

KIC 009246481

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})
009246481-01	OBS	No	0.541521	131.657759	30.0	1.571	12.4	14.9	3.25	8279	2.08	162080.15
009246481-02	OBS	No	1.083040	132.473011	39.6	1.484	11.9	13.7	3.25	8279	2.38	64321.62
009246481-03	OBS	No	1.083118	132.111069	35.0	6.171	10.2	9.9	3.25	8279	2.25	64315.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009246481-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
009246481-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
009246481-03	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—CENT_SATURATED

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

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

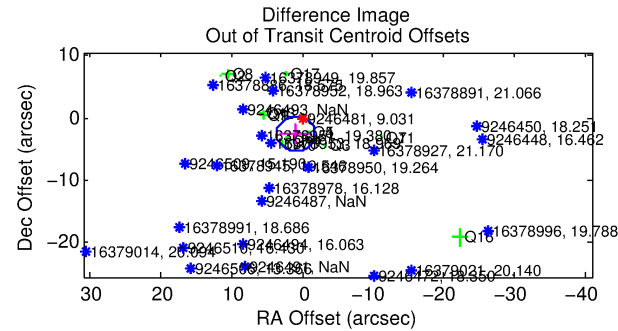
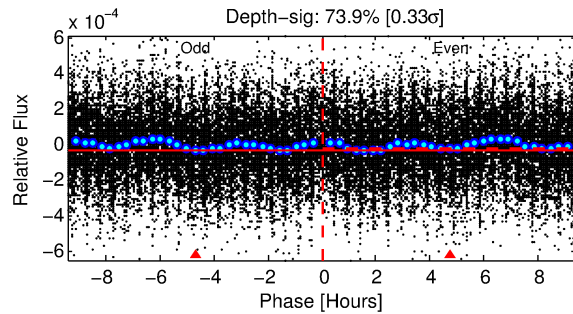
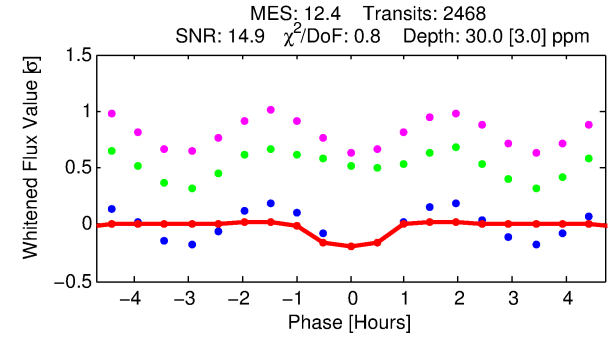
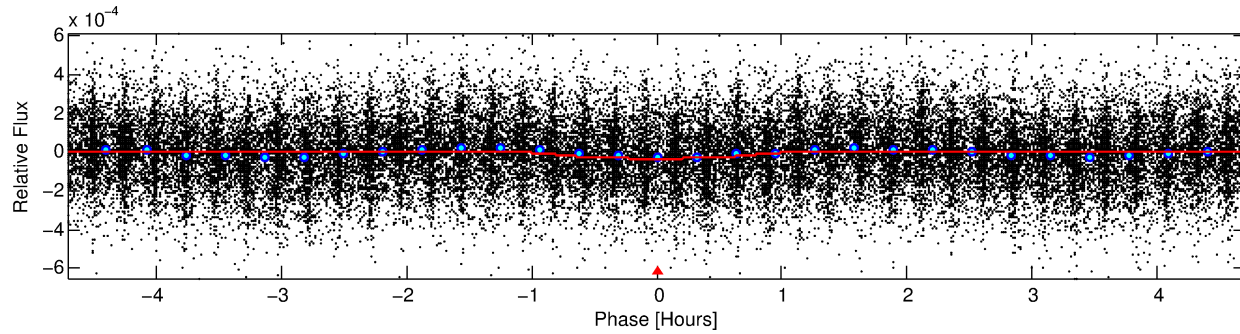
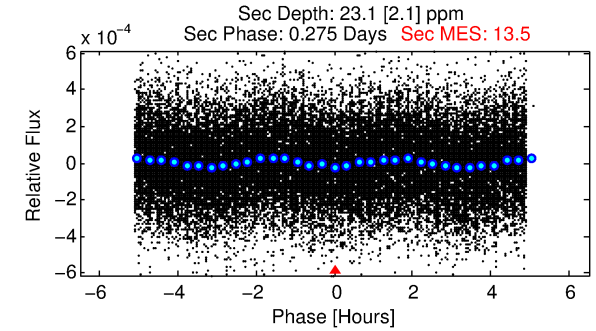
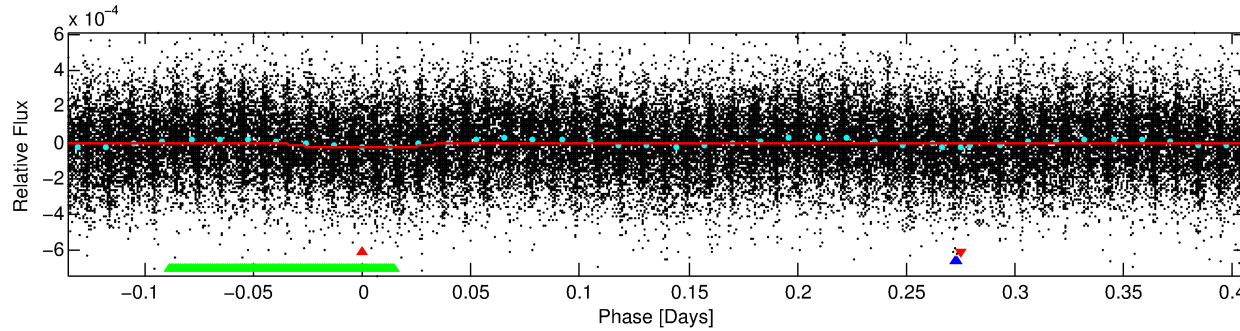
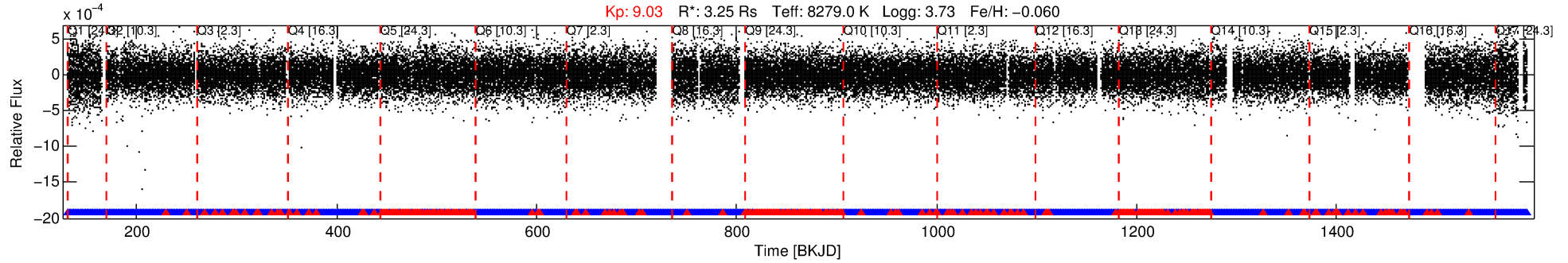
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009246481-01

No Significant Match Found

DV One-Page Summary

KIC: 9246481 Candidate: 1 of 3 Period: 0.542 d



DV Fit Results:

Period = 0.54152 [0.00001] d
Epoch = 131.6578 [0.0015] BKJD
Rp/R* = 0.0059 [0.0014]
a/R* = 1.50 [1.27]
b = 0.90 [0.32]
Seff = 162080.15 [120545.27]
Teq = 5116 [951] K
Rp = 2.08 [1.06] Re
a = 0.0166 [0.0073] AU
Ag = 0.81 [0.71] [-0.27σ]
Teffp = 7501 [983] K [1.74σ]

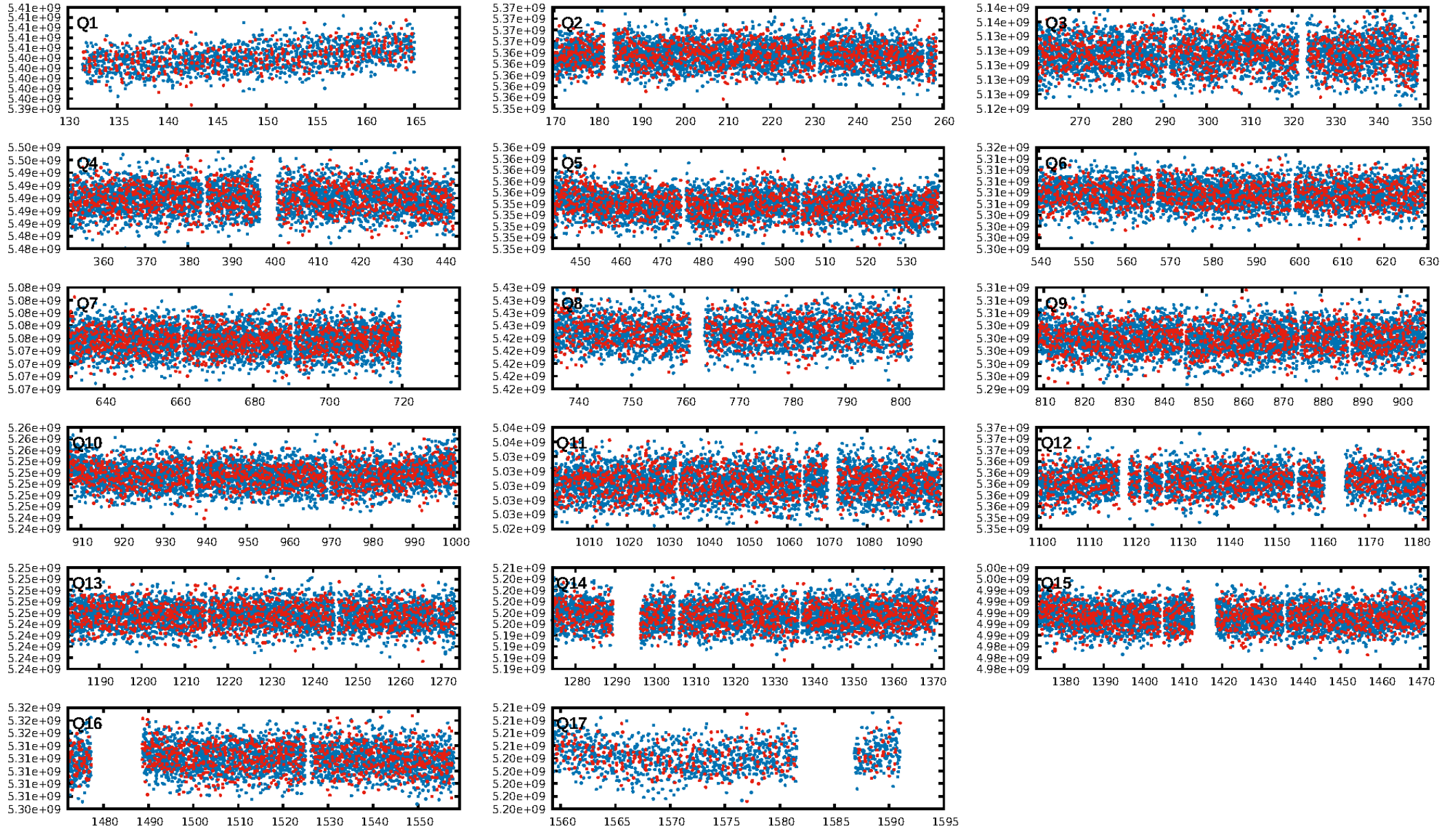
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [6.01σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.08e-30
RollingBand-fgt: 0.87 [2041/2358]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 1.543 arcsec [3.35σ]
OotOffset-rm: 2.743 arcsec [2.99σ]
KicOffset-rm: 2.915 arcsec [2.48σ]
OotOffset-st: 4/3/3/5 [15]
KicOffset-st: 4/3/3/5 [15]
DiffImageQuality-fgm: 0.20 [3/15]
DiffImageOverlap-fno: 0.71 [12/17]

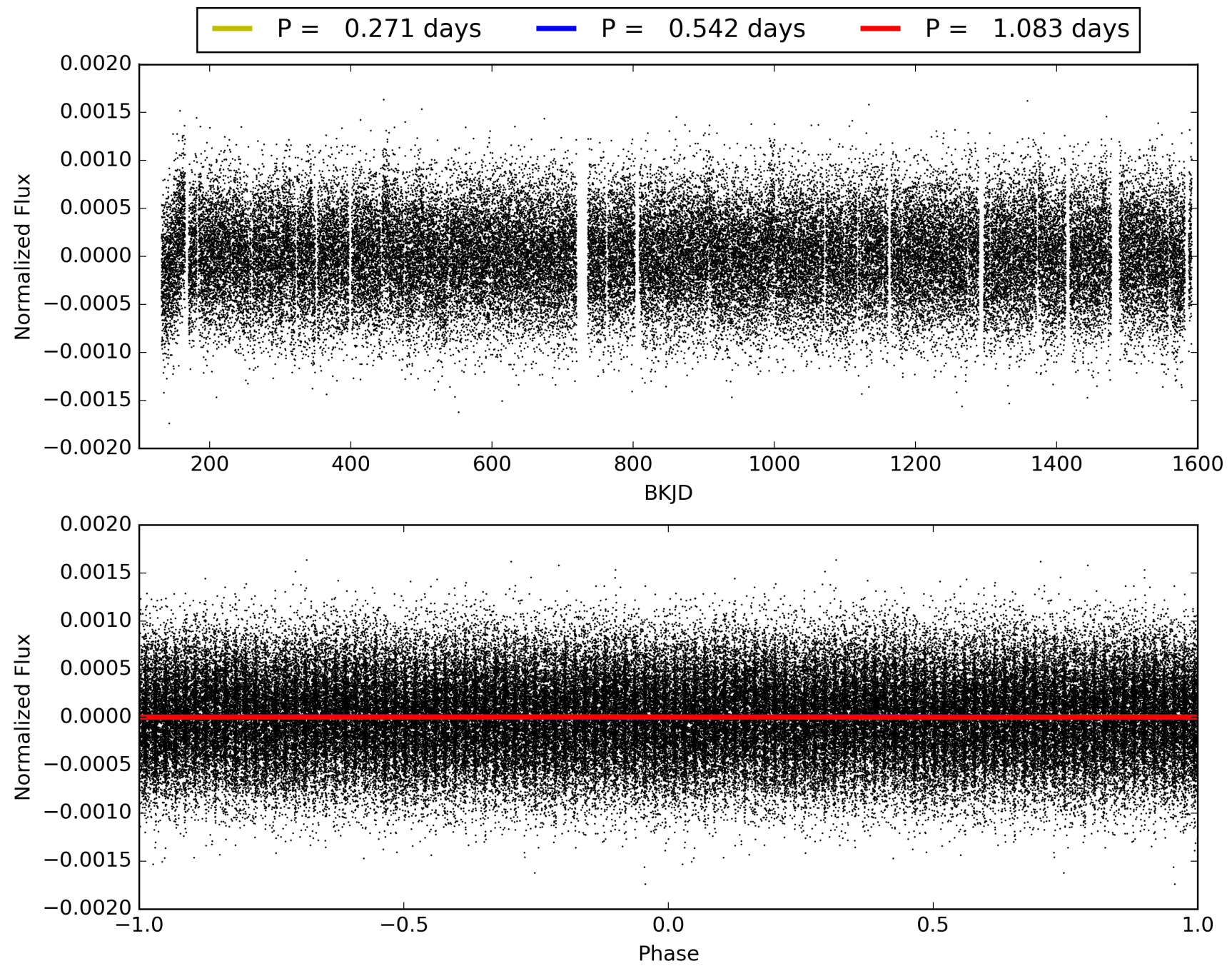
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:59:54 Z

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

TCE 009246481-01, PDC Light Curves

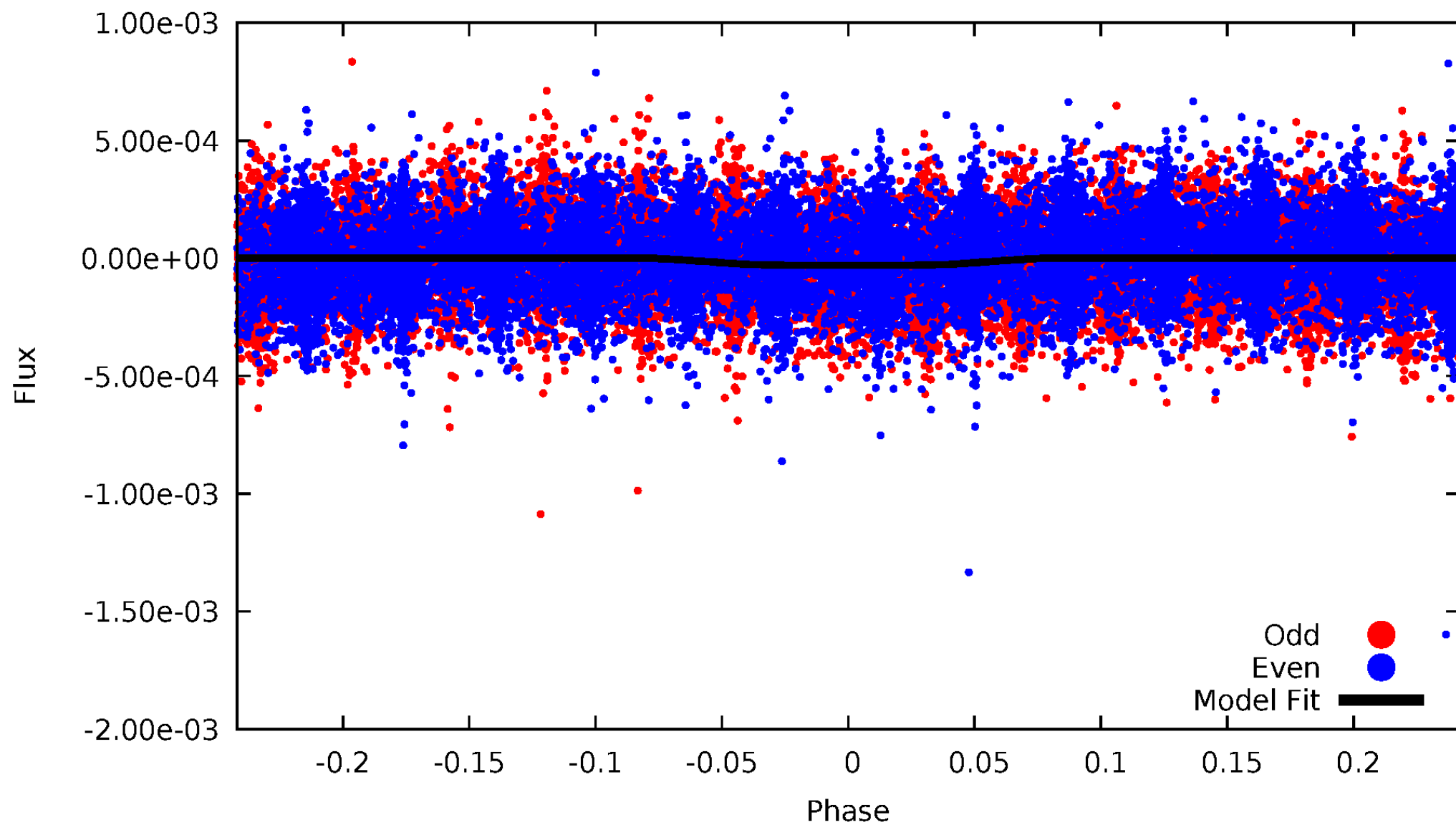


TCE 009246481-01



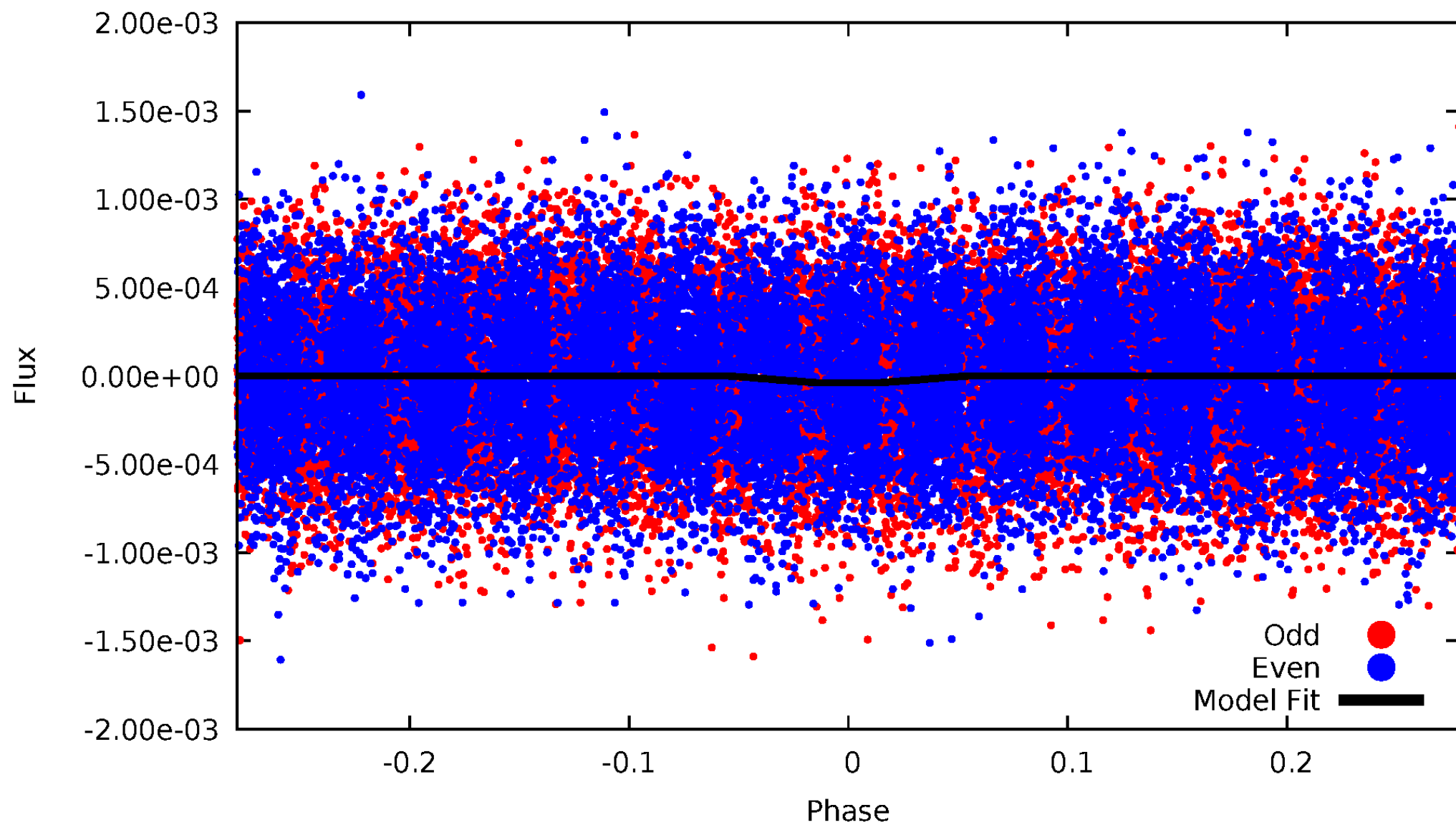
DV Odd/Even

TCE 009246481-01



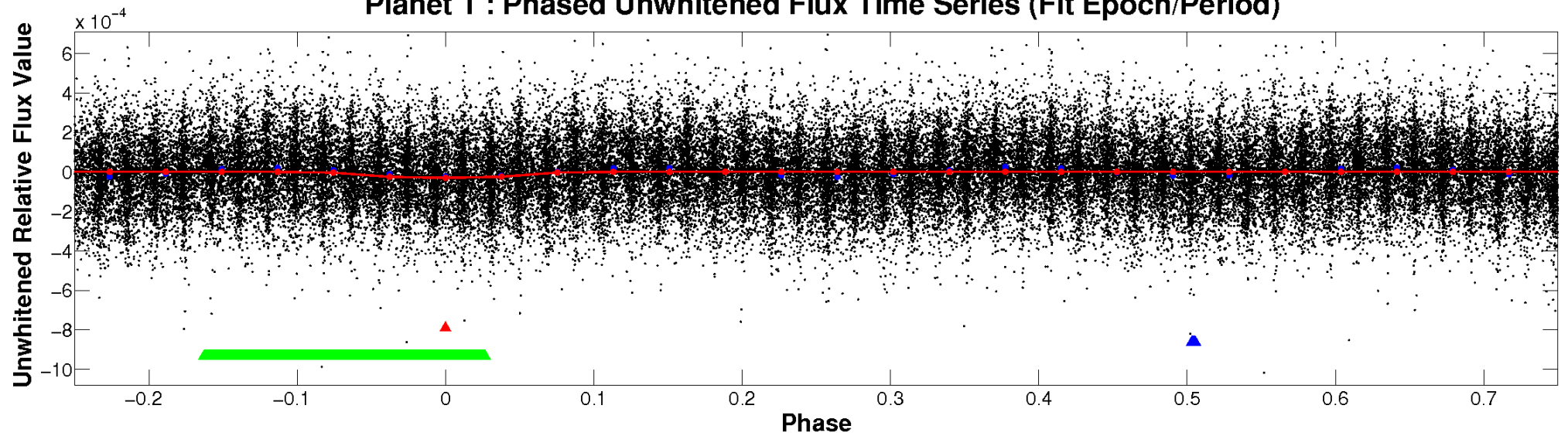
ALT Odd/Even

TCE 009246481-01

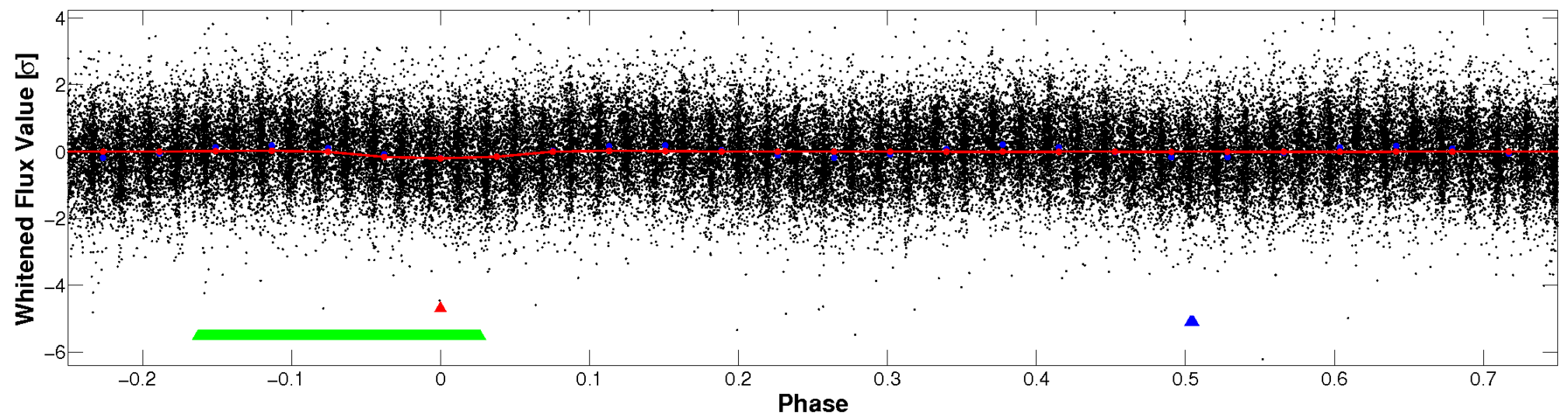


Non-Whitened Vs. Whitened Light Curve

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

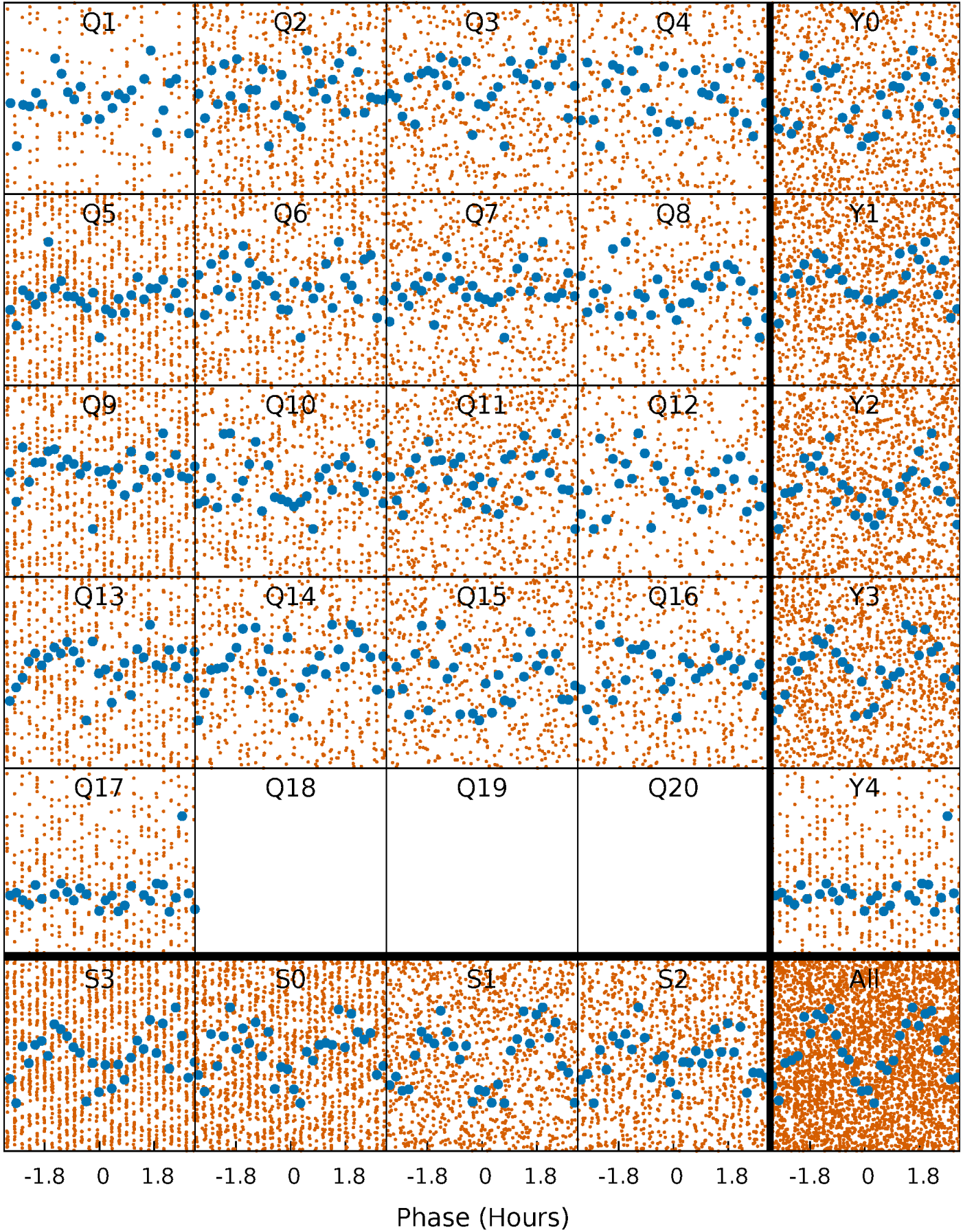


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



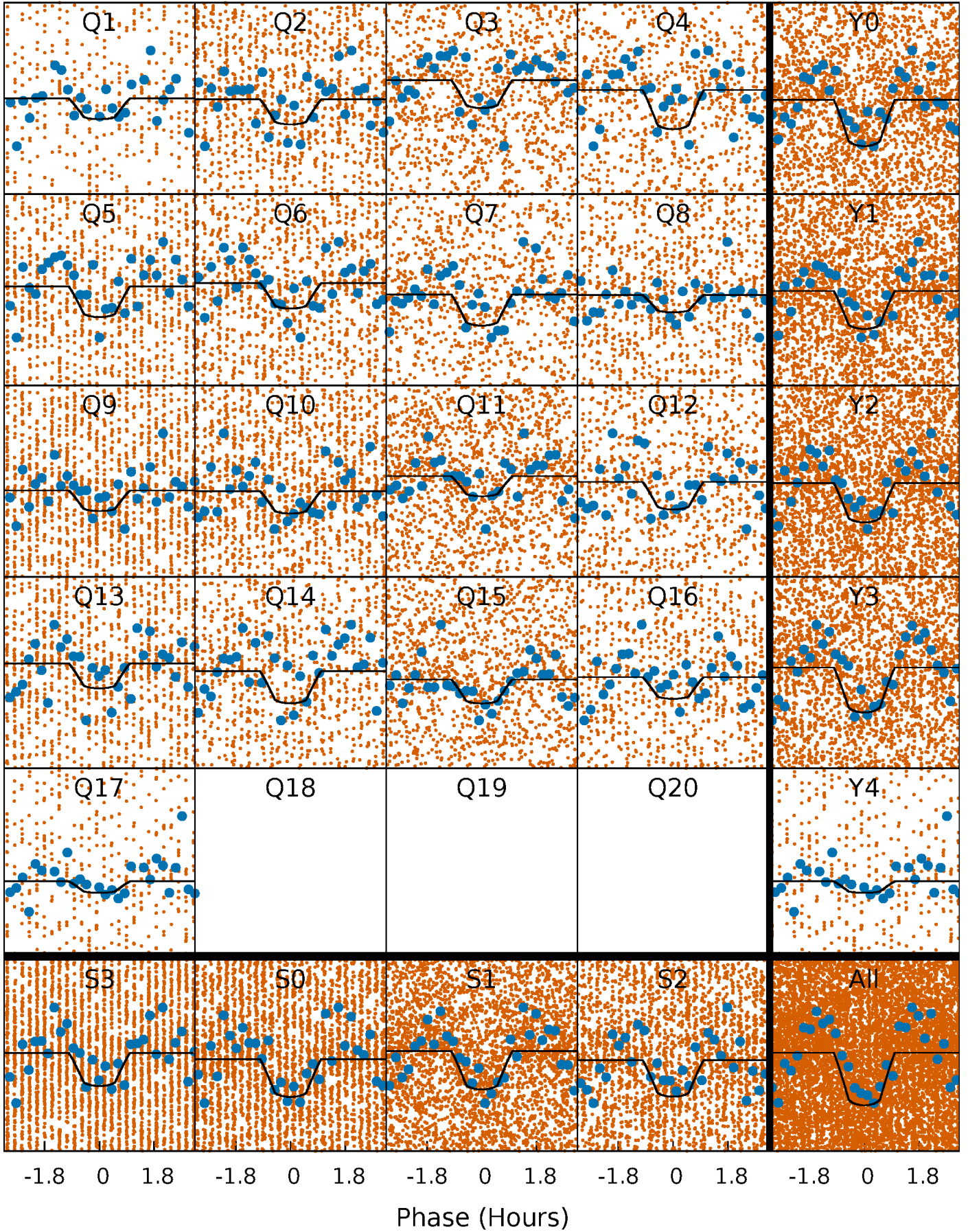
PDC Quarter-Phased Transit Curves

TCE 009246481-01 P= 0.541521 Days $T_0=131.657759$ (BKJD)



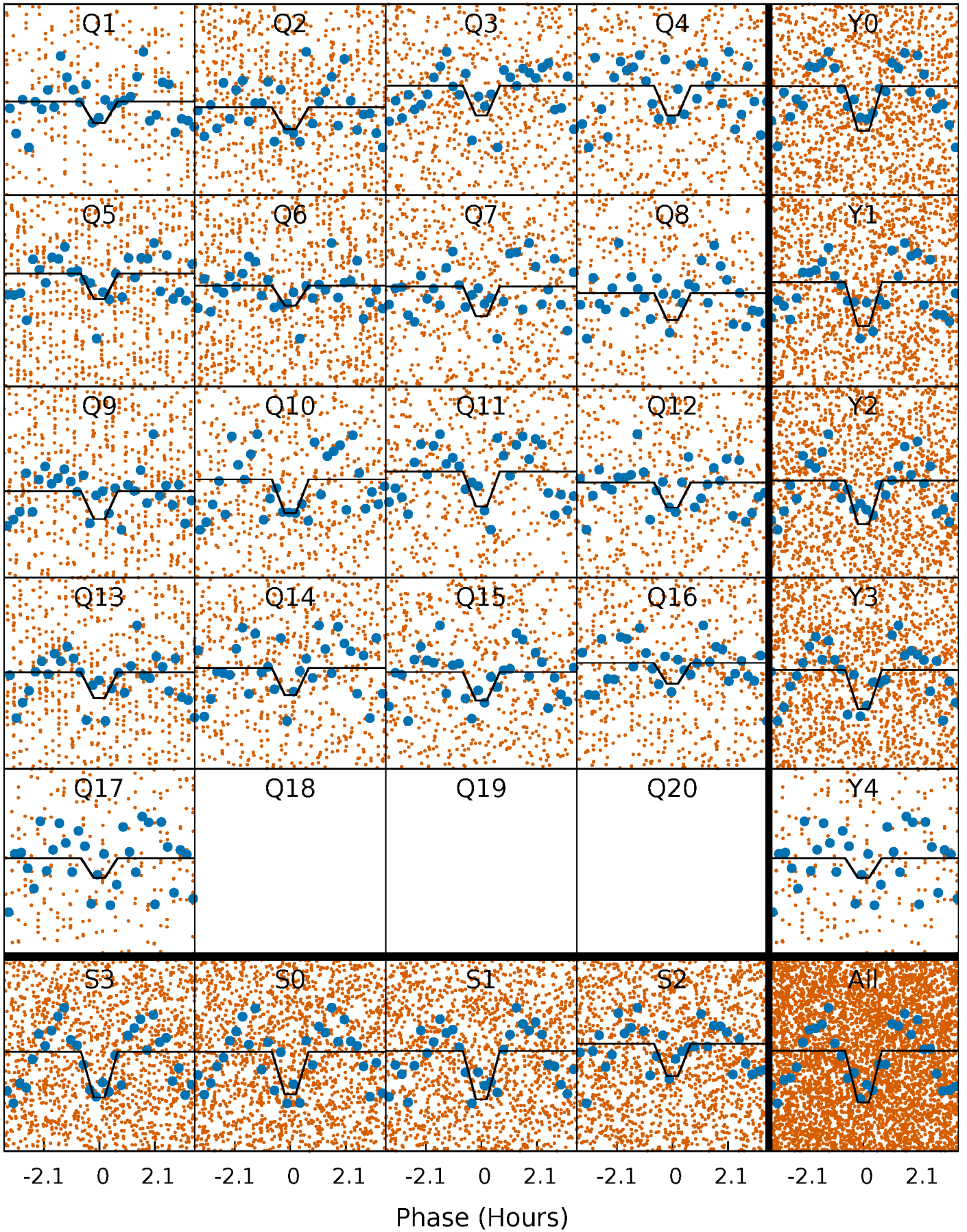
DV Quarter-Phased Transit Curves

TCE 009246481-01 P= 0.541521 Days $T_0=131.657759$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

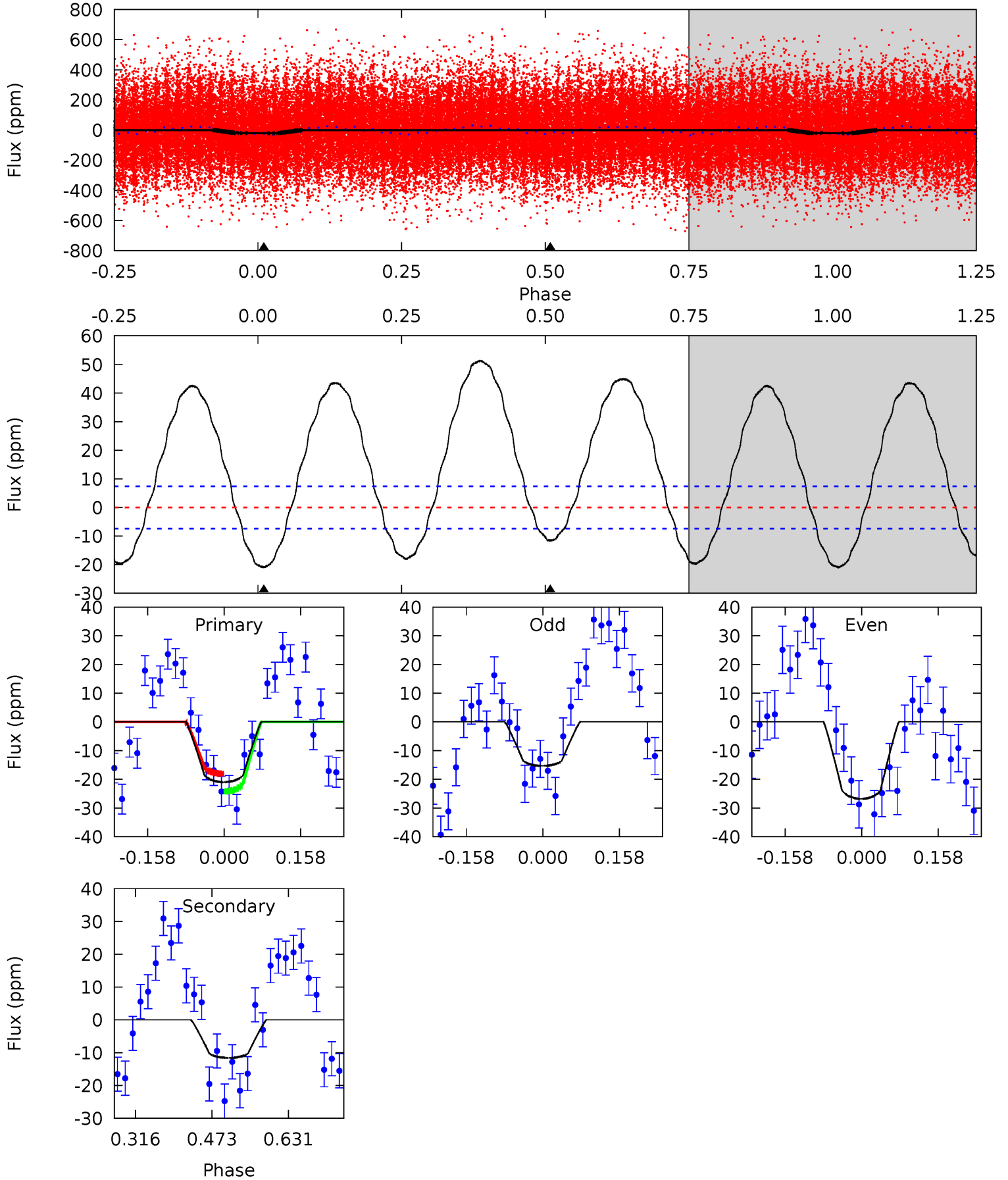
TCE 009246481-01 P= 0.541525 Days $T_0=131.657424$ (BKJD)



DV Model-Shift Uniqueness Test

009246481-01, P = 0.541521 Days, E = 131.116238 Days

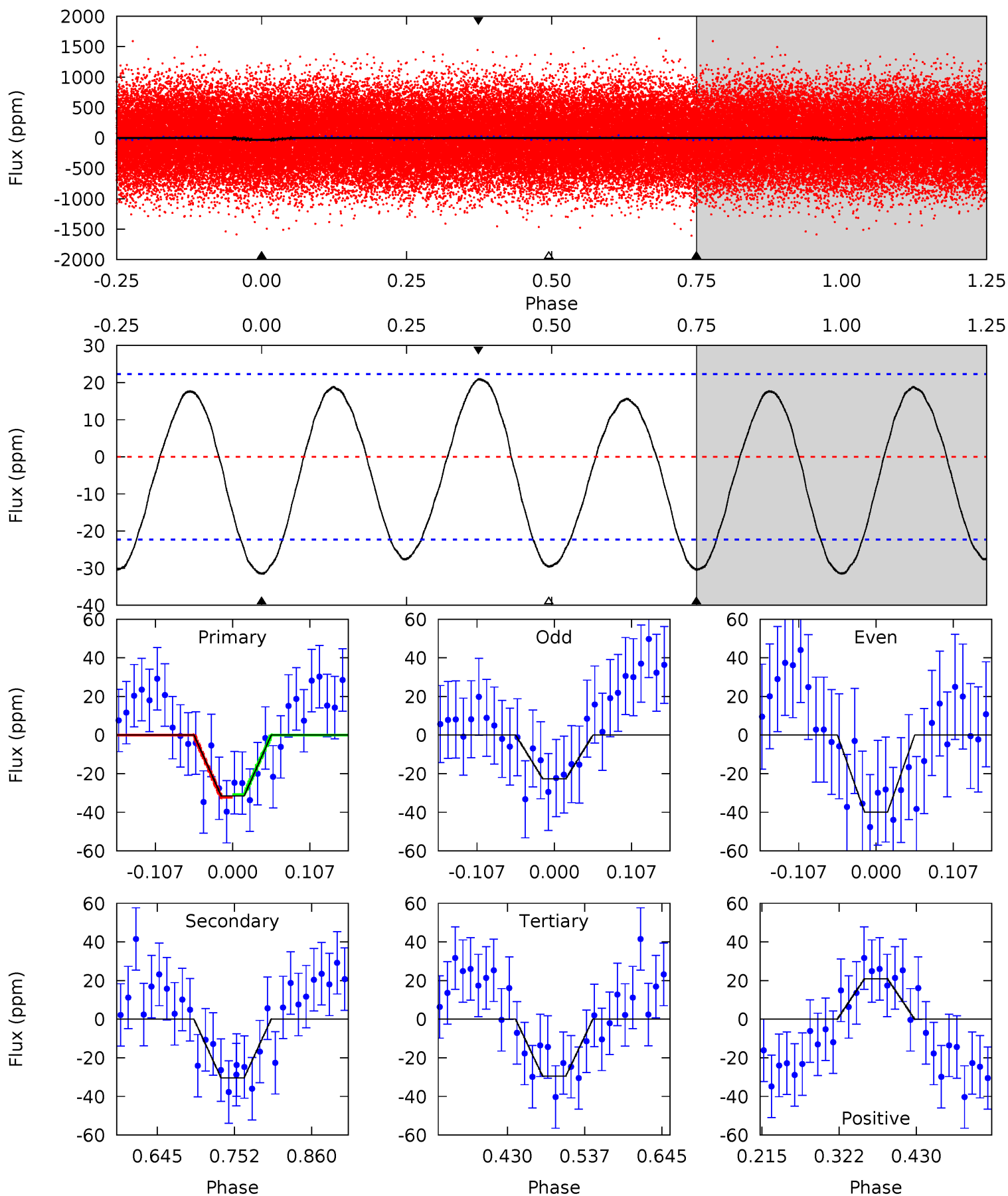
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	7.02	0	0	4.47	1.41	10.5	12.7	12.7	7.02	7.02	3.49	1.05	0.71	1.88



Alt Model-Shift Uniqueness Test

009246481-01, P = 0.541525 Days, E = 131.115899 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.41	6.20	6.03	4.26	4.55	1.61	3.50	0.39	2.15	0.17	1.93	1.75	1.05	0.40	0.14



Stellar Parameters For KIC 009246481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8279^{+229}_{-372}	$3.729^{+0.428}_{-0.143}$	$-0.060^{+0.300}_{-0.400}$	$3.248^{+0.970}_{-1.455}$	$2.061^{+0.372}_{-0.455}$	$0.085^{+0.349}_{-0.036}$
	+3%/-4%	+11%/-4%	+500%/-667%	+30%/-45%	+18%/-22%	+412%/-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 009246481-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-12 ± 2	$1.95^{+0.69}_{-0.63}$	6964^{+602}_{-780}	4819^{+1477}_{-8722}	$0.471^{+0.517}_{-0.215}$
Alt.	-30 ± 5	$1.93^{+0.71}_{-0.60}$	6912^{+647}_{-768}	7158^{+1913}_{-1278}	$1.198^{+1.314}_{-0.550}$

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 $A_{obs} \gg 1.0$

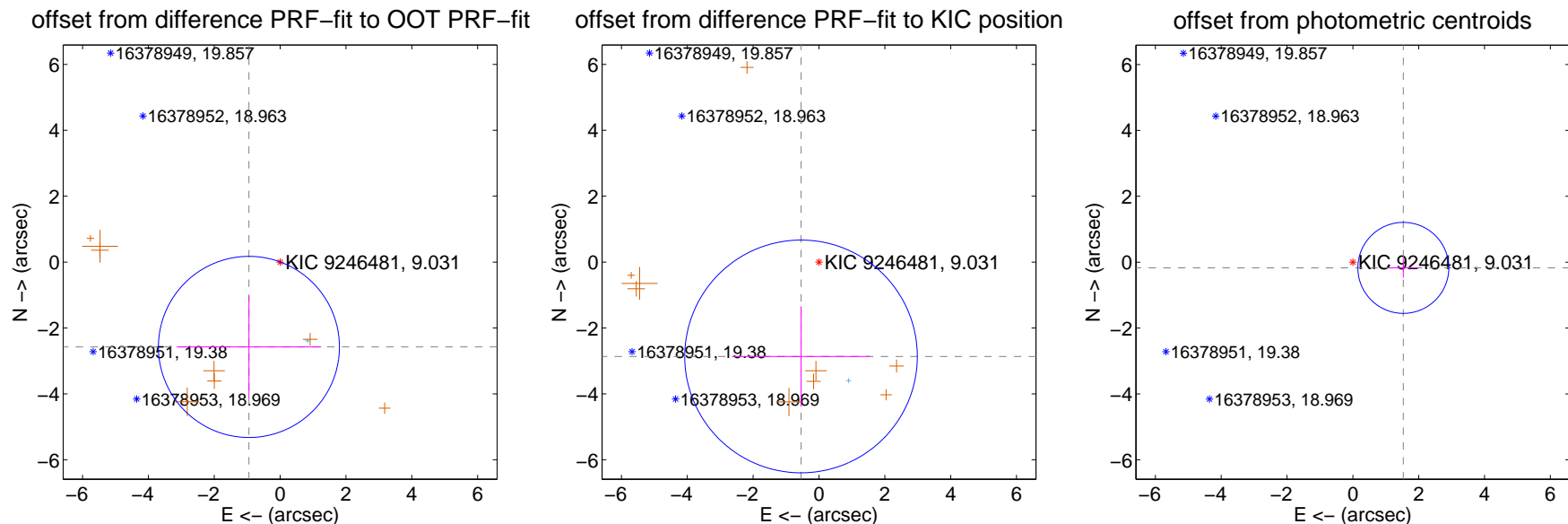
DV Centroid Data

Supplemental centroid analysis for 009246481-01. **Kepler magnitude: 9.03.** Transit SNR 14.89

There are 3 quarters with good PRF difference image offsets

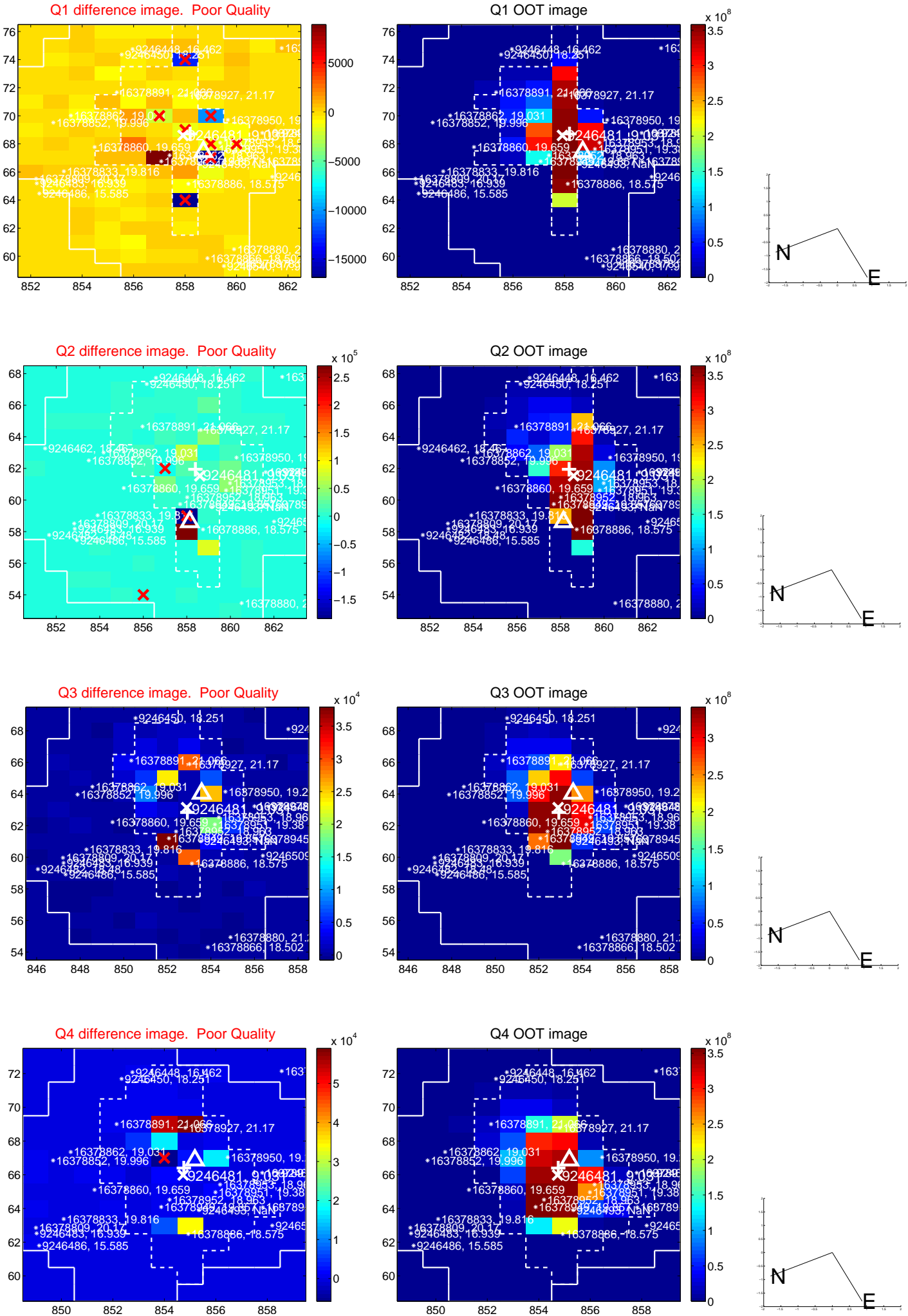
The direct PRF centroid is offset from the target star catalog position by about 1.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.743 ± 0.916	2.99	0.947 ± 2.195	-2.574 ± 1.555
PRF-fit source offset from KIC position	2.915 ± 1.177	2.48	0.545 ± 2.096	-2.863 ± 1.520
photometric centroid source offset	1.54 ± 0.46	3.35	-1.53 ± 0.46	-0.17 ± 0.30

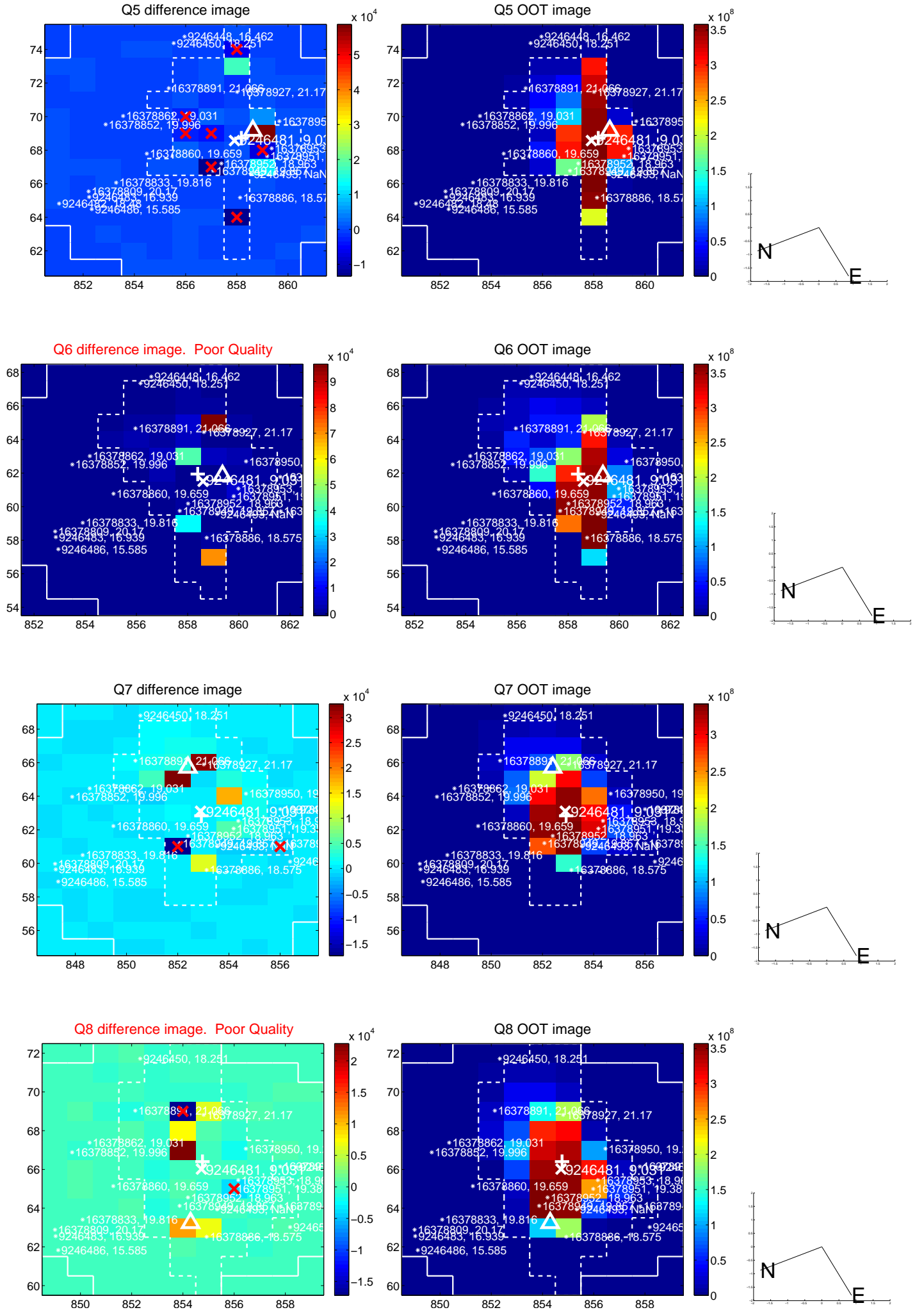


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

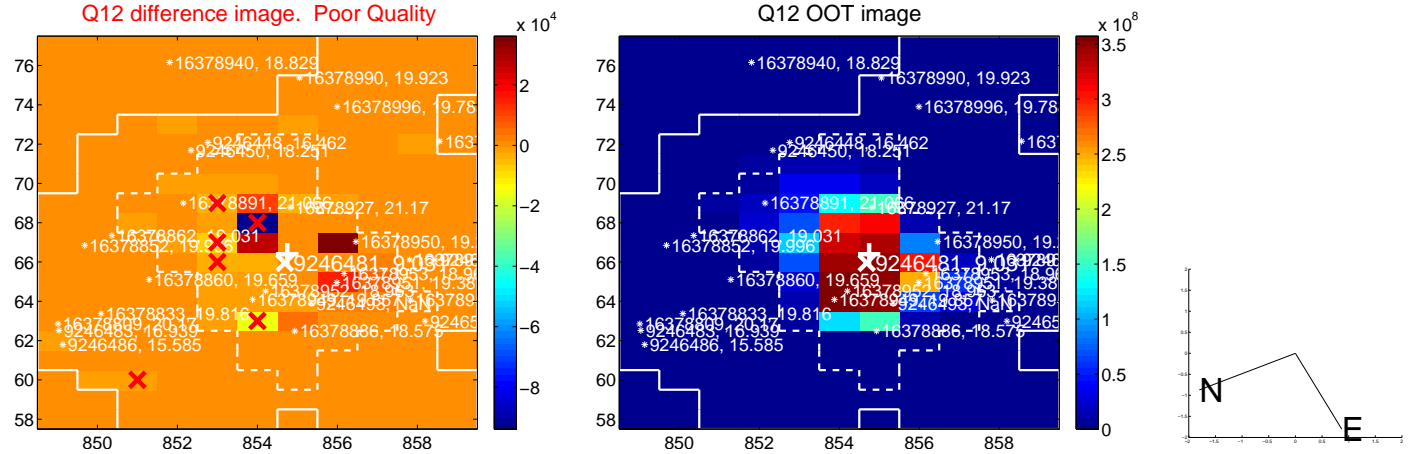
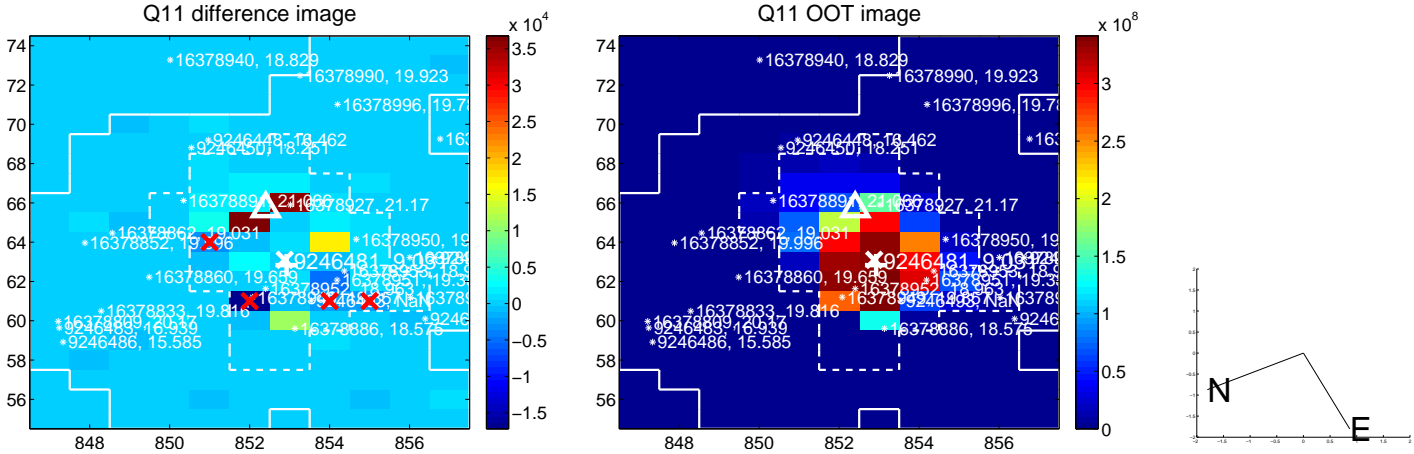
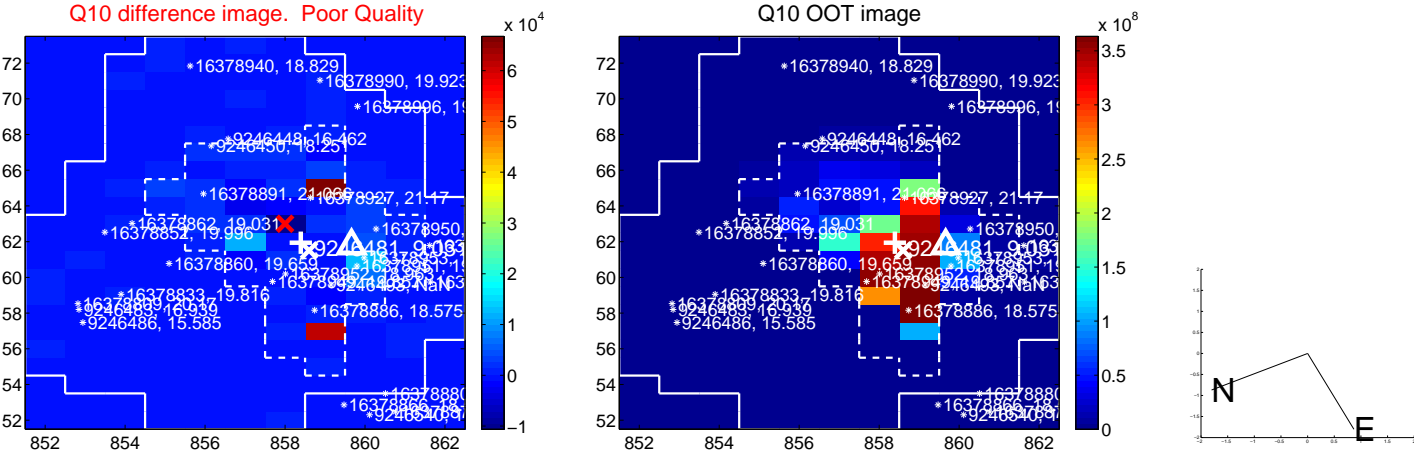
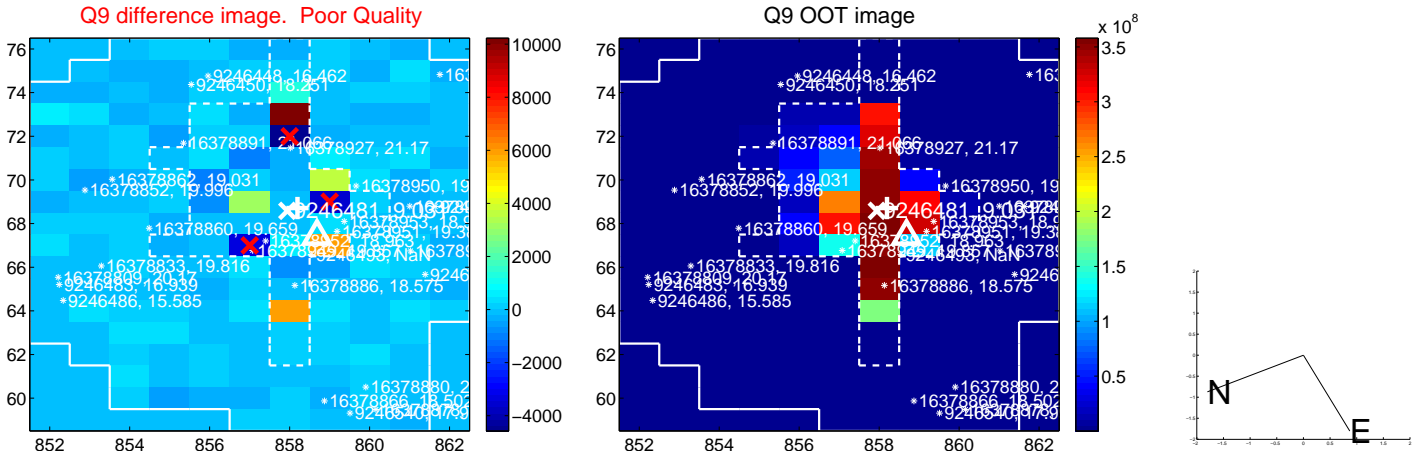
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



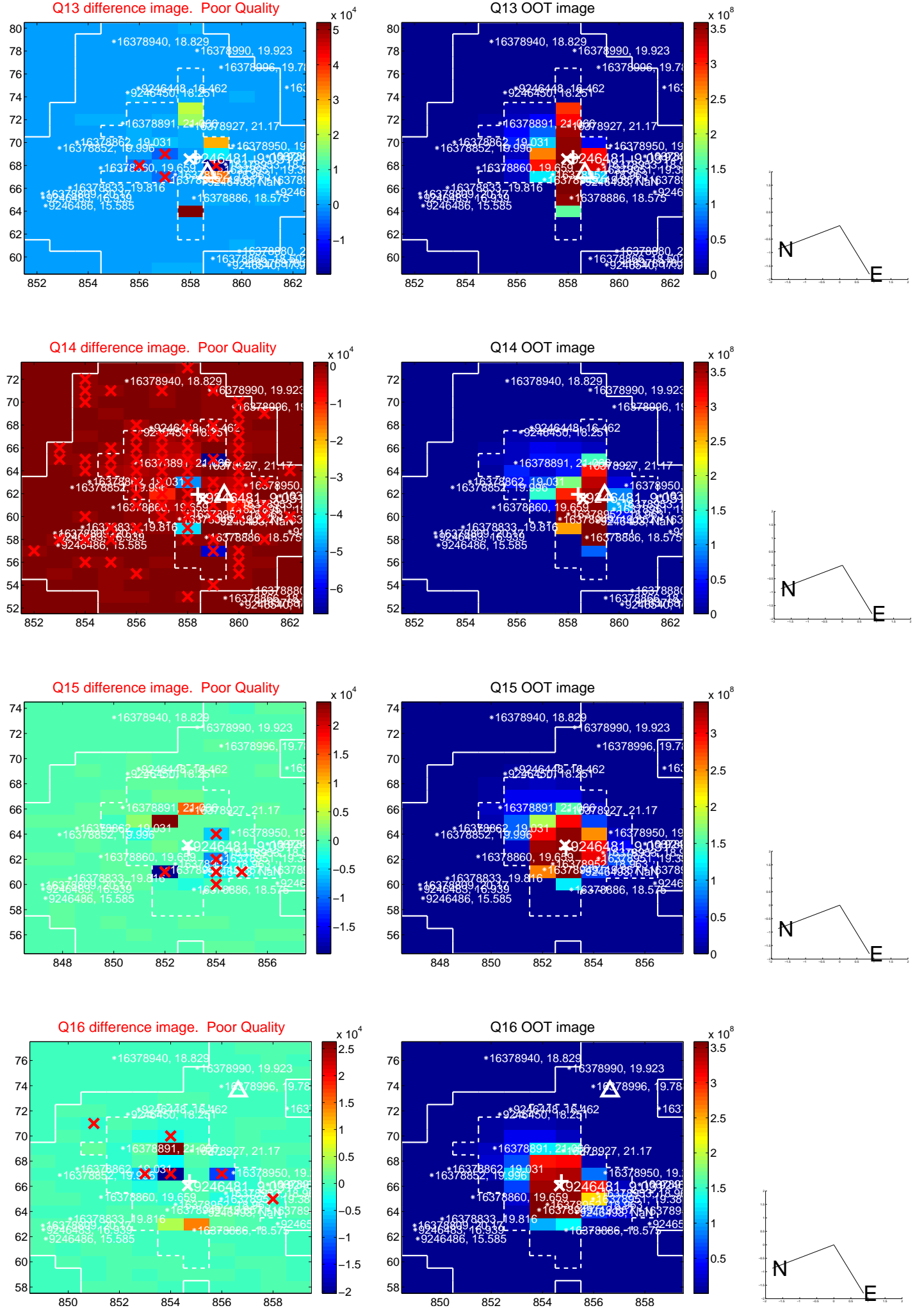
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



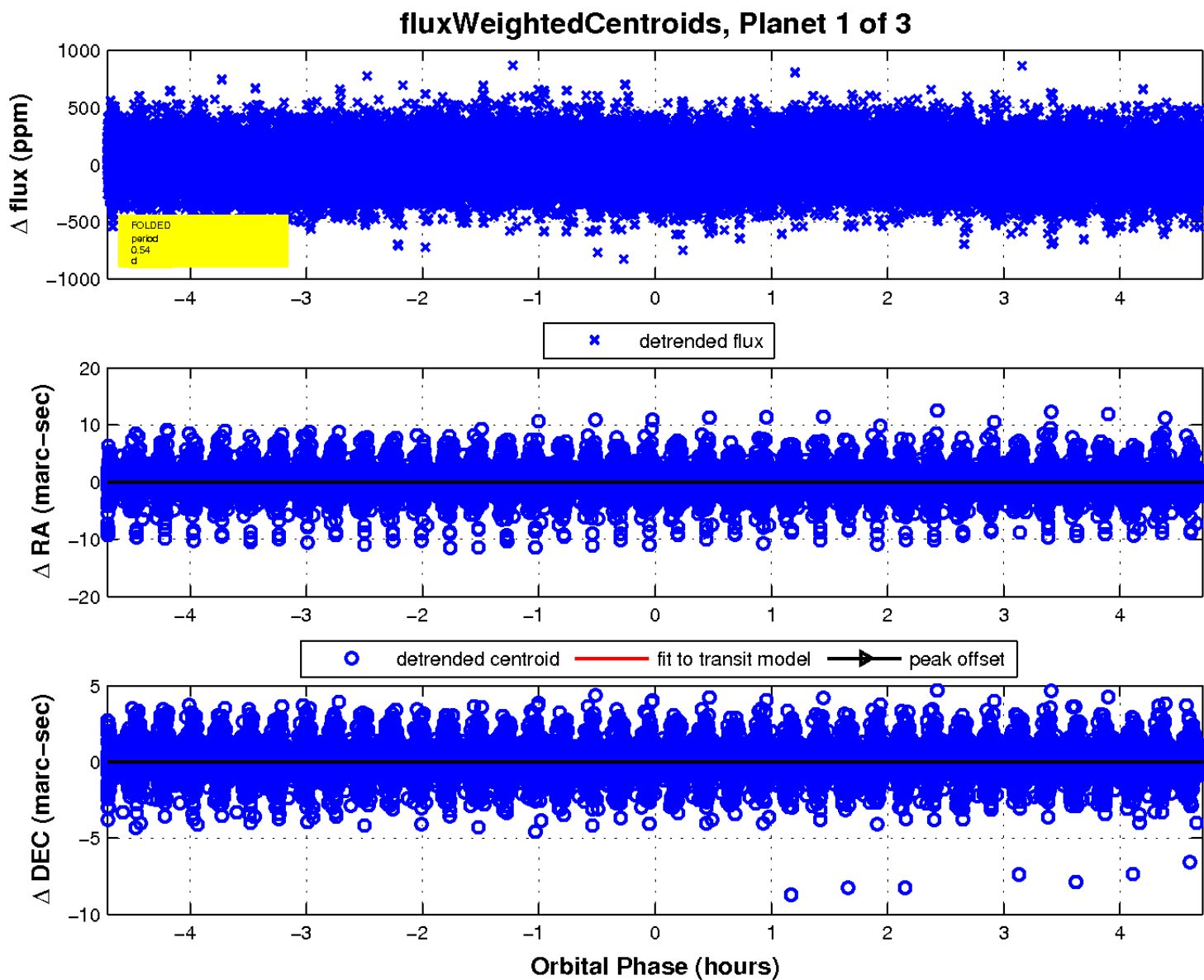
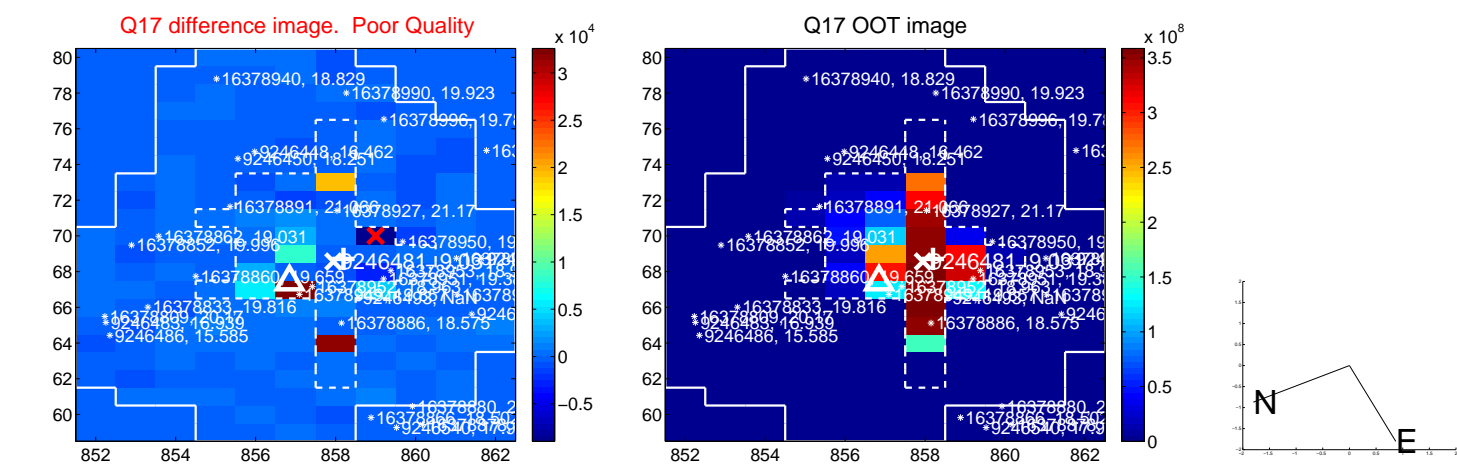
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

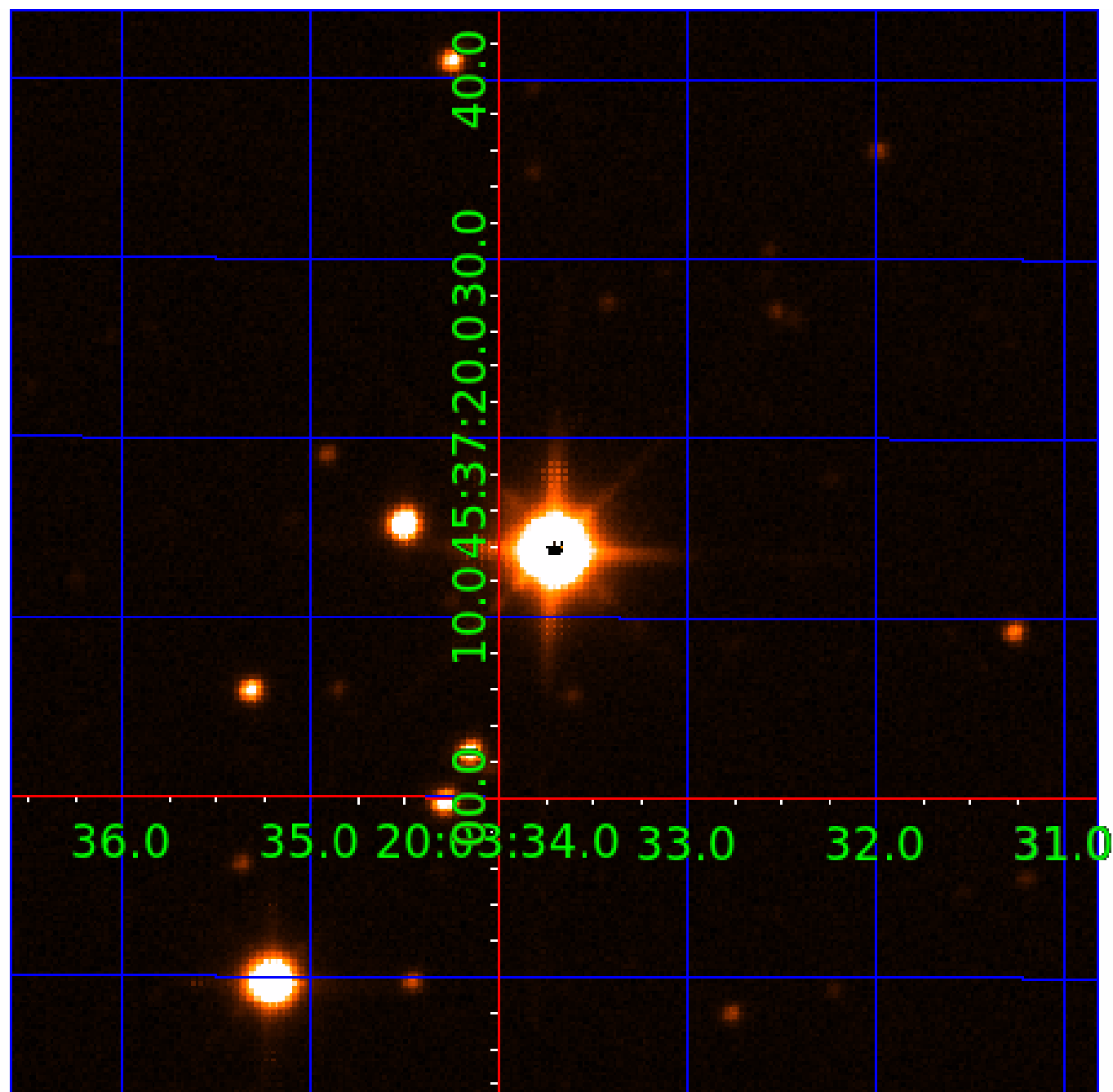


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009246481

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})
009246481-01	OBS	No	0.541521	131.657759	30.0	1.571	12.4	14.9	3.25	8279	2.08	162080.15
009246481-02	OBS	No	1.083040	132.473011	39.6	1.484	11.9	13.7	3.25	8279	2.38	64321.62
009246481-03	OBS	No	1.083118	132.111069	35.0	6.171	10.2	9.9	3.25	8279	2.25	64315.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009246481-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
009246481-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
009246481-03	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—CENT_SATURATED

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

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

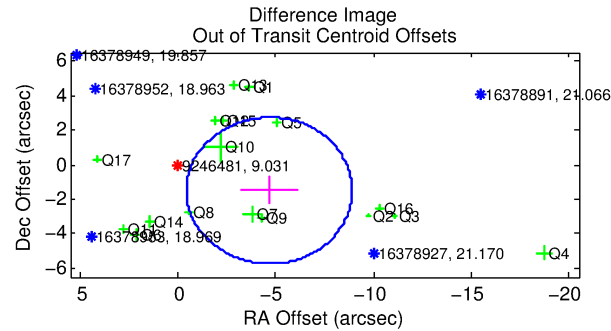
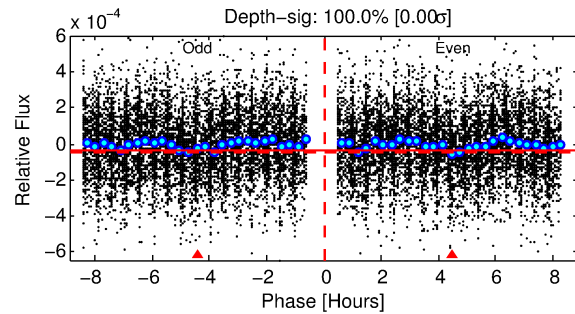
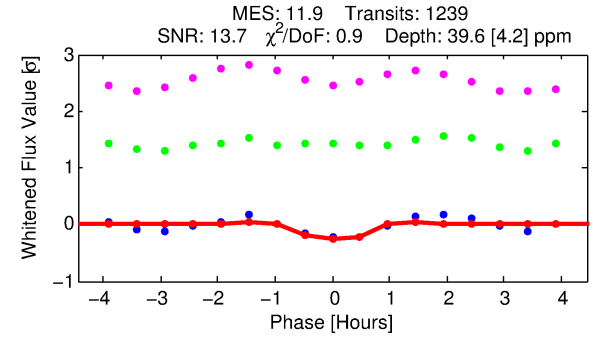
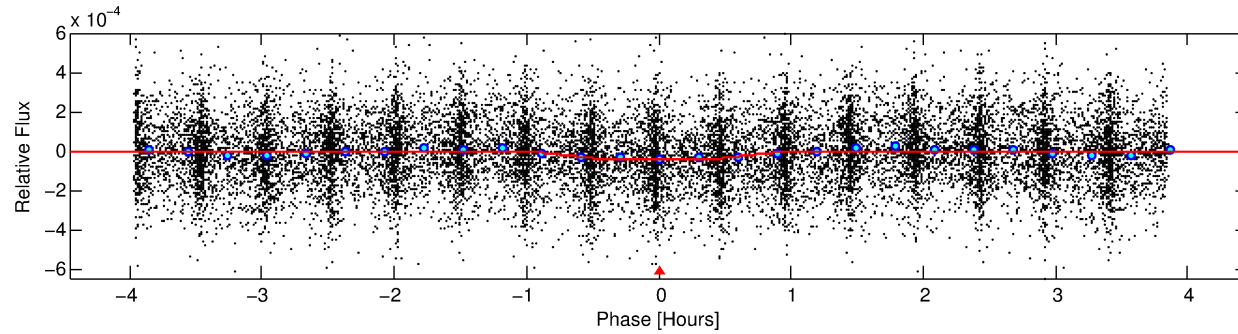
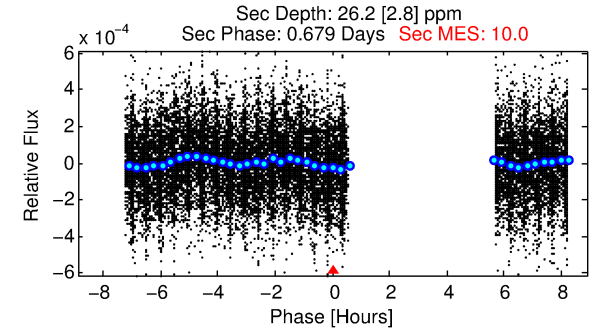
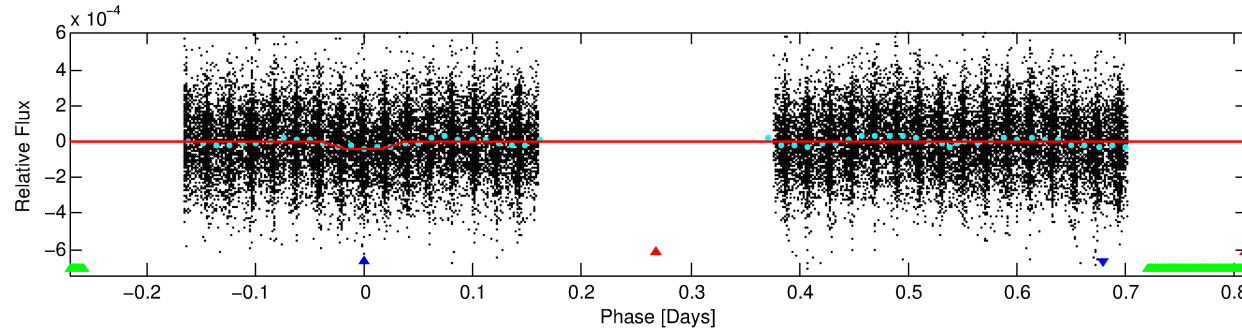
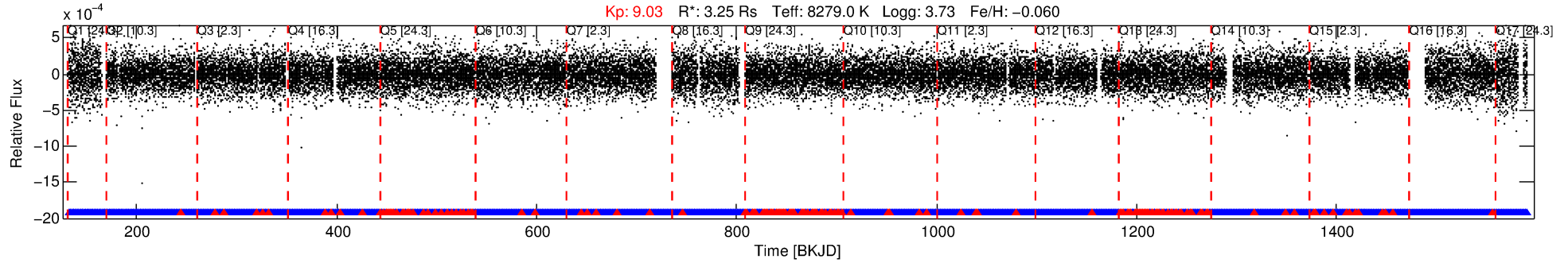
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009246481-02

No Significant Match Found

DV One-Page Summary

KIC: 9246481 Candidate: 2 of 3 Period: 1.083 d



DV Fit Results:

Period = 1.08304 [0.00001] d
Epoch = 132.4730 [0.0018] BKJD
 $R_p/R^* = 0.0067$ [0.0017]
 $a/R^* = 2.68$ [3.70]
 $b = 0.90$ [0.34]
 $S_{\text{eff}} = 64321.62$ [47838.48]
 $T_{\text{eq}} = 4061$ [755] K
 $R_p = 2.38$ [1.23] R_e
 $a = 0.0263$ [0.0117] AU
 $A_g = 1.75$ [1.57] [0.48σ]
 $T_{\text{eff}} = 7224$ [1007] K [2.51σ]

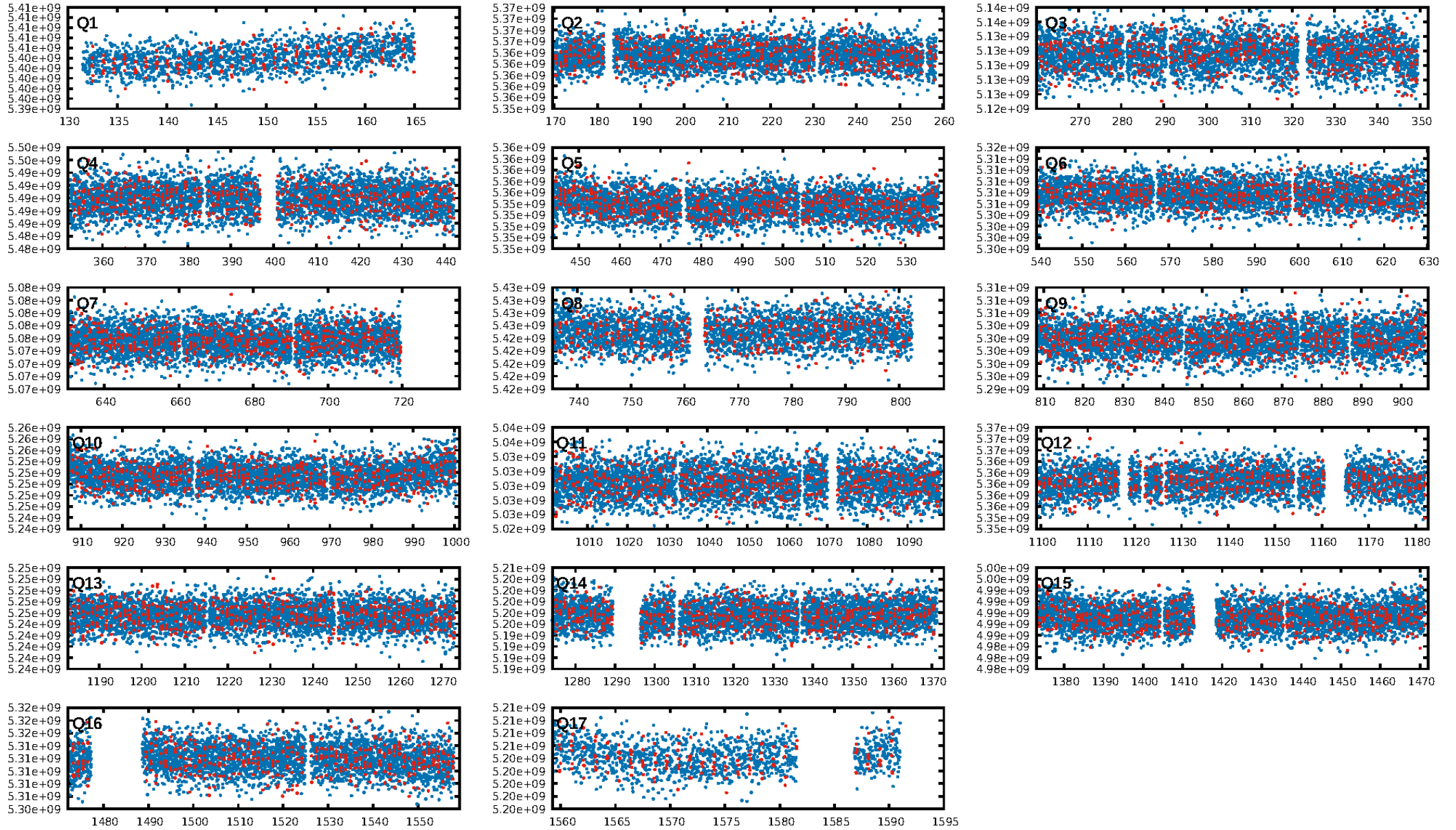
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.01σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.34e-27
RollingBand-fgt: 0.86 [1021/1183]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.2%
Centroid-so: 0.492 arcsec [1.38σ]
OotOffset-rm: 4.904 arcsec [3.47σ]
KicOffset-rm: 2.700 arcsec [2.10σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.06 [1/17]
DiffImageOverlap-fno: 0.12 [2/17]

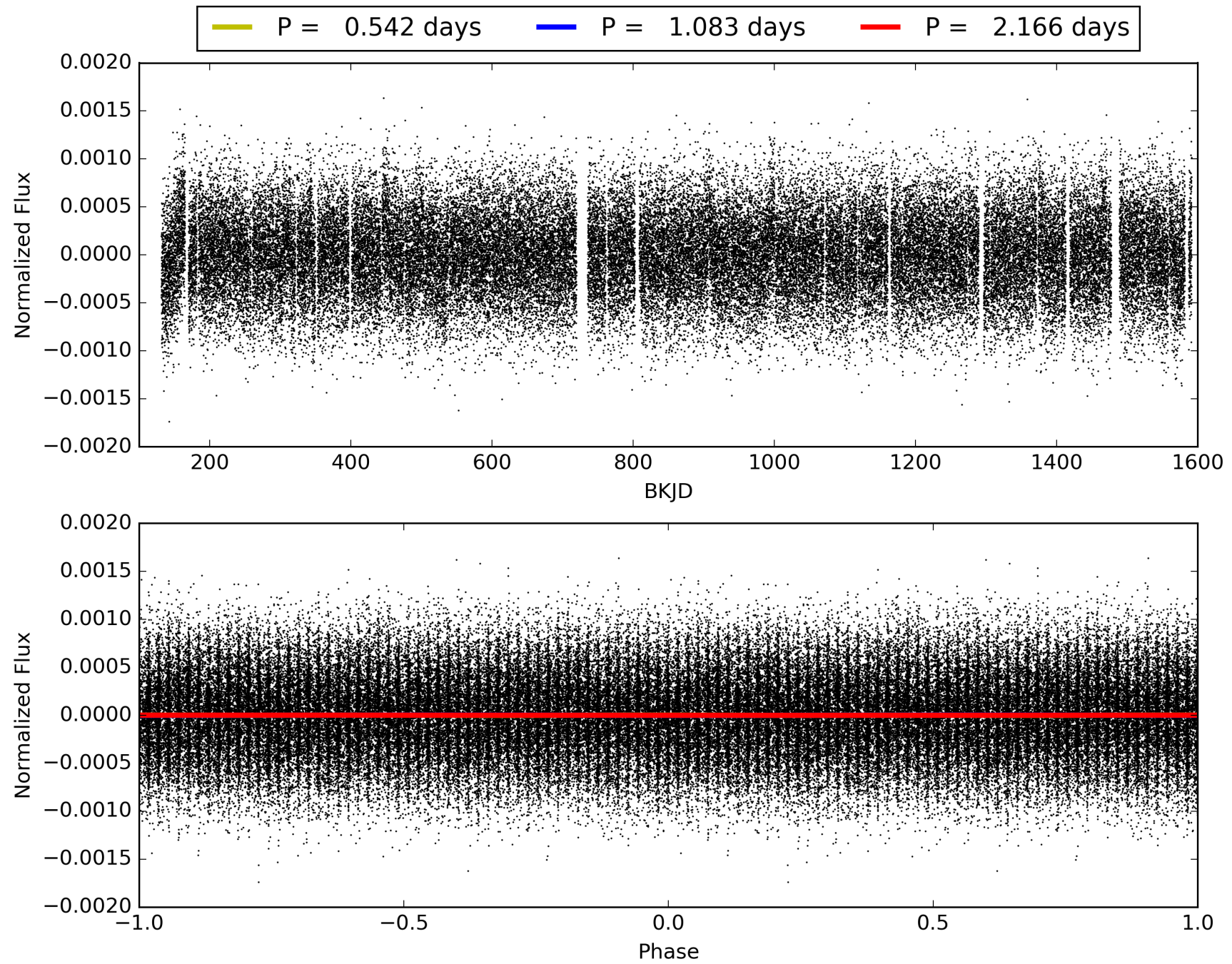
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:00:05 Z

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

TCE 009246481-02, PDC Light Curves

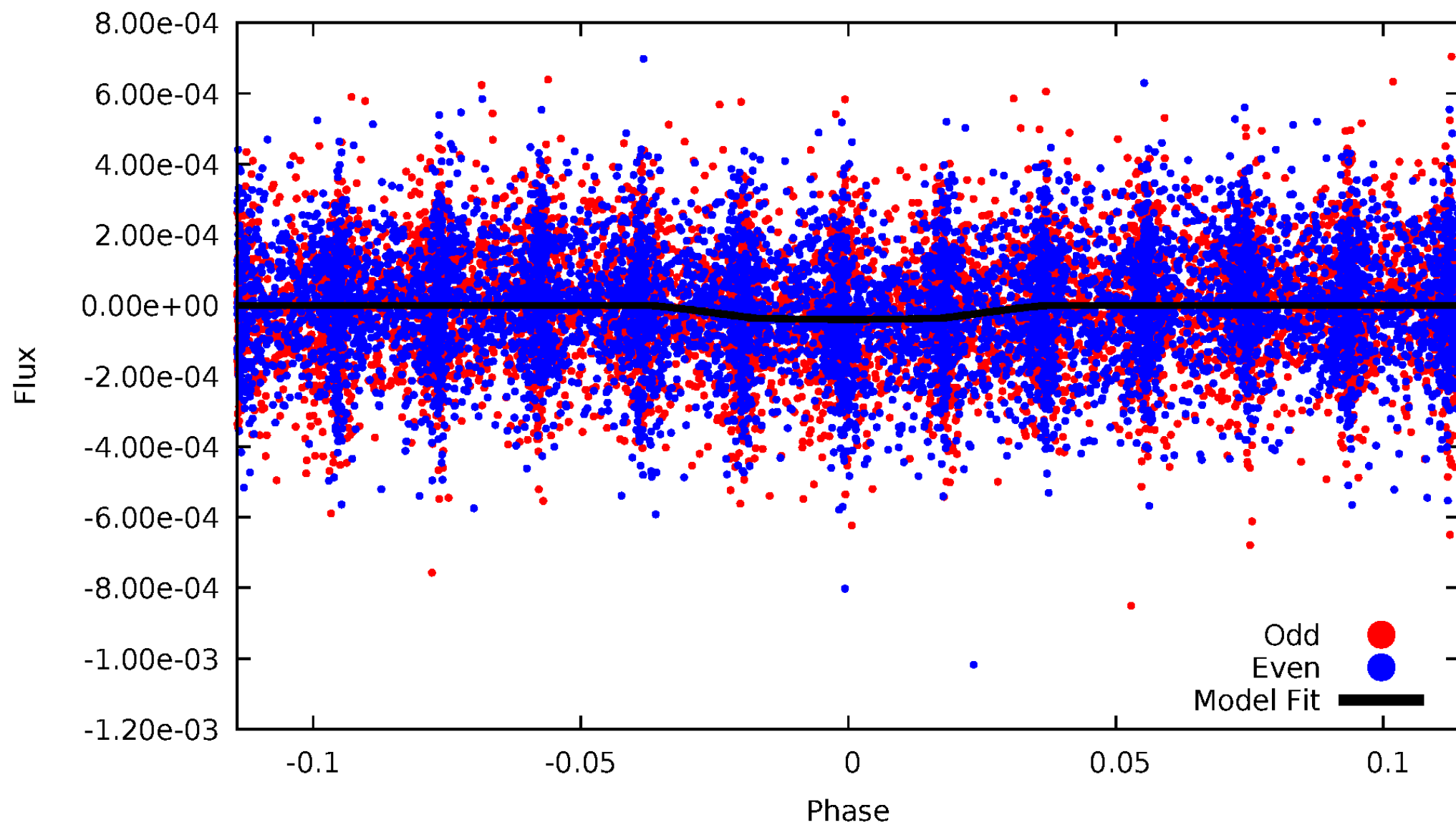


TCE 009246481-02



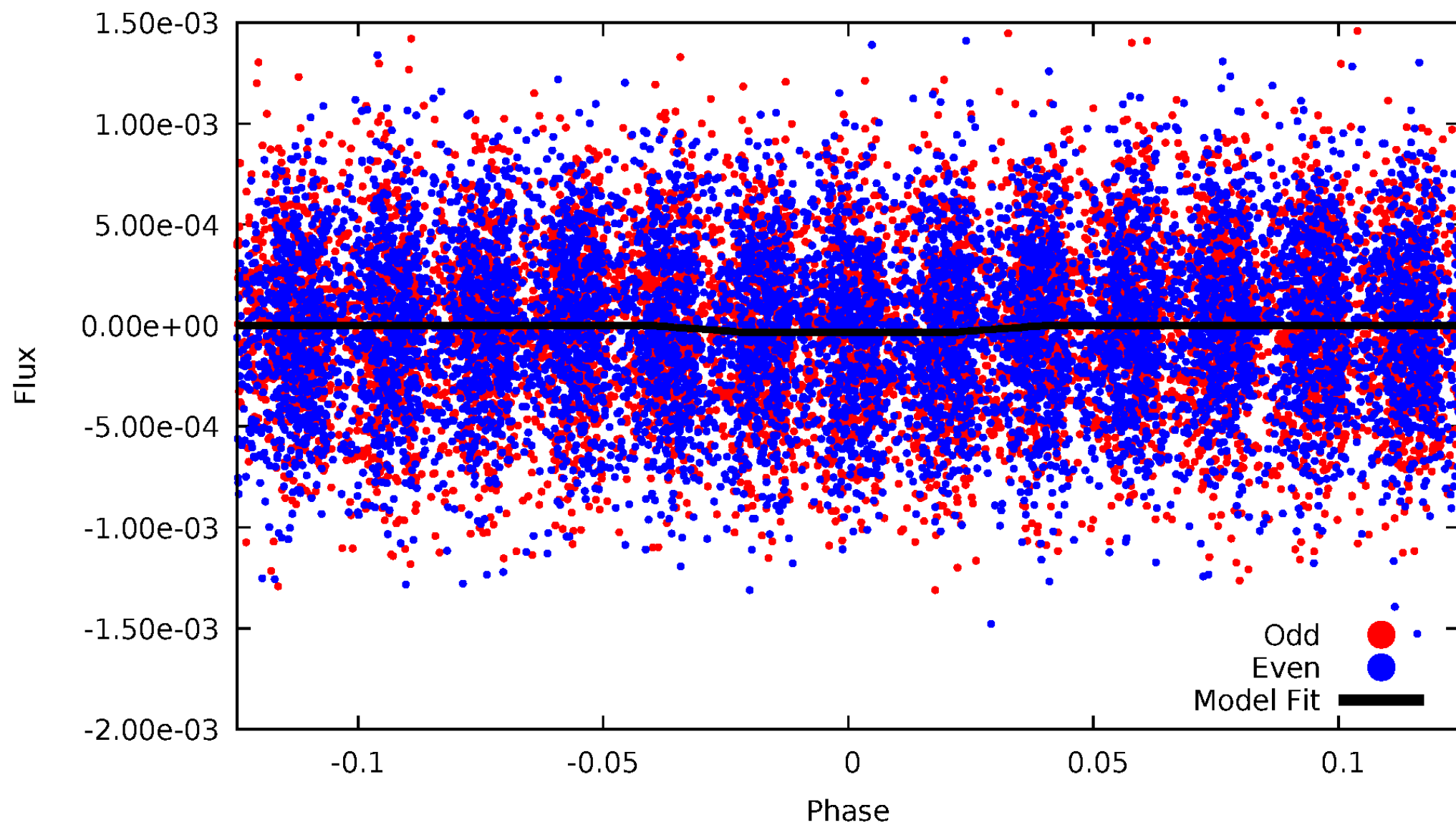
DV Odd/Even

TCE 009246481-02



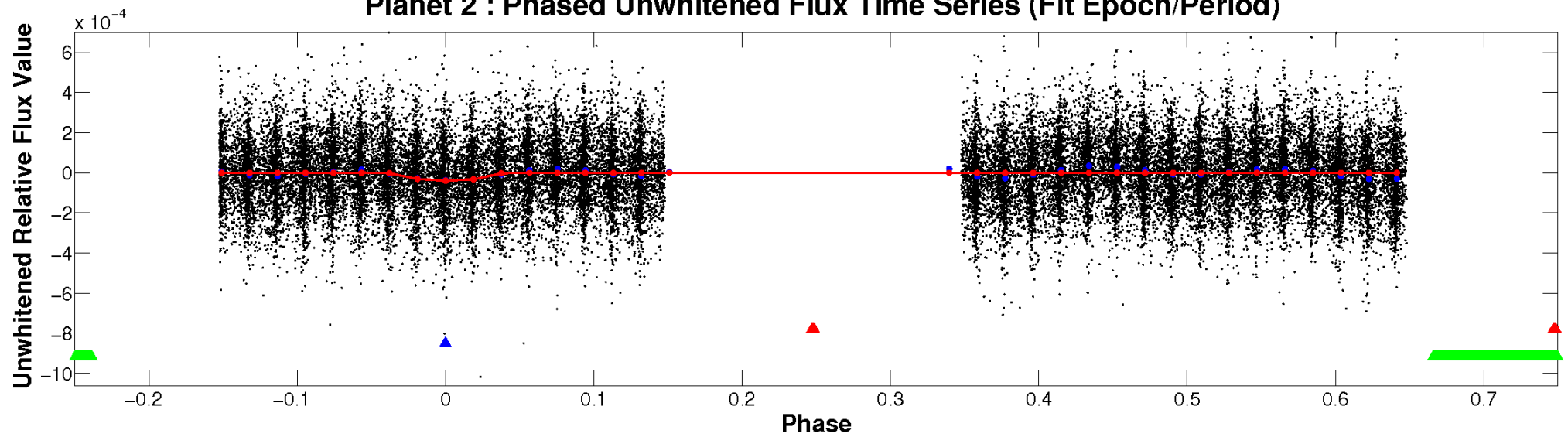
ALT Odd/Even

TCE 009246481-02

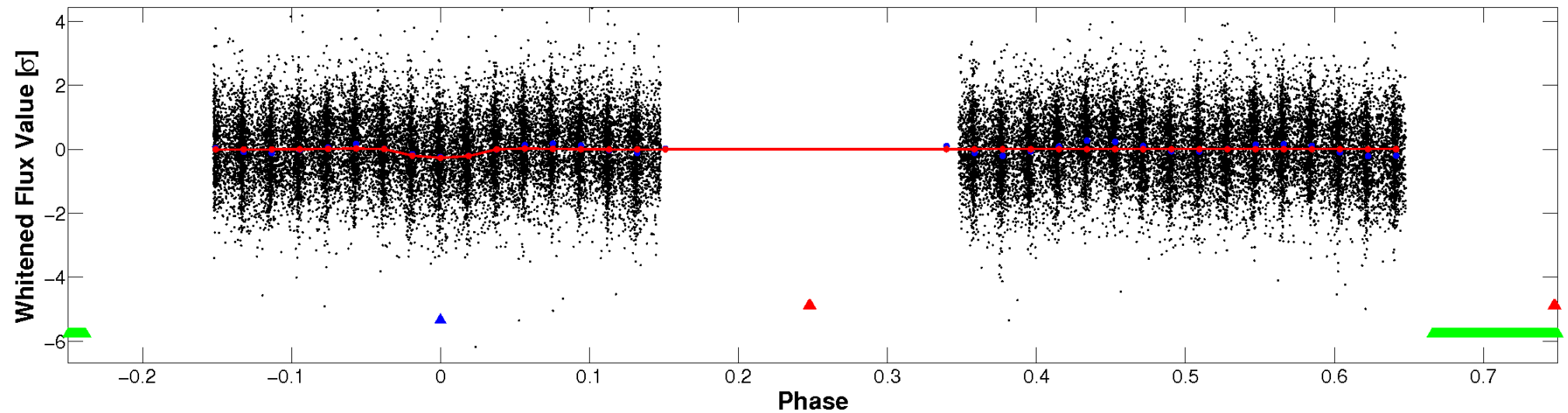


Non-Whitened Vs. Whitened Light Curve

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

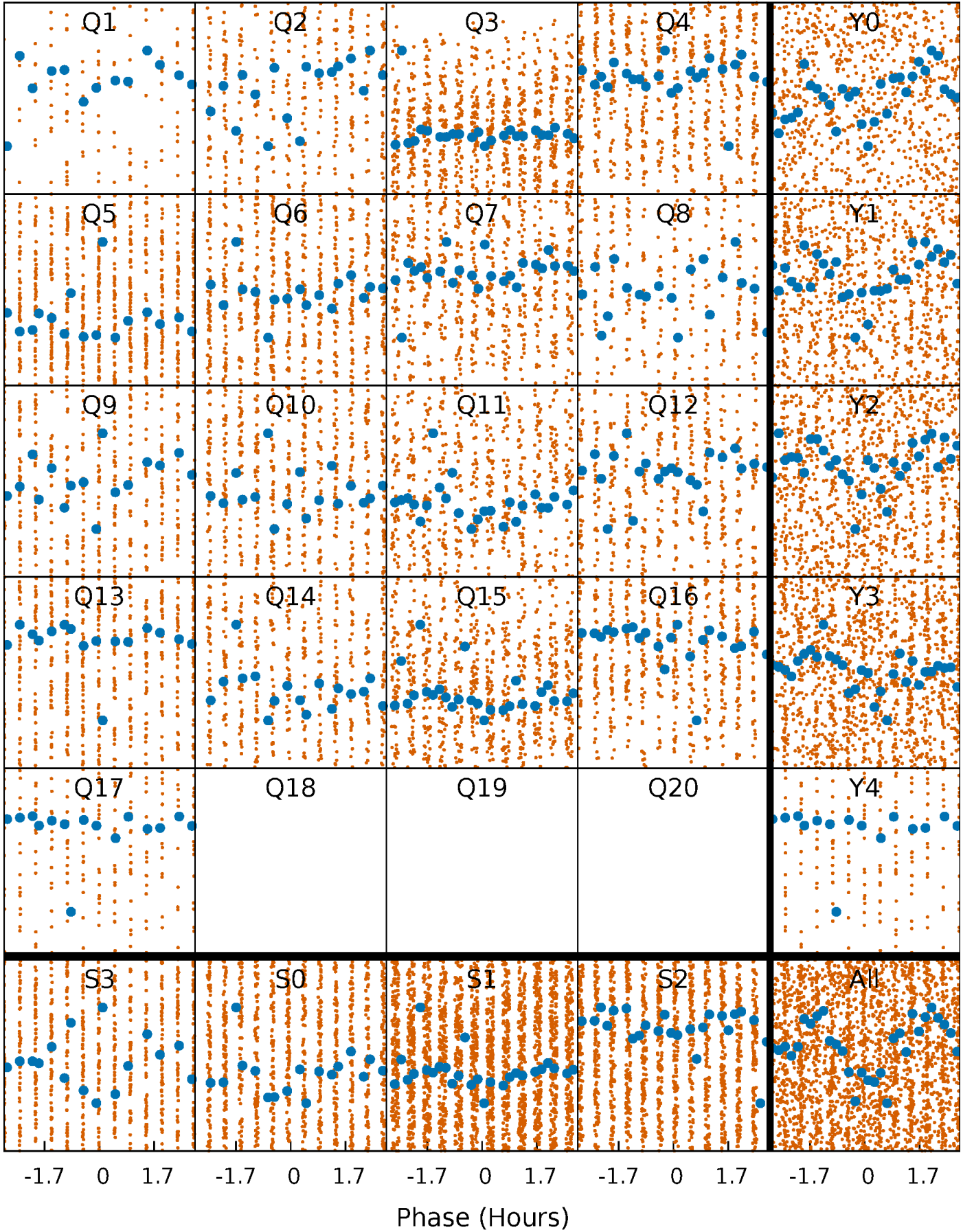


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



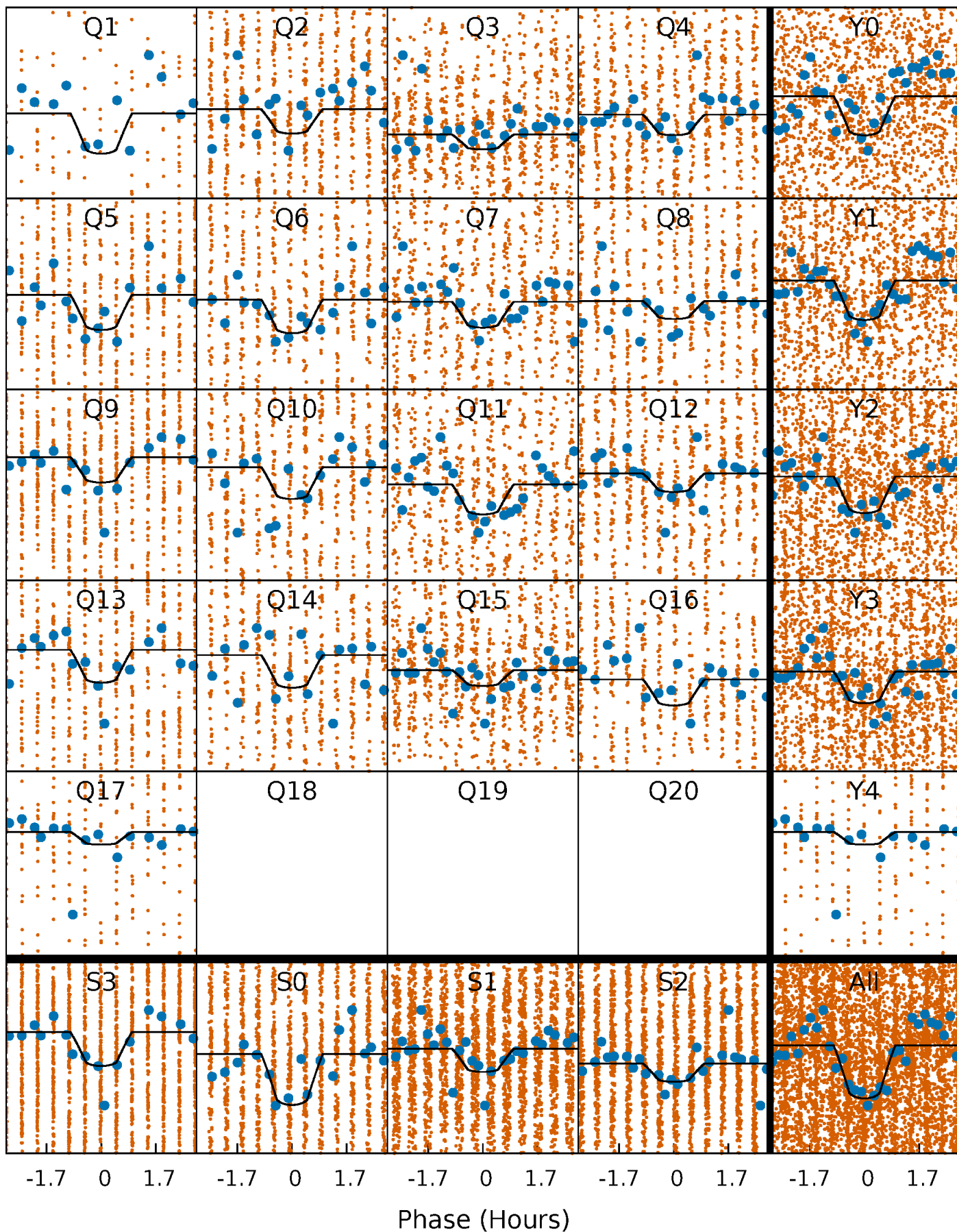
PDC Quarter-Phased Transit Curves

TCE 009246481-02 P= 1.083040 Days $T_0=132.473011$ (BKJD)



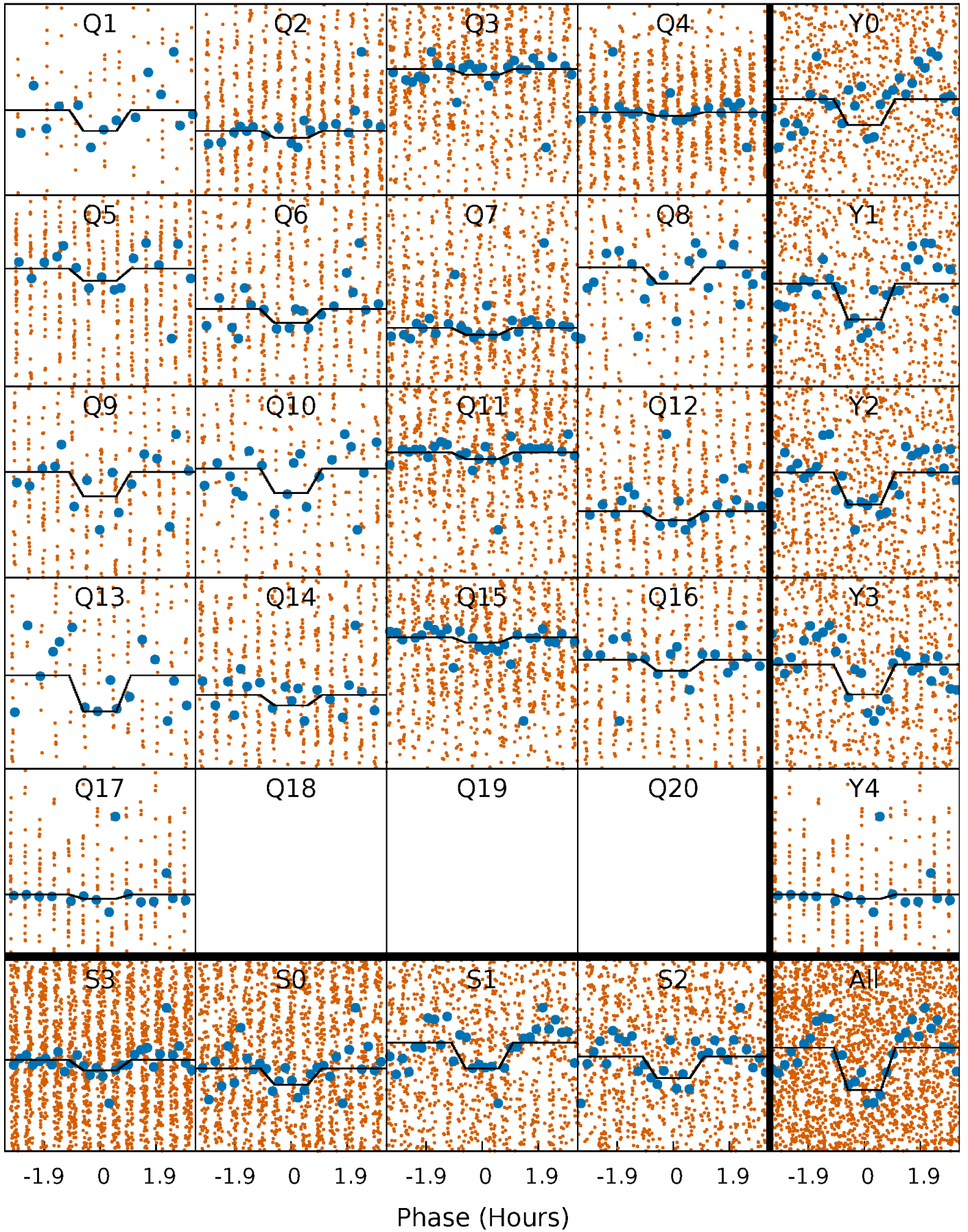
DV Quarter-Phased Transit Curves

TCE 009246481-02 P= 1.083040 Days $T_0=132.473011$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

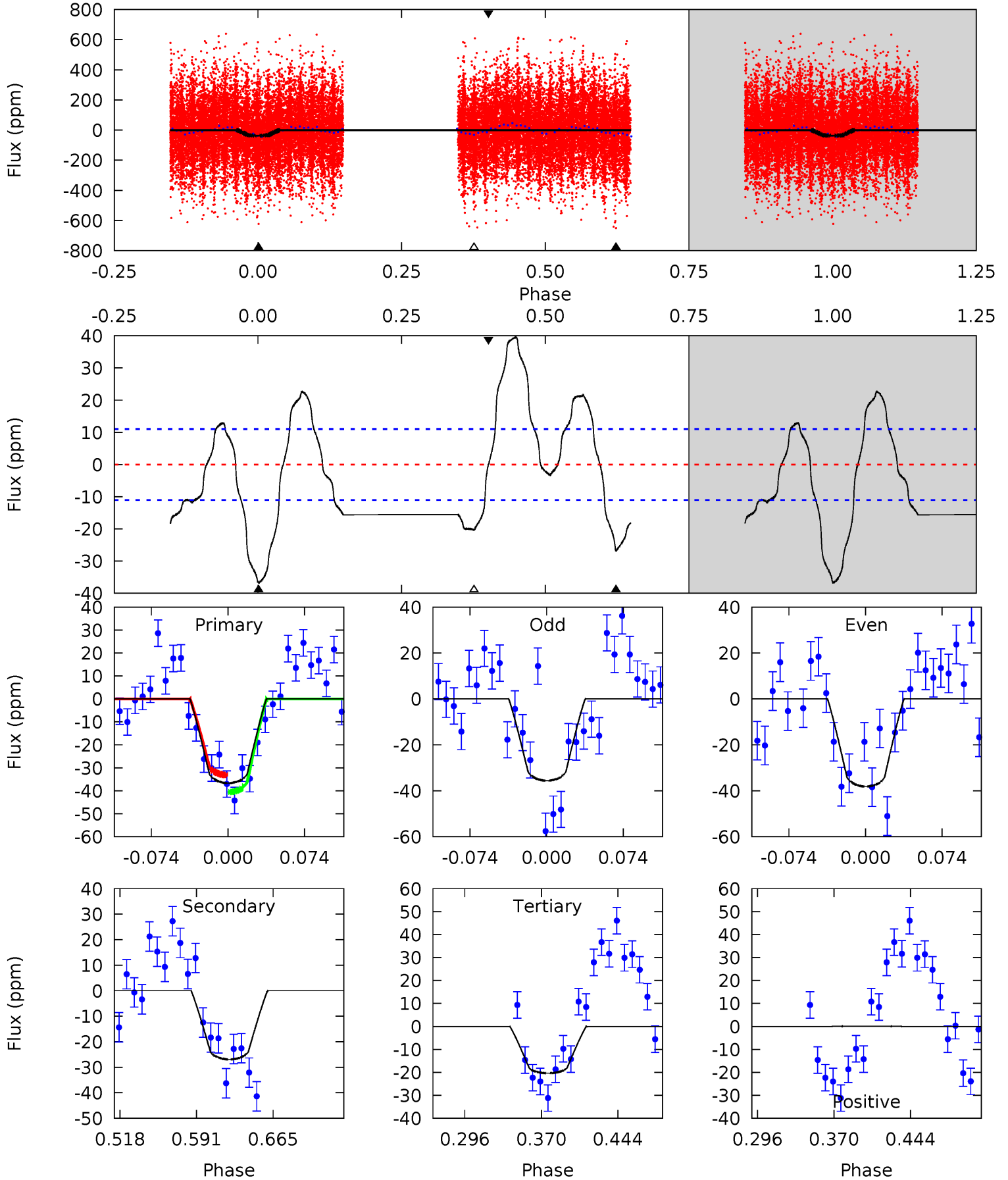
TCE 009246481-02 P= 1.083049 Days $T_0=132.465071$ (BKJD)



DV Model-Shift Uniqueness Test

009246481-02, P = 1.083040 Days, E = 131.389971 Days

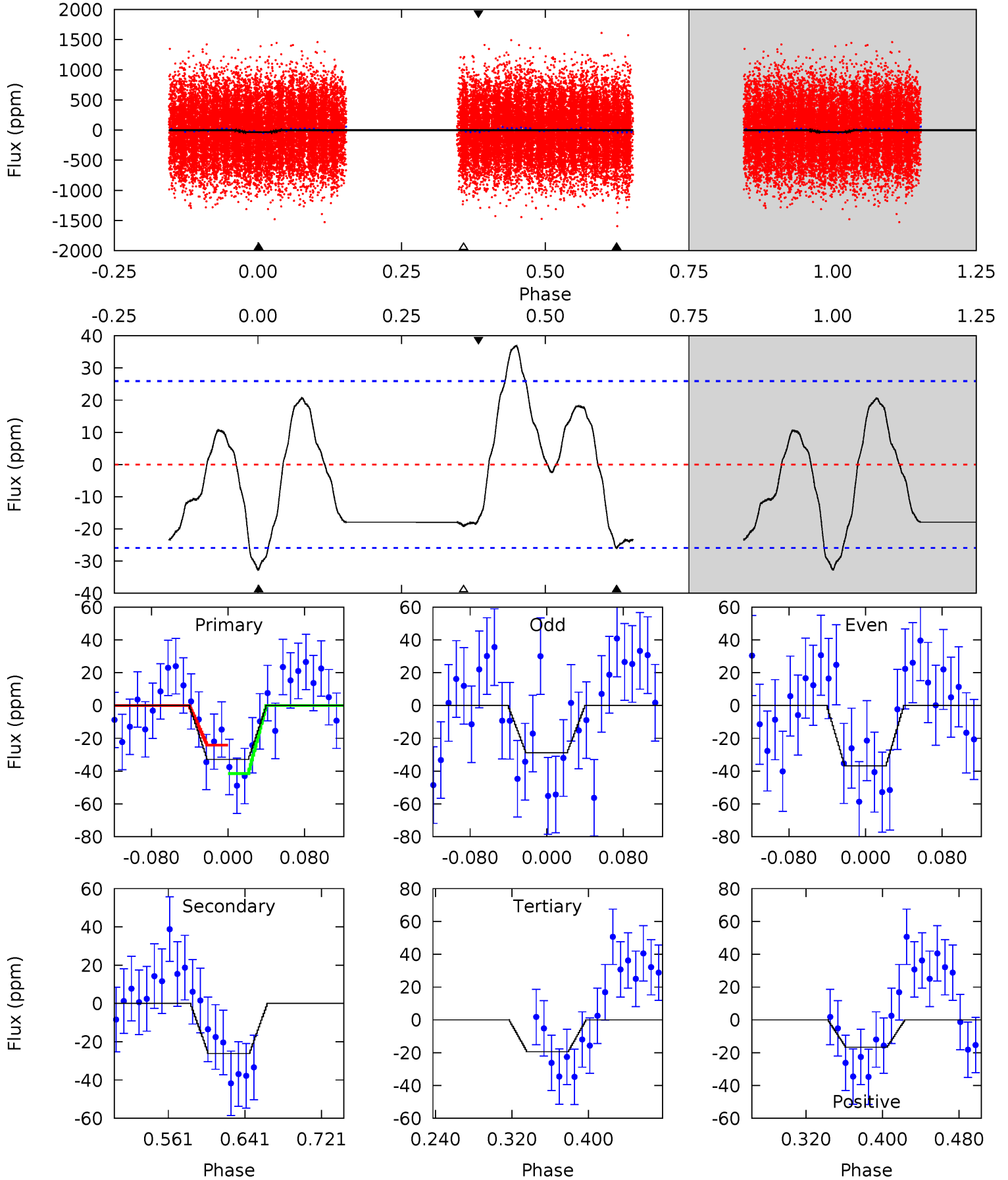
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	11.3	8.54	0.03	4.63	1.79	7.17	6.85	15.4	2.76	11.3	0.53	0.98	0.52	1.54



Alt Model-Shift Uniqueness Test

009246481-02, P = 1.083049 Days, E = 131.382022 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.85	4.65	3.45	-2.98	4.61	1.75	2.92	2.40	8.83	1.19	7.62	0.71	0.95	0.53	1.54



Stellar Parameters For KIC 009246481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8279^{+229}_{-372}	$3.729^{+0.428}_{-0.143}$	$-0.060^{+0.300}_{-0.400}$	$3.248^{+0.970}_{-1.455}$	$2.061^{+0.372}_{-0.455}$	$0.085^{+0.349}_{-0.036}$
	+3%/-4%	+11%/-4%	+500%/-667%	+30%/-45%	+18%/-22%	+412%/-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 009246481-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-27 ± 2	$2.19^{+0.73}_{-0.72}$	5490^{+500}_{-651}	6782^{+1468}_{-970}	$2.172^{+2.416}_{-0.951}$
Alt.	-26 ± 6	$1.86^{+0.76}_{-0.64}$	5508^{+474}_{-629}	7434^{+2254}_{-1251}	$2.858^{+4.057}_{-1.418}$

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 $A_{obs} \gg 1.0$

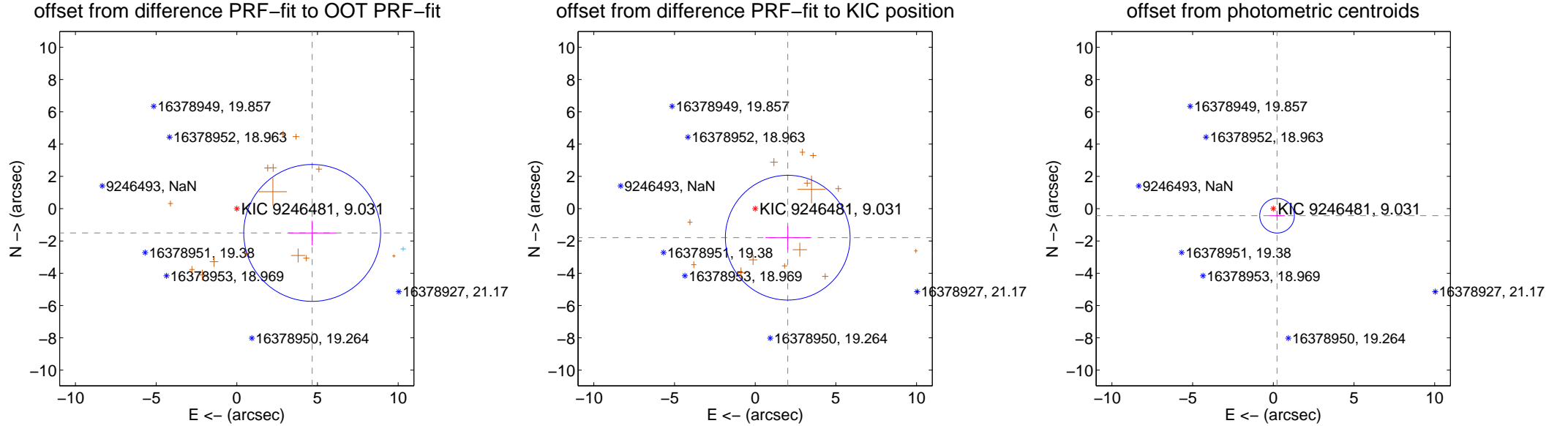
DV Centroid Data

Supplemental centroid analysis for 009246481-02. **Kepler magnitude: 9.03.** Transit SNR 13.66

There are 1 quarters with good PRF difference image offsets

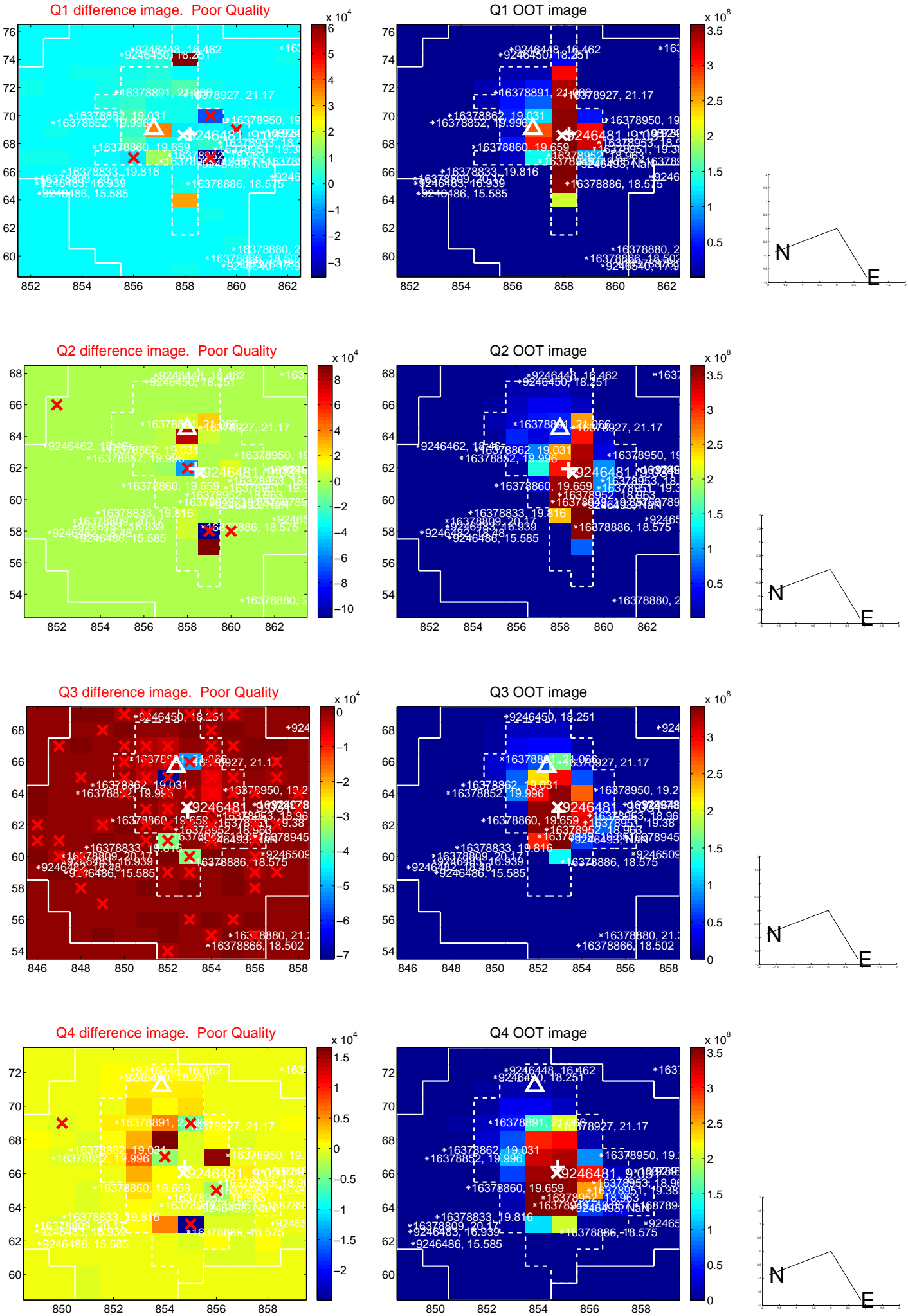
The direct PRF centroid is offset from the target star catalog position by about 1.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.904 ± 1.413	3.47	-4.669 ± 1.464	-1.501 ± 0.763
PRF-fit source offset from KIC position	2.700 ± 1.288	2.10	-2.016 ± 1.384	-1.796 ± 0.736
photometric centroid source offset	0.49 ± 0.36	1.38	-0.23 ± 0.49	-0.43 ± 0.31

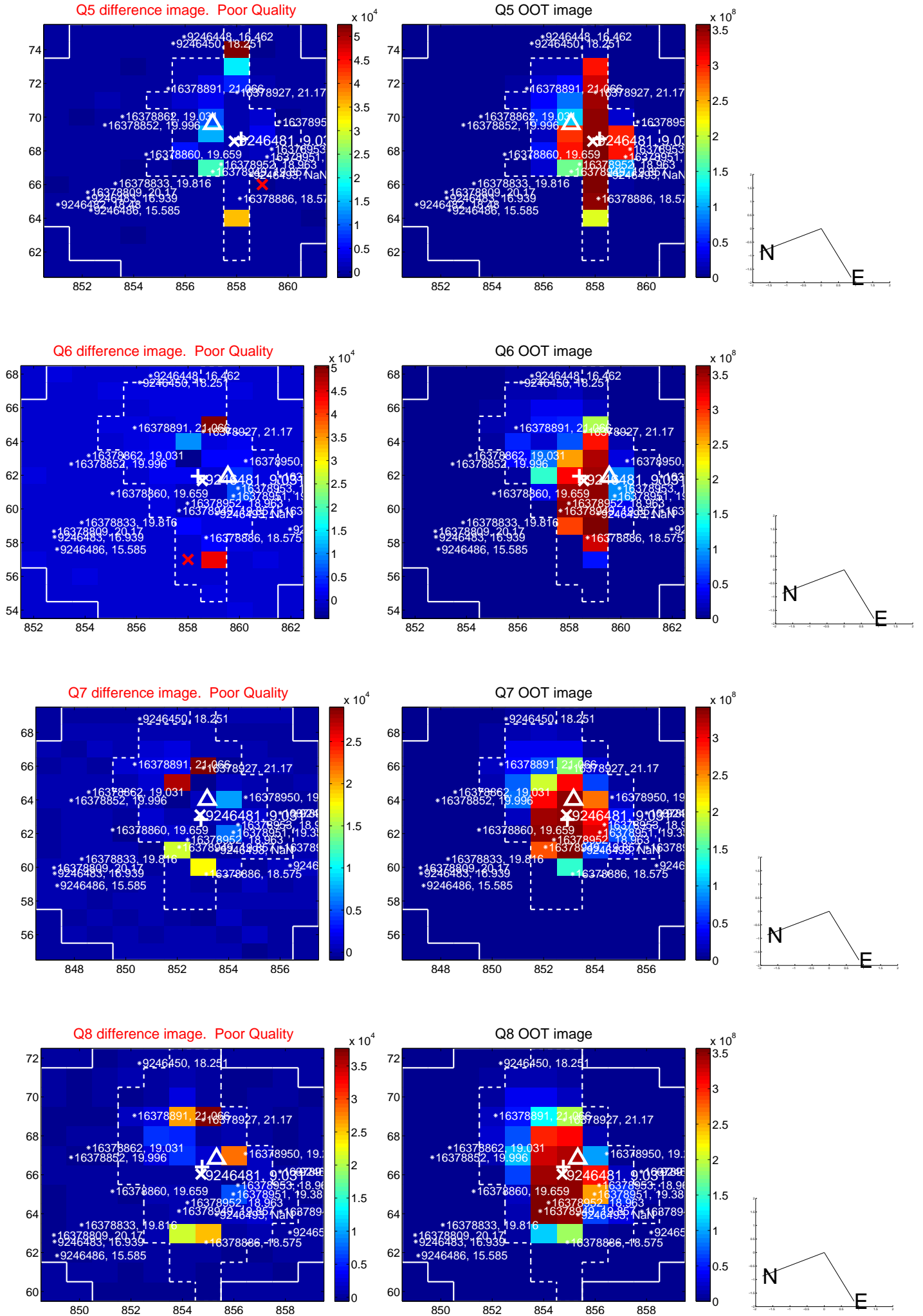


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

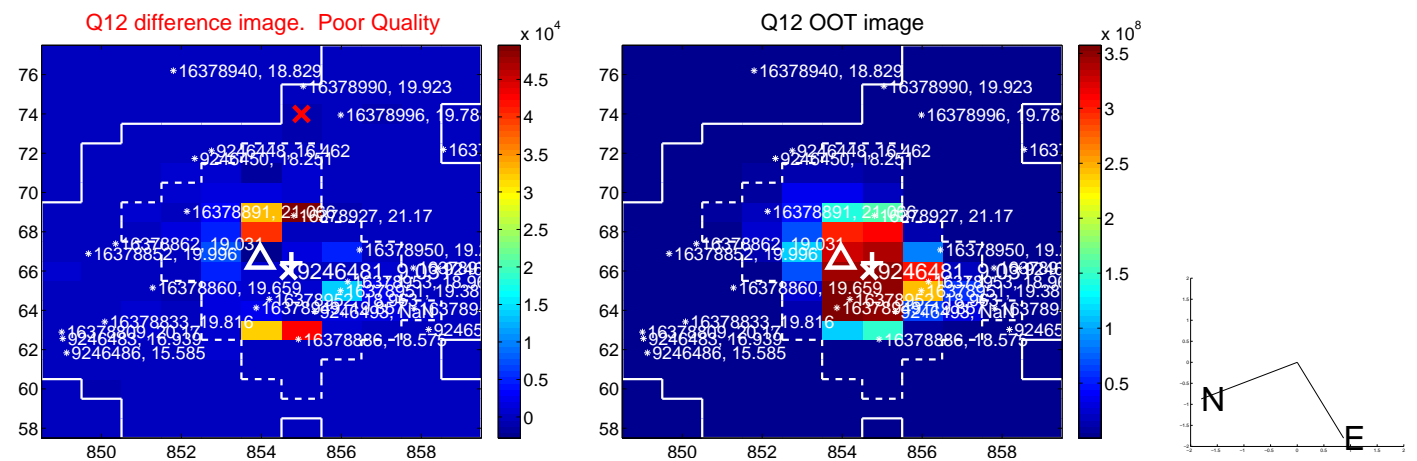
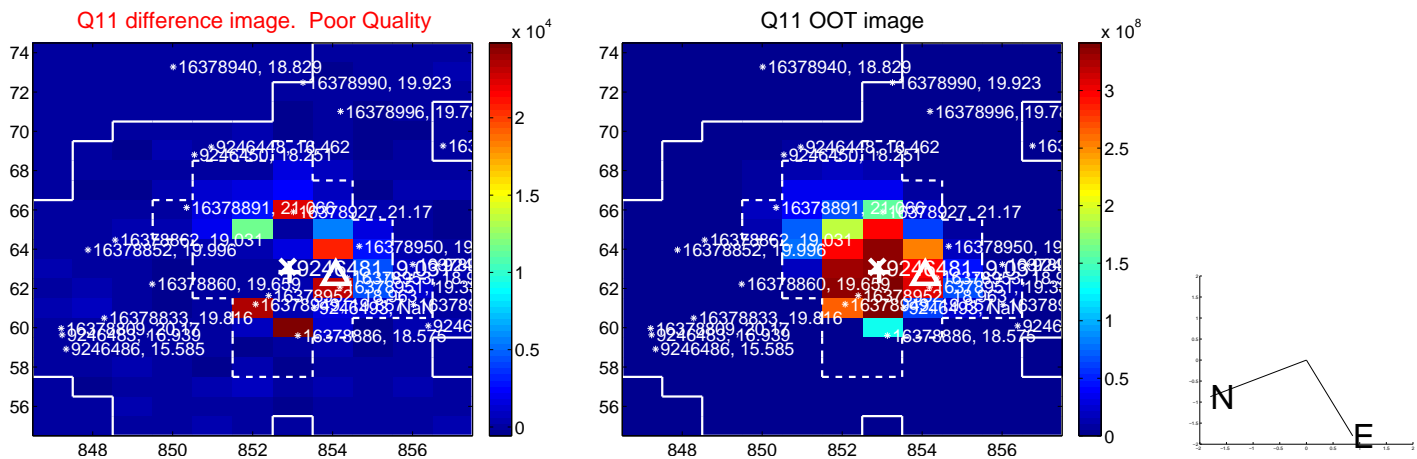
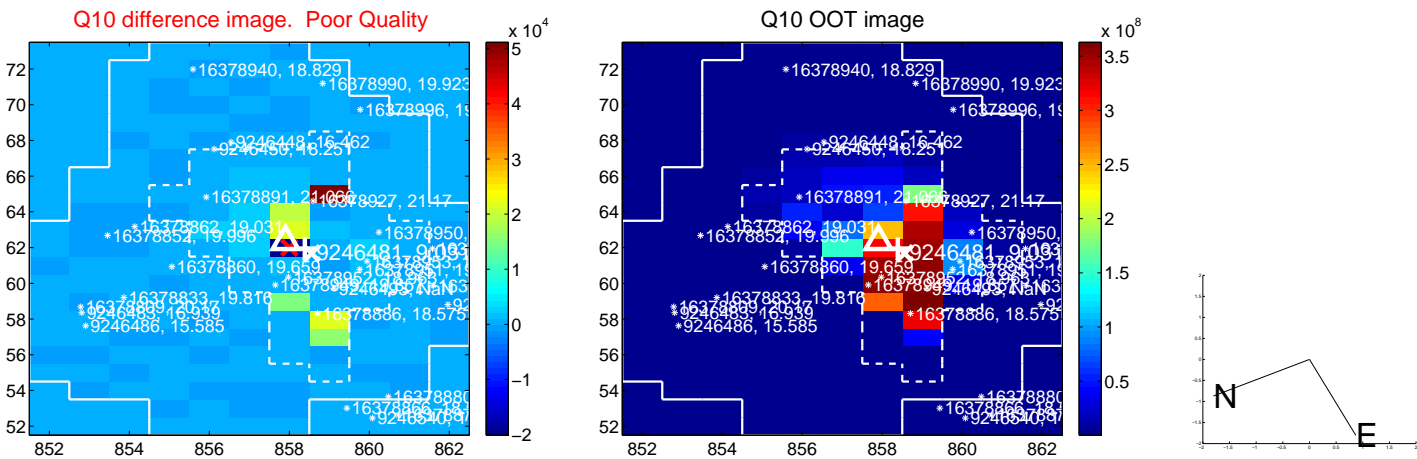
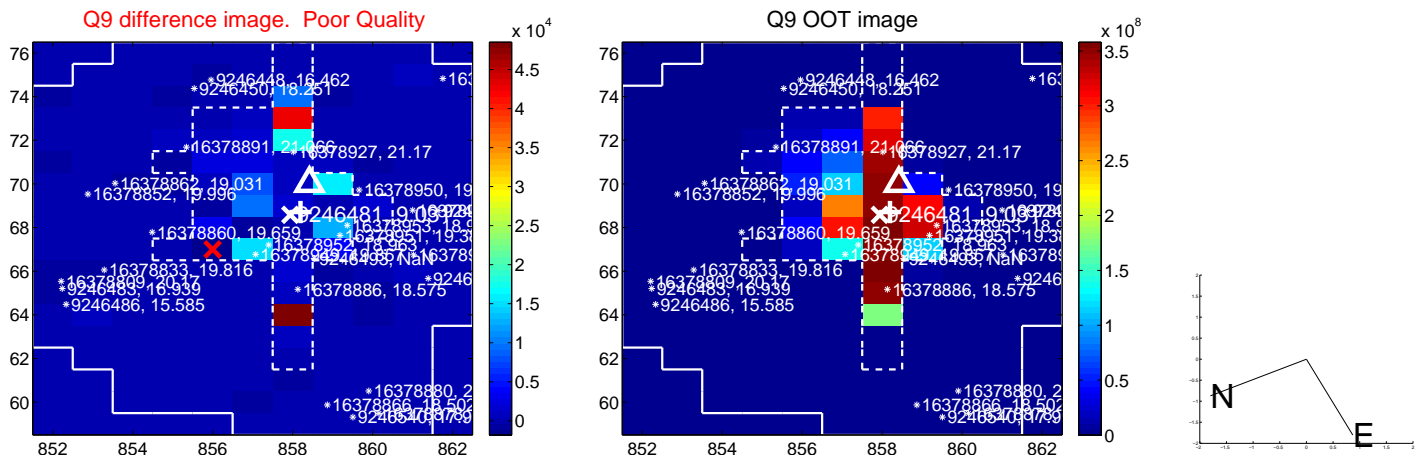
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



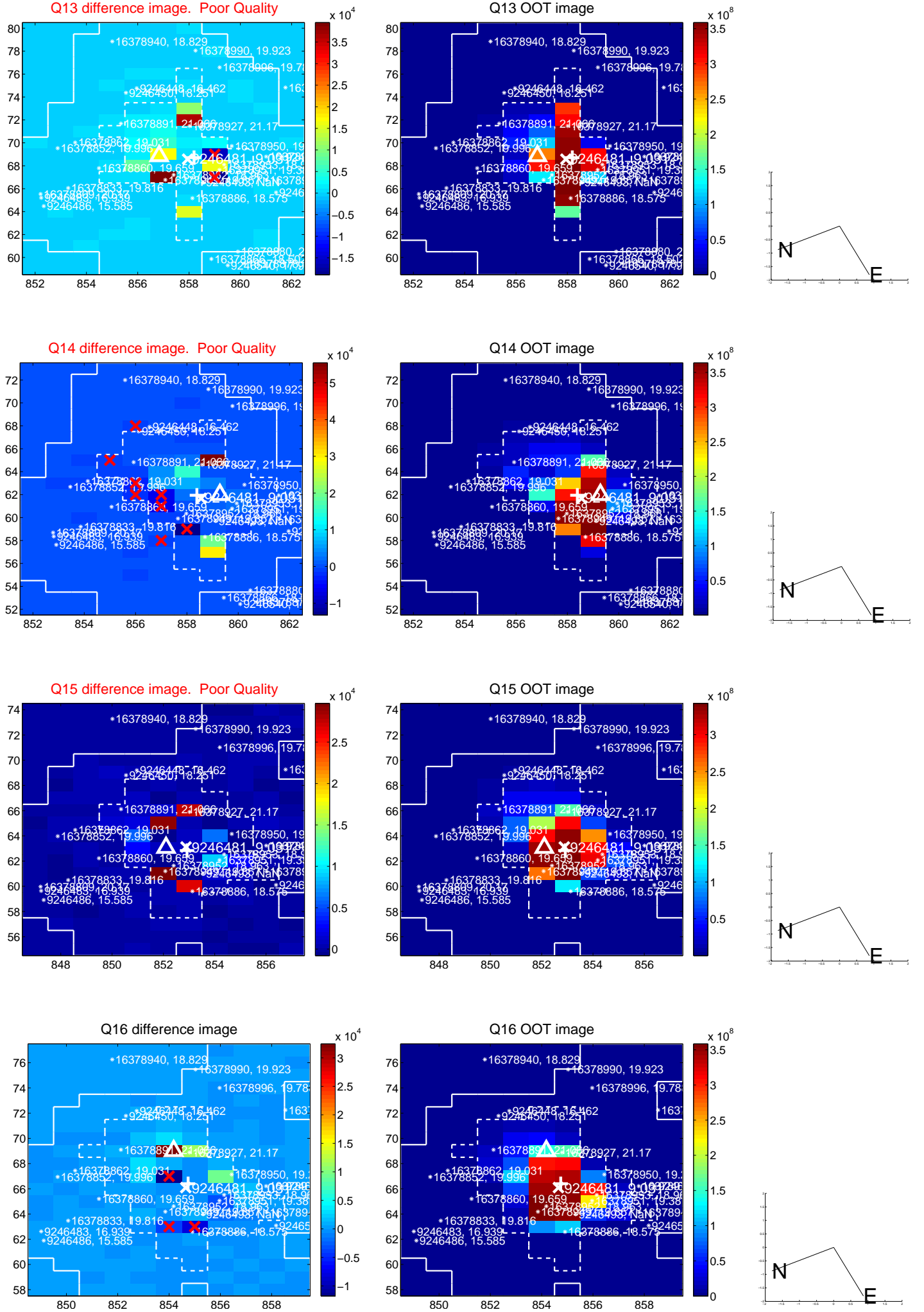
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



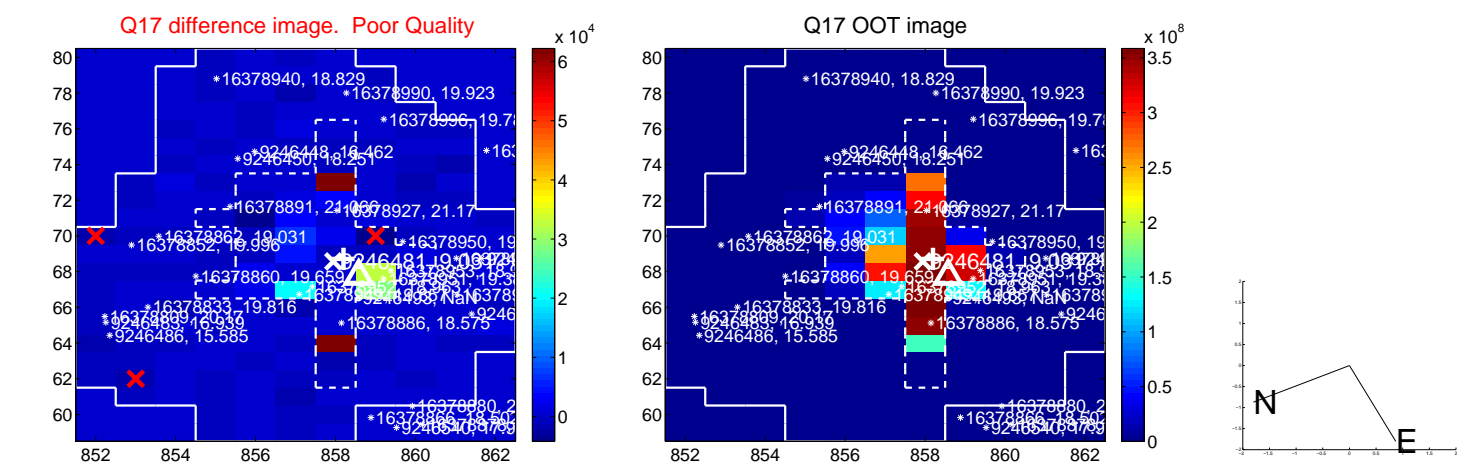
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



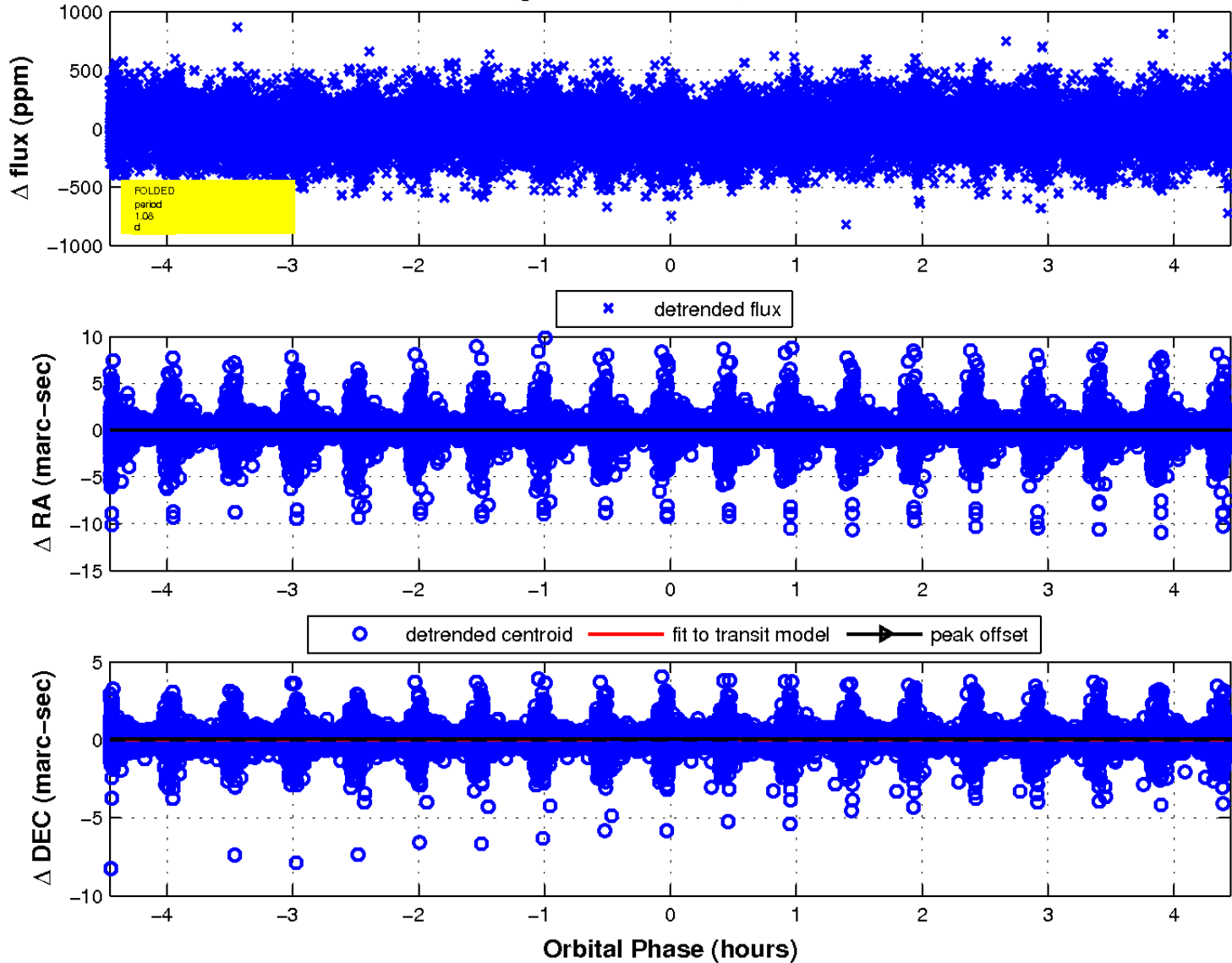
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

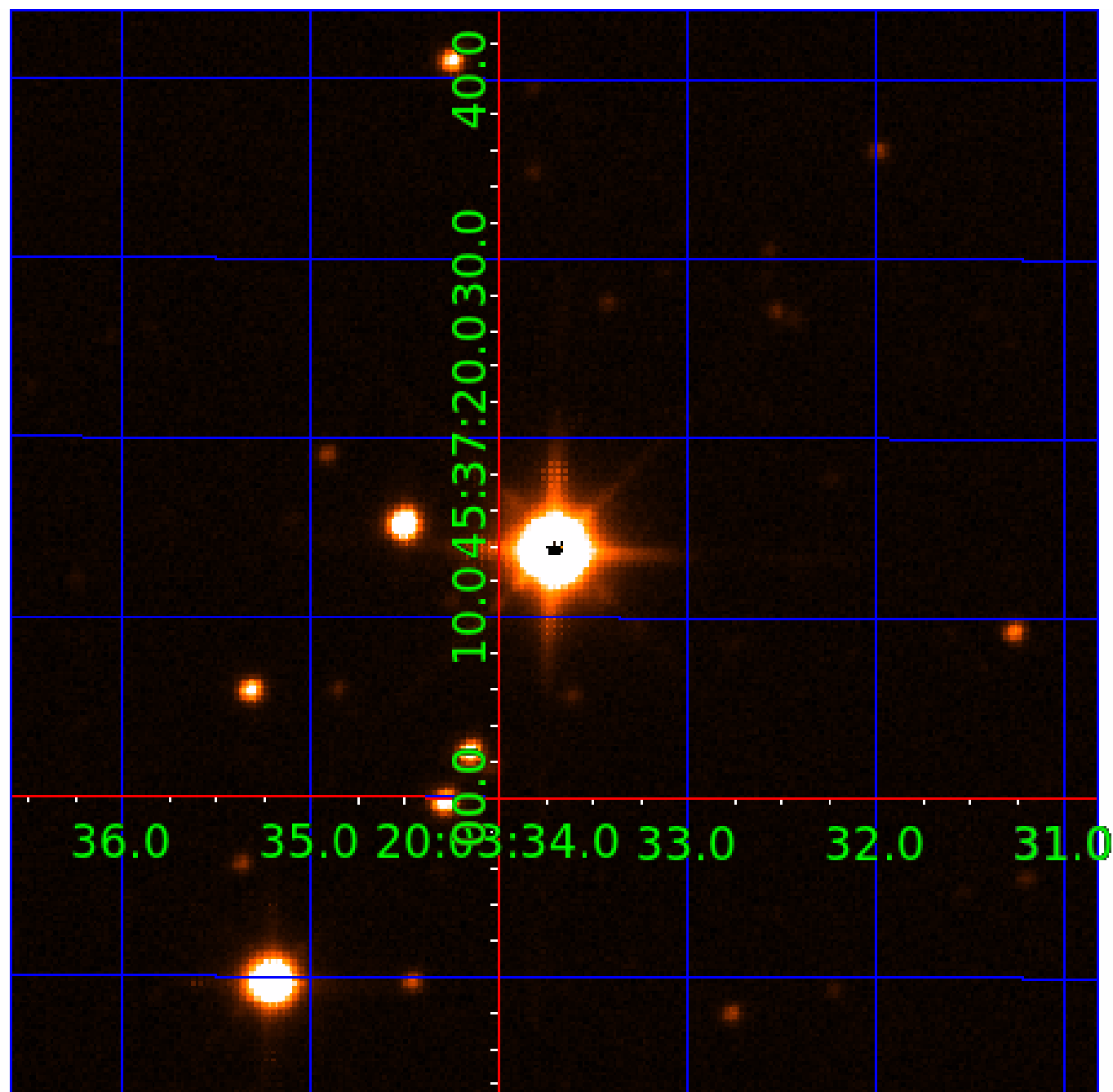


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 009246481

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})
009246481-01	OBS	No	0.541521	131.657759	30.0	1.571	12.4	14.9	3.25	8279	2.08	162080.15
009246481-02	OBS	No	1.083040	132.473011	39.6	1.484	11.9	13.7	3.25	8279	2.38	64321.62
009246481-03	OBS	No	1.083118	132.111069	35.0	6.171	10.2	9.9	3.25	8279	2.25	64315.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009246481-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
009246481-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
009246481-03	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—CENT_SATURATED

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

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

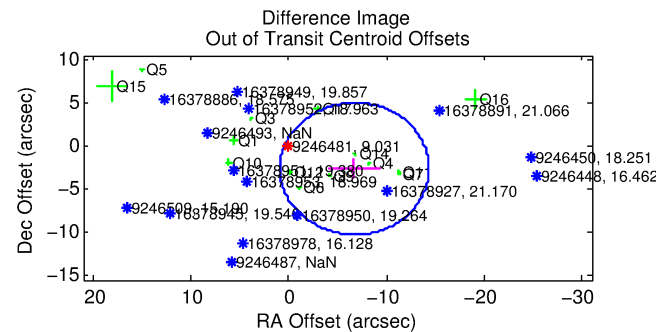
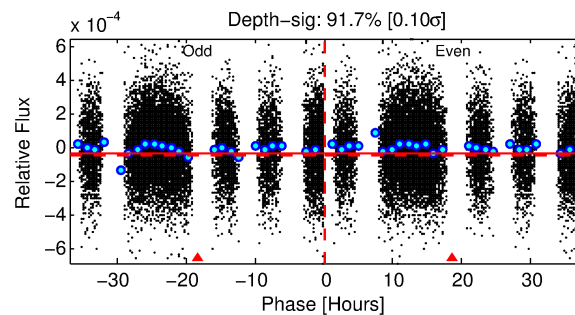
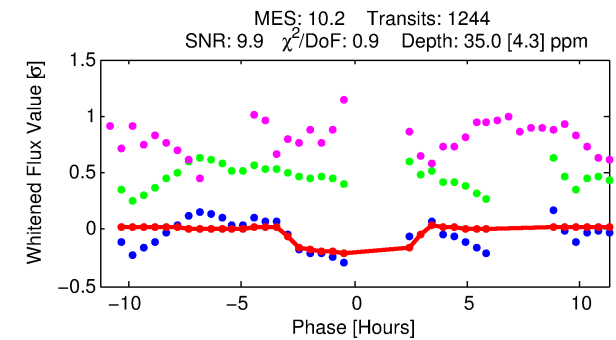
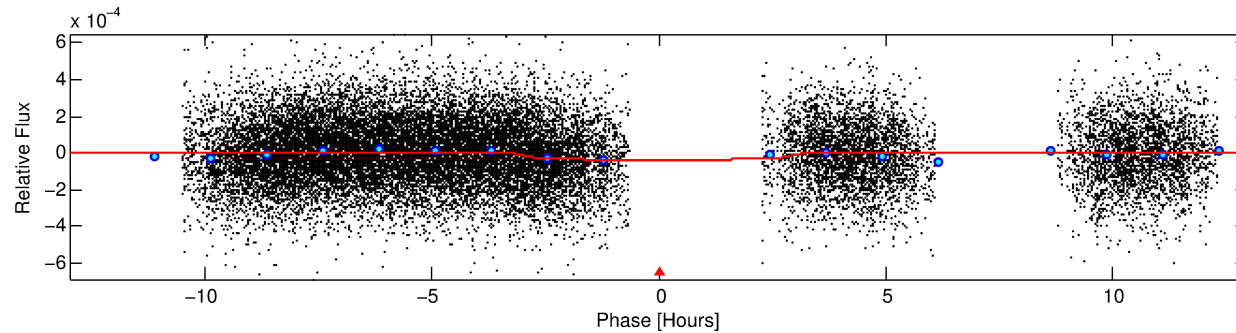
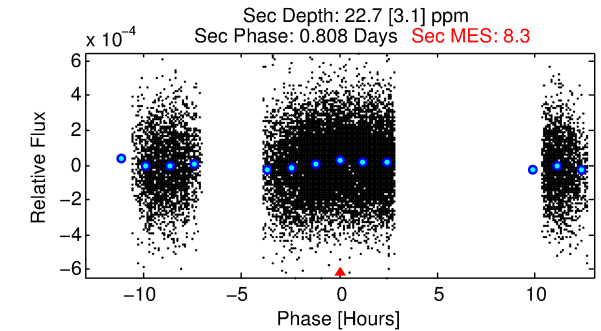
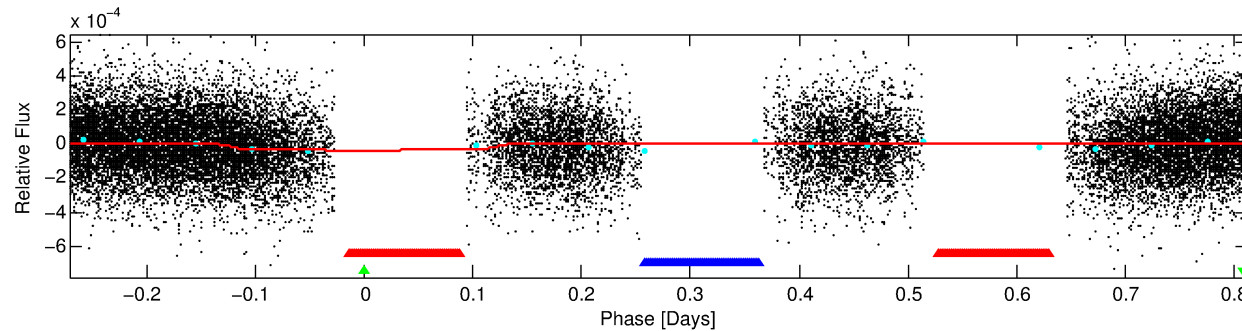
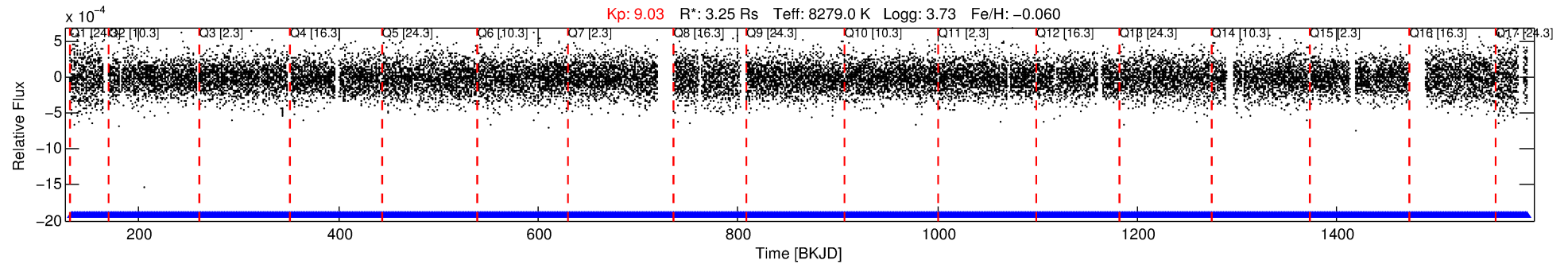
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009246481-03

No Significant Match Found

DV One-Page Summary

KIC: 9246481 Candidate: 3 of 3 Period: 1.083 d



DV Fit Results:

Period = 1.08312 [0.00001] d
Epoch = 132.1111 [0.0042] BKJD
Rp/R* = 0.0064 [0.0014]
a/R* = 1.11 [0.28]
b = 0.91 [0.26]
Seff = 64315.51 [47833.93]
Teq = 4061 [755] K
Rp = 2.25 [1.13] Re
a = 0.0263 [0.0117] AU
Ag = 1.70 [1.46] [0.48σ]
Teffp = 7168 [889] K [2.66σ]

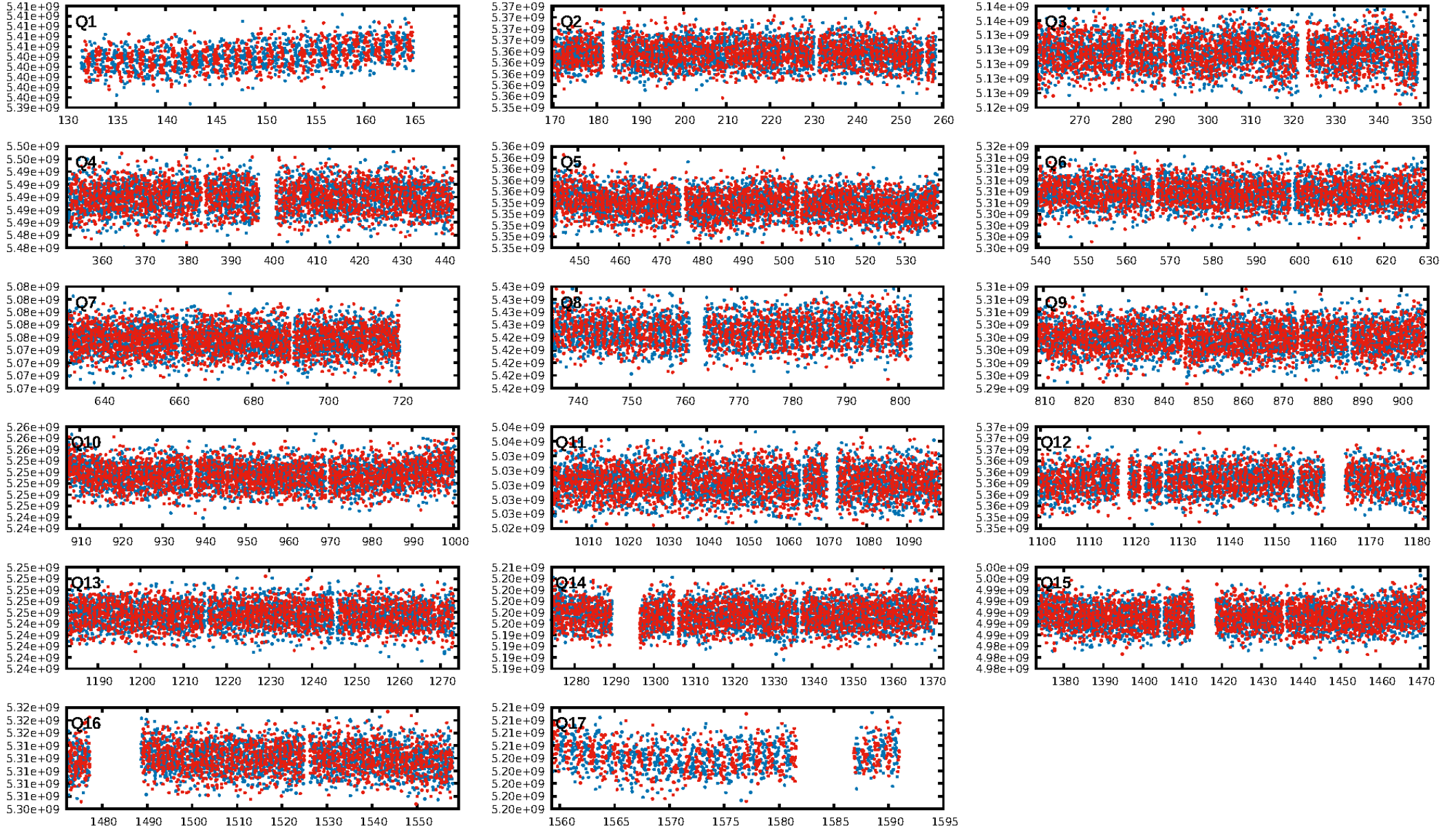
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.06e-21
RollingBand-fgt: 1.00 [1187/1187]
GhostDiagnostic-chr: N/A
Centroid-sig: 48.1%
Centroid-so: 0.697 arcsec [1.75σ]
OotOffset-rm: 7.208 arcsec [2.83σ]
KicOffset-rm: 7.632 arcsec [2.68σ]
OotOffset-st: 3/4/3/4 [14]
KicOffset-st: 3/4/3/4 [14]
DiffImageQuality-fgm: 0.21 [3/14]
DiffImageOverlap-fno: 0.00 [0/17]

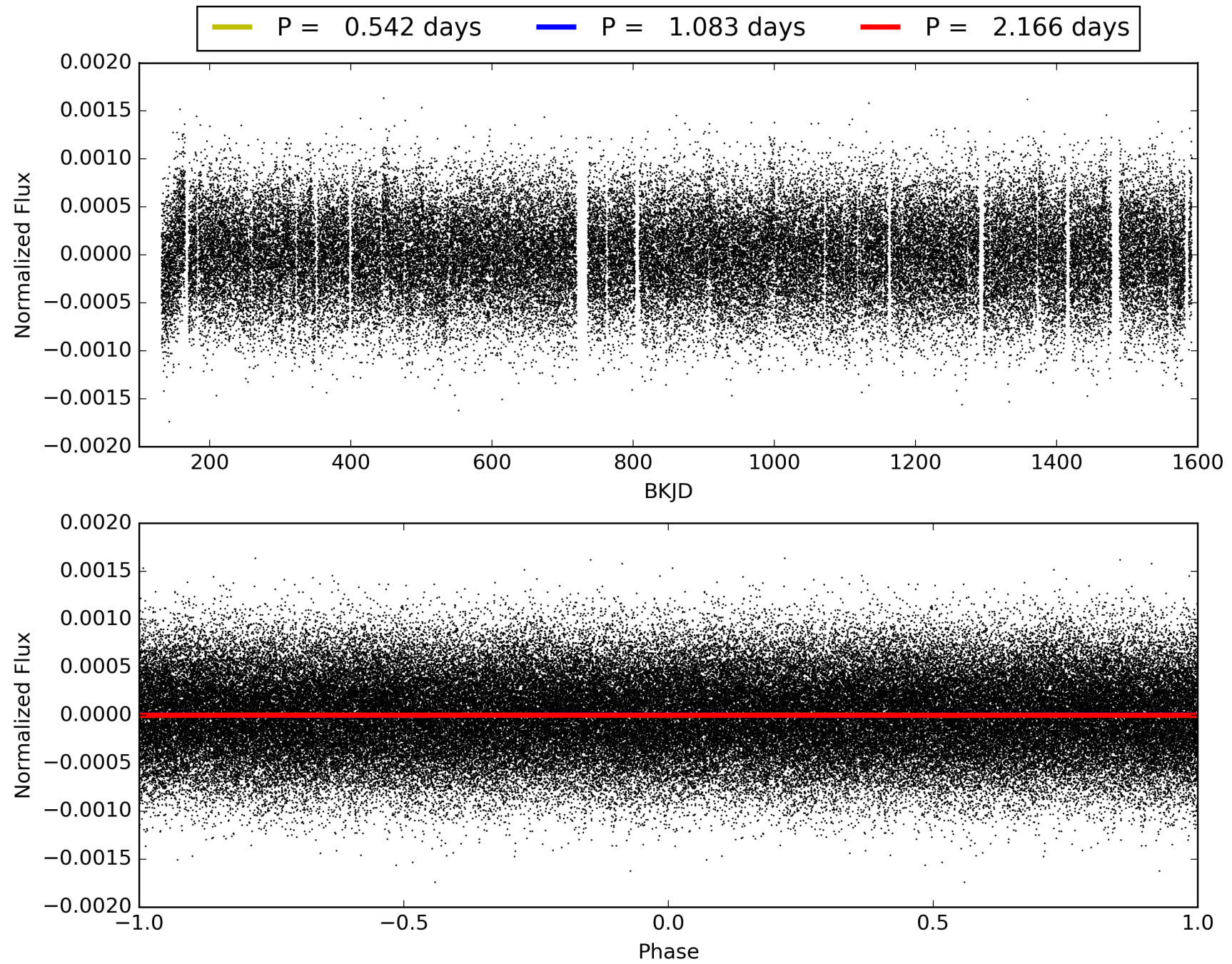
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:00:15 Z

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

TCE 009246481-03, PDC Light Curves

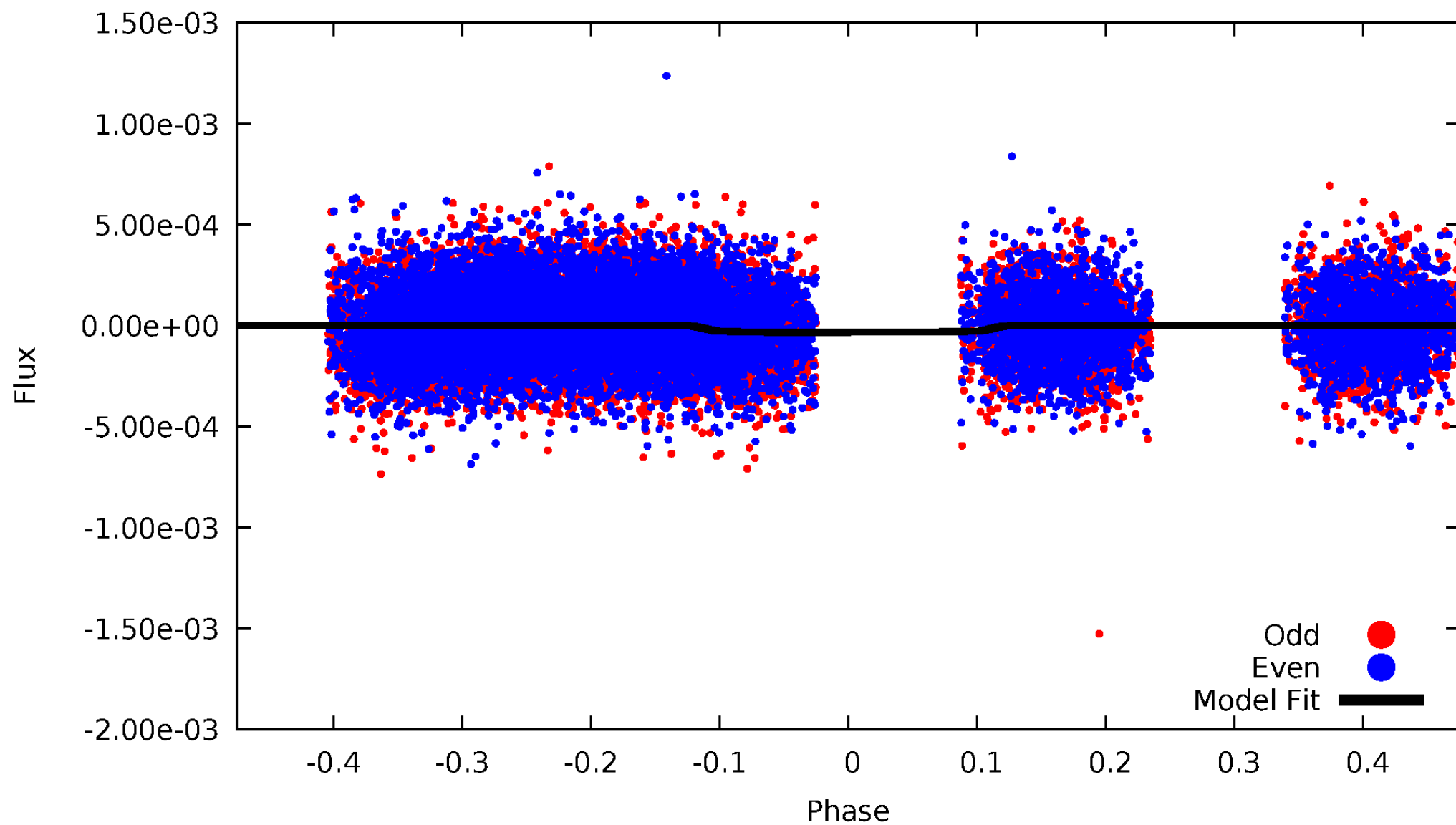


TCE 009246481-03



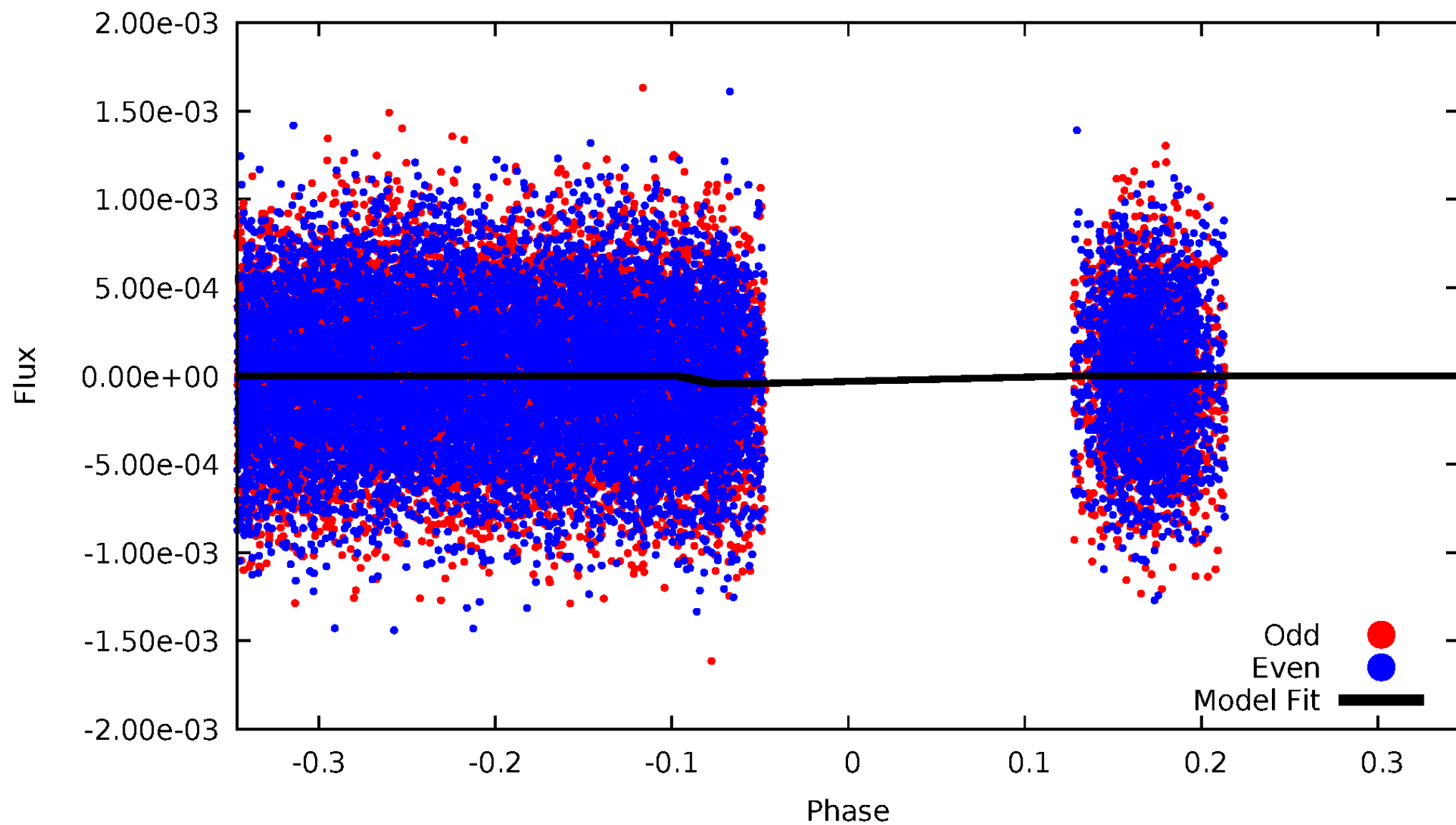
DV Odd/Even

TCE 009246481-03



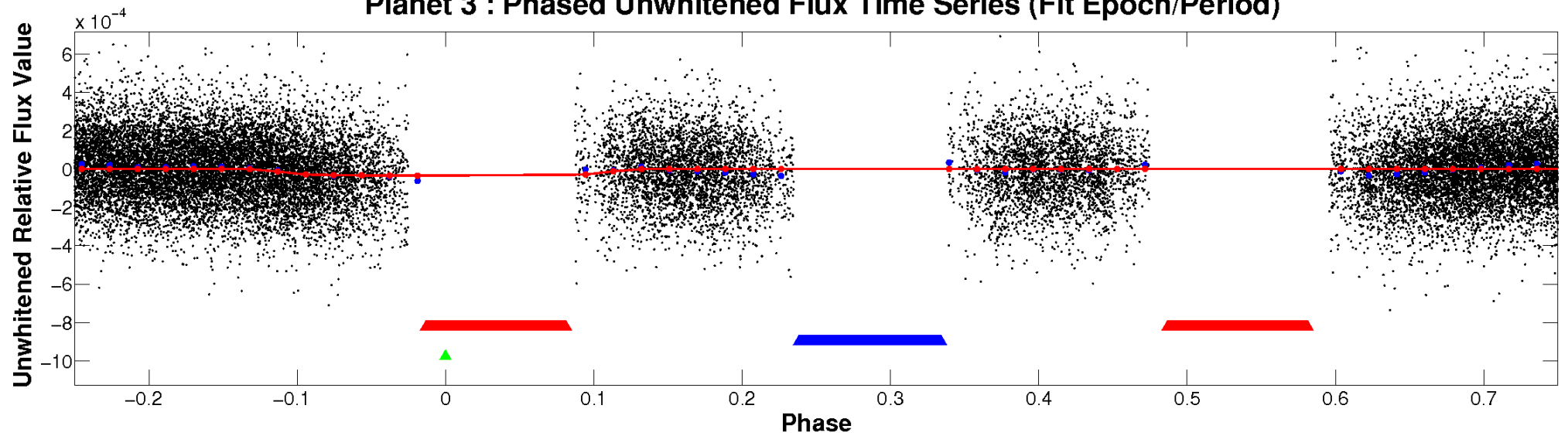
ALT Odd/Even

TCE 009246481-03

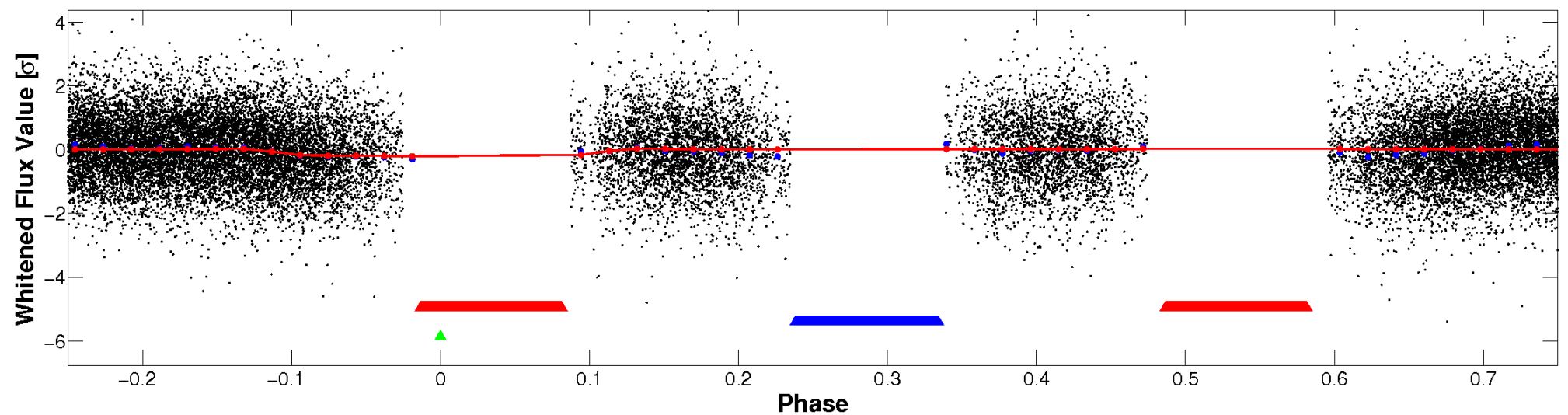


Non-Whitened Vs. Whitened Light Curve

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

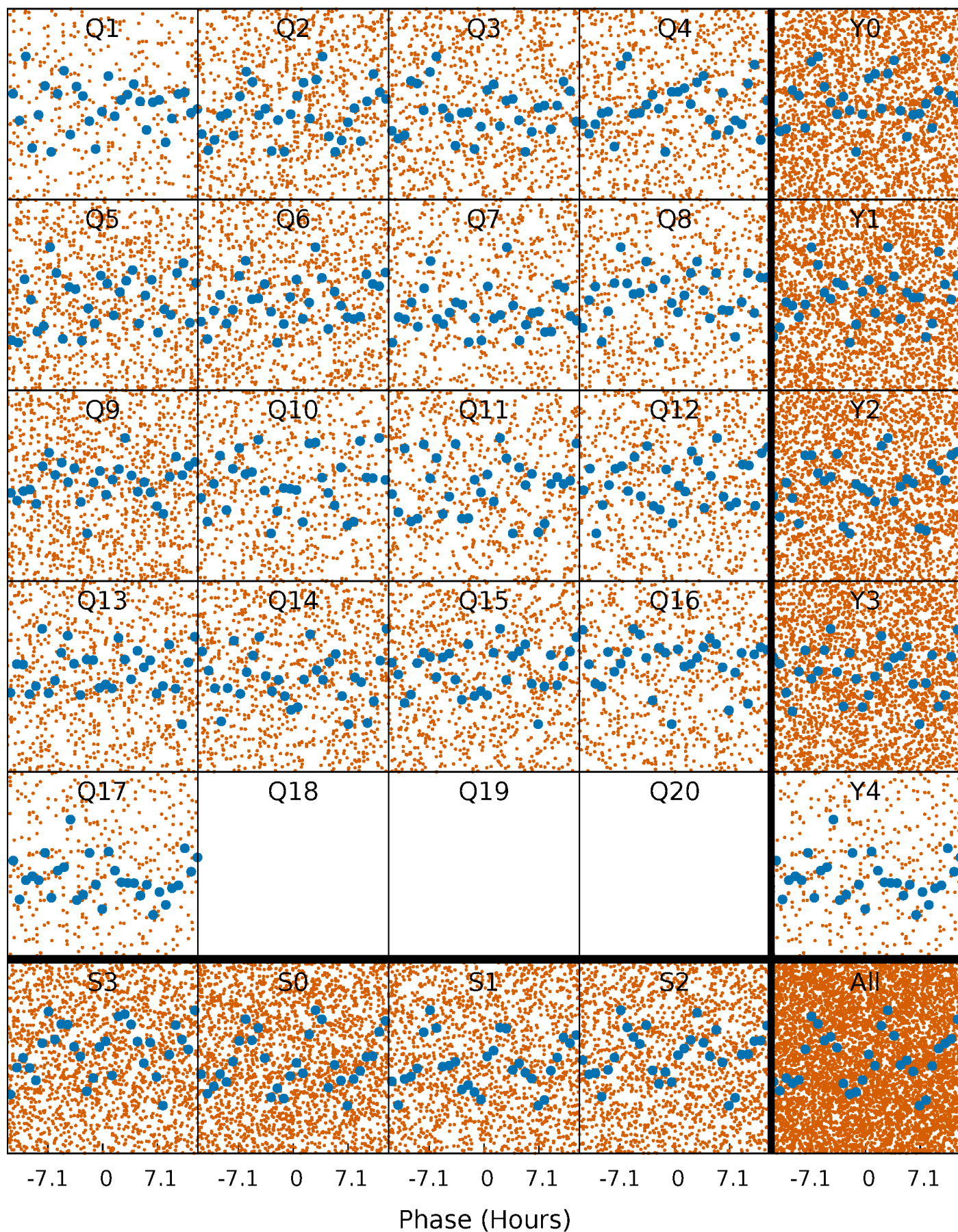


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



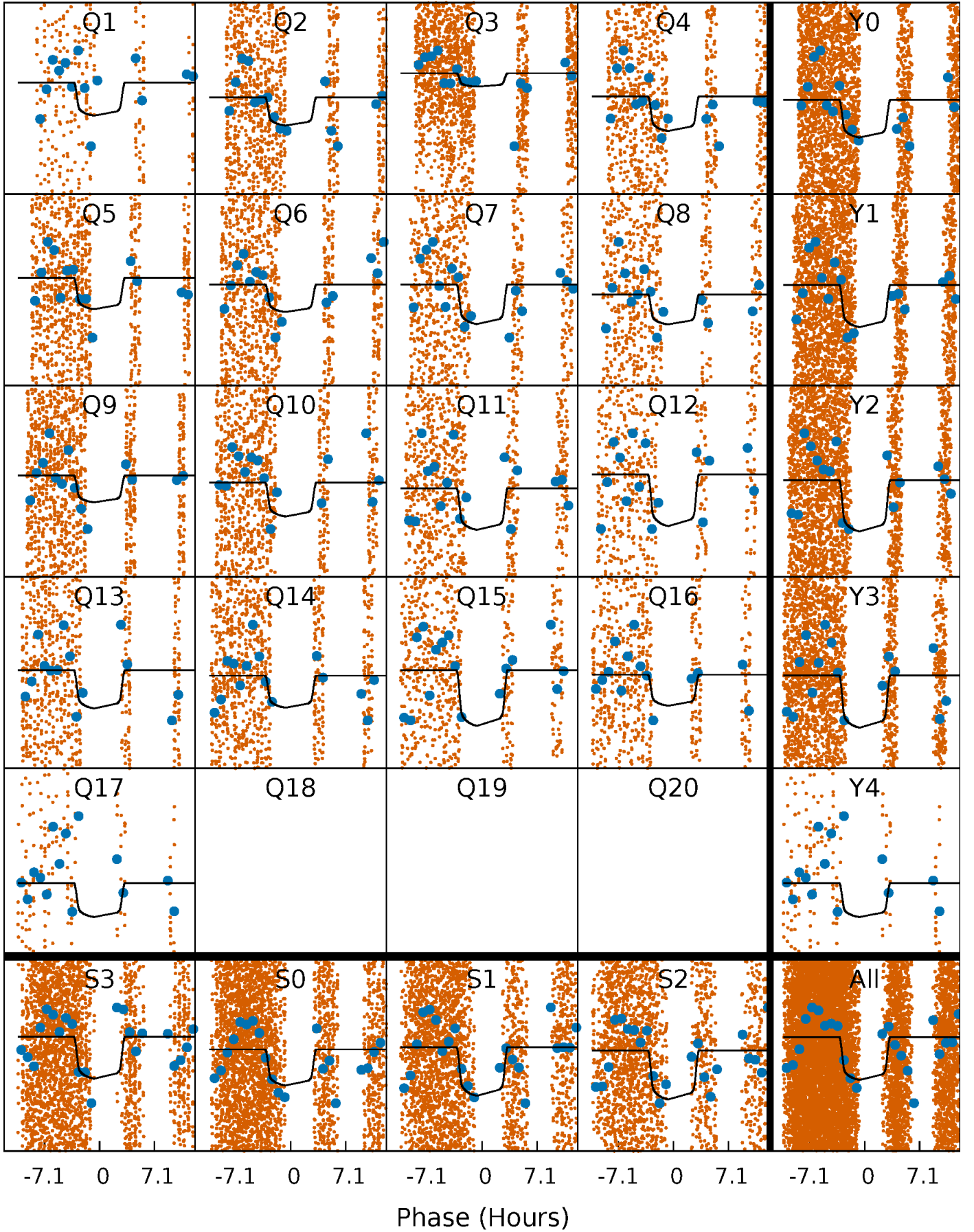
PDC Quarter-Phased Transit Curves

TCE 009246481-03 P= 1.083118 Days $T_0=132.111069$ (BKJD)



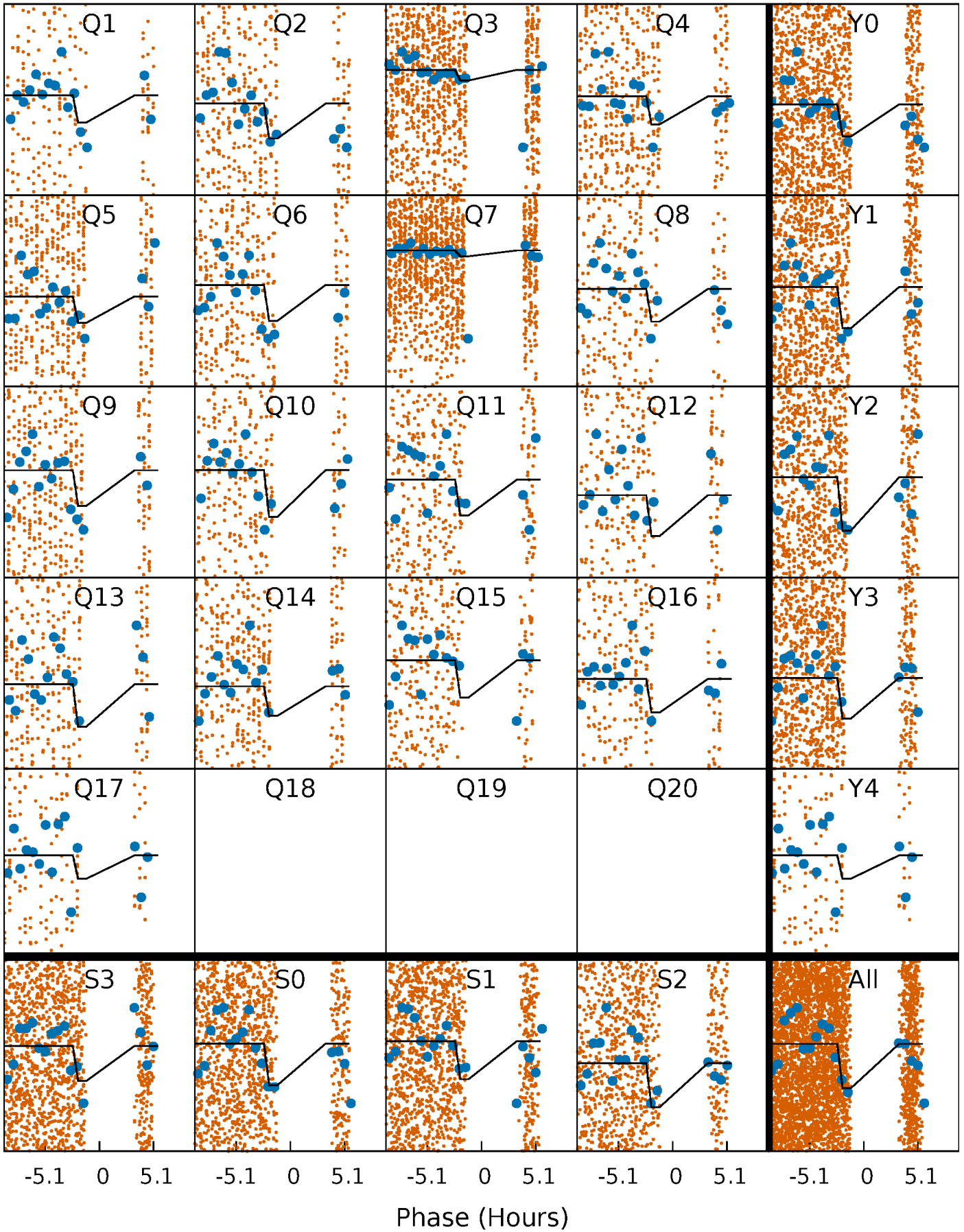
DV Quarter-Phased Transit Curves

TCE 009246481-03 P= 1.083118 Days $T_0=132.111069$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

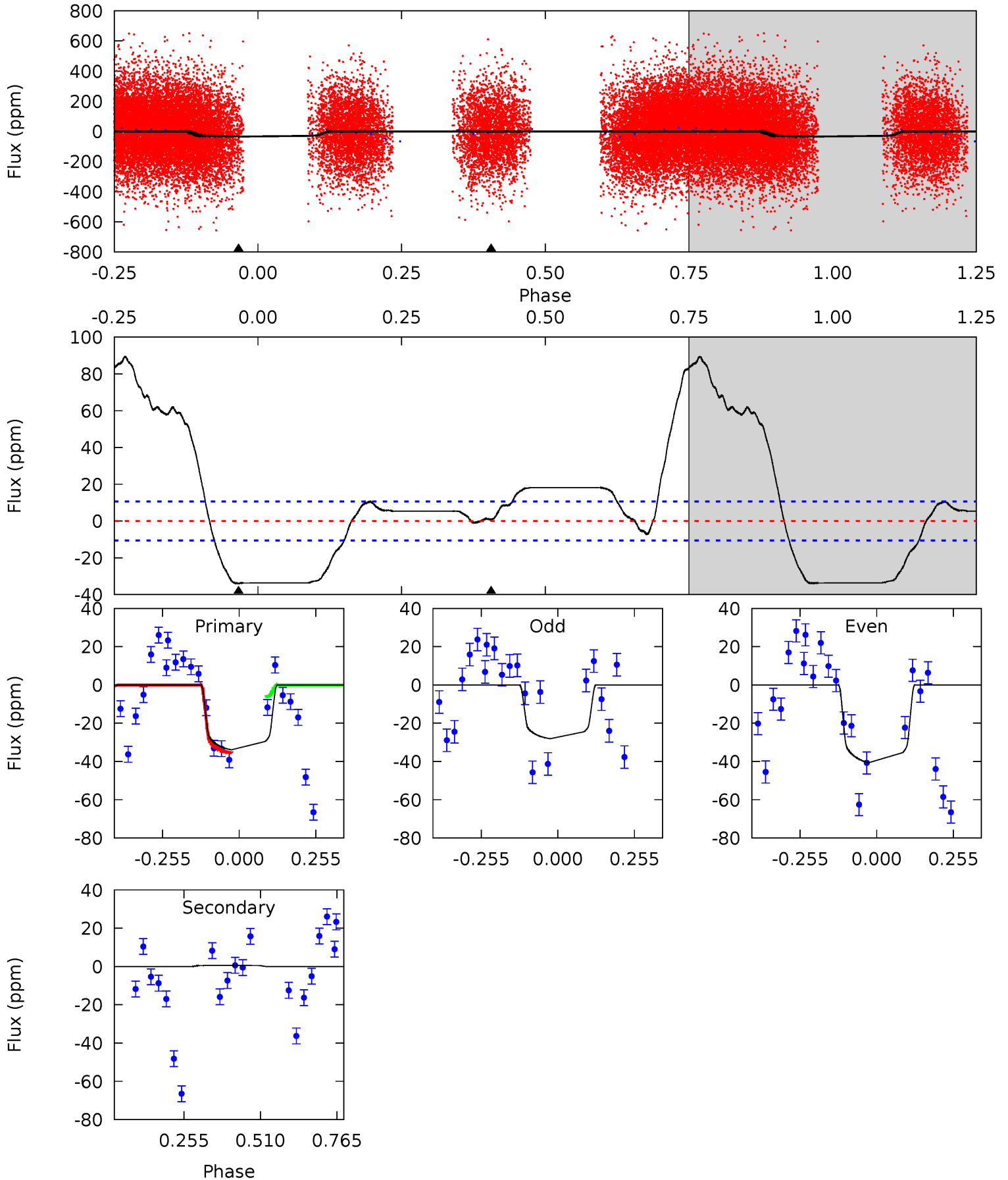
TCE 009246481-03 P= 1.083066 Days $T_0=132.136663$ (BKJD)



DV Model-Shift Uniqueness Test

009246481-03, P = 1.083118 Days, E = 131.027951 Days

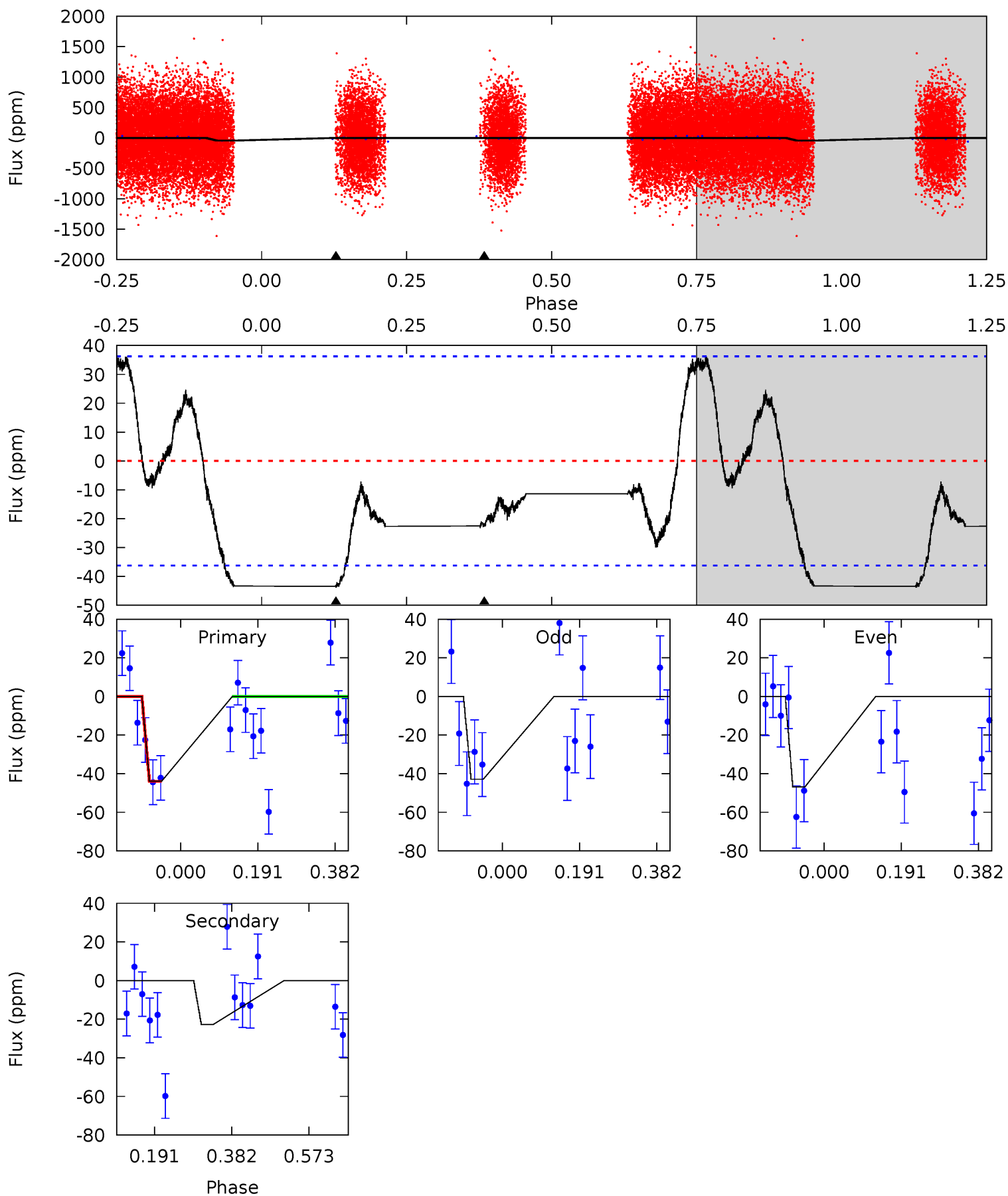
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	-0.25	0	0	4.36	1.14	5.91	13.9	13.9	-0.25	-0.25	2.58	0.96	0.72	3.71



Alt Model-Shift Uniqueness Test

009246481-03, P = 1.083066 Days, E = 131.053597 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.36	2.77	0	0	4.43	1.31	2.43	5.36	5.36	2.77	2.77	0.24	0	0.45	0



Stellar Parameters For KIC 009246481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8279^{+229}_{-372}	$3.729^{+0.428}_{-0.143}$	$-0.060^{+0.300}_{-0.400}$	$3.248^{+0.970}_{-1.455}$	$2.061^{+0.372}_{-0.455}$	$0.085^{+0.349}_{-0.036}$
	+3%/-4%	+11%/-4%	+500%/-667%	+30%/-45%	+18%/-22%	+412%/-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 009246481-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	1 ± 2	$2.07^{+0.71}_{-0.60}$	5457^{+479}_{-588}	-4686^{+827}_{-547}	$-0.062^{+0.210}_{-0.248}$
Alt.	-23 ± 8	$2.14^{+0.70}_{-0.64}$	5523^{+458}_{-638}	6499^{+1419}_{-1158}	$1.834^{+2.014}_{-0.927}$

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

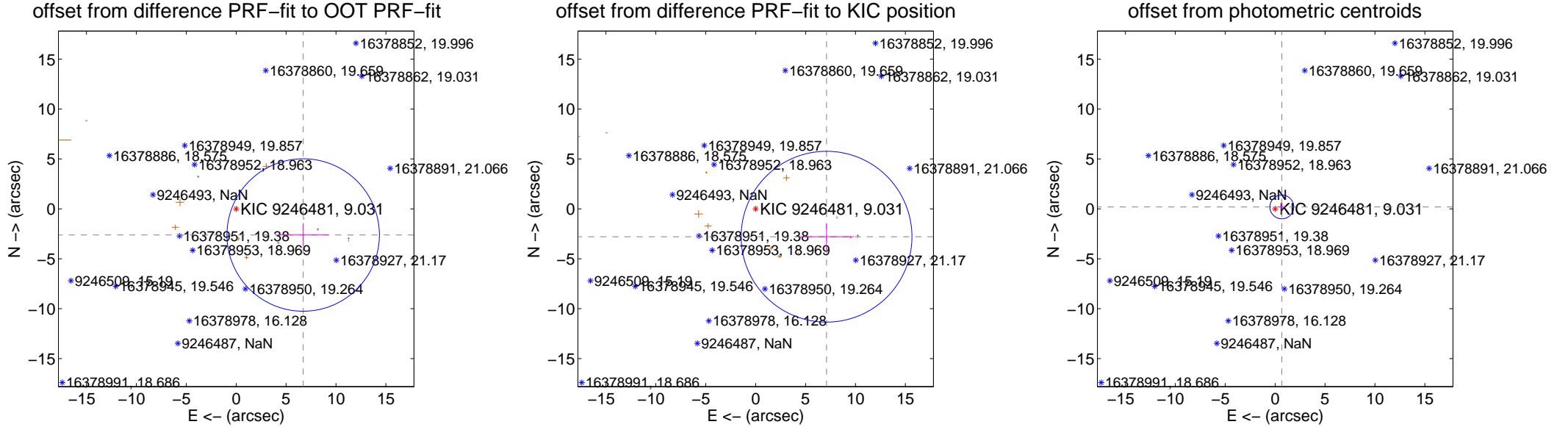
DV Centroid Data

Supplemental centroid analysis for 009246481-03. **Kepler magnitude: 9.03.** Transit SNR 9.87

There are 3 quarters with good PRF difference image offsets

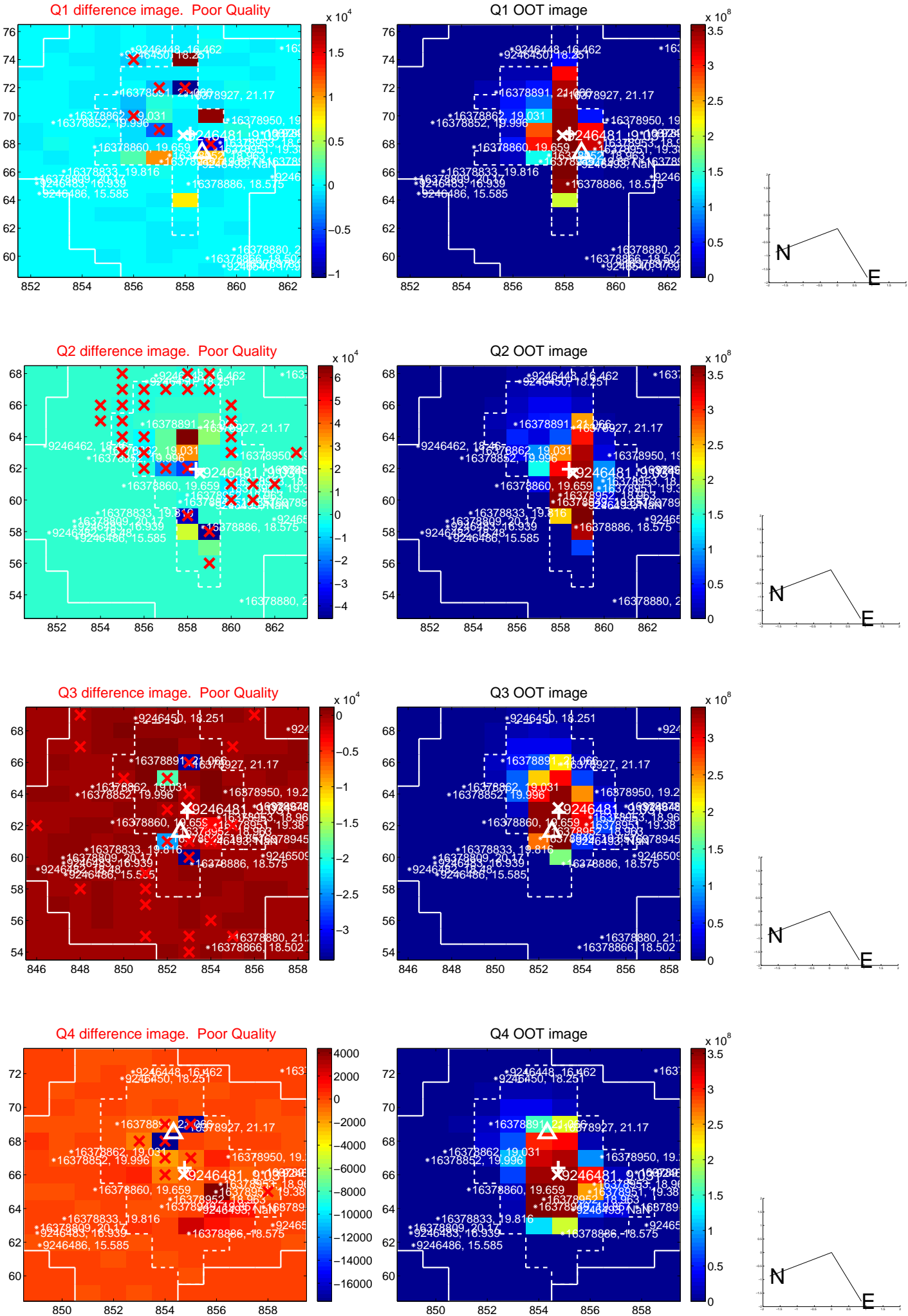
The direct PRF centroid is offset from the target star catalog position by about 1.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.208 ± 2.545	2.83	-6.715 ± 2.542	-2.621 ± 1.122
PRF-fit source offset from KIC position	7.632 ± 2.852	2.68	-7.104 ± 2.752	-2.791 ± 1.298
photometric centroid source offset	0.70 ± 0.40	1.75	-0.67 ± 0.41	0.19 ± 0.25

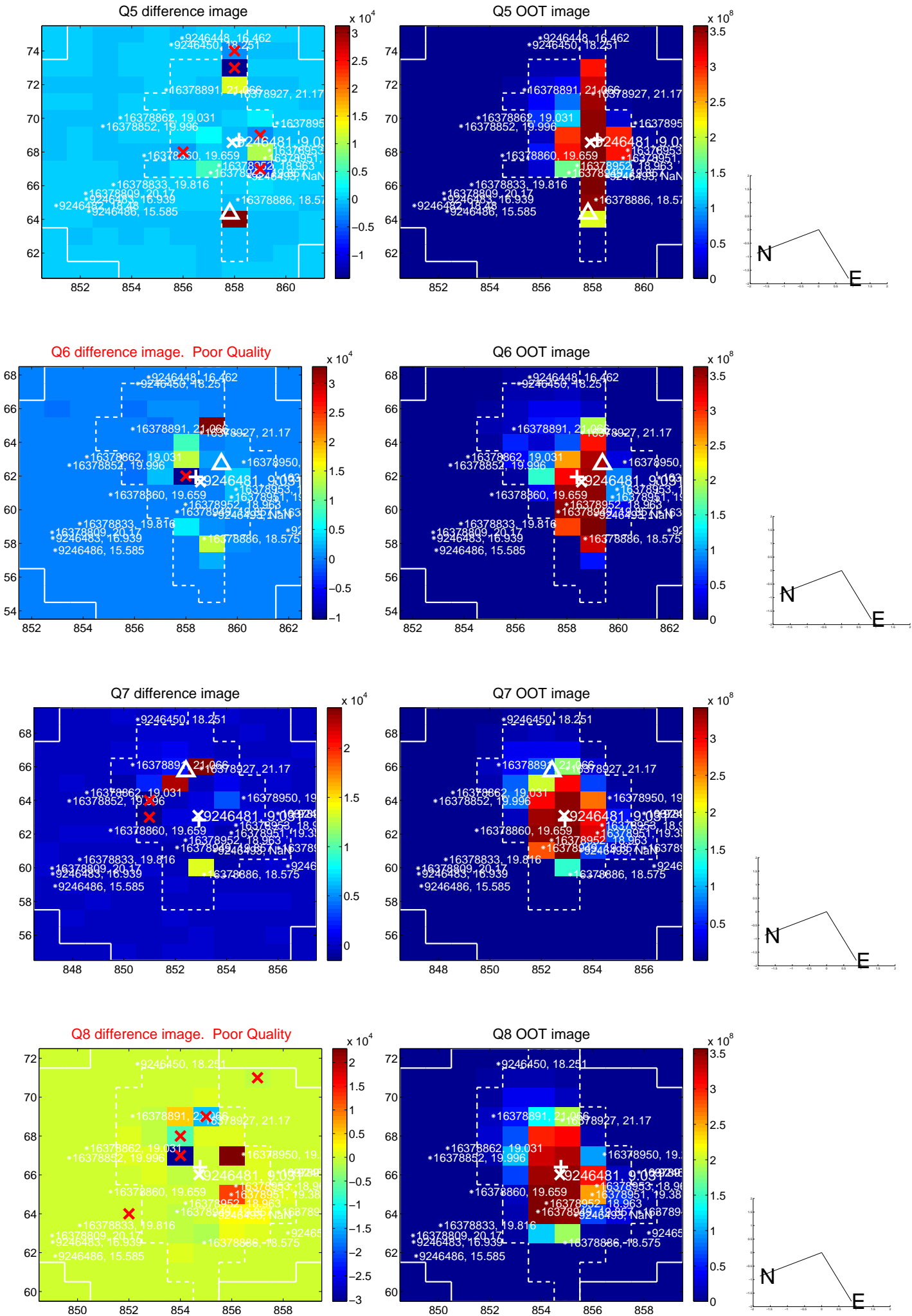


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

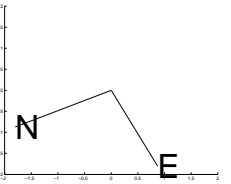
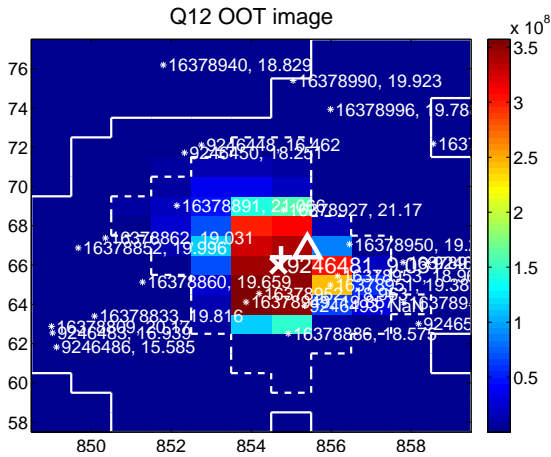
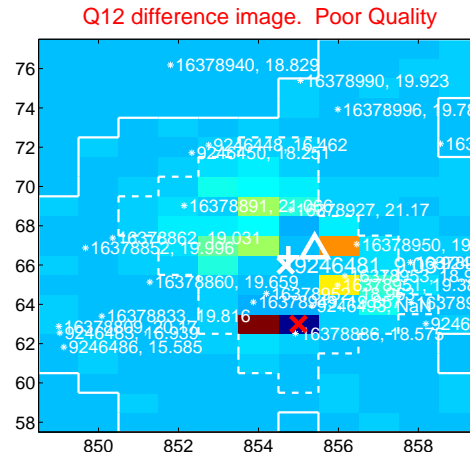
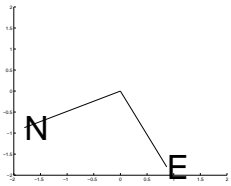
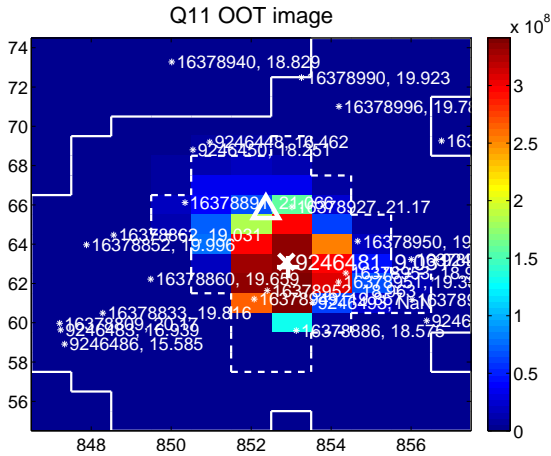
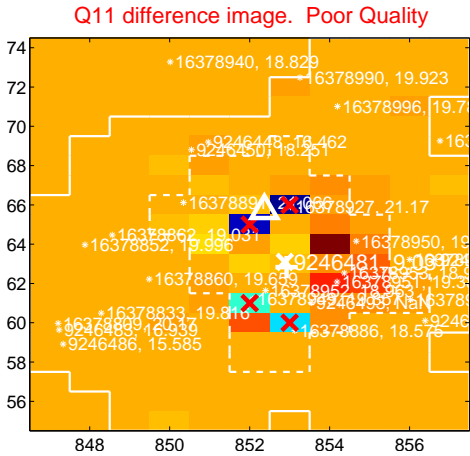
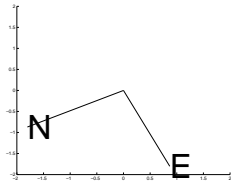
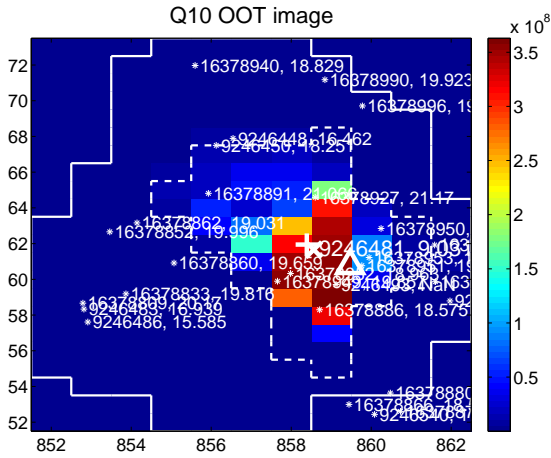
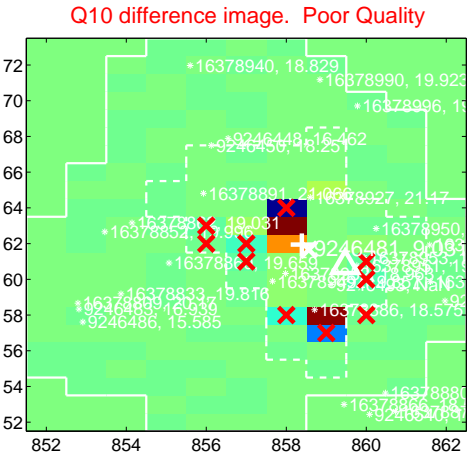
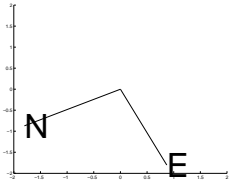
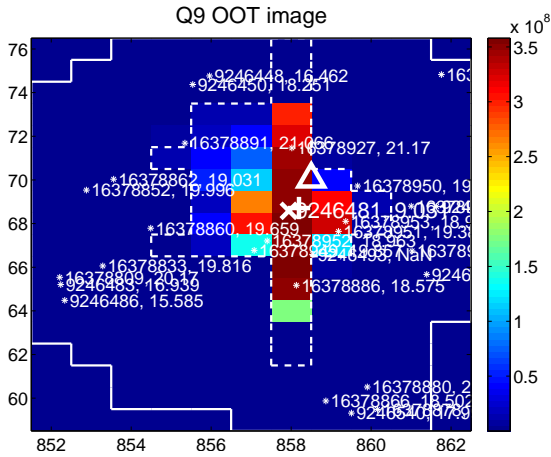
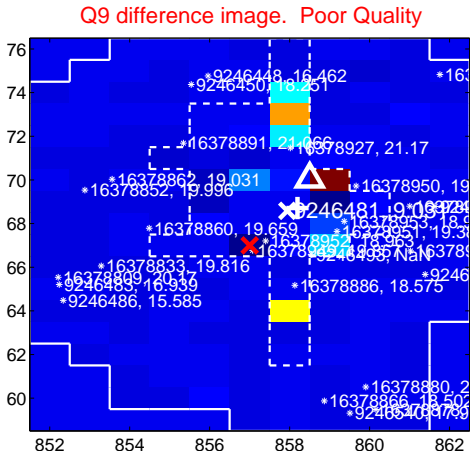
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



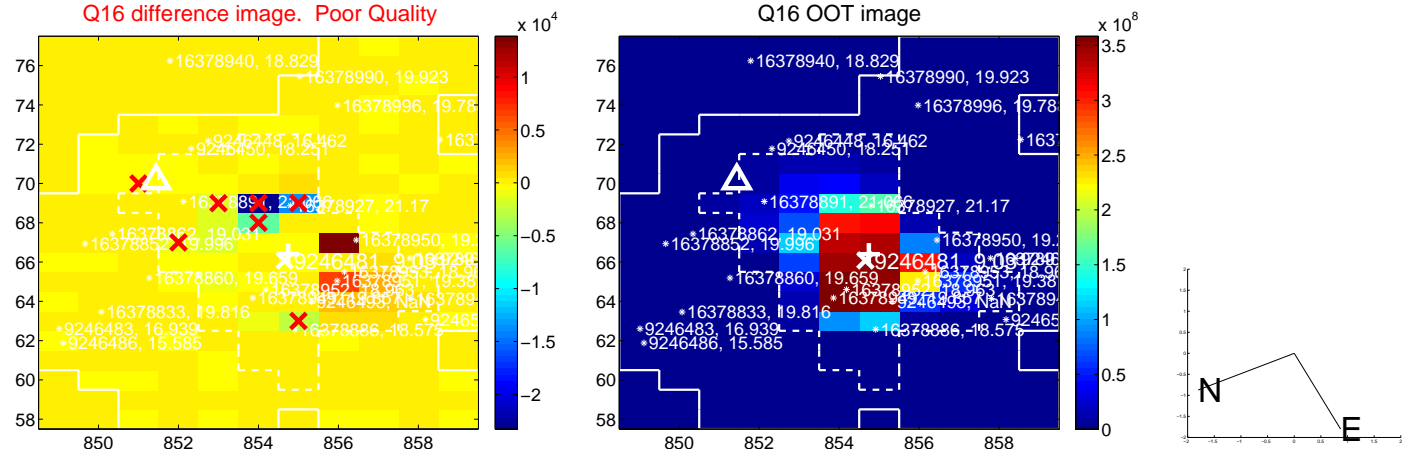
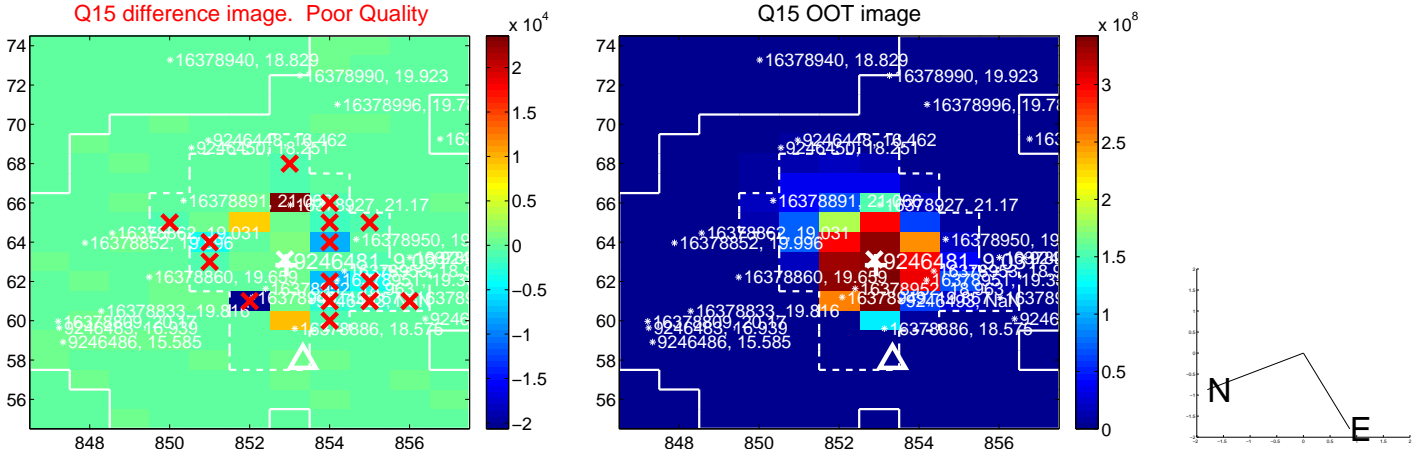
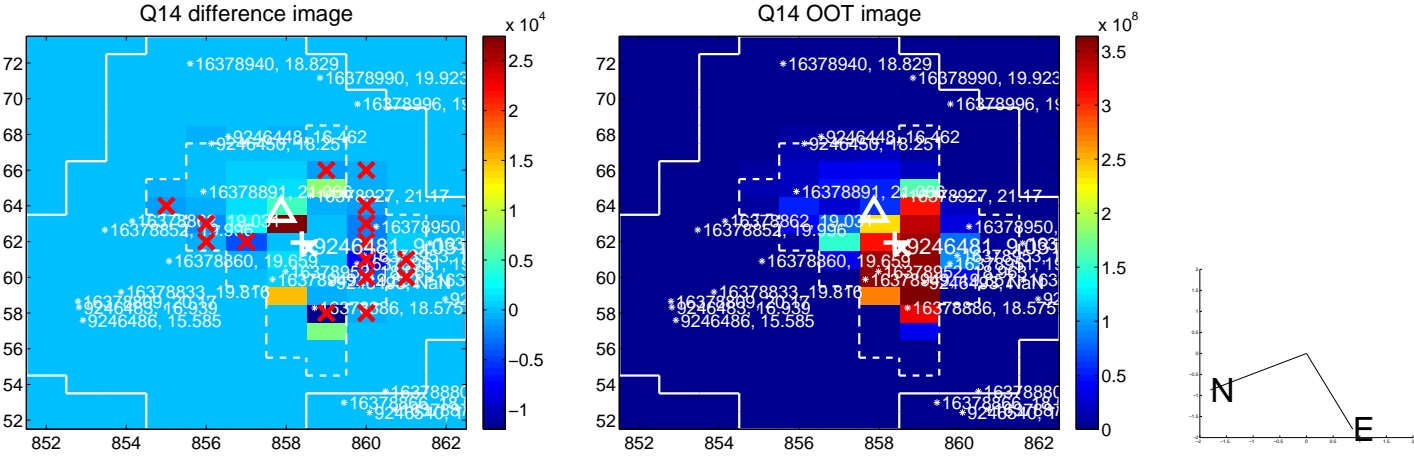
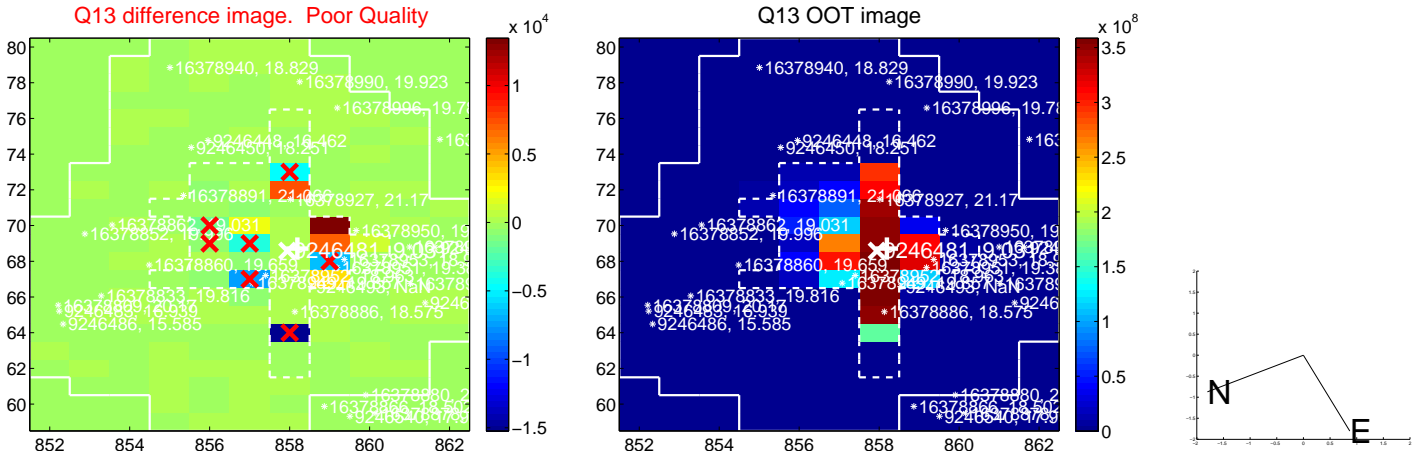
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



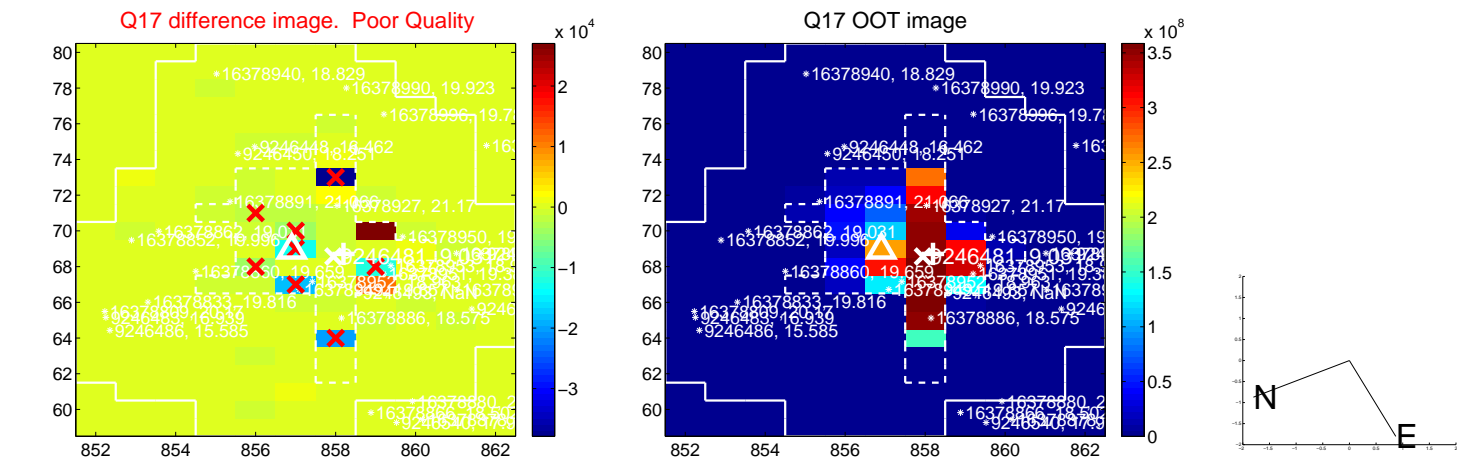
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



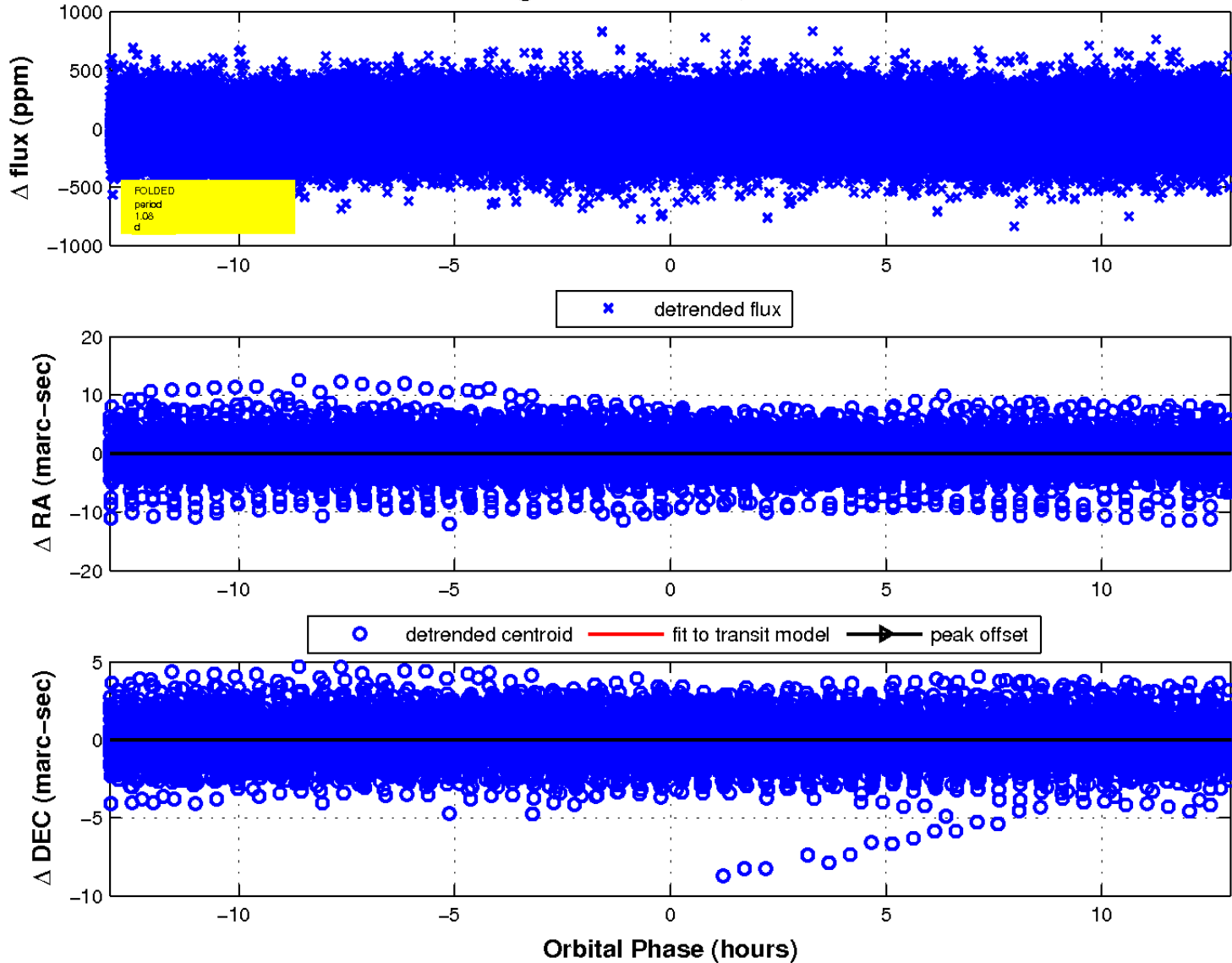
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

