

KIC 009579818

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})
009579818-01	OBS	No	2.266344	132.917846	77.7	2.742	13.3	5.5	2.54	8763	2.58	17590.77
009579818-02	OBS	No	2.266417	132.123004	74.8	4.137	13.4	7.1	2.54	8763	2.54	17590.01
009579818-03	OBS	No	2.266454	132.423126	125.8	3.268	12.0	9.2	2.54	8763	3.29	17589.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009579818-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
009579818-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
009579818-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

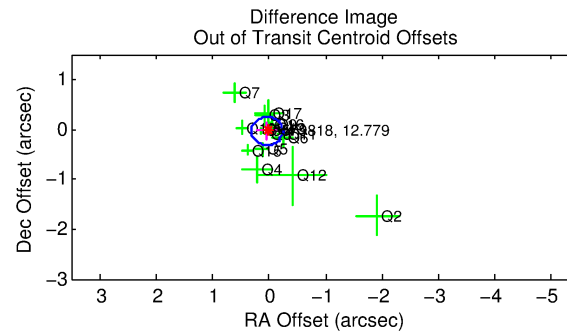
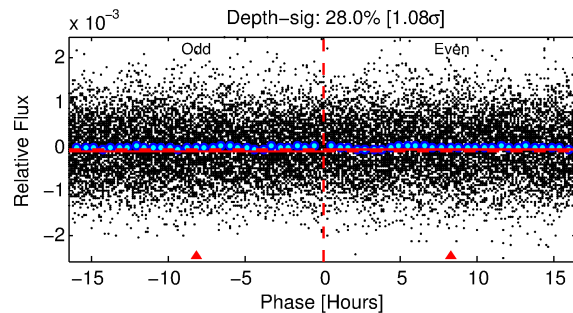
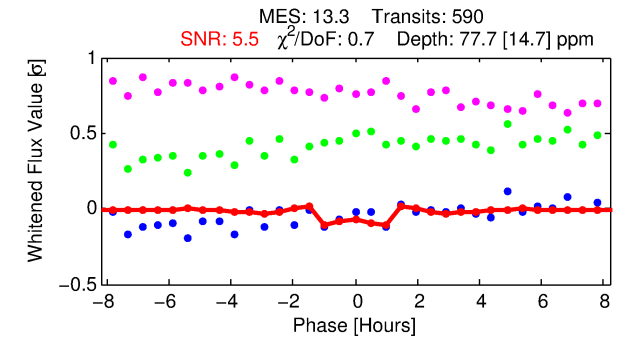
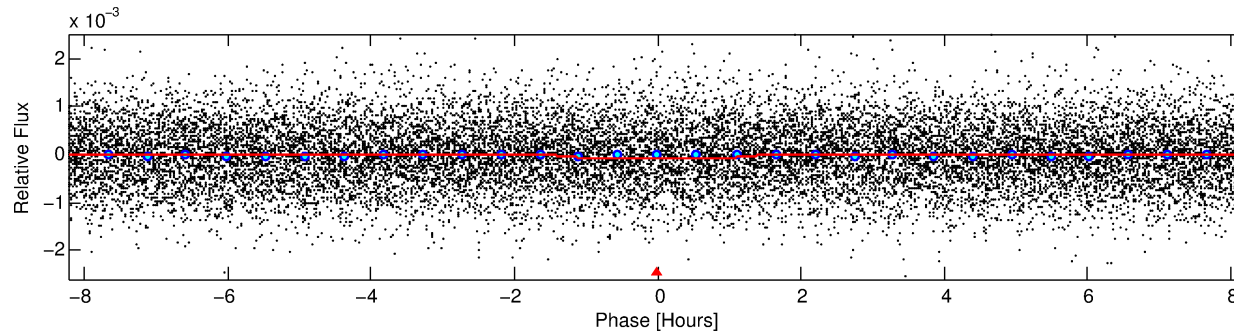
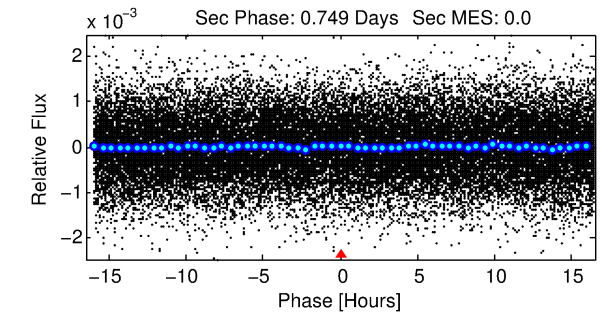
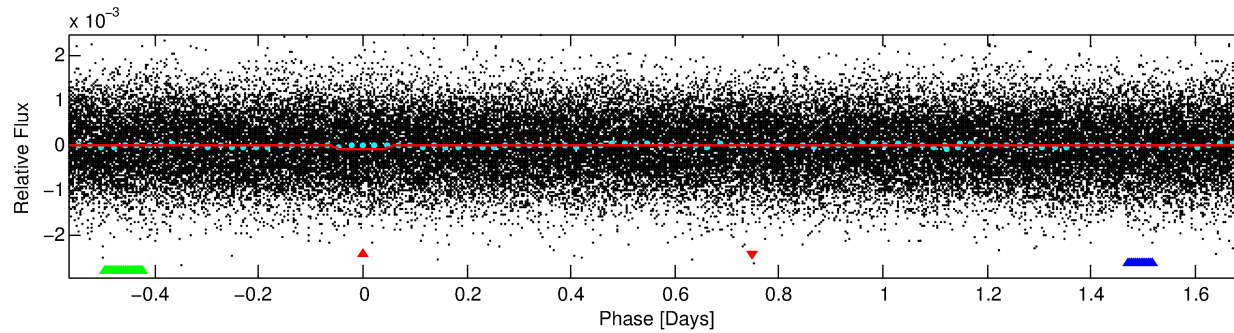
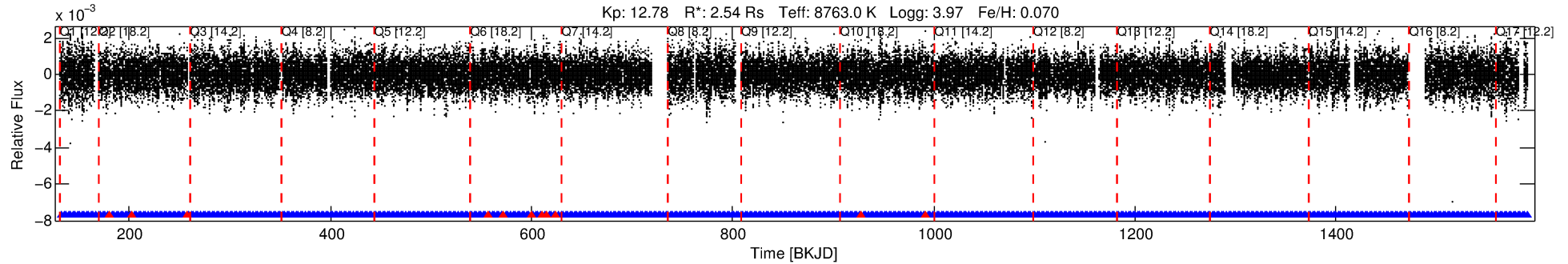
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009579818-01

No Significant Match Found

DV One-Page Summary

KIC: 9579818 Candidate: 1 of 3 Period: 2.266 d



DV Fit Results:

Period = 2.26634 [0.00002] d
Epoch = 132.9178 [0.0031] BKJD
Rp/R* = 0.0093 [0.0029]
a/R* = 3.06 [5.56]
b = 0.90 [0.44]
Seff = 17590.77 [8057.06]
Teff = 2937 [336] K
Rp = 2.58 [1.18] Re
a = 0.0440 [0.0127] AU
Ag = N/A
Teffp = N/A

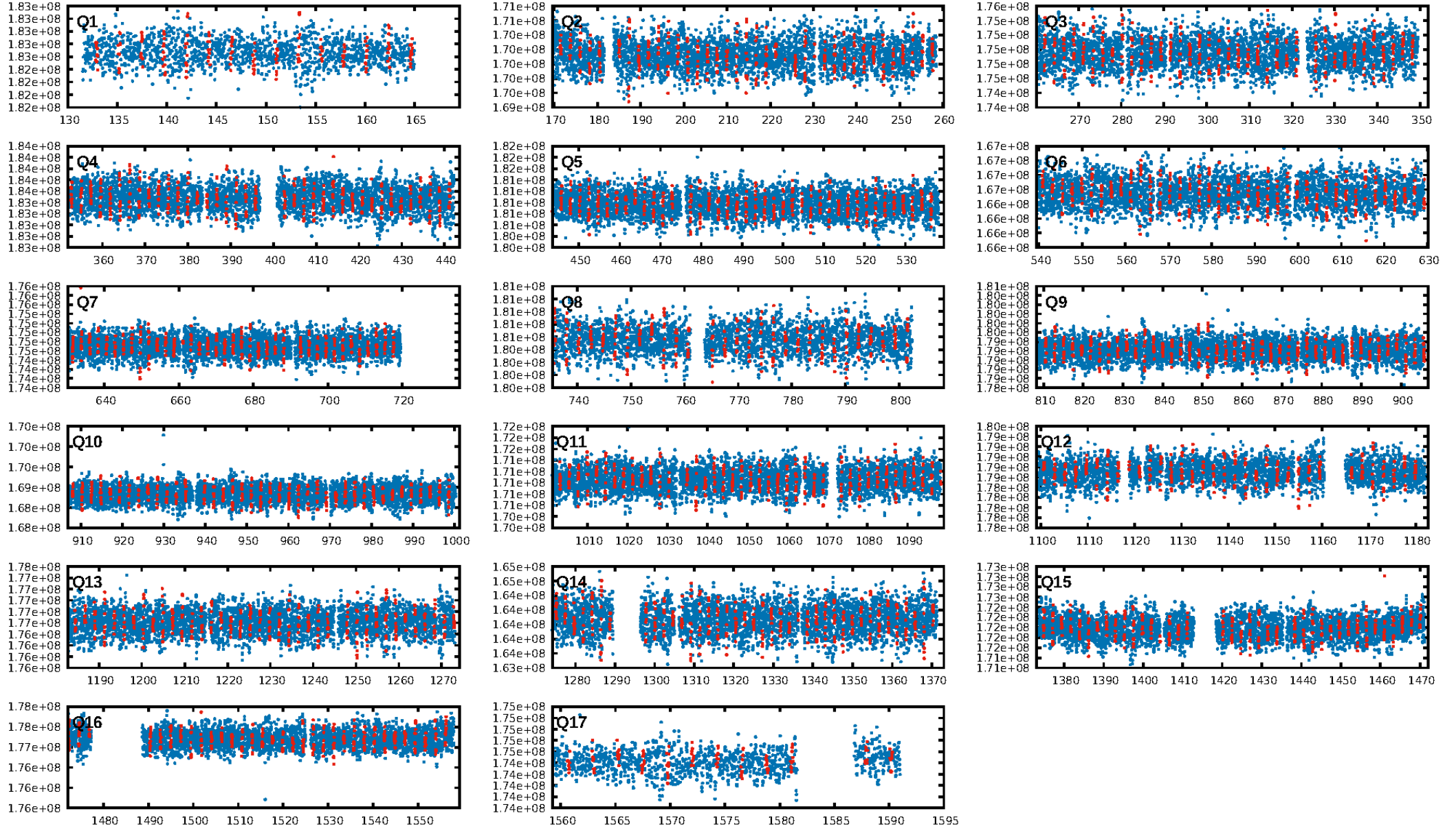
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.02e-69
RollingBand-fgm: 0.98 [552/563]
GhostDiagnostic-chr: -2.527
Centroid-sig: 0.3%
Centroid-so: 0.992 arcsec [2.88σ]
OotOffset-rm: 0.052 arcsec [0.55σ]
KicOffset-rm: 0.165 arcsec [1.56σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 1.00 [17/17]

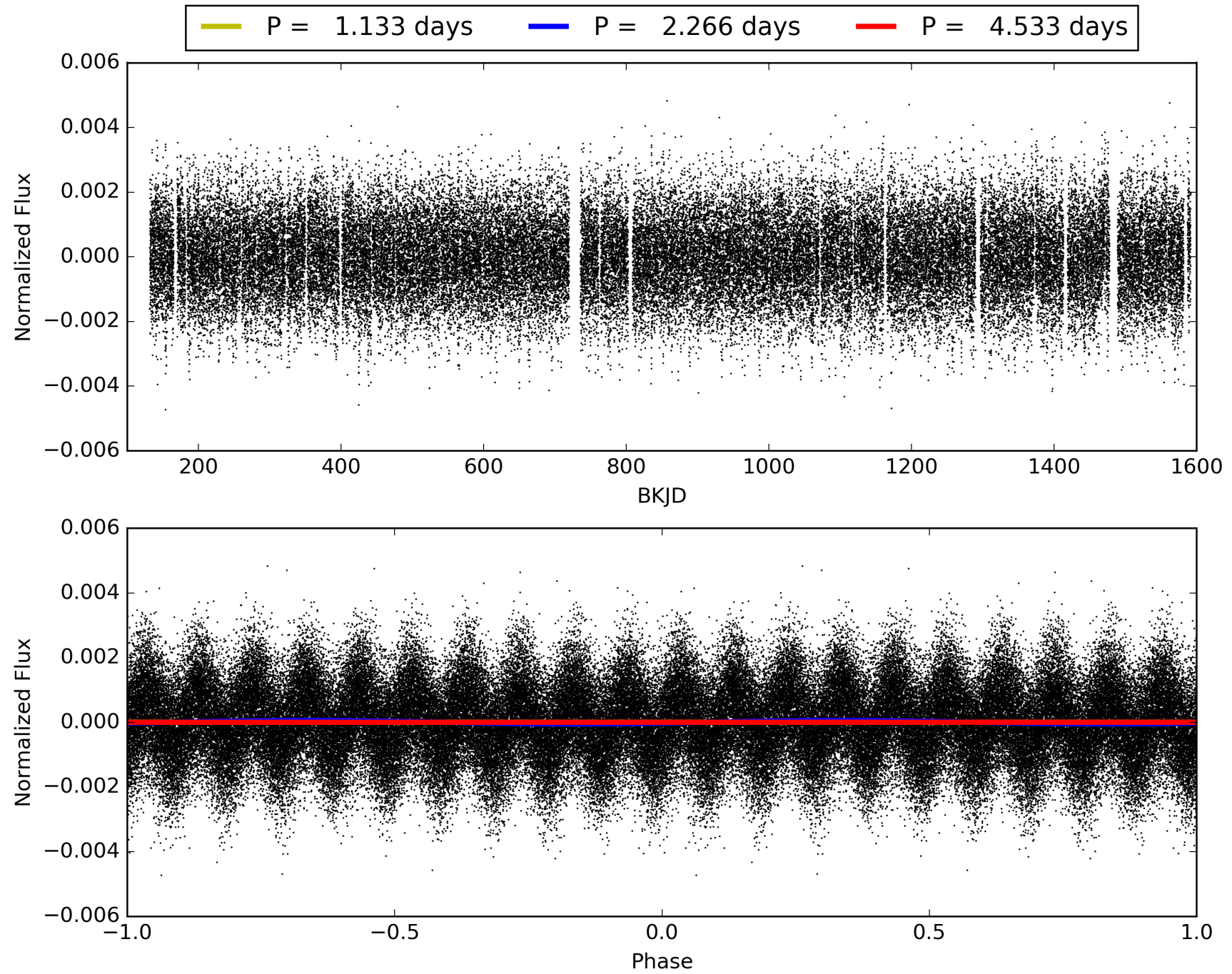
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009579818-01, PDC Light Curves

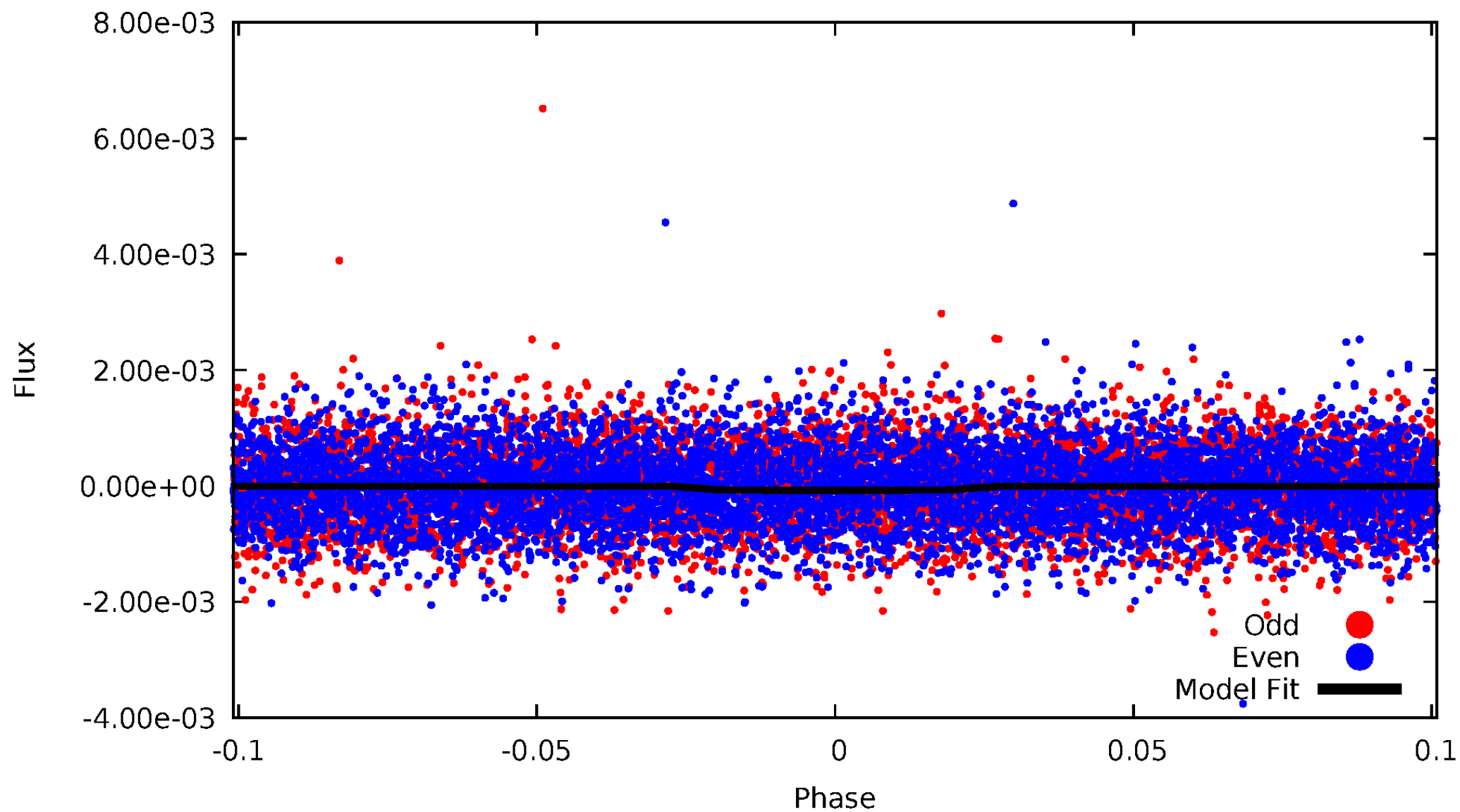


TCE 009579818-01



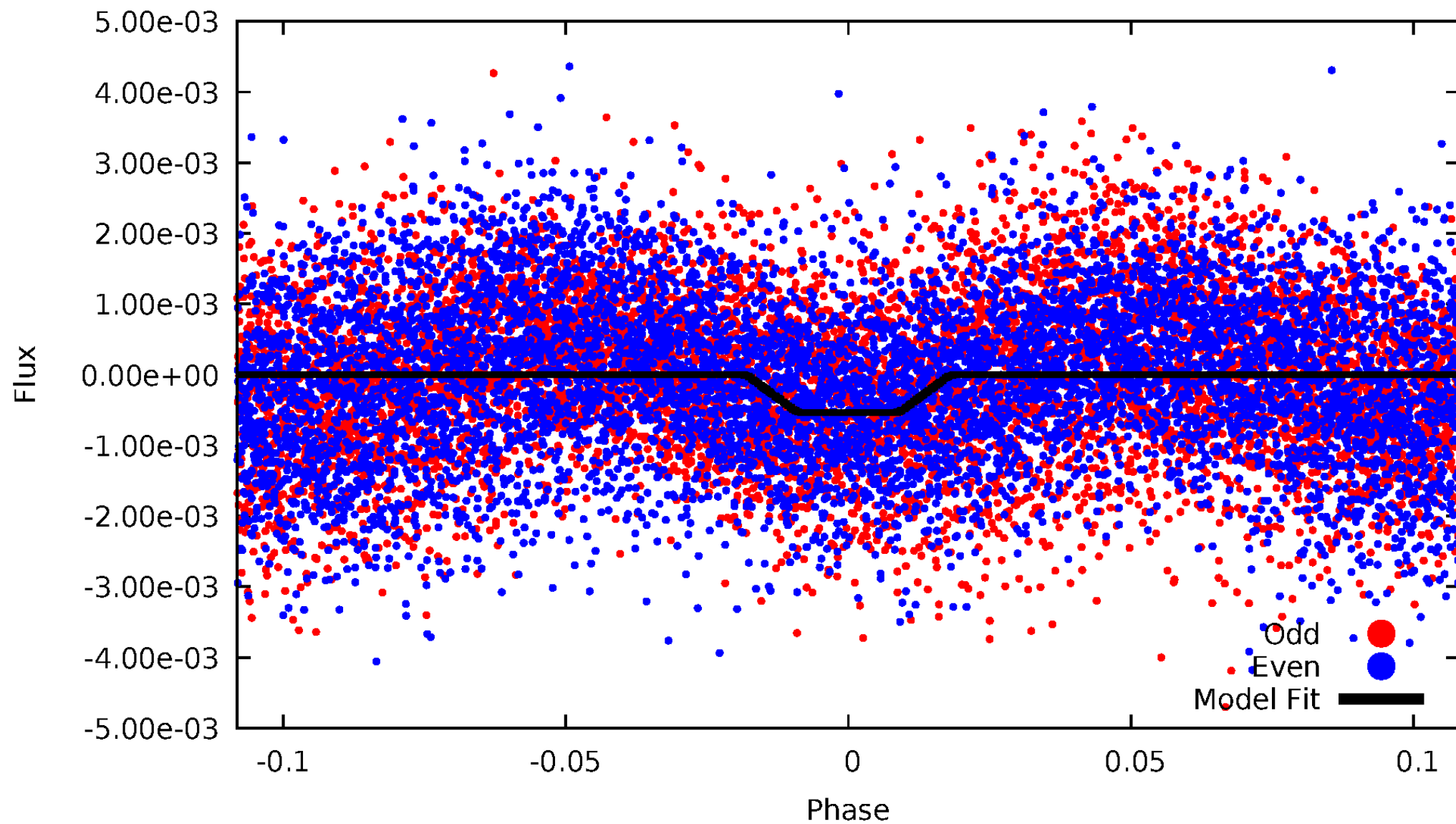
DV Odd/Even

TCE 009579818-01

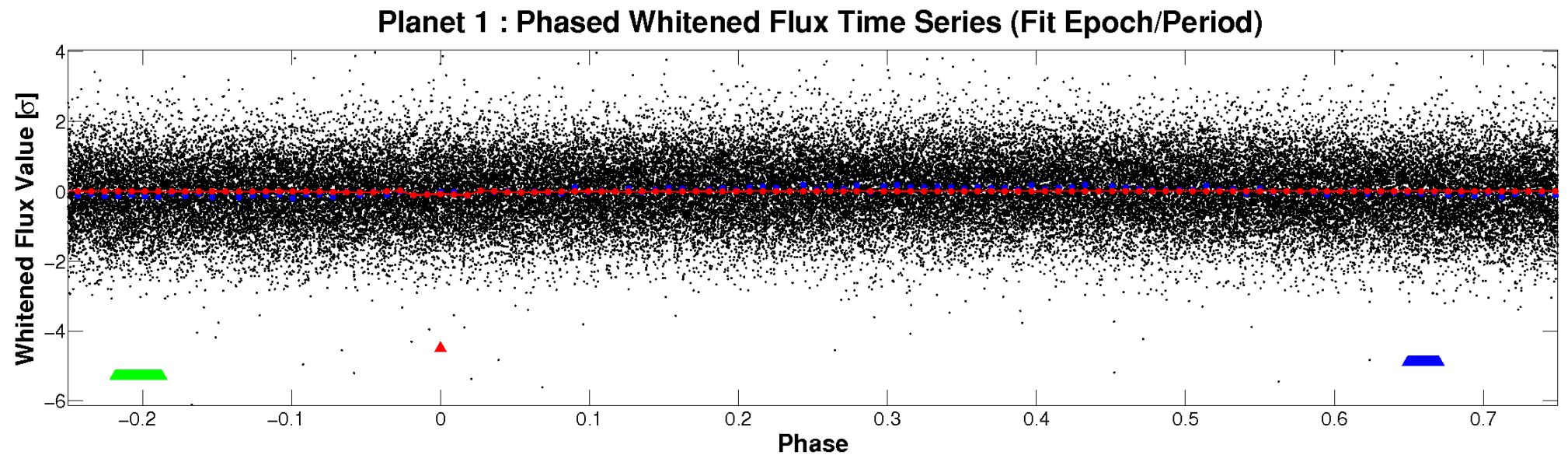
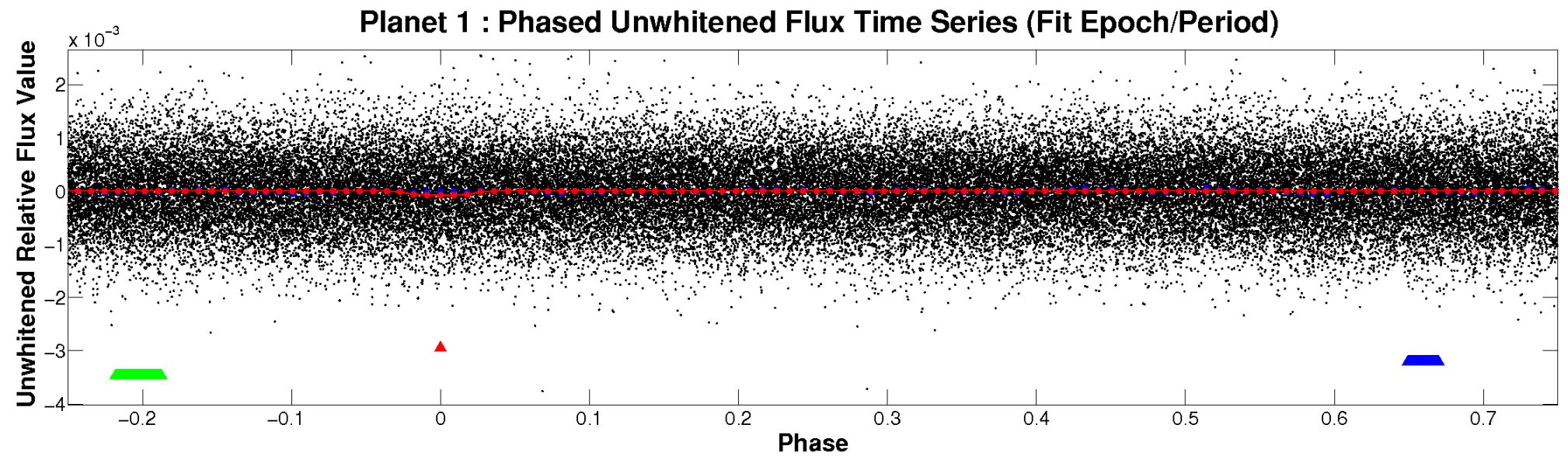


ALT Odd/Even

TCE 009579818-01

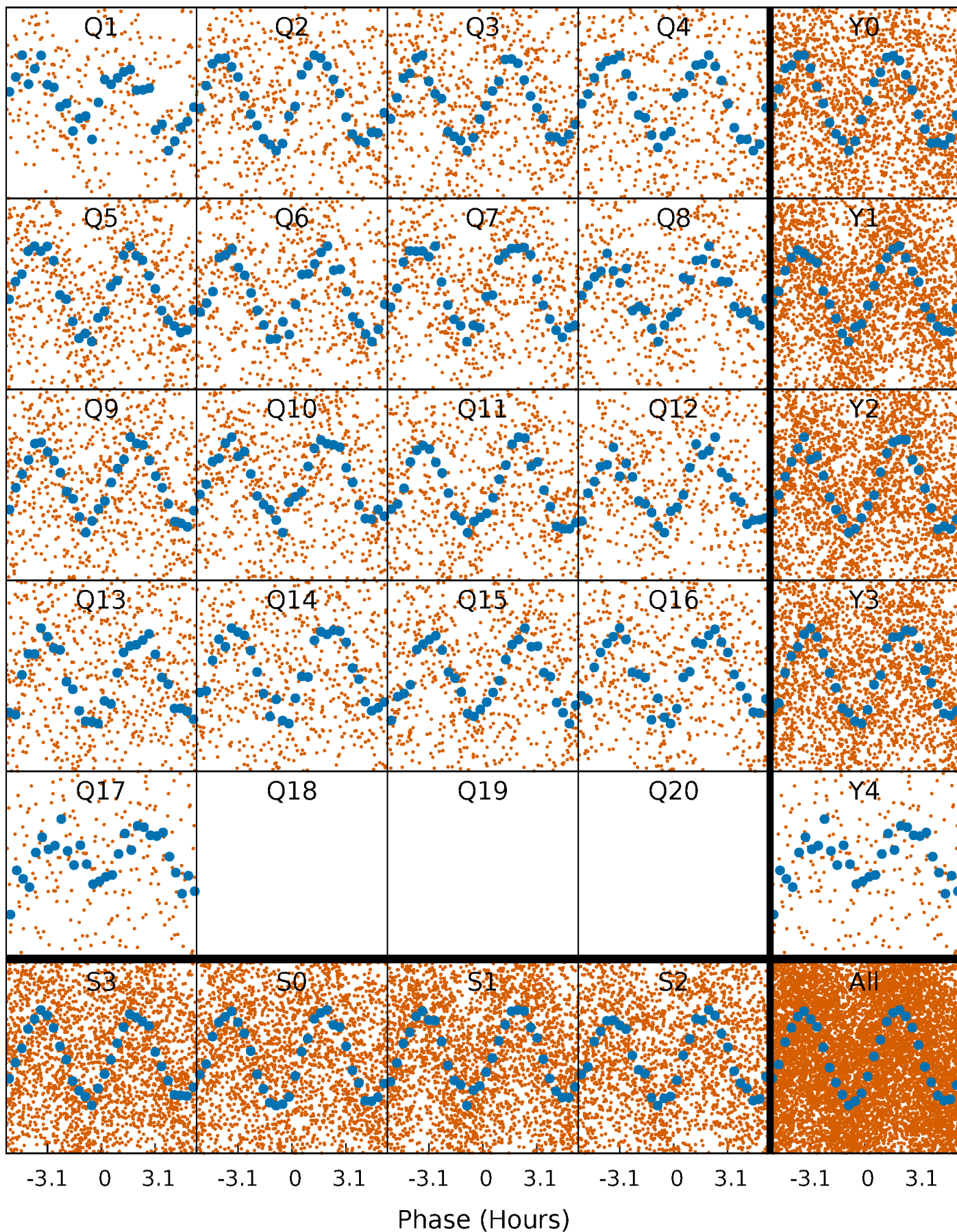


Non-Whitened Vs. Whitened Light Curve



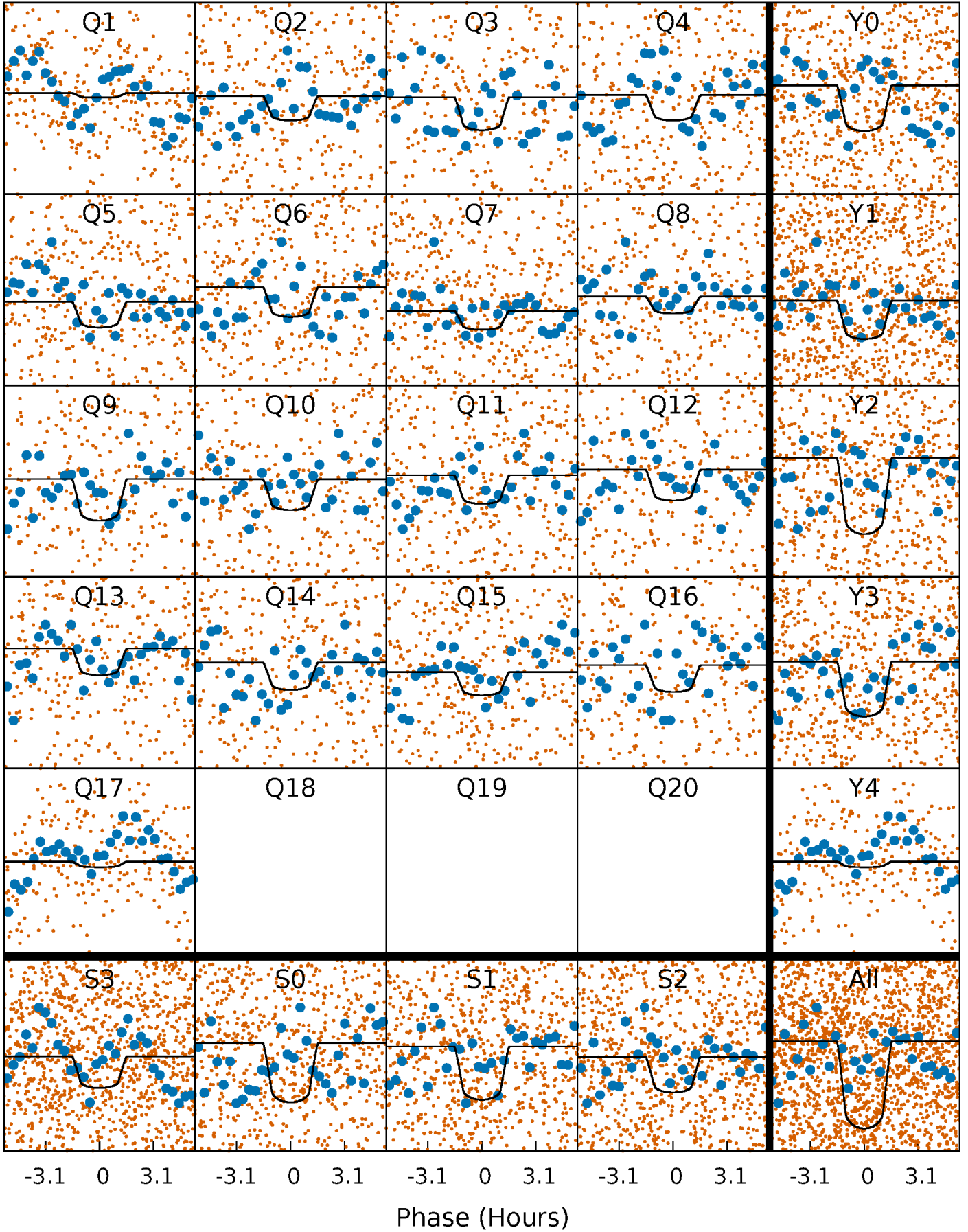
PDC Quarter-Phased Transit Curves

TCE 009579818-01 P= 2.266344 Days $T_0=132.917846$ (BKJD)



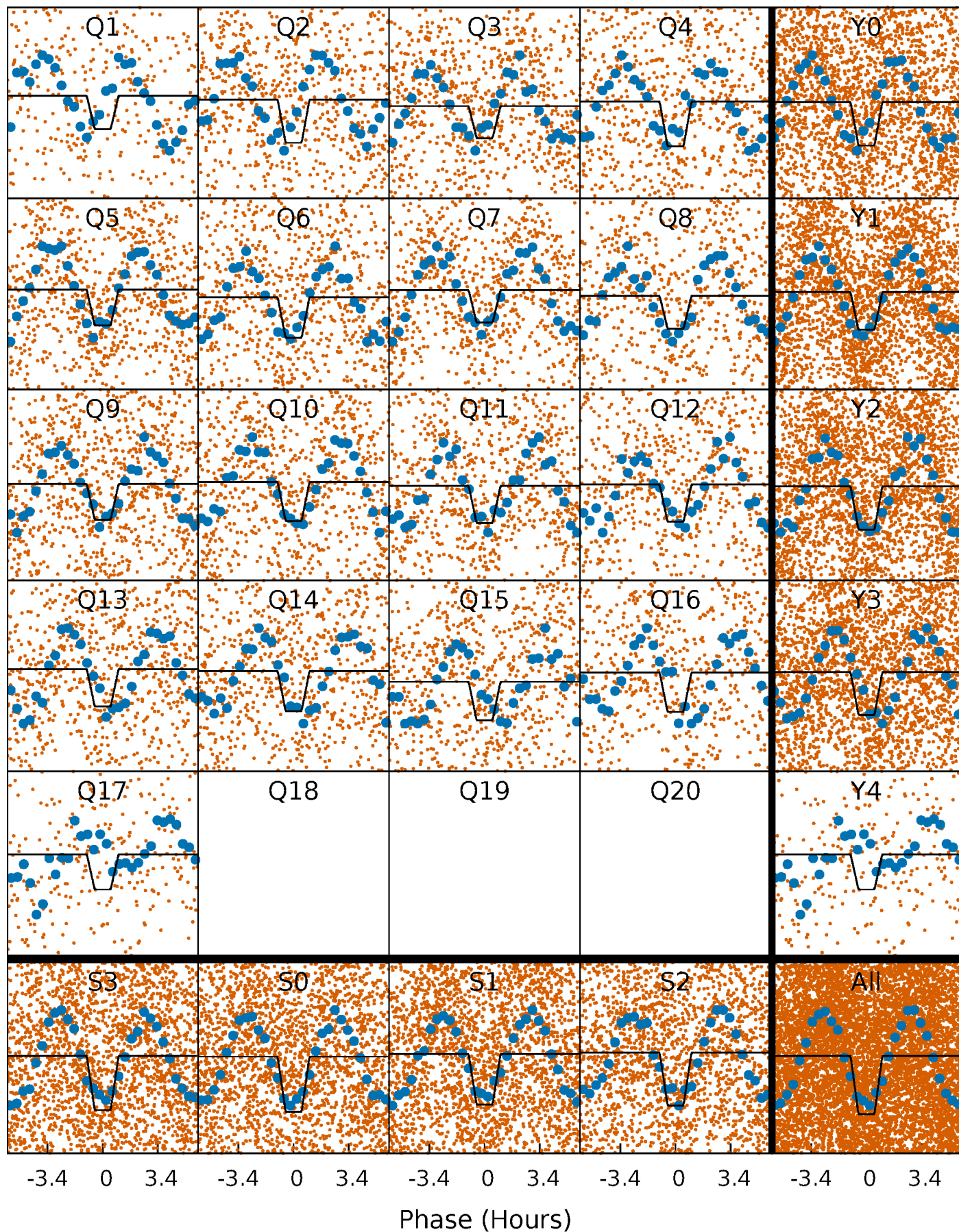
DV Quarter-Phased Transit Curves

TCE 009579818-01 P= 2.266344 Days $T_0=132.917846$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

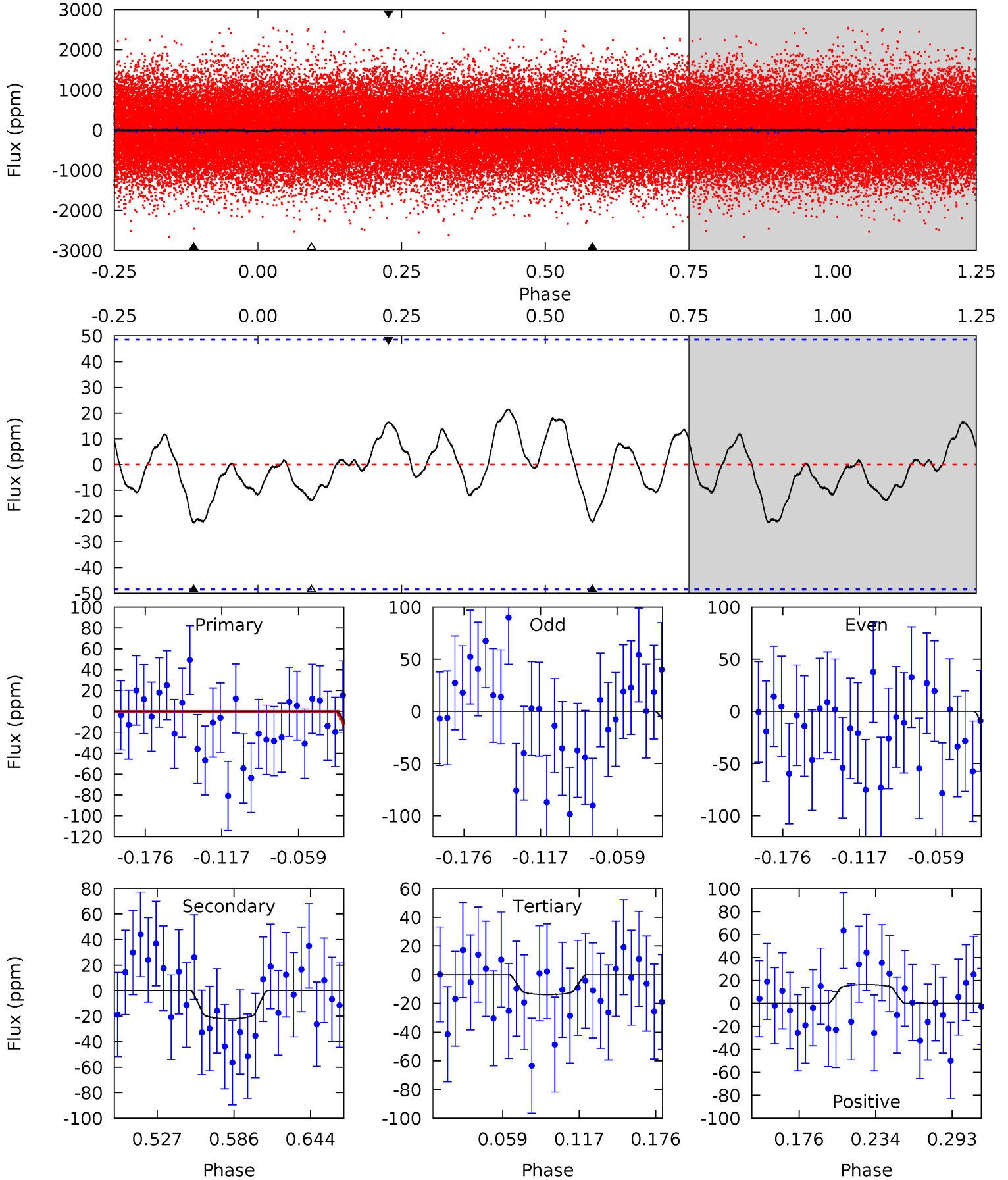
TCE 009579818-01 P= 2.266255 Days $T_0=132.911255$ (BKJD)



DV Model-Shift Uniqueness Test

009579818-01, P = 2.266344 Days, E = 130.651502 Days

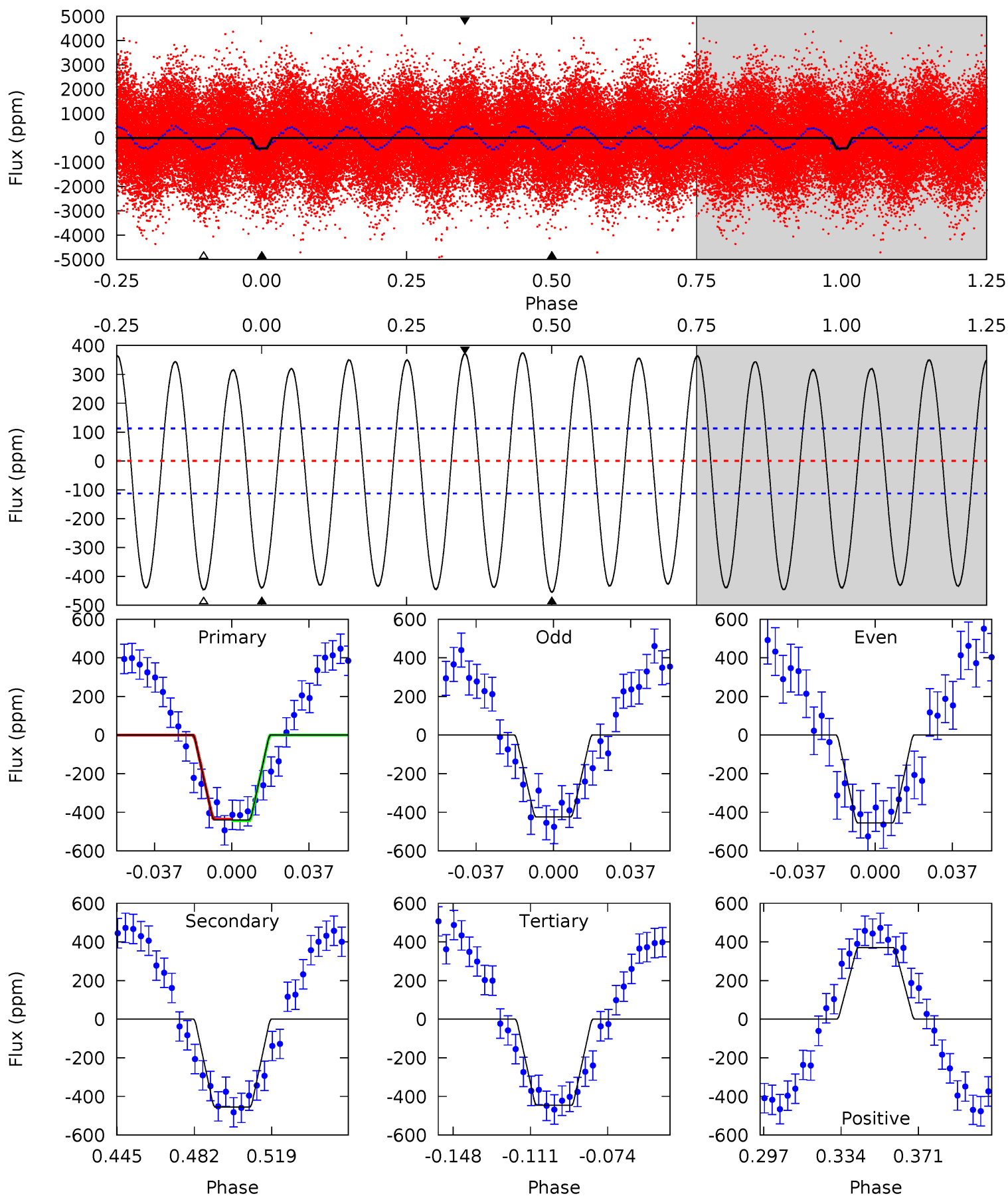
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.17	2.13	1.34	1.59	4.68	1.89	0.85	0.83	0.58	0.80	0.54	0.39	0.60	0.49	0.58



Alt Model-Shift Uniqueness Test

009579818-01, P = 2.266255 Days, E = 130.645000 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	19.3	18.9	15.7	4.77	2.08	12.0	-0.28	2.89	0.35	3.53	0.66	1.00	0.45	0.17



Stellar Parameters For KIC 009579818

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8763^{+276}_{-379}	$3.973^{+0.234}_{-0.136}$	$0.070^{+0.200}_{-0.650}$	$2.537^{+0.702}_{-0.858}$	$2.206^{+0.344}_{-0.638}$	$0.190^{+0.330}_{-0.081}$
	+3%/-4%	+6%/-3%	+286%/-929%	+28%/-34%	+16%/-29%	+173%/-42%
Source	KIC0	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 009579818-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-22 ± 10	$2.48^{+0.83}_{-0.78}$	4028^{+309}_{-305}	5725^{+1422}_{-996}	$3.598^{+4.544}_{-2.031}$
Alt.	-454 ± 24	$6.25^{+1.25}_{-1.26}$	4052^{+311}_{-330}	8241^{+746}_{-714}	12^{+6}_{-4}

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

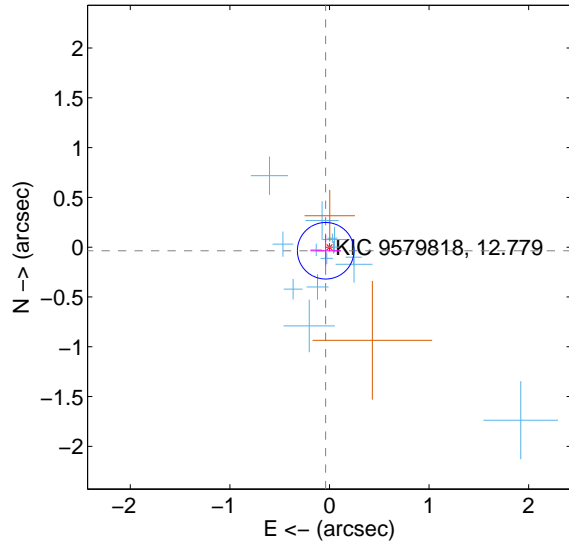
Supplemental centroid analysis for 009579818-01. Kepler magnitude: 12.78. Transit SNR 5.54

There are 14 quarters with good PRF difference image offsets

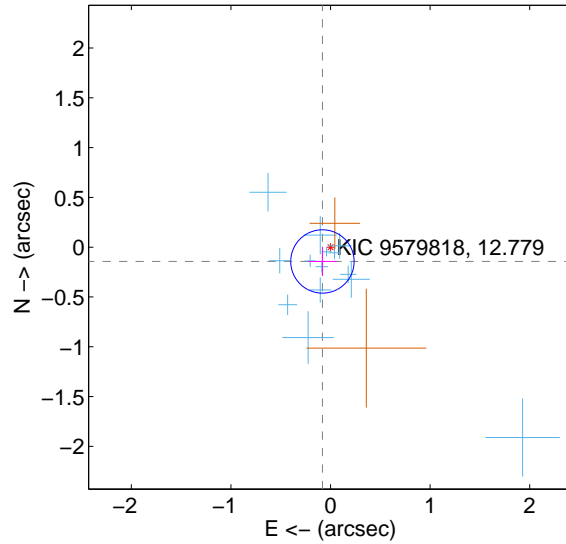
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.052 ± 0.095	0.55	0.038 ± 0.155	-0.036 ± 0.160
PRF-fit source offset from KIC position	0.165 ± 0.106	1.56	0.081 ± 0.144	-0.144 ± 0.147
photometric centroid source offset	0.99 ± 0.34	2.88	0.86 ± 0.35	-0.50 ± 0.34

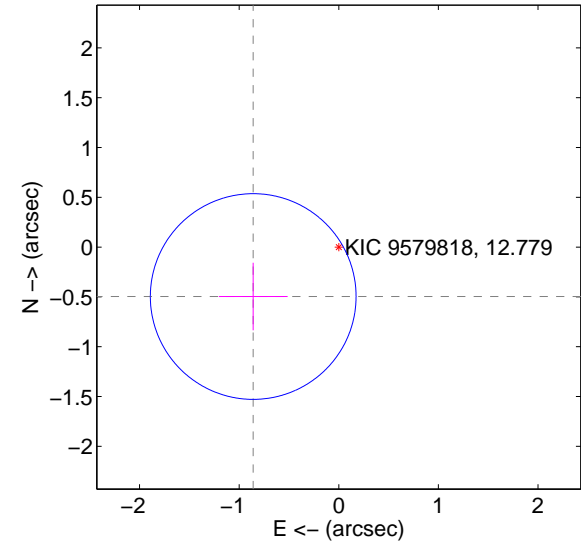
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

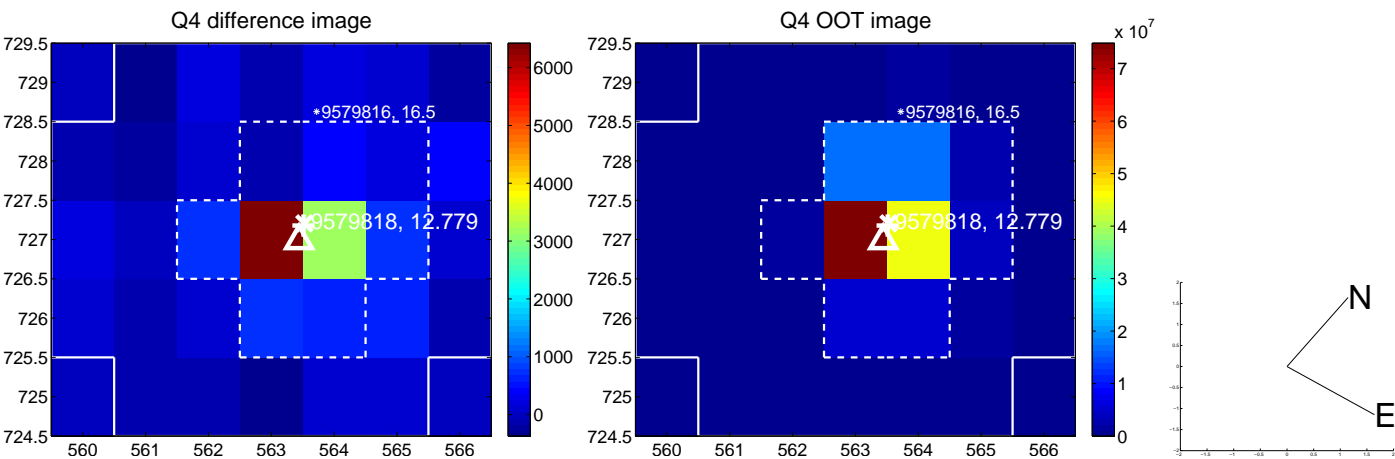
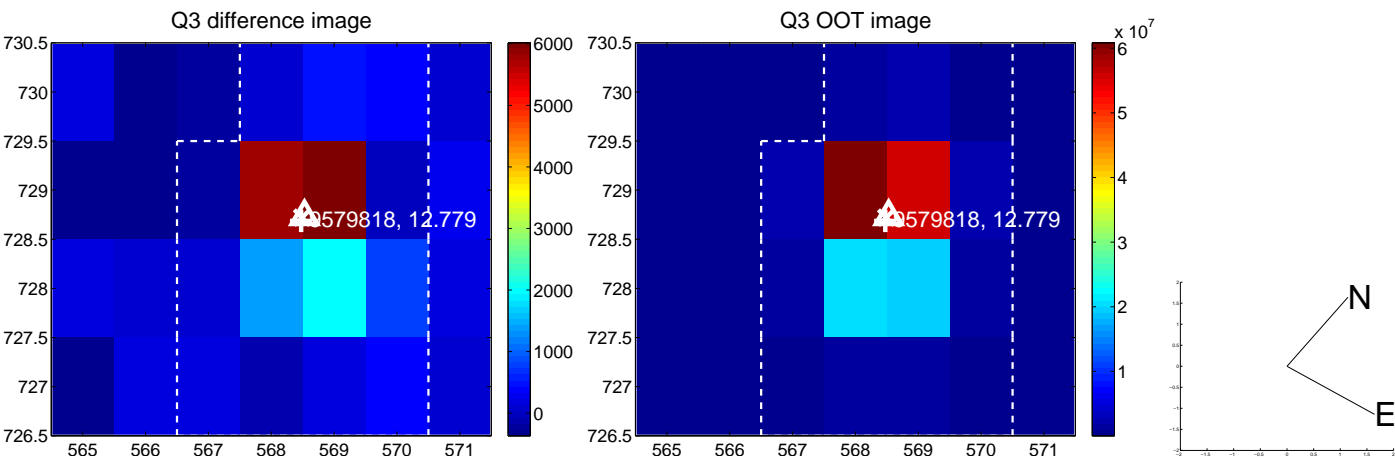
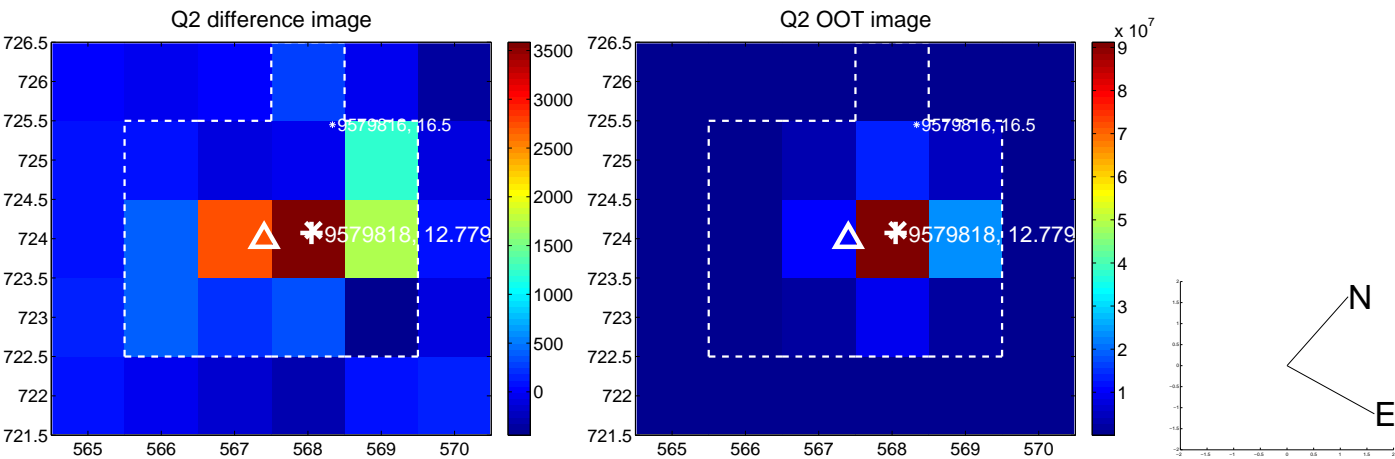
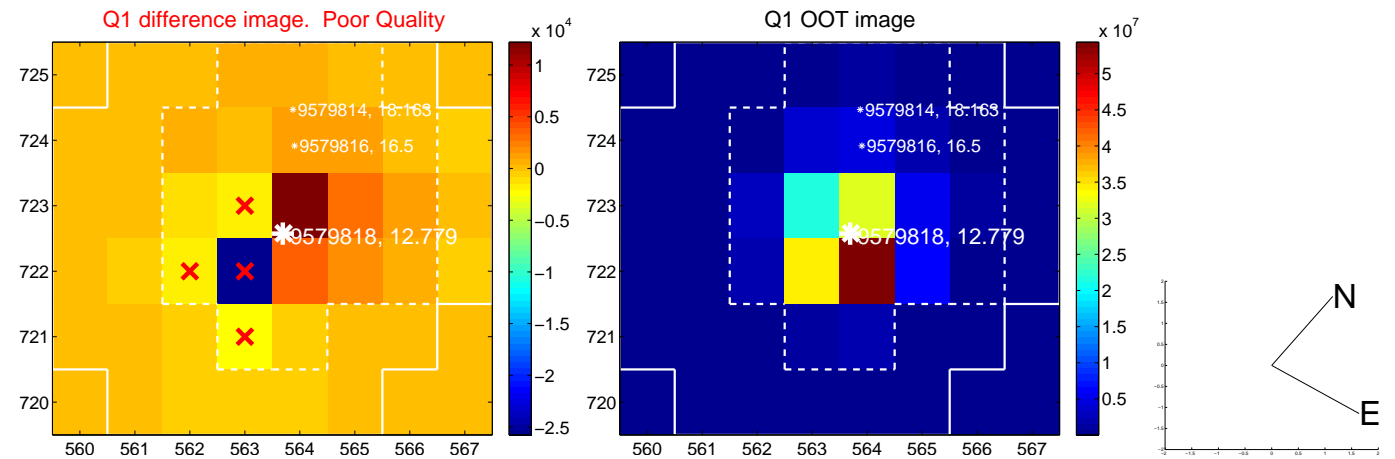


offset from photometric centroids

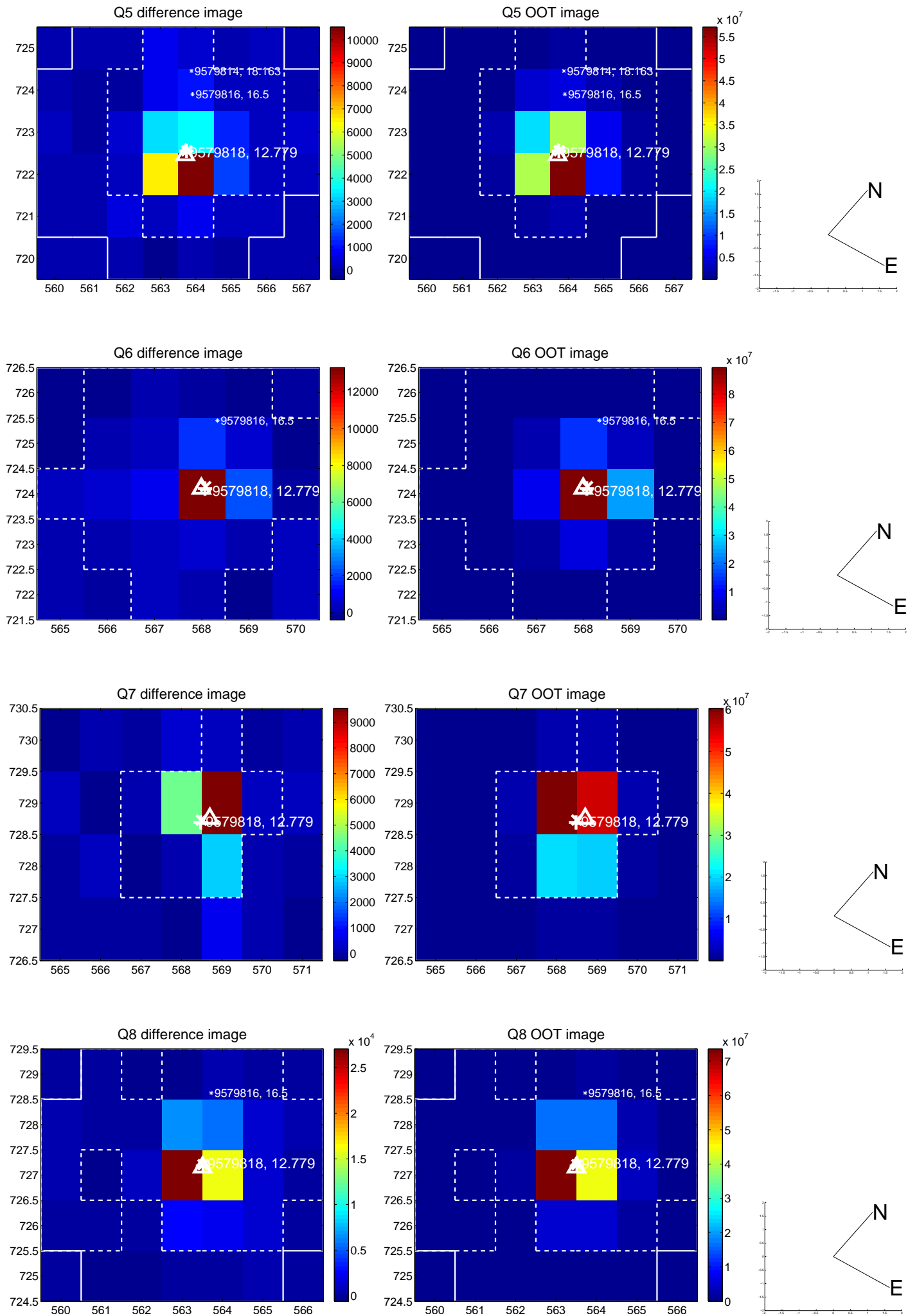


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

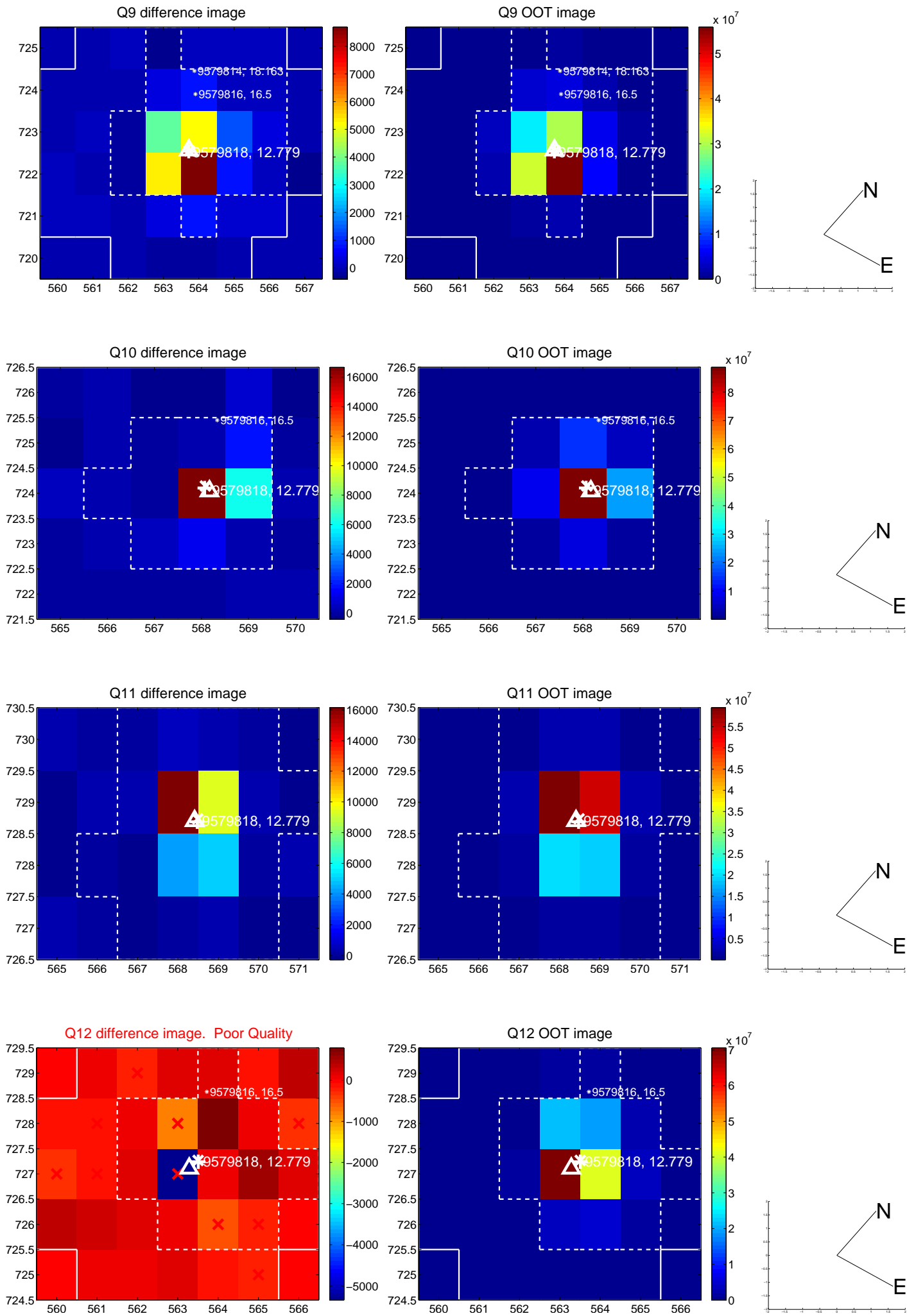
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



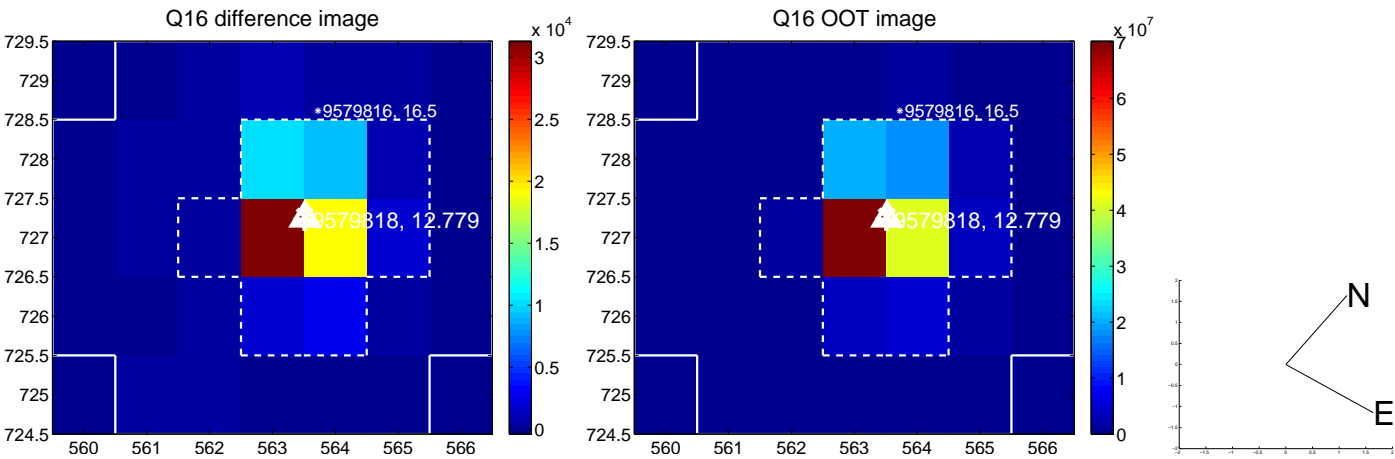
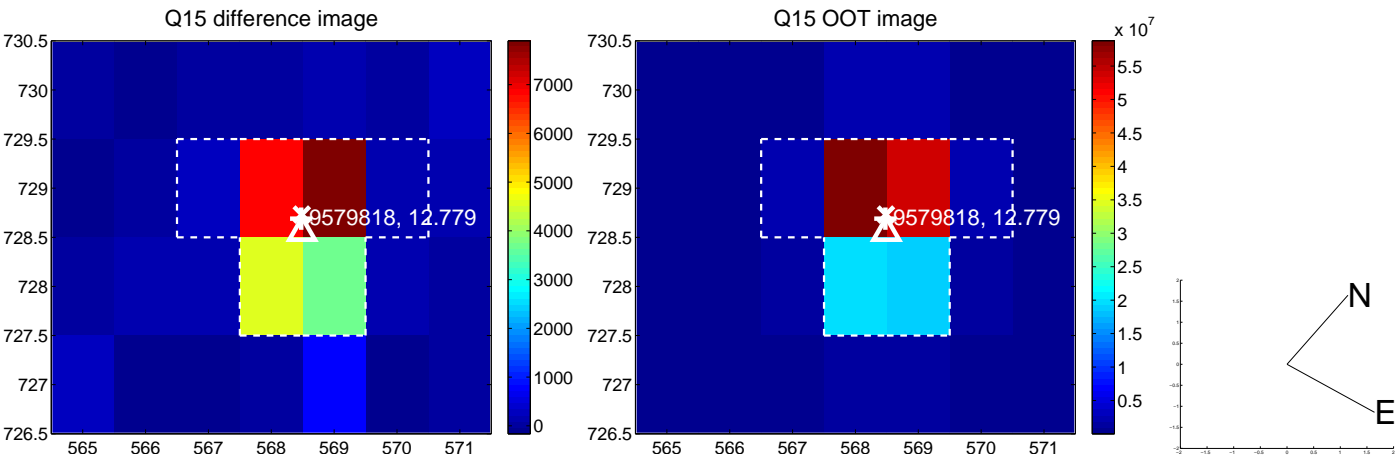
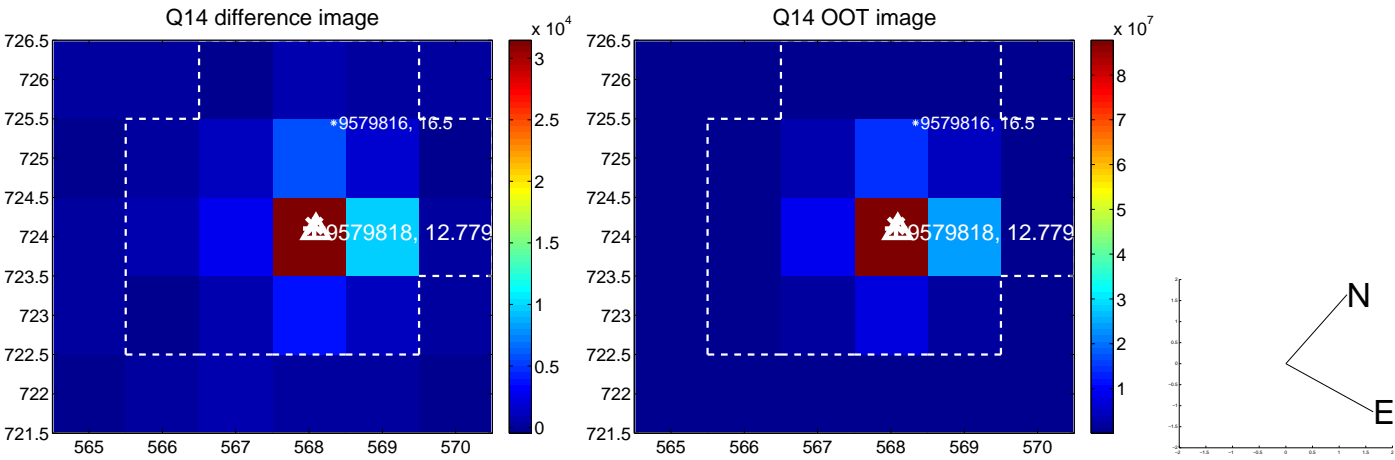
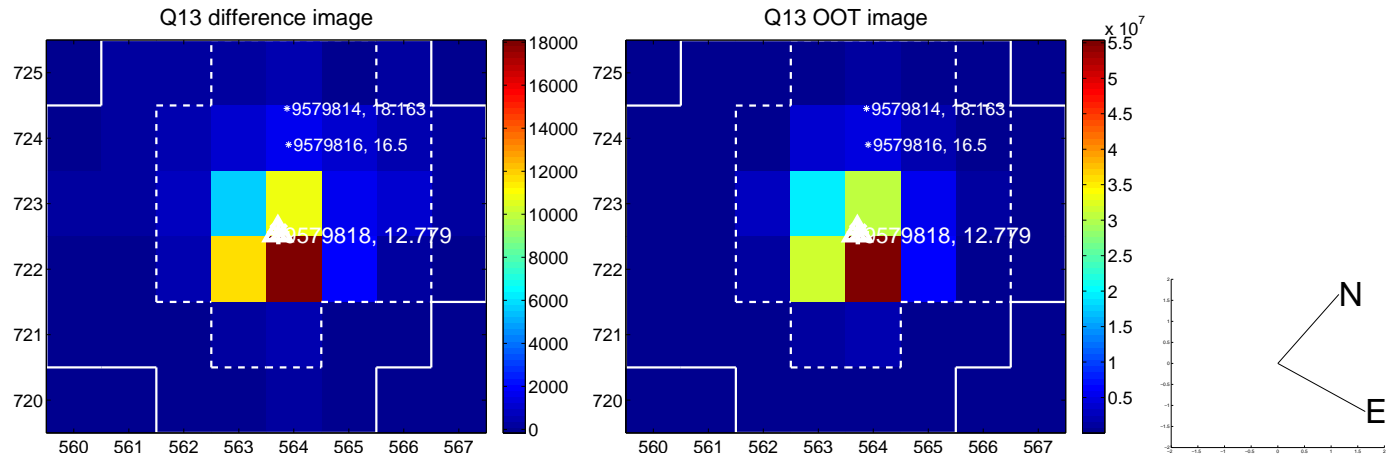
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



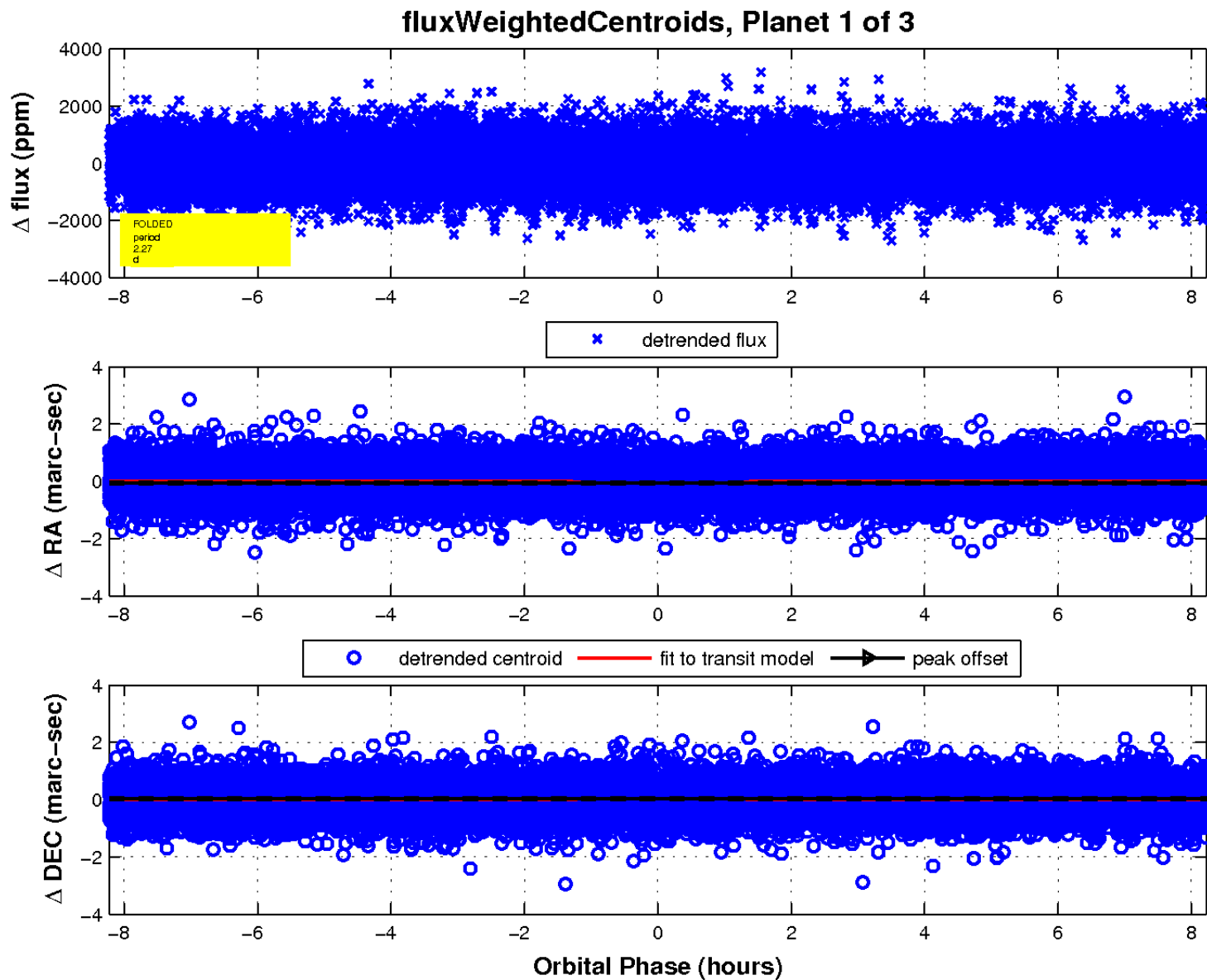
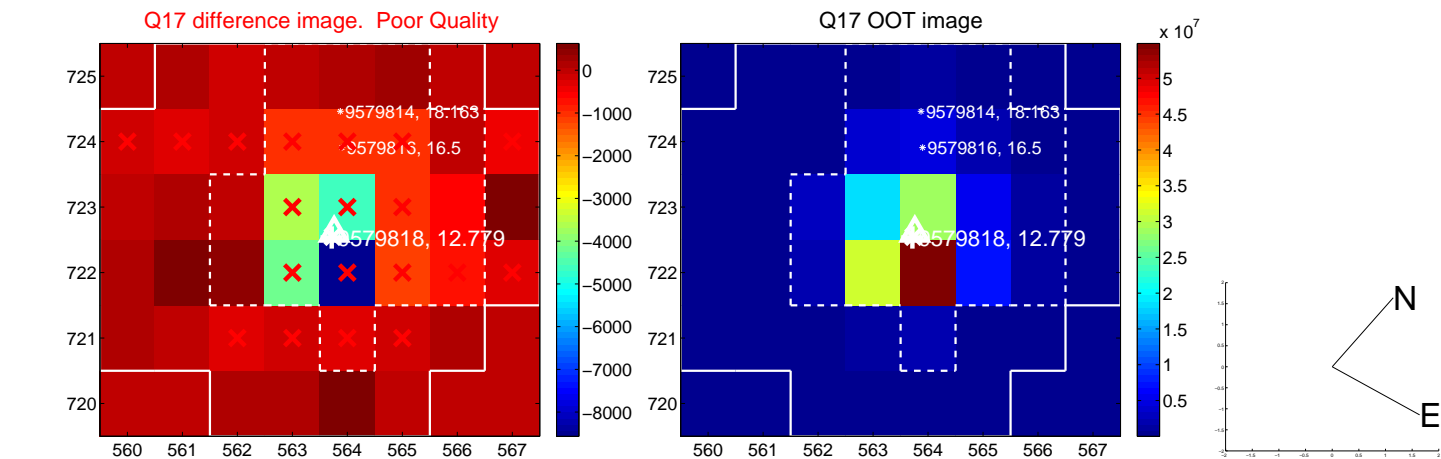
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

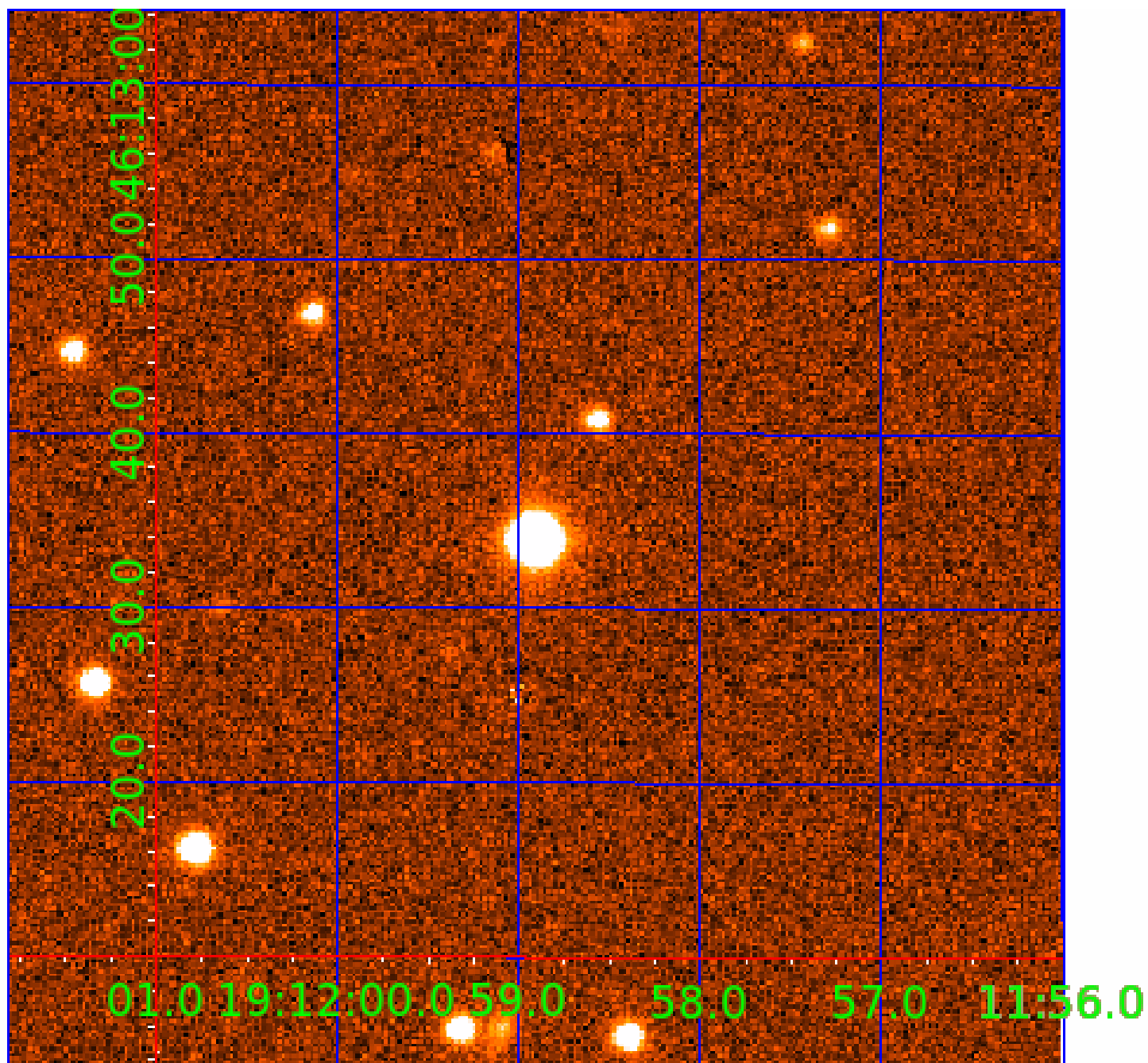


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009579818

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})
009579818-01	OBS	No	2.266344	132.917846	77.7	2.742	13.3	5.5	2.54	8763	2.58	17590.77
009579818-02	OBS	No	2.266417	132.123004	74.8	4.137	13.4	7.1	2.54	8763	2.54	17590.01
009579818-03	OBS	No	2.266454	132.423126	125.8	3.268	12.0	9.2	2.54	8763	3.29	17589.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009579818-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
009579818-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
009579818-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

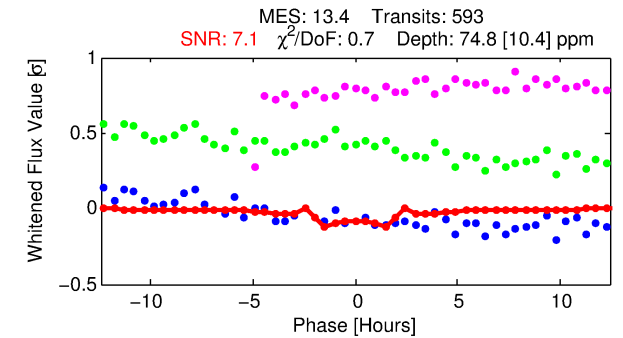
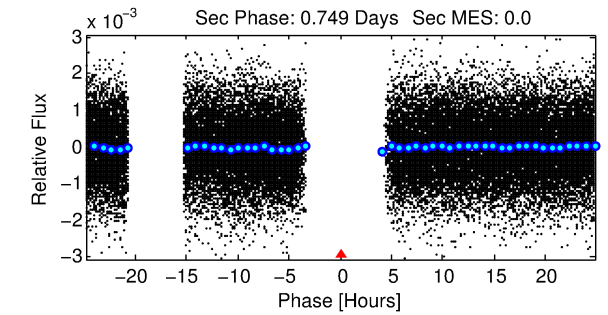
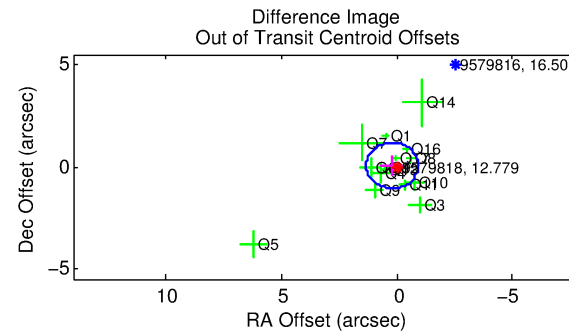
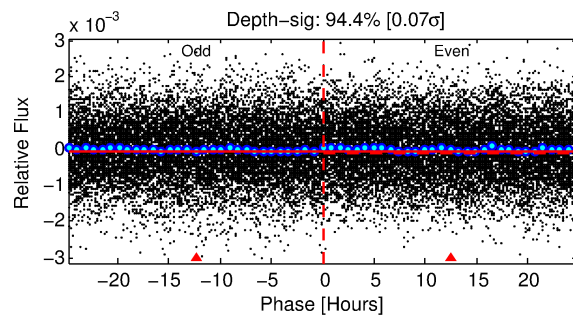
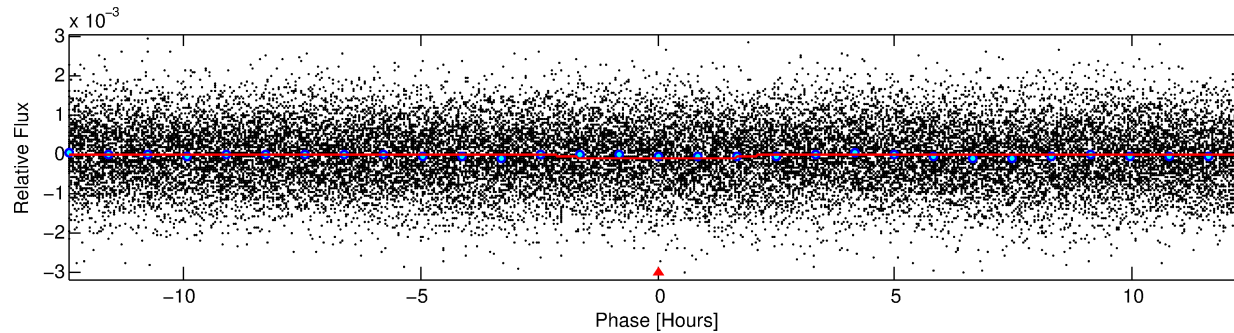
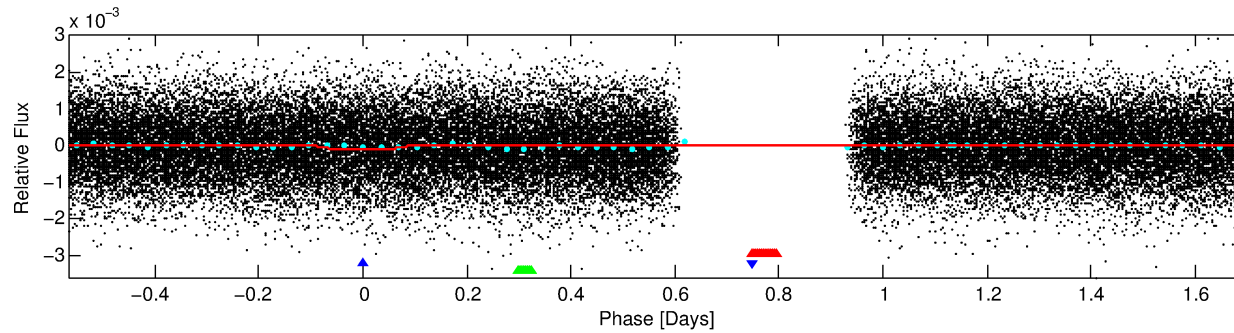
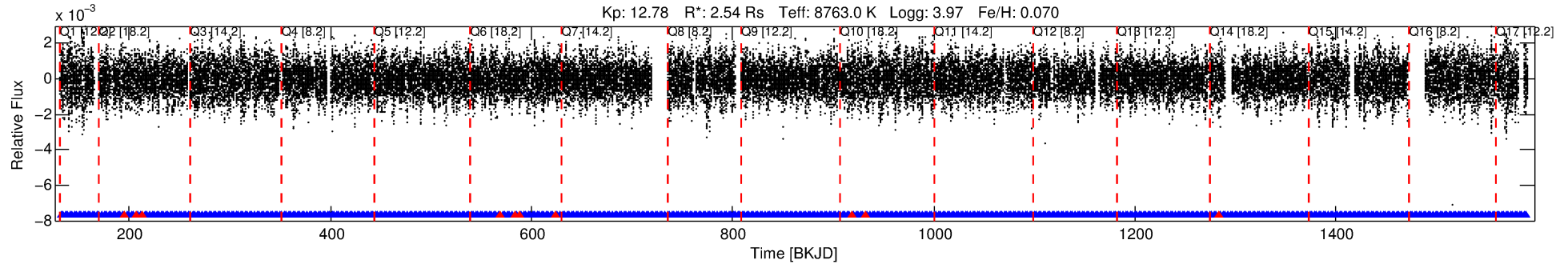
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009579818-02

No Significant Match Found

DV One-Page Summary

KIC: 9579818 Candidate: 2 of 3 Period: 2.266 d



DV Fit Results:

Period = 2.26642 [0.00002] d
Epoch = 132.1230 [0.0036] BKJD
Rp/R* = 0.0092 [0.0022]
a/R* = 2.13 [2.60]
b = 0.90 [0.33]
Seff = 17590.01 [8056.72]
Teq = 2937 [336] K
Rp = 2.54 [1.05] Re
a = 0.0440 [0.0127] AU
Ag = N/A
Teffp = N/A

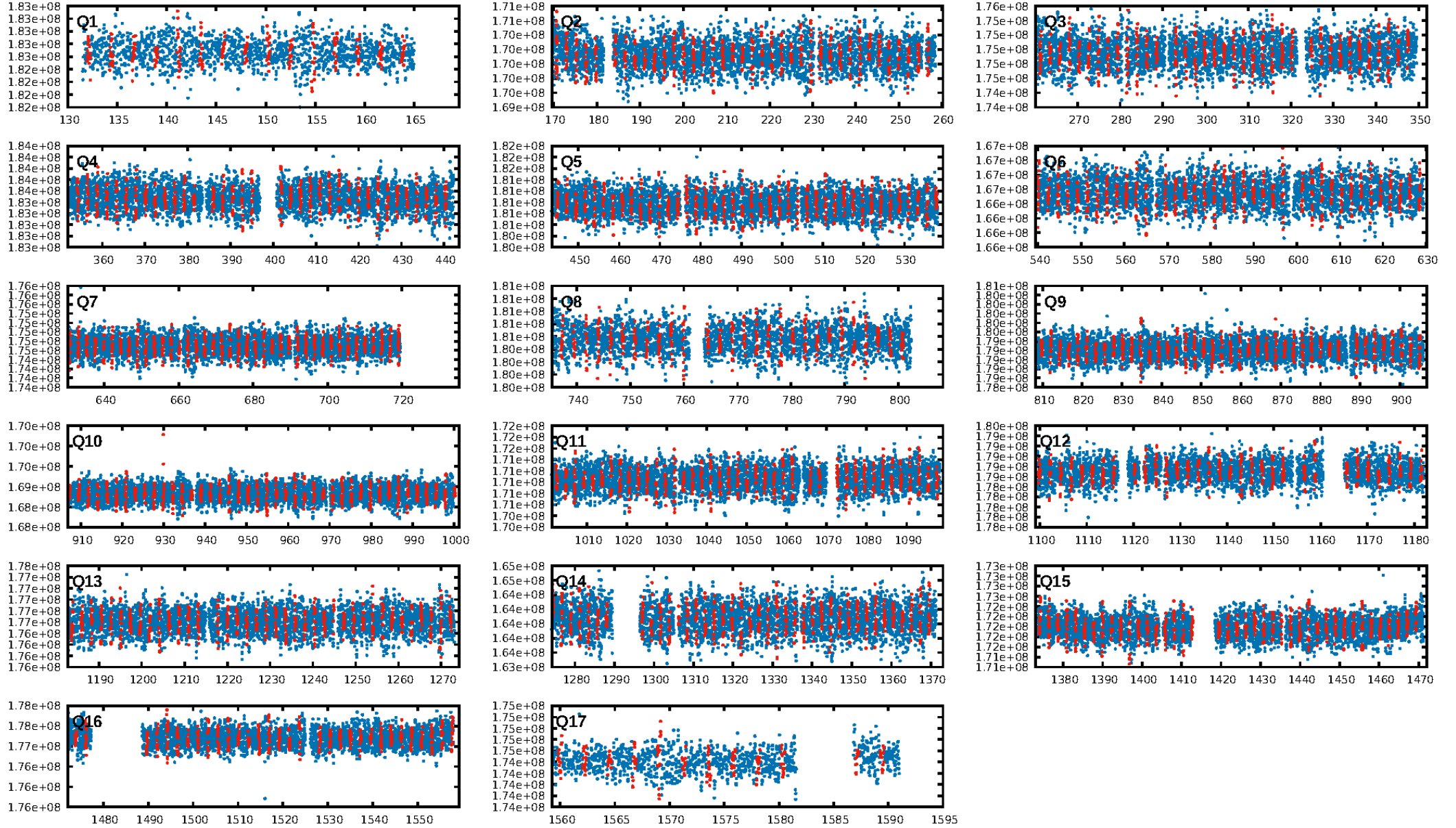
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.95e-70
RollingBand-fgt: 0.98 [556/566]
GhostDiagnostic-chr: 25.82
Centroid-sig: 9.0%
Centroid-so: 0.360 arcsec [1.24 σ]
OotOffset-rm: 0.221 arcsec [0.59 σ]
KicOffset-rm: 0.221 arcsec [0.48 σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.47 [7/15]
DiffImageOverlap-fno: 0.00 [0/17]

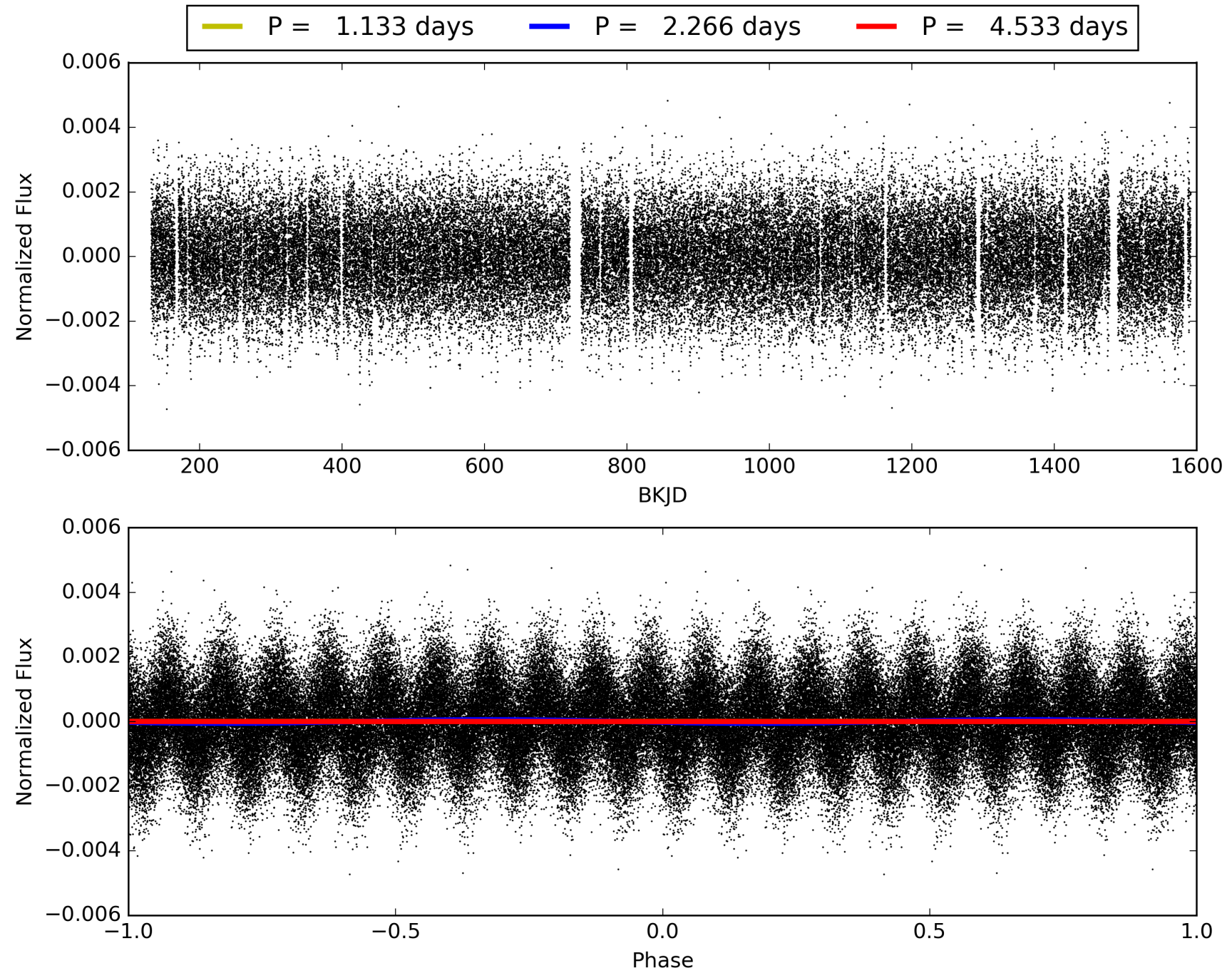
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:42:30 Z

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

TCE 009579818-02, PDC Light Curves

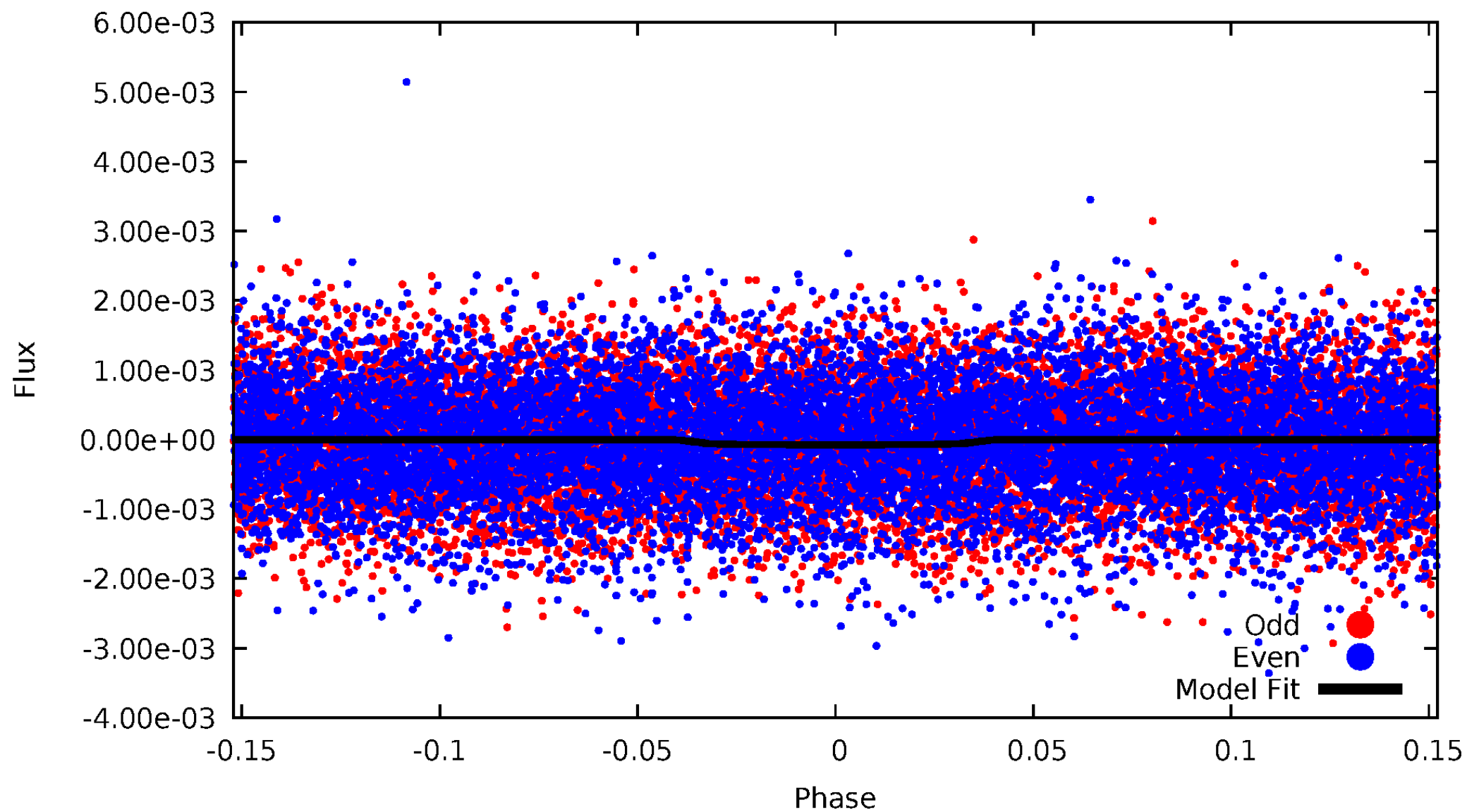


TCE 009579818-02



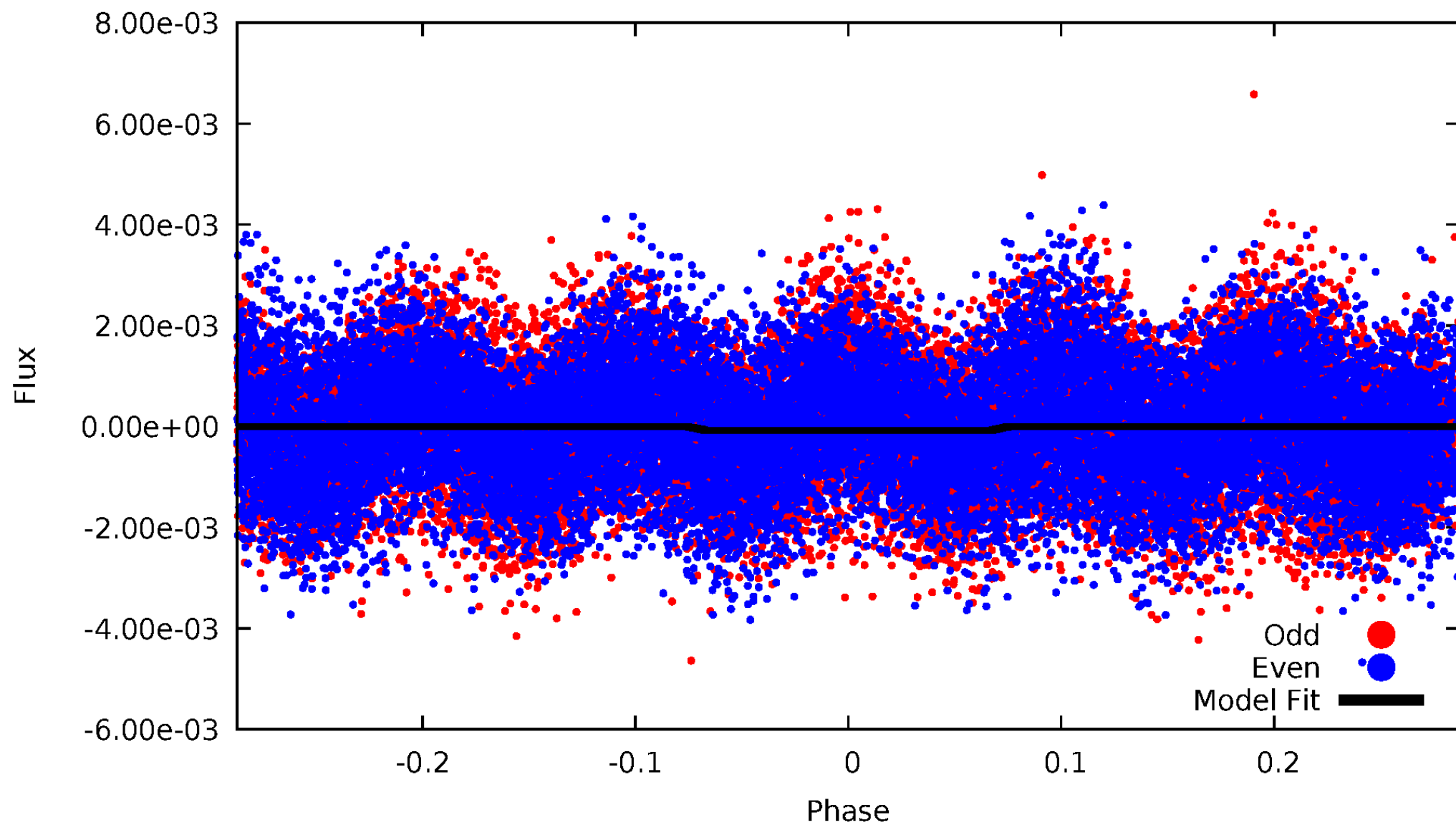
DV Odd/Even

TCE 009579818-02



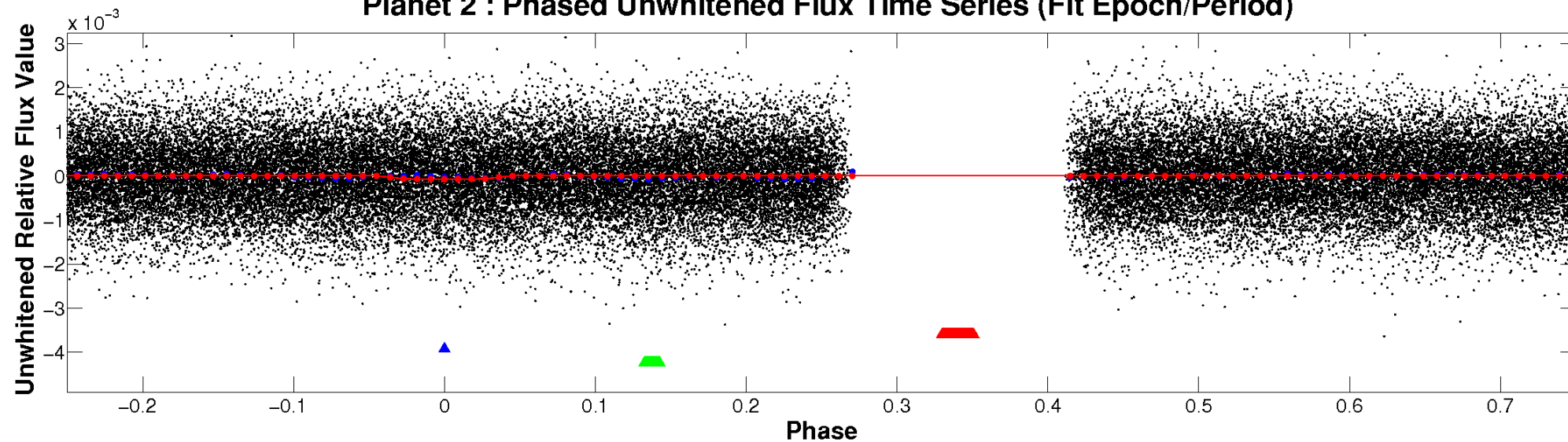
ALT Odd/Even

TCE 009579818-02

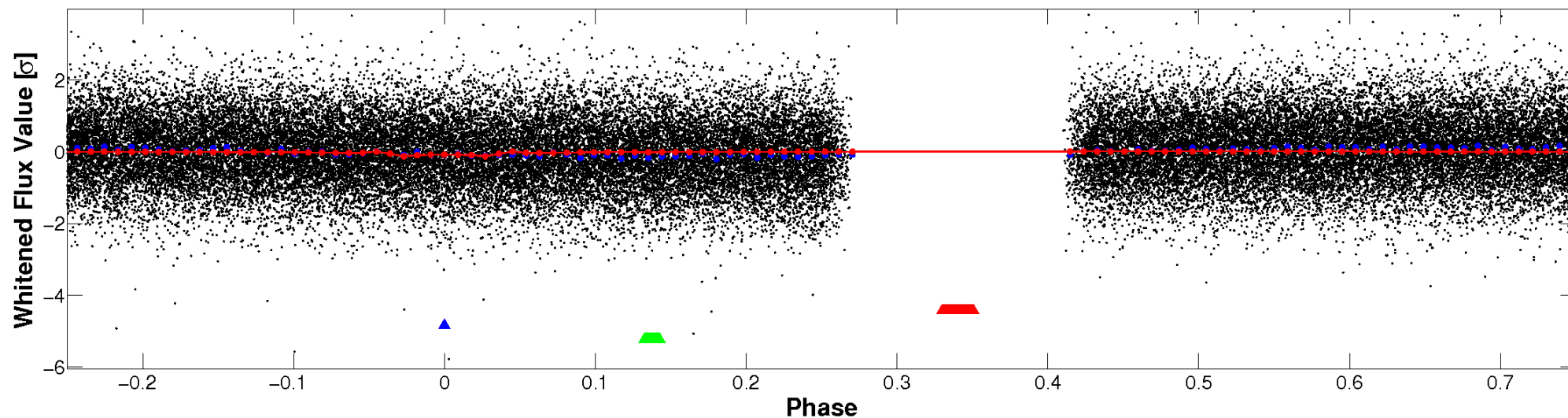


Non-Whitened Vs. Whitened Light Curve

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

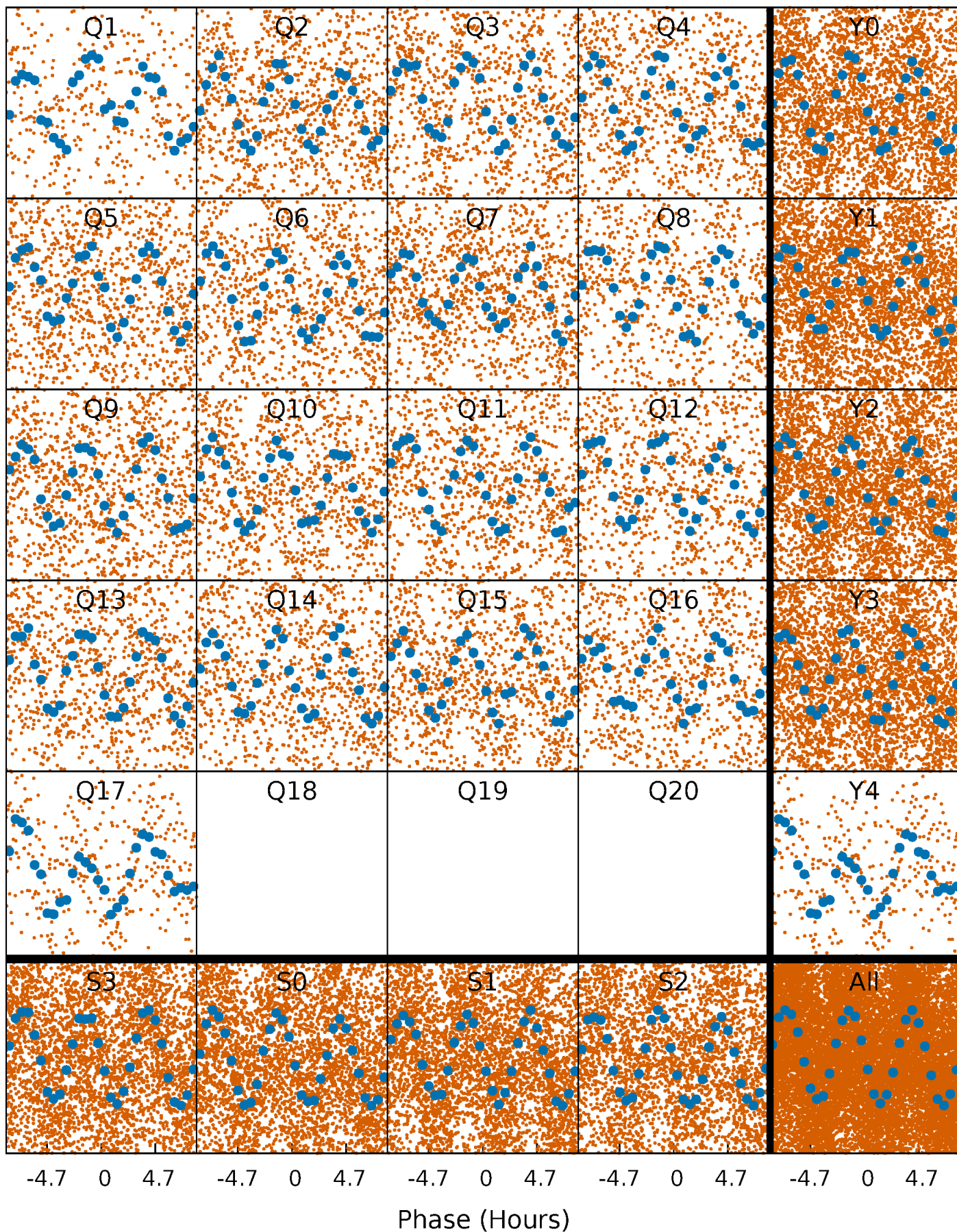


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



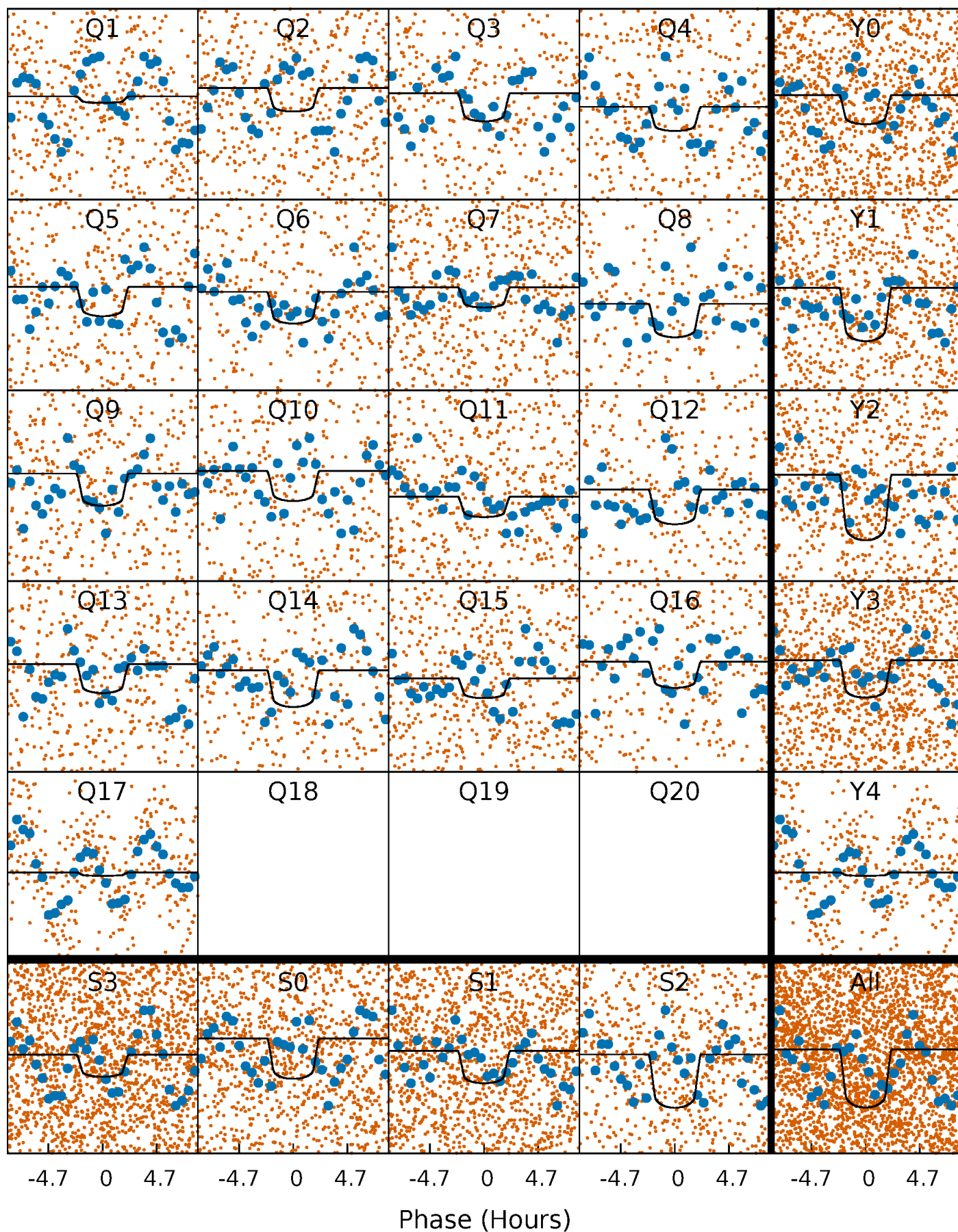
PDC Quarter-Phased Transit Curves

TCE 009579818-02 P= 2.266417 Days $T_0=132.123004$ (BKJD)



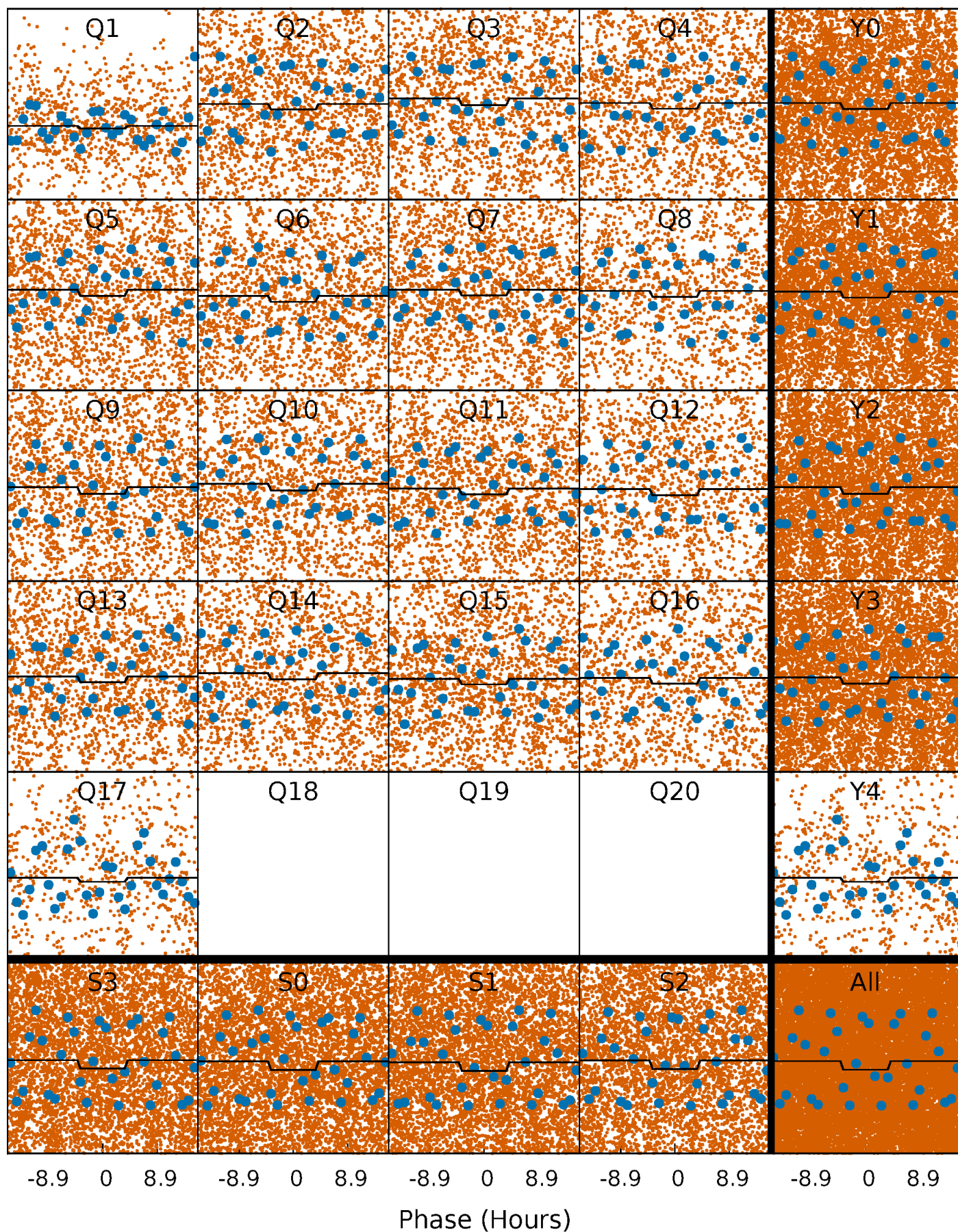
DV Quarter-Phased Transit Curves

TCE 009579818-02 P= 2.266417 Days $T_0=132.123004$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

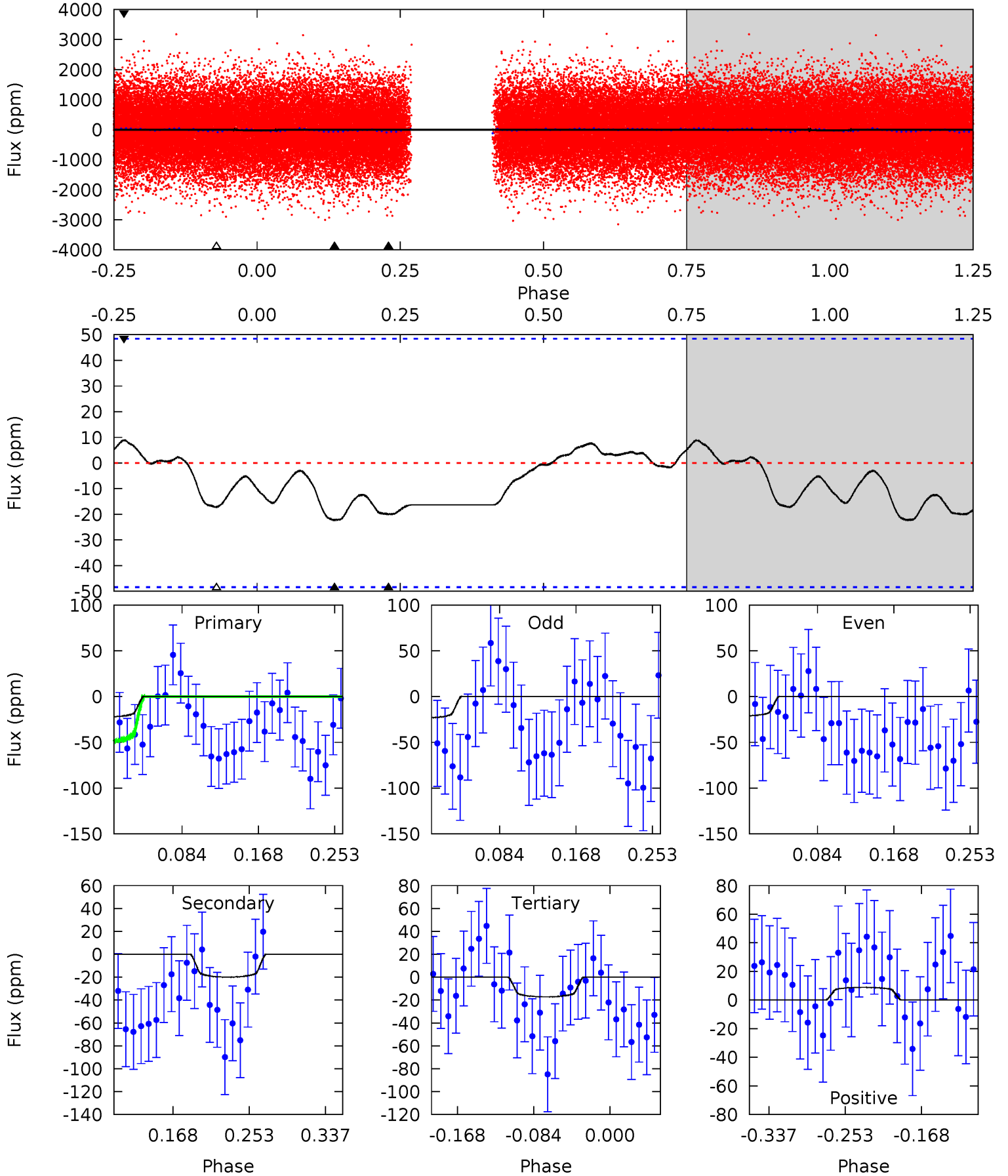
TCE 009579818-02 P= 2.266255 Days $T_0=132.123293$ (BKJD)



DV Model-Shift Uniqueness Test

009579818-02, P = 2.266417 Days, E = 129.856587 Days

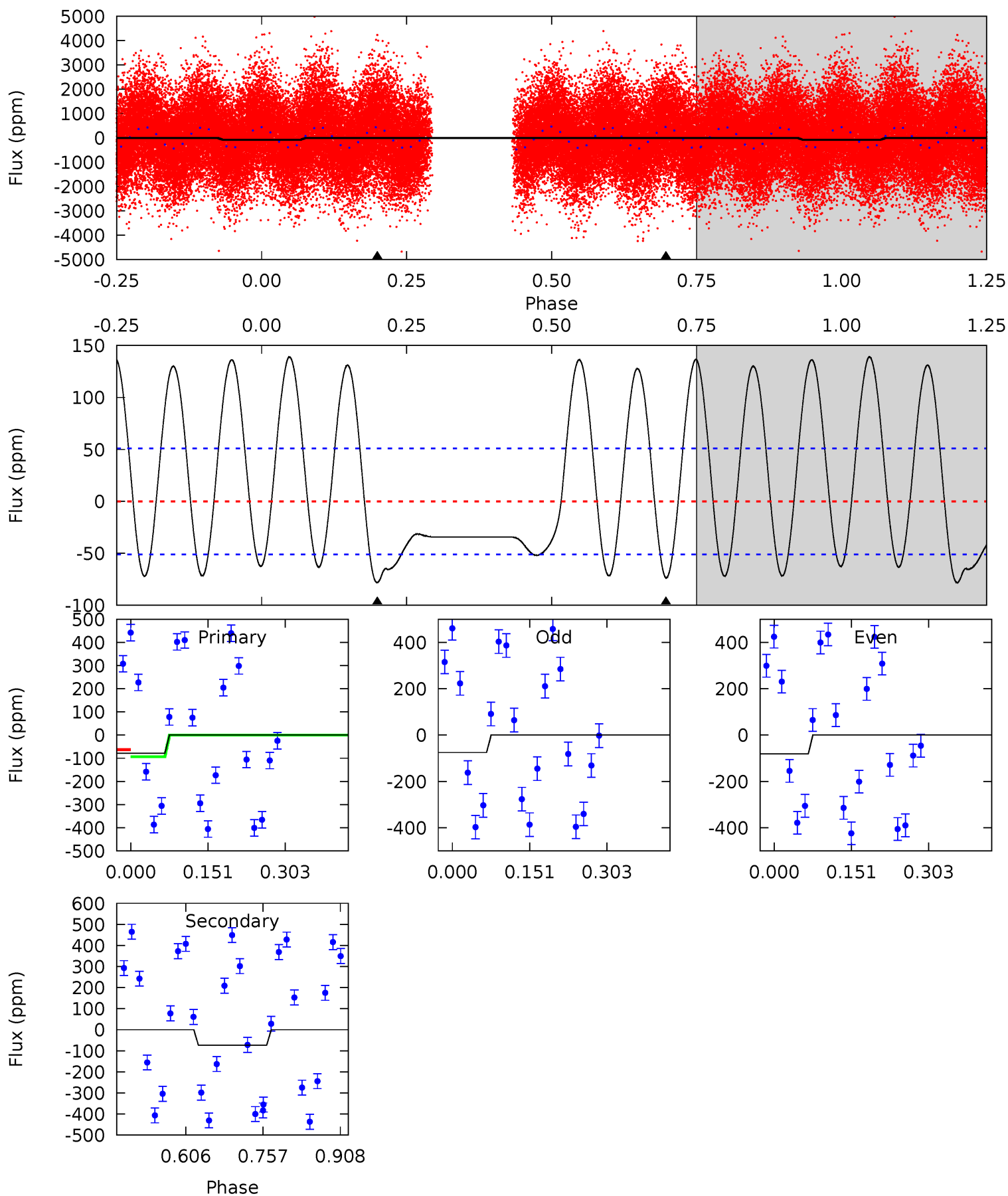
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.11	1.90	1.63	0.84	4.60	1.73	0.69	0.48	1.27	0.26	1.06	0.10	1.39	0.28	2.11



Alt Model-Shift Uniqueness Test

009579818-02, P = 2.266255 Days, E = 129.857038 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.87	6.46	0	0	4.48	1.43	6.18	6.87	6.87	6.46	6.46	0.27	1.12	0.64	1.31



Stellar Parameters For KIC 009579818

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8763^{+276}_{-379}	$3.973^{+0.234}_{-0.136}$	$0.070^{+0.200}_{-0.650}$	$2.537^{+0.702}_{-0.858}$	$2.206^{+0.344}_{-0.638}$	$0.190^{+0.330}_{-0.081}$
	+3%/-4%	+6%/-3%	+286%/-929%	+28%/-34%	+16%/-29%	+173%/-42%
Source	KIC0	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 009579818-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-20 ± 11	$2.42^{+0.73}_{-0.66}$	4052^{+292}_{-358}	5652^{+1205}_{-1172}	$3.319^{+3.950}_{-1.993}$
Alt.	-74 ± 11	$2.33^{+0.65}_{-0.67}$	4007^{+319}_{-292}	8496^{+1812}_{-1114}	14^{+13}_{-6}

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

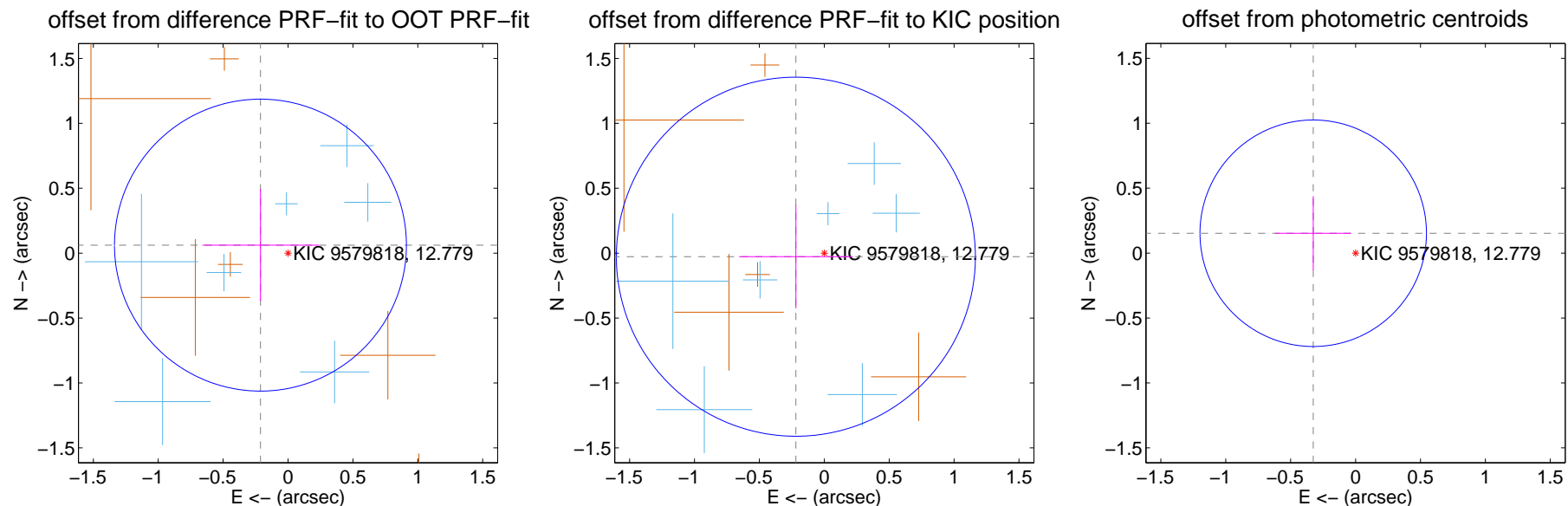
DV Centroid Data

Supplemental centroid analysis for 009579818-02. Kepler magnitude: 12.78. Transit SNR 7.08

There are 7 quarters with good PRF difference image offsets

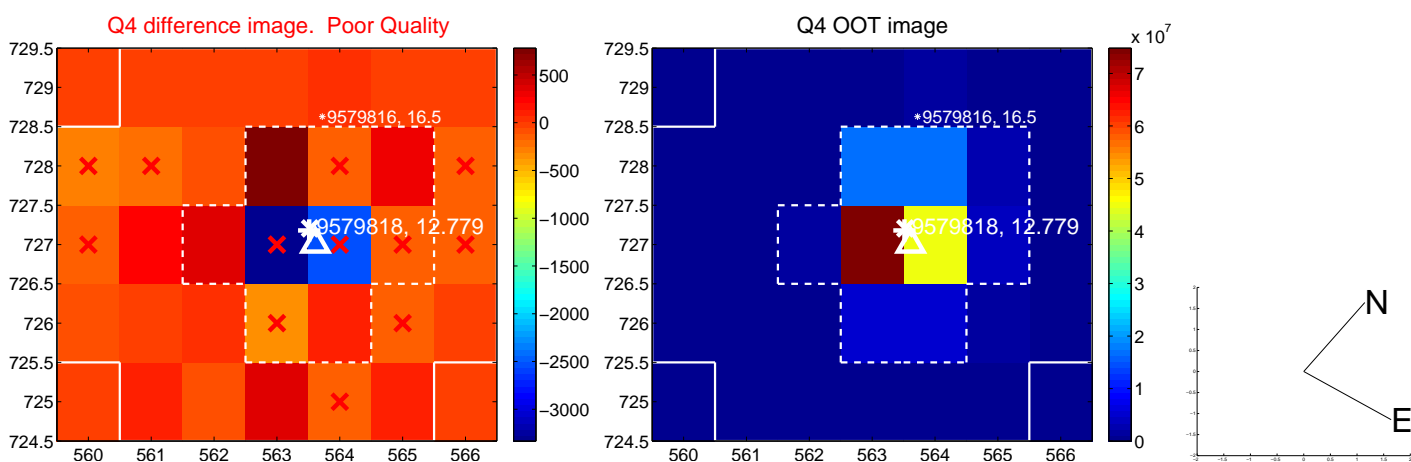
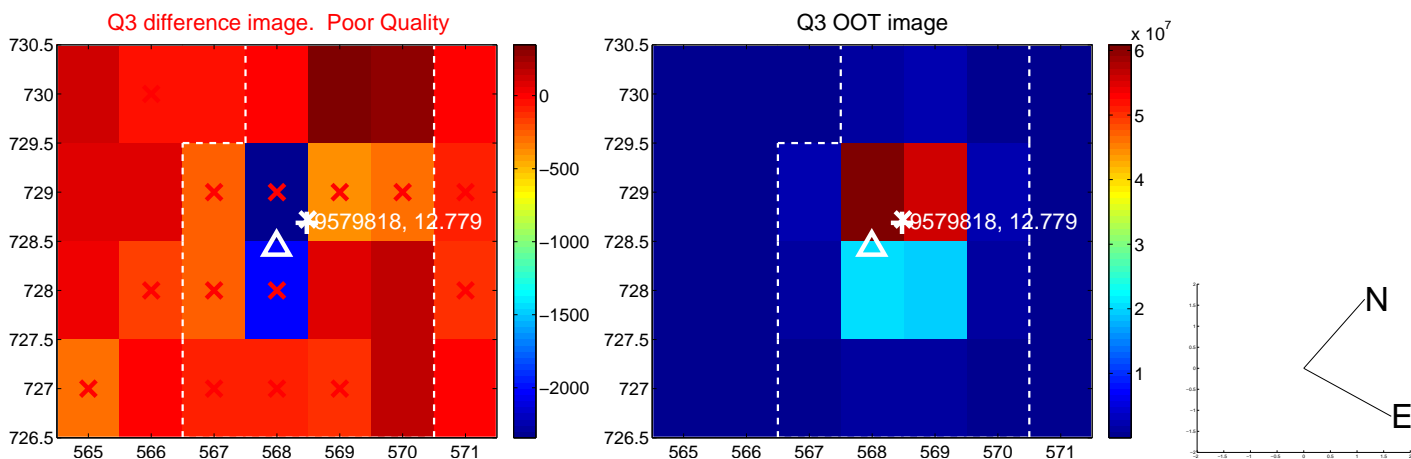
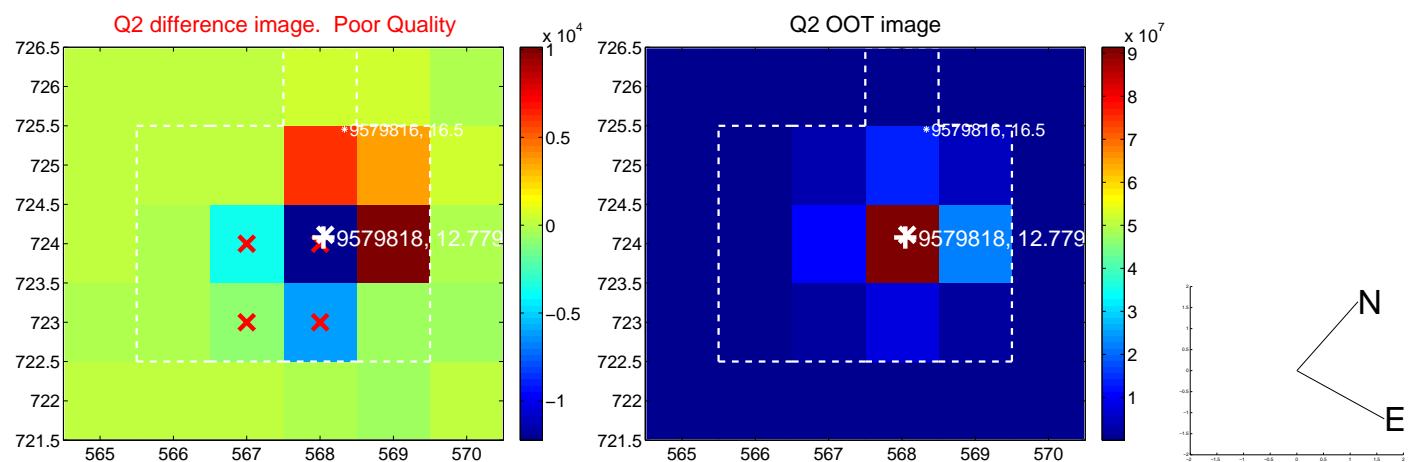
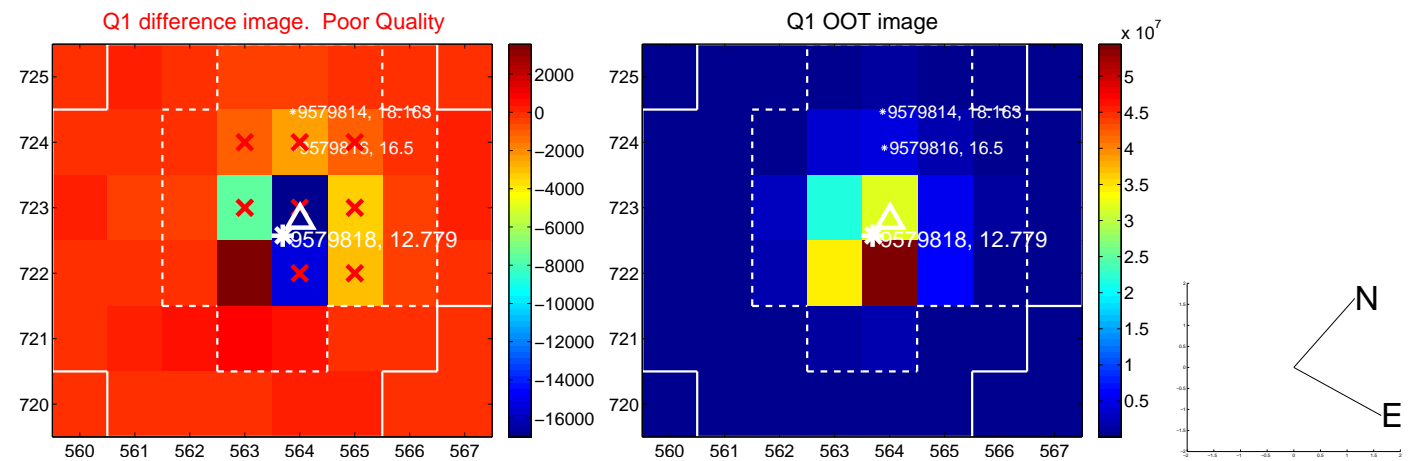
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.221 ± 0.375	0.59	0.212 ± 0.448	0.062 ± 0.430
PRF-fit source offset from KIC position	0.221 ± 0.461	0.48	0.219 ± 0.438	-0.027 ± 0.398
photometric centroid source offset	0.36 ± 0.29	1.24	0.33 ± 0.29	0.15 ± 0.29

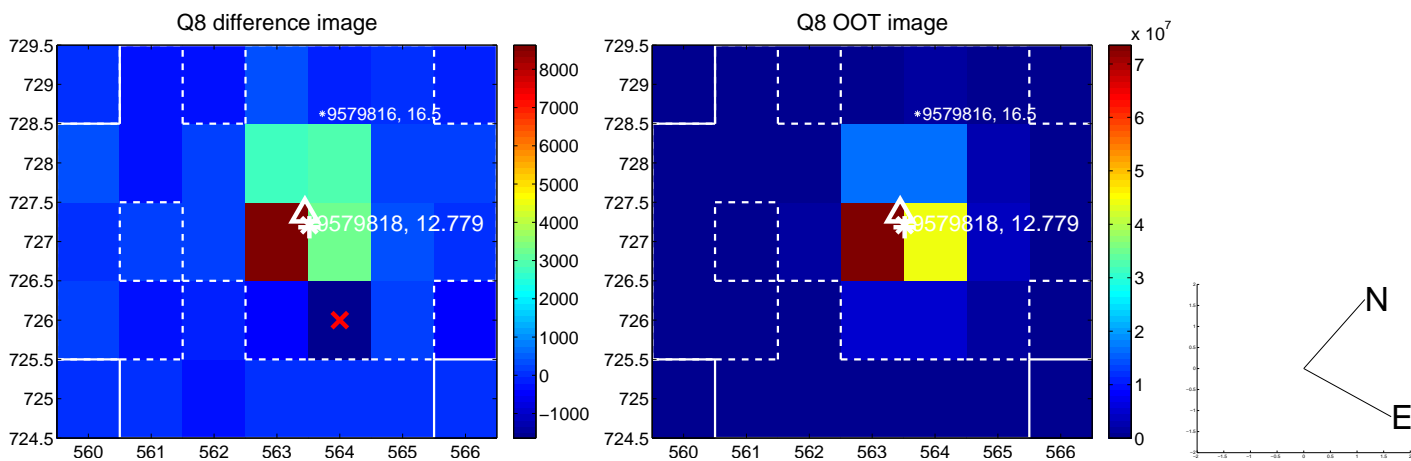
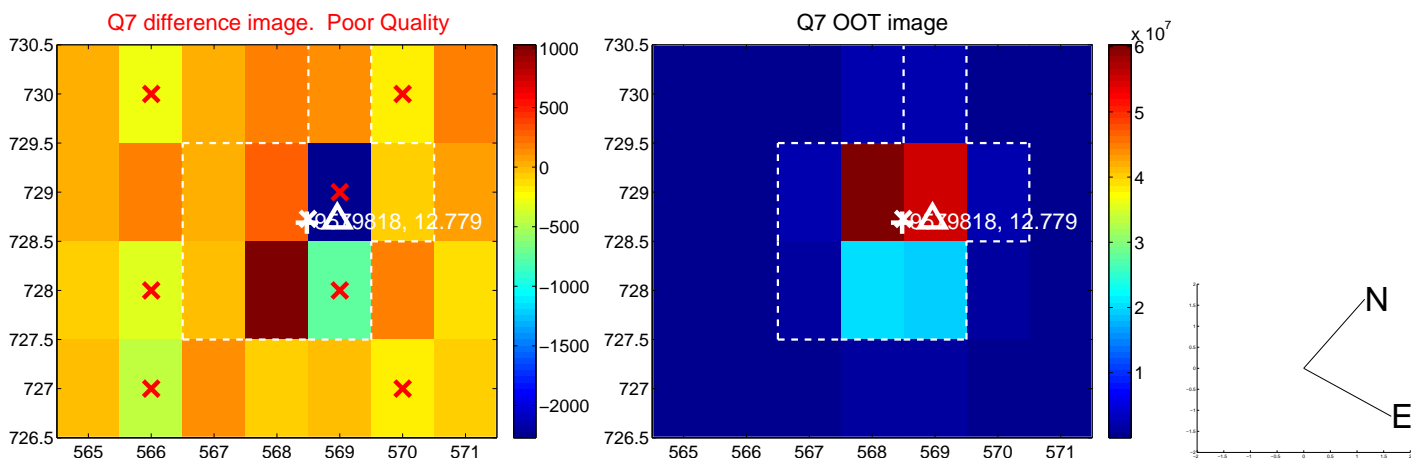
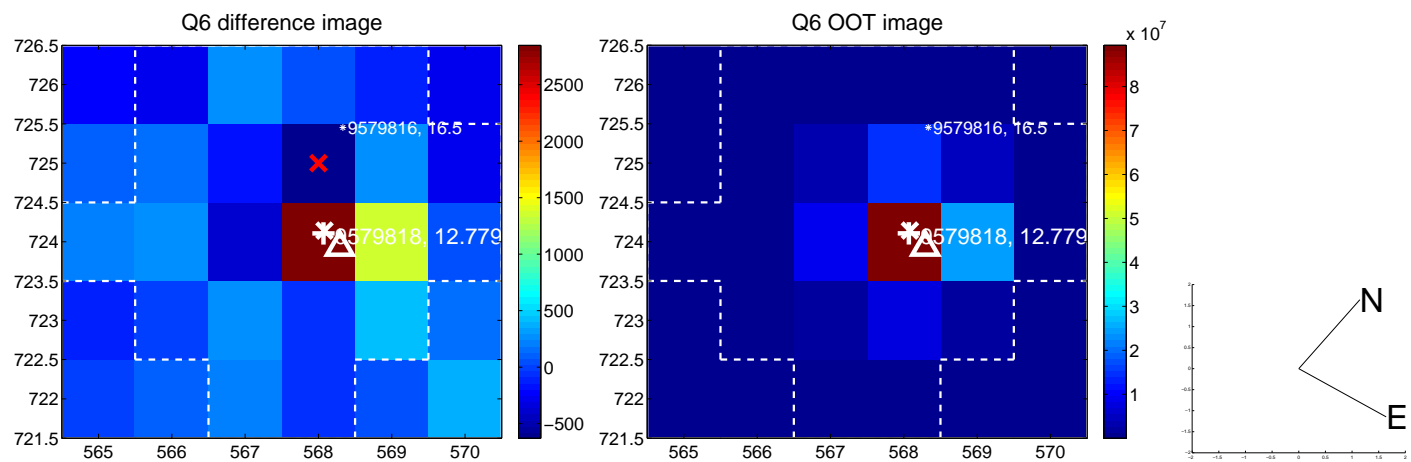
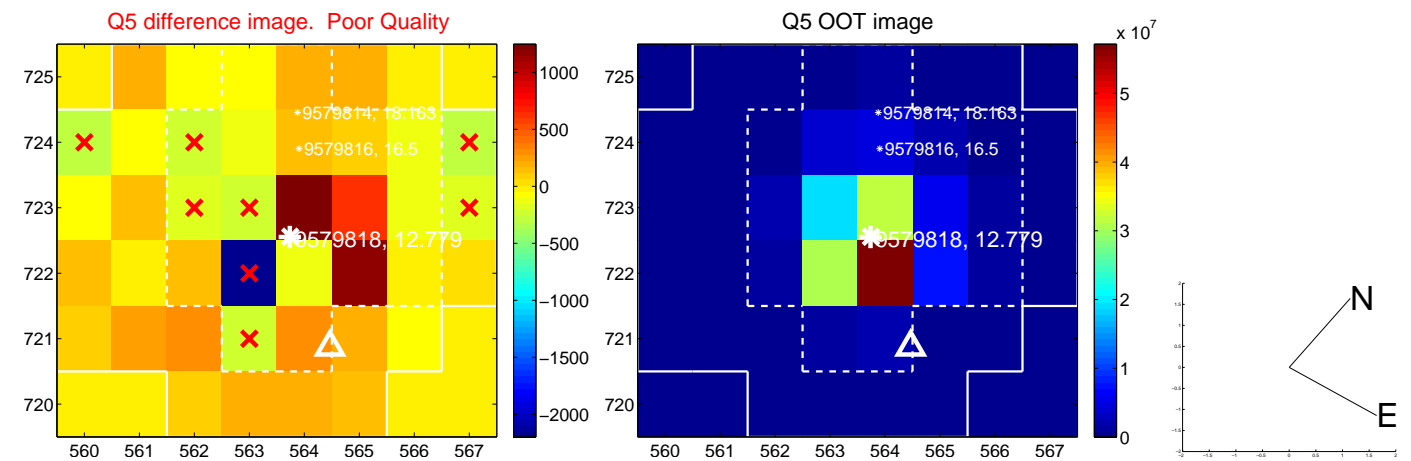


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

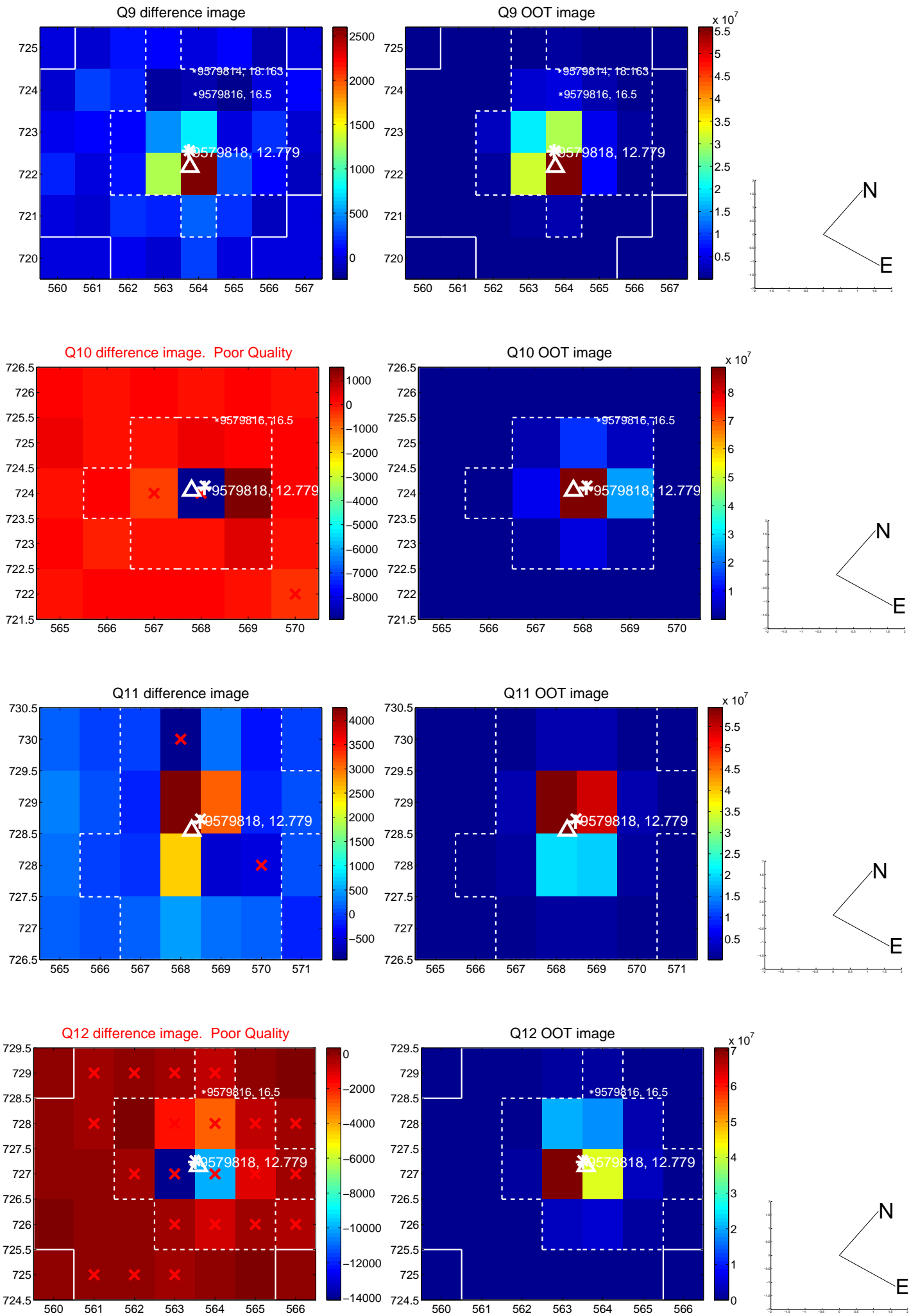
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



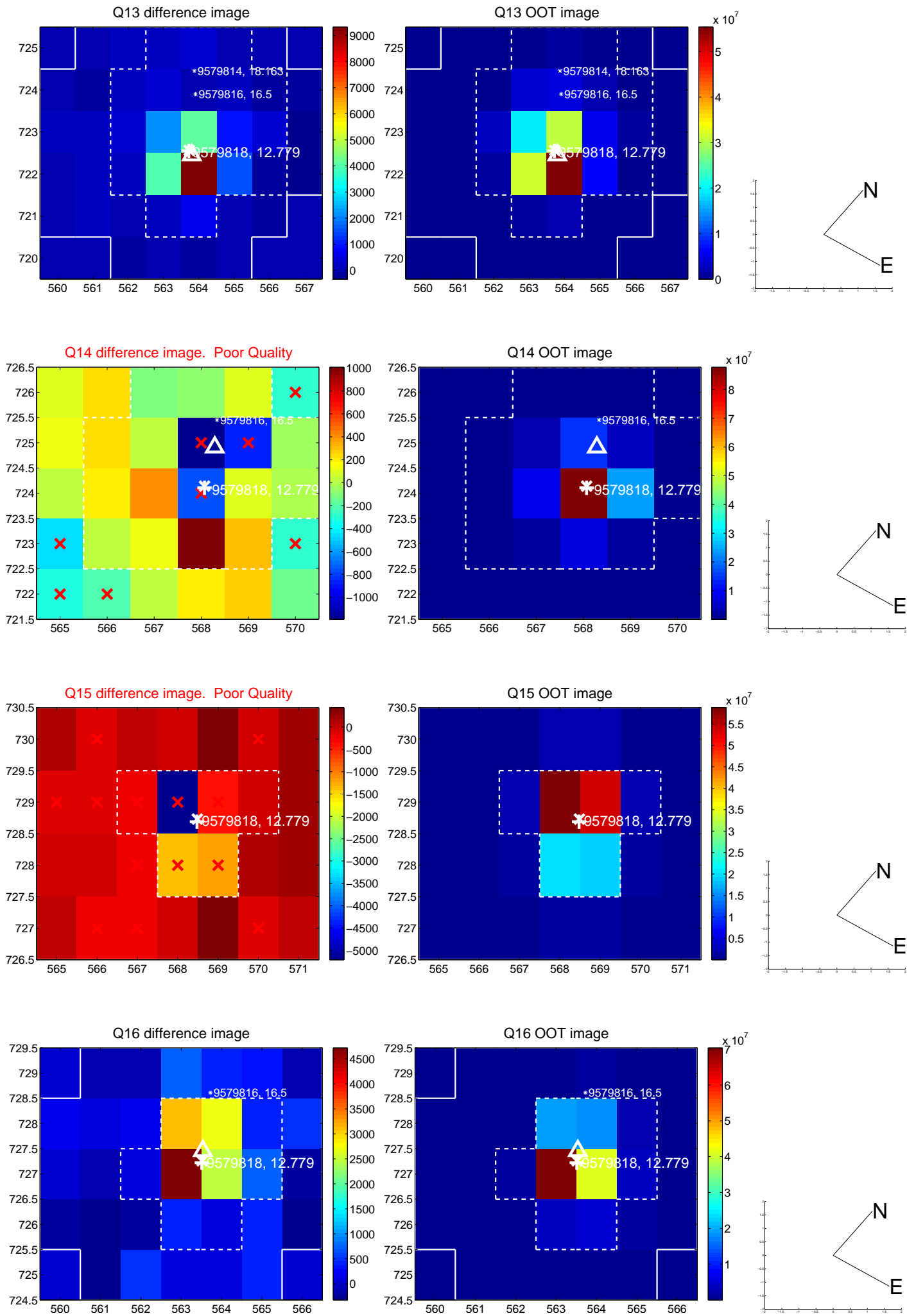
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



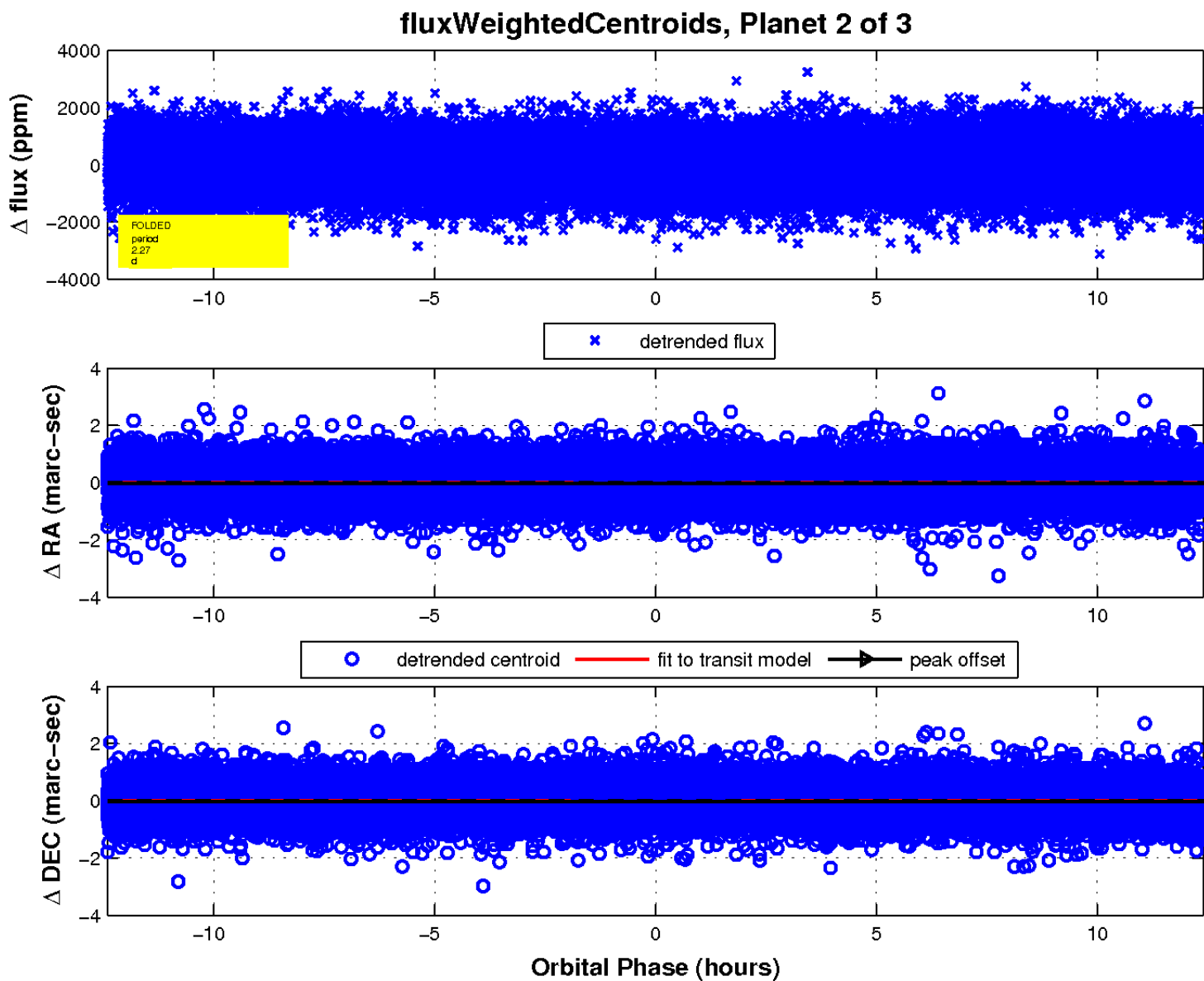
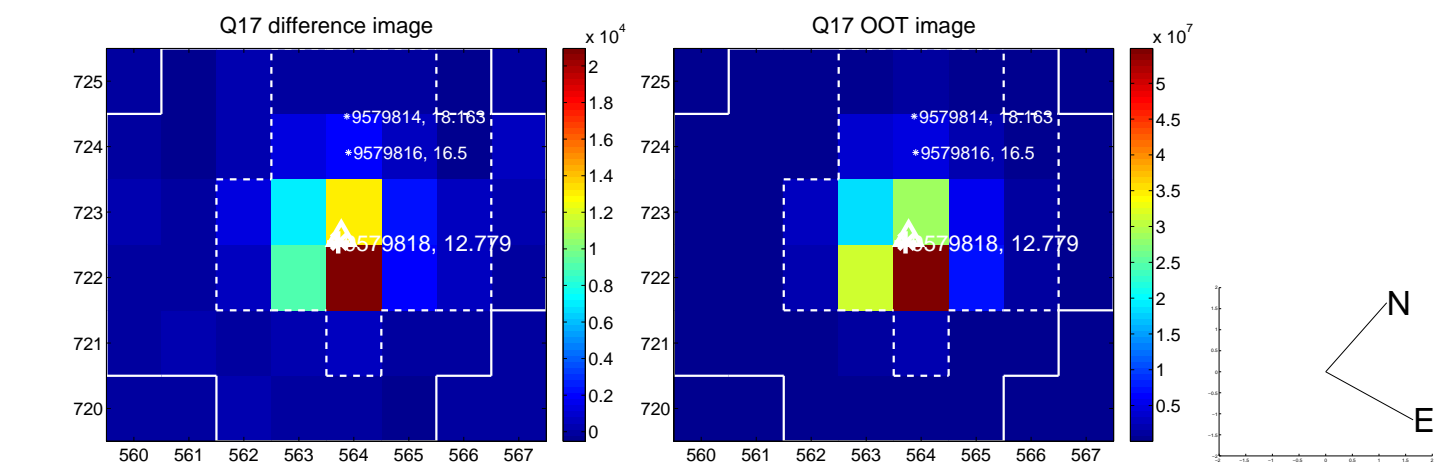
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

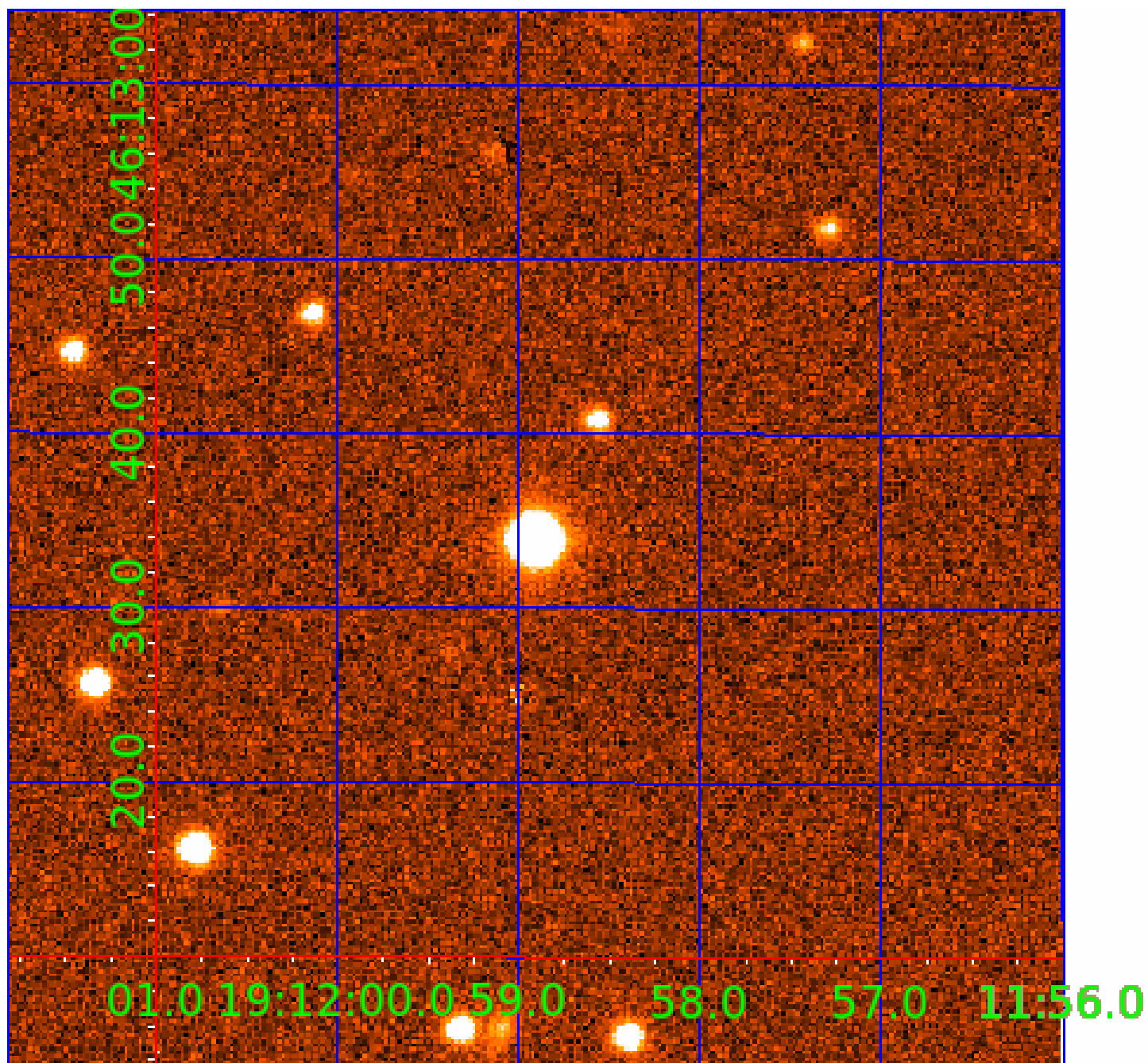


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009579818

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})
009579818-01	OBS	No	2.266344	132.917846	77.7	2.742	13.3	5.5	2.54	8763	2.58	17590.77
009579818-02	OBS	No	2.266417	132.123004	74.8	4.137	13.4	7.1	2.54	8763	2.54	17590.01
009579818-03	OBS	No	2.266454	132.423126	125.8	3.268	12.0	9.2	2.54	8763	3.29	17589.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009579818-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
009579818-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
009579818-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

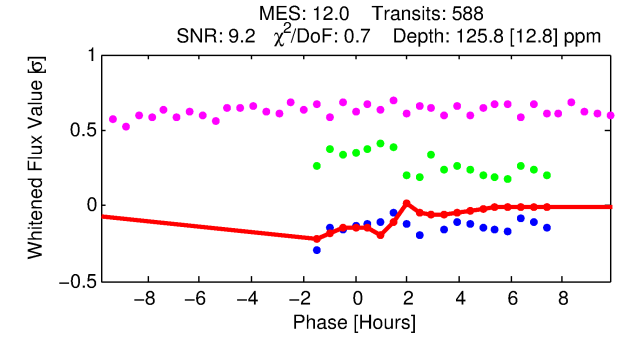
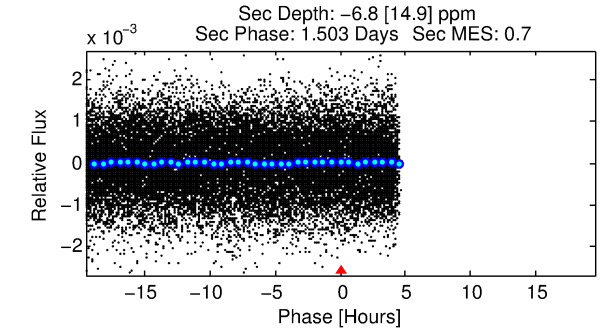
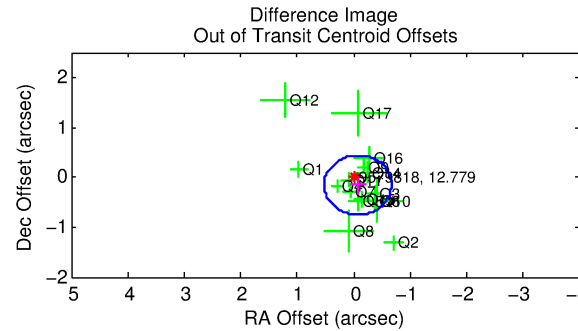
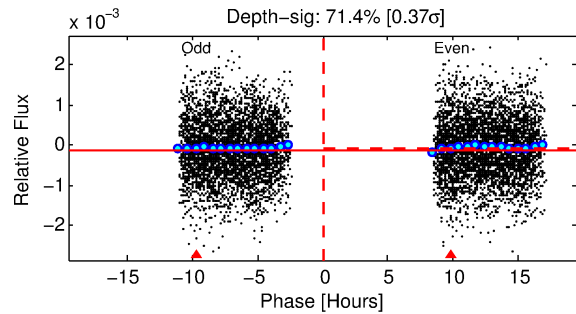
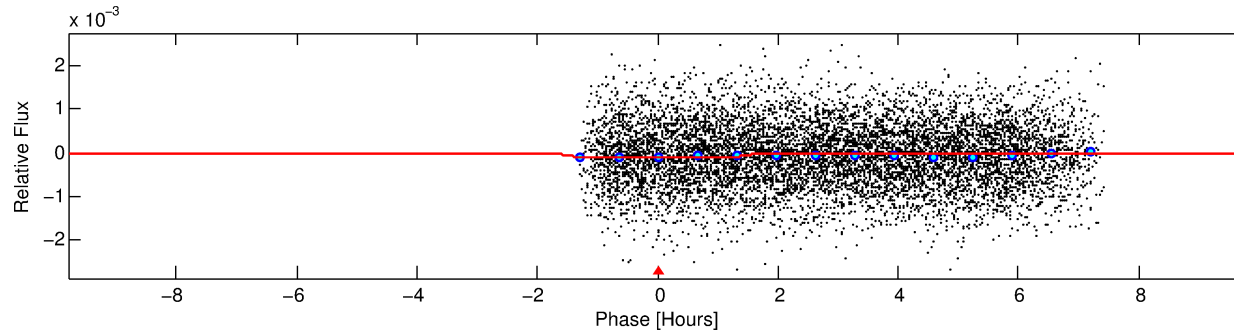
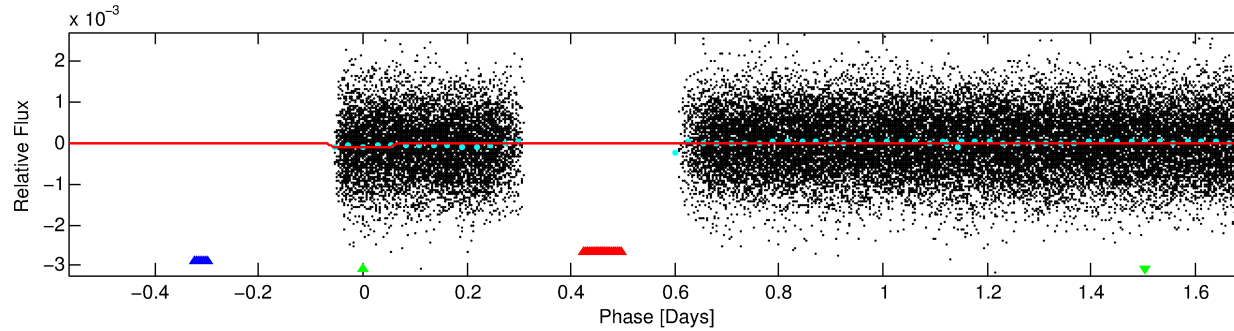
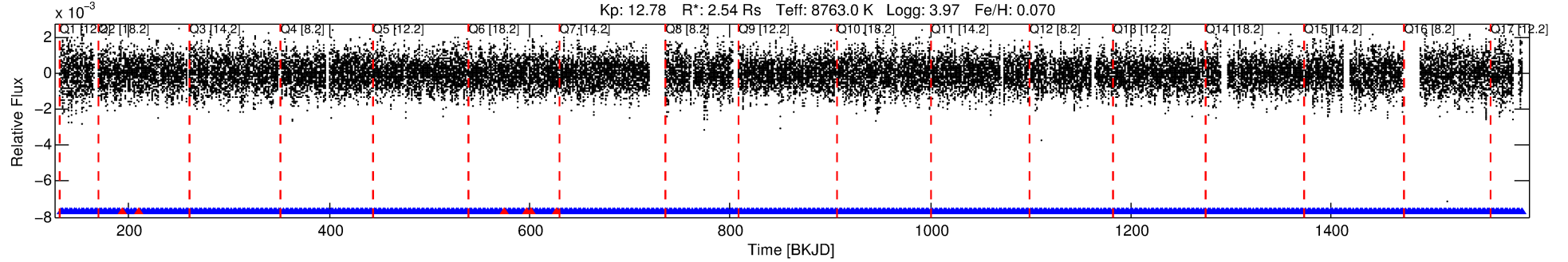
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009579818-03

No Significant Match Found

DV One-Page Summary

KIC: 9579818 Candidate: 3 of 3 Period: 2.266 d



DV Fit Results:

Period = 2.26645 [0.00002] d
Epoch = 132.4231 [0.0081] BKJD
Rp/R* = 0.0119 [0.0033]
a/R* = 2.62 [4.53]
b = 0.90 [0.41]
Seff = 17589.63 [8056.54]
Teq = 2937 [336] K
Rp = 3.29 [1.45] Re
a = 0.0440 [0.0127] AU
Ag = N/A
Teffp = N/A

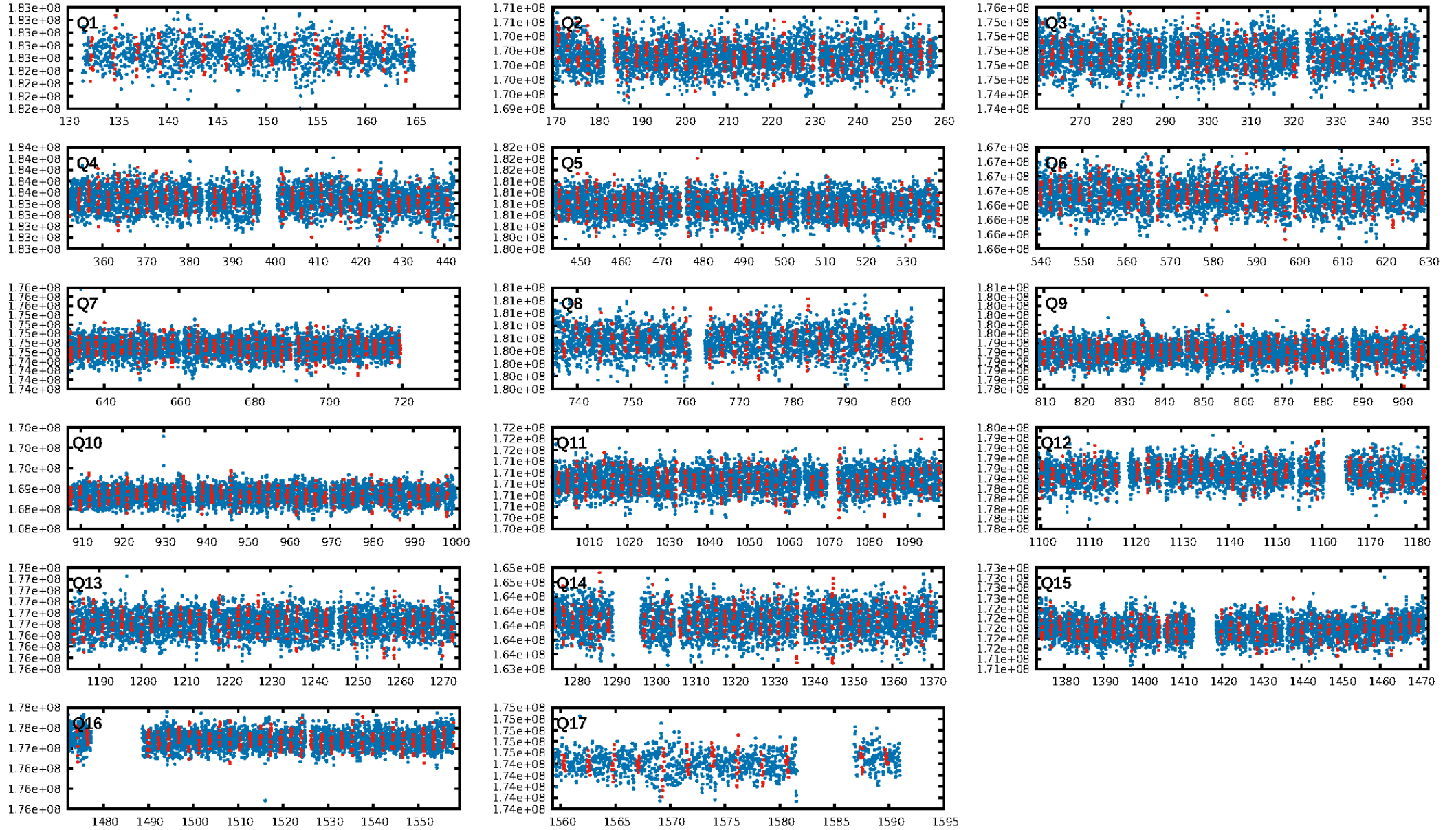
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.72e-59
RollingBand-fgt: 0.99 [555/561]
GhostDiagnostic-chr: 16.66
Centroid-sig: 17.7%
Centroid-so: 0.327 arcsec [1.70 σ]
OotOffset-rm: 0.174 arcsec [0.87 σ]
KicOffset-rm: 0.289 arcsec [1.56 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 0.00 [0/17]

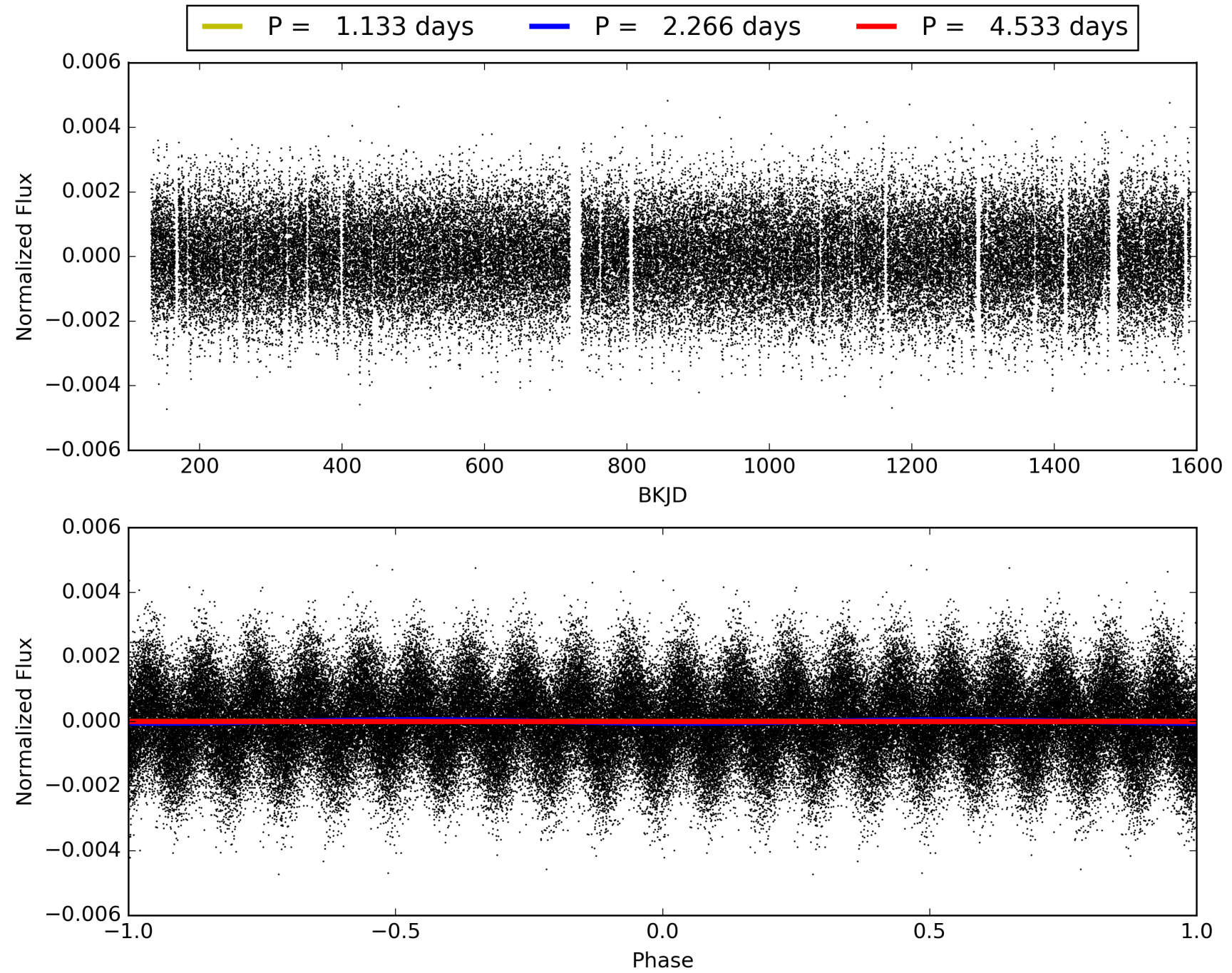
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:42:39 Z

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

TCE 009579818-03, PDC Light Curves

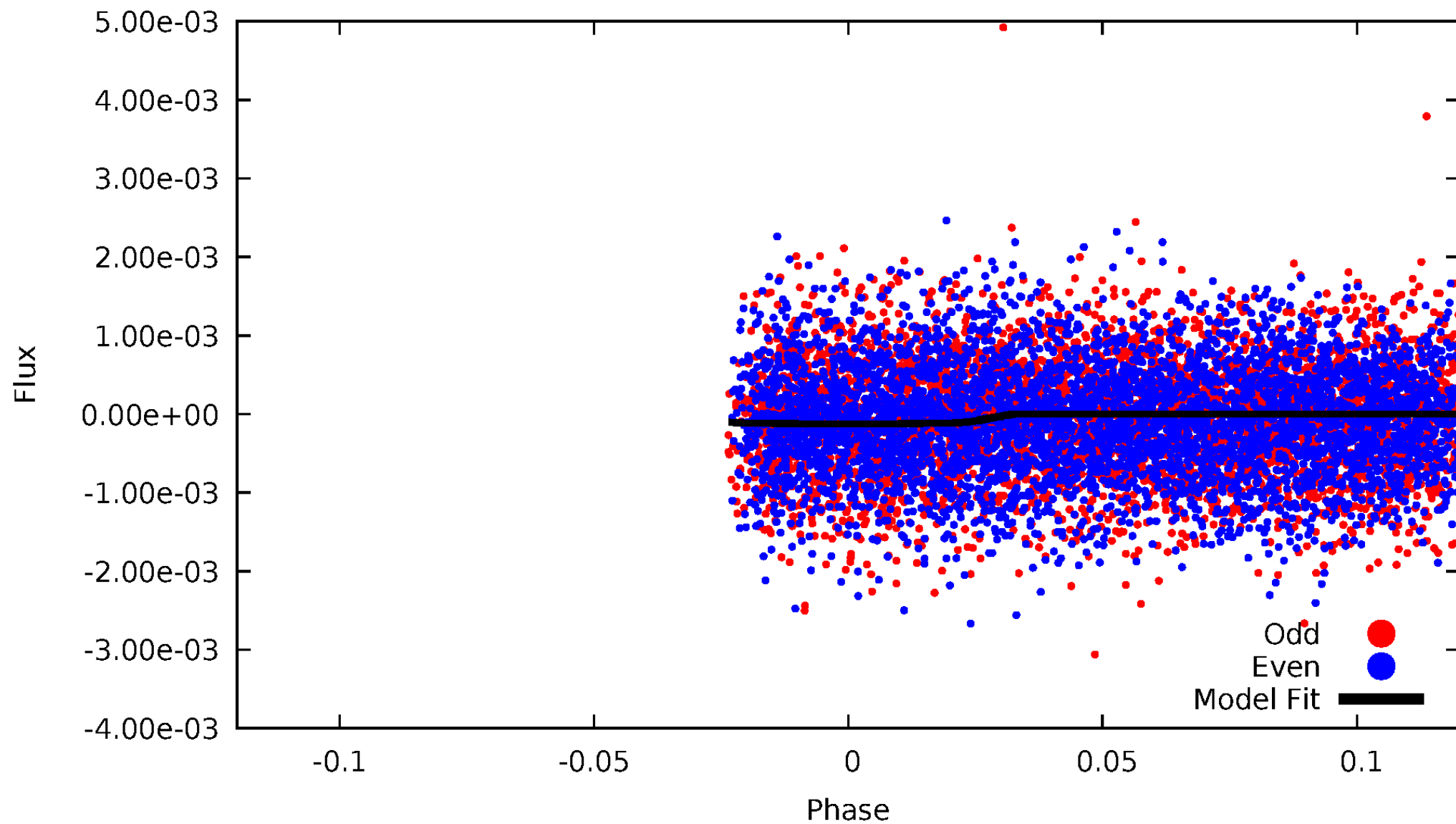


TCE 009579818-03



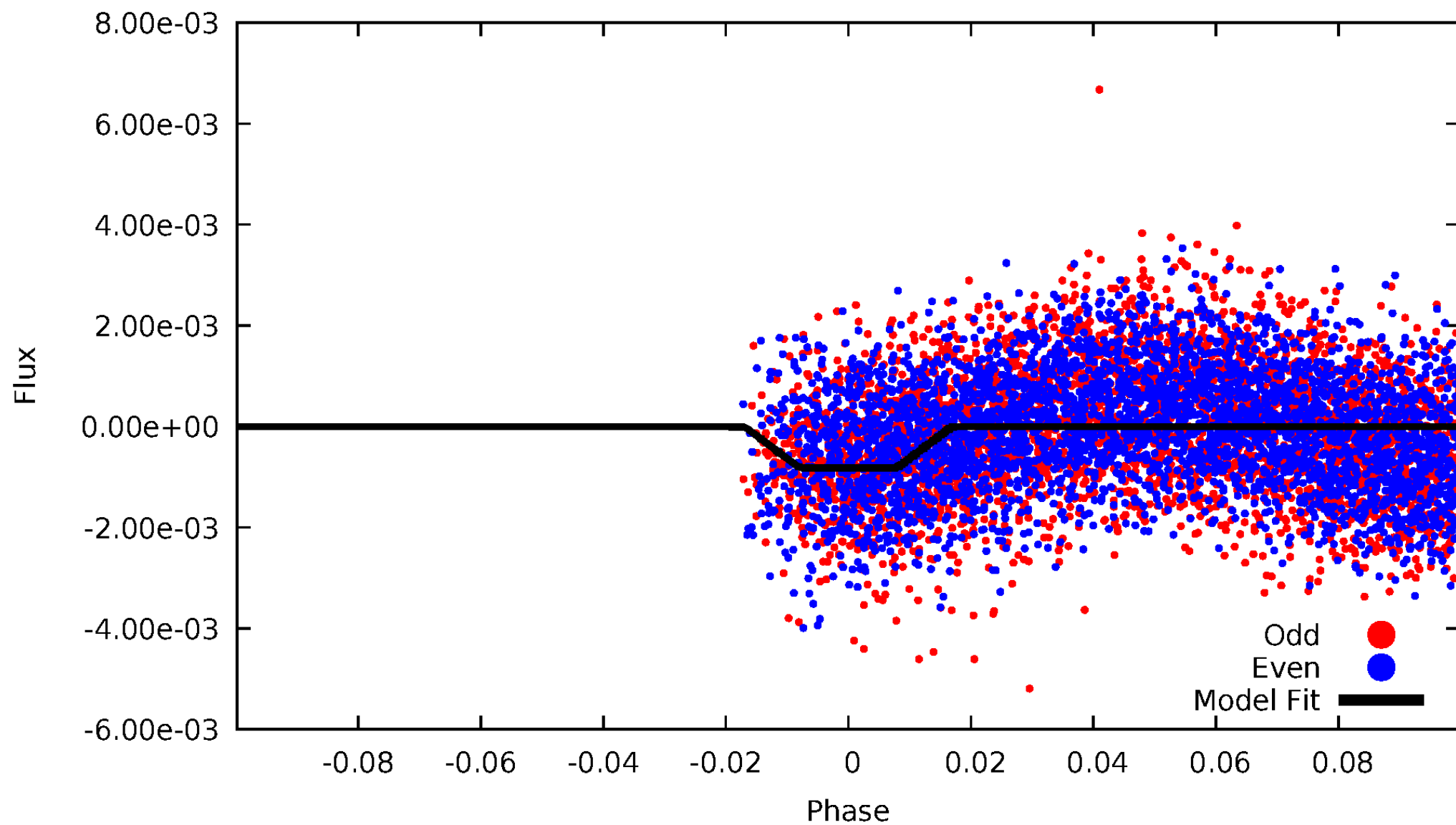
DV Odd/Even

TCE 009579818-03



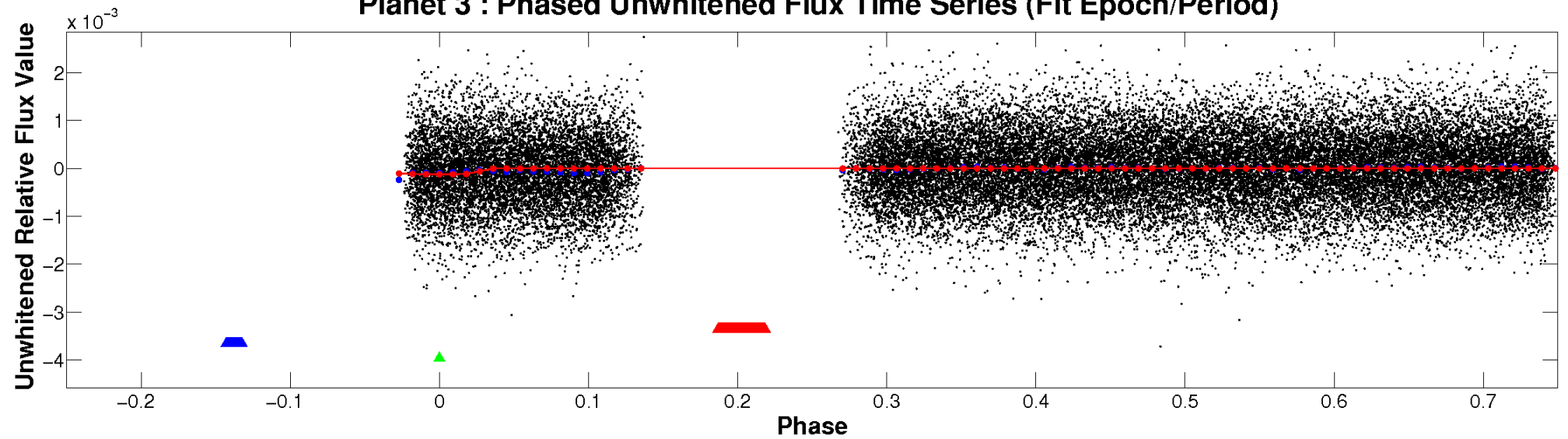
ALT Odd/Even

TCE 009579818-03

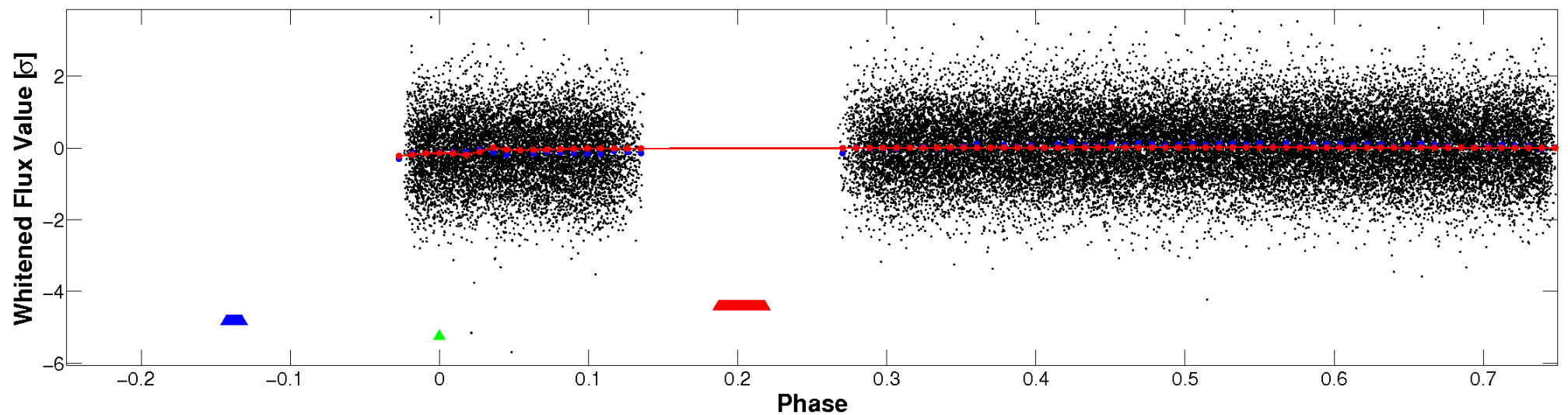


Non-Whitened Vs. Whitened Light Curve

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

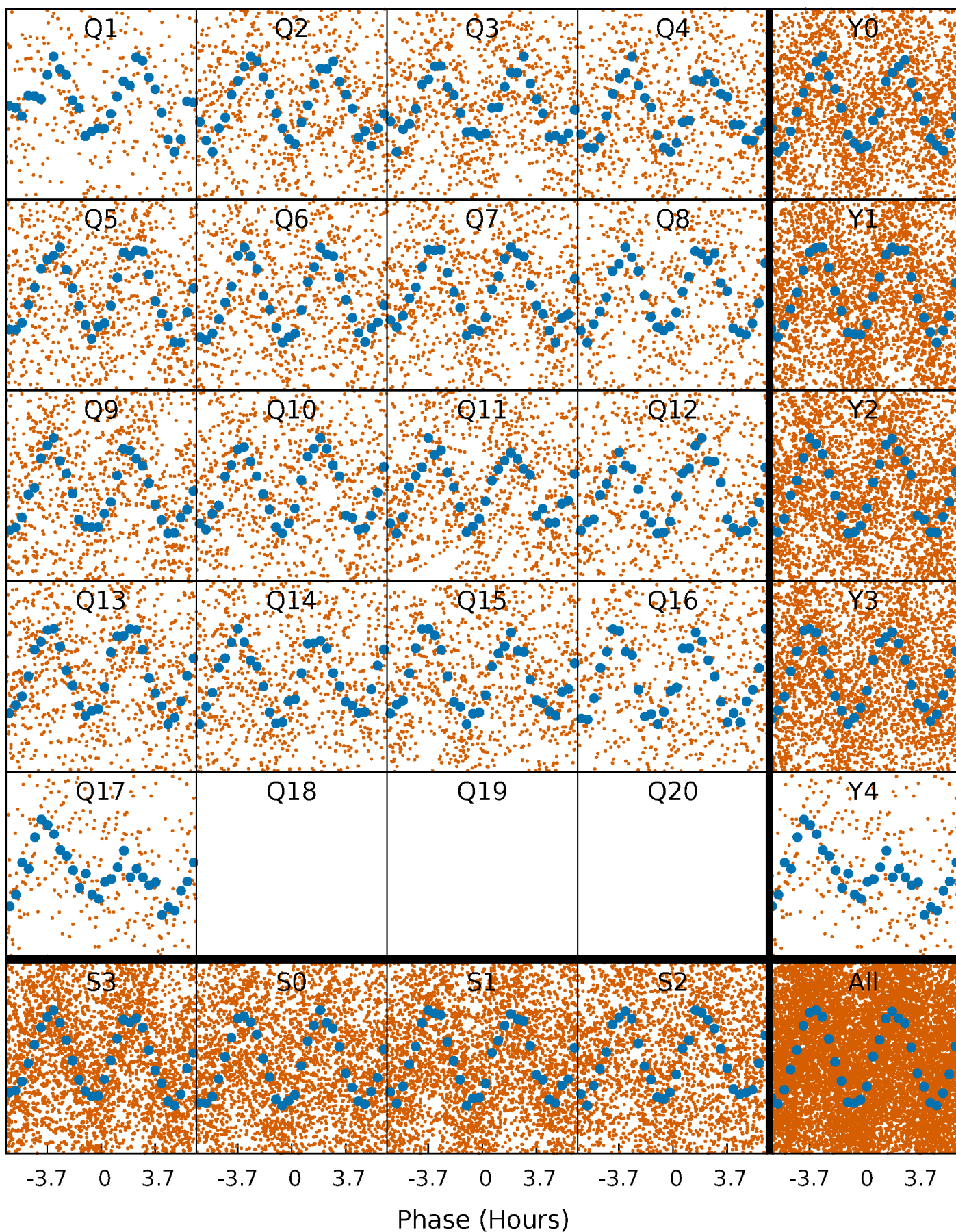


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



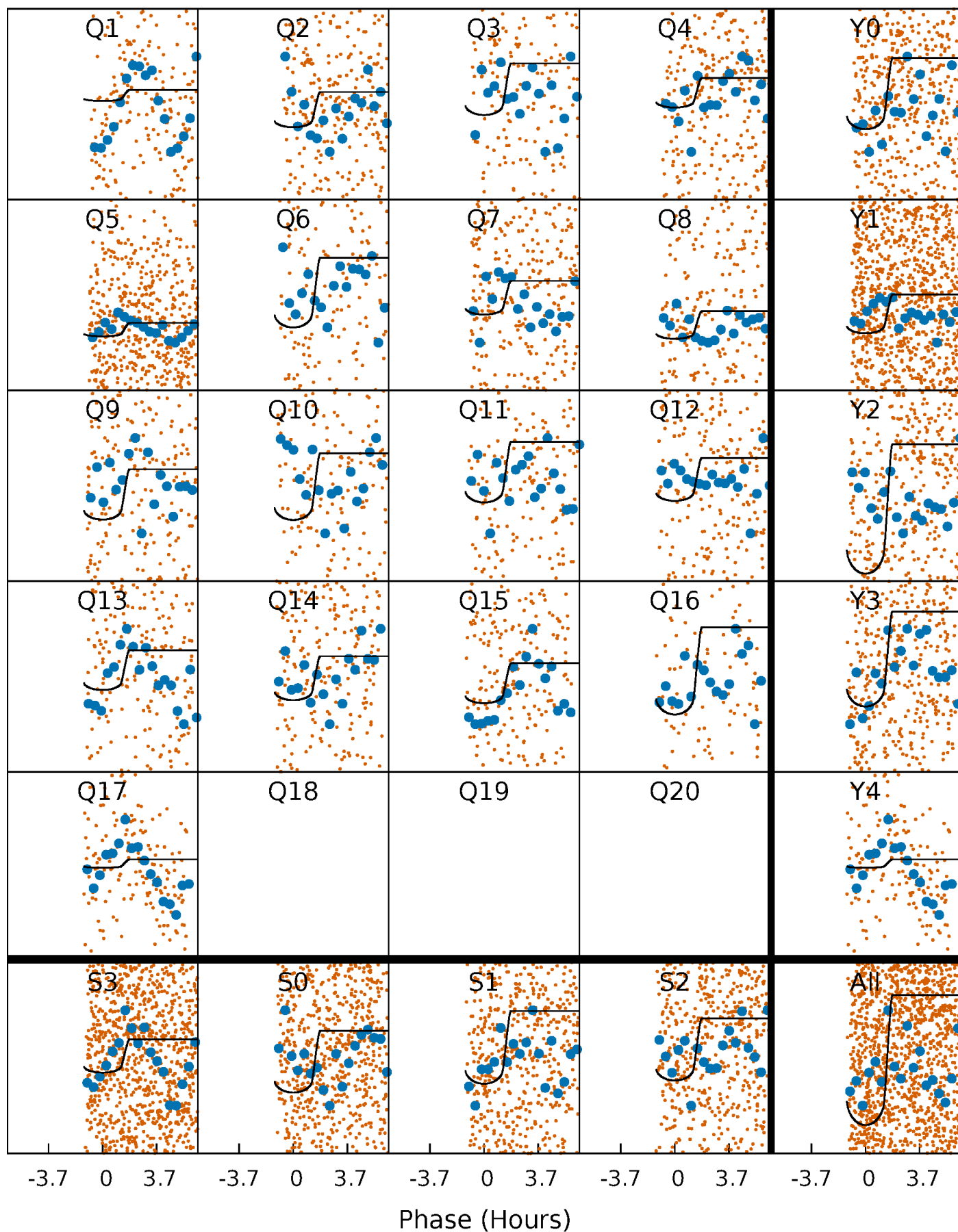
PDC Quarter-Phased Transit Curves

TCE 009579818-03 P= 2.266454 Days $T_0=132.423126$ (BKJD)



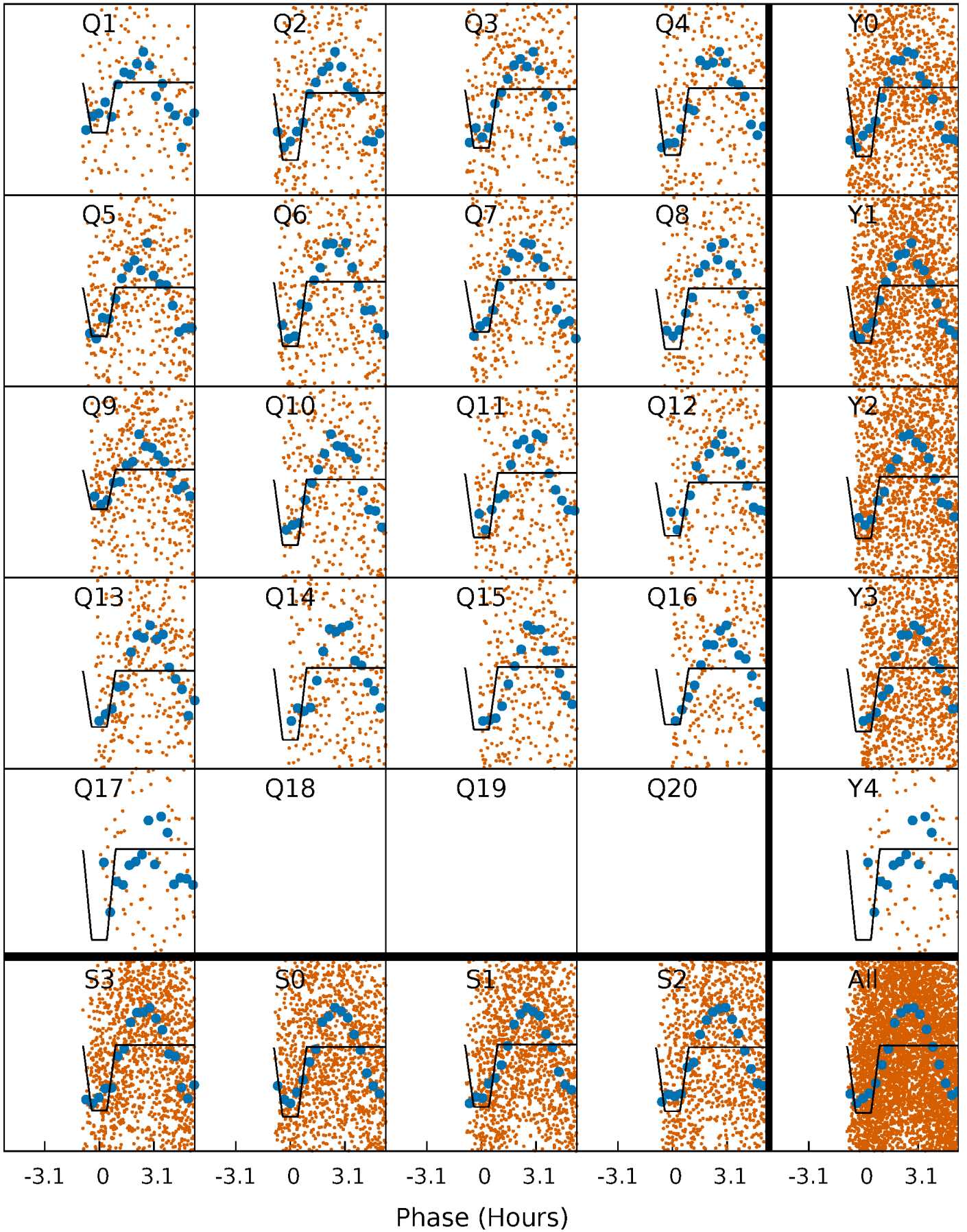
DV Quarter-Phased Transit Curves

TCE 009579818-03 P= 2.266454 Days $T_0=132.423126$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

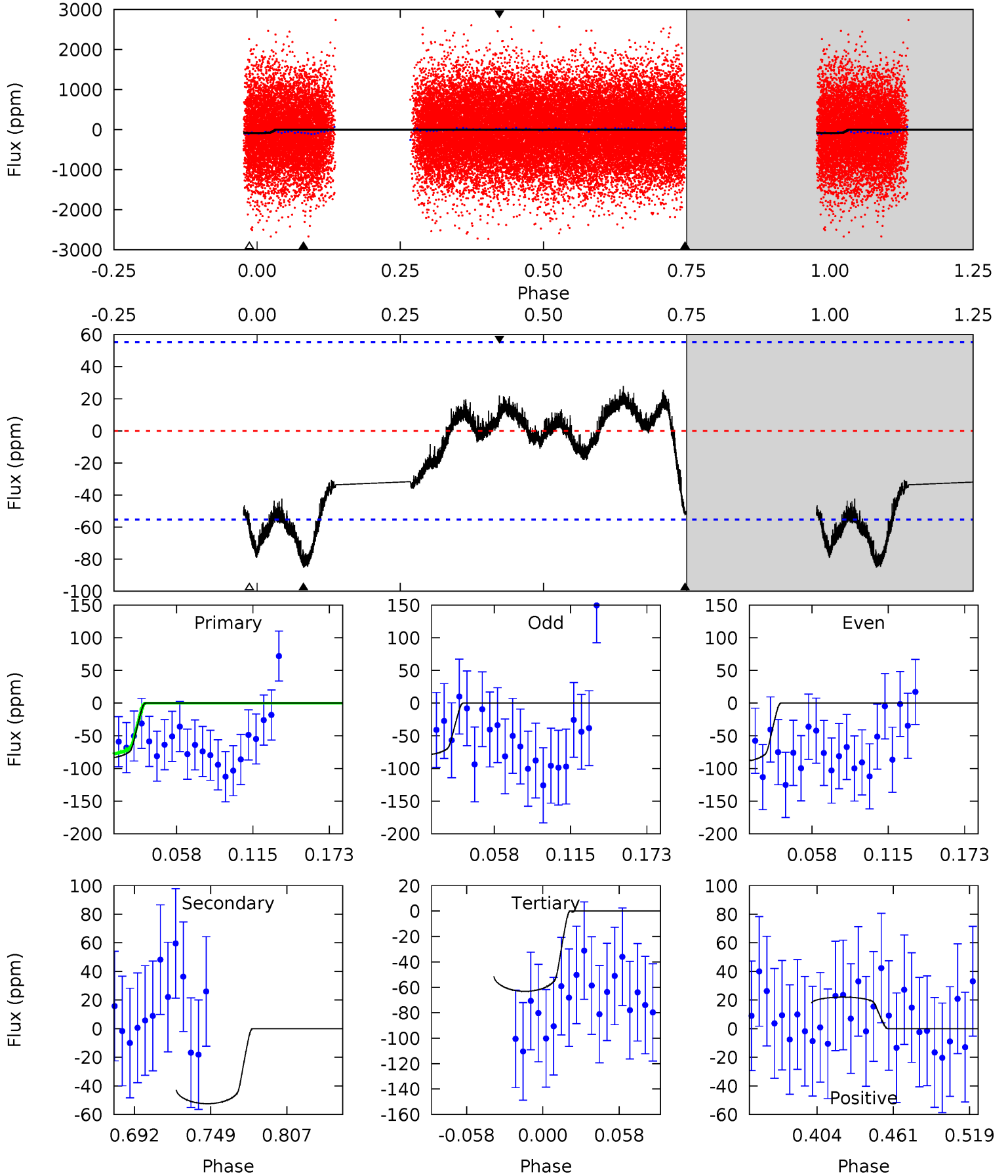
TCE 009579818-03 P= 2.266352 Days $T_0=132.431741$ (BKJD)



DV Model-Shift Uniqueness Test

009579818-03, P = 2.266454 Days, E = 130.156672 Days

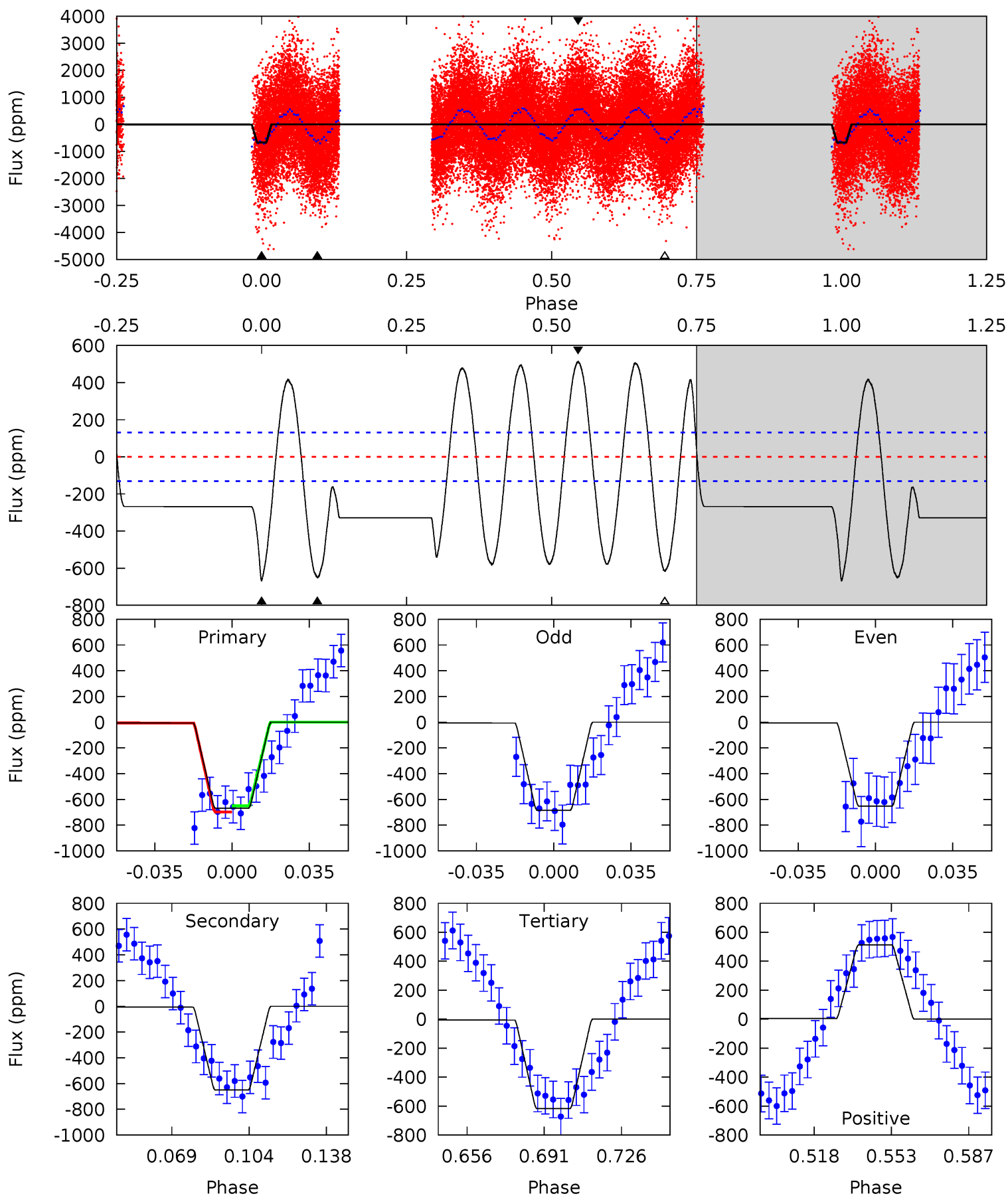
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.20	4.44	5.34	1.87	4.68	1.90	1.95	1.86	5.34	-0.90	2.57	0.42	1.15	0.25	0.55



Alt Model-Shift Uniqueness Test

009579818-03, P = 2.266352 Days, E = 130.165389 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.4	23.7	22.5	18.7	4.78	2.11	13.7	1.86	5.66	1.20	5.00	0.59	1.06	0.43	0.81



Stellar Parameters For KIC 009579818

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8763^{+276}_{-379}	$3.973^{+0.234}_{-0.136}$	$0.070^{+0.200}_{-0.650}$	$2.537^{+0.702}_{-0.858}$	$2.206^{+0.344}_{-0.638}$	$0.190^{+0.330}_{-0.081}$
	+3%/-4%	+6%/-3%	+286%/-929%	+28%/-34%	+16%/-29%	+173%/-42%
Source	KIC0	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 009579818-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-52 ± 12	$3.19^{+1.06}_{-1.01}$	4045^{+316}_{-360}	6403^{+1423}_{-883}	$5.348^{+6.165}_{-2.490}$
Alt.	-650 ± 27	$7.56^{+1.71}_{-1.50}$	4010^{+312}_{-327}	8026^{+741}_{-622}	12^{+6}_{-3}

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

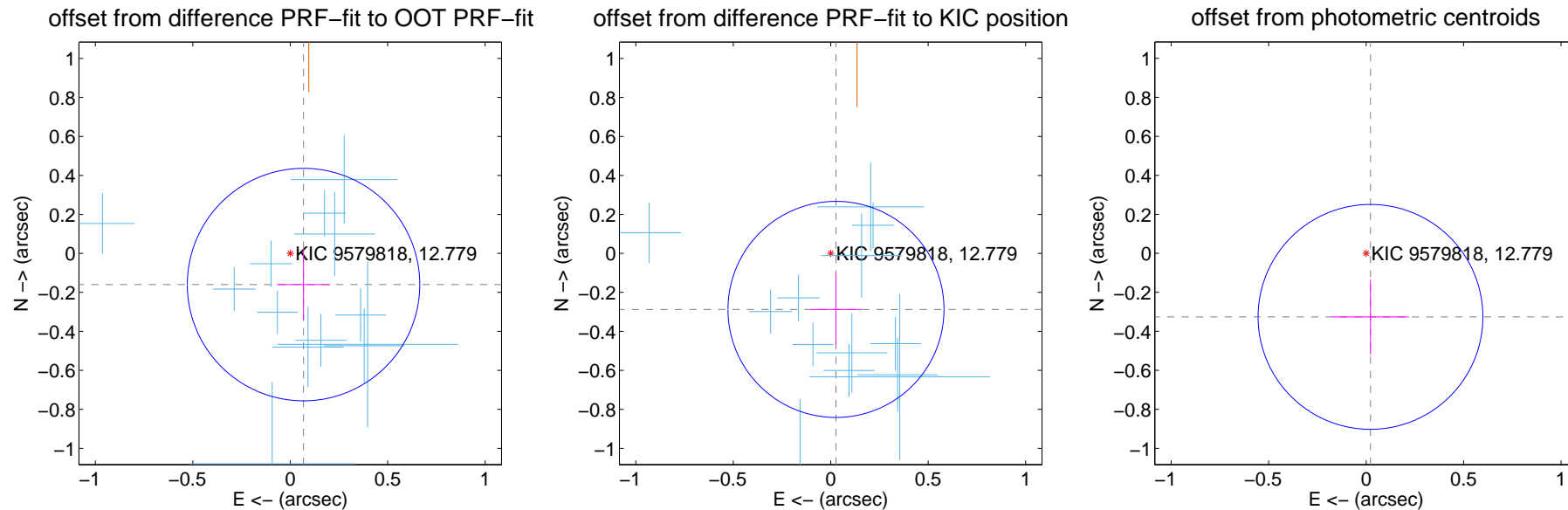
DV Centroid Data

Supplemental centroid analysis for 009579818-03. Kepler magnitude: 12.78. Transit SNR 9.20

There are 15 quarters with good PRF difference image offsets

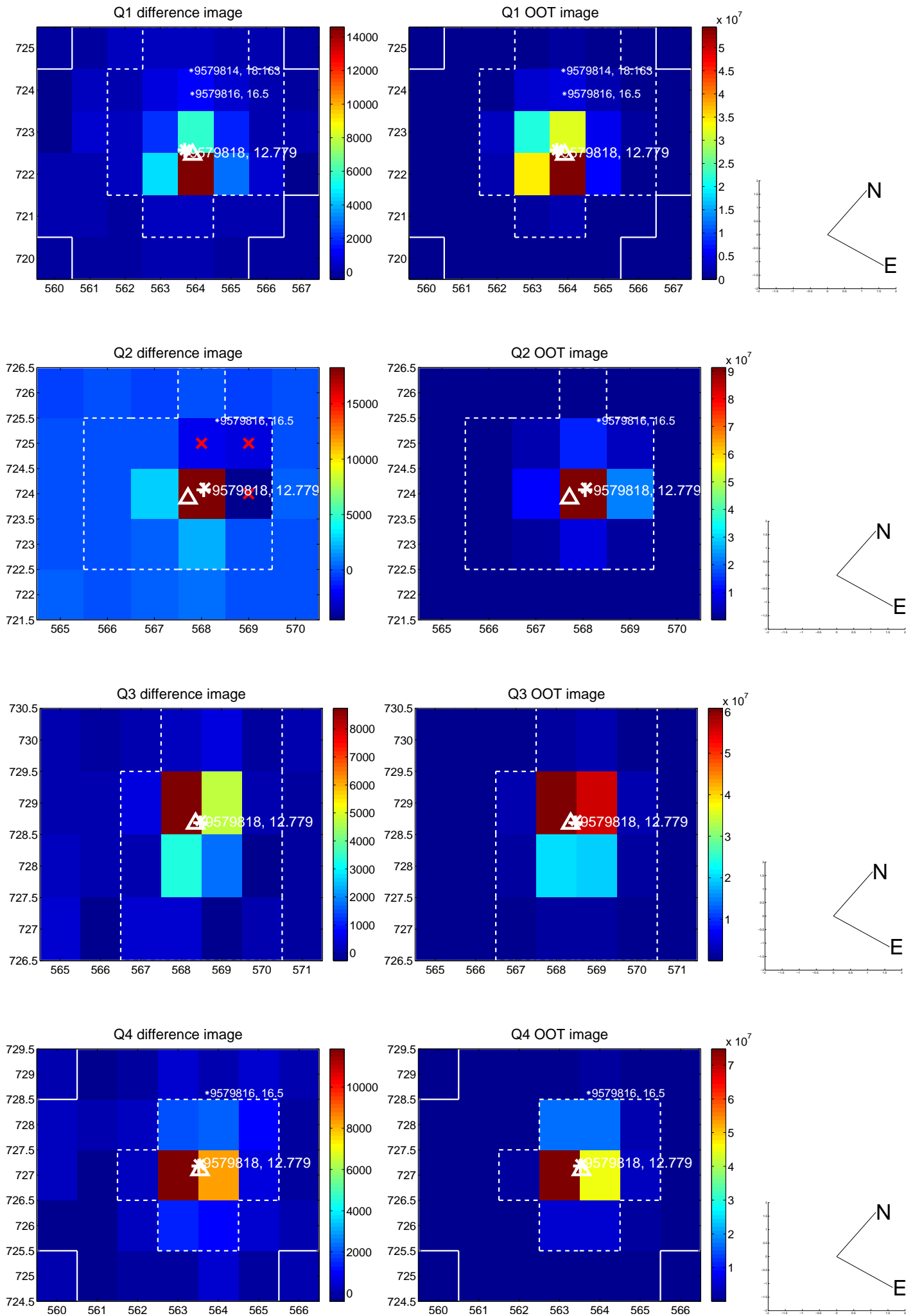
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.174 ± 0.199	0.87	-0.068 ± 0.137	-0.160 ± 0.182
PRF-fit source offset from KIC position	0.289 ± 0.185	1.56	-0.027 ± 0.132	-0.287 ± 0.180
photometric centroid source offset	0.33 ± 0.19	1.70	-0.02 ± 0.20	-0.33 ± 0.19

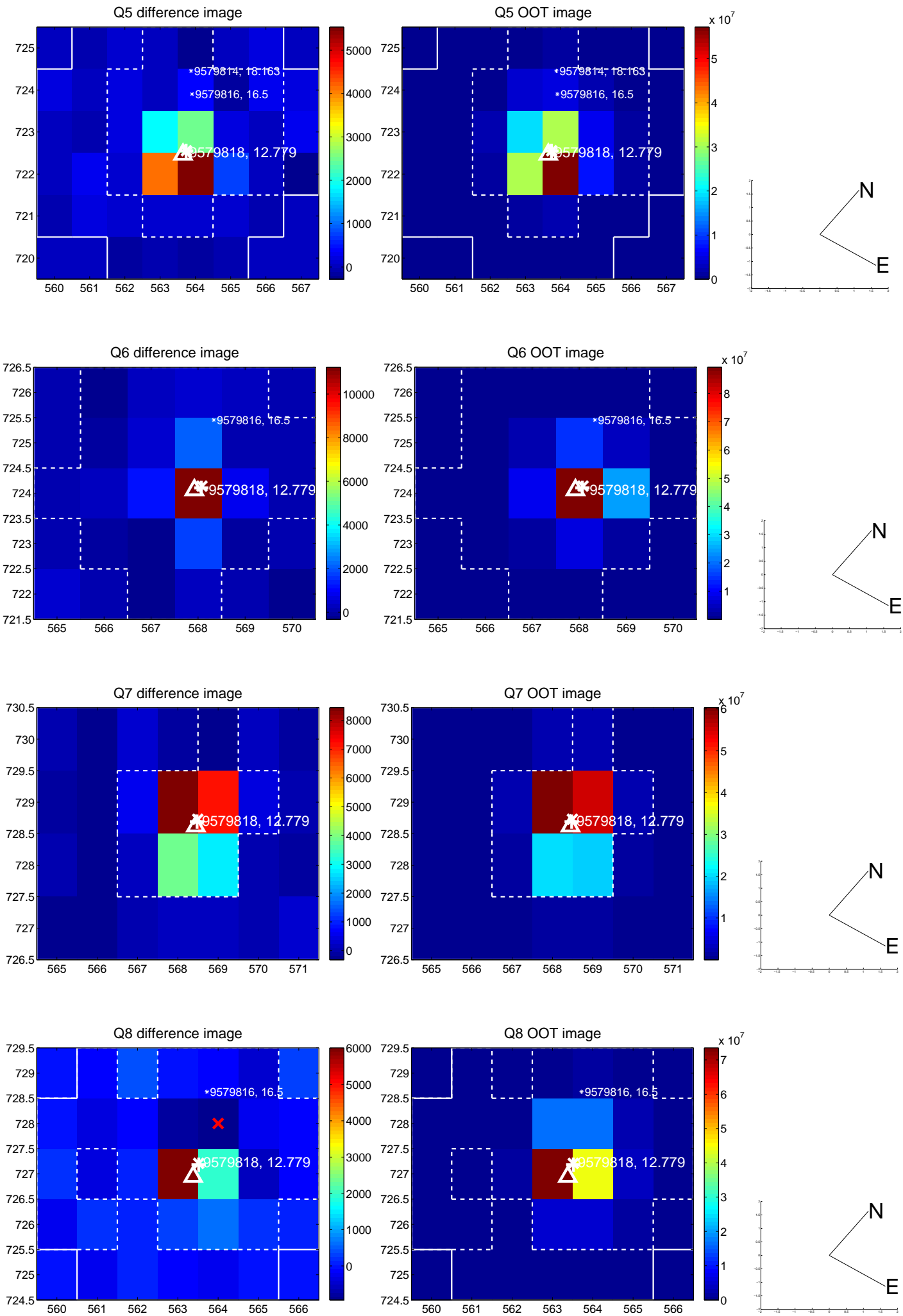


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

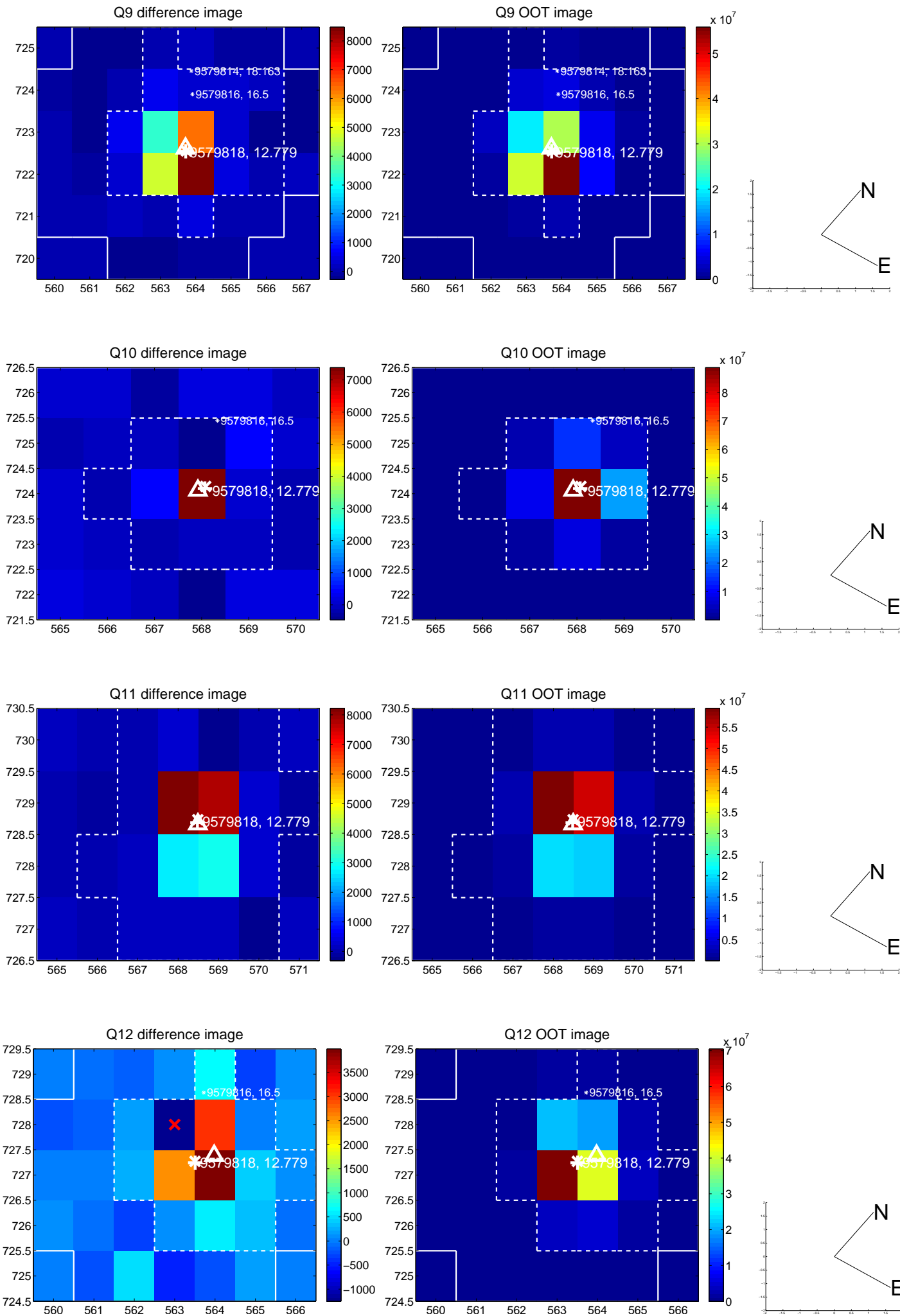
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



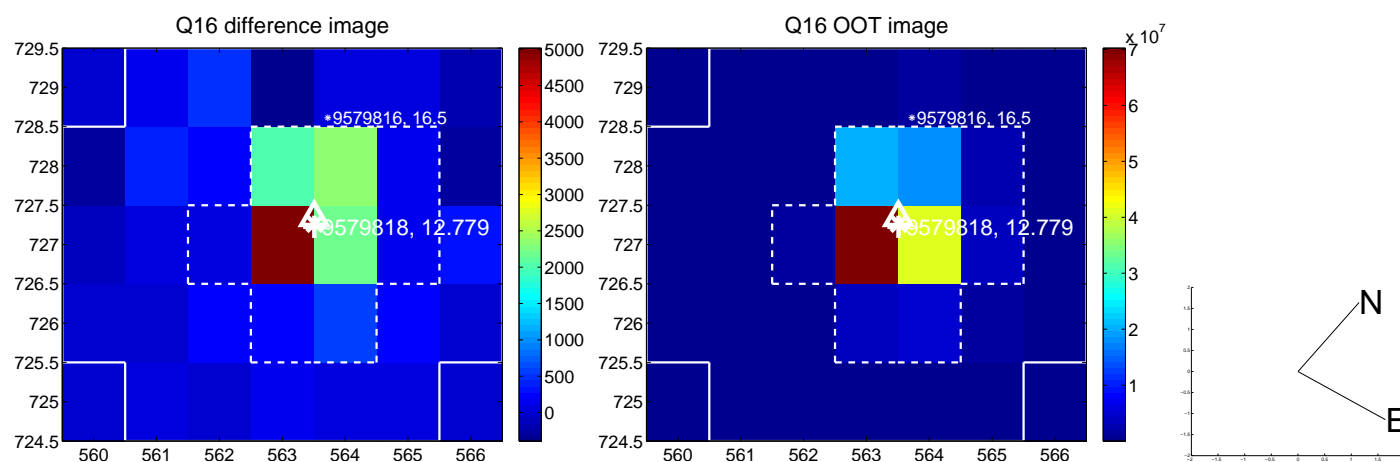
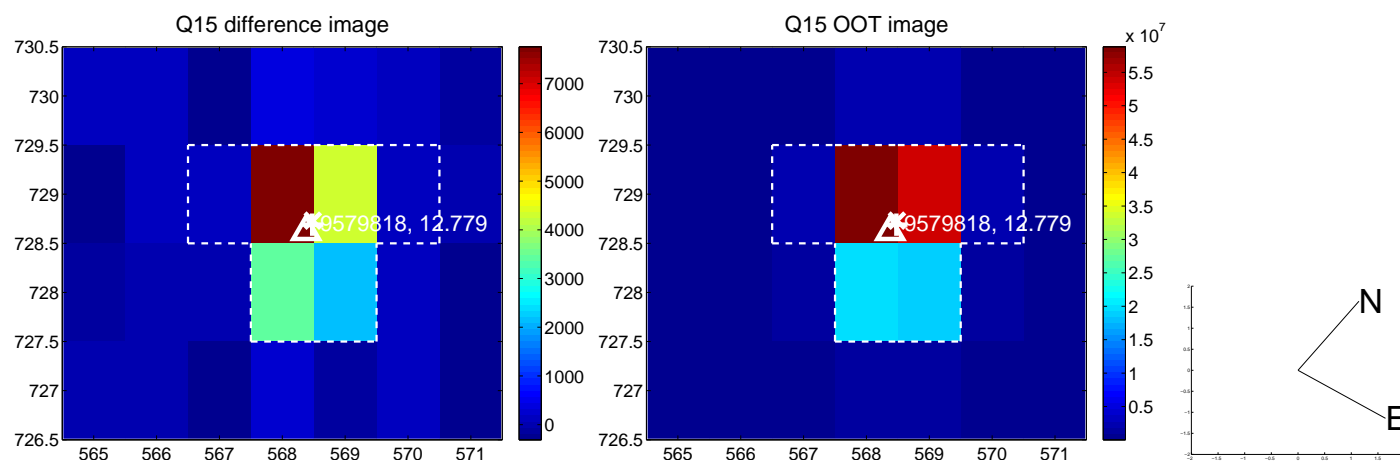
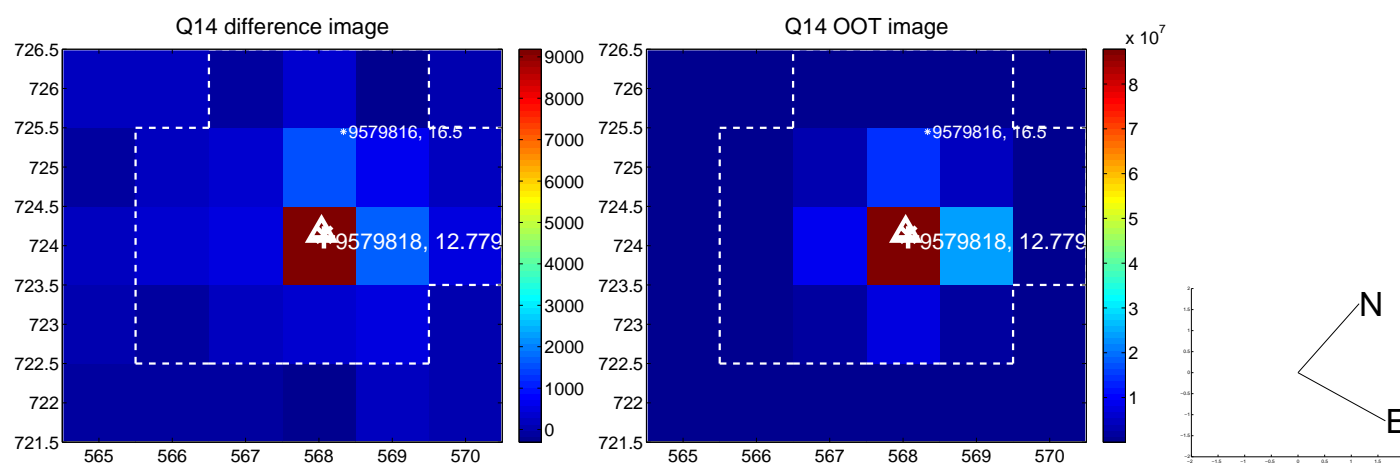
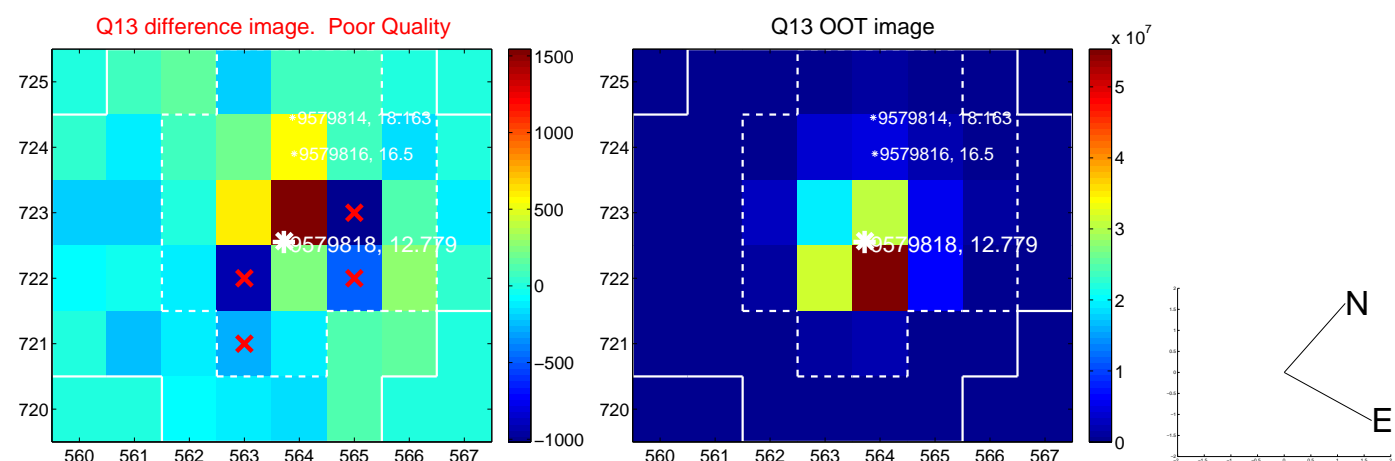
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



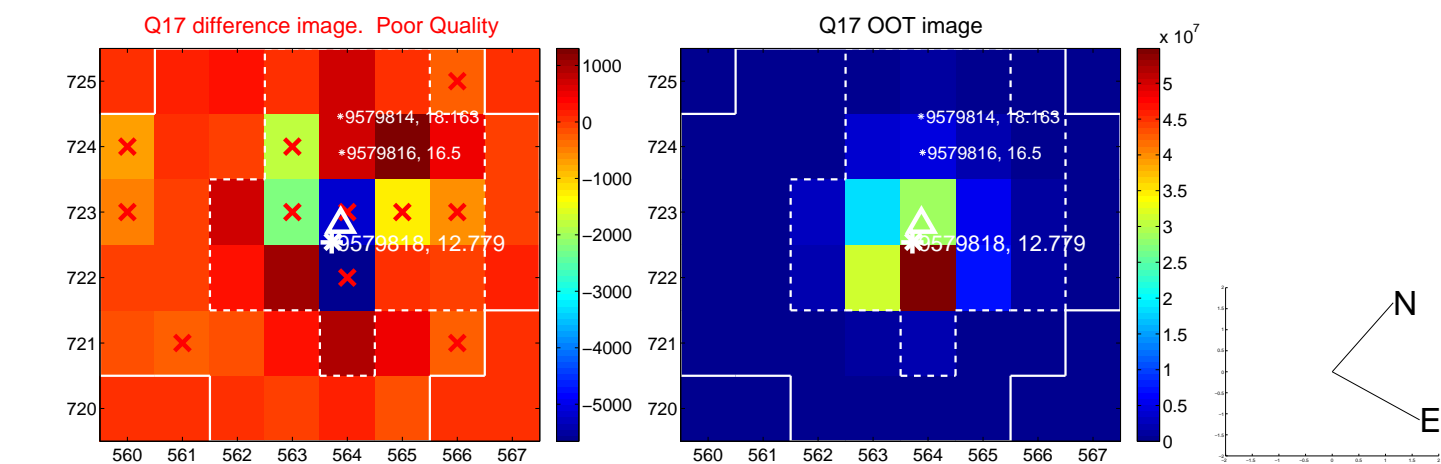
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



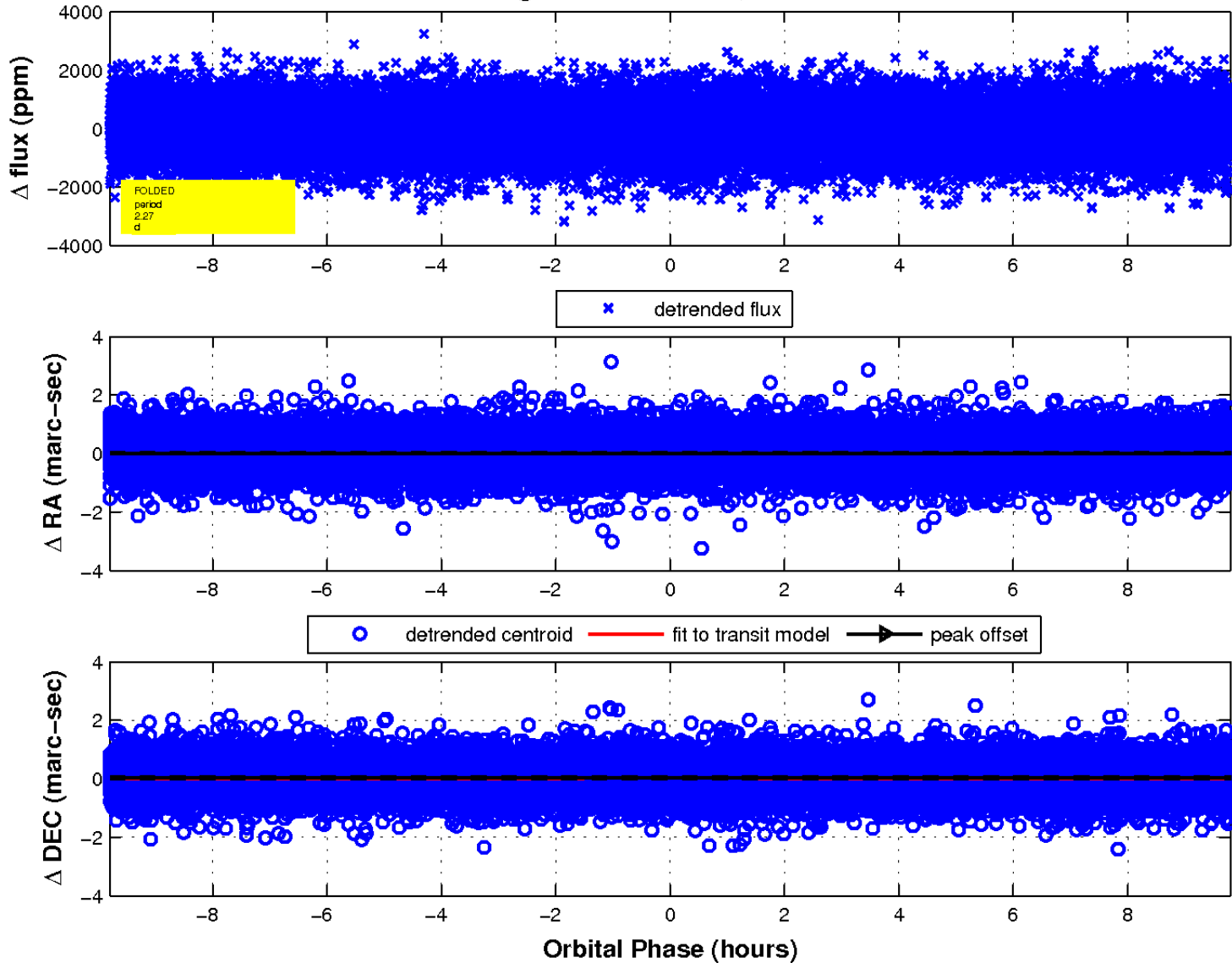
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

