

KIC 009267042

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})
009267042-01	OBS	No	0.669756	132.025633	95.3	1.938	9.4	10.9	3.12	8354	3.55	117780.88
009267042-02	OBS	No	0.502315	131.529080	103.6	1.204	8.4	9.4	3.12	8354	3.36	172846.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009267042-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
009267042-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT

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

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

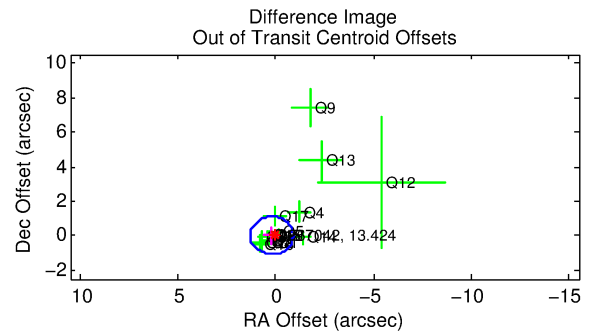
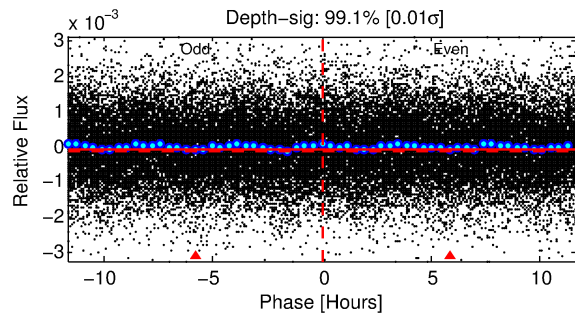
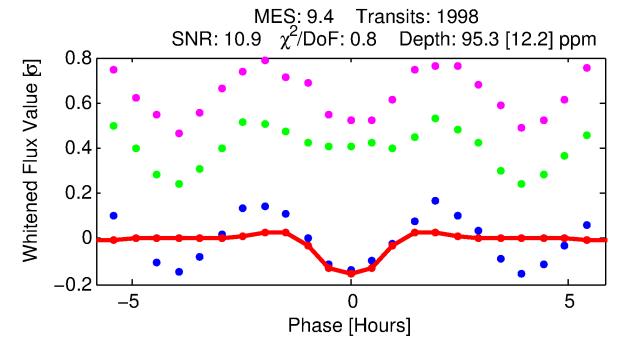
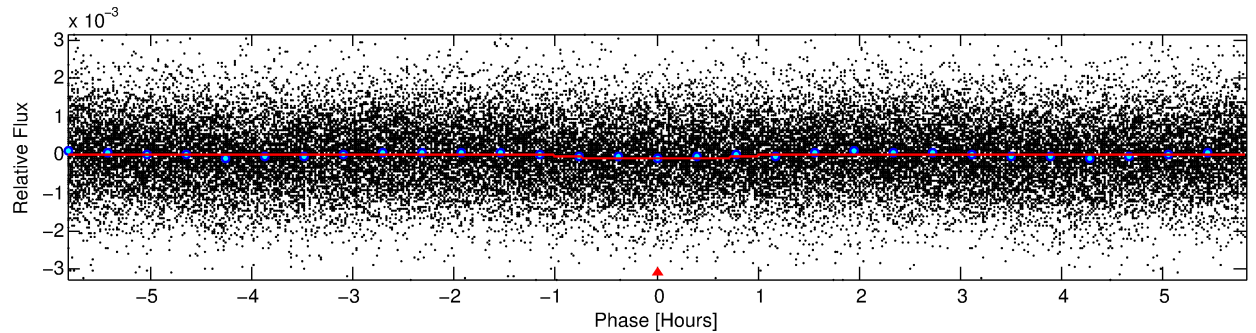
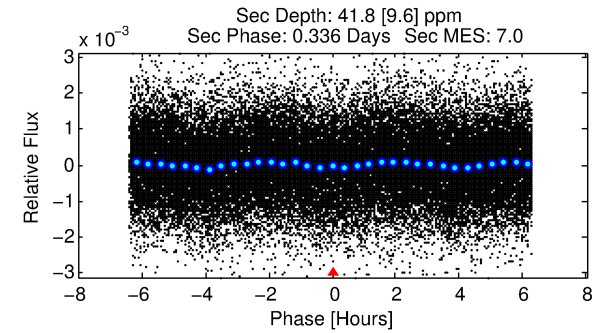
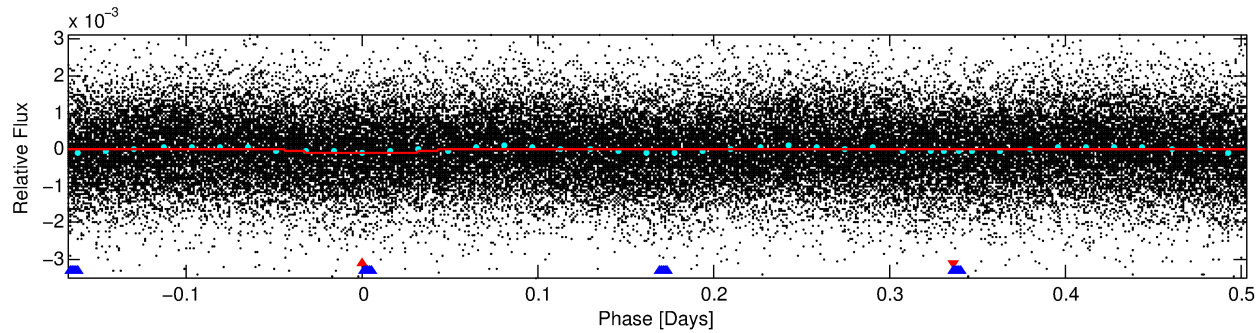
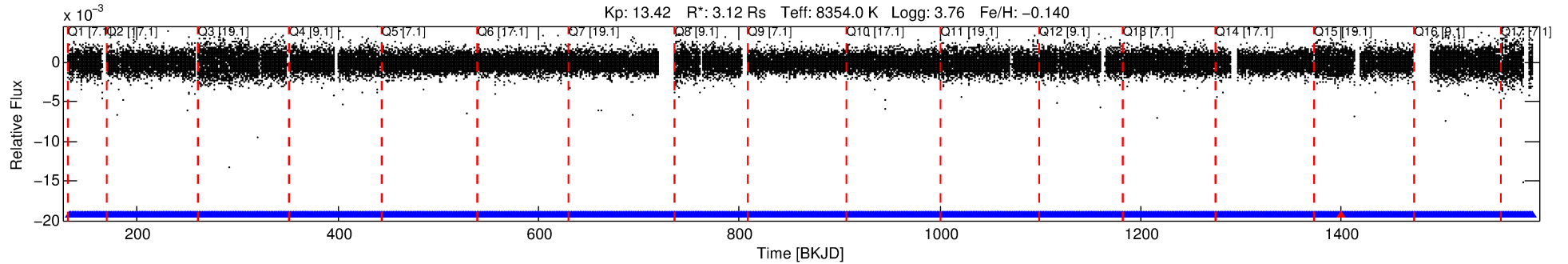
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009267042-01

No Significant Match Found

DV One-Page Summary

KIC: 9267042 Candidate: 1 of 2 Period: 0.670 d



DV Fit Results:

Period = 0.66976 [0.00001] d
Epoch = 132.0256 [0.0024] BKJD
Rp/R* = 0.0104 [0.0070]
a/R* = 1.52 [3.71]
b = 0.90 [0.89]
Seff = 117780.88 [84706.78]
Teq = 4724 [849] K
Rp = 3.55 [2.91] Re
a = 0.0190 [0.0084] AU
Ag = 0.66 [1.00] [-0.34σ]
Teffp = 6575 [2252] K [0.77σ]

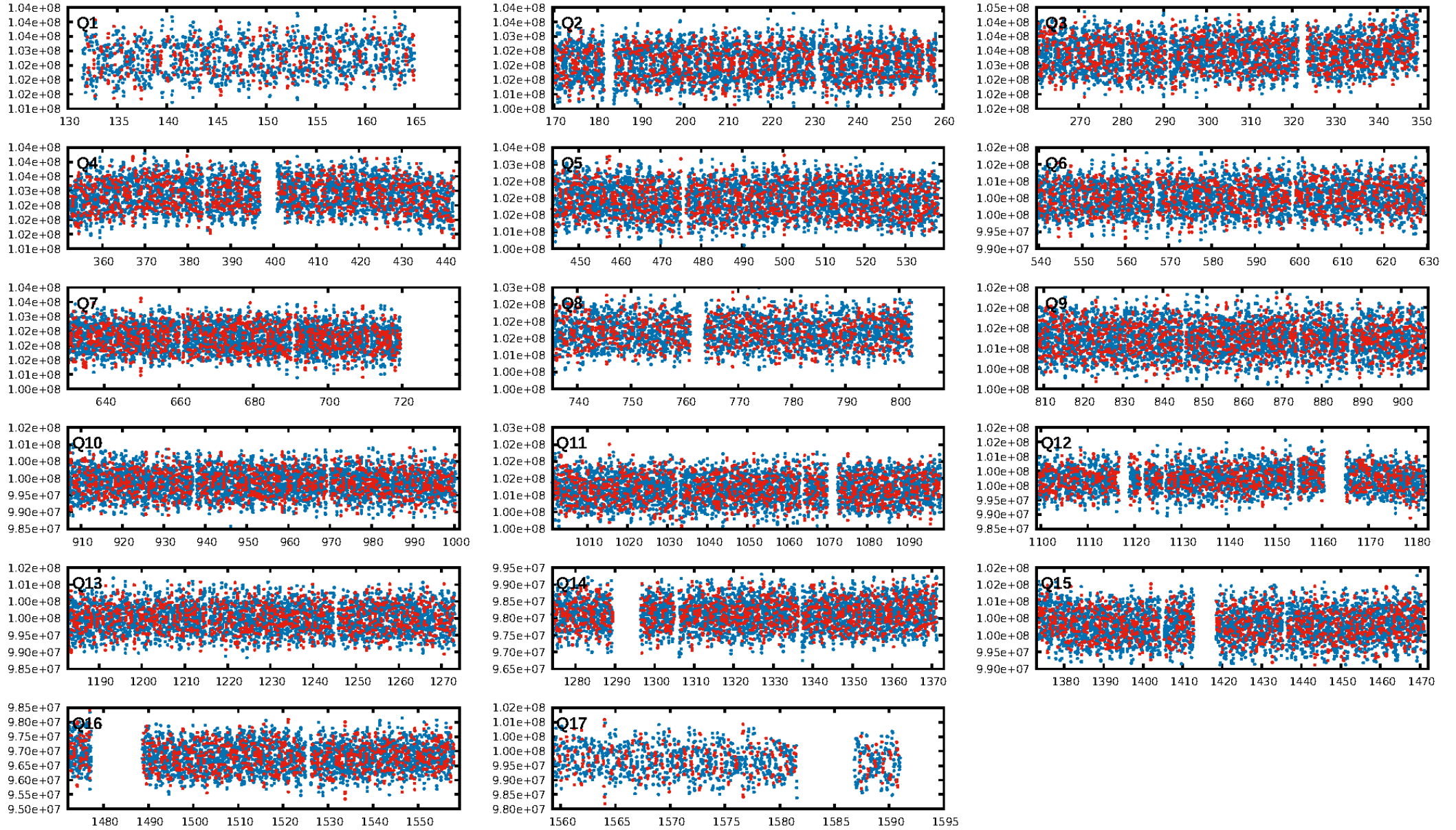
DV Diagnostic Results:

ShortPeriod-sig: 92.2% [1.76σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.56e-18
RollingBand-fgt: 1.00 [1907/1908]
GhostDiagnostic-chr: 1.625
Centroid-sig: 13.8%
Centroid-so: 0.627 arcsec [3.04σ]
OotOffset-rm: 0.210 arcsec [0.58σ]
KicOffset-rm: 0.352 arcsec [0.94σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.62 [10/16]
DiffImageOverlap-fno: 0.00 [0/17]

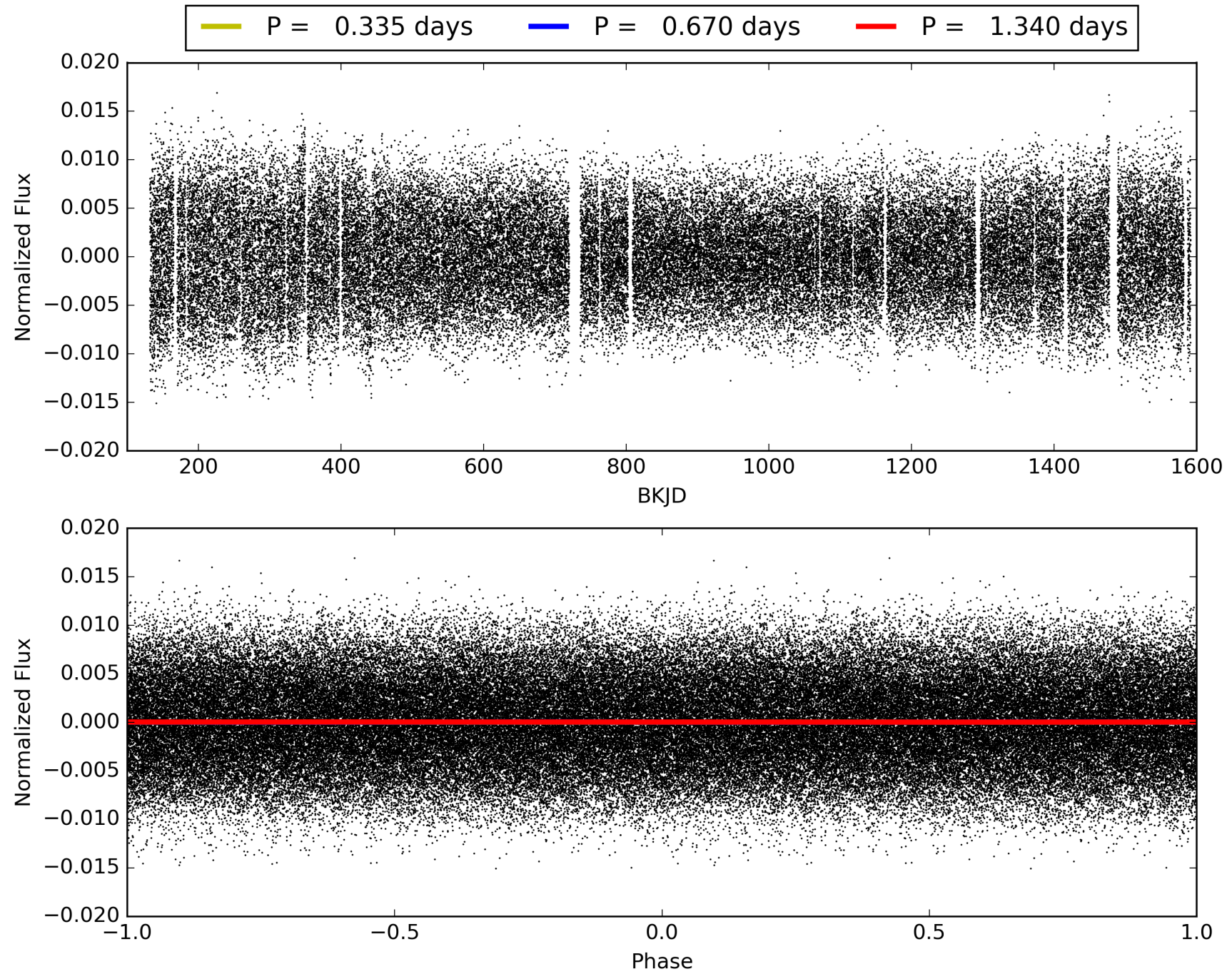
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:00:15 Z

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

TCE 009267042-01, PDC Light Curves

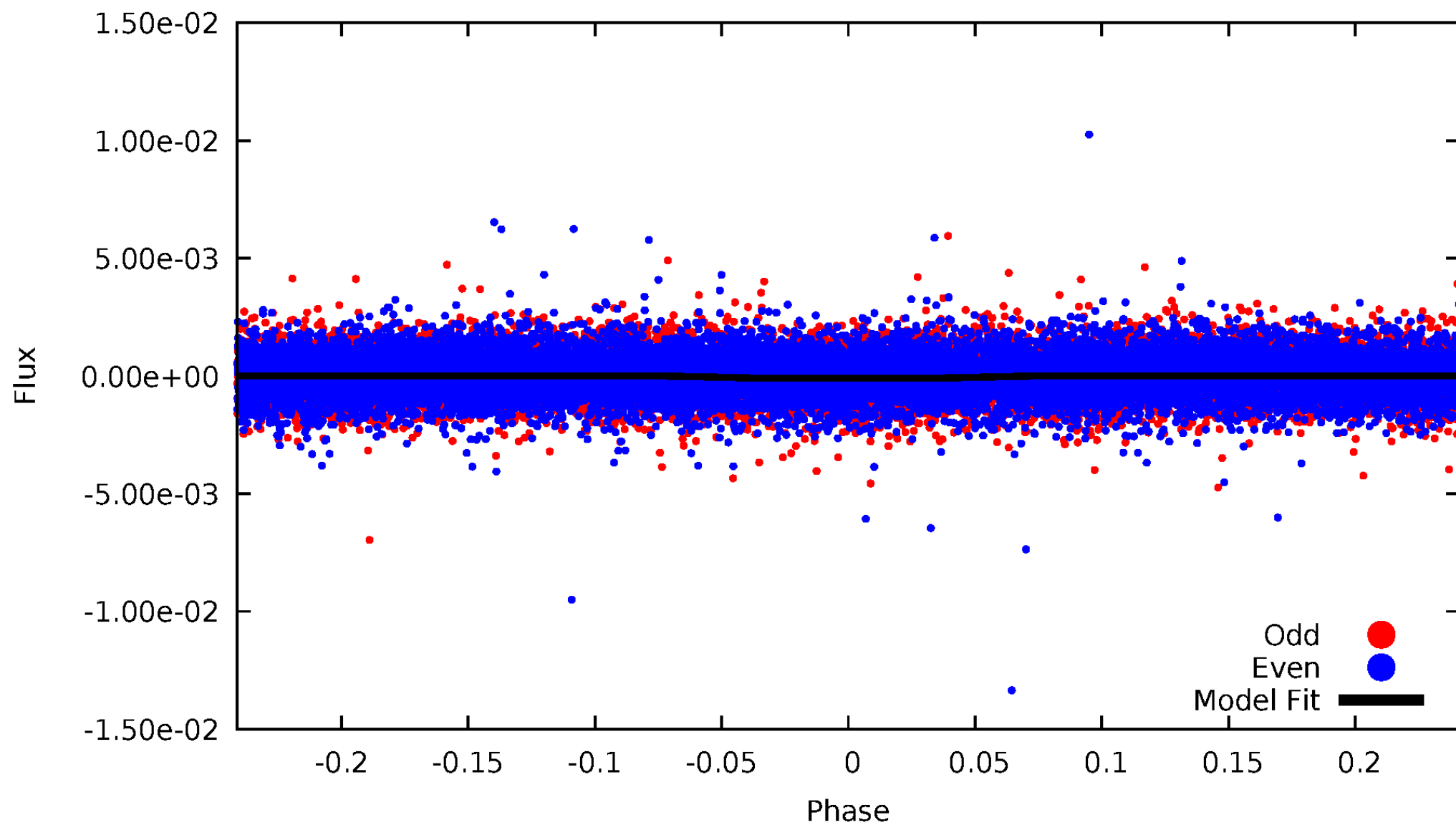


TCE 009267042-01



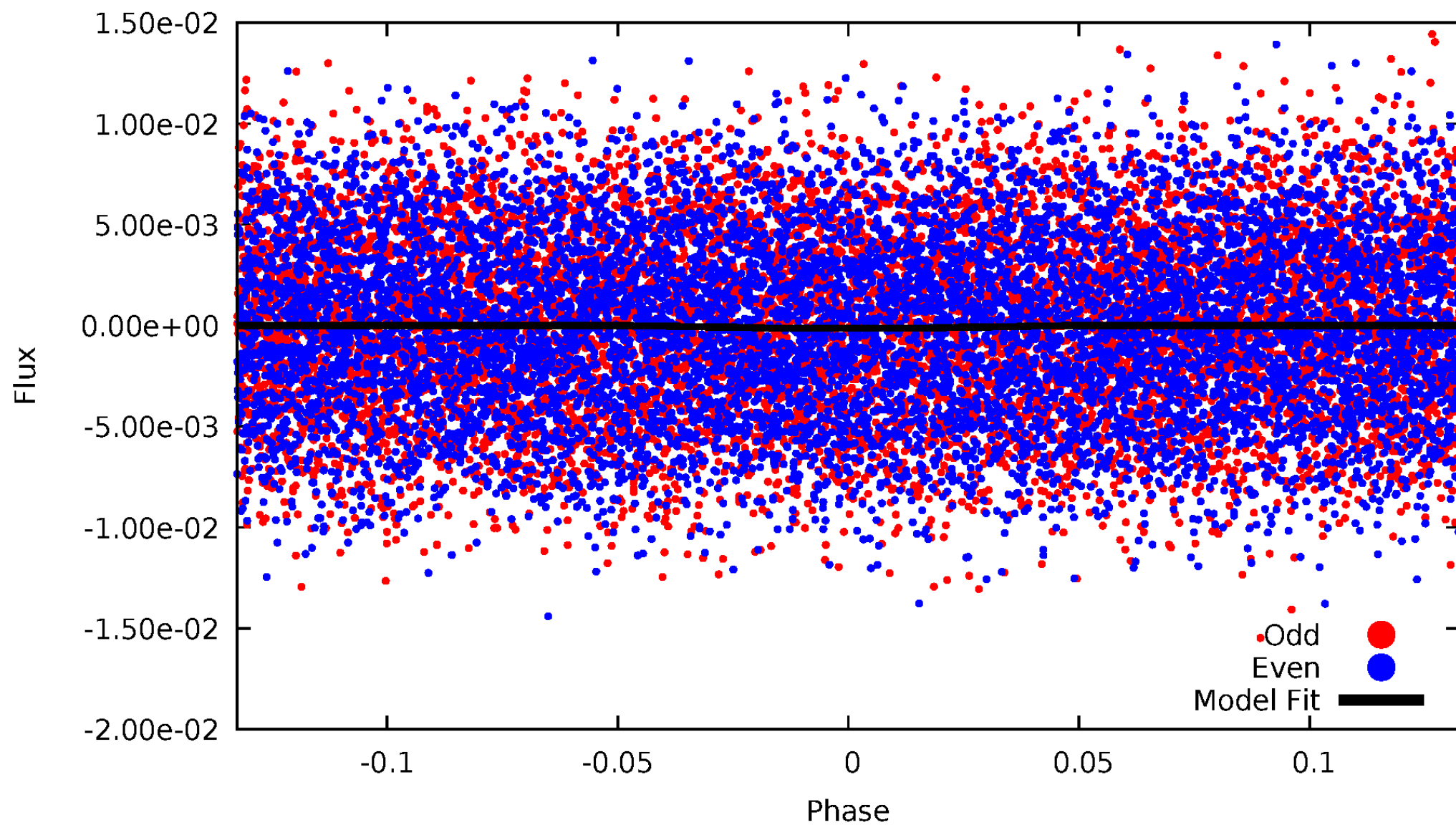
DV Odd/Even

TCE 009267042-01



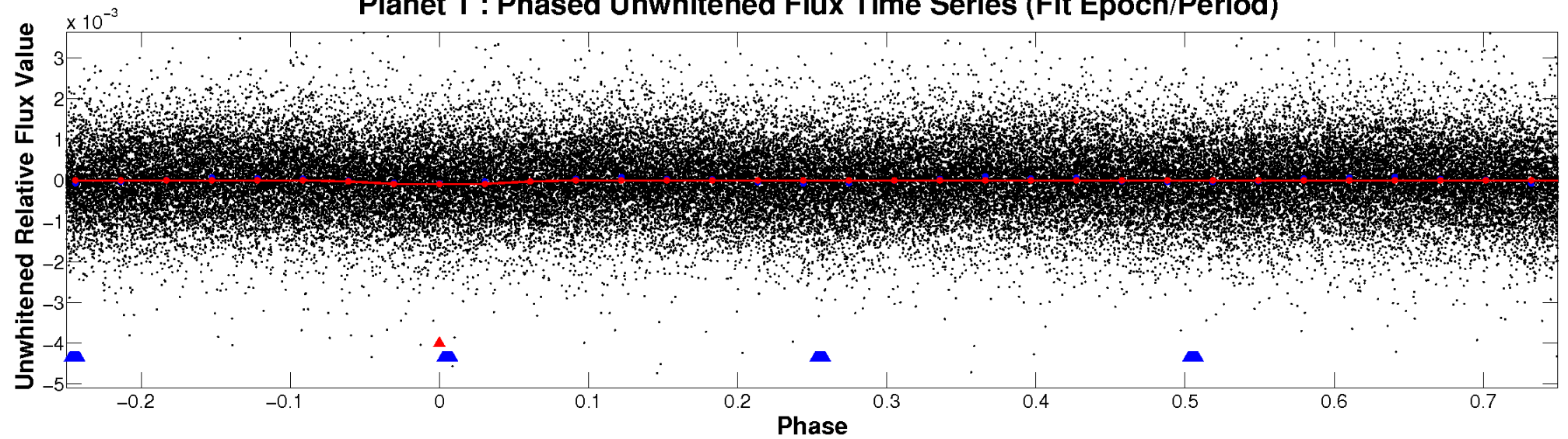
ALT Odd/Even

TCE 009267042-01

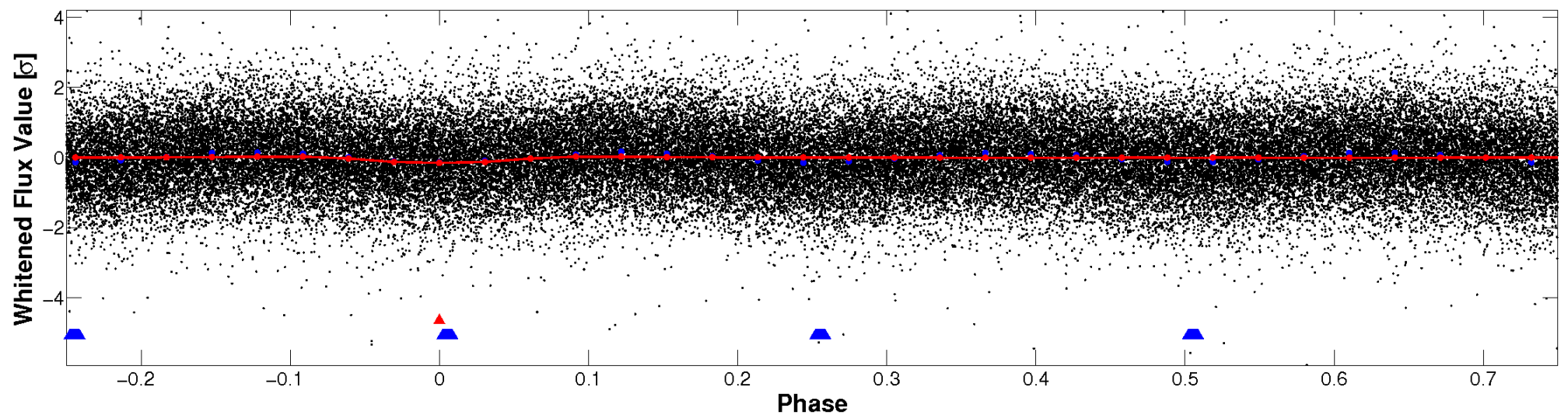


Non-Whitened Vs. Whitened Light Curve

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

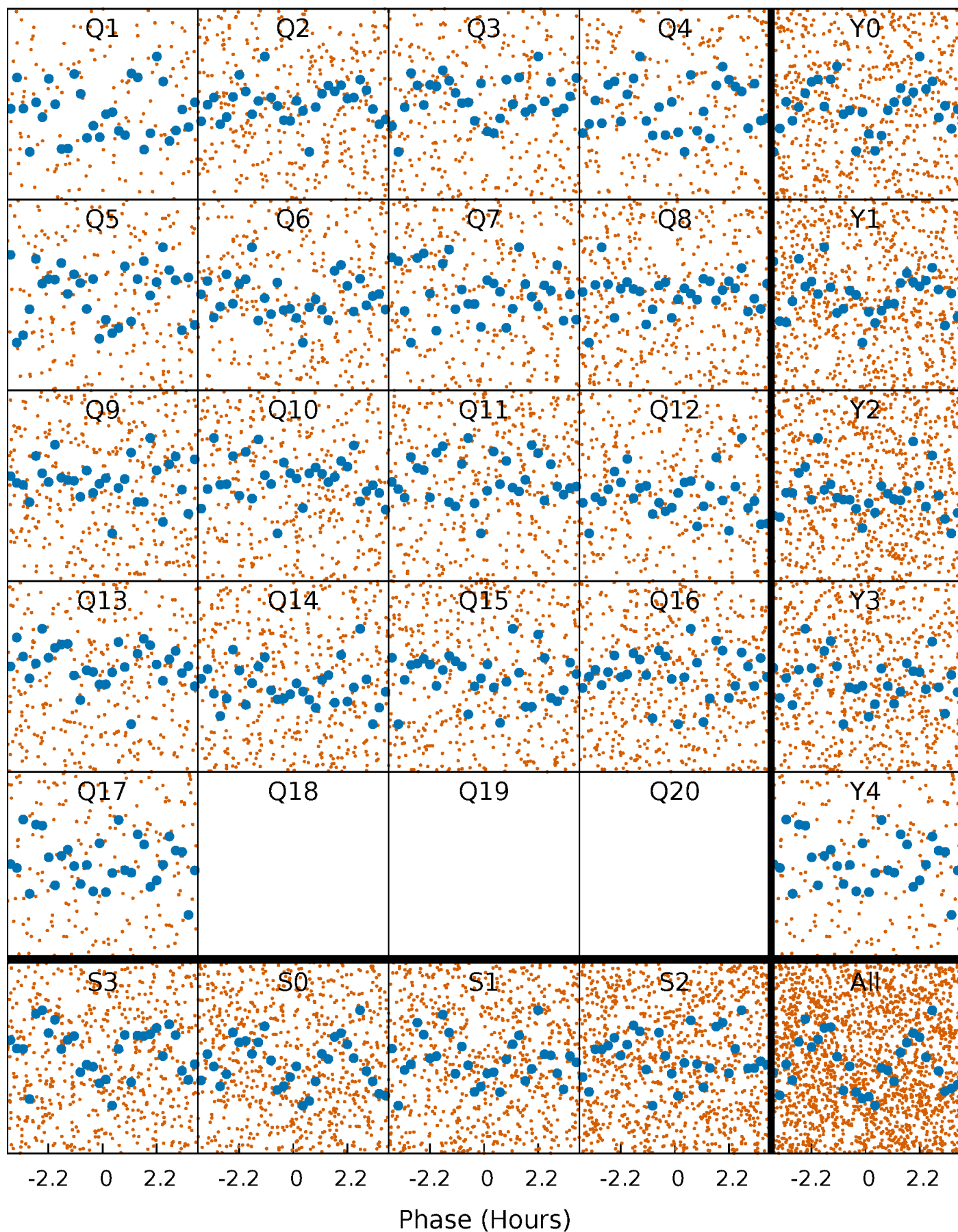


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



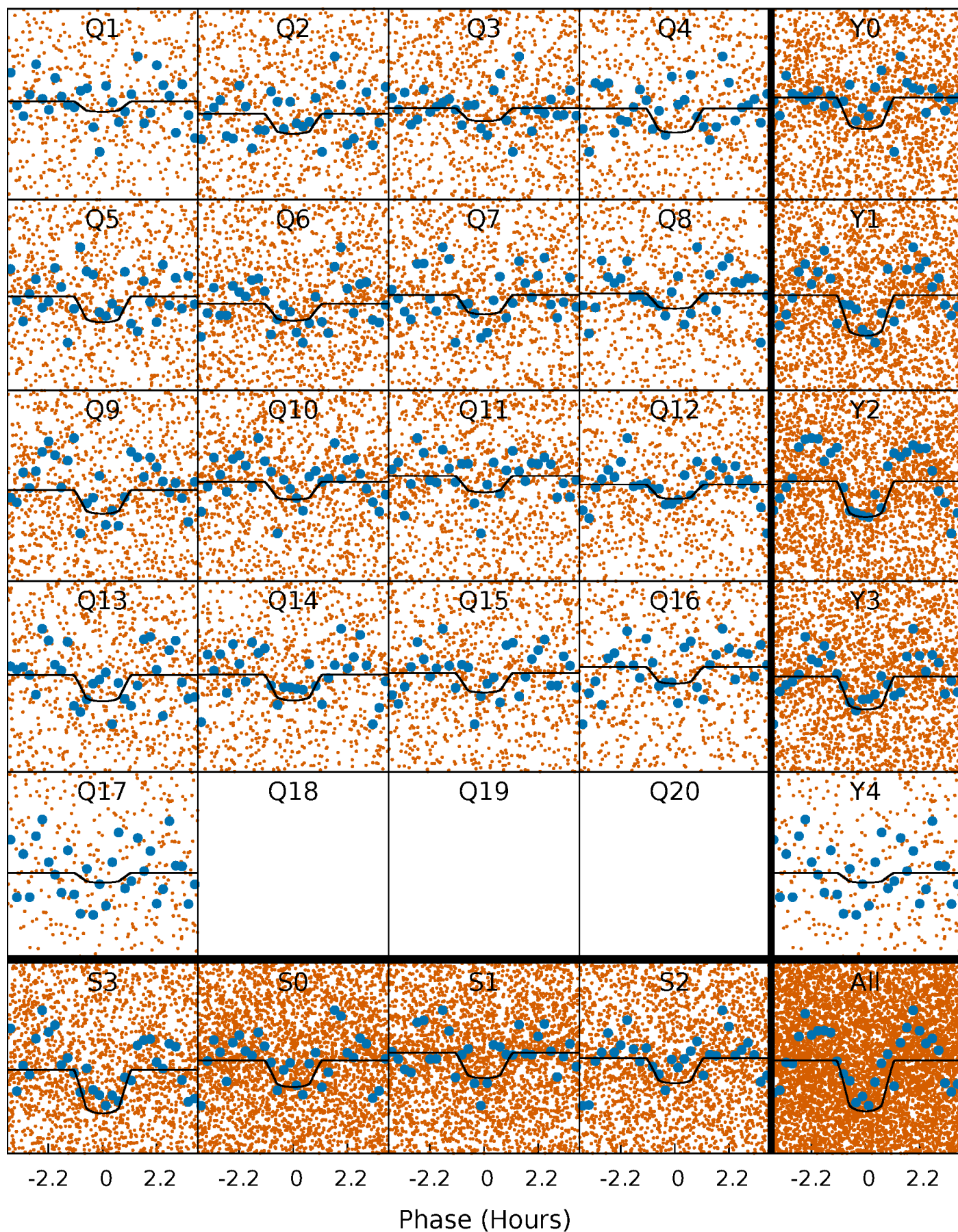
PDC Quarter-Phased Transit Curves

TCE 009267042-01 P= 0.669756 Days $T_0=132.025633$ (BKJD)



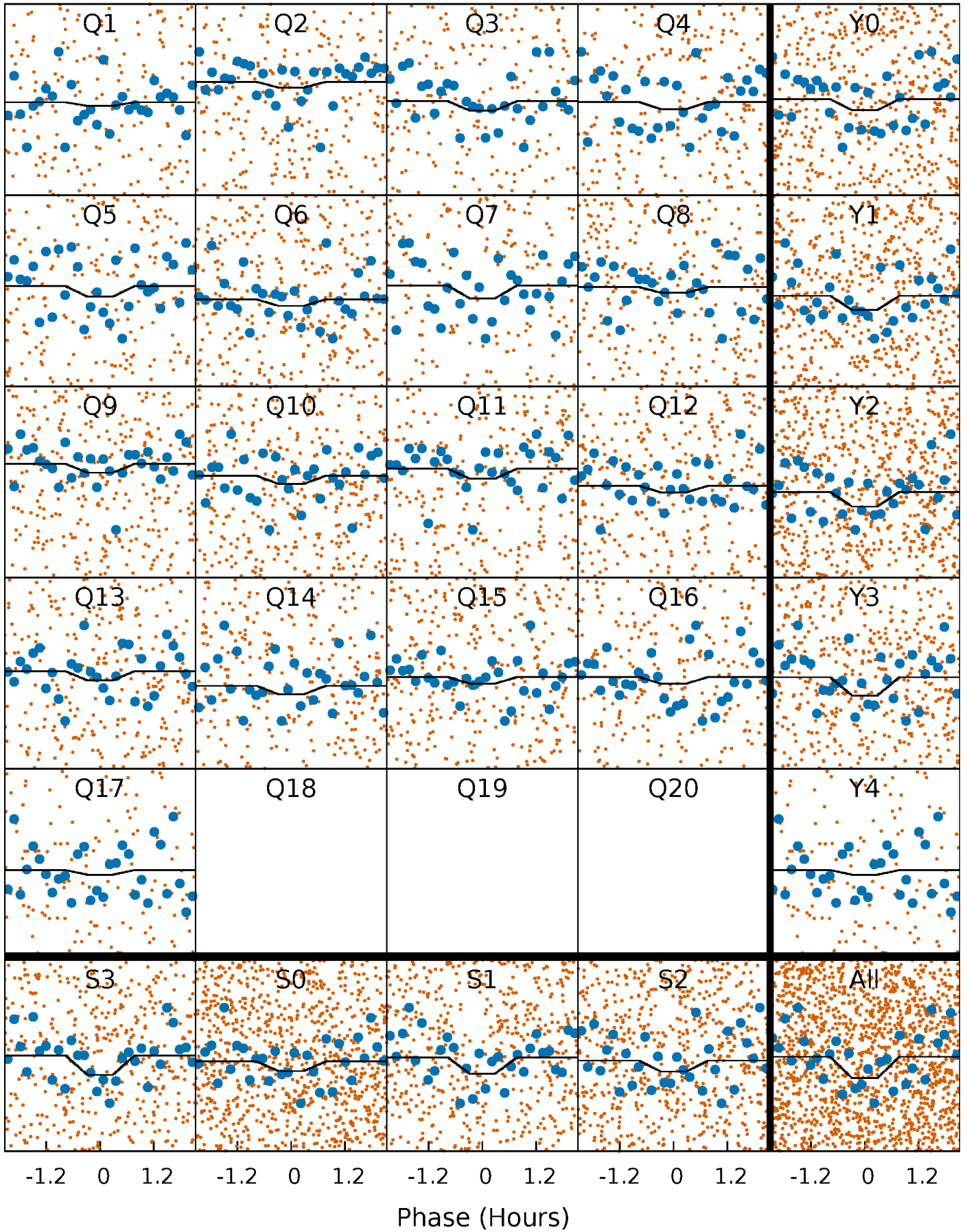
DV Quarter-Phased Transit Curves

TCE 009267042-01 P= 0.669756 Days $T_0=132.025633$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

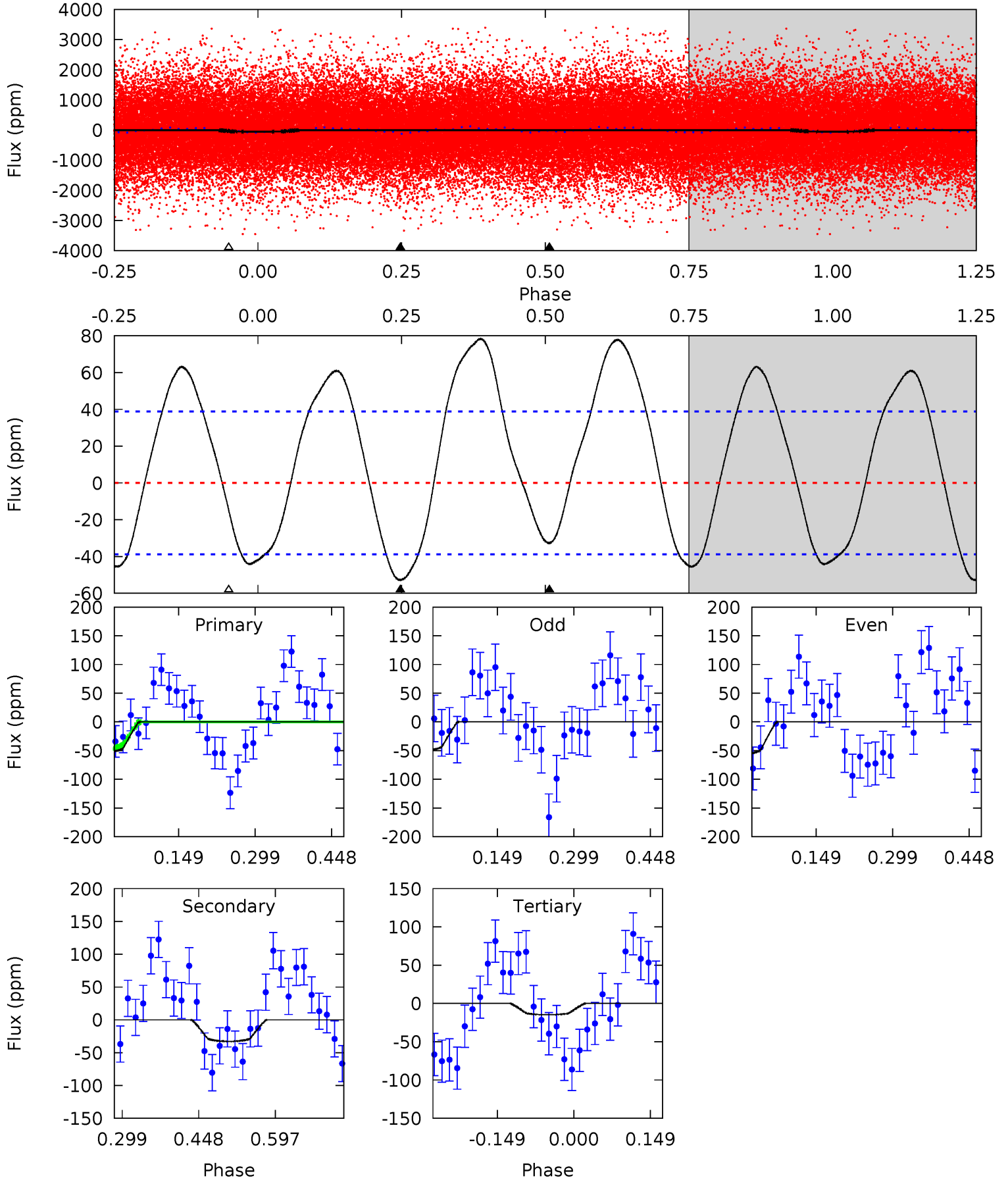
TCE 009267042-01 P= 0.669757 Days $T_0=132.027247$ (BKJD)



DV Model-Shift Uniqueness Test

009267042-01, P = 0.669756 Days, E = 131.355877 Days

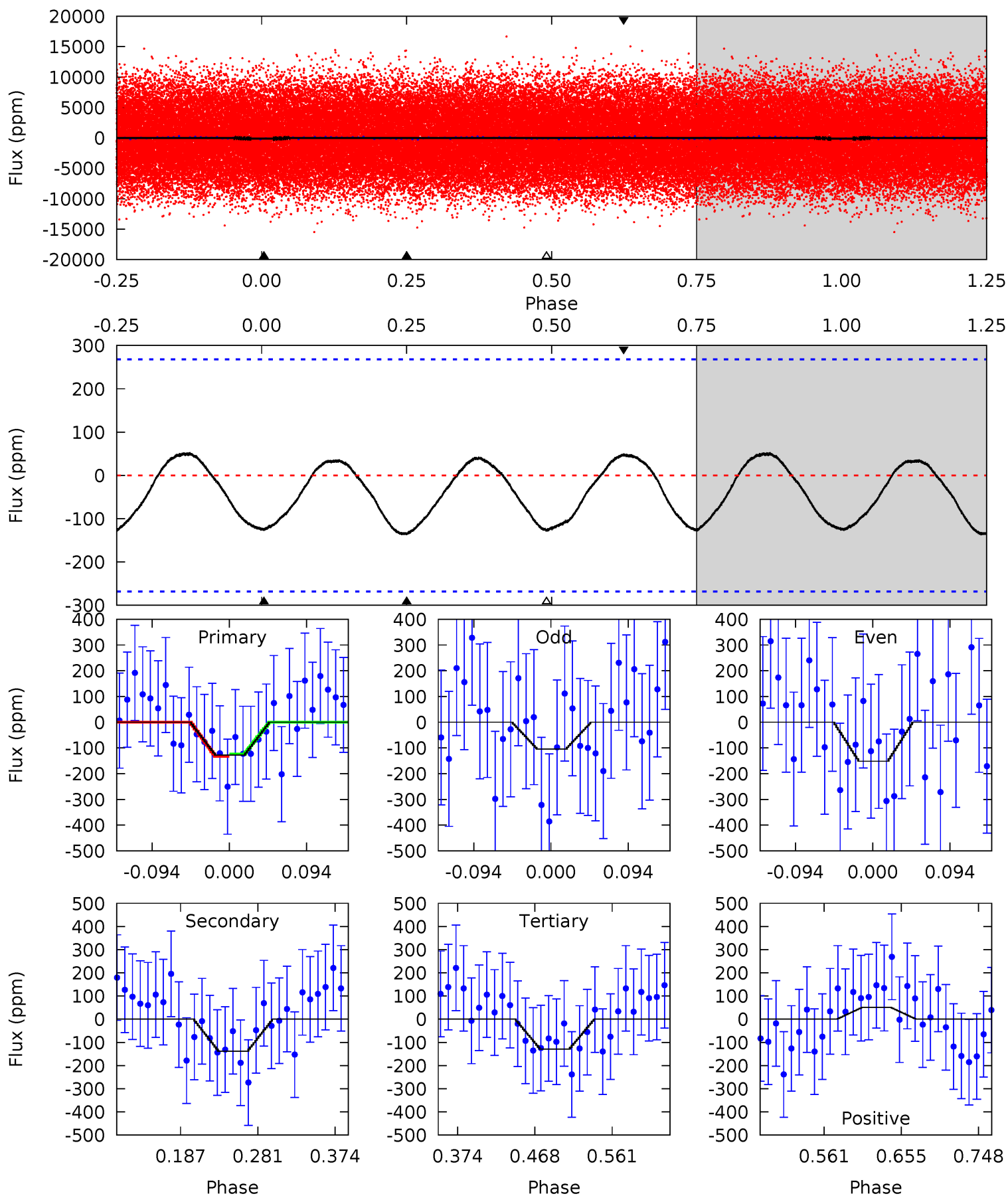
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.10	3.78	1.70	0	4.48	1.44	4.17	4.40	6.10	2.08	3.78	0.39	1.00	0.60	0.86



Alt Model-Shift Uniqueness Test

009267042-01, P = 0.669757 Days, E = 131.357490 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.19	2.36	2.21	0.87	4.58	1.68	1.03	-0.03	1.32	0.15	1.50	0.41	1.10	0.28	0.08



Stellar Parameters For KIC 009267042

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8354^{+202}_{-376}	$3.758^{+0.405}_{-0.135}$	$-0.140^{+0.250}_{-0.350}$	$3.117^{+0.902}_{-1.466}$	$2.032^{+0.343}_{-0.471}$	$0.094^{+0.340}_{-0.037}$
	+2%/-5%	+11%/-4%	+179%/-250%	+29%/-47%	+17%/-23%	+360%/-39%
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 009267042-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-33 ± 9	$3.55^{+2.37}_{-2.07}$	6408^{+515}_{-733}	4705^{+3890}_{-9087}	$0.527^{+2.283}_{-0.353}$
Alt.	-138 ± 59	$3.63^{+2.54}_{-2.13}$	6364^{+557}_{-721}	7769^{+8169}_{-2633}	$1.978^{+10.136}_{-1.384}$

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

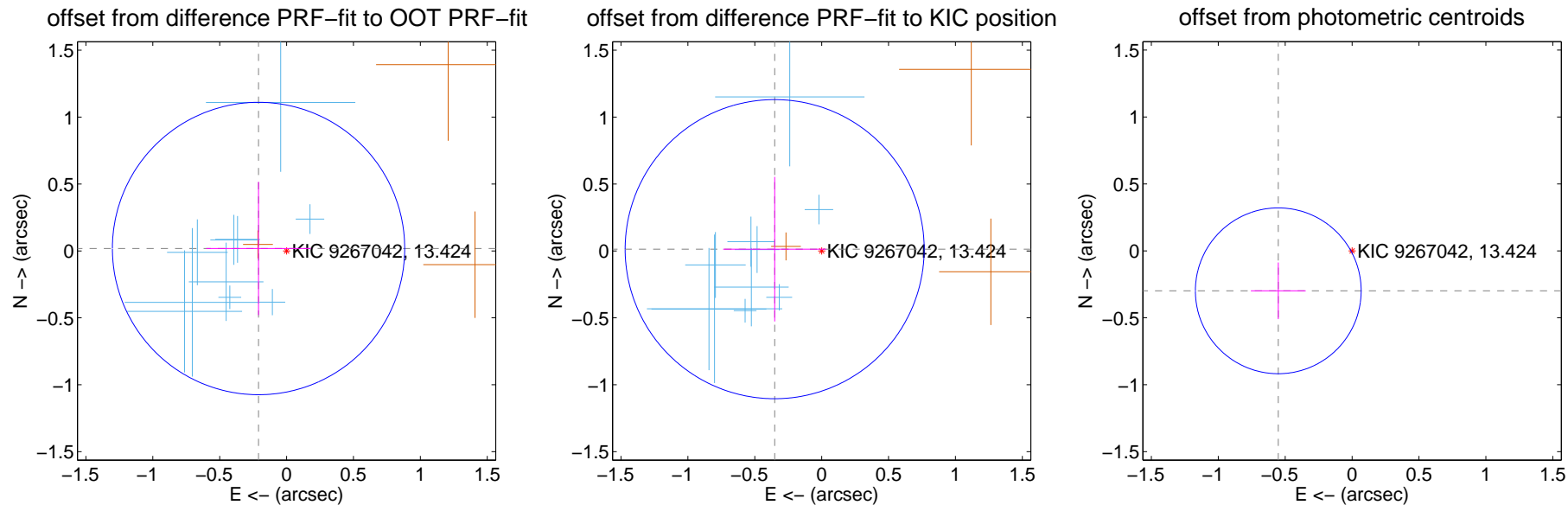
DV Centroid Data

Supplemental centroid analysis for 009267042-01. Kepler magnitude: 13.42. Transit SNR 10.92

There are 10 quarters with good PRF difference image offsets

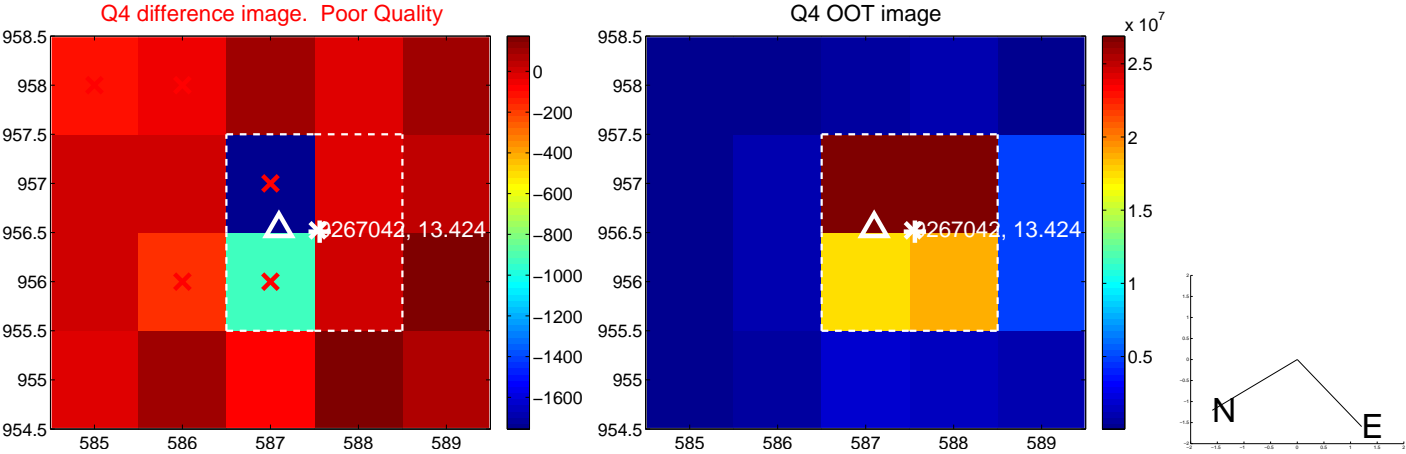
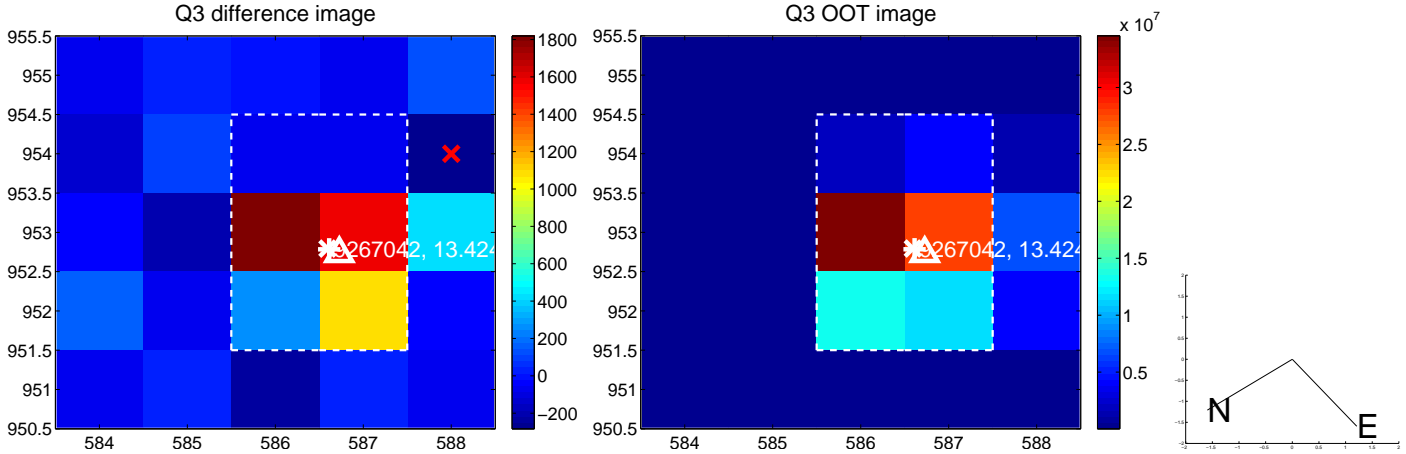
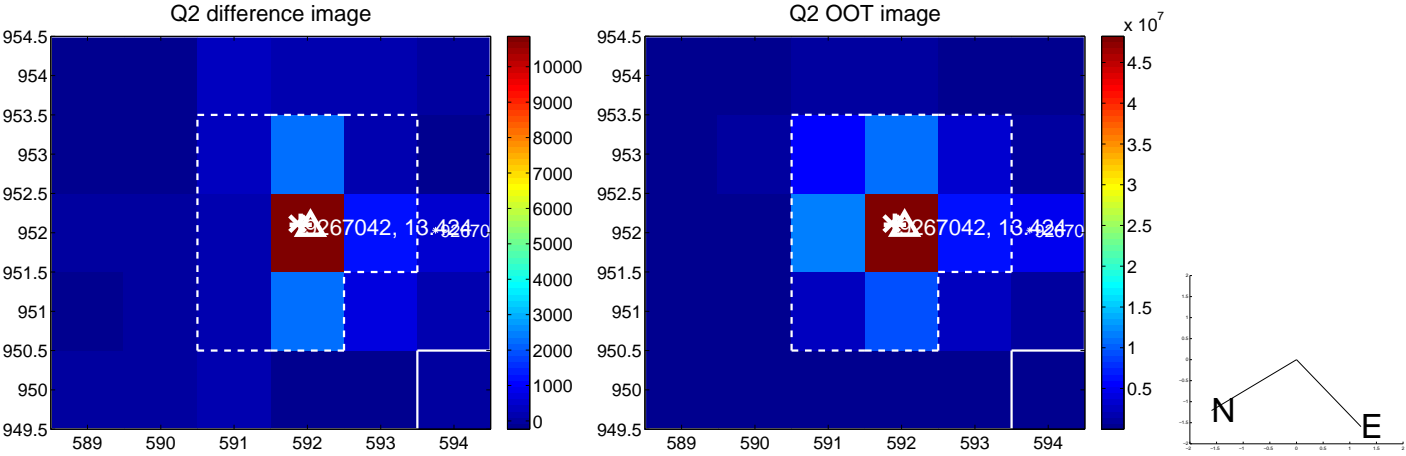
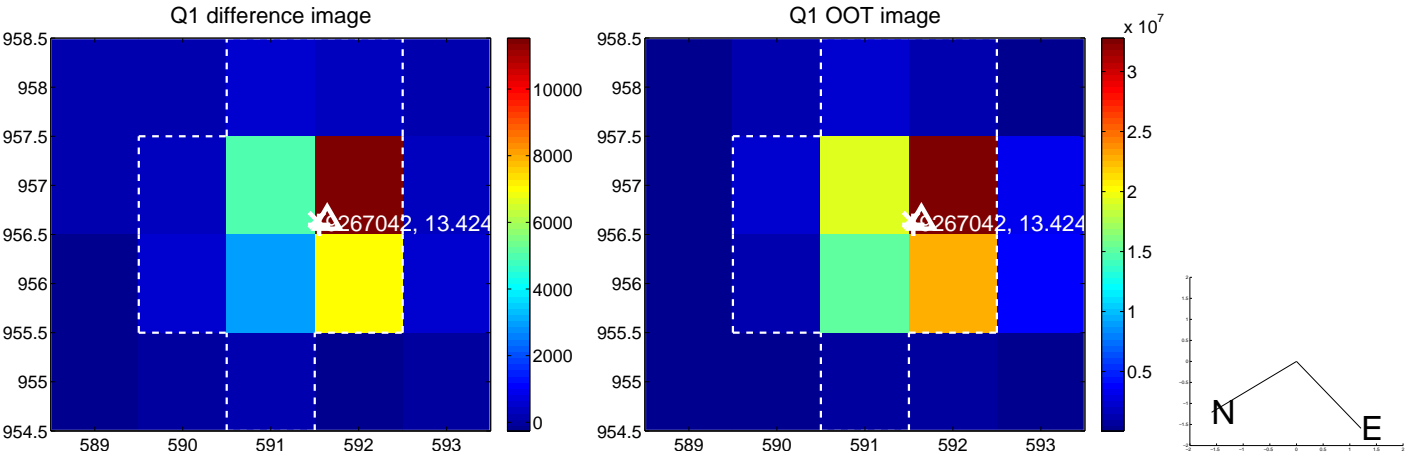
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.210 ± 0.364	0.58	0.210 ± 0.391	0.018 ± 0.498
PRF-fit source offset from KIC position	0.352 ± 0.373	0.94	0.351 ± 0.385	0.013 ± 0.540
photometric centroid source offset	0.63 ± 0.21	3.04	0.55 ± 0.20	-0.30 ± 0.21

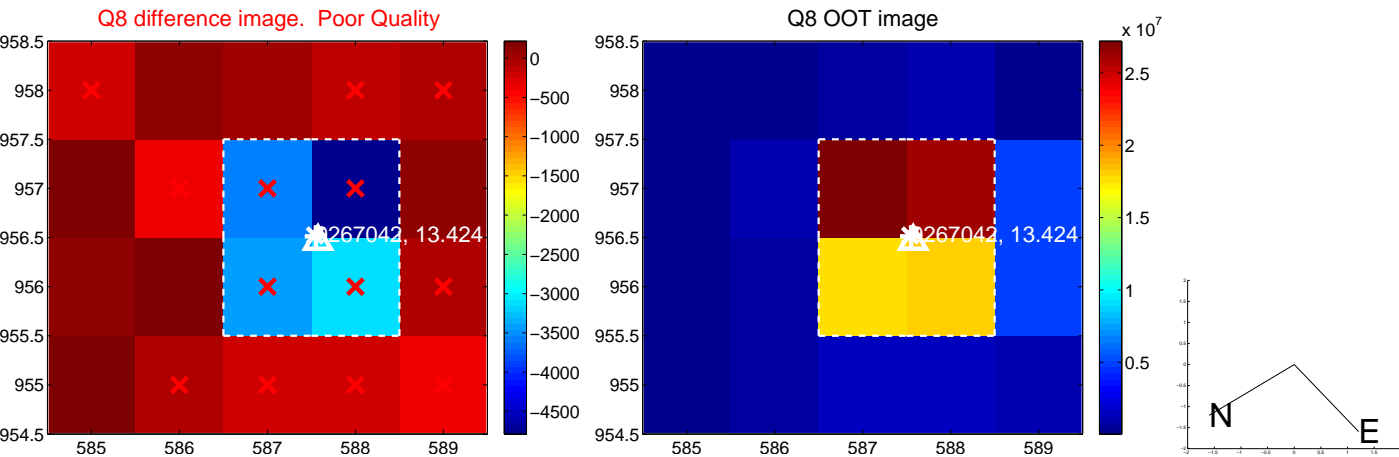
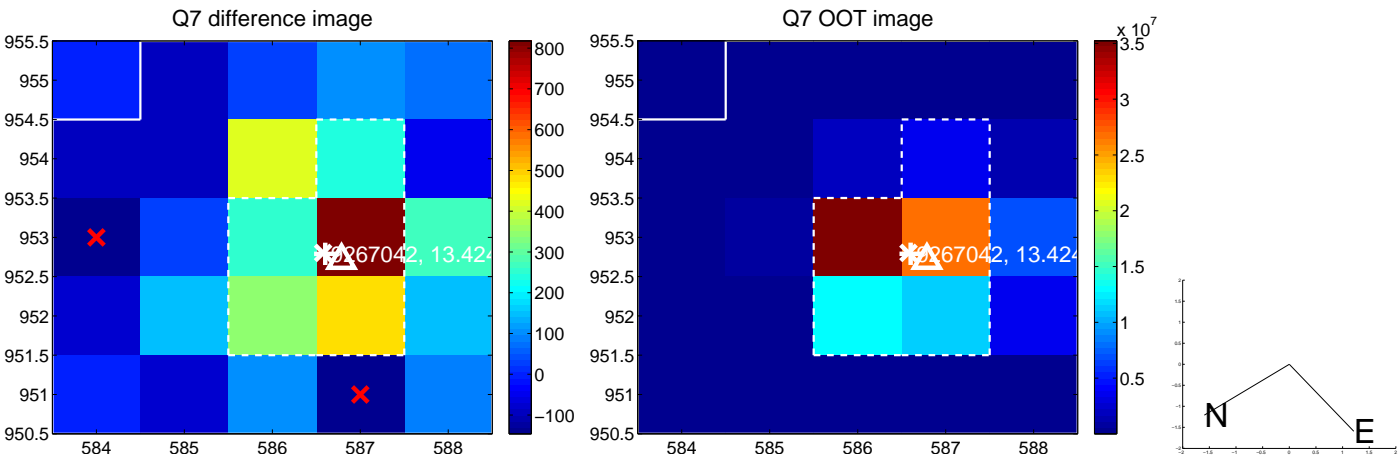
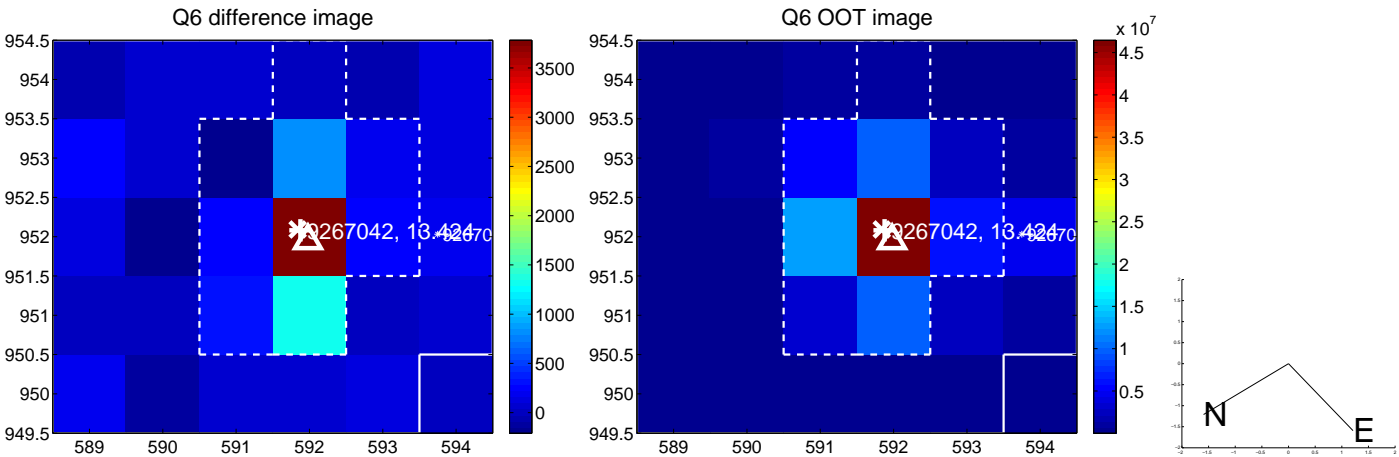
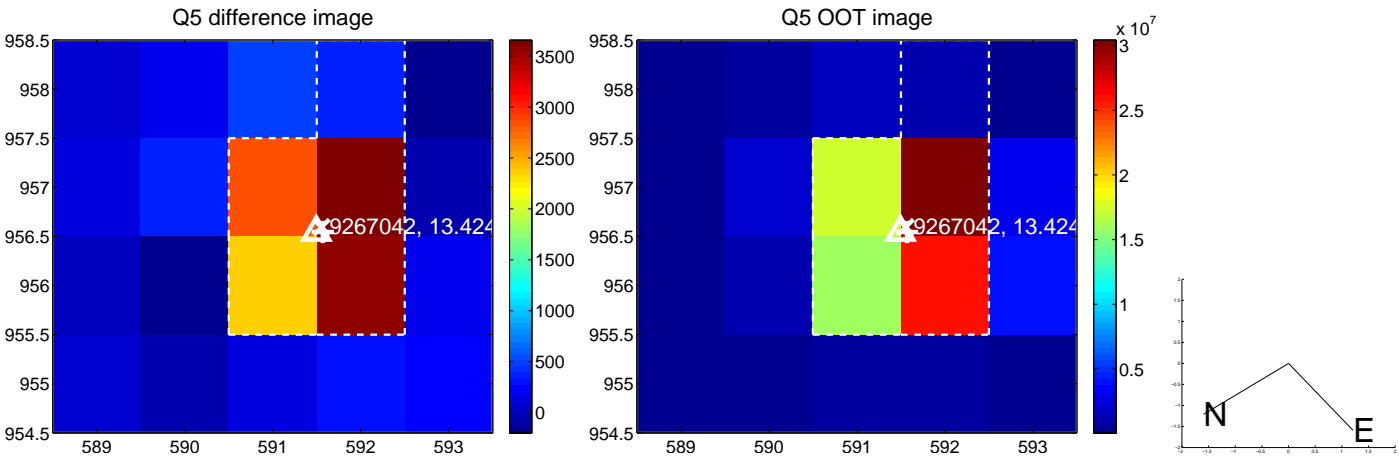


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

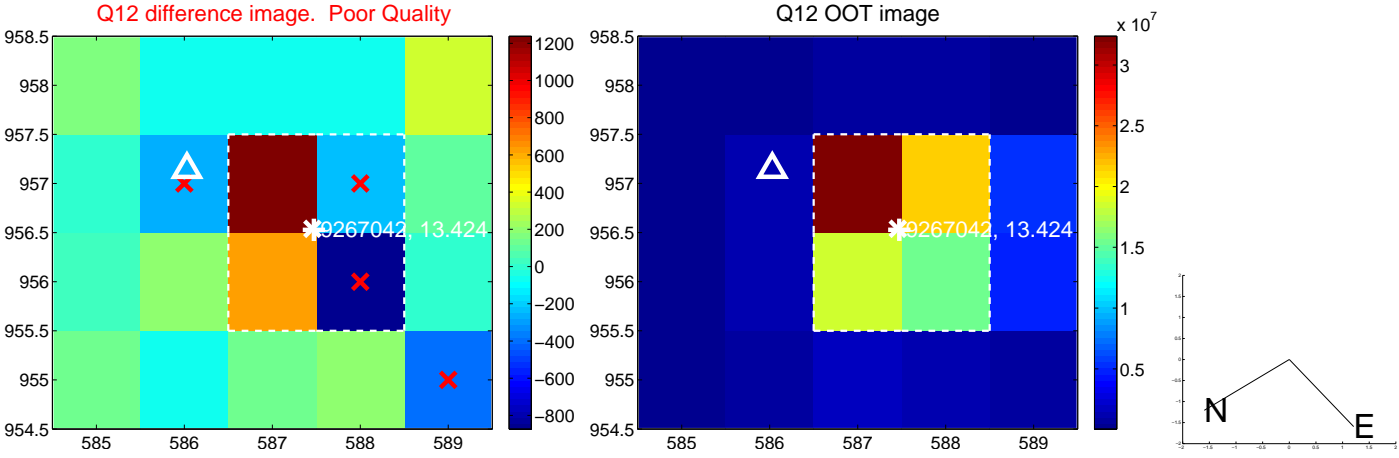
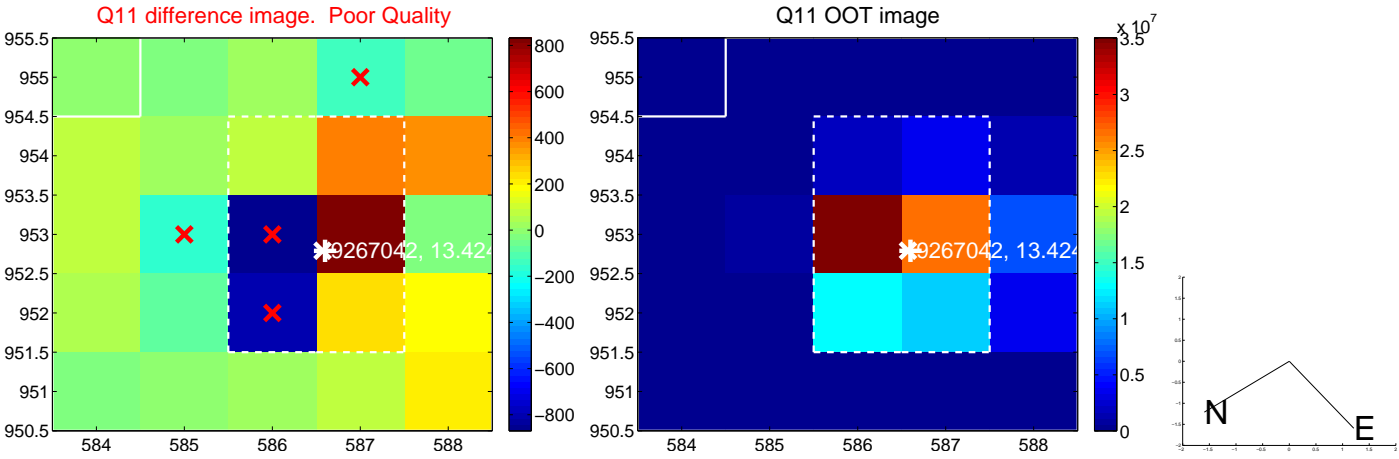
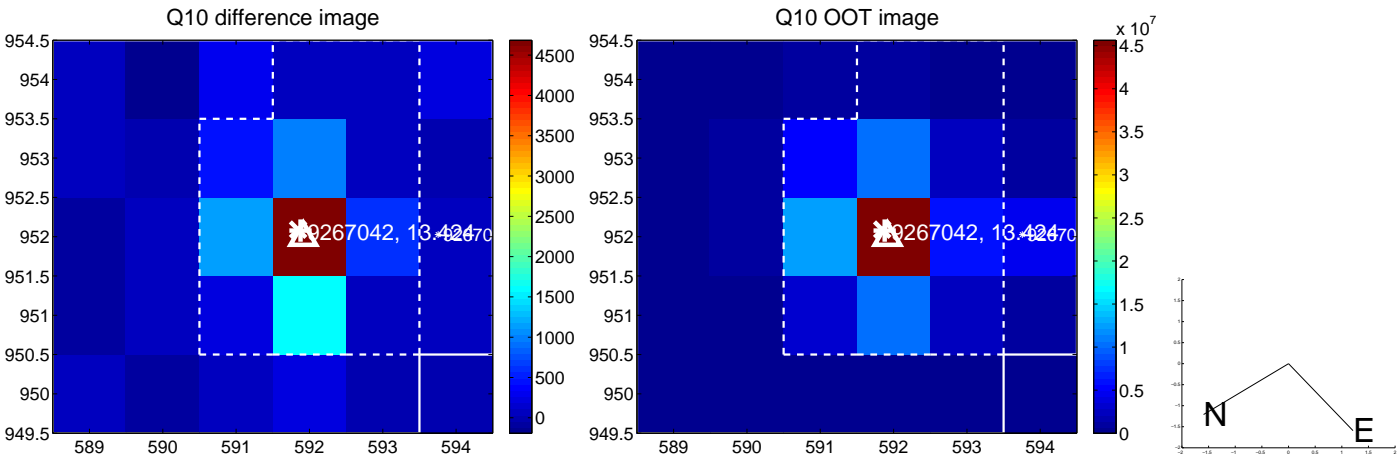
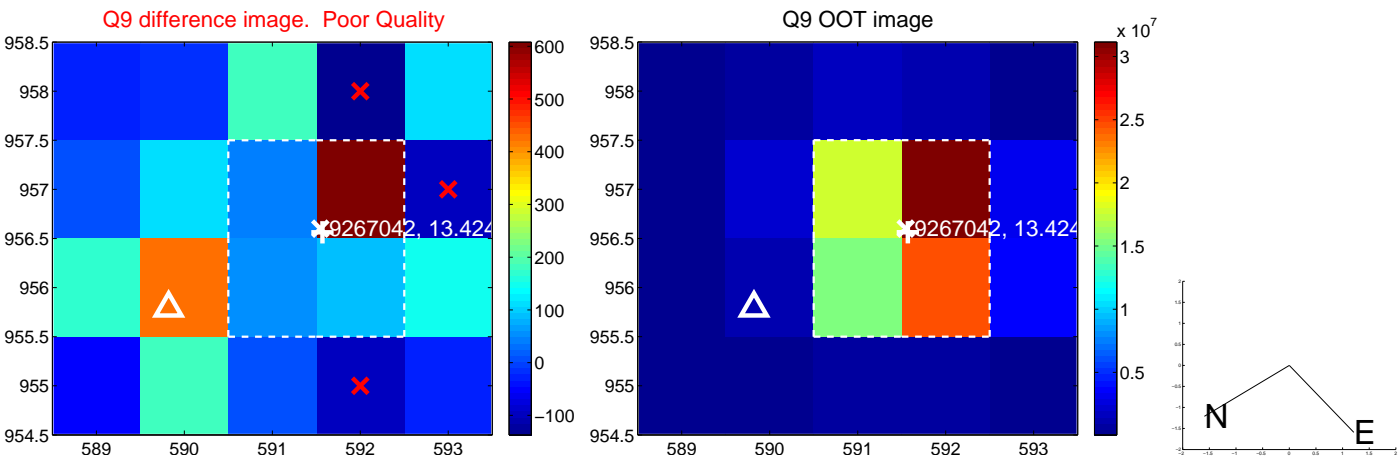
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



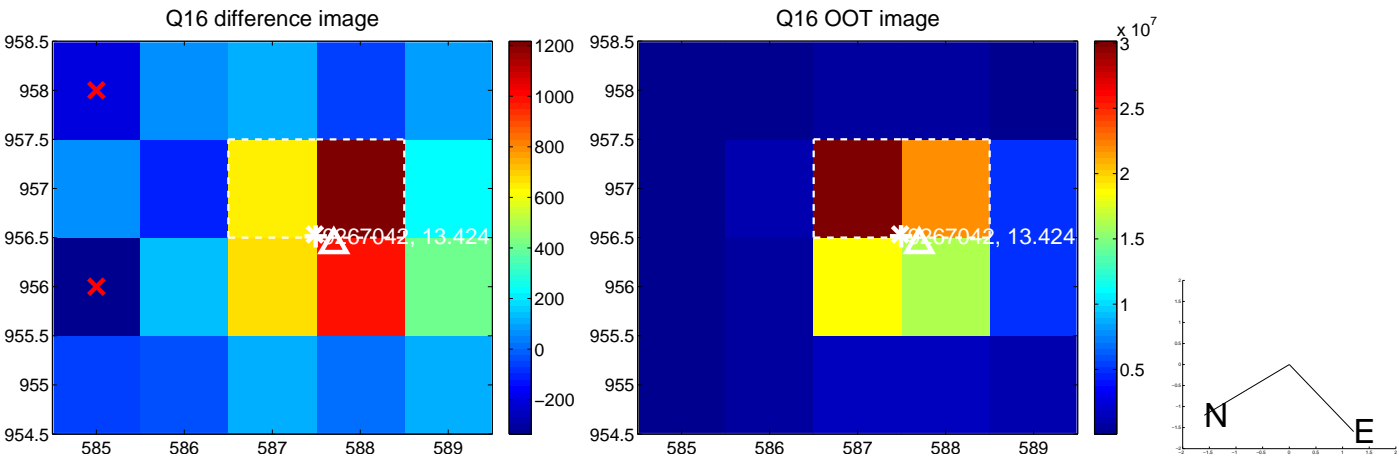
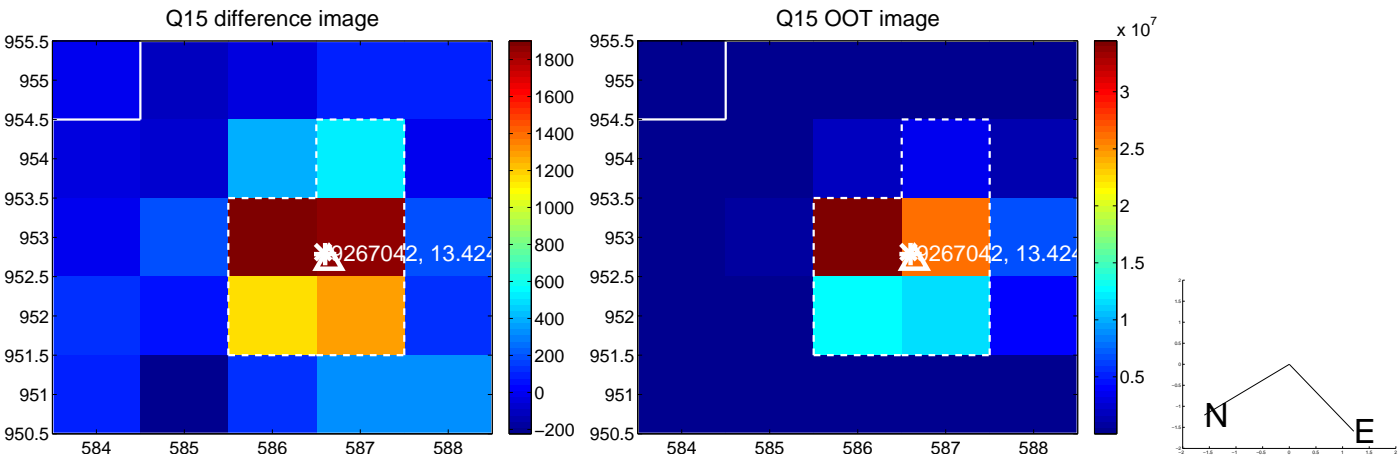
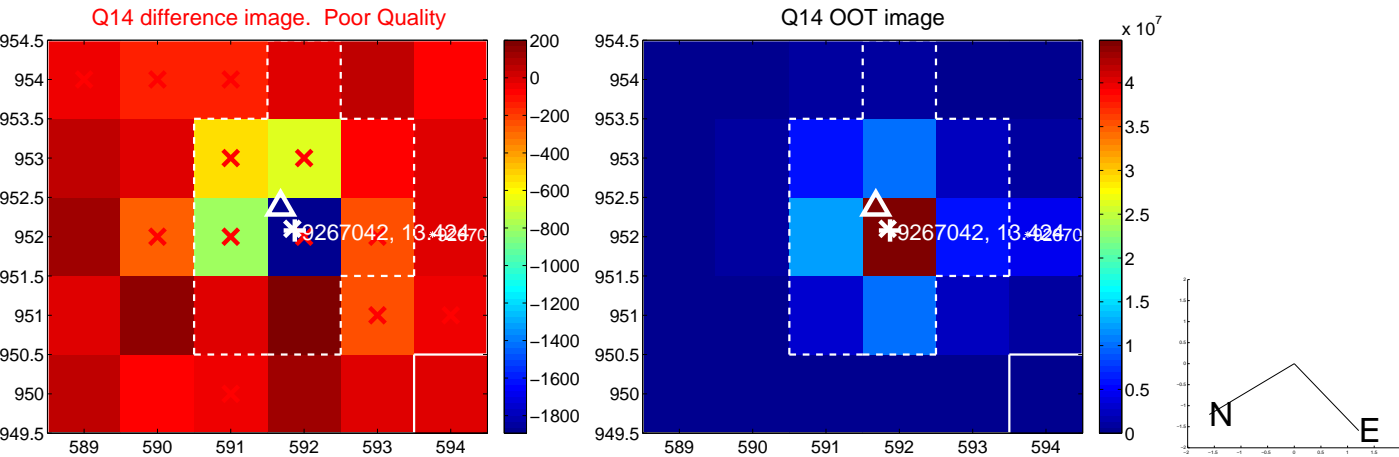
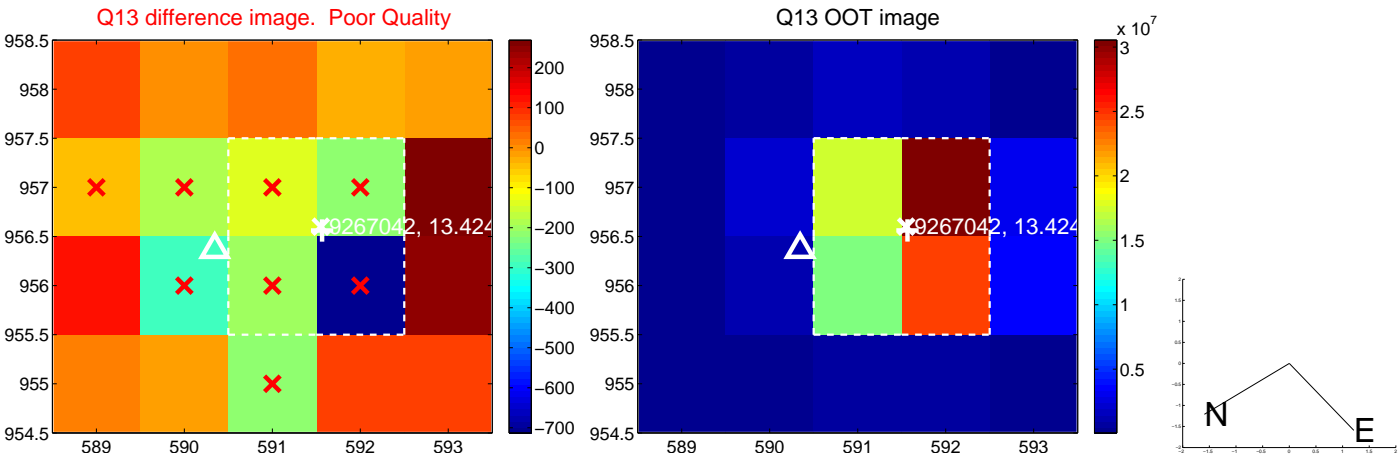
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



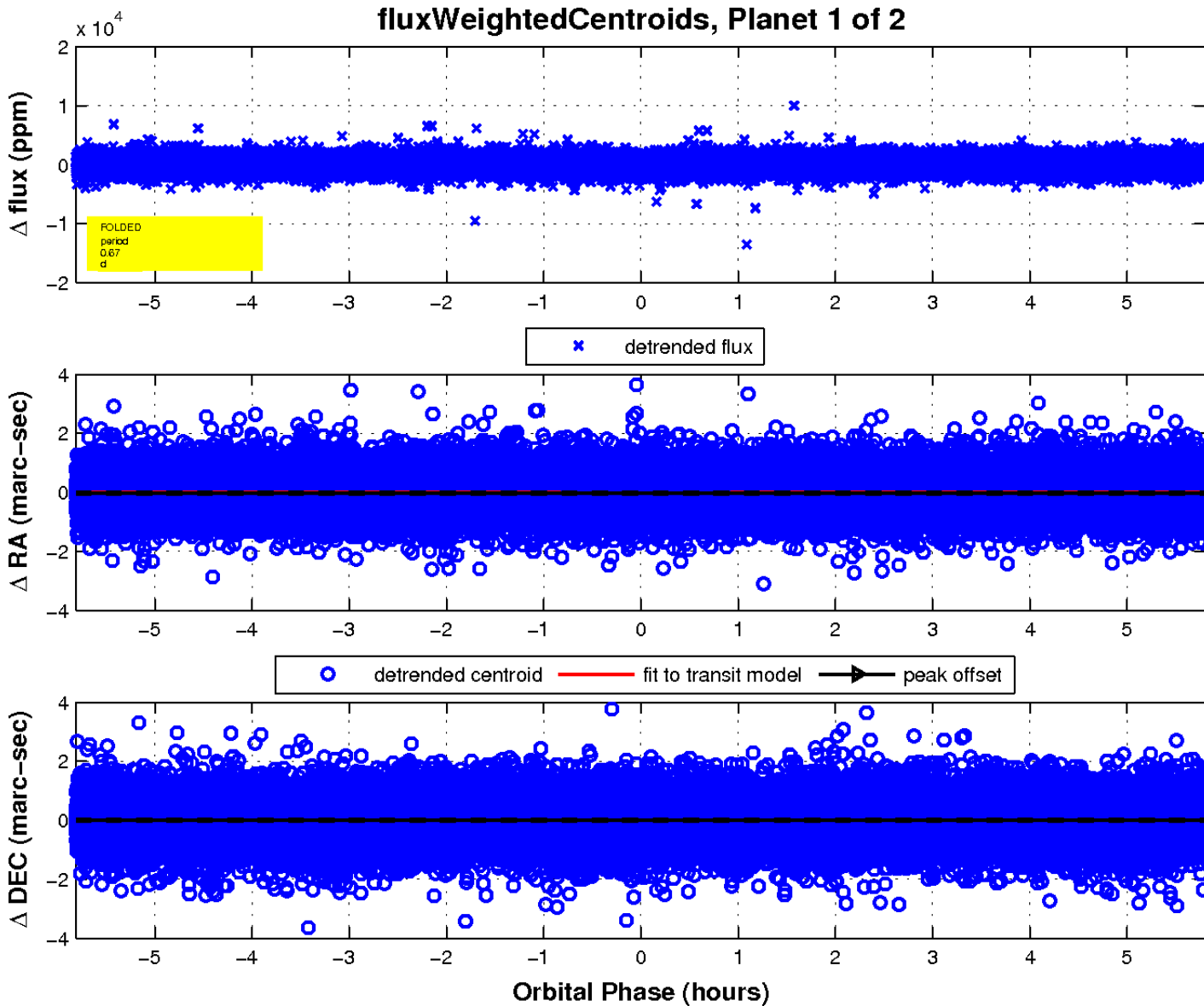
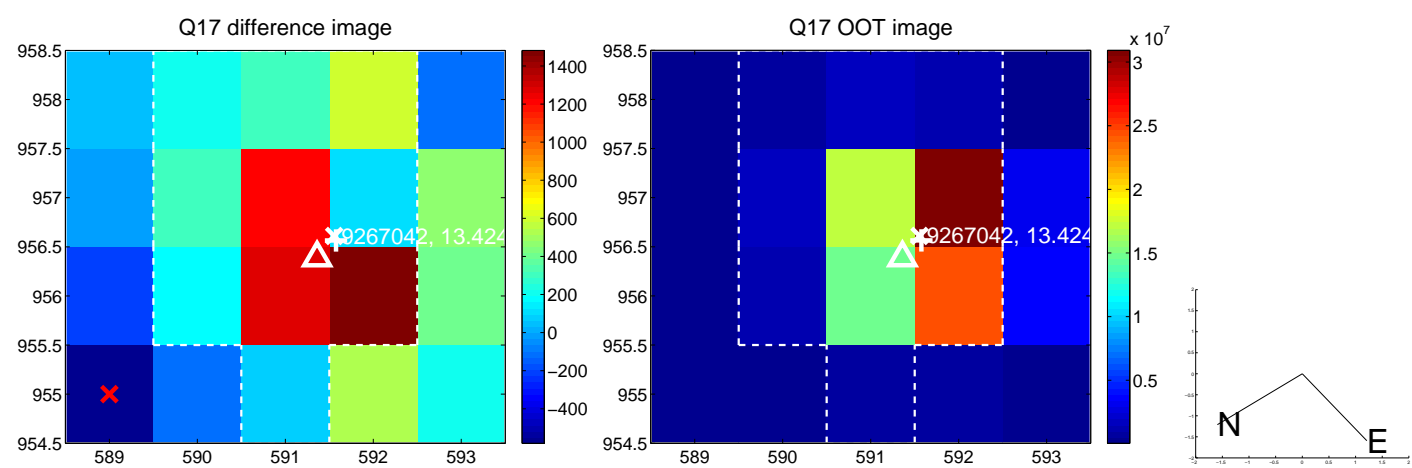
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

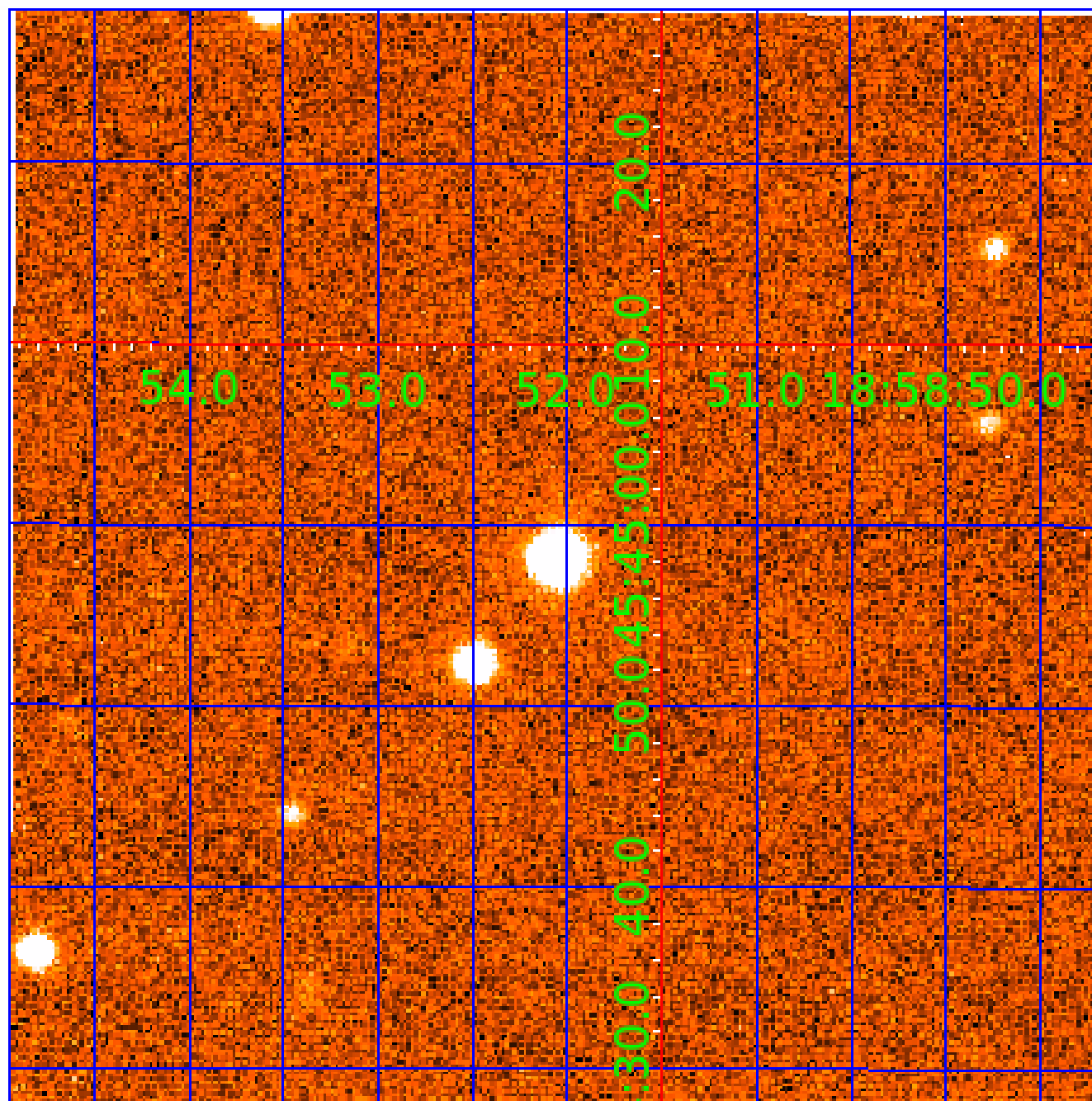


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009267042

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})
009267042-01	OBS	No	0.669756	132.025633	95.3	1.938	9.4	10.9	3.12	8354	3.55	117780.88
009267042-02	OBS	No	0.502315	131.529080	103.6	1.204	8.4	9.4	3.12	8354	3.36	172846.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009267042-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
009267042-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT

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

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

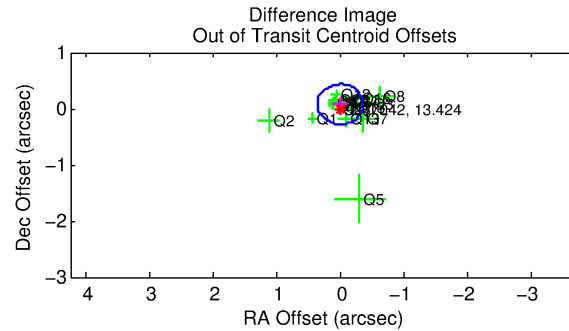
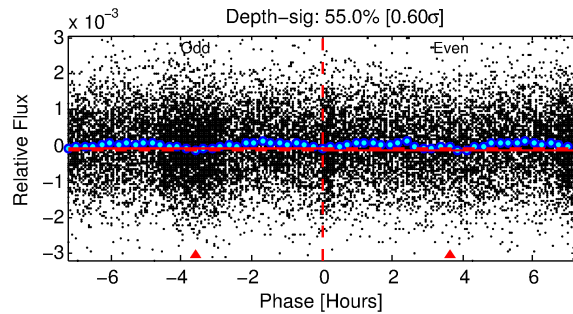
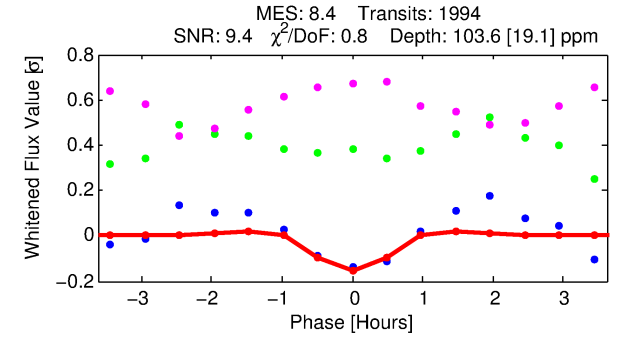
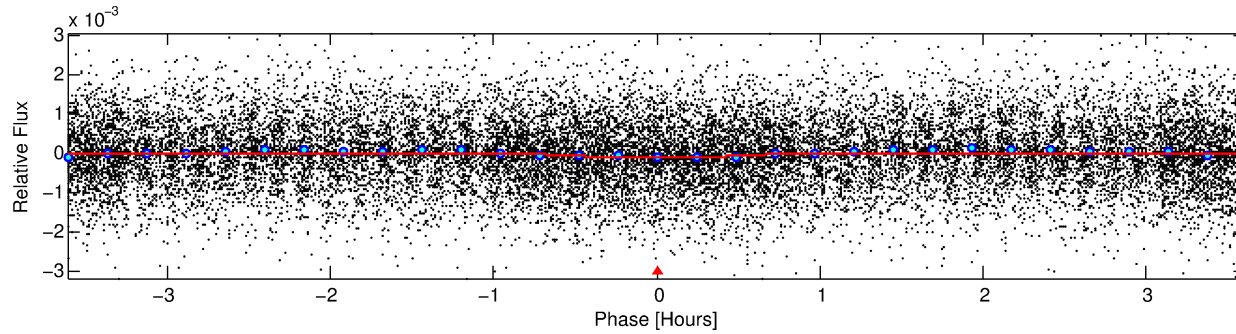
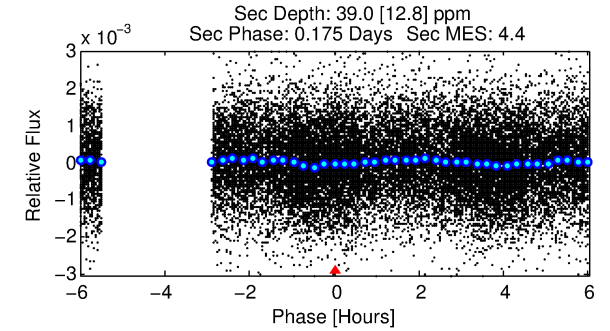
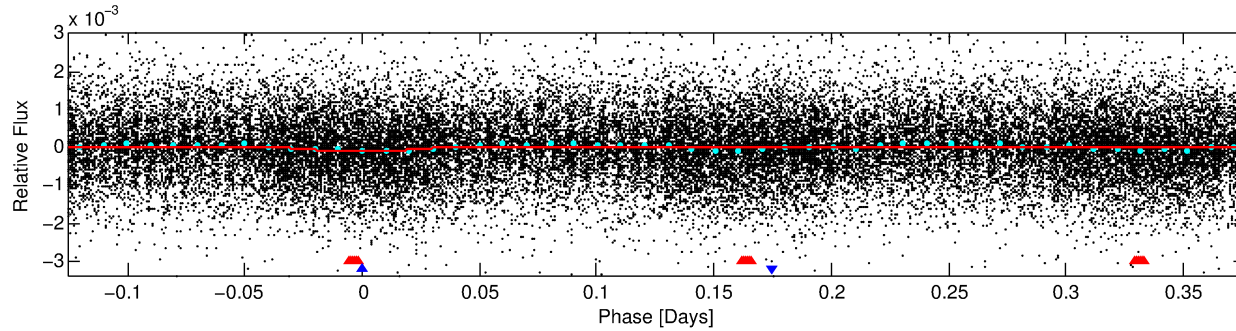
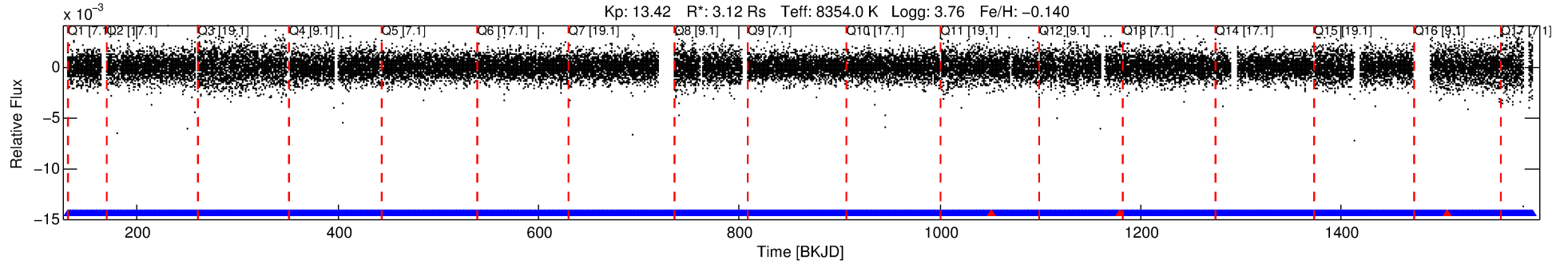
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009267042-02

No Significant Match Found

DV One-Page Summary

KIC: 9267042 Candidate: 2 of 2 Period: 0.502 d



DV Fit Results:

Period = 0.50232 [0.00002] d
Epoch = 131.5291 [0.0022] BKJD
Rp/R* = 0.0099 [0.0048]
a/R* = 2.66 [6.44]
b = 0.62 [2.85]
Seff = 172846.86 [124309.66]
Teq = 5199 [935] K
Rp = 3.36 [2.28] Re
a = 0.0157 [0.0069] AU
Ag = 0.47 [0.58] [-0.92σ]
Teffp = 6642 [1730] K [0.73σ]

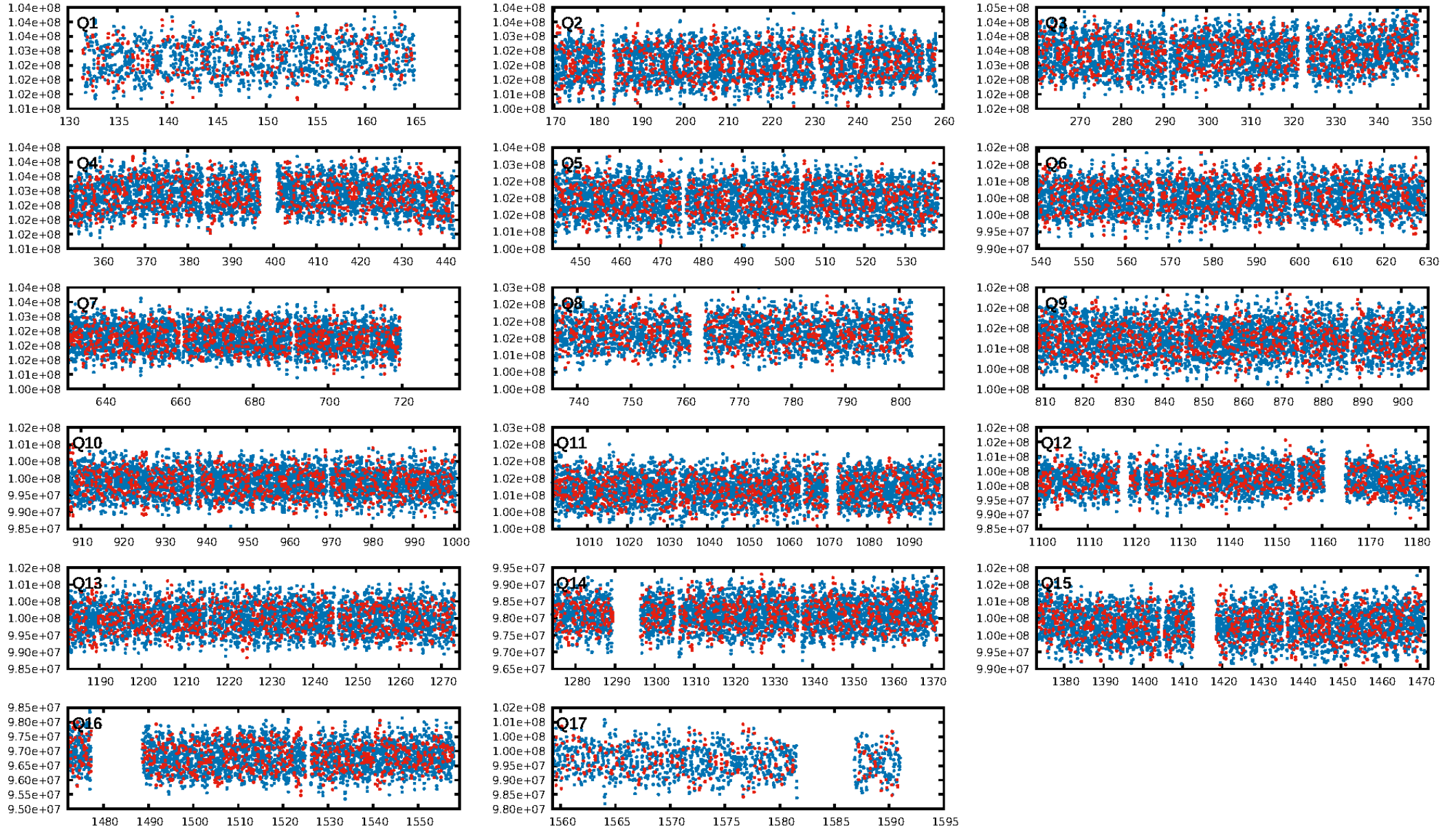
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 92.2% [1.76σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.58e-15
RollingBand-fgt: 1.00 [1902/1905]
GhostDiagnostic-chr: 2.42
Centroid-sig: 3.3%
Centroid-so: 0.103 arcsec [0.51σ]
OotOffset-rm: 0.076 arcsec [0.64σ]
KicOffset-rm: 0.143 arcsec [1.20σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.53 [9/17]
DiffImageOverlap-fno: 1.00 [17/17]

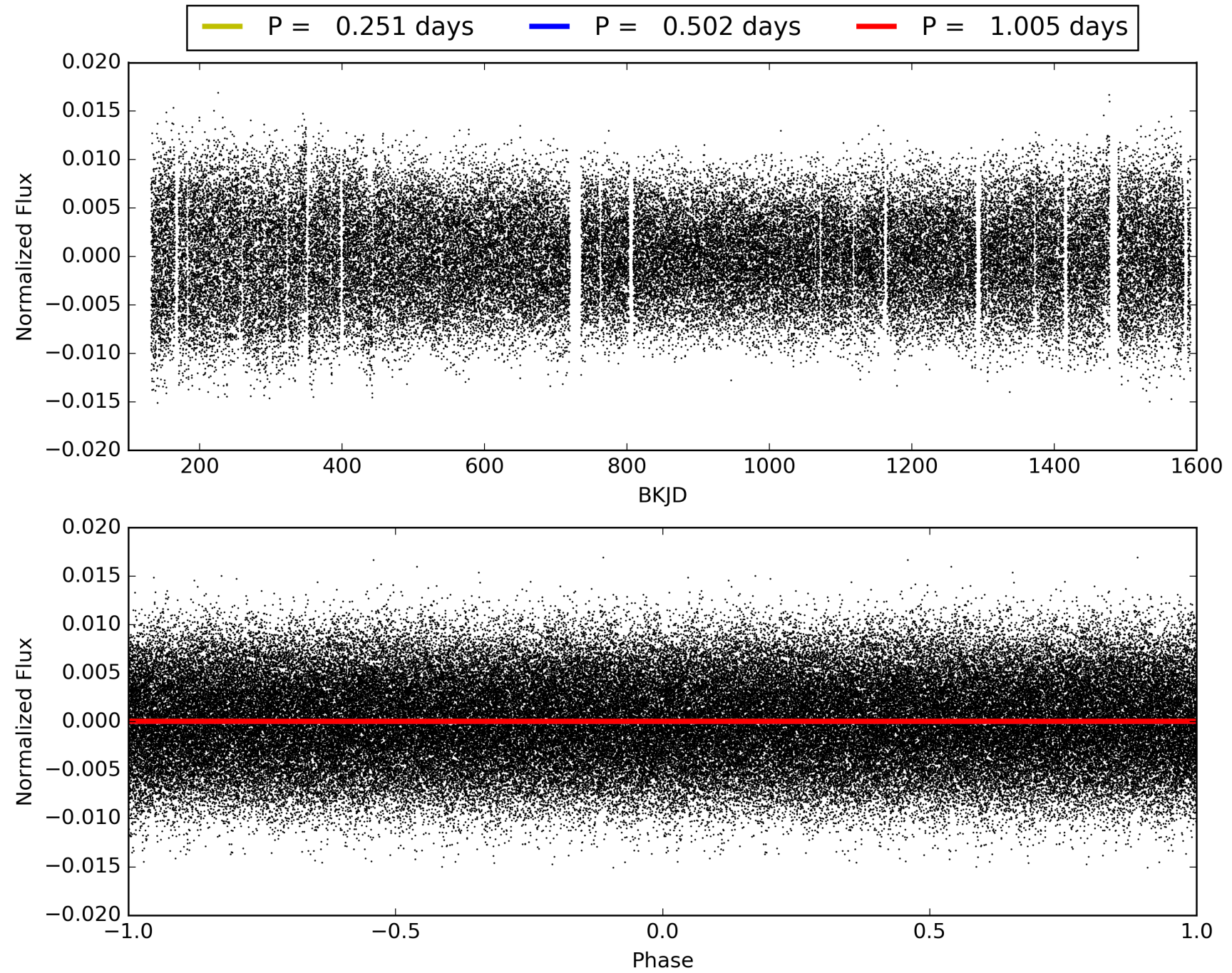
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:00:26 Z

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

TCE 009267042-02, PDC Light Curves

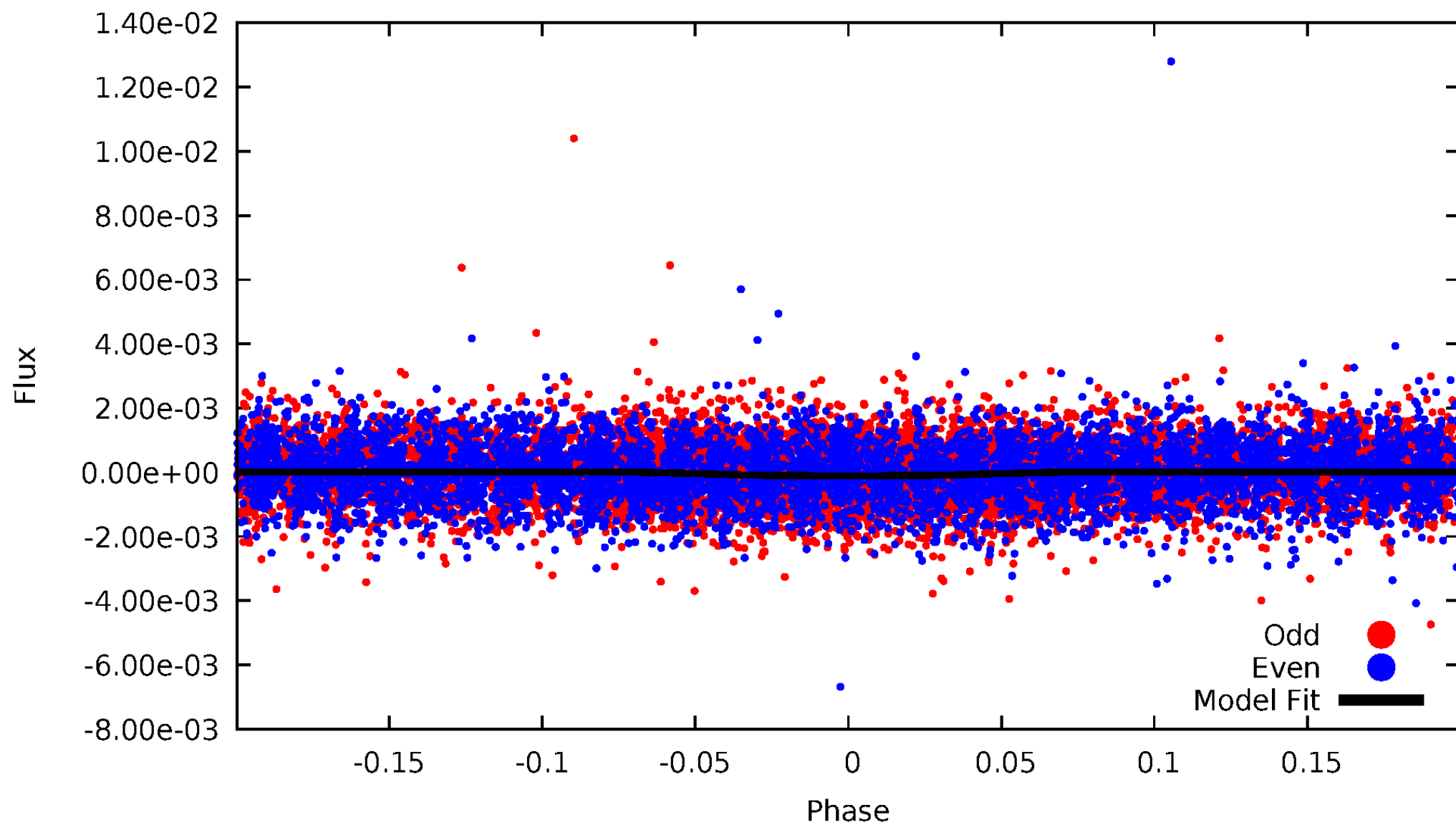


TCE 009267042-02



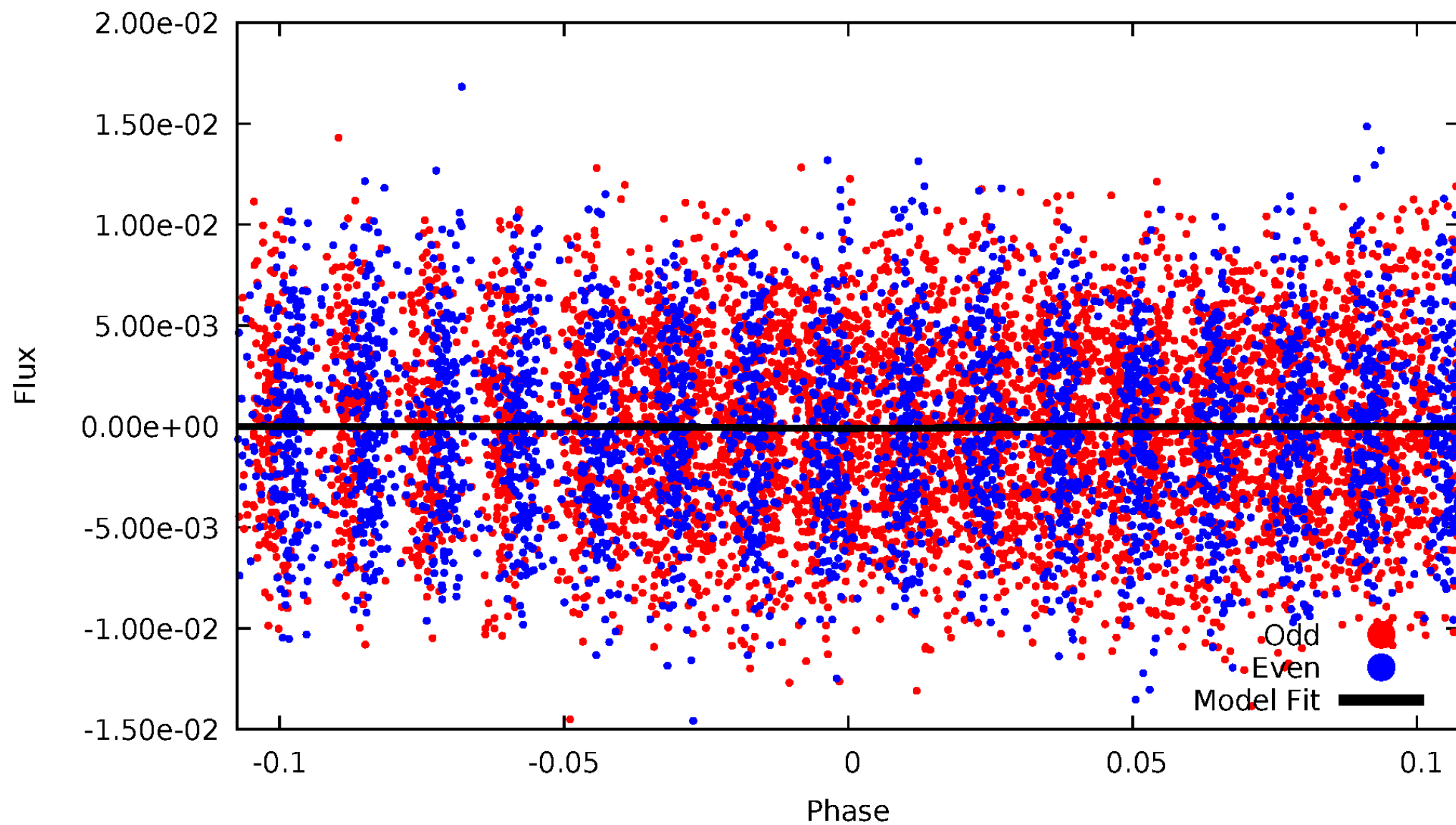
DV Odd/Even

TCE 009267042-02



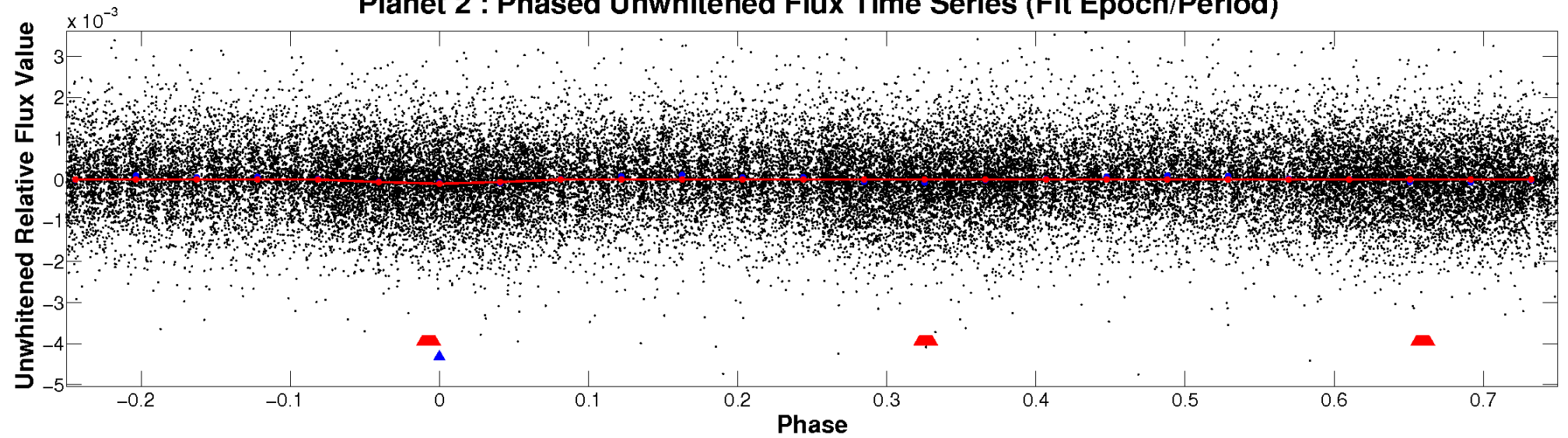
ALT Odd/Even

TCE 009267042-02

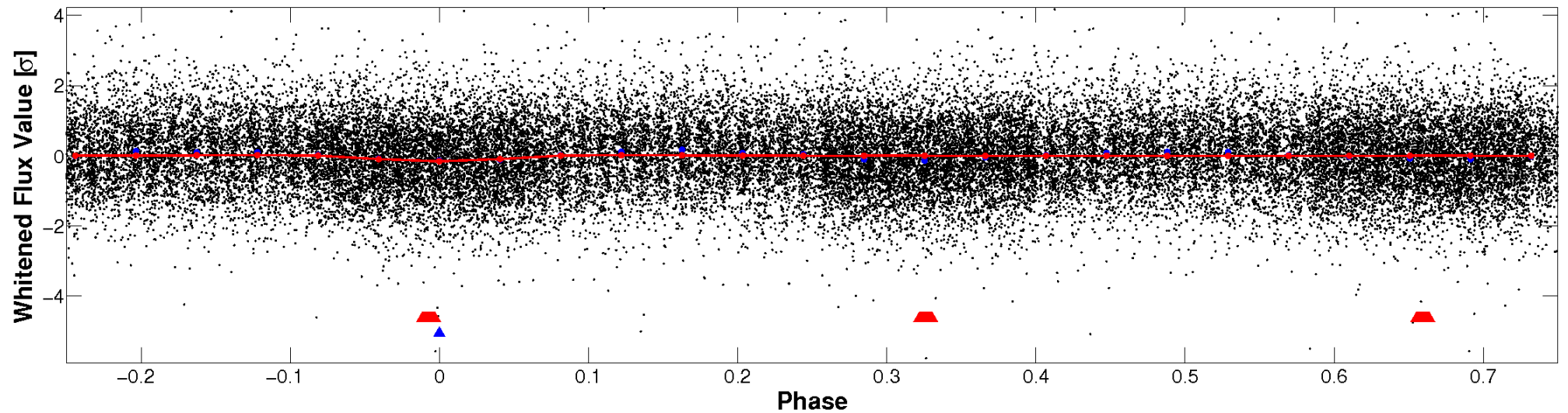


Non-Whitened Vs. Whitened Light Curve

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

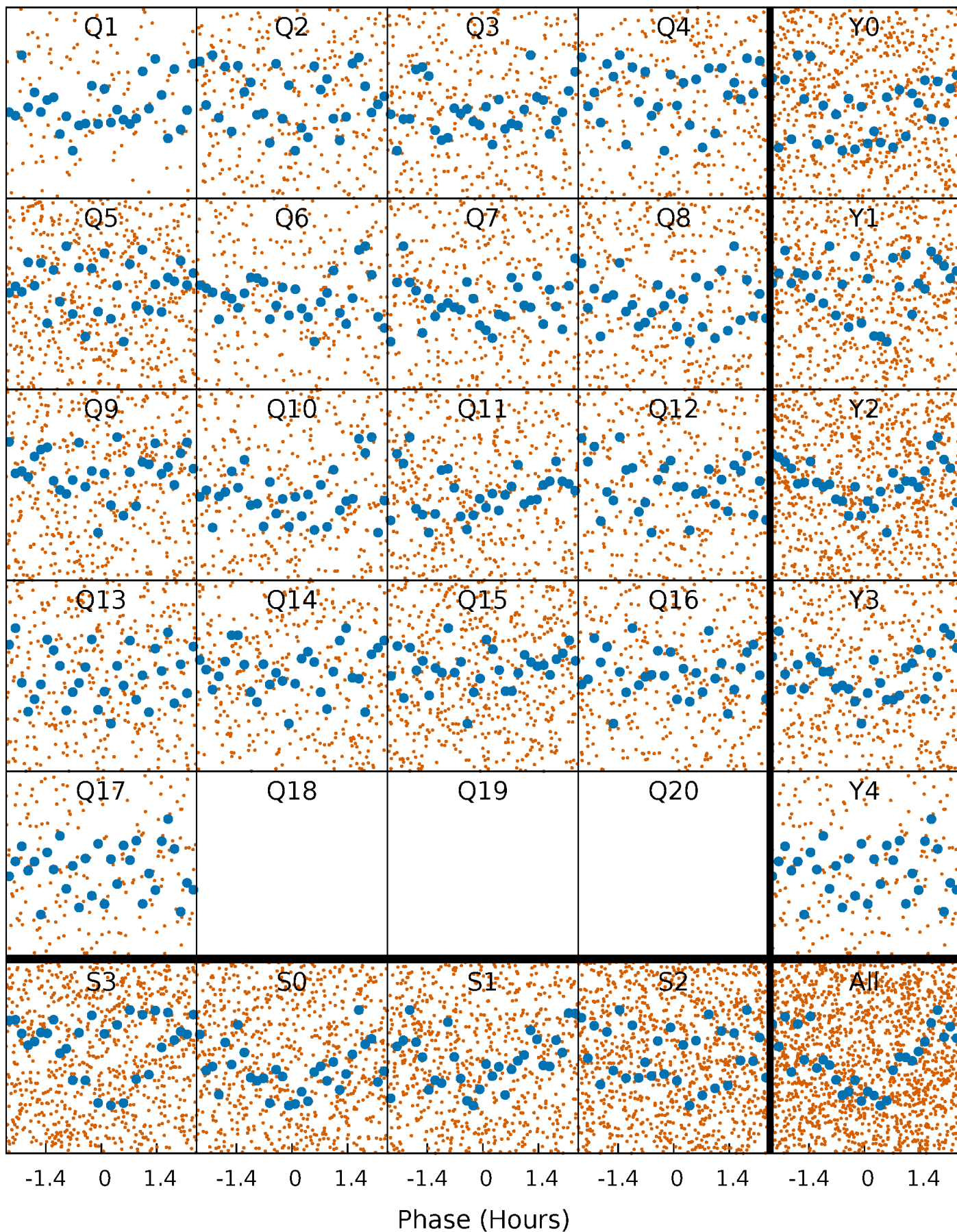


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



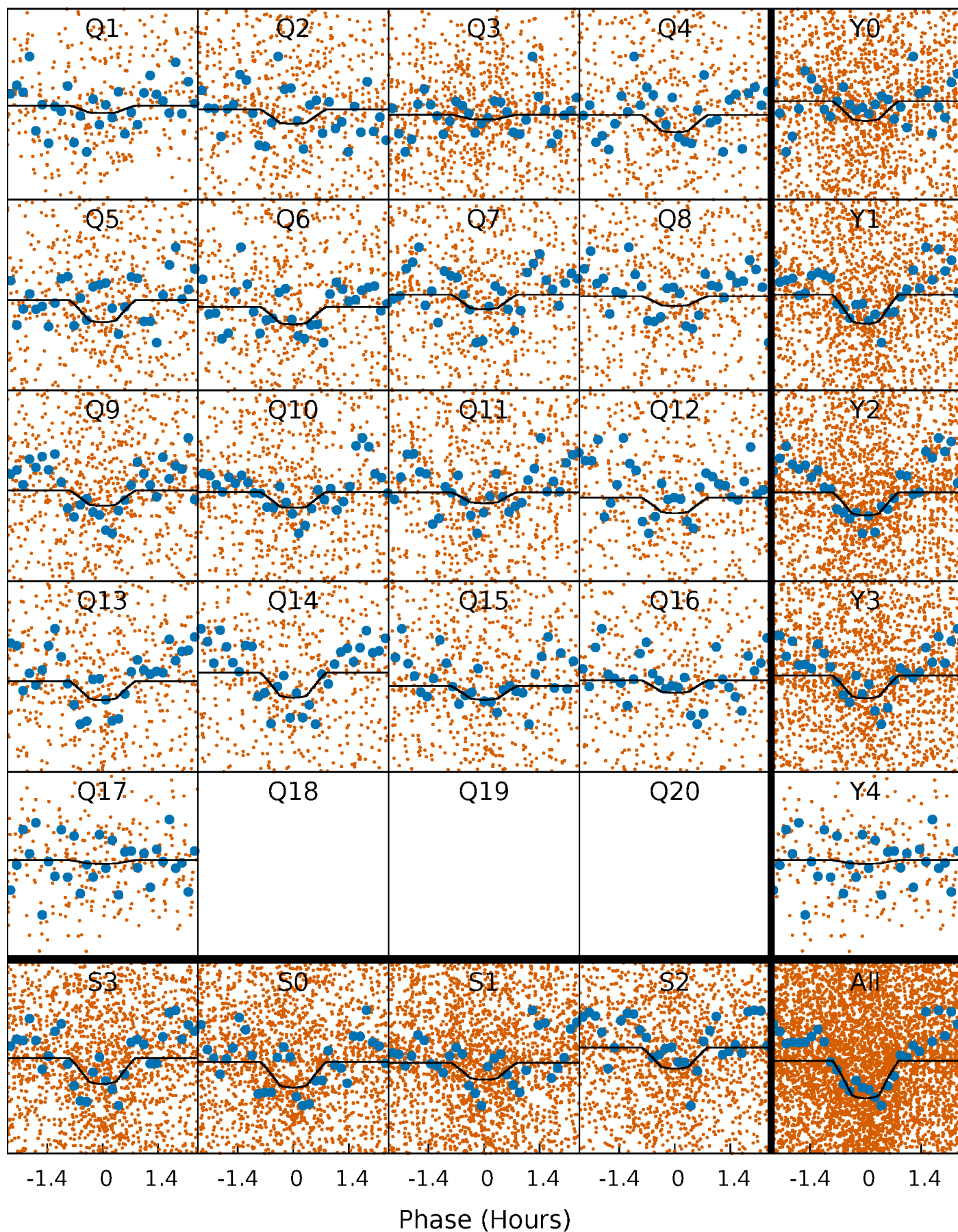
PDC Quarter-Phased Transit Curves

TCE 009267042-02 P= 0.502315 Days $T_0=131.529080$ (BKJD)



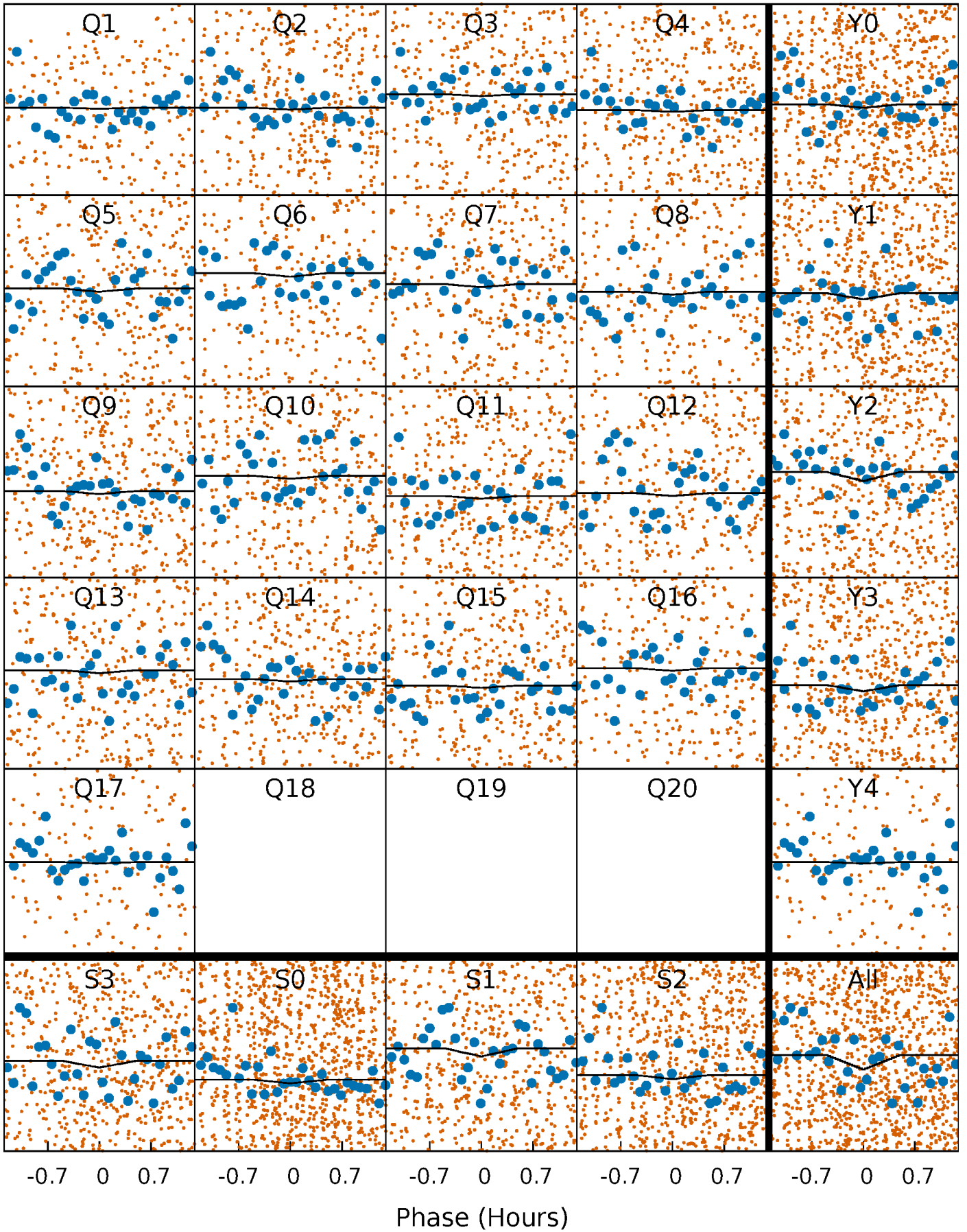
DV Quarter-Phased Transit Curves

TCE 009267042-02 $P = 0.502315$ Days $T_0 = 131.529080$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

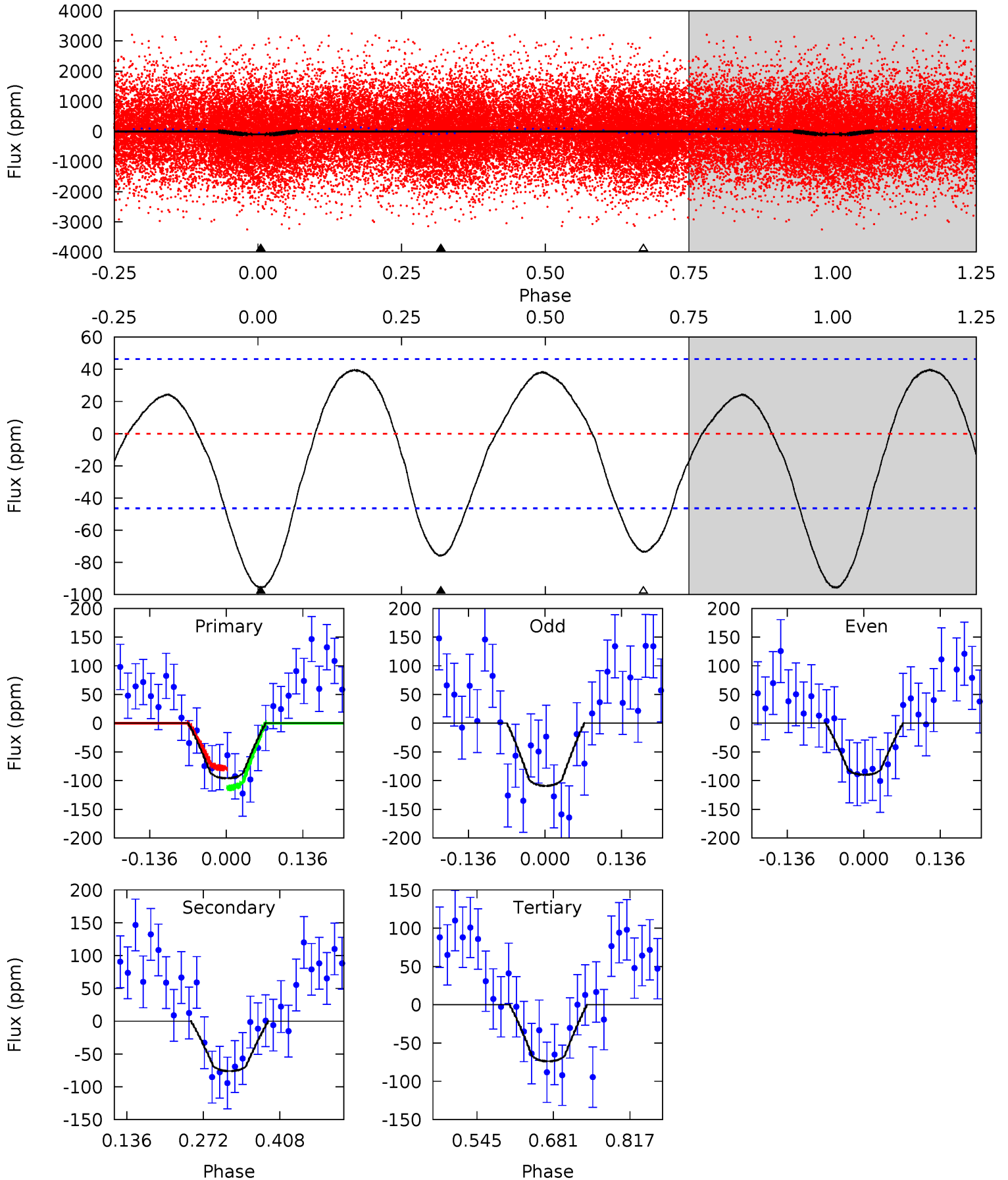
TCE 009267042-02 $P = 0.502317$ Days $T_0 = 131.507042$ (BKJD)



DV Model-Shift Uniqueness Test

009267042-02, P = 0.502315 Days, E = 131.026765 Days

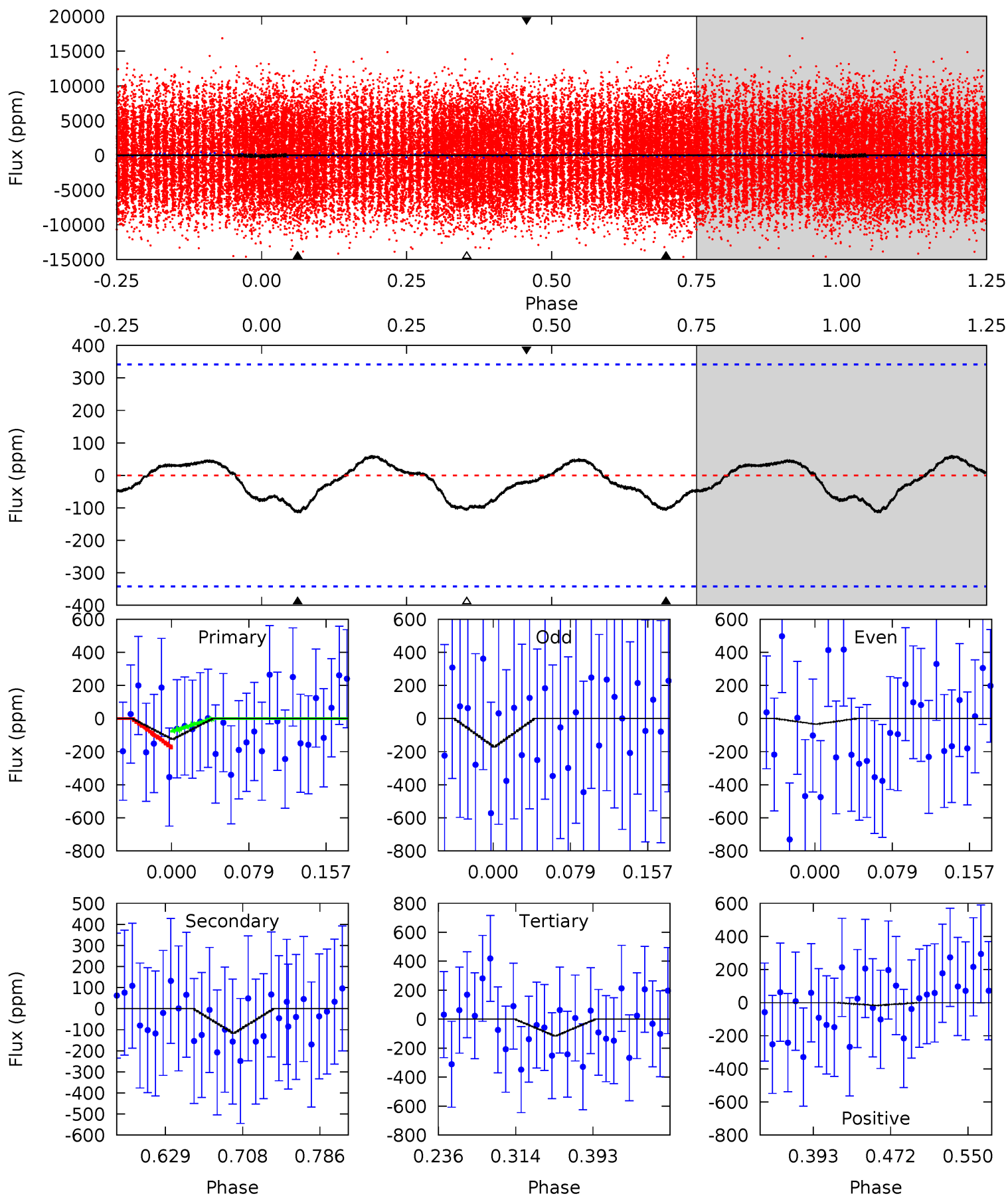
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.32	7.38	7.17	0	4.50	1.49	3.83	2.15	9.32	0.21	7.38	0.88	0.96	0.29	1.65



Alt Model-Shift Uniqueness Test

009267042-02, P = 0.502317 Days, E = 131.507042 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.57	1.47	1.46	-0.22	4.62	1.76	0.64	0.11	1.79	0.01	1.69	0.81	0.80	0.35	0.61



Stellar Parameters For KIC 009267042

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8354^{+202}_{-376}	$3.758^{+0.405}_{-0.135}$	$-0.140^{+0.250}_{-0.350}$	$3.117^{+0.902}_{-1.466}$	$2.032^{+0.343}_{-0.471}$	$0.094^{+0.340}_{-0.037}$
	+2%/-5%	+11%/-4%	+179%/-250%	+29%/-47%	+17%/-23%	+360%/-39%
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 009267042-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-76 ± 10	$3.10^{+1.72}_{-1.52}$	7048^{+567}_{-805}	6848^{+4881}_{-1957}	$1.051^{+3.166}_{-0.610}$
Alt.	-109 ± 74	$3.16^{+1.95}_{-1.36}$	7024^{+569}_{-799}	7289^{+5162}_{-3385}	$1.204^{+4.133}_{-0.857}$

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 $A_{obs} \gg 1.0$

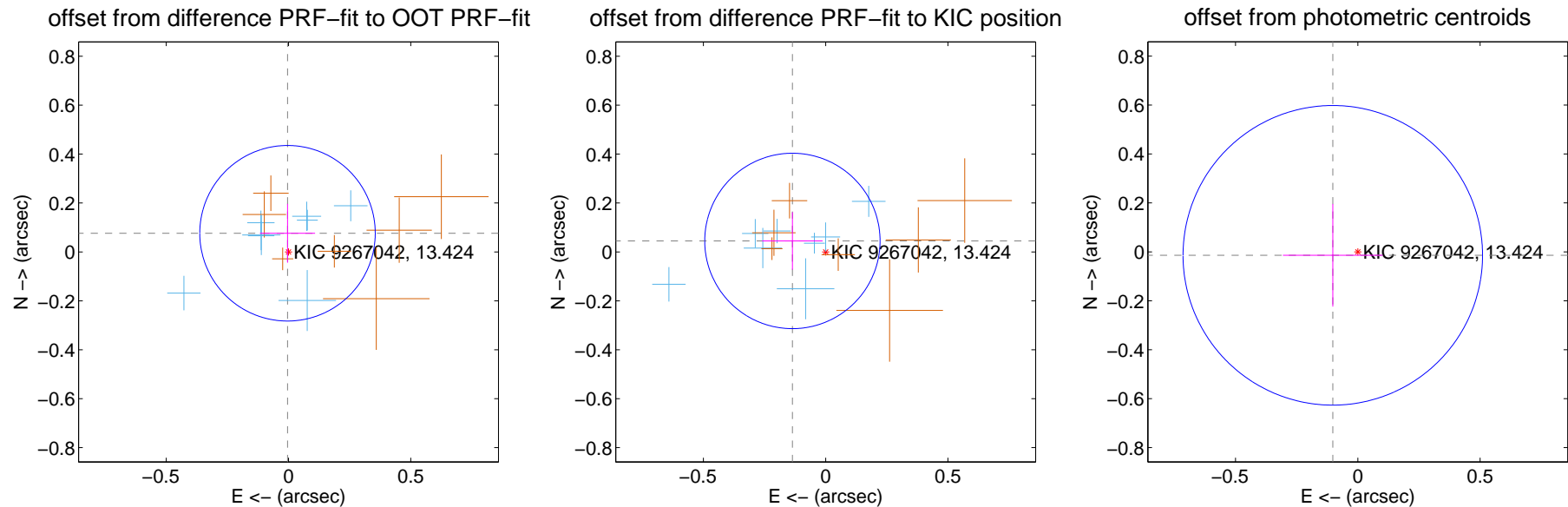
DV Centroid Data

Supplemental centroid analysis for 009267042-02. Kepler magnitude: 13.42. Transit SNR 9.41

There are 9 quarters with good PRF difference image offsets

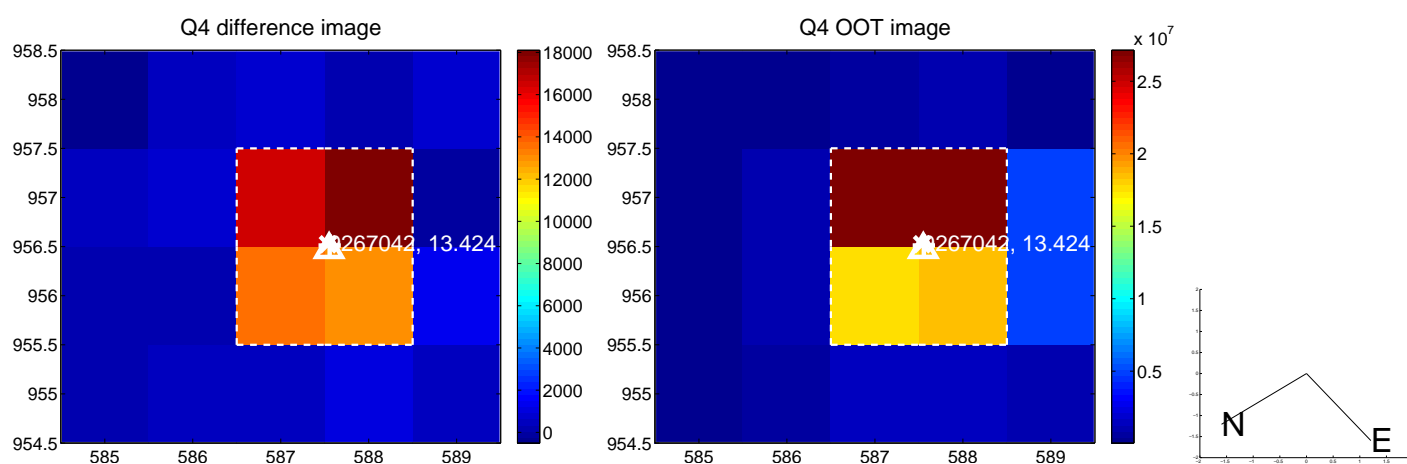
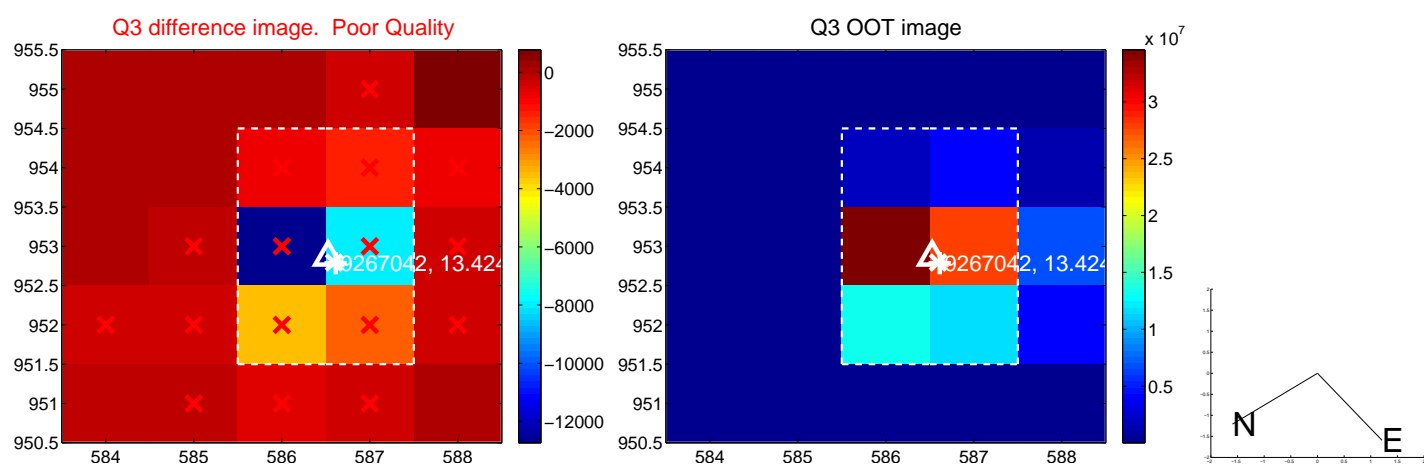
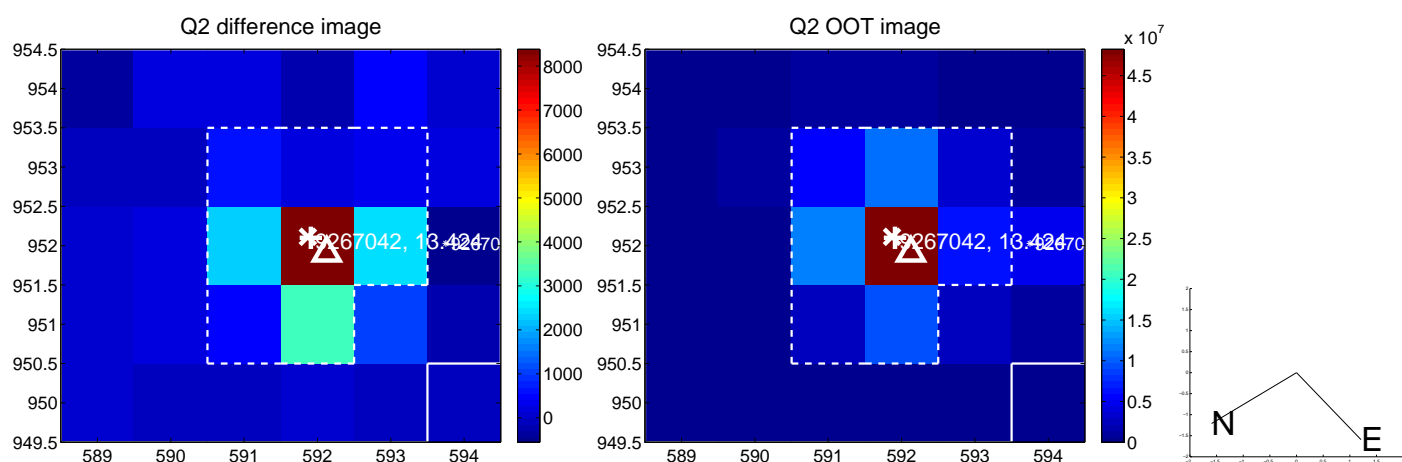
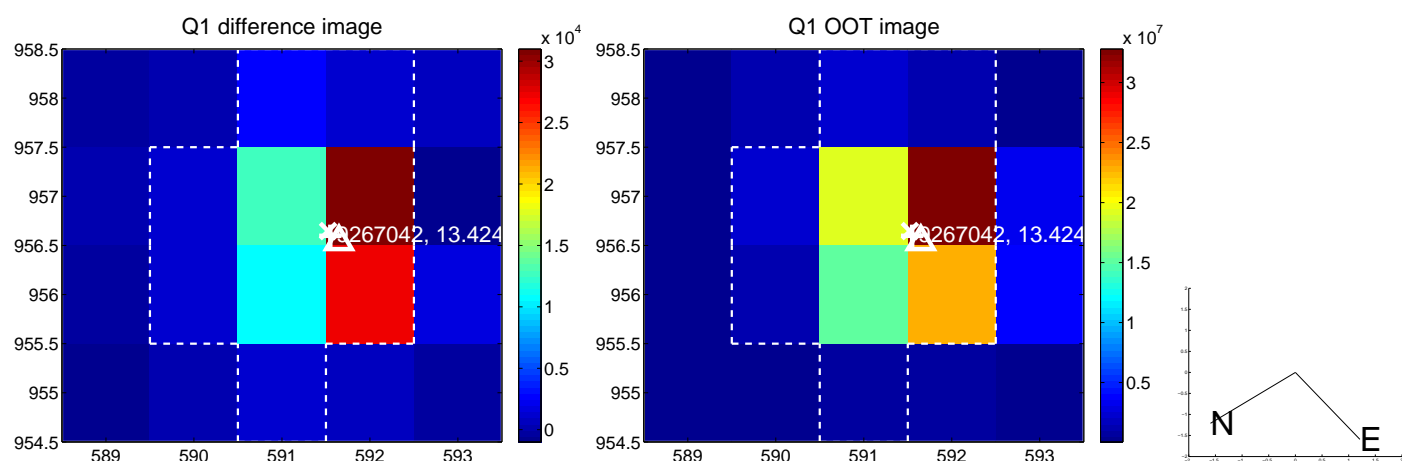
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.076 ± 0.120	0.64	0.004 ± 0.113	0.076 ± 0.120
PRF-fit source offset from KIC position	0.143 ± 0.119	1.20	0.136 ± 0.124	0.045 ± 0.117
photometric centroid source offset	0.10 ± 0.20	0.51	0.10 ± 0.20	-0.01 ± 0.21

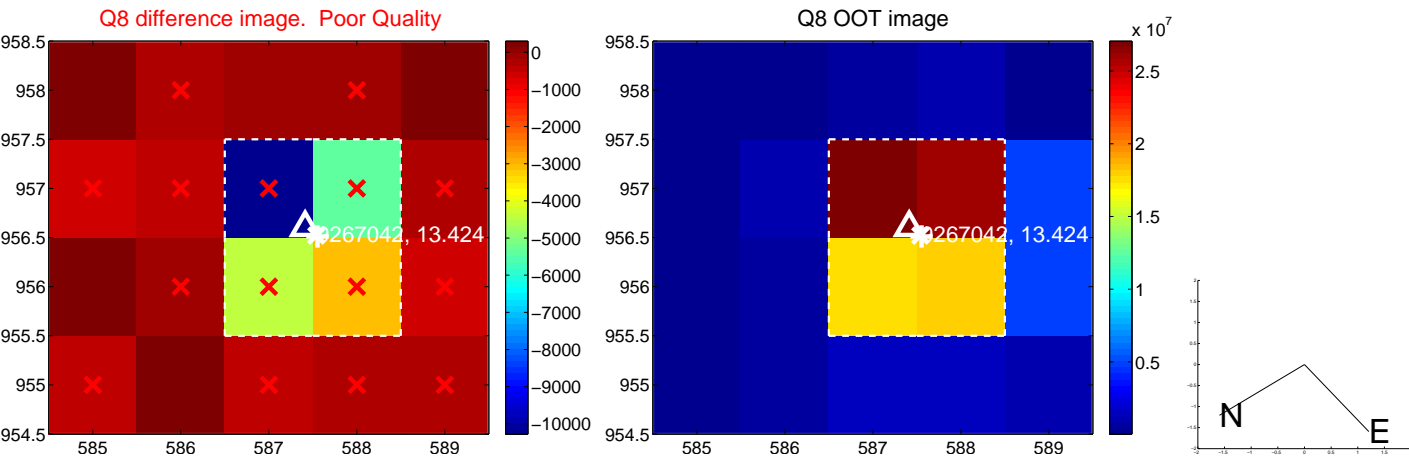
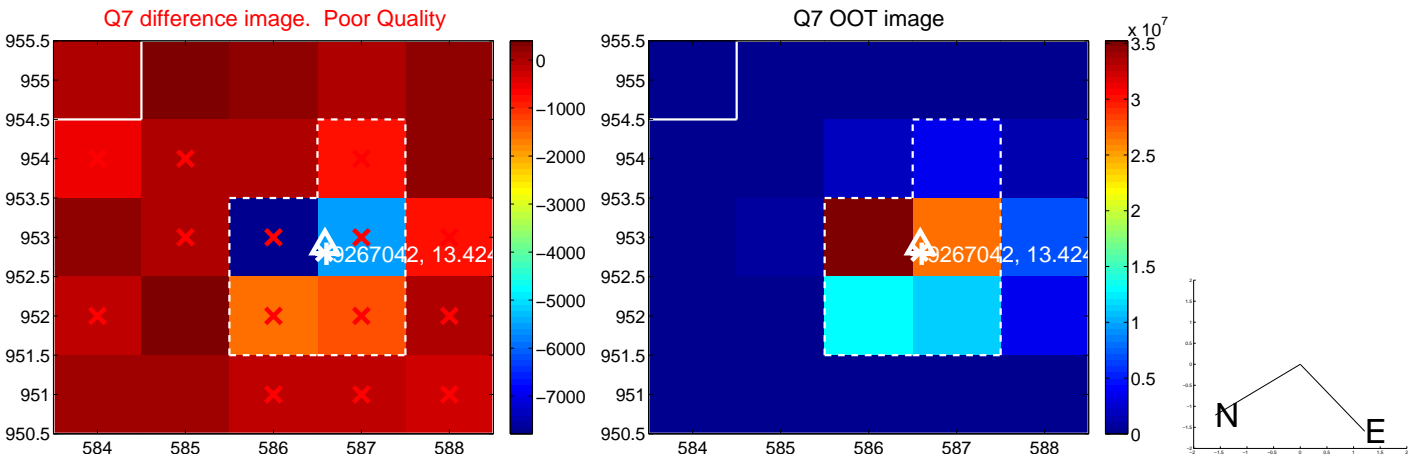
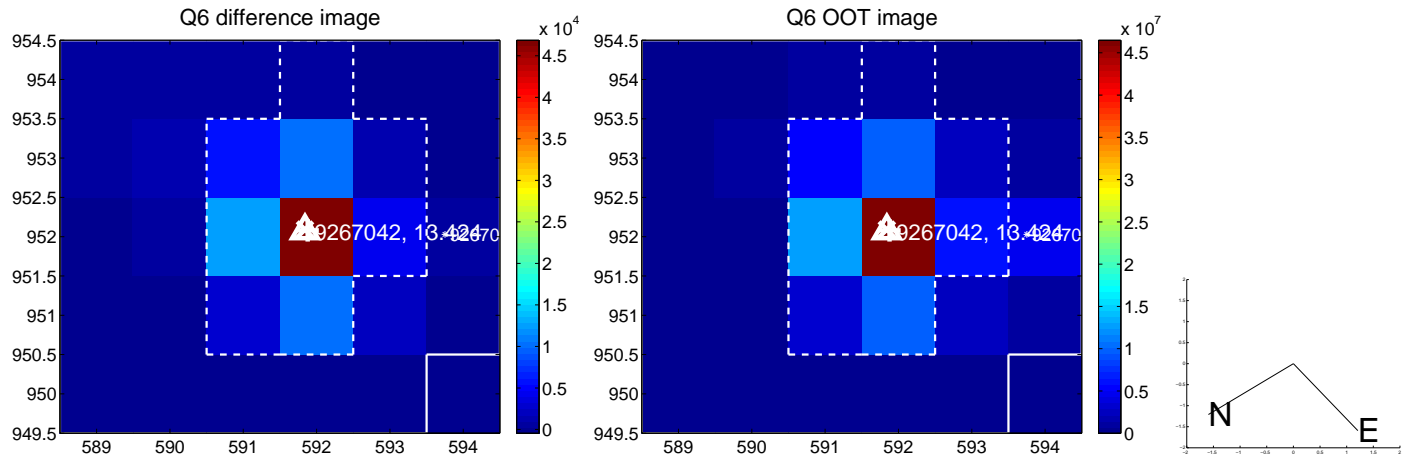
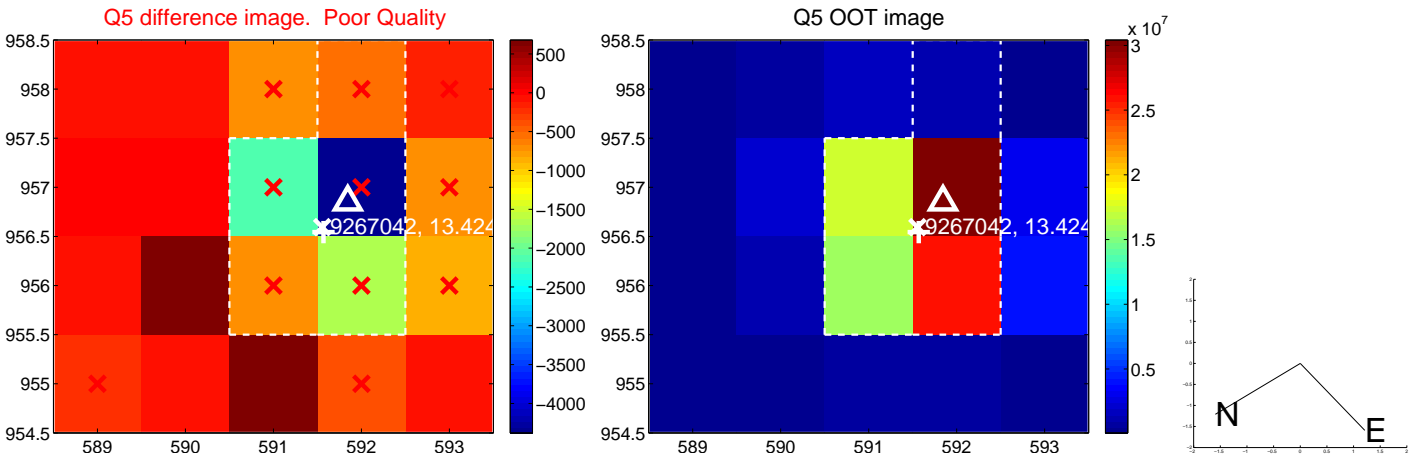


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

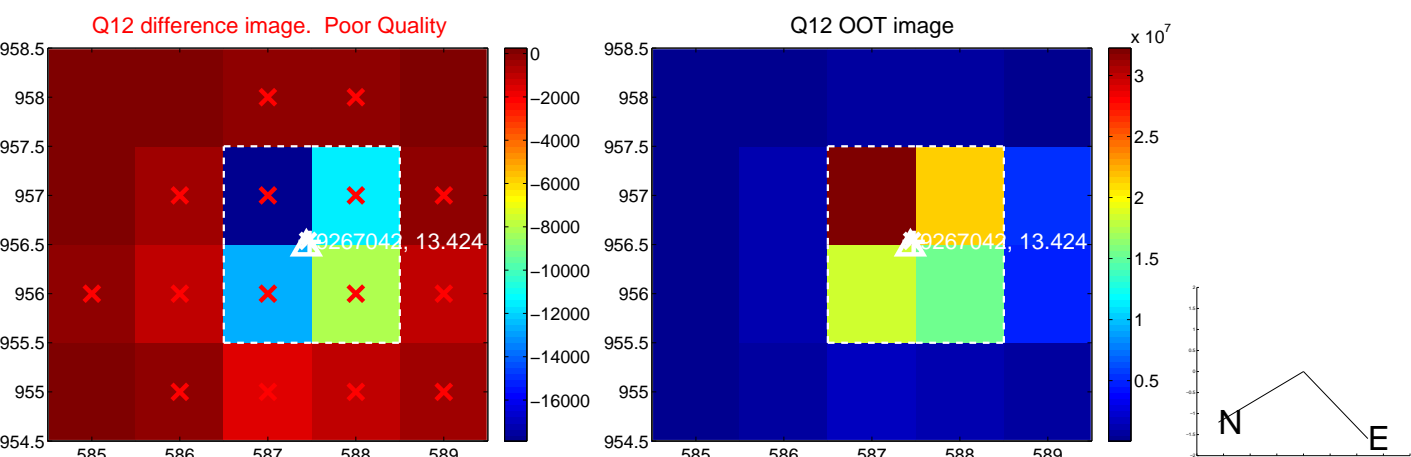
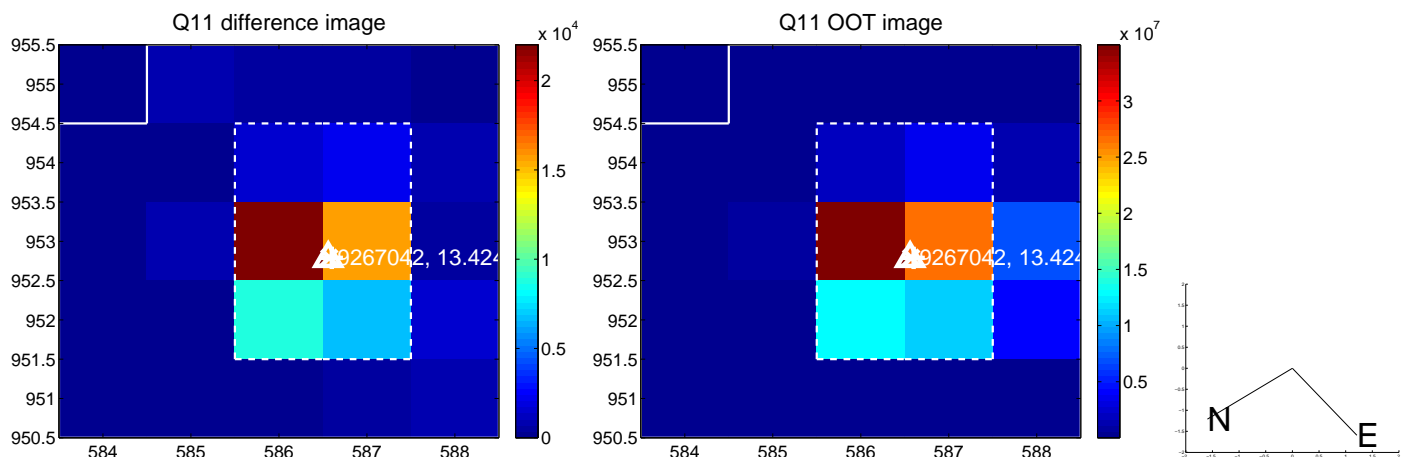
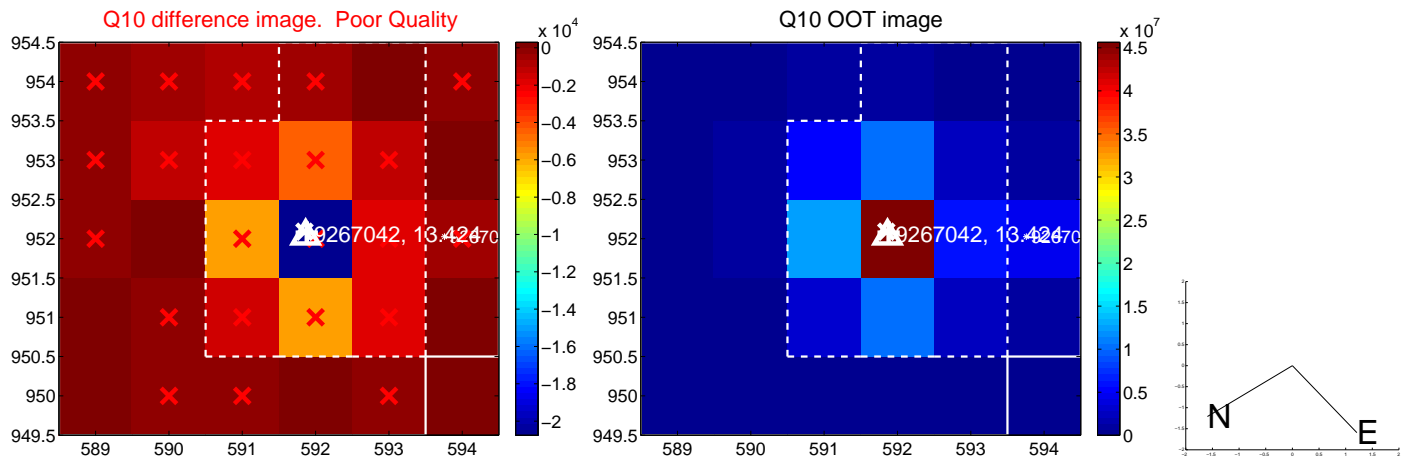
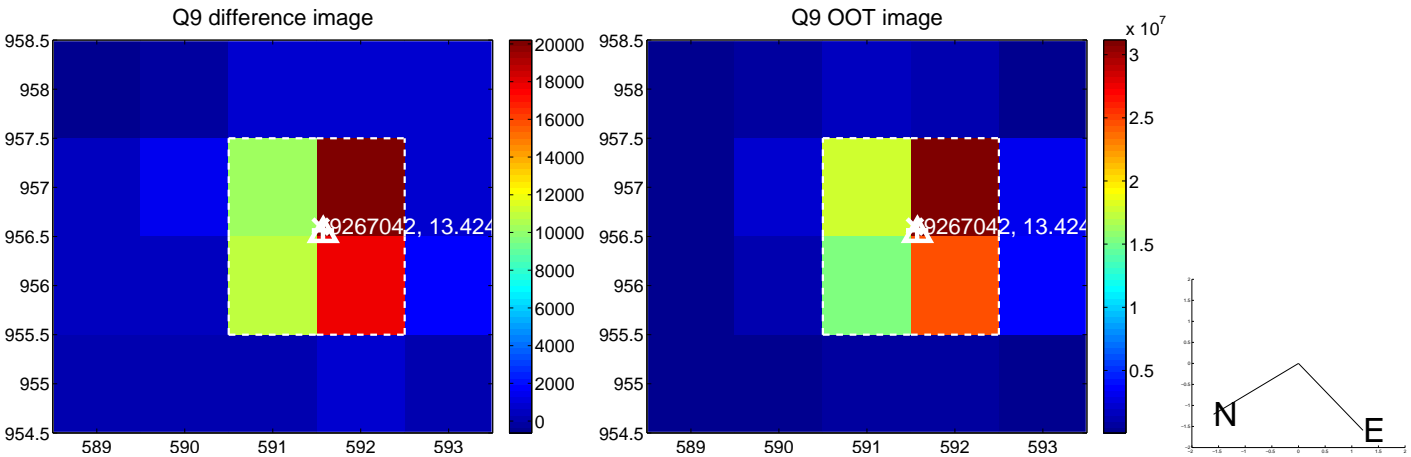
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



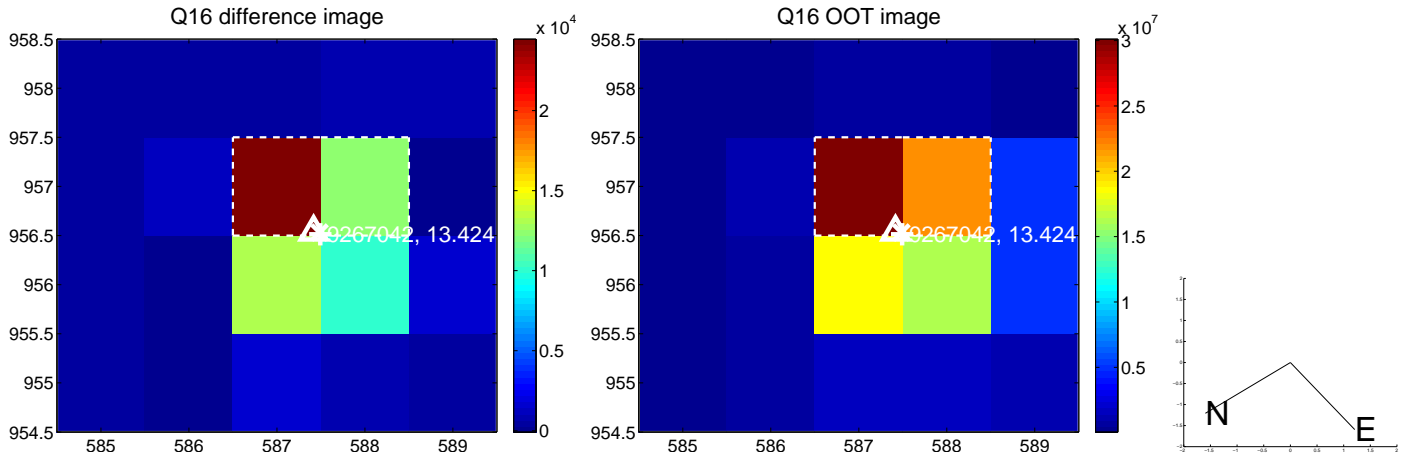
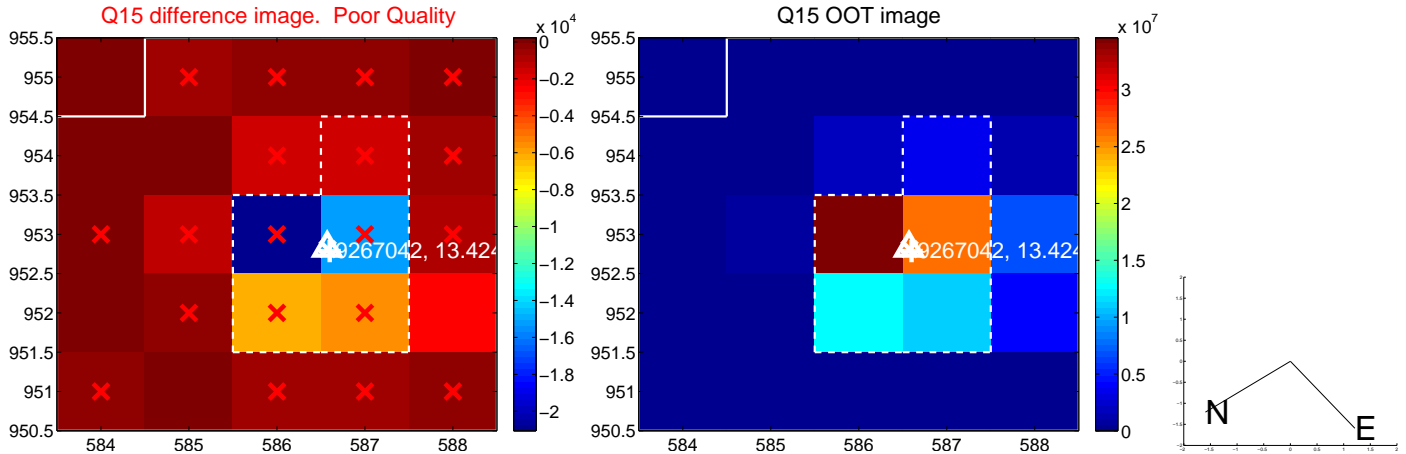
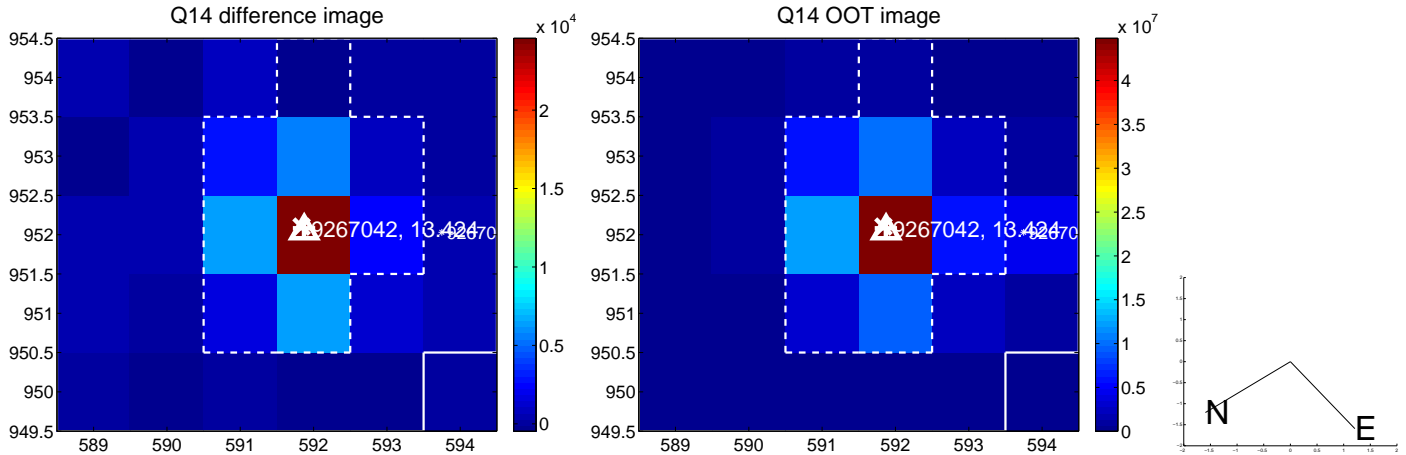
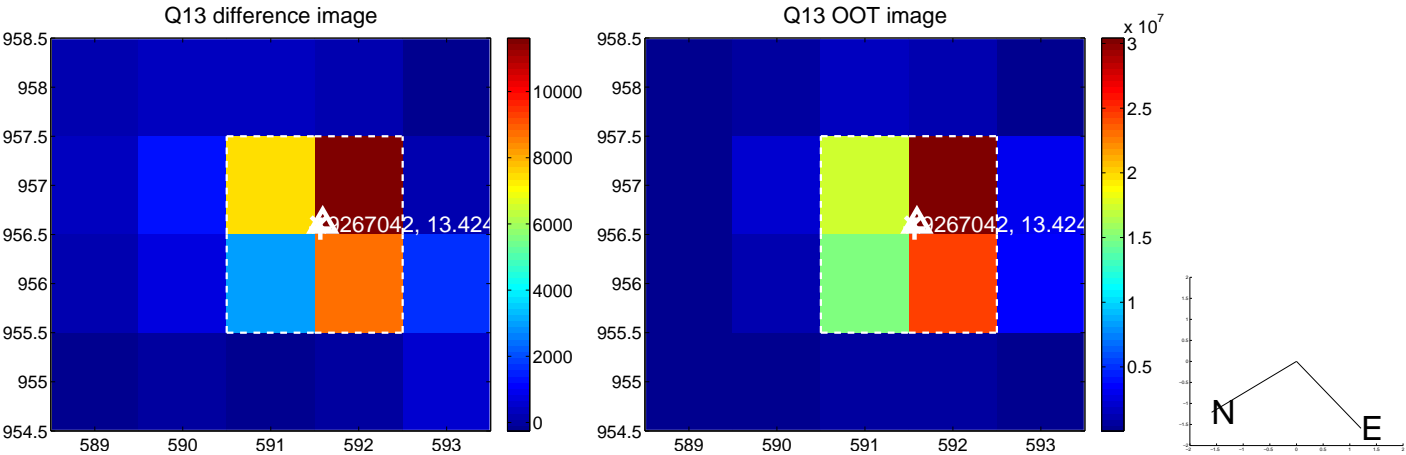
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



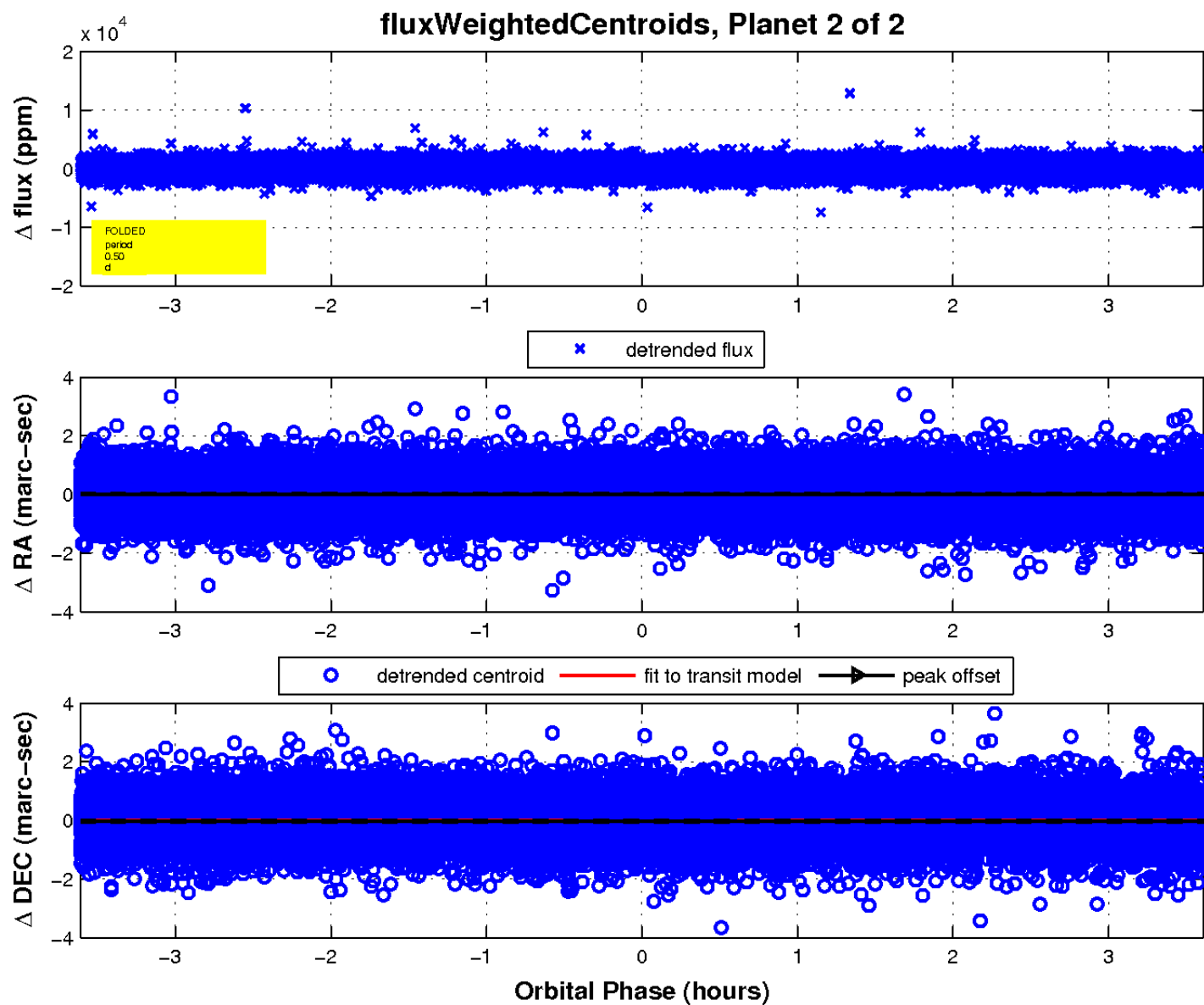
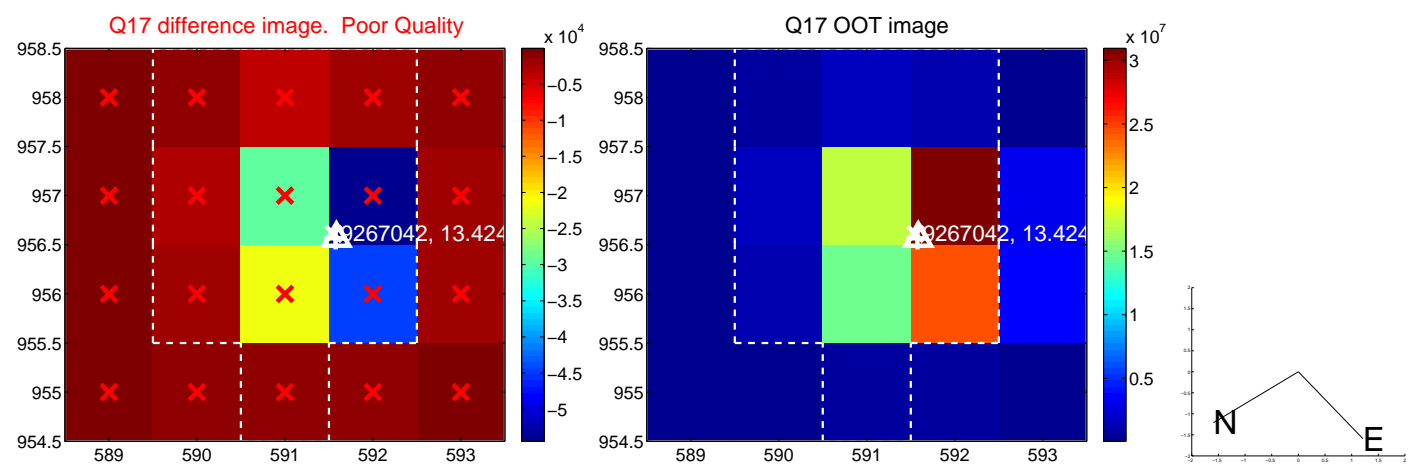
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

