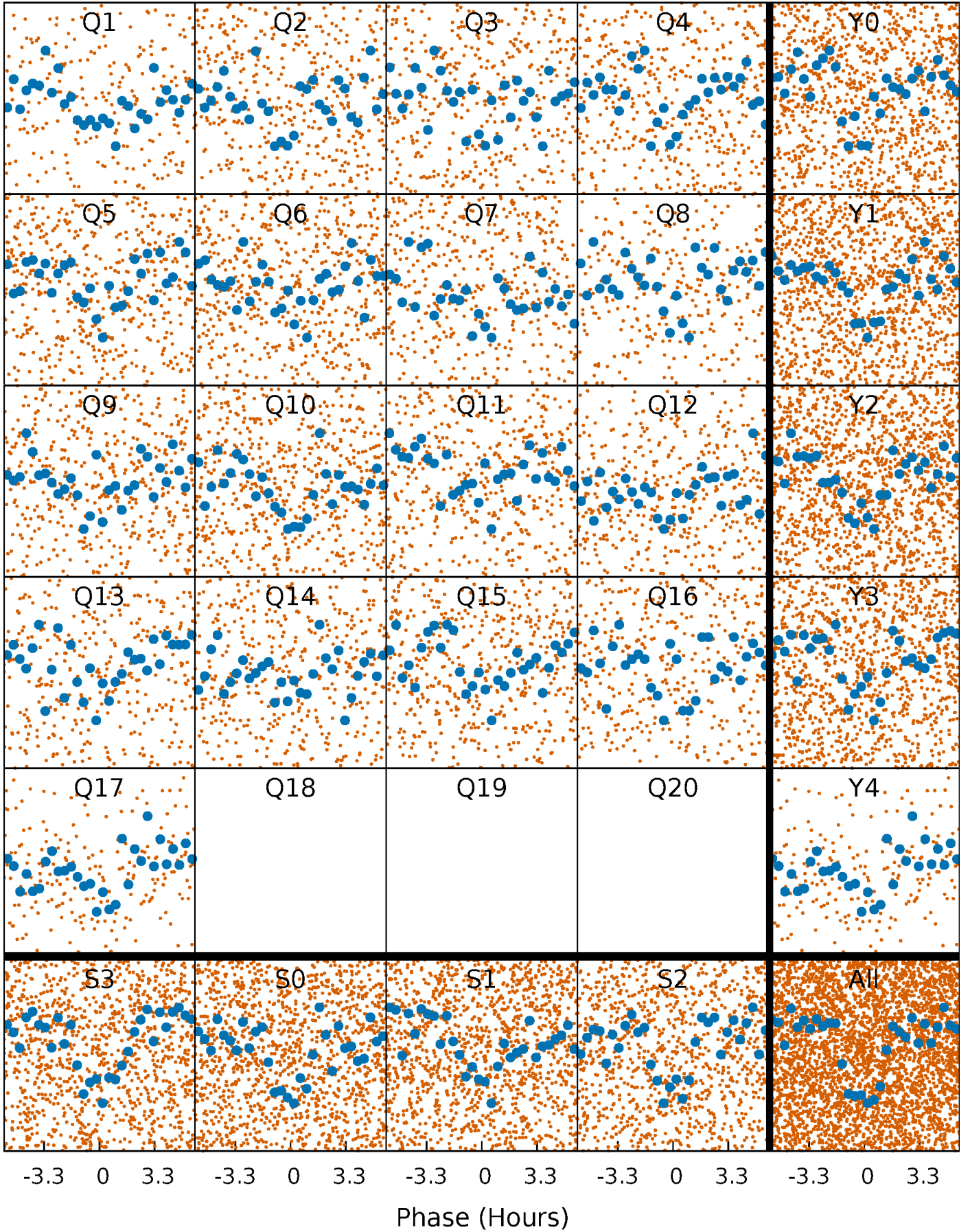


Non-Whitened Vs. Whitened Light Curve



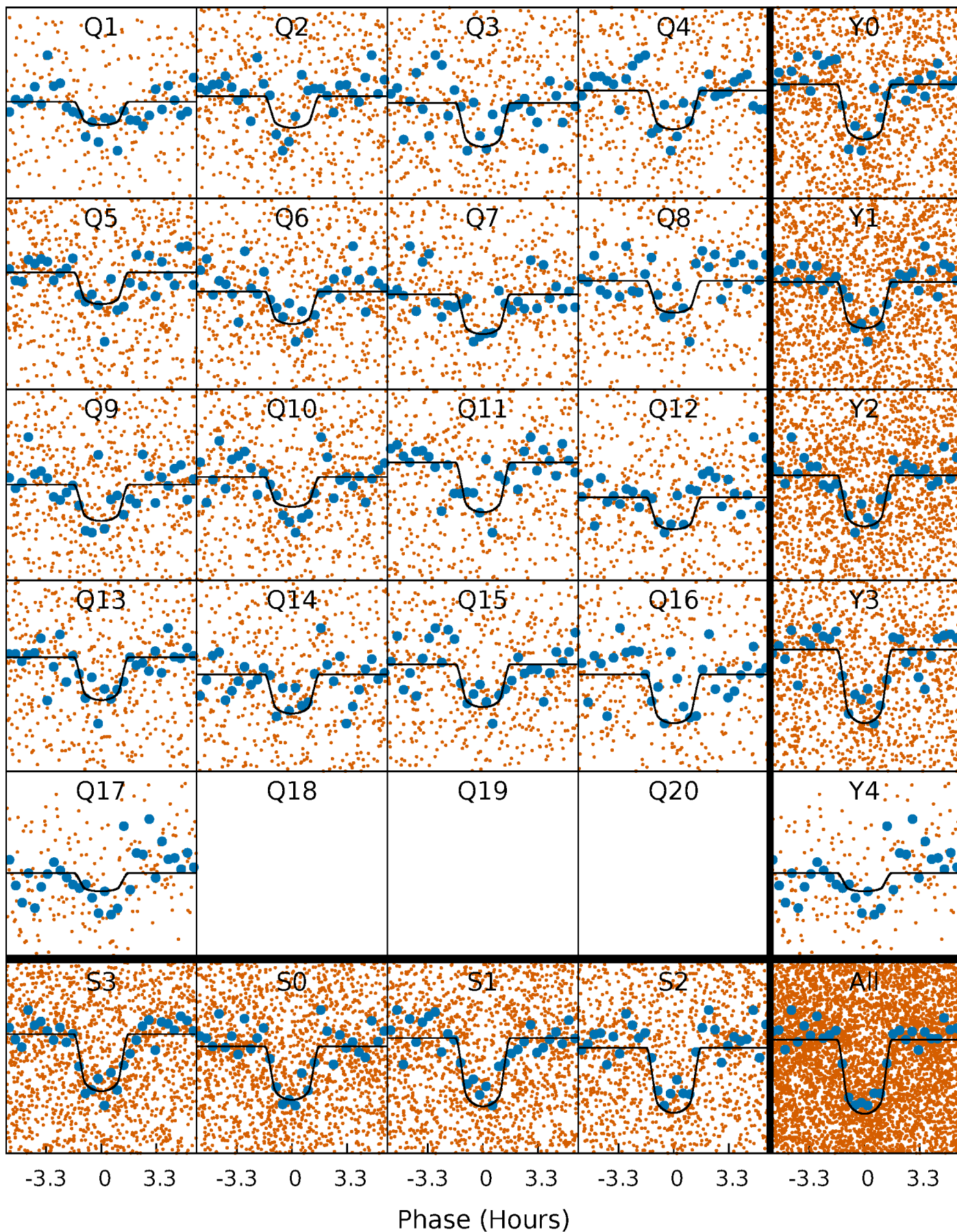
PDC Quarter-Phased Transit Curves

TCE 009896018-01 P= 2.729603 Days $T_0=133.286874$ (BKJD)



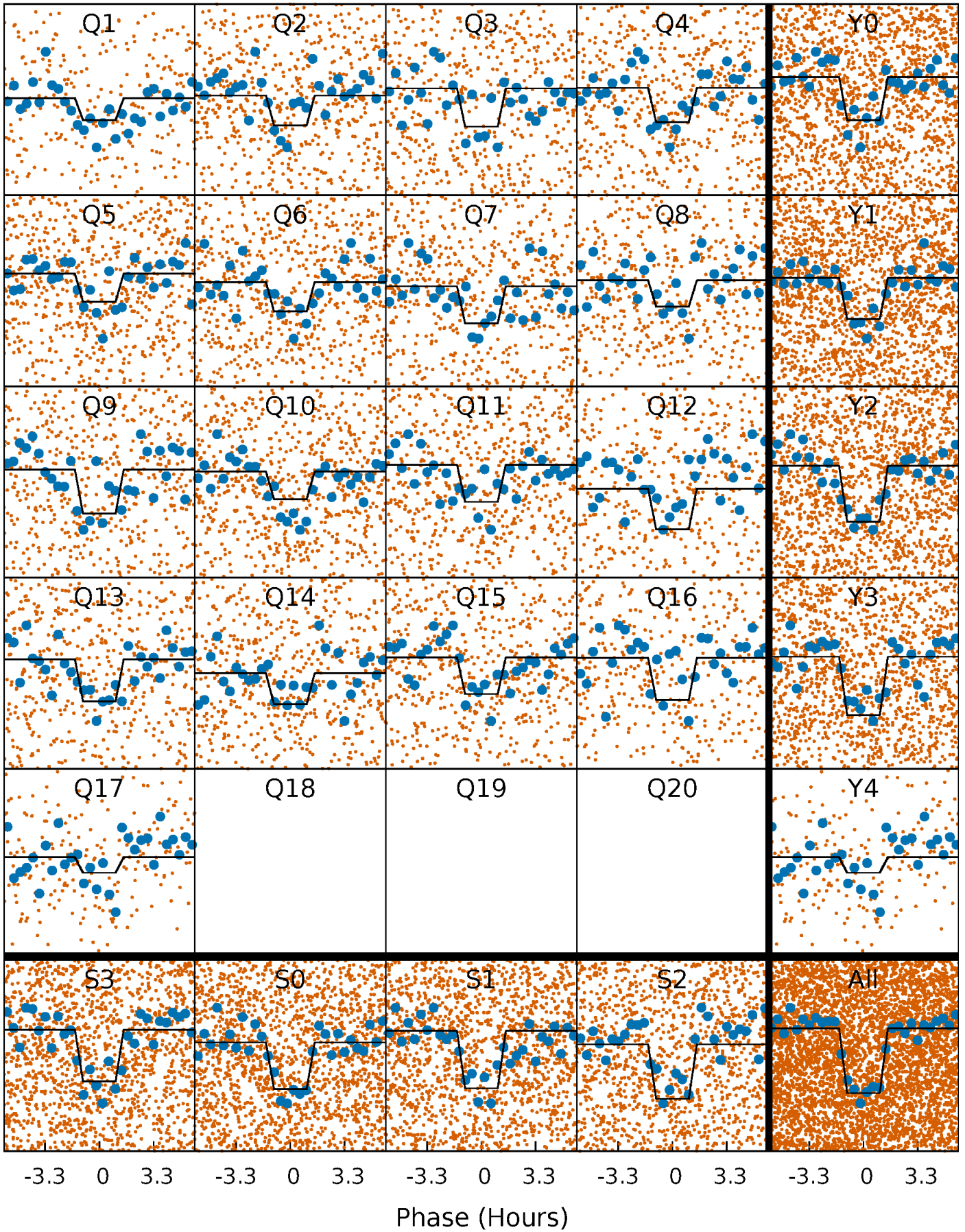
DV Quarter-Phased Transit Curves

TCE 009896018-01 P= 2.729603 Days $T_0=133.286874$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

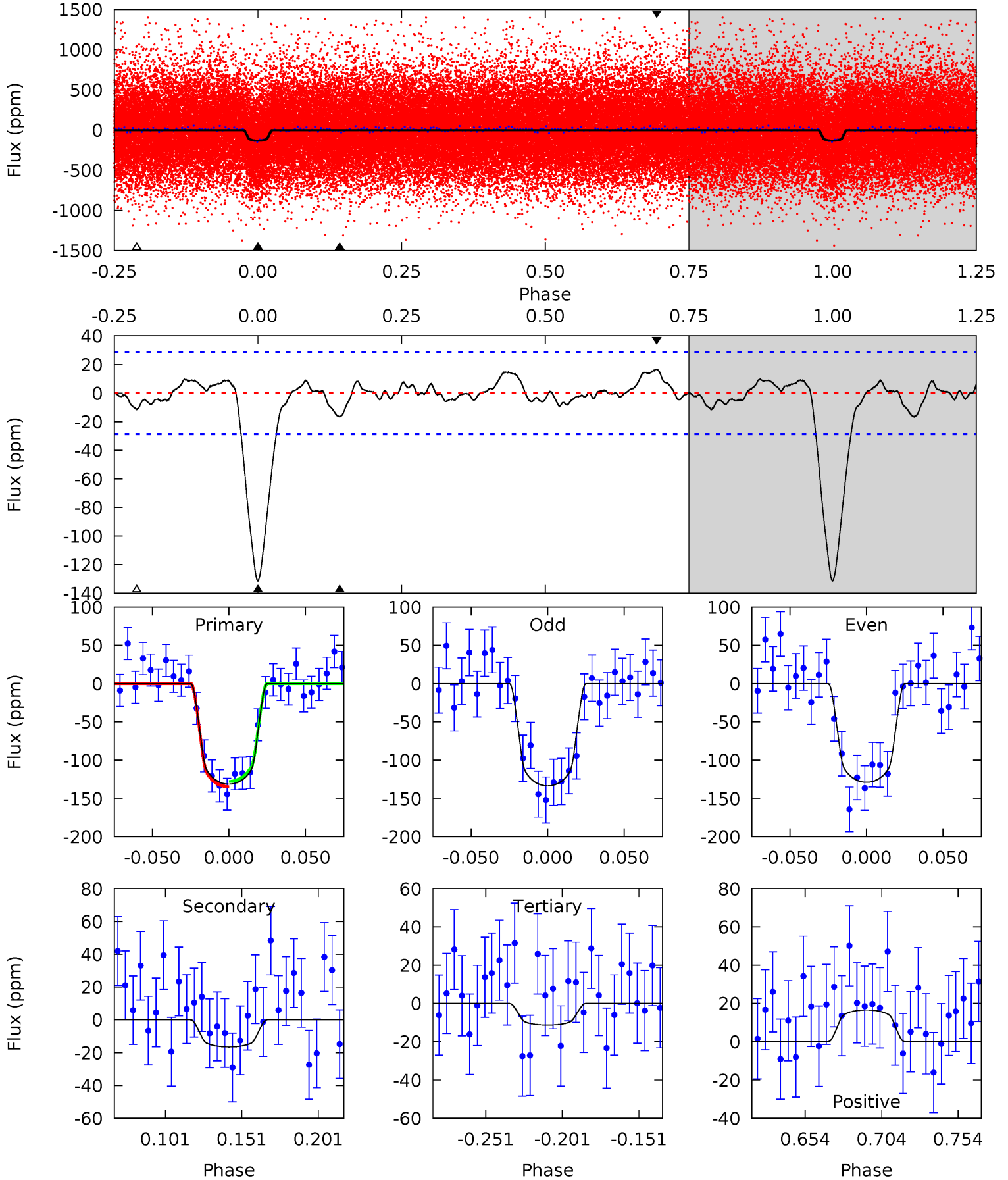
TCE 009896018-01 P= 2.729589 Days $T_0=133.289535$ (BKJD)



DV Model-Shift Uniqueness Test

009896018-01, P = 2.729603 Days, E = 130.557271 Days

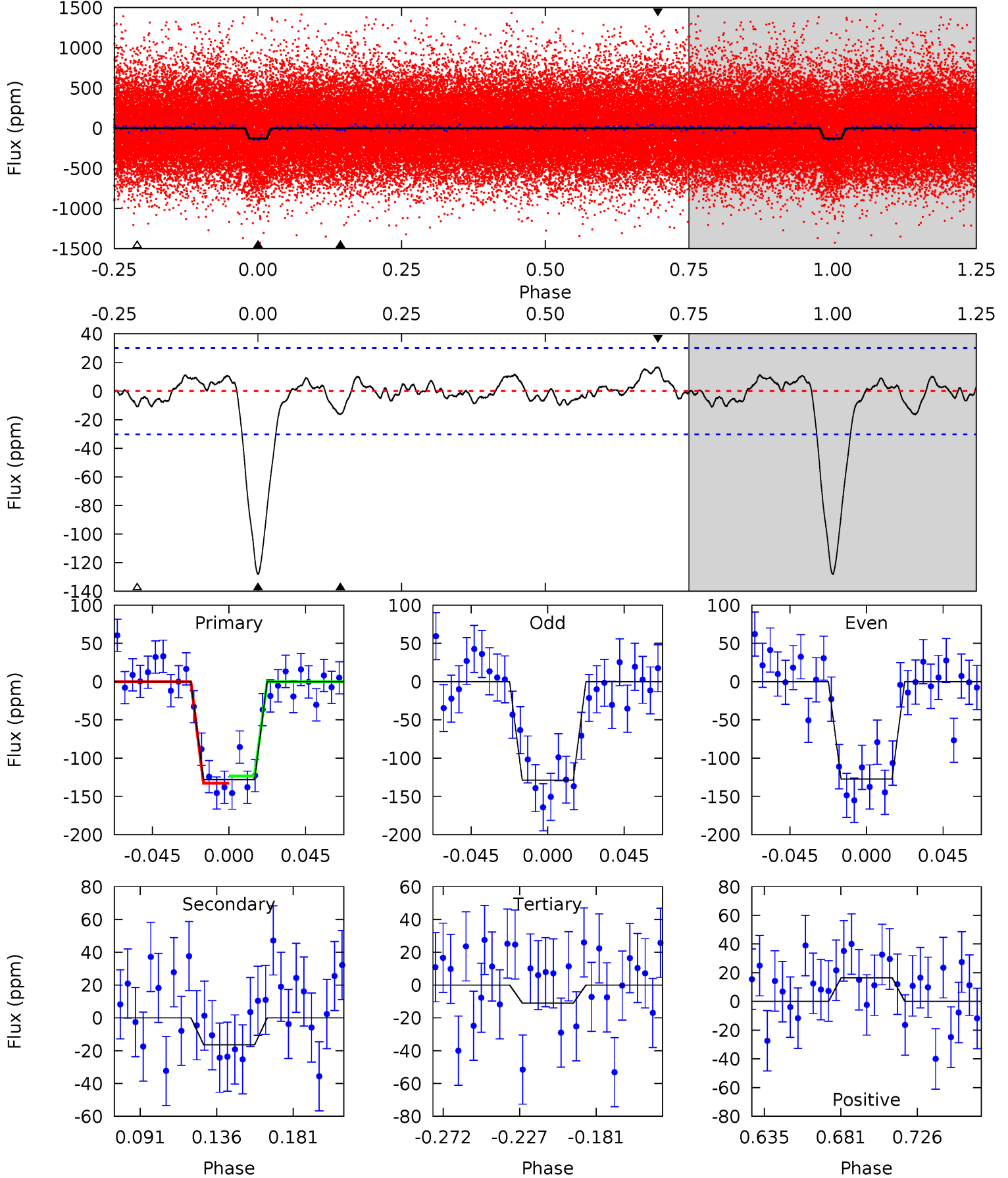
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.6	2.72	1.86	2.72	4.71	1.96	0.99	19.7	18.9	0.85	-0.00	0.39	0.94	0.11	0.57



Alt Model-Shift Uniqueness Test

009896018-01, P = 2.729589 Days, E = 130.559946 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	2.56	1.72	2.59	4.73	2.00	0.94	18.3	17.4	0.84	-0.03	0.13	0.96	0.11	0.73



Stellar Parameters For KIC 009896018

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5887^{+70}_{-79}	$4.292^{+0.120}_{-0.120}$	$0.160^{+0.150}_{-0.150}$	$1.235^{+0.213}_{-0.175}$	$1.090^{+0.070}_{-0.078}$	$0.815^{+0.427}_{-0.282}$
	+1%/-1%	+3%/-3%	+94%/-94%	+17%/-14%	+6%/-7%	+52%/-35%
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 009896018-01 / KOI 2579.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-17 ± 6	$1.83^{+0.53}_{-0.57}$	2034^{+100}_{-92}	3602^{+481}_{-372}	$4.104^{+4.582}_{-2.014}$
Alt.	-16 ± 6	$1.49^{+0.55}_{-0.52}$	2030^{+92}_{-88}	3818^{+711}_{-452}	$5.893^{+8.977}_{-3.097}$

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

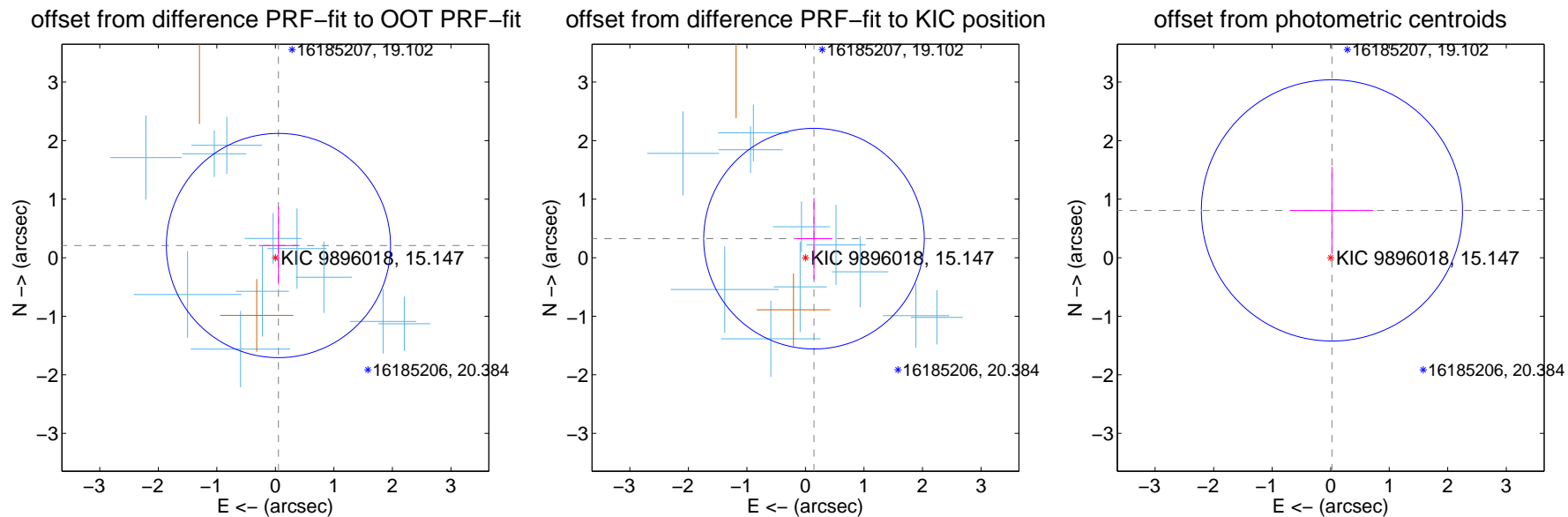
DV Centroid Data

Supplemental centroid analysis for 009896018-01. Kepler magnitude: 15.15. Transit SNR 16.90

There are 11 quarters with good PRF difference image offsets

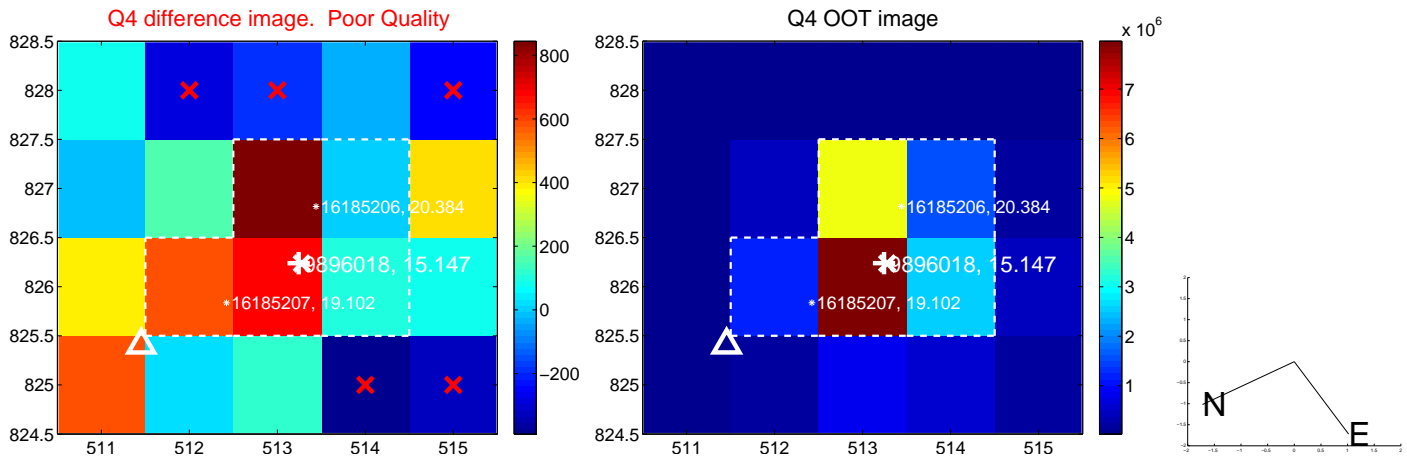
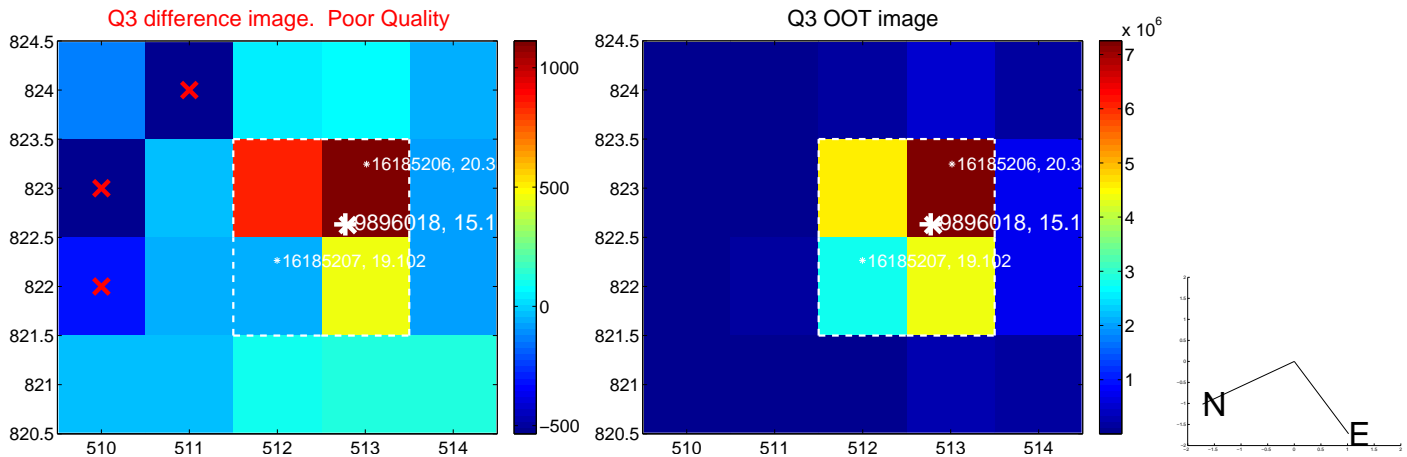
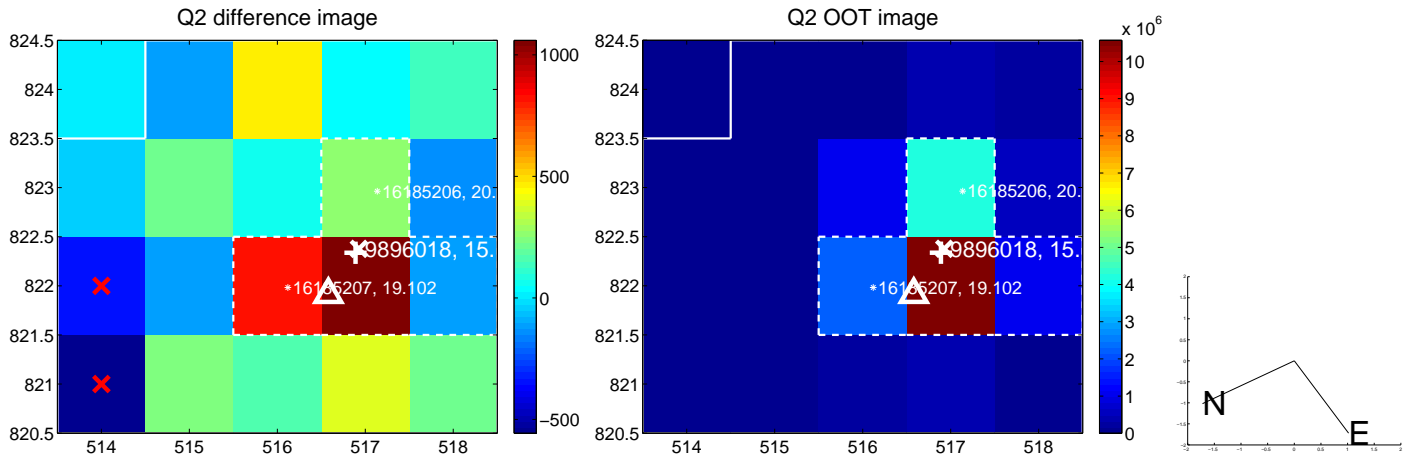
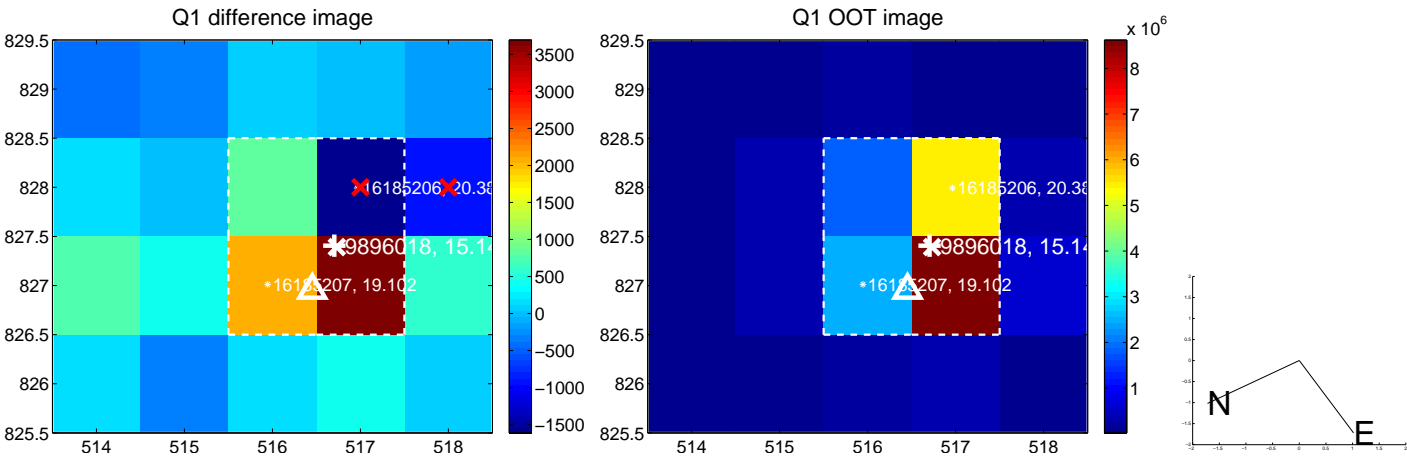
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.215 ± 0.638	0.34	-0.053 ± 0.335	0.208 ± 0.666
PRF-fit source offset from KIC position	0.356 ± 0.628	0.57	-0.146 ± 0.313	0.325 ± 0.695
photometric centroid source offset	0.81 ± 0.74	1.09	-0.02 ± 0.71	0.81 ± 0.74

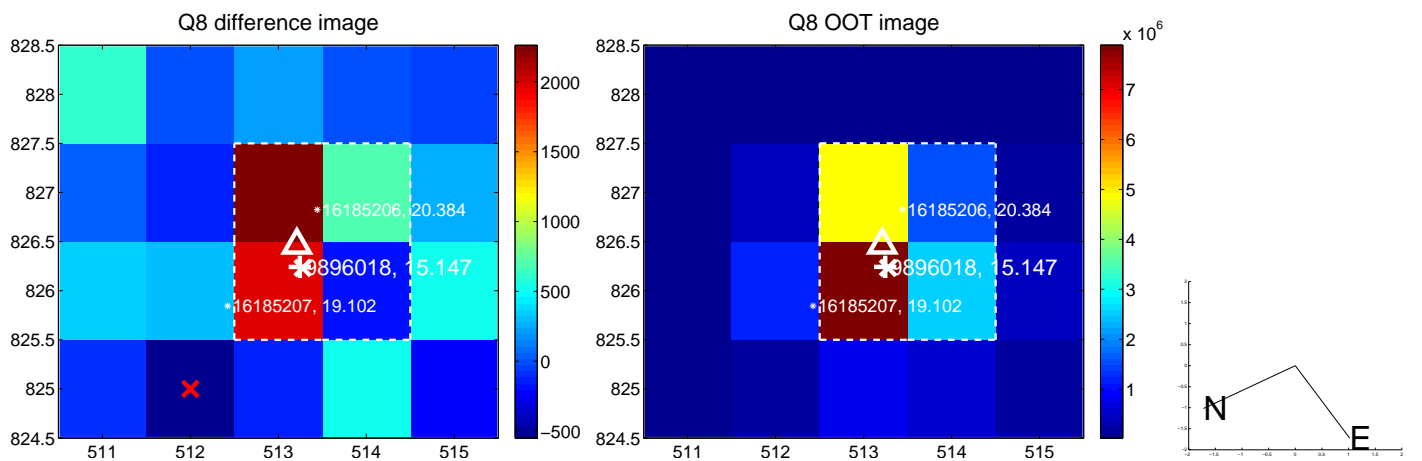
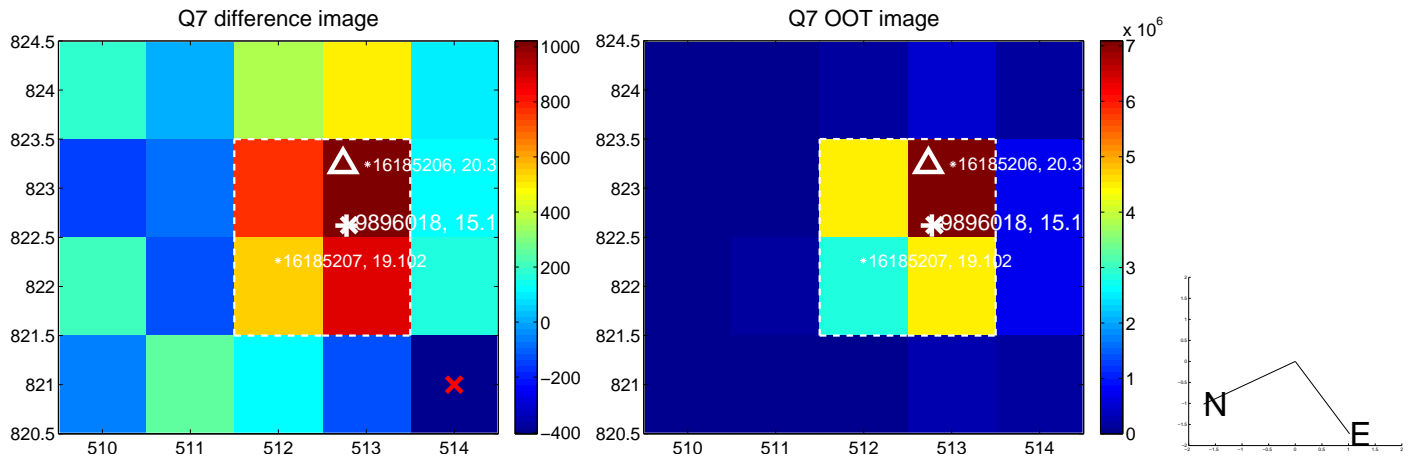
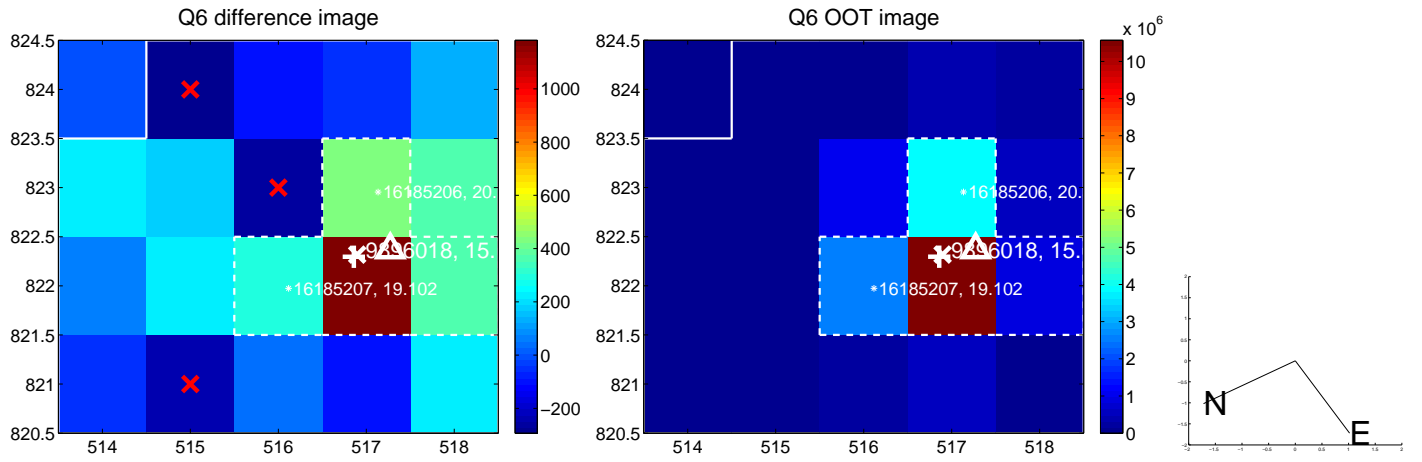
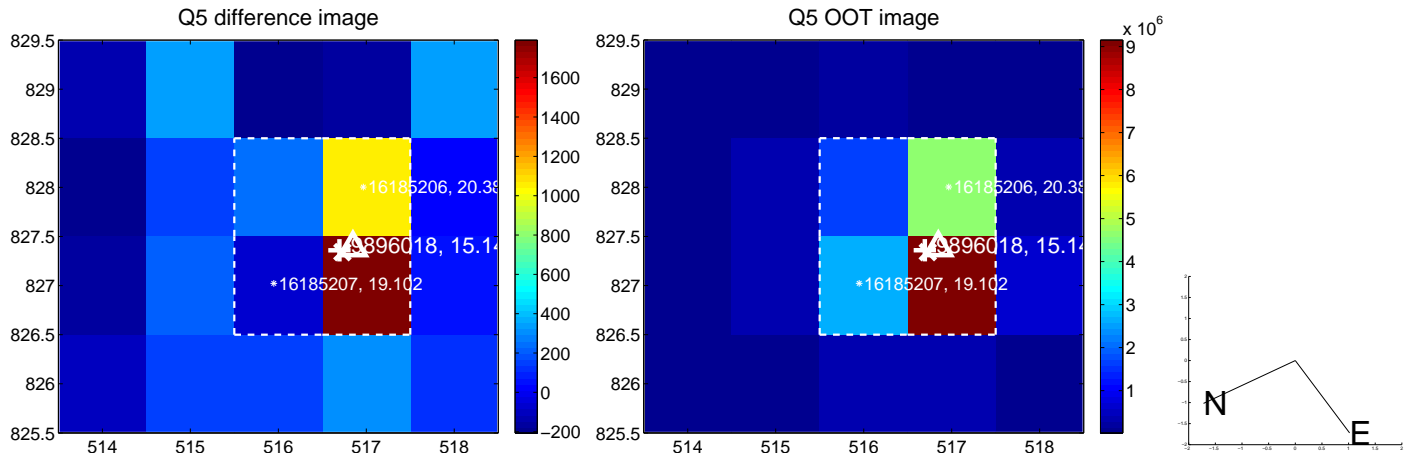


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

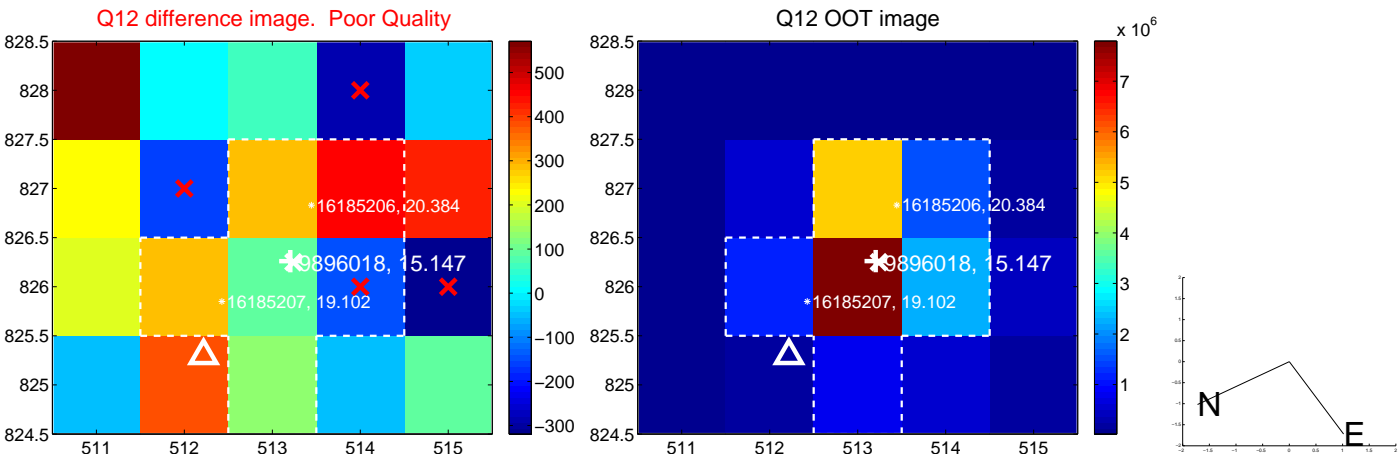
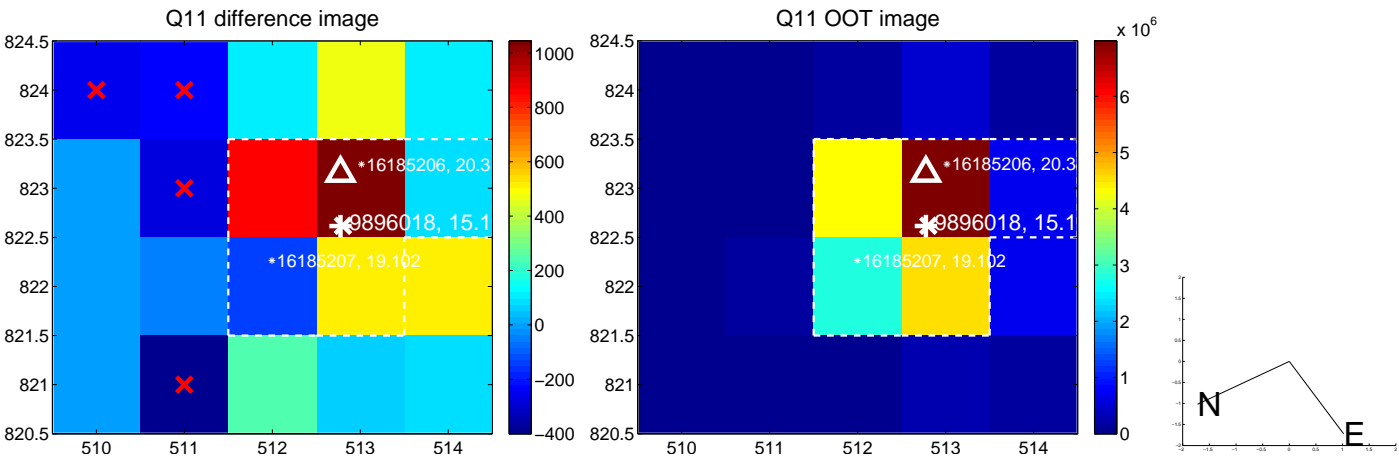
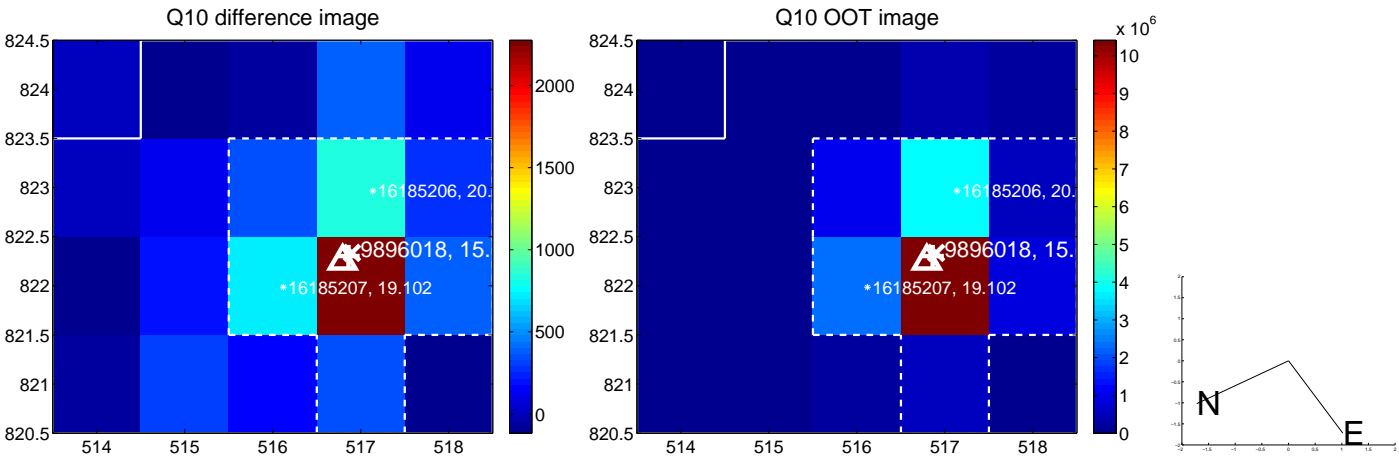
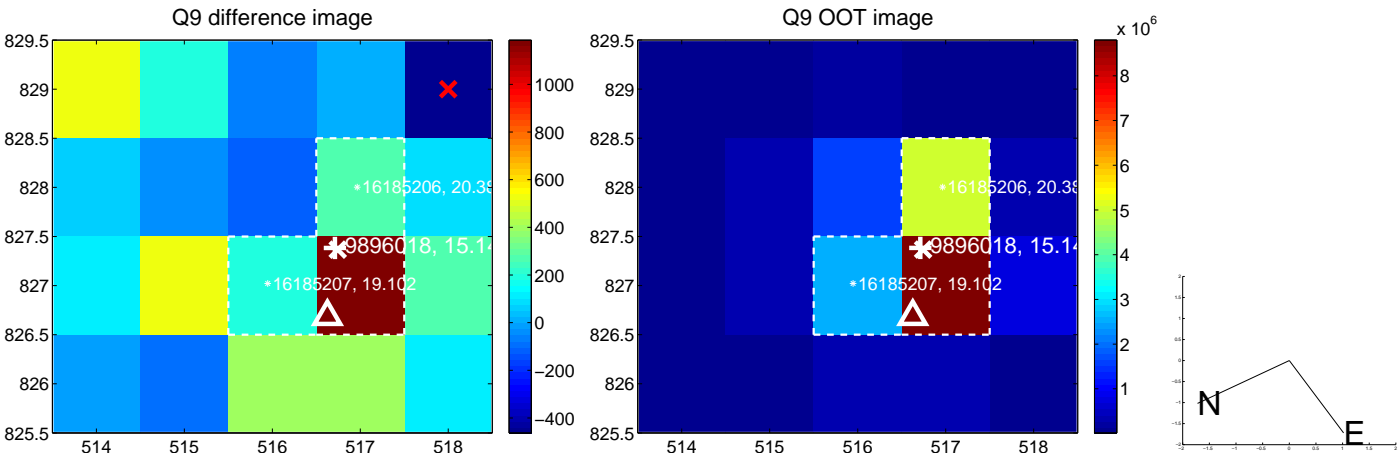
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



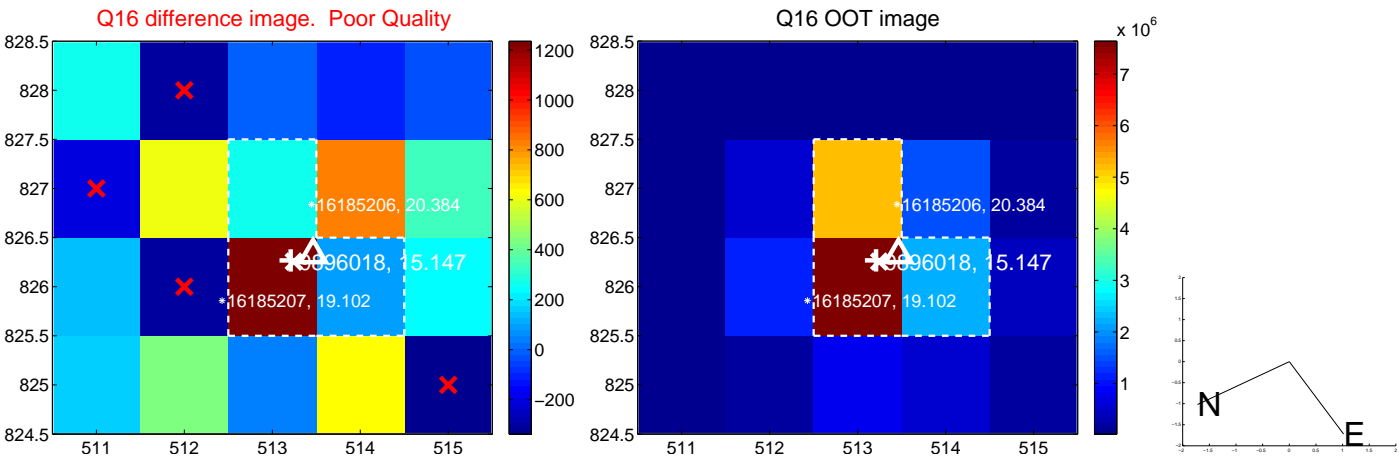
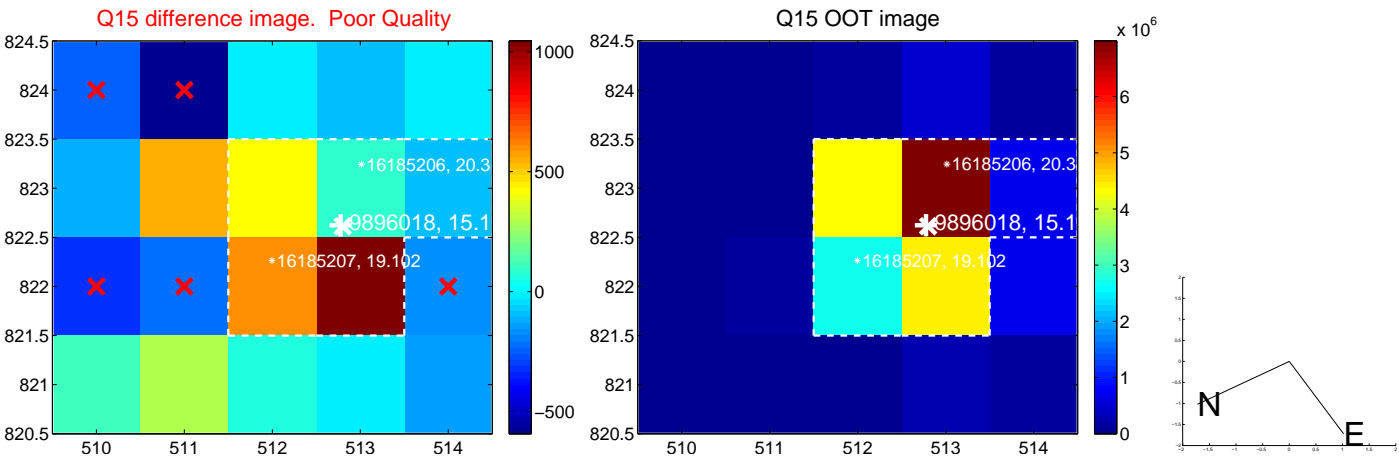
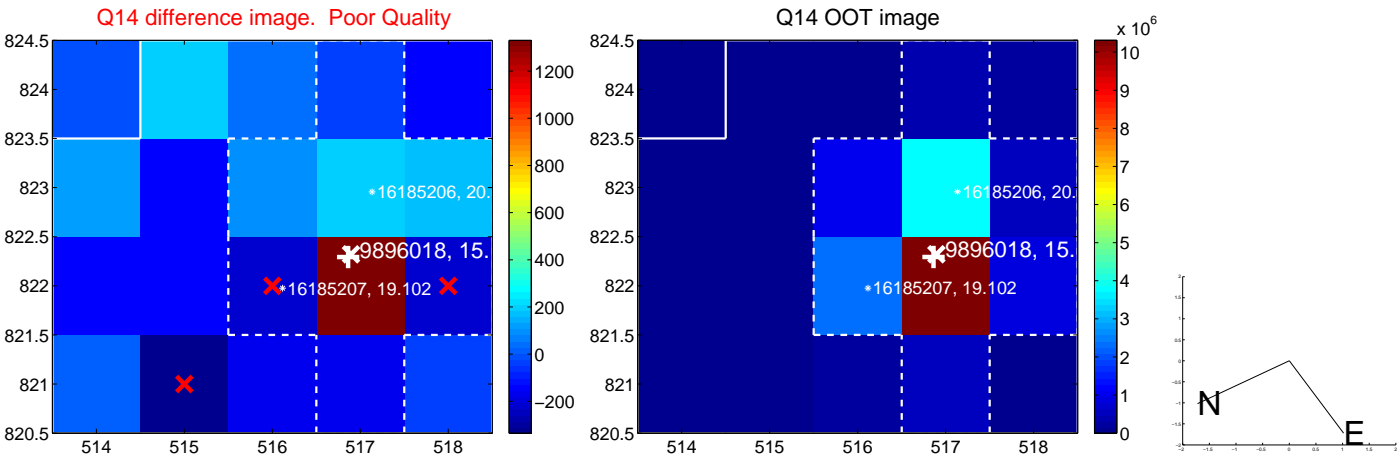
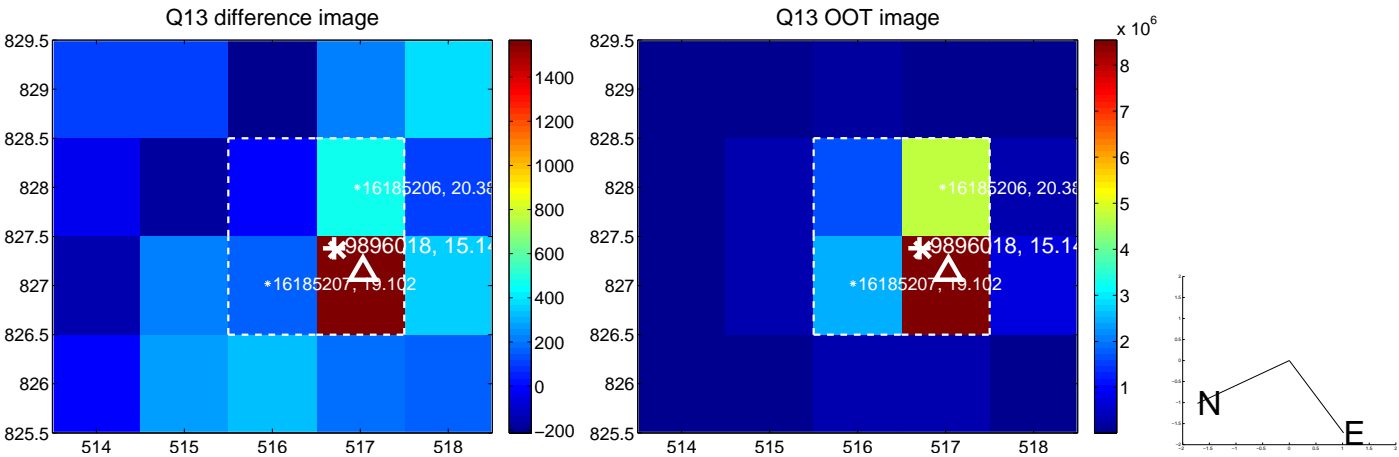
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



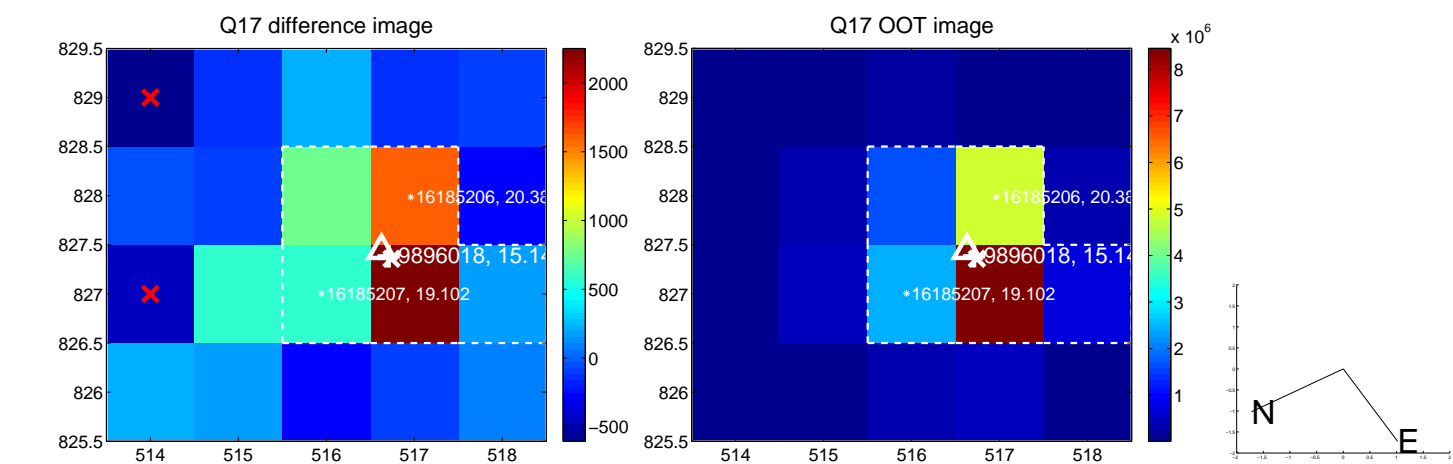
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



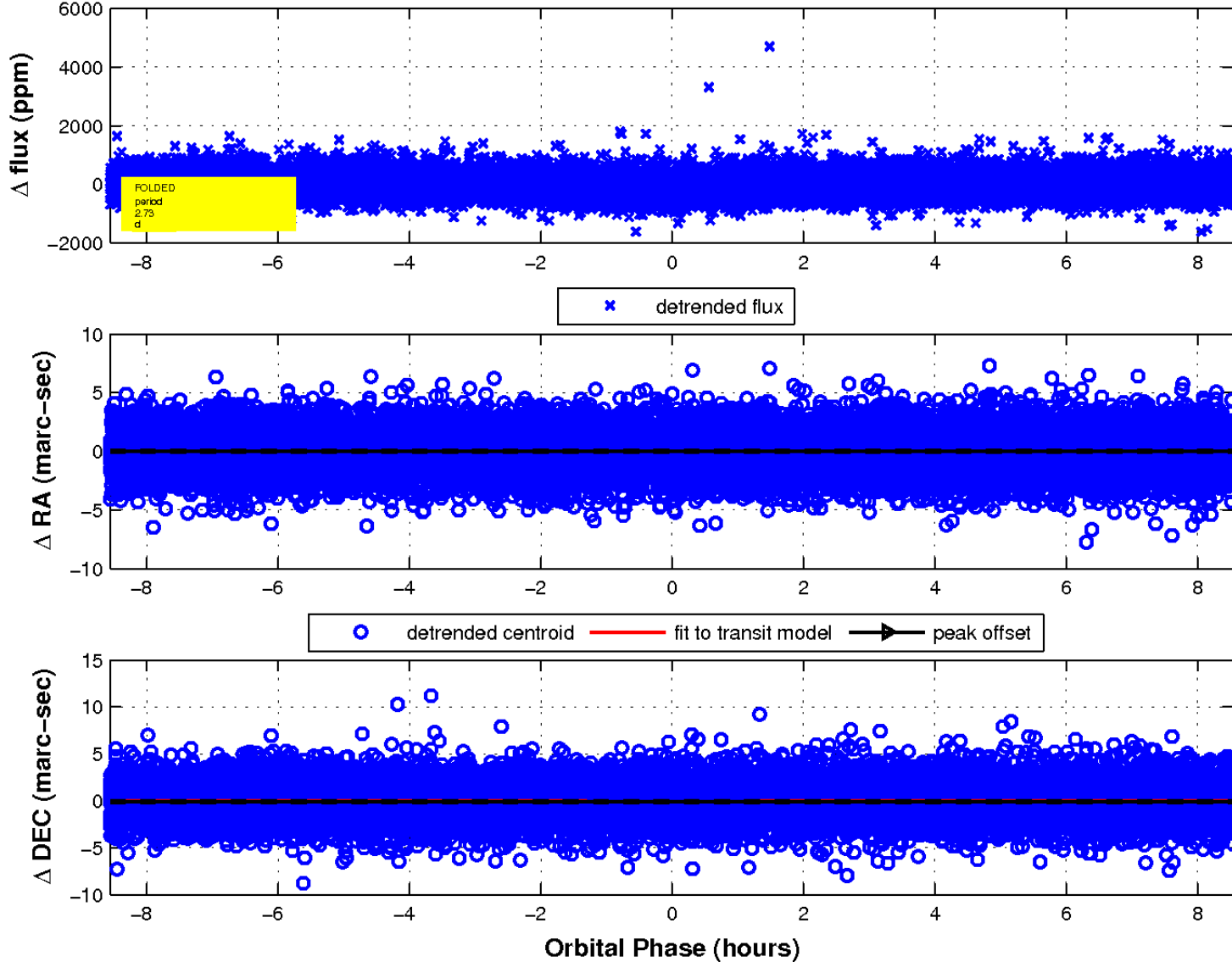
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

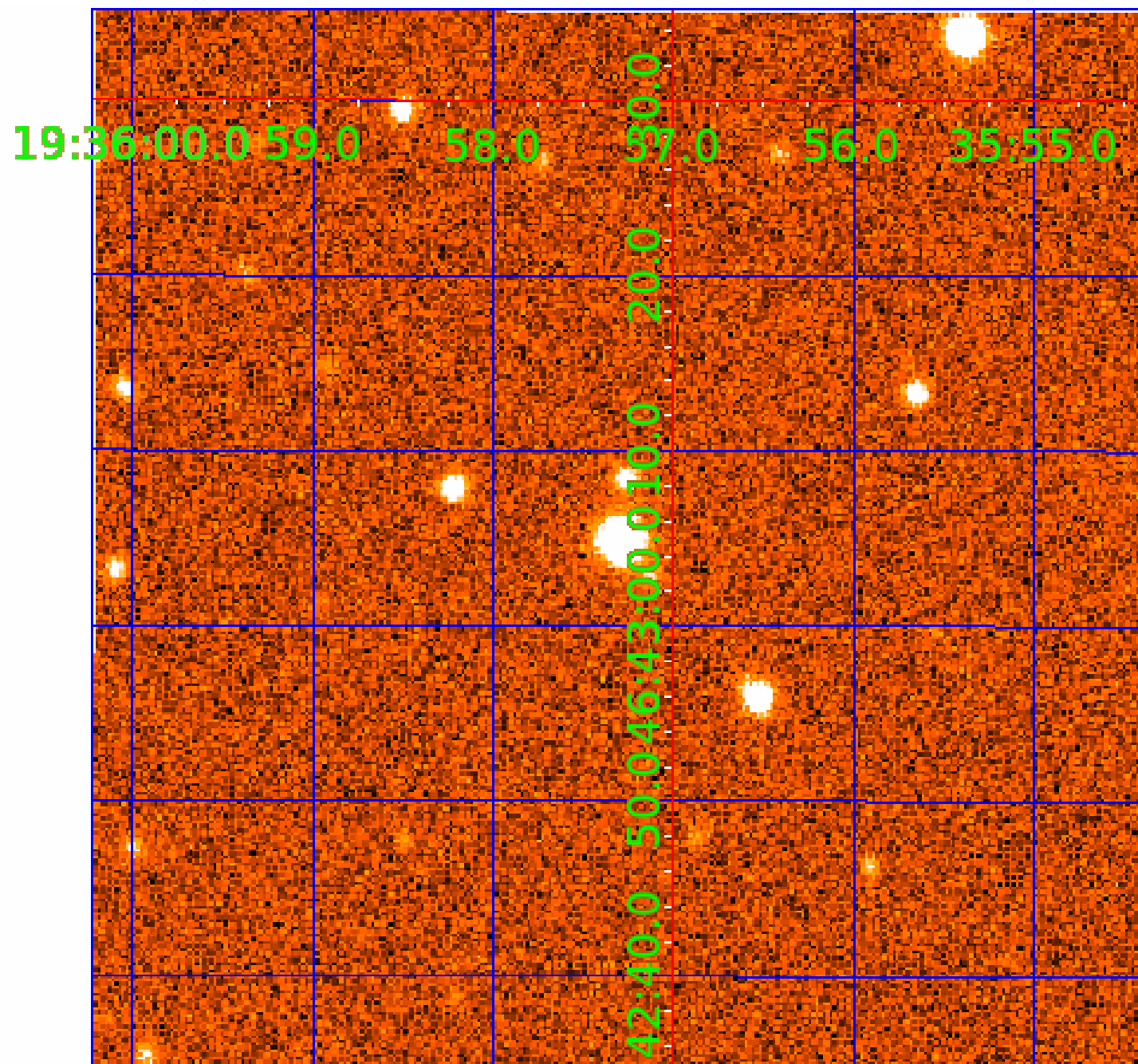


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 009896018

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})
009896018-01	OBS	2579.01	2.729603	133.286874	145.3	2.852	14.4	16.9	1.24	5887	1.81	1060.35
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009896018-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
009896018-02	OBS	PC	0.98	0	0	0	0	NO_COMMENT
009896018-03	OBS	PC	0.94	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.

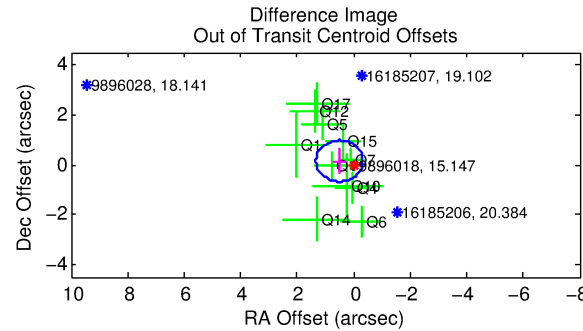
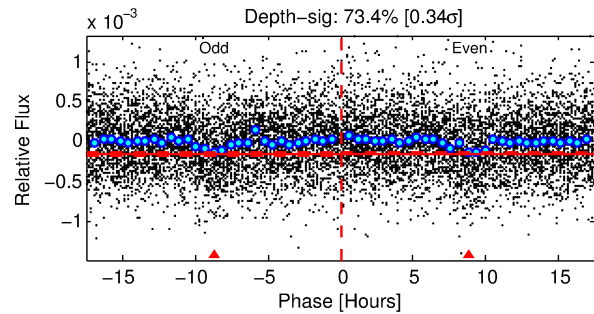
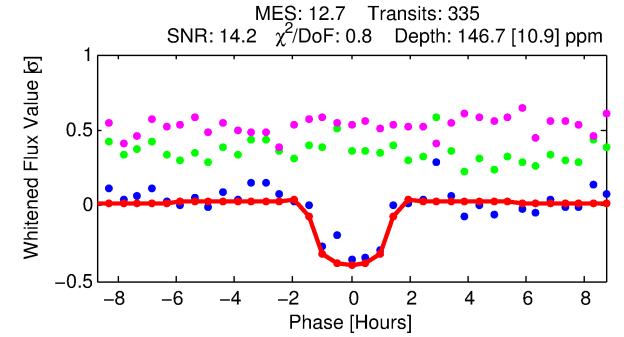
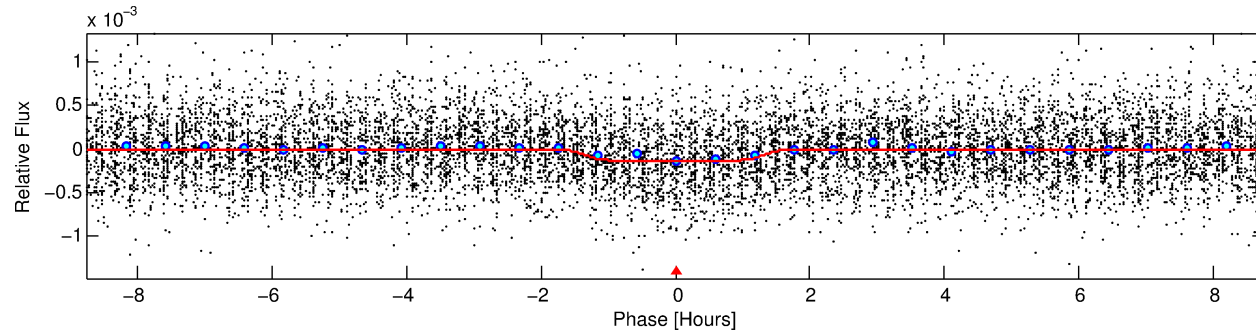
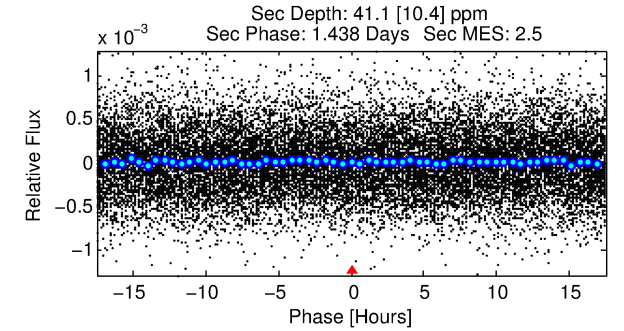
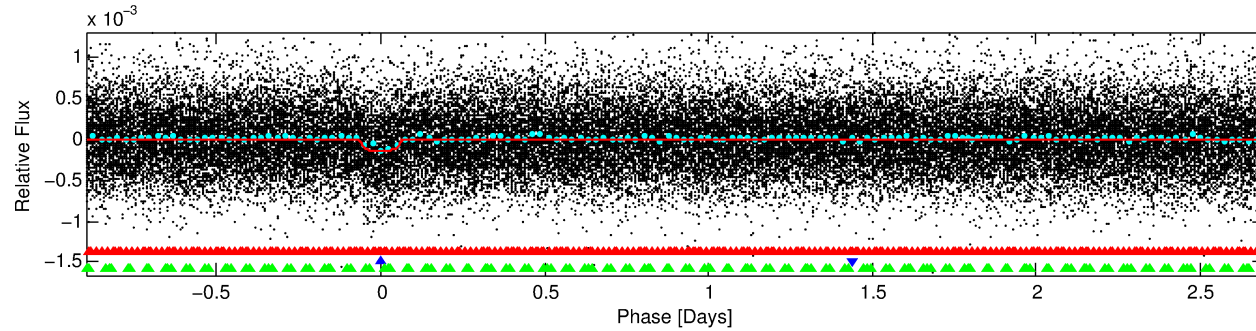
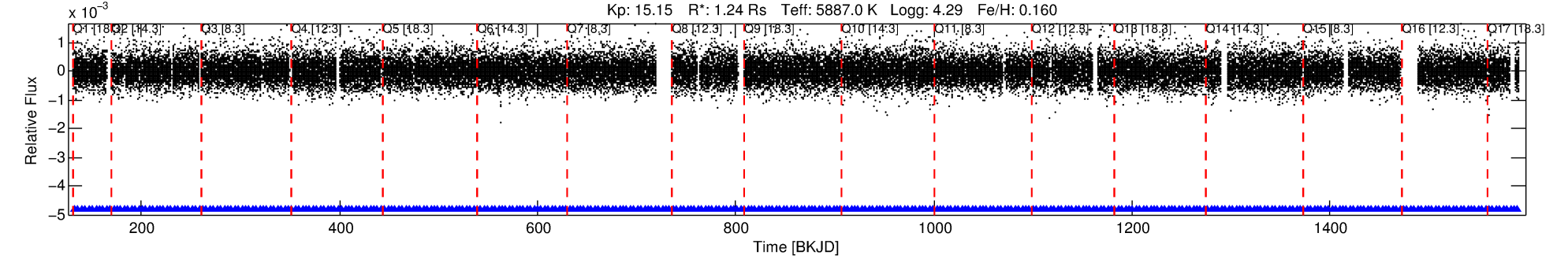
Ephemeris Match Information For 009896018-02

No Significant Match Found

DV One-Page Summary

KIC: 9896018 Candidate: 2 of 3 Period: 3.596 d

KOI: K02579.02 Corr: 0.977



DV Fit Results:

Period = 3.59643 [0.00002] d
Epoch = 132.7755 [0.0032] BKJD
Rp/R* = 0.0127 [0.0076]
a/R* = 5.14 [13.89]
b = 0.86 [0.88]
Seff = 734.10 [164.20]
Teq = 1327 [74] K
Rp = 1.72 [1.06] Re
a = 0.0473 [0.0070] AU
Ag = 17.14 [21.19] [0.76σ]
Teffp = 4176 [1272] K [2.24σ]

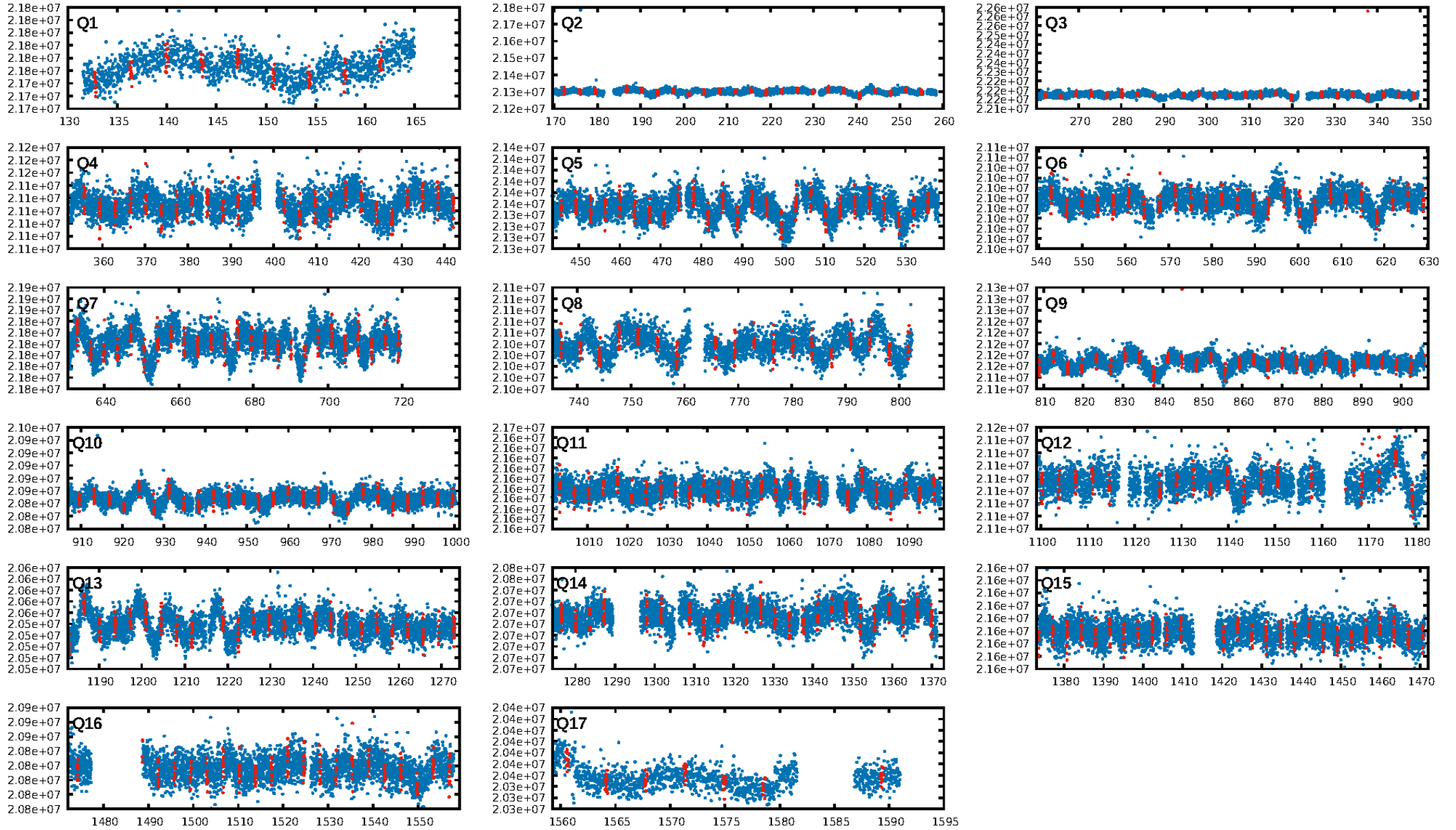
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.10σ]
LongPeriod-sig: 100.0% [31.46σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.90e-37
RollingBand-fgt: 1.00 [320/320]
GhostDiagnostic-chr: 3.235
Centroid-sig: 88.2%
Centroid-so: 0.359 arcsec [0.44σ]
OotOffset-rm: 0.534 arcsec [1.93σ]
KicOffset-rm: 0.511 arcsec [1.63σ]
OotOffset-st: 3/3/2/3 [11]
KicOffset-st: 3/3/2/3 [11]
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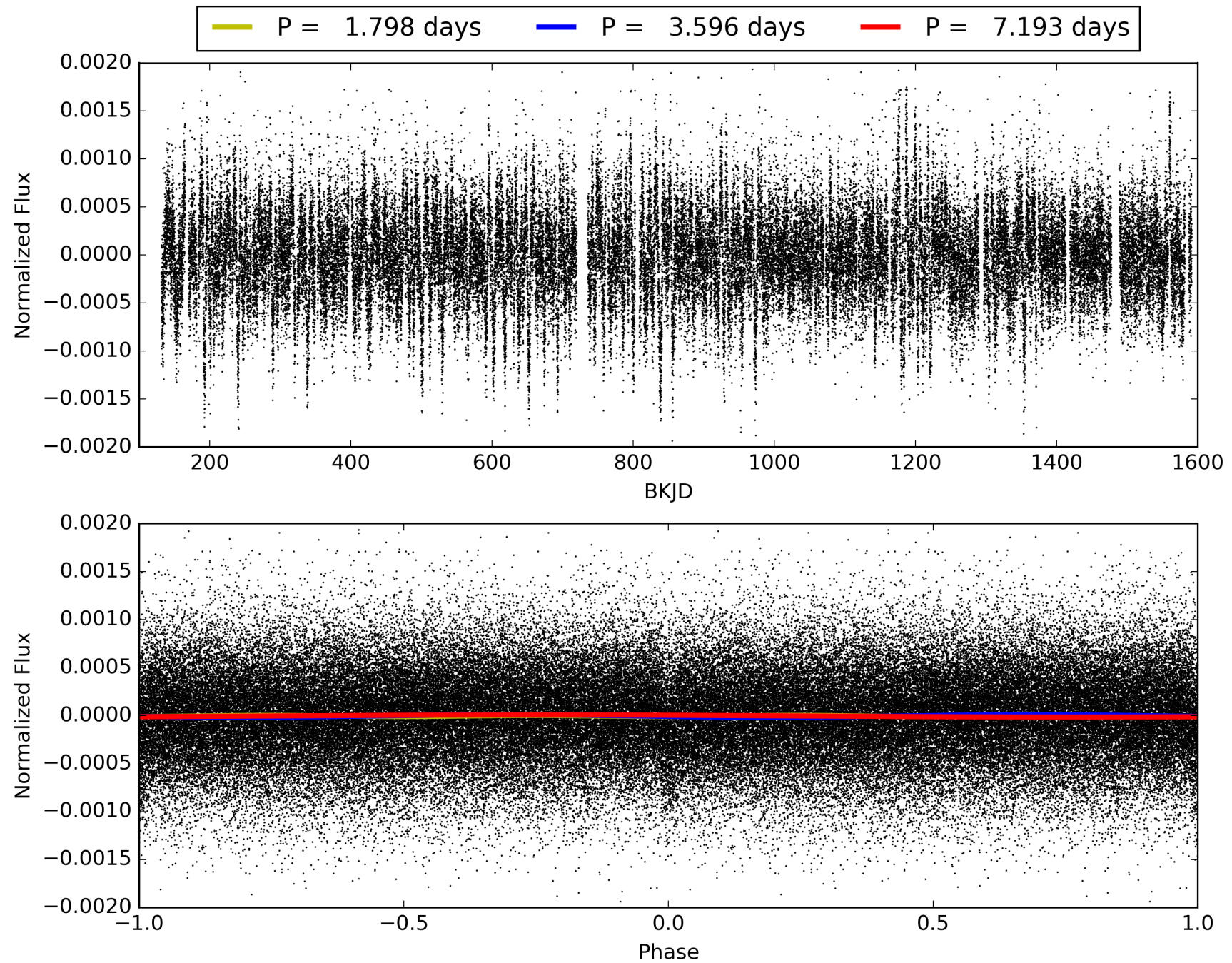
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:20:24 Z

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

TCE 009896018-02, PDC Light Curves

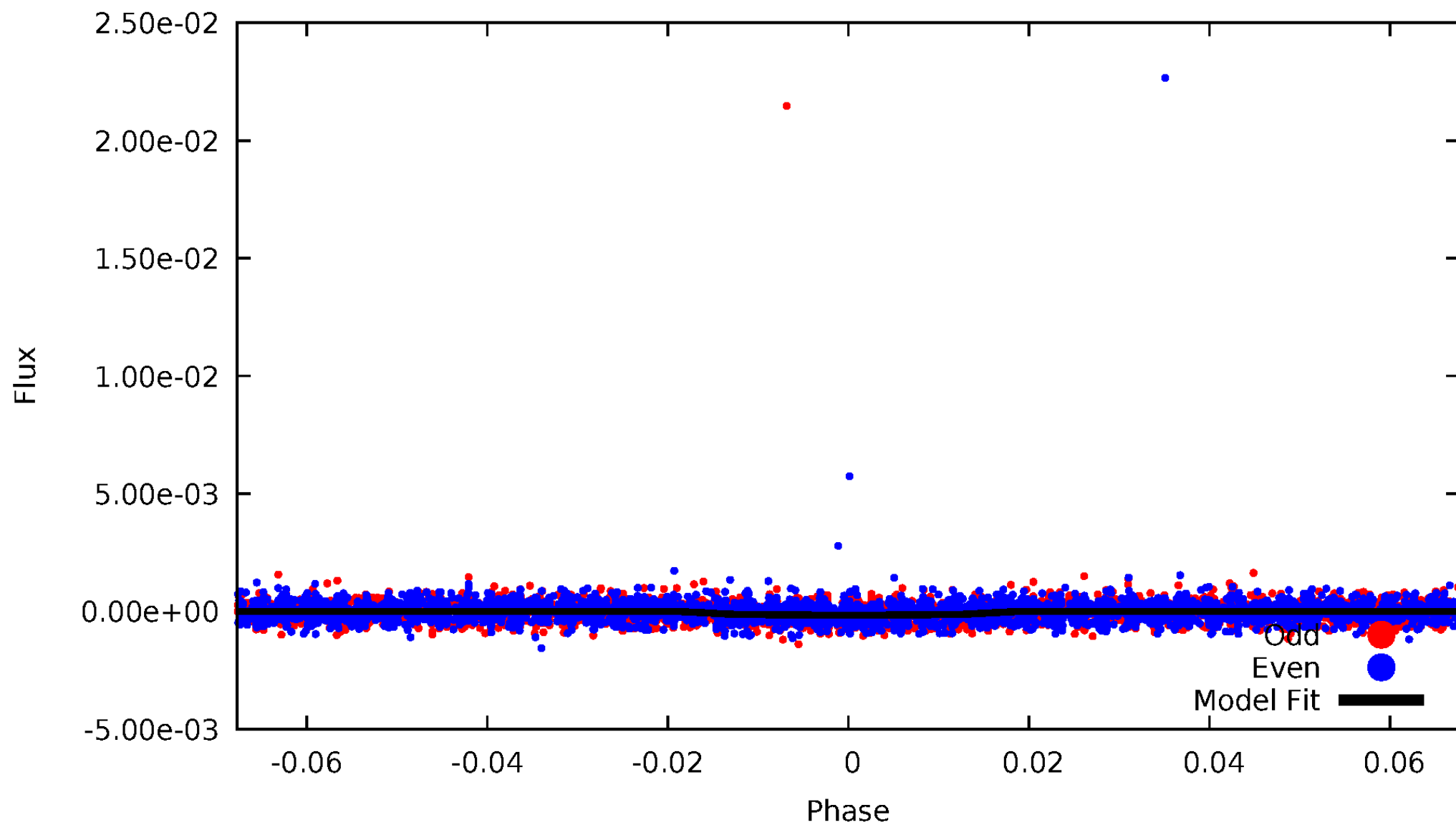


TCE 009896018-02



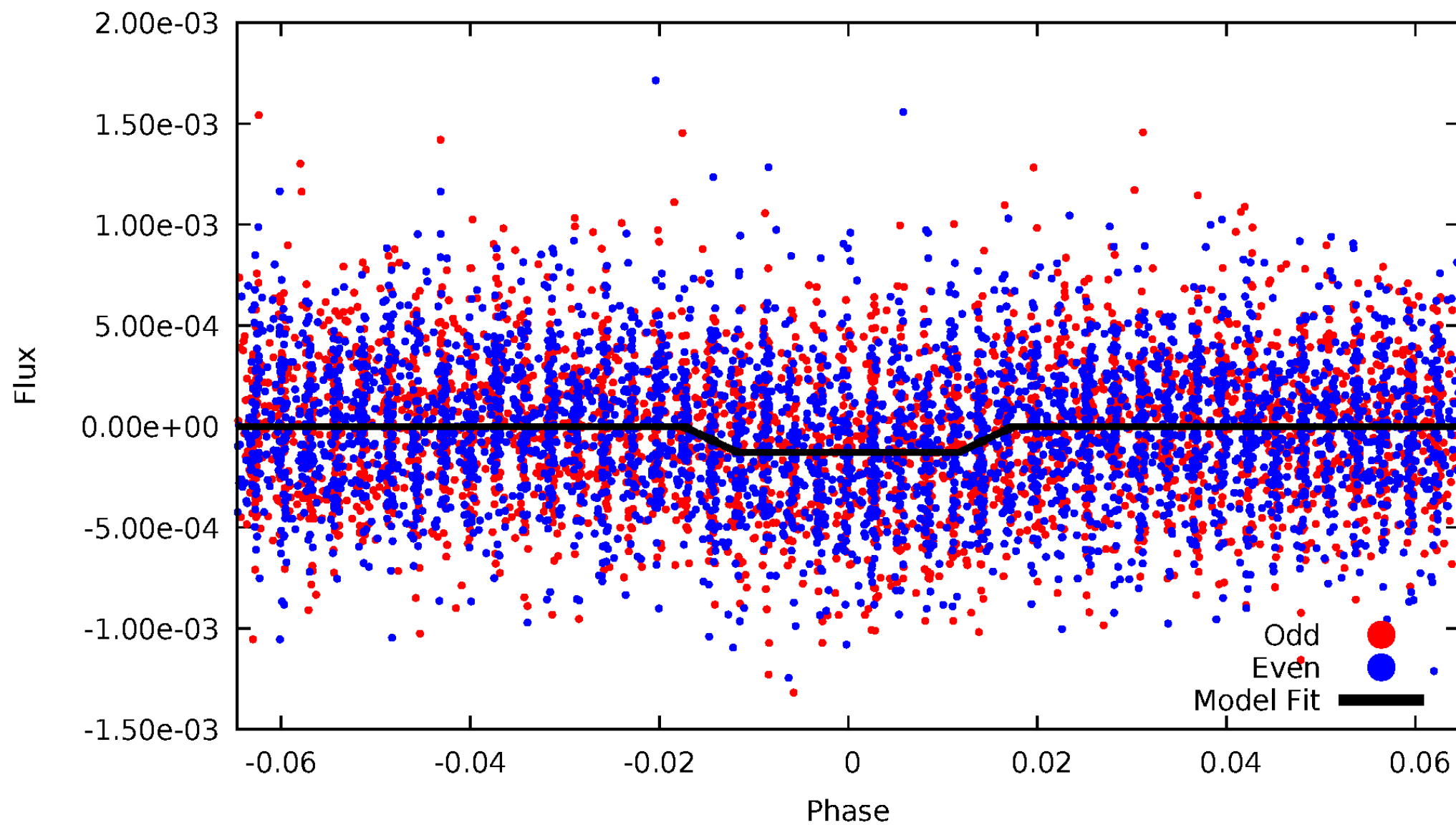
DV Odd/Even

TCE 009896018-02



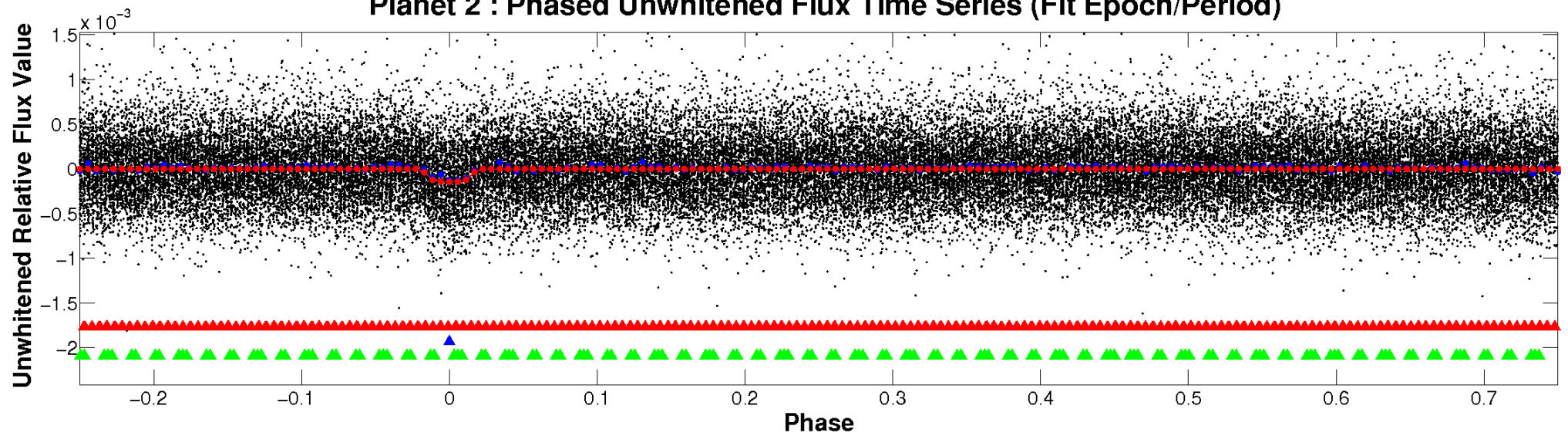
ALT Odd/Even

TCE 009896018-02

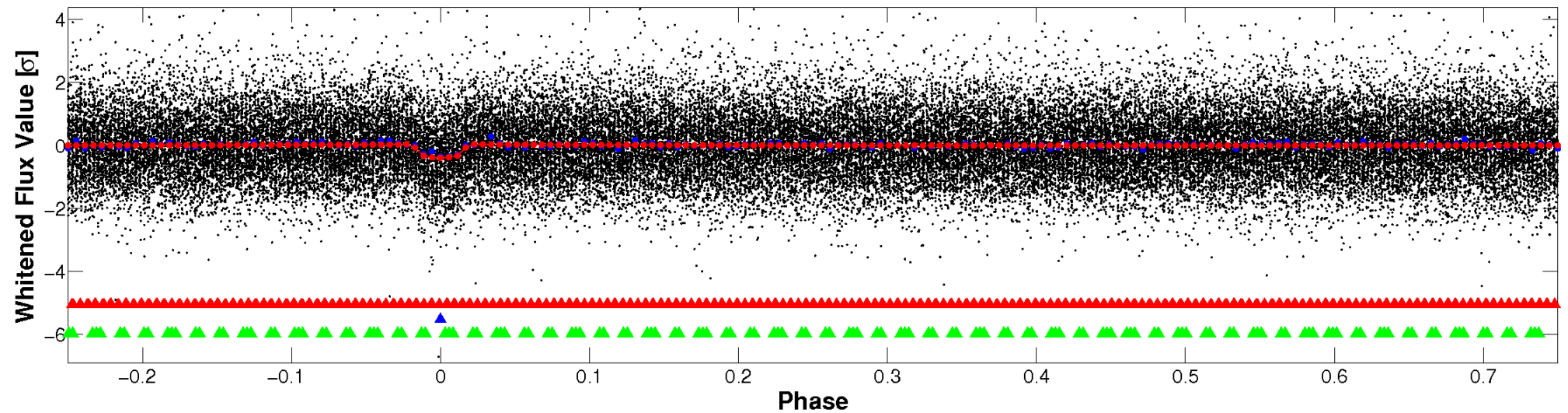


Non-Whitened Vs. Whitened Light Curve

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

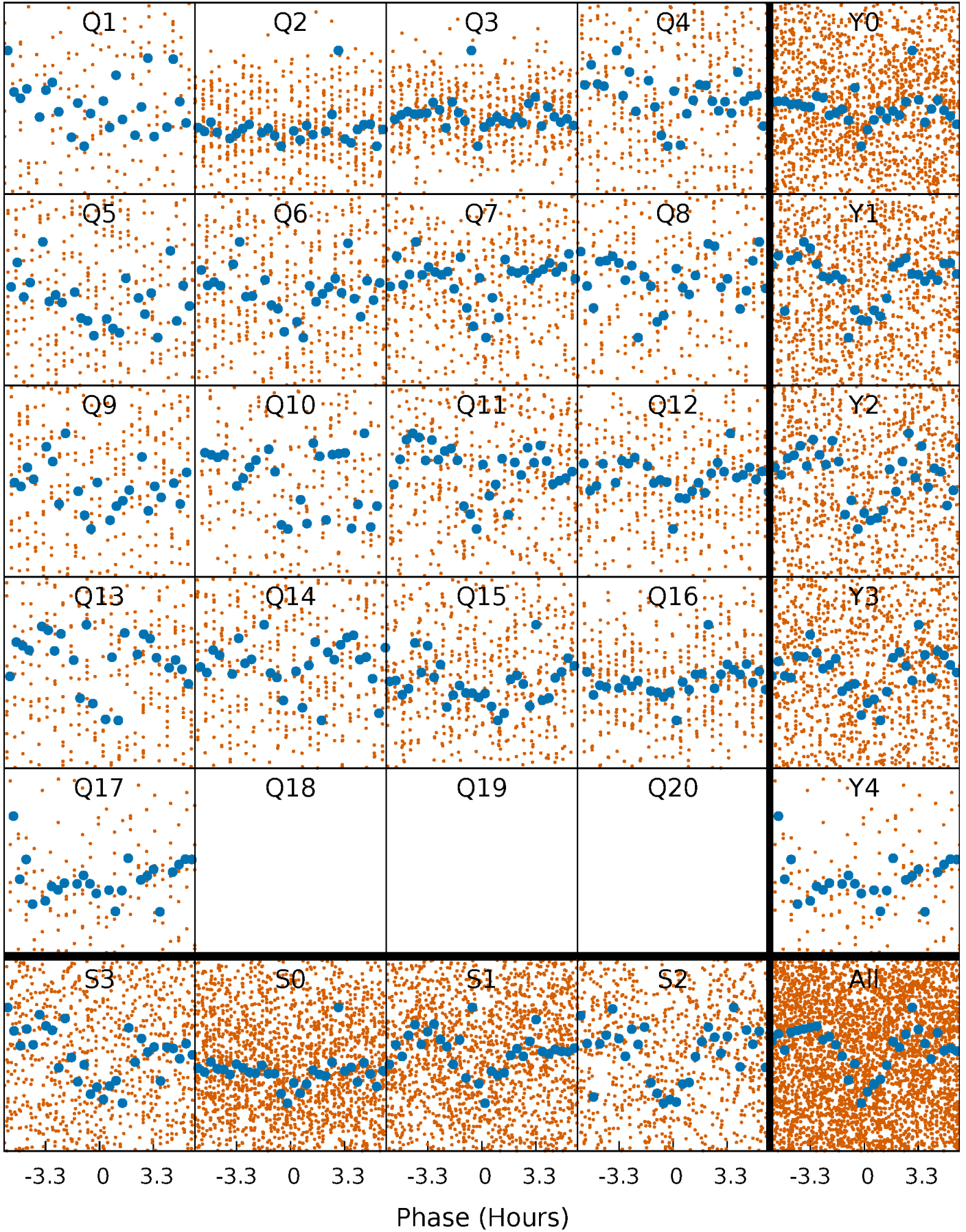


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



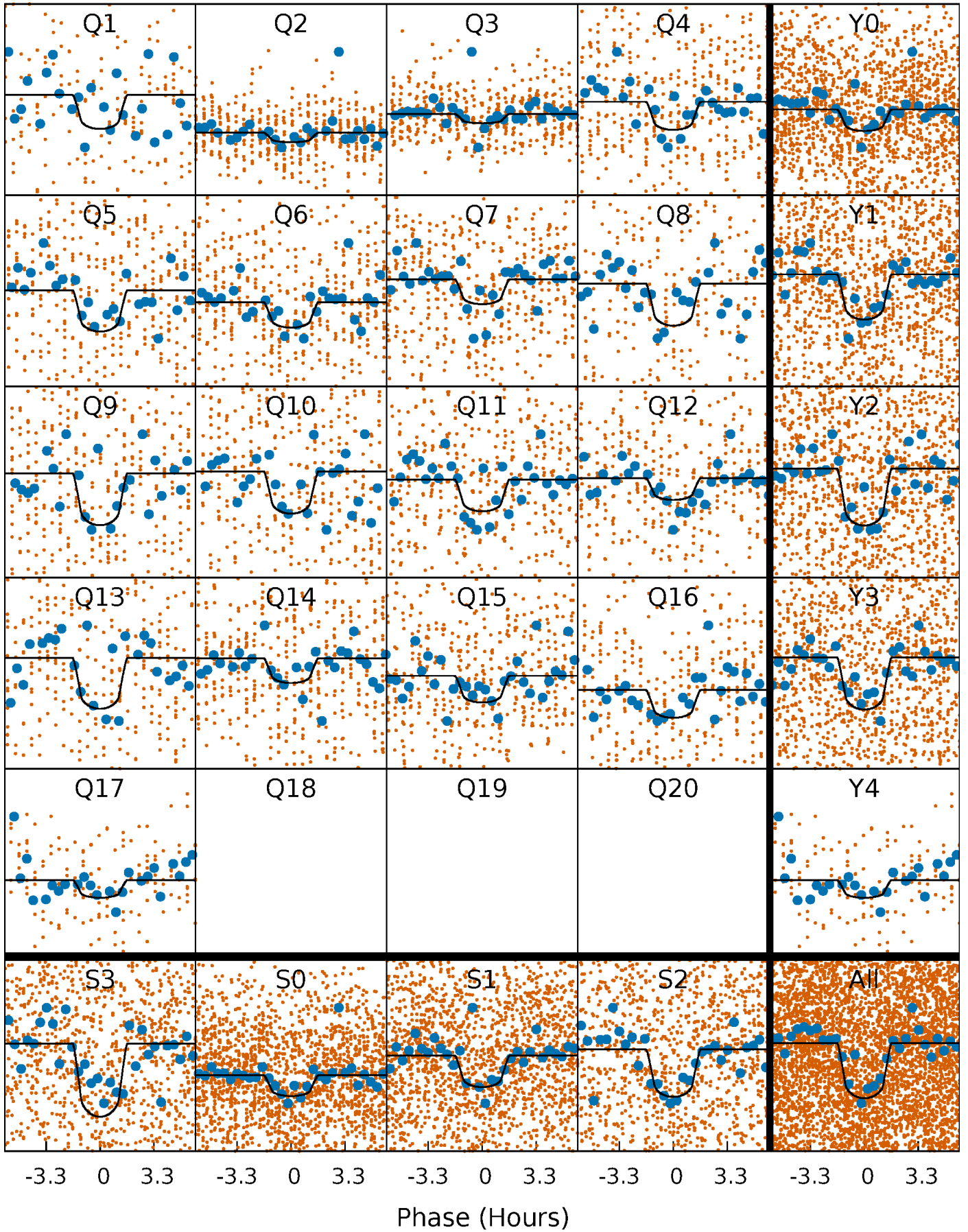
PDC Quarter-Phased Transit Curves

TCE 009896018-02 P= 3.596426 Days $T_0=132.775479$ (BKJD)



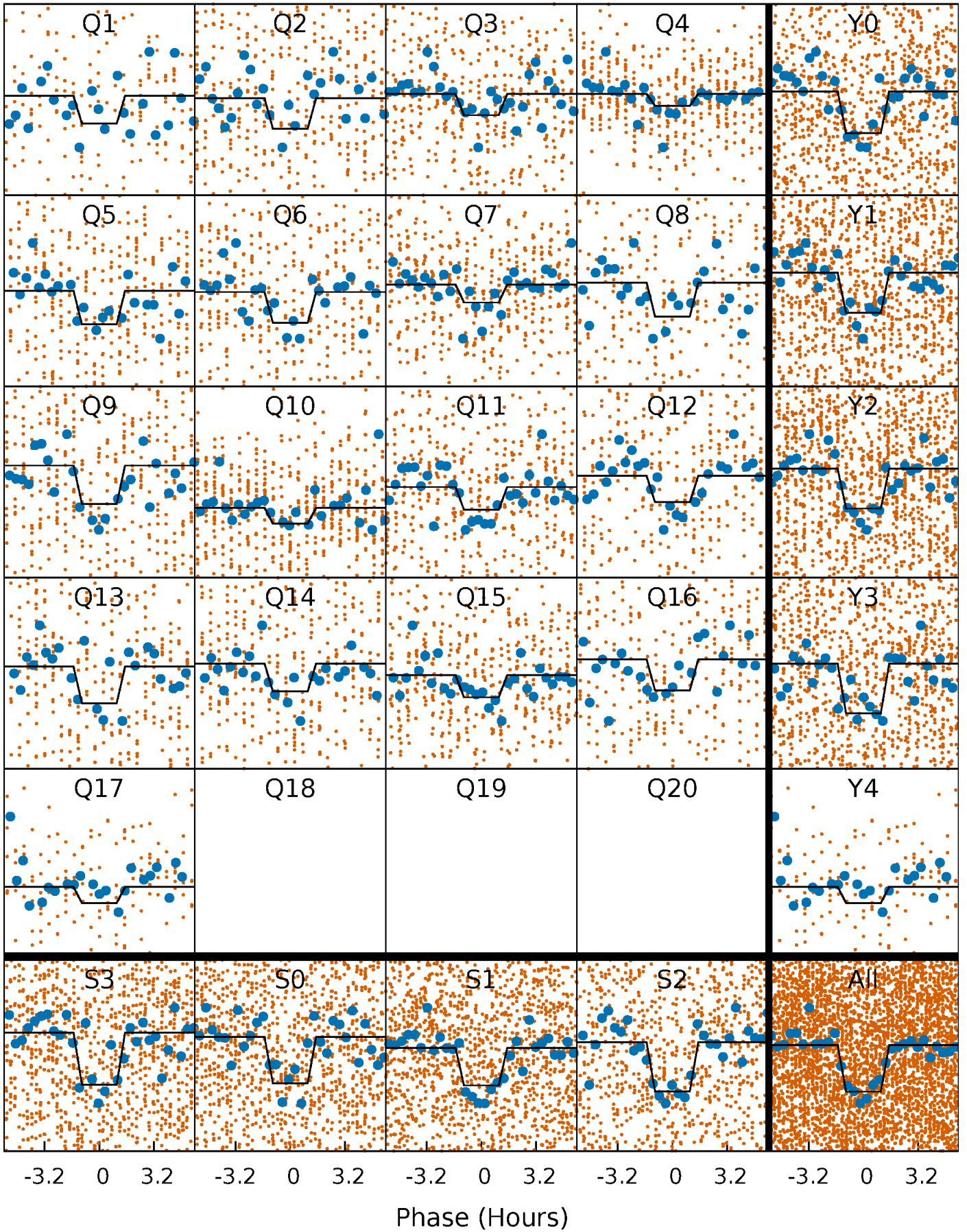
DV Quarter-Phased Transit Curves

TCE 009896018-02 P= 3.596426 Days $T_0=132.775479$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

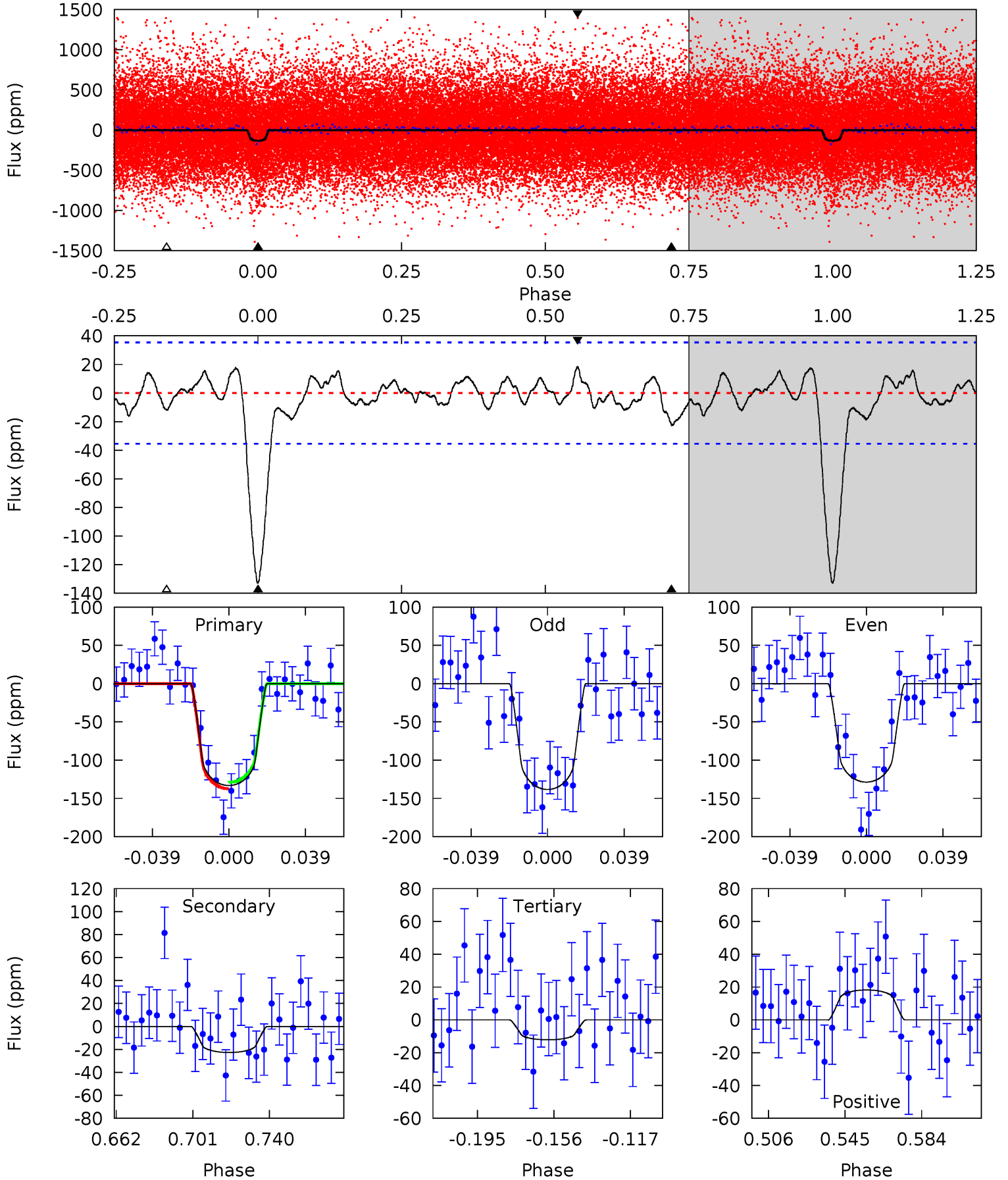
TCE 009896018-02 P= 3.596405 Days $T_0=132.781115$ (BKJD)



DV Model-Shift Uniqueness Test

009896018-02, P = 3.596426 Days, E = 129.179053 Days

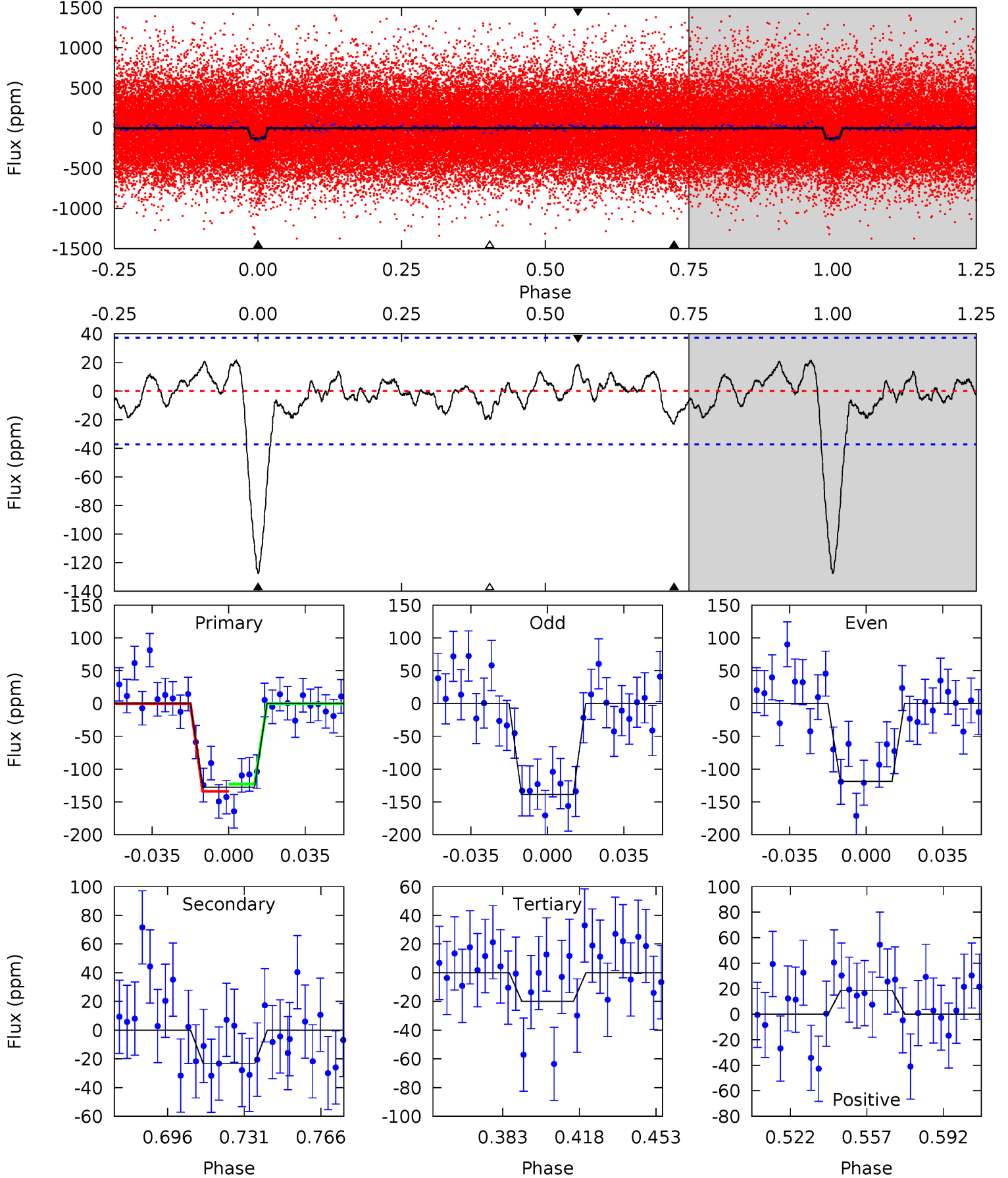
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.9	3.05	1.63	2.45	4.76	2.06	1.03	16.2	15.4	1.42	0.60	0.65	0.82	0.12	0.57



Alt Model-Shift Uniqueness Test

009896018-02, P = 3.596405 Days, E = 129.184710 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	2.97	2.56	2.39	4.78	2.11	1.10	13.8	14.0	0.41	0.58	1.28	0.88	0.14	0.71



Stellar Parameters For KIC 009896018

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5887^{+70}_{-79}	$4.292^{+0.120}_{-0.120}$	$0.160^{+0.150}_{-0.150}$	$1.235^{+0.213}_{-0.175}$	$1.090^{+0.070}_{-0.078}$	$0.815^{+0.427}_{-0.282}$
	+1%/-1%	+3%/-3%	+94%/-94%	+17%/-14%	+6%/-7%	+52%/-35%
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 009896018-02 / KOI 2579.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-23 ± 7	$1.83^{+0.97}_{-1.04}$	1853^{+88}_{-82}	3782^{+1479}_{-541}	$7.940^{+38.006}_{-4.854}$
Alt.	-23 ± 8	$1.61^{+1.00}_{-0.88}$	1853^{+87}_{-73}	4005^{+1395}_{-688}	11^{+37}_{-7}

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

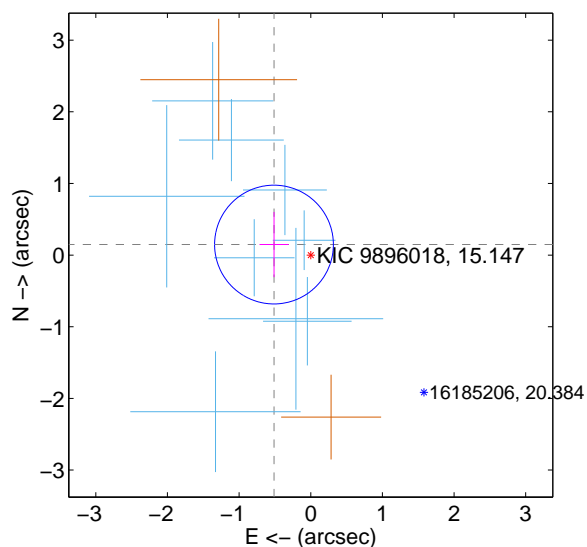
Supplemental centroid analysis for 009896018-02. Kepler magnitude: 15.15. Transit SNR 14.19

There are 9 quarters with good PRF difference image offsets

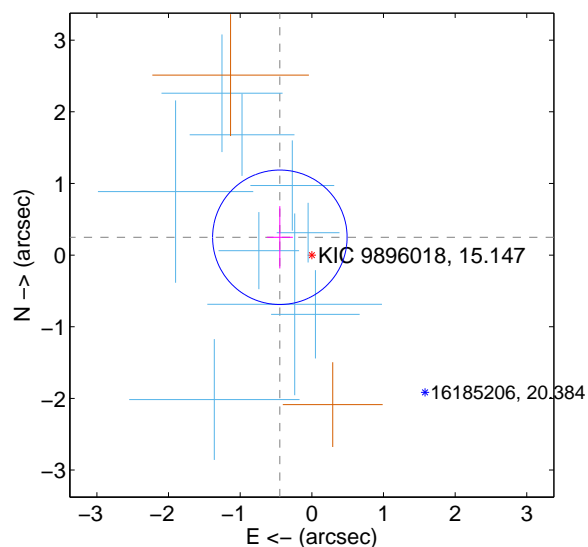
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.534 ± 0.276	1.93	0.513 ± 0.203	0.147 ± 0.454
PRF-fit source offset from KIC position	0.511 ± 0.313	1.63	0.446 ± 0.181	0.249 ± 0.435
photometric centroid source offset	0.36 ± 0.82	0.44	-0.07 ± 0.79	0.35 ± 0.82

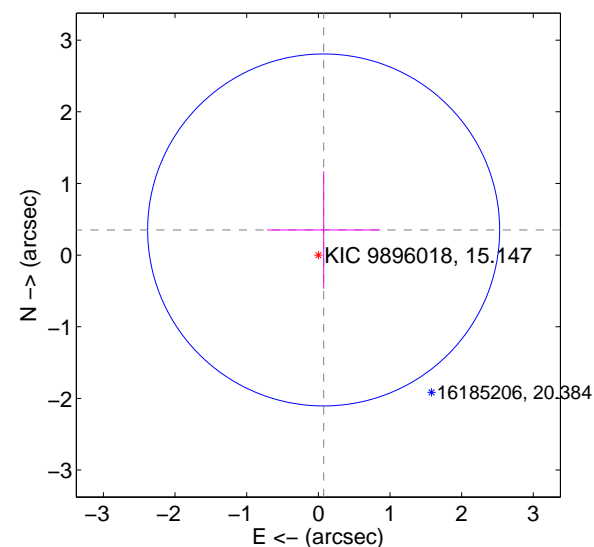
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

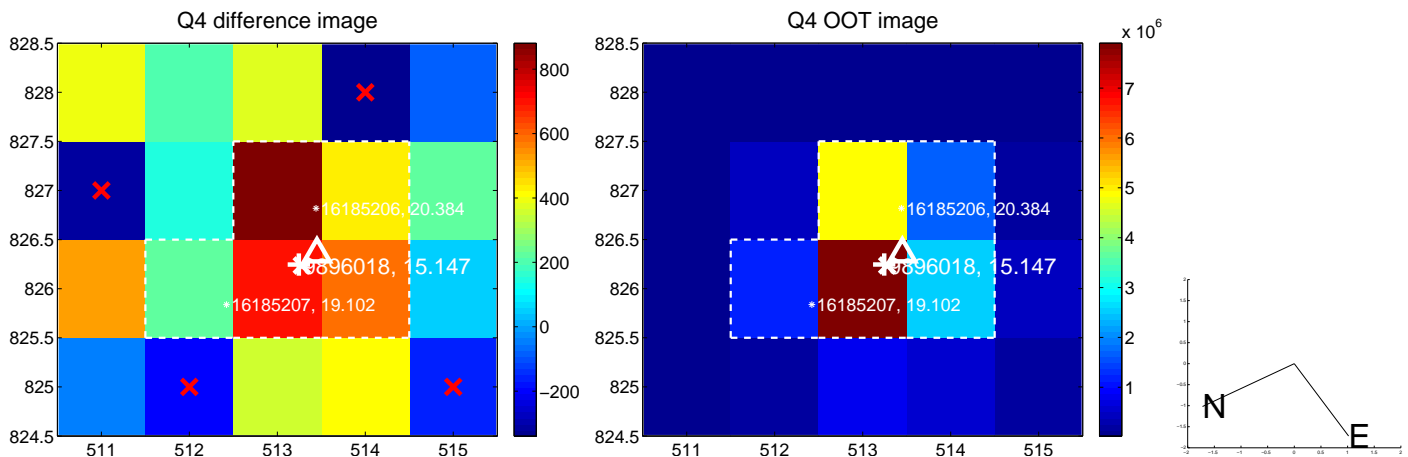
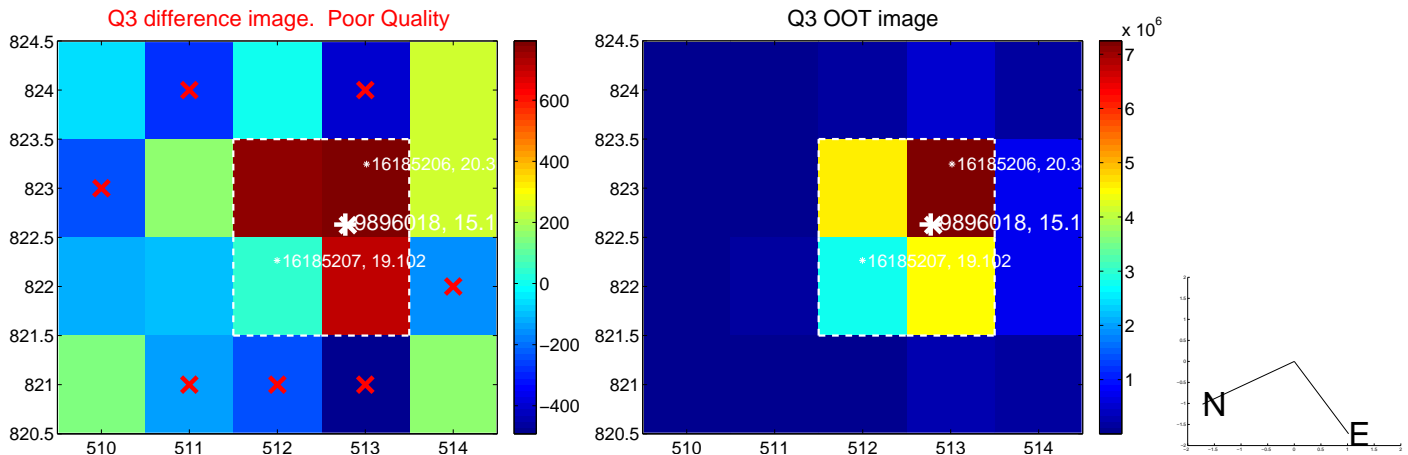
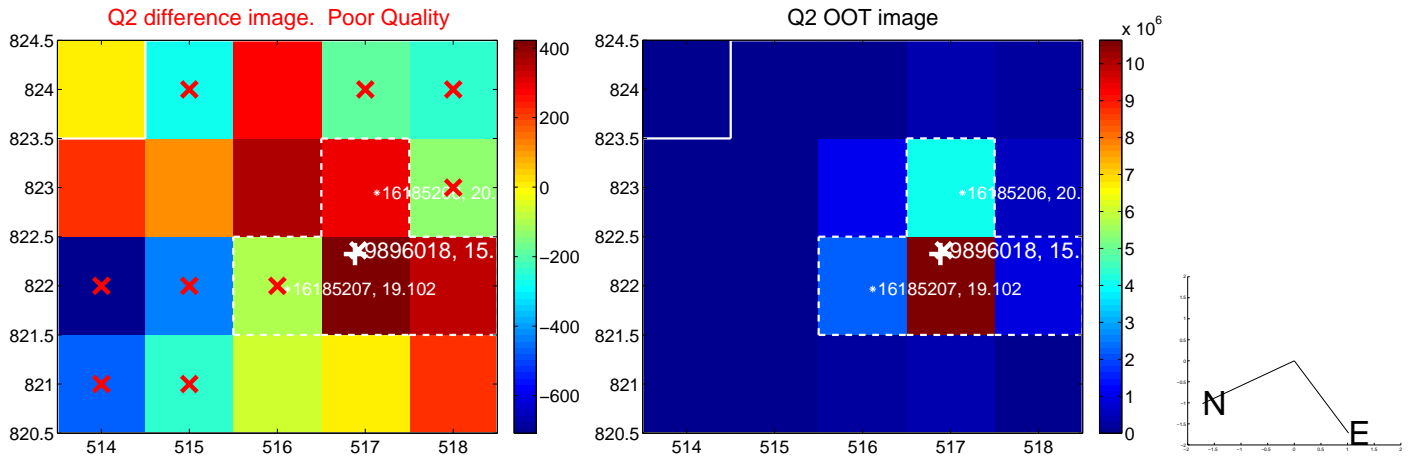
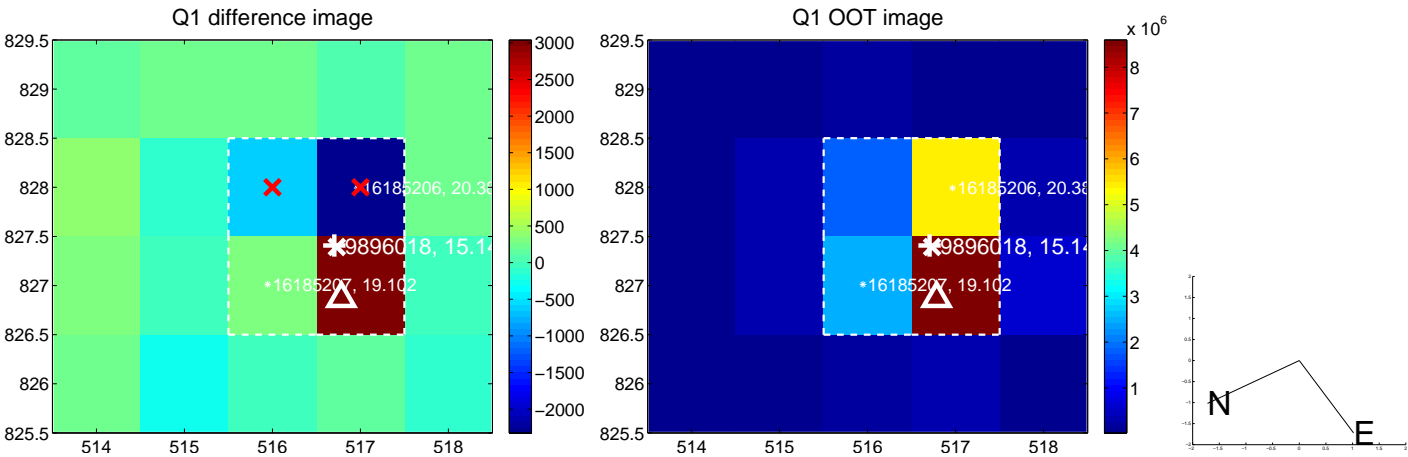


offset from photometric centroids

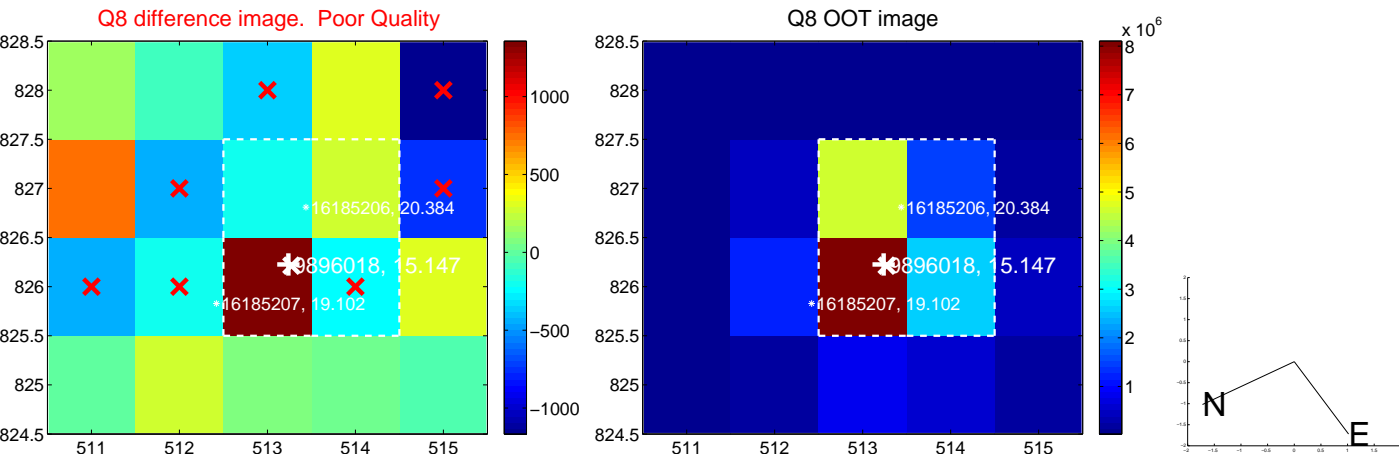
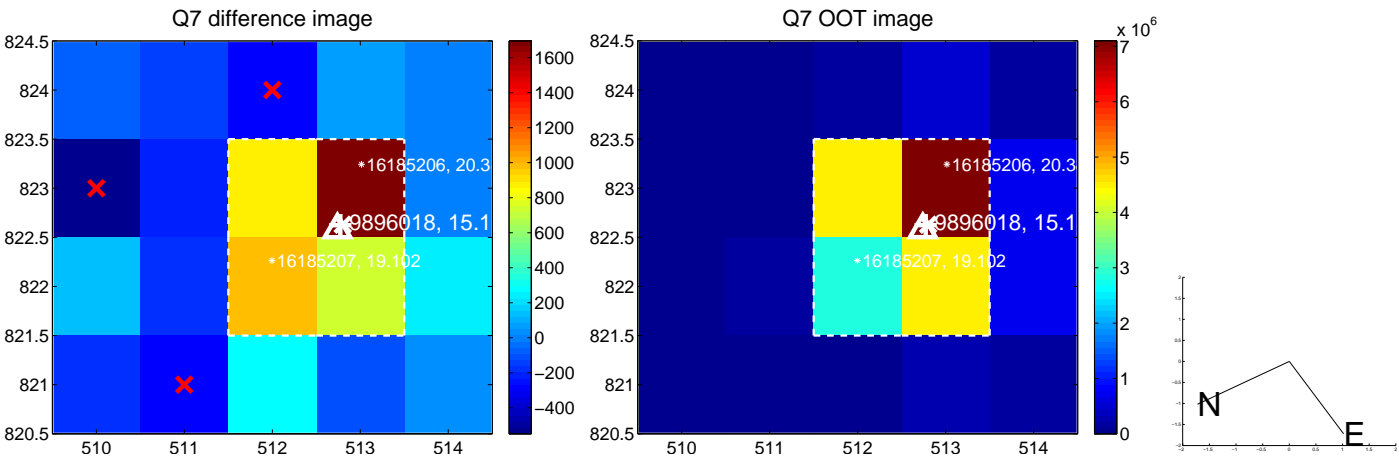
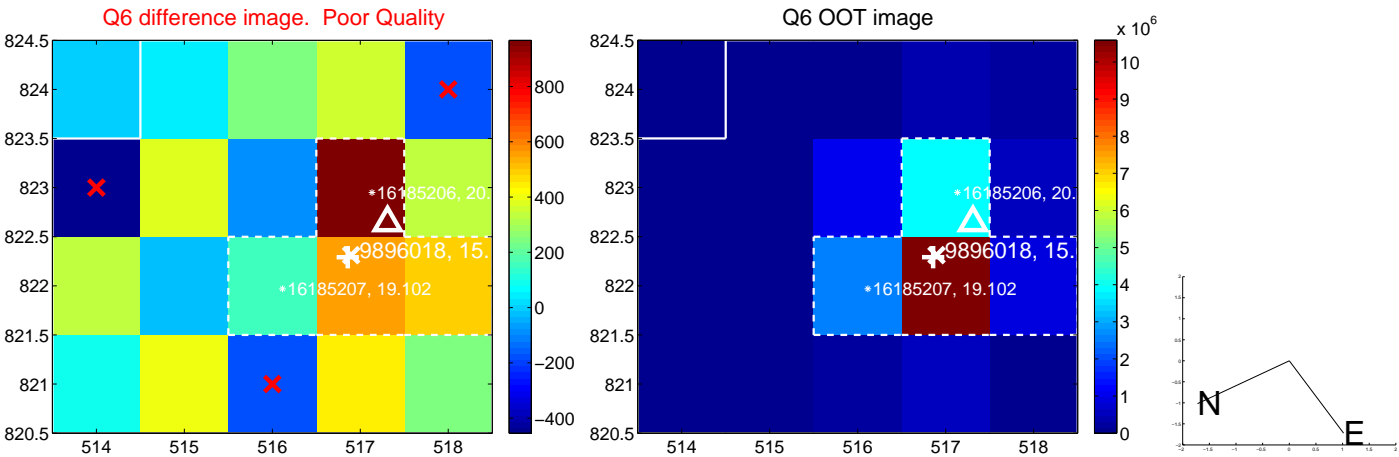
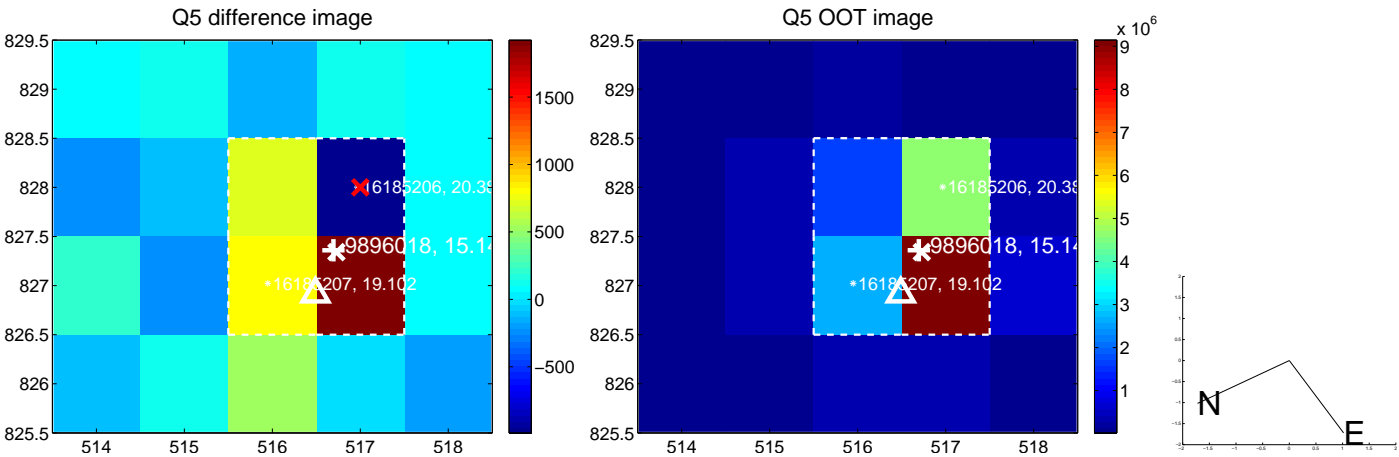


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

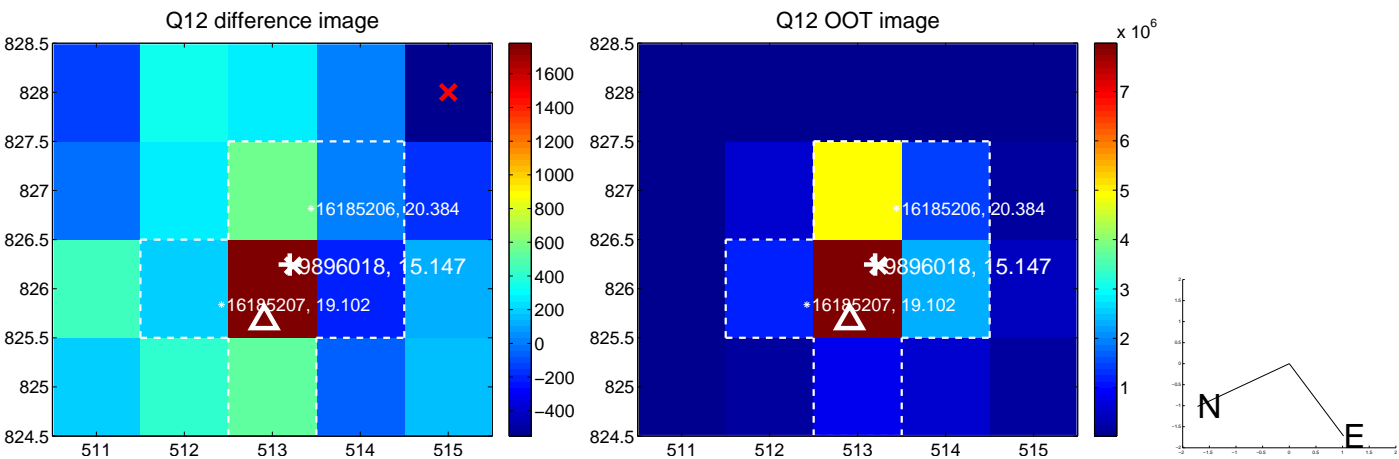
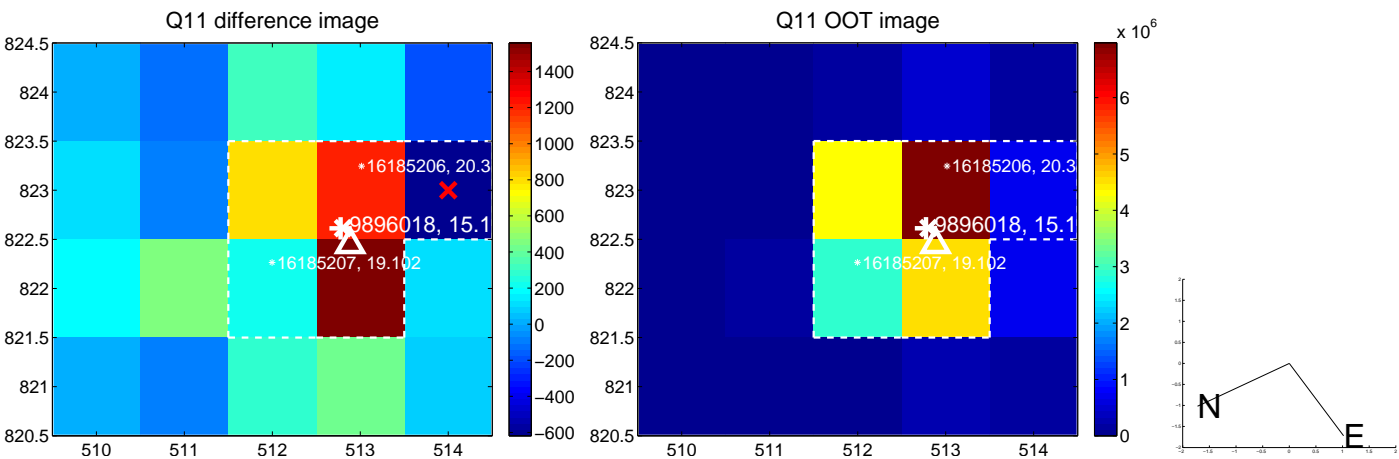
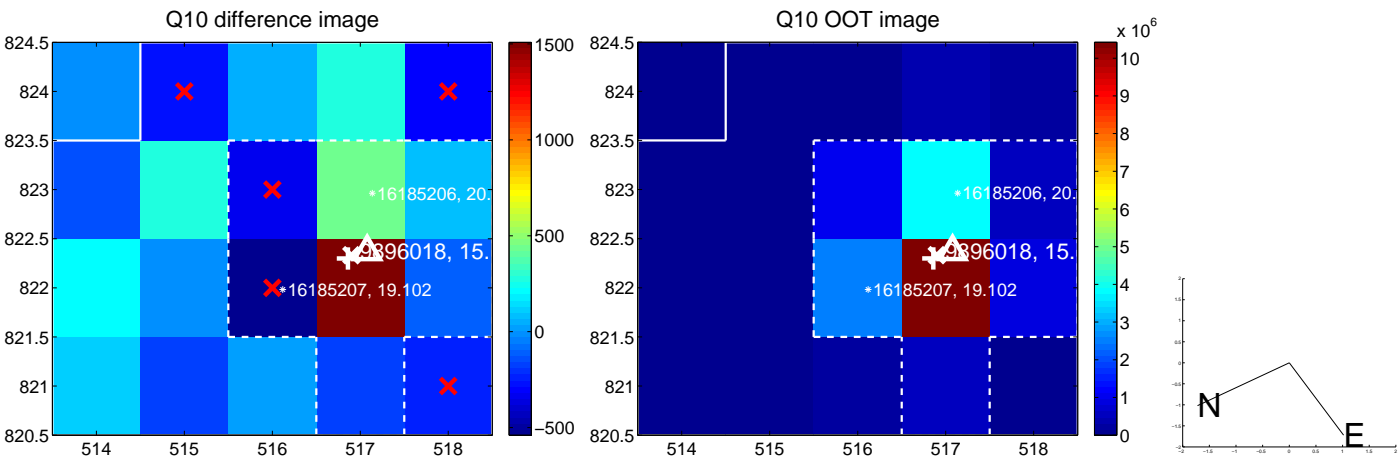
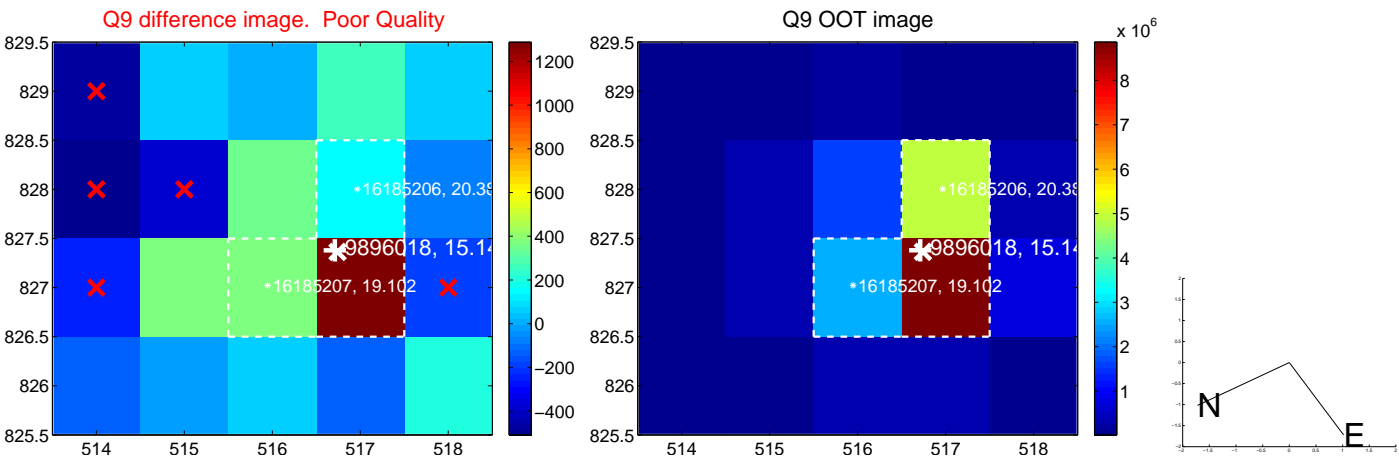
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



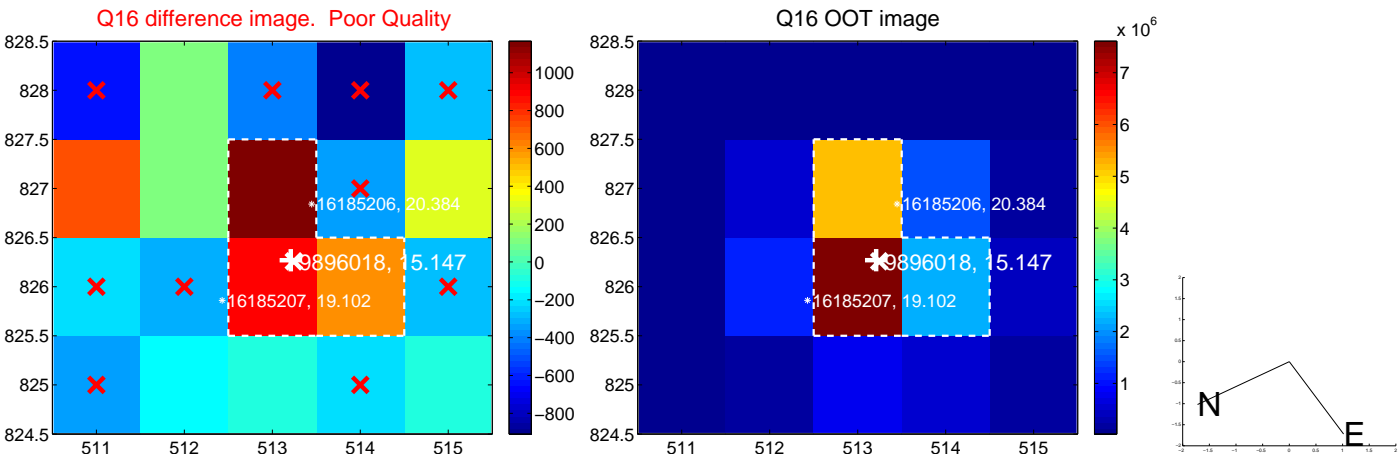
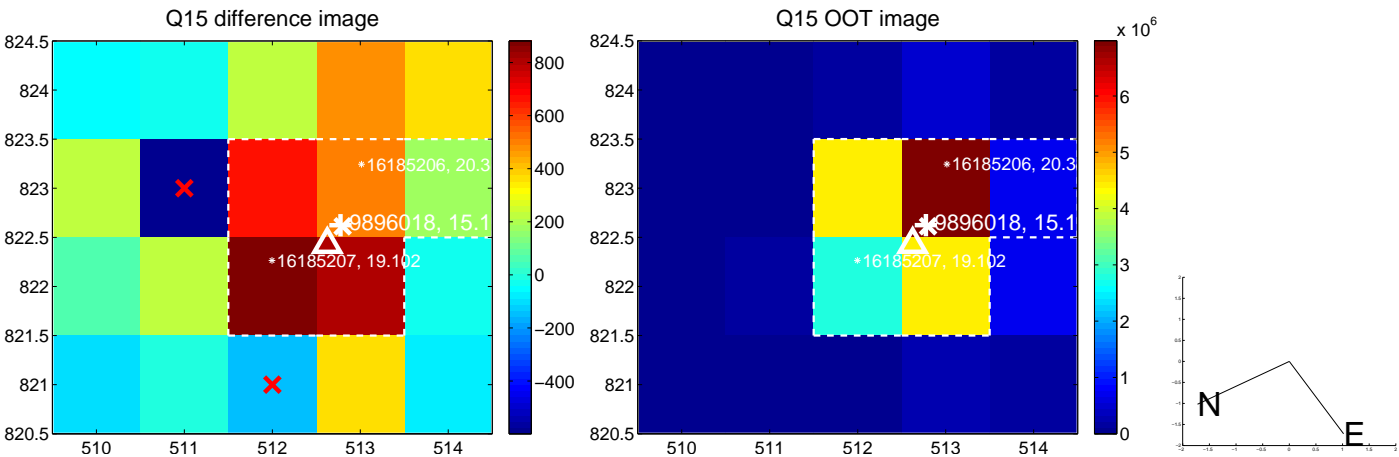
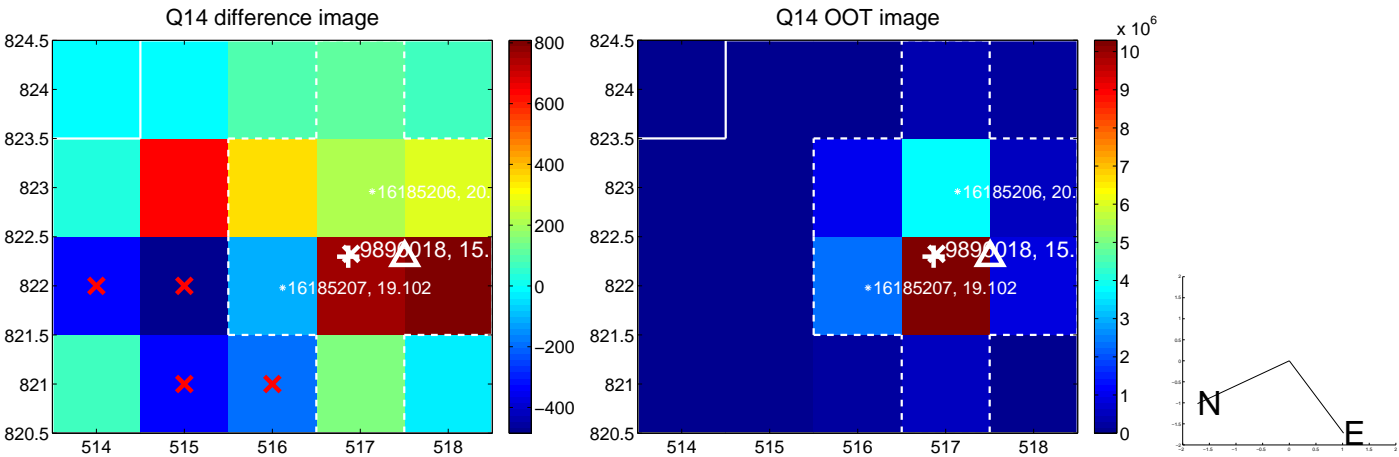
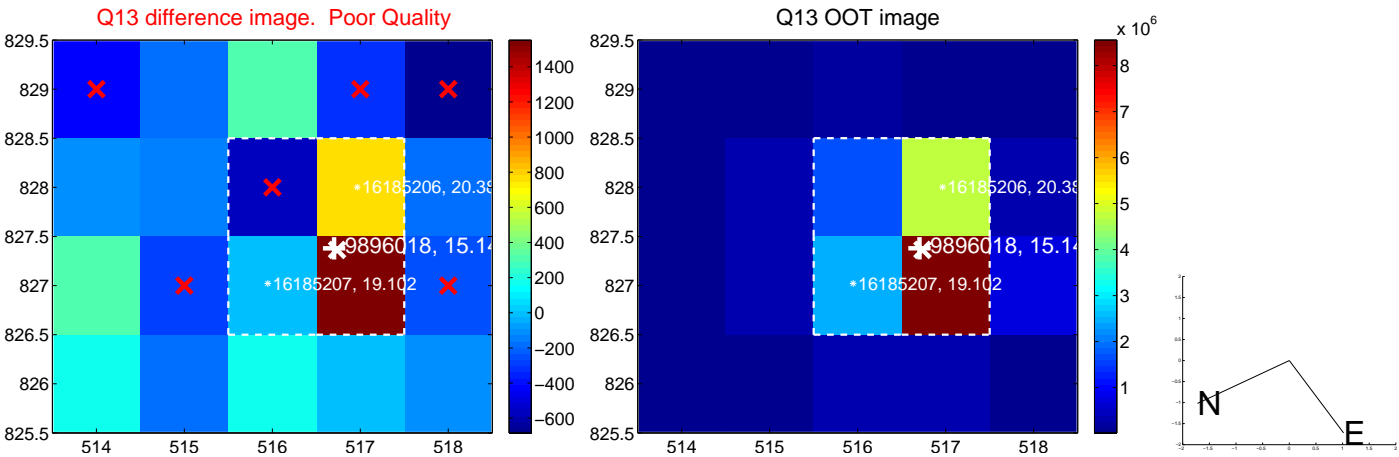
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



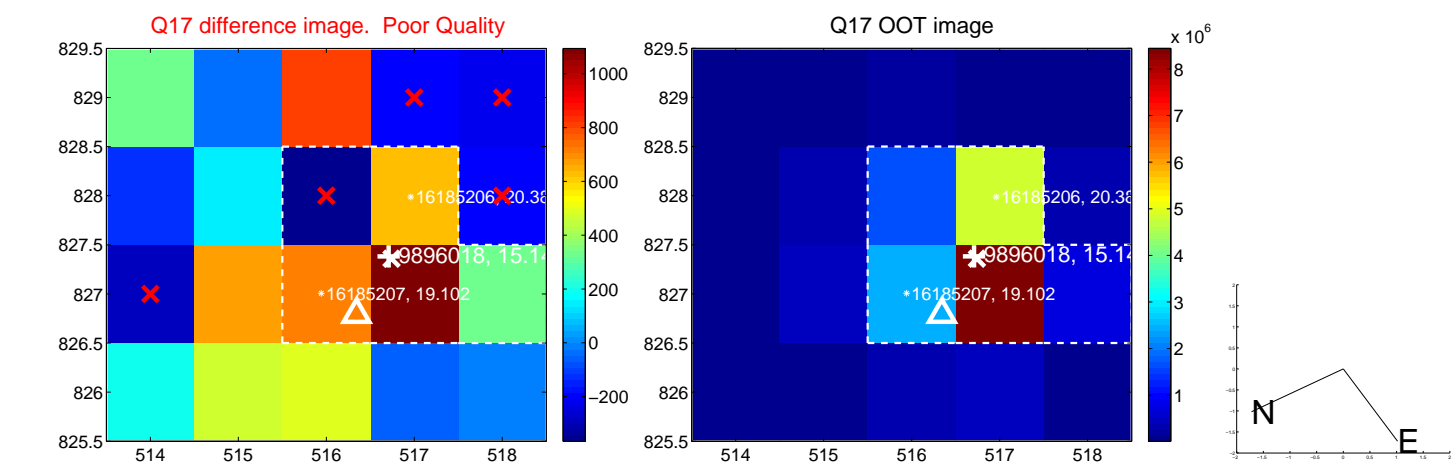
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



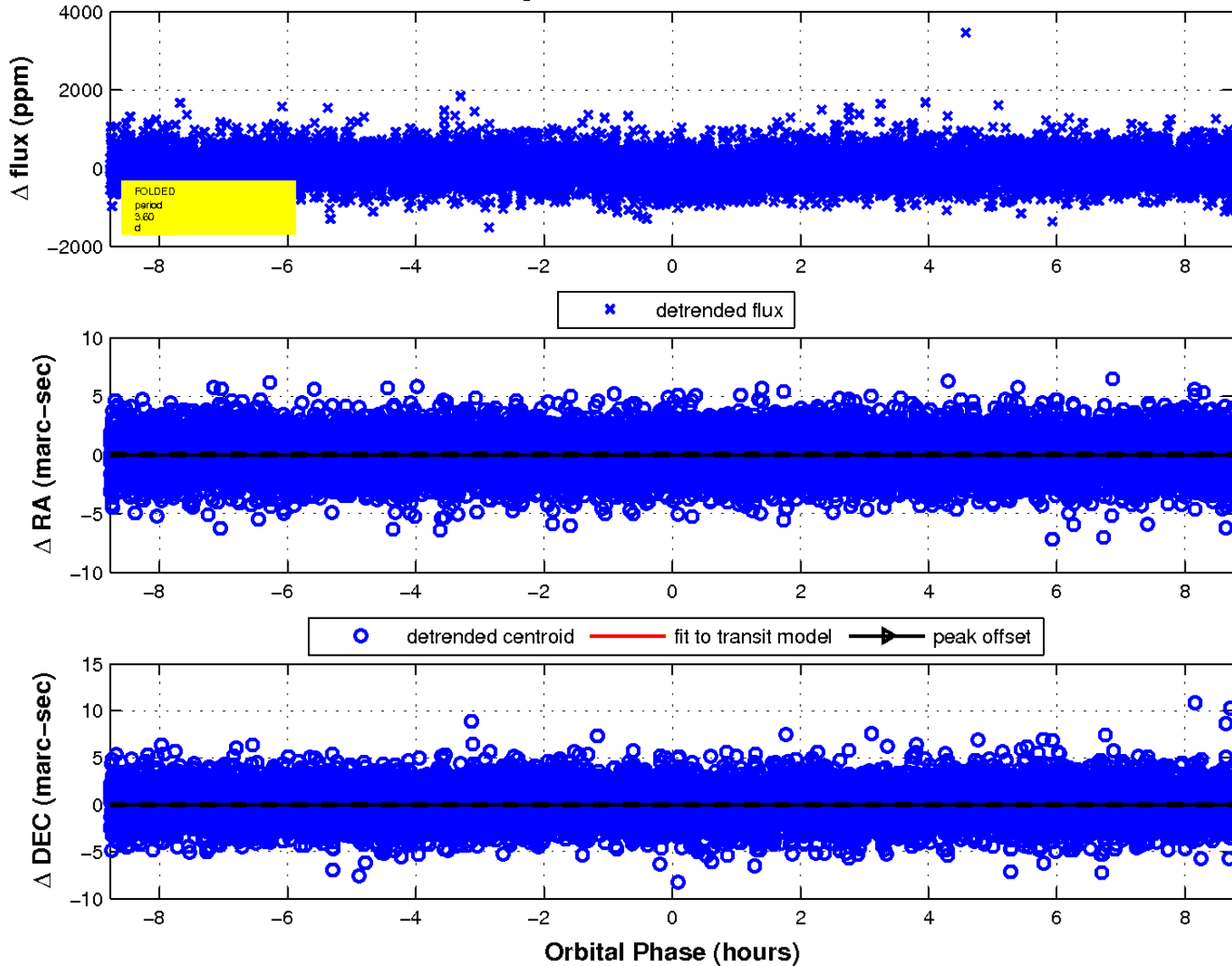
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

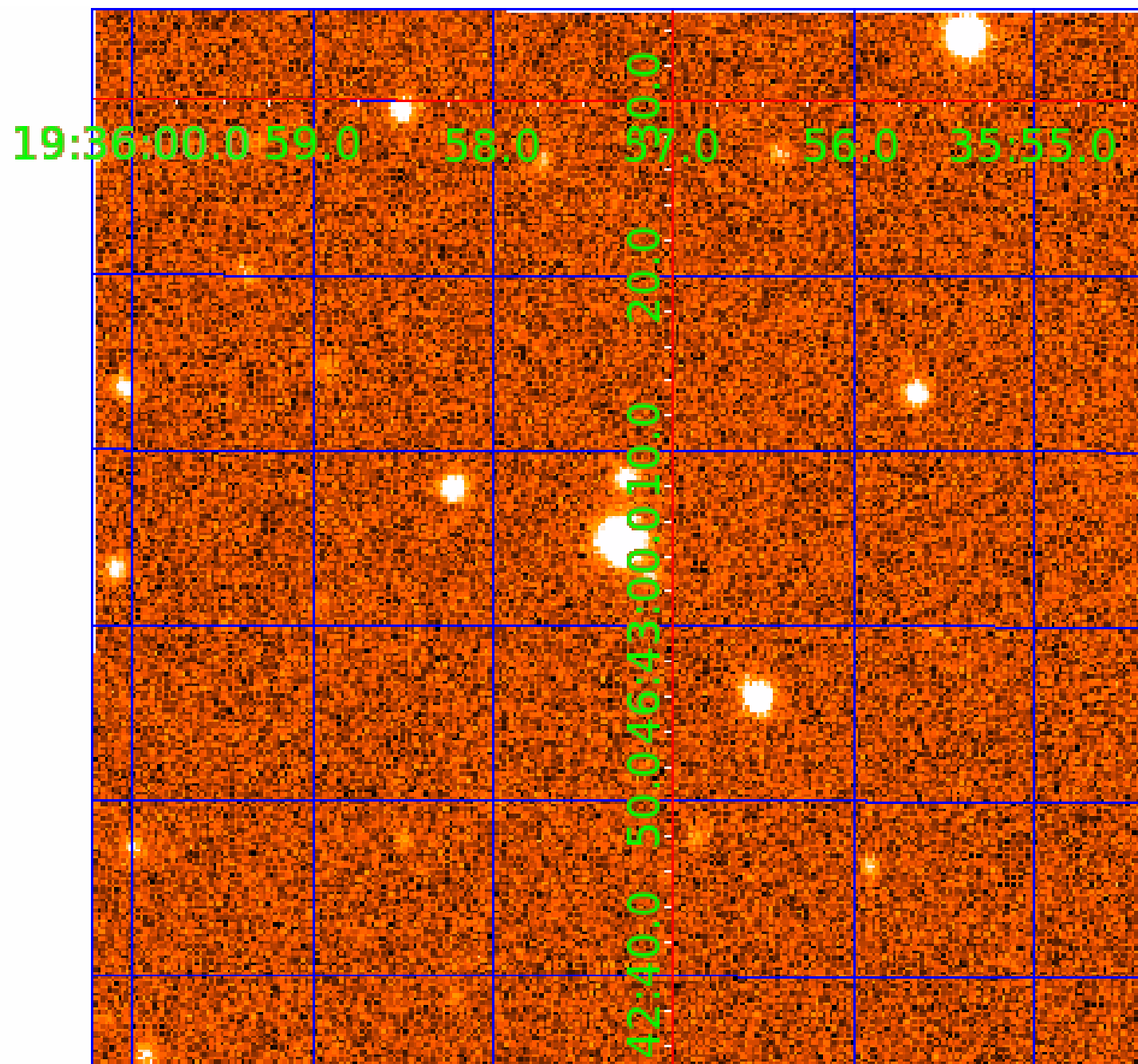


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 009896018

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})
009896018-01	OBS	2579.01	2.729603	133.286874	145.3	2.852	14.4	16.9	1.24	5887	1.81	1060.35
009896018-02	OBS	2579.02	3.596426	132.775479	146.7	2.922	12.7	14.2	1.24	5887	1.72	734.10
009896018-03	OBS	2579.03	10.301465	134.881467	181.2	4.199	9.3	11.4	1.24	5887	1.86	180.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009896018-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
009896018-02	OBS	PC	0.98	0	0	0	0	NO_COMMENT
009896018-03	OBS	PC	0.94	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.

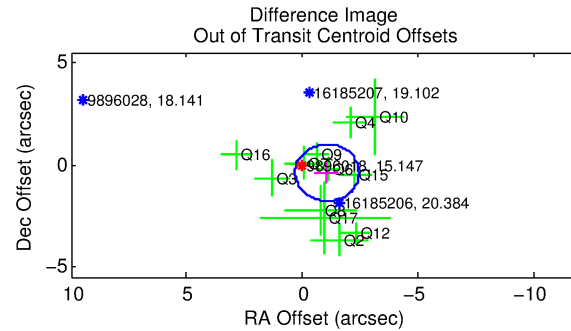
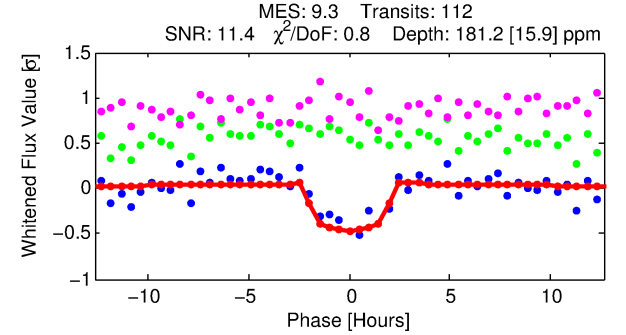
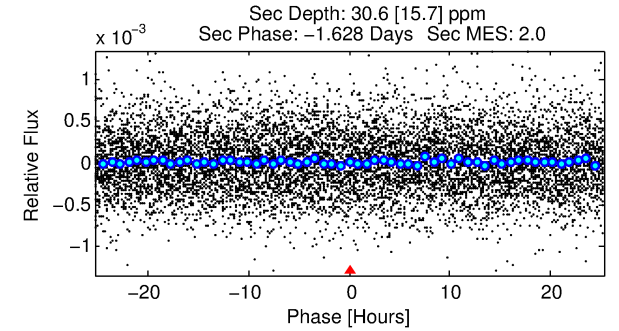
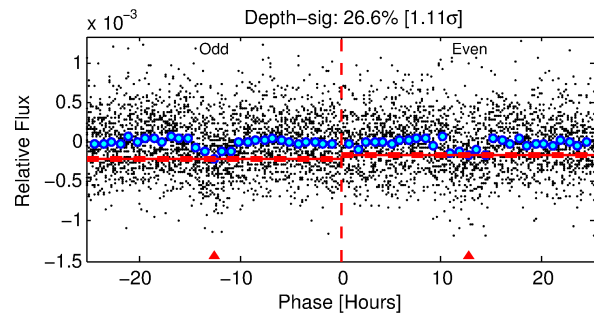
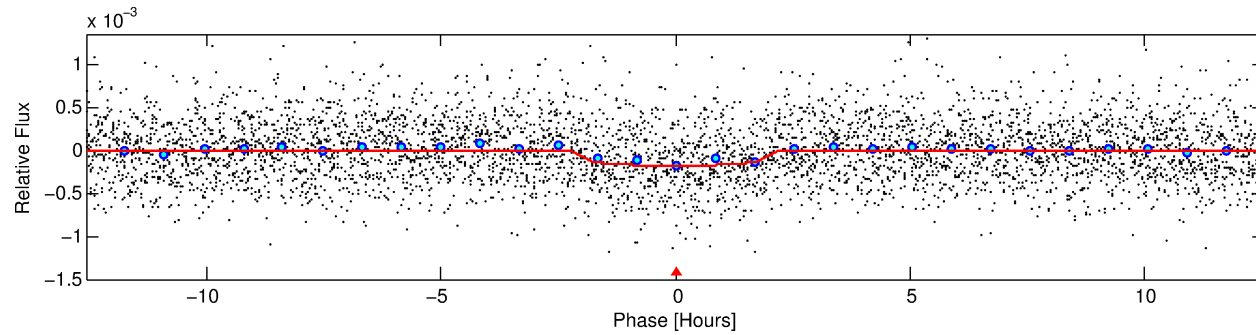
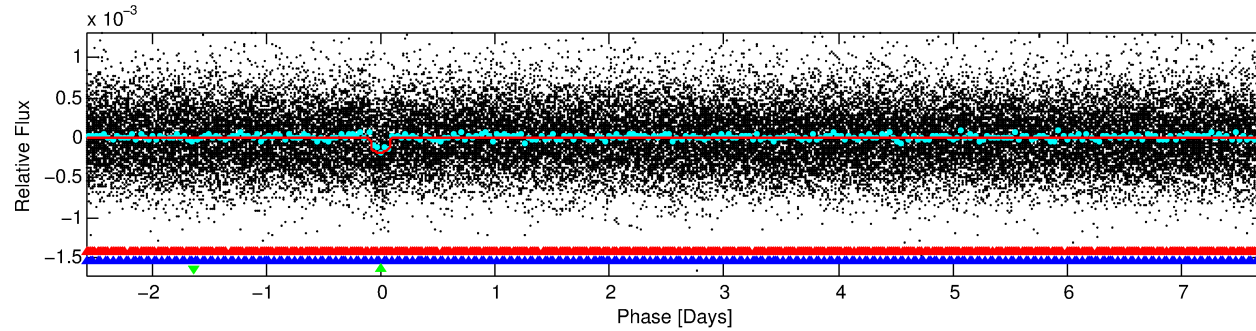
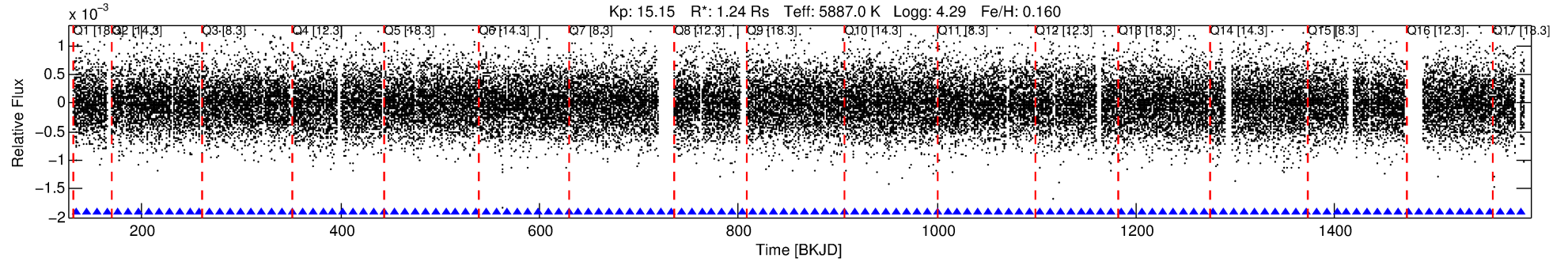
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009896018-03

No Significant Match Found

DV One-Page Summary

KIC: 9896018 Candidate: 3 of 3 Period: 10.301 d
KOI: K02579.03 Corr: 0.940



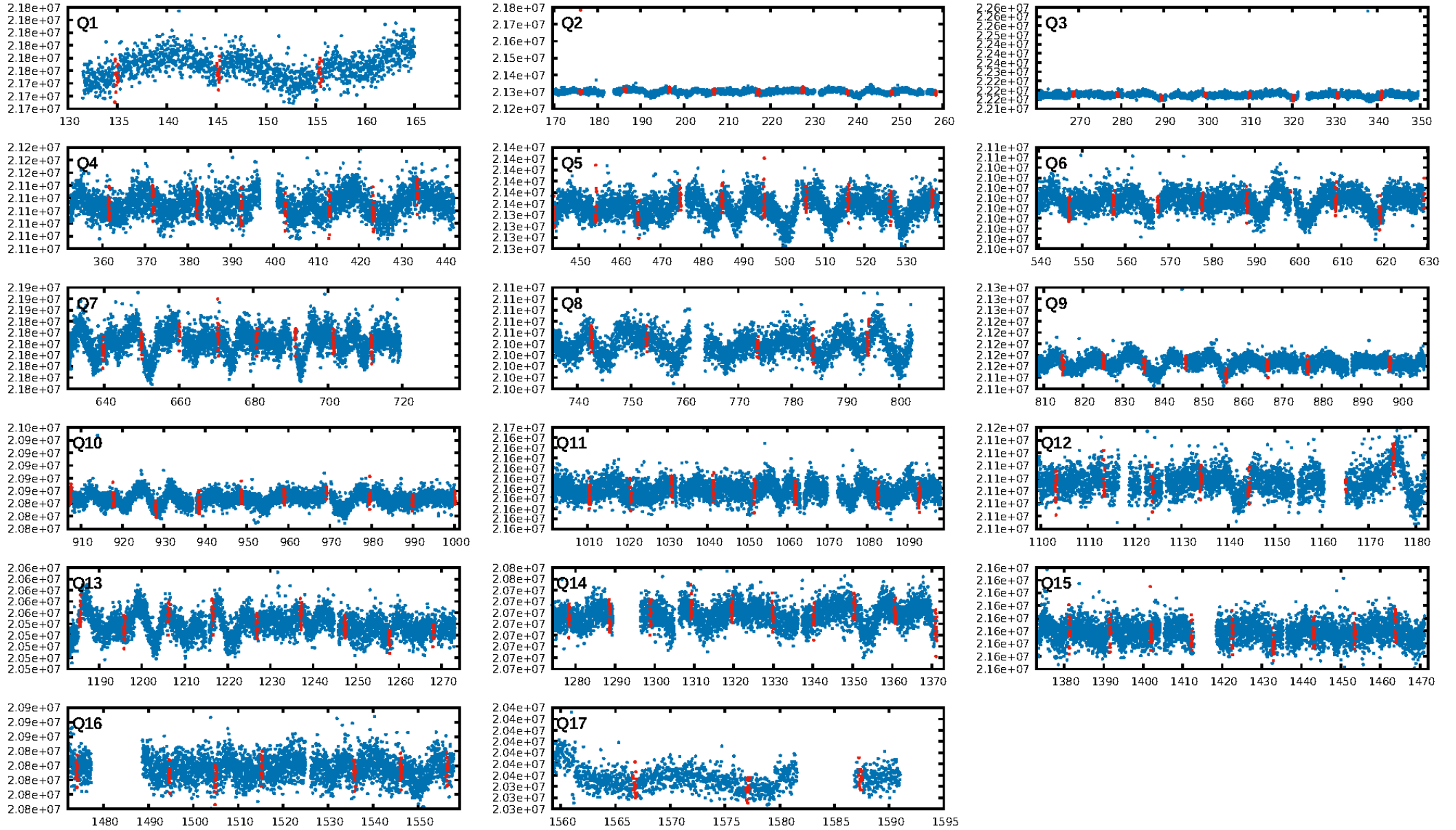
DV Fit Results:

Period = 10.30146 [0.00009] d
Epoch = 134.8815 [0.0070] BKJD
Rp/R* = 0.0138 [0.0099]
a/R* = 11.43 [37.57]
b = 0.81 [1.42]
Seff = 180.46 [40.37]
Teff = 935 [52] K
Rp = 1.86 [1.37] Re
a = 0.0954 [0.0140] AU
Ag = 44.46 [68.59] [0.63 σ]
Teffp = 3731 [1426] K [1.96 σ]

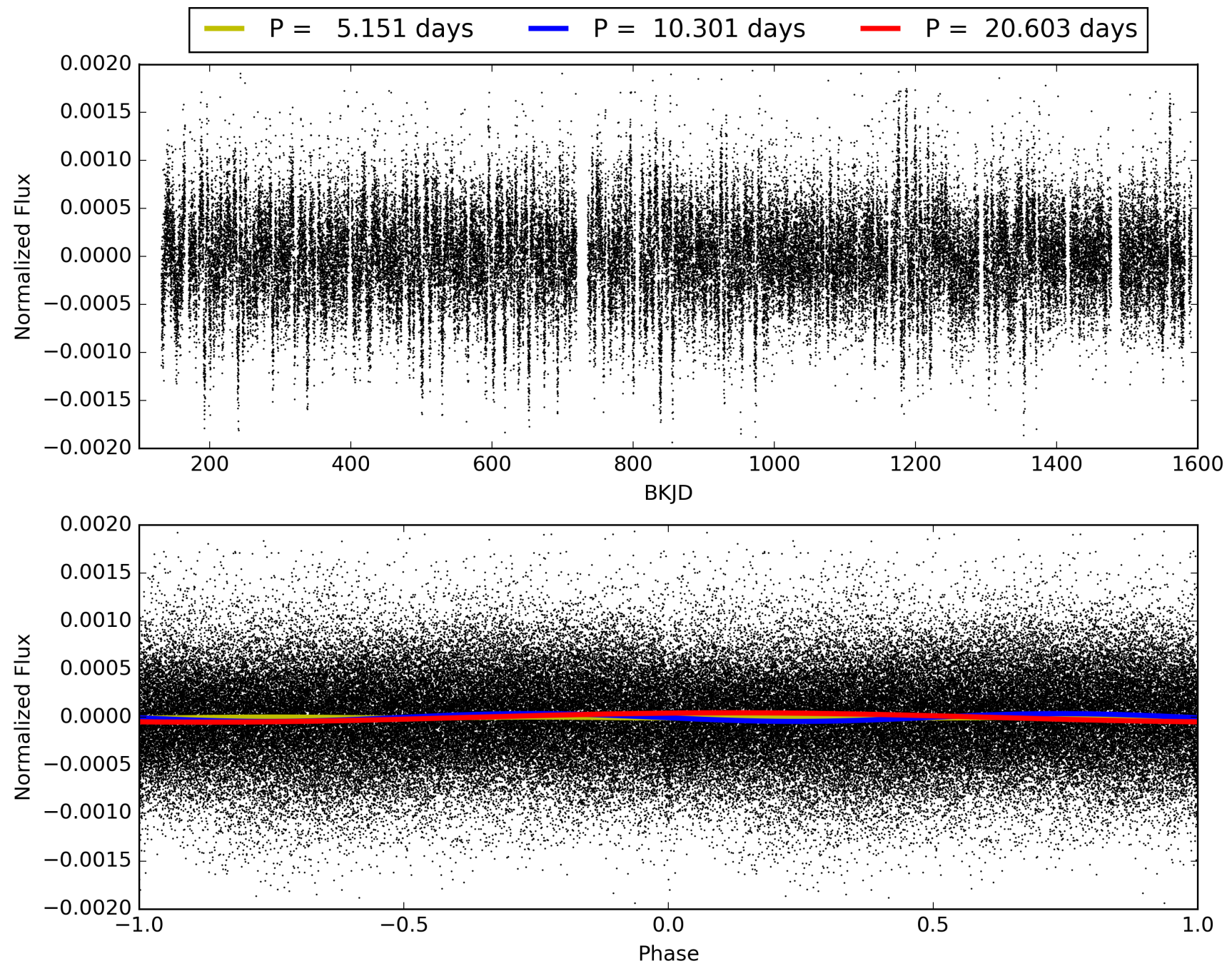
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [31.46 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.24e-21
RollingBand-fgt: 1.00 [106/106]
GhostDiagnostic-chr: 2.294
Centroid-sig: 8.8%
Centroid-so: 1.464 arcsec [1.60 σ]
OotOffset-rm: 1.143 arcsec [2.48 σ]
KicOffset-rm: 1.158 arcsec [2.58 σ]
OotOffset-st: 3/3/4/2 [12]
KicOffset-st: 3/3/4/2 [12]
DiffImageQuality-fgm: 0.33 [4/12]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009896018-03, PDC Light Curves

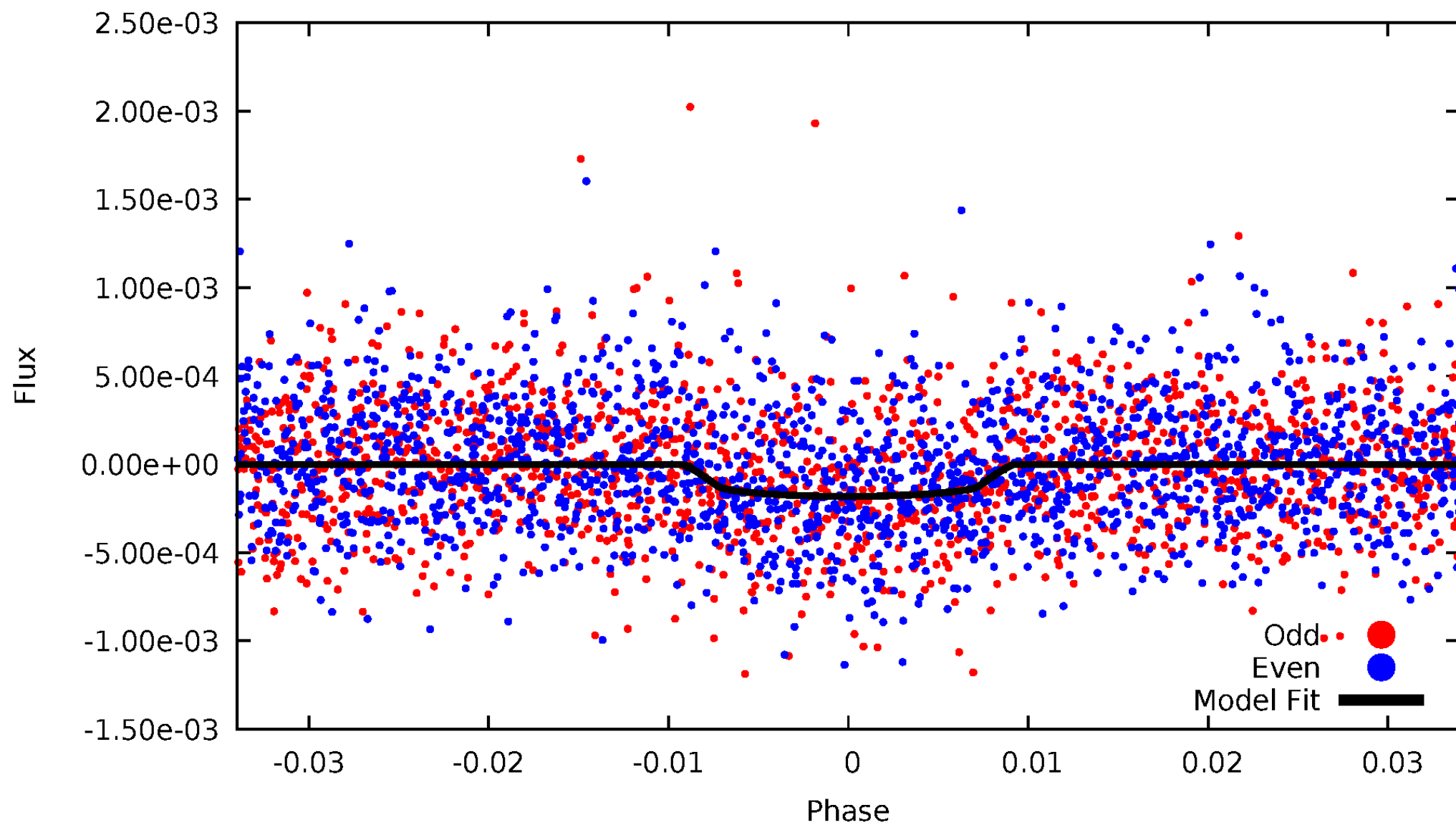


TCE 009896018-03



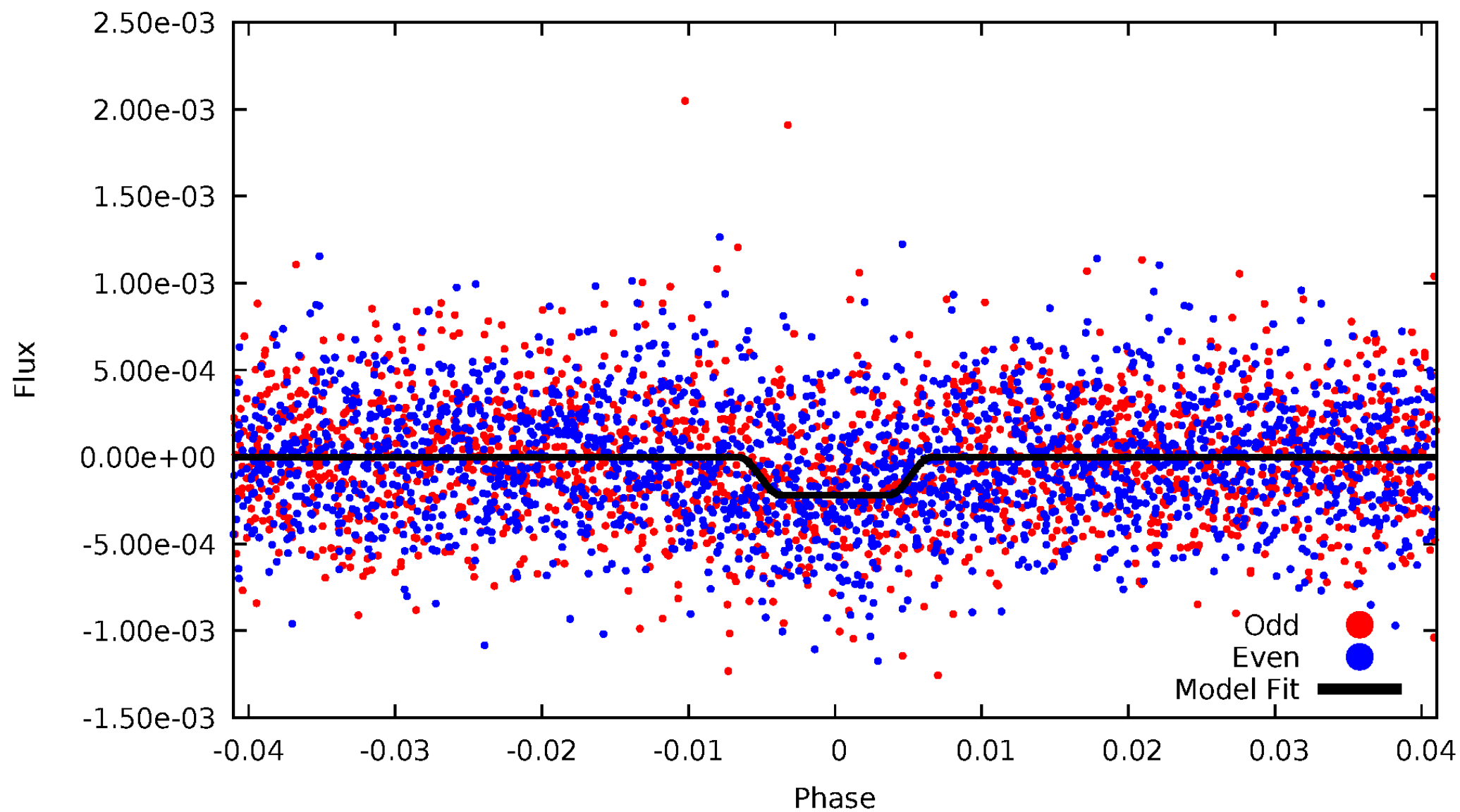
DV Odd/Even

TCE 009896018-03



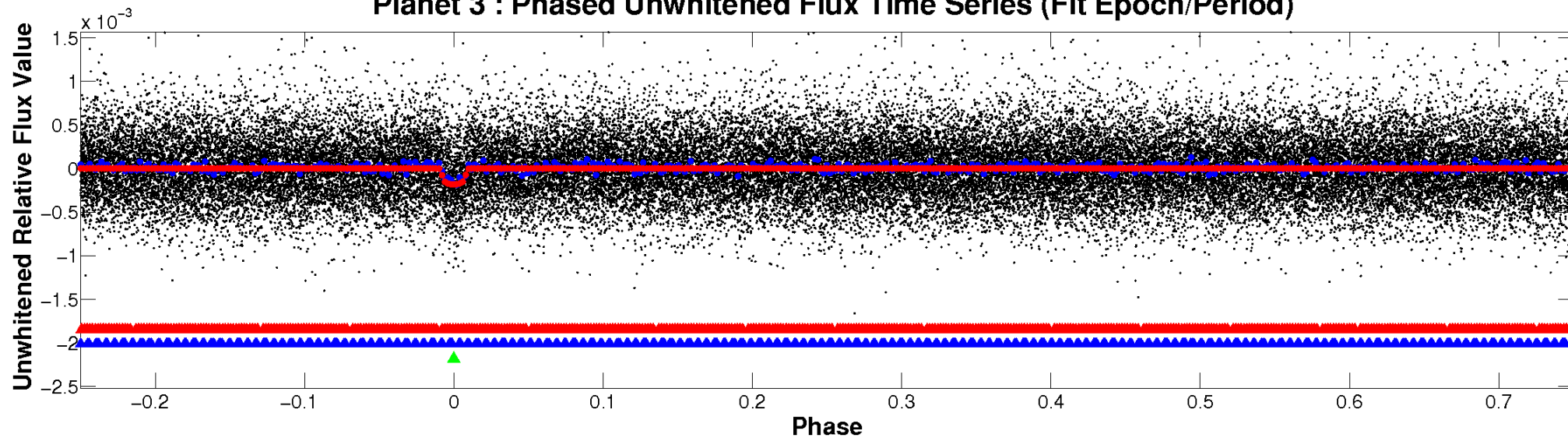
ALT Odd/Even

TCE 009896018-03

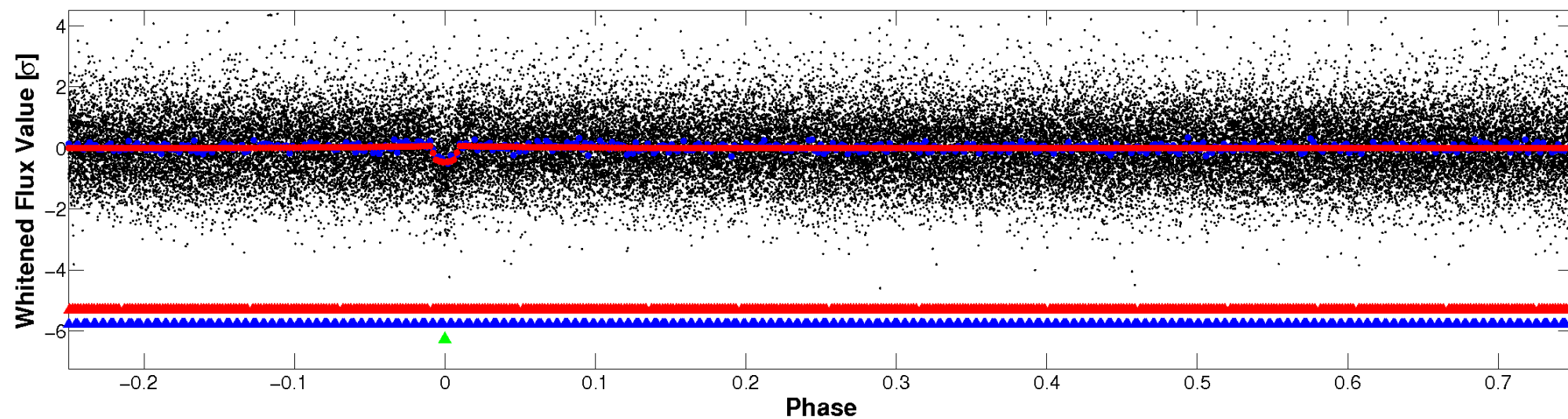


Non-Whitened Vs. Whitened Light Curve

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

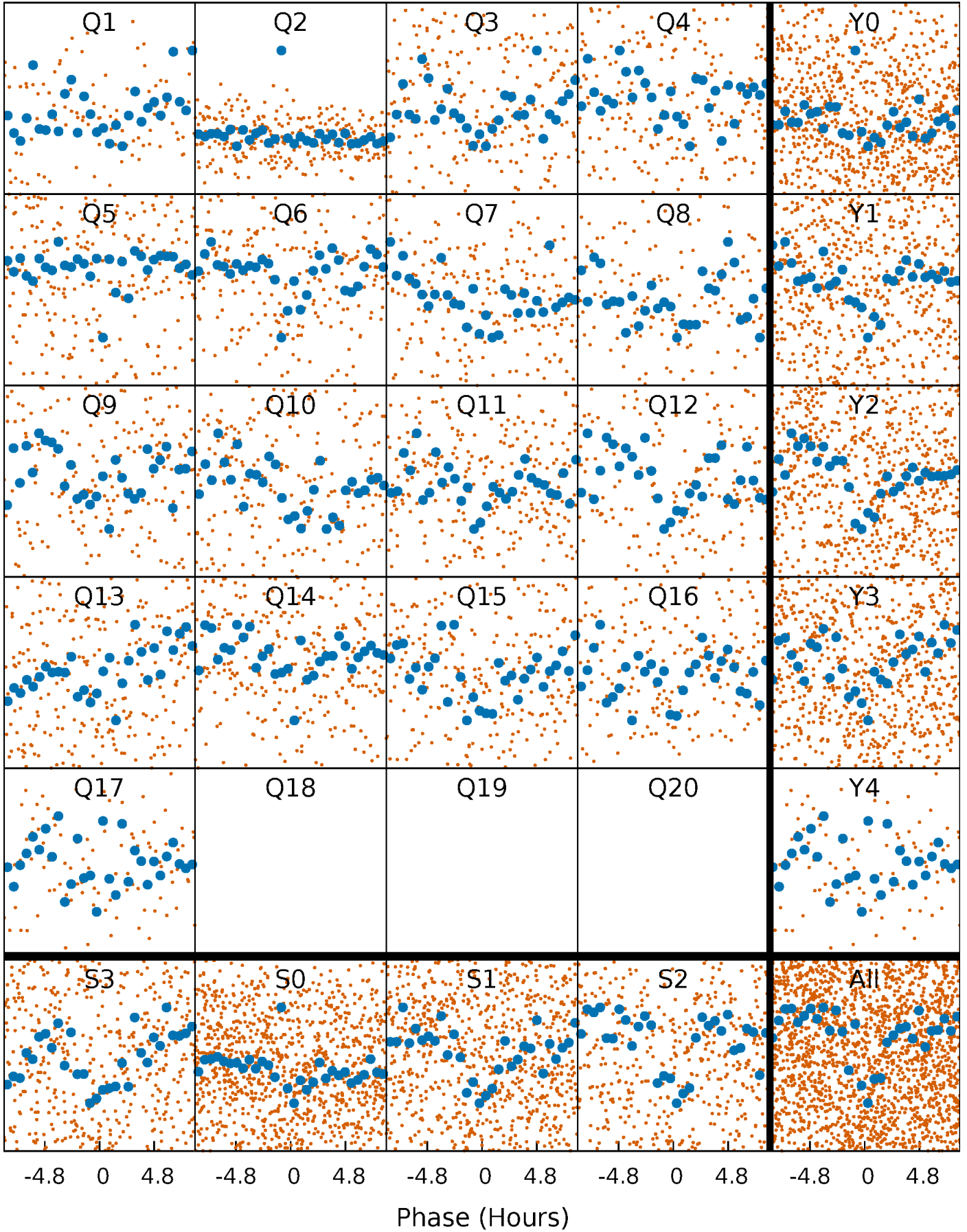


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 009896018-03 P= 10.301465 Days $T_0=134.881467$ (BKJD)



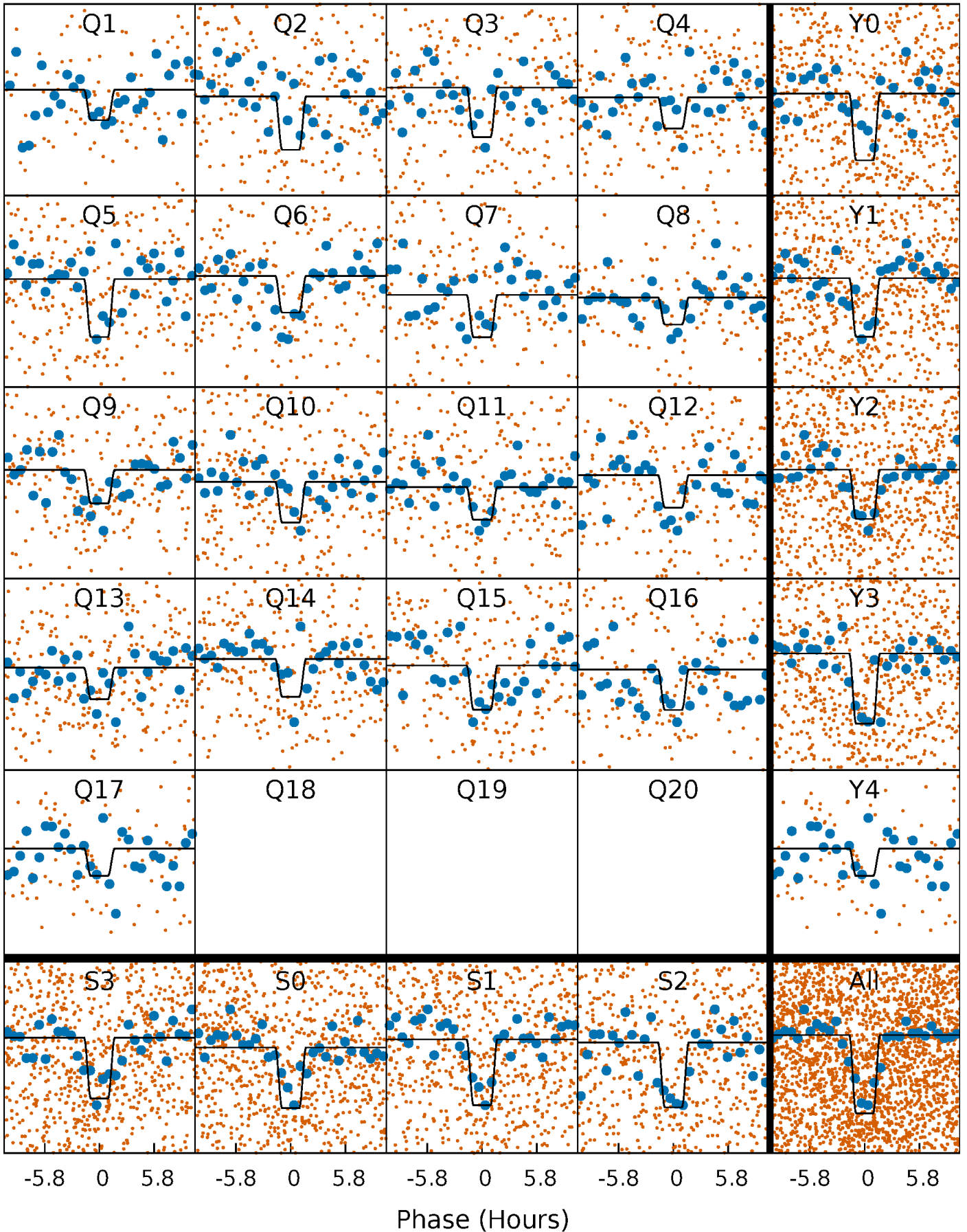
DV Quarter-Phased Transit Curves

TCE 009896018-03 P= 10.301465 Days $T_0=134.881467$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

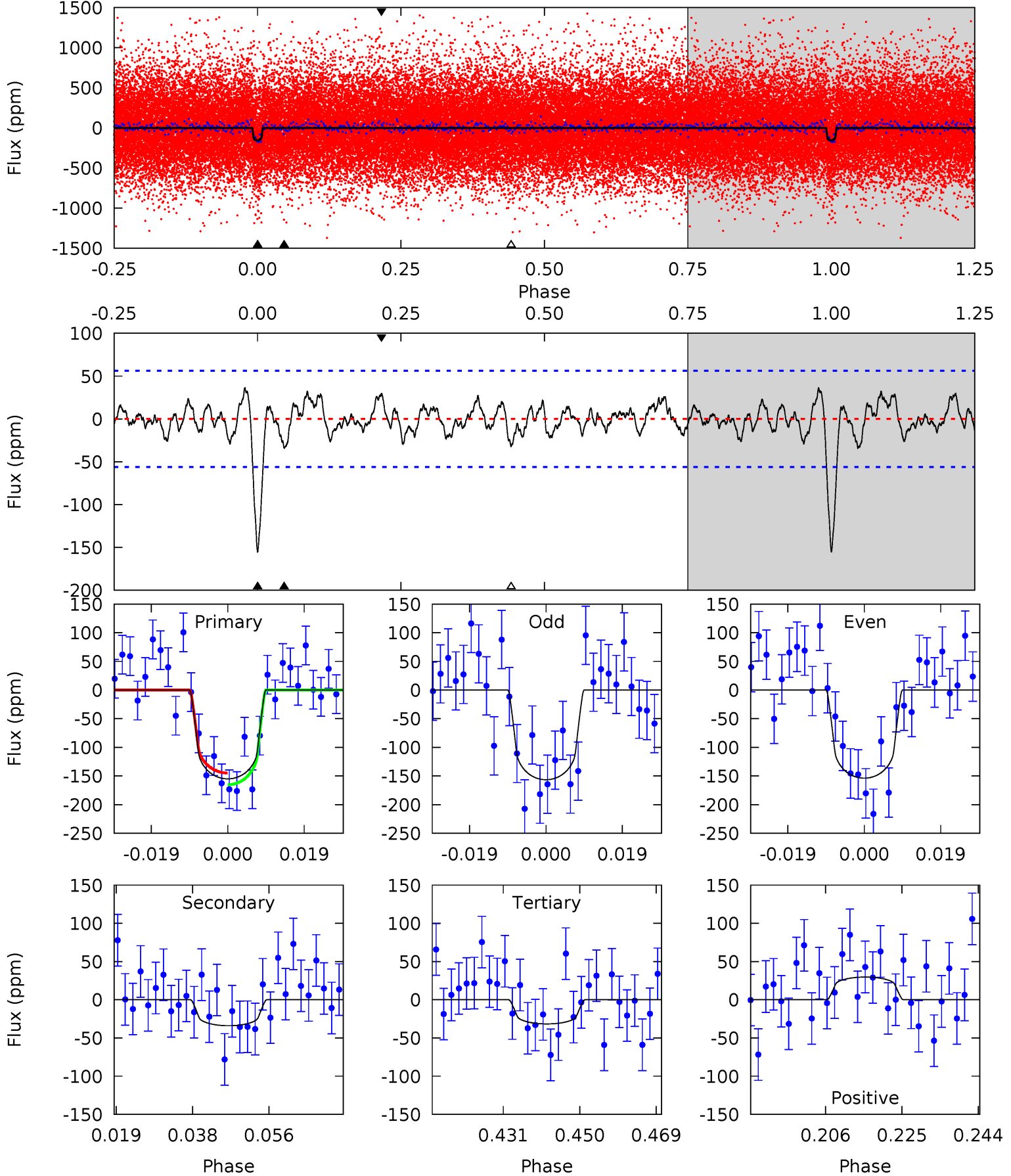
TCE 009896018-03 P= 10.301241 Days $T_0=134.903395$ (BKJD)



DV Model-Shift Uniqueness Test

009896018-03, P = 10.301465 Days, E = 124.580002 Days

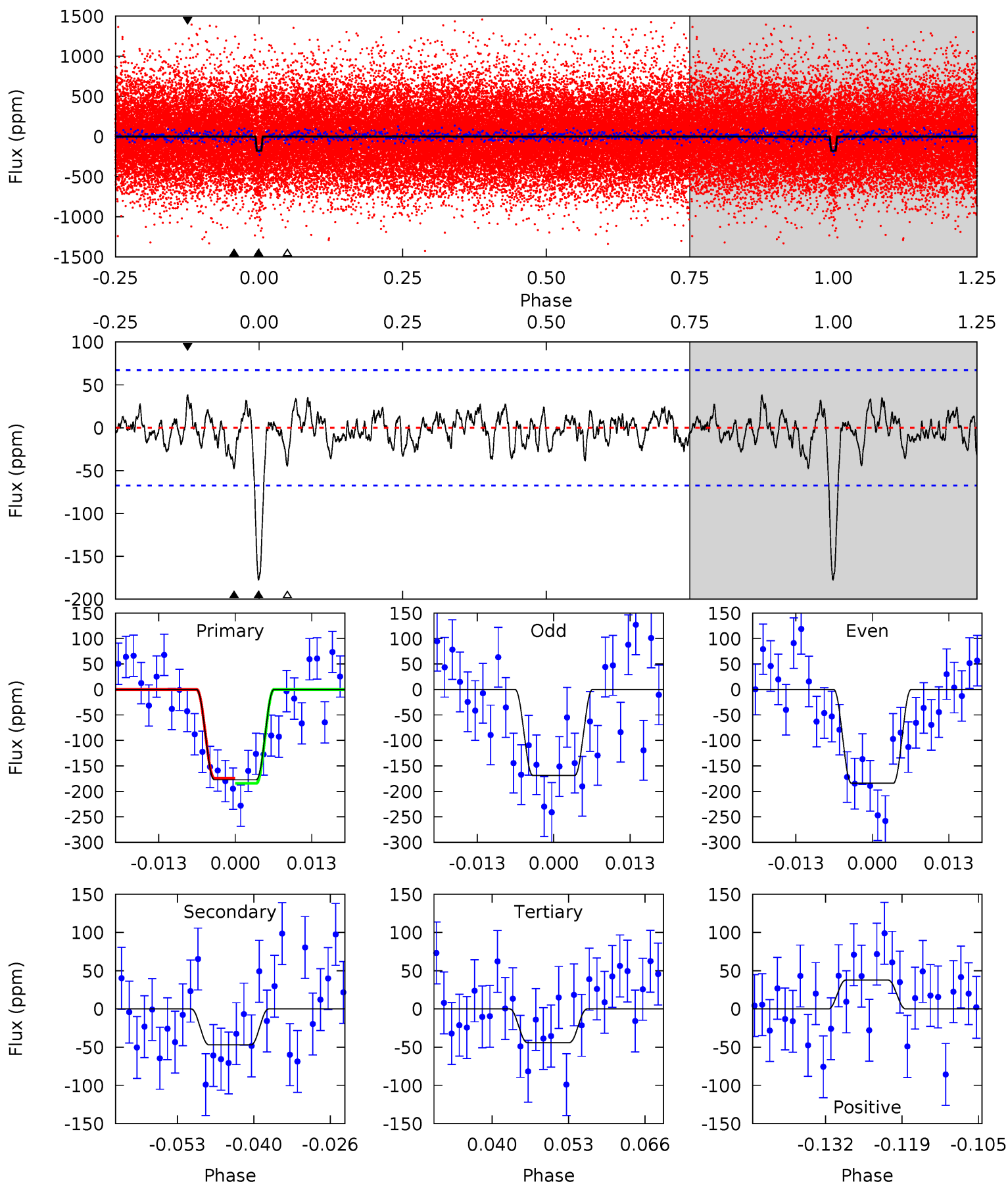
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	2.97	2.76	2.59	4.90	2.35	1.12	10.8	11.0	0.20	0.38	0.12	0.94	0.19	0.89



Alt Model-Shift Uniqueness Test

009896018-03, P = 10.301241 Days, E = 124.602154 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	3.47	3.25	2.80	4.97	2.48	1.06	9.83	10.3	0.22	0.67	0.56	1.03	0.18	0.37



Stellar Parameters For KIC 009896018

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5887^{+70}_{-79}	$4.292^{+0.120}_{-0.120}$	$0.160^{+0.150}_{-0.150}$	$1.235^{+0.213}_{-0.175}$	$1.090^{+0.070}_{-0.078}$	$0.815^{+0.427}_{-0.282}$
	+1%/-1%	+3%/-3%	+94%/-94%	+17%/-14%	+6%/-7%	+52%/-35%
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 009896018-03 / KOI 2579.03

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-34 ± 11	$2.03^{+1.35}_{-1.25}$	1303^{+65}_{-56}	3936^{+1921}_{-630}	39^{+239}_{-25}
Alt.	-47 ± 14	$2.11^{+1.34}_{-1.12}$	1303^{+60}_{-49}	4157^{+1534}_{-684}	51^{+185}_{-34}

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

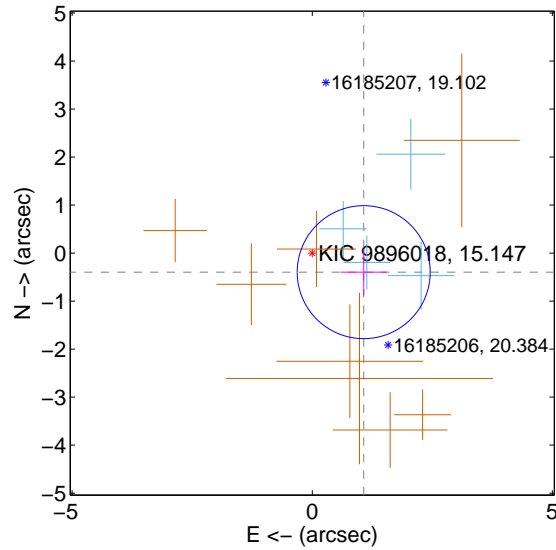
Supplemental centroid analysis for 009896018-03. Kepler magnitude: 15.15. Transit SNR 11.40

There are 4 quarters with good PRF difference image offsets

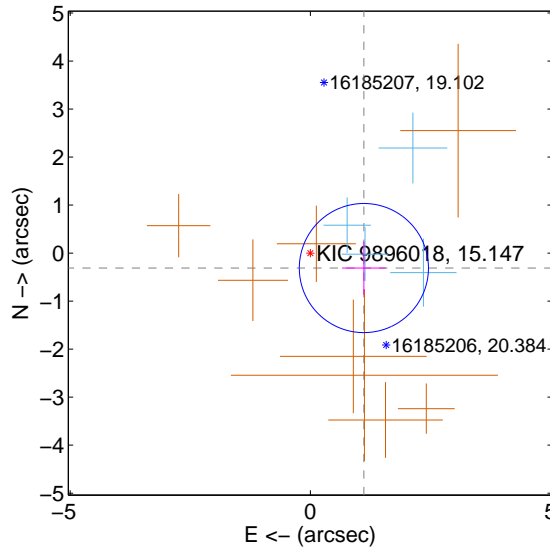
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.143 ± 0.462	2.48	-1.072 ± 0.482	-0.397 ± 0.483
PRF-fit source offset from KIC position	1.158 ± 0.448	2.58	-1.115 ± 0.454	-0.311 ± 0.552
photometric centroid source offset	1.46 ± 0.91	1.60	1.44 ± 0.91	-0.29 ± 0.94

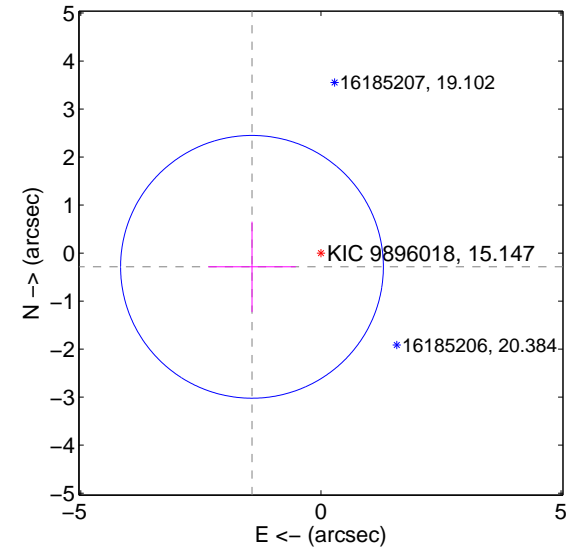
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

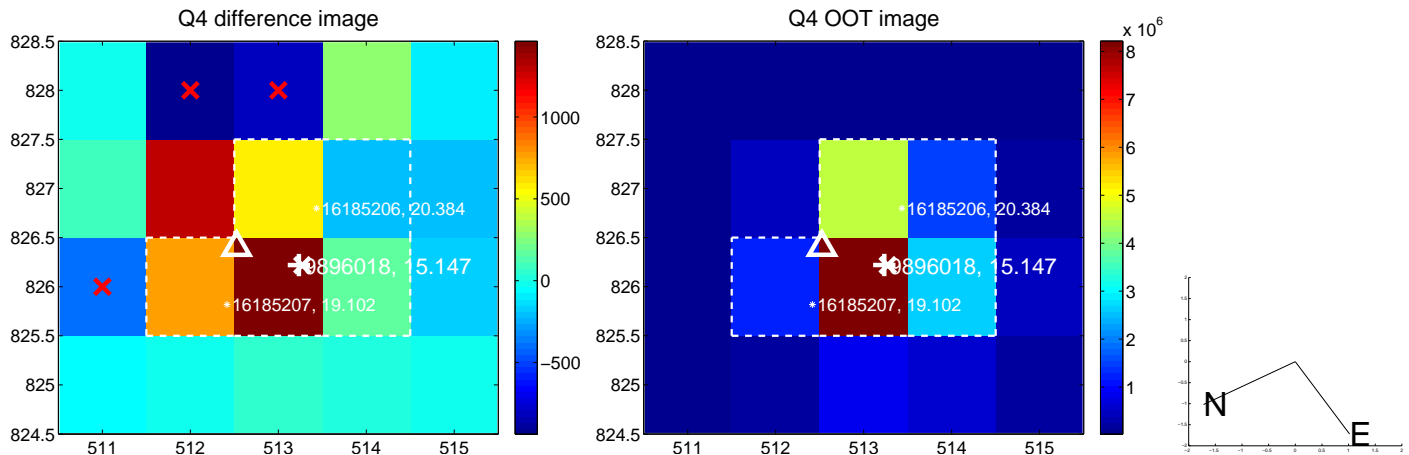
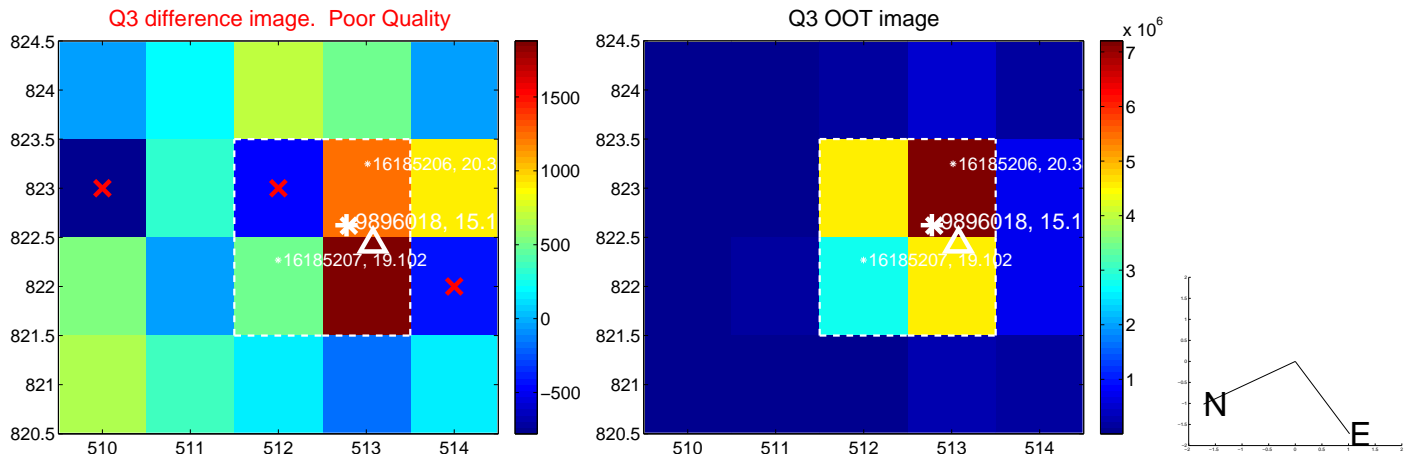
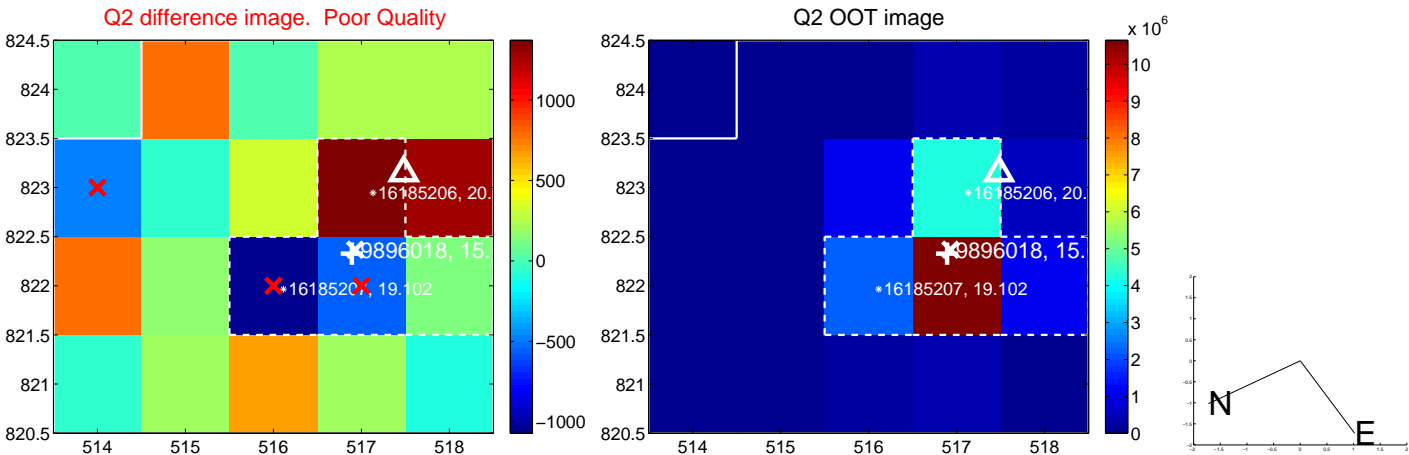
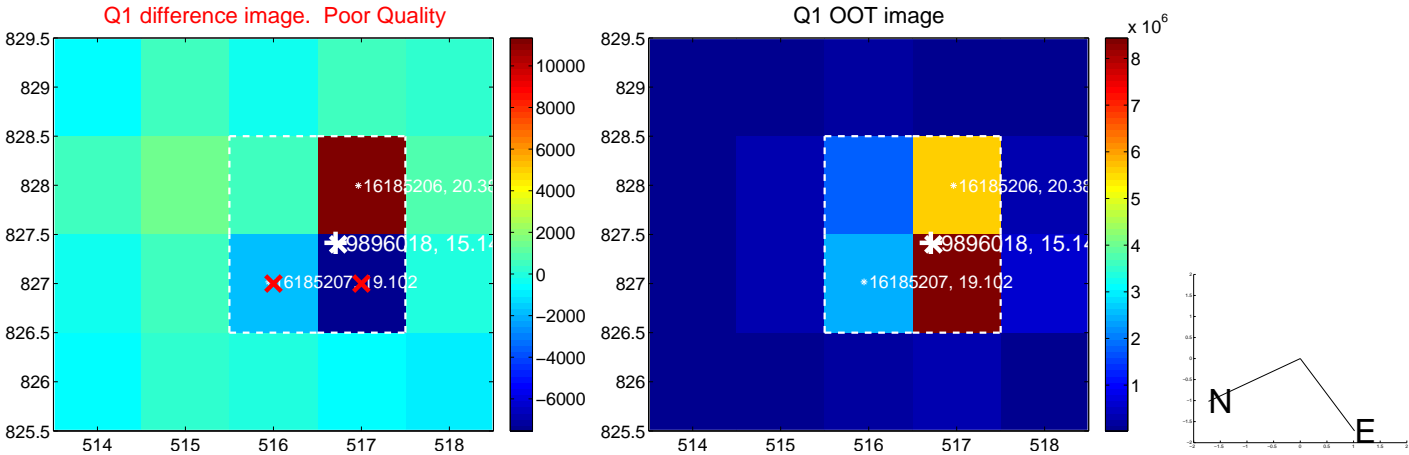


offset from photometric centroids

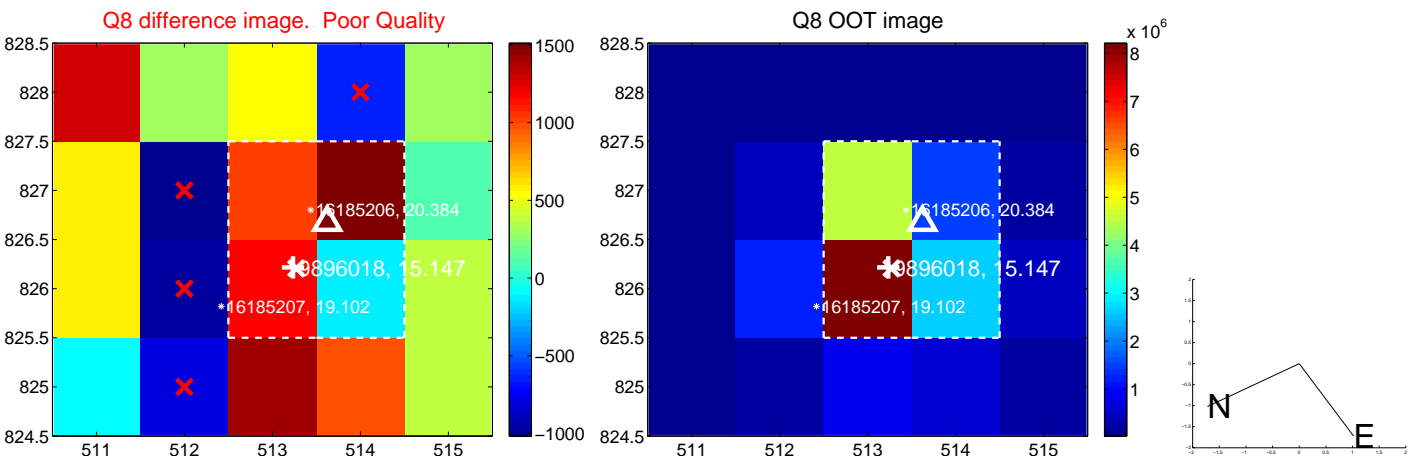
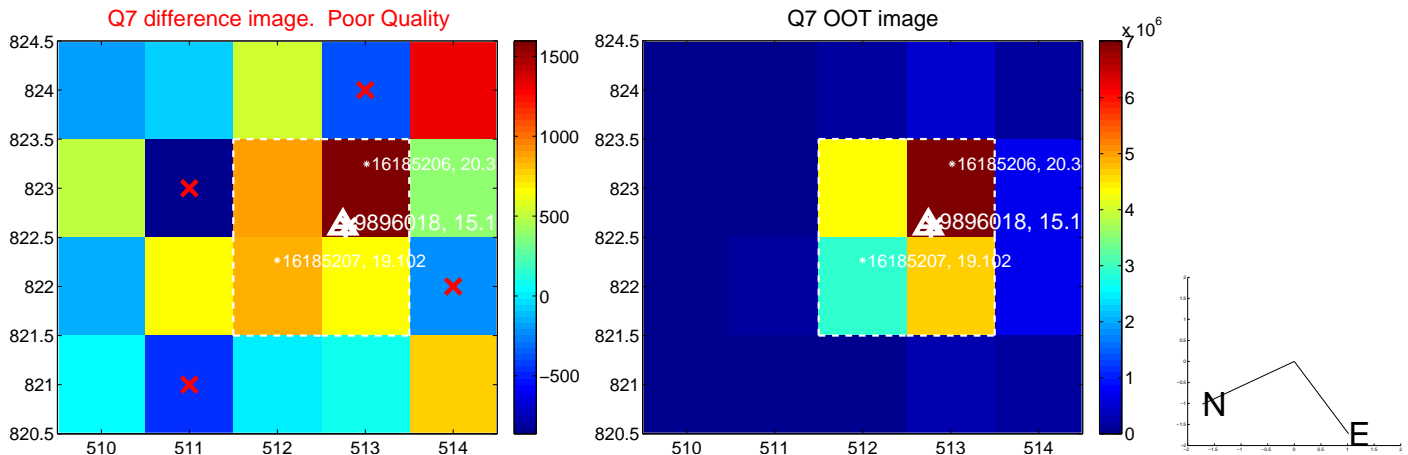
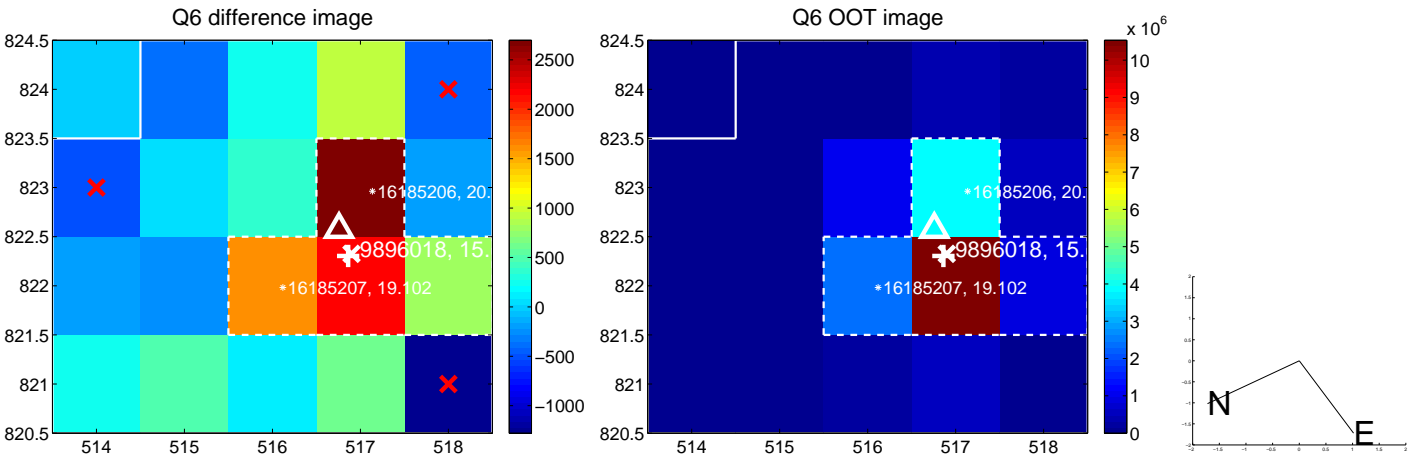
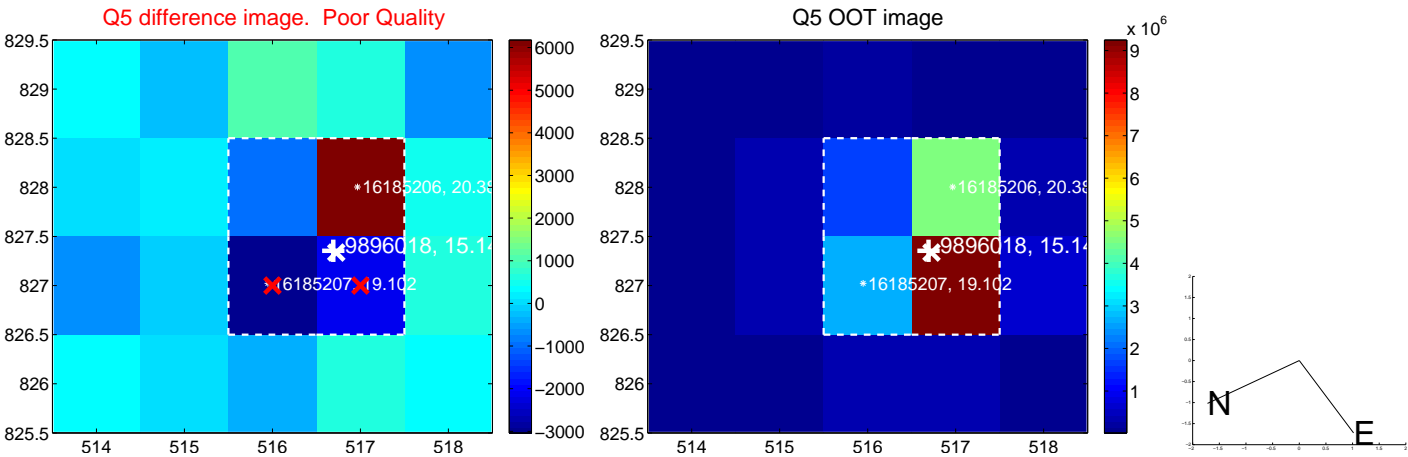


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

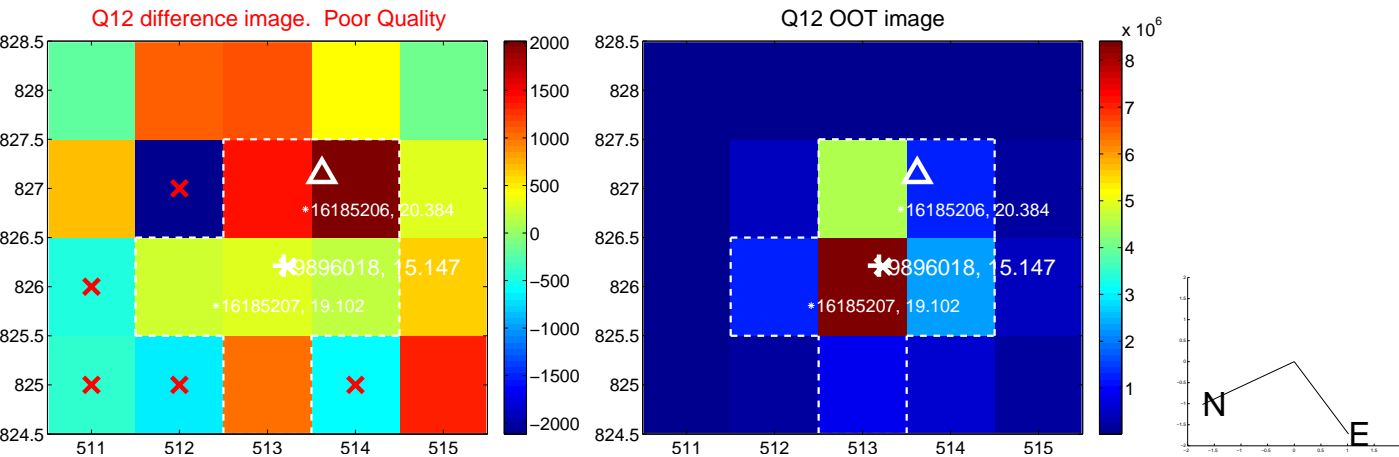
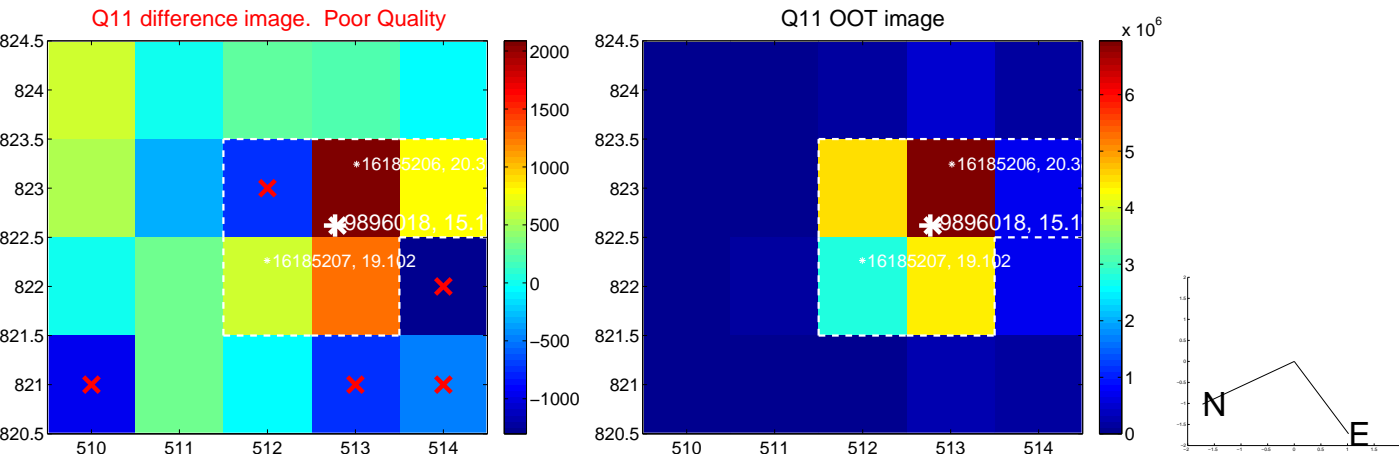
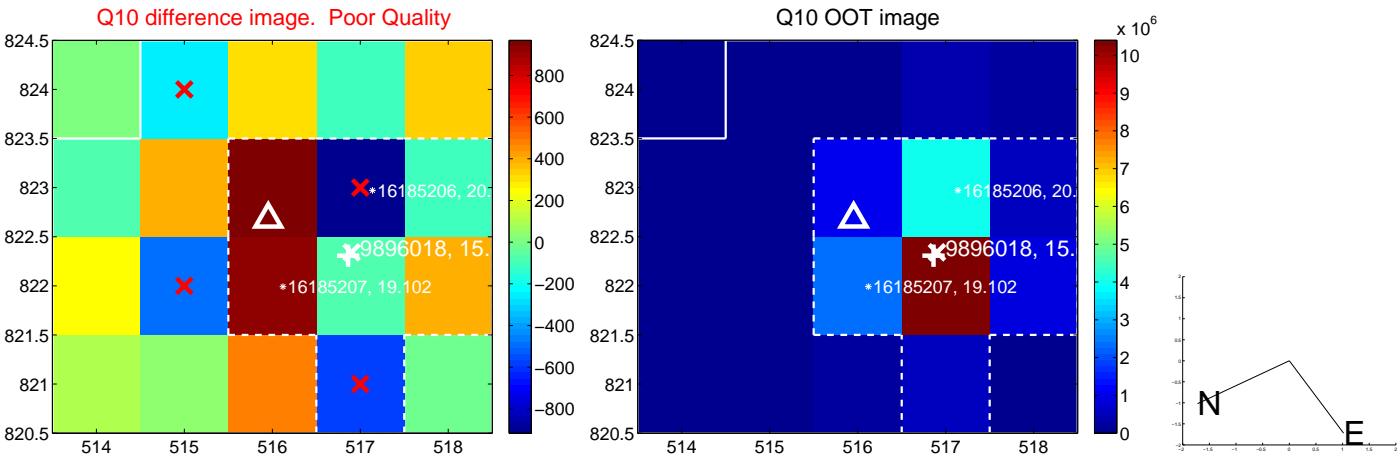
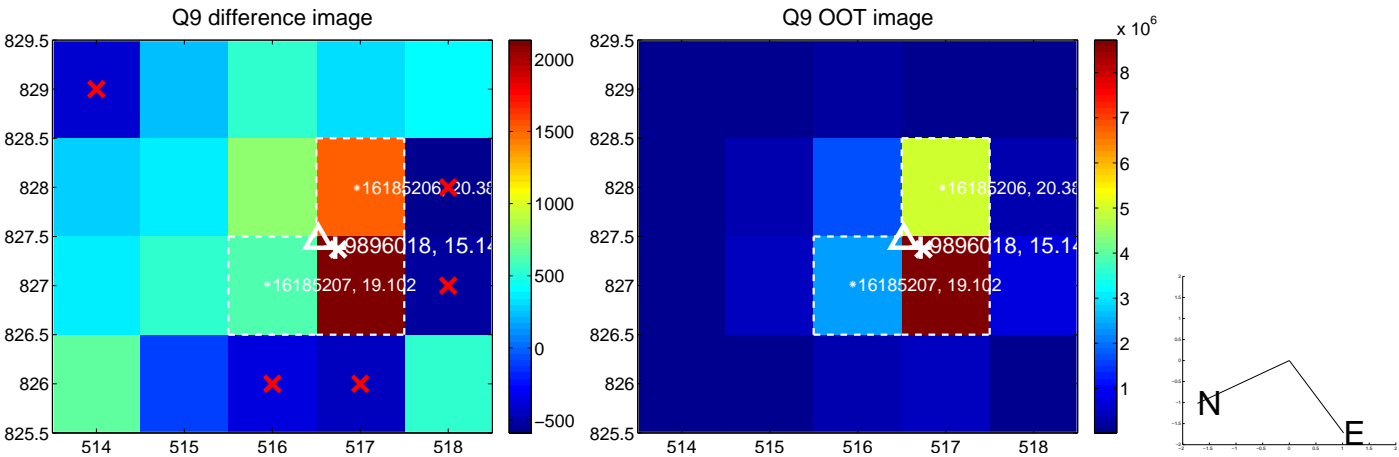
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



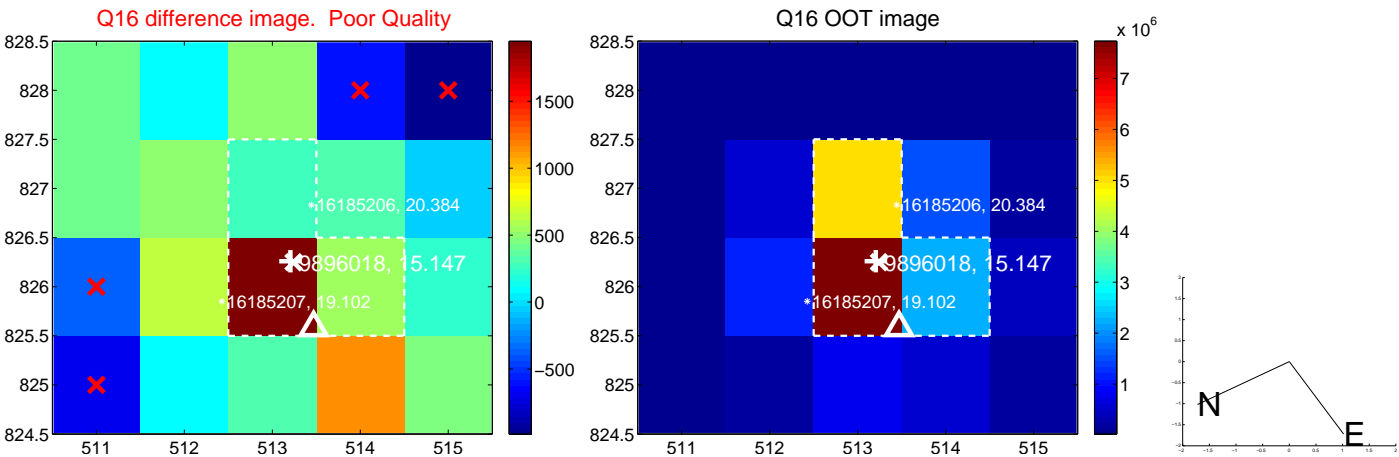
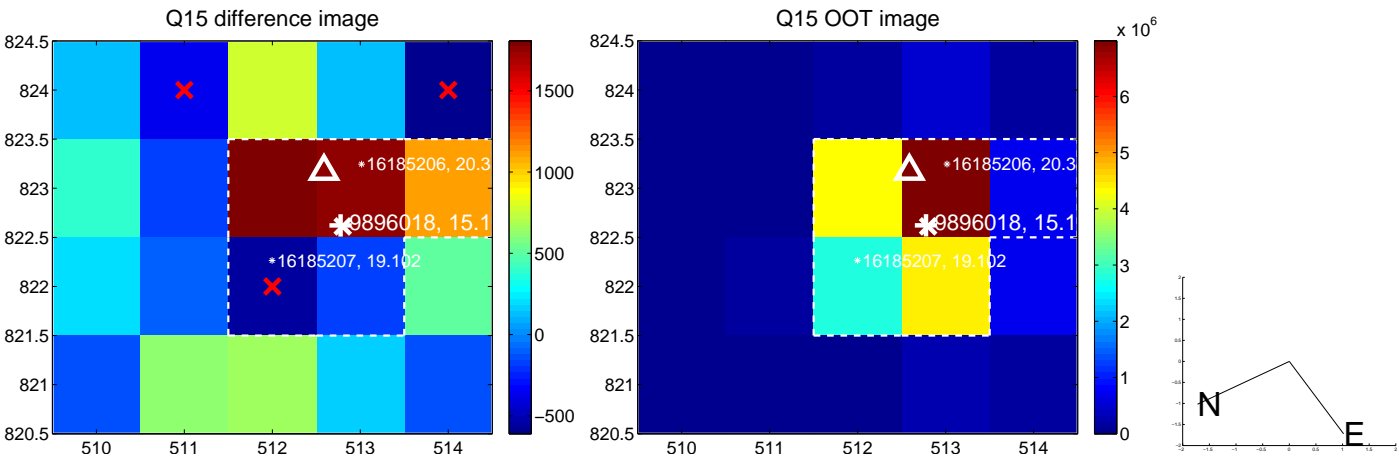
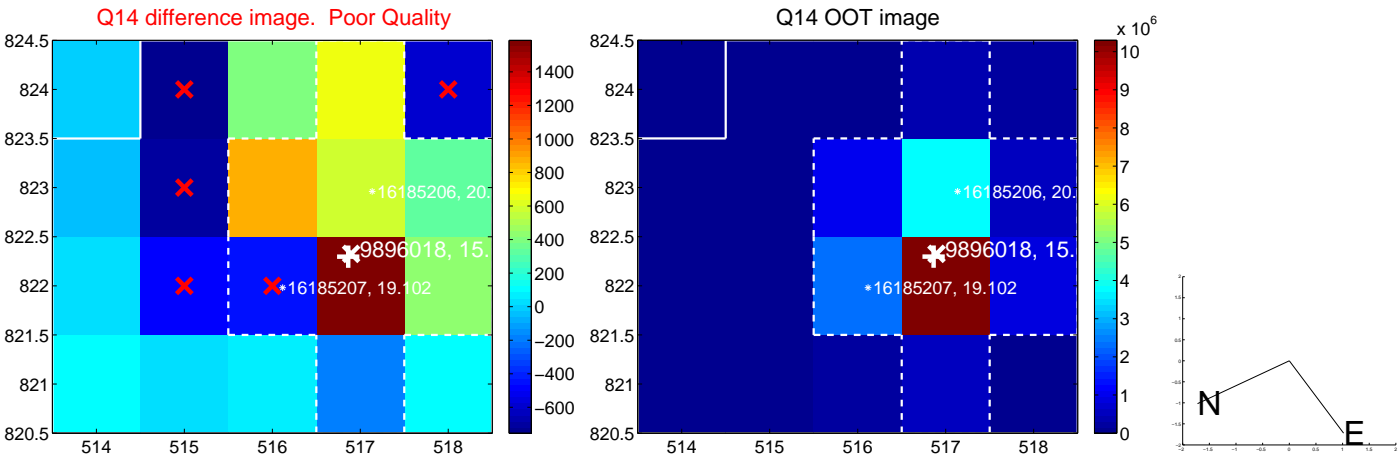
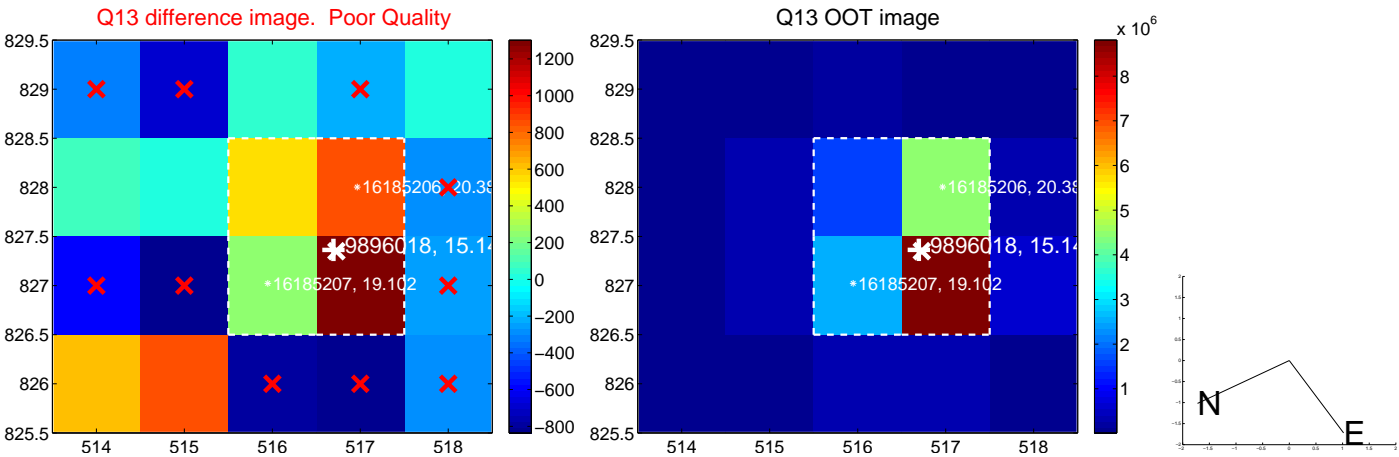
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



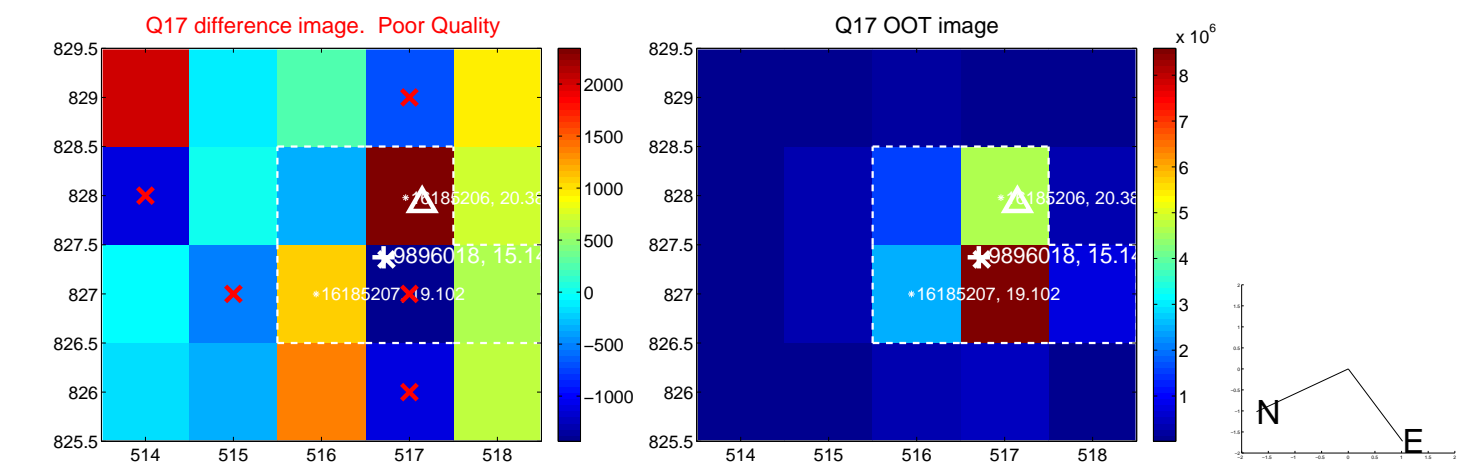
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



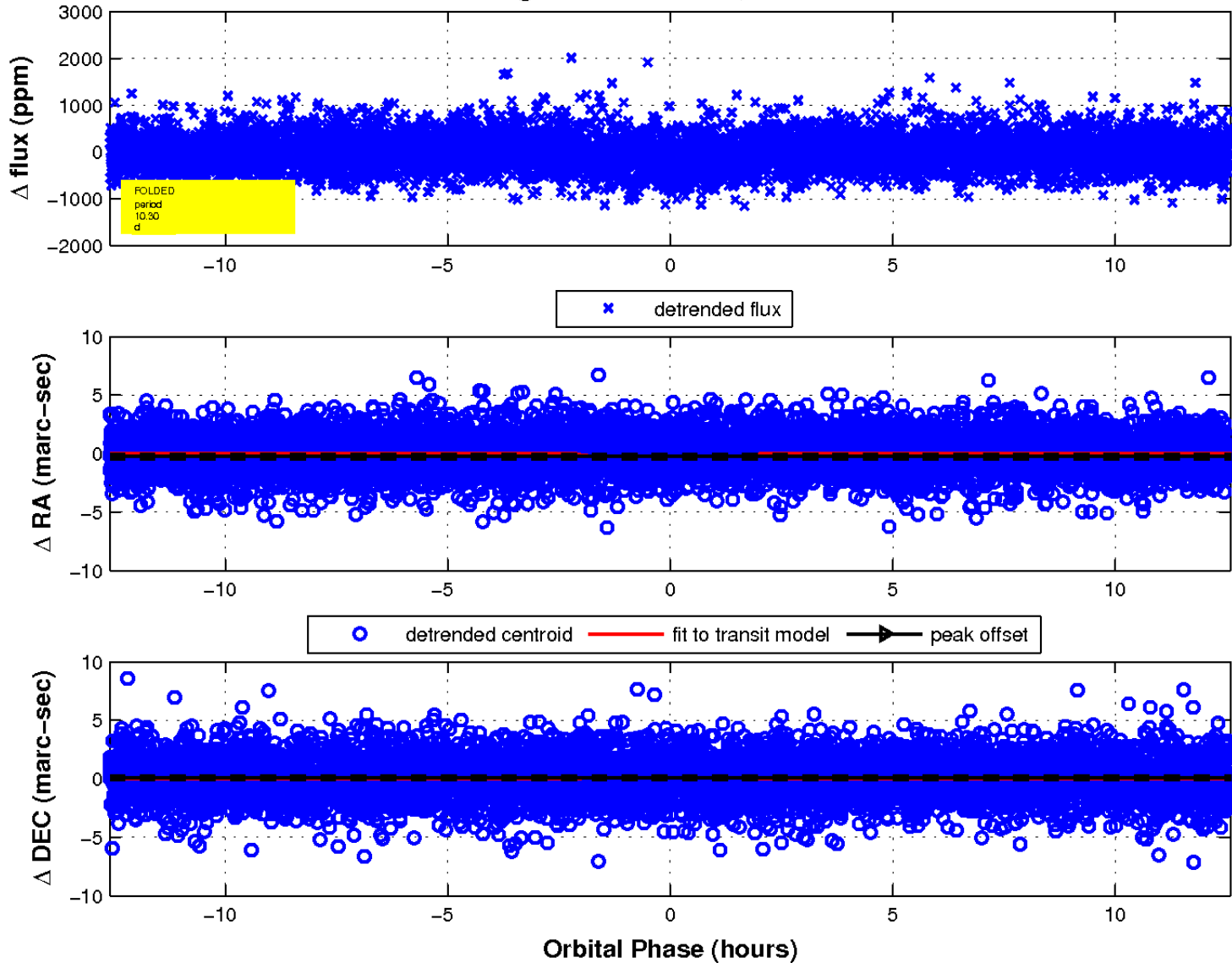
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

